AGENDA – Amended - City Council Meeting
Mayor Jim Miller
Mayor Pro Tempore Stephen Willden
Council Member Christopher Carn
Council Member Michael McOmber
Council Member Ryan Poduska
Council Member Chris Porter

CITY OF SARATOGA SPRINGS
Tuesday, June 7, 2022, 6:00 pm
City of Saratoga Springs Council Chambers
1307 North Commerce Drive, Suite 200, Saratoga Springs, UT 84045

POLICY MEETING

1. Call to Order.
2. Roll Call.
3. Invocation / Reverence.
4. Pledge of Allegiance.
5. Presentation: Mountain Point Recognition of C Platoon; Critical Care Paramedic Promotion "Badge Pinning":
    - David McNamara – Firefighter/Paramedic
    - Isaac Ostler – Firefighter/Paramedic
    - Brayden Spencer – Firefighter/Paramedic.
6. Public Input – This time has been set aside for the public to express ideas, concerns, and comments for subject matter not listed on this agenda.

REPORTS:
1. Mayor.
2. City Council.
3. Administration: Council Goal Update.
4. Department Updates: Library, Public Works/Engineering, Community Development.

PUBLIC HEARINGS:
1. FY 2022-2023 Final Budget, Including a Compensation Schedule for Elected and Statutory Officers, and a No Property Tax Increase; Ordinance 22-22 (6-7-22).
2. Annexation Policy Plan Amendment, City-Initiated, City-Wide; Ordinance 22-23 (6-7-22).
3. Mountainland Association of Governments (MAG) Pre-Disaster Mitigation Plan; Resolution R22-31 (6-7-22).

CONSENT ITEMS:
Routine items on the Consent Agenda not requiring public discussion by the City Council or which have been discussed previously may be adopted by one motion. A Council member may request to remove an item from the consent agenda for discussion and consideration.
1. Fiscal Year 2021-2022 3rd Quarter Financial Update.
2. 2022 Amended and Restated Sewer Treatment Services Contract and Collection Maintenance Agreement, Timpanogos Special Sewer District (TSSD); Resolution R22-32 (6-7-22).
3. Beacon Pointe Reimbursement Agreement, Offsite Water: Drinking and Secondary, Suburban Land Reserve, Inc.; Resolution R22-33 (6-7-22).

4. Code Amendment Title 18 Building and Construction, Chapter 18.01; Ordinance 22-24 (6-7-22).
5. 1400 North Road Dedication Plat, Preliminary/Final.
6. City Council Meeting Minutes: May 17, 2022.

BUSINESS ITEMS:

1. Holiday Oil Site Plan and Preliminary Plat, Brent Neel Applicant, Southeast Corner of Redwood Road and Pony Express Parkway.
2. Rivers Edge East and West Preliminary Plat, Thompson Earl Company Applicant, 400 East Crossroads Boulevard. *(Continued from 5-3-22)*
3. Starhaven Internal Accessory Dwelling Units (IADU) Map Amendment, Troy Perry Applicant, 423 West Stargaze Circle.
4. Transportation Master Plan Update; Ordinance 22-20 (6-7-22). *(Cont. from 5-17-22)*
5. Water Credit Purchase and Sale Agreement (Central Water Project), Property Reserve, Inc. and The Church of Jesus Christ of Latter-Day Saints; Resolution R22-34 (6-7-22).
6. CWP Water Supply Capital Component Pre-Payment Agreement, Central Utah Water Conservancy District (CUWCD); Resolution R22-35 (6-7-22).

CLOSED SESSION:

Motion to enter into closed session for any of the following: purchase, exchange, or lease of real property; discussion regarding deployment of security personnel, devices, or systems; pending or reasonably imminent litigation; the character, professional competence, or the physical or mental health of an individual.

ADJOURNMENT

Date Posted: June 1, 2022

Cindy LoPiccolo, MMC, City Recorder
City of Saratoga Springs, State of Utah

Meetings are streamed live at https://www.youtube.com/c/CityofSaratogaSprings
Questions and comments to staff and/or Council may be submitted to comments@saratogaspringscity.com

In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify the City Recorder at 801.766.9793 at least two days prior to the meeting.

One or more council members may participate by electronic telecommunication means such as phone, internet, etc. so that they may participate in and be counted as present for all meeting purposes, including the determination that a quorum is present.

Supporting materials are available for inspection on the Saratoga Springs City website at www.saratogaspringscity.com.

The order of the agenda items are subject to change by the Mayor.



CITY OF SARATOGA SPRINGS

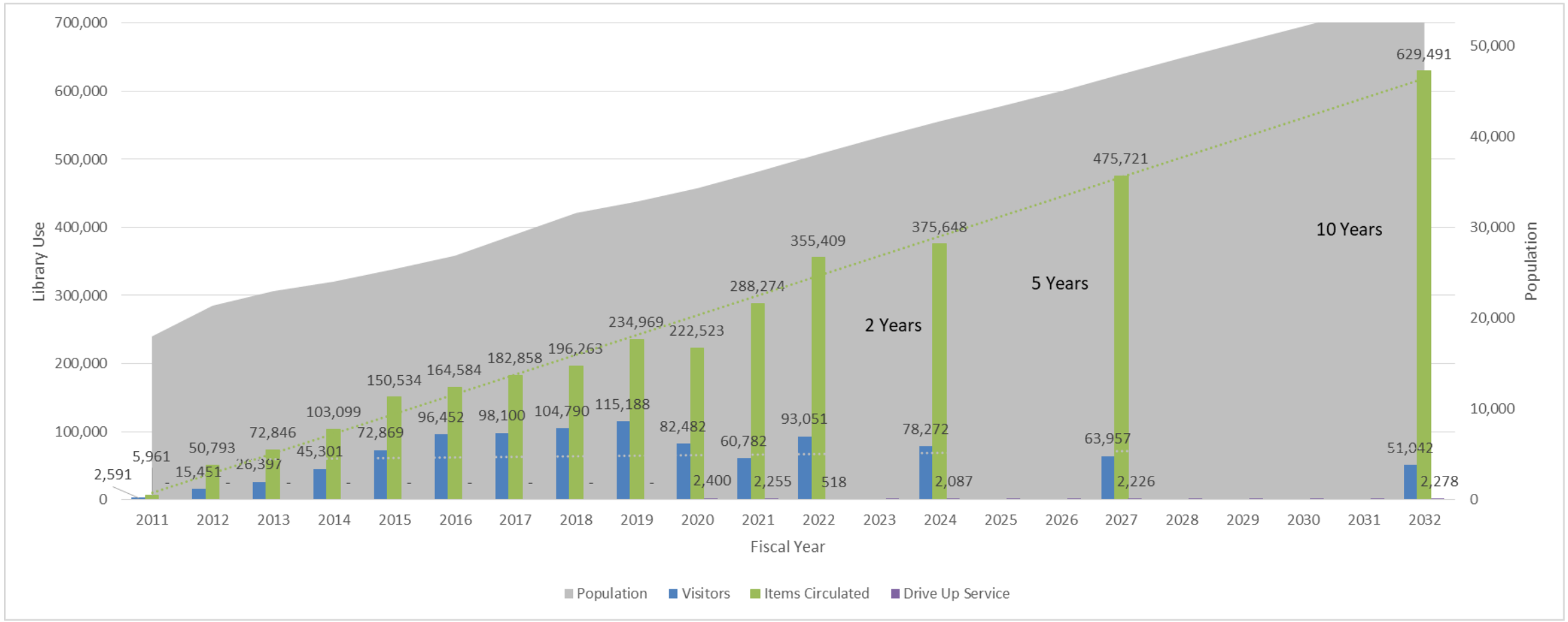
Library

Departmental Performance Indicators

Name	2018	2019	2020	2021	2022
Visitors	104,790	115,188	82,482	60,782	65,266
Items Circulated	196,607	234,969	222,523	288,274	284, 327
Internet Terminals	33	33	33	32	32
Number of Internet Terminal Users	2,521	2,997	1,893	200	850
Number of Wi-Fi Users	1,176	13,841	10,587	2,140	1,605
Number of Programs	440	530	376	153	414
Number of Program Attendees	22,858	16,670	10,069	10, 289	13,498
Number of Registered Users	5,734	6,288	6,506	6,602	7,525
Proctored Exams	198	138	97	1	4
Reference Transactions	15,052	13,894	8,837	1,482*	5,401

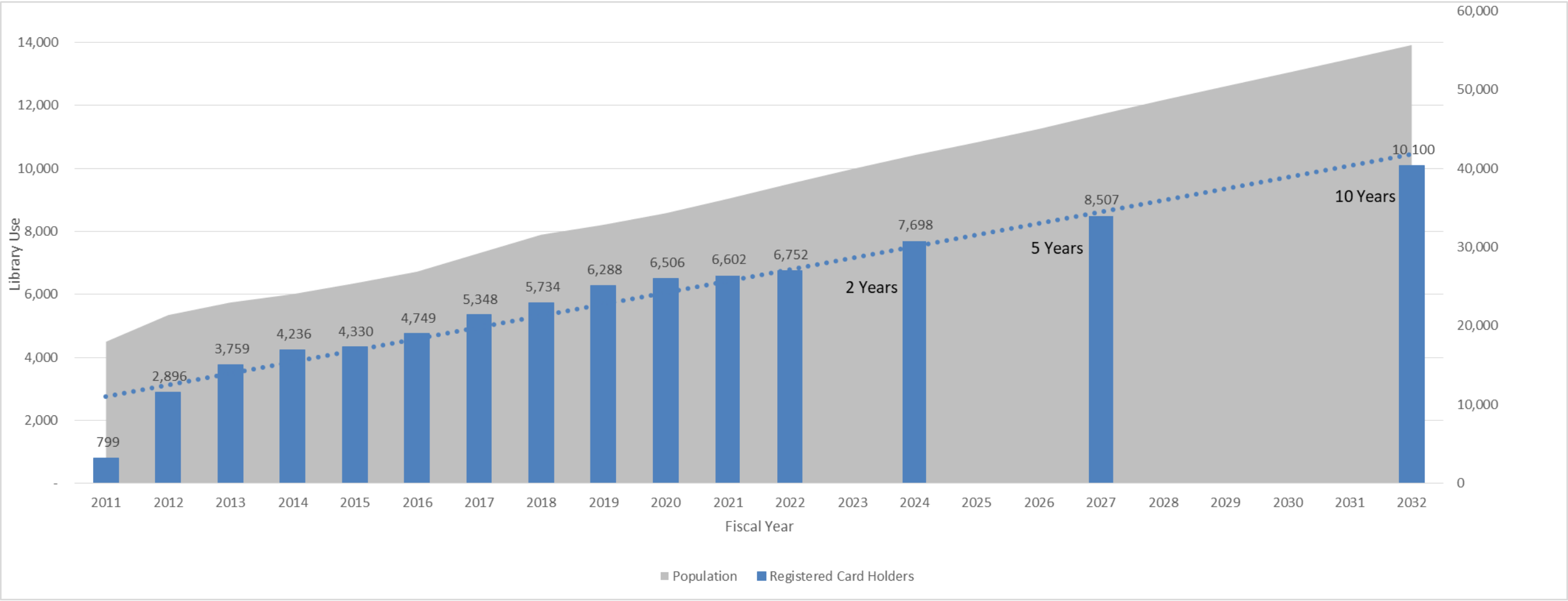
Note: Data only collected through April 30, 2022

Annual Visitors and Checkouts



Note: Data only collected through April 30, 2022

Registered Cardholders



Note: Data only collected through April 30, 2022

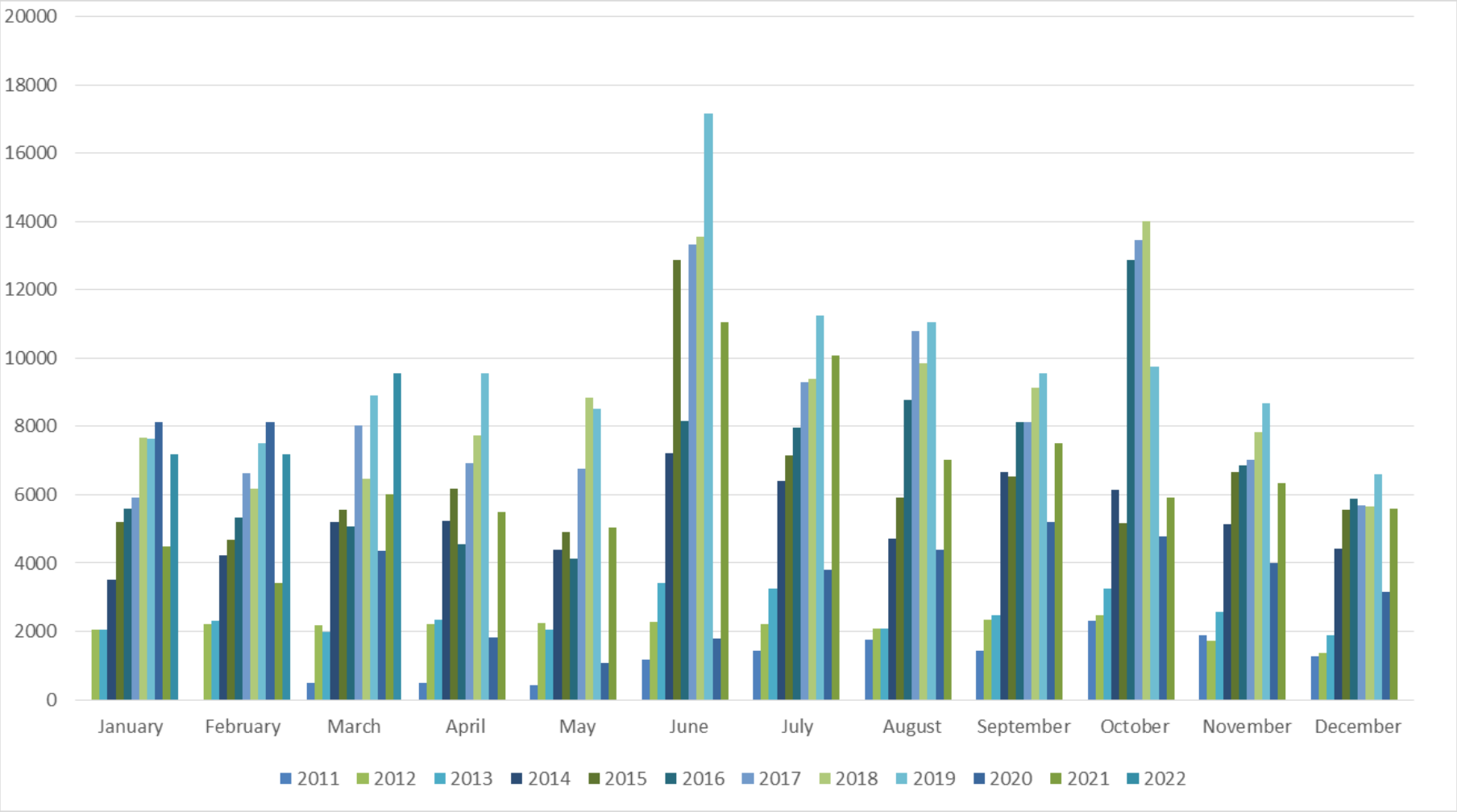
Card Holder Registration

2020-2021	Feb	Mar	Apr	Total
Adult	64	88	97	249
Youth	13	11	28	52
Non-Resident	1	1	3	5
Self-Registered	39	21	47	107
Total Activated	78	100	175	353

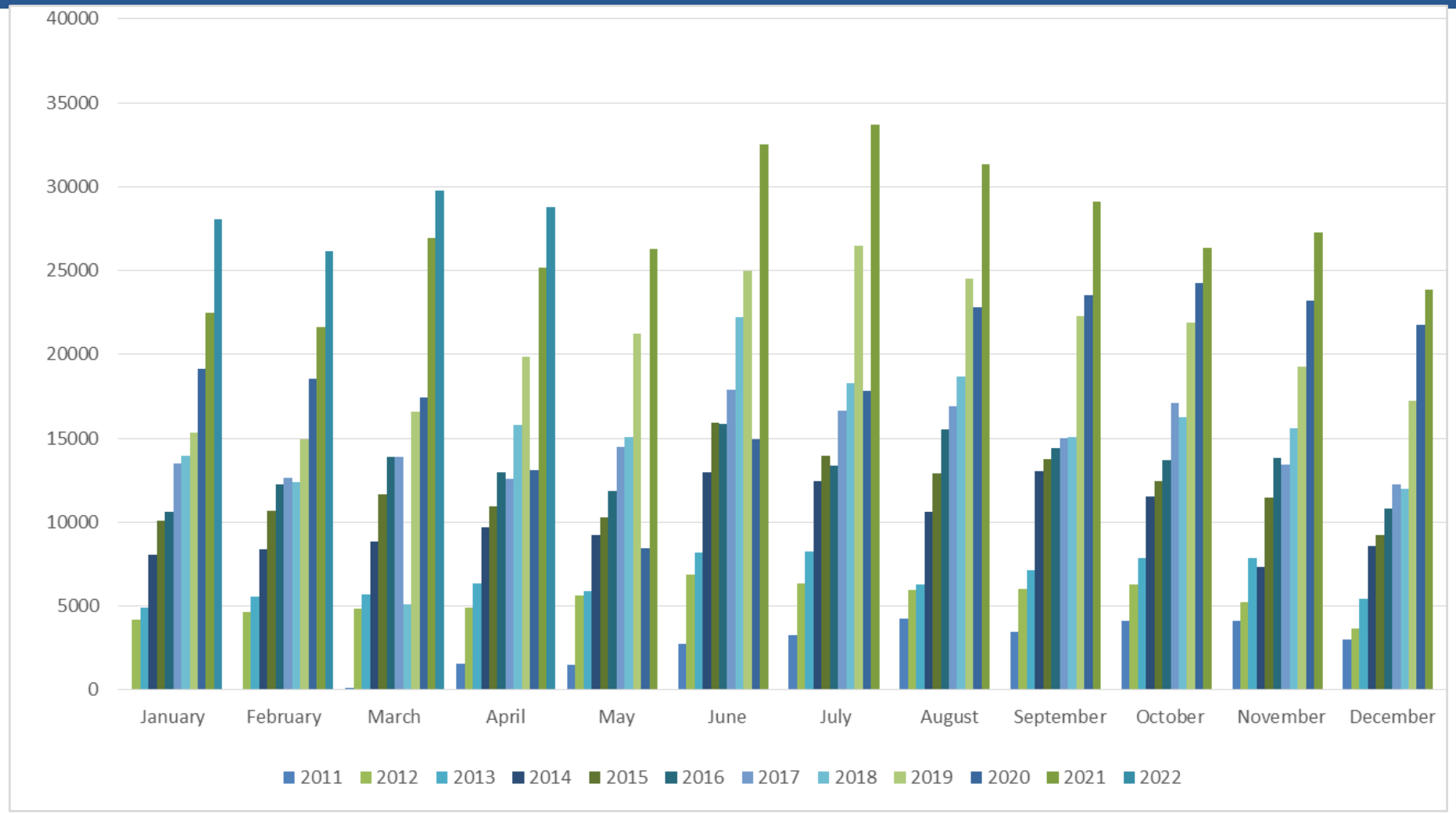
2021-2022	Feb	Mar	Apr	Total
Adult	79	126	116	321
Youth	27	47	28	102
Non-Resident	1	3	5	9
Self-Registered	11	76	25	112
Total Activated	78	176	149	432

- Self-registered accounts sent a reminder email 3 days after registration to provide their ID and proof of address and pick up their card. The number listed are people who have not activated their accounts.
- 50% of the self-registered cards that are not activated are non-resident accounts.
- Daily we have Eagle Mountain and Lehi residents coming in not understanding that we are not a County Library System.

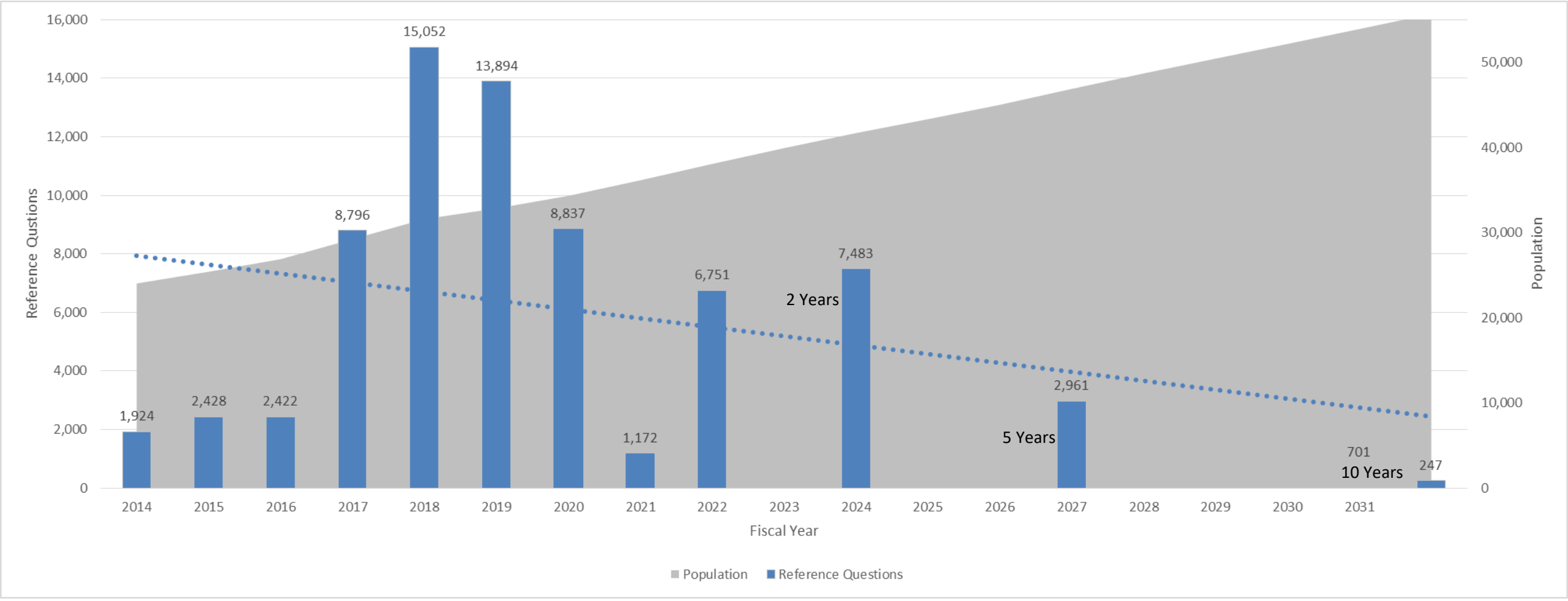
Library Visitors



Checked Out Items

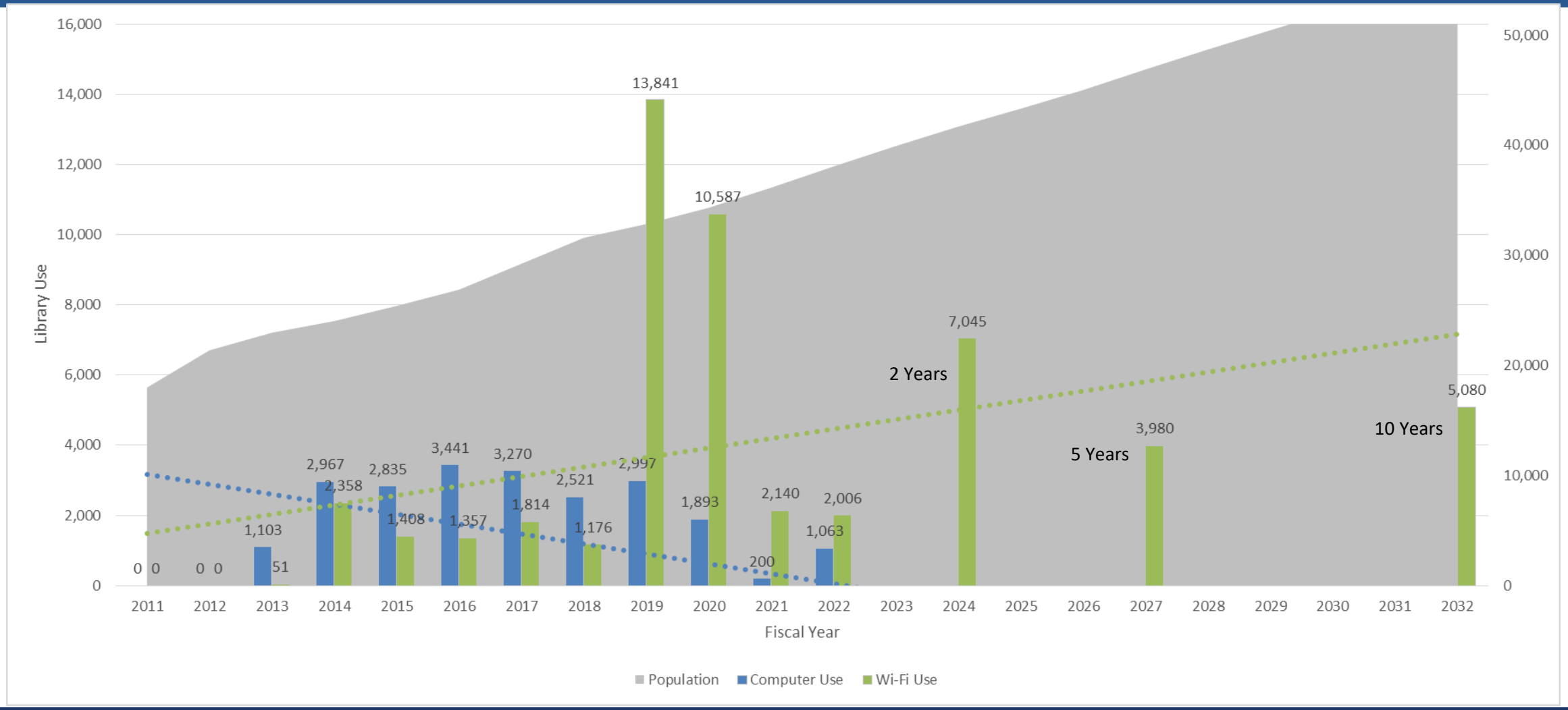


Reference Questions



Note: Data only collected through April 30, 2022

Computer Usage



Note: Data only collected through April 30, 2022

Summer Reading Enrollment Update

Age Range	2018-2019	2019-2020	2020-2021	2021-2022
Adult	220	150	182	122
Ages 13-17	108	150	299	58
Ages 8-12	393	125	401	150
Ages 4-7	393	75	303	166
Ages 0-3	236	260	195	84

Due to rapid community growth we instituted Open Enrollment for Summer Reading this year to better predict our prize and budget needs. For the last 3 years we have run out of prizes in the last few weeks of the program.



MEMO - Library

To: Mark Christensen, City Manager
From: Melissa Grygla, Library Director &
Owen Jackson, Assistant City Manager
Date: Wednesday, May 25, 2022
Subject: Library Business Hours July 2022

Since 2013 we have increased from 20 business hours a week to 60 business hours a week, maintaining a consistent schedule with only planned holiday and renovation closures. During COVID-19 the library immediately pivoted to provide drive-up service without decreasing hours, unlike institutions in many surrounding communities.

The Saratoga Springs Public Library, along with many other libraries in Utah County, has experienced significant staff turnover annually due to position schedules, employees seeking full time work, and other part-time jobs offering competitive pay. Annually we see a turnover of 2-3 positions; since May of 2021 we have had 6 positions become vacant. These long-term part-time positions often require 2-3 months of training for staff to become familiar with policies and procedures. This has resulted in a significant number of issues for staff related to morale and retention.

As a result we are recommending that we align our business hours with that of other libraries located in the area. The State does have minimum requirements for library business hours based on population and requires we operate 52 hours a week with 18 hours occurring after 5:00 PM or on the weekend.

Lehi	**Eagle Mountain**	**Highland**	**American Fork**
Monday-Thursday 10-8	Monday-Thursday 9:30-6:30	Monday-Thursday 10-8	Monday-Thursday 9-9
Friday-Saturday 10-4	Friday 9:30-5:30	Friday 10-4	Friday-Saturday 10-6
	Saturday 9:30-1:30	Saturday 12-4	

Current Hours	**Changed Hours**
Monday-Thursday 9-8	Monday-Thursday 9-8
Friday-Saturday 10-6	Friday-Saturday 10-4

We are requesting a reduction in our business hours effective July 1 to Monday-Thursday 9-8 and Friday-Saturday 10-4. This will result in a reduction of business hours by 4 service hours each week.

However, an in-depth analysis of usage has been completed and while customers state they will use the Library on weekends, when we have increased those hours over the previous years we have found that despite a 60% increase in operating hours on Saturday (and the corresponding increase in operating costs) there has been no actual gain of patron use. Saturday usage has increased at the same rate or at lower rate than weekday usage regardless of open hours. The majority of patrons visiting the last two open hours on Saturday has decreased even while open hours and usage have increased. Therefore it makes sense to align our business hours with surrounding Libraries and close at 4:00 on Friday and Saturday.

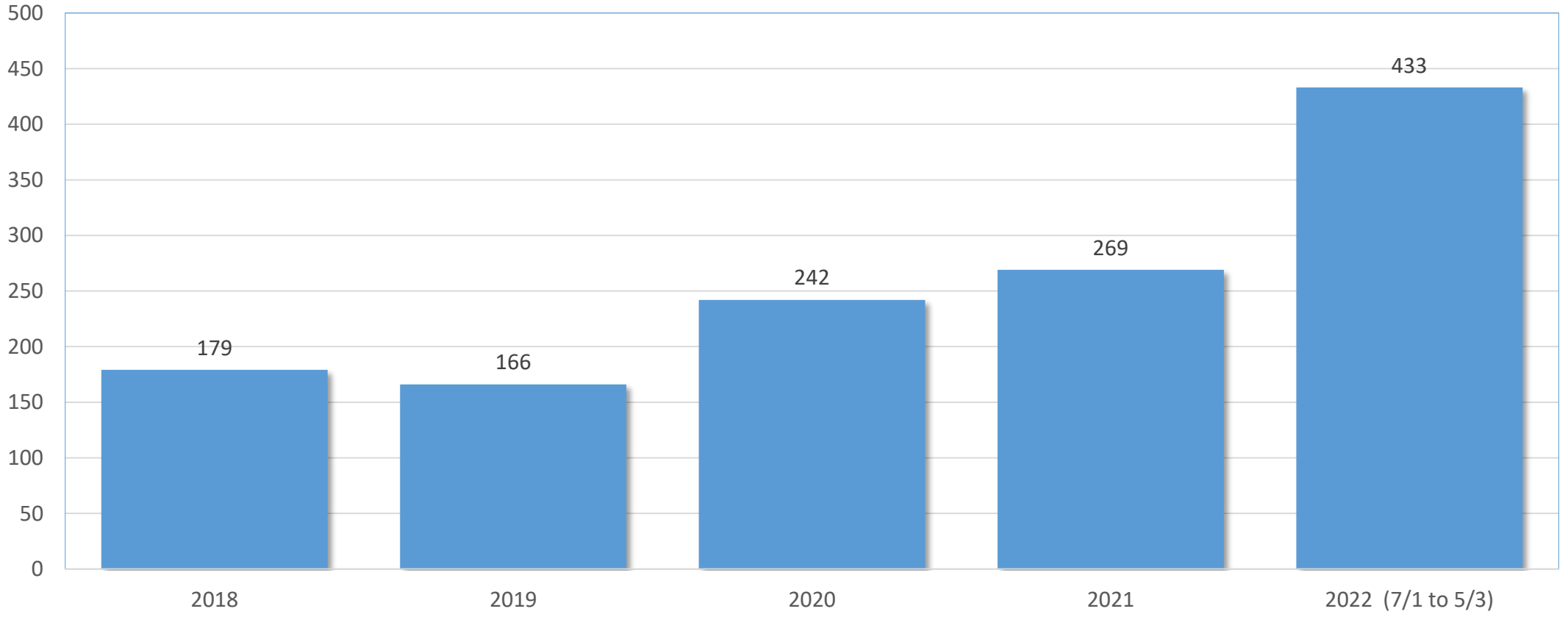


CITY OF SARATOGA SPRINGS

Engineering Department 2022 Q2

Engineering Department

Workload (Reviews of Concept, Prelim, Final, Prelim/Final, Site, & Permits)



Engineering Division

2022 Performance Measures

Measure	7/1 to 5/3 FY 2022 Actual/Target	FY 2021 Actual/Target	FY 2020 Actual/Target	FY 2019 Actual/Target	FY 2018 Actual/Target
Reviews completed on time	47%/90% (exceeds target by avg. 2.1 work days)	70%/90%	79%/90%	80%/90%	81%/95%
Average Review Time (calendar days)	17.5/14	14.8/14	14.0/14	New Performance Measure	
# of Applications (from Planning Dept.)		233	171	166	179
# of Reviews	433	269	242	New Performance Measure	
New Comments after First Review	Old Performance Measure	18	18	1	NA
Employees with PE License	80%/75%	75%/75%	100%/75%	75%/75%	
# Traffic Studies Completed	20/10	8/5	4/5	5/5	14/5

New System Implemented with increased accuracy of tracking Review Completion Dates

Engineering Goals

Project Goals for 2022

- Update the Transportation CFP/IFFP/IFA - Complete
- Update the Sewer Drain CFP/IFFP/IFA - Complete
- Oversee the Design of the Foothill Blvd Extension Project from Pony Express Pkwy to Lariat Blvd – 90% Complete
- Begin the design and ROW acquisition for Pony Express from the Jordan River to Northshore – 30% Complete



CITY OF SARATOGA SPRINGS

Public Works 2022 Q2 Update

Electrical Division

Recent Accomplishments

- Installed brass monuments every 10 inches on pond ramps for level calibration
- Worked with APCO to program sites for PI booster 9 including new radio relay on Mt Saratoga, PI well 2, PI booster 8, and booster 9 itself
- Made extensive tuning improvements to radio network, including rerouting traffic through new booster, updating radio software, relocating master radio to antenna mast, and tuning radio output. Radio com has significantly improved.
- Installed new drive at PI well 2. Rewired motors at Sunrise, Marina, Church, booster 5, and ULDC
- Replaced parts in Booster 1 A/C for pump 2. Still need to replace A/C for pump 1. Began looking for bids for new E-house (prefab drive building) hopefully for next year



SCADA Multi-Tank Control Scheme

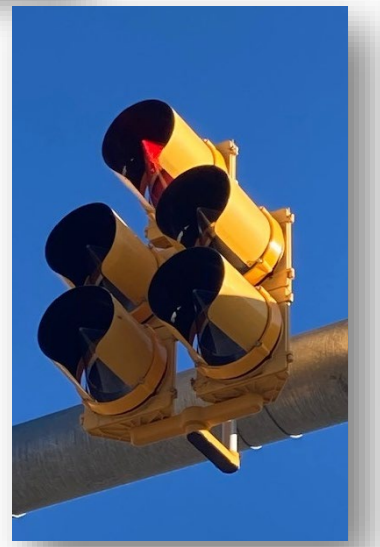
Upcoming Goals

- Continue SCADA system repairs and upgrades with APCO
- Install touch panel at Well 7 and Church Booster 1
- Install more receptacles for PD
- Begin multiple upgrades and repairs to WL7
- Put SW5 service and drive upsizing project out to bid
- Complete projects for PD and FD. Power up new Rec Dept. office

City Works (Mar–May)

Work Orders – 89

Service Requests – 20



Signal Snow Cone Lenses



New Soft Start at Sunrise Well

Water Division

Fixed Network Meter Read System

- Reprogramming M-5000 Meters on going
- New Meter Installs –approximately 30 a week with a back log of 126 new meter install work orders MVRS to FCS Upgrade and hardware on going waiting on hardware
- Auditing Allotment on HOA meters on going
- Unaccounted for water management program in city maps red flag/yellow flag/yellow check/red check - 27 since April 15

Water Projects

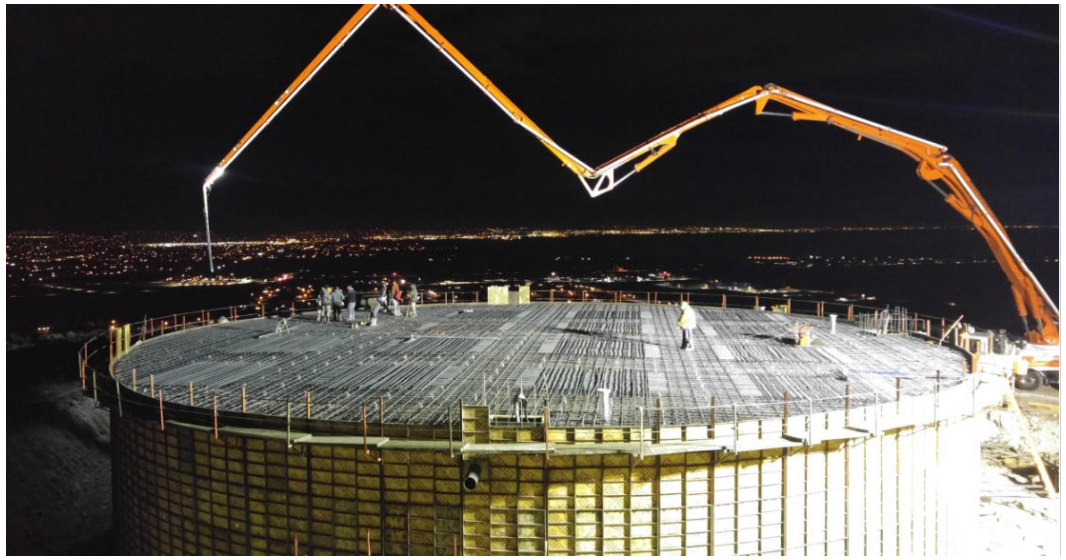
- Dealing with Resident Complaints/Service Requests
- Preparation of PI system
- Pond maintenance/surveys
- Leaks/ frozen pipe and meter repairs
- Ongoing Facility Maintenance
- Ongoing Water Sampling
- 4 New Reservoirs Under Construction

Upcoming

- Hire and Train 4 new Employees
- PI pump and motor services
- Secondary water treatment – algaecide/snails
- Coil fix @ Jacobs ranch Chiller
- Bid A/C unit for booster 5
- Connection to irrigation at well 1
- Fix trail damage at p.i. well 3
- Ongoing Service Requests and Maintenance

City Works (Mar–May)

- **Work Orders – 658 (655 drinking water, 3 secondary)**
- **Service Requests – 170 (54 drinking water, 116 secondary)**
- **Blue Stake Requests – 5,588**
- **Keeping up with New Meter Installs – 410 New Meter Install WOs**



Zone 4 Tank - Wildflower

Sewer & Storm Water Division

Recent Sewer Projects

- Ongoing maintenance on lift stations
- Cleaned all the smaller lift stations
- Lift #7 air scrubber installed
- Cleared south Fire Station's back up
- Helped with the leak in pelican point
- Lift #2 check valves

Sewer Goals in the next few months

- Clean all of the smaller lift stations
- Help replace drives, pumps and air scrubber at lift 7

Recent Stormwater Projects

- Storm Water inlets cleaned and inspected
- Outfall inspections and maintenance
- Ongoing Inspections - Utilisync
- Ongoing Oil/Water Maintenance – Utilisync
- MS4 Audit Responses and Goals

City Works (Mar–May)

- **Work Orders – 64 (2 storm water, 62 sewer-not including routine jetting)**
- **Service Requests – 1 (storm water)**



Inlet Cleaning



Stormwater Outfall Cleaning and Maintenance

Parks Division

Recent Accomplishments

- Playgrounds wood chip fall material refill
- Baseball Field Maintenance Training, Irrigation Start-ups Training. Dura Edge maintenance.
- Irrigation Start-ups: See Spreadsheet
- Weed Control
- Restroom Start-ups
- Tournament Play at Patriot Park
- Arbor Day: Shelygkins Family helping to plant trees. Harvest Park and Shay Park.
- New Tractor – help with brush mowing and other jobs.

Upcoming Projects

- Make it through Splash, repair Neptune turf
- Irrigation start-ups completed
- Begin irrigation tune-ups
- First Round of fertilizer
- Hire more staff and train
- Start maintenance of new landscape and pump track at the bike park.



Marina Dead Tree Removal



Marina Island Work

City Works (Mar–May)

Work Orders – 108

Service Requests - 11



Dog Waste Station at Inlet Park

Streets Division

Recent Projects

- Snow removal season completed
- Asphalt trail maintenance completed
- Foothill (800 West) potholes repaired
- Dumpster program underway
- City street sweeping nearly complete
- Weed abatement underway

Upcoming Projects

- Roadway messaging as weather permits
- Mastic and crack seal trail maintenance on trail systems and select roadways
- Tree and fence removal well six
- Road way maintenance pot holes, shoulders, signs
- Streets division equipment Maintenance upgrades

City Works (Mar–May)

- **Work Orders – 58**
- **Service Requests - 3**



Mastic and Crack Seal



School Zone Crossing Signs



Shop Striping

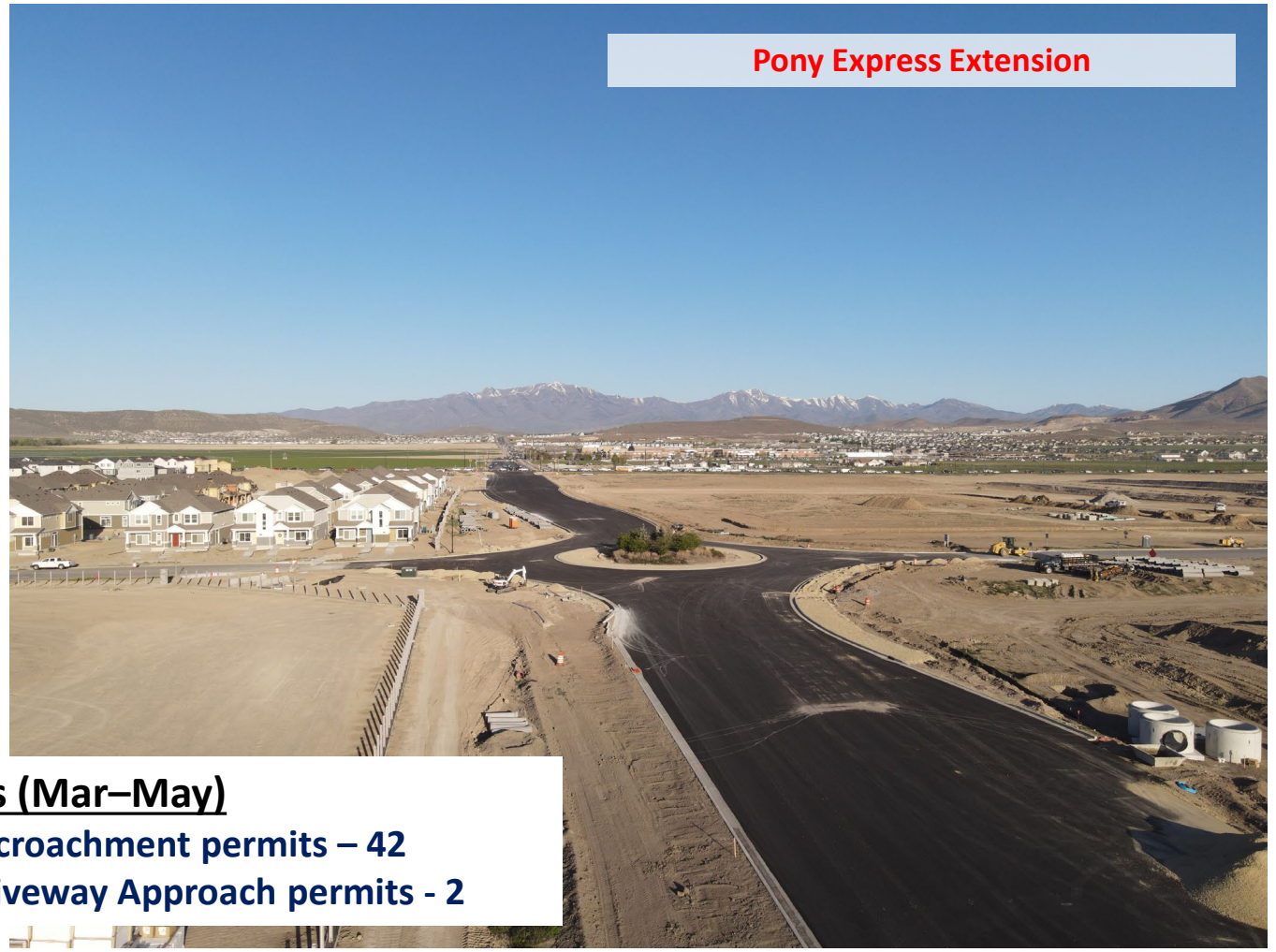
Public Improvements Division

Development Projects

- Residential Development:
  - Subdivisions Beacon Point, Wander, Fox Hollow, Lexington Green, Perelles, Mallard Bay, Catalina Bay, Northshore, Heron Hills, Starhaven, Hawks Estate, Lakeside, Wildflower, and Mount Saratoga, Jacobs Ranch, Lakeside, Arcadia Springs, Western Hills, Westview, Coyote Hills, Canton Ridge, Sierra Estates
- Commercial Developments under construction:
  - DI and Bishop Store House, River View Complex, Bank of America, Timp Rental, Mount Saratoga Commercial Pre-Grading, Saratoga Springs Commercial Complex
- Pony Express Extension – Wrapping up
- Lake Mountain, Losee Canyon Debris Basin – Wrapping Up
- Foothill Boulevard Extension – Starting
- South Marina Improvements – Ongoing
- Sunrise Meadows Bike Park – Wrapping up

Upcoming Projects

- North Marina Improvements
- Sunrise Meadows Bike Park
- Sewer – Grandview to Ring Road
- Pony Express Connection – East of Jordan River
- SSD Utah Lake Shore Trail – On Hold
- North Redwood Trail



City Works (Mar–May)

- **Encroachment permits – 42**
- **Driveway Approach permits - 2**

Fleet Division

Recently Completed Fleet Projects

- **State Fuel Card Analysis –** City Fuel Cards, City Vehicles, and City Driver Databases are all have been updated with accurate data and pointed to correct Department GL Cost Centers. **Completed 100% and Reviewed Monthly**
- **Fleet 5 Year Replacement Budget** - Schedule for all City Vehicles is being developed for City Vehicle Replacement and Asset Disposal. **Completed 50% and reviewed Monthly**
- **City Fleet Physical Inventory Count -** has taken place in September and October 2021 and completed with all Vehicle and Asset Data being corrected and reconciled to our City Fleet Master List. **Completed 100% and reviewed Monthly**
- **City Vehicle Graphics Standardization -** Project is underway to standardize all City Vehicle Decals and Graphics to a Standard Decal Package – (all Vehicle Decals are being converted over to the new City Decal, with Asset Numbers, City Website decal, and USDOT Safety Reflective Tape Compliance). **Completed 98% and Reviewed Monthly**
- **Vehicle Binder Documentation Consolidation Project –** 3-Ring Zippered Binder containing the Vehicle Fuel Card, Vehicle Registration Card, Insurance Card, and any Vehicle Inspection Certificates are kept and securely stored inside of each City Vehicle. **Completed 50% and Reviewed Monthly**
- **MP Web Vehicle Inspection Phone App Updated –** All City Assets have been updated with Critical Vehicle and Equipment Data and information along with the City Driver / User Database. Vehicles and Drivers are being assigned to specific Departments they work for and Specific Inspection Sheets are being created for Individual Asset Groups for Compliance to USDOT Regulations. Re-launch of MP Inspection App will be March 1, 2022. **Completed 95% and Reviewed Monthly.**







CITY OF SARATOGA SPRINGS

Community Development Department
City Council Quarterly Report
June 6, 2022

Department Highlights

1. Building Permits Up – YTD average nearly 150% over 2020, the trend continues in 2022
2. Building Inspections – Average around 25 inspections per day per inspector
3. Planning Applications – YTD nearly 140% over 2020, complex apps up by 60%
4. Review Improvements – Emphasis on communication, priority on commercial
   - Continued goal to meet deadlines through extra work, hiring new Planning Director and Planner, with consultants on retainer
5. General Plan Update – Process underway with GSBS Consultants, including review and updates to properties in the of District Area Plan
6. Economic Development Downtown Strategic Plan – RFP to be issued soon
7. Public Communication and Involvement – RAP Sheet, Press Releases
   - Breakfast with Planners, 2 events held, next: September 13th
   - Annual Builders' Roundtable, date TBA

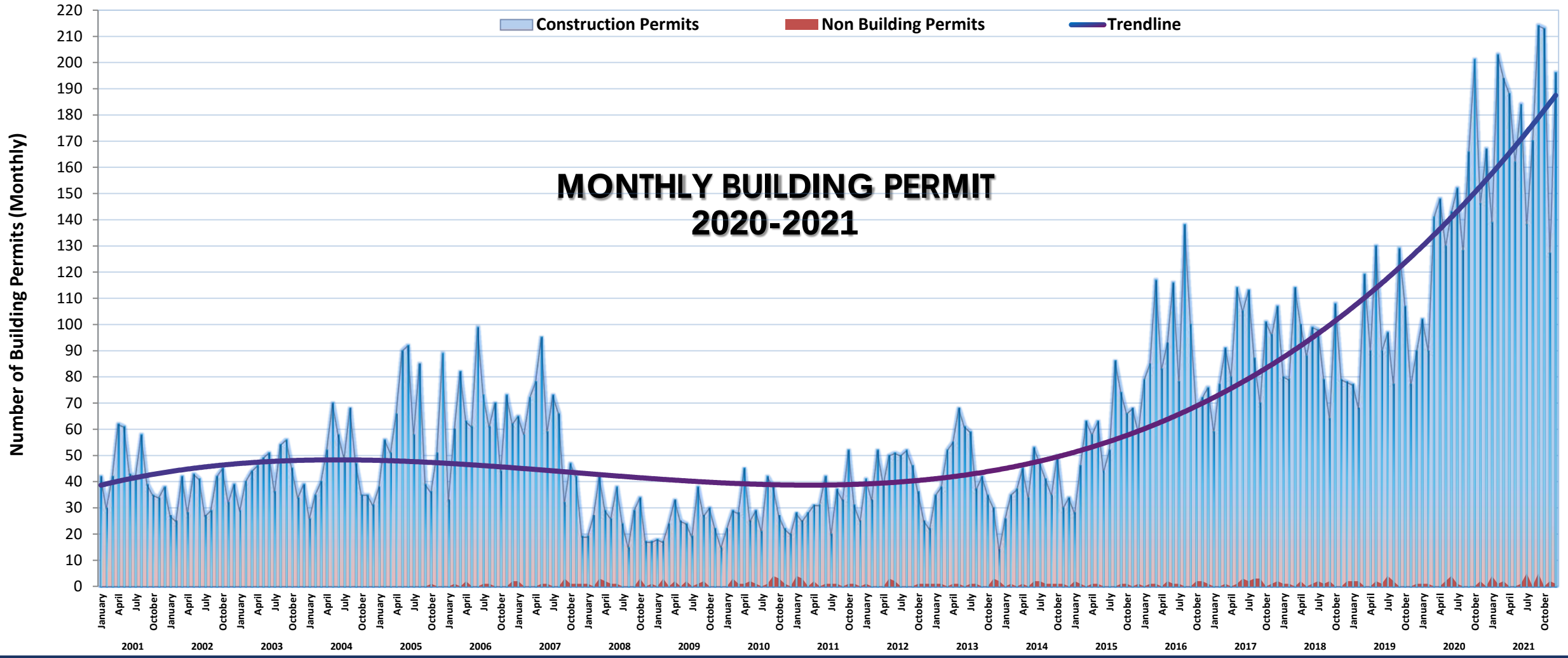
General Plan



A successful process of performing the update has occurred since last fall. To complete the final draft reviews, the following revised schedule has been instigated:

June 8	Final Steering Committee Meeting
June 23	Planning Commission Work Session
July 14	Planning Commission Public Hearing
August 16	City Council Work Session
Sept 6	City Council Review and Approval

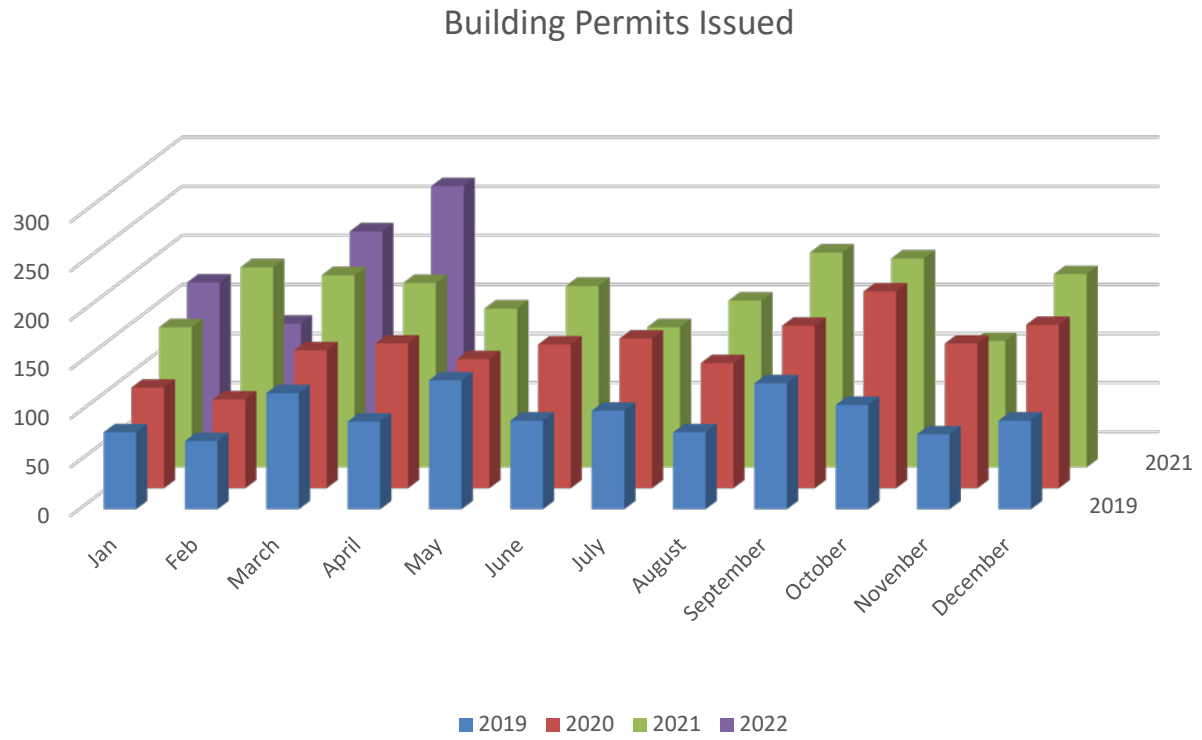
Building Division



Building Division

Permits Issued 2019-2022

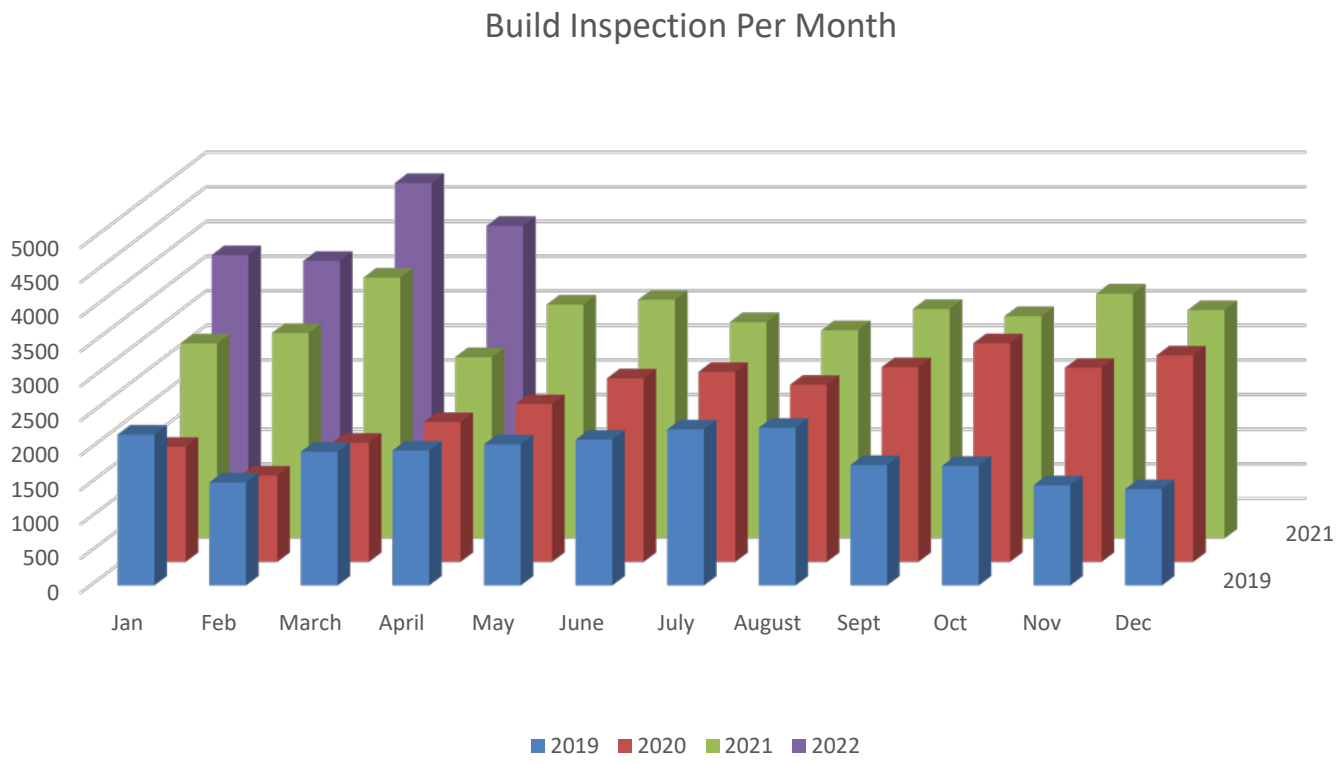
- Total Building Permit Numbers 2022
  - The number of permits issued in each month of 2021 and 2022 have been the highest for each corresponding month since before 2007
  - Permit applications and permits issued during the coronavirus pandemic continued to increase at accelerated rates.
  - We are running at about a level that looks to be consistent with last years average of last year which was 150 % of the avg. of the previous 4 years.
  - Building Department completed the switch to a complete paperless application and permitting at the beginning of the pandemic and it is working out real well for us and the contractors.



Building Division

Inspections Per Month 2019-2022

- The International Code Council recommends that an inspector be assigned between 10-15 inspection per 10 hr. work day in order to maintain a high quality of inspection quality.
- So far in 2021 we are averaging around 25 inspections per day per inspector
- We are currently supplementing our inspection staff with contract inspectors from two different companies. We have three new inspectors in training planning to start this month that we will be working to get trained, certified and qualified to move out into the field.

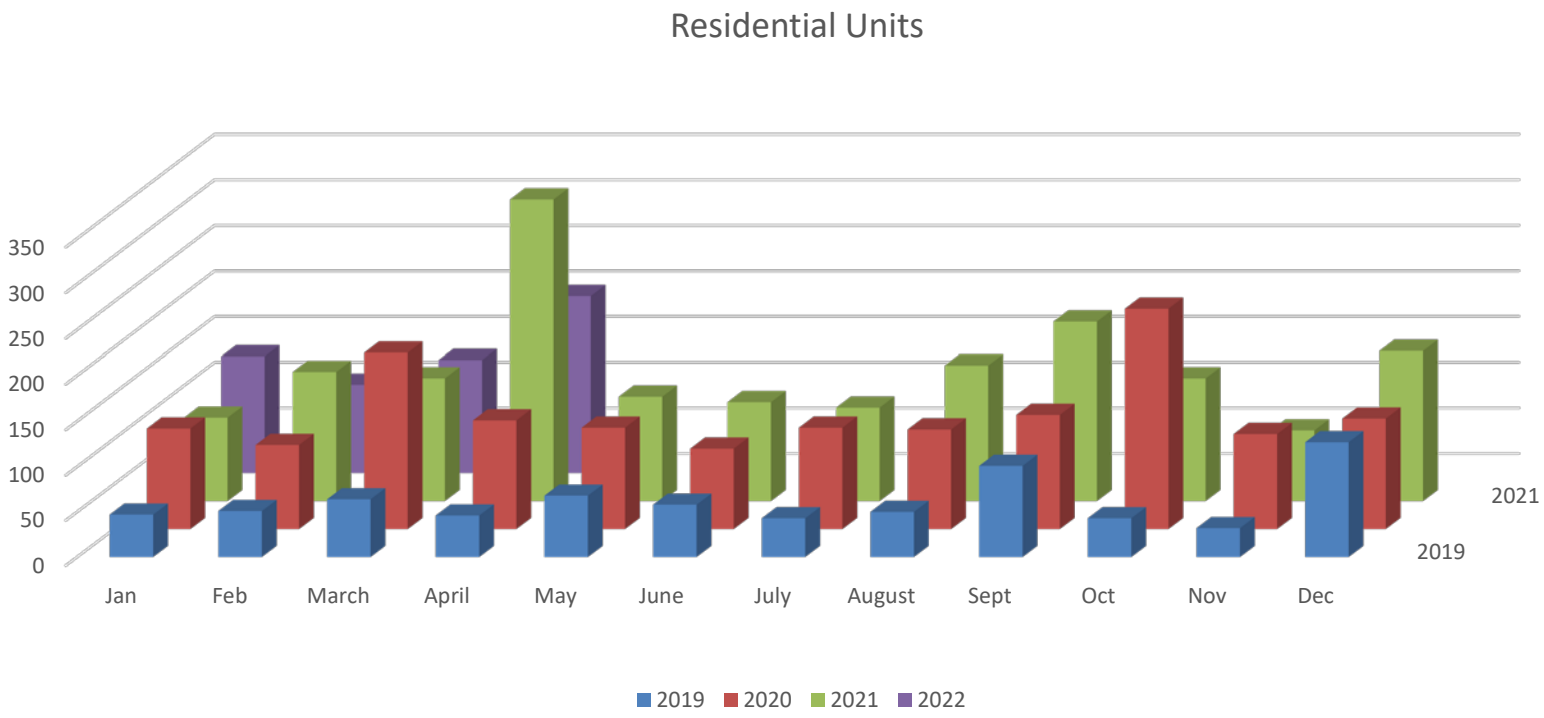


Building Division

Residential Units Issued 2019-2022

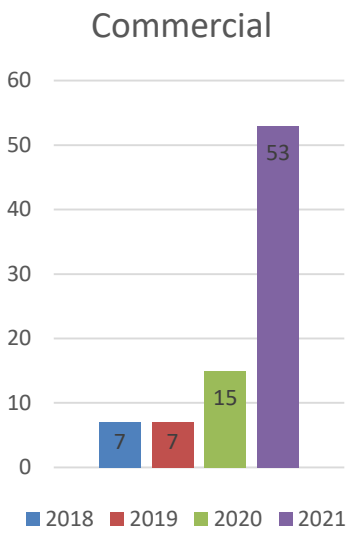
RESIDENTIAL UNITS IN 2020, 2021 & 2022 CONTINUE AT RECORD HIGH RATES

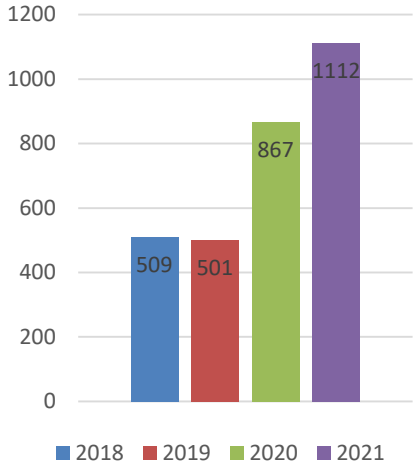
APRIL 2021 NUMBER INCLUDE THE PERMITS ISSUED FOR THE ASCEND APARTMENTS

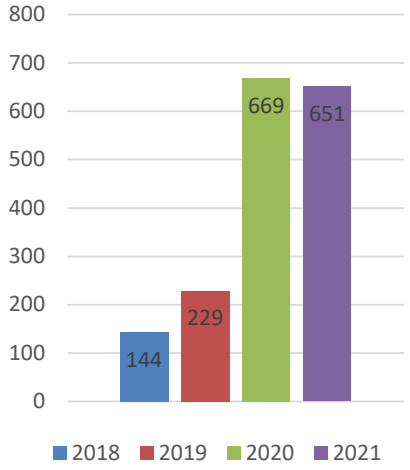


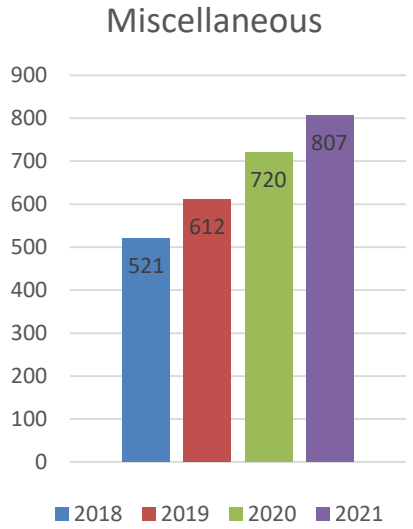
Building Division

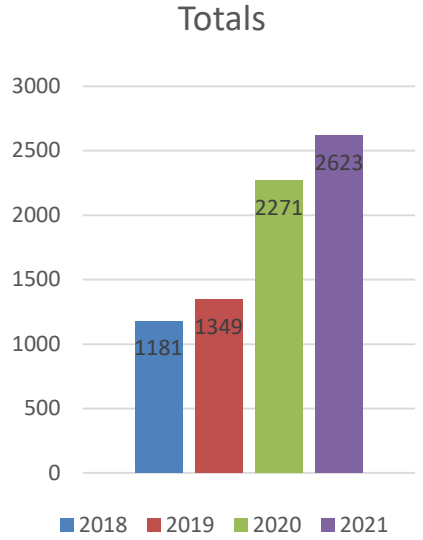
4-Year Comparison Increase in Building Permits Issued











15% increase over 2020

122% increase over 2018

Planning Division

2022 Year to Date Highlights

Code Amendments:

- Various Title 19 amendments
- HC zone creation
- OW zone discontinuation
- IADU code amendment

Residential:

- Wander CP major amendment
- Saratoga Dignity Care
- Canton Ridge East preliminary plat
- Brixton Park Phase A
- Various Residential Plats

Rezones:

- Rezone of City properties to I/C
- Stevenett rezone
- Canyon Hollow Summer Village rezone

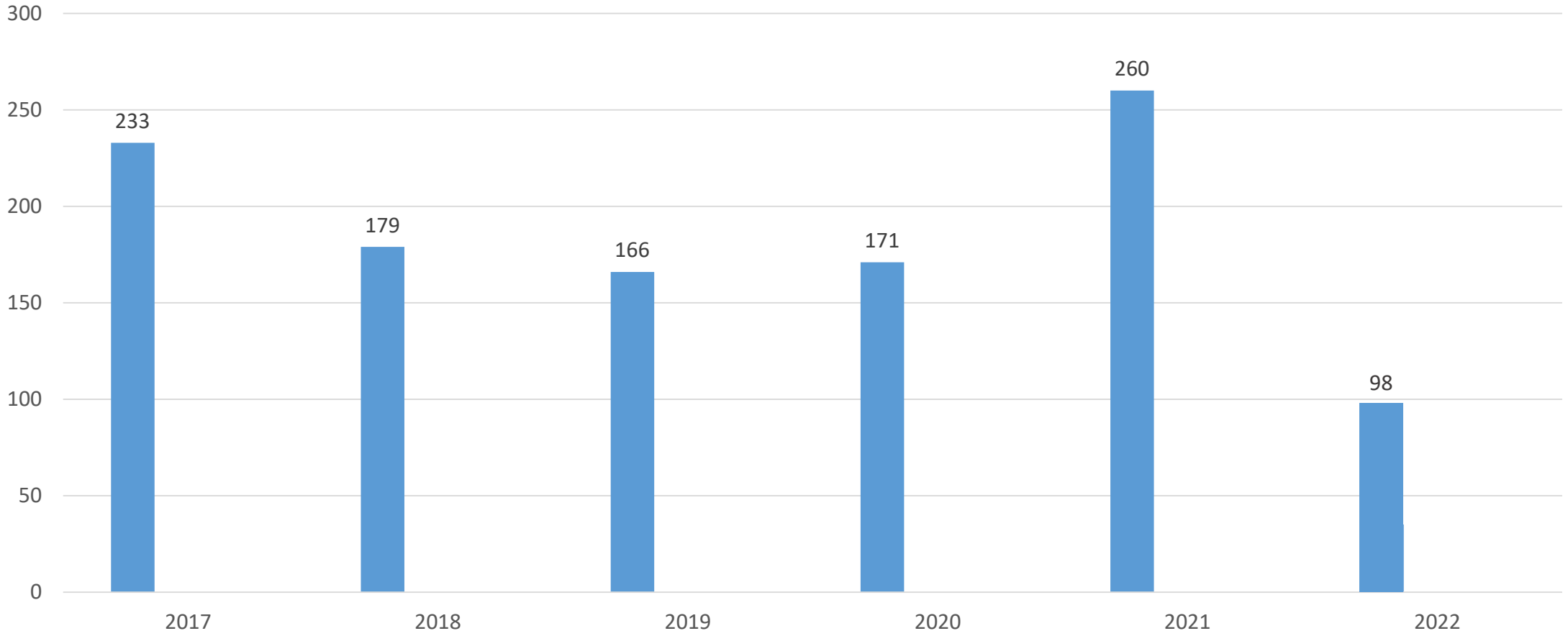
Commercial:

- Northshore Commerce site plan
- UFCU site plan
- Market Street Village Plat:
  - Olive Garden, Zaos, Apollo Burger, Dutch Brothers, Handel's Ice Cream, Jimmy Johns, Cookie Cutters
- Home Depot Concept Plan
- Holiday Oil
- The Crossing:
  - Chik-Fil-A, Chili's, Jersey Mikes

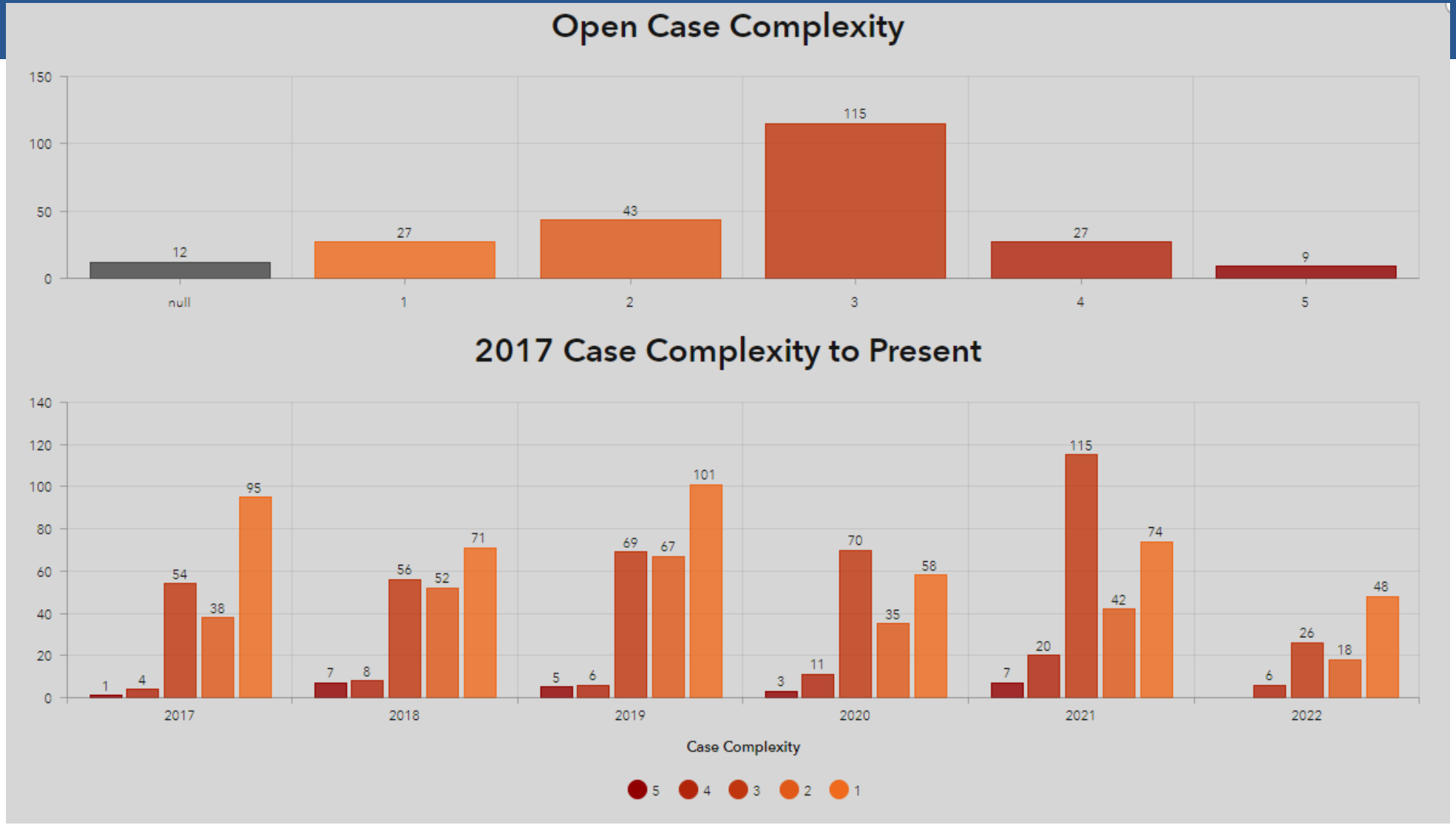
Annexations:

- Rushton West
- Saratoga Commons

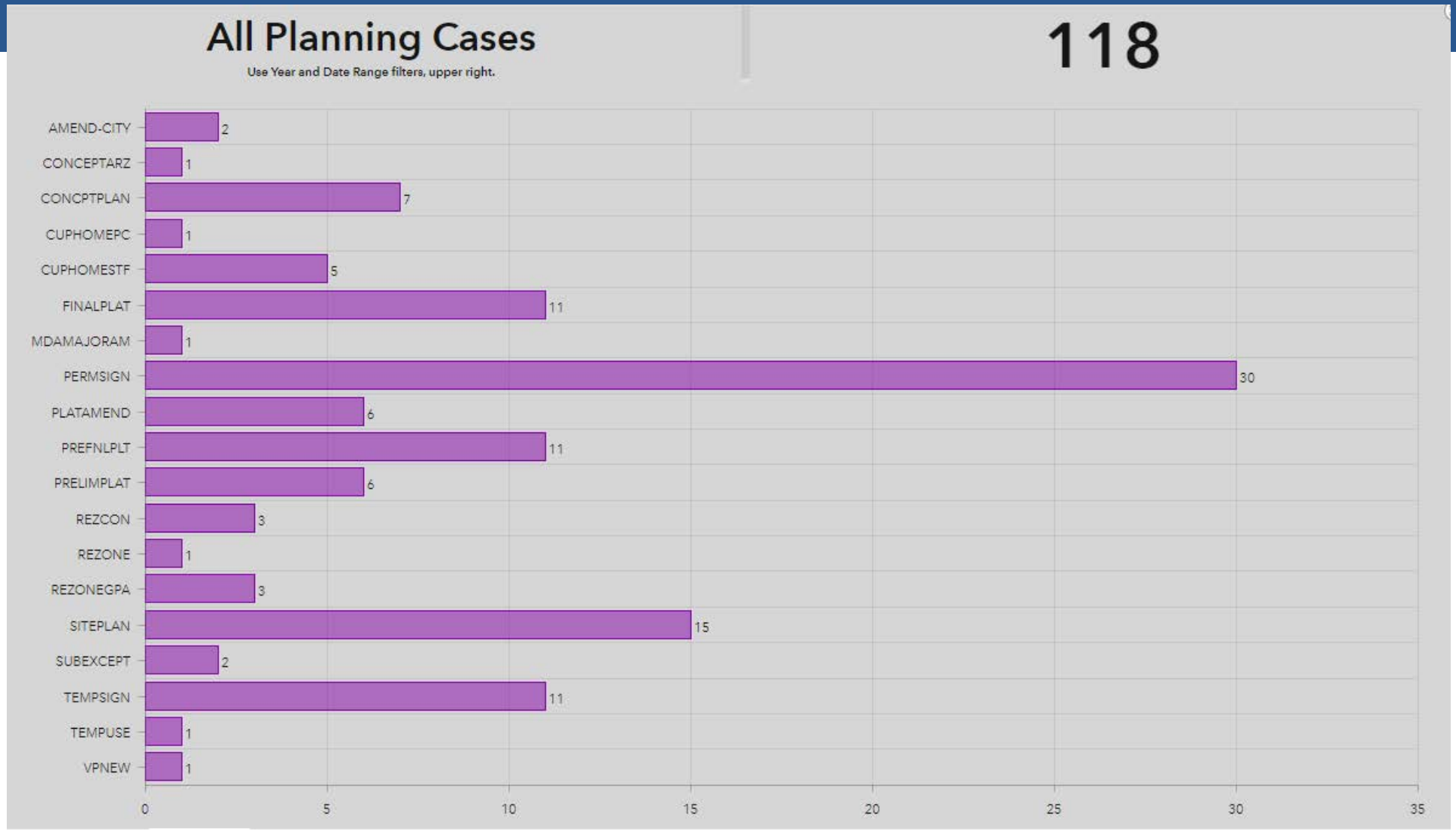
Planning Division Applications 2017-2022



Planning Division 2022 YTD Complexity



Planning Division 2022 Applications



Economic Development Division

Objectives

- Update/revise OW zone.
- Update the Strategic Plan – more specific
  - Focus on attracting office development
  - Focus on high paying jobs
- SLR City Center District Area Plan update – *update meetings underway*
- Conduct a study and plan to create a proposed downtown area located between Foothill Blvd and Pioneer crossing – *Zions PF draft market analysis done*
- Look at NSA related businesses near/at the Wildflower development
- Attend the area Chamber of Commerce (fill vacancies of 3 board members)

Economic Development Division

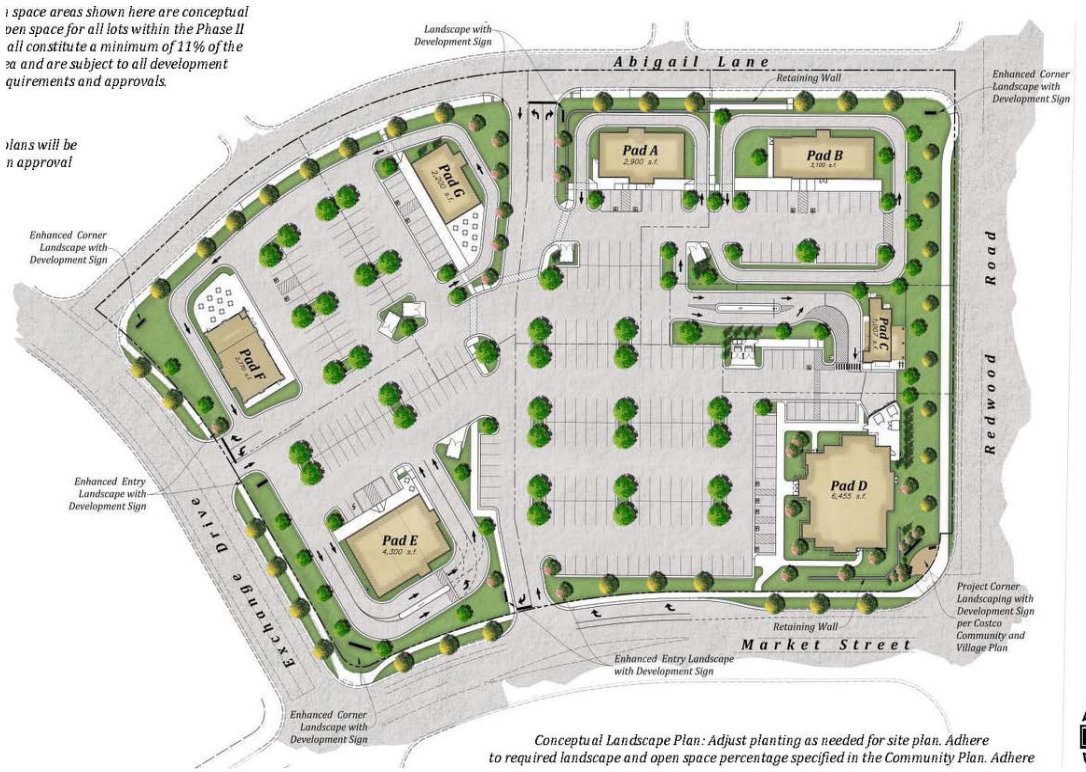
Opportunities

- WPI Development (Home Depot)
- DR Horton Property – Flex Office Warehouse
- Northridge – Flex Office, Warehouse & Hotels
- North Redwood Road – RC & Flex Office Warehouse
- SLR Properties – Market Study Underway
- Boyer Property – Mid-Box, Hotel & Restaurants
- Hadco Property – Regional Commercial
- Properties next to North Marina – Mixed Waterfront
- Redwood between 400 & Pony – Office
- Redwood Chiu Property – Regional Commercial
- Wildflower Commercial - Flex Office, Warehouse, RC, CC
- Saratoga Springs Commercial Development (Crossroads Blvd & Redwood Road)

Economic Development Division

Coming Businesses

- The Crossings:
  - Wells Fargo, AT&T, Tide, Café Zupas, Chipotle, Mattress Firm, Habit Burger Grill, Chili's, *Ulta Beauty, Hobby Lobby, Ross, Sportsman's Warehouse, Petco, 5 Below (*recently opened)
- Market Street Village:
  - Olive Garden, Apollo Burger, Dutch Brothers, Zao
- Others:
  - IHC Medical Center, Bishop's Storehouse, Deseret Industries, Thrive Development Medical Offices, Chick Fil-A, Starbucks, Blossom Chinese Restaurant, R&R Tactical



ORDINANCE NO. 22-22 (6-7-22)

ORDINANCE ADOPTING THE FINAL BUDGET FOR THE FISCAL YEAR 2022-2023 INCLUDING A COMPENSATION SCHEDULE FOR ELECTED AND STATUTORY OFFICERS AND A NO PROPERTY TAX INCREASE; ESTABLISHING AN EFFECTIVE DATE

WHEREAS, following adoption of a tentative budget, Utah Code § 10-6-118 requires the City Council to, on or before June 30 of each year, adopt a final budget after holding a public hearing; and

WHEREAS, Utah Code § 10-3-818 requires the City Council to establish a compensation schedule for its elected, appointed, and statutory officers ("compensation schedule") through ordinance after holding a public hearing; and

WHEREAS, Utah Code §§ 10-6-113 and 10-3-818 require the City Council to publish 7 days' advance notice of the adoption of the final budget and compensation schedule; and

WHEREAS, the City Council held a public hearing on June 7th, 2022, regarding the 2022-2023 final budget and compensation schedule; and

WHEREAS, after due consideration of all public input received, the City Council now wishes to adopt the final budget and compensation schedule attached hereto.

NOW THEREFORE, be it ordained by the Governing Body of the City of Saratoga Springs, Utah, that:

1. The City of Saratoga Springs does hereby adopt the final budget for fiscal year 2022-2023 and compensation schedule attached hereto. This includes a no property tax increase.

2. This ordinance shall take effect on July 1, 2022 and after publication as required by Utah law.

ADOPTED AND PASSED by the City Council of the City of Saratoga Springs, Utah, this 7th day of June, 2022.

Signed: _____
Jim Miller, Mayor

Attest: _____
Cindy LoPiccolo, City Recorder

	VOTE
Chris Carn	_____
Michael McOmber	_____
Ryan Poduska	_____
Chris Porter	_____
Stephen Willden	_____

FY 2023 Recommended Balanced Funds

Staff have determined that 2023 expenditures are covered by projected revenues

General Fund

Revenue	2022 Budget	2023 Budget
Taxes	$ 13,785,866	$ 17,506,073
Licenses and Permits	$ 2,194,756	$ 3,271,076
Intergovernmental Revenue	$ 1,587,188	$ 2,115,526
Charges for Service	$ 4,598,817	$ 6,836,772
Other Revenue	$ 2,550,404	$ 2,692,481
Administrative Charges	$ 3,393,766	$ 3,393,766
Contributions & Transfers	$ 6,877,742	$ 437,747
Total General Fund Revenue	**$ 34,988,539**	**$ 36,253,441**

Department	2022 Budget	2023 Budget
Legislative	$ 166,139	$ 179,615
Administrative	$ 1,571,581	$ 1,667,772
Utility Billing	$ 352,186	$ 444,650
Treasurer	$ 402,982	$ 412,643
Recorder	$ 213,399	$ 263,913
Attorney	$ 681,434	$ 747,761
Justice Court	$ 300,203	$ 327,297
Non-Departmental	$ 768,114	$ 776,114
General Government Buildings & Grounds	$ 366,311	$ 366,311
Elections	$ 42,500	$ 92,500
Planning & Zoning	$ 1,048,342	$ 1,143,191
Community Development Department	$ 317,753	$ 424,759
Police	$ 4,823,681	$ 5,582,850
Police-Bluffdale	$ 2,070,266	$ 2,071,090
Fire	$ 3,843,100	$ 4,527,558
Building Inspection	$ 1,550,698	$ 1,680,579
Grant Expenditures	$ 71,250	$ 71,250
Streets	$ 1,170,549	$ 1,259,205
Public Works	$ 827,731	$ 867,256
Engineering	$ 590,670	$ 717,267
IT	$ 415,561	$ 496,877
Public Improvements	$ 653,969	$ 692,559
Parks	$ 1,780,583	$ 2,058,793
Recreation	$ 824,004	$ 982,468
Civic Events	$ 343,156	$ 405,028
Library	$ 608,600	$ 717,577
Transfers	$ 9,183,777	$ 7,276,559
Total General Fund Expenditures	**$ 34,988,539**	**$ 36,253,441**

Net Revenue Over Expenditures	**$ -**	**$ -**

General Fund Summary

Revenues by Major Object	2022 Budget	2023 Budget
Tax Revenue	$ 13,785,866	$ 17,506,073
Licenses and Permits	$ 2,194,756	$ 3,271,076
Intergovernmental Revenue	$ 1,587,188	$ 2,115,526
Charges for Services	$ 4,598,817	$ 6,836,772
Other Revenue	$ 2,550,404	$ 2,692,481
Contributions and Transfers	$ 10,271,509	$ 3,831,513
Total Revenues	**$ 34,988,539**	**$ 36,253,441**

General Fund Expenditures by Major Object

	2022 Budget	2023 Budget
Personnel	$ 20,159,483	$ 22,818,646
Materials, Supplies, and Services	$ 5,164,339	$ 5,880,040
Capital Outlay	$ 480,940	$ 278,196
Transfers	$ 9,183,777	$ 7,276,559
Total Expenditures	**$ 34,988,539**	**$ 36,253,441**

Zone 2 SID (24)

	2022 Budget	2023 Budget
Water SID Revenue	$ 185,000	$ 260,391
Interest Revenue	$ -	$ -
Total Revenue	**$ 358,000**	**$ 358,000**

Water SID Expenses	$ 358,000	$ 358,000
Transfers	$ -	$ -
Total Expenses	**$ 358,000**	**$ 358,000**
Net Revenue Over Expenditures	**$ -**	**$ -**

Storm Drain Capital Projects (31)

	2022 Budget	2023 Budget
Intergovernmental Revenue	$ 1,618,665	$ -
Contributions & Other Sources	$ 402,754	$ -
Impact Fees Revenues	$ 6,159,430	$ 667,789
Total Revenue	**$ 6,562,184**	**$ 667,789**

Capital Project Expenditures	$ 6,562,184	$ 667,789
Transfers	$ -	$ -
Total Expenses	**$ 6,562,184**	**$ 667,789**
Net Revenue Over Expenditures	**$ -**	**$ -**

Parks Capital Projects (32)

	2022 Budget	2023 Budget
Intergovernmental Revenue	$ 3,285,781	$ 5,000,000
Contributions & Other Sources	$ 2,721,299	$ 382,297
Impact Fees Revenues	$ 6,404,825	$ 2,618,703
Total Revenue	**$ 12,411,905**	**$ 8,001,000**

Capital Project Expenditures	$ 12,411,905	$ 8,001,000
Transfers	$ -	$ -
Total Expenses	**$ 12,411,905**	**$ 8,001,000**
Net Revenue Over Expenditures	**$ -**	**$ -**

Roads Capital Projects (33)

	2022 Budget	2023 Budget
Intergovernmental Revenue	$ -	$ -
Impact Fees Revenues	$ 20,751,018	$ 5,386,071
Total Revenue	**$ 20,751,018**	**$ 5,386,071**

Capital Project Expenditures	$ 20,751,018	$ 5,386,071
Transfers	$ -	$ -
Total Expenses	**$ 20,751,018**	**$ 5,386,071**
Net Revenue Over Expenditures	**$ -**	**$ -**

Public Safety Capital Projects (34)

	2022 Budget	2023 Budget
Impact Fees Revenues	$ 1,194,449	$ 1,056,326
Total Revenue	**$ 1,194,449**	**$ 1,056,326**

Capital Project Expenditures	$ 1,194,449	$ 1,056,326
Total Expenses	**$ 1,194,449**	**$ 1,056,326**
Net Revenue Over Expenditures	**$ -**	**$ -**

Capital Projects (35)

	2022 Budget	2023 Budget
Contributions & Other Sources	$ -	$ -
Transfers and Other Sources	$ 5,843,229	$ 6,147,176
Contributions & Other Revenues	$ 5,154,317	$ 1,340,175
Total Revenue	**$ 10,997,546**	**$ 7,487,351**

Capital Project Expenditures	$ 10,972,546	$ 7,462,351
Transfers	$ -	$ -
Total Expenses	**$ 10,997,546**	**$ 7,487,351**
Net Revenue Over Expenditures	**$ -**	**$ -**

Debt Service (40)

	2022 Budget	2023 Budget
Admin Fees	$ 213,773	$ 173,241
Contributions and Transfers	$ 79,727	$ 120,259
Total Revenue	**$ 293,500**	**$ 293,500**

Debt Service	$ 293,500	$ 293,500
Total Expenses	**$ 293,500**	**$ 293,500**
Net Revenue Over Expenditures	**$ -**	**$ -**

Community Development Renewal Agency (42)

	2022 Budget	2023 Budget
Transfers and Other Sources	$ 760,000	$ 760,000
Total Revenue	**$ 760,000**	**$ 760,000**

Materials, Supplies and Services	$ 760,000	$ 760,000
Total Expenses	**$ 760,000**	**$ 760,000**
Net Revenue Over Expenditures	**$ -**	**$ -**

Street Lighting (50)

	2022 Budget	2023 Budget
Street Lighting	$ 380,000	$ 430,000
Transfers	$ 158,209	$ 84,843
Total Revenue	**$ 538,209**	**$ 514,843**

Street Lighting	$ 538,209	$ 514,843
Transfers	$ -	$ -
Total Expenses	**$ 538,209**	**$ 514,843**
Net Revenue Over Expenditures	**$ -**	**$ -**

Water (51)

	2022 Budget	2023 Budget
Utility Operating Revenue	$ 6,498,171	$ 7,259,893
Water	$ 357,016	$ -
Total Revenue	**$ 6,855,187**	**$ 7,259,893**

Water Operations	$ 3,875,440	$ 4,280,769
Secondary Water Operations	$ 1,839,238	$ 2,702,586
Transfers	$ 1,140,509	$ 276,538
Total Water Fund Expenses	**$ 6,855,187**	**$ 7,259,893**
Net Revenue Over Expenditures	**$ -**	**$ -**

Sewer (52)

	2022 Budget	2023 Budget
Operating & Non-Operating Revenue	$ 5,396,477	$ 5,400,000
Total Revenue	**$ 5,633,398**	**$ 5,746,670**

Sewer Operations	$ 5,002,870	$ 5,136,670
Depreciation	$ 610,000	$ 610,000
Transfers	$ -	$ -
Total Expenses	**$ 5,612,870**	**$ 5,746,670**
Net Revenue Over Expenditures	**$ -**	**$ -**

Wastewater Capital Projects (53)

	2022 Budget	2023 Budget
Other Revenue	$ -	$ -
Impact Fees Revenue	$ 8,272,290	$ 700,000
Total Revenue	**$ 8,272,290**	**$ 700,000**

Capital Project Expenditures	$ 8,157,290	$ 585,000
Depreciation	$ 115,000	$ 115,000
Transfers	$ -	$ -
Total Expenses	**$ 8,272,290**	**$ 700,000**
Net Revenue Over Expenditures	**$ -**	**$ -**

Storm Drain (54)

	2022 Budget	2023 Budget
Operating Revenue	$ 600,000	$ 900,000
Contributions & Other Sources	$ 756,800	$ 571,546
Total Revenue	**$ 1,356,800**	**$ 1,471,546**

Storm Drain Operations	$ 879,186	$ 1,013,832
Depreciation	$ 410,000	$ 410,000
Transfers and Other Uses	$ 67,614	$ 47,714
Total Expenses	**$ 1,356,800**	**$ 1,471,546**
Net Revenue Over Expenditures	**$ -**	**$ -**

Garbage (55)

	2022 Budget	2023 Budget
Operating Revenue	$ 1,000,000	$ 2,200,000
Interest Revenue & Other Sources	$ 231,199	$ 106,258
Total Revenue	**$ 1,231,199**	**$ 2,306,258**

Garbage Operations	$ 1,231,199	$ 2,306,258
Total Expenses	**$ 1,231,199**	**$ 2,306,258**
Net Revenue Over Expenditures	**$ -**	**$ -**

Culinary Water Capital Projects (56)

	2022 Budget	2023 Budget
Connection Fees Revenue	$ 5,951,525	$ 2,232,493
Transfers	$ -	$ 3,000,000
Total Revenue	**$ 5,951,525**	**$ 5,232,493**

Capital Project Expenditures	$ 4,233,660	$ 3,090,000
Transfers and Other Uses	$ 225,000	$ 225,000
Depreciation/Amortization	$ 1,050,000	$ 1,050,000
Total Expenses	**$ 5,951,525**	**$ 5,232,493**
Net Revenue Over Expenditures	**$ -**	**$ -**

Secondary Water Capital Projects (57)

	2022 Budget	2023 Budget
Connection Fees Revenues	$ 9,745,480	$ 2,535,867
Total Revenue	**$ 9,745,480**	**$ 2,535,867**

Capital Project Expenditures	$ 9,311,411	$ 737,050
Transfers Out	$ -	$ -
Depreciation	$ 250,000	$ 250,000
Transfers and Other Uses	$ -	$ -
Total Expenses	**$ 9,745,480**	**$ 2,535,867**
Net Revenue Over Expenditures	**$ -**	**$ -**

Water Rights (58)

	2022 Budget	2023 Budget
Water Rights	$ 1,000,000	$ 1,000,000
Interest Revenue & Other Sources	$ 13,956,560	$ 2,460,000
Total Revenue	**$ 14,956,560**	**$ 3,460,000**
Water Rights Expenses	$ 14,956,560	$ 460,000
Transfers	$ -	$ 3,000,000
Total Expenses	**$ 14,956,560**	**$ 3,460,000**
Net Revenue Over Expenditures	**$ -**	**$ -**

FY2023 Budget Requests								
Y/N City Manager Recommended	**Request**	**Budget Amendments**	**FY 2022 Adjusted Budget**	**FY 2023 Dept Request**	**FY 2024 Dept Request**	**Recommended FY 2023 with one time 2022 Revenues**	**Recommended FY 2023 Ongoing**	**Recommended FY 2024 Ongoing**
GENERAL FUND								
Administration								
Y	2023 Payplan Adjustments			$ 120,487	$ 120,487		$ 120,487	$ 120,487
BA	Retention Plan (Budget Amendment #4)	$ 23,633						
N	Financial Analyst			$ 80,836	$ 80,836		$ 80,836	$ 80,836
Building Inspection								
BA	Building Inspection (Budget Amendment #2)	$ 50,000						
BA	Consulting Services (Budget Amendment #2)	$ 150,000						
BA	Retention Plan (Budget Amendment #4)	$ (20,031)						
Y	2023 Payplan Adjustments			$ 82,703	$ 82,703		$ 82,703	$ 82,703
Y	Increased Education and Training (for New Inspectors)			$ 20,000	$ 20,000		$ 20,000	$ 20,000
Y	Increased Fuel			$ 7,147	$ 7,147		$ 7,147	$ 7,147
Treasurer								
BA	Education and Training (Budget Amendment #3)	$ 1,050						
BA	Admin Bank Charges (Budget Amendment #3)	$ 55,000						
BA	Retention Plan (Budget Amendment #4)	$ (2)						
Y	2023 Payplan Adjustments			$ 9,659	$ 9,659		$ 9,659	$ 9,659
City Recorder								
BA	Retention Plan (Budget Amendment #4)	$ 9,333						
Y	2023 Payplan Adjustments			$ 17,211	$ 17,211		$ 17,211	$ 17,211
Y	Electronic Signature System			$ 8,000	$ 8,000		$ 8,000	$ 8,000
Y	Deputy Recorder PT to FT			$ 41,972	$ 41,972		$ 41,972	$ 41,972
Civic Events								
BA	Communities that Care (Budget Amendment #2)	$ 13,100						
BA	Communities that Care (Budget Amendment #3)	$ 241						
BA	Retention Plan (Budget Amendment #4)	$ (3,077)						
Y	2023 Payplan Adjustments			$ 15,327	$ 15,327		$ 15,327	$ 15,327
Y	25 Year Celebration			$ 30,500		$ 30,500	$ -	$ -
BA	Civic Events Coordinator (780 hours to 1560 hours)		$ 14,037	$ 28,074	$ 28,704		$ 28,074	$ 28,704
BA	Assistant Civic Events Coordinator (780 hours to 1040 hours)		$ 7,472	$ 14,944	$ 14,944		$ 14,944	$ 14,944
Y	Sound System Operator Contract			$ 4,800	$ 4,800		$ 4,800	$ 4,800

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
Community Development Department								
BA	Retention Plan (Budget Amendment #4)	$ 6,190						
Y	2023 Payplan Adjustments			$ 27,396	$ 27,396		$ 27,396	$ 27,396
Y	Increase Education/Training			$ 3,500	$ 3,500		$ 3,500	$ 3,500
Y	Increase in Memberships			$ 2,300	$ 2,300		$ 2,300	$ 2,300
Y	Downtown Study			$ 80,000		$ 80,000		
Elections								
Y	Special and Future Elections			$ 50,000			$ 50,000	
Engineering								
BA	Retention Plan (Budget Amendment #4)	$ 5,638						
BA	General Engineering Consulting (Budget Amendment #6)	$ 122,500						
Y	2023 Payplan Adjustments			$ 8,821	$ 8,821		$ 8,821	$ 8,821
Fire								
BA	Retention Plan (Budget Amendment #4)	$ (142,668)						
Y	2023 Payplan Adjustments			$ 715,999	$ 715,999		$ 715,999	$ 715,999
Fleet Replacement	Equipment for Replacement of E-262 (Fleet Replacement)			$ 88,425				
Fleet Replacement	Equipment for Replacement of Dodge Ambulance (Fleet Replacement)			$ 155,100				
Y	Cascade Unit			$ 57,000		$ 57,000		
N	Increase Uniforms Budget			$ 22,000	$ 22,000		$ 22,000	$ 22,000
General Govt. Building and Grounds								
	None							
Human Resources								
	None							
IT Services								
BA	New IT Technician (Budget Amendment #3)	$ 44,773						
Y	2023 Payplan Adjustments			$ 79,546	$ 79,546		$ 79,546	$ 79,546
BA	Retention Plan	$ (984)						
Y	ESRI Software Maintenance Increase			$ 200	$ 200		$ 200	$ 200
Partial	Cityworks Maintenance Increase			$ 37,500	$ 37,500		$ 37,500	$ 37,500
Y	GIS Technician			$ 80,660	$ 80,660		$ 80,660	$ 80,660

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
Justice Court								
BA	Retention Plan (Budget Amendment #4)	$ (1,596)						
Y	2023 Payplan Adjustments			$ 25,498	$ 25,498		$ 25,498	$ 25,498
Legal Department								
BA	Retention Plan (Budget Amendment #4)	$ 42,895						
Y	2023 Payplan Adjustments			$ 55,233	$ 55,233		$ 55,233	$ 55,233
BA	PT Legal Assistant to FT		$ 25,480	$ 50,959	$ 50,959		$ 50,959	$ 50,959
Y	Increase in Constable Service Fees			$ 3,000	$ 3,000		$ 3,000	$ 3,000
Legislative Department								
Y	Legslature Related Comm/Materials			$ 8,000	$ 8,000		$ 8,000	$ 8,000
Y	2023 Payplan Adjustments			$ 5,476	$ 5,476		$ 5,476	$ 5,476
Library Services								
BA	Digital Purchases (Budget Amendment #1)	$ 7,307						
BA	PT Library Clerk to FT (Budget Amendment #2)	$ 18,506						
BA	Retention Plans (Budget Amendment #4)	$ (13,113)						
BA	Library Grant Expenditures (Budget Amendment #4)	$ 7,100						
BA	Book Purchases (Budget Amendmjent #6)	$ 12,000						
BA	Library Grant Expenditures (Budget Amendment #6)	$ 3,000						
Y	2023 Payplan Adjustments			$ 50,184	$ 50,184		$ 50,184	$ 50,184
N	Aspen Discovery			$ 21,600	$ 11,500			
Y	Increase Supplies			$ 8,000	$ 8,000		$ 8,000	$ 8,000
Y	Book Purchases			$ 20,000	$ 20,000		$ 20,000	$ 20,000
Y	Expand Digital Collection			$ 20,000	$ 20,000		$ 20,000	$ 20,000
Y	Programming Supplies			$ 5,000	$ 5,000		$ 5,000	$ 5,000
N	Civic Plus (Library Department Website)			$ 6,090	$ 1,110			
N	PT Library Clerk to FT			$ 42,814	$ 42,814			
Non-Departmental								
BA	General Liability Insurance (Budget Amendment #3)	$ 123,000						
BA	Sales Tax Expenses (Budget Amendment #3)	$ 10,000						

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
Parks & Open Spaces								
BA	Maintenance 3 converted to a Maintenance 4 (Budget Amendment #2)	$ 4,473						
BA	Retention Plan (Budget Amendment #4)	$ (30,401)						
Y	2023 Payplan Adjustments			$ 106,746	$ 106,746		$ 106,746	$ 106,746
Y	Increase GL 10-4510-500 (Park Maintenance & Supplies)			$ 106,948	$ 42,300	$ 61,000	$ 45,948	$ 42,300
Y	Increase GL 10-4510-740 (Capital Outlay Equipment)			$ 75,750		$ 75,750	$ -	$ -
Y	Increase GL 10-4510-330 UCPA Conference for 4 staff			$ 10,170	$ 3,500		$ 10,170	$ 3,500
N	Seasonal employees for Patriot Park			$ 23,292	$ 23,292			
N	Tournament Coordinator and Field Manager			$ 72,143	$ 72,143			
Y	Reclass Maintenance 1 Floater to FT Maintenance 1			$ 41,264	$ 41,264		$ 41,264	$ 41,264
Y	Reclass 2 Maintenance 1s to Maintenance 2s			$ 8,762	$ 8,762		$ 8,762	$ 8,762
Y	Reclass 2 Maintenance 2s to Maintenance 3s			$ 9,549	$ 9,549		$ 9,549	$ 9,549
Planning & Zoning								
BA	Professional & Technical Services (Budget Amendment #2)	$ 35,000						
BA	Retention Plan (Budget Amendment #4)	$ 36,789						
Y	2023 Payplan Adjustments			$ 64,838	$ 64,838		$ 64,838	$ 64,838
Y	Increase Gasoline Budget			$ 2,402	$ 2,402		$ 2,402	$ 2,402
Y	Increase Education/Training Budget			$ 5,000	$ 5,000		$ 5,000	$ 5,000
Y	PT Administrative Assistant			$ 30,824	$ 30,824		$ 30,824	$ 30,824
BA	PT Planner 1 to FT Senior Planner		$ 53,961	$ 63,574	$ 63,574		$ 63,574	$ 63,574
Police - Bluffdale								
BA	Overtime Pay (Budget Amendment #2)	$ 25,000						
BA	Uniforms/Clothing (Budget Amendment #2)	$ 1,180						
BA	Education/Training (Budget Amendment #2)	$ 1,880						
BA	Professional Contract Services (Budget Amendment #2)	$ 20,285						
BA	Retention Plan (Budget Amendment #4)	$ 163,037						
Y	2023 Payplan Adjustments			$ 252,227	$ 252,227		$ 252,227	$ 252,227

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
Police								
BA	Court/Standby Pay (Budget Amendment #2)	$ 11,000						
BA	Retention Plan (Budget Amendment #4)	$ 289,844						
Y	2023 Payplan Adjustments			$ 634,558	$ 634,558		$ 634,558	$ 634,558
P	Patrol Officer (2x)			$ 402,621	$ 282,621	$ 48,000	$ 141,311	$ 141,311
N	PT Investigations Technician to FT			$ 40,252	$ 40,252			
Y	PT Evidence Technician to FT			$ 44,469	$ 44,369		$ 44,469	$ 44,369
Y	PT Records Clerk Hours Increase (1300 to 1499)			$ 3,800	$ 3,800		$ 3,800	$ 3,800
Y	PT Neighborhood Outreach Coordinator Hours Increase (360 to 520)			$ 3,751	$ 3,751		$ 3,751	$ 3,751
Y	PT Internal Affairs Investigator Hours Increase (240 to 480)			$ 5,682	$ 5,682		$ 5,682	$ 5,682
Y	Increase Vehicle Maintenance			$ 26,947	$ 26,947		$ 26,947	$ 26,947
Y	Increase Gasoline Expenses			$ 70,784	$ 70,784		$ 70,784	$ 70,784
Y	Increase Investigations			$ 12,000	$ 12,000		$ 12,000	$ 12,000
Y	Increase Education and Training			$ 9,000	$ 9,000		$ 9,000	$ 9,000
Public Improvements								
BA	Retention Plan (Budget Amendment #4)	$ 23,837						
Y	2023 Payplan Adjustments			$ 52,541	$ 52,541		$ 52,541	$ 52,541
Y	Reclass Public Improvements Inspectors			$ 9,886	$ 9,886		$ 9,886	$ 9,886
Public Works								
BA	Retention Plan (Budget Amendment #4)	$ 42,586						
Y	2023 Payplan Adjustments			$ 82,111	$ 82,111		$ 82,111	$ 82,111
Recreation								
BA	Convert a PT Recreation Coordinator to FT (Budget Amendment #2)	$ 48,355						
BA	Retention Plan (Budget Amendment #4)	$ (4,909)						
Y	2023 Payplan Adjustments			$ 39,168	$ 39,168		$ 39,168	$ 39,168
Y	Increase Site Supervisor Hours (increase by 1505)			$ 26,446	$ 26,446		$ 26,446	$ 26,446
Y	Increase in Youth Sports Officials Hours (increase by 1838)			$ 27,442	$ 27,442		$ 27,442	$ 27,442
Y	Increase in Adult Sports Officials Hours (increased by 337)			$ 7,999	$ 7,999		$ 7,999	$ 7,999
Y	Increase in Basketball Expenses			$ 16,000	$ 16,000		$ 16,000	$ 16,000
Y	Increase in Camp Expenses			$ 35,000	$ 35,000		$ 35,000	$ 35,000
Y	GPS Field Painter		$ 50,000	$ 50,000	$ -	$ 50,000	$ -	$ -
Y	Increase Education Budget			$ 4,500	$ 4,500		$ 4,500	$ 4,500
Y	Concession Stand Upgrade			$ 15,500	$ 11,000		$ 15,500	$ 11,000
Y	Staff Incentive Program			$ 10,000	$ 10,000		$ 10,000	$ 10,000

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
Streets								
BA	Retention Plan (Budget Amendment #4)	$ (25,372)						
Y	2023 Payplan Adjustments			$ 70,199	$ 70,199		$ 70,199	$ 70,199
Y	Increase Cub, Gutter, Sidewalk Budget			$ 5,000	$ 5,000		$ 5,000	$ 5,000
Y	Reclassify Maintenance 2 to a Maintenance 3			$ 14,323	$ 14,323		$ 14,323	$ 14,323
Y	Reclassify Maintenance 1 to a Maintenance 2			$ 8,763	$ 8,763		$ 8,763	$ 8,763
Utility Billing								
BA	Billing and Mailing (Budget Amendment #3)	$ 50,000						
BA	Retention Plan (Budget Amendment #4)	$ 146						
Y	2023 Payplan Adjustments			$ 25,226	$ 25,226		$ 25,226	$ 25,226
Y	New FT Utility Billing Clerk			$ 67,384	$ 67,384		$ 67,384	$ 67,384
General Fund Total		**$ 1,216,525**	**$ 150,950**	**$ 4,906,802**	**$ 4,109,659**	**$ 402,250**	**$ 3,841,525**	**$ 3,777,237**

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
STORM DRAIN CAPITAL PROJ FUND								
BA	NRCS Grant funded planning document (Budget Amendment #1)	$ 231,860						
BA	Developer Reimbursement (Budget Amendment #6)	$ 29,156						
Y	31-4000-600 Storm Water Planning			$ 30,000	$ 30,000		$ 30,000	$ 30,000
BA	31-4000-711 Knolls Fire		$ 186,000					
BA	31-4000-787 Pioneer Crossing to Redwood		$ (10,773)					
BA	31-4000-790 Perelle Outfall in E Saratoga Road		$ 40,313					
Y	31-4000-706 800 West (Fairfield to 400 N) - Lexington Green			$ 232,664			$ 232,664	
Y	31-4000-792 Tickville Wash			$ 120,000			$ 120,000	$ -
Storm Drain Impact Fund Total		**$ 261,016**	**$ 215,540**	**$ 382,664**	**$ 30,000**	**$ -**	**$ 382,664**	**$ 30,000**
PARKS CAPITAL PROJECTS FUND								
BA	Hot Springs Feasibility Study (Budget Amendment #1)	$ 200,000						
BA	Rec Center Feasability Study (Budget Amendment #5)	$ 20,000						
BA	Sports Complex Design (Budget Amendment #3)	$ 219,400						
BA	Sunrise Meadows Bike Park (Budget Amendment #3)	$ 650,000						
BA	Jordan River Boat Ramp (Budget Amendment #3)	$ (40,000)						
BA	Rec Center Feasability Study (Budget Amendment #3)	$ (150,000)						
BA	Hot Springs Study (Budget Amendment #3)	$ (100,000)						
BA	Heron Hills Park (Budget Amendment #3)	$ 6,500						
BA	Utah Lake Commission (Budget Amendment #3)	$ 2,300						
BA	Sports Complex Design Adjustment (Budget Amendment #4)	$ 40,000						
BA	32-4000-720 South Marina Beach and Landscaping-phase 1		$ 750,000	$ 800,000		$ 800,000		
BA	32-4000-734 North Marina-Dredge Phase 1		$ 536,000	$ 400,000		$ 400,000		
Y	Bond Payment			$ 650,000	$ 650,000		$ 650,000	$ 650,000
Y	32-4000-734 Saratoga Shoreline Project (North Marina)			$ 5,000,000		$ 5,000,000		
BA	New GL - FFSL SSD Shoreline Trail		$ 633,000					
Y	Cemetary (New GL)			$ 1,000,000		$ 1,000,000		
Y	Loan payment to Fund 35 (32-4800-500)			$ 151,000	$ 3,780,000		$ 151,000	$ 3,780,000
Parks Impact Fund Total		**$ 848,200**	**$ 1,919,000**	**$ 8,001,000**	**$ 4,430,000**	**$ 7,200,000**	**$ 801,000**	**$ 4,430,000**

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
ROADS CAPITAL PROJECTS FUND								
BA	Transportation Planning (Budget Amendment #3)	$ (45,539)						
BA	400 E Crossroads Signal (Budget Amendment #3)	$ 80,484						
BA	Transportation IFFFP (Budget Amendment #6)	$ 30,000						
Y	33-4000-710 Transportation Planning			$ 40,000	$ 40,000		$ 40,000	$ 40,000
BA	33-4000-725 Foothill Extension		$ 10,398,929					
Y	New GL - South Elementary Underpass			$ 3,600,000		$ 3,600,000		
Y	New GL - Pony Express Connector (Jordan River to Saratoga Road)			$ 627,650		$ 627,650		
Roads Impact Fund Total		**$ 64,945**	**$ 10,398,929**	**$ 4,267,650**	**$ 40,000**	**$ 4,227,650**	**$ 40,000**	**$ 40,000**
PUBLIC SAFETY CAPITAL PROJ FUND								
BA	Lease Payment for Fire Engine (Budget Amendment #2)	$ 283,326		$ 283,326	$ 283,326		$ 283,326	$ 283,326
Y	Loan repayment to fund 35			$ 523,000	$ 1,140,000		$ 523,000	$ 1,140,000
Y	North Fire Station Expansion			$ 250,000		$ 250,000		
Public Safety Impact Fund Total		**$ 283,326**	**$ -**	**$ 1,056,326**	**$ 1,423,326**	**$ 250,000**	**$ 806,326**	**$ 1,423,326**
CAPITAL PROJECTS FUND								
BA	Cemetary Design and Engineering (Budget Amendment #1)	$ 150,000						
BA	Patriot Park Pitcher Mounds (Budget Amendment #2)	$ 7,260						
BA	Modular Office Purchase (Budget Amedment #5)	$ 260,000						
FLEET	Replacement of E-262/2012 Pierce Engine			$ 645,000				
FLEET	Replacement of Reserve Dodge Ambulance			$ 225,000				
Y	35-4000-751 Library Needs Analysis			$ 10,000			$ 500,000	$ 4,000,000
Y	Public Works Site Masterplan			$ 25,000	$ -		$ 25,000	
Y	Playground Equipment Replacement Fund			$ 50,000	$ 50,000		$ 50,000	$ 50,000
Y	Road Projects			$ 1,000,000	$ 1,000,000		$ 1,500,000	$ 1,500,000
Y	Fleet Replacement			$ 1,500,000	$ 2,000,000		$ 1,500,000	$ 2,000,000
Y	Computer Equipment			$ 30,000	$ 30,000		$ 30,000	$ 30,000
Y	Equipment Replacement			$ 118,000	$ 500,000		$ 118,000	$ 500,000
General Capital Fund Total		**$ 417,260**	**$ -**	**$ 3,603,000**	**$ 3,580,000**	**$ -**	**$ 3,723,000**	**$ 8,080,000**

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
CDRA FUND								
	None							
CDRA Fund Total		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
STREET LIGHTING FUND								
BA	Retention Plan (Budget Amendment #4)	$ (1,898)						
Y	2023 Payplan Adjustments			$ (15,206)	$ (15,206)		$ (15,206)	$ (15,206)
Y	Reclass Maintenance 2 to a Maintenance 3			$ 4,775	$ 4,775		$ 4,775	$ 4,775
Y	Replace all remaining beehive style residential street lights			$ 120,000	$ 120,000		$ 120,000	$ 120,000
Y	Combine GLs 480 and 450			$ 508	$ 508		$ 508	$ 508
Y	Create Street Light Painting GL			$ 20,000	$ 20,000		$ 20,000	$ 20,000
Streetlighting Fund Total		**$ (1,898)**	**$ -**	**$ 130,077**	**$ 130,077**	**$ -**	**$ 130,077**	**$ 130,077**
WATER FUND								
Culinary Water								
BA	Contract Services (Budget Amendment #1)	$ 5,100						
BA	New Truck (Budget Amendment #1)	$ 35,000						
BA	Retention Plan (Budget Amendment #4)	$ (45,327)						
Y	2023 Payplan Adjustments			$ 80,829	$ 80,829		$ 80,829	$ 80,829
Y	New Maintenance 2 (converted from floater position)			$ 33,078	$ 33,078		$ 33,078	$ 33,078
Y	Increase GL 51-5100-406 (Culinary Main shop & Well)			$ 170,900	$ 170,900		$ 170,900	$ 170,900
Y	Increase GL 51-5100-290 (SCADA expenses)			$ 43,200	$ 43,200		$ 43,200	$ 43,200
Secondary Water								
BA	Contract Services (Budget Amendment #1)	$ 5,100						
BA	New Maintenance 2 (Budget Amendment #1)	$ 110,695						
BA	Retention Plan (Budget Amendment #4)	$ (41,409)						
BA	Secondary Water Meters (Budget Amendment #6)	$ 265,000					$ 265,000	$ 265,000
Y	2023 Payplan Adjustments			$ 42,883	$ 42,883		$ 42,883	$ 42,883
Y	New Maintenance 2			$ 112,724	$ 78,724	$ 34,000	$ 78,724	$ 78,724
Y	Increase GL 51-5105-406 (Secondary Water Shop & Well)			$ 390,517	$ 390,517		$ 390,517	$ 390,517
Y	Increase GL 51-5105-290 (SCADA Expense)			$ 15,000	$ 15,000		$ 15,000	$ 15,000
Water Operations Fund Total		**$ 334,159**	**$ -**	**$ 889,131**	**$ 855,131**	**$ 34,000**	**$ 1,120,131**	**$ 1,120,131**

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
CULINARY WATER CAPITAL PROJ FUND								
BA	Foothill WL Pony to Beacon (Budget Amendment #1)	$ 3,000,000						
BA	Review of pumpstation designs (Budget Amendment #1)	$ 20,000						
BA	Culinary Water Master Planning (Budget Amendment #3)	$ (40,000)						
BA	Culinary Booster Station (Budget Amendment #3)	$ (20,000)						
BA	Wildflower Zone 4 Tank and Booster (Budget Amendment #3)	$ 15,329						
BA	Mt Saratoga Z1 Tank (Budget Amendment #3)	$ 15,000						
BA	56-4000-730 Wildflower Zonw 4 Tank and Booster (Budget Amendment #6)	$ 30,000						
Y	56-4000-600 Capital and Master Plan			$ 50,000	$ 50,000		$ 50,000	$ 50,000
Y	Foothill Waterline and Booster Pump- Talus Ridge to Pony			$ 3,000,000	$ 500,000		$ 3,000,000	$ 500,000
BA	56-4000-733 5 MG Zone 1 North Tank		$ 75,000					
BA	Israel Canyon Zone 3 Tank		$ 20,000	$ 40,000			$ 40,000	
Water Culinary Impact Fund Total		**$ 3,020,329**	**$ 95,000**	**$ 3,090,000**	**$ 550,000**	**$ -**	**$ 3,090,000**	**$ 550,000**
2NDARY WATER CAPITAL PROJ FUND								
BA	Review of pumpstation designs (Budget Amendment #1)	$ 20,000						
BA	Equip Well #7 (Budget Amendment #3)	$ 400,000						
BA	Zone 2 North Pond (Budget Amendment #3)	$ 160,000						
Y	57-4000-600 Capital and Master Planning			$ 50,000	$ 50,000		$ 50,000	$ 50,000
BA	57-4000-706 Developer Reimbursement (Perelli)		$ 423,760					
BA	57-4000-811 Mt Saratoga North Zone		$ 864					
BA	57-4000-716 Northgate Waterlines (Budget Amendment #6)	$ 69,712						
BA	57-4000-718 Wildflower Zone 4 Pond and Booster (Budget Amendment #6)	$ 17,443						
Y	Zone 1 North Pipeline Swap from Saratoga Road To Riverside Drive Via Pioneer Xing			$ 345,000		$ 345,000		
BA	New GL - Buy Mclachlan Wells		$ 375,000					
Water Secondary Impact Fund Total		**$ 667,155**	**$ 799,624**	**$ 395,000**	**$ 50,000**	**$ 345,000**	**$ 50,000**	**$ 50,000**

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
SEWER FUND								
BA	Retention Plan (Budget Amendment #4)	$ (20,528)						
BA	Manhole Rehabilation (Budget Amendment #6)	$ 10,000					$ 10,000	$ 10,000
BA	Lift Station 7 Oder Control (Budget Amendment #6)	$ 84,618						
Y	2023 Payplan Adjustments			$ 46,967	$ 46,967		$ 46,967	$ 46,967
Y	Maintenance 1			$ 65,193	$ 65,193		$ 65,193	$ 65,193
Y	Reclass Maintenance 1 to a Maintenance 2			$ 4,381	$ 4,381		$ 4,381	$ 4,381
Y	Service Truck with crane			$ 135,000		$ 135,000		
Y	Increase Shop and Maintenance Budget			$ 10,000	$ 10,000		$ 10,000	$ 10,000
Y	Increase SCADA Consulting Budget			$ 20,000	$ 20,000		$ 20,000	$ 20,000
Sewer Operations Fund Total		**$ 74,090**	**$ -**	**$ 281,541**	**$ 146,541**	**$ 135,000**	**$ 156,541**	**$ 156,541**
WASTEWATER CAPITAL PROJ FUND								
BA	Gravity Sewer Grandview to Ring road (Budget Amendment #1)	$ 2,750,000						
BA	Sewer Master Planning (Budget Amendment #3)	$ (30,000)						
BA	N1D N Trunk Riverside to Crossroads (Budget Amendment #3)	$ (35,125)						
Y	53-4000-600 Master Plan Studies				$ 40,000			$ 40,000
BA	53-4000-726 Grandview to Ring Road Sewer (Budget Amendment #6)	$ 544,000						
BA	53-4000-727 Grandview to Ring Road Sewer (Budget Amendment #6)	$ (544,000)						
BA	53-4000-729 Wildflower Lift Station (Budget Amendment #6)	$ 20,000						
BA	53-4000-795 Wildflower Lift Station (Budget Amendment #6)	$ (666)						
BA	53-4000-800 Bond Interest		$ 300,000	$ 300,000	$ 300,000		$ 300,000	$ 300,000
BA	53-4000-810 Bond Principal		$ 285,000	$ 285,000	$ 285,000		$ 285,000	$ 285,000
BA	53-4000-712 North Trunk - New Gravity along Riverside Drive		$ (2,750,000)					
BA	53-4000-795 South Golf Course Upsize		$ (424,000)					
Sewer Impact Fee Fund Total		**$ 2,704,209**	**$ (2,589,000)**	**$ 585,000**	**$ 625,000**	**$ -**	**$ 585,000**	**$ 625,000**

Y/N City Manager Recommended	Request	Budget Amendments	FY 2022 Adjusted Budget	FY 2023 Dept Request	FY 2024 Dept Request	Recommended FY 2023 with one time 2022 Revenues	Recommended FY 2023 Ongoing	Recommended FY 2024 Ongoing
STORM DRAIN ENTERPRISE FUND								
BA	New Storm Water Inspector (Budget Amendment #3)	$ 112,622						
BA	Retention Plan (Budget Amendment #4)	$ (19,900)						
Y	2023 Payplan Adjustments			$ 29,534	$ 29,534		$ 29,534	$ 29,534
Y	Maintenance 1			$ 74,193	$ 74,193		$ 74,193	$ 74,193
Storm Drain Operations Fund Total		**$ 92,722**	**$ -**	**$ 103,727**	**$ 103,727**	**$ -**	**$ 103,727**	**$ 103,727**
WATER RIGHTS FUND								
BA	Maintenance (Budget Amendment #6)	$ 30,000					$ 30,000	$ 30,000
BA	Water Rights Purchase (Budget Amendment #4)	$ 1,142,849						
BA	Central Utah Water Rights Purchase (Budget Amendment #4)	$ 4,874,250						
BA	Developer Reimbursement (Budget Amendment #4)	$ 390,000						
Y	Loan to 56 Water Imact Fee Fund - Foothill Booster Pump			$ 3,000,000		$ 3,000,000		
Water Rights Operations Fund Total		**$ 6,437,099**	**$ -**	**$ 3,000,000**	**$ -**	**$ 3,000,000**	**$ 30,000**	**$ 30,000**
Grand Totals			$ 10,990,043	$ 30,691,918	$ 16,073,461	$ 15,593,900	$ 14,859,992	$ 20,546,040

SARATOGA SPRINGS
PLANNING

City Council Staff Report

Annexation Policy Plan Amendment
June 7, 2022
Public Meeting to schedule public hearing

Report Date:	May 25, 2022
Applicant:	City Initiated
Location:	Entire City and adjacent areas
Parcel Number(s):	" "
Parcel Zoning:	Not yet zoned (currently in County)
Adjacent Zoning:	Various
Current Use of Parcel(s):	Undeveloped
Adjacent Uses:	Agricultural, undeveloped property
Previous Meetings:	None
Previous Approvals:	None
Type of Action:	Legislative
Land Use Authority:	City Council
Future Routing:	City Council
Author:	Ken R. Young, Community Development Director

A. Executive Summary:

Recently, staff met with City Council members to review the need to expand the areas identified in the City's Annexation Policy Plan for potential future annexations, including land on the eastern slopes of Lake Mountain that abut the boundaries of Saratoga Springs, along with those areas already identified in the existing annexation plan. Additional property on the shores of Utah Lake south of Pelican Point have been identified for future boundary expansion. Other corrections to the map have been made, including eliminating properties that have been annexed into the neighboring cities of Eagle Mountain and Lehi. Future annexation properties currently in Utah County located in the North Shore area are identified to follow boundary agreements that the City has with Lehi. Also, staff is recommending various update amendments to the text of the Annexation Policy Plan, as well as on the attached map.

The City initially adopted the Annexation Policy Plan in 2003, and has since approved various amendments to the map. This is the first text update to the plan since adoption.

Sarah Carroll, Senior Planner
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801-766-9793 x106 • 801-766-9794 fax

Acreage within the Community and Annexation Areas

Areas within existing city boundary:	15,032 acres
Current annexation area and within existing city boundary:	22,175 acres
Proposed annexation area and within existing city boundary:	22,632 acres
Annexation areas increase:	457 acres
Increase of proposed annexation areas over existing city:	7,600 acres or 34%

The Planning Commission held two meetings on this item: 1) a public meeting on April 28, 2022 to schedule a public hearing, and 2) a public hearing on May 12, 2022 reviewing the proposed Annexation Policy Plan amendments. The only comments that were heard or submitted in advance of this hearing were those submitted by SITLA, which are addressed in letter "I" below.

B. **Background:** There have been recent concerns about the impacts of mining and gravel operations taking place in various unincorporated areas on Lake Mountain. Potential increased mining operations could occur in the future. Although the City would not be able to prevent such vested operations, there may be greater opportunity to regulate access, shielding, noise, and other negative impacts if these were within the jurisdiction of the City of Saratoga Springs. Last fall, as well as a couple of years earlier, City representatives met with the Utah County Commission to seek guidance for potential zone changes that could mitigate our concerns with the current and potential increased development of such uses on these properties, but the County chosen not to act in our favor. Annexation is apparently now our best option.

Additionally, there are areas on the eastern slopes, outside of our current city and annexation plan boundaries, that could be well suited for future residential development. Some additional extension of City boundaries to the south of Pelican Point may prove beneficial for the City sometime in the future, especially if a bridge over Utah Lake is built.

The City will likely begin proceedings to annex some of these properties once the Annexation Policy Plan is amended. The City may only annex property within the boundaries of our plan.

C. **Specific Request:** This is a proposal to amend the Annexation Policy Plan to include additional lands, as well remove some areas no longer available, and other minor corrections, as shown on the attached map.

D. **Process:** The process to create (or significantly amend) the Annexation Policy Plan is outlined in Utah Code 10-2-401.5 and is reviewed in section H of this report.

E. **Community Review:** This item has been noticed as a public hearing in the *Daily Herald*; and mailed notice sent to all affected entities as required by Utah State Code (see Section H below). Public meetings are scheduled on April 28, 2022 and May 12, 2022 to allow the effected entities to provide comment on the proposed amendment.

F. **Review:** The review of the proposed amendments to the Annexation Policy Plan and Map has been performed by the City of Saratoga Springs Attorney's Office and the Planning Commission, and is ready to be vetted by the City Council.

G. **General Plan:** The General Plan includes areas previously planned for annexation, however it does not yet include the new proposed areas on the amended Map. If the annexation policy plan is approved, staff recommends that the amendments be included in the new General Plan document and which is anticipated to be approved in July of this year.

H. **Code Criteria:**

Utah Code 10-2-401.5 requires that "no municipality may annex an unincorporated area located within a specified county unless the municipality has adopted an annexation policy plan as provided in this section." Section 10-2-401.5 contains the criteria for adopting an annexation policy plan including the map of the annexation expansion area. Since there is no specific language about an amendment, the process for adopting the policy plan and map is the same process for amending the plan and map. A review of the requirements is below.

Utah Code 10-2-401.5

(2) To adopt an annexation policy plan:

(a) the planning commission shall:

(i) prepare a proposed annexation policy plan that complies with Subsection (3);

(ii) hold a public meeting to allow affected entities to examine the proposed annexation policy plan and to provide input on it;

(iii) provide notice of the public meeting under Subsection (2)(a)(ii) to each affected entity at least 14 days before the meeting;

(iv) accept and consider any additional written comments from affected entities until 10 days after the public meeting under Subsection (2)(a)(ii);

(v) before holding the public hearing required under Subsection (2)(a)(vi), make any modifications to the proposed annexation policy plan the planning commission considers appropriate, based on input provided at or within 10 days after the public meeting under Subsection (2)(a)(ii);

(vi) hold a public hearing on the proposed annexation policy plan;

(vii) provide reasonable public notice, including notice to each affected entity, of the public hearing required under Subsection (2)(a)(vi) at least 14 days before the date of the hearing;

(viii) make any modifications to the proposed annexation policy plan the planning commission considers appropriate, based on public input provided at the public hearing; and

(ix) submit its recommended annexation policy plan to the municipal legislative body; and

(b) the municipal legislative body shall:

(i) hold a public hearing on the annexation policy plan recommended by the planning commission;

(ii) provide reasonable notice, including notice to each affected entity, of the public hearing at least 14 days before the date of the hearing;

(iii) after the public hearing under Subsection (2)(b)(ii), make any modifications to the recommended annexation policy plan that the legislative body considers appropriate; and

(iv) adopt the recommended annexation policy plan, with or without modifications.

Staff Finding: *The proposed changes to the Annexation Policy Plan are indicated on the attached amended plan document and map. Notice of the public meeting was mailed to affected entities at least 14 days before the public meeting that was held on April 28, 2022. After the public meeting affected entities were allowed to examine the proposed amendment to the annexation policy plan and comment for 10 days after the public meeting before the public hearing held on May 12, 2022. Notice of the public hearing was mailed to affected entities at least 14 days prior to the public hearing. No changes were recommended by the Planning Commission at the public hearing.*

(3) Each annexation policy plan shall include:

(a) a map of the expansion area which may include territory located outside the county in which the municipality is located;

(b) a statement of the specific criteria that will guide the municipality's decision whether or not to grant future annexation petitions, addressing matters relevant to those criteria including:

(i) the character of the community;

(ii) the need for municipal services in developed and undeveloped unincorporated areas;

(iii) the municipality's plans for extension of municipal services;

(iv) how the services will be financed;

(v) an estimate of the tax consequences to residents both currently within the municipal boundaries and in the expansion area; and

(vi) the interests of all affected entities;

(c) justification for excluding from the expansion area any area containing urban development within 1/2 mile of the municipality's boundary; and

(d) a statement addressing any comments made by affected entities at or within 10 days after the public meeting under Subsection (2)(a)(ii).

Staff Finding: *The City originally adopted the Annexation Policy Plan in 2003, and the text of the plan has not been updated since. The proposed text amendments of the plan include several minor updates. The Boundary Map has undergone a few updates since that time, but this will be the most significant expansion of boundaries since original plan adoption.*

(4) In developing, considering, and adopting an annexation policy plan, the planning commission and municipal legislative body shall:

(a) attempt to avoid gaps between or overlaps with the expansion areas of other municipalities;

(b) consider population growth projections for the municipality and adjoining areas for the next 20 years;

(c) consider current and projected costs of infrastructure, urban services, and public facilities necessary:

(i) to facilitate full development of the area within the municipality; and

(ii) to expand the infrastructure, services, and facilities into the area being considered for inclusion in the expansion area;

(d) consider, in conjunction with the municipality's general plan, the need over the next 20 years for additional land suitable for residential, commercial, and industrial development;

(e) consider the reasons for including agricultural lands, forests, recreational areas, and wildlife management areas in the municipality; and

(f) be guided by the principles set forth in Subsection 10-2-403(5) (only applies to first class counties, i.e., Salt Lake County).

Staff Finding:

a) *The proposed amended boundaries follow agreements between the City of Lehi and the City of Saratoga Springs. The proposed amended boundaries have one area that overlaps with the planned annexation boundaries identified by Eagle Mountain City: parcel #58:041:0030, 120 acres, owned by the State of Utah; and parcel #58:041:0187, 162 acres owned by the LDS Church. These two properties have been included in the Saratoga Springs Annexation Policy Plan since it was originally adopted in 2003, and is NOT a new proposed addition.*

b) *The proposed amendments are expected to have a significant impact on city growth projections and management of land uses on Lake Mountain.*

c) *The proposed amendment will have impact on services; however, it is anticipated that at the time any of the properties are developed the developer will extend utilities to the property.*

d) *The proposed Annexation Policy Plan Boundary Map amendments include the removal of properties that are no longer available for annexation into Saratoga Springs (now in Eagle Mountain or Lehi), as well as additional properties that are being added into annexation boundaries as they currently exist. It is recommended*

that the land be designated as agriculture until the Land Use Map of the General Plan is amended, if the proposed amendment is approved. .

e) The properties to be included are currently in the County, subject to County zoning. The zoning cannot be changed by the City until the time of annexation. This amendment merely allows land owners or the City to consider annexation into Saratoga Springs.

f) Utah County is a second class county and therefore this criteria does not apply.

(5) Within 30 days after adopting an annexation policy plan, the municipal legislative body shall submit a copy of the plan to the legislative body of each county in which any of the municipality's expansion area is located.

Staff finding: *To be completed after adoption.*

I. Comments Received from Affected Entities

SITLA Properties (Troy Herold) - see letter in Exhibit 4

SITLA requests that Planning Commission omit the following SITLA lands from the Annexation Expansion Area:

- 120± acres in section 33 (T5S, R1W, SLM); this undeveloped parcel is located north of Lake Mountain.
- 240± acres in sections 23 and 26 (T6S, R1W, SLM); these undeveloped parcels are located Along the eastern edge of the top of Lake Mountain.
- 485_ acres in section 25 (T5S, R1W, SLM); this undeveloped parcel is located near Pelican Point.

To provide a little clarification on the parcels we are requesting be removed:

- We have active mineral leasing and activities taking place in section #25 (Pelican point area)
- The parcels along the top of Lake Mountain have existing telecommunications towers and there may be needs to add to those to support regionally necessary telecommunications and infrastructure.
- The parcel near Hidden Valley has been planned to be serviced from Eagle Mtn's existing developments and utilities immediately adjacent to that parcel.

Staff Response:

These properties were included in the annexation boundaries to provide for future potential of annexation into Saratoga Springs. The determination to include various properties within the new proposed boundary areas was based largely on the ridge line of Lake Mountain, including those parcels that were mostly on the east side of the ridge, and the location of drainage corridors that would flow eastward down the mountain towards Saratoga Springs. It is in the City's best interest to have involvement and control as much as possible over these drainage corridors. Other considerations include the City's rights and responsibilities over mitigating and controlling natural landscape hazards such as fighting wildfires on the mountain above our community. Additionally, there is a

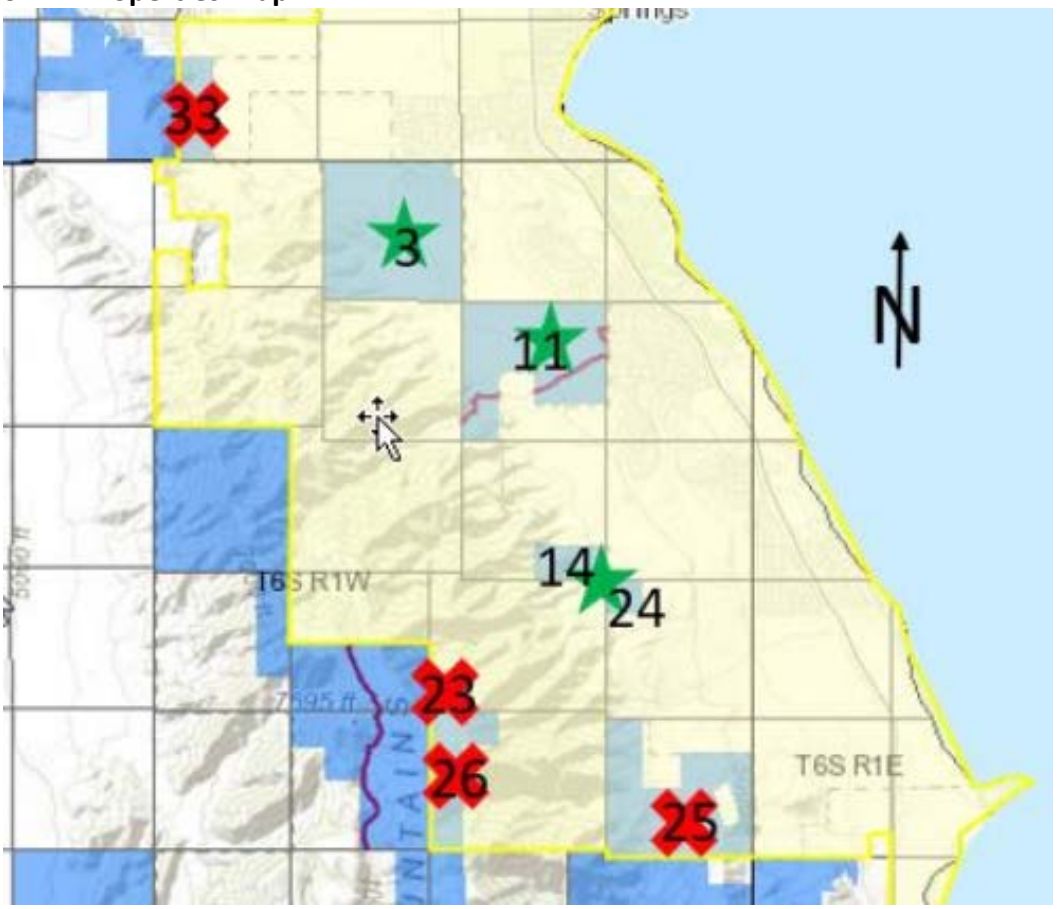
desire to have a say in the any development or proposed expansion of mining and gravel operations in these Lake Mountain areas, regarding access, noise and other potential concerns.

There is no current plan to annex these properties, which for the most part have very steep slopes and are largely undevelopable. Should the City ever be interested at some future date to actually annex the SITLA properties identified above, SITLA will need to agree to it, as the City cannot force annexation outside of extreme circumstances that would affect the health and welfare of the existing community. Any concerns that SITLA might have if annexation was pursued could become stipulations of an annexation agreement with the City.

Staff sees no concerns with including these properties in the Annexation Plan Boundaries, as any issues or concerns with SITLA's properties can be resolved at a future time if ever actual annexation is pursued by them or by the City. Nothing will change for these SITLA properties regarding zoning, land uses or property rights before annexation occurs.

The reasons and impacts of this request will be further evaluated by staff, along with any others that might be received within the 10-day time frame (deadline May 9th) to accompany the Commission's recommendation to the City Council.

SITLA Properties Map



J. Recommendation and Alternatives:

The Planning Commission unanimously recommended that the City Council APPROVE the amended Annexation Policy Plan.

PC Recommended Option – Approval

"I move that the Planning Commission forward a recommendation for approval of the proposed amendment to the Annexation Policy Plan and Boundary Map, as shown in the attached Exhibit A, based on the Findings in the staff report:"

Findings

1. The application complies with the criteria in Utah Code Section 10-2-401.5 as articulated in Section H of the staff report, which section is incorporated by reference herein.

Alternative 1 - Continuance

The City Council may also choose to continue the item. "I move to **continue** the amendment to the Annexation Policy Plan to another meeting on [DATE], with direction to the applicant and Staff on information and / or changes needed to render a decision, as follows:

1. _____
2. _____

Alternative 2 – Negative Recommendation

The City Council may also choose to forward a recommendation for denial. "I move to forward a recommendation for denial of the proposed amendment to the Annexation Policy Plan with the Findings below:

1. The proposal is not consistent with Section 10-2-401.5 of State Code, as articulated by the Planning Commission: _____.

J. Attachments:

1. Proposed Ordinance Amending the Annexation Policy Plan and Boundary Map
2. Proposed Amended Boundary Map
3. Original Annexation Policy Plan and Boundary Map, Ordinance 03-2 (1-14-03)
4. SITLA Letter regarding annexation boundaries
5. Overlap Properties with Eagle Mountain's Annexation Plan

EXHIBIT 1
Proposed Ordinance Amending the Annexation Policy Plan and Boundary Map
See attached under separate cover

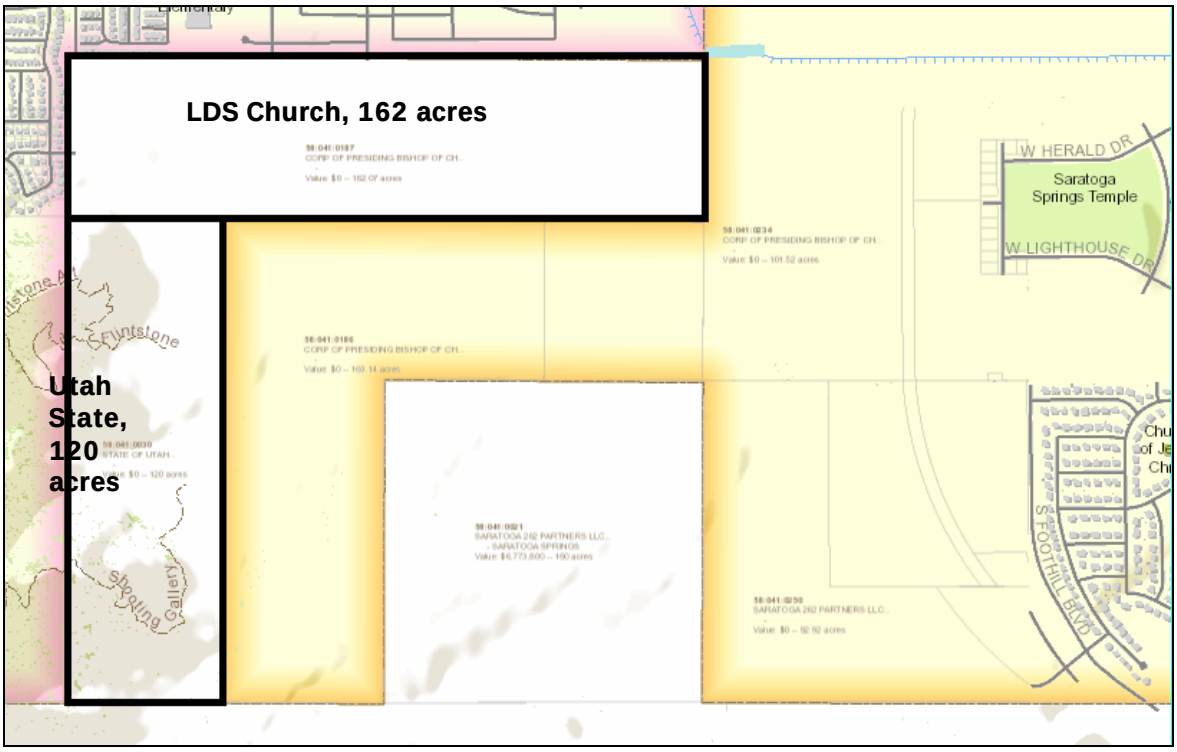
EXHIBIT 2
Proposed Amended Boundary Map
See attached under separate cover

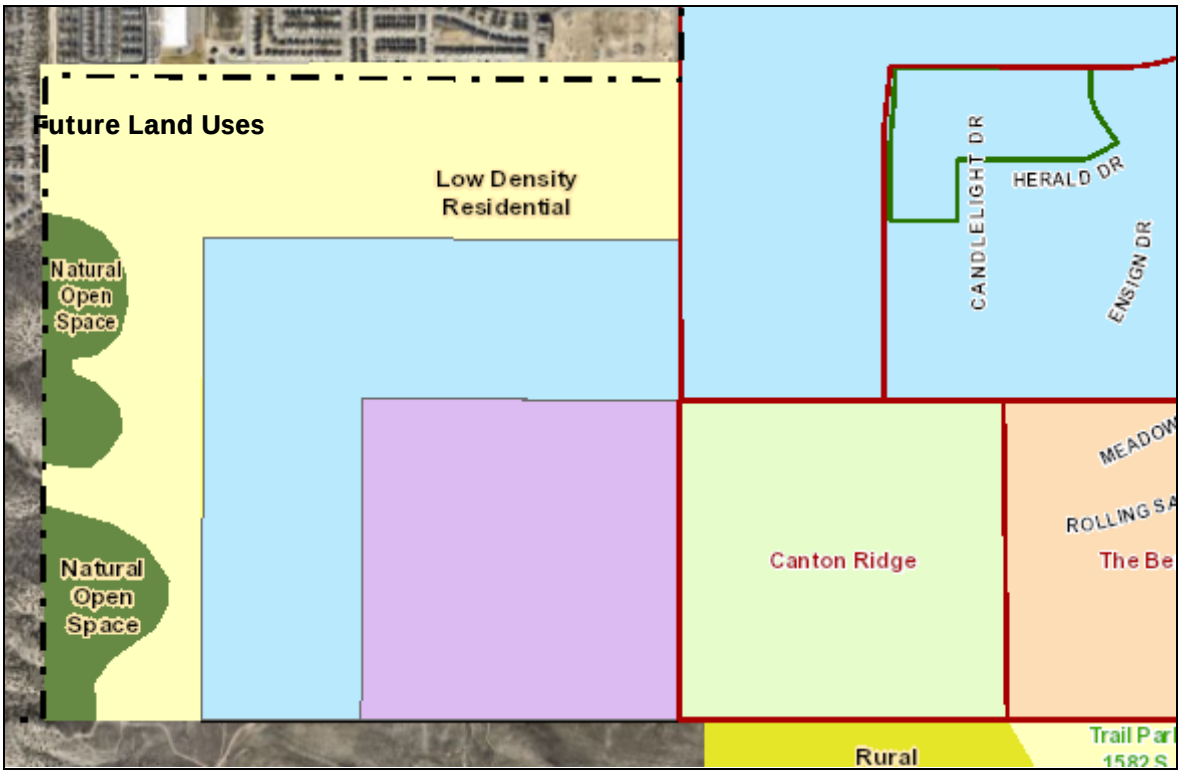
EXHIBIT 3

Original Annexation Policy Plan and Boundary Map, Ordinance 03-2 (1-14-03)
See attached under separate cover

EXHIBIT 4
SITLA Letter regarding annexation boundaries
See attached under separate cover

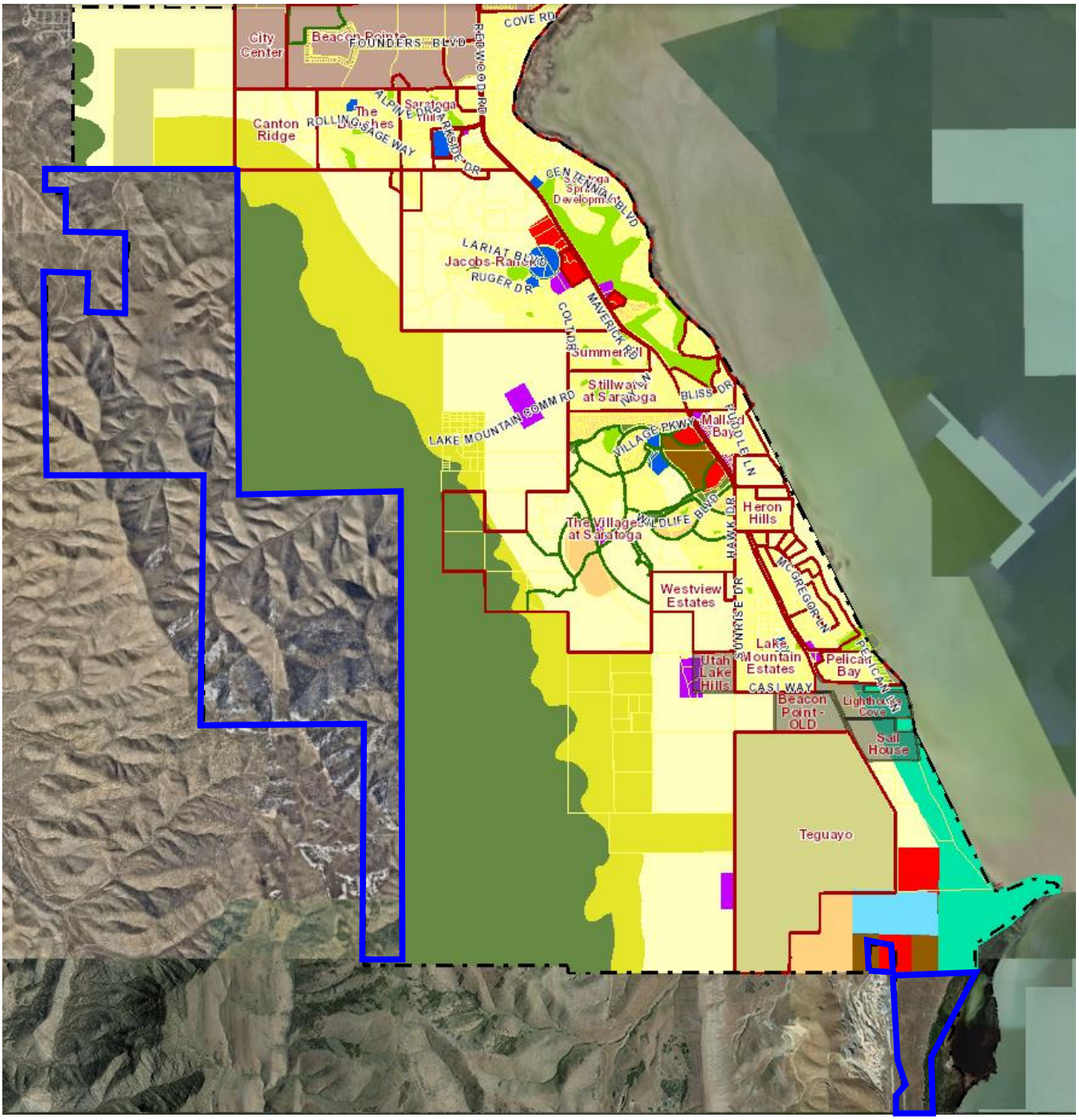
EXHIBIT 5
Overlap Properties with Eagle Mountain's Annexation Plan





Annexation Policy Plan - Proposed New Expansion Areas

+ Approx. 2,600 acres



State of Utah
School and Institutional
Trust Lands Administration

675 East 500 South, Suite 500
Salt Lake City, Utah 84102-2813
801-538-5100 Fax 801-355-0922
trustlands.utah.gov

Michelle E. McConkie
Director

April 27, 2022

Via email (DStroud@saratogaspringscity.com)

Saratoga Springs Planning Commission
City of Saratoga Springs
1307 North Commerce Drive, Suite 100
Saratoga Springs, Utah 84045

RE: Comment on City's Annexation Policy Plan and Expansion Area Map

Dear Planning Commissioners,

The State of Utah School and Institutional Trust Lands Administration (SITLA) received notice of Saratoga Springs Planning Commission's public meeting on April 28, 2022. SITLA is not able to attend this meeting and requests that you accept this letter in lieu of in-person comments.

As an affected entity, SITLA offers several comments on Agenda Item #8: *Public Meeting for Affected Entities: Amendment to the City's Annexation Policy Plan and Expansion Area Map*:

- SITLA owns approximately 2,100± acres in the Annexation Expansion Area (see Figure 1).
- SITLA concurs with the City's proposal to include the following SITLA lands, which are suitable for real estate development:
  - 1,120± acres in sections 3 and 11 (T6S, R1W, SLM); these undeveloped parcels are located uphill of Grandview Blvd and Stillwater Drive.
  - 120± acres in sections 14 and 24 (T6S, R1W, SLM); these undeveloped parcels are located uphill of Harbor Park Way.
- SITLA requests that Planning Commission omit the following SITLA lands from the Annexation Expansion Area:
  - 120± acres in section 33 (T5S, R1W, SLM); this undeveloped parcel is located north of Lake Mountain.
  - 240± acres in sections 23 and 26 (T6S, R1W, SLM); these undeveloped parcels are located Along the eastern edge of the top of Lake Mountain.
  - 485_ acres in section 25 (T5S, R1W, SLM); this undeveloped parcel is located near Pelican Point.

SITLA reviewed the proposed Annexation Policy Plan document and has no comments aside from the comments offered above to modify the Section 2. Annexation Policy Plan Map.

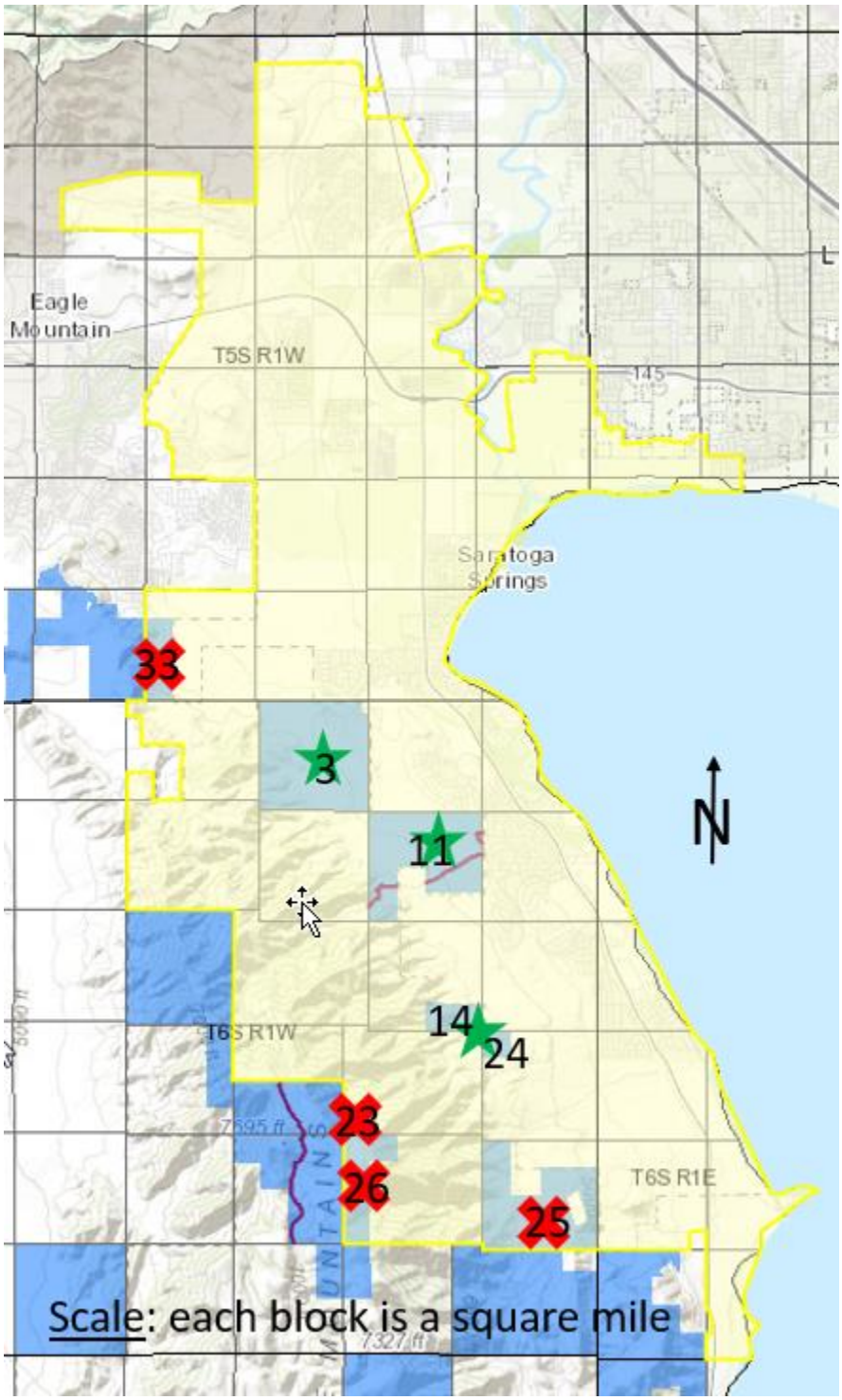
Thank you for your consideration of SITLA's comments; we appreciate the City reaching out to affected entities.

Sincerely,



Troy Herold
Deputy Assistant Director

Figure 1
Annexation Policy Plan Map showing the locations of SITLA's Comments
(Annexation Policy Boundary in yellow; SITLA lands in blue)



ORDINANCE NO. 22-23 (6-7-22)

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SARATOGA SPRINGS, UTAH REPEALING THE PREVIOUS ANNEXATION POLICY PLAN AND MAP, ADOPTING A REVISED ANNEXATION POLICY PLAN AND MAP, AND ESTABLISHING AN EFFECTIVE DATE

WHEREAS, Utah Code §10-2-401.5 provides that an annexation policy plan for the City must be adopted to establish the policy of the City for municipal annexation and to provide notice to citizens and affected entities in the City; and

WHEREAS, the City previously adopted an annexation policy plan, which included an annexation expansion area map; and

WHEREAS, the Council finds that is in the public interest to amend the annexation policy plan and to modify the annexation expansion area map; and

WHEREAS, all required public notices have been provided and all required public hearings and meetings have been held; and

WHEREAS, comments on the proposed amended plan have been received and responded to by the City of Saratoga Springs Planning Commission within the timeframe required pursuant to Utah Code § 10-2-401.5(2)(a)(ii).

NOW THEREFORE, be it resolved by the City Council of the City of Saratoga Springs, Utah as follows:

SECTION I – REPEAL AND ADOPTION

The previous Annexation Policy Plan and Map as amended is hereby repealed and the revised Annexation Policy Plan and Map are adopted as specified in Exhibit A, which is incorporated herein by this reference.

SECTION II – AMENDMENT OF CONFLICTING ORDINANCES

If any ordinances, resolutions, policies, or zoning maps of the City of Saratoga Springs heretofore adopted are inconsistent herewith they are hereby amended to comply with the provisions hereof. If they cannot be amended to comply with the provisions hereof, they are hereby repealed.

SECTION III – EFFECTIVE DATE

This ordinance shall take effect upon its passage by a majority vote of the Saratoga Springs City Council and following notice and publication as required by the Utah Code.

SECTION IV – SEVERABILITY

If any section, subsection, sentence, clause, phrase, or portion of this ordinance is, for any reason, held invalid or unconstitutional by any court of competent jurisdiction, such provision shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION V – NOTICE

The Saratoga Springs City Recorder is hereby ordered, in accordance with the requirements of Utah Code §§ 10-3-710–711 and 10-2-401.5 to do as follows:

a. deposit a copy of this ordinance in the office of the City Recorder; and
b. publish notice as follows:
    i. publish a short summary of this ordinance on the Utah Public Notice Website created in Utah Code § 63F-1-701; or
    ii. post a complete copy of this ordinance in three public places within the City; and
c. pursuant to Utah Code § 10-2-401.5(5), submit a copy of the amended annexation policy plan to the Utah County Commission within 30 days of passage of this ordinance.

ADOPTED AND PASSED by the City Council of the City of Saratoga Springs, Utah, this 7th day of June, 2022.

Signed: _____
Jim Miller, Mayor

Attest: _____
Cindy LoPiccolo, City Recorder

	VOTE
Christopher Carn	_____
Michael McOmber	_____
Ryan Poduska	_____
Chris Porter	_____
Stephen Willden	_____

EXHIBIT A

Annexation Policy Plan.

Pursuant to Utah Code § 10-2-401.5 the City adopts the following Annexation Policy Plan which includes specific criteria that will guide the municipality's decision whether or not to grant future annexation petitions and annex property into the City:

1) Character of the community.

Saratoga Springs is a rapidly growing community that places substantial emphasis on quality, sensible growth. The community contains a variety of landforms and natural amenities which help create a unique sense of place. Saratoga Springs is currently home to nearly 50,000 residents. New commercial and master planned developments currently under construction, along with new civic and recreational facilities and other planned improvements are diversifying the City's land-uses and giving both residents and visitors new opportunities for shopping, employment, and recreation. At the same time, agricultural activities and open spaces will continue on large tracts of land in the City which will help create a sense of continuity as the community continues to grow.

2) The need for municipal services in developed and undeveloped unincorporated areas.

The City of Saratoga Springs contains both rural and urban land uses. There are large tracts of existing agricultural property that may remain undeveloped for some time under the agricultural protection designation that has been placed on those parcels. Developed areas within the City have all been approved with the condition that municipal services shall be provided concurrent with the development of the property.

Undeveloped locations within the unincorporated areas may or may not be ready for municipal services. Current City land development regulations in this case indicate that prior to development, an applicant must submit a proposed development plan. In that plan submittal, all applicants must indicate how the proposed development will be serviced by public utilities and other municipal services.

3) The municipality's plans for extension of municipal services.

As indicated above, the City's policy regarding the extension of public services is that proposed developments are required to submit information showing how their respective projects will be served. The City then makes decisions regarding the extension of such services through a detailed review and approval process that begins with review performed by the City's planning and engineering staff. Following this review, proposed facilities are then reviewed by the Planning Commission and acted upon by the City Council.

The City Council also adopts an annual Capital Facilities Plan wherein it designates and plans for the construction of public infrastructure that will be required during the next 12-24 months. These plans are reviewed annually and updated as necessary and as funding allows.

Public infrastructure and services are also provided through developer contributions as development projects are approved and built. Many development projects in the City have oversized the capacity of water, sewer and storm drain facilities so that other portions of the City can be serviced with public utilities.

4) How municipal services will be financed.

Municipal services and their accompanying infrastructure are typically financed through

private developers making investments in their respective development projects. However, the City may also make contributions periodically, particularly in the construction of capital projects such as storm drainage facilities, road reconstruction, sewer line construction, parks and public safety buildings. The City is able to make these expenditures primarily through the collection of impact fees. The City has adopted the following impact fees per equivalent residential unit (ERU):

Public Safety:	$464.66
Transportation:	$1,016.00
Parks & Open Space:	$2,608.80
Storm Drainage (per acre):	$2,418.00
Secondary Water (per irrigable acre):	$28,557.00
Sewer Impact:	$908.14
Culinary Water:	$2,048.00
Timpanogos Special Service District	$1,785.55

In this way, the City has already constructed many capital improvements and will continue to do so, in coordination with the Capital Facilities Plan (mentioned previously) and timing of development approvals and collection of impact fees.

Finally, the City may also, from time to time, borrow funds to extend and construct new physical infrastructure when necessary.

5) Estimate of the tax consequences to residents both currently within the municipal boundaries and in the expansion area.

Currently, residents within the unincorporated areas of Utah County do not pay a municipal services tax. This means that when they are annexed into the City of Saratoga Springs, they will experience a tax increase. Many of these residents are being assessed under the "greenbelt" status of the Utah Property Tax Code. On a typical 25 acre parcel in the unincorporated area and in greenbelt status, an owner might expect to have a valuation of only a few hundred dollars for most of the property and then the actual house is valued at the regular or typical residential/urban evaluation.

Newly annexed properties will be assessed a new property tax for City municipal services. Currently the City's certified property tax rate is 0.001359. On a typical residence that has an assessed tax valuation of $400,000 the annual payment required to be paid to the City is $543.60 ($400,000 x 0.001359).

6) Interests of all affected entities.

The City received a comment from the Utah School and Institutional Trust Lands Administration ("SITLA") related to specific properties that were included in the City's expansion area. The City is not required to annex any property included within its annexation boundary into the City. Annexation decisions will be made after deliberation and opportunity for input from property owners including SITLA.

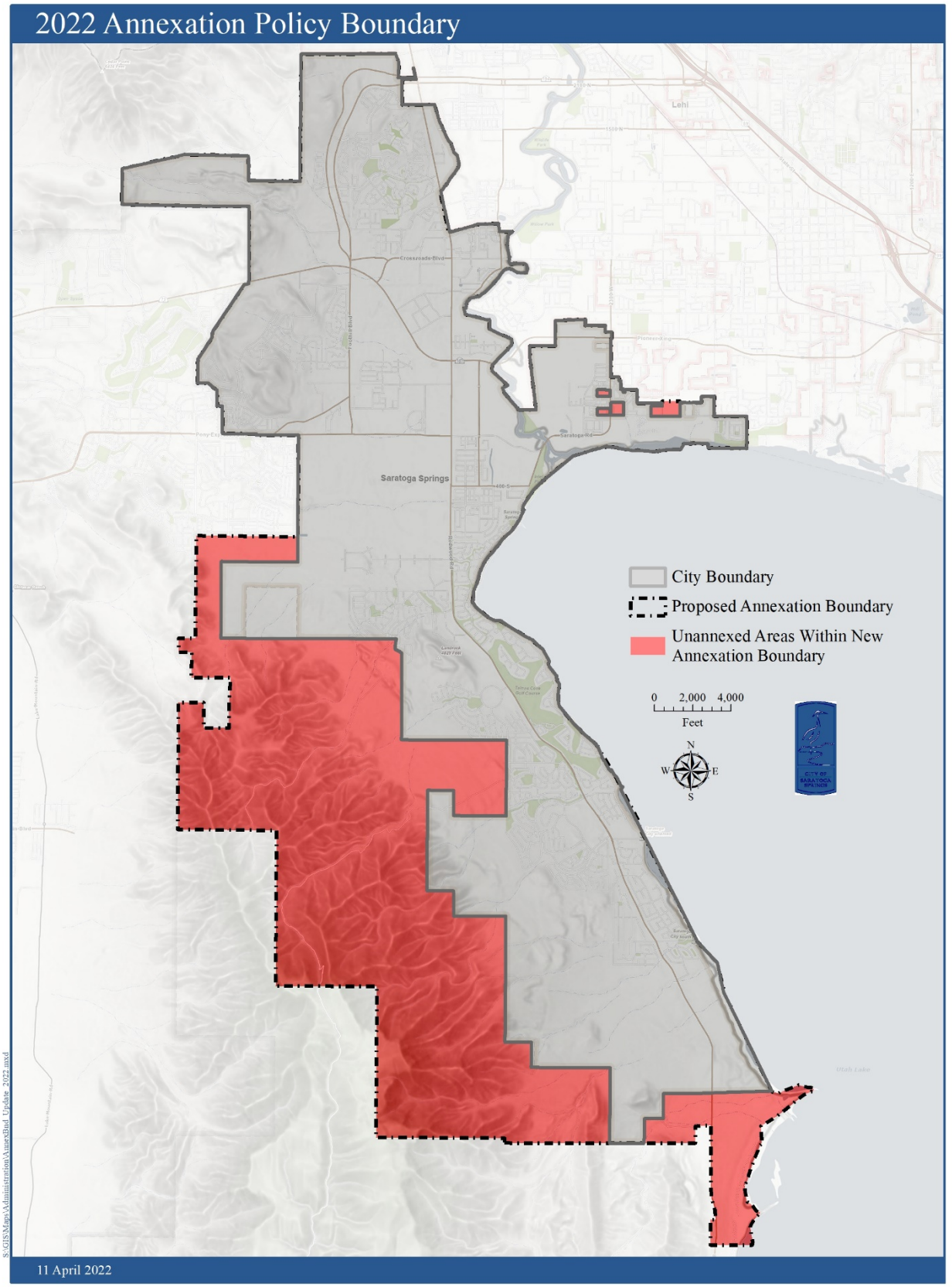
7) Justification for excluding from the expansion area any area containing urban development within ½ mile of the municipality's boundary.

There is no urban development within ½ mile of the City's expansion area that is not presently being served by a neighboring municipality.

8) A statement addressing comments made by affected entities at or within ten days after the public meeting under Subsection (2)(a)(ii).

The City received a comment from the Utah School and Institutional Trust Lands Administration (“SITLA”) related to specific properties that were included in the City’s expansion area. The City is not required to annex any property included within its annexation boundary into the City. Annexation decisions will be made after deliberation and opportunity for input from property owners including SITLA. No other comments from affected entities were received at or within 10 days after the public meeting.

Section 2. Annexation Policy Plan Map.



Section 3. Annexation Petition Requirements and Procedures.

General Requirements

Annexations by petition will be required to follow the requirements of Utah Code § 10-2-401 et seq. and Saratoga Springs City Code 19.22. To assure orderly growth and development of the community and protect the general interest of the tax paying public as well as the rights of individual property owners who wish to annex to the City, the following specific guidelines are established:

1) That an annexation fee of $1,000.00 plus $10.00 per acre be charged. City policy requires subdividers and developers to provide for public improvements through on-site construction, bond procedures, special improvement districts and impact fees in addition to this annexation fee. Developers will be subject to all other appropriate and adopted fees to offset the cost to the City of planning and development services. A party annexing property will likewise be charged for all attorneys' fees associated with review of the annexation.
2) That every annexation includes the greatest amount of property possible, be a compact area to the greatest extent possible, and be contiguous to the City of Saratoga Springs municipal boundaries.
3) That piecemeal annexation of individual small parcels of property not be allowed if contiguous parcels, soon to be developed, are available, in order to avoid repetitious annexations.
4) That no pocket or island of county jurisdiction be left or created, and that peninsulas and irregular boundaries be minimized.
5) That annexation generally follow existing roads, property lines, easements, utilities and power lines in order to minimize the public expense for extension of main or service lines and streets.
6) That in order to facilitate the consolidation of overlapping functions of local governments, promote the efficient delivery of services, encourage the equitable distribution of community resources and obligations and eliminate island and peninsulas of territory that are not receiving municipal services, the boundaries of an area proposed for annexation shall be drawn, where practicable and feasible, along the boundaries of existing special districts for sewer, water, and other services, and along the boundaries of school districts, and along the boundaries of other taxing entities.
7) That in order to provide for the orderly growth and development in the City and avoid confusion and undue cost to the taxpayers, all utility and service hook-ons shall be limited to incorporated areas of the City and shall not be made available outside the City limits. The only exception shall be those extensions which are made pursuant to agreement with other units of government under the Interlocal Government Cooperation Act, or by specific approval of the City Council on the request of the Mayor.
8) That utilities be extended to annexed areas as soon as practicable after annexation.
    a) Each annexation should require a disclosure by the developer of anticipated needs of utilities and street improvements and a timetable of anticipated development.
    b) Needed utilities should be extended into the annexed area as soon as practicable subject to budgetary limitations.
    c) Extensions of main and service lines shall be chargeable to the property development rather than to the public generally, and shall be planned and constructed in full compliance with City ordinances.

Inasmuch as the annexation of property into the City of Saratoga Springs will ultimately require a supply of water resources within the annexed area, the owner of the annexed property may be required to demonstrate, upon development of the property, how they shall provide all water resources as required under the water ordinances of the City of Saratoga Springs.

Property Owner Initiation of Annexation

When initiated by the property owner, the process for annexation shall be as follows:

1) The property owner or owners shall submit to the City a petition, in the specific form provided by the City, meeting the criteria established by the state and City law. Said petition shall contain signatures of property owners representing a majority of the land area and at least 1/3rd of the value of real property within the area proposed for annexation. Said petition shall designate up to five of the petitioners as sponsors, and one whom shall be designated as the contact sponsor. The mailing address of each sponsor shall be included in the petition.
2) Attached to and as a part of the petition shall be an accurate survey plat of the property to be annexed, prepared by a surveyor licensed to practice in the State of Utah. The survey plat shall accurately describe the existing City boundaries and each individual ownership sought to be annexed and shall also include an accurate legal description of the property to be annexed.
3) There shall be attached to the annexation petition a full disclosure statement of how water resources shall be provided to the property to be annexed.
4) The annexation petition shall not propose annexation of any land area proposed for annexation to the municipality in a previously filed petition that has not been granted, denied, or rejected.
5) The annexation petition shall not propose annexation of any land area being considered for incorporation under Utah State Law.
6) On the date of filing the annexation petition with the City Recorder, the petition sponsor(s) shall also deliver or mail a copy of the petition to the County Clerk of Utah County and to the chair of the Planning Commission of each township in which any part of the area proposed for annexation is located.
7) There shall also be attached to the annexation petition a statement as to the anticipated timetable for development of the property to be annexed.
8) There shall also be attached to the petition a proposed development agreement for the territory proposed for annexation. The proposed development agreement shall include at least the following components:
    a) General land use plan for the area; utilizing City of Saratoga Springs land use designations.
    b) Zoning for all parcels. Where multiple zones are suggested, specific boundaries of each zone shall be designated; utilizing City ofSaratoga Springs zone designations.
    c) Provisions for utility services including but not limited to; Power, water, wastewater, secondary water, natural gas, telephone, and cable TV.

Procedure for Petitions and Plats

The procedure for processing annexation petitions and plats shall be as follows:

1) A petition (on a petition form provided by the City) and proper plat certified by a licensed surveyor shall be submitted (on a City of Saratoga Springs Petition Submittal form) to the City Recorder as set forth in Section 10-2-403, Utah Code Annotated, 1953, as amended, together with any other information required by the City to enable the planning staff to prepare an impact report to the City Council. All materials shall be provided with the petition prior to the City Recorder accepting the petition.
2) City planning staff shall complete, on timely basis not to exceed 30 days, an impact report on the proposed annexation. The impact report shall be forwarded to the City Council.
3) If the City accepts the annexation petition, the petition shall be forwarded to the City Recorder for certification pursuant to section 10-2-405, Utah Code, as amended.
4) If the annexation petition is certified by the City Recorder, the City Council shall provide for public notice and a hearing as set forth in section 10-2-406, Utah Code, as amended.

Annexation Petition Review

Once the annexation petition has been accepted by the City Council, general annexation

procedure shall be provided by the Utah Code; provided however, that the City Council shall not take final action on any petition until the same has been reviewed by the City of Saratoga Springs planning staff.

The City planning staff will review each annexation request and prepare an impact report with considerations and recommendation for the City Council indicating an evaluation of the proposed annexation. The impact report shall include at least the following information:

1) The ability to meet annexation policy criteria.
2) An accurate map of the proposed annexation area showing the boundaries and property ownership within the area, the topography of the area and major natural features.
3) Current and potential population of the area and the current residential densities.
4) A review of existing and proposed land uses.
5) Statement as to how the proposed area, and/or its potential land use, would contribute to the achievement of the goals and policies of the City of Saratoga Springs General Plan.
6) Assessed valuation of the current properties.
7) A review of the potential demand on various municipal services, including, but not limited to, the following:
    a) Distance from existing utility lines.
    b) Special requirements.
    c) Distance to public schools, parks, and shopping centers.
    d) Traffic generated by expected land uses.
8) The affect that the annexation will have upon City boundaries and whether the annexation will ultimately create potential for islands, undesirable boundaries, and difficult service areas.
9) Specific timetable for extending services to the area and how these services will be financed.
10) Potential revenue versus service costs.
11) Recommendations or comments of other local government jurisdictions regarding the proposal and potential impact of the annexation on general county economic needs, goals, or objectives.

Section 4. Annexation Without Petition.

Pursuant to Utah Code § 10-2-418, the City is authorized to annex certain areas into the City without a petition. The City will follow the criteria in the state code for such annexations. The City may adopt policies and procedures related to requests for such city-initiated annexations, including policies related to fees for annexations without a petition.

City Council
Staff Report

Author: Jeremy D. Lapin, P.E., Public Works Director/City Engineer
Subject: MAG Pre-Disaster Mitigation Plan
Date: June 7, 2022
Type of Item: Resolution

Description:

A. Topic: This item is regarding the City adopting the Mountainland Association of Governments (MAG) Pre-Disaster Mitigation Plan

B. Background: City of Saratoga Springs has participated with MAG in the creation of a multi-hazard mitigation plan in accordance with the Disaster Mitigation Act of 2000. The Hazard Mitigation Plan is revised every five years and adoption of this plan is a requirement for jurisdictions who apply for pre-disaster mitigation grants.

C. Analysis: MAG's Pre-Disaster Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the City of Saratoga Springs from the impacts of future hazards and disasters. This document will supplement the City's existing Multi-Hazard Mitigation plan which was adopted in 2017 (R17-77).

D. Fiscal Impact: This agreement has no direct fiscal impact for the City. Adopting this plan is a requirement for jurisdictions who apply for pre-disaster mitigation grants

E. Recommendation: Staff recommends that the City Council approve the attached Resolution.



2022

PRE-DISASTER MITIGATION PLAN

For Summit, Utah, and Wasatch Counties

MAG
Expert Resources. Enriching Lives.



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Executive Summary

Purpose

To fulfill federal, state, and local hazard mitigation planning responsibilities; to promote pre- and post- disaster mitigation measures, short/long range strategies that minimize suffering, loss of life, and damage to property resulting from hazardous or potentially hazardous conditions to which citizens and institutions within the state are exposed; and to eliminate or minimize conditions which would have an undesirable impact on our citizens, the economy, environment, and the well-being of the state of Utah. This plan is an aid in enhancing city and state officials, agencies, and the public's awareness of the threat that hazards have on property and life and what can be done to help prevent or reduce the vulnerability and risk of each Utah jurisdiction.

Scope

Utah Pre-Disaster Mitigation Planning phase is statewide. The State of Utah will work with all local jurisdictions by means of the seven regional Association of Governments. The Mountainland Association of Governments area, which covers the counties of Summit, Utah, and Wasatch, will have a plan completed by Jan 1, 2022 to give to the Utah Division of Emergency Management. Future monitoring, evaluating, updating and implementing will take place as new incidents occur and or every three to five years and will be included in the local mitigation plans as well. Natural hazards addressed are: Flooding, Wildland Fire, Landslide, Liquefaction, Earthquake, Drought, Severe Weather, Climate Change, Avalanche, and Infestation.

Participating towns, cities, counties, and others

Summit County: Coalville, Francis, Henefer, Kamas, Oakley, Park City, and South Summit School District.

Utah County: Alpine, American Fork, Cedar Fort, Cedar Hills, Eagle Mountain, Elk Ridge, Fairfield, Genola, Goshen, Highland, Lehi, Lindon, Mapleton, Nebo School District, Orem, Payson, Pleasant Grove, Provo, Salem, Santaquin, Saratoga Springs*, Spanish Fork, Springville, Vineyard, and Woodland Hills.

Wasatch County: Charleston, Daniel, Heber, Hideout, Independence, Interlaken, Midway, and Wallsburg.

* Saratoga Springs has separate Pre-Disaster Mitigation Plans

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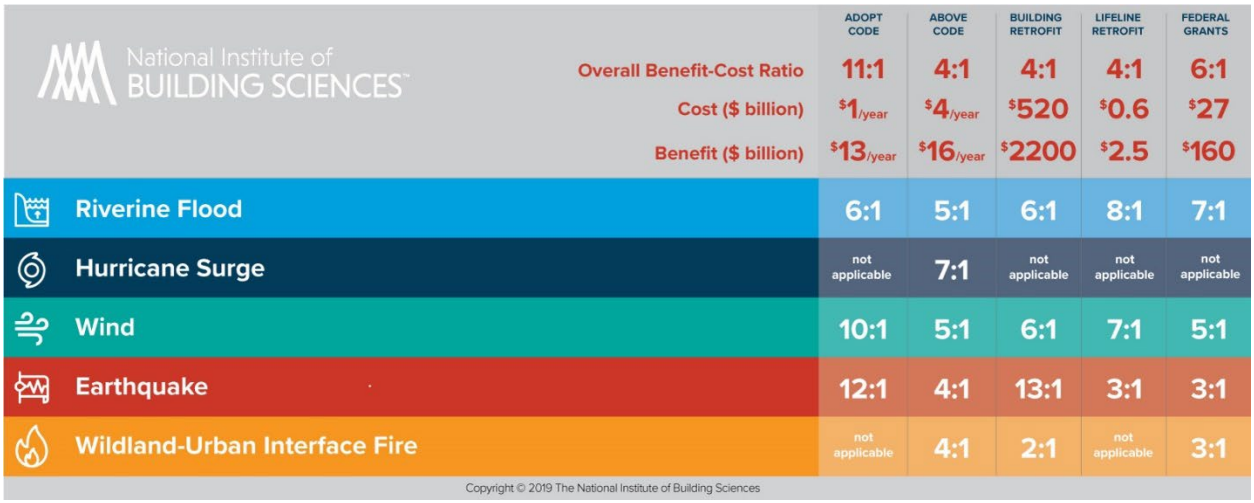
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Part 1 Introduction

The MAG region is vulnerable to natural, technological, and man-made hazards that have the possibility of causing serious threat to the health, welfare, and security of our citizens. The cost of response to and recovery from potential disasters can be lessened when attention is turned to mitigating their impacts and effects before they occur.

What is Hazard Mitigation?

Hazard mitigation is defined as any cost-effective action(s) that have the effect of reducing, limiting, or preventing vulnerability of people, property, and the environment to potentially damaging, harmful, or costly hazards. The National Institute of Building Services estimates that every $1 spent on mitigation saves $6 in recovery when the event occurs.



National Institute of BUILDING SCIENCES	ADOPT CODE	ABOVE CODE	BUILDING RETROFIT	LIFELINE RETROFIT	FEDERAL GRANTS
Overall Benefit-Cost Ratio	11:1	4:1	4:1	4:1	6:1
Cost ($ billion)	$1/year	$4/year	$520	$0.6	$27
Benefit ($ billion)	$13/year	$16/year	$2200	$2.5	$160
Riverine Flood	6:1	5:1	6:1	8:1	7:1
Hurricane Surge	not applicable	7:1	not applicable	not applicable	not applicable
Wind	10:1	5:1	6:1	7:1	5:1
Earthquake	12:1	4:1	13:1	3:1	3:1
Wildland-Urban Interface Fire	not applicable	4:1	2:1	not applicable	3:1

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Hazard mitigation measures, which eliminate or minimize risk to life and property, fall into three categories. **First**; those that keep the hazard away from people, property, and structures. **Second**; those that keep people, property, and structures away from the hazard. **Third**; those that do not address the hazard at all but rather reduce the impact of the hazard on the victims such as insurance or grants. This mitigation plan has strategies that fall into all three categories.

Hazard mitigation measures must be practical, cost effective, and environmentally and politically acceptable. Actions taken to limit the vulnerability of society to hazards must not in themselves be more costly than the value of anticipated damages.

The primary focus of hazard mitigation actions must be at the point at which capital investment decisions are made and based on vulnerability. Capital investments, whether for homes, roads, public utilities, pipelines, power plants, chemical plants or warehouses, or public works, determine to a large extent the nature and degree of hazard vulnerability of a community. Once a capital facility is in place, very few opportunities will present themselves over the useful life of the facility to correct any errors in location or construction with respect to hazard vulnerability. It is for these reasons that zoning ordinances, which restrict development in high vulnerability areas, and building codes, which ensure that new buildings are built to withstand the damaging forces of hazards, are the most useful mitigation approaches a city can implement.

