



Washington City Council
Regular Meeting Agenda
August 23, 2023

PUBLIC NOTICE is hereby given that the Washington City Council will hold a Public Electronic Regular Meeting on **Wednesday, August 23, 2023 at 6:00 P.M.** hosted at the Washington City Office located at 111 North 100 East, Washington, Utah. The meeting will be broadcast via Youtube Live linked online at <https://washingtoncity.org/meetings>

Invocation
Pledge of Allegiance

1. APPROVAL OF AGENDA

2. ANNOUNCEMENTS

3. DECLARATION OF ABSTENTIONS & CONFLICTS

4. OATH OF OFFICE

- a. Introduction and Oath of Office for Firefighter AEMT - Quinn Pincock, Firefighter AEMT - Maddie Gehrke, Firefighter Paramedic - Tyler Chritian. Fire Chief Matt Evans

5. CONSENT AGENDA

- a. APPROVAL OF MINUTES
 - i. Consideration to approve the minutes from the City Council Meetings of 08/09/2023.

6. PRELIMINARY PLAT

- a. Consideration to approve a Preliminary Plat for Desert Ridge Estates, Phases 1 & 2 located at approximately Florence Drive & Desert Cactus Drive. Applicant: Sunwood Homes

7. PUBLIC HEARING

*****Public comments will be accepted at: washingtoncity.org/meetings, until 5:00 pm the day before the meeting. After that time only in person comments will be taken.*****

- a. Public Hearing and consideration to consider eminent domain of certain property or billboards along with all associated rights in that property that, directly or indirectly, arise out of a lease that R.O.A. General, LLC formerly known as R.O.A. General, Inc. and now doing business as Reagan Outdoor Advertising (collectively "Reagan") had with the City to place and maintain

two advertising structures or billboards on tax parcel ID W-168-A-1-D, which property location is approximately southeasterly from the intersection of Main Street and Buena Vista Boulevard. City Attorney Thad Seemiller

8. ORDINANCES

- a. Consideration to approve an Ordinance for General Plan Amendment G-23-05, to change from Residential Low Density (LD) to Neighborhood Commercial (NCOM), located approximately at Washington Fields Road and Merrill Road. Applicant: Rosenberg & Associate and Mino Properties, LLC.
- b. Consideration to approve an Ordinance amending a portion of the City Code Title 9, Chapter 8B, Section 6, Detached Residential Accessory Building Restrictions. Community Development Director Drew Ellerman
- c. Continuation of consideration to approve an Ordinance amending the Washington City Culinary Water Master Plan and Impact Fee Facilities Plan. Assistant Public Works Director Lester Dalton

9. RESOLUTION

- a. Continuation of consideration to approve a Resolution amending the Culinary Water Rates. Assistant Public Water Director Lester Dalton
- b. Consideration to approve a Resolution for the U.S.S. Utah Honoring and Remembering the Forgotten Ship of WWII. Council Member Ivie

10. REPORT OF OFFICERS FROM ASSIGNED COMMITTEE

11. CITY MANAGER REPORT

12. CLOSED SESSION

- a. Purchase, exchange, or lease of property;
- b. Pending or potential litigation;
- c. Character or professional competence of an individual.

13. ADJOURNMENT

POSTED this 17th day of August 2023
Tara Pentz, City Recorder

In accordance with the Americans with Disabilities Act, Washington City will make reasonable accommodations to participate in the meeting. Requests for assistance can be made by calling the City Recorder at 656-6308 at least 24 hours in advance of the meeting to be held.

WASHINGTON CITY
CITY COUNCIL MEETING
STAFF REVIEW

HEARING DATE:	August 23, 2023
ACTION REQUESTED:	Preliminary Plat approval for the Desert Ridge Estates Phases 1 and 2 Subdivision, located at approximately Desert Cactus Drive and Florence Drive
APPLICANT:	Sunwood Homes
OWNER:	Stephen Howcroft
ENGINEER:	Civil Science
REVIEWED BY:	Eldon Gibb, City Planner
RECOMMENDATION:	Recommend approval with conditions to the City Council

Background

The applicant is requesting approval of a Preliminary plat for the Desert Ridge Estates Phases 1 and 2 Subdivision, located at approximately Desert Cactus Drive and Florence Drive. As seen in the exhibit, Florence Drive separates the townhome portion of the development from the single family homes. This application does not include any of the townhome development west of Florence Drive. Regarding the townhome development, the applicant has the option to work with the adjacent land owner (Bella Vista ph-4) and may be making adjustments to the layout of the townhome development. The applicant will need to re-submit their preliminary plat application for the townhomes portion of the development.

This application is for Desert Ridge Estates phases 1 & 2 and includes the full buildout of Florence Drive. Desert Ridge Estates phases 1 and 2 is proposing 72 lots on an area covering approximately 18.68 acres. The zoning designation at this location is Planned Unit Development - Residential (PUD-R). The surrounding zoning is PUD-R to the north, east and west and open space to the south.

The applicant met with the Hillside Committee on January 20, 2022, November 29, 2022 and March 30, 2023 where the applicant satisfied all of the Hillside Committee comments. On March 30, 2023 the Hillside Committee made a motion to recommend approval of the Desert Ridge Estates phases 1 and 2 subdivision. See attached Hillside Committee minutes where the applicant is showing lots 232-235 regraded to reduce hillside cutting and has incorporated rock

walls behind lots 219-233 with these rock walls being built to match the development to the west and shall be painted to blend into the hillside along with all disturbed areas in this location being mitigated with there being “no disturbance” fences installed as shown on the exhibit to ensure no disturbance takes place beyond the disturbance line. Staff has added conditions to this report to address the above Hillside Committee concerns.

The proposed subdivision conforms to the approved zoning. The request meets the subdivision requirements and other city ordinances as it relates to this location. Staff has reviewed the request and recommends approval, with conditions, of the preliminary plat as outlined.

Recommendation

The Planning Commission reviewed this request on August 16, 2023 and recommended approval of the Preliminary plat for the Desert Ridge Estates phases 1 & 2, subdivision onto the City Council, based on the following findings and subject to the following conditions:

Findings

1. The preliminary plat meets the land use designation as outlined in the General Plan for the proposed area.
2. That the preliminary plat conforms to the Washington City Zoning Ordinance and Subdivision Ordinance as outlined.

Conditions

1. A preliminary and final drainage study and grading and drainage plan shall be submitted for review and approval prior to moving dirt. Development of the site shall comply with the recommendations of the geotechnical study and drainage study, and improvements for drainage and detention shall be approved by the Public Works Department.
2. A preliminary and final geotechnical study shall be submitted to the City for review and approval prior to submitting the final plat. All recommendations of the geotechnical study shall be adhered to.
3. Construction drawing for the subdivision and its infrastructure shall be submitted to the City for review and approval prior to the submittal for final plat.
4. The construction drawings shall adequately address prevention of nuisance storm water drainage across lots. If retaining walls are utilized to prevent cross-lot drainage, the developer shall be responsible for installing said retaining walls.
5. At the time of final plat submittal, the following documents shall also be submitted:
 - A. A title report

B. A copy of any deed restrictions, other restrictions, restrictive covenants, architectural controls, or other requirements that may apply to the development (CC&Rs).

6. All detention areas shall be landscaped and all detention and landscaped areas shall be maintained by the property owners and/or homeowners association. A note shall be placed on the plat stating that the City has the right to assess the property owners and/or homeowners association for failing to maintain the detention and landscaped areas.

7. A final landscape plan and fencing plan shall be submitted for review and approval prior to the submittal of the final plat. Landscaping and fencing shall be installed prior to the occupancy of the buildings that will be constructed along the landscaped and fenced areas.

8. All landscaping, walls and other structures shall meet sight distance requirements. A note shall be placed on the final plat stating that the City has the right to assess the property owners and/or homeowners association for failing to maintain sight distance requirements.

9. Driveway locations are to be approved by the Public Works Department.

10. Any proposed blasting for the development of the subdivision requires the submittal of a blasting plan with the construction drawings and issuance of a blasting permit.

11. That a Post Construction Maintenance Agreement be recorded prior to the recording of the final plat.

12. An LID Stormwater Quality Report needs to be submitted for review and approval to the Public Works Department before any final plat application can be submitted.

13. Lots 232, 233, 234 and 235 shall be graded as shown in the exhibit to meet slope stability standards and reduce hillside cutting. A slope stability certificate report for these lots shall be submitted to planning/zoning with final plat application showing compliance

14. Prior to final plat application, a compliance certificate for all of the rockery walls shall be submitted to planning/zoning showing they have been built per design and meet compaction requirements.

15. A No Disturbance fence shall be installed as shown in the exhibit behind lots 215 through 236 and 135 / 136 to ensure this open area remains undisturbed. This No Disturbance fence shall be maintained, monitored and strictly enforced throughout construction on this site.

16. A No Disturbance fence shall be installed on the west end of Florence Drive running north to south all along this development and tying into the no disturb fence south of lot 215 to ensure the hillside area between Florence Drive and Bella Vista Drive remains undisturbed. This No Disturbance fence shall be maintained, monitored and strictly enforced throughout construction

on this site.

17. Prior to final plat application, all of the grading disturbance areas (purple shading) identified in the open space area on page C10, shall be restored with rockery walls and planted / hydroseeded material that is native to the area. There shall be no hillside scarring visible and all restoration efforts shall be complete.

18. Bonding for the rockery walls, landscaping and revegetation/mitigation/restoration efforts behind lots 215 through 236 and 135 / 136 shall be approved by public works in conjunction with construction drawing submittal. Construction shall not start nor any dirt be moved until such bonding is in place.

August 16, 2023 Planning Commission Minutes

https://youtube.com/live/_rSlqo6os5w?t=2226

City Planner Eldon Gibb reviewed the application.

Commissioner Hansen opened the public hearing.

Terry Keefe spoke to this item.

Commissioner Hansen closed the public hearing.

James Jessop, project developer, reviewed the application with the Commission.

Commissioner Bulloch made a motion to recommend approval of Desert Ridge Estates, Phases 1 & 2 Preliminary Plat, located at approximately Florence Drive & Desert Cactus Drive. Commissioner Anderson seconded the motion; and the motion passed with the following roll call vote:

<i>Commissioner Anderson</i>	<i>Aye</i>
<i>Commissioner Bulloch</i>	<i>Aye</i>
<i>Commissioner Hansen</i>	<i>Aye</i>
<i>Commissioner Scheel</i>	<i>Aye</i>
<i>Commissioner Tupou</i>	<i>Aye</i>

Hillside Committee Minutes

Phase 2-3 Desert Ridge Hillside Committee Minutes

Jan 20, 2022

In attendance: Dave Black, James Dotson, Jason Smith, Lynn Syphus, Councilman Ivie, Wayne Roger, Thad Seegmiller, Jeremy Redd, Drew Elleman, Eldon Gibb, Jake AGECE, Brandee Walker, James Jessop, Landmark Representative.

Landmark discussed lot 201 elevation and Brandee explained they would terrace this area with retaining walls

James and Brandee explained the fill slope on the backside of the development as seen from the river. Landworks discussed the need to mitigate fill slope with an aesthetically pleasing rock retaining wall preferably black basalt to match existing land.

Dave discussed identifying the rideline and how we do that. Dave thought the city should walk the site and identify the ridge line. Dave continued to discuss his concerns with the project to include identifying ridgeline, fill slope, 30' cut mitigation, portion of landslide being in phases 2 and 3, slope stability tests and the need for a 3rd party review.

Landmark expressed his concern of the 30' cut on lots 317 - 318 area

Jason motioned to table phases 2-3 of Desert Ridge to give time for the applicant to:

- Receive further information on the landslide hazard zone
- Make revisions to the design of cut and fill areas so the walls can be established and natural colors be incorporated
- The need to bring in a 3rd party review for the stability analyses and grading plan
- Retaining Walls throughout the subdivision be detailed in design/height etc.

James second the motion which passed unanimously

Desert Ridge (Mtg #2) Hillside Review Committee Minutes

November 29, 2022

In Attendance: Drew, Eldon, Lynn Syphus, Dave Black, James Dotson, Councilman Ivie, James Jessop, Brandee-Civil Science, Mark-Civil Science, John-Landmark, Wayne Rogers -AGEC, Chris - GTS

The Hillside Committee met at Washington City offices. The committee reviewed the updated plans along with the 3rd party recommendation. AGECE discussed the Townhome portion of the project. AGECE is recommending that the Townhome area will need to be over excavated and bench drains are not recommended to contain the water in this area. The committee discussed

their concern with the amount of over excavation needing to be done beyond the development and the impact this will have on the community and native landscaping currently there including the collimer jointing. Discussion was had regarding the future phase of Bella Vista that will be built south of the townhomes and on top of the ridge. This future development has pre plat approval that was done prior to creating the hillside committee and will not be receiving hillside review. AGECE noted that the over excavation of the townhome area will help strengthen the soils for the future bella vista development on top of the ridge.

The committee discussed the landscaping plan in the townhome area noting that an irrigation system is not allowed. Discussion was had regarding a temporary drip system on top of the ground to establish growth and then remove the temporary water approximately 6-12 months later.

Landmark discussed the area designated as single family lots. The committee discussed the reports and noted the static and seismic calculations do need to meet the minimum calculations. The calculations are close but should be fine tuned to meet standards.

Dave motioned to table this item to give time to revise grading and associated plans to meet the industry minimum calculations/standards. Lynn second the motion. The motion passed unanimously

Desert Ridge (Mtg #3) Hillside Review Committee Minutes
March 30, 2023

In Attendance: Drew, Eldon, Councilman Ivie, Lynn Sypush, Dave Black, James Dotson, Brandee Walker, James Jessop, Jason - Homebuilder, John - Landmark, Chris Volkensen -GTS

Eldon read the previous motion tabling this item which stated, "Dave motioned to table this item to give time to revise grading and associated plans to meet the industry minimum calculations/standards. Lynn second the motion. The motion passed unanimously"

The committee discussed the overall plan and their concerns with the project. Dave suggested we discuss each individual concern first being that lots 201-218 have met industry standards for the specified landslide and/or slope stability concerns. City Staff asked Chris - GTS about the wording on his report and that the report did not sound certain that things were being done right. Chris re-assured the committee his firm ran reports and did in fact meet industry standards and that landmarks report also appeared to meet industry standards.

The committee discussed lots 236 and 239 and asked John-Landmark about his recommendation for these lots. John stated the toe of the hill should not be cut and Brandee identified they had elevated these lots so that cutting of the toe would be minimized. It was identified that there would be rock retaining walls at the street frontage so that the cut into the hillside at the back of the lot would be minimal. The hillside discussed the option of doing a reverse walk-out basement to help with this problem. The idea would be that the garage would be in the basement and the main floor above. The hillside committee agreed the grading needed to be reconfigured so no cut into the hillside would occur. The committee agreed fill was acceptable in this area but no hillside cutting.

The committee discussed the fill slopes off the south end of the development specifically lots 219-233. The committee made it known it would look better and have less of a visual impact if the retaining walls were broken into tiers to eliminate one large faced wall. The committee also agreed the retaining walls off the back should match the development to the west (bella vista).

The committee discussed the townhome area. The committee agreed that the technical reports have been met. City Staff discussed density and slope percentage in this area. The committee discussed the option of removing both east and west 3-plex units leaving 14 units on the third row. Removing these 6 units would open the hillside up and are in the "steeper sloped" areas so this would help aesthetically.

The committee discussed the complexity of the work being done in this location (townhomes) and the integrity of the work. James Jessop noted he is developing this land and his partner is building all of the homes / townhomes so they are here for the long haul wanting to do things right. The committee discussed the landscaping south of the townhomes and that if no water is allowed for revegetation, how to ensure the landscaping will actually revegate and not die off. The committee discussed bonds both performance and warranty bond for the project.

This project was broken into three motions.

#1-Townhomes: Regarding the Townhome development, Dave motioned to recommend approval of the townhome portion of this project noting that they recognize the Townhomes stability analyses and mitigation efforts meet the safety standards and will require considerable disturbance in this area. There should be appropriate bonds that are put into place to follow the landscaping plan and make sure the mitigation efforts (landscaping) become established blending into the hillside. The 3-plex unit of townhomes on the third row on both the east and west ends shall be removed to reduce the density on this row by six units. James second this motion which passed unanimously.

#2-Single Family: Dave motioned to recommend approval of the single family lot portion of the project noting that there was an area of landslide and slope stability that has been shown to meet the minimum standard. There are 4 lots specifically numbers 232-235 that shall be re-graded to eliminate hillside cutting. Also, the south end of the project, specifically lots

numbered 219-233 shall incorporate tiered walls and reduce fills to minimize the overall height of the retaining walls as seen from below. The rock walls behind lots 219-233 shall be built to match the development to the west and be painted to blend into the hillside. All disturbed areas in this location shall be mitigated and there shall be no disturbance fences beyond the slope. James second the motion which passed unanimously.

#3-Townhomes: Dave motioned that the critical elements of the project shall have a full time inspector on the project to ensure compliance with the reports and also issue a compliance certificate at end of project. Lynn second the motion which passed unanimously

Preliminary Plat

Desert Ridge Estates Phases 1 & 2

Desert Ridge Townhomes Phase 2

The total area of the proposed preliminary plat application is 28.45 acres proposing 103 units with a combined density of 3.62 dwelling units per acre. Desert Ridge Estates Phase 1 & 2 totals 72 single family homes. Desert Ridge Townhomes Phase 2 totals 31 townhomes units.

This project received a recommendation from the Hillside Board for approval on March 30, 2023. All comments, recommendations, and geotechnical concerns have been met. The provided preliminary plat application contains all hillside exhibits and information.



PROJECT FLOW CARD
MEETING DATE

PP-23-0003 Preliminary Plat Desert Ridge Subdivision
08/23/23

Planning	This application does not include any of the townhome development. <u>This application is for the single family residential lots east of Florence Drive.</u> Staff has added conditions that address the hillside committee and staff concerns and to ensure the project is developed as shown on the plans	
Hillside	<p>Applicant has worked with and incorporated hillside committee recommendations into plan. On March 30, 2023 Hillside motioned to recommend approval with conditions. Conditions have been added to the staff report. Motion to recommend approval is copied below:</p> <p>Motion #2: Dave motioned to recommend approval of the single family lot portion of the project noting that there was an area of landslide and slope stability that has been shown to meet the minimum standard. There are 4 lots specifically numbers 232-235 that shall be re-graded to eliminate hillside cutting. Also, the south end of the project, specifically lots numbered 219-233 shall incorporate tiered walls and reduce fills to minimize the overall height of the retaining walls as seen from below. The rock walls behind lots 219-233 shall be built to match the development to the west and be painted to blend into the hillside. All disturbed areas in this location shall be mitigated and there shall be no disturbance fences beyond the slope. James second the motion which passed unanimously.</p>	
Public Works	Reviewed and concerns with basic utility and drainage have been addressed sufficiently for preliminary plat. Further work will occur during construction plan development. Dedication of 1100 East has been temporarily resolved with an access and utility easement being granted. Full dedication of the 1100 East is still required prior to further development in the area..	
Engineer	No concernst.	
Fire Dept.	No concerns	
Parks/Trails	Reviewed, No Concerns	
Building dept	Reviewed and have no concerns	
Washington Power	Have been in communication with the developer, no concerns at this time	
Dixie Power	NA	

Economic Dev.	Reviewed. No concerns. Residential density in this development helps support planned commercial development for the nearby commercial areas along Telegraph and at Exits 10, 11, and 13. Development also provides housing options for the labor force needed to support commercial developments.	
Administrative	Admin is supportive of the application after the townhome portion of the development has been removed for consideration at this time.	

Additional Comments:

DESERT RIDGE ESTATES PHASES 1 & 2

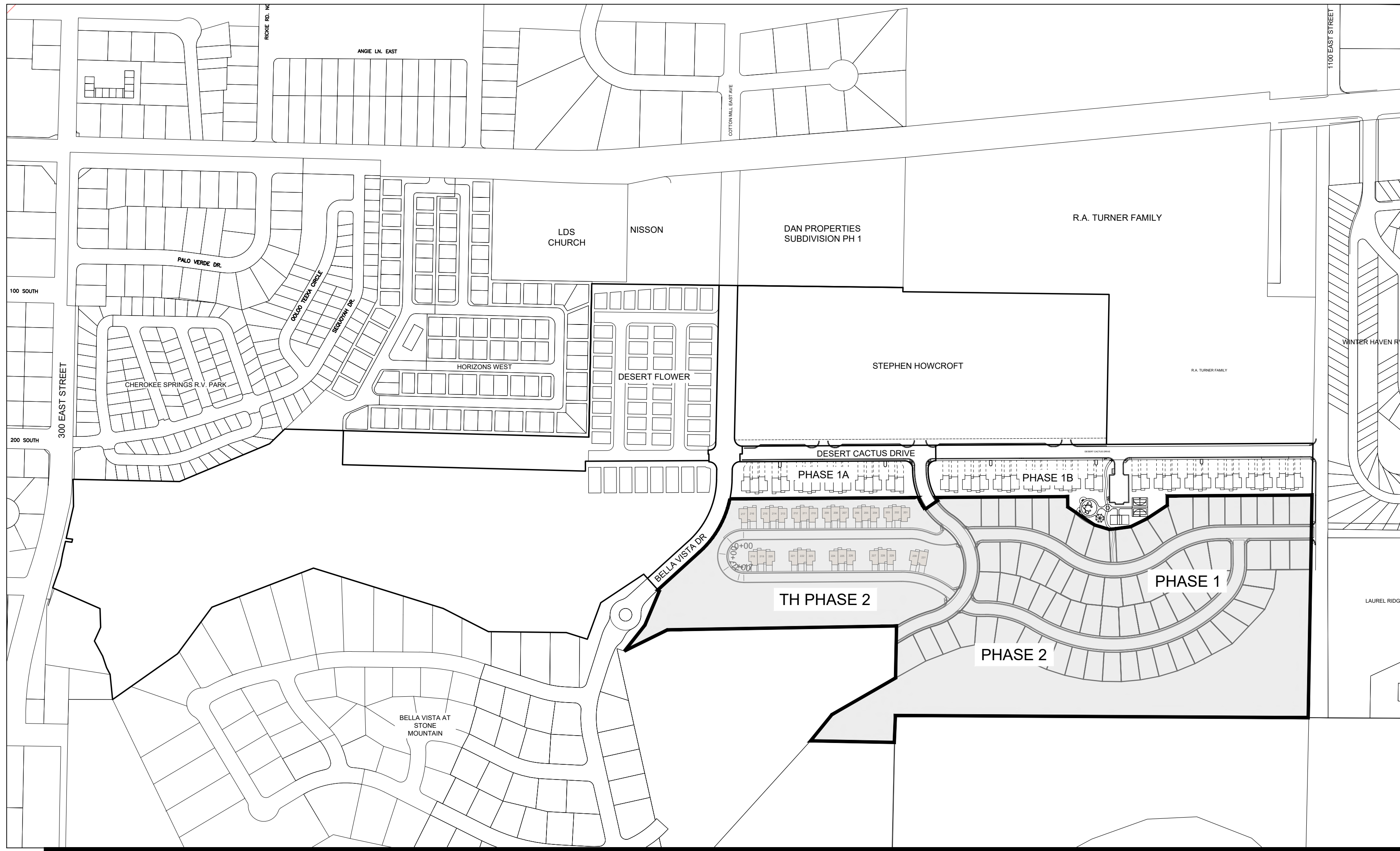
DESERT RIDGE TOWNHOMES PHASE 2

PRELIMINARY PLAT

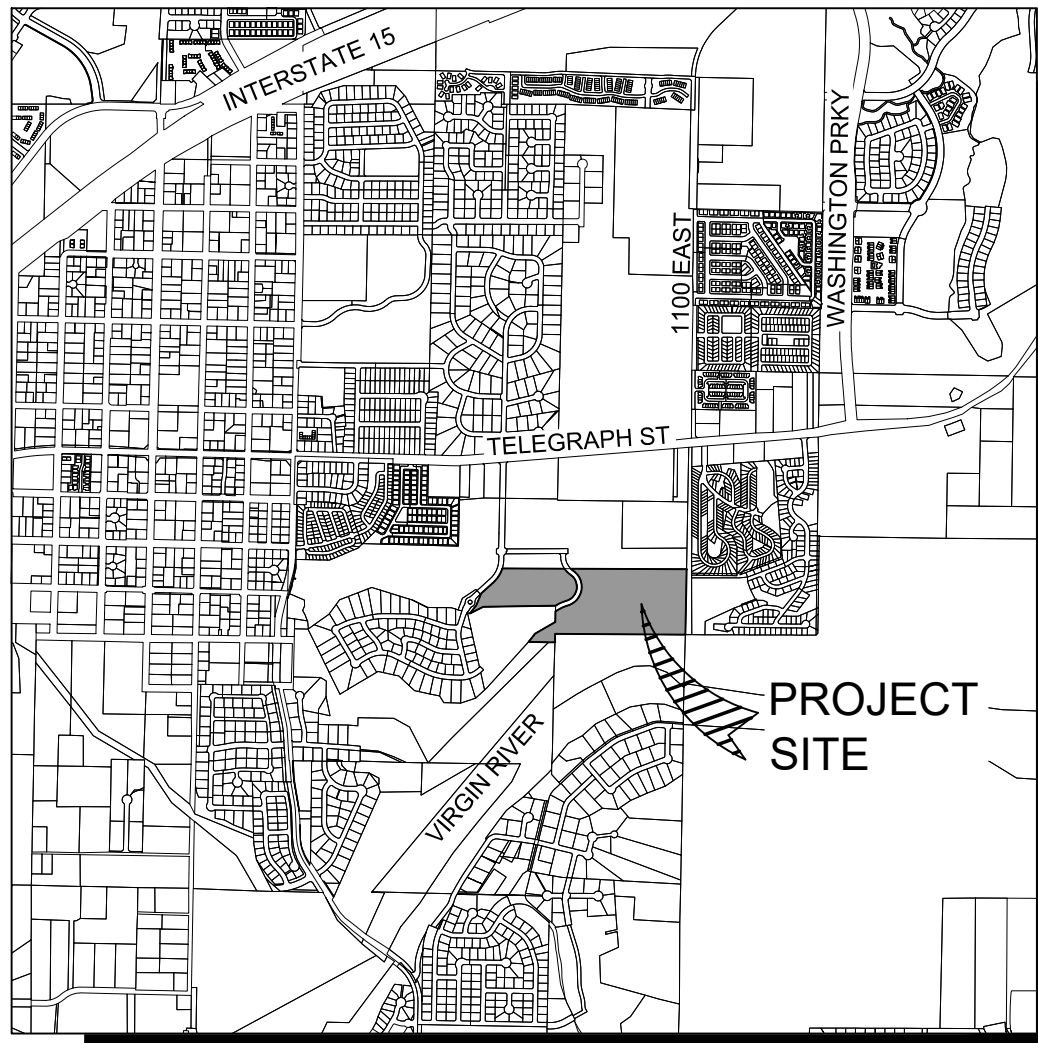
LOCATED IN WASHINGTON, UTAH

ADDRESS: BELLA VISTA & DESERT CACTUS DRIVE
SECTION 14, TOWNSHIP 42 SOUTH, RANGE 15 WEST

SHEET NO.	SHEET DESCRIPTION
C1	COVER SHEET
C2	PRELIMINARY SITE & UTILITY PLAN
C3	FIRE PROTECTION PLAN
C4	SLOPE ANALYSIS
C5	GRADING PLAN - ESTATES PHASE 1 & 2
C6	GRADING PLAN - TOWNHOMES PHASE 2
C7	CROSS SECTIONS
C8	RETAINING WALL DETAILS
C9	ELEVATION RENDERINGS
C10	DISTURBANCE & MITIGATION EXHIBIT
L1	SINGLE FAMILY LANDSCAPE PLAN
L2	TOWN HOME LANDSCAPE PLAN
L3	TOWN HOME LANDSCAPE PLAN



PROJECT MAP
(N.T.S.)



1453 S. DIXIE DRIVE, SUITE 150
ST. GEORGE, UT 84770
435.986.0100

CONTACT

SUNWOOD HOMES
1791 NUTEAM CIRCLE
WASHINGTON, UT 84780

james@mysunwoodhomes.com



Know what's below.
Call before you dig.

