AMERICAN FORK CITY
PLANNING COMMISSION

MEETING DATE: July 21, 2021
STAFF PRESENTATION: Adam Olsen

AGENDA TOPIC: Hearing, review and action on the preliminary and final plat for Stonecreek Plat G, located at approximately 350 West 900 South, in the PR-3.0 (Planned Residential) zone.

ACTIONS REQUESTED: Approval of the preliminary plan and recommendation of approval of the final plat.

BACKGROUND INFORMATION					
Location:		350 West 900 South			
Applicants:		Trane Engineering/Woodside Homes			
Existing Land Use:		Agriculture			
Proposed Land Use:		Residential			
Surrounding Land Use:	North	Residential			
	South	Agriculture			
	East	Residential			
	West	Agriculture			
Existing Zoning:		PR-3.0			
Proposed Zoning:		N/A			
Surrounding Zoning:	North	PR-3.0			
	South	Residential Agriculture 5 (Utah County)			
	East	PR-3.0			
	West	PR-3.0			
Land Use Plan Designation:		Low Density Residential (3 du/ac)			
Zoning within density range?		x	Yes		No

Background

Stonecreek Plat G is a 25-lot phase of an overall 143-acre development. The preliminary plan is being processed concurrently with the final plat. The final plat is consistent with terms of a preliminary plan approval.

Plat G is located at the southern portion of the overall development. An annexation in process will add property directly south of Plat G and will be a continuation of the overall development. Access to Plat G is provided off 840 South.

Conservation Subdivision Projects within the PR-3.0 zone must adhere to certain parameters. Subdivisions must have a minimum project area of five (5) acres, and a

maximum density of 3 units per acre. Plat G is the seventh phase in a 143-acre development, with an overall density of 3 units per acre; falling within the parameters of a Conservation Subdivision project in the PR-3.0 zone.

As with plats A, B, C, D, E and F, the applicants request Planning Commission consideration and allowance for modification of building site requirements, allowing the ability to average lot sizes in order for greater overall consistency. This modification is allowed pursuant to Sections 17.7.401, allowing the "harmonizing (of) development within a project". The Planning Commission may, but is not required, to make this finding. A finding allowing the modification is offered below.

Conservation Subdivisions within a PR-3.0 zone require 25% open space. The overall project area provides for 26% open space upon buildout. Plats A, B, C, D, E and F provided dedication of land. Plat G continues this dedication; further dedications occurring as the property to the south is annexed.

Consistency with the Land Use Plan:

The Land Use Plan designates this area as "Low Density Residential". The proposed subdivision is consistent with the Land Use Plan.

Section 17.7.211 of the Development Code

The Planning Commission may act to recommend approval of a final plat upon a finding that:

a. The final plat and supporting materials conform with the terms of the preliminary plan approval.

   The final plat conforms to the terms of a preliminary plan approval.

b. The final plat complies with all City requirements and standards relating to large scale developments.

   This criterion has been met.

c. The detailed engineering plans and materials comply with the City standards and policies.

   Engineering will address any concerns at the time of the Planning Commission meeting.

d. The estimates of cost of constructing the required improvements are realistic.

   Engineering will determine whether the cost estimates of constructing the required improvements are realistic.

e. The water rights conveyance documents have been provided.

   The water rights conveyance shall be satisfied prior to “Plat G” recordation.

FINDINGS OF FACT

After reviewing the application for final plat approval, the following findings are offered for consideration:

1. The final plat is consistent with the preliminary plan.

2. The final plat is consistent with the Land Use Plan designation of “Low Density Residential”.

3. The final plat meets the criteria as found in Section 17.7.211 of the Development Code.

4. The Planning Commission grants the request for modification of building site requirements, allowing for averaging of lot sizes for “harmonizing development within a project” (17.7.401); finding that such modification provides greater overall consistency.

POTENTIAL MOTIONS

APPROVAL

Mr. Chairman, I move that we approve the preliminary plan and recommend approval of the final plat of Stonecreek Plat G, with the findings listed in the staff report and subject to any findings, conditions, and modifications listed in the engineering report.

DENIAL

Mr. Chairman, I move that we recommend denial of the final plat of Stonecreek Plat G.

TABLE

Mr. Chairman, I move that we table action on the preliminary plan and final plat of Stonecreek Plat G.

AMERICAN FORK CITY ENGINEERING DIVISION
STAFF REPORT

Planning Commission Meeting Date: 7/21/2021

This report is a summary of the American Fork City Engineering Division plan review comments regarding the subject plan as submitted by the applicant for American Fork City Land Use Authority approval:

Project Name: Stonecreek Plat G

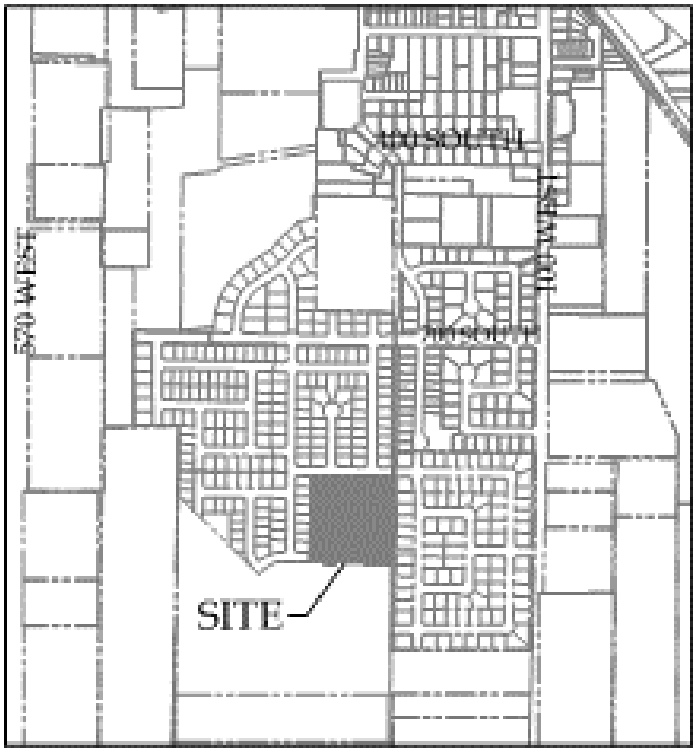
Project Address: 350 West 900 South

Developer / Applicant's Name: Woodside Homes

Type of Application:

- ☒ Subdivision Final Plat
- ☒ Subdivision Preliminary Plan
- ☐ Annexation
- ☐ Code Text Amendment
- ☐ General Plan Amendment
- ☐ Zone Change
- ☐ Commercial Site Plan
- ☐ Residential Accessory Structure Site Plan

Project Map:



Engineering Division Recommendation: The Engineering Division recommends TABLE of the proposed development until previous TRC comments are addressed.

STANDARD CONDITIONS OF APPROVAL

Standard Conditions of Approval:

APPLICANT is responsible and shall submit/post/obtain all necessary documentation and evidence to comply with these Standard Conditions of Approval prior to any platting, permitting, or any other form of authorization by the City including plat recording or other property conveyance to the City and prior to scheduling a pre-construction meeting. All recording shall take place at the Utah County Recorder's Office.

1. **Title Report:** Submit an updated Title Report not older than 30 days or other type of appropriate verification that shows all dedications to the City are free and clear of encumbrances, taxes, or other assessments.
2. **Property Taxes and Liens:** Submit evidence that all the property taxes, for the current and/or previous years, liens, and agricultural land use roll over fees have been paid in full.
3. **Water Rights:** Submit evidence that all the required water rights have been conveyed to American Fork City.
4. **Performance Guarantee:** Post a performance guarantee for all required public and essential common improvements.
5. **Easements and Agreements:** Submit/record a long-term Storm Water Pollution Prevention Maintenance Agreement signed and dated by the property owner and any required easement documentation.
6. **Land Disturbance Permit:** Obtain a Land Disturbance Permit.
7. **Compliance with the Engineering Division Plan Review Comments:** All plans and documents shall comply with all the Technical Review Committee comments and the City Engineer's final review.
8. **Commercial Structure:** Record an Owner Acknowledgment and Utility Liability Indemnification if the proposed building is a multi-unit commercial structure served by a single utility service.
9. **Sensitive Lands:** Record all applicable documents required for compliance with the City's Sensitive Lands Ordinance.
10. **Utility Notification Form:** Submit a Subdivision Utility Notification Form.
11. **Professional Verification:** Submit final stamped construction documentation by all appropriate professionals.
12. **Fees:** Payment of all development, inspection, recording, street light, and other project related fees.
13. **Mylar:** Submit a Mylar. All plats will receive final verification of all formats, notes, conveyances, and other items contained on the plat by City staff (recorder, legal, engineer, GIS, planning).

STONECREEK PLAT "G"
CONSTRUCTION PLANS

A PARCEL OF LAND LOCATED IN THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 5 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN,

AMERICAN FORK, UTAH

PROJECT LOCATION: 900 SOUTH 250 WEST

prepared for:

WOODSIDE HOMES

460 WEST 50 NORTH
SUITE #200
SALT LAKE CITY, UT 84101
PHONE: (801) 758-7086

prepared by:

TRANE ENGINEERING

27 EAST MAIN STREET
LEHI, UT 84043
PHONE: (801) 768-4544

GENERAL NOTES:

1. ALL CONSTRUCTION TO BE DONE AS PER THE AMERICAN FORK CITY DESIGN STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR TO ENSURE ALL ADA ACCESSIBLE SIDEWALK RAMPS WILL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICAN FORK CITY DESIGN STANDARDS AND SPECIFICATIONS.
3. ONE COLOR ELECTRONIC COPY OF AS BUILT DRAWINGS, FORMATTED IN ACCORDANCE WITH THE AMERICAN FORK CITY DESIGN STANDARDS, SHALL BE SUBMITTED TO THE CITY UPON COMPLETION OF THE PUBLIC IMPROVEMENTS; INCLUDING, WATER, SEWER, STORM DRAIN AND PRESSURE IRRIGATION.
4. PRIOR TO CONSTRUCTION, AN EROSION AND SEDIMENTATION CONTROL PLAN WILL BE SUBMITTED TO THE CITY FOR APPROVAL.
5. PRIOR TO COMMENCEMENT OF ANY WORK, A PRE-CONSTRUCTION MEETING WILL BE HELD WITH THE CHIEF BUILDING OFFICIAL, CITY INSPECTORS, THE CONTRACTOR AND THE PROPERTY OWNER.
6. TYPE OF CONSTRUCTION IS RESIDENTIAL AND BUILDINGS WILL NOT INCLUDE FIRE SPRINKLERS.

BENCHMARK

NORTHWEST CORNER OF SECTION 26, TOWNSHIP 5S, RANGE 1E
ELEVATION = 4520.92 (NGVD 29 AS PER UTAH COUNTY TIE SHEET)

AMERICAN FORK CITY PUBLIC WORKS DEPARTMENT

COMPANY	CONTACT	NUMBER
AF City Culinary Water	Jay Brems	(801)763-3060
AF Pressure Irrigation	Jay Brems	(801)763-3060
AF Sanitary Sewer	Ashton Hardy	(801)763-3060
AF Storm Drain	Ashton Hardy	(801)763-3060
AF Fire Marshall	Mat Sacco	(801)763-3040
AF City Inspector	Dee Howard	(801)763-3060
AF SWPPP Inspector	Harlan Nielson	(801)404-6361
AF Fiber	Kyle Petersen	(801)400-2933
AF Irrigation Company	Ernie John	(801)471-6576
Rocky Mountain Power	Teria Walker	(801)756-1310
Comcast	Elysin Valdez	(801)401-3017
T.S.S.D.	David Barlow	(801)756-5231
Century Link	Bill Westfall	(435)423-4252
Questar	Wendy Edwards	(801)853-8513

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UTILITIES AND SERVICES

NATURAL GAS	QUESTAR GAS
ELECTRIC	ROCKY MOUNTAIN POWER
TELEPHONE	QWEST COMMUNICATIONS
CABLE TELEVISION	COMCAST



SITE MAP

SHEET INDEX

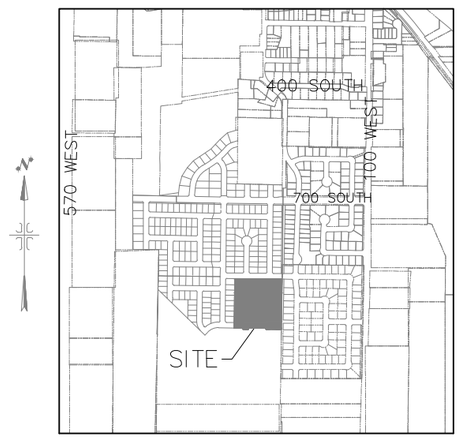
SHEET NO.	SHEET NAME
1	COVER SHEET / INDEX SHEET
2	UTILITY PLAN
3	GRADING PLAN
4	910 SOUTH PLAN & PROFILE SHEET
5	250 WEST & 290 WEST PLAN & PROFILE SHEET
6	STORM WATER POLLUTION PREVENTION PLAN
7	DETAIL SHEET 1
8	DETAIL SHEET 2
9	STREET TREE EXHIBIT

LAND USE:	
PLAT "G" =	7.09 ACRES
ZONING=	PR-3.0
TOTAL LOTS=	32 LOTS
DENSITY OVERALL =	3.0 LOTS/ACRE
OPEN SPACE =	0.20 ACRE
OFF-SITE OPEN SPACE	1.70 ACRE

NOTE: THIS PLAT IS BASED ON THE PLANNED UNIT DEVELOPMENT-CONSERVATION SUBDIVISION PROJECT ADDITIONAL OPEN SPACE OF 1.7 ACRES FOR PLAT G DEDICATED WITH STONECREEK ANNEXATION AT THE SOUTHWEST CORNER OF THE OVERALL PROJECT.

FLOOD ZONE DESIGNATION: X
MAP NUMBER: 49049C0306F
EFFECTIVE DATE: JUNE 19, 2020

REGISTERED PROFESSIONAL ENGINEER # 302346 TONY G. TRANE STATE OF UTAH



VICINITY MAP

REVISIONS					
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1				DESIGNED BY:	TGT
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3				CHECK BY:	TGT
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				CDGD FILE:	

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CONSULTING ENGINEERS AND LAND SURVEYORS
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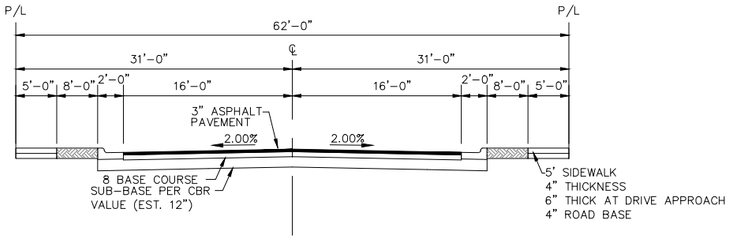
AMERICAN FORK, UTAH

STONECREEK PLAT "G"
A RESIDENTIAL SUBDIVISION

COVER

JOB WS-AF

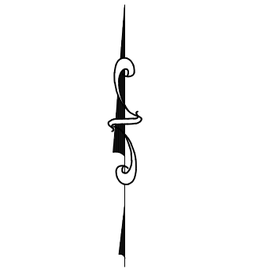
SHEET NO. 1



62' RIGHT-OF-WAY (TYPICAL STREET SECTION)
-NTS-

GENERAL NOTES

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2. PRIOR TO CONSTRUCTION, AN EROSION & SEDIMENTATION CONTROL PLAN WILL BE SUBMITTED TO THE PUBLIC WORKS DIRECTOR FOR APPROVAL.
3. PRIOR TO COMMENCEMENT OF ANY WORK, A PRECONSTRUCTION MEETING WILL BE HELD WITH THE CHIEF BUILDING OFFICE, CITY INSPECTORS, THE CONTRACTOR AND THE PROPERTY OWNER.
4. ALL ADA REQUIREMENTS TO BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICAN FORK CITY STANDARDS AND SPECIFICATIONS, CONTRACTOR TO ENSURE ALL ADA STANDARDS ARE MET.
5. ALL SANITARY SEWER MAINS AND LATERALS MUST BE INSPECTED AND APPROVED BY THE CITY INSPECTOR BEFORE TRENCH BACKFILLING IS COMPLETED.
6. ALL LATERAL CONNECTIONS SHALL INSERT-A-TEE OR WYE AT TEN OR TWO O'CLOCK POSITIONING TO THE CENTER OF THE MAIN LINE AND SHALL BE ENCASED IN CONCRETE AFTER INSPECTION IS MADE.
7. ALL CULINARY WATER LINES MUST HAVE A MINIMUM 48" OF COVER.
8. SEE STANDARD DRAWING #15.43 FOR UTILITY LATERAL PLACEMENT DETAILS.
9. SIDEWALKS TO BE 6" AT DRIVE APPROACHES

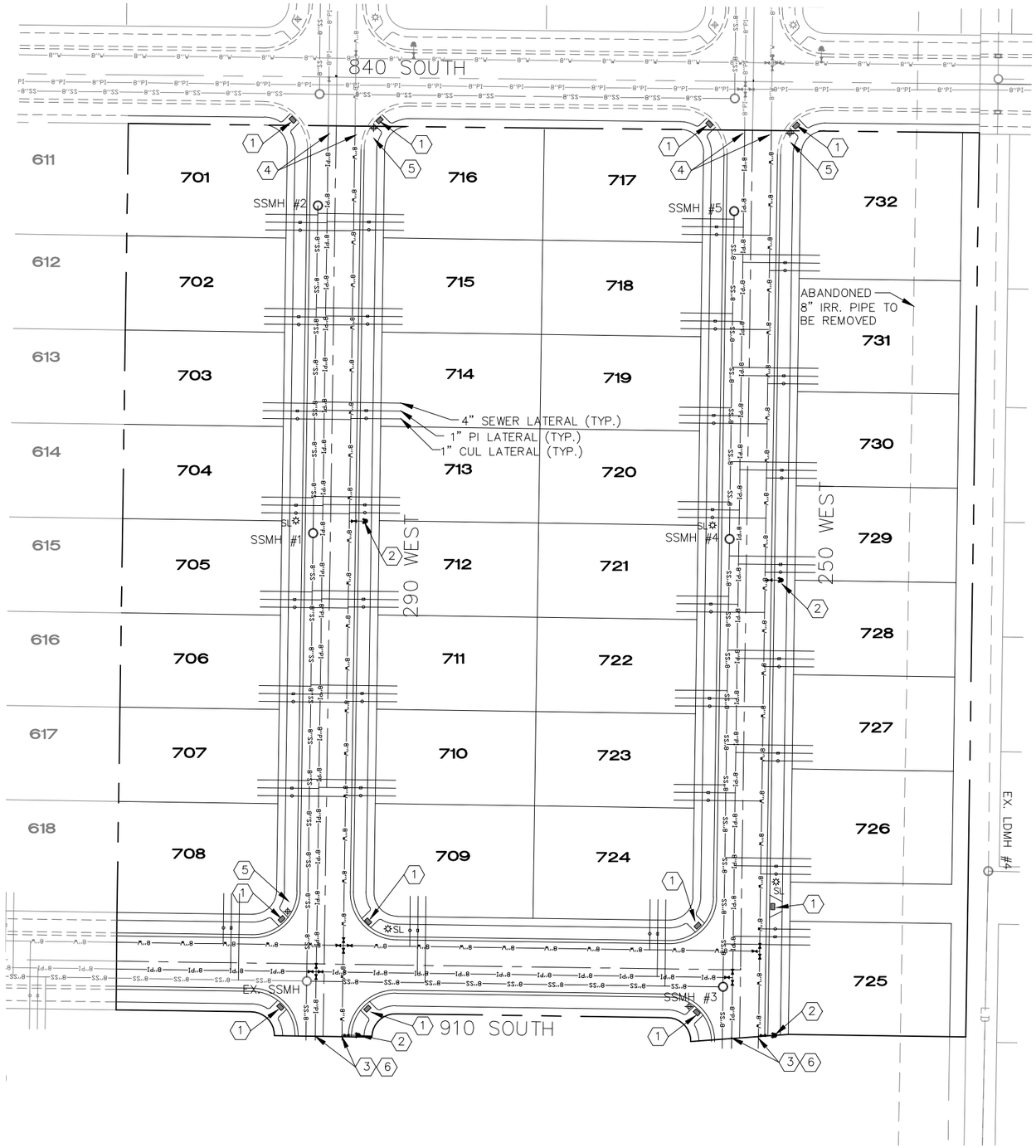


(24"x36")
SCALE: 1" = 40'
(11"x17")
SCALE: 1" = 80'

LEGEND

- PROPERTY BOUNDARY LINE
- X X EXISTING FENCE LINE
- EOP EDGE OF PAVEMENT
- CENTERLINE
- EASEMENT LINE
- 8"PI PROPOSED 8" C-900 PVC PRESSURE IRRIGATION WATERLINE
- 8"W PROPOSED 8" C-900 PVC CULINARY WATERLINE
- SD PROPOSED RCP STORM DRAIN W/ MH
- 8"SS PROPOSED PVC SDR-35 SEWER W/ MH
- EXISTING STORM DRAIN W/ MH
- EXISTING SANITARY SEWER W/ MH
- 8"W EXISTING 8" C-900 PVC PIPE WATERLINE
- 8"PI EXISTING 8" C-900 PVC PIPE WATERLINE
- FIRE HYDRANT
- WATER VALVE
- STREET LIGHT
- STREET SIGN/STOP SIGN

1. CONST. ADA PEDESTRIAN RAMP AS PER AMERICAN FORK CITY STANDARDS (TYP)
2. CONST. FIRE HYDRANT ASSEMBLY AS PER AMERICAN FORK CITY STANDARDS
3. STUB AND CAP WATER LINES FOR FUTURE CONNECTION
4. CONNECT INTO EXISTING WATER LINES. CONTRACTOR TO VERIFY SIZE & LOCATION.
5. INSTALL STOP/STREET SIGN PER AMERICAN FORK CITY STANDARDS
6. INSTALL 2" BLOW-OFF AT END OF UTILITY LINES



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STONECREEK PLAT "G"
A RESIDENTIAL SUBDIVISION

UTILITY

JOB WS-AF

SHEET NO. 2

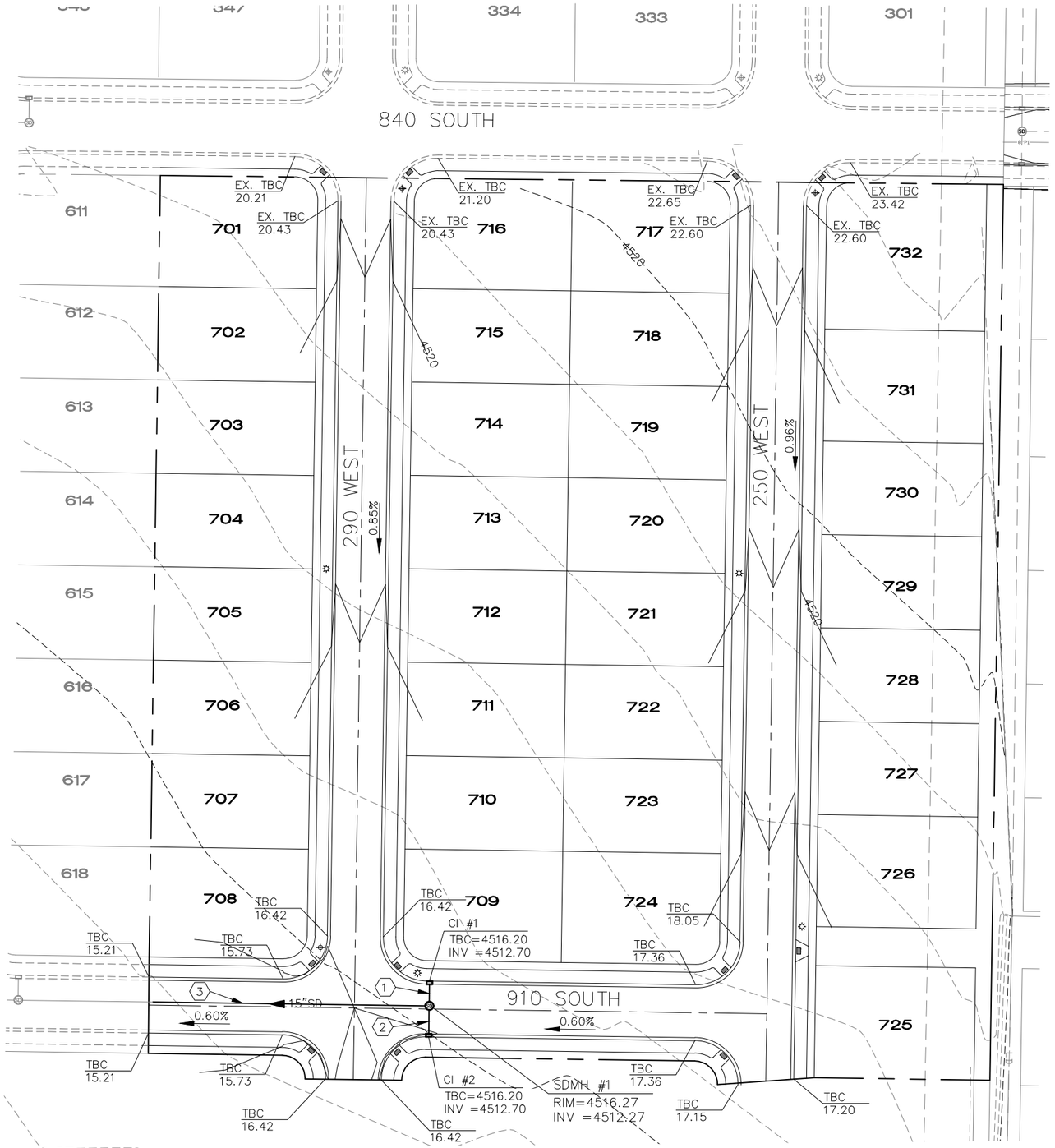
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3. PRIOR TO COMMENCEMENT OF ANY WORK, A PRECONSTRUCTION MEETING WILL BE HELD WITH THE PUBLIC WORKS DIRECTOR, CHIEF BUILDING OFFICE, CITY INSPECTORS, THE CONTRACTOR AND THE PROPERTY OWNER.
4. ALL ADA REQUIREMENTS TO BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICAN FORK CITY STANDARDS AND SPECIFICATIONS, CONTRACTOR TO ENSURE ALL ADA STANDARDS ARE MET.
5. ALL STORM DRAIN TO BE 15" RCP UNLESS OTHERWISE NOTED.
6. ALL CURB INLET BOXES TO BE 3.5' DEEP UNLESS OTHERWISE NOTED.
7. THE STORM WATER FROM THIS AREA IS DIRECTED TO THE SOUTHWEST CORNER OF THE DEVELOPMENT AND WILL BE RETAINED ON THE PROPERTY TO THE SOUTH UNTIL FUTURE DEVELOPMENT, CONTRACTOR TO INSTALL A TEMPORARY RETENTION BASIN WITH A 4" PERFORATED PIPE WITH SOCK AND GRAVEL BED FOR 20' TO THE SOUTH OF THE BUBBLE UP BOX TO ALLOW BOX TO DRAIN AFTER STORM WATER HAS BEEN RETAINED.
8. CONTRACTOR TO COORDINATE CONNECTION TO EXISTING 12" IRRIGATION PIPE TO THE NORTH WITH ENGINEER.
9. CONTRACTOR TO COORDINATE EXPLORATION OF WATER IN THIS AREA DURING CONSTRUCTION WITH ENGINEER AND INSTALL COLLECTION SYSTEM ONCE FLOW IS DETERMINED.
10. CONNECT TO EXISTING 18" SD PIPE WITH TEMPORARY CLEAN OUT BOX. VERIFY FLOW LINE PRIOR TO CONNECTION.

(1) CONST. 11.2' OF 15" SD PIPE @ 3.84%
(2) CONST. 15.2' OF 15" SD PIPE @ 2.83%
(3) CONST. 175' OF 15" SD PIPE @ 0.61%

0 40 80 120

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SCALE: 1" = 40'
(11"x17")
SCALE: 1" = 80'



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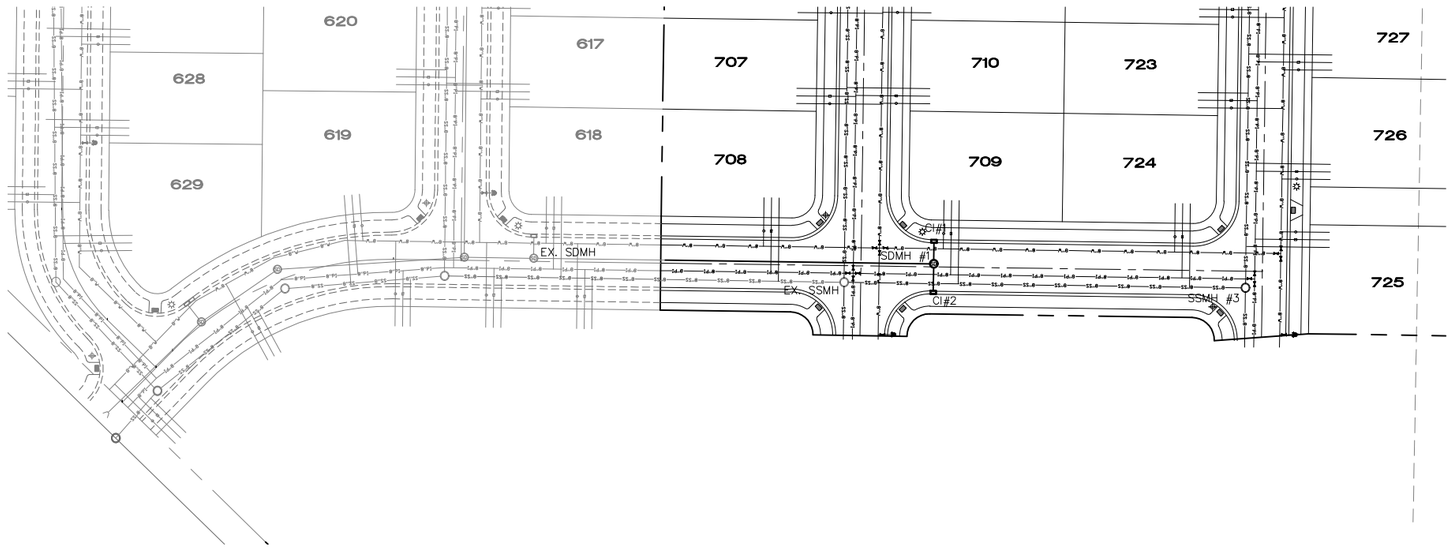
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A RESIDENTIAL SUBDIVISION

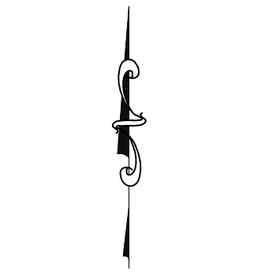
GRADING AND DRAINAGE

JOB WS-AF

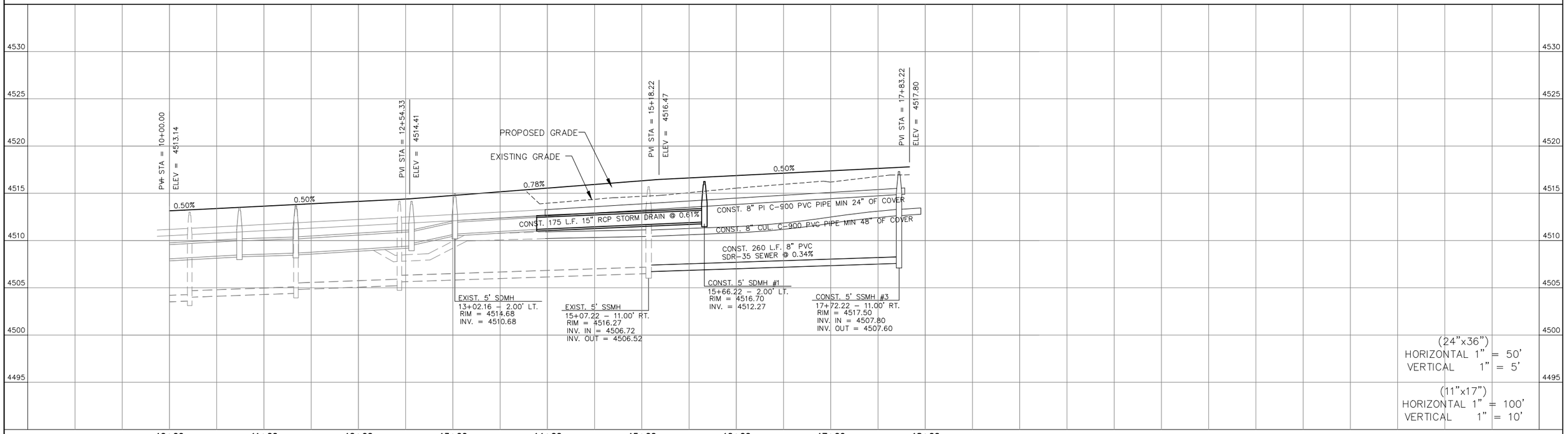
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SCALE: 1" = 50'
(11"x17")
SCALE: 1" = 100'



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HORIZONTAL 1" = 50'
VERTICAL 1" = 5'

(11"x17")
HORIZONTAL 1" = 100'
VERTICAL 1" = 10'

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STONECREEK PLAT "G"
A RESIDENTIAL SUBDIVISION

910 SOUTH PLAN & PROFILE

12+54 – 17+83

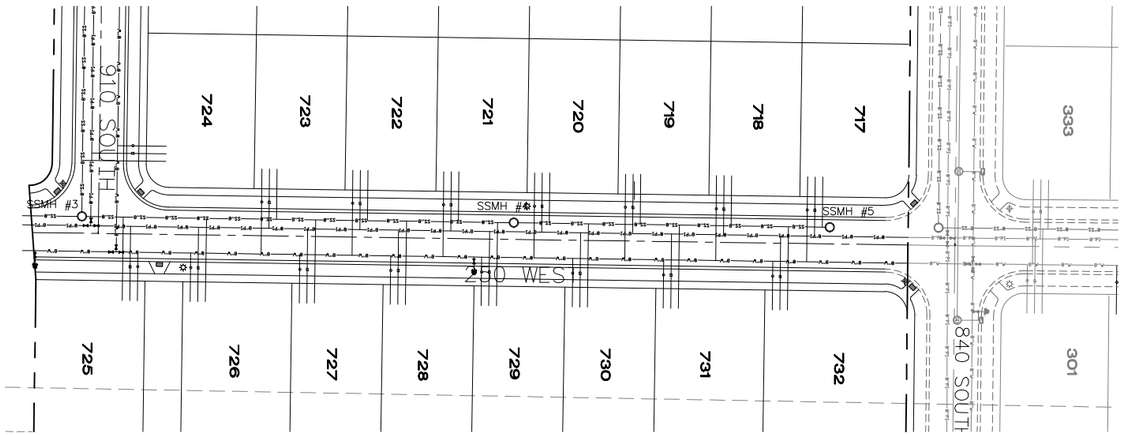
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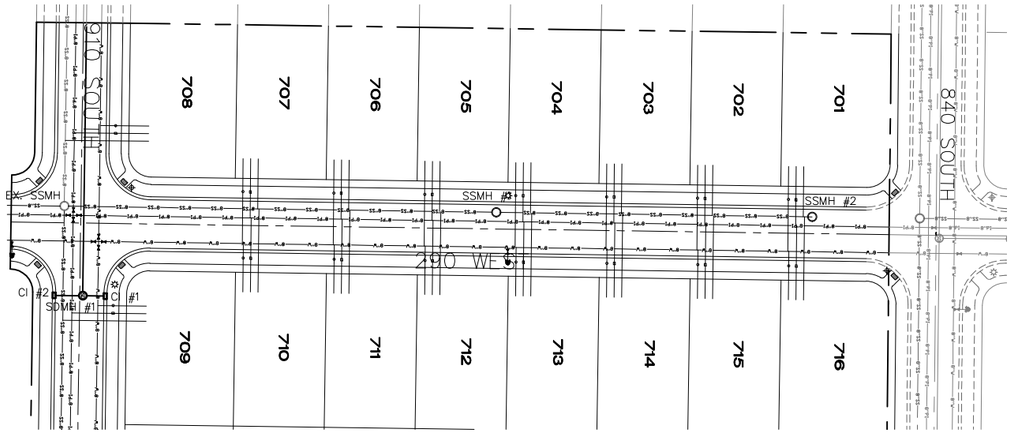
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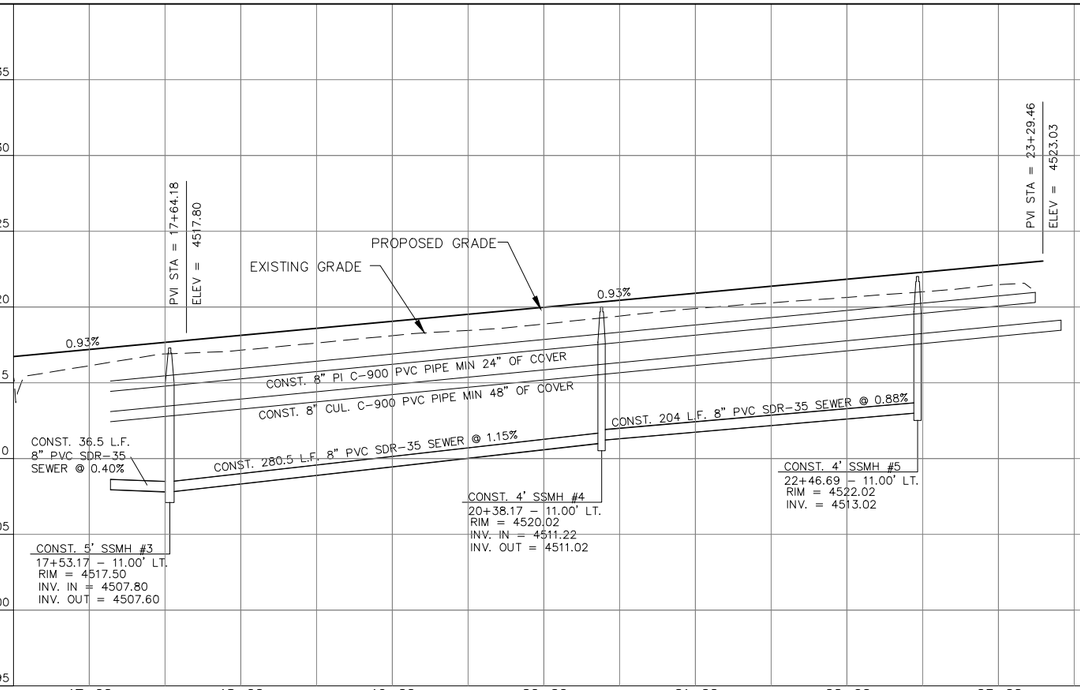
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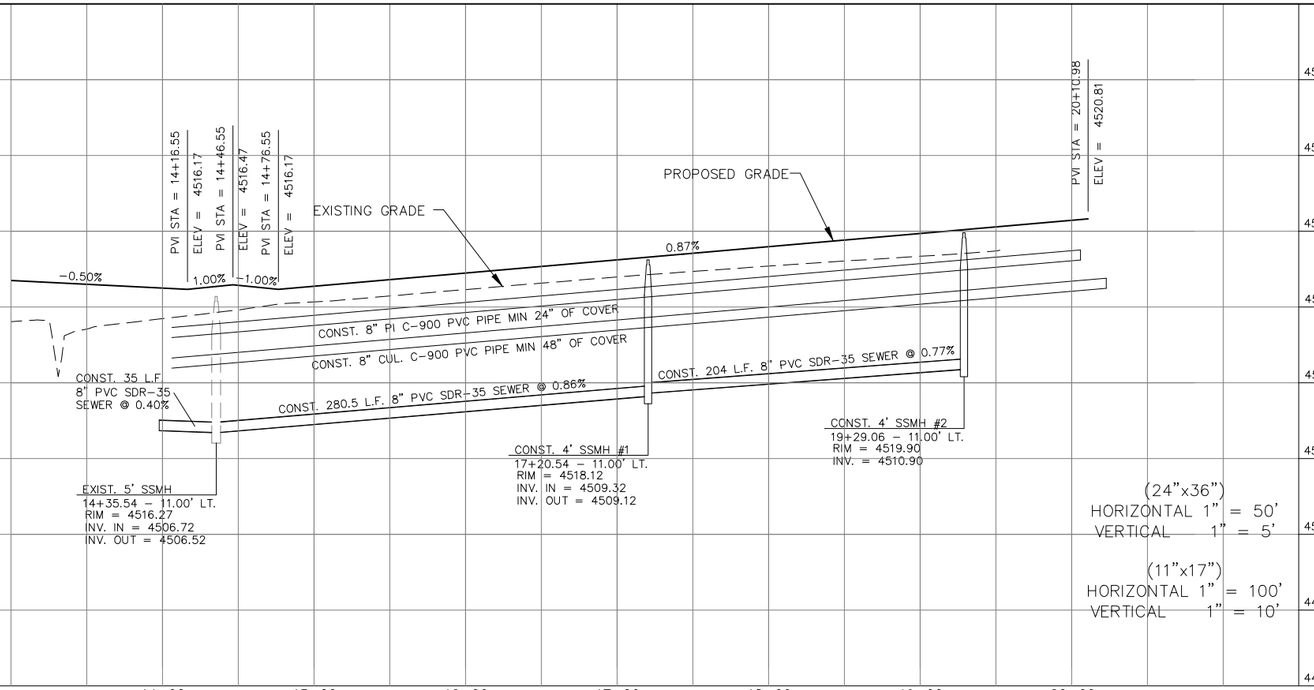
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AMERICAN FORK, UTAH

STONECREEK PLAT "G"
A RESIDENTIAL SUBDIVISION

250 WEST PLAN & PROFILE
17+00 - 23+30

290 WEST PLAN & PROFILE
14+00 - 20+11

JOB
WS-AF

SHEET NO.
5



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0 40 80 120

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SCALE: 1" = 40'
(11"x17")
SCALE: 1" = 80'

INLET PROTECTION

1. INSTALL SILT FENCE OR STRAW BALE SEDIMENT BARRIER OR EQUIVILANT MEASURE AROUND STORM DRAIN INLETS.
2. INSPECT INLET PROTECTION AFTER STORM EVENT.
3. UPON COMPLETION OF CURB AND GUTTER, PROTECT INLETS WITH FILTER FABRIC AND COURSE GRAVEL OR EQUIVALENT MEASURE.

CONSTRUCTION ENTRANCE

1. CONSTRUCTION ENTRANCE TO BE INSTALLED WITH CRUSHED STONE AT A LOCATION WHERE TRUCKS LEAVE THE SITE TO A PAVED SURFACE.
2. PROVIDE BERMING AT WASH AREA AS NEEDED TO PREVENT SOIL LADEN WASH WATER FROM ENTERING THE STORM WATER FACILITIES.
3. GRAVEL AREA TO BE OF SUFFICIENT SIZE TO ACCOMMODATE THE TRAFFIC.

STORAGE AREA

1. CONTROL STORAGE OF ONSITE MATERIALS TO A DESIGNATED AREA WITH NO DRAINAGE OR WATERWAYS NEARBY.
2. ENSURE ALL ONSITE PERSONNEL UTILIZE DESIGNATED STORAGE AREA. DO NOT STORE EXCESSIVE AMOUNTS OF MATERIALS THAT WILL NOT BE UTILIZED ON SITE.
3. COVER MATERIALS WHEN OUTSIDE THE STORAGE AREA OR WHEN NOT IN USE AND PROTECT STORM DRAIN SYSTEM WHEN IN USE.

STORM WATER MANAGEMENT PLAN

1. ALL CONSTRUCTION TO BE DONE ACCORDING TO THE AMERICAN FORK CITY STANDARDS AND SPECIFICATIONS
2. THE CONTRACTOR IS TO FOLLOW THE BMP DETAILS AS OUTLINED AND ACCORDING TO AMERICAN FORK CITY STANDARDS.
3. CONTRACTOR SHALL TAKE REASONABLE EFFORT TO LIMIT MUD AND SEDIMENT CARRIED ONTO CITY STREETS FROM THE CONSTRUCTION SITE AND REMOVE ANY PRIOR TO THE CLOSE OF EACH WORK DAY.
4. CONTRACTOR TO COORDINATE CONSTRUCTION FENCING.