Previously, mitigation measures have been the most neglected programs within emergency management. Since the priority to implement mitigation activities is generally low in comparison to the perceived threat, some important mitigation measures take time to implement. Mitigation success can be achieved, however, if accurate information is portrayed through complete hazard identification and impact studies, followed by effective mitigation management. Hazard mitigation is the key to eliminating long-term risk to people and property living in Utah from hazards and their effects. Preparedness for all hazards includes response and recovery plans, training, development, management of resources, and the need to mitigate each jurisdictional hazard.

The State Division of Emergency Management has identified hazards to be analyzed by each county. These hazards include avalanche, dam failure, debris flow, drought, earthquake, flood, flash flooding, infestation, landslide, problem soils, summer storm, tornado, urban and rural fires, and winter storm.

This regional/multi-jurisdictional plan evaluates the impacts, risks and vulnerabilities of natural hazards in a jurisdictional area affected by a disaster. The plan supports, provides assistance, identifies and describes mitigation projects for each annex. The suggestive actions and plan implementation for local and tribal governments could reduce the impact of future disasters. Only through the coordinated partnership with emergency managers,

political entities, public works officials, community planners and other dedicated individuals working to implement this program was it accomplished.

Authority

Federal: Public Law 93-288 as amended, established the basis for federal hazard mitigation activity in 1974. A section of this Act requires the identification, evaluation, and mitigation of hazards as a prerequisite for state receipt of future disaster assistance outlays. Since 1974, many additional programs, regulations, and laws have expanded on the original legislation to establish hazard mitigation as a priority at all levels of government. When PL 93-288 was amended by the Stafford Act, several additional provisions were also added that provide for the availability of significant mitigation measures in the aftermath of Presidential declared disasters. Civil Preparedness Guide 1-3, Chapter 6- Hazard Mitigation Assistance Programs places emphasis on hazard mitigation planning directed toward hazards with a high impact and threat potential.

President Clinton signed the Disaster Mitigation Act of 2000 into Law on October 30, 2000. Section 322, defines mitigation planning requirements for state, local, and tribal governments. Under Section 322 States are eligible for an increase in the Federal share of hazard mitigation (HMGP), if they submit for approval a mitigation plan, which is a summary of local and/or regional mitigation plans, that identifies natural hazards, risks, vulnerabilities, and describes actions to mitigate the hazards risks and vulnerabilities in that plan.

State: The Governor's Emergency Operation Directive, The Robert T. Stafford Disaster Relief and Emergency Assistance Act, amendments to Public Law 93-288, as amended, Title 44, CFR, Federal Emergency Management Agency Regulations, as amended, State Emergency Management Act of 1981, Utah Code 53-2, 63-5, Disaster Response Recovery Act, 63-5A, Executive Order of the Governor, Executive Order 11, Emergency Interim Succession Act, 63-5B.

Local: Local governments play an essential role in implementing effective mitigation, both before and after disaster events. Each local government will review all damages, losses and related impacts to determine the need or requirement for mitigation action and planning whenever seriously affected by a disaster, or when applying for state or federal recovery assistance. In the counties and cities making up the MAG Region, the local executive responsible for carrying out plans and policies are the County

Commissioners/Council Members and City Mayors. Local Governments must be prepared to participate in the post disaster Hazard Mitigation Team process and the pre-mitigation planning as outlined in this document.

Association of Governments: The Association of Governments have been duly constituted under the authority of Title XI, Chapter13, Utah Code Annotated, 1953, as amended (The Interlocal Cooperation Act) and pursuant to Section 3 of the Executive Order of the Governor of the State of Utah, dated May 27, 1970, with the authority to conduct planning studies and to provide services to its constituent jurisdictions.

Region Description

Geography

The area's geography is quite varied with desert to the far west and high mountains in the east. The bulk of the population is found in the fertile valleys lying between mountains and lakes. Agricultural land supports mainly fruit orchards, some cattle and sheep ranches, grain farms, dairies, hogs, chickens and smaller individual farms. Pine clad slopes and oak brush foothills characterize much of the undeveloped mountain landscape that exists in the area. Development encroachment of hillsides is of real concern to environmentalists, planners, wildlife managers and fire marshals. The preservation of open space within urban settings is crucial to quality of life and community well-being.

The cities of Provo and Orem have always been the urban core of Utah County, but this is changing. The two largest metropolitan areas in the state, Salt Lake City and Provo/ Orem, converge at the Point of the Mountain, creating a natural center for high growth in both jobs and population. Since the year 2000, the West Area (including Lehi, Eagle Mountain, and Saratoga Springs) has been the epicenter of statewide population growth, adding more than 102,000 people. Future growth explodes in the West Area. Most of Provo and Orem are developed established areas that have increased in density since 2000, adding 32,000 new people. Another 96,000 people are forecasted to move to the area, with increased density and Vineyard building up and out.

Population

The Mountainland area comprises three counties located in north central Utah having an estimated combined population of over 712,000 residents

Mountainland Region Population by County and Multi-County District 2020-2050

	2020 Census	2030	2040	2050
MAG Total	712,471	960,578	1,197,730	1,429,516
Summit County	42,145	50,558	57,983	63,097
Utah County	636,235	861,852	1,080,082	1,297,515
Wasatch County	34,091	48,168	59,665	68,904

Sources: U.S. Bureau of the Census; Utah Population Estimates Committee

Percent Population by Race and Hispanic Origin
Mountainland Counties, 2020 (most recent available)

	White	Black	Amer. Indian Aleut, Eskimo	Asian or Pac. Isle	Hispanic
Summit	94.5	1.2	0.6	2.0	11.5
Utah	92.7	0.8	0.8	2.8	12.2
Wasatch	95.4	0.8	0.7	1.2	13.7

Source: US Census Bureau, Census 2020

Part 2 Planning Process

Process

Project Approval

The Pre-Disaster Mitigation Plan process was presented to the MAG Executive Council (with elected officials for every jurisdiction) in October 2018. The Executive Council unanimously approved the process, which designated MAG planner Shauna Mecham to prepare a multi-jurisdictional plan for adoption by each community. In 2019 the Executive Council was informed that FEMA had awarded MAG $71,250 in federal monies with a $23,750 local match to update the Hazard Mitigation Plan.

Kick-off Meetings

In late 2019/early 2020 meetings were scheduled in each county and municipalities were encouraged to send representatives to learn the mitigation process and renew their strategies. MAG also presented hazard maps at a January Wasatch County Health Department event. Over 50 people stopped to interact with the map or ask questions.

Wasatch County, November 14 2019	**North Utah County, December 11, 2019**	**Central Utah County, December 11, 2019**	**South Utah County, December 18, 2019**
Special Speaker: Travis Wright of FFSL on Fire Mitigation	*Special Speaker: Brad Bartholomew on BRIC grants*	*Special Speaker: Amy VanHorn and Dale Hamilton of the Bureau of Reclamation*	*Special Speaker: Ryan L. and Scott Elliott of the Bureau of Reclamation*
Lewis Hastings, WCHD	Scott DaBell, Lehi	Allison Jester, UC Sheriff's Office	Ryan Selee, Salem
Shane Owens, Midway	Mike Hadley, Eagle Mountain	Peter Quittner, Utah County EM	Jason Bond, Santaquin
Troy Morgan, WCFD	Jeff Weber, Eagle Mountain	Chris Blinzinger, Provo City	Erik Robinson, BoR
Ivan Spencer, Wasatch GIS	Kim Struthers, Lehi City	Heath Stevenson, Orem City EM	Jill Spencer, Payson
Jamie Baron, Heber City	Gary LeCheminant, Highland City	Taggart Bowen, Orem City	Travis Jockumsen, Payson

Jan McCosh, Hideout	Jennifer Hansen, FFSL	Don Overson, Vineyard	Scott Spencer, Payson
Ross Funk, Heber City	Julie Murphy, FFSL	Marty Beaumont, Pleasant Grove	
	Alan Jenkins, NUCWCD	Aaron Spencer, Pleasant Grove	
	Larry Mendenhall, NUCWCD	Adam Cowie, Lindon	
		John Little, Spanish Fork	
		Liz Hart, Vineyard	
		Caleb Christen, Springville	

MAG also presented to the Summit County Council of Governments in the same timeframe, attended by many of the mayors and commissioners in Summit County.

These meetings discussed hazard mitigation and the planning process, examples of successful FEMA mitigation grants, additional concerns that should be incorporated in the plan, and recent disasters. Partners were also invited to present on items of concern to the area. MAG used these meetings to focus on particular hazards or add hazards such as air quality and to build relationships with other agencies.

Shortly after these kick-off meetings COVID shut-downs drastically slowed the plan process. MAG took this time to review the previous plan, made additions, corrections, and update maps and projections.

Individual Meetings

For this plan update MAG made a special effort to have one-on-one contact with each jurisdiction to allow for better discussion of risk and explore mitigation strategies.

In the summer of 2021 MAG met with each jurisdiction and pertinent stakeholders to present their risk analysis, explore hazard maps, and brainstorm mitigation strategies. A complete list of contact information and dates contacted can be found in the Appendix.

Representatives from each community who participated in the hazard mitigation meetings

Summit County		
Position	**Name**	**Meeting**
Coalville Public Works	Kyle Clark	10/28/2021
Coalville Wastewater Treatment	Sam Adams	10/28/2021
Francis Planner	Katie Henneuse	6/14/2021

Francis/Kamas	Scott Kettle	6/14/2021
Henefer Mayor	Kay Richins	8/11/2021
Oakley	Amy Rydalch	8/16/2021
South Summit School District	Kip Bigelow	7/19/2021
South Summit School District	Kathy Carr	7/19/2021
Summit County Planner	Ray Milliner	8/18/2021
Park City Emergency Manager	Mike McComb	3/09/2022
Park City Fire District	Mike Owens	3/09/2022
Park City Chief Building Official	Dave Thacker	3/09/2022
Utah County		
Position	**Name**	**Meeting**
Alpine	Shane Sorensen	6/17/2021
American Fork Engineer	Scott Sensanbaugher	6/14/2021
American Fork Public Works/Engineer	Ben Hunter	6/14/2021
Cedar Fort Mayor	David Gustin	12/17/2020
Cedar Hills City Manager	Chandler Goodwin	6/14/2021
Cedar Hills/AF Fire	Aaron Brems	6/14/2021
Central Utah Water Conservancy District	Mike Whimpey	12/8/2021
CUWCD	Blake Buehler	12/8/2021
CUWCD	Chris Elison	12/8/2021
CUWCD	Cort Lambson	12/8/2021
CUWCD	KC Shaw	12/8/2021
Eagle Mountain	Greg Stone	6/22/2021
Eagle Mountain Fire Chief	Embret Fossum	6/22/2021
Eagle Mountain Primary	Jeff Weber	6/22/2021
Elk Ridge City Manager	Royce	7/8/2021
Fairfield Mayor	Brad Gurney	12/17/2020
Genola Town Clerk	Lucinda Daily	7/29/2021
Goshen Mayor	Steven Staheli	6/9/2021
Health Dept Emergency Response Coordinator	Ryan Strabel	6/30/2021
Highland Finance Director	Tyler Bahr	6/17/2021
Highland Planning	Nathan Crane	6/17/2021

Lehi Emergency Management Committee director	Scott DaBell	7/7/2021
Lehi Emergency Management Committee director	Scott Sampson	7/7/2021
Lehi Engineering	Ross Spencer	7/7/2021
Lehi Planning	Kim Struthers	7/7/2021
Lehi Planning	Mike West	7/7/2021
Lindon Administration	Adam Cowie	6/15/2021
Lindon Emergency Manager	Kelly Johnson	6/15/2021
Mapleton Planner	Brian Tucker	6/30/2021
Mapleton Public Works	Steven Lord	6/30/2021
Nebo Risk Management	Kathy Carling	7/20/2021
Orem Emergency Manager	Heath Stevenson	6/22/2021
Orem Engineer	Sam Kelly	6/22/2021
Payson Planner	Jill Spencer	6/14/2021
Payson Public Works/Engineer	Travis Jockumsen	6/14/2021
Payson Facilities Manager	Steve Spencer	6/14/2021
Payson City Fire Chief	Scott Spencer	6/14/2021
Pleasant Grove Engineering	Aaron Wilson	6/15/2021
Provo	Melissa McNalley	6/10/2021
Provo Airport	Donavon Cheff	6/11/2021
Provo EM	Chris Blinzinger	6/10/2021
Provo Planner	Robert Mills	6/10/2021
Provo Stormwater Engineer	Jared Penrod	6/10/2021
Santaquin	Jason Bond	7/26/2021
Santaquin EM	Chris Lindquist	7/26/2021
Santaquin Engineer	Jason Lidet	7/26/2021
Santaquin Engineer	Norm Beagley	7/26/2021
Santaquin Fire Chief	Ryan Lind	7/26/2021
Spanish Fork	Travis Warren	6/9/2021
Spanish Fork Economic Development	Dave Anderson	6/9/2021
Spanish Fork Emergency Manager	Trevor Sperry	6/9/2021
Spanish Fork Public Works	Marlo	6/9/2021
Springville Engineer	Jeff Anderson	6/30/2021

Utah Co. Emergency Manager	Peter Quittner	6/30/2021
Utah County	Emily, Lindsey, James	6/30/2021
Utah County Emergency Management	Allison Jester/Janeen Olson	6/30/2021
Utah County Fire Warden FFSL	Josh Berg	6/30/2021
Vineyard	George Reid	6/7/2021
Vineyard Engineer	Nassim	6/7/2021
Vineyard Planner	Briam Perez	6/7/2021
Woodland Hills	Corbett Stephens	7/8/2021
WUI Coordinator	Dax Reid	6/30/2021
Wasatch County		
Position	**Name**	**Meeting**
Charleston Mayor	Brenda Kozlowski	8/25/2021
Daniel	Eric Bunker	7/7/2021
Heber City EM	Lt. Jeremy Nelson	6/15/2021
Heber City Planner	Jamie Baron	6/15/2021
Hideout	Lynnette Shindurling	8/4/2021
Independence	Lauren Boldger	8/25/2021
Interlaken Clerk	Bart Smith	8/27/2021
Interlaken Mayor	Greg Harrigan	8/27/2021
Midway	Michael Henke	7/7/2021
Wallsburg Mayor	Celeni Richins	8/23/2021
Wasatch Co GIS	Ivan Spencer	6/15/2021
Wasatch County Emergency Manager	Jeremy Hales	6/15/2021

Notice given to partner organizations

All school districts, water districts, public lands agencies, and surrounding MPOs and emergency responders were invited to attend the kick-off and Draft Plan Presentation meetings. Central Utah Water Conservancy District, South Summit School District, and Nebo School District were active participants.

See the Appendix for a complete list of those offered the opportunity to attend and comment.

Other Presentations:

MAG's Technical Advisory Committee, July 26 202: Twenty+ engineers and planners in Utah County

Utah County Emergency Manager's Committee, October 26 2021: Roughly 15 Emergency Managers and Fire Chiefs from cities, universities, and utility companies in Utah County

Central Utah Water Conservancy District Participation

The Central Utah Water Conservancy District (CUWCD or District) was formally established pursuant to the provisions of the Water Conservancy Act in 1964. The District presently serves all or part of the following eight counties in the State of Utah: Duchesne, Juab, Salt Lake, Sanpete, Summit, Uintah, Utah, and Wasatch Counties. Consistent with its mission and values, the District acts as a provider of wholesale water to various water conservancy districts, metropolitan water districts, municipalities, individuals, and corporations within the boundaries of the District. The District has had two previous FEMA approved hazard mitigation plans and will be updating its plans during 2022. The future development of the CUWCD water system will mainly be with a strong emphasis on water conservation, planning of needed additional regional water supply facilities, and incorporation of natural hazard mitigation. The District will also continue in its current efforts to address and incorporate natural hazard mitigation (i.e., seismic upgrades/standards, lightning protection, backup power, wildfire – both direct and indirect effects, etc.) into future design and construction projects whether they are for new facilities or for capital replacement projects. The included projects will help fulfill said efforts.

Because CUWCD has some sensitive information, they looked at their assets and facilities independently to create and prioritize mitigation strategies. Their methodology is included in the Methods sections of this plan.

Public Input

Website

In October 2019 MAG updated hazard mitigation page on its website, Mountainland.org/hazards, with information on the plan and the planning process and contact information so interested parties could email comments on the draft plan from the web site. MAG also emailed all the contacts from the 2017 plan and began updating contact information. As the plan came together in 2021 MAG posted Story Maps and, in October

2021, the Draft Plan on its website. In December 2021 the Draft Pre-Disaster Mitigation Plan was featured on the main page with a comment box.



Open Houses

Normally, the Plan would have been presented at open Houses were held in conjunction with a Transportation Open House. MAG was able to present at a Wasatch County Preparedness Fair on 11 Nov, 2019 where they interacted with 50+ members of the public as well as several Wasatch County Fire Personnel. COVID restrictions on group gatherings made traditional meetings impossible for most of 2020 and 2021. MAG chose to focus on small meetings with cities and asked cities to promote the draft plan through their social media platforms, MAG lacking social media itself. As open houses begin again MAG will seek opportunities to share the final plan with the public.

Draft Plan Presentations



MAG shared the draft plan in a series of lunch meetings similar to the kick-off meetings, but with an emphasis on inviting elected officials such as city councilors. FEMA's Mitigation Specialist, Brandon Webb, also presented on BRIC grants and successful mitigation efforts. These meetings served to connect communities internally, to nearby communities, and state resources.

Draft Pre-Disaster Mitigation Plan Presentation Attendees	
Wasatch County	**October 13**
Heber City Planner	Jamie Baron
Heber City Planning Director	Tony Kohler

Wasatch County	Lewis Hastings
Independence	Lauren Boldger
Daniel Councilmember	Mary Duggin
FEMA	Daniel Webb
Midway Councilmember	Luke Robinson
Wasatch County Councilmember	Kendall Crittenden
CUWCD	Roger Pearson
Midway Councilmember	Steve Dougherty
Heber City Administrator	Matt Brower
Heber City Mayor	Keleen Potter
Summit County	**October 28**
Emergency Manager	Kathryn McMullin
Summit Co Public Works	Derrick Radke
Summit Co Manager's Office	Janna Young
Summit Co	Glenn Wright
Summit Co Environmental Health	Spencer Smith
Coalville Public Works	Kyle Clark
Coalville Wastewater Treatment	Sam Adams
Oakley City	Kelly Kimber
Francis/Kamas	Scott Kettle
Francis Planner	Katie Henneuse
Park City Fire District	Ashley Lewis
North Summit Fire District	Ian Nelson
FFSL /County Fire Warden	Bryce Boyer
S Summit School District	Kip Bigelow
S Summit School District	Kathy Carr
North Utah County	**October 20**
Alpine	Shane Sorensen
Lehi Planning	Kim Struthers
Lehi Emergency Management	Scott DaBell

Lehi Emergency Management	Scott Sampson
Lehi Planning	Mike West
Lehi Environmental Sustainability	Todd Munger
Lehi City Council	Paige Albrecht
American Fork Engineer	Scott Sensanbaugher
Eagle Mountain Primary	Jeff Weber
Eagle Mountain	Greg Stone
Eagle Mountain Fire Chief	Embret Fossum
Eagle Mountain Engineer	Chris Trusty
Highland Mayor	Rod Mann
South Utah County	**October 21**
Salem	Greg Gurney
Payson Planner	Jill Spencer
Payson Public Works/Engineering	Travis Jockumsen
Santaquin Community Development	Jason Bond
Santaquin Emergency Manager	Chris Lindquist
Santaquin Engineer	Norm Beagley
Santaquin	Jon Lundell
Genola Town Clerk	Lucinda Daily
WUI Coordinator	Dax Reid
Central Utah County	**October 25**
Orem Emergency Manager	Heath Stevenson
Provo EM	Chris Blinzinger
Provo Stormwater Engineer	Jared Penrod
Provo	D Cheff
Provo Planner	Robert Mills
Lindon Administration	Adam Cowie
Lindon Emergency Manager	Kelly Johnson
Vineyard	George Reid
Vineyard Engineer	Nassim

Spanish Fork Economic Development	Dave Anderson
Spanish Fork	Travis Warren
Mapleton Planner	Brian Tucker
PG Engineering	Marty Beaumont
PG Engineering	Aaron Wilson

Identifying Hazards

MAG identified several hazards addressed in the Hazard Mitigation Plan. The hazards were identified through a process that included researching past disasters, Geographic Information System (GIS) data, and the Utah State Hazard Mitigation Plan.

The original hazard mitigation plan identified several potential hazards for the region. The list was reviewed by staff and at the kick-off meetings. MAG used GIS to overlay current development with hazard data. This data was used to identify which hazards had the greatest risk for each city. These hazards were then presented in greater detail in the following county portions of this plan.

Updating the 2017 Plan

The primary task for MAG staff was to update the existing Pre-Disaster Hazard Mitigation Plan. The updates are scattered throughout this plan and target in several key areas.

Online Resources – MAG created a simplified, interactive, online version of the plan for city staff, elected officials, and interested public. It will be easier to navigate than a lengthy .pdf and should make using the plan easier.

Background Information - The Mountainland Region has grown and changed since the last plan and regional information has been updated to reflect it.

Hazard Data – All mapping and profiling data for each hazard and was updated using the latest and best available sources.

Future Development – As MAG experiences incredible growth, emphasis was placed on examining the locations of development pressure within communities and discussing appropriate mitigation measures through zoning, building codes, and land preservation.

Mitigation Strategies – Individual meetings with each community served to brainstorm locally-relevant mitigation strategies and support strategies mentioned in other community plans.

Other plans and reports – The plan contains and/or references other mitigation plans, neighboring organizations' reports and state data to provide the most robust picture and technical information available.

While much of the plan may seem to look similar to the 2017 plan, each portion has been reviewed and updated to reflect the most current information possible.

Incorporating Existing Plans

Existing Plans, Studies, Reports and Technical Information Reviewed	How Incorporated
Utah State Hazard Mitigation Plan	Comparing MAG counties to the state as a whole, describing the impact of some hazards not prevalent in MAG counties, county-level earthquake and drought losses.
National Integrated Drought Information System https://www.drought.gov/historical-information	Historic drought information by county, used to calculate probability.
The Utah Roadmap: Positive Solutions for Air Quality and Climate Change	Air Quality information and mitigation strategies for Air Quality and Climate Change
HAZUS Provo Segment 7.2 ShakeMap Scenario (2009)	County-wide earthquake losses estimate
U of U Seismograph Catalog https://quake.utah.edu/earthquake-information-products/earthquake-catalogs	Locations and magnitude of past earthquakes
FEMA National Flood Insurance Program	Floodplain maps of 100-yr, 500-yr, and levee-protected areas used in risk analysis, also example code requirements for city NFIP participation
Community Improvement Projects (see city websites)	Identify desired projects relating to mitigation in various communities

Governor's Office of Planning and Budget (2020 estimates)	Demographic information for Utah counties and cities.
Landslide Maps of Utah (2010) Elliott A. and Harty K. Utah Department of Natural Resources.	Identify location and extent of historic landslides and classify landslide types (comes with GIS files)
DAMVIEW Dam Safety Database Information Viewer (2019). Utah Division of Water Rights. www.waterrights.utah.gov	Identify and map low, moderate, and high-risk dams. Information includes ownership, Emergency Action Plan, and first downstream town.
The Wasatch Fault (1996) Utah Geological Survey Public Information Series 40	Basic understanding of Wasatch Fault, including diagrams specific to the Wasatch Fault which were replicated in this Plan with permission.
Utah Lake Basin Water; Planning for the Future (2014) Utah Division of Water Resources.	Water conservation plans by jurisdiction
West Wide Wildfire Risk Assessment (2008) Council of Western State Foresters	Used in Fire Risk Assessment, clipped to MAG boundaries and risk adjusted for local highs and lows. Data has since been updated.
National Oceanic and Atmospheric Administration (NOAA) Storm Events Database	Locating weather and other disaster events; date, location, severity, and $ losses.
The landslide handbook—A guide to understanding landslides (2008) Highland, L.M., and Bobrowsky, Peter, Reston, Virginia, U.S. Geological Survey Circular 1325, 129 p.	Wonderfully explained basics of landslides and how to mitigate. Great graphics.
FEMA NFIP Inundation Maps	Used to visualize and analyze 100 yr. and 500 yr. flood risk. Many maps had been updated since 2017, with some communities seeing significant changes in the number of homes in the floodplain.

Utah AGRC	Locations of critical buildings and infrastructure i.e., schools, fire stations, hospitals, etc.
UDOT Open Data Portal	GIS data for roads, bridges, and culverts used to estimate losses.

Part 3 Risk Assessment

Profiling Hazard Events

Visit the County Sections, Parts 5-7, for hazard analysis specific to each county. This section includes general descriptions, definitions, and mitigation strategies for hazards identified by MAG.

The following table identifies the recurrence and frequency of hazards in the State of Utah. Hazard profiles for each of the counties are in each specific county annex.

Hazard Recurrence and Frequency, adapted from Utah 2019 State Hazard Mitigation Plan

Hazard	Number of Events	Years in Record	Recurrence Interval (years)	Hazard Frequency and Probability/Year
Droughts (<-2 PDSI)	17	123	7.2	14%
Earthquakes (≥ 5.0)	60	168	2.8	36%
Landslides *	unknown	unknown	unknown	unknown
Flood (injuries)	23	18	0.8	127%
Tornadoes (all)	134	150	1.1	89%
Avalanches (fatalities)	116	60	0.52	193%
Wildfires (>100,00 total acres burned in a year)	8	15	1.9	53%
Lightning (fatalities)	67	69	1	97%

PDSI, Drought Years as indicated by NOAA, http://www.ncdc.noaa.gov/temp-and-precip/timeseries/?parameter=pdsi&month=10&year=2010&filter=1&state=42&div=0

Magnitude 5.0 or larger Data from UGS and University of Utah Seismography Station.

* Landslide recurrence intervals cannot be predicted because landslides often have recurrent movement with the same landslides moving each year depending on climate.

Tornado and Avalanche data courtesy of the NOAA.
http://www.wrh.noaa.gov/slc/climate/tornado.php

http://www.wrh.noaa.gov/slc/projects/disasters/avalanche_deaths.php

Lightning data courtesy of NOAA, http://www.lightningsafety.noaa.gov/stats/59-12_State_Ltg._Fatality_Map-rates.pdf

Earthquakes

An earthquake is the sudden release of tension built up over years as tectonic plates shift all across the earth's surface. Plates tend to rupture along weak zones referred to as faults. When plates rupture, they produce seismic waves that are transmitted through the rock outward producing ground shaking. Earthquakes are unique multi-hazard events, with the potential to cause huge amounts of damage and loss. Secondary effects of a sudden release of seismic energy (earthquake) include: ground shaking, surface fault rupture, liquefaction, tectonic subsidence, slope failure, and various types of flooding.

The Intermountain Seismic Belt (ISB), which Mountainland is part of, is a zone of pronounced earthquake activity up to 120 miles wide extending in a north south direction 800 miles from Montana to northern Arizona. The Utah portion of the ISB trends from the Tremonton Cache Valley area south through the center of the state, along the Wasatch Front, and the southwest through Richfield and Cedar City concluding in St. George. "The zone generally coincides with the boundary between the Basin and Range physiographic province to the west and the Middle Rocky Mountains and Colorado Plateau physiographic provinces to the east" (*Homebuyers Guide to Earthquake Hazards in Utah*, Eldredge 1996).



Figure Utah Geological Survey

Ground Shaking

Ground shaking causes the most impact during an earthquake because it affects large areas and is the origin of many secondary effects associated with earthquakes. Ground shaking, which generally lasts 10 to 30 seconds in large earthquakes, is caused by the passage of seismic waves generated by earthquakes. Ground shaking is measured using Peak Ground Acceleration (PGA). The PGA measures the rate in change of motion relative to the established rate of acceleration due to gravity.

Liquefaction

While living directly on a fault line is far from ideal, structures farther away can experience equal or greater damage depending on the underlying soil. Deep sediments, such as those surrounding Utah Lake, increase the frequency of seismic waves, which are more damaging to short, stiff structures like the common home. Loose soils are also more susceptible to liquefaction, when loose soils with a high water table behave like a fluid during episodes of shaking. Liquefaction is possible in earthquakes magnitude 5.0 and higher. Local geologic conditions, such as depth of sediment and sediment make up, affect earthquake waves.

Surface Fault Rupture

During a large earthquake fault movement may propagate along a fault plane to the surface, resulting in surface rupture along the fault plane. The Wasatch fault is a normal (mountain building) fault with regards to movement, meaning the footwall of the fault is pushed upward and the hanging wall slips downward. Thus, faulting is on a vertical plain, which results in the formation of large fault scarps. Surface fault rupture along the Wasatch fault is expected for earthquakes with magnitudes of 6.5 or larger. The largest probable earthquake that could strike the Mountainland region is an earthquake with an estimated magnitude between 7.0 and 7.5; an earthquake of this magnitude, based on current research, would create "surface fault rupture with a displacement of between 16 to 20 feet in height with break segments 12 to 44 miles long" (*Homebuyers Guide to Earthquake Hazards in Utah*, Eldredge 1996). In historic time surface fault rupture has only occurred once in Utah; the 1934 Hansel Valley earthquake with a magnitude 6.6 produced 1.6 feet of vertical offset.

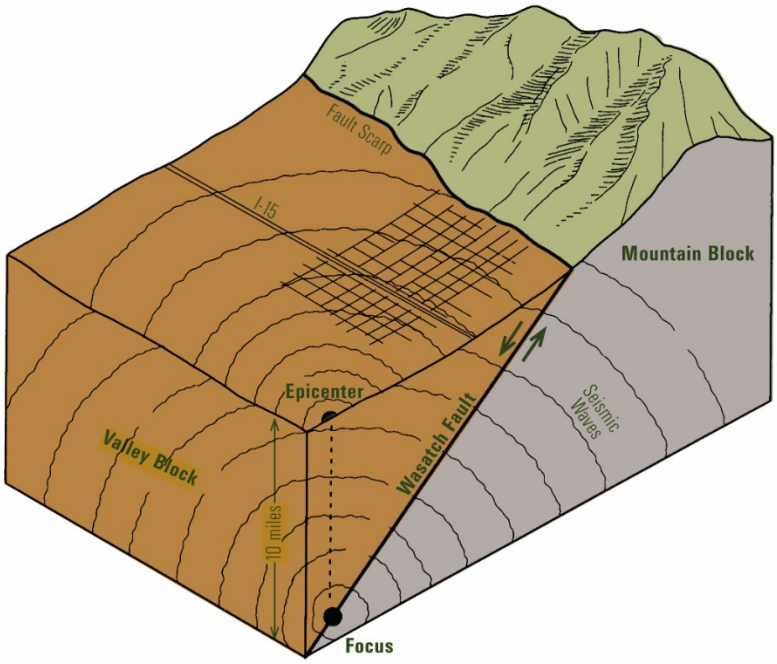


Figure Utah Geological Survey

Surface fault rupture presents several hazards. Anything built on top of the fault or crossing the fault has a high potential to be destroyed in the event of displacement. Foundations will be cracked, buildings torn apart, damage to roads, utility lines, pipelines, or any other utility line crossing the fault. It is almost impossible to design anything within reasonable cost parameters to withstand an estimated displacement of 16 to 20 feet.

Secondary Earthquake Threats

The major secondary effects of earthquakes include liquefaction, avalanches, rock fall, slope failure, and various types of flooding. Since other sections address mass movement and flooding, they will not be discussed in depth here. It is important to keep in mind, however, the impact these secondary hazards could have on the response to an earthquake.

Various Flooding Issues Specific to Earthquakes

Earthquakes could cause flooding due to the tilting of the valley floor, dam failure and seiches in lakes and reservoirs. Flooding can also result from the disruption of rivers and streams. Water tanks,

pipelines, and aqueducts may be ruptured, or canals and streams altered by ground shaking, surface faulting, ground tilting, and landslide.

Seiches

Standing bodies of water are susceptible to earthquake ground motion. Water in lakes and reservoirs may be set in motion and slosh from one end to the other, much like in a bathtub. This motion is called a seiche (pronounced "saysh"). A seiche may lead to dam failure or damage along shorelines.

Modified Mercalli Intensity Scale

Intensity	Effects	Geologic Effects
I	Barely felt by sensitive few.	
II	Felt by few indoors.	
III	Felt by several indoors. Hanging objects may sway.	
IV	Felt by many indoors and few outdoors. Dishes, windows, etc. rattle	Rock falls may be triggered
V	Felt by almost everyone. Some plaster walls crack. Small, unstable objects are displaced. Hanging objects swing greatly.	Liquefaction may be triggered.
VI	Felt by all. Some heavy furniture moved. Damage light.	Strong shaking.
VII	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.	Very strong shaking. Seiche waves may be produced; small slumps and slides along sand and gravel banks.
VIII	Slight damage in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures.	Severe shaking. Surface rupturing fractures. Spring or well water may change flow rate, etc.

*Adapted from *The Severity of an Earthquake*, a U. S. Geological Survey General Interest Publication.

Probability of Future Damaging Earthquakes

Severe earthquakes, by their nature, are rare disasters. Tectonic plates move fractions of an inch per year, slowly building up tension until they "break". In the case of devastating earthquakes, the process can take decades to centuries. The graphic below depicts how often and how long ago significant earthquakes have occurred along the Wasatch Front. According to the USGS, there is a 57% probability of a magnitude 6.0 or above earthquake occurring along the Wasatch Front in the next 50 years.

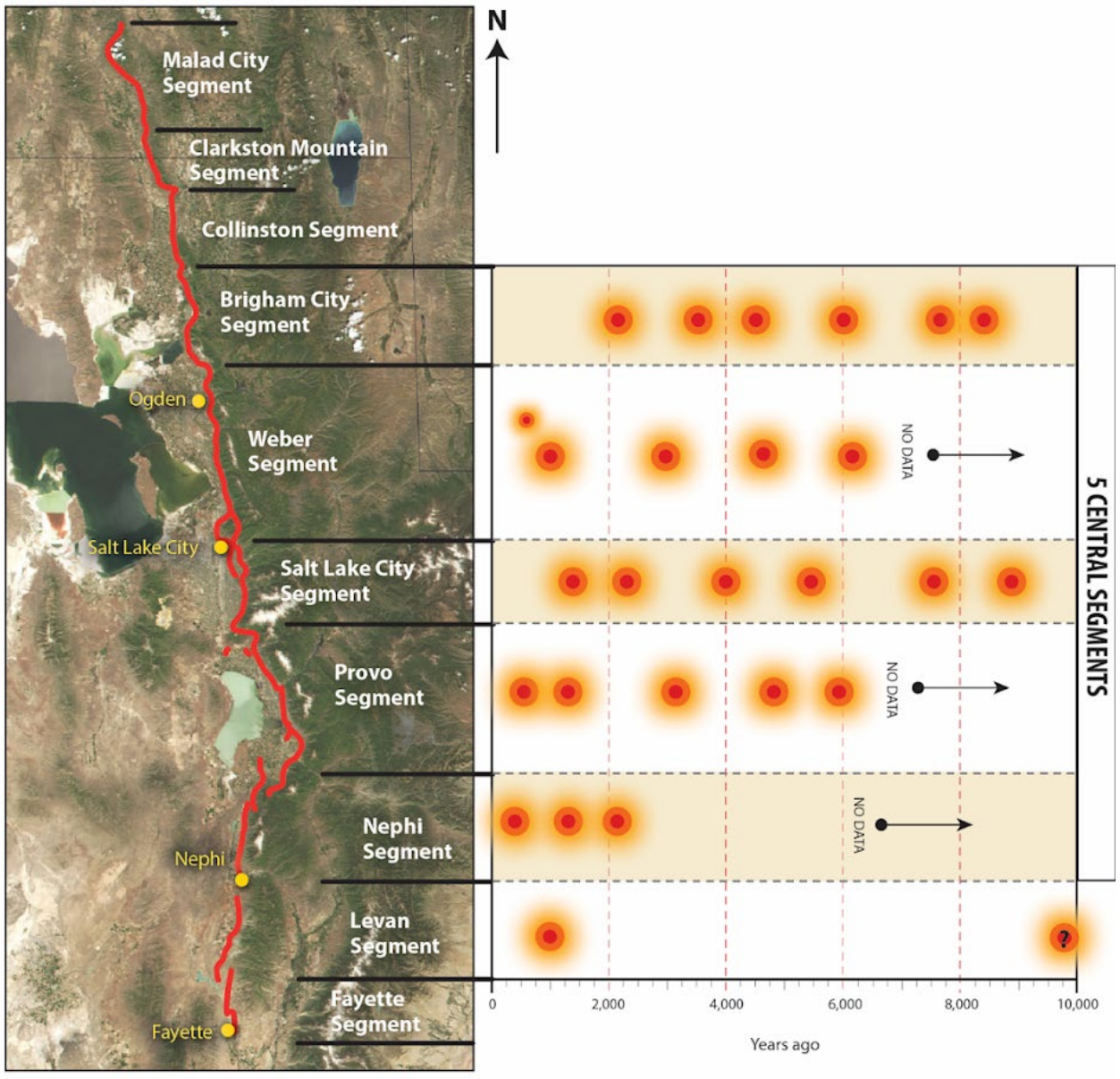


Figure 3 Utah Geological Survey

Potential Mitigation Strategies

The following mitigation strategies are provided so that communities may be aware of measures that could be used to limit the exposure to earthquake related damage.

Objectives	Strategies
Local Planning and Regulations Adopt & Enforce Building Codes Incorporate Earthquake Mitigation into Local Planning Map and Assess Community Vulnerability to Seismic Hazards Conduct Inspections of Building Safety	•Create a seismic safety committee to recommend changes in standards • Adopt International Building Code (IBC) • Offer financial incentives to home and business owners who retrofit • Inventory vulnerable public and commercial buildings • Use GIS to map shaking and secondary hazards • Incorporate seismic strengthening into Capital Improvement Plan • Require the hazardous materials be located outside areas of seismic hazards
Structure and Infrastructure Projects Protect Critical Facilities and Infrastructure Implement Structural Mitigation Techniques	•Use flexible piping to extend water, sewer, or natural gas service • Retrofit critical public facilities • Brace generators, elevators, and other equipment • Install shutoff valves where water mains cross fault lines • Install window film to prevent injuries from shattered glass
Education and Awareness Increase Earthquake Risk Awareness Conduct Outreach to Builders, Architects, Engineers and inspectors Provide Information on Structural and Non-Structural Retrofitting	•Encourage homeowners to install latches on cabinets and drawers • Offer GIS mapping online for residents and design professionals • Conduct information sessions on seismic code • Train building staff on form ATC-20 (Applied Technology Council) • Develop outreach to encourage homeowners to secure tall furniture • Establish a library of technical documents on structural mitigation options.

Adapted from FEMA's "Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (2013)

Flooding



Sandbagging in Provo during the 1983 floods

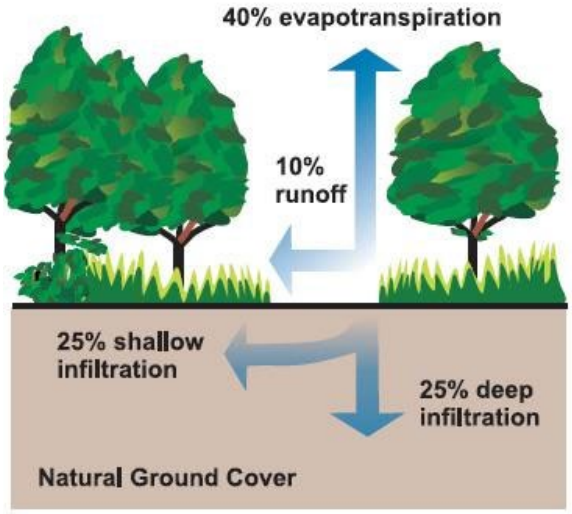
Humans have always sought out water for survival; drinking, agriculture, travel and energy. Some features like basins, plains, and alluvial fans appear ideal for homes built on flat ground or a gentle slope. Periodic flooding in riverine areas carries nutrients to soil ideal for agricultural production. The problem arises when builders expect the water that has shaped the very land they sit on to stop routine flooding and stay predictably within its bounds. The attraction to water plus effects of urbanization contribute to floods being the most common hazard in the United States.

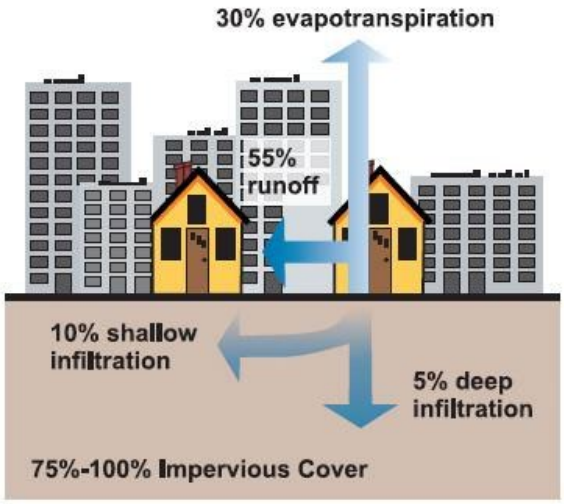
Flooding is a temporary overflow of water onto lands not normally inundated by water producing measurable property damage or forcing evacuation of people and vital resources. Floods frequently cause loss of life; property damage and destruction; damage and disruption of communications, transportation, electric service, and community services; crop and livestock damage and loss, and interruption of business. Floods also increase the likelihood of hazards such as transportation accidents, contamination of water supplies, and health risk increase after a flooding event.

Several factors determine the severity of floods including rainfall intensity and duration, and rapid snow melt. A large amount of rainfall over a short time span can result in flash flood conditions. Small amounts of rain can also result in flooding at locations where the soil has been previously saturated or if rain concentrates in an area having impermeable surfaces such as large parking lots, paved roadways, or post burned areas with hydrophobic soils. Topography and ground cover are also contributing factors for floods. Water runoff is greater in areas with steep slopes and little or no vegetative ground cover.

Frequency of inundation depends on the climate, soil, and channel slope. In regions where substantial precipitation occurs during a particular season or in regions where annual flooding is due to spring melting of winter snowpack, areas at risk may be inundated nearly every year.

The Mountainland region can experience both rapid snow melt in the Spring and severe summer storms. As Summit, Utah, and Wasatch counties grow they must take into account the effects of urbanization on the ability of soil to absorb rainfall. The diagram below demonstrates how a built-up environment alters water dynamics.





Effects of Urbanization (EPA)

Conditions which may exacerbate floods:

Impermeable surfaces	Debris
Steeply sloped watersheds	Contamination
Constrictions	Soil saturation
Obstructions	Velocity

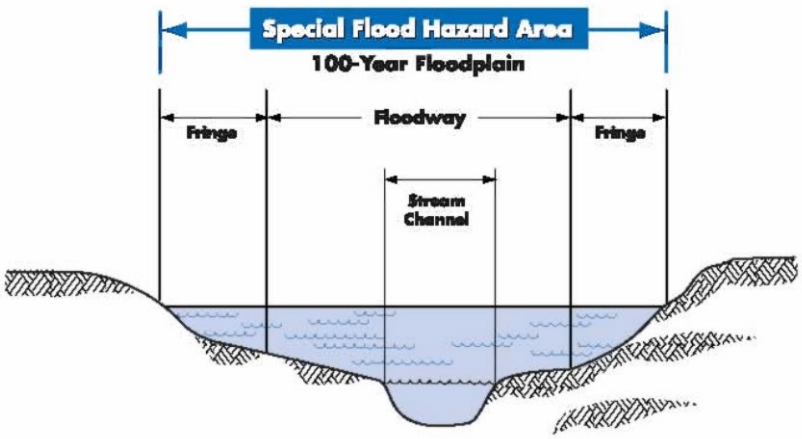
Explanation of Common Flood Terms

FIRM: Flood Insurance Rate Map

100-year flood: Applies to an area that has a 1 percent chance, on average, of flooding in any given year. However, a 100-year flood could occur two years in a row, or once every 10 years. The 100 year-flood is also referred to as the base flood.

Base Flood Elevation (BFE): As shown on the FIRM, is the elevation of the water surface resulting from a flood that has a 1% chance of occurring in any given year. The BFE is the height of the base flood,

usually in feet, in relation to the National Geodetic Vertical Datum (NGVD) or 1929, the North American Vertical Datum (NAVD) of 1988, or other datum referenced in the FIS report.



National Flood Insurance Program (NFIP): The NFIP is a federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. Participation in the NFIP is based on an agreement between communities and the Federal Government. If a community adopts and enforces a floodplain management ordinance to reduce future flood risk to new construction in floodplains, the Federal Government will make flood insurance available within the community as a financial protection against flood losses. This insurance is designed to provide an insurance alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods.

Special Flood Hazard Area (SFHA): Is the shaded area on a FIRM that identifies an area that has a 1% chance of being flooded in any given year (100-year floodplain).

Floodway: Is the stream channel and that portion of the adjacent floodplain that must remain open to permit passage of the base flood without raising that water surface elevation by more than one foot.

Potential Mitigation Strategies

The following mitigation strategies are provided so that communities may be aware of measures that could be used to limit the exposure to flood related damage.

Objective	Strategies
Local Planning and Regulations	
Improve Compliance with NFIP	• Complete and maintain FEMA elevation certificates for buildings
Incorporate Flood Mitigation into Local Planning	• Use "green infrastructure" program to link, manage, & expand greenways • Mitigate hazards during infrastructure planning
Limit or Restrict Development in Floodplain Areas	• Develop stream buffer ordinance or limit impervious surfaces • Prohibit or limit floodplain development
Adopt and Enforce Building Codes	• Require the hazardous materials be located outside areas flood areas
Improve Storm Water Management	• Complete a storm water drainage study for known problem areas
Structure and Infrastructure Projects	
Preserve Floodplains as Open Space	• Allow developers to increase density in another area to keep flood area vacant
Conduct Regular Maintenance for Drainage Systems and Flood Control	• Routinely clean and repair storm water drains • Detect and prevent illegal discharges into storm water and sewer systems
Protect and Restore Natural Flood Mitigation Measures	• Retain thick vegetation on public lands flanking rivers • Protect and enhance landforms that serve as natural barriers
Protect Critical Facilities	• Require critical facilities to be built above 500-year flood elevation
Education and Awareness	
Educate Property Owners	• Provide accurate floodplain maps

*Adapted from FEMA's "Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (2013)

Dam Failure

Dams are frequently built for recreation, flood control, fire protection, irrigation and water storage. Most dams are small earthen works on private property, causing limited damage if they fail. Summit, Utah, and Wasatch counties have hundreds of dams, but only 48 are likely to put life at risk should they fail. The most hazardous of these are the Deer Creek and Jordanelle Dams, which could engulf entire communities in Wasatch and Utah counties.

Dam failures are defined as the failure of a man-made water impoundment structure, which sometimes results in catastrophic down grade flooding. The diagram below depicts common features of dams.

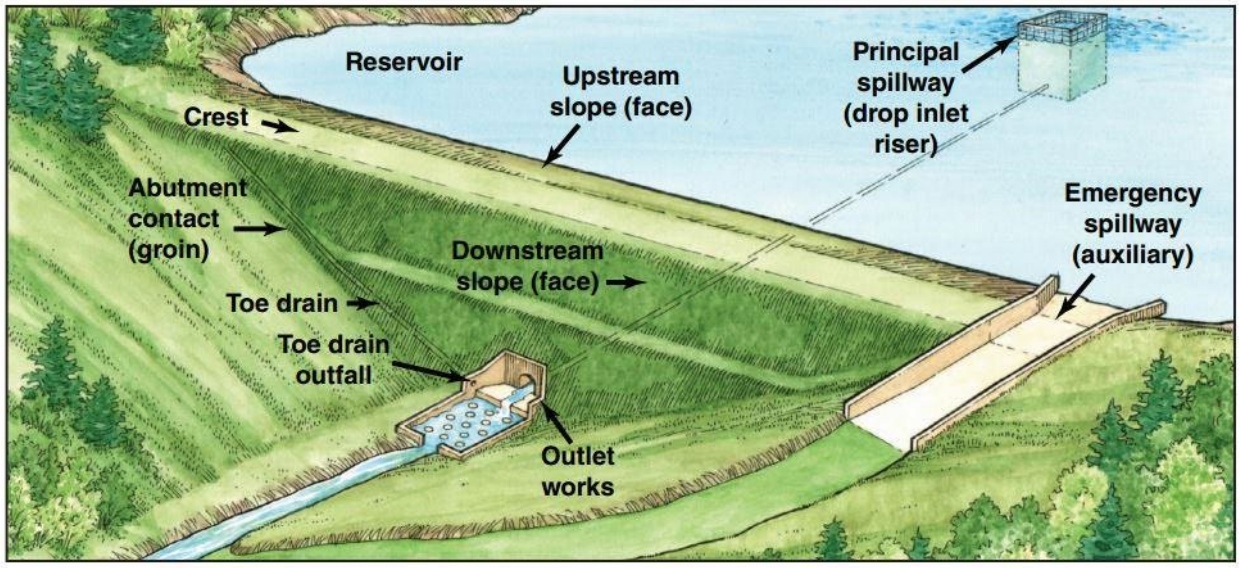


Figure 6 Dam Features. Created by the Forest Service and FEMA

Dam failure can have many causes, as seen below. Overtopping, or when water comes over the top of the dam after a significant rain event or because of a low area in the crest of a dam, can quickly erode the crest, slope, and toe of the dam quickly leading to failure. Overtopping is specifically mentioned as a possibility if the Jordanelle dam fails due to piping, then raises the water level in the Deer Creek dam until it experiences overtopping. Earthquakes can instigate many of the problems a dam normally faces, such as mass movement (a slump or landslide), cracking, and/or liquefaction leading to stability failure.

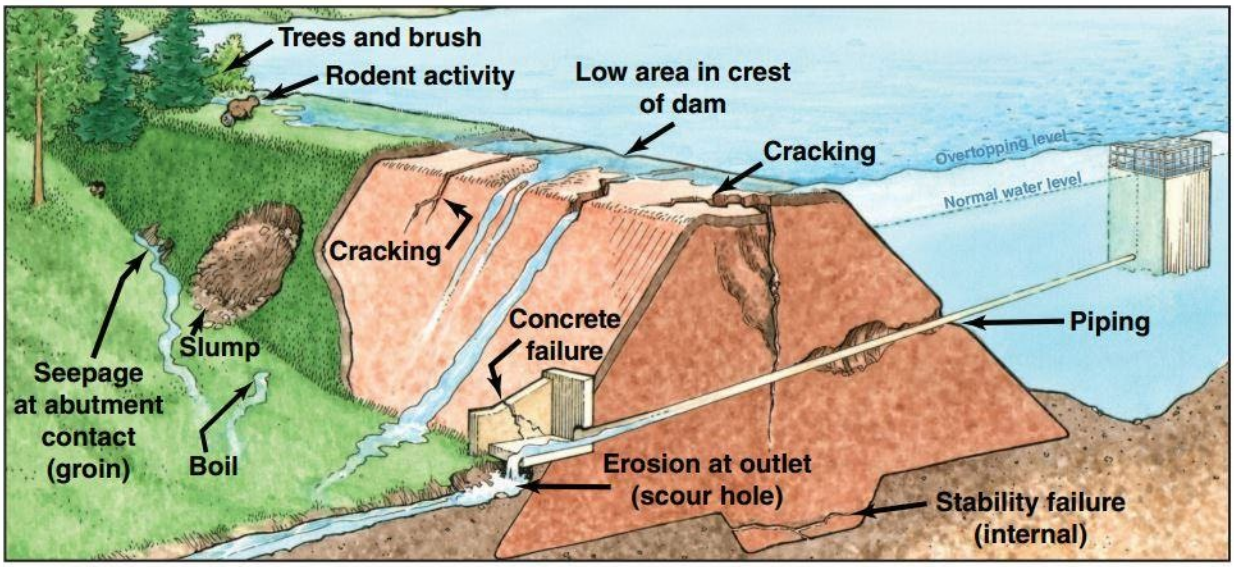


Figure 7 Possible dam problems. Graphic created by the Forest Service & FEMA.

According to the Bureau of Reclamation, the Jordanelle Dam is built to withstand a 7.5 magnitude earthquake on the Wasatch Fault 19 miles to the west or a 6.5 magnitude earthquake directly beneath the dam. Deer Creek dam also experienced extensive renovations from 2003-2008, and is now much less likely to suffer serious adverse effects in the event of an earthquake. The Utah State Engineer has been charged with regulating non-federal dams in the State since 1919. The Engineer ensures that all non-federal dams are inspected routinely and that the results of those inspections are available to the public. With the passing of the Federal Dam Safety Act in the 1970's, Utah created a Dam Safety Section responsible for all non-federal dams.

The State Dam Safety Section has developed a hazard rating system for all non-federal dams in Utah. Downstream uses, the size, height, volume, and incremental risk/damage assessments of dams are all variables used to assign dam hazard ratings in the Dam Safety classification system. Using the hazard ratings systems developed by the Dam Safety Section, dams are placed into one of three classifications: high, moderate, and low. Dams receiving a low rating would have insignificant property loss due to dam failure. Moderate hazard dams would cause significant property loss in the event of a breach. High hazard dams would cause a possible loss of life in the event of a rupture. The frequency of dam inspection is designated based on hazard rating with the Division of Water Rights inspecting high-hazard dams annually, moderate hazard dams biannually and low-hazard dams every five years. There are more than 150 dams in the Mountainland Region of which 48 have received a high hazard rating by Dam Safety.

According to the Dam Safety Program, During the last several decades, there has been a better understanding of how dams function, and new minimum standards have been established. In order to provide for public safety, the Legislature has provided grant funding since 1992 in various amounts to the Board of Water Resources to appropriate for dam safety projects. From 1997 to 2007, approximately $4.3 million was appropriated per year. In 2008, the amount was reduced to approximately $700,000. From 2009 to present, funding has been $3.8 million per year for high hazard dam rehabilitations. These projects become necessary due to infrastructure aging, hazard creep and standards modernization. (Regular maintenance and other work may not be eligible for grant funding.)

Historically, the cost of each dam safety project has averaged about $2-3 million. (Cost varies depending on the size of the dam and the extent of the deficiencies.) **At the current level of funding, the state can fund, on average, only one or two dam safety projects each year**. With each passing year, inflation chips away at the dollar's buying power, and the ability to complete projects continues to diminish.

In order for the remaining high hazard dams to be brought up to minimum safety standards, an estimated $250 million is needed. **At the current funding rate, this is estimated to take about 66 years.** If funding were increased by $6.2 million to a total of $10 million per year, the dams could be upgraded in approximately 25 years.

The Board of Water Resources will continue to work with the Dam Safety program to determine which dams are the highest priority and to address these projects as funds allow, but the current level of funding is insufficient to address all the minimum standard issues. As a result, dam safety projects are being delayed due to a lack of funds. Additional funding would accelerate urgent dam safety upgrades.

The following information regarding a failure of both Jordanelle and Deer Creek Dams and resulting loss was prepared by the United States Department of the Interior Bureau of Reclamation entitled "Dam Failure and Maximum Operational Release, Inundation Study: Deer Creek Dam" completed, February 2002. The Bureau of Reclamation is in the process of reviewing their policies for sharing this information with the public and MAG hopes to use more recent maps in the next plan update.

Introduction and Purpose

On February 27, 1995, the Commissioner of the Bureau of Reclamation (Reclamation) issued a policy statement regarding establishing an Emergency Management Program at Reclamation dams. This policy stated that Reclamation would offer technical support and assistance to communities and jurisdictions downstream of Reclamation dams to ensure that adequate dam-specific emergency operation plans are in place. Directives for the emergency management program state that Emergency Actions Plans (EAP) shall be developed and are to contain descriptions of potentially affected areas in the flood plain with inundation maps wherever appropriate. Studies are designed to assess the worst-case scenario, when a reservoir at full capacity suddenly experiences an instantaneous failure. More often than not, dam owners have enough forewarning of a problem to remedy it or at least give warning. The dam failure study below was prepared to meet the goals and objectives of the Commissioner's directives.

The purpose of the study was to identify potential flood hazard areas resulting from the unlikely events of "sunny day" failure of Deer Creek Dam (referring to an event that occurs when severe weather, earthquakes, or other extreme events are not present), the maximum operational release of Deer Creek Dam and the "sunny day" failure of Jordanelle Dam resulting in the failure of Deer Creek Dam due to overtopping.

These studies are standard practice within Reclamation and therefore do not reflect in any way upon the integrity of either Jordanelle or Deer Creek Dams.

Previous Studies

The Denver Office completed a previous Flood Inundation Study in June of 1990. It addressed two conditions, 1) a PMF (Probable Maximum Flood) causing the failure of Deer Creek Dam; and 2) a PMF (Probable Maximum Flood) causing the failure of Jordanelle Dam, which then results in the failure of Deer Creek Dam. Both scenarios were accomplished using the National Weather Service (NWS) DAMBRK model. Cross sections and some dam breach parameters were obtained from these studies for use in this report.

Description of Jordanelle Dam

Jordanelle Dam and reservoir is located on the Provo River in Wasatch County in north central Utah about 5 miles north of Heber City, Utah. The reservoir has a storage capacity of 311,000 acre-feet at active conservation, and a total reservoir storage capacity of 361,500 acre-feet.

The primary purpose of the reservoir is to provide Municipal and Industrial water for use in Salt Lake City and northern Utah County. Additional project purposes include flood control, recreation, Heber Valley irrigation water, and fish and wildlife enhancement.

Description of Deer Creek Dam

Deer Creek Dam and reservoir are located on the Provo River about 16 miles northeast of Provo, Utah and about 10 miles southwest of Heber City, Utah. Deer Creek Dam consists of a zoned earth fill structure, spillway and outlet works. The reservoir has a storage capacity of 152,570 acre-feet at the top of the gates, which is elevation 5,417 feet. The reservoir is part of a collection system, which stores and releases water from the Duchesne River, Weber River, and also the Provo River drainage. The primary recipients of the water are cities and farms along the Wasatch Front. It also provides year-round power generation and is used heavily for recreational purposes.

Study Results

The results indicate that flooding resulting from the sunny day failures of either Jordanelle or Deer Creek Dams will inundate the residential areas along the Provo Canyon corridor and in Orem and Provo, which could result in the loss of life. In addition, parts of Springville located within the flood plain south of Provo, Utah as well as major highways and road crossings would be heavily impacted by the floodwaters.

The routings of the floods were terminated at approximately 10 hours for the sunny day failure of Jordanelle and Deer Creek Dams. About 10 hours after flooding begins, most of the floodwaters are safely contained by Utah Lake. The results of the flood routing are listed in the attached tables.

Sunny day failure of Jordanelle Dam resulting in the failure of Deer Creek Dam due to overtopping, identifies results obtained from the sunny day failure of Jordanelle Dam modeled as a piping failure. The table includes the maximum water surface, peak flows, and flood arrival times from the beginning of the failure of Jordanelle Dam to the flood arrival at Provo City.

Sunny day failure of Jordanelle Dam

River Miles Downstream of Deer Creek Dam	Maximum Water Surface Elev (Feet)	Depth Above Streambed (Feet)	Arrival Time of Leading Edge (Hrs)	Arrival Time of Peak Flow (Hrs)	Maximum Flow (CFS)	Location
0.0	5439	165	River Miles Downstream of Deer Creek Dam	2.5	3,573,000	Deer Creek Dam
10.0	4926	104	2.0	2.9	3,124,000	Mouth of Provo Canyon
14.5	N/A	N/A	2.5	3.0	3,085,000	Provo City

*Arrival times are from the beginning of Jordanelle Dam failure
*Mile 0.0 is at the downstream toe of Deer Creek Dam

Sunny day failure of failure of Deer Creek Dam identifies results obtained from the sunny day failure of Deer Creek Dam modeled as a piping failure. The table includes the maximum water surface, peak flows, and flood arrival times from the beginning of the failure of Deer Creek Dam to the flood arrival at Provo City.

Sunny day failure of Deer Creek Dam

River Miles Downstream of Deer Creek Dam	Maximum Water Surface Elev (Feet)	Depth Above Streambed (Feet)	Arrival Time of Leading Edge (Hrs)	Arrival Time of Peak Flow (Hrs)	Maximum Flow (CFS)	Location
0.0	5381	107	0.1	0.7	1,550,000	Deer Creek Dam
10.0	4915	93	0.8	1.1	1,397,000	Mouth of Provo Canyon
14.5	N/A	N/A	0.9	1.2	1,386,000	Provo City

*Arrival times are from the beginning of Deer Creek Dam failure
*Mile 0.0 is at the downstream toe of Deer Creek Dam

Maximum operational release of Deer Creek Dam identifies the results of the maximum operational release from Deer Creek Dam to the mouth of Provo Canyon, based on the maximum release of 13,500 cfs. The table includes the maximum water surface, depth above streambed, and peak flows obtained at the cross sections modeled.

Maximum operational releases of Deer Creek Dam (Releases are based on continuous flow of 13,500 cfs)

River Miles Downstream of Deer Creek Dam	Maximum Water Surface (Elev)	Depth Above Streambed (Feet)	Maximum Flow (CFS)
0.0	5289	15	13,500
10.0	4836	14	13,500

*Mile 0.0 is at the downstream toe of Deer Creek Dam

Inundation Maps

Inundation maps produced from this study are shown on U.S. Geological Survey Quadrangle maps (Scale 1:24,000). They combine flood inundation boundaries from both the National Weather Service's (NWS) DAMBRK one dimensional model, which was used to route flows between Deer Creek Dam and the mouth of Provo Canyon, and MIKE 21, the two-dimensional model which terminates at Utah Lake. The flood inundation boundaries shown on the maps for each scenario were taken from the 1993 study and are located in the county annexes.

Mitigation

Local Planning and Regulations	
Include Dam Failure scenarios into Local Planning	• Designate multiple escape routes for inundation zone • Require the hazardous materials be located outside inundation zone
Map and Assess Community Vulnerability to Dam Failure	• Use GIS to map inundation zones for high-risk dams (if not previously done) • Incorporate seismic strengthening into Capital Improvement Plan
Include Dam Owners in Planning Process	• Use dam's Emergency Response Plan in city emergency response plan • Invite dam owners to attend planning workshops when applicable
Structure and Infrastructure Projects	
Conduct seismic retrofitting	• Incentivize dam owners to retrofit high-risk dams
Partner with dam owners for upgrades	• Designate a dam liaison from the public works department to talk to owners

Education and Awareness	
Educate the Public on their Risk	• Make maps and reports readily available
Review Inspection Results Regularly	• Designate employee to review inspection results on a yearly basis

*Adapted from FEMA's "Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (2013)

Wildland Fire



Identifying Hazards

A wildfire is an uncontrolled fire spreading through vegetative fuel often exposing or consuming structures. Wildfires often begin unnoticed and spread quickly and are usually sighted by dense smoke. Wildfires are placed into two classifications Wildland and Wildland-Urban Interface. Wildland fires are those occurring in an area where development is essentially nonexistent, except for roads, railroads, or power lines. Wildland-Urban Interface fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels. As the populations of the MAG region grow, residents build farther into wildland areas. This can pose problems for local fire departments as they endeavor to extend their services to new homes.

When discussing wildland fire, it is important to remember that fires are part of a natural process and are needed to maintain a healthy ecosystem. If fires are suppressed for longer than the ecosystem is accustomed to and debris collects in the understory, any wildland fire that occurs will have more fuel to burn and be more difficult to control. Land Management agencies across the state try to keep the fuel low load through controlled burns, manual removal, and other practices. Three basic elements are needed for a fire to occur (1) a heat source (2) oxygen and (3) fuel. Fuel and oxygen are readily available in the MAG region. Major ignition sources for wildfire are lightning and human causes such as arson, prescribed burns, recreational activities, burning debris, sparks from equipment, and carelessness with fireworks. About half of all wildfires started in Utah can be attributed to human activities, with the other half caused by lightning. Once a wildfire has started, vegetation, topography and weather are all conditions having an effect on wildfire behavior.

Potential Mitigation Strategies

The following mitigation strategies have been provided so that communities may be aware of measures that could be used to limit the exposure to Wildland Fire related damage.

Objective	Strategies
Local Planning and Regulations Map and Assess Vulnerability to Fire Reduce Risk through Land Use Planning Develop a Wildland-Urban Interface Code	• Use GIS mapping to analyze planning decisions, zoning, development, etc. • Designate high-risk areas and specify conditions for use and development • Involve Fire Protection agencies in determining standards for development • Address access, signage, fire hydrants, water availability, vegetation, etc.
Structure and Infrastructure Projects Create Defensible Space Around Structures Conduct Maintenance	• Create defensible space around power lines, oil and gas lines, etc. by removing vegetation and flammable materials • Replace flammable vegetation with less flammable species • Arson prevention cleanup in areas of abandoned structures, trash, etc.
Natural Systems Protection Implement a Fuels Management Program	• Perform maintenance including fuel management: pruning, selective logging, etc. • Sponsor local "slash and clean-up" days to reduce fuel loads along the WUI
Education and Awareness Participate in Firewise Program Increase Wildfire Risk Awareness Educate Property Owners about Wildfire Mitigation Techniques	• Consult Firewise guidance in encouraging best practices for the community • Organize local fire department tour to show officials vulnerable areas • Install fire mitigation systems such as interior and exterior sprinklers • Remove dead or dry leaves and other combustibles near/on homes

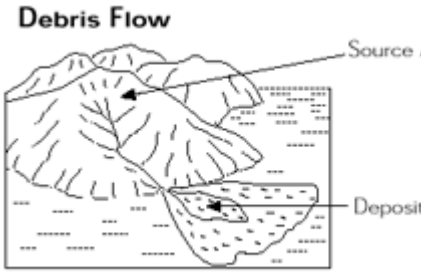
*Adapted from FEMA's "Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (2013)

Landslides

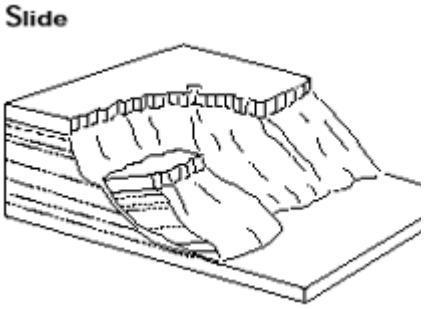
Many hazards are characteristically intertwined. Lightning may start a Wildfire or excessive rain could lead to a dam failure. Landslides are no exception. Landslides, often referred to as mass movement, occur any time the driving forces of gravity outweigh the resisting forces (friction, cohesion, strength of material) of a slope. This can be accelerated by a fire, which destroys the vegetation keeping soil in places, or a flood that lubricates soil particles and decreases the friction holding them in place. Earthquakes can also instigate movement of an unstable slope. Any area with a slope could be a site of mass movement. Mountain slopes with the spectacular views sought by many homeowners are especially susceptible to landslide activity. Though there have been fewer catastrophic landslide disasters than flood or fire, there are numerous events where a few homes are damaged or made to undertake extensive mitigation measures because the land under their foundation is slowly creeping out of place.

Mass movement can occur at a snail's pace or faster than a flood. The speed depends on the composition of the mass being moved and the cause of the movement. There are several types of mass movement, the most relevant of which are explained below.

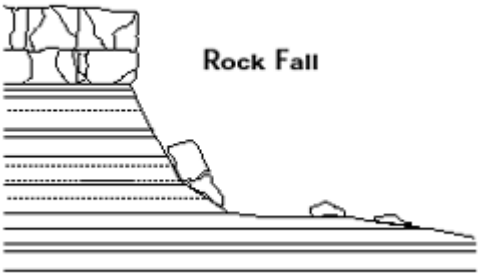
Three Common Types of Landslides in Utah



Debris flows consist of sediment-water mixtures that flow down a streambed or hillside, commonly depositing sediment at canyon mouths in fan-like deposits know as alluvial fans. These often occur during episodes of heavy rain, especially if a slope has experienced de-vegetation from fire or construction. Debris flows can start with just a few cubic feet of material and gain huge quantities as they quickly flow downhill.



Slides are down slope movements of soil or rock on slopes. They can occur so slowly that the only evidence is gradual cracking of a home's walls and foundations or fast enough to kill. There are several activities that increase the likelihood of this type of mass movement occurring, such as cutting into the toe of a slope, overwatering, adding weight (such as a house) to the top of a slope, and removing vegetation (especially trees).



Rock falls consist of rock(s) falling from a cliff or cut slope and are very common in the canyon country of southern Utah. Rock falls, by definition, involve material travelling through the air and happen very quickly. Earthquakes are often a trigger, as is repeated freezing and thawing which expands cracks within the rock.

Potential Mitigation Strategies

The following mitigation strategies are provided so that communities may be aware of methods that could be used to limit the exposure to landslide/Problem Soils related damage.

Objective	Strategies
Local Planning and Regulations	
Manage Development in Landslide Hazard Areas	• Locate utilities outside landslide areas • Limit new development in steep slope/high-risk areas
Open Space	• Leave open space or setbacks on and near at-risk slopes
Warn inhabitants after triggering events	• Monitor at-risk slopes after fire, intense rainfall, or other events
Map and Assess Community Vulnerability to Landslides	• Assess vegetation in wildfire-prone areas to prevent landslides after fires • Inventory infrastructure in areas vulnerable to landslides
Structure and Infrastructure Projects	
Prevent Impacts to Roadways	• Apply soil stabilization measures on steep, publicly-owned slopes
Install drain fields	• Install drains on slopes with naturally poor drainage
Remove Existing Buildings and Infrastructure from Hazard Areas	• Acquire at-risk buildings and infrastructure • Enforce permanent restrictions on development
Education and Awareness	
Educate Public on Hazardous areas	• Make public hazard maps
Real Estate disclosure	• Ensure that homebuyers know risk before purchasing homes on slopes
Educate the public on correct watering practices and slope vegetation	• Disperse guidelines for correct watering practices to those in vulnerable areas • Recommend services and plants to those living on or near steep slopes

*Adapted from FEMA's "Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (2013)

Part 4 Regional Hazards

Introduction

Many hazards are difficult to map at a county level due to their unpredictability or wide-spread effects. Severe weather, infestations, algal blooms, and drought have been recognized as regional hazards for this plan. Identifying one portion of the region being more prone to these hazards than another is impractical due to the lack of specific spatial data and their widespread nature. Each jurisdiction has the opportunity to address these hazards on an individual mitigation level.

Air Quality

Description
Poor air quality is caused by harmful emissions from vehicles, homes, industry, and wildfire that have serious health, climate, and environmental consequences.

Although air quality is gradually improving, air pollution reduces the lifespan of the average Utahan by 2 years. Vehicle emissions account for half of air pollution. The Wasatch Front's geography makes inversions especially severe while the entire West suffers during wildfire season.

Probability: High in Utah County, low in Summit and Wasatch Counties

Severity: Critical, causes hospital visits and premature deaths.

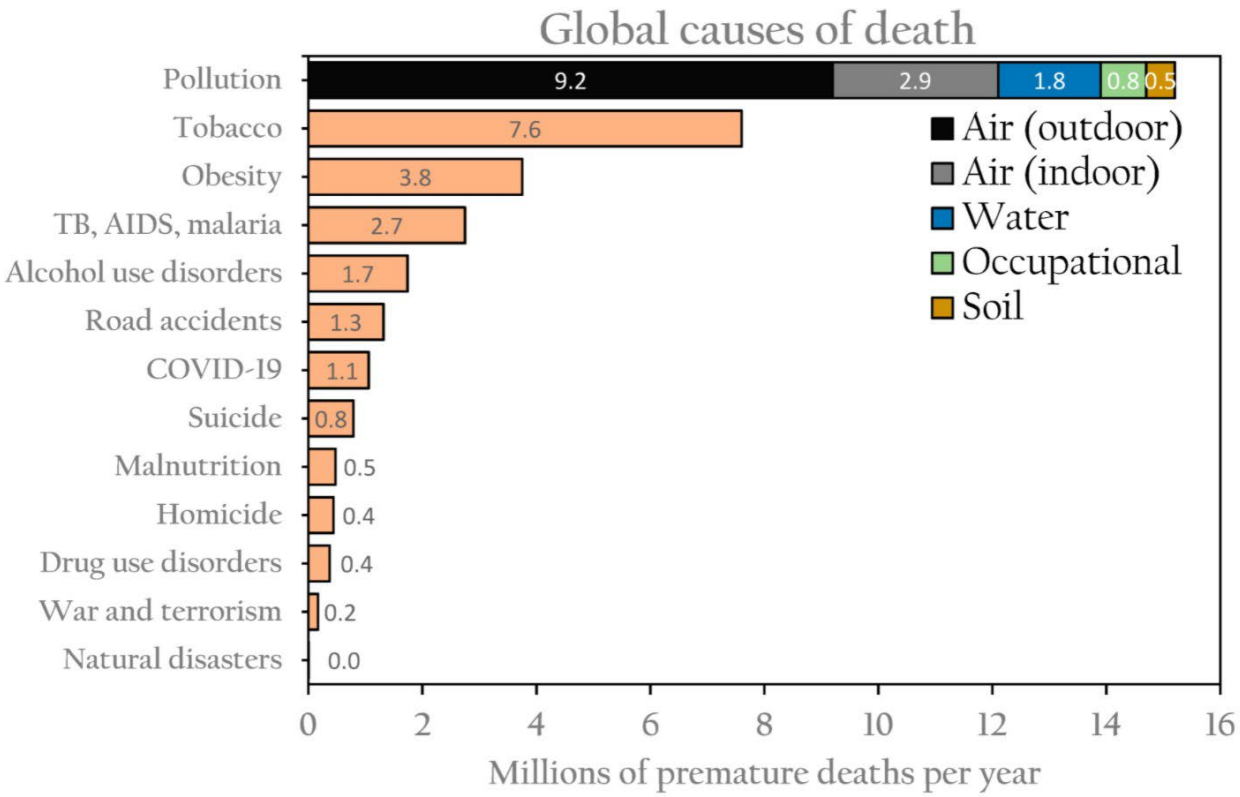
Vulnerability
Children, the elderly, those with health conditions, and fetuses are at greater risk for hospitalization on bad air days. Utah County's pollution is bad enough that it must submit plans to the EPA to improve its air, but Wasatch County is also concerned about the pollution and has had monitors in place since 2016.

Mitigation Strategies

- Adopt emissions reduction goals

- Promote teleworking
- Support research
- Accelerate Quality Growth efforts (i.e., denser, more walkable places)
- Encourage Electric Vehicles and infrastructure
- Consider market-based approaches
- Reduce auto-dependency

Experts estimated that air pollution in Utah causes 2480 to 8000 premature deaths annually (90% confidence interval) and decreases the median life expectancy by 1.1 to 3.6 years. Economic costs of air pollution in Utah totaled **$0.75 to $3.3 billion annually**, up to 1.7% of the state's gross domestic product. Worldwide, outdoor air pollution accounts for far more deaths and natural disasters.



- (Errigo et al, Human Health and Economic Costs of Air Pollution in Utah: An Expert Assessment. ***Atmosphere***. 2020; 11(11):1238. https://doi.org/10.3390/atmos11111238)

Algal Blooms

Algal blooms occur when naturally occurring cyanobacteria in the water multiply very quickly in warm conditions, producing cyanotoxins that can pose serious health risks.

Probability: High, especially in Utah Lake
Severity: Critical, can cause injuries or deaths

While blooms can happen naturally in pristine mountain lakes and impaired urban waterways, certain conditions (i.e., usually warmer waters and high concentrations of phosphorus and nitrogen) can increase the likelihood of blooms. As global temperatures increase, scientists have noticed blooms at an increasing frequency. Nitrogen and phosphorus are common pollutants that can come from sewage treatment plants, erosion and urban and agricultural runoff.

Vulnerability
Lake-adjacent cities and businesses that depend on water recreation are adversely affected by algal blooms, as is the perception of water safety at large. Children and pets are more likely to ingest water.

Mitigation Strategies
Proper land management and the investment in new technologies to treat wastewater can reduce the likelihood of blooms.
-Reduce the amount of fertilizer use on lawns
-Use phosphorus-free fertilizer and detergent when possible
-Fix leaking septic systems
-Keep yard debris such as leaves or grass clippings from washing into storm drains
-Pick up pet waste

Climate Change

The global climate is changing at a greater rate than any time in at least the last 650,000 years. Increasing evidence shows that humans are the primary influence behind this rate of change. However, the current and future implications for Utah are nuanced.

Profile

Frequency	Permanent
Severity	Depends on the hazard
Location	Region/World Wide
Seasonal Pattern	Effects depend on each hazard

Duration	Ongoing
Speed of Onset	Slow
Probability of Future Occurrences	Certain

Assessing Vulnerability

In Utah the effects of climate change are more of an exacerbation of existing hazards rather than additional hazards such as coastal flooding. It is likely that agriculture and winter recreation will be more impacted by possibly diminished snowpack and longer/more severe droughts. Climate change could have cascading effects on multiple hazards. For example, a deeper drought and stronger summer lightning storms could cause more wildfires that denude hillsides. More energy in a warmer atmosphere could produce heavier rainstorms that lead to more flooding and debris flow on the de-vegetated hills than would have occurred if the climate was not warming.

Development Trends

Since climate change is global and generally exacerbates existing hazards, the development trends for wildfire, flood, and landslide are applicable here. In general, more energy-efficient development, both in terms of structures and location, will affect emissions that cause climate change.

Potential Mitigation Strategies

Many of the strategies for drought, fire, flood, etc. will also work to mitigate the effects of climate change. Indeed, the past shows we have had larger fires, deeper droughts, and stronger winter storms before regular records were kept.
As for mitigating climate change itself, most strategies are the same as those for improving air quality, namely decreasing auto-dependence with more active transportation, transit, and infill development rather than sprawl, updating building codes for more energy-efficient homes, and diversifying energy sources for more renewable energy.

Severe Weather

Utah, Summit, and Wasatch counties have an ideal site and situation for a variety of severe weather events. Utah's distance from the moderating effects of oceans results in hot summers and cold winters, unlike coastal areas that enjoy less extreme temperatures. In addition, the mountains create opportunity for precipitation which can be severe. The benefit of the mountains (other than providing necessary water) is that they prevent more severe tornadoes by breaking up the bodies of warm, moist air and cool, dry air necessary for formation. Numerous opportunities for recreation in the Wasatch and Uintah mountains place a greater number of people at risk during severe weather events, whether it be summer hikers struck by lightning or skiers caught in a snow storm.

"Severe weather" includes the following events grouped for convenience.

Hazard	National Weather Service Guidelines for Event Type
Winter Weather, Blizzard, Snow Storm	A winter storm which produces the following conditions for 3 hours or longer: (1) sustained winds or frequent gusts 30 knots (35 mph) or greater, and (2) falling and/or blowing snow reducing visibility frequently to less than 1/4 mile, on a widespread or localized basis. -OR- A winter precipitation event that causes a death, injury, or a significant impact to commerce or transportation but does not meet locally/regionally defined warning criteria. A Winter Weather event could result from one or more winter precipitation types (snow, or blowing/drifting snow, or freezing rain/drizzle), on a widespread or localized basis
Cold, Wind Chill, Extreme Cold	Period of low temperatures or wind chill temperatures reaching or exceedingly locally/regionally defined advisory (typical value is -18^{o}F or colder) conditions, on a widespread or localized basis. There can be situations where advisory criteria are not met, but the combination of seasonably cold temperatures and low wind chill values (roughly 15^{o}F below normal) must result in a fatality. Normally, cold/wind chill conditions should cause human and/or economic impact.
Dense Fog	Water droplets suspended in the air at the Earth's surface, over a widespread or localized area, reducing visibility to values equal to or below locally/regionally established values for dense fog (usually 1/4 mile or less) and impacting transportation or commerce. No direct fatalities.

Hail	Hail 3/4 of an inch or larger in diameter will be entered. Hail accumulations of smaller size which cause property and/or crop damage, or casualties, should be entered.
Heavy Rain	Unusually large amounts of rain which do not cause a flash flood or flood, but cause damage, e.g., roof collapse or other human/economic impact.
High Wind, Thunderstorm Wind, Strong Wind	Sustained non-convective winds of 35 knots (40 mph) or greater lasting for 1 hour or longer or winds (sustained or gusts) of 50 knots (58 mph) for any duration (or otherwise locally/regionally defined), on a widespread or localized basis. In some mountainous areas, the above numerical values are 43 knots (50 mph) and 65 knots (75 mph), respectively. -OR- Non-convective winds gusting less than 50 knots (58 mph), or sustained winds less than 35 knots (40 mph), resulting in a fatality, injury, or damage. -OR- Winds, arising from convection (occurring within 30 minutes of lightning being observed or detected), with speeds of at least 50 knots (58 mph), or winds of any speed (non-severe thunderstorm winds below 50 knots) producing a fatality, injury, or damage.
Lightning	A sudden electrical discharge from a thunderstorm, resulting in a fatality, injury, and/or damage.
Tornado, Funnel Cloud	A rotating, visible, extension of a cloud pendant from a convective cloud with circulation not reaching the ground. The funnel cloud should be large, noteworthy, or create strong public interest to be entered. -OR- A violently rotating column of air, extending to or from a cumuliform cloud or underneath a cumuliform cloud, to the ground, and often (but not always) visible as a condensation funnel. Literally, in order for a vortex to be classified as a tornado, it must be in contact with the ground and extend to/from the cloud base, and there should be some semblance of ground-based visual effects such as dust/dirt rotational markings/swirls, or structural or vegetative damage or disturbance.

Lightning

During the development of a thunderstorm, the rapidly rising air within the cloud, combined with the movement of the precipitation within the cloud, causes electrical

charges to build. Generally, positive charges build up near the top of the cloud, while negative charges build up near the bottom. Normally, the earth's surface has a slight negative charge. However, as the negative charges build up near the base of the cloud, the ground beneath the cloud and the area surrounding the cloud becomes positively charged. As the cloud moves, these induced positive charges on the ground follow the cloud like a shadow. Lightening is a giant spark of electricity that occurs between the positive and negative charges within the atmosphere or between the atmosphere and the ground. In the initial stages of development, air acts as an insulator between the positive and negative charges. When the potential between the positive and negative charges becomes too great, there is a discharge of electricity that we know as lightning.

Heavy Snowstorms

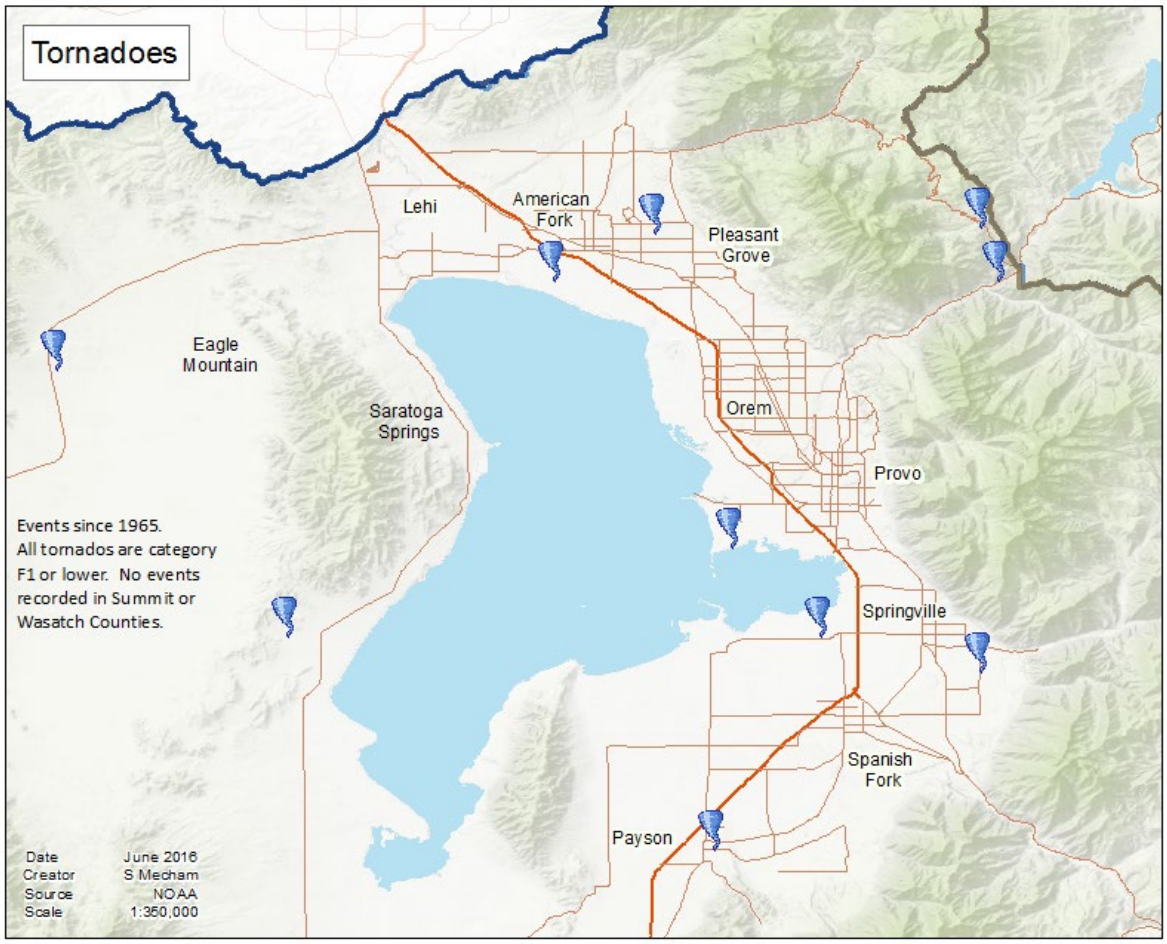
A severe winter storm deposits four or more inches of snow during a 12-hour period or six inches of snow during a 24-hour period. According to the official definition given by the U.S. Weather Service, the winds must exceed 35 miles per hour and the temperature must drop to twenty degrees Fahrenheit (20^{o} F) or lower. All winter storms make driving extremely dangerous.

Hail Storms

Hailstones are large pieces of ice that fall from powerful thunderstorms. Hail forms when strong updrafts within the convection cell of a cumulonimbus cloud carry water droplets upward causing them to freeze. Once the droplet freezes, it collides with other liquid droplets that freeze on contact. These rise and fall cycles continue until the hailstone becomes too heavy and falls from the cloud.

Tornados

A tornado is a violently rotating column of air extending from a thunderstorm to the ground. Tornadoes often occur at the edge of an updraft or within the air coming down from a thunderstorm. Due to the Mountainland region's topography, it has only experienced tornadoes category F1 and lower. The most destructive tornado in the state of Utah occurred in 1999, striking downtown Salt Lake City and resulting in 1 death, dozens of injuries and $170 million in damage. Even so, that tornado was only an F2 and dissipated upon reaching the foothills.



Avalanches

Avalanches are a rapid down-slope movement of snow, ice, and debris. Snow avalanches are a significant mountain hazard in Utah, and nationally account for more deaths each year than earthquakes. Avalanches are the result of snow accumulation on a steep slope and can be triggered by ground shaking, sound, or a person. Avalanches consist of a starting zone, a track, and a run-out zone. The starting zone is where the ice or snow breaks loose and starts to slide. The Track is the grade or channel down which an avalanche travel. The run-out zone is where an avalanche stops and deposits the snow.

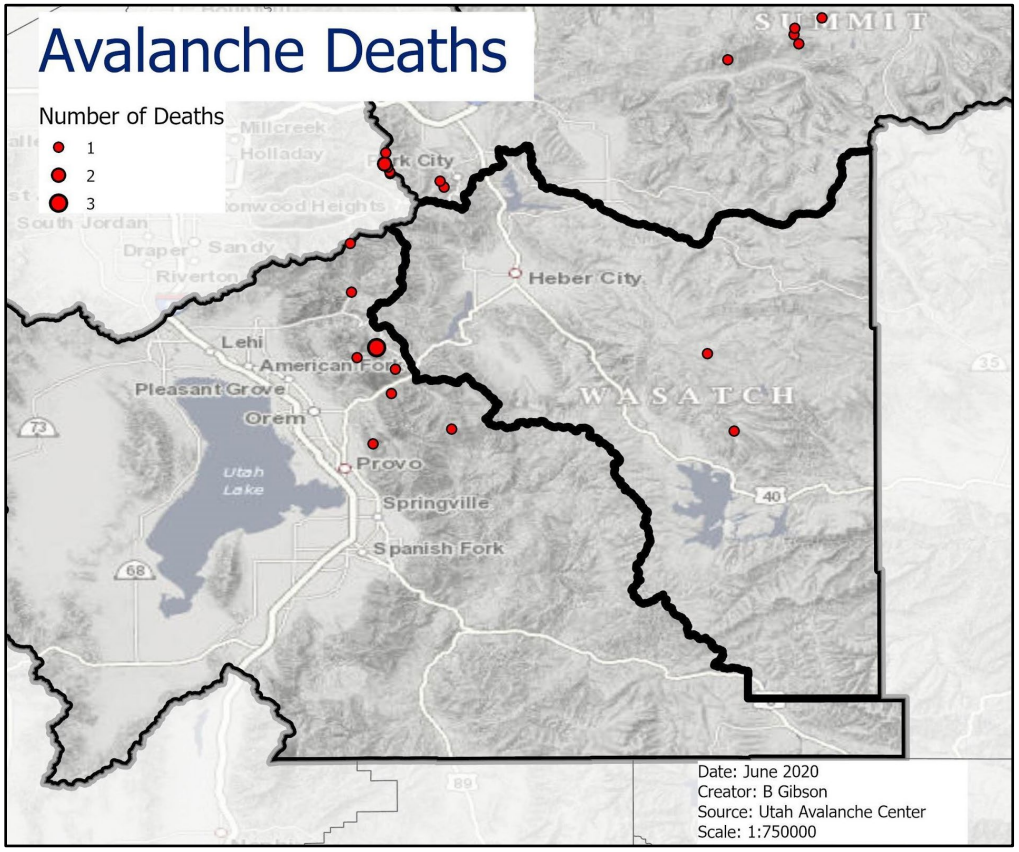
The two main factors affecting avalanche activity include weather and terrain, large frequent storms combined with steep slopes result in avalanche danger. Additional factors that contribute to slope stability are the amount of snow, rate of accumulation, moisture content, snow crystal types and the wind speed and direction. In Utah, the months of January through April have the highest avalanche risk.

Topography plays a vital role in avalanche dynamics. Slope angles between 30 to 45 degrees are optimum for avalanches with 38 degrees being the bulls-eye. Slopes with an angle above 45 degrees continually slough, thereby preventing large accumulation. The risk of avalanches decreases on slope angles below 30 degrees.

Types of Avalanches Common in Utah:

Dry or slab avalanches occur when a cohesive slab of snow fractures as a unit and slides on top of weaker snow, breaking apart as it slides. Slab avalanches occur when additional weight is added quickly to the snow pack, overloading a buried weaker layer. Dry snow avalanches usually travel between 60-80 miles per hour, reaching this speed within 5 seconds of the fracture, resulting in the deadliest form of snow avalanche.

Wet avalanches occur when percolating water dissolves the bonds between the snow grains in a pre-existing snow pack, decreasing the strength of the buried weak layer. Strong sun or warm temperatures can melt the snow and create wet avalanches. Wet avalanches usually travel about 20 miles per hour.



Potential Mitigation Strategies

The following mitigation strategies are provided so that communities may be aware of methods that could be used to limit the exposure to Severe Weather/Avalanche related damage.

Objective	Strategies
Local Planning and Regulations	
Adopt and Enforce Building Codes	• Enforce building codes for roof snow loads
Adopt Zoning Codes in Avalanche Areas	• Limit development in avalanche risk areas
Create Early Warning Systems	• Make National Weather Service warnings easily accessible to residents
Structure and Infrastructure Projects	
Protect Power Lines	• Install redundancies and loop-feeds, design lines to fail in small sections
Protect Critical Facilities and Equipment	• Install lightning protection on critical infrastructure and surge protection
Reduce Impacts to Roadways	• Use snow fences or rows of vegetation to limit blowing and drifting snow • Install sheds over roads below avalanche terrain
Education and Awareness	
Conduct Winter Weather Risk Awareness	• Distribute family and traveler emergency preparedness information • Encourage homeowners to install CO monitors and alarms
Assist Vulnerable Populations	• Identify and organize outreach to vulnerable populations
Educate Property Owners about Freezing Pipes	• Educate homeowners on locating water pipes inside insulated areas • Inform homeowners on allowing a faucet drip during extreme cold

*Adapted from FEMA's "Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (2013)

Assessing Vulnerability

Severe weather can be a regular part of living in the Mountainland Region. Fortunately, the intensity of severe weather in the region has been limited to moderate levels. Some vulnerability assessment is made in the County Profiles based on previous losses.

Development Trends

In some instances, growth in certain areas such as mountainsides and canyons can decrease accessibility and increase other risks such as avalanche. Communities should develop education requirements as part of the development process. Other hazards such as lightning and hail are relatively independent of small-scale geography and are not exacerbated by development. Climate change could increase the amount of energy in the air, resulting in more powerful summer storms and their related hazards. Climate change could increase the amount of energy in the air, resulting in more powerful summer storms and their related hazards.

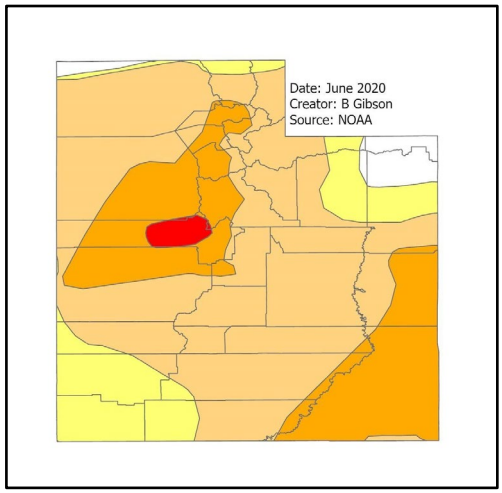
Profile

Frequency	Frequent. Multiple events happen each year.
Severity	Moderate
Location	Region wide with some locations more frequent due to geography.
Seasonal Pattern	All year depending upon the type of event.
Duration	Seconds to Days
Speed of Onset	Immediate
Probability of Future Occurrences	Extremely likely. All counties average multiple damaging severe weather events every year.

History

Due to the large number of incidents that have been recorded the history table was omitted from this section and a summary is in each County Profile.

Drought



Drought is a normal recurrent feature of climate, although many people in Utah erroneously consider it a rare and random event. It occurs in virtually all climatic zones, but has greater effects in semi-arid zones (such as Utah) where consistently lower levels of precipitation decrease the margin of tolerance for lengthy events. Droughts are slow-onset hazards, which result from long periods of below normal precipitation. Drought is a temporary aberration and differs from aridity since the latter is restricted to low rainfall regions and is a permanent feature of climate.

A common measure of drought is the Palmer Drought Severity Index (PDSI), which quantifies the existence of a drought through measures of soil moisture. A caveat of the PDSI is that it does not account for human access to water, such as reservoir levels. The PDSI may show no drought while human and agricultural sources are still recovering from multiple years of water storage depletion.

Palmer Drought Severity Index PDSI	Description	Possible Impacts
-1.0 to -1.9	Abnormally Dry	Short-term dryness slowing planting, growth of crops/pastures
-2.0 to -2.9	Moderate Drought	Some damage to crops/pastures Streams, reservoirs, or wells low Voluntary water-use restrictions requested
-3.0 to -3.9	Severe Drought	Crop/pasture losses likely Water shortages common Water restrictions imposed
-4.0 to -4.9	Extreme Drought	Major crop/pasture losses Widespread water shortages or restrictions
-5.0 or less	Exceptional Drought	Shortages of water in reservoirs, streams, and wells creating water emergencies Exceptional and Widespread crop/pasture losses

*Adapted from U.S. Drought Monitor

Profile

Frequency	Frequent
Severity	Severe primarily to agriculture
Location	Region wide
Seasonal Pattern	Summer
Duration*	Average: 11 years, longest in record: 44 years
Speed of Onset	Incremental with impact increasing.
Probability of Future Occurrences*	Moderate: 10% (PDSI -2.0 or lower) Severe: 4% (PDSI -3.0 or lower)
*Estimates according to NIDIS data based on tree-ring data from year 0 to 2017	

Assessing Vulnerability

Drought is a condition that affects every corner of the Mountainland Region. In the developed world, droughts no longer threaten the availability of drinking water and do not put lives at risk. The same cannot be said for one's livelihood. As most of the agriculture in the region is irrigated, low water levels can have the greatest effect on rural communities where farming is still prominent. As growth occurs, water will continue to be converted to non-agricultural uses and therefore increasing the remaining farmers' vulnerability to drought. Each of the three counties has rural communities that could be affected. Droughts also stress wildlife and heighten the risk of wildfire.

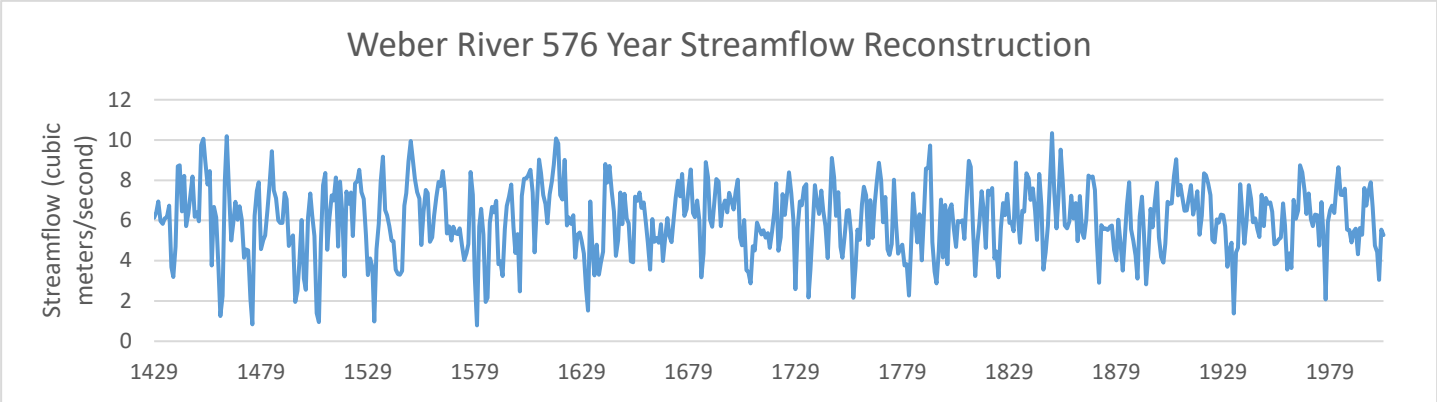
Development Trends

As the state and region continue to be among the fastest growing in the U.S., drought will become a more pronounced threat. Existing water development projects such as reservoirs have been able to minimize the effects of drought on people and agriculture to this point. Both future and current water users will need to develop more sustainable practices to ensure that droughts will continue to have only moderate effects on the region. Climate change will certainly have an effect on the region, but what that effect is remains to be seen. Current projections suggest that additional heat will result in a milder

winter with less snow and more rainfall in the spring. Since the region depends on snowmelt as a sort of "time release" source the lack thereof necessitates other methods of storing water in addition to greater efficiencies.

History

Tree ring data can also be used to extend the drought record far beyond the instrumental record. Correlating tree ring widths from hundreds of trees across the region provides a much broader sample of precipitation variability going back hundreds of years. In fact, tree ring data suggests that the instrumental record has actually been relatively drought-free compared to the entire record. For example, the following reconstruction of the Weber River (which correlates well with all three counties) shows the 20th century having the fewest severely dry years of the entire record. The National Integrated Drought Information System was used to calculate probability for MAG's counties.



Matthew F. Bekker, R. Justin DeRose, Brendan M. Buckley, Roger K. Kjelgren, and Nathan S. Gill. 2014. A 576-Year Weber River Streamflow Reconstruction from Tree Rings for Water Resource Risk Assessment in the Wasatch Front, Utah. Journal of the American Water Resources Association. Doi: 10.1111/jawr.12191 https://www.ncdc.noaa.gov/paleo/study/16416. Accessed 11 July 2016

Mitigation

Installing secondary meters saves water. Data shows significant savings of 20-30%. Over the last few years, legislation has been passed to require meters on new secondary connections, and $2 million annually has been appropriated in matching grant funds to offset the cost of installation in first- and second-class counties.

Potential Mitigation Strategies

The following mitigation strategies are provided so that communities may be aware of measures that could be used to limit the exposure to drought related damage.

Objective	Strategies
Local Planning and Regulations	
Monitor Water Supply	• Regularly check for leaks to minimize water supply losses
Plan for Drought	• Develop agreements for secondary water sources
Require Water Conservation During Drought Conditions	• Develop an ordinance to restrict public water use for non-essential items
	• Adopt ordinances to prioritize water use, especially for emergencies
Identify Secondary Effects of Drought	• Identify potential for wildfire due to drought
Prevent Overgrazing	• Establish grazing policy or permitting to prevent overgrazing
Structure and Infrastructure Projects	
Retrofit Water Supply Systems	• Upgrade water delivery systems to eliminate breaks and leaks
Natural Systems Protection	
Enhance Landscaping and Design Measures	• Incorporate drought tolerant or xeriscape practices into landscape ordinances
	• Use permeable surfaces to reduce runoff and promote groundwater recharge
Protect Water Sources	• Legislate to protect stream flows and aquifers
Education and Awareness	
Educate Residents on Water Saving Techniques	• Install low-flow showerheads and toilets
	• Encourage installation of graywater systems in homes for water reuse
Educate Farmers on Soil and Water Conservation Practices	• Rotate crops by growing on the same fields every season to reduce soil erosion
	• Use zero and reduced tillage to minimize soil disturbance
Purchase Crop Insurance	• Encourage agricultural interests to purchase insurance to cover drought loss

*Adapted from FEMA's "Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (2013)

Pests

Utah, "The Beehive State", has an agricultural industry valued at over a billion dollars. Insects such as the honeybee are generally a vital and positive part of the ecological system that makes agriculture possible. However, there are instances when an insect population much larger than average (such as Grasshopper/Cricket Infestations) or insects from outside the region (such as the invasive Emerald Ash Borer) destabilize the ecosystems where they occur. The Utah Department of Agriculture and Food monitors numerous pests, conducts pest control, and educates the public on identification and mitigation. Other insects are vectors, or travelling hosts, for diseases that can be contracted by humans. Mosquitos and ticks are the most common carriers of disease.

Profile

Frequency	Frequent
Severity	Severe primarily to agriculture.
Location	Region Wide - especially agricultural areas and around lakes and reservoirs.
Seasonal Pattern	Spring and Summer
Duration	Days to Years
Speed of Onset	Incremental.
Probability of Future Occurrences	Very High – Crop/Forest damage due to infestations is reported every year. Vector borne illnesses are reported almost every year.

Development Trends

Regarding infestations of crop and range land, as land use shifts from agriculture to housing there will be less impact from infestations on the agricultural sector simply because there will be less agriculture. On the other hand, individual homeowners are less reliable when it comes to eliminating pests than large agricultural areas owned by informed persons that depend on pest removal for their livelihood. As development occurs there is more opportunity for weeds to take hold at the edges of disturbed land.

Numbers of invasive species may also increase as Utah markets increase participation in global markets.

Agricultural Pest Risks

Below is a short list of pests having high potential damage according to the Utah Department of Agriculture and Food (UDAF). For more information on pest control, behavior, statistics, and experts see UDAF's website at www.ag.utah.gov

Summary of Invasive and Native Pest Risks in the State of Utah

Asian Defoliators	Significant potential threat to Utah's forests and related industries
Emerald Ash Borer	Threaten to kill all ornamental and native ash trees in Utah
European Corn Borer	Potential to devastate Utah's $25 million corn harvest
Gypsy Moth	Potential to disrupt Utah's $2 million honey industry; health risks to humans and livestock
Honey Bee Pests and Diseases	Potential to destroy Utah's watersheds, coniferous forests, and residential landscapes
Japanese Beetle	Potential to damage Utah's $128 million nursery and floriculture industry, and $34 million fruit industry
Mormon Cricket & Grasshopper	Potential to significantly reduce Utah's $509 million small grain and field crop industry
Orchard Pests	Fruit industry pest, potential to devastate Utah's $34 million fruit industry
Red Imported Fire Ant	Economic damage caused in the US exceeds $5 billion and is a public health risk

*Adapted from Utah Department of Agriculture and Food's 2015 Insect Report

Mormon Crickets and Grasshoppers merit a special mention in terms of their history in Utah. This devastating insect plagued the early pioneers. Today, 150 years later, the Mormon cricket still economically devastates some parts of Utah.

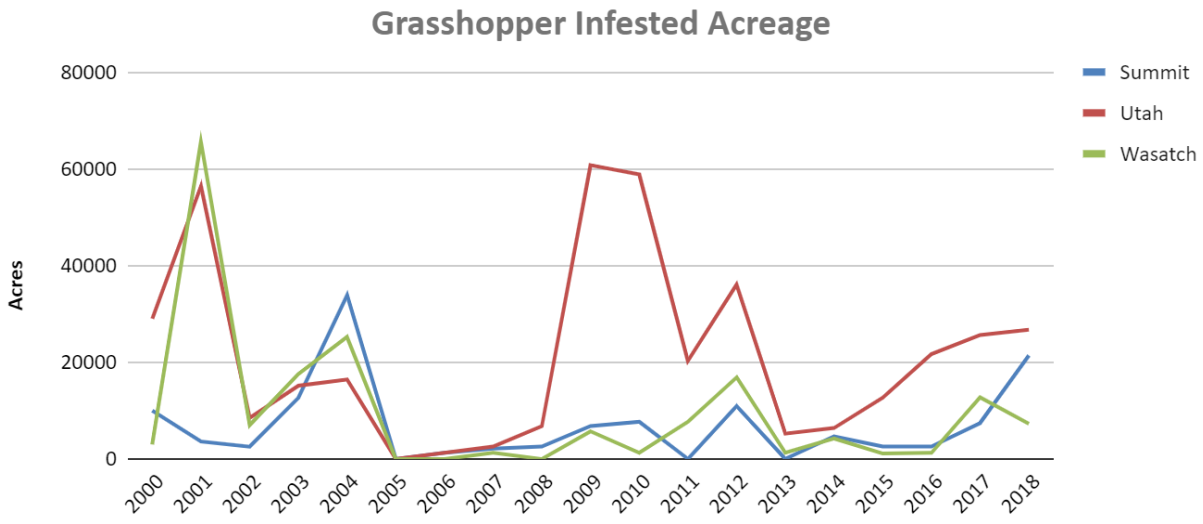


Figure 8. Utah Mormon Cricket and Grasshopper Report 2018, UDAF



In June of 2003, Utah Governor Mike Leavitt declared a State of Emergency in 18 of Utah's 29 counties, where crickets and grasshoppers had eaten 1.5 million acres. Problems associated with cricket infestations usually deal with crop loss as well as loss of rangeland for cattle and sheep. Consumption of residential landscaping is also a problem and more homes are built in western Utah County, which is in the path of crickets. The crickets usually travel from west to east, starting in Nevada. In some instances, the cricket mass is so large and dense that cars and trucks lose traction on roads. Vehicles sliding off of roads can cause property damage and personal injury.

Health Risks

Biting insects have long been carriers of disease. Mosquitos carrying malaria and ticks with Lyme's disease have plagued countries for centuries. Even though Utah's cold winters effectively kill large numbers of infected vectors, there are still occurrences of West Nile Virus and Rocky Mountain Spotted Fever from time to time. It is inevitable that other vector borne illnesses will develop or be introduced in the future.

West Nile Virus (WNV) is transmitted to humans through mosquito bites. Mosquitoes become infected when they feed on infected birds that have high levels of WNV in their blood. Infected mosquitoes can then transmit WNV when they feed on humans or other animals. WNV is not transmitted from person to person and there is no evidence that handling live or dead infected birds can infect a person. Most WNV infected humans have no symptoms. A small proportion develops mild symptoms and less than 1% of infected people develop more severe illness that includes meningitis (inflammation of one of the membranes covering the brain and spinal cord) or encephalitis. Of the few people that develop encephalitis, a small proportion die but, overall, this is estimated to occur in less than 1 out of 1000 infections. Fortunately, the incidence of WNV in human and animal populations has been very low in Summit, Utah, and Wasatch counties for the past several years.

West Nile Virus Positive Samples in Summit, Utah, & Wasatch Counties

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Human	0	0	1	0	0	0	1	7	1	0
Horse	0	0	0	0	0	0	0	7	0	0
Mosquito Pools	0	0	2	2	5	0	0	11	0	4

*Adapted from the Utah Department of Health West Nile Virus Reports

Rocky Mountain Spotted Fever (RMSF) is contracted by exposure to ticks infected with Rickettsia rickettsii. According to the CDC, there is a higher rate of exposure in the Southern Atlantic states and generally less than 20 cases per million persons occur in Utah. Individuals may experience a rash, fever, nausea, muscle pain, lack of appetite and conjunctival injection (red eyes). Antibiotics have proven to be an effective treatment when RMSF is identified early (especially in the first 5 days). RMSF has a mortality rate of 30% in untreated patients.

Mitigation

For diseases transmitted by mosquitoes and ticks, the best prevention is to use insect repellents with DEET or Permethrin and cover exposed skin. Those going into wooded areas should try to find and remove ticks as soon as possible, both on the body and on clothes, gear, and pets. Standing water serving as breeding grounds for mosquitos should be eliminated or water changed regularly. Early identification and treatment are always important when infection is possible.

Mitigation strategies for pests range from poisoned bait and tilling to expose buried eggs to aerial spraying. The most effective method depends on each species' behaviors and physiology, but certain methods like aerial insecticides can have adverse effects on non-target species such as bees. Local Extension Offices of the Utah Department of Agriculture and Food provide species specific strategies.

Radon Gas

According to the EPA, Radon is a colorless, odorless gas emitted in the natural breakdown of uranium in soil, rock, and water. It is the second leading cause of lung cancer behind smoking, responsible for about 21,000 lung cancer deaths yearly. Radon gas has been detected in every state in the U.S., with 30% of homes tested in Utah exceeding the EPA recommended action level of 4 pCi/L (picoCuries of radon per liter of air). The following table from the EPA's Health Risks of Radon compares the risk of dying from radon exposure to other events.

Radon Risk If You Have Never Smoked

Radon Level	If 1,000 people who never smoked were exposed to this level over a lifetime*…	The risk of cancer from radon exposure compares to**…	WHAT TO DO:
20 pCi/L	About 36 people could get lung cancer	35 times the risk of drowning	Fix your home
10 pCi/L	About 18 people could get lung cancer	20 times the risk of dying in a home fire	Fix your home

8 pCi/L	About 15 people could get lung cancer	4 times the risk of dying in a fall	Fix your home
4 pCi/L	About 7 people could get lung cancer	The risk of dying in a car crash	Fix your home
2 pCi/L	About 4 people could get lung cancer	The risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3 pCi/L	About 2 people could get lung cancer	(Average indoor radon level)	(Reducing radon levels below 2 pCi/L is difficult.)
0.4 pCi/L		(Average outdoor radon level)	

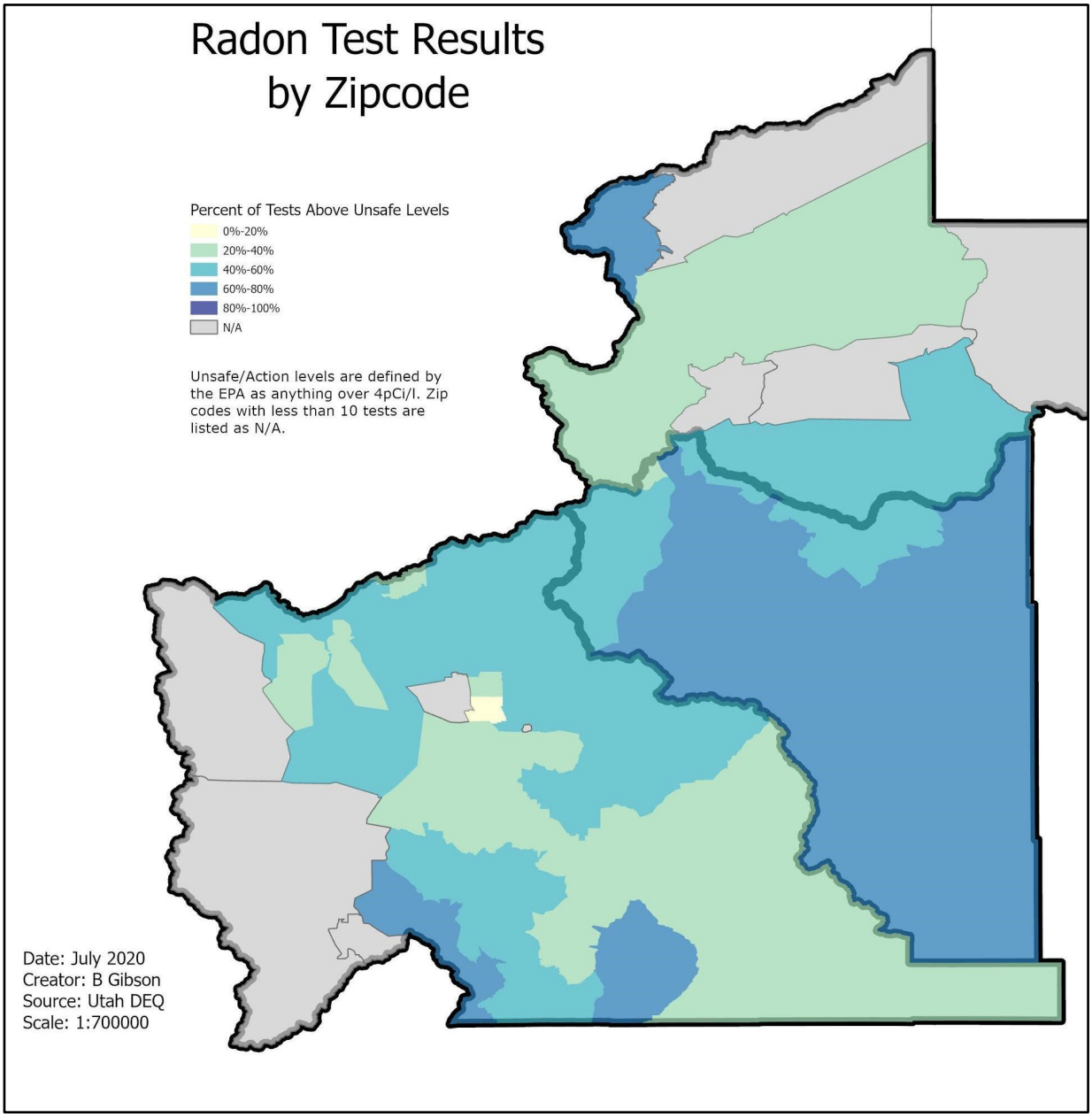
Note: If you are a former smoker, your risk may be higher.
* Lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003).
** Comparison data calculated using the Centers for Disease Control and Prevention's 1999-2001 National Center for Injury Prevention and Control Reports.

Profile

Frequency	Permanent
Severity	Moderate to human health
Location	Region Wide
Seasonal Pattern	Ongoing, but more problematic in the winter
Duration	Ongoing
Speed of Onset	Permanent
Probability of Future Occurrences	Certain

Assessing Vulnerability

The level of Radon Gas in a home is as much a factor of home construction as it is geographic location. Radon travels from the soil into a home with lower pressure through openings in the foundation, be they cracks or the gaps around pipes. This occurs in old and new homes, though newer homes with moisture-control generally have fewer crevices in the foundation or basement walls. According to a survey in 2011 of 497 individuals, though 58% had heard of Radon Gas, only 12.5% had their homes tested. There are public education efforts underway to remedy the problem.



Development Trends

As more homes are built, more people could be exposed to Radon Gas. There is some lobbying in Utah Congress for more funds to be allocated to awareness campaigns and for higher construction standards.

Potential Mitigation Strategies

There are several mitigation strategies for reducing Radon Gas levels within a building.

Objective	Strategies
Local Planning and Regulations	
Require Developers to Offer Radon Reductions Systems to Homebuyers	• Choose developers who offer Radon-reducing construction • Require developers to discuss Radon mitigation options with buyers
Require Radon Tests in State-Owned Buildings	• Regularly test schools and other public facilities • Install mitigation measures when necessary
Structure and Infrastructure Projects	
Install Soil Suction Systems	• Use suction to remove radon from beneath the foundation to outdoor air
Fortify Foundations	• Seal cracks and openings in any wall or floor below grade
Ventilate home	• Open doors and windows to temporarily lower levels of Radon
Education and Awareness	
Encourage Home Testing	• Provide low-cost Radon test kits
Educate Public on Radon Risks	• Provide and distribute the EPA's "A Citizen's Guide to Radon"

Part 5 Summit County Profiles and Mitigation

Background

Area: 1,849 square miles

County seat: Coalville

Origin of county name: the county includes high mountain summits that form the divides of the Weber, Bear, and Green River drainage areas

Points of interest: Park City area ski resorts, Park City Historic District, Rockport State Park, Echo Reservoir, High Uintas Wilderness , Outlet Malls, Utah Olympic Park, Jordanelle State Park, Uinta-Wasatch-Cache National Forest, Utah Film Studios, City & County Fairgrounds

Economy: Educational services, accommodation & food services, professional, scientific, & technical fields tourism, year-round outdoor recreation, special events, farming, real estate, livestock.

History: Summit County was created in 1854 from Green River and Great Salt Lake counties. The Uinta Mountains dominate the eastern portion of the county, and the western section is a high back valley of the Wasatch Mountains.

The first settlers in to the area were fur trappers and traders in the 1820s and 1830s. Until the arrival of the Mormons in 1847, Summit County was hunting grounds for Northern Shoshone Indians. In 1846 Lansford W. Hastings, a California promoter, announced a new cutoff on the California Trail that would eliminate several hundred miles and many days of travel. The cutoff turned southwest from Fort Bridger, Wyoming, and entered Utah and the northeastern corner of Summit County through Echo Canyon. It followed the Weber River to Salt Lake Valley, went around the south shore of the Great Salt Lake, and then west into Nevada. The first group to take this new cutoff was the Donner-Reed party in 1846. Blazing a road through the Wasatch Mountains cost them many days, and when they reached the Sierra they ran into early snow, with well-known tragic results. Many lost their lives. A year later, the pioneering Mormons adopted part of the Hastings Cutoff, but when they reached the Weber River, they turned southwest to Emigration Canyon. This became the main trail for the immigration of the Mormons to Utah. In 1869 the Union Pacific Railroad, builder of the eastern portion of the transcontinental railroad, followed the Hastings Cutoff, and

today part of Interstate 80 follows the Hastings and Mormon trails and the Union Pacific route through northern Summit County.

The first settlers in Summit County arrived at Parley's Park in 1850. Wanship was settled in 1854, followed by Coalville, Hoytsville, and Henefer in 1859. When coal was discovered near Coalville, the Mormons established a mission there. During the 1860s, wagons hauled tons of coal from Coalville to the Salt Lake Valley settlements. In 1873 the Utah Eastern Railroad built a line from Echo Junction to Coalville to haul coal. This line eventually became part of the Union Pacific Railroad.

The discovery of silver, lead, and zinc in the Wasatch Mountains in the 1870s soon overshadowed the settlement and economic activities of the rest of the county. Park City, a mining town founded in 1872, continued to expand into the twentieth century. Many individuals made fortunes from the Park City mines. Mansions on South Temple in Salt Lake City reflect some of this wealth. Mining continued until the 1950s, at which time it no longer was profitable. For several decades Park City was on the verge of becoming a ghost town, but the area's rugged terrain and deep snow led to its rebirth as a winter sports center. Currently, skiing is a major economic activity in western Summit County, while the rest of the county is still noted for its farming and ranching. Other recreational opportunities including boating, fishing, and tourism, add to the county's diversified economy.

(Source: Utah Historical Encyclopedia, Craig Fuller, author)

Population

The following table shows current and projected population data:

Mountainland AOG Small Area Population and Employment Projections

	Population				*Employment			
	2020	2030	2040	2050	2020	2030	2040	2050
Summit County	42,829	50,558	57,983	63,097	39,605	46,410	52,538	58,535
Coalville	1,593	1,750	1,925	2,150	598	680	770	909
Francis	1,614	2,100	2,700	3,400	185	249	330	439
Henefer	1,060	1,200	1,325	1,425	117	137	156	177
Kamas	2,274	2,800	3,400	4,200	974	1,241	1,551	2,026
Oakley	1,834	2,150	2,500	2,900	354	429	514	630
Park City	8,517	8,758	8,893	8,961	21,441	23,696	25,255	27,158
Summit County	25,936	31,800	37,239	40,061	15,937	19,978	23,962	27,195

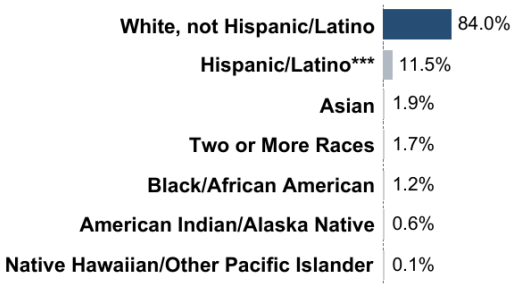
Select Area Summit County

Demographics Summit County

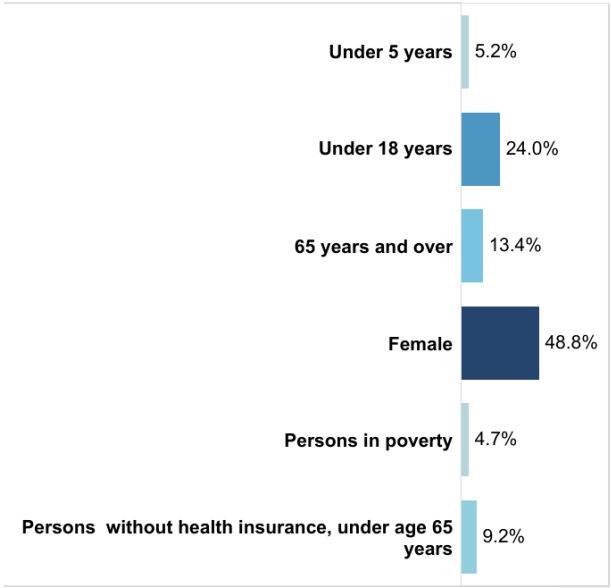
Roughly one-quarter of Summit County residents are children under the age of 18, while 12% of the population is over the age of 65. The average travel time to work is 25 minutes with many commuting to Salt Lake County for jobs.



2019 Race and Ethnicity



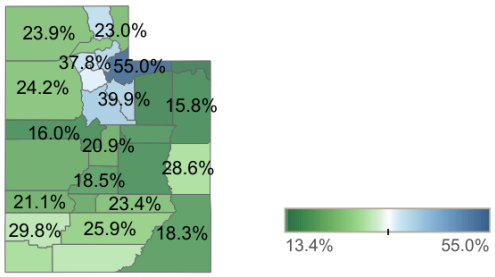
Population Shares, 2015-2019



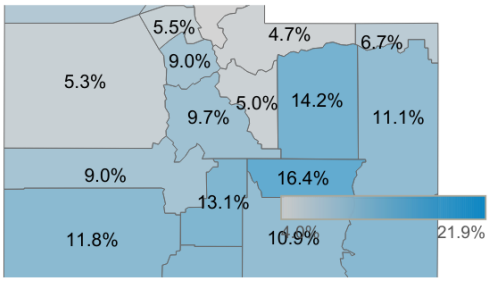
Other Facts

Households, 2015-2019	14,220
Housing units, July 1, 2019	28,656
Median value of owner-occupied housing units, 2015-2019	641,900
Persons per household, 2015-2019	3
Mean travel time to work (minutes), workers age 16 years+, 2015-2019	25
Veterans, 2015-2019	1,386
Veteran-owned firms, 2012	335
Women-owned firms, 2012	1,936

Bachelor's Degree or Higher, 2015-2019*



Persons Below Poverty, 2019



Updated 7/13/2021 8:10:38 PM

* Population 25 years and older. ** Population 5 years and older. *** Hispanics/Latinos may be of any race; also included in applicable race category. ****Civilian Population 16 years and older.

Source: U.S. Census Bureau. For more information: http://www.census.gov

Economy

Prominent industries within Summit County, Utah are educational services, accommodation & food services, recreation and professional, scientific, & technical fields. In 2022, the median property list price in Summit County, UT was $1.6 million, while the median per capita income is $57,308. Summit County is seeing a boom in residential and commercial development while tourism in the area continues to grow. They built and maintain numerous venues during the 2002 Winter Olympics which remain active and have plans to develop additional venues as an active bidder for future Olympics. Tourism, special events and the transport of goods via Summit County transportation corridors have a significant impact on the economy of the entire state of Utah.

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Hazards Compared

Hazard Matrix

Probability	Negligible	Limited	Critical	Catastrophic
Highly Likely		Winter Weather, High Wind	Drought	Wildfire
Likely		Lightning, Hail, Avalanche		
Possible		Landslide, Flood		Earthquake
Unlikely				Dam Failure
Potential Severity				

Probability and Losses based on previous events

Hazard	Years in Record	Yearly Probability	Deaths Annualized	Injuries Annualized	$ Losses Annualized	Source
Avalanche Fatalities	23	204%	2.16	1	$2,800	NOAA
Drought, Moderate	2018	9%	0	0	NA	National Integrated Drought Information System, USDA
Earthquake		1%	NA	NA	$1,500,000	HAZUS Salt Lake City 7.0 Magnitude Scenario
Floods	23	39%			$224,000	NOAA, HAZUS 2019 State Hazard Mitigation Plan
Hail	60	17%	0	0	$0	NOAA
Landslides/ Debris Flow	56	4%	0	0	$411,000	SHELDUS
Lightning	25	16%	0.16	0.35	$0	NOAA
Wildfires	6	250%			$734,000	Utah Division of Forestry Fire and State Lands and BLM with cost of fighting fire
Wind	60	50%	0	0.1	$7,400	NOAA (High Wind, Strong Wind and Thunderstorm Wind)
Winter Weather	19	242%	0.48	2.64	$64,224	NOAA (Blizzards/Heavy Snow/Winter Storm/Winter Weather)
Tornadoes	71	0%				NOAA
Volcanoes	5,000,000	0%	0	0	$0	

*Probability: Number of Events/Years in Record

Potential Magnitude
Catastrophic: More than 50% of community affected
Critical: 25 to 50%
Limited: 10 to 25%
Negligible: Less than 10%

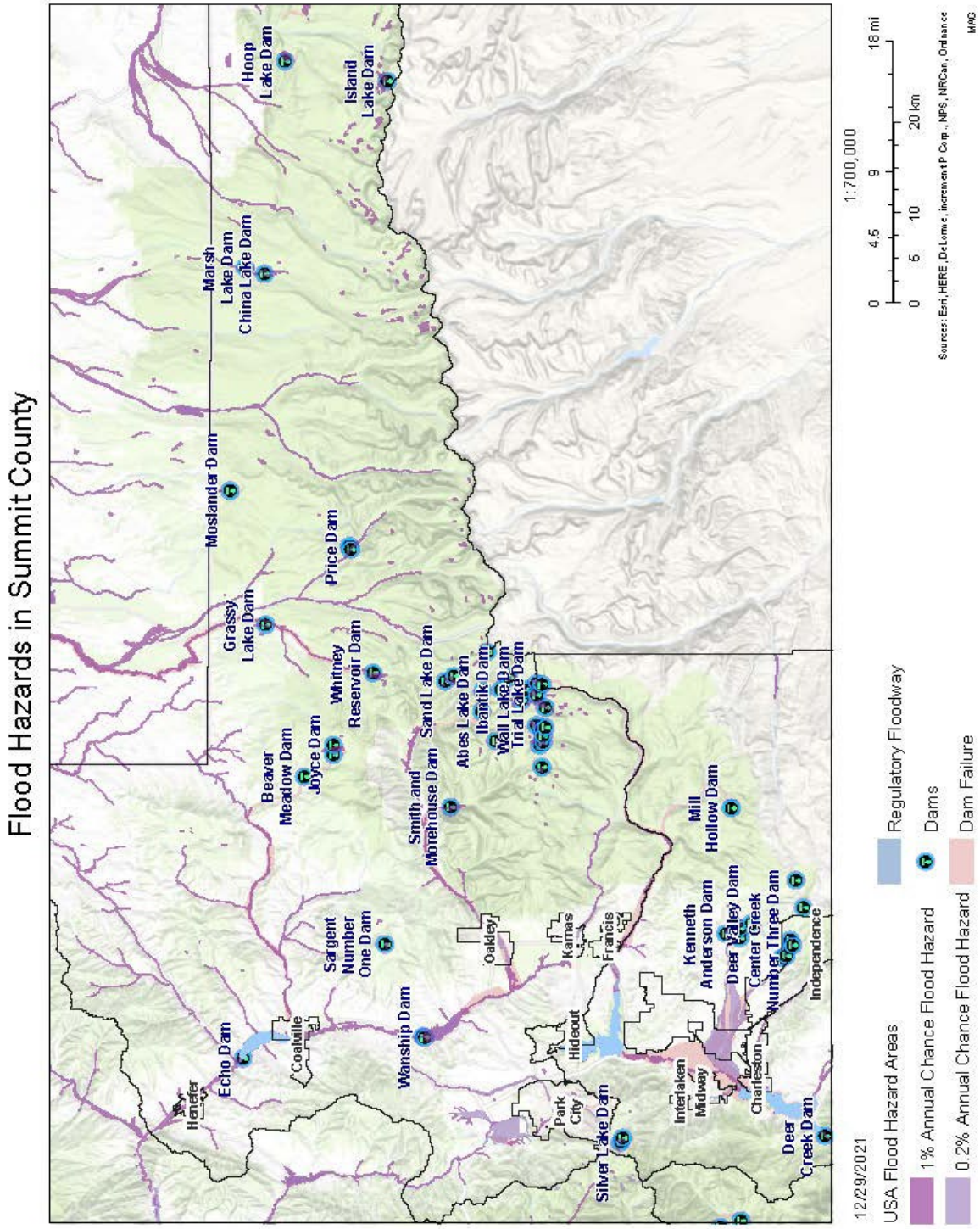
Probability Calculated using # of event/years in record
Highly likely: Near 100% probability in next year
Likely: 10 -100% probability in next year, or at least one chance in next 10 years.

Possible: 1-10% probability in next year, or at least one chance in next 100 years.
Unlikely: Less than 1% probability in next 100 years

Standards we modified to fit our region
Severity per incident
Catastrophic: Many lives, a great deal of property
Critical: Multiple lives lost and/or multiple properties affected
Limited: Some property loss, less than 3 lives lost
Negligible: Some property, no life lost

Frequency of incidents
Often: Incident occurs frequently
Regularly: with a constant or definite pattern
Occasionally: at infrequent or irregular intervals; now and then
Rarely: not often; seldom
Never: no documented incidents in the past; on no occasion;

Flooding


Flood Hazards in Summit County
Hoop Lake Dam
Island Lake Dam
Marsh Lake Dam
China Lake Dam
Moslander Dam
Price Dam
Grassy Lake Dam
Whitney Reservoir Dam
Beaver Meadow Dam
Joyce Dam
Sand Lake Dam
Abes Lake Dam
Ibantik Dam
Wall Lake Dam
Trial Lake Dam
Smith and Morehouse Dam
Mill Hollow Dam
Sargent Number One Dam
Oakley
Kamas
Francis
Kenneth Anderson Dam
Deer Valley Dam
Center Creek
Number Three Dam
Independence
Wanship Dam
Hideout
Echo Dam
Coalville
Hoyt Hanefer
Park City
Interlaken
Midway
Charleston
Silver Lake Dam
Deer Creek Dam
1:700,000
0 4.5 9 18 mi
0 5 10 20 km
Sources: Esri, HERE, DeLorme, increment P Corp., NPS, NRCan, Ordnance
MAG
12/29/2021
USA Flood Hazard Areas
1% Annual Chance Flood Hazard
0.2% Annual Chance Flood Hazard
Regulatory Floodway
Dams
Dam Failure

Overview

Although Utah is considered a dry desert state, flooding does occur. Most floods have occurred either from snow melt or severe thunderstorms. Often, flooding is increased by soils that are more impervious due to either wildfire or drying out. Minor floods occur on a regular basis in Summit County. Some of the communities within the county are built around or near a stream or river such as the Provo or Weber. Each of these communities share a similar susceptibility to flooding.

Profile

Frequency	Regularly - Minor flooding happens within Summit County on a fairly regular basis.
Severity	Limited
Location	Primarily along streams, rivers and bodies of water.
Seasonal Pattern	Spring time due to snow melt. Isolated events throughout the year due to severe weather (microburst).
Duration	A few hours to a few weeks depending upon conditions
Speed of Onset	Sudden to 12 hours
Probability of Significant Future Occurrences	Possible - for delineated floodplains there is a 1% chance of flooding in any given year.

Development Trends

As development occurs on the mountainous terrain and along the shores of reservoirs, or along river and stream corridors, more homes will be in danger of floods.

The following table identifies the communities in Summit County with their NFIP Status.

Jurisdiction	Floodplain	Current Effective Map Date	Floodplain Admin
Coalville	Participating in NFIP. Coalville has ordinances for Flood Damage and Prevention, Provisions for Flood Hazard	March 2021	Paul Taylor, City Engineer

	Reduction in pertaining to water infrastructure, as well as a Sensitive Lands Ordinance prohibiting building within 100' of a floodplain.		
Francis	Participating in the NFIP, adopted and incorporated most recent FIRMs	March 2021	Katie Henneuse, City Planner
Kamas	Adopted March 2021 FIRMs, more homes now in the mapped floodplain. Has a Flood Damage and Prevention Ordinance.	March 2021	Amanda Huffmyer, City Planner
Oakley	Participating in NFIP. Chapter 8 of city code deals addresses Flood Control.	March 2021	Planner Stephanie Woolstenhulme
Park City	Participating in the NFIP, has Flood Damage Prevention and Sensitive Lands ordinances.	March 2021	Engineer John Robertson
Summit County	Participating in NFIP	March 2021	Engineer Michael Kendell

Assessing Vulnerability: Addressing Repetitive Loss Properties

There are no repetitive loss properties in Summit County (FEMA, 2021).

History

Flooding

Location/Extent	Date	Fatalities	Damages	Source
Summit	7/29/1969	0	$1,250	SHELDUS
Summit County	4/30/1983	0	$4,761,905	FEMA Disaster Declaration
Summit County	6/7/1986	0	$50,000	SHELDUS
Summit and Wasatch Counties: Heavy rains combined with snowmelt to bring the Emigration Creek above its banks and flood 5 homes along the bank. Damage amounts estimates from newspaper clippings.	4/15/2006	0	$50,000	NOAA
Peoa: Abnormally warm temperatures in early June, combined with a deep late season snowpack, led to excessive snowmelt across northern Utah. This	6/6/2010	0	$5,000,000	NOAA

caused flooding on both Little Cottonwood Creek and the Weber River near Oakley.				
Peoa	6/24/2011	0	$20,000	NOAA
Coalville Much of the precipitation remained as rain in Coalville, and two straight days of rain proved to be too much for one of the open culverts in the town. When that drainage system failed to handle the volume of water, four homes were flooded along 150 South in Coalville, with two of those homes experiencing extensive flooding. One of the significantly damaged homes was flooded with a couple feet of water, and the other had 6 inches of water.	2/9/2014	0	$40,000	NOAA

Summit County has received a total of $85,392.68 in FEMA Flood claims since 1978

Summit County and its cities in the NFIP program have 0 repetitive loss facilities

Dams

Summit County has 7 dams of import ranging from earthen to concrete construction. Each has an Emergency Action Plan in place. No movement or failures have been recorded.

Name	Miles to 1st Downstream Town	First Downstream Town
Boyer Lake	12	Coalville
Fish Lake	21	Oakley
Smith and Morehouse	14	Oakley
Whitney	38	Evanston
Trial Lake	21	Samak
Rockport	3	Peoa
Jordanelle	4	Heber

Mitigation

Strategies include:

Incorporate flood mitigation into local planning by developing a floodplain management plan, mitigating hazards during planning, establishing a "green infrastructure" program to link greenways, and obtaining easements for water retention and drainage.

Continue to support partnerships to support floodplain management such as the regional watershed council, and citizen committees to discuss issues and recommend projects.

Conduct planning, training, and exercises with Fire Districts, the HazMat Response Team and the Public Works Department. Emergency Support Function Standard Operating Procedures should be continually reviewed, trained and exercised based on the municipality Comprehensive Emergency Management Plan.

Limit or restrict development in floodplain areas by providing incentives to develop elsewhere, protecting buffers around water resources, limiting impervious surfaced within developed parcels, or prohibiting development in the floodplain.

Enforce building codes and development standards such as the International Building Code and increasing "freeboard" requirements aka the number feet above base flood elevation that new building must have.

Improve stormwater management planning by completing stormwater drainage studies and master plans which are regularly reviewed and updated. Regulated development in upland areas to reduce runoff and encouraging low impact development techniques.

Adopt policies to reduce issues related to flooding caused by runoff such as more trees, on-site retention for stormwater and firefighting, and encouraging porous pavement and vegetation in parking areas.

Use natural systems such as preserving wetlands and riverbanks, restoring vegetation, acquire open space in targeted areas, and offer density bonuses to developers for leaving flood-prone areas vacant.

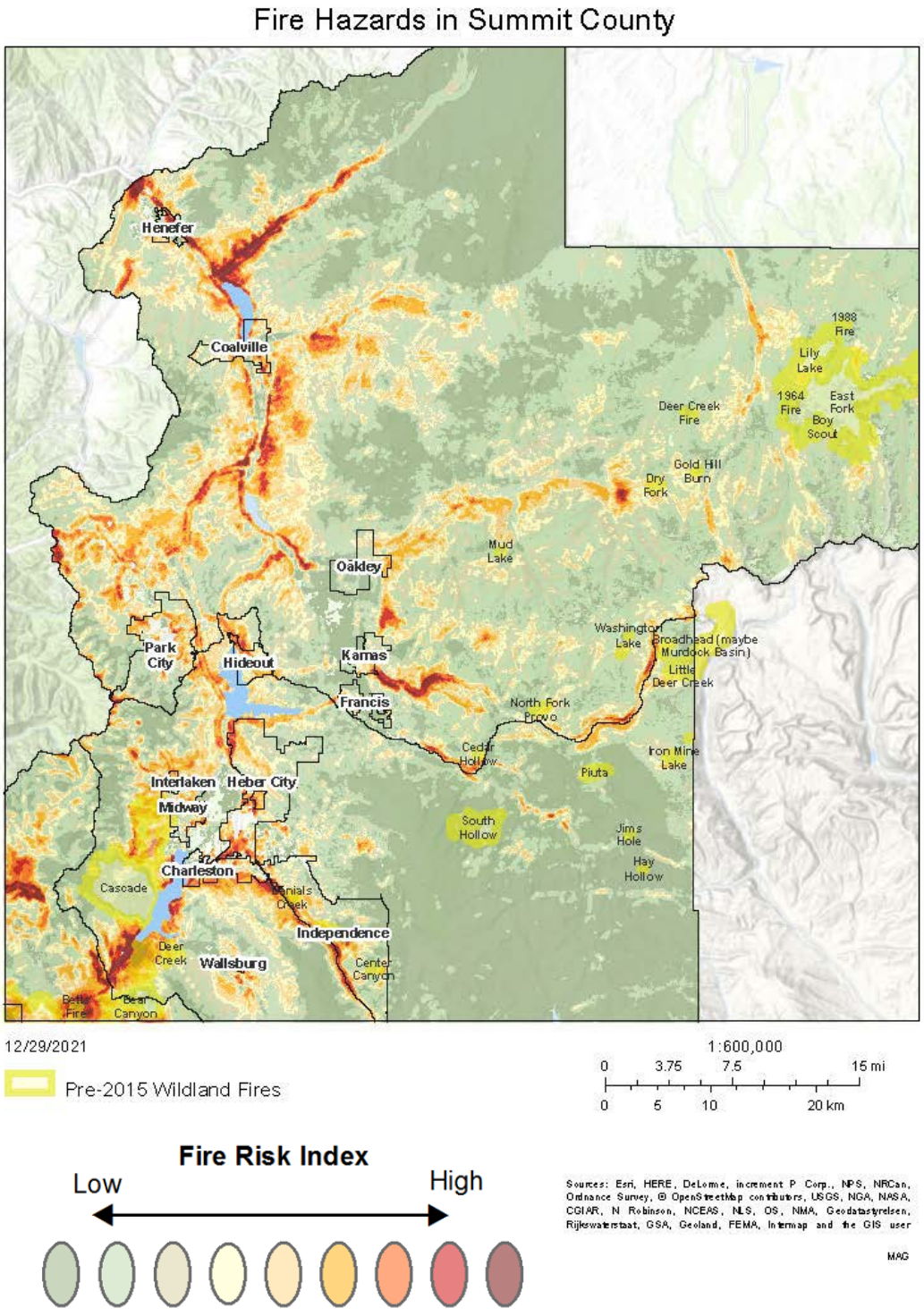
Protect and enhance infrastructure and critical facilities by floodproofing water treatment facilities, stabilizing shoulders and embankments, installing backup generators, expanding culverts, and require new critical facilities be built outside the floodplain. Frequently check all critical drainage channels and debris basins, clearing inlets and outlets on primary culverts and cleaning debris basins. Specifically, regularly clearing Silver (aka Poison) & McLeod Creeks will minimize the possibility of flooding caused by runoff. The management of stream flows and continual improvement of flood control mechanisms/channels should be supported regionally.

Build response capability by maintaining a minimum of 1,000 sandbags with additional 3,000 bags available for filling. Coordinate, plan and exercise with the Public Works Department.

Train and Exercise alongside critical infrastructure in the area including water, power and natural gas to ensure coordinated response efforts and minimize response time to protect assets.

Maintain and expand emergency mass notification system capabilities and encourage community participation, enrollment and regular tests of the system.

Wildland Fire



Overview

Fire is a natural part of every ecosystem, but decades of wildland fire suppression during a historically cooler time period resulted in a buildup of fuels (vegetation) and development in wildfire-prone areas. With the 2010's megadrought, increased outdoor recreation, development pressure particularly along the Wasatch back (Wasatch and Summit counties), and climate change, the likelihood of damaging fire is increasing.

Though we have more assets in high-risk areas, the technology for early warning and fire-hardened homes has also advanced. This combined with better planning and enforcement can improve protection of assets already in place.

Wildfire is the most frequently occurring natural hazard within the Summit County area. It can also pose the most imminent danger to current and future residents. . Every community within Summit County is located within the Wildland Urban Interface and must consider all the risks associated with this hazard.

Development Trends

As development occurs on the bench areas of Summit County more homes will be in danger of wildfire. Communities, developers and homeowners need to be aware of the danger. Summit County encourages every community within the county to become a Firewise Community with all the home hardening, construction and maintenance that program recommends. Significant county support is extended to every community interested in this program.

Profile

Frequency	Often - Multiple wildland fires occur in Summit County eachyear.
Severity	Catastrophic – If a wildfire were to occur within one of the many communities located in the Wildland Urban Interface of Summit County, the damage to homes and loss of life, in addition to long lasting economic impacts, could be catastrophic.
Location	Hillsides and mountainous areas including highly populated residential areas.
Seasonal Pattern	Year-round risk is now anticipated in Summit County based on moisture levels.

Duration	A few hours to a few weeks depending upon conditions
Speed of Onset	1 to 48 hours
Probability of Significant Future Occurrences	Highly Likely

History

Following are a few of the most significant since 2016. More than half of fires are human caused and even relatively small fires, if near critical facilities, can be quite costly. Fortunately, no lives have been lost and few structures destroyed in the past decade.

Incident Name	Start Date	Total Spent Fighting Fire	Acres	Fire Cause	Specific Cause
Slate	August 24, 2018	$1,099,629	666	Natural	Lightning
Monvisto	June 21, 2018	$1,015,773	64	Human	Uncontrolled/ Unattended
Box Canyon	July 28, 2016	$796,704	1,200	Human	null
Tervels	September 3, 2018	$583,872	586	Human	Arson
State Line	August 20, 2019	$250,150	14	Unknown	Other Small Equipment
Fire Canyon	October 17, 2020	$208,701	1,671	Human	Other
Tollgate Canyon	July 30, 2018	$207,036	286	Human	Other Small Equipment
Echo Road Shed	August 28, 2016	$111,487	309	Undetermined	Fire Arms Use
Echo 80	August 29, 2019	$69,261	46	Unknown	Lightning
Fire Canyon	June 14, 2018	$23,780	83	Natural	Lightning

Communities At Risk

The following list consists of communities throughout Summit and Wasatch Counties that have been determined by the Utah Department of Natural Resources

to be at risk from wildland fire. The "Overall Score" represents the sum of multiple risk factors analyzed for each community. Examples of some risk factors are fire occurrence, fuels hazards, values at risk and protection capabilities. The Overall Score can range from 0 (No risk) to 12 (Extreme risk). In 2019, Summit County created a County-wide Community Wildfire Preparedness Plan. Bolded communities have also created an individual CWPP for their community.

Community Name	Overall Score	Community Name	Overall Score
Bear River Lodge Christmas Meadow	11	River Song Ranch	9
Big Canyon Ranch	11	Silver Springs	9
Jeromy Ranches/Red Hawk	11	**Stage Coach**	9
Kamas East	11	Stillman Ranch	9
Manorlands/Unitalands	11	**Summit Park**	9
Pine Meadows/Forest Meadows	11	Upton	9
Pine Mountain	11	Weber Wild	9
Promontory	11	**Alpine Acres**	8
The Pines	11	Black Hawk	8
Two Bear	11	Freeman Ranch	8
1000 Peaks Ranch	10	Grass Creek	8
Aerie	10	Mountain Valley Ranches	8
Bridge Hollow	10	**Park City**	8
Deer Valley	10	**Silver Creek**	8
Garff Ranches	10	Sun Peak	8
Gorgoza Park	10	The Canyons	8
Hidden Cove	10	Weber Meadowview	8
Hidden Lake	10	Wild Willow	8
Holiday Park	10	Woodland	8
Maple Ridge Ranches	10	**Beaver Springs**	7
Marion Ranches	10	**Canyon Rim**	7
Mill Hollow Scout Camp	10	Deer Mountain	7
North Bench Farms	10	Glenndale	7
Rockport Ranches	10	Highland Estates	7
Samak	10	Aspen Mountain	6
Silver Summit	10	**Francis**	6
Solamere	10	**Henefer**	6
South Fork	10	**Hoytsville**	6

South Ridge	10	**Kamas**	6
Bear Hollow	**9**	**Oakley**	6
Cherry Canyon Ranches	9	**Wanship**	6
Colonies at White Pine	9	**Coalville**	5
Echo Creek Ranches	9	**Marion**	5
Little Dipper	9	**Peoa**	5
Meadow Haven	9	**Snyderville**	5
Monvisto	9		
Pinebrook	9		
Pineway	9		
Ranch Place	9		
*Bolded Communities have a Community Wildfire Protection Plan (CWPP) Developed with FFSL.			

Mitigation

Prioritize and conduct defensible space work on publicly owned properties encouraging stakeholder coordination on fuels reduction projects.

Continue to enforce and strengthen Wildland Urban Interface codes to reduce risks to homes and businesses in the community.

Annually review and update community Firewise certifications.

Maintain Cooperative Agreements with Forestry, Fire & State Lands, Department of Natural Resources, Bureau of Land Management and other response stakeholders.

Conduct and expand community outreach and education including home hardening, emergency water supplies, and defensible perimeters.

Enact open flames and fireworks bans under dangerous fire conditions.

Train and Exercise alongside critical infrastructure in the area including water, power and natural gas to ensure coordinated response efforts and minimize response time to protect assets.

Conduct evacuation planning, training and exercises which involve response partners, community members and state and federal partners.

Increase wildfire response capabilities including proper facilities, equipment, training and gear for response agencies throughout the region.

Continue to develop mass care and sheltering capabilities for the residents within the region which includes the ability to house, feed, and provide basic necessities. These facilities should ideally be able to store logistical supplies, provide an information center and gathering space for the community regarding the response, obtain needed medical and mental health support and provide recovery information and support resources.

Build the capability to provide mass care and sheltering for area tourists and travelers within the region without personal resources to support themselves. This should include the ability to house, feed, and provide basic necessities. These facilities should ideally be able to store logistical supplies, provide an information center and gathering space for the community regarding the response, obtain needed medical and mental health support and provide recovery information and support resources.

Establish an adequate location for outside Task Forces and Response Teams to setup facilities, maintain their equipment and house logistical supplies. It should provide the capability for air assets to land and provide support. Additionally, it should have the capability to decontaminate responders dealing with HazMat response throughout the area and it should consider K-9 Team needs and housing.

Build and maintain a centrally located physical Emergency Operation Center and Joint Information Center which has the capability to provide space for State EOC representatives, Elected Officials, Media and coordinating response agencies. This space should have the capability to provide space to address the physical and mental health of the responders providing support.

Maintain and expand emergency mass notification system capabilities and encourage community participation, enrollment and regular tests of the system.

Landslide

Overview

Landslides are common natural hazards in Utah that often occur when the pull of gravity becomes greater than the cohesion of soil. Land movement can occur without warning and can result in destructive, costly outcomes. Various types of landslides in Utah are debris flows, slides, and rockfalls.

Steep slopes, mountainous terrain, rock types, and narrow, debris-choked canyons all contribute to our region's susceptibility to landslide hazards. Wildfire can remove stabilizing vegetation and increase landslide risk..

Development Trends

Park City, the economic center of Summit County, boasts the largest ski areas in the United States with five-star lodges and numerous condos tucked into the hillside. The popularity of the area within Summit County has led to dramatically increased development.

Profile

Frequency	Occasionally - Minimal Movement could possibly occur based on terrain, but has not been experienced in recent years.
Severity	Limited;
Location	Along mountains and hillsides.
Seasonal Pattern	Spring when ground saturation is at its peak.
Duration	Minutes to years.
Speed of Onset	Seconds to days.
Probability of Significant Future Occurrences	Possible – Due to mountainous terrain within the county, however no recent major events have occurred.

History

Location	Date	Damages	Source

Summit County	1/1/1983	$8,603,666.52	SHELDUS database
Summit County	1/1/1984	$1,471,256.97	SHELDUS database

Note that only events of great magnitude are recorded in National databases.

Mitigation Strategies

The management of stream flows and continual improvement of flood control mechanisms/channels should be supported regionally.

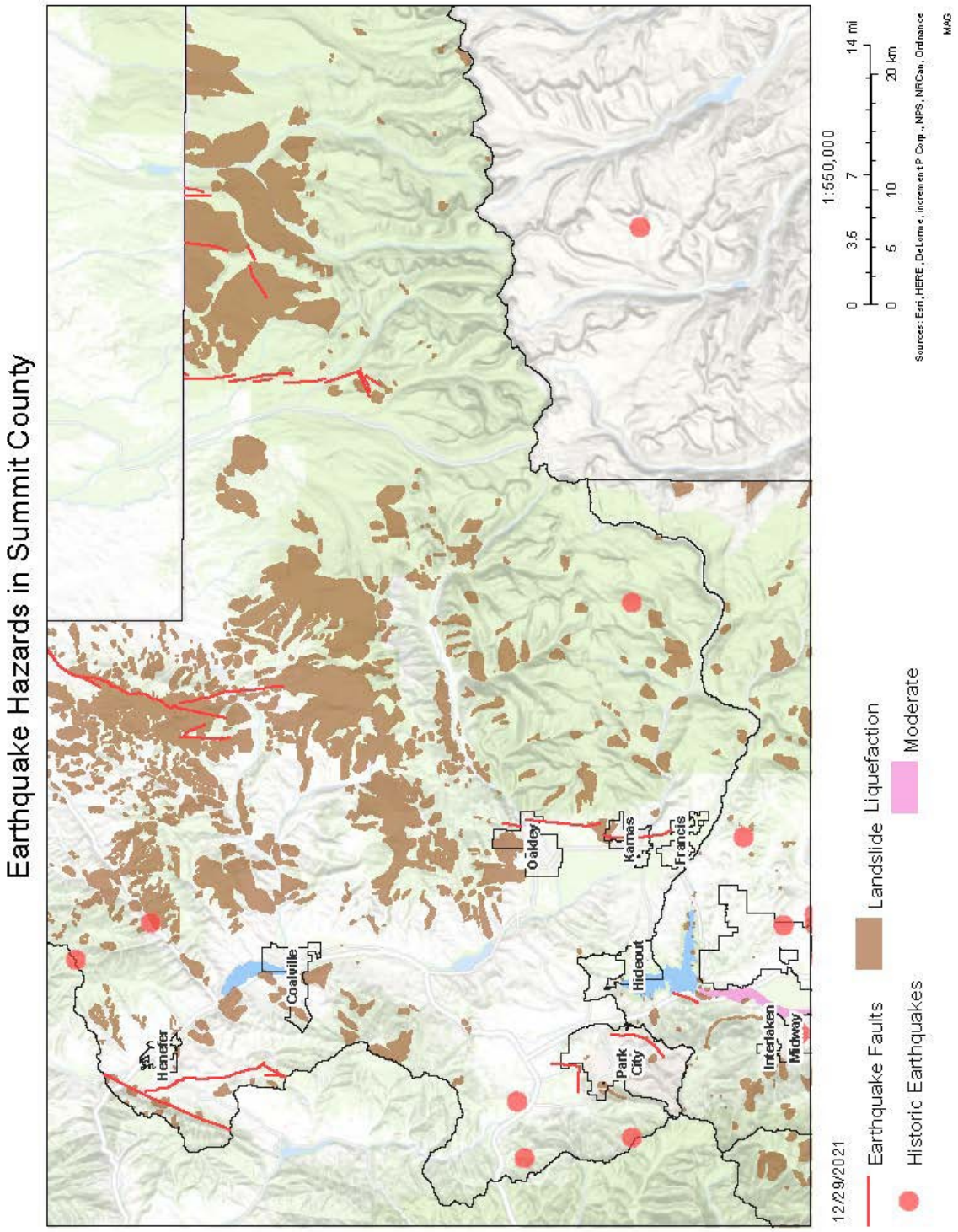
Review and update the Summit County Emergency Operation Plan annually and ensure all emergency contacts are current.

Continued coordination and planning with Utah Department of Transportation, NOAA and other impacted agencies and stakeholders to monitor active burn scars.

Train and Exercise alongside critical infrastructure in the area including water, power, and natural gas to ensure coordinated response efforts and minimize response time to protect assets.

Maintain and expand emergency mass notification system capabilities and encourage community participation, enrollment and regular tests of the system.

Earthquake


Earthquake Hazards in Summit County
Oakley
Kamas
Francis
Coalville
Hideout
Henefer
Park City
Interlaken
Midway
1:550,000
0 3.5 7 14 mi
0 5 10 20 km
Sources: Esri, HERE, DeLorme, increment P Corp., NPS, NRCan, Ordnance
MAG
Earthquake Faults
Historic Earthquakes
Landslide
Liquefaction
Moderate
12/29/2021

Overview

Earthquakes occur when tectonic plates suddenly release tension built up over decades of strain. The Wasatch Fault has a strong earthquake about every 300 years and we are "due" for another. While some scenic homes are built directly on a fault, the way a building is constructed and the stability of soils underneath are a large factor in its resilience. Pre-1990's brick homes are usually unreinforced and very brittle, posing a great risk to occupants during a quake.

As development occurs in Summit County, more buildings and people will be in danger from earthquakes. However, newer buildings are built to higher standards, which decreases the risk of damage compared to older structures. .

Considerable secondary impacts will be the greatest hazard to Summit County if the Wasatch Fault ruptures. Every community lifeline could potentially be impacted including:

- Food, water & shelter (Supply Chain Disruptions)
- Health & Medical (Hospital Staff could experience shortages and capabilities could be overwhelmed.
- Energy (Power and Gas disruptions due to infrastructure damage)
- Communications (Shared infrastructure with surrounding counties)
- Transportation (Road damage and loss of capabilities)
- Safety & Security (Staffing shortages and capabilities could be overwhelmed)
- Hazardous Materials Response (I-80, US-40, the railways and pipelines which transmit materials though Summit County could potentially experience significant hazmat spills with even a minimal amount of shaking.)

Currently, a large percentage (estimated as high as 45%) of city and county staff reside outside of the county and commute to work. Based on this information, all essential services will be functioning on minimal staffing and response capabilities will be quickly overwhelmed.

Additionally, significant strain could be placed on existing infrastructure with the arrival of disaster refugees from the Salt Lake Valley. Examples of this would be:

- Medical Needs
- Public Safety
- Waste Management
- Feeding & Sheltering

During peak visitation times, the population of Summit County is significantly increased anywhere from 30,000 to over 100,000 visitors daily. If a major earthquake were to occur during a peak time, Summit County will have a large amount of people stranded and

without resources to immediately return home. In this scenario, Summit County could be responsible to provide all necessities for this population, which would significantly overwhelm county resources.

With all of these secondary impacts considered, the costs of response and recovery for a large earthquake adjacent to Summit County could be incalculable and devastating.

Development Trends

Due to Summit County being adjacent to the Wasatch Fault zone risk of specific structural damage as a result of earthquake is thought to be lower than that of Utah or Wasatch counties. Though a great deal of development is occurring, it is doing so with the newest building standards.

Profile

Frequency	Rarely: Events above 3.0 on the Richter scale are rare. Minor events (below 3.0) occur every month.
Severity	Catastrophic
Location	Some faults throughout the county.
Seasonal Pattern	None
Duration	1 to 6 minutes excluding aftershocks.
Speed of Onset	Seconds
Yearly probability of Significant Future Occurrences	Possible - 43% probability, or about a 1-in-2 chance, of having one or more earthquakes of magnitude 6.75 or greater and a 57% probability, or greater than a 1-in-2 chance, of having one or more earthquakes of magnitude 6.0, in a 50 year time period.
Potential Losses	The State HAZUS Salt Lake 7.0 scenario estimates annualized losses for Summit County.

History

There have been few events of note in recorded history within Summit County, but a 2020 event in Magna, Salt Lake County, gave the state a glimpse of what could happen. The State

of Utah has also put a few earthquake scenarios through its HAZUS software, yielding loss estimates and maps of potential damages on the Wasatch Front.

Magna Earthquake: Days after the US shutdown to slow the COVID 19 pandemic, a 5.7 earthquake struck Magna township in Salt Lake County. The most noticeable damages occurred in multi-story building such as the brick façade of a large commercial building, but several mobile homes were condemned and the Utah Department of Public Safety estimates $70-100 million in public structure and infrastructure damage. Fortunately, no one was injured or killed and the public facilities were insured.

Mitigation

Continue to enforce building codes for new construction based on slope and soil composition.

Expand the capability for alternative power sources at City Halls, Public Works, Water Treatment Plants, Police/EOC, Shelter Locations and other critical infrastructure locations by installing generators and considering other alternatives.

Continue public outreach and education emphasizing staff, household, and family preparedness.

Conduct evacuation planning, training and exercises which involve response partners, community members and state and federal partners.

Continue to support and expand interlocal agreements with surrounding area response agencies and healthcare providers to provide staffing and resource support to regional responders.

Continue to develop and support Medical Reserve Corp capabilities throughout the region.

Consider supply chain redundancies from distributers east of the Wasatch Fault. Ensure prioritization of county contracts in the event of a widespread emergency. Consider establishing first-refusal clauses in established contracts for high demand resources.

Continue to develop mass care and sheltering capabilities for the residents within the region which includes the ability to house, feed, and provide basic necessities. These facilities should ideally be able to store logistical supplies, provide an information center and gathering space for the community regarding the response, obtain needed medical and mental health support and provide recovery information and support resources.

Build the capability to provide mass care and sheltering for area tourists and travelers within the region without personal resources to support themselves. This should include the ability to house, feed, and provide basic necessities. These facilities should ideally be able to store logistical supplies, provide an information center and gathering space for the community regarding the response, obtain needed medical and mental health support and provide recovery information and support resources.

Establish an adequate location for outside Task Forces and Response Teams to setup facilities, maintain their equipment and house logistical supplies. It should provide the capability for air assets to land and provide support. Additionally, it should have the capability to decontaminate responders dealing with HazMat response throughout the area and it should consider K-9 Team needs and housing.

Build and maintain a centrally located physical Emergency Operation Center and Joint Information Center which has the capability to provide space for State EOC representatives, Elected Officials, Media and coordinating response agencies. This space should have the capability to provide space to address the physical and mental health of the responders providing support.

Train and Exercise alongside critical infrastructure in the area including water, power and natural gas to ensure coordinated response efforts and minimize response time to protect assets.

Continue to develop and expand communications redundancies throughout the area with stakeholders and partner agencies.

Maintain and expand emergency mass notification system capabilities and encourage community participation, enrollment and regular tests of the system.

Severe Weather

Overview

All of Summit County may be subject to heavy snow, combined snow and heavy winds, or ice storms. Winter storms vary in size and strength and can be accompanied by strong winds that can create blizzard and dangerous wind chills. There are three categories of winter storms. A ***blizzard*** is the most dangerous of all winter storms. It combines low temperatures, heavy snowfall, and winds of at least 35 miles per hour, reducing visibility to only a few yards. A ***heavy snow storm*** is one which drops 4 or more inches of snow in a 12-hour period. An ***ice storm*** occurs when moisture falls and freezes immediately upon impact. Avalanches, typically a voluntary risk, have caused the most deaths in Summit County, particularly around areas like Park City during recreational activities. These numbers will only increase as development in tourism-centered areas grows.

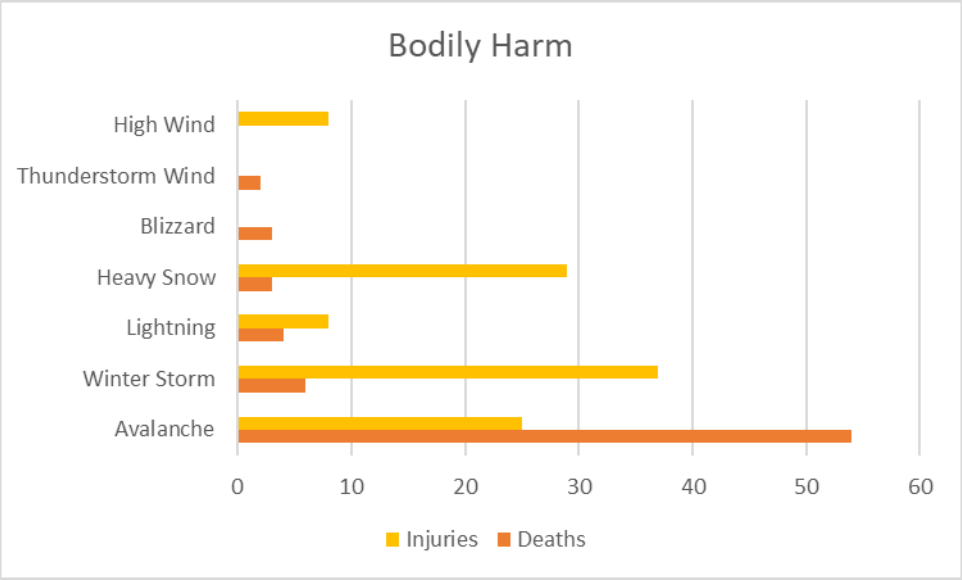
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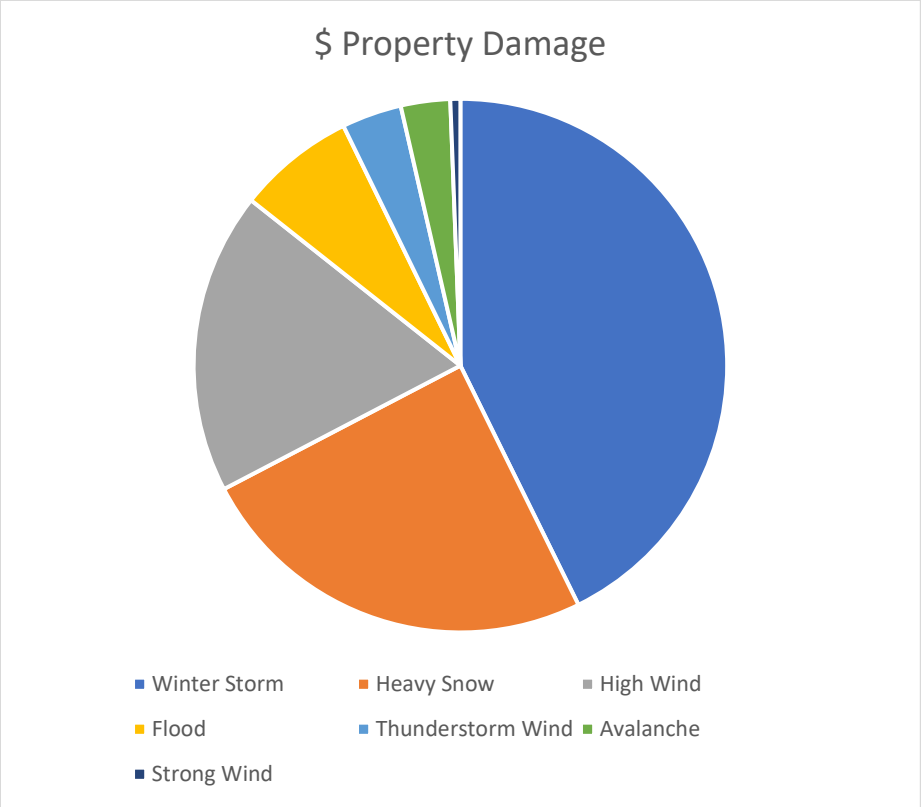
Frequency	Often - Multiple storms happen each year.
Severity	Limited – Summit County is acclimated to frequent snowfall events and prepared to respond accordingly.
Location	Region wide
Seasonal Pattern	All year depending upon the type of event.
Duration	Seconds to Days
Speed of Onset	Immediate
Probability of Future Occurrences	Highly Likely - Winter Storms and wind events have the highest probability of occurrence of all-weather hazards facing Summit County.

History

NOAA Storm Event Database 1950-2021

Row Labels	Deaths	Injuries	$ Property Damage	$ Crop Damage
Avalanche	54	25	70000	0
Blizzard	3	0	0	0
Cold/wind Chill	0	0	0	0
Flood	0	0	167000	0
Hail	0	0	0	200
Heavy Snow	3	29	577000	8600
High Wind	0	8	428600	0
Lightning	4	8	0	0
Strong Wind	0	0	14200	0
Thunderstorm Wind	2	0	85000	0
Winter Storm	6	37	1000000	20000
Winter Weather	0	0	0	0
Grand Total	**72**	**107**	**2341800**	**28800**





Mitigation

Develop and refine processes to declare Snow Emergencies based on metrics provided by the weather service and other coordinating agencies and alerting to different levels of risk.

Enforcement of parking regulations during snow events throughout the region.

Build the capability to activate a staffed telephone community support line during weather events if needed.

Continue to enforce building codes related to roof snow loads, carbon monoxide detectors and wind speeds including the ability to withstand microbursts. These codes should specifically address outside venues, tents and special events planning.

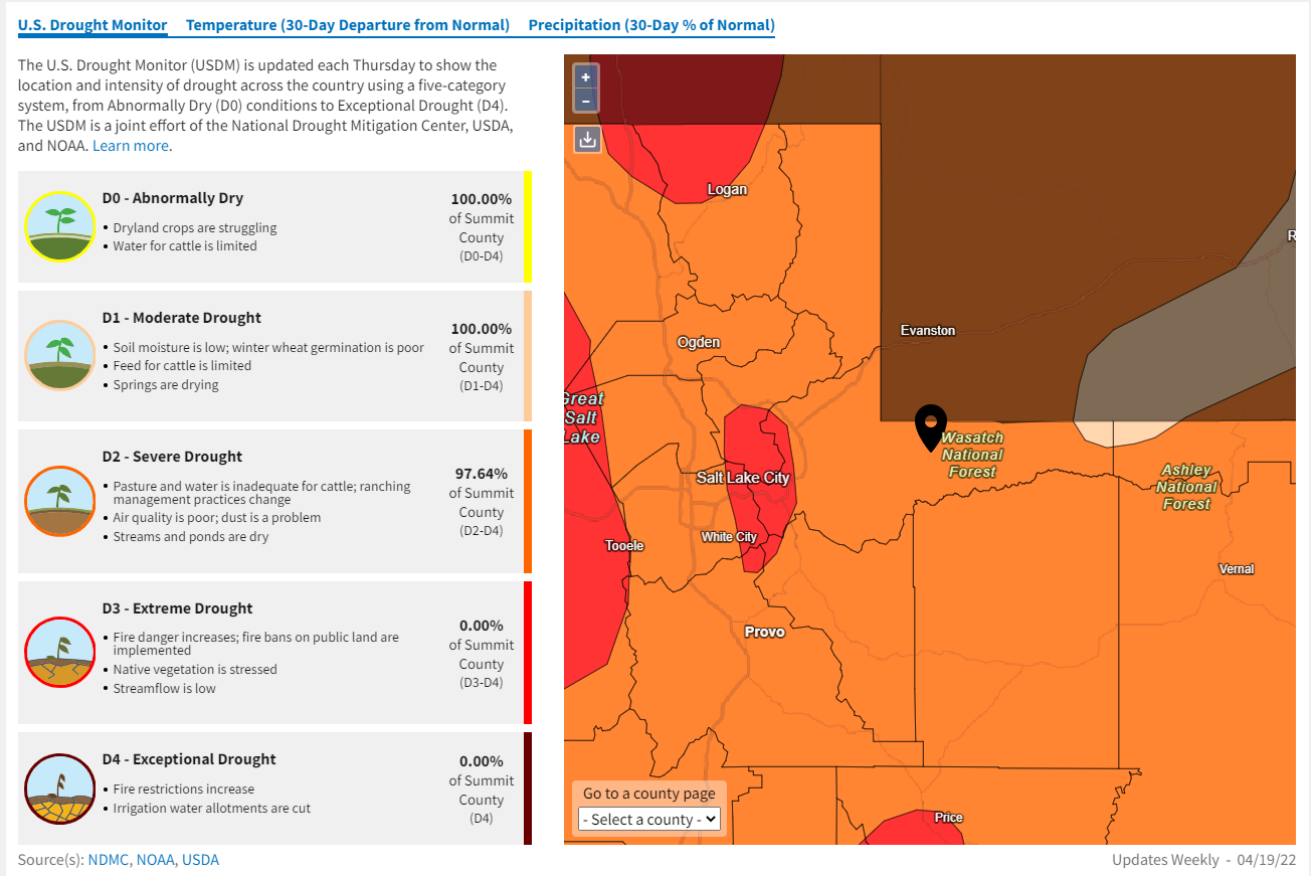
Coordinate response efforts between critical infrastructure in the region and support their efforts to install redundancies.
Continue education and outreach efforts for residents in regards to protecting water pipes during cold weather, proper shelter protocols and travelling safely.

Maintain and expand emergency mass notification system capabilities and encourage community participation, enrollment, and regular tests of the system.

Drought

Overview

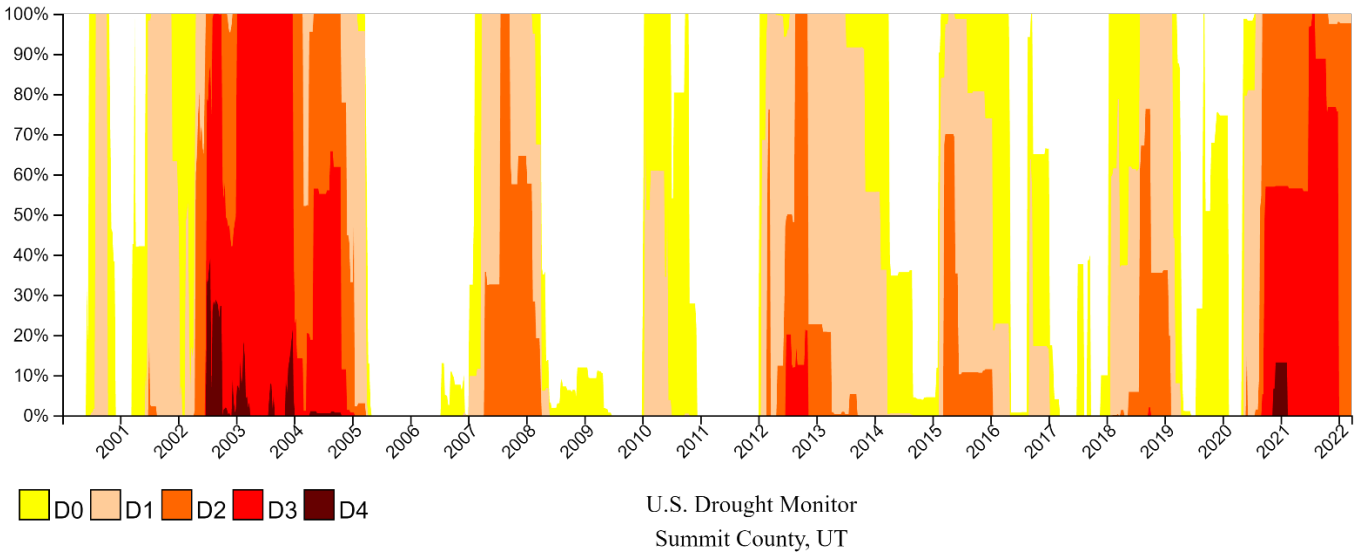
Currently, 97.64% of Summit County is in a Severe Drought. The effects of this drought event is that pasture and water is inadequate for cattle and will require changes in ranching management practices. Air quality is poor, dust is a problem and streams and ponds are dry. As of April, 2022 50 percent of streamflow sites are below normal in Utah and 100 percent of Utah is below normal precipitation probability this month. The National Weather Service Climate Prediction Center's outlook currently predicts that drought in Summit County will persist for the foreseeable future.



Profile

Frequency	Regularly
Severity	Critical
Location	Region wide
Seasonal Pattern	All year
Duration	Ongoing
Speed of Onset	Immediate
Probability of Future Occurrences	Highly Likely

The following graphics indicate that, since 2000, Summit County has experienced varying levels of drought from D2 - Severe Drought through D4 - Exceptional Drought.



Mitigation

Continue to actively monitor local and regional drought conditions and proactively advise stakeholders.

Review and update Emergency Operation Plans annually and ensure all emergency contacts are current.

Regularly conduct briefings, training, and exercises to ensure critical infrastructure operators are aware of all preparedness, response, and recovery procedures.

Proactively identify critical customers (e.g., hospitals), obtain their contact information, map their locations, and develop a plan to restore those customers first, in case of water service disruptions.

Proactively monitor water supply and ground water levels for sustainable withdrawal rates and determine redundancy capabilities while the drought persists.

Review, update and maintain water conservation and drought management plans annually.

Develop an emergency drinking water supply plan and establish response partner collaboration opportunities to discuss procedures, which may include bulk water hauling, mobile treatment units or temporary supply lines, as well as storage and distribution.

Actively conduct education and outreach to residents within the region regarding drought tolerant practices, gardening, and landscaping.

Community Risks and Strategies

Overview

Listed below are the damage assessments for each of the participating jurisdictions followed by an update of the community's mitigation strategies from the 2017 plan, after which are the strategies, the community wishes to pursue in the course of this plan. Damage assessments were calculated using the methodologies mentioned in the Methods section. Strategies were developed by each community with assistance from MAG as requested. The subsequent county and city strategies reflect the advancement of local and regional goals and continue the community's vision for the security and prosperity of the region. These goals include:

- Reducing the impact of natural hazards on life, property, and preserving the environment
- Minimizing damage to infrastructure and services and protecting their ability to respond
- Preventing potential hazards from affecting area or mitigating its effects
- Increasing public awareness, capabilities and experience
- Ensuring the safety of citizens and visitors
- Enabling cooperation between citizens and emergency and public services
- Maintaining cooperation with, and adherence to, FEMA guidelines
- Developing zoning and other plans that decrease development in hazardous areas
-

The guiding factor in prioritizing mitigation strategies for local communities was the principle that mitigation should provide the ***greatest amount of good to the greatest number of people, after considering resources, staffing, and other constraints*.** Probability of occurrence, past events, and damage estimates compiled during the risk assessment in this plan were heavily considered. Overall, each community individually considered their own capabilities, staffing, and resources as they prioritized their own mitigation strategies.

Summit County

Hazard	# Buildings	$ Buildings (thousands)	Major Road Miles	Transmission Miles	Railroad Miles
Dam Failure	1,254	427,897	2.66	16.50	0.00
Fire Risk High	2,212	1,202,856	40.00	25.95	27.48
Fire Risk Moderate	9,545	5,831,456	73.29	47.99	10.58
Flood 1% Yearly Probability	1,591	478,128	21.86	5.51	15.07
Landslide	940	335,659	14.03	12.46	2.15
Liquefaction Moderate to High	0	0	0.00	0.00	0.00

Statement of Vulnerabilities: Summit County is very concerned with protecting its critical lands, such as waterways, riparian areas, ridgelines, steep slopes, and groundwater sources. There are also issues with mine tailings and soil contamination in and near Park City. Development pressure in the Snyderville basin incentivized to not build on critical lands. If a sewer line were installed in the North-South Summit Corridor development would skyrocket, but there are no plans to do so. As any development occurs it is important to keep people out of high-fire risk areas or have appropriate mitigation measures for buildings in fire-prone land.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Assess County Courthouse for possible retrofits in addition to those include in the 1990's remodel	Earthquake	Mod	1-2 yrs.	2k	Local gov	Local gov
Prohibit building on slopes >30% and require soils studies for proposed buildings in landslide-prone areas	Landslide	Mod	Ongoing	Minimal	Local gov, Developers	Local gov, Developers

Bolster regulations for building near avalanche paths	Avalanche	Mod	1 yr.	Staff time	Local gov	Local gov
Require 5,000 gallons of water storage for homes in East Summit along with defensible space	Fire	High	Ongoing	Minimal	Local gov, homeowner	Local gov, homeowner
Discourage building in areas with dense vegetation and require city council approval for proposed sites	Fire	High	Ongoing	Staff time	Local gov	Local gov
Begin a 5-year review of buildings required to have defensible space	Fire	High	1 yr.	Staff time	Local gov	Local gov
Fire Department reviews all applications for building in fire risk areas	Fire	High	Ongoing	Staff time	Local gov	Local gov
Update landscape ordinance to be more waterwise by reducing turf and encouraging grey water/rainfall storage	Drought	Mod	1 yr.	Staff time	Local gov	Local gov
Work with HOAs to install and maintain firewise and waterwise landscaping	Fire, Drought	Mod	Ongoing	Staff time	Local gov	Local gov, HOA
East Summit Sewer Advisory Committee must approve water and sewer plans for new development	Drought	Mod	Ongoing	Staff time	Local gov	Local gov
Follow FEMA requirements for building in the floodplain, such as foundation vents, elevating above base flood level, and prohibiting basements	Flood	Mod	Ongoing	Staff time	Local gov	Local gov
Use Critical Lands Overlay to protect waterways, riparian areas, steep slopes,	All	High	Ongoing	Staff time	Local gov	Local gov

ridgelines, etc. and work with builders to develop elsewhere						
Participate in chipping program through the State Fire Program for single family residences	Fire	Mod	Ongoing	75k	Local gov, State Fire Program	Summit County
Promote Firewise Community Certification to all communities within the wildland-urban interface	Fire	High	Ongoing	Staff time	Local gov	Local governments, Summit Co support
Host biannual meetings for the Wildfire Summit group, focused on HOAs and what they need to accomplish goals described in their CWPPs.	Fire	High	Ongoing	Staff time	Summit County, HOAs	Summit County, HOAs
Share funding information for fuel mitigation efforts through Wildfire Summit Group	Fire	Mod	Ongoing	Staff time	Summit County	Summit County
Meet with HOAs individually to provide guidance and information regarding wildfire	Fire	Mod	Ongoing	Staff time	Summit County	Summit County, HOAs
Perform home inspections to help homeowners "harden" their homes in the event of a wildfire	Fire	Mod	Ongoing	Staff time	Summit County, individuals	Summit County, individuals
Get estimates for flood mitigation for the Courthouse, located in the SFHA, which has records stored in the basement.	Flood	Mod	1-2 yrs.	TBD	Summit County	Summit County

Install generators in the Public Works and Health Dept/Library buildings	All	High	2-3 yrs.	~35k/generator	Summit County, Grants	Summit County

2017 Update

Protecting Current Residents and Structures

Hazard	Action	Priority	Timeline	Cost	Funding	Responsible Party	Completed? If not, why?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	USDI – Bureau of Reclamation, Local Government UDEM, FEMA, UDHS, MAG	Yes
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government, MAG, UDEM, FEMA	Not necessary. Only pre-2000 building was retrofitted in late 1990's
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, Utah Div. of FFSL, County Fire Districts	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Med	1 year	TBD	Local Cash, Grants	Local Government, UGS, UDEM, MAG, FEMA	Yes
All-Hazards Planning	CEMPC – (Community Emergency Management Planning Committee)	High	Ongoing	Minimal	Local Cash, Grants	Local Government UDEM, FEMA	Yes
HazMat Planning	LEPC	High	Ongoing	Minimal	Local Cash, Grants	Local Government UDEM, FEMA	Yes
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	2 years	TBD	Local Cash, Grants	USDI – Bureau of Reclamation, Local Government UDEM, FEMA, UDHS, MAG	Yes

Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, MAG, UDEM, FEMA	Yes
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government, Utah Div. of FFSL, County Fire Districts	Yes
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, UDEM, MAG, FEMA	No, efforts fell through
All-Hazards Planning	CEMPC (Community Emergency Management Planning Committee)	High	Ongoing	Minimal	Local Cash, Grants	Local Government UDEM, FEMA	Yes
HazMat Planning	LEP (Local Emergency Planning Committee)	High	Ongoing	Minimal	Local Cash, Grants	Local Government UDEM, FEMA	Yes

Coalville

Hazard	# Buildings	$ Buildings (thousands)	Major Road Miles	Transmission Miles	Railroad Miles
Dam Failure	103	15,426	0.37	0.00	0.00
Fire Risk High	67	20,207	0.51	0.39	0.00
Fire Risk Moderate	83	18,761	1.74	0.88	0.00
Flood 1% Yearly Probability	76	12,849	0.71	0.39	0.00
Landslide	1	4	0.00	0.89	0.00
Liquefaction Moderate to High	0	0	0.00	0.00	0.00

Statement of Vulnerabilities: Coalville recently annexed land on the West side of town in a fire-prone area. Making sure that there are appropriate evacuation routes and buildings are well-constructed is very important. In the 1984 floods the efforts of citizens with sandbags were able to channel floodwaters down Main Street. Coalville will sure new development doesn't exacerbate potential flooding.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
New subdivisions must have retention ponds, multiple evacuation routes, and provisions for Active Transportation.	Flood, Fire	High	Ongoing	Staff time	Local gov	Local gov
Consider more fire-resistant building codes in the WUI	Fire	Mod	1-2 yrs.	Staff time	Local gov	Local gov
Add a water treatment facility	Drought	High	2 yrs.	5 million	USDA grant, Local gov	Local gov
Install xeriscaping examples at public buildings	Drought	Mod	2-3 yrs.	Minimal	Local gov	Local gov
Continue to look into Electric Vehicle charging stations like the ones at the Courthouse	Climate Change	Mod	2-4 yrs.	2k/station	Local gov, State Grants	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Flooding/ Dam Failure	Bridge/Culvert Expansion along Chalk Creek	High	4 years	$800,000	Grants and Local Cash	Local Government	No
Wildfire	Fire Restriction ordinance	High	6 months	No cost	N/A	Local Government	Yes
Landslide	Incorporate Landslide maps into Hazards Lands Map	High	1 year	Minimal	Local Cash	Local Government	Yes
Earthquake	Conduct seismic retrofitting assessments for critical public facilities most at risk to earthquakes. (Public works building and city building)	Medium	2 years	Minimal	Local Cash	Local Government	No, lack of resources
Wildfire	Review and update Sensitive Land Ordinance so that it specifically addresses and incorporates FIREWISE landscaping requirements and allows for creating	Medium	2 years	Minimal	Local Cash, Grants	Local Government	Partially, could do more.

	defensible zones around power lines, oil and gas lines and other infrastructure systems.						
Wildfire	When updating the General Plan and future land use map include considerations for wildfire hazards within land use, public safety, and other elements of the General Plan.	Medium	2 years	Minimal	Local Cash	Local Government	Partly, could do more in W annexation
Landslide	Incorporate, within development ordinances and reviews, setback requirements on parcels near high-risk areas for landslides.	Medium	2 years	Minimal	Local Cash	Local Government, USGS, UGS	Yes
Landslide	Enforces existing restrictions and/or limit activity that would strip slopes of essential topsoil and vegetation.	Medium	2 years	Minimal	Local Cash	Local Government, USGS, UGS	Ongoing
Flooding	Evaluate and incorporate drainage capacities with detention and retention basins, keeping ditches clear by requiring debris removal, plan for necessary bridge and culvert modification.	High	2 years	$50,000	Local Cash	Local Government	Yes
Flooding	Better understand the capacity of the city storm water system by updating the city's Stormwater Master Plan.	High	2 years	$70,000	Local Cash/Grants	Local Government	Yes

Central Utah Water Conservancy District

Due to the sensitive nature and complexity of CUWCD assets, they performed an independent risk analysis to create and prioritize the following mitigation strategies. Contact Blake Buehler of CUWCD for more information.