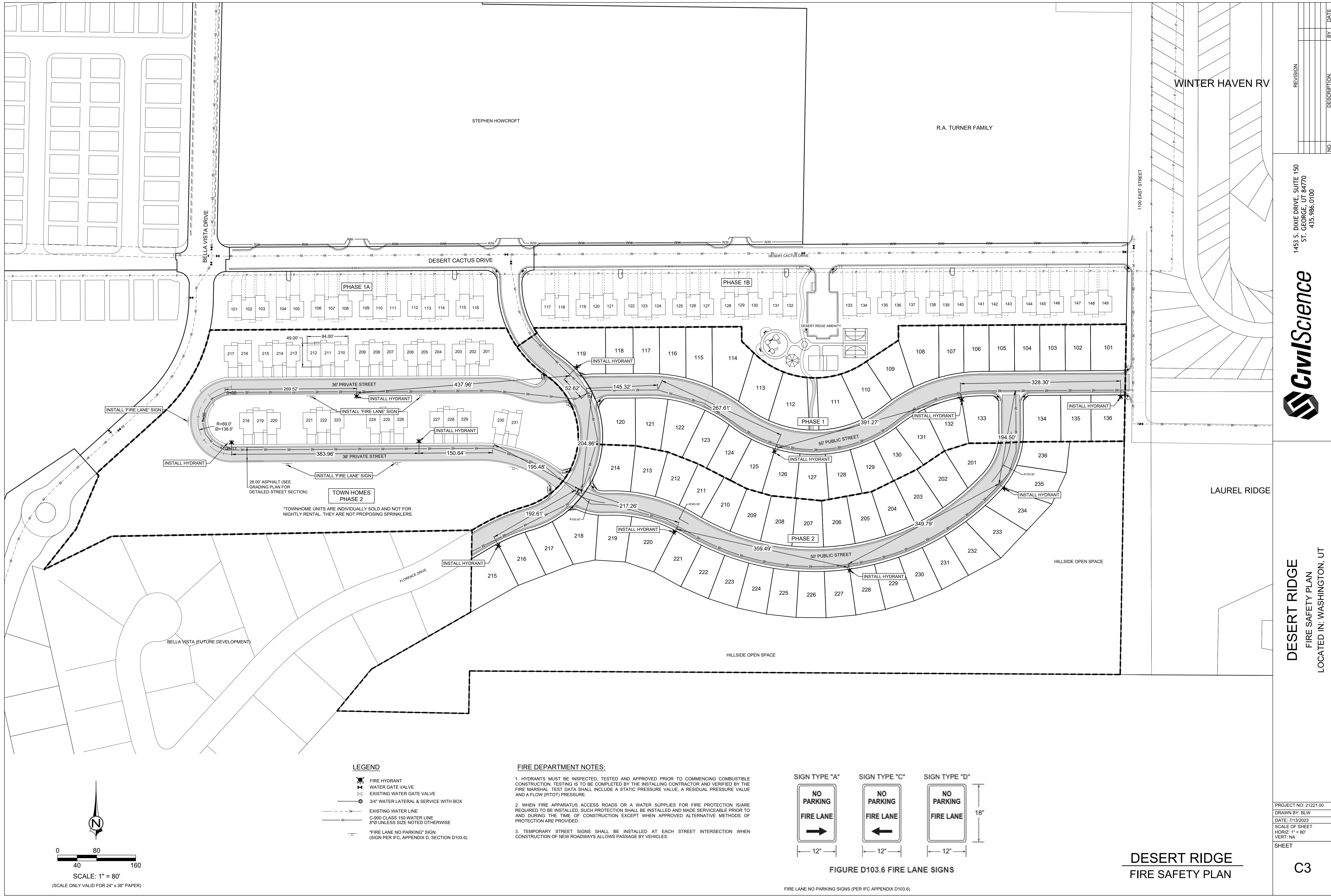
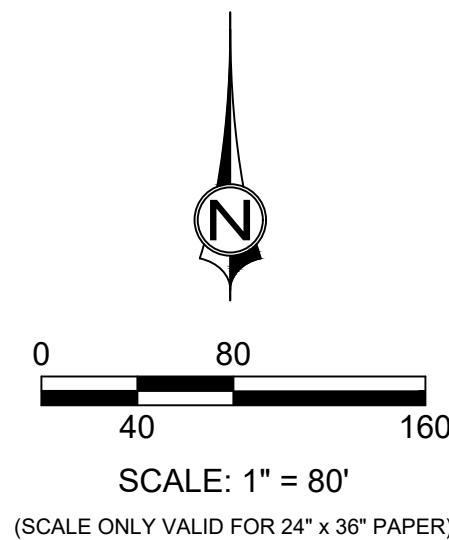
1453 S. DIXIE DRIVE, SUITE 150
ST. GEORGE, UT 84770
435.986.0100



DESERT RIDGE
PRELIMINARY PLAT
LOCATED IN: WASHINGTON, UT

PROJECT NO: 21221.00
DRAWN BY: BLW
DATE: 7/13/2023
SCALE OF SHEET
HORIZ: NA
VERT: NA
SHEET

C1



- LEGEND:**
- FIRE HYDRANT
 - WATER GATE VALVE
 - EXISTING WATER GATE VALVE
 - 3/4" WATER LATERAL & SERVICE WITH BOX
 - EXISTING WATER LINE
 - C-900 CLASS 150 WATER LINE
 - 8" UNLESS SIZE NOTED OTHERWISE
 - "FIRE LANE NO PARKING" SIGN (SIGN PER IFC, APPENDIX D, SECTION D103.6)

- FIRE DEPARTMENT NOTES:**
- HYDRANTS MUST BE INSPECTED, TESTED AND APPROVED PRIOR TO COMMENCING COMBUSTIBLE CONSTRUCTION. TESTING IS TO BE COMPLETED BY THE INSTALLING CONTRACTOR AND VERIFIED BY THE FIRE MARSHAL. TEST DATA SHALL INCLUDE A STATIC PRESSURE VALUE, A RESIDUAL PRESSURE VALUE AND A FLOW (PITOT) PRESSURE.
 - WHEN FIRE APPARATUS ACCESS ROADS OR A WATER SUPPLIES FOR FIRE PROTECTION IS/ARE REQUIRED TO BE INSTALLED, SUCH PROTECTION SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION EXCEPT WHEN APPROVED ALTERNATIVE METHODS OF PROTECTION ARE PROVIDED.
 - TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.

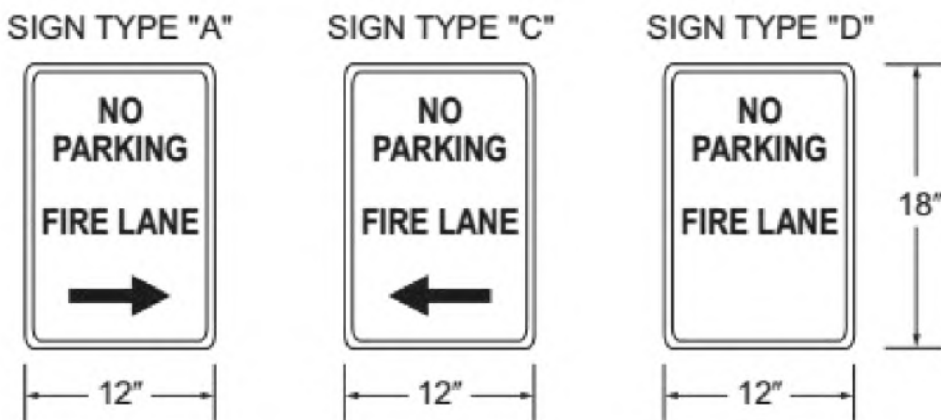


FIGURE D103.6 FIRE LANE SIGNS

FIRE LANE NO PARKING SIGNS (PER IFC APPENDIX D103.6)

**DESERT RIDGE
FIRE SAFETY PLAN**

REVISION

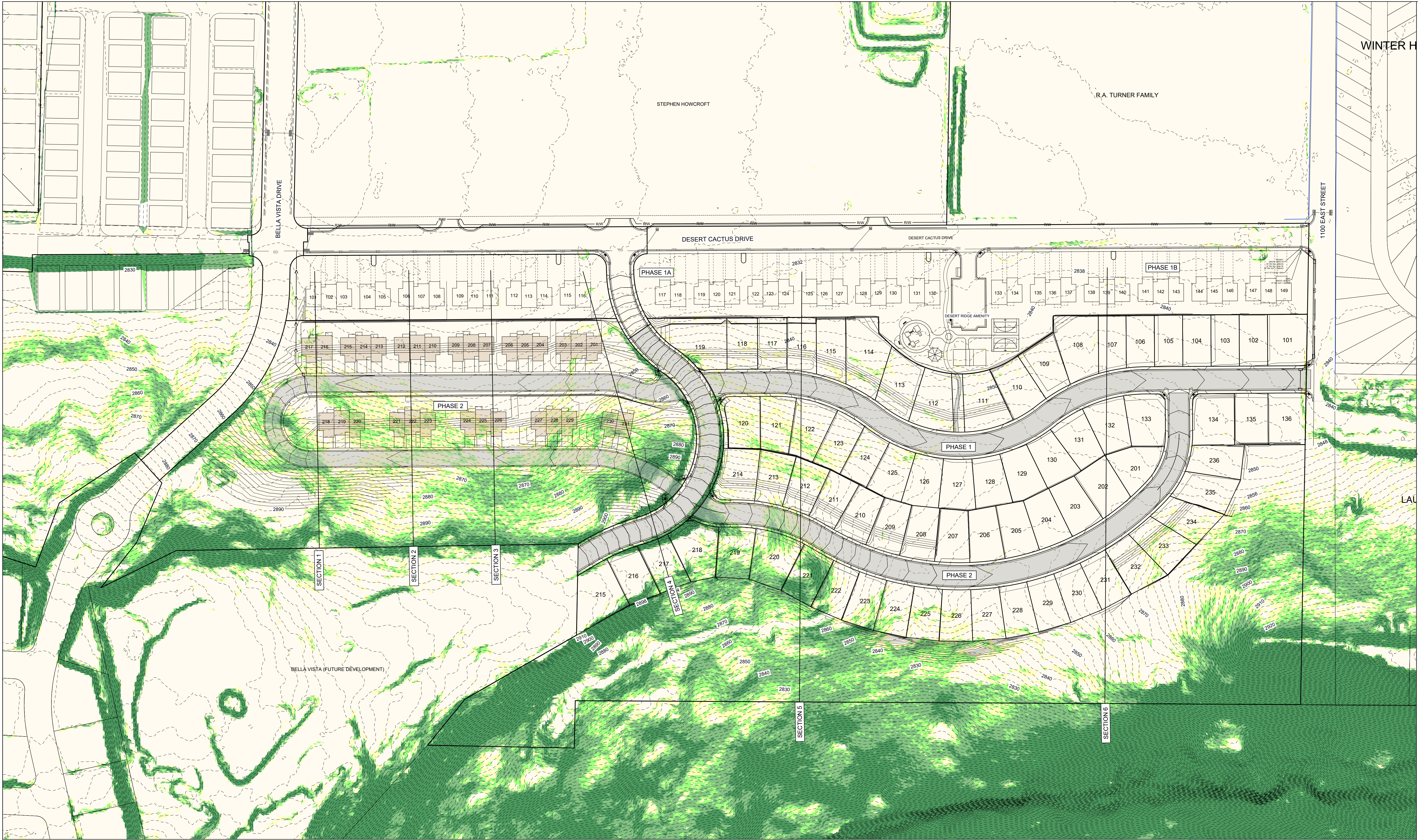
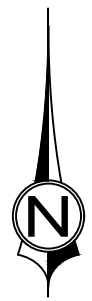
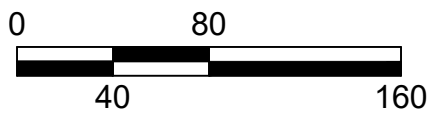
NO.	DESCRIPTION	BY	DATE

1453 S. DIXIE DRIVE, SUITE 150
ST. GEORGE, UT 84770
435.986.0100

DESERT RIDGE
FIRE SAFETY PLAN
LOCATED IN: WASHINGTON, UT

PROJECT NO: 21221.00
DRAWN BY: BLW
DATE: 7/13/2023
SCALE OF SHEET
HORIZ: 1" = 80'
VERT: NA
SHEET

C3



SCALE: 1" = 80'
(SCALE ONLY VALID FOR 24" x 36" PAPER)

- LEGEND**
- EXISTING GROUND CONTOUR
 - FINISH GRADE CONTOUR
 - PROPOSED LOT LINE
 - EXISTING LOT LINE
 - PROPOSED CURB & GUTTER
 - EXISTING CURB & GUTTER
 - DRAINAGE FLOW DIRECTION
 - GRADING DISTURBANCE AREA

Slopes Table						
Color	Min Slope	Max Slope	Total Area (Acres)	Total Disturbed Area	Restored Slope / Open Space	Developed Area %
	0.00%	20.00%	16.87	15.17	0.86	14.31 84.8%
	20.01%	25.00%	3.70	2.74	0.68	2.06 55.7%
	25.01%	30.00%	2.70	1.49	0.64	0.85 31.4%
	30.01%	40.00%	2.76	0.99	0.47	0.52 18.8%
	40.01%	GREATER	2.43	0.52	0.16	0.36 14.8%
TOTAL AREAS =			28.46	20.91	2.81	18.10

Dwelling Units	
Area (Acres)	Density (Unit/Ac) Units
16.87 x 6	= 101
3.7 x 3	= 11.1
2.7 x 2	= 5.4
0	
0	

TOTAL ALLOWED = 117.5 UNITS
TOTAL PROVIDED = 103 UNITS (3.6 DU/Acre)

1453 S. DIXIE DRIVE, SUITE 150
ST. GEORGE, UT 84770
435.986.0100

CivilScience

DESERT RIDGE
SLOPE ANALYSIS MAP
LOCATED IN: WASHINGTON, UT

PROJECT NO: 21221.00
DRAWN BY: BLW
DATE: 7/13/2023
SCALE OF SHEET
HORIZ: 1" = 80'
VERT: NA
SHEET

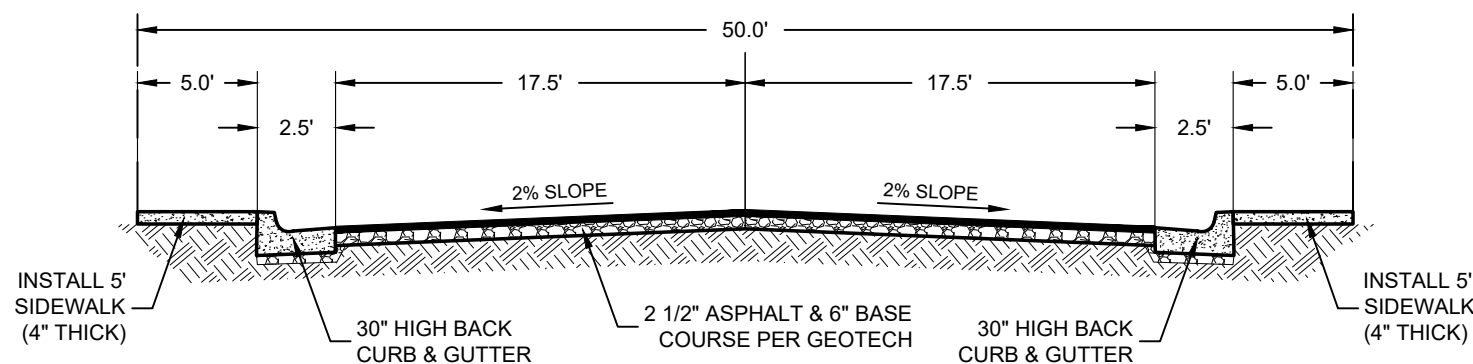
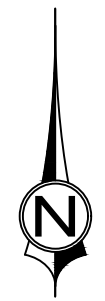
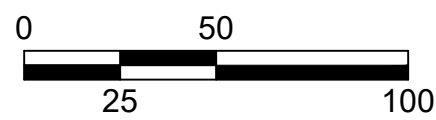
C4



LEGEND

- EXISTING GROUND CONTOUR
- FINISH GRADE CONTOUR
- PROPOSED LOT LINE
- EXISTING LOT LINE
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- DRAINAGE FLOW DIRECTION
- SPOT ELEVATION

TYPICAL 50' PUBLIC STREET



SCALE: 1" = 50'
(SCALE ONLY VALID FOR 24" x 36" PAPER)

1453 S. DIXIE DRIVE, SUITE 150
ST. GEORGE, UT 84770
435.986.0100



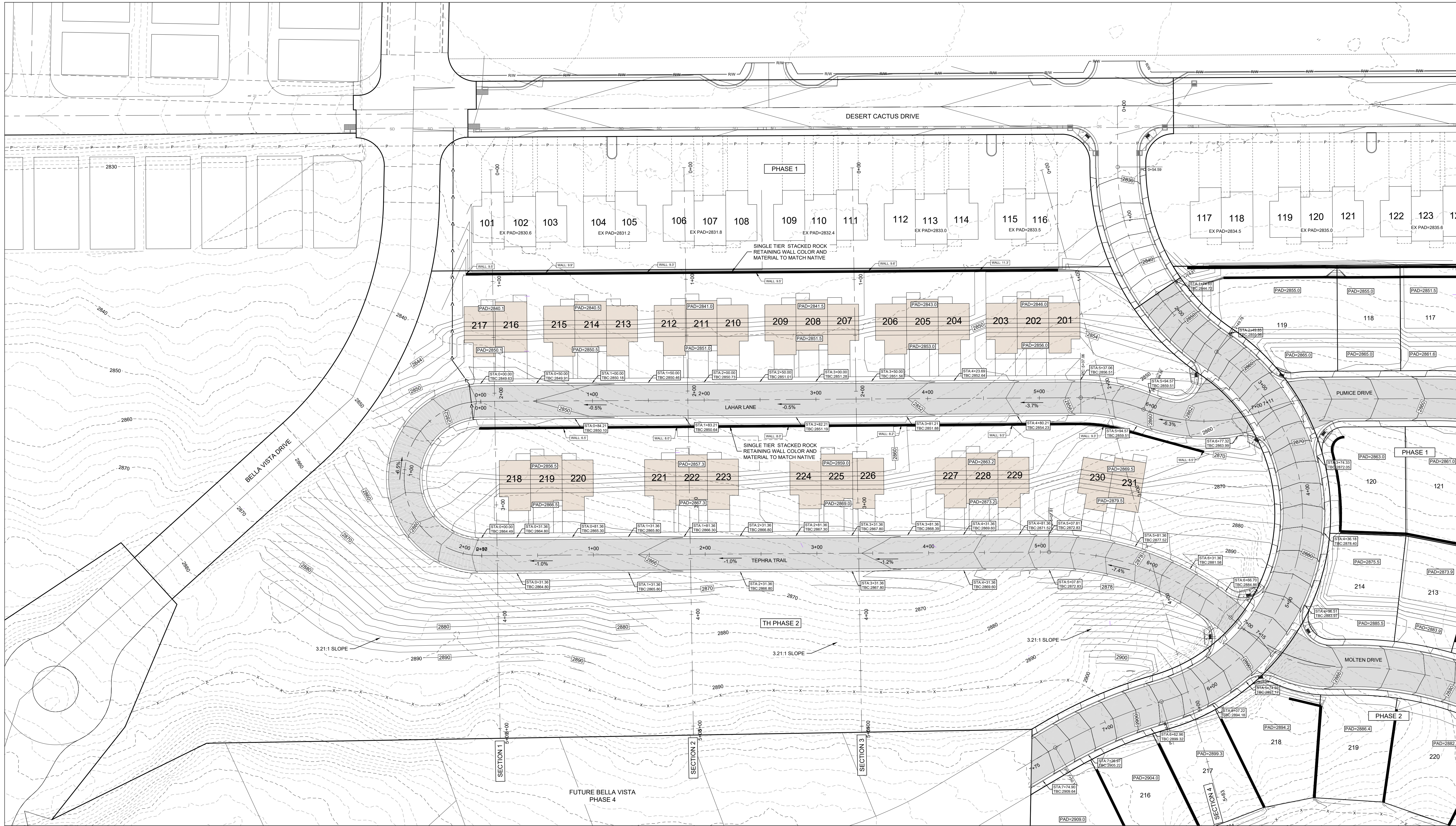
DESERT RIDGE ESTATES ~ PHASE 1 & 2
GRADING & DRAINAGE PLAN
LOCATED IN: WASHINGTON, UT

PROJECT NO: 21221.00
DRAWN BY: BLW
DATE: 7/13/2023
SCALE OF SHEET
HORIZ: 1" = 50'
VERT: NA
SHEET

C5

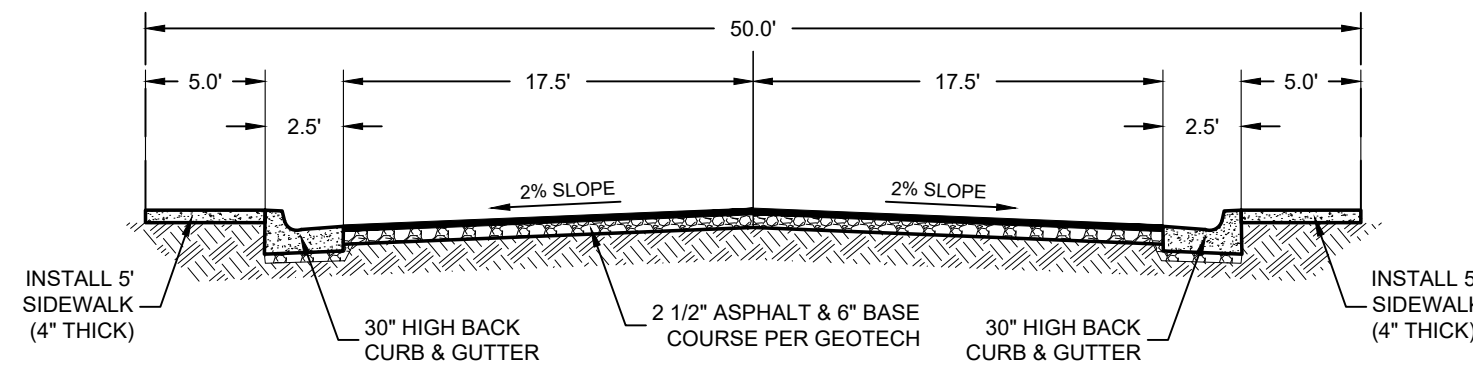
REVISION

NO.	DESCRIPTION	BY	DATE
1	REVISIONS PER HILLSIDE MEETING 3/30/23	BLW	4/27/2023

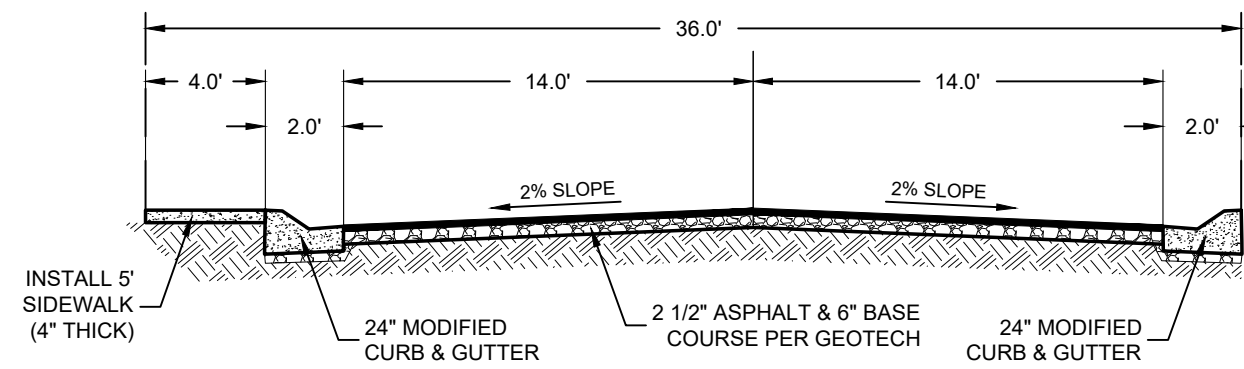
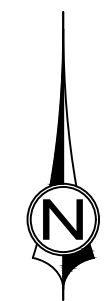
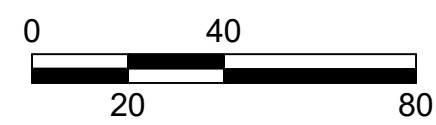


- LEGEND**
- EXISTING GROUND CONTOUR
 - FINISH GRADE CONTOUR
 - PROPOSED LOT LINE
 - EXISTING LOT LINE
 - PROPOSED CURB & GUTTER
 - EXISTING CURB & GUTTER
 - DRAINAGE FLOW DIRECTION
 - SPOT ELEVATION

TYPICAL 50' PUBLIC STREET



TYPICAL 36' PRIVATE STREET



SCALE: 1" = 40'
(SCALE ONLY VALID FOR 24" x 36" PAPER)

REVISION

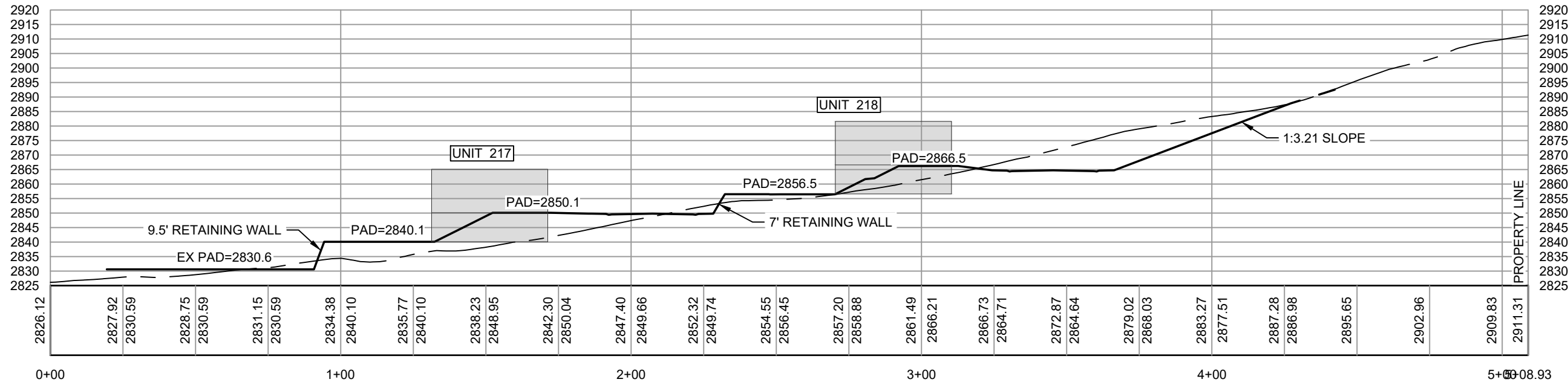
NO.	DESCRIPTION	BLW	DATE
1	REVISIONS PER HILLSIDE MEETING 3/30/23	BLW	4/27/2023

1453 S. DIXIE DRIVE, SUITE 150
ST. GEORGE, UT 84770
435.986.0100

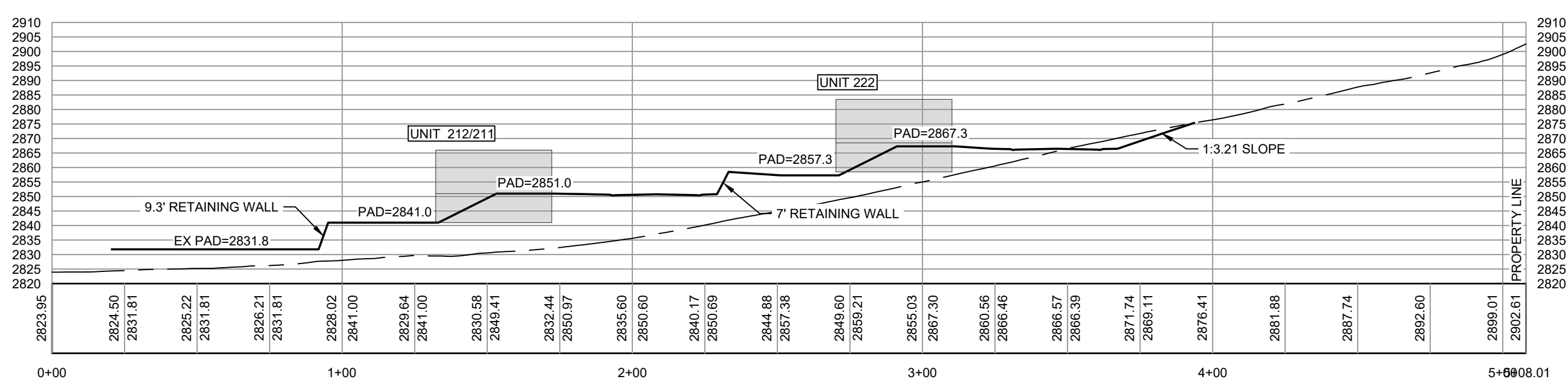
DESERT RIDGE TOWNHOMES ~ PHASE 2
GRADING & DRAINAGE PLAN
LOCATED IN: WASHINGTON, UT