KEYED NOTES

1. INSTALL PROTECTION ACCORDING TO AMERICAN FORK CITY STANDARDS
2. INSTALL CONTRACTOR ENTRANCE SIGN ACCORDING TO AMERICAN FORK CITY STANDARDS
3. TRAP ROCK TO BE INSTALLED AS PER CITY STANDARDS TO AID IN THE REMOVAL OF MUD AND SEDIMENT FROM TIRES AT THE ENTRANCE OF THE EXCAVATION AREA

REVISIONS					
NO.	DATE	DESCRIPTION	BY		
1				DESIGNED BY:	TGT
2				DRAWN BY:	TT
3				CHECK BY:	TGT
4				DATE:	5/6/2021
				CDGD FILE:	

J:\GARRETT\AmericanFork\dwg\PLAT G\06 SWPPP.dwg

TRANE ENGINEERING, P.C.
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27 EAST MAIN LEHI, UTAH 84043 (801) 768-4544

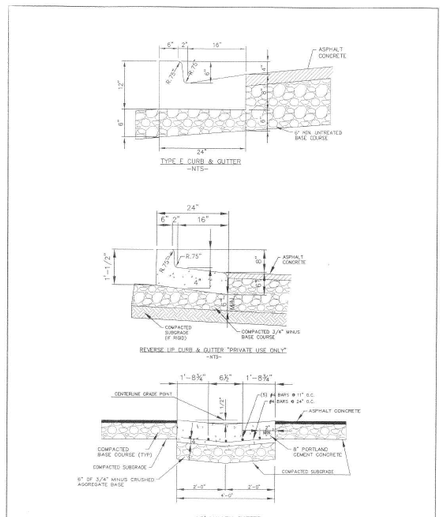
AMERICAN FORK, UTAH

STONECREEK PLAT "G"
A RESIDENTIAL SUBDIVISION

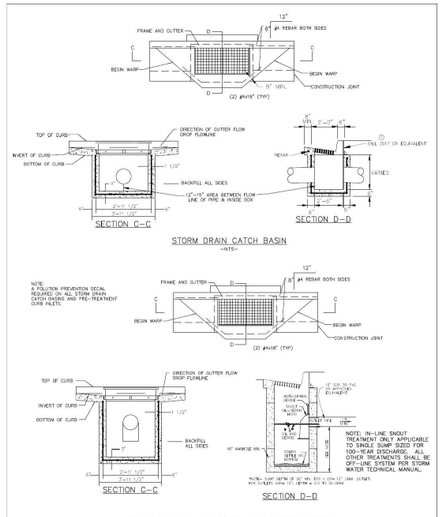
SWPPP

JOB WS-AF

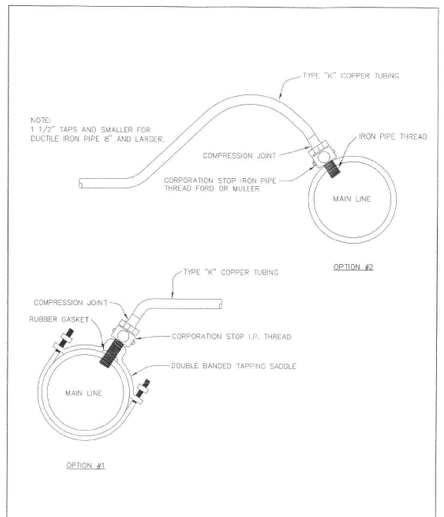
SHEET NO. 6



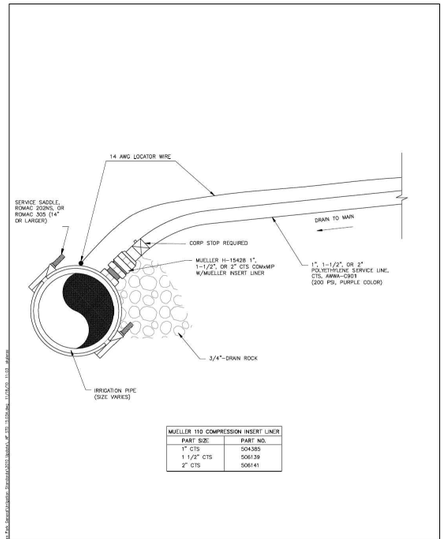
DRAWN: JRD	Northern ENGINEERING AND SURVEYING, INC.	AMERICAN FORK CITY	STANDARD DETAIL FOR: TYPE B1 C&G REVERSE LIP C&G VALLEY GUTTER	DRAWING NO. 15.1
REVISED:				
DATE: MAY 2002				
SCALE: VARIES				



DRAWN: JRD	AMERICAN FORK -1853-	AMERICAN FORK CITY	STANDARD DETAIL FOR: CATCH BASIN	DRAWING NO. 15.2
REVISED: AJS				
DATE: APRIL 2012				
SCALE: VARIES				

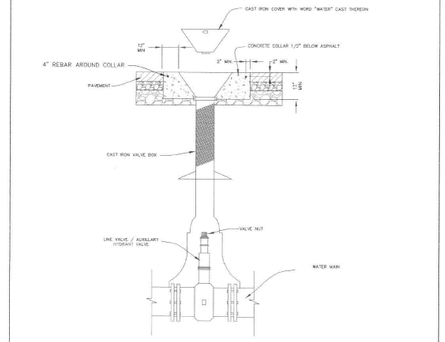


DRAWN: JRD	Northern ENGINEERING AND SURVEYING, INC.	AMERICAN FORK CITY	STANDARD DETAIL FOR: TYPICAL WATERMAN TAPS	DRAWING NO. 15.3
REVISED:				
DATE: JULY 2002				
SCALE: VARIES				

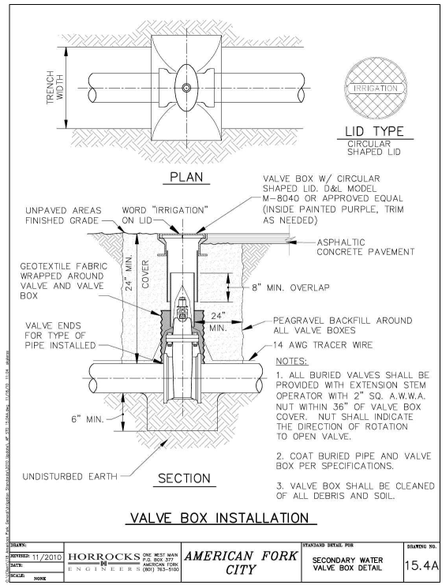


MUELLER 110 COMPRESSION INSERT LINER	
PART SIZE	PART NO.
1" CTS	504385
1 1/2" CTS	506139
2" CTS	508141

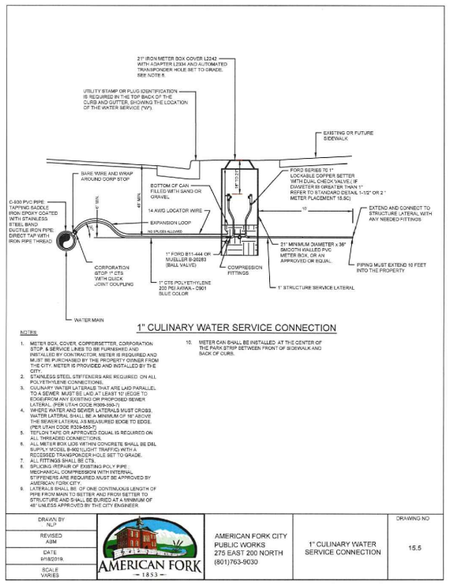
DRAWN:	HORROCKS ENGINEERS ONE WEST MAIN P.O. BOX 277 AMERICAN FORK (801) 763-5100	AMERICAN FORK CITY	STANDARD DETAIL FOR: TYPICAL SECONDARY WATER MAIN TAP	DRAWING NO. 15.3A
REVISED: 11/2010				
DATE:				
SCALE:				



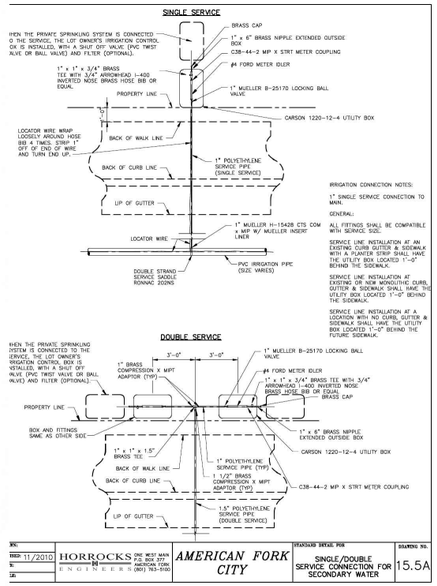
DRAWN: JRD	Northern ENGINEERING AND SURVEYING, INC.	AMERICAN FORK CITY	STANDARD DETAIL FOR: VALVE BOX DETAIL	DRAWING NO. 15.4
REVISED:				
DATE: JULY 2002				
SCALE: VARIES				



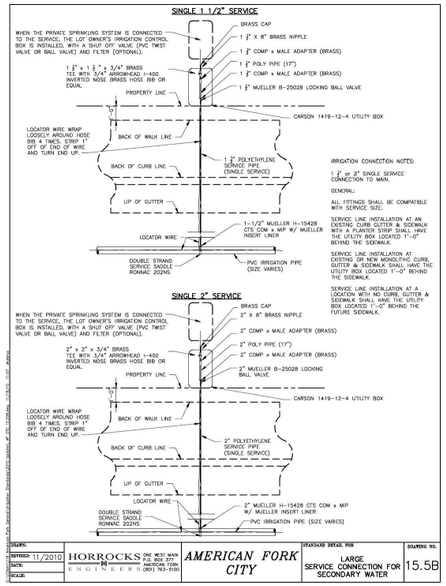
DRAWN:	HORROCKS ENGINEERS ONE WEST MAIN P.O. BOX 277 AMERICAN FORK (801) 763-5100	AMERICAN FORK CITY	STANDARD DETAIL FOR: SECONDARY WATER VALVE BOX DETAIL	DRAWING NO. 15.4A
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DATE:				
SCALE: NONE				



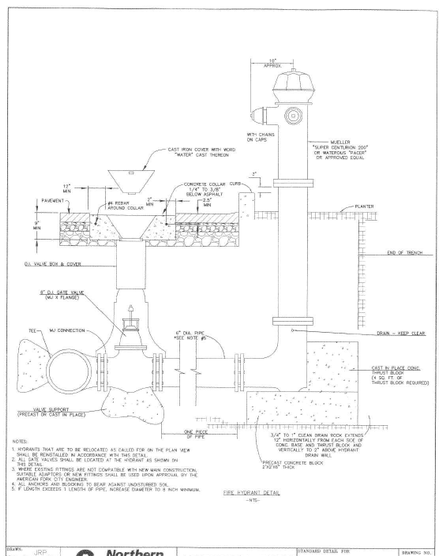
DRAWN BY: NJP	AMERICAN FORK -1853-	AMERICAN FORK CITY PUBLIC WORKS 275 EAST 200 NORTH (801)763-9030	1" CULINARY WATER SERVICE CONNECTION	DRAWING NO 15.5
REVISED: AJM				
DATE: 9/18/2019				
SCALE: VARIES				



NO.	HORROCKS ENGINEERS ONE WEST MAIN P.O. BOX 277 AMERICAN FORK (801) 763-5100	AMERICAN FORK CITY	STANDARD DETAIL FOR: SINGLE/DOUBLE SERVICE CONNECTION FOR SECONDARY WATER	DRAWING NO. 15.5A
ISSUED: 11/2010				
By:				
DATE:				



DRAWN:	HORROCKS ENGINEERS ONE WEST MAIN P.O. BOX 277 AMERICAN FORK (801) 763-5100	AMERICAN FORK CITY	STANDARD DETAIL FOR: LARGE SERVICE CONNECTION FOR SECONDARY WATER	DRAWING NO. 15.5B
REVISED: 11/2010				
DATE:				
SCALE:				



DRAWN: JRD	Northern ENGINEERING AND SURVEYING, INC.	AMERICAN FORK CITY	STANDARD DETAIL FOR: FIRE HYDRANT	DRAWING NO. 15.6
REVISED:				
DATE: MAY 2002				
SCALE: VARIES				

REVISIONS						
NO.	DATE	DESCRIPTION	BY			
1				DESIGNED BY:	TGT	
2				DRAWN BY:	TT	
3				CHECK BY:	TGT	
4				DATE:	11/10/2020	
				COGO FILE:		

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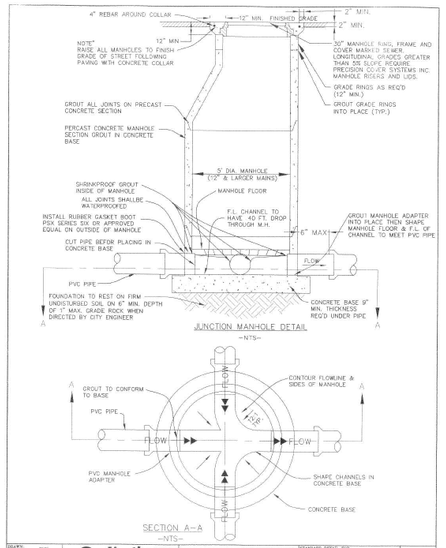
AMERICAN FORK, UTAH

STONECREEK PLAT "G"
A RESIDENTIAL SUBDIVISION

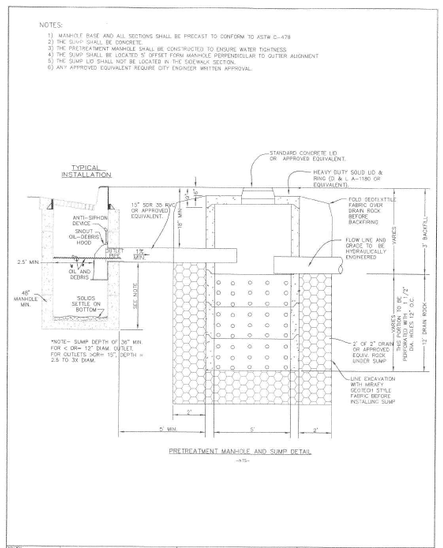
DETAIL SHEET 1

JOB WS-AF

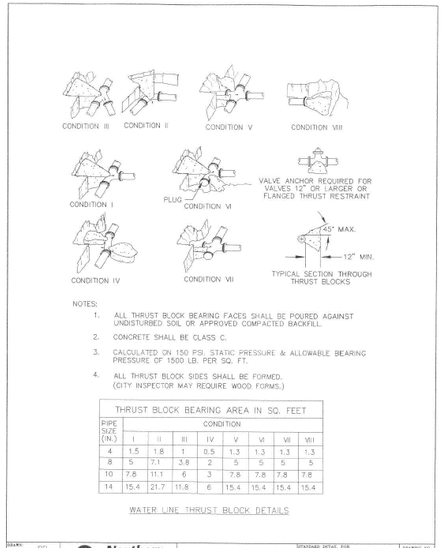
SHEET NO. 7



DRAWN: JBP	Northern ENGINEERING LAND PLANNING CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: SANITARY SEWER JUNCTION MANHOLE DETAIL	DRAWING NO. 15.13
REVISED:				
DATE: JULY 2002				
SCALE: VARIES				



DRAWN: JBP	Northern ENGINEERING LAND PLANNING CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: PRETREATMENT MANHOLE AND SUMP	DRAWING NO. 15.14
REVISED:				
DATE: MAY 2002				
SCALE: VARIES				

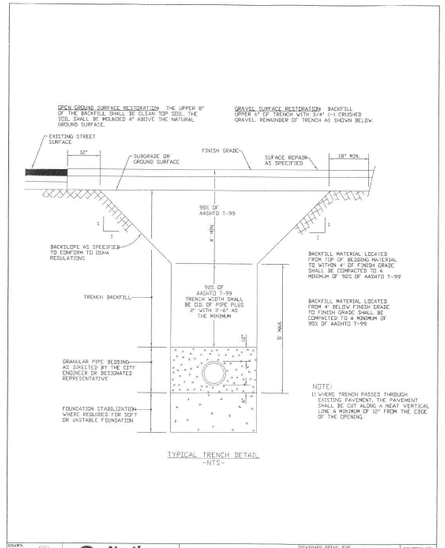


THRUST BLOCK BEARING AREA IN SQ. FEET

PIPE SIZE (IN.)	CONDITION							
	I	II	III	IV	V	VI	VII	VIII
4	1.5	1.8	1	0.5	1.3	1.3	1.3	1.3
8	5	7.1	3.8	2	5	5	5	5
10	7.6	11.1	6	3	7.8	7.8	7.8	7.8
14	15.4	21.7	11.8	6	15.4	15.4	15.4	15.4

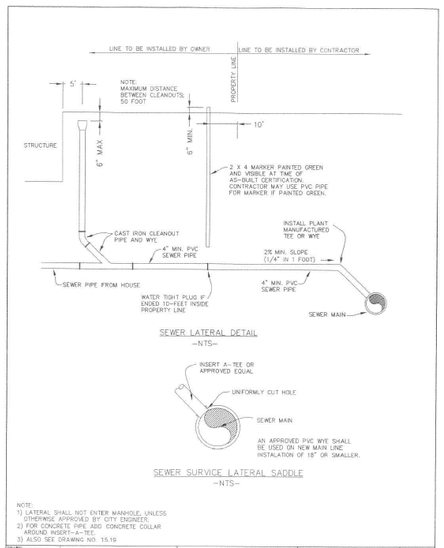
WATER LINE THRUST BLOCK DETAILS

DRAWN: JBP	Northern ENGINEERING LAND PLANNING CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: WATERLINE THRUST BLOCKING	DRAWING NO. 15.21
REVISED:				
DATE: MAY 2002				
SCALE: VARIES				



TYPICAL TRENCH DETAIL
-NTS-

DRAWN: JBP	Northern ENGINEERING LAND PLANNING CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: TYPICAL TRENCH DETAIL	DRAWING NO. 15.22
REVISED:				
DATE: MAY 2002				
SCALE: VARIES				

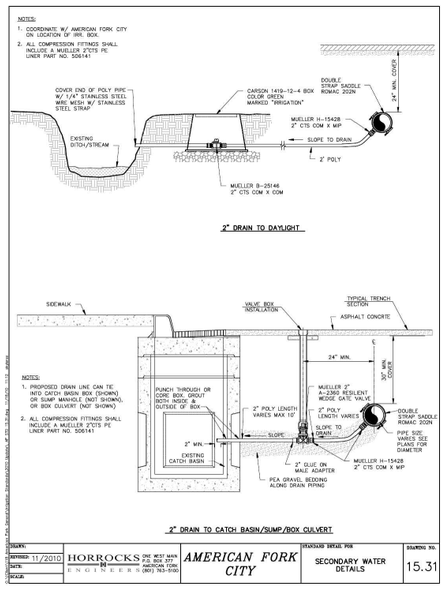


SEWER LATERAL DETAIL
-NTS-

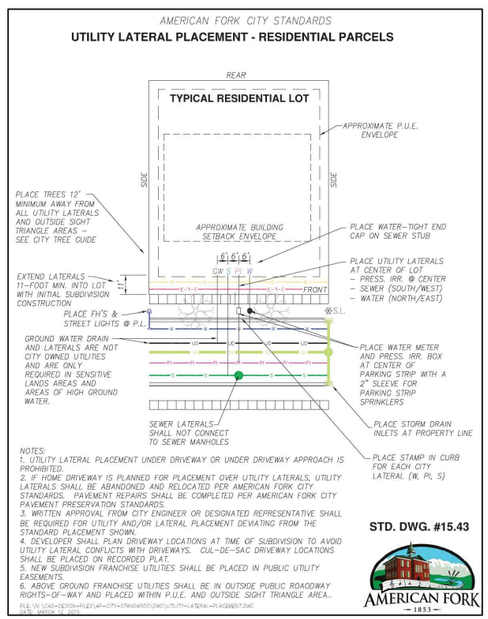
SEWER SURVICE LATERAL SADDLE
-NTS-

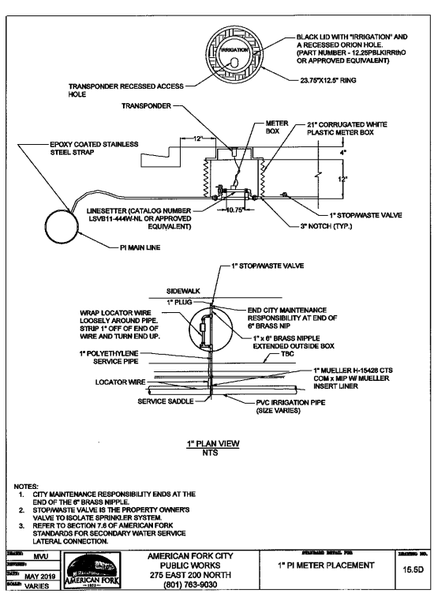
NOTE:
1) LATERAL SHALL NOT ENTER MANHOLE, UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
2) FOR CONCRETE PIPE ADD CONCRETE COLLAR AROUND INSERT-A-TEE.
3) ALSO SEE DRAWING NO. 15.19

DRAWN: JBP	Northern ENGINEERING LAND PLANNING CONSTRUCTION MANAGEMENT 1040 E. 800 N. OREM, UTAH 84057 (801) 802-8992	AMERICAN FORK CITY	STANDARD DETAIL FOR: SANITARY SEWER LATERAL AND CLEAN OUT	DRAWING NO. 15.23
REVISED:				
DATE: JULY 2002				
SCALE: VARIES				



DRAWN:	HORROCKS ENGINEERS 240 WEST 54TH AMERICAN FORK, UTAH (801) 763-5100	AMERICAN FORK CITY	STANDARD DETAIL FOR: SECONDARY WATER DETAILS	DRAWING NO. 15.31
REVISED: 11/2010				
DATE:				
SCALE:				

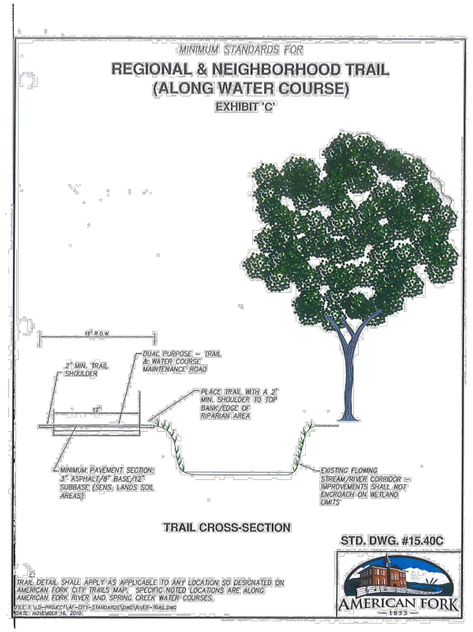




1" PLAN VIEW
NTS

NOTES:
1. CITY MAINTENANCE RESPONSIBILITY ENDS AT THE END OF THE 6" BRASS NIPPLE.
2. STOPWASTE VALVE IS THE PROPERTY OWNER'S VALVE TO ISOLATE SPRINKLER SYSTEM.
3. REFER TO SECTION 7.0 OF AMERICAN FORK STANDARDS FOR SECONDARY WATER SERVICE LATERAL CONNECTION.

DRAWN: MVJ	AMERICAN FORK CITY PUBLIC WORKS 275 EAST 200 NORTH (801) 763-9030	STANDARD DETAIL FOR: 1" PI METER PLACEMENT	DRAWING NO. 15.5D
APPROVED:			
DATE: MAY 2019			
SCALE: VARIES			



TRAIL DETAIL SHALL APPLY AS APPLICABLE TO ANY LOCATION SO DESIGNATED ON AMERICAN FORK CITY TRAILS MAP. SPECIFIC NOTED LOCATIONS ARE ALONG AMERICAN FORK RIVER AND SPRING CREEK WATER COURSES.
FILE:\\S-PROJECTS\C-CITY-STANDARDS\DWG\RIVER-TRAIL.DWG
DATE: NOVEMBER 16, 2010

REVISIONS						
NO.	DATE	DESCRIPTION	BY			
1				DESIGNED BY:	TGT	
2				DRAWN BY:	TT	
3				CHECK BY:	TGT	
4				DATE:	11/10/2020	
J:\GARRETT\AmericanFork\dwg\PLAT G\07 DETAIL.dwg				CODD FILE:		

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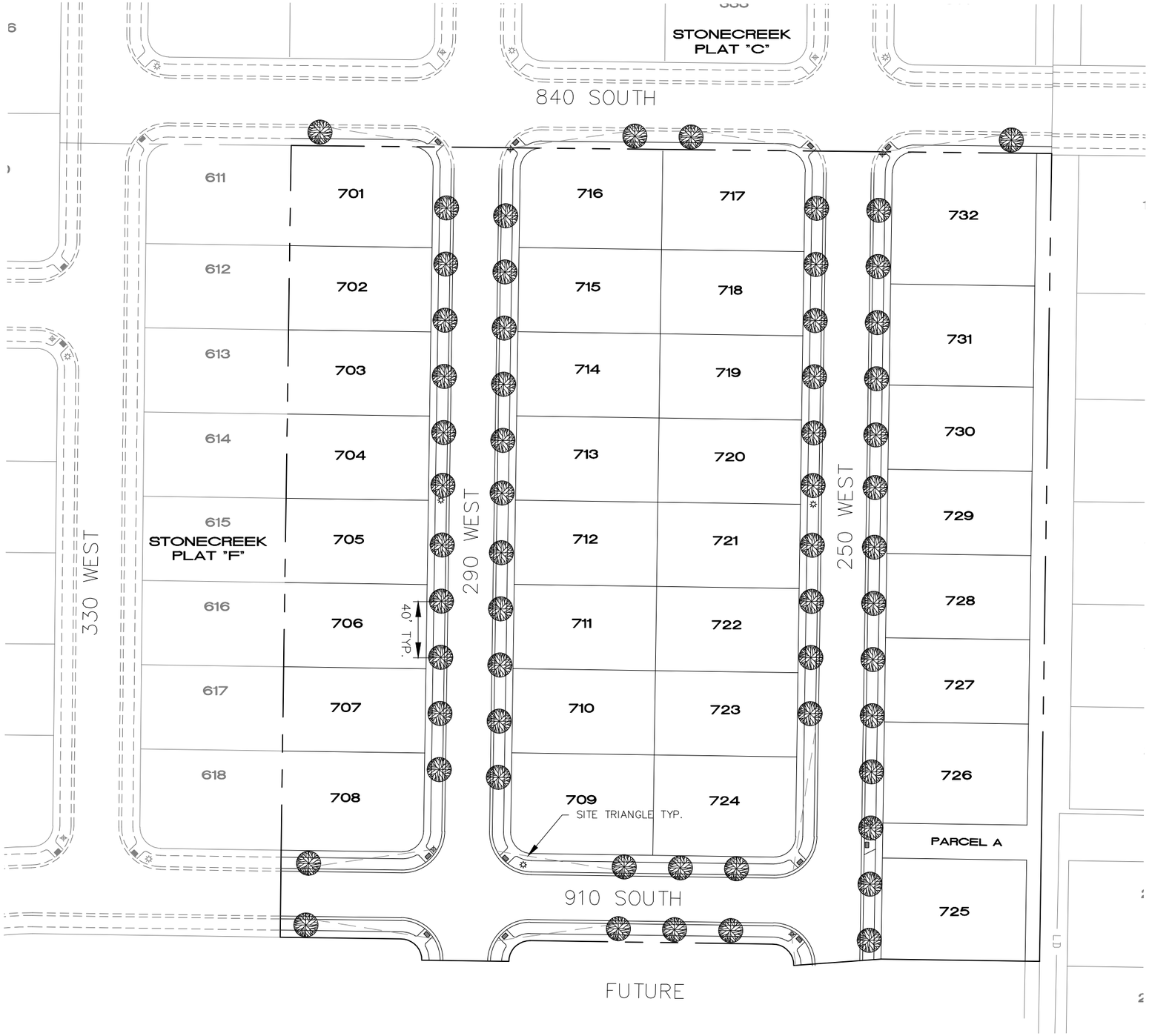
AMERICAN FORK, UTAH

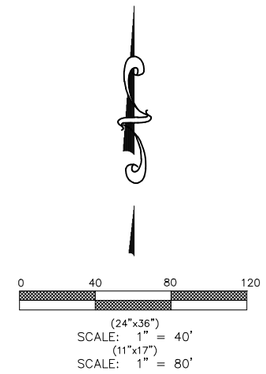
STONECREEK PLAT "G"
A RESIDENTIAL SUBDIVISION

DETAIL SHEET 2

JOB WS-AF

SHEET NO. 8





LEGEND

PROPERTY BOUNDARY LINE

DECIDUOUS TREE – 2" CAL.

GENERAL NOTES

1. ALL CONSTRUCTION TO BE DONE ACCORDING TO THE AMERICAN FORK CITY STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR TO INSTALL STREET TREES ALONG STREET AT A SPACING OF 40' APART. COORDINATE WITH CITY ARBORIST TO DETERMINE TYPE OF TREES.
3. NO TREES TO BE PLANTED INSIDE THE SITE TRIANGLE AS DEFINED IN SECTION 15.01.1910.

REVISIONS					
NO.	DATE	DESCRIPTION	BY		
1				DESIGNED BY:	TGT
2				DRAWN BY:	TT
3				CHECK BY:	TGT
4				DATE:	5/6/21
				COGO FILE:	

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AMERICAN FORK, UTAH

STONECREEK PLAT "G"
A RESIDENTIAL SUBDIVISION

TREE EXHIBIT

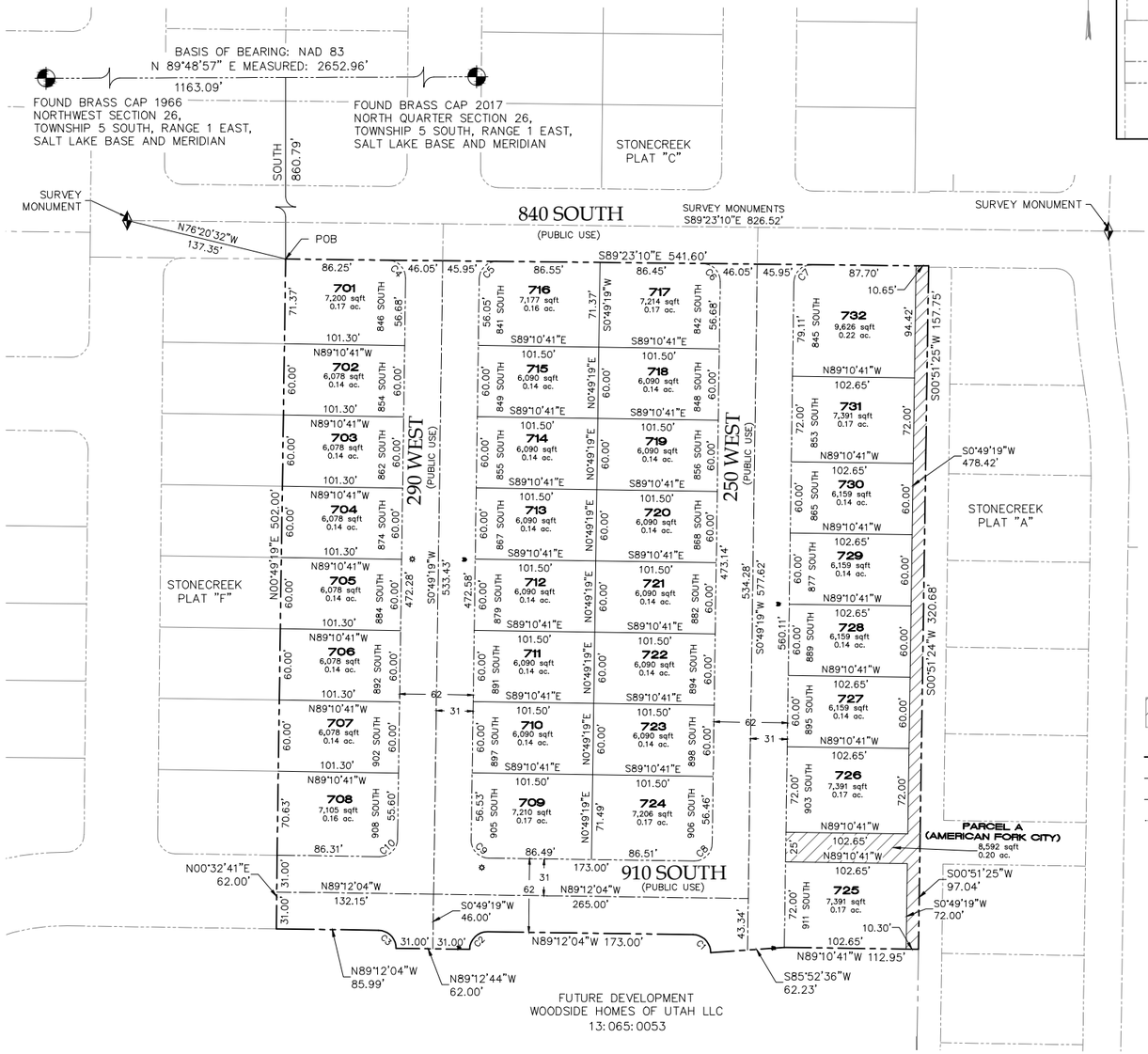
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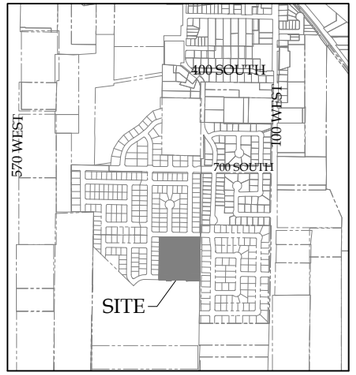
SHEET NO. 9

STONECREEK PLAT 'G'

LOCATED IN THE NORTHWEST QUARTER OF
SECTION 26, TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN
AMERICAN FORK CITY, UTAH COUNTY.

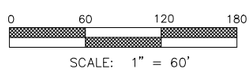
Curve Table					
Curve #	Length	Radius	Delta	Chord	Chord Bearing
C1	23.57	15.00	90°01'23"	21.22	N44°11'22"W
C2	23.56	15.00	89°58'37"	21.21	S45°48'38"W
C3	23.57	15.00	90°01'23"	21.22	N44°11'22"W
C4	23.62	15.00	90°12'29"	21.25	N44°16'56"W
C5	23.51	15.00	89°47'31"	21.17	S45°43'04"W
C6	23.62	15.00	90°12'29"	21.25	N44°16'56"W
C7	23.51	15.00	89°47'31"	21.17	S45°43'04"W
C8	23.56	15.00	89°58'37"	21.21	N45°48'38"E
C9	23.57	15.00	90°01'23"	21.22	S44°11'22"E
C10	23.56	15.00	89°58'37"	21.21	N45°48'38"E





VICINITY MAP





SCALE: 1" = 60'

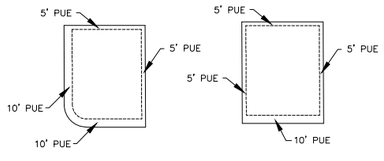
LEGEND

- FOUND SECTION CORNER
- DEDICATED TO AMERICAN FORK CITY
- BOUNDARY
- SECTION LINE
- ROAD CENTER LINE
- EASEMENT LINE
- FIRE HYDRANT
- STREET LIGHT

LAND USE:	
PLAT "G" =	7.09 ACRES
ZONING=	PR-3.0
TOTAL LOTS=	66 LOTS
DENSITY OVERALL =	3.0 LOTS/ACRE
OPEN SPACE =	0.20 ACRE

NOTE: THIS PLAT IS BASED ON THE PLANNED UNIT DEVELOPMENT-CONSERVATION SUBDIVISION PROJECT

FLOOD ZONE DESIGNATION: X
MAP NUMBER: 49049C0306F
EFFECTIVE DATE: JUNE 19, 2020



EASEMENT DETAIL
-NTS-

NOTES:
1. OFFSET NAILS TO BE PLACED IN THE CURB AND 5/8" BY 24" REBAR WITH SURVEY CAP TO BE PLACED AT ALL REAR LOT CORNERS PRIOR TO OCCUPANCY.
2. BUILDING PERMITS WILL NOT BE ISSUED FOR ANY HOME UNTIL ALL ASPHALT PAVING IS INSTALLED AND THE FIRE HYDRANTS ARE INSTALLED, APPROVED BY THE FIRE MARSHALL AND CHARGE WITH CULINARY WATER.
3. ALL PUBLIC STREETS TO BE DEDICATED TO AMERICAN FORK CITY.
4. LOWEST FLOOR SLAB ELEVATION MUST BE A MINIMUM OF 3 FEET ABOVE WATER LEVEL MEASURED DURING SPRING SEASON. NO BASEMENTS TO BE CONSTRUCTED WITHIN THIS PLAT.

DEVELOPER
WOODSIDE HOMES
460 WEST 50 NORTH
SUITE #200 SLC, UT 84101
PHONE (801) 372-2077

TRANE ENGINEERING, P.C.
CONSULTING ENGINEERS AND LAND SURVEYORS
27 EAST MAIN LEHI, UTAH 84043 (801) 768-4544

SURVEYOR'S CERTIFICATE

I, TRAVIS TRANE, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR AND THAT I HOLD LICENSE NO. 5152741, IN ACCORDANCE WITH TITLE 58, CHAPTER 22 OF THE PROFESSIONAL ENGINEERS AND LAND SURVEYORS LICENSING ACT. I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNERS, A SURVEY WAS COMPLETED IN ACCORDANCE WITH SECTION 17-23-17. I FURTHER CERTIFY THAT I HAVE VERIFIED ALL MEASUREMENTS AND THAT MONUMENTS HAVE BEEN PLACED AS SHOWN ON THIS PLAT, I HEREBY STATE THAT THIS PLAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, BELIEF AND IN MY PROFESSIONAL OPINION.

(SURVEYOR), P.L.S. DATE

BOUNDARY DESCRIPTION

Commencing at a point which is North 89°48'57" East 1163.09 feet along the section line and South 860.79 feet from the Northwest Corner of Section 26, Township 5 South, Range 1 East, Salt Lake Base and Meridian: thence South 89°23'10" East 541.60 feet; thence South 00°51'25" West 157.75 feet; thence South 00°51'24" West 320.68 feet; thence South 00°51'25" West 97.04 feet; thence North 89°10'41" West 112.95 feet; thence South 85°52'36" West 62.23 feet; thence Northwesterly 23.57 feet along the arc of a 15.00 foot radius curve the the left, through a central angle of 90°01'23", the chord of which bears North 44°11'22" West 21.22 feet; thence North 89°12'04" West 173.00 feet; thence Southwesterly 23.56 feet along the arc of a 15.00 foot radius curve the the left, through a central angle of 89°58'37", the chord of which bears South 45°48'38" West 21.21 feet; thence North 89°12'44" West 62.00 feet; thence Northwesterly 23.57 feet along the arc of a 15.00 foot radius curve the the left, through a central angle of 90°01'23", the chord of which bears North 44°11'22" West 21.22 feet; thence North 89°12'04" West 85.99 feet; thence North 00°32'41" East 62.00 feet; thence North 00°49'19" East 502.00 feet to the point of beginning.

Parcel contains: 7.09 acres

Number of lots = 32

Basis of bearing: The line between the Northwest Corner and the North Quarter Corner of Section 26, Township 5 South, Range 1 East, Salt Lake Base and meridian which bears North 89°48'57" East.

OWNER'S DEDICATION

Known all men by these present that we, all of the undersigned owners of all of the property described in the surveyor's certificate herein and shown on this map, have caused the same to be subdivided into lots, blocks, streets and easements and do hereby dedicate the streets and other public areas as indicated hereon for perpetual use of the public.

IN WITNESS HEREOF WE HAVE HEREUNTO SET OUR HANDS THIS_____ DAY OF_____, 20___

ACKNOWLEDGEMENT

STATE OF UTAH)
: S.S.
COUNTY OF UTAH)

ON THE_____DAY OF_____, 20___PERSONALLY APPEARED BEFORE ME THE SIGNERS OF THE FOREGOING DEDICATION WHO DULY ACKNOWLEDGE TO ME THAT THEY DID EXECUTE THE SAME.

NOTARY _____ NOTARY PUBLIC SIGNATURE

COMMISSION # _____

A NOTARY PUBLIC COMMISSIONED IN UTAH

MY COMMISSION EXPIRES _____

ACCEPTANCE BY LEGISLATIVE BODY

THE_____OF_____
COUNTY OF UTAH, APPROVES THIS SUBDIVISION AND HEREBY ACCEPTS THE DEDICATION OF ALL STREETS, EASEMENTS, AND OTHER PARCELS OF LAND INTENDED FOR PUBLIC PURPOSES FOR THE PERPETUAL USE OF THE PUBLIC THIS_____DAY OF_____, 20

MAYOR

CITY COUNCIL MEMBER

CITY COUNCIL MEMBER

CITY COUNCIL MEMBER

CITY COUNCIL MEMBER

CITY COUNCIL MEMBER

APPROVED: _____ CITY ENGINEER

ATTEST: _____ CLERK-RECORDER (See Seal Below)

PLANNING COMMISSION APPROVAL

APPROVED THIS _____ DAY OF _____, A.D. 20___
BY THE AMERICAN FORK CITY PLANNING COMMISSION.

PLANNER

PLANNING COMMISSION CHAIRMAN

SEWER/WATER AUTHORITY APPROVAL

APPROVED BY THE SEWER AUTHORITY
ON THIS DAY OF_____, A.D., 20_____

SEWER/WATER AUTHORITY

PLAT 'G'

STONECREEK

CONSERVATION PUD

AMERICAN FORK CITY, UTAH COUNTY, UTAH
SCALE: 1"= 60 FEET

SURVEYOR SEAL	CLERK-RECORDED SEAL	RECORDING INFORMATION

AMERICAN FORK CITY
PLANNING COMMISSION

MEETING DATE: July 7, 2021
STAFF PRESENTATION: Adam Olsen

AGENDA TOPIC: Review and action on a site plan for Lake City Flats, located at approximately95 North Barratt Avenue, in the CC-1 (Central Commercial) zone.

ACTION REQUESTED: Approval of the site plan.

BACKGROUND INFORMATION					
Location:		95 North Barratt Avenue			
Applicants:		CD Development 01, LLC			
Existing Land Use:		Residential			
Proposed Land Use:		Residential			
Surrounding Land Use:	North	Residential			
	South	Commercial			
	East	Residential			
	West	Residential			
Existing Zoning:		CC-1 (Central Commercial)			
Proposed Zoning:		N/A			
Surrounding Zoning:	North	R2-7,500			
	South	CC-1			
	East	CC-1			
	West	R4-7,500 & R1-7,500			
Land Use Plan Designation:		General Commercial			
Zoning within density range?		x	Yes		No

Background

****This item was tabled at the July 7th meeting in order for the applicant to address outstanding Engineering concerns. Discussion also centered on the proposed parking ratio of 1 stall per unit and the pros and cons of such a proposal. While the applicant proposed justification for a reduced number, staff is still concerned that the proposal of 1:1 is too low and therefore recommends denial.****

Lake City Flats is a proposal for a 5-story, 109 studio/micro unit project at the north end of Barratt Avenue and Pacific Drive. The site consists of 1.35 acres and the resulting density is approximately 80 du/ac. The CC-1 zone was recently amended to allow higher density residential uses. There is no cap in density provided that required parking be provided. In addition, there is no height limitation in the zone; again, provided that required parking is provided.

Lake City Flats proposes a parking ration of 1 stall per unit, well below the City requirement of 2.25 stalls per unit. An argument provided by the applicant is that these “micro units” will not need the required 2.25 stalls per unit as tenants will likely have one vehicle, at most. Additionally, as the project lies in the path of a future bus-rapid transit corridor, tenants will be able to use public transit. While it may be true that there will one day be a bus-rapid transit system in the vicinity, there is no timeline from UTA on the construction of such a system. If it proves to be successful in reducing the need for parking on-site for this project, an alternative would be to reduce the number of units in order to provide the required number of parking stalls, until such time as the transit system is in place. Then, at that future time, and if the parking demand is decreased, additional units could be constructed on site. Staff has concern with the low number of parking stalls provided. The applicant has submitted a parking study in support this low number, and staff has provided a professional opinion in reply. Both are provided in the submittal materials. As it stands, staff cannot recommend approval with such a low parking stall request.

As currently written, the CC-1 zone requires that “a variety of compatible exterior materials (minimum 4), colors and design shall be used on all buildings. Architectural style shall consider historical precedent and material used within the downtown area and complement that precedent”. Staff is unclear how this is being addressed from the submittal materials presented. The materials illustrate four complementing colors, but it is unclear how the proposed materials complement historic precedent or materials used on existing historic structures downtown. The applicant is likely to come with changes that better address this requirement and speak to it at the meeting.

Until the items outlined above are addressed, staff recommends this item be “tabled”. If the reduced parking request remains, staff recommends “denial”.

RECOMMENDED MOTION

Mr. Chairman, I move that we deny the site plan due to parking concerns and that the proposed ratio of 1 stall per unit is insufficient, nor does it meet the City’s requirement of 2.25 stalls per unit.