Vulnerabilities: The future development of the CUWCD water system will mainly be with a strong emphasis on water conservation, planning of needed additional regional water supply facilities, and incorporation of natural hazard mitigation. The District will also continue in its current efforts to address and incorporate natural hazard mitigation (i.e., seismic upgrades/standards, lightning protection, backup power, wildfire – both direct and indirect effects, etc.) into future design and construction projects whether they are for new facilities or for capital replacement projects. The following proposal is to help fulfill said efforts.

Package Priority	Mitigation Package: Facilities	County	B/C Ratio	Mitigation Description	Outside Contractor	In-House	CUWCD O&M	CUWCD CRP	CUWCD CIP	FEMA Grant	Implementation Timeline	Package Subtotal
Low	General Pipeline #1 - Stockpile Materials	Summit, Utah, & Wasatch	-	Material Stockpiling		X	X	X			6-10 Years	$755,950
Low	General Pipeline #2 - Training	Summit, Utah, & Wasatch	-	Training	X	X	X				6-10 Years	$19,538

Francis

Hazard	# Buildings	Building value (thousands)	Major Road Miles	Transmission Miles	Railroad Miles
Dam Failure	1	$51	0.21	0.00	0.00
Fire Risk High	2	$514	0.06	0.00	0.00
Fire Risk Moderate	206	$63,268	0.46	0.00	0.00
Flood 1% Yearly Probability	11	$2,082	0.19	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00

Statement of Vulnerabilities: Francis is experiencing some development pressure on the fire and flood-prone hillside. It's greatest current need, however, is a new water tank.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility

Any proposed subdivisions in the Wildland Urban Interface must have defensible space and fire-resistant materials	Fire	High	Ongoing	Staff time	Developers	Local gov, Developers
Construct a new water tank and well	Drought, Fire, All	High	by 2022	3 million	Impact & Annexation fees	Local gov
Participate in the County Chipping Program	Fire	High	Ongoing	5k	Local gov, volunteer hour match, State fire program	Local gov
Inventory community center for seismic soundness	Earthquake	Mod	2-3 yrs.	1k	Local gov	Local gov
Follow Water Restriction Plan during drought years	Drought	High	Ongoing	Staff time	Local gov	Local gov

Update of 2017 Strategies

Hazard	Action	Priority	Timeline	Cost	Funding	Responsibility	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	No, limited staff
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Medium	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Flooding/ Dam Failure	Canal safety program.	High	3 years	TBD	Local Cash, Grants	Local Government	No, limited staff and funding

Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Somewhat, limited staff
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government	No, limited staff
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, USGS	No, coordination efforts fell through

Henefer

Hazard	# Buildings	Building value (thousands)	Major Road Miles	Transmission Miles	Railroad Miles
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	19	$5,542	2.26	0.57	1.09
Fire Risk Moderate	41	$9,694	0.31	0.50	0.05
Flood 1% Yearly Probability	17	$3,742	0.13	0.51	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00

Statement of Vulnerabilities: Henefer is in the middle of a moratorium on new connections to the city water system due to the lack of water metering and secondary water system. Out most pressing concern is installing a secondary water system, reliably monitoring and metering the current system, and developing water resources for future needs. Henefer lies atop a high-pressure gas line that serves Salt Lake City. We work with Dominion Energy, who employs several of our citizens, to accurately map those lines, respond quickly to accidents, and share evacuation routes should a line be damaged. There is development pressure in the recently-annexed south part of town, which only has one narrow road leading in and out. If development is to occur here, we will need a bridge to bring a road over the Weber River and onto the frontage road.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Trim trees and clear ditches	Flood, Fire	Mod	Ongoing	5-10k	Local gov	Local gov
Add a second collection box for main water line in Franklin's Canyon, correct leaks, meter culinary water, and install automatic monitoring system on tanks.	Drought, Flood	High	1 yr.	184k	CDBG grant, Local gov	Local gov
Install secondary water system	Drought, Flood	High	1 yr.	3 mil	Utah State, Water Smart program, Board of Water Resources	Local gov, Utah State
Consider retrofitting city hall when it is remodeled include a community meeting room and other city amenities	Earthquake	High	1-2 yrs.	TBD	Local gov, grants	Local gov
Consider a sensitive lands ordinance to prohibit new buildings in the 100 yr. floodplain	Flood	Mod	1-2 yrs.	Staff time	Local gov	Local gov
Coordinate with UDOT and Union Pacific on plans for rerouting traffic should a flood or earthquake damage I-84 at the narrows/Morgan County line	Flood, Earthquake, Gas incident	Mod	1-2 yrs.	Staff time	Local gov	Local gov
Run test wells to find best location for additional water sources	Drought, Flood	High	1-2 yrs.	25k/well	Local gov	Local gov
Educate residents on low-cost retrofit options	Earthquake	Mod	1 yr.	Staff time	Local gov	Local gov

Build bridge over Weber River to provide a second route out of South Henefer, where there is development pressure	Earthquake, Fire, Flood	Mod	4 yrs.	TBD	Local gov, grants	Local gov
Visit yearly with North Summit Fire Marshal	Fire	Mod	Ongoing	Staff time	Local gov	Local gov
Promote Summit County's early warning system	All	Mod	Ongoing	Staff time	Local gov	Local gov
Conduct monthly ham radio tests among citizens	All	Mod	Ongoing	Minimal	Local gov	Local gov

2017 Strategy Update

Protecting Current Residents and Structures (Henefer)

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	Completed?
Flooding	Timely notification system, organized equipment and aid	Med	1 year	Minimal	Local Cash	Local Government	Yes, Summit Co notification and Henefer HAM radios
Drought	Monitor Spring flows, reservoir storage and usage	Moderate	Ongoing	Minimal	Local Cash, private owners	Local Government, private owners	In progress
Earthquake	Inspect structures and utilities. Facilitate repairs and clean up	High	4 years	High	Local Cash, Grants, Insurance	Local Government, FEMA, Insurance	No, fire station is new enough and city center will be renovated soon
Hazardous Materials spill	Notification system for citizens and education	Moderate	1 year	Minimal	Local Government	Local Government	Yes
Infectious Disease	Notification system	Moderate	1 year	Minimal	Local Government	Local Government	Yes

Wildfire	Provide water for fire suppression	Moderate	Ongoing	Moderate	Local Government	Local Government	In Progress

Protecting Future Residents and Structures

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	
All Hazards	Timely notification system, organized equipment and aid	Med	1 year	Minimal	Local Cash	Local Government	Yes
Wildfire	Provide water for fire suppression	Moderate		Moderate	Local Government	Local Government	In Progress

Kamas

Hazard	# Buildings	Building value (thousands)	Major Road Miles	Transmission Miles	Railroad Miles
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	27	$9,861	0.01	0.00	0.00
Fire Risk Moderate	250	$47,563	0.37	0.00	0.00
Flood 1% Yearly Probability	3	$1,227	0.00	0.00	0.00
Landslide	3	$1,136	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00

Statement of Vulnerabilities: A faultline runs through Kamas and several older buildings, including City Hall and schools, would be at risk if an earthquake occurred. Making these buildings safer is a top priority. Also, with updated floodplain maps several homes are now within the 100-yr floodplain, which runs along Beaver Creek through the center of town.

There is gradual development throughout the town and within or close to the wildfire interface zone.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Require geotechnical report for proposed development on problem soils or slopes	Landslide	Mod	Ongoing	Minimal	Developer, Local gov	Developers, Local gov
Examine City Hall for seismic soundness	Earthquake	Mod	2-3 yrs.	1k	Local gov	Local gov
Follow Water Restriction Plan during drought years	Drought	High	Ongoing	Staff time	Local gov	Local gov
Any proposed subdivisions in the Wildland Urban Interface must have defensible space and fire-resistant materials	Fire	High	Ongoing	Staff time	Developers	Local gov, Developers

2017 Strategies Update

Protecting Current Residents and Structures

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	No, limited resources
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Medium	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes

Protecting Future Residents and Structures

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government	No, not a lot of fire-prone area
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, USGS	No, coordination efforts fell through

Oakley

Hazard	# Buildings	Building value (thousands)	Major Road Miles	Transmission Miles	Railroad Miles
Dam Failure	129	$30,304	0.56	0.49	0.00
Fire Risk High	7	$817	0.00	0.00	0.00
Fire Risk Moderate	69	$18,182	0.64	0.02	0.00
Flood 1% Yearly Probability	153	$36,984	0.76	0.60	0.00
Landslide	13	$20,339	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00

Statement of Vulnerabilities: Oakley's greatest concerns are with water; having enough culinary water to support existing and future residents and caring for the homes already in the 100 yr. floodplain. Oakley is drilling a new culinary well and provides incentives to reduce watering areas. New subdivisions are encouraged to provide and maintain private secondary water systems. Regarding floods, no structures area allowed within 100' of the river and any proposals for building within the flood plain must conform to FEMA standards i.e., building above base-flood elevation. Mild development is occurring South of Maple Ridge toward the city center and few homes are planned in the wildland urban interface.

Mitigation Strategy	Action	Priority	Timeline	Cost	Funding	Responsibility
Any new development with more than ~8 lots requires dual access and Fire Marshal approval	Fire	Mod	Ongoing	Staff time	Local gov	Local gov
Prohibit building within 100' of river, any proposed buildings within 100 yr. floodplain must meet FEMA standards	Flood	High	Ongoing	None	Local gov	Local gov
Drill a new culinary well	Drought	High	1 yr.	$1.5 million	USDA grant, ARPA grant, Local gov	Local gov
Replace turf at recreation complex with xeriscaping where possible, swap fields for courts	Drought	High	2-3 yrs.	$1 million	RAP, Local gov	Local gov
Drill "wet well"/use irrigation water for recreation complex instead of using culinary water	Drought	High	2-3 yrs.	$250k	Local gov	Local gov
Provide incentives to reduce watering area	Drought	Mod	Ongoing	Minimal	Local gov	Local gov
Provide density bonuses for developers that preserve riparian areas	Flood	High	Ongoing	Staff time	Local gov	Local gov

Increase water rates for higher tiers	Drought	High	1 yr.	Staff time	Local gov	Local gov
Encourage development to install secondary water systems that are privately maintained	Drought	High	Ongoing	Staff time	Local gov	Local gov
Prohibit building on slopes >30%, require Geotech studies for other at-risk sites	Earth movement	Mod	Ongoing	Staff time	Local gov	Local gov
Perform engineering study of City Hall to determine cost and benefits of retrofits	Earthquake	Mod	2-3 yrs.	TBD	Local gov	Local gov
Improve 3 bridges determined to be deficient by the State	All	Mod	2-3 yrs.	$50k	ARPA, Local gov	Local gov
Educate homeowners with shallow pipes on how to protect them from damage in the winter	Winter Weather	Mod	Ongoing	Minimal	Local gov	Local gov
Complete a Capital Improvements Plan for utilities and infrastructure	All	High	1-2 yrs.	$50k	Local gov	Local gov
Educate homeowners on disaster preparedness through website, social media, and water bill	All	Mod	Ongoing	Staff time	Local gov	Local gov

2017 Strategy Update

Protecting Current Residents and Structures (Oakley)

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	

Flooding/ Dam Failure	Promote NFIP participation	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Inventory current critical facilities for Seismic standards	High	3 years	TBD	Local Cash, Grants	Local Government FEMA, USGS	No, only City Hall is post-2000 construction
Wildfire	Educate homeowners on FIREWISE practices	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes, ongoing

Protecting Future Residents and Structures

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances	High	3 years	TBD	Local Cash, Grants	Local Government, FEMA, USGS	Yes
Earthquake	Promote earthquake awareness	High	Ongoing	Minimal	Local Cash	Local Government	No, new staff not familiar with educational programs.

Park City

Hazard	# Buildings	Building value (thousands)	Major Road Miles	Transmission Miles	Railroad Miles
Flood 1% Yearly Probability	866	$316,526	0.87	**1.25**	0.00
Dam Failure	275	$52,716	1.65	0.24	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Landslide	192	$173,412	0.46	0.00	0.00

Fire Risk Moderate	1,649	$1,371,572	1.49	2.87	0.00
Fire Risk High	236	$227,312	0.37	1.00	0.00
Earthquake (Pre-1990 Buildings)	NA	$7,084,012	NA	NA	NA

Statement of Vulnerabilities: Park City is entirely contained within the Wildland Urban Interface and enjoys a robust tourist population year-round. Their economy is almost entirely tourism and service based and, as such, any disruption to that economy would be classified as a major incident and would have long lasting impacts.

Mitigation Strategy	Hazard	Priority	Timeline	Estimated Cost	Potential Funding	Responsible Party
Patrol storm water facilities during runoff season, clear blockages	Flood	High	Ongoing	150k/year	Local Gov	Streets Dept and Code Enforcement
Implement and maintain community wildfire preparedness plan	Fire	High	Ongoing	Staff time	Local gov	Local gov
Collaborate with Western Summit County Fuels committee (private landowners, HOA, other agencies)	Fire	High	Ongoing	Staff time	Local gov, Summit County	Park City, Summit County, HOAs
Wildfire fuels clearing	Fire	High	2-3 years/ ongoing	1 million	BRIC grants	Local Gov, HOA, Fuels Committee members
Enforcing new WUI and land management code	Fire	High	Ongoing	Staff time	Local gov	Local gov
Expand WUI code for existing homes including open space component	Fire	High	1 year	Staff time	Local gov	Local gov
Update forestry plan	Wildfire	High	1 year	50k	Park City	Park City, FFSL
Maintain cooperative agreement with FFSL; Park City pays for prevention, protection, initial response, recovery, and outreach (with Park City Fire District) with FFSL to cover the rest if a large fire occurs	Wildfire	High	Ongoing	100k	Local gov, FFSL	Local gov, FFSL

Maintaining Firewise certification	Wildfire	High	Ongoing	Staff time	Local gov	Local gov
Notify homeowners of leaks and use Waterwise program for resident outreach	Drought	High	Ongoing	Staff time	Local gov	Local gov
Irrigation restrictions from Weber Water Conservancy District	Drought	High	Ongoing	Staff time	Weber Water	Weber Water
Maintain emergency supplies/warehouse for supplies during an event	Earthquake	Moderate	3+ years	3 million	Local gov, grants	Local gov
Continued outreach, share evacuation routes through city Open Houses and annual mailer	All	Moderate	Ongoing	Minimal, staff time	Local gov	Local gov
Full-scale exercise	All	High	1 year	Staff time	Local gov	Local gov
Consider incentives for reducing grass	Drought	High	1-2 years/ ongoing	TBD	Local gov	Local gov
Alternative traffic routes for closed roads	Winter Weather	Moderate	2-3 years	TBD	Local gov	Local gov
Sustainability Department, reducing single-occupant vehicle travel, improving transit and active transportation	Climate Change	Moderate	Ongoing	Staff time	Local gov	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Flooding	New Storm Water Utility	High	3-5 years	3 million	Local Cash	Local Government	Partly, clearing blockages and removing brush. Ongoing patrols during runoff season.
Flooding	Update FIRM	Med	Ongoing, see City Engineer	Minimal	Local Cash, FEMA	Local Government, State, FEMA	Yes, 2019/20
Fire	Create Community Wildfire Protection Plan with PCFD	High	Completed 2014, now implementing	2-50 thousand	Local Cash, Grants	Local Government, Fire Department	Yes, 2021

Earthquake	Upgrade City Buildings	Medium	Ongoing	Significant	Local Cash, Grants	Local Government	City Hall, Library EQ retrofits completed.
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk	Medium	1 year	Minimal	Local Cash, Grants	Local Government	Yes, 2020

South Summit School District

Vulnerabilities: South Summit's schools are located on or near the East Kamas Fault and a recent roofing project found deficient grout in the original building. All were built pre-seismic code and should be retrofitted to some degree until the school district can pass a bond to rebuilt them. The location for a new school serving the Promontory community might contain mine tailings from old Park City metal works. The EPA has yet to determine whether or not they are present, but if they are significant work will have to be done to remediate the soil.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Conduct a seismic study of schools in Kamas, which are close to the East Kamas Fault Line, to determine necessary retrofits and/or rebuilds	Earthquake	High	4 yrs.	65k	South Summit School District, grants	South Summit School District
Irrigate sports fields with a new retaining pond and pumps utilizing South Summit's shared in the ditch company instead of culinary water	Drought	Mod	3-4 yrs.	1 million	South Summit School District, grants	South Summit School District
Replace baseball field with artificial turf	Drought	Mod	3-4 yrs.	1 million	South Summit School District, grants	South Summit School District
Work with the EPA to study possible mine tailings on the site of the future	Soil Contamination	High	4 yrs.	TBD	EPA, South Summit School	EPA, South Summit School District, Summit County

Elementary school near the Promontory community and remediate if necessary					District, Summit County	
Tree trimming	Winter weather, Fire	Mod	Ongoing	2k/yr.	South Summit School District	South Summit School District
Determine need for backup generators at schools designated as evacuation centers	All	Mod	1-2 yrs.	TBD	South Summit School District	South Summit School District
Wildlife awareness education and considerations for building in migration corridors	Wildlife	Mod	Ongoing	Staff time	South Summit School District	South Summit School District

Contacts and Participation

See Part III: Process for a complete accounting of participation

Position	Name	Phone	Email	Small Meetings 2021	Group Meeting October 28
Emergency Manager	Kathryn McMullin	801-718-4628	kmcmullin@summitcounty.org		Yes
Summit County Planner	Ray Milliner	435-336-3118	rmilliner@summitcounty.org	18 August	
Summit Co Fire Marshal	Mike Owens	435-940-2520	mowens@pcfd.org		
Summit Co Public Works	Derrick Radke	435-336-3970	dradke@summitcounty.org		Yes
Summit Co Manager's Office	Janna Young				Yes
Summit County	Glenn Wright				Yes
Summit Co Environmental Health	Spencer Smith				Yes
Henefer Planner	Robert Richins	435-336-5365	henefertown@allwest.net		
Henefer Mayor	Kay Richins	801.599.8003	henefermayor@gmail.com	Aug 11	
Park City Emergency Manager	Kathryn McMullin	435-615-5185	kmcmullin@summitcounty.org		
Park City Planner					
Coalville Mayor	Trevor Johnson	435-336-5981	mayor@coalvillecity.org		
Coalville	Niki Sargent	435.659.6941	niki.sargent@coalvillecity.org		

Coalville Public Works	Zane Deweese	435-336-5980	zane.deweese@coalvillecity.org		
Coalville Public Works	Kyle Clark			Oct 28	Yes
Coalville Wastewater Treatment	Sam Adams			Oct 28	Yes
Oakley		435-783-5734	oakley@oakleycity.com		
Oakley Planner	Stephanie		stephanie@oakleycity.com		
Oakley	Amy Rydalch		amy@oakleycity.com	Aug 16?	
Oakley City	Kelly Kimber		kelly@oakleycity.com		Yes
Francis/Kamas	Scott Kettle	435-654-2226	skettle@horrocks.com	June 14	Yes
		cell: 801-360-9735			
Francis Public Works		435-783-6236	lthomas@francisutah.org	June 14	
Francis Planner	Katie Henneuse	435-783-6236	khenneuse@francisutah.org	June 14	Yes
WUI Coordinator	Travis Wright	385-505-4030	tdwright@utah.gov		
Park City Fire District	Ashley Lewis				Yes
North Summit Fire District	Ian Nelson				Yes
FFSL /County Fire Warden	Bryce Boyer				Yes
N Summit School District	Kristy		kbraithwaite@nsummit.org		
S Summit School District	Kip Bigelow		kbigelow@ssummit.org	19 July	Yes
S Summit School District	Kathy Carr		kathy.carr@ssummit.org	19 July	Yes
S Summit School District Superintendent	Greg Maughan		greg.maughan@ssummit.org		

Part 6 Utah County Profiles and Mitigation

Background

Area: 2,014 square miles; *county seat*: Provo; *origin of county name*: after the Ute Indians

The most striking geographical features of Utah County are the Wasatch Mountains along the eastern boundary, and Utah Lake, the state's largest fresh-water lake. The high mountains, rising over 11,000 feet, receive heavy snowfall which feeds the numerous rivers and creeks that flow into the lake. Though large in surface area, Utah Lake is very shallow--18 feet at its deepest point.

Before the valley was settled by Mormon pioneers in the 1840s and 1850s it was the home of the Ute Indians. They lived along the eastern shore of the lake and used fish from the lake as their main food source. The Spanish Catholic priests Dominguez and Escalante, who observed them in 1776, described these Indians as peaceful and kind. Dominguez and Escalante were trying to find a route between Santa Fe, New Mexico, and what is now southern California. When they came down Spanish Fork Canyon in the summer of 1776, they were the first non-Indians to enter Utah Valley.

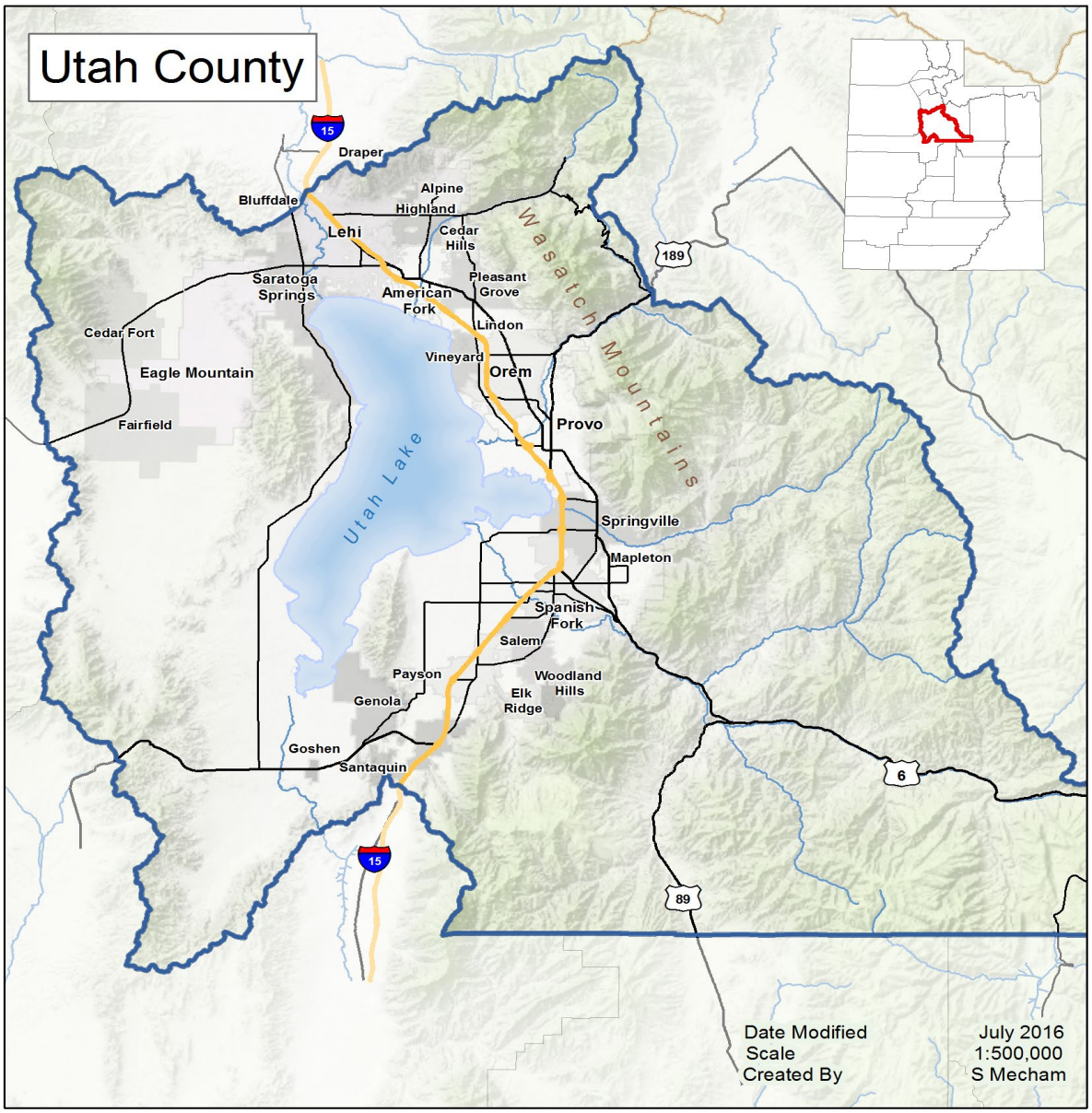
Mormon pioneers began settling Utah Valley in 1849. Like the Indians before them, they chose to settle on the fertile, well-watered strip of land between the mountains and Utah Lake. More than a dozen towns were established between Lehi on the north and Santaquin on the south. Provo, named for the French fur trapper Etienne Provost, has always been the largest town and the county seat.

In March 1849 thirty-three families, composed of about 150 people, were called to go to Utah Valley and establish communities in Lehi, Alpine, American Fork, Pleasant Grove, Springville, Spanish Fork, Salem, and Payson.

Mining was also an important industry in Utah County. In the late 1800s and early 1900s there were many successful mines in American Fork Canyon and in the Tintic mining district centered near Eureka, Juab County but included part of western Utah County. Many of the fine homes and business buildings in Provo were constructed with mining money.

Today, Utah County is known as the home of Brigham Young University. BYU was established in 1875 as a small high-school level "academy," but it has grown to become a major university with over 36,000 students in 2021. The Utah Valley University in Orem has

grown rapidly to over 41,000 students as well. Other major Utah County employers include Vivint, Doterra and Young Living Essential Oils. Each of the major communities in the county have high schools and libraries. A culturally active area, the county has its own symphony--the Utah Valley Symphony, and one of the state's finest art museums: the Springville Art Museum. Provo's Fourth of July Celebration is the largest in the state and most other communities have their own celebrations.

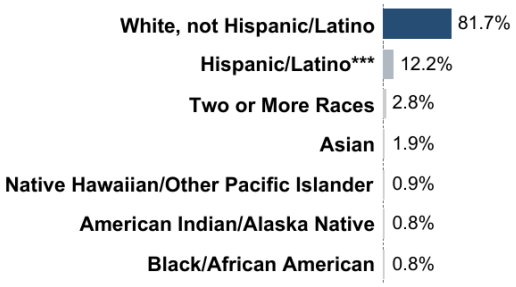


Population

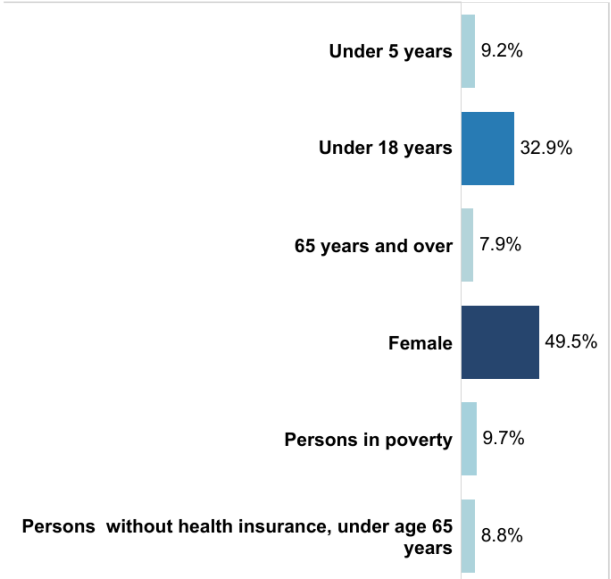
Demographics Utah County

In Utah County, more than a third of residents are children under the age of 18, with less than 8% of the population over the age of 64. The average travel time to work is 22 minutes due in large part to those commuting to Salt Lake County for jobs.

2019 Race and Ethnicity



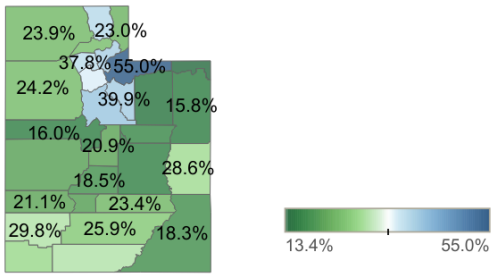
Population Shares, 2015-2019



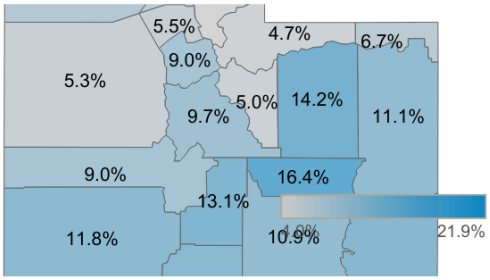
Other Facts

Households, 2015-2019	165,991
Housing units, July 1, 2019	186,554
Median value of owner-occupied housing units, 2015-2019	305,500
Persons per household, 2015-2019	4
Mean travel time to work (minutes), workers age 16 years+, 2015-2019	22
Veterans, 2015-2019	14,296
Veteran-owned firms, 2012	3,003
Women-owned firms, 2012	13,891

Bachelor's Degree or Higher, 2015-2019*



Persons Below Poverty, 2019



Updated 7/13/2021 8:10:38 PM

* Population 25 years and older. ** Population 5 years and older. *** Hispanics/Latinos may be of any race; also included in applicable race category. ****Civilian Population 16 years and older.

Source: U.S. Census Bureau. For more information: http://www.census.gov

Hazards Compared

Hazard Matrix

Probability	Negligible	Limited	Critical	Catastrophic
Highly Likely	Hail	Fire, Winter Weather, Wind, Avalanche		
Likely	Lightning, Tornado	Flood, Drought	Landslide/ Debris Flow	
Possible				
Unlikely				Earthquake, Dam Failure

Severity

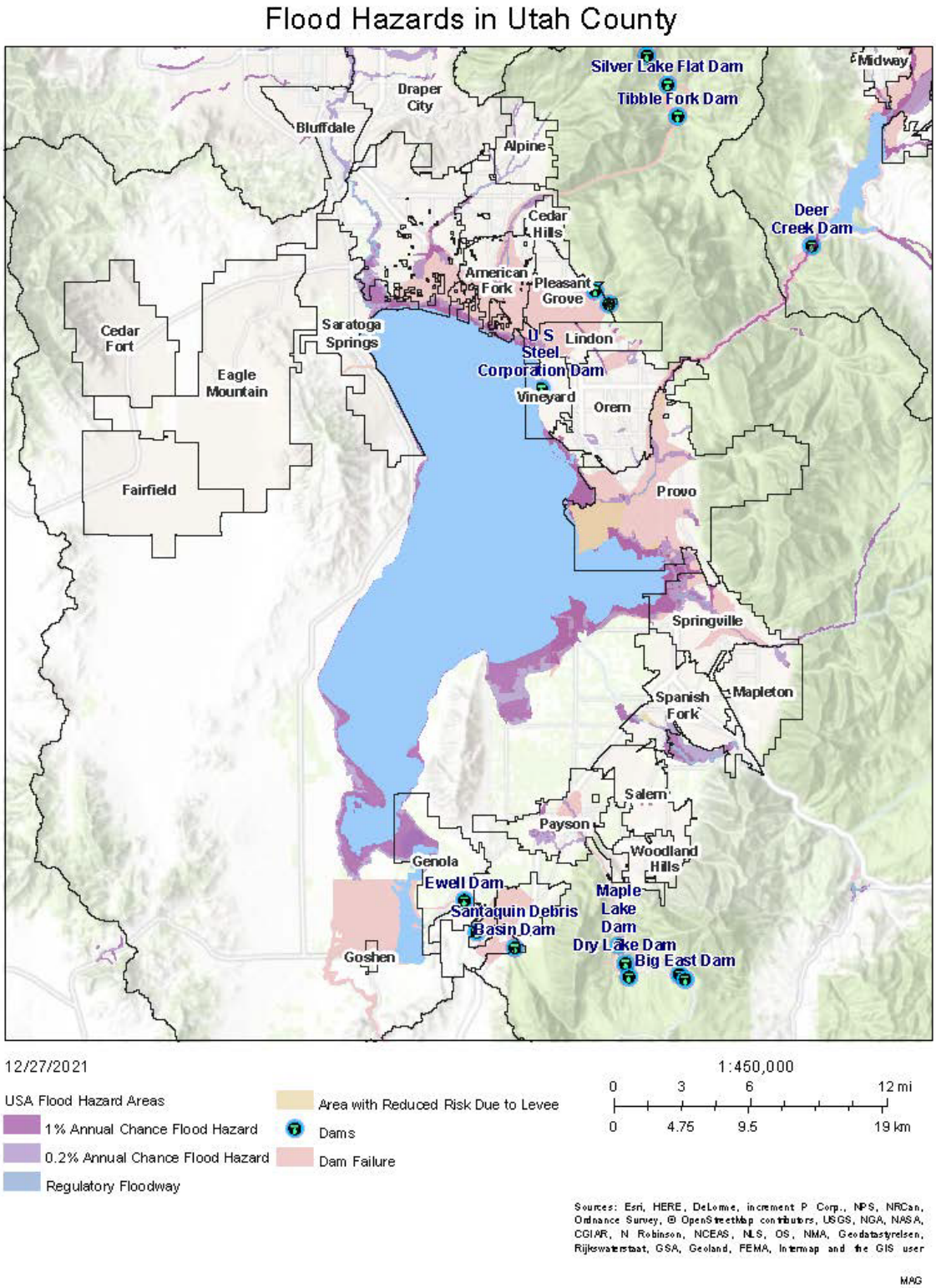
Standards from FEMA IS 235: Emergency Planning Course
Potential Magnitude
Catastrophic: More than 50% of community affected
Critical: 25 to 50%
Limited: 10 to 25%
Negligible: Less than 10%

Probability Calculated using # of event/years in record
Highly likely: Near 100% probability in next year
Likely: 10 -100% probability in next year, or at least one chance in next 10 years.
Possible: 1-10% probability in next year, or at least one chance in next 100 years.
Unlikely: Less than 1% probability in next 100 years

Standards we modified to fit our region
Severity per incident
Catastrophic: Many lives, a great deal of property
Critical: Multiple lives lost and/or multiple properties affected
Limited: Some property loss, less than 3 lives lost
Negligible: Some property, no life lost

Hazard	Years in Record	Yearly Probability	Deaths Annualized	Injuries Annualized	$ Losses Annualized	Source
Air Quality Unhealthy for all	12	75%	n/a	n/a	n/a	DEQ Monitoring Archive, days in exceedance of PM2.5 standard
Avalanche	25	128%	1.3	0.6	$2,800	NOAA
Debris Flow	16	44%	0	0	$23,000	NOAA
Drought, Moderate	2018	10%	0	0	n/a	National Integrated Drought Information System
Earthquake		1%	2.4	32	$24,000,000	HAZUS Salt Lake City 7.0 & Provo Scenarios
Floods & Flash Floods	23	139%	0	0	$283,000	NOAA, HAZUZ, State Hazard Mitigation Plan
Hail	71	58%	2.7	32.7	$17,208	NOAA/SHELDUS
Landslides	51	25%	0	0	NA	SHELDUS, skewed by Thistle slide
Lightning	25	32%	0.04	0.16	$6,660	NOAA
Tornadoes	71	10%	0	0	$2,582	NOAA
Volcanoes	5,000,000	0%				
Wildfires	6	1,167%			$8,742,000	Utah FFSL and BLM with cost of fighting fire
Wind	71	97%	0.4	0.7	$844,000	NOAA (High Wind, Strong Wind and Thunderstorm Wind)
Winter Weather	25	160%	0.56	2.36	$65,636	NOAA (Blizzards/Heavy Snow/Winter Storm/Winter Weather)

Flooding


Flood Hazards in Utah County
Silver Lake Flat Dam
Tibble Fork Dam
Midway
Draper City
Bluffdale
Alpine
Deer Creek Dam
Cedar Hills
American Fork
Pleasant Grove
Saratoga Springs
Cedar Fort
U S Steel Corporation Dam
Lindon
Eagle Mountain
Vineyard
Orem
Fairfield
Provo
Springville
Spanish Fork
Mapleton
Salem
Payson
Woodland Hills
Genola
Ewell Dam
Santaquin Debris Basin Dam
Maple Lake Dam
Dry Lake Dam
Big East Dam
Goshen
12/27/2021
1:450,000
0 3 6 12 mi
0 4.75 9.5 19 km
USA Flood Hazard Areas
1% Annual Chance Flood Hazard
0.2% Annual Chance Flood Hazard
Regulatory Floodway
Area with Reduced Risk Due to Levee
Dams
Dam Failure
Sources: Esri, HERE, DeLorme, increment P Corp., NPS, NRCan, Ordnance Survey, © OpenStreetMap contributors, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user
MAG

Overview

Although Utah is considered a dry state, flooding does occur. Most floods occur either from snow melt or severe thunderstorms. Oftentimes flooding is increased by soils that are more impervious due to either wildfire or drying out. Floods occur on a regular basis in Utah County.

Profile

Frequency	Some flooding happens within Utah County on almost a yearly basis.
Severity	Moderate
Location	Primarily along streams, rivers and along the shores of Utah Lake
Seasonal Pattern	Spring time due to snow melt. Isolated events throughout the year due to severe weather (microburst).
Duration	A few hours to a few weeks depending upon conditions
Speed of Onset	1 to 12 hours
Probability of Future Occurrences	Moderate - for delineated floodplains there is a 1% chance of flooding in any given year.

Development Trends

As development occurs on the bench areas of Utah Valley, along the shore of Utah Lake, or along river and stream corridors, more homes will be in danger of floods. Communities need to make developers and homeowners aware of the danger as well as contribute to mitigation actions. Cities should review every development that it is in compliance with NFIP guidelines.

The following table identifies the communities in Utah County with their NFIP Status.

Communities Participating in NFIP

Jurisdiction	Floodplain	Map Date	Floodplain Admin
Alpine	Alpine participates in the NFIP. Though a few homes are located in the floodplain, it is very narrow and no new buildings are expected. Alpine has a Floodplain Damage Prevention Ordinance and well-organized Floodplain Permit. Alpine spent $400k in 2013 to construct a wall which effectively protected its repetitive loss property from a debris flow that year.	June 2020	Jed Muhlestein, City Engineer
American Fork	Participating in NFIP. City code 15.16 Addresses Floodplain Management, including floodplain administrator, building & subdivision requirements, etc.	June 2020	Rebecca Andrus, City Engineer
Cedar Fort	No Special Flood Hazard Area		Mayor Gustin
Cedar Hills	Not participating in NFIP. Cedar Hills does have a very small portion of 0.2% annual chance floodplain in the northernmost part of town, but none of it is developable; either on a golf course or in the Pleasant Grove Ditch. Code 11.7.10 addresses zoning for environmental hazards, including floods.	June 2020	Chandler Goodwin, City Manager
Eagle Mountain	No Special Flood Hazard Area		Ifo Pili, City Administrator
Elk Ridge	No Special Flood Hazard Area		Royce Swensen, City Recorder
Fairfield	No Special Flood Hazard Area		n/a
Genola	Participating in NFIP. Genola adopted a Flood Damage Prevention Ordinance in 2020. Floodplain is directly on or close enough to White Lake that development is not likely.	June 2020	Lucinda Thomas, City Clerk
Goshen	Not participating in NFIP. Goshen doesn't currently have any floodplain in city boundaries.		Mayor Staheli
Highland	Participating, incorporated 2021 NFIP updates, has projects for both rivers in city. Highland has a Flood Damage Prevention Ordinance as well as Provisions for Flood Damage Prevention.		Nathan Crane, City Administrator
Lehi	Participating in NFIP, has code sections for Flood Damage Prevention and Provisions for Flood Hazard Reduction as well as additional requirements for the Utah Lake Shoreline and Jordan River Protection zones.	June 2020	Ross Dinsdale
Lindon	Participating in NFIP, has code for Flood Damage Prevention, Storm Drainage and Flood plans, and Methods of Reducing Flood Losses.	June 2020	Michael Florence, Planning Director

Mapleton	Participating in NFIP. Mapleton has a Flood Damage Prevention Ordinance and has several small projects and development standards designed to capture the first inch of water as it cannot discharge water to Springville.	June 2020	Cory Branch, City Administrator
Midway City	Participating in NFIP, has a Flood Damage Prevention Ordinance as well as Midway City Floodplain Overlay zones and a Sensitive Lands Overlay Zone that provides additional protection for streambeds and other flood-prone areas (Chapter 16.14) Any residential construction within 50 feet of a delineated flood zone shall have the lowest floor elevated 18 inches above the base flood elevation as shown on the FIRM and no construction is allowed within 50 feet of a floodplain in large-scale subdivisions.	2012	Michael Henke, City Planning Administrator
Orem	Participating in NFIP. City code sections 7, 10, and 17 address development standards in the floodplain, a Flood Damage Prevention Ordinance, and Supplementary Design Standards for high-risk areas.	June 2020	Planning Manager Jason Bench
Payson	Participating in NFIP, has a Flood Damage Prevention and Sensitive Lands Ordinance with additional requirements for lands near streambeds.	June 2020	City Engineer Travis Jockumsen
Pleasant Grove	Participating in NFIP, has Flood Damage Prevention and Sensitive Lands ordinances.	June 2020	Engineer Marty Beaumont
Provo	Participating in NFIP and CRS, adopted 2020 FIRMs, study of Provo River levees and Utah Lake underway. The General Plan has a Flood Hazard & Control and Environmental Hazards section, as well as sections of code for Floodplain Management and Development Standards.	June 2020	Robert Mills
Salem	Participating in NFIP and has adopted most recent FIRMs. Has a Flood Damage Prevention section of code, but there is more flooding risk at the base of canyons and from canals than in the 100-yr floodplain. Development code reads, "All subdivision proposals shall be consistent with the need to minimize flood damage. The subdivision layout shall make adequate provision for natural drainage channels and floodways. All water, sewer, and other utility systems and facilities located in designated flood areas shall be designed and constructed to minimize flood damage, including the infiltration of flood water into the system, or the discharge of the system into the flood waters. Base flood data shall be provided by the developer as part of the preliminary plat."	June 2020	Ryan Steeley
Santaquin	Participating in NFIP, has a section of code for development in Floodplain Areas	June 2020	Community Development

			Director Jason Bond
Saratoga Springs	Participating in the NFIP, though there are no Special Flood Hazard Areas. The City recently completed a storm drainage study of the entire geographic area of the City. This study indicates areas more susceptible to flood damage and makes recommendations concerning the correct locations of detention ponds, storm channels and culvert facilities. The city will be installing these improvements over the next 10 years, as needed, to accommodate growth in existing and future neighborhoods. The City has also had the practice of trying to raise awareness of issues like flooding so that you can take whatever steps you need to ensure maximum protection. The City has already made or required developers to make improvements to install storm drain ponds, underground drain systems, and open storm channels leading to Utah Lake. The City also has several regional park facilities planned of over twenty (20) acres in size that will collect storm water during large storms. These facilities are all designed to divert and collect water away from residential areas. The City also requires Floodplain Development Permits (FDPs) any time that fill or structural improvements are proposed in the regulatory floodplain. The regulatory floodplain is that area shown on the approved FEMA Flood Insurance Rate Maps (FIRMs). These maps are available on the city website (see quick links) or at FEMA's Website. More complete and detailed information on floodplain management regulations and procedures can be found in Section 18.02 of the City Code." 4.4.3 Goals to reduce/avoid long-term vulnerabilities to the identified hazards (Requirement §201.6(c)(3)(i)) Mitigation of vulnerabilities in the long-term will be done in the following four ways: a) Mitigation options for currently known hazards are listed in Table 4.1 provides a summary of currently identified hazard mitigation actions over the next ten years (2017 to 2026). This is the same table as in the MAG plan (since the City provided this table to MAG). b) Mitigation measures may be incorporated into capital improvement plans. Hazard mitigation is achieved over the long term by incorporation of hazard mitigation into capital improvement projects, as previously described in Section 4.3. c) Mitigation measures will be accomplished by participating in other mitigation regional actions in the MAG plan (not relisted here).	No Special Flood Hazard Area	City Engineer Jeremy Lapin

	d) Mitigation measures will be accomplished by incorporating mitigation actions in the State of Utah Plan, as described in Attachment E (not relisted here). As recommended by FEMA (in comments dated August 17, 2017) future plan updates may incorporate master planning updates and other updated plans, such as transportation corridor and storm water plans. Future plan updates to the City's Plan (done every five years) may also incorporate future MAG and State of Utah Plan updates, as appropriate.		
Spanish Fork	Participating in NFIP, Section 8.32 of City Code deals with Flood Control.	June 2020	Surveyor Travis Warren
Springville	Participating in NFIP, has a Flood Damage Prevention Ordinance and Floodplain Overlay Zone, and has projects underway to move homes out of the 100 yr. floodplain.	June 2020	Engineer Jeff Anderson
Utah County	Utah County participates in the NFIP and uses the latest FIRMs. It is involved in multiple flood mitigation studies and projects and has Flood Protection and Critical Environmental Zone ordinances.	June 2020	Zoning Director Bryce Armstrong
Vineyard	Participating in NFIP, section 15 of the zoning code is a Flood Damage Prevention ordinance. There are no structures in the floodplain.	June 2020	Building Official George Reid
Woodland Hills	Participating in NFIP, City Code chapter 10 is the Flood Damage Prevention Ordinance and chapter 9 is a Flood Hazard and Natural Hazard Study requirement for new development in hazard-prone areas.	June 2020	Public Works Director Corbett Stephens

The primary goal for non-participating communities is to become a participating member of the NFIP.

Assessing Vulnerability: Addressing Repetitive Loss Properties

There are 2 repetitive loss facilities, one each in Alpine and Provo. Alpine has done extensive work around their facility.

History

Following are the narratives from a few of the more damaging floods/flash floods in Utah County. Flooding following fire is a common theme.

Santaquin, 9/12/2002

$3,200,000

Heavy rains over several days caused flash flooding and mudslides below a burn area in Santaquin. The rain also caused a canal to overflow its banks in the same area, making conditions even worse. An estimated 3 million dollars damage was done to city about 40 homes and several vehicles as mudslides up to 7 feet deep moved down the hillside. No injuries were reported.

Utah County, 9/7/2013

$2,943,600

Heavy rain caused flash flooding across much of urban Utah County, with multiple locations recording 0.6-0.8 inches of rain in only 15 minutes. The most significant damage from flooding was reported in Provo, Orem, Payson, and Santaquin. Street flooding was widespread and some roads incurred major damage, with the worst damage occurring at 900 North and Grand Avenue in Provo, where water undercut and washed out a large portion of the asphalt road. Debris from the storm was scattered across most local roadways, taking several days to clean up, and even closed some roads for a period of time. Flowing water caused also caused significant damage to large concrete stairs at Lions Park in Provo. At University Mall in Orem, water quickly filled the parking lot, submerging many cars in more than a foot of water.
Residential areas also received significant flood damage. In Provo, at least 25 homes had major damage, with more than 50 receiving minor damage. In Orem, approximately 30 homes received flood damage. In Santaquin, about 30 homes had flooding a foot deep or more, while about 30 other homes had flooding with less than a foot of water. Water wasn't the only problem in Santaquin, as the storm drainage system became overwhelmed, and raw sewage flowed into many homes.
Finally, the flooding also impacted Timpanogos Cave National Monument, where heavy rain and associated debris stranded 150 hikers for several hours, before rangers were able to clear a path and rescue them. The Monument was closed for two full days while debris was cleaned up from both the hiking trails and nearby State Route 92.

Bald Mountain and Pole Creek, 10/7/2018

The Bald Mountain and Pole Creek Fires started on August 24, 2018 and September 6, 2018, about 15 miles south of Provo, Utah in the Uinta-Wasatch-Cache National Forest. The relative risk of both fires was determined to be low and they were monitored until September 10 when weather changes brought strong winds and a series of Red Flag Warnings. The two fires soon merged and burned together until they were fully contained on October 7, 2018. The Bald Mountain Fire caused mandatory evacuations of Elk Ridge

and Woodland Hills. The Pole Creek Fire triggered mandatory evacuations for the Covered Bridge and Birds Eye communities, along with Diamond Fork and Right Fork Hobble Creek Canyon. The two fires combined resulted in a total of 120,851 acres burned.

As a result of the burn severity, the potential for flash flooding and debris flow was high in some areas; threatening critical infrastructure, watershed, and the safety of residents. Utah County utilized the Emergency Watershed Protection Program to fund mitigation projects in multiple locations across the County. The project was broken up into 7 separate Damage Survey Reports and 6 different project areas including Utah County, Payson, Salem, Elk Ridge, Spanish Fork, and Woodland Hills. Major areas of concern included Diamond Fork, Lake Fork, Bennie Creek, Nebo Creek, Santaquin Canyon, and drainages near Spring Creek. The following projects were included in the application, sponsored by Utah County:

DSR 1 – Santaquin City/Utah County

1. Summit Creek - stream rehabilitation and debris removal
2. Santaquin Eastside Park - debris removal and installation of various types of silt fence 3. Crooked Canyon/Picayune Canyon – drainage and channel rehabilitation, earthen berm and rock riprap as well as installation of various types of silt fence
4. Santaquin Debris Basin - sediment removal

DSR 2 – Payson City/Utah County

1. Peteetneet Creek – stream rehab items including rock riprap, gabion baskets, earthen berm, culvert rehabilitation, channel cleaning and debris removal, and various types of silt fence
2. Payson Debris Basin – sediment removal

DSR 3 – Elkridge City

1. Loafer Canyon – earthen berm construction, installation of various types of silt fence, channel cleaning and debris removal

DSR 5 – Spanish Fork City

1. Crab Creek Spring – collection protection including installation of various types of silt fence and stream rehab including re-channelization, rock riprap, earthen berm, and culvert rehabilitation

DSR 6 – Woodland Hills City

1. Drainage rehabilitation including various types of silt fence installation, debris removal, rock riprap, channel cleaning and debris removal, and earthen berm

DSR 7 – Utah County

1. Nebo Creek - stream rehab items including rock riprap, gabion baskets, earthen berm, culvert rehabilitation, channel cleaning and debris removal, and various types of silt fence
2. Nebo Bridge – inlet and outlet protection control utilizing various types of silt fence and rock riprap, removal of debris
3. Eagles Landing - drainage and channel rehabilitation, earthen berm and rock riprap as well as installation of various types of silt fence
4. Diamond Fork - drainage and channel rehabilitation, earthen berm and rock riprap as well as installation of various types of silt fence
5. Thistle Debris Basin – sediment removal

Utah County is currently working toward additional mitigation projects through the Watershed Operations Program by conducting environmental studies to determine more permanent and long-term solutions to reduce flooding and debris flows affecting various communities.

Utah County and its cities have received a total of $671,397.02 in NFIP claims since 1978.

Dam Failure

Although there are no recorded dam failures in Utah County, there are several high-risk dams. Each has its own emergency action plan and is regularly inspected. See waterrights.utah.gov DamView for more information or the Regional Hazards section of this plan for an assessment of Deer Creek and Jordanelle dams.

Name	Miles to first downstream town	First downstream town	County
Battle Creek	0.2	Pleasant Grove	Utah
Big East	10	Payson	Utah
Box Lake	11	Payson	Utah
Dry Creek	3	Lehi	Utah
Grove Creek	0.1	Pleasant Grove	Utah
Highland Northwest Irrigation	0	Highland City	Utah
Highland Pressure Pond	0	Highland City	Utah
Hobble Creek Debris Basin	2	Springville	Utah

Israel Canyon	0	Saratoga Springs	Utah
Lehi Sandpit	0	Lehi	Utah
Lindon Dry Canyon Debris Basin	1	Orem	Utah
Lindon Irrigation Project I	0.1	Lindon City	Utah
Lindon Irrigation Project II	0.1	Lindon City	Utah
Maple Lake	8	Payson	Utah
Rock Canyon Debris Basin	0.1	Provo	Utah
Santaquin Debris	1	Santaquin	Utah
Santaquin Pressure Irrigation Reservoir	0	Santaquin	Utah
Saratoga Springs Secondary Water Pond	0	Saratoga Springs	Utah
Silver Lake Flat	12	American Fork	Utah
Slate Canyon Debris Basin I	0.1	Provo	Utah
Slate Canyon Debris Basin II	0.1	Provo	Utah
Spanish Fork Pressure Irrigation Pond	1	Spanish Fork	Utah
Tibble Fork	1	American Fork	Utah
Winward	8	Payson	Utah

Mitigation

Strategies include:

Incorporate flood mitigation into local planning by developing a floodplain management plan, mitigating hazards during planning, establishing a "green infrastructure" program to link greenways, and obtaining easements for water retention and drainage

Form partnerships to support floodplain management such as a regional watershed council or citizen committee to discuss issues and recommend projects.

Limit or restrict development in floodplain areas by providing incentives to develop elsewhere, protecting buffers around water resources, limiting impervious surfaced within developed parcels, or prohibiting development in the floodplain.

Adopt and enforce building codes and development standards such as the International Building Code and increasing "freeboard" requirements aka the number feet above base flood elevation that new building must have.

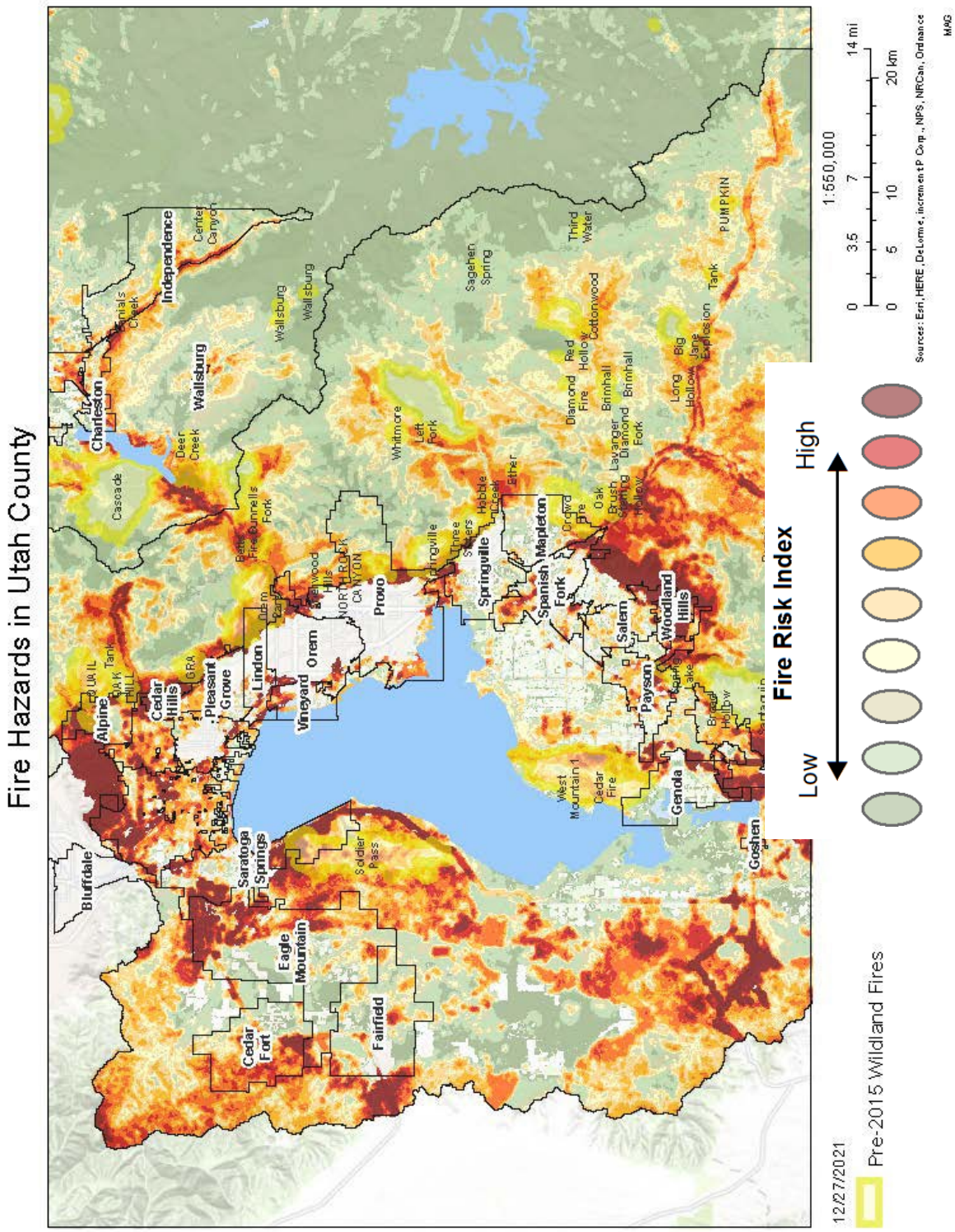
Improve stormwater management planning by completing stormwater drainage studies and master plans, regulating development in upland areas to reduce runoff, and encouraging low impact development techniques.

Adopt policies to reduce runoff such as more trees, on-site retention for stormwater and firefighting, and encouraging porous pavement and vegetation in parking areas.

Use natural systems such as preserving wetlands and riverbanks, restoring vegetation, acquire open space in targeted areas, and offer density bonuses to developers for leaving flood-prone areas vacant.

Protect and enhance infrastructure and critical facilities by elevating roads and bridges, floodproofing water treatment facilities, stabilizing shoulders and embankments, installing backup generators, expanding culverts, and require new critical facilities be built outside the floodplain.

Wildland Fire



Overview

Fire is a natural part of every ecosystem, but decades of wildland fire suppression during a historically cooler time period resulted in a buildup of fuels (vegetation) and development in wildfire-prone areas. With the 2010's megadrought, increased outdoor recreation, development pressure, and climate change the likelihood of damaging fire is increasing.

Though we have more assets in high-risk areas, the technology for early warning and fire-hardened homes has also advanced. This combined with better planning and enforcement can improve protection of assets already in place.

Wildfires occur on a regular basis in Utah County. Most fires occur in the late summer to early fall. Although many fires occur from natural causes such as lightning, humans cause over half of all fires. Sparks from trains traveling on the railroad cause many small fires in south Utah County. People riding ATV's, using fireworks and campfires also start a number of fires in the area. Burn scars near populated are particularly difficult to manage, contributing to landslides and floods during rain events.

Profile

Frequency	Multiple wildland fires occur in Utah County Every year.
Severity	Moderate/Limited
Location	Hillsides and mountainous areas, vegetated areas near rivers, open grass and rangelands.
Seasonal Pattern	Summer and fall depending on weather conditions.
Duration	A few hours to a few weeks depending upon conditions
Speed of Onset	1 to 48 hours
Probability of Future Occurrences	Highly Likely 70 fires required management in the past 6 years alone

Development Trends

As development occurs on the bench areas of Utah Valley more homes will be in danger of wildfire. Utah County has one of the greatest percentages of developable lands in the

wildland-urban interface in the state. Communities need to make developers and homeowners aware of the danger. Cities should also require firebreaks and access roads along urban/wildland interfaces. Although development brings homes closer to areas of potential wildfire, it also brings water and access for firefighters closer to the urban fringe. FIREWISE community development principles, such as not storing firewood near homes, installing fire resistant roofing and cleaning debris from rain gutters will reduce potential losses.

History

Following are a few of the most significant since 2016. More than half of fires are human caused and even relatively small fires, if near critical facilities, can be quite costly. Fortunately, no lives have been lost and few structures destroyed in the past decade.

Incident Name	Start Date	$ Spent Fighting Fire	Acres	Fire Cause	Specific Cause
Coal Hollow	August 4, 2018	$14,832,358	24,571	Natural	Lightning
Bald Mountain	August 24, 2018	$9,397,458	18,603	Natural	null
Bennion Creek	June 4, 2021	$6,175,979	8,298	Natural	Lightning
William	September 6, 2020	$5,733,509	5,832	Human	Fireworks (Consumer or Personal Use)
Range	October 17, 2020	$2,728,834	3,379	Human	Fire Arms Use
Tank Hollow	August 11, 2017	$1,235,985	1,200	Natural	Lightning
Knolls	June 28, 2020	$1,081,424	12,584	Human	null
Ether Hollow	September 7, 2020	$1,051,368	848	Human	Fire Arms Use
Round Peak	July 15, 2019	$1,026,916	236	Human	Campfire
Pole Canyon	July 15, 2020	$767,634	487	Human	Other, Unknown
Battle Creek 2	September 12, 2020	$745,886	188	Human	Default
Goose Point	August 21, 2019	$696,485	8,908	Unknown	Other Small Equipment
Goshen	September 13, 2020	$691,557	372	Human	null

Battle Creek	August 16, 2020	$621,704	40	Human	Default
Alaska	July 30, 2019	$584,122	489	Unknown	Default

The Coal Hollow in 2018 began with a lightning strike in southeast Utah County and quickly grew to thousands of acres in hot, dry conditions. The fire prompted evacuations in Utah, Sanpete, and Carbon counties and required hundreds of firefighters to contain. It threatened hundreds of homes, rail lines, and I-6, a major trucking route. The fire also contributed to unhealthy air quality in adjacent counties, stifling summertime recreational activity. The fire was eventually suppressed as winds died down, consuming a total of 25,000 acres and costing over $14 million to fight, not to mention lost productivity due to the closure of I-6 and evacuations. About a year after the fire, the Utah National Guard flew over the burn scar with the director of the Department of Air Quality, Congressmen Curtis and Ellertson, Utah National Guard Generals, Engineers and others.

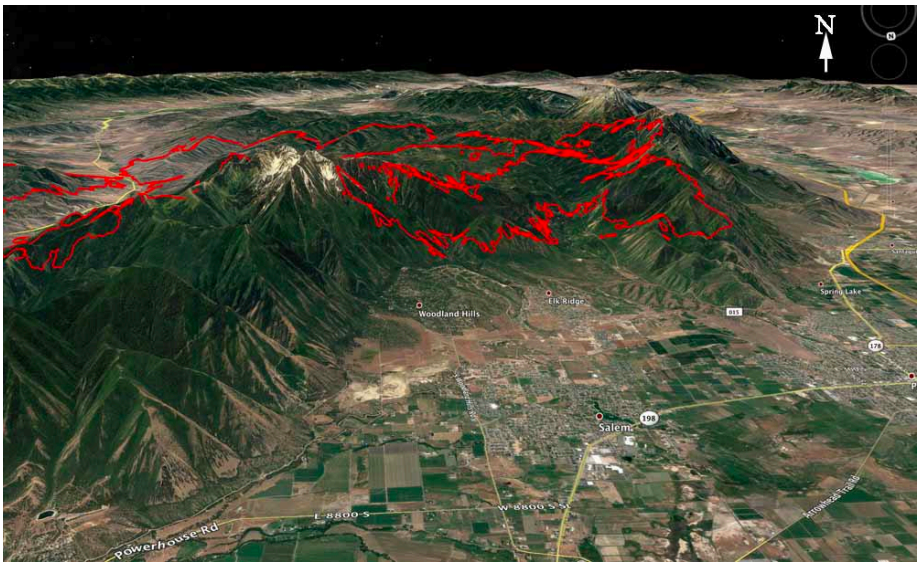
Worries about secondary hazards (flood, debris flow, and mudslides) had the National Guard and residents staging equipment such as jersey barriers and sandbags along high-risk areas. A mudslide did close Diamond Fork Road temporarily.

(Deseret News, Daily Herald, and Utah National Guard)

“The Bald Mountain and Pole Creek Fires started last year on August 24 and September 6 respectively about 15 miles south of Provo, Utah in the Uinta-Wasatch-Cache National Forest. Both fires were initially managed in a less than full suppression mode — allowed to spread within lines drawn on a map. Rainfall amounts ranging from 1.3" to 2.3" on August 25 put a damper on the fire activity, but within days the Energy Release Component had returned to the 90+ percentile range. Meanwhile the area had been classified as in Severe Drought by the Drought Monitor.

“The weather changed on September 10, bringing strong winds and a series of Red Flag Warnings causing the two fires to burn together. The final size was 120,851 acres.

“The Bald Mountain Fire caused mandatory evacuation of two cities: Elk Ridge and Woodland Hills. The Pole Creek Fire triggered mandatory evacuations for the Covered Bridge Community of the Spanish Fork Canyon along with the Diamond Fork Canyon and the Right Fork Hobble Creek Canyon areas.” -Wildfire Today



Communities At Risk

The following list consists of communities throughout Utah that have been determined by wildland fire officials to be at risk from wildland fire. The "Overall Score" represents the sum of multiple risk factors analyzed for each community. Examples of some risk factors are fire history, local vegetation, and firefighting capabilities. The Overall Score can range from 0 (No risk) to 12 (Extreme risk). This score allows Utah's fire prevention program officials to assess relative risk and create opportunities for communications with those communities on the list. Bolded communities are those with a Community Wildfire Preparedness Plan.

Community Name	Overall Score	Community Name	Overall Score
Payson Canyon	10	Soldiers Summit Development	8
Cedar Fort	9	Spanish Fork Canyon	8
Dream Mine	9	Springdell	8
Elk Ridge	9	Tibble Fork	8
Silver Lake	9	Alpine Cove	7
Vivian Park	9	Elberta	7
Woodland Hills	9	Fairfield	7
Alpine	8	Genola	7
Cedar Hills	8	Goshen	7
Covered Bridge	8	Lindon	7
Diamond Fork Canyon	8	Mapleton	7
Eagle Mountain	8	Payson	7
Highland	8	Pleasant Grove	7
Hobble Creek	8	Salem	7

Lehi	8	**Santaquin**	7
Loafer Canyon	8	Spanish Fork City	7
Orem	8	Spring Lake	7
Provo	8	**Sundance**	7
Sheep Creek	8	Vineyard	7
Soldiers Summit Development	8	American Fork Canyon	6
		Saratoga Springs	6
		Springville	6
		Wanrhodes Basin	6
*Bolded Communities have developed a Community Wildfire Preparedness Plan with FFSL			

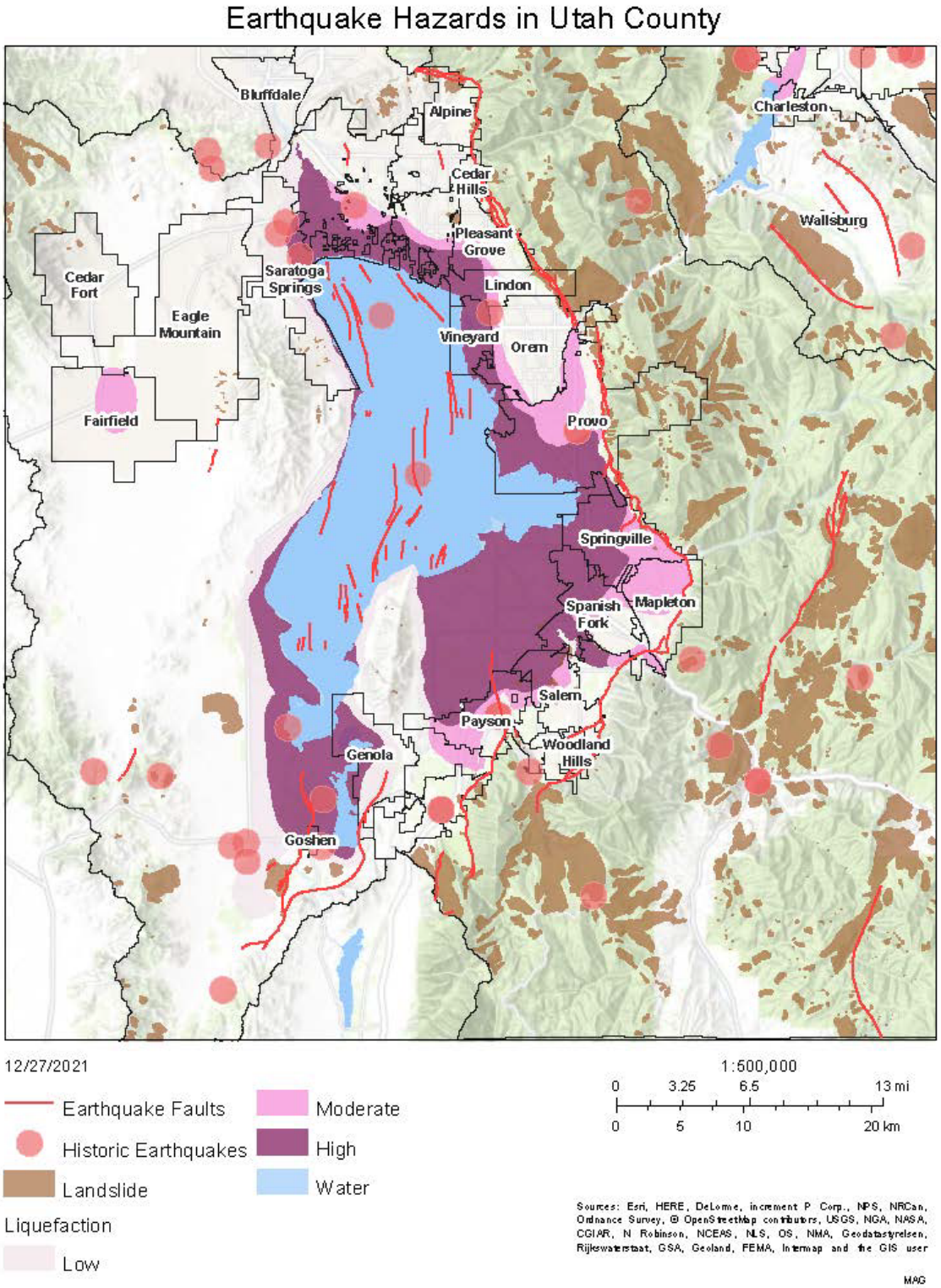
Mitigation

The FFSL has helped communities develop Community Fire Plans. According to the FFSL, the purpose of community fire planning is to:

- Empower communities to organize, plan, and take action on issues impacting community safety
- Enhance levels of fire resistance and protection to the community
- Identify the risks of wildland/urban interface fires in the area
- Identify strategies to reduce the risks to homes and businesses in the community during a wildfire

Other strategies include limiting development in the Wildland Urban Interface, fuel management, prescribed burns, hardening buildings against fire with appropriate shingles, vent covers to prevent embers entering home, maintaining an emergency water supply and appropriate water pressures, using appropriate plantings around homes, and much more. See **wildfirerisk.org** or FEMA's **Strategies handbook** for a more complete list.

Landslide


Earthquake Hazards in Utah County
Bluffdale
Alpine
Charleston
Cedar Hills
Wallsburg
Pleasant Grove
Cedar Fort
Saratoga Springs
Lindon
Eagle Mountain
Vineyard
Orem
Fairfield
Provo
Springville
Spanish Fork
Mapleton
Salem
Payson
Woodland Hills
Genola
Goshen
12/27/2021
Earthquake Faults
Historic Earthquakes
Landslide
Liquefaction
Low
Moderate
High
Water
1:500,000
0 3.25 6.5 13 mi
0 5 10 20 km
Sources: Esri, HERE, DeLorme, increment P Corp., NPS, NRCan, Ordnance Survey, © OpenStreetMap contributors, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user
MAG

Overview

Landslides are common natural hazards in Utah that occur when the pull of gravity becomes greater than the cohesion of soil. Land movement can occur without warning and can result in destructive, costly outcomes. Various types of landslides in Utah are debris flows, slides, and rockfalls.

Steep slopes, mountainous terrain, rock types, and narrow, debris-choked canyons all contribute to our region's susceptibility to landslide hazards. Wildfire can remove stabilizing vegetation and increase landslide risk. Many hillslopes are prone to mass movement, particularly where development has taken place on existing landslides or where grading has modified a slope and reduced its stability. Therefore, historical landslides, prehistoric landslides, and steep slopes prone to mass movement must be thoroughly investigated prior to development activities, along with regional groundwater and landscape and other irrigation activities. Excessive irrigation can easily cause a neighbor near or on a slope to lose their home from a landslide by elevating the groundwater table.

The foothills and alluvial fans on the bench areas of Utah County are quickly developing. Landslides and debris flow often occur after a wildfire event. The following table illustrates the vulnerability assessment for landslides in Utah County.

Profile

Frequency	Movement occurs nearly every year.
Severity	Critical, several structures have been condemned and major transportation routes temporarily closed
Location	Along most benches and hillsides, especially near burn scars.
Seasonal Pattern	Spring when ground saturation is at its peak.
Duration	Minutes to years.
Speed of Onset	Seconds to days.
Probability of Future Occurrences	Moderate: 25%

Development Trends

Development along the foothills and bench areas is very desirable and as more development occurs, more homes will be at risk for landslide damage. As more of the county land is developed, marginal areas with problematic soils will be developed. Increased analysis and geotechnical reports should become an integral part of the development and building process. Careful consideration should be given to ensure cutting and filling for any project is minimized.

History

Landslide/Debris Flow

Location	Date	Damages	Source	Details
Utah	12/27/1964	$500	SHELDUS	
Utah	1/1/1983	$200,000,000	SHELDUS	Record precipitation triggered many landslides, including Thistle
Utah	1/1/1983	$8,603,666.52	SHELDUS	
Utah	1/1/1984	$1,471,256.97	SHELDUS	
Santaquin	9/12/2002	$500,000	Utah Geologic Survey	The Mollie fire in 2001 and days of light rain created the conditions for the debris flow by exposing bare soil and saturating ground.
Provo	9/10/2003	$0	SHELDUS	Debris-Flow, Fire related. Damages prevented by diversion works.
Spring Lake, Santaquin	7/26/2004	$500,000	SHELDUS, the Geological Society of America	Debris-Flow, Fire related
Sage Vista Lane, Cedar Hills	4/28/2005	$1,000,000	FEMA Disaster Declaration & Utah Geological Survey	Above-average precipitation reactivated historic landslides, exacerbated by development at the base of the hill.

Provo	5/12/2005	One guest house damaged	SHELDUS, Utah Geological Survey	A 13-ton rock rolled down Y mountain over a mile after a spring storm, coming to a stop in a guest house.
Sherwood Hills, Provo	6/28/2005	Multiple homes condemned	SHELDUS	High groundwater tables after a wet winter triggered slow slide
Utah County	9/7/2013	$200,000	NOAA	Summer storms combined with fire scars resulted in several landslides this year.
Utah County	8/22/2013	$15,000	NOAA	
Utah County	7/16/2013	$10,000	NOAA	
Utah County, Tank Hollow & Birdseye	9/8/2019	$149,000	NOAA	Heavy rain over the Tank Hollow & Pole Creek Fire burn scars produced a debris flow across U.S. Highway 6 at milepost 202.

Case Studies

Thistle Slide

In 1983 the town of Thistle, Utah, known to many highway travelers as the small community where both the Spanish Fork River and nearby U.S. highways branch, was eliminated by the costliest landslide on record in the United States.

Thistle was located at the triple junction of transportation systems leading south to Sanpete County, east to the coal counties of Carbon and Emery and points beyond, and northwest to the Wasatch Front and Salt Lake City. Two major highways converged at Thistle (U.S. Highways 89 and 6). Until the landslide, two rail lines also converged at Thistle--the main line of the Denver and Rio Grande Western Railroad (D&RGW) joining Denver and Salt Lake City, and a branch line to Marysvale.

Storms heralding the 1982 to 1986 wet cycle kicked off the wettest month ever recorded at the Salt Lake City International Airport in September 1982, and saturated the ground before the winter snows. The winter was neither exceptionally wet nor cold. However, snows and cold nights continued late into April and May 1983, and resulted in an unusually late and sudden snowmelt when temperatures did warm up. May snowpacks of northern Utah averaged two to three times their normal. Utah's landslide problems correlate with precipitation and snowmelt. Two large landslides in the early spring alerted geologic experts to the situation. The National Weather Service briefed local and national officials

about the unusual conditions. Yet even with the geologic and climatic indicators, the events of April, May, and June caught the state by surprise.

Starting in January, the D&RGW watched the Thistle area as well as several other landslide-prone areas near Soldier Summit. Their geotechnical experts visited the area on April 12. Days later, when the Thistle landslide began to move visibly, no one recognized it as a major hazard. The railroad tracks went out of alignment on Wednesday, 13 April. The highway became bumpy, fractured, and became impassable on Friday, 15 April. The streambed and deposits on the canyon floor rose approximately one foot an hour as a huge tongue of earth piled up against the bedrock buttress of Billies Mountain, filled the canyon, and dammed the river. The waters of the Spanish Fork River rapidly created Thistle Lake upstream of the landslide dam.

The railroad company and the Utah Department of Transportation (UDOT) initially tried to keep the railroad tracks, highway, and river open. Sunday, 17 April the landslide defeated efforts to cut down through the rising toe of the landslide and allow passage of the river water. Efforts to siphon waters rising behind the landslide dam also failed. Rising lake waters drowned the community of Thistle. That very day, the president of the D&RGW announced at Thistle that the railroad would tunnel a new railroad course through Billies Mountain. To be successful, the tunnel had to be above Thistle Lake's eventual highest water line. Railroad experts in consultation with the state decided to form the landslide into a dam and to construct an overflow spillway tunnel to control the uppermost rise of the lake. Having calculated how fast an overflow tunnel could be constructed, and how fast the lake would rise, they began drilling. The state took charge of public safety priorities. Armies of workers and heavy equipment shaped the landslide dam while it moved by transferring 500,000 cubic yards of earth from the middle area of the landslide onto its toe. This also provided a platform from which to construct the tunnels. The state constructed a third tunnel to drain the impounded water. UDOT decided to relocate the highway over Billies Mountain. The Army Corps of Engineers constructed a pumping system to keep Thistle Lake from rising to dangerously high levels.

The impounded water rose at approximately the rate predicted and the D&RGW contractors completed the overflow tunnel system with two days to spare. Trains passed through the new tunnel on 4 July, eighty-one days after the initiation of the project and eleven days before the contracted completion date. The new tunnel provided a permanent bypass for the Spanish Fork River around the landslide. The relocated highway encountered difficult geotechnical problems. The highway opened at the end of the year but was often closed due to major rockfalls and slope stability problems.

The town of Thistle was destroyed. The Marysvale branch line of the railroad was never reopened, leaving a large area of central Utah without rail service. Thistle resulted in Utah's first presidential disaster declaration and became the costliest landslide the United States

had experienced. The Utah Business and Economic and Research Bureau reported the following dramatic impacts of the landslide. The D&RGW and Utah Railway embargoed all shipments that normally went through Thistle. The rerouting surcharge of $10 per ton virtually stopped coal shipments. Two trucking companies laid off workers, cancelled contracts, and even suspended operations. Most of the area's coal mines laid off miners, cancelled contracts, and experienced shut downs. Some miners' commutes suddenly exceeded 100 miles. Some coal haulage commutes trebled. Due to market conditions and the Thistle landslide, coal production dropped nearly 30 percent in 1983. Uranium producers paid substantially more for supplies in an already soft market. At least one oil company became non-competitive due to increased travel costs. Tourism in the area, particularly in-state tourism, sagged in response to negative publicity and difficult access. To the south, the blockage of route 89 and the Marysvale line hurt coal companies, turkey and feed operations, and gypsum, cement, and clay shipments.

The Thistle landslide caused total estimated capital losses of $48 million and revenue losses of $87 million, plus associated losses in tax revenues. Direct costs of Thistle tally over $200 million, including relocating the railroad at a cost of $45 million, relocating the highway at a cost of $75 million, and lost revenue to the railroad of $1 million per day (which totaled $80 million, including $19 million in charges that the D&RGW paid the Union Pacific to use their rail lines).

See: O.B. Sumsion, Thistle . . . Focus on Disaster (1983).

Buckley Draw- Springville Fire

The Springville fire started on June 30, 2002 at 7:19 p.m. The fire burned a total of 2,207 acres above dozens of homes. The immediate post fire impacts for Provo City were: loose surface rock, silty and sandy soils, and blackened steep (40% grade) hillsides. Steep terrain and impervious soils cause rapid run off with rocks. Post fire conditions increased sediment expectations to 13 tons per acre. Brian McInerney of the NWS stated our risk level was the highest in the state.

Recommendations for mitigation offered to Provo City included the Uinta National Forest rehabilitating the burn area with vegetation (seed and mulch) and installing wire fences in the upper channel. The Natural Resource Conservation Service (NRCS) and the Emergency Watershed Program (EWP) implemented temporary measures to reduce the transport of sediment. Additionally, a Rain Activated Weather Station (RAWS) unit was relocated to the Buckley Draw area (elevation of 9,143 feet) to monitor site conditions on Sunday, July 13, 2002.

Provo City held public meetings on Sunday, July 13, and Monday, July 14, 2002 to present information and resources for the residents. National Flood Insurance Program (NFIP) information distributed. Sandbags and sand drops were scheduled and delivered.

On July 15, 2002, information was distributed to the neighborhood regarding the increase in risk of post fire debris flow, with information about the NFIP program. Communication links to relay current hazard information to the residents were established. The evacuation plan was updated.

On July 16, 2002 a helicopter overview of the burn area was taken. Provo Public Safety responders had a Post Fire Debris Flow Risks in Utah class on July 31, 2002. NRCS and the EWP engineered a trench to redirect potential debris flow. Provo City obtained the necessary property agreements. Two debris flow events just to the north and just to the south of Provo in September, 2002 provided motivation to secure agreements and build the trench.

A SNOTEL was installed above the Little Rock Canyon drainage to monitor soil moisture and snow pack conditions on 22 October, 2002.

At the April 29, 2003 neighborhood meeting, the debris flow in Santaquin was contrasted with the conditions at the Buckley Draw. Plans for trench construction were discussed. A flag notification system and evacuation plan for the residents for the risk level was proposed and accepted. A web link with updated hazard information, a phone 'hot line' with an updated message, and a notification procedure alerting the Neighborhood Chair of any changes in the hazard level were implemented. A practice evacuation drill was held on Saturday, May 10, 2003.

The 1500 feet long trench was essentially complete on July 28, 2003. Weather conditions continued to be monitored on a daily basis.

At approximately 3:00 a.m. on September 10, 2003, four separate debris flows were triggered. The second largest flow came down the newly finished trench. There was little or no warning. This flow would have been life threatening and would have caused significant property damage without the debris trench in place. The spreader fences in the debris field distributed the runoff materials and completely contained this debris flow.

Mitigation

In Utah County, most recent mass movement is the result of rain on burn scars, and the strategies to for fire will also apply to this secondary hazard.

Nearly all recent landslides have occurred as reactivations of pre-existing landslides. Some strategies include:

Prohibit building on steep slopes, require thorough investigations and geotechnical studies for buildings in areas prone to landslides, and prevent over-irrigating. The use of very-low water xeriscape landscaping and/or smart irrigation controllers that adjust the amount of water applied to landscapes based on weather, plant/turf, and soil data, can significantly reduce the amount of excess water that percolates through the soil as groundwater and save money.

- Creating a plan to implement reinforcement measures in high-risk areas.
- Defining steep slope/high-risk areas in land use and comprehensive plans and creating guidelines or restricting new development in those areas.
- Creating or increasing setback limits on parcels near high-risk areas.
- Locating utilities outside of landslide areas to decrease the risk of service disruption.
- Restricting or limiting industrial activity that would strip slopes of essential top soil.
- Incorporating economic development activity restrictions in high-risk areas.

See FEMA's **Strategies handbook** for a more complete list.

Earthquake

Overview

Earthquakes occur when tectonic plates suddenly release tension built up over decades of strain. The Wasatch Fault has a strong earthquake about every 300 years and we are "due" for another. While some scenic homes are built directly on a fault, the way a building is constructed and the stability of soils underneath are a large factor in its resilience. Pre-1990's brick homes are usually unreinforced and very brittle, posing a great risk to occupants during a quake.

Liquefaction occurs when loose soils such as those at the mouth of a canyon or near a lake begin to act like a liquid when subject to prolonged shaking.

Utah County is particularly susceptible to earthquakes and their secondary hazards due to its situation between (or in many cases, on top of) the fault line and Utah Lake's unstable soils. While Summit and Wasatch counties may see some damage due to shaking and certainly a few landslides, Utah County is certain to have mass movement along the bench and liquefaction in the numerous homes (and utilities) built near the lake in addition to the normal collapse of chimneys and broken glass from an earthquake magnitude 5.0 and above. Fires are also common following earthquakes in urbanized areas as gas lines break, electrical shorts occur, and response capabilities of firefighters are overwhelmed by the number of incidents and possibly damaged streets and water lines.

Profile

Frequency	Low: Events above 3.0 on the Richter scale are rare. Minor events (below 3.0) occur every month, but generally aren't felt.
Severity	High (up to 7.0)
Location	Multiple faults throughout the county with the primary Wasatch Fault along the mountain benches.
Seasonal Pattern	None
Duration	1 to 6 minutes excluding aftershocks.
Speed of Onset	Seconds
Probability of Future Occurrences	93% probability that an earthquake Magnitude 5 or higher will occur somewhere along the Wasatch Front in the next 50 years

Losses	2.4 deaths annualized; 32 injuries annualized	$24,000,000 losses annualized

Development Trends

Although Utah County faces rapid development, new buildings are designed to withstand earthquakes much better than pre-1990s structures. Many of the older multi-story unreinforced masonry structures, where immediate deaths often occur, are city buildings and schools that are being rebuilt to seismic standards.

Envision Utah recently looked at different growth scenarios and what percentage of Utah County would be affected by a seismic event. Their analysis found that focusing development west of the lake will result in greater losses than working toward infill development.

As people move to Utah from areas without disasters, they will need to be educated on the simple things that homeowners can do to reduce the impacts of an earthquake in their homes, such as securing heavy furniture and having flexible piping.

History

There have been few events of note in recorded history within Utah County, but a 2020 event in Magna, Salt Lake County, gave the state a glimpse of what could happen. The State of Utah has also put a few earthquake scenarios through its HAZUS software, yielding loss estimates and maps of potential damages on the Wasatch Front.

Magna Earthquake: Days after the US shutdown to slow the COVID 19 pandemic, a 5.7 earthquake struck Magna township in Salt Lake County. The most noticeable damages occurred in multi-story building such as the brick façade of a large commercial building, but several mobile homes were condemned and the Utah Department of Public Safety estimates $70-100 million in public structure and infrastructure damage. Fortunately, no one was injured or killed and the public facilities were insured.

Earthquakes

Location	Magnitude	Date
Santaquin/Goshen	VI-VII	2-Oct-00
Elberta, Utah County	3.8	4/6/1980
Elberta, Utah County	5	5/24/1980
Lindon, Utah County	4.7	2/20/1981

Diamond Fork Campground, Utah County	3.2	5/6/1994
Payson Lakes Campground, Utah County	3.3	7/6/1995
Near Strawberry Reservoir, Utah County	3	1/5/1998
Goshen, Utah County	3	1/23/2010
Rocky Ridge, Juab/Utah County	3.2	7/5/2011
Rocky Ridge, Juab/Utah County	3.6	7/22/2011
Thistle, Utah County	3.7	2/4/2012
Bluffdale	3.2	11/25/2016
Bluffdale	3.7	2/15/2019

*United States Geological Survey: earthquake.usgs.gov/earthquakes/search

Mitigation

Strategies include restricting building on known fault lines or steep slopes, requiring geotechnical studies for buildings on problem soils, retrofitting critical infrastructure, educating homeowners on retrofitting options and securing items to the wall, requiring large/reinforced foundations or piers in liquefaction areas, and many more. See **Utah Earthquake Safety** or FEMA's **Strategies Handbook** for more details.

Severe Weather

Overview

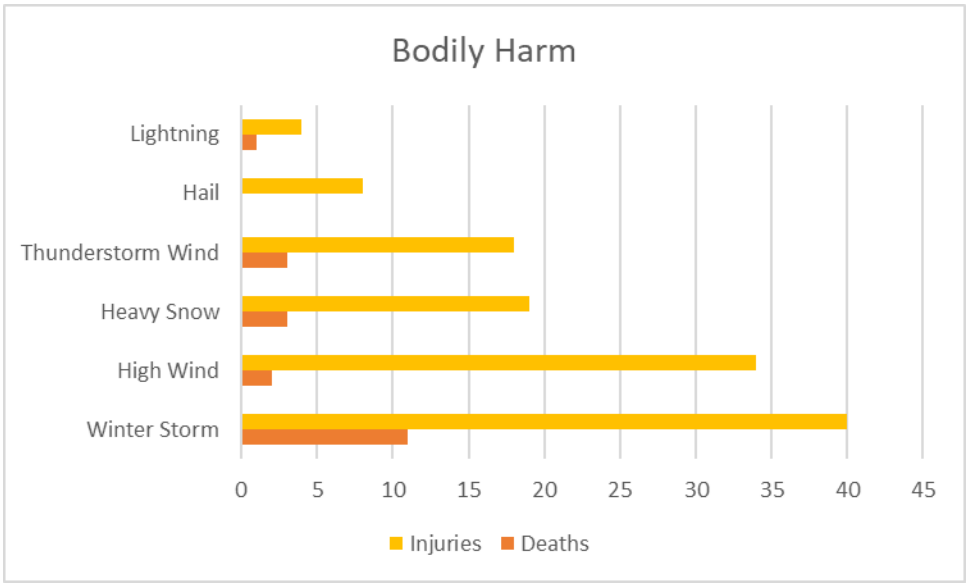
Utah County's mountainous terrain makes it particularly susceptible to Severe Weather, especially Winter Weather. Add to the topography those who seek snowy slopes for recreation and disaster can ensue, as seen in the table below. Avalanches, typically a voluntary risk, have caused the most deaths in Utah County. Winter weather has caused the most injuries. Wind is responsible for the most monetary damages of any type of severe weather. These numbers will only increase as the population grows, though crop damages should decrease as agricultural land is converted to urban.

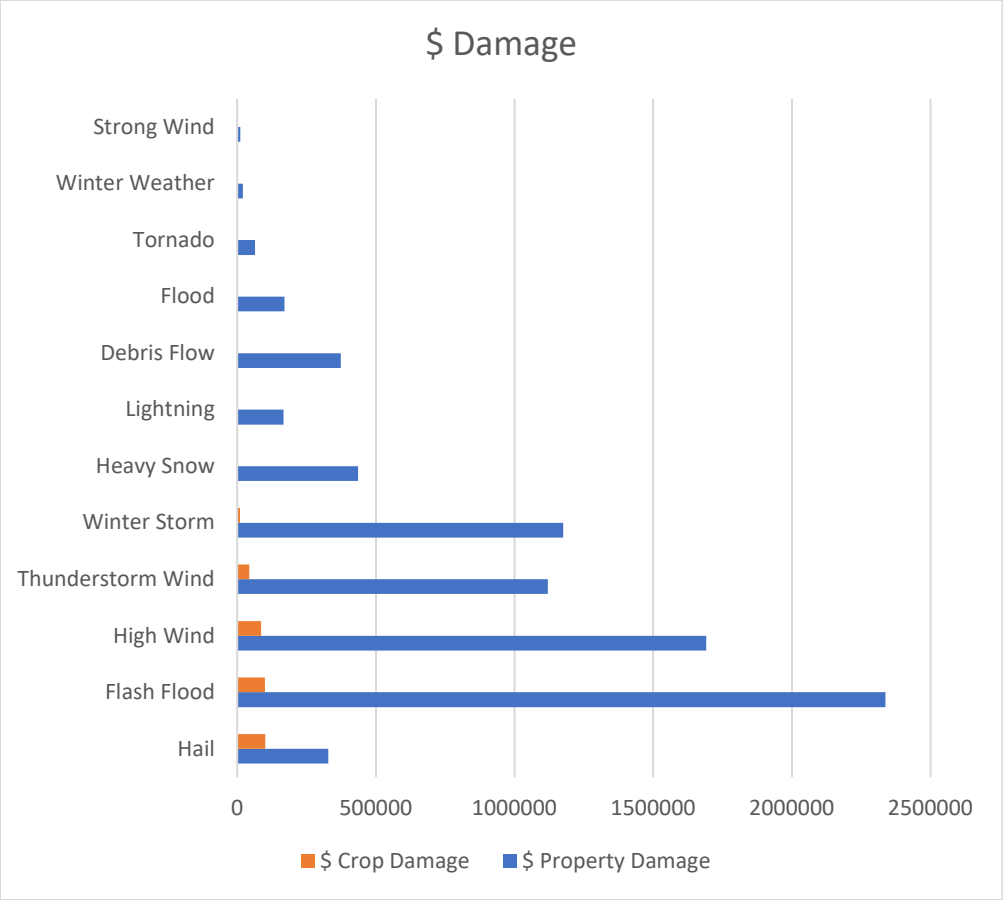
Profile

Frequency	Frequent Multiple events happen each year.
Severity	Moderate
Location	Region wide with some locations more frequent due to geography.
Seasonal Pattern	All year depending upon the type of event.
Duration	Seconds to Days
Speed of Onset	Immediate
Probability of Future Occurrences	Highly probable. Winter Weather and Hail have the highest probability of occurrence of all-weather hazards facing Utah County.

History

Row Labels	Deaths	Injuries	$ Property Damage	$ Crop Damage
Blizzard	0	0	0	0
Cold/wind Chill	0	0	0	0
Debris Flow	0	0	374000	0
Flash Flood	0	0	2338000	100000
Flood	0	0	170000	0
Hail	0	8	329000	101200
Heavy Snow	3	19	435500	400
High Wind	2	34	1691100	85800
Ice Storm	0	0	0	0
Lake-effect Snow	0	0	0	0
Lightning	1	4	166500	0
Strong Wind	0	0	11000	0
Thunderstorm Wind	3	18	1119600	44000
Tornado	0	0	64530	0
Winter Storm	11	40	1175000	10000
Winter Weather	0	0	20000	0
Grand Total	**20**	**123**	**7894230**	**341400**





Mitigation

For buildings: Adopt and enforce building codes related to roof snow loads and wind speeds. Require CO monitors.
For Infrastructure: Install redundancies in power lines, lightning protection and surge protection on critical infrastructure, and snow sheds over roadways.
For everyone: Educate homeowners on protecting water pipes during cold weather and travelling safely. Encourage participation in emergency alerts.

See FEMA's **Strategies handbook** for a more complete list.

Community Damage Assessment and Mitigation

Overview

Each jurisdiction represented by this plan has participated in the creation of its contents and given local input into their individual mitigation goals and priorities. Listed below are the damage assessments for each of the participating jurisdictions followed by an update of the community's mitigation strategies from the 2017 plan, after which are the strategies, the community wishes to pursue in the course of this plan. Damage assessments were calculated using the methodologies mentioned in the Methods section. Strategies were developed by each community. The subsequent county and city strategies reflect the advancement of local and regional goals and continue the community's vision for the security and prosperity of the region. These goals include:

- Reducing the impact of natural hazards on life, property, and preserving the environment
- Minimizing damage to infrastructure and services and protecting their ability to respond
- Preventing potential hazards from affecting area or mitigating its effects
- Increasing public awareness, capabilities and experience
- Ensuring the safety of citizens and visitors
- Enabling cooperation between citizens and emergency and public services
- Maintaining cooperation with, and adherence to, FEMA guidelines
- Developing zoning and other plans that decrease development in hazardous areas

The guiding factor in prioritizing mitigation strategies for local communities was the principle that mitigation should provide the ***greatest amount of good to the greatest number of people, after considering resources, staffing, and other constraints*.** Probability of occurrence, past events, and damage estimates compiled during the risk assessment in this plan were heavily considered. Overall, each community individually considered their own capabilities, staffing, and resources as they prioritized their own mitigation strategies.

Utah County

Loss Estimates

Hazard	# Buildings	Building value (thousands)	Major Road Miles	Transmission Miles	Railroad Miles
Dam Failure	42,431	$12,287,233	123.53	154.17	72.92
Fire Risk High	27,140	$9,154,898	90.42	335.63	70.75
Fire Risk Moderate	18,775	$5,605,592	75.31	285.05	78.31
Flood 1% Yearly Probability	910	$229,828	5.72	30.92	1.73
Landslide	1,377	$473,143	36.29	59.68	9.07
Liquefaction Moderate to High	70,362	$20,556,665	272.45	409.51	180.53
Earthquake (Pre-1990 buildings)	2,459	$597,467			

Utah County spends a great deal of time and money on wildland fire mitigation. It protects critical infrastructure such as waterways (Provo Canyon), airports, and evacuation routes. Wildfire has threatened water resources recently and triggered debris flows on de-vegetated slopes. We are also aware of the need to protect our resources from terrorism and have plans for doing so. The County Health Department is crucial for educating residents about preparing for natural disasters and improving the health of citizens at large so they are individually more resilient. We know that a large earthquake is likely in the next few decades and are building to code, gradually retrofitting and constantly educating to mitigate its damage. Utah County is one of the fastest-growing counties in the nation and we reduce the risk of fire to new buildings and infrastructure in an ever-expanding area with codes and guidelines for fire-hardened homes, seismic soundness, and adequate evacuation routes.

Hazard	Action	Priority	Timeline	Cost	Funding	Responsibility

Participation in FFSL's Cooperative Wildfire System program, including brush removal, education, and a host of other prevention measures	Fire	High	Ongoing	55k/yr	Utah County, cities/towns	Utah County and participating cities
Replace roofs and targeted chipping program in Sundance	Fire	High	1-3 yrs	30k for chipping	Utah County, homeowners	Utah County
Perscribed burns in Hobble Creek	Fire	High	Ongoing	TBD	Utah County	Utah County
Install/improve the exit out the east end of Springdell in cooperation with UDOT on the Upper Dell dirt road across USFS property in both directions i.e. up Provo Canyon to the east or west to Squaw Peak Road) or the Lower Dell road that would exit onto Provo Canyon Road.	Fire	Mod	2-4 yrs	TBD	Utah County, UDOT	Utah County, UDOT, Springdell residents
Create and improve dipping sites near Covered Bridge	Fire	High	1-3 yrs	TBD	Utah County, DNR	Utah County, DNR
Educate on water conservation and good watering practices	Drought	Mod	Ongoing	TBD	Utah County	Utah County, Utah State
Evacuation planning, especially for inhabited canyons	Fire, All	Mod	Ongoing	MInimal	Utah County	Utah County, community
Construct an additional detention basin at the southeast end of Mapleton	Flood, debris flow	High	1-2 yrs	300k	Utah County, Grants, Mapleton	Utah County

Avalanche controls, including snow sheds and fences, in Provo Canyon	Avalanche, winter weather	High	Ongoing	TBD	UDOT, Utah State	UDOT
Purchase more chipping machines	Fire	Mod	1-2 yrs	$65k each	Utah County	Utah County
Retrofit Historic Courthouse	Earthquake	Mod	5-10 yrs	10 million	Utah County, BRIC, other grants	Utah County
Update community wildfire protection plan	Fire	Mod	1 yr	Staff time	Utah County	Utah County
Participate in updating FIRMs for Utah Lake	Flood	Mod	1-3 yrs	Staff time	FEMA	FEMA

2017 Strategies Update							
Hazard	**Action**	**Priority**	**Timeline**	**Cost**	**Funding Sources**	**Estimated Cost**	**Completed?**
Wildfire	Fuel Mitigation plan with AF canyon	High	1 year	Minimal	Local Cash	Local Government	Yes
Flooding/ Drought	Highline Canal Retrofit	High	3 years	TBD	Local Cash, Water Conservancy District	Local Government, Water Conservancy District	In Progress
Flooding	Canal assessment with Provo City	High	2 years	TBD	Local Cash	Local government, Provo City	In progress
Terrorism	Natural Resource Protection	High	Ongoing	TBD	Local Cash, grants	Local government	Yes

All Hazards	Implement Early Notification System	High	1 year	TBD	Local Cash	Local Government	Yes

Alpine

Loss Estimates

Hazard	# Buildings	Building value (thousands)	Major Road Miles	Transmission Miles	Railroad Miles
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	789	$429,868	0.00	0.08	0.00
Fire Risk Moderate	552	$241,710	0.09	0.55	0.00
Flood 1% Yearly Probability	8	$4,805	0.00	0.02	0.00
Landslide	5	$2,433	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	829	$201,953			

Statement of Vulnerabilities: Alpine's chief concern is the increased probability of post-fire debris flows on de-vegetated hills alone its east side. There is very little land left to develop and no new buildings planned in high-risk fire areas with the hillside ordinance.

Action	Hazard	Priority	Timeline	Cost	Potential Funding	Responsible Party
Require geotechnical reports for any proposed development on problem soils or steep slopes	Landslide	Mod	Ongoing	Minimal	Developer	Local gov, Developer

Restructure water rates	Drought	High	1 yr.	Staff time	Local gov	Local gov
Educate residents on disaster preparedness and promote the Great Utah Shake Out	Earthquake, All	Mod	Ongoing	Staff time	Local gov	Local gov
Maintain foothill trails as access roads for vegetation maintenance and fire response	Fire	High	Ongoing	10k	Local gov	Local gov
Improve drought restrictions plan	Drought	Mod	1-2 yrs.	Staff time	Local gov	Local gov
Educate homeowners on firewise practices, especially defensible space	Fire	Mod	Ongoing	Staff time	Local gov	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Funding	Responsibility	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	Not necessary, none built before 2000
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes, ongoing
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Medium	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes, ongoing
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	Ongoing	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes

Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	Ongoing	1 year	Minimal	Local Cash, Grants	Local Government	Yes
Drought	Identify drought assessment criteria. Notify residents of drought conditions.	Medium	2 years	TBD	Local Cash	Local Government	Yes

American Fork

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	5,777	$1,711,775	18.75	9.52	6.99
Fire Risk High	418	$277,078	3.61	0.58	0.39
Fire Risk Moderate	707	$299,228	2.20	1.43	1.94
Flood 1% Yearly Probability	19	$2,923	0.39	0.01	0.00
Landslide	180	$55,588	0.49	0.00	0.00
Liquefaction Moderate to High	2,973	$1,091,471	17.28	8.59	6.39
Earthquake (Pre-1990 buildings)	4,584	$1,213,659			

Statement of Vulnerabilities: The main vulnerability identified by American Fork is the cross-section of the American Fork River. Through the core of American Fork, the river goes through a series of culverts, many of which may be sized too small. This poses a flooding risk to many surrounding homes and businesses. This is something that we as a city are studying with the Army Corps of Engineers.

Action	**Hazard**	**Priority**	**Timeline**	**Cost**	**Potential Funding**	**Responsibility**

Install secondary water metering	Drought	High	2 yrs.	9 million	Bureau of Reclamation, Local Cash	Local Gov
Improve outflow and grades for the debris basin	Flood	High	1-2 yrs.	250k	Debris Basin board (American Fork, Highland, and Cedar Hills)	Debris Basin board (American Fork, Highland, and Cedar Hills)
Repair and expand culverts on American Fork River	Flood	High	Ongoing	TBD	Local gov	Local gov
Adopt 2021 NFIP maps and update ordinances	Flood	Mod	1 yr.	Staff time	Local gov	Local Gov
Inventory historic City Hall for possibility of earthquake retrofits	Earthquake	Mod	2-5 yrs.	TBD	Local gov	Local gov
Complete an environmental assessment for the watershed and a plan to better assess the vulnerabilities and determine a procedure to mitigate flooding issues.	Flood	High	2-3 yrs.	400k	Local gov, NRCS	Local gov, NRCS

2017 Strategy Update							
Hazard	**Action**	**Priority**	**Timeline**	**Cost**	**Potential Funding**	**Responsibility**	**Completed?**
Flood	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	No, most buildings are new. City Hall should be checked.

Landslide, Drought	Public education on and correct watering practices and retaining measures in susceptible areas.	Medium	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes
Flood	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Somewhat
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, USGS	No, coordination efforts fell through

Cedar Fort

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	45	$9,671	0.85	0.00	0.00
Fire Risk Moderate	83	$14,398	0.23	0.00	0.00
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	90	$11,672			

Statement of Vulnerabilities: Past fires near Cedar Fort have presented a significant risk and future fire could reach the town itself, affecting community assets like the fire station and school building. Increased efforts to clear brush on the hillsides have

proven difficult. The only real development pressure comes from land on the east side that property owners request be annexed into Eagle Mountain.

Action	Hazard	Priority	Timeline	Estimated Cost	Potential Funding	Responsibility
Participate in Utah County Chipping program to reduce fuels	Fire	High	Ongoing	Volunteer hours	Local gov, Utah County	Local gov
Educate firewise principles such as defensible space during the 24th of July celebration and in the water bill.	Fire	Mod	Ongoing	Staff time	Local gov	Local gov
Encourage participation in CERT.	All	Mod	Once every 4 years	Minimal	Local gov	Local gov

2017 Strategy Update							
Hazard	**Action**	**Priority**	**Timeline**	**Cost**	**Potential Funding**	**Responsibility**	**Completed?**
Earthquake	Provide CERT classes	High	1 year	Minimal	Local Cash	Fire Department, Local Government	No
Wildfire	Fuel Thinning	High	2 years	Minimal	BLM, DNR, SITLA	BLM, DNR, SITLA	Yes, as needed
Wildfire	Education (Pamphlets at 24 July Celebration, notices in Water Bill)	High	Yearly	Minimal	Local Cash, Forest Service	Local Government, Forest Service	Yes, with Fire Department

Cedar Hills

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.22	0.13	0.00
Fire Risk High	1,156	$363,034	0.18	3.34	0.00
Fire Risk Moderate	164	$51,781	0.00	0.08	0.00
Flood 1% Yearly Probability	0	$0	0.14	0.00	0.00
Landslide	100	$29,644	0.00	0.77	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	208	$59,572	NA	NA	NA

Statement of Vulnerabilities: Cedar Hills City lies on the Wasatch Front and within close proximity to the Wasatch fault line. The fault line runs north-south along the foothill interface. While no homes or development are immediately on the fault line, major culinary and irrigation water transmission lines do cross a known fault zone. Due to the potential hazard, the city has installed earthquake valving at the upper supply tanks and modified piping to include an upgraded supply line with locked joint pipe. Regarding wildland fire, many homes are in the Wildland Urban Interface. Cedar Hills is improving the access road that serves as a fire break and improving the codes for any development in the WUI.

Action	**Hazard**	**Priority**	**Timeline**	**Estimated Cost**	**Potential Funding**	**Responsibility**
Install secondary water metering	Drought	High	2 yrs.	2.5 million	Bureau of Reclamation, Local Cash	Local Gov
Improve Wildland Urban Interface development standards with defensible space, roofing materials, etc.	Fire	High	1yr	Staff time	Local Gov	Local Gov

Encourage xeriscaping and Central Utah Water Conservancy District's localscapes	Drought/Fire	High	1 yr.	Staff time	Local Gov	Local Gov
Improve maintenance roads and Bonneville shoreline trail used as a firebreak and access points for fire response vehicles	Fire	High	Ongoing	5k	Local Gov/American Fork Fire Dept	Local Gov
Clear ditches and remove dead vegetation	Flood, Fire	Mod	Ongoing	15k	Local Gov	Local Gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Flooding	Storm Water/ Ditch System Cleaning	Medium	2 years	TBD	Local Cash	Local Government	Yes, ongoing
Earthquake	Participate in Great Shakeout	High	1 Year	N/A	Local Cash	Local Government	Yes
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk	Medium	1 year	Minimal	Local Cash, Grants	Local Government	No, in progress
Landslide	Update landslide mapping with UGS and USGS.	Medium	2 years	TBD	Local Cash, Grant	Local Government, USGS, UGS	No, coordination efforts fell through
Drought	Identify drought assessment criteria. Notify residents of drought conditions.	Medium	2 years	TBD	Local Cash	Local Government	Yes

Central Utah Water Conservancy District

Due to the sensitive nature and complexity of CUWCD assets, they performed an independent risk analysis to create and prioritize the following mitigation strategies. Contact Blake Buehler of CUWCD for more information.

Vulnerabilities: The future development of the CUWCD water system will mainly be with a strong emphasis on water conservation, planning of needed additional regional water supply facilities, and incorporation of natural hazard mitigation. The District will also continue in its current efforts to address and incorporate natural hazard mitigation (i.e., seismic upgrades/standards, lightning protection, backup power, wildfire – both direct and indirect effects, etc.) into future design and

construction projects whether they are for new facilities or for capital replacement projects. The following proposal is to help fulfill said efforts.

Priority	Mitigation Package: Facilities	BCR	Mitigation Description	Outside Contractor	In-House	CUWCD O&M	CUWCD CRP	CUWCD CIP	FEMA Grant	Timeline	Package Subtotal
1	Alpine Aqueduct Reach 1 Resiliency Project (Earthquake & Landslide): *Alpine Reach 1*	-	New Construction	X			X		X	1-3 Years	$39.4 million
2	DACRWTP Pkg #1 (Tornado): *LOX & Vaporizers, Ozone Transformers, Substation*	>100	Nonstructural Retrofit	X			X		X	1-3 Years	$248,649
3	DACRWTP Pkg #2 (Lightning): *Operations Bldg., Filter Bldg., FW & WWW Bldg., Rec Bldg., Pump Bldg.*	>100	Nonstructural Retrofit	X			X		X	1-3 Years	$159,564
4	DACRWTP Proj #3 (Earthquake): *15 MG Reservoir*	14.8	Structural Retrofit	X			X		X	1-3 Years	$3,304,211
5	Olmsted Proj #2 (Avalanche): *Olmsted Diversion*	>100	Structural Retrofit	X			X		X	1-3 Years	$231,088

6	CWP Pkg #1 (Earthquake): *Geneva Wells & Pony Express PS*	22.9	Nonstructural Retrofit	X	X	X	X		X	3-5 Years	$2,210
7	Alpine Pkg #1 (Earthquake): *Alpine Reach 3, North Branch Pipeline*	3.3	Nonstructural Retrofit	X	X	X	X		X	3-5 Years	$21,329
9	CWP Pkg #2 (Lightning): *Geneva Wells*	>100	Nonstructural Retrofit	X			X	X	X	3-5 Years	$359,974
10	CWP Pkg #3 (Lightning): *Pony Express PS*	37.9	Nonstructural Retrofit	X			X	X	X	3-5 Years	$716,408
14	Olmsted Pkg #6 (Earthquake & Landslide): *Olmsted Diversion, Olmsted Bifurcation Reservoir*	-	Geological Investigation	X			X			6-10 Years	$80,212
15	Diamond Fork Pkg #1 (Landslide): *Spanish Fork & Sixth Water Flow Control Structures, Sixth Water Aqueduct, Diamond Fork Pipeline*	-	Geological Investigation	X			X			6-10 Years	$505,952

17	General Pipeline #1 - Stockpile Materials	-	Material Stockpiling		X	X	X			6-10 Years	$755,950
18	General Pipeline #2 - Training	-	Training	X	X	X				6-10 Years	$19,538

Eagle Mountain

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	3,679	$919,235	4.10	7.22	0.00
Fire Risk Moderate	1,774	$388,039	2.54	9.57	0.00
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.69	0.00
Earthquake (Pre-1990 buildings)	94	$54,568	na	na	na

Statement of Vulnerabilities: Eagle Mountain's primary concern is wildland fire and the large-scale evacuations it might trigger. The Kiowa Valley subdivision is particularly at risk due to single-lane roads leaving the subdivision and main thoroughfares (SR73, Pioneer Crossing, and Porter's Crossing) would be overwhelmed. More people recreating in the hills also increases fire likelihood. Eagle Mountain works with the Kern River Pipeline and others to maintain firebreak trails. Eagle Mountain is attracting a great deal of development throughout. Because most development is recent, buildings and infrastructure are largely up to seismic and fire code, but new residents require education on water conservation, firewise practices, and

evacuation plans. The city would like to attract businesses and a hospital, in particular, to become less dependent on other commercial areas of the county.

Action	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Install backup generator at well house	All	High	2-3 yrs.	300k	Local gov	Local gov
Upgrade backup generator at City Hall	All	High	2 yrs.	200k	Local gov, grants	Local gov
Educate homeowners in WUI about firewise principles and notify at-risk residents	Fire	High	Ongoing	Minimal	Local gov	Local gov
Educate homeowners on good watering practices, how to reduce water use, and encourage xeriscaping	Drought	Mod	Ongoing	Staff time	Local gov	Local gov
Educate on earthquake preparedness, including Be Ready, CERT, yearly Shakeout drill, and monthly emergency meetings	Earthquake, All	Moderate	Ongoing	Staff time	Local gov	Local gov
Require multiple ways in/out of all new subdivisions	Fire, all	High	Ongoing	Minimal	Developer	Developer, Local gov
Maintain fire access roads that serve as Bike and OHV trails	Fire	Mod	Ongoing	Minimal	Local gov, OHV and Mountain Biking groups	Local gov, OHV and Mountain Biking groups
Maintain Kern River Pipeline firebreak and tree trimming	Fire, flood	Mod	Ongoing	None	Kern River Pipeline Co	Kern River Pipeline Co

Achieve Firewise Community Status	Fire	Mod	1-2 yrs.	Staff time	Local gov	Local gov
Encourage hospital to be built in city limits	All	Mod	5-10 yrs.	Unknown	Intermountian Healthcare, MountainStar Healthcare	Private Healthcare organization, Local gov encouragement
Update Emergency Operations Plan with a focus on evacuation routes and inform citizens	Fire, Earthquake	High	1 yr.	Staff time	Local gov	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	
Flooding	Join NFIP community/participation.	Medium	1 year	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	No, no special flood hazard area
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	No, all built after 1990
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes, ongoing
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Medium	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes, ongoing for drought
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes, through CERT

							teams, Shakeout, Be Ready program, and monthly training meetings
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Efforts fell through

Elk Ridge

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	582	$175,465	1.64	0.00	0.00
Fire Risk Moderate	167	$46,436	0.17	0.14	0.00
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	199	$44,625	na	na	na

Statement of Vulnerabilities: Though a second evacuation road has been constructed since 2016, infrastructure is insufficient to handle a major disaster. As growth occurs developers will be required to install proper infrastructure, which should improve the overall situation. Loafer Canyon is a particular concern with its older roads and continual maintenance of debris basins.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Encourage water conservation through education & tiered water rates	Drought	Mod	Ongoing	Minimal	Local gov	Local gov
Complete seismic evaluation of City Hall and Pump Houses, get estimates for retrofitting	Earthquake	Mod	1-2 yrs.	TBD	Local gov	Local gov
Conduct yearly disaster drills	All	Mod	Ongoing	Staff time	Local gov	Local gov, Fire Dept
Construct new Canyon View Road to provide another evacuation route	All	High	1-2 yrs.	TBD	Developers, Local gov	Developers, Local gov
Chipping program in Wildland Urban Interface	Fire	High	Ongoing	Volunteer-hour match	Local gov, citizens, Utah County	Local gov, Utah County
New Firetruck	Fire	Mod	2-3 yrs.	1 million	Local gov	Local gov
Well-maintained trail on S side serving as firebreak road to be installed as development occurs	Fire, Debris Flow	Mod	5-10 yrs.	TBD	Developers, Local gov	Developers, Local gov
Fire Chief must sign off on all plans in WUI, including requirements for fire hydrant proximity, defensible space, and building materials	Fire	High	Ongoing	Staff time	Local gov	Local gov

Geotechnical study required for all new development in hazard areas	All	High	Ongoing	Staff time	Developers	Developers, Local gov
Bury power lines, especially those that may cause fires	All	Mod	Ongoing	$700k/mile	Local gov, developers	Local gov

2017 Goals Strategies Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	Completed?
Flooding/ Dam Failure	Promote NFIP participation. Promote educating our current residents on flooding risks. upgrade infrastructure	High	Ongoing	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	No SFHA
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	No, not enough staff time
Wildfire	Educate homeowners on FIREWISE practices. seek assistance for upgraded fire suppressing equipment	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA	Yes - education Upgraded equipment still needed
Landslide	Create infrastructure that will eliminate/prevent future erosion of the dugway.	Extremely high	1 year	TBD	Local Cash, Grants	Local Government, UGS, FEMA	Yes, ongoing
Flooding/ Dam Failure	Update Flood mapping and provide to future residents and promote NFIP participation. Promote educating our current residents on flooding risks. upgrade infrastructure	High	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	No SFHA
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes, ongoing

Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes

Fairfield

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	2	$728	0.69	0.00	0.00
Fire Risk Moderate	10	$1,217	1.28	0.00	0.00
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	55	$11,249	3.25	0.00	0.00
Earthquake (Pre-1990 buildings)	36	$5,607	na	na	na

Statement of Vulnerabilities: Fairfield has only moderate liquefaction and fire risk and only a small handful of new buildings each year. The Utah County fire marshal approves any permits for new construction. There are no city buildings and neighbors look out for each other. The biggest problem is probably winter weather. The only real development pressure comes from land on the east side that property owners request be annexed into Eagle Mountain.

Mitigation Strategy	**Hazard**	**Priority**	**Timeline**	**Cost**	**Funding**	**Responsibility**

Encourage residents to participate in Utah County's Emergency Notification System	All	Mod	Ongoing	Minimal	Local gov, Utah County	Local gov, Residents
Make sure neighbors know who has backup generators and trucks sufficient for snow removal	Winter weather, all	Mod	Ongoing	None	Local gov	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	No critical buildings
All Hazards	Add texting to Emergency Notification System	Med	1 year	Minimal	Local Cash	Local Government	Yes
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes

Genola

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	1	$118	0.19	0.00	0.00
Fire Risk High	31	$6,571	0.74	0.05	0.06
Fire Risk Moderate	39	$7,973	0.41	0.00	0.00
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	408	$92,407	7.11	0.00	0.00
Earthquake (Pre-1990 buildings)	214	$32,681	na	na	na

Statement of Vulnerabilities: Genola needs a second source of water to provide redundancy for drought and fire. Fires burn Goshen Hill on the East side of town almost every year, resulting in lower fuel loads and less intense fires. Since the town uses septic and propane, development pressure is limited.

Mitigation Strategies	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Fire Marshal must approve new development, including 1 hr. fire resistant construction, appropriate landscaping & defensible space, sprinklers, and 2 ingress/egress routes	Fire	High	Ongoing	Staff time	Local gov	Local Fire Dept
New buildings must submit a geotechnical/soil feasibility study to the County to account for liquefaction and problem soils	Liquefaction	Mod	Ongoing	Staff time	Local gov, Developers	Local gov, Developers
Build a second well and water tank on north end of town	Drought, Fire	High	2 yrs.	1 million	Local gov	Local gov
Educate homeowners in debris flow areas about risk during permitting process	Debris flow	Mod	Ongoing	Staff time	Local gov	Local gov
Bring gas lines to town so propane isn't the only source of heating	All	Mod	5-10 yrs.	TBD	Local gov, gas company, grants	Local gov
Work with Utah County to manage vegetation in high fire risk areas	Fire	Mod	Ongoing	5k	Utah County, local gov	Utah County, local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	Completed?

Earthquake	Upgrade City Office Building	High	4 years	TBD	Local Cash, Grants	Local Government	Yes
Landslide	Educate homes in Landslide/ Debris Flow areas on risk	Med	Ongoing	Minimal	Local Cash	Local Government	Yes, ongoing
Flood	Adopt new FEMA flood plains, participate in NFIP	Med	3 years	Minimal	Local Cash, FEMA	Local Government, FEMA	Yes
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk	Medium	3 years	Minimal	Local Cash, Grants	Local Government	No, not many houses in fire risk
Flood	Adopt new FEMA flood plains, participate in NFIP	Med	3 years	Minimal	Local Cash, FEMA	Local Government, FEMA	Yes

Goshen

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	63	$9,070	0.28	0.00	0.00
Fire Risk High	26	$3,816	0.02	0.04	0.00
Fire Risk Moderate	206	$28,384	0.07	0.11	0.00
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	253	$33,989	1.19	0.00	0.00
Earthquake (Pre-1990 buildings)	241	$28,614	na	na	na

Statement of Vulnerabilities: Though the Fire Department was built post-1990 and the church was retrofitted in about 2010, many older homes are in the liquefaction area. We only build 2-3 homes a year, so we don't have development pressure on those problem soils. Reliance on septic tanks keep lot sizes large and limits potential growth.

Mitigation Action	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Support Fix-the-Bricks	Earthquake	Moderate		0	FEMA	Utah County
Collect spring water and measure output	Drought	High	1 year	350k	CDBG	Local Gov
Bring natural gas to city	All	High	2 years	11 mil	State	State/Dominion Energy
New Water Tank and replace most distribution lines	Drought	High	2 years	4 million	USDA	USDA/Local Gov
Display hazard maps in city hall	All	Moderate	1 year	0	NA	MAG/Local Gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	3 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	No Special Flood Hazard Area
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	Minimal	Local Cash, Grants	Local Government	Not necessary, no critical facilities build pre-1990
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	No, very little fire risk in or immediately near Goshen.
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	No SFHA
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes

Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	2 years	Minimal	Local Cash, Grants	Local Government	No, very little fire risk in or immediately near Goshen.

Highland

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	215	$97,681	0.99	0.42	0.00
Fire Risk High	2,028	$804,729	3.16	3.95	0.00
Fire Risk Moderate	1,361	$483,444	1.48	1.19	0.00
Flood 1% Yearly Probability	32	$14,448	0.37	0.43	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	1,012	$266,520	na	na	na

Statement of Vulnerabilities: Highland is particularly concerned about flooding and debris flow following fires. With more land developed, there are more impervious surfaces and increased runoff. This will continue with development pressure on Highland's agricultural and open space. The American Fork River and debris basin also need attention to mitigate flooding and fire.

Mitigation Strategy	**Hazard**	**Priority**	**Timeline**	**Cost**	**Funding**	**Responsibility**

Complete installation of secondary water meters	Drought	High	4-5 yrs.	Several million	Local gov, grants	Local gov
Upgrade debris basin structure	Flood	Mod	1-2 yrs.	200k	Highland, American Fork & Alpine	Highland, American Fork & Alpine
Educate residents on disaster preparedness, in particular earthquakes and winter weather	All	Mod	Ongoing	Staff time	Local gov	Local gov
Cut native grasses in fire hazard areas of City owned property by July of each year.	Fire	Mod	Ongoing	10k	Local gov	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes, ongoing
Wildfire	Create maintenance plan to cut native grasses in fire hazard areas of City owned property by July of each year.	High	1 year	Minimal	Local Cash	Local Government	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Med	Ongoing	Minimal	Local Cash, Grants	Local Government, UGS	Yes
Earthquake	Promote earthquake awareness and preparation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, UGS, USGS	No, most development is post-1990 and relatively safe.
Drought	Educate Residents on water conservation practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes

Extreme Temperatures	Educate property owners about freezing pipes.	Med	Ongoing	Minimal	Local Cash	Local Government	Yes
Severe Winter Weather	Educate residents on winter weather preparedness.	Med	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes
Multiple Hazards	Update Emergency Operations Plan	High	2 years	Minimal	Local Cash, Grants	Local Government, Public Safety District	Yes
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	3 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Flooding/ Dam Failure	Maintain drainage ways.	Med	Ongoing	TBD	Local Cash	Local Government	Yes
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	TBD	Local Cash, Grants	Local Government, UGS, USGS	No, coordination efforts fell through
Landslide	Review Development standards for issues with hillside development.	Med	2 years	Minimal	Local Cash	Local Government	No, deemed unnecessary

Lehi

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	3,778	$934,606	5.94	12.15	6.09
Fire Risk High	6,245	$2,357,674	11.83	11.36	9.70
Fire Risk Moderate	3,830	$1,189,356	3.61	8.20	1.75
Flood 1% Yearly Probability	157	$35,459	1.01	1.39	0.71
Landslide	0	$0	0.00	0.06	0.08
Liquefaction Moderate to High	8,795	$2,177,717	11.70	35.31	7.28
Earthquake (Pre-1990 buildings)	2,867	$1,730,698	na	na	na

Statement of Vulnerabilities: Lehi faces development pressure along the northern the Wildland Urban Interface and near Jordan River. Flood Insurance Rate Maps around Utah Lake and Dry Creek are being updated, which will clarify where development can and shouldn't occur. Drought has strained Lehi's water resources, necessitating restrictions.

Mitigation Action	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Winter preparedness bulletins	Winter weather	Mod	Ongoing	Minimal	Local gov	Local gov
Repair and replace water distribution systems to control leakage and pressure problems, especially downtown	Drought	High	Ongoing	Moderate	Local gov	Local gov, Public Works Water
Reduce water consumption, offer rebate programs for fixtures and equipment	Drought	Mod	Ongoing	Minimal	CUWCD, Local Gov	CUWCD, Local gov
Install secondary meters on 1/4 acre or greater properties	Drought	High	1-3 yrs.	2k/installation	Local gov, Water Division grants	Local gov
Clear ditches and remove dead vegetation	Flood, Fire	Mod	Ongoing	Minimal	Local gov	Local gov
Require developers to provide site-specific environmental information to identify possible on and off-site methods for mitigating impacts	Liquefaction, Flood, Fire	High	Ongoing	Minimal	Developers	Developers, Local gov
Work with FEMA and the Army Corps of Engineers to update FIRMs on Utah Lake and study choke points on Dry Creek	Flood	High	1-2	Staff time	FEMA	FEMA, Army Corps of Engineers

Consider a Critical Lands Overlay in the Wildland Urban Interface and some waterways	Fire, Flood	Mod	1-2 yrs.	Staff time	Local gov	Local gov
Encourage maintenance of existing vegetation and retain natural drainage, i.e., debris flow basins	Debris flow	Mod	Ongoing	Minimal	Local gov	Local gov
Bury power lines to prevent damage	Severe weather	High	Ongoing	Staff time	Developers, Local gov	Developers, Local gov
Provide inspections and maintenance operations to prune trees throughout the city to prevent damage to homes, power, and other cables	Severe weather, Earthquake, Fire	Mod	Ongoing	Minimal	Local gov	Local gov, Public Works
Improve outflow of Dry Creek and rehab Dry Creek dam	Flood, Fire	High	2 yrs.	Complete in 2022	NRCS, BRIC, Local gov	NRCS, Local gov
Expand pipes under Lehi Elementary	Flood	Mod	TBD	Staff time	Local gov	Local gov
Build a new city hall and library to seismic standards	Earthquake	Mod	5-10 yrs.	TBD	Local gov	Local gov
Develop trails along Traverse Mountain to connect to Draper, providing fire access and limiting development in WUI	Fire	Mod	2-3 yrs.	Public works	Local gov	Local gov
Consider a "Flip the Strip" program to reduce water use in parking strips	Drought	Mod	2-3 yrs.	TBD	Local gov, CUWCD	Local gov
Participate in the Utah Shakeout, provide community preparedness classes and maintain a Community Emergency Response Team	Earthquake, all	Mod	Ongoing	Minimal	Local gov	Local gov

2017 Strategies Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	Result
Winter Weather	Winter preparedness bulletins	Med	Ongoing	Minimal	Local Government	Fire Department, Local Government	Yes
Drought	Repair water distribution systems to control leakage and pressure problems	High	Ongoing	Mod	Local Government	Local Government	Yes
Drought	Reduce water consumption, offer rebate programs for fixtures and equipment	Med	Ongoing	Minimal	Local Government, Water Conservation Program	Water Conservation Program	Yes, rebates through CUWCD
Drought	Retrofit showers and toilets, increase mete efficiency and maintenance, promote leak detection and repair programs	Med	4 years	Mod	Local Government	Local Government	Yes, ongoing
Earthquake	Seismic Building Retrofitting Program	High	4 years	TBD	FEMA's Project Impact	FEMA, Local Government	No, too difficult for city to administer
Flood	Manage activities affecting water and the land to prevent degradation and minimize risks to life and property	Med	Ongoing	Minimal	Local Government	Local Government	Yes, upgrading and maintaining ditches
Flood	Requiring developers to provide site-specific environmental information to identify possible on and off-site methods for mitigating impacts	High	Ongoing	Minimal	Developers	Developers	Yes
Flood	Implement strategies for flood mitigation outlined in the City's Critical Areas Regulations	Med	Ongoing	TBD	Local Government	Local Government	Yes, flood ordinances were updated

Landslide	Control development in sensitive areas through Hillside and Grading ordinance	High	Ongoing	Minimal	Local Government	Local Government	Yes
Landslide	Encourage maintenance of existing vegetation and retain natural drainage	Med	Ongoing	Minimal	Local Government	Local Government	Yes
Snow Storms	Bury power lines to prevent damage	High	4 years	Moderate	Local Government	Local Government	Yes
Winter Weather & Fire	Provide inspections and maintenance operations to prune trees throughout the city to prevent damage to homes, power, TV and telephone lines	Med	Ongoing	TBD	Local Government	Local Government	Yes

Lindon

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	1,512	$676,801	12.08	8.38	4.39
Fire Risk High	290	$206,955	0.81	5.28	2.26
Fire Risk Moderate	399	$145,370	1.10	2.54	0.12
Flood 1% Yearly Probability	27	$7,215	0.00	2.45	0.00
Landslide	8	$5,684	0.00	0.48	0.00
Liquefaction Moderate to High	869	$534,599	14.00	10.02	5.60
Earthquake (Pre-1990 buildings)	1,196	$568,465	na	na	na

Statement of Vulnerabilities: Lindon's chief concerns are wildland fire in the foothills and having adequate water infrastructure that could survive and earthquake. Lindon works with Utah County to educate residents, manage fuels, and maintain firebreak trails. There are a few homes that would benefit from seismic retrofits as well as the Canberra water tank. Development pressure is mostly toward the lake and every new building must mitigation for liquefaction.

Mitigation Action	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Adopt new 2021 NFIP maps and update city code	Flood	Mod	1 yr.	Staff time	Local gov	Local Gov
Educate pre-1980 URMs of low-cost retrofits, like strapping water tanks, flexible pipes, etc.	Earthquake	Mod	Ongoing	Staff time	Local gov	Local Gov
Support bringing the Fix-the-Bricks program to Utah County	Earthquake	Mod	1-2 yrs.	Staff time	Local gov	Local Gov
Install secondary water meters on 2400 unmetered connections	Drought	Mod	5-10 yrs.	4 million	Local gov	Local gov
Update stormwater management plan with PG to address PG discharge	Flood	Mod	1-2 yrs.	Staff time	Local gov	Lindon, Pleasant Grove cities
Educate homeowners in WUI about firewise principles	Fire	High	Ongoing	Staff time	Local gov	Local gov
Improve fire breaks adjacent for Forest Service land	Fire	Mod	Ongoing	7.5k	Local gov	Local gov
Maintain ponds for Pleasant Grove to use in fire emergencies	Fire	Mod	Ongoing	10k	Local gov	Local gov
Construct more debris flow basins	Flood	Low	20 yrs.	TBD	Local gov	Local gov
Study Canberra water tank for seismic soundness	Earthquake	Mod	5-10 yrs.	TBD	Local gov	Local gov
Install generators for booster station & wells	All, earthquake	High	2 yrs.	430k	BRIC grant, local gov	Local gov

Construct additional well	Drought	Mod	2 yrs.	1.5 million	Local gov	Local gov
Provide dumpsters for spring and fall yard waste	Fire	Mod	Ongoing	500k	Local gov	Local gov
Encourage teleworking on poor air quality days	Air quality, Climate change	Mod	Ongoing	Staff time	Local gov	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Flooding/ Dam Failure	Promote NFIP participation. Ditch improvements. Annual dam inspections (Dry Canyon, Squaw Hollow)	High	Ongoing	Moderate	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Follow and apply current building codes adopted by City.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes
Wildfire	Educate homeowners on FIREWISE practices. Fire suppression required in homes on steep slopes.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes
Debris Flow	Construct / Install debris flow basins in inventoried hazard areas.	Medium	5 years	High	Local Cash, Grants	Local Government, UGS	Yes
Flooding/ Dam Failure	Restrict development in hazard areas, maintain storm drainage facilities, update ordinances.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Promote earthquake awareness and preparation. Avoid hazard areas (faults), Canberra tank fault study.	High	3 years	Moderate	Local Cash, Grants	Local Government, UGS, USGS	Yes
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	2 years	Minimal	Local Cash, Grants	Local Government	Yes
Debris Flow	Maintain debris flow basins. Monitor wildfire and landslide areas.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes

Mapleton

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	5	$1,546	0.00	0.02	0.00
Fire Risk High	12	$4,766	0.81	8.30	0.00
Fire Risk Moderate	247	$243,027	0.79	9.48	0.00
Flood 1% Yearly Probability	6	$765	0.00	0.01	0.00
Landslide	0	$0	0.00	0.04	0.00
Liquefaction Moderate to High	2,901	$1,101,786	5.37	9.20	0.46
Earthquake (Pre-1990 buildings)	1,063	$424,672	na	na	na

Statement of Vulnerabilities: Mapleton lacks a stormwater outfall and cannot obtain a discharge permit for Hobble Creek due to Springville's high water table. The city relies on detention ponds and stormwater storage vaults, but high water accumulation events could result in flooding. The city is implementing innovating design and technology to better capture rain on-site, such as bioswales, rain gardens, and improved storage vaults. Maple Mountain has a high likelihood of catching fire, which could move into the WUI and cause secondary hazards such as flooding and mudslides.

Action	**Hazard**	**Priority**	**Timeline**	**Cost**	**Funding**	**Responsibility**
Educate residents on good watering practices and how to conserve during a drought	Drought	High	Ongoing	Minimal	Local gov	Local gov
Educate residents on wildfire mitigation, such as defensible space and roof materials	Fire	High	Ongoing	Minimal	Local gov	Local gov

Participate in the yearly Shakeout drill	Earthquake	Mod	Ongoing	Minimal	Local gov	Local gov
Create a mountain biking trail alone the fire break road to improve maintenance and access	Fire, Mudslide	Mod	2-3 yrs.	Included in new development	Developers	Local gov, Developers
Exchange density in other areas for development on hillside	Fire, Mudslide	High	Ongoing	0	Local gov	Local gov
Strengthen city code to require more fire-mitigating principles in WUI	Fire	Mod	1-2 yrs.	Staff time	Local gov	Local gov
Require development in the floodplain elevate homes	Flood	High	Ongoing	Minimal	Developers	Local gov, Developers
Create localscapes/xeriscape demonstration garden	Drought	Low	2-4 yrs.	TBD	Local gov	Local gov
Support bringing the Fix-the-Bricks program to Utah County	Earthquake	Mod	2-5 yrs.	Unknown	BRIC grants	Utah State or Utah County

2017 Strategies Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding	Responsible Party	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	Yes
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Medium	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes

Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes, Ether Hollow

Nebo School District

Vulnerabilities: Nebo has a handful of older elementary schools that could be retrofitted or rebuilt to current seismic code. Nebo has already bonded to rebuild some of the larger schools. It is important that schools are prepared to serve as evacuation centers. Also, Turf fields are increasingly expensive and the quality of artificial grass makes a transition attractive. A great deal of development is occurring in Nebo School District and new schools are being built to accommodate it.

Action	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Look for opportunities to retrofit or rebuild schools built before seismic code, including Spanish Fork and Payson Jr High, Santaquin, Goshen, Sage Creek, Cherry Creek, and Park Elementaries.	Earthquake	High	Ongoing	TBD	Nebo School District, BRIC grants	Nebo School District
Replace grass on sports fields with artificial turf in all 5 high schools	Drought	High	2 yrs.	1 mil/field	Nebo School District	Nebo School District
Replace or build Spanish Fork, Payson, and Springville high schools up to current building code	Earthquake	High	2024, 2025, and 2026	Tens of millions	Nebo School District	Nebo School District

Ensure high schools have the capability to serve as evacuation centers, including emergency power and water	All	High	Ongoing	A few thousand	Nebo	Nebo School District
Salem City has two canals that run through our city limits. We are concerned about breaches and the issues associated with that. We are also aware of the area and the risk of earthquakes, as we are on a major fault line. To the east of our city is the mountain range, knowing issues with fires and mudslides.	Flood	Mod	1-2 yrs.	Staff time	Local gov	Local gov

Orem

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	1,492	$404,918	2.43	4.42	0.00
Fire Risk High	597	$291,838	4.35	12.34	4.34
Fire Risk Moderate	254	$74,252	0.27	0.05	2.10
Flood 1% Yearly Probability	11	$2,781	1.12	0.72	0.00
Landslide	21	$8,331	0.09	3.16	0.00
Liquefaction Moderate to High	3,019	$1,046,381	17.25	11.47	17.97
Earthquake (Pre-1990 buildings)	15,720	$3,947,009	na	na	na

Statement of Vulnerabilities: Orem's most pressing hazard is the potential for wildland fire along the east bench with associated secondary hazards such as mudslides. Though the gun range fire in 2020 cost 4 million, it could have done much more damage had circumstances been different. An earthquake would cause widespread damage to Orem. Orem is considering rebuilding the City Center, which does not meet current seismic requirements, in addition to ongoing citizen education and yearly drills. There are also critical facilities on the East Bench fault lines that would be disrupted in an earthquake, such as the Salt Lake Aqueduct and Central Utah Water lines. Orem is working with Central Utah to relocate their pipes to a safer location.

Mitigation Action	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Relocating CUWCD's 10' water pipes on the east bench to avoid fault lines	Earthquake	Mod		millions	CUWCD	CUWCD
Retrofit wastewater facilities on Carterville and Geneva to meet current building code	Flood	Mod	2-5 yrs.	4 million	Local gov	Local gov
Require geotechnical studies for new construction in the foothills and in the Southwest annexation area	Landslide, Liquefaction	Mod	Ongoing	Minimal	Developer	Developer
Citywide yearly emergency drill, CERT team, staff participation in Shakeout drill	Earthquake	High	Ongoing	Minimal	Local gov	Local gov
Rebuild City Center to withstand major earthquake	Earthquake	Mod	5-10 yrs.	23 million	Local Gov, grants	Local Gov
Encourage Fix-the-Bricks program serving Utah County	Earthquake	Mod	1-2 yrs.	TBD	BRIC grants	Utah State or Utah County
Firewise Education	Fire	High	Ongoing	Minimal	Local gov	Local gov/Fire Dept
Maintain fire break and remove vegetation along the east bench with a focus near the gun range	Fire	High	Ongoing	2-3k	Local gov	Local gov

Participate in County-led chipping program	Fire	Mod	1-2 yrs.	TBD	Local gov, Utah County	Local gov, Utah County
Exemplify good water use on city facilities during drought, i.e., xeriscaping, focus on trees and shrubs, watering turf grass at night	Drought	Mod	Ongoing	Minimal	Local gov	Local gov
Install water re-use facility for Sleepy Ridge golf course and Lakeside Sports Park	Drought	High	3 yrs.	5 million	Local gov	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes, ongoing
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	Yes
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes, ongoing
Landslide	Public education on correct watering practices and retaining measures in susceptible areas.	Med	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes, in Hillside Ordinance
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances	High	2 years	TBD	Local Cash, Grants	Local Government	Yes
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes, Ongoing

Wildfire	Promote FIREWISE landscaping to resident's living in vulnerable areas of the city	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes, Ongoing
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, USGS	No, efforts fell through

Payson

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	1,057	$178,637	1.65	0.61	0.00
Fire Risk High	1,199	$275,117	2.68	2.47	0.95
Fire Risk Moderate	1,339	$246,738	1.94	1.43	2.23
Flood 1% Yearly Probability	330	$83,145	0.79	0.02	0.48
Landslide	0	$0	0.00	0.09	0.00
Liquefaction Moderate to High	2,487	$560,660	15.44	7.54	8.51
Earthquake (Pre-1990 buildings)	2,694	$562,128	na	na	na

Statement of Vulnerabilities: Payson City currently has two areas of the City that have been designated as flood plains by FEMA. When a new home or structure is requested to be constructed in one of the flood plain areas, we require that the applicant meet certain requirements to be able to construct a building in the flood plain. Homes and structures were built before today's current standards existed and Payson City does all that it can in a large rainfall event to protect these structures from getting flooded. Payson City also has a few subdivisions that have only one evacuation route and due to the hillside development, that they were constructed on this is a concern that we deal with if there ever is a need to evacuate. We also have one development that has an earthquake fault line running through it, with one existing home sitting directly on the fault

line. This has been addressed with the home owner but is a concern in a large earthquake. Also concerning is a high-pressure gas line that crosses the fault.

Mitigation Action	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Continue monthly preparedness meetings	All	Mod	Ongoing	Minimal	Local gov	Local gov
Promote the Utah Shakeout and share family preparedness booklet	Earthquake, All	Mod	Ongoing	1k	Local gov	Local gov
Support Fix-the-Bricks expanding to Utah County	Earthquake	Mod	4 yrs.	TBD	Grants	TBD
Upgrade Water Treatment Plant and oxidation ditch	Drought, all	High	by 2024	23 million	Local gov	Local gov
Hire more personnel for Fire Marshal	Fire, all	High	1-2 yrs.	80k	Local gov	Local gov
Protect water sources with regular channel cleaning, silt fence	Fire, Flood	High	Ongoing	10-15k	EWP/NRCS	NRCS, Local gov
Complete design phase for upsizing culverts in Dry Creek	Flood	Mod	2 yrs. design, 4 yrs. to construct	TBD	NRCS, Local gov	NRCS, Local gov
Culvert cleaning in high snowpack years	Flood	Mod	Ongoing	Volunteer hours	Local gov, Volunteers	Local gov
Tiered water rate program	Drought	High	1-2 yrs.	Staff time	Local gov	Local gov
Install pressure irrigation pond	Drought, Flood	Mod	5-10 yrs.	TBD	Local gov, grants	Local gov
Install water tank	Drought, Fire	Mod	3 yrs.	500k	Local gov	Local gov
Drill a new well	Drought	High	1 yr.	1.5 million	Local gov	Local gov
Install water metering	Drought	High	1 yr.	5.3 million	Local gov	Local gov

Any development in Wildland Urban Interface must have defensible space, clustered homes, etc.	Fire	High	Ongoing	Staff time	Local gov	Local gov
Highline Canal Retrofit	Earthquake	High	5-10 yrs.	150 million	Pipeline Company	Pipeline Company
Participate in County Chipping Program	Fire	High	Ongoing	30k	Local gov, Volunteers, State Fire program, Utah County	Local gov, Utah County
Participate in Utah County Emergency Notification System	All	Mod	Ongoing	6k	Local gov	Local gov, Utah County

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Medium	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes

Pleasant Grove

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**

Dam Failure	5,915	$1,504,596	6.36	0.70	2.59
Fire Risk High	637	$170,120	0.19	2.54	0.01
Fire Risk Moderate	1,185	$389,306	0.49	0.31	0.03
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	24	$7,557	0.00	1.00	0.00
Liquefaction Moderate to High	3,437	$1,026,021	6.04	0.92	2.86
Earthquake (Pre-1990 buildings)	3,902	$904,610	na	na	na

Statement of Vulnerabilities: Pleasant Grove's main concerns are fire and drought. An uptick of recreational activity in the foothills makes fires more likely and an increasing population requires new sources/better use of water. Pleasant Grove has a varied stock of homes and some older properties could use earthquake retrofitting. There is development pressure in formerly agricultural land toward the lake. Slope requirements prohibit much more development in the foothills.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Adopt new 2021 NFIP maps and update city code	Flood	Mod	1 yr.	Staff time	Local gov	Local Gov
Support bringing the Fix-the-Bricks program to Utah County	Earthquake	Mod	2 yrs.	Staff time	Local gov	Local gov
Install generator for well pump	All, earthquake	Mod	2-3 yrs.	300k	Local gov	Local gov
Require metering on all new development	Drought	Mod	Ongoing	None	Local gov, developers	Local gov, developers
Install water meter on all buildings	Drought	Mod	5-10 yrs.	millions	Local gov	Local gov
Update Stormwater Master Plan with Lindon	Flood	Mod	1 yr.	Staff time	Local gov	Lindon, Pleasant Grove cities

Implement chipping program	Fire	Mod	1-2 yrs.	8k	Local gov, Utah County	Pleasant Grove
Maintain fire access roads	Fire	Mod	Ongoing	10k	Local gov	PG Fire department, hillside property owners
Include firewise principles in WUI code	Fire	Mod	1-2 yrs.	Staff time	Local gov	Local gov
Construct new well	Drought	High	2 yrs.	4.5 million	Local gov	Local gov
Provide dumpsters for spring and fall yard waste	Fire	Mod	Ongoing	30k	Local gov	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Earthquake	Study on vulnerabilities of Critical Facilities	High	3 years	$20,000	FEMA, Local Government	Local Government	No, mostly newer critical buildings
Fire	Install emergency generator to pump water for fire prevention.	High	5 years	1 million	FEMA, Local Government	Local Government	Not yet, limited resources
Dam Failure	Upgrade Battle Creek and Grove Creek dams to conform to seismic standards	High	2 years	TBD	North Utah County Water Conservancy District	North Utah County Water Conservancy District	Upgraded Battle Creek, Grove Creek yet to come.
Drought	Public education on correct watering practices	High	Ongoing	Minimal	Local Government	Local Government	Yes
Earthquake	Promote earthquake awareness and preparation	High	Ongoing	Minimal	Local Government	Local Government	Yes
Landslide	Require geotechnical reports for proposed structures in landslide-prone areas, conform to Hillside ordinance	High	3 years	Minimal	Local Government	Local Government	Yes
Flooding	Update storm water master plans to reduce flooding in developing areas	High	3 years	Minimal	Local Government	Local Government	No, limited resources

Provo

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	16,883	$5,531,865	36.42	41.71	32.05
Fire Risk High	652	$364,479	0.94	29.04	0.20
Fire Risk Moderate	227	$76,906	0.60	4.20	0.69
Flood 1% Yearly Probability	48	$23,058	0.47	9.80	0.25
Landslide	290	$108,752	0.00	4.46	0.00
Liquefaction Moderate to High	19,338	$6,140,581	40.33	48.54	49.49
Earthquake (Pre-1990 buildings)	15,358	$4,386,424	na	na	na

Statement of Vulnerabilities: Regarding drought, Provo's water distribution division utilizes dozens of local springs to supplement wells, such as Provo Canyon springs supplying water to the treatment facility. Some of the old lines lie below the Provo River Bed and current policy does not allow construction on the river to move and replace those lines for access. Provo needs enhanced water storage capacity for long-term droughts. Provo's position between Utah Lake and the Wasatch Mountain range creates a challenge for large-scale evacuations, as does Provo River, the Union Pacific Rail Line, and Interstate 15. West of I-15, residents have limited routes for evacuation. There are 2 exits with underpasses and 3 other underpasses to the east side, all of which would bottleneck during a large evacuation. The Wasatch Fault is located on Provo's east bench. There are slow moving landslides occurring in neighborhoods that impact residents and infrastructure. These slides are being monitored by the Utah Geological Survey and there are considerations for planning. Provo Airport is a Part 139 FAA Certified airport. It is growing and will increase traffic and the need for emergency response. Vegetation between the airport and Utah Lake is difficult to manage.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Adopt a Conservation and Resilience section of the general plan that addresses emissions, wildland preservation and resiliency to disasters.	All, Climate Change	Mod	1 yr.		Local gov	Local gov
Complete design for and construct/rehab levees around the Provo River and Provo Airport	Flood	High	2-5 yrs.	50 million	Local Gov, BRIC and other grants	Local Gov, FEMA
Implement *Ready Set Go* program, including education on defensible space and a chipping program	Fire	High	Ongoing	50k	Local Gov	Local Gov
WUI Program? See Chris email	Fire					
Encourage a statewide Fix-the-Bricks program	Earthquake	High	1-2 yrs.	minimal	FEMA, Utah State	FEMA, Utah State Gov
Continue with Aquifer Storage and Recovery, including a water treatment plant and infiltration in Rock Canyon	Drought	High	1-2 yrs.	80 million	Local Gov, WIFIA, ARAP, BRIC, Water Smart program, Water Resources Board and Drinking Water Board State revolving loans	Local Gov
Deepen wells	Drought	High	1-2 yrs.	300k	Local Gov	Local Gov
Tree Trimming	Severe weather,	High	Ongoing	??	Provo Power	Provo Power

	wind, earthquake					
Provo Delta Restoration Project	Flood	Mod	3 yrs.	51 million	State of Utah, Western Area Power Administration, Central Utah Water Conservancy District, and federal appropriations.	CUWCD, US Dept of Interior, Utah Reclamation, Mitigation, and conservation commission, June Sucker Recovery Program
Hillside Management in Carterville, Grandview, and Slate Canyon areas	Fire	Mod	1yr	??	Local Gov	Local Gov
Participate in the Provo River Levee Analysis and Mapping Process (LAMP) to identify potential improvements to levee system	Flood	High	1 yr.	Staff time	Local Gov, Grants	Local Gov
Replace vulnerable areas of large diameter pipe	Flood/Dam Failure	High	Ongoing	CIP	Local Cash	Local Gov
Replace city buildings to meet seismic code	Earthquake	High	1 yr.	69 million	Local Cash, Grants	Local gov

2017 Strategies Update

Hazard	Action	Priority	Timeline	Cost	Potential Funds	Responsible Party	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes/recertify every 5 years

Flooding/ Dam Failure	Review existing ordinances related to flood plain hazards to identify needed revisions, if any.	High	1 – 2 years	Minimal	Local Cash, Grants	Local Government	Yes
Flooding/ Dam Failure	Participate in the Provo River Levee Analysis and Mapping Process (LAMP) to identify potential improvements to levee system.	High	3 years	TBD	Local Cash, Grants	Local Government, FEMA, Others?	Ongoing, almost complete
Flooding/ Dam Failure	Replace vulnerable areas of large diameter pipe.	High	5 years	CIP	Local Cash	Local Government	Ongoing
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	Yes
Wildfire	Educate homeowners on Ready Set Go practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Ongoing
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Mediu m	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes, through new Hillside Ordinance
Landslide	Review existing ordinances related to slide area hazards to identify needed revisions, if any.	High	1 2 years	Minimal	Local Cash, Grants	Local Government	Yes, through new Hillside Ordinance
Flooding/ Dam Failure	Participate in the Provo River Levee Analysis and Mapping Process (LAMP) to identify potential improvements to levee system.	High	3 years	TBD	Local Cash, Grants	Local Government, FEMA	Yes
Flooding/ Dam Failure	Replace vulnerable areas of large diameter pipe.	High	5 years	Identifie d in CIP	Local	Local Government	Yes/Ongoing
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes, with CERT, Shakeout drill
Wildfire	Incorporate Ready Set Go landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes
Wildfire	Restrict use of fireworks at highly vulnerable areas.	High	1 year	Minimal	Local Cash	Local Government	Yes
Landslide	Review existing ordinances related to slide area hazards to identify needed revisions, if any.	High	1-2 years	Minimal	Local Cash, Grants	Local Government	Yes, with new Hillside Ordinance

Drought	Promote water saving programs.	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes

Salem

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	188	$41,205	0.04	1.02	0.00
Fire Risk Moderate	990	$255,991	0.58	0.78	0.00
Flood 1% Yearly Probability	17	$3,452	0.02	0.00	0.00
Landslide	27	$7,392	0.00	0.00	0.00
Liquefaction Moderate to High	639	$167,356	2.61	2.06	0.00
Earthquake (Pre-1990 buildings)	886	$188,562	na	na	na

Statement of Vulnerabilities: Salem City has two canals that run through our city limits. We are concerned about breaches and the issues associated with that, especially post-earthquake flooding. We are keenly aware of the fire risk with resulting debris flow damage since the Bald Mountain fire. Many people are moving to and building in Salem. New homes are expected on the East side of town and we need codes that address hazards in the area and for developers to participate in mitigation projects such as water retention basins.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility

Pipe Salem Canal and build trail on top	Flood	High	1-3 yrs.	60 million	CUWCD, Local Gov, MAG, Salem Canal Irrigation Company, Division of Water Resources	CUWCD, Salem City, Salem Canal Company
Build detention basin coming out of Loafer Canyon	Flood, Debris Flow	High	3-4 yrs.	500k land, TBD construction	Salem, Elk Ridge, Woodland Hills, NRCS	Salem, Elk Ridge, Woodland Hills
Update codes and ordinances to guide development in hazard-prone areas	All	High	1-2 yrs.	Staff time	Local gov	Local gov
Build water retention basin at the base of Maple Canyon	Flood, Debris Flow	Mod	3-4 yrs.	TBD	Local gov, Developers	Local gov, Developers
Hire code enforcement officer	All	Mod	1 yr.	50k/yr.	Local gov	Local gov
Participate in Great Utah Shakeout and educate citizens on earthquake safety	Earthquake	Mod	Ongoing	Staff time	Local gov	Local gov
Green Waste dumpsters for Spring-Fall	Fire	Mod	Ongoing	5k	Local gov	Local gov
Incentives for water-use reduction such as Flip-the-Strip, Localscapes, Smart Meters, etc.	Drought	Mod	Ongoing	Unknown	CUWCD	CUWCD, Local gov
Build independent Public Safety Building	Earthquake, All	High	3-4 yrs.	TBD	Local gov	Local gov
Construct new water tanks as development occurs	Drought, Fire	Mod	5-10 yrs.	TBD	Local gov, Developers	Local gov, Developers

Pipe Highline Canal	Flood, Drought	Mod	10-15 yrs.	TBD	Local gov, Highline Canal Company, grants	Local gov, Highline Canal Company
Require any new water retention basins to be entirely xeriscaped	Drought, Flood	Mod	Ongoing	Minimal	Developers	Developers
Educate citizens on emergency preparedness through City Calendar printed and shared with all homes	All	Mod	Ongoing	A few thousand	Local gov	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Flooding/ Canal Breach	Coordinate efforts with Salem Canal, Strawberry Highline Canal and bureau of reclamation	High	Ongoing	TBD	State and Federal	BOR, Salem Canal Highline Canal, local government	Ongoing
Earthquake	Inventory current critical facilities for seismic standards.	High	Ongoing	TBD	Local Cash, Grants	Local Government	In Progress, getting cost estimate for separate Public Safety building
Wildfire	Educate homeowners on FIREWISE practices.	Med	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes, Ongoing
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Med	Ongoing	TBD	Local Cash, Grants	Local Government, UGS	Yes, Ongoing
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes

Flooding/Canal Breach	Coordinate efforts with Salem Canal, Strawberry Highline Canal and bureau of reclamation	High	Ongoing	TBD	State and Federal	BOR, Salem Canal Highline Canal, local government	Ongoing
Earthquake	Promote earthquake awareness and preparation.	High	Ongoing	TBD	Local Cash, Grants	Local Government	Yes
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	Med	Ongoing	Minimal	Local Cash, Grants	Local Government	In progress
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	Med	Ongoing	TBD	Local Cash, Grants	Local Government, UGS	In progress

Santaquin

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	1,718	$321,873	4.85	0.76	0.88
Fire Risk High	930	$208,811	1.85	4.62	1.16
Fire Risk Moderate	1,243	$257,246	2.27	2.25	1.08
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	57	$10,546	0.00	0.08	0.00
Liquefaction Moderate to High	0	$0	0.20	0.00	0.00
Earthquake (Pre-1990 buildings)	848	$143,262	na	na	na

Statement of Vulnerabilities: Santaquin faces several vulnerabilities due to local geology, proximity to wildlands, and past development policies. These vulnerabilities include homes which have been built along the eastern border of the town (US Forest Service boundary) which are at risk for wildfires, landslides, and debris flow impacts. These same homes are also built

in close proximity to a fault line. Santaquin has adopted hillside development standards to address future development in these areas. There is also a large quantity of hazardous materials that pass through Santaquin on the railroad and State Routes.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Work with Utah County and NRCS to rebuild Santaquin Debris Flow Basin	Flood	High	4 yrs.	20 million	NRCS, Utah County, Santaquin	NRCS, Utah County, Santaquin
Complete final design of 6 debris basins on the east bench currently threatening homes and a charter school	Debris flow, flood	Mod	3-5 yrs.	9.1 million	NRCS	NRCS, Santaquin responsible for land acquisition
Install backup generators for Public Safety/Admin building	All	High	2 yrs.	250k/generator	BRIC grants, Local gov	Local gov
Build new City Hall with Emergency Ops Center	All	High	2-4 yrs.	6 million	Local gov	Local gov
Perform seismic study of pre-1990 water tanks and drinking-water wells	Earthquake	Mod	2-4 yrs.	$25k	Local gov, BRIC grants	Local gov
Retrofit historic 1900s museum	Earthquake	Low	TBD	6 million	Local gov	Local gov
Conduct yearly chipping program	Fire	Mod	Ongoing	$15k	Utah County, Local gov, Forest Service	Utah County, Local gov, Forest Service
Review and adopt new IBC code for the WUI, including specification of WUI zones	Fire	High	1 yr.	Staff time	Local gov	Local gov
Fire Marshal must approve new development, including 1 hr. fire resistant construction, appropriate	Fire	High	Ongoing	Staff time	Local gov	Local Fire Dept

landscaping & defensible space, sprinklers, and 2 ingress/egress routes						
Allow and encourage xeriscaping	Drought	Mod	Ongoing	Staff time	Local gov	Local gov
Drill another drinking well	Drought	Mod	20 yrs.	$1.5 million	Local gov	Local gov
Construct a second fire station with a ladder truck	Fire	Mod	5-10 yrs.	$8 million	Local gov	Local gov
Educate homeowners on wildfire risk and home hardening by sharing literature	Fire	Mod	Ongoing	Minimal	Local gov	Local Fire Dept
Participate in the Shakeout Drill	Earthquake	Mod	Ongoing	Minimal	Local gov	Local gov
Continue to work with Summit Creek Management Group to construct runoff capture and recharge areas	Flood	High	Ongoing	$15k/yr.	Local gov & Developers	Local gov & Developers

2017 Strategies Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	No Special Flood Hazard Area
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	No, few critical facilities build pre-2000
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Med	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes, Ongoing

Flooding/ Dam Failure	Continue to work with Summit Creek Management Group to construct runoff capture and recharge areas	High	Ongoing	$1,500,000	Local, Private, Grants	Private Irrigation Company	Yes, Ongoing
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	No Special Flood Hazard Area
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes, Ongoing
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes, with Hillside Ordinance
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes, with NRCS

Saratoga Springs

HAS THEIR OWN PLAN, INDEPENDENTLY CREATED AND ADOPTED

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	237	$47,094	0.12	1.19	0.00
Fire Risk High	4,797	$1,259,118	3.81	13.19	0.00
Fire Risk Moderate	937	$235,667	2.28	6.90	0.00
Flood 1% Yearly Probability	10	$1,195	0.05	1.06	0.00
Landslide	7	$1,521	0.00	0.03	0.00
Liquefaction Moderate to High	6,283	$1,633,749	19.98	7.81	0.00

Earthquake (Pre-1990 buildings)	127	$103,907	na	na	na

Statement of Vulnerabilities: Saratoga Springs' highest priority hazards are 1) Wildfire 2) Debris Flow and 3) Severe Storms. The recent Dump Fire and subsequent evacuations underscored the importance of fuel reduction and fire breaks to avoid large-scale evacuations on the few routes in and out of the city. There are several master-planned developments in progress throughout the city. These new developments will follow the most recent code and zoning requirements, making them relatively safe. The city works extensively to ensure adequate drainage and retention basins in new development.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Conduct fuel reduction projects on undeveloped lands adjacent to City boundaries, where such lands pose a wildfire hazard to the city. This will be done cooperatively with the BLM, DNR, and private land owners.	Fire	Mod	1-2 yrs.	100,000	BRIC, HMGP, FMA, DNR	Local gov
Construct fire breaks along or near certain boundaries of the city. This may be done in cooperation with trail development projects,	Fire	High	4 yrs.	300000		
Reduce fuels on undeveloped lands that are in close proximity to City owned infrastructure, such as wells and pump stations.	Fire	High	4 yrs.	100000	BRIC, HMGP, DNR	Local gov
Conduct public education programs, in cooperation with other agencies, such as BLM and DNR to promote fire safe practices on public lands.	Fire	Mod	Ongoing	TBD		
Perform a detailed hazard assessment of other potential debris flow areas	Debris Flow	High	1 yr.	100,000		

Implement other debris flow hazard mitigation projects, if warranted by the hazard assessment	Debris Flow	Mod	4 yrs.	1000000		
Consider further zoning restrictions as an alternative to debris flow mitigation projects	Debris Flow	Mod	2 yrs.	Minimal	Local gov	Local gov
Consider purchasing and installing additional emergency generators. These generators would serve critical facilities.	All, Flood	Mod	1-2 yrs.	400,000	PDN, HMGP	Local gov
Consider the installation of gravel drains at buried vaults, use of flexible piping (such as HDPE piping), SCDA upgrades, and earthquake-triggered shut-off valves around certain infrastructure	Earthquake, Flood	Mod	4 yrs.	Minimal	TBD	Local gov
Coordination of Water Savings Projects Occurs with Local and Regional Water Management Entities, including CUWCD and Local Canal Companies	Drought	Mod	Ongoing	Minimal	Local gov, CUWCD	Local gov
Installations of berms around low lying sewer lift stations or well pump houses	Flood	Mod	4 yrs.	500,000	BRIC, HMGP	Local gov
Construction of additional drainage culverts under transportation infrastructure	Flood	Mod	TBD	TBD	Local gov, UDOT	Local gov
As new culinary water storage tanks, pump stations, and well houses are built, the designs may integrate further seismic, fire, and flood protection into the buildings and equipment. • As new sources are developed, more stringent source protection plans can be integrated to protect against specific hazards identified in the multi-hazard mitigation plan for the specific source locations.	All, Flood	High	4 yrs.	TBD	Local gov, developers	Local gov

• As new transmission lines are designed and constructed (in high hazard areas) mitigation measures may be incorporated into the design. An example would be transmission lines that will be servicing areas (that have been identify as high risk for wildfire) could have additional fire protection and flow capacity, and fire hydrants placed more frequently than in low hazard areas.						
System improvements near undeveloped areas of the town and near areas identified as high risk for wildfire can have fire protection uses designed into the system, such as the utilization of green strips and defensible space. • Open channel ditches can be sized for flood control in high hazard flood areas.	Fire	Mod	4 yrs.	TBD	Local gov	Local gov
Sewer Systems: As lift stations, pump stations, and wastewater treatment plants are improved, additional seismic, fire, and flood protections may be integrated to help protect against unforeseen natural disasters. • As waste water systems are inspected and repairs are made in high-risk areas, such as areas identified to have the potential for liquefaction, seismic protection factors may be incorporated as identified by the plan.	All, liquefaction	Mod	5 yrs.	TBD	Local gov	Local gov
Storm Drains: Culverts in areas that are identified as debris flow basins can be sized appropriately to pass debris without clogging, or have protections	Debris flow, flood	Mod	6 yrs.	TBD	Local gov	Local gov

placed on them to prevent damage from debris flow. • Open channel storm drain channels can be sized to help channel flood flows in areas identified as high hazard for floods.						
Transportation: Culverts in areas that are identified as debris flow basins can be sized appropriately to pass debris without clogging, or have protections placed on them to prevent damage from debris flow. • Roads in areas identified as high hazard for wildfire can be designed and laid out as fire breaks.	Debris flow, flood, fire	Mod	7 yrs.	TBD	Local gov	Local gov
Berm construction at Lift Stations	Flood	Mod	4 yrs.	500,000	BRIC, HMGP	Saratoga Springs
Design and construction of seismic retrofit measures for existing facilities	Earthquake	Mod	2 yrs.	100,000	PDN, HMGP	Saratoga Springs
Retrofit design and construction of vulnerable below grade utilities	Earthquake, all	Mod	4 yrs.	1.5 mil	BRIC, HMGP	Saratoga Springs
Cooperation with other entities to construct canal lining or piping projects	Drought	Mod	4 yrs.	TBD	WS	Saratoga Springs

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Flooding	Promote NFIP participation	High	Ongoing	Minimal	Local cash, grants	Local Gov, FEMA, UDHS	Yes
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local cash, grants	Local gov	No, mostly new buildings

Wildfire	Educate homeowners on FIREWISE practices	High	Ongoing	Minimal	Local cash, grants	Local gov	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Medium	1 yr.	TBD	Local cash, grants	Local gov, UGS	Yes
Flooding	Update Flood and Inundation mapping and incorporate into general plans and ordinances	High	2 yrs.	TBD	Local cash, grants	Local gov, FEMA, UDHS	Partial: 1.5 of 3 detention basins built
Earthquake	Promote earthquake awareness and preparation	High	1 yr.	Minimal	Local cash, grants	Local gov, UGS, USGS	Partial: Info on website and social media, starting CERT
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk	High	1 yr.	Minimal	Local cash, grants	Local gov	Yes
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 yrs.	Minimal	Local cash, grants	Local government, UGS, USGS	Partial: Some hillside stabilized through construction efforts

Spanish Fork

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	503	$200,435	2.31	6.84	4.39
Fire Risk Moderate	1,304	$348,125	2.81	4.18	1.79
Flood 1% Yearly Probability	3	$380	0.00	0.09	0.01
Landslide	16	$3,669	0.00	0.33	0.00
Liquefaction Moderate to High	5,757	$1,490,565	25.55	26.03	9.25
Earthquake (Pre-1990 buildings)	3,585	$874,641	na	na	na

Statement of Vulnerabilities: We focus on homes surrounding Spanish Fork River. There is pressure to develop in the 100 yr. floodplain where agricultural land is abundant. Our main waterline runs below the Crab Creek Slide, which will eventually move onto the line itself. Many older homes are located in high-liquefaction areas.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Chipping Program	Fire	Moderate	3 years	10k	Local Gov, County	Local Gov, County
Identify properties for LeRay McAllister Critical Land Preservation	Flood	Moderate	Ongoing	Staff time	LeRay McAllister Critical Land Conservation Fund	Local Gov
Support Fix-the-Bricks	Earthquake	Moderate		0	FEMA	Utah County
Replace Library	Earthquake	High	1 yr.	TBD, several million	Local Gov	Local Gov
New Fire & EMS Station	All	High	2 yr.	Multiple millions	Tax raise	Local Gov
Stabilize at-risk sections of the riverbank	Flood	Mod	5 yrs.	250k	NRCS Grant, Local Gov	Utah County/Local Gov
Water metering and online portal to view water use	Drought	Mod	Ongoing	Millions	Local Gov	Local Gov
Free Smart Controllers for private landscaping	Drought	Mod	Ongoing	60/unit	Local Gov, CUWCD	Local Gov, CUWCD
Extensive river clearing in high-snowpack years	Flood	High	Ongoing	10-15k	Local Gov	Local Gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Flooding	Remove debris from riverine areas	High	Ongoing	Minimal	Local Government	Local Government	Yes
Fire	Yearly Inspections from Fire Marshal, FIREWISE education	High	Yearly	Minimal	Local Government	Local Government	Yes
HAZMAT	Fire dept. HAZMAT certified	High	1 Year	Minimal	Local Government	Local Government	Yes
Landslide	Public education on correct watering practices and retaining measures	Med	Ongoing	Minimal	Local Government	Local Government	Yes
Earthquake	Promote earthquake awareness and preparation through CERT, ShakeOut	Med	Ongoing	Minimal	Local Government	Local Government	Yes, ongoing
Landslide	Public education on correct watering practices and retaining measures	Med	Ongoing	Minimal	Local Government	Local Government	Yes
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	Med	2 years	Minimal	Local Government	Local Government	Yes

Springville

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	3,506	$801,793	7.65	10.36	4.58
Fire Risk High	260	$90,150	0.72	4.26	2.25
Fire Risk Moderate	656	$192,114	0.95	4.77	2.85
Flood 1% Yearly Probability	147	$33,075	0.00	5.93	0.05
Landslide	120	$25,047	0.17	0.58	0.00
Liquefaction Moderate to High	5,757	$1,490,565	21.27	39.84	24.15
Earthquake (Pre-1990 buildings)	4,045	$1,013,790	na	na	na

With the promulgation of new FIRMs, 200+ homes now sit in the 100 yr. floodplain due to potential for flooding caused by 2 Union Pacific Railroad bridges. We are pursuing various grants to build levees and dikes to protect those homes. The entire west side of our town (west of 400 west) is designated as a high liquefaction potential area. This is a high growth area and all new buildings are required to submit a geotechnical study and mitigate individual properties with large-spread footings, elevating buildings, and prohibiting basements where necessary.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Protect 200+ homes in the newly-designated floodplain by building levees and dikes in the Spring Creek Area	Flood	High	4-5 yrs.	24 million	NRCS and BRIC grants, Local gov	Local Gov
Participate in the Utah Lake FIRM update	Flood	Mod	2-3 yrs.	Staff time	Local gov, FEMA	Local gov
Require development west of the freeway to elevate homes out of the floodplain and submit geotechnical studies	Flood, Liquefaction	High	Ongoing	Minimal	Developers	Local gov, Developers
Rebuild Springville High School to seismic standards	Earthquake	High	5 yrs.	30 million	Nebo School District bonding	Local gov
Train new Emergency Coordinator	All	High	1 yr.	Staff time	Local gov	Local gov
Outfit more staff with short-wave radios	Earthquake	Mod	1-2 yrs.	??	Grants	Local gov
Educate developers and remodelers on low-cost seismic retrofits	Earthquake	Mod	1 yr.	Staff time	Local gov	Local gov
Educate residents on good watering practices and how to conserve during a drought	Drought	High	Ongoing	Minimal	Local gov	Local gov

Educate residents on wildfire mitigation, such as defensible space and proper roof materials	Fire	High	Ongoing	Minimal	Local gov	Local gov
Participate in the yearly Shakeout drill	Earthquake	Mod	Ongoing	Minimal	Local gov	Local gov
Retrofit 60" water pipe coming from Strawberry Reservoir	Earthquake	Mod	??	??	CUWCD, BRIC	CUWCD
Support bringing the Fix-the-Bricks program to Utah County	Earthquake	Mod	2-5 yrs.	Unknown	BRIC grants	Utah State or Utah County
Add joints to 24" penstock that brings water from Hobble Creek where it crosses the fault	Earthquake	Mod	5-10 yrs.	TBD	CUWCD	CUWCD

2017 Strategies Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes, ongoing
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	Yes
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes, ongoing
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Medium	2 years	TBD	Local Cash, Grants	Local Government, UGS	Yes, ongoing

Flooding/ Dam Failure	Update NFIP 100-Year Flood Plain and Inundation mapping and incorporate them into general plans and ordinances.	High	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes, Shakeout
Wildfire	Recommend FIREWISE landscaping practices to developments or homes within areas at risk. Educate new home owners of these practices.	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes

Vineyard

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.29	2.89	0.00
Fire Risk High	303	$110,191	1.45	3.06	2.02
Fire Risk Moderate	184	$49,068	0.83	2.46	1.10
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	2,418	$789,322	4.67	9.18	9.98
Earthquake (Pre-1990 buildings)	125	$123,886	na	na	na

Statement of Vulnerabilities: Although 90%+ of buildings were constructed after 2000, liquefaction would affect most of the town, potentially destabilizing the four sections of road that traverse the railroad and making evacuation difficult for residents on the developing west side of town. Critical infrastructure is built on piers that extend down to the bedrock, but homes depend on each builder's geotechnical survey. Previously fire-prone areas have been developed and no homes are located in the floodplain. Vineyard is home to many young families, first-time home buyers, and out-of-state landlords who are less familiar with the area or involved with town issues. Awareness and education, especially of evacuation plans, will need to be continuous.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Install grinders in 3 sewer lift stations	Flood	High	3-5 yrs.	150k	NFIP, Local Gov	Local Gov
Develop evacuation plan and share with the public	All	High	1 yr.	Staff time	Local Gov	Local Gov
Bolster fund for replacement and updates of infrastructure via utility bill and impact fees	All	High	1 yr.	Staff time	Local Gov	Local Gov
Seismically retrofit Vineyard Connector bridge	Earthquake	Mod	2-5 yrs.	200k	UDOT, Local Gov, BRIC grant	UDOT, Local Gov
Require geotechnical studies for large buildings and frontrunner station	Earthquake	High	Ongoing	$2,000/lot	Developers, Local Gov	Developers, Local Gov
Construct a 6-million-gallon water tank with pump station and future expansion	Drought	High	2 yrs.	5 million	Local Gov	Local Gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	Completed?
Earthquake	Build overpasses to be usable after earthquake. Overpasses	High	5-10 years	$10 million	Local Government, FEMA grants, MAG	Local Government, MAG	Partly, new Center St

	are the main access across railroad.						overpass is earthquake safe
Earthquake	Develop evacuation plan	High	1-3 years	$50,000	Local Government	Local Government	Yes
All Hazards	Share disaster planning via city Social Media platforms	Med	Ongoing	Minimal	Local Government	Local Government	No, messaging for liquefaction is unusual
All Hazards	Maintain fund for timely replacement and updates of infrastructure via utility bill	High	Ongoing	$4/household per month	Utility fees	Individual/ Local Government	No, but should happen next year
All Hazards	Interactive parcel map including hazard information	Med	1 year	Minimal	Local Government	Local Government	No, doesn't make sense for liquefaction, geotechnical study already required
Earthquake	Build overpasses to be usable after earthquake. Overpasses are the main access across railroad.	High	5-10 years	$10 million	Local Government, FEMA grants, MAG	Local Government, MAG	Partly
Liquefaction	Geotechnical study in town center area for potential tall buildings and frontrunner station	High	1-3 years	$200,000	Local Government, FEMA grants, developers	Local Government	Ongoing, city center buildings are new or not yet built
Earthquake/ Liquefaction	All building permits require geotechnical study including site visit to be in accordance with earthquake standards	High	Ongoing	$2,000 per lot	Builder/ Individual	Builder/ Individual	Yes
Earthquake	Develop evacuation plan	High	1-3 years	$50,000	Local Government	Local Government	Yes
All Hazards	Share disaster planning via city Social Media platforms	Med	Ongoing	Minimal	Local Government	Local Government	No

All Hazards	Maintain fund for timely replacement and updates of infrastructure via utility bill	High	Ongoing	$4/household per month	Utility fees	Individual/ Local Government	No, should happen within a year
All Hazards	Interactive parcel map including hazard information	Med	1 year	Minimal	Local Government	Local Government	Not practical

Woodland Hills

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	398	$147,917	0.00	0.00	0.00
Fire Risk Moderate	11	$5,431	0.00	0.00	0.00
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	3	$869	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	81	$21,256	na	na	na

Statement of Vulnerabilities: Woodland Hills' chief concern is managing wildfire and having enough funding to upkeep current infrastructure. There are many homes in the WUI and limited roads for getting in and out of town. Evacuations in a recent nearby fire brought this reality to a point. Woodland Hills works with Utah County and others to educate homeowners, manage fuels, and plan response. If the city had more money, it would bury powerlines, bring water lines up code, and purchase a firetruck. Lack of local sales tax and a desire to keep property taxes low means there is a limited budget devoted to maintenance. There is some development pressure in the hills and more in the canyon above Woodland Hills. Large lot requirements and wastewater requirements limit how much can be built.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding	Responsibility
Chipping program in Wildland Urban Interface	Fire	High	Ongoing	50k/volunteer labor	Local gov, citizens, Utah County	Local gov, Utah County
New Firetruck	Fire	Mod	2-3 yrs.	500k	Local gov	Local gov
Fire Chief must sign off on all plans in WUI, including requirements for fire hydrant proximity, defensible space, and building materials	Fire	High	Ongoing	Staff time	Local gov	Local gov
Construct avalanche basin above main water tank to reroute and protect tank and downhill homes	Avalanche	Mod	3-5 yrs.	3 million	Local gov, BRIC and other grants	Local gov
Geotechnical study required for all new development in hazard areas	All	High	Ongoing	Staff time	Developers	Developers, Local gov
Replace 30% of water lines, bringing up to current seismic standards	Fire, Flood, Drought	High	5 yrs.	3.2 million	Local bond	Local gov
Participate in Utah Shakeout	Earthquake	Mod	Yearly	Minimal	Local gov	Local gov
Week-long Fire Expo to educate residents on fire safety	Fire	High	Yearly	Minimal	Local gov	Local gov, Utah County
Create dipping ponds for helicopters to use in fire suppression	Fire	Mod	2-3 yrs.	TBD	Local gov, Utah County, grants	Local gov, Utah County
Bury power lines, especially those that may cause fires	All	Mod	Ongoing	$700k/mile	Local gov, developers	Local gov
Create Watershed Operations Program	Flood, Drought, Fire	Mod	2-5 yrs.	TBD	Local gov	Local gov

2017 Strategy Update

Hazard	Action	Priority	Timeline	Cost	Potential Funding	Responsibility	Completed?
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	Partly, water lines being replaced.
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Med	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Somewhat
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, USGS	No, coordination efforts fell through

Contacts

See Part III: Process for a complete accounting of participation

Position	Name	Phone	Email	Small Meeting	Group Meeting
Alpine	Shane Sorensen	801-420-2962	ssorensen@alpinecity.org	6/17/2021	Yes
American Fork Engineer	Scott Sensanbaugher	801-763-3060	ssensanbaugher@afcity.net	6/14/2021	Yes
American Fork Public Works/Engineer	Ben Hunter	801.854.5930	bhunter@afcity.net	6/14/2021	
Cedar Hills City Council	Mike Geddes		mgeddes@cedarhills.org		
Cedar Hills City Manager	Chandler Goodwin		cgoodwin@cedarhills.org	6/14/2021	
Cedar Hills Emergency Manager	Laurie Petersen	801-785-9668 x104	lpetersen@cedarhills.org		
Cedar Hills/AF Fire	Aaron Brems	801-763-3045	abrems@americanfork.gov	6/14/2021	
Eagle Mountain	Greg Stone		gstone@emcity.org	6/22/2021	Yes
Eagle Mountain Engineer	Chris Trusty		ctrusty@emcity.org		Yes
Eagle Mountain Fire Chief	Embret Fossum		efossum@UFA-SLCO.org	6/22/2021	

Eagle Mountain Planning	Tayler Jensen	(801) 789-6615	tjensen@emcity.org		
Eagle Mountain Primary	Jeff Weber		JWeber@emcity.org	6/22/2021	Yes
Elk Ridge City Manager	Royce		royce@elkridgecity.org	7/8/2021	
Elk Ridge Fire Chief Primary	Seth Waite		firechief@elkridgecity.org		
Elk Ridge Public Works Director	David Gene	801.423.2300	davidj@elkridgecity.org		
Fairfield	Chianne Barnson	435-231-4027	chybarnson_fairfieldtown@yahoo.com		
Fairfield Mayor	Brad Gurney	801-874-8386	mayor@fairfieldtown.org	12/17/2020	
Genola	Chris Steele	801-754-5300	gcpw@rfburst.com		
Genola Planning & Zoning			genolapz@gmail.com		
Genola Town Clerk	Lucinda Daily	801.754.5300	Genolaclerk@gmail.com	7/29/2021	Yes
Goshen	Steven Staheli		goshentown@gmail.com	6/9/2021	
Highland Finance Director	Tyler Bahr			6/17/2021	
Highland Mayor	Rod Mann				Yes
Highland Planning	Nathan Crane	801-756-5751x3	ncrane@highlandcity.org	6/17/2021	
Highland Planning	Joann		joann@highlandcity.org		
Highland Planning	Erin Wells	801-772-4566	erin@highlandcity.org		
Lehi City Council	Paige Albrecht				Yes
Lehi Emergency Management	Scott DaBell		sdabell@lehi-ut.gov	7/7/2021	Yes

Committee director					
Lehi Emergency Management Committee director	Scott Sampson	385-201-2268	ssampson@lehi-ut.gov	7/7/2021	Yes
Lehi Engineering	Ross Dinsdale		rdinsdale@lehi-ut.gov	7/7/2021	
Lehi Environmental Sustainability	Todd Munger		tmenger@lehi-ut.gov		Yes
Lehi Planning	Kim Struthers	385-201-2521	kstruthers@lehi-ut.gov	7/7/2021	Yes
Lehi Planning	Mike West			7/7/2021	Yes
Lehi Planning				7/26/2021	
Lindon Administration (secondary)	Adam Cowie	801-785-5043	acowie@lindoncity.org	6/15/2021	Yes
Lindon Emergency Manager (primary)	Kelly Johnson		kjohnson@lindoncity.org	6/15/2021	Yes
Mapleton Planner	Brian Tucker	801-806-9108	btucker@mapleton.org	6/30/2021	Yes
Mapleton Public Works	Steven Lord	(801) 489-6253	slord@mapleton.org	6/30/2021	
Mapleton Ready	Derek Haynie	(801) 491-1111	derek@mapletonready.org		
Mayor Cedar Fort	David Gustin	801.768.2147	mayor@cedarfort.town	12/17/2020	
Orem Emergency Manager	Heath Stevenson	801-229-7146	hmstevenson@orem.org	6/22/2021	Yes
Orem Engineer	Sam Kelly	801-229-7328	srkelly@orem.org	6/22/2021	
Payson Planner	Jill Spencer	801-465-5233	jills@payson.org	6/14/2021	Yes
Payson Public Works/Engineer	Travis Jockumsen		travisj@payson.org	6/14/2021	Yes

Payson Facilities Manager	Steve Spencer	801.404.6473		6/14/2021	
Payson City Fire Chief	Scott Spencer	801-465-5252	scotts@payson.org	6/14/2021	
Pleasant Grove Community Development	Daniel Cardenas		dcardenas@pgcity.org		
Pleasant Grove Engineering	Marty Beaumont	801-785-2941	mbeaumont@pgcity.org		Yes
Pleasant Grove Engineering	Aaron Wilson		awilson@pgcity.org	6/15/2021	Yes
Pleasant Grove Fire Chief	Andrew Engermann		aEngemann@pgcity.org		
Provo	Melissa McNalley		MMcNalley@provo.utah.gov	6/10/2021	
Provo Airport	Donavon Cheff				Yes
Provo EM	Chris Blinzinger	801-404-6368	cblinzinger@provo.org	6/10/2021	Yes
Provo Planner	Robert Mills	801-852-6407	rmills@provo.org	6/10/2021	Yes
Provo Stormwater Engineer	Jared Penrod		jpenrod@provo.org	6/10/2021	Yes
Salem	Bruce Ward		brucew@salemcity.org		
Salem	Greg Gurney		ggurney@salemcity.org		Yes
Santaquin	Jason Bond	801-754-1011 ex 223	jbond@santaquin.org	7/26/2021	Yes
Santaquin	Jon Lundell				Yes
Santaquin EM	Chris Lindquist	(801)754-1940	clindquist@santaquin.org	7/26/2021	Yes
Santaquin Engineer	Jason Lidet			7/26/2021	

Santaquin Engineer	Norm Beagley			7/26/2021	Yes
Santaquin Fire Chief	Ryan Lind	(801)754-1940		7/26/2021	
Saratoga Fire	Spencer Kyle	801-766-9793	skyle@saratogaspringscity.com		
Saratoga Planning	David Stroud	801.766.9793x4	dstroud@saratogaspringscity.com		
Saratoga Springs Engineer		801-766-9793x5			
Spanish Fork	Jered Johnson	801-804-4575	jjohnson@spanishfork.org		
Spanish Fork	Travis Warren			6/9/2021	Yes
Spanish Fork Economic Development	Dave Anderson	801-804-4586	danderson@spanishfork.org	6/9/2021	Yes
Spanish Fork Emergency Manager	Trevor Sperry	801.804.4768	tsperry@spanishfork.org	6/9/2021	
Spanish Fork Floodplain Engineer	John Little		jlittle@spanishfork.org		
Spanish Fork Public Works	Chris Thompson	801-804-4556	cthompson@spanishfork.org		
Spanish Fork Public Works	Marlo		msmith@spanishfork.org	6/9/2021	
Springville EM	JoAnna Larsen	801-635-5776	em@springville.org		Yes
Springville emergency prep mtgs			EM@springville.org		

Springville Engineer	Jeff Anderson	801-491-2719	janderson@springville.org	6/30/2021	
Springville Head Building Official-secondary	Jason Van Ausdal	801-491-7832	JVanausdal@springville.org		
Springville Planner	Laura Thompson		lthompson@springville.org		
Vineyard	George Reid		Georger@vineyardutah.org	6/7/2021	Yes
Vineyard Engineer	Nassim			6/7/2021	Yes
Vineyard Planner	Morgan Brimm	385-248-7029	morganb@vineyardutah.org		
Vineyard Planner	Briam Perez	385-329-1730	briamp@vineyardutah.org	6/7/2021	
Vineyard Public Works	McDermott, Kinsli	801-226-1929	kinslim@vineyardutah.org		
Woodland Hills	Corbett Stephens	801-857-0788	works@woodlandhills-ut.gov	7/8/2021	
Woodland Hills	Jodie Stones	801-423-1962	recorder@woodlandhills-ut.gov		
Woodland Hills	Greg Northup		fire@woodlandhills-ut.gov		
Others					
WUI Coordinator	Dax Reid	801-678-1655	daxreid@utah.gov	6/30/2021	Yes
Utah County Fire Warden FFSL	Josh Berg	385-254-8010	jberg@utah.gov	6/30/2021	
County Commissioner	Bill Lee		WilliamL@utahcounty.gov		
	Thomas SAKIEVICH		Thomas@utahcounty.gov		
			AmeliaP@utahcounty.gov		
Health Dept Emergency	Ryan Strabel	801.851.7525	ryanst@utahcounty.gov	6/30/2021	

Response Coordinator					
BOR	Dale		dthamilton@usbr.gov		
Central Utah Water Conservancy District	Mike Whimpey		mwhimpey@cuwcd.com		
CUWCD	Blake Buehler	801.226.7133	blake@cuwcd.com	12/8/2021	
CUWCD	Chris Elison			12/8/2021	
CUWCD	Cort Lambson			12/8/2021	
CUWCD	KC Shaw			12/8/2021	
Alpine School District	Frank Pulley		frankpulleyjr@alpinedistrict.org		
Alpine School District	Kimberly Bird		kbird@alpinedistrict.org		
Alpine School District	Mike Browning		mbrowning@alpinedistrict.org		
Nebo Risk Management	Kathy Carling	801-354-7474	kathy.carling@nebo.edu	7/20/2021	
Utah Co. Emergency Manager	Peter Quittner	801-404-6050	peterq@utahcounty.gov	6/30/2021	
Utah County Emergency management	Allison Jester/Janeen Olson		AllisonJ@utahcounty.gov	6/30/2021	
Provo Airport	Heather	8018526715	hrollins@provo.org		

Utah County Emergency Management			ryanst@utahcounty.gov		
Utah County Temporary employees	Emily, Lindsey, James			6/30/2021	
Provo School District Facilities Director	Mark Wheeler	801-374-4923			
MAG's TAC				Presented 7/26/2021	
Utah County Emergency Manager Monthly Meeting				Presented 10/26/2021	

Part 7 Wasatch County Profiles and Mitigation

Background

Area: 1,191 square miles; *county seat*: Heber City; *origin of county name*: from the Wasatch Mountains

Heber Valley, one of several back valleys in the Wasatch Mountains, is often called Utah's Switzerland because of the rugged beauty of Mount Timpanogos located to the west, its climate, and a large population of Swiss that settled in Midway. The county's highest peaks top 10,000 feet, and over half of the land is 7,500 feet above sea level. The climate zone, classified as undifferentiated highlands, offers cool summers and very cold winters. The average annual precipitation is about sixteen inches.