PROJECT NO: 21221.00
DRAWN BY: BLW
DATE: 7/13/2023
SCALE OF SHEET
HORIZ: 1" = 40'
VERT: NA
SHEET

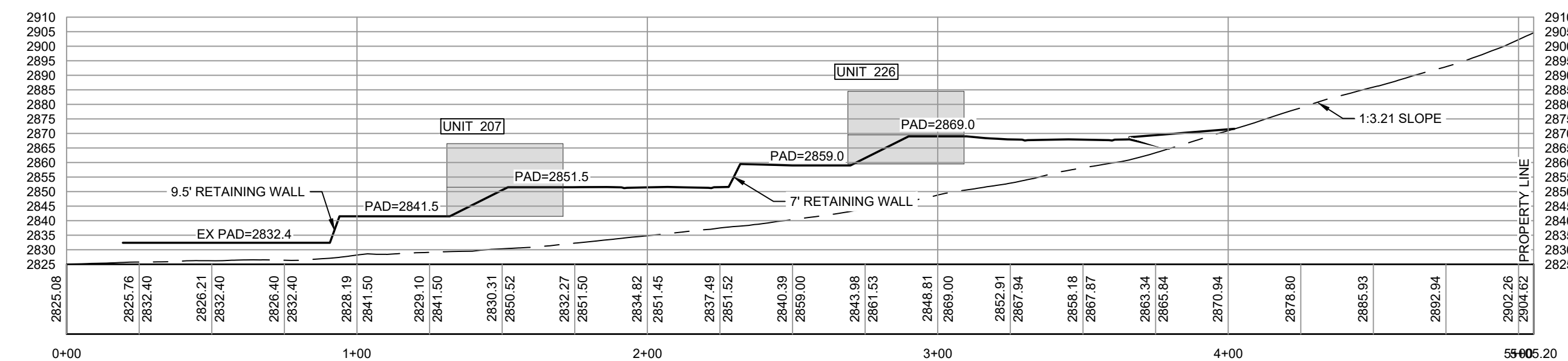
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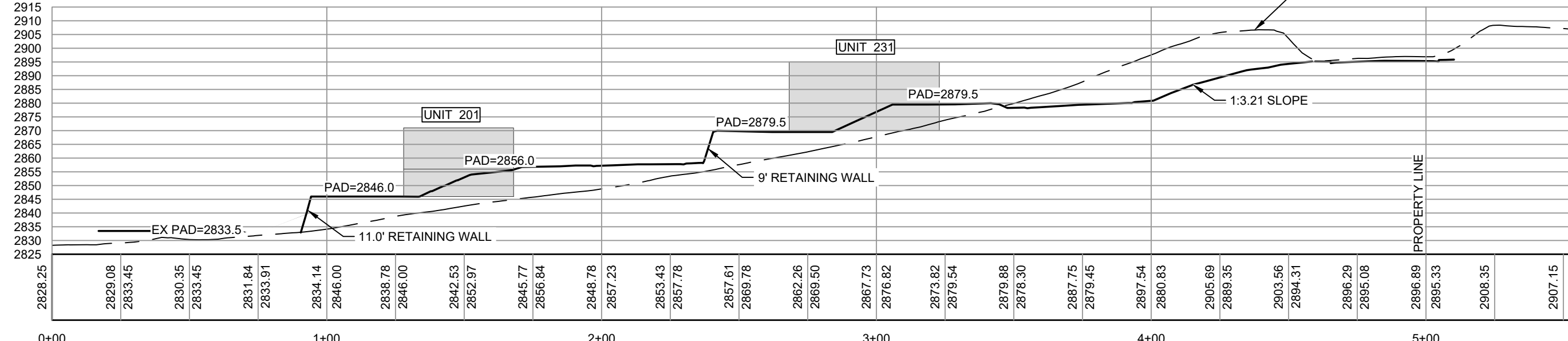
CROSS SECTION 1
H: 1"=40'
V: 1"=40'



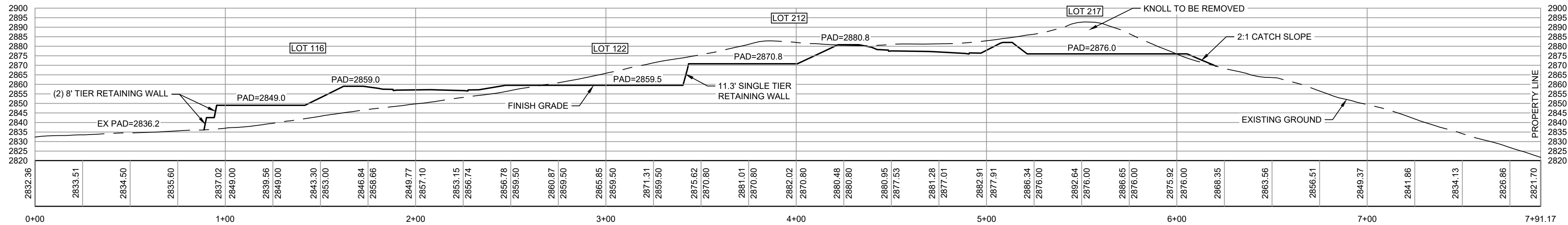
CROSS SECTION 2
H: 1"=40'
V: 1"=40'



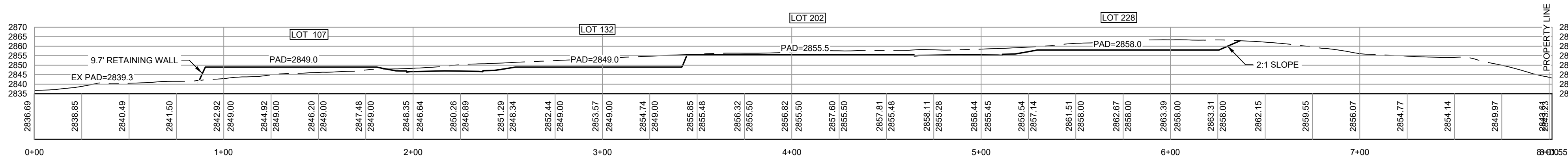
CROSS SECTION 3
H: 1"=40'
V: 1"=40'



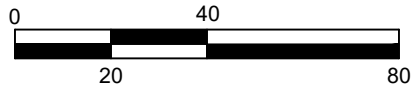
CROSS SECTION 4
H: 1"=40'
V: 1"=40'



SECTION 5
H: 1"=40'
V: 1"=40'



SECTION 6
H: 1"=40'
V: 1"=40'



SCALE: 1"= 40'
(SCALE ONLY VALID FOR 24" x 36" PAPER)

1453 S. DIXIE DRIVE, SUITE 150
ST. GEORGE, UT 84770
435.986.0100



DESERT RIDGE ESTATES & TOWNHOMES
CROSS SECTIONS
LOCATED IN: WASHINGTON, UT

PROJECT NO: 21221.00
DRAWN BY: BLW
DATE: 7/13/2023
SCALE OF SHEET
HORIZ: 1" = 40'
VERT: 1" = 40'
SHEET

This detail is allowed for single-tier walls up to 14 feet in height using mixed clay and imported sand as backfill.

10 feet maximum

10 feet minimum

Building

4-oz filter fabric (typ.)

Structural Fill

Mirafi 5XT - 10 feet in length
BOW + 6 feet

Mirafi 5XT - 10 feet in length
BOW + 4 feet

Structural Fill

Mirafi 5XT - 12 feet in length
BOW + 2 feet

Mirafi 7XT - 14 feet in length
BOW

Structural Fill

2 feet minimum

2 feet minimum

1

5

Preliminary - Not for Construction

This detail is allowed for two-tier walls up to 24 feet in height using mixed clay and imported sand as backfill.

10 feet minimum

Building

24 feet maximum

6 feet minimum

4-oz filter fabric (typ.)

Structural Fill

Mirafi 5XT - 10 feet in length

BOW +18 feet

Mirafi 5XT - 10 feet in length from upper

BOW +16 feet

Mirafi 5XT - 15 feet in length

BOW +14 feet

Structural Fill

Mirafi 7XT - 15 feet in length

BOW +12 feet

Mirafi 7XT - 15 feet in length

BOW +10 feet

Mirafi 7XT - 15 feet in length

BOW +8 feet

Structural Fill

Mirafi 10XT - 20 feet in length

BOW +6 feet

Mirafi 10XT - 20 feet in length

BOW +4 feet

Mirafi 10XT - 20 feet in length

BOW +2 feet

Mirafi 10XT - 20 feet in length

BOW

18 feet maximum

2 feet minimum

1

5

Structural Fill

Preliminary - Not for Construction

LANDMARK
TESTING & ENGINEERING

Two Tier Wall up to 24 feet
Landmark Project No 21282

Figure 3

This detail is allowed for single-tier walls up to 14 feet in height using mixed clay and imported sand as backfill.

10 feet minimum

Building

4-oz filter fabric (typ.)

Structural Fill

Mirafi 5XT – 10 feet in length
BOW + 10 feet

Mirafi 5XT – 10 feet in length
BOW + 8 feet

Structural Fill

Mirafi 5XT – 13 feet in length
BOW + 6 feet

Mirafi 7XT – 13 feet in length
BOW + 4 feet

Structural Fill

Mirafi 7XT – 16 feet in length
BOW + 2 feet

Mirafi 7XT – 16 feet in length
BOW

14 feet maximum

2 feet minimum

2 feet minimum

Structural Fill

Preliminary – Not for Construction

LANDMARK
TESTING & ENGINEERING

Single Tier Wall 10 to 14 feet
Landmark Project No 21282

Figure 1

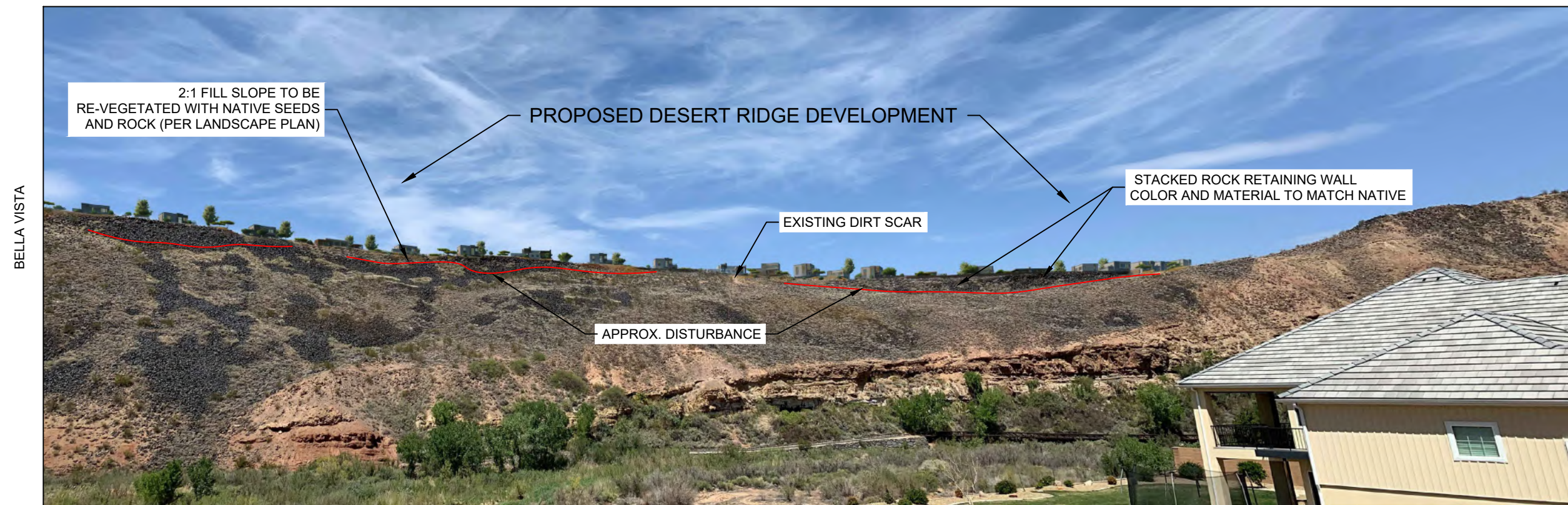
- | GRADATION | PERCENT PASSING |
|----------------------------|----------------------|
| 6-inch | 100 |
| 3-inch | 70 – 100 |
| No. 200 sieve | 5 – 20 |
| PLASTICITY | LIMIT |
| Liquid Limit | 30 or less |
| Plasticity Index | 10 or less |
| COMPACTION | SPECIFICATION |
| Maximum lift thickness | 8-inch (loose) |
| Minimum compaction | 95% ASTM D-1557 |
| Compacted Moisture Content | within 2% of optimum |



VIEW FROM TELEGRAPH STREET
(LOOKING SOUTH)



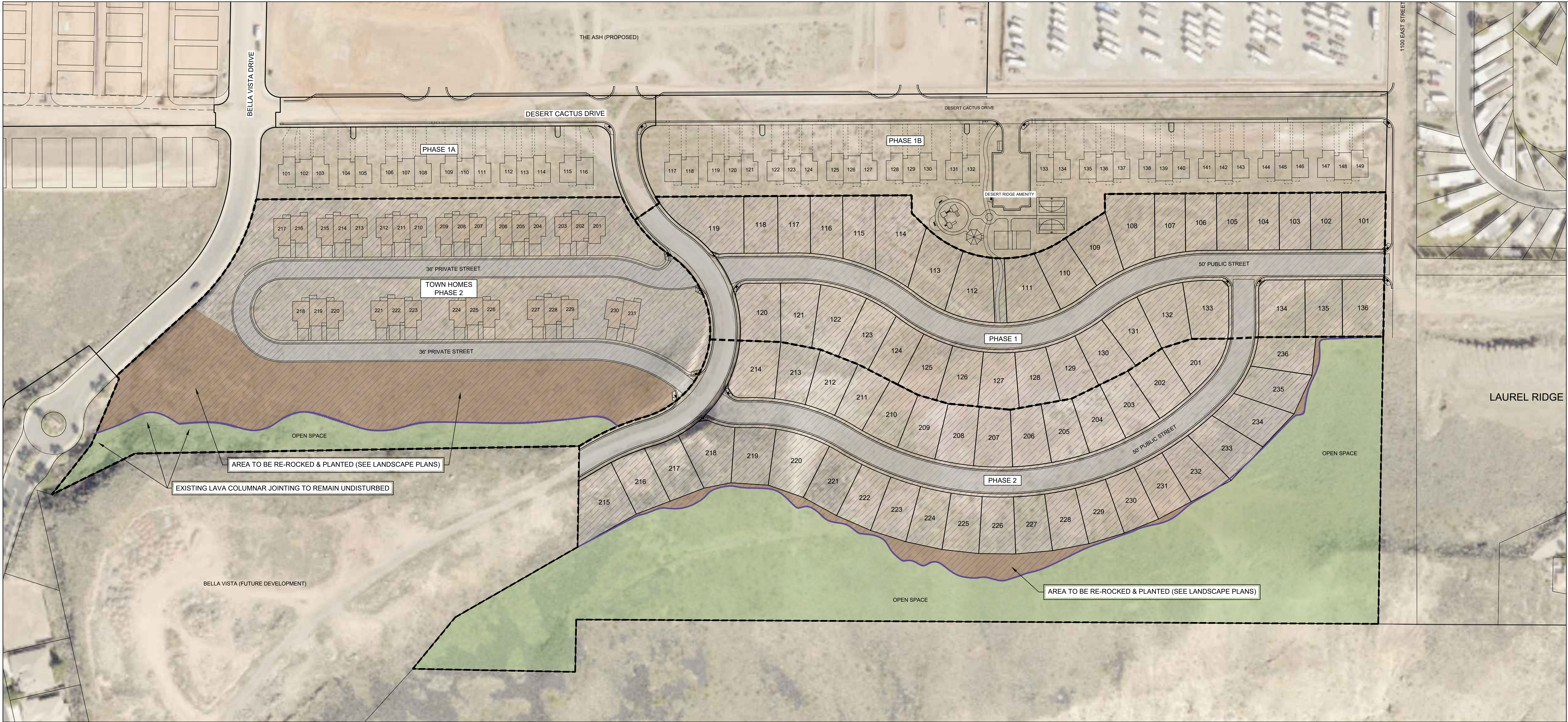
VIEW FROM BELLA VISTA DRIVE
(LOOKING SOUTHEAST)



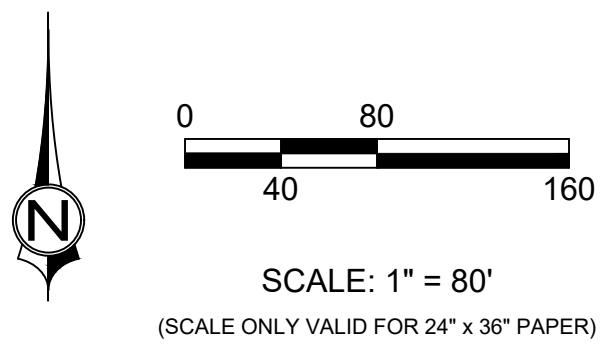
VIEW FROM INDIAN OAKS ESTATES
(LOOKING NORTH ACROSS THE RIVER)



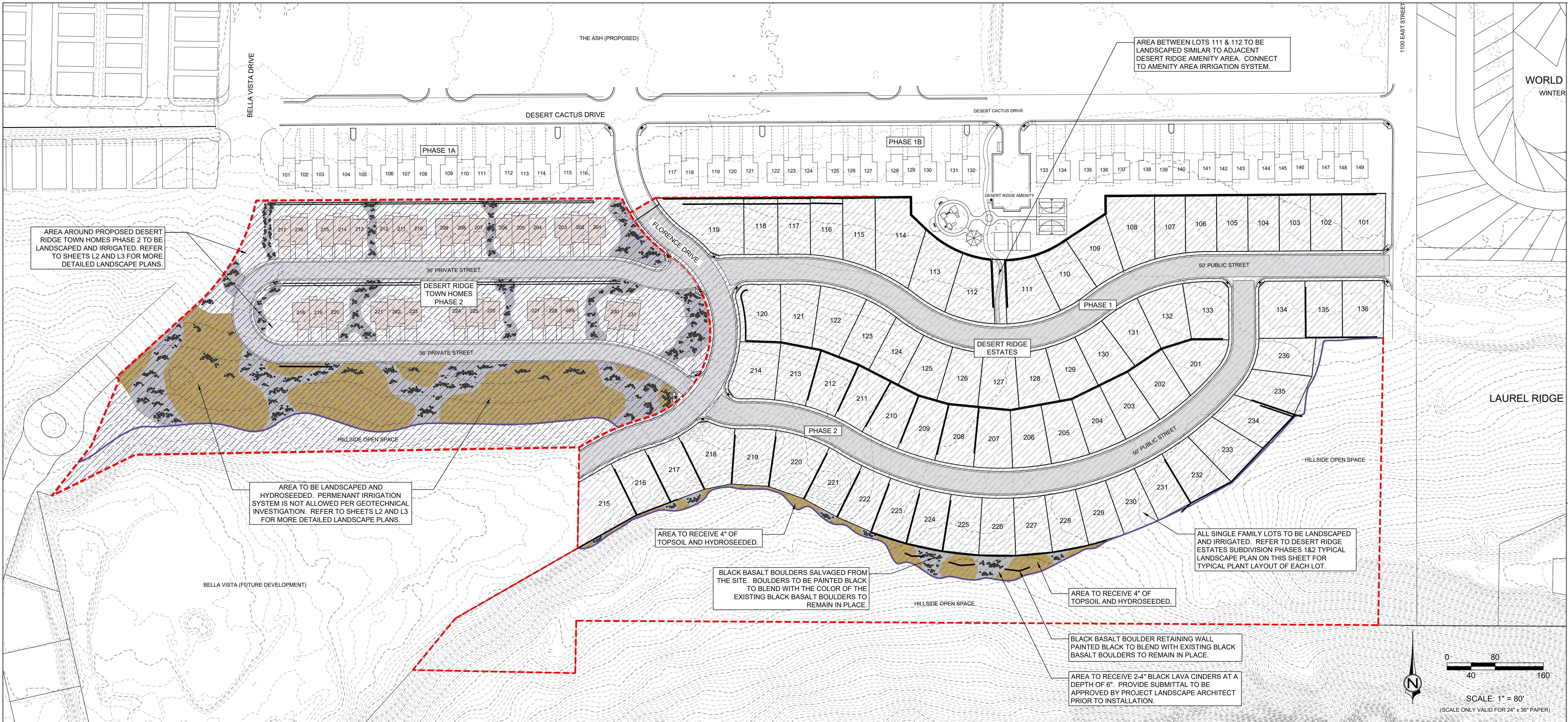
VIEW FROM INDIAN OAKS ESTATES
(LOOKING NORTHWEST ACROSS THE RIVER)



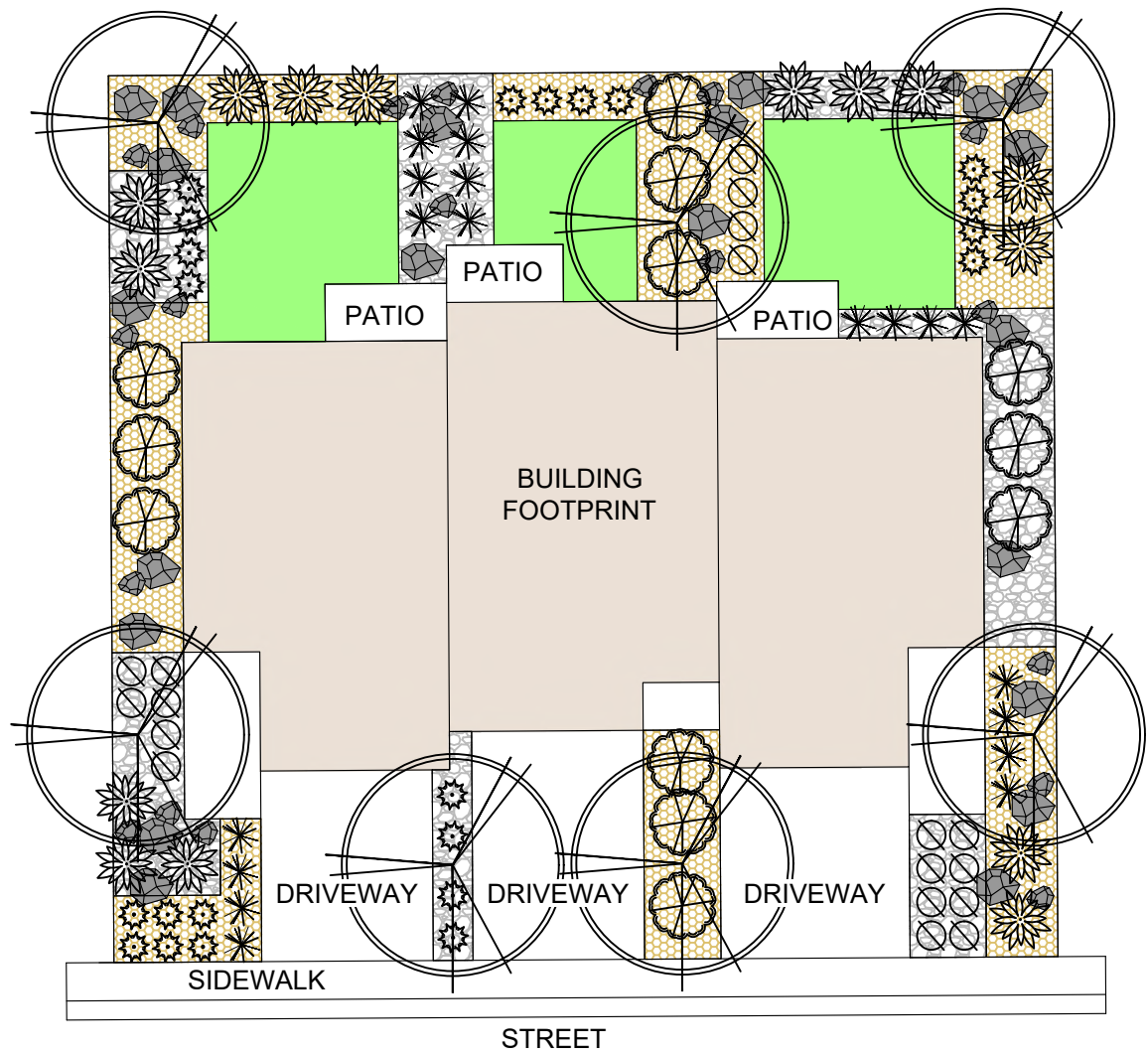
-  GRADING DISTURBANCE AREA = 20.84 ACRES
-  OPEN SPACE AREA TO BE LANDSCAPED / RESTORED = 2.71 ACRES
-  UNDISTURBED OPEN SPACE = 7.60 ACRES



DESERT RIDGE
DISTURBANCE & MITIGATION EXHIBIT

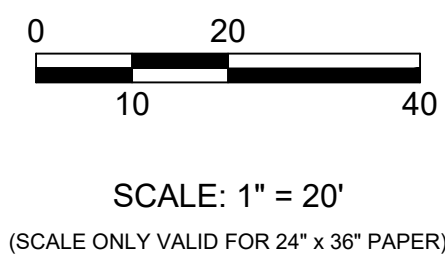


DESERT RIDGE TOWN HOMES SUBDIVISION
PHASE 2 TYPICAL LANDSCAPE PLAN

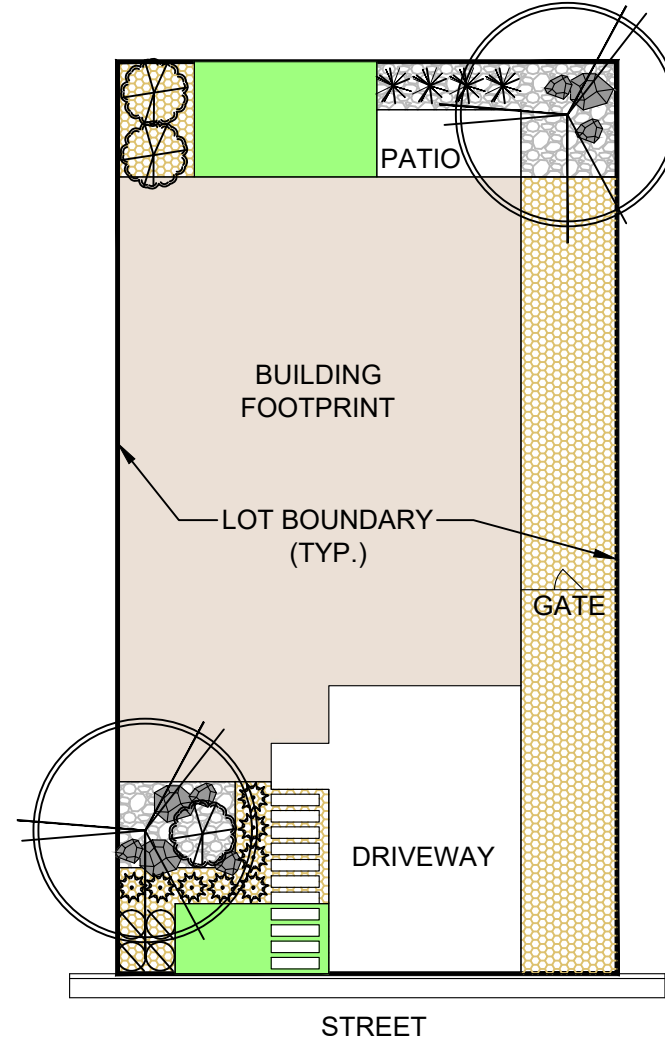


NOTES

- IT IS INTENDED THAT THE LANDSCAPE PLANS FOR EACH AREA AROUND THE TOWN HOMES IN THE DESERT RIDGE TOWN HOME SUBDIVISION FOLLOW THE THEME OF THE TYPICAL LANDSCAPE PLAN SHOWN.
- PLANT AND LANDSCAPE MATERIAL NOT SHOWN ON THE ADJACENT LIST MUST BE APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

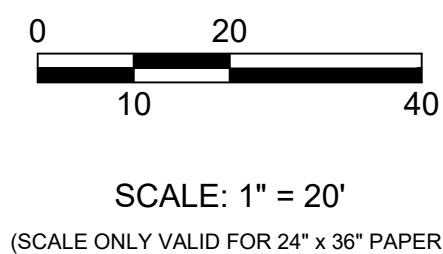


DESERT RIDGE ESTATES SUBDIVISION
PHASES 1&2 TYPICAL LANDSCAPE PLAN



NOTES

- LOT SIZES IN THE DESERT RIDGE ESTATES SUBDIVISION ARE NOT THE SAME. IT IS INTENDED THAT THE LANDSCAPE PLANS FOR EACH LOT IN THE SUBDIVISION FOLLOW THE THEME OF THE TYPICAL LANDSCAPE PLAN SHOWN.
- PLANT AND LANDSCAPE MATERIAL NOT SHOWN ON THE ADJACENT LIST MUST BE APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.