MEMORANDUM



Date: July 12, 2021

To: American Fork City; CD Development 01

From: Monument Engineers

Subject: Lake City Flats – Micro Apartments / Traffic And Parking Study Addendum

Introduction

This memorandum addresses comments provided by Hales Engineering in a memorandum dated June 25, 2021 for the Traffic and Parking Study for Lake City Flats Micro Apartments. It also updates the traffic impact analysis to reflect changes to the Barratt Avenue / 100 North / Pacific Drive intersection requested by American Fork City Public Works on July 1, 2021. It also updates the parking analysis to include ITE Parking Generation-based parking estimates for the proposed project. This memorandum is intended as an addendum to the Traffic and Parking Study for Lake City Flats Micro Apartments Revised April 2021.

Traffic Impact Analysis Revisions

Clarification for Traffic Analysis Methodology

The study used Synchro to apply HCM 6th Edition analysis/LOS methodology for two-way-stop controlled study intersections. As reported in the study, the LOS is based on the worst movement lane for the worst approach. Movement-based LOS have been added as appropriate. Synchro reports for HCM 6th Edition methodology for two-way-stop-controlled intersections are provided in the Appendix of the previous study. Synchro reports for revised traffic operations analyses are included in the Appendix of this memorandum.

Revised Existing Traffic Conditions

Traffic Volumes

Turning movement volumes collected for the study were compared to traffic volumes reported in the Transportation Element of the General Plan for American Fork City (dated March 2020) and found to represent pre-COVID pandemic conditions and to be adequate for purposes of analyzing the traffic impact of the proposed project.

Like Pacific Drive, PM peak traffic volumes for Main Street are higher than AM peak traffic volumes. A comparison of UDOT ATSPM approach traffic data for Main Street signalized intersections east and west of the proposed project show that PM peak traffic volumes are approximately 50 percent higher than AM peak traffic volumes. The PM peak period represents the worst-case conditions for Pacific Drive and Main Street study intersections and is adequate for analyzing the traffic impact of the proposed project.

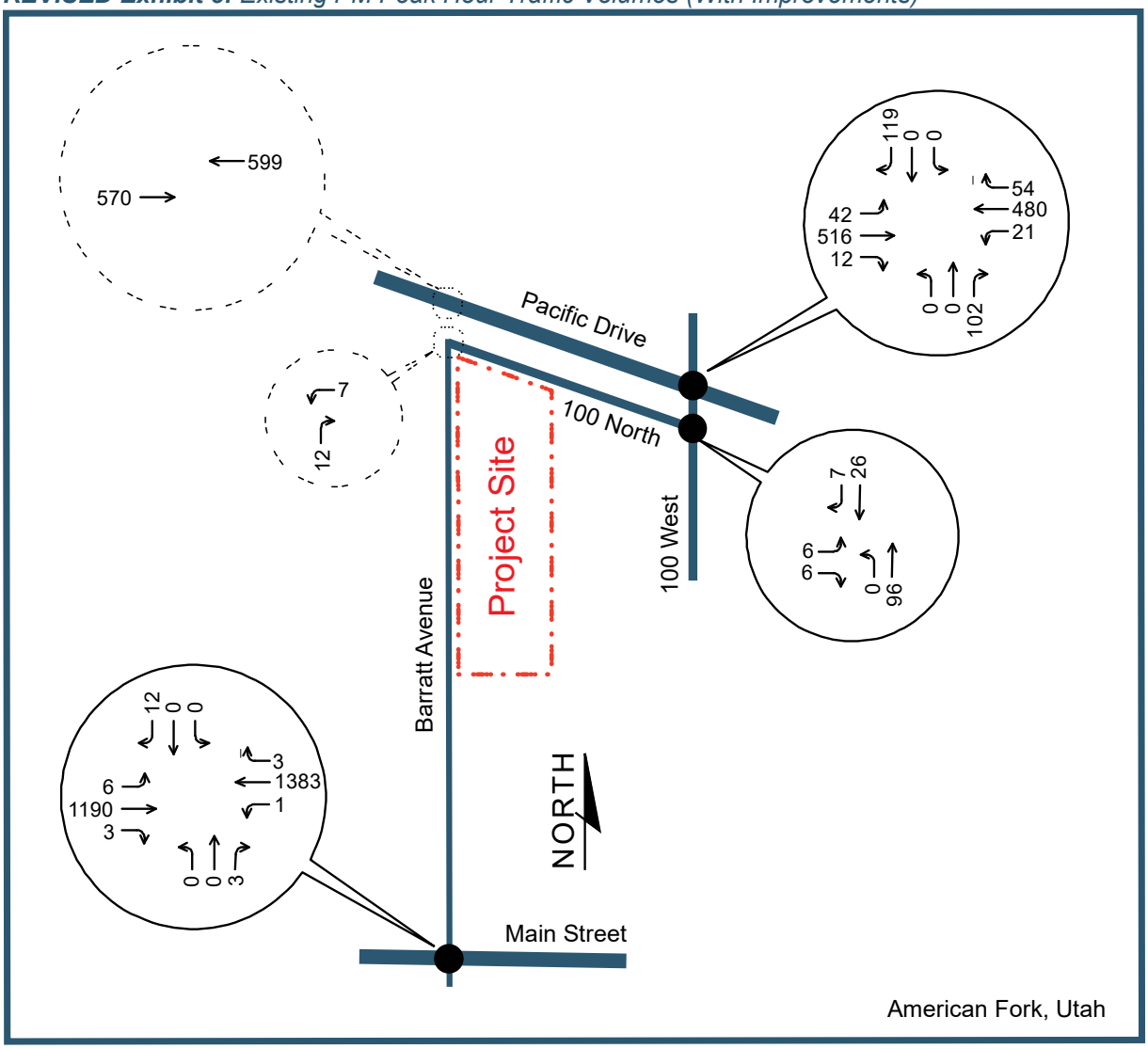
LOS Analysis

The Synchro reports included in the study Appendix show the lane configuration used to analyze the turning movements shown in Exhibits 3, 5, 8, and 9 of the study. The Synchro/HCM methodology applied for the study cannot model the existing configuration of the Barratt Avenue / 100 North / Pacific Drive intersection, which includes two adjacent minor approaches which are both located south of the major approach legs of the intersection. As such, the turning movements for both the Barratt Avenue and 100

North approaches were combined into intersection #1 “Barratt Avenue / Pacific Drive”. For purposes of evaluating traffic operations impacts of the proposed project, this modification adequately estimates the combined control delays experienced by the Barratt Avenue and 100 North approach traffic volumes at Pacific Drive. Also, the turning volumes analyzed for the combined Barratt Avenue and 100 North approaches at Pacific Drive, are double the measured volumes, resulting in control delays that are conservatively high (see study for notes explaining traffic volume adjustments applied to conservatively balance traffic volumes between study intersections). To provide additional insight into the performance of the intersection, the movements between the intersection of Barratt Avenue / 100 North were also analyzed and reported separately.

Newly defined modifications to the Barratt Avenue / 100 North / Pacific Drive intersection also remove the need to further explain or defend traffic operations analysis assumptions applied for this intersection. On July 1, 2021, American Fork City Public Works requested that the proposed project install a barrier along the southern shoulder of Pacific Drive to physically separate Pacific Drive from Barratt Avenue and 100 North. Revised Exhibit 5 shows the turning movements modified to reflect this change. Revised Exhibit 6 shows the traffic operations results with the modified conditions. As shown, the changes remove two “intersections” previously included in the traffic analysis. Synchro reports for the revised traffic analysis are included in the Appendix.

REVISED Exhibit 5: *Existing PM Peak Hour Traffic Volumes (With Improvements)*



REVISED Exhibit 6: *Existing PM Peak Hour LOS & Delay Summary (With Improvements)*

Intersection or [Roadway]	Worst Approach	LOS	Control Delay (Sec/Vehicle)
2: 100 West / Pacific Drive	Southbound[1]	B	13.9
4: 100 West / 100 North	Eastbound[2]	A	9.2
5: Barratt Avenue / Main Street	Southbound[3]	C	15.6

[1]Northbound 100 W/Pacific: LOS B with control delay of 13.7 sec/veh
[2]LOS and control delay shown for the eastbound left turn movement
[3]LOS and control delay shown for the southbound right turn movement

Revised Project Generated Trips

Trip Generation Calculations

Trip generation calculations for the proposed project were revised to reflect the 10th Edition of the *ITE Trip Generation Manual*. Trip generation calculations were also modified to reflect 109 dwelling units proposed for the project compared to the 125 dwelling units analyzed previously. The resulting trip generation forecasts are reported in Revised Exhibit 7. Because these ITE trip generation estimates are based on rates for various types and sizes of multifamily dwellings (including townhouses and dwellings with one-, two-, and +three-bedrooms), Revised Exhibit 7 likely overestimates vehicle trips generated by the proposed project.

REVISED Exhibit 7: *Trip Generation Calculations*

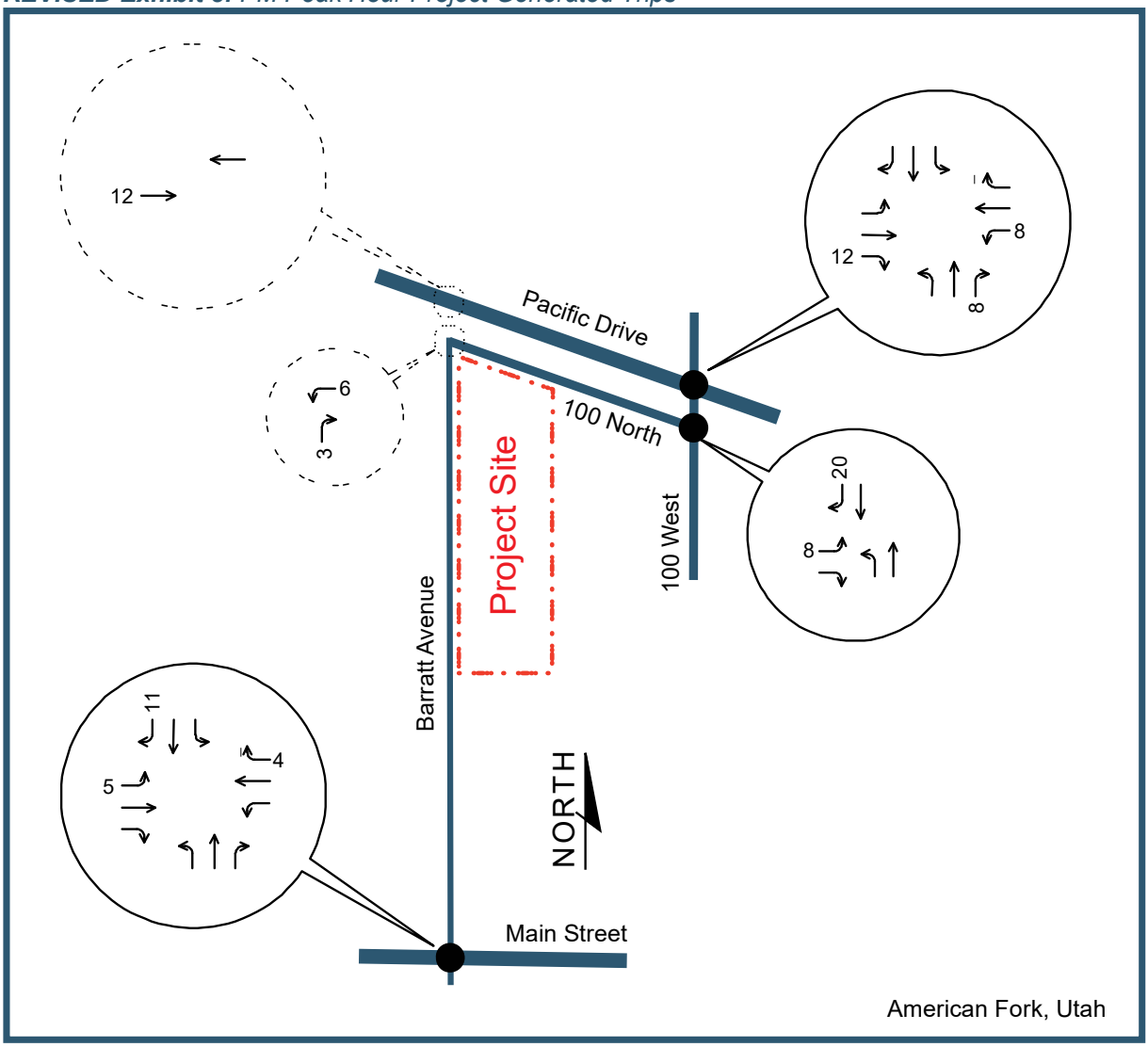
AM Peak Hour				
Land Use	No. Units	Trips Entering	Trips Exiting	New AM Peak Trips
Multifamily Mid-Rise (ITE 221)[1]	109	10 (26%)	29 (74%)	39
PM Peak Hour				
Land Use	No. Units	Trips Entering	Trips Exiting	New PM Peak Trips
Multifamily Mid-Rise (ITE 221) [1]	109	29 (61%)	19 (39)	48
Daily (Weekday)				
Land Use	No. Units	Trips Entering	Trips Exiting	New Daily Peak Trips
Multifamily Mid-Rise (ITE 221) [1]	109	297 (50%)	297 (50%)	594

[1]ITE Trip Generation, 10th Edition; ITE Code 221 is for multifamily housing mid-rise (3-10 story) and includes apartments, condos, and townhouses.

Trip Distribution and Assignment

The revised PM peak hour trip generation estimates were distributed to study intersections using the overall distribution percentages applied described in the study (60% west and 40% east). The resulting PM peak hour project generated turning movements are shown in Revised Exhibit 8

REVISED Exhibit 8: *PM Peak Hour Project Generated Trips*



Revised Existing Plus Project Traffic Conditions

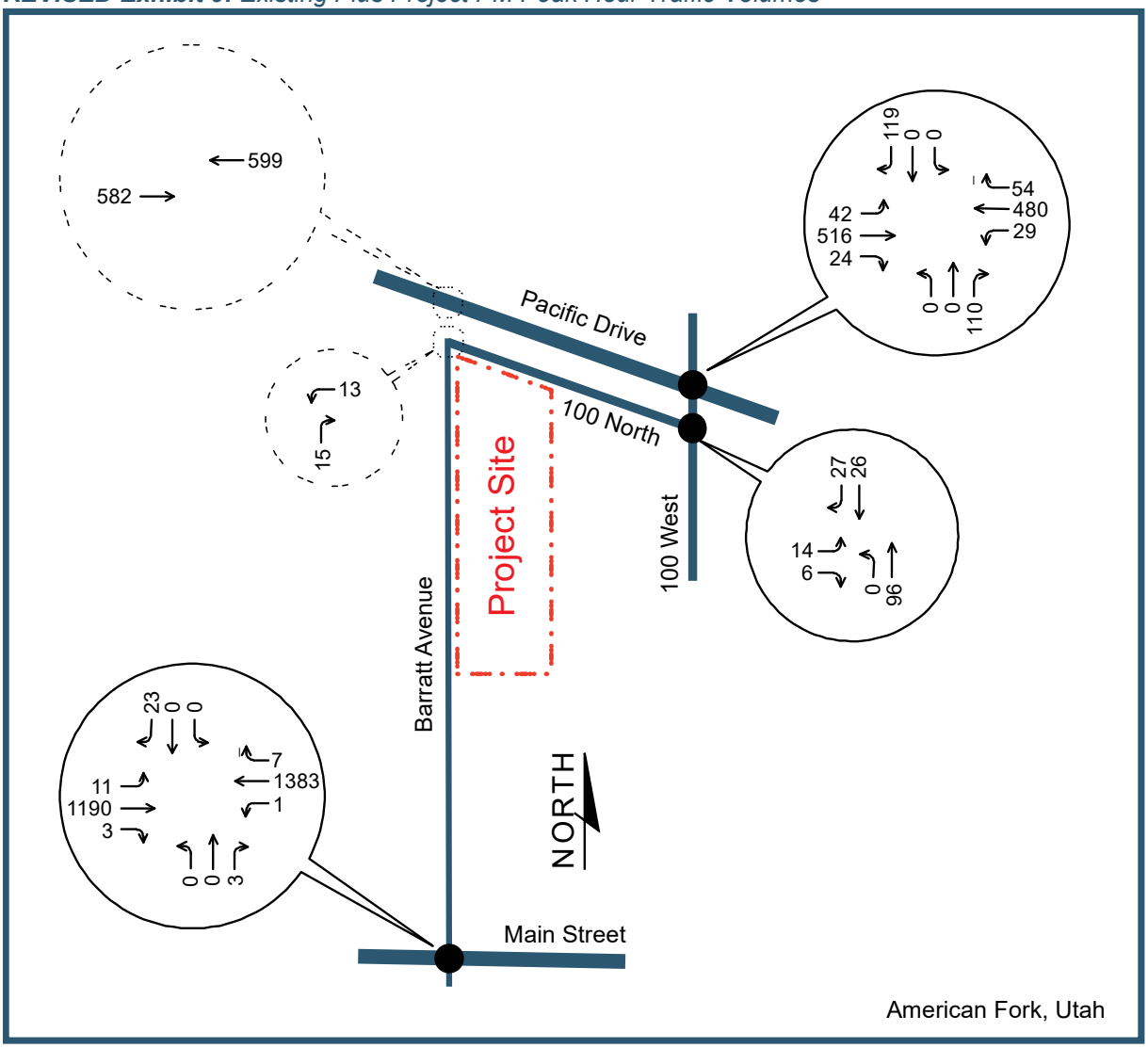
Traffic Volumes

The revised project generated PM peak hour trips (Revised Exhibit 8) were combined with existing PM peak hour traffic volumes (Revised Exhibit 5) to create a revised existing plus project scenario. The resulting PM peak hour volumes are shown in Revised Exhibit 9.

LOS Analysis

Revised Exhibit 10 shows the results for the revised PM peak hour existing plus project conditions. Comparing Revised Exhibit 10 to Revised Exhibit 6 shows that the proposed project, including the revisions noted above for trip generation (for the 10th Edition of ITE) and distribution (for changes to the Barratt / 100 N / Pacific intersection), will have minimal impact to traffic operations. Synchro reports for the revised traffic analysis are included in the Appendix.

REVISED Exhibit 9: *Existing Plus Project PM Peak Hour Traffic Volumes*



REVISED Exhibit 10: *Existing Plus Project PM Peak Hour LOS Summary*

Intersection	Worst Approach	LOS	Control Delay (Sec/Vehicle)
2: 100 West / Pacific Drive	Northbound	B	14.0
4: 100 West / 100 North	Eastbound[1]	A	9.3
5: Barratt Avenue / Main Street	Southbound[2]	C	16.0

[1]LOS and control delay shown for the eastbound left turn movement
[2]LOS and control delay shown for the southbound right turn movement

Future Conditions Considerations

Although it is not uncommon for traffic impact analysis for large development projects to consider impacts to future conditions, such an analysis was not identified to be required by American Fork standards, American Fork staff, or local practices for a project with the characteristics of the proposed project. Also, although analysis of a future-year horizon might be insightful for a study completed within UDOT's analysis and permitting context, such a context is not applicable to the proposed project. Given the context for the project, the surrounding traffic conditions measured and analyzed for the study, and the various follow-on traffic operations scenarios analyzed at the request of American Fork City and Hales Engineering, analysis of a future five-year horizon are not anticipated to provide additional material insight into the traffic operations impacts of the proposed project.

Safety Considerations

Safety analysis of the Barratt Avenue / 100 North / Pacific Drive intersection was not included in the study. Although crash data for the intersection were not obtained or analyzed for the study, a site visit provided some rough insight into existing intersection conditions that create potential safety hazards. The lack of control signing (such as a stop or yield sign) for the 100 North approach creates potential safety hazards. The sharp skew (roughly 70° to 80°) of the 100 North approach also creates potential safety hazards, especially as vehicles travel from westbound 100 North onto westbound Pacific Drive. The nearly 180° angle for movements turning from westbound 100 North onto eastbound Pacific Drive create additional potential hazards. The compound horizontal curve and crossing of the railroad along Pacific Drive also create potential safety hazards at and near the intersection. The improvements requested on July 1, 2021 by American Fork City Public Works to install a barrier along the southern shoulder of Pacific Drive to physically separate Pacific Drive from Barratt Avenue and 100 North would help address these potential safety hazards. Additional future plans noted in the Transportation Element of the General Plan for American Fork City (dated March 2020) to widen Pacific Drive to a five-lane roadway could incorporate additional improvements, including horizontal and vertical curve improvements for Pacific Drive and the railroad crossing.

Revised Summary of Traffic Impacts

The additional traffic analysis completed for this addendum did not result in changes to the recommendations of the study. The intersections analyzed in this study are reasonably expected to accommodate the additional trips generated by the proposed project without considerable impact to the level of traffic operation. The improvements proposed for the Barratt Avenue / 100 North / Pacific Drive intersection are anticipated to improve safety conditions while accommodating traffic operations needs.

Parking Analysis Revisions

Support for Mixed-Use Context

The 1.35 acre project site is proposed as a single-use site for multifamily residential apartments anticipated to be approximately 360 square feet each. References to "mixed-use" and "downtown" areas are used in the study to describe the context for the project site, not to claim multiple uses for the site. The study references to "mixed-use areas" apply to existing land uses currently in place for the downtown American Fork area. The downtown American Fork area contains a mix of uses including retail, commercial, office, and government. The proposed project site is located within close proximity to grocery stores (less than 1/2 mile from Good Earth and Fresh Market), convenience stores, restaurants/food retailers, parks, a library, offices, commercial uses, etc.

Despite the less than optimal current walkability of Pacific Drive, Pacific Drive does generally provide sidewalks connecting the proposed project to historic downtown destinations (Town Hall, etc.) to the east and the Meadows shopping center to the west. Also, the project site benefits from excellent active transportation and transit connectivity along Main Street. The proposed project is located within 1/4 mile of multiple Main Street bus stops and approximately 1½ miles of the American Fork FrontRunner station. The Main Street bus route (UTA Bus Route 850) provides 15-minute headway service from approximately 6 am to approximately 8 pm (and 30-minute headways before and after). The proposed project site has excellent transportation access and connectivity through direct access to Pacific Drive and very close access to Main Street. The conditions of the current transportation network in downtown American Fork generally bolsters and does not degrade the validity of its mixed-use setting.

Clarification of MRC Vehicle Ownership Model

Transit service access characteristics for the proposed project and downtown American Fork are relatively more attractive than those for the overall areas of northern Utah County and southern Salt Lake County included in the MRC model. Although a few Transit Oriented Development (TOD) areas included in the MRC model may provide better access to transit, the model provides a heavier weight toward communities that have worst access to transit than American Fork. Only small portions of the northern Utah County and southern Salt Lake County areas included in the MRC model provide access to TRAX stations (portions of Sandy and Draper). Comparatively speaking, downtown American Fork City has significantly more transit service access than other portions of northern Utah County and southern Salt Lake County areas. Also, as noted in the study, the TOD designation was not used for the proposed project. As such, it could be further argued that the amount of transit service for downtown American Fork City is considerably higher than that of other non-TOD downtown settings in northern Utah County and southern Salt Lake County.

The regional travel demand model was not used in the study to calculate transit proximity for the MRC model. The MRC model transit proximity value of 40% was selected as an estimate to represent very good transit service access based on the proximity to the UTA Bus Route 850 (with 15 minute headway service) and the American Fork Front Runner station. Hales Engineering's estimate of 33% using regional travel demand model data validates the study's use of 40% as a reasonable estimate. The methodology described by Hales Engineering for estimating transit proximity for the MRC model using the regional travel demand model appears acceptable as a methodology for estimating the employment accessibility by transit, but not necessarily more accurate than the estimate of the study because the regional travel demand model includes limitations related to transit service. The sensitivity analysis included in the study anticipated likely improvements to transit access with future upgrades, so it did not consider reductions to transit service. However, a reduction of transit proximity from 40% to 33% would result in additional ownership of 0.042 vehicles per dwelling unit.

The entropy (neighborhood land use mix) values applied in the study for the MRC model reflect an appropriate understanding of the MRC model variables and appropriate relative level of mixed-uses near the proposed project. Entropy is based on the neighborhood context for multifamily housing, not on the mix of uses for only the residential multifamily housing building itself. The value for entropy must be selected based on the context of the MRC model and the parameters that it was based on. The MRC

model documentation referenced in the study provides key information about the MRC model and how entropy was defined and applied. The MRC model used descriptive statistics for the entire model area, which includes southern Salt Lake County and northern Utah County. The data's average land use mix for the area would reflect typical sprawl characteristics of a neighborhood with a low mix of land uses. Such a context would warrant a mean entropy value of 0.5. The context for the downtown American Fork neighborhood provides considerably more diverse mix of land uses than the average neighborhood in southern Salt Lake County and northern Utah County. Assigning an entropy value of 0 to the MRC model would be inappropriate for the context of the proposed project because a value of 0 would represent sprawling low-density neighborhoods with only residential land uses nearby. Based on the mixed-use context for downtown American Fork described earlier, entropy for the downtown American Fork neighborhood is anticipated to fall within the upper quadrant of entropy value distributions. The study's application of the MRC model used an entropy value of 0.85 as most applicable for downtown American Fork compared to other neighborhoods in northern Utah County and southern Salt Lake County. The study also presented a sensitivity analysis with entropy of 0.5 (which is unlikely low) and 1.0 (which is unlikely high).

Support for Local Parking Rates Used

Parking rates applied in the study were developed independently of this study. They were used in lieu of ITE rates because they represent a local data and local application of national data. The data and rates were developed for public entities, including MAG, which represents American Fork City and other cities in Utah County. Although Monument Engineers assessed the local data to be acceptable for estimating parking demands for the proposed project, the study does not provide a defense of the data and methodologies used to define those rates. Rather, the study applies recommendations that were prepared for MAG and other public agencies for use by the cities they represent and practitioners analyzing traffic in the area. References were included in the study and documentation were provided to the developer and American Fork City to support the reliability of the rates used. For the data collected in Orem, Monument Engineers did not identify any concerns with the processes followed to estimate parking occupancy rates for the measured apartments. Given that the Orem data collection was completed for Orem City and considered Orem City council, residents, and staff concerns about multifamily parking spilling over onto neighboring streets and given that data was collected for on-street and off-street parking provides added confidence to the applicability of the Orem data and rates used in the study. Monument Engineers recommends use of the local rates reported in the study as acceptable and generally superior to those provided by ITE. However, to further address the validity and applicability of the rates used, this memorandum adds parking demand estimates based on ITE rates.

> Additional ITE-Specific Support for Use of Local Data:
>
> *"The purpose of Parking Generation Manual is to present data and information." "The manual does not provide parking supply standards or recommendations on the preferred application of the data."* (*ITE Parking Generation*, 5th Edition, 2019)
>
> *"Parking Generation Manual should be considered only the beginning point of information to be used in estimating parking demand. Local conditions and area type can influence parking demand. The wide array of data in the manual blends many site conditions and may not best reflect a particular local condition."* (*ITE Parking Generation*, 5th Edition, 2019)
>
> None of the sites surveyed for ITE parking rates for multifamily housing were measured in Utah. "*The* [multifamily code 221] *sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Colorado, District of Columbia, Maryland, Massachusetts, New Jersey, New York, Oregon, Virginia, Washington, and Wisconsin."* (*ITE Parking Generation*, 5th Edition, 2019)

ITE-Based Parking Estimates

As noted in the study, ITE parking rates for apartment dwelling units were not previously used for the study because they were anticipated to over-supply parking for the proposed micro apartments. ITE multifamily parking rates estimated on a per-dwelling unit basis aggregate parking demands for one-, two-, and +three-bedroom dwelling units. A studio and one-bedroom dwelling unit would require less parking than the multi-bedroom dwelling units. As such, ITE parking demands for the proposed project were

estimated using bedroom-based rates instead of dwelling-unit-based rates. The average ITE peak parking rate for mid-rise multifamily housing range between 0.48 and 0.75 per bedroom (and between 0.90 and 1.31 per dwelling-unit) depending on the building setting/location. These rates exclude the significantly lower rates for multifamily housing located nearby rail transit. The rates also exclude significantly lower rates for "Center City Core" settings applicable for more dense metropolitan areas, such as downtown Salt Lake City.

> Additional ITE-Specific Support for Use of Bedroom-Based Rates:
>
> While describing procedures for gathering future parking rate data for multifamily housing, ITE states: *"It is expected that the number of bedrooms and number of residents are likely correlated to the parking demand generated by a residential site. Parking studies of multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex)."* (*ITE Parking Generation*, 5th Edition, 2019).
>
> The *ITE Transportation Planning Handbook*, which is referenced as the general source for American Fork City's parking ratio requirements (see Code Section 17.5.133 Off-Street Parking Standards), states the following*: "Many professionals believe that recommended parking demand ratios for multifamily housing units should be based on the number of bedrooms in the unit" (ITE Transportation Planning Handbook*, 4th Edition, 2016).

Exhibit 14 presents the parking estimates for the proposed 109 dwelling units based on the per bedroom rates of the 5th Edition of the *ITE Parking Generation Manual*. Documentation for these rates are included in the Appendix. The estimates presented in Exhibit 14 are based on the dwelling unit configuration of a studio or one-bedroom apartment for all dwelling units proposed for the project. To address Hales Engineering comment implication that the 85th percentile rate should be used, Exhibit 14 also presents parking estimates based on 85th percentile rates. However, the use of 85th percentile rates is not always the best-practice nor is it required industry practice. As part of its description of 85th Percentile, the *ITE Parking Generation Manual* says "*This number is not intended to recommend a policy about the level of parking that should be supplied. It is provided solely as qualitative reference for the analyst."* (*ITE Parking Generation*, 5th Edition, 2019).

For the most conservative setting, Exhibit 14 shows a rate of 0.75 spaces per micro apartment dwelling unit for based on the average rate and 0.87 spaces per micro apartment unit based on the 85th percentile rate. As shown in Exhibit 14, the application of ITE parking generation rates supports the study's prior conclusion that parking supply rates of 0.75 to 1.0 parking spaces per dwelling unit are anticipated to adequately accommodate parking demands for the project.

Exhibit 14: *ITE-Based Parking Estimates*

Setting for Multifamily Mid-Rise (ITE 221)[1]	No. Units	No. Bedrooms[2]	ITE Parking Estimate based on… Average Rate	Fitted Curve	85th Percentile
General Urban/Suburban (no nearby rail transit)	109	109	82	69	95
Dense Multi-Use Urban (no nearby rail transit)	109	109	52	51	77

[1]ITE Parking Generation, 5th Edition; ITE Code 221 is for multifamily housing mid-rise (3-10 story)
[2]Based on one bedroom per dwelling unit

Revised Summary of Parking Recommendations

The additional parking analysis completed as part of this addendum did not result in changes to the recommendations of the study. The additional analysis supports the recommendation that parking supply rates of 0.75 to 1.0 parking spaces per dwelling unit is anticipated to adequately accommodate parking demands for the proposed project. Providing 109 parking spaces for the proposed project is anticipated to adequately accommodate parking demands.

Appendix

CONTENTS:

1. Revised Existing PM Peak Hour (With Improvements) Traffic Operations Analysis Reports
2. Revised Existing Plus Project PM Peak Hour Traffic Operations Analysis Reports
3. ITE Parking Generation Reports

1. Revised Existing PM Peak Hour (With Improvements) Traffic Operations Analysis Reports - ATTACHED

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	42	516	12	21	480	54	0	0	102	0	0	119
Future Vol, veh/h	42	516	12	21	480	54	0	0	102	0	0	119
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	561	13	23	522	59	0	0	111	0	0	129

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	581	0	0	574	0	0	1322	1287	568	1313	1264	552
Stage 1	-	-	-	-	-	-	660	660	-	598	598	-
Stage 2	-	-	-	-	-	-	662	627	-	715	666	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	993	-	-	999	-	-	133	164	522	135	169	533
Stage 1	-	-	-	-	-	-	452	460	-	489	491	-
Stage 2	-	-	-	-	-	-	451	476	-	422	457	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	993	-	-	999	-	-	93	148	522	98	152	533
Mov Cap-2 Maneuver	-	-	-	-	-	-	93	148	-	98	152	-
Stage 1	-	-	-	-	-	-	421	429	-	456	474	-
Stage 2	-	-	-	-	-	-	330	460	-	310	426	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.3	13.7	13.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	522	993	-	-	999	-	-	533
HCM Lane V/C Ratio	0.212	0.046	-	-	0.023	-	-	0.243
HCM Control Delay (s)	13.7	8.8	0	-	8.7	0	-	13.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-	-	0.9

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	6	0	96	26	7
Future Vol, veh/h	6	6	0	96	26	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	7	0	104	28	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	136	32	36	0	-	0
Stage 1	32	-	-	-	-	-
Stage 2	104	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	857	1042	1575	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	857	1042	1575	-	-	-
Mov Cap-2 Maneuver	857	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	920	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1575	-	857	1042	-	-
HCM Lane V/C Ratio	-	-	0.008	0.006	-	-
HCM Control Delay (s)	0	-	9.2	8.5	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	1190	3	1	1383	3	0	0	3	0	0	12
Future Vol, veh/h	6	1190	3	1	1383	3	0	0	3	0	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	-	-	100	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	1293	3	1	1503	3	0	0	3	0	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1506	0	0	1296	0	0	2061	2815	647	2166	2815	752
Stage 1	-	-	-	-	-	-	1307	1307	-	1505	1505	-
Stage 2	-	-	-	-	-	-	754	1508	-	661	1310	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	441	-	-	531	-	-	32	18	414	26	18	353
Stage 1	-	-	-	-	-	-	169	228	-	127	182	-
Stage 2	-	-	-	-	-	-	367	182	-	418	227	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	441	-	-	531	-	-	30	18	414	25	18	353
Mov Cap-2 Maneuver	-	-	-	-	-	-	30	18	-	25	18	-
Stage 1	-	-	-	-	-	-	166	224	-	125	182	-
Stage 2	-	-	-	-	-	-	353	182	-	408	223	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	13.8	15.6
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	414	441	-	-	531	-	-	-	353
HCM Lane V/C Ratio	-	0.008	0.015	-	-	0.002	-	-	-	0.037
HCM Control Delay (s)	0	13.8	13.3	-	-	11.8	-	-	0	15.6
HCM Lane LOS	A	B	B	-	-	B	-	-	A	C
HCM 95th %tile Q(veh)	-	0	0	-	-	0	-	-	-	0.1

2. Revised Existing Plus Project PM Peak Hour Traffic Operations Analysis Reports - ATTACHED

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	42	516	24	29	480	54	0	0	110	0	0	119
Future Vol, veh/h	42	516	24	29	480	54	0	0	110	0	0	119
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	561	26	32	522	59	0	0	120	0	0	129

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	581	0	0	587	0	0	1346	1311	574	1342	1295	552
Stage 1	-	-	-	-	-	-	666	666	-	616	616	-
Stage 2	-	-	-	-	-	-	680	645	-	726	679	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	993	-	-	988	-	-	128	159	518	129	162	533
Stage 1	-	-	-	-	-	-	449	457	-	478	482	-
Stage 2	-	-	-	-	-	-	441	467	-	416	451	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	993	-	-	988	-	-	88	141	518	91	144	533
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	141	-	91	144	-
Stage 1	-	-	-	-	-	-	418	425	-	445	459	-
Stage 2	-	-	-	-	-	-	318	445	-	298	420	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.5	14	13.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	518	993	-	-	988	-	-	533
HCM Lane V/C Ratio	0.231	0.046	-	-	0.032	-	-	0.243
HCM Control Delay (s)	14	8.8	0	-	8.8	0	-	13.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.9

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	6	0	96	26	27
Future Vol, veh/h	14	6	0	96	26	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	7	0	104	28	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	147	43	57	0	-	0
Stage 1	43	-	-	-	-	-
Stage 2	104	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	845	1027	1547	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	845	1027	1547	-	-	-
Mov Cap-2 Maneuver	845	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	920	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1547	-	845	1027	-	-
HCM Lane V/C Ratio	-	-	0.018	0.006	-	-
HCM Control Delay (s)	0	-	9.3	8.5	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	1190	3	1	1383	7	0	0	3	0	0	23
Future Vol, veh/h	11	1190	3	1	1383	7	0	0	3	0	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	-	-	100	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	1293	3	1	1503	8	0	0	3	0	0	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1511	0	0	1296	0	0	2071	2830	647	2176	2825	752
Stage 1	-	-	-	-	-	-	1317	1317	-	1505	1505	-
Stage 2	-	-	-	-	-	-	754	1513	-	671	1320	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	439	-	-	531	-	-	31	17	414	26	17	353
Stage 1	-	-	-	-	-	-	166	225	-	127	182	-
Stage 2	-	-	-	-	-	-	367	181	-	412	225	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	439	-	-	531	-	-	28	17	414	25	17	353
Mov Cap-2 Maneuver	-	-	-	-	-	-	28	17	-	25	17	-
Stage 1	-	-	-	-	-	-	162	219	-	124	182	-
Stage 2	-	-	-	-	-	-	340	181	-	398	219	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	13.8	16
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	414	439	-	-	531	-	-	-	353
HCM Lane V/C Ratio	-	0.008	0.027	-	-	0.002	-	-	-	0.071
HCM Control Delay (s)	0	13.8	13.4	-	-	11.8	-	-	0	16
HCM Lane LOS	A	B	B	-	-	B	-	-	A	C
HCM 95th %tile Q(veh)	-	0	0.1	-	-	0	-	-	-	0.2

3. ITE Parking Generation Reports - ATTACHED

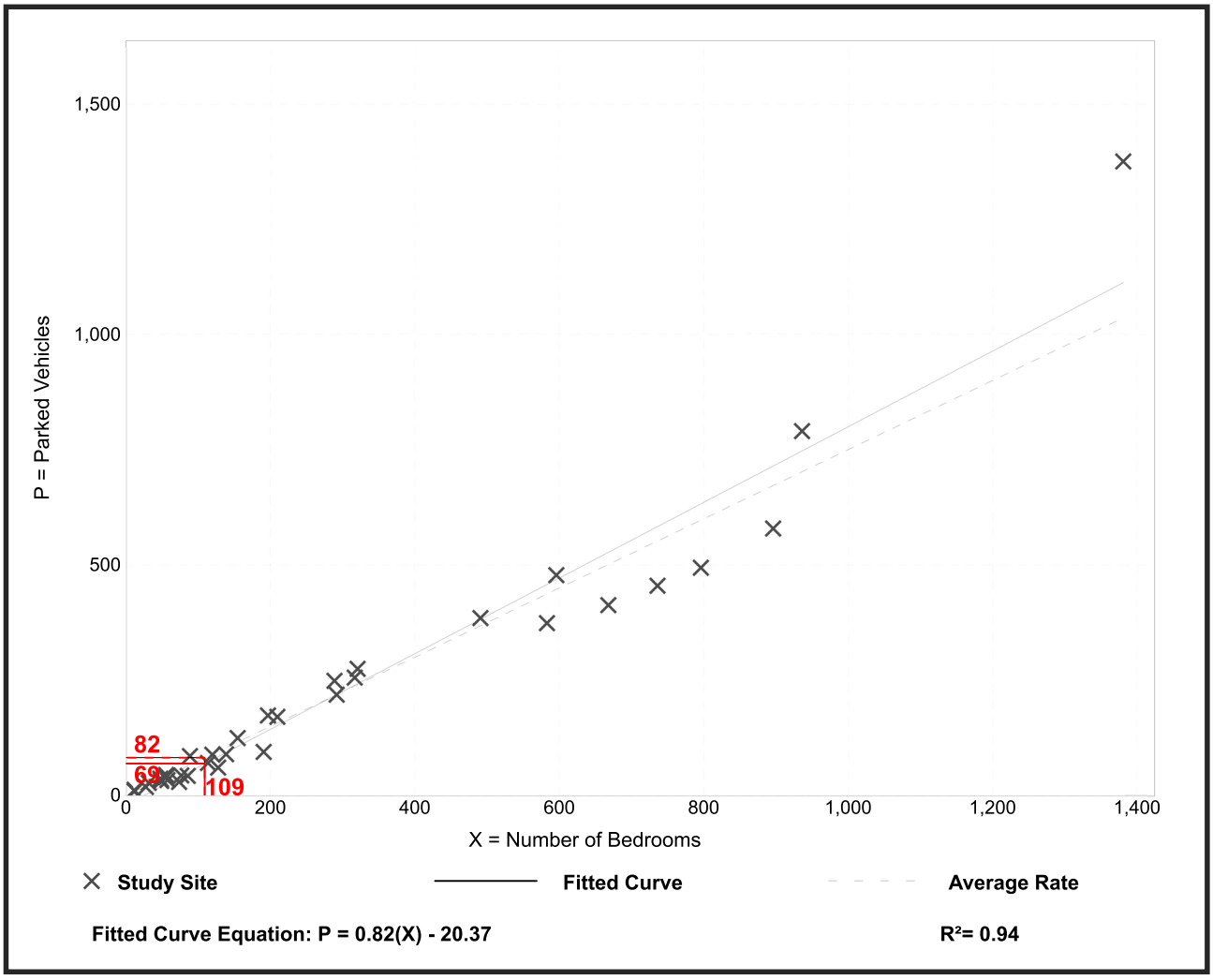
Multifamily Housing (Mid-Rise)
(221)

Peak Period Parking Demand vs: **Bedrooms**
On a: **Weekday (Monday - Friday)**
Setting/Location: **General Urban/Suburban (no nearby rail transit)**
Peak Period of Parking Demand: **10:00 p.m. - 5:00 a.m.**
Number of Studies: 35
Avg. Num. of Bedrooms: 294

Peak Period Parking Demand per Bedroom

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.75	0.41 - 1.00	0.65 / 0.87	0.70 - 0.80	0.15 (20%)

Data Plot and Equation



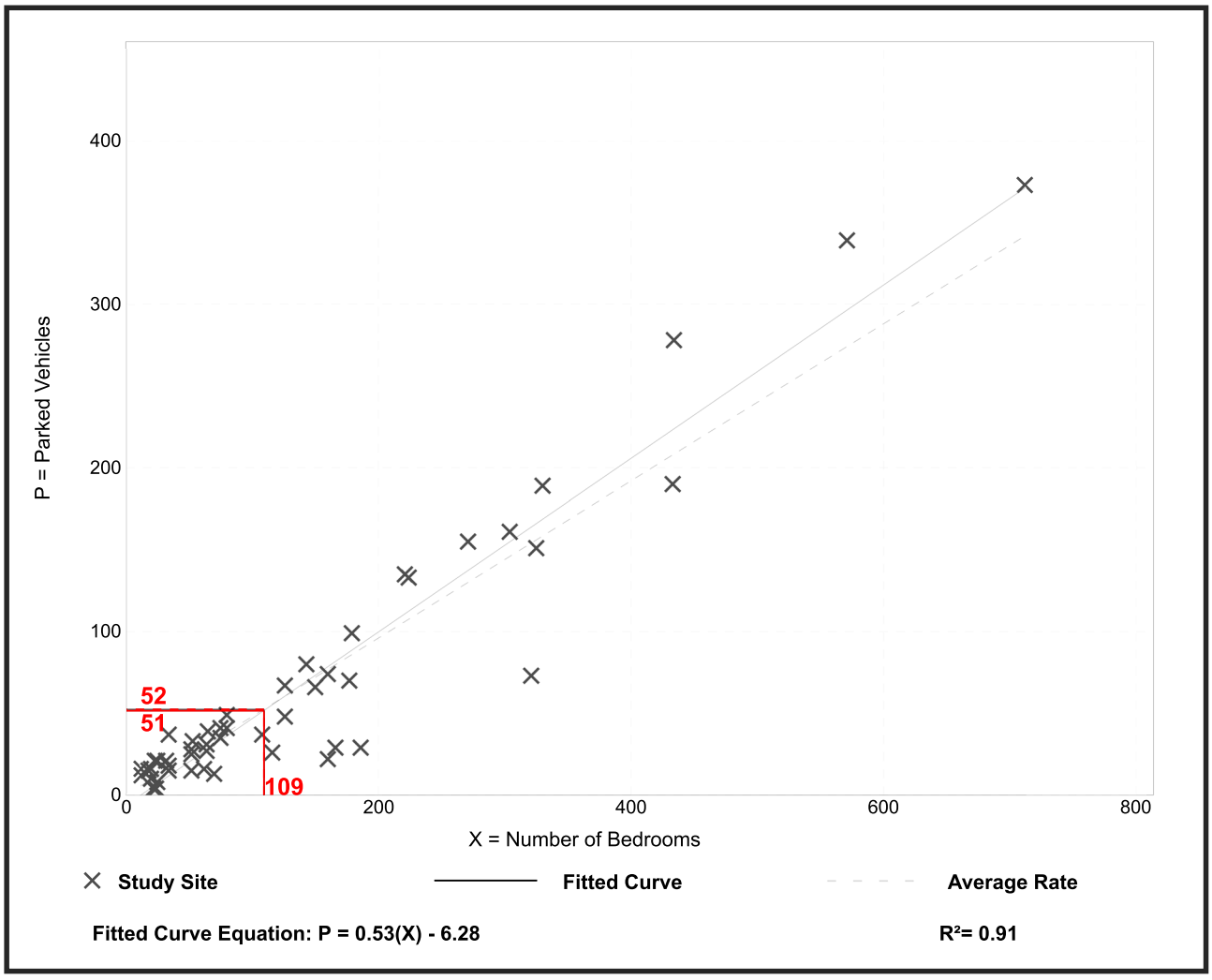
Multifamily Housing (Mid-Rise)
(221)

Peak Period Parking Demand vs: **Bedrooms**
On a: **Weekday (Monday - Friday)**
Setting/Location: **Dense Multi-Use Urban (no nearby rail transit)**
Peak Period of Parking Demand: **10:00 p.m. - 5:00 a.m.**
Number of Studies: 50
Avg. Num. of Bedrooms: 142

Peak Period Parking Demand per Bedroom

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.48	0.14 - 1.33	0.44 / 0.71	0.44 - 0.52	0.16 (33%)

Data Plot and Equation



AMERICAN FORK CITY
ENGINEERING DIVISION
STAFF REPORT

Planning Commission Meeting Date: 7/21/2021

This report is a summary of the American Fork City Engineering Division recommendations regarding the Site Plan Approval for the Lake City Flats Development.:

Project Name: Lake City Flats

Project Address: 95 North Barratt Avenue

Developer / Applicant's Name: Diego Carroll

Type of Application:

- ☐ Subdivision Final Plat
- ☐ Subdivision Preliminary Plan
- ☐ Annexation
- ☐ Code Text Amendment
- ☐ General Plan Amendment
- ☐ Zone Change
- ☒ Commercial Site Plan
- ☐ Residential Accessory Structure Site Plan

Engineering Division Recommendation: The Engineering Division recommends that the Planning Commission TABLE the development until the developer has adequately addressed staff and third-party peer review comments.