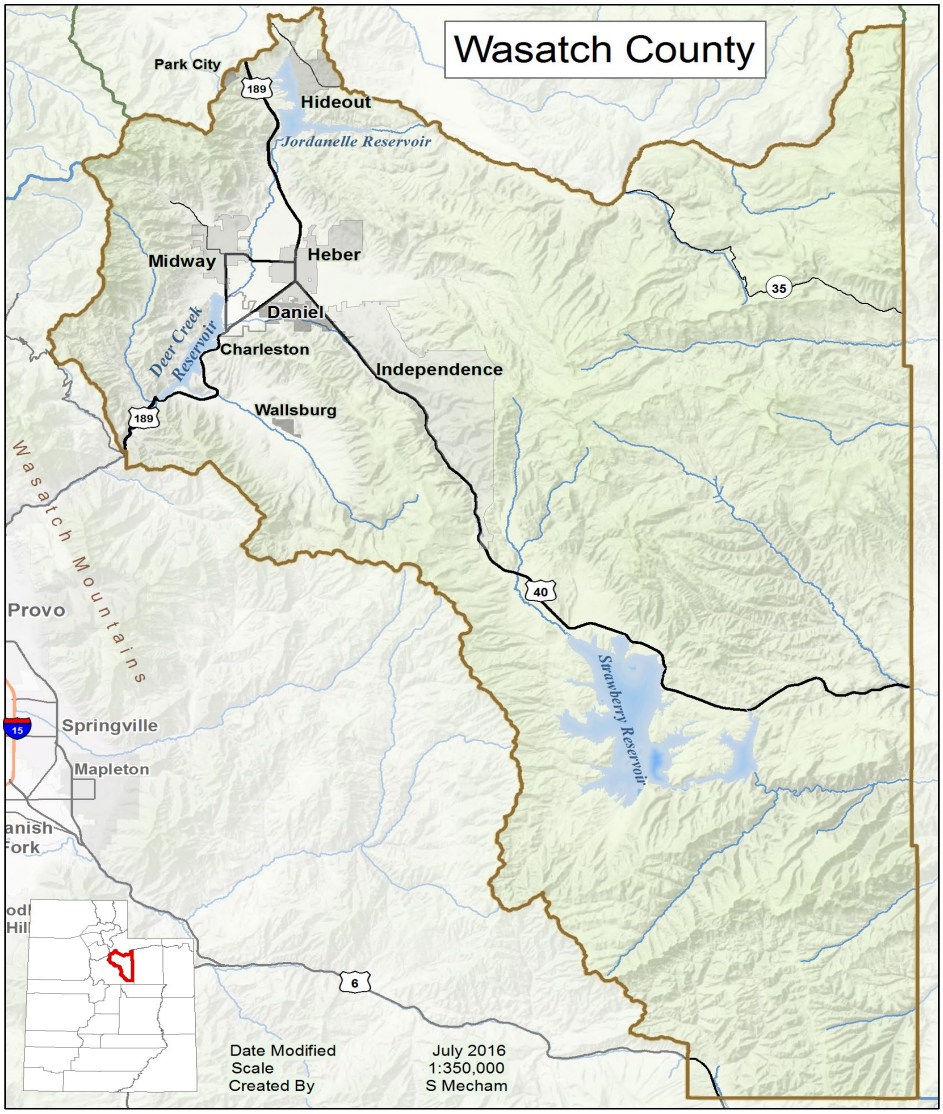
The county is divided into two watersheds--the Colorado and the Great Basin drainage systems. Because of its annual precipitation and its location between the Uinta and Wasatch mountains, Heber Valley has sufficient water. Flowing from the east are Daniels, Lake, and Center creeks. From the north and northeast is the Provo River. From the west Snake Creek drains a central portion of the Wasatch Mountains. Two additional sources of water are man-made: the Ontario Drain Tunnel west of Keetley drains many of the Park City mines, and the Weber/Provo diversion canal diverts water from the Weber across the Kamas prairie in Summit County to the Provo River in Wasatch County.

Prior to the 1850s, Heber Valley was an important summer hunting ground for the Timpanogos Utes living around Utah Lake. The first white men to visit the county were members of the Dominguez-Escalante expedition in 1776. They skirted Heber Valley, traveling down Diamond Fork to Spanish Fork Canyon and then into Utah Valley. Fifty years later fur trappers entered the county. In 1824 and 1825 Etienne Provost from Taos, New Mexico, trapped beaver in the Uinta and Wasatch mountains. About the same time, William Henry Ashley and members of his fur company from St. Louis also hunted and trapped for beaver in the county.

The first settlers came into Wasatch County from Utah Valley in the spring of 1859 and located a short distance north of present Heber City at the London or John McDonald

Spring. That same year, Midway and Charleston were also settled. In 1862 the territorial legislature created Wasatch County, which then included all of the Uinta Basin. Wasatch in Ute means "mountain pass" or "low pass over high range." Heber City, named for Mormon Apostle Heber C. Kimball, was selected as the county seat.

The county produces hay, dairy products, sheep and cattle. During the early 1900s, after the Denver and Rio Grande Railroad completed a line into the county from Provo, Heber City became an important shipping terminal for wool and sheep. In 1922 the Union Pacific Railroad constructed a spur from Park City to the mines west of Keetley. Lead, zinc, and silver ore were shipped from these mines on this railroad spur. Today neither railroad line is in full operation, and other economic activities are more important to the county than transportation and mining.



Strawberry Reservoir (completed in the 1910s), Deer Creek Reservoir (completed in the 1940s), and Jordanelle Reservoir (completed in the 1990s), together with sparkling streams and beautiful mountain scenery, have made Wasatch a popular recreation area. (Source: Utah Historical Encyclopedia. Craig Fuller, Author)

Economy

Wasatch County, though still largely rural in nature, has seen its economy grow, particularly as a destination for recreation. Heber City and Midway, the two largest cities in the county, have both seen a number of new developments add vitality and tax base to their communities.

Population

The following table shows historic and future projections for population:

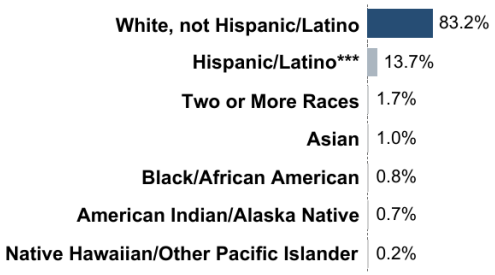
	2020 Census	2030	2040	2050
MAG Total	712,471	960,578	1,197,730	1,429,516
Summit County	42,145	50,558	57,983	63,097
Utah County	636,235	861,852	1,080,082	1,297,515
Wasatch County	34,091	48,168	59,665	68,904

Select Area Wasatch County

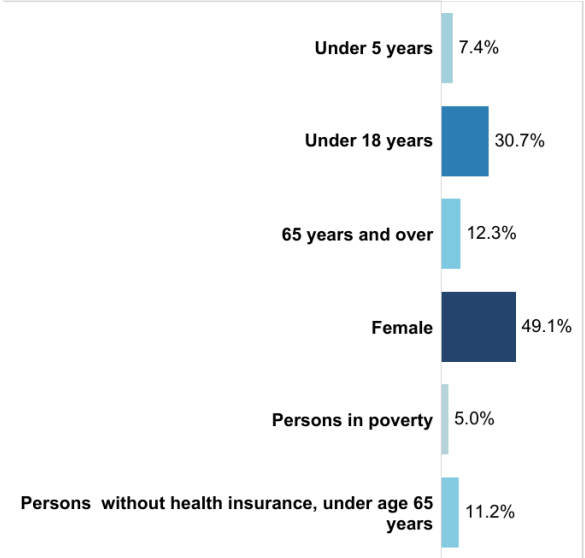
Demographics Wasatch County

In Wasatch County, about a third of residents are children under the age of 18, with 10% of the population over the age of 64. The average travel time to work is 24 minutes as many residents commuting to surrounding counties for jobs.

2019 Race and Ethnicity



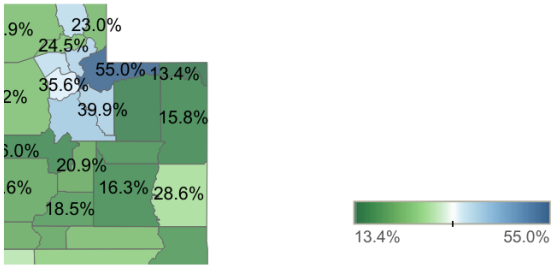
Population Shares, 2015-2019



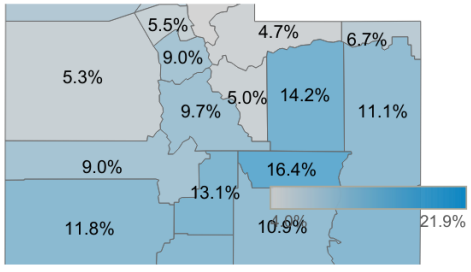
Other Facts

Households, 2015-2019	9,879
Housing units, July 1, 2019	14,322
Median value of owner-occupied housing units, 2015-2019	419,900
Persons per household, 2015-2019	3
Mean travel time to work (minutes), workers age 16 years+, 2015-2019	24
Veterans, 2015-2019	1,019
Veteran-owned firms, 2012	233
Women-owned firms, 2012	940

Bachelor's Degree or Higher, 2015-2019*



Persons Below Poverty, 2019



Updated 7/13/2021 8:10:38 PM

* Population 25 years and older. ** Population 5 years and older. *** Hispanics/Latinos may be of any race; also included in applicable race category. ****Civilian Population 16 years and older.

Source: U.S. Census Bureau. For more information: http://www.census.gov

Hazards Compared

Hazard Matrix

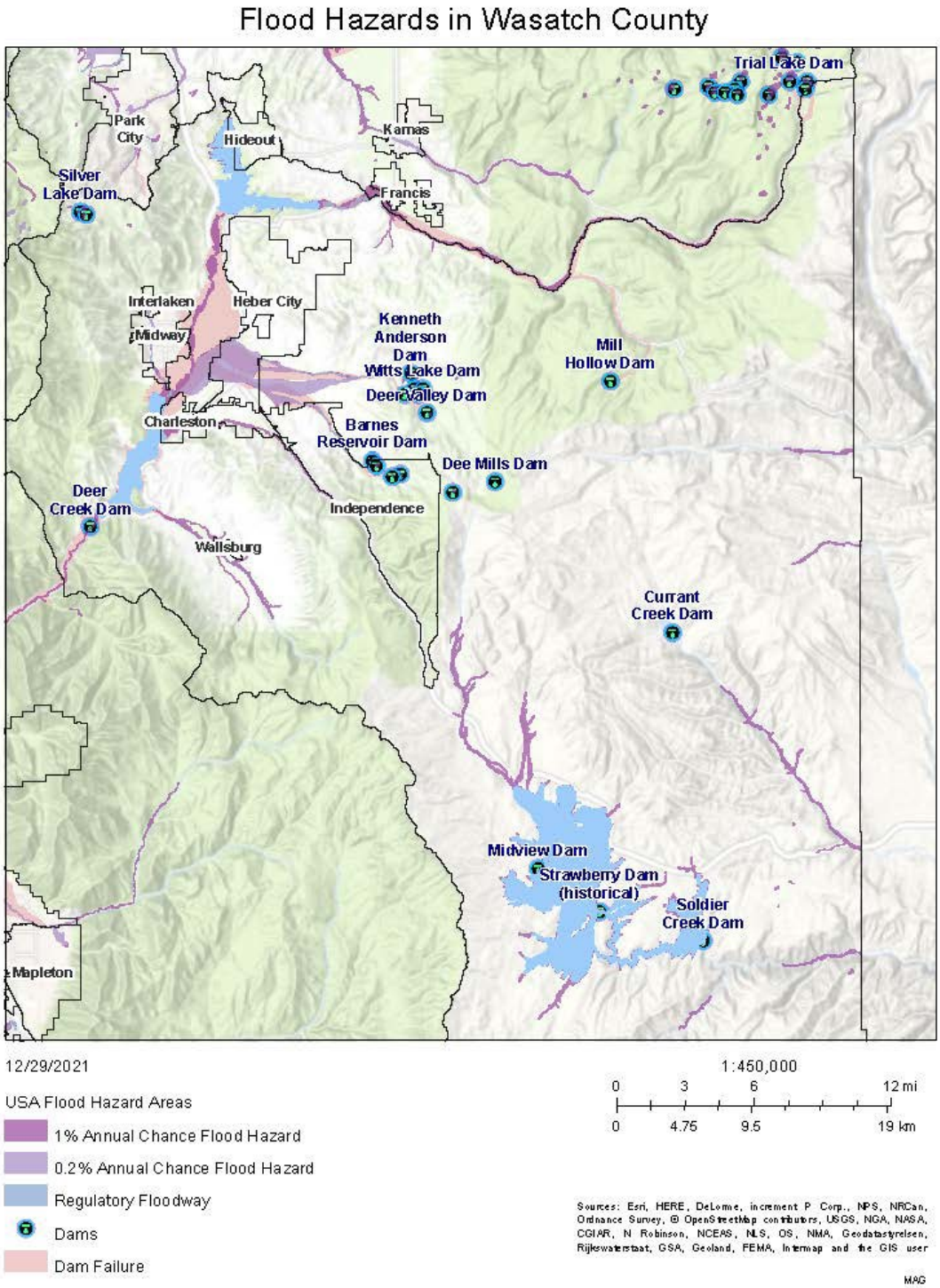
Probability	Negligible	Limited	Critical	Catastrophic
Highly Likely	Hail	Winter Weather, Avalanche		
Likely		Drought, Lightning, Wind		
Possible		Flood, Landslide		
Unlikely		Tornado	Earthquake, Dam Failure	

Severity

Hazard	Years in Record	Yearly Probability	Deaths Annualized	Injuries Annualized	$ Losses Annualized	Source
Avalanche	23	161	1.8	0.7	$2,800	NOAA
Drought, Moderate	2018	10	NA	NA	NA	National Integrated Drought Information System
Earthquake	50	1	NA	NA	$548,000	HAZUS Salt Lake City 7.0 Scenario
Floods	24	25	0	0	$2,080	NOAA/SHELDUS
Hail	24	38	0	0	$274	NOAA/SHELDUS
Landslides	51	6	0	0	$735,211	SHELDUS
Lightning	24	13	0.04	0	$600	NOAA
Wildfires	6	300			$1,163,000	FFSL and BLM with cost of fighting fire
Wind	24	83	0	0.1	$9,200	NOAA (High Wind, Strong Wind and Thunderstorm Wind)

Winter Weather	24	158	0.44	2.16	$41,654	NOAA (Blizzards/ Heavy Snow/Winter Storm/Winter Weather)
Tornadoes	70	1	0	0	$0	NOAA
Air Quality is unhealthy	4	25				PurpleAir monitor, unhealthy for sensitive groups
*Probability: Total events/Years in record						

Flooding/Dam Failure



Overview

Although Utah is considered a dry desert state, flooding does occur. Most floods have occurred either from snow melt or severe thunderstorms. Oftentimes flooding is increased by soils that are more impervious due to either wildfire or drying out. Floods occur on a regular basis in Wasatch County.

Profile

Frequency	Some flooding happens within Wasatch County on a regular basis.
Severity	Moderate
Location	Primarily along streams, rivers and along the shores of Deer Creek and Jordanelle Reservoirs.
Seasonal Pattern	Spring time due to snow melt. Isolated events throughout the year due to severe weather (microburst).
Duration	A few hours to a few weeks depending upon conditions
Speed of Onset	Sudden to 12 hours
Probability of Future Occurrences	High - for delineated floodplains there is a 1% chance of flooding in any given year.

Development Trends

As development occurs on the bench areas of Heber Valley, along the shore of Deer Creek and Jordanelle Reservoirs, or along river and stream corridors more homes will be in danger of floods. Communities need to make developers and homeowners aware of the danger as well as contribute to mitigation actions. Cities should review every development to ensure that it is in compliance with NFIP guidelines.

The following table identifies the communities in Wasatch County with their NFIP Status.

Jurisdiction	Floodplain	Map Date	Floodplain Admin

Charleston	Participating in NFIP See https://charlestontown.utah.gov/charleston-land-use-ordinances/ for flood-related ordinances	2012	Mayor Kozlowski
Hideout	Not participating in NFIP, doesn't have any 100-yr floodplain within city limits. Town Code does require building outside of 100-yr floodplains and floodways, open space requirements, and grading/drainage plans. See https://hideoututah.gov/wp-content/uploads/2018/07/Title-11-Zoning-Regulations.pdf for more information		Mayor Rubin and Jan McCosh, Town Administrator
Midway City	Participating in NFIP, has a Flood Damage Prevention Ordinance as well as Midway City Floodplain Overlay zones and a Sensitive Lands Overlay Zone that provides additional protection for streambeds and other flood-prone areas (Chapter 16.14) Any residential construction within 50 feet of a delineated flood zone shall have the lowest floor elevated 18 inches above the base flood elevation as shown on the FIRM and no construction is allowed within 50 feet of a floodplain in large-scale subdivisions.	2012	Michael Henke, City Planning Administrator
Independence	Not participating in NFIP. Independence has 1 building in the 100-yr floodplain.		n/a
Interlaken Town	No Special Flood Hazard Area		n/a
Wallsburg	NOT participating in NFIP, has 4+ buildings in the floodplain as of 2012. City code acknowledges FEMA's Flood Insurance Study for Wallsburg and prohibits building in the floodway. Wallsburg also has a Floodway Corridor map and requires a permit for building on Sensitive Lands, within 20 feet of a riparian area, or on any land with historic flooding. See https://wallsburg.org/wp-content/uploads/2017/10/Wallsburg-Code-Chap5.pdf for specifics.	2012	n/a
Heber City	Participating in NFIP, has a Flood Damage Prevention Ordinance as well as a Sensitive Lands Ordinance 17.34.010 Sensitive Lands	2012	Russel Funk, City Engineer

	Development Prohibited. New subdivisions and new development shall avoid the following areas: Natural slopes over thirty percent (30%) grade; each lot must have a contiguous building area that is a minimum of five thousand (5,000) square feet at or below thirty percent (30%) natural grade; Avalanche tracks; Fault lines, scarps, landslides, rock-fall and mudflow areas; and Stream beds, canals, ditches, flood channels, areas of springs, seeps and surface water. Development Discouraged. The following hazard areas should be avoided by new subdivisions and new development and developer shall provide mitigation for such hazards when they apply. The city may require a notice of such hazard and required mitigation to future property owners in a development agreement, subdivision plat or other device. Alluvial-fan-flood debris flow, collapsible soils, and shrink-swell soils. Mitigation techniques shall follow the advisement of a qualified Geotechnical Engineer. Shallow ground-water. Mitigation techniques should include the installation of a foundation drain and sump pump, prohibition of basements, or the advisement of a qualified Geotechnical Engineer. 100-year flood zones. Mitigation techniques shall follow the procedures of Chapter 18.109 Flood Damage Prevention Ordinance. Culinary Water Source Protection. Mitigation techniques shall follow the advisement of the source delineation report, current engineering practice, and/or applicable state statutes.		
Daniel	Participating in NFIP and has a Flood Damage Prevention Ordinance specifying the duties of the floodplain administrator, permit procedures, general standards, subdivision standards, etc. See http://danielutah.org/code-and-ordinances/	2012	Ryan Taylor, Town Engineer
Wasatch County	Participating in NFIP, has a Flood Damage Prevention section in its code covering Administration responsibilities, permits, standards for buildings and subdivisions, variances, flood prevention, etc.	2012	Doug Smith

Assessing Vulnerability: Addressing Repetitive Loss Properties

There are no repetitive loss properties in Wasatch County (FEMA, 2021).

History

Significant Flooding Events

Location/Extent	*Date*	*Fatalities*	*Damages*	*Source*	*Details*
Strawberry, upper Price, upper San Rafael, Ogden, Weber, Provo, and Jordan Rivers; Blacksmith Fork, and Spanish Fork; upper Muddy and Chalk Creeks.	04/28/1952 - 06/11/1952	2	$8.4 million	National Water Summary 1988-89- - Hydrologic Events and Floods and Droughts: U.S. Geological Survey Water-Supply Paper	Melting of snowpack having maximum-of-record water content for Apr. 1. Disaster declared.
Heber City	Feb-62	0	Thousands	Wasatch Emergency Manager & Wasatch Newspaper	Warm weather and rain cause snowmelt, flooding on Heber Main St
Northern Utah, Deer Creek Dam	01/29/1963 - 02/02/1963	1		Richardson, Peck and Green, "Heavy Precipitation Storm in Northern Utah January 29 to February 2, 1963" U.S. Weather Bureau	Record-breaking precipitation and runoff, damage in Heber valley and Daniels Canyon, RR tracks washed out S of Midway. Little Deer Creek Dam failed due to extensive foundation seepage.

Lower Duchesne and Jordan Rivers and tributaries (including Spanish Fork) ...Great Salt Lake and tributaries between Ogden and Salt Lake City.	04/10/1983 - 06/25/1983	0	$621 million	National Water Summary 1988-89- - Hydrologic Events and Floods and Droughts: U.S. Geological Survey Water-Supply Paper	Rapid melting of snowpack having maximum-of-record water content for June 1. Disaster declared by President.
Beaver River; Red Butte Creek; Spanish Fork; Jordan River.	04/17/1984 - 06/20/1984	1	$41 million	National Water Summary 1988-89- - Hydrologic Events and Floods and Droughts: U.S. Geological Survey Water-Supply Paper	Runoff from greater than average snowpack for Apr. 1 and spring precipitation.
Wasatch County	2/12/1986	0.9	$74,866	Spatial Hazard Event and Losses Database	Heavy rains and snow (SHELDUS divides the damages and fatalities by the number of counties involved, hence the 0.9 deaths)
Wasatch County	8/1/2005		$1,993,482.00		FEMA Disaster Declaration 1598
Wallsburg	8/22/2018	0	0	NOAA	Heavy rain caused a large debris flow over the Dollar Ridge Fire burn scar. The nearby Strawberry River saw a peak flow of 2000 cfs.

*FEMA has paid Heber, Midway, and Wasatch County a total of $39,288.90 for 9 Flood Insurance claims since 1978

Dams

Although Wasatch County has had only one lethal dam failure event in 1963, it does have some high-risk

dams. Each has its own Emergency Action Plan and is inspected regularly. See waterrights.utah.gov DamView for more information.

Name	Miles to first downstream town	Town name
Center Creek No 1	8	Center Creek
Center Creek No 2	11	Center Creek
Center Creek No 3	5	Center Creek
Deer Valley	10	Heber City
Dutch Canyon Dam	0	Midway
Jones	9	Heber City
Lindsay Lower	8	Heber City
Mill Hollow	15	Woodland
Wasatch County Lake Creek Debris Basin	4	Heber City
Witt Lake	8	Heber City

Mitigation

Strategies include:

Incorporate flood mitigation into local planning by developing a floodplain management plan, mitigating hazards during planning, establishing a "green infrastructure" program to link greenways, and obtaining easements for water retention and drainage

Form partnerships to support floodplain management such as a regional watershed council or citizen committee to discuss issues and recommend projects.

Limit or restrict development in floodplain areas by providing incentives to develop elsewhere, protecting buffers around water resources, limiting impervious surfaced within developed parcels, or prohibiting development in the floodplain.

Adopt and enforce building codes and development standards such as the International Building Code and increasing "freeboard" requirements aka the number feet above base flood elevation that new building must have.

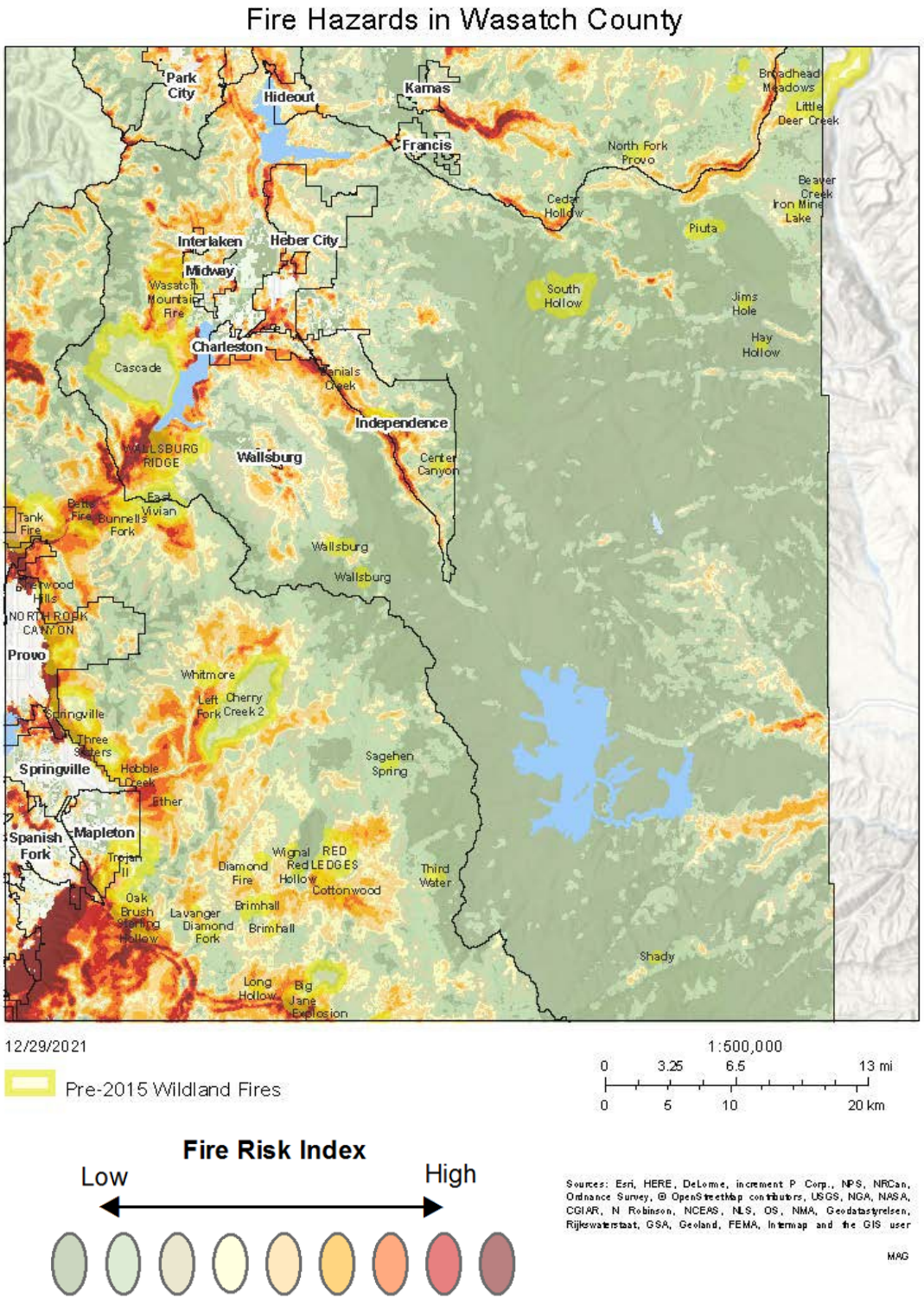
Improve stormwater management planning by completing stormwater drainage studies and master plans, regulating development in upland areas to reduce runoff, and encouraging low impact development techniques.

Adopt policies to reduce runoff such as more trees, on-site retention for stormwater and firefighting, and encouraging porous pavement and vegetation in parking areas.

Use natural systems such as preserving wetlands and riverbanks, restoring vegetation, acquire open space in targeted areas, and offer density bonuses to developers for leaving flood-prone areas vacant.

Protect and enhance infrastructure and critical facilities by elevating roads and bridges, floodproofing water treatment facilities, stabilizing shoulders and embankments, installing backup generators, expanding culverts, and require new critical facilities be built outside the floodplain.

Wildland Fire



Overview

Fire is a natural part of every ecosystem, but decades of wildland fire suppression during a historically cooler time period resulted in a buildup of fuels (vegetation) and development in wildfire-prone areas. With the 2010's megadrought, increased outdoor recreation, development pressure particularly along the Wasatch back (Wasatch and Summit counties), and climate change, the likelihood of damaging fire is increasing.

Though we have more assets in high-risk areas, the technology for early warning and fire-hardened homes has also advanced. This combined with better planning and enforcement can improve protection of assets already in place.

Profile

Frequency	Multiple wildland fires occur in Wasatch County Every year.
Severity	Moderate
Location	Hillsides and mountainous areas, open grass and rangelands.
Seasonal Pattern	Summer and fall depending on weather conditions.
Duration	A few hours to a few weeks depending upon conditions
Speed of Onset	1 to 48 hours
Yearly Probability of Future Occurrences (# past events/years in record)	High Major Fires: 17% (300 acres and larger) Large Fires: 33% (50 acres and larger)

Development Trends

As development occurs on the bench areas of Wasatch County more homes will be in danger of wildfire. Communities need to make developers and homeowners aware of the danger. Cities should also require firebreaks and access roads along urban/wildland interfaces. Although development brings homes closer to areas of potential wildfire, it also brings water and access for firefighters closer to the urban fringe. Firewise community development principles, such as not storing firewood near homes, installing fire resistant roofing and cleaning debris from rain gutters will reduce potential losses.

History

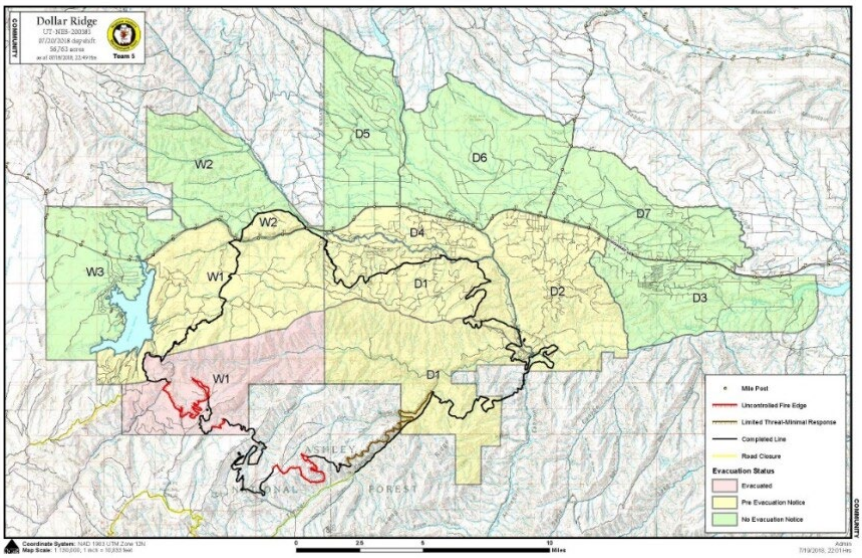
Following are a few of the most significant since 2016. More than half of fires are human caused and even relatively small fires, if near critical facilities, can be quite costly. Fortunately, no lives have been lost and few structures destroyed in the past decade.

Incident Name	Start Date	$ Fighting Fire	Acres	Fire Cause	Specific Cause
Upper Provo	July 31, 2020	$2,798,447	480	Human	Default
Willow Creek	June 6, 2018	$816,531	1,301	Natural	Lightning
Big Hollow	July 16, 2020	$611,385	438	Human	Fire Arms Use
Saddle	May 12, 2020	$535,651	683	Human	null
Red Ledge	July 9, 2016	$412,331	290	Natural	Lightning
Deer Creek	July 11, 2018	$338,426	380	Human	Exhaust/ Carbon Particle
Twin Peak	August 26, 2016	$302,382	40	Natural	Lightning
Badger	June 29, 2016	$238,731	43	Natural	Lightning
Beaver Canyon	June 24, 2017	$206,679	43	Human	No Permit
Dry Hollow	October 5, 2020	$181,644	19	Human	Default
Soldier Hollow	June 23, 2017	$144,541	28	Undetermined	Other Small Equipment
Big Hollow	July 5, 2019	$135,448	77	Human	Fire Arms Use
Deer Creek	September 14, 2019	$121,032	57	Human	Uncontrolled/ Unattended

The Dollar Ridge Fire

On July 1, 2018 the Dollar Ridge Fire began just east of Strawberry Reservoir, eventually destroying 74 homes, 131 camp trailers and 81 utility trailers, 25 vehicles and 158 sheds or

agricultural buildings. Evacuation orders were in place for multiple days. Over 800 firefighters were involved in the operation, as were 2 Utah National Guard Black Hawk helicopters. The cost of fighting the wildfire was 18+ million dollars.



All told, the fire burned approximately 70,000 acres within the Strawberry River watershed downstream of Soldier Creek Dam. The twenty-mile reach of Strawberry River was severely impacted by erosion, mud and debris flows, and flooding as a result of the fire, diminishing water quality and fish populations downstream. Several severe flash flood events along the Strawberry River damaged the Timber Canyon and Strawberry River roads and rerouted the river channel into and across the roadways in several places. Projects to remediate water quality in the area are 20+ million dollars, partly paid for by FEMA and NRCS. (Utah DWR Regional Advisory Council Meetings July/August 2021)

Communities At Risk

The following list consists of communities throughout Utah that have been determined by wildland fire officials to be at risk from wildland fire. The "Overall Score" represents the sum of multiple risk factors analyzed for each community. Examples of some risk factors are fire history, local vegetation, and firefighting capabilities. The Overall Score can range from 0 (No risk) to 12 (Extreme risk). This score allows Utah's fire prevention program officials to assess relative risk and create opportunities for communications with those communities on the list. Bolded communities are those with a Community Wildfire Preparedness Plan.

Community Name	Overall Score	Community Name	Overall Score
Brighton Estates	11	Currant Creek	9
Cloud Rim	11	Jordanelle State Park Communities	9
Diamond Bar X	11	Pine Hollow	9

Heber Valley Camp	11	**Wolf Creek Ranches**	9
K&J Subdivision	11	40 Dam Acres	8
Oak Haven	11	Bench Creek Ranches	8
Soapstone	11	Camp Piuta	8
Soldier Hollow	11	Daniels Summit	8
Soldier Summit	11	Hideout	8
Timberlakes	11	Independence	8
Tuhaye Subdivision	11	Soldier Creek	8
Big Hollow	10	Square Mtn Estates	8
Big Pole Estates	10	Wallsburg	8
Deer Crest	10	**Bryants Fork**	7
Greenerhills	10	Canyon Meadows	7
Interlaken	10	Strawberry Valley	7
Lake Creek Farms	10	Heber City	6
Storm Haven	10	Midway	6
Swiss Mountain	10	Charleston	4
Alpine Meadows	9		

*Bolded Communities have developed a Community Wildfire Preparedness Plan with FFSL

Mitigation

Strategies include limiting development in the Wildland Urban Interface, fuel management, prescribed burns, hardening buildings against fire with appropriate shingles, vent covers to prevent embers entering home, maintaining an emergency water supply and appropriate water pressures, using appropriate plantings around homes, and much more. See **wildfirerisk.org** or FEMA's **Strategies handbook** for a more complete list.

The FFSL has also helped communities develop Community Fire Plans. According to the FFSL, the purpose of community fire planning is to:

- Empower communities to organize, plan, and take action on issues impacting

community safety
- Enhance levels of fire resistance and protection to the community
- Identify the risks of wildland/urban interface fires in the area
- Identify strategies to reduce the risks to homes and businesses in the community during a wildfire

Landslide

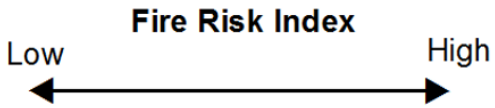
Overview

Landslides are common natural hazards in Utah that often occur when the pull of gravity becomes greater than the cohesion of soil. Land movement can occur without warning and can result in destructive, costly outcomes. Various types of landslides in Utah are debris flows, slides, and rockfalls.

Steep slopes, mountainous terrain, rock types, and narrow, debris-choked canyons all contribute to our region's susceptibility to landslide hazards. Wildfire can remove stabilizing vegetation and increase landslide risk. Many hillslopes are prone to mass movement, particularly where development has taken place on existing landslides or where grading has modified a slope and reduced its stability. Therefore, historical landslides, prehistoric landslides, and steep slopes prone to mass movement must be thoroughly investigated prior to development activities, along with regional groundwater and landscape and other irrigation activities. Excessive irrigation can easily cause a neighbor near or on a slope to lose their home from a landslide by elevating the groundwater table.

Profile

Frequency	Movement occurs nearly every year.
Severity	Moderate: several structures have been condemned.
Location	Along most benches and hillsides.
Seasonal Pattern	Spring when ground saturation is at its peak.
Duration	Minutes to years.
Speed of Onset	Seconds to days.
Probability of	Specific data is unavailable. However, terrain and topography make



Future Occurrences	the probability of future occurrences relatively high.

Development Trends

As development continues on the foothills of the Heber Valley, more houses may be in danger of landslides. Increased analysis and geotechnical reports should become an integral part of the development and building process. An emphasis should also be put on ensuring proper drainage is developed. Reseeding wildfire areas, cuts and fills must also be a priority.

Part of Wasatch County's success comes from the tourism sector, especially Wasatch Mountain State Park and surrounding resorts. Multi-million-dollar homes are also located on slopes with picturesque views, with more on the way.

The Utah Interagency Technical Team (IAT) has worked with Wasatch County since 1999 due to extensive landslide complexes identified by the Utah Geological Survey in the Timber Lakes area and also in several mountain communities on the west side of the Heber Valley. In one such area of Timber Lakes, more than 200 homes are in a Landslide Study Area of the UGS. Thus, the UGS has completed "Landslide Investigation of Timber Lakes Estates, Wasatch County, Utah: Landslide Inventory and Preliminary Geotechnical-Engineering Slope Stability Analysis." These reports can be obtained from the UGS.

History

Landslide/Debris Flow

Location	Date	Damages	Source
Wasatch	12/27/1964	$500	SHELDUS database
Wasatch	1/1/1983	$8,603,666.52	SHELDUS database
Wasatch	1/1/1984	$1,471,256.97	SHELDUS database

**Spatial Hazard Event and Losses Database*

Note that only damaging events of a large magnitude are recorded by most databases

Mitigation

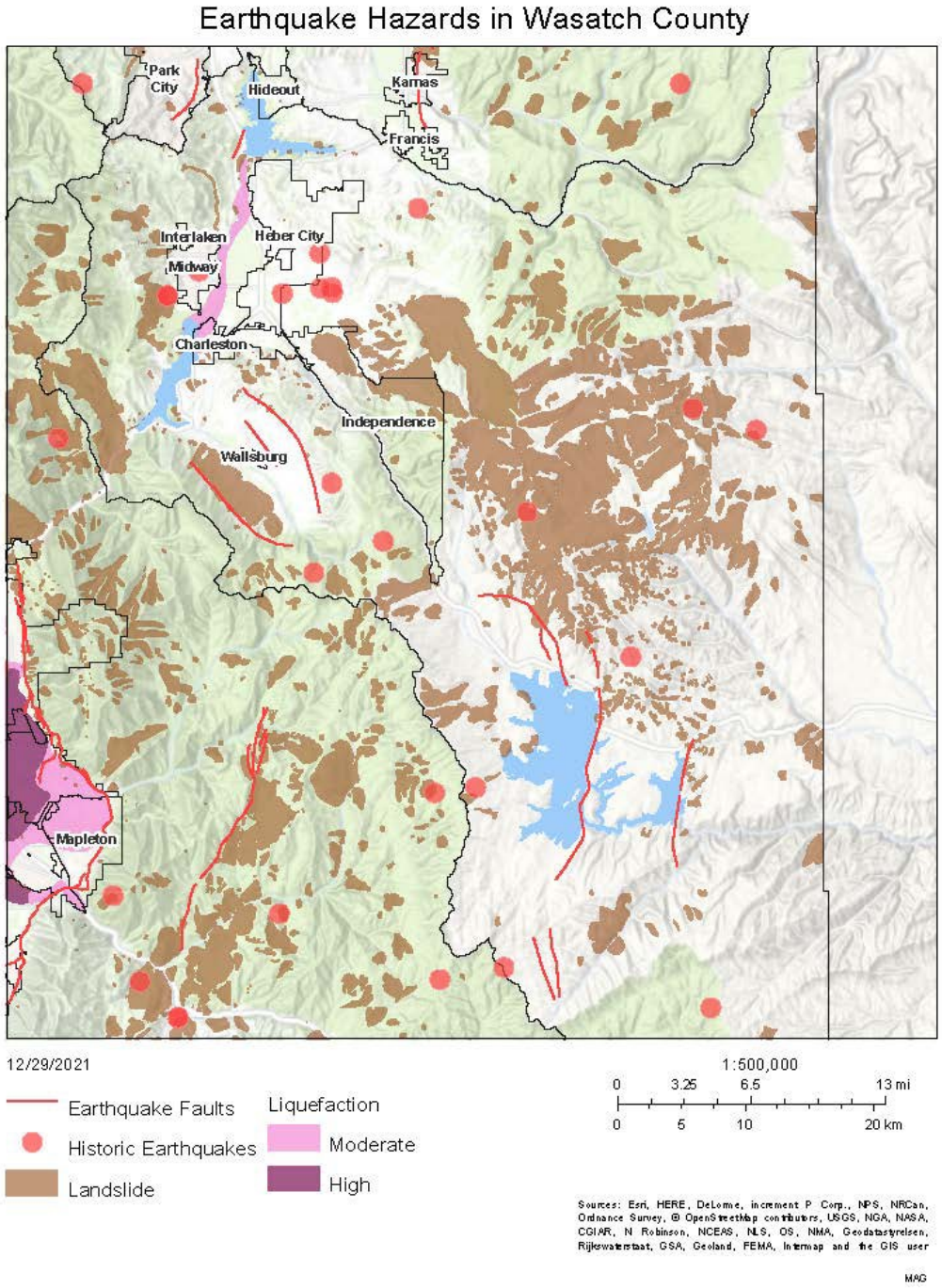
Nearly all recent landslides have occurred as reactivations of pre-existing landslides. Some strategies include:

Prohibit building on steep slopes, require thorough investigations and geotechnical studies for buildings in areas prone to landslides, and prevent over-irrigating. The use of very-low water xeriscape landscaping and/or smart irrigation controllers that adjust the amount of water applied to landscapes based on weather, plant/turf, and soil data, can significantly reduce the amount of excess water that percolates through the soil as groundwater and save money.

- Creating a plan to implement reinforcement measures in high-risk areas.
- Defining steep slope/high-risk areas in land use and comprehensive plans and creating guidelines or restricting new development in those areas.
- Creating or increasing setback limits on parcels near high-risk areas.
- Locating utilities outside of landslide areas to decrease the risk of service disruption.
- Restricting or limiting industrial activity that would strip slopes of essential top soil.
- Incorporating economic development activity restrictions in high-risk areas.

See FEMA's **Strategies handbook** for a more complete list.

Earthquake and Landslide



Overview

Earthquakes occur when tectonic plates suddenly release tension built up over decades of strain. The Wasatch Fault has a strong earthquake about every 300 years and we are "due"

for another. While some scenic homes are built directly on a fault, the way a building is constructed and the stability of soils underneath are a large factor in its resilience. Pre-1990's brick homes are usually unreinforced and very brittle, posing a great risk to occupants during a quake.

Development Trends

Due to Wasatch County's populated areas being mostly outside of the Wasatch Fault zone the severity of a potential earthquake is thought to be lower. Recent development trends have been to build on steeper slopes and benches which can lessen the potential for liquefaction but increase susceptibility to earthquake triggered landslides. Ultimately, new construction in the area equals more structures that are susceptible to earthquakes. Each construction project should be thoroughly reviewed for resistance to ground shaking and other earthquake related hazards.

Profile

Frequency	Low -Events above 3.0 on the Richter scale are rare. Minor events (below 3.0) occur every month, but generally aren't felt.
Severity	High (up to 5.0)
Location	Multiple faults throughout the county particularly around Wallsburg.
Seasonal Pattern	None
Duration	1 to 6 minutes excluding aftershocks.
Speed of Onset	Seconds
Probability of Future Occurrences	93% probability that an earthquake Magnitude 5 or higher will occur somewhere along the Wasatch Front in the next 50 years, though effects would be diminished in Wasatch County.
Losses	$538,000 annualized

Development Trends

As development occurs in Wasatch County, more buildings and people will be in danger from earthquakes. However, newer buildings will be built to better standards, which will

actually rate of damage. It is interesting to note that when most residential structures are engineered, out of the three categories of design criteria; seismic zone, wind shear and snow load; the design criteria for wind shear over-rules the other criteria.

History

There have been few events of note in recorded history within Wasatch County, but a 2020 event in Magna, Salt Lake County, gave the state a glimpse of what could happen. The State of Utah has also put a few earthquake scenarios through its HAZUS software, yielding loss estimates and maps of potential damages on the Wasatch Front.

Magna Earthquake: Days after the US shutdown to slow the COVID 19 pandemic, a 5.7 earthquake struck Magna township in Salt Lake County. The most noticeable damages occurred in multi-story building such as the brick façade of a large commercial building, but several mobile homes were condemned and the Utah Department of Public Safety estimates $70-100 million in public structure and infrastructure damage. Fortunately, no one was injured or killed and the public facilities were insured.

Recorded Earthquakes magnitude 3.0 or greater since 1950: Wasatch County

Earthquakes

Location	Magnitude	Date
12 miles northeast of Strawberry Reservoir	3.9	8/17/1963
Near Heber	3.8	10/1/1972
Near Heber	3.2	10/2/1972
Near Heber	3	12/24/1972
Deer Creek Reservoir	3.4	8/5/1973
South of Heber	3.4	8/19/1973
W of Hanna, Wasatch County	3.2	4/9/1988
SE of Wallsburg, Wasatch County	3.2	7/19/1999
E of Heber, Wasatch County	3	12/10/2000

Near Currant Creek Peak, Wasatch County	3	11/17/2003
Near Strawberry Reservoir, Wasatch County	3.5	6/11/2006
5km S of Francis, Wasatch County	3.2	3/14/2014
15 km E of Independence	3.7	6/9/2021

**United States Geologic Survey Earthquake Archives*

Mitigation

Strategies include restricting building on known fault lines or steep slopes, requiring geotechnical studies for buildings on problem soils, retrofitting critical infrastructure, educating homeowners on retrofitting options and securing items to the wall, requiring large/reinforced foundations or piers in liquefaction areas, and many more. See **Utah Earthquake Safety** or FEMA's **Strategies Handbook** for more details.

Severe Weather

Overview

Wasatch County's mountainous terrain makes it particularly susceptible to Winter Weather. Add to the topography those who seek snowy slopes for recreation and disaster can ensue, as seen in the table below. Avalanches, typically a voluntary risk, have caused the most deaths in Wasatch County. Winter Weather has caused the most injuries and property damage while Wind is responsible for the most crop damages of any type of severe weather. Wasatch County government actively emphasizes household accountability and preparation as individuals from less rural settings move into the area.

Development Trends

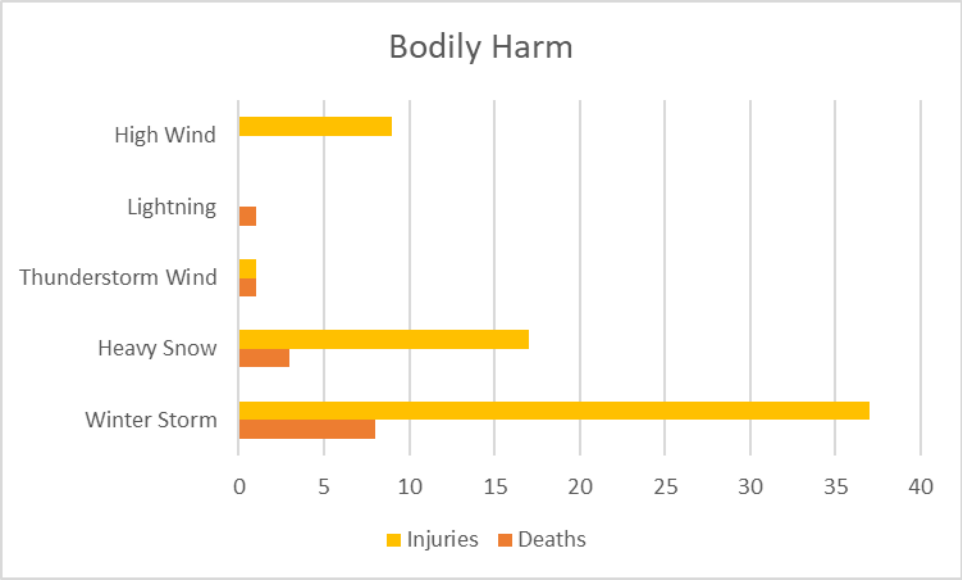
Rapid growth, particularly in the recreation sector, likely means more people will put themselves at risk for avalanches and it will take time for those migrating from less snowy areas to get used to travelling in the winter conditions.

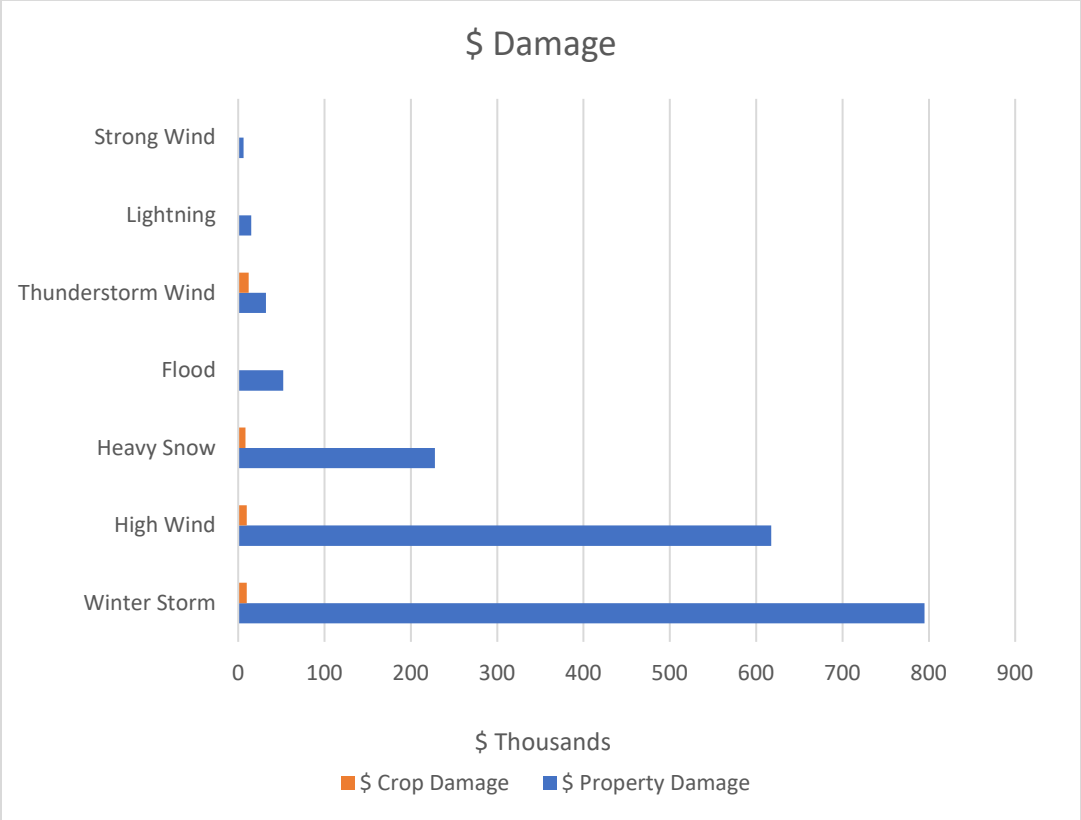
Profile

Frequency	Frequent Multiple events happen each year.
Severity	Moderate
Location	Region wide with some locations more frequent due to geography.
Seasonal Pattern	All year depending upon the type of event.
Duration	Seconds to Days
Speed of Onset	Immediate
Probability of Future Occurrences	Highly probable. Winter Weather and Avalanche have the highest probability of occurrence of all-weather hazards facing Utah County.

History

Row Labels	Deaths	Injuries	$ Property Damage	$ Crop Damage
Blizzard	0	0	0	0
Cold/wind Chill	0	0	0	0
Flash Flood	0	0	0	0
Flood	0	0	52000	0
Hail	0	0	0	0
Heavy Snow	3	17	227750	8600
High Wind	0	9	617600	10000
Lightning	1	0	15000	0
Strong Wind	0	0	6200	0
Thunderstorm Wind	1	1	32000	12000
Winter Storm	8	37	795000	10000
Winter Weather	0	0	0	0
Grand Total	**13**	**64**	**1745550**	**40600**





Mitigation

For buildings: Adopt and enforce building codes related to roof snow loads and wind speeds. Require CO monitors.
For Infrastructure: Install redundancies in power lines, lightning protection and surge protection on critical infrastructure, and snow sheds over roadways.
For everyone: Educate homeowners on protecting water pipes during cold weather and travelling safely. Encourage participation in emergency alerts.

See FEMA's **Strategies handbook** for a more complete list.

Damage Assessment and Mitigation

Overview

Listed below are the damage assessments for each of the participating jurisdictions followed by an update of the community's mitigation strategies from the 2017 plan, after which are the strategies, the community wishes to pursue in the course of this plan. Damage assessments were calculated using the methodologies mentioned in the Methods section. Strategies were developed by each community with assistance from MAG as requested. The subsequent county and city strategies reflect the advancement of local and regional goals and continue the community's vision for the security and prosperity of the region. These goals include:

- Reducing the impact of natural hazards on life, property, and preserving the environment
- Minimizing damage to infrastructure and services and protecting their ability to respond
- Preventing potential hazards from affecting area or mitigating its effects
- Increasing public awareness, capabilities and experience
- Ensuring the safety of citizens and visitors
- Enabling cooperation between citizens and emergency and public services
- Maintaining cooperation with, and adherence to, FEMA guidelines
- Developing zoning and other plans that decrease development in hazardous areas

The guiding factor in prioritizing mitigation strategies for local communities was the principle that mitigation should provide the ***greatest amount of good to the greatest number of people, after considering resources, staffing, and other constraints*.** Probability of occurrence, past events, and damage estimates compiled during the risk assessment in this plan were heavily considered. Overall, each community individually considered their own capabilities, staffing, and resources as they prioritized their own mitigation strategies.

Wasatch County

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	3,457	$1,010,273	10.11	1.83	12.91
Fire Risk High	1,885	$889,640	16.93	14.65	6.04
Fire Risk Moderate	3,779	$1,589,447	45.44	30.36	4.94
Flood 1% Yearly Probability	123	$33,693	4.67	2.87	1.43
Landslide	1,165	$376,379	1.83	12.28	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	2,036	$506,405	na	na	na

Vulnerabilities: Wasatch County faces significant wildfire risk, especially with mountainous terrain that makes firefighting difficult. The secondary effects of fire, such as debris flows, clog channels and have the potential to cause flooding. The Dollar Ridge fire in 2018 required extensive and expensive work on Strawberry Reservoir.
The county is also concerned about hazardous materials being trucked through population centers.

Mitigation Strategy	Hazard	Priority	Timeline	Estimated Cost	Potential Funding	Responsible Party
Adopt 2021 NFIP maps and update ordinances	Flood	High	1 yr.	Staff time	Local Gov	Local Gov
Lake Creek evacuation road/fire break at Timber Lakes	Fire, All	High	3 yrs.	1 million	Local Gov	Local Gov
Dollar Ridge Emergency Watershed Protection - Strawberry Reservoir erosion mitigation, bank armoring, debris removal	Flood, Fire	High	1 yr.	6 million	Wasatch and Duchesne	Wasatch and Duchesne counties

					counties, NRCT grant	
Reduce auto dependency by providing Transit and Paratransit	Climate Change, Air Quality	Mod	Ongoing		Local Gov, State grants	Local gov
Chipping and tree trimming program focusing on NE county	Fire	Mod	Ongoing	300k	BRIC, Local Gov	State Wildland Urban Interface Coordinator, Local Gov
Educate homeowners on proper burn techniques and when burning is permitted	Fire	Mod	Ongoing	Staff time	BRIC, Local Gov	State Wildland Urban Interface Coordinator, Local Gov
Disaster education through social media	Drought, all	Mod	Ongoing	Staff time	Local Gov	Local Gov
Flood controls for Lake Creek and Center Creek flood channels	Flood	Mod	5-10 yrs.	44 million	Heber, Wasatch, Independence, Grants	Heber, Wasatch, and Independence
Monitor air quality and discuss in County Air Quality Committee	Climate Change, Air Quality	Mod	Ongoing	$200/monitor	Wasatch County Health Department, cities and towns, MAG	Local gov

2017 Update

Protecting Current Residents and Structures (Wasatch County)

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	
Flooding/ Dam Failure	Reinforce stream and canal banks & remove debris to prevent flooding	High	2 years	TBD	Local Cash, Grants	Local Government	Yes, and Ongoing
Earthquake, Flood, Fire, Severe Weather	Education	Med	Ongoing	Minimal	Local Cash	Local Government	Yes, and ongoing
Flood	Encourage NFIP Participation	High	Ongoing	Minimal	Local Cash	Local Government	Yes, and ongoing

Protecting Future Residents and Structures

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk	Medium	1 year	Minimal	Local Cash, Grants	Local Government	Yes
Floods	Prohibit building in the floodplain or manipulating floodplain without consent	High	Ongoing	Minimal	Local Cash	Local Government	Yes

Central Utah Water Conservancy District

Due to the sensitive nature and complexity of CUWCD assets, they performed an independent risk analysis to create and prioritize the following mitigation strategies. Contact Blake Buehler of CUWCD for more information.

Vulnerabilities: The future development of the CUWCD water system will mainly be with a strong emphasis on water conservation, planning of needed additional regional water supply facilities, and incorporation of natural hazard mitigation. The District will also continue in its current efforts to address and incorporate natural hazard mitigation (i.e., seismic upgrades/standards, lightning protection, backup power, wildfire – both direct and indirect effects, etc.) into future design and construction projects whether they are for new facilities or for capital replacement projects. The following proposal is to help fulfill said efforts.

Priority (out of 18)	**Mitigation Package: Facilities**	**BCR**	**Mitigation Description**	**Outside Contractor**	**In-House**	CUWCD O&M	**CUWCD CRP**	**CUWCD CIP**	FEMA Grant	Timeline	**Cost**
8	Strawberry Pkg #2 (Lightning): *Current Creek Dam*	9.1	Nonstructural Retrofit	X			X			6-10 Years	$49,311
11	Strawberry Pkg #4 (Lightning): *Vat Diversion*	10.2	Nonstructural Retrofit	X			X		X	6-10 Years	$43,613
12	WCWEP Proj #1 (Earthquake): *Office Bldg. & Maintenance Bldg.*	0.01	Structural & Nonstructural Retrofit	X			X			6-10 Years	$228,774
13	Strawberry Pkg #5 (Earthquake): *Currant Tunnel, Vat Diversion*	0.003	Nonstructural Retrofit	X	X	X				6-10 Years	$12,328
16	Strawberry Pkg #6 (Landslide): *Currant, Stillwater, & Vat Tunnels*	-	Geological Investigation	X			X			6-10 Years	$262,187
17	General Pipeline #1 - Stockpile Materials	-	Material Stockpiling		X	X	X			6-10 Years	$755,950

18	General Pipeline #2 - Training	-	Training	X	X	X				6-10 Years	$19,538

Charleston

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	142	$54,666	2.37	0.00	0.00
Fire Risk High	7	$3,221	0.16	0.00	0.00
Fire Risk Moderate	58	$15,830	1.17	0.00	0.00
Flood 1% Yearly Probability	27	$6,923	0.49	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	157	$58,373	na	na	na

Statement of Vulnerabilities: Charleston is concerned about fire in the south part of town and hopes to direct development along the I-89 corridor rather than in those hazard-prone areas.

Mitigation Strategy	**Hazard**	**Priority**	**Timeline**	**Estimated Cost**	**Potential Funding Sources**	**Responsible Party**
Work with Wasatch County to adopt enhanced fire ordinances, especially during the fire season	Fire	High	Yearly	Staff time	Local gov	Local gov, Wasatch County

Adopt Flood Insurance Rate Maps as FEMA updates them and incorporate into codes and ordinances	Flood	High	As updated	Staff time	Local gov	Local gov, FEMA
Work with Gravel quarry to divert floods from quarry and property through yearly culvert cleaning	Flood	High	Ongoing	None	Gravel Quarry	Local gov, Gravel Quarry
Encourage development along the I-89 corridor rather than in fire-prone southern Charleston	Fire	High	Ongoing	Staff time	Local gov	Local gov
Remove vegetation around Daniel's Creek Bridge	Flood	Mod	Ongoing	2-5k	Local gov	Local gov
Consider a Wildland Urban Interface code	Fire	Mod	1-2 yrs.	Staff time	Local gov	Local gov
Look into backup generator for City Hall	All	Mod	1-2 yrs.	TBD	Local gov, Grants	Local gov
Post fire and flood maps in Town Hall	Fire, Flood	Mod	1 yr.	Staff time	Local gov	Local gov, MAG
Trim trees along major roads	Fire	Mod	Ongoing	2-5k	Local gov	Local gov

2017 Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	
Flooding/ Dam Failure	Remove vegetation around Daniels Creek Bridge	High	2 years	TBD	Local Cash, UTA	Local Government, UTA	Yes, ongoing
Flooding/ Dam Failure	Work with Gravel quarry to divert floods from quarry and property	High	2 years	TBD	Local Cash, Gravel Quarry	Local Government, Gravel Quarry, Daniel Creek Tributary	Yes, ongoing

Protecting Future Residents and Structures

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	
Flooding/ Dam Failure	Remove vegetation around Daniels Creek Bridge	High	2 years	TBD	Local Cash, UTA	Local Government, UTA	Yes
Flooding/ Dam Failure	Work with Gravel quarry to divert floods from quarry and property	High	2 years	TBD	Local Cash, Gravel Quarry	Local Government, Gravel Quarry, Daniel Creek Tributary	Yes

Daniel

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	49	$8,930	0.37	0.00	0.00
Fire Risk Moderate	67	$17,433	0.49	0.00	0.00
Flood 1% Yearly Probability	17	$5,262	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	287	$74,764	na	na	na

Statement of Vulnerabilities: The recent Storms Haven annexation has brought 50+ residents into city boundaries. That subdivision has no fire protection and needs a new water tank and expanded culverts. The city works closely with Wasatch County and Central Utah Water Conservancy District to plan for fire protection and improved water systems. There is also development pressure in the 100 yr. floodplain, particularly from out-of-town buyers who don't realize they cannot build in the floodplain.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding Source	Responsible Party
Work with CUWCD to expand water tank for annexed Stormhaven	Fire, Drought	High	2-5 yrs.	3.5 million	CUWCD, Local gov, grants	CUWCD, Local gov
Expand culverts and implement erosion control along Daniel Creek in the Stormhaven section	Flood	High	1-3 yrs.	TBD	Local cash, grants	Local gov
Rebuild bridge at Big Hollow Road	Flood	High	4 yrs.	50k	Local cash, grants	Wasatch County, Local gov
Create early-warning system for Daniel residents independent of County system	All	High	1-2 yrs.	Staff time	Local gov	Local gov
New development must elevate structures above base flood level	Flood	High	Ongoing	0	Developers	Developers, Local gov
Utah County Fire Chief must sign off that any development in Wildland Urban Interface meets requirements such as defensible space, distance to fire hydrants, interior fire suppression, etc.	Fire	High	Ongoing	Staff time	Developers, Local gov	Developers, Local gov, Wasatch County
Examine existing water tank for seismic soundness, build new tank	Earthquake, Fire, Drought	High	2-5 yrs.	TBD	Local gov	Local gov
Build wellhouse to move instrumentation inside	All	Mod	2-5 yrs.	500k	Local gov, grants	Local gov

5 acre/lot minimum in town, 160 acres/lot on hillside due to lack of wastewater system	Fire	Mod	Ongoing	0	Local gov	Local gov
Install sewer system that ties into Twin Creeks line 2 miles away	All	Mod	5-10 yrs.	$5 million	Local gov, bonds, grants	Local gov
New development is required to turn water shares over to city	Drought	Mod	Ongoing	0	Developers, Local gov	Developers, Local gov
Ensure that realtors have informed buyers when they purchase land in the 100 yr. floodplain	Flood	Mod	Ongoing	0	Local gov	Local gov
Maintain open space and farming areas, allow urban farming	Climate Change, Air Quality	Mod	Ongoing	Depends on parcel cost	Local gov, Farming grants	Local gov

2017 Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party
Fire/Landslide	Work with CUWCD to expand water tank, plant vegetation to prevent erosion on nearby slopes	High	2 years	TBD	Local Cash	Local Government, CUWCD
Flooding/ Dam Failure	Expand culverts and implement erosion control along Daniel Creek	High	2 years	TBD	Local Cash, Grants	Local Government
Severe Weather, Landslides	Move instrumentation inside and underground	Med	4 years	TBD	Local Cash	Local Government
Flooding	Rebuild bridge at Big Hollow Rd	High	4 years	$33,000	Local Cash	Local Government

Flooding	Maintain/Reinforce Canals	High	Ongoing	TBD	Local Cash	Local Government
Severe Weather, Landslides	Move instrumentation inside and underground	Med	4 years	TBD	Local Cash	Local Government
Flooding/ Dam Failure	Expand culverts and implement erosion control along Daniel Creek	High	2 years	TBD	Local Cash, Grants	Local Government
Fire/Landslide	Work with CUWCD to expand water tank, plant vegetation to prevent erosion on nearby slopes	High	2 years	TBD	Local Cash	Local Government, CUWCD

Heber City

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	2,240	$581,598	3.04	3.45	0.56
Fire Risk High	502	$158,801	1.73	0.36	0.09
Fire Risk Moderate	789	$274,785	1.17	1.41	1.59
Flood 1% Yearly Probability	5	$960	0.07	0.23	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	1,615	$380,464	na	na	na

Statement of Vulnerabilities: Heber city is concerned about future annexations in fire and landslide-prone areas.

Mitigation Strategy	**Hazard**	**Priority**	**Timeline**	**Estimated Cost**	**Potential Funding Sources**	**Responsible Party**

No-burn days during fire and inversion seasons	Climate Change, Air Quality	High	Ongoing	Staff time	Local gov	Local gov
Adopt 2021 NFIP maps and update ordinances	Flood	High	1 yr.	Staff time	Local Gov	Local Gov
Adopt sensitive lands overlay	Landslide, Fire, Flood	High	1 yr.	Staff time	Local Gov	Local Gov
Sensitive Lands ordinance	All	High	1 yr.	Minimal	Local Gov	Local Gov
Re-route truck traffic away from Main St	Hazardous Materials spill	High	5-10 yrs.	TBD, EIS underway	UDOT, Local Gov	UDOT, Local Gov
Lawn requirements, allow more xeriscaping	Drought, all	Mod	2018	Staff time	Local Gov	Local Gov
Tree trimming	Flood, Fire	Mod	Ongoing		Local Gov	Public Works
Flood controls for Lake Creek and Center Creek flood channels	Flood	Mod	5-10 yrs.	43 million	Heber, Wasatch, Independence, Grants	Heber, Wasatch, and Independence
Education, including Ready program event on Main St, Red Ledges outreach	All	Mod	Ongoing	Minimal	Local Gov	Local Gov
Education through social media	Drought, all	Mod	Ongoing	Staff time	Local Gov	Local Gov

2017 Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding	Responsible Party	Completed?
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Flooding/ Dam Failure	Improve and construct drainage and flood control infrastructure.	High	Ongoing	TBD	Local Cash, Grants	CUP, Local Government	Yes
Earthquake	Inventory and upgrade public buildings and critical facilities for seismic standards.	High	3 years	TBD	Grants	FEMA	No - cost prohibitive

Wildfire	Educate homeowners on FIREWISE practices.	Medium	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Medium	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes
All	Promote the Community Emergency Response Team (CERT)	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Flooding/ Dam Failure	Improve and construct drainage and flood control infrastructure.	Medium	Ongoing	TBD	Local Cash, Grants	CUP, Local Government	Yes, ongoing
Earthquake	Promote earthquake awareness and preparation.	Medium	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	Medium	1 year	Minimal	Local Cash, Grants	Local Government	Yes
Landslide	Adopt ordinances that avoid development of areas prone to landslides.	Medium	Ongoing	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes, hillside ordinance
All	Promote Community Emergency Response Team (CERT)	High	Ongoing	Minimal	Local Cash, Grants	Local Government	Yes

Hideout

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	47	$31,752	1.10	1.61	0.00
Fire Risk Moderate	141	$74,516	1.54	0.93	0.00

Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00

Statement of Vulnerabilities: Hideout's largest risk is wildfire and we do not currently have mitigating zoning or building codes in place. We need to adopt better requirements to prevent the spread of wildland fire and educate existing residents on firewise practices.

Mitigation Strategy	Hazard	Priority	Timeline	Estimated Cost	Potential Funding	Responsible Party
Educate homeowners on firewise practices such as having defensible space	Fire	High	Ongoing	Staff time	Local gov, Wasatch County	Local gov, Wasatch County
Update code to protect against wildfire in new development, including multiple evacuation routes, defensible space, fire-resistant building materials, etc.	Fire	High	1-2 yrs.	Staff time	Local gov	Local gov
Participate in an emergency notification system such as Summit County's Code Red Alerts	All	High	1-2 yrs.	TBD	Local gov	Local gov, Summit County
Require geotechnical studies for new construction	Landslide	Mod	Ongoing	Staff time	Local gov, Developers	Local gov, Developers
Assess town and HOA landscaping requirements to permit more xeriscaping without allowing noxious weeks	Drought, Noxious weeds	Mod	1-2 yrs.	Staff time	Local gov	Local gov
Study water and sewer systems for deficiencies and determine if/where backup generators are needed	Flood, all	Mod	1-2 yrs.	5-10k	Local gov	Local gov
Work with Summit County to determine if there are slopes where a wildfire might trigger debris flows	Debris Flow	Mod	2-3 yrs.	TBD	Local gov,	
Completing an inventory of locations where critical facilities, other buildings, and infrastructure are	Landslide/ Earthquake	Moderate	1-2 yrs.	5-10k	Local gov	Local gov

vulnerable to landslides and determine any action required.						
Consider ways to reduce air pollution such as EV charging stations in new developments and prohibiting wood burning on poor air quality days.	Climate Change	Mod	1-2 yrs.	Staff time	Local gov	Local gov

2017 Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	Completed?
Seismic	Inventory current critical facilities for seismic standards.	High	2 years	TBD	Local Cash, Grants	Local Government	Not necessary. Almost everything built after 2000
Wildfire	Educate homeowners on FIREWISE practices.	Medium	Ongoing	Minimal	Local Cash, Grants	Local Government	No, lack of staff to initiate
Landslide	Completing an inventory of locations where critical facilities, other buildings, and infrastructure are vulnerable to landslides and determine any action required.	Med	2 years	TBD	Local Cash, Grants	Local Government, UGS	Partly complete, will finish with Infrastructure committee and TO engineering
Earthquake	Evaluate necessity to implement additional building codes for Promote earthquake awareness and preparation.	High	2 years	Minimal	Local Cash, Grants	Fire Department, UGS, USGS	Not necessary, most of town and all critical facilities built after 2000
Wildfire	Implement Wildfire Urban Construction ordinance.	High	1 year	Minimal	Local Cash, Grants	Local Government	Not yet, lack of staff

Landslide	Determine if current vulnerable areas dictate a need to implement additional town ordinances or building codes based on planned buildings or facilities.	Med	3 years	Minimal	Local Cash, Grants	Local Government	Not yet, working on firewise ordinances

Independence

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	17	$2,608	0.20	0.00	0.00
Fire Risk High	0	$0	1.70	0.00	0.00
Fire Risk Moderate	9	$1,659	1.80	0.00	0.00
Flood 1% Yearly Probability	1	$80	0.10	0.00	0.00
Landslide	18	$11,075	0.60	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00

Statement of Vulnerabilities: Independence would like to pave the main road leading to the National Forest and keep it open year-round for fire management and recreation. Preserving open space and limiting development in the wildland-urban interface are very important for mitigating fires and keeping the natural beauty and recreation opportunities that make Independence an attractive place to live. Clustering development along main roads is part of this effort.
Independence does not currently have a water system, sewer system, or critical facilities. It will be important to plan for these as development occurs to ensure sufficient quality water.

Mitigation Strategy	**Hazard**	**Priority**	**Timeline**	**Estimated Cost**	**Potential Funding**	**Responsible Party**

Rewrite codes and ordinances to include sensitive lands, hillsides, ridgelines, and wildland-urban interfaces	All	High	2-3 yrs.	Staff time	Local gov	Local gov
Work with Wasatch County to adopt enhanced fire ordinances, especially during the fire season	Fire	High	Yearly	Staff time	Local gov	Local gov, Wasatch County
Adopt Flood Insurance Rate Maps as FEMA updates them and incorporate into codes and ordinances	Flood	High	As updated	Staff time	Local gov	Local gov, FEMA
Flood controls for Lake Creek and Center Creek flood channels	Flood	Mod	5-10 yrs.	45 million	Heber, Wasatch, Independence, Grants	Heber, Wasatch, and Independence
Pave main road to national forest and open year-round	Fire, All	Mod	2-3 yrs.	TBD	Local gov	Local gov
Trim trees along major roads	Fire	Mod	Ongoing	10k/yr.	Local gov	Local gov
Cluster development to preserve open space	Fire	Mod	Ongoing	Staff time	Local gov	Local gov
Plan for city-owned water and sewer system as development occurs or work with adjacent special service districts to do so	Drought	Mod	Ongoing	Staff time	Local gov	Local gov
Work with youth groups on fire mitigation activities	Fire	Mod	Ongoing	Staff time	Local gov	Local gov
Educate residents on low-cost retrofit options when they come in for remodeling permits	Earthquake	Mod	Ongoing	Staff time	Local gov	Local gov

2017 Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding	Responsible Party	Completed?
Fire	Partner with youth organizations to establish zones for fire safety	High	1 year	Minimal	Local Government	Local Government	Yes
Fire	Tree trimming/clearing project	High	1 year	Minimal	Local Government	Local Government	Yes, ongoing

Protecting Future Residents and Structures

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	
Flooding	Encourage NFIP participation, follow FEMA recommended floodplain ordinance	High	1 year	Minimal	Local Government	Local Government	Yes
Fire	Adopt Wildland Fire Urban Interface Code	Med	1 year	Minimal	Local Government	Local Government	No - in progress

Interlaken

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	13	$6,038	0.00	0.00	0.00

Fire Risk Moderate	99	$22,124	0.00	0.00	0.00
Flood 1% Yearly Probability	0	$0	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00

Statement of Vulnerabilities: Interlaken has had several close calls with fire in the past decade. There is currently only 1 road in and out of town, but developers will be required to build 3-4 more routes with subdivisions in the near future. Interlaken would also like a robust emergency notification system including a siren. The town's topography amplifies sound and past fires have started close enough to town that quick notification is essential.
Interlaken has ongoing vegetation removal, firewise code, and other requirements that should mitigate fire.

Mitigation Strategy	Hazard	Priority	Timeline	Cost	Funding source	Responsible Party
Remove green waste	Fire	High	Biannual	6k and ~200 volunteer hours	Wasatch County, Local gov	Wasatch County, Local gov
No open fires at any time, sprinklers required in new construction and remodels	Fire	High	Ongoing	0	Interlaken	Interlaken
Maintain calling tree as well as participate in Wasatch County's emergency notification system	All	High	Ongoing	0	Interlaken	Interlaken
Require sufficient roads for evacuation with new development	Fire, All	High	2-4 yrs.	0	Developers	Developers
Sensitive lands overlay requires Geotech survey for >25% slope	Landslide	Mod	Ongoing	0	Interlaken, Developer	Interlaken, Developer
1/2-acre lot minimum with 30' setback puts fewer homes in WUI	Fire	Mod	Ongoing	0	Interlaken	Interlaken

Require annexed land to come with water rights sufficient for development	Drought	Mod	Ongoing	0	Interlaken	Interlaken
New construction must submit landscaping without large turf areas	Drought	Mod	Ongoing	0	Interlaken	Interlaken
Maintain firewise community status	Fire	Mod	Ongoing	Staff Time	Interlaken	Interlaken
Purchase a siren loud enough for entire town to hear	All	Mod	1-2 yrs.	5k	Local gov, Grants	Local gov
Assign block captains and town officials to manage traffic in the event of an evacuation	Earthquake	Mod	Ongoing	0	Local gov	Local gov
Update 2002 Emergency Response Plan	All	Mod	1-2 yrs.	TBD	Interlaken	Interlaken

2017 Update

Action	Hazard	Priority	Timeline	Estimated Cost	Potential Funding	Responsible Party	Completed?
Develop an emergency response plan for wildfires	Wildfire	High	1 year	Minimal	Local Cash	Local Government, residents	No, but did become a Firewise community
Incorporate FIREWISE landscaping recommendations into local ordinances in applicable areas	Wildfire	Medium	1 year	Minimal	Local Cash	Local Government	Yes
Require slope stability analyses for susceptible areas in local land use codes	Landslide	Medium	1 year	Minimal	Local Cash	Local Government	Yes

Midway

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**

Dam Failure	362	$120,354	1.29	0.46	0.00
Fire Risk High	238	$71,769	0.27	0.09	0.00
Fire Risk Moderate	1,075	$307,450	0.98	0.47	0.00
Flood 1% Yearly Probability	10	$885,791	0.08	0.12	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	720	$167,393	na	na	na

Statement of Vulnerabilities: Wildland Fire is Midway's biggest vulnerability. Though Midway has few homes in high-risk areas, cabins in Wasatch County land nearby are cause for concern. Midway monitors water tanks on County land for use in fire suppression. There are 300-400 homes on the west side that need a second access route.
There is canyon flooding not identified in the NFIP. Midway is working to upgrade roads and culverts to mitigate impacts.
Midway has several older buildings that could be destroyed in an earthquake, including the Town Hall and Community Center.

Mitigation Strategy	Hazard	Priority	Timeline	Estimated Cost	Funding Source	Responsible Party
Promote NFIP participation	Flood	High	Ongoing	minimal	Local gov	Local gov
Enforce floodplain ordinance that requires a 50' setback from new development	Flood	High	Ongoing	Staff time	Local gov	Local gov
Complete Seismic evaluation of the Town Hall, Community Center, and generators	Earthquake	High	1-2 yrs.	TBD	Midway City	Midway City
Fire district must approve site plans, requiring defensible space, appropriate plantings and construction materials in new development	Fire	High	Ongoing	Staff time	Midway city	Midway City

Install secondary water meters on springs and wells to monitor input and new development	Drought	High	1-2 yrs./ongoing	Unknown	Midway Irrigation company (private company), developers	Irrigation company, developers
Create and maintain backcountry trails that can serve as fire access roads in Wasatch Mountain State Park and new hillside development	Fire	Mod	5	TBD	Wasatch Mountain State Park, Wasatch County, Midway, Developers, grants	Wasatch Mountain State Park, Wasatch County, Midway, Developers, grants
Participate in Shakeout and yearly County Disaster Drills	Earthquake, all	Mod	Yearly	Minimal	Midway City	Midway City, Wasatch County
Carbon date well water to find regeneration rate	Drought	Mod	1 yr.	133,000	Midway City	Midway City
Require that new subdivisions give secondary water rights to Midway City	Drought	Mod	Ongoing	0	Midway City	Midway City
Educate residents on localscapes	Drought, Fire, Climate Change	Mod	Ongoing	Staff time	Midway City	Midway City

2017 Update

Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding Sources	Responsible Party	Completed?	If not, why not?
Flooding/ Dam Failure	Promote NFIP participation.	High	1 year	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	No	Lack of information
Earthquake	Inventory current critical facilities, esp. City Hall, for seismic standards.	High	2 years	TBD	Local Cash, Grants	Local Government	No	Talked about, in progress

Wildfire	Educate homeowners on FIREWISE practices by passing out information on 24 July.	High	Ongoing	Minimal	Local Cash, Grants	Local Government	No	Lack of information
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Low	Ongoing	TBD	Local Cash, Grants	Local Government, UGS	No	Limited staff
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	No	Maps updated, need to be incorporated
Earthquake	Promote earthquake awareness and preparation by providing information at 24 July activities.	Med	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	No	Need more information

Wallsburg

Loss Estimates					
Hazard	**# Buildings**	**Building value (thousands)**	**Major Road Miles**	**Transmission Miles**	**Railroad Miles**
Dam Failure	0	$0	0.00	0.00	0.00
Fire Risk High	42	$6,276	0.25	0.00	0.00
Fire Risk Moderate	31	$3,590	0.51	0.00	0.00
Flood 1% Yearly Probability	4	$701	0.00	0.00	0.00
Landslide	0	$0	0.00	0.00	0.00
Liquefaction Moderate to High	0	$0	0.00	0.00	0.00
Earthquake (Pre-1990 buildings)	96	$11,519	na	na	na

Vulnerabilities: Wallsburg's most pressing concern is constructing a new water tank to with necessary connections to serve current and future residents. The old tank leaks and will not be sufficient for coming development. We have a water management plan underway that will identify infrastructure needs for culinary water and stormwater management.
The second biggest concern is having a safe, well-functioning Town Hall. The current building isn't up to seismic safety standards, is oversized, lacks a backup generator, and isn't energy efficient. A well-constructed, right-sized building will enable ongoing town functioning and serve as an evacuation site in the event of a disaster.
The few structures located in the 100 yr. floodplain are aware of their risk and have insurance when applicable. Wallsburg also has a park on a section of floodplain, protecting it from future development.
Because Wallsburg is surrounded by well-kept fields, Wildland Fire is not as great a priority as it is in the rest of the county. We will look into adopting some for fire-resistant homes.

Mitigation Strategy	Hazard	Priority	Timeline	Estimated Cost	Funding	Responsibly
Install a new water tank and connecting pipes for current and future residents	Drought	High	1-3 yrs.	2-3 million	ARPA, CDBG, Rural Water Users grants or loans with Local match	Local gov
Complete water management plan	Flood, Drought	High	1 yr.	30k	Local gov	Local gov
Get an engineer's estimate on the cost to retrofit Town Hall for seismic safety and/or remodel entirely for improved emergency efficiency and improved functionality	Earthquake, All	Mod	3-5 yrs.	TBD	Local gov	Local gov
Consider adopting codes and ordinances similar to Wasatch County for improved fire resiliency i.e., no shingle roofs, defensible space, etc.	Fire	Mod	1-2 yrs.	Staff time	Local gov	Local gov

Prohibit building on slopes >30% and require additional mitigation for proposed buildings on steep slopes		Landslide	Mod	Ongoing	Staff time	Local gov	Local gov
Provide dumpsters for bulk waste		Fire	Mod	Ongoing	10k	Local gov	Local gov
2017 Update							
Hazard	Action	Priority	Timeline	Estimated Cost	Potential Funding	Responsible Party	
Flooding/ Dam Failure	Promote NFIP participation.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Inventory current critical facilities for seismic standards.	High	3 years	TBD	Local Cash, Grants	Local Government	Partly, as part of Town Hall reroofing project
Wildfire	Educate homeowners on FIREWISE practices.	High	Ongoing	Minimal	Local Cash, Grants	Local Government, County Fire	Yes
Landslide	Public education on and correct watering practices and retaining measures in susceptible areas.	Med	1 year	TBD	Local Cash, Grants	Local Government, UGS	Yes
Flooding/ Dam Failure	Update Flood and Inundation mapping and incorporate them into general plans and ordinances.	High	2 years	TBD	Local Cash, Grants	Local Government, FEMA, UDHS	Yes
Earthquake	Promote earthquake awareness and preparation.	High	1 year	Minimal	Local Cash, Grants	Local Government, UGS, USGS	Yes
Wildfire	Incorporate FIREWISE landscaping requirements into local ordinances within areas at risk.	High	1 year	Minimal	Local Cash, Grants	Local Government	No, fire not a high priority

Landslide	Coordinate and update landslide mapping within the area with UGS and USGS.	High	3 years	Minimal	Local Cash, Grants	Local Government, UGS, USGS	No, efforts fell through

Contacts and Participation

See Part III: Process for a complete accounting of participation

Position	Name	Phone	Email
Emergency Manager	Kathryn McMullin	801-718-4628	kmcmullin@summitcounty.org
Summit County Planner	Ray Milliner	435-336-3118	rmilliner@summitcounty.org
Summit Co Fire Marshal	Mike Owens	435-940-2520	mowens@pcfd.org
Summit Co Public Works	Derrick Radke	435-336-3970	dradke@summitcounty.org
Henefer Planner	Robert Richins	435-336-5365	henefertown@allwest.net
Henefer Mayor	Kay Richins	801.599.8003	henefermayor@gmail.com
Park City Emergency Manager	Mike McComb	435-615-5185	mike.mccomb@parkcity.org
Coalville Mayor	Trevor Johnson	435-336-5981	mayor@coalvillecity.org
Coalville	Niki Sargent	435.659.6941	niki.sargent@coalvillecity.org
Coalville Public Works	Zane Deweese	435-336-5980	zane.deweese@coalvillecity.org

Coalville Public Works	Kyle Clark		
Coalville Wastewater Treatment	Sam Adams		
Oakley		435-783-5734	oakley@oakleycity.com
Oakley Planner	Stephanie		stephanie@oakleycity.com
Oakley	Amy Rydalch		amy@oakleycity.com
Oakley City	Kelly Kimber		kelly@oakleycity.com
Francis/Kamas	Scott Kettle	435-654-2226	skettle@horrocks.com
		cell: 801-360-9735	
Francis Public Works		435-783-6236	lthomas@francisutah.org
Francis Planner	Katie Henneuse	435-783-6236	khenneuse@francisutah.org
WUI Coordinator	Travis Wright	385-505-4030	tdwright@utah.gov
Park City Fire District	Ashley Lewis		
North Summit Fire District	Ian Nelson		
FFSL /County Fire Warden	Bryce Boyer		
N Summit School District	Kristy		kbraithwaite@nsummit.org
S Summit School District	Kip Bigelow		kbigelow@ssummit.org

S Summit School District	Kathy Carr		kathy.carr@ssummit.org
S Summit School District Superintendent	Greg Maughan		greg.maughan@ssummit.org

Part 8 Adoption and Maintenance

Plan Adoption

Example Resolution

RESOLUTION NO. _____

A RESOLUTION ADOPTING THE MOUNTAINLAND ASSOCIATION OF GOVERNMENTS PRE-DISASTER HAZARD MITIGATION PLAN AS REQUIRED BY THE FEDERAL DISASTER MITIGATION AND COST REDUCTION ACT OF 2000.

WHEREAS, President William J. Clinton signed H.R. 707, the *Disaster Mitigation and Cost Reduction Act of 2000*, into law on October 30, 2000.

WHEREAS, the Disaster Mitigation Act of 2000 requires all jurisdictions to be covered by a Pre-Disaster Hazard Mitigation Plan to be eligible for Federal Emergency Management Agency pre-disaster funds,

WHEREAS, Mountainland Association of Governments (MAG) has been contracted by the State of Utah to prepare a Pre-Disaster Mitigation Plan covering all of the jurisdictions in the MAG Area, and

WHEREAS, the MAG Executive Council approved MAG Staff to write the plan on October 25, 2018, and

WHEREAS, _____City is within the MAG Area, and

WHEREAS, the _____ City Council is concerned about mitigating potential losses from natural disasters before they occur, and

WHEREAS, the plan identifies potential hazards, potential loses and potential mitigation measures to limit loses, and

WHEREAS, the _____ City Council has determined that it would be in the best interest of the community as a whole to adopt the Pre-Disaster Hazard Mitigation Plan as it pertains to the City, therefore

BE IT RESOLVED BY THE _____ CITY COUNCIL THAT:

The attached "Mountainland Association of Governments Pre-Disaster Mitigation Plan" be adopted to meet the requirements of the Disaster Mitigation and Cost Reduction Act of 2000.

This Resolution shall be effective on the date it is adopted.

DATED this _____ day of _____, 2022.

Community Adoption Status

Community	No Action	Completed / Not yet adopted	Completed and adopted
Alpine			
American Fork			
Cedar Fort			
Cedar Hills			
Charleston			
Coalville			
Daniels			
Eagle Mountain			
Elk Ridge			
Fairfield			
Francis			
Genola			
Goshen			
Heber			
Henefer			
Hideout			
Highland			
Independence			
Interlaken			
Kamas			
Lehi			
Lindon			

Mapleton			
Midway			
Oakley			
Orem			
Park City			
Payson			
Pleasant Grove			
Provo			
Salem			
Santaquin			
Saratoga Springs			
Spanish Fork			
Springville			
Summit County			
Utah County			
Vineyard			
Wallsburg			
Wasatch County			
Woodland Hills			

Plan Maintenance

Monitoring, Evaluating and Updating the Plan

MAG will keep the plan available on its website and feature the Risk maps and a place to comment on the Pre-Disaster Mitigation landing page. MAG will also feature hazard maps at its annual Open House, where each city presents its long-range plan.

Biennial Reporting

Every 2 years MAG will contact each jurisdiction to see how the mitigation strategies are progressing and if the plan needs to be modified. The results will be shared with the Executive Council. Look forward to learning about our progress in 2024 and 2026.

Revisions and Updates

Periodic revisions and updates of the Plan are required to ensure that the goals and objectives for the MAG Region are kept current. More importantly, revisions may be necessary to ensure the Plan is in full compliance with Federal regulations and State statutes. This portion of the Plan outlines the procedures for completing such revisions and updates.

Five (5) Year Plan Review

Every 5 years MAG will conduct a comprehensive update of the Plan, accounting for development, changes in vulnerability, and new mitigation capabilities. Typically, the same process that was used to create the original plan will be used to prepare the update.

Plan Amendments

An amendment can be initiated by the Executive Council, either at its own initiative or upon the recommendation of the Executive Director, Community Development Director, Mayor of an affected community or the State Department of Emergency Services and Homeland Security. New requirements, information, needs, or errors in the original plan could trigger an amendment. All entities affected by an amendment (city, school district, water district, etc.) will be informed of the amendment and given an opportunity to comment. The proposed amendment will also be posted on MAG's website for public comment.

In determining whether to recommend approval or denial of a Plan amendment request, the Executive Council should consider the following:

- There are errors or omissions made in the identification of issues or needs during the preparation of the Plan; and/or
- New issues or needs have been identified which were not adequately addressed in the Plan; and/or
- There has been a change in information, data or assumptions from those on which the Plan was based.
- The nature or magnitude of risks has changed.

- There are implementation problems, such as technical, political, legal or coordination issues with other agencies.

Upon receiving the recommendation of the Executive Director or his/her designee, the Executive Council will hold a public hearing. The Executive Council will review the recommendation (including the factors listed above) and any oral or written comments received at the public hearing. Following that review, the Executive Council will take one of the following actions:

1. Adopt the proposed amendment as presented.
2. Adopt the proposed amendment with modifications.
3. Refer the amendment request back to the Executive Director for further consideration.
4. Defer the amendment request for further consideration and/or hearing.
5. Reject the amendment request.

Implementation through Existing Programs

Process

Incorporating the risk analysis and strategies from this plan into General, Capital Improvement, Water Management Plans, etc. will strengthen all plans. It is the responsibility of elected representatives to make those changes at the recommendation of their staff, but MAG will provide resources and be available to collaborate with those groups.

Administrative

Project administration is purely a function of project size and complexity, for given jurisdictions within the planning area. Jurisdictions have self-funded or received state and federal funding for numerous projects in the past. The larger the project the more

administration resources are needed. Local jurisdictions with current staff could administer small projects or request county or state assistance. Larger projects would most likely still be managed “in-house” but would require additional staff be hired and may request state technical assistance.

Funding Sources

Although all mitigation techniques will likely save money by avoiding losses, many projects are costly to implement. The MAG jurisdictions will continue to seek outside funding assistance for mitigation projects in both the pre- and post-disaster environment. This portion of the Plan identifies the primary Federal and State grant programs for MAG jurisdictions to consider, and also briefly discusses local and non-governmental funding sources.

Federal

The following federal grant programs have been identified as funding sources which specifically target hazard mitigation projects:

Title: Building Resilient Infrastructure and Communities

Agency: FEMA

Building Resilient Infrastructure and Communities (BRIC) will support states, local communities, tribes and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. The BRIC program guiding principles are supporting communities through capability- and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency.
75% Federal share with 25% local match; 90% Federal 10% local match for "small and impoverished communities"

Title: High Hazard Potential Dam Grant (HHPD)

Agency: FEMA

The High Hazard Potential Dam Grant (HHPD) awards provide technical, planning, design and construction assistance in the form of grants for rehabilitation of eligible high hazard potential dams. A state or territory with an enacted dam safety program, the State Administrative Agency, or an equivalent state agency, is eligible for the grant.

Title: Flood Mitigation Assistance Program

Agency: Federal Emergency Management Agency

FEMA's Flood Mitigation Assistance program (FMA) provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes and other structures insurable under the National Flood Insurance Program (NFIP). FMA was created as part of the National Flood Insurance Reform Act of 1994 (42 USC 4101) with the goal of reducing or eliminating claims under the NFIP.

FMA is a pre-disaster grant program, and is available to states on an annual basis. This funding is available for mitigation planning and implementation of mitigation measures only, and is based upon a 75% Federal share/25% non-Federal share. States administer the FMA program and are responsible for selecting projects for funding from the applications submitted by all communities within the state. The state then forwards selected applications to FEMA for an eligibility determination. Although individuals cannot apply directly for FMA funds, their local government may submit an application on their behalf.

Title: Hazard Mitigation Grant Program

Agency: Federal Emergency Management Agency

The Hazard Mitigation Grant Program (HMGP) was created in November 1988 through Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. The HMGP assists states and local communities in implementing long-term mitigation measures following a Presidential disaster declaration.

To meet these objectives, FEMA can fund up to 75% of the eligible costs of each project. The state or local cost-share match does not need to be cash; in-kind services or materials

may also be used. With the passage of the Hazard Mitigation and Relocation Assistance Act of 1993, federal funding under the HMGP is now based on 15% of the federal funds spent on the Public and Individual Assistance programs (minus administrative expenses) for each disaster.

The HMGP can be used to fund projects to protect either public or private property, so long as the projects in question fit within the state and local governments overall mitigation strategy for the disaster area, and comply with program guidelines. Examples of projects that may be funded include the acquisition or relocation of structures from hazard-prone areas, the retrofitting of existing structures to protect them from future damages; and the development of state or local standards designed to protect buildings from future damages.

Eligibility for funding under the HMGP is limited to state and local governments, certain private nonprofit organizations or institutions that serve a public function, Indian tribes and authorized tribal organizations. These organizations must apply for HMPG project funding on behalf of their citizens. In turn, applicants must work through their state, since the state is responsible for setting priorities for funding and administering the program.

Title: Public Assistance (Infrastructure) Program, Section 406

Agency: Federal Emergency Management Agency

FEMA's Public Assistance Program, through Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, provides funding to local governments following a Presidential Disaster Declaration for mitigation measures in conjunction with the repair of damaged public facilities and infrastructure. The mitigation measures must be related to eligible disaster related damages and must directly reduce the potential for future, similar disaster damages to the eligible facility. These opportunities usually present themselves during the repair/replacement efforts.

Proposed projects must be approved by FEMA prior to funding. They will be evaluated for cost effectiveness, technical feasibility and compliance with statutory, regulatory and executive order requirements. In addition, the evaluation must ensure that the mitigation measures do not negatively impact a facility's operation or risk from another hazard.

Public facilities are operated by state and local governments, Indian tribes or authorized tribal organizations and include:

- Roads, bridges & culverts
- Draining & irrigation channels
- Schools, city halls & other buildings
- Water, power & sanitary systems
- Airports & parks

Private nonprofit organizations are groups that own or operate facilities that provide services otherwise performed by a government agency and include, but are not limited to the following:

- Universities and other schools
- Hospitals & clinics
- Volunteer fire & ambulance
- Power cooperatives & other utilities
- Custodial care & retirement facilities
- Museums & community centers

Title: Natural Resource Conservation Grants

Agency: US Department of Agriculture

The USDA administers Natural Resource Conservation grants and provides crop insurance. The Federal crop insurance program is designed to provide a robust and reliable farm safety net, regardless of the size and scope of natural disasters. USDA's Risk Management Agency (RMA) works closely with Approved Insurance Providers (AIPs), who sell and service the policies that producers purchase, to ensure efficient loss adjustment and prompt claims payments, even in times of major disasters.

Title: SBA Disaster Assistance Program

Agency: US Small Business Administration

The SBA Disaster Assistance Program provides low-interest loans to businesses following a Presidential disaster declaration. The loans target businesses to repair or replace

uninsured disaster damages to property owned by the business, including real estate, machinery and equipment, inventory and supplies. Businesses of any size are eligible, along with non-profit organizations.

SBA loans can be utilized by their recipients to incorporate mitigation techniques into the repair and restoration of their business.

STATE PROGRAMS

Title: Emergency Management Performance Grants

Agency: Utah Department of Emergency Management

The EMPG program provides federal grants to states to assist state, local, territorial and tribal governments in preparing for all hazards. This grant is available to all counties, cities, tribes, and public institutions of higher learning that have an emergency management program and a paid part-time or full-time emergency manager. The grant provides financial assistance and technical expertise. EMPG provides funds to supplement pre-established local emergency management programs in building capabilities to implement the National Preparedness System and support the National Preparedness Goal.

Title: Community Impact Board

Agency: Utah Department of Workforce Services

Utah's Community Development Office builds local capacity to help communities become self-reliant, self-determined and prepared for the future. Programs managed by the office work closely together to provide funding for infrastructure alongside tools and resources to help communities with coordination, training, research and analysis, planning and technical assistance.
The Office provides Community Impact Board grants and Community Development Block Grants.

Title: Historic Building Certification

Agency: Utah State Historic Preservation Office

The Certified Local Government (CLG) program is designed to promote historic preservation at the local level. This is a federal program through the National Park Service and administered by the Utah State Historic Preservation Office (SHPO). Qualified local

governments become "certified" and thereby qualify to receive matching grants from the SHPO

Title: Board of Water Resources

Agency: Utah Division of Natural Resources

The Board of Water Resources appropriates funds to improve safety and water efficiency, develop new water projects, and refurbish aging infrastructure. Private or public water service providers can apply. Low-interest rates and repayment terms tailored to the project area's affordability guidelines are available for qualifying projects. To be eligible for funding, a project cannot be routine operation and maintenance, cannot be sponsored by a developer or an individual/family and cannot be for a domestic water system where less than half of the residents live in the service area year-round. All other water projects will be considered for funding.

LOCAL

Local governments depend upon local property taxes as their primary source of revenue. These taxes are typically used to finance services that must be available and delivered on a routine and regular basis to the general public. If local budgets allow, these funds are used to match Federal or State grant programs when required for large-scale projects.

Title: Community Development Block Grants

Agency: US Department of Housing and Urban Development

The community Development Block Grant (CDBG) program provides grants to local governments for community and economic development projects that primarily benefit low- and moderate-income people. The CDBG program also provides grants for post-disaster hazard mitigation and recovery following a Presidential disaster declaration. Funds can be used for activities such as acquisition, rehabilitation or reconstruction of damaged properties and facilities and for the redevelopment of disaster areas.

Title: Various

Agency: County Fire Departments

County fire departments are involved in outreach and education, enforcing fire-related laws, approving plans, and conducting mitigation efforts such as controlled burns and fuel thinning.

See your county's fire department for program information and how to match funding for projects.

Title: Transportation Improvement Program
Agency: Mountainland Association of Governments

MAG plans for and funds transportation-related projects that could include evacuation routes, seismic upgrades for structures, and fire break trails.
MAG also facilitates other projects that require coordination across boundaries and provides land-use planning and other assistance for smaller localities.

NON-GOVERNMENTAL

Another potential source of revenue for implementing local mitigation projects are monetary contributions from non-governmental organizations, such as private sector companies, churches, charities, community relief funds, the Red Cross, hospitals, Land Trusts and other non-profit organizations.

Continued Public Involvement

Throughout the planning process, public involvement has been and will be critical to the development of the Plan and its updates. On a yearly basis the plan will be profiled at MAG's Annual Open Houses, which are held in the fall of every year. There are typically 400 to 500 local citizens who attend the Open Houses. The plan will also be available on the MAG website to provide additional opportunities for public participation and comment.

Mountainland Association of Governments staff has been designated by its Executive Council as the lead agency in preparing and submitting the Mountainland Pre-Disaster Hazard Mitigation Plan, which includes coverage for all incorporated cities and counties within the three-county region, i.e., Summit, Utah and Wasatch Counties. The strategy of the Association of Governments in preparing the plan is to use available resources and manpower in the most efficient and cost-effective manner to allow our cities and counties

continued access to data, technical planning assistance and FEMA eligibility. In addition, the AOG will reach out to non-profits, public agencies, special needs organizations, groups and individuals in allowing them input and access to the plan. With limited resources, however, it becomes difficult to both identify and to individually contact the broad range of potential clients that may stand to benefit from the plan. This being the case, we have established the following course of action:

STEP 1. The AOG will publicly advertise all hearings, requests for input and meetings directly related to the Pre-Disaster Hazard Mitigation Plan process. Executive Council meetings where plan items are discussed and where actions are taken will not receive special notifications as they are already advertised according to set standards. All interested parties are welcome and invited to attend such meetings and hearings as they are public and open to all. Advertisement will be done according to the pattern set in previous years, i.e., the AOG will advertise each hearing and request for input at least seven days (7) in advance of the activity and will publish notices of the event in the Provo Herald, the Wasatch Wave and the Summit County Bee. The notices will advertise both the hearing and the means of providing input outside the hearing if an interested person is unable to attend.

STEP 2. The AOG has offered additional help to participating jurisdictions depending on their desires, whether it be hosting a booth at a local event, presenting to City Council, or preparing educational materials.

STEP 3. Comments, both oral and written, will be solicited and accepted from any interested party. Comments, as far as possible, will be included in the final draft of the Hazard Mitigation Plan; however, the AOG reserves the right to limit comments that are excessively long due to the size of the Plan.

STEP 4. Specific to risk assessment and hazard mitigation, needs analysis, and capital investment strategies, the AOG will make initial contact and solicitation for input from each incorporated jurisdiction within the region. All input is voluntary. Staff time and resources do not allow personal contact with other agencies or groups; however, comments and strategies are welcomed as input to the planning process from any party via regular mail, FAX, e-mail, phone call, etc. In addition, every public jurisdiction advertises and conducts public hearings on their planning, budget, etc. where most of these mitigation projects are initiated. Input can be received from these prime sources by the region as well.

STEP 5. The final draft of the Hazard Mitigation Plan will be presented to the Mountainland Executive Council at its regularly scheduled monthly meeting for adoption and approval. Executive Council policies on adoption or approval of items will be in force and adhered to. This document is intended to be flexible and in constant change so comments can be taken at any time of the year for consideration and inclusion in the next update. Additionally, after FEMA approval of the Plan, the Plan will be promulgated for each local jurisdiction for adoption by resolution.

STEP 6. The following policies will guide AOG staff in making access and input to the Hazard Mitigation Plan as open and convenient as possible:

A. Participation: All citizens of the region are encouraged to participate in the planning process, especially those who may reside within identified hazard areas. The AOG will take whatever actions possible to accommodate special needs of individuals including the impaired, non-English speaking, persons of limited mobility, etc.

B. Access to Meetings: Adequate and timely notification to all area residents will be given as outlined above to all hearings, forums, and public meetings.

C. Access to Information: Citizens, public jurisdictions, agencies and other interested parties will have the opportunity to receive information and submit comments on any aspect of the Hazard Mitigation Plan, and/or any other documents prepared for distribution by the Association of Governments that may be adopted as part of the plan by reference. The AOG may charge a nominal fee for printing of documents that are longer than three pages.

D. Technical Assistance: Residents as well as local jurisdictions may request assistance in accessing the program and interpretation of mitigation projects. AOG staff will assist to the extent practical, however, limited staff time and resources may prohibit staff from giving all the assistance requested. The AOG will be the sole determiner of the amount of assistance given all requests.

E. Public Hearings: The AOG will plan and hold public hearings at the request of participating organizations according to the following priorities: 1- Hearings will be conveniently timed for people who might benefit most from Mitigation programs, 2- Hearings will be accessible to people with disabilities (accommodations must be requested in advance according to previously established policy), and 3- Hearings will be adequately publicized. Hearings may be held for a number of purposes or functions including to: a- identify and profile hazards, b-develop mitigation strategies, and c-review plan goals, performance, and future plans.

Part 9 Resources and Capabilities

Capabilities

What follows is a description of the organizational, technical and political capacity of the Mountainland Region to implement hazard mitigation strategies and goals. The best plan will do nothing to improve hazard mitigation efforts in the region without sufficient implementation capacity and capability; particularly local level capacity (town, city and county government). The purpose of this section is to analyze gaps and potential capability weaknesses for local level jurisdictions in the region.

Local Organizational and Technical Capability

Not all communities in the MAG region have full time professional staff. In many cases a limited tax base means that hiring full time professional staff in the smaller cities and towns is financially unobtainable. Often these smaller communities rely on local volunteers or elected and appointed officials to perform many of the tasks normally handled by professional staff. It's not uncommon to have a volunteer city council person or planning commissioner assigned the task of emergency management, grant writing or long-range planning. Professional staff at MAG (and each of the three counties to some degree) help provide some technical and planning assistance to these smaller communities. This regional assistance is often limited by staffing capacity and funding. As funding allows, some communities are able to contract for professional services from private consultants.

Each jurisdiction's technical and staffing capabilities are described in their **Community Capabilities Assessment** in the **Appendix**.

State and Regional Hazard Mitigation Resources MAG District	
Agency/Group	Description
Utah Division of Emergency Management	Training, technical assistance and funding.

Utah League of Cities and Towns	Training, technical assistance and planning assistance
Utah Geologic Survey	Technical assistance, plan review
Mountainland Association of Governments	Technical assistance, plan review, GIS and Community Development Block Grants.
Local Health Departments	Emergency preparedness and response. Homeland security planning.
Local Chapters of the American Red Cross	Training, emergency preparedness and response.
Utah Association of Conservation Districts	Technical assistance and planning assistance.

Policy and Program Capability

All thirty-six jurisdictions in the MAG Region have an adopted General Plan. Most Plans have a Flood Damage Prevention Ordinance.

The state of Utah maintains a philosophy of local responsibility for hazard mitigation. State agencies still provide an integrated network of support, services, and resources for hazard mitigation activities. As demonstrated during past disasters, these agencies are well organized in their delivery and coordination of services. The following is a review of State departments with disaster responsibilities describing their existing and planned mitigation programs.

An evaluation of the laws, regulations, authorities, policies, and programs used in Utah to mitigate hazards demonstrate that they work exceptionally well, as evidenced by the massive amount of mitigation accomplished in Utah, the few numbers of disasters, and the limited nature of those emergencies that do occur. According to the Utah SHMT, the only changes that could be considered by the Legislature might be ones that parallel the Federal Disaster Mitigation Act of 2000, which would integrate pre-disaster mitigation considerations into the code of various state agencies.

Resources

FEMA

On April 1, 1979, President Carter established the Federal Emergency Management Agency (FEMA) with the dual functions of civil defense and emergency management. The agency's authorities were further defined and expanded by a series of legislative actions. Today, FEMA is called upon to help its partners understand and reduce their disaster risk, to lead the coordination of federal response efforts to stabilize communities after a disaster, and to provide support for individuals and communities to build back and become more resilient than before.

The agency leads the nation by building collaborative partnerships, delivering federal assistance, and providing resources to help individuals and communities review, build, and continuously improve their own capabilities.

Utah Division of Emergency Management

For Associated state laws see "Authority" in this plan's Introduction.

Capabilities of DESHS Hazard Mitigation Program

Prepare, implement, and maintain programs and plans to provide for preventions and minimization of injury and damage caused by disasters.

Identify areas particularly vulnerable to disasters.

Coordinate hazard mitigation and other preventive and preparedness measures designed to eliminate or reduce disasters.

Assist local officials in designing local emergency actions plans.

Coordinate federal, state, and local emergency activities.

Coordinate emergency operations plans with emergency plans of the federal government.

Through the State Hazard Mitigation Program, the following occurs:

- Provides a state coordinator for hazard mitigation, the State Hazard Mitigation Officer.
- Provides a central location of the coordination of state hazard mitigation activities.
- Provides coordination for the Federal Pre-Disaster Mitigation Program.
- Provide for coordination of Project Impact.

- Provide coordination for Comprehensive Multi-hazard Mitigation Plan development, implementation, and monitoring.
- Provide for interagency coordination
- Provide development of procedures for grant administration and project evaluation.
- Provide State Hazard Mitigation Team assistance to local governments.
- Provide for development of specific hazard mitigation plans, such as drought and wildfire.
- Provide for local hazard and risk analysis.
- Provide for development of SHMT mitigation recommendations following disasters.

Utah Department of Agriculture

The Utah Department of Agriculture administers programs serving the state's large agricultural sector. The department's response role during and after a disaster period has been to coordinate damage reports for funding needs and provide loan and recovery program information and assistance to disaster victims. This service is provided for flood, drought, insect infestation, fire, livestock disease, and frost.

Assistance During Drought Disasters:

A damage reporting network coordinated through the existing County Emergency Board was established during the drought disaster of 1996. Each county agent assembled damage reports in his area and transmitted them through a computer network based at Utah State University. The individual damage reports from each county were recapped in the Department of Agriculture and formed the basis of documentation for an appeal to the legislature for additional funds to mitigate the damage.

Loans Handbook

The department has prepared a handbook listing the types of loans available for flood damage to agriculture, the funding requirements, and application procedures. This includes loans from both state and federal sources. There are three loan programs operated by the agriculture department, all of which can be used for flood damage: 1) Rural Rehabilitation Loan Program (federally funded and operated by the state); 2) Agriculture Resource Development Loan Program (state funded); and 3) Emergency Loan Program (state funded).

Soil Conservation Program

The Department of Agriculture also administers the ongoing Soil Conservation Program. In each of the state's thirty-nine soil conservation districts, three unpaid, elected supervisors offer technical assistance and consultation on watershed protection. The state offers limited technical and planning assistance through a staff member. The program works cooperatively with the federal Soil Conservation Service which provides most of the technical assistance. The ongoing program is not regulatory, but is directed at improved water use and soil conservation.

Disaster Easements:

Because of the similarity between past events the department is now working on a permanent hazard mitigation concept known as "Disaster Easements", which may have widespread agreements with irrigation companies, water districts, or water users associations for the purpose of routing flood water through town.

Monitoring Ground Water Quality:

The Department also monitors groundwater quality of private individuals' wells and springs throughout the State.

Non-Point Source Pollution:

The Department's Non-Point Source Pollution Program focuses on flood prevention through reduction of erosion, vegetating streams, and restoring "natural stream structure" The Department also monitors drought conditions, which are a precursor to wildfire.

Department of Community and Economic Development

Community Impact Board

The Utah Permanent Community Impact Fund Board provides loans and/or grants to state agencies and sub-divisions of the state, which may be socially or economically impacted by mineral resource development of federal lands.

Permanent Community Impact Fund:

The Permanent Community Impact Fund provides loans and/or grants to state agencies and subdivisions of the state, which are or may be socially or economically impacted, directly or indirectly, by mineral resource development on federal lands.

Under the Federal Mineral Lease Act of 1920, leaseholders on public land make royalty payments to the federal government for the development and production of non-

metalliferous minerals. In Utah, the primary source of these royalties is the commercial production of fossil fuels on federal land held by the U.S. Forest Service and the Bureau of Land Management. Since the enactment of the Minerals Lease Act of 1920, a portion of these royalty payments, called mineral lease payments, have been returned to the state in an effort to help mitigate the local impact of energy and mineral developments on federal lands.

Funding Options:

The Board has the option of funding projects with loans and/or grants. The Board's preferred financing mechanism is an interest-bearing loan.

Loan Requirements:

In providing financial assistance in the form of a loan, the Board may purchase an applicant's bonds only if the bonds are accompanied by legal opinion of recognized municipal bond counsel to the effect that the bonds are legal and binding under applicable Utah Law.

The Board may purchase either a taxable or tax-exempt bond. The board may purchase taxable bonds if it determines, after evaluating all relevant circumstances, including the applicant's ability to pay, that the purchase of the taxable bonds is in the best interest of the state and the applicant.

Grants

Grants may be provided only when the other financing mechanisms cannot be utilized, where no reasonable method of repayment can be identified, or in emergency situations regarding public health and/or safety.

Community Development Block Grant:

The Community Development Block Grant, or CDBG program, provides funding from the federal government's Department of Housing and Urban Development or HUD, to small cities and counties in the State of Utah.

Utah Division of State History

The Utah State Historical Society, Utah's Division of State History, was founded in 1897 on the 50th anniversary of the first settlement in the Salt Lake Valley by the Mormon Pioneers. The Society became a state agency in 1917, now housed in the historic Rio Grande Depot since 1980. The Division stimulates archaeological research, study; oversees the protection and orderly development of sites; collects and preserves specimens; administers site

surveys; keeps excavation records; encourages and supports the preservation of historic and pre-historic sites and publishes antiquities records. The Division also issues archaeological permits and consults with agencies and individuals doing archaeological work.

Preserving and Sharing Utah's Past

The mission of the State Division of History is "preserving and sharing Utah's past for the present and the future."

State Historical Preservation Officer (SHPO)

The SHPO administers the Section 106 process (national Historic Preservation Act) in Utah. The SHPO also serves on the Utah State Hazard Mitigation Team, providing guidance on historical and cultural preservation regulations.

Historic properties include districts, buildings, structures, objects, landscapes, archeological sites, and traditional cultural properties that are included in, or eligible for inclusion in, the National Register of Historic Places. These properties are not just "old buildings" or "well-known historic sites, but places important in local, state, or national history. Facilities as diverse as bridges and water treatment plants may be considered historic.

Utah Geological Survey (UGS)

The Utah Geologic and Mineral Survey is the principal state agency concerned with geologic hazards. Through years of study, the UGS has developed considerable information on Utah's geologic hazards. When geologic events occur or threaten to occur, the UGS is consulted by other state agencies, local governments, and private organizations for assistance in defining the threat from natural hazards. The UGS works in partnership with other agencies, such as DESHS, in relating the threats from natural hazard to the communities at risk.

Functions:

The functions of the UGS include the following:
Evaluation of individual geological hazards;
Participation on local government and state agency technical teams;
Prediction of the performance on individual slides once they began to move;
Coordination and awareness of research efforts undertaken by other agencies;
Provide information on status of individual geologic hazards;

Reconnaissance reports on status of hazards statewide;
Advise Division of Water Rights on geologic hazards associated with dam sites; and
Provide geologic information for use during planning of remedial actions.

Laws/authorities/policies of the Utah Geological Survey for conducting mitigation

Utah Code Annotated Chapter 73 Geological and Mineral Survey Section 68-73-6 Objectives of Survey

(e) Determine and investigate areas of geologic and topographic hazards that could affect the safety of, or cause economic loss to, the citizens of this state; (f) assist local and state government agencies in their planning, zoning, and building regulations functions by publishing maps, delineating appropriately wide special earthquake risk areas, and, at the request of state agencies, review the siting of critical facilities:

Utah State Office of Education (USOE) Rule R277-455 Standards and Procedures for building plan review

R277-455-4 Criteria for Approval

To receive approval of a proposed building site, the local school district must certify that:

Staff of the Utah Geologic Survey have reviewed and recommended approval of the geologic hazards report provided by the school district's geotechnical consultant.

Division of Water Resources

Mitigation Functions

The Division's role of planning, funding and constructing water projects serves as both active and passive hazard mitigation against drought and flood situations throughout the state. The various State water plans contain brief summaries of flood threat and risk for each drainage.

The Division is one of seven agencies in the State Department of Natural Resources. The eight-member Water Resources Board, appointed by the governor, administers three state water conservation and development funds. They are:

Revolving Construction fund – This fund started in 1947 with 1 million legislative appropriations to help construct irrigation projects, wells and rural culinary water systems. Additional appropriations have been added to this fund.

Conservation and Development Fund – This fund was created in 1978 with the sale of 25 million in general obligations bonds. Money was added to this fund with bond sales in

1980 and 1983. The C & D Fund generally helps sponsor and finance larger multi-purpose dams and water systems.

Cities Water Loan Fund – Established with an initial legislative appropriation of 2 million dollars in 1974, and with continued appropriations, this fund provides financing to help construct new culinary water projects for cities, towns, improvement districts, and special service districts.

Construction Funds: In addition to overseeing these three construction funds, the Division also manages the State funds appropriated each year for renovation and reconstruction of unsafe dams. As the funding arm of the state for water resource projects the Division works closely with Water Rights, the Regulatory arm of the state charged with jurisdiction over all private and state-owned dams.

Water Resource Planning: The Division is also charged with the general water resource planning for the state. The State Water Plan is a process that is coordinated to evaluate existing water resources in the state, determine water-related issues that should be confronted and recommend how and by whom issues can be resolved. The plan identifies programs and practices of state and federal agencies, water user groups and environmental interests and describes the state's current, future, and long-term water related needs. The plan is continually updated using current hydrologic databases, river basin simulations, water supply and demand models and water related land use inventories. Revisions reflect the latest water conservation and development options concerning water rights, water transfers, population, zoning, and many other complex issues for the next 50 years in the state's major river basins.

Utah Division of Forestry, Fire, and State Lands

The Division of Forestry, Fire & State Lands utilizes the principles of stewardship and ecosystem management to assist non-federal landowners in management of their natural resources. The agency provides wildland fire protection for non-federal landowners commensurate with risk; and optimizes the benefits from ecosystem based, multiple-use management of resources held in the public trust. Wildfires are managed from six area offices 1) Bear River Office, 2) Northeast Area, 3) Wasatch Front Area, 4) Central Area, 5) Southwest Area, and 5) Southeast Area.

The Division operates under the authority of the Utah Code Annotated 65-A-3-1 through 10.

The Flame-n-Go's (pronounced Flamingoes): In 1978 the Division of Forestry, Fire, and State Lands and the Utah State Prison signed a cooperative agreement establishing Utah's first

volunteer, inmate wildland fire hand-crew. The inmates named themselves the "Flame-N-Go's" and designed a logo that has become well known in the wildland fire fighting community.

All Flame-N-Go's are carefully screened for the program. They must complete rigorous training and sign a yearly contract committing themselves to preserving Utah's natural resources and building responsible lives.

The Flame-N-Go's are divided into three crews, each of which can respond to fires anywhere in the United States. A twenty-man type II handline crew is the backbone of the group, responding to each assignment with all tools and equipment needed to do battle on the fireline. An Engine Strike Team, (five fire engines, outfitted with men and equipment) is ready to respond when needed as an Engine Strike Team or a Type II Handline Crew. The Hotshot crew is trained to tackle the most dangerous fires in the most rugged terrain. All crews during peak fire season are on 24-hour call to respond within an hour's notice. These crews respond to an average of 50 fires per year and typically spend 45,000 hours fighting fires each season. At least one Division of Forestry, Fire, and State Lands supervisor and two Department of Corrections staff accompany each crew.

Each year, Flame-N-Go's are put through at least 80 hours of extensive training including classroom work and practical field exercises. Safety, individual, and team skills, and professionalism are stressed.

National Fire Plan: The Division administers the State responsibilities of the National fire Plan, a current emphasis of the U.S. Congress, which also addresses hazard and risk analysis and hazard mitigation.

Living With Fire Committee: The Division works in partnership with the U.S. Forest Service, Bureau of Land Management, and various other entities tasked with suppressing wildland fires on the "Living with Fire" program promoting wildland fire mitigation.

Utah Division of State Parks and Recreation

The goal of the Division of Parks and Recreation is to enhance the quality of life for residents and visitors of our state through parks, people, and programs. They are responsible for protecting, preserving, and managing many of Utah's natural and heritage resources.

Hazard and Risk Analyses: The Division develops hazard and risk analyses for the State Parks as part of the park resource management plans. The Utah Division of Emergency Management produced one analysis for Snow Canyon State Park in Washington County.

Non-Motorized Trail Program: The Recreational Trails Act of 1991 charged Utah State Parks and Recreation with coordinating the development of a statewide network of non-motorized trails. The Non-Motorized Trail program makes state and federal funds available on a 50/50 matching basis to any federal, state, or local government agency, or special improvement district for the planning, acquisition, and development of recreational trails.

Grants from State Parks Boards: The council advises the Division of Parks and Recreation on non-motorized trail matters, reviews requests for matching grant fiscal assistance, rates and ranks proposed trail projects and along with State Park's staff provides recommendations for funding to the State Parks Board.

Riverway Enhancement Program: In 1986, the Utah Legislature passed a bill which established the Riverway Enhancement Program. The program makes state funds available on a 50/50 matching basis to state agencies, counties, cities, towns, and/or special improvement districts for property acquisition and/or development for recreation, flood control, conservation, and wildlife management, along rivers and streams that are impacted by high density populations or are prone to flooding. Public outdoor recreation should be the primary focus of the project.

Utah Division of Water Rights

The Division of Water Rights is the state agency that regulates appropriation and distribution of water in the State of Utah. It is an office of public record. The Utah State Engineer's Office was created in 1897. The State Engineer's Office is the chief water rights administrative officer. A complete "water code" was enacted in 1903 and was revised and reenacted in 1919. This law, with succeeding complete reenactments of State statutes, and as amended, is presently in force mostly as *Utah Code, Title 73*. In 1963, the name was changed from State Engineer's office to the Division of Water Rights.

All water in Utah is public property. A water right is a right to the use of water based upon 1) quantity, 2) source, 3) priority date, 4) nature of use, 5) point of diversion, and 6) physically putting water to beneficial use.

Regulate Dams: The State engineer has the authority to regulate dams for the purpose of protecting public safety. Dams are classified according to hazard, size, and use. The dam inventory gives the identification, location, construction parameters, and the operation and maintenance history of the dams in Utah.

Stream Alterations Program: The Utah state Engineer's Office administers a Stream alterations program with the purpose of regulation activities affecting the bed or banks of natural streams. The State Engineer's working definition of a natural stream is any natural

waterway in the state, which has flows of sufficient duration to develop a characteristic ecosystem distinguishing it from the surrounding environments. Any individual planning an activity that will affect a natural stream must first obtain a Stream Alterations Permit from this office.

Most proposals reviewed by the State, are covered by General Permit 40, which authorizes the state to have its Stream Alteration Permit fulfill the requirements of Section 404 of the Clean Water Act for most activities. General permit 40 does not apply in some instances and a U.S. Army Corps of Engineers Individual Permit is required. Projects requiring this additional permit include those involving wetlands, threatened or endangered species, properties listed on the National Historic Register, stream relocation, or the pushing of streambed material against a stream bank.

Dam Safety Program: The Dam Safety Section of the Division of Water Rights was established under Chapters 73-5a 101 thru 73-5a 702 including chapters 73-2-22 for Flood Control and the Chapter 63-30-10 Waiver of Immunity of the Utah Code and Rules R655-10 thru R655-12-6A. The program basically has jurisdiction over all private and state-owned dams in the state during design, construction, operation, and decommissioning. This involved periodic inspections according to hazard classifications, inventory maintenance, design, and construction approval and systematic upgrade of all the high hazard structures to current dam safety Minimum Standards and creation of Emergency Action Plans for High Hazard dams. Since 1991, detailed dam reviews have been undertaken by the staff and by private consulting firms. Since 1995, the State Legislature has provided 3-4 million dollars per year to finance 50 % of the instrumentation, investigations, and design and 80 to 90 % of the construction costs of retrofitting and upgrading deficient dams, starting with the worst dams in the most hazardous locations.

The impetus for this dam safety program has been in reaction to dam failures, both in Utah and in other states, including the Teton Dam in Idaho and the Trial Lake Dam in Summit County and the Quail Creek Dam near St. George Utah. Since the establishment of our Minimum Standards program, we have fostered the repair of dozens of dams and have not had a catastrophic failure since.

Future recommendations include continuation of the funding for dam upgrades for all the high hazard dams, and then the moderate hazard dams, continued annual inspections for maintenance items and dangerous deficiencies, upgrading EAP, and hazard assessment to reflect downstream development. Inclusion of the scanned design drawings and inundation maps from the EAP studies is being considered for our web page for public information and emergency access. Possible expansion of the program to cover canals and dikes has been considered.

Utah Division of Wildlife Resources

It is the mission of the Utah Division of Wildlife Resources to serve people of Utah as trustee and guardian of the State's wildlife. Regulates hunting, fishing and trapping, and promotes recreational, educational, scientific and aesthetic enjoyment of wildlife.

Wildlife Habitats and Hazards: Wildlife species and/or their habitats are frequently exposed to hazards. These may be either natural or human influenced (i.e., drought, flood, fire, wind, snow, wetland drainage, water diversions, hazardous material spills, improper/illegal chemical use, earthquake, and other land or water construction/development). Impact resulting either directly or indirectly, from individuals or an accumulation of several hazards, may cause but not be limited to: decreased water supply, stream/lake channel/basin morphology change, riparian/upland vegetation loss or degradation, and impairment of water quality. These in turn have a varying influence, in the extreme causing death or at a minimum temporary stress, on wildlife populations and their habitats. Hazards mentioned may affect a fairly large geographic area or be very localized in nature.

While the Division of Wildlife Resources (DNR) is charged with the management of wildlife, they do not have regulatory authority over water appropriations, water quality, development, or land management; except as allowed or occurring on properties they own. Therefore, when hazards occur, outside DWR property, DWR is limited to be a participating influence only through comments to the other regulatory agencies or individuals.

DWR management of wildlife is carried out largely through regulation of taking control, disturbance and/or possession of wildlife, and introduction or movement of species. However, there are numerous non-regulatory means (i.e., conservation agreements, memorandum of understanding, contract, lease agreements, cooperative agreements, and technical assistance) by which DWR interacts with other agencies, groups and individuals, to have an influence on wildlife and/or their habitat.

Hazard Areas of Commentary Interaction

While not being able to control/regulate many of the elements necessary for the benefit of wildlife; DWR provides technical comments for the maintenance, protection, and enhancement of wildlife and/or habitats for various value reasons. It is too extensive list all the areas of comment; however, the following are examples of fairly frequent concern:

- Stream Channel Alteration Permit Applications
- Water Rights Filings
- Energy and Mineral Exploration and Extraction Applications
- Federal Agency land management plans

- Wastewater Discharge Permit Applications
- Hydroelectric plant licensing or regimenting
- Urban and rural development project planning
- Utility transmission line style and locations
- Wetland alteration
- Federal land management planning
- Highway constructions

The Utah Division of Drinking Water

The Division of Drinking Water's Mission Statement is to "protect the public against waterborne health risks through assistance, education, and oversight". The Division acts as the administrative arm of the Utah Drinking Water Board. It implements the rules, which they adopt. As such, it is engaged in a variety of activities related to the design and operation of Utah's public drinking water system. The Utah Drinking Water Board is an 11-person board appointed by the Governor. It is empowered by Title 19, Chapter 4 of the Utah Code to adopt rules governing the design, operations, and maintenance of Utah's "public drinking water system".

Safe Drinking Water Act: There is a Federal Safe Drinking Water Act which applies to all public drinking water systems in the country. The U.S. Environmental Protection Agency (EPA) has given Utah "primacy" for enforcing the federal act within its boundaries. To qualify for this Utah's laws and rules governing public drinking water systems must be at least as strict as the federal law.

Sanitary Surveys: The Division performs sanitary surveys on the water systems, which is a compliance action that identifies system deficiencies.

Emergency Response Plans: The Division of Drinking Water requires water utilities to prepare emergency response plans under the State Safe Drinking Water Act, Utah Code Section 19-4. The Division operates according to DDW Rules: R309 gives them authority to administer actions: R309-301 through R309-104 and R309-113, R309-150, R309-301, and R309-211.

Utah Division of Solid and Hazardous Waste

The Tier II Chemical Inventory report, required by the Federal Emergency Planning and community Right-to-Know Act, requires facilities to submit lists of hazardous chemicals

present on site. These reports are computerized and the information is provided to local emergency planning committees, the general public, and others for contingency planning purposes. To implement the Federal law, the State operates under Utah State Code, Section 63-5-5. The Division of Solid and Hazardous Waste requires that hazardous waste treatment storage and disposal facilities prepare an emergency response plan as required by regulations authorized by the State Solid and Hazardous Waste Act, Utah Code Section 19-6.

Other Agency programs are regulatory in nature requiring proper use or disposal of hazardous substances or pollutants. For example, the Division of Solid and Hazardous Waste regulates the disposal of hazardous waste, the Division of Radiation Control regulates the proper usage and disposal of radioactive materials. As such there is a threat mitigation nature to these programs.

Utah Division of Water Quality

The Utah Division of Water Quality protects, maintains, and enhances the quality of Utah's surface and underground water for appropriate beneficial uses; the Division of Water Quality regulates discharge of pollutants into surface water, and protects the public health through eliminating and preventing water related health hazards which can occur as a result of improper disposal of human, animal, or industrial wastes while giving reasonable consideration to the economic impact.

Water Quality Fund and Wastewater Treatment Project Fund: The Division Manages the Water Quality Revolving Fund that can be used by local governments for water quality projects and a Wastewater Treatment Project Fund.

Abating Watershed Pollution: Federal and State regulations charge the Division with "preventing, controlling, and abating" watershed pollution. Other state and local agencies have similar responsibilities. The Watershed Approach forms partnerships with these groups to pool resources and increase the effectiveness of existing programs. For each watershed management unit, a watershed plan will be prepared. The watershed plan addresses management actions at several spatial scales ranging from those that encompass a watershed management unit to specific sites that are tailored to specific environmental conditions. Ground water hydrologic basins and eco-region areas encompassed within the units will also be delineated.

State Revolving Fund Program: In 1987, Congress replaced the Construction Grants Program with the State Revolving Fund Program. Rather than provide direct grants to communities, the federal government provides each state with a series of grants, then each state contributes a 20 percent state match. Grants from the federal government are combined with state funds in the Water Quality Project Assistance Program (WQPAP) and

are used to capitalize a perpetual source of funds to finance water quality construction control activities at below market interest rates. Projects eligible for WQPAP financing include such traditional activities as construction of wastewater treatment plants and sewers. The program also will finance non-traditional water quality-related activities such as agricultural runoff control, landfill closures, contaminated industrial property (Brownfield) remediation, stream bank restoration, and wellhead protection.

Part 10 Methods

Hazard Profile Methodology

Each hazard profile relied on the following criteria to create meaningful comparisons between hazards.

Standards from FEMA IS 235: Emergency Planning Course

Potential magnitude (Percentage of the community that can be affected):

Catastrophic: More than 50%
Critical: 25 to 50%
Limited: 10 to 25%
Negligible: Less than 10%

Frequency of Occurrence

Highly likely: Near 100% probability in next year
Likely: 10 -100% probability in next year, or at least one chance in next 10 years.
Possible: 1 - 10% probability in next year, or at least one chance in next 100 years.
Unlikely: Less than 1% probability in next 100 years

Standards we modified to fit our region

Severity (our definition) **per incident**

Catastrophic: Many lives, a great deal of property
Critical: Multiple lives lost, but mostly property loss.
Limited: Some property loss, less than 3 lives lost.
Negligible: Some property, no life lost.

Mitigation Prioritization

The guiding factor in prioritizing mitigation strategies for local communities was the principle that mitigation should provide the ***greatest amount of good to the greatest number of people, after considering resources, staffing, and other constraints*.** Probability

of occurrence, past events, and damage estimates compiled during the risk assessment in this plan were heavily considered. Overall, each community individually considered their own capabilities, staffing, and resources as they prioritized their own mitigation strategies.

Hazard Selection and Analysis

Identified Hazards

Numerous hazards face the Mountainland region; everything from grasshopper infestation to solar flares. In the interest of creating a plan that is a resource instead of a burden, MAG selected natural hazards whose impact is significant according to the history of the region. Hazards were identified through input from city officials, researching past disasters and Geographic Information System (GIS) data. The table below indicates several hazards, their main source of information, and why each was selected or not selected for this Hazard Mitigation Plan.

Hazard	Map Availability	Reasons Selected	Sources
Flood	Yes	• Most Frequent Hazard • Historically Highest Cost • Readily available data • Successful Mitigation	FEMA Floodplain maps & HAZUS software
Wildland Fire	Yes	• Historic Data • Current Development Patterns Increase likelihood • Potential Loss of Life • 90% Human Caused	West Wide Wildfire Assessment, US Forest Service, Bureau of Land Management, Utah Division of Forestry, Fire & State Lands
Earthquake	Yes	• High Potential Impacts • Public Awareness • Need for Preparation • Possible High Cost	United States Geological Survey (USGS), University of Utah, HAZUS Provo-Orem Scenario
Drought	Daily maps available, but scale and variability are inappropriate for county-level maps.	• High Potential • Public Awareness • Historic Data • Current Condition • Growing Population Increases demands • Successful mitigation through planning	US Drought Monitor, Utah Division of Water Resources, National Integrated Drought Information System

Mass Movement (Landslide & Debris Flow)	Yes	• Review of Past Disasters • High Cost of Homes in Areas at Risk • Often Triggered by Other Hazards	Utah Geological Survey
Avalanche	Coordinates Available	• Public Awareness • Relatively High Death Count in Every County	National Oceanographic and Atmospheric Administration (NOAA), Utah Avalanche Center
Severe Weather	Scale and variability are inappropriate for county-level maps.	• High Frequency • Public Awareness • Successful Mitigation • Historic Data	National Oceanographic and Atmospheric Administration (NOAA)
Dam Failure	Yes	• High Potential Impacts • Public Awareness • Need for Preparation • Possible High Cost	Utah Division of Water Rights, Army Corps of Engineers
Infestation	Yes	• Historic Data • Public Awareness • State Database	Utah Extension Office, US Department of Agriculture
Radon Gas	Yes, but varies greatly	• Public Awareness • Second Leading Cause of Cancer	Utah Department of Air Quality
Air Quality and Climate Change	Yet, but not appropriate at a city level	• High profile • Air Quality affects all residents	Kem C Gardner Policy Institute
Tornado	Coordinates available	• Historic Data • Because there is nothing above an F1 (up to 112 mph winds), only cursory information provided • Weather events often unsuitable for mapping due to large geographic extent	National Oceanographic and Atmospheric Administration (NOAA)
Volcano	Yes	NOT SELECTED FOR ANALYSIS • No eruptions in Mountainland counties in written history • Little mitigation possible for Super volcano eruptions such as Yellowstone	United States Geological Survey (USGS)
Terrorism	No	NOT SELECTED FOR ANALYSIS • Not suitable for this Plan, which will be public knowledge • Cities, Police Departments, and Emergency Managers have independent plans with specific objectives	Utah Department of Public Safety

Infectious Disease	No	NOT SELECTED FOR ANALYSIS • Not a Natural (non-human cause) Hazard • City Emergency Managers have independent plans	Center for Disease Control (CDC)
Hazardous Material Spill	No	NOT SELECTED FOR ANALYSIS • Not a Natural (non-human cause) Hazard • City Emergency Managers have independent plans	City and County Emergency Managers
Solar Flare	No	NOT SELECTED FOR ANALYSIS • Little prevention/ pre-disaster mitigation possible other than education • More appropriate for Disaster Response	National Oceanographic and Atmospheric Administration (NOAA) Space Weather Prediction Center

Links to GIS Data used in this Plan

Data Type	Original Layer	SOURCE	LINK	DATE ACCESSED/ CREATED
Natural Hazards				
Wildfire Area	BLM Utah Fire Perimeter (Polygons)	BLM, 2018	https://www.blm.gov/basic/programs-gis-utah-data-management-fire	12/1/2019
Wildfire Locations	Wildfire History 1980-2016 (Points)	Federal Wildland Fire Occurrence Data, USGS	https://wildfire.cr.usgs.gov/firehistory/data.html	12/1/2019
Wildfire Potential	Wildfire Potential	USFS, 2018	https://www.fs.usda.gov/rds/archive/catalog/RDS-2015-0046-2	7/7/1905
Liquefaction Potential	Utah State University 1994 Study	Liquefaction Potential Map for Central Utah Complete Technical Report, UGS, 1994	https://digitallibrary.utah.gov/awweb/main.jsp?flag=collection&smd=1&cl=all_lib&lb_document_id=37305&tm=1558538200102	12/1/2019
Dams	Dams	Utah Division of Water Resources, 2017	https://drive.google.com/drive/folders/0BySt|jVZ7c7mNmZwYjN4ZFZpaFE	12/1/2019
Earthquake Epicenter	Earthquake Locations 1850-2018	University of Utah	http://quake.utah.edu/regional-info/earthquake-catalogs	12/31/2019
Dam Inundation	Dams	Utah Division of Water Rights	https://opendata.gis.utah.gov/datasets/utahDNR::daminundation	
Faults	Quaternary Faults	UGS, 2019	https://gis.utah.gov/data/geoscience/quaternary-faults/	3/2/2020

Landslide Susceptibility	Landslide Susceptibility	UGS, 2007	https://geology.utah.gov/hazards/info/maps/#tab-id-6	3/2/2020
Jordanelle Dam Failure	US Geological Survey 1991	UGS, 1991		
Facilities and Infrastructure				
Airports	Airports	Utah AGRC, 2018	https://gis.utah.gov/data/transportation/air/	12/14/2018
Bridges	UDOT Structures	UDOT, 2018	https://data-uplan.opendata.arcgis.com/datasets/f128fb58ce9f4e68bb06b27d46572109_0	12/14/2018
Culverts	UDOT Structures	UDOT, 2018	https://data-uplan.opendata.arcgis.com/datasets/f128fb58ce9f4e68bb06b27d46572109_0	12/14/2018
Electrical Transmission Lines	Electrical Transmission Lines	HIFLD, 2018	https://hifld-geoplatform.opendata.arcgis.com/datasets/electric-power-transmission-lines	5/2/2018
EMS Faculties	EMS	Utah AGRC, 2013	https://gis.utah.gov/data/health/health-care-facilities/	12/14/2018
Emergency Operations Center (EOC)	Local Emergency Operations Centers	HIFLD, 2018	https://hifld-geoplatform.opendata.arcgis.com/datasets/local-emergency-operations-centers-eoc	5/16/2019
Emergency Site	National Shelter System Facilities	HIFLD, 2018	https://hifld-geoplatform.opendata.arcgis.com/datasets/national-shelter-system-facilities	5/16/2019
Fire Stations	Fire Stations	Utah AGRC, 2013	https://gis.utah.gov/data/society/public-safety/	12/14/2018
Health Care Facilities	Health Care Facilities	Utah AGRC, 2017	https://gis.utah.gov/data/health/health-care-facilities/	12/14/2018
Interstate	Roads	Utah AGRC, 2019	https://gis.utah.gov/data/transportation/roads-system/	5/3/2019
Law Enforcement Station	Law Enforcement	Utah AGRC, 2013	https://gis.utah.gov/data/society/public-safety/	12/14/2018
Major Local Road	Roads	Utah AGRC, 2019	https://gis.utah.gov/data/transportation/roads-system/	5/3/2019
Railroad	Railroads	Utah AGRC, 2017	https://gis.utah.gov/data/transportation/railroads/	5/17/2019

Schools	Schools	Utah AGRC, 2017	https://gis.utah.gov/data/society/schools-libraries/	12/14/2018
Underpass	UDOT Structures	UDOT, 2018	https://data-uplan.opendata.arcgis.com/datasets/f128fb58ce9f4e68bb06b27d46572109_0	12/14/2018

MAG collected data and compiled research on nine hazards: dam failure, earthquake, infestation, flooding, landslide, severe weather, drought, and wildfire. Research materials came from a variety of agencies including DES, AGRC, USGS, USACE, UGS, UFFSL, county GIS, city GIS, County Assessors, and County Emergency Managers. Historical data used to define historic disasters was researched through local newspapers, interviewing staff, local knowledge derived through committee meetings, historic state publications, Utah Museum of Natural History, and recent and historic scientific documents and studies.

Vulnerability Methodology

Geographic Information Systems (GIS) were used as the basic analysis tool to complete the hazard analysis for this plan. The goal of the vulnerability study is to estimate the number of structures and infrastructure vulnerable to each hazard and assign a dollar value to this built environment. For most hazards a comparison was made between digital hazard data and the Regional Inventory.

Regional Inventory

In order to determine the possible extent of damage caused by potential events, a regional inventory was developed. This regional inventory is a compilation of residential, commercial, and critical facilities, their locations and their values. In addition, future development was identified and included in the analysis using general plans and demographic projections.

Residential and Commercial Buildings- Parcel, assessor, and building permit data from each of the three counties were analyzed and added to determine current numbers, locations, and values of housing units.

Critical Facilities* – GIS data, local knowledge and parcel data were used to identify Critical Facilities within the region. Critical Facilities for the purpose of this plan are defined as Schools, Fire, Police, Hospitals, and Emergency Operation Centers.

*It was determined by the planning committee that critical infrastructure facilities such as water, sewer and power structures be left out of this plan in order to minimize their vulnerability to outside threats (terrorism). Most of the jurisdictions have been advised by security experts to limit the public exposure of these facilities. Since MAG often shares data, it did not offer to do any analysis that would require housing sensitive data on its servers.

All the analysis takes place within the spatial context of a GIS. With the information available in spatial form, it is a simple task to overlay the natural hazards with the regional inventory to extract the desired information. However, some of the hazards identified are not isolated to specific locations within the region or spatial data is unavailable and are therefore discussed at a regional level.

In terms of hazard mapping presentation in this document, simple, letter size maps were created for each city to provide a graphical illustration of location. Larger maps can be plotted out upon request. A web-based data manipulation and maps application was also created as a planning tool, to allow interested persons within Utah, Wasatch and Summit Counties in Utah select a certain jurisdiction and view the various hazards on maps as well as the assessment data. The application has been available on the Mountainland AOG Website since the creation of the data.

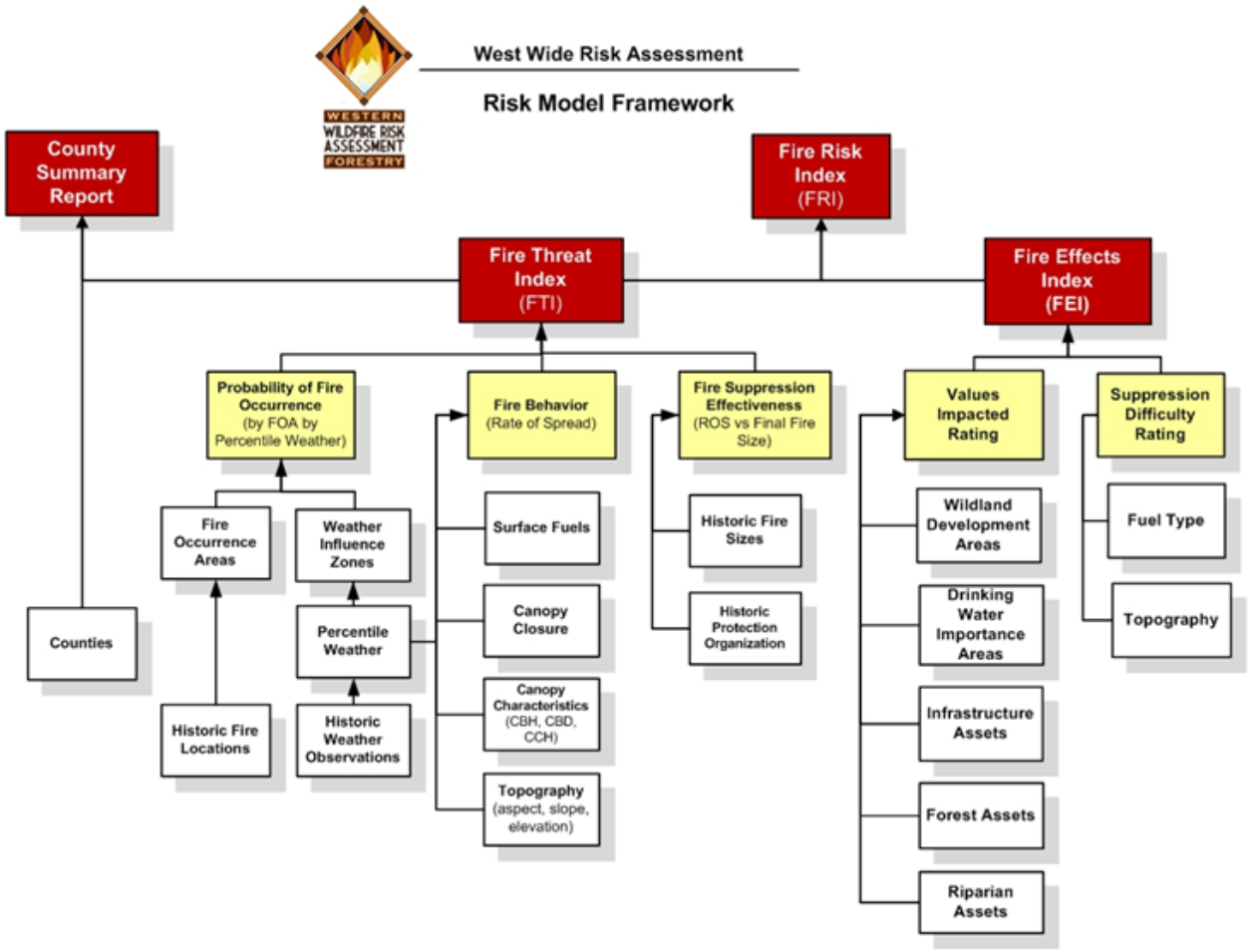
This information should not take the place of accurate field verified mapping from which ordinances need to be based off of. Owners of critical facilities should, and in most cases do, have detailed pre-hazard mitigation plans for their specific facilities.

Processing Hazard Layers

Fire

The Bureau of Land Management and Forest Service provided locations, both area and point, of historic fires from 1918-2014. All variations of the data since the 2014 analysis have used the 2014 baseline conditions (vegetation, elevation, etc.). The Fire Threat Index was created by an in-depth assessment by the Council of Western State Foresters and the Western Forestry Leadership Coalition. It is derived from the Fire Threat Index (likelihood of an acre burning) and the Fire Effects Index (potential losses). The online map shows the fine Fire Risk Index, combining both Fire Effects (potential losses) and Fire Threat (likelihood of an acre burning). When determining the buildings at risk, however, only the Fire Threat Index was used in

order to focus on the assets the city is responsible for and not those of the Forest Service, BLM, gas company, etc.



The categories for the Fire Indices are relative to the risk and effects in each county. Being an index, the final numbers do not represent a concrete value but are rather used to categorize the land into percentages of risk, as seen in the table following.

Fire Index Breakdown

	Category	% Range	Cat. %	
	1	0 – 32.9%	32.9%	
	2	33.0 - 63.5%	30.5%	Lowest 70%
	3	63.5% -70.0%	6.5%	
	4	70.0 - 77.5%	7.5%	

	5	77.5 - 85.5%	8.0%
	6	85.5 - 92.5%	7.0%
	7	92.5 - 96.5%	4.0%
	8	96.5 - 98.5%	2.0%
	9	98.5 - 100.0%	1.5%

Highest 30% used to determine at risk buildings

The findings of any calculation using the Fire Risk Index at a home-by-home scale are not to be used in creating a plan for that individual home. The Fire Indices have a 30-meter resolution best suited for local plans, not household ones.

These are the steps we took to manipulate the data to our needs.
Using the Fire Threat Index and Fire Risk Index
1) Import Utah-specific symbology from WWA, and apply it to classified values.
2) Using the Reclassify Raster tool, change the index values to values 1-9
3) Use the Raster to Polygon tool in order to overlay the data on the regional inventory to produce loss estimates
4) For better map display, use a low-pass filter to eliminate salt-and-pepper

Flood

MAG used FEMA's FIRMS, many of which have been updated since the 2017 plan, to determine areas at risk. As with other hazards, MAG intersected the 1% annual chance floodplain shapefiles downloaded from FEMA with building values to create a risk estimate.

Dams

The U.S. Army Corps of Engineers provided dam information for all Federal dams in Summit, Utah and Wasatch counties. Utah Division of Water Rights includes a Dam Inventory consisting of dam points, hazard level, first downstream town, and notes from the latest inspections. Utah Division of Water Rights also has shapefiles of some dam inundation extents. Both were used wherever possible. Jordanelle and Deer Creek dam failure extents come from a 1994 study by the Bureau of Reclamation. There exist 2012 maps showing extent and depth, but these are carefully kept by the Bureau of Reclamation for safety purposes. The BoR is reviewing its sharing policies and MAG hopes to use more recent data in the next plan update.

The primary purpose of the inundation maps is for warning and evacuation in the event of a dam failure or a large reservoir release. Values chosen to approximate physical characteristics such as dam failure breach parameters, channel roughness coefficients, etc., are based on assumptions and are used to produce best estimates of the downstream inundation. Thus, actual inundation, were it to occur, could be greater or less than that indicated on the inundation maps.

Deer Creek/Jordanelle Dam Study

For this study, the results of the one-dimensional National Weather Service (NWS) DAMBRK model performed by the Denver Office was used to obtain the dam break flows from both Jordanelle Dam to Deer Creek Dam and from Deer Creek Dam to the mouth of Provo Canyon. However, the terrain beyond the mouth of Provo canyon is an alluvial fan, which unlike the narrow, confined canyon, is a broad, flat plain. A two-dimensional model is more appropriate for this type of terrain. It provides a more accurate depiction of the topography and allows for the water to spread and follow multiple drainage paths. The modeling tools used for the Orem/Provo areas utilized the Danish Hydraulic Institute's MIKE 21 two-dimensional hydrodynamic flow model. MIKE 21 is a 2-D finite difference model that simulates unsteady 2-D flows in (vertically homogeneous) fluids using the Saint Venant equations. ARCINFO GIS software is used as both a pre and post processor for the MIKE 21 model. Data used for the Deer Creek Dam models came from 7.5 minute, 10-meter resolution, digital elevation models (DEM) prepared by Land Info Inc., of Aurora, Colorado. The 10-meter data was then resampled at 30-meter cell size for use in the MIKE 21 models. The 10-meter elevation data appeared to be satisfactory for this study however for a more detailed study of the metropolitan area a better resolution of elevation data is recommended.

Landslides

All counties include a simple landslide-susceptibility map consisting of all slopes 30% and over. Additional datasets from the Utah Geological Survey show areas of past landslides, debris flow, and alluvial-fan deposition in the Holocene epoch (everything since Earth's last "ice age"). As with other hazard methodologies, the simple and effective spatial methodology was to overlay these data sets with the regional inventory within GIS to produce loss estimates.

Earthquake

Building construction seems to be the biggest factor in whether or not a building is destroyed during an earthquake. Since builders were not aware of earthquakes along the Wasatch Front until the 1970s and appropriate codes were not fully implemented until about 1990, we determined $ building losses by calculating the building values (improvement values) for all buildings constructed before 1990. HAZUS model runs from the state aggregate at county, not city, level.

Building Analysis Methodology

Each county provided parcel data with building and tax information. Parcels were determined to be either Residential, Commercial, Industrial, Educational, Public, Religious, or Null (parcels without buildings). Next, a manual sampling comparing satellite data was performed to find areas of misclassification. Not every parcel was checked because going through tens of thousands of parcels was not feasible for this project.

After checking for accuracy, the parcel polygons were converted to points. I then looked at the parcel points (heretofore called building points) with the hazard layers and moved building points on the edges of any hazard to the buildings which they represented while editing any points I found to be in error (i.e.: an agricultural building misclassified as residential). At this point I was confident that most building points were classified correctly and located with their respective hazard areas.

Identifying Buildings at Risk

To determine the number of buildings at risk, MAG selected all buildings within a city's boundary then intersected those with each hazard. MAG ran a report for each city's hazard with the improvement value of the parcel, aka the building value without the land, and the acreage, meaning the acreage of the parcel on which the at-risk building sets. Some hazards were straightforward, but others required a categorical intersection with the building points.

Central Utah Water Conservancy District

Potential Losses Methodology

The potential losses to CUWCD and its customers from a natural hazard event were determined for each of the critical facilities/assets using predicted damage states. The two components used to account for the potential loss at each facility were: 1) estimated physical damage to CUWCD assets, 2) estimated loss of water service function.

The baseline damage state for each facility/asset was determined from the identified risks/hazards in the 'Potential Economic Loss Hazards Events (2021)' table. The table below provides a summary of the general damage state definitions and associated expected damage and range of estimated physical loss values.

General Damage State Definitions

Damage State	**Expected Damage**	**Estimated Loss**
None	No damage	0%
Light	Architectural damage, light and easily repairable; minimal disruption of use; meets Immediate Occupancy performance criteria	5%
Light-Moderate	Limited damage with some localized structural damage potentially leading to short-term business/operational interruption	15%
Moderate	Substantial structural damage, but with minimal potential for localized collapse; structure likely to be closed/inoperable until critical repairs are completed; meets Life Safety performance criteria	30%
Moderate-Severe	Severe structural damage, possibly including partial collapse and critical economic loss; structure likely to be closed/inoperable for an extended period	50%
Severe	Severe structural damage leading to partial or total structural collapse and major economic loss; repair may not be feasible or economically reasonable	70%
Complete	Catastrophic damage and complete loss or failure	100%

Avoided loss-of-function impacts (i.e., economic impacts of loss of water service) were determined in accordance with the FEMA BCA standard utility loss of service values and Sections 6.3 and 6.4.2 of FEMA's *What is a Benefit? (2001)* document. The economic impacts of loss of water service are estimated based on three levels of loss of service: 1) complete loss of potable water service, 2) potable water service that is 'unsafe for drinking', and 3) complete loss of secondary water service.

Part 11 Appendix

Contacts and Participation

Position	Name	Phone	Email	Small Meeting	Group Meeting
Summit County Emergency Manager	Kathryn McMullin	801-718-4628	kmcmullin@summitcounty.org		Yes
Summit County Planner	Ray Milliner	435-336-3118	rmilliner@summitcounty.org	18 August	
Park City Fire District Marshal	Mike Owens	435-940-2520	mowens@pcfd.org	March 9 2022	
Summit Co Public Works	Derrick Radke	435-336-3970	dradke@summitcounty.org		Yes
Summit Co Manager's Office	Janna Young				Yes
Summit Co	Glenn Wright				Yes
Summit Co Environmental Health	Spencer Smith				Yes
Henefer Planner	Robert Richins	435-336-5365	henefertown@allwest.net		
Henefer Mayor	Kay Richins	801.599.8003	henefermayor@gmail.com	Aug 11	
Park City Emergency Manager	Mike McComb	(435) 615-5185	mike.mccomb@parkcity.org	March 9 2022	
Coalville Mayor	Trevor Johnson	435-336-5981	mayor@coalvillecity.org		
Coalville	Niki Sargent	435.659.6941	niki.sargent@coalvillecity.org		
Coalville Public Works	Zane Deweese	435-336-5980	zane.deweese@coalvillecity.org		
Coalville Public Works	Kyle Clark			Oct 28	Yes
Coalville Wastewater Treatment	Sam Adams			Oct 28	Yes
Oakley		435-783-5734	oakley@oakleycity.com		
Oakley Planner	Stephanie		stephanie@oakleycity.com		
Oakley	Amy Rydalch		amy@oakleycity.com	Aug 16?	
Oakley City	Kelly Kimber		kelly@oakleycity.com		Yes
Francis/Kamas	Scott Kettle	435-654-2226	skettle@horrocks.com	June 14	Yes

		cell: 801-360-9735			
Francis Public Works		435-783-6236	lthomas@francisutah.org	June 14	
Francis Planner	Katie Henneuse	435-783-6236	khenneuse@francisutah.org	June 14	Yes
WUI Coordinator	Travis Wright	385-505-4030	tdwright@utah.gov		
Park City Fire District	Ashley Lewis	(435) 940-2503	alewis@pcfd.org		Yes
North Summit Fire District	Ian Nelson				Yes
FFSL /County Fire Warden	Bryce Boyer				Yes
N Summit School District	Kristy		kbraithwaite@nsummit.org		
S Summit School District	Kip Bigelow		kbigelow@ssummit.org	19 July	Yes
S Summit School District	Kathy Carr		kathy.carr@ssummit.org	19 July	Yes
S Summit School District Superintendent	Greg Maughan		greg.maughan@ssummit.org		

Utah County Contacts for Hazard Mitigation Plan					
Position	**Name**	**Phone**	**Email**	**Small Meeting**	**Group Meeting**
Northern					
Mayor Cedar Fort	David Gustin	801.768.2147	mayor@cedarfort.town	12/17/2020	
Alpine	Shane Sorensen	801-420-2962	ssorensen@alpinecity.org	6/17/2021	Yes
Saratoga Fire	Spencer Kyle	801-766-9793	skyle@saratogaspringscity.com		
Saratoga Planning	David Stroud	801.766.9793x4	dstroud@saratogaspringscity.com		
Saratoga Springs Engineer		801-766-9793x5			
Lehi Engineering	Ross		rdinsdale@lehi-ut.gov	7/7/2021	

Lehi Planning	Kim Struthers	385-201-2521	kstruthers@lehi-ut.gov	7/7/2021	Yes
Lehi Emergency Management Committee director	Scott DaBell		sdabell@lehi-ut.gov	7/7/2021	Yes
Lehi Emergency Management Committee director	Scott Sampson	385-201-2268	ssampson@lehi-ut.gov	7/7/2021	Yes
Lehi Planning	Mike West			7/7/2021	Yes
Lehi Environmental Sustainability	Todd Munger		tmenger@lehi-ut.gov		Yes
Lehi Planning				7/26/2021	
Lehi City Council	Paige Albrecht				Yes
Cedar Hills Emergency Manager	Laurie Petersen	801-785-9668 x104	lpetersen@cedarhills.org		
Cedar Hills City Manager	Chandler Goodwin		cgoodwin@cedarhills.org	6/14/2021	
Cedar Hills/AF Fire	Aaron Brems	801-763-3045	abrems@americanfork.gov	6/14/2021	
Cedar Hills City Council	Mike Geddes		mgeddes@cedarhills.org		
American Fork Public Works/Engineer	Ben Hunter	801.854.5930	bhunter@afcity.net	6/14/2021	
American Fork Engineer	Scott Sensanbaugher	801-763-3060	ssensanbaugher@afcity.net	6/14/2021	Yes
Fairfield	Chianne Barnson	435-231-4027	chybarnson_fairfieldtown@yahoo.com		
Fairfield Mayor	Brad Gurney	801-874-8386	mayor@fairfieldtown.org	12/17/2020	

Eagle Mountain Primary	Jeff Weber		JWeber@emcity.org	6/22/2021	Yes
Eagle Mountain	Greg Stone		gstone@emcity.org	6/22/2021	Yes
Eagle Mountain Fire Chief	Embret Fossum		efossum@UFA-SLCO.org	6/22/2021	
Eagle Mountain Engineer	Chris Trusty		ctrusty@emcity.org		Yes
Eagle Mountain Planning	Tayler Jensen	(801) 789-6615	tjensen@emcity.org		
Highland Planning	Nathan Crane	801-756-5751x3	ncrane@highlandcity.org	6/17/2021	
Highland Planning	Joann		joann@highlandcity.org		
Highland Planning	Erin Wells	801-772-4566	erin@highlandcity.org		
Highland Finance Director	Tyler Bahr			6/17/2021	
Highland Mayor	Rod Mann				Yes
Central					
Orem Engineer	Sam Kelly	801-229-7328	srkelly@orem.org	6/22/2021	
Orem Emergency Manager	Heath Stevenson	801-229-7146	hmstevenson@orem.org	6/22/2021	Yes
Provo EM	Chris Blinzinger	801-404-6368	cblinzinger@provo.org	6/10/2021	Yes
Provo Stormwater Engineer	Jared Penrod		jpenrod@provo.org	6/10/2021	Yes
Provo Airport	Donavon Cheff				Yes
Provo	Melissa McNalley		MMcNalley@provo.utah.gov	6/10/2021	
Provo Planner	Robert Mills	801-852-6407	rmills@provo.org	6/10/2021	Yes
Lindon Administration (secondary)	Adam Cowie	801-785-5043	acowie@lindoncity.org	6/15/2021	Yes

Lindon Emergency Manager (primary)	Kelly Johnson		kjohnson@lindoncity.org	6/15/2021	Yes
Vineyard	George Reid		Georger@vineyardutah.org	6/7/2021	Yes
Vineyard Public Works	McDermott, Kinsli	801-226-1929	kinslim@vineyardutah.org		
Vineyard Planner	Morgan Brimm	385-248-7029	morganb@vineyardutah.org		
Vineyard Planner	Briam Perez	385-329-1730	briamp@vineyardutah.org	6/7/2021	
Vineyard Engineer	Nassim			6/7/2021	Yes
Spanish Fork Economic Development	Dave Anderson	801-804-4586	danderson@spanishfork.org	6/9/2021	Yes
Spanish Fork Public Works	Chris Thompson	801-804-4556	cthompson@spanishfork.org		
Spanish Fork Public Works	Marlo		msmith@spanishfork.org	6/9/2021	
Spanish Fork Emergency Manager	Trevor Sperry	801.804.4768	tsperry@spanishfork.org	6/9/2021	
Spanish Fork	Jered Johnson	801-804-4575	jjohnson@spanishfork.org		
Spanish Fork Floodplain Engineer	John Little		jlittle@spanishfork.org		
Spanish Fork	Travis Warren			6/9/2021	Yes
Mapleton Planner	Brian Tucker	801-806-9108	btucker@mapleton.org	6/30/2021	Yes
Mapleton Ready	Derek Haynie	(801) 491-1111	derek@mapletonready.org		
Mapleton Public Works	Steven Lord	(801) 489-6253	slord@mapleton.org	6/30/2021	
Springville Engineer	Jeff Anderson	801-491-2719	janderson@springville.org	6/30/2021	

Springville emergency prep mtgs			EM@springville.org		
Springville Planner	Laura Thompson		lthompson@springville.org		
Springville Head Building Official-secondary	Jason Van Ausdal	801-491-7832	JVanausdal@springville.org		
Springville EM	JoAnna Larsen	801-635-5776	em@springville.org		Yes
Pleasant Grove Community Development	Daniel Cardenas		dcardenas@pgcity.org		
PG Engineering	Marty Beaumont	801-785-2941	mbeaumont@pgcity.org		Yes
PG Fire Chief	Andrew Engermann		aEngemann@pgcity.org		
PG Engineering	Aaron Wilson		awilson@pgcity.org	6/15/2021	Yes
Southern					
Goshen	Steven Staheli		goshentown@gmail.com	6/9/2021	
Salem	Bruce Ward		brucew@salemcity.org		
Salem	Greg Gurney		ggurney@salemcity.org		Yes
Payson City Fire Chief	Scott Spencer	801-465-5252	scotts@payson.org	6/14/2021	
Payson Facilities Manager	Steve Spencer	801.404.6473		6/14/2021	
Payson Planner	Jill Spencer	801-465-5233	jills@payson.org	6/14/2021	Yes
Payson Public Works/Engineer	Travis Jockumsen		travisj@payson.org	6/14/2021	Yes

Santaquin	Jason Bond	801-754-1011 ex 223	jbond@santaquin.org	7/26/2021	Yes
Santaquin EM	Chris Lindquist	(801)754-1940	clindquist@santaquin.org	7/26/2021	Yes
Santaquin Fire Chief	Ryan Lind	(801)754-1940		7/26/2021	
Santaquin Engineer	Jason Lidet			7/26/2021	
Santaquin Engineer	Norm Beagley			7/26/2021	Yes
Santaquin	Jon Lundell				Yes
Genola	Chris Steele	801-754-5300	gcpw@rfburst.com		
Genola Planning & Zoning			genolapz@gmail.com		
Genola Town Clerk	Lucinda Daily	801.754.5300	Genolaclerk@gmail.com	7/29/2021	Yes
Elk Ridge Public Works Director	David Gene	801.423.2300	davidj@elkridgecity.org		
Elk Ridge Fire Chief Primary	Seth Waite		firechief@elkridgecity.org		
Elk Ridge City Manager	Royce		royce@elkridgecity.org	7/8/2021	
Woodland Hills	Corbett Stephens	801-857-0788	works@woodlandhills-ut.gov	7/8/2021	
Woodland Hills	Jodie Stones	801-423-1962	recorder@woodlandhills-ut.gov		
	Greg Northup		fire@woodlandhills-ut.gov		
Others					
WUI Coordinator	Dax Reid	801-678-1655	daxreid@utah.gov	6/30/2021	Yes
Utah County Fire Warden FFSL	Josh Berg	385-254-8010	jberg@utah.gov	6/30/2021	
County Commissioner	Bill Lee		WilliamL@utahcounty.gov		

	Thomas SAKIEVICH		Thomas@utahcounty.gov		
			AmeliaP@utahcounty.gov		
Health Dept Emergency Response Coordinator	Ryan Strabel	801.851.7525	ryanst@utahcounty.gov	6/30/2021	
BOR	Dale		dthamilton@usbr.gov		
CUWCD	Mike Whimpey		mwhimpey@cuwcd.com		
Alpine School District	Frank Pulley		frankpulleyjr@alpinedistrict.org		
	Kimberly Bird		kbird@alpinedistrict.org		
	Mike Browning		mbrowning@alpinedistrict.org		
Nebo Risk Management	Kathy Carling	801-354-7474	kathy.carling@nebo.edu	7/20/2021	
Utah Co. Emergency Manager	Peter Quittner	801-404-6050	peterq@utahcounty.gov	6/30/2021	
Utah County Emergency management	Allison Jester/Janeen Olson		AllisonJ@utahcounty.gov	6/30/2021	
Provo Airport	Heather	8018526715	hrollins@provo.org		
Utah County Emergency Management			ryanst@utahcounty.gov		
Utah County Temporary employees	Emily, Lindsey, James			6/30/2021	

Provo School District Facilities Director	Mark Wheeler	801-374-4923			
MAG's TAC				Presented 7/26/2021	
Utah County Emergency Manager Monthly Meeting				Presented 10/26/2021	
Central Utah Water Conservancy District	Mike Whimpey		mwhimpey@cuwcd.com		
CUWCD	Blake Buehler	801.226.7133	blake@cuwcd.com	12/8/2021	
CUWCD	Chris Elison			12/8/2021	
CUWCD	Cort Lambson			12/8/2021	
CUWCD	KC Shaw			12/8/2021	

Wasatch Contacts for Hazard Mitigation Plan						
Position	**Name**	**Phone**	**Email**		**1st Small Mtgs**	**Draft Presentation Oct 13**
Central Utah Water Conservancy District	Derek Burton		derek@cuwcd.com	5 May email		13 Oct
Central Utah Water GIS	David Pritchett		dave@cuwcd.com	5 May email		

Charleston Mayor	Brenda Kozlowski		mayorkozlowski@gmail.com	5 May email	8/25/2021	
CUWCD	Roger Pearson					13 Oct
Daniel	Eric Bunker	435-647-6086	ericbunker@danielutah.org	5 May email	7/7/2021	
Daniel Councilmember	Mary Duggin					13 Oct
FEMA	Daniel Webb					13 Oct
Heber City	Brad Mumford		bmumford@heberut.gov	5 May email		
Heber City Administrator	Matt Brower					13 Oct
Heber City EM	Lt. Jeremy Nelson	435-657-7915	jnelson@heberut.gov	5 May email	6/15/2021	
Heber City Mayor	Keleen Potter					13 Oct
Heber City Planner	Jamie Baron	435-657-7914	jbaron@heberut.gov	5 May email	6/15/2021	13 Oct
Heber City Planning Director	Tony Kohler	435-657-7900	tkohler@heberut.gov	5 May email		13 Oct
Hideout	Jamie?		jmccosh@hideoututah.gov	5 May email		
Hideout	Lynnette Shindurling	435-659-4739	alutes@hideoututah.gov	12 May email	8/4/2021	
Independence	Jodi Hoffman		jhoffman@xmission.com	5 May email		
Independence	Lauren Boldger		independenceut@gmail.com	5 May email	8/25/2021	13 Oct
Interlaken Clerk	Bart Smith	206-851-2053	interlakenclerk@gmail.com	5 May email	8/27/2021	

Interlaken Engineer			APays@TO-Engineers.com	5 May email		
Interlaken Mayor	Greg Harrigan	435-714-0909	interlaken.mayor@gmail.com	5 May email	8/27/2021	
Midway	Michael Henke	435-654-3223 x4	mhenke@midwaycityut.org	5 May email	7/7/2021	
Midway Councilmember	Luke Robinson					13 Oct
Midway Councilmember	Steve Dougherty					13 Oct
Wallsburg	Rylee Allen		rylee_b@hotmail.com	5 May email		
Wallsburg	Celeni Richins	435-654-8608	celenirichins@gmail.com	5 May email	8/23/2021	
Wasatch Co GIS	Ivan Spencer	435-657-3194	ispencer@wasatch.utah.gov	5 May email	6/15/2021	
Wasatch County	Lewis Hastings	435-657-3262	lhastings@wasatch.utah.gov	5 May email		13 Oct
Wasatch County Councilmember	Kendall Crittenden					13 Oct
Wasatch County Emergency Manager	Jeremy Hales	(435) 657-3544	EM@wasatch.utah.gov	5 May email	6/15/2021	
Wasatch County School District	Shawn Kelly	435.654.0280	shawn.kelly@wasatch.edu	July 13 call		
Wasatch County Sheriff's Office	Jeremy Hales	435-657-1098	jhales@wasatch.utah.gov	5 May email		
WUI Coordinator	Travis Wright	385-505-4030	tdwright@utah.gov	5 May email		

Other Contacts	Name	Cell	Email	Emailed all in Nov '19	Type of Involvement
State Mitigation Specialist	Eric Martineau	801-946-4022	emartineau@utah.gov		
Central Utah Water Conservancy District	Mike Whimpey		mwhimpey@cuwcd.com	Sep 27 email	Hosted Central Utah County Mitigation meeting
Wasatch County Fire District		435-940-9636	admin@wasatchcountyfiredistrict.com		
North Utah County Water Conservancy District	John Jacobs	801-756-7039	john.nucwcd@gmail.com		
Weber Basin Water Conservancy District	Sherrie Mobley	801-771-1677	smobley@weberbasin.com		
Kamas Valley Conservation District	Wendell Stembridge	435-783-2595			
FFSL- Wasatch & Summit	Ken Ludwig		kenludwig@utah.gov		
Roads	Richard Nielsen	801-851-8601	richardjn@utahcounty.gov		
Utah Floodplains Manager (previous)	Kathy Holder	801-538-3332	kcholder@utah.gov		
Utah Floodplains Manager (current)	Angelia Crowther		acrowther@utah.gov		Provided NFIP and other floodplain information
Alpine School District Risk Manager	Kim Walker	801-610-8085	kwalker@alpinedistrict.org		
Nebo School District Risk Manager	Kathy Carling	801.354.7433	kathy.carling@nebo.edu		
Provo School District Facilities Director	Mark Wheeler	801-374-4923	markwh@provo.edu	5 May email	

Park City Fire District	Ashley Lewis				Attended Summit County Draft Presentation Meeting
Wasatch School District	Jill	435-654-0280			
Duchesne County Emergency Manager	Mike Lefler	435-738-1184	mlefler@duchesne.utah.gov		
Tooele County Emergency Management	Bucky Whitehouse	435-833-8100	bwhitehouse@tcem.org		
Salt Lake County Emergency Services		385-468-7092	emergencyserv@slco.org		
Morgan County Emergency Services	Ian Nelson	801-845-4048	Inelson@morgan-county.net		
Juab Planning & Zoning		435-623-3400	glenng@co.juab.ut.us		
Uinta Wyoming Emergency Management	Kim West	307-783-0327			
Sweetwater Wyoming Emergency Management	Judy Roderick	307-922-5370	roderickj@sweet.wy.us		
Sanpete/ Central Utah Public Health Emergency Response	Zacharia Kearney		ZKearney@utah.gov		
Provo Airport		8018526715		4 June phone message	Joined Provo's small group meeting
Rocky Mountain Power Electric Safety			publicsafety@rockymountainpower.net	4 June email	Spoke at Utah County Emergency Manager's Meeting

RMP Tree Pruning			vegetationmgmtpaccor@pacificorp.com	4 June email	
UTA Emergency Manager		8017433882	Sheldon Shaw	4 June phone message	
Chief Mecham	801-743-7103				
Captain Keith Bevan	801-743-7143				
Structural Engineers Association of Utah			Dallin.Pedersen@bhbengineers.com		Presented at Springville Contractor meeting on Seismically Sound Buildings
Structural Engineers Association of Utah			Chris.Hofheins@bhbengineers.com		Presented at Springville Contractor meeting on Seismically Sound Buildings
FEMA Mitigation Specialist-Field Integration Team	(303) 513-4415 (cell)		brandon.webb2@fema.dhs.gov		Spoke at Draft Luncheons
UVU Risk Management					Attended Utah County Emergency Manager's Meeting
BYU Risk Management					Attended Utah County Emergency Manager's Meeting

Code Examples

Air Quality

8.06.010 Purpose And Scope for Heber City

1. PURPOSE: In order to protect Heber City's citizens and their health, safety and welfare, this ordinance incorporates the Envision 2050 General Plan ideas on "Clean Air: Options for Residential and Business Land Uses" (pg. 32). It incorporates air quality solutions in the "Utah Roadmap: Positive Solutions on Climate and Air Quality" and "Utah Climate and Clean Air Compact" developed and adopted in 2020 for Utah. Heber City is known nationally and internationally for its incomparable mountain views with beautiful open space and agricultural vistas, its pristine environmental quality, and its clean air. Yet Heber City faces unique geographic features that lead to inversions, degraded air quality, other environmental concerns, as well as growth pressures. This ordinance will maintain the citizens' commitment to protecting the health of their families, school children, and protecting the quality of our natural environment. The Heber City Council will adopt an air quality slogan as desired. Initially the city slogan is: "I Care About Heber Air."
2. SCOPE: The City Manager and other administrators are responsible for establishing programs to implement this policy at their respective departments and locations. The City will establish an Energy Management Steering Committee to ensure best practices are evaluated and implemented for all City owned and operated facilities. Such Committee can develop annual Energy Management Plans for city departments and help administer this ordinance.

8.06.030 Anti-Idling

1. City anti-idling signage shall include the current city slogan. When businesses with drive-thru's or other idling/pick-up/delivery areas renew their annual business license such business will receive the initial set of anti-idling signage and install it in areas to be approved by the Planning Office, unless the private property owner:
    1. Has a private business posts a sign provided by or acceptable to the city informing its customers and the public of the city's time limit for idling vehicle engines.

2. Or already has anti-idling signage previously installed with current city slogan.

B. Drivers while operating a vehicle within city limits should not idle vehicles, except for the following kinds of idling:

1. Idling while stopped:

a. For an official traffic control device; b. For an official traffic control signal; c. At the direction of a police officer;

2. Idling as needed to operate heaters or air conditioners where the temperature is below thirty-two degrees Fahrenheit (32°F) or above ninety degrees Fahrenheit (90°F), as measured at the Heber City Airport or determined by the National Weather Service, for the health or safety of a driver or passenger, including service animals.

3. Idling for the minimum amount of time required for the operation of defrosters or other equipment to clear the windshield and windows to provide unobstructed views and ensure visibility while driving.

4. Idling as needed for emergency vehicles to operate equipment.

5. Idling as needed to ascertain that a vehicle is in safe operating condition and equipped as required by all provisions of law, and that all equipment is in good working order, either as part of the daily vehicle inspection, or as otherwise needed.

6. Idling as needed for testing, servicing, repairing, installation, maintenance, or diagnostic purposes.

7. Idling for the period recommended by the manufacturer to warm up or cool down a turbocharged heavy-duty vehicle.

8. Idling as needed to operate auxiliary equipment for which the vehicle was primarily designed or equipped, other than transporting goods, such as: operating a transportation refrigeration unit (TRU), lift, crane, pump, drill, hoist, ready mixed equipment, except a heater or air conditioner.

9. Idling as needed to operate a lift or other piece of equipment designed to ensure safe loading and uploading of goods or people.

10. Idling to recharge a battery or other energy storage unit of a hybrid electric vehicle.

11. Idling as needed for vehicles that house K-9 or other service animals.

12. Idling by on duty police officers as necessary for the performance of their official duties.

8.06.040 Open Wood Burning Stoves And Fireplaces

No open wood burning stoves or open wood burning fireplaces are allowed within new development. EPA certified wood burning stoves/devices, and wood burning,

natural gas, or propane fire pits & devices are allowed within residential, commercial, mixed-use, or industrial development.

8.06.050 Air Quality Monitoring

A. City or its designees will install and maintain IOT air monitors. City website will provide links to IOT air quality monitoring websites. Actual locations will be determined with collaboration between the Wasatch County Health Department and City.

8.06.060 Electric Vehicle Charging Stations

A. In annexation agreements, Master Development agreements, or zone changes the City Council may negotiate for EV-Ready Outlets or Level 1 chargers to be included in garages for condominiums, townhouses, duplexes, and single-family homes to allow for charging of hybrid and electric vehicles.

B. In annexation agreements, Master Development agreements, or zone changes the City Council may negotiate for Level 2 charging stations within mixed use or residential parking garages at a potential rate of 1 for every 8 units.

C. In annexation agreements, Master Development agreements, or zone changes the City Council may negotiate for two or more Level 2 charging stations for every 100 stalls. For park & ride or central transportation areas, the City may negotiate for Level 3 charging stations.

D. Minimum Parking Requirements. An electric vehicle charging station space may be included in the calculation for minimum required parking spaces that are required pursuant to other provisions of the code.

E. Location and Design Criteria.

Where provided, parking for electric vehicle charging purposes is required to include the following:

Clearance. Charging station equipment mounted on pedestals, light posts, bollards, or other devices shall be a minimum of twenty-four inches clear from the face of curb.

Charging Station Equipment. Charging station outlets and connector devices shall be no less than thirty-six inches or no higher than forty-eight inches from the top of surface where mounted, and shall contain a retraction device and/or a place to hang permanent cords and connectors sufficiently above the ground or paved surface.

Charging Station Equipment Protection. When the electric vehicle charging station space is perpendicular or at an angle to curb face and charging equipment, adequate equipment protection, such as wheel stops or concrete-filled steel bollards, shall be used.

Location. Placement of a single electric vehicle charging station is preferred at the beginning or end stall on a block face.