DESERT RIDGE ESTATES PHASES 1&2 AND DESERT RIDGE TOWN HOMES PHASE 2 SUBDIVISIONS PLANT AND LANDSCAPE MATERIALS LIST

THE FOLLOWING IS A LIST OF PLANTS AND LANDSCAPE MATERIALS TO USE FOR THE DESERT RIDGE ESTATES AND DESERT RIDGE TOWN HOMES SUBDIVISIONS. THIS LIST IS TO PROVIDE OPTIONS FOR WHAT PLANT AND ROCK MATERIAL CAN BE USED FOR THE DIFFERENT PLANT AND ROCK TYPES/SIZES THAT ARE CALLED OUT ON THE ADJACENT TYPICAL LANDSCAPE PLANS. PLANT AND LANDSCAPE MATERIAL NOT SHOWN ON THIS LIST MUST BE APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
	CHILOPSIS LINEARIS 'BURGUNDY LACE'	BURGUNDY LACE DESERT WILLOW	24" BOX
	OLEA EUROPAEA 'WILSONII'	WILSON OLIVE	24" BOX
	PISTACIA CHINENSIS 'RED PUSH'	RED PUSH CHINESE PISTACHE	24" BOX
	PROSOPIS GLANDULOSA 'MAVERICK'	MAVERICK MESQUITE	24" BOX
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	24" BOX
	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	6-8" TALL
	CAESALPINIA GILLIESII	YELLOW BIRD OF PARADISE	15 GAL
	CHAMAEROPS HUMILIS	MEDITERRANEAN FAN PALM	15 GAL
	LEUCOPHYLLUM CANDIDUM 'SILVER CLOUD'	SILVER CLOUD TEXAS SAGE	5 GAL
	LEUCOPHYLLUM FRUTESCENS 'GREEN CLOUD'	GREEN CLOUD TEXAS SAGE	5 GAL
	LEUCOPHYLLUM FRUTESCENS 'HEAVENLY CLOUD'	HEAVENLY CLOUD TEXAS SAGE	5 GAL
	NERIUM OLEANDER 'PETITE RED'	DWARF RED OLEANDER	5 GAL
	OLEA EUROPAEA 'LITTLE OLLIE'	LITTLE OLLIE OLIVE	5 GAL
	CHRYSACTINIA MEXICANA	DESERT DAISY	1 GAL
	HYMENOXYS ACAULIS	ANGELITA DAISY	1 GAL
	MALEPHORA LUTEA	ROCKY POINT ICE PLANT	1 GAL
	PENSTEMON EATONII	FIRECRACKER PENSTEMON	1 GAL
	TEUCRIUM CHAMAEDRYS	GERMANDER	1 GAL
	AGAVE SCABRA	ROUGH-LEAVED AGAVE	5 GAL
	DASYLIRON WHEELERI	GRAY DESERT SPOON	5 GAL
	FOUQUIERIA SPLENDENS	OCOTILLO	6" TALL
	HESPERALOE FUNIFERA	GIANT HESPERALOE	5 GAL
	YUCCA BACCATA	BANANA YUCCA	5 GAL
	YUCCA ROSTRATA	BEAKED YUCCA	5 GAL

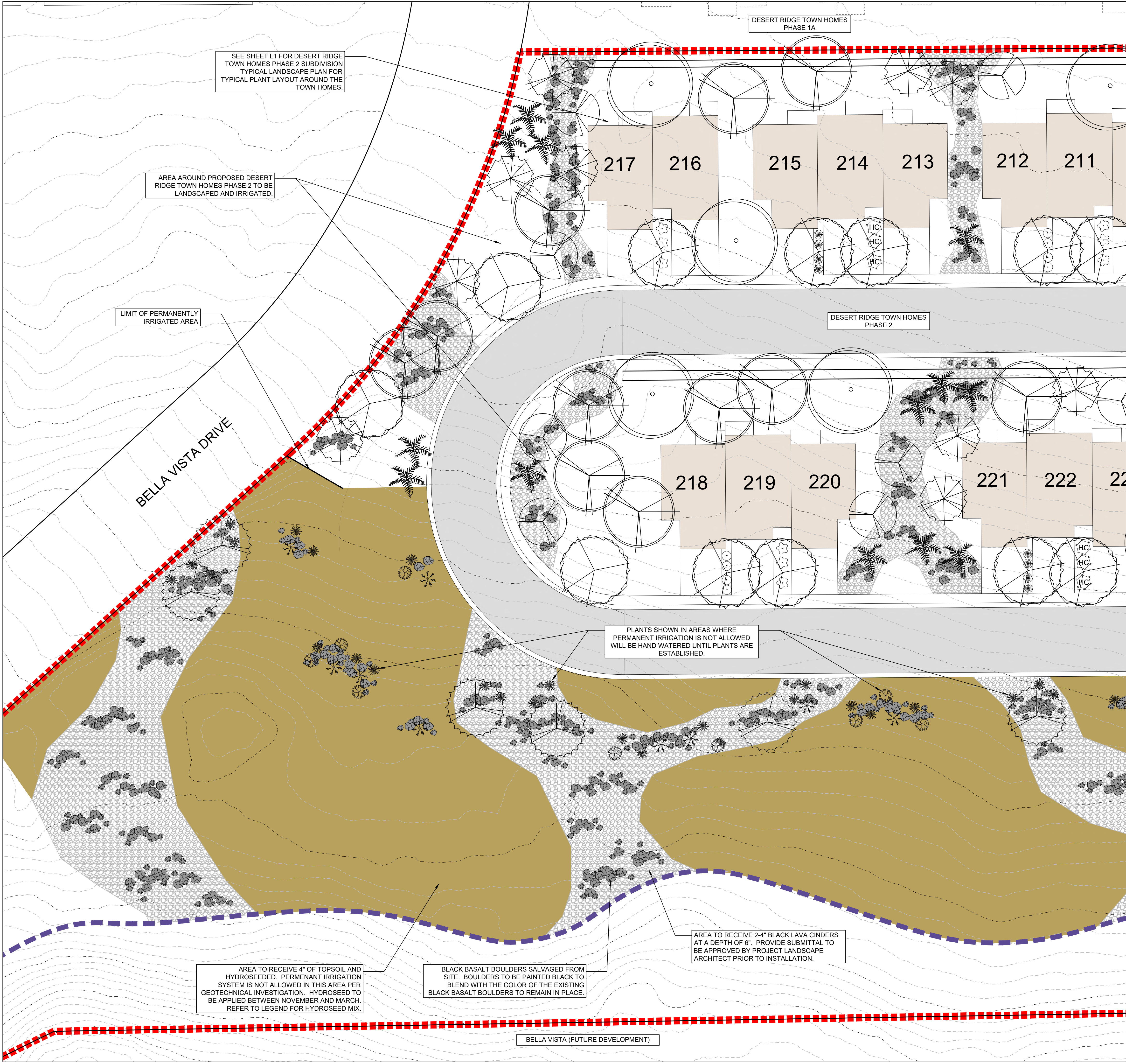
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
	AGAVE PARRYI VARIETY PARRYI	PARRY'S AGAVE	5 GAL
	ECHINOCEBUS GRUSONII	GOLDEN BARREL CACTUS	5 GAL
	EUPHORBIA RIGIDA	GOPHER PLANT	5 GAL
	HESPERALOE PARVIFLORA	RED YUCCA	5 GAL
	BOUTELOUA GRACILIS 'BLONDE AMBITION'	BLONDE AMBITION BLUE GRAMMA	5 GAL
	MUHLENBERGIA CAPILLARIS 'REGAL MIST'	REGAL MIST GRASS	5 GAL
	STIPA TENUISSIMA	MEXICAN FEATHER GRASS	5 GAL
	SMALL: 2-3" DIAMETER, BLACK BASALT		
	SMALL: 2-3" DIAMETER, TAN LIMESTONE		
	LARGE: 4-5" DIAMETER, BLACK BASALT		
	LARGE: 4-5" DIAMETER, TAN LIMESTONE		
	1/2" BLACK BASALT, 2" DEPTH		
	1/2" TAN LIMESTONE, 2" DEPTH		
	1" BLACK LAVA CINDERS		
	1" KANOSH VALLEY RIVER ROCK		
	2-4" BLACK LAVA CINDERS, 6" DEPTH		
	2-4" KANOSH VALLEY RIVER ROCK		
	ARTIFICIAL TURF		
	HYDROSEED AREA		
	DISTURBANCE AREA		

DESERT RIDGE
LANDSCAPE PLAN

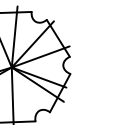
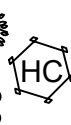
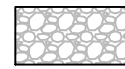


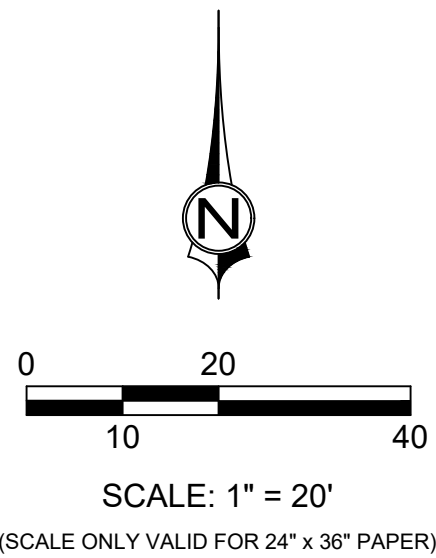
PROJECT NO: 21221.00
DRAWN BY: MG
DATE: 07/13/2023
SCALE OF SHEET
HORIZ: 1" = 80'
VERT: NA
SHEET





DESERT RIDGE TOWNHOMES SUBDIVISION PHASE 2
PLANT AND LANDSCAPE MATERIALS LEGEND
THE FOLLOWING IS A LIST OF PLANTS AND LANDSCAPE MATERIALS TO USE FOR THE DESERT RIDGE TOWNHOMES SUBDIVISION. PLANT AND LANDSCAPE MATERIAL NOT SHOWN ON THIS LIST MUST BE APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
TREES			
	CHILOPSIS LINEARIS 'BURGUNDY LACE'	BURGUNDY LACE DESERT WILLOW	24" BOX
	OLEA EUROPAEA 'WILSONII'	WILSON OLIVE	24' BOX
	PISTACIA CHINENSIS 'RED PUSH'	RED PUSH CHINESE PISTACHE	24" BOX
	PROSOPIS GLANDULOSA 'MAVERICK'	MAVERICK MESQUITE	24" BOX
	PROPSOPIS VELUTINA	ARIZONA VELVET MESQUITE	24" BOX
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	24" BOX
	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	6-8' TALL
LARGE SHRUBS			
	LARREA TRIDENTATA	CREOSOTE BUSH	5 GAL
	LEUCOPHYLLUM FRUTESCENS 'HEAVENLY CLOUD'	HEAVENLY CLOUD TEXAS SAGE	5 GAL
	NERIUM OLEANDER 'PETITE RED'	DWARF RED OLEANDER	5 GAL
	OLEA EUROPAEA 'LITTLE OLLIE'	LITTLE OLLIE OLIVE	5 GAL
LARGE ACCENT/SUCCULENTS			
	FOUQUIERIA SPLENDENS	OCOTILLO	6' TALL
	YUCCA BACCATA	BANANA YUCCA	5 GAL
SMALL ACCENT/SUCCULENTS			
	HESPERALOE PARVIFLORA	RED YUCCA	5 GAL
BOULDERS			
	2-3' DIAMETER, BLACK BASALT, PAINTED BLACK		
	4-5' DIAMETER, BLACK BASALT, PAINTED BLACK		
ROCK MULCH			
	2-4" BLACK LAVA CINDERS, 6" DEPTH		
HYDROSEED			
	AREA TO RECEIVE 4" OF TOPSOIL AND HYDROSEED. HYDROSEED MIX TO BE COMPOSED OF THE FOLLOWING: SONORAN DESERT WILDFLOWER MIX, 1 LB PER 2,000 SF ARTEMISIA FILIFOLIA, SAND SAGE, .5 LB PER ACRE LARREA TRIDENTATA, CREOSOTE BUSH, .5 LB PER ACRE EPHEDRA NEVADENSIS, NEVADA MORMON TEA, .5 LB PER ACRE		



DESERT RIDGE
TOWNHOMES
LANDSCAPE PLAN



DESERT RIDGE
LANDSCAPE PLAN
LOCATED IN: WASHINGTON, UT

PROJECT NO: 21221.00
DRAWN BY: MG
DATE: 07/13/2023
SCALE OF SHEET
HORIZ: 1" = 20'
VERT: NA
SHEET

Briefing Document

Description: Public Hearing for Reagan Billboards Eminent Domain Matter

Presenter: Thad Seegmiller

Submitted By: Thad Seegmiller

Recommendation: Consideration of eminent domain of remainder rights in Reagan Billboards

Background Information: Consideration of eminent domain proceedings has become necessary in light of the Reagan Billboard request to relocate their signs to locations along old-town Telegraph Road. State requires that a city commence eminent domain within 180 days of the notice of intent to relocate or lose the right to oppose relocation. This hearing is for the purpose of preserving Washington City's right to take by eminent domain any billboard rights that remain after the billboard lease agreement maturity.

Fiscal Impact: None

Impacted Fund: None

WASHINGTON CITY
CITY COUNCIL MEETING
STAFF REVIEW

Item #

HEARING DATE: August 23, 2023

ACTION REQUESTED: G-23-05, A request to amend the General Plan Land Use Map in the area located at the northwest corner of Washington Fields Road and Merrill Road, from the current designation of Low Density Residential (LD), to a proposed Neighborhood Commercial (NCOMM) General Plan Land Use designation.

APPLICANT: Rosenberg & Associates / Mino Properties, LLC

OWNER: Mino Properties LLC

ENGINEER: Rosenberg and Associates

REVIEWED BY: Drew Ellerman, Community Development Director

RECOMMENDATION: Recommend Approval

Background

The applicants are seeking to amend the General Plan Land Use Map in the area located at the northwest corner of Washington Fields Road and Merrill Road. The requested area covers approximately 5.29 acres. The current Land Use designation is Low Density Residential (LD). The applicant is seeking approval to have the Land Use designations changed to the Neighborhood Commercial (NCOMM) General Plan Land Use designation.

The surrounding General Plan Land Use designations are Low Density Residential (LD) to the north, south, east and west.

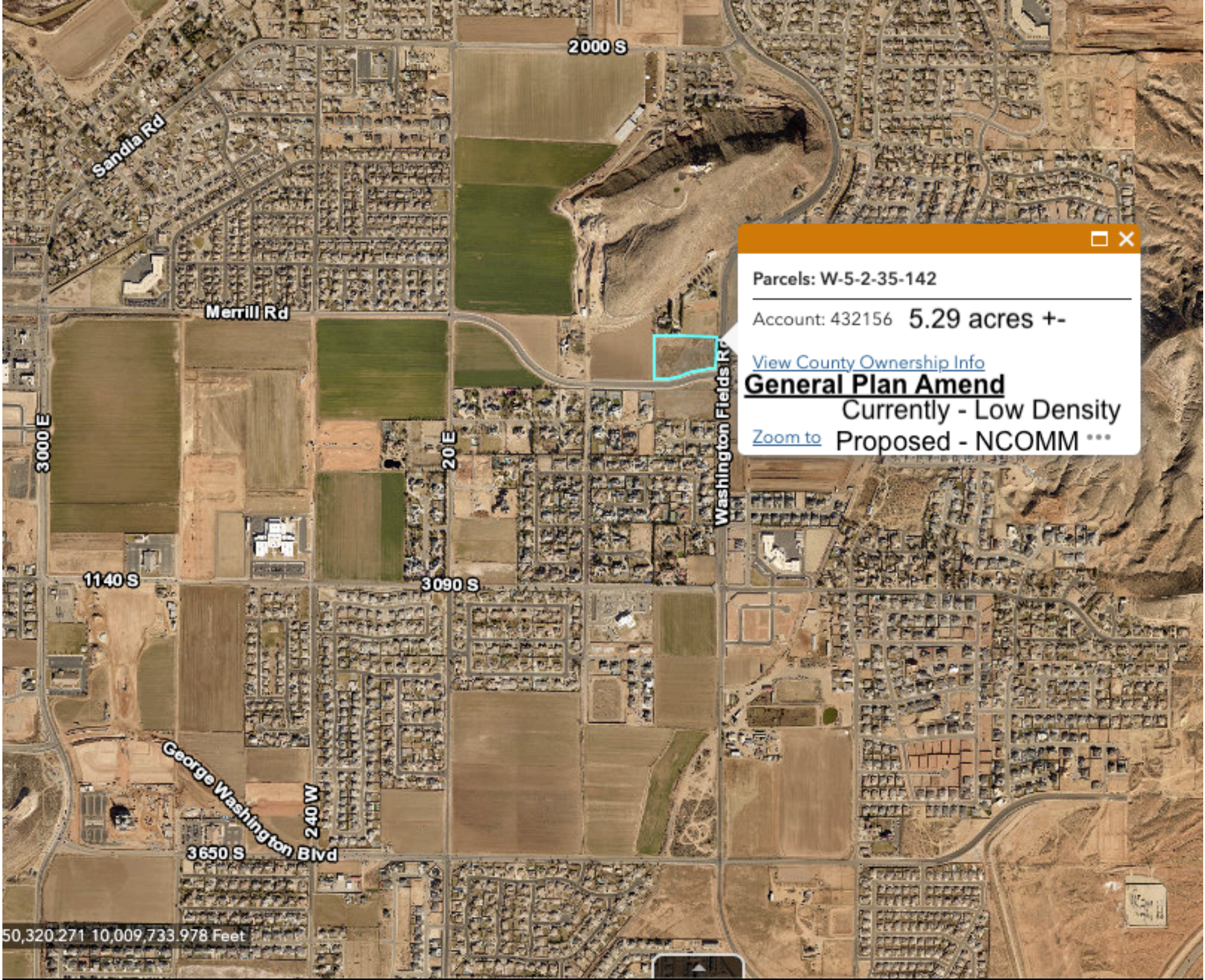
Staff has reviewed the requested change and is comfortable with the proposal, finding the specific location (the intersection of two major roads in the fields area) to be a possible fit for some commercial services in that particular part of the city.

The Planning Commission reviewed this request at their August 16, 2023 meeting.

Recommendation

The Planning Commission by a vote of 3-2, recommended approval for G-23-05, to amend the General Plan Land Use Map from the current Low Density Residential (LD), to the proposed

Neighborhood Commercial (NCOMM) designation, as outlined above and shown on the exhibit attached hereto, onto the City Council.



Parcels: W-5-2-35-142

Account: 432156 5.29 acres +-

[View County Ownership Info](#)

General Plan Amend

Currently - Low Density

[Zoom to](#) Proposed - NCOMM ***



HOWCROFT
ENTERPRISES LC
PARCEL No. W-BRST-3

DIANE MARIE
NEAL TRUST
PARCEL No. W-BRST-1-B-1

WASHINGTON FIELDS ROAD

**JAMES E. & LORENE S.
TURNER TRUST**
PARCEL NO. W-5-2-35-145

SUBJECT PARCEL
PARCEL No. W-5-2-35-142
5.29 ACRES

M E R R I L L R O A D

GENERAL PLAN EXHIBIT MAP

352 EAST RIVERSIDE
DRIVE, SUITE A-2
ST. GEORGE, UTAH
84790
435.673.8586
WWW.RACIVIL.COM



ROSENBERG
ASSOCIATES
CIVIL ENGINEERS • LAND SURVEYORS

[illegible]

GENERAL PLAN AMENDMENT NARRATIVE

Parcel W-5-2-35-142 Located on Merrill Road and Washington Fields Road

Mino Properties, LLC is proposing to amend the Washington City General Plan for Parcel W-5-2-35-142 – encompassing 5.29 acres – from Residential Low Density (LD) to Neighborhood Commercial (NCOM). It is the intent of the parcel owners to reserve use of the property for future re-zoning and pursuing development consistent with the NCOM designation to provide for the development of small commercial areas to serve the needs of neighborhoods.

No specific project is currently under contract or planned for this parcel; however, the parcel location is suited to neighborhood commercial use due to being bounded by Washington Fields Road on the east – a planned major arterial with 106-foot right-of-way; and Merrill Road to the south – a planned minor arterial with 85-foot right-of-way. The proposed future commercial use is anticipated to be an appropriate buffer between the busier arterial roads and the surrounding residential area.



PROJECT FLOW CARD

G-23-05 General Plan Amendment

Washington Fields Rd & Merrill Rd

MEETING DATE

August 16, 2023 PC August 23, 2023 CC

Planning	Reviewed. No Concern	
Hillside	N/A	
Public Works	Reviewed, no concern	
Engineer	Reviewed no concern	
Fire Dept.	NA	
Parks/Trails	Reviewed. No Concern	
Building dept	NA	
Washington Power	NA	
Dixie Power	Approved, no concern	
Economic Dev.	Reviewed. This amendment meets the city's priorities for economic development and this parcel has excellent potential for NCOMM.	
Administrative	NA	

Additional Comments:

ORDINANCE NO. 2023-XX
AN ORDINANCE AMENDING THE GENERAL PLAN LAND USE
DESIGNATION WITHIN WASHINGTON CITY, UTAH

WHEREAS, the Washington City Community Development Department has recommended the following General Plan Land Use Map designation be adopted; and

WHEREAS, the Planning Commission, pursuant to applicable notice requirements, conducted a public hearing on August 16, 2023, which public hearing was closed, for the purpose of considering the proposed amended General Plan Land Use Map designation and the making of formal recommendation to the City Council; and

WHEREAS, the City Council, conducted a public meeting on August 23, 2023; and

WHEREAS, the City Council has reviewed this amendment and determined that it is in the best interest of the public and promotes the health, safety and general welfare of the community; and

WHEREAS, the City Council of Washington City, Utah, desires to amend the General Plan Land Use Map of Washington City, and

BE IT ORDAINED BY THE CITY COUNCIL OF WASHINGTON CITY, UTAH, that the following described property is hereby amended by General Plan Land Use Map request **G-23-05**, from the current Low Density Residential, to the Neighborhood Commercial designation, located at the northwest corner of Washington Fields Road and Merrill Road, and more particularly described as follows:

Washington City General Plan Land Use Map in Exhibit A.

PASSED AND ORDERED POSTED on this 23rd day of August 2023.

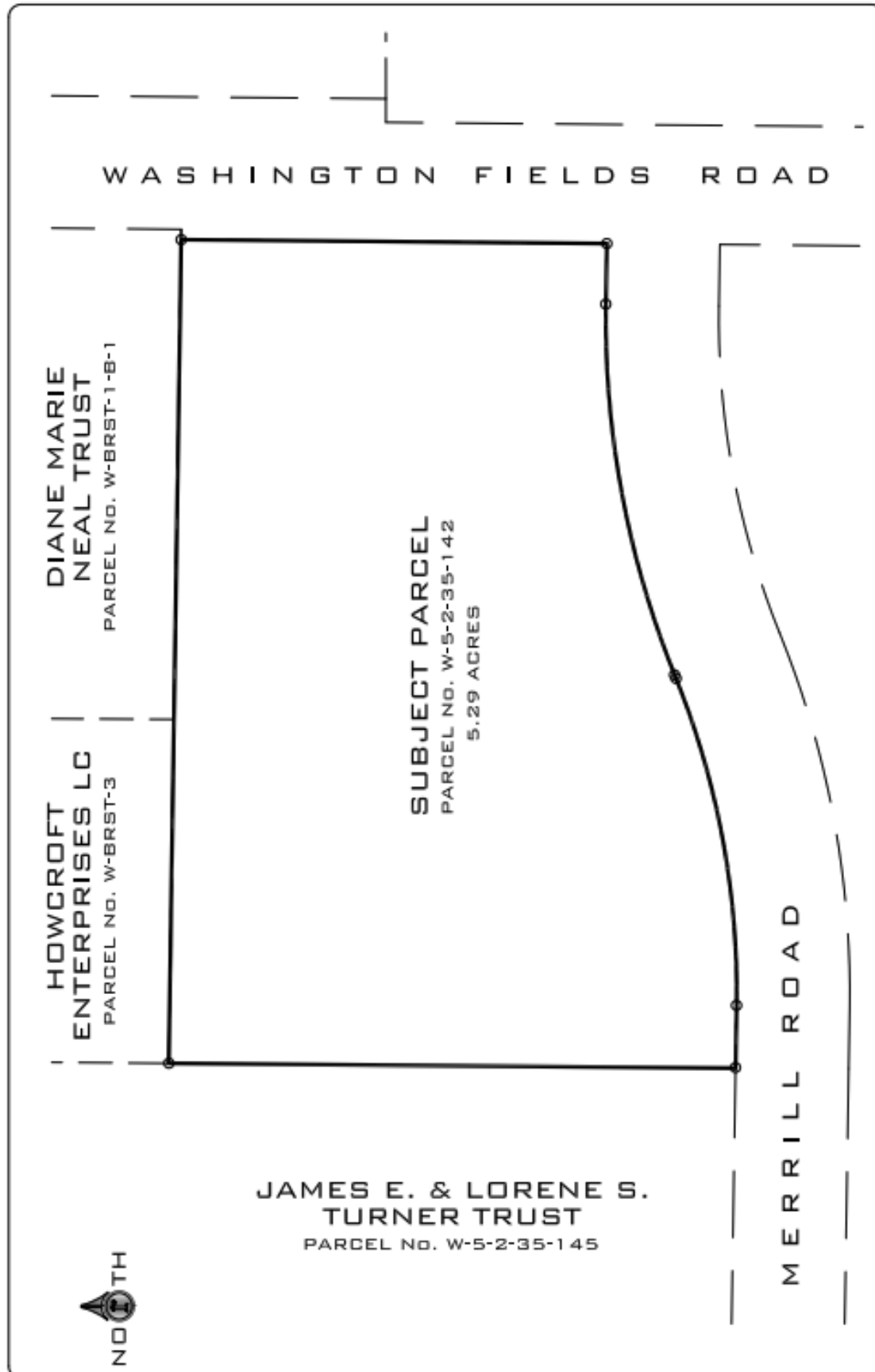
Washington City

Attest:

Kress Staheli, Mayor

Tara Pentz, City Recorder

Exhibit A



WASHINGTON CITY
CITY COUNCIL MEETING
STAFF REVIEW

Item #

HEARING DATE: August 23, 2023

ACTION REQUESTED: Consideration to Amend a portion of the City Code, more specifically, Chapter 8B Single Family Residential (R-1), Section 6 “Modifying Regulations”, subsection B “Rear Yards” of Title 9, Zoning Regulations.

APPLICANT: RJLaw / Robert Jensen

REVIEWED BY: Drew Ellerman, Community Development Director

RECOMMENDATION: Staff’s recommendation is outlined below for this proposal

Background

A request from a local law firm in the St. George area has been submitted. They are wishing to have the Washington City Code amended for the purpose of adding different language in the “Modifying Regulations” of the Single Family Residential (9-8B-6) zoning district.

The city code allows for anyone to apply for amendments to the city codes. The applicant has applied for consideration at this time.

Specifically, they are proposing the following modifications:

(the words in **blue** are current language, the **red** wording is the proposed language)

Title 9-8B-6(B) & (C)

B. Rear Yards:

Detached one-story private garages and other accessory buildings and , structures located at least ten feet (10’) away from the main building, may have a rear yard setback of three feet (3’), subject to the following conditions and restrictions:

1. Where applicable, a building permit is obtained.

2. The detached accessory building or structure is twenty feet (20') or less in height. Additional height may be acquired by moving the building or structure into the lot. For each foot added to the side/rear yard setback (beyond three feet (3')), an additional foot may be added to the height of the building or structure, but in no case shall the detached accessory building or structure be taller than the main building.

3. On corner lots, the required twenty foot (20') front yard setback will be maintained on both street frontages.

4. The detached private garage or other accessory building or structure shall be located at least ten feet (10') behind the nearest corner of the front of the main building in the given side yard.

5. Accessory buildings and structures (including [excluding] shade structures as outlined below) located in the rear yard shall not cover more than thirty percent (30%) of the rear yard area. **Shade structures or awnings shall not contribute to or be limited by the coverage limits of the rear yard area.**

C. Provisions For Detached Accessory Buildings, **Shade Structure Or Awnings** To Encroach Into Side Or Rear Yard Setback: In order for a detached one-story private garage or accessory building, twenty feet or less in height, to encroach into the side or rear yard setback, the following conditions shall be met:

1. The roof shall not project across a property line;

2. Stormwater runoff from the building shall not run onto an adjacent property;

3. Any nonportable building to be placed over a drainage and/or utility easement shall require written approval, obtained by the applicant, from the electrical power department, and public works department, and all other utility companies with easement rights, prior to obtaining a building permit, and shall require the property owner to provide and sign a recordable waiver and indemnification document that waives and indemnifies the city from any liability for any damages or expenses (including reimbursement to the city for removing the building) associated with the building being placed over an easement, and granting the city permission to remove such building at any time the city determines that said building must be removed to repair drainage facilities or utilities, or for other safety, health or welfare reasons; and

4. All other provisions of this title and applicable building and fire codes regarding accessory buildings shall be adhered to. (Ord. 2004-18, 6-9-2004)

Staff is not in favor of the proposed changes. Washington City just recently went through this section of the code in May of this year. We removed limits on size limit of detached accessory structures and enlarged the percentage of the rear yard area that can be used for all accessory

structures from 25% to 30%. The proposal is seeking to allow for 100% of the rear yard area to possibly be used if dedicated to “shade structures or awnings”. That pushes the coverage area from the current 30% to the maximum of 100%. That would eliminate any open area in rear yards between properties (excluding the required minimum three foot setback). That just doesn’t make sense. Staff feels the changes made in May of this year by the Planning Commission and City Council were well thought out and generous. The city code is sufficient and protective of the residents of our city.