Project Map:



Commercial Site Plan Analysis:

The proposed Lake City Flats development is 100+ studio apartment units on the northeast side of Barratt Avenue directly south of 100 North/Pacific Drive.

During review of this development, Staff identified concerns with areas relating to traffic, intersection safety, turning movements, and parking. These concerns were discussed at the previous Planning Commission meeting on July 7. Staff has been reviewing their latest responses to our previous concerns to ensure all concerns have been addressed. Staff is also still waiting on the applicant for an updated drawing addressing the concerns for the intersection at Barratt Ave and 100 North. Because all the concerns have still not been addressed, Engineering Staff is recommending tabling the project until the concerns have all been addressed.

STANDARD CONDITIONS OF APPROVAL

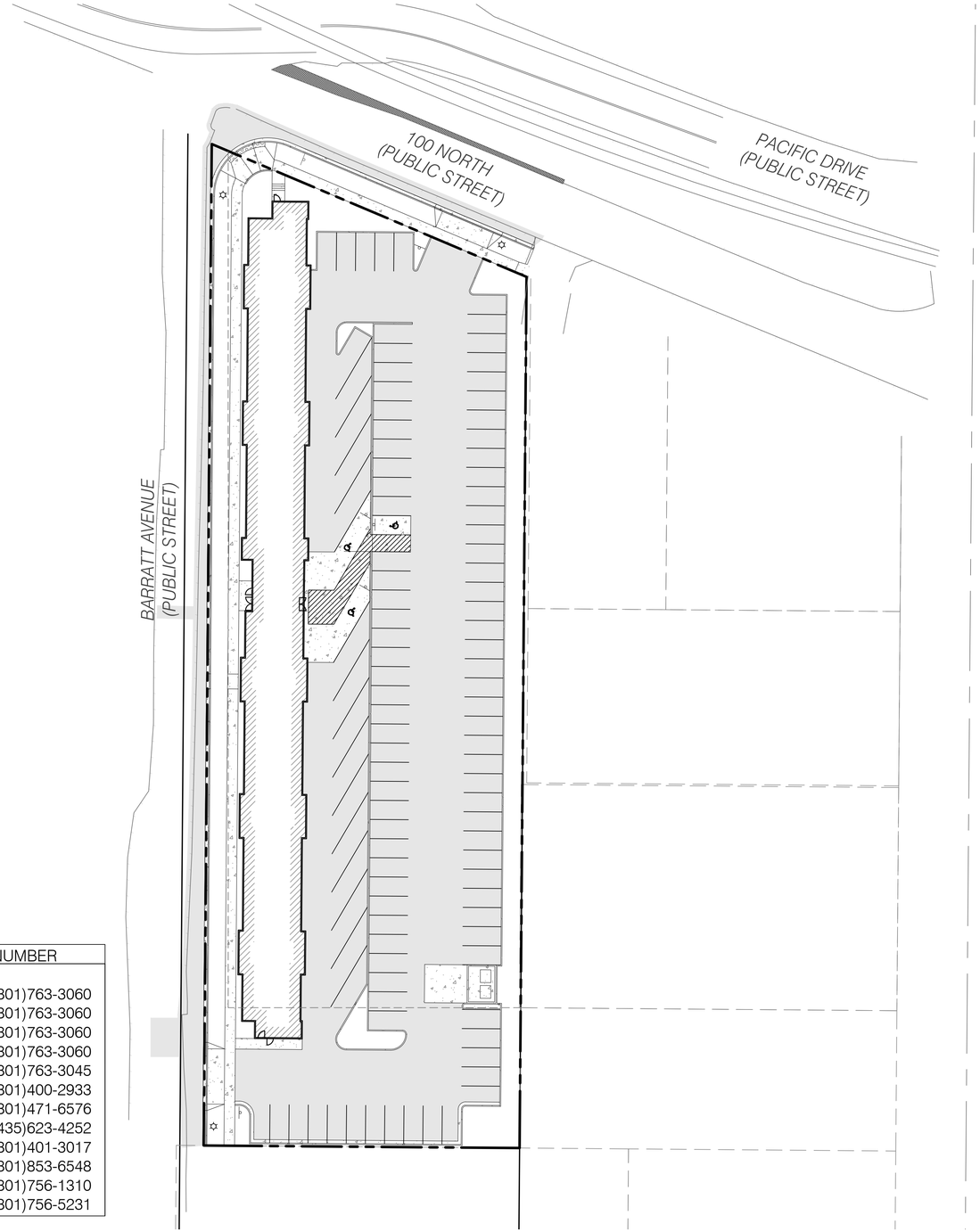
Standard Conditions of Approval:

APPLICANT is responsible and shall submit/post/obtain all necessary documentation and evidence to comply with these Standard Conditions of Approval prior to any platting, permitting, or any other form of authorization by the City including plat recording or other property conveyance to the City and prior to scheduling a pre-construction meeting. All recording shall take place at the Utah County Recorder's Office.

1. **Title Report:** Submit an updated Title Report not older than 30 days or other type of appropriate verification that shows all dedications to the City are free and clear of encumbrances, taxes, or other assessments.
2. **Property Taxes and Liens:** Submit evidence that all the property taxes, for the current and/or previous years, liens, and agricultural land use roll over fees have been paid in full.
3. **Water Rights:** Submit evidence that all the required water rights have been conveyed to American Fork City.
4. **Performance Guarantee:** Post a performance guarantee for all required public and essential common improvements.
5. **Easements and Agreements:** Submit/record a long-term Storm Water Pollution Prevention Maintenance Agreement signed and dated by the property owner and any required easement documentation.
6. **Land Disturbance Permit:** Obtain a Land Disturbance Permit.
7. **Compliance with the Engineering Division Plan Review Comments:** All plans and documents shall comply with all the Technical Review Committee comments and the City Engineer's final review.
8. **Commercial Structure:** Record an Owner Acknowledgment and Utility Liability Indemnification if the proposed building is a multi-unit commercial structure served by a single utility service.
9. **Sensitive Lands:** Record all applicable documents required for compliance with the City's Sensitive Lands Ordinance.
10. **Utility Notification Form:** Submit a Subdivision Utility Notification Form.
11. **Professional Verification:** Submit final stamped construction documentation by all appropriate professionals.
12. **Fees:** Payment of all development, inspection, recording, street light, and other project related fees.
13. **Mylar:** Submit a Mylar. All plats will receive final verification of all formats, notes, conveyances, and other items contained on the plat by City staff (recorder, legal, engineer, GIS, planning).

LAKE CITY FLATS

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 14,
TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN
AMERICAN FORK CITY, UTAH COUNTY, UTAH

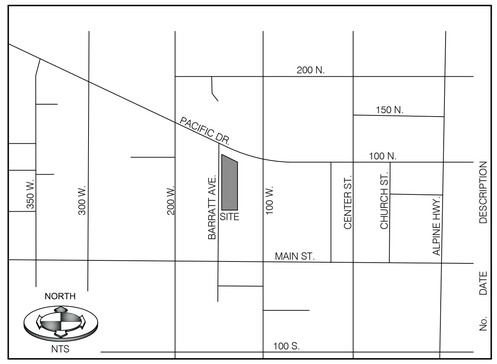


NORTH

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30ft.



VICINITY MAP
N.T.S

OWNER/DEVELOPER:
CD DEVELOPMENT01, LLC
DIEGO CARROLL
801-362-9594
diego@stacdevelopment.com

DRAWING INDEX

COVER	COVER SHEET
CGN.01	GENERAL NOTES, LEGEND & ABBREVIATION
CSP.01	SITE PLAN
CUP.01	UTILITY PLAN
CGD.01	GRADING & DRAINAGE PLAN
CPP.01	PLAN & PROFILE PLAN
CPP.02	PLAN & PROFILE PLAN
CEP.01	EROSION CONTROL PLAN
CEP.02	EROSION CONTROL DETAILS
CDT.01	DETAILS & NOTES

COMPANY	CONTACT	NUMBER
AMERICAN FORK CITY PUBLIC WORKS		
-CULINARY WATER/PRESSURIZED IRRIGATION	JAY BREMS	(801)763-3060
-SEWER/STORM WATER	ASHTON HARDY	(801)763-3060
-CITY INSPECTOR	DEE HOWARD	(801)763-3060
-SWPPP INSPECTOR	HARLAN NIELSON	(801)763-3060
AMERICAN FORK CITY FIRE MARSHAL	MAT SACCO	(801)763-3045
AF FIBER	KYLE PETERSEN	(801)400-2933
AMERICAN FORK IRRIGATION COMPANY	ERNIE JOHN	(801)471-6576
CENTURY LINK	BILL WESTFALL	(435)623-4252
COMCAST	ELYSIA VALDEZ	(801)401-3017
DOMINION ENERGY	TRENT JOHNSON	(801)853-6548
ROCKY MOUNTAIN POWER	TERIA WALKER	(801)756-1310
TIMPANOGOS SPECIAL SERVICE DISTRICT	DAVID BARLOW	(801)756-5231

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

BENCHMARK CIVIL

PRELIMINARY PLAN
6/15/21
No. 10360773
M. CHRIS POULSEN
PROFESSIONAL ENGINEER
STATE OF UTAH
NOT FOR CONSTRUCTION

BENCHMARK ENGINEERING & LAND SURVEYING
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LAKE CITY FLATS
129 WEST PACIFIC DRIVE
AMERICAN FORK, UTAH

DRAFT: BDS DATE: 12/23/2020
DESIGN: BDS DATE: 12/23/2020
CHECK: AGA DATE: 6/15/2021

PROJECT NO: 2001297

No.	DATE	DESCRIPTION
1	4/9/21	REVISED SITE LAYOUT PER CITY COMMENTS
2	6/15/21	REVISED PER CITY COMMENTS

COVER

BENCHMARK ENGINEERING CONTACT: ALLISON G. ALBERT, PE

LINETYPES:

NEW / EXISTING

- SECTION LINE
- PROPERTY LINE
- ADJACENT PL or LOT LINES
- RIGHT-OF-WAY LINE
- CENTERLINE of ROAD
- EASEMENT LINE
- CURB & GUTTER
- EDGE OF ASPHALT
- FENCE / WALL, STONE
- FENCE, BLOCK
- FENCE, BRICK
- FENCE, CHAIN
- FENCE, IRON
- FENCE, VINYL
- FENCE, WIRE (X)
- FENCE, WOOD (*)
- INDEX CONTOUR LINE (4475)
- INTERMEDIATE CONTOUR LINE
- SPOT ELEVATION (XX.XX TOC)
- SANITARY SEWER LINE (SS)
- STORM DRAIN LINE (SD)
- WATER LINE (W)
- IRRIGATION LINE (IRR)
- OVERHEAD POWER LINE (OHP)
- UNDERGROUND POWER LINE (UG)
- GAS LINE (GAS)
- TELEPHONE LINE (T)
- CABLE TELEVISION LINE (CATV)
- DRAINAGE / DITCH CENTERLINE
- TREE LINE EDGE
- FIBER OPTIC LINE (FO)
- PROPOSED ASPHALT
- PROPOSED CONCRETE

SYMBOLS:

NEW / EXISTING

- SECTION CORNER (FOUND)
- SECTION CORNER (NOT FOUND)
- STREET MONUMENT (FOUND)
- STREET MONUMENT (NOT FOUND)
- BRASS CAP MONUMENT
- POWER POLE & OVERHEAD POWER
- LIGHT POLE
- GUY WIRE
- TELEPHONE MANHOLE
- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLE
- CATCH BASIN
- DIRECTION OF DRAINAGE
- WATER MANHOLE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- IRRIGATION VALVE
- GAS MANHOLE
- TREE

ABBREVIATIONS

BC	BAR & CAP	PUE	PUBLIC UTILITY EASEMENT
BOW	BOTTOM OF VISIBLE WALL	R	RADIUS OF CURVE
COR.	SECTION CORNER	RR	RAILROAD
CB	CATCH BASIN	ROW	RIGHT-OF-WAY
CF	CUBIC FEET	R/W	RIGHT-OF-WAY
D	DELTA ANGLE	SSMH	SEWER MANHOLE
EG	EXISTING GROUND	SD	STORM DRAIN
EOA	EDGE OF ASPHALT	SF	SQUARE FEET
EOC	EDGE OF CONCRETE	TBC	TOP BACK OF CURB
EX	EXISTING	TMH	TELEPHONE MANHOLE
FFE	FINISH FLOOR ELEVATION	TOA	TOP OF ASPHALT
FG	FINISHED GRADE	TOC	TOP OF CONCRETE
FH	FIRE HYDRANT	TOF	TOP OF FOOTING
FL	FLOW LINE	TOE	TOE OF SLOPE
GB	GRADE BREAK	TOG	TOP OF GRATE
GW	GUY WIRE	TOP	TOP OF SLOPE
HW	HEAD WALL	TOW	TOP OF WALL
I.E.	INVERT ELEVATION	TR	TELEPHONE RISER
LIP	LENGTH OF CURVE	UGP	UNDERGROUND POWER
L	LIP OF CURB	VPC	VERTICAL POINT OF CURVATURE
LF	LINEAR FEET	VPI	VERTICAL POINT OF INTERSECTION
LP	LOW POINT	VPT	VERTICAL POINT OF TANGENCY
M-M	MONUMENT TO MONUMENT	WM	WATER METER
MH	MANHOLE	WV	WATER VALVE
MON.	SURVEY MONUMENT		
OHP	OVERHEAD POWER		
PVC	POINT OF CURVATURE		
PVI	POINT OF INTERSECTION		
PP	POWER POLE		
PVT	POINT OF TANGENCY		



NOTE:

IN THE EVENT THAT THE CONSTRUCTION NOTES CONFLICT WITH RESPONSIBLE DISTRICT OR AGENCY STANDARDS NOTES AND SPECIFICATIONS, THE DISTRICT OR AGENCY STANDARD NOTES AND SPECIFICATIONS GOVERN.

CAUTION NOTICE TO CONTRACTORS

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY: THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO THE NORMAL WORKING HOURS; AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AN HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

CONSTRUCTION NOTES

RESPONSIBLE DISTRICTS OR AGENCIES AND APPLICABLE STANDARDS

CITY OR COUNTY- AMERICAN FORK CITY
WATER UTILITY COMPANY- AMERICAN FORK CITY
SEWER- AMERICAN FORK CITY
STORM DRAIN/GROUNDWATER- AMERICAN FORK CITY
ELECTRICAL- ROCKY MOUNTAIN POWER (RMP)
TELEPHONE- CENTURY LINK
NATURAL GAS- DOMINION ENERGY

APPLICABLE STANDARDS: APWA 2017 STANDARDS
2018 INTERNATIONAL FIRE CODE

GENERAL

1. ALL MATERIALS AND CONSTRUCTION IN THE PUBLIC RIGHT OF WAY SHALL BE IN ACCORDANCE WITH RESPONSIBLE DISTRICT OR AGENCY.

2. CONTRACTOR AND APPLICABLE SUBCONTRACTORS SHALL ATTEND ALL PRE-CONSTRUCTION CONFERENCES AND PERIODIC PROGRESS MEETINGS. PRIOR TO ANY WORK BEING PERFORMED, THE CONTRACTOR SHALL CONTACT RESPONSIBLE DISTRICT OR AGENCY FOR A PRE-CONSTRUCTION CONFERENCE. CONTRACTOR SHALL ALSO NOTIFY THE APPROPRIATE PROJECT CONTACTS (48) HOURS IN ADVANCE OF SAID MEETING.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC SAFETY AND OSHA STANDARDS.

4. THE CONTRACTOR SHALL FAMILIARIZE HIM/HER SELF WITH THE PLANS, THE GEOLOGY REPORTS AND THE SITE CONDITIONS PRIOR TO COMMENCING WORK. CONTRACTOR SHALL INSPECT THE SITE OF WORK PRIOR TO BIDDING TO SATISFY THEMSELVES BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS THEY MAY PREFER, OF THE LOCATION OF THE PROPOSED WORK, AND OF THE ACTUAL CONDITIONS OF AND AT THE SITE OF WORK.

CONDITIONS WHICH APPEAR TO THEM TO BE IN CONFLICT WITH THE LETTER OR SPIRIT OF THE PROJECT PLANS AND SPECIFICATIONS, THEY SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING THEIR BID.

SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, THEY HAVE RELIED AND ARE RELYING ON THEIR OWN EXAMINATION OF (1) THE SITE OF THE WORK, (2) ACCESS TO THE SITE, AND (3) ALL OTHER DATA AND MATTERS REQUISITE TO THE FULFILLMENT OF THE WORK AND ON THEIR OWN KNOWLEDGE OF EXISTING FACILITIES ON AND IN THE VICINITY OF THE SITE OF THE WORK TO BE CONSTRUCTED UNDER THIS CONTRACT.

THE INFORMATION PROVIDED BY THE OWNER OR THE ENGINEER IS NOT INTENDED TO BE A SUBSTITUTE FOR, OR A SUPPLEMENT TO, THE INDEPENDENT VERIFICATION BY THE CONTRACTOR TO THE EXTENT SUCH INDEPENDENT INVESTIGATION OF SITE CONDITIONS IS DEEMED NECESSARY OR DESIRABLE BY THE CONTRACTOR. CONTRACTOR SHALL ACKNOWLEDGE THAT THEY HAVE NOT RELIED SOLELY UPON OWNER OR ENGINEER FURNISHED INFORMATION REGARDING SITE CONDITIONS IN PREPARING AND SUBMITTING THEIR BID.

5. ALL WORK SHALL COMPLY WITH THE AMERICAN PUBLIC WORKS ASSOCIATION UTAH CHAPTER (APWA) MANUAL OF STANDARD SPECIFICATIONS 2017 EDITION AND THE MANUAL OF STANDARD PLANS 2017 EDITION. SAID STANDARD SPECIFICATIONS AND PLANS SHALL BE SUBSIDIARY TO MORE STRINGENT REQUIREMENTS BY APPLICABLE LOCAL JURISDICTION.

6. THE CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PROJECT PLANS AND SPECIFICATIONS. THEREFORE, THE OWNER IS RELYING UPON THE EXPERIENCE AND EXPERTISE OF THE CONTRACTOR, IT SHALL BE EXPECTED THAT THE PRICES PROVIDED WITHIN THE CONTRACT DOCUMENTS SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THEIR TRUE INTENT AND PURPOSE.

THE CONTRACTOR SHALL BE COMPETENT, KNOWLEDGEABLE AND HAVE SPECIAL SKILLS ON THE NATURE, EXTENT AND INHERENT CONDITIONS OF THE WORK TO BE PERFORMED. CONTRACTOR SHALL ALSO ACKNOWLEDGE THAT THERE ARE CERTAIN REGULAR AND INHERENT CONDITIONS EXISTENT IN THE CONSTRUCTION OF THE PARTICULAR FACILITIES WHICH MAY CREATE, DURING THE CONSTRUCTION PROGRAM, UNUSUAL OR PECULIAR UNSAFE CONDITIONS HAZARDOUS TO PERSONS, PROPERTY AND THE ENVIRONMENT. CONTRACTOR SHALL BE AWARE OF SUCH PECULIAR RISKS AND HAVE THE SKILL AND EXPERIENCE TO FORESEE AND TO ADOPT PROTECTIVE MEASURES TO ADEQUATELY AND SAFELY PERFORM THE CONSTRUCTION WORK WITH RESPECT TO SUCH HAZARDS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND LICENSES REQUIRED FOR THE CONSTRUCTION AND COMPLETION OF THE PROJECT, AND SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS AND CONDITIONS OF ALL PERMITS AND APPROVALS APPLICABLE TO THIS PROJECT. THE CONTRACTOR SHALL ENSURE THAT THE NECESSARY RIGHT-OF-WAY, EASEMENTS, AND/OR PERMITS ARE SECURED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL OBTAIN APPROPRIATE PERMITS WHERE APPLICABLE FOR ANY WORK DONE WITHIN RIGHT-OF-WAY OR EASEMENTS FROM THE CITY AND/OR UDOT. CONTRACTOR SHALL NOTIFY CITY, COUNTY, AND/OR STATE, 24 HOURS IN ADVANCE OF COMMUNICATING THE WORK, OR AS REQUIRED BY SAID PERMITS.

8. CONSTRUCTION STAKING FOR GRADING, CURB, GUTTER, SIDEWALK, SANITARY SEWER, STORM DRAIN, WATER, AND ELECTROLIERS SHALL BE DONE BY THE OWNER'S SURVEYOR. THE CONTRACTOR SHALL NOTIFY THE SURVEYOR FORTY-EIGHT (48) HOURS IN ADVANCE OF THE NEED FOR STAKING. ANY STAKING REQUESTED BY THE CONTRACTOR OR THEIR SUBCONTRACTORS THAT IS ABOVE AND BEYOND STANDARD STAKING NEEDS, WILL BE SUBJECT TO AN EXTRA WORK BACK CHARGE TO THE CONTRACTOR. THE CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, CONTROL POINTS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.

9. IT IS INTENDED THAT THESE PLANS AND SPECIFICATIONS REQUIRE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THEIR TRUE INTENT AND PURPOSE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES WHICH MAY EXIST IN THE PLANS OR SPECIFICATIONS. THE ENGINEER'S INTERPRETATION THEREOF SHALL BE CONCLUSIVE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER AND/OR ENGINEER.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE-TESTING AND/OR REINSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.

11. IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT OF EXISTING IMPROVEMENTS AND ANYTHING THAT HAS ALREADY BEEN CONSTRUCTED. THERE WILL BE NO EXTRA COST DUE THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS. WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, AFTER PROPER BACKFILLING AND/OR CONSTRUCTION, WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.

12. THE CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL MECHANICAL; ELECTRICAL AND INSTRUMENTATION EQUIPMENT; PIPING AND CONDUITS; STRUCTURES AND OTHER FACILITIES. THE AS-BUILTS OF THE ELECTRICAL SYSTEM SHALL INCLUDE THE STREET LIGHT LAYOUT PLAN SHOWING LOCATION OF LIGHTS, CONDUITS, CONDUCTORS, POINTS OF CONNECTIONS TO SERVICES, PULLBOXES, AND WIRE SIZES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR.

13. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO ENGINEER. ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS-BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATION REDLINES AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.

UTILITIES

14. CONTRACTOR TO SPACE UTILITIES TO PROVIDE MINIMUM DISTANCES AS REQUIRED BY LOCAL, COUNTY, STATE, AND INDIVIDUAL UTILITY CODES.

15. ALL UTILITES INSTALLED IN ACCORDANCE WITH THE RESPONSIBLE DISTRICTS OR AGENCIES STANDARDS AND SPECIFICATIONS.

16. COORDINATE ALL SERVICE LATERAL AND BUILDING CONNECTIONS WITH CORRESPONDING ARCHITECTURAL, MECHANICAL OR ELECTRICAL DRAWING FOR LOCATION AND ELEVATION. NOTIFY ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE ENCOUNTERED.

17. ALL STORM DRAIN MANHOLES AND CATCH BASINS ARE TO BE PRECAST CONCRETE FROM APPROVED LOCAL MANUFACTURER UNLESS OTHERWISE NOTED. AND COMPLY WITH CITY/COUNTY STANDARD

18. ALL STORM WATER CONVEYANCE PIPING TO BE RCP - CLASS 3 OR ADS HDPE PIPE OR EQUAL UNLESS OTHERWISE NOTED.

19. ALL ELECTRICAL CONDUITS/LINES TO BE PVC SCH 40 OR BETTER.

20. ALL GAS LINES TO BE HDPE WITH COPPER TRACER WIRE AND DETECTA TAPE. TERMINATE TRACER WIRE AT APPROVED LOCATIONS.

21. ALL GAS LINE TAPS, VALVES AND CAPS TO BE FUSED USING ELECTRO - FUSION TECHNOLOGY.

22. ALL PHONE AND TV CONDUITS TO BE PVC SCH 40 OR BETTER.

23. NO GROUNDWATER OR DEBRIS TO BE ALLOWED TO ENTER THE NEW PIPE DURING CONSTRUCTION. THE OPEN END OF ALL PIPES IS TO BE COVERED AND EFFECTIVELY SEALED AT THE END OF EACH DAYS WORK.

24. THE CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER PROVISIONS NECESSARY TO PROTECT WORKMEN FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 4' OR MORE AND SHALL COMPLY WITH INDUSTRIAL COMMISSION OF UTAH SAFETY ORDERS SECTION 68 - EXCAVATIONS, AND SECTION 69 - TRENCHES, ALONG WITH ANY LOCAL CODES OR ORDINANCES.

25. PRIOR TO OPENING AN EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATIONS; I.E. SEWER, WATER, FUEL, ELECTRIC LINES, ETC., WILL BE ENCOUNTERED AND IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. WHEN THE EXCAVATION APPROACHES THE APPROXIMATE LOCATION OF SUCH AN INSTALLATION, THE EXACT LOCATION SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING; AND, WHEN IT IS UNCOVERED, ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE EXISTING INSTALLATION. ALL KNOWN OWNERS OF UNDERGROUND FACILITIES IN THE AREA CONCERNED SHALL BE ADVISED OF PROPOSED WORK AT LEAST 48 HOURS PRIOR TO THE START OF ACTUAL EXCAVATION.

26. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL PIPE OF ADEQUATE CLASSIFICATION WITH SUFFICIENT BEDDING TO MEET ALL REQUIREMENTS AND RECOMMENDATIONS FOR H-20 LOAD REQUIREMENTS.

27. ACTUAL CONNECTIONS TO EXISTING WATER LINES WILL NOT BE PERMITTED PRIOR TO THE COMPLETION OF STERILIZATION AND TESTING OF NEW WATER MAINS. ALL EXISTING WATER VALVES TO BE OPERATED UNDER THE DIRECTION OF THE CITY/COUNTY PUBLIC WORKS DEPARTMENT PERSONNEL ONLY.

28. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE INSPECTED, TESTED, AND APPROVED BY AUTHORITIES HAVING JURISDICTION PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK, AND STREET PAVING.

SEWER

29. ALL SEWER LINE TO BE FLUSHED, PRESSURE TESTED TO 5 PSI VIDEO INSPECTED AND OTHERWISE TESTED IN ACCORDANCE WITH DISTRICT STANDARDS PRIOR TO PLACING IN SERVICE.

30. ALL SEWER PIPES ARE TO BE SDR-35 PVC PIPE.

31. SEWER MANHOLES, LATERALS AND CLEANOUTS TO BE INSTALLED PER RESPONSIBLE DISTRICT OR AGENCY STANDARDS. THE UNIT COST OF THE SEWER LATERAL INCLUDES CONNECTION TO THE SEWER MAIN. THE CLEANOUT RISER FOR EACH SERVICE SHALL BE INSTALLED BY THE CONTRACTOR.

32. DURING CONSTRUCTION OF THE SEWER LINE, WYES NEED TO BE INSTALLED FOR THE LATERALS. LATERALS ARE 4" AND NEED TO COME IN AT THE TOP OF THE PIPE WITH A WYE. (SEE RESPONSIBLE DISTRICT OR AGENCY STANDARDS)

33. IT IS THE INTENT ON THESE PLANS THAT ALL SEWER PIPES SHALL SLOPE TO AN EXISTING SEWER CONNECTION VIA GRAVITY FLOW. CONTRACTOR TO START AT THE LOW END OF GRAVITY UTILITY LINES AND VERIFY THAT ALL INVERT ELEVATIONS PROVE SLOPE TO EXISTING CONNECTION VIA GRAVITY. SLOPES MUST MEET OR EXCEED THE SEWER DISTRICTS MINIMUM STANDARDS. NOTIFY ENGINEER IF THERE ARE DISCREPANCIES THAT WOULD CAUSE THE SEWER UTILITY NOT TO DRAIN VIA GRAVITY ON THE SITE.

34. ALL LATERAL CONNECTIONS SHALL BE INSERT-A-TEE OR WYE AT TEN OR TWO O'CLOCK POSITIONING TO THE CENTER OF THE MAIN LINE.

35. ALL SANITARY SEWER MAINS AND LATERAL MUST BE INSPECTED AND APPROVED BY THE CITY INSPECTOR BEFORE TRENCH BACKFILLING IS COMPLETED

WATER

36. WATERLINES TO BE PVC C-900. WATER LINES SHALL BE A MINIMUM OF 10' HORIZONTALLY FROM SEWER MAINS. CROSSINGS SHALL MEET STATE HEALTH STANDARDS. (MECHANICAL JOINTS REQUIRED WHEN LESS THAN 18" VERTICAL OR TEN FEET HORIZONTAL SEPARATION FROM SEWERLINE)

37. ALL WATERLINES SHALL BE 8" MINIMUM SIZE AND SERVICE LATERALS SHALL BE 1-1/2" MINIMUM UNLESS OTHERWISE NOTED.

38. WATER SERVICE LATERALS TO INCLUDE ALL BRASS SADDLE; CORP. STOP LATERAL, DOUBLE CHECK VALVE AND BACKFLOW PREVENTION DEVICE, AND SHUTOFF VALVE IN BOX NEAR BUILDING EDGE.

39. ALL WATERLINES SHALL BE 48" BELOW FINISH GROUND TO TOP OF PIPE. ALL VALVE BOXES AND MANHOLES SHALL BE RAISED OR LOWERED TO FINISH GRADE AND SHALL INCLUDE A CONCRETE COLLAR IN PAVED AREAS. ALL WATER LINES SHALL BE LOOPED AROUND GRAVITY LINES OR ROPED PER RESPONSIBLE DISTRICT OR AGENCY INSPECTOR.

40. CONTRACTOR TO NOTIFY RESPONSIBLE DISTRICT OR AGENCY FOR CHLORINE TEST PRIOR TO FLUSHING LINES, CHLORINE LEFT IN PIPE 24 HRS. MINIMUM WITH 25 PPM RESIDUAL. ALL TURNING OF MAINLINE VALVES, CHLORINATION, FLUSHING, PRESSURE TESTING, BACTERIA TESTING, ETC. TO BE COORDINATED WITH RESPONSIBLE DISTRICT OR AGENCY. ALL TESTS TO BE IN ACCORDANCE WITH RESPONSIBLE DISTRICT OR AGENCY.

41. BOTTOM FLANGE OF FIRE HYDRANTS TO BE SET TO APPROXIMATELY 4 INCHES ABOVE BACK OF CURB ELEVATION. HYDRANTS TO INCLUDE TEE, 6" LINE VALVE, AND HYDRANT COMPLETE TO MEET RESPONSIBLE DISTRICT OR AGENCY STANDARDS, UNLESS OTHERWISE NOTED ON PLANS.

EXISTING UTILITIES

42. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITIES SHOWN OR NOT SHOWN. THE INFORMATION SHOWN ON THE PLANS WITH REGARDS TO THE EXISTING UTILITIES AND/OR IMPROVEMENTS WAS DERIVED FROM FIELD INVESTIGATION AND/OR RECORD INFORMATION. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID UTILITY INFORMATION. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE FACILITIES SHOWN AND ANY OTHER FACILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. PRIOR TO CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL EXISTING IMPROVEMENTS AND TO EXPOSE ALL EXISTING UNDERGROUND UTILITIES RELATED TO THE PROJECT, INCLUDING BUT NOT LIMITED TO, SEWER, STORM DRAIN, WATER IRRIGATION, GAS, ELECTRICAL, ETC. AND SHALL NOTIFY THE ENGINEER IN WRITING FORTY-EIGHT (48) HOURS IN ADVANCE OF EXPOSING THE UTILITIES SO, THAT THE EXACT LOCATION AND ELEVATION CAN BE VERIFIED AND DOCUMENTED. THE COST ASSOCIATED TO PERFORM THIS WORK SHALL BE INCLUDED IN EITHER THE LUMP SUMP CLEARING COST OR IN THE VARIOUS ITEMS OF WORK. IF LOCATION AND/OR ELEVATION DIFFERS FROM THAT SHOWN ON THE DESIGN PLANS, PROVISIONS TO ACCOMMODATE NEW LOCATION BE MADE PRIOR TO CONSTRUCTION.

43. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY BLUE STAKES 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTORS SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.

44. ALL MANHOLE RIMS, LAMPHOLES, VALVE BOX COVERS, MONUMENT BOXES AND CATCH BASIN GRATES ARE TO BE ADJUSTED TO FIT THE FINISHED GRADE AFTER PAVING, UNLESS OTHERWISE NOTED. COST FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICES FOR SAID FACILITIES.

45. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT ALL PIPES, WALLS, ETC. ARE ADEQUATELY BRACED DURING CONSTRUCTION.

CLEARING AND GRADING

46. CONTRACTOR SHALL PERFORM EARTHWORK IN ACCORDANCE WITH APWA 2017 STANDARD DRAWINGS AND STANDARD SPECIFICATIONS AND THE RECOMMENDED EARTHWORK SPECIFICATION FOUND IN THE PROFESSIONALLY PREPARED REPORT OF GEOTECHNICAL INVESTIGATION.

47. THE CONTRACTOR SHALL REMOVE ALL VEGETATION AND DELETERIOUS MATERIALS FROM THE SITE UNLESS NOTED OTHERWISE; ALL EXISTING WELLS AND SEPTIC TANKS SHALL BE REMOVED AND/OR ABANDONED PER THE REQUIREMENTS OF ALL LOCAL, STATE AND FEDERAL REGULATIONS. THE COST TO PERFORM THIS WORK SHALL BE INCLUDED IN THE LUMP SUM CLEARING COST.

48. SUBSOIL INVESTIGATIONS HAVE BEEN CONDUCTED AT THE SITE OF THE WORK. ALL FOOTING, FOUNDATION OR STRUCTURAL WALL CONSTRUCTION MUST ADHERE TO THE RECOMMENDATIONS DETAILED BY THE PROFESSIONAL REPORT OF THESE INVESTIGATIONS, CREATED BY EARTHTEC GEOTECH FIRM.

49. SOIL INVESTIGATIONS WERE CONDUCTED BY EARTHTEC GEOTECH FIRM FOR DESIGN PURPOSES ONLY, AND THE DATA SHOWN IN THE REPORTS ARE FOR SUBSURFACE CONDITIONS FOUND AT THE TIME OF THE INVESTIGATION. THE OWNER AND ENGINEER DISCLAIM RESPONSIBILITY FOR THE INTERPRETATION BY THE CONTRACTOR OF DATA, SUCH PROJECTION OR EXTRAPOLATION, FROM THE TEST HOLES TO OTHER LOCATIONS ON THE SITE OF THE WORK, SOIL BEARING VALUES AND PROFILES, SOIL STABILITY AND THE PRESENCE, LEVEL AND EXTENT OF UNDERGROUND WATER FOR SUBSURFACE CONDITIONS DURING CONSTRUCTION OPERATIONS.

50. ALL PROPOSED ELEVATIONS SHOWN ON THE GRADING PLAN ARE TO FINISHED SURFACE, THE CONTRACTOR IS RESPONSIBLE TO DEDUCT THE THICKNESS OF THE PAVEMENT STRUCTURAL SECTION FOR TOP OF SUB GRADE ELEVATIONS.

51. IF AT ANY TIME DURING CONSTRUCTION ANY UNFAVORABLE GEOLOGICAL CONDITIONS ARE ENCOUNTERED, WORK IN THAT AREA WILL STOP UNTIL APPROVED CORRECTIVE MEASURES ARE OBTAINED FROM THE ENGINEER.

52. UNSUITABLE MATERIAL, SUCH AS TOP SOIL, WEATHERED BED ROCK, ETC., SHALL BE REMOVED AS REQUIRED BY THE SOILS ENGINEER (AND/OR ENGINEERING GEOLOGIST, WHERE EMPLOYED) FROM ALL AREAS TO RECEIVE COMPACTED FILL OR DRAINAGE STRUCTURES.

53. NO TREES SHALL BE REMOVED OR DAMAGED WITHOUT SPECIFIC WRITTEN AUTHORIZATION FROM PROPERTY OWNER.

THE EXISTING TOPOGRAPHY ON THESE PLANS IS BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY BENCHMARK ENGINEERING AND LAND SURVEYING ON 12/17/2020 AND MAY HAVE BEEN MODIFIED SINCE THIS SURVEY WAS PERFORMED.

54. FILLS IN EXCESS OF 4 FEET IN THICKNESS AND BENEATH ALL FOUNDATIONS OR PAVEMENT SECTIONS SHALL BE COMPACTED TO 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE ASTM D-1557 COMPACTION CRITERIA. ALL OTHER STRUCTURAL FILL LESS THAN 4 FEET IN THICKNESS SHOULD BE COMPACTED TO AT LEAST 90 PERCENT OF THE ABOVE CRITERIA. REFERENCE THE GEOTECHNCIAL REPORT.

55. COMPACTION TESTING WILL BE ACCOMPLISHED BY THE CONTRACTOR, OR THE CONTRACTOR WILL HAVE SUCH TESTING ACCOMPLISHED BY A SEPARATE CONTRACTOR. TEST RESULTS WILL BE SUBMITTED FOR REVIEW WITHIN 24 HOURS AFTER TEST.

56. CONTRACTOR TO SUBMIT PROCTOR AND/OR MARSHALL TEST DATA 24 HOURS PRIOR TO COMPACTION TESTS.

57. STRAIGHT GRADE SHALL BE MAINTAINED BETWEEN CONTOUR LINES AND SPOT ELEVATIONS UNLESS OTHERWISE SHOWN ON PLANS.

58. ALL SLOPES IN ADJOINING STREETS, DRAINAGE CHANNELS, OR OTHER FACILITIES SHALL BE GRADED NO STEEPER THAN 2 TO 1 FOR CUT AND FILL.

59. GRADES WITHIN ASPHALT PARKING AREAS SHALL BE CONSTRUCTED TO WITHIN 0.10 FEET OF THE DESIGN GRADE. HOWEVER, THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN ALL PAVEMENT AREAS AND ALONG ALL CURBS.

ALL CURBS SHALL BE BUILT IN ACCORDANCE TO THE PLAN. CURBS AND PAVEMENT AREAS WHICH ARE NOT INSTALLED PER PLAN MUST BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

60. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING HIS OWN ESTIMATE OF EARTHWORK QUANTITIES.

61. WHERE NEW CURB AND GUTTER IS BEING CONSTRUCTED ADJACENT TO EXISTING ASPHALT OR CONCRETE PAVEMENT, THE FOLLOWING SHALL APPLY; PRIOR TO PLACEMENT OF ANY CONCRETE THE CONTRACTOR SHALL HAVE A LICENSE SURVEYOR VERIFY THE GRADE AND CROSS SLOPE OF THE CURB AND GUTTER FORMS, THE CONTRACTOR SHALL SUBMIT THE SLOPE AND GRADES TO THE ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF CONCRETE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY SECTION WHICH DOES NOT CONFORM TO THE DESIGN OR TYPICAL CROSS SECTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CURB AND GUTTER POURS WITHOUT THE APPROVAL OF THE ENGINEER.

62. SITE WORK SHALL MEET OR EXCEED OWNER'S SITE SPECIFICATIONS.

63. ALL SITE CONCRETE OR CONCRETE ELEMENT NOT SPECIFICALLY SHOWN AND DETAILED ON STRUCTURAL DRAWINGS TO HAVE A MINIMUM OF 28 DAY COMPRESSION STRENGTH OF 4000 PSI.

64. CUT SLOPES SHALL BE NO STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL

65. FILL SLOPES SHALL BE NO STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL

66. APPROVED PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS MUST BE USED TO PROTECT ADJOINING PROPERTIES DURING THE GRADING PROJECT.

DEWATERING

67. THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE AND MAINTAIN ALL MACHINERY, APPLIANCES AND EQUIPMENT TO MAINTAIN ALL EXCAVATIONS FREE FROM WATER DURING CONSTRUCTION. THE CONTRACTOR SHALL DISPOSE OF THE WATER SO AS NOT TO CAUSE DAMAGE TO PUBLIC OR PRIVATE PROPERTY, OR TO CAUSE A NUISANCE OR MENACE TO THE PUBLIC OR VIOLATE THE LAW. THE DEWATERING SYSTEM SHALL BE INSTALLED AND OPERATED SO THAT THE GROUND LEVEL OUTSIDE THE EXCAVATION IS NOT REDUCED TO THE EXTENT WHICH WOULD CAUSE DAMAGE OR ENDANGER ADJACENT STRUCTURES OR PROPERTY. ALL COST FOR DEWATERING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ALL PIPE CONSTRUCTION. THE STATIC WATER LEVEL SHALL BE DRAWN DOWN A MINIMUM OF 1 FOOT BELOW THE BOTTOM OF EXCAVATIONS TO MAINTAIN THE UNDISTURBED STATE OF NATURAL SOILS AND ALLOW THE PLACEMENT OF ANY FILL TO THE SPECIFIED DENSITY. THE CONTRACTOR SHALL HAVE ON HAND, PUMPING EQUIPMENT AND MACHINERY IN GOOD CONDITION FOR EMERGENCIES AND SHALL HAVE WORKMEN AVAILABLE FOR ITS OPERATION: DEWATERING SYSTEM SHALL OPERATE CONTINUOUSLY UNTIL BACKFILL HAS BEEN COMPLETED TO 1 FOOT ABOVE THE NORMAL STATIC GROUNDWATER LEVEL.

68. THE CONTRACTOR SHALL CONTROL SURFACE WATER TO PREVENT ENTRY INTO EXCAVATIONS. AT EACH EXCAVATION, A SUFFICIENT NUMBER OF TEMPORARY OBSERVATION WELLS TO CONTINUOUSLY CHECK THE GROUNDWATER LEVEL SHALL BE PROVIDED.

69. SUMPS SHALL BE NO DEEPER THAN 5 FEET AND SHALL BE AT THE LOW POINT OF EXCAVATION. EXCAVATION SHALL BE GRADED TO DRAIN TO THE SUMPS.

70. THE CONTROL OF GROUNDWATER SHALL BE SUCH THAT SOFTENING OF THE BOTTOM OF EXCAVATIONS, OR FORMATION OF "QUICK" CONDITIONS OR "BOILS", DOES NOT OCCUR. DEWATERING SYSTEMS SHALL BE DESIGNED AND OPERATED SO AS TO PREVENT REMOVAL OF NATURAL SOILS. THE RELEASE OF GROUNDWATER AT ITS STATIC LEVEL SHALL BE PERFORMED IN SUCH A MANNER AS TO MAINTAIN THE UNDISTURBED STATE OF NATURAL FOUNDATION SOILS, PREVENT DISTURBANCE OF COMPACTED BACKFILL, AND PREVENT FLOTATION OR MOVEMENT OF STRUCTURES, PIPELINES AND SEWERS. IF A UPDES (UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM) PERMIT IS REQUIRED FOR DISPOSAL OF WATER FROM CONSTRUCTION DEWATERING ACTIVITIES, IT SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO ANY DEWATERING ACTIVITIES.