Signage. Each charging station space shall be posted with signage indicating the space is only for electric vehicle charging purposes. Days and hours of operations shall be included if time limits or tow away provisions are to be enforced. Signage shall include: A phone number or other contact information shall be provided on the charging station equipment for reporting when the equipment is not functioning, or other problems are encountered.

F. Location and Design Criteria.

Maintenance. Charging station equipment shall be maintained in all respects, including the functioning of the charging equipment. Damaged or unusable EV Chargers should be repaired as soon as possible.

Electricity Charges. When payment is required charging station owners should ensure that such payments can be made using an established national network with NFC (near-field communication technology) payments. For DC charging, in addition, the EVSE should provide a card reader to accept credit card payments. Actual EV charges should be comparable to average regional EV charges.

Accessibility. Where charging station equipment is provided within an adjacent pedestrian circulation area, such as a sidewalk or accessible route to the building entrance, the charging equipment shall be located so as not to interfere with accessibility requirements for sidewalks, trails, other parking stalls. In new development, the EV charging parking stalls will be next to handicapped parking stalls.

Lighting. Where charging station equipment is installed, adequate site lighting is required for use of charging station during nighttime hours per dark sky compliance standards.

8.06.070 Radon Air

The City encourages property owners to complete radon testing in all commercial, industrial, mixed-use, and residential development. The City also encourages radon mitigation design in all developments. The City and the Wasatch County Health

Department can provide radon mitigation design, radon risk maps and health facts, availability on radon test kits, and radon engineering guidelines to building permit applicants.

8.06.080 Fugitive Dust

City will require dust control measures for any development or other activity which includes the sifting of dirt or rocks, or any other nuisance or pollution dust-generating activities by requiring the use of daily watering using water trucks, tarping, fencing, etc. See City Code 8.04.030.17 & 17.38.080.I.

8.06.090 Other Air Quality Initiatives

A. The City can encourage new HOA CC&R's to use electric based landscaping and snow removal equipment instead of combustion-based engine equipment.

B. City can show business locations of Tier 3 (or higher) gasoline businesses on city website.

C. The City can promote the County Air Quality Website on city website and promote other information regarding air quality; such as smog ratings of vehicles, a city air quality toolbox, etc.

D. The City can identify and negotiate Park & ride lots for future mass transit & other transportation needs in future annexations or Master Development Agreements, etc.

E. The City can conduct emissions inventories to identify point sources of city vehicle, industry, and other area sources. The City can ensure City vehicles use Tier 3 or higher gasolines and create a Zero Emission Vehicle Program, thus lowering pollution emissions.

F. The City can set city goals to reduce city-generated CO2 emissions according to 2030 and 2050 goals in The Utah Roadmap standards, pg. 10.

G. The City can conduct energy audits for city buildings and set goals on how to make city buildings achieve 'net zero' ratings. The City can promote energy efficiency within development and redevelopments.

H. The City can allow solar farming on city buildings or city property or join interlocal or public/private partnerships for solar farming. The City can promote geothermal and solar options for city and citizen use.

I. The City can recognize business and private buildings within Heber City that meet or use energy efficient requirements, such as energy star, LEED requirements, etc.

The City can specifically negotiate for 'net zero' and/or LEED standards buildings in new development.

J. The City can encourage the use of evergreen trees and plants on private property because such trees and plants provide the highest filtration of particulates.

Flood Damage Prevention

FLOOD DAMAGE PREVENTION

Sections:

9.20.010 Findings of fact.

9.20.020 Purpose.

9.20.030 Methods for reducing flood losses.

9.20.040 Definitions.

9.20.050 General provisions.

9.20.060 Designation of the Public Works Director.

9.20.070 Duties and responsibilities of the Public Works Director.

9.20.080 Permit procedures.

9.20.090 Appeal procedure.

9.20.100 Variance procedure.

9.20.110 General standards.

9.20.120 Specific standards.

9.20.130 Floodways.

9.20.140 Violation – Penalty.

9.20.010 Findings of fact.

(A) The flood hazard areas of Syracuse City are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety and general welfare.

(B) These flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities, and by the occupancy of flood hazard areas by uses vulnerable to floods and hazardous to other lands because they are

inadequately elevated, floodproofed or otherwise protected from flood damage. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-010.]

9.20.020 Purpose.

It is the purpose of this chapter to promote the public health, safety, and general welfare of the residents of Syracuse, Utah, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

(A) To protect human life and health;

(B) To minimize expenditure of public money for costly flood control projects;

(C) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

(D) To minimize prolonged business interruptions;

(E) To minimize damage to the public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, and streets and bridges located in special flood hazard areas;

(F) To help maintain a stable tax base by providing for the second use and development of special flood hazard areas so as to minimize future flood blight areas;

(G) To ensure that potential buyers are notified that property is in a special flood hazard area; and

(H) To ensure that those who occupy a special flood hazard area assume responsibility for their actions. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-020.]

9.20.030 Methods for reducing flood losses.

In order to accomplish its purposes, this chapter includes methods and provisions for:

(A) Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in excessive increases in erosion or flood heights or velocities;

(B) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

(C) Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of channel flood waters;

(D) Controlling filling, grading, dredging, and other development which may increase flood damage; and

(E) Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-030.]

9.20.040 Definitions.

Unless specifically defined below, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this chapter its most reasonable application.

“Alluvial fan flooding” means flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high velocity flows; active processes of erosion, sediment transport, and deposition; and unpredictable flow paths.

“Apex” means a point on an alluvial fan or similar land form below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

“Appurtenant structure” means a structure which is located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Appurtenant structures should constitute a minimal investment, may not be used for human habitation, and be designed to have minimal flood damage potential. Examples of appurtenant structures are detached garages, carports, storage sheds, pole barns and hay sheds.

“Area of shallow flooding” means a designated AH, AO, or VO zone with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

“Base flood” means the flood having a one percent chance of being equaled or exceeded in any given year.

“Base flood elevation” means the computed elevation to which floodwater is anticipated to rise during the base flood. Base flood elevations (BFEs) are shown on flood insurance rate maps (FIRMs) and on the flood profiles.

“Basement” means any area of the building having its floor subgrade (below ground level) on all sides.

“Breakaway wall” means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.

“Critical feature” means an integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

“Development” means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials located within the special flood hazard area.

“Elevated building” means:

(1) A nonbasement building which is:

(a) Built, in the case of a building in Zones A1 – 30, AE, A, A99, AO, AH, B, C, X, and D, to have the top of the elevated floor, or in the case of a building in Zones V1 – 30, VE, or V, to have the bottom of the lowest horizontal structure member of the elevated floor elevated above the ground level by means of pilings, columns (posts and piers), or shear walls parallel to the floor of the water; and

(b) Adequately anchored so as not to impair the structural integrity of the building during a flood of up to the magnitude of the base flood.

(2) In the case of Zones A1 – 30, AE, A, A99, AO, AH, B, C, X, and D, “elevated building” also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters.

“Existing construction” means, for the purposes of determining rates, structures for which the “start of construction” commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. “Existing construction” may also be referred to as “existing structures.”

“Existing manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the ordinance codified in this chapter.

“Expansion to existing manufactured home park or subdivision” means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

“Flood” or “flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas from:

(1) The overflow of inland or tidal waters;

(2) The unusual and rapid accumulation or runoff of surface waters from any source; or

(3) Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in subsection (2) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.

“Flood elevation study” means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

“Flood insurance rate map (FIRM)” means the official map on which the Federal Emergency Management Agency has delineated both special flood hazard areas and the risk premium zones applicable to the City.

“Flood insurance study” means the official report provided by the Federal Emergency Management Agency that includes flood profiles, the flood boundary floodway map, and the water surface elevation of the base flood.

“Flood protection system” means those physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the area within a community subject to a “special flood hazard” and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

“Floodplain” or “floodprone area” means any land area susceptible to being inundated by water from any source (see definition of “flooding”).

“Floodplain management” means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

“Floodplain management regulations” means any state law or City ordinance, including Syracuse City zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances such as this floodplain ordinance, etc., which provide standards for the purpose of flood damage prevention and reduction.

“Floodproofing” means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

“Floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

“Functionally dependent use” means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

“Highest adjacent grade” means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

“Historic structure” means any structure that is:

(1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

(2) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

(3) Individually listed on the state register as promulgated by the Utah Division of State History; or

(4) Individually listed on a local inventory or historic places in communities with historic preservation programs that have been certified either: (a) by an approved state program as determined by the Secretary of the Interior; or (b) directly by the Secretary of the Interior in states without approved programs.

“Hydrodynamic loads” means forces imposed on structures by flood waters due to the impact of moving water on the upstream side of the structure, drag along its sides, and eddies or negative pressures on its downstream side.

“Hydrostatic loads” means loads or pressures resulting from the static mass of water at any point of floodwater contact with a structure. They are equal in all directions and always act perpendicular to the surface on which they are applied.

“Levee” means a manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

“Levee system” means a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

“Lowest floor” means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building’s lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of Section 60.3 of the National Flood Insurance Program Regulations.

“Manufactured home” means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term “manufactured home” does not include a “recreational vehicle.”

“Manufactured home park or subdivision” means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

“Mean sea level” means, for purposes of the National Flood Insurance Program, the North American Vertical Datum (NAVD) of 1988 or other datum, to which base flood elevations shown on a community’s flood insurance rate map are referenced.

“New construction” means, for purposes of determining insurance rates, structures for which the “start of construction” commenced on or after the effective date of the City’s initial FIRM, or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, “new construction” means structures for which the “start of construction” commenced on or after the effective date of the ordinance codified in this chapter, and includes any subsequent improvements to such structures.

“New manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the ordinance codified in this chapter.

“Recreational vehicle” means a vehicle which is: (1) built on a single chassis; (2) 400 square feet or less when measured at the largest horizontal projections; (3) designed to be self-propelled or permanently towable by a light duty truck; and (4) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

“Regulatory floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

“Special flood hazard area” means the land in the floodplain subject to a one percent or greater chance of flooding in any given year.

“Start of construction” includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The “actual start” means the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading or filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the “actual start of construction” means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

“Structure” means a walled and roofed building, including gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

“Substantial damage” means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

“Substantial improvement” means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual repair work performed. The term does not, however, include either:

(1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local Code Enforcement Official and which are the minimum necessary to assure safe living conditions; or

(2) Any alteration of a “historic structure”; provided, that the alteration will not preclude the structure’s continued designation as a “historic structure.”

"Variance" means a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter in accordance with Section 60.6 of the National Flood Insurance Program Regulations.

"Violation" means failure to comply with any of the terms and conditions of this chapter.

"Water surface elevation" means the height, in relation to the North American Vertical Datum (NAVD) of 1988 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-040.]

9.20.050 General provisions.

(A) Lands to Which This Chapter Applies. This chapter shall apply to all special flood hazard areas within the jurisdiction of Syracuse City.

(B) Basis for Establishing the Special Flood Hazard Areas. The special flood hazard areas identified by the Federal Emergency Management Agency in a scientific and engineering report entitled "The Flood Insurance Study for the City of Syracuse," dated June 18, 2007, with an accompanying flood insurance rate map (FIRM), is hereby adopted by reference and declared to be a part of this chapter. The flood insurance study and FIRM are available for inspection at the City offices located at 1979 West 1900 South, Syracuse, Utah, 84075.

(C) Compliance. No structure or land shall hereafter be constructed, located, extended, converted, or altered unless the modification fully complies with the terms of this chapter and other applicable regulations.

(D) Abrogation and Greater Restrictions. This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this chapter and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(E) Interpretation. In the interpretation and application of this chapter, all provisions shall be:

(1) Considered as minimum requirements;

(2) Liberally construed in favor of the governing body; and

(3) Deemed neither to limit nor repeal any other powers granted under state statutes.

(F) Warning and Disclaimer of Liability. The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the special flood hazard areas or uses permitted within such areas will be free

from flooding or flood damages. This chapter shall not create liability on the part of Syracuse City or any officer or employee thereof, or the Federal Emergency Management Agency for any flood damages that result in reliance on this chapter or any administrative decision lawfully made thereunder. [Ord. 21-30 § 1 (Exh. A); Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-050.]

9.20.060 Designation of the Public Works Director.

The Public Works Director or his or her designee (hereinafter referred to as the "Public Works Director") is hereby appointed to administer and implement the provisions of this chapter and relevant provisions of 44 C.F.R. (National Flood Insurance Program Regulations) pertaining to floodplain management, and performing all other duties as provided herein. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-060.]

9.20.070 Duties and responsibilities of the Public Works Director.

Duties of the Public Works Director shall include, but are not limited to, the following:

(A) Permit Review.

(1) Review and approve or deny all applications for floodplain development permits required by this chapter.

(2) Review all development permits to determine that the permit requirements of this chapter have been satisfied.

(3) Review all development permits to determine that all necessary permits have been obtained from those federal, state, or local governmental agencies from which prior approval is required (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334).

(4) Review all development permits to determine whether proposed building sites, including the placement of manufactured homes, will be reasonably safe from flooding.

(5) Review all development permits to determine if the proposed development is located in the floodway. Except as provided in SCC 9.20.130, no development shall be permitted within a floodway.

(B) Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with SCC 9.20.050(B), Basis for Establishing the Special Flood Hazard Areas, the Public Works Director shall obtain, review, and reasonably utilize any base flood elevation data available from a federal, state, or other source as criteria for requiring that new construction, substantial improvements, or other development is administered in accordance with SCC 9.20.120, Specific standards.

(C) Information to Be Obtained and Maintained.

(1) Obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement; provided, that in any V1 – 30, VE, and V Zones, the actual elevation to be obtained and recorded is that of the bottom of the lowest structural member of the floor (excluding piling and columns) of all new or substantially improved structures, and whether or not the structure contains a basement.

(2) For all new or substantially improved floodproofed structures:

(a) Verify and record the actual elevation (in relation to mean sea level) to which the structure has been floodproofed.

(b) Maintain the floodproofing certifications required in SCC 9.20.080.

(3) Maintain for public inspection all records pertaining to the provisions of this chapter.

(D) Alteration of Watercourses.

(1) Notify adjacent communities, the Utah State Division of Water Rights, and the Utah State Division of Water Resources prior to any alteration or relocation of a watercourse, and submit copies of such notification to the Federal Emergency Management Agency.

(2) Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained.

(E) Interpretation of FIRM Boundaries. Make interpretations where needed, as to the exact location of the boundaries of the special flood hazard areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in SCC 9.20.090.

(F) Construction When No Regulatory Floodway Has Been Designated. When a regulatory floodway has not been designated, the Public Works Director must require that no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1 – 30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

(G) Application for Conditional FIRM Revision. The Public Works Director shall review applications for conditional FIRM revisions in accordance with SCC 9.20.130, Floodways. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-070.]

9.20.080 Permit procedures.

A floodplain development permit ("permit") shall be obtained before construction or development begins within any special flood hazard area established in SCC 9.20.050(B). Application for a permit shall be made on forms furnished by the City and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities; and the location of the foregoing. The Public Works Director may require certification of any of these requirements by a professional engineer, architect, or surveyor as he or she deems necessary.

(A) Specific Requirements. The applicant must provide the following information:

(1) The elevation in relation to the mean sea level of the lowest floor (including the basement) of all new and substantially improved structures;

(2) The elevation in relation to the mean sea level to which any nonresidential structure shall be floodproofed;

(3) Certification by a registered professional engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of this chapter; and

(4) A description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of the proposed development.

(B) Approval or Denial. Approval or denial of a permit by the Public Works Director shall be based on the provisions and intent of this chapter and the following relevant factors:

(1) The danger to life and property due to flooding or erosion damage;

(2) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

(3) The danger that materials may be swept onto other lands to the injury of others;

(4) The compatibility of the proposed use with existing and anticipated development;

(5) The safety of access to the property in times of flood for ordinary and emergency vehicles;

(6) The costs of providing governmental services during and after flood conditions including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems;

(7) The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site;

(8) The necessity to the facility of a waterfront location, where applicable;

(9) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;

(10) The relationship of the proposed use to the comprehensive plan and floodplain management plan for that area; and

(11) The importance of the services provided by the proposed facility to the community. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-080.]

9.20.090 Appeal procedure.

(A) Any person adversely affected by a final decision of the Public Works Director made in the administration or interpretation of this chapter may, within the time provided herein, appeal that decision to the City Council by alleging that there is error in any such final order requirement, decision, or determination made by the Public Works Director in the administration or interpretation of this chapter. Appeals filed hereunder shall be in writing and shall be filed with the City Recorder within 30 days of the decision which is appealed. The appeal shall include any required City appeal forms and shall set forth, at a minimum: the name, address and telephone number of the appellant; the decision being appealed; the grounds for appeal; and a description of the alleged error in the decision or determination of the Public Works Director. Only decisions of the Public Works Director applying this chapter may be appealed to the City Council as provided herein. Appeals may not be used to waive or modify the terms or requirements of this chapter.

(B) After the appeal application is deemed complete, the City Recorder shall schedule the matter to be heard by the City Council. Prior to the appeal hearing, the City Recorder shall transmit all papers constituting the record of the decision or action being appealed to the City Council and the appellant. The City Council shall review the record of the decision or action of the Public Works Director and provide the appellant an opportunity to be heard regarding the appeal. In reviewing the appeal, the City Council shall consider and review all relevant technical evaluations and the specific factors set forth in SCC 9.20.080(B). The City Council shall decide the matter in accordance with the standard of review set forth in subsection (C) of this section.

(C) The City Council may affirm or reverse the decision of the Public Works Director, in whole or in part, or may remand the administrative decision to the Public Works Director. The City Council is also authorized to impose additional conditions as part of its determination of the appeal as necessary to conform with the purposes and intent of this chapter. The City Council shall review the administrative decision of the Public Works Director for correctness in determining whether there is substantial evidence in the record to support the order, decision, or determination. The appellant shall have the burden of proving that an error has been made. The City Council shall issue a written decision.

(D) A record of all appeals shall be maintained by the City in accordance with the Utah Government Records Access and Management Act, Section 63G-2-101, et seq., Utah Code Annotated 1953, as amended. [Ord. 21-30 § 1 (Exh. A); Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-090.]

9.20.100 Variance procedure.

(A) The Syracuse City Council is hereby designated to hear and decide requests for variances from the requirements of this chapter.

(B) The applicant shall have the right to a hearing before the Syracuse City Council on the question of whether or not the request for the variance fulfills the variance requirements of this chapter. The City Council shall render a decision denying the variance, granting the variance, or granting the variance with conditions.

(C) Those aggrieved by the decision of the Syracuse City Council may appeal such decision to the court of competent jurisdiction.

(D) The City shall maintain a record of all variance actions, including justification for their issuance, and report such variances issued in its annual or biennial report submitted to the Public Works Director. The Public Works Director shall report any variances to the Federal Emergency Management Agency upon request.

(E) In passing upon applications for a variance, the City Council shall consider all technical evaluations, those specific factors established in SCC 9.20.080(B), the intent and purpose of this chapter, and the following conditions:

(1) Due to the dangers caused by flooding to human life and property and the costs and hardship caused thereby, only under limited circumstances may variances be granted in Syracuse City. Variances shall only be issued upon:

(a) A showing of good and sufficient cause;

(b) A determination that failure to grant the variance would result in exceptional hardship to the applicant; and

(c) A determination that the granting of a variance will not result in increased flood heights, additional threats to human life and public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(2) Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure. Variances may be issued for the

reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this chapter.

(3) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(4) Variances shall only be issued when a determination has been made that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(5) Variances issued for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use may only be granted provided the structure or other development is protected by methods that minimize flood damage during the base flood and create no additional threats to public safety.

(6) Any applicant to whom a variance is granted shall be given written notice that the issuance of a variance to construct a structure below the base flood level will result in increased risk to life and property and an increase in premium rates for flood insurance, which may be substantial and will be commensurate with the risk of construction below the base flood level. Insurance rates may amount up to as high as $25.00 for $100.00 of insurance coverage. This notice shall be maintained with a record of all variance actions as required in subsection (D) of this section.

(7) All variances shall include a condition that the applicant sign an assumption of risk and waiver of liability agreement, in a form acceptable to the City, absolving Syracuse City of any and all liability in the event flood damage occurs to that portion of a structure for which the variance is granted. This agreement shall be recorded in the office of the Davis County recorder, shall run with the land, and shall be binding upon all future owners thereof.

(F) The Syracuse City Council may attach such conditions to the granting of variances as it deems necessary and which fulfill the criteria of the variance provisions of this chapter. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-100.]

9.20.110 General standards.

In all special flood hazard areas the following standards are required:

(A) Construction Materials and Methods.

(1) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

(2) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

(3) All new construction and substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(B) Anchoring. All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure and capable of resisting the hydrostatic and hydrodynamic loads, including the effects of buoyancy.

(C) Utilities.

(1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

(2) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.

(3) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(D) Subdivision Proposals.

(1) All subdivision proposals (including proposals for manufactured home parks and subdivisions) shall be consistent with the need to minimize flood damage in accordance with the purposes and intent of this chapter.

(2) All subdivision proposals (including proposals for manufactured home parks and subdivisions) shall meet the permit requirements of SCC 9.20.080 and all applicable provisions of this section and SCC 9.20.120.

(3) All subdivision proposals (including proposals for manufactured home parks and subdivisions) shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.

(4) All subdivision proposals (including proposals for manufactured home parks and subdivisions) shall have adequate drainage provided to reduce exposure to flood hazards.

(5) Base flood elevation data shall be provided for subdivision proposals and other proposed development (including proposals for manufactured home parks and subdivisions) which contain at least 50 lots or five acres (whichever is less), if not otherwise provided by SCC 9.20.050(B), Basis for Establishing the Special Flood Hazard Areas, or

SCC 9.20.070(B), Use of Other Base Flood Data. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-110.]

9.20.120 Specific standards.

In all special flood hazard areas where base flood elevation data has been provided as set forth in SCC 9.20.050(B), Basis for Establishing Special Flood Hazard Areas, or SCC 9.20.070(B), Use of Other Base Flood Data, the following provisions are required:

(A) Residential Construction.

(1) New construction and substantial improvement of any residential structure shall have the lowest floor (including basement) elevated to or above the base flood elevation, with certification provided to the Administrator by a registered professional engineer, architect, or land surveyor.

(2) Require within any AO Zone on the City's FIRM that all new construction and substantial improvements of residential structures have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the City's FIRM (at least two feet if no depth number is specified).

(3) Require adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures within Zones AH and AO.

(B) Nonresidential Construction.

(1) New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor (including basement) elevated to or above the level of the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

(a) Be floodproofed so that below the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water;

(b) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and

(c) Be certified by a registered professional engineer or land surveyor that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this subsection. Such certifications shall be provided to the Public Works Director and include the specific elevation (in relation to mean sea level) to which such structures are floodproofed.

(2) Require within any AO Zone on the City's FIRM that all new construction and substantial improvements of nonresidential structures: (a) have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in

feet on the City's FIRM (at least two feet if no depth number is specified) or (b) together with attendant utility and sanitary facilities, be completely floodproofed to that level to meet the floodproofing standard specified in subsection (B)(1)(a) and (b) of this section.

(3) Require adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures within Zones AH and AO.

(C) Openings in Enclosures Below the Lowest Floor. For all new construction and substantial improvements, fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access, or storage in an area other than a basement, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

(1) A minimum of two openings having a total net area of not less than one square inch for every foot of enclosed area subject to flooding shall be provided;

(2) The bottom of all openings shall be no higher than one foot above grade; and

(3) Openings may be equipped with screens, louvers, valves, or other coverings or devices; provided, that they permit the automatic entry and exit of floodwaters.

(D) Manufactured Homes.

(1) All manufactured homes to be placed within Zone A must be elevated and anchored to resist flotation, collapse or lateral movement and capable of resisting the hydrostatic and hydrodynamic loads. Methods of anchoring may include, but are not limited to, use of over the top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces. Specific requirements may be:

(a) Over the top ties be provided at each of the four corners of the manufactured home, with two additional ties per side at intermediate locations, with manufactured homes less than 50 feet long requiring one additional tie per side;

(b) Frame ties be provided at each corner of the home with five additional ties per side at intermediate points, with manufactured homes less than 50 feet long requiring four additional ties per side;

(c) All components of the anchoring system be capable of carrying a force of 4,800 pounds; and

(d) Any additions to the manufactured home be similarly anchored.

(2) All manufactured homes or those to be substantially improved which are proposed to be located on sites (a) outside of a manufactured home park or subdivision, (b) in a new

manufactured home park or subdivision, (c) in an expansion to an existing manufactured home park or subdivision, or (d) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood, shall meet the following requirements:

(a) Within Zones A1 – 30, AH, and AE, such manufactured homes must be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to or above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement;

(b) Within Zones A1 – 30, AH and AE, such manufactured homes to be placed or substantially improved on sites in existing manufactured home parks or subdivisions that are not subject to the provisions in subsection (D)(2)(a) of this section must be elevated so that either:

(i) The lowest floor of the manufactured home is at or above the base flood elevation; or

(ii) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and is securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

(E) Recreational Vehicles.

(1) Recreational vehicles placed on sites within Zones A1 – 30, AH, and AE must either: (a) be on the site for fewer than 180 consecutive days, (b) be fully licensed and ready for highway use, or (c) meet the permit requirements of SCC 9.20.080 and the elevation and anchoring requirements for resisting wind forces of subsection (D)(2)(a) of this section.

(2) A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-120.]

9.20.130 Floodways.

Located within special flood hazard areas established in SCC 9.20.050(B) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, encroachments, including fill, new construction, substantial improvements and other development are prohibited unless the following requirements are met:

(A) Certification by a registered professional engineer or land surveyor is provided demonstrating through hydrologic and hydraulic analyses, performed in accordance with standard engineering practice, that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

(B) All fill, new construction, and substantial improvements, or other development shall comply with all applicable flood hazard reduction provisions of SCC 9.20.110 and 9.20.120.

(C) The Public Works Director may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided the Public Works Director has applied for and been granted a conditional FIRM and floodway revision through FEMA, under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Regulations. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-130.]

9.20.140 Violation – Penalty.

Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating or causing or permitting the violation of any of the provisions of this chapter shall be guilty of a Class B misdemeanor, and upon conviction thereof shall be punishable by a fine, or by imprisonment in the Davis County jail, or by both as provided by law. Such person, firm, or corporation shall be deemed to be guilty of a separate offense for each day during which any portion of any violation of this chapter is committed, continued, or permitted by such person, firm, or corporation, and shall be punishable as herein provided. [Ord. 07-17 § 1 (Exh. A); Code 1971 § 9-4-140.]

Capabilities Assessments

Location	Do you have any maps, documents, or plans related to hazards?	Describe building, zoning, ordinances, or other tools to address natural hazards and/or regulate construction in hazard-prone areas	Does your community have the following administrative and technical capabilities?	Which education or outreach programs exist that could be used to implement mitigation activities and communicate hazard-related information?	Should any of these capabilities be expanded or improved to reduce risk?

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
Alpine	Flood maps, Lone Peak Emergency Response doc, CIP and stormwater plans, geologic maps showing potential areas or debris flow, landslide and rockfall areas; and fault maps.	Hillside Protection and Wildland Urban Interface ordinances, floodplain ordinance, current building codes. Require studies to verify if potential hazards are really there and to what extent for new developments. If hazards are present, our code requires mitigation measures to be designed and installed. We also require acknowledgement by homeowners, prior to obtaining a building permit, that they are building in an area with potential hazards, especially in areas where development occurred prior to the city having a sensitive lands ordinance.	Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission, Contract with Lone Peak, Emergency Manger works with Fire Chief	Ongoing public education or information program	I think our staffing is adequate.
American Fork City	Yes. We have the FIRM maps and we keep them updated.	Sensitive Lands Ordinance, Stormwater Management and Discharge Control Ordinance, floodplain management ordinances	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance	Ongoing public education or information program	We always could use more resources, but we are routinely

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
			programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission, Public Information Officer		adding new staff and capabilities.
Cedar Fort	no	zoning ordinances limiting construction on steep slopes and in mountain foothills	Community Planner, Warning systems/services, Maintenance programs to reduce risk, Mutual Aid Agreements, Civil Engineer, Planning Commission		sure
Cedar Hills	Maps locating natural fault lines and flood hazard areas	Hillside development is regulated to require geotechnical studies, slope stability studies, and zoning ordinances dictate slopes for cut and fill areas.	Community Planner, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Civil Engineer, Planning Commission	Ongoing public education or information program	I operate as the Emergency Manager, but need to coordinate with American Fork Fire and Rescue on EM efforts in the Cedar Hills community.
Central Utah Water Conservancy District	Yes; available upon request	We work with cities and counties to address water quality and infrastructure concerns within hazard-prone areas	Emergency Manager, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Civil Engineer, GIS Coordinator, Communications (SCADA), operations and maintenance staff	Ongoing public education or information program, Public-private partnership initiatives	
Charleston	Flood maps adopted, CIP, wildland protection	Hillside ordinance, follow FEMA floodplain regulations	Emergency Manager, Warning systems/services, Maintenance programs to reduce risk, Chief Building Official, Civil Engineer,		Yes, as Charleston grows

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
			Planning Commission, Wasatch county - warning systems & emergency management		
Coalville	Culinary Water Master Plan, general plan: Parks, Open Space and Environment section	Building codes related to fire and steep slopes, open space preservation goals especially in hazardous areas, flood hazard reduction code, sensitive lands ordinance preventing building within 100' of floodplain.	Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Floodplain Administrator, Civil Engineer, Planning Commission	Ongoing public education or information program	
Daniel	Yes, fire, FIRM, geological (faults, landslide, slope)	160 acres/lot in fire-prone areas, 100 yr. floodplain new development must elevate structures, Wasatch County Fire must sign off on all homes in WUI	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission, Warning systems, Emergency Manager with County	County-wide CERT, educational flyers with water bill, website has newsletter	Emergency notification text system for Daniel, not just through the County
Eagle Mountain	Hazard Maps through GIS department available on website, part of emergency operations plan, Stormwater management plan	Multiple ingress/egress in subdivisions, roofing materials, some defensible space, Geotech reports for development on hillsides	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission, Volunteer preparedness committee	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Community Wildfire Protection Plan	No
Elk Ridge	Work with County and MAG	WUI ordinance	Community Planner, Warning systems/services, Hazard Data	Citizen or non-profit organizations focused on	No

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
			and Information, Maintenance programs to reduce risk, Civil Engineer, Planning Commission, County Emergency Manager, hire building official, County GIS	environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program	
Fairfield	no	zoning ordinances limiting construction on steep slopes and foothills	Community Planner, Warning systems/services, Maintenance programs to reduce risk, Mutual Aid Agreements, Civil Engineer, Planning Commission		
Francis City	In our General Plan, we have an earthquake map, fire risk index, past fires map and flood map.	Our city code address building in flood hazards and other sensitive lands.	Community Planner, Civil Engineer, Planning Commission	Ongoing public education or information program	Not right now. Potentially as the city grows.
Genola	NFIP maps	Geotechnical and soils studies for new development, Critical lands overlay, JUB does hydraulic analysis for culinary water	Emergency Manager, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, Planning Commission, MAG helps with General Plan, JUB & Franson does engineering, part of regional fire dept, agreement with Santaquin for police	Ongoing public education or information program, Natural disaster or safety related school programs	No
Goshen	No		Warning systems/services, Maintenance programs to reduce risk, Planning Commission, Fire Chief, Hazard date from MAG		No

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
Heber City	Wasatch County Personal Emergency Preparedness Pamphlet	Hillside overlay, sensitive lands, floodplain (buildings must be above base flood level), wildfire ordinance	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator through the county, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Firewise Communities certification, Public-private partnership initiatives	In-house GIS, more staff for wildfire maintenance monitoring
Henefer	Gas line mapping and evacuation plan, lots of local knowledge on Dominion Energy, Capital Improvements Plan	Multiple ingress/egress, State building codes, no new buildings in the floodplain, newly subdivided land must have grinders on sewer system	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission, Councilmember is EM, Summit warning system and HAM radios, some hazard data for gas lines	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, May be a firewise community	Need to bolster emergency preparedness
Hideout	No	Geotechnical studies in proposed annexation area, NFIP requirements, State building codes	Community Planner, Chief Building Official, Civil Engineer, GIS Coordinator, Planning Commission		Need to be part of Summit County's emergency alert system, getting a Public Works director, update code for fire mitigation
Highland	FIRM, general plan includes	Building regulations, some environmentally sensitive lands,	Community Planner, Warning systems/services, Hazard Data	Ongoing public education or information program,	

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
	environmentally sensitive lands, Emergency Operations Plan (Long Peak), Stormwater management, dam safety plan (debris basin), CWPP (Lone Peak)	FIRMS, natural drainage requirements	and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission, Work with Lone Peak for emergency operations, esp. fire	Natural disaster or safety related school programs	
Independence	Wildland Urban Interface map, flood maps	WUI ordinance, revamping code in 1-3 yrs.	Warning systems/services, Maintenance programs to reduce risk, Mutual Aid Agreements, Planning Commission, Town administrator, clerk and mayor, County Sheriff and Fire	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc.	As development occurs
Interlaken	Slope study map that highlights sensitive slope areas, Emergency Response Plan from 2002	Fire standards for new construction remodels, Geotech studies required for slopes	Warning systems/services, Maintenance programs to reduce risk, Mutual Aid Agreements, Civil Engineer, Planning Commission, Interlocal agreement with Wasatch County Fire, contract with TO engineering	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Firewise Communities certification	Improve warning system with siren
Kamas	Yes, in our General Plan we have a fire risk and historic fire map. Also, a potential landslide map.	We have a sensitive land overlay zone.	Community Planner, Civil Engineer, Planning Commission		Not at this time
Lehi City	Flood Map, General plan environmentally sensitive areas. Debris Management Plan,	Ordinances, International Building Code, Urban wild land interface. Overlay zones	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance	Citizen or non-profit organizations focused on environmental protection, emergency prep, access	Mutual aid agreements to be renewed,

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
			programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	and functional needs populations, etc., Ongoing public education or information program, Natural disaster or safety related school programs, Public-private partnership initiatives	Additional Staff, Maintenance,
Lindon City	Yes. Environmental features map for sensitive areas (3 identified) with fault lines, conserved wetlands, flood zones, and streams. Ordinances, listed below. EOP describing potential hazards that could affect Lindon City with Appendices including FEMA HAZUS models, Utah quaternary fault and fold map (USGS), moderate and high hazard dams with quaternary fault overlay, Tier II Hazardous Materials, emergency declaration and evacuation orders, and zoning maps. Adopted the FEMA	Established Sensitive Area Districts Ordinance; Flood hazard area standards (raising lowest floor level above flood plain); steep slope ordinance regulates building and grading on steep slope areas; seismic & wind load building code standards for structures.	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission, Board of Adjustments Commission, Historic Preservation Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Natural disaster or safety related school programs, CERT, Block Captain System	I think we're doing well in terms of personnel. Perhaps we could look at additional wildland fire hazard risk reduction strategies.

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
	FIRM maps as part of our ordinances;				
Mapleton City	No	Flood plain ordinance	Community Planner, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program	
Midway	We have a chapter in our General Plan devoted to sensitive land and protection of those areas. Included in the chapter are several sensitive land maps that include slope, wetlands, FEMA flood zones, ridgelines, etc. The Midway Land Use ordinance also protects sensitive land.	The Midway Land Use ordinance also protects sensitive land including slopes, wetlands, FEMA flood zones, etc.	Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Chief Building Official, Floodplain Administrator, Civil Engineer, Planning Commission		This will need to be assessed.
Nebo School District	Emergency Plans, Sheltering Plans, Evacuation Plan	Schools have higher standard for building	Emergency Manager, Warning systems/services, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, State Risk of Utah insures buildings, School Board	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Natural disaster or safety related school programs	No

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
Oakley	Sensitive lands, water usage, and geological maps available on website and in plan.	Sensitive lands, State building codes, fire marshal approve site plans in sensitive areas, engineering review	Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program	A specific emergency manager
Orem	Emergency Management Plan, City Communication Plan, Fire Risk Maps, Flood Maps from Dam Break, MAG maps	Hillside ordinance	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk. Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Natural disaster or safety related school programs, Firewise Communities certification, Public-private partnership initiatives	No
Park City Municipal Corporation	Yes - Comprehensive Emergency Management Plan (CEMP), Community Wildfire Protection Plan, multiple GIS products, NFIP flood zone maps	Adopting a wildland-urban interface code in order to create home hardening/fire resistant communities.	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Natural disaster or safety related school programs, Firewise Communities certification, Public-private partnership initiatives	

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
Payson	FEMA maps on Payson website, GIS person can find maps on county GIS system	Wildland Urban Interface area, geotechnical reports required for development, city informs developers of mapped hazards, floodplain maps, international building codes, a sensitive lands ordinances and hillside development to interact with the native landscape and help buffer between the two as well as flood plain requirements.	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Education upon request for schools, clubs, church, etc.	All could be expanded, especially hiring a Fire Marshal
Pleasant Grove	NO	WE HAVE A HILLSIDE ORDINANCE ADDRESSING SENSITIVE LANDS PRONE TO GEOLOGICAL HAZARDS.	Emergency Manager, Community Planner, Maintenance programs to reduce risk, Civil Engineer, Planning Commission		WORKING ON GETTING A MUTUAL AID AGREEMENT
Provo City	FEMA FIRMs; Slide-prone areas & known fault zones shown on our GIS	Ordinances/guidelines for flood zones, fault zones, debris-prone areas along frontal canyons, and sensitive lands.	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	Ongoing public education or information program, Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Public-private partnership initiatives	Yes - plan to create levee/river maintenance plan this year
Salem	Watershed operations plan, Emergency Operations Plan in progress	Slope and floodplain ordinances, but all should be updated and improved	Emergency Manager, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program,	Code enforcement officer

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
				Natural disaster or safety related school programs	
Santaquin City	Yes. Plans from EWP NRCS work performed. Also, Supplemental Environmental Assessment Plans for east bench of Santaquin and in the lower area of Santaquin Canyon.	Hillside overlay zones, wetland area restrictions, etc.	Emergency Manager, Community Planner, Hazard Data and Information, Mutual Aid Agreements, Chief Building Official, Civil Engineer, GIS Coordinator, Planning Commission	Ongoing public education or information program	Yes.
Saratoga Springs	yes, GIS	Flood and Grading Ordinances	Hazard Data and Information, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission		Yes, the Emergency Manager needs to be a full-time position
South Summit school district	Emergency Response Plan	Follow ordinances in each jurisdiction, also State Board of Education standards.	Warning systems/services, Maintenance programs to reduce risk, Chief Building Official, School Board, mutual aid with YMCA and others, i.e., for evacuation center	Ongoing public education or information program, Natural disaster or safety related school programs	Better define emergency manager's responsibilities
Spanish Fork	Yes	Flood and Fire zoning, current building codes for seismic, etc.	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Natural disaster or safety related school programs	

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
Springville City	NFIP Maps are being updated and final maps will be adopted in June 2020. 280 structures are entering the floodplain with this update. We have fault lines, high liquefaction areas, high potential for debris and landslides and the FEMA flood plain on layers on our City GIS Map.	Hill Side Overlay prevents development on slopes greater than 25%. Floodplain development ordinance.	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Natural disaster or safety related school programs	
Summit County	Engineering dept posts hazard maps (such as floodplain maps) online as does GIS dept. Summit County Emergency Management Plan, Summit County Community Wildland Preparedness Plan 2019, UFFSL UWRAP Wildland Fire Reports - https://wildfirerisk.utah.gov	Follow the IBC, Critical lands regulations, wildland urban interface requirements, Fire dept. and sewer advisory committees must approve site plans. Fire sprinkler & building material requirements Summit County Development Codes: https://www.summitcounty.org/828/Development-Codes	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Natural disaster or safety related school programs, Firewise Communities certification, Public-private partnership initiatives	Strengthen WUI Codes, increase Community Involvement. Everything is dependent on resources.
Utah County	EWP, CWPP, EOP (not yet promulgated), Watershed	Require defensible space, etc. for new construction,	Emergency Manager, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual	Citizen or non-profit organizations focused on environmental protection, emergency prep, access	No

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
	Operations, various evacuation plans.		Aid Agreements, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	and functional needs populations, etc., Ongoing public education or information program, Firewise Communities certification	
Vineyard	Draft evacuation plan (Chris)	Comply with state building code, 90+% of building less than 10 yrs. old	Emergency Manager, Community Planner, Warning systems/services, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission, Mutual aid w/Orem, County warning system	Ongoing public education or information program, Jr. Building Inspectors program	Amplification of Emergency Manager position & GIS, strengthen maintenance and prevention program
Wallsburg	CIP	Can't build on slopes >30%, slope management. Follow Wasatch County's requirements for slope.	Floodplain Administrator, Civil Engineer, Planning Commission, Wasatch Co: Emergency Manager, GIS Coordinator, Warning System MAG: Community Planner		Educate planning commission on building requirements
Wasatch County	CWPP (community wildland protection program), Emergency Action Plan,	Hillside ordinance, floodplain,	Emergency Manager, Community Planner, Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Floodplain Administrator, Civil Engineer, GIS Coordinator, Planning Commission	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Firewise Communities certification, Public-private partnership initiatives	

	Maps and Plans	Codes and Ordinances	Admin and Technical	Education and Outreach	Ways to Improve
Woodland Hills	Yes, Geostrategy hazard maps used in all new construction	WUI, require geotechnical studies, required fire permits, fire hydrant ordinance for new construction	Warning systems/services, Hazard Data and Information, Maintenance programs to reduce risk, Mutual Aid Agreements, Chief Building Official, Civil Engineer, Planning Commission, LEI engineering contracted for planning & engineering, County EM & GIS	Citizen or non-profit organizations focused on environmental protection, emergency prep, access and functional needs populations, etc., Ongoing public education or information program, Natural disaster or safety related school programs, Firewise Communities certification	Yes, fire dept needs more $

RESOLUTION NO. R22-31 (6-7-22)

A RESOLUTION ADOPTING THE MOUNTAINLAND PRE-DISASTER HAZARD MITIGATION PLAN

WHEREAS, the City Council of the City of Saratoga Springs recognizes the threat that natural hazards pose to people and property within the City of Saratoga Springs; and

WHEREAS, the City of Saratoga Springs has participated in the creation of a multi-hazard mitigation plan, hereby known as the Mountainland Pre-Disaster Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the Hazard Mitigation Plan is revised every five years and adoption of this plan is a requirement for jurisdictions who apply for pre-disaster mitigation grants; and

WHEREAS, Mountainland Pre-Disaster Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the City of Saratoga Springs from the impacts of future hazards and disasters; and

WHEREAS, On December 11, 2019 MAG held a kick-off meeting for North Utah County Cities, and in January of 2020 MAG presented hazard maps at a January Wasatch County Health Department event to solicit input from stakeholders and the public; and

WHEREAS, in October 2019 MAG updated the hazard mitigation page on its website with information on the plan and the planning process and contact information so interested parties could email comments on the draft plan from the web site, which comments were incorporated as appropriate into the draft plan; and

WHEREAS, adoption by the City Council of the City of Saratoga Springs demonstrates their commitment to hazard mitigation and achieving the goals outlined in the Mountainland Pre-Disaster Hazard Mitigation Plan; and

WHEREAS, after considering the facts presented to the Municipal Council, the Council finds the Hazard Mitigation Plan should be approved and (ii) such action will reasonably further the health, safety and general welfare of the citizens of the City of Saratoga Springs.

NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF SARATOGA SPRINGS, UTAH, THAT:

The Mountainland Pre-Disaster Hazard Mitigation Plan, attached hereto as Exhibit A, is hereby adopted to serve as an advisory and visioning document for decision making and policy formation within the City of Saratoga Springs.

BE IT FURTHER RESOLVED that this resolution shall take effect immediately upon passage.

APPROVED AND ADOPTED this 7th day of June, 2022.

_____
Mayor Jim Miller

ATTEST:

_____
Cindy LoPiccolo, City Recorder

CITY COUNCIL
STAFF REPORT

Author:	Chelese Rawlings, Finance Manager
Subject:	Third Quarter FY 2022 Budget Financial Statements
Date:	June 7, 2022
Type of Item:	Informational

Topic
Attached are the third quarter budget financial statements for the fiscal year 2021-22.

Background
The Council adopted the budget on May 18, 2021. The attached reports show the actuals in comparison to the budget up to March 31, 2022.

Analysis/Overview of the General Fund
Revenues in comparison to last year third quarter:

- Property Tax revenue collected is more by $706,636.
- Sales tax revenue collection is more by over $1,112,663.
- Franchise and energy taxes are more by $244,435.
- Licenses and Permits are more by $293,317.
- Collected $1,037,174 more in charges for services, mostly due to an increase in development fees and ambulance revenue collected. (Plan Checking Fees and Engineer's Inspection Fees)
- Collected approximately $328,501 more in other revenue
- Overall, revenue is more by $2,436,631.

Expenditures in comparison to last year third quarter:

- Total General Fund expenditures increased by $3,578,672 in comparison to the prior year. The following table breaks out the disparity

Expenditures by Major Object	
Personnel	2,566,244
Materials, Supplies, and Services	785,913
Capital Outlay	129,079
Transfers	97,436

Summary

The City of Saratoga Springs has two investment accounts: The Public Treasurers' Investment Fund (PTIF) which holds 88.1% of our investments and Moreton Investment Group which holds 11.9%. As of March 31, 2022 investments in the PTIF had a current yield of .52%, Moreton had a current yield of .51%.

The City of Saratoga Springs is under the 75 percent threshold of expenditures to date. The threshold is determined to be 75 percent because the third quarter reflects three fourths of our budget. In the General Fund, we are currently at 52.9 percent of budgeted expenses.

The revenues are slightly under the 75 percent threshold, we are currently at 74.2 percent of budgeted revenues.

Due to the way our current general ledger structure is set up, the beginning fund balance is added as budgeted revenue to be included with the revenues currently received. These monies were collected in previous years and are being used in the current year to balance the budget for projects in which will now be using the funds. The current percentage of collected revenues not including fund balance for each fund is below:

Fund	Percentage of Total Revenue Collected w/out Fund Balance
General Fund	74.2%
Zone 2 Water Improvement SID	108.4%
Storm Drain-Capital Proj Fund	84.0%
Parks - Capital Projects Fund	28.3%
Roads - Capital Projects Fund	51.2%
Public Safe-Capital Proj Fund	57.5%
Capital Projects Fund	6.1%
Debt Service Fund	75.0%
Street Lighting Fund	99.4%
Water Fund	86.3%
Sewer Fund	84.3%
Wastewater Capital Proj Fund	7.6%
Storm Drain Enterprise Fund	143.9%
Garbage Utility Fund	77.6%
Cul Water Capital Proj Fund	63.9%
Secondary Water Capital Proj Fund	22.7%
Water Rights Fund	284.8%

City of Saratoga Springs KRI Analysis

2021-2022 *(Q3)*					
Revenue Type	$ Variance Prior Year (YTD)	% Variance Prior Year (YTD)	$ Variance Multi-Year* (YTD)	% Variance Multi-Year* (YTD)	Comments
TAX REVENUE	$ 2,063,735.17	21.6%	$ 3,586,900.33	58.8%	Sales Tax and Property tax increased, also up when significantly compared to multi year
Property Tax/Fee in Lieu	$ 706,636.17	17.3%	$ 1,397,084.65	41.2%	Increased Property Tax Collected when compared to last year and multi-year
Sales Tax	$ 1,112,663.94	27.3%	$ 2,312,819.90	80.6%	Increased sales tax collection, up when compared to previous and multi year
Franchise & Energy Tax	$ 244,435.06	17.3%	$ 594,375.84	56.0%	More energy tax and franchise tax collection compared to last fiscal year, up when compared to multi year
LICENSES AND PERMITS	$ 293,317.44	12.3%	$ 1,350,481.38	102.3%	Building permits increased in comparison to last fiscal year for the third quarter, also up when compared to multi year
INTERGOVERNMENTAL	$ (662,395.73)	-30.9%	$ 236,799.80	19.0%	Cares Act monies not received this fiscal year, but were received in FY2020 and FY2021
CHARGES FOR SERVICE	$ 1,037,174.75	22.2%	$ 2,815,376.91	97.4%	Increase in developmental fees collected mostly in plan checking fees, engineers' inspection fees, protective inspection fees, and ambulance service revenue
Planning Fees	$ 334,323.32	18.1%	$ 1,081,778.60	98.1%	Planning fees are up compared to last fiscal year and in multi year comparison
Engineering Fees	$ 477,189.81	27.3%	$ 1,199,798.45	116.9%	More Engineer fees collected in comparison to 3rd qtr last fiscal year and also an increase for multi-year
Building Fees	$ (56,157.20)	-58.3%	$ (13,995.51)	-25.9%	The decrease is due to less basement permit fees collected compared to previous years.
Other Charges	$ 289,725.49	30.4%	$ 780,366.99	168.5%	More Wildland revenue, credit card conveinence fee, and recreation fees collected this year in comparison to previous years
OTHER REVENUE	$ 328,501.46	18.1%	$ 192,466.01	9.8%	Increase in Bluffdale Contract and fines and citations.

3rd Quarter FY2022 Budget Analysis - General Fund

General Fund				
Account	YTD Actual	YTD Budget	% Variance	$ Variance
Revenue				
TAX REVENUE	11,630,108	10,339,400	12.5%	(1,290,708)
LICENSES AND PERMITS	2,670,208	1,646,067	62.2%	(1,024,141)
INTERGOVERNMENTAL REVENUE	1,519,130	1,241,645	22.3%	(277,486)
CHARGES FOR SERVICES	5,706,584	3,449,115	65.5%	(2,257,469)
OTHER REVENUE	2,112,482	2,060,711	2.5%	(51,772)
ADMINISTRATIVE CHARGES	1,912,751	1,912,748	0.0%	(4)
CONTRIBUTIONS AND TRANSFERS	0	5,161,535	100.0%	5,161,535
TOTAL REVENUE	25,551,263	25,811,220	-1.0%	259,957
Expenditures				
LEGISLATIVE DEPARTMENT	127,199	124,604	2.1%	(2,595)
ADMINISTRATIVE DEPARTMENT	1,150,315	1,178,686	-2.4%	28,371
UTILITY BILLING DEPARTMENT	226,020	264,140	-14.4%	38,120
TREASURER DEPARTMENT	325,715	302,237	7.8%	(23,479)
RECORDER DEPARTMENT	213,705	221,549	-3.5%	7,844
ATTORNEY DEPARTMENT	446,705	511,098	-12.6%	64,393
JUSTICE COURT DEPARTMENT	202,357	225,152	-10.1%	22,795
NON-DEPARTMENTAL	653,550	652,897	0.1%	(653)
GENERAL GOV'T BLDGS & GROUNDS	236,695	274,733	-13.8%	38,038
PLANNING AND ZONING DEPARTMENT	619,367	786,257	-21.2%	166,890
COMMUNITY DEVELOPMENT	221,824	238,315	-6.9%	16,491
POLICE DEPARTMENT	3,330,509	3,617,761	-7.9%	287,252
POLICE DEPARTMENT - BLUFFDALE	1,463,565	1,552,700	-5.7%	89,135
FIRE DEPARTMENT	2,914,544	2,882,325	1.1%	(32,219)
BUILDING INSPECTION	860,259	1,163,024	-26.0%	302,765
GRANT EXPENDITURES	9,601	53,438	-82.0%	43,837
STREETS DEPARTMENT	711,050	877,912	-19.0%	166,862
PUBLIC WORKS DEPARTMENT	662,986	620,798	6.8%	(42,188)
ENGINEERING DEPARTMENT	523,724	534,878	-2.1%	11,154
INFORMATION TECHNOLOGY SERVICE	270,611	311,671	-13.2%	41,060
PUBLIC IMPROVEMENTS	478,110	490,477	-2.5%	12,367
PARKS & OPEN SPACES DEPT	1,022,105	1,335,437	-23.5%	313,332
RECREATION DEPARTMENT	524,648	621,753	-15.6%	97,105
PUBLIC RELATIONS & COMM OUTREACH	197,817	257,367	-23.1%	59,550
LIBRARY SERVICES	412,485	467,700	-11.8%	55,215
TRANSFERS	413,400	6,321,127	0.0%	5,907,727
TOTAL EXPENSES	18,218,866	25,888,032	-29.6%	7,669,166
NET REVENUE OVER EXPENDITURES	7,332,397			(7,332,397)

Expenses

1) Treasurer Department - Credit Card Fees are paid from this budget, we did a budget amendment in November to budget the Credit Card Convenience Fee revenue and expenditure in the treaserer dept. Will need to do another budget amendment to budget as close to actual for the fees closer to the end of the fiscal year.

2) Public Works Department - Salaries and Benefits are higher due to the retention plan, at the end of the FY many expenses in this department are billed back proportionately to the enterprise funds.

3rd Quarter FY2022 Budget Analysis - Other Funds

All Other Funds			
Fund	YTD Actual Revenue	YTD Actual Expenses	YTD Net Revenue/(Expense)
ZONE 2 WATER IMPROVEMENT SID	201,677	262,739	(61,062)
STORM DRAIN-CAPITAL PROJ FUND	1,628,935	2,164,739	(535,804)
PARKS - CAPITAL PROJECTS FUND	1,812,289	6,219,039	(4,406,750)
ROADS - CAPITAL PROJECTS FUND	3,378,327	2,997,869	380,458
PUBLIC SAFE-CAPITAL PROJ FUND	687,246	262,393	424,853
CAPITAL PROJECTS FUND	391,494	1,655,872	(1,264,378)
DEBT SERVICE FUND	218,841	(2,500)	221,341
STREET LIGHTING FUND	379,182	317,917	61,265
WATER FUND	5,607,861	4,418,256	1,189,605
SEWER FUND	4,547,089	2,925,014	1,622,075
WASTEWATER CAPITAL PROJ FUND	624,433	869,047	(244,614)
STORM DRAIN UTILITY FUND	1,247,130	512,847	734,283
GARBAGE UTILITY FUND	1,554,751	1,310,770	243,981
CUL WATER CAPITAL PROJ FUND	3,823,454	465,113	3,358,341
2NDARY WATER CAPITAL PROJ FUND	2,232,958	5,023,902	(2,790,944)
WATER RIGHTS FUND	2,896,414	1,836,847	1,059,567

1) Zone 2 Water Improvement SID - Bond Call paid with Fund Balance in Fund 24
2) Storm Drain Impact Fund - using fund balance to pay for current projects
3) Parks Impact Fund - purchase of remaining Patriot Park land, funded with Cap Gen Fund
4) Capital Projects Fund - using fund balance to pay for current projects
5) Wastewater Impact Fund - using operations fund balance to pay for future growth projects
6) Secondary Water Capital Proj Fund - using fund balance and operations to pay for current projects

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

GENERAL FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
TAX REVENUE	11,630,108	13,785,867	2,155,759	84.4
LICENSES AND PERMITS	2,670,208	2,194,756	(475,452)	121.7
INTERGOVERNMENTAL REVENUE	1,519,130	1,655,526	136,396	91.8
CHARGES FOR SERVICES	5,706,584	4,598,820	(1,107,764)	124.1
OTHER REVENUE	2,112,482	2,747,614	635,132	76.9
ADMINISTRATIVE CHARGES	1,912,751	2,550,330	637,579	75.0
CONTRIBUTIONS & TRANSFERS	0	6,882,047	6,882,047	.0
	25,551,263	34,414,960	8,863,697	74.2
EXPENDITURES				
LEGISLATIVE DEPARTMENT	127,199	166,139	38,940	76.6
ADMINISTRATIVE DEPARTMENT	1,150,315	1,571,581	421,266	73.2
UTILITY BILLING DEPARTMENT	226,020	352,186	126,166	64.2
TREASURER DEPARTMENT	325,715	402,982	77,267	80.8
RECORDER DEPARTMENT	132,662	213,399	80,737	62.2
ATTORNEY DEPARTMENT	446,705	681,464	234,759	65.6
JUSTICE COURT DEPARTMENT	202,357	300,203	97,846	67.4
NON-DEPARTMENTAL	653,550	768,114	114,564	85.1
GENERAL GOV'T BLDGS & GROUNDS	236,695	366,311	129,616	64.6
ELECTIONS DEPARTMENT	81,043	82,000	957	98.8
PLANNING AND ZONING DEPARTMENT	619,367	1,048,342	428,975	59.1
COMMUNITY DEVELOPMENT	221,824	317,753	95,929	69.8
POLICE DEPARTMENT	3,330,509	4,823,681	1,493,172	69.0
POLICE DEPARTMENT - BLUFFDALE	1,463,565	2,070,266	606,701	70.7
FIRE DEPARTMENT	2,914,544	3,843,100	928,556	75.8
BUILDING INSPECTION	860,259	1,550,698	690,439	55.5
GRANT EXPENDITURES	9,601	71,250	61,649	13.5
STREETS DEPARTMENT	711,050	1,170,549	459,499	60.7
PUBLIC WORKS DEPARTMENT	662,986	827,731	164,745	80.1
ENGINEERING DEPARTMENT	523,724	713,170	189,446	73.4
INFORMATION TECHNOLOGY SERVICE	270,611	415,561	144,950	65.1
PUBLIC IMPROVEMENTS	478,110	653,969	175,859	73.1
PARKS & OPEN SPACES DEPT	1,022,105	1,780,583	758,478	57.4
RECREATION DEPARTMENT	524,648	829,004	304,356	63.3
PUBLIC REL & COMM OUTREACH	197,817	343,156	145,339	57.7
LIBRARY SERVICES	412,485	623,600	211,115	66.2
OTHER USES	354,882	2,589,968	2,235,086	13.7
TRANSFERS	58,518	5,838,201	5,779,683	1.0
	18,218,867	34,414,960	16,196,093	52.9
	7,332,396	0	(7,332,396)	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

ZONE 2 WATER IMPROVEMENT SID

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
WATER SID REVENUE	200,616	185,000	(15,616)	108.4
INTEREST REVENUE	1,062	173,000	171,938	.6
	201,677	358,000	156,323	56.3
EXPENDITURES				
WATER SID EXPENSES	262,739	358,000	95,261	73.4
	262,739	358,000	95,261	73.4
	(61,062)	0	61,062	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

STORM DRAIN-CAPITAL PROJ FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
INTERGOVERMENTAL REVENUE	1,359,733	1,618,665	258,932	84.0
CONTRIBUTIONS & OTHER SOURCES	0	402,754	402,754	.0
IMPACT FEES REVENUE	269,202	4,569,921	4,300,719	5.9
	1,628,935	6,591,340	4,962,405	24.7
EXPENDITURES				
CAPITAL PROJECT EXPENDITURES	2,164,739	3,727,902	1,563,163	58.1
TRANSFERS AND OTHER USES	0	2,863,438	2,863,438	.0
	2,164,739	6,591,340	4,426,601	32.8
	(535,804)	0	535,804	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

PARKS - CAPITAL PROJECTS FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
INTERGOVERNMENTAL REVENUE	0	3,285,781	3,285,781	.0
CONTRIBUTIONS & OTHER SOURCES	0	2,741,299	2,741,299	.0
IMPACT FEES REVENUE	1,812,289	6,404,824	4,592,535	28.3
	1,812,289	12,431,904	10,619,615	14.6
EXPENDITURES				
CAPITAL PROJECT EXPENDITURES	6,219,039	12,321,904	6,102,865	50.5
TRANSFERS AND OTHER USES	0	110,000	110,000	.0
	6,219,039	12,431,904	6,212,865	50.0
	(4,406,750)	0	4,406,750	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

ROADS - CAPITAL PROJECTS FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
SOURCE 33	1,856,721	3,628,135	1,771,414	51.2
IMPACT FEES REVENUE	1,521,606	17,152,883	15,631,277	8.9
	3,378,327	20,781,018	17,402,691	16.3
EXPENDITURES				
CAPITAL PROJECT EXPENDITURES	2,997,869	20,781,018	17,783,149	14.4
	2,997,869	20,781,018	17,783,149	14.4
	380,458	0	(380,458)	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

PUBLIC SAFE-CAPITAL PROJ FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
IMPACT FEES REVENUE	687,246	1,194,449	507,202	57.5
	687,246	1,194,449	507,202	57.5
EXPENDITURES				
CAPITAL PROJECT EXPENDITURES	262,393	1,194,449	932,055	22.0
	262,393	1,194,449	932,055	22.0
	424,853	0	(424,853)	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

CAPITAL PROJECTS FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
CONTRIBUTIONS & OTHER SOURCES	0	260,000	260,000	.0
TRANSFERS AND OTHER SOURCES	354,882	5,843,229	5,488,347	6.1
CONTRIBUTIONS & OTHER REVENUE	36,612	5,154,316	5,117,705	.7
	391,494	11,257,545	10,866,052	3.5
EXPENDITURES				
CAPITAL PROJECT EXPENDITURES	1,655,872	11,257,545	9,601,674	14.7
	1,655,872	11,257,545	9,601,674	14.7
	(1,264,378)	0	1,264,378	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

DEBT SERVICE FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
ADMIN FEES	160,323	213,773	53,450	75.0
CONTRIBUTIONS AND TRANSFERS	58,518	78,027	19,509	75.0
FUND BALANCE	0	1,700	1,700	.0
	218,841	293,500	74,659	74.6
EXPENDITURES				
DEBT SERVICE	(2,500)	293,500	296,000	(.9)
	(2,500)	293,500	296,000	(.9)
	221,341	0	(221,341)	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

CDRA FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
SOURCE 38	0	760,000	760,000	.0
	0	760,000	760,000	.0
EXPENDITURES				
DEPARTMENT 4000	0	760,000	760,000	.0
	0	760,000	760,000	.0
	0	0	0	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

STREET LIGHTING FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
STREET LIGHTING	377,629	380,000	2,371	99.4
FUND BALANCE	1,553	158,209	156,656	1.0
	379,182	538,209	159,027	70.5
EXPENDITURES				
STREET LIGHTING	317,917	519,436	201,519	61.2
STREET LIGHTING	0	18,773	18,773	.0
	317,917	538,209	220,292	59.1
	61,265	0	(61,265)	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

WATER FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
UTILITY OPERATING REVENUE	5,607,861	6,498,171	890,310	86.3
WATER	0	622,016	622,016	.0
	5,607,861	7,120,187	1,512,326	78.8
EXPENDITURES				
WATER OPERATIONS	2,853,969	3,875,440	1,021,471	73.6
SECONDARY WATER OPERATIONS	1,564,287	2,104,258	539,971	74.3
FUND BALANCE TO APPROP	0	1,140,489	1,140,489	.0
	4,418,256	7,120,187	2,701,931	62.1
	1,189,605	0	(1,189,605)	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

SEWER FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
OPERATING & NON-OPERATING REV	4,547,089	5,396,477	849,388	84.3
FUND BALANCE	0	331,539	331,539	.0
	4,547,089	5,728,016	1,180,928	79.4
EXPENDITURES				
SEWER OPERATIONS	2,925,014	5,118,016	2,193,002	57.2
DEPRECIATION	0	610,000	610,000	.0
	2,925,014	5,728,016	2,803,002	51.1
	1,622,075	0	(1,622,075)	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

WASTEWATER CAPITAL PROJ FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
SOURCE 33	0	20,000	20,000	.0
IMPACT FEES REVENUE	624,433	8,272,289	7,647,856	7.6
	624,433	8,292,289	7,667,856	7.5
EXPENDITURES				
CAPITAL PROJECT EXPENDITURES	869,047	5,306,558	4,437,510	16.4
TRANSFERS AND OTHER USES	0	2,870,731	2,870,731	.0
DEPRECIATION	0	115,000	115,000	.0
	869,047	8,292,289	7,423,242	10.5
	(244,615)	0	244,615	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

STORM DRAIN ENTERPRISE FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
OPERATING REVENUE	863,664	600,000	(263,664)	143.9
TRANSFERS IN	378,693	0	(378,693)	.0
CONTRIBUTIONS & OTHER SOURCES	4,773	756,800	752,027	.6
	1,247,130	1,356,800	109,670	91.9
EXPENDITURES				
STORM DRAIN OPERATIONS	512,847	879,186	366,339	58.3
DEPRECIATION	0	410,000	410,000	.0
TRANSFERS AND OTHER USES	0	67,614	67,614	.0
	512,847	1,356,800	843,953	37.8
	734,283	0	(734,283)	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

GARBAGE UTILITY FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
OPERATING REVENUE	1,552,566	2,000,000	447,434	77.6
INTEREST REVENUE	2,185	231,199	229,014	.9
	1,554,751	2,231,199	676,448	69.7
EXPENDITURES				
GARBAGE OPERATIONS	1,310,770	2,231,199	920,429	58.8
	1,310,770	2,231,199	920,429	58.8
	243,981	0	(243,981)	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

CUL WATER CAPITAL PROJ FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
SOURCE 33	1,969,473	0	(1,969,473)	.0
CONNECTION FEES REVENUE	1,853,982	5,981,525	4,127,543	31.0
	3,823,454	5,981,525	2,158,071	63.9
EXPENDITURES				
CAPITAL PROJECT EXPENDITURES	465,113	4,676,854	4,211,741	10.0
TRANSFERS AND OTHER USES	0	254,671	254,671	.0
DEPRECIATION/AMORTIZATION	0	1,050,000	1,050,000	.0
	465,113	5,981,525	5,516,412	7.8
	3,358,341	0	(3,358,341)	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

2NDARY WATER CAPITAL PROJ FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
CONNECTION FEES REVENUE	2,232,958	9,832,635	7,599,678	22.7
	2,232,958	9,832,635	7,599,678	22.7
EXPENDITURES				
CAPITAL PROJECT EXPENDITURES	5,023,902	9,398,566	4,374,664	53.5
TRANSFERS AND OTHER USES	0	184,069	184,069	.0
DEPRECIATION	0	250,000	250,000	.0
	5,023,902	9,832,635	4,808,733	51.1
	(2,790,944)	0	2,790,944	.0

CITY OF SARATOGA SPRINGS
FUND SUMMARY
FOR THE 9 MONTHS ENDING MARCH 31, 2022

WATER RIGHTS FUND

	YTD ACTUAL	BUDGET	VARIANCE	PCNT
REVENUE				
WATER RIGHTS	2,848,065	1,000,000	(1,848,065)	284.8
INTEREST REVENUE	48,349	13,986,560	13,938,211	.4
	2,896,414	14,986,560	12,090,146	19.3
EXPENDITURES				
WATER RIGHTS EXPENSES	1,836,847	14,986,560	13,149,713	12.3
	1,836,847	14,986,560	13,149,713	12.3
	1,059,567	0	(1,059,567)	.0

2022 AMENDED AND RESTATED SEWER TREATMENT SERVICES CONTRACT AND COLLECTION MAINTENANCE AGREEMENT

THIS AGREEMENT, made and entered into as of the ____ day of _____, 2022, by and between the TIMPANOGOS SPECIAL SERVICE DISTRICT, Utah County, Utah, a body politic and corporate and a quasi-municipal public corporation, distinct from each county and municipality in which it is located, of the State of Utah (the "District"), and SARATOGA SPRINGS CITY, Utah County, State of Utah, a municipal corporation of the State of Utah (the "City"),

Witnesseth:

WHEREAS, the City and the District previously entered into a Sewer Treatment Services Contract and/or extensions, amendments and/or Supplementary Agreements thereto as well as a Collection Systems Maintenance Agreement (the "Prior Service Contracts") for the purpose of defining and establishing their respective rights and responsibilities with respect to sewage treatment service, the construction, operation and maintenance of sewage treatment and sludge disposal facilities by the District, and collection systems maintenance to serve the City; and

WHEREAS, the District and the City desire to restate, amend and modify the agreement between them originally contained in the Prior Service Contracts in order to continue their rights and responsibilities with respect to sewage treatment services, the construction, operation and maintenance of sewage treatment and sludge disposal facilities of the District and collection systems maintenance to serve the City and other municipalities;

NOW, THEREFORE, the District and the City hereby agree and covenant as follows:

ARTICLE I

DEFINITIONS AND AUTHORITY

Section 101. (a) Unless the context otherwise requires, the terms in this Section defined shall, for all purposes of the Agreement, have the meanings herein specified.

"Agreement" means this 2022 Sewer Treatment Services Contract as amended and supplemented from time to time.

"City" means Saratoga Springs City, Utah County, Utah, a municipal corporation duly organized under the laws of Utah.

"City Council" means the City Council of the City or any successor governing body of the City as provided by law.

"Collection System" means the sewage facilities of the City used in connection with the collection and disposal of sewage, including improvements, extensions, and additions thereto which may be made while this Agreement remains in effect.

"District" means the Timpanogos Special Service District, Utah County, Utah, a special service district located in the State of Utah duly organized and existing under the provisions of the Utah Special Service District Act.

"System" means the sewage treatment facilities of the District, and all other improvements, facilities, or property used in connection with the collection, treatment and disposal of sewage, including all improvements, extensions, and additions thereto which may be made while this Agreement remains in effect, and including all property, real, personal and mixed, of every nature now or hereafter owned by the District and used or useful in the operation of its sewage treatment facilities.

"Televising Unit" means the equipment capable of televising and recording the condition of sewer lines.

"Combination Unit" means the equipment capable of cleaning sewer lines.

"Unit" refers to a Televising Unit and a Combination Unit collectively.

Section 102. The Agreement is adopted pursuant to the provisions of the Limited Purpose Local Government Entities Title 17D, Chapter 1, and Title 17B, Chapter 1 of the *Utah Code Annotated* (1953, as amended).

Section 103. This Agreement is entered into for the purpose of providing for the sale by the District and the purchase by the City of sewage treatment services provided by the System and to establish and define the rights and responsibilities of the District and the City with respect to operation, service, and maintenance of the System.

Section 104. This Agreement replaces and supersedes in their entirety the Prior Service Contracts.

ARTICLE II

TREATMENT SERVICES TO BE PROVIDED

Section 201. From time to time the District has constructed, added to, improved or extended the System and anticipates that it will do so in the future as well as it shall continue to operate and maintain the System. The System shall at all times be operated and maintained in compliance with applicable State and Federal discharge requirements. The District shall at all times obtain and maintain all necessary licenses and permits required to operate and maintain the System and shall comply with all applicable laws and regulations.

Section 202. The District shall provide sewage treatment services to the City in accordance with the terms and provisions of this Agreement. Should the capacity of the System be exceeded, the City shall continue to have access to the System on a proportional basis with other cities located within the boundaries of the District, based on a proportion taken from a comparison of a 3-year history of the volume and character of sewage discharge by each such city.

ARTICLE III

COLLECTION SYSTEMS MAINTENANCE

Section 301. The District shall have the following duties and obligations regarding system maintenance, (the "Collection Systems Maintenance"):

(a) From time-to-time the District shall televise, record and clean portions of the existing sewer system of the City (except for service lateral lines), report the results thereof to the City and, upon written request of the City, make available to the City for reviewing and copying any video tape taken of the lines.

(b) The District shall televise new interceptor lines installed from time to time in the City to check for leaks in said lines, report the results thereof to the City and, upon written request of the City, make available to the City for reviewing and copying any video tape taken of the lines.

(c) Each calendar year, the District shall, if requested by the City, televise and/or clean the sewer system of the City and new interceptor lines installed in the City as provided above, for a percentage of normal working time in each calendar year less four weeks which is at least equal to the percentage of the City's portion of the total influent to the District in the preceding calendar year of all political subdivisions within the District that utilize the

Collection Maintenance Services provided herein. The District shall not be required to provide service to the City in any calendar year in excess of the above-stated percentage unless emergency conditions require additional service.

(d) The District shall provide the City with a schedule setting forth the respective sewer lines to be serviced, the service to be performed on the lines, and the dates such services will be performed on the lines (the "Service Schedule"). The District shall provide the City with the Service Schedule at least thirty (30) days prior to the time of the scheduled services. The District may deviate from the Service Schedule in the event of emergencies which occur in other municipalities for which the District has similar obligations to provide services with the Unit. In the event of any emergency which requires the District to deviate from the Service Schedule, the District shall promptly notify the City of the need to deviate from the Service Schedule and shall within five (5) business days provide the City with a revised Service Schedule.

(e) The District shall clean the sewer lines of the City in cases of emergency (except for house service lateral lines), when so notified by the City that an emergency exists.

Section 302. The City shall have the following duties and obligations regarding Collection Systems Maintenance:

(a) The City shall be responsible for any necessary construction and repairs of its sewer system, including any necessary repair of defects discovered by the District while using the Unit.

(b) The City shall, as funding becomes available, maintain its manholes up to

grade, at the proper elevation, and easily accessible to the District. The District will not be required to provide any service for lines where the related manholes are not up to grade, at the proper elevation and easily accessible to the District.

(c) The City shall provide one City employee to assist the District in operating and using the Unit when traffic control requires three people to operate and manage the Unit and when one operator of the Unit is required to enter a manhole. The City shall also provide one City employee to assist the District in operating and using the Unit when one of the two District employees trained to operate the Unit is ill, on vacation or for any other reason is unable to operate the Unit. If no City employee is available to assist when specified, the service to the City will be rescheduled as promptly as possible in relation to the District's obligation to provide services to other municipalities.

(d) In the case of emergencies related to the sewer system, the City shall send a City employee to assess the emergency situation.

Section 303. As to Collection Systems Maintenance, the Parties further agree as follows:

(a) The District shall have no liability for any flooding or damage resulting from the condition or proper cleaning of the sewer lines, and the City assumes all responsibility and liability for any such flooding or damage.

(b) The District shall be under no obligation under this Agreement with respect to the cleaning or other service of house service lateral lines or other privately owned lateral lines.

(c) Each party hereto shall be liable for, and shall hold the other harmless from, all costs, damages, and losses resulting from the negligence of said party or its respective

agents, officers, employees or servants. Failure to discover a latent defect or problem in the structural integrity of the lines shall not be considered negligence.

(d) It is understood by the parties hereto that the cleaning function of the Unit is accomplished by force of liquid under pressure. The parties hereto agree that the City shall be liable for any cost, damage or loss resulting from or related to the existing conditions of the line such as, but not limited to, protruding lateral lines or weak tile lines.

(e) As provided for in Article IV of this Agreement, the provisions for Collection Systems Maintenance set forth herein do not and nothing herein shall be interpreted to constitute a transfer of any interest whatsoever in and to the sewer lines within the City's sewer system and the District expressly agrees that the City shall continue to own all such sewer lines within its sewer system.

ARTICLE IV

CITY RESPONSIBLE FOR OWN SYSTEM AND PRESERVATION OF DISTRICT'S SYSTEM

Section 401. The City hereby acknowledges that it shall bear any and all costs of constructing, operating, maintaining, and repairing its sewage Collection System, including lines necessary to extend said system to the interceptor lines constructed or owned by the District and that the District shall not bear any such costs or be responsible for constructing, operating, maintaining, adding to or improving said system of the City.

Section 402. Delivered herewith is a map that depicts the location of the District's interceptor lines and the City's Collection System. The City shall not take any action that could interfere with the operation and maintenance of the District's interceptor lines, including, but not limited to, modifying or vacating public rights of ways or public utility easements.

Section 403. The location of the District's System and the location of that System's connection with City's Collection System are **PROTECTED RECORDS** as the disclosure of such could jeopardize the life or safety of an individual and/or jeopardize the security of governmental property, or governmental programs from damage or use contrary to the law or public policy. As such no such disclosure is permitted except as may be permitted by the Utah Governmental Records Access and Management Act.

ARTICLE V

INDUSTRIAL AND OTHER SPECIAL DISCHARGES

Section 501. The District has and will maintain and update a Pretreatment Program that is approved by the State of Utah and complies with Federal pretreatment standards, including those contained in 40 CFR (Code of Federal Regulations) Part 403 (the "Pretreatment Program"). The Pretreatment Program is to prevent the introduction of pollutants into the System which will interfere with the operation of the System or contaminate the resulting sewage sludge; prevent the introduction of pollutants into the System which will pass through the treatment works into receiving waters or the atmosphere or otherwise be incompatible with the work; and, improve opportunities to recycle and reclaim wastewaters and the sludge resulting from wastewater treatment. The City shall adopt by ordinance, at least as stringent, the District's Pretreatment Program as may be amended from time to time.

Section 502. The District reserves the right to approve or disapprove the discharge of any wastes other than sewage to any sewer system which sends wastewater to the System. All industrial discharge of any wastes other than sanitary facility wastes shall require prior written approval of the District, shall comply with Federal pre-treatment standards, and shall be subject to special charges

as determined by the District. Discharges of unusual wastes from other sources shall also be subject to prior written approval of the District.

Section 503. Special permits granted for industrial or other unusual discharges may be revoked by the District upon ninety (90) days' notice from the District to the City, if, as determined by the District, the discharge results in excessive operational problems or constitutes an unexpectedly large threat to the integrity of the System, which cannot be recompensed by increasing the special charge. Any discharges after such ninety (90) day period shall be considered unapproved and shall be subject to the conditions above stated.

ARTICLE VI

COST OF SERVICES AND PAYMENT

Section 601. The City hereby agrees to promptly pay all charges which are assessed by the District in accordance with this Agreement.

Section 602. Each city and other user of the District facilities shall be billed monthly or at such greater time intervals as shall be determined by the District. In no event shall the District bill the City less frequently than annually. Such amount so billed shall be due and payable within thirty (30) days after the date of the billing.

Section 603. Special charges for wastes other than sewage shall include, without limitation, any costs of operation and maintenance occasioned by the character of such wastes and any damages to the System, or any fines or other penalties or costs resulting from loss of proper operation of the System due to the unapproved discharge within the City or area served by the District.

Section 604. The District shall provide that sufficient revenue is generated to pay all costs for the operation and maintenance of the System. The costs shall be distributed to all users of the System in proportion to each user's contribution to the total loading of the System. Factors such as strength (BOD and TSS), volume and nutrient factors shall be considered and included as the basis for the user's contribution to ensure a proportional distribution of operation and maintenance costs to each user or user class.

Section 605. The District shall determine the total annual costs of operation and maintenance of the System which are necessary to maintain the capacity and performance for which such works were designed and constructed. The total annual cost of operation and maintenance shall include, but is not limited to, amounts paid by the District for improvement, repair, replacement or for the acquisition of any type of equipment related to the System, for salaries and wages, employees' health, hospitalization, pension and retirement expenses, fees for services, materials and supplies, rents, administrative and general expenses, insurance expenses, for legal, engineering, accounting and financial advisory fees and expenses and costs of other consulting and technical services, training of personnel, taxes, payments in lieu of taxes and other governmental charges imposed by any entity other than the District, fuel costs, payments for the purchase of water for use in connection with the construction and operation of the System, costs of utility services and other auxiliary services, and any other current expenses or obligations required to be paid by the District under the provisions of any bond resolution or indenture or by law, all to the extent properly allocable to the System. For purposes of this Article VI, the District shall include in its costs of operation and maintenance charged to the City and other users of the System services all costs imposed on the District by any bond resolution or indenture, including, without limitation, all costs

of debt service and payments or deposits for reserve funds in connection with any bonds or other obligations of the District and all costs necessary to comply with the covenants and obligations of the District contained in such bond resolutions or indentures. To the extent that debt service of the District is actually paid from the proceeds of taxes actually levied and collected by the District on all taxable property in the boundaries of the District, such debt service shall be excluded for purposes of determining charges to the City for System services.

Section 606. To determine the proportion of each user's wastewater contribution, the District has installed and maintains metering stations throughout the District. The District owns and has the sole right to maintain each metering station. The City upon reasonable notice shall have the right to test the meter applicable to the City's wastewater contribution to verify the accuracy of the meter. Delivered herewith is a map that depicts the location of the meter(s) applicable to the City's wastewater contribution. In determining the proportion of each user's wastewater contribution, the District shall measure and take into account the following:

1. Each user's monthly volume of wastewater. The amount used as the total monthly volume of wastewater shall include infiltration and inflow.

2. Each user's monthly poundage of 5-day 20 degree centigrade biochemical oxygen demand which has been discharged to the System.

3. Each user's monthly suspended solids poundage which has been discharged to the System.

4. Nutrient factors imposed by any regulatory body.

Section 607. If the City requests additional metering stations, all such metering station(s) must be approved by the District's staff as meeting all District standards. The District will arrange

for and pay all costs for the meter(s) and the installation of the meter(s). The District will then bill the City for the reimbursement of all such meter costs. All other costs, including furnishing and installing the vault, flume, electrical pad, electrical panel, Rocky Mountain Power and services, and associated appurtenances will be provided and paid by the City. Upon completion, inspection, and approval, the metering station(s) shall be owned by the District.

Section 608. The District shall review the total annual cost of operation and maintenance as well as each user's wastewater contribution on an annual basis and shall revise the service charges as necessary to assure equity of the service charges assessed to the City and other users, and to assure that sufficient funds are obtained to adequately operate and maintain the System, including payment of the debt of the District.

Section 609. The City and other users of the System will be charged a certain amount for each one thousand (1,000) gallons of wastewater treated; plus, a certain amount per pound of Biochemical Oxygen Demand, a certain amount per pound of Suspended Solids, and nutrient factors imposed by any regulatory body, to be determined by the District, considering the factors herein mentioned. The rates shall be re-established annually or more frequently if so determined by the District Administrative Board.

Section 610. The District shall have no power to demand that the City make payment for any charges due under this Article VI from it to the District from monies raised by the City by taxation, but such charges may be solely payable from charges the City makes to the users of its own sewage Collection System. All amounts due and owing to the District from the City under this Agreement shall be treated by the city as operation and maintenance costs of the City's sewer system. Notwithstanding the foregoing sentences in this Section 6010, it is understood that the City

is free to make payments due under this Agreement from any available monies it may have on hand at the time such payments are due.

Section 611. The City covenants and agrees to impose rates and charges on its sewer customers in amounts sufficient to make all payments called for under this Article VI and to properly operate and maintain, at its own expense, its sewer Collection System.

Section 612. Pursuant to Utah Code Ann. § 10-8-38(2)(a)(i) and in compliance with the Utah Board of Health regulations, the City shall provide for mandatory connection where its sewer Collection System is reasonably available and feasible within 300 feet of any property line with any building used for human occupancy and will make a reasonable charge for the use thereof and shall enact all ordinances and make all necessary amendments to resolutions necessary for it to do so.

Section 613. The City is obligated to pay only for treatment services rendered to it during the month or other longer service period for which it is to receive a bill.

ARTICLE VII

IMPACT FEES

Section 701. In order to provide and pay for expanded capacity to the System and to provide the District with increased ability to provide sewer treatment services to the City, the District has in the past and may in the future acquire additional facilities or improve or expand existing facilities to accommodate new growth within the District ("Expansion Facilities").

Section 702. Pursuant to Section 11-36a-101 et seq. Utah Code Annotated (1953, as amended), the District has adopted a resolution establishing an Impact Fee to pay for the Expansion Facilities and may further amend the Impact Fee. The District hereby represents and warrants to the City that the District has complied and shall comply with the applicable statutory provisions of the

Utah Code to lawfully impose the Impact Fee. The City hereby agrees to develop, maintain and update a topographical master plan for sewer service within its boundaries upon which the District may rely in planning for future development. Any connection to the District's collection system may only be where the District approves.

Section 703. The District and the City agree that the Impact Fee shall be applied, to the extent received by the District, to the costs to the District of acquiring, constructing and improving the Expansion Facilities as a part of the System, and that to the extent, but only to the extent, that such Impact Fees are paid to and available to the District, the District will not include the costs of the Expansion Facilities in calculating its service charges to be apportioned among the Contracting Cities in accordance with Article VI. To the extent the Impact Fees received are inadequate or unavailable to pay the costs of providing or paying for the Expansion Facilities, then such costs in excess of the available Impact Fees shall be treated and charged as service charges in accordance with Article VI. To the extent the Impact Fees received in any year exceed the amount needed to pay the costs of providing the Expansion Facilities, then the excess shall be (a) held for payment of, or applied to the early redemption of bonds issued to finance the Expansion Facilities, (b) applied to growth-related improvements to the System, as evidenced and supported by written plans and analyses adopted by the District in the exercise of its sole business judgment, or (c) applied to any combination thereof. It is expected by the parties hereto that the costs of providing the Expansion Facilities will consist principally of the payment of debt service, including, but not limited to, principal, interest, redemption premiums, paying agent, registrar, trustee fees, engineering costs, legal fees and bond costs, on bonds of the District issued to finance the acquisition, construction and improvement of the Expansion Facilities or the direct payment of the costs of acquisition,

construction and improvement of the Expansion Facilities, or both.

Section 704. The City agrees that the payment of the Impact Fee by applicants for a building permit from the City shall be a condition of development and that no building permit shall be issued until the required Impact Fee is paid. The amount of the Impact Fee shall be established by resolution of the District and may change from time to time.

Section 705. The City shall calculate and collect the Impact Fee for and on behalf of the District and shall remit to the District all Impact Fees collected sixty (60) days following the 20th of the month in which such fees are received by the City. Any Impact Fees collected by the City that are not remitted to the District within the time specified shall accrue interest at the annual rate of three percent (3%) calculated daily, which interest the City shall pay to the District. The City and District may establish an agreed upon administrative fee to be paid to the City for the collection of the Impact Fee on behalf of the District.

Section 706. The Impact Fee is based on information contained in duly adopted Impact Fee Facilities Plans and Analysis. Each City shall collect from each applicant for building permits the amount of the Impact Fee in accordance with the formulas provided by the District.

Section 707. The City shall provide to the District by the 20th of each month, a summary of all residential permits issued during the prior month and copies of all non-residential permits issued during the prior month. At no more than a quarterly basis, if requested by the District, at no fee to the District, and at reasonable times, the City shall allow the District to audit City building permit records and the Impact Fees assessed and collected to determine whether the impact fees were properly assessed and collected. If the Impact Fee collected by the City was improperly assessed and/or collected after receiving notice of the formulas and fees from the District, the City shall be

responsible to pay to the District the difference between the amount collected and the amount that should have been charged together with interest thereon calculated at the rate of three percent (3%) per annum, calculated daily. The District shall give the City thirty days written notice of any amounts owed under this Section. Interest on the amount owed will not begin to accrue until the day after the expiration of the thirty-day notice period. The District shall have nine months to review and or audit the Impact Fees assessed and collected by the City which period shall commence the day after the City delivers to the District the summary of residential permits issued or in the case of non-residential permits the day after copies of the actual permits are delivered to the District. After the expiration of the nine-month period, the District may not assess the City any amount owed by reason of a difference between the amount collected and the amount that should have been collected. Once assessed, the District shall have whatever applicable statute of limitations applies to collect the amount assessed as provided in this Section 707 and interest thereon.

ARTICLE VIII

REPRESENTATIONS OF THE CITY

Section 801. The City hereby warrants and represents that (a) its existing indebtedness for all purposes does not exceed the limit provided in Article XIV, Section 4, of the Constitution of the State of Utah, (b) it has the power to enter into this Agreement and all necessary action has been taken by its City Council to authorize the execution and delivery of this Agreement, and (c) this Agreement does not conflict with, and the execution and performance by the City hereof will not constitute a breach of or a default under any contract, lease, court order, administrative rule,

regulation or law to which the City or its properties or either of them are subject or by which it is bound.

ARTICLE IX

INSPECTION OF RECORDS

Section 901. At no more than a quarterly basis, if requested by the City, and at reasonable times, the District shall, upon request of the City, make available its books and records for inspection by the duly authorized agents of the City at no fee to the City.

ARTICLE X

FORCE MAJEURE

Section 1001. If, by reason of *Force Majeure*, either party shall be unable in whole or in part to perform its obligations hereunder, said party shall not be deemed in default during the continuance of such inability and shall not incur any liability for its failure to perform its obligations hereunder. Each party shall use its best efforts to remedy with all reasonable dispatch the cause or causes preventing it from performing such obligations; provided, however, the settlement of strikes, lockouts and other industrial disturbances shall be entirely within the discretion of the affected party, and it shall not be required to make settlement of strikes, lockouts and other industrial disturbances by acceding to the demands of the opposing party or parties when such course is in its judgment unfavorable to it. *"Force Majeure"* means, without limitation, the following: acts of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders or restraints of any kind of the government of the United States of America or of the State of Utah or any of their departments, agencies or officials, or any civil or military authority; insurrections; riots; landslides; earthquakes; fires; storms; droughts; pandemics, floods; explosions; breakage or accidents to

machinery, transmission pipes or canals from a cause not reasonably within the control of a party; or any other cause or event not reasonably within the control of that party.

ARTICLE XI

THIRD PARTY CLAIMS

Section 1101. This Agreement is not intended to be a third-party beneficiary contract for the benefit of the retail sewer customers of the City and no such third party shall have any cause of action against the District for any failure by the District to take and receive sewage as provided for herein or for any breach or default by the District hereunder. In addition, no such third party shall have any rights hereunder which would in any way restrict the rights of the District and the City to modify or terminate this Agreement at any time or in any manner. To the extent that the City has any legal duty and authority to defend or indemnify the District against any claims of the City's customers, retail or residential, it shall do so. It is expressly understood and agreed that such duty does not extend to any activities of the District not directly related to the treatment of wastewater and sewage, *e.g.*, claims resulting from automobile accidents involving District equipment, etc.

ARTICLE XII

MAINTENANCE OF DISTRICT REVENUES

Section 1201. Except as provided in Section 1202 below, the City, so far as it legally may, covenants and agrees that, during the term of this Agreement (a) it will not grant a franchise for the operation of any competing sewer system within its boundaries located within Utah County until termination of this Agreement in accordance with Article XIII hereof, (b) it will not itself treat sewage, and (c) it will maintain its corporate identity and shall make no attempt to cause its corporate existence to be abolished.

Section 1202. If as of the date of this Agreement the City is treating any portion of its waste water by a facility other than the District's System, the City, so far as it legally may covenants and agrees that (a) it will not grant a franchise for the operation of any competing sewer system to treat sewage originating from within the boundaries of the District's service area located within Utah County until termination of this Agreement in accordance with Article XIV hereof, (b) it will not itself treat sewage originating from within the boundaries of the District's service area located within Utah County , and (c) it will maintain its corporate identity and shall make no attempt to cause its corporate existence to be abolished.

ARTICLE XIII

DEFAULT

Section 1301. In the event the CITY defaults in the payment of any charges or fees arising hereunder and such default remains uncured for thirty (30) days after the City's receipt of written notice of such default, the District will try in good faith to settle any dispute with the City, but may exercise any remedy available to it under the law to collect the default, including the withholding of services.

Section 1302. In the event of any default in the performance of any obligation hereunder or any breach of any term hereunder by a party, the other party shall be entitled, in addition to any other remedy which may be available hereunder or under applicable law, to recover from the defaulting party its costs incurred in enforcing its rights hereunder or seeking damages for any breach hereof, including reasonable attorneys' fees, whether such costs are incurred through litigation or otherwise.

Section 1303. The remedies available in this Article shall be cumulative and in addition to any other remedies which may be available hereunder or under applicable law, and no election by either party to exercise, modify or waive any remedy on any occasion shall be deemed to be an election to exercise, modify or waive the same or any other remedy on any other occasion.

ARTICLE XIV

TERMINATION

Section 1401. Unless hereafter modified in a writing signed by all parties hereto, this Agreement shall have and be for a term of twenty-five (25) years from the date of its execution by the parties hereto.

ARTICLE XV

ASSIGNMENT

Section 1501. Neither the District nor the City shall transfer or assign any of the rights or delegate any of the duties of this Agreement without the prior written consent of the other.

ARTICLE XVI

COMPLETE AGREEMENT; MODIFICATION

Section 1601. This Agreement constitutes the full and complete agreement by and between the parties as to the matters covered hereby, and supersedes all prior oral or written agreements, representations, conversations or understandings of the parties.

Section 1602. The terms of this Agreement shall not be altered, amended or modified, except by written agreement of the parties hereto. Such modification or amendment shall be duly filed with the secretary of the District and with the city recorder of the City.

ARTICLE XVII

SEVERABILITY

Section 1701. It is hereby declared that all parts of this Agreement are severable, and if any section, paragraph, clause or provision of this Agreement shall, for any reason, be held to be invalid or unenforceable, the invalidity or unenforceability of any such section, paragraph, clause or provision shall not affect the remaining sections, paragraphs, clauses or provisions of this Agreement.

ARTICLE XVIII

BINDING EFFECT

Section 1801. This Agreement shall inure to the benefit of, and be binding upon, the parties hereto and their respective officers, employees, agents, representatives, successors and assigns (in the event assignment is approved as provided in Article XV hereof).

[*signature page follows*]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by and through their respective duly authorized representatives as of the day and year first above written and shall be effective as of that date.

"DISTRICT"

TIMPANOGOS SPECIAL SERVICE DISTRICT

By_____
_____
Chairperson, Advisory Board

ATTEST:

_____
Secretary of District
[SEAL]

"CITY"
[SARATOGA SPRINGS CITY]

By_____
Mayor

ATTEST:

_____
City Recorder
[SEAL]

1571818.3

DISTRICT ATTORNEY REVIEW AND APPROVAL

Martha Wingate of the law firm of Ray Quinney & Nebeker P.C., duly licensed to practice law in the State of Utah, as the attorney authorized to represent the District for review of this Agreement as to proper form and compliance with applicable law pursuant to Utah Code Ann. § 11-13-202.5(3), does hereby opine that the Agreement is in proper form and compliance with applicable law.

DATED:_____ RAY QUINNEY & NEBEKER P.C.

By_____
Martha Wingate
Attorney for Timpanogos Special Service District

CITY ATTORNEY REVIEW AND APPROVAL

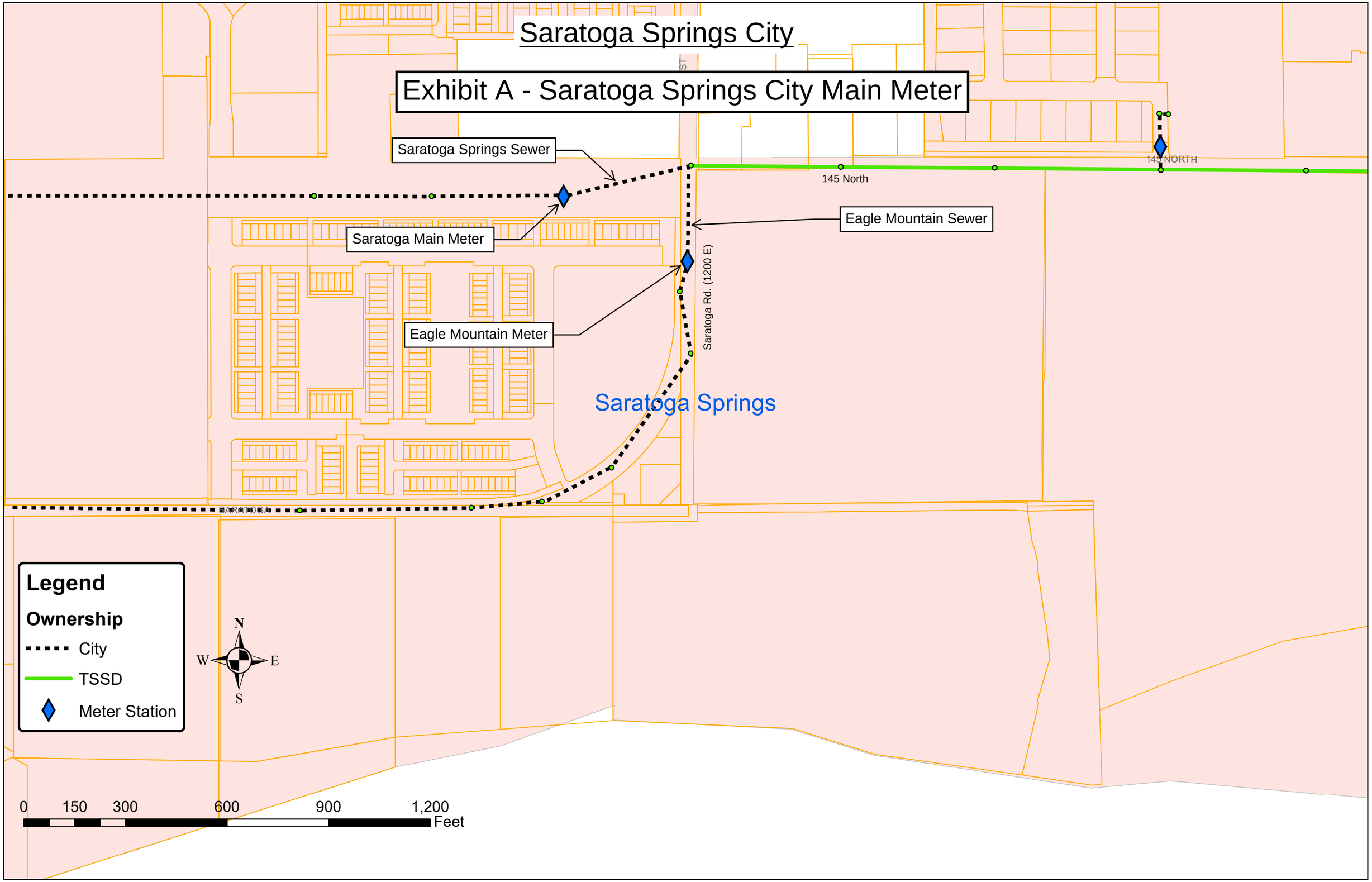
_____ of the law firm of _____, duly licensed to practice law in the State of Utah, as the attorney authorized to represent the City for review of this Agreement as to proper form and compliance with applicable law pursuant to Utah Code Ann. § 11-13-202.5(3), does hereby opine that the Agreement is in proper form and compliance with applicable law.

DATED:_____ _____

By_____
_____
Attorney for _____City

Saratoga Springs City

Exhibit A - Saratoga Springs City Main Meter



Saratoga Springs City

Exhibit B - Saratoga Parelle Meter

Lehi

Saratoga Springs

145 NORTH

7350 NORTH

9150 WEST

Legend

Ownership

City

TSSD

Meter Station

N

W E

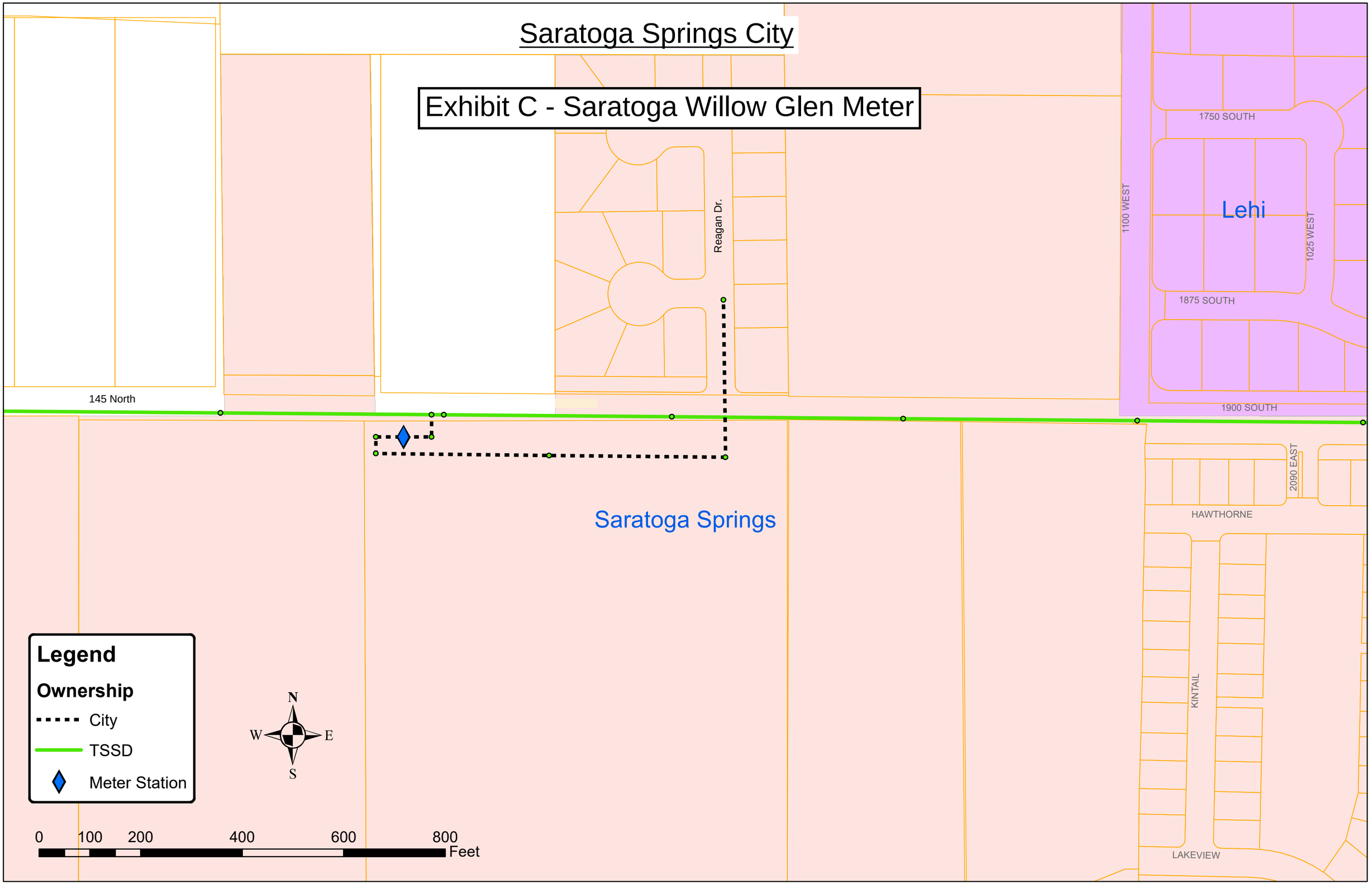
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0 100 200 400 600 800

Feet

Saratoga Springs City

Exhibit C - Saratoga Willow Glen Meter



Saratoga Springs City

Exhibit D - Loch Lomond Meter

970 WEST
900 WEST
825 W
1875 SOUTH
870 WEST
Lehi
1900 SOUTH
2230 EAST
HAWTHORNE
1950 SOUTH
675 WEST
Saratoga Springs
ARCHMORE
CAMERON
PERTH
LENNOX
MONTROSE
RICHMOND

Legend

Ownership

- City
- TSSD
- Meter Station

N
W
E
S

0 50 100 200 300 400 Feet

RESOLUTION NO. R22-32 (6-7-22)

RESOLUTION OF THE CITY OF SARATOGA SPRINGS, UTAH APPROVING A 2022 AMENDED AND RESTATED TREATMENT IMPROVEMENT SERVICES CONTRACT AND COLLECTION MAINTENANCE AGREEMENT WITH TIMPANOGOS SPECIAL SERVICE DISTRICT (TSSD)

WHEREAS, Saratoga Springs and TSSD have a mutual interest in providing a singular point for sewer treatment services and respective collection maintenance; and

WHEREAS, pursuant to the provisions of the Interlocal Cooperation Act ("Act"), Title 11, Chapter 13, Utah Code Annotated, 1953 as amended, public agencies, including political subdivisions of the State of Utah as therein defined, are authorized to enter into written agreements with one another for joint or cooperative action;

WHEREAS, this Agreement does not create an interlocal entity, but only represents an interlocal service agreement.

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Saratoga Springs, Utah that the attached Service Contract and Maintenance Agreement is approved and the City Manager is authorized to sign said Agreement. This resolution shall take effect immediately upon passage.

PASSED AND APPROVED this 7th day of June, 2022.

City of Saratoga Springs

_____

Mayor Jim Miller

ATTEST:

_____

Cindy LoPiccolo, City Recorder

City Council Staff Report

Author: Jeremy Lapin, City Engineer
Subject: Reimbursement Agreement for Beacon Point V-1
Date: June 7, 2022
Type of Item: Legislative Action

SARATOGA SPRINGS

1. **Summary:** The developer of the subject plat(s), Suburban Land Reserve, Inc., a Utah corporation, will install City system improvements.

2. **Funding Sources:** Impact fee credits, impact fee funds and cash in a funded budget cycle.

   A. Drinking Water: $990,401.87
   B. Secondary Water: $1,060,960.72
   C. Sewer: $0
   D. Storm Drain: $0
   E. Open Space (Trails): $0

3. **Review:**

   The engineering plans have been accepted for construction, and construction is complete. The Engineering Department found the improvements listed in the reimbursement agreement to be consistent with the engineering plans. The City Attorney found the agreement to be acceptable as to form.

4. **Alternatives:** The following alternative motions are available to the Council in consideration of the proposed reimbursement agreement:

   <u>Adoption</u>

   "I move to approve the attached resolution for the City to enter into this reimbursement agreement with 6 for system improvements being installed with the subject development."

   <u>Alternative Motion with Modifications</u>

   "I move to approve the attached resolution for the City to enter into this reimbursement agreement with Suburban Land Reserve, Inc., a Utah corporation for system improvements being installed with the subject development, with the following modifications:"

   A. _____
   B. _____

C. _____

Negative Motion

"I move to deny the attached resolution for the City to enter into this reimbursement agreement."

5. Attachments:

A. Proposed Reimbursement Agreement
B. Proposed Resolution

INFRASTRUCTURE DEVELOPMENT AND REIMBURSEMENT AGREEMENT

(Culinary and Secondary Water Facilities: Beacon Pointe)
(Projects: _____)

THIS INFRASTRUCTURE DEVELOPMENT AND REIMBURSEMENT AGREEMENT (this "Agreement"), dated as of June __, 2022 (the "Effective Date"), is made and entered into by and between SUBURBAN LAND RESERVE, INC., a Utah corporation ("SLR") and the CITY OF SARATOGA SPRINGS, a Utah municipal corporation (the "City").

RECITALS

A. The City owns and operates culinary and secondary water distribution systems (collectively, the "System").

B. SLR is the owner of certain real property located within the City, as more particularly described on Exhibit A attached hereto (the "SLR Property"). SLR is developing the SLR Property, which development is generally known as and shall be referred to herein as the "Beacon Pointe" project.

C. Portions of the Beacon Pointe project have required that certain "system improvements" within the meaning of the Utah Impact Fees Act, Title 11, Chapter 36a of the Utah Code (the "Impact Fees Act") be made to the System, which required improvements are generally described on Exhibit B and illustrated on Exhibit C attached hereto, and which are referred to herein collectively as the "Improvements."

D. SLR has advanced the costs necessary to design, acquire, construct and complete the Improvements, and has provided permanent and temporary easements on, over, under, across and through the SLR Property necessary for the City to operate and maintain the Improvements, subject to the reimbursement of design and construction costs by the City as authorized by the Impact Fees Act, and as provided herein.

E. The parties desire to document their mutual agreement with respect to the method of reimbursement to SLR of the costs acquiring and constructing the Improvements.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, SLR and the City each hereby agree as follows:

SECTION 1. RECITALS. The recitals set forth above are true, correct and complete in all material respects, and the parties hereto incorporate the above recitals into this Agreement by this reference.

SECTION 2. SCOPE AND NATURE OF IMPROVEMENTS; PLANS.

2.1 Improvements Constitute System Improvements. All of the Improvements constitute "system improvements" within the meaning of the Impact Fees Act, and qualify for reimbursement under the Impact Fees Act. None of the Improvements constitute "project improvements" within the meaning of the Impact Fees Act. Certain project improvements to the System may be necessary in connection with the Beacon Pointe project, which project improvements are beyond the scope of, and are not identified in, this Agreement.

2.2 Plan Approval. SLR has caused design plans for the Improvements (the "Plans") to be completed. The Plans have been submitted to, and have been approved and accepted by, the City. SLR assumes all responsibility for the Plans, including but not limited to confirming that the actual locations of the Improvements are not in conflict with development of the SLR Property or other capital improvements of the City, and that the Improvements are of adequate capacity and design to satisfy the purpose of their construction.

SECTION 3. CONSTRUCTION OF IMPROVEMENTS. SLR has acquired, constructed and installed the Improvements in full compliance with the Plans, all applicable development codes and City, state and federal laws, rules and regulations.

SECTION 4. GRANT OF LICENSE AGREEMENTS/EASEMENTS. SLR has granted, by separate instrument, the City-required rights-of-way, easements, licenses, and other property interests necessary for the use, operation, maintenance, repair and replacement by the City of the Improvements on the SLR Property.

SECTION 5. CONVEYANCE TO CITY. SLR has conveyed and transferred to the City, and the City has accepted, the Improvements. SLR has also (i) posted a 1-year warranty bond per City's development ordinances, and (ii) granted to the City all deeds, licenses and easements required to enable the City to repair, replace, and maintain the Improvements. By acceptance of such conveyance, the City accepts possession of the Improvements in an "AS IS, WHERE IS condition, WITH ALL FAULTS," and any representations or agreements made by SLR herein relating to construction of the Improvements shall be of no further force and effect, except to the extent covered by the 1-year warranty bond for the Improvements pursuant to Section 19.12.05 of the City Code and Utah Code § 10-9a-604.5. At the end of the 1-year warranty period, SLR shall not be deemed to have made any verbal or written representations, warranties, promises or guarantees (whether express, implied, statutory or otherwise) to the City with respect to the Improvements. At the end of the 1-year warranty period, THE CITY HEREBY WAIVES AND DISCLAIMS ANY WARRANTIES CONCERNING HABITABILITY, FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, AND ANY WARRANTIES RELATED TO THE WORKMANLIKE CONSTRUCTION, HABITABILITY, DESIGN, CONDITION OR QUALITY AS TO THE IMPROVEMENTS.

SECTION 6. PAYMENT OF IMPROVEMENT COSTS. The total cost incurred by SLR to comple the project, including the preparation of the Plans, construction management, materials testing, and all labor and materials to construct and install the Improvements (collectively, the "Improvement Costs"), is TWO MILLION FIFTY-ONE THOUSAND THREE HUNDRED SIXTY-TWO AND 59/100 DOLLARS ($2,051,362.59)(collectively, the "Improvement Costs"), which is the sum of the project items detailed on Exhibit B.

SECTION 7. REIMBURSEMENT.

7.1 Issuance of Credits. To satisfy its reimbursement obligations, the City hereby issues to SLR culinary and secondary water impact fee credits ("Credits"), in an amount equal to 100% of the Improvement Costs.

7.2 Use of Credits. Credits may be applied by SLR or its assignees against culinary and/or secondary water impact fees charged by the City in connection with development anywhere within the City.

7.3 Assignment of Credits. All or any Credits (and related rights under this Agreement) shall be freely assignable by SLR (or any subsequent holder of Credits) to any other person or entity ("assignee"), for development of land within the City's boundaries. Each such assignment shall be evidenced by a document executed and initialed by SLR (or any subsequent holder of Credits), and describing the land to which such Credits apply. The assignment shall be delivered to the City. Neither SLR, on the one hand, nor the assignee of Credits, on the other hand, shall have any claims against the City regarding the Credits so long as the City correctly accounts for (and gives credit for) the Credits.

7.4 City Purchase of Credits. Within twelve (12) months after recordation of the last Beacon Pointe Plat, the City shall purchase the remaining Credits if SLR or assignee has not exhausted the Credits. The City reserves the right to purchase Credits from SLR at any time at face value or other amount as mutually agreed to by the parties.

7.5 Accounting. The application of Credits as provided above shall be accounted for on the ledger in either written or electronic form (the "Ledger"). The City shall provide SLR with copies of the then current Ledger upon request. Any discrepancies identified by any of the parties shall be addressed and reconciled immediately. Reference is hereby made to that certain Infrastructure Development and Reimbursement Agreement, entered into by and between the City and SLR on May 4, 2017, relating to certain improvements to the System referred to as Projects Zone 1 North Pond and Zone 1 North Pipeline (the "Existing Secondary Water Reimbursement Agreement"). SLR has been granted certain secondary water credits under the Existing Secondary Water Reimbursement Agreement, as reflected in the Ledger referred to in Section 7.5 of that Agreement. The parties agree that the Credits awarded to SLR under this Agreement shall be combined with the credits awarded to SLR under the Existing Secondary Water Reimbursement Agreement, and shall be accounted for under the Ledger created pursuant to Section 7.5 of the Existing Secondary Water Reimbursement Agreement. The City shall provide SLR with copies of the then current Ledger upon request. Any discrepancies identified by any of the parties shall be addressed and reconciled immediately.

7.6 No Expiration. The Credits granted hereunder shall never expire, and shall remain valid until all of the Credits have been applied against impact fees or until purchased by the City pursuant to Section 7.4.

SECTION 8. LAND USE APPROVAL. Upon the execution of this Agreement as of the Effective Date, the City shall consider the Improvements to be complete for purposes of the City's review and approval of land use applications, including requests for plat approval, affecting the SLR Property.

SECTION 9. AMENDMENT OF IFFP; IMPACT FEES. The City shall, as necessary, amend the City's Culinary and Secondary Water Capital Facility Plan, Impact Fee Facility Plan and Analysis (and related Impact Fee Ordinance) to include all of the Improvements, so that all of the Improvements qualify for funding and reimbursement, in the full amount of the Project Costs, out of impact fees under Section 11-36a-402 of the Impact Fees Act.

SECTION 10. GOVERNMENTAL IMMUNITY WAIVER. The Parties acknowledge that the City is a municipal corporation of the state of Utah, and as such is subject to and bound by the provisions of the Utah Governmental Immunity Act, Utah Code Section 63-30-1 et seq., and/or other similar laws (collectively, the "Act"). Notwithstanding the foregoing, the City hereby waives such provisions of the Act, and any other immunity related laws or statutes, that may invalidate in any way (i) the obligations, duties and/or responsibilities of the City to SLR under this Agreement, or (ii) any express rights or remedies of SLR hereunder.

SECTION 11. NOTICES. Any notice required or permitted to be given or transmitted between the parties pursuant to this Agreement shall be (i) personally delivered; (ii) mailed, postage prepaid by certified mail, return receipt requested; (iii) sent for next business day delivery by a recognized overnight carrier; (iv) sent by facsimile transmission; or (v) sent via electronic mail with delivery confirmation addressed as follows:

THE CITY:	SLR:
City of Saratoga Springs 1307 N. Commerce Drive, Suite 200 Saratoga Springs, UT 84045 Attn: Jeremy Lapin Email: jlapin@saratogaspringscity.com	Suburban Land Reserve, Inc. 51 S. Main Street, Suite 301 Salt Lake City, Utah 84111 Attn: Ryan Bull Email: rbull@slreserve.com
WITH A COPY TO: Kevin Thurman City Attorney 1307 N. Commerce Drive, Suite 200 Saratoga Springs, UT 84045 kthurman@saratogaspringscity.com	WITH A COPY TO: Kirton McConkie 50 East South Temple Suite 400 Salt Lake City, Utah 84111 Attn: Chris Bramhall Email: cbramhall@kmclaw.com

Either party may designate a different address for itself by giving written notice in the manner required by this Paragraph.

SECTION 12. TERMINATION. This Agreement shall terminate when all of the Credits have been applied against impact fees or until purchased by the City pursuant to Section 7.4. Upon termination, all obligations in this Agreement shall terminate and be of no effect.

SECTION 13. MISCELLANEOUS.

13.1 Entire Agreement. This Agreement contains the entire agreement between the parties. All previous agreements, communications, discussions and negotiations relating to the subject matter hereof have been merged and finalized. This Agreement may only be modified or amended in writing by both parties hereto.

13.2 Successors and Assigns. Subject to the terms and conditions of this Agreement, the provisions of this Agreement shall be considered a covenant that runs with the land herein described and as such the terms, conditions, and provisions hereof shall extend to and be binding upon the heirs, executors, administrators, personal representatives, successors and assigns of the parties hereto

13.3 Memorandum. At SLR's request, the parties shall execute a memorandum of this Agreement that may be recorded against any applicable property in the public records to provide notice of SLR's rights under this Agreement. No other memorandum, summary, or notice of this Agreement shall be recorded against the SLR Property or any portion thereof.

13.4 Interpretation. This Agreement shall be interpreted and construed only by the contents hereof, and there shall be no presumption or standard of construction in favor of or against either party.

13.5 Captions. The captions in this Agreement are for convenience only and do not constitute a part of the provisions hereof.

13.6 Severability. If any term or provision of this Agreement or the application of it to any person, entity or circumstance shall to any extent be invalid and unenforceable, the remainder of this Agreement or the application of such term or provision to persons or circumstances other than those as to which it is invalid or unenforceable shall not be affected thereby, and each term and provision of this Agreement shall be valid and shall be enforced to the extent permitted by law.

13.7 Applicable Law. This Agreement, and the interpretation, validity, effect and performance hereof, shall be governed by the laws of the state of Utah.

13.8 Attorneys' Fees and Costs. If any action at law or in equity, or any special proceeding (including bankruptcy proceedings and appeals from lower court rulings), be instituted

by either party against the other party to enforce this Agreement or any rights arising hereunder, or in connection with the subject matter hereof, the prevailing party shall be entitled to recover all costs of suit and reasonable attorneys' fees. For purposes of this Paragraph, the term "prevailing party" shall, in the case of a claimant, be the party who is successful in obtaining substantially all of the relief sought, and in the case of the defendant or respondent, the party who is successful in denying substantially all of the relief sought by the claimant.

13.9 Time is of the Essence. Time is expressly made of the essence of each and every provision of this Agreement.

13.10 Authority. The individuals executing this Agreement represent and warrant that they have the power and authority to do so and to bind the entities for which they are executing this Agreement.

13.11 Non-Fiduciary or Agency Relationship. The parties hereto expressly disclaim and disavow any partnership, joint venture, fiduciary, agency or employment status or relationship between them and expressly affirm that they have entered into this Agreement as part of an "arms-length" transaction. No party hereto has the authority to make any representation or warranty or incur any obligation or liability on behalf of any other party hereto, nor shall they make any representation to any third party inconsistent with this Paragraph.

13.12 Counterparts. This Agreement may be signed in multiple counterparts, all of which taken together shall constitute one and the same agreement. Further, copied or electronically or facsimile transmitted signatures of an original signature shall be treated for all purposes as an original signature. After execution and delivery of this Agreement, a copy of the signed Agreement shall be considered for all purposes as an original of the Agreement to the maximum extent permitted by law, and no party to this Agreement shall have any obligation to retain a version of the Agreement that contains original signatures in order to enforce the Agreement, or for any other purpose, except as otherwise required by law.

13.13 Release of All Claims. Upon the use of all Credits by SLR or assignee or the purchase by City of the remaining Credits as provided in Section 7.4, whichever occurs first, each party hereby fully and completely releases and forever discharges the other party, its elected officials, officers, agents, servants, employees, and former elected officials, officers, agents, servants, and employees from any and all claims, damages, and demands of every nature whatsoever which were asserted, could have been asserted, or will be asserted by either party arising out of and pertaining to each party's obligations for reimbursement for the construction and dedication of the System Improvements or project improvements, including but not limited to any claims for impact fee credits, illegal exactions, reimbursements, or credits.

IN WITNESS WHEREOF, each of the parties hereto has duly signed and sealed this Agreement or caused such to be done, effective as of the date of this Agreement.

SLR: SUBURBAN LAND RESERVE, INC.,
a Utah corporation

By:_____
Name:_____
Title: _____

CITY: CITY OF SARATOGA SPRINGS, UTAH

By:_____
Name: _____
Title: _____

ATTEST AND
COUNTERSIGN:

By:_____
Name: _____
Title: _____

EXHIBIT A

The SLR Property is situated in Utah County, Utah, and is more particularly described as follows:

Located in Sections 34 AND 35, Township 5 South, Range 1 West, Salt Lake Base and Meridian, described as follows:
Beginning at a point located N89°50’00”W along the section line 869.33 feet and North 94.03 feet from the North Quarter Corner of Section 34, Township 5 South, Range 1 West, Salt Lake Base and Meridian; thence East 1920.09 feet; thence along the arc of a 1252.50 foot radius curve to the left 1133.77 feet through a central angle of 51°51’52” (chord: N64°04’04”E 1095.46 feet); thence N38°08’08”E 86.51 feet; thence S51°51’52”E 95.00 feet; thence southeasterly along the arc of a 15.00 foot radius non-tangent curve (radius bears: S51°51’52”E) to the left 23.56 feet through a central angle of 90°00’00” (chord: S6°51’52”E 21.21 feet); thence S51°51’52”E 289.73 feet; thence along the arc of a 461.50 foot radius curve to the left 307.17 feet through a central angle of 38°08’08” (chord: S70°55’56”E 301.53 feet); thence East 2586.77 feet; thence to the west right-of-way line of Redwood Road; thence along said right-of-way the following four (4) courses: S0°30’20”W 302.54 feet; thence S2°05’00”E 807.82 feet; thence N9°14’09”E 13.75 feet; thence S2°02’58”E 249.46 feet; thence S87°57’02”W 2.36 feet; thence southwesterly along the arc of a 16.00 foot radius non-tangent curve to the right (radius bears: S87°56’05”W) 25.71 feet through a central angle of 92°03’55” (chord: S43°58’02”W 23.03 feet); thence West 51.25 feet; thence S82°52’30”W 394.63 feet; thence West 541.17 feet; thence along the arc of a 15.00 foot radius curve to the right 23.56 feet through a central angle of 90°00’00” (chord: N45°00’00”W 21.21 feet); thence West 77.00 feet; thence southwesterly along the arc of a 15.00 foot radius non-tangent curve to the right (radius bears: West) 23.56 feet through a central angle of 90°00’00” (chord: S45°00’00”W 21.21 feet); thence South 95.00 feet; thence southeasterly along the arc of a 15.00 foot radius non-tangent curve to the right (radius bears: South) 23.56 feet through a central angle of 90°00’00” (chord: S45°00’00”E 21.21 feet); thence South 724.47 feet; thence along the arc of a 583.50 foot radius curve to the left 374.51 feet through a central angle of 36°46’29” (chord: S18°23’14”E 368.12 feet); thence S36°46’29”E 27.73 feet; thence along the arc of a 506.50 foot radius curve to the right 224.97 feet through a central angle of 25°26’56” (chord: S24°03’01”E 223.13 feet); thence N75°03’56”E 9.49 feet to the northwest corner of Tanner Lane Church Subdivision; thence along said subdivision the following two (2) courses: southeasterly along the arc of a 272.00 foot radius non-tangent curve to the right (radius bears: S75°03’56”W) 70.90 feet through a central angle of 14°56’04” (chord: S7°28’02”E 70.70 feet); thence South 49.29 feet to the north line of Phase 1, Saratoga Hills Subdivision; thence along said north line the following five (5) courses: N89°34’13”W 378.03 feet; thence S89°22’30”W 118.07 feet; thence S77°53’30”W 328.70 feet; thence N48°24’30”W 62.62 feet; thence N89°48’45”W 538.51 feet to the southeast corner of Saratoga Hills 1, 3 Subdivision; thence along said subdivision boundary the following eight (8) courses: N0°11’15”E 111.12 feet; thence N38°22’21”W 472.34 feet; thence S66°59’35”W 270.81 feet; thence S22°42’35”E 120.69 feet; thence S67°17’25”W 56.00 feet; thence S22°42’35”E 32.92 feet; thence along the arc of a 499.00 foot radius curve to the right 186.63 feet through a central angle of 21°25’47” (chord: S11°59’41”E 185.55 feet); thence S1°16’48”E 28.95 feet more or less to the north line of Benches Plat 1, Subdivision; thence N89°45’56”W along the north line of the Benches Plats 1-3 and 10, 2534.65 feet to the northwest corner of the Benches Plat 10 Subdivision, said point also being held as the center of Section 34, Township 5 South, Range 1 West, Salt Lake Base and Meridian; thence N89°50’07”W along the quarter section line 210.01 feet to the Southeast Corner of Plat “A”, Questar Benches Minor Subdivision; thence along said subdivision the following three (3) courses: N0°23’17”W 65.00 feet; thence N89°50’07”W 110.00 feet; thence S0°23’17”E 65.00 feet to the quarter section line; thence N89°50’07”W along the quarter section line 609.23 feet; thence northwesterly along the arc of a 3000.00 foot radius non-tangent curve (radius bears: N86°09’41”E) to the right 200.98 feet through a central angle of 3°50’19” (chord: N1°55’09”W 200.95 feet); thence North 1886.79 feet; thence along the arc of a 1810.00 foot radius curve to the right 226.38 feet through a central angle of 7°09’58” (chord: N3°34’59”E 226.23 feet); thence N7°09’58”E 147.66 feet; thence along the arc of a 2000.00 foot radius curve to the left 297.87 feet through a central angle of 8°32’00” (chord: N2°53’58”E 297.60 feet) to the point of beginning.

CONTAINS: ±371.82 ACRES

EXHIBIT B

Description of Improvements

Item	Description	Units	UM	Unit Price	Amount
	OFFSITE CULINARY WATER				
	ROUGH GRADING-50%				
50	CLEAR & GRUB - PUSH OUT SPOILS	1,835.50	CY	3.00	5,506.50
60	CUT & FILL ONSITE - INCLUDE HAUL ONSITE	2,099.00	CY	13.00	27,287.00
70	TRENCH SPOILS USED AS R.O.W. FILL-TRANSPORT/PL/	712.00	CY	10.00	7,120.00
80	12' WIDE X 8" THICK- ROADBASE ACCESS ROAD	40,133.50	SF	1.00	40,133.50
	STORM DRAIN-50%				
110	24" RCP	41.00	LF	51.00	2,091.00
120	24" CONCRETE END SECTION W/RIP RAP	1.00	EA	1,275.00	1,275.00
130	DRAINAGE SWALE	105.00	TON	7.25	761.25
135	PIPE BEDDING	22.00	TON	19.00	418.00
140	IMPORTED TRENCH BACKFILL	66.50	TON	11.00	731.50
	OFFSITE CULINARY WATER				
205	REMOVE & REPLACE CURB & GUTTER	10.00	LF	65.25	652.50
210	REMOVE PRESSURIZED UTILITY LINE	375.00	LF	12.00	4,500.00
220	16" PVC C-900 WATERLINE	6,975.00	LF	64.00	446,400.00
222	6" PVC C-900 (FIRE STUBBS)	175.00	LF	22.00	3,850.00
225	AIRVAC	1.00	EA	7,850.00	7,850.00
230	16" X 6" FIRE HYDRANT ASSEMBLY	8.00	EA	10,500.00	84,000.00
239	20" BUTTERFLY VALVE	1.00	EA	7,500.00	7,500.00
240	20" CROSS	1.00	EA	12,325.00	12,325.00
241	20" X 16" REDUCER	2.00	EA	1,050.00	2,100.00
242	20" X 8" REDUCER	1.00	EA	1,525.00	1,525.00
243	20" CAP	1.00	EA	2,175.00	2,175.00
250	16" BUTTERFLY VALVE	15.00	EA	5,500.00	82,500.00
251	16" TEE	3.00	EA	6,000.00	18,000.00
252	16" BEND	4.00	EA	2,600.00	10,400.00
253	16" CAP W/BLOWOFF	1.00	EA	2,675.00	2,675.00
254	16" SLEEVES	2.00	EA	2,725.00	5,450.00
260	8" CAP	1.00	EA	700.00	700.00
265	8" GATE VALVE	1.00	EA	2,500.00	2,500.00
294	PIPE BEDDING	2,463.00	TON	10.50	25,861.50
295	IMPORTED TRENCH BACKFILL	4,750.00	TON	11.00	52,250.00
				CULINARY WATER TOTAL	**858,537.75**

	OFFSITE PRESSURE IRRIGATION				
	ROUGH GRADING-50%				
50	CLEAR & GRUB - PUSH OUT SPOILS	1,835.50	CY	3.00	5,506.50
60	CUT & FILL ONSITE - INCLUDE HAUL ONSITE	2,099.00	CY	13.00	27,287.00
70	TRENCH SPOILS USED AS R.O.W. FILL-TRANSPORT/PL/	712.00	CY	10.00	7,120.00
80	12' WIDE X 8" THICK- ROADBASE ACCESS ROAD	40,133.50	SF	1.00	40,133.50
	STORM DRAIN-50%				
110	24" RCP	41.00	LF	51.00	2,091.00
120	24" CONCRETE END SECTION W/RIP RAP	1.00	EA	1,275.00	1,275.00
130	DRAINAGE SWALE	105.00	TON	7.25	761.25
135	PIPE BEDDING	22.00	TON	19.00	418.00
140	IMPORTED TRENCH BACKFILL	66.50	TON	11.00	731.50
	OFFSITE PRESSURE IRRIGATION				
310	20" PVC C-900 P.I. WATERLINE	6,477.00	LF	88.00	569,976.00
315	AIRVAC	1.00	EA	7,850.00	7,850.00
324	24" BUTTERFLY VALVE	1.00	EA	9,625.00	9,625.00
325	24" CROSS	1.00	EA	11,350.00	11,350.00
326	24" X 20" REDUCER	2.00	EA	3,000.00	6,000.00
327	24" X 6" REDUCER	1.00	EA	3,125.00	3,125.00
328	24" CAP	1.00	EA	2,275.00	2,275.00
329	20" SLEEVE	1.00	EA	3,400.00	3,400.00
330	20" BUTTERFLY VALVE	13.00	EA	7,500.00	97,500.00
331	20" TEE	1.00	EA	5,455.00	5,455.00
332	20" BEND	6.00	EA	3,525.00	21,150.00
333	20" CAP	1.00	EA	1,775.00	1,775.00
334	20" X 16" REDUCER	1.00	EA	3,125.00	3,125.00
335	16" CUT-IN TEE	1.00	EA	7,000.00	7,000.00
338	16" X 12" REDUCER	2.00	EA	5,175.00	10,350.00
339	6" CAP	1.00	EA	600.00	600.00
340	6" GATE VALVE	1.00	EA	1,850.00	1,850.00
394	PIPE BEDDING	2,267.00	TON	10.50	23,803.50
395	IMPORTED TRENCH BACKFILL	4,379.00	TON	11.00	48,169.00
				PRESSURE IRRIGATION TOTAL	**919,702.25**

TOTALS

	Construction	City Fee	SWPPP	Change Orders	Engineering (6%)	Total Reimbursement
Culinary Line	$ 858,537.75	$ 18,166.97	$ 6,171.30	$ 55,643.31	$ 51,882.54	$ 990,401.87
Secondary Line	$ 919,702.25	$ 19,461.24	$ 6,610.95	$ 59,607.49	$ 55,578.79	$ 1,060,960.72
Total:	**$ 1,778,240.00**	**$ 37,628.21**	**$ 12,782.25**	**$ 115,250.80**	**$ 107,461.34**	

RESOLUTION NO. R22-33 (6-7-22)

RESOLUTION OF THE CITY OF SARATOGA SPRINGS, UTAH, APPROVING A REIMBURSEMENT AGREEMENT WITH SUBURBAN LAND RESERVE, INC., A UTAH CORPORTATION

WHEREAS, Developer is developing a master planned project within the City, known as "Beacon Pointe" ("Project"); and

WHEREAS, the Project requires certain facilities and improvements including roadway, water, irrigation, sewer, storm drain, and other improvements; and

WHEREAS, Developer has completed certain improvements ("System Improvements") within the Project above and beyond what is required to service the Project, which are more particularly enumerated in the Infrastructure Development and Reimbursement Agreement ("Agreement"), attached hereto and by this reference made a part hereof; and

WHEREAS, the System Improvements will provide capacity that benefits neighboring properties and the City; and

WHEREAS, the System Improvements will result in additional costs and the City wishes to provide Developer reimbursements as consideration and in satisfaction in whole of any additional expenses incurred by Developer relating to the System Improvements that will benefit other neighboring properties and the City.

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Saratoga Springs, Utah that the Agreement attached as Exhibit 1 is approved and the City Manager or Mayor is authorized to sign said Agreements. This resolution shall take effect immediately upon passage.

PASSED AND APPROVED this 7th day of June, 2022.

City of Saratoga Springs

_____
Mayor Jim Miller

Attest:

_____
Cindy LoPiccolo, City Recorder

EXHIBIT 1

ORDINANCE NO. 22-24 (6-7-22)

AN ORDINANCE OF THE CITY OF SARATOGA SPRINGS, UTAH, ADOPTING AMENDMENTS TO CHAPTER 18.01 OF TITLE 18 OF THE SARATOGA SPRINGS CITY CODE; AND ESTABLISHING AN EFFECTIVE DATE

WHEREAS, Utah Code § 15A-1-204 requires political subdivisions of the State of Utah to adopt specified building and construction codes; and

WHEREAS, S.B. 33, Uniform Building Code Commission Modifications, was signed into law by Utah State Governor Spencer J. Cox on March 16, 2021 and went into effect July 1, 2021; and

WHEREAS, for the purpose of providing minimum standards to safeguard life, limb, health, property, and public welfare by regulating and controlling the design, construction, and quality of materials, use and occupancy, location and maintenance of the buildings and structures and certain equipment within the City of Saratoga Springs, the City Council wishes to adopt the following construction codes, which together with the amendments specified in Chapter 3, Local Amendments Incorporated as Part of State Construction Code, are construction standards to be applied to building construction, alternation, remodeling, and repair in the City of Saratoga Springs:

- 2020 edition of the National Electrical Code, and
- Appendix C of the International Building Code;

including any amendments that have been or may be made by the State of Utah, with such deletions, modifications, exceptions, and other amendments as the construction standards to be regulated and applied to building, construction, alteration, remodeling, and repair, in the City of Saratoga Springs; and

NOW THEREFORE, the City Council of the City of Saratoga Springs, Utah does hereby ordain as follows:

SECTION I – ENACTMENT

The Building Code amendments attached hereto as EXHIBIT A, which are incorporated herein by this reference, are hereby enacted. The remainder of Title 18.01 shall remain the same.

SECTION II – AMENDMENT OF CONFLICTING ORDINANCES

If any ordinances, resolutions, policies, or zoning maps of the City of Saratoga Springs heretofore adopted are inconsistent herewith they are hereby amended to comply with the provisions hereof. If they cannot be amended to comply with the provisions hereof, they are hereby repealed.

SECTION III – EFFECTIVE DATE

This ordinance shall take effect upon its passage by a majority vote of the Saratoga Springs City Council and following notice and publication as required by the Utah Code.

SECTION IV – SEVERABILITY

If any section, subsection, sentence, clause, phrase, or portion of this ordinance is, for any reason, held invalid or unconstitutional by any court of competent jurisdiction, such provision shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION V – PUBLIC NOTICE

The Saratoga Springs Recorder is hereby ordered, in accordance with the requirements of Utah Code § 10-3-710–711, to do as follows:

a. deposit a copy of this ordinance in the office of the City Recorder; and
b. publish notice as follows:
   i. publish a short summary of this ordinance on the Utah Public Notice Website; or
   ii. post a complete copy of this ordinance in three public places within the City.

ADOPTED AND PASSED by the City Council of the City of Saratoga Springs, Utah, this 7th day of June, 2022.

Signed: _____
Jim Miller, Mayor

Attest: _____
Cindy LoPiccolo, City Recorder

VOTE

Chris Carn	____
Michael McOmber	_____
Ryan Poduska	_____
Chris Porter	_____
Stephen Willden	_____

EXHIBIT A

Code Amendments

Section:

18.01.01. Building Codes.

18.01.01. Building Codes.

1. The City of Saratoga Springs does hereby adopt as its Building Codes:

   a. the 2018 edition of the International Building Code, including Appendices~~x~~ C and J, issued by the International Code Council;
   b. the 2015 edition of the International Residential Code, issued by the International Code Council,;
   c. Appendix Q of the 2018 edition of the International Residential Code, issued by the International Code Council;
   d. the 2018 edition of the International Plumbing Code, issued by the International Code Council;
   e. the 2018 edition of the International Mechanical Code, issued by the International Code Council;
   f. the 2018 edition of the International Fuel Gas Code, issued by the International Code Council;
   g. the 2020~~2017~~ edition of the National Electrical Code, issued by the National Fire Protection Association;
   h. the residential provisions of the 2015 edition of the International Energy Conservation Code, issued by the International Code Council;
   i. the commercial provisions of the 2018 edition of the International Energy Conservation Code, issued by the International Code Council;
   j. the 2018 edition of the International Existing Building Code, issued by the International Code Council;
   k. subject to Utah Code Section 15A-2-104(2), the HUD Code;
   l. subject to Subsection 15-2-104(1), Appendix E of the 2015 edition of the International Residential Code, issued by the International Code Council; and
   m. subject to Utah Code Section 15A-2-104(1), the 2005 edition of the NFPA 225 Model Manufactured Home Installation Standard, issued by the National Fire Protection Association; and
   n. the 2006 edition of the Utah Wildland Urban Interface Code, issued by the International Code Council, with the alternatives or amendments approved by the Utah Division of Forestry, as a construction code.

City Council Memorandum

Author: Gina Grandpre, Senior Planner
Memo Date: Tuesday, May 31, 2022
Meeting Date: Tuesday, June 7, 2022
Subject: 1400 North Dedication Plat
Type of Item: Prelim/Final Plat
Description: Road Dedication Plat

A. Topic:

This item is for the approval to record a road dedication plat for 1400 North.

B. Background:

The City Council approved the Saratoga Dignity Care Neighborhood Preliminary Plat on May 7, 2022. 1400 North is part of the Saratoga Dignity Care Neighborhood Preliminary Plat, however, due to negotiations with UDOT the dedication plat was not ready for City Council review at the time the preliminary plat was approved.

C. Analysis:

City Staff has been working with the property owner and UDOT on obtaining the dedication of the right-of-way "ROW" for this road. The City, along with the developer of the Saratoga Dignity Care Neighborhood and UDOT desires to record the ROW. This dedication will occur via a road dedication plat. The recording of this plat will result in this property being dedicated to the City for public use and as such requires the City Councils approval.

D. Fiscal Impact:

There is no fiscal impact for the road dedication plat

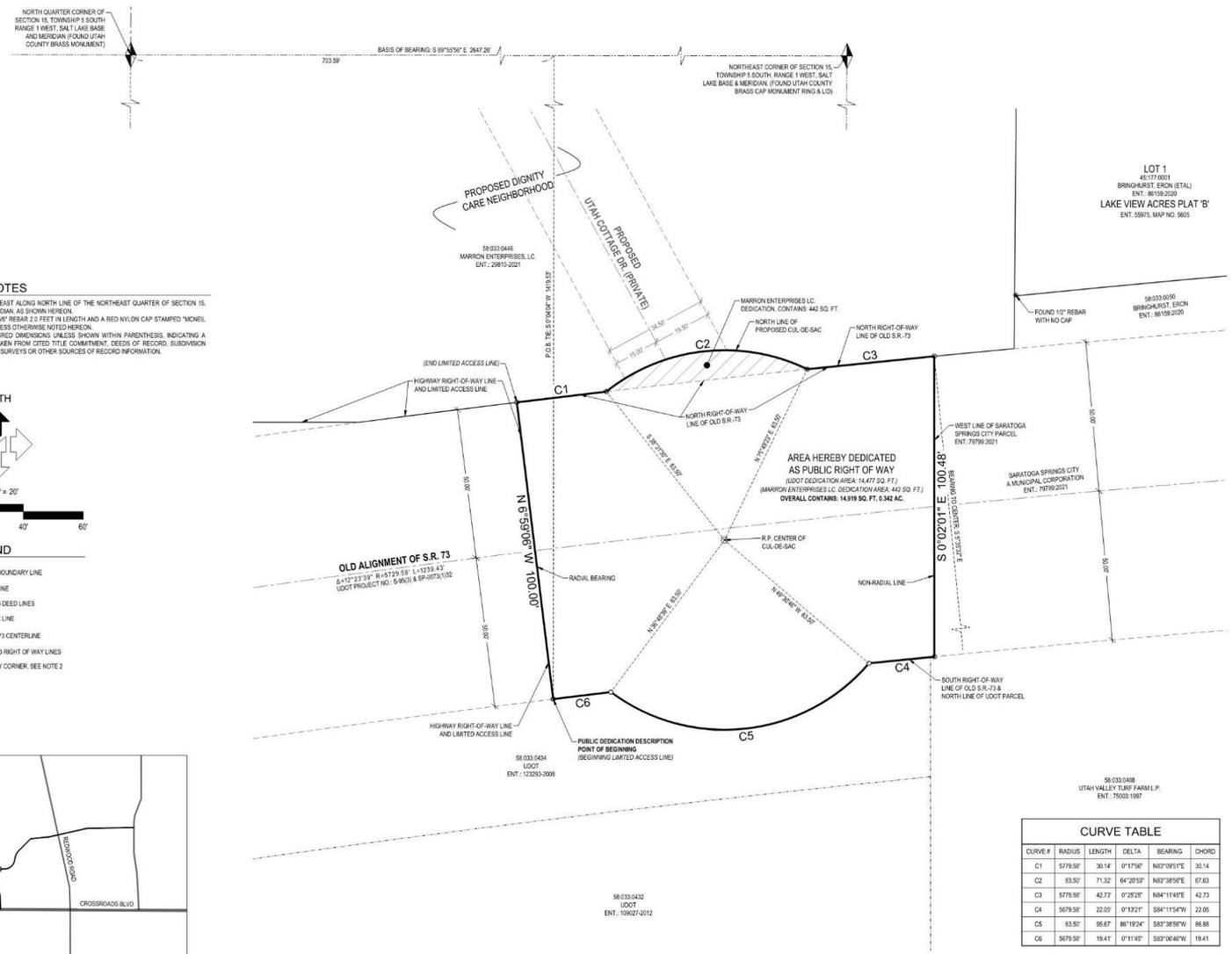
E. Recommendation

Staff recommends that the City Council approve the road dedication plat for 1400 North.

1400 NORTH DEDICATION PLAT

PUBLIC STREET DEDICATION PLAT

LOCATED IN THE NORTHEAST QUARTER OF SECTION 15 TOWNSHIP 5 SOUTH, RANGE 1 WEST
SALT LAKE BASE & MERIDIAN



NOTES

1. THE BASIS OF BEARING FOR THIS SURVEY IS NORTH 89°55'56 EAST ALONG NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 15, TOWNSHIP 5 SOUTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, AS SHOWN HEREON.
2. CORNER MONUMENTS NOT FOUND WERE MONUMENT WITH A 5/8" REBAR 2.0 FEET IN LENGTH AND A RED NYLON CAP STAMPED "MCNEIL ENG.", OR A NAIL AND WASHER BARING THE SAME INSIGNIA, UNLESS OTHERWISE NOTED HEREON.
3. COURSES AND DISTANCES SHOWN ON THIS MAP ARE MEASURED DIMENSIONS UNLESS SHOWN WITHIN PARENTHESIS, INDICATING A RECORD COURSE OR DISTANCE. RECORD INFORMATION IS TAKEN FROM CITED TITLE COMMITMENT, DEEDS OF RECORD, SUBDIVISION PLATS, ROADWAY DEDICATION PLATS, CITY ATLAS PLATS, FILED SURVEYS OR OTHER SOURCES OF RECORD INFORMATION.

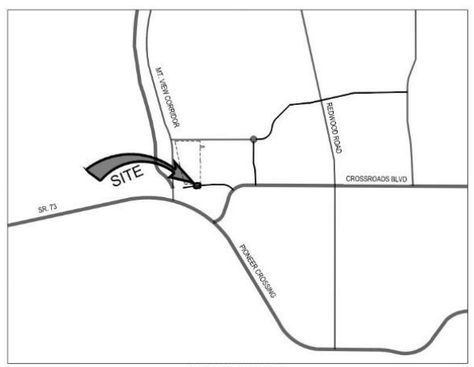
NORTH

SCALE: 1" = 20'

0 10' 20' 40' 60'

LEGEND

- SUBJECT BOUNDARY LINE
- SECTION LINE
- ADJOINING DEED LINES
- RADIAL TIE LINE
- OLD S.R-73 CENTERLINE
- OLD S.R.-73 RIGHT OF WAY LINES
- BOUNDARY CORNER, SEE NOTE 2



VICINITY MAP

SCALE: N.T.S.

CURVE TABLE

CURVE #	RADIUS	LENGTH	DELTA	BEARING	CHORD
C1	5779.58'	30.14'	0°17'56"	N83°09'51"E	30.14
C2	63.50'	71.32'	64°20'53"	N83°38'56"E	67.63
C3	5779.58'	42.73'	0°25'25"	N84°11'45"E	42.73
C4	5679.58'	22.05'	0°13'21"	S84°11'54"W	22.05
C5	63.50'	95.67'	86°19'24"	S83°38'56"W	86.88
C6	5679.58'	19.41'	0°11'45"	S83°06'46"W	19.41

SURVEYOR'S CERTIFICATE

I, DENNIS K. WITHERS, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR AND THAT I HOLD LICENSE, CERTIFICATE NO. 6135190. IN ACCORDANCE WITH THE PROFESSIONAL ENGINEERS AND LAND SURVEYORS LICENSING ACT FOUND IN TITLE 58, CHAPTER 22 OF THE UTAH CODE. I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNERS, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED BELOW, AS INTENDED FOR PERPETUAL USE OF THE PUBLIC AS A PUBLIC RIGHT OF WAY, AND THAT THIS PLAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, I ALSO CERTIFY THAT I HAVE FILED, OR WILL FILE WITHIN 90 DAYS OF THE RECORDATION OF THIS PLAT, A MAP OF THE SURVEY I HAVE COMPLETED WITH THE UTAH COUNTY SURVEYOR.

BOUNDARY DESCRIPTION

A PARCEL OF LAND SITUATE WITHIN THE NORTHEAST QUARTER OF SECTION 15, TOWNSHIP 5 SOUTH, RANGE 1 WEST, SALT LAKE BASE & MERIDIAN. LOCATED IN SARATOGA SPRING, COUNTY OF SALT LAKE STATE OF UTAH AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTH LINE OF OLD S.R.-73 RIGHT OF WAY LINE, PROJECT NO.: S-95(3), ON FILE WITH THE UTAH DEPARTMENT OF TRANSPORTATION, SAID POINT BEING SOUTH 89°55'56" EAST, ALONG THE NORTH LINE OF THE NORTHEAST QUARTER, A DISTANCE OF 703.59 FEET AND SOUTH 0°04'04" WEST, PERPENDICULAR TO SAID QUARTER SECTION LINE, A DISTANCE OF 1419.53 FEET, FROM THE UTAH COUNTY BRASS CAP MONUMENT MARKING THE NORTH QUARTER CORNER OF SAID SECTION 15, TOWNSHIP 5 SOUTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, AND RUNNING THENCE NORTH 6°59'06" WEST, ALONG THE HEREIN DESCRIBED PORTION OF THE HIGHWAY RIGHT-OF-WAY LINE AND LIMITED ACCESS LINE LINE, A DISTANCE OF 100.00 FEET, TO THE NORTH LINE OF SAID OLD S.R.-73, AND THE END POINT OF THE HEREIN DESCRIBED HIGHWAY RIGHT-OF-WAY AND LIMITED ACCESS LINE; SAID POINT BEING ON THE ARC OF A 5779.58 FOOT NON TANGENT CURVE TO THE RIGHT, THE RADIAL BEARING OF WHICH IS SOUTH 6°59'06" EAST; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 0°17'56", A DISTANCE OF 30.14 FEET, SUBTENDED BY A LONG CHORD BEARING NORTH 83°09'51" EAST, A DISTANCE OF 30.14 FEET, TO A POINT IN THE ARC OF A 63.50 FOOT NON-TANGENT CURVE TO THE RIGHT; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE THOUGH A CENTRAL ANGLE OF 64°20'53", A DISTANCE OF 71.32 FEET, SUBTENDED BY A LONG CHORD BEARING NORTH 83°38'56" EAST, A DISTANCE OF 67.63 FEET, TO A POINT IN AFORESAID OLD S.R.-73 NORTH RIGHT OF WAY LINE, SAID POINT BEING IN THE ARC OF A 5779.58 FOOT CURVE TO THE RIGHT, THE CENTER OF WHICH BEARS SOUTH 6°00'57" EAST; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE, THOUGH A CENTRAL ANGLE OF 0°25'25", A DISTANCE OF 42.73 FEET, SUBTENDED BY A LONG CHORD BEARING NORTH 84°11'45" EAST, A DISTANCE OF 42.73 FEET, THE CENTER OF CURVE AT ITS END POINT BEARS SOUTH 5°35'32" EAST; THENCE SOUTH 0°02'01" EAST, ON A NON-RADIAL BEARING, THE WESTERLY LINE OF SARATOGA SPRINGS PARCEL RECORDED AS ENTRY NO.: 79799:2021, A DISTANCE OF 100.48 FEET, TO A POINT IN THE SOUTH LINE OF AFORESAID OLD S.R.-73, SAID POINT BEING IN THE ARC OF A 5679.58 FOOT NON TANGENT CURVE TO THE LEFT, THE CENTER OF WHICH BEARS SOUTH 5°41'26" EAST; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, THOUGH A CENTRAL ANGLE OF 0°13'21", A DISTANCE OF 22.05 FEET, SUBTENDED BY A LONG CHORD BEARING SOUTH 84°11'54" WEST, A DISTANCE OF 22.05 FEET, TO A POINT IN THE ARC OF A 63.50 FOOT NON-TANGENT CURVE TO THE RIGHT, CENTER CENTER OF WHICH BEARS NORTH 49°30'46" WEST, THOUGH A CENTRAL ANGLE OF 86°19'24", A DISTANCE OF 95.67 FEET, SUBTENDED BY A LONG CHORD BEARING SOUTH 83°38'56" WEST, A DISTANCE OF 86.88 FEET, THE CENTER OF CURVE AT ITS END POINT BEARS NORTH 36°48'38" EAST, SAID END POINT BEING A POINT OF INTERSECTION WITH THE AFORESAID SOUTH LINE OF OLD S.R.-73 AND A POINT IN THE ARC OF A 5679.58 FOOT NON-TANGENT CURVE TO THE LEFT; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE AND THE SOUTH LINE OF SAID OLD S.R.-73, THOUGH A CENTRAL ANGLE OF 0°11'45", A DISTANCE OF 19.41 FEET, SUBTENDED BY A LONG CHORD BEARING SOUTH 83°06'46" WEST, A DISTANCE OF 19.41 FEET, TO THE POINT OF BEGINNING. THE CENTER OF CURVE AT ITS END POINT BEARS SOUTH 6°59'06" EAST.

CONTAINS: 14,919 SQ. FT., OR 0.342 ACRES. THE ABOVE DESCRIBED TO BE DEDICATED TO SARATOGA SPRINGS CITY, FOR PUBLIC RIGHT OF WAY.

Dennis K Withers

DENNIS K. WITHERS
L.S. LICENSE NO. 6135190
(SEAL BELOW)

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED OWNER OF THE ABOVE DESCRIBED TRACT OF LAND, HAVING CAUSED SAME TO BE DESIGNATED AS A PUBLIC ROADWAY, TO BE HEREAFTER KNOWN AS:

1400 NORTH DEDICATION PLAT
A PUBLIC STREET DEDICATION PLAT

DO HEREBY DEDICATE TO SARATOGA SPRINGS CITY ALL OF THE ABOVE DESCRIBED PARCEL FOR FOR THE PERPETUAL USE OF THE PUBLIC, AS A PUBLIC ROADWAY.

STATE OF UTAH)
) ss.
COUNTY OF SALT LAKE)

UTAH DEPARTMENT OF TRANSPORTATION

By:_____
Charles A. Stormont, Director of Right of Way

On this ___ day of _____, in the year 20_____ before me personally appeared,

CHARLES A. STORMONT, who, being by me duly sworn, did say that he is the Director of Right of way, and he further acknowledged to me that said instrument was signed by him in behalf of said UTAH DEPARTMENT OF TRANSPORTATION.

WITNESS my hand and official stamp the date in this certificate first above written.

_____
Notary Public

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED OWNER OF THE ABOVE DESCRIBED TRACT OF LAND, HAVING CAUSED SAME TO BE DESIGNATED AS A PUBLIC ROADWAY, TO BE HEREAFTER KNOWN AS:

1400 NORTH DEDICATION PLAT
A PUBLIC STREET DEDICATION PLAT

DO HEREBY DEDICATE TO SARATOGA SPRINGS CITY ALL OF THE ABOVE DESCRIBED PARCEL FOR FOR THE PERPETUAL USE OF THE PUBLIC, AS A PUBLIC ROADWAY.

MARRON ENTERPRISES LC.

BY: _____
ITS: _____

SIG.: _____

STATE OF UTAH)
) S.S
County of Utah)

On this___day of _____, 20__, personally appeared before me_____, who being by me duly sworn, did prove to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she/ executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed this plat with full authority of the owner.

I certify under PENALTY OF PERJURY under the laws of the State of Utah that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ _____
Notary Public Full Name: Commission Number:

My commission expires: A Notary Public Commissioned In Utah

APPROVAL BY LEGISLATIVE BODY

THE CITY COUNCIL OF THE CITY OF SARATOGA SPRINGS, COUNTY OF UTAH, APPROVES THIS SUBDIVISION SUBJECT TO THE CONDITIONS AND RESTRICTIONS STATED HEREON, AND HEREBY ACCEPTS THE DEDICATION OF ALL STREETS, EASEMENTS, AND OTHER PARCELS OF LAND INTENDED FOR THE PUBLIC PURPOSE OF THE PERPETUAL USE OF THE PUBLIC.

THIS _____DAY OF_____, A.D. 20_____

_____ ATTEST _____
CITY MAYOR CITY RECORDER
(SEE SEAL BELOW)

1400 NORTH DEDICATION PLAT

PUBLIC STREET DEDICATION PLAT
LOCATED IN THE NORTHEAST QUARTER OF SECTION 15 TOWNSHIP 5 SOUTH, RANGE 1 WEST
SALT LAKE BASE & MERIDIAN

DEVELOPER
Dignity Senior Care, LLC
Mark Hampton
Ph.: 801.676-7625
11716 South 700 East,
Draper, Utah 84020

SARATOGA SPRINGS ATTORNEY
APPROVED BY SARATOGA SPRINGS ATTORNEY ON THIS _____ DAY OF _____, A.D. 20____

_____
SARATOGA SPRINGS ATTORNEY

PREPARED BY:
McNEIL ENGINEERING™
Economic and Sustainable Designs, Professionals You Know and Trust
8610 South Sandy Parkway, Suite 200 Sandy, Utah 84070 801.255.7700 mcneilengineering.com
Civil Engineering • Consulting & Landscape Architecture
Structural Engineering • Land Surveying & HDS

LAND USE AUTHORITY
APPROVED BY THE CITY ENGINEER ON THIS _____ DAY OF _____, A.D. 20____

_____
LAND USE AUTHORITY

PLANNING DIRECTOR
REVIEWED BY THE PLANNING COMMISSION ON THIS _____ DAY OF _____, A.D. 20____

_____
PLANNING DIRECTOR

CITY ENGINEER
APPROVED BY THE CITY ENGINEER ON THIS _____ DAY OF _____, A.D. 20____

_____
CITY ENGINEER

FIRE CHIEF
APPROVED BY THE FIRE CHIEF ON THIS _____ DAY OF _____, A.D. 20____

_____
CITY FIRE CHIEF

LEHI CITY POST OFFICE
APPROVED BY POST OFFICE REPRESENTATIVE ON THIS _____ DAY OF _____, A.D. 20____

_____
LEHI CITY POST OFFICE REPRESENTATIVE

SURVEYOR'S SEAL



CITY ENGINEERS SEAL

CLERK-RECORDER SEAL

S:\2017Proj\17771\17771 A\Survey\Prod Dwg\17771A DED PL.dwg May 16, 2022 - 3:27pm

MINUTES – CITY COUNCIL MEETING

Tuesday, May 17, 2022
City of Saratoga Springs
City of Saratoga Springs City Offices
1307 North Commerce Drive, Suite 200, Saratoga Springs, Utah 84045

City Council Policy Meeting

Call to Order: Mayor Jim Miller called the meeting to order at 6:01 p.m.

Roll Call:

Pursuant to the COVID-19 Federal Guidelines, this Meeting will be conducted with some members participating electronically.

Present — Mayor Jim Miller, Council Members Stephen Willden, Christopher Carn, Ryan Poduska and Chris Porter

Absent — Council Member Michael McOmber

Staff Present — City Manager Mark Christensen, City Attorney Kevin Thurman, Assistant City Manager Owen Jackson, Public Works Director Jeremy Lapin, Community Development Director Ken Young, Finance Director Chelese Rawlings, Planner David Rodgers, Budget Analyst Spencer Quain, Police Chief Andrew Burton, Economic Development Director Doug Meldrum, Senior Planner Gina Grandpre, Library Director Melissa Grygla, and Deputy City Recorder Kayla Moss

Invocation: Council Member Willden
Pledge of Allegiance: Council Member Porter

Presentation: Promotion of Officer Jason Blake to Corporal. Chief Andrew Burton presented Jason Blake to the City Council for his promotion to Corporal.

Public Input: None

Reports: None

PUBLIC HEARINGS:

1. **FY 2022-2023 Final Budget, Pay Plan, and No Tax Increase; Resolution R22-27 (5-17-22).**

Mayor Miller opened the public hearing at 6:07 pm. There were no comments so the public hearing was closed.

This item should have been an ordinance instead of a resolution so they postponed it to the next meeting.

Motion by Council Member Willden to postpone the FY 2022-2023 Final Budget, Pay Plan, and No Tax Increase; Resolution R22-27 (5-17-22) until the next meeting was seconded by Council Member Porter. Vote:

DRAFT

Council Member Chris Carn Yes
Council Member Chris Porter Yes
Council Member Ryan Poduska Yes
Council Member Stephen Willden Yes
Council Member Michael McOmber Absent
Motion carried 4-0.

2. **FY 2021-2022 Budget Amendments; Resolution R22-28 (5-17-22).**

Budget Analyst Spencer Quain advised this is amendment number 7 for the year. They have been waiting on the actual numbers for garbage collection fees and are updating that now. They are also increasing the election fees.

Council Member Poduska asked why the election fees are almost double what they used to be.

Council Member Porter is also concerned about the increase when vote by mail was supposed to be a cost savings.

Mayor Miller opened the public hearing at 6:11 pm. There were no comments so the public hearing was closed.

Motion by Council Member Carn to approve the FY 2021-2022 Budget Amendments; Resolution R22-28 (5-17-22) was seconded by Council Member Poduska.
Vote:
Council Member Chris Carn Yes
Council Member Chris Porter Yes
Council Member Ryan Poduska Yes
Council Member Stephen Willden Yes
Council Member Michael McOmber Absent
Motion carried 4-0.

CONSENT ITEMS:

1. **Library Fines and Fee Schedule Amendments; Resolution R22-29 (5-17-22).**
2. **Code Amendment: Title 2 Chapter 2.07.02 Electronic Meetings Authorized; Ordinance 22-19 (5-17-22).**
3. **City Council Meeting Minutes: May 3, 2022.**
4. **Employer "Pickup" of Public Safety and Firefighter Employee Retirement Contributions; Resolution R22-30 (5-17-22).**

Motion by Council Member Porter to approve the Consent Items with all staff findings and conditions was seconded by Council Member Carn.
Vote:
Council Member Chris Carn Yes
Council Member Chris Porter Yes
Council Member Ryan Poduska Yes
Council Member Stephen Willden Yes
Council Member Michael McOmber Absent
Motion carried 4-0.

DRAFT

BUSINESS ITEMS:

1. Saratoga Dignity Care Preliminary Plat, Adam Lambert/Mark Hampton Applicants, 1400 North and the Future Mountain View Corridor.

Senior Planner Gina Grandpre presented this item to the Council. It includes a multifamily parcel as well as two single family lots and a single family subdivision with 14 lots and a care center. The single family subdivision is not 55 plus but the dignity care section is. This is a footprint subdivision. The planning commission recommended approval.

Council Member Willden asked if staff is comfortable that the developer is going to comply with direction given to them because it appears as though there was a lot of back and forth.

Senior Planner Grandpre advised they had to change the layout of their senior care facility so that was the main reason why there was a lot of back and forth.

Council Member Carn asked if this community is all curb-less. He also wondered how many beds would be in the assisted living facility.

Mark Hampton, the developer, advised there will be 74 beds in the assisted living facility. They would like it to be a gated community but there were questions on whether that would restrict access for emergency vehicles. They do have curb and gutter on one side but the asphalt goes right up to the sidewalk on the other side. They have two other facilities, one in Salt Lake and the other in Mapleton.

Council Member Porter asked if they were deed restricting for age.

Mr. Hampton advised that they are deed restricting on 55+ for occupants. The buyer can be younger but the occupants have to be 55+.

Motion by Council Member Willden to approve the Saratoga Dignity Care Preliminary Plat, Adam Lambert/Mark Hampton Applicants, 1400 North and the Future Mountain View Corridor with all staff findings and conditions was seconded by Council Member Porter.

Vote:

Council Member Chris Carn	Yes
Council Member Chris Porter	Yes
Council Member Ryan Poduska	Yes
Council Member Stephen Willden	Yes
Council Member Michael McOmber	Absent

Motion carried 4-0.

2. Northshore Commerce Preliminary Plat, Elizabeth Cole Applicant, 653 North Saratoga Road.

Planner David Rodgers presented this preliminary plat to the City Council. This is for a retail/warehouse space approved on the old office/warehouse zoning. The site plan approved the site plan contingent on the preliminary plat being approved by the City Council. The planning commission recommended approval for the project.

Council Member Porter mentioned that this was one of the projects that showed them that the zoning needed to change for office/warehouse. He does recognize that it does comply with the code it came in under.

DRAFT

Motion by Council Member Carn to approve the Northshore Commerce Preliminary Plat, Elizabeth Cole Applicant, 653 North Saratoga Road with any findings and conditions included in the engineering report added to the packet later than the original packet was seconded by Council Member Poduska.

Public Works Director Jeremy Lapin mentioned an engineering report was added to the packet late and asked that they acknowledge the findings in that.

Vote:

Council Member Chris Carn	Yes
Council Member Chris Porter	Yes
Council Member Ryan Poduska	Yes
Council Member Stephen Willden	Yes
Council Member Michael McOmber	Absent

Motion carried 4-0.

3. Transportation Master Plan Update; Ordinance 22-20 (5-17-22).

Public Works Director Lapin presented the transportation Master Plan Update to the City Council. Some adjustments were made to roads in the City due to spacing issues and traffic plans. He asked that they table this to make some changes they recognized needed to be done. There is a draft version on the GIS City map as well.

Motion by Council Member Porter to continue the Transportation Master Plan Update; Ordinance 22-20 (5-17-22) to a future meeting when staff brings it back was seconded by Council Member Carn.

Vote:

Council Member Chris Carn	Yes
Council Member Chris Porter	Yes
Council Member Ryan Poduska	Yes
Council Member Stephen Willden	Yes
Council Member Michael McOmber	Absent

Motion carried 4-0.

4. Code Amendments Title 19, Chapters 19.02, 19.09, 19.12 Driveways, City-Initiated, City-Wide; Ordinance 22-21 (5-17-22).

Public Works Director Lapin advised this is brought to them at long last after they requested an update. Instead of just addressing the driveway widths they looked at driveways as a whole and took the time to try and include any possible conflicts that may arise in the future. This allows residents to construct their drives up to 45 feet.

Council Member Willden thanked staff for the work done on this code.

Council Member Carn asked about the maximum number of units sharing a drive. He saw that it was six and asked where those are.

Planner Gina Grandpre advised they have cluster homes in the City in the Wander project that have six units sharing a drive.

Motion by Council Member Willden to approve the Code Amendments Title 19, Chapters 19.02, 19.09, 19.12 Driveways, City-Initiated, City-Wide; Ordinance 22-21 (5-17-22) with all staff findings and conditions was seconded by Council Member Poduska.

Vote:

Council Member Chris Carn	Yes
Council Member Chris Porter	Yes

Council Member Ryan Poduska Yes
Council Member Stephen Willden Yes
Council Member Michael McOmber Absent
Motion carried 4-0.

The Council adjourned to the CDRA meeting for a brief session.

They came back to City Council Meeting at 6:41 pm.

CLOSED SESSION:

Motion by Council Member Carn to enter into closed session for the purchase, exchange, or lease of property, discussion regarding deployment of security personnel, devices, or systems; pending or reasonably imminent litigation, the character, professional competence, or physical or mental health of an individual, was seconded by Council Member Poduska.
Vote:
Council Member Chris Carn Yes
Council Member Chris Porter Yes
Council Member Ryan Poduska Yes
Council Member Stephen Willden Yes
Council Member Michael McOmber Absent
Motion carried 4-0.

The meeting moved to closed session at 6:41 p.m.

Present: Mayor Miller, Council Members Willden, Porter, Poduska, Carn, City Manager Mark Christensen, City Attorney Kevin Thurman, Assistant City Manager Owen Jackson and Deputy City Recorder Kayla Moss.

Closed Session adjourned at 6:55 p.m.

ADJOURNMENT:

There being no further business, Mayor Miller adjourned the meeting at 6:55 p.m.

_____
Jim Miller, Mayor

Attest:

_____
Cindy LoPiccolo, City Recorder
Approved:

DRAFT

SARATOGA SPRINGS PLANNING

City Council Staff Report

Holiday Oil Gas – Saratoga Springs Plat 'A' Preliminary Plat and Site Plan
June 7, 2022
Public Meeting

Report Date:	May 31, 2022
Applicant:	Brent Neel
Owner:	WAGSTAFF INVESTMENTS LLC
Location:	Redwood Road and Pony Express
Major Street Access:	Southeast corner of Redwood Road and Pony Express
Parcel Number(s) & Size:	58:035:0133, 2.51 acres
Land Use Designation:	Planned Community
Parcel Zoning:	Planned Community Neighborhood Commercial
Adjacent Zoning:	Planned Community Residential
Current Use of Parcel:	Undeveloped
Adjacent Uses:	Residential
Previous Meetings:	Planning Commission, November 18, 2021, City Council Approval - Wander Community Plan Major Amendment 2, December 7, 2021 Planning Commission, February 18, 2021; City Council Approval - Wander Village Plan 1 Major Amendment 2, March 16, 2021
Previous Approvals:	Wander Community Plan Major Amendment 2, December 7, 2021 – Approved. Wander Village Plan 1 Major Amendment 2, March 16, 20212021 – Approved.
Type of Action:	Administrative: Plat: Planning Commission recommendation, City Council action Site Plan: Planning Commission action
Land Use Authority:	Planning Commission (Site Plan), City Council (Preliminary Plat)
Future Routing:	City Council (Preliminary Plat); none (Site Plan)
Planner:	Gina Grandpre, Senior Planner

A. Executive Summary:

The applicant requests the City approve the commercial preliminary plat for the Holiday Oil – Saratoga Springs Plat 'A' subdivision; consisting of one lot that is 2.5 acres and site plan for a Holiday Oil Gas Station, C-Store, and Car Wash. Located on the southeast corner of Redwood Road and Pony Express, the property resides within the boundary of the Wander (Jordan Promenade) Village Plan One, as shown on Exhibit 1.

Gina Grandpre, Senior Planner
ggrandpre@saratogaspringscity.com
1307 North Commerce Drive, Suite 200 • Saratoga Springs, Utah 84045
801-766-9793 x 185 • 801-766-9794 fax

Recommendation:
On May 26, 2022, the Planning Commission held a public meeting to review, discuss and decide to recommend approval for the Holiday Oil – Saratoga Springs Plat 'A' subdivision Preliminary Plat, see Exhibit 7 for the Planning Commission Meeting minutes from May 26, 2022.

Options include approval with or without modification, denial or continuation for this items.

B. Background: The subject property includes 2.5 acres of undeveloped, unplatted land within the Wander Community Plan and Village Plan One. The property was not subdivided at the time Oakwood Homes developed phases within the Village One Plan, however, it is indicated in their lotting plan that this parcel is to be subdivided into a neighborhood commercial development. The property was previously owned by Suburban Land Reserve and then sold to the developer of the Holiday Oil Gas Station, C-Store, and Car Wash. The parcel is a desirous location for the uses allowed in the Neighborhood Commercial zone.

C. Specific Request:

Preliminary Plat. The applicant requests approval of a preliminary plat to create the following:

- A 2.5 acre Neighborhood Commercial lot for the development of a Holiday Oil Gas Station, C-Store, and Car Wash.

Site Plan. The applicant requests approval of a site plan:

- Holiday Oil Gas Station, C-Store, and Car Wash including:
  - Gas Station with 14 pumps
  - C-Store - 4,200 sq. ft.
  - Fully automated car wash
- Architectural standards for the buildings
- Lighting, landscaping, irrigation, utility, and lighting
- Related parking, trash enclosures, and other requirements

D. Process:

Preliminary Plat
The table in Section 19.13.04 outlines the process requirements of a Preliminary Plat. A public meeting (not hearing) is required with the Planning Commission who then make a recommendation to the City Council which is the Land Use Authority. The City Council shall then either approve, continue, or deny the request at a public meeting.

Following any Preliminary Plat approval a Final Plat will be required and recorded; the Planning Director is the Land Use Authority for Final Plats.

G. General Plan and Zoning Code: The land use designation for the parcel is Planned Community. The proposed commercial plats, and site plan enable development that complies with the Wander Community Plan and Village Plan One, as directed by these governing documents the development is required to meet the Land Use Management code in Title 19 for commercial development in the Neighborhood Commercial zone, and are therefore consistent with the General Plan. The General Plan recommends Planned Community.

Staff conclusion: ***Consistent.*** *The development requested by the applicant, follows the Wander Community Plan and Village Plan One requirements for the General Plan, and the Zoning Code for Preliminary Plat and Site Plan.*

H. Code Criteria:

The attached Planning Review Checklist includes a detailed review of the proposed preliminary plat.

I. Recommendation and Alternatives:

Staff recommends the City Council conduct a public meeting, discuss the application, and choose from the following options.

Option 1 – Approval and conditional

"I move to approve the Holiday Oil – Saratoga Springs Plat 'A' subdivision Preliminary Plat, located generally at the southeast corner of Redwood Road and Pony Express as outlined in Exhibit 1 with the findings and conditions in the staff report dated June 7, 2022:

Findings

1. The Preliminary Plat is consistent with the General Plan and the Wander Village Plan, as shown in Exhibit 2.
2. The Preliminary Plat complies with Chapters 19.04, 19.05, 19.06, 19.11, 19.12, 19.14, 19.16, 19.19, and 19.25 of the Code, as articulated in the findings for approval in Exhibit 5 of this report, which exhibit is incorporated by reference, herein, with the following conditions:

Conditions

1. The Holiday Oil – Saratoga Springs Plat 'A' subdivision preliminary plat is recommended as shown in the attachment to the Staff report in Exhibit 3 subject to modification for the remaining conditions.
2. All conditions of the City Engineer, if applicable, shall be met, including but not limited to those in the Engineer Staff Report in Exhibit 6.
3. Ownership records shall be updated prior to recordation so that County and application more fully match.
4. All conditions of the Fire Marshall shall be met.
5. All other Code requirements shall be met.
6. Any other conditions or changes as articulated by the City Council_____."

Alternative 1 – Continuance

The City Council may also choose to continue the items.

"I move to continue the Holiday Oil – Saratoga Springs Plat 'A' subdivision Preliminary Plat and the Holiday Oil Gas Station, C-Store and Car Wash Site Plan to another meeting on [DATE], with direction to the applicant and Staff on information and/or changes needed to render a decision, as follows:

1. _____
2. _____"

Alternative 2 – Denial
The Planning Commission may also choose to forward a negative recommendation to the City Council regarding the Preliminary Plat and deny the Site Plan.

"**I move to deny** the Holiday Oil – Saratoga Springs Plat 'A' subdivision Preliminary Plat with the findings below:

1. The Holiday Oil – Saratoga Springs Plat 'A' subdivision Preliminary Plat is not consistent with the General Plan, as articulated by the City Council:
   _____
   _____, and/or,
2. The Holiday Oil – Saratoga Springs Plat 'A' subdivision Preliminary Plat is not consistent with Chapter(s)_____ and/or Chapter(s) _____ of the Code, as articulated by the City Council:
   _____.

"I move to deny the Holiday Oil Gas Station, C-Store and Car Wash Site Plan with the findings below:

1. The Holiday Oil Gas Station, C-Store and Car Wash Site Plan is not consistent with the General Plan, as articulated by the City Council: _____
   _____, and/or,
2. The Holiday Oil Gas Station, C-Store and Car Wash Site Plan is not consistent with Chapter(s)_____ and/or Chapter(s) _____ of the Code, as articulated by the City Council: _____."

J. Exhibits:

1. Location and Zone
2. Wander Village Plan One, Lotting Plan and Commercial Development Section
3. Preliminary Plat
4. Site Plan
5. Planning Review checklist
6. City Engineer's staff report
7. Planning Commission Meeting minutes – May 26, 2022

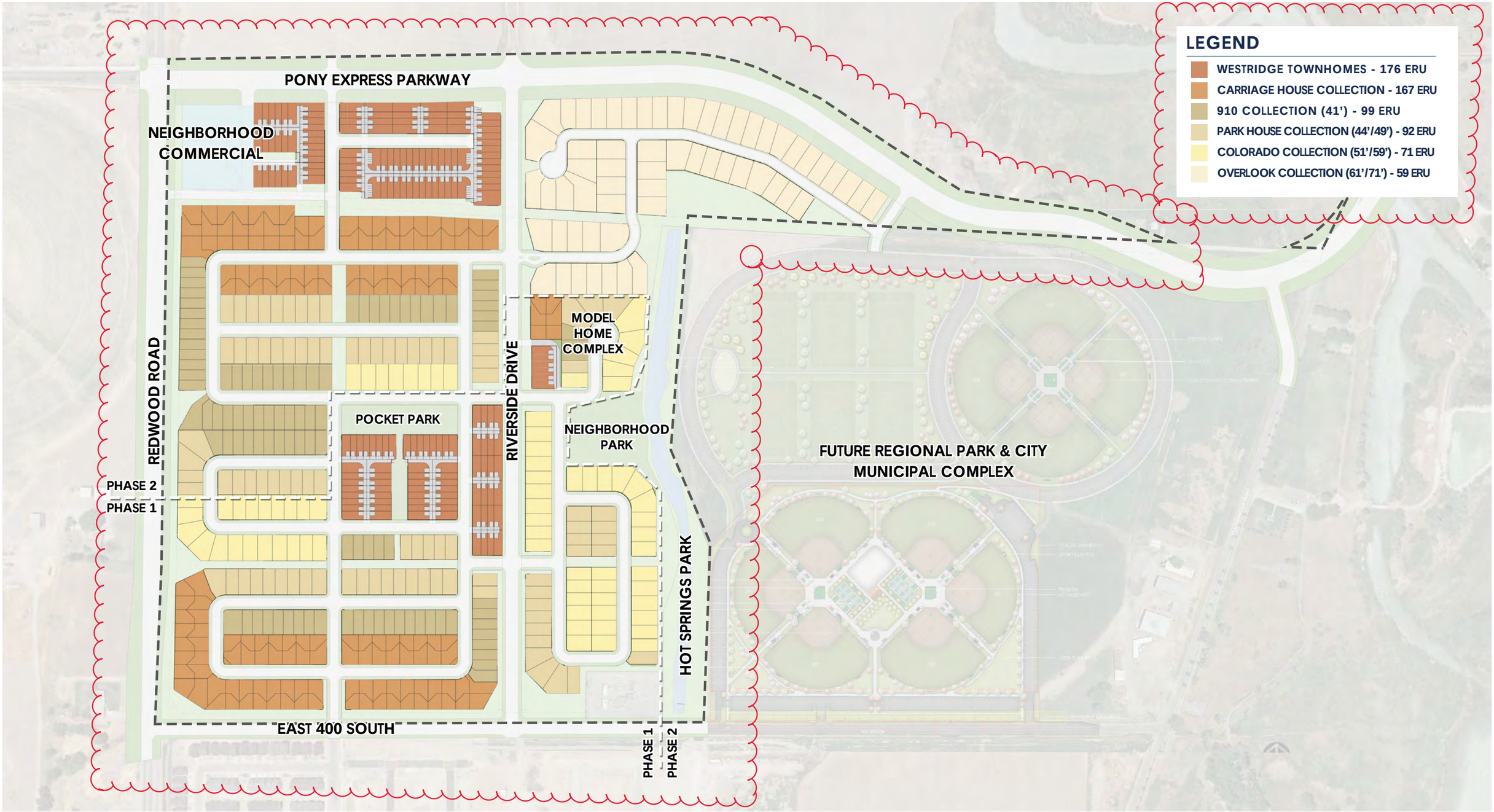
Exhibit 1: Location & Zone Map



Gina Grandpre, Senior Planner
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1307 North Commerce Drive, Suite 200 • Saratoga Springs, Utah 84045
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EXHIBIT 2: Wander Village Plan One, Lotting Plan and Commercial Development Section

SECTION 8 - LOTTING MAP



NOTE: Reference Appendix A for full lotting map set.

DEVELOPMENT STANDARDS - COMMERCIAL

Commercial areas present in Village Plan Area 1 will harbor architectural features and materials that contribute to the overall theme of the Jordan Promenade Development while blending with neighboring architecture, landscapes, and hardscape elements. Commercial development will adhere to the Saratoga Springs Municipal Code and design guidelines.

Oakwood Homes of Utah, LLC will work closely with the commercial developer, Suburban Land Reserve, to provide commercial and mixed-use development that complements the overall community.

Commercial areas occuring in Jordan Promenade are classified under the Neighborhood Commercial Land Use Zone (Section 19.04.09 of the Saratoga Springs Municipal Code).

The Neighborhood Commercial Land Use Zone (NC) is intended to create, preserve, and enhance areas of retail establishments serving frequently recurring needs for goods and services in convenient locations to neighborhoods. This commercial zone is typically appropriate to small shopping clusters or integrated shopping centers in developments of one to three acres, but not greater than five, within, or convenient to, residential neighborhoods. Facilities should be oriented to serve residents' commercial service needs, to strengthen neighborhood interaction and neighborhood character, to minimize the need for automobile trips and to make commercial services more readily availa ble to residents of adjacent neighborhoods.

- Improvements such as trails, seating and lighting that would help create gathering spaces and promote pedestrian activity are expected, where appropriate, and may be considered an essential part of developments in the Neighborhood Commercial zone. Developments in the Neighborhood Commercial Zone shall also be characterized by increased landscaping and architectural compatibility with the surrounding neighborhood.

The following table outlines the land use regulations and minimum setback requirements for the Neighborhood Commercial Land Use Zone (Section 19.04.10 of the SSMC):

LAND USE REGULATIONS (NC)	
Minimum Lot Size	15,000 sq. ft.
Maximum Building Size	15,000 sq. ft.
Minimum Lot Width	100’
Minimum Lot Frontage	100’
Max. Height of Structures	35’
Maximum Lot Coverage	50%

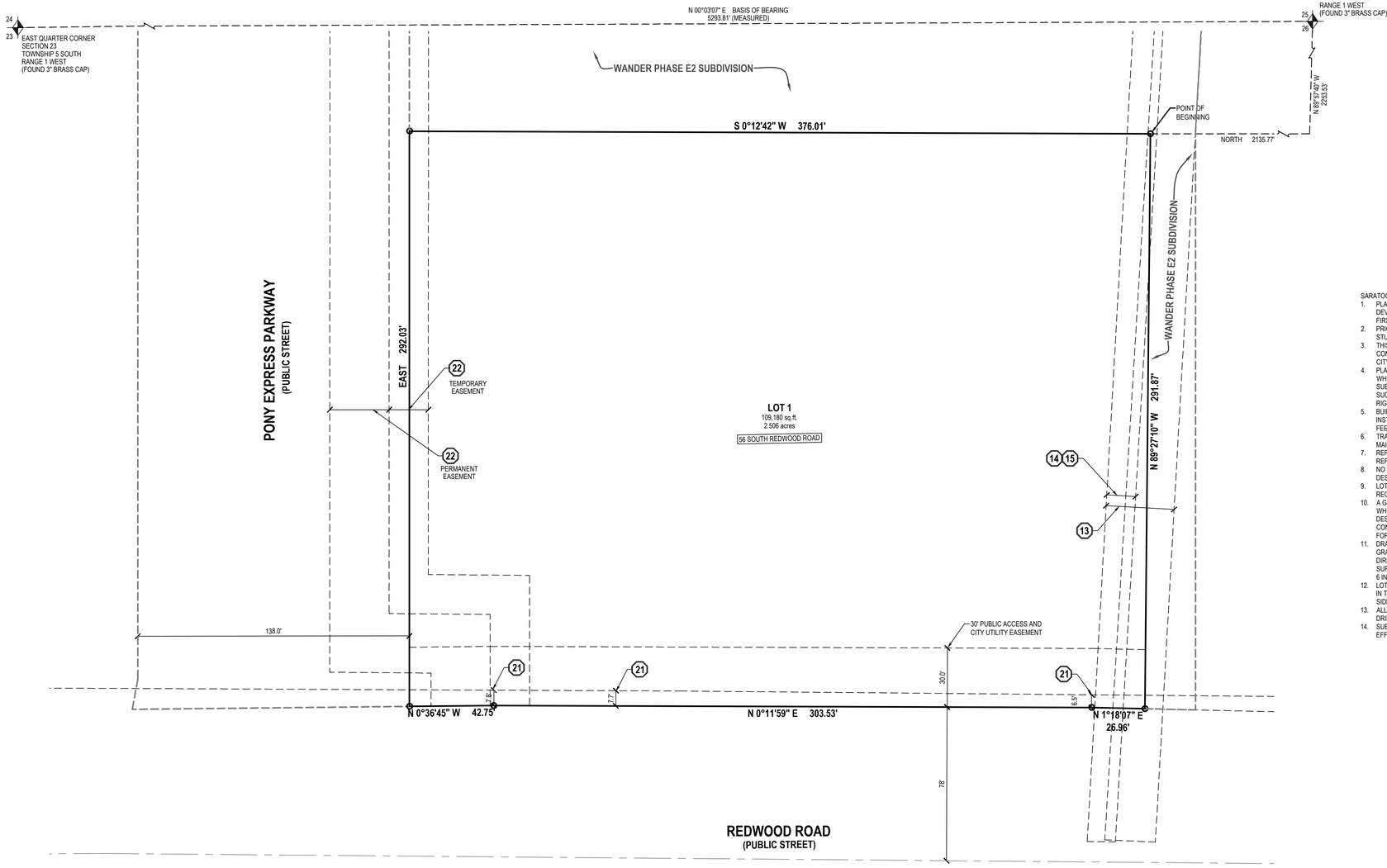
MINIMUM SETBACK REQUIREMENTS (NC)	
Front/Corner Side Setback	25’
Interior Side Setback	25’
Rear Setback	25’

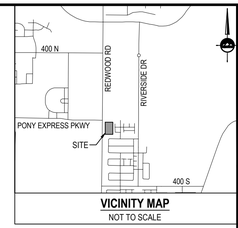
The following table outlines permitted and conditional uses for the Neighborhood Commercial Land Use Zone (Section 19.04.11 of the SSMC):

PERMITTED AND CONDITIONAL USES (NC)	
Permitted Uses	Animal Hospital, Small/Small Veterinary Office; Arts & Crafts Sales; Bakery, Retail; Bookstore; Car Wash, Public; Child Care Center; Churches; Commuter/Light Rail Station; Convenience Store (non-fast food); Copy Center; Dry Cleaners; Educational Center; Fitness Center (5,000 sq. ft. or larger); Floral Sales; Funeral Home (5,000 sq. ft. or less); Hair Salon; Ice Cream Parlor; Office, Medical and Health Care; Office, Professional; Personal Service Establishment; Plant & Tree Nursery; Postal Center; Preschool; Public Parks, playgrounds, recreation areas, or other park improvements; Public Building or Facilities (City Owned); Refueling Station, Public; Restaurant, Deli; Restaurant, Sit Down; Retail Sales; Retail, Specialty; School, Public.
Conditional Uses	None

HOLIDAY OIL - SARATOGA SPRINGS PLAT 'A'

**LOCATED IN THE NORTHEAST QUARTER OF SECTION 26,
TOWNSHIP 5 SOUTH, RANGE 1 WEST
SALT LAKE BASE & MERIDIAN
CITY OF SARATOGA SPRINGS, UTAH COUNTY, UTAH**





VICINITY MAP
NOT TO SCALE

LEGEND

- EXISTING STREET MONUMENT
- PROPOSED STREET MONUMENT
- SECTION CORNER
- SET 5/8" REBAR WITH YELLOW PLASTIC CAP, OR NAIL STAMPED "ENSIGN ENG. & LAND SURV."
- BOUNDARY LINE
- SECTION LINE
- CENTER LINE
- EASEMENT LINE

SARATOGA SPRINGS PLAT NOTES

1. PLAT MUST BE RECORDED WITHIN 24 MONTHS OF FINAL PLAT APPROVAL, OR FOR PHASED DEVELOPMENTS, WITHIN 24 MONTHS OF RECORDATION OF MOST RECENT PHASE. THE FIRST FINAL PLAT APPROVAL WAS GRANTED ON THE _____ DAY OF _____, 20_____.
2. PRIOR TO BUILDING PERMITS BEING ISSUED, SOIL AND/OR GEOTECHNICAL TESTING STUDIES MAY BE REQUIRED ON EACH LOT AS DETERMINED BY THE CITY BUILDING OFFICIAL.
3. THIS PLAT MAY BE SUBJECT TO A DEVELOPMENT AGREEMENT THAT SPECIFIES THE CONDITIONS OFF DEVELOPING, BUILDING, AND USING PROPERTY WITHIN THIS PLAT. SEE CITY RECORDER FOR DETAILS.
4. PLAT IS SUBJECT TO "INSTALLATION OF IMPROVEMENTS AND BOND AGREEMENT NO._____" WHICH REQUIRES THE CONSTRUCTION AND WARRANTY OF IMPROVEMENTS IN THIS SUBDIVISION. THESE OBLIGATIONS RUN WITH THE LAND AND ARE BINDING ON SUCCESSORS, AGENTS, AND ASSIGNS OF DEVELOPER. THERE ARE NO THIRD-PARTY RIGHTS OR BENEFICIARIES UNDER THIS AGREEMENT.
5. BUILDING PERMITS WILL NOT BE ISSUED UNTIL ALL REQUIRED IMPROVEMENTS HAVE BEEN INSTALLED PER CITY STANDARDS AND ALL FEES INCLUDING IMPACT AND CONNECTION FEES ARE PAID.
6. TRAIL IMPROVEMENTS LOCATED HEREIN ARE TO BE INSTALLED BY OWNER AND MAINTAINED BY HOLIDAY OIL INC, UNLESS SPECIFIED OTHERWISE ON EACH IMPROVEMENT.
7. REFERENCES HEREIN TO DEVELOPER OR OWNER SHALL APPLY TO BOTH, AND ANY SUCH REFERENCE SHALL ALSO APPLY TO SUCCESSORS, AGENTS, AND ASSIGNS.
8. NO CITY MAINTENANCE SHALL BE PROVIDED FOR STREETS AND IMPROVEMENTS DESIGNATED AS "PRIVATE" ON THIS PLAT.
9. LOTS/UNITS MAY BE SUBJECT TO THE WANDER COMMUNITY PLAN AND VILLAGE PLAN 1 REGULATIONS.
10. A GEOTECHNICAL REPORT HAS BEEN COMPLETED BY GORDON [GEOTECHNICAL ENGINEER], WHICH ADDRESSES SOIL AND GROUNDWATER CONDITIONS, PROVIDES ENGINEERING DESIGN CRITERIA, AND RECOMMENDS MITIGATION MEASURES IF PROBLEMATIC CONDITIONS WERE ENCOUNTERED. THE CITY ASSUMES NO LIABILITY OR RESPONSIBILITY FOR ANY RELIANCE ON THE INFORMATION OR LACK THEREOF IN THE REPORT.
11. DRAINAGE ACROSS PROPERTY LINES SHALL NOT EXCEED THAT WHICH EXISTED PRIOR TO GRADING. EXCESS OR CONCENTRATED DRAINAGE SHALL BE CONTAINED ON SITE OR DIRECTED TO AN APPROVED DRAINAGE FACILITY. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6 INCHES WITHIN THE FIRST 10 FEET.
12. LOT OWNERS ARE RESPONSIBLE FOR INSTALLING LANDSCAPING MEETING THE CITY CODE IN THE PARK STRIP AREA FOR ALL LOT LINES THAT ABUT ROADS, INCLUDING ON THE FRONT, SIDE AND REAR, AND MAINTAINING SUCH PERPETUITY.
13. ALL PRIVATE ROADS AND COMMON AREA PERPETUAL UTILITY EASEMENTS (CITY) FOR DRINKING WATER, SECONDARY WATER, AND SANITARY SEWER.
14. SUBJECT PROPERTY LOCATED IN ZONE X ON FIRM MAP NO. 49049C0285F WITH AN EFFECTIVE DATE OF 06/19/2020.