The Planning Commission reviewed this request at their August 16, 2023 meeting. The commissioners spent quite a bit of time discussing this item. They ultimately decided to move for some changes on enlarging the area of rear yards for shade structures through a tiered format for different lot sizes. Staff feels the same as we did in the above paragraph, if not moreso. This would be taking steps backwards in preserving quality of life within the city by adding more rooftop area and less open space area and open space feel. Crowding more structure in protected setback areas is not a good direction to be heading. Sorry to have to be so bold - but I feel it needs to be said.

Recommendation

The Planning Commission unanimously recommended approval of the proposed language to 9-8B-6(B) regarding “Shade Structures and Awnings” (attached and detached) a tiered limitation of size and area (as outlined below), onto the City Council due to recent already approved modifications to this section of the Zoning Regulations.

Planning Commissioner proposed a tiered system for shade structures in Single Family zoned lots:

Attached shade structures:

- R-1-8 zoning or smaller - allow a 50% use of the rear yard for attached shade structures.
- R-10 zoning allows a 40% use of the rear yard for attached shade structures.
- R-1-15 zoning and higher - allow a 30% use of the rear yard for attached shade structures.

Detached shade structures:

- The same tiering percentages as defined for attached shade structures, less any actual percentage that is already used for accessory structures. For example, an R-1-8 application with 15% used by accessory structures would qualify 35% shade structure usage.

An Ordinance has not been prepared at this time, it would be best to wait until a decision is made by the city council on how they wish to proceed. Then we will move forward in that direction.

Culinary Master Plan, IFFPA, and Water User Rates

Briefing Document

Description: Staff is requesting approval of the Culinary Water Master Plan Update, User Rate Analysis, Impact Fee Analysis, and Impact Fee Facilities Plan with the associated adjustments in Impact Fees and User Rates.

Presenter: Lester Dalton

Submitted By: Lester Dalton

Recommendation: Approval

Background Information: Our consultants have performed a very detailed Quality Control process on the entire document. Minor typographical items were corrected with several significant items being found and rectified in the document being proposed for adoption. These significant items are shown below:

Impact fee related items:

- The projects in the Sunrise Valley area had an error which led to double charges for the transmission line related to the tank. This has been corrected and is reflected in all references in the document. - This correction resulted in a reduction to the Impact Fee calculated.
- There was a mis-labeling of the project related to the Majestic Tank; it had been incorrectly labeled as Airport Tank 2. This has been corrected and is reflected in all references in the document. - This correction had no effect on the Impact Fee calculation.
- An error was discovered that had left off 1 full year of anticipated new growth at the end of the 0-10 year planning window. This has been corrected and is reflected in all references in the document. - This correction resulted in a reduction to the Impact fee calculated.

User rate related items:

- We have experienced a 10 cent per thousand gallon rate increase from WCWCD during the time from the initial workshop sessions and the proposed adoption of the new City rates. This increase has been reflected in the rate tables being proposed for adoption.
- Rounding errors within spreadsheets resulted in slight variations on some upper tier rates. The error correction caused a few one cent changes. The Rate tables reflect this correction

User rates have seen pass-through increases related to water purchases from the WCWCD but have otherwise remained unchanged. The cost to provide culinary water service to our customers has increased significantly as our system has grown and inflation continues to climb, recent increases to pumping costs of the water have created significant costs for production. A rate adjustment is needed to accommodate continued service to our customers.

Proposed User Rates would include a Base Fee to cover fixed costs - \$24.19 per ERU Water Rates and Tiers would be adjusted to reflect conservation goals with 3 options being provided. All options have the proposed first tier equivalent to our conservation goals. Higher tiers have increased rates to incentivize customers to conserve water. As previously discussed, any of the proposed 3 options will provide the funding needed to operate the department properly. The variations simply promote conservation differently. The Resolutions have been included in the packet for your reference. We will be prepared to review during the meeting if requested.

Our previous Culinary Master Plan was adopted in 2017. We have experienced significant growth since that time with some change in projected growth areas necessitating an update to the Plan so that we are able to accommodate the continued growth within the City.

Dramatic increases in construction costs associated with new infrastructure have occurred. These increases have resulted in capital facilities costing nearly double what had been contemplated previously. In order to provide an acceptable level of service to the new growth areas of the City an adjustment to the culinary water impact fee is needed. Proposed Impact Fee - \$4,085 per ERU. The Ordinance reflecting this amount has been included for your reference.

Fiscal Impact: The proposed increases are to keep the Water Fund viable as a self-supporting enterprise fund thereby eliminating the need to burden the General Fund for Impact Fee eligible costs related to new development or the operational costs of providing water service to our customers.

Impacted Fund: Water



WASHINGTON CITY
CULINARY WATER
MASTER PLAN 2023



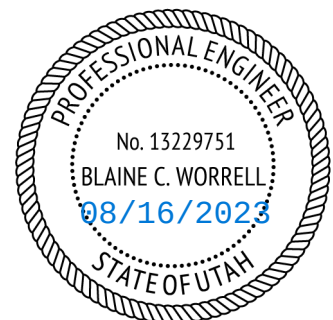
WASHINGTON CITY CULINARY WATER MASTER PLAN UPDATE, USER RATE ANALYSIS, IMPACT FEE ANALYSIS, AND IMPACT FEE FACILITIES PLAN

AUGUST 2023

PREPARED BY:



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Appendix A – Growth Analysis

Appendix B – Water Use Analysis

Appendix C – Engineers Opinion of Probable Cost

Appendix D – System Maps

Appendix E – Cash Flow

Appendix F – Impact Fee Certification

I. INTRODUCTION

Washington City is located in Washington County along Interstate 15 in southwestern Utah. The City is geographically split into three sections north-to-south by both I-15 and the Virgin River. Washington City has a long agricultural heritage that is still active in the Washington Fields area of the City. However, with rapid residential growth, much of the Washington Fields area is changing from a rural to a suburban community. Residential and commercial growth are impacting nearly every area of the City.

Washington City completed a Culinary Water Master Plan update in 2017, which was an update to the 2012 Culinary Water Master Plan. The City has contracted with Sunrise Engineering to complete an update to the 2017 plan.

The culinary water system has been analyzed under the State of Utah Division of Drinking Water guidelines to determine the current system status and to evaluate possible system needs as the community grows during the next 20 years. As part of this plan, Sunrise Engineering, Inc. has recommended improvements to the culinary water system and has developed a potential financing plan that will help Washington City obtain the necessary funds for the recommended improvements. This report does not analyze water rights or water treatment.

This plan also serves as the City's Impact Facilities Plan and includes an Impact Fee Analysis.

II. SYSTEM USERS ANALYSIS

A. LENGTH OF PLANNING PERIOD

It is typical for a Master Plan to use a 10 or 20-year planning period. For example, the first year of a 10-year planning period would be the year 2023 with the 10th and final year being 2032. This plan will use fiscal years and will assume a 20-year (2023-2042) planning period for recommended improvements. This period will allow an adequate evaluation of the system for potential infrastructure improvements or other needs. Revenue sources should be carefully evaluated each year as budgets are set by the city council.

B. PROJECTED GROWTH RATE

An important element in the development of the water system and capacity analysis is the projection of the City's population growth rate on an annual basis. This projection gives the planner an idea of the potential future demands on the culinary water system for the length of the planning period. All planning for the future should be based on the expected population growth.

Projecting the number of future culinary water connections can be a subjective process. The most effective method of estimating the number of future connections is by analyzing historical numbers of connections, recent building permits, and census records. Figure II-1 below shows the historic population for the City.

Figure II-1: Historic Population

Calendar Year	Population	Est. Growth Rate
2016	26,099	-
2017	27,401	4.99%
2018	29,411	7.34%
2019	31,058	5.60%
2020	33,678	8.44%
2021	38,015	12.88%
2022	40,594	6.78%

In recent years, the growth rate in the community has varied widely. At the time of the previous plan, the City anticipated a moderate growth rate for the planning window. However, Washington City has experienced high growth rates during the past decade, much greater than was anticipated in the 2017 Master Plan Update. In addition, there are plans to expand the system and number of connections which will further increase the future population.

City staff looked at the upcoming developments in different stages of the approval process to determine a realistic number of anticipated new connections in future years. The number of anticipated new connections was used to determine a growth rate. In the discussions with City

staff, it was determined that the immediately foreseeable growth may not be sustainable over the 20-year planning period, and therefore a lesser growth rate was determined for the latter years of the planning period. The following growth rates were used for this study:

- 2023-2025 (first 3 years) – 6.9% per year
- 2026-2028 (second 3 years) – 5.5% per year
- 2029-2032 (next 4 years) – 4.0% per year
- 2033-2042 (last 10 years) – 3.5% per year

C. PROJECTED POPULATION & NUMBER OF CONNECTIONS

Based on the forecasted growth rates referenced above, the number of connections the City will need to plan for can be calculated with the compound interest formula shown below:

$$F = P(1 + i)^N$$

F = Future Population	P = Present Population
i = Projected Growth Rate	N = Years

This equation was used to project the community population and number of connections for each year in the planning period. Figure II-2 shows a summary of the growth rate analysis. Appendix A shows the full analysis.

Figure II-2: Growth Rate Analysis Summary

Calendar Year	Population	Est. Growth rate	# of Conn.
2022	40,594	-	13,916
2023	43,395	6.9%	14,876
2024	46,389	6.9%	15,903
2025	49,590	6.9%	17,000
2026	52,318	5.5%	17,935
2027	55,195	5.5%	18,921
2028	58,231	5.5%	19,962
2029	60,560	4.0%	20,761
2030	62,982	4.0%	21,591
2031	65,502	4.0%	22,455
2032	68,122	4.0%	23,353
2033	70,506	3.5%	24,170
2034	72,974	3.5%	25,016
2035	75,528	3.5%	25,892
2036	78,171	3.5%	26,798
2037	80,907	3.5%	27,736
2038	83,739	3.5%	28,707
2039	86,670	3.5%	29,711
2040	89,703	3.5%	30,751
2041	92,843	3.5%	31,827
2042	96,092	3.5%	32,941

It is important to understand that projected growth rates are not the cornerstone of this plan. If the maximum number of system connections projected is reached earlier or later than anticipated, future improvements to support growth may come either earlier or later.

D. PROJECTED EQUIVALENT RESIDENTIAL UNITS (ERU)

The water system is made up of multiple connection types. Washington City reports their different connections to the state as either residential, commercial, industrial, or institutional. Figure II-3 shows a summary of the number of connections by type.

Figure II-3: Total Number of Units Per Connection Type

Calendar Year	Residential	Commercial	Industrial	Institutional	Total
2016	8,878	270	29	62	9,239
2017	9,599	291	30	100	10,020
2018	10,286	315	30	91	10,722
2019	10,919	346	28	93	11,386
2020	11,827	302	30	94	12,253
2021	12,674	394	46	99	13,213
2022	13,442	323	49	102	13,916

Each connection type uses different amounts of water at different rates. In order to properly analyze the system usage, the number of connections are converted to equivalent residential units (ERU). This is done by taking the average usage per connection of each connection type and dividing by the usage per connection of residential connections. Figure II-4 and Figure II-5 show the ERU per connection type and the total number of ERUs. This plan will use the number of ERUs instead of the number of connections to evaluate existing and future needs.

Figure II-4: ERUs Per Connection Type

Calendar Year	Residential	Commercial	Industrial	Institutional
2022	1.0	6.5	2.0	9.5

Figure II-5: Total Number of ERUs Per Connection Type

Calendar Year	Residential	Commercial	Industrial	Institutional	Total
2016	8,878	1,158	17	932	10,985
2017	9,599	1,248	18	1,502	12,368
2018	10,286	1,351	18	1,367	13,022
2019	10,919	1,484	16	1,397	13,817
2020	11,827	1,296	18	1,412	14,553
2021	12,674	1,690	27	1,487	15,879
2022	13,442	1,386	29	1,533	16,389

E. AVERAGE CULINARY WATER USAGE

The State of Utah Public Drinking Water regulations require public water systems to meet requirements based upon usage. These requirements are found in Rule R309 of the State Code.

The code provides a minimum standard usage based upon the types of connections serviced in a system. The code says to use a minimum average day usage of 400 gallons per day (gpd) per ERU for indoor use and an additional 13.6 gpd per irrigated acre in the system area. However, if available, systems can use actual usage data to calculate and project usage demands. The City has flow meters that are able to provide real time flow data. This study looked at both the state's minimum standard and the historical usage to determine the appropriate usage to use for this study.

The historical usage from the City was based on meter data over the past 4 years (2019-2022). The average usage per ERU was calculated from the historical usage. The total average usage over the past 4 years was divided by the average number of ERUs and then converted to gpd/ERU as shown in the calculations below.

$$2,647,998,000 \text{ gallons} / 15,159 \text{ ERU} = 174,677 \text{ gallon/ERU/year}$$

$$174,677 \text{ gallon/ERU/year} / 365 \text{ days/year} = 478.9 \text{ gpd/ERU}$$

Figure II-6 shows a summary of the average usage and historical data gathered by the City through water metering.

Figure II-6: Washington City Historical Usage Summary

Calendar Year	Total Usage (Thousand gallons)	Number of ERUs	Usage Per ERU (gpd/ERU)
2019	2,428,666	13,817	481.6
2020	2,626,927	14,553	494.6
2021	2,634,571	15,879	454.6
2022	2,901,830	16,389	485.1
4-Year Average:	2,647,998	15,159	478.9

The 478.9 gpd/ERU average usage calculated from the City's historical usage includes both indoor and outdoor water. This demand is lower than the states combined indoor and outdoor average day demand. This plan will determine usage demand from the historical usage instead of the numbers from the State Code. This method will result in a more realistic analysis.

One important note for this plan is that construction takes water from the culinary water system. This water isn't being used by Washington City connections, and therefore, should not be included in the required demand for source or storage. The amount of construction water has been counted by meters and tabulated over the last 3 years. The volume of water shown in the results above and that are used for this report do not include construction water. Construction water will be discussed in a later section.

The calculations in this report will be based on the historical average usage of 478.9 gpd/ERU (0.33 gpm/ERU). It is recommended that future improvements be sized based on this average usage.

F. PEAK DAY DEMAND CULINARY WATER USAGE

Peak Day Demand (PDD) is defined by the Utah Administrative Code as the “anticipated water demand on the day of the highest water consumption”. The state code uses double the average day demand to calculate the PDD. The code states that this can be used in lieu of actual meter data. Washington City has provided their meter data from 2019 to 2022 and the actual PDD was found. The water meters measured how much water was used every minute of every day. This total was summed up for every day of the year and the highest daily total volume used was determined to be the PDD. This was done for all 4 years of data provided. The PDD was divided by the number of ERUs to find the PDD in terms of gpd/ERU.

Figure II-7 below shows a summary of the PDD from 2019 to 2021.

Figure II-7: Washington City Historical PDD Summary

Calendar Year	Peak Day Demand (gal)	ERUs	PDD (gpd/ERU)
2019	13,330,000	13,817	964.7
2020	13,735,000	14,553	943.8
2021	13,718,000	15,879	863.9
2022	13,637,000	16,389	832.1
AVG			901.1

The historical average PDD from the last 4 years was found to be 901 gpd. All further calculations with the PDD will use this number.

G. PEAK INSTANTANEOUS DEMAND CULINARY WATER USAGE

Peak Instantaneous Demand (PID) can be described as the highest demand on the system at any one instance. The Utah Administrative Code states that for systems with 240 connections or greater, the equation $Q=1.6N$, where N equals the number of connections, can be used to find the PID. If available, this can be determined based on meter readings. In the case of this study, usage data on a per minute basis is available from the last 4 years. Figure II-8 below shows the PID from the last 4 years of data.

Figure II-8: Washington City Historical PID Summary

Calendar Year	Peak Instant Date	Peak Instantaneous Demand (gal)	Peak Instantaneous Demand (gal)
2019	2-Sep	1,248,949	20,816
2020	13-Jul	1,571,003	26,183
2021	12-Jul	1,282,092	21,368
2022	18-Jul	1,186,019	19,767
AVG		1,322,016	22,034

The PID that will be used for this study is 22,034 gpm.

H. USAGE REDUCTION - CONSERVATION

This plan assumes a conservation rate of 0.5% per year over the planning period (10% by the end of planning window). This conservation factor is used to represent conservation efforts from the City, existing customers, or new connections. The assumed conservation results in the following demands at the end of the planning window.

- ADD (2042) = 433 gpd/ERU
- PDD (2042) = 815 gpd/ERU

The conservation factor is not used for the PID. As mentioned above, the PID is the highest demand on the system at any given moment. Conservation efforts do not have a major impact on the amount of water that could be used at any given moment.

Conservation is a major focus for Washington City and the surrounding communities. The 0.5% conservation rate assumed in this plan is a relatively small reduction from conservation. The City has a conservation goal that is higher than 0.5% per year. The City's Water Conservation Plan established a goal that would have usage drop to 12,200 gal a month or 406 gpd/ERU. This is a reduction of 18% from current usage. If this was achieved in the planning window this would be a reduction of 0.9% per year or more.

III. WATER SOURCE CAPACITY ANALYSIS

A. EXISTING WATER SOURCE

To analyze source capacity, all available culinary water sources must first be identified. These sources are listed in Figure III-1. The flow capacity numbers were acquired from City staff.

Figure III-1: Washington City Existing Water Sources

Wells	Total Flow	
	CFS	gpm
No. 2	0.909	408
No. 3	0.245	110
No. 4	1.453	652
No. 5	1.689	758
No. 6	1.448	650
Grapevine Well No. 1	0.207	93
Grapevine Well No. 2	0.180	81
Grapevine Well No. 3	0.227	102
Grapevine Well No. 4	0.303	136
Grapevine Well No. 5	0.254	114
Grapevine Well No. 6	0.430	193
Subtotal Wells =	7.346	3,297
Microfiltration (Quail Lake)	4.345	1950
Washington Dam Booster	6.005	2695
Fields Road WCWCD Connection	8.913	4000
East Regional WCWCD Connection	8.913	4000
SHRP WCWCD Connection	3.342	1500
Grand Totals =	38.864	17,442

Most of the source capacity is currently coming from connections to the Washington County Water Conservancy District (WCWCD).

B. EXISTING REQUIRED WATER SOURCE CAPACITY

State of Utah Public Drinking Water Regulations, R309-510-7 states that a water system's source needs to meet "the anticipated water demands on the day of the highest water consumption, which is the Peak Day Demand". The PDD was determined previously as 901 gpd/ERU. The source capacity demand for the water system was calculated by multiplying the PDD from Section II-F by the total number of existing ERUs in the system. The results of the analysis are presented in gallons per minute and are shown in Figure III-2.

Figure III-2: Required Source Capacity (Existing Conditions - Beginning of Year 2023)

Total Required Source Capacity	10,256	gpm
Total Existing Source Available	17,442	gpm
Existing Culinary System Source Capacity Surplus	7,186	gpm
Surplus Capacity can Serve	11,483	ERUs

PROJECTED REQUIRED WATER SOURCE CAPACITY

Projected required source capacity for the 10-year and 20-year planning periods uses the same calculations as above. These calculations reveal that the water system will have a deficit of source capacity. The projected required source capacity for the 10-year and 20-year planning periods are shown in Figure III-3 and Figure III-4.

Figure III-3: Required Source Capacity (10-Year Planning Period)

Total Required Source Capacity	16,370	gpm
Total Existing Source Available	17,442	gpm
Culinary System Source Capacity Surplus	1,072	gpm

Figure III-4: Required Source Capacity (20-Year Planning Period)

Total Required Source Capacity	21,962	gpm
Total Existing Source Available	17,442	gpm
Culinary System Source Capacity Deficit	-4,520	gpm

C. RECOMMENDED WATER SOURCE CAPACITY IMPROVEMENTS

The analysis above shows that the existing available source is sufficient to accommodate an existing peak day demand. However, based on the growth rates used in this plan the City will run out of available source by 2034.

At the current time, there are no other feasible new source improvements for the City to develop. New source capacity will most likely come from purchasing water from the WCWCD. One major drawback to this option is that the WCWCD does not guarantee that there is additional water available to be purchased. The City should work closely with WCWCD to plan for future needs.

The other major drawback to purchasing additional water from the WCWCD is cost. Currently the cost to purchase 1,000 gallons of culinary grade water is \$1.54 and is anticipated to increase to \$1.74 by 2025. The amount of water currently purchased will carry the city through the 10-year planning window. However, by the end of the 20-year window the additional water the city would need to purchase would amount to approximately \$617,000 annually. Note that this cost is just the purchase cost to the district. This cost does not include costs to get water into the system such as pumping costs. This number also assumes the district rate does not increase after 2025.

Another option to increase source capacity is using secondary water for outdoor use. Implementing an irrigation system that uses secondary water will help alleviate the amount of culinary source required to meet the demands of the system. Every gallon of non-culinary water used for outdoor watering adds a gallon of water available for culinary use. Figure III-5 below shows a summary of average indoor versus outdoor usage in the City.

Figure III-5: Average Outdoor Vs. Indoor Water Use

Calendar Year	Avg Daily Usage (gal)	Avg Indoor Usage (gal)	Avg Outdoor Usage (gal)	% Outdoor Usage
2019	6,653,879	2,514,968	4,138,910	62%
2020	7,197,060	2,566,333	4,630,727	64%
2021	7,218,003	3,053,133	4,164,870	58%
2022	7,950,219	3,712,078	4,238,141	53%
Avg	7,254,790	2,961,628	4,293,162	59%

The following information was discovered while comparing indoor vs outdoor watering use in the City:

- Approx. 59% of culinary water is used for outdoor watering on a daily basis.
- In one year approximately 1.5 billion gallons of culinary water is used for outdoor watering.

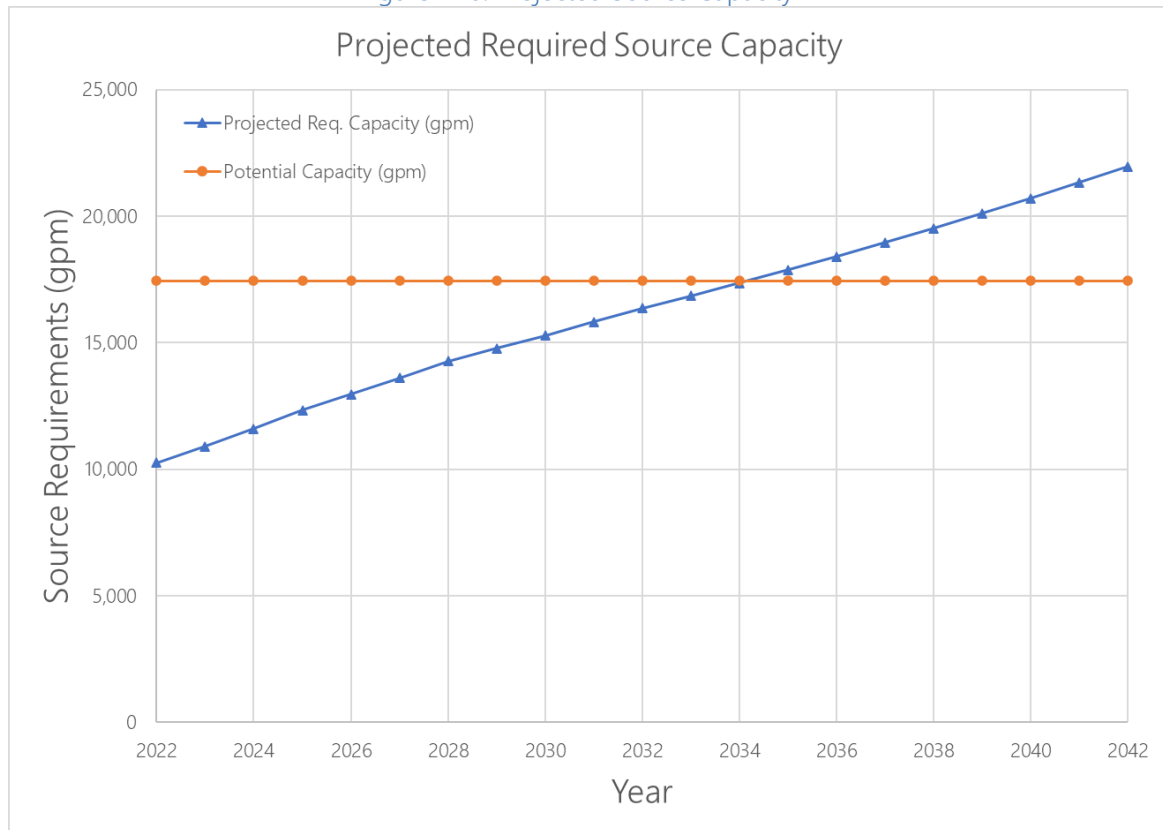
The major downside for a secondary water system is also cost. This cost is initially in the form of upfront capital cost to design and construct a pressurized irrigation system. The City does have some infrastructure already in place that could be used as a starting point to implement an irrigation system with a smaller amount of upfront costs than constructing a completely new system.

This plan assumes that future source water will come from purchasing additional water from the WCWCD. To deliver this water to the system, pump stations will need to be constructed and connections made to WCWCD lines. These pump station projects are included in the recommended distribution improvements.

D. SOURCE CAPACITY SUMMARY

Figure III-6 shows the comparison between the available source capacity and the projected required source capacity.

Figure III-6: Projected Source Capacity



IV. WATER STORAGE CAPACITY ANALYSIS

Water storage capacity requirements are found in the State of Utah Public Drinking Water Regulations, R309-510. These regulations require storage for the community's culinary water system to meet one full day's average use requirement for all connections in the system, in addition to fire flows, for a minimum of two hours, and emergency storage as deemed necessary.

A. EXISTING WATER STORAGE CAPACITY

There are currently seven culinary water storage tanks in Washington City. These tanks are identified in Figure IV-1 below:

Figure IV-1: Storage Capacity Summary

Existing Storage Capacity:	Available Storage (gal)
RED CLIFFS 2 MG TANK	2,110,000
RED CLIFFS 1 MG TANK	1,020,000
RED CLIFFS 2.3 MG TANK	2,320,000
GRAPE VINE 1 MG TANK	1,060,000
WARNER VALLEY TANK	1,030,000
WASHINGTON DAM ROAD TANK	2,270,000
WATER TREATMENT PLANT TANK	CT ONLY
Total Existing Storage Capacity	9,810,000

B. EXISTING REQUIRED WATER STORAGE CAPACITY

As shown in Section II-E, average water usage per ERU, also known as the Average Day Demand (ADD), in the water system is 478.9 gpd/ERU for both indoor and outdoor usage. In general, fire flow requirements are set by the local Fire Authority or are based on building size and type of construction. At the direction of the City, this plan uses 1,500 gpm, the same minimum fire flow as the previous plans.

The required storage capacity was calculated by multiplying the ADD by the total number of ERUs currently existing in the system. When compared with the system's total storage capacity summarized above, the calculation shows that the City has a small surplus of total storage capacity under current conditions. The results of this analysis are shown in Figure IV-2.

Figure IV-2: Required Storage Capacity (Existing Conditions - Beginning of Year 2023)

Total Required Storage Capacity	8,029,456	gal
Total Existing Storage Capacity	9,810,000	gal
Existing Culinary System Storage Capacity Surplus	1,780,544	gal
Surplus Capacity can Serve	3,718	ERUs

C. PROJECTED REQUIRED WATER STORAGE CAPACITY

The projected culinary water storage capacity required at the end of the planning period is determined from the same factors explained in Section B above, but the projected number of ERUs are inserted into the calculations instead of the number of existing ERUs. The results of the analysis are shown below in Figure IV-3 and Figure IV-4.

Figure IV-3: Required Storage Capacity (10-Year Planning Window)

Total Required Storage Capacity	12,708,360	gal
Total Existing Storage Capacity	9,810,000	gal
Projected Culinary System Storage Capacity Deficit	-2,898,360	gal

Figure IV-4: Required Storage Capacity (20-Year Planning Window)

Total Required Storage Capacity	16,988,484	gal
Total Existing Storage Capacity	9,810,000	gal
Projected Culinary System Storage Capacity Deficit	-7,178,484	gal

D. RECOMMENDED WATER STORAGE CAPACITY IMPROVEMENTS

The analysis above shows that the City has adequate storage for their current needs. However, with the projected growth of this plan the required storage will surpass the storage that is currently available. This plan provides recommended improvements to provide the future required storage capacity.