71. ONE HUNDRED PERCENT STANDBY PUMPING CAPACITY SHALL BE AVAILABLE ON SITE AT ALL TIMES AND SHALL BE CONNECTED TO THE DEWATERING SYSTEM PIPING AS TO PERMIT IMMEDIATE USE. IN ADDITION STANDBY EQUIPMENT AND APPLIANCES FOR ALL ORDINARY EMERGENCIES, AND COMPETENT WORKMEN FOR OPERATION AND MAINTENANCE OF ALL DEWATERING EQUIPMENT SHALL BE ON SITE AT ALL TIMES. STANDBY EQUIPMENT SHALL INCLUDE EMERGENCY POWER GENERATION AND AUTOMATIC SWITCH OVER TO THE EMERGENCY GENERATOR WHEN NORMAL POWER FAILS. DEWATERING SYSTEMS SHALL NOT BE SHUT DOWN BETWEEN SHIFTS, ON HOLIDAYS, ON WEEKENDS, OR DURING WORK STOPPAGES.

SITE SAFETY AND MAINTENANCE

72. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.

73. THE CONTRACTOR AGREES THAT:

A. THEY SHALL BE RESPONSIBLE TO CLEAN THE JOB SITE AT THE END OF EACH PHASE OF WORK.

B. THEY SHALL BE RESPONSIBLE TO REMOVE AND DISPOSE OF ALL TRASH, SCRAP AND UNUSED MATERIAL AT THEIR OWN EXPENSE IN A TIMELY MANNER.

C. THEY SHALL BE RESPONSIBLE TO MAINTAIN THE SITE IN A NEAT, SAFE AND ORDERLY MANNER AT ALL TIMES.

D. THEY SHALL BE RESPONSIBLE TO KEEP MATERIALS, EQUIPMENT, AND TRASH OUT OF THE WAY OF OTHER CONTRACTORS SO AS NOT TO DELAY THE JOB. FAILURE TO DO SO WILL RESULT IN A DEDUCTION FOR THE COST OF CLEAN UP FROM THE FINAL PAYMENT.

E. THEY SHALL BE RESPONSIBLE FOR THEIR OWN SAFETY, TRAFFIC CONTROL, PERMITS, RETESTING AND REINSPECTIONS AT THEIR OWN EXPENSE.

F. UNLESS OTHERWISE NOTED ALL EXCESS SOILS AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LAWFULLY DISPOSED OF OFF SITE AT THE CONTRACTOR'S EXPENSE.

G. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, BARRICADES, SIGNS, FLAGMEN OR OTHER DEVICES NECESSARY FOR PUBLIC SAFETY.

H. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTORS USE DURING CONSTRUCTION.

I. ALL DEBRIS AND FOREIGN MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT APPROVED DISPOSAL SITES. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FOR THE TRANSPORTATION OF MATERIAL TO AND FROM THE SITE.

72. FOR ALL WORK WITHIN PUBLIC RIGHTS-OF-WAY OR EASEMENTS, THE CONTRACTOR SHALL PRESERVE THE INTEGRITY AND LOCATION OF ANY AND ALL PUBLIC UTILITIES AND PROVIDE THE NECESSARY CONSTRUCTION TRAFFIC CONTROL. CONTRACTOR SHALL, THROUGH THE ENCROACHMENT PERMIT PROCESS, VERIFY WITH THE NECESSARY REGULATORY AGENCIES, THE NEED FOR ANY TRAFFIC ROUTING PLAN. IF PLAN IS REQUIRED, CONTRACTOR SHALL PROVIDE PLAN AND RECEIVED PROPER APPROVALS PRIOR TO BEGINNING CONSTRUCTION. WORK IN EASEMENT AND/OR RIGHTS-OF-WAY IS SUBJECT TO THE APPROVAL AND ACCEPTANCE OF THE REGULATORY AGENCY RESPONSIBLE FOR OPERATION AND/OR MAINTENANCE OF SAID AND/OR RIGHT-OF-WAY. ALL CONSTRUCTION WORK IN UDOT RIGHT- OF -WAY SHALL BE SUBJECT TO INSPECTION BY THE STATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT INSPECTIONS TAKE PLACE WHERE AND WHEN REQUIRED AND TO INSURE THAT ALL WORK IS COMPLETED TO UDOT STANDARDS.

SURFACE IMPROVEMENTS:

73. SUBGRADE PREPARATION: SUBGRADE SHALL BE COMPACTED TO A 95% RELATIVE C0MPACTION TO A MINIMUM DEPTH OF 6" FOR ALL ON-SITE DEVELOPMENT. ALL OFF-SITE IMPROVEMENTS ARE TO BE DONE PER APWA STANDARDS.

74. AGGREGATE SUB-BASE: AGGREGATE SUB-BASE SHALL BE GRANULAR BACKFILL BORROW. AGGREGATE SUB-BASE MATERIAL SHALL BE CLEAN AND FREE FROM VEGETABLE MATTER AND OTHER DELETERIOUS SUBSTANCE. AGGREGATE SHALL COMPLY WITH THE GUIDELINE REQUIREMENTS FOR PAVEMENTS FOUND IN THE PROFESSIONALLY PREPARED OF THE SOILS INVESTIGATIONS COMPLETED ON THIS SITE.

75. AGGREGATE BASE: AGGREGATE BASE SHALL BE GRADE 3/4 UNTREATED BASE COURSE, AND COMPLY PREPARED REPORT OF THE SOILS INVESTIGATION PREPARED ON THIS SITE.

76. ALL SIDEWALKS AND CROSSINGS TO MEET CURRENT ADA STANDARDS/ APWA STANDARDS.

77. PAYMENT FOR PAVEMENT WILL BE MADE ONLY FOR AREAS SHOWN ON PLANS. REPLACEMENT OF PAVEMENT WHICH IS BROKEN OR CUT DURING THE INSTALLATION OF THE WORK COVERED BY THESE GENERAL NOTES, AND WHICH LIES OUTSIDE OF SAID AREAS, SHALL BE INCLUDED IN THE CONTRACTOR'S UNIT PRICE FOR PAVEMENT, AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR SUCH WORK.

78. INSTALLATION OF STREET LIGHTS SHALL BE IN ACCORDANCE WITH CITY STANDARDS.

79. PRIOR TO FINAL ACCEPTANCE OF THE IMPROVEMENTS BUILT BY THESE PLANS AND SPECIFICATIONS THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE OWNER, CITY, AND POWER COMPANY TO HAVE THE ELECTRICAL SYSTEM AND ALL STREET LIGHTS ENERGIZED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STRIPING AND/OR PAVEMENT MARKINGS NECESSARY TO THE EXISTING STRIPING INTO FUTURE STRIPING. METHOD OF REMOVAL SHALL BE BY GRINDING OR SANDBLASTING.

80. STRIPING AND PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH MUTCD & APWA 32 17 23.

81. DURING THE BIDDING PROCESS, CONTRACTOR TO REVIEW DESIGN SLOPES SHOWN FOR PAVEMENT AND WARRANTY THE PAVEMENT TO THE OWNER BASED UPON THE DESIGN SLOPES SHOWN HEREON. CONCERNS WITH SLOPES MUST BE BROUGHT DURING THE BIDDING PROCESS.

82. IT IS THE INTENT ON THESE PLANS THAT ALL PAVEMENT SLOPE TO A CATCH BASIN, INLET BOX OR OUT INTO A STREET.CONTRACTOR TO VERIFY FINISH SPOT ELEVATIONS AND NOTIFY ENGINEER IF THERE ARE DISCREPANCIES THAT WOULD CAUSE PUDDLING ON THE SITE.

No.	DATE	DESCRIPTION
1	4/9/21	REVISED SITE LAYOUT PER CITY COMMENTS
2	6/15/21	REVISED PER CITY COMMENTS

DRAWN BY BDS/AGA
CHECKED BY AGA
FIELD CREW KO/JS
DATE 6/15/2021
DWG. FILE 2001297_SITE

0 0.5 1
SCALE MEASURES 1-INCH ON FULL SIZE SHEETS
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

PRELIMINARY PLAN
PROFESSIONAL ENGINEER
6/15/21
No. 10360773
M. CHRIS
POULSEN
STATE OF UTAH
NOT FOR CONSTRUCTION

BENCHMARK
ENGINEERING &
LAND SURVEYING
9138 SOUTH STATE STREET SUITE #100
SANDY, UTAH 84070 (801) 542-7192
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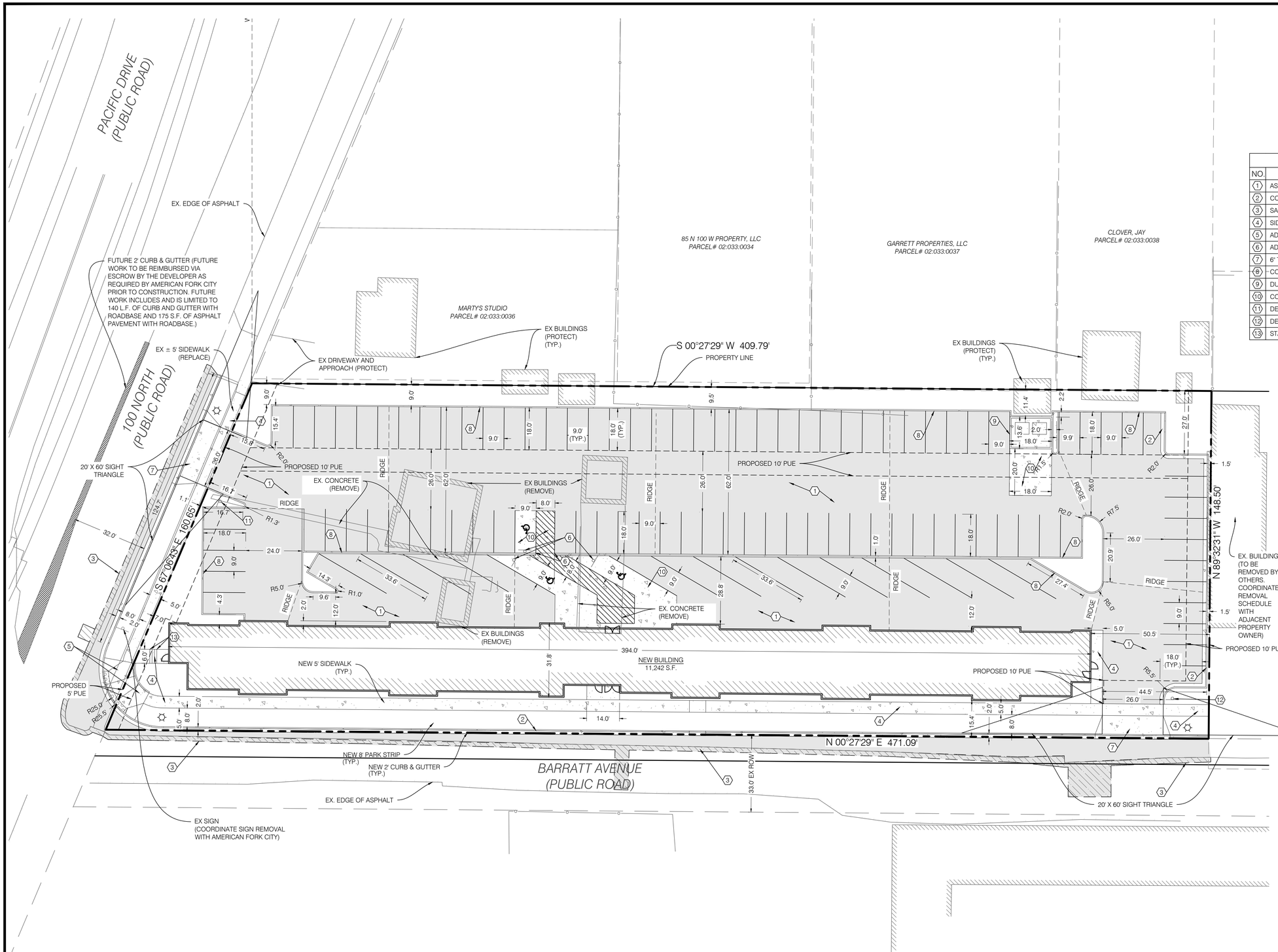
LAKE CITY FLATS

129 PACIFIC AVENUE
AMERICAN FORK, UTAH

PROJECT NO. 2001297

GEN. NOTES
LEGEND &
ABBREV.

CGN.01
2 OF 10



NORTH

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20ft.

CONSTRUCTION KEY NOTE REFERENCE

NO.	DESCRIPITON	DETAIL
1	ASPHALT PAVEMENT WITH GRANULAR BASE	1/CDT.01
2	CONCRETE CURB AND GUTTER PER AMERICAN FORK CITY STDS.	
3	SAWCUT PER AMERICAN FORK CITY STDS.	
4	SIDEWALK PER AMERICAN FORK CITY STDS.	
5	ADA RAMP PER AMERICAN FORK STD. # 15.18	
6	ADA SIGN	2/CDT.01
7	6" THICK CONCRETE DRIVE APPROACH PER AMERICAN FORK CITY STDS.	
8	CONCRETE CURB WALL PER AMERICAN FORK CITY STDS.	
9	DUMPSTER ENCLOSURE (DESIGNED BY OTHERS)	
10	CONCRETE PAVEMENT PER AMERICAN FORK CITY STDS.	1/CDT.01
11	DEAD END LIMITED FIRE ACCESS NO TURNAROUND	
12	DEAD END NO FIRE ACCESS	
13	STAIRS WITH HAND RAILS (4 STEPS) (DETAILS BY OTHERS0	

AREA TABLE

PARTICULARS	S.F.	%
BUILDING	11,242	17.2
HARDSCAPE	43,020	65.8
LANDSCAPE	11,144	17.0
TOTAL	65,406	100.0

NOTE:
SLOPE ACROSS THE ACCESSIBLE PARKING STALLS & ACCESS ISLE SHALL NOT EXCEED A 1:48 (2.00%) SLOPE, THE MAX GRADE DIFFERENCE BETWEEN THE ASPHALT SURFACE, ACCESSIBLE RAMP, AND SIDEWALK SHALL NOT EXCEED 1/4 INCH VERTICAL OR 1/2 INCH WHEN BEVELED. THE ACCESSIBLE MEANS OF EGRESS INCLUDING THE DRIVEWAY PORTION SHALL NOT EXCEED A SLOPE OF 1:20 (5.0%) & A CROSS SLOPE OF 1:48 (2.0%). ALL EXTERIOR DOOR WAY ACCESS REQUIRE AN EXTERIOR LANDING 60 INCHES IN LENGTH WITH A SLOPE NOT EXCEEDING A 1:48 (2.0%) SLOPE

PARKING COUNT

PARTICULARS	PROVIDED	
	STANDARD	ADA
PARKING STALLS	106	3
TOTAL	109	

UNIT	COUNT
TYPE	PROVIDED
STUDIO	109

NOTE:
THE APPLICANT PETITIONS THE AMERICAN FORK CITY PLANNING COMMISSION TO ADJUST THE REQUIRED PARKING STANDARD OF 2.25 SPACES PER DWELLING UNITS TO 1.00 SPACES PER DWELLING UNIT AS PERMITTED BY SECTION 17.5.133.D.

NOTE:
SAWCUT WIDTH, LOCATIONS AND TIE-IN ELEVATIONS IN EXISTING HARDSCAPE ARE APPROXIMATE, CONTRACTOR TO FIELD VERIFY LOCATION AND EXTENT OF SAWCUTTING PRIOR TO CONSTRUCTION. NOTIFY CIVIL ENGINEER IF REVISIONS ARE REQUIRED. SEE NOTE 58 ON CGN.01 FOR FURTHER DETAIL.

FEMA FLOOD ZONE X:
FIRM MAP 49049C0168F.
EFFECTIVE ON 06/19/2020

NOTES:
1. ALL EXISTING PUBLIC IMPROVEMENTS TO MEET CITY STANDARDS AND QUALITY.
2. SIDEWALKS TO BE 6" AT DRIVE APPROACHES.
3. DEPENDING ON THE CONDITION OF THE EXISTING ASPHALT ON BARRATT AND 100 NORTH, THE ROADWAYS MAY NEED TO BE RECONSTRUCTED TO THE CENTERLINE OF THE ROAD PER 15.01.1250

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No.	DATE	DESCRIPTION
1	4/8/21	REVISED SITE LAYOUT PER CITY COMMENTS
2	6/15/21	REVISED PER CITY COMMENTS

SCALE MEASURES 1-INCH ON FULL SIZE SHEETS
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

DRAWN BY: BDS/AGA
CHECKED BY: AGA
FIELD CREW: KO/JS
DATE: 6/15/2021
DWG FILE: 2001297_SITE

PRELIMINARY PLAN
NOT FOR CONSTRUCTION
6/15/21
No. 10360773
M. CHRIS POULSEN
STATE OF UTAH
PROFESSIONAL ENGINEER

BENCHMARK ENGINEERING & LAND SURVEYING
9138 SOUTH STATE STREET SUITE #100
SANDY, UTAH 84070 (801) 542-7192
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LAKE CITY FLATS

129 PACIFIC AVENUE
AMERICAN FORK, UTAH

PROJECT NO. 2001297

SITE PLAN

CSP.01
3 OF 10

NORTH

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20ft.

NOTE:
PRIOR TO FABRICATION OR CONSTRUCTION, BEGIN AT THE LOW END OF ALL GRAVITY UTILITY LINES AND VERIFY THE INVERT ELEVATION OF THE POINT OF CONNECTION. NOTIFY ENGINEER FOR REDESIGN IF CONNECTION POINT IS HIGHER THAN SHOWN OR IF ANY UTILITY CONFLICTS OCCUR. GRAVITY CONNECTIONS MUST BE DONE PRIOR TO BUILDING FOOTINGS AND ROUGH PLUMBING ARE CONSTRUCTED.

NOTE:
POTHOLE TO IDENTIFY ANY CONFLICTS BEFORE ANY PIPE INSTALLATION. CONTACT ENGINEER IF ANY CONFLICTS ARE IDENTIFIED.

SEWER NOTE: (A)
THE SEWER INVERT ELEVATIONS PROVIDED ARE ESTIMATED AND NOT FINAL. CONTRACTOR MUST FIELD VERIFY TIE IN LOCATION AND ELEVATION PRIOR TO FABRICATION OR CONSTRUCTION OF ANY SEWER AND BUILDING COMPONENTS. IF ELEVATIONS ARE DIFFERENT THAN SHOWN, CONTACT ENGINEER FOR REDESIGN.

CONSTRUCTION KEY NOTE REFERENCE

NO.	DESCRIPITON	DETAIL
1	THRUST BLOCK PER AMERICAN FORK CITY STDS.	
2	2" POLY WATER SERVICE LINE PER AMERICAN FORK CITY STDS.	
3	2" WATER METER & VAULT PER AMERICAN FORK CITY STDS.	5/CDT.01
4	SAWCUT PER AMERICAN FORK CITY STDS.	
5	6" PVC C-900 FIRELINE PER AMERICAN FORK CITY STDS,	
6	6" PVC SDR-35 SEWER LATERAL @ 1.0% MIN. SLOPE	2/CDT.03
7	SEWER CLEAN OUT (MIN 5' FROM FOUNDATOIN WALL)	
8	STREETLIGHT PER AMERICAN FORK CITY STDS.	
9	1" IRR METER PER AMERICAN FORK CITY STDS.	
10	GATE VALVE PER AMERICAN FORK CITY STDS.	
11	FIRE HYDRANT PER AMERICAN FORK CITY STDS.	

SSMH
-RIM= 4603.81
IE 8" = 4595.42

8" SEWER MAIN
FIELD VERIFY LOCATION AND DEPTH PRIOR TO CONSTRUCTION (PROTECT)

EX. 12" HDPE SD PIPE (PROTECT)
(CONNECT TO NEW SD 3x3 CLEANOUT)

STREETLIGHT (8)
(FIELD VERIFY LOCATION OF STREET LIGHT TO ENSURE THE BASE OF THE STREET LIGHT DOESN'T CONFLICT WITH THE STORM DRAIN LINE. ADJUST AS NEEDED.)

EX. SEWER LATERAL
(REMOVE PER AMERICAN FOR CITY STDS.)

EX. OVERHEAD POWER
(COORDINATE WITH RMP AND AMERICAN FORK CITY TO BURY ALL OVERHEAD UTILITIES AS REQUIRED THAT ARE NOT TRANSMISSION LINES LARGER THAN 12,407 VOLTS PER AMERICAN FORK CITY SECTION 17.8.409.)

EX. OVERHEAD POWER
(PROTECT)

EX. GAS METER AND LATERAL
(REMOVE PER DOMINION STDS.)

EX. IRR STUB
(PROTECT AND CONNECT TO NEW METER)
(CONTRACTOR TO FIELD VERIFY SIZE AND CONDITION OF EX. LATERAL. CONTACT ENGINEER FOR REDESIGN IF NECESSARY)

EX. IE = 4592.82 (A)
NEW IE = 4593.82

EX. WATER LATERAL AND METER
(REMOVE TO MAIN PER AMERICAN FORK CITY STDS.)

FIRE RISER ROOM

EX. OVERHEAD POWER
(COORDINATE WITH RMP AND AMERICAN FORK CITY TO BURY ALL OVERHEAD UTILITIES AS REQUIRED THAT ARE NOT TRANSMISSION LINES LARGER THAN 12,407 VOLTS PER AMERICAN FORK CITY SECTION 17.8.409. BUILDING TO BE MODIFIED TO MEET RMP REQUIREMENTS IF POWER LINE IS NOT BURIED.)

EX. OVERHEAD POWER
(COORDINATE WITH ROCKY MOUNTAIN POWER TO REMOVE)

FFE = 4601.32

FFE = 4599.82

EX. FIRE HYDRANT
(PROTECT)

IE = 4594.82 (A)

EX. SSMH
RIM=4596.19
NEW IE 8" = 4585.72 NORTH
EX. IE 8" = 4585.52 SOUTH

EX.8" SEWER

EX.GAS

EX.4" PI

EX.8" DIP WATER MAIN

EX. FIRE HYDRANT

EX. 36" RCP SD PIPE (PROTECT)
(CONNECT TO NEW 3' x 3' CLEANOUT)

EX. OVERHEAD POWER

EX. POWER POLE AND STREET LIGHT
(PROTECT)

No.	DATE	DESCRIPTION
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2	6/15/21	REVISED PER CITY COMMENTS

SCALE MEASURES 1-INCH ON FULL SIZE SHEETS
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

DRAWN BY: BDS/AGA
CHECKED BY: AGA
FIELD CREW: KOJS
DATE: 6/15/2021
SCALE: 1" = 20'
DWG FILE: 2001297_SITE

PRELIMINARY PLAN
NOT FOR CONSTRUCTION
6/15/21
PROFESSIONAL ENGINEER
No. 10360773
M. CHRIS POULSEN
STATE OF UTAH

BENCHMARK ENGINEERING & LAND SURVEYING
9138 SOUTH STATE STREET SUITE #100
SANDY, UTAH 84070. (801) 542-7192
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LAKE CITY FLATS

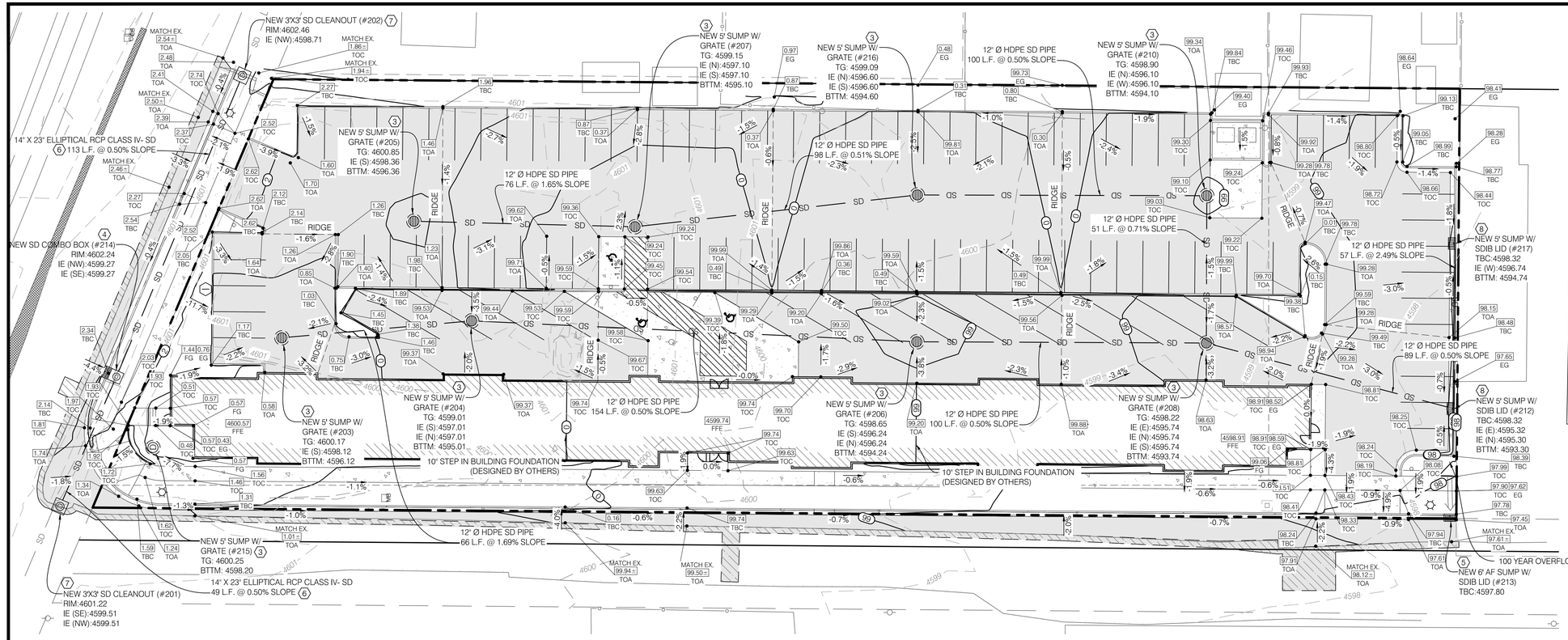
129 PACIFIC AVENUE
AMERICAN FORK, UTAH

PROJECT NO. 2001297

UTILITY PLAN

CUP.01
4 OF 10

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DRAINAGE NARRATIVE:
ONSITE DRAINAGE IS DIRECTED TO CATCH BASINS AT LOW POINTS IN THE PARKING LOT. EACH CATCH BASIN IS A SUMP: A PERFORATED STRUCTURE WITH A CONCRETE SHELF AND SCREEN SURROUNDED BY GRAVEL. EACH SUMP PROVIDES DRAINAGE INTO THE SURROUNDING SOIL. THE STORMWATER IS CLEANED THROUGH A PVC PIPE AND SCREEN INSTALLED IN THE STRUCTURE. WATER BUILDS UP ABOVE THE CONCRETE SHELF AND THEN ENTERS THE PVC PIPE THROUGH THE SCREEN TO PROVIDE SETTLEMENT AND CLEANING FOR THE SUMP. AS ALL STORMWATER IS BEING RETAINED ONSITE, THE 80% PERCENTILE RETENTION REQUIREMENTS ARE MET.

OFFSITE STORMWATER WILL GO INTO A 6' SUMP WITH GRAVEL WRAP AT THE SOUTH END OF THE CURB AND GUTTER. THE SUMP IS SIZED TO HOLD STORMWATER PRODUCED BY THE 16' HALF WIDTH PAVEMENT SECTION AS WELL AS THE SIDEWALK AND PARK STRIP.

NOTE:
POTHOLE TO IDENTIFY ANY CONFLICTS BEFORE ANY PIPE INSTALLATION. CONTACT ENGINEER IF ANY CONFLICTS ARE IDENTIFIED.

NOTE:
PRIOR TO FABRICATION OR CONSTRUCTION, BEGIN AT THE LOW END OF ALL GRAVITY UTILITY LINES AND VERIFY THE INVERT ELEVATION OF THE POINT OF CONNECTION. NOTIFY ENGINEER FOR REDESIGN IF CONNECTION POINT IS HIGHER THAN SHOWN OR IF ANY UTILITY CONFLICTS OCCUR. GRAVITY CONNECTIONS MUST BE DONE PRIOR TO BUILDING FOOTINGS AND ROUGH PLUMBING ARE CONSTRUCTED.

SURVEY CONTROL NOTE:
THE CONTRACTOR OR SURVEYOR PERFORMING THE CONSTRUCTION SURVEYING SHALL BE RESPONSIBLE TO PROVIDE CONSTRUCTION LAYOUT PER THE APPROVED PLANS ONLY. THE SURVEYOR SHALL ALSO BE RESPONSIBLE FOR VERIFYING HORIZONTAL CONTROL FROM THE SURVEY MONUMENTS AND FOR VERIFYING ANY ADDITIONAL CONTROL POINTS SHOWN ON THE SURVEY OR IMPROVEMENTS PLANS OR ON ELECTRONIC DATA PROVIDED BY BENCHMARK ENGINEERING AND LAND SURVEYING. THE SURVEYOR SHALL ALSO USE THE BENCHMARKS AS SHOWN ON THE PLAN, AND VERIFY THEM AGAINST NO LESS THAN THREE EXISTING HARD IMPROVEMENT ELEVATIONS INCLUDED ON THESE PLANS OR ON ELECTRONIC DATA PROVIDED BY BENCHMARK ENGINEERING AND LAND SURVEYING. IF ANY DISCREPANCIES ARE ENCOUNTERED, THE SURVEYOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND RESOLVE THE DISCREPANCIES BEFORE PROCEEDING WITH ANY CONSTRUCTION SURVEYING. IT IS ALSO THE RESPONSIBILITY OF THE SURVEYOR TO VERIFY ANY ELECTRONIC DATA WITH THE APPROVED STAMPED AND SIGNED PLANS AND NOTIFY THE ENGINEER WITH ANY DISCREPANCIES.

GRADING AND DRAINAGE KEY NOTE REFERENCE

NO.	DESCRIPITON	DETAIL
1	GRADE SITE TO ELEVATIONS SHOWN ON PLAN	
2	12" DIAMETER HDPE ADS N-12 STORM DRAIN LINE	
3	5' Ø SUMP WITH GRATE	3/CDT.01
4	SDIB W/3'X3' CLEANOUT BOX PER AMERICAN FORK STDS.	
5	6' Ø AMERICAN FORK SUMP WITH SDIB LID	4/CDT.01
6	14" X 23" ELLIPTICAL RCP CLASS IV PIPE	
7	3'X3' STORM DRAIN CLEAN OUT PER AMERICAN FORK STDS.	
8	5' Ø SUMP WITH SDIB LID	3/CDT.01
9	REVERSE COMBO BOX PER AMERICAN FORK STDS.	3/CDT.01

ALL HDPE/RCP CLASS III PIPE TO HAVE SOIL TIGHT JOINTS

NOTE:
SAWCUT WIDTH, LOCATIONS AND TIE-IN ELEVATIONS IN EXISTING HARDSCAPE ARE APPROXIMATE, CONTRACTOR TO FIELD VERIFY LOCATION AND EXTENT OF SAWCUTTING PRIOR TO CONSTRUCTION. NOTIFY CIVIL ENGINEER IF REVISIONS ARE REQUIRED. SEE NOTE 58 ON CGN.01 FOR FURTHER DETAIL.

BENCHMARK:
SOUTH QUARTER CORNER SECTION 14,
TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN
ELEVATION = 4597.86

STORM DRAINAGE CALCULATIONS
Rational Method (Q=CIA): Public

Area Identification (A)		Rational Coefficient (C)	C* A
Roof =	0	0.9	0 S.F.
ROW Pavement =	9,991	0.9	8991.9 S.F.
Landscaping = (Half Width)	3,984	0.2	796.8 S.F.
Sum:	13975 S.F.	Sum:	9788.7 S.F.

NOAA ATLAS 14 (100 YEAR STORM)				Percolation Rate	0.05 cfs
Time (min)	Intensity (in/hr)	Rainfall (inches)	Rainfall Excess (cu.ft.)	Allowed Discharge (cu.ft)	Volume to Retain (cu.ft)
15	3.98	0.995	812	41	770
30	2.68	1.340	1093	83	1010
60	1.66	1.660	1354	166	**1188**
120	0.90	1.796	1465	332	1133
180	0.61	1.824	1488	498	990
360	0.33	1.956	1596	995	601
720	0.19	2.232	1821	1990	0
1440	0.10	2.304	1879	3980	0

CALCULATED DISCHARGE INTO GROUND: $Q = \frac{S(sf)}{P(sec/ft)}$

Percolation surface area — $S = 2(WH + LH) + WL$

Concrete sump with rectangular gravel wrap	
Sump inner diameter	6.00 ft
Sump wall thickness	0.50 ft
Sump outer diameter	7.00 ft
Sump inner depth	5.00 ft
Width of gravel wrap	7.25 ft
Length of gravel wrap	7.50 ft
Depth of gravel wrap	0.50 ft
Effective sump width (W)	21.50 ft
Effective sump length (L)	22.00 ft
Effective sump depth (H)	6.00 ft
Percolation surface area per sump (S)	995.00 sf
Sumps provided	1
Total percolation surface area	995.00 sf

Discharge

Percolation rate (P)	30.00 min/in
Percolation surface area (S)	995.00 sf
Allowed Discharge (Q)	**0.05 cfs**

*Percolation must be verified by geotechnical engineer. Percolation rate was estimated from USDA Web Soil Survey, Se (Steed Gravelly Sandy Loam), Hydrologic Soil Group A

Sump retention volume — $V = \left(WLH - \frac{\pi D^2}{4}(h+t)\right)e + \frac{\pi d^2}{4}h$

Sump inner depth (h)	5.00 ft
Sump inner diameter (d)	6.00 ft
Sump volume	141.37 cf
Sump outer diameter (D)	7.00 ft
Sump wall thickness (t)	0.50 ft
Wrap width (W)	21.50 ft
Wrap length (L)	22.00 ft
Wrap depth (H)	6.00 ft
Void area (e)	40%
Wrap gravel volume	1,050.53 cf
Total volume per sump (V)	1,191.91 cf
Sumps provided	1
Total sump volume	**1,192 cf**

Is there adequate storage?	Storage Provided =	**1,192 cf**
	Req. Storage =	**1,188 cf** **YES**

STORM DRAINAGE CALCULATIONS
Rational Method (Q=CIA): Private

Area Identification (A)		Rational Coefficient (C)	C* A
Roof =	11,242	0.9	10117.8 S.F.
Pavement =	43,020	0.9	38718 S.F.
Landscaping =	11,144	0.2	2228.8 S.F.
Sum:	65406 S.F.	Sum:	51064.6 S.F.

NOAA ATLAS 14 (100 YEAR STORM)				Percolation Rate	0.27 cfs
Time (min)	Intensity (in/hr)	Rainfall (inches)	Rainfall Excess (cu.ft.)	Allowed Discharge (cu.ft)	Volume to Retain (cu.ft)
15	3.98	0.995	4234	244	3990
30	2.68	1.340	5702	488	5215
60	1.66	1.660	7064	975	**6089**
120	0.90	1.796	7643	1950	5693
180	0.61	1.824	7762	2925	4837
360	0.33	1.956	8324	5850	2474
720	0.19	2.232	9498	11700	0
1440	0.10	2.304	9804	23400	0

CALCULATED DISCHARGE INTO GROUND: $Q = \frac{S(sf)}{P(sec/ft)}$

Percolation surface area — $S = 2(WH + LH) + WL$

Concrete sump with rectangular gravel wrap	
Sump inner diameter	5.00 ft
Sump wall thickness	0.50 ft
Sump outer diameter	6.00 ft
Sump inner depth	5.00 ft
Width of gravel wrap	4.50 ft
Length of gravel wrap	4.50 ft
Depth of gravel wrap	0.50 ft
Effective sump width (W)	15.00 ft
Effective sump length (L)	15.00 ft
Effective sump depth (H)	6.00 ft
Percolation surface area per sump (S)	585.00 sf
Sumps provided	10
Total percolation surface area	5,850.00 sf

Discharge

Percolation rate (P)	30.00 min/in
Percolation surface area (S)	5,850.00 sf
Allowed Discharge (Q)	**0.27 cfs**

*Percolation must be verified by geotechnical engineer. Percolation rate was estimated from USDA Web Soil Survey, Se (Steed Gravelly Sandy Loam), Hydrologic Soil Group A

Sump retention volume — $V = \left(WLH - \frac{\pi D^2}{4}(h+t)\right)e + \frac{\pi d^2}{4}h$

Sump inner depth (h)	5.00 ft
Sump inner diameter (d)	6.00 ft
Sump volume	141.37 cf
Sump outer diameter (D)	6.00 ft
Sump wall thickness (t)	0.50 ft
Wrap width (W)	15.00 ft
Wrap length (L)	15.00 ft
Wrap depth (H)	6.00 ft
Void area (e)	40%
Wrap gravel volume	477.80 cf
Total volume per sump (V)	619.17 cf
Sumps provided	10
Total sump volume	**6,192 cf**

Is there adequate storage?	Storage Provided =	**6,192 cf**
	Req. Storage =	**6,089 cf** **YES**

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No.	DATE	DESCRIPTION
1	4/8/21	REVISED SITE LAYOUT PER CITY COMMENTS
2	6/15/21	REVISED PER CITY COMMENTS

SCALE MEASURES 1-INCH ON FULL SIZE SHEETS
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

DRAWN BY: BDS/AGA
CHECKED BY: AGA
FIELD CREW: KOJS
DATE: 6/15/2021
BENCHMARK FILE: 2001297_CGD.00

PRELIMINARY PLAN
PROFESSIONAL ENGINEER
6/15/21
No. 10360773
M. CHRIS POULSEN
STATE OF UTAH
NOT FOR CONSTRUCTION

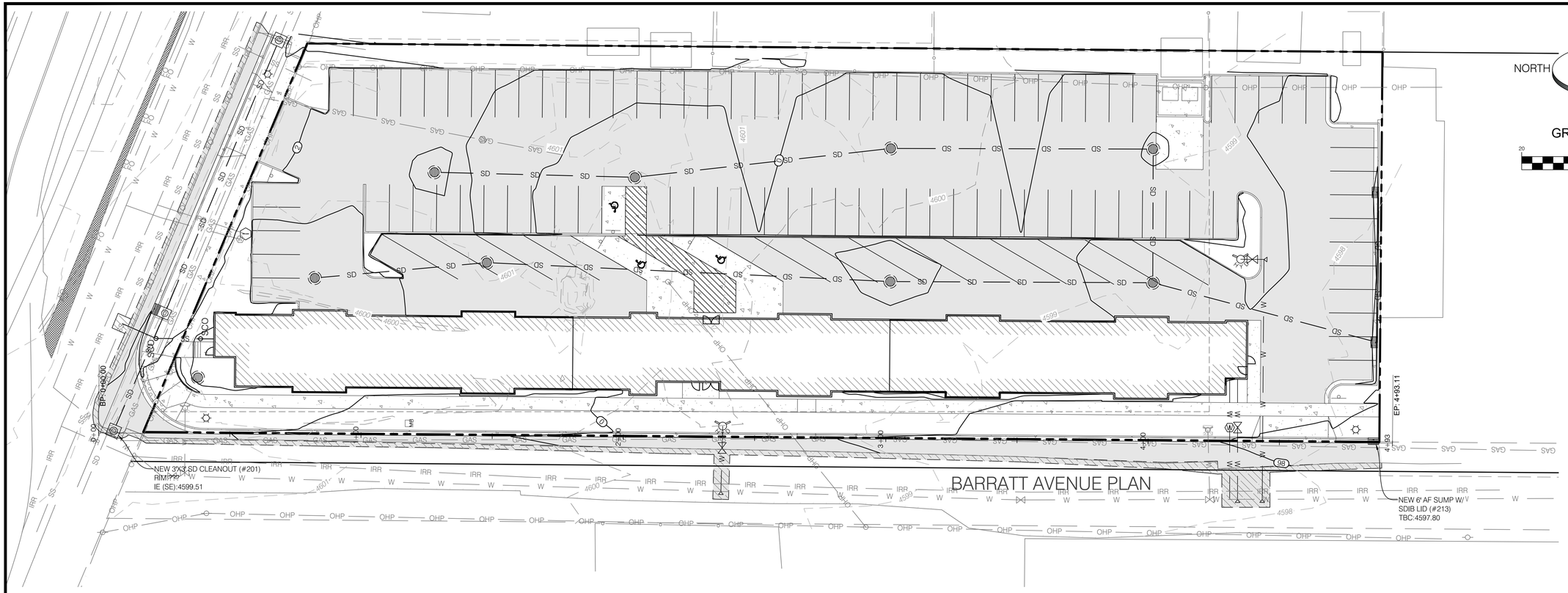
BENCHMARK ENGINEERING & LAND SURVEYING
9138 SOUTH STATE STREET SUITE #100
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BENCHMARK CIVIL

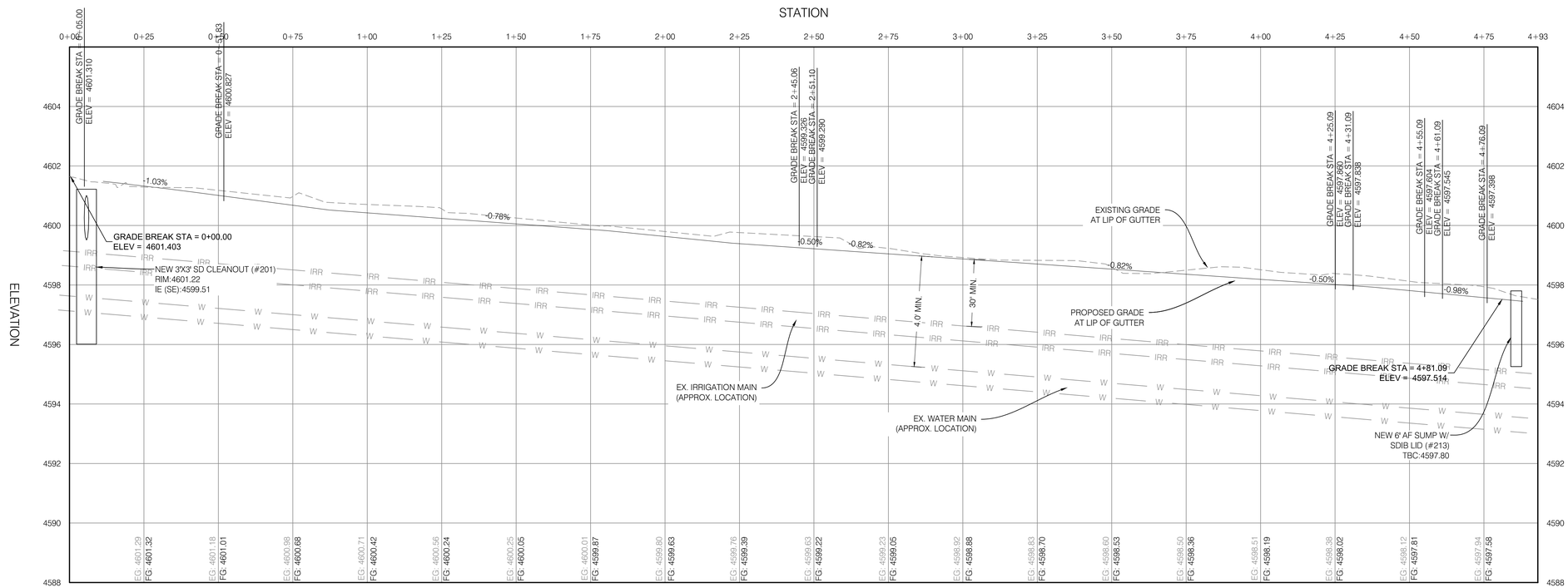
LAKE CITY FLATS
129 PACIFIC AVENUE
AMERICAN FORK, UTAH

PROJECT NO. 2001297

GRADING & DRAINAGE PLAN

CGD.01
5 OF 10





BARRATT AVENUE PROFILE

No.	DATE	DESCRIPTION
1	4/8/21	REVISED SITE LAYOUT PER CITY COMMENTS
2	6/15/21	REVISED PER CITY COMMENTS

SCALE MEASURES 1-INCH ON FULL SIZE SHEETS
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

DRAWN BY	BDS/AGA
CHECKED BY	AGA
FIELD CREW	KOJS
DATE	6/15/2021
WORK FILE	2001297_CPP.01

PRELIMINARY PLAN
NOT FOR CONSTRUCTION

PROFESSIONAL ENGINEER
6/15/21
No. 10360773
M. CHRIS POULSEN
STATE OF UTAH

BENCHMARK ENGINEERING & LAND SURVEYING
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LAKE CITY FLATS

129 PACIFIC AVENUE
AMERICAN FORK, UTAH

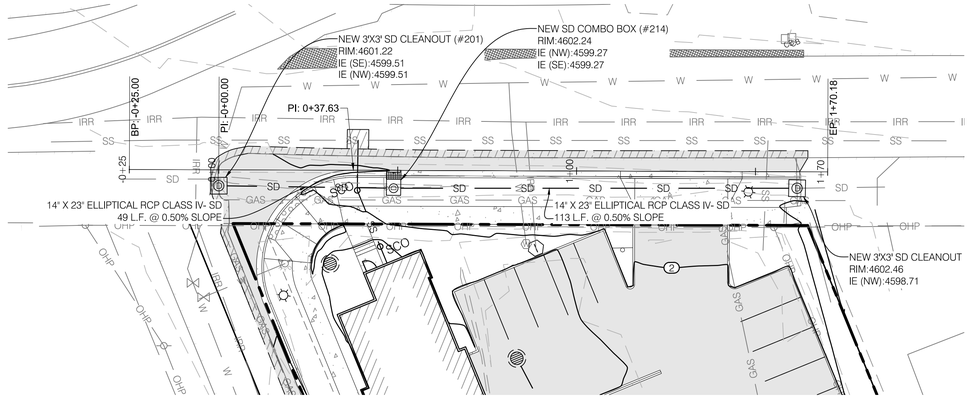
BENCHMARK:
SOUTH QUARTER CORNER SECTION 14,
TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN
ELEVATION = 4597.86

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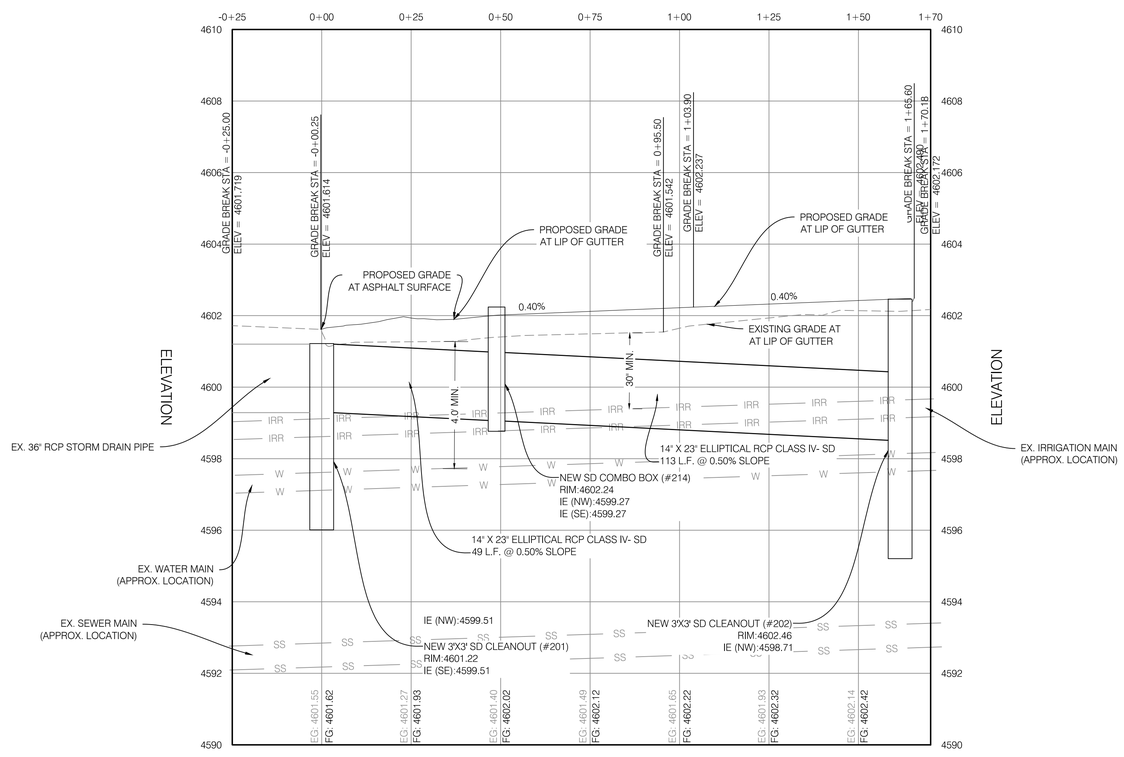
PROJECT NO. 2001297

PLAN AND PROFILE

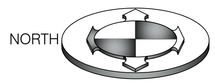
CPP.01
6 OF 10



100 NORTH



100 NORTH PROFILE



GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20ft.