BY SIGNING THIS PLAT, THE FOLLOWING UTILITY COMPANIES ARE APPROVING THE: (A) BOUNDARY, COURSE, DIMENSIONS, AND INTENDED USE OF THE RIGHT-OF-WAY AND EASEMENT GRANTS OF RECORD; (B) LOCATION OF EXISTING UNDERGROUND AND UTILITY FACILITIES; (C) CONDITIONS OR RESTRICTIONS GOVERNING THE LOCATION OF THE FACILITIES WITHIN THE RIGHT-OF-WAY, AND EASEMENT GRANTS OF RECORD, AND UTILITY FACILITIES WITH IN THE SUBDIVISION. "APPROVING" SHALL HAVE THE MEANING IN UTAH CODE SECTION 10-9A-603(4)(c)(ii). THE FOLLOWING NOTES ARE NOT ENDORSED OR ADOPTED BY SARATOGA SPRINGS AND DO NOT SUPERSEDE CONFLICTING PLAT NOTES OR SARATOGA SPRINGS POLICIES.

DOMINION ENERGY COMPANY

DOMINION ENERGY (QUESTAR CORPORATION) APPROVES THIS PLAT SOLELY FOR THE PURPOSE OF CONFIRMING THE PLAT CONTAINS PUBLIC UTILITY EASEMENTS. DOMINION ENERGY (QUESTAR CORPORATION) MAY REQUIRE OTHER EASEMENTS IN ORDER TO SERVE THIS DEVELOPMENT. THIS APPROVAL DOES NOT CONSTITUTE ABROGATION OR WAIVER OF ANY OTHER EXISTING RIGHTS, OBLIGATIONS OR LIABILITIES PROVIDED BY LAW OR EQUITY. THIS APPROVAL DOES NOT CONSTITUTE ACCEPTANCE, APPROVAL OF ACKNOWLEDGEMENT OF ANY TERMS CONTAINED IN THE PLAT, INCLUDING THOSE SET FORTH IN THE OWNERS DEDICATION AND THE NOTES AND DOES NOT CONSTITUTE A GUARANTEE OF PARTICULAR TERMS OF NATURAL GAS SERVICE. FOR FURTHER INFORMATION PLEASE CONTACT DOMINION ENERGY'S (QUESTAR CORPORATION) RIGHT-OF-WAY DEPARTMENT AT 1-800-366-6532.

APPROVED THIS ____ DAY OF _____, 20___

BY_____

TITLE_____
DOMINION ENERGY COMPANY (QUESTAR CORPORATION)

ROCKY MOUNTAIN POWER NOTES

1. PURSUANT TO UTAH CODE ANN. § 54-3-27 THIS PLAT CONVEYS TO THE OWNER(S) OR OPERATORS OF UTILITY FACILITIES A PUBLIC UTILITY EASEMENT ALONG WITH ALL THE RIGHTS AND DUTIES DESCRIBED THEREIN.
2. PURSUANT TO UTAH CODE ANN. § 17-27A-603(4)(C)(II) ROCKY MOUNTAIN POWER ACCEPTS DELIVERY OF THE PUE AS DESCRIBED IN THIS PLAT AND APPROVES THIS PLAT SOLELY FOR THE PURPOSE OF CONFIRMING THAT THE PLAT CONTAINS PUBLIC UTILITY EASEMENTS AND APPROXIMATES THE LOCATION OF THE PUBLIC UTILITY EASEMENTS, BUT DOES NOT WARRANT THEIR PRECISE LOCATION. ROCKY MOUNTAIN POWER MAY REQUIRE OTHER EASEMENTS IN ORDER TO SERVE THIS DEVELOPMENT. THIS APPROVAL DOES NOT AFFECT ANY RIGHT THAT ROCKY MOUNTAIN POWER HAS UNDER:
   a. A RECORDED EASEMENT OR RIGHT-OF WAY
   b. THE LAW APPLICABLE TO PRESCRIPTIVE RIGHTS
   c. TITLE 54, CHAPTER 8A, DAMAGE TO UNDERGROUND UTILITY FACILITIES OR
   d. ANY OTHER PROVISION OF LAW.

APPROVED THIS ____ DAY OF _____, 20____

ROCKY MOUNTAIN POWER

Easement Notes:

13. Agreement and Grant of Easement to the Town of Eagle Mountain recorded October 20, 1998 as Entry No. 106499 in Book 4819 at Page 90 of Official Records.(shown on plat)
14. Agreement and Grant of Easement to the Town of Eagle Mountain recorded October 20, 1998 as Entry No. 106500 in Book 4819 at Page 101 of Official Records. (shown on plat)
15. An easement over, across or through the land for gas service pipeline and incidental purposes, as granted to Questar Gas Company by Instrument recorded May 17, 1999 as Entry No. 57051 in Book 5087 at Page 243 of Official Records. (shown on plat)
16. Notice of Creation of Agriculture Protection Area recorded March 10, 2000 as Entry No. 19297:2000 of Official Records.
17. An easement over, across or through the land for water transmission and distribution structures and facilities and incidental purposes, as granted to City of Saratoga Springs, a body politic of the State of Utah by Instrument recorded April 6, 2005 as Entry No. 36145:2005 of Official Records. (blanket in nature)
18. Abutter's rights in favor of Utah Department of Transportation as disclosed by Quit Claim Deed recorded July 20, 2009 as Entry No. 79200:2009 of Official Records. (blanket in nature)
19. An Ordinance Creating the "Saratoga Springs Community Development And Renewal Agency" Under Title 17C of the Utah Code recorded May 2, 2012 as Entry No. 36612:2012 of Official Records. (blanket in nature)
20. Reservations contained in that certain Special Warranty Deed recorded April 23, 2014 as Entry No. 26825:2014 of Official Records. As corrected by that certain Corrective Special Warranty Deed recorded April 09, 2015 as Entry No. 29387:2015 of Official Records. (blanket in nature)
21. Trail Easement Agreement by and between Suburban Land Reserve, Inc., a Utah corporation and the City of Saratoga Springs, a Utah municipal corporation recorded May 10, 2018 as Entry No. 43951:2018 of Official Records. (shown on plat)
22. Sewer Easement Agreement by anQ d between Suburban Land Reserve, Inc., a Utah corporation and the City of Saratoga Springs, a Utah municipal corporation recorded April 09, 2019 as Entry No. 29021:2019 of Official Records. (shown on plat)
23. Vehicular access is limited to openings permitted by the Utah State Department of Transportation in accordance with Section 41-6a-714, Utah Code Annotated, as amended 2005.

DATA TABLE

INFORMATION	AC	SQ.FT.	% TOTAL	#	NOTES
TOTAL PROJECT AREA	2.506	109180	100%		
SINGLE FAMILY AREA	0	0	0%		
SENSITIVE LANDS	0	0	0%		
OPEN SPACE	0	0	0%		
LANDSCAPING	.598	30467	18%		
BUILDABLE LAND	1.908	78713	72%		
ROW AREA	0	0	0%		
SINGLE FAMILY LOTS				0	
NET DENSITY DWELLING PER ACRE				0	

NORTH

HORIZONTAL GRAPHIC SCALE

30 0 15 30 60
(IN FEET)
HORZ: 1 inch = 30 ft.

SURVEYOR'S CERTIFICATE

I, Patrick M. Harris, do hereby certify that I am a professional Land Surveyor, and that I hold a license, Certificate No. 286882, in accordance with the Professional Engineers and Land Surveyors Licensing Act found in Title 58, Chapter 22 of the Utah Code. I further certify that by authority of the Owners, I have made a survey of the tract of land shown on this plat and described below, have subdivided said tract of land into lots, streets, and easements, have completed a survey of the property described on this plat in accordance with Utah Code Section 17-23-17, have verified all measurements, and have placed monuments as represented on the plat. I further certify that every existing right-of-way and easement grant of record for underground facilities, as defined in Utah Code Section 54-8a-2, and for other utility facilities, is accurately described on this plat, and that this plat is true and correct. I also certify that I have filed, or will file within 90 days of recordation of this plat, a map of survey I have completed with the Utah County Surveyor.

BOUNDARY DESCRIPTION

A portion of Section 26, Township 5 South, Range 1 West, Salt Lake Base and Meridian, Saratoga Springs, Utah County Utah, being more particularly described as follows:

Beginning at a point on the Westerly Boundary line of Wander Phase E2 Subdivision, said point being North 89°57'40" West along the Quarter Section line 2253.53 feet and North 2135.77 feet from the East Quarter Corner of Section 26, Township 5 South, Range 1 West, Salt Lake Base and Meridian; and running

thence North 89°27'10" West 291.87 feet along said Boundary line to the Easterly Right-of-Way line of Redwood Road;
thence along the Easterly Right-of-Way line of Redwood Road the following three (3) courses:
(1) North 01°18'07" East 26.96 feet;
(2) North 00°11'59" East 303.53 feet;
(3) North 00°36'45" West 42.75 feet to the Southerly Right-of-Way line of Pony Express Parkway;
thence East 292.03 feet along said Southerly Right-of-Way line to the Westerly Boundary line of Wander Phase E2 Subdivision;
thence South 00°12'42" West 376.01 feet along said Westerly Boundary line to the point of beginning.

Contains 109,180 Square Feet or 2.506 Acres.

DATE

PATRICK M. HARRIS
P.L.S. 286882

OWNER'S DEDICATION

Know all men by these presents that the undersigned owner(s) of the above described tract of land have caused same to be subdivided into lots, parcels, and streets, together with easements and rights-of-ways, to be hereafter known as:

HOLIDAY OIL - SARATOGA SPRINGS PLAT 'A'

and do hereby dedicate for the perpetual use of the public and City all parcels, lots, streets, easements, rights-of-ways, and public amenities shown on this plat as intended for public of City use. The owner(s) and all agents, successors, and assigns voluntarily defend, indemnify, and save harmless the City against any easements or other encumbrance on a dedicated street, easement, or right-of-way that will interfere with the City's use, maintenance, and operation of the street or utilities. The owner(s) and all agents, successors, and assigns assume all liability with respect to the creation of this subdivision, the alteration of the ground surface, vegetation, drainage, or surface of sub-surface water flows within this subdivision, and the development activity within this subdivision by the owners and all agents, successors, and assigns.

In witness whereof _____ have hereunto set _____ this _____ day of _____ A.D., 20_____

Signature | Print Name | Title & Entity

OWNER'S ACKNOWLEDGMENT

STATE OF UTAH)S.S.
County of _____

On this _____ day of _____ 20___, personally appeared before me _____, who being by me duly sworn, did prove to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged to me that he/she/they executed the same in his/her/their authority capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed this plat with full authority of the owner(s).

I certify under PENALTY OF PERJURY under the laws of the State of Utah that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Notary Public Full Name:_____

Commission Number: _____

My commission expires: _____

A Notary Public Commissioned In Utah

APPROVAL BY LEGISLATIVE BODY

THE CITY COUNCIL OF THE CITY OF SARATOGA SPRINGS, COUNTY OF UTAH, APPROVES THIS SUBDIVISION SUBJECT TO THE CONDITIONS AND RESTRICTIONS STATED HEREON, AND HEREBY ACCEPTS THE DEDICATION OF ALL STREETS, EASEMENTS AND OTHER PARCELS OF LAND INTENDED FOR PUBLIC PURPOSE FOR THE PERPETUAL USE OF THE PUBLIC.

THIS _____ DAY OF _____ A.D. 20____.

CITY MAYOR | ATTEST: CITY RECORDER (SEE SEAL BELOW)

HOLIDAY OIL - SARATOGA SPRINGS PLAT 'A'

**LOCATED IN THE NORTHEAST QUARTER OF SECTION 26,
TOWNSHIP 5 SOUTH, RANGE 1 WEST
SALT LAKE BASE & MERIDIAN
CITY OF SARATOGA SPRINGS, UTAH COUNTY, UTAH**

SHEET 1 OF 1
PROJECT NUMBER : 10176A
MANAGER : CD
DRAWN BY : KFW
CHECKED BY : PMH
DATE : 5/11/22

ENSIGN
SALT LAKE CITY
45 W. 10000 S., Suite 500
Sandy, UT. 84070
Phone: 801.255.0529
Fax: 801.255.4449
WWW.ENSIGNENG.COM

LAYTON
Phone:801.547.1100
TOOELE
Phone: 435.843.3590
CEDAR CITY
Phone: 435.865.1453
RICHFIELD
Phone: 435.590.0187
COLORADO SPRINGS
Phone: 719.475.0119

COMCAST CABLE TELEVISION
APPROVED THIS _____ DAY OF_____, 20 ____.
COMCAST CABLE TELEVISION

CENTURY LINK
APPROVED THIS _____ DAY OF_____, 20 ____.
CENTURY LINK

PUBLIC WORKS DIRECTOR
APPROVED BY THE PUBLIC WORKS DIRECTOR ON THIS _____ DAY OF _____, 20 __.
PUBLIC WORKS DIRECTOR

CITY ENGINEER
APPROVED BY THE CITY ENGINEER ON THIS ____ DAY OF _____, 20 ____.
CITY ENGINEER

FIRE CHIEF
APPROVED BY THE FIRE CHIEF ON THIS _____ DAY OF_____, 20 ____.
CITY FIRE CHIEF

LEHI CITY POST OFFICE
APPROVED BY POST OFFICE REPRESENTATIVE ON THIS ____ DAY OF_____, 20 ____.
LEHI CITY POST OFFICE REPRESENTATIVE

PLANNING DIRECTOR
APPROVED BY THE PLANNING DIRECTOR ON THIS ____ DAY OF_____, 20 ____.
PLANNING DIRECTOR

LAND USE AUTHORITY
APPROVED BY THE LAND USE AUTHORITY ON THIS _____ DAY OF_____, 20 ____.
LAND USE AUTHORITY

SARATOGA SPRINGS ATTORNEY
APPROVED BY SARATOGA SPRINGS CITY ATTORNEY THIS ____ DAY OF_____, 20 ____.
SARATOGA SPRINGS ATTORNEY

SURVEYOR'S SEAL
PROFESSIONAL LAND SURVEYOR
No. 286882
PATRICK M. HARRIS
STATE OF UTAH

CITY ENGINEER'S SEAL

CLERK-RECORDER SEAL

EXHIBIT 4: SITE PLAN

811 Know what's below. Call before you dig.

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

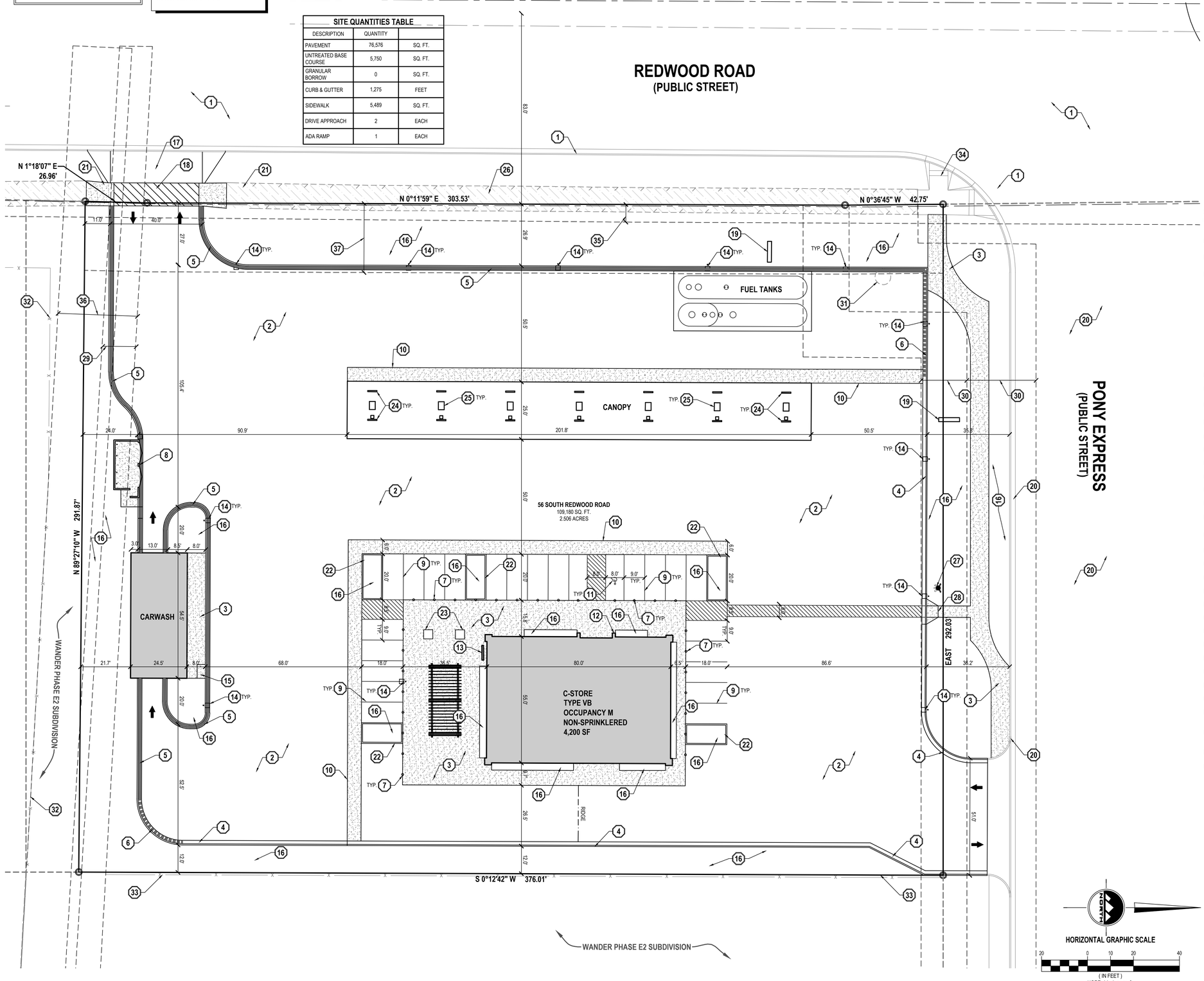
BENCHMARK

EAST QUARTER CORNER OF SECTION 26
TOWNSHIP 5 SOUTH, RANGE 1 WEST
SALT LAKE BASE & MERIDIAN

SURVEY AND DESIGN ELEVATION = 4513.92'
NGVD29 ELEVATION=4513.65'

SITE QUANTITIES TABLE

DESCRIPTION	QUANTITY	
PAVEMENT	76,576	SQ. FT.
UNTREATED BASE COURSE	5,750	SQ. FT.
GRANULAR BORROW	0	SQ. FT.
CURB & GUTTER	1,275	FEET
SIDEWALK	5,489	SQ. FT.
DRIVE APPROACH	2	EACH
ADA RAMP	1	EACH



GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE LOCAL AGENCY JURISDICTION'S DESIGN STANDARDS AND PUBLIC IMPROVEMENTS SPECIFICATIONS.
2. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE M.U.T.C.D. (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES).
3. ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED, INCLUDING TREES AND DECORATIVE SHRUBS, SOD, FENCES, WALLS AND STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.
4. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING CONCRETE OR ASPHALT.
5. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.
6. ALL CONSTRUCTION IS TO BE DONE IN ACCORDANCE WITH THE LOCAL AGENCY JURISDICTION'S CURRENT DESIGN STANDARDS AND PUBLIC IMPROVEMENTS SPECIFICATIONS.
7. PRIOR TO THE COMMENCEMENT OF ANY WORK, A PRE-CONSTRUCTION MEETING WILL BE HELD WITH THE PUBLIC WORKS DIRECTOR, CHIEF BUILDING OFFICIAL, CITY INSPECTORS, THE CONTRACTOR AND THE PROPERTY OWNER.
8. PRIOR TO CONSTRUCTION AN EROSION AND SEDIMENTATION CONTROL PLAN WILL BE SUBMITTED TO THE PUBLIC WORKS DIRECTOR FOR APPROVAL.
9. ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS AND RECOMMENDATIONS.
10. ALL ADA ACCESSIBLE SIDEWALK WILL BE CONSTRUCTED IN ACCORDANCE WITH THE LOCAL AGENCY JURISDICTION'S DESIGN STANDARDS AND PUBLIC IMPROVEMENTS SPECIFICATIONS.
11. ALL DIMENSIONS FROM CURB AND GUTTER ARE TO TOP BACK OF CURB UNLESS NOTED OTHERWISE.
12. THE CONTRACTOR IS TO PROVIDE AN AS-BUILT DRAWING IN PDF FORMAT TO HOLIDAY OIL UPON COMPLETION OF THE PROJECT. A SCANNED COPY OF THE PLANS WITH CLEAR, LEGIBLE HAND WRITTEN NOTES IS ACCEPTABLE AND SHOULD INCLUDE ANY MODIFICATIONS THAT OCCUR DURING CONSTRUCTION, INCLUDING WATER, SEWER, STORM DRAIN, POWER AND ANY OTHER BURIED UTILITY.
13. A RIGHT-OF-WAY ENCROACHMENT PERMIT MUST BE OBTAINED FROM THE CITY OF SARATOGA SPRINGS PRIOR TO DOING ANY WORK IN THE EXISTING RIGHT-OF-WAY. CONTACT CHRIS KLINGEL AT 801-766-9793, EXT. 118.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. SEE PEPG REDWOOD ROAD WIDENING PLANS FOR DESIGN INFORMATION.
2. CONCRETE PAVEMENT: 5.5" THICK CONCRETE WITH 5" UNTREATED BASE COURSE PER GEOTECHNICAL REPORT AND DETAIL 1/C5.0.
3. 4" THICK CONCRETE SIDEWALK/PATIO WITH 6" UNTREATED BASE COURSE.
4. 24" COLLECTION CURB AND GUTTER PER DETAIL 2/C5.0.
5. 24" REVERSE PAN CURB AND GUTTER PER DETAIL 3/C5.0.
6. TRANSITION BETWEEN COLLECTION CURB AND GUTTER AND REVERSE PAN CURB AND GUTTER.
7. 6" BOLLARD PER DETAIL 8/C5.0.
8. DBL TRASH ENCLOSURE PER DETAILS 5, 6 AND 7/C5.0. MUST MEET SARATOGA SPRINGS CITY STANDARDS AS MINIMUM.
9. 4" WIDE SOLID WHITE PAVEMENT MARKING PER M.U.T.C.D. STANDARD PLANS.
10. 6" WIDE WATERWAY PER APWA PLAN 211 AND SPECIFICATIONS. SEE SHEET C5.1.
11. PAINTED ADA SYMBOL AND ASSOCIATED HATCHING PER M.U.T.C.D. STANDARD PLANS.
12. "HANDICAP PARKING" SIGN PER M.U.T.C.D. STANDARD PLANS INSTALLED ON BUILDING. SEE DETAIL 4/C5.0. ONE HANDICAP PARKING STALL TO BE DESIGNATED "VAN ACCESSIBLE" ON SIGN.
13. BICYCLE RACK (5% OF REQUIRED CAR STALLS).
14. 16' TALL LIGHT POLE, SEE PHOTOMETRIC PLAN.
15. RV DUMP STATION PER SARATOGA SPRINGS CITY STANDARDS AND SPECIFICATIONS.
16. NEW LANDSCAPING SEE LANDSCAPE PLANS.
17. FLARED DRIVE APPROACH PER UDOT STANDARDS AND SPECIFICATIONS.
18. 10' WIDE CROSSWALK MARKING PER M.U.T.C.D STANDARDS.
19. MONUMENT SIGN. SEPARATE SIGN PERMIT.
20. SEE PEPG PONY EXPRESS PARKWAY ROADWAY EXTENSION PLANS FOR DESIGN INFORMATION.
21. REMOVE EXISTING ASPHALT AND INSTALL 5.5" THICK CONCRETE WITH 5" UNTREATED BASE COURSE PER GEOTECHNICAL REPORT AND DETAIL 1/C5.0.
22. 6" TYPE "P" CURB WALL PER APWA STANDARD PLAN NO. 209.
23. TREE WELL.
24. UPSIDE DOWN "U" CONCRETE BOLLARD. TYPE AND MATERIAL TO BE PROVIDED BY OWNER.
25. GAS PUMP TO BE DESIGNED BY OTHERS.
26. EXISTING 10' ASPHALT TRAIL.
27. PROPOSED FIRE HYDRANT - PER SARATOGA SPRINGS STANDARD DETAIL DW-4.
28. ADA RAMP AS PER SARATOGA SPRINGS CITY STANDARDS AND SPECIFICATIONS.
29. GAS EASEMENT. SEE PLAT FOR ADDITIONAL INFORMATION.
30. PERMANENT AND TEMPORARY SEWER EASEMENTS. SEE PLAT FOR ADDITIONAL INFORMATION.
31. EXISTING SANITARY SEWER MANHOLE TO BE RAISED TO PROPOSED GRADE.
32. EXIST. FENCE AS PER JORDAN PROMENADE PLAT D2 IMPROVEMENTS.
33. EXIST. FENCE AS PER JORDAN PROMENADE PLAT E2 IMPROVEMENTS.
34. FUTURE SIDEWALK AND ACCESS AS PER PEPG REDWOOD ROAD WIDENING PLANS.
35. TRAIL EASEMENT AGREEMENT BY AND BETWEEN SUBURBAN LAND RESERVE, INC., A UTAH CORPORATION AND THE CITY OF SARATOGA SPRINGS, A UTAH MUNICIPAL CORPORATION RECORDED MAY 10, 2018 AS ENTRY NO. 43951:2018 OF OFFICIAL RECORDS. (SHOWN ON SURVEY)
36. EASEMENT TO THE TOWN OF EAGLE MOUNTAIN. SEE PLAT FOR DETAILS.
37. 30' PUBLIC ACCESS AND CITY UTILITY EASEMENT.

PARKING DATA TABLE

STANDARD STALLS	23
ADA ACCESSIBLE STALLS	1
VAN ACCESSIBLE STALLS	1
TOTAL NUMBER OF STALLS	24

NORTH

HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
HORZ: 1 inch = 20 ft.

SITE DATA TABLE

DESCRIPTION	QUANTITY	AREA (SF)	AREA (ACRES)	PERCENTAGE
HARDSCAPE	N/A	84,330	1.936	77%
BUILDINGS	2	5,750	.132	5%
C-STORE	1	4,200	.096	4%
CARWASH	1	1,550	.036	1%
LANDSCAPING	N/A	19,100	.438	18%
TOTAL SITE	N/A	109,180	2.506	100%

ENSIGN
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LAYTON
Phone: 801.547.1100

TOOELE
Phone: 435.843.3590

CEDAR CITY
Phone: 435.865.1453

RICHFIELD
Phone: 435.896.2983

WWW.ENSIGNENG.COM

FOR:
HOLIDAY OIL
3115 WEST 2100 SOUTH
WEST VALLEY CITY, UTAH

CONTACT:
SCOTT WAGSTAFF
PHONE: 801-973-7002

SARATOGA SPRINGS - PONY EXPRESS
HOLIDAY OIL
56 SOUTH REDWOOD ROAD
SARATOGA SPRINGS CITY, UTAH

LICENSED PROFESSIONAL ENGINEER
No. 10885882-2202
QUINTIN E. ELDER
2022-05-11
STATE OF UTAH

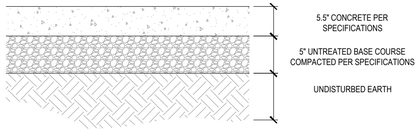
SITE PLAN

PROJECT NUMBER 10176A
PRINT DATE 4/14/2022
DRAWN BY J. HALLIN
CHECKED BY Q. ELDER
PROJECT MANAGER C. DUNCAN

C2.0

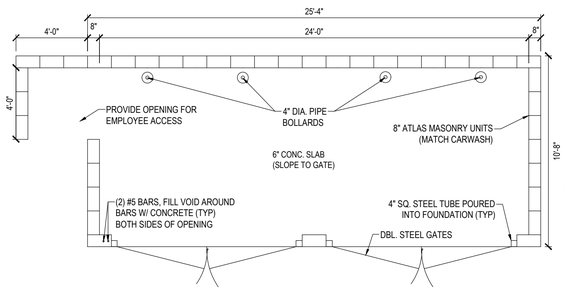
CONCRETE NOTES

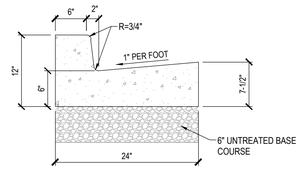
1. ALL PAVING TO BE PLACED OVER PROPERLY PREPARED NATURAL SOILS AND/OR PROPERLY PREPARED EXISTING FILL SOILS AND PROPERLY COMPACTED STRUCTURAL FILL WHERE SPECIFIED.
2. ALL STRUCTURAL FILL TO BE PLACED AND COMPACTED PER THE PROJECT GEOTECHNICAL REPORT OR TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO T-180 (D-1557) METHOD OF COMPACTION. LIFTS SHOULD BE PLACED PER GEOTECHNICAL RECOMMENDATIONS BUT SHOULD NOT EXCEED 8" IN LOOSE THICKNESS.
3. REMOVE SURFACE VEGETATION AND OTHER DELETERIOUS MATERIALS OVER THE ENTIRE SITE IN PREPARATION OF PROPOSED IMPROVEMENTS.



1 CONCRETE PAVEMENT SECTION

SCALE: NONE



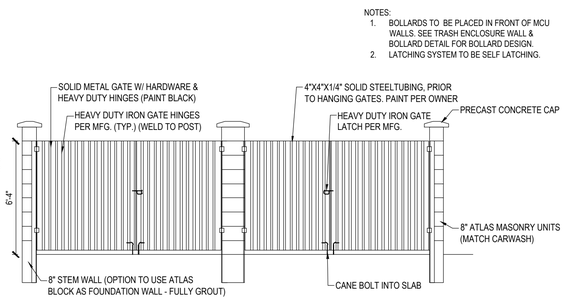


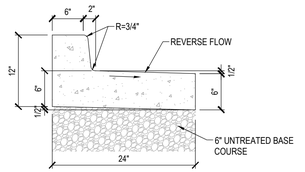
NOTE:

1. CONSTRUCT PER NOTES AND SPECIFICATIONS ASSOCIATED WITH APWA STANDARD PLAN NO. 205.
2. PROVIDE EXPANSION JOINT AT 60' MAX. O.C.
3. PROVIDE 2" SCORE AT 8' O.C.

2 24" COLLECTION CURB AND GUTTER

SCALE: NONE



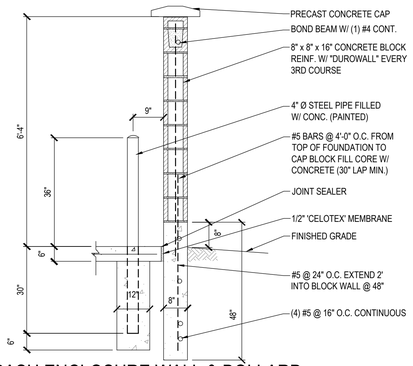


NOTE:

1. CONSTRUCT PER NOTES AND SPECIFICATIONS ASSOCIATED WITH APWA STANDARD PLAN NO. 205.
2. PROVIDE EXPANSION JOINT AT 60' MAX. O.C.
3. PROVIDE 2" SCORE AT 8' O.C.

3 24" REVERSE PAN CURB AND GUTTER

SCALE: NONE

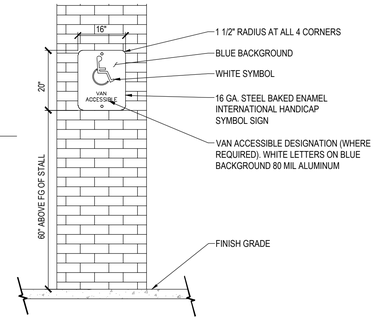


4 TRASH ENCLOSURE WALL & BOLLARD

SCALE: NONE

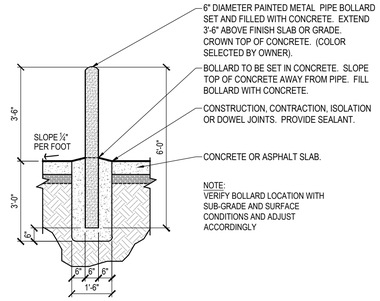
NOTES:

1. SIGNS TO BE CENTERED AT FRONT OF PARKING SPACE.
2. HANDICAP PARKING LOGO, COLOR, HEIGHT, OF POLE, DIMENSIONS OF SIGN TO BE INSTALLED PER GOVERNMENTAL REQUIREMENTS.



5 WALL MOUNTED ACCESIBLE PARKING SIGN

SCALE: NONE



6 BOLLARD DETAIL

SCALE: NONE

7 DOUBLE TRASH ENCLOSURE

SCALE: NONE

8 DOUBLE TRASH ENCLOSURE ELEVATION

SCALE: NONE

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WEST VALLEY CITY, UTAH
CONTACT:
SCOTT WAGSTAFF
PHONE: 801-973-7002

SARATOGA SPRINGS - PONY EXPRESS
HOLIDAY OIL
56 SOUTH REDWOOD ROAD
SARATOGA SPRINGS CITY, UTAH

LICENSED PROFESSIONAL ENGINEER
No. 10885882-2202
QUINTIN E. ELDER
2022-05-11
STATE OF UTAH

DETAILS

PROJECT NUMBER: 10176A
PRINT DATE: 4/14/2022
DRAWN BY: J. HALLIN
CHECKED BY: Q. ELDER
PROJECT MANAGER: C. DUNCAN

C5.0

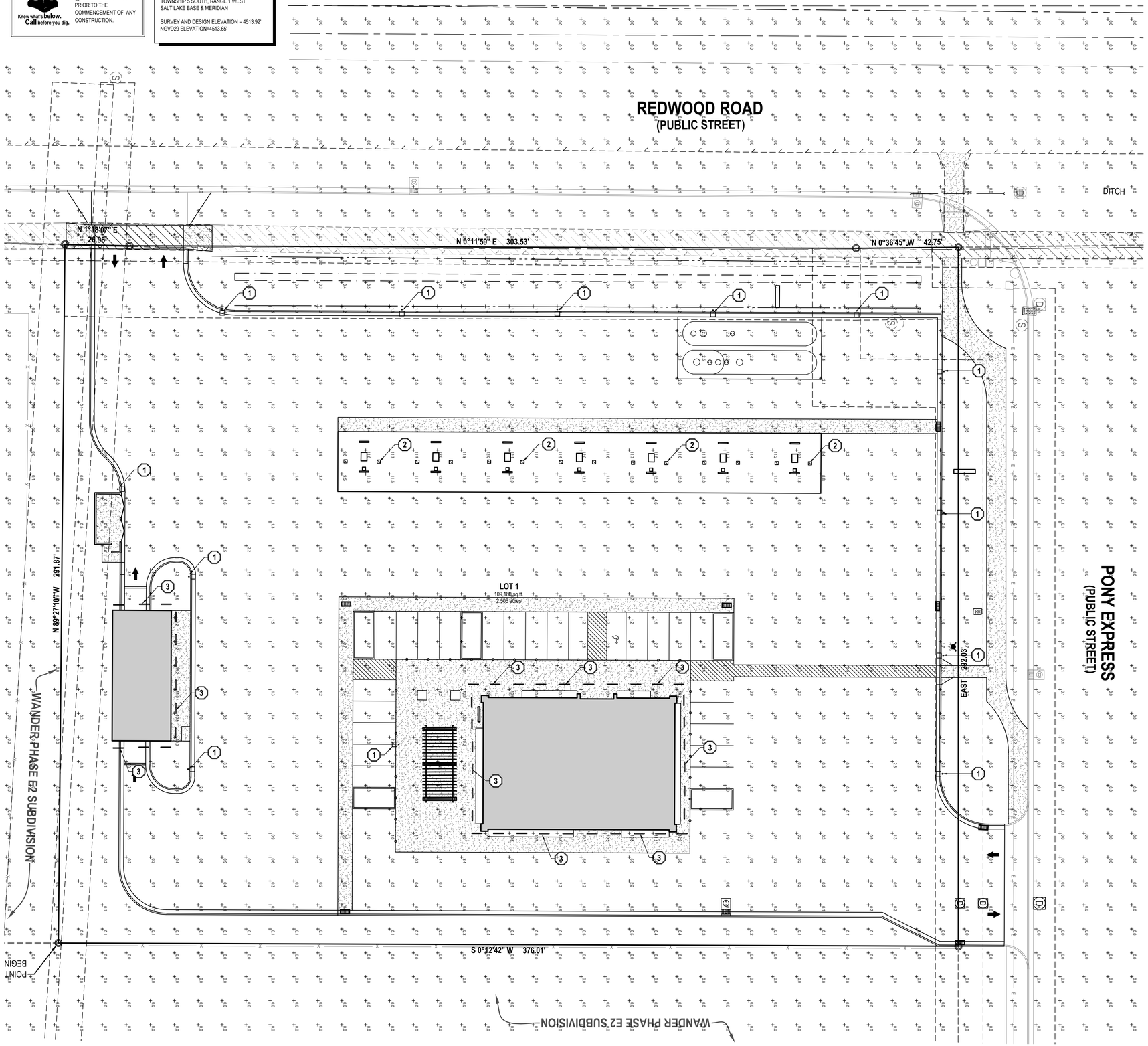
811 Know what's below. Call before you dig.

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

BENCHMARK

EAST QUARTER CORNER OF SECTION 26
TOWNSHIP 5 SOUTH, RANGE 1 WEST
SALT LAKE BASE & MERIDIAN

SURVEY AND DESIGN ELEVATION = 4513.92'
NGVD29 ELEVATION=4513.65'



PARKING CALCULATION SUMMARY (TOTAL):

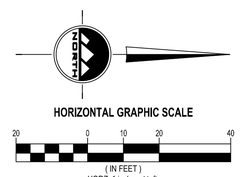
SITE AVERAGE: 3.8 FC
PARKING STALLS, SIDEWALKS: 0.5 fc MIN., 20 fc MAX , 10:1 AVE.
TRAILS & WALKWAYS: 0.1 fc MIN AVE: 1.0 fc
BUILDING ENTRANCES: 5 fc MIN.

MAX. MOUNTING HEIGHT 16'
FULL CUTOFF LIGHT POLE FIXTURE AS REQUIRED
ALL LIGHT FIXTURES SHALL BE DARK SKY COMPLIANT

TYPE	MOUNTING	LAMPS	DESCRIPTION
1	16' POLE	LED	CUTOFF LIGHT FIXTURE SEE LSI SLICE MEDIUM AREA LIGHT SUBMITTAL
2	CANOPY	LED	CUTOFF (FULL RECESS INTO CANOPY) - SEE CPY SERIES - VERSION C SUBMITTAL
3	SURFACE	LED	SURFACE - SEE DIODELED VALENT X SUBMITTAL

SEE SITE ELECTRICAL PLAN FOR CIRCUITING AND FIXTURE TYPES

NOTES:
1. ALL LIGHTING FIXTURES SHALL BE OF THE FULL CUTOFF VARIETY.
2. ANGLE SHALL BE DIRECTED DOWNWARD.
3. BULBS MAY NOT EXCEED 4000K
4. ALL FREE STANDING LIGHT FIXTURES SHALL BE BLACK.
5. ONE HOUR AFTER CLOSING OR BY 11:00 PM, WHICHEVER IS EARLIER, BUSINESSES MUST TURN OFF AT LEAST 50% OF BUILDING LIGHTING AND LIGHTING FIXTURES IN SURFACE PARKING LOTS. LIGHTS MAY BE TURNED BACK ON ONE HALF HOUR PRIOR TO THE FIRST EMPLOYEE SHIFT.
6. BUSINESS OPEN FOR 24 HR MUST TURN OFF 50% OF THEIR OUTDOOR AND PARKING LOT LIGHTING BY 11:00 PM AND MUST KEEP THEM OFF UNTIL ONE HALF HOUR BEFORE SUNRISE, HOWEVER, THOSE LIGHTING FIXTURES TURNED OFF MAY BE SET TO FUNCTION UTILIZING A MOTION DETECTOR SYSTEM.



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FOR:
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3115 WEST 2100 SOUTH
WEST VALLEY CITY, UTAH

CONTACT:
SCOTT WAGSTAFF
PHONE: 801-973-7002

SARATOGA SPRINGS - PONY EXPRESS
HOLIDAY OIL
56 SOUTH REDWOOD ROAD
SARATOGA SPRINGS CITY, UTAH

PHOTOMETRIC PLAN

PROJECT NUMBER 10178A
PRINT DATE 4/14/2022
DRAWN BY J. HALLIN
CHECKED BY Q. ELDER
PROJECT MANAGER C. DUNCAN

PH1.0

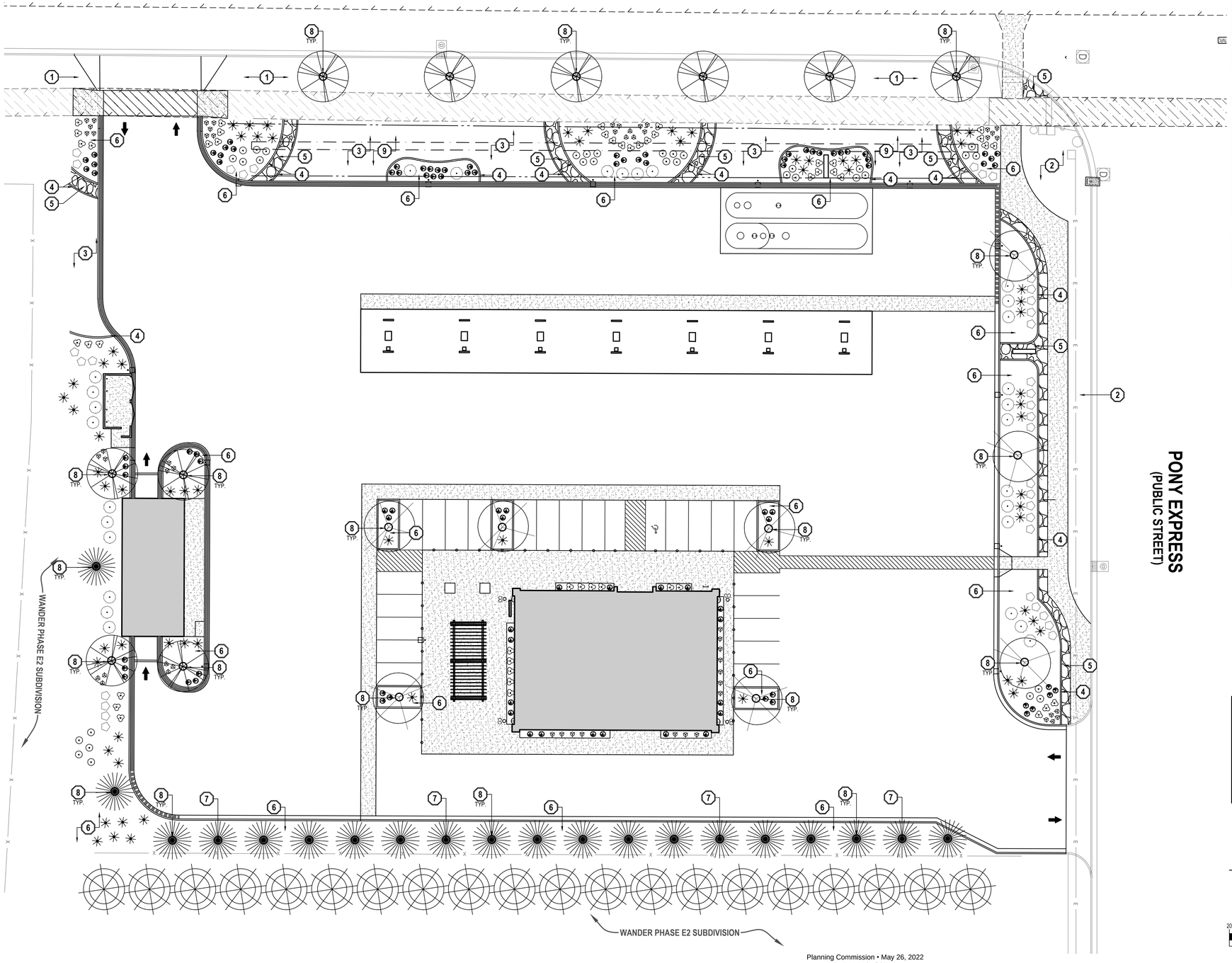
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EAST QUARTER CORNER OF SECTION 26
TOWNSHIP 5 SOUTH, RANGE 1 WEST
SALT LAKE BASE & MERIDIAN

SURVEY AND DESIGN ELEVATION = 4513.92'
NGVD29 ELEVATION=4513.65'



Landscape

Trees*

Qty	Symbol	Common Name	Botanical Name	Plant Size	Tree Type
10		Emerald Queen Norway Maple	Acer platanoides 'Emerald Queen'	2" Cal.	Deciduous
8		London Planetree	Platanus acerifolia 'Bloodgood'	2" Cal.	Deciduous
20		Vanderwolf's Pyramid Pine	Juniperus scopulorum	6' Min.	Evergreen
20		Existing Austrian Pine	Pinus Nigra	N/A	Evergreen

*Tree Notes: All tree rings in turf (36" dia.) shall be mulched with double-shredded cedar mulch to a minimum depth of 4-inches

Shrubs

Qty	Symbol	Common Name	Botanical Name	Plant Size
28		Red Twig Dogwood	Cornus sericea 'Bailey'	5 Gallon
35		Knock Out Rose	Rosa 'Radrazz'	5 Gallon
33		Dwarf Korean Lilac	Syringa meyeri 'Palibin'	5 Gallon
69		Pfitzer Compact Juniper	Juniperus x media 'Pfitzerana Compacta'	5 Gallon
98		Karl Foerster Feather Reed Grass	Pennisetum setaceum	1 Gallon

Annuals-Perennials

Qty	Symbol	Common Name	Botanical Name	Plant Size
55		May Night Salvia	Salvia sylvestris x 'Mainacht'	1 Gallon
47		Autumn Joy Sedum	Sedum spectabile 'Autumn Joy'	1 Gallon

(1) Turf grass - Kentucky Bluegrass, Poa Pratensis

(2) SST Meadowgrass Mix Sod

29.16%	Intermediate Wheatgrass	Thinopyrum intermedium 'Chief'
19.94%	Annual Ryegrass	Festuca perennis 'Tetrastar'
14.84%	Crested Wheatgrass	Agropyron cristatum 'Kirk'
14.70%	Creeping Red Fescue	Festuca rubra 'Borcal'
11.65%	Orchardgrass	Dactylis glomerata 'Quickdraw'
7.98%	Meadow Brome	Bromus commutatus 'Cache'

(3) Native Grass (Saratoga Springs City Standard Type 3 Grass Mix)

Common Name	Botanical Name	% of Mix	lbs/Acre
Blue Grama	Bouteloua Gracilis	20%	8.0
Sheep Fescue	Festuca Ovina	25%	10.0
Sandberg Bluegrass	Poa Sandbergii	20%	8.0
Red Fescue	Festuca Rubra	25%	10.0
Annual Rye	Lolium Multiflorum	10%	4.0
		100%	40.0

(4) 6" Concrete Edging

(5) 4"-8" Cobble over commercial grade weed barrier fabric, pinned in place
Color/Finish: South Town Cobble
Company: Utah Landscaping Rock
P: 435.623.2332

(6) 1-1/2" Rock Mulch over commercial grade weed barrier fabric, pinned in place
Color/Finish: Sundance Quartz
Company: Rockscapes
P: 801.295.7625

(7) Plant Vanderwolf's Pyramid Pines so that they fill in the gaps between the existing Austrian Pines located East of the property

(8) Tree Base Clearance: 3' diameter around every tree must be kept clear of turf and rock mulch. Install the following:
Double-Shredded Cedar Mulch over commercial grade weed barrier fabric, pinned in place
Color/Finish: Dark Brown
Company: Diamond Tree Experts
P: 801.262.1596

(9) PROVIDE LANDSCAPE BERM SEE GRADING PLAN

SITE DATA TABLE

DESCRIPTION	AREA (SF)	PERCENTAGE
HARDSCAPE	85,785	70%
BUILDINGS	5,750	5%
C-STORE	4,200	4%
CARWASH	1,550	1%
LANDSCAPING	30,467	25%
TOTAL SITE	122,002	100%

LANDSCAPE COVERAGE TABLE

PLANT	QUANTITY	AREA (SF)	TOTAL AREA (SF)
RED TWIG DOGWOOD	28	19	532
KNOCK OUT ROSE	35	7	245
DWARF KOREAN LILAC	33	7	231
PFITZER COMPACT JUNIPER	68	28	1,904
KARL FOERSTER FEATHER REED GRASS	77	7	539
MAY NIGHT SALVIA	41	2	82
AUTUMN JOY SEDUM	36	2	72
TOTAL SHRUB COVERAGE AREA			3,605
TOTAL SOD COVERAGE AREA			11,645
TOTAL LANDSCAPE COVERAGE AREA			15,250 (50%)

NORTH

HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
HORZ: 1 inch = 20 ft.

ENSIGN
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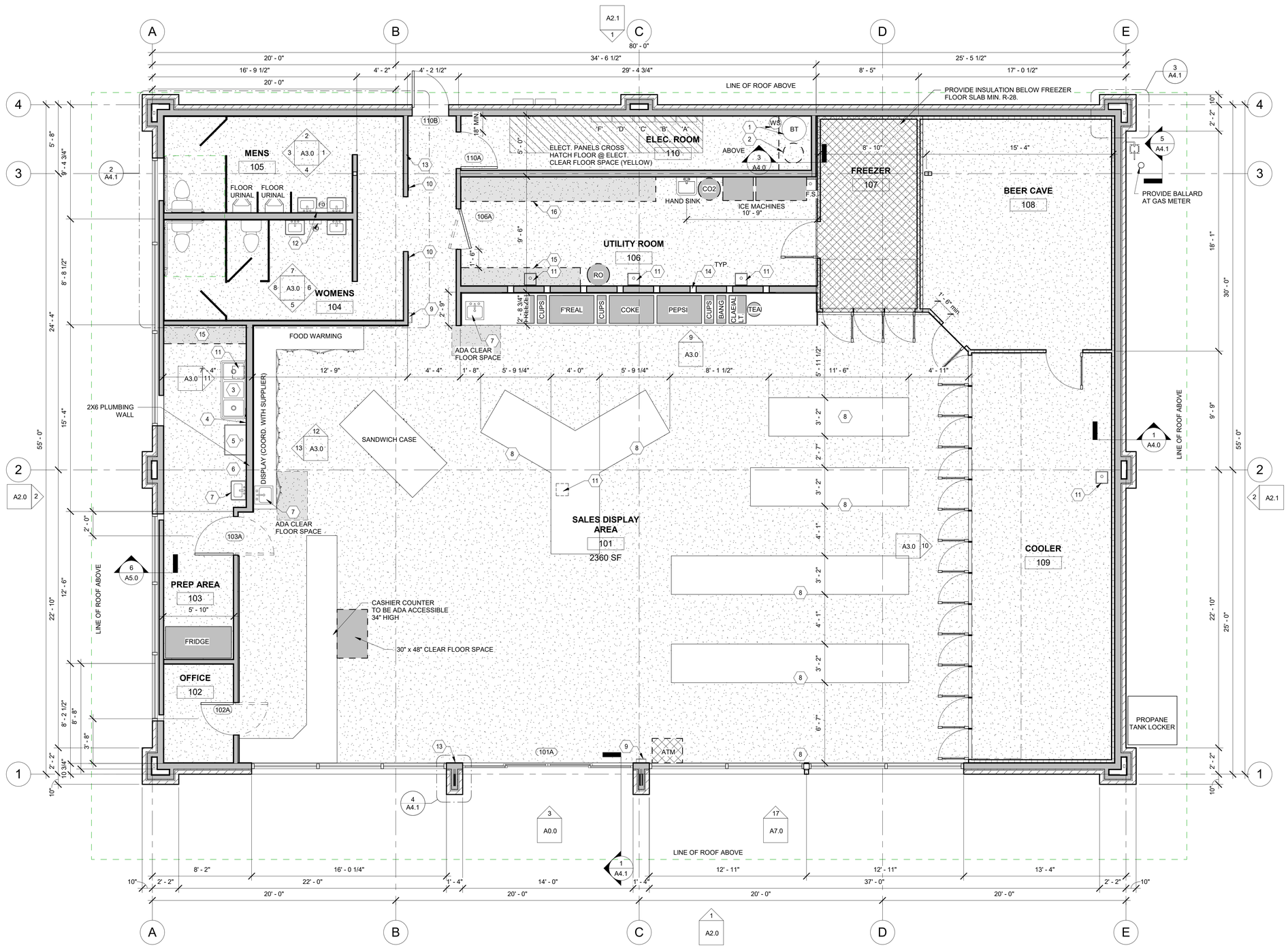
SARATOGA SPRINGS - PONY EXPRESS
HOLIDAY OIL
56 SOUTH REDWOOD ROAD
SARATOGA SPRINGS CITY, UTAH

STATE OF UTAH
KEN G. BOWERS
No. 10417-5301
LICENSED LANDSCAPE ARCHITECT

LANDSCAPE PLAN

PROJECT NUMBER 10178A
PRINT DATE 4/14/2022
DRAWN BY J. HALLIN
CHECKED BY Q. ELDER
PROJECT MANAGER C. DUNCAN

L1.0



1 FLOOR PLAN
SCALE: 1/4" = 1'-0"

KEYED NOTES

1	WATER SOFTENER AND BRINE TANK
2	WATER HEATER ON PLATFORM PROVIDED BY CONTRACTOR w/ SEISMIC STRAPS AND EXPAN. TANK OVER FLOOR DRAIN.
3	3-COMPARTMENT SINK.
4	PROVIDE 48" FRP WAINSCOT ON PREP AREA WALLS.
5	MOP SINK.
6	24" SPACE FOR OWNER SUPPLIED EQUIPMENT.
7	HAND SINK.
8	DISPLAY (COORDINATE w/ SUPPLIER, MECHANICAL & ELECTRICAL).
9	FIRE EXTINGUISHER 2-A:20-B:C (RECESS INTO WALL SO IT DOES NOT EXTEND MORE THAN 4" INTO HALLWAY).
10	PROVIDE MENS & WOMENS ACCESSIBLE RESTROOM SIGNS 5' A.F.F.
11	FLOOR SINK COORDINATE LOCATION.
12	HAND DRYER.
13	PROVIDE TACTILE EXIT SIGN AT EXTERIOR EXITS SEE DETAIL 18 / A7.0.
14	PROVIDE (8) 6" x 6" OPENINGS THROUGH WALL FOR EQUIP. LINES 35' A.F.F. TO BOTTOM OF OPENINGS.
15	18" SHELVES COORD. WITH OWNER
16	24" SHELVES COORD. WITH OWNER

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TOOELE
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FOR:
HOLIDAY OIL CORP.
c/o JERRY WAGSTAFF
3115 WEST 2100 SOUTH
WEST VALLEY CITY, UTAH
(801)973-7002

SARATOGA SPRINGS
PONY EXPRESS

56 SOUTH REDWOOD RD
SARATOGA SPRINGS CITY, UT

PERMIT 4/28/22

NO.	DATE	REVISION

FLOOR PLAN

PROJECT NUMBER	DATE
10176A	06/30/20
DRAWN BY	CHECKED BY
C. Duncan	C. Duncan
APPROVED BY	DESIGNED BY
C. Duncan	S. Warr

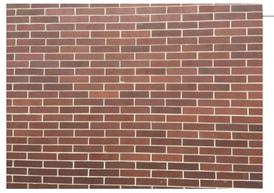
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STANDING SEAM METAL ROOF w/ SNOW CLIPS



SOFFICE & RAINGUTTER HAVANAH CREAM OR EQUAL

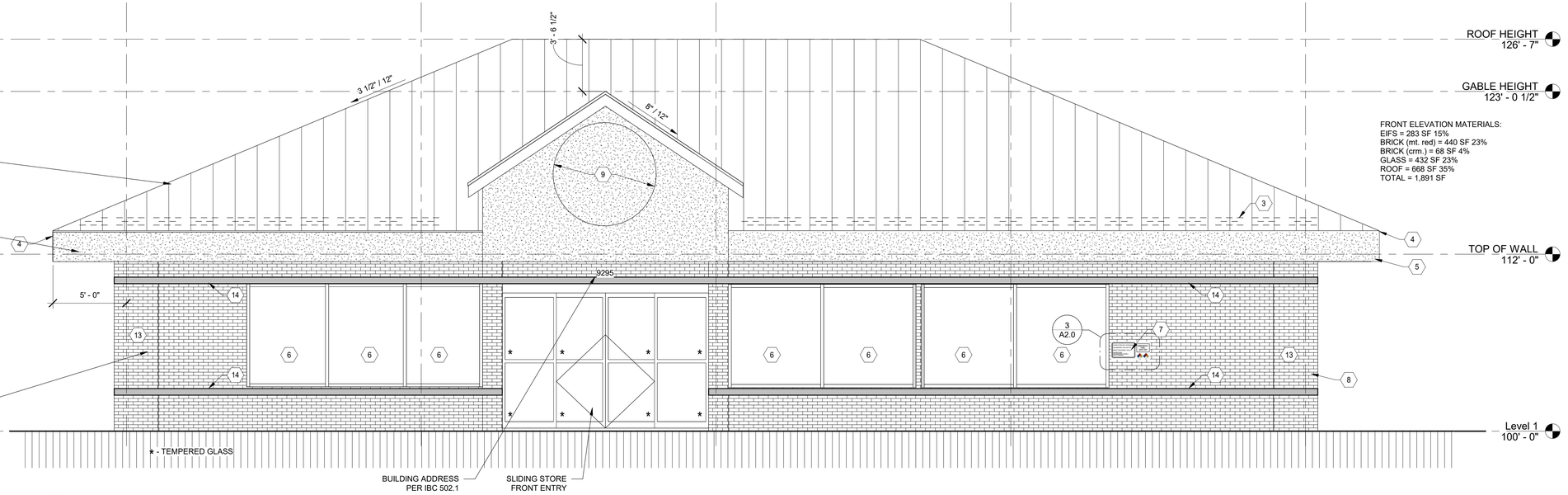


FACE BRICK - MOUNTAIN RED OR EQUAL



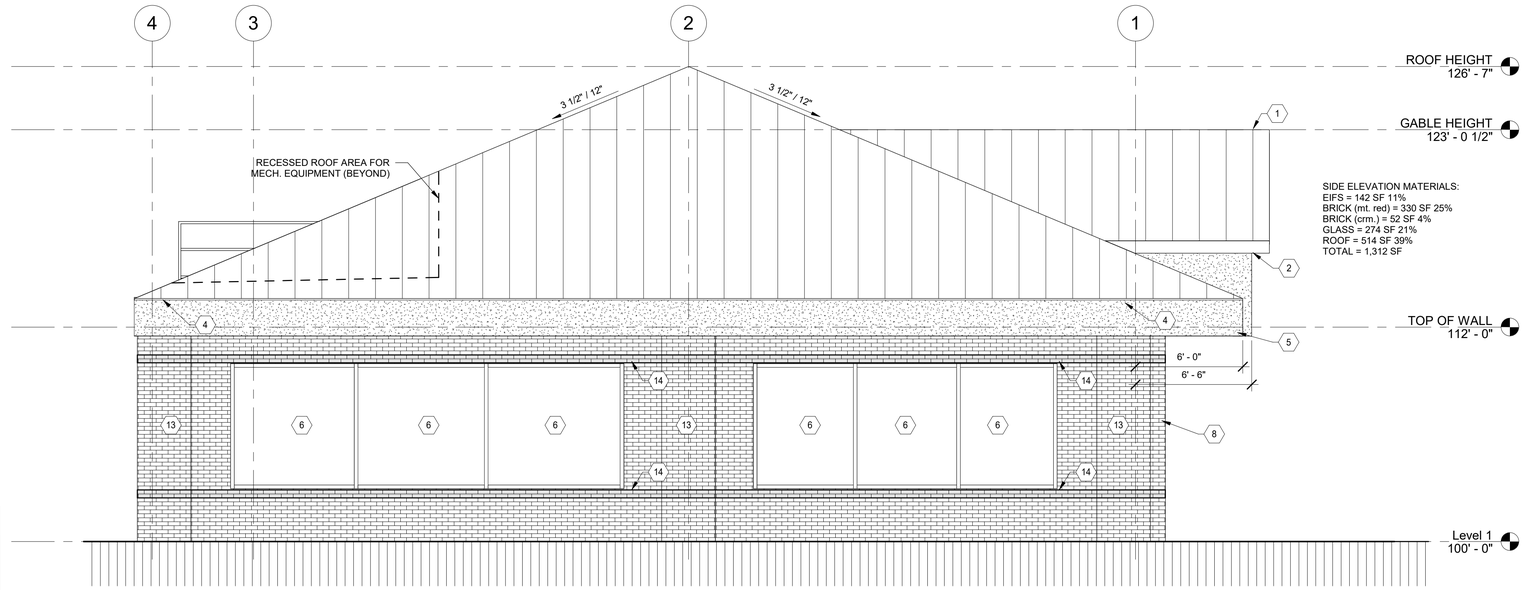






FRONT ELEVATION MATERIALS:
EIFS = 283 SF 15%
BRICK (mt. red) = 440 SF 23%
BRICK (crm.) = 68 SF 4%
GLASS = 432 SF 23%
ROOF = 668 SF 35%
TOTAL = 1,891 SF

1 FRONT ELEVATION
SCALE: 1/4" = 1'-0"



SIDE ELEVATION MATERIALS:
EIFS = 142 SF 11%
BRICK (mt. red) = 330 SF 25%
BRICK (crm.) = 52 SF 4%
GLASS = 274 SF 21%
ROOF = 514 SF 39%
TOTAL = 1,312 SF

2 LEFT ELEVATION
SCALE: 1/4" = 1'-0"

KEYED NOTES

1	METAL STANDING SEAM ROOF (SCARLET RED).
2	ALUMINUM FASCIA.
3	SNOW CLIPS FRONT ONLY.
4	HIDDEN RAIN GUTTER
5	SYN. STUCCO ICBO #4327 OVER (2) LAYERS OF 30 MINUTE PAPER (HAVANAH CREAM).
6	ALUMINUM FRAME STORE FRONT WINDOWS.
7	EMERGENCY SHUT OFF.
8	BRICK 'MT. RED'
9	RECESSED EIFS SIGN PANEL.
10	MAN DOOR.
11	12" 1.5 SF TURTLE VENTS & (1) 0.5 SF TURTLE VENTS REQUIRED (18.5 SF TOTAL).
12	BALLARD @ GAS METER. LOCATION TBD.
13	10" X 36" DECORATIVE BRICK COLUMN
14	(2) COURSES OF CREAM COLOR BRICK



SIGNAGE SHALL HAVE A WHITE 2" LETTER ON A RED BACKGROUND AND SHALL BE INSTALLED ADJACENT TO THE EMERGENCY FUEL SHUT OFF SWITCH.

3 EMERGENCY SHUT OFF SIGN
SCALE: 3/4" = 1'-0"

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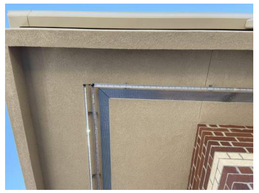
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NO.	DATE	REVISION

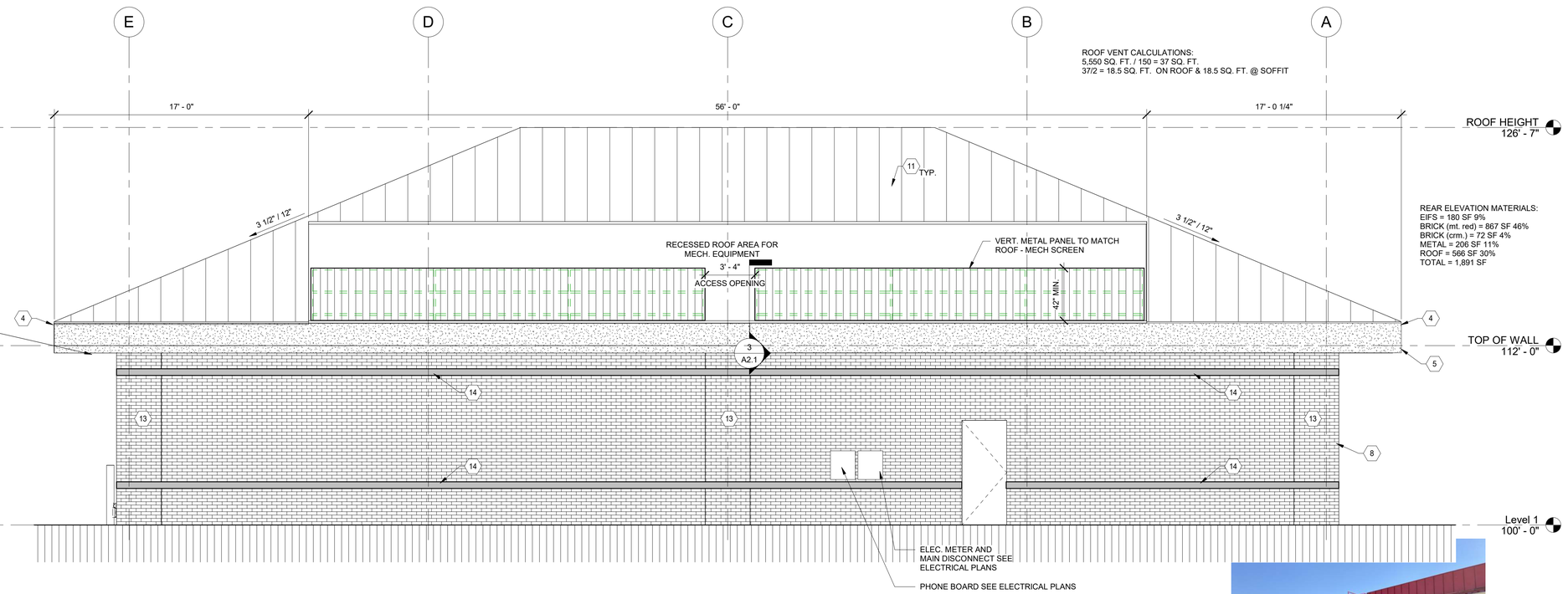
EXTERIOR ELEVATIONS

PROJECT NUMBER	DATE
10176A	06/30/20
DRAWN BY	CHECKED BY
C. Duncan	C. Duncan
APPROVED BY	DESIGNED BY
C. Duncan	S. Warr

A2.0

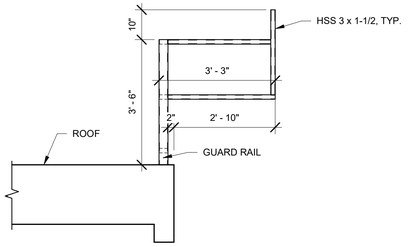


UNDERSOFFIT LED LIGHTING IS SCREENED WITH 6" LIP NOT VISIBLE FROM THIS VIEW

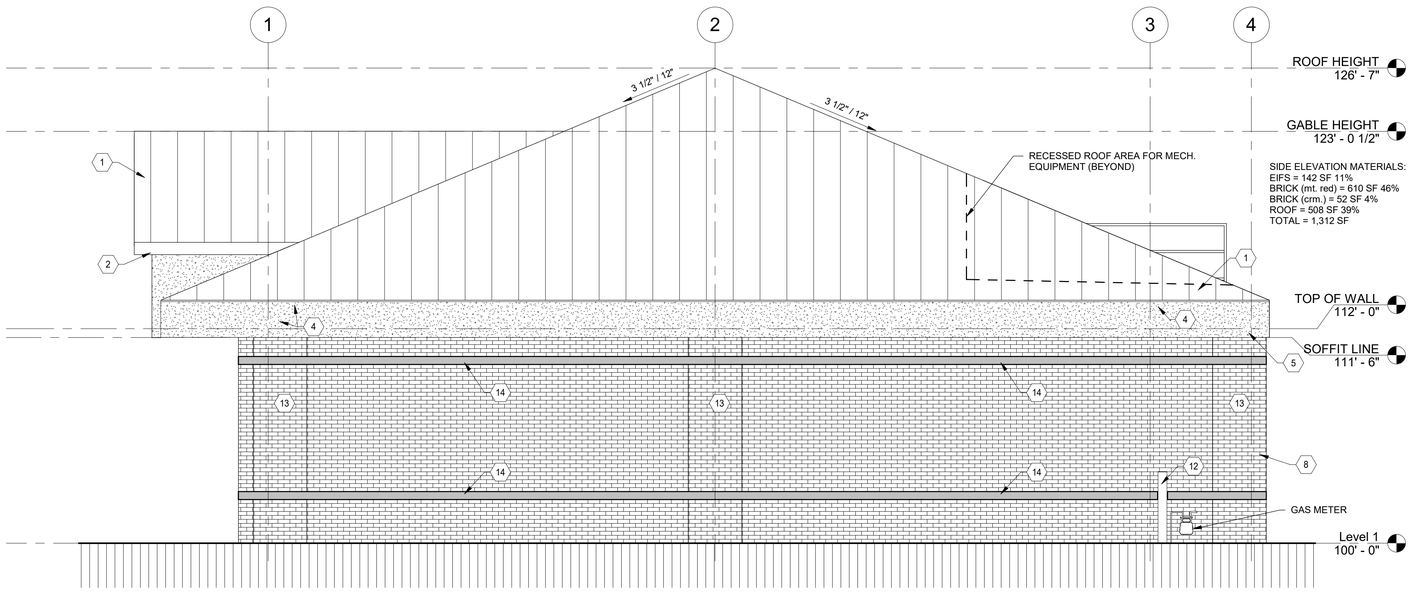


1 BACK ELEVATION
SCALE: 1/4" = 1'-0"





3 LADDER SUPPORT ARM
SCALE: 1/2" = 1'-0"



2 RIGHT ELEVATION
SCALE: 1/4" = 1'-0"

KEYED NOTES

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APPROVED BY	DESIGNED BY
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A2.1

EXHIBIT 5: PLAN REVIEW CHECKLIST

APPLICATION REVIEW CHECKLIST

Application Information

Date Received:	4/18/2022; 05/16/22
Date of Review:	**5/3/2022; 05/19/22**
Project Name:	Holiday Oil
Project Request / Type:	Preliminary Plat & Site Plan
Meeting Type:	Administrative
Applicant:	Brent Neel
Owner:	Holiday Oil
Location:	Redwood Road and Pony Express
Major Street Access:	Redwood Road
Parcel Number(s) and size:	58:035:0133/2.51
Previous Meetings:	Planning Commission, November 18, 2021, City Council Approval - Wander Community Plan Major Amendment 2, December 7, 2021 Planning Commission, February 18, 2021; City Council Approval - Wander Village Plan 1 Major Amendment 2, March 16, 2021
Previous Approvals:	Wander Community Plan Major Amendment 2, December 7, 2021 – Approved. Wander Village Plan 1 Major Amendment 2, March 16, 20212021 – Approved.
Type of Action:	Administrative: Preliminary Plat: Planning Commission recommendation, City Council action Site Plan: Planning Commission action
Land Use Authority:	Planning Commission (Site Plan), City Council (Preliminary Plat)
Future Routing:	City Council (Preliminary Plat); none (Site Plan)
Planner:	David Rodgers/Planner 1

Section 19.13 – Application Submittal

- Application Complete: **Yes.**
- Rezone Required: **No.**
- General Plan Amendment required: **No.**
- Additional Related Application(s) required: **No.**

Section 19.13.04 – Process

- DRC: 12/20/21
- Neighborhood Meeting: N/A
- PC: May 20, 2022
- CC: TBA

General Review

Building Department

- Setback detail
- Lot numbering – per phase (i.e. Phase 1: 100, 101, 102. Phase 2: 200, 201, 202, etc.)
- True buildable space on lots (provide footprint layout for odd shaped lots)
- Lot slope and need for cuts and fills

Fire Department

- Commercial:
    - Fire flows shall meet existing needs as well as future development in the area.
    - Hydrant spacing shall not exceed 300'.
    - Buildings shall be fire sprinkled and meet NFPA 13 requirements and all applicable IFC 2015 edition requirements and appendices.
    - Alarm system and notification systems shall all be tied together with the fire sprinkler system and monitored 24/7, 365 by a third party monitoring company.
    - This same system and / or monitoring company shall also be able to notify UVSSD 911 dispatch center 24/7 365.
    - All sprinkler plans and alarm plans shall be third party reviewed by PCI in Centerville, Utah, Attn: Bob Goodloe.

GIS / Addressing

- No Comments

Additional Recommendations:

Code Review

- 19.04, Land Use Zones
    - Zone: PC
    - Use: PC

19.04.01 Requirements		Neighborhood Commercial	
Category To Be Reviewed	**Regulation**	**Determination**	**How**
Development Size (Minimum)	139869 sq. ft.	**Complies**	*Development size matches minimum*
Lot Size (Minimum)	15,000 sq. ft.	**Complies**	*Site size is 117,603*
Front/Corner Side Setback (Minimum)	25'	**Complies**	*160' Front Setback*
Interior Side Setback (Minimum)	25'	**Complies**	*110' Side Setback*
Rear Setback (Minimum)	25'	**Complies**	*35' rear setback*
Building Separation (Minimum)			
Lot Width (Minimum)	100'	**Complies**	*355' Lot width*
Lot Frontage (Minimum)	100'	**Complies**	*685 of frontage between both roads*
Building Height (Maximum)	35'	**Complies**	*Building height shown in elevations*
Lot coverage (Maximum)	50%	**Complies**	*25% Lot coverage shown*

Building Size (Minimum)			
Building Size (Maximum)	15,000 sq. ft.	**Complies**	*Building size is 5,570 sq. ft.*

19.05 Supplemental Regulations		
Regulation	**Compliance**	**Findings**
Flood Plain: Buildings intended for human occupancy shall be constructed at least one foot above the base flood elevation.	**Complies.**	*Not in floodplain*
Water & Sewage: Each lot shall be connected to City water and sewer.	**Complies.**	*Has sewer and Water connections*
Transportation Master Plan: Lots shall not interfere with the Transportation Master Plan.	**Complies.**	*Does not interfere with Transportation Master Plan*
Property Access - All lots shall abut a dedicated public or private road.	**Complies.**	*Lot abuts both Redwood Road and Pony Express*

19.06 Landscaping and Fencing		
Landscape Plans		
Regulation	**Compliance**	**Findings**
Landscape Architect: Landscaped plans shall be prepared by a licensed landscape architect.	**Complies.**	*Landscape architect stamp on plans*
Existing Conditions: Show the location and dimension of all existing and proposed structures, property lines, easements, parking lots, power lines, rights-of-way, ground signs, refuse areas, and lighting.	**Complies.**	*Existing conditions shown*
Planting Plan: Show location and planting details for all proposed vegetation and materials. Indicate the size of the plant material at maturation. All existing vegetation that will be removed or remain must be identified.	**Complies.**	*Planting plan provided*
Plants: The name (both botanical and common name), quantity, and size of all proposed plants.	**Complies.**	*Data table with Plant information provided*
Topography: Existing and proposed grading of the site indicating contours at two-foot intervals.	**Complies.**	*Grading plan shown*
Irrigation: Irrigation plans showing the system layout and details.	**Complies.**	*Irrigation plans shown*
Fencing: Location, style, and details for proposed and existing fences and identification of the fencing materials.	**Complies.**	*Fencing details shown*
Data Table: Table including the total number of each plant type, and total square footage and percentage of landscaped areas, domestic turf grasses, decorative rock, mulch, bark, and drought tolerant plant species.	**Complies.**	*Data Table included in Plans*
Completion of Landscape Improvements: All required landscaping improvements shall be completed in accordance with the approved landscape plans.	**Complies.**	*Landscape Plans shown*
Planting Standards		
Deciduous Trees: 2" in caliper.	**Complies.**	
Evergreen Trees: 6' in height.	**Complies.**	
Tree Base Clearance: 3’ diameter around every tree must be kept clear of turf and rock mulch.	**Complies.**	*Stated on plan*
Shrubs: 25% of required shrubs must be a minimum of 5 gallons in size.	**Complies.**	*72% of shrubs are 5 gallons in size*
Turf: No landscaping shall be comprised of more than seventy percent turf, except within landscaped parks.	**Complies.**	*Plants cause condition to be met*
Artificial Turf : Not allowed.	**Complies.**	*Artificial turf not proposed*
Drought Tolerant Plants: 50% of all plants shall be drought tolerant.	**Complies.**	*Drought tolerant plants meet standards*
Rock Mulch: Rock mulch shall be two separate colors and separate sizes and must be contrasting in color from the pavement and other hard surfaces. All colors used must be earth tones.	**Complies.**	*Two different colors and sizes of Rock Mulch shown on plans*

Design Requirements		
Evergreens: Evergreens shall be incorporated into landscaped treatment of sites where screening and buffering are required.	**Complies.**	*Evergreens on edge of property*
Softening of Walls and Fences: Plants shall be placed intermittently against long expanses of building walls, fences, and barriers to create a softening effect.	**Complies.**	
Planting and Shrub Beds: Planting and shrub beds are encouraged to be used in order to conserve water.	**Complies.**	
Water Conservation: Water-conserving sprinkler heads and rain sensors are required. Drip lines should be used for shrubs and trees.	**Complies.**	*Drip lines proposed*
Energy Conservation: Placement of plants shall be designed to reduce energy consumption. Deciduous trees are encouraged to be planted on the south and west sides of structures. Evergreens are encouraged to be planted on the north side of structures.	**Complies.**	*Trees planted where reasonable*
Placement: Whenever possible, landscaping shall be placed immediately adjacent to structures, particularly where proposed structures have large empty walls.	**N/A.**	*Landscaping around site rather than next to building*
Trees and Power Poles: No trees shall be planted directly under or within 10' of power lines, poles, or utility structures unless: a. The City Council gives its approval. b. The Power Company or owner of the power line gives written consent. c. The maximum height or width at maturity of the tree species planted is less than 5' to any pole, line, or structure.	**Complies.**	*Trees not planted under power poles*
Preservation of Existing Vegetation		
Where possible and appropriate, existing native vegetation must be incorporated into the landscape treatment of the proposed site.	**N/A.**	
Tree Preservation: Existing mature evergreen trees of 16' in height or greater, and existing mature deciduous or decorative trees of more than 4" in caliper, shall be identified on the landscape plan and preserved if possible. If a mature tree is preserved, an area around the roots as wide as the existing canopy shall not be disturbed.	**N/A.**	
If preservation is not possible, the required number of trees shall be increased by double the number of such trees removed.	**N/A.**	
The replacement trees for evergreen trees shall be evergreens, and for deciduous shall be deciduous.	**N/A.**	
Deciduous trees smaller than four inches in caliper, or mature ornamental trees, that are removed shall be replaced on a one to one ratio.	**N/A.**	
Replacement trees shall be in addition to the minimum tree requirements of this Chapter, and shall comply with minimum sizes as outlined in the Chapter.	**N/A.**	
Planter Beds		
Weed Barrier: A high quality weed barrier or pre-emergent shall be used.	**Complies.**	*Weed barriers shown*
Materials: High quality materials such as wood chips, wood mulch, ground cover, decorative rock, landscaping rocks, or similar materials shall be used, and materials must be heavy enough to not blow away in the wind.	**Complies.**	*Two colors of rock mulch proposed*
Edging: Concrete edging must be used to separate planter and turf areas in all non-residential zones.	**Complies.**	*Concrete edging shown*
Drip Lines: Drip lines must be used in planter beds.	**Complies.**	*Drip lines used*

Fencing and Screening		
Front Yards: Fences exceeding 3' in height shall not be erected in any front yard space of any residential lot.	**N/A.**	
Clear Sight Triangle: All landscaping and fencing shall be limited to a height of not more than 3' and the grade at such intersections shall not be bermed or raised. Clear sight is located at all intersections of streets, driveways, or sidewalks, for a distance of 20' back from the point of curvature of curved ROWs and property lines or 30' back from the intersection of straight ROWs and property lines, whichever is greater landscaping shall not exceed 3' in height and the area shall not be bermed or raised within clear sight triangles.	**Complies.**	*Landscaping does not interfere with CST*
Required Residential Fencing: Fencing in residential development shall be placed along property lines abutting open space, parks, canals, and trails. In addition, fencing may also be required adjacent to undeveloped properties.	**N/A.**	
Fences along open space, parks, canals, and trails shall be semi-private. Exception: privacy fencing is permitted for property lines abutting trail corridors that are not City maintained and are both adjacent to and visible from an arterial.	**N/A.**	
Fencing along arterial roads shall be of a consistent material and color within each development.	**N/A.**	
Fencing along open space, parks, and trails may be less than 6' in height but shall not be less than 3' in height, at the discretion of the property owner or HOA as applicable.	**N/A.**	
Screening at Boundaries of Residential Zones: For residential developments abutting active agricultural property or operations, a solid fence or wall shall be installed and maintained along the abutting property line.	**N/A.**	
Amount of Required Landscaping		
Portions of the property that are not developed with structures, rights of ways, or parking areas shall be landscaped.	**Complies.**	*Landscaping proposed*
Multi-family, common space not including parks, and nonresidential development in all zones shall be required to adhere to the minimum landscaped standards in 19.06.07 of the Land Development Code.	**N/A.**	
At least 50% of the landscaped area shall be covered with live vegetation at maturity. The percentage may be reduced to 40% in areas where bark mulch, wood or plant fiber mulch, or rubber mulch is used instead of rock mulch.	**Complies.**	*50% landscape area covered at maturity shown on plan*

Landscape Amount			
Category To Be Reviewed	**Regulation**	**Compliance**	**Findings**
Total Square Footage	117,603		
Required Landscaping	23,521	**Complies**	26,069 proposed
Required Deciduous Trees	9	**Complies**	12 Deciduous Trees proposed
Required Evergreen Trees	7	**Complies**	16 Evergreens proposed
Required Shrubs	27	**Complies**	184 Shrubs proposed
Drought Tolerant Plants	22	**Complies**	Need to indicate number of drought tolerant plants on their landscape table

19.09 Off Street Parking		
General Provisions		
Regulation	**Compliance**	**Findings**
Materials: Parking areas shall consist of concrete, asphalt, or other impervious materials approved in the City's adopted construction standards	**Complies.**	
Parking Area Access: Common Access: Parking areas for one or more structures may have a common access so long as the requirements of all City ordinances, regulations, and standards are met. The determination of the locations for a common access shall be based upon the geometry, road alignment, and traffic volumes of the accessed road per the Standard Technical Specifications and Drawings.	**Complies.**	*Only one site uses parking, 2 Accesses proposed for site*
Sidewalk Crossing: All non-residential structures are required to provide parking areas where automobiles will not back across a sidewalk to gain access onto a public or private street.	**Complies.**	*Backing onto sidewalk avoided by design*
Cross Access: Adjacent non-residential development shall stub for cross-access. Developers must provide the City with documentation of cross-access easements with adjacent development.	**Complies.**	*Property only adjacent to residential, has two accesses onto adjacent roads*
Lighting: Parking areas shall have adequate lighting to ensure the safe circulation of automobiles and pedestrians. Lighting shall be shielded and directed downward.	**Complies.**	*Lighting is shielded and directed downwards per Plans*
Location of Parking Areas: Required off-street parking areas for non-residential uses shall be placed within 600' of the main entrance to the building. Unenclosed parking for residential areas shall not be provided in rear yards, unless said yard abuts an alley-type access or is fenced with privacy fencing	**Complies.**	*Parking located within 600' of main building*
Curb Cuts and Shared Parking: In most cases, shared parking areas shall share ingress and egress. This requirement may be waived when the City Engineer believes that shared accesses are not feasible. In reviewing the site plans for the shared parking areas, the City Engineer shall evaluate the need for limited access, appropriate number of curb cuts, shared driveways, or other facilities that will result in a safer, more efficient parking and circulation pattern.	**N/A.**	*Only one site uses parking*
Parking Requirements and Shared Parking		
Available on-street parking shall not be counted towards meeting the required parking stalls.	**Complies.**	*33 Parking stalls proposed*
When a parking requirement is based upon square footage, the assessed parking shall be based upon gross square footage of the building or use unless otherwise specified in the requirement.	**Complies.**	*5 Stalls per thousand (5,750 sq. ft.= 30 required stalls)*
When parking requirements are based upon the number of employees, parking calculations shall use the largest number of employees who work at any one shift. Where shift changes may cause substantial overcrowding of parking facilities, additional stalls may be required.	**N/A.**	
When a development contains multiple uses, more than one parking requirement may be applied.	**N/A.**	
Tandem parking spaces will not be counted as parking spaces for non-residential uses except for stacking spaces where identified.	**N/A.**	
Any fraction obtained when calculating the parking requirement shall be rounded up to the next whole number to determine the required number of parking stalls.	**Complies.**	*Parking requirement rounded up*
Any information provided by the developer relative to trip generation, hours of operation, shared parking, peak demands, or other information relative to parking shall be considered when evaluating parking needs.	**N/A.**	
Parking requirements may deviate from the standards contained in Section 19.09.10, Required Minimum Parking, when the City Council determines that the deviation meets the intent of this Chapter. Reductions may not exceed 25% of the parking requirements and shall be based on the following criteria:	**N/A.**	

a. the intensity of the proposed use; b. times of operation and use; c. whether the hours or days of operation are staggered thereby reducing the need for the full amount of required parking; d. whether there is shared parking agreement in accordance with Section 19.09.05.10 below; e. trip generation; and f. peak demands.		
Up to 25% of required parking may be shared with an adjacent use upon approval by the City Council. The developer must provide: a. an agreement granting shared parking or mutual access to the entire parking lot; and b. b. peak demand data by a professional traffic engineer showing that shared parking will accommodate the uses.	**N/A.**	
Parking lots larger than 75,000 square feet shall provide raised or delineated pedestrian walkways. Walkways shall be a minimum of 10' wide and shall be placed through the center of the parking area and extend to the entrance of the building. Landscaped islands along the center walkway shall be placed at a minimum interval of every 30'. Landscaped islands are encouraged to be offset from one another to create a feeling of greater coverage. Pedestrian covered walkways may be substituted for tree-lined walkways. Where the developer desires to have a driveway access at the center of the parking area, a pedestrian access shall be placed on either side of the driveway.	**Complies.**	*Walkway shown on plans*
Landscaping in Parking Areas		
All parking areas (not including a driveway for an individual dwelling) for non-residential or multi-family residential uses that are adjacent to public streets shall have landscaped strips of not less than 10' in width placed between the sidewalk and the parking areas, containing a berm, hedge, or screen wall with a minimum height of 3' to minimize intrusion of lighting from headlights and other lighting on surrounding property. Trees, both deciduous and evergreen, shall be placed in the strip with spacing of no more than 30' between trees except in the clear sight triangle, and except where located beneath powerlines. The standards of section 19.06.06, Planting Standards and Design Requirements, shall apply for the minimum size of vegetation. Within regional parks this requirement may be met through the use of intermittent planter beds rather than a berm, hedge, or screen wall; trees or shrubs may be clustered in the planter beds where necessary to shield light spillage.	**Complies.**	*Landscaping meets requirements*
All landscaped areas abutting any paved surface shall be curbed (not including a driveway for an individual dwelling). Boundary landscaping around the perimeter of the parking areas shall be separated by a concrete curb 6" higher than the parking surface.	**Complies.**	*Curbs shown on site plan*
Clear Sight Triangles must be followed.	**Complies.**	*Landscaping complies with clear site triangles*
All landscaped parking areas shall consist of trees, shrubs, and groundcover. Areas not occupied by structures, hard surfaces, vehicular driveways, or pedestrian walkways shall be landscaped and maintained. All landscaped areas shall have an irrigation system.	**Complies.**	*Landscaping meets requirements*
On doubled rows of parking stalls, there shall be one 36' x 9' landscaped island on each end of the parking rows, plus one 36' x 9' landscaped island to be placed at a minimum of every twenty parking stalls. Each island on doubled parking rows shall include a minimum of two trees per planter.	**N/A.**	
On single rows of parking or where parking abuts a sidewalk, there shall be one 18' x 9' foot landscaped island a minimum of every ten stalls. Islands on a single parking row shall have a minimum of one tree per island.	**N/A.**	*Does not apply to parking adjacent to the building*

i. Exception: Landscaped islands are not required in single rows of parking that abut or are no farther than 6' from a landscaped area containing an equal or greater number of trees as would have been provided in islands, in addition to trees required for the landscaped area. Such trees shall be located within 9' of the edge of parking area, and shall have a canopy width that, at maturity, will extend into the parking area.		
Landscaped islands at the ends of parking rows shall be placed and shaped in such a manner as to help direct traffic through the parking area.	**N/A.**	
Required Minimum Parking		
5 Stalls per thousand (5,750 sq. ft.= 30 required stalls)	**Complies.**	*33 stalls proposed*
Drive-thru Requirements		
Each stacking space shall accommodate one vehicle and be no less than 20 feet in length from the point of service.	**N/A.**	*No drive-thru proposed*
All drive-thru facilities must provide at a minimum 3 stacking spaces (60') per lane.	**N/A.**	*No drive-thru proposed*
Bank or financial institution (including ATMs): minimum of 3 stacking spaces per lane. Food or beverage establishment: minimum of 5 stacking spaces.	**N/A.**	*No drive-thru proposed*
Entrances and exits of drive-thru lanes shall be clearly marked to designate the direction of traffic flow.	**N/A.**	*No drive-thru proposed*
A Final Traffic report shall be provided and approved to demonstrate how all queuing shall be contained within the property, business, or use and not affect the surrounding roads. Stacking shall be designed so that it does not have the potential to overflow onto the street or adjacent property, business, or use.	**N/A.**	*No drive-thru proposed*
Landscaping: A three foot (3') wide raised median or planter between the drive-thru aisle and the parking area shall be provided.	**N/A.**	*No drive-thru proposed*
All drive-thru lanes adjacent to public streets shall have landscaped strips of not less than ten feet in width placed between the sidewalk and the drive-thru lanes that contain a berm, hedge, or screen wall with a minimum height of three feet to minimize intrusion of lighting from headlights and other lighting from surrounding properties.	**N/A.**	*No drive-thru proposed*

Dimensions for Parking Stalls & Aisle

	Stall Width	Stall Length	Aisle Width (one-way traffic)	Aisle Width (two-way traffic)
90° Parking				
Required	9'	18'	24'	24'
Provided	9'	20'	N/A	N/A
60° Parking				
Required	9'	18'	25'	18'
Provided	N/A	N/A	N/A	N/A
45° Parking				
Required	9'	18'	25'	14'
Provided	N/A	N/A	N/A	N/A
Parallel				
Required	9'	20'	N/A	12'
Provided	N/A	N/A	N/A	N/A

19.11 Lighting		
General Standards		
Regulation	**Compliance**	**Findings**
Material: All Lighting Fixtures and assemblies shall be metal.	**Does Not Comply.**	
Base: All lighting poles shall have a 16" decorative base.	**Complies.**	
Type: All lighting fixtures shall be of the full cutoff variety. Shoebox fixtures are prohibited.	**Complies.**	*Stated on plans*
Angle: Shall be directed downward.	**Complies.**	*Stated on plans*
Lamp: Bulbs may not exceed 4000k.	**Complies.**	*Bulbs shown do not exceed 4000k*
Drawings: Design and location of fixtures shall be specified on the plans.	**Does Not Comply.**	*Designs needed for all proposed lighting COMPLIES*
Flags: The Unites States flag and the state flag shall be permitted to be illuminated from dusk till dawn. All other flags shall not be illuminated past 11:00 p.m. Flag lighting sources shall not exceed 10,000 lumens per flagpole. The light source shall have a beam spread no greater than necessary to illuminate the flag.	**N/A.**	*No flag on site*
Prohibited Lighting: Searchlights, strobe lights and any laser source light or any similar high intensity light.	**Complies.**	*No prohibited lighting proposed*
Descriptions: Descriptions of the illuminating devices, fixtures, lamp supports, and other devices. This description may include, but is not limited to, manufacturers' specifications, drawings, and sections.	**Does Not Comply.**	*More details needed for each type of light COMPLIES*
Residential Lighting		
Floodlights: Floodlights are prohibited.	**N/A.**	
Street Lighting: All street lighting fixtures shall be metal and black and also include an arm and bell shade or a pole and lantern configuration and meet the City Standards.	**N/A.**	
Building Lighting: Building lighting shall be full cutoff and downward directed, and only for the illumination of vertical surfaces such as building facades and signs, and shall not cast illumination beyond the surface being illuminated.	**N/A.**	
Nonresidential Lighting		
All wall-mounted fixtures shall not be mounted above 16'. The exception shall be those instances where there is a second story access directly from the outdoors, and under-eave lighting. Wall-mounted lighting shall be only for the illumination of vertical surfaces such as building facades and signs, and shall not cast illumination beyond the surface being illuminated.	**Does Not Comply.**	*Need to show lighting locations on elevations REPEAT COMMENT – the easiest way to show this is on the elevations, include the distance from the ground to the light fixture.*
Intermittent lighting must be of the "motion sensor" type that stays on for a period of time not to exceed 10 minutes and has a sensitivity setting that allows the lighting fixture to be activated only when motion is detected on the site.	**Complies.**	*None proposed*
All trespass lighting shall not exceed 1.0 foot-candles measured at the property line, except that trespass lighting into residential development shall not exceed 0.1 foot-candles measured at the property line.	**Does Not Comply.**	*Lighting must not exceed 1.0 at the property lines COMPLIES*
Service station canopies must utilize canopy lights that are fully recessed into the canopy or are fully shielded by the canopy.	**Complies.**	*Lighting stays in canopy per Plans*
All freestanding lighting fixtures and assemblies shall be black. Regional Parks may include theme lighting fixtures in colors other than black. The color shall enhance the theme of the park and shall be approved during the site plan review process.	**Complies.**	*Stated on plans*
Pole design shall include an arm and bell shade. Regional Parks may include theme lighting fixtures that do not include an arm and bell shade. The design shall enhance the theme of the park and shall be approved during the site plan review process.	**Does Not Comply.**	*Arm and Bell shade needed COMPLIES*

Parking lot poles shall be limited to a height of 16' when in or within 200' of a residential zone; all other locations shall have a height limit of 20'.	**Complies.**	*16' pole height proposed*
All lighting fixtures in surface parking lots and on the top decks of parking structures shall be fitted to render them full cutoff.	**Complies.**	*Stated on plans*
One hour after closing or by 11:00 pm, whichever is earlier, businesses must turn off at least 50% of building lighting and lighting fixtures in surface parking lots and on top decks of parking structures; however, those lighting fixtures turned off may be set to function utilizing a motion detector system. Lights may be turned back on one half hour prior to the first employee shift.	**Complies.**	*Stated on plans*
Business open for 24 hours must turn off 50% of their outdoor and parking lot lighting by 11:00 pm and must keep them off until one half hour before sunrise, however, those lighting fixtures turned off may be set to function utilizing a motion detector system.	**Complies.**	*Stated on plans*
Walkway Lighting		
Lighting of all pedestrian pathways is recommended.	**Complies.**	*Lighting located near sidewalks*
All pathway, walkway, and sidewalk lighting fixtures shall be mounted at a height not to exceed 10'. i. Themed walkway lighting within Regional Parks shall not exceed a height of 25'. Such lighting within 200' of residential development shall not exceed 16'.	**N/A.**	
Bollard lighting shall be limited to a height of 4'.	**N/A.**	
Lighting Plan		
Plans indicating the location and types of illuminating devices on the premises.	**Does Not Comply.**	*More lighting details needed for the exterior building COMPLIES*
Descriptions of the illuminating devices, fixtures, lamp supports, and other devices. This description may include, but is not limited to, manufacturers' specifications, drawings, and sections.	**Does Not Comply.**	*More lighting details needed COMPLIES*
Photometric sheet showing measurement of light intensity across the site and onto adjacent property in terms of candela, lumens, and foot-candles.	**Complies.**	*Photometric sheet provided*
Plans providing information required in the Technical Standards and Specifications Manual.	**Does Not Comply.**	*More lighting details needed COMPLIES*

19.12 Subdivision

Preliminary Plat Requirements

Regulation	Compliance	Findings
Standard Plat Format followed.	**Complies.**	
Name and address of property owner and developer.	**Complies.**	
Name of land surveyor.	**Complies.**	
The location of proposed subdivision with respect to surrounding property and street.	**Complies.**	
The name of all adjoining property owners of record, or names of adjoining developments.	**Complies.**	
The names and location of ROW widths of adjoining streets and all facilities within 100' of the platted property.	**Complies.**	
Street and road layout with centerline bearing and distance labels, dimensions, and names of existing and future streets and roads, (with all new names cleared through the City GIS Department).	**Complies.**	
Subdivision name cleared with Utah County.		
North arrow.	**Complies.**	
A tie to a permanent survey monument at a section corner.	**Complies.**	
The boundary lines of the project with bearings and distances and a legal description.	**Complies.**	
Layout and dimensions of proposed lots with lot area in square feet.	**Complies.**	

Location, dimensions, and labeling of roads, structures, irrigation features, drainage, parks, open space, trails, and recreational amenities.	**Complies.**	
Location of prominent natural features such as rock outcroppings, woodlands, steep slopes, etc.	**N/A.**	*Flat ground*
Proposed road cross sections.	**Complies.**	*Pony Express shown*
Proposed fencing.	**Complies.**	
Vicinity map.	**Complies.**	
All required signature blocks are on the plat.	**Complies.**	
Prepared by a professional engineer licensed in Utah.	**Complies.**	
Proposed methods for the protection or preservation of sensitive lands.	**Complies.**	
Location of any flood plains, wetlands, and other sensitive lands.	**Complies.**	
Location of 100-year high water marks of all lakes, rivers, and streams.	**Complies.**	
Projected Established Grade of all building lots.	**Complies.**	*Shown on grading plan*
A data table. 1. total project area; 2. total number of lots, dwellings, and buildings; 3. where buildings are included, square footage of proposed building footprints and, if multiple stories, square footage by floor; 4. for multi-family developments, the number of proposed garage parking spaces and number of proposed total parking spaces; 5. percentage of buildable land; 6. acreage of sensitive lands and percentage sensitive lands comprise of total project area and open space area; 7. area and percentage of open space or landscaping; 8. area to be dedicated as right-of-way (public and private); 9. net density of dwellings by acre (sensitive lands must be subtracted from base acreage).	**Complies.**	*Data table includes required information*
Phasing Plan: Including a data table with the following Information for each phase: i. Subtotal area in square feet and acres; ii. number of lots or dwelling units; iii. open space area and percentage; iv. utility phasing plan; v. number of parking spaces; vi. recreational facilities to be provided; vii. overall plan showing existing, proposed, and remaining phases.	**N/A.**	*Project is only one phase*
Final Plat Requirements		
Subdivision name and location.	**Complies.**	
Standard Plat Format followed.	**Complies.**	
Name and address of property owner and developer.	**Complies.**	
Name of land surveyor.	**Complies.**	
The location of proposed subdivision with respect to surrounding property and street.	**Complies.**	
The name of all adjoining property owners of record, or names of adjoining developments.	**Complies.**	
The names and location of ROW widths of adjoining streets and all facilities within 100’ of the platted property.	**Complies.**	
North arrow.	**Complies.**	
A tie to a permanent survey monument at a section corner.	**Complies.**	
The boundary lines of the project with bearings and distances and a legal description with total project area in SF and acres.	**Complies.**	

Layout and dimensions of proposed lots with lot area in square feet and acres. Lot boundaries shall include dimensions and bearings.	**Complies.**	
Lot Numbers.	**Complies.**	
Location, dimensions, and labeling of roads, structures, irrigation features, drainage, parks, open space, trails, and recreational amenities.	**Complies.**	
Location of prominent natural features such as rock outcroppings, woodlands, steep slopes, etc.	**N/A.**	*Flat Ground*
Proposed road ROW widths.	**Complies.**	
Vicinity map.	**Complies.**	
All required signature blocks are on the plat.	**Complies.**	
Prepared by a professional engineer licensed in Utah.	**Complies.**	
Proposed methods for the protection or preservation of sensitive lands.	**Complies.**	*No sensitive lands in area*
Fencing plans.	**Complies.**	
Location of any flood plains, wetlands, and other sensitive lands.	**Complies.**	*No sensitive lands in area*
Flood plain boundaries as indicated by the Federal Emergency Management Agency as well as the location of 100-year high water marks of all lakes, rivers, and streams.	**Complies.**	
Existing and Proposed easements.	**Complies.**	*Shown on survey*
Street monument locations.	**Complies.**	
Lot and road addresses and addresses for each intersection. Road names shall be approved by the City GIS department before being added to the subdivision plat.	**Complies.**	
A data table. 1. total project area; 2. total number of lots, dwellings, and buildings; 3. where buildings are included, square footage of proposed building footprints and, if multiple stories, square footage by floor; 4. for multi-family developments, the number of proposed garage parking spaces and number of proposed total parking spaces; 5. percentage of buildable land; 6. acreage of sensitive lands and percentage sensitive lands comprise of total project area and open space area; 7. area and percentage of open space or landscaping; 8. area to be dedicated as right-of-way (public and private); 9. net density of dwellings by acre (sensitive lands must be subtracted from base acreage).	**Complies.**	*Data table includes required information*
Phasing Plan: Including a data table with the following Information for each phase: i. Subtotal area in square feet and acres; ii. number of lots or dwelling units; iii. open space area and percentage; iv. utility phasing plan; v. number of parking spaces; vi. recreational facilities to be provided; vii. overall plan showing existing, proposed, and remaining phases.	**N/A.**	*Project is only one phase*
Condominium Process		
Condominium projects shall receive Site Plan and Preliminary Plat approval.	**N/A.**	
A Declaration of Condominium and Condominium Plat shall be submitted.	**N/A.**	
The Condominium Plat shall follow the Final Plat requirements.	**N/A.**	
Subdivision Layout		
Layout: The subdivision layout should be generally consistent with the City's adopted Land Use Element of the General Plan, and shall conform to any land	**Complies.**	

use ordinance, any capital facilities plan, any impact fee facilities plan, and the transportation master plan.		
Block Length: The maximum length of blocks shall be 1,000'. In blocks over 800' in length, a dedicated public walkway through the block at approximately the center of the block will be required.	**Complies.**	
Such a walkway shall not be less than 15' in width unless otherwise approved by the City in accordance with other applicable standards approved by the City Council.	**N/A.**	
Connectivity: The City shall require the use of connecting streets, pedestrian walkways, trails, and other methods for providing logical connections and linkages between neighborhoods.	**Complies.**	*Pedestrian access shown on Pony Express that extends to Redwood Road*
Mailboxes: Group mailboxes shall be accessed only from a local street, and shall not be placed on a collector or arterial street, unless a bulbout is provided with space for a minimum of three vehicles to park outside the lane of travel and shoulder.	**N/A.**	
Private Roads: Private roads may be constructed as approved as part of the Preliminary Plat approval and so long as such roads meet the same standards identified in the Saratoga Springs Standard Street Improvement Details.	**N/A.**	
Access: Where the vehicular access into a subdivision intersects an arterial road as defined in the Transportation Master Plan, driveways shall not be placed on the intersecting road within 100' of the arterial connection.	**Complies.**	*U-Dot approval provided*
Two separate means of vehicular access onto a collector or arterial road shall be required when the total number of equivalent residential units (including adjacent developments and neighborhoods) served by a single means of access will exceed fifty. **Access Exception:** Where no point of second access is available within 500' and where all units are provided with an approved sprinkler system, a second access shall not be required until the number of units reaches double the above limits.	**Complies.**	*U-Dot approval provided*
Where two means of access are required, the points of access shall be placed a minimum of 500' apart, measured along the center of the driving lane from center of right-of-way to center of right-of-way.	**Complies.**	*U-Dot approval provided*
Shared Driveways: Shared driveways shall be a minimum of 26' in width and shall direct all runoff to a public or private drainage system. All dwellings on shared driveways shall provide enclosed garages or other covered parking. Shared driveways accessing more than four dwellings shall also provide a minimum of 25' of parking space between the garage and shared driveway. Shared driveways with four or fewer dwellings, if not providing a minimum of 20' of parking space, shall install a remote garage door opener prior to issuance of Certificate of Occupancy. All requirements of the Fire Code shall also be met.	**N/A.**	
Lot Design		
All subdivisions shall result in the creation of lots that are developable and capable of being built upon.	**Complies.**	
All lots or parcels created by the subdivision shall have frontage on a street or road that meets the City's ordinances, regulations, and standards for public roads.	**Complies.**	
Flag lots may be approved with less frontage when the Planning Commission determines that the creation of such a lot would result in an improved design or better physical layout for the lot based on the following criteria: i. For subdivisions with 20 or less lots: no more than 10% (rounding down) of the total lots are allowed to be flag lots; ii. For subdivisions with 50 or less lots: no more than 7.5% (rounding down) of the total lots are allowed to be flag lots; and	**N/A.**	*Not a Flag Lot*

iii. For subdivision with more than 50 lots: no more than 5% (rounding down) of the total lots are allowed to be flag lots.		
Land dedicated as public roads and rights-of-way shall be separate and distinct from land included in lots adjacent to public roads and rights-of-way.	**Complies.**	
Side property lines shall be at approximately right angles to the street line or radial to the street line.	**Complies.**	
Corner lots for residential use shall be 10% larger than the required minimum lot.	**N/A.**	
No lot shall be created that is divided by a municipal or county boundary line.	**Complies.**	*No divide in Municipal or County boundary line*
Remnants of property shall not be left in the subdivision that do not conform to lot requirements or are not required or suitable for common open space, private utilities, public purposes, or other purpose approved by the City Council.	**Complies.**	
Double access lots are not permitted with the exception of corner lots.	**N/A.**	
Driveways for residential lots or parcels shall not be allowed to have access on major arterials. **Exception:** Exceptions may be made for large lots (at least 1 acre in size) or for lots where the home is set back over 150' from the arterial roadway. Approval by UDOT may be required.	**N/A.**	
All subdivisions along arterial roadways shall conform to the City's requirements and adopted street cross-section including pedestrian walkways, park strips, landscaping, and fencing.	**Complies.**	*Pedestrian access shown on Pony Express that extends to Redwood Road*

19.13 Process

Regulation	Findings
Neighborhood Meeting.	*N/A*
Notice/Land Use Authority.	*Public Meeting with Planning Commission for Preliminary Plat recommendation to the City Council and a decision by the PC for the Site Plan, The City Council makes the final decision on the Preliminary Plat. No notices needed, both items are an administrative decision.*
Master Development Agreement.	*No MDA, Wander Community Plan and Village Plan 1*
Phasing Improvements.	*None*
Payment of Lieu of Open Space.	*N/A*

19.16 Site and Architectural Design Standards

General Site Design Standards

Regulation	Compliance	Findings
Pedestrian Connectivity: All buildings and sites shall be designed to be pedestrian friendly by the use of connecting walkways.	**Complies.**	*Pedestrian access shown on Pony Express that extends to Redwood Road*
Safe pedestrian connections shall be made between buildings within a development, to any streets adjacent to the property, to any pedestrian facilities that connect with the property, when feasible between developments, and from buildings to the public sidewalk to minimize the need to walk within the parking lot among cars.	**Complies.**	*Pedestrian access shown on Pony Express that extends to Redwood Road*
All pedestrian connections shall be shown on the related site plan or plat.	**Complies.**	*Pedestrian access shown on Pony Express that extends to Redwood Road*
Parking Areas: On-site parking shall be located primarily to the sides or rear of the building. Variations may be approved by the Land Use Authority, subject to the following criteria: i. The use is a big box with outparcels helping to screen parking, or ii. At least 50% of the parking is located to the side or rear of the building, or	**Complies.**	*50% of the parking is located on the sides of the building*

iii. A safety issue is created by locating parking to the side or rear as verified and documented by the Saratoga Springs Police Department. For example, the parking will be entirely concealed from view by existing walls or buildings, or iv. That portion of development that lies within the Waterfront Buffer Overlay, or v. The development is Office, Warehouse/Flex space and when loading docks are not adjacent to a public right-of-way.		
Parking lots shall be designed with a hierarchy of circulation: major access drives with no parking; major circulation drives with little or no parking; and then parking aisles for direct access to parking spaces.	**Complies.**	*Parking lot meets standards*
Parking lots adjacent to, and visible from, public streets shall be screened from view through the use of earth berms, screen walls, landscape hedges or combinations thereof with a minimum height of 3' as measured from the parking surface. Within regional parks this requirement may be met through the use of intermittent planter beds rather than a berm, hedge, or screen wall; trees and shrubs may be clustered in the planter beds where necessary to avoid light spillage.	**Complies.**	
Acceleration and Deceleration Lanes: Acceleration and deceleration lanes shall be required on major arterials when deemed necessary by the City Engineer.	**Complies.**	*U-Dot approval provided*
Parking Structures: Parking structures shall be architecturally consistent with the project buildings, including the use of the same primary finish materials as the exterior of the adjacent or adjoining buildings.	**N/A.**	*No parking structure proposed*
When placement of parking structures along site frontages is necessary, visual mitigation such as landscape buffers, upper-level setbacks, or additional architectural treatment shall be used.	**N/A.**	*No parking structure proposed*
The view of a parking structure from a public street shall be minimized by placing its shortest dimension along the street edge.	**N/A.**	*No parking structure proposed*
The top deck of parking structures shall include screen walls, periphery landscape islands, or similar features where visible from public view in order to soften the appearance of the top of the parking structure and screen the view of cars on the top deck of the structure.	**N/A.**	*No parking structure proposed*
All top deck lighting shall be screened and directed downward to avoid light spill onto the street below and shall consist of only bollards or building lighting. Light poles are prohibited.	**N/A.**	*No parking structure proposed*
Trash Enclosures, Storage Areas, and External Structures: Landscaping, fencing, berms, or other devices integral to overall site and building design shall screen trash enclosures, storage areas, and other external structures.	**Complies.**	*Trash enclosure shown on site plan*
Service yards, refuse and waste-removal areas, loading docks, truck parking areas and other utility areas shall be screened from view by the use of a combination of walls, fences, and dense planting. Screening shall block views to these areas from on-site as well as from public rights of way and adjacent properties.	**N/A.**	
All trash dumpsters shall be provided with solid enclosures. Enclosures shall be composed of 6' high solid masonry or decorative precast concrete walls, with opaque gates and self-latching mechanisms to keep gates closed when not in use. Bollards are required at the front of the masonry walls to protect the enclosure from trash collection vehicles. Gates shall be made of opaque metal for durability. Chain-link gates with or without opaque slats are not acceptable. Colors and materials shall be consistent with the main building or use.	**Does Not Comply.**	*Bollards placed in front of MCU walls, heavy duty iron gate latch shown* *Show or indicate self-latching mechanisms to keep gates closed when not in use. REPEAT COMMENT*
Where trash enclosures, storage areas, or other external structures are adjacent to parking areas, a 3' landscaped buffer shall be provided that does not impede access into and out of vehicles.	**Complies.**	*Trash enclosure meets distance requirements*
These areas shall be well maintained and oriented away from public view. The consolidation of trash areas between buildings is encouraged.	**Complies.**	*Trash enclosure located on the side of the building*

Utility Boxes: Dense vegetative buffers which include an evergreen variety of plant materials shall be placed where appropriate to screen all utility boxes and pedestals in order to remain attractive during the winter months.	**Does Not Comply.**	*Label the trees proposed in front of utility boxes and gas meter REPEAT COMMENT*
Site Design Standards: Non-Residential Development		
Shopping Cart Corrals: Shopping cart corrals are required for big box or mid box retail uses. Roof covers are recommended as the local climate includes wind, rain, and winter snow conditions. If roof covers are utilized they shall blend in with the established building design.	**N/A.**	*No shopping car corral proposed*
The shopping cart corral rail finish shall match or compliment the exterior finishes of the main building through the use of two out of three of the same exterior colors and finishes.	**N/A.**	*No shopping cart corral proposed*
Uses Within Buildings: All uses established in any commercial, office warehouse, business park, or industrial zone shall be conducted entirely within a fully enclosed approved building except those uses deemed by the City Council to be customarily and appropriately conducted in the open. Uses which qualify for this exception include vegetation nurseries, home improvement centers with lumber, outdoor cafes, outdoor retail display, car wash vacuums, auto dealerships, and similar uses.	**Complies.**	
Outdoor Display: All retail product displays shall be located under the buildings' permanent roof structure or on designated display pads within front landscape areas.	**N/A.**	*No outdoor display proposed*
All display areas shall be clearly defined on the approved Site Plan and designated on the site with a contrasting colored, painted, or striped surface.	**N/A.**	*No outdoor display proposed*
Display areas shall not block building entries or exits, pedestrian walks, or parking spaces in front of the building. Outdoor display areas shall not spill into walkways or any drive aisle adjacent to a building.	**N/A.**	*No outdoor display proposed*
Access Requirements: a. Each roadway shall not be more than 40' in width, measured at right angles to the center line of the driveway except as increased by permissible curb return radii; and b. the entire flare of any return radii shall fall within the right-of-way.	**Complies.**	*U-Dot approval provided*
Off-Street Truck Loading Space: Every structure involving the receipt or distribution by vehicles of materials or merchandise shall provide and maintain on the building's lot adequate space for standing, loading, and unloading of the vehicles in order to avoid undue interference with public use of streets, alleys, required parking stalls, or accessible stalls.	**Complies.**	*Sufficient unloading space provided*
Screening of Storage & Loading Areas: To alleviate the unsightly appearance of loading facilities, these areas shall not be located on the side(s) of the building facing the public street(s). Such facilities shall be located interior to the site.	**N/A.**	
Screening for storage and loading areas shall be composed of 6' high solid masonry or architectural precast concrete walls with opaque gates and self-latching mechanisms, to keep gates closed when not in use. Bollards are required at the front of the masonry walls to protect the enclosure from trash collection vehicles.	**N/A.**	
Gates shall be made of opaque metal for durability. Chain-link gates with opaque slats are prohibited.	**N/A.**	
The method of screening shall be architecturally integrated with the adjacent building in terms of materials and colors.	**N/A.**	
Trash areas shall be designed to include the screening of large items (e.g. skids and pallets) as well as the trash bin(s) that are needed for the business (unless storage is otherwise accommodated behind required screened storage areas).	**N/A.**	
Buffers: A wall and landscaping, fencing, or landscaping of acceptable design shall effectively screen the borders of any commercial or industrial lot which abuts an existing agricultural or platted residential use. Such a wall, fence, or	**Complies.**	*Landscaping located between site and residential area*

landscaping shall be at least 6' in height, unless a wall or fence of a different height is required by the Land Use Authority as part of a site Plan review.		
No chain-link or wood fences are permitted as buffering or screening between commercial and residential. Masonry and solid vinyl are suggested types of fences, and as circumstances require, one or the other may be required.	**Complies.**	*No chain link or wood fencing proposed*
Unless otherwise required by this Title, walls or fences used as a buffer or screen shall not be less than 6' in height.	**Complies.**	*No walls or fencing used as buffer*
Parking Lot Buffers: There shall be a minimum of 10' of landscaping between parking areas and side and rear property lines adjacent to agricultural and residential land uses.	**Complies.**	
Building Buffer: No building shall be closer than 5' from any private road, driveway, or parking space. The intent of this requirement is to provide for building foundation landscaping and to provide protection to the building. Exceptions may be made for any part of the building that may contain an approved drive-up window.	**Complies.**	*Building 6 ½ feet from closest parking spot*
Interconnection: All parking and other vehicular use areas shall be interconnected with adjacent non-residential properties in order to allow maximum off-street vehicular circulation.	**N/A.**	*Only abuts residential and arterials*
General Architectural Design Standards		
Building Articulation: Building elevations exceeding 40' in length shall incorporate a minimum of one horizontal elevation shift or combination of vertical and horizontal elevation shifts, stepping portions of the elevation to create shadow lines and changes in volumetric spaces of at least five feet, and a minimum of two of the following, all spaced at intervals of 20' to 50' of horizontal width: i. A combination of vertical and horizontal elevation shifts that together equal at least 5'. ii. Addition of horizontal and vertical divisions by use of textures or materials. iii. Primary material change. iv. Addition of projections such as balconies, cornices, covered entrances, porte-cocheres, trellis', pergolas, arcades, and colonnades. Such trellis' and awnings extend outward from the underlying wall surface at least 36". v. Variation in the rooflines by use of dormer windows, overhangs, arches, stepped roofs, gables or other similar devices.	**Does Not Comply.**	*Show measurements of bump outs COMPLIES*
Roof Treatment: Sloped roofs shall provide articulation and variations in order to break up the massiveness of the roof. Sloped roofs shall include eaves which are proportional to the roofs slope and scale of the building.	**Complies.**	
Flat roofs shall be screened with parapets on all sides of the building. If no roof top equipment exists or is proposed, the parapet shall be a minimum of 12" in height above the roof.	**Complies.**	Barrier screens equipment
All roofs on two-family, three-family, and multi-family dwellings shall have a minimum pitch of 3/12 (25% slope). To provide architectural enhancement, residential structures are encouraged to have multiple pitch variations.	**N/A.**	
Roof mounted equipment shall not be visible from adjacent public and private streets as well as from adjacent properties, unless grade differences make visibility unavoidable.	**Complies.**	Barrier screens equipment
Screening shall be solid and shall be consistent with the material and color of exterior finishes of the building through the use of at least two out of three of the exterior finishes of the building.	**Complies.**	
Windows: Windows, other than rectangular windows, may be used as accents and trim. Untreated aluminum or metal window frames are prohibited.	**Complies.**	*Windows shown on Redwood and Pony Express elevations*
Awnings, Canopies, Trellises, Pergolas, and Similar Features: All such features must be attached to a vertical wall.	**Complies.**	*Canopy extends 6' and is 12' from grade*

All such features shall project at least 4' from the building when located over a pedestrian traffic area and no less than 2' otherwise.	**Complies.**	*Canopy extends 6' and is 12' from grade*
All such features shall maintain a minimum clearance above sidewalk grade of 8' to the bottom of the framework when located over a pedestrian traffic area.	**Complies.**	*Canopy extends 6' and is 12' from grade*
Backlighting is not permitted.	**Does Not Comply.**	*More lighting details needed COMPLIES*
Mechanical Equipment: All mechanical equipment shall be located or screened and other measures shall be taken so as to shield visibility of such equipment from any public or private streets.	**Complies.**	*Barrier screens equipment*
Wing walls, screens, or other enclosures shall be shall be integrated into the building and landscaping of the site, whether located on the ground or roof.	**Complies.**	
Rooftops of buildings shall be free of any mechanical equipment unless completely screened from all horizontal points of view.	**Complies.**	*Barrier screens equipment*
Screening materials shall conform to the color scheme and materials of the primary building.	**Complies.**	*Barrier screens equipment*
Residential Architectural Design Standards		
Architectural Wrap: Stone, brick, wainscot, and other front elevation materials shall be wrapped a minimum of 2' into interior side elevations and shall extend the full width of any street side yard, or façade abutting common open space.	**N/A.**	
Materials and Colors: A minimum of three materials and three colors shall be utilized on front or street side elevations, or façade abutting common open space. A minimum of two materials and two colors shall be utilized on interior side and rear elevations.	**N/A.**	
No more than 75% of any building elevation shall consist of any one material or color.	**N/A.**	
Carports and similar structures shall be compatible in architectural design and details with the main residential structure through the use of at least two out of three of the same materials and colors.	**N/A.**	
Color Variation: Two-family, three-family, and multi-family developments containing more than five buildings shall be designed with at least two color palettes.	**N/A.**	
Non-Residential Architectural Design Standards		
Four Sided Architecture: All sides of a building that are open to public view (including views from adjacent residential dwellings or probable location of residential dwellings) shall receive equal architectural design consideration as the building front.	**Complies.**	
Color and Materials: Exterior Building Materials shall be considered any materials that make up the exterior envelope of the building and shall be limited to no more than four and no less than two types of materials per building, window and door openings excluded.	**Complies.**	
Color of exterior building materials (excluding accent colors) shall be limited to no more than four and no less than two major colors per development.	**Complies.**	
Bright colors, such as neon or fluorescent colors, bright orange or yellow, and primary colors, are only permitted as accent colors.	**Complies.**	
No more than 75% of any building elevation shall consist of any one material or color. i. No more than 50% of any building elevation shall consist of CMU, except in the Office Warehouse and Industrial zones, or ii. Office, Warehouse, Flex buildings in approved zones that utilize concrete tilt up construction are exempt from the maximum 75% of one material per elevation requirement but must follow all other architectural standards.	**Does Not Comply.**	*Two materials or colors needed per elevation COMPLIES*
Prohibited Materials: Tiles. Full veneer brick and tiles exceeding ½" in thickness is permitted, however veneer tile is prohibited. Stucco stone patterns	**Complies.**	

and stucco brick patterns. Wood as a primary exterior finish material. Plain, grey, unfinished CMU block except as an accent material.		
Stairways: All stairways to upper levels shall be located within the building unless otherwise approved by the Land Use Authority for secondary access to outdoor patio decks or other usable outdoor area.	**Complies.**	
Roof Drains: All roof drains, conduit and piping, maintenance stairs and ladders, and other related services shall be located on the interior of the building.	**Complies.**	*Drains appear to be internal*
Electrical Panels: To the extent possible, all electric panels and communication equipment should be located in an interior equipment room.	**Complies.**	
Street Orientation: All Retail or Commercial buildings shall have expansive windows, balconies, terraces, or other design features oriented to the street or adjacent public spaces.	**Complies.**	*Windows shown on both Redwood and Pony Express elevations*
At least 50% of the first floor elevation(s) of a building that is viewed from a public street shall include windows and/or glass doors to minimize the expanse of blank walls and encourage a pedestrian friendly atmosphere. This percentage may be reduced to 35% for buildings without a retail component or with medical uses on the first floor.	**Can Comply.**	*Measurements for the amount of glass on Redwood and Pony Express elevations needed COMPLIES*
Metal Buildings: Metal buildings are only permitted in the Agricultural, Residential Agricultural, Rural Residential, Office Warehouse and Industrial Zones.	**N/A.**	*Building not metal*
All metal buildings shall be designed to have an exterior appearance of conventionally built structures. Stock, "off the shelf" metal buildings are prohibited.	**N/A.**	
Metal buildings in the Agricultural, Residential Agricultural, and Rural Residential zones shall only be used for agriculture as defined in Section 19.02.02 of the City Code.	**N/A.**	

19.18 Signs

Regulation	Compliance	Findings
	Complies.	*Proposed signage locations show, however, a separate sign permit will be required.*

19.26 Planned Community Zone

Community Plan Review

Regulation	Compliance	Findings
Commercial located in Village Plan 1 are classified under the Neighborhood Commercial Land Use Zone	Item.	

Fiscal Impact

Regulation	Findings
Is there any City maintained open space?	*No*
What is the anticipated cost to the City?	*None*
When will City maintenance begin?	*N/A*

Staff Report

Author: Kyle Kingsbury, Engineer II
Subject: Holiday Oil Gas (Redwood Road and Pony Express) – Preliminary Plat and Site Plan
Date: May 26, 2022
Type of Item: Preliminary Plat and Site Plan Approval

SARATOGA SPRINGS

Description:

A. Topic: The Applicant has submitted a Preliminary Plat and Site Plan application. Staff has reviewed the submittal and provides the following recommendations.

B. Background:

Applicant:	Brent Neel (Holiday Oil)
Request:	Preliminary Plat and Site Plan Approval
Location:	Redwood Road and Pony Express (Southwest Corner)
Acreage:	2.51 Acres – 1 Lot

C. Recommendation: Staff recommends the approval of Preliminary Plat and Site Plan subject to the following conditions:

1. All review comments and redlines provided by the City Engineer are to be complied with and implemented with the approved construction drawings.

2. Provide a Storm Water Pollution Prevention Plan (SWPPP) following the State template, prior to the pre-construction meeting.

3. Owner to record a Long-Term Storm Water Management Agreement and provide a Long-Term Storm Water Management Plan (LTSWMP) for the project. The plan portion will be required prior to scheduling a pre-construction meeting.

4. Project shall comply with all ADA standards and requirements.

5. Developer must secure water rights as required by the City Engineer, City Attorney, and development code.

6. Developer shall provide easements for all public utilities not located in the public right-of-way.

7. Developer is required to ensure that there are no adverse effects to adjacent properties due to the grading practices employed during construction.

8. Developer may be required by the Saratoga Springs Fire Chief to perform fire flow tests prior to the issuance of certificate of occupancy or prior to commencement of the warranty period.

9. Submittal of as-built drawings in pdf format to the City Engineer is required prior to acceptance of site improvements and the commencement of the warranty period.

10. Project bonding for the site plan must be completed as approved by the City Engineer prior to the pre-construction meeting.

11. Developer shall remove all existing site improvements and utilities associated with existing pump station (concrete pad, pole, guy wire, valve, etc.), as well as bury any power lines less than 46 kV, which are within this plat.

12. Please be advised that, only a signed reimbursement agreement approved by the City Council, as detailed in the City Engineering Standard 00500/2.3/E, can guarantee that improvements in this project are eligible for reimbursement by the City. If the applicant believes that some of the improvements in this project are eligible for reimbursement from the City, it is strongly recommended the applicant obtain a reimbursement agreement from the City before they are constructed. Constructing them without a signed reimbursement agreement in place, even if they are approved/accepted in the construction drawings, inspected by the City as they are constructed, and/or contained in the City's Capital Facilities Plans and Impact Fees Facilities Plans, is at the sole risk of the developer without any guarantee of reimbursement or any particular timing of reimbursement.

13. The Developer shall landscape and maintain their frontage on Redwood Road and Pony Express Parkway.

MINUTES – Planning Commission

Thursday, May 26, 2022
City of Saratoga Springs City Offices
1307 North Commerce Drive, Suite 200, Saratoga Springs, Utah 84045

PLANNING COMMISSION MEETING MINUTES - DRAFT

Call to Order - 6:23 p.m. by Chairman Troy Cunningham

Present:

Commission Members: Bryce Anderson, Reed Ryan, Troy Cunningham, Ken Kilgore, Bryce McConkie, Rachel Sprosty Burns.

Staff: Dave Stroud, Planning Director; Ken Young, Community Development Director; Sarah Carroll, Long Range Planner; Gina Grandpre, Senior Planner; Kent Page, Senior Planner; Fredric Donaldson, Assistant City Attorney; Jeff Pearson, Engineer II; Nicolette Fike, Deputy Recorder.

Others: Brent Neel, Keith Lindstrom, Julie Hammonds, Douglas Campbell, Cleressa Campbell, John Linton, Ross Ranzenberger, Mitch Vance, Ed Bailey, Benson Whitney.

Excused: Commissioner Barton.

1. **Pledge of Allegiance -** led by Commissioner Cunningham.

2. **Roll Call** – A quorum was present (meeting started late due to traffic issues. Meeting began with Commissioners Cunningham, Kilgore, McConkie, & Sprosty Burns.)

Community Development Director Ken Young presented a plaque to thank outgoing Planning Director David Stroud.

3. **Public Input –** No comments from the public were shared.

4. **Business Item: Holiday Oil Site Plan and Preliminary Plat. Located approximately at the southeast corner of Redwood Road and Pony Express. Brent Neel as applicant.**

Senior Planner Gina Grandpre gave a summary of the project which consists of one 2.5 acre lot. This would include a Holiday Oil Gas Station, C-Store, and Car Wash. The property resides within the boundary of the Wander Village Plan 1. They took great care to match with the landscaping and continuity with the Village Plan and City Code.
Brent Neel was present as applicant.

Commissioner McConkie noted it was a strategic location for a gas station but was concerned about traffic and being able to get in and out of the station. Brent Neel noted Redwood Road access would be right-in and right-out with a full access on Pony Express. Engineer II Jeff Pearson advised on requirement for distance on Pony Express and noted they do meet the standard on that. Commissioner McConkie looked at curb appeal with the trash enclosure and was advised by staff that the location was likely due to ability to access by the garbage truck. He shared concern on carwash stacking. Senior Planner Gina Grandpre advised that due to complaints of car wash blowers this was flipped on the lot so the loud fans were far away from residents. This should give them the ability to have a line up. Senior Planner Gina Grandpre advised on building size compliance.

Commissioners Bryce Anderson and Reed Ryan joined the meeting around this time. (6:40 p.m.)

Commissioner Kilgore received clarification on window requirements for the building which are along the main roads. He asked if the applicant had been able to comply with several conditions that hadn't been at the time of review. Senior Planner Gina Grandpre advised they had been met or added as conditions for compliance. Commissioner Kilgore received clarification that this site plan complies with code on distance from residents. Planning Director Dave Stroud advised further on permitted use in the Community Plan and Village Plan of this area.

Commissioner Sprosty Burns asked about lighting near residential. Senior Planner Gina Grandpre advised on the lighting, requirements such as downward lighting, and candle foot. Brent Neel noted that it was not a 24

hour open business. The lights will be on the pumps for safety. Here the lights are lower than some other locations. Planning Director Dave Stroud further advised that the candle foot needs to be at 0.1, most of this is at 0. It does meet all those standards. They noted the canopy would add additional light separation.

Staff advised in response to question that there would be a wall separating this Site plan from residential. There will be landscaping as well. Brent Neel advised it would be Oakwood Homes doing the fencing.

Motion made by Commissioner Kilgore to forward to the City Council a positive recommendation regarding the Holiday Oil - Saratoga Springs Plat 'A' subdivision Preliminary Plat, located generally at the southeast corner of Redwood Road and Pony Express as outlined in Exhibit 1 with the findings and conditions in the staff report dated May 26, 2022. Seconded by Commissioner Anderson.
Yes: Bryce Anderson, Troy Cunningham, Ken Kilgore, Bryce McConkie, Reed Ryan, Rachel Sprosty Burns.
No: None
Absent: Audrey Barton
Motion passed 6 - 0.

Motion made by Commissioner Kilgore to approve the Holiday Oil Gas Station, C-Store and Car Wash Site Plan, located generally at the southeast corner of Redwood Road and Pony Express as outlined in Exhibit 4 with the findings and conditions in the staff report dated May 26, 2022. With the additional condition of checking to see if the separation from the residential meets the code. Seconded by Commissioner Anderson.
Yes: Bryce Anderson, Troy Cunningham, Ken Kilgore, Bryce McConkie, Reed Ryan, Rachel Sprosty Burns.
No: None
Absent: Audrey Barton
Motion passed 6 - 0.

5. **Public Hearing: Fox Hollow Neighborhood 4 General Plan Amendment, Rezone, Master Plan Amendment, and Planned Unit Development Concept Plan. The area and size of the Community Commercial and R1-10 PUD zone and land uses are proposed to be modified. Located approximately 3000 S. Redwood Road. Mitch Vance as applicant.**

Sarah Carroll, Long Range Planner presented the item. This is a request to re-distribute the vested residential units that are allowed within Neighborhood 4. The Concept plans are presented for a non-binding review by Planning Commission. This was first approved in 2013, it was amended in 2018 to Reduce the density from 512 units to 335. (9 units per acre.) The Concept plan now indicates 308 units. Some commercial acreage was transferred to another area without asking for an increase in density here. They would like flexibility in where the parks go. The revised housing layout has the townhomes between the commercial and other residential. Planner Sarah Carroll noted the requested variation in driveways. The Master Development Agreement amendment does not require review by the Planning Commission, details are included so the full request is understood.

Mitch Vance and Ed Bailey were present as applicant. Mitch Vance noted this concept is changing as a result of feedback from staff and the market for better urban design. Both housing and commercial applicants are working together for a better layout without increasing density.

Public Hearing Open by Chairman Troy Cunningham. Receiving no public comments, the Public Hearing was closed by Chairman Troy Cunningham.

Commissioner Kilgore received clarification on the front and rear loaded lots. Planner S. Carroll advised the alleyway helps create a separation from the commercial as well as the added street. Mitch Vance noted they intend to start preliminary plat process as soon as possible and start building next year. They have spent a lot of time getting it reengineered. Commissioner Kilgore received clarification on the variation in driveways. He felt it often happened that they agree to a development standard, and a few years it gets changed Sarah Carroll, Long Range Planner advised that Planned Unit Developments allow for the different standard and the Fire Chief has approved the layout because they have access on the perimeter. She advised we no longer do PUDs because of things like this but for now it does allow them to ask for the variations, which are necessary sometimes. She noted they are still meeting all the previous amendments. They discussed trails previously approved as open space.

Commissioner Kilgore asked if the new road connections had been approved by UDOT. Mitch Vance noted they have received the stamp from UDOT and utilities are stubbed.

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Commissioner Anderson liked the new transition from commercial to residential and received confirmation that the townhomes were just 2 stories.

Commissioner McConkie shared concern about too many entrances onto Redwood Road. Sarah Carroll, Long Range Planner advised that we are held to certain standards from UDOT, so even though we may feel something is too close, UDOT gives the approval on that. There may be a traffic study down the road that could alter it, but we are held to it for now.
Sarah Carroll, Long Range Planner responded to question that the detention pond was part of the Open Space. It will not be a dog park, but a finished detention basin. She noted the amenities points need to meet the MF-10 zone. Their total is coming in well over the requirement. Sarah Carroll, Long Range Planner advised that more intense uses are not allowed in Community Commercial zone. Commissioner McConkie noted the zone change is fairly insignificant.

Commissioner Ryan noted the changes are minimal and the overall layout is better and he appreciated the work done on that from the applicants and staff. He asked if they felt the parking was fundamentally changed and if they could meet the requirement. Mitch Vance felt they could meet the requirement.

Motion made by Commissioner Kilgore that the Planning Commission recommend approval of the proposed Rezones and General Plan Amendments for Fox Hollow Neighborhoods 4 as described in Section C of the report and as depicted in the attached exhibits, with the findings and conditions in the staff report. Seconded by Commissioner McConkie.
Yes: Bryce Anderson, Troy Cunningham, Ken Kilgore, Bryce McConkie, Reed Ryan, Rachel Sprosty Burns.
No: None
Absent: Audrey Barton
Motion passed 6 - 0.

A break was taken at this time. Meeting resumed at 7:34 p.m.

6. **Public Hearing: Cliff Lake General Plan Amendment from Office Warehouse & Light Industrial to Mixed Use. Rezone from Agriculture to Mixed Residential (86.89 acres), Heavy Commercial (27.59 acres), and Regional Commercial (9.34 acres). Located approximately 800 E. Pioneer Crossing. Keith Lindstrom as applicant.**

Senior Planner Kent Page presented the plans. The applicant requests the City amend 125.04 acres of the General Plan Land Use map from Office land use and Light Industrial land use to Mixed Use and change the zoning from Agriculture to Mixed Residential, Heavy Commercial, and Regional Commercial. These changes would then permit the development of a plat similar to the Concept Plan.
Keith Lindstrom was present as applicant, he noted some of the proposed product areas.

Public Hearing Open by Chairman Troy Cunningham
Julie Hammonds noted she liked the senior homes. She asked if the new ones would be multiple levels.
Public Hearing Closed by Chairman Troy Cunningham

Keith Lindstrom responded to public comment that they are looking into different products but in one of the senior areas they are looking at multi-level condo-style with an elevator.

Commissioner Kilgore asked if the senior apartments were for purchase or rent. Keith Lindstrom replied that the apartments on the north would be for rent, the rest would be for purchase. They follow federal guidelines for senior housing. The applicant indicated they were fine with the suggestion from staff for the landscape buffer, they liked to make the community look good. Commissioner Kilgore felt the applicant had sufficiently complied with the requirements for their zone request. He felt even without a zone change they would have many of the same issues and would need a Development Agreement.

Commissioner Anderson noted an area elsewhere similar to this (Target in Orem) that met resistance initially but now has been a big success with the residents. The tall wall plus the parkstrip behind it has been very positive and looks nice. He believes something similar could be done here between the commercial and residential.

Planning Director Dave Stroud advised that through Development Agreements they can address some of those standards such as for buffers.

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Commissioner McConkie noted they need the drivable space around the commercial. He received clarifications from Planning Director Dave Stroud on some possible type uses in the various zones. Commissioner McConkie asked if there were soils issues. Engineer II Jeff Pearson noted they will look at it closely with the geo-technical report, it is susceptible to wetlands at that area. Commissioner McConkie shared concern about the heavy commercial request and losing more office use. Applicant Keith Lindstrom advised in the front along Pioneer Crossing would be Regional Commercial.

Commissioner Ryan received clarification on separate communities in the area. Keith Lindstrom noted the two senior areas would be their own communities. The other areas would be one community. Commissioner Ryan wanted to make sure the City wasn't setting themselves up for precedence on block length, he felt it could be stronger language to encouraging the 15' walkway. He was worried about the buffer area, in terms of protecting the City. He would like insurances that we are protected and that we were really comfortable with the terms in the agreements. The applicant noted they were committed to the landscape. Commissioner Ryan appreciated Commissioner McConkie's concerns on heavy commercial, however; he felt the descriptor made him feel better about the zone. He wasn't opposed to some remaining residential on the south.

Senior Planner Kent Page noted some items they could foresee being ironed out in the Development Agreement such as truck delivery or idle times. Keith Lindstrom noted the uses allowed in the zone eliminated much of the heavy truck traffic.

Commissioner Sprosty Burns noted she is in favor of more commercial and less in favor of putting in more residential but felt they had met requirements of the request.

Commissioner McConkie felt the concept plan was good and we needed more senior areas. He felt the applicant has gone through due process, but noted as they are looking at the General Plan update they want to look at the most appropriate places for the uses. He doesn't want residential just because they didn't have anything else an area could be and as such become too much of a bedroom community. He is not opposed to turning some of the south end to residential but felt we needed to preserve the access area for commercial.

Commissioner Cunningham noted an area that looked like a larger body of water. Keith Lindstrom advised the property next door did have a lot of wetland. Commissioner Cunningham felt he would like to see more of it remain as commercial as they have lost some other potential business areas have become more residential. Keith Lindstrom noted they have a lot of residential around them like D.R. Horton and felt they are trying to match those zones and felt the residences wouldn't like so much commercial near them.

Commissioner Ryan felt the variety in the product helped diversify and balance the uses in the application and so was ok with the residential. We should look at uses on the main corridors into the City and what it is people see coming in and out.
Commissioner Kilgore agreed about preserving the business areas and in other areas preserving access to water. He noted however; the application, he felt, met requirements and didn't think there were standards, such as safety or health they could use to oppose the request.
Commissioner McConkie felt the General Plan was the way to guide what was best for the City.
Several commissioners mentioned the idea of balancing the "live, work, play" aspect of goals for the City.

Motion made by Commissioner McConkie to recommend denial of the Cliff Lake General Plan amendment and rezone request with finding in the staff packet and based on the effort to retain the current General Plan. Motion seconded by Commissioner Cunningham.
Yes: Commissioner McConkie, Commissioner Cunningham, Commissioner Sprosty Burns.
No: Commissioner Anderson, Commissioner Kilgore, Commissioner Ryan.
Absent: Audrey Barton.
Motion split 3-3.

7. **Public Hearing: The Viviano at Saratoga Springs Community Plan and Village Plan (part of City Center District Area Plan), Located approximately 400 W. Pony Express. Matt Baldwin, Property Reserve, as applicant.**

Senior Planner Kent Page presented the item. The proposed The Viviano at Saratoga Springs Community Plan and Village Plan (The Viviano) development will follow the Town Neighborhood Place Type of the District Area Plan. It will contain approximately 298 total units on approximately 42.82 acres. All units will be rentals, comprised of single-family lots and attached multi-family units (2 or more). Three common buildings will service amenities such as a clubhouse, pool, pickleball, park, and dog park. Approximately 16.30% of the acreage will be common open space.

Benson Whitney was present as applicant. He shared visual of a type of the area similar to the product they want here. He noted it was a gated community and identified amenities, open space, and other features, such as outdoor kitchens and a dog park. They have planned it very walkable. They have three main products.

Public Hearing Open by Chairman Troy Cunningham**.** Receiving no public comments, the Public Hearing was closed by Chairman Troy Cunningham.

Commissioner Kilgore asked about the phasing of the product. Benson noted they want to build it continuously, but in phases to get people in as they go. He confirmed all units would be rentals. They have their own management company. All fees would be included in the rental agreement. Commissioner Kilgore received clarification on setbacks and building separation. Benson Whitney noted they are keeping min. setbacks so they don't need to do firewalls between buildings. About 75% of units have a 20' driveways. The only places with a smaller front yard setback would be the 4-pack. They want people to be able to live in a home with a useable backyard. Senior Planner Kent Page noted parking issues have been worked through for the most part at this point.

Commissioner Sprosty Burns noted there was no plan for a church building in the development. Benson Whitney noted they are looking at a few outside this particular area.

Commissioner McConkie like the concrete fence along Pony Express. He feels this achieves the goals of making a walkable community. He asked about the access roads. Engineer II Jeff Pearson advised that Pony Express is currently City maintained but they anticipate handing it over to the state so they are trying to meet state standards. Commissioner McConkie received clarification on guest parking, landscaping and long range plans. Commissioner McConkie appreciated their long range planning for the community. He hopes this west side of Redwood Road can enhance the visual appeal of the City with mixture of uses that will be a win-win for the community.

Commissioner Ryan felt like it was a lot of density still but hopes it will be good product for the community. He shared concern that products in the surrounding area will change from the current vision in the future. Applicant Benson noted that they have built communities like this in other areas and they like having the walkable communities where you are closer to the shops and medical uses. They plan on keeping this as an investment for forever and as such they care what goes in around them. They will try their hardest to bring the amenities/businesses near them that are desirable.

Commissioner Cunningham asked about the two car garages. Benson Whitney advised which few units didn't have the two car garages. The applicant felt once they get approvals they can get their first product ready in about 14 months. Commissioner Cunningham was glad this was set away from the main intersections which leaves that for commercial.

Motion made by Commissioner Ryan to recommend approval of The Viviano at Saratoga Springs Community Plan and Village Plan with the findings and conditions in the staff packet. and based on discussion today. Seconded by Commissioner Anderson.
Yes: Bryce Anderson, Troy Cunningham, Ken Kilgore, Bryce McConkie, Reed Ryan, Rachel Sprosty Burns.
No: None
Absent: Audrey Barton
Motion passed 6 - 0.

Commissioner Sprosty Burns was excused from the meeting at this time. (9:25 p.m.)

8. **Approval of Minutes: May 12, 2022**

Motion made by Commissioner Ryan to approve the minutes of May 12, 2022. Seconded by Commissioner Kilgore.
Yes: Bryce Anderson, Troy Cunningham, Ken Kilgore, Bryce McConkie, Reed Ryan.
No: None.
Absent: Audrey Barton, Rachel Sprosty Burns.

Motion passed 5 - 0.

9. **Reports of Action.** – No Reports were needed.

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10. **Commission Comments.**
Commissioner Kilgore shared concern about some business windows which were fully covered by signs. Planning Director Dave Stroud advised they were regulated and staff would check on it.
Commissioner Kilgore noted the medians that were not kept up on Pioneer Crossing. Planning Director Dave Stroud advised they could reach out to UDOT.
Commissioners thanked Planning Director Dave Stroud for being great to work with them.
Commissioner McConkie noted kudos to Senior Planner Tippe Morlan on her article for the American Planning Association. It was noted she also presented at the National Planning Conference last month.
Commissioner McConkie asked if they were aware of the news article on south sewer and stop on development. Engineer II Jeff Pearson advised the developers are working together to submit a design for a lift station and City projects are moving forward. They anticipate the trunk line to be installed in about a year. That should make a big difference. It is mainly developer driven. Community Development Director Ken Young noted we can accept applications, we aren't putting a stop on development; applicants will just need to have their plan as to how they address the sewer.

11. **Director's Report. –** No report given.

12. **Possible motion to enter into closed session** – No closed session was held.

13. **Meeting Adjourned Without Objection at 9:35 p.m. by Chairman** Troy Cunningham.

_____ _____
Date of Approval Planning Commission Chair

_____
Deputy City Recorder

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SARATOGA SPRINGS
PLANNING

CITY COUNCIL
Staff Report

Preliminary Plat and Concept Plan
River's Edge East
River's Edge West
June 7, 2022
Public Meeting

Report Date:	May 31, 2022
Applicant:	Bruce Bastian
Owner:	Leland and Hyrum Thompson
Location:	400 East Crossroads
Major Street Access:	Crossroads Blvd
Parcel Number(s) & Size:	58:032:0094, 3.29 acres; and 58:029:0003, 5.02 acres
Parcel Zoning:	RC
Adjacent Zoning:	RC, A, MF-10, Lehi
Land Use:	Regional Commercial
Current Use of Parcel:	Undeveloped
Adjacent Uses:	Undeveloped, commercial, single-family
Previous Meetings:	April 14, 2022, Planning Commission
Previous Approvals:	None
Type of Action:	Administrative
Land Use Authority:	City Council
Author:	Ken R. Young, Community Development Director

A. Executive Summary:

The applicant requests approval of two single-lot commercial subdivisions. Anticipated uses of the subject lots will be commercial with residential uses above on each lot and a stand-alone commercial business also located on the west lot.

The Concept Plans Presentation, as reviewed with the City Council in two-by-two meetings on May 23, 2022, is found in Exhibit 6 of this report.

Ken R. Young, Community Development Director
kyoung@saratogaspringscity.com
1307 North Commerce Drive, Suite 200 • Saratoga Springs, Utah 84045
801-766-9793 x123 • 801-766-9794 fax

Planning Commission Recommendation:
The Planning Commission recommends approval of the proposed preliminary plats subject to the findings and conditions of the staff report. The actions available to the City Council regarding the plat are approval, continuation, or denial.

B. Background:

The City Council reviewed this request at their May 3, 2022 meeting and tabled the item so that further review could be given on the proposed Concept Plans (Exhibit 6).

The subject properties are vacant and zoned RC. The applicant is in the first step of the development process by applying for preliminary plat approval. The concept plans as been reviewed by the City Council, anticipates uses of residential above commercial (offices and restaurants and possibly a convenience store on the west lot), all permitted uses in the RC zone. Site plans will be reviewed by the Planning Commission in the future. The request before the City Council is to determine if the preliminary plats meet the standards of the RC zone.

C. Specific Request:

The applicant requests review and approval of the proposed preliminary plats in the RC zone. Exhibit 4 contains the proposed preliminary plat and site plan elements but ***at this time, there is no vesting or request of site plan approval.***

An item of discussion is the Jordan River shoreline trail. Section 19.25.03 of the Code requires a trail to be located adjacent to the river with public access and perpetual maintenance by the adjacent property owner(s). The Code requires a hard surface trail but the trails Master Plan does not identify a trail in this location. This is likely due to no connection to any existing or proposed trail along the river in Lehi. Staff contacted Lehi and there is no plan to extend the trail ~470 from the closest trail point in Lehi to the border of Saratoga Springs. Because this is the terminus of the trail on the applicant's property, or nearby property, *they are asking to construct the trail portion on their property to a preferred soft surface material*.

The Master Plan is a guide while the Code is a requirement. City Code stipulates that *a hard surface trail 12 feet in width adjacent to the Jordan River is required*:

19.25.03. Utah Lake and Jordan River Shoreline Trails.

1. All developments whose projects are next to, adjacent to, or abutting, or include Utah Lake or the Jordan River shall provide an improved pedestrian shoreline trail throughout the length of the project.
    a. The shoreline trail shall at all times be accessible to the public.
    b. The developer will work with the City, and any state or federal agency whose approval is necessary, in order to determine the exact location of the shoreline trail.
    c. The developer shall construct the shoreline trail as close to the waterway as reasonably possible in order for the public to enjoy the diverse ecosystem and natural resources of the area.
    d. The trail shall be hard surfaced and shall be a minimum of twelve feet in width.

D. Process:

Section 19.13 summarizes the process of preliminary plat approval. The City Council is the Land Use Authority of a preliminary plat. This item is scheduled to be discussed in a public meeting. A public hearing is not required.

E. Community Review:

Public notices are not required for this type of application. However, the proposed preliminary plats are noticed on the City website and the state public notice website. As of the date of this report no public input has been received.

F. General Plan:

The site is designated as Regional Commercial on the Land Use Map of the General Plan. The General Plan describes the general characteristics of the Regional Commercial land use designation as follows:

> *These areas generally should include a variety of retail uses including big box retail configured in developments that provide excellent vehicular access to and from major transportation facilities. They should include special urban improvements to make rich and enjoyable public spaces. To promote foot traffic, these areas should be compact and include a safe pedestrian environment and access to a multi-modal transportation network.*

Staff conclusion: Consistent.

G. Code Criteria:

For full analysis please see the attached Planning Review Checklist.

- 19.04, Land Use Zones: **Complies**.
- 19.12, Subdivisions: **Complies.**
- 19.13, Process: **Complies**.

H. Recommendation and Alternatives:

The Planning Commission recommends the City Council discuss this request in a public meeting and approve the preliminary plats.

Planning Commission Recommended Motion – approval
"I move to **approve** the request of preliminary plat approval of the River's Edge East and River's Edge West at 400 East Crossroads Boulevard in the RC zone with the findings and conditions below:"

Findings
1. The application is consistent with the General Plan, as articulated in Section "F" of the staff report, which section is incorporated by reference herein.
2. The application can comply with the Land Development Code as articulated in Section "G" of the staff report, which section is incorporated by reference herein.

Conditions:
1. All conditions of the City Engineer shall be met, including but not limited to those in the attached engineer's staff report.
2. All requirements of the Fire Chief shall be met.
3. All other Code requirements shall be met.
4. Revised plans correcting any outstanding redlines shall be approved by the City prior to submission of the final plats.
5. Any other conditions or changes as articulated by the City Council: _____.

Alternative Motions - Continuance
The City Council may also choose to continue the item. "I move to **continue** the River's Edge preliminary plats to another meeting on [DATE], with direction to the applicant and Staff on information and/or changes needed to render a decision, as follows:
1. _____
2. _____

Alternative Motion - Denial
The City Council may also choose to deny the preliminary plats. "I move to **deny** approval of the proposed River's Edge preliminary plats based on the following findings:"
1. The preliminary plats are not consistent with the General Plan, as articulated by the City Council:

_____
_____, and/or,

2. The preliminary plats are not consistent with Section [19.04, 19.12, and/or 19.13] of the Code, as articulated by the City Council: _____.

I. Exhibits:

1. Zone Map
2. Planning Review Checklist
3. Engineer's Staff Report
4. Preliminary Plats
5. April 14, 2022, Planning Commission minutes
6. Concept Plans Presentation

Exhibit 1 – Zone Map

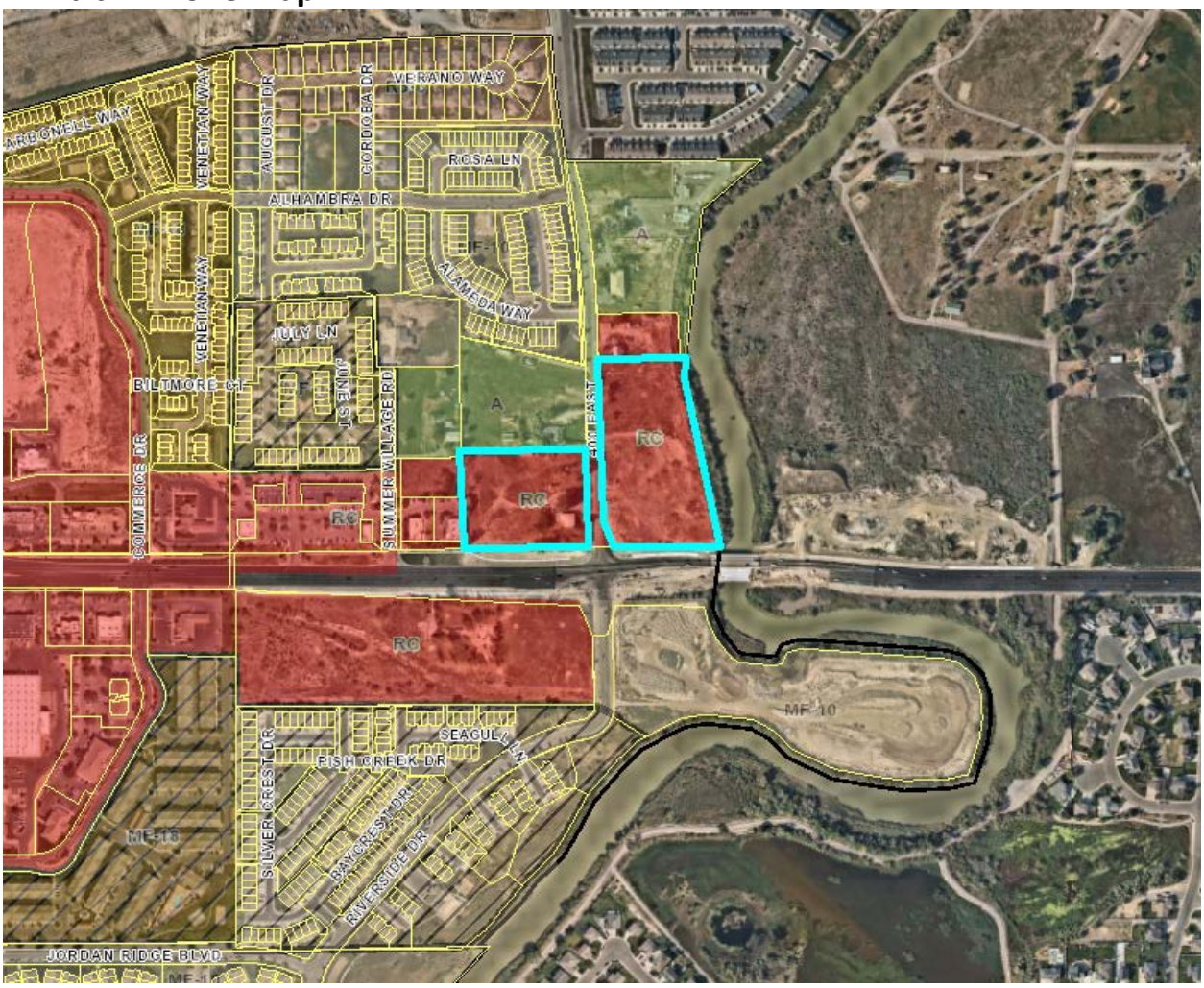


Exhibit 2 Planning Review Checklist

APPLICATION REVIEW CHECKLIST

Application Information

Date Received:	1/20/2022
Date of Review:	3/23/2022
Project Name:	River's Edge East/West
Project Request / Type:	Preliminary Plat
Meeting Type:	Public
Applicant:	Thompson Earl Company
Owner:	Hyrum Thompson
Location:	400 East Crossroads Blvd.
Major Street Access:	Crossroads Blvd
Parcel Number(s) and size:	58:029:0058, 1.01 acres and 58:029:0003, 5.02 acres; 5.65 net acres
Land Use Designation:	Regional Commercial
Parcel Zoning:	RC
Adjacent Zoning:	Agriculture
Current Use:	Residence and vacant
Adjacent Uses:	Residence
Previous Meetings:	None
Previous Approvals:	None
Type of Action:	Administrative
Land Use Authority:	City Council
Future Routing:	City Council
Planner:	David Stroud, Planning Director

Section 19.13 – Application Submittal

- Application Complete: **Yes.**
- Rezone Required: **No.**
- General Plan Amendment required: **No.**
- Additional Related Application(s) required: **No.**

Section 19.13.04 – Process

- DRC 11.15.21
- Neighborhood Meeting: prior to site plan approval as discretion of applicant
- PC: April 14, 2022
- CC: May 3, 2022

General Review

Building Department

- Setback detail
- Lot numbering – per phase (i.e. Phase 1: 100, 101, 102. Phase 2: 200, 201, 202, etc.)
- True buildable space on lots (provide footprint layout for odd shaped lots)
- Lot slope and need for cuts and fills

Fire Department

- Residential:
    - Fire flows shall be met for this development and future development in the area.
    - Hydrants shall not exceed 500' spacing in R3-6 and lower areas.
    - Higher than R3-6, hydrants shall not exceed 300' spacing.
    - All three story structures above grade shall be fire sprinkled and meet NFPA 13 requirements where required.
    - All access roads shall support 26' of un-obstructed drive isle with parking on the streets.
    - The 59' road cross-section shall be used if applicable. If the streets are not able to support such movement, fire lane signage shall be posted by the developer.
    - All cul-de-sacs shall meet our current standard and shall have hydrants in them. All cul-de-sacs shall be a minimum of 96’ in diameter from curb face to curb face and have a hydrant located within the cul-de-sac.
    - Third party review required for sprinkler systems
    - Dimension street and cul-de-sac widths on plat
    - Turnarounds on cul-de-sacs and dead-ends more than 150’ in length
- Commercial:
    - Fire flows shall meet existing needs as well as future development in the area.
    - Hydrant spacing shall not exceed 300’.
    - Buildings shall be fire sprinkled and meet NFPA 13 requirements and all applicable IFC 2015 edition requirements and appendices.
    - Alarm system and notification systems shall all be tied together with the fire sprinkler system and monitored 24/7, 365 by a third party monitoring company.
    - This same system and / or monitoring company shall also be able to notify UVSSD 911 dispatch center 24/7 365.
    - All sprinkler plans and alarm plans shall be third party reviewed by PCI in Centerville, Utah, Attn: Bob Goodloe.