An analysis was done to determine the number of buildout ERUs and where these ERUs will be located within the current city boundary. This was done by using the City's current zoning map and assuming the City would be built out to the max density allowed by the current zones. For this analysis the City was divided into thirds (north, central, and south). Storage recommendations should consider elevation requirements. The analysis resulted in the following number of additional ERUs per region to achieve buildout:

- North: 6,000 ERUs
- Central: 6,000 ERUs
- South: 16,000 ERUs

The additional ERUs to reach buildout will require approximately 14 million gallons of storage. With the City's existing storage surplus there is approximately 1 million gallons available in the north section of the City. This results in the need for an additional 13 million gallons of storage tanks to be constructed to achieve buildout. The following is the approximate storage needs for each section of the City based on the current ADD and storage requirements:

- North: 2 million gallons
- Central: 3 million gallons

- South: 8 million gallons

Based on the growth rate used for this plan it is anticipated that buildout will occur beyond the 20-year planning window. To accommodate the projected storage requirements this plan recommends six storage projects to be installed in the central and south areas of the City. The north section does not include any locations of suitable elevation and location for installing a storage structure. However, one of the six storage tanks is located to provide some storage to address the demand of the north section.

With the existing surplus and the storage from a portion of one of the proposed storage tanks there will be approximately 2.5 million gallons provided for the north towards buildout growth. An additional 500 thousand gallons of storage will be required in the north to handle build out ERU's. This additional storage is anticipated to happen outside the 20-year planning window.

The following are descriptions of the recommended improvements as well as their recommended size and installation window. It is important to note that the installation window is approximate based on today's data. Windows are subject to change based on development areas and the City's ability to obtain land to install tanks.

1. 0 to 5 YEAR IMPROVEMENTS

- Long Valley Tank – This tank is located in the vicinity of the Long Valley development that is currently under construction. It is recommended that this tank be a 2.5-million-gallon tank. This tank is currently in the design process and anticipated to be constructed in 2023.
- Airport Tank 1 – This tank will be located in the south end of the City near the airport. It is recommended that this tank be a 2.5-million-gallon tank. The primary purpose of this tank will be to serve the new developments near the airport. This tank is planned to be located on BLM property and will require working with BLM to obtain approval.
- Sunrise Valley Tank – This tank will be located south of the landfill and west of Sunrise Valley. This tank will serve the new Sunrise Valley development and surrounding area. This tank will also serve portions of Coral Canyon that are on a lower pressure zone. It is recommended that this tank be a 2.5-million-gallon tank.

2. 5 to 10 YEAR IMPROVEMENTS

- Majestic Tank – This tank will be located west of SR-7. This tank would serve the southern Washington Fields area and is recommended to be a 2.5-million-gallon tank.

3. 10 to 20 YEAR IMPROVEMENTS

- Airport Tank 2 – As the area around the airport develops further, additional storage will be required for the area. This tank is recommended to be 2.5 million gallons and to be located adjacent to the first Airport Tank.

- Stucki Farms Tank – This tank would be located west of the Stucki Farms Development, on the ridge between Stucki Farms and southern Washington Fields. This tank is recommended to be a 1-million-gallon tank and will serve the southern Washington Fields area.

These recommended storage improvements are summarized in Figure IV-5. Appendix D includes an exhibit showing the location of these improvements.

Figure IV-5: Summary of Recommended Storage Improvements

Proposed Tank	Approx. High Water Elevation (ft)	Available Storage (gal)	Est. Installation Date
Long Valley 2.5 MG Tank	3140	2,500,000	2023
Airport 1 2.5 MG Tank	3040	2,500,000	2024
Sunrise Valley 2.5 MG Tank	3000	2,500,000	2025
Majestic 2.5 MG Tank	3040	2,500,000	2032
Airport 2 2.5 MG Tank	3040	2,500,000	2036
Stucki Farms 1 MG Tank	2815	1,000,000	2038
Total Projected New Storage		13,500,000	

E. STORAGE CAPACITY SUMMARY

Figure IV-6 and Figure IV-7 both show the comparison between the available storage capacity and the projected required storage capacity. The available storage capacity in Figure IV-7 represents the storage capacity available with the implementation of the recommended improvements.

Figure IV-6: Projected Storage Capacity with Existing Conditions

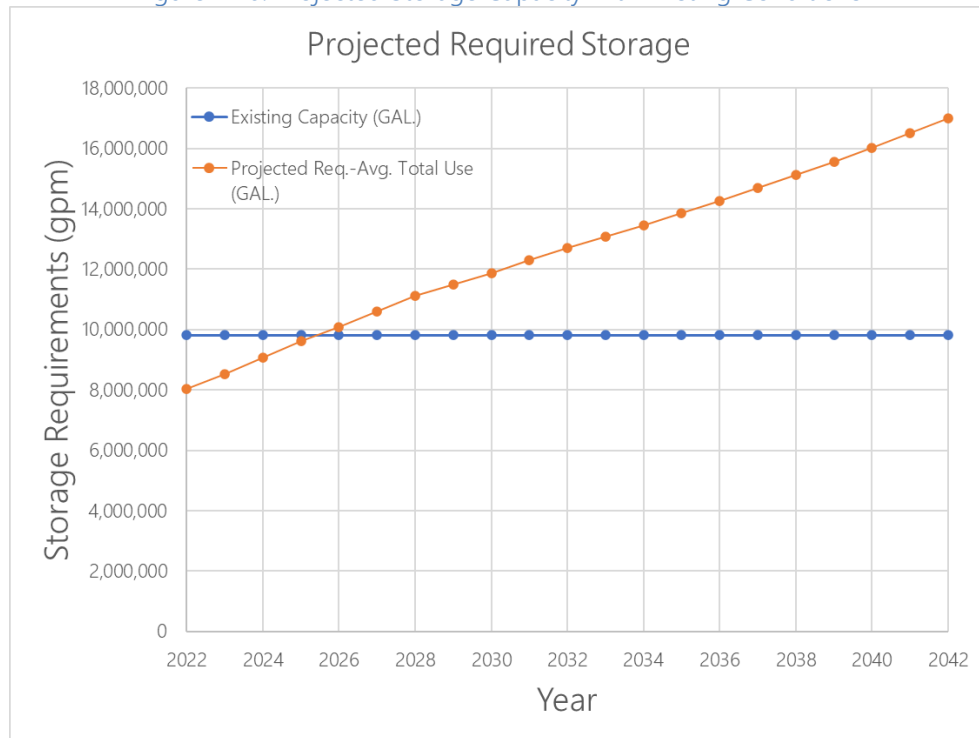
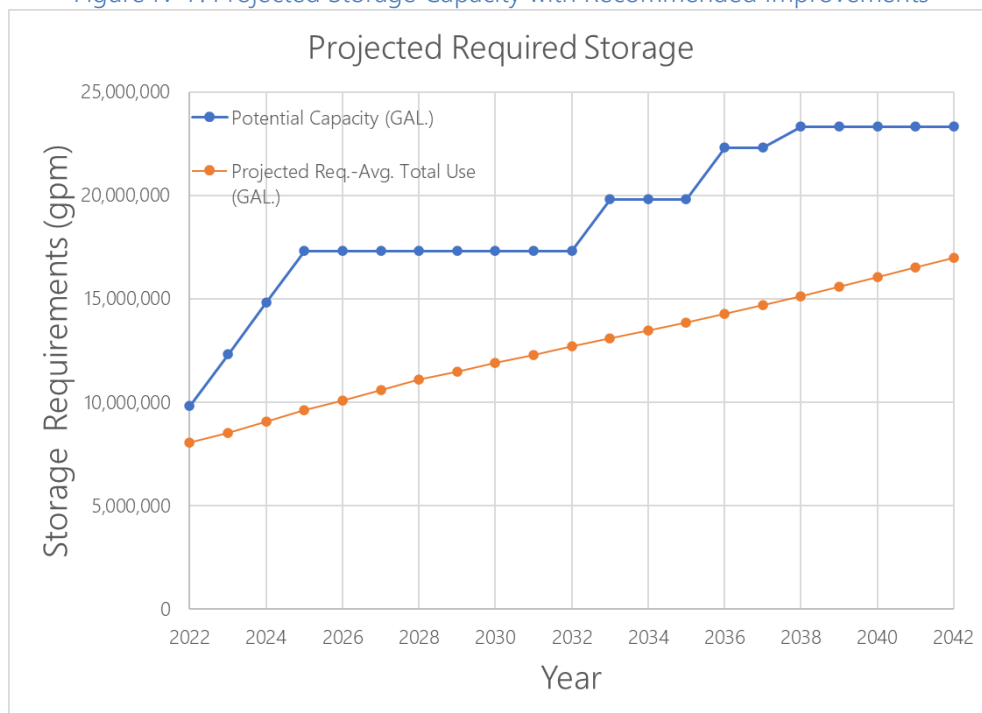


Figure IV-7: Projected Storage Capacity with Recommended Improvements



V. WATER DISTRIBUTION SYSTEM ANALYSIS

The State of Utah Public Drinking Water Regulations, R309-105-9, states three pressure conditions which must be met to demonstrate adequate service capacity of a system. These conditions are:

- At least 40 psi must be retained as residual pressure in the distribution system under a Peak Day Demand (PDD).
- At least 30 psi must be retained as residual pressure in the distribution system under Peak Instantaneous Demand (PID)
- At least 20 psi must be retained as residual pressure in the distribution system under PDD plus fire flow conditions.

The existing Washington City culinary water distribution system has been modeled using the computer program Water Gem by Bently. Historically, the distribution system was modeled in a static scenario to analyze Average Day, Peak Instantaneous, and Peak Day with fire flow demands. In addition to the static scenario, a dynamic model was created using the real time flow data available from the City's meters. The dynamic model provides a view of how the system's sources, storage, and distribution system, including pumps and valves, work together to provide the continuous demands to the system.

The main benefit to the dynamic water model is that it will provide a tool for City staff to evaluate and plan how the system will function based on adjustments such as turning on or off certain pumps or adjusting a setting on a PRV. This will also give the City staff the ability to come up with solutions for emergency scenarios and faster feedback than trying the solutions in the field first.

A. EXISTING DISTRIBUTION SYSTEM ANALYSIS

The existing PDD and PID were calculated in Section II. These flows are shown below:

- PDD – 901 gpd/ERU = 10,256 gpm with the existing number of ERUs
- PID – 22,034 gpm

As mentioned in Section IV, this report used a fire flow of 1,500 gpm.

The existing model scenarios for Peak Day Demand, Peak Day Demand with fire flow, and Peak Instantaneous Demand, show that the existing system is adequate to meet these demands with the exception of a couple small areas. These areas include:

- Perry's Landing - this is a development on the north edge of the city below the Red Cliff storage tanks. The development is on the top edge of the lower pressure zone and therefore experiences low pressures and fire flows.
- Shadow Ridge - this is a small area on the north side of Telegraph on the west side of town. Currently the main line into the area is a 6" line that does not provide adequate fire flow.
- Lion's Head Dr. - this is located in the Green Spring area. Lions Head Dr. is located on the edge of a pressure zone and the high end of the pressure zone shows low fire flows.

B. PROJECTED DISTRIBUTION SYSTEM ANALYSIS

The projected distribution system was modeled in a static scenario with the following future demands:

- PDD – 832 gpd/ERU = 21,962 gpm with the projected (2042) number of ERUs
- PID – 52,157 gpm
- Fire flow of 1,500 gpm

Most of the new growth will occur in newly developed areas. Because of this, the new developments will be required to install the needed distribution improvements for the development. The new demand on the system is not anticipated to have enough of an impact on the existing distribution system to cause areas to fall below the State's minimum pressure requirements or for pipe velocities to be above 5 feet per second.

The new growth areas do require transmission lines to deliver water to the development or the storage tanks that are serving the development. As discussed in the source capacity section these new developments will also require additional source which will need to come from WCWCD. To deliver this source capacity, new pump stations will be needed.

This section includes the recommended transmission lines, and booster pump stations.

C. RECOMMENDED DISTRIBUTION SYSTEM IMPROVEMENTS

The following are descriptions of the recommended improvements as well as their recommended size and installation window:

1. 0 to 5 YEAR IMPROVEMENTS

- Washington Fields Transmission Line – This project will extend the transmission line in Washington Fields Road south towards the airport for the future development in the area, and be used for getting water to the Airport Tank. This project is currently being designed and is planned to be constructed in 2023.

- Airport Connection Phase 1 – This is a booster pump station that will be constructed near the Washington Fields Transmission line. The booster pump will be used to take water from the WCWCD line to fill the Airport Tank using the Washington Fields Road transmission line. This is anticipated to be approximately a 1,500-gpm booster pump station and constructed in 2024.
- Perry's Landing Pressure Zone Adjustment – This project will add piping and valving to the development to adjust the pressure zone and move the development into the higher-pressure zone. This project is anticipated to be installed in 2024.
- Fields Road to Airport Tank Transmission – This project is a transmission line that connects the Fields Road Transmission line and the Airport Tank. It is anticipated that this project will be installed in 2024.
- Sunrise Valley Transmission Line – This transmission line will have two segments; one will run from the proposed Sunrise Valley tank to Sunrise Valley. The second segment will tie into the Coral Canyon line in Telegraph Road. It is anticipated that this project will be constructed in 2025.
- Shadow Ridge 6" Line Replacement – This project replaces an existing 6" with an 8" line to increase pressures and fire flows in the area. This project is anticipated to be installed in 2025.
- Lions Head Dr. PRV – This project adds a connection between the two pressure zones in the area and adds a low flow PRV allowing for fire flows to cross between pressure zones to increase fire flow in the lower pressure zone area. This project is anticipated to be installed in 2025.

2. 5 to 10 YEAR IMPROVEMENTS

- This plan does not have any recommended distribution projects included in the 5-to-10-year window.

3. 10 to 20 YEAR IMPROVEMENTS

- East Regional Connection Phase 2 – This project will expand the existing East Regional pump station to double the flow that it can produce. The project will involve renovating the existing building, adding more pumps, and installing a parallel transmission line that follows the alignment of the first phase of the East Regional Connection Project. This project is anticipated to be constructed in 2033.
- Church Farm Road Transmission Line – This transmission line is anticipated to run from Warner Valley Road to the Airport Tanks via Church Road. This project is anticipated to be installed in 2033.

- Airport Connection Phase 2 – This project will expand the first phase pump station to increase the flow that it can produce. It is anticipated that the flow will need to be increased by 1,700 gpm. This project is anticipated to be constructed in 2034.
- Airport Connection Phase 3 – This project will add a second booster pump station and connection to the WCWCD line in Warner Valley Road. This pump station will deliver water to the Airport tanks. It is anticipated that this pump will need to produce 5,000 gpm. This pump station will deliver water to the tanks via the Church Road transmission line.

VI. SUMMARY OF RECOMMENDED IMPROVEMENTS

Figure VI-1 is a summary of the recommendations for improvements to the storage and distribution systems. As mentioned before, there are no specific source recommendations, except as they relate to the distribution needs to deliver water from the WCWCD. Project installation years are estimated for planning purposes. Actual project time frames will be based on development locations, availability of funding, and availability of land to install project.

Figure VI-1: Summary of Recommended Improvements

Storage Improvements	Est. Installation Year	Est. Cost
Long Valley - 2.5 MG Tank	2023	\$ 7,538,500
Airport 1 - 2.5 MG Tank	2024	\$ 6,613,300
Sunrise Valley - 2.5 MG Tank	2025	\$ 6,996,700
Majestic - 2.5 MG Tank	2032	\$ 7,596,800
Airport 2 - 2.5 MG Tank	2036	\$ 6,524,700
Stucki Farms - 1 MG Tank	2038	\$ 5,504,300
Storage Subtotal =		\$ 40,774,300
Distribution Improvements	Est. Installation Year	Est. Cost
Washington Fields Rd. Transmission Line	2023	\$ 2,716,800
Fields Road To Airport Tank Transmission Line	2024	\$ 4,410,300
Airport Connection Phase 1	2024	\$ 994,900
Perry's Landing Pressure Zone Adjustment	2024	\$ 389,900
Sunrise Valley Transmission Line	2025	\$ 2,186,700
Shadow Ridge 6" Line Replacement	2025	\$ 264,000
Lion's Head Dr. PRV	2025	\$ 164,400
Church Road Transmission Line	2033	\$ 4,357,400
East Regional Connection Phase 2	2033	\$ 8,587,800
Airport Connection Phase 2	2034	\$ 3,217,200
Airport Connection Phase 3	2037	\$ 3,811,500
Distribution Subtotal =		\$ 31,100,900
Grand Total of All Projects		\$ 71,875,200

**This summary is estimated with 2023 prices*

A. ENGINEER'S OPINION OF PROBABLE COST

Opinions of probable cost for the recommended improvements have been prepared and are included in Appendix C. Opinions of probable cost for each of the capital projects are based on experience with similar projects, bid tabulations from past projects, and from information provided by the City through prior experience.

It is important to note that cost estimates from this update are significantly higher than the previous master plan. It is common for project costs to increase over time with inflation. Typically, it is expected to see an annual increase of approximately 3%. Due to the material and

construction market changes that have happened from 2020 to now the market has experienced project cost increases between 50 to 100% from 2019 costs. This increase in project costs is reflected in the opinions of cost for the recommended projects. These increased costs are also a factor in the increases to fees in later sections.

The opinions of probable project costs included in this report are planning-level cost only. As the City seeks to undertake specific projects, more detailed and updated costs should be prepared to guide project development through the preliminary engineering and budgeting acquisition phases.

VII. WATER CONSERVATION

The analyses above show that the City will have deficiencies in both source and storage capacities within the 10-year window. One way for the City to mitigate the need or timing of these improvements is through conservation.

The usage analysis in this plan is based on historic usage. If the per ERU usage is reduced, that would reduce the Average Day, Peak Day, and Peak Instantaneous Demands. A reduction in these demands could delay the need for some of these improvements.

A. SECONDARY WATER USE (IRRIGATION)

As mentioned in the source capacity analysis, most of the City's outdoor watering uses culinary water. This results in approximately 1.5 billion gallons of culinary water being used for outdoor purposes each year. There are no available source improvements the City could make to get culinary grade water but there are options to increase and implement secondary water sources. These potential options include the pursuit of rights for new wells, shares to get water from the Virgin River, improving existing spring and well irrigation sources, and in the near future, the WCWCD's Warner Valley Reservoir.

The City already has some existing infrastructure in place for a pressurized irrigation system. Connecting this existing system to an irrigation source would immediately begin to alleviate the existing required source capacity.

One of the challenges of implementing a secondary water system is the quality of water of the sources that are available. Many of the available sources such as the canal company and wells in the fields are high in Total Dissolved Solids (TDS) which is not good for plants. For a full functioning system, it is likely that the high TDS source would need to be blended with higher quality spring water or possibly even culinary water before being utilized into a system.

B. CONSERVATION FOCUSED USER RATE STRUCTURE

One way to promote potential conservation is through the City's user rate structure. Washington City currently has a tiered user rate structure. This means that after a customer uses a specified amount of water the rate they are charged per thousand gallons goes up. For example, the current rate structure charges \$0.74 per thousand gallons used for the first 5,000 gallons and then \$0.86 per thousand gallons for the next 5,000 gallons.

This tier structure can be used to incentivize conservation from all customers by increasing the rates of their higher rate tiers. A higher gap in the fees for each tier will incentivize customers to use less water or pay a higher monthly water bill. A similar program has been introduced by the Washington County Water Conservancy District. Their program places a fee for all usage over a certain amount.

A user rate analysis is part of this plan and is shown in a later section. That analysis looks at a conservation focused tier structure as part of the recommended user rate.

C. WATER CONSERVANCY DISTRICT PROGRAMS

The Washington County Water Conservancy District has multiple programs that the City and residents could use to promote water conservation. The District's website has a list of programs and incentives that are currently available. Below is the website that contains a list of available programs.

<https://www.wcwcd.org/conservation/programs/>

D. CONSTRUCTION WATER

Currently the water used for construction projects in the City is culinary grade water. This is because there is no other option available in the city. As mentioned earlier, this water was not included in the sizing requirement for the water system as it is not being used by Washington City connections. However, when culinary water is being used for construction, that water is not available for the residents of the City. Construction water demands on the system could be mitigated by providing non-culinary grade water for construction. This could include secondary (irrigation water) or reuse water. Figure VII-1 shows the annual construction water use over the last 4 years.

Figure VII-1: Annual Construction Water Usage

Calendar Year	Total Construction Water Usage (gal)
2019	59,127,000
2020	131,619,000
2021	169,356,000
2022	139,832,000

VIII. POSSIBLE FINANCING PLAN

In discussions with staff and looking at the water system financials, after the construction of the Long Valley Tank the impact fee and water fund balances will not have enough funds to construct the other remaining recommended projects in the recommended time frame. Based on current data the City may need to finance the first few projects in order for them to be constructed in the recommended time frame. This plan assumes that the City will seek financing options for the construction of the following projects:

- Airport Tank 1
- Fields Road to Airport Transmission Line
- Airport Connection Phase 1
- Sunrise Valley Tank
- Sunrise Valley Transmission Line

For culinary water projects typical sources of funding include Utah's Division of Drinking Water (DDW), the Utah Community Impact Board (CIB), or the open market. At this time, it is not anticipated that any grant money would be available for these projects. This plan assumes that any funding would come as a loan. This plan uses a loan term of 30 years at 2.5%. These terms are only for planning purposes.

The above five projects can realistically be combined into two projects, the Airport Tank and Sunrise Valley Tank projects. This is done to simplify the possible financing plan into two bonds, one for each project. Using the costs from Section VI, accounting for inflation, and using the terms mentioned above results in the following new debt services:

- Airport Tank Project - \$591,442/year
- Sunrise Valley Tank – \$465,482/year

These debt services will be used for the financial analyses in later sections.

IX. FINANCIAL ANALYSIS

A. EXISTING USER RATE

Water rates are a combination of base rates and overage (or variable) rates. The base rate is charged to all connections in the system whether or not water is used and should cover all fixed costs of the system. Overage rates are often set to encourage water conservation and should cover variable costs of the system. Washington City currently has the following rate structure:

Meter Size		Base Rate		
5/8"		\$18.17		
3/4"		\$18.17		
1"		\$33.00		
1 1/2"		\$73.00		
2"		\$130.00		
3"		\$291.00		
4"		\$517.00		
6"		\$1,163.00		

Tier	Threshold Gallons	Washington City	WCWCD*	Rate/1000 gal
1	0 - 5,000	\$0.74	\$0.96	\$1.70
2	5,001 - 10,000	\$0.86	\$0.96	\$1.82
3	10,001 - 15,000	\$0.98	\$0.96	\$1.94
4	15,001 - 20,000	\$1.10	\$0.96	\$2.06
5	20,001 - 25,000	\$1.20	\$0.96	\$2.16
6	25,001 - 30,000	\$1.34	\$0.96	\$2.30
7	30,001 - 35,000	\$1.51	\$0.96	\$2.47
8	35,001 - 40,000	\$1.68	\$0.96	\$2.64
9	40,001 - Unlimited	\$1.85	\$0.96	\$2.81

Increases in the base rate are correlated to connection size. The base rates are proportional to the surface area of the respective meter. For example, a 1 1/2" water meter has four times the area of the 3/4" water meter. Thus, the base rate for a 1 1/2" water meter is four times the standard base rate.

B. WCWCD RATE

A large portion of the water source used in the City comes from the WCWCD. Currently the City is charges \$1.54 per thousand gallons that it delivers to residents. WCWCD is increasing this rate by \$0.10 every year through 2025.

The City provides in its rate structure a per thousand-gallon cost for water from the WCWCD. This is a weighted average that takes into account the amount of source that the City provides that is not from WCWCD. During the previous user rate adjustment, the City produced

approximately 60% of the water being used with the remaining 40% coming from the WCWCD. Taking into account the cost for the City to produce 1,000 gallons of water vs the cost to purchase 1,000 gallons of water it was calculated that the weighted average cost of water to residents was \$0.96.

In 2022, the City only produced 40% of the water and the remaining 60% came from the WCWCD. As the City continues to grow this number will continue to grow further apart. By using the same method of a weighted average, the average cost for 1,000 gallons is \$1.41. It is recommended that the City increase its WCWCD portion of the user rate to \$1.41.

As stated previously, the WCWCD rate for water is increasing annually. It is recommended that the City increase this portion each year to match the increase of the WCWCD water cost.

In addition to the cost for purchasing water from the WCWCD, each user is also charged a \$1.75 surcharge each month from the WCWCD.

C. AVERAGE RATE DETERMINATION

The study provides an average rate analysis to determine the average water rate per ERU needed to cover the expenses of the water system. The analysis uses recent fiscal year expenses and annual budgets to project the following year's expenses, and also uses new expenses associated with proposed improvements such as new debt services. This analysis considers projected expenses and income sources to determine the amount of revenue needed to be generated by user rates.

The target revenue needed from user rates is divided by the estimated number of ERUs serviced by the system and converted to an average monthly rate. This gives the average user rate needed per ERU to cover the expenses of the water system. The analysis results in an average user rate per ERU of \$55.50 per month. The table below shows the user rate analysis.

Figure IX-1 User Rate Analysis

Average Water Rate Analysis Washington City						
FY 2024	%	Fixed	%	Variable	Total	
Salaries Regular	90%	\$ 1,092,635	10%	\$ 121,404	\$ 1,214,038	
Employee Benefits	90%	\$ 732,148	10%	\$ 81,350	\$ 813,497	
Overtime	0%	\$ -	100%	\$ 21,113	\$ 21,113	
Uniforms	80%	\$ 4,984	20%	\$ 1,246	\$ 6,230	
Dues And Memberships	0%	\$ -	100%	\$ 3,756	\$ 3,756	
Software Subscriptions	0%	\$ -	100%	\$ 1,031	\$ 1,031	
Training & Travel	0%	\$ -	100%	\$ 11,833	\$ 11,833	
Office Equipment- Supplies & Maint.	25%	\$ 5,102	75%	\$ 15,307	\$ 20,409	
Supplies & Materials	25%	\$ 67,702	75%	\$ 203,106	\$ 270,808	
Fuel	0%	\$ -	100%	\$ 38,550	\$ 38,550	
Fleet Charges	25%	\$ 17,002	75%	\$ 51,006	\$ 68,008	
Small Tools & Minor Equipment	25%	\$ 2,509	75%	\$ 7,528	\$ 10,037	
Building & Grounds	75%	\$ 9,821	25%	\$ 3,274	\$ 13,095	
Utilities	10%	\$ 124,490	90%	\$ 1,120,413	\$ 1,244,903	
Telephone	25%	\$ 3,609	75%	\$ 10,827	\$ 14,436	
Professional & Technical	25%	\$ 28,539	75%	\$ 85,618	\$ 114,158	
Water Purchase Sand Hollow	0%	\$ -	100%	\$ 2,709,367	\$ 2,709,367	
Water Purchase Quail Lake Raw	0%	\$ -	100%	\$ 988,914	\$ 988,914	
Administrative Costs	50%	\$ 189,283	50%	\$ 189,283	\$ 378,567	
District Surcharge	0%	\$ -	100%	\$ 400,273	\$ 400,273	
Uncollectable accounts	100%	\$ 5,931	0%	\$ -	\$ 5,931	
Fees & Charges	0%	\$ -	100%	\$ 5,410	\$ 5,410	
Miscellaneous Service	0%	\$ -	100%	\$ 2,894	\$ 2,894	
Other Projects	30%	\$ 244,195	70%	\$ 569,789	\$ 813,984	
Funded Depreciation	100%	\$ 1,500,000	0%	\$ -	\$ 1,500,000	
Total O&M Expenses					\$	10,671,243
OTHER EXPENSES						
Capital Projects/ Replenish Enterprise Fund	0%	\$ -	100%	\$ 1,658,076	\$ 1,658,076	
EXISTING DEBT SERVICE NOT IMPACT FEE ELIGIBLE						
Water Revenue Refunding Bonds 2016B	100%	\$ 411,770	0%	\$ -	\$ 411,770	
NEW DEBT SERVICE						
Airport Tank and Transmission Line	100%	\$ 591,442	0%		\$ 591,442	
Sunrise Valley Tank and Transmission Line	100%	\$ 465,482	0%		\$ 465,482	
TOTAL EXPENSES:		\$ 5,496,645		\$ 8,301,368	\$ 13,798,013	
OTHER INCOME (BESIDES WATER SALES)						
Connection Fees	0%	\$ -	100%	\$ 459,370	\$ 459,370	
Other Revenue (Hydrant Meters, etc.)	0%	\$ -	100%	\$ 665,939	\$ 665,939	
Interest	30%	\$ 59,904	70%	\$ 139,777	\$ 199,681	
Total Other Income:		\$ 59,904		\$ 1,265,086	\$ 1,324,990	
Total Expenses - Total Other Income:		\$ 5,436,741		\$ 7,036,282	\$ 12,473,023	
Total Project System Billed ERU's in FY 2024		18,729		18,729	18,729	
Monthly Cost Per Billed ERU in FY 2024		\$ 24.19		\$ 31.31	\$ 55.50	
BASE AND OVERAGE RATE DETERMINATION						
Resident Base Cost (0 Gallons)		\$ 24.19				
Non-Resident Base Cost (0 Gallons)		\$ 48.38				
Resident Variable Cost (Avg Usage)				\$ 31.31		
Non-Resident Variable Cost (Avg Usage)				\$ 62.62		
Average Use/Billed ERU (Gal)				12,200		
Resident Cost/1000 Gallons				\$ 2.57		
Total Average Monthly Resident Rate/Billed ERU					\$ 55.50	
Total Average Monthly Non-Resident Rate/Billed ERU					\$ 111.00	
WCWCD Surcharge (Surcharge is added on top of base rate)					\$ 1.75	

D. BASE AND OVERAGE RATE DETERMINATION

All expenses and other income are separated into fixed and variable costs to calculate the base and overage rates. This splits the total average rate into an average base rate and an average overage rate. For an average residential user, the base rate was calculated as \$24.19 per month and the average overage rate as \$31.31 per month for a total of \$55.50. These calculations are based on residents of Washington City. Non-resident base rates are double the resident rates at \$48.38 and the average overage rate at \$62.62. Figure IX-2 shows a summary of the calculated monthly base rate for each meter size. It should be noted that the WCWCD surcharge is not included in the \$55.50 calculated above and the \$1.75 surcharge would be added to the base rate.