No.	DATE	DESCRIPTION
1	4/9/21	REVISED SITE LAYOUT PER CITY COMMENTS
2	6/15/21	REVISED PER CITY COMMENTS

SCALE MEASURES 1-INCH ON FULL SIZE SHEETS
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

1" 0.5 0

DRAWN BY: BDS/AGA
CHECKED BY: AGA
FIELD CREW: KOJS
DATE: 6/15/2021
WWC FILE: 2011297_CPP.01

PRELIMINARY PLAN
6/15/21
PROFESSIONAL ENGINEER
No. 10360773
M. CHRIS POULSEN
STATE OF UTAH
NOT FOR CONSTRUCTION

BENCHMARK ENGINEERING & LAND SURVEYING
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BENCHMARK
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LAKE CITY FLATS

129 PACIFIC AVENUE
AMERICAN FORK, UTAH

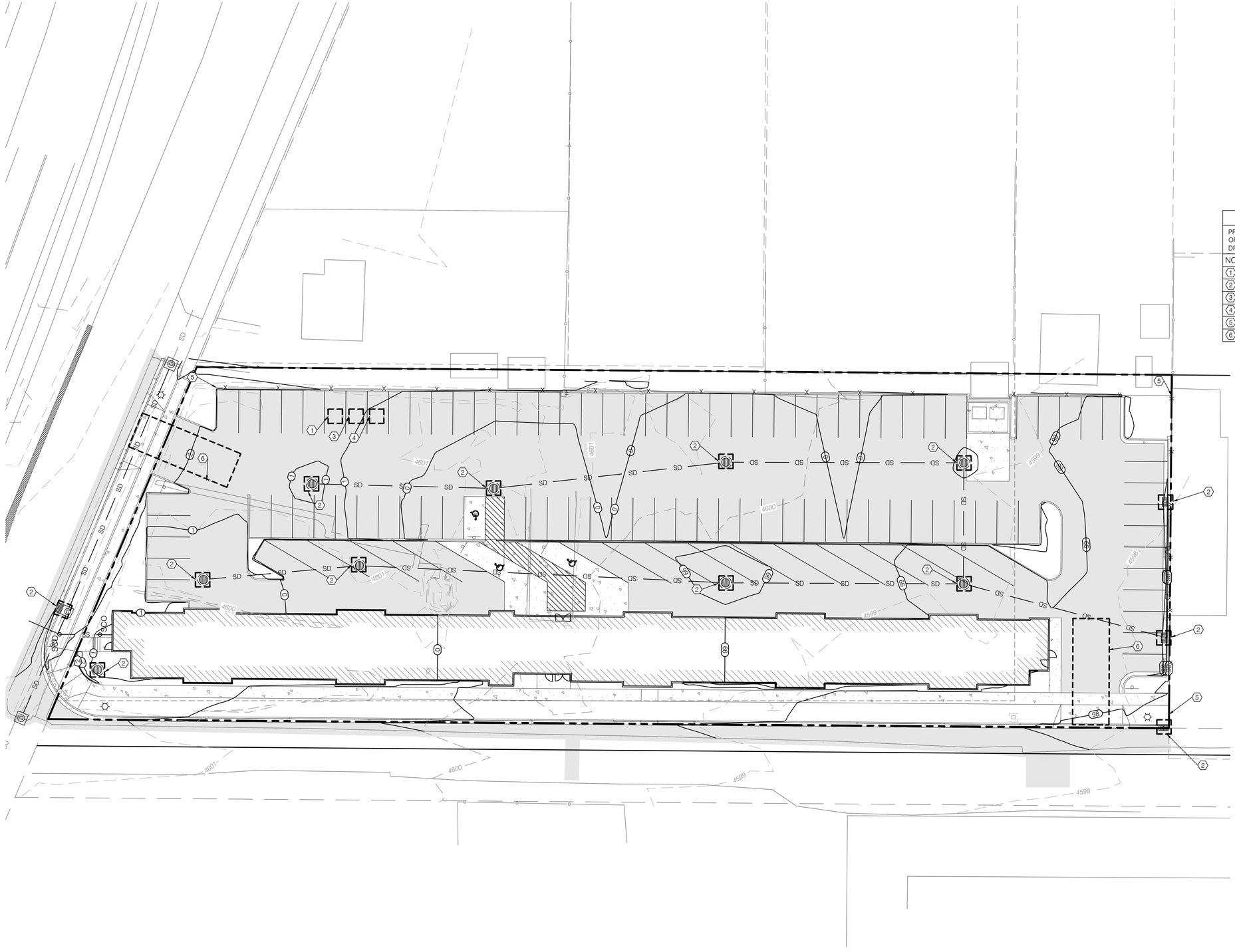
BENCHMARK:
SOUTH QUARTER CORNER SECTION 14,
TOWNSHIP 5 SOUTH, RANGE 1 EAST,
SALT LAKE BASE AND MERIDIAN
ELEVATION = 4597.86

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PROJECT NO. 2001297

PLAN AND PROFILE

CPP.02
7 OF 10



SWPPP KEY NOTES REFERENCE

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED AND THE DETAILS NOTED AND AS SHOWN ON THE CONSTRUCTION DRAWINGS.

NO.	DESCRIPTION	DETAIL
1	CONCRETE WASTE MANAGEMENT	1/CEP.02
2	INLET PROTECTION WATTLE	2/CEP.02
3	MATERIALS STORAGE	3/CEP.02
4	PORTABLE TOILETS	4/CEP.02
5	SILT FENCE	6/CEP.02
6	TEMPORARY CONSTRUCTION ENTRANCE	7/CEP.02

NOTE: CONTRACTOR SHALL INSTALL EROSION CONTROLS (SILT FENCES, STRAW BALES, ETC) AS REQUIRED BY REGULATORY AGENCIES. SAID CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH AGENCY STANDARDS AND FOLLOWING BEST MANAGEMENT PRACTICES FOR ACTUAL PLACEMENT ON SITE. STRAW BALES SHOWN ON THESE DRAWINGS ARE INTENDED AS A MINIMUM REQUIREMENT. ADDITIONAL CONTROLS REQUESTED BY AGENCY INSPECTORS SHALL BE REQUIRED. DUST CONTROL SHALL BE PROVIDED AT ALL TIMES, AT THE CONTRACTORS EXPENSE, TO MINIMIZE ANY DUST NUISANCE AND SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY.

No.	DATE	DESCRIPTION
1	4/9/21	RE-ISED SITE LAYOUT PER CITY COMMENTS
2	6/14/21	RE-ISED PER CITY COMMENTS

SCALE MEASURES 1-INCH ON FULL SIZE SHEETS
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

DRAWN BY BDS/AGA
CHECKED BY AGA
FIELD CREW KOJS
DATE 6/15/2021
DWG FILE 2001297_SITE

0 0.5 1

PRELIMINARY PLAN
6/15/21
PROFESSIONAL ENGINEER
No. 10360773
M. CHRIS POULSEN
STATE OF UTAH
NOT FOR CONSTRUCTION

BENCHMARK ENGINEERING & LAND SURVEYING
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LAKE CITY FLATS

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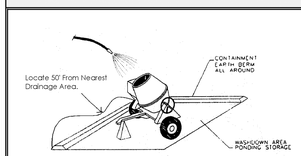
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PROJECT NO. 2001297

EROSION CONTROL PLAN

CEP.01
8 OF 10

BMP: Concrete Waste Management



DESCRIPTION:
Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

APPLICATIONS:
This technique is applicable to all types of sites.

INSTALLATION/APPLICATION CRITERIA:
- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete or cement on-site.
- Perform washout of concrete trucks off-site or in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water within a bermed or level area. (See Earth Berm Barrier information sheet.)
- Train employees and subcontractors in proper concrete waste management.

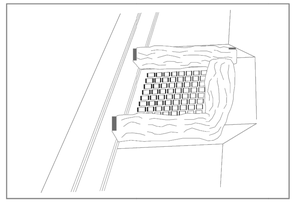
LIMITATIONS:
- Off-site washout of concrete wastes may not always be possible.

MAINTENANCE:
- Inspect subcontractors to ensure that concrete wastes are being properly managed.
- If using a temporary pit, dispose hardened concrete on a regular basis.

CONCRETE WASTE MANAGEMENT 1
SCALE: NTS

BMP: Inlet Protection – Wattle

IP-W
CONSTRUCTION



DESCRIPTION:
Sediment barrier erected around storm drain inlet.

APPLICATION:
Construct at storm drainage inlets located down-gradient of areas to be disturbed by construction.

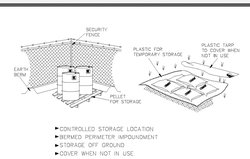
INSTALLATION/APPLICATION CRITERIA:
- Provide up-gradient sediment controls, such as silt fence during construction of inlet
- When construction of curb and gutter and roadways is complete, install gravel filled wattles around perimeter of inlet

LIMITATIONS:
- Recommended maximum contributing drainage area of one acre
- Requires shallow slopes adjacent to inlet

MAINTENANCE:
- Inspect inlet protection following storm event and at a minimum of once every 14 days.
- Remove accumulated sediment when it reaches 4 inches in depth.
- Look for bypassing or undercutting and repair or realign as needed.

INLET PROTECTION WATTLE 2
SCALE: NTS

BMP: Materials Storage



DESCRIPTION:
Controlled storage of on-site materials.

APPLICATION:
- Storage of hazardous, toxic, and all chemical substances.
- Any construction site with outside storage of materials.

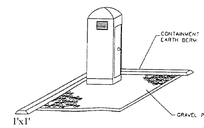
INSTALLATION/APPLICATION CRITERIA:
- Designate a secured area with limited access as the storage location. Ensure no waterways or drainage paths are nearby.
- Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around storage location for impoundment in the case of spills.
- Ensure all on-site personnel utilize designated storage area. Do not store excessive amounts of material that will not be utilized on site.
- For active use of materials away from the storage area ensure materials are not set directly on the ground and are covered when not in use. Protect storm drainage during use.

LIMITATIONS:
- Does not prevent contamination due to mishandling of products.
- Spill Prevention and Response Plan still required.
- Only effective if materials are actively stored in controlled location.

MAINTENANCE:
- Inspect daily and repair any damage to perimeter impoundment or security fencing.
- Check materials are being correctly stored (i.e. standing upright, in labeled containers, tightly capped) and that no materials are being stored away from the designated location.

MATERIALS STORAGE 3
SCALE: NTS

BMP: Portable Toilets



DESCRIPTION:
Temporary on-site sanitary facilities for construction personnel.

APPLICATION:
All sites with no permanent sanitary facilities or where permanent facility is too far from activities.

INSTALLATION/APPLICATION CRITERIA:
- Locate portable toilets in convenient locations throughout the site.
- Prepare level, gravel surface and provide clear access to the toilets for servicing and for on-site personnel.
- Construct earth berm perimeter (See Earth Berm Barrier Information Sheet), control for spill/protection leak.

LIMITATIONS:
No limitations.

MAINTENANCE:
- Portable toilets should be maintained in good working order by licensed service with daily observation for leak detection.
- Regular waste collection should be arranged with licensed service.
- All waste should be deposited in sanitary sewer system for treatment with appropriate agency approval.

PORTABLE TOILETS 4
SCALE: NTS

BMP: Spill Clean-Up



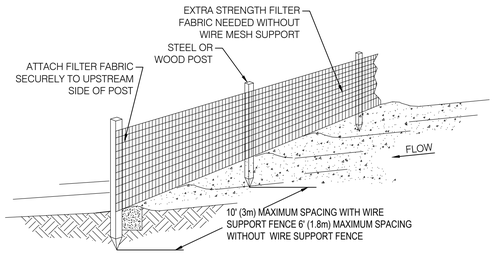
DESCRIPTION:
Practices to clean-up leakage/spillage of on-site materials that may be harmful to receiving waters.

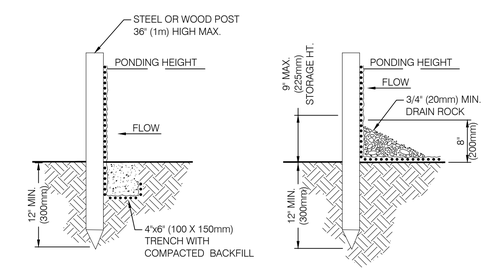
APPLICATION:
All sites

GENERAL:
- Store controlled materials within a storage area.
- Educate personnel on prevention and clean-up techniques.
- Designate an Emergency Coordinator responsible for employing preventative practices and for providing spill response.
- Maintain a supply of clean-up equipment on-site and post a list of local response agencies with phone numbers.

METHODS:
- Clean-up spills/leaks immediately and remediate cause.
- Use as little water as possible. NEVER HOSE DOWN OR BURY SPILL CONTAMINATED MATERIAL.
- Use rags or absorbent material for clean-up. Excavate contaminated soils. Dispose of clean-up material and soil as hazardous waste.
- Document all spills with date, location, substance, volume, actions taken and other pertinent data.
- Contact local Fire Department and State Division of Environmental Response and Remediation (Phone #536-4100) for any spill of reportable quantity.

SPILL CLEAN UP 5
SCALE: NTS





TRENCH DETAIL

INSTALLATION WITHOUT TRENCHING

NOT TO SCALE

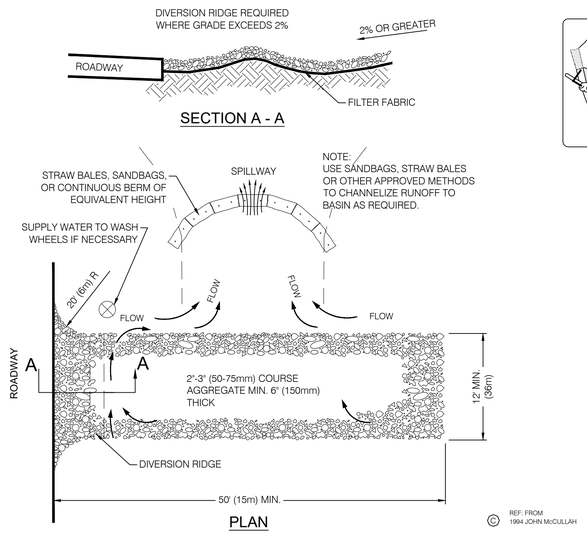
NOTES:
1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.

3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

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SILT FENCE 6
SCALE: NTS



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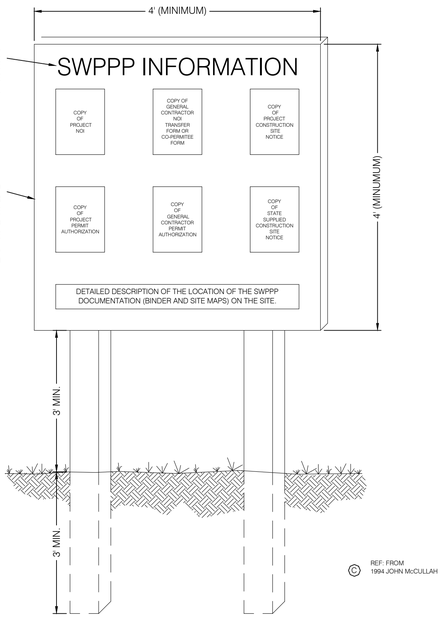
NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.

2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT 7
SCALE: NTS

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NOTES:
1) THE SWPPP INFORMATION SIGN MUST BE LOCATED NEAR THE CONSTRUCTION EXIT OF THE SITE, SUCH THAT IT IS ACCESSIBLE AND VIEWABLE BY THE GENERAL PUBLIC, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A SAFETY HAZARD.

2) ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE-TO TERMINATION (NOT) IS FILED FOR THE PERMIT.

3) CONTRACTOR SHALL POST OTHER STORM WATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE GOVERNING AGENCY.

4) SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.

5) CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY IF THE SWPPP INFORMATION SIGN.

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SWPPP INFORMATION SIGN 8
SCALE: NTS

No.	DATE	DESCRIPTION
1	4/6/21	REVISED SITE LAYOUT PER CITY COMMENTS
2	6/15/21	REVISED PER CITY COMMENTS

DRAWN BY: BDS/AGA
CHECKED BY: AGA
FIELD CREW: KOJS
DATE: 6/15/2021
SDRS FILE: 2001297_SITE

SCALE MEASURES 1INCH ON FULL SIZE SHEETS
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS
1" 0.5 0

PRELIMINARY PLAN
NOT FOR CONSTRUCTION
PROFESSIONAL ENGINEER
6/15/21
No. 10360773
M. CHRIS POULSEN
STATE OF UTAH

BENCHMARK ENGINEERING & LAND SURVEYING
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129 PACIFIC AVENUE
AMERICAN FORK, UTAH

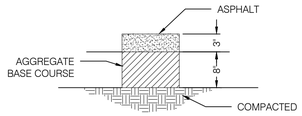
PROJECT NO. 2001297

EROSION CONTROL DETAILS

CEP.02
9 OF 10

ALTERNATE: STANDARD

CONCRETE 5"
GRAVEL BASE 4"



STANDARD DUTY PAVEMENT

NOTE:
1. FOR REINFORCEMENT DESIGN OF PCC PAVEMENT SECTIONS SEE STRUCTURAL ENGINEER
2. FOR DOWEL DESIGN OF PCC PAVEMENT SECTIONS SEE GEOTECHNICAL ENGINEER.

PAVEMENT SECTIONS (1)

SCALE: NTS



DIRECTION OF TRAVEL OR APPROACH

THIS DRAWING PRODUCED BY THE U.S. ACCESS BOARD

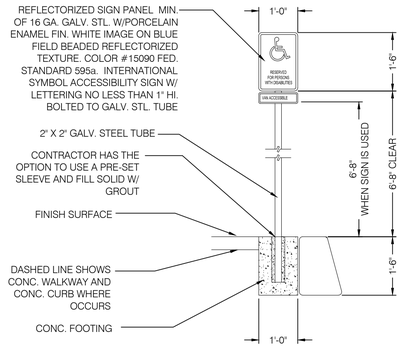


INTERNATIONAL SYMBOL OF ACCESSIBILITY

THIS DRAWING PRODUCED BY THE U.S. ACCESS BOARD

STRIPING SYMBOLS

SCALE: N.T.S.



ADA SIGN POST DETAIL

STANDARD ACCESS RAMP (2)

SCALE: NTS

NOTES:

1. CONFIGURATION OF RAMPS AND LANDINGS MAY BE CHANGED BUT MUST MEET PEDESTRIAN RAMP DIMENSIONS AND SLOPE REQUIREMENTS. SPECIFIC SITE CONDITIONS WILL VARY. THE USE OF FLARES, CURBWALLS, ETC. ARE AT THE DISCRETION OF THE ENGINEER.

2. PERPENDICULAR AND PARALLEL PEDESTRIAN RAMPS SHOWN ON THIS DRAWING ARE ACCEPTABLE FOR USE AT MID BLOCK OR CORNER INSTALLATIONS.

3. PROVIDE DETECTABLE WARNING SURFACE FOR FULL WIDTH OF RAMP, LANDING OR CURB CUT. SEE DETAIL A FOR DETECTABLE WARNING SURFACE DIMENSIONS.

4. LOCATE DETECTABLE WARNING SURFACE SO THAT THE EDGE NEAREST THE STREET IS 4 TO 6 INCHES FROM THE TOP BACK OF CURB.

5. PROVIDE DETECTABLE WARNING SURFACE. COLOR SHALL BE YELLOW.

6. USE CLASS AA (AE) CONCRETE.

7. USE 6" MIN. DEPTH OR UNTREATED BASE COURSE UNDER ALL CONCRETE FLATWORK COMPACTED TO 96% MAXIMUM DRY DENSITY.

TABLE OF DIMENSIONS	
ELEMENT	DIMENSION
Ⓣ Ⓡ	4 FEET WIDE MINIMUM
Ⓛ Ⓒ	4 FEET SQUARE MINIMUM*

* WHERE LANDING SPACE IS CONSTRAINED ON 2 SIDES, PROVIDE 5 FEET IN THE DIRECTION OF THE CROSSWALK

SLOPE TABLE			
	ITEM	RUNNING SLOPE*	CROSS SLOPE
Ⓛ	LANDING	1.5-2% (1V:48H) (b)	1.5-2% (1V:48H) (b)
Ⓡ	RAMP	8.33% (1V:12H) (c)	1.5-2% (1V:48H) (d)
Ⓣ	TRANSITION	5% (1V:20H) (a)	1.5-2% (1V:48H) (d)
Ⓒ	CLEAR SPACE	5% (1V:20H) (a)	1.5-2% (1V:48H) (d)
	SIDEWALK	--	1.5-2% (1V:48H)
	FLARE	10% (1V:10H)	--

* RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL, WHILE CROSS SLOPE IS PERPENDICULAR TO PEDESTRIAN TRAVEL.

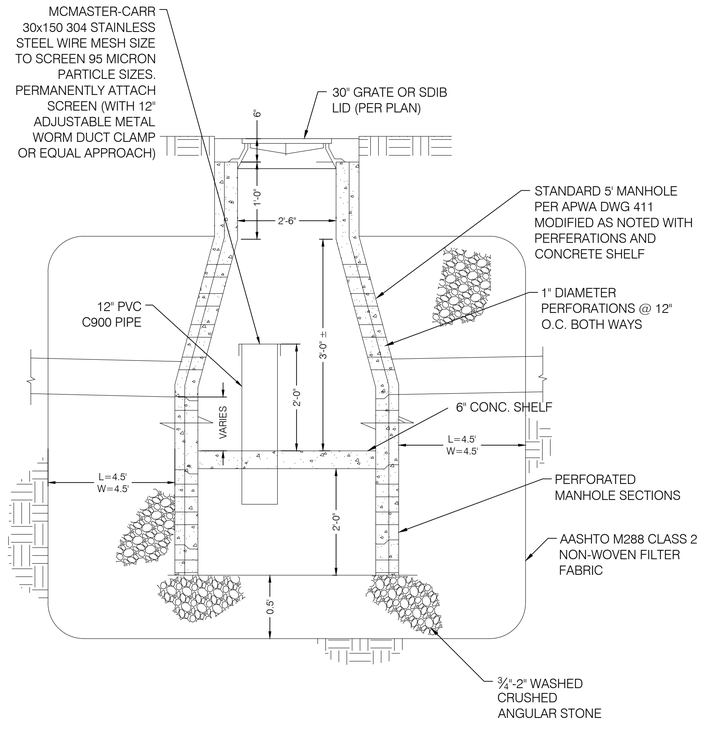
(a) TRANSITION RUNNING SLOPE NEEDS TO BE CONSTANT ACROSS ENTIRE CURB CUT. WARP GUTTER PAN TO MEET REQUIRED TRANSITION SLOPE AT CURB CUT (0.10' MAX. ABOVE FLOWLINE.)

EXCEPTION:

(b) IF SLOPE REQUIREMENTS CAN'T BE ACHIEVED ON MID-BLOCK RAMPS CONTACT THE ENGINEER.

(c) PARALLEL RAMPS ARE NOT REQUIRED TO EXCEED 15-FEET IN LENGTH.

(d) CROSS SLOPE REQUIREMENT DOES NOT APPLY AT PERPENDICULAR RAMP MID-BLOCK CROSSING.



5' CONC. SUMP DETAIL (3)

SCALE: N.T.S.

STORM DRAINAGE CALCULATIONS
Rational Method (Q=CIA): Private

Area Identification (A)		Rational Coefficient (C)	C*A
Roof =	11,242	0.9	10117.8 S.F.
Pavement =	43,020	0.9	38718 S.F.
Landscaping =	11,144	0.2	2228.8 S.F.
Sum:	65406 S.F.	Sum:	51064.6 S.F.

NOAA ATLAS 14 (100 YEAR STORM)			Percolation Rate	0.27 cfs	
Time (min)	Intensity (in/hr)	Rainfall (inches)	Rainfall Excess (cu.ft.)	Allowed Discharge (cu.ft)	Volume to Retain (cu.ft)
15	3.98	0.995	4234	244	3990
30	2.68	1.340	5702	488	5215
60	1.66	1.660	7064	975	**6089**
120	0.90	1.796	7643	1950	5693
180	0.61	1.824	7762	2925	4837
360	0.33	1.956	8324	5850	2474
720	0.19	2.232	9498	11700	0
1440	0.10	2.304	9804	23400	0

CALCULATED DISCHARGE INTO GROUND: $Q = \frac{S(sf)}{P(sec/ft)}$

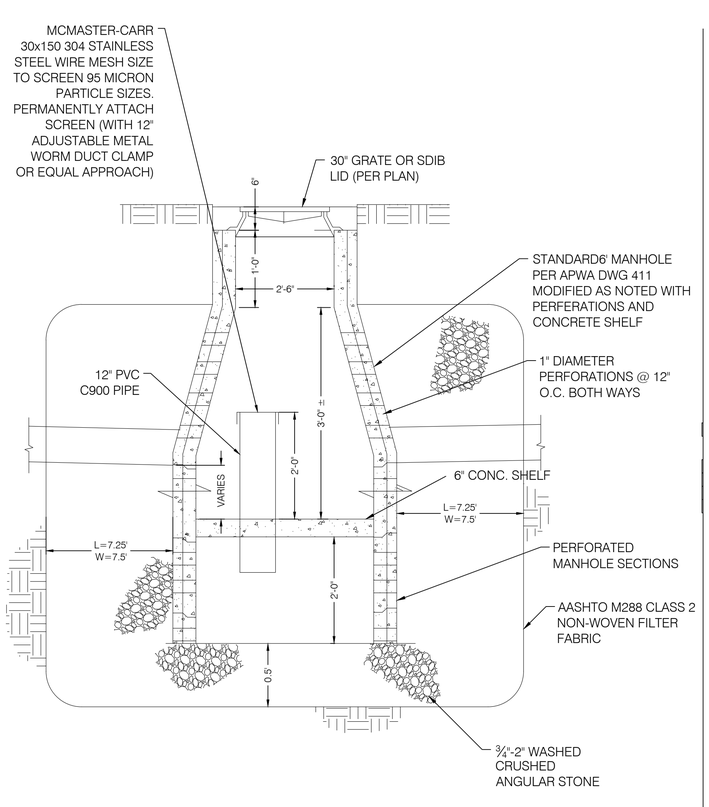
Percolation surface area	$S = 2(WH + LH) + WL$
Concrete sump with rectangular gravel wrap	
Sump inner diameter	5.00 ft
Sump wall thickness	0.50 ft
Sump outer diameter	6.00 ft
Sump inner depth	5.00 ft
Width of gravel wrap	4.50 ft
Length of gravel wrap	4.50 ft
Depth of gravel wrap	0.50 ft
Effective sump width (W)	15.00 ft
Effective sump length (L)	15.00 ft
Effective sump depth (H)	6.00 ft
Percolation surface area per sump (S)	585.00 sf
Sumps provided	10
Total percolation surface area	5,850.00 sf

Discharge	
Percolation rate (P)	30.00 min/in
Percolation surface area (S)	5,850.00 sf
Allowed Discharge (Q)	**0.27 cfs**

*Percolation must be verified by geotechnical engineer. Percolation rate was estimated from USDA Web Soil Survey, Se (Steed Gravelly Sandy Loam), Hydrologic Soil Group A

Sump retention volume	$V = \left(WLH - \frac{\pi D^2}{4}(h+t)\right)e + \frac{\pi d^2}{4}h$
Sump inner depth (h)	5.00 ft
Sump inner diameter (d)	6.00 ft
Sump volume	141.37 cf
Sump outer diameter (D)	6.00 ft
Sump wall thickness (t)	0.50 ft
Wrap width (W)	15.00 ft
Wrap length (L)	15.00 ft
Wrap depth (H)	6.00 ft
Void area (e)	40%
Wrap gravel volume	477.80 cf
Total volume per sump (V)	619.17 cf
Sumps provided	10
Total sump volume	**6,192 cf**

Is there adequate storage?	Storage Provided =	**6,192 cf**	
	Req. Storage =	**6,089 cf**	**YES**



6' CONC. SUMP DETAIL (4)

SCALE: N.T.S.

STORM DRAINAGE CALCULATIONS
Rational Method (Q=CIA): Public

Area Identification (A)		Rational Coefficient (C)	C*A
Roof =	0	0.9	0 S.F.
ROW Pavement = (Half Width)	9,991	0.9	8991.9 S.F.
Landscaping =	3,984	0.2	796.8 S.F.
Sum:	13975 S.F.	Sum:	9788.7 S.F.

NOAA ATLAS 14 (100 YEAR STORM)				Percolation Rate	0.05 cfs
Time (min)	Intensity (in/hr)	Rainfall (inches)	Rainfall Excess (cu.ft.)	Allowed Discharge (cu.ft)	Volume to Retain (cu.ft)
15	3.98	0.995	812	41	770
30	2.68	1.340	1093	83	1010
60	1.66	1.660	1354	166	**1188**
120	0.90	1.796	1465	332	1133
180	0.61	1.824	1488	498	990
360	0.33	1.956	1596	995	601
720	0.19	2.232	1821	1990	0
1440	0.10	2.304	1879	3980	0

CALCULATED DISCHARGE INTO GROUND: $Q = \frac{S(sf)}{P(sec/ft)}$

Percolation surface area	$S = 2(WH + LH) + WL$
Concrete sump with rectangular gravel wrap	
Sump inner diameter	6.00 ft
Sump wall thickness	0.50 ft
Sump outer diameter	7.00 ft
Sump inner depth	5.00 ft
Width of gravel wrap	7.25 ft
Length of gravel wrap	7.50 ft
Depth of gravel wrap	0.50 ft
Effective sump width (W)	21.50 ft
Effective sump length (L)	22.00 ft
Effective sump depth (H)	6.00 ft
Percolation surface area per sump (S)	995.00 sf
Sumps provided	1
Total percolation surface area	995.00 sf

Discharge	
Percolation rate (P)	30.00 min/in
Percolation surface area (S)	995.00 sf
Allowed Discharge (Q)	**0.05 cfs**

*Percolation must be verified by geotechnical engineer. Percolation rate was estimated from USDA Web Soil Survey, Se (Steed Gravelly Sandy Loam), Hydrologic Soil Group A

Sump retention volume	$V = \left(WLH - \frac{\pi D^2}{4}(h+t)\right)e + \frac{\pi d^2}{4}h$
Sump inner depth (h)	5.00 ft
Sump inner diameter (d)	6.00 ft
Sump volume	141.37 cf
Sump outer diameter (D)	7.00 ft
Sump wall thickness (t)	0.50 ft
Wrap width (W)	21.50 ft
Wrap length (L)	22.00 ft
Wrap depth (H)	6.00 ft
Void area (e)	40%
Wrap gravel volume	1,050.53 cf
Total volume per sump (V)	1,191.91 cf
Sumps provided	1
Total sump volume	**1,192 cf**

Is there adequate storage?	Storage Provided =	**1,192 cf**	
	Req. Storage =	**1,188 cf**	**YES**

No.	DATE	DESCRIPTION
1	4/6/21	REVISED SITE LAYOUT PER CITY COMMENTS
2	6/15/21	REVISED PER CITY COMMENTS

SCALE MEASURES 1/INCH ON FULL SIZE SHEETS
ADJUST ACCORDINGLY FOR REDUCED SIZE SHEETS

DRAWN BY: BDS/AGA
CHECKED BY: AGA
FIELD CREW: KOJS
DATE: 6/15/2021
DWG FILE: 2001297_SITE

PRELIMINARY PLAN
PROFESSIONAL ENGINEER
6/15/21
No. 10360773
M. CHRIS POULSEN
STATE OF UTAH
NOT FOR CONSTRUCTION

BENCHMARK ENGINEERING & LAND SURVEYING
9138 SOUTH STATE STREET SUITE #100
SANDY, UTAH 84070 (801) 542-7192
www.benchmarkcivil.com

BENCHMARK CIVIL

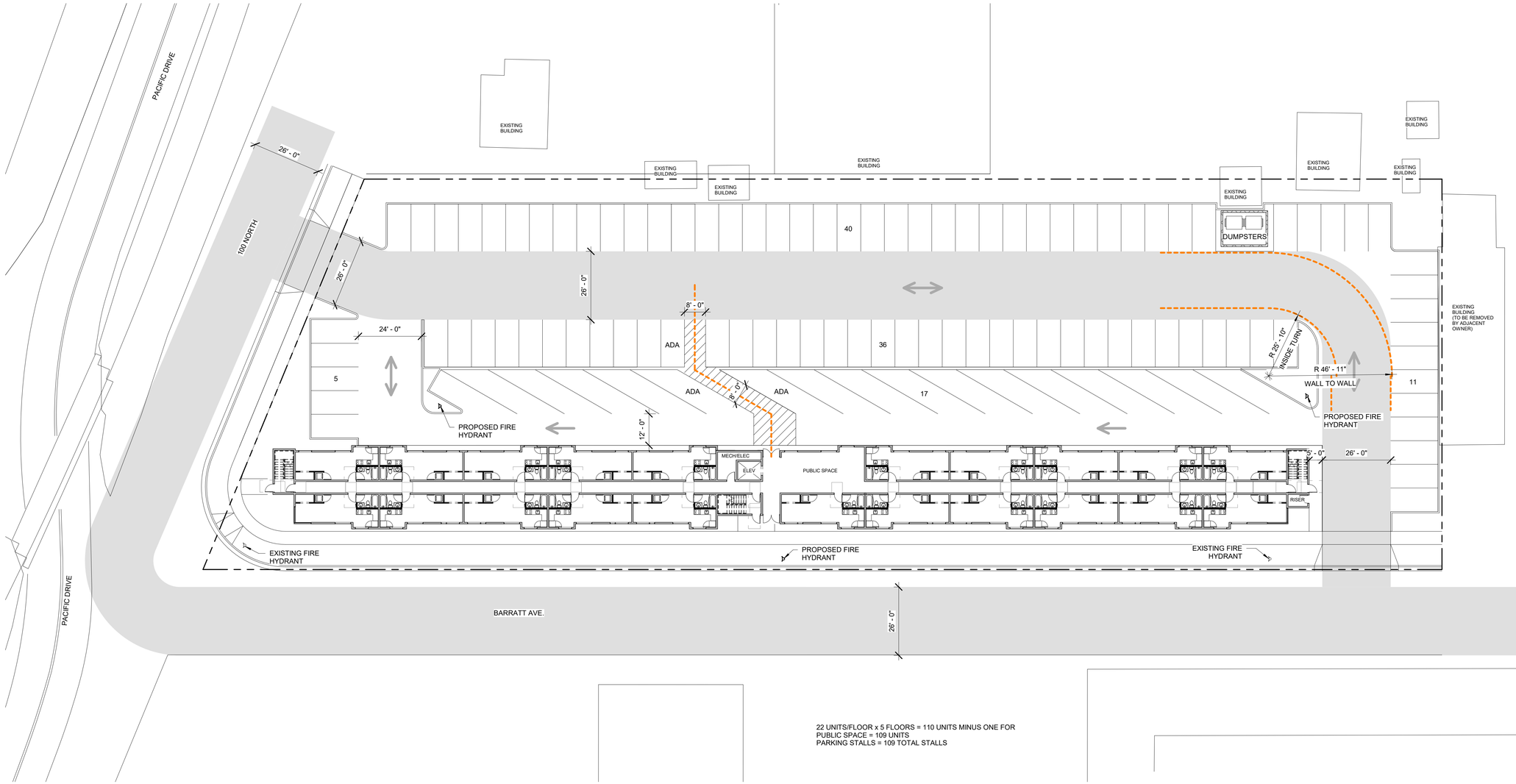
LAKE CITY FLATS

129 PACIFIC AVENUE
AMERICAN FORK, UTAH

PROJECT NO.: 2001297

DETAIL SHEET

CDT.01
10 OF 10



22 UNITS/FLOOR x 5 FLOORS = 110 UNITS MINUS ONE FOR PUBLIC SPACE = 109 UNITS
PARKING STALLS = 109 TOTAL STALLS

1 FIRE DEPARTMENT ACCESS PLAN
1" = 20'-0"

6/14/2021 9:29:44 PM
BIM 360://Barratt Ave Apartments/20-036 Barratt Ave \ v20 \ rvt

LINE 29 TWENTY NINE
ARCHITECTURE
14253 S MORNING LIGHT DR
HERRIMAN, UT 84096
T: 385.232.0998
T: 801.822.3271
www.line29architecture.com

PROJECT
LAKE CITY FLATS
129 West 100 North
American Fork, UT

CLIENT
CD Development 01, LLC
1810 West 700 North #250
Lindon, Utah 84042

REVISIONS

STAMP

DRAWING
ARCHITECTURAL SITE PLAN

DATE: 06/14/21
PROJECT #: 2020-031
DRAWN BY: Author
CHECKED BY: Checker

CONCEPT

A100E

SITE DATA

ZONE: CC-1
SIZE: 65,406 SF
LANDSCAPE: 3,103 SF (4.7%)
PARKING: 110 STALLS (5 ADA)

LANDSCAPE GENERAL NOTES

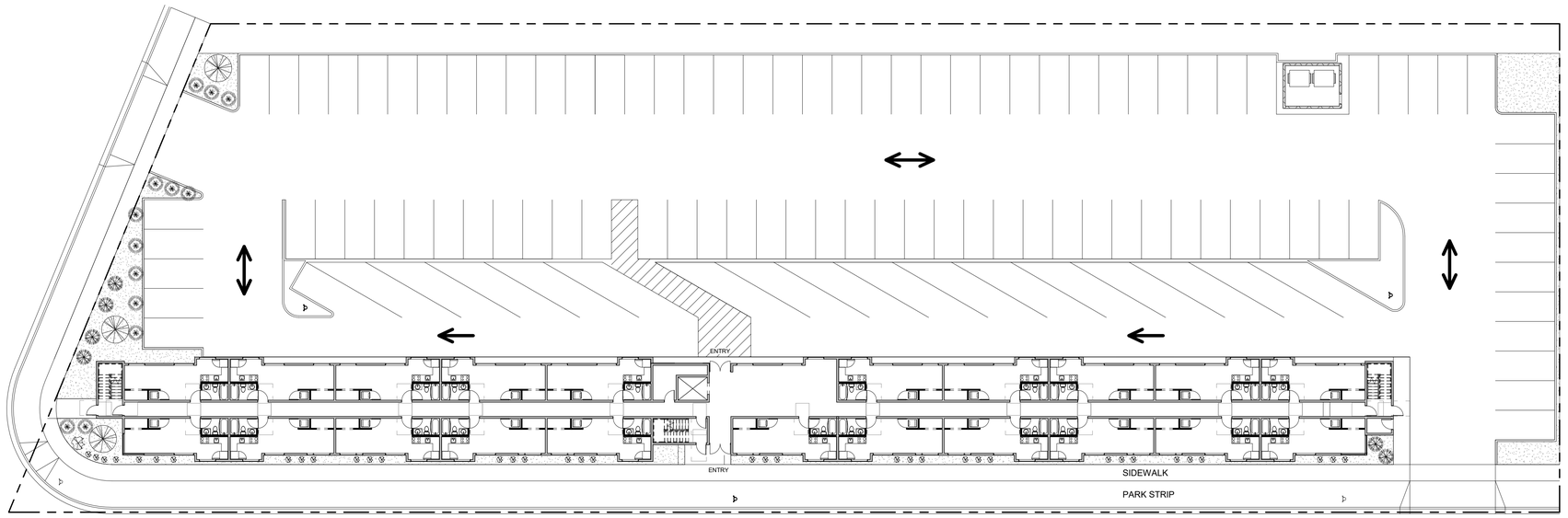
1. CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING AWARE OF ALL RELATED EXISTING CONDITIONS, UTILITIES, PIPES, AND STRUCTURES, ETC. PRIOR TO BIDDING AND CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE OF SAID UTILITIES DURING PLANTING.
2. CONTRATOR SHALL NOTIFY THE OWNER OF ANY CONFLICTS DISCOVERED DURING BIDDING OR CONSTRUCTION OF PLANTS AND/OR TREES.
3. CONTRACTOR SHALL PROVIDE PLANTS AND TREES FREE OF DISEASE OR PESTS. ALL PLANT MATERIALS ARE SUBJECT TO OWNER'S APPROVAL PRIOR TO INSTALLATION.
4. THE LANDSCAPING CONTRACTOR SHALL TAKE ALL NECESSARY SCHEDULING AND OTHER PRECAUTIONS TO AVOID WINTER,CLIMATIC, AND OTHER DAMAGE TO PLANTS. THE CONTRACTOR SHALL INSTALL THE APPROPRIATE PLANTS AT APPROPRIATE TIME TO GUARANTEE LIFE OF PLANTS FOR 12 MONTHS AFTER INSTALLATION.
5. CONTRACTOR SHALL GUARANTEE ALL LANDSCAPING WORK FOR 12 MONTHS AFTER SUBSTANTIAL COMPLETION.