GIS / Addressing

- comments

Additional Recommendations:

-

Code Review

- 19.04, Land Use Zones
    - Zone: RC
    - Use: Commercial and residential (residential above commercial, permitted in RC)

19.04.01 Requirements		Regional Commercial	
Category To Be Reviewed	**Regulation**	**Determination**	**How**
Lot Size (Minimum)	30,000 sq. ft.	**Complies**	*3.21 acres (W) and 4.87 acres (E)*
Front/Corner Side Setback (Minimum)	10'	**TBD**	*At site plan review*
Interior Side Setback (Minimum)	10'	**TBD**	*At site plan review*
Rear Setback (Minimum)	30'	**TBD**	*At site plan review*
Building Height (Maximum)	50'	**TBD**	*At site plan review*
Lot coverage (Maximum)	50%	**TBD**	*At site plan review*
Building Size (Minimum)	1,000 sq. ft.	**TBD**	*At site plan review*

19.05 Supplemental Regulations		
Regulation	**Compliance**	**Findings**
Flood Plain: Buildings intended for human occupancy shall be constructed at least one foot above the base flood elevation.	**Can Comply.**	*Riverbank armoring will be reviewed at site plan*
Water & Sewage: Each lot shall be connected to City water and sewer.	**Complies.**	
Transportation Master Plan: Lots shall not interfere with the Transportation Master Plan.	**Complies.**	
Property Access - All lots shall abut a dedicated public or private road.	**Complies.**	

19.06 Landscaping and Fencing		
Landscape Plans		
Regulation	**Compliance**	**Findings**
Landscape Architect: Landscaped plans shall be prepared by a licensed landscape architect.	Item.	*TBD at site plan*
Existing Conditions: Show the location and dimension of all existing and proposed structures, property lines, easements, parking lots, power lines, rights-of-way, ground signs, refuse areas, and lighting.	Item.	*TBD at site plan*
Planting Plan: Show location and planting details for all proposed vegetation and materials. Indicate the size of the plant material at maturation. All existing vegetation that will be removed or remain must be identified.	Item.	*TBD at site plan*
Plants: The name (both botanical and common name), quantity, and size of all proposed plants.	Item.	*TBD at site plan*
Topography: Existing and proposed grading of the site indicating contours at two-foot intervals.	Item.	*TBD at site plan*
Irrigation: Irrigation plans showing the system layout and details.	Item.	*TBD at site plan*
Fencing: Location, style, and details for proposed and existing fences and identification of the fencing materials.	Item.	*TBD at site plan*
Data Table: Table including the total number of each plant type, and total square footage and percentage of landscaped areas, domestic turf grasses, decorative rock, mulch, bark, and drought tolerant plant species.	Item.	*TBD at site plan*
Completion of Landscape Improvements: All required landscaping improvements shall be completed in accordance with the approved landscape plans.	Item.	*TBD at site plan*
Planting Standards		
Deciduous Trees: 2" in caliper.	Item.	*TBD at site plan*

Evergreen Trees: 6' in height.	Item.	*TBD at site plan*
Tree Base Clearance: 3’ diameter around every tree must be kept clear of turf and rock mulch.	Item.	*TBD at site plan*
Shrubs: 25% of required shrubs must be a minimum of 5 gallons in size.	Item.	*TBD at site plan*
Turf: No landscaping shall be comprised of more than seventy percent turf, except within landscaped parks.	Item.	*TBD at site plan*
Artificial Turf : Not allowed.	Item.	*TBD at site plan*
Drought Tolerant Plants: 50% of all plants shall be drought tolerant.	Item.	*TBD at site plan*
Rock Mulch: Rock mulch shall be two separate colors and separate sizes and must be contrasting in color from the pavement and other hard surfaces. All colors used must be earth tones.	Item.	*TBD at site plan*
Design Requirements		
Evergreens: Evergreens shall be incorporated into landscaped treatment of sites where screening and buffering are required.	Item.	*TBD at site plan*
Softening of Walls and Fences: Plants shall be placed intermittently against long expanses of building walls, fences, and barriers to create a softening effect.	Item.	*TBD at site plan*
Planting and Shrub Beds: Planting and shrub beds are encouraged to be used in order to conserve water.	Item.	*TBD at site plan*
Water Conservation: Water-conserving sprinkler heads and rain sensors are required. Drip lines should be used for shrubs and trees.	Item.	*TBD at site plan*
Energy Conservation: Placement of plants shall be designed to reduce energy consumption. Deciduous trees are encouraged to be planted on the south and west sides of structures. Evergreens are encouraged to be planted on the north side of structures.	Item.	*TBD at site plan*
Placement: Whenever possible, landscaping shall be placed immediately adjacent to structures, particularly where proposed structures have large empty walls.	Item.	*TBD at site plan*
Trees and Power Poles: No trees shall be planted directly under or within 10’ of power lines, poles, or utility structures unless: a. The City Council gives its approval. b. The Power Company or owner of the power line gives written consent. c. The maximum height or width at maturity of the tree species planted is less than 5’ to any pole, line, or structure.	Item.	*TBD at site plan*
Preservation of Existing Vegetation		
Where possible and appropriate, existing native vegetation must be incorporated into the landscape treatment of the proposed site.	Item.	*TBD at site plan*
Tree Preservation: Existing mature evergreen trees of 16’ in height or greater, and existing mature deciduous or decorative trees of more than 4” in caliper, shall be identified on the landscape plan and preserved if possible. If a mature tree is preserved, an area around the roots as wide as the existing canopy shall not be disturbed.	Item.	*TBD at site plan*
If preservation is not possible, the required number of trees shall be increased by double the number of such trees removed.	Item.	*TBD at site plan*
The replacement trees for evergreen trees shall be evergreens, and for deciduous shall be deciduous.	Item.	*TBD at site plan*
Deciduous trees smaller than four inches in caliper, or mature ornamental trees, that are removed shall be replaced on a one to one ratio.	Item.	*TBD at site plan*
Replacement trees shall be in addition to the minimum tree requirements of	Item.	*TBD at site plan*

this Chapter, and shall comply with minimum sizes as outlined in the Chapter.		
Planter Beds		
Weed Barrier: A high quality weed barrier or pre-emergent shall be used.	Item.	*TBD at site plan*
Materials: High quality materials such as wood chips, wood mulch, ground cover, decorative rock, landscaping rocks, or similar materials shall be used, and materials must be heavy enough to not blow away in the wind.	Item.	*TBD at site plan*
Edging: Concrete edging must be used to separate planter and turf areas in all non-residential zones.	Item.	*TBD at site plan*
Drip Lines: Drip lines must be used in planter beds.	Item.	*TBD at site plan*
Fencing and Screening		
Front Yards: Fences exceeding 3' in height shall not be erected in any front yard space of any residential lot.	Item.	*TBD at site plan*
Clear Sight Triangle: All landscaping and fencing shall be limited to a height of not more than 3' and the grade at such intersections shall not be bermed or raised. Clear sight is located at all intersections of streets, driveways, or sidewalks, for a distance of 20' back from the point of curvature of curved ROWs and property lines or 30' back from the intersection of straight ROWs and property lines, whichever is greater landscaping shall not exceed 3' in height and the area shall not be bermed or raised within clear sight triangles.	Item.	*TBD at site plan*
Required Residential Fencing: Fencing in residential development shall be placed along property lines abutting open space, parks, canals, and trails. In addition, fencing may also be required adjacent to undeveloped properties.	Item.	*TBD at site plan*
Fences along open space, parks, canals, and trails shall be semi-private. Exception: privacy fencing is permitted for property lines abutting trail corridors that are not City maintained and are both adjacent to and visible from an arterial.	Item.	*TBD at site plan*
Fencing along arterial roads shall be of a consistent material and color within each development.	Item.	*TBD at site plan*
Fencing along open space, parks, and trails may be less than 6' in height but shall not be less than 3' in height, at the discretion of the property owner or HOA as applicable.	Item.	*TBD at site plan*
Screening at Boundaries of Residential Zones: For residential developments abutting active agricultural property or operations, a solid fence or wall shall be installed and maintained along the abutting property line.	Item.	*TBD at site plan*
Amount of Required Landscaping		
Portions of the property that are not developed with structures, rights of ways, or parking areas shall be landscaped.	Item.	*TBD at site plan*
Multi-family, common space not including parks, and nonresidential development in all zones shall be required to adhere to the minimum landscaped standards in 19.06.07 of the Land Development Code.	Item.	*TBD at site plan*
At least 50% of the landscaped area shall be covered with live vegetation at maturity. The percentage may be reduced to 40% in areas where bark mulch, wood or plant fiber mulch, or rubber mulch is used instead of rock mulch.	Item.	*TBD at site plan*

Landscape Amount			
Category To Be Reviewed	**Regulation**	**Compliance**	**Findings**
Total Square Footage	351,964		
Required Landscaping	70,392	**Can Comply**	*27,965 (W) and 42,427 (E)*
Required Deciduous Trees	25	**Can Comply**	*E and W TBD at site plan*
Required Evergreen Trees	23	**Can Comply**	*E and W TBD at site plan*
Required Shrubs	43	**Can Comply**	*E and W TBD at site plan*
Drought Tolerant Plants	45	**Can Comply**	*E and W TBD at site plan*

19.09 Off Street Parking		
General Provisions		
Regulation	**Compliance**	**Findings**
Materials: Parking areas shall consist of concrete, asphalt, or other impervious materials approved in the City's adopted construction standards	Item.	*TBD at site plan*
Parking Area Access: Common Access: Parking areas for one or more structures may have a common access so long as the requirements of all City ordinances, regulations, and standards are met. The determination of the locations for a common access shall be based upon the geometry, road alignment, and traffic volumes of the accessed road per the Standard Technical Specifications and Drawings.	Item.	*TBD at site plan*
Sidewalk Crossing: All non-residential structures are required to provide parking areas where automobiles will not back across a sidewalk to gain access onto a public or private street.	Item.	*TBD at site plan*
Cross Access: Adjacent non-residential development shall stub for cross-access. Developers must provide the City with documentation of cross-access easements with adjacent development.	Item.	*TBD at site plan*
Lighting: Parking areas shall have adequate lighting to ensure the safe circulation of automobiles and pedestrians. Lighting shall be shielded and directed downward.	Item.	*TBD at site plan*
Location of Parking Areas: Required off-street parking areas for non-residential uses shall be placed within 600' of the main entrance to the building. Unenclosed parking for residential areas shall not be provided in rear yards, unless said yard abuts an alley-type access or is fenced with privacy fencing	Item.	*TBD at site plan*
Curb Cuts and Shared Parking: In most cases, shared parking areas shall share ingress and egress. This requirement may be waived when the City Engineer believes that shared accesses are not feasible. In reviewing the site plans for the shared parking areas, the City Engineer shall evaluate the need for limited access, appropriate number of curb cuts, shared driveways, or other facilities that will result in a safer, more efficient parking and circulation pattern.	Item.	*TBD at site plan*
Parking Requirements and Shared Parking		
Available on-street parking shall not be counted towards meeting the required parking stalls.	Item.	*TBD at site plan*
When a parking requirement is based upon square footage, the assessed parking shall be based upon gross square footage of the building or use unless otherwise specified in the requirement.	Item.	*TBD at site plan*
When parking requirements are based upon the number of employees, parking calculations shall use the largest number of employees who work at any one	Item.	*TBD at site plan*

shift. Where shift changes may cause substantial overcrowding of parking facilities, additional stalls may be required.		
When a development contains multiple uses, more than one parking requirement may be applied.	Item.	*TBD at site plan*
Tandem parking spaces will not be counted as parking spaces for non-residential uses except for stacking spaces where identified.	Item.	*TBD at site plan*
Any fraction obtained when calculating the parking requirement shall be rounded up to the next whole number to determine the required number of parking stalls.	Item.	*TBD at site plan*
Any information provided by the developer relative to trip generation, hours of operation, shared parking, peak demands, or other information relative to parking shall be considered when evaluating parking needs.	Item.	*TBD at site plan*
Parking requirements may deviate from the standards contained in Section 19.09.10, Required Minimum Parking, when the City Council determines that the deviation meets the intent of this Chapter. Reductions may not exceed 25% of the parking requirements and shall be based on the following criteria: a. the intensity of the proposed use; b. times of operation and use; c. whether the hours or days of operation are staggered thereby reducing the need for the full amount of required parking; d. whether there is shared parking agreement in accordance with Section 19.09.05.10 below; e. trip generation; and f. peak demands.	Item.	*TBD at site plan*
Up to 25% of required parking may be shared with an adjacent use upon approval by the City Council. The developer must provide: a. an agreement granting shared parking or mutual access to the entire parking lot; and b. b. peak demand data by a professional traffic engineer showing that shared parking will accommodate the uses.	Item.	*TBD at site plan*
Parking lots larger than 75,000 square feet shall provide raised or delineated pedestrian walkways. Walkways shall be a minimum of 10’ wide and shall be placed through the center of the parking area and extend to the entrance of the building. Landscaped islands along the center walkway shall be placed at a minimum interval of every 30’. Landscaped islands are encouraged to be offset from one another to create a feeling of greater coverage. Pedestrian covered walkways may be substituted for tree-lined walkways. Where the developer desires to have a driveway access at the center of the parking area, a pedestrian access shall be placed on either side of the driveway.	Item.	*TBD at site plan*
Landscaping in Parking Areas		
All parking areas (not including a driveway for an individual dwelling) for non-residential or multi-family residential uses that are adjacent to public streets shall have landscaped strips of not less than 10’ in width placed between the sidewalk and the parking areas, containing a berm, hedge, or screen wall with a minimum height of 3’ to minimize intrusion of lighting from headlights and other lighting on surrounding property. Trees, both deciduous and evergreen, shall be placed in the strip with spacing of no more than 30’ between trees except in the clear sight triangle, and except where located beneath powerlines. The standards of section 19.06.06, Planting Standards and Design Requirements, shall apply for the minimum size of vegetation. Within regional parks this requirement may be met through the use of intermittent planter beds rather than a berm, hedge, or screen wall; trees or shrubs may be clustered in the planter beds where necessary to shield light spillage.	Item.	*TBD at site plan*

All landscaped areas abutting any paved surface shall be curbed (not including a driveway for an individual dwelling). Boundary landscaping around the perimeter of the parking areas shall be separated by a concrete curb 6" higher than the parking surface.	Item.	*TBD at site plan*
Clear Sight Triangles must be followed.	Item.	*TBD at site plan*
All landscaped parking areas shall consist of trees, shrubs, and groundcover. Areas not occupied by structures, hard surfaces, vehicular driveways, or pedestrian walkways shall be landscaped and maintained. All landscaped areas shall have an irrigation system.	Item.	*TBD at site plan*
On doubled rows of parking stalls, there shall be one 36' x 9' landscaped island on each end of the parking rows, plus one 36' x 9' landscaped island to be placed at a minimum of every twenty parking stalls. Each island on doubled parking rows shall include a minimum of two trees per planter.	Item.	*TBD at site plan*
On single rows of parking or where parking abuts a sidewalk, there shall be one 18' x 9' foot landscaped island a minimum of every ten stalls. Islands on a single parking row shall have a minimum of one tree per island. i. Exception: Landscaped islands are not required in single rows of parking that abut or are no farther than 6' from a landscaped area containing an equal or greater number of trees as would have been provided in islands, in addition to trees required for the landscaped area. Such trees shall be located within 9' of the edge of parking area, and shall have a canopy width that, at maturity, will extend into the parking area.	Item.	*TBD at site plan*
Landscaped islands at the ends of parking rows shall be placed and shaped in such a manner as to help direct traffic through the parking area.	Item.	*TBD at site plan*
Required Minimum Parking		
	Item.	*TBD at site plan*
Drive-thru Requirements		
Each stacking space shall accommodate one vehicle and be no less than 20 feet in length from the point of service.	Item.	*TBD at site plan*
All drive-thru facilities must provide at a minimum 3 stacking spaces (60') per lane.	Item.	*TBD at site plan*
Bank or financial institution (including ATMs): minimum of 3 stacking spaces per lane. Food or beverage establishment: minimum of 5 stacking spaces.	Item.	*TBD at site plan*
Entrances and exits of drive-thru lanes shall be clearly marked to designate the direction of traffic flow.	Item.	*TBD at site plan*
A Final Traffic report shall be provided and approved to demonstrate how all queuing shall be contained within the property, business, or use and not affect the surrounding roads. Stacking shall be designed so that it does not have the potential to overflow onto the street or adjacent property, business, or use.	Item.	*TBD at site plan*
Landscaping: A three foot (3') wide raised median or planter between the drive-thru aisle and the parking area shall be provided.	Item.	*TBD at site plan*
All drive-thru lanes adjacent to public streets shall have landscaped strips of not less than ten feet in width placed between the sidewalk and the drive-thru lanes that contain a berm, hedge, or screen wall with a minimum height of three feet to minimize intrusion of lighting from headlights and other lighting from surrounding properties.	Item.	*TBD at site plan*

Dimensions for Parking Stalls & Aisle				
	Stall Width	Stall Length	Aisle Width (one-way traffic)	Aisle Width (two-way traffic)
90° Parking				
Required	9'	18'	24'	24'
Provided	*TBD at site plan*	*TBD at site plan*	*TBD at site plan*	
60° Parking				
Required	9'	18'	25'	18'
Provided				
45° Parking				
Required	9'	18'	25'	14'
Provided				
Parallel				
Required	9'	20'	N/A	12'
Provided				

19.11 Lighting		
General Standards		
Regulation	**Compliance**	**Findings**
Material: All Lighting Fixtures and assemblies shall be metal.	Item.	*TBD at site plan*
Base: All lighting poles shall have a 16" decorative base.	Item.	*TBD at site plan*
Type: All lighting fixtures shall be of the full cutoff variety. Shoebox fixtures are prohibited.	Item.	*TBD at site plan*
Angle: Shall be directed downward.	Item.	*TBD at site plan*
Lamp: Bulbs may not exceed 4000k.	Item.	*TBD at site plan*
Drawings: Design and location of fixtures shall be specified on the plans.	Item.	*TBD at site plan*
Flags: The Unites States flag and the state flag shall be permitted to be illuminated from dusk till dawn. All other flags shall not be illuminated past 11:00 p.m. Flag lighting sources shall not exceed 10,000 lumens per flagpole. The light source shall have a beam spread no greater than necessary to illuminate the flag.	Item.	*TBD at site plan*
Prohibited Lighting: Searchlights, strobe lights and any laser source light or any similar high intensity light.	Item.	*TBD at site plan*
Descriptions: Descriptions of the illuminating devices, fixtures, lamp supports, and other devices. This description may include, but is not limited to, manufacturers' specifications, drawings, and sections.	Item.	*TBD at site plan*
Residential Lighting		
Floodlights: Floodlights are prohibited.	Item.	*TBD at site plan*
Street Lighting: All street lighting fixtures shall be metal and black and also include an arm and bell shade or a pole and lantern configuration and meet the City Standards.	**Complies.**	*City-standard*
Building Lighting: Building lighting shall be full cutoff and downward directed, and only for the illumination of vertical surfaces such as building facades and signs, and shall not cast illumination beyond the surface being illuminated.	Item.	*TBD at site plan*

Nonresidential Lighting		
All wall-mounted fixtures shall not be mounted above 16'. The exception shall be those instances where there is a second story access directly from the outdoors, and under-eave lighting. Wall-mounted lighting shall be only for the illumination of vertical surfaces such as building facades and signs, and shall not cast illumination beyond the surface being illuminated.	Item.	*TBD at site plan*
Intermittent lighting must be of the "motion sensor" type that stays on for a period of time not to exceed 10 minutes and has a sensitivity setting that allows the lighting fixture to be activated only when motion is detected on the site.	Item.	*TBD at site plan*
All trespass lighting shall not exceed 1.0 foot-candles measured at the property line, except that trespass lighting into residential development shall not exceed 0.1 foot-candles measured at the property line.	Item.	*TBD at site plan*
Service station canopies must utilize canopy lights that are fully recessed into the canopy or are fully shielded by the canopy.	Item.	*TBD at site plan*
All freestanding lighting fixtures and assemblies shall be black. Regional Parks may include theme lighting fixtures in colors other than black. The color shall enhance the theme of the park and shall be approved during the site plan review process.	Item.	*TBD at site plan*
Pole design shall include an arm and bell shade. Regional Parks may include theme lighting fixtures that do not include an arm and bell shade. The design shall enhance the theme of the park and shall be approved during the site plan review process.	Item.	*TBD at site plan*
Parking lot poles shall be limited to a height of 16' when in or within 200' of a residential zone; all other locations shall have a height limit of 20'.	Item.	*TBD at site plan*
All lighting fixtures in surface parking lots and on the top decks of parking structures shall be fitted to render them full cutoff.	Item.	*TBD at site plan*
One hour after closing or by 11:00 pm, whichever is earlier, businesses must turn off at least 50% of building lighting and lighting fixtures in surface parking lots and on top decks of parking structures; however, those lighting fixtures turned off may be set to function utilizing a motion detector system. Lights may be turned back on one half hour prior to the first employee shift.	Item.	*TBD at site plan*
Business open for 24 hours must turn off 50% of their outdoor and parking lot lighting by 11:00 pm and must keep them off until one half hour before sunrise, however, those lighting fixtures turned off may be set to function utilizing a motion detector system.	Item.	*TBD at site plan*
Walkway Lighting		
Lighting of all pedestrian pathways is recommended.	Item.	*TBD at site plan*
All pathway, walkway, and sidewalk lighting fixtures shall be mounted at a height not to exceed 10'. i. Themed walkway lighting within Regional Parks shall not exceed a height of 25'. Such lighting within 200' of residential development shall not exceed 16'.	Item.	*TBD at site plan*
Bollard lighting shall be limited to a height of 4'.	Item.	*TBD at site plan*
Lighting Plan		
Plans indicating the location and types of illuminating devices on the premises.	Item.	*TBD at site plan*
Descriptions of the illuminating devices, fixtures, lamp supports, and other devices. This description may include, but is not limited to, manufacturers' specifications, drawings, and sections.	Item.	*TBD at site plan*
Photometric sheet showing measurement of light intensity across the site and onto adjacent property in terms of candela, lumens, and foot-candles.	Item.	*TBD at site plan*
Plans providing information required in the Technical Standards and Specifications Manual.	Item.	*TBD at site plan*

19.12 Subdivision

Preliminary Plat Requirements

Regulation	Compliance	Findings
Standard Plat Format followed.	**Can Comply.**	*See redlines*
Name and address of property owner and developer.	**Complies.**	
Name of land surveyor.	**Complies.**	
The location of proposed subdivision with respect to surrounding property and street.	**Complies.**	
The name of all adjoining property owners of record, or names of adjoining developments.	**Complies.**	
The names and location of ROW widths of adjoining streets and all facilities within 100' of the platted property.	**Complies.**	
Street and road layout with centerline bearing and distance labels, dimensions, and names of existing and future streets and roads, (with all new names cleared through the City GIS Department).	**Complies.**	
Subdivision name cleared with Utah County.		
North arrow.	**Complies.**	
A tie to a permanent survey monument at a section corner.	**Complies.**	
The boundary lines of the project with bearings and distances and a legal description.	**Complies.**	
Layout and dimensions of proposed lots with lot area in square feet.	**Complies.**	
Location, dimensions, and labeling of roads, structures, irrigation features, drainage, parks, open space, trails, and recreational amenities.	**Complies.**	
Location of prominent natural features such as rock outcroppings, woodlands, steep slopes, etc.	**Complies.**	
Proposed road cross sections.	**Complies.**	
Proposed fencing.	**Can Comply.**	*TBD at site plan*
Vicinity map.	**Complies.**	
All required signature blocks are on the plat.	**Complies.**	
Prepared by a professional engineer licensed in Utah.	**Complies.**	
Proposed methods for the protection or preservation of sensitive lands.	**Can Comply.**	*Details of riverbank armoring at site plan – make note that riverbank armoring will be provided at site plan*
Location of any flood plains, wetlands, and other sensitive lands.	**Complies.**	
Location of 100-year high water marks of all lakes, rivers, and streams.	**Complies.**	
Projected Established Grade of all building lots.	**Complies.**	
A data table. 1. total project area; 2. total number of lots, dwellings, and buildings; 3. where buildings are included, square footage of proposed building footprints and, if multiple stories, square footage by floor; 4. for multi-family developments, the number of proposed garage parking spaces and number of proposed total parking spaces; 5. percentage of buildable land; 6. acreage of sensitive lands and percentage sensitive lands comprise of total project area and open space area; 7. area and percentage of open space or landscaping; 8. area to be dedicated as right-of-way (public and private); 9. net density of dwellings by acre (sensitive lands must be subtracted from base acreage).	**Complies.**	*RC zoning requires a minimum of 20% landscaping, show at least minimum in table. Final may be greater than 20%.*

Phasing Plan: Including a data table with the following Information for each phase: i. Subtotal area in square feet and acres; ii. number of lots or dwelling units; iii. open space area and percentage; iv. utility phasing plan; v. number of parking spaces; vi. recreational facilities to be provided; vii. overall plan showing existing, proposed, and remaining phases.	**Complies.**	
Final Plat Requirements		
Subdivision name and location.	Item.	*TBD*
Standard Plat Format followed.	Item.	*TBD*
Name and address of property owner and developer.	Item.	*TBD*
Name of land surveyor.	Item.	*TBD*
The location of proposed subdivision with respect to surrounding property and street.	Item.	*TBD*
The name of all adjoining property owners of record, or names of adjoining developments.	Item.	*TBD*
The names and location of ROW widths of adjoining streets and all facilities within 100' of the platted property.	Item.	*TBD*
North arrow.	Item.	*TBD*
A tie to a permanent survey monument at a section corner.	Item.	*TBD*
The boundary lines of the project with bearings and distances and a legal description with total project area in SF and acres.	Item.	*TBD*
Layout and dimensions of proposed lots with lot area in square feet and acres. Lot boundaries shall include dimensions and bearings.	Item.	*TBD*
Lot Numbers.	Item.	*TBD*
Location, dimensions, and labeling of roads, structures, irrigation features, drainage, parks, open space, trails, and recreational amenities.	Item.	*TBD*
Location of prominent natural features such as rock outcroppings, woodlands, steep slopes, etc.	Item.	*TBD*
Proposed road ROW widths.	Item.	*TBD*
Vicinity map.	Item.	*TBD*
All required signature blocks are on the plat.	Item.	*TBD*
Prepared by a professional engineer licensed in Utah.	Item.	*TBD*
Proposed methods for the protection or preservation of sensitive lands.	Item.	*TBD*
Fencing plans.	Item.	*TBD*
Location of any flood plains, wetlands, and other sensitive lands.	Item.	*TBD*
Flood plain boundaries as indicated by the Federal Emergency Management Agency as well as the location of 100-year high water marks of all lakes, rivers, and streams.	Item.	*TBD*
Existing and Proposed easements.	Item.	*TBD*
Street monument locations.	Item.	*TBD*
Lot and road addresses and addresses for each intersection. Road names shall be approved by the City GIS department before being added to the subdivision plat.	Item.	*TBD*
A data table. 1. total project area; 2. total number of lots, dwellings, and buildings;	Item.	*TBD*

3. where buildings are included, square footage of proposed building footprints and, if multiple stories, square footage by floor; 4. for multi-family developments, the number of proposed garage parking spaces and number of proposed total parking spaces; 5. percentage of buildable land; 6. acreage of sensitive lands and percentage sensitive lands comprise of total project area and open space area; 7. area and percentage of open space or landscaping; 8. area to be dedicated as right-of-way (public and private); 9. net density of dwellings by acre (sensitive lands must be subtracted from base acreage).		
Phasing Plan: Including a data table with the following Information for each phase: i. Subtotal area in square feet and acres; ii. number of lots or dwelling units; iii. open space area and percentage; iv. utility phasing plan; v. number of parking spaces; vi. recreational facilities to be provided; vii. overall plan showing existing, proposed, and remaining phases.	Item.	*TBD*
Condominium Process		
Condominium projects shall receive Site Plan and Preliminary Plat approval.	**Can Comply.**	*TBD*
A Declaration of Condominium and Condominium Plat shall be submitted.	**Can Comply.**	*TBD*
The Condominium Plat shall follow the Final Plat requirements.	**Can Comply.**	*TBD*
Subdivision Layout		
Layout: The subdivision layout should be generally consistent with the City's adopted Land Use Element of the General Plan, and shall conform to any land use ordinance, any capital facilities plan, any impact fee facilities plan, and the transportation master plan.	**Complies.**	
Block Length: The maximum length of blocks shall be 1,000'. In blocks over 800' in length, a dedicated public walkway through the block at approximately the center of the block will be required.	**Complies.**	
Such a walkway shall not be less than 15' in width unless otherwise approved by the City in accordance with other applicable standards approved by the City Council.	**Complies.**	
Connectivity: The City shall require the use of connecting streets, pedestrian walkways, trails, and other methods for providing logical connections and linkages between neighborhoods.	**Complies.**	
Mailboxes: Group mailboxes shall be accessed only from a local street, and shall not be placed on a collector or arterial street, unless a bulbout is provided with space for a minimum of three vehicles to park outside the lane of travel and shoulder.	**Can Comply.**	*TBD*
Private Roads: Private roads may be constructed as approved as part of the Preliminary Plat approval and so long as such roads meet the same standards identified in the Saratoga Springs Standard Street Improvement Details.	**Can Comply.**	*TBD*
Access: Where the vehicular access into a subdivision intersects an arterial road as defined in the Transportation Master Plan, driveways shall not be placed on the intersecting road within 100' of the arterial connection.	**Can Comply.**	*TBD at site plan*

Two separate means of vehicular access onto a collector or arterial road shall be required when the total number of equivalent residential units (including adjacent developments and neighborhoods) served by a single means of access will exceed fifty. **Access Exception:** Where no point of second access is available within 500' and where all units are provided with an approved sprinkler system, a second access shall not be required until the number of units reaches double the above limits.	**Can Comply.**	*TBD at site plan*
Where two means of access are required, the points of access shall be placed a minimum of 500' apart, measured along the center of the driving lane from center of right-of-way to center of right-of-way.	**Can Comply.**	*TBD at site plan*
Shared Driveways: Shared driveways shall be a minimum of 26' in width and shall direct all runoff to a public or private drainage system. All dwellings on shared driveways shall provide enclosed garages or other covered parking. Shared driveways accessing more than four dwellings shall also provide a minimum of 25' of parking space between the garage and shared driveway. Shared driveways with four or fewer dwellings, if not providing a minimum of 20' of parking space, shall install a remote garage door opener prior to issuance of Certificate of Occupancy. All requirements of the Fire Code shall also be met.	**Can Comply.**	*TBD at site plan*
Lot Design		
All subdivisions shall result in the creation of lots that are developable and capable of being built upon.	**Complies.**	
All lots or parcels created by the subdivision shall have frontage on a street or road that meets the City's ordinances, regulations, and standards for public roads.	**Complies.**	
Flag lots may be approved with less frontage when the Planning Commission determines that the creation of such a lot would result in an improved design or better physical layout for the lot based on the following criteria: i. For subdivisions with 20 or less lots: no more than 10% (rounding down) of the total lots are allowed to be flag lots; ii. For subdivisions with 50 or less lots: no more than 7.5% (rounding down) of the total lots are allowed to be flag lots; and iii. For subdivision with more than 50 lots: no more than 5% (rounding down) of the total lots are allowed to be flag lots.	**N/A.**	
Land dedicated as public roads and rights-of-way shall be separate and distinct from land included in lots adjacent to public roads and rights-of-way.	**Complies.**	
Side property lines shall be at approximately right angles to the street line or radial to the street line.	**Complies.**	
Corner lots for residential use shall be 10% larger than the required minimum lot.	**Complies.**	
No lot shall be created that is divided by a municipal or county boundary line.	**Complies.**	
Remnants of property shall not be left in the subdivision that do not conform to lot requirements or are not required or suitable for common open space, private utilities, public purposes, or other purpose approved by the City Council.	**Complies.**	
Double access lots are not permitted with the exception of corner lots.	**Complies.**	
Driveways for residential lots or parcels shall not be allowed to have access on major arterials. **Exception:** Exceptions may be made for large lots (at least 1 acre in size) or for lots where the home is set back over 150' from the arterial roadway. Approval by UDOT may be required.	**N/A.**	

All subdivisions along arterial roadways shall conform to the City's requirements and adopted street cross-section including pedestrian walkways, park strips, landscaping, and fencing.	**Can Comply.**	*TBD*

19.13 Process	
Regulation	**Findings**
Neighborhood Meeting.	*At applicant's discretion*
Notice/Land Use Authority.	*City Council*
Master Development Agreement.	*N/A*
Phasing Improvements.	*TBD*
Payment of Lieu of Open Space.	*N/A*

19.16 Site and Architectural Design Standards		
General Site Design Standards		
Regulation	**Compliance**	**Findings**
Pedestrian Connectivity: All buildings and sites shall be designed to be pedestrian friendly by the use of connecting walkways.	Item.	*TBD*
Safe pedestrian connections shall be made between buildings within a development, to any streets adjacent to the property, to any pedestrian facilities that connect with the property, when feasible between developments, and from buildings to the public sidewalk to minimize the need to walk within the parking lot among cars.	Item.	*TBD*
All pedestrian connections shall be shown on the related site plan or plat.	Item.	*TBD*
Parking Areas: On-site parking shall be located primarily to the sides or rear of the building. Variations may be approved by the Land Use Authority, subject to the following criteria: i. The use is a big box with outparcels helping to screen parking, or ii. At least 50% of the parking is located to the side or rear of the building, or iii. A safety issue is created by locating parking to the side or rear as verified and documented by the Saratoga Springs Police Department. For example, the parking will be entirely concealed from view by existing walls or buildings, or iv. That portion of development that lies within the Waterfront Buffer Overlay, or v. The development is Office, Warehouse/Flex space and when loading docks are not adjacent to a public right-of-way.	Item.	*TBD*
Parking lots shall be designed with a hierarchy of circulation: major access drives with no parking; major circulation drives with little or no parking; and then parking aisles for direct access to parking spaces.	Item.	*TBD*
Parking lots adjacent to, and visible from, public streets shall be screened from view through the use of earth berms, screen walls, landscape hedges or combinations thereof with a minimum height of 3' as measured from the parking surface. Within regional parks this requirement may be met through the use of intermittent planter beds rather than a berm, hedge, or screen wall; trees and shrubs may be clustered in the planter beds where necessary to avoid light spillage.	Item.	*TBD*
Acceleration and Deceleration Lanes: Acceleration and deceleration lanes shall be required on major arterials when deemed necessary by the City Engineer.	Item.	*TBD*

Parking Structures: Parking structures shall be architecturally consistent with the project buildings, including the use of the same primary finish materials as the exterior of the adjacent or adjoining buildings.	Item.	*TBD*
When placement of parking structures along site frontages is necessary, visual mitigation such as landscape buffers, upper-level setbacks, or additional architectural treatment shall be used.	Item.	*TBD*
The view of a parking structure from a public street shall be minimized by placing its shortest dimension along the street edge.	Item.	*TBD*
The top deck of parking structures shall include screen walls, periphery landscape islands, or similar features where visible from public view in order to soften the appearance of the top of the parking structure and screen the view of cars on the top deck of the structure.	Item.	*TBD*
All top deck lighting shall be screened and directed downward to avoid light spill onto the street below and shall consist of only bollards or building lighting. Light poles are prohibited.	Item.	*TBD*
Trash Enclosures, Storage Areas, and External Structures: Landscaping, fencing, berms, or other devices integral to overall site and building design shall screen trash enclosures, storage areas, and other external structures.	Item.	*TBD*
Service yards, refuse and waste-removal areas, loading docks, truck parking areas and other utility areas shall be screened from view by the use of a combination of walls, fences, and dense planting. Screening shall block views to these areas from on-site as well as from public rights of way and adjacent properties.	Item.	*TBD*
All trash dumpsters shall be provided with solid enclosures. Enclosures shall be composed of 6' high solid masonry or decorative precast concrete walls, with opaque gates and self-latching mechanisms to keep gates closed when not in use. Bollards are required at the front of the masonry walls to protect the enclosure from trash collection vehicles. Gates shall be made of opaque metal for durability. Chain-link gates with or without opaque slats are not acceptable. Colors and materials shall be consistent with the main building or use.	Item.	*TBD*
Where trash enclosures, storage areas, or other external structures are adjacent to parking areas, a 3' landscaped buffer shall be provided that does not impede access into and out of vehicles.	Item.	*TBD*
These areas shall be well maintained and oriented away from public view. The consolidation of trash areas between buildings is encouraged.	Item.	*TBD*
Utility Boxes: Dense vegetative buffers which include an evergreen variety of plant materials shall be placed where appropriate to screen all utility boxes and pedestals in order to remain attractive during the winter months.	Item.	*TBD*
Site Design Standards: Non-Residential Development		
Shopping Cart Corrals: Shopping cart corrals are required for big box or mid box retail uses. Roof covers are recommended as the local climate includes wind, rain, and winter snow conditions. If roof covers are utilized they shall blend in with the established building design.	Item.	*TBD*
The shopping cart corral rail finish shall match or compliment the exterior finishes of the main building through the use of two out of three of the same exterior colors and finishes.	Item.	*TBD*
Uses Within Buildings: All uses established in any commercial, office warehouse, business park, or industrial zone shall be conducted entirely within a fully enclosed approved building except those uses deemed by the City Council to be customarily and appropriately conducted in the open. Uses which qualify for this exception include vegetation nurseries, home improvement centers with lumber, outdoor cafes, outdoor retail display, car wash vacuums, auto dealerships, and similar uses.	Item.	*TBD*

Outdoor Display: All retail product displays shall be located under the buildings' permanent roof structure or on designated display pads within front landscape areas.	Item.	*TBD*
All display areas shall be clearly defined on the approved Site Plan and designated on the site with a contrasting colored, painted, or striped surface.	Item.	*TBD*
Display areas shall not block building entries or exits, pedestrian walks, or parking spaces in front of the building. Outdoor display areas shall not spill into walkways or any drive aisle adjacent to a building.	Item.	*TBD*
Access Requirements: a. Each roadway shall not be more than 40' in width, measured at right angles to the center line of the driveway except as increased by permissible curb return radii; and b. the entire flare of any return radii shall fall within the right-of-way.	Item.	*TBD*
Off-Street Truck Loading Space: Every structure involving the receipt or distribution by vehicles of materials or merchandise shall provide and maintain on the building's lot adequate space for standing, loading, and unloading of the vehicles in order to avoid undue interference with public use of streets, alleys, required parking stalls, or accessible stalls.	Item.	*TBD*
Screening of Storage & Loading Areas: To alleviate the unsightly appearance of loading facilities, these areas shall not be located on the side(s) of the building facing the public street(s). Such facilities shall be located interior to the site.	Item.	*TBD*
Screening for storage and loading areas shall be composed of 6' high solid masonry or architectural precast concrete walls with opaque gates and self-latching mechanisms, to keep gates closed when not in use. Bollards are required at the front of the masonry walls to protect the enclosure from trash collection vehicles.	Item.	*TBD*
Gates shall be made of opaque metal for durability. Chain-link gates with opaque slats are prohibited.	Item.	*TBD*
The method of screening shall be architecturally integrated with the adjacent building in terms of materials and colors.	Item.	*TBD*
Trash areas shall be designed to include the screening of large items (e.g. skids and pallets) as well as the trash bin(s) that are needed for the business (unless storage is otherwise accommodated behind required screened storage areas).	Item.	*TBD*
Buffers: A wall and landscaping, fencing, or landscaping of acceptable design shall effectively screen the borders of any commercial or industrial lot which abuts an existing agricultural or platted residential use. Such a wall, fence, or landscaping shall be at least 6' in height, unless a wall or fence of a different height is required by the Land Use Authority as part of a site Plan review.	Item.	*TBD*
No chain-link or wood fences are permitted as buffering or screening between commercial and residential. Masonry and solid vinyl are suggested types of fences, and as circumstances require, one or the other may be required.	Item.	*TBD*
Unless otherwise required by this Title, walls or fences used as a buffer or screen shall not be less than 6' in height.	Item.	*TBD*
Parking Lot Buffers: There shall be a minimum of 10' of landscaping between parking areas and side and rear property lines adjacent to agricultural and residential land uses.	Item.	*TBD*
Building Buffer: No building shall be closer than 5' from any private road, driveway, or parking space. The intent of this requirement is to provide for building foundation landscaping and to provide protection to the building. Exceptions may be made for any part of the building that may contain an approved drive-up window.	Item.	*TBD*

Interconnection: All parking and other vehicular use areas shall be interconnected with adjacent non-residential properties in order to allow maximum off-street vehicular circulation.	Item.	*TBD*
General Architectural Design Standards		
Building Articulation: Building elevations exceeding 40' in length shall incorporate a minimum of one horizontal elevation shift or combination of vertical and horizontal elevation shifts, stepping portions of the elevation to create shadow lines and changes in volumetric spaces of at least five feet, and a minimum of two of the following, all spaced at intervals of 20' to 50' of horizontal width: i. A combination of vertical and horizontal elevation shifts that together equal at least 5'. ii. Addition of horizontal and vertical divisions by use of textures or materials. iii. Primary material change. iv. Addition of projections such as balconies, cornices, covered entrances, porte-cocheres, trellis', pergolas, arcades, and colonnades. Such trellis' and awnings extend outward from the underlying wall surface at least 36". v. Variation in the rooflines by use of dormer windows, overhangs, arches, stepped roofs, gables or other similar devices.	Item.	*TBD*
Roof Treatment: Sloped roofs shall provide articulation and variations in order to break up the massiveness of the roof. Sloped roofs shall include eaves which are proportional to the roofs slope and scale of the building.	Item.	*TBD*
Flat roofs shall be screened with parapets on all sides of the building. If no roof top equipment exists or is proposed, the parapet shall be a minimum of 12" in height above the roof.	Item.	*TBD*
All roofs on two-family, three-family, and multi-family dwellings shall have a minimum pitch of 3/12 (25% slope). To provide architectural enhancement, residential structures are encouraged to have multiple pitch variations.	Item.	*TBD*
Roof mounted equipment shall not be visible from adjacent public and private streets as well as from adjacent properties, unless grade differences make visibility unavoidable.	Item.	*TBD*
Screening shall be solid and shall be consistent with the material and color of exterior finishes of the building through the use of at least two out of three of the exterior finishes of the building.	Item.	*TBD*
Windows: Windows, other than rectangular windows, may be used as accents and trim. Untreated aluminum or metal window frames are prohibited.	Item.	*TBD*
Awnings, Canopies, Trellises, Pergolas, and Similar Features: All such features must be attached to a vertical wall.	Item.	*TBD*
All such features shall project at least 4' from the building when located over a pedestrian traffic area and no less than 2' otherwise.	Item.	*TBD*
All such features shall maintain a minimum clearance above sidewalk grade of 8' to the bottom of the framework when located over a pedestrian traffic area.	Item.	*TBD*
Backlighting is not permitted.	Item.	*TBD*
Mechanical Equipment: All mechanical equipment shall be located or screened and other measures shall be taken so as to shield visibility of such equipment from any public or private streets.	Item.	*TBD*
Wing walls, screens, or other enclosures shall be shall be integrated into the building and landscaping of the site, whether located on the ground or roof.	Item.	*TBD*
Rooftops of buildings shall be free of any mechanical equipment unless completely screened from all horizontal points of view.	Item.	*TBD*

Screening materials shall conform to the color scheme and materials of the primary building.	Item.	*TBD*
Residential Architectural Design Standards		
Architectural Wrap: Stone, brick, wainscot, and other front elevation materials shall be wrapped a minimum of 2' into interior side elevations and shall extend the full width of any street side yard, or façade abutting common open space.	Item.	*TBD*
Materials and Colors: A minimum of three materials and three colors shall be utilized on front or street side elevations, or façade abutting common open space. A minimum of two materials and two colors shall be utilized on interior side and rear elevations.	Item.	*TBD*
No more than 75% of any building elevation shall consist of any one material or color.	Item.	*TBD*
Carports and similar structures shall be compatible in architectural design and details with the main residential structure through the use of at least two out of three of the same materials and colors.	Item.	*TBD*
Color Variation: Two-family, three-family, and multi-family developments containing more than five buildings shall be designed with at least two color palettes.	Item.	*TBD*
Non-Residential Architectural Design Standards		
Four Sided Architecture: All sides of a building that are open to public view (including views from adjacent residential dwellings or probable location of residential dwellings) shall receive equal architectural design consideration as the building front.	Item.	*TBD*
Color and Materials: Exterior Building Materials shall be considered any materials that make up the exterior envelope of the building and shall be limited to no more than four and no less than two types of materials per building, window and door openings excluded.	Item.	*TBD*
Color of exterior building materials (excluding accent colors) shall be limited to no more than four and no less than two major colors per development.	Item.	*TBD*
Bright colors, such as neon or fluorescent colors, bright orange or yellow, and primary colors, are only permitted as accent colors.	Item.	*TBD*
No more than 75% of any building elevation shall consist of any one material or color. i. No more than 50% of any building elevation shall consist of CMU, except in the Office Warehouse and Industrial zones, or ii. Office, Warehouse, Flex buildings in approved zones that utilize concrete tilt up construction are exempt from the maximum 75% of one material per elevation requirement but must follow all other architectural standards.	Item.	*TBD*
Prohibited Materials: Tiles. Full veneer brick and tiles exceeding ½" in thickness is permitted, however veneer tile is prohibited. Stucco stone patterns and stucco brick patterns. Wood as a primary exterior finish material. Plain, grey, unfinished CMU block except as an accent material.	Item.	*TBD*
Stairways: All stairways to upper levels shall be located within the building unless otherwise approved by the Land Use Authority for secondary access to outdoor patio decks or other usable outdoor area.	Item.	*TBD*
Roof Drains: All roof drains, conduit and piping, maintenance stairs and ladders, and other related services shall be located on the interior of the building.	Item.	*TBD*
Electrical Panels: To the extent possible, all electric panels and communication equipment should be located in an interior equipment room.	Item.	*TBD*

Street Orientation: All Retail or Commercial buildings shall have expansive windows, balconies, terraces, or other design features oriented to the street or adjacent public spaces.	Item.	*TBD*
At least 50% of the first floor elevation(s) of a building that is viewed from a public street shall include windows and/or glass doors to minimize the expanse of blank walls and encourage a pedestrian friendly atmosphere. This percentage may be reduced to 35% for buildings without a retail component or with medical uses on the first floor.	Item.	*TBD*
Metal Buildings: Metal buildings are only permitted in the Agricultural, Residential Agricultural, Rural Residential, Office Warehouse and Industrial Zones.	Item.	*TBD*
All metal buildings shall be designed to have an exterior appearance of conventionally built structures. Stock, "off the shelf" metal buildings are prohibited.	Item.	*TBD*
Metal buildings in the Agricultural, Residential Agricultural, and Rural Residential zones shall only be used for agriculture as defined in Section 19.02.02 of the City Code.	Item.	*TBD*

19.25 Waterfront Buffer Requirements

Waterway Setbacks

Regulation	Compliance	Findings
Riparian Setback: No disturbance shall occur within 50' of the Jordan River ordinary high water mark or the Utah Lake Compromise line. **Exception:** Boardwalks, patios, decks, and associated seating areas may be placed within the riparian setback. Such areas shall not exceed 300 square feet.	**Complies.**	*Shown on plan. Details of improvement at site plan stage.*
Shoreline Trails: Jordan River and Utah Lake shoreline trail corridors shall be a minimum of 20' in width measured landward from the edge of the riparian setback.	**Complies.**	
Patio/Lawn Area: A minimum of 15' shall be maintained between the Shoreline or Jordan River trail corridor and structures/parking areas to allow for lawns, patios, restaurant eating areas, and similar low-impact uses. Roads shall not be located between the first row of buildings and the waterway.	**Complies.**	
Landscaping in Riparian and Trail Setbacks: Native and naturalized plants allowed. Manicured landscaping and lawns are prohibited.	**Can Comply.**	*Show on plan*

Utah Lake and Jordan River Shoreline Trails

All developments whose projects are next to, adjacent to, or abutting, or include Utah Lake or the Jordan River shall provide an improved pedestrian shoreline trail throughout the length of the project. i. The shoreline trail shall at all times be accessible to the public. ii. The developer will work with the City and any other agency whose approval is necessary, to determine the exact location of the trail. iii. The developer shall construct the trail as close to the waterway as reasonably possible. iv. The trail shall be hard surfaced and shall be a minimum of 12' in width.	**Can Comply.**	*Concrete required.*
In the event that a portion of the planned shoreline trail throughout a developer's project is located on property not in the possession of or under control of the developer, the developer will work with the City to identify a proper location through the developer's project on which to construct the trail. In all cases, the developer shall construct the shoreline trail as close to the waterway as reasonable possible	**Can Comply.**	*TBD at site plan*

The developer will work with the City to determine which party will construct the shoreline trail throughout the developer's project. a. If the developer constructs the shoreline trail throughout the developer's project, the developer may receive credit for the trail against the open space requirements of this Title. However, if the developer is granted a credit, the developer shall maintain the trail in perpetuity and grant the City a perpetual public access easement. b. The shoreline trail shall be constructed in accordance with the City's design guidelines, standards, and regulations.	**Can Comply.**	*TBD at site plan*
If the City specifically agrees in writing, the shoreline trail will be maintained by the City after the City issues a Certificate of Final Acceptance.	**Can Comply.**	*TBD at site plan*
Public Access and Parking		
Developments shall provide a public access to the Shoreline or Jordan River trail.	**Can Comply.**	*Pedestrian access at final plat*
Developments shall provide public parking for bicycles and shall permit a portion of their motor vehicle parking to be available to the public in non-residential areas.	Item.	*TBD at site plan*
Public pedestrian access shall include clearly marked travel pathways from the public street through parking areas to primary building entries.	Item.	*TBD at site plan*
Parking areas visible from the Shoreline or Jordan River trail or the waterway shall be screened from view by landscaping or decorative fencing at least 3' in height.	Item.	*TBD at site plan*
Appropriate landscaping should be utilized to screen habitat areas within the riparian setback from new development.	Item.	*TBD at site plan*
Site Coverage and Building Permeability		
On lots or sites with a width greater than 100' that are generally parallel to the river corridor, structures shall not exceed 70% of the width of the site.	Item.	*TBD at site plan*
On lots or sites with a 50' to 80' width that are generally parallel to the river, structures shall not exceed 50' in width or 70% of the width of the site, whichever is greater.	Item.	*TBD at site plan*
At a maximum interval of 300' that is generally parallel to the river, there shall be a clear visual and pedestrian connection at the ground level from a public street to the river corridor. Such connections may consist of pathways, landscaping, transparent entrances and lobbies that provide the ability to see through a building, and other features with a similar effect.	Item.	*TBD at site plan*
The visual and pedestrian connection shall not be less than 30' wide.	Item.	*TBD at site plan*

Fiscal Impact	
Regulation	**Findings**
Is there any City maintained open space?	*TBD*
What is the anticipated cost to the City?	*TBD*
When will City maintenance begin?	*TBD*

Exhibit 3
Engineer's Staff Report

Staff Report

Author: Jeremy Lapin, City Engineer
Subject: D2D Real Estate Office – Site Plan
Date: 3/24/2022
Type of Item: Site Plan Approval

Description:

A. Topic: The Applicant has submitted a Site Plan application. Staff has reviewed the submittal and provides the following recommendations.

B. Background:

Applicant:	*Michael Muehlmann—D & M Richins Inc.*
Request:	*Site Plan Approval*
Location:	*Aspen Hills Blvd & Redwood Rd*
Acreage:	*1.17 Acres - 1 Lots*

C. Recommendation: Staff recommends the approval of Site Plan subject to the following conditions:

1. All review comments and redlines provided by the City Engineer are to be complied with and implemented with the approved construction drawings.
2. Provide a Storm Water Pollution Prevention Plan (SWPPP) following the State template, prior to the pre-construction meeting.
3. Developer must secure water rights as required by the City Engineer, City Attorney, and development code.
4. Provide easements for all public utilities not located in the public right-of-way.
5. Developer is required to ensure that there are no adverse effects to adjacent properties due to the grading practices employed during construction.
6. Developer may be required by the Saratoga Springs Fire Chief to perform fire flow tests prior to the issuance of certificate of occupancy or prior to the commencement of the warranty period.
7. Submittal of as-built drawings in pdf format to the City Engineer is required prior to acceptance of site improvements and the commencement of the warranty period.
8. Project bonding for the site plan must be completed as approved by the City Engineer prior to the preconstruction meeting.
9. Developer shall bury the power lines less than 46 kV that are within this plat.
10. Reimbursement Agreement must approved by City Council for master planned

projects before acceptance of the construction plans. If the applicant wishes to begin construction before there is an agreement in place with the City, he must sign and record a waiver stating he accepts the risk that he may not be reimbursed for any improvements installed, even if they are system improvements.

11. Provide an easement to the City for the dedicated fire suppression waterline.
12. Developer shall dedicate ROW sufficient for the future Aspen Hills Blvd. right turn lane improvements.

Exhibit 4 Preliminary Plats

Exhibit 5 April 14, 2022, Planning Commission minutes

Exhibit 6 Concept Plans Presentation

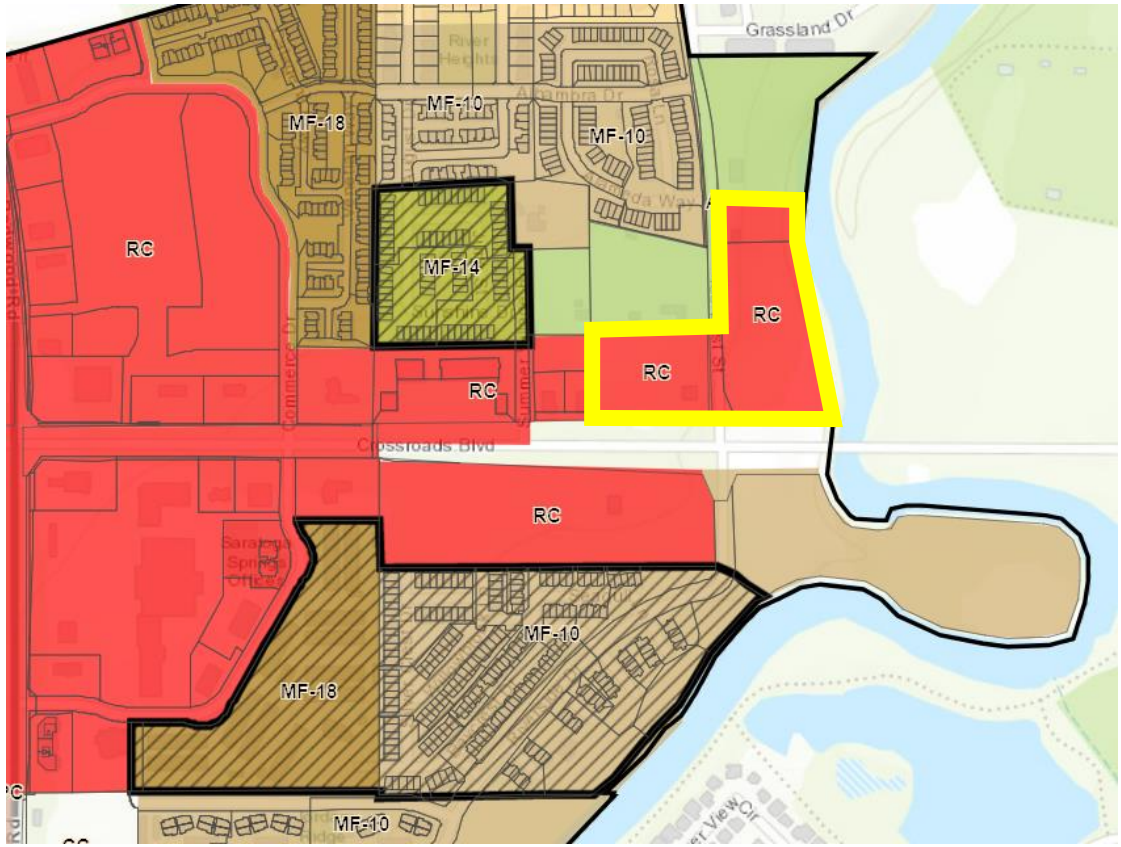
Introduction

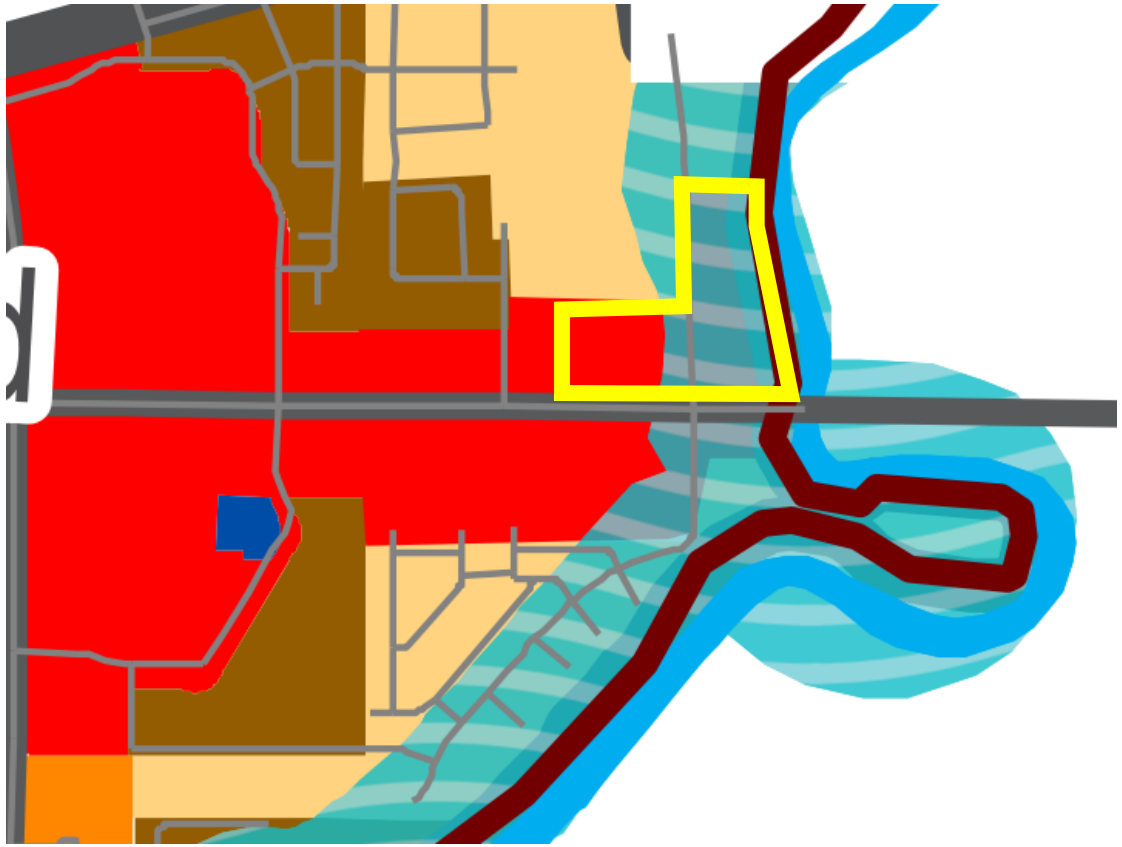
9.3 acres of Regional Commercial (RC), 6.03 acres of which are Waterfront Buffer Overlay.

- This is <u>only place in the entire city</u> where **RC** and the **Waterfront Buffer** coincide.
- This is a "Gateway" Location for those entering the city along Lehi Main St. from the East.



The only location in the city with both the Regional Commercial Zone and the Waterfront Buffer Overlay





Regional Commercial

Waterfront Overlay

What does Regional Commercial want to be?

- Mixed-uses, including commercial & retail.
- Storefronts situated with high visibility along arterial roads.
- To "encourage a variety of employment and business opportunities."
- Parking lots best located behind structures to increase visibility for storefronts.





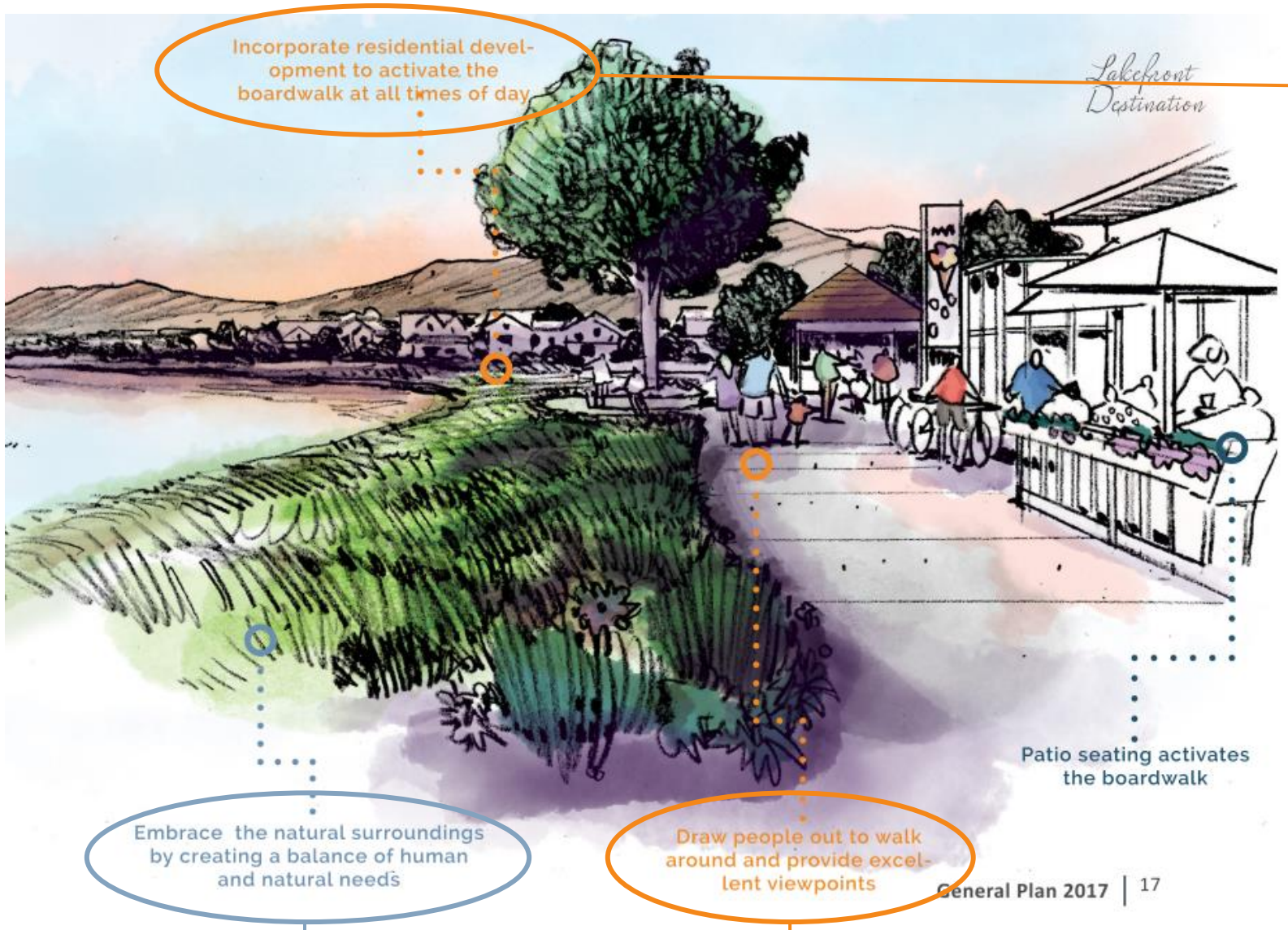
What does the Waterfront Buffer Overlay want to be?

- Activated waterfront for public enjoyment.
- Developments that embrace the natural surroundings and accentuate the riverbank.
- Not a parking lot or the back end of commercial buildings along the waterfront.





Some of the City's Stated Intents for Waterfront Developments

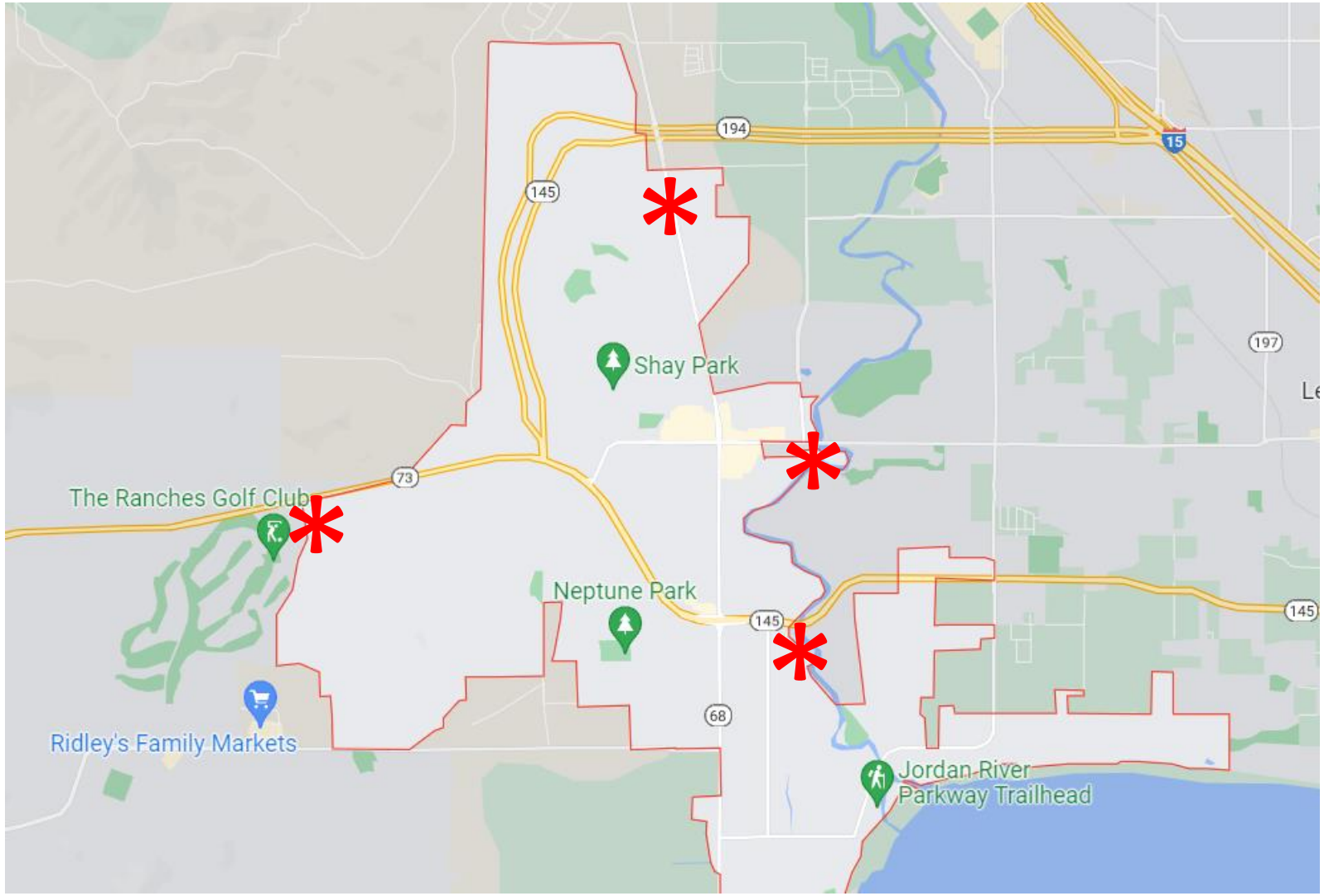


Incorporate residential development to activate the boardwalk at all times of day

Embrace the natural surroundings by creating a balance of human and natural needs

Draw people out to walk around and provide excellent viewpoints

Gateway Sites



While there are no official gateway designations in Saratoga Springs, there is a nearby example for discussion's sake:

The Gateway land use category is intended for special areas or districts adjacent to primary roadways entering the city and should include a mix of compatible mixed use,

– Provo General Plan pg. 38

Gateways are areas where a strong identity is present, one that provides a visual statement about the character of the downtown area. These entrances into the Downtown should be located along major corridors at or near the border of the defined Downtown area, and establish a sense of arrival.

– Provo Downtown Master Plan pg. 32

A Gateway Location for Saratoga Springs

A Luxury, Mixed-use Development for the City's only property with combined "Regional Commercial" and "Waterfront Buffer" designation













General Plan – Guiding Vision

OUR VISION

Our Guiding Vision

Saratoga Springs is a growing community with an unparalleled quality of life. Now and into the future, we strive to:

- increase recreation opportunities for all ages;
- maximize our lakeside locations;
- provide vibrant gathering places;
- offer a range of housing choices; and
- encourage a variety of employment and business opportunities.

We will maintain sound fiscal strategies and sustainable city services in pursuit of these goals.

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Since we are in the Regional Commercial Zone, let's start the conversation here.

Examples of Permitted Uses in RC Zone

- Alcoholic Beverage, State Liquor Store
- Automobile Repair, Minor
- Bar
- Car Wash (full service)
- Car Wash (self service)
- Child Care Center
- Dry Cleaners
- Equipment Sales & Services (with indoor storage)
- Funeral Home
- Laundromat
- Shooting Range, indoor or outdoor
- Convenience Store
- Convenience Store/Fast Food Combination
- Drive-thru
- Dwelling, Above commercial
- Hotel
- Office, Professional
- Office, Medical and Health Care
- Refueling Station, Public
- Refueling Station, Private
- Restaurant, Takeout
- Restaurant







Waterfront Commercial Activity

Waterfront, Boutique Hotel







Commercial Programming

EAST PARCEL 6.03 Acres - Ground-level Commercial				
	Northeast Building SF	Middle Building SF	Southeast Building SF	Sq. Ft. Totals
Restaurant	0	0	2500	2500
Hotel	0	7560	5060	12620
Professional Office	7560	0	0	7560
Totals	7560	7560	7560	22680

WEST PARCEL 3.29 Acres - Ground-level Commercial			
	Norhtwest Building SF	Southwest Building SF	Sq. Ft. Totals
Restaurant	2000	2700	4700
Commercial Retail	5515	4500	10015
Totals	7515	7200	14715



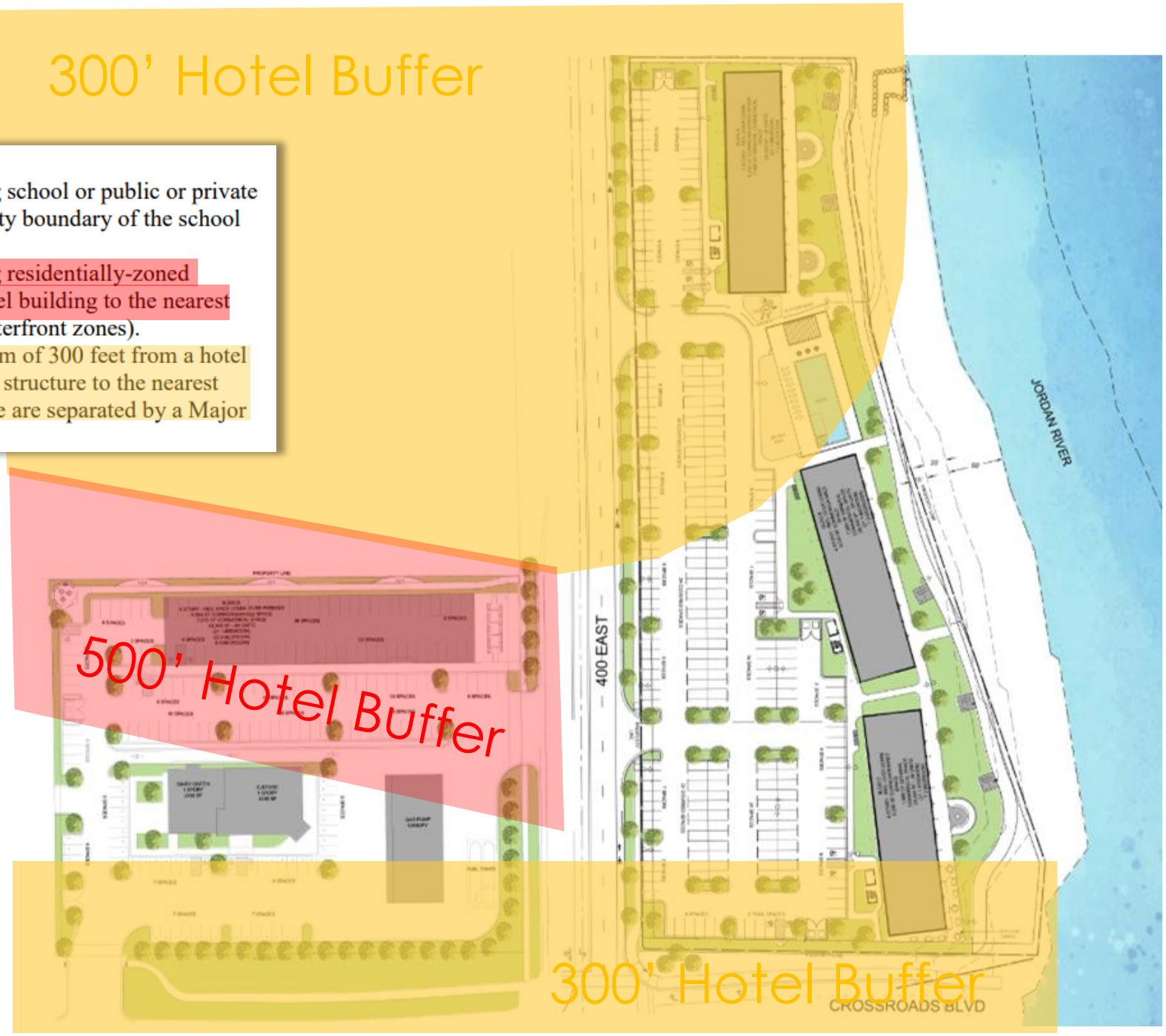
Hotel Positioning

3. Hotels.

a. No hotel shall be located within 500 feet of an existing school or public or private park as measured from the hotel building to the property boundary of the school or public or private park.

b. No hotel shall be located within 500 feet of an existing residentially-zoned property as measured from the nearest point of the hotel building to the nearest residential zone (excluding Mixed Use and Mixed Waterfront zones).

i. Exception: a residential zone may be a minimum of 300 feet from a hotel as measured from the nearest point of the hotel structure to the nearest residential zone if the hotel and residential zone are separated by a Major Arterial.



General Plan – Guiding Vision

OUR VISION

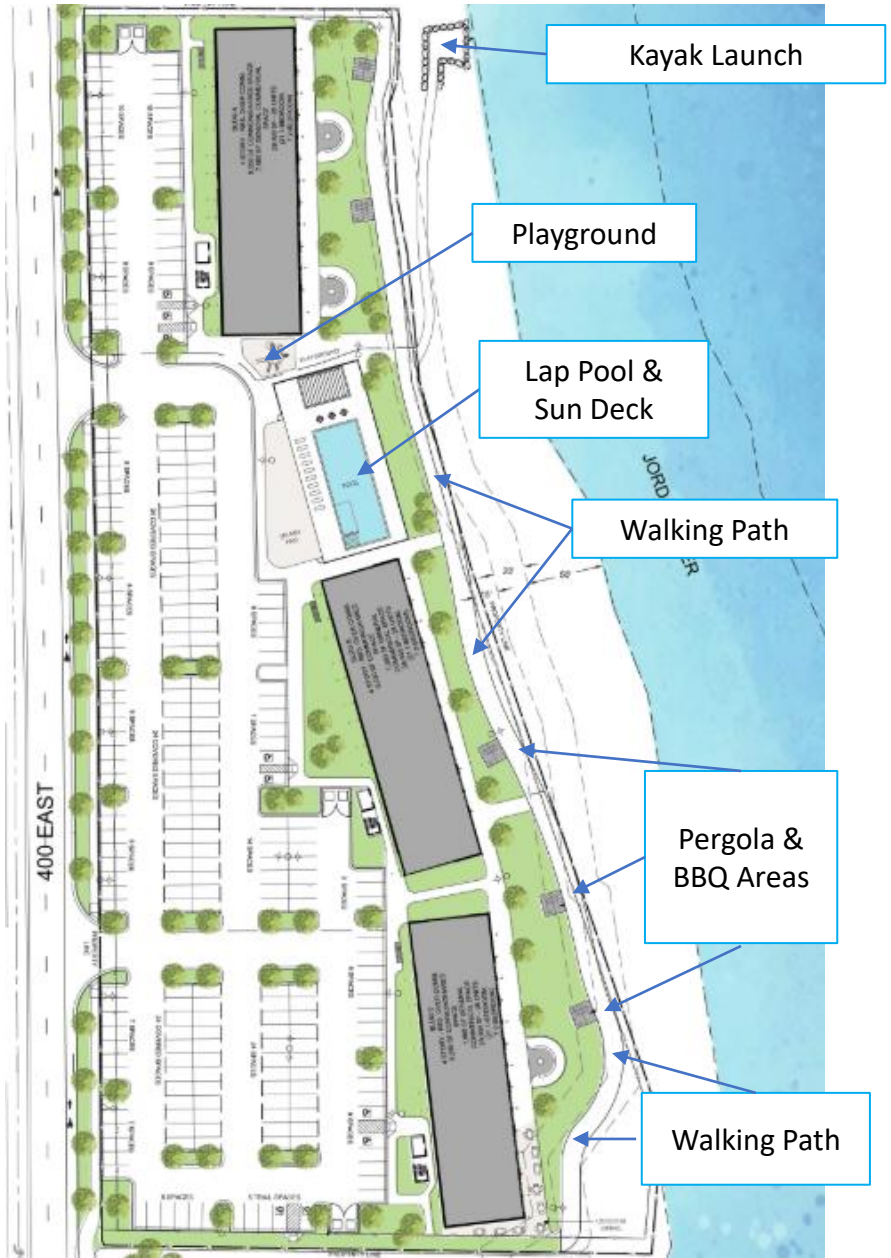
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1 increase recreation opportunities for all ages;

- maximize our lakeside locations;
- provide vibrant gathering places;
- offer a range of housing choices; and
- encourage a variety of employment and business opportunities.

We will maintain sound fiscal strategies and sustainable city services in pursuit of these goals.



Guiding Vision - Recreational Opportunities for all Ages















Increased Recreational Opportunities for all Ages

Expand the number and variety of recreational opportunities throughout the city, in order to meet a growing population and increasingly varied recreational needs.

- Saratoga Springs General Plan pg. 24



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General Plan – Guiding Vision

OUR VISION

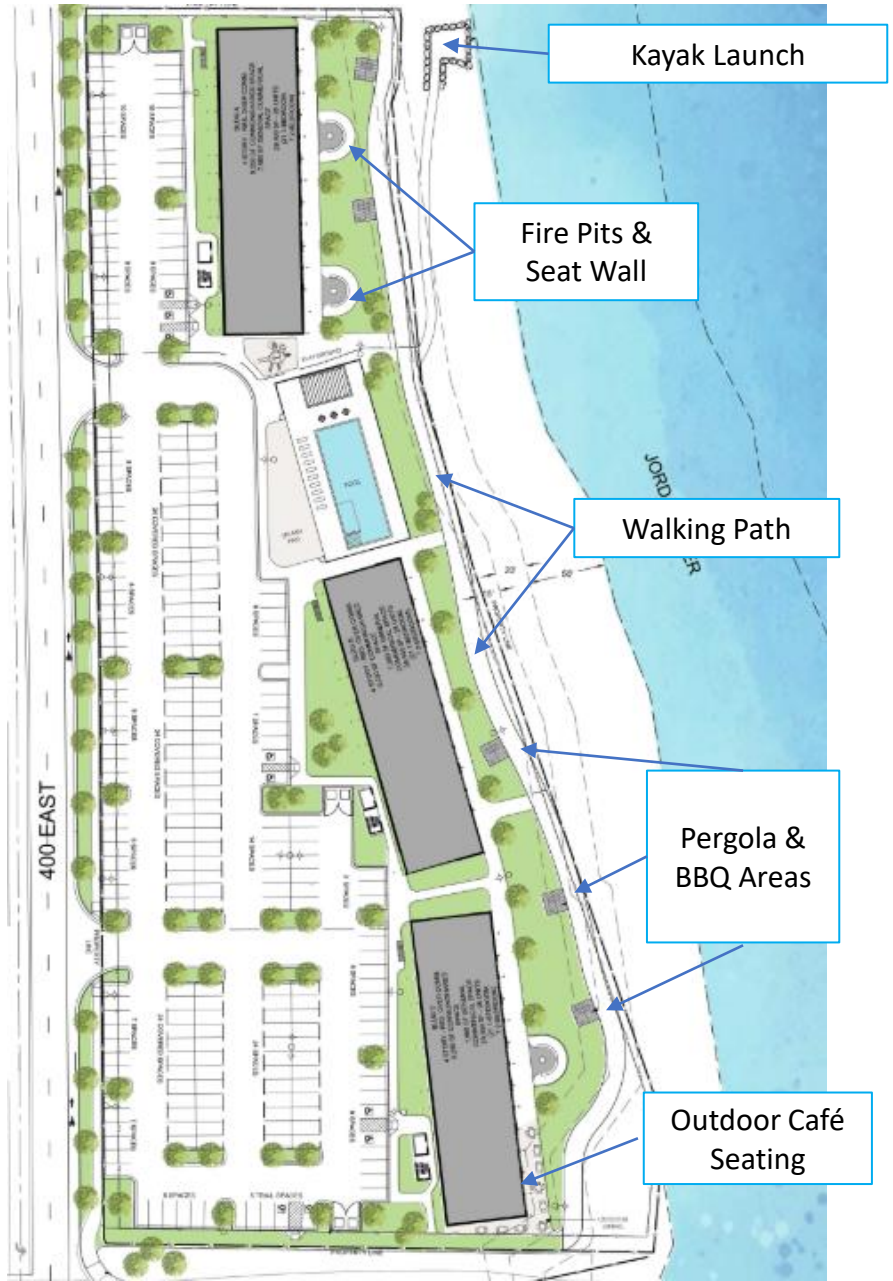
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- maximize our lakeside locations; [River & Waterfront]
- provide vibrant gathering places;
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We will maintain sound fiscal strategies and sustainable city services in pursuit of these goals.

2



Guiding Vision - Maximize our Waterfront Locations















Maximizing Riverfront Locations

Incorporating **mixed-use** development to activate the riverfront at all times of day.

- Saratoga Springs General Plan pg. 17



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Objective: Enhance the Jordan River Parkway recreational capacity: While carefully preserving the habitat values and character of the River, enhance the Jordan River Parkway as a recreational asset.

- Saratoga Springs General Plan pg. 25

General Plan – Guiding Vision

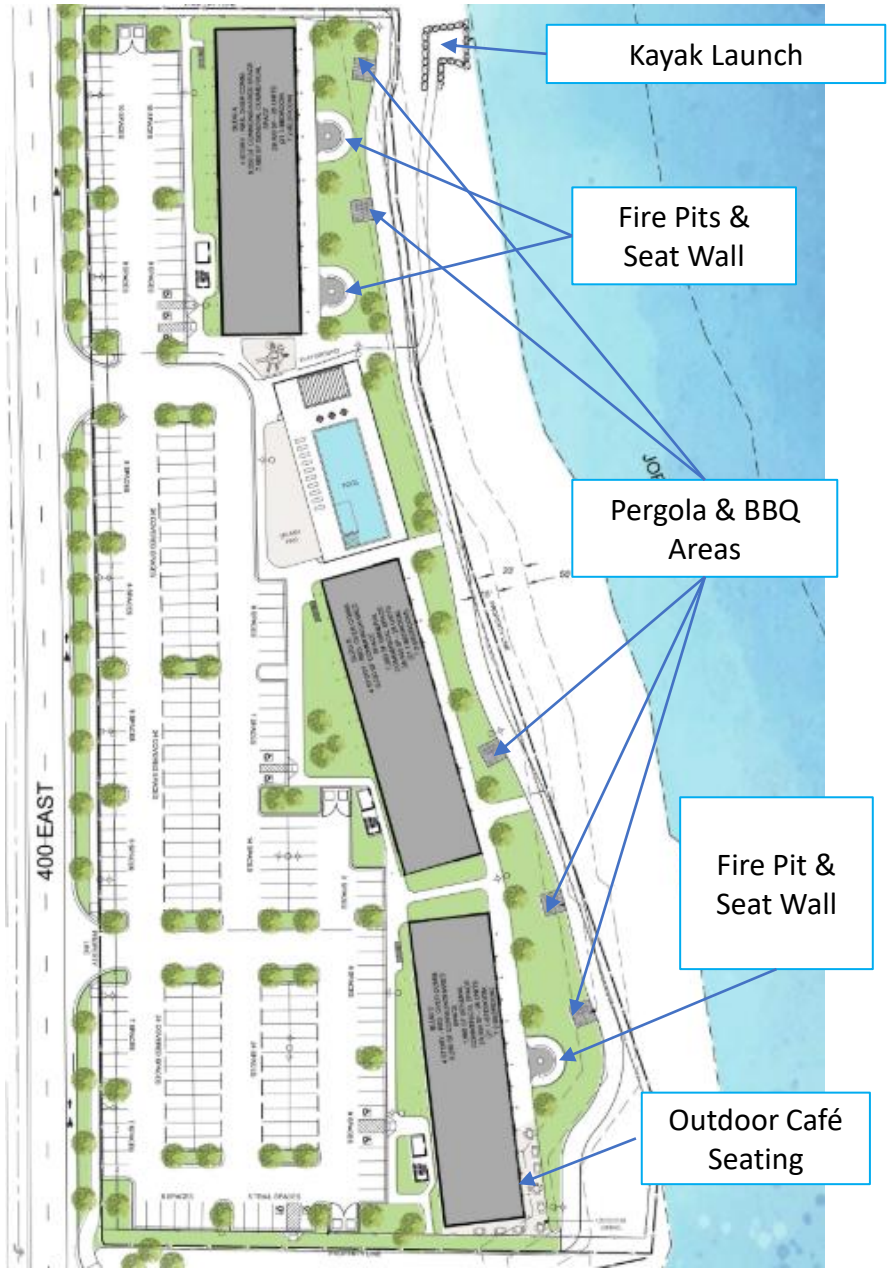
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Guiding Vision – Vibrant Gathering Places









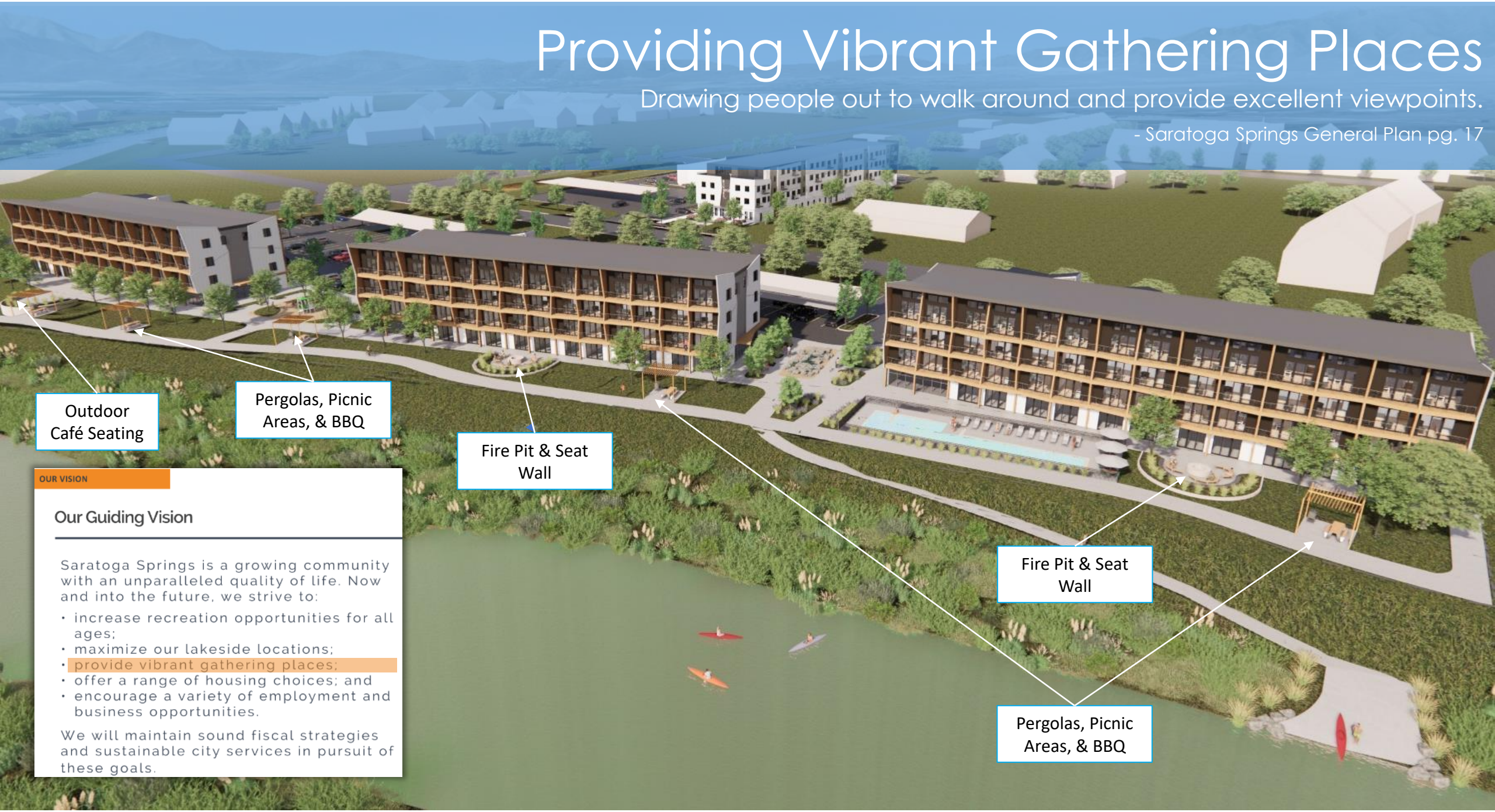




Providing Vibrant Gathering Places

Drawing people out to walk around and provide excellent viewpoints.

- Saratoga Springs General Plan pg. 17



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The first three Guiding-Vision items, combined on this site, give us…

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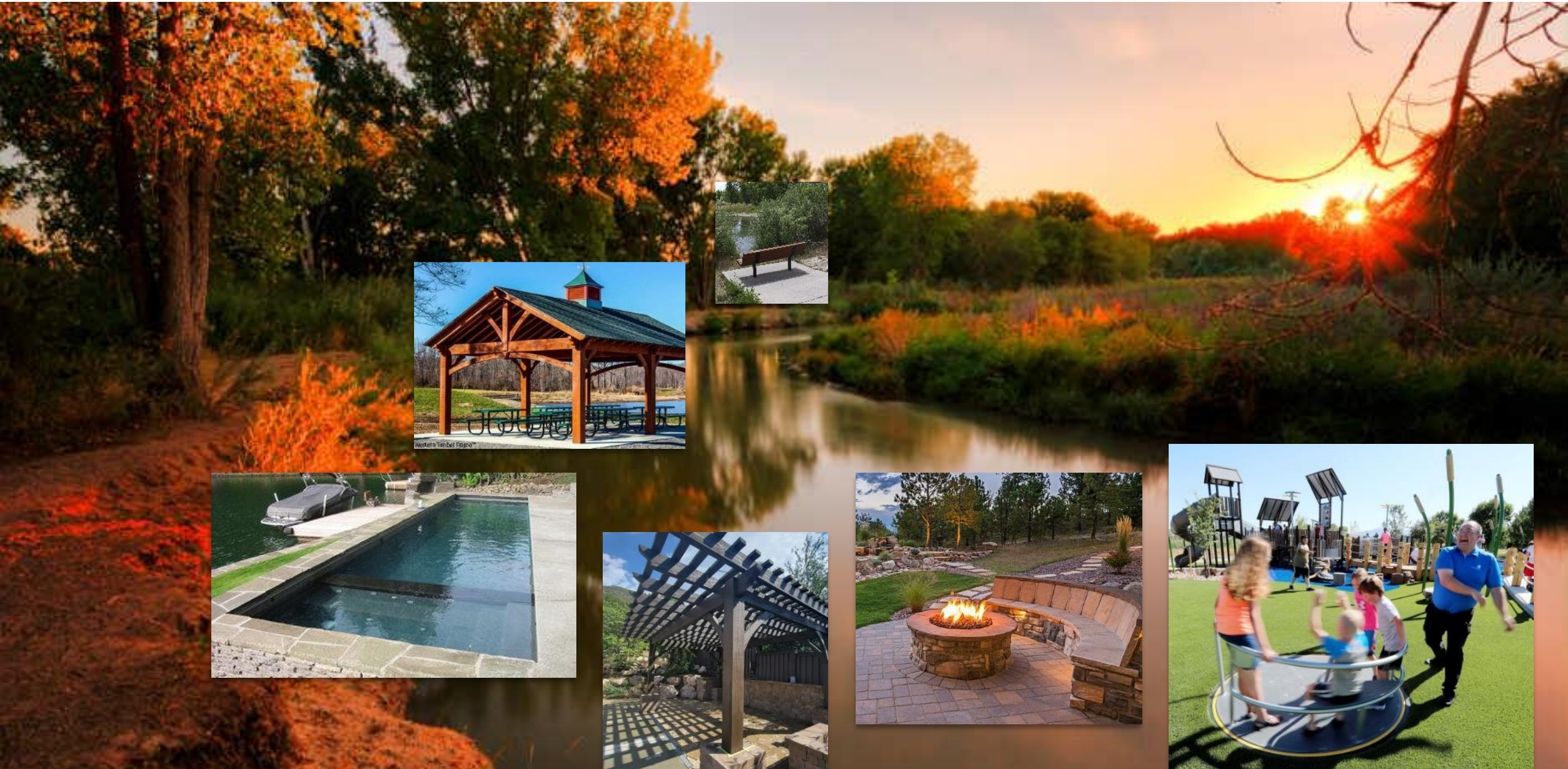
1. increase recreation opportunities for all ages;
2. maximize our lakeside locations;
3. provide vibrant gathering places;

- offer a range of housing choices; and
- encourage a variety of employment and business opportunities.

[River & Waterfront]

We will maintain sound fiscal strategies and sustainable city services in pursuit of these goals.

Unprecedented Riverfront Activation for Saratoga Springs



General Plan – Guiding Vision

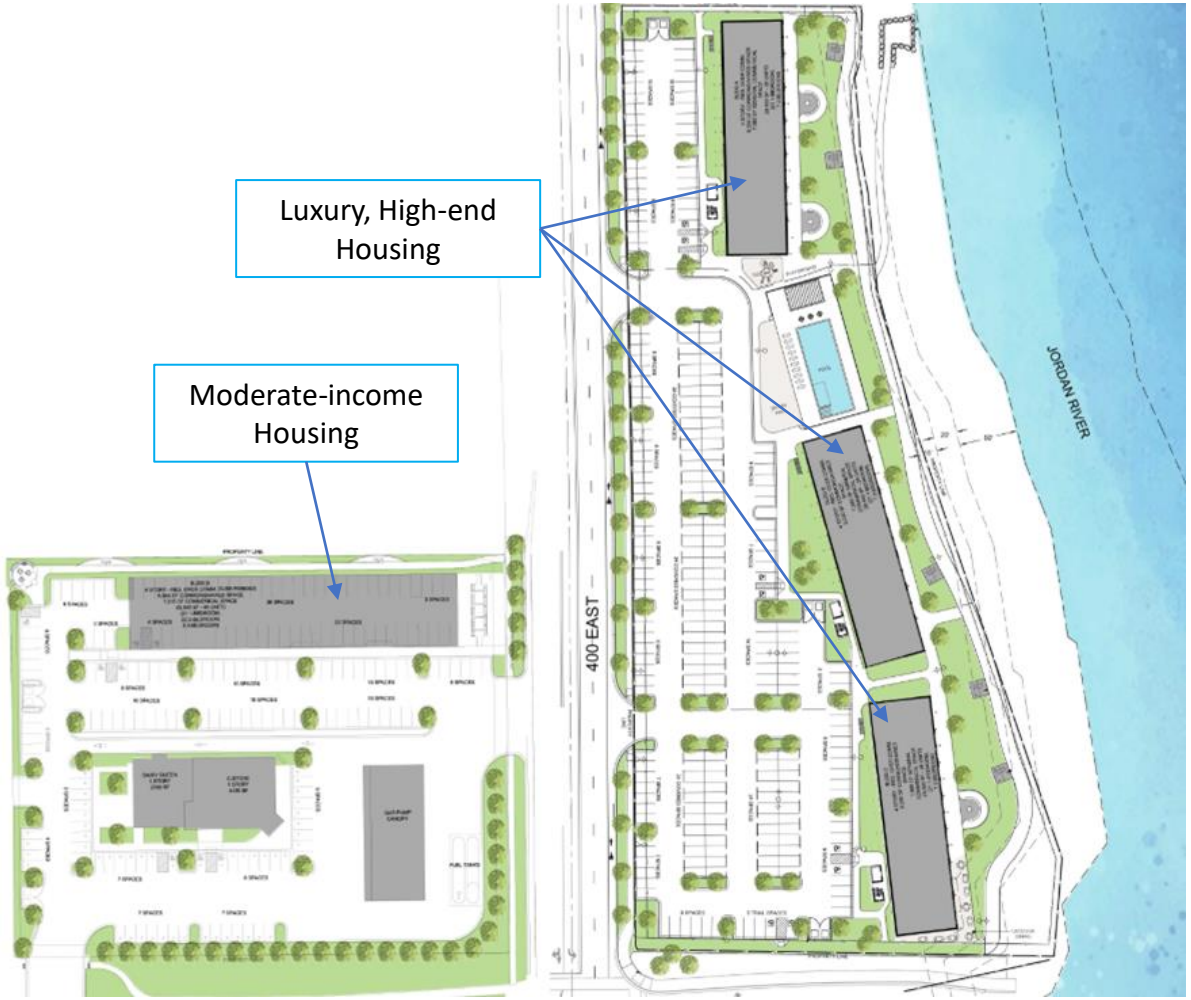
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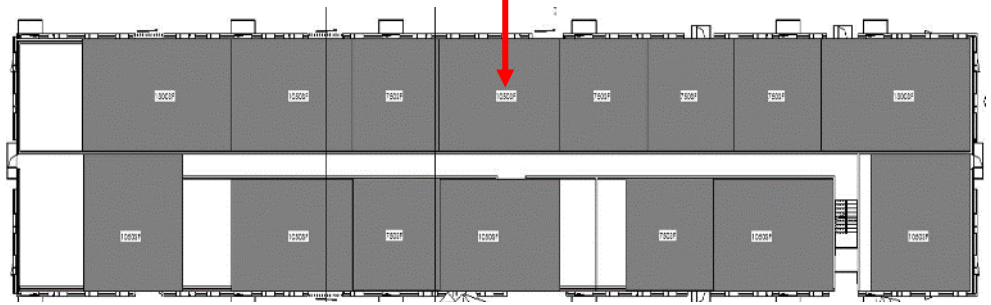


The View, Looking East:



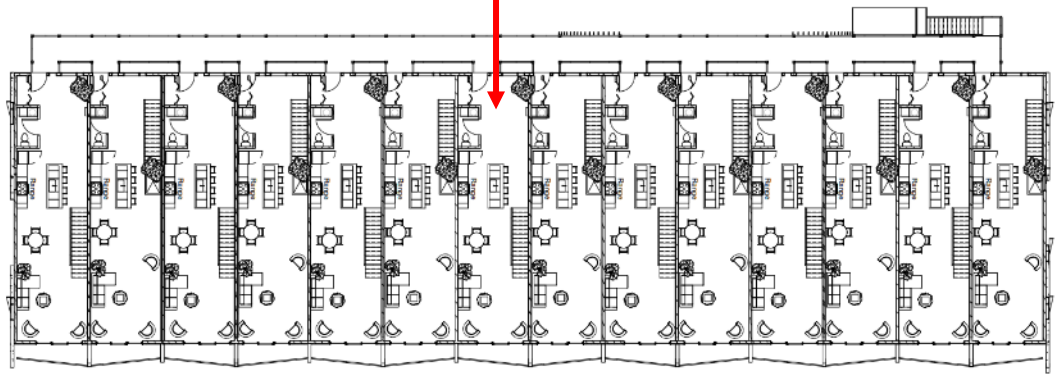
Architect was Given Challenge to Give Every Unit a View of River & Mountains

Interior corridor divides the building, only ½ the units get the view of Wasatch & river.



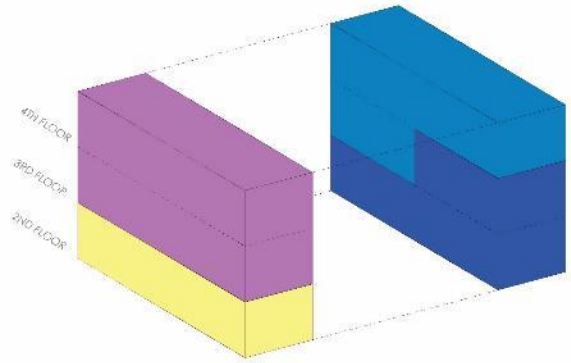
Status-Quo – “The Haves and the Have-nots”

Single exterior corridor on one side gives ALL the view.

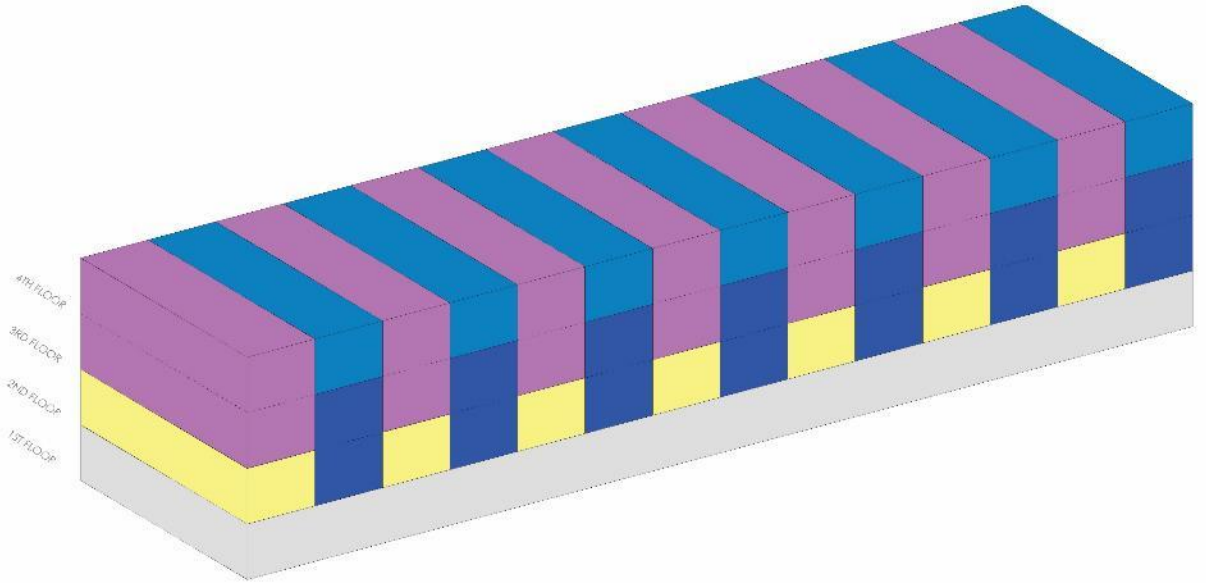


An incredible view for every unit & most open floorplans in the market

Interlocking Units - Affording all Units a View to the East



UNIT TYPES



UNIT AGGREGATION - EAST BUILDINGS

2 BEDROOM UNIT

1 BEDROOM FLAT

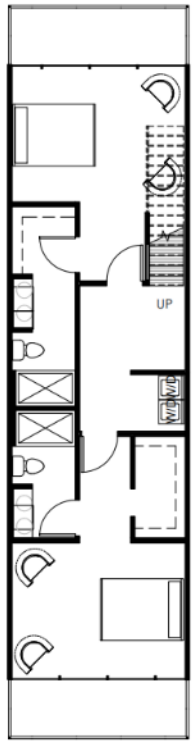
1 BEDROOM UNIT - A

1 BEDROOM UNIT - B

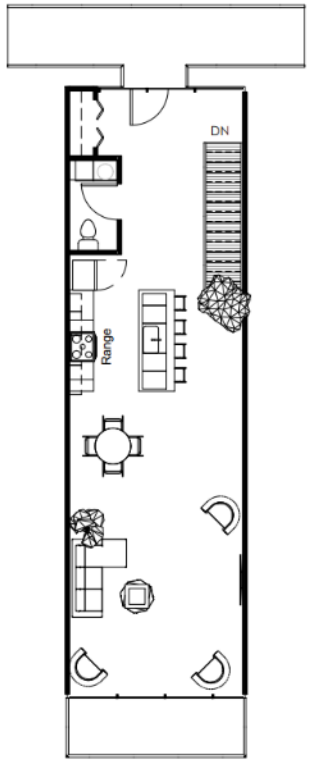
Example Unit: 2-BEDROOM FLAT - 1400 SQFT







THIRD FLOOR



FOURTH FLOOR





*Floor plans and renders for all unit types can be found in appendix.

Residential Unit Mix

EAST PARCEL 6.03 Acres - 14 Units/Acre - 84 Residential units over commercial				
	Northeast Building	Middle Building	Southeast Building	Unit-type Totals
1-Bed Flat - 700 SQFT	7	7	7	21
1-Bed Loft - 1,050 SQFT	14	14	14	42
2-Bed Flat -1,400 SQFT	7	7	7	21
Totals	28	28	28	84

WEST PARCEL 3.29 Acres - 14 Units/Acre - 46 Residential units over commercial		
	West Building	Unit-type Totals
1-Bed - 700 SQFT	21	21
2-Bed - 1,050 SQFT	22	22
3-Bed - 1,300 SQFT	3	3
Totals	46	46

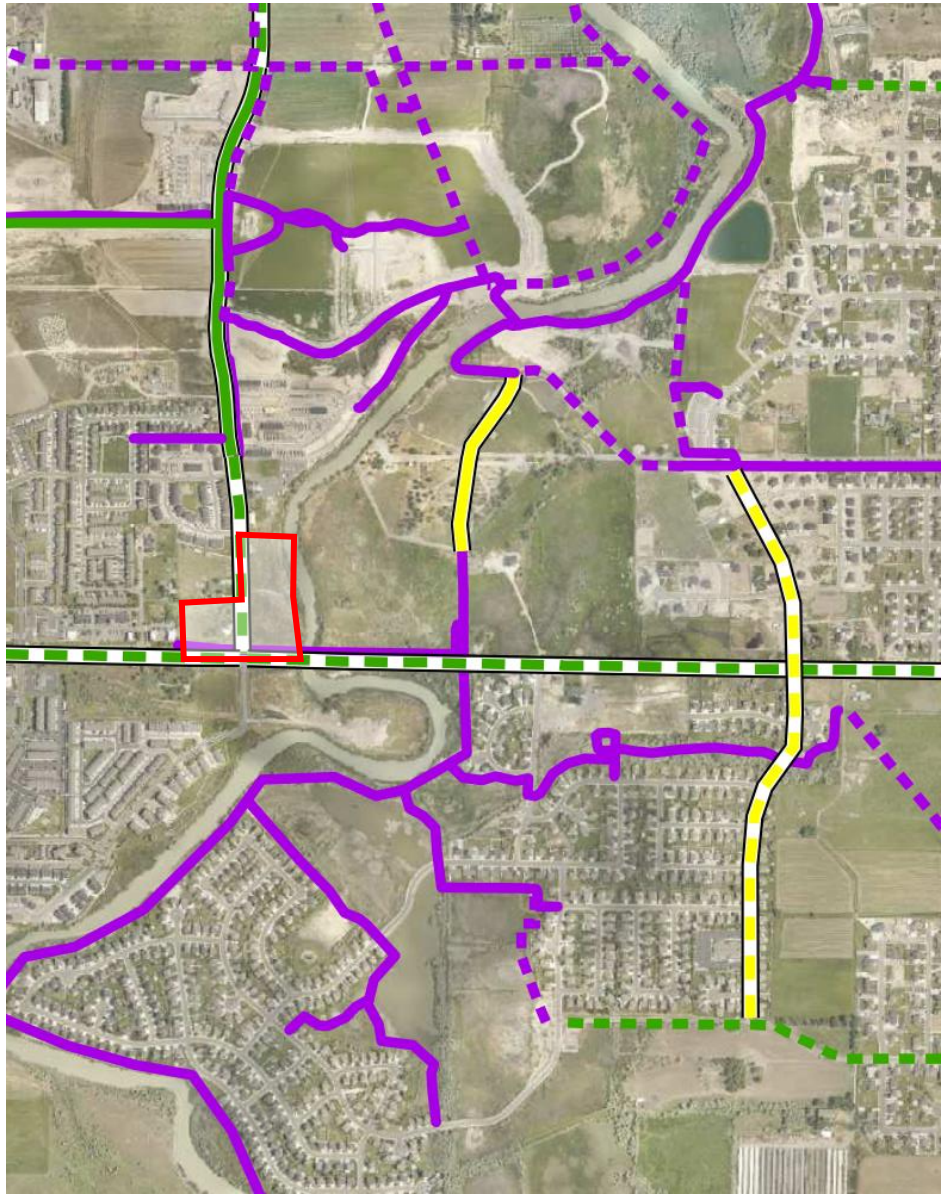




Waterfront Buffer Overlay – Shoreline Trails



Lehi Proposed Bike Facilities Map



Proposed Facilities

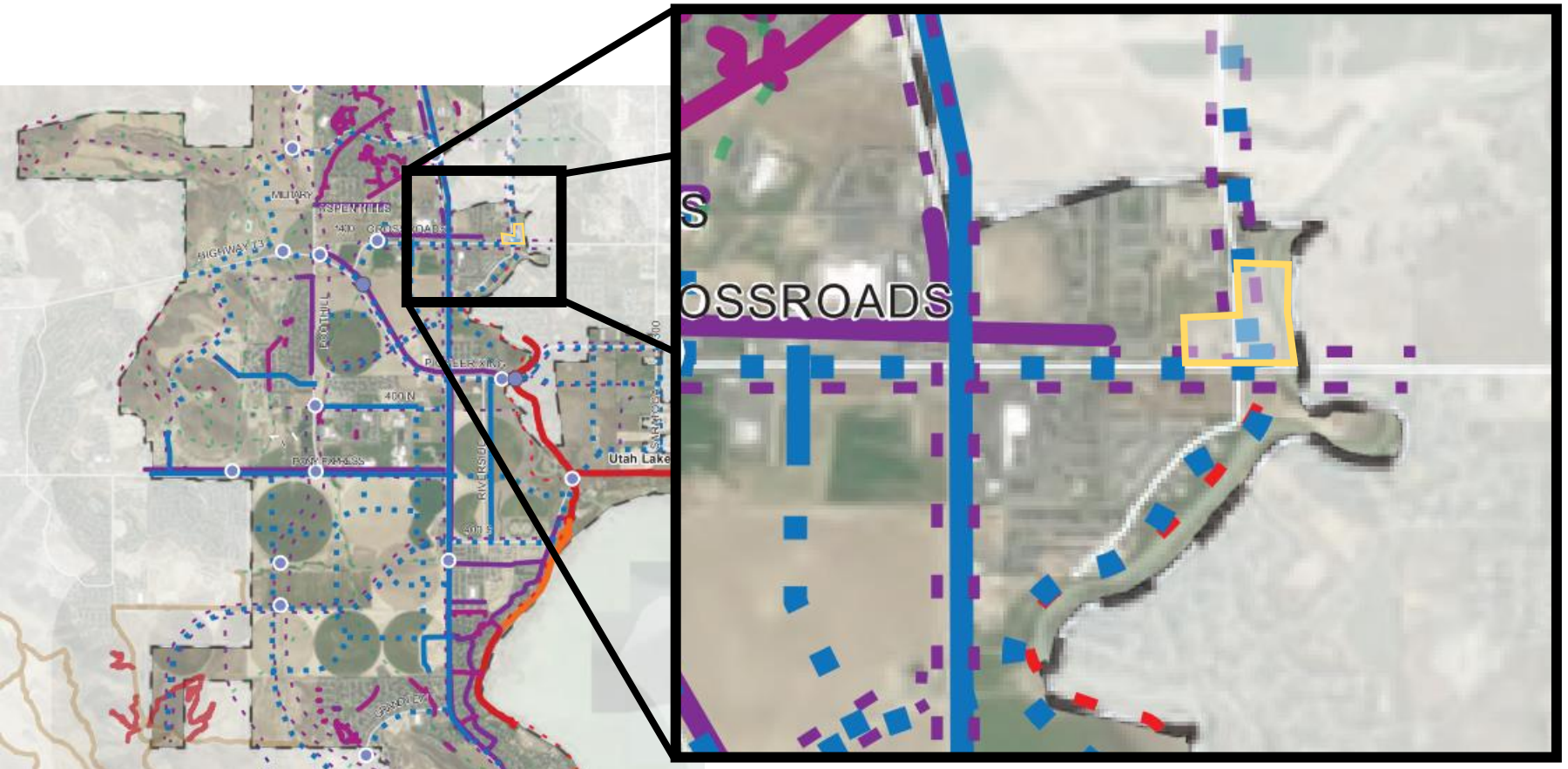
- Bicycle Boulevard
- Bike Lane
- Buffered Bike Lane
- Cycle Track
- Marked Shared Roadway
- Shared Use Path
- Sidepath
- Signed Shared Roadway

Existing Facilities

- Shared Use Path
- Sidepath
- Bike Boulevard
- Bike Lane
- Buffered Bike Lane
- Marked Shared Roadway
- Protected Bike Lane
- Signed Shared Roadway

Saratoga Springs Transportation Master Plan

Figure 5-9: Future Active Transportation



Proposed

- Bike Lane
- Paved Regional Trail
- Paved Street Separated Trail
- Paved Street Adjacent Trail
- Unpaved Regional Trail
- Unpaved Local Trail
- Grade-Separated Crossing

Existing

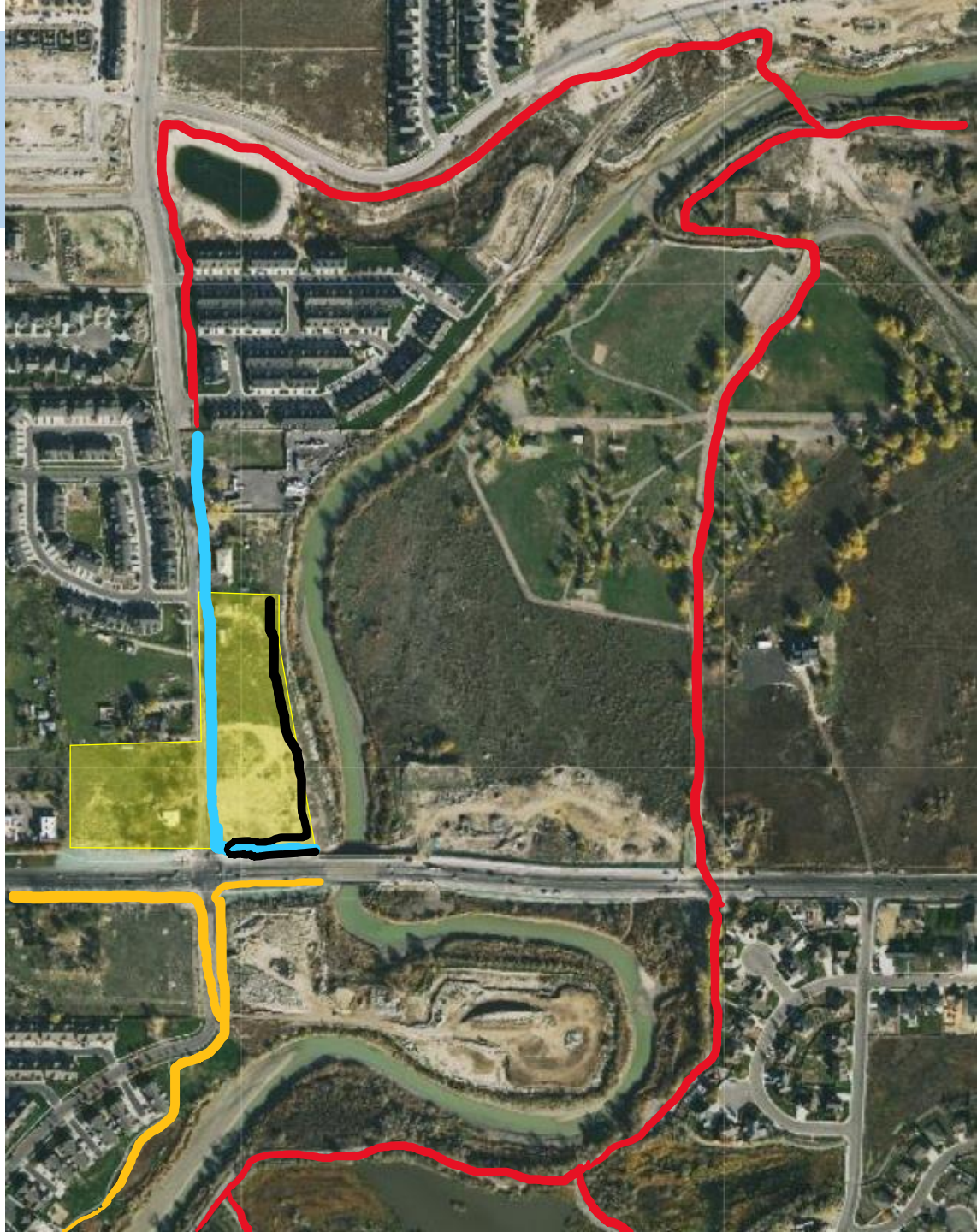
- Bike Lane
- Paved Regional Trail
- Paved Street Separated Trail
- Paved Street Adjacent Trail
- Unpaved Regional Trail
- Unpaved Local Trail
- Motorized Trail
- Existing Grade-Separated Crossing

Waterfront Buffer Overlay – Conflicting Priorities

19.25.01. Purpose and Applicability.

1. **Purpose.** This chapter promotes the health, safety, and general welfare of the public by enhancing the natural features of the City including Utah Lake and Jordan River, preserving trail connections and corridors, enhancing the pedestrian experience, and articulating building facades within the buffer area of Utah Lake and Jordan River.

Lehi's 10' asphalt trail system leaves the riverbank nearly 0.5 miles upstream from our site's northern border. It extends out to 400 E and then follows 400 E south to Saratoga Springs' border.



Our Proposal – **For Trail Connectivity**



A matching hard-surface trail, via 400 E to link with Lehi's pedestrian bridge, in order to preserve the connection for bikers, runners, rollerbladers, etc. to the Greater Jordan River Trail System.





Our Proposal – **For Waterfront Activation**

Activate the riverbank with a soft-surface trail open to the public, which is more fitting for the surrounding landscaping, pergolas, firepits, BBQs, etc.















Miscellaneous

Parking Requirements & Counts

East Parking Required		
Residential	126	(84 covered)
Professional Office	34	
Hotel	40	
Restaurant	25	
Total	**225**	
Provided	259	115%

West Parking Required		
Residential	83	(46 covered)
Commercial	23	
C-store	23	
Restaurant	48	
Total	**177**	
Provided	190	108%



Eastern Building(s) Viewed from West



Western Building, Viewed from Southeast



Western Building, Viewed from Southwest



Full Site, Viewed from the Southwest



Full Site, Viewed from the East



Dairy Queen Restaurant - Shell Oil Station & Convenience Store



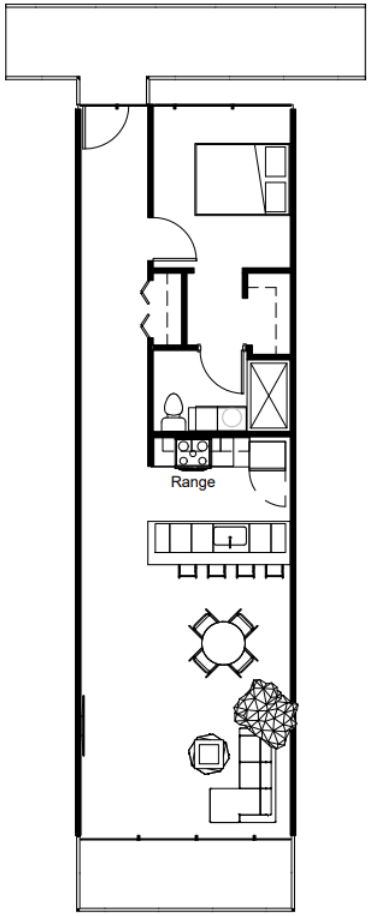




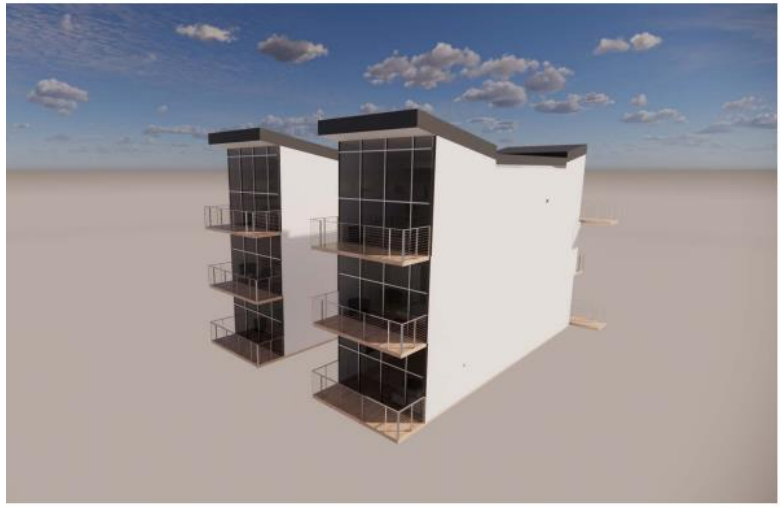


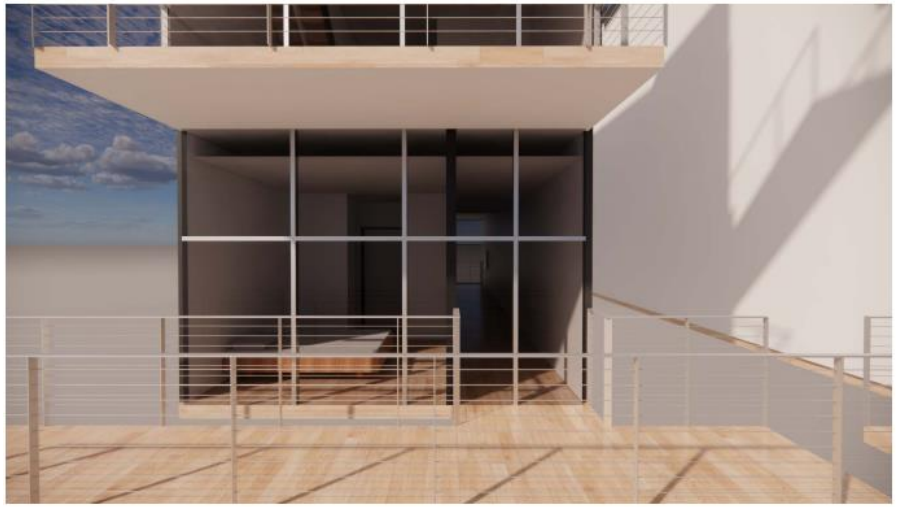
Appendix

BEDROOM FLAT 700 SQFT

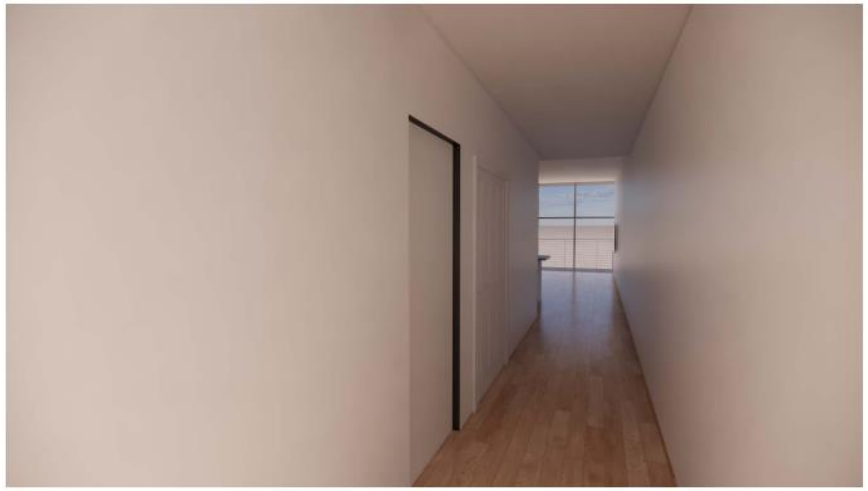


SECOND FLOOR





BEDROOM FLAT 700 SQFT

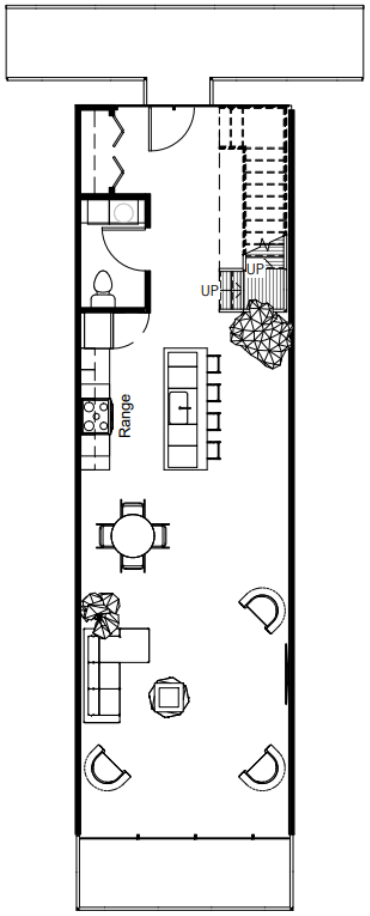




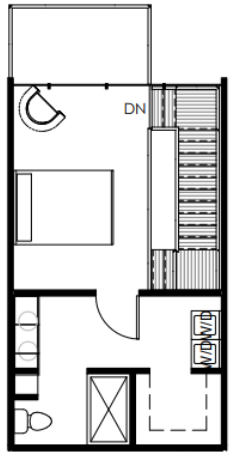




1-BEDROOM LOFT LOWER 1,050 SQFT



SECOND FLOOR

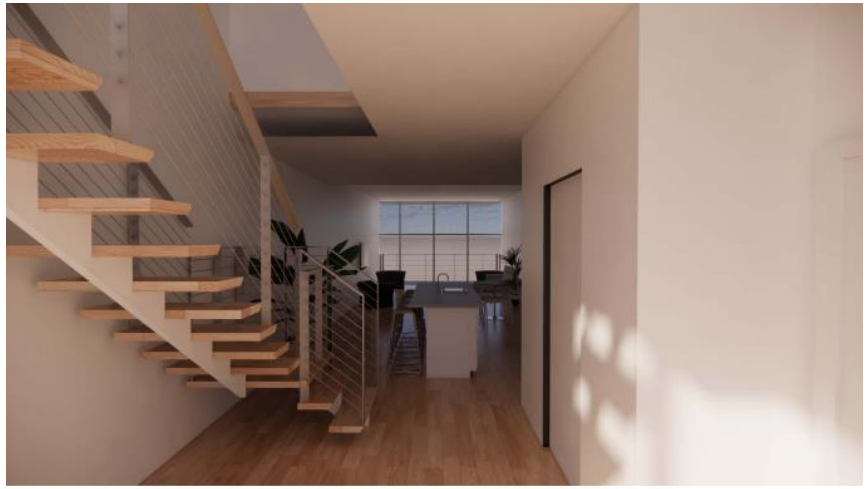


THIRD FLOOR





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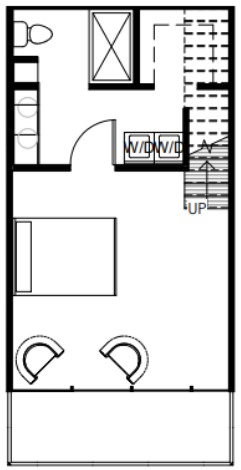




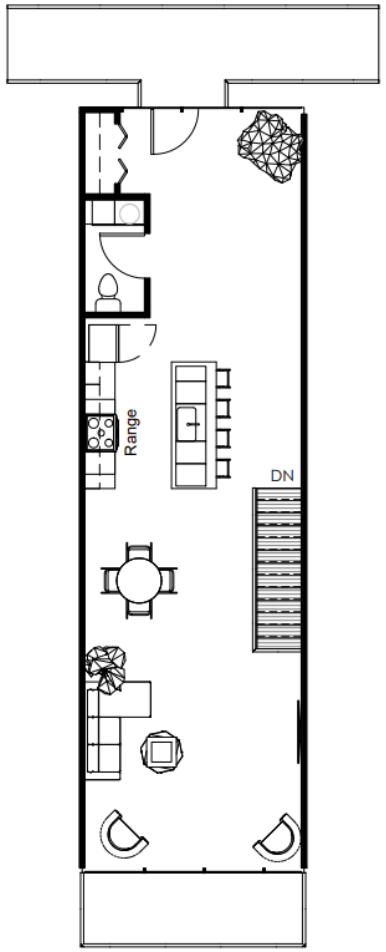




1-BEDROOM LOFT UPPER 1,050 SQFT



THIRD FLOOR



FOURTH FLOOR





1-BEDROOM LOFT UPPER 1,050 SQFT

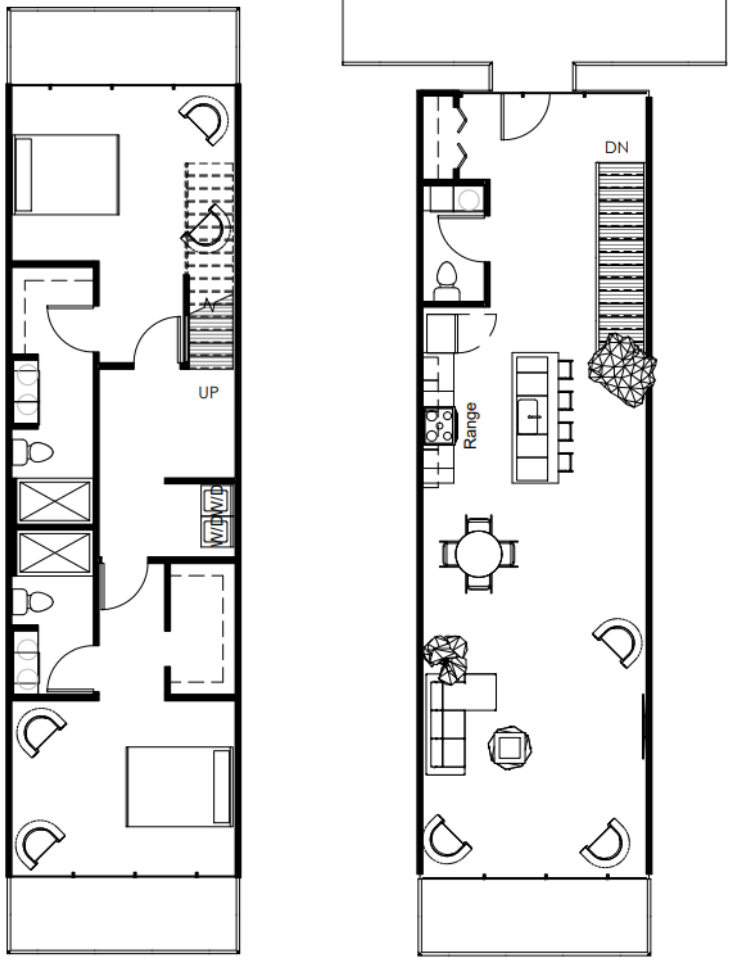








2-BEDROOM FLAT 1,400 SQFT



THIRD FLOOR

FOURTH FLOOR





2-BEDROOM FLAT 1,400 SQFT









Waterfront Buffer Overlay – Shoreline Trails

19.25.03. Utah Lake and Jordan River Shoreline Trails.

1. All developments whose projects are next to, adjacent to, or abutting, or include Utah Lake or the Jordan River shall provide an improved pedestrian shoreline trail throughout the length of the project.
   - ✔ a. The shoreline trail shall at all times be accessible to the public.
   - ✔ b. The developer will work with the City, and any state or federal agency whose approval is necessary, in order to determine the exact location of the shoreline trail.
   - ✔ c. The developer shall construct the shoreline trail as close to the waterway as reasonably possible in order for the public to enjoy the diverse ecosystem and natural resources of the area.
   - ✔ d. The trail shall be hard surfaced and shall be a minimum of twelve feet in width.

19.25.04 Public Access and Parking

1. **Public access and parking:**
   - ✔ a. Developments shall provide a public access to the Shoreline or Jordan River trail
   - b. Developments shall provide public parking for bicycles and shall permit a portion of their motor vehicle parking to be available to the public in non-residential areas.



SARATOGA SPRINGS PLANNING

CITY COUNCIL
Staff Report

Discussion Item
Internal Accessory Dwelling Units – Map Amendments
June 7, 2022

Report Date:	May 31, 2022
Applicant:	City Initiated
Previous Meeting:	None
Land Use Authority:	City Council
Previous Meeting:	City Council on May 3, 2022
Author:	Ken R. Young, AICP, Community Development Director

Background

On May 3, 2022, the City Council approved an amendment to the IADU code, including provisions for the process for amending the map of approved and prohibited areas. Since then, a petition has been filed with residents in the Starhaven Estates neighborhood, with signatures representing 66% of the total owners in this platted neighborhood, which contains a total of 6 lots (see attached). Their request it to have their neighborhood shown on the map as IADU permitted.

In beginning the review of this petition and the process dictated by code, a few questions arose, for which staff would like Council direction.

1. Should an IADU Map petition be processed the same as a code amendment or zone change, or should a simpler, separate process be determined?
    a. Should we notice neighbors within 300' of the area boundaries of the neighborhood(s) petitioning a map change?
    b. Does a public hearing need to be held?
2. What is an appropriate fee for processing a petition/application for such a request?

City Code

As the code is written right now, in Section 19.20.04 it says, "The approved location map may be modified from time to time by the City Council in accordance with the same requirements of an ordinance amendment."

In Section 19.17.02, guidance is given for amending City Code and the City's Zoning Map, however, an IADU Map request does not appear to be a petition for a code change under this section. The fee for a

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regular Code Amendment or Zone Change is $3,500. We are concerned that this amount may be excessive and does not represent a proportionate amount to cover the effort of bringing forward a petition for an IADU Map change.

Discussing this ambiguity with the Legal Department, it was recommended that we cannot presently charge a fee for the Starhaven Estates IADU map change request since a code ambiguity must be resolved in favor of the developer (i.e. applicant).

Staff is proposing to bring forward a code amendment to address these issues.

Starhaven Estates Petition

Prior to amending the code and establishing a fee, we need to address the submitted Starhaven petition. Since this is considered to be a land use regulation change, by state law it should go to both the Planning Commission and City Council for review and approval.

We have scheduled it to be reviewed first by the Planning Commission at their next meeting on June 9th, and then for approval by City Council on June 21st.

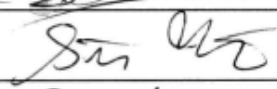
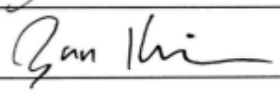
Recommendation

Review the questions/issues addressed above, discuss and give direction to staff for potential appropriate code amendments and fees.

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Petition to allow IADUs in the Starhaven Estates Neighborhood

Petition summary and background	The Saratoga Springs UTAH Land Development Code Title 19, Part 20 (19.20) currently prohibits IADUs in the Starhaven Estates neighborhood. The code allows for an amendment to the neighborhood map of code 19.20 with at least sixty-six percent (66%) of the home owners in the neighborhood in support of the request.
Action petitioned for	We, the undersigned, home owners of Starhaven Estates urge our leaders to amend the neighborhood map of code 19.20 to permit IADUs in our neighborhood.

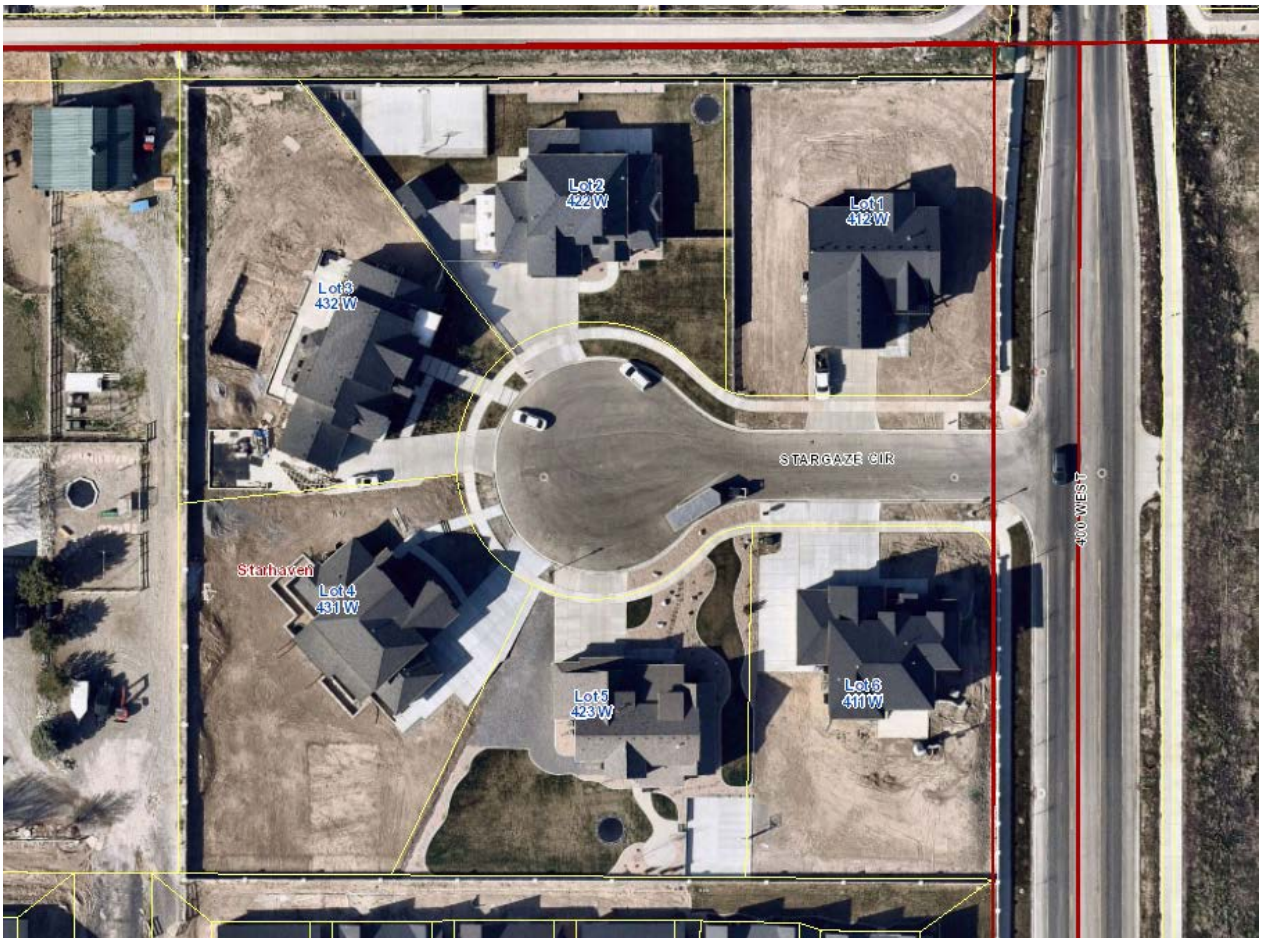
Printed Name	Signature	Address	~~Comment~~ Phone #	Date
R. Quinn Beal		431 W Stargaze Cir	801-971-0396	5/20/22
Troy Perry		423 W Stargaze Cir	425-512-6282	5/20/22
Steve Heath		411 W Stargaze Ct	385-208-5745	5/20/22
Ryan Knight		422 w. Stargaze cir	801-372-5584	5/21/22

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Starhaven Estates



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SARATOGA SPRINGS

TRANSPORTATION MASTER PLAN

2022



CITY OF SARATOGA SPRINGS

avenue CONSULTANTS

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1 executive summary



Saratoga Springs was incorporated in December of 1997 and became a city in 2001. Since its inception, Saratoga Springs has experienced continuous rapid growth and is now home to well over 30,000 residents, close to doubling its 2010 US Census population of 17,781 just a decade ago.

In 2020, new developments of residential roads and homes can be seen across the city, and large businesses like Costco are being constructed to meet the demand for this rapidly growing population. The City's location, on the western edge of the Wasatch Front and nestled along Utah Lake, is attractive to its current and future residents and offers a feeling of getting away from the hustle and bustle that exists along the eastern side of the central valley and the I-15 Corridor.

For Saratoga Springs to continue to provide an atmosphere that retains a bucolic feel, its transportation system must be designed to handle the demand for mobility placed upon it. At its core, mobility and transportation is about moving people and goods. But, what makes a truly resilient transportation network, one which can meet the demand of its users, is ***access*** and ***choice***. This Transportation Master Plan (TMP) looks at Saratoga Springs' projected growth combined with the city's unique geography to determine what is needed to ensure residents continue to have both access to their origins and destinations and choice of how to get there.

This TMP provides a recommended project list as guidance for officials and residents as the City plans for growth. Each new development brings more residents and traffic, while available land for the transportation network becomes more finite. Recommendations from this TMP are derived from traffic modeling and analysis out to 2050 that have incorporated specific opportunities and challenges unique to Saratoga Springs to help ensure that the occurring growth is predicated by prudent and throughly-informed decisions.

Figure 1-1 is map of the recommended transportation improvements with details in Table 1-1. Intersection improvements are mapped in Figure 1-2 and listed in Table 1-2.

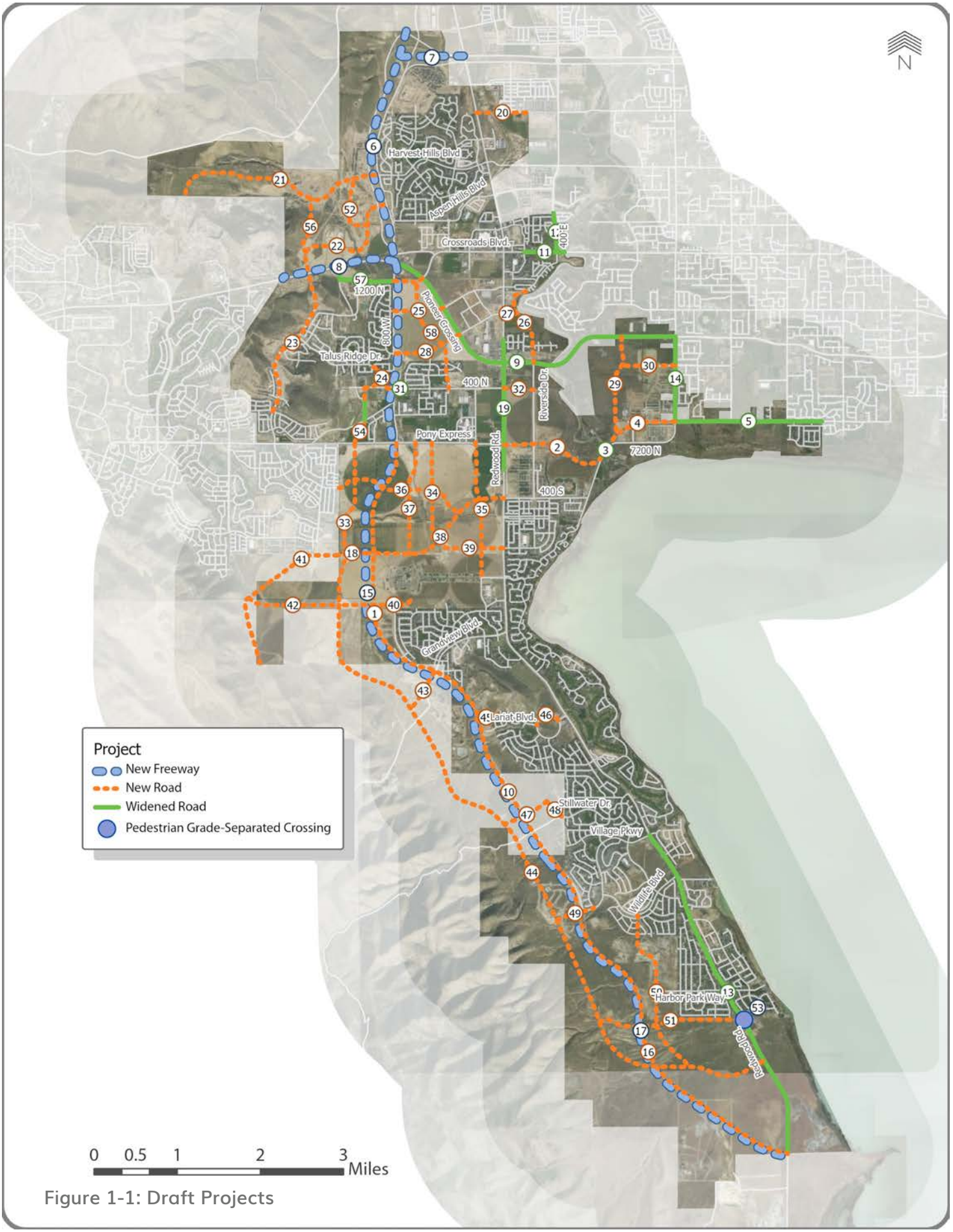


Figure 1-1: Draft Projects

Table 1-1: Roadway Projects

ROADWAY PROJECT				
Project #	Location	Project Type	Functional Class	Jurisdiction
1	Foothill Boulevard: Pony Express to Lariat Boulevard	New Road	Minor Arterial	Saratoga Springs/MAG
2	Pony Express: Redwood Road to Jordan River	New Road	Major Arterial	Saratoga Springs/MAG
3	Pony Express: Jordan River	Widening	Major Arterial	Saratoga Springs/MAG
4	Pony Express: Jordan River to Saratoga Road	New Road	Major Arterial	Saratoga Springs/MAG
5	Pony Express: Saratoga Road to Eastern City Boundary	Widening	Major Arterial	Saratoga Springs/MAG
6	Mountain View Corridor: Northern City Border to Cedar Fort Road (SR-73)	New Road	Freeway	UDOT
7	2100 North Connection: Eastern City Border to Mountain View Corridor	New Road	Freeway	UDOT
8	Cedar Fort Road (SR-73) Freeway: Mountain View Corridor Frontage to Western City Border	Widening	Freeway	UDOT
9	Pioneer Crossing (SR-145): Eastern City Border to Cedar Fort Road (SR-73)	Widening	Principal Arterial	UDOT
10	Foothill Boulevard: Lariat Boulevard to Hunter Boulevard	New Road	Minor Arterial	Saratoga Springs/MAG
11	Crossroads Boulevard: Commerce Drive to Eastern City Border	Widening	Principal Arterial	Saratoga Springs/MAG
12	400 East: Crossroads Boulevard to Northern City Boundary	Widening	Major Arterial	Saratoga Springs/MAG
13	Redwood Road (SR-68): Fairview Boulevard to Southern City Border	Widening	Major Arterial	UDOT
14	Saratoga Road: Pony Express to Pioneer Crossing (SR-175) (Saratoga Springs Portion)	Widening	Minor Arterial	Saratoga Springs
15	Foothill Freeway: Cedar Fort Freeway (SR-73) to Stillwater Drive	New Road	Freeway	UDOT
16	Foothill Boulevard: Hunter Boulevard to Redwood Road	New Road	Freeway	Saratoga Springs/MAG
17	Foothill Freeway: Stillwater Drive to Redwood Road	New Road	Freeway	UDOT
18	Hidden Valley Highway: Foothill Boulevard to Western City Border	New Road	Major Arterial	Saratoga Springs/MAG
19	Redwood Road (SR-68): North Border to Grandview Boulevard	Widening	Principal Arterial	UDOT
20	2400 North: Redwood Road (SR-68) Eastern Border	New Road	Collector	Saratoga Springs
21	Wild Hills Boulevard: Western City Boundary to Mountain View Corridor	New Road	Minor Arterial/Collector	Saratoga Springs
22	Aster Drive: Cedar Fort Road (SR-73) to Mountain View Corridor	New Road	Collector	Saratoga Springs/MAG
23	Mt. Saratoga Boulevard: Cedar Fort Road (SR-73) to Quail Hill Road	New Road	Collector	Saratoga Springs
24	Talus Ridge Drive: Mountain Peak Drive to 400 North	New Road	Collector	Saratoga Springs
25	Medical Drive: Foothill Boulevard to Pioneer Crossing	New Road	Collector	Saratoga Springs
26	Riverside Drive: End of Existing to Pioneer Crossing	New Road	Collector	Saratoga Springs
27	Market Street: Redwood Road (SR-68) to Riverside Drive	New Road	Collector	Saratoga Springs
28	Market Street: Foothill Boulevard to Pioneer Crossing	New Road	Collector	Saratoga Springs
29	500 East: Pony Express to Pioneer Crossing (SR-175)	New Road	Collector	Saratoga Springs
30	550 North: 500 East to Saratoga Road	New Road	Collector	Saratoga Springs
31	400 North: Foothill Boulevard and Grand Sierra Way	New Road	Collector	Saratoga Springs
32	400 North: Redwood Road (SR-68) to Riverside Drive	New Road	Collector	Saratoga Springs
33	Bonneville Drive: Pony Express Pkwy to 1200 South	New Road	Collector	Saratoga Springs
34	500 West: Pony Express to Hidden Valley Drive	New Road	Collector	Saratoga Springs
35	200 West: Pony Express to Founders Boulevard	New Road	Collector	Saratoga Springs
36	Brookwood Drive: Western Boundary to Hidden Valley Driv	New Road	Collector	Saratoga Springs
37	600 West: Brookwood Drive to Hidden Valley Driv	New Road	Collector	Saratoga Springs
38	Hidden Valley Drive: Redwood Road to Foothill Boulevard	New Road	Collector	Saratoga Springs
39	New Road: Redwood Road to Hidden Valley Drive	New Road	Collector	Saratoga Springs
40	1100 South: Ensign Drive to Bonneville Drive	New Road	Collector	Saratoga Springs
41	Hidden Valley Drive: City Boundary to City Boundary	New Road	Minor Arterial	Eagle Mt./MAG
42	1100 South: Hidden Valley Drive to Bonneville Drive	New Road	Collector	Saratoga Springs
43	Grandview Boulevard: Existing to Bonneville Drive	New Road	Collector	Saratoga Springs
44	Bonneville Drive: 1100 South to Redwood Road (SR-68)	New Road	Collector	Saratoga Springs
45	Lariat Blvd: End of Existing to Foothill Boulevard	New Road	Local Collector	Saratoga Springs
46	Ring Road: Finish Loop Roadway	New Road	Local Collector	Saratoga Springs
47	Hunter Drive: Stillwater Drive to Bonneville Drive	New Road	Collector	Saratoga Springs
48	Stillwater Drive: Existing to Hunter Drive	New Road	Collector	Saratoga Springs
49	Village Parkway: Tytus Lane to Bonneville Drive	Widening	Collector	Saratoga Springs
50	Heathercrest Drive: Bonneville Drive to Wildlife Boulevard	New Road	Collector	Saratoga Springs
51	New Road: Redwood Road to Foothill Boulevard	New Road	Collector	Saratoga Springs
52	Chianti Drive: Aster Drive to Wild Blossom Boulevard	New Road	Collector	Saratoga Springs
53	Redwood Road at Approx. 4300 South	Pedestrian Grade-Separated Crossing	NA	TIF Active / Alpine School District
54	1000 West: 400 North to Evans Lane	New Road/Widening	Collector	Saratoga Springs
55	Evans Lane: 1000 West to Talus Ridge Drive	New Road	Collector	Saratoga Springs
56	New Road: Aster Drive to Wild Blossom Boulevard	New Road	Collector	Saratoga Springs
57	1200 North: Cedar Fort Road (SR-73) to Carlton Avenue	New Road/Widening	Collector	Saratoga Springs
58	Carlton Avenue: Pioneer Crossing to Market Street	New Road	Collector	Saratoga Springs

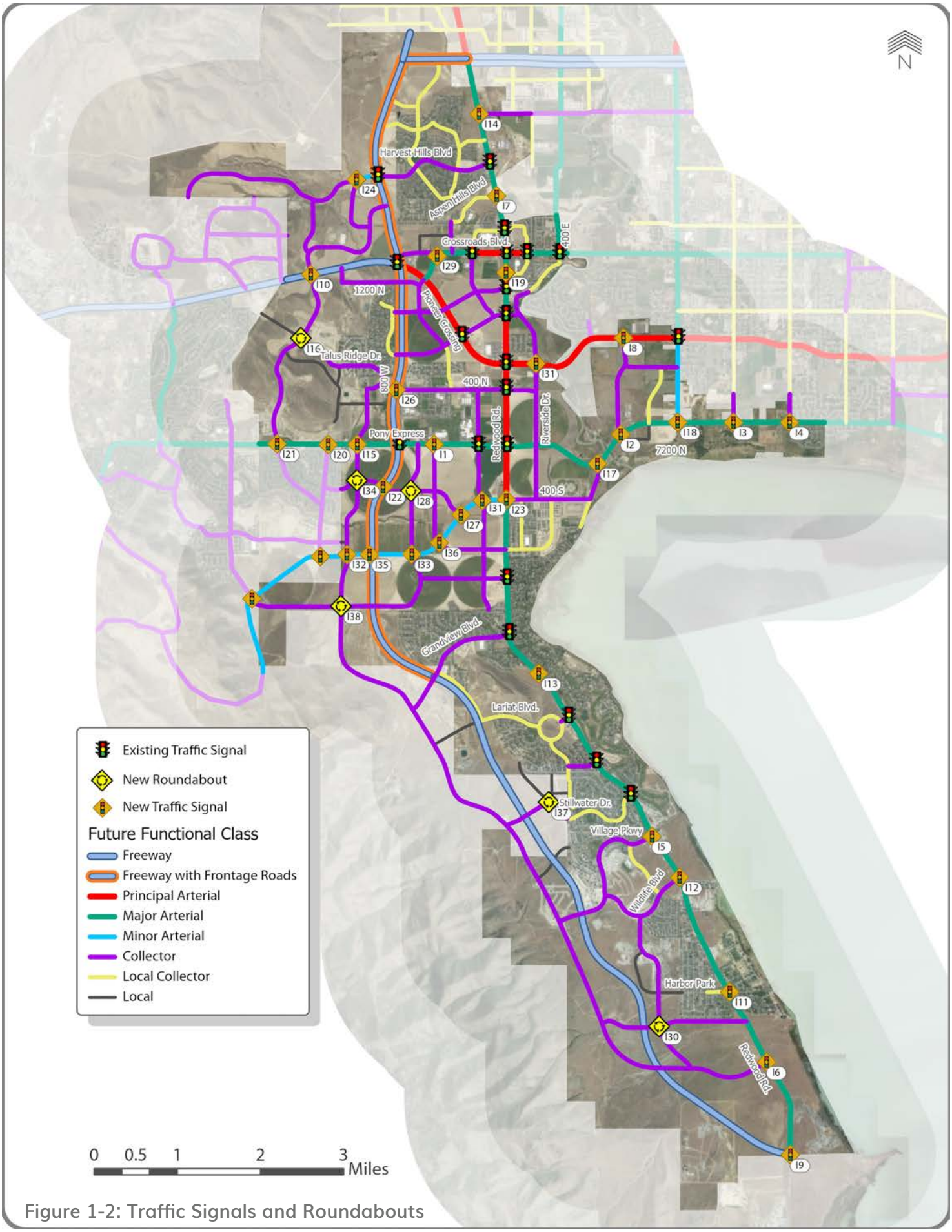


Figure 1-2: Traffic Signals and Roundabouts

Table 1-2: Signals & Roundabout Projects

SIGNALS & ROUNDABOUTS			
Project #	**Type**	**Location**	**Jurisdiction**
I1	New Traffic Signal	Pony Express Parkway and 600 West	UDOT
I2	New Traffic Signal	Pony Express Parkway and Saratoga Road	UDOT
I3	New Traffic Signal	Pony Express Parkway and 1700 West	UDOT
I4	New Traffic Signal	Pony Express Parkway and 1100 West	UDOT
I5	New Traffic Signal	Redwood Road (SR-68) and Village Parkway	UDOT
I6	New Traffic Signal	Redwood Road (SR-68) and Bonneville Drive	UDOT
I7	New Traffic Signal	Aspen Hills Boulevard and Redwood Road (SR-68)	UDOT
I8	New Traffic Signal	Pioneer Crossing (SR-145) and 500 East	UDOT
I9	New Traffic Signal	Redwood Road (SR-68) and Foothill Boulevard	UDOT
I10	New Traffic Signal	SR-73 and Mt. Saratoga Boulevard	UDOT
I11	New Traffic Signal	Redwood Road (SR-68) and Harbor Parkway	UDOT
I12	New Traffic Signal	Redwood Road (SR-68) and Wildlife Boulevard	UDOT
I13	New Traffic Signal	Redwood Road (SR-68) and Centennial Boulevard	UDOT
I14	New Traffic Signal	Redwood Road (SR-68) and 2400 North	UDOT
I15	New Traffic Signal	Pony Express Parkway and Bonneville Drive	UDOT
I16	New Roundabout	Talus Ridge Drive and Mount Saratoga Boulevard	Saratoga Springs
I17	New Traffic Signal	Pony Express Parkway and Saratoga Rd	UDOT
I18	New Traffic Signal	Pony Express and Saratoga Road	Saratoga Springs
I19	New Traffic Signal	Redwood Road (SR-68) and South Commerce Drive*	UDOT
I20	New Traffic Signal	Woodhaven Boulevard and Pony Express	UDOT
I21	New Traffic Signal	Pony Express and Mount Saratoga Bld	UDOT
I22	New Traffic Signal	Foothill Boulevard and Brookwood Drive	Saratoga Springs
I23	New Traffic Signal	Redwood Road (SR-68) and 400 South	UDOT
I24	New Traffic Signal	Wild Blossom Boulevard and Chianti St	Saratoga Springs
I26	New Traffic Signal	Foothill Boulevard and 400 North	Saratoga Springs
I27	New Traffic Signal	400 South and Brookwood Drive	Saratoga Springs
I28	New Roundabout	Brookwood Drive and 600 West	Saratoga Springs
I29	New Traffic Signal	Crossroads Boulevard and 1400 North	Saratoga Springs
I30	New Roundabout	Heathercrest Drive and 4400 South	Saratoga Springs
I31	New Traffic Signal	Riverside Drive and Pioneer Crossing (SR-145)	UDOT
I31	New Traffic Signal	400 South and Thunder Boulevard	Saratoga Springs
I32	New Traffic Signal	800 South and Bonneville Drive	Saratoga Springs
I33	New Traffic Signal	800 South and Ensign Drive	Saratoga Springs
I34	New Traffic Signal	Bonneville Drive and Brookwood Drive	Saratoga Springs
I35	New Traffic Signal	Foothill Boulevard and 800 South	Saratoga Springs
I36	New Traffic Signal	800 South and 600 West	Saratoga Springs
I37	New Roundabout	Hunter Drive and New Road	Saratoga Springs
I38	New Traffic Signal	Bonneville Drive and Ensign Drive	Saratoga Springs

* Until the Foothill Freeway is connected to Grandview Boulevard or points south only one of these intersections will be signalized.

2 where we are



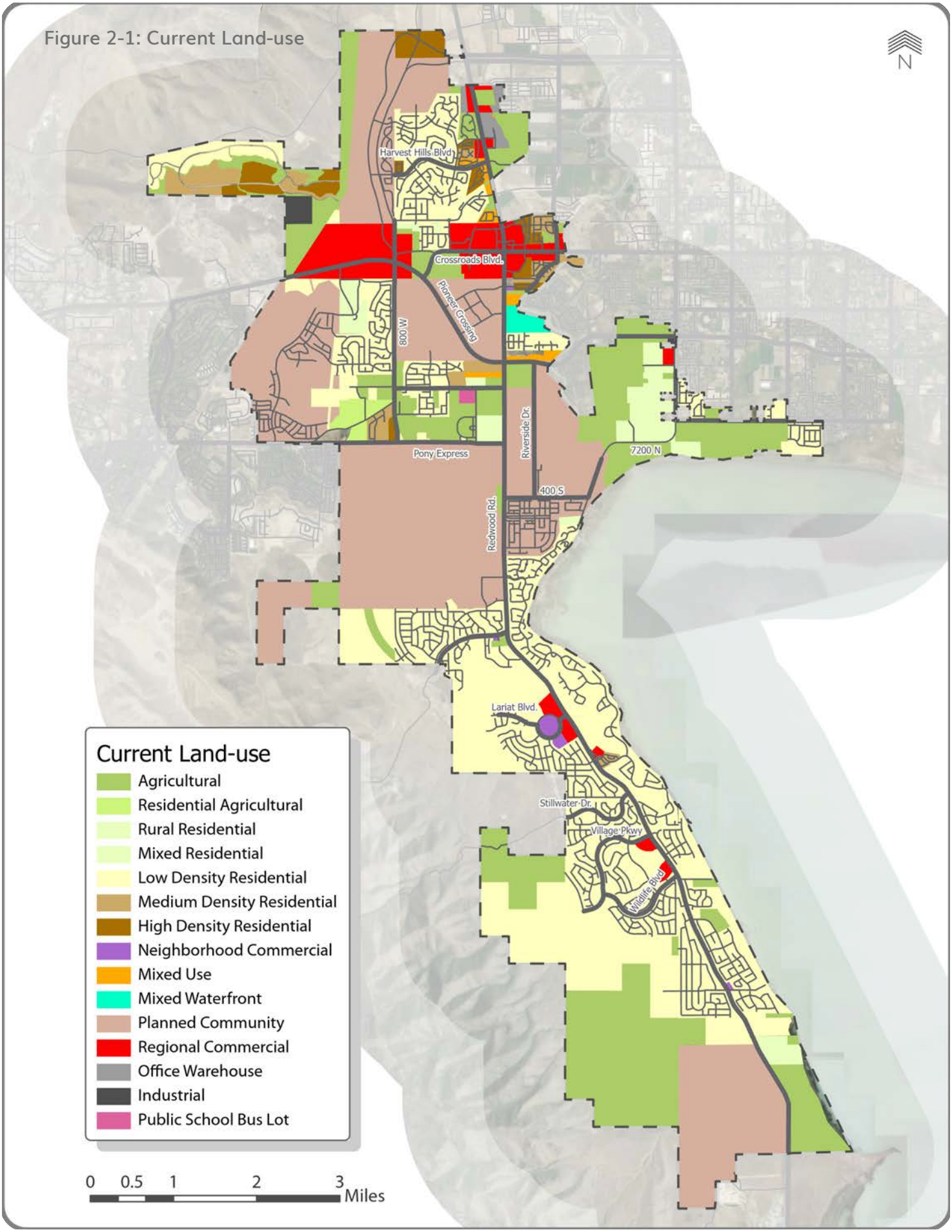
This chapter evaluates the existing transportation system within Saratoga Springs and establishes the framework for the development of the TMP. This analysis includes a description of the land-use as well as the demographics of Saratoga Springs and how these factors affect the transportation system within the city. This chapter details the existing conditions as of 2020.

ZONING AND LAND-USE

In order to analyze the transportation system and plan for future growth, it is essential to understand zoning and land-use patterns within the area. Travel is a daily requirement for most of the public as people travel from their homes to work, shopping, schools, health care facilities, and recreational opportunities. Zoning and land-use patterns must function cohesively with the transportation system to support a high quality of life and promote economic development within Saratoga Springs.

Saratoga Springs zoning is mostly residential, and currently there are many more households than jobs. This is consistent with the General Plan that encourages single-family-residential as the predominant housing type. This zoning and land-use pattern is consistent with other communities in northern Utah County. While Saratoga Springs is largely zoned for single-family residential, there are several areas of regional commercial zoning along Redwood Road, with a major commercial area located near the intersection of Crossroads Boulevard. Large areas are also zoned for planned communities which allow for a mixture of land-uses and housing types on properties of more than 500 acres. The existing land-use within Saratoga Springs is shown in Figure 2-1.

Figure 2-1: Current Land-use

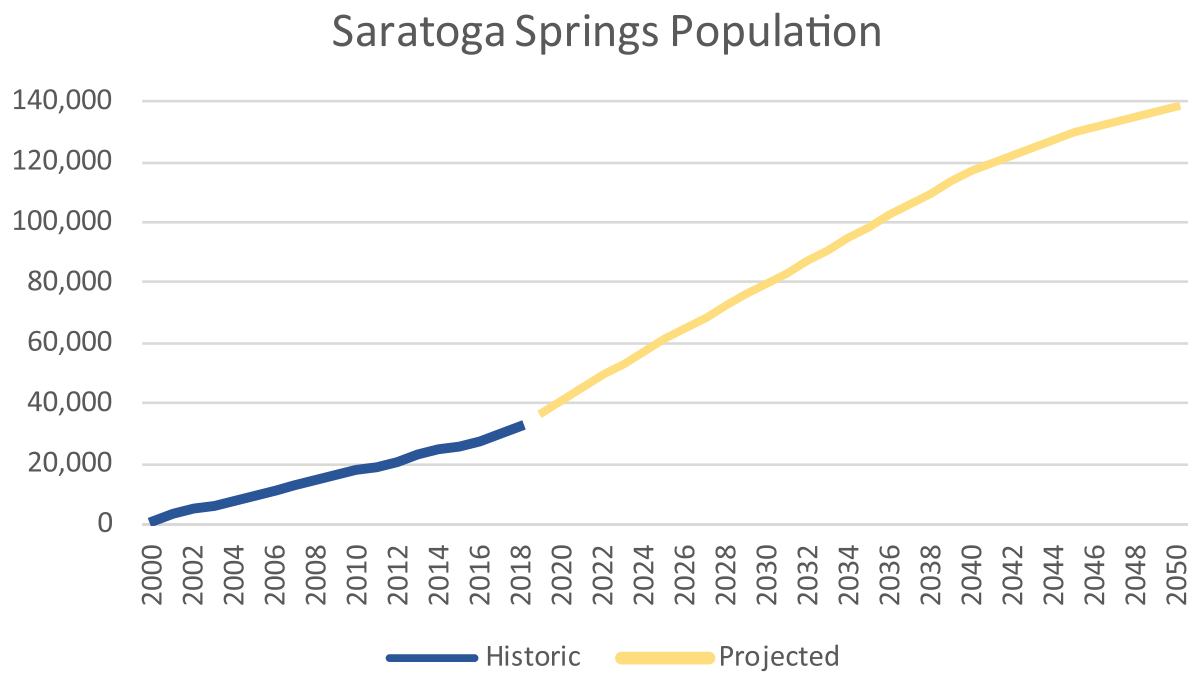


DEMOGRAPHICS

Population

Saratoga Springs experienced significant population growth over the last several decades, with the population increasing from just over 1,000 people in 2000 to an estimated 27,247 residents in 2018. This represents more than a 3100 percent increase in population which has transformed the character of Saratoga Springs from a rural community to a suburban city. This trend is expected to continue encouraged by current zoning and land-use policy as illustrated in Figure 2-2. Steady population growth is anticipated into the future with a projected population of more than 130,000 people by year 2050.

Figure 2-2: Historic and Future Population



Source: US Census Bureau, Population Estimates Program, Kem C. Gardner Policy Institute



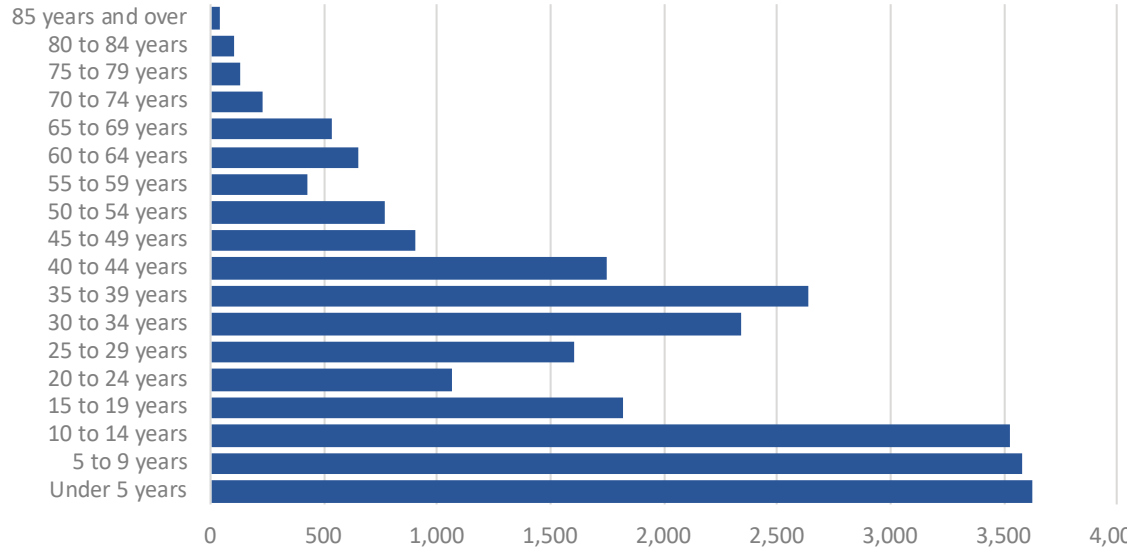
New homes rise up and closer to Redwood Road in Saratoga Springs. Residential-zoned areas are being filled in quickly as the City's population rises.

City Population and Housing Estimates

The age of residents also impacts how they interact with the transportation system. Saratoga Springs has a relatively high population of children with 41 percent of the population under 15. The transportation needs of these younger residents are different than other age-groups, because they are reliant on others for car-related mobility. These young residents may also require additional bike, pedestrian, and trail amenities to feel comfortable biking or walking.

While there are fewer residents in older population groups (4 percent over 65), the mobility needs of these residents will continue to expand as the population grows and ages. As with younger-population-age groups, the transportation system should support mobility options for residents that may chose not to drive or be unable to drive.

Figure 2-3: Population Age Distribution



Source: US Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Housing

Although population is an important indicator in developing a TMP, housing provides a broader picture of how residential growth will affect transportation demand. The number of trips on the transportation network is estimated largely on the number and size of households. Table 2-1 summarizes the household sizes in Saratoga Springs since 2000. In 2018 the average household size in Saratoga Springs was 4.19 persons per household, which is higher than the statewide average of 3.19 persons per household. In general, larger households make more trips than smaller households, so they have a comparatively-larger impact on the transportation system.

Table 2-1: Population and Households

YEAR	POPULATION	HOUSEHOLDS	AVG. HOUSEHOLD SIZE
2018	27,347	6,516	4.19
2010	14,692	3,624	4.05
2000	1,003	301	3.33

Source: US Census Bureau, American Community Survey 5 year estimates for 2018 & 2010, Kem C. Gardener Policy Institute for 2000

While 2018 is the most up-to-date year that the US Census provides household data, the Saratoga Springs Building Department maintains a more current online "Residential Units Dashboard" for the city. At the time of writing this there are 7,906 occupied housing units in Saratoga Springs. This dashboard is a valuable resource for understanding current conditions in this rapidly growing municipality. This data can be viewed at: https://ssgis.maps.arcgis.com/apps/opsdashboard/index.html#/5bce1949b0c24f64a94d843a8ee05647

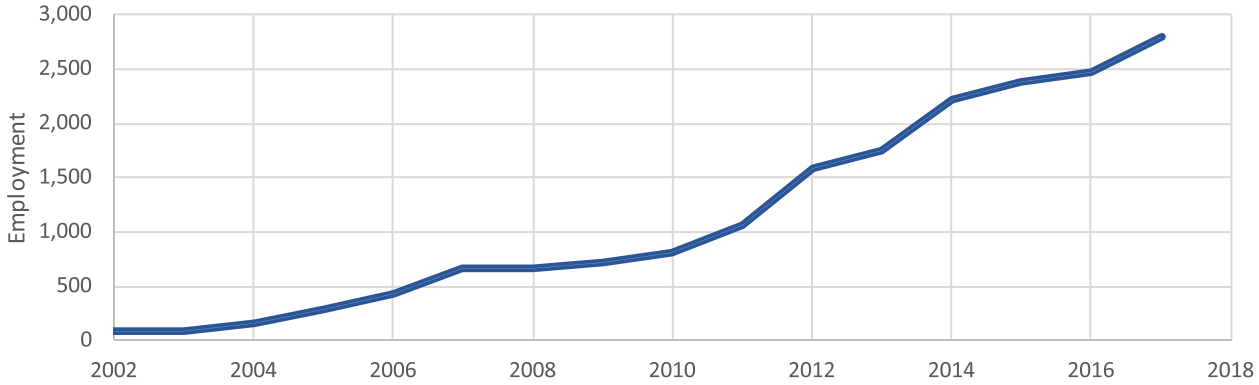


Housing in Saratoga Springs comes in all types and accommodates all ages.

Employment

There were approximately 2,800 jobs within Saratoga Springs in 2017, which is the most up-to-date data available from the US Census Bureau Center for Economic Studies. Since 2002, about 2,700 jobs have been added within the city representing an increase of over 3400 percent. This job growths reflects the continued development of the city to a more-suburban environment with increased employment opportunities within the community.

Figure 2-4: Total Jobs within Saratoga Springs



Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2017).

The largest employers within Saratoga Springs are Walmart, Smith Marketplace, and as of the summer of 2020, Costco, all of which are located off Redwood Road. While these retailers are the largest individual employers, education services are the largest industry sector within city. Table 2-2 lists top employers. Schools are three of the six largest employers within the city.

Table 2- 2: Largest Employers in Saratoga Springs

NAME	EMPLOYEES
Smith's Marketplace	250 - 499
Walmart Supercenter	250 - 499
Costco	250 - 499
Lakeview Academy of Science	100 - 249
Saratoga Springs City	100 - 249
Vista Heights Middle School	100 - 249
Westlake High School	100 - 249
Fat Cats	50 - 99

Source: FirmFind,
Department of WorkForce Services, State of Utah.

Smiths Marketplace, at the intersection of Redwood Road and Pioneer Crossing is a major employer in Saratoga Springs.

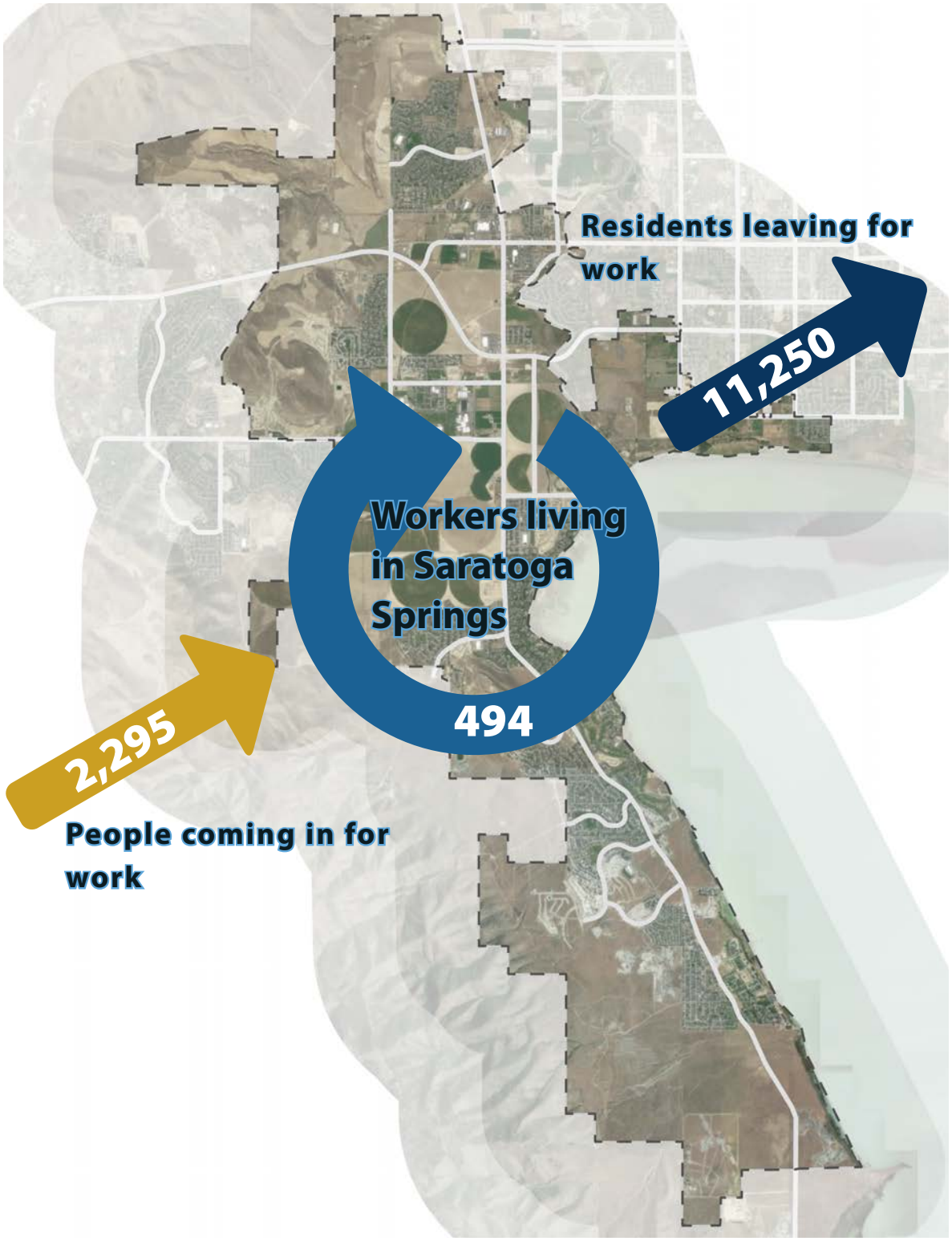




Costco opened in August of 2020 and was constructed on a vacant field along Redwood Road. In the background is FatCats, an entertainment center in Saratoga Springs that offers bowling and movies.

Although employment within Saratoga Springs has increased recently, there are still more residents who live within the city, but are employed elsewhere. There were approximately 11,250 residents who commuted to a job outside of the city in 2017, while only 2,295 people commuted to Saratoga Springs from another community for work. There were about 494 residents who both lived and worked within the city. These existing commuting patterns help the City make informed decisions about transportation investments because people commuting into and out of Saratoga Springs for work have a greater impact on transportation system demands due to the frequency and length of their trips.

Figure 2-5: Inflow/Outflow Commuting Patterns

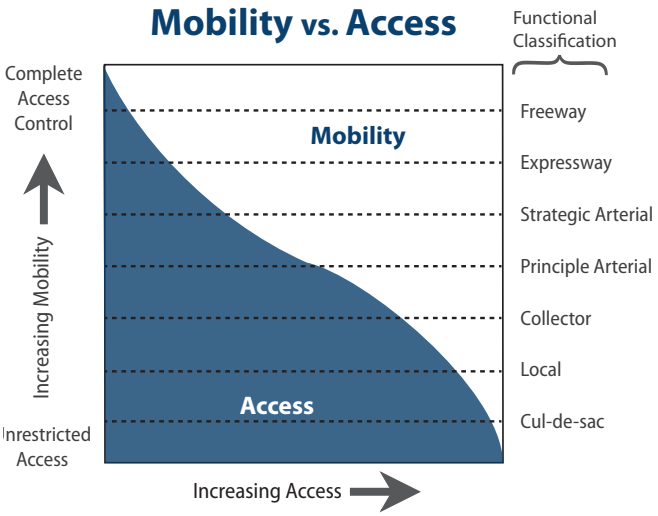


TRANSPORTATION SYSTEM

The transportation network in Saratoga Springs supports the overall community transportation vision. However, there are opportunities to modify and improve the current system to make a transportation network that more efficiently meets the needs of the future. In addition to new capacity, many of the improvements in the transportation network will involve making the system more accessible, safer, and inclusive to an array of age and mode of choice.

Street Network

Figure 2-6: Mobility vs. Access



Roadway functional classification is a means to categorize how a roadway functions and operates based upon a combination of the roadway characteristics. Streets provide for two distinct and competing functions: mobility and land access. As mobility increases, land access decreases, and vice versa, as shown in Figure 2-6. Both functions are vital, and no trip is made without both. In Saratoga Springs, street facilities are classified by the relative amounts of land-access service they provide. There are four primary classifications, with descriptions in Table 2-3 on page 14 and in the following text:

Freeways & Expressways – Freeway and expressway facilities are provided to service long distance trips between cities and states. No land access is provided by these facilities. I-15 is a freeway near Saratoga Springs, but there are currently no freeways or expressways directly located in Saratoga Springs.

Arterials – Arterial facilities are designed to serve a high level of mobility providing fast flowing through-traffic movement, but offer a low-level of land-access service. The traffic controls and facility designs are primarily intended to provide efficient through movement. Redwood Road/S.R. 68 and Pioneer Crossing are arterials in Saratoga Springs. Arterials frequently provide the most direct route from one point to another, not only for vehicles, but for pedestrians and bicyclists as well. These roads may offer wide shoulders that can accommodate buffered or separated bike lanes and also choice locations for bus stops.

Collectors – Collector facilities are intended to serve both short through-trip and land-access functions in relatively equal proportions. For longer trips requiring high mobility, such facilities are inefficient. Instead, they are used more for local trips requiring increased access to destinations. For the bicyclist or pedestrian, collectors can offer a comfortable level of safety and a number of route choices because of the balance between lower vehicle speeds and the variety of available access options to potential destinations.

Local Roads/Residential Streets – Residential facilities primarily serve land-access functions. Local road design and control measures facilitate the movement of vehicles onto and off of the street system from land parcels. Through-movement is difficult and is discouraged by both the design and control of this facility. This level of street network is likely to provide the highest level of comfort to bicyclists and pedestrians. Local roads will have the lowest speeds and be mostly absent of large vehicles. The safety and comfort of local roads is also due to a quieter environment since there are less vehicles and slower speeds, as well as being removed from roadway air pollution that is associated with higher traffic volumes.

It should be noted that roadway functional classification does not necessarily define the number of lanes required for each roadway's capacity. For instance, a collector street may have two, three, or four lanes, whereas an arterial street may have up to nine lanes for motorized traffic. The number of lanes is a function of the expected automobile traffic volume on the roadway and serves as the greatest measure of roadway capacity for vehicles. The existing functional class network in Figure 2-7 is separated into functional classes by access as well as the general right-of-way width.

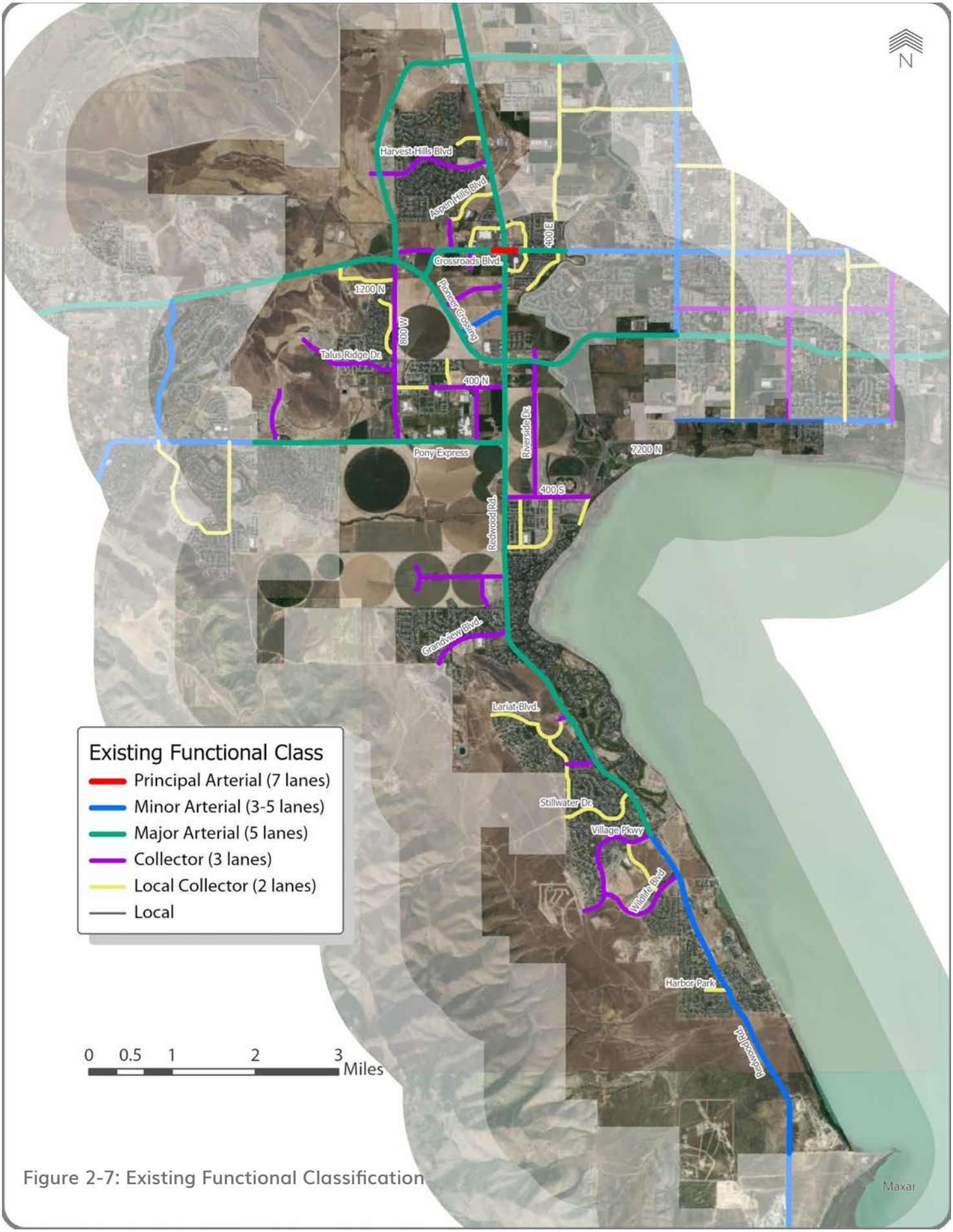


Figure 2-7: Existing Functional Classification

Table 2-3: Roadway Classification

CHARACTERISTIC	FUNCTIONAL CLASSIFICATION			
	FREEWAY & EXPRESSWAY	ARTERIAL	COLLECTOR	RESIDENTIAL STREET
Function	Traffic movement	Traffic movement, land access	Collect & distribute traffic between streets & arterials, land access	Land Access
Typical percent of Surface Street System Mileage	Not applicable	5 - 10 percent	10-20 percent	60-80 percent
Continuity	Continuous	Continuous	Continuous	None
Spacing	See City's Engineering Standards and Specifications			
Typical percent of Surface Street System Vehicle Miles Carried	Not applicable	40 - 65 percent	10-20 percent	10-25 percent
Direct Land Access	None	Limited: Major generators only	Restricted: Some movements prohibited; number & spacing of driveways controlled	Safety controls access
Minimum Roadway Intersection Spacing	See City's Engineering Standards and Specifications			
Speed Limit	See City's Engineering Standards and Specifications			
Parking	Prohibited	Discourages	Limited	Allowed
Comments	Supplements capacity of arterial street system & provides high-speed mobility	Backbone of Street System		Through traffic should be discouraged

Traffic Volume

Traffic data is typically shown as the number of vehicles per day or an average daily volume. Data collection was completed as part of the transportation plan. This included traffic data from Saratoga Springs and UDOT, as well as new traffic counts to document traffic volumes and speeds. These volume data provide the basis to calibrate the travel demand model (TDM) and to identify any capacity deficiencies that may exist today.

The highest traffic volumes in Saratoga Springs are on Redwood Road south of Pioneer Crossing. This segment of Redwood Road is a five-lane arterial with a posted speed of 50 miles per hour and is designed to move regional traffic through town. While Redwood Road experiences high traffic volumes through much of the city, this segment has average traffic volumes in excess of 38,000 vehicles/day with some individual days above 40,000 vehicles/day. In addition to Redwood Road, both SR-73 and Pioneer Crossing experience daily traffic volumes above 30,000 vehicles/day.

Level of Service

Level of Service (LOS) describes the operating performance of an intersection or roadway. LOS is measured by delay and is reported on a scale from A to F, with A representing the best performance and F the worst. For unsignalized intersections, LOS is reported based on the average vehicle delay for the worst approach. While for signalized

intersections, an overall LOS is reported for the entire intersection based on the average delay of all vehicles. Table 2-3 provides a brief explanation for each LOS and the associated average delay per vehicle for signalized intersections.

Table 2-4: Intersection Level of Service Criteria

LEVEL OF SERVICE	TRAFFIC CONDITIONS	AVERAGE DELAY (SECONDS/VEHICLE)	
		SIGNALIZED INTERSECTION	UNSIGNALIZED INTERSECTION
A	Free Flow Operations / Insignificant Delay	0 ≤ 10	0 ≤ 10
B	Smooth Operations / Short Delays	> 10 and ≤ 20	> 10 and ≤ 15
C	Stable Operations / Acceptable Delays	> 20 and ≤ 35	> 15 and ≤ 25
D	Approaching Unstable Operations / Tolerable Delays	> 35 and ≤ 55	> 25 and ≤ 35
E	Unstable Operations / Significant Delays Begin	> 55 and ≤ 80	> 35 and ≤ 50
F	Very Poor Operations / Excessive Delays Occur	>80	>50

Source: Highway Capacity Manual 2016, Transportation Research Board National Research Council, Washington D.C.

Roadway LOS is typically displayed in the relationship between the traffic volume and the roadway capacity, or a V/C ratio, where V=volume and C= capacity (this is generally presented in a number of vehicles per day as shown in Figure 2-8). Roadway LOS is a planning tool to quantitatively evaluate roadways to accommodate existing and future vehicle demand. Generally, LOS D is the planning goal for urban roadways. Some congestion occurs at LOS D, but the transportation system is assumed to be adequate (not failing) at this level. LOS D was identified as the planning goal for Saratoga Springs in the peak traffic hours, meaning that LOS E and F are unacceptable. Although LOS D is a planning goal, roadway LOS may vary on a street-by-street basis. Table 2-4 summarizes the daily maximum traffic volumes for LOS C through LOS E.

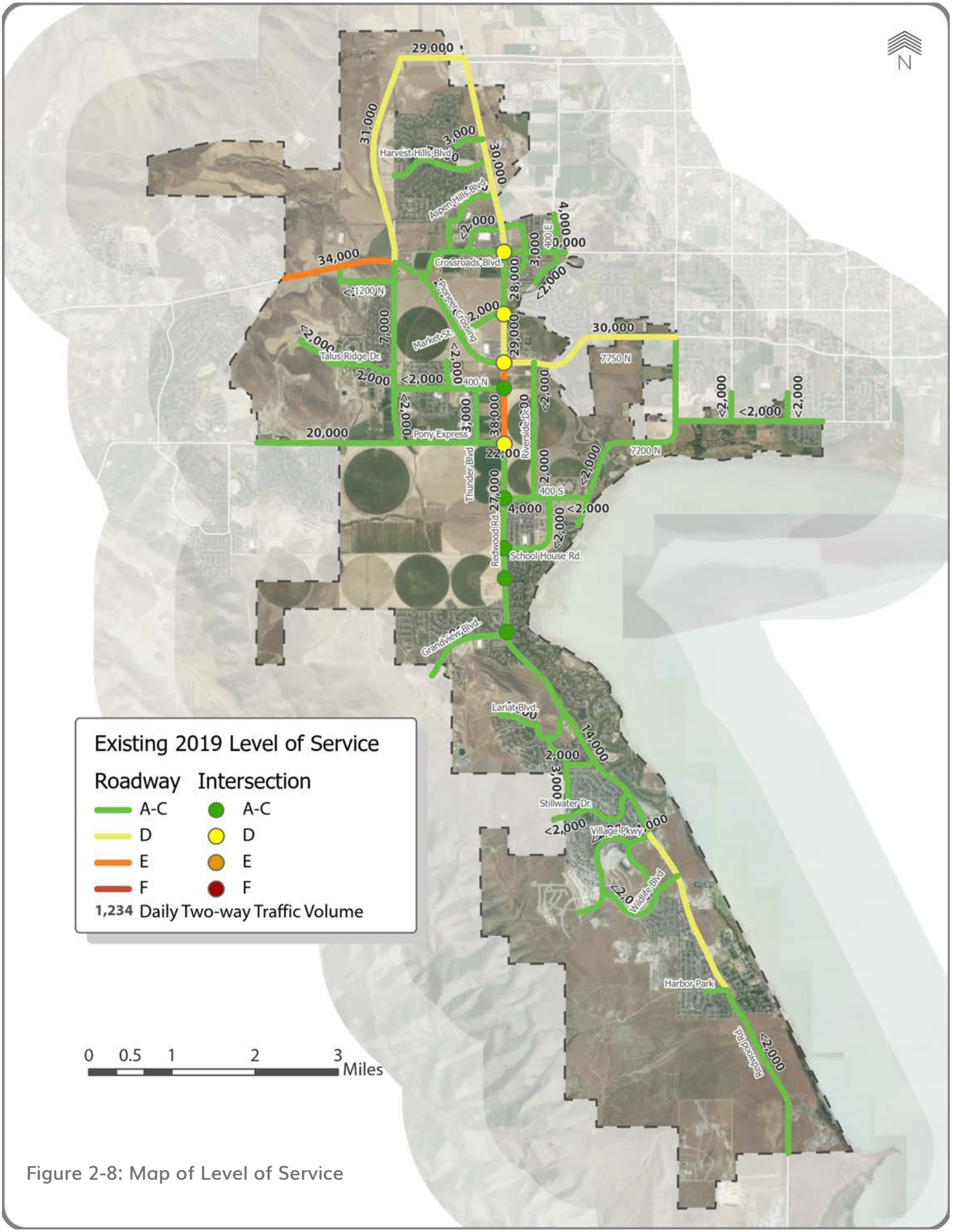


Figure 2-8: Map of Level of Service

Table 2-5: Daily Level of Service Capacity

FUNCTIONAL CLASSIFICATION	LANES	LOS C	LOS D	LOS E
Arterial	3	12,400	15,100	17,700
	5	28,500	32,800	40,300
	7	43,000	50,500	63,400
Collector	2	9,700	12,100	14,500
	3	10,800	13,400	16,100

While the TDM is used to predict future traffic and LOS, it can also be used to estimate current conditions where vehicle counts are not available. The existing functionally-classified roadway network was modeled with a 2019 base year to estimate the current LOS on these roadways. Figure 2-8 is a map that summarizes the existing traffic volumes and LOS within Saratoga Springs. Green roads have little or no traffic congestion, corresponding to LOS A, B or C, while yellow roads have peak-hour traffic congestion, and red roads have significant traffic congestion.

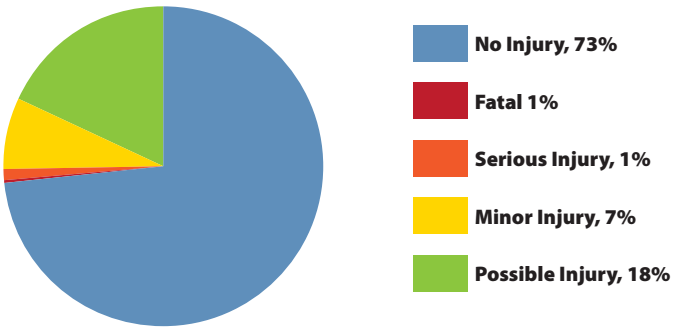
Currently, Redwood and Pioneer Crossing experience congestion during the peak hours. During these periods there can be delays and queuing at the signalized intersections along the corridor. There are minimal delays on the other roadways in Saratoga Springs.

SAFETY

Crash data from 2014 through 2018 for vehicles, bicycles, and pedestrians were analyzed for Saratoga Springs. These data were utilized to identify potential crash hotspots and high-risk areas to address the overall safety of residents.

In the past five years, there have been 1,541 reported crashes in Saratoga Springs, of these, 7 were fatal. These fatal crashes were on the major roadways through the city, including Redwood Road (3), Crossroads Boulevard (2), Pioneer Crossing (1), and Pony Express (1). These roads accounted for 70 percent of all crashes in Saratoga Springs and had the majority of the serious injury (69 percent), and minor injury (70 percent) crashes on them, as well. Figure 2-9 is a graph of crash severity and Figure 2-10 shows the location of these crashes.

Figure 2-9: Severity of Crash Chart



Source: UDOT. These data may be protected under 23 USC 409



A vehicle turns left after traffic passes by. Safety is a key factor when designing points of access to destinations.

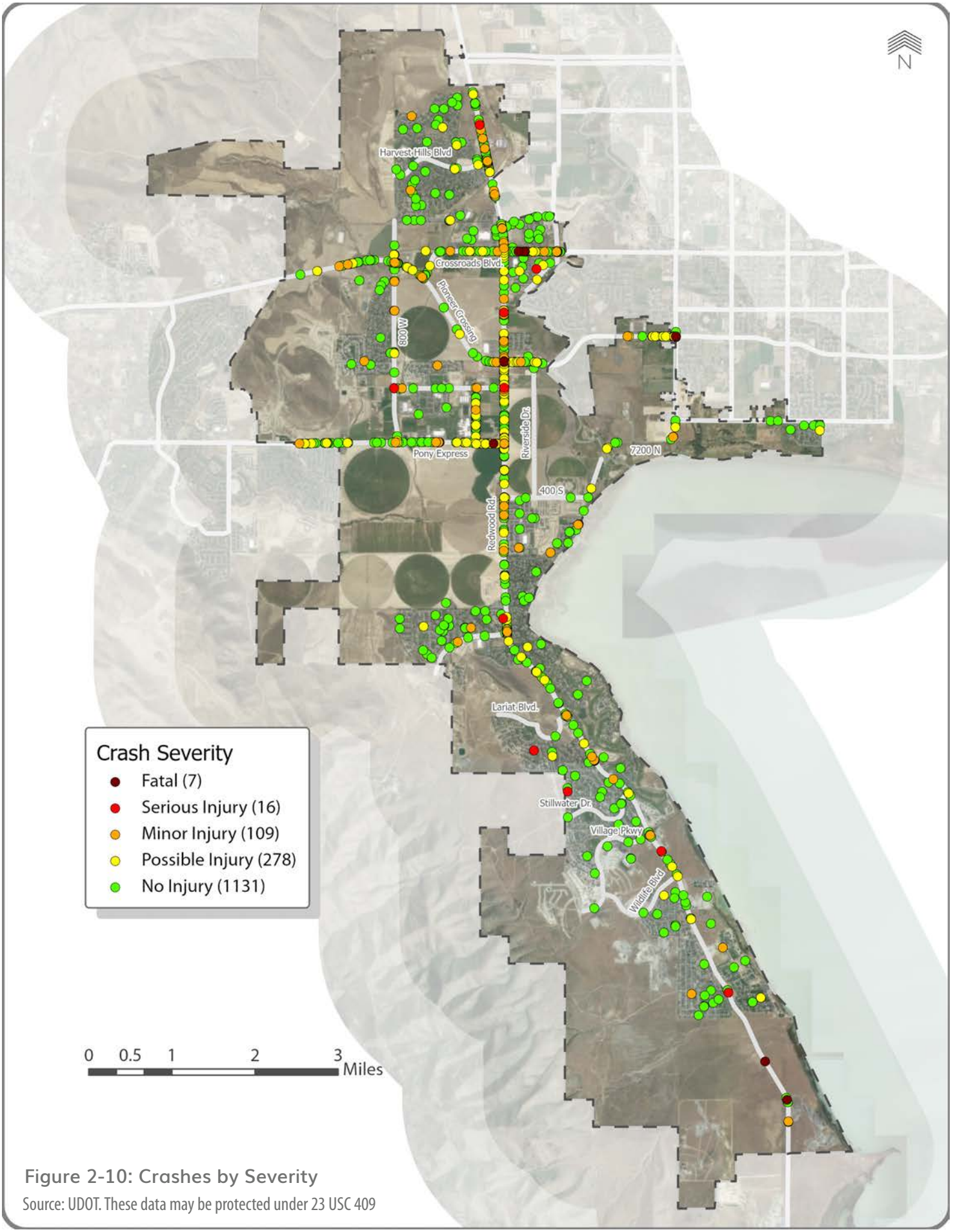
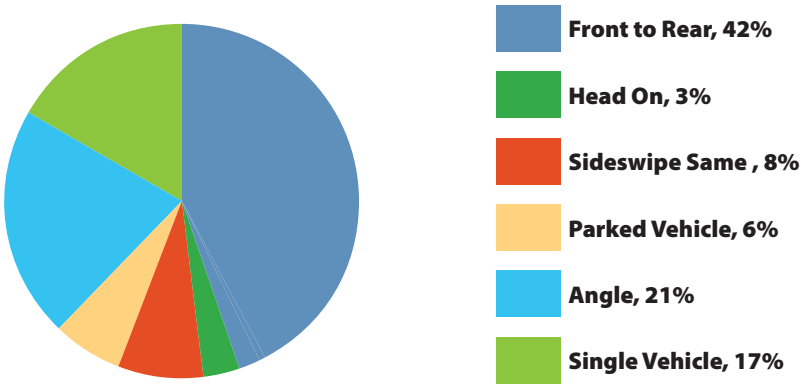


Figure 2-10: Crashes by Severity

Source: UDOT. These data may be protected under 23 USC 409

As shown in Figure 2-11, front-to-rear (or rear-end) crashes were the most common collision representing 42 percent of all crashes, followed by angle crashes (turning vehicles) at 21 percent. These manners of collisions are indicative of congested traffic conditions such as those found on the major roads through the city. The capacity and safety improvements specified in this master plan are designed to reduce these crashes.

Figure 2 11 : Manner of Crashes Chart



Source: UDOT. These data may be protected under 23 USC 409



Front-to-rear crashes are the most common type of accident in Saratoga Springs. These can occur at intersections when drivers are moving at variable speeds and may also be distracted.