Figure IX-2: Calculated Base Rate

Meter Size	Base Rate
5/8"	\$24.19
3/4"	\$24.19
1"	\$44.00
1 1/2"	\$97.00
2"	\$173.00
3"	\$388.00
4"	\$689.00
6"	\$1,549.00

The average rate determinations above are higher than what the City is currently collecting from users. This indicates that the City will not be able to cover the required project and ongoing expenses with the current user rate structure. It is recommended that the City establish a new rate structure so that the water system is collecting enough revenue to cover expenses. The figures below (Figures IX-3 to IX-5) show the recommended base rate structure based on this analysis.

While changing the overage rate structure it is recommended that the City creates a structure that promotes conservation. One of the main benefits of a tiered overage rate structure is that it promotes conservation by incentivizing users to use less water and those that choose not to are charged a higher rate. The City's current rate does provide this to an extent. However, as water availability and cost are becoming more of an issue, the City desires to increase its conservation efforts. One way to do this is to create a tier structure that is "more aggressive" and has further separation in costs between the tiers. This plan provides 3 options of what an increased tier rate could look like. These options are provided below.

Figure IX-3: Possible Overage Rate Structure Option 1

Tier	Threshold Gallons	Washington City	WCWCD*	Rate/1000 gal	WCWCD Increase*	Rate/1000 gal**
1	0 - 12,000	\$1.16	\$1.41	\$2.57	\$0.10	\$2.67
2	12,001 - 15,000	\$1.28	\$1.41	\$2.69	\$0.10	\$2.79
3	15,001 - 20,000	\$1.41	\$1.41	\$2.82	\$0.10	\$2.92
4	20,001 - 25,000	\$1.55	\$1.41	\$2.96	\$0.10	\$3.06
5	25,001 - 30,000	\$1.70	\$1.41	\$3.11	\$0.10	\$3.21
6	30,001 - 35,000	\$1.87	\$1.41	\$3.28	\$0.10	\$3.38
7	35,001 - 40,000	\$2.06	\$1.41	\$3.47	\$0.10	\$3.57
8	40,001 - 45,000	\$2.27	\$1.41	\$3.68	\$0.10	\$3.78
9	45,001 & Up	\$2.49	\$1.41	\$3.90	\$0.10	\$4.00
Average Water Use Cost Based On		12,200	gal			\$32.60
			Base Rate			\$24.19
Total Average Water Bill (Base Rate Plus Overage Plus \$1.75 Surcharge)						\$58.54

Figure IX-4: Possible Overage Rate Structure Option 2

Tier	Threshold Gallons	Washington City	WCWCD*	Rate/1000 gal	WCWCD Increase*	Rate/1000 gal**
1	0 - 12,000	\$1.16	\$1.41	\$2.57	\$0.10	\$2.67
2	12,001 - 20,000	\$1.45	\$1.41	\$2.86	\$0.10	\$2.96
3	20,001 - 30,000	\$1.81	\$1.41	\$3.22	\$0.10	\$3.32
4	30,001 - 40,000	\$2.26	\$1.41	\$3.67	\$0.10	\$3.77
5	40,001 & Up	\$2.83	\$1.41	\$4.24	\$0.10	\$4.34
Average Water Use Cost Based On		12,200	gal			\$32.63
			Base Rate			\$24.19
Total Average Water Bill (Base Rate Plus Overage Plus \$1.75 Surcharge)						\$58.57

Figure IX-5: Possible Overage Rate Structure Option 3

Tier	Threshold Gallons	Washington City	WCWCD*	Rate/1000 gal	WCWCD Increase*	Rate/1000 gal**
1	0 - 12,000	\$1.16	\$1.41	\$2.57	\$0.10	\$2.67
2	12,001 - 20,000	\$1.28	\$1.41	\$2.69	\$0.10	\$2.79
3	20,001 - 30,000	\$1.60	\$1.41	\$3.01	\$0.10	\$3.11
4	30,001 - 40,000	\$2.40	\$1.41	\$3.81	\$0.10	\$3.91
5	40,001 & Up	\$3.60	\$1.41	\$5.01	\$0.10	\$5.11
Average Water Use Cost Based On		12,200	gal			\$32.60
			Base Rate			\$24.19
Total Average Water Bill (Base Rate Plus Overage Plus \$1.75 Surcharge)						\$58.54

Another factor to consider with conservation is that a reduction in water use is also a reduction in water sales and therefore a reduction in revenue. Historically the City's overage rate has been set up so that the historical average water use would cover the variable expenses. The historical usage typically would put a user into the third tier of the rate structure. It is possible that if this method continues, when the City hits its conservation goal the variable expenses would not be covered because more users would not fall into the second or third tier. Therefore, it is recommended that the rate structure be set so that the first tier would cover all variable expenses. The 3 options mentioned above incorporate this idea.

recommended that the rate structure be set so that the first tier would cover all variable expenses. The 3 options mentioned above incorporate this idea.

E. CASH FLOW

A 20-year cash flow analysis was prepared for this update. This cash flow shows several years of past revenues and expenses, along with twenty years of projected revenues and expenses for the water system. These projections are based on assumptions of inflation, growth, average rates, proposed, projects, etc. Calculations for average rates and impact fees have been carried over to the cash flow analysis. The cash flow analysis is shown in Appendix E.

Water rates and fees should be reviewed by the City periodically to ensure that they keep up with inflation rates and increased costs in system maintenance. Washington City does not have to adopt the amounts shown in the rate analysis. However, the rates suggested are calculated to cover expenses and ensure that the water fund remains viable.

X. IMPACT FEES

This report constitutes an Impact Fee Facilities Plan to determine the public facilities requirement to serve growth resulting from new development activity. A community may charge an impact fee to provide funding for the projects required by this growth. The total cost that is eligible for the impact fee assessment is equal to the portion of any planned improvements project that will be constructed in the planning window. The combined costs for these projects are divided by the projected number of new ERUs that will be added to the system. Impact fees can also cover debt service that is incurred by projects that provide excess capacity to be used for growth.

A. EXISTING IMPACT FEES

Figure X-1 below shows the existing impact fees charged by Washington City. The existing impact fees are associated with meter size and ERU's per meter size.

Figure X-1: Existing Impact Fees

Meter Size	ERUs	Impact Fee
5/8" & 3/4"	1	\$2,412.00
1"	1.78	\$4,288.00
1 1/2"	4.00	\$9,648.00
2"	7.11	\$17,152.00
3"	16.00	\$38,592.00
4"	28.44	\$68,608.00
6"	64.00	\$154,368.00

B. PROPOSED IMPACT FEES

This plan includes an Impact Fee Analysis to determine the updated fee that the City can assess for its culinary water impact fee. As stated above an impact fee covers the cost for a project falling within the planning window, which for this analysis is 10 years. The impact fee can also cover debt services for past projects that can be attributed to growth.

According to state impact fee laws, impact fees must be used within six years (6) of their receipt. This plan accounts for incoming fees to be used for eligible projects and debts in the continuous six-year window.

The max allowable impact fee is calculated to be \$4,085.67 per ERU. This is \$1,673.67 more than the existing impact fee. Figure X-2 shows the results of the impact fee analysis and Figure X-3 shows the potential impact fee per meter size. This considerable increase is primarily due to increases in construction and material costs over the past 3 years.

Figure X-2: Impact Fee Analysis

Impact Fee Analysis Washington City				
Existing Debt Service	Debt to be Paid FY2024-33		Impact Fee % Eligible	Eligible Costs
Water Revenue Refunding Bonds 2016B	\$ 5,244,791		34%	\$ 1,783,229
Subtotal				\$ 1,783,229
Proposed Improvement Projects (FY2024-34)	Total Current Estimated Cost	Year of Improvement	Impact Fee % Eligible	Eligible Costs w/ Inflation
Plans/Studies				
Culinary Water Master Plan	\$ 60,000	2028	100%	\$ 67,531
Subtotal				\$ 67,531
Source Projects				
	\$ -			\$ -
Subtotal				\$ -
Storage Projects (0-10 yr)				
Long Valley - 2.5 MG Tank	\$ 7,538,500	2024	100%	\$ 7,538,500
Airport 1 - 2.5 MG Tank	\$ 6,613,300	2025	100%	\$ 6,811,699
Sunrise Valley - 2.5 MG Tank	\$ 6,996,700	2026	100%	\$ 7,422,799
Majestic - 2.5 MG Tank	\$ 7,596,800	2032	100%	\$ 9,623,399
Subtotal				\$ 31,396,397
Distribution Projects (0-10 yr)				
Washington Fields Rd. Transmission Line	\$ 2,716,800	2024	100%	\$ 2,716,800
Airport Connection PH1 & Airport Transmission	\$ 994,900	2025	100%	\$ 1,024,747
Fields Road To Airport Tank Transmission Line	\$ 4,410,300	2025	100%	\$ 4,542,609
Perry's Landing Pressure Zone Adjustment	\$ 389,900	2025	0%	\$ -
Sunrise Valley Transmission Line	\$ 2,186,700	2026	100%	\$ 2,319,870
Shadow Ridge 6" Line Replacement	\$ 264,000	2026	0%	\$ -
Lion's Head Dr. PRV	\$ 164,400	2027	0%	\$ -
Subtotal				\$ 10,604,026
Total Cost Eligible For Impact Fee				\$ 43,851,182
Projected No. of Existing Culinary ERUs (beginning FY 2024)				18,729
Anticipated No. of Culinary ERUs (beginning FY 2034)				29,462
No. of New ERUs Due to Growth				10,733
Maximum Impact Fee = Total Eligible Cost / New ERU's				\$ 4,085.67

Figure X-3: Potential Impact Fees

Meter Size	ERUs	Impact Fee
5/8" & 3/4"	1	\$4,085.00
1"	1.78	\$7,263.00
1 1/2"	4.00	\$16,342.00
2"	7.11	\$29,053.00
3"	16.00	\$65,370.00
4"	28.44	\$116,214.00
6"	64.00	\$261,482.00

Part of the impact fee analysis is to determine what percentage each project of the capital facilities plan is impact fee eligible. The impact fee eligible percentage of the existing debt service was determined in a previous master plan and should be carried over for the life of the debts. The majority of projects in the capital facilities plan are driven fully by growth, meaning that if

growth were to suddenly stop in the City these projects would not be needed. Because these projects are driven fully by growth, they are considered 100% impact fee eligible. The projects not driven by growth are intended to address existing problems and therefore are not considered impact fee eligible.

It is important to note these impact fees are for the improvements shown in the 0 to 10-year planning window and do not provide for the City to design and build anything beyond the proposed projects. All new additions to the system will need to be considered in the impact fee calculations. Otherwise, developers should be required to make the improvements.

C. CONNECTION FEES

Currently the City charges a connection for any new water service that is connected to the system. These existing connection fees are shown below in Figure X-4.

Figure X-4: Existing Connection Fees

Meter Size	Connection Fee
5/8" & 3/4"	\$277
1"	\$352
1 1/2"	\$629
2"	\$822
3"	\$2,060
4"	\$2,501
6"	\$4,687

According to Utah State law, connection fees are not to be more than the actual cost of establishing the connection including a water meter and labor to connect the meter to the water main line. Figure X-5 shows proposed connection fees based on meter size. This includes the cost of the meter, and associated materials, and 2 hours of labor and equipment expense. These fees should be looked at periodically and adjusted as prices for materials and labor increase.

Figure X-5: Proposed Connection Fees

Meter Size	Connection Fee
5/8" & 3/4"	\$380
1"	\$480
1 1/2"	\$772
2"	\$974
3"	\$1,562
4"	\$1,987
6"	\$3,107

D. IMPACT FEE RELATED ITEMS

In general, it is beneficial to update this impact fee facilities plan and analysis at least every five years, or more frequently if drastic growth or changes affect the assumptions and data in this plan. It is assumed that this plan will be updated as recommended.

There are a few items relating to impact fees that Washington City must consider when planning for, collecting, and expending impact fees in accordance with Utah Code 11-36a-101.

City staff must understand that impact fees can only be expended for a system improvement that is identified in the Impact Fee Facilities Plan and is for the specific facility type for which the fee was collected. Impact fees must be expended or encumbered for permissible use within six

years of their receipt unless 11-6a-602(2)(b) applies. Also, impact fees must have proper accounting (track each fee in and out) in accordance with Utah Code 11-36a-601.

In accordance with Utah Code 11-36a-306 a certification of impact fee analysis is located in Appendix E.

APPENDIX A

Growth Rate Analysis

Population & Growth Rate

Calendar Year	Population	Est. Growth rate	# of Conn.	# of ERU
2022	40,594	-	13,916	16,389
2023	43,395	6.9%	14,876	17,520
2024	46,389	6.9%	15,903	18,729
2025	49,590	6.9%	17,000	20,021
2026	52,318	5.5%	17,935	21,122
2027	55,195	5.5%	18,921	22,284
2028	58,231	5.5%	19,962	23,509
2029	60,560	4.0%	20,761	24,450
2030	62,982	4.0%	21,591	25,428
2031	65,502	4.0%	22,455	26,445
2032	68,122	4.0%	23,353	27,503
2033	70,506	3.5%	24,170	28,465
2034	72,974	3.5%	25,016	29,462
2035	75,528	3.5%	25,892	30,493
2036	78,171	3.5%	26,798	31,560
2037	80,907	3.5%	27,736	32,665
2038	83,739	3.5%	28,707	33,808
2039	86,670	3.5%	29,711	34,991
2040	89,703	3.5%	30,751	36,216
2041	92,843	3.5%	31,827	37,483
2042	96,092	3.5%	32,941	38,795

APPENDIX B

Water Use Analysis

Historical Usage Table			
Calendar Year	Total Usage (Thousand gallons)	Number of ERUs	Usage Per ERU (gpd/ERU)
2019	2,428,666	13,817	481.6
2020	2,626,927	14,553	494.6
2021	2,634,571	15,879	454.6
2022	2,901,830	16,389	485.1
4-Year Average:	2,647,998	15,159	478.9

Peak Instantaneous Demand Table			
Calendar Year	Peak Instant Date	Peak Instantaneous Demand (gal)	Peak Instantaneous Demand (gpm)
2019	2-Sep	1,248,949	20,816
2020	13-Jul	1,571,003	26,183
2021	12-Jul	1,282,092	21,368
2022	18-Jul	1,186,019	19,767
AVG		1,322,016	22,034

**This data was provided by the City and uses real-time meter data*

$$\text{Required Source Capacity} = \#ERU \times \frac{\text{gpd}}{\#ERU} \times \frac{1 \text{ Day}}{24 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min}}$$

$$\text{Required Storage Capacity} = \#ERU \times \frac{\text{gpd}}{\#ERU} + \text{Fire Flow (1,500gpm)} \times \frac{60 \text{ min}}{1 \text{ hr}} \times 2 \text{ hr}$$

Current & Projected Required Source Capacity						
Calendar Year	# of ERU	% Reduction in Usage Per ERU	Peak Day Usage (gpm/ERU)	Source Capacity Required (gpm)	Existing Source Available (gpm)	Source Capacity Surplus/Deficit (gpm)
2022	16,389	0.5%	901.14	10,256	17,442	7,186
2023	17,520	0.5%	896.64	10,909	17,442	6,533
2024	18,729	0.5%	892.15	11,603	17,442	5,839
2025	20,021	0.5%	887.69	12,342	17,442	5,100
2026	21,122	0.5%	883.25	12,956	17,442	4,486
2027	22,284	0.5%	878.84	13,600	17,442	3,842
2028	23,509	0.5%	874.44	14,276	17,442	3,166
2029	24,450	0.5%	870.07	14,773	17,442	2,669
2030	25,428	0.5%	865.72	15,287	17,442	2,155
2031	26,445	0.5%	861.39	15,819	17,442	1,623
2032	27,503	0.5%	857.09	16,370	17,442	1,072
2033	28,465	0.5%	852.80	16,858	17,442	584
2034	29,462	0.5%	848.54	17,361	17,442	81
2035	30,493	0.5%	844.29	17,878	17,442	(436)
2036	31,560	0.5%	840.07	18,412	17,442	(970)
2037	32,665	0.5%	835.87	18,961	17,442	(1,519)
2038	33,808	0.5%	831.69	19,526	17,442	(2,084)
2039	34,991	0.5%	827.53	20,109	17,442	(2,667)
2040	36,216	0.5%	823.40	20,708	17,442	(3,266)
2041	37,483	0.5%	819.28	21,326	17,442	(3,884)
2042	38,795	0.5%	815.18	21,962	17,442	(4,520)

Storage Capacity Analysis							
Calendar Year	# of ERU	% Reduction in Usage Per ERU	Average Day Usage (gpd/ERU)	Required Storage Capacity (gal)	Existing Storage Capacity (gal)	Storage Capacity Surplus/Deficit (gal)	Projected Storage Capacity Surplus/Deficit (gal)
2022	16,389	0.5%	478.9	8,029,456	9,810,000	1,780,544	1,780,544
2023	17,520	0.5%	476.6	8,529,114	9,810,000	1,280,886	3,780,886
2024	18,729	0.5%	474.2	9,060,576	9,810,000	749,424	5,749,424
2025	20,021	0.5%	471.8	9,625,869	9,810,000	184,131	7,684,131
2026	21,122	0.5%	469.4	10,095,565	9,810,000	(285,565)	7,214,435
2027	22,284	0.5%	467.1	10,588,617	9,810,000	(778,617)	6,721,383
2028	23,509	0.5%	464.8	11,106,185	9,810,000	(1,296,185)	6,203,815
2029	24,450	0.5%	462.4	11,486,417	9,810,000	(1,676,417)	5,823,583
2030	25,428	0.5%	460.1	11,879,880	9,810,000	(2,069,880)	5,430,120
2031	26,445	0.5%	457.8	12,287,036	9,810,000	(2,477,036)	5,022,964
2032	27,503	0.5%	455.5	12,708,360	9,810,000	(2,898,360)	4,614,604
2033	28,465	0.5%	453.3	13,082,019	9,810,000	(3,272,019)	4,212,585
2034	29,462	0.5%	451.0	13,466,822	9,810,000	(3,656,822)	3,810,763
2035	30,493	0.5%	448.7	13,863,101	9,810,000	(4,053,101)	3,418,662
2036	31,560	0.5%	446.5	14,271,199	9,810,000	(4,461,199)	3,037,463
2037	32,665	0.5%	444.3	14,691,470	9,810,000	(4,881,470)	2,676,093
2038	33,808	0.5%	442.0	15,124,274	9,810,000	(5,314,274)	2,334,819
2039	34,991	0.5%	439.8	15,569,987	9,810,000	(5,759,987)	2,014,832
2040	36,216	0.5%	437.6	16,028,993	9,810,000	(6,218,993)	1,725,839
2041	37,483	0.5%	435.4	16,501,690	9,810,000	(6,691,690)	1,474,149
2042	38,795	0.5%	433.3	16,988,484	9,810,000	(7,178,484)	1,245,665

APPENDIX C

Engineers Opinion of Probable Cost

Recommended Improvements Project List:

1. Long Valley Tank
2. Airport Tank 1
3. Sunrise Valley Tank
4. Majestic Tank
5. Airport Tank 2
6. Stucki Farms
7. Washington Fields Road Transmission Line
8. Fields Road to Airport Tank Transmission Line
9. Airport Connection Phase 1
10. Perry's Landing Pressure Zone Adjustment
11. Sunrise Valley Transmission Line
12. Shadow Ridge 6" Line Replacement
13. Lion's Head Drive PRV
14. Church Farm Road Transmission Line
15. East Regional Connection Phase 2
16. Airport Connection Phase 2
17. Airport Connection Phase 3

Engineer's Opinion of Probable Cost

LONG VALLEY TANK
WASHINGTON CITY

13-Mar-23
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 282,700.00	\$ 282,700.00
2	Traffic Control	1	LS	\$ 2,000.00	\$ 2,000.00
3	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
4	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
5	Subsurface Investigation	30	HR	\$ 250.00	\$ 7,500.00
6	Restore Surface Improvements	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 12,000.00	\$ 12,000.00
8	Earthwork for Tank	1	LS	\$ 400,000.00	\$ 400,000.00
9	Access Road (Road Base)	16,500	SF	\$ 2.00	\$ 33,000.00
10	2.5MG Concrete Storage Tank	1	LS	\$ 3,500,000.00	\$ 3,500,000.00
11	Tank Site Appurtenances	1	LS	\$ 250,000.00	\$ 250,000.00
12	16" PVC, Fittings, Installation, Bedding, and Backfill	4,330	LF	\$ 130.00	\$ 562,900.00
13	16" Butterfly Valve Assembly	6	EA	\$ 8,000.00	\$ 48,000.00
14	6" Combination Air Valve	2	EA	\$ 12,500.00	\$ 25,000.00
15	Bituminous Surface Course	15,600	SF	\$ 6.00	\$ 93,600.00
16	Solid Rock Excavation	490	CY	\$ 50.00	\$ 24,500.00
17	Misc. Tie-Ins and Connections	1	LS	\$ 40,000.00	\$ 40,000.00
18	Wash Crossing	1	LS	\$ 40,000.00	\$ 40,000.00
19	Highway Crossing	1	LS	\$ 100,000.00	\$ 100,000.00
20	Booster Station Building	1	LS	\$ 225,000.00	\$ 225,000.00
21	Booster Pumps	1	LS	\$ 100,000.00	\$ 100,000.00
22	Misc Pump Piping/Connections	1	LS	\$ 50,000.00	\$ 50,000.00
23	Electrical Improvements	1	LS	\$ 120,000.00	\$ 120,000.00
SUBTOTAL					\$ 5,937,200.00
CONTINGENCY				20%	\$ 1,187,440.00
CONSTRUCTION TOTAL					\$ 7,124,640.00
INCIDENTALS					
1	Engineering Design	2.2%	LS	\$ 167,500.00	\$ 167,500.00
2	Bidding & Negotiating	0.1%	HR	\$ 9,700.00	\$ 9,700.00
3	Engineering Construction Services	1.8%	HR	\$ 138,800.00	\$ 138,800.00
4	Topographic & Property Survey	0.1%	EST	\$ 10,000.00	\$ 10,000.00
5	Geotechnical Report	0.2%	EST	\$ 12,900.00	\$ 12,900.00
6	SCADA Design & Improvements	0.7%	EST	\$ 50,000.00	\$ 50,000.00
7	Miscellaneous Professional Services	0.3%	EST	\$ 25,000.00	\$ 25,000.00
SUBTOTAL					\$ 413,900.00
TOTAL PROJECT COST					\$ 7,538,540.00

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Engineer's Opinion of Probable Cost

AIRPORT TANK 1
WASHINGTON CITY

13-Mar-23
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 226,200.00	\$ 226,200.00
2	Traffic Control	1	LS	\$ 3,000.00	\$ 3,000.00
3	Pre-Construction DVD	1	LS	\$ 3,000.00	\$ 3,000.00
4	Dust Control & Watering	1	LS	\$ 15,000.00	\$ 15,000.00
5	Subsurface Investigation	8	HR	\$ 250.00	\$ 2,000.00
6	Restore Surface Improvements	1	LS	\$ 15,000.00	\$ 15,000.00
7	Construction Staking	1	LS	\$ 20,000.00	\$ 20,000.00
8	Earthwork for Tank	1	LS	\$ 400,000.00	\$ 400,000.00
9	Tank Access Rd	55,000	SF	\$ 3.25	\$ 178,800.00
10	2.5MG Concrete Storage Tank	1	LS	\$ 3,500,000.00	\$ 3,500,000.00
11	Tank Site Appurtenances	1	LS	\$ 240,000.00	\$ 240,000.00
12	24" DIP, Fittings, Installation, Bedding, and Backfill	200	LF	\$ 250.00	\$ 50,000.00
13	24" Butterfly Valve Assembly	2	EA	\$ 12,750.00	\$ 25,500.00
14	Fencing and Gate	1	LS	\$ 20,000.00	\$ 20,000.00
15	Solid Rock Excavation	300	CY	\$ 50.00	\$ 15,000.00
16	Misc. Tie-Ins and Connections	1	LS	\$ 25,000.00	\$ 25,000.00
17	Surface Restoration Improvements	1	LS	\$ 12,000.00	\$ 12,000.00
SUBTOTAL					\$ 4,750,500.00
CONTINGENCY				20%	\$ 950,100.00
CONSTRUCTION TOTAL					\$ 5,700,600.00
INCIDENTALS					
1	Engineering Design	5.0%	LS	\$ 331,700.00	\$ 331,700.00
2	Bidding & Negotiating	0.2%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	5.7%	HR	\$ 380,000.00	\$ 380,000.00
4	Topographic & Property Survey	0.1%	EST	\$ 6,000.00	\$ 6,000.00
5	Geotechnical Report	0.1%	EST	\$ 10,000.00	\$ 10,000.00
6	SCADA Design & Improvements	0.8%	EST	\$ 50,000.00	\$ 50,000.00
7	BLM POD & EA	1.5%	EST	\$ 100,000.00	\$ 100,000.00
8	Miscellaneous Professional Services	0.4%	EST	\$ 25,000.00	\$ 25,000.00
SUBTOTAL					\$ 912,700.00
TOTAL PROJECT COST					\$ 6,613,300.00

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Engineer's Opinion of Probable Cost

SUNRISE VALLEY TANK
WASHINGTON CITY

13-Mar-23
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 239,700.00	\$ 239,700.00
2	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
3	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
4	Dust Control & Watering	1	LS	\$ 15,000.00	\$ 15,000.00
5	Subsurface Investigation	8	HR	\$ 250.00	\$ 2,000.00
6	Restore Surface Improvements	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 8,500.00	\$ 8,500.00
8	Earthwork for Tank	1	LS	\$ 400,000.00	\$ 400,000.00
9	Access Road (Road Base)	20,000	SF	\$ 2.00	\$ 40,000.00
10	2.5MG Concrete Storage Tank	1	LS	\$ 3,500,000.00	\$ 3,500,000.00
11	Tank Site Appurtenances	1	LS	\$ 250,000.00	\$ 250,000.00
12	16" PVC, Fittings, & Installation	2,200	LF	\$ 130.00	\$ 286,000.00
13	16" Butterfly Valve Assembly	4	EA	\$ 8,000.00	\$ 32,000.00
14	Fencing and Gate	1	LS	\$ 20,000.00	\$ 20,000.00
15	Solid Rock Excavation	100	CY	\$ 50.00	\$ 5,000.00
16	Misc. Tie-Ins and connections	1	LS	\$ 50,000.00	\$ 50,000.00
17	Control valves, Flow Meter, and vault	1	LS	\$ 150,000.00	\$ 150,000.00
18	Electrical Improvements	1	LS	\$ 20,000.00	\$ 20,000.00
SUBTOTAL					\$ 5,034,200.00
CONTINGENCY				20%	\$ 1,006,800.00
CONSTRUCTION TOTAL					\$ 6,041,000.00
INCIDENTALS					
1	Engineering Design	5.0%	LS	\$ 350,000.00	\$ 350,000.00
2	Bidding & Negotiating	0.1%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	5.8%	HR	\$ 402,700.00	\$ 402,700.00
4	Topographic & Property Survey	0.1%	EST	\$ 10,000.00	\$ 10,000.00
5	Geotechnical Report	0.1%	EST	\$ 8,000.00	\$ 8,000.00
6	SCADA Design & Improvements	0.7%	EST	\$ 50,000.00	\$ 50,000.00
7	BLM POD & EA	1.4%	EST	\$ 100,000.00	\$ 100,000.00
8	Miscellaneous Professional Services	0.4%	EST	\$ 25,000.00	\$ 25,000.00
SUBTOTAL					\$ 955,700.00
TOTAL PROJECT COST					\$ 6,996,700.00