LEGEND

PLANT SCHEDULE

KEY	QTY	TYPE	BOTANICAL NAME	COMMON NAME	AREA VAL	SIZE	MATURE HEIGHT	MATURE WIDTH
G1	13	DECORATIVE GRASSES	CALIMAGROSTIS	KARL FORESTER FEATHER GRASS	7 SF	1 GAL	36"	30"
G2	6	DECORATIVE GRASSES	PENNISETIUM ALOPECUROIDES	BURGUNDY BUNNY FOUNTAIN GRASS	7 SF	1 GAL	12"	18"
G3	36	DECORATIVE GRASSES	FESTUCA OVINA	BLUE FESCUE	7 SF	1 GAL	18"	18"
S1	2	DECIDUOUS SHRUB	CARYOPTERIS X CLARIDONENSIS	BLUE MIST PIREA	12.5 SF	5 GAL	30"	4'
T1	3	DECIDUOUS TREE	CERCIS OCCIDENTALIS	WESTERN REDBUD	113 SF	2" CAL	12'	12'

ROCK MULCH - 1/4" TO 3" DIA.



1 LANDSCAPE PLAN
1" = 20'-0"

LINE TWENTY NINE ARCHITECTURE
14253 S MORNING LIGHT DR
HERRIMAN, UT 84096
T: 385.232.0998
T: 801.822.3271
www.line29architecture.com

PROJECT
LAKE CITY FLATS
129 West 100 North
American Fork, UT

CLIENT
CD Development 01, LLC
1810 West 700 North #250
Lindon, Utah 84042

REVISIONS

STAMP

DRAWING
LANDSCAPE PLAN

DATE: 6/14/21
PROJECT #: 2020-031
DRAWN BY: Author
CHECKED BY: Checker

CONCEPT

A110

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EXTERIOR FINISH LEGEND

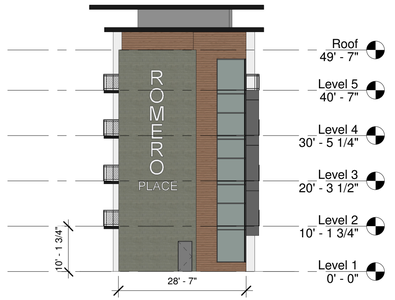
Metal Panel — SILVER METALLIC

Fiber Cement Panel – Wood texture

Split face CMU (stair and elevator towers)

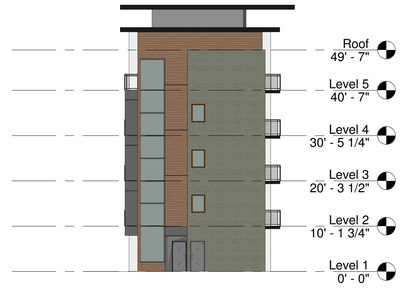
White painted smooth EIFS

Railings (glass or mesh)



GROUND FLOOR OPENING REQUIREMENT
FACADE AREA: 290 SF
25% OPENINGS = 72.5 SF REQUIRED
75 SF OPENINGS PROVIDED, COMPLIES

4 NORTH ELEVATION - 100 N.
1/16" = 1'-0"



3 SOUTH ELEVATION
1/16" = 1'-0"



2 EAST ELEVATION
1/16" = 1'-0"



GROUND FLOOR OPENING REQUIREMENT
FACADE AREA: 3,998 SF
25% OPENINGS = 999.5 SF REQUIRED
1,034 SF OPENINGS PROVIDED, COMPLIES

1 WEST ELEVATION - BARRATT AVE.
1/16" = 1'-0"

4/7/2021 5:24:22 PM
BIM 360://Barratt Ave Apartments/20-036 Barratt Ave (v20).rvt

LINE TWENTY NINE ARCHITECTURE

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HERRIMAN, UT 84096
T: 385.232.0998
T: 801.822.3271
www.line29architecture.com

PROJECT
LAKE CITY FLATS

129 West 100 North
American Fork, UT

CLIENT
CD Development 01, LLC

1810 West 700 North #250
Lindon, Utah 84042

REVISIONS

STAMP

DRAWING
EXTERIOR ELEVATIONS

DATE: 04/07/21
PROJECT #: 2020-031
DRAWN BY: Author
CHECKED BY: Checker

CONCEPT

A200D

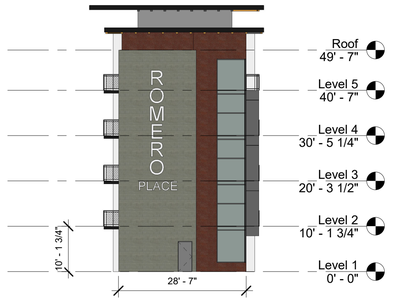
Received on 7/1/2021

ALTERNATE EXTERIOR FINISHES

EXTERIOR FINISH LEGEND

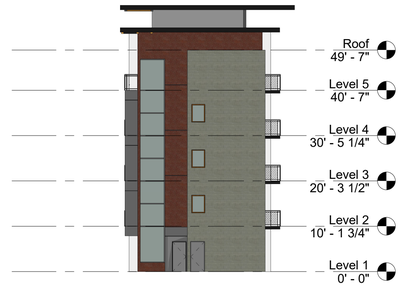
- Silver color smooth Stucco — SILVER METALLIC
- Red Thin Brick Veneer
- Fiber Cement Panel (stair and elevator towers)
- White color smooth Stucco
- Railings (glass or mesh)





GROUND FLOOR OPENING REQUIREMENT
FACADE AREA: 290 SF
25% OPENINGS = 72.5 SF REQUIRED
75 SF OPENINGS PROVIDED, COMPLIES

4 NORTH ELEVATION - 100 N.
1/16" = 1'-0"



3 SOUTH ELEVATION
1/16" = 1'-0"



2 EAST ELEVATION
1/16" = 1'-0"



GROUND FLOOR OPENING REQUIREMENT
FACADE AREA: 3,998 SF
25% OPENINGS = 999.5 SF REQUIRED
1,034 SF OPENINGS PROVIDED, COMPLIES

1 WEST ELEVATION - BARRATT AVE.
1/16" = 1'-0"

LINE TWENTY NINE ARCHITECTURE
14253 S MORNING LIGHT DR
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PROJECT
LAKE CITY FLATS
129 West 100 North
American Fork, UT

CLIENT
CD Development 01, LLC
1810 West 700 North #250
Lindon, Utah 84042

REVISIONS

STAMP

DRAWING
EXTERIOR ELEVATIONS (ALTERNATE)

DATE: 06/30/21
PROJECT #: 2020-031
DRAWN BY: Author
CHECKED BY: Checker

CONCEPT

A200D

6/30/2021 4:15:26 PM
BIM 360://Barratt Ave Apartments/Barratt Ave Apartments (v20).rvt

Received by American Fork City on 7/1/2021

LAKE CITY FLATS MICROS
APPLICANT'S RESPONSES TO AMERICAN FORK CITY/HALES ENGINEERING REVIEW COMMENTS
for the Lake City Flats Micro Apartments Traffic and Parking Study
City/Hales Engineering Comments Received June 29, 2021
Applicant Responses Submitted July 1, 2021

Dear American Fork City and Planning Commission,

Following is a response to the third party review completed by Hales Engineering for the Lake City Flats Micro Apartments Traffic and Parking Study. For your reviewing convenience, comments from Hales Engineering are repeated here and followed by a response by the Applicant for the project.

Note that the third party review memo was provided to the Applicant by American Fork City at 1:42 pm on June 29, 2021. At 1:55 pm on June 29, 2021, the Applicant was notified by American Fork City that the project had been added to the Planning Commission agenda for July 7, 2021. This letter provides a good faith effort by the Applicant to respond to these comments given the very short time available before the Planning Commission package must be completed (about 2 days provided to meet American Fork requirement for Applicant to provide responses to the City by noon July 1, 2021). **The short amount of time available to respond to comments is especially regretful because the study was submitted to American Fork City on January 4, 2021.** Revisions to the study were submitted to American Fork City in April 2021. However, none of the initial comments or revisions are relevant to the traffic analysis or parking analysis comments provided on June 29, 2021. Meaning that the traffic analysis and parking analysis comments provided in June 29, 2021 could have been provided for the original study report submitted to the City on January 4, 2021. Despite time constraints, the Applicant is hopeful that the following responses will satisfy any concerns raised by the comments provided by Hales Engineering. If concerns are not addressed with these prompt responses, the Applicant believes that, given timely response by the City and fair time to address comments, all of the comments provided by Hales Engineering can be satisfied without any material changes to the conclusions of the study prepared for the Lake City Flats Micros project.

Sincerely,
CD Development 01, LLC

Hales Engineering Comment:

The turning movement count data were collected on October 28, 2020, during the COVID-19 pandemic. Were the counts adjusted due to the pandemic? Or was it verified that traffic volumes in the area were not impacted by the pandemic at the time of counting? The UDOT ATSPM website or the UDOT COVID-19 dashboard are good resources to determine how the October 28, 2020, counts in the area compared to pre-pandemic conditions.

Applicant's Response:

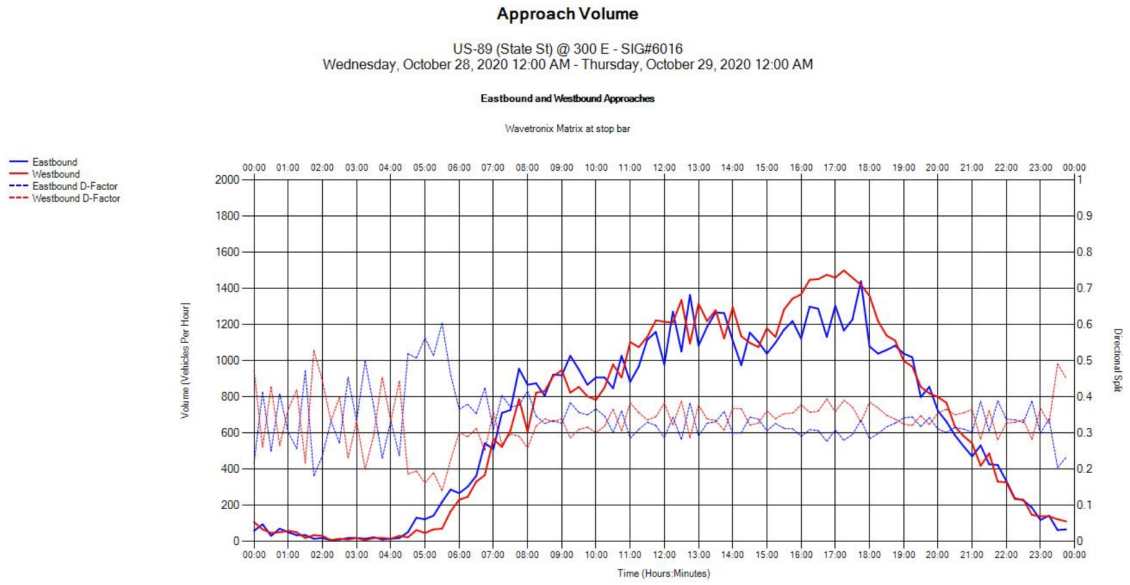
Turning movement counts were compared to traffic volumes reported in the Transportation Element of the General Plan for American Fork City and found to be adequate for purposes of analyzing the traffic impact of the Lake City Flats Micros project. The counts collected for the study were not adjusted because they represent volumes that are generally higher than data presented in the City's Transportation Element of the General Plan dated March 2020. Given additional time, UDOT data could be used to adjust the volumes. However, it is anticipated that such an adjustment would result in lower traffic volumes. Given the comparison of data collected for the project to the City's data collected by Horrocks Engineers and reported in the City's Transportation Element of the General Plan, there was no evidence that the COVID-19 pandemic impacted traffic conditions sufficiently to require adjustments. Furthermore, although seasonal adjustments reflect acceptable practices for estimating traffic conditions, such adjustments were not applied to the analysis completed for the City's own analysis completed in 2019 and 2020 for the Transportation Element of the General Plan. **Most importantly, adjusting the traffic volumes would not provide additional insight into the traffic impact of the proposed project.**

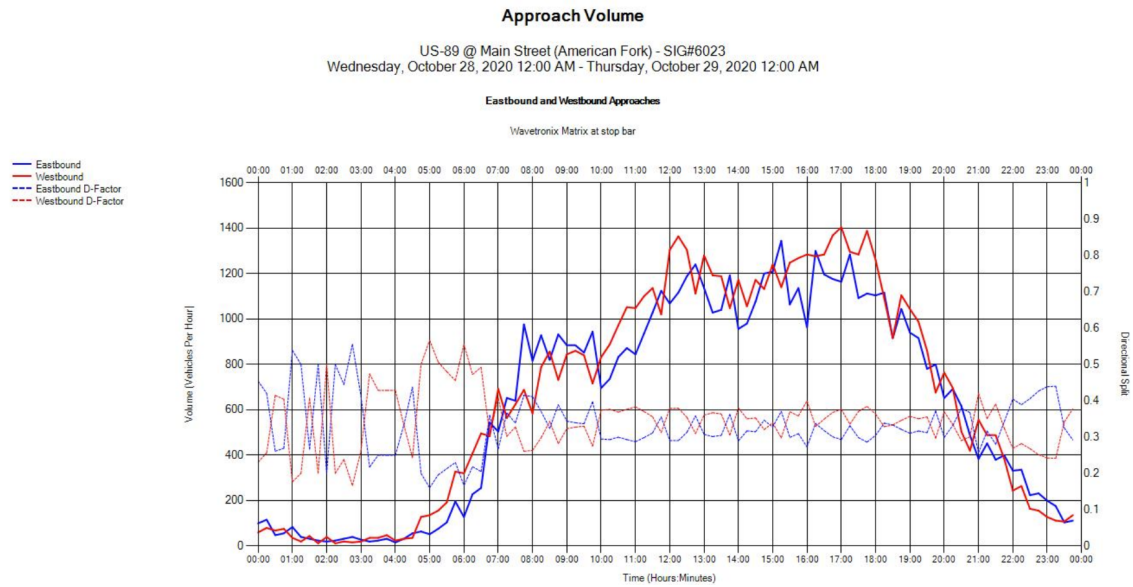
Hales Engineering Comment:

In general, AM and PM peak period counts should be collected at all study intersections. It is possible that AM peak hour counts on Main Street are similar in magnitude to those in the PM peak hour. The comparison of AM and PM at the Barratt Ave / Pacific Dr intersection may be insufficient.

Applicant's Response:

The general possibility noted by Hales Engineering is unlikely for the specific conditions of Pacific Drive and Main Street in American Fork. As noted in the study, "the turning movement counts for the morning peak period were observed to be less than one third of the volumes observed during the evening peak period." In other words, the PM peak hour traffic volumes for Pacific Drive were observed to be +3 times higher than for the AM peak. As shown in the approach volume charts below for a nearby Main Street/State Street signalized intersections for October 28, 2020, traffic patterns for Main Street in American Fork also reflect higher traffic volumes in the PM peak compared to the AM peak (see https://udottraffic.utah.gov/ATSPM/Home/About).





Hales Engineering Comment:

The intersection and turning movement configurations shown in Exhibits 3, 5, 8, and 9 don't appear to reflect the actual configuration of Pacific Drive, 100 North and Barratt Avenue. We need to see the Synchro files to verify that it was modeled correctly.

Applicant's Response:

The Appendix shows the lane configuration used to analyze the turning movements shown in Exhibits 3, 5, 8, and 9. As an example, the clips below show the lane configuration for existing conditions and corresponding turning volumes for the existing conditions analysis. See the Appendix for configuration of each of the analyzed intersection and scenarios. Synchro files can be provided as needed. **However, because the HCM methodology was utilized to analyze each intersection, the data provided in the Appendix provides all of the data necessary to verify the intersections were modeled correctly.**

HCM 6th TWSC
1: Barratt Ave & Pacific Dr

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	558	12	1	553	10	4

HCM 6th TWSC
3: Barratt Ave & 100 N

Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	8	6	6	6	7

Hales Engineering Comment:

LOS for two-way and one-way stop intersections is reported based on the worst **movement**, not the worst approach, according to the HCM. The LOS results would likely be worse than reported based on the worst movement.

Applicant's Response:

Consistent with this comment from Hales Engineering and consistent with HCM methodology, the LOS reported in the study for the worst intersection approach is based on the worst **movement** for that approach. As shown in the example below for Barratt Avenue/Pacific Drive, the intersection control delay and corresponding LOS shown in Exhibit 6 is for the northbound left turn movement, which is the worst movement for the northbound approach. As summarized by the Synchro software, it is common practice for two-way stop intersections to report the worst movement delay as the worst approach delay. **See the Appendix to further confirm that the worst movement was used throughout to establish HCM LOS for all study intersections.**

Exhibit 6: *Existing PM Peak Hour LOS & Delay Summary (With Improvements)*

Intersection	Worst Approach	LOS	Control Delay (Sec/Vehicle)
1: Barratt Avenue / Pacific Drive	Northbound	B	12.6
2: 100 West / Pacific Drive*	Southbound*	B*	13.9*
3: Barratt Avenue / 100 North	Westbound	A	8.4
4: 100 West / 100 North	Eastbound	A	8.8
5: Barratt Avenue / Main Street	Southbound	C	15.6

**Northbound 100 W/Pacific: LOS B with Control Delay of 13.7 sec/veh*

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	492	-	-	960	-
HCM Lane V/C Ratio	0.031	-	-	0.001	-
HCM Control Delay (s)	12.6	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A

Hales Engineering Comment:

Trip Generation:

- The latest ITE Trip Generation data should be used, which is found in *ITE Trip Generation*, 10th Edition, 2017. It is unclear if this was used for all trip generation tasks.
- ITE land use code 223 was referenced, which actually doesn't exist. The Multifamily Housing (Mid-Rise) land use category is land use code 221, which is not specific to "apartments".
- ITE land use code 220 was referenced as a "general apartments category". Land use code 220 is actually just the Multifamily Housing (Low-Rise) category for multifamily housing of one or two stories.
- There was no need to estimate/guess the daily trip generation rates for land use code 221, since it is provided by ITE directly. Please use the rates provided by ITE.
- All the trip generation calculations are incorrect for 125 units. It's possible some of the calculations were run assuming 100 units. The following corrections should be made:
    - AM Peak Hour:
        - Total trips should be 43 trips (using equation) or 45 trips (using average rate), not 38
        - Entering percentage should be 26%, not 32%
    - PM Peak Hour:
        - Total trips should be 55 trips (using either equation or average rate), not 49
        - Entering percentage should be 61%, not 57%
    - Daily:
        - Total trips should be 680 trips (using either equation or average rate), not 422
- With a daily trip generation of over 500 trips, a five-year horizon should be completed (2026) in addition to the existing conditions analysis per UDOT Traffic Impact Study guidelines and standard local practice.

Applicant's Response:

Trip generation for the study was based on *ITE Trip Generation*, 9th Edition, 2012. A requirement or preference to use the 10th Edition of the *ITE Trip Generation* manual is understandable and can be accommodated given additional time, but it was not used in the analysis completed for the study. The implication of using the more recent edition, including uses of the changed generation values listed by Hales Engineering, would not materially change the outcome of the traffic impact analysis. For example, because the proposed site plan includes 109 units instead of the conservative amount of 125 units analyzed (109 units reflects a reduction of 12.8%), the PM peak period analysis based on 49 PM peak hour trips generated by the project are still higher than an adjusted 48 trips (55 trips reduced by 12.8%). Also, because the project impacts on traffic operations are anticipated to be minimal (compare Exhibit 10 shown below to Exhibit 6 shown earlier to see control delay impacts that are a fraction of a second), **the slight changes between Trip Generation manual editions is not anticipated to materially change the traffic impacts of the project.** Also, the 10th edition of the ITE Trip Generation manual has recategorized multi-family land uses to aggregate various multi-family housing types, including townhomes and apartments. In the 10th edition, apartments and townhomes have been combined under the same multi-family category. This means that the more specific apartment categorizations of the 9th edition have been generalized more broadly as multi-family categorizations in the 10th edition. Whereas 10th edition category 221 (Multifamily Housing (Mid-Rise)) includes townhomes with three stories (it includes apartments and townhomes that have three to ten levels), the 9th edition category

223 (Mid-Rise Apartment) includes only mid-rise apartments that have three to ten levels. As noted in the numbers provided by Hales Engineering, the inclusion of townhomes further inflates the already conservatively high ITE trip generation rates used to estimate trips for micro apartment units in the study. **The ITE rates are based on dwelling units that are larger and have more bedrooms than the proposed micro apartment units.** The Applicant is not opposed to using the 10th edition, but does not agree that its use is clearly justified. More importantly, as previously stated, applying the 10th edition will not materially change the outcome of the study. Also, the use of UDOT criteria for establishing the need for study scope of work is not warranted for American Fork City required studies. the Hales Engineering estimate of +500 daily trips used as the basis for this requirement is also questionable (see comments above about conservatively high ITE estimates). **To be justified, the Applicant believes any such requirement could and should have been conveyed by the City shortly after its review of the study in January 2021 instead of a few days before Planning Commission hearing.** Most importantly, forecasting conditions five years into the future would not provide additional material insights into the traffic impacts of the proposed project.

Exhibit 10: *Existing Plus Project PM Peak Hour LOS Summary*

Intersection	Worst Approach	LOS	Control Delay (Sec/Vehicle)
1: Barratt Avenue / Pacific Drive	Northbound	B	12.7
2: 100 West / Pacific Drive*	Southbound*	B*	14.0
3: Barratt Avenue / 100 North	Westbound	A	8.4
4: 100 West / 100 North	Eastbound	A	9.0
5: Barratt Avenue / Main Street	Southbound	C	16.0

**Northbound 100 W/Pacific: LOS B with Control Delay of 13.9 sec/veh*

Hales Engineering Comment:

Beyond traffic operations, the question of safety of the existing roadway should be considered. For example, are there existing issues with the Pacific Drive / 100 North / Barratt Avenue intersection that should be resolved.

Applicant's Response:

This requirement is beyond the scope of the study. As noted previously, the Applicant believes study scope requirement could and should have been conveyed by the City shortly after its review of the study in January 2021 instead of a few days before Planning Commission hearing. Additionally, this requirement appears onerous considering that the City's own analysis for the Transportation Element of the General Plan (March 2020) does not provide safety analysis and recommendations for improvements to Pacific Drive and nearby Pacific Drive intersections at 100 West, 300 West and 400 West. See American Fork Intersection Analysis memo prepared by Horrocks Engineers and dated January 28, 2020.

Hales Engineering Comment:

There are several mentions of this area being a "mixed-use" area. Due to the poor current walkability to compatible land uses, we believe this to currently be a single use site. There are a few retail, office, and entertainment establishment nearby, but not enough to assume that many vehicle trips will be reduced.

Applicant's Response:

In the study, "mixed-use" areas were not defined or used in relation to trip generation/distribution or reduction of vehicle trips as referenced in the comments provided by Hales Engineering (see "…but not enough to assume that many vehicle trips will be reduced."). Although the project could have justifiably applied vehicle trip reductions to reflect the characteristics and context of the project, the analysis did not apply any such reductions and instead provided an analysis based on conservatively high estimates as noted in the study.

As noted in the comments provided by Hales Engineering and also defined in the study itself, the 1.35 acre site is indeed proposed as a single use site (multi-family residential apartments). References to "mixed-use" and "downtown" areas are used in the study to describe the context for the 1.35 acre project site, not to claim multiple uses for the site. The references to "mixed-use" ("mixed-use areas" as used in the study) apply to existing land uses currently in place for the downtown American Fork area (or district). The proposed project includes only multi-family uses and therefore is not classified as a mixed-use project. **The downtown American Fork area contains a mix of uses including retail, commercial, office, and government. The project site is located within close proximity to grocery stores (less than 1/2 mile from Good Earth and Fresh Market), convenience stores, restaurants/food retailers, parks, a library, offices, commercial uses, etc.**

The Applicant disagrees with Hales Engineering's assessment of "poor current walkability". Despite the less than optimal current walkability of Pacific Drive, Pacific Drive does generally provide sidewalks connecting the project to historic downtown (Town Hall) to the east and the Meadows shopping center to the west. Also, the project site benefits from excellent active transportation and transit connectivity to and along Main Street. **The proposed project is located within 1/4 mile of multiple Main Street bus stops and approximately 1.5 miles of the American Fork FrontRunner station. The Main Street bus route (UTA Bus Route 850) provides 15-minute headway service from approximately 6 am to approximately 8 pm (and 30-minute headways before and after).** The project site has excellent transportation access and connectivity through direct access to Pacific Drive and very close access to Main Street. **The conditions of the current transportation network in downtown American Fork generally bolsters and does not degrade the validity of its mixed-use setting.**

Hales Engineering Comment:

Vehicle Ownership Analysis:

- The MRC model was based on northern Utah County and southern Salt Lake County, which may have a heavier weight on communities that have better access to transit than American Fork, such as access to TRAX.
- Exhibit 12:
    - For Land Use Mix (Entropy), this value should be 0 since the proposed project has a single land use. Even if nearby land uses were included, it shouldn't be much higher than 0 if anything. A land use mix of 0 would mean an ultimate rate of 1.08 stalls per unit.
    - It says the 40% for Percent Employment within 30 minutes of Transit was "estimated". Did Metro Analytics use the travel demand model or the WFRC web application that they built in 2016 to compute this number? That would be the best way to do it. The web app appears to show (in 2016 conditions) about 460,000 jobs within 30 minutes via transit, but likely a Wasatch Front regional job count of 1,400,000 (90-minute drive). This would mean 33% of jobs are within 30 minutes of transit.

Applicant's Response:

Hales Engineering assessment of transit service access characteristics for the MRC model is incorrect. The MRC model applied for the Lake City Flats Micro Apartments Traffic and Parking Study is for mixed-use areas, not Transit Oriented Development (TOD) areas in close proximity to high frequency transit, such as a TRAX station. Also, only small portions of the northern Utah County and southern Salt Lake County areas included in the MRC models provide access to TRAX stations (only Sandy and northeastern Draper). **Comparatively speaking, downtown American Fork City has significantly more transit service access than other portions of northern Utah County and southern Salt Lake County areas. Also, as noted above, the TOD designation was not used for the proposed project. As such, the amount of transit service for downtown American Fork City is considerably higher than that of other non-TOD downtown settings in northern Utah County and southern Salt Lake County.**

Assigning an entropy (land use mix) value of 0 to the MRC model would be inappropriate for the context of the proposed project. Entropy is based on the neighborhood context for multi-family housing, not based on the mix of uses for just the residential multi-family housing building itself. The value for entropy must be selected based on the context of the MRC model and the parameters that it is based on. The MRC model documentation prepared for WFRC and MAG for use by cities and practitioners provides key information about the MRC model and how entropy was defined and applied. American Fork City has indicated to the Applicant that the MRC model documentation had been forwarded to Hales Engineering along with the Traffic and Parking Study. The MRC model used descriptive statistics for the entire model area, which includes southern Salt Lake County and northern Utah County. The data's average land use mix for the area would reflect typical sprawl characteristics of a neighborhood with a low mix of land uses. Such a context would warrant a mean entropy value of 0.5. **The context for downtown American Fork neighborhood provides considerably more diverse mix of land uses than the average neighborhood in southern Salt Lake County and northern Utah County. Based on the mixed-use context for downtown American Fork (see response to the previous comment), entropy for the neighborhood downtown is clearly within the upper percentile. The study's application of the MRC model used an entropy of 0.85 as most applicable for downtown American Fork compared to other neighborhoods in Southern Salt Lake County and northern Utah County.** The study also presented a sensitivity analysis with entropy of 0.5 (which is unlikely low) and 1.0

(which is unlikely high). **The use of an entropy value of 0 is inappropriate because it would represent sprawling low density neighborhoods with only residential land uses.**

The transit proximity variable of 40% was selected as an estimate to represent very good transit service access based on the proximity to the State Street bus service and Front Runner station. WFRC's regional travel demand model and WFRC's web application were not used to calculate transit proximity for the MRC model. The methodology described by Hales Engineering for estimating transit proximity for the MRC model using WRFC's (and MAG's) travel demand model is acceptable way to estimate employment accessibility by transit, but not necessarily more accurate because the regional travel demand model includes many limitations, especially as it relates to transit service. Hales Engineering's estimate of 33% validates the use of 40% as a reasonable assumption. The sensitivity analysis included in the study anticipated likely improvements to transit access with future upgrades, so it did not consider reductions to transit service. A reduction of transit proximity from 40% to 33% would result in additional ownership of 0.042 vehicles per unit, which would be equivalent to one additional vehicle every 23 units. However, as noted above, the estimate provided by Hales Engineering confirms 40% as an appropriate value for transit proximity.

Hales Engineering Comment:

Parking Demand Rates:

- The MRC model is based on "hundreds of mixed-use areas, including 19 areas along the Wasatch Front":
- 19 areas in Utah are very minimal compared to the total, meaning the data is likely skewed heavily to out-of-state areas
- As mentioned above, this area should not currently be considered "mixeduse" Hales Engineering was the consultant that provided all or most of the parking data for those 19 areas. An average overnight parking demand of 1.59 vehicles/unit was observed over 15 non-TOD sites. The average demand at a few TOD sites was observed to be 1.49 vehicles per unit. The lowest observed demand at a single site was 1.1 vehicles per unit at a low income housing project in South Salt Lake.

Exhibit 13:

- At what time of day were the parking demand data collected? The Orem Parking Study doesn't mention a time but talks about some supplemental data being collected between 5:00 and 9:00 p.m. Peak parking demand data for residential developments needs to be collected overnight, between midnight and 4:00 a.m. generally according to data from ITE. Parking demand between 5:00 and 9:00 p.m. is generally between 64 and 83 percent of the peak parking demand for Multifamily Housing (Mid-Rise), according to ITE.

Applicant's Response:

These comments from Hales Engineering appear to bring into question methodologies applied to complete parking studies that are referenced for this project, but were performed separately for municipal and government entities, including MAG which represents American Fork City and other cities in Utah County. Note that the study quotation about "…19 areas…" referenced by Hales Engineering was not tied to the "MRC model" described in the study. Rather, the text quoted was provided in the study as background information for a parking demand rate of 0.9 parking spaces per multi-family unit as recommended for mixed-use areas in Southern Salt Lake County and northern Utah County. **The Lake City Flats Micro Apartments Traffic and Parking Study does not provide detailed source or background information nor does it provide defense for the data and methodologies used. Rather, the study applies recommendations that were prepared for WFRC and MAG for use by the cities they represent and practitioners analyzing traffic in the area.** The studies were prepared independently of the proposed project and lack bias that may be attributed to the analysis performed for the Applicant or bias that may be attributed to the reviews performed for American Fork City. **Questions about the validity or credibility of the referenced rates are outside the scope of parking analysis for the project and should be directed to the work referenced. However, note that documentation for the rate recommendation of 0.9 parking spaces per multi-family unit were provided to American Fork City for review and understood to have been provided to Hales Engineering.** Similarly, the methodologies applied for Orem were completed to the satisfaction of Orem City, so it is unclear why Hales Engineering is questioning those study methods. Hales Engineering's implication that peak parking demands were underestimated or that measurements must be collected between midnight and 4:00 am is inappropriate even if that is how it generally collects parking data. Note that ITE procedures allow for the engineers to estimate when peak parking accumulation occurs and suggests such peaks generally occur at night or very early in the morning (see https://www.ite.org/technical-resources/topics/trip-and-parking-generation/parking-occupancy-data-collection/).

Hales Engineering Comment:

ITE Parking Demand:

- The latest ITE Parking Generation database should be used which is ITE Parking Generation, 5th Edition, 2019.
    - The average rate of 1.20 should be 1.21 for low-rise multifamily.
    - The average rate of 1.23 should be 1.31 for mid-rise multifamily.
    - Instead of using the average rate, the industry standard is to use the 85th percentile rate provided by ITE.

Applicant's Response:

The request for referencing the 5th Edition of the ITE Parking Generation database seems generally reasonable to the Applicant given more time, but irrelevant because the study points out problems with its application for the proposed micro apartments. More specifically, **the study points out that ITE Parking Generation does not provide guidelines or data to accurately estimate the appropriate level of parking for the proposed micro apartments.**

Also, it is highly concerning to the Applicant that the review provided by Hales Engineering is only providing ITE information that is biased toward higher parking rates. For example, Hales Engineering recently prepared a parking study for a development project in Layton in September 2020 that highlights important ITE parking rate considerations for small studio apartments. In said parking study prepared for the developer, Hales Engineering states that ITE parking demand for ITE land use 221 (Multifamily Housing (Mid-Rise)) is "based on an average of one-, two-, and three-bedroom units. **A studio unit would require less parking than the multi-bedroom units. ITE also has an 85th percentile rate of 0.87 stalls per bedroom." This consideration is relevant and applicable to the proposed project which is located in downtown American Fork with much higher levels of mixed-use and better transit access than the Layton apartments project studied by Hales Engineering.**

LAKE CITY FLATS
STUDIO MICRO APARTMENTS
PLANNING COMMISSION MEETING

JULY 7, 2021

Introduction

Collaborative Approach

-Downtown Redevelopment Needs

-Micros & Affordable Housing

-Site Identification

-PC Discussion July 8, 2020

-Code Text Amendment

-Architectural Elements

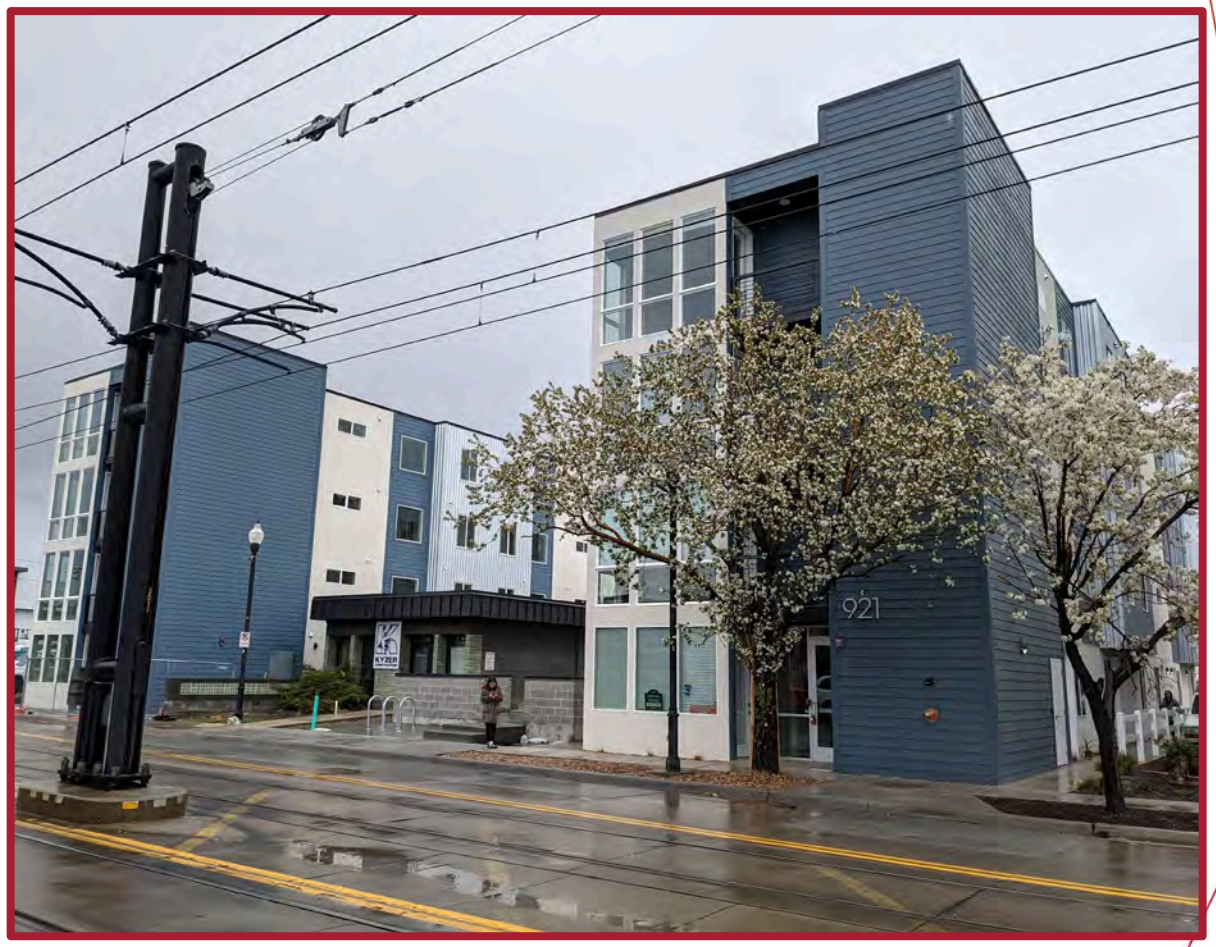
-Other…

Concept – Comparable Example

9th Station SLC, Four story walk up (no elevators); 68 units;

Zero off-street parking; Leased up in +/- 2 months

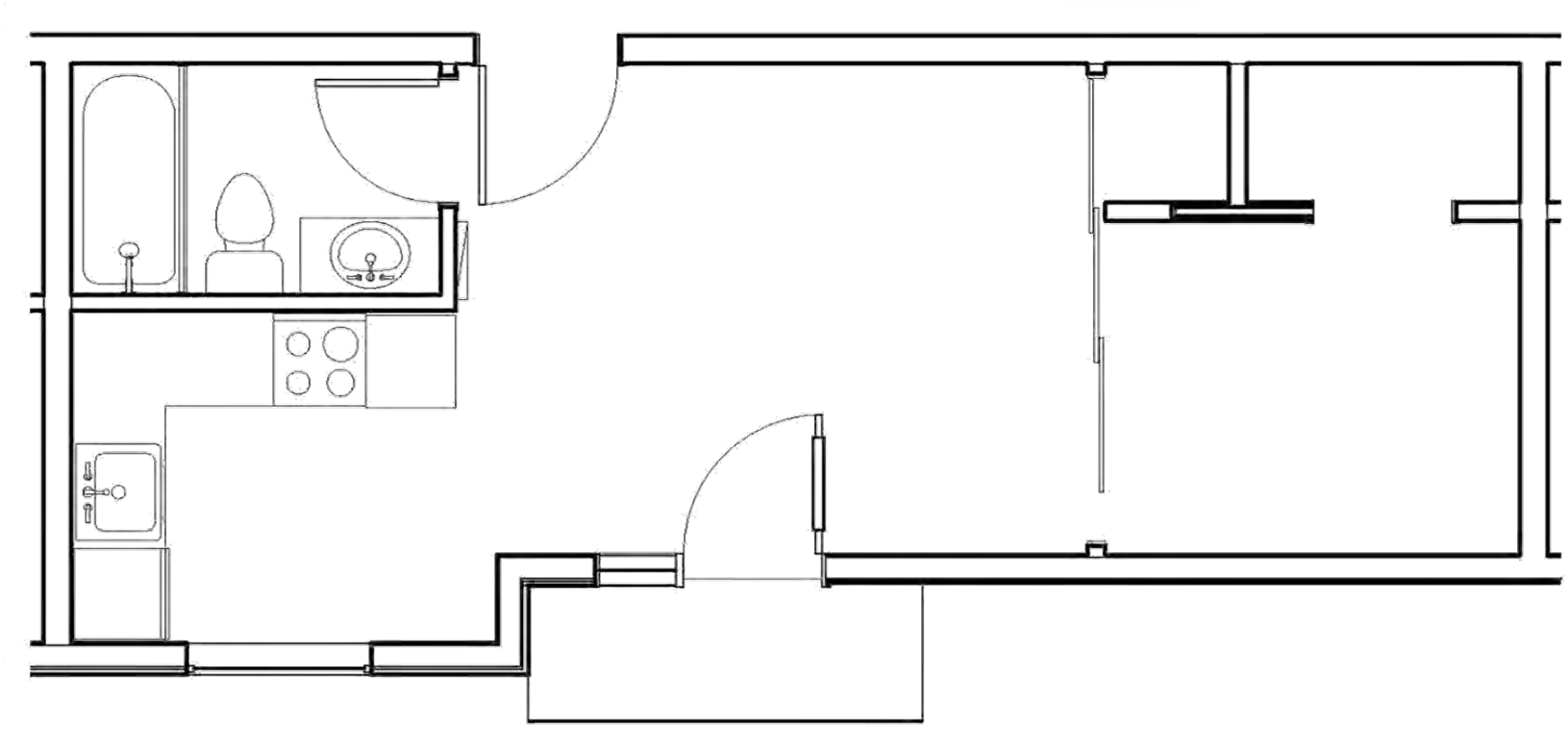




Concept – 350 SF

Full kitchen; Full bath; Washer/Dryer;

Well defined living & sleeping spaces.



Concept – 350 SF







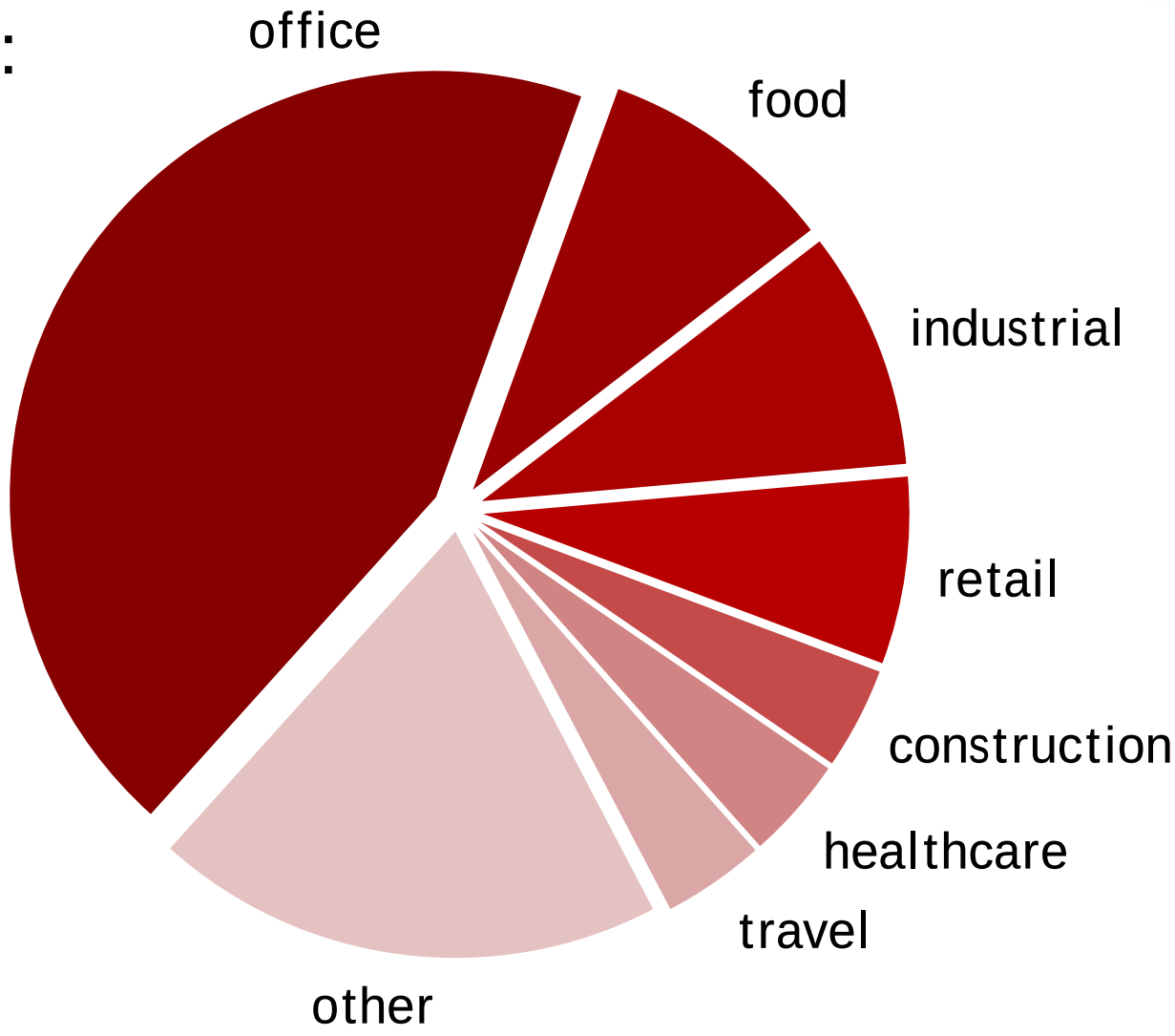


Concept – Tenants

155 Micros in SLC (2020):

- Young Professionals
- $34K Income
- 27 years Old

“paradigm shift”



Project Location & Downtown Context

Location: Downtown AF, Utah
129 W 100 N
(Barratt Avenue)

Transit: -¼ mi to UTA Bus 850 (with 15 min service)
1½ mi to FrontRunner
Future BRT

Uses: Walk (-½ mi) to Fresh Market & Good Earth; convenience stores; food/restaurants; retail; parks; library; offices; commercial.