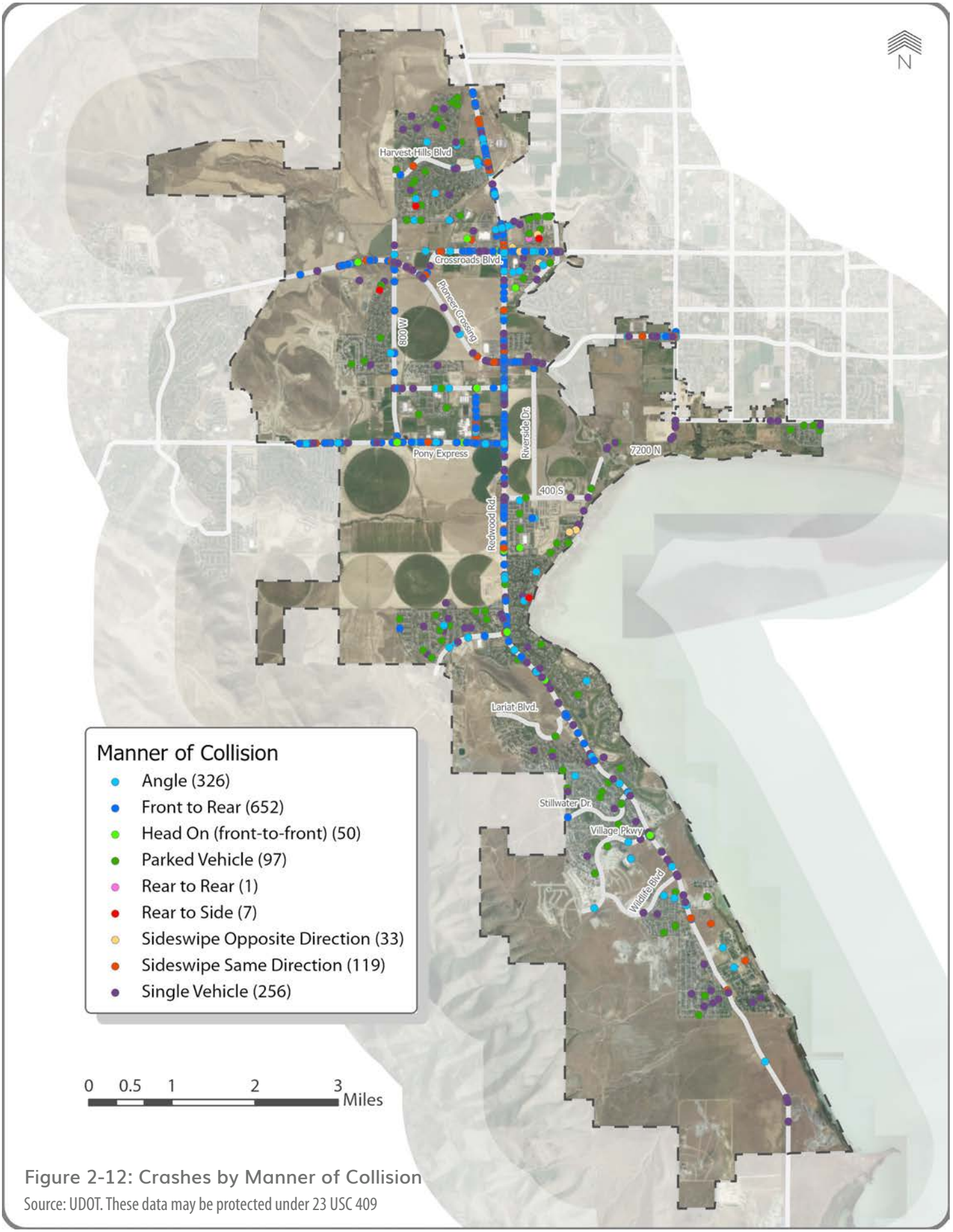


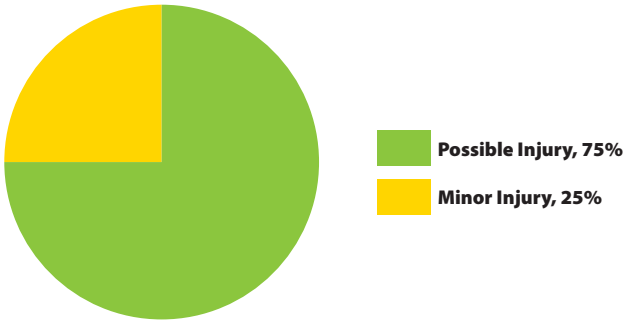
Figure 2-12: Crashes by Manner of Collision

Source: UDOT. These data may be protected under 23 USC 409

Bicycle and Pedestrian Crashes

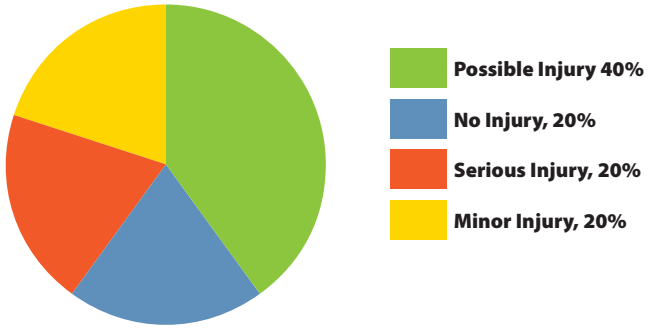
There were 10 recorded crashes between motor vehicles and pedestrians and four crashes between motor vehicles and bicycles from 2014 through 2018. Of these bicycle and pedestrian crashes, there were ***no fatalities*** and only two of the pedestrian crashes had serious injuries as shown in Figures 2-13 and 2-14. The locations of these crashes are dispersed throughout the City, as shown in the map on Figure 2-15. For the most part these were on lower volume roadways with only two pedestrian crashes on Redwood Road and two on Pioneer Crossing.

Figure 2 13: Bicycle Crash Severity Chart



Source: UDOT. These data may be protected under 23 USC 409

Figure 2 14: Pedestrian Crash Severity Chart



Source: UDOT. These data may be protected under 23 USC 409



People jog along a paved street separated trail next to Redwood Road. Using elements such as a park strip to provide separation between vehicles and pedestrians creates a safe environment with a high level of comfort for users.

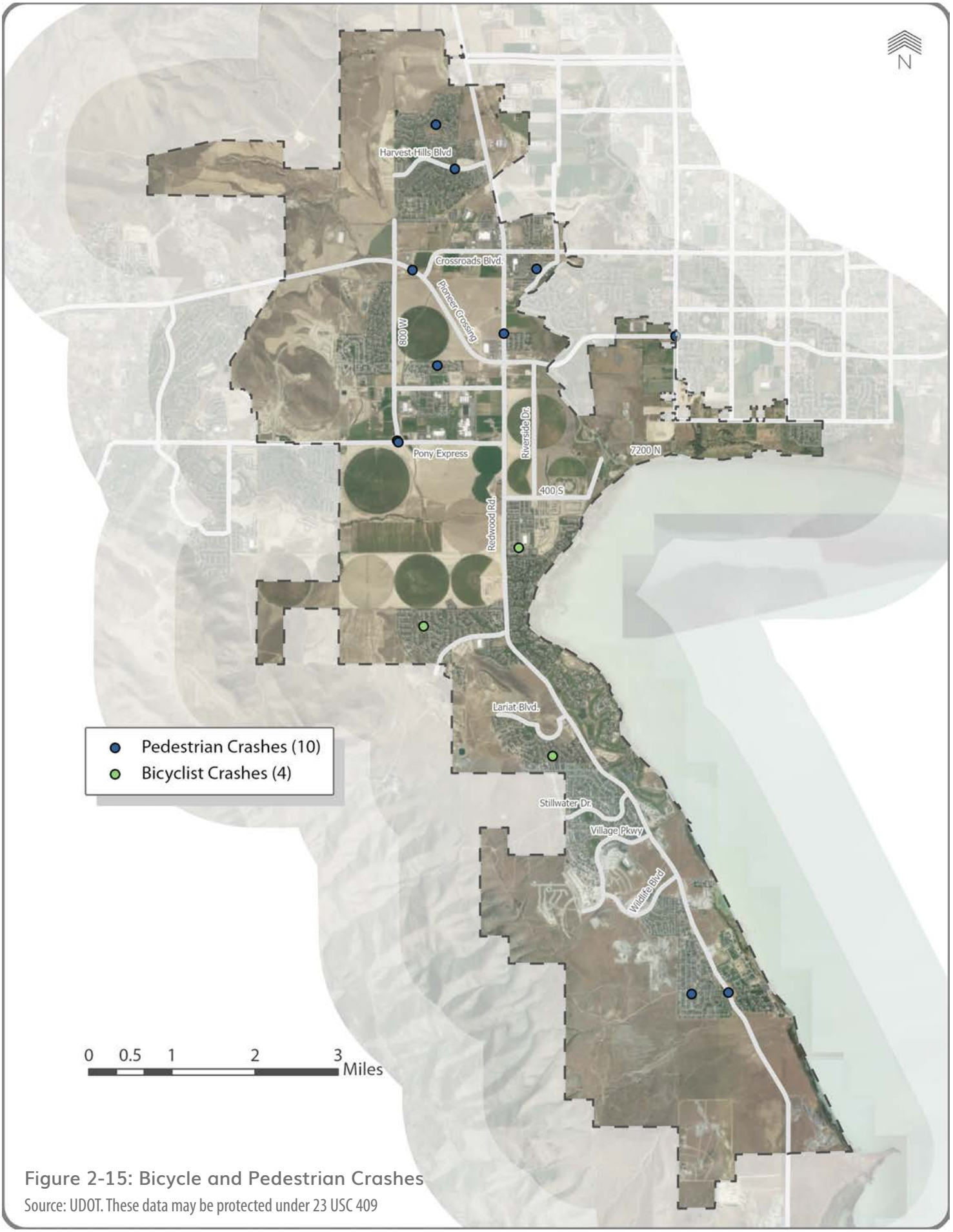


Figure 2-15: Bicycle and Pedestrian Crashes

Source: UDOT. These data may be protected under 23 USC 409

ACTIVE TRANSPORTATION

An active transportation (AT) network is a key component of a transportation system because it provides mobility options for all residents. Making walking and biking safe and convenient is a key goal of any transportation plan. The benefits of a practical and accessible AT network are broad and range from improving physical and mental health, decreasing noise and air pollution, providing a low-cost mode choice, to increasing the property values along the AT network. More transportation choices improve connectivity throughout the community by providing more access to both specific and regional origins and destinations. While freeways and expressways favor mobility, a robust AT network provides its own accessibility options that can connect people to neighborhoods, downtowns, parks, schools, places of work and worship, shopping centers, etc.

Saratoga Springs has a developing trail network with a range of AT options throughout the city, as illustrated in Figure 2-16. On May 5, 2020 Saratoga Springs adopted their **Parks, Recreation, Trails, and Open Space Master Plan.** This document, which provides extensive existing conditions analysis, can be found at: http://www.saratogaspringscity.com/DocumentCenter/View/143/Parks-Recreation-Trails-and-Open-Space.



A bicyclists rides along the east side of Redwood Road using a designated striped bike lane. While this five lane road has a speed limit that varies from 45 to 55 mph, throughout the city, the bike lane creates an environment of comfort by providing distance from vehicles and a defined area marked by engineering designs specific for bicyclists. Appropriate design requires the consideration of variables such as speed, conflicts at intersections, and available Right-of-Way (ROW). Designated bike lanes can be physically buffered, painted green, signed and striped, or potentially remain an unaltered roadway shoulder that already offers enough width to provide a reasonable level of safety and comfort to a certain percentage of bicyclists. Roads that offer bike lanes in Saratoga are Redwood Road, Pioneer Crossing, and Pony Express.



Two people bicycle along a paved street separated trail located along the west side of Redwood Road. This option for AT offers a much higher level of comfort to bicyclists (and pedestrians) than the designated bike lanes along the shoulder of Redwood. These paved paths are found along high speed arterials like Redwood Road and Pony Express, allowing for bicyclists and pedestrians to travel farther distances in safety and comfort. They are also being constructed by contractors in neighborhood developments across the City, like Harvest Hills Boulevard and along and off of Ring Road. These paths can provide seamless AT connections between local roads and arterials when they are designed to link together as they do between Parkway Boulevard and Redwood Road.

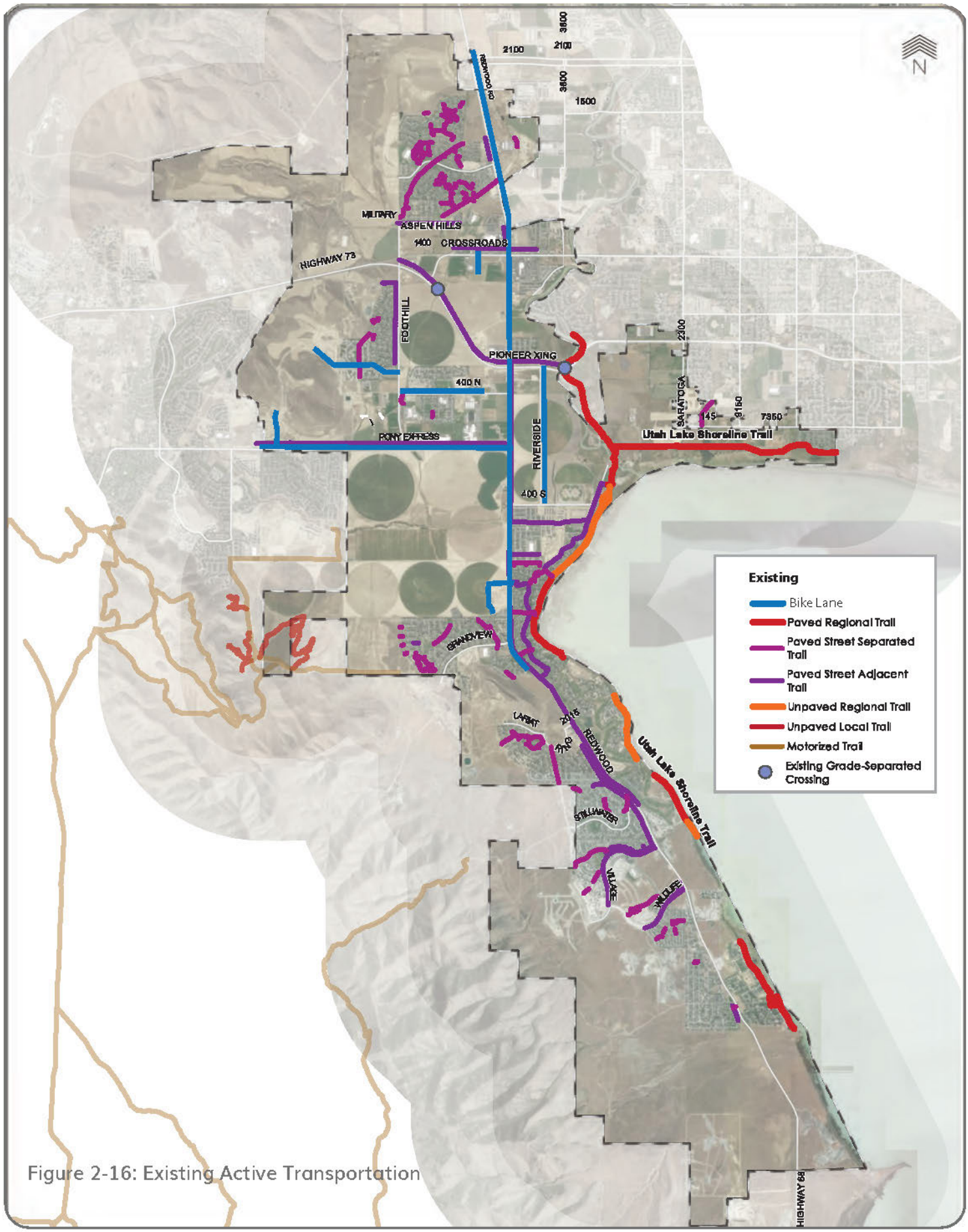


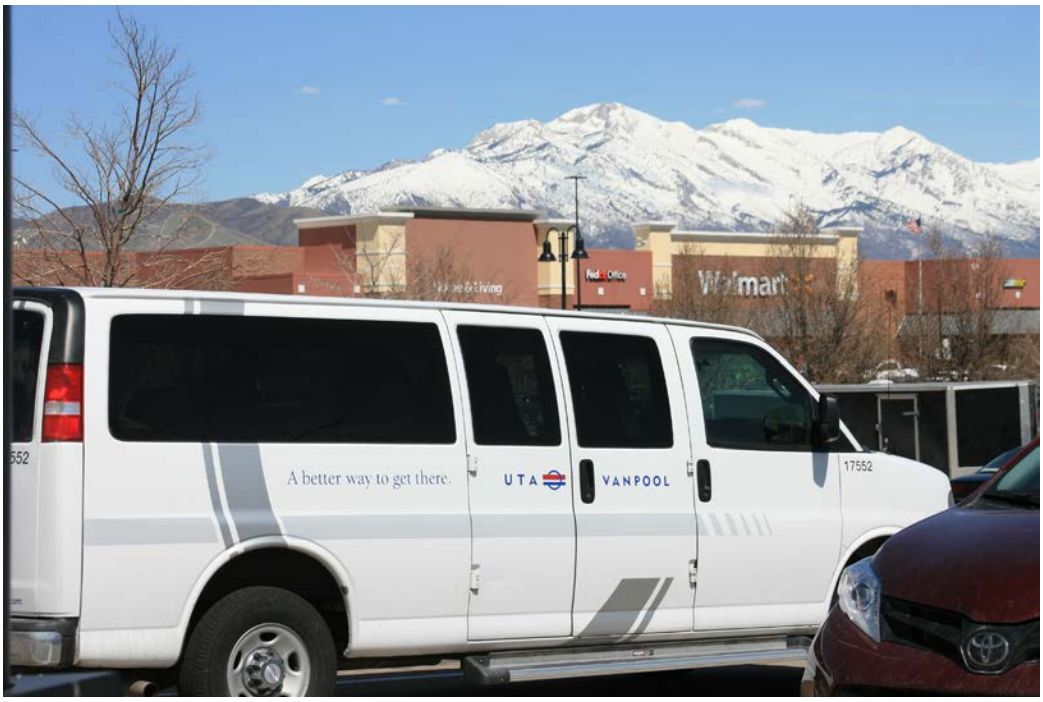
Figure 2-16: Existing Active Transportation

TRANSIT

Saratoga Springs is served by Utah Transit Authority's (UTA) bus route 806, which runs from Eagle Mountain across Saratoga Springs to the Lehi Frontrunner Station and Utah Valley University (UVU). Currently, the bus runs only Monday through Friday, with no transit service offered on the weekends. The UTA 806 makes stops in Saratoga Springs at 478 West Harvest Hills Boulevard, the Harvest Hills Church Park & Ride, and the intersection of Highway 73 and Redwood Rd.

The 806 travels eastbound towards UVU during morning hours and travels westbound towards Eagle Mountain in the afternoon and early evening. The 806 averaged 88 daily riders in 2015 putting the utilized capacity of the bus under 20 percent. The predictability of the bus was at 91 percent. Over the past five plus years, there has been a 16 percent decrease in ridership. Current data from the early (pre-Covid -19) months of 2020 show there are now 74 average daily riders.

UTA offers Vanpool service in Saratoga Springs. The service provides various size vans for rent to groups of individuals and companies. Vanpool functions as an interim transit option for areas like Saratoga Springs that may not yet have the demand for frequent public transit. This service provides residents access to transportation options beyond a single-occupancy vehicle when public transit options like the 806 bus are unavailable. In Saratoga Springs, where bus service is limited, vanpool can allow workers to get to and from their jobs during hours and days bus service is unavailable.



A UTA Vanpool vehicle sits outside of the Walmart in Saratoga Springs.



Figure 2-17: Existing Transit

3 where we're going



This chapter discusses the background and assumptions used to forecast transportation-related growth in Saratoga Springs. Using TDM techniques, in conjunction with projected socioeconomic, population, and employment trends, future transportation demands were forecast. Transportation system improvements that are committed or planned by agencies such as Utah Department of Transportation (UDOT) and Mountainland Associated of Governments (MAG) were included in the transportation forecasting prior to identifying additional transportation projects within Saratoga Springs. MAG is the Metropolitan Planning Organization (MPO) for Utah County and is responsible for coordinating transportation planning in the region.

Future Growth

Most of the projected socioeconomic data used in this study comes from the Land-Use Element of the General Plan. The General Plan was last updated in 2017 and is shown in Figure 3-1. To allow for growth, this Plan reflects significant changes across a variety of land-uses, including agriculture, residential, industrial and commercial. This planned land-use provides the basis for the projected socioeconomic data used in this study and comes from land-use modeling completed by MAG. MAG recently updated their Regional Transportation Plan (RTP), TransPlan 2050, which is the foundational plan for the development of the future regional transportation system. The 2019-2050 RTP, also know as TransPlan50 (available at https://www.mountainland.org) was adopted in 2019. The RTP is a guide to maintain and enhance the regional transportation system for urbanized Utah County. As part of this process, MAG modeled future land-use changes based upon allowed development the transportation system. The output was then used to determine what will be needed for the future functional roadway network. These socioeconomic assumptions were further refined for this TMP update to better reflect existing and planned land-use within Saratoga Springs.

Figure 3-1: General Land-use Plan

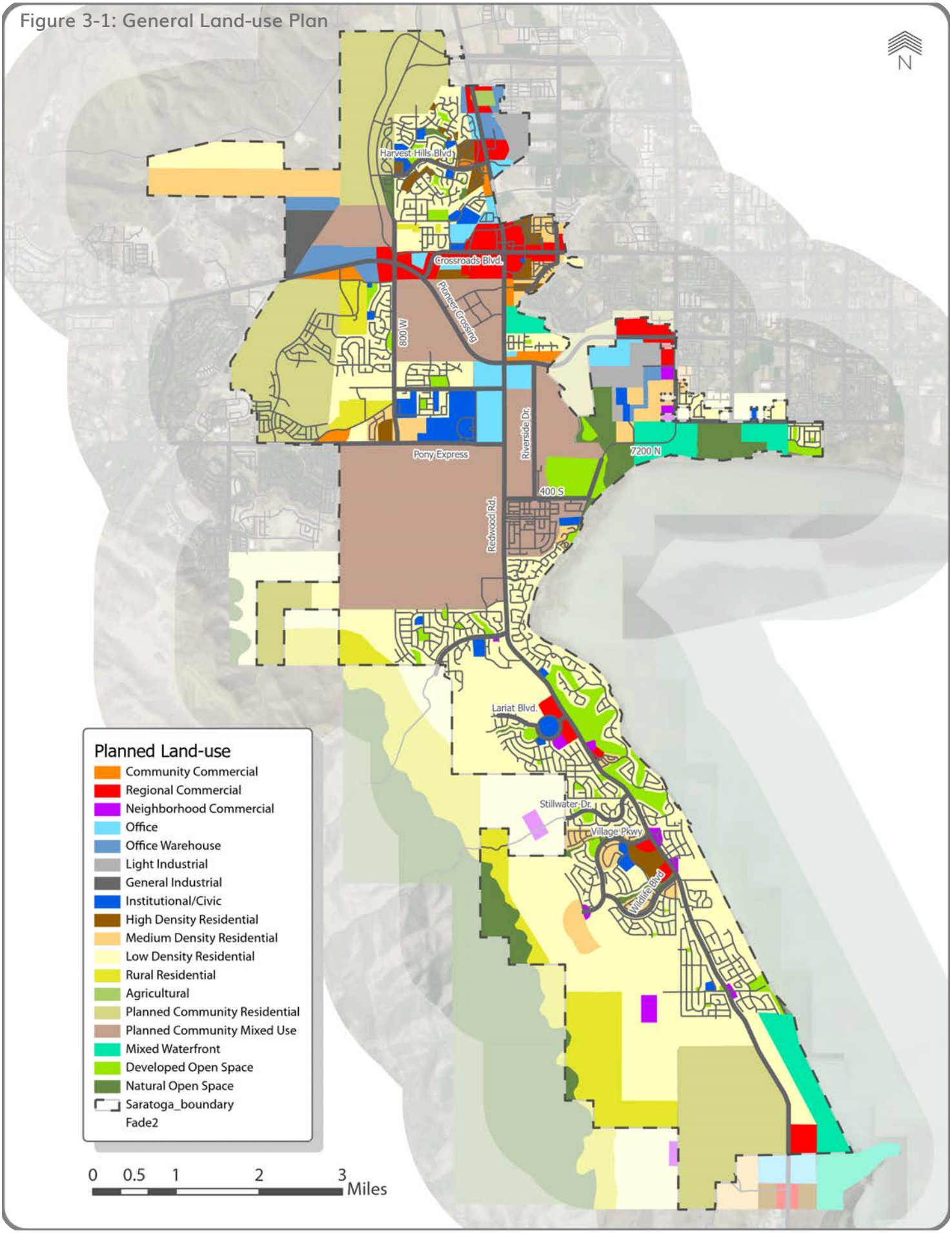
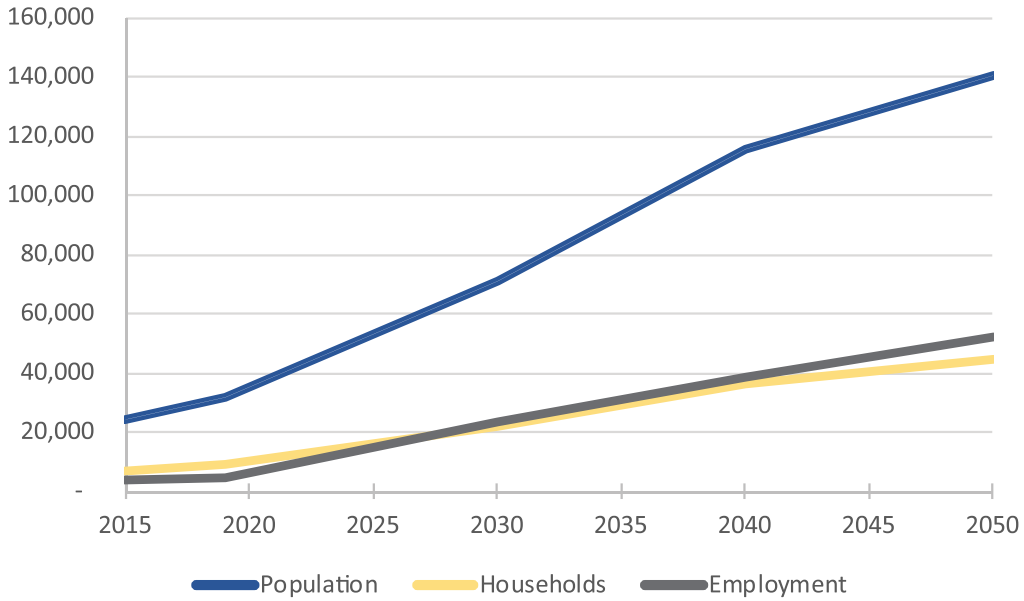


Figure 3-2 summarizes the anticipated growth over the next 30 years. The future we are planning for revolves around significant population and employment growth. The projected 2050 population in Saratoga Springs is over 130,000 people. It is anticipated that there will be an additional 140,000 people in Eagle Mountain that will pass through Saratoga Springs to travel to destinations throughout the Wasatch Front. Job growth is also expected to increase substantially over the next 30 years. While population is anticipated to increase by over 400 percent, employment is forecast to increase by more than 1,100 percent, with more jobs than households being added after 2030.

Figure 3-2: Saratoga Springs Projected Growth



Travel Model Development

Projecting future travel demand is a function of projected land-use and socioeconomic conditions. The MAG TDM was used to predict future traffic patterns and travel demand. The TDM was modified to reflect better accuracy through the Saratoga Springs area by creating smaller Traffic Analysis Zones (TAZ) and a more accurate and extensive roadway network. Existing conditions were simulated in the TDM and compared to the observed traffic count data to get a reasonable base line for future travel demand. Once this effort was completed, future land-uses and socioeconomic data were input into the TDM to predict the roadway conditions for the horizon year 2050. Year 2050 was selected as the planning year horizon to be consistent with the regional planning process.

Land-use's Effect on Transportation

The rapid growth that Saratoga Springs has experienced is expected to continue in the coming years. Population is projected to more than triple over the next thirty years, resulting in increased transportation system demands. These increased demands will require new and improved transportation facilities. Additionally, Saratoga Springs is currently a bedroom community with many more households than jobs after 2030. While the city has a mix of residential, commercial, and industrial land-uses near the intersection of Pioneer Crossing and Redwood Road, these land-uses will increase and develop in additional areas. These new commercial, retail, and office developments are expected to result in more jobs than households. Saratoga Springs will no longer be a bedroom community offering more opportunities for people to shop and work within the community. These changes will require transportation options for people to walk, bike, or take transit for these shorter distance trips, changing how people commute in the future.

MODEL YEARS AND RESULTS

Projected Traffic Volumes & Conditions

The resulting outputs of the TDM consist of traffic volumes on all of the classified streets in the city and surrounding area. These forecasted traffic volumes were used to identify the need for future roadway improvements to accommodate growth. The following two scenarios were analyzed in detail for the years 2030, 2040, 2050 to assess the travel demand and resulting network performance in the city:

- **No-build**
- **Recommended Roadway Network**

No-Build Conditions

A no-build scenario is intended to show what the roadway network would be like in the future if no action were taken to improve the roadway network. The TDM was again used to predict this condition by applying the future growth and travel demand to the existing roadway network. Interim year growth assumptions were also modeled to understand how congestion grows over time. Figure 3-3 and Figure 3-4 show the 2030, 2040, and 2050 no-build model LOS, respectively. These maps show growing congestion on Pioneer Crossing, Pony Express, Redwood Road, and other corridors as the population and employment increases without improvements to the transportation system. This growing congestion is visible in the expansion of orange and red roadway segments.

As shown in, Figure 3-5 if no improvements are made to the transportation system, projected traffic volumes for the planning year 2050 will significantly worsen the LOS of many streets and intersections throughout the city. The following list includes the streets expected to perform at LOS D or worse:

LOS D (Peak Congestion but Acceptable)

Harvest Hills Boulevard (Mountain View Road to Redwood Road)

1200 North (Hillside Drive to Foothill Boulevard)

145 North (Saratoga Road to 1100 West)

Colt Drive (Spring Meadows Drive t Ring Road)

LOS E or Worse (Unacceptable)

2100 North

Crossroads Boulevard

Pioneer Crossing

400 North (200 West to Redwood Road)

Pony Express

400 South

Saratoga Road

Ring Road

Mountain View Road

Foothill Boulevard

Redwood Road

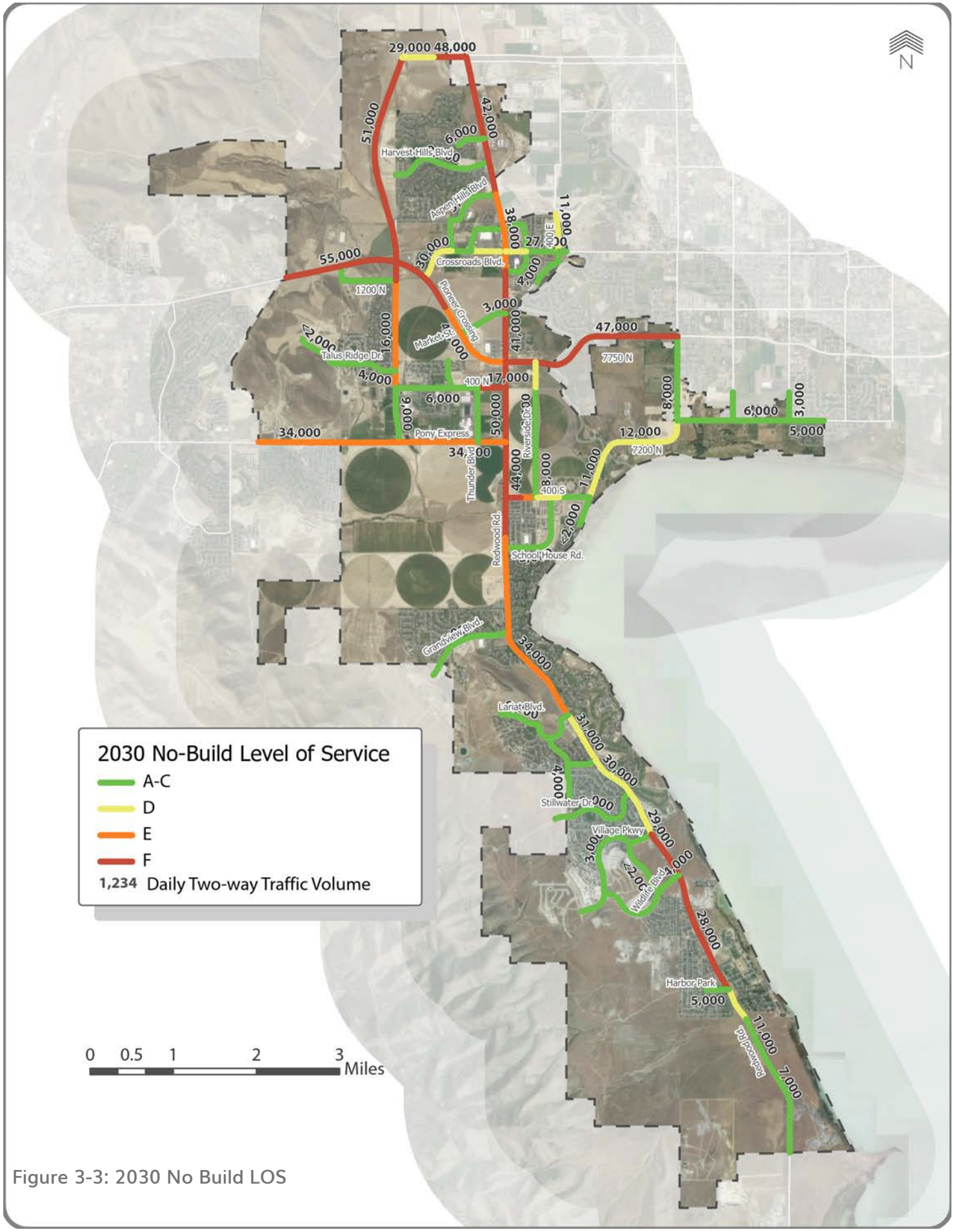


Figure 3-3: 2030 No Build LOS

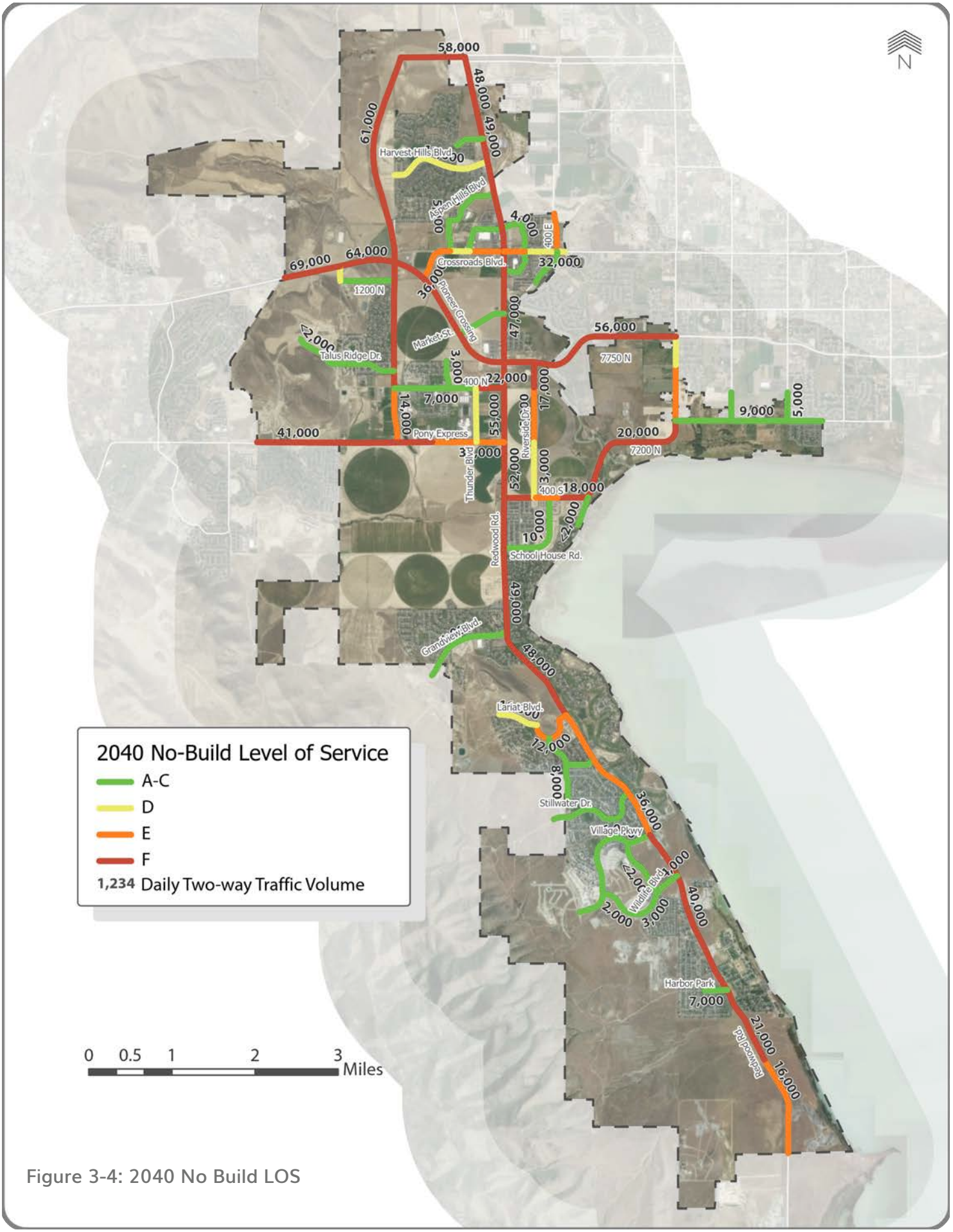


Figure 3-4: 2040 No Build LOS

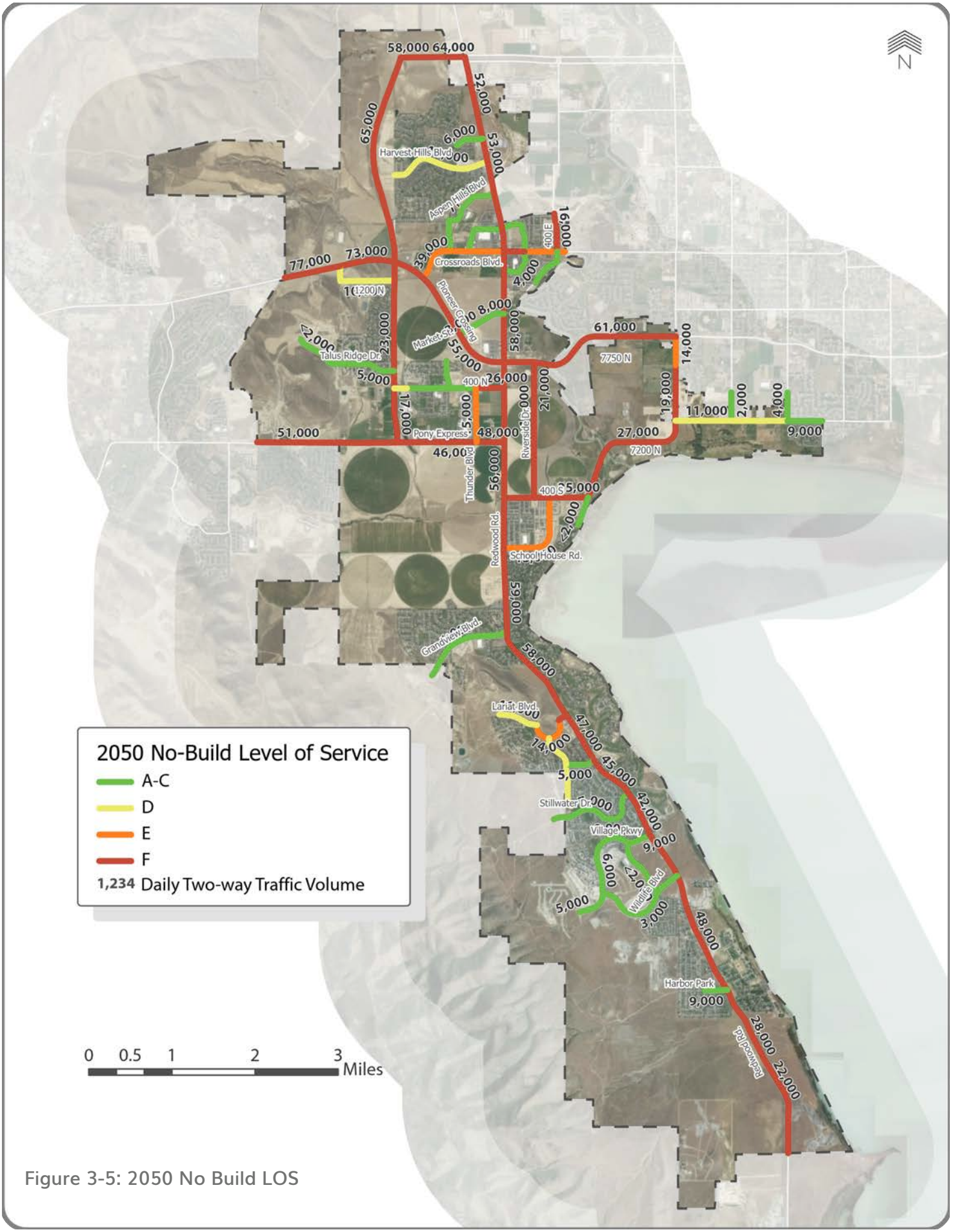


Figure 3-5: 2050 No Build LOS

RECOMMENDED 2050 ROADWAY NETWORK

Transportation system improvements will need to be made to preserve the quality of life and to maintain an acceptable LOS on city streets and at intersections. These improvements will also provide a sound street system that will support the city's economic base.

The future analysis can be split into two sections. The first are regional projects included in MAG's RTP. These projects may be funded in part by MAG. After determining where the improvements occur with the addition of the MAG projects, the second section includes the rest of the projects necessary to improve the roadway network to LOS D, or better, and to build the transportation system necessary to accommodate future land-use plans



New growth requires new roadway capacity improvements to maintain the LOS in Saratoga Springs.

The recommended 2050 roadway network will provide the access and capacity for the growth anticipated in the commercial, retail, and office sectors as well as family housing. The built environment in Saratoga Springs is quickly expanding as seen in the photo above where three houses are in three separate stages of construction on a new development. All three face the new Mountain View Corridor, while their backyards overlook the city and Utah Lake. Without additional improvements to Mountain View Corridor and other high travel speed routes, these arterials will experience more congestion until, ultimately they will perform at an unacceptable LOS and reduce the quality of life for the residents of Saratoga Springs.

REGIONAL TRANSPORTATION PLAN

Saratoga Springs is not alone in improving the roadway network. MAG, in cooperation with UDOT, provides financial assistance for projects included in their RTP. If a roadway is included on the RTP and is owned and operated by UDOT, full financial responsibility falls to UDOT. It is important to include these projects in the RTP as well as coordinate with UDOT to ensure these projects are implemented. If the roadway is on the RTP and not owned by UDOT, Saratoga Springs may be able to apply for funding through MAG, in which case, the City will only be responsible to match 6.77 percent of the total cost of the project. The projects within Saratoga Springs included on the RTP are shown in Figure 3-6, and below is a list of the RTP projects to be completed in various phases. An interactive map can be viewed on MAG's website www.mountainland.org:

Phase 1:

Cory Wride Freeway
- » New freeway, frontage roads
- » Mountain View Corridor to Ranches Parkway

Foothill Boulevard
- » New 3 lane road
- » Cory Wride Freeway to Stillwater Drive

Lehi 2100 N Freeway
- » New freeway
- » SR-194 Mountain View Corridor to I-15

400 East / Lehi 3600 West
- » New and widen to 5 lanes
- » Crossroads Boulevard to Clubhouse Drive

Lehi Main ST
- » Widen to 5 lanes
- » Commerce Drive to Lehi 500 W

Pioneer Crossing
- » Widen to 6 lanes
- » Redwood Road to Lehi 2300 W

Pony Express Parkway
- » New and widen to 5 lanes
- » Redwood Road to Vineyard Connector

Triumph Boulevard/Lehi 2300 W
- » New and widen to 5 lanes
- » Timpanogos HWY to Lehi 1900 S

Phase 2:

Foothill Boulevard
- » New 4 lane road
- » Stillwater Drive to Redwood Road

Foothill Freeway
- » New freeway
- » Cory Wride Freeway to Stillwater Drive

Harvest Hills Boulevard
- » New 3 lane road
- » Sunflower Way to Spring Run Drive

Mt. Saratoga Boulevard
- » New 3 lane road
- » Cory Wride Freeway to Harvest Hills Boulevard

North Lakeshore Freeway
- » New freeway (location TBD)
- » Foothill Freeway to I-15

Phase 3

Foothill Freeway
- » Convert to freeway
- » Stillwater Drive to Redwood Road

Hidden Valley Road
- » New 5 lane road
- » East Expressway to Redwood Road

Mountain View Freeway
- » Widen to 8 Lanes
- » Cory Wride Highway to Porter Rockwell Parkway

Utah Lake Bridge
- » New freeway bridge (location TBD)
- » Redwood Road to I-15

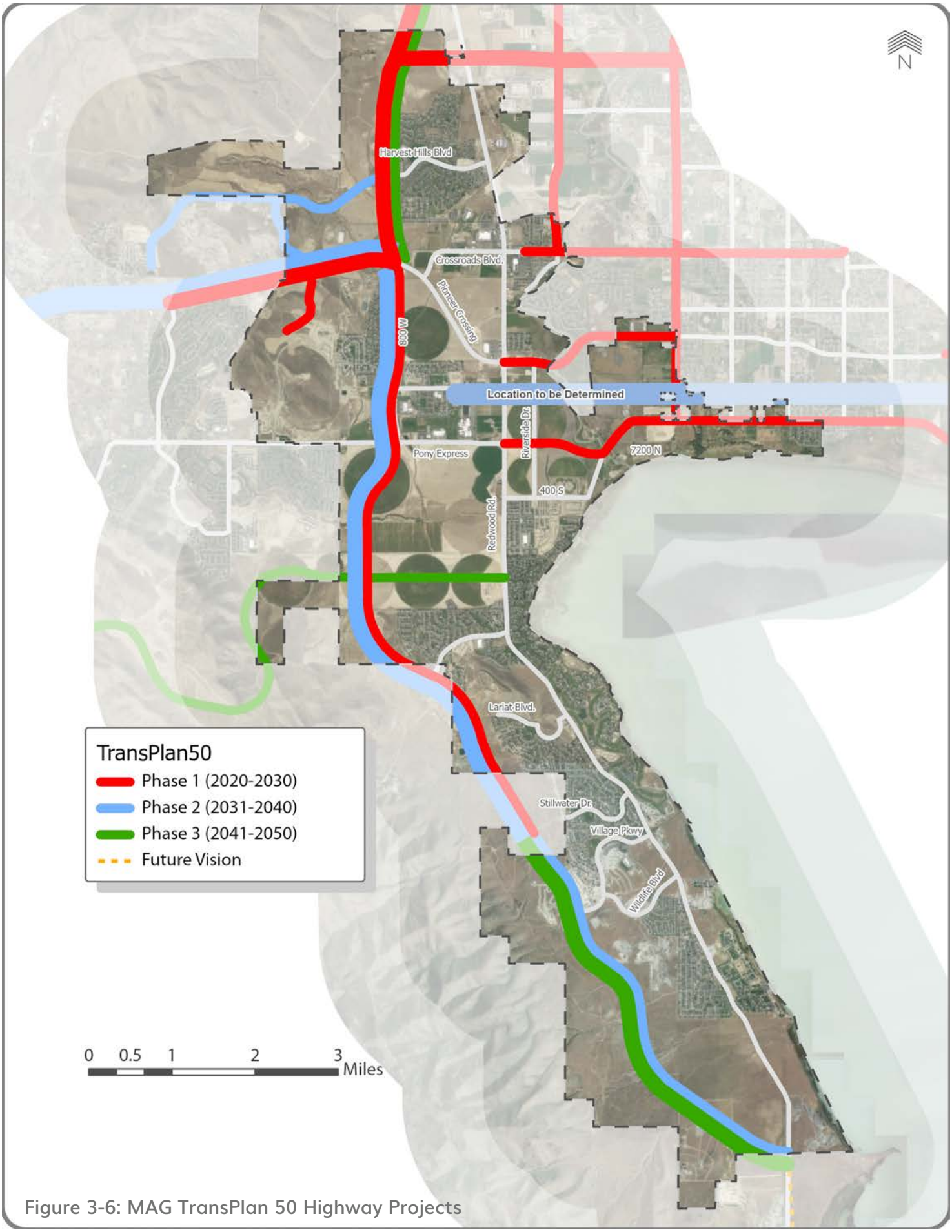


Figure 3-6: MAG TransPlan 50 Highway Projects

2050 Proposed Roadway Network

The indicated roadway segments previously listed, as well as the additional modeling results, form the basis of the improvements included in the 2050 roadway improvements. With all projects included, Figure 3-7 shows the proposed 2050 roadway network and LOS with all future projects (including MAG RTP projects). Applying all improvements will allow the roadway network to function at LOS D or better in all locations.

SUMMARY OF WHAT THE FUTURE HOLDS

With the planned growth of Saratoga Springs and surrounding communities, the transportation system will experience increased demand. Without improvements to the transportation network, traffic congestion and resulting delays will increase significantly on most of the functionally-classified roadways. However, Saratoga Springs is not alone in planning for future growth. UDOT and MAG have identified key improvements to the regional roadway network to accommodate future demand, too. These regional capacity improvements reduce future congestion on the functionally-classified roads within the city. Most of the capacity improvements needed to accommodate the future vision for Saratoga Springs are planned with the MAG's TransPlan 2050. To address remaining capacity needs, additional projects were identified that reflect community input and local priorities. With all the projects identified, the future roadway system is anticipated to function at an acceptable LOS with minimal delays through the planning year 2050.

There is an ongoing North Lakeshore Study involving Saratoga Springs, looking at the option for an east/west freeway connecting to I-15. Although no specific alignment has been decided upon as of yet, one option is for Pioneer Crossing to be converted into a freeway. This roadway expansion would address most of the future east/west capacity issues that modeling shows Saratoga Springs could potentially be faced with. Figure 3-8 shows the 2050 LOS with the option for the Pioneer Crossing Freeway. In this build scenario, the majority of Saratoga Springs will experience LOS A-C, a few areas of LOS D, no areas of LOS F, and one location will have LOS E. In summary, this map shows the most green and the least amount of orange and red of any other map, by far. Compared to the other no-build and build alternatives, this scenario provides residents, visitors, and those whose daily routine carry them through the city the greatest ease of use and the least congestion. The Pioneer Crossing Freeway may have the greatest effect on quality of life to the greatest amount of people of all future scenarios.

Signals will need to be monitored and updated as conditions change. It is recommended that the signalized intersections in the area be regularly monitored, and signal timings adjusted as needed to maintain acceptable operating conditions. Coordination with UDOT will be necessary on all UDOT roads. Additionally, care should be taken to regularly monitor the non-signalized intersections and, where appropriate, studies should be completed to determine the best control for the intersection. The most common mitigations to failing non-signalized intersections are roundabouts and traffic signals. For each intersection, both roundabout and traffic signal solutions should be investigated and studied to determine the best alternative.

Even with high rates of residential and commercial growth, Saratoga Springs can achieve a good LOS if the planned projects are built.



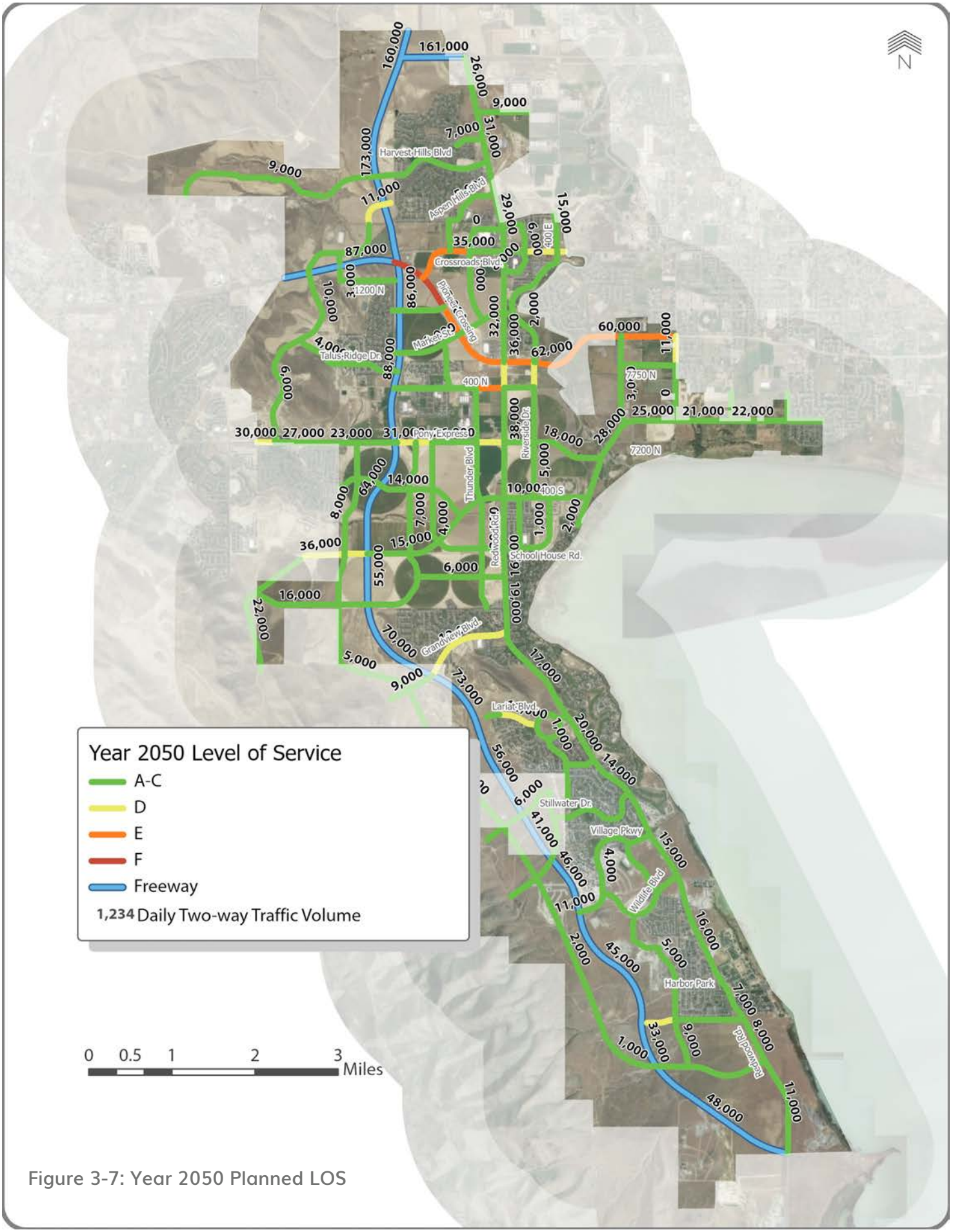


Figure 3-7: Year 2050 Planned LOS

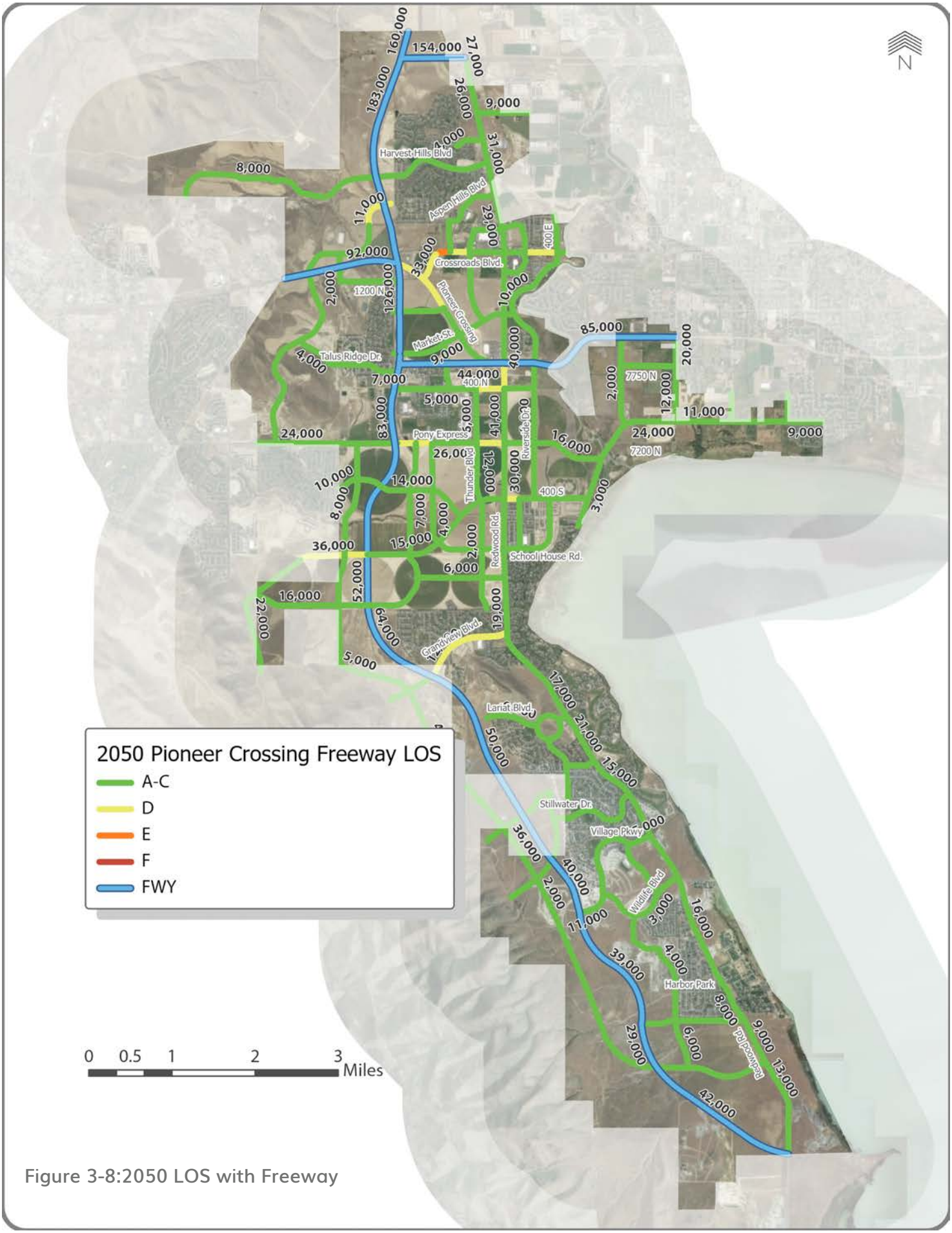


Figure 3-8:2050 LOS with Freeway

4 what we heard



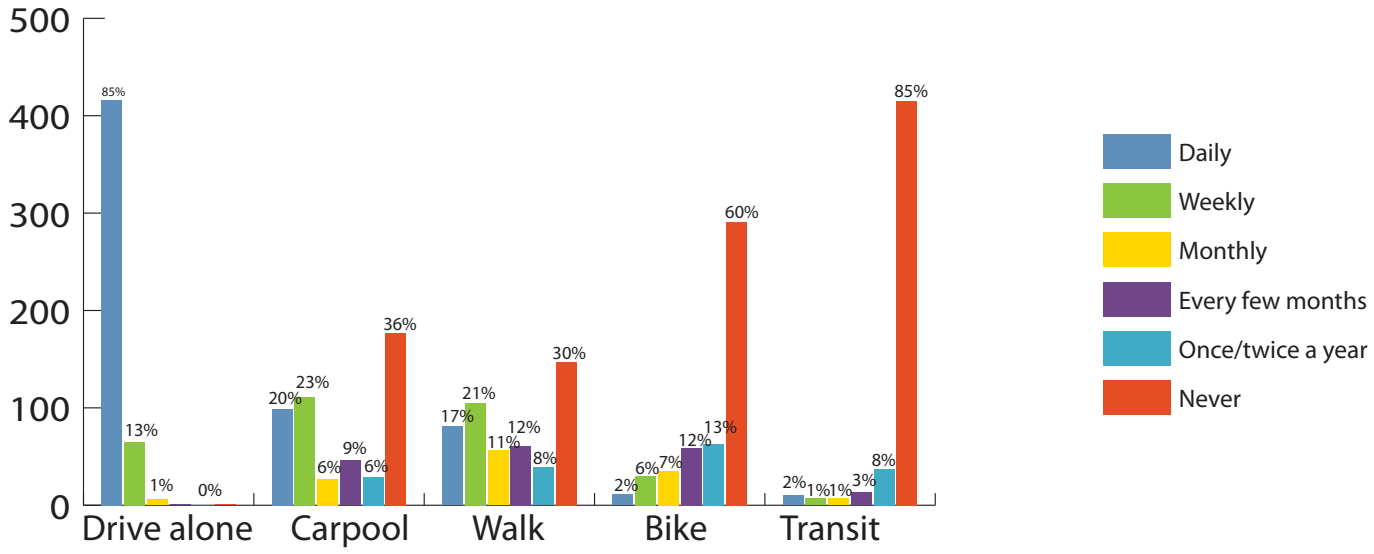
COMMUNITY INPUT

A community survey that focused on issues concerning transportation and planning was available to Saratoga Springs residents and the greater public through the City's Facebook page. The survey was completed by 498 individuals. This information gives insight into the daily routines of the Saratoga Springs residents who participated in the survey. All of the respondents are affected in some way by the transportation network. The feedback received from this survey is a transmittal of the public voice and provides insight into how residents view the current transportation system, what the future could be, and how it affects their quality of life.

Mode of Transportation

Respondents were asked how frequently they used the following transportation modes: driving alone, carpooling, walking, biking, and transit. The levels of use were: daily, weekly, monthly, every few months, once or twice a year, or never.

Figure 4-1: Respondents' mode of transportation usage



When asked how often a specific transportation mode was used, driving alone was by far the most common answer, with 85 percent reporting they drive alone on a daily basis. The second most common mode of travel was carpooling, with 20 percent answering that this was their daily mode of transportation. (It should be noted that the driving alone and the carpooling percentages add up to 105 percent. This indicates that respondents take multiple daily trips, and while the majority of them are in single occupant vehicles, other daily trips are carpool trips.) The number of people who carpool weekly, rather than daily, increased to 23 percent. Less then 10 percent carpool monthly, every few months, or once or twice a year. The largest amount responded, they never carpool (36 percent), while not a single respondent said that they never drive alone.

More people choose to walk frequently than bike;17 percent walk daily and 21 percent weekly, compared to just 2 percent who bike daily and 6 percent weekly. For trips that occur only monthly, every few months, or once or twice a year, both categories waking and biking received responses that hover around 10 percent for each answer, which is an increase for bicycling and a decrease for walking from daily and weekly. Twice as many people responded that they never bicycle (60 percent), compared to those who responded that they never walk for transportation, 30 percent, or 147 people.

Transit as a mode of transportation received the lowest percentages. The highest frequency of transit use was once or twice a year at 8 percent. Ten people, or 2 percent, responded that they used transit daily. 85 percent of people responded they never use transit, which is the same percentage who responded they drive alone everyday.



New roads in Saratoga are designed with striped bike lanes and wide sidewalks. Signage for pedestrians, bicyclists, and motorists help ensure all users are aware of their relationship to other modes of transportation along the ROW.



Transportation Safety and Congestion

Respondents strongly indicated that congestion is an issue. Overall, 92 percent of people responded that there was congestion, with 57 percent agreeing the city is very congested and 35 percent agreeing there is some congestion. One percent responded Saratoga Springs is not congested and the remaining 7 percent felt there is little congestion.

Over half of the responses (56 percent) stated that Saratoga Springs is safe, out of that number, 4 percent agree that it is very safe and 52 percent agree it is mostly safe. Those who felt it was unsafe, 44 percent, either stated that the City is somewhat unsafe (36 percent) or very unsafe (8 percent). Some of the issues identified as contributing to lack of safety were; road conditions that are hazardous to pedestrians and bicyclists, a lack of roads to exit the city in case of an evacuation or emergency, and left turns onto busy roads that are dangerous

Figure 4-2: Respondents' perception of overall transportation safety in the city

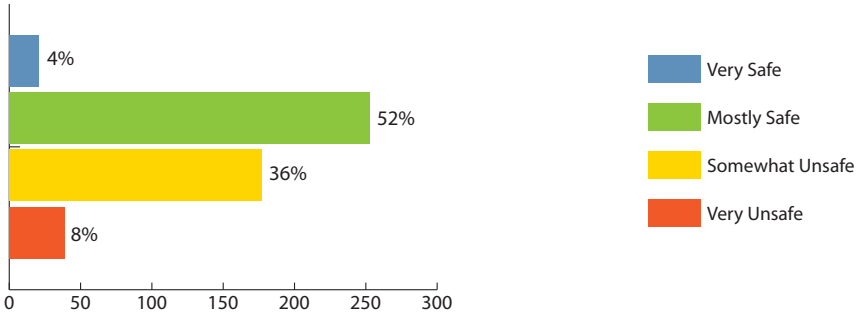
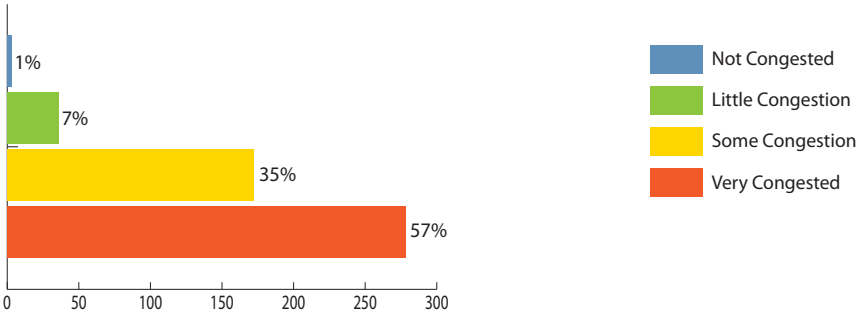
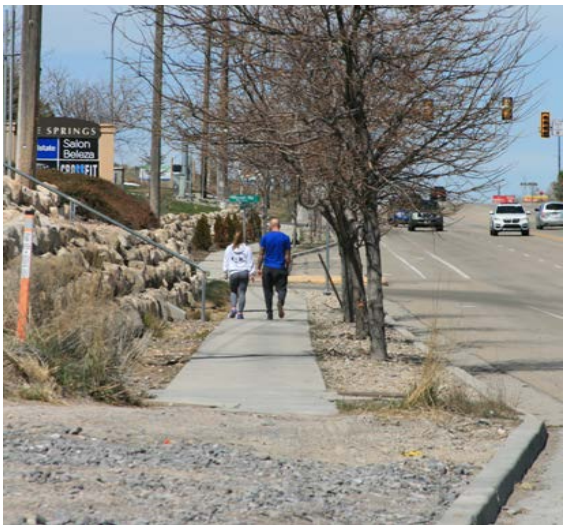


Figure 4-3: Respondents' perception of overall congestion in the city





People walk along a portion of constructed sidewalk on Redwood Road. This image shows current and future sidewalk, a striped bike lane, and traffic lanes. Designing roads to properly accommodate multiple modes of transportation will help decrease congestion by providing alternative transportation options and improve safety by through installing appropriate infrastructure for pedestrians and bicyclists.

Below are excerpts (some paraphrased) of written responses with themed headings about ***community member's transportation safety concerns*** from those who completed the survey.

Transit
»"We have to drive to get to a bus station safely."

Signal
»"More protected left turns would be helpful. Because of the increase in traffic, it is often unsafe or a very long wait with angry people behind you. "

Alternatives
»"Another larger road in and out of Saratoga Springs for safety issues in the event of an emergency or fire, where residents would need to exit the city quickly."

Visibility
»"a better paint used on the lines painted on the road. It is almost impossible to see the guiding lines at night and makes for difficult and dangerous driving."

Bike
»"More and safer bike lanes and paths and safer intersections."

Bike
»"We would love to walk or bike along redwood and by the shopping areas but do not feel safe."

Intersection
»"400 south is an intersection of concern, with the city buildings, Patriot park, and incoming residential development. I would love to see a light there to help citizens safely enter and exit that area of the city."

Redwood
»"There needs to be some lights to make turning left onto redwood safer"

Intersection
»"Pioneer-Crossing is a safety hazard, it's my top spot that needs better flow. Not sure why there are so many lights that stop traffic along the way."

Redwood
»"It would be nice if there was a right green arrow and a merging lane on Redwood Road from Parkway Boulevard"

Intersection
»"Extend the new roundabout that lets people travel to eagle mountain on the north west side of town all the way down through the southern end so that those way down at the end are not boxed in. Major fire safety hazard if we had to evacuate for example."

Walking
»"Kids walking to school on 800 W to Thunder Ridge are SO unsafe!!! Sidewalks need to be wider!!!"

Redwood
»"Remove the ability to turn left onto Redwood from Tanner Lane by the new middle school. It is unsafe."

Redwood
»"Redwood-Road and commerce drive is always unsafe. No sidewalks going north."

Redwood
»"Getting out of the Smiths parking lot onto redwood is dangerous. "

Walking & Biking
»"I would like to see roads built to handle safe pedestrian and bicycle traffic. "

Bus Stop
»"10420 W needs to be widened and speeding enforced. Many commuters cut through here instead of taking Redwood which is a safety concern being so close to homes and school bus stops.'"

Alternatives
»"We need a road parallel to Redwood Road running up along Lake Mountain extending at least from Pony Express to the south of Saratoga Springs. We only have one way out south of Pony Express. Not safe in an emergency."

Needs and Improvements

The community outreach allowed respondents to state, through open ended questions, what their vision was and what their wishes were for Saratoga Springs. Each response was categorized by topic so the amount of responses for each category could be illustrated through graphs and charts. Some topics that received the most comments were: improvements to traffic congestion, better connectivity, measures to improve safety, a lake crossing, traffic calming strategies, and wider roads.

Figure 4-4: Respondents' desire for transportation improvements in the city

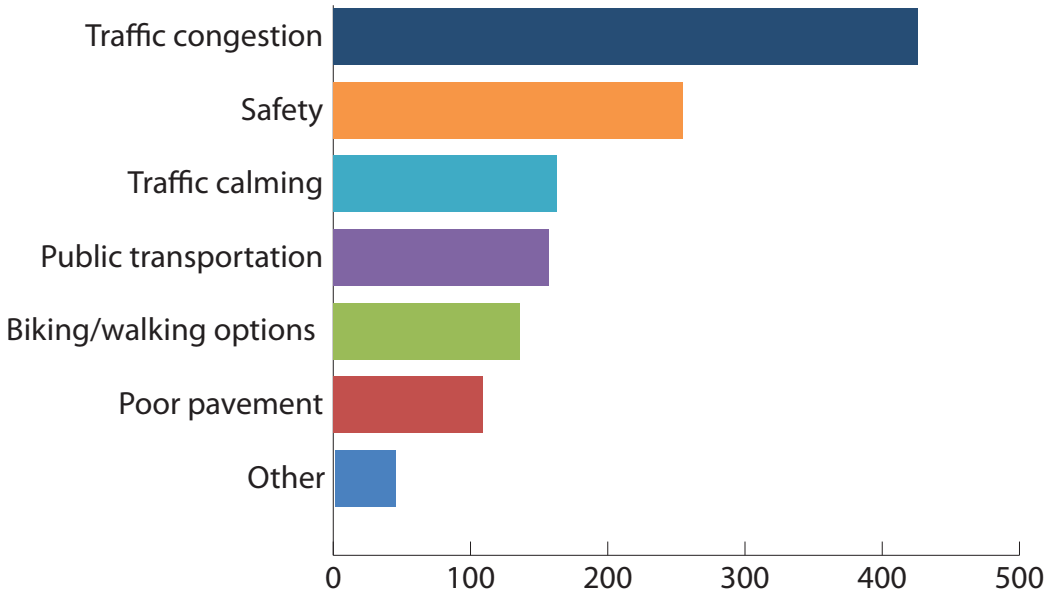
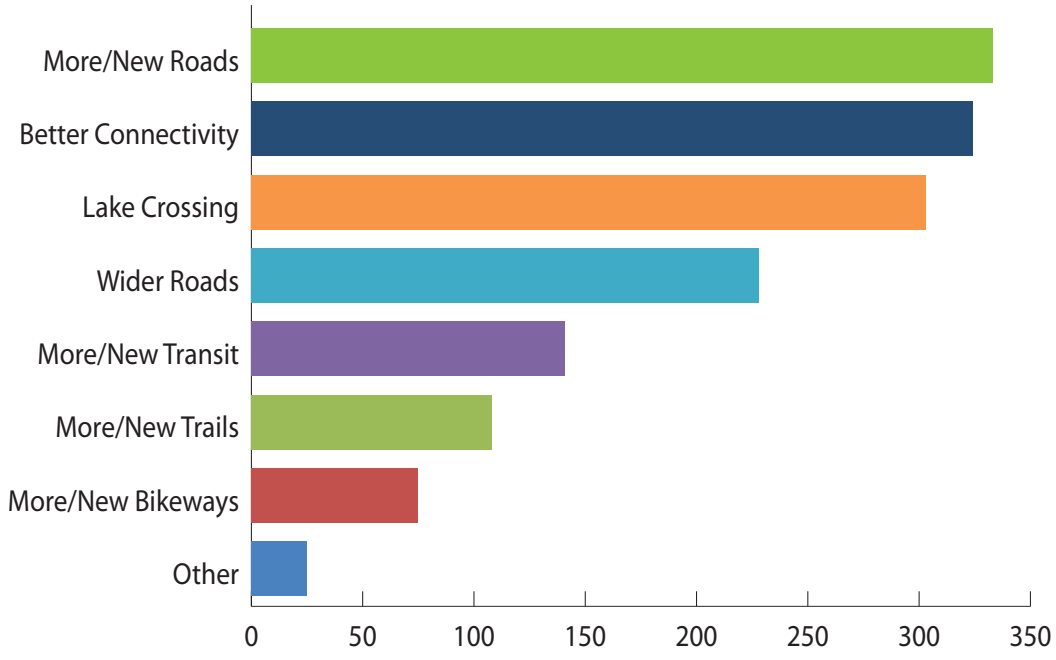


Figure 4-5: Respondents' desire for transportation projects in the city



Transportation Issues

An interactive map embedded in the community survey allowed respondents to place pins at specific locations where they identified concerning transportation issues. The survey encouraged respondents to include a description of the issue. The majority of the pins were accompanied with an explanation. The most commonly-identified issues were: congestion, safety, signal timing, and the need for new roads. Below is a bar chart breaking down the transportation issues identified by Saratoga residents.

Figure 4-6: Respondents' opinions of the most significant transportation issues

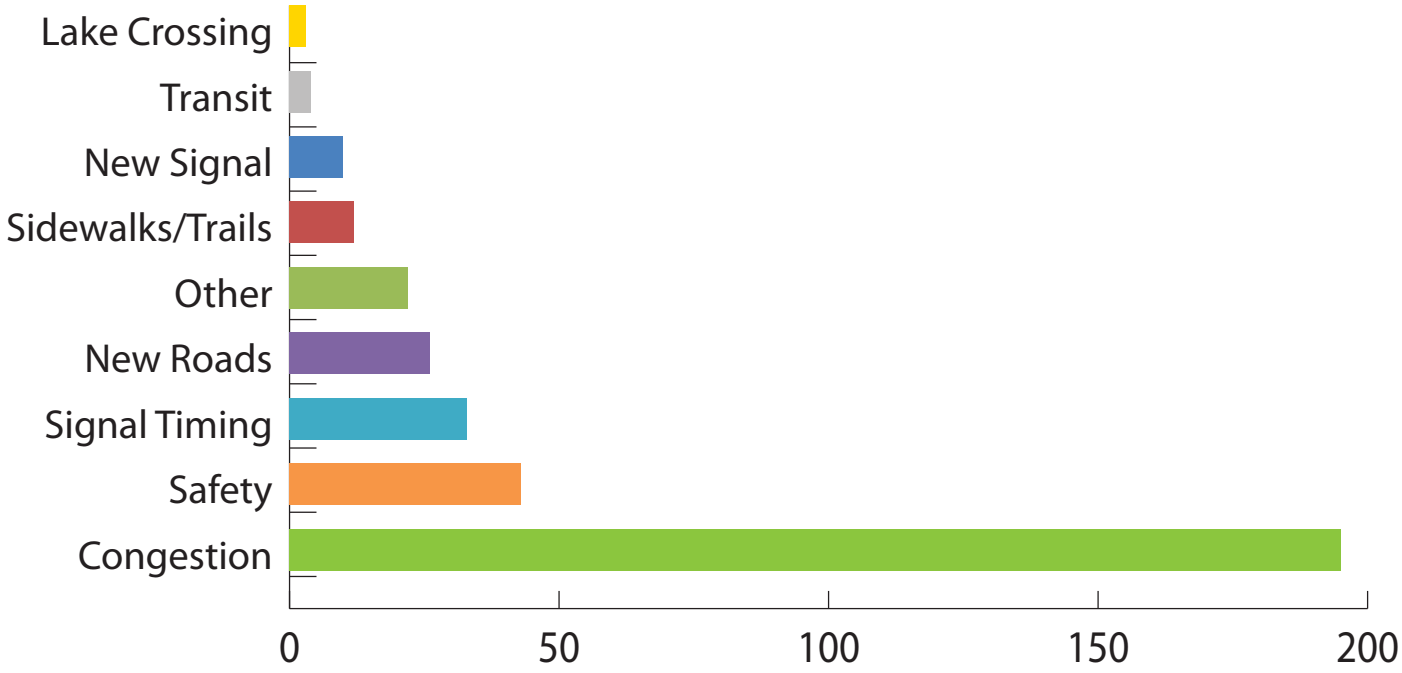


Figure 4-7 on the following page shows the pin locations placed by survey respondents to identify specific transportation issues in and around Saratoga Springs. The map and its legend are comprised of the same unique categories as the bar chart above.



Many community members may have been drawn to Saratoga Springs because of its location. But, when it comes to transportation issues, the location creates a demand for new roads to ensure that residents can have the choice of multiple access points to enter and exit the city.

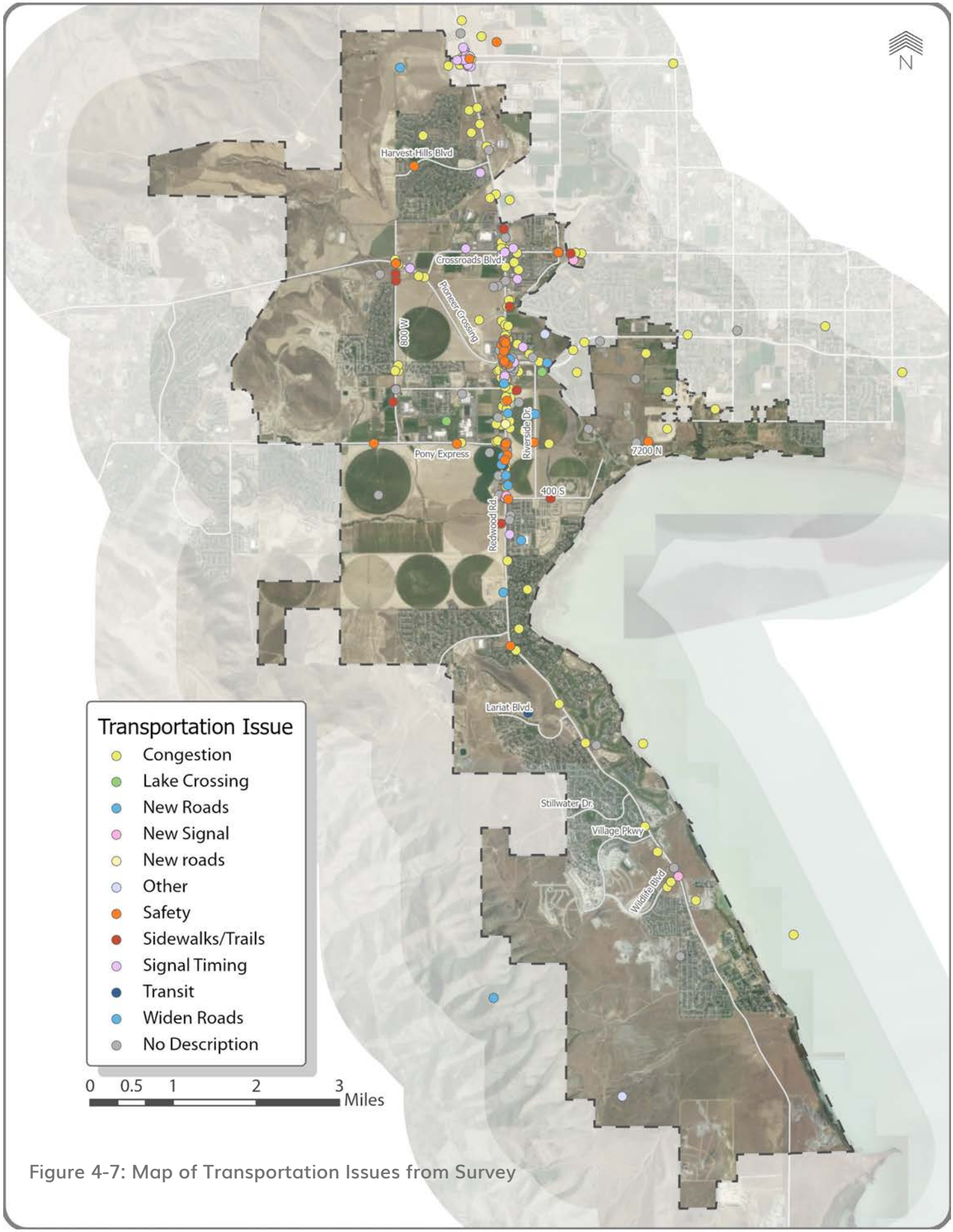


Figure 4-7: Map of Transportation Issues from Survey

5 Recommendations



This chapter focuses on specific transportation recommendations. It includes the Future Functional Classifications Map with roadway cross-sections and descriptions. It also contains discussions of access management and other transportation recommendations, including future transit and AT recommendations.

FUTURE FUNCTIONAL CLASSIFICATIONS

The recommended functionally-classified roadway network is illustrated in Figure 5-1. The functional classification was developed based upon prior planning efforts, including the existing functional classifications shown in Figure 2-7. This existing map provided the base roadway network that was refined to serve the updated future land-uses and traffic forecasts from the TDM. Finally, the recommended functional classifications reflect stakeholder and public comments to create a network that will serve existing and future travel demand. The recommended network includes planned projects from MAG's RTP. These arterial and collector roadways will provide the backbone of the functionally-classified transportation network within Saratoga Springs.

The Future Functional Classifications Map shown in figure 5-1 on the next page is a comprehensive one-page image of the City's Transportation Master Plan. It shows the existing and future roads with their connectivity and general sizing so the community will know what the plan is for future roads in Saratoga Springs. It is essentially the future road network.

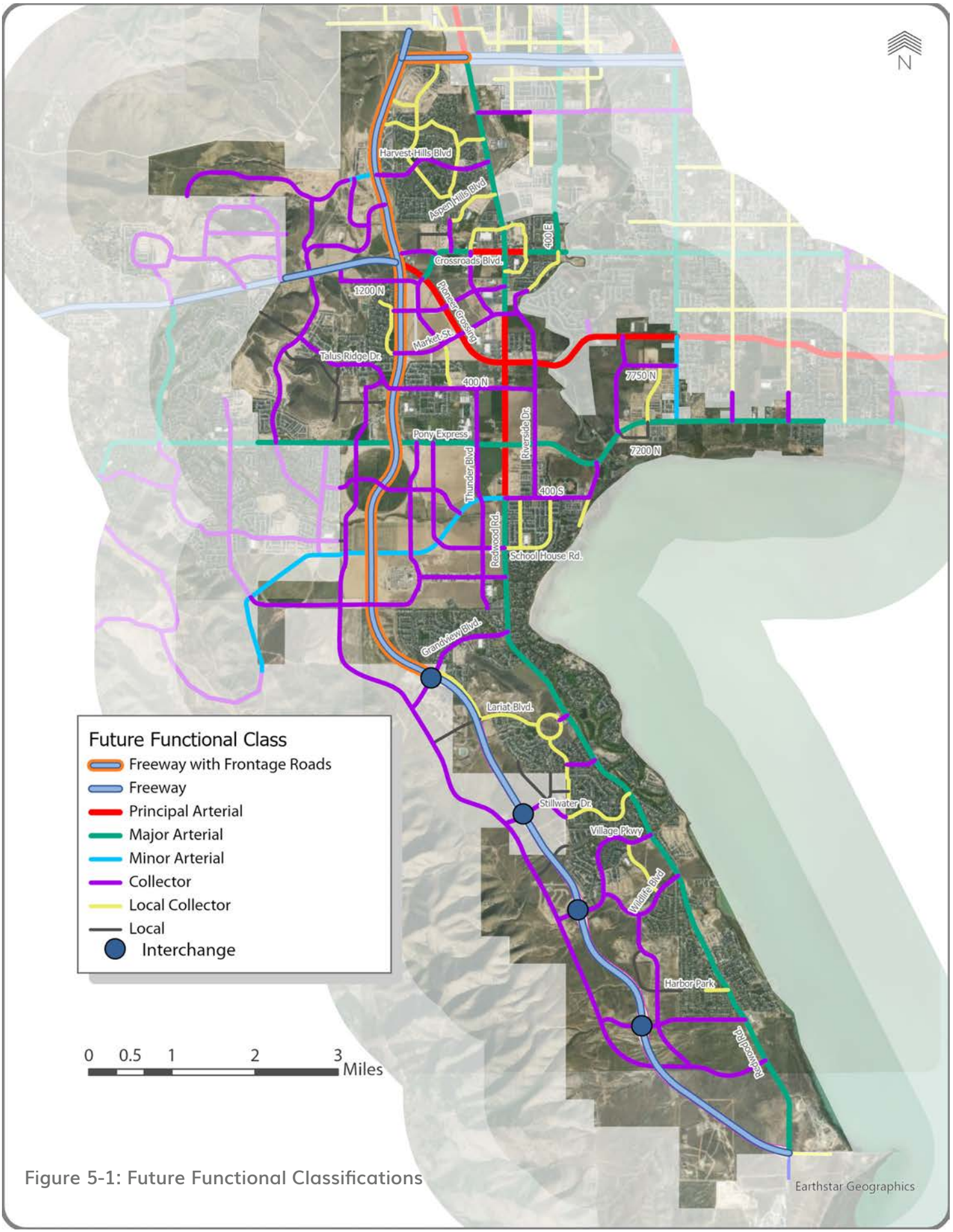


Figure 5-1: Future Functional Classifications

STANDARDS AND CROSS-SECTIONS

Accompanying the Future Functional Classifications Map to better complete the road network are standard roadway cross-sections. Roadway cross-sections are essential for understanding the function, capacity, and speed, as well as the look and feel of a road. The roadway cross-section standards for this TMP are based on Saratoga Springs City Standards and engineering concepts from the American Association of State Highway and Transportation Officials'(AASHTO) design manual "A Policy on Geometric Design of Highways and Streets 2018," commonly called the "AASHTO Green Book".

The typical cross-sections for each functional classification in Saratoga Springs are drawn in this section. These cross-section standards take into account certain necessary elements of a functional road system like: access, capacity, safety, vehicle emissions, and mobility. Smaller, lower-speed designs allow for more driveway and neighborhood access, while roadways like principle arterials, which are designed for easier long-distance travel at higher speeds, serve the function of moving a greater capacity of cars to areas with limited access. Cross-section drawings are located on the following pages. These are only examples of possible lane configurations within the pavement widths because there is variability in the application of standards.

All roadway design should be checked and compared to the City's Engineering Standards and Specifications.

Arterials

Principal arterial streets are mostly UDOT roads and are designed to move vehicles through an area. These roads have limited access, higher speeds, and traffic signals at major cross-streets. Principal arterials are generally spaced about one or two miles apart and usually have four to six travel lanes with a center-turn lane. Principal arterials in Saratoga Springs include Redwood Road, Pioneer Crossing, and S.R. 73. As shown below, the design widths for the principal arterials are variable and can be used for 3 to 7 lane roadway sections. ROW often varies and can be flexible to specific locations. Saratoga roads also include major and minor arterials which are designed for less volume than principal arterials but more volume than other existing road classifications in the city.

Figure 5-2: 7-Lane Major Arterial Cross-section

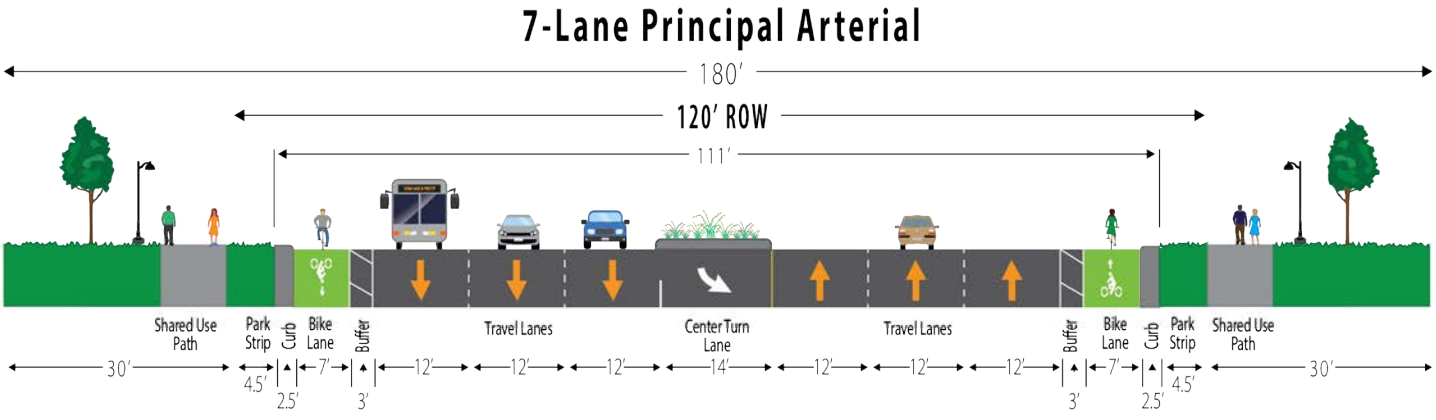


Figure 5-3: 5-Lane Major Arterial Cross-section

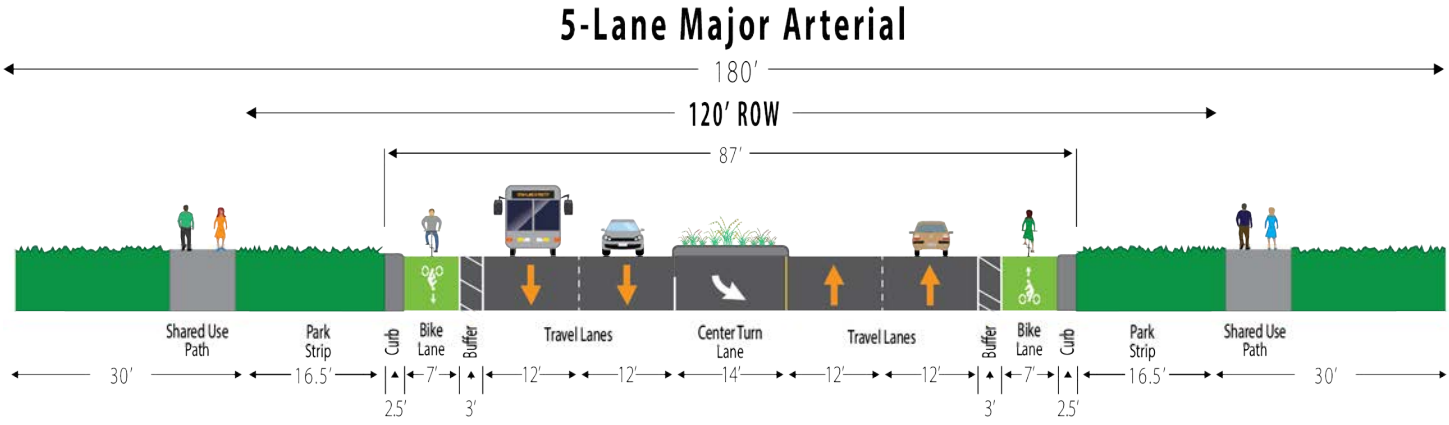


Figure 5-4: Alternative 5-Lane Major Arterial Cross-section

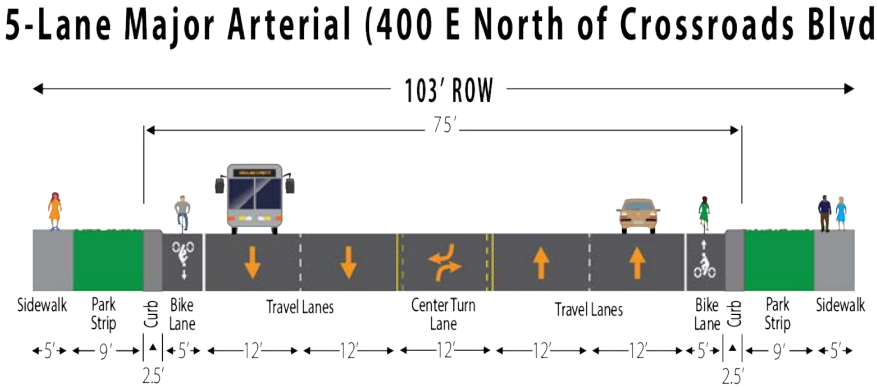
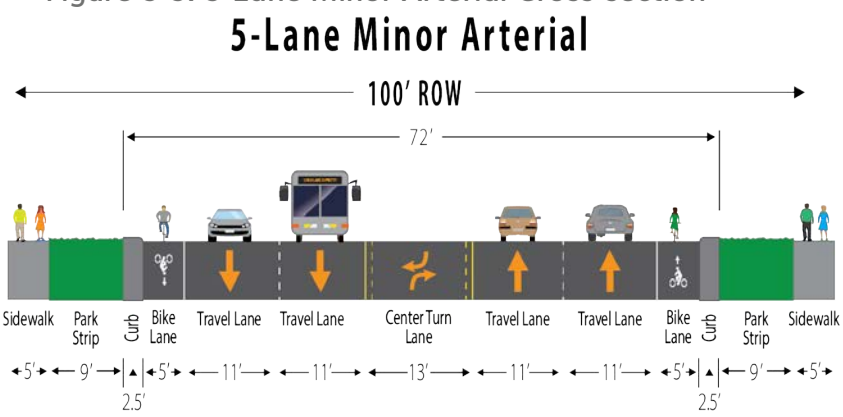


Figure 5-5: 5-Lane Minor Arterial Cross-section



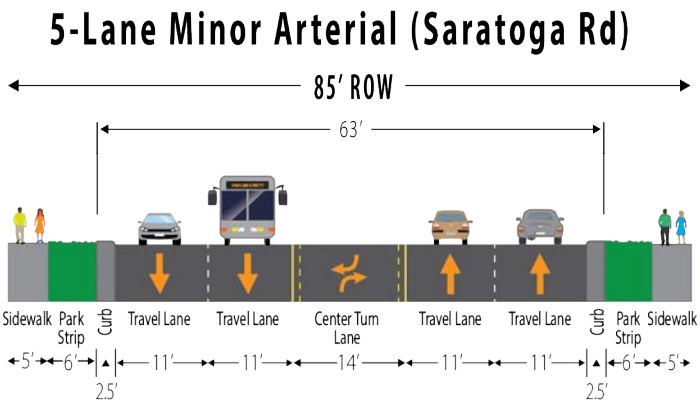
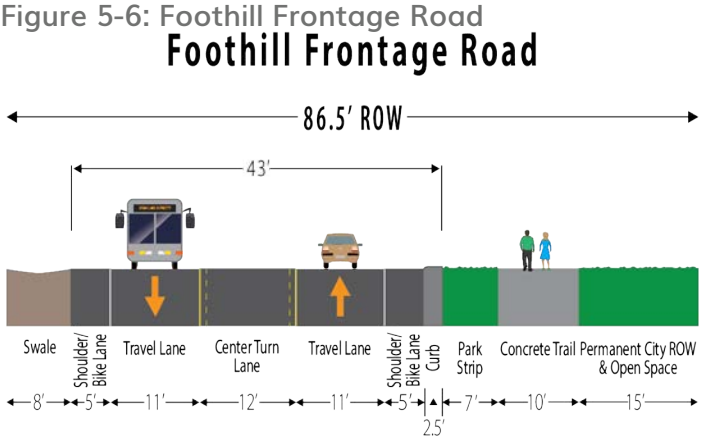


Figure 5-6: Foothill Frontage Road

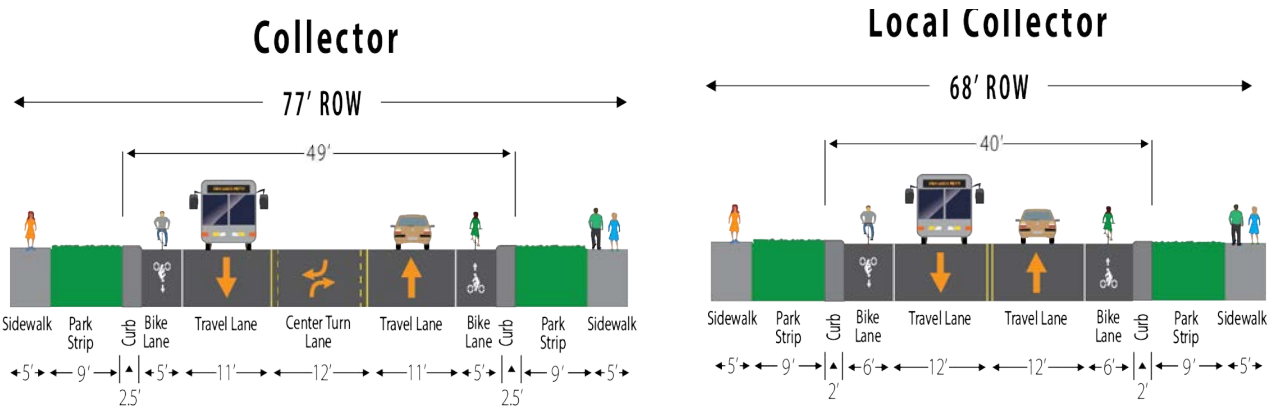


Collectors

Collector streets are designed to offer local traffic access to arterial streets, but they are not designed for long-distance travel. These roads have limitations to street and driveway access. Planned collectors in Saratoga Springs include Harvest Hills Boulevard and Parkway Boulevard. A collector has less vehicle capacity, and is not as wide as, an arterial, but it provides more capacity than local streets. Because of a collector's lower speeds and lower capacity, or flow rate, the geometric roadway design may have more curves, moving more with the contours of the land than an arterial.

Planned collectors in Saratoga Springs will connect to roads like Talus Ridge Drive, Pony Express Parkway, and Wildlife Boulevard. Currently, the City is not planning new local collector corridors.

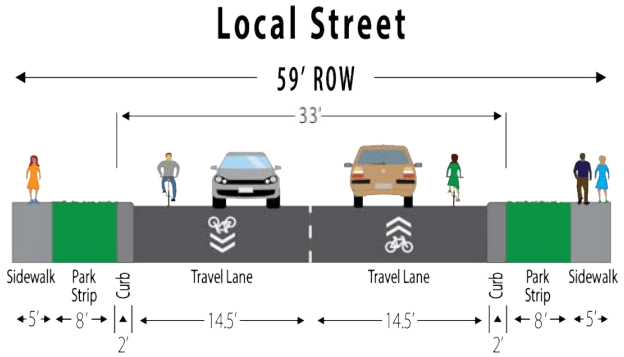
Figure 5-7: 3-Lane & 2-Lane Collector Cross-section



Local Streets

Local streets are designed to offer homes access to the greater roadway network by connecting to collectors or arterials. Local streets are typically laced with driveways on both sides and have posted speed limits of 25 miles per hour. These streets are part of developers' plans for neighborhoods, and are built within sub-divisions. Local streets exist across Saratoga Springs are found in residential developments. The local street cross-section has a 59-foot right-of-way, which could include one 14.5-foot travel lane in each direction, 2-feet of curb and gutter, 8-feet of park strip, and sidewalks at minimum width of 5-feet.

Figure 5-8: Local Street Cross-section



ACCESS MANAGEMENT

Access management is the practice of coordinating the location, number, spacing, and design of access points to minimize site access conflicts and maximize the traffic capacity and safety of a roadway. Uncoordinated growth along major travel corridors often results in strip development and a proliferation of access points. In many of these instances, each individual development along the corridor has its own access driveway. Numerous access points along major travel corridors create unnecessary conflicts between turning and through traffic, which causes delays and accidents. Numerous benefits are derived from controlling the location and number of access points to a roadway. Those benefits include:

- Improving overall roadway safety
- Reducing the total number of vehicle trips
- Decreasing interruptions in traffic flow
- Minimizing traffic delays and congestion
- Maintaining roadway capacity
- Extending the useful life of roads
- Avoiding costly highway projects
- Improving air quality
- Encouraging compact development patterns
- Improving access to adjacent land-uses
- Enhancing pedestrian and bicycle facilities

For further information about access management, see the City's Engineering Standards and Specifications.

Principles of Access Management

Growing traffic congestion, concerns over traffic safety, and the ever-increasing cost of upgrading roads have generated interest in managing the access to not only the highway system, but to surface streets as well. Access management is the process that provides access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed. Access management attempts to balance the need to provide good mobility for through traffic with the requirements for reasonable access to adjacent land-uses.

Arguably, the most important concept in understanding the need for access management is to ensure that the movement of traffic and access to property is not mutually exclusive. No facility can both move traffic efficiently and provide unlimited access at the same time. Figure 5-2 shows the relationship between mobility, access, and the functional classification of streets. The extreme examples of this concept are freeways and cul-de-sacs. Freeways move traffic very well with few opportunities for access, while the cul-de-sacs have unlimited opportunities for access, but don't move traffic very well. In many cases, accidents and congestion are the result of streets trying to serve both mobility and access at the same time.

A good access management program will accomplish the following:

- Limit the number of conflict points at driveway locations
- Separate conflict areas
- Reduce the interference of through traffic

» Provide sufficient spacing for at-grade, signalized intersections

» Provide adequate on-site circulation and storage

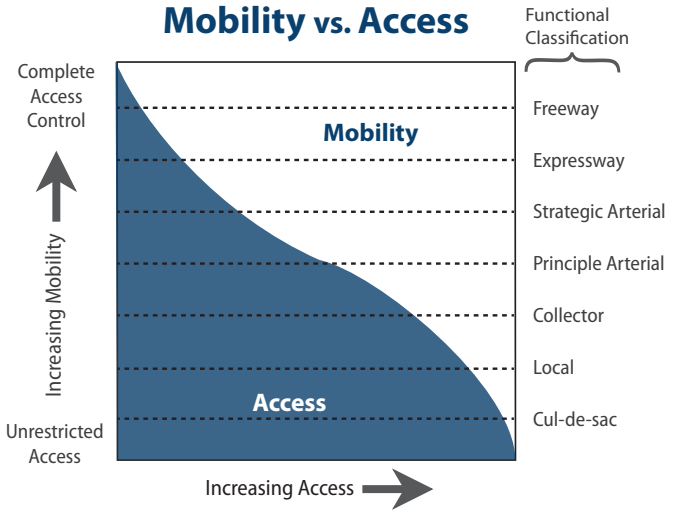
Access management attempts to put an end to the seemingly-endless cycle of road improvements followed by increased access, increased congestion, and the need for more road improvements.

Poor planning and inadequate control of access can quickly lead to an unnecessarily-high number of direct accesses along roadways. The movements that occur on and off roadways at driveway locations, when those driveways are too closely spaced, can make it very difficult for through traffic to flow smoothly at desired speeds and levels of safety. The AASHTO state that "the number of accidents is disproportionately higher at driveways than at other intersections… thus their design and location merits special consideration." Studies have shown that anywhere between 50 and 70 percent of all crashes that occur on the urban street system are access related.

Fewer direct accesses, greater separation of driveways, and better driveway design and location are the basic elements of access management. There is less occasion for through traffic to brake and change lanes in order to avoid turning traffic when these techniques are implemented uniformly and comprehensively.

Consequently, with good access management, the flow of traffic will be smoother and average travel speeds higher, with less potential for crashes. Before-and-after analyses by the Federal Highway Administration (FHWA), show that routes with well-managed access can experience 50 percent fewer accidents than comparable facilities with no access controls.

Figure 5-9: Mobility vs. Access



Through the development review and approval process, the City will evaluate proposed access points using the principles described above.

Roadway Network and Access Management Standards

As guidelines and standards are updated frequently, the access management guidelines and standards used for development and construction are included in the Saratoga Springs Engineering Standards. Please contact the City for more information on how to access the Engineering Standards.

The access management concepts and standards presented below are consistent with guidelines established by the FHWA, AASHTO, the Transportation Research Board (TRB), and the Institute of Transportation Engineers (ITE).

There are a number of access management techniques that can be used to preserve or enhance the capacity of a roadway. Specific techniques for managing access are discussed in this section and illustrated with examples. Not all techniques will apply to every situation. Some of them are more appropriate to less-developed rural areas of the city, whereas others are more appropriate in the urban areas. In the urban areas, the techniques can be applied when

existing sites are redeveloped or when negotiations with landowners are successful. Therefore, it is up to the City to determine what will work best based in each situation.

Number of Access Points

Controlling the number of access points or driveways from a site to a roadway reduces potential conflicts between cars, pedestrians, and bicycles. Normally, each parcel should be allowed one access point, and commercial properties should be required to share access where possible. Provisions can be made in the local land-use regulations to allow for more than one access point where special circumstances would require additional accesses.

Spacing of Access Points

Establishing a minimum distance between access points reduces the number of points a driver has to observe, and reduces the opportunity for conflicts. Spacing requirements should be based on the classification and design speed of the road, the existing and projected volume of traffic as a result of the proposed development, and the physical conditions of the site. Minimum spacing standards should be applied to both residential and commercial/industrial developments.

To ensure efficient traffic flow, new signals should be limited to locations where the progressive movement of traffic will not be impeded significantly. Uniform, or near uniform, spacing of signals is essential for the progression of traffic.

Un-signalized accesses are far more common than signalized accesses. They affect all kinds of activity, not merely large activity centers. Traffic operational factors lead to wider spacing of driveways (especially medium- and higher-volume driveways) include weaving and merging distances, stopping-sight distance, acceleration rates, and storage distance for back-to-back left turns. From a spacing perspective, these driveways should be treated the same as public streets.

Restricted access movement (i.e., right-in/right-out access) can provide for additional access to promote economic development with minimum impact to the roadway facility. This type of access should be spaced to allow for a minimum of traffic conflicts and provide distance for deceleration and acceleration of traffic in and out of the access. Restricting access on roads may create double-frontage lots. This can be mitigated through landscape buffering. See the City's Standard Technical Specifications for specific access management standards.

TRAFFIC CALMING

Street patterns are typically developed in response to the desires of the community at the time of construction. In Utah, the history of using a grid system for planning and development purposes started long ago and has proven efficient for moving people and goods throughout a network of surface streets. However, the nature of a grid system with wide and often long, straight roads can result in excessive speeds. For that reason, traffic calming measures (TCMs) can be implemented to reduce speeds on residential roadways. Saratoga Springs is an exception to the Utah grid system, and as, such has fewer problems with long, wide, straight street sections that can contribute to high speeds and unsafe conditions. Traffic calming is, however, still applicable to many neighborhood or local streets and should be at least given consideration on the City's local and residential streets on a case by case basis where



Managing access like on Pioneer Crossing is an important tool for transportation planning within Saratoga Springs.

applicable. See the City's Traffic Calming Policy for guidance.

TRAFFIC IMPACT STUDIES

As growth occurs throughout the city, the City will evaluate the impacts of proposed developments on the surrounding transportation networks prior to giving approval to build. This will be accomplished by requiring that a Traffic Impact Study (TIS) be performed for any development in the City. UDOT's traffic levels will be referenced as guidance for the TIS. The study will allow the City to determine the site-specific impacts of a development, including internal site circulation, access issues, and adjacent roadway and intersection impacts. In addition, a TIS will assist in defining possible impacts to the overall transportation system in the vicinity of the development. The area and items to be evaluated in a TIS include key intersections and roads as acknowledged by the City Engineer on a case-by-case basis. Other items that should be included in a TIS include:

- A description of the project site and study area boundaries including a site plan and study area map showing the proposed project access locations and connections to the adjacent road network.
- A description of existing and proposed land-uses within the study area including a discussion of the project land-use.
- A description of existing and proposed key roadways and intersections in the study area including lane configurations and traffic controls.
- A discussion of trip generation, distribution, and assignment methodologies and assumptions.
- A LOS and capacity analysis of existing traffic levels and conditions for key roadway segments and intersections.
- A LOS and capacity analysis of background traffic levels and conditions (existing traffic plus additional traffic projected from normal growth rates and from other known developments in the study area at the time of completion) for key roadway segments and intersections.
- A LOS and capacity analysis of background plus project traffic levels and conditions (background traffic plus projected traffic associated with the proposed project) for key roadway segments and intersections.
- A safety analysis for key roadways and intersections including applicable accident histories.
- Any applicable yield sign, stop sign, multi-way stop signs, and traffic signal warrant analyses.
- A determination of the street system's ability to accommodate projected traffic levels.
- An identification of impacts to the existing street system as a result of the project.
- A discussion of improvements to be implemented as part of the project to accommodate project traffic such as roadway and intersection widening to provide exclusive turn lanes or modifications to traffic controls.
- A discussion of mitigation measures to be implemented to restore or improve traffic operations to an acceptable LOS on any key roadway segments or at key intersections within the study area.

Each TIS will be conducted by a professional engineer at the developer's cost.

SPECIAL CONSIDERATIONS

A few specific locations on Saratoga Springs City's street network may require some unique improvements to resolve traffic issues at these sites. These areas are identified below along with the unique characteristics of each location.

Mountain View Corridor and Foothill Boulevard (2100 North to Grandview Boulevard)

Mountain View Corridor and Foothill Boulevard, from 2100 North to Grandview Boulevard, runs through a substantial portion of property managed by Suburban Land Reserve, Inc. (SLR). SLR has in place a development agreement for their property in the City and has been involved in the transportation planning process as it pertains to their property. The Mountain View Corridor and Foothill Boulevard extensions are proposed on the MAG 2020-2040 metropolitan transportation plan as part of phase 3 (2031-2040). The facility is expected to be a 6-Lane freeway facility with one-way frontage roads. This project will need extensive environmental clearance and the City will need to coordinate with UDOT when it comes time to begin that process. This roadway has been studied multiple times over the past few years by MAG. Three of these studies are listed below and can be accessed online at the following locations:

MAG West Lake Vision Study

http://mountainland.org/img/transportation/Studies/West_Lake_Final.pdf

Lake Mountain Transportation Study

http://mountainland.org/img/transportation/Studies/Lake%20Mountain%20All.pdf

Utah County East-West Study

http://mountainland.org/img/transportation/Studies/East-West%20Final%20Report.pdf

There is an ongoing North Lakeshore Study, led by MAG, involving Saratoga Springs that looks at the option for an east/west freeway connecting to I-15. Although no specific alignment has been decided upon as of yet, one option is for Pioneer Crossing to be converted into a freeway.

There is a current planning effort going on in the North Lakeshore region of Utah County. This involves MAG and UDOT partnering with eight local communities to develop a collaborative regional transportation strategy that is consistent with the vision and needs for the region. This regional effort includes the communities of Eagle Mountain, Saratoga Springs, Lehi, Lindon, American Fork, Pleasant Grove, Vineyard, Orem, Utah County, and UTA. As this regional growth continues, consistency in local land-use plans and the transportation networks in each city may need to be adjusted to ensure continuity for one coordinated effort to meet transportation demand. The study will follow the new Solutions Development Process developed by UDOT and will plan for the next 50 years from a regional perspective.

ACTIVE TRANSPORTATION

Future bicycle and pedestrian facilities also play an important part of a complete TMP. Figure 5-8 is a map that shows the planned AT network and facilities. Currently, Saratoga Springs is incorporating AT facilities into much of its ROW and roadway design and has plans to continue this effort into the future, creating more access, more connections, and more variety of facility type for all users. The combination of completed and planned mileage of AT facilities is shown in Table 5-1. This information is from the **Parks, Recreation, Trails, and Open Space Master Plan** for Saratoga Springs, which was adopted May 5, 2020. This document can be viewed at: http://www.saratogaspringscity.com/DocumentCenter/View/143/Parks-Recreation-Trails-and-Open-Space.

Table 5-1: Existing and Proposed Active Transportation Facilities in Miles

	EXISTING	PROPOSED
Bike Lane	11.6	56.2
Paved Trail	37.1	126.9

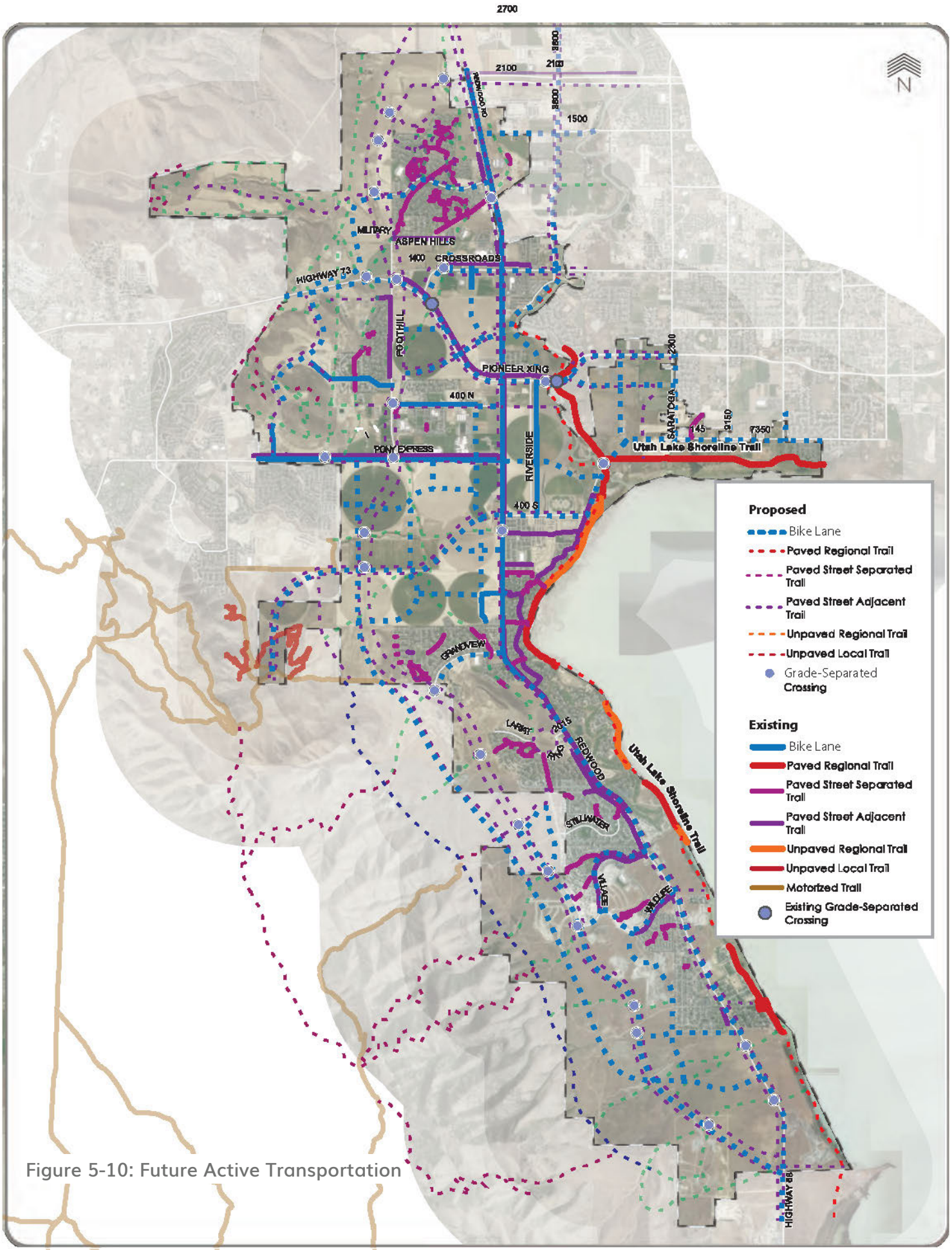


Figure 5-10: Future Active Transportation

TRANSIT

Transit can provide a viable mobility option across economic strata for City residents and commuters. As Saratoga Springs grows in population and density, it can expand the geographic coverage and frequency of its transportation network. While UTA currently only offers a weekday core bus route, future transit plans include local bus routes, bus rapid transit (BRT), and a BRT/ light-rail route. Coordination of this expansion involves both MAG and UTA.

Public transit service best utilizes its capacity and provides the greatest benefit to the most people in areas that have a high population density. When there is a demand for transit in areas that have the population numbers to support the service, more frequent and faster transit lines can be implemented to expand the service and meet the public's needs. As areas become more densely populated transit operates as a more efficient tool to reduce congestion. The existence of transit can help reduce the frequency and intensity of winter inversion days by improved air quality, guide growth by incentivizing mixed use development, promote AT, and many other urban planning and design strategies that can improve a community's overall quality of life. However, a certain population level has to be reached to maximize the benefits of transit. If transit is set up in advance, it can help the impacts of growth in a proactive way, or it can be reactive, and assist the City after a higher level of population has been reached, reacting to the needs of the public and satisfying a latent demand.

Figure 5-10 is a map displaying the future of transit service with the new express route highlighted.

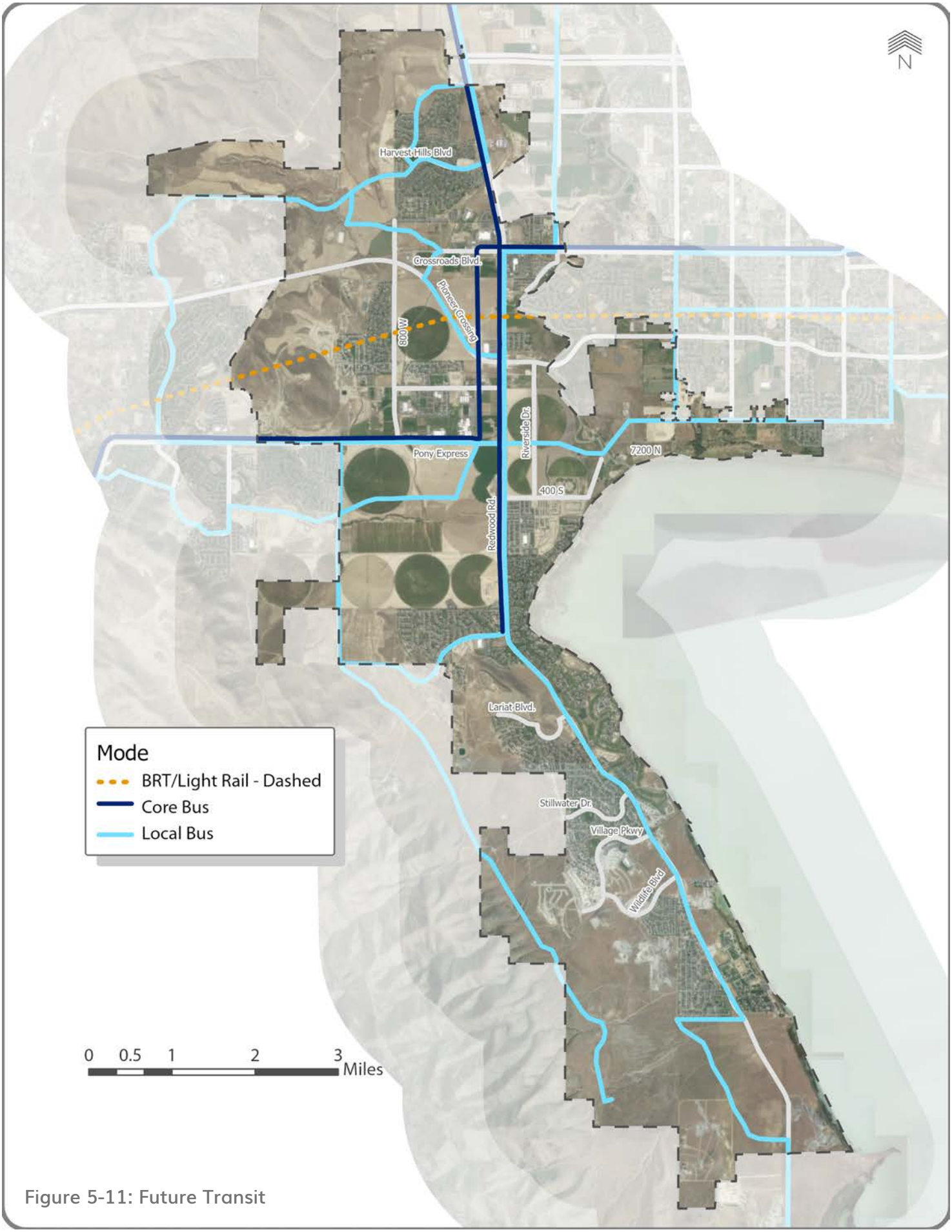


Figure 5-11: Future Transit

6 what's the plan



This chapter includes a capital facilities plan with recommended projects and costs estimates. Based upon the evaluation of existing and future conditions, as well as public input that was received through the planning process, specific recommendations were developed for each plan element. These recommendations will be used to complete the transportation network, including functionally-classified roads, transportation investments, and AT projects.

CAPITAL FACILITIES

A capital facilities plan is designed to show the future transportation investment needed in a community. It enhances existing transportation corridors and plans spot intersection improvements to provide future residents of the community with a high quality transportation system. The capital facilities plan for future growth between the planning years of 2020-2050 is provided below. Figure 6-1 is a map of all the needed transportation project over the next 30 years.

Tables 6-1 and 6-2 detail the projects in Figures 6-1 and 6-2.

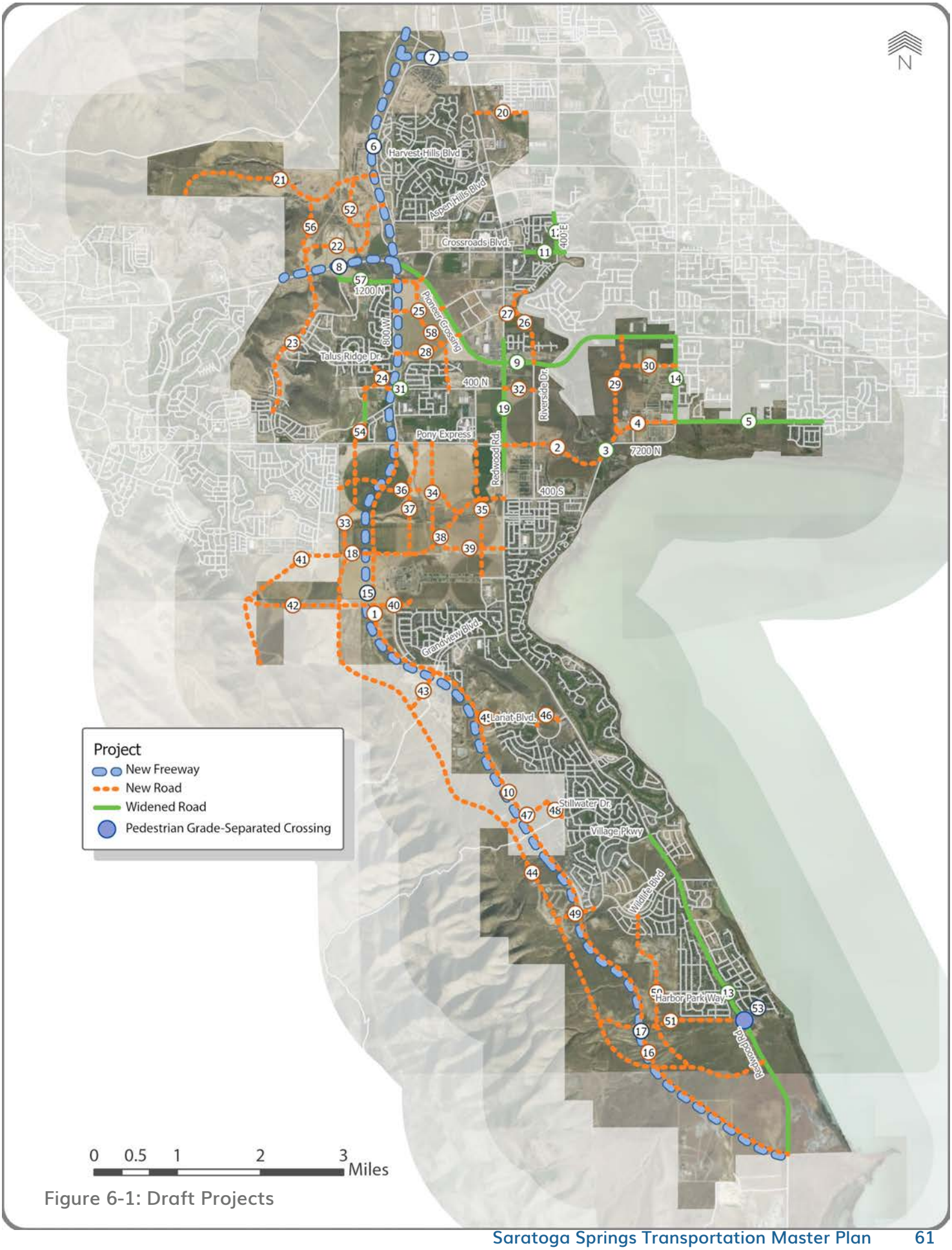


Figure 6-1: Draft Projects

Table 6-1: Roadway Projects

ROADWAY PROJECT				
Project #	**Location**	**Project Type**	**Functional Class**	**Jurisdiction**
1	Foothill Boulevard: Pony Express to Lariat Boulevard	New Road	Minor Arterial	Saratoga Springs/MAG
2	Pony Express: Redwood Road to Jordan River	New Road	Major Arterial	Saratoga Springs/MAG
3	Pony Express: Jordan River	Widening	Major Arterial	Saratoga Springs/MAG
4	Pony Express: Jordan River to Saratoga Road	New Road	Major Arterial	Saratoga Springs/MAG
5	Pony Express: Saratoga Road to Eastern City Boundary	Widening	Major Arterial	Saratoga Springs/MAG
6	Mountain View Corridor: Northern City Border to Cedar Fort Road (SR-73)	New Road	Freeway	UDOT
7	2100 North Connection: Eastern City Border to Mountain View Corridor	New Road	Freeway	UDOT
8	Cedar Fort Road (SR-73) Freeway: Mountain View Corridor Frontage to Western City Border	Widening	Freeway	UDOT
9	Pioneer Crossing (SR-145): Eastern City Border to Cedar Fort Road (SR-73)	Widening	Principal Arterial	UDOT
10	Foothill Boulevard: Lariat Boulevard to Hunter Boulevard	New Road	Minor Arterial	Saratoga Springs/MAG
11	Crossroads Boulevard: Commerce Drive to Eastern City Border	Widening	Principal Arterial	Saratoga Springs/MAG
12	400 East: Crossroads Boulevard to Northern City Boundary	Widening	Major Arterial	Saratoga Springs/MAG
13	Redwood Road (SR-68): Fairview Boulevard to Southern City Border	Widening	Major Arterial	UDOT
14	Saratoga Road: Pony Express to Pioneer Crossing (SR-175) (Saratoga Springs Portion)	Widening	Minor Arterial	Saratoga Springs
15	Foothill Freeway: Cedar Fort Freeway (SR-73) to Stillwater Drive	New Road	Freeway	UDOT
16	Foothill Boulevard: Hunter Boulevard to Redwood Road	New Road	Freeway	Saratoga Springs/MAG
17	Foothill Freeway: Stillwater Drive to Redwood Road	New Road	Freeway	UDOT
18	Hidden Valley Highway: Foothill Boulevard to Western City Border	New Road	Major Arterial	Saratoga Springs/MAG
19	Redwood Road (SR-68): North Border to Grandview Boulevard	Widening	Principal Arterial	UDOT
20	2400 North: Redwood Road (SR-68) Eastern Border	New Road	Collector	Saratoga Springs
21	Wild Hills Boulevard: Western City Boundary to Mountain View Corridor	New Road	Minor Arterial/Collector	Saratoga Springs
22	Aster Drive: Cedar Fort Road (SR-73) to Mountain View Corridor	New Road	Collector	Saratoga Springs/MAG
23	Mt. Saratoga Boulevard: Cedar Fort Road (SR-73) to Quail Hill Road	New Road	Collector	Saratoga Springs
24	Talus Ridge Drive: Mountain Peak Drive to 400 North	New Road	Collector	Saratoga Springs
25	Medical Drive: Foothill Boulevard to Pioneer Crossing	New Road	Collector	Saratoga Springs
26	Riverside Drive: End of Existing to Pioneer Crossing	New Road	Collector	Saratoga Springs
27	Market Street: Redwood Road (SR-68) to Riverside Drive	New Road	Collector	Saratoga Springs
28	Market Street: Foothill Boulevard to Pioneer Crossing	New Road	Collector	Saratoga Springs
29	500 East: Pony Express to Pioneer Crossing (SR-175)	New Road	Collector	Saratoga Springs
30	550 North: 500 East to Saratoga Road	New Road	Collector	Saratoga Springs
31	400 North: Foothill Boulevard and Grand Sierra Way	New Road	Collector	Saratoga Springs
32	400 North: Redwood Road (SR-68) to Riverside Drive	New Road	Collector	Saratoga Springs
33	Bonneville Drive: Pony Express Pkwy to 1200 South	New Road	Collector	Saratoga Springs
34	500 West: Pony Express to Hidden Valley Drive	New Road	Collector	Saratoga Springs
35	200 West: Pony Express to Founders Boulevard	New Road	Collector	Saratoga Springs
36	Brookwood Drive: Western Boundary to Hidden Valley Driv	New Road	Collector	Saratoga Springs
37	600 West: Brookwood Drive to Hidden Valley Driv	New Road	Collector	Saratoga Springs
38	Hidden Valley Drive: Redwood Road to Foothill Boulevard	New Road	Collector	Saratoga Springs
39	New Road: Redwood Road to Hidden Valley Drive	New Road	Collector	Saratoga Springs
40	1100 South: Ensign Drive to Bonneville Drive	New Road	Collector	Saratoga Springs
41	Hidden Valley Drive: City Boundary to City Boundary	New Road	Minor Arterial	Eagle Mt./MAG
42	1100 South: Hidden Valley Drive to Bonneville Drive	New Road	Collector	Saratoga Springs
43	Grandview Boulevard: Existing to Bonneville Drive	New Road	Collector	Saratoga Springs
44	Bonneville Drive: 1100 South to Redwood Road (SR-68)	New Road	Collector	Saratoga Springs
45	Lariat Blvd: End of Existing to Foothill Boulevard	New Road	Local Collector	Saratoga Springs
46	Ring Road: Finish Loop Roadway	New Road	Local Collector	Saratoga Springs
47	Hunter Drive: Stillwater Drive to Bonneville Drive	New Road	Collector	Saratoga Springs
48	Stillwater Drive: Existing to Hunter Drive	New Road	Collector	Saratoga Springs
49	Village Parkway: Tytus Lane to Bonneville Drive	Widening	Collector	Saratoga Springs
50	Heathercrest Drive: Bonneville Drive to Wildlife Boulevard	New Road	Collector	Saratoga Springs
51	New Road: Redwood Road to Foothill Boulevard	New Road	Collector	Saratoga Springs
52	Chianti Drive: Aster Drive to Wild Blossom Boulevard	New Road	Collector	Saratoga Springs
53	Redwood Road at Approx. 4300 South	Pedestrian Grade-Separated Crossing	NA	TIF Active / Alpine School District
54	1000 West: 400 North to Evans Lane	New Road/Widening	Collector	Saratoga Springs
55	Evans Lane: 1000 West to Talus Ridge Drive	New Road	Collector	Saratoga Springs
56	New Road: Aster Drive to Wild Blossom Boulevard	New Road	Collector	Saratoga Springs
57	1200 North: Cedar Fort Road (SR-73) to Carlton Avenue	New Road/Widening	Collector	Saratoga Springs
58	Carlton Avenue: Pioneer Crossing to Market Street	New Road	Collector	Saratoga Springs

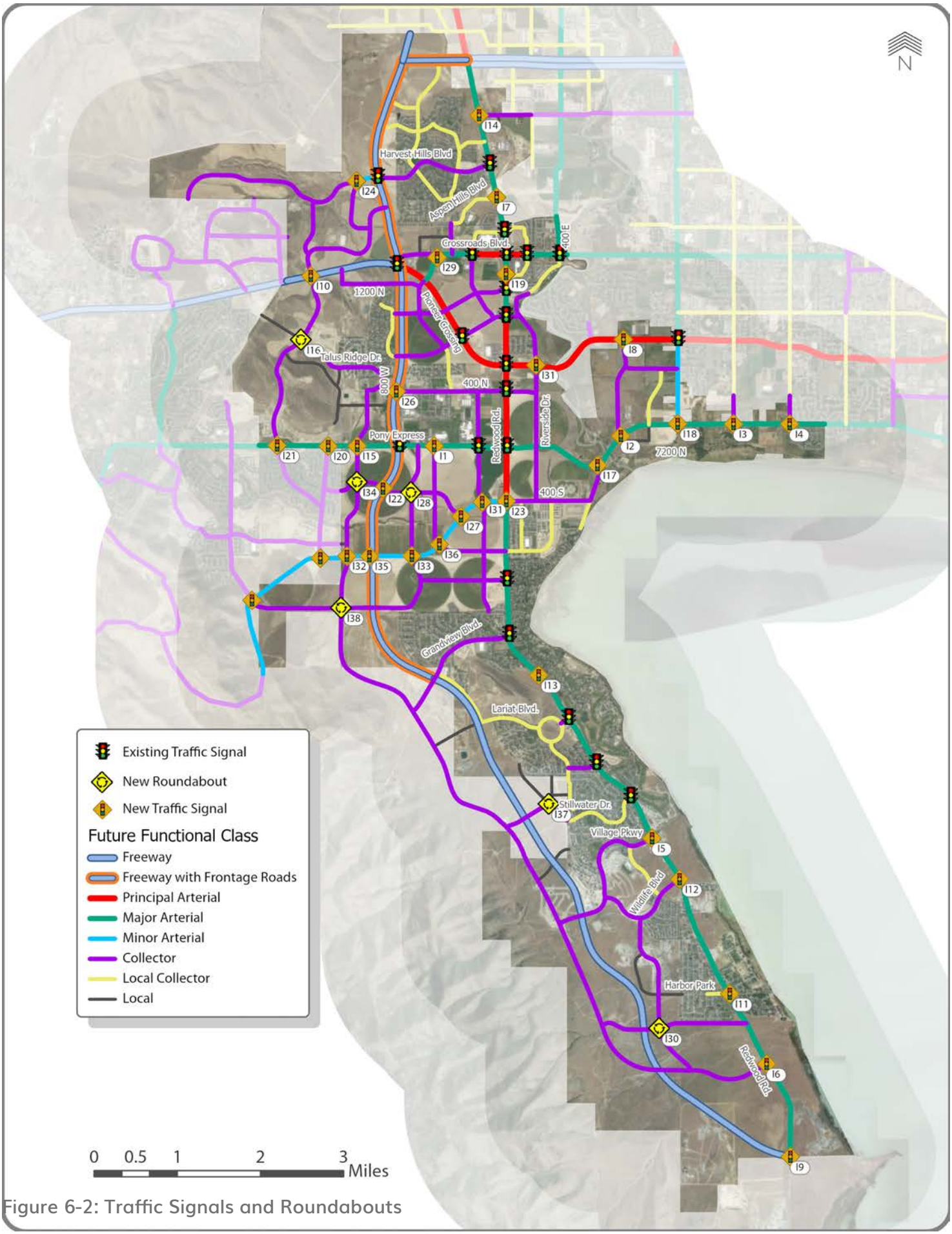


Figure 6-2: Traffic Signals and Roundabouts

Table 6-2: Signals & Roundabout Projects

SIGNALS & ROUNDABOUTS			
Project #	Type	Location	Jurisdiction
I1	New Traffic Signal	Pony Express Parkway and 600 West	UDOT
I2	New Traffic Signal	Pony Express Parkway and Saratoga Road	UDOT
I3	New Traffic Signal	Pony Express Parkway and 1700 West	UDOT
I4	New Traffic Signal	Pony Express Parkway and 1100 West	UDOT
I5	New Traffic Signal	Redwood Road (SR-68) and Village Parkway	UDOT
I6	New Traffic Signal	Redwood Road (SR-68) and Bonneville Drive	UDOT
I7	New Traffic Signal	Aspen Hills Boulevard and Redwood Road (SR-68)	UDOT
I8	New Traffic Signal	Pioneer Crossing (SR-145) and 500 East	UDOT
I9	New Traffic Signal	Redwood Road (SR-68) and Foothill Boulevard	UDOT
I10	New Traffic Signal	SR-73 and Mt. Saratoga Boulevard	UDOT
I11	New Traffic Signal	Redwood Road (SR-68) and Harbor Parkway	UDOT
I12	New Traffic Signal	Redwood Road (SR-68) and Wildlife Boulevard	UDOT
I13	New Traffic Signal	Redwood Road (SR-68) and Centennial Boulevard	UDOT
I14	New Traffic Signal	Redwood Road (SR-68) and 2400 North	UDOT
I15	New Traffic Signal	Pony Express Parkway and Bonneville Drive	UDOT
I16	New Roundabout	Talus Ridge Drive and Mount Saratoga Boulevard	Saratoga Springs
I17	New Traffic Signal	Pony Express Parkway and Saratoga Rd	UDOT
I18	New Traffic Signal	Pony Express and Saratoga Road	Saratoga Springs
I19	New Traffic Signal	Redwood Road (SR-68) and South Commerce Drive*	UDOT
I20	New Traffic Signal	Woodhaven Boulevard and Pony Express	UDOT
I21	New Traffic Signal	Pony Express and Mount Saratoga Bld	UDOT
I22	New Traffic Signal	Foothill Boulevard and Brookwood Drive	Saratoga Springs
I23	New Traffic Signal	Redwood Road (SR-68) and 400 South	UDOT
I24	New Traffic Signal	Wild Blossom Boulevard and Chianti St	Saratoga Springs
I26	New Traffic Signal	Foothill Boulevard and 400 North	Saratoga Springs
I27	New Traffic Signal	400 South and Brookwood Drive	Saratoga Springs
I28	New Roundabout	Brookwood Drive and 600 West	Saratoga Springs
I29	New Traffic Signal	Crossroads Boulevard and 1400 North	Saratoga Springs
I30	New Roundabout	Heathercrest Drive and 4400 South	Saratoga Springs
I31	New Traffic Signal	Riverside Drive and Pioneer Crossing (SR-145)	UDOT
I31	New Traffic Signal	400 South and Thunder Boulevard	Saratoga Springs
I32	New Traffic Signal	800 South and Bonneville Drive	Saratoga Springs
I33	New Traffic Signal	800 South and Ensign Drive	Saratoga Springs
I34	New Traffic Signal	Bonneville Drive and Brookwood Drive	Saratoga Springs
I35	New Traffic Signal	Foothill Boulevard and 800 South	Saratoga Springs
I36	New Traffic Signal	800 South and 600 West	Saratoga Springs
I37	New Roundabout	Hunter Drive and New Road	Saratoga Springs
I38	New Traffic Signal	Bonneville Drive and Ensign Drive	Saratoga Springs

* Until the Foothill Freeway is connected to Grandview Boulevard or points south only one of these intersections will be signalized.

FUNDING

All possible revenue sources have been considered as a means of financing transportation capital improvements needed as a result of new growth. This section discusses the potential revenue sources that could be used to fund transportation needs as a result of new development.

Transportation routes often span multiple jurisdictions and provide regional significance to the transportation network. As a result, other government jurisdictions or agencies often help pay for such regional benefits. Those jurisdictions and agencies could include the Federal Government, the State (UDOT), the County, and MAG. The City will need to continue to partner and work with these other jurisdictions to ensure adequate funds are available for the specific improvements necessary to maintain an acceptable LOS. Saratoga Springs will also need to partner with adjacent communities to ensure corridor continuity across jurisdictional boundaries (i.e., arterials connect with arterials; collectors connect with collectors, etc.).

Funding sources for transportation are essential if Saratoga Springs recommends improvements to be built. The following paragraphs further describe the various transportation funding sources available to the City.

Federal Funding

Federal monies are available to cities and counties through the federal-aid program. UDOT administers the funds. In order to be eligible, a project must be listed on the five-year Statewide Transportation Improvement Program (STIP).

The Surface Transportation Program (STP) funds projects for any roadway with a functional classification of a collector street or higher, as established on the Statewide Functional Classification Map. STP funds can be used for both rehabilitation and new construction. The Joint Highway Committee programs a portion of the STP funds for projects around the state in urban areas. Another portion of the STP funds can be used for projects in any area of the state at the discretion of the State Transportation Commission. Transportation Enhancement funds are allocated based on a competitive application process. The Transportation Enhancement Committee reviews the applications and then a portion of the application is passed to the State Transportation Commission. Transportation enhancements include twelve categories ranging from historic preservation, bicycle and pedestrian facilities, and water runoff mitigation.

MAG accepts applications for federal funds from local and regional government jurisdictions. The MAG Technical Advisory and Regional Planning Committees select projects for funding every two years. The selected projects form the Transportation Improvement Program (TIP). In order to receive funding, projects should include one or more of the following aspects:

- Congestion Relief – spot improvement projects intended to improve Levels of Service and/ or reduce average delay along those corridors identified in the Regional Transportation Plan as high congestion areas
- Mode Choice – projects improving the diversity and/or usefulness of travel modes other than single occupant vehicles
- Air Quality Improvements – projects showing demonstrable air quality benefits
- Safety – improvements to vehicular, pedestrian, and bicyclist safety

The Better Utilizing Investments to Leverage Development (BUILD) grant program, provides opportunities for investment in road, rail, transit, and port projects. The BUILD grant program replaced the TIGER program as of 2018 and can provide capital funding directly to any public entity, including municipalities, counties, MPOs, and others in contrast to traditional Federal funding that goes to mostly State DOTs and transit agencies. BUILD grants are intended to fund multi-modal, multi-jurisdictional projects that are more difficult to support through traditional DOT programs. Potential projects within Saratoga Springs include Foothill Boulevard and the eventual Foothill Freeway that provide regional mobility, freight, and multi-modal improvements for the greater Wasatch Front. BUILD grants are competitively awarded, with only 91 awarded projects out of 851 applications in 2018. The U.S. DOT has allocated $1 billion in fiscal year 2020 for these grants. Source: https://www.transportation.gov/policy-initiatives/build/tigerbuild-application-list

State/County Funding

The distribution of State Class B and C Program funds is established by State Legislation and is administered by the State Department of Transportation. Revenues for the program are derived from State fuel taxes, registration fees, driver license fees, inspection fees, and transportation permits. 75 percent of these funds are kept by UDOT for their construction and maintenance programs. The rest is made available to counties and cities. As many of the roads in the city fall under UDOT jurisdiction, it is in the interests of the City that staff are aware of the procedures used by UDOT to allocate those funds and to be active in requesting that the funds be made available for UDOT-owned roadways in the City.

Class B and C funds are allocated to each city and county by a formula based on population, centerline miles, and land area. Class B funds are given to counties, and Class C funds are given to cities and towns. Class B and C funds can be used for maintenance and construction projects; however, 30 percent of those funds must be used for construction or maintenance projects that exceed $40,000. The remainder of these funds can be used for matching federal funds or to pay the principal, interest, premiums, and reserves for issued bonds.

In 2005, the State Senate passed a bill providing for the advance acquisition of right-of-way for highways of regional significance. This bill enabled cities and counties to better plan for future transportation needs by acquiring property to be used as future right-of-way before it is fully developed and becomes extremely difficult to acquire. UDOT holds on account the revenue generated by the local corridor preservation fund, but the county is responsible to program and control monies. In order to qualify for preservation funds, the City must comply with the Corridor Preservation Process, found at the following link www.udot.utah.gov/public/ucon and also provided in the appendix of this report.

City Funding

Some cities utilize general fund revenues for their transportation programs. Another option for transportation funding is the creation of special improvement districts. These districts are organized for the purpose of funding a single specific project that benefits an identifiable group of properties. Another source of funding used by cities is revenue bonding for projects intended to benefit the entire community.

Private interests often provide resources for transportation improvements. Developers construct the local streets within subdivisions and often dedicate rights-of-way and participate in the construction of collector/arterial streets adjacent to their developments. Developers can also be considered a possible source of funds for projects through the use of impact fees. These fees are assessed as a result of the impacts a particular development will have on the surrounding roadway system, such as the need for traffic signals or street widening.

General fund revenues are typically reserved for operation and maintenance purposes as they relate to transportation. However, general funds could be used, if available, to fund the expansion or introduction of specific services. Providing a line item in the City-budgeted general funds to address roadway improvements, which are not impact fee eligible, is a recommended practice to fund transportation projects, should other funding options fall short of the needed amount.

General obligation bonds are debt paid for or backed by the City's taxing power. In general, facilities paid for through this revenue stream are in high demand amongst the community. Typically, general obligation bonds are not used to fund facilities that are needed as a result of new growth because existing residents would be paying for the impacts of new growth. As a result, general obligation bonds are not considered a fair means of financing future facilities needed as a result of new growth.

Certain areas might have different needs or require different methods of funding than traditional revenue sources. A Special Assessment Area (SAA) can be created for infrastructure needs that benefit or encompass specific areas of the

City. Creation of the SAA may be initiated by the municipality by a resolution declaring public health, convenience, and necessity to require the creation of a SAA. The boundaries and services provided by the district must be specified and a public hearing must be held prior to creation of the SAA. Once the SAA is created, funding can be obtained from tax levies, bonds, and fees when approved by the majority of the qualified electors of the SAA. These funding mechanisms allow the costs to be spread out over time. Through the SAA, tax levies and bonding can apply to specific areas in the City needing to benefit from the improvements.

Interfund Loans

Since infrastructure must generally be built ahead of growth, it must sometimes be funded before expected impact fees are collected. Bonds are the solution to this problem in some cases. In other cases, funds from existing user rate revenue will be loaned to the impact fee fund to complete initial construction of the project. As impact fees are received, they will be reimbursed. Consideration of these loans will be included in the impact fee analysis and should be considered in subsequent accounting of impact fee expenditures.

Developer Dedications & Exactions

Developer dedications and exactions can both be credited against the developer's impact fee analysis. If the value of the developer dedications and/or extractions are less than the developer's impact fee liability, the developer will owe the balance of the liability to the City. If the dedications and/or extractions of the developer are greater than the impact fee liability, the City must reimburse the developer the difference.

Developer Impact Fees

Impact fees are a way for a community to obtain funds to assist in the construction of infrastructure improvements resulting from and needed to serve new growth. The premise behind impact fees is that if no new development occurred, the existing infrastructure would be adequate. Therefore, new developments should pay for the portion of required improvements that result from new growth. Impact fees are assessed for many types of infrastructures and facilities that are provided by a community, such as roadway facilities. According to state law, impact fees can only be used to fund growth related system improvements.

ORDINANCE NO. 22–20 (6-7-22)

AN ORDINANCE OF THE CITY OF SARATOGA SPRINGS, UTAH, ADOPTING AMENDMENTS TO THE TRANSPORTATION ELEMENT OF THE GENERAL PLAN; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, Utah Code Section 10-9a-403 allows municipalities to amend the general plan, including but not limited to the transportation element; and

WHEREAS, the City's Development Review Committee has found a need to update the Transportation Master Plan, an element of the General Plan; and

WHEREAS, before the City Council approves any such amendments, the amendments must first be reviewed by the planning commission for its recommendation; and

WHEREAS, on May 12, 2022 the Planning Commission held a public hearing after proper notice and publication to consider proposed amendments to the transportation element of the City's General Plan; and

WHEREAS, on May 17, 2022, the City Council held a public meeting after proper notice and publication to consider the proposed amendments; and

WHEREAS, after due consideration and after proper notice, and after conducting the requisite public hearings, the City Council has determined that it is in the best interests of the residents of the City of Saratoga Springs that amendments to the Transportation Master Plan, an element of the General Plan, be made.

NOW THEREFORE, the City Council hereby ordains as follows:

SECTION I – ENACTMENT

The amended transportation element of the General Plan attached as Exhibit A is hereby adopted.

SECTION II – AMENDMENT OF CONFLICTING ORDINANCES

If any ordinances, resolutions, policies, or maps of the City of Saratoga Springs heretofore adopted are inconsistent herewith they are hereby amended to comply with the provisions hereof. If they cannot be amended to comply with the provisions hereof, they are hereby repealed.

SECTION III – EFFECTIVE DATE

This ordinance shall take effect upon its passage by a majority vote of the Saratoga Springs City Council and following notice and publication as required by the Utah Code.

SECTION IV – SEVERABILITY

If any section, subsection, sentence, clause, phrase, or portion of this ordinance is, for any reason, held invalid or unconstitutional by any court of competent jurisdiction, such provision shall be deemed a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION V – PUBLIC NOTICE

The Saratoga Springs Recorder is hereby ordered, in accordance with the requirements of Utah Code § 10-3-710—711, to do as follows:

a. deposit a copy of this ordinance in the office of the City Recorder; and
b. publish notice as follows:
    i. publish a short summary of this ordinance on the Utah Public Notice Website; or
    ii. post a complete copy of this ordinance in three public places within the City.

ADOPTED AND PASSED by the City Council of the City of Saratoga Springs, Utah, this 7th day of June, 2022.

Signed: _____
Jim Miller, Mayor

Attest: _____
Cindy LoPiccolo, City Recorder

	VOTE
Chris Carn	_____
Michael McOmber	_____
Ryan Poduska	_____
Chris Porter	_____
Stephen Willden	_____

KM DRAFT OF 5/31/22

WATER CREDIT
PURCHASE AND SALE AGREEMENT
(Central Water Project)

THIS WATER CREDIT PURCHASE AND SALE AGREEMENT (Central Water Project) (this "Agreement"), is dated as of June __, 2022 (the "Effective Date"), by and between the CITY OF SARATOGA SPRINGS, a municipal corporation of the state of Utah (the "City"), PROPERTY RESERVE, INC., a Utah nonprofit corporation ("PRI"), and THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS, a Utah corporation sole, formerly known as Corporation of the Presiding Bishop of The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole (the "Church Corporation").

RECITALS

A. The City and Central Utah Water Conservancy District ("CUWCD") have entered into that certain Water Supply Agreement between Central Utah Water Conservancy District and the City of Saratoga Springs for Sale of CWP Municipal and Industrial Water, dated November 25, 2009, as amended by that certain Amended and Restated Water Supply Agreement between Central Utah Water Conservancy District and the City of Saratoga Springs for Sale of CWP Municipal and Industrial Water, dated as of February 22, 2017 (collectively, the "CWP Contract"), pursuant to which the City has subscribed for, and CUWCD has agreed to make available to the City on a take-or-pay basis, 10,000 acre-feet of culinary water from CUWCD's Central Water Project ("CWP").

B. The City, PRI and CPB have entered into (i) that certain Water Credit Agreement, dated as of November 25, 2009, (ii) that certain Amended and Restated Water Credit Agreement, dated as of February 21, 2017, and (iii) that certain Second Amended and Restated Water Credit Agreement, dated as of _____, 2021 (collectively, the "Water Credit Agreement"), pursuant to which PRI agreed to reimburse to the City certain amounts payable by the City to CUWCD under the CWP Contract, in exchange for which reimbursement PRI was granted the right to use the 10,000 acre-feet of water available to the City under the CWP Contract, as represented by 10,000 water credits issued by the City to PRI (the "Water Credits"), as described in the Water Credit Agreement.

C. PRI has determined that it currently holds Water Credits allocable to "Excess Water," as that term is defined in the Water Credit Agreement.

D. Under Section 5(c) of the Water Credit Agreement, Water Credits allocable to Excess Water may be sold to the City from time to time, at a price to be mutually determined by the parties, to assist the City in meeting its future culinary water needs.

E. The City has expressed an interest in purchasing 2,500 Water Credits that PRI has available for sale.

F. The parties wish by this Agreement to document their mutual understanding with respect to the sale of 2,500 Water Credits by PRI to the City.

G. Any capitalized terms not otherwise defined in this Agreement shall have the meaning ascribed to them in the CWP Contract and/or the Water Credit Agreement.

NOW THEREFORE, for and in consideration of the premises, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto do hereby agree as follows:

SECTION 1. AGREEMENT TO SELL/PURCHASE WATER CREDITS. PRI hereby agrees to sell to the City, and the City agrees to purchase from PRI, 2,500 of PRI's Water Credits, pursuant to the terms and conditions of this Agreement. Water Credits shall be transferred to the City in increments on an as needed basis, as described in Sections 2 and 3 below, and payment for Water Credits shall be made in installments as described in Sections 3 and 4 below. Consistent with its commitment to purchase such 2,500 Water Credits from PRI, the City agrees during the term of this Agreement that it shall not purchase or acquire culinary water or culinary water rights from any source other than through the purchase of available Water Credits from PRI under this Agreement, except for (i) water rights or water right credits offered by developers or property owners to the City in satisfaction of the City's water exaction ordinance in support of development, or (ii) water or water rights needed by the City in excess of the PRI Water Credits available for transfer at any particular time.

SECTION 2. ANNUAL ESTIMATES.

(a) PRI Estimates. For planning purposes, PRI shall provide to the City, on or before July 1 of each year, an estimate of the number of Water Credits PRI expects to make available for transfer to the City during the fiscal year beginning on such July 1. Such estimate shall be based generally on (i) the number of Water Credits held by PRI as of the June 30 immediately prior to such July 1 that represent Deliverable Water available to PRI as of such June 30 under the terms of the CWP Contract, plus (ii) the number of Water Credits accruing to PRI as of such July 1 based on the volume of Deliverable Water identified in Column E of the Take-Down-Schedule for the fiscal year commencing on such July 1, less (iii) the number of Water Credits anticipated to be needed by PRI during the fiscal year commencing on such July 1 in support of development of property then or previously owned by PRI or its affiliates, and less (iv) any reasonable additional number of Water Credits PRI desires to retain as a contingency. The estimate so provided by PRI is referred to herein as the "PRI Annual Estimate."

(b) City Estimates. For planning purposes, the City shall provide to PRI, on or before July 1 of each year, an estimate of the number of Water Credits the City expects to take down from PRI during the fiscal year beginning on such July 1 (the "City Annual Estimate").

(c) Acceleration. To the extent the City anticipates the need to take down Water Credits in excess of the PRI Annual Estimate for that fiscal year, the City and PRI shall petition CUWCD, under Section 4(c) of the CWP Contract, to accelerate the delivery of Purchased Water. To the extent CUWCD agrees to such acceleration, the additional Purchased Water shall first be made available to PRI to satisfy any unmet needs of PRI, and Water Credits representing the remainder shall be available for transfer to the City. If CUWCD is not able or willing to accelerate the delivery of Purchased Water, or if and to the extent there otherwise remains an excess of Water Credits desired to be taken down by the City over the PRI Annual Estimate, the City may, during such fiscal year, acquire water from other sources.

(d) Deficiency. The PRI Annual Estimate and the City Annual Estimate are estimates only, and shall not represent a commitment to transfer or take down such number of Water Credits during a particular fiscal year. The actual number of Water Credits transferred by PRI to the City in any fiscal year shall be subject to PRI's ability to meet its own development needs in such fiscal year. The actual number of Water Credits taken down by the City shall be subject to the City's need for such Water Credits as reflected by collected impact fees. If, during the course of the fiscal year, the City commits CWP water to developers and property owners at a pace that, if sustained, will result in more CWP water being committed by the City than can be supported by Water Credit transfers from PRI based on the PRI Annual Estimate, the City shall so notify PRI, and PRI and the City shall consult in good faith for the purposes of identifying a mutually acceptable solution. If, during the course of the fiscal year, PRI anticipates needing more Water Credits for its own development than is reflected in the PRI Annual Estimate, PRI shall so notify the City, and PRI and the City shall consult in good faith for the purpose of identifying a mutually acceptable solution.

SECTION 3. FIRST TRANSFER OF WATER CREDITS. The first block of Water Credits transferred to the City shall be in the amount of 650 Water Credits. The purchase price for such 650 Water Credits shall be $_____, payable by the City as provided in Section 4(b) below.

SECTION 4. CLOSINGS.

(a) Conveyance and Transfer of Water Credits. The conveyance and transfer of Water Credits to the City, and the payment therefor by the City, shall occur in multiple closings (each a "Closing"), as provided herein.

(b) First Closing. The first Closing, for the transfer of 650 Water Credits to the City, shall occur on a date mutually agreeable to the parties, but not more than ten (10) business days after the Effective Date of this Agreement. At such Closing, (i) the City shall pay to PRI, in immediately available funds, the purchase price of $_____, (ii) PRI shall deliver to the City an Assignment of Water Credits in the form attached hereto as Exhibit A, and (iii) the City shall provide to PRI updated records required to be kept by the City under Section 8 of the Water Credit Agreement, reflecting the number of Water Credits remaining in the name of PRI after such first Closing.

(c) Subsequent Closings. All Closings after the first Closing shall occur on a semiannual basis on dates mutually agreeable to the parties, but not more than ten (10) business days after June 30 and December 31 of each year. Prior to each such Closing (i) the City and PRI shall consult and agree on the number of Water Credits to be transferred, based on the amount of water irrevocably committed by the City to developers and property owners through the collection of impact fees during the prior six (6) month period beginning on each July 1 and January 1, as applicable ("Committed Water Credits"), and the number of Water Credits PRI is then prepared to transfer to the City, (ii) the City and PRI shall mutually agree on the calculation of the Purchase Price for Water Credits to be transferred at such Closing (the "Purchase Price"), as described in Section 5 below, (iii) the City shall pay to PRI, in immediately available funds, the Purchase Price so calculated, (iv) PRI shall deliver to the City an Assignment of Water Credits in the form attached hereto as Exhibit A, and (v) the City shall provide to PRI updated records required to be kept by the City under Section 8 of the Water Credit Agreement, reflecting the number of Water Credits remaining in the name of PRI after such Closing.

(d) Monthly Reporting. During each six (6) month period beginning July 1 and January 1, the City shall report to PRI in writing, on a monthly basis, the number of Committed Water Credits that have accrued during the prior month. Each such report shall include a cumulative total for such six (6) month period. The City shall not commit CWP Deliverable Water during any fiscal year in excess of the amount of PRI Annual Estimate under Section 2(a) above, without first consulting with PRI, as provided in Section 2(d).

SECTION 5. PURCHASE PRICE. The Purchase Price installment for Water Credits purchased by the City after the first Closing shall be calculated based upon the spreadsheets attached hereto as Exhibit B, C and D, and as further described below, until the parties agree on a revised pricing mechanism.

(i) For each Committed Water Credit, the City shall impose and collect an impact fee from developers or property owners, for each acre-foot of water so committed, in the amounts listed in Column K of Exhibit B, as reflected in the CWP Contract, including any amendments thereto and agreements, both written and verbal between CUWCD and the City (the "Collected Amounts").

(ii) The values for Columns N, O and S of Exhibit C shall be calculated in the manner described in such Exhibit C, on a per acre-foot basis ("Capital Paid"). The parties recognize that the values currently set forth on Exhibit C for fiscal years after the current fiscal year are estimates, are referred to herein for reference purposes only, and shall be revised annually based on actual payments to CUWCD going forward for purposes of this Section 5.

(iii) The per acre-foot Capital Paid, so calculated, shall represent the Purchase Price for each Water Credit transferred to the City, and shall be paid to PRI at each Closing.

(iv) The remainder of (A) the Collected Amounts, less (B) the Capital Paid, on a per acre-foot basis (such remainder being referred to herein as the "Prepayment Amount"), shall be paid by the City to CUWCD as a prepayment of the Capital

Component of the Annual Fee payable to CUWCD pursuant to the CWP Contract, which prepayment shall effect the partial and prorata release of PRI of its obligations to pay the Capital Recovery Component of the Annual Fee, as more particularly described in Section 6 below. Such Prepayment Amount shall be paid to CUWCD at the times required by CUWCD pursuant to the CWP Contract, including any amendments thereto and agreements, both written and verbal, between CUWCD and the City.

SECTION 6. Release of Payment Obligations.

(a) Annual Fee. Under the Water Credit Agreement, PRI is obligated to pay, as long as such amounts are charged to the City under the CWP Contract, the Capital Recovery Component of each Annual Fee. Section 2(b)(2)(D) of the CWP Contract authorizes the "capitalization" or prepayment of the Annual Fee, and CUWCD has provided the City with a schedule of the amount necessary, in each fiscal year, to completely prepay to CUWCD the Capital Recovery Component of all future Annual Fees. The Collected Amounts received by the City relating to Committed Water Credits includes a component sufficient to fully prepay the Capital Recovery Component of all future the Annual Fees, on a per acre-foot basis, related to such Committed Water Credits, as permitted by Section 2(b)(2)(D) of the CWP Contract. As described in Section 5 (iv) above, the Collected Amounts shall include this Prepayment Amount, and the City shall pay this Prepayment Amount to CUWCD.

The City agrees that, consistent with Section 2(d) of the Water Credit Agreement, PRI shall be relieved of all payment obligations to the City with respect to Water Credits sold and transferred to the City, including without limitation the obligation to pay the Capital Recovery Component of each Annual Fee allocable to the Water Credit so sold and transferred. With respect to the 650 Water Credits transferred to the City at the first Closing, PRI's payment obligation was satisfied with respect to the Capital Recovery Component of the Annual Fee paid by the City (and reimbursed by PRI to the City) during CUWCD's fiscal year ending June 30, 2022, and PRI shall have no further obligation with respect to such 650 Water Credits. With respect to Water Credits transferred to the City after the first Closing, PRI's payment obligation as to any Water Credits transferred during a fiscal year shall cease and terminate effective June 30 of the prior fiscal year. By way of example, for Water Credits transferred at a Closing held on approximately July 10, 2025, the payment obligation of PRI shall be deemed to have ceased effective June 30, 2024. To the extent PRI, during the course of a fiscal year, is charged by, and reimburses the City for, a portion of Annual Fee imposed by CUWCD during such fiscal year with respect to Water Credits that are later transferred to the City, PRI shall be entitled to a credit, to be mutually calculated as of the Closing held in July of each year. By way of example, if CUWCD submits an invoice to the City in December for the Annual Fee related to an acre-foot of water that is transferred to the City the following July, and PRI reimburses the City for the payment of such invoice, such amount shall be credited to PRI against its Annual Fee payment obligation during the following year.

SECTION 7. Amendment to Security Escrow Agreement. The City and the Church Corporation have entered into that certain Escrow Agreement, dated as of May 19, 2014, as

amended by that certain First Amendment to Escrow Agreement, dated as of _____, 2017 (collectively, the "Escrow Agreement"), pursuant to which PRI is obligated to maintain an escrow account, in favor of the City, to secure PRI's payment obligation relating to the Capital Recovery Component of Annual Fees. The parties agree to work with Zions First National Bank, as escrow agent, to further amend the Escrow Agreement to reflect the terms of this Agreement.

SECTION 8. Entire Agreement. This Agreement constitutes the entire agreement among the parties relating to the subject matter hereof, and supersedes all prior understandings, representations, or agreements of the parties regarding the same.

SECTION 9. Further Acts. The parties shall perform those acts and/or sign all documents required by this Agreement or which may be reasonably necessary to effectuate the terms of this Agreement.

SECTION 10. Assignment. PRI shall be entitled to assign all or a portion of PRI's Water Credits available and obligations under this Agreement to such party or parties, and upon such terms and conditions, as PRI shall determine, subject solely to the City's approval of the creditworthiness of the assignee. In the event that any or all of such obligations are assumed by a successor in interest to PRI, with such approval by the City, PRI shall be released from the assumed portion of such obligations. Such approval shall not be unreasonably withheld, conditioned or delayed.

SECTION 11. No Agency or Partnership. This Agreement does not create any kind of joint venture, partnership, agency, or employment relationship between or among the parties.

SECTION 12. Legal Compliance. The parties shall comply with all applicable federal, state, and local laws and ordinances in the performance of this Agreement. Any terms which the parties are mandated by law to include in this Agreement shall be considered part of this Agreement.

SECTION 13. Amendment. This Agreement cannot be amended except by a written instrument signed by the parties.

SECTION 14. Severability. It is the express intention of the parties that this Agreement not be interpreted in such a manner as to violate the provisions of Article XI, Sec. 6 of the Utah Constitution. In the event a court, governmental agency, or regulatory agency with proper jurisdiction determines that any provision of this Agreement conflicts with the provisions of Article XI, Sec. 6, that provision shall terminate or, upon the agreement of the parties, shall be reformed in such a manner as to eliminate the provision giving rise to the conflict. In the event a court, governmental agency, or regulatory agency with proper jurisdiction determines that any provision of this Agreement is otherwise unlawful, that provision shall terminate. If a provision is terminated, but the parties can legally, commercially, and practicably continue to perform this Agreement without the terminated provision, the remainder of this Agreement shall continue in effect.

SECTION 15. Authority. Each individual executing this Agreement hereby represents and warrants that he or she has been duly authorized to sign this Agreement in the capacity and for the entities identified.

SECTION 16. Governing Law. This Agreement shall be interpreted and enforced under the laws of the State of Utah. Venue for any legal action brought on this Agreement shall lie with the Fourth Judicial District Court for Utah County, Utah.

IN WITNESS WHEREOF the parties have executed this Agreement as of the day and year first above written.

CITY OF SARATOGA SPRINGS, a municipal corporation of the State of Utah

By: _____
Its: _____

ATTEST & COUNTERSIGN:

_____
City Recorder

PROPERTY RESERVE, INC., a Utah nonprofit corporation

By: _____
Name (Print):_____
Its: President

THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS, a Utah corporation sole

By: _____
Name (Print): _____
Its: Authorized Agent

EXHIBIT A

Form of Assignment of Water Credits:

EXHIBIT B

EXHIBIT C

EXHIBIT D

RESOLUTION NO. R22-34 (6-7-22)

RESOLUTION OF THE CITY OF SARATOGA SPRINGS, UTAH, APPROVING THE WATER CREDIT PURCHASE AND SALE AGREEMENT WITH PROPERTY RESERVE, INC. ("PRI") AND CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS ("CPB"); AND ESTABLISHING AN EFFECTIVE DATE

WHEREAS, the City and Central Utah Water Conservancy District ("CUWCD") have entered into that certain Water Supply Agreement between Central Utah Water Conservancy District and the City of Saratoga Springs for Sale of CWP Municipal and Industrial Water, dated November 25, 2009, as amended by that certain Amended and Restated Water Supply Agreement between Central Utah Water Conservancy District and the City of Saratoga Springs for Sale of CWP Municipal and Industrial Water, dated as of February 22, 2017 (collectively, the "CWP Contract"), pursuant to which the City has subscribed for, and CUWCD has agreed to make available to the City on a take-or-pay basis, 10,000 acre-feet of culinary water from CUWCD's Central Water Project ("CWP"); and

WHEREAS, the City, PRI and CPB have entered into (i) that certain Water Credit Agreement, dated as of November 25, 2009, (ii) that certain Amended and Restated Water Credit Agreement, dated as of February 21, 2017, and (iii) that certain Second Amended and Restated Water Credit Agreement, dated as of _____, 2021 (collectively, the "Water Credit Agreement"), pursuant to which PRI agreed to reimburse to the City certain amounts payable by the City to CUWCD under the CWP Contract, in exchange for which reimbursement PRI was granted the right to use the 10,000 acre-feet of water available to the City under the CWP Contract, as represented by 10,000 water credits issued by the City to PRI (the "Water Credits"), as described in the Water Credit Agreement; and

WHEREAS, PRI has determined that it currently holds Water Credits allocable to "Excess Water," as that term is defined in the Water Credit Agreement; and

WHEREAS, the City wishes to purchase up to 3,500 Water Credits that PRI has available for sale; and

WHEREAS, the parties wish to enter into the attached Water Credit Purchase and Sale Agreement ("Agreement") attached as Exhibit A with respect to the sale of up to 3,500 Water Credits by PRI to the City.

NOW THEREFORE, be it resolved by the City Council of the City of Saratoga Springs that the Agreement attached as Exhibit A be approved and that minor amendments to the form may be made by the Parties subject to approval by the City Attorney and City Manager. This Resolution shall take effect immediately upon passage.

PASSED AND APPROVED this 7th day of June, 2022.

City of Saratoga Springs

_____
Mayor Jim Miller

Attest:

_____
Cindy LoPiccolo, City Recorder

EXHIBIT A

Water Credit Purchase and Sale Agreement

CWP WATER SUPPLY CAPITAL COMPONENT PRE-PAYMENT AGREEMENT

(Central Utah Water Conservancy District and Saratoga Springs City)

THIS CWP WATER SUPPLY CAPITAL COMPONENT PRE-PAYMENT AGREEMENT ("*Agreement*") is made as of this _____ of _____, 2022, by and between the CENTRAL UTAH WATER CONSERVANCY DISTRICT, a water conservancy district organized under the laws of the State of Utah ("*District*"), and SARATOGA SPRINGS CITY, a municipal corporation ("*Purchaser*"). The District and the Purchaser are sometimes referred to herein individually as a "*Party*" and collectively as the "*Parties*."

RECITALS

A. The Purchaser has entered into that certain water supply agreement with the District entitled: "CWP FY2010A Water Supply Agreement Between Central Utah Water Conservancy District and Saratoga Springs City for Sale of CWP Municipal and Industrial Water," dated November 25, 2009 (the "*Original FY2010A Water Supply Agreement*"), which was amended and restated pursuant to that certain Amended and Restated CWP Water Supply Agreement, dated February 22, 2017 (the "*2017 Amendment*").

B. Paragraph 2(a)(5) of the Original FY2010A Water Supply Agreement and the 2017 Amendment provide that upon a written request by the Purchaser, the Purchaser may:

> "prepay, in whole or in part, any one or both of the CWP Fees due and owing [under the Agreement]" . . . to be … "analyzed on a case-by-case basis and be authorized at the sole discretion of the District, subject to such terms and conditions as the District shall determine at the time, "… to be … "set forth in a separate written agreement to be executed between the District and the Purchaser."

C. And, specifically, Paragraph 2(b)(2)(D) of the 2017 Amendment authorizes the Purchaser, at its option, to give written notice to the District that it desires to capitalize components of the Annual Fee which are required to be paid pursuant to Paragraph 2(b)(2) of said agreement.

D. The CWP Fees are adopted each year by the District's board of trustees. The estimated Capital Component of the Annual Fee due and owing each year , as estimated in 2017, is set forth in the Take-Down Schedule attached as Exhibit A to the 2017 Agreement (the "*Original Take-Down Schedule*"), and shown in Attachment A to this Agreement.

E. Purchaser has paid to the District the One-Time Development Fees due and owing by it under the 2017 Amendment and has determined, as a policy, that it intends to capitalize, from time-to-time, certain portions of the Capital Component of the Annual Fee due and owing by it under the 2017 Amendment, and desires to enter into this Agreement setting forth the terms and conditions pursuant to which each series of pre-payments will be effectuated pursuant to a written request therefor by the Purchaser, with each series being designated in numerical order going forward as Capital Component Prepayment Request #1, and so forth.

F. It is the understanding of the Parties that the Original Take-Down Schedule will be amended and restated each time a Capital Component pre-payment is requested and approved by the District (each an "*Amended Take-Down Schedule*," each to be designated in numerical order so as to coincide with the designated number of the applicable pre-payment request.)

NOW, THEREFORE, in consideration of the foregoing recitals, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. **Incorporation of Recitals and Attachments; Capitalized Terms**.

The Recitals set forth above and all attachments and appendages hereto are hereby incorporated into and made a part of this Agreement as though fully set forth herein. Unless otherwise defined herein, the capitalized terms set forth herein are as defined in the 2017 Amendment.

2. **Pre-payment Requests; Pre-payment Authorization Certificate**.

(a) In each written pre-payment request ("*Pre-Payment Request*"), the Purchaser shall set forth the fiscal year and acre-footage amount(s) for that year or those years under the 2017 Amendment which Purchaser desires to pre-pay (the "*Pre-payment Block*"), and the year in which pre-

payment for such Pre-payment Block is desired to be made.

(b) In response to each Pre-payment Request, the District shall first be required to determine that the Pre-payment Block for which pre-payment is desired to be made is within the current amount of Deliverable Water being delivered within the fiscal year designated by the Purchaser.

(c) Upon making such determination, and after due consideration of the District's CWP financing plan and such other factors as the District may deem relevant, the District shall issue to the Purchaser a Pre-payment Authorization Certificate ("*Pre-payment Authorization Certificate*"), pursuant to which the Purchaser shall be authorized to make the pre-payment subject to the terms and conditions of this Agreement. A copy of the Purchaser's Capital Component Pre-payment Request and a copy of the Amended Take-Down Schedule applicable to the then current pre-payment request, shall be attached to the Pre-payment Authorization Certificate and be incorporated therein by reference.

(d) The completed and executed Pre-payment Authorization Certificate for each future series of Pre-payment Requests submitted by the Purchaser shall be attached to this Agreement and made a part hereof as though fully set forth herein.

3. **Terms and Conditions of Pre-payment**.

(a) All pre-payment requests shall be analyzed on a case-by-case basis and a Pre-payment Authorization Certificate shall only be issued in response to such request at the sole discretion of the District as provided in Section 2(b) herein.

(b) Pre-payment amounts shall be calculated based upon the net present value of the estimated Capital Recovery Component of the Annual Fee for the requested Pre-payment Block and shall include a reasonably calculated amount of interest (calculated based upon the estimated overall cost of capital on the entire CWP System) on monies paid to date by the Purchaser to the District, as shown in Attachment "B" to the Pre-payment Authorization Certificate.

(c) The net annual volume of Purchased Water subject to the future Capital Recovery Component of the Annual Fee shall be reduced by the amount of the Pre-payment Block, and the new net

annual volume of Purchased Water that will be subject to the Capital Recovery Component of the Annual Fee thereafter shall be set forth in Attachment B to the Pre-payment Authorization Certificate.

(d) Notwithstanding the provisions of Paragraph 2(b)(2)(D) of the 2017 Amendment, the Parties agree that upon payment of each series of pre-payments authorized hereunder, there will not be a "true-up calculation" in the future; in other words, no credit will be given to the Purchaser and no additional payment shall be due to the District whether the actual amounts of the Capital Recovery Component of the Annual Fee vary from the estimated amounts which were pre-paid under each Pre-payment Authorization Certificate. It is understood and agreed that the Pre-payment Authorization Certificate shall contain the calculated Capital Prepayment amount per acre-foot of the Estimated Capital Recovery Component of the Annual Fee as of the date of the Pre-payment Authorization Certificate for the Pre-payment Block for which the Pre-payment Authorization Certificate is issued. Any future pre-payment requests will be based upon the then estimated Capital Recovery Component of the Annual Fees for the volume of Deliverable Water included in the Pre-payment Request at the time the same is submitted to the District.

(e) For purposes of clarification, notwithstanding any prepayment, at any time, pursuant to this Agreement, the Annual Water Fee due and owing pursuant to Section 2(b)(2)(B) of the 2017 Amendment shall become payable when Purchased Water is removed from its reserved status and becomes Deliverable Water pursuant to the Original Take-down Schedule as provided in Section 2(b)(2)(A) of the 2017 Amendment and the Amended Take-Down Schedule applicable to the then current pre-payment request.

4. **Payment of the OM&R Component of the Annual Fee** Notwithstanding the foregoing with respect to Pre-payment Request made by the Purchaser hereunder, it is expressly acknowledged, understood and agreed that the OM&R Component of the Annual Fee, provided for in Paragraph 2(b)(2)(B)(i) of the 2017 Amendment, shall be and remain due and payable on the Pre-payment Block in conformance with the provisions of Paragraph 2(b)(2)(C) of the 2017 Amendment.

5. **Amount, Pre-payment Date and Terms and Conditions of Pre-payment**.

The pre-payment authorized pursuant to Paragraph 2(a) shall be paid in the amount, on the due date and according to the terms and conditions of pre-payment set forth in Attachment B to the Pre-payment Authorization Certificate.

6. **Amendment of Water Supply Agreement**.

The 2017 Amendment is hereby amended to incorporate the terms and conditions of this Agreement and the terms and provisions of each Pre-payment Authorization Certificate for each series of Pre-payment Requests authorized hereunder; and except as amended hereby, the 2017 Amendment shall otherwise remain in full force and effect in accordance with its terms.

7. **Term of Agreement**

The term of this Agreement shall coincide with the terms of the 2017 Amendment; provided, however, that nothing herein shall prohibit the Parties from amending or terminating this Agreement if the Parties mutually agree to do so.

8. **No Third-party Beneficiaries**.

There are no third party beneficiaries of this Agreement.

9. **Assignment Limited.**

Neither Party may assign this Agreement or any of its rights under it without the prior written consent of the other Party; provided, however, that the District may pledge and assign any monies received pursuant to this Agreement to the payment of the District's bonds.

10. **Binding Effect.**

This Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns.

11. **Severability.**

If any term or provision of this Agreement shall, to any extent, be determined by a court of competent jurisdiction to be void, voidable, or unenforceable, such void, voidable or unenforceable

term or provision shall not affect the enforceability of any other term or provision of this Agreement.

12. **Construction.**

This Agreement is the result of negotiations between the Parties, neither of whom has acted under any duress or compulsion, whether legal, economic or otherwise. Accordingly, the terms and provisions hereof shall be construed in accordance with their usual and customary meanings. Each Party hereby waives the application of any rule of law which otherwise would be applicable in connection with the construction of this Agreement that ambiguous or conflicting terms or provisions should be construed against the Party who (or who's attorney) prepared the executed Agreement or any earlier draft of the same. As used herein, all words in any gender shall be deemed to include the masculine, feminine, or neuter gender, all singular words shall include the plural, and all plural words shall include the singular, as the context may require.

13. **Further Action.**

The Parties hereby agree to execute and deliver such additional documents and to take further action as may become necessary or desirable to fully carry out the provisions and intent of this Agreement.

14. **Business Relationship.**

This Agreement neither acknowledges the existence of nor is it intended nor shall it be construed to establish, create or organize any principal-agent relationship, partnership, joint venture, or any other legal entity or form of business relationship between the Parties, and is limited solely to the purposes and interests expressed herein.

15. **Entire Agreement.**

This Agreement, including exhibits, appendages and attachments constitutes the entire agreement of the Parties and supersedes all prior undertakings, representations, or agreements of the Parties regarding the subject matter hereof.

16. **Warranty of Authority.**

Each individual executing this Agreement does hereby represent and warrant that he or she has been duly authorized to sign this Agreement in the capacity and for the entities identified herein. The District and the Purchaser each represent and warrant that it has full legal right and authority to enter into this Agreement.

IN WITNESS WHEREOFF, the Parties hereto have executed this Agreement effective as of the day and year first written above.

CENTRAL UTAH WATER CONSERVANCY DISTRICT

By: _____
Its: President

Attest:

_____
Secretary

1/24/22

SARATOGA SPRINGS CITY

By: _____
Its: Mayor

Attest:

_____
City Recorder

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ATTACHMENT A – Original Take-down Schedule

EXHIBIT A 2017 Amended & Restated FY2010A CWP Water Supply Agreement

February, 2017

Take-Down Schedule - Purchased Water Take-Down Schedule (By Volume) for Purchased Water Under this Agreement

COLUMN	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
Fiscal Year (ie FY2008-09 = July 1, 2008 - June 30, 2009)	Annual Volume (Block) of Purchased Water For Which One-Time Development Fee is Due (AF)	One Time Development Charge for Blocks of Purchased Water (per AF)	Annual Volume of Purchased Water Subject to Capital Recovery Component of Annual Fee (AF)	*Actual* and Estimated Capital Recovery Component of Annual Fee for Volume of Water in Column C (per AF)	Annual Volume of Purchased Water which becomes Deliverable Water (AF)	Cumulative Annual Volume of Deliverable Water (AF)	*Actual* and Estimated OM&R Component of Annual Fee for Deliverable Water in Column (F) (per AF)	*Actual* and Estimated Future Annual Fee (As set annually by the District) (Fee includes the OM&R and Capital Recovery Components in Columns D & G
2008-09	0	*$6,200*	0		0	0		*$300*
2009-10	0	*$6,200*	0		0	0		*$314*
2010-11	0	*$6,200*	0		0	0		*$328*
2011-12	0	*$6,200*	0		0	0		*$343*
2012-13	0	*$6,200*	0		0	0		*$358*
2013-14	0	*$6,200*	0		0	0		*$374*
2014-15	0	*$6,200*	0	*$222*	0	0	*$169*	*$391*
2015-16	0	*$6,200*	0	*$203*	0	0	*$205*	*$408*
2016-17	0	*$6,200*	0	*$252*	0	0	*$175*	*$427*
2017-18	50	$6,200	50	$280	50	50	$166	$446
2018-19	50	$6,200	100	$310	50	100	$156	$466
2019-20	9900	$6,200	10,000	$346	380	480	$141	$487
2020-21	0		10,000	$364	380	860	$145	$509
2021-22	0		10,000	$383	380	1,240	$149	$532
2022-23	0		10,000	$400	380	1,620	$156	$556
2023-24	0		10,000	$421	380	2,000	$160	$581
2024-25	0		10,000	$442	380	2,380	$165	$607
2025-26	0		10,000	$464	380	2,760	$170	$634
2026-27	0		10,000	$484	380	3,140	$179	$663
2027-28	0		10,000	$508	380	3,520	$185	$693
2028-29	0		10,000	$530	380	3,900	$194	$724
2029-30	0		10,000	$556	380	4,280	$200	$756
2030-31	0		10,000	$583	380	4,660	$207	$790
2031-32	0		10,000	$609	380	5,040	$217	$826
2032-33	0		10,000	$639	380	5,420	$224	$863
2033-34	0		10,000	$668	380	5,800	$234	$902
2034-35	0		10,000	$702	380	6,180	$241	$943
2035-36	0		10,000	$733	380	6,560	$252	$985
2036-37	0		10,000	$7	380	6,940	$259	$266
2037-38	0		10,000	$8	380	7,320	$271	$279
2038-39	0		10,000	$11	380	7,700	$280	$291
2039-40	0		10,000	$12	380	8,080	$293	$305
2040-41	0		10,000	$16	380	8,460	$302	$318
2041-42	0		10,000	$16	380	8,840	$316	$332
2042-43	0		10,000	$20	380	9,220	$327	$347
2043-44	0		10,000	$21	380	9,600	$342	$363
2044-45	0		10,000	$25	400	10,000	$355	$380

- Actual previous or present fee amounts are in Italics and Blue as set by District Board of Trustees

Continues at 10,000 AF

- Fee amounts are estimated amounts and set annually by District Board of Trustees

RESOLUTION NO. R22-35 (6-7-22)

RESOLUTION OF THE CITY OF SARATOGA SPRINGS, UTAH, APPROVING THE CWP WATER SUPPLY CAPITAL COMPONENT PRE-PAYMENT AGREEMENT BETWEEN CENTRAL UTAH WATER CONSERVANCY DISTRICT AND THE CITY OF SARATOGA SPRINGS; AND ESTABLISHING AN EFFECTIVE DATE

WHEREAS, the City and Central Utah Water Conservancy District ("CUWCD") previously entered into that certain Water Supply Agreement between Central Utah Water Conservancy District and the City of Saratoga Springs for Sale of CWP Municipal and Industrial Water, dated as of September 8, 2009 (the "CWP Contract"), pursuant to which the City has subscribed for, and CUWCD has agreed to make available to the City on a take-or-pay basis, 10,000 acre-feet of culinary water from CUWCD's Central Water Project ("CWP"), as well as amendments from time-to-time; and

WHEREAS, the City is authorized by state law to acquire water rights and sources to meet the demands of development and residents of the City and to further the health, safety, and welfare of its residents; and

WHEREAS, CUWCD is a duly organized and existing conservancy district in Utah Code Annotated §17B-2a-1001, et seq., and §17B-1-101, et seq., for the purpose, among others, of making water available to contract holders residing within district boundaries and of entering into agreements with water users for the purchase and sale of water and its delivery; and

WHEREAS, the City and CUWCD have negotiated the prepayment and takedown of 650 acre feet of water under the CWP Contract and amendments and propose to enter into the attached CWP Water Supply Capital Component Pre-Payment Agreement ("Agreement"); and

WHEREAS, entering into the Agreement will further the health, safety, and welfare of City residents for the reasons stated herein and the Amended CWP Contract.

NOW THEREFORE, be it resolved by the City Council of the City of Saratoga Springs, Utah that the attached CWP Water Supply Capital Component Pre-Payment Agreement be approved. This Resolution shall take effect immediately upon passage.

PASSED AND APPROVED this 7th day of June, 2022.

City of Saratoga Springs

_____

Mayor Jim Miller

Attest:

_____

Cindy LoPiccolo, City Recorder

EXHIBIT A

CWP Water Supply Capital Component Pre-Payment Agreement