Project Location & Redevelopment Context

Barratt looking north (@ Main)



Barratt looking north (@ Main)



Project Location & Redevelopment Context

Barratt looking north (@ So. prop.)



Barratt looking south (@ 100 N)



Project Location & Redevelopment Context

Barratt looking east to 100 N



100 N looking west to Barratt



Architectural Elements: Exterior Materials



Architectural Elements: Exterior Materials [ALTERNATE*]

*Based on May 18, 2021 CC mtg discussions



Architectural Elements: Exterior Materials [ALTERNATE*]

*Based on May 18, 2021 CC mtg discussions



Traffic: Pacific Dr Guardrail & 100 N Signing



Parking – Study

Study Outcome:

- *0.75 to 1.0 parking space per dwelling unit will adequately accommodate the anticipated parking demands for the project*

Key Considerations:

- ITE rates were not used because they would overestimate the amount of required parking for the proposed micro apartments (ITE based on national measurements for 1-, 2-, & 3-bedroom units)
- Models used are based on socioeconomic data that is specific to American Fork and surrounding communities
- Parking Rates used were developed for MAG/WFRC to estimate parking requirements in No. Utah County (including AF); Also used rates collected by the MRC for local comparable sites

Parking – Study

Key Considerations (cont'd):

- AF Census data was reviewed to confirm applicability of Orem sites considered and models applied; In addition to confirming compatibility, Census data shows 1/3 of current AF rental households own one car of less & supports ownership of one vehicle or less by micro-apartment tenants
- The project will use a parking pass system along with discounts and/or fees to attract car-free tenants and manage parking demands

Parking – 3rd Party Review & Responses

Parking – Comparable Utah Cities

Holladay, Utah: Village Zone in downtown Holladay requires one parking space for one-bedroom apartments. Holladay has successfully redeveloped their downtown in recent years. See Holladay Code Section 13.80.040 (Number of Spaces Required).
https://codelibrary.amlegal.com/codes/holladayut/latest/holladay_ut/0-0-0-11913

CHART 13.80.1

Use	Required Spaces
(except medical and dental office)	
General retail	2.5 spaces per 1,000 square feet of net leasable area
Medical and dental office	6 spaces for each doctor's office plus 1 for each employee working at the same time
Neighborhood market	3.5 spaces per 1,000 square feet of net leasable area
Personal services	2.5 spaces per 1,000 square feet of net leasa
Public and quasi-public use	As provided in this section for most similar us
Residential[1]	1 space for each 1 bedroom unit
	1.5 spaces for each 2 bedroom unit
	2 spaces for each 3 bedroom unit
Restaurant	1 space for each 4 seats





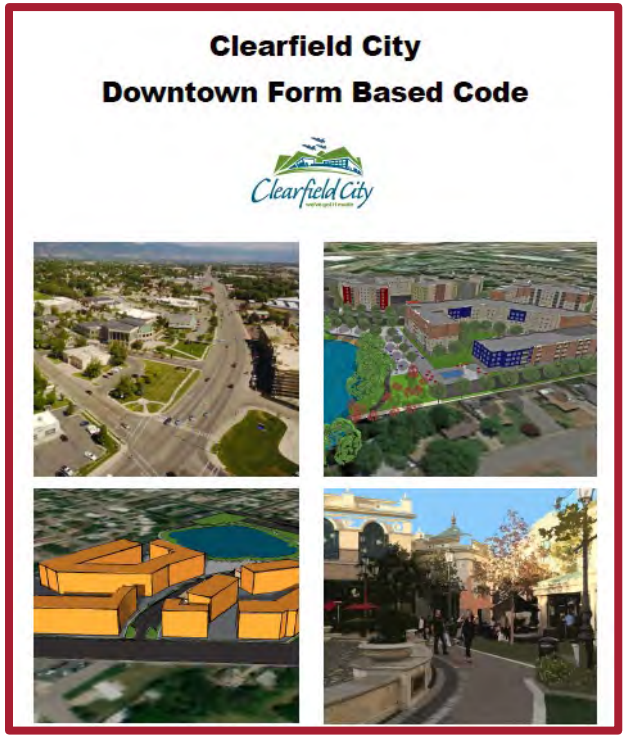
Parking – Comparable Utah Cities

Clearfield, Utah: Clearfield is in the process of redeveloping their downtown. The downtown area in Clearfield requires one parking space for studio and one-bedroom apartments (see downtown form based code). A portion of this requirement can be met with on-street parking directly in front of the building.

http://clearfieldcity.hosted.civiclive.com/UserFiles/Servers/Server_58896/File/Clearfield%20FBC%20final%20January%202019.pdf

Required Parking Per Use

Use	ALL CLEARFIELD DOWNTOWN ZONES
Applicable Zones	
Residential [2,3]	
Multifamily, Studio	1 / Dwelling Unit [1]
Multifamily, 1 Bedrooms	1 / Dwelling Unit [1]
Multifamily, 2 Bedrooms	1.5 / Dwelling Unit [1]
Multifamily, 3 or 3+ Bedrooms	2 / Dwelling Unit [1]



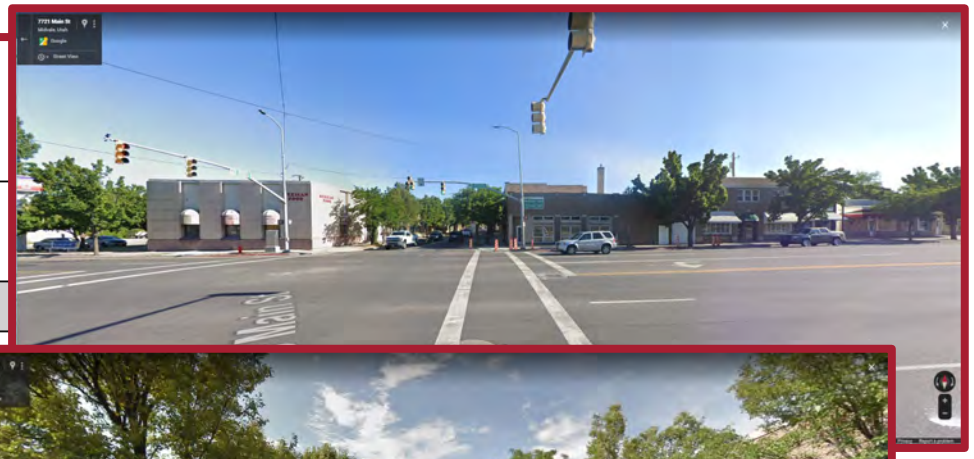
Parking – Comparable Utah Cities

Midvale, Utah: Main Street Zone in downtown Midvale requires one parking space for studio and one-bedroom apartments. Midvale is in the process of redeveloping their downtown. See Midvale Code Section 17-7-11.9 (Parking).
https://www.codepublishing.com/UT/Midvale/#!/Midvale17/Midvale17711.html#17-7-11.9

Table 9.01

Vehicular Parking Requirements by Use and Form District

	Use Category	Requirement		Calculation Unit
		MS	TCC	
Residential & Lodging				
1.	Single-Family & Multi-Family (Studio/1-bedroom)	1.0 min. / 1.0 max.	1.0 min. / 1.0 max.	per dwelling unit
2.	Multi-Family (2-bedrooms)	1.0 min. / 1.5 max.	1.0 min. / 1.5 max.	per dwelling unit
3.	Multi-Family (3+-bedrooms)	1.0 min. / 2.0 max.	1.0 min. / 2.0 max.	per dwelling unit





AMERICAN FORK CITY
PLANNING COMMISSION MINUTES
JULY 7, 2021

The American Fork City Planning Commission met in a regular session on July 7, 2021, at the American Fork City Hall, 31 North Church Street, commencing at 7:00 pm.

Present:	Chairman John Woffinden
	Christine Anderson
	Chris Christiansen
	Jenny Peay
	Bruce Frandsen
	Rod Brocious
Absent:	Geoff Dupaix
	Harold Dudley
Staff Present:	Adam Olsen, City Planner
	Wendelin Knobloch, Planner
	Ben Hunter, Engineer
	Lisa Halversen, Administrative Assistant
	Mat Sacco, Fire Marshal

Others Present: Grant Lefgren, Trevor Hodgson, Janeen Ledkins, Chad Pollard, Diego Carroll Jonathan V., Steve Eyre, McKay Quinn, Joe Terburg

Chairman Woffinden led the "Pledge of Allegiance."

1. Hearing, review and action on a zone map amendment for property at 860 East 930 South, from the PI-1 Planned Industrial to the PC Planned Community zone

Mr. Olsen informed commissioners that the proposed zone map amendment is for the northwest corner of the intersection at 860 East and Utah Valley Drive. Woodbury Corporation proposes the zone be amended to the PC (Planned Community) zone in order to be consistent with the adjoining PC designation (to the north). The four parcels under consideration are proposed for combination with the parcel directly north to create one commercial/warehouse site.

The overall concept plan for the area (Lake City Row) was recently amended, allowing office/warehouse type uses within this phase of the overall plan. Upon approval of a zone map

amendment, a site plan application will be brought to the Planning Commission for consideration and recommendation.

Public Hearing Opened

No comments were received.

Public Hearing Closed

Mr. Christiansen moved to recommend approval of the zone map amendment, subject to any conditions in the Engineering report.

Mr. Frandsen seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Christine Anderson	**Aye**
Chris Christiansen	**Aye**
Jenny Peay	**Aye**
Bruce Frandsen	**Aye**
Rod Brocious	**Aye**

The motion passed.

2. Hearing, review and action on a zone map amendment for property at 375 South 570 West from the RA-1 Residential Agricultural to the RA-5 Residential Agricultural zone

Mr. Olsen said that the applicants propose a zone map amendment from the RA-1 to the RA-5 zone. The narrative provided states that because the property is five acres in size, the applicants feel the RA-5 zone is more conducive. The narrative also states that nothing will be changed on site, and that everything will remain as is.

Because the property is exactly five acres in size, which is the minimum required for the zone, should any right-of-way be required for dedication, it will reduce the property size to under five acres. This may create a condition in which the zone change is not feasible due to the resulting acreage falling under five acres. Staff's recommendation should the property fall below the five-acre threshold is to keep the zone at the existing RA-1 designation.

Mr. Frandsen believed that county code allows for a property to dedicate right-of-way without being resized. Mr. Olsen indicated that city code does not make that stipulation, there is no provision to rezone this property if it is under five acres.

Mr. Brocious asked why the applicants want to rezone. Mr. Olsen indicated that they want their property to stay as-is.

Mr. Hunter stated that it is a condition of the zone change to dedicate right-of-way to the city, and doing so would drop it below the five acre threshold.

Mr. Brocious said that when he reviewed the material, it appeared that there may be a boundary dispute.

Mr. Hunter is not aware of a boundary dispute but a portion of the current asphalt of 570 West does overlap onto the property. The main issue is that the required right-of-way would reduce the property size. There was continued discussion and the applicant was asked to speak regarding the issues.

Public Hearing Opened

Steve Eyre, applicant, stated that they are asking for a rezone because they want a tax break. He feels that the city has taken advantage of him by taking part of his property from him 35 years ago. He is trying to keep the property the way it is, he said that they are trying to farm and grow gardens and are not in favor of the TOD.

Chairman Woffinden asked what the outbuildings are, Mr. Eyre replied that they are bird barns. He noted that he has already contributed 100 ft of frontage for sidewalk, curb & gutter. He has a permit to grow hemp. Neighbors may have complained as he was recently cited by the police department for growing cannabis. He was told if that if he rezoned, that issue would be resolved.

Mr. Frandsen asked staff at what point the applicant has to dedicate the right-of-way if the zone change were to be approved.

Mr. Olsen replied that the zone change does not go into effect until the right-of-way is dedicated, the dedication happens prior to the zone change.

Mr. Eyre asked why the city needs him to dedicate more right-of-way. Mr. Hunter indicated that 570 West is a larger collector with a higher level of traffic, and the right-of-way is to install roadway improvements.

Mr. Eyre asked how much property he would have to dedicate to the city.

Mr. Hunter stated that there would be right-of-way dedicated on the east and west sides of the property. The road sizes are 72’ and 62’. There would be more space required on the west side as there may be a bike path.

Mr. Eyre asked what would happen to the property if they left it as currently zoned. Would they still have to give property for road improvements?

Mr. Hunter stated that until there is some triggering event the property would stay as it is.

Mr. Olsen clarified that this item will move on to council, commissioners will only be giving a recommendation.

Ms. Peay asked what the acreage would be after the right-of-way dedication. Mr. Olsen was not sure, but as the property is exactly 5 acres now it would not meet the threshold for a zone change.

Ms. Anderson pointed out that the 72' and 62' measurement is the entire width of the road. That dedication will not all come from his property, he would contribute half of that.

Mr. Eyre indicated that he does not want to proceed further with the zone change application.

Public Hearing Closed

Ms. Anderson moved to recommend denial of the zone map amendment at the request of the applicant.

Ms. Peay seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Christine Anderson	**Aye**
Chris Christiansen	**Aye**
Jenny Peay	**Aye**
Bruce Frandsen	**Aye**
Rod Brocious	**Aye**

The motion passed.

3. Hearing, review and action on a site plan for Maverik, located at 500 East Auto Mall Drive in the PI-1 Planned Industrial zone

Mr. Olsen stated that Maverik proposes to locate at the southwest corner of Auto Mall Drive and 500 East. A 6,132 sq. ft. store is proposed with gas pumps located along the northern portion of the site. Access will be from a shared access along Auto Mall Drive, as well as an access on 500 East, directly west of an access point to the Ken Garff dealership. The intersection of Auto Mall Drive and 500 East will soon be signalized. Landscape plans have been submitted, conforming to the City's landscape requirements. Renderings of the proposed structure are included in the submittal materials.

Mr. Hunter informed commissioners that this was part of a previous annexation. The right-of-way is already included, all infrastructure requirements have been met, he recommends approval.

Mr. Brocious asked what will be between the power poles and the sidewalk on 500 East.

Mr. Hunter displayed pictures of the area and discussed possible landscape options. He said that the sidewalk is wider on the east side because of the bike lanes.

Mr. Brocious wanted to discuss the storm water detention plans. He asked what the groundwater elevations were, if their plan relies on on-site water storage, and if there is there a risk of groundwater penetration and losing storage capacity.

Mr. Hunter replied that he isn't sure about the groundwater elevations. The detention plan will be reviewed to make sure they don't lose capacity. Their storm water detention plan involves a combination of storm-tech chambers and surface detention.

Public Hearing Opened

Joe Terburg, Maverik representative, indicated that they were happy to be building in American Fork.

Public Hearing Closed

Mr. Brocious moved to recommend approval of the site plan for Maverik, with the finding listed in the staff report and subject to any findings, conditions, and modifications found in the Engineering report.

Mr. Christiansen seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Christine Anderson	**Aye**
Chris Christiansen	**Aye**
Jenny Peay	**Aye**
Bruce Frandsen	**Aye**
Rod Brocious	**Aye**

The motion passed.

4. Hearing, review and action on a site plan for Roderick Enterprises, located in the area of 1500 South 400 East in the PI-1 Planned Industrial zone

Mr. Olsen told commissioners that this area was annexed into the city in 2015 under the Catalyst Annexation. This site plan represents the third phase in a multi-phase office-warehouse development. Phase 3 consists of 1 office-warehouse structure, totaling 154,347 sq. ft. on

approximately 8.4 acres. The site is bounded by 1600 South on the north, 500 East to the east, 1700 South on the south, and a future 300 East to the west. Access points into Phase 3 will be provided off 1600 South, 1700 South and 300 East.

Parking and landscaping are provided per the City's requirements. Landscape plans have been provided in the submittal materials. Renderings of the structures are also provided in the submittal materials.

Ms. Peay asked if there is a certain percentage of landscaping that is required.

Mr. Olsen answered that the landscaping requirement is not a flat percentage, it is based on street frontages. They have quite extensive street frontages and have met the requirements. He added that there are two other buildings in this project that were approved a couple years ago in the area. Parking requirements have been met as well.

Mr. Hunter agreed that this is a continuation of previous development, the roadway and utilities are under construction or already constructed. Staff's initial review resulted in comments to the applicant, Engineering recommends tabling the project until updated plans and comments are confirmed to have been addressed.

Ms. Peay asked if the applicant has submitted their answers to staff's comments. Mr. Hunter believes they have but the comments haven't been reviewed yet. They are in the queue.

Chairman Woffinden expressed his frustration and said that this item should not be on the agenda since it's not ready. He did not think this is fair to staff or commissioners. This is getting to be a big problem and he is going to speak with the city administrator and the mayor. Commissioners don't have the information to make a good decision. The same rules should apply to everyone. There is a good reason that there are requirements to get a project on the agenda and deadlines.

Mr. Brocious is concerned that with all the impervious surfaces there could be storm water hitting the streets. He asked if there is a possibility of off-site problems that should be addressed regarding an emergency spill.

Mr. Hunter replied that this is 8 acres of an 80-acre site. The road and utility infrastructure was part of another plat. Drainage calculations were handled for the overall site by upsized infrastructure and on-site storage.

Mr. Frandsen asked if there are any downstream property owners.

Mr. Hunter said there is one property to the south, but the slough and infrastructure were evaluated and it should be able to handle the amount of flow. The current owner is Catalyst Development.

Mr. Frandsen asked for clarification regarding the engineering for the slough/ditch. Did the calculations for the study just go to the edge of the property?

Mr. Hunter thought that the existing ditch was evaluated for additional flows, he believes it was approved in the first plat.

Mr. Trevor Hodgson, engineer representing Roderick Enterprises, isn't sure regarding the dates of the resubmittal, he can't speak to that issue.

Public Hearing Opened

No comments were received.

Public Hearing Closed

Mr. Christiansen moved to recommend tabling action of the commercial site plan for Roderick Catalyst Business Park, Phase 3, with the finding listed in the staff report and subject to any findings, conditions and modifications listed in the Engineering report.

Mr. Frandsen seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Christine Anderson	**Aye**
Chris Christiansen	**Aye**
Jenny Peay	**Aye**
Bruce Frandsen	**Aye**
Rod Brocious	**Aye**

The motion passed.

5. Hearing, review and action on amendments to Sections 17.4.608 B and E of the American Fork City Development Code regarding requirements for mixed-use development

Mr. Olsen informed commissioners that the council recently approved an amendment allowing clustering of commercial uses on streets other than 200 South within the TOD "mixed-use core" area. Clarification was given that the 25% equivalent requirement may be clustered into one building or dispersed in separate buildings throughout a project.

The Code as amended currently reads: For buildings within the Mixed-Use Core sub-district, all buildings abutting 200 South shall have an equivalent of 100% ground floor area designated for office and/or retail use (Table 6E-Building Use). For all buildings within project areas abutting streets other than 200 South, an equivalent of 25% ground floor area shall be designated for office and/or retail use (Table 6E-Building Use). The 25% equivalent may be satisfied

collectively in one building or dispersed throughout the project area in various buildings. Delivery of the office/retail use shall occur no later than at completion of 75% build-out of any residential portions of the project area.

Crescent Communities proposes further amendments relating to the 25% equivalent commercial requirement. The proposed amendments are included in black text in the submittal materials. The proposed amendments seek to: (1) reduce the 25% equivalent requirement to apply only to certain streets; namely, the business-core loop and core collectors (of which there are two), (2) identifying and clarifying building use that can be included in the mixed use requirement, (3) allowing ground floor space in structures for multi-family residential to be initially used for residential purposes but with the potential for conversion to future commercial use; provided that certain specifications are met, (4) prohibition of single-story buildings from meeting the mixed use requirement, and (5) formally allowing the use of work/live units to meet the 25% equivalent requirement.

The applicants will speak to the proposed amendments. Staff's main concern lies in the reduction of applicable streets to which the mixed-use requirement applies, as well as the allowance of residential uses on ground floor levels with the assumption that one day they may convert to commercial uses. The other provisions as put forth by the applicant seem to be workable.

The first area applicant wants to amend is the streets requirement. They want the 25% commercial requirement to only be applicable to the business core loop and core collector streets. This would effectively reduce the 25% equivalent requirement to the blue and yellow roads on the north and south instead of applying to all streets except 200 South. Applicant also wants to identify and clarify which uses fit within the mixed-use requirement. Staff is fine with this clarification. They further propose that within higher density developments, any ground floor development could be used for residential purposes and may convert one day to commercial use, and they have proposed standards. Additionally, there would be a prohibition on single-story buildings meeting the commercial requirement, which staff is also fine with. Finally, they propose to allow live/work units to count towards the commercial use requirement.

Staff is particularly opposed to amending the streets requirement and allowing flex-space conversion from commercial to residential. Once something starts as one use it is hard to change and convert to another.

Ms. Anderson asked about switching space from residential use to commercial use, would applicant be able to switch any other main-level residential to commercial, can they go above 25%?

Mr. Olsen replied that they could if they wanted, but higher building standards are required for a commercial appearance.

Mr. Frandsen asked how clustering the commercial requirement works when a project is built in different phases. Mr. Olsen said that the developer will give an initial plan of the entire picture.

How they phase it is up to them, with the caveat that council has said the commercial component has to be delivered before project is at 75% buildout.

Mr. Mike Hathorne, representing Crescent Communities, feels that the mixed-use part of the code constitutes a big problem as it is written. The struggle as he sees it is that the mixed-use requirement doesn't work well with the other regulatory forces. A developer has to abide by zoning requirements but is also subject to real estate market forces. A balance of the two is necessary for anything to progress. He stated that nineteen developers have walked out when they understood the mixed-use component as written. The code is intended to generate quantity, based on streets and buildings, it doesn't conform with market forces. He had a conversation with Zions Finance showing that demand for non-residential uses since 2000 has dropped from 25 to 20 sf per person before covid. In 2020 that number had dropped to 15 sf per person. If the mixed-use component is designed to generate quantity and the developer can't hone in on what the demand will be, they will either walk away or do things to work around the code. Crescent Communities is willing to try and tackle the issue and see if they can make something work. If there can't be a balance between zoning regulations and market forces, they will have to leave as well. The first issue is with the commercial requirement related to street frontage. If there was a market study done to understand demand in the area, that would give something to work with. In trying to address the street issue, they recognize that if a developer adds streets that affect how much mixed-use they have to provide, they will try to work around this by reducing the number of streets and thus connectivity which is desirable to the city. Ground floor flex space that can convert when the market becomes favorable for commercial use preserves the opportunity rather than forcing something now that won't work. One developer will end up delivering a building that will probably sit as a vacant shell and be unrentable for the present. Amenities such as rental offices, community rooms, etc. could be converted to commercial use when the market is there. The other work around for developers is minimizing the amount of ground floor space to reduce unviable space. The fact is that they have to be able to get funding for their projects. Lastly, the other amendments are just clarifications that are relatively easy or non-issues. Live/work units already have precedent in fulfilling this requirement. Flex space is identical to live/work units. These proposals preserve the opportunity while allowing development to move forward. Basically this is a conflict between zoning regulations and market forces.

Chairman Woffinden pointed out that Mr. Hathorne wrote the original TOD document and asked if his intent is to fine-tune it.

Mr. Hathorne replied that he has been hired to make the mixed-use language more conducive to development.

Ms. Peay asked if he has changed similar language in other cities.

Mr. Hathorne said he was adamant from the beginning that this was the wrong approach, the market needs to be allowed to lead rather than be superseded by regulation. The way it is written today this area will take years to come to fruition. He said we need to look at this holistically. If

you're tying mixed-use to streets, developers will elect not to put in more streets. You don't want to dismiss streets, so we need to figure out how to make the project viable. They are trying to figure out how to make the mixed-use most viable and successful.

Mr. Olsen gave background perspective that the core of the TOD is where you have the most density. The council wanted to see the mixed uses and not only high-density residential.

Mr. Hathorne said that as presently written, the TOD district will remain fallow until changes are made and the market catches up, which could be years. There is a lot of interest, but when developers see the mixed-use requirement, they're out. What the council wants is admirable, but there are more tools available. Flex-space is a good solution until demand catches up, then commercial uses will appear because commercial rents are higher than residential. Developments in Salt Lake City are using flex-space as a way to bridge the gap between the present and the future. They feel like it's a good fix.

Mr. Frandsen asks how many acres are in this parcel, Mr. Hathorne answers that there are ten.

Mr. McKay Quinn, of Crescent Communications, adds that the property they are interested in fronts all of 900 West. They propose to maintain the 25% commercial requirement there. 250 South and 300 South is where the commercial requirement is a burden that the market can't bear.

Chairman Woffinden asked how other cities enforce the commercial requirement.

Mr. Quinn has experience with the University Parkway project in Provo where they built the ground floor with 12 ft ceilings as flex space. The use is currently residential but will switch to commercial, which will be more profitable, when the market drives it. Another anecdotal example is Daybreak, a master-planned community of 6000 homes which has been 17 years in development. There are another 13,000 homes planned with a main commercial road. Only now, 17 years in, are they starting phase 2 of the commercial components. It will come, but it may take several years, after the residential is built.

Mr. Hathorne added that 200 South will take a while to come into being with the 100% commercial requirement.

Mr. Frandsen is concerned, he thinks it is a possibility that we are being asked to make a change that may be in effect for a buyer that might walk away.

Mr. Hathorne noted that regardless of buyer, the same requirements are in place.

Ms. Anderson expressed her feelings that the job of the commissioners is to look ahead and make choices that are best for the city. The mixed-use component is there for a reason. The vision of a mixed-use community is that we are trying to reduce vehicles. Under applicant's proposal, 900 West and 1100 West would be the only ones with a mixed use. She feels that the job of city officials is to plan, stick to a cohesive plan and the optimal design and not be floppy. We certainly could fill up the area tomorrow, but it won't be what we wanted. This may mean

that developers have to learn a new way to develop projects, but we need to be committed to keeping the mixed-use design in the TOD core.

Mr. Frandsen agreed, it would be easy to do away with the TOD zone and let the market buy and sell and develop in a market-driven way. However, the result would not be what we've determined we want.

Mr. Brocious pointed out that the code originally called for commercial to be delivered at 50% buildout, then the city moved to 75% to give more flexibility.

Mr. Frandsen asked how many rooftops it takes to drive commercial development.

Mr. Hathorne replied that formulas and information given by Zions and Crescent Communities ends up at around 8,000 sf of non-residential space. As he sees it, the main issues are building footprints and streets. Developers will try and make it work by reducing streets and footprints.

Ms. Anderson agreed that this is a new concept. We haven't done it before, but it is a valuable vision to stick to.

Mr. Hathorne agreed, but thought that the way it is written needs to be fixed in the interests of the city.

Ms. Anderson pointed out that the amendment consists of five points, and she has no issues with three of them. All but items 1 and 3 she can agree to. She doesn't think that reducing the number of streets requiring commercial would benefit the core, and she doesn't think the flex space is a good solution. Once a use starts out as residential, there's no guarantee of a commercial component coming to fruition.

Mr. Hathorne asked if amenity functions of multi-family can be utilized on the ground floor. It's not a true mixed-use function but is necessary space.

Ms. Anderson clarified that such amenity space would only serve the residents of that building, and not the whole community.

Public Hearing Opened

Mr. Grant Lefgren has TOD property adjoining this parcel, he has also noticed that there are some unintended consequences of the TOD code. He agreed that developers are trying to avoid the interior streets because of the commercial requirements. He thinks it is worth listening to the developers to understand what is making sense for them and what is not.

Ms. Anderson agreed that the city wants connectivity, what kind of options are there in the code so that we can have that and still have mixed-use requirements not only on the core connectors?

Mr. Olsen replied that our mixed-use requirements keep getting chipped away. None of the projects have a mixed-use component, they're strictly residential. If the city wants a bunch of high-density apartments, that's easy. How do we ensure the city gets what it wants?

Ms. Janeen Ledkins doesn't feel like she has a horse in this race, and she doesn't necessarily want the TOD project. As a small business owner, she wants her tax preparation business to be accessible to her customers who will come in from out of the area. She asked if the city has done a study of what kind of business will be there. She thinks maybe hair salons, coffee shops, etc would be appropriate. She is of the opinion that we should keep commercial to the bigger streets where there is parking, because people want convenience.

Mr. Quinn noted that they see the value of mixed-use, it's just a matter of timing and how much is required. The way the code is currently written is a big burden to carry.

Mr. Christiansen was a part of the creation of the code, he stated that a lot of time and effort went into this vision. He felt that it would be an injustice to erode it. He wants to maintain the original vision, while also understanding that developers will bring issues to our attention. He doesn't think the city is ready to make wholesale changes. That's why this process exists, commissioners need developers' feedback to understand market conditions, but we've always known we have to respect the vision we've worked toward.

Mr. Olsen added that developer-driven amendments can show us the blind spots, things we can address. However, it needs to be a balance with what the council wanted for this area. He thinks most of the amendments are fine, he will support commissioners and council however they wish to move forward.

Ms. Anderson thanks applicants for bringing forward their concerns. The code is a living document and city leaders can make beneficial changes as needed.

Public Hearing Closed

Mr. Frandsen moved to recommend denial of the proposed amendments.

Ms. Anderson seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Christine Anderson	**Aye**
Chris Christiansen	**Aye**
Jenny Peay	**Aye**
Bruce Frandsen	**Aye**
Rod Brocious	**Aye**

The motion passed.

6. Hearing, review and action on an amended final plat for Dixie Farms Plat F-1 located at approximately 900 South 900 West in the PR 3.0 Planned Residential zone

Mr. Olsen stated that the property consisting of Dixie Farms was annexed in early 2018. Upon annexation, the property was zoned PR-3.0 (Planned Residential 3 du/ac), PF (Public Facilities), and SP (Shoreline Preservation). The PF zone designation lies within a power line corridor, slated as a linear park; additionally, the PF zone designation was given in an area for a potential alignment of the future Vineyard Connector. The Shoreline Preservation zone was designated for the area encompassing wetlands and floodplain adjacent to Utah Lake.

Plat F-1 was approved in 2020. The amended plat proposes two items: (1) adjustment of a common lot line between Lots 409A and 409B and (2) allowance of a variance for front and side yard setbacks.

Section 17.7.503.H.6(f) of the Development Code allows setback variances upon a recommendation and finding from the Planning Commission that "such variance is appropriate for the proper development of the lots and that such reduction will not result in the establishment of a hazardous condition". The applicant has provided a narrative for justification of setback variance. They propose a variance to the side setback, from 8' to 5' (to allow for a 3-car garage), and a variance to the front setback from 25' to 20' (for the house portion only; the garage still being held at 25'). The applicant feels these considerations will allow greater variety of architecture styles for homes; improving the streetscape scene and the reduction of on-street parking. The Planning Commission may, but is not required to, approve such variance. The layout and number of lots is not changing from the original approved final plat.

Mr. Grant Lefgren, applicant, explained the rationale behind his request. They have more properties than this parcel under contract, and these lots are slightly narrower than the others. The lots are 60' wide, they think the market will want 3rd car garages since there are no basements. With the 8' side setbacks and the larger garage, it doesn't give enough usable space. He recognizes that these are smaller lots and the 25' long driveway is a little much for a small lot. From an architectural and use standpoint they would like to reduce the side setbacks to 5'. He believes it will fit well with the small lot size, they would like porches or living space to encroach in the front setback by 5 ft. He thinks it will look and feel better by going from 8' to 5' on sides and from 25' to 20' in front.

Ms. Anderson asked if they would be willing to go 5' on one side and 8' on the other, giving 13' between homes instead of 10'.

Mr. Lefgren said that their company builds with 4' hallways and stairwells, more space than required. It makes the home feel noticeably more spacious. From an architectural standpoint they want to make the entry and the space welcoming. It would make a difference in the feel of the

home, especially in the entry. He's asking for every foot he can get. He believes that 10' between houses is not unusual.

Ms. Peay likes the idea of the 20' in front but she's not sold on the 5' side setback. This little space doesn't leave any room for variance or mistakes. When residents come in they will probably want a pergola or a hot tub and it will be very cramped.

Mr. Lefgren stated that he has two plan sets. Keeping the 8' side setbacks will result in not doing the 3-car garage. With prices so high, in the $600,000 range, the homes should have a 3-car garage. These are the smaller lots and they are trying to add some value.

Mr. Brocious sees value in bringing architectural variety by adjusting setbacks. He asked if the fire marshal is OK with that type of reduction? If there is a safety hazard he will not be in support.

Ms. Anderson agreed with Mr. Brocious on the need for variety. Not everyone wants a big lot, she thinks this is a good product. She likes the varied setbacks and is in favor. She feels that it is appropriate for the proper development of the lot.

Mr. Lefgren inquired if 10' is too hard, would commissioners consider a 6' setback? They could probably make that work, but would really like to have the house component in front of the garage.

Chairman Woffinden asked the fire marshal if 5' setbacks would be considered a safety risk.

Fire Marshal Sacco said that this is usually a question for the building department. He feels that going from 8' to 5' doesn't necessarily mean more risk.

Public Hearing Opened

No comments were received.

Public Hearing Closed

Mr. Frandsen moved to recommend approval of the final plats for Dixie Farms Plat F-1, with the findings and conditions listed in the staff report and subject to any findings, conditions and modifications listed in the engineering report.

Ms. Anderson seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Christine Anderson	**Aye**
Chris Christiansen	**Nay**
Jenny Peay	**Aye**
Bruce Frandsen	**Aye**
Rod Brocious	**Aye**

The motion passed.

7. Review and action on a site plan for Lake City Flats located at approximately 95 N. Barratt Avenue in the CC-1 zone

Mr. Olsen indicated that Lake City Flats is a proposal for a 5-story, 109 studio/micro unit project at the north end of Barratt Avenue and Pacific Drive. The site consists of 1.35 acres and the resulting density is approximately 80 du/ac. The CC-1 zone was recently amended to allow higher density residential uses. There is no cap in density provided that required parking be provided. In addition, there is no height limitation in the zone; again, provided that required parking is provided.

Lake City Flats proposes a parking ration of 1 stall per unit, well below the City requirement of 2.25 stalls per unit. An argument provided by the applicant is that these "micro units" will not need the required 2.25 stalls per unit as tenants will likely have one vehicle, at most. Additionally, as the project lies in the path of a future bus-rapid transit corridor, tenants will be able to use public transit. While it may be true that there will one day be a bus-rapid transit system in the vicinity, there is no timeline from UTA on the construction of such a system. If it proves to be successful in reducing the need for parking on-site for this project, an alternative would be to reduce the number of units in order to provide the required number of parking stalls, until such time as the transit system is in place. Then, at that future time, and if the parking demand is decreased, additional units could be constructed on site. Staff has concern with the low number of parking stalls provided. The applicant has submitted a parking study in support of this low number, and staff has provided a professional opinion in reply. Both are provided in the submittal materials. As it stands, staff cannot recommend approval with such a low parking stall request.

As currently written, the CC-1 zone requires that "a variety of compatible exterior materials (minimum 4), colors and design shall be used on all buildings. Architectural style shall consider historical precedent and material used within the downtown area and complement that precedent". Staff is unclear how this is being addressed from the submittal materials presented. The materials illustrate four complementing colors, but it is unclear how the proposed materials complement historic precedent or materials used on existing historic structures downtown. The applicant is likely to come with changes that better address this requirement and speak to it at the meeting. This would be five stories, and the highest building in downtown American Fork, but we don't have the current transportation to support reduced parking.

Until the items outlined above are addressed, staff recommends this item be "tabled". If the reduced parking request remains, staff recommends "denial".

Mr. Frandsen agreed that you never know what will come to pass as far as public transit, there have been many proposals but none have come into existence. He asks what the counter-study showed for appropriate parking. Mr. Olsen believes it was 1.5 stalls per unit. Mr. Frandsen reminded commissioners that even in The Meadows near the Trax station there are parking problems with cars all over the street.

Mr. Hunter stated that Mr. Olsen touched on the parking problems, while he has concerns about other areas. There are a lot of challenges and complexities with this project. The latest resubmittal has been reviewed and a 3rd party reviewed their parking and traffic study. The memo from the 3rd party engineer raised questions and Engineering recommends tabling this item. Engineering staff provided a copy of the memo to the applicant. The proposed site is next to Pacific Drive and the railroad tracks. It is a primary intersection and needs to have mitigation. We cannot give a positive recommendation yet, but hopefully will be able to soon. The required infrastructure is in place.

Ms. Anderson asked if the main problem is access. Mr. Hunter agreed, and stated that he also wants to make sure that all traffic questions have been addressed.

Mr. Brocious noted that that area of Pacific is a challenging configuration, he asked Mr. Hunter what his ideal solution would be.

Mr. Hunter replied that this development isn't creating the problem but would certainly add to it. Some other options are a roundabout with tracks, and maybe a blockade at the intersection of Barratt and 100 North to prevent access. Staff will want to make sure that the Fire Department has sufficient turnaround space, etc. The review provided some possible solutions but we haven't fully explored those details yet.

Mr. Brocious wants to preserve movement and functionality and the tracks, that makes for a lot of interaction. This will be a challenging project.

Mr. Hunter expressed his desire for a long-term solution, not just a short-term fix.

Mr. Diego Carroll is a resident of American Fork and an engineer interested in revitalization and providing affordable housing options. Along with his partner, Chad Pollard, he wants to make the downtown area better. He is a civil engineer and the manager of Lake City Flats project, and currently serves as president of American Council of Engineering Companies. His professional background and interest is in urban development. He prepared the traffic and parking study.

Mr. Chad Pollard is also an engineer, he has a lot invested in this city, and wants better development in the downtown area. His specialty is more on the construction side, and he believes that he and Mr. Carroll make a good team.

Mr. Carroll stated that he met with the commission a year ago to discuss the possibility for reduced parking for micro apartments. They hope to develop a project with half the parking space. He took note of comments from commissioners about the differences between the Salt Lake City project (zero parking) and American Fork. Some commissioners seemed comfortable with 1 space per unit. He intends to focus his presentation on parking concerns. He stated that his approach has been collaborative with city staff, he specializes in micro apartments in order to focus on affordable housing. He believes that the city has a role in providing opportunities for affordable housing. They sought the commissions' feedback and have worked to allay concerns. They want to work with the city staff and come to an agreement. They propose 350 sf units, he

gave commissioners pictures of a completed project in Salt Lake City with full kitchens, bathrooms, and washer and dryer. All units are rented by single occupants who want a small footprint. Their Salt Lake City project was quickly fully occupied.

Mr. Pollard noted that the units are well laid out, with 9' ceilings and an elevator. There is a huge need for housing for singles that is affordable, in the $800-850 range. There is a big demand for a walkable community, he feels that this will minimize the demand for parking.

Mr. Carroll met with Mr. Sensanbaugher, public works director to get his feedback. He indicated that Mr. Sensanbaugher looked at his plans and stated that there are no fatal flaws. (Mr. Sensanbaugher has a differing recollection of the conversation.) Applicants would consider providing a guardrail protecting Pacific Drive, or work to eliminate movement along Barratt and 100 North. He expressed that they are willing to work with city staff to make traffic concerns and safety a priority.

Mr. Brocious asked what long-term solutions would look like.

Mr. Pollard replied that any long-term solution will have to be well studied, these are just temporary measures. He acknowledged that this project would be adding more traffic if they don't block it off. He apologized and expressed a wish that they had more time to come up with solutions.

Chairman Woffinden indicated that commissioners won't make a quick decision.

Mr. Carroll stated that they gave timely information and responses to the city. He reviewed his traffic studies with commissioners to refute concerns expressed by the 3rd party engineer. He feels the comments were splitting hairs. The parking study that he did showed that .75-1 parking space would be adequate. He feels that his study used more precise and sophisticated data than the city's counter-study. He feels that they have addressed all comments and concerns with the exception of the guardrail on Pacific, and they are willing to work with city staff on that. He discussed their projects in Holladay, Midvale and Clearfield. If they were building a typical apartment, they would need the required parking, but their units are different and their analysis is defensible and specific to the area.

Chairman Woffinden asked where Mr. Carroll got his numbers regarding how many cars Utah renters own. He replied that his data came from US Census information. He stated that one-third of renters in American Fork have one car or less.

Ms. Anderson clarified her understanding that residents will be charged to use a parking stall, and the applicants agreed that is the case.

Mr. Carroll added that there are many ways the city can regulate parking, such as charging, giving permits, etc.

Ms. Anderson mentioned that this is another variety of lifestyle product that can be offered in our city. Given the location and walkability, she thinks a lot of people would want an affordable housing option like this.

Mr. Christiansen agreed, he could possibly be comfortable supporting 1 stall per unit. He is open to the idea.

Chairman Woffinden asked about bicycle storage. He believes that if there are reduced numbers of vehicles, tenants may need to use bicycles.

Mr. Carroll replied that he would be happy to provide such storage, they have provided balconies with their other projects and that is where many tenants store their bikes.

Ms. Peay asked if the fire marshal could address fire concerns with this development.

Fire Marshal Sacco said they did reach an acceptable agreement regarding fire safety if the parking situation is resolved. However, if there is parking on the street it will be more questionable. The 5-story height is not the problem, it is the parking along Barratt that would need to be prohibited.

Ms. Anderson asked Mr. Hunter if it would be possible to approve the site plan and have it go forward for work on the guardrail and other possible solutions.

Mr. Hunter indicated that staff would like a chance to further and more thoroughly study the Hales Engineering document and the applicant's responses to make sure everything has been addressed.

Mr. Brocious is struggling with timing of mass transportation. It might be coming, but he doesn't know when. Currently the options are limited to bus transportation. He fears that tenants will need a car and if there is more than one occupant they could have 2 cars.

Mr. Carroll clarified that their current analysis is based on only bus transportation being available.

Mr. Pollard added that some residents won't have any cars at all.

Mr. Olsen pointed out that if they charge for parking, there will be an incentive to park on the street and that will exacerbate the problem. He adds that you can look at their studies and agree with their analysis, but then you have to look at the development across from the Front Runner. They are right next to transit, but their cars are everywhere and this development met the parking code requirement. He feels that this is an example that we should learn a lesson from.

Mr. Carroll expressed his belief that this will happen regardless of what parking numbers you require. The reality is that unless the city prohibits on-street parking, this will happen.

Fire Marshal Sacco stated that in the TOD area there are a lot of problems that they respond to regularly. He feels that the best approach is to take time and look at all the data and reach a good conclusion.

Mr. Olsen indicated that he dislikes discussion items because the applicant can come back later and misrepresent commissioners' comments as support for their project.

Mr. Christiansen moved to table action on the site plan in order to give the applicant time to address issues outlined above and address any issues outlined in the Engineering report.

Ms. Peay seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Christine Anderson	**Aye**
Chris Christiansen	**Aye**
Jenny Peay	**Aye**
Bruce Frandsen	**Aye**
Rod Brocious	**Aye**

The motion passed.

8. Discussion on amendments to the CC-1 zone related to architectural elements

Mr. Olsen displayed a draft of potential changes to the CC-1 zone; specifically, clarification on architectural elements. When revisions were made in 2020 to allow residential uses in the zone, language was included that required new structures to have at least 4 various exterior materials that complemented historic precedent and styles found in the downtown area. In further discussions with City Council, it was determined that clarification was needed on these elements.

Staff has researched architectural styles found in early American Fork. Buildings which exhibit these early styles and elements include: the Alpine Stake Tabernacle (Greek Revival), the Presbyterian Church (Gothic Revival), the Harrington School and Historic City Hall(Late Victorian) and the Bank of American Fork building. These are identified in the Code revisions and used as examples to draw from; common themes found in these examples being called out in the draft. It is hoped that this will provide some clarity when developers propose new structures in the CC-1 zone and how they can complement historic precedent while allowing a modern manifestation.

As this is a discussion item, no formal action will be taken. Additional items may be added to the draft, which may then be scheduled for a formal public hearing and recommendation to City Council.

9. Other Business

There was no other business to discuss.

10. Site Plan Committee Report

Mr. Knobloch reviewed the items for the upcoming Planning Commission meeting to be held on Wednesday, July 21, 2021. There will be 2 annexations in the TOD, another plat in Stonecreek, the Walton Townhomes, and a commercial site plan. He asked commissioners if they would like the Lake City Flats to be on the agenda or if they would prefer to wait. Mr. Olsen mentioned that it wouldn't need a hearing, so it could move forward with 24 hours' notice. Mr. Hunter said he would check with Hales Engineering.

11. Review and action on the minutes of the June 16, 2021 Planning Commission Regular Session

Ms. Anderson moved to recommend approval of the minutes of the June 16, 2021 Planning Commission Regular Session.

Mr. Christiansen seconded the motion. Voting was as follows:

Chairman Woffinden	**Aye**
Christine Anderson	**Aye**
Rod Brocious	**Aye**
Jenny Peay	**Aye**
Bruce Frandsen	**Aye**
Rod Brocious	**Abstain**

The motion passed.

12. Adjournment

Ms. Peay motioned to adjourn.
Mr. Frandsen seconded the motion. All voted in favor.

Meeting adjourned at 11:00 pm.

Lisa Halversen, Administrative Assistant