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Engineer's Opinion of Probable Cost

MAJESTIC TANK
WASHINGTON CITY

13-Mar-23
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 264,500.00	\$ 264,500.00
2	Traffic Control	1	LS	\$ 3,000.00	\$ 3,000.00
3	Pre-Construction DVD	1	LS	\$ 3,000.00	\$ 3,000.00
4	Dust Control & Watering	1	LS	\$ 15,000.00	\$ 15,000.00
5	Subsurface Investigation	40	HR	\$ 250.00	\$ 10,000.00
6	Restore Surface Improvements	1	LS	\$ 15,000.00	\$ 15,000.00
7	Construction Staking	1	LS	\$ 20,000.00	\$ 20,000.00
8	Earthwork for Tank	1	LS	\$ 500,000.00	\$ 500,000.00
9	Access Road (Road Base)	37,000	SF	\$ 3.25	\$ 120,250.00
10	2.5MG Concrete Storage Tank	1	LS	\$ 3,500,000.00	\$ 3,500,000.00
11	Tank Site Appurtenances	1	LS	\$ 250,000.00	\$ 250,000.00
12	16" PVC, Fittings, & Installation	2,200	LF	\$ 130.00	\$ 286,000.00
13	16" Butterfly Valve Assembly	6	EA	\$ 8,000.00	\$ 48,000.00
14	Fencing and Gate	1	LS	\$ 20,000.00	\$ 20,000.00
15	Bituminous Surface Course	1,800	SF	\$ 7.50	\$ 13,500.00
16	Solid Rock Excavation	500	CY	\$ 50.00	\$ 25,000.00
17	Misc. Tie-Ins and Connections	1	LS	\$ 25,000.00	\$ 25,000.00
18	Surface Restoration Improvements	1	LS	\$ 12,000.00	\$ 12,000.00
19	Booster Station Building	1	LS	\$ 225,000.00	\$ 225,000.00
20	Booster Pumps	1	LS	\$ 100,000.00	\$ 100,000.00
21	Electrical Improvements	1	LS	\$ 100,000.00	\$ 100,000.00
SUBTOTAL					\$ 5,555,250.00
CONTINGENCY				20%	\$ 1,111,050.00
CONSTRUCTION TOTAL					\$ 6,666,300.00
INCIDENTALS					
1	Engineering Design	5.0%	LS	\$ 383,100.00	\$ 383,100.00
2	Bidding & Negotiating	0.1%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	5.8%	HR	\$ 444,400.00	\$ 444,400.00
4	Topographic & Property Survey	0.1%	EST	\$ 10,000.00	\$ 10,000.00
5	Geotechnical Report	0.1%	EST	\$ 8,000.00	\$ 8,000.00
21	SCADA Design & Improvements	0.7%	EST	\$ 50,000.00	\$ 50,000.00
39	Miscellaneous Engineering Services	0.3%	EST	\$ 25,000.00	\$ 25,000.00
SUBTOTAL					\$ 930,500.00
TOTAL PROJECT COST					\$ 7,596,800.00

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Engineer's Opinion of Probable Cost

AIRPORT TANK 2
WASHINGTON CITY

13-Mar-23
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 223,100.00	\$ 223,100.00
2	Pre-Construction DVD	1	LS	\$ 3,000.00	\$ 3,000.00
3	Dust Control & Watering	1	LS	\$ 15,000.00	\$ 15,000.00
4	Subsurface Investigation	8	HR	\$ 250.00	\$ 2,000.00
5	Restore Surface Improvements	1	LS	\$ 15,000.00	\$ 15,000.00
6	Construction Staking	1	LS	\$ 20,000.00	\$ 20,000.00
7	Earthwork for Tank	1	LS	\$ 400,000.00	\$ 400,000.00
8	2.5MG Concrete Storage Tank	1	LS	\$ 3,500,000.00	\$ 3,500,000.00
9	Tank Site Appurtenances	1	LS	\$ 250,000.00	\$ 250,000.00
10	24" DIP, Fittings, Installation, Bedding, and Backfill	200	LF	\$ 250.00	\$ 50,000.00
11	24" Butterfly Valve Assembly	2	EA	\$ 12,750.00	\$ 25,500.00
12	Fencing and Gate	1	LS	\$ 20,000.00	\$ 20,000.00
13	Solid Rock Excavation	300	CY	\$ 50.00	\$ 15,000.00
14	Misc. Tie-Ins and Connections	1	LS	\$ 25,000.00	\$ 25,000.00
15	Surface Restoration Improvements	1	LS	\$ 12,000.00	\$ 12,000.00
16	Misc Pump Piping/Connections	1	LS	\$ 9,000.00	\$ 9,000.00
17	Electrical Improvements	1	LS	\$ 100,000.00	\$ 100,000.00
SUBTOTAL					\$ 4,684,600.00
CONTINGENCY				20%	\$ 936,900.00
CONSTRUCTION TOTAL					\$ 5,621,500.00
INCIDENTALS					
1	Engineering Design	5.0%	LS	\$ 327,400.00	\$ 327,400.00
2	Bidding & Negotiating	0.2%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	5.7%	HR	\$ 374,800.00	\$ 374,800.00
4	Topographic & Property Survey	0.1%	EST	\$ 6,000.00	\$ 6,000.00
5	Geotechnical Report	0.1%	EST	\$ 10,000.00	\$ 10,000.00
6	SCADA Design & Improvements	0.8%	EST	\$ 50,000.00	\$ 50,000.00
7	BLM POD & EA	1.5%	EST	\$ 100,000.00	\$ 100,000.00
8	Miscellaneous Professional Services	0.4%	EST	\$ 25,000.00	\$ 25,000.00
SUBTOTAL					\$ 903,200.00
TOTAL PROJECT COST					\$ 6,524,700.00

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Engineer's Opinion of Probable Cost

STUCKI FARMS TANK
WASHINGTON CITY

13-Mar-23
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 190,400.00	\$ 190,400.00
2	Traffic Control	1	LS	\$ 3,000.00	\$ 3,000.00
3	Pre-Construction DVD	1	LS	\$ 3,000.00	\$ 3,000.00
4	Dust Control & Watering	1	LS	\$ 15,000.00	\$ 15,000.00
5	Subsurface Investigation	40	HR	\$ 250.00	\$ 10,000.00
6	Restore Surface Improvements	1	LS	\$ 15,000.00	\$ 15,000.00
7	Construction Staking	1	LS	\$ 20,000.00	\$ 20,000.00
8	Earthwork for Tank	1	LS	\$ 400,000.00	\$ 400,000.00
9	Access Road (Road Base)	14,000	SF	\$ 2.00	\$ 28,000.00
10	1MG Concrete Storage Tank	1	LS	\$ 1,553,000.00	\$ 1,553,000.00
11	Tank Site Appurtenances	1	LS	\$ 250,000.00	\$ 250,000.00
12	8" PVC, Fittings, & Installation	3,300	LF	\$ 130.00	\$ 429,000.00
13	8" Butterfly Valve Assembly	4	EA	\$ 8,000.00	\$ 32,000.00
14	10" PVC, Fittings, & Installation	3,200	LF	\$ 130.00	\$ 416,000.00
15	10" Butterfly Valve Assembly	4	EA	\$ 8,000.00	\$ 32,000.00
16	Fencing and Gate	1	LS	\$ 20,000.00	\$ 20,000.00
17	Bituminous Surface Course	17,600	SF	\$ 6.00	\$ 105,600.00
18	Solid Rock Excavation	300	CY	\$ 50.00	\$ 15,000.00
19	Misc. Tie-Ins and Connections	1	LS	\$ 25,000.00	\$ 25,000.00
20	Surface Restoration Improvements	1	LS	\$ 12,000.00	\$ 12,000.00
21	Booster Station Building	1	LS	\$ 225,000.00	\$ 225,000.00
22	Booster Pumps	1	LS	\$ 100,000.00	\$ 100,000.00
23	Electrical Improvements	1	LS	\$ 100,000.00	\$ 100,000.00
SUBTOTAL					\$ 3,999,000.00
CONTINGENCY				20%	\$ 799,800.00
CONSTRUCTION TOTAL					\$ 4,798,800.00
INCIDENTALS					
1	Engineering Design	5.1%	LS	\$ 282,600.00	\$ 282,600.00
2	Bidding & Negotiating	0.2%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	5.8%	HR	\$ 319,900.00	\$ 319,900.00
4	Topographic & Property Survey	0.2%	EST	\$ 10,000.00	\$ 10,000.00
5	Geotechnical Report	0.1%	EST	\$ 8,000.00	\$ 8,000.00
21	SCADA Design & Improvements	0.9%	EST	\$ 50,000.00	\$ 50,000.00
39	Miscellaneous Engineering Services	0.5%	EST	\$ 25,000.00	\$ 25,000.00
SUBTOTAL					\$ 705,500.00
TOTAL PROJECT COST					\$ 5,504,300.00

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Engineer's Opinion of Probable Cost

WASHINGTON FIELDS RD. TRANSMISSION LINE
WASHINGTON CITY

3-Mar-23
BCW

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 94,000.00	\$ 94,000.00
2	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
3	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
4	Dust Control & Watering	1	LS	\$ 5,000.00	\$ 5,000.00
5	Subsurface Investigation	4	HR	\$ 250.00	\$ 1,000.00
6	Restore Surface Improvements	1	LS	\$ 2,500.00	\$ 2,500.00
7	Construction Staking	1	LS	\$ 2,000.00	\$ 2,000.00
8	8" PVC Line, Fittings, Tracer wire, Bedding, Backfill & Installation (C900 DR-18)	150	LF	\$ 80.00	\$ 12,000.00
9	12" PVC Line, Fittings, Tracer wire, Bedding, Backfill & Installation (C900 DR-18)	50	EA	\$ 110.00	\$ 5,500.00
10	16" PVC Line, Fittings, Tracer wire, Bedding, Backfill & Installation (C900 DR-18)	11,880	SF	\$ 130.00	\$ 1,544,400.00
11	8" Gate Valve Assembly	4	EA	\$ 4,000.00	\$ 16,000.00
12	12" Gate Valve Assembly	2	EA	\$ 7,500.00	\$ 15,000.00
13	16" Butterfly Valve Assembly	14	EA	\$ 9,000.00	\$ 126,000.00
14	3" Air Valve Assembly	1	EA	\$ 19,000.00	\$ 19,000.00
15	4" Air Valve Assembly	1	EA	\$ 25,000.00	\$ 25,000.00
16	Fire Hydrant Assembly	9	EA	\$ 10,000.00	\$ 90,000.00
17	Misc. Water Connections, Fittings, Caps, Disconnects, Tee's & Tie-ins	1	LS	\$ 11,500.00	\$ 11,500.00
SUBTOTAL					\$ 1,974,900.00
CONTINGENCY				20%	\$ 395,000.00
CONSTRUCTION TOTAL					\$ 2,369,900.00
INCIDENTALS					
1	Engineering Design	5.4%	LS	\$ 146,400.00	\$ 146,400.00
2	Bidding & Negotiating	0.3%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	5.8%	HR	\$ 158,000.00	\$ 158,000.00
4	Topographic & Property Survey	0.1%	EST	\$ 2,500.00	\$ 2,500.00
5	SCADA Design & Improvements	1.1%	EST	\$ 30,000.00	\$ 30,000.00
6	Miscellaneous Professional Services	0.1%	EST	\$ 2,500.00	\$ 2,500.00
SUBTOTAL					\$ 346,900.00
TOTAL PROJECT COST					\$ 2,716,800.00

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Engineer's Opinion of Probable Cost

FIELDS ROAD TO AIRPORT TANK TRANSMISSION LINE
WASHINGTON CITY

13-Mar-23
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 148,400.00	\$ 148,400.00
2	Traffic Control	1	LS	\$ 3,000.00	\$ 3,000.00
3	Pre-Construction DVD	1	LS	\$ 3,000.00	\$ 3,000.00
4	Dust Control & Watering	1	LS	\$ 15,000.00	\$ 15,000.00
5	Subsurface Investigation	30	HR	\$ 250.00	\$ 7,500.00
6	Restore Surface Improvements	1	LS	\$ 15,000.00	\$ 15,000.00
7	Construction Staking	1	LS	\$ 20,000.00	\$ 20,000.00
8	20" DIP, Fittings, Installation, Bedding, and Backfill	4,100	LF	\$ 190.00	\$ 779,000.00
9	30" DIP, Fittings, Installation, Bedding, and Backfill	5,800	LF	\$ 300.00	\$ 1,740,000.00
10	20" Butterfly Valve Assembly	5	EA	\$ 11,500.00	\$ 57,500.00
11	30" Butterfly Valve Assembly	4	EA	\$ 15,000.00	\$ 60,000.00
12	Bituminous Surface Course	11,200	SF	\$ 7.00	\$ 78,400.00
13	Solid Rock Excavation	100	CY	\$ 50.00	\$ 5,000.00
14	Misc. Tie-Ins and Connections	1	LS	\$ 25,000.00	\$ 25,000.00
15	Surface Restoration Improvements	1	LS	\$ 10,000.00	\$ 10,000.00
16	Highway Crossing	1	EA	\$ 150,000.00	\$ 150,000.00
SUBTOTAL					\$ 3,116,800.00
CONTINGENCY				20%	\$ 623,400.00
CONSTRUCTION TOTAL					\$ 3,740,200.00
INCIDENTALS					
1	Engineering Design	5.1%	LS	\$ 223,800.00	\$ 223,800.00
2	Bidding & Negotiating	0.2%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	5.7%	HR	\$ 249,300.00	\$ 249,300.00
4	Topographic & Property Survey	0.3%	EST	\$ 12,000.00	\$ 12,000.00
6	SCADA Design & Improvements	1.1%	EST	\$ 50,000.00	\$ 50,000.00
7	BLM POD & EA	2.3%	EST	\$ 100,000.00	\$ 100,000.00
8	Miscellaneous Professional Services	0.6%	EST	\$ 25,000.00	\$ 25,000.00
SUBTOTAL					\$ 670,100.00
TOTAL PROJECT COST					\$ 4,410,300.00

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Engineer's Opinion of Probable Cost

AIRPORT CONNECTION PHASE 1
Washington City

25-Apr-23
BCW/

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 31,650.00	\$ 31,650.00
2	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
3	Traffic Control	1	LS	\$ 7,500.00	\$ 7,500.00
4	SWPPP Compliance and Erosion Control	1	LS	\$ 10,000.00	\$ 10,000.00
5	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
6	Subsurface Investigation	20	HR	\$ 250.00	\$ 5,000.00
7	Construction Staking	1	LS	\$ 5,000.00	\$ 5,000.00
8	Clearing, Grubbing, Excavation, & Demolition	1	LS	\$ 7,500.00	\$ 7,500.00
9	16" PVC C900 Fittings, Installation, Bedding, and Backfill	100	LF	\$ 130.00	\$ 13,000.00
10	16" Butterfly Valve Assembly	4	EA	\$ 8,000.00	\$ 32,000.00
11	Misc. Connections, Fittings, & Tie-Ins	1	LS	\$ 5,000.00	\$ 5,000.00
12	Bituminous Surface Course - Pipe Trench	1,000	SF	\$ 7.00	\$ 7,000.00
13	Bituminous Surface Course - Building Pad	10,000	SF	\$ 6.00	\$ 60,000.00
14	6" Roadbase	10,000	SF	\$ 2.00	\$ 20,000.00
15	Booster Pump Station	1	LS	\$ 300,000.00	\$ 300,000.00
16	Booster Pump Station Electrical and Mechanical	1	LS	\$ 80,000.00	\$ 80,000.00
17	Booster Pump Station Site	1	LS	\$ 25,000.00	\$ 25,000.00
18	Generator and Hookup	1	EA	\$ 25,000.00	\$ 25,000.00
19	Fencing and Gate	1	LS	\$ 20,000.00	\$ 20,000.00
SUBTOTAL					\$ 664,650.00
CONTINGENCY				20%	\$ 132,930.00
CONSTRUCTION TOTAL					\$ 797,580.00
INCIDENTALS					
1	Engineering Design	5.7%	LS	\$ 56,657.13	\$ 56,657.13
1	Bidding & Negotiating	1.0%	HR	\$ 10,000.00	\$ 10,000.00
2	Engineering Construction Services	5.3%	HR	\$ 53,200.00	\$ 53,200.00
3	Topographic & Property Survey	0.8%	EST	\$ 7,500.00	\$ 7,500.00
4	Geotechnical Report	0.5%	EST	\$ 5,000.00	\$ 5,000.00
20	SCADA Design & Improvements	5.0%	EST	\$ 50,000.00	\$ 50,000.00
38	Miscellaneous Professional Services	1.5%	EST	\$ 15,000.00	\$ 15,000.00
39		0.0%	EST		
40		0.0%	EST		
SUBTOTAL					\$ 197,357.13
TOTAL PROJECT COST					\$ 994,937.13

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Engineer's Opinion of Probable Cost

PERRY'S LANDING PRESSURE ZONE ADJUSTMENT
WASHINGTON CITY

3-Mar-23
BCW

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 11,900.00	\$ 11,900.00
2	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
3	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
4	Dust Control & Watering	1	LS	\$ 5,000.00	\$ 5,000.00
5	Subsurface Investigation	8	HR	\$ 250.00	\$ 2,000.00
6	Restore Surface Improvements	1	LS	\$ 7,500.00	\$ 7,500.00
7	Construction Staking	1	LS	\$ 5,000.00	\$ 5,000.00
8	8" PVC, Fittings, Installation, Bedding, and Backfill	1,000	LF	\$ 70.00	\$ 70,000.00
9	8" Gate Valve	4	EA	\$ 3,500.00	\$ 14,000.00
10	6" PRV Station	2	EA	\$ 50,000.00	\$ 100,000.00
11	Asphalt Restoration	4,000	SF	\$ 7.00	\$ 28,000.00
SUBTOTAL					\$ 249,400.00
CONTINGENCY				20%	\$ 49,900.00
CONSTRUCTION TOTAL					\$ 299,300.00
INCIDENTALS					
1	Engineering Design	6.6%	LS	\$ 25,600.00	\$ 25,600.00
2	Bidding & Negotiating	1.9%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	5.1%	HR	\$ 20,000.00	\$ 20,000.00
4	Topographic & Property Survey	1.3%	EST	\$ 5,000.00	\$ 5,000.00
5	SCADA Design & Improvements	7.7%	EST	\$ 30,000.00	\$ 30,000.00
6	Miscellaneous Professional Services	0.6%	EST	\$ 2,500.00	\$ 2,500.00
SUBTOTAL					\$ 90,600.00
TOTAL PROJECT COST					\$ 389,900.00

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Engineer's Opinion of Probable Cost

SUNRISE VALLEY TRANSMISSION LINE
WASHINGTON CITY

13-Mar-23
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 73,200.00	\$ 73,200.00
2	Traffic Control	1	LS	\$ 20,000.00	\$ 20,000.00
3	Pre-Construction DVD	1	LS	\$ 1,500.00	\$ 1,500.00
4	Dust Control & Watering	1	LS	\$ 15,000.00	\$ 15,000.00
5	Subsurface Investigation	16	HR	\$ 250.00	\$ 4,000.00
6	Restore Surface Improvements	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 15,000.00	\$ 15,000.00
8	12" PVC, Fittings, Installation, Bedding and Backfill	4,000	LF	\$ 110.00	\$ 440,000.00
9	16" PVC, Fittings, & Installation	3,100	LF	\$ 130.00	\$ 403,000.00
10	12" Butterfly Valve Assembly	4	EA	\$ 6,750.00	\$ 27,000.00
11	16" Butterfly Valve Assembly	6	EA	\$ 8,000.00	\$ 48,000.00
12	Bituminous Surface Course	56,000	SF	\$ 6.00	\$ 336,000.00
13	Solid Rock Excavation	75	CY	\$ 50.00	\$ 3,750.00
14	Misc. Tie-Ins and connections	1	LS	\$ 50,000.00	\$ 50,000.00
15	Combination Air Valve Assembly	1	LS	\$ 20,000.00	\$ 20,000.00
16	PRV Station	1	EA	\$ 50,000.00	\$ 50,000.00
17	Electrical Improvements	1	LS	\$ 20,000.00	\$ 20,000.00
SUBTOTAL					\$ 1,536,450.00
CONTINGENCY				20%	\$ 307,300.00
CONSTRUCTION TOTAL					\$ 1,843,750.00
INCIDENTALS					
1	Engineering Design	5.4%	LS	\$ 117,000.00	\$ 117,000.00
2	Bidding & Negotiating	0.5%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	5.6%	HR	\$ 122,900.00	\$ 122,900.00
4	Topographic & Property Survey	0.5%	EST	\$ 10,000.00	\$ 10,000.00
5	Geotechnical Report	0.4%	EST	\$ 8,000.00	\$ 8,000.00
6	SCADA Design & Improvements	2.3%	EST	\$ 50,000.00	\$ 50,000.00
7	Miscellaneous Professional Services	1.1%	EST	\$ 25,000.00	\$ 25,000.00
SUBTOTAL					\$ 342,900.00
TOTAL PROJECT COST					\$ 2,186,650.00

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Engineer's Opinion of Probable Cost

SHADOW RIDGE 6" LINE REPLACEMENT
WASHINGTON CITY

3-Mar-23
BCW

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 8,600.00	\$ 8,600.00
2	Traffic Control	1	LS	\$ 7,500.00	\$ 7,500.00
3	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
4	Dust Control & Watering	1	LS	\$ 5,000.00	\$ 5,000.00
5	Subsurface Investigation	8	HR	\$ 250.00	\$ 2,000.00
6	Restore Surface Improvements	1	LS	\$ 7,500.00	\$ 7,500.00
7	Construction Staking	1	LS	\$ 2,500.00	\$ 2,500.00
8	8" PVC, Fittings, Installation, Bedding, and Backfill	1,150	LF	\$ 70.00	\$ 80,500.00
9	8" Gate Valve	5	EA	\$ 3,500.00	\$ 17,500.00
10	Asphalt Restoration	6,900	SF	\$ 7.00	\$ 48,300.00
SUBTOTAL					\$ 180,400.00
CONTINGENCY				20%	\$ 36,100.00
CONSTRUCTION TOTAL					\$ 216,500.00
INCIDENTALS					
1	Engineering Design	7.4%	LS	\$ 19,600.00	\$ 19,600.00
2	Bidding & Negotiating	2.8%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	5.5%	HR	\$ 14,400.00	\$ 14,400.00
4	Topographic & Property Survey	1.3%	EST	\$ 3,500.00	\$ 3,500.00
5	Miscellaneous Professional Services	0.9%	EST	\$ 2,500.00	\$ 2,500.00
SUBTOTAL					\$ 47,500.00
TOTAL PROJECT COST					\$ 264,000.00

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Engineer's Opinion of Probable Cost

LION'S HEAD DR. PRV
WASHINGTON CITY

3-Mar-23
BCW

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 4,100.00	\$ 4,100.00
2	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
3	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
4	Dust Control & Watering	1	LS	\$ 5,000.00	\$ 5,000.00
5	Subsurface Investigation	8	HR	\$ 250.00	\$ 2,000.00
6	Restore Surface Improvements	1	LS	\$ 2,500.00	\$ 2,500.00
7	Construction Staking	1	LS	\$ 2,000.00	\$ 2,000.00
8	8" PVC, Fittings, Installation, Bedding, and Backfill	50	LF	\$ 80.00	\$ 4,000.00
9	6" PRV Station	1	EA	\$ 50,000.00	\$ 50,000.00
10	Asphalt Restoration	1,500	SF	\$ 7.50	\$ 11,250.00
SUBTOTAL					\$ 86,850.00
CONTINGENCY				20%	\$ 17,400.00
CONSTRUCTION TOTAL					\$ 104,250.00
INCIDENTALS					
1	Engineering Design	6.5%	LS	\$ 10,700.00	\$ 10,700.00
2	Bidding & Negotiating	4.6%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	4.2%	HR	\$ 6,900.00	\$ 6,900.00
4	Topographic & Property Survey	1.5%	EST	\$ 2,500.00	\$ 2,500.00
5	SCADA Design & Improvements	18.3%	EST	\$ 30,000.00	\$ 30,000.00
6	Miscellaneous Professional Services	1.5%	EST	\$ 2,500.00	\$ 2,500.00
SUBTOTAL					\$ 60,100.00
TOTAL PROJECT COST					\$ 164,350.00

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Engineer's Opinion of Probable Cost

CHURCH ROAD TRANSMISSION LINE
WASHINGTON CITY

13-Mar-23
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 146,200.00	\$ 146,200.00
2	Traffic Control	1	LS	\$ 7,500.00	\$ 7,500.00
3	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
4	Dust Control & Watering	1	LS	\$ 20,000.00	\$ 20,000.00
5	Subsurface Investigation	16	HR	\$ 250.00	\$ 4,000.00
6	20" DIP, Fittings, Installation, Bedding, and Backfill	12,400	LF	\$ 190.00	\$ 2,356,000.00
7	20" Butterfly Valve Assembly	15	EA	\$ 11,500.00	\$ 172,500.00
8	Fire Hydrant Assembly	10	EA	\$ 7,000.00	\$ 70,000.00
9	Solid Rock Excavation	300	CY	\$ 50.00	\$ 15,000.00
10	Misc. Tie-Ins and Connections	1	LS	\$ 30,000.00	\$ 30,000.00
11	Roadway Restoration (Roadbase)	99,200	SF	\$ 2.50	\$ 248,000.00
SUBTOTAL					\$ 3,070,200.00
CONTINGENCY				20%	\$ 614,000.00
CONSTRUCTION TOTAL					\$ 3,684,200.00
INCIDENTALS					
1	Engineering Design	5.1%	LS	\$ 220,600.00	\$ 220,600.00
2	Bidding & Negotiating	0.2%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	5.6%	HR	\$ 245,600.00	\$ 245,600.00
4	Topographic & Property Survey	0.3%	EST	\$ 12,000.00	\$ 12,000.00
5	Geotechnical Report	0.3%	EST	\$ 10,000.00	\$ 10,000.00
6	SCADA Design & Improvements	1.1%	EST	\$ 50,000.00	\$ 50,000.00
7	BLM POD & EA	2.3%	EST	\$ 100,000.00	\$ 100,000.00
8	Miscellaneous Professional Services	0.6%	EST	\$ 25,000.00	\$ 25,000.00
SUBTOTAL					\$ 673,200.00
TOTAL PROJECT COST					\$ 4,357,400.00

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Engineer's Opinion of Probable Cost

EAST REGIONAL CONNECITON PHASE 2
Washington City

25-Apr-23
BCW/

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 297,490.00	\$ 297,490.00
2	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
3	Traffic Control	1	LS	\$ 25,000.00	\$ 25,000.00
4	SWPPP Compliance and Erosion Control	1	LS	\$ 12,500.00	\$ 12,500.00
5	Dust Control & Watering	1	LS	\$ 12,500.00	\$ 12,500.00
6	Subsurface Investigation	20	HR	\$ 250.00	\$ 5,000.00
7	Construction Staking	1	LS	\$ 10,000.00	\$ 10,000.00
8	Clearing, Grubbing, Excavation, & Demolition	1	LS	\$ 6,000.00	\$ 6,000.00
9	16" PVC C900 Fittings, Installation, Bedding, and Backfill	9,700	LF	\$ 130.00	\$ 1,261,000.00
10	24" DIP Fittings, Installation, Bedding, and Backfill	6,100	LF	\$ 250.00	\$ 1,525,000.00
11	16" Butterfly Valve Assembly	10	EA	\$ 8,000.00	\$ 80,000.00
12	24" Butterfly Valve Assembly	8	EA	\$ 12,750.00	\$ 102,000.00
13	Combination Air Valve	5	EA	\$ 20,000.00	\$ 100,000.00
14	Control Valve Vault	1	EA	\$ 200,000.00	\$ 200,000.00
15	PRV Station	1	EA	\$ 50,000.00	\$ 50,000.00
16	Misc. Connections, Fittings, & Tie-Ins	1	LS	\$ 25,000.00	\$ 25,000.00
17	Bituminous Surface Course - Pipe Trench	126,400	SF	\$ 7.00	\$ 884,800.00
18	Booster Pump Station	1	LS	\$ 1,000,000.00	\$ 1,000,000.00
19	Booster Pump Station Electrical and Mechanical	1	LS	\$ 500,000.00	\$ 500,000.00
20	Booster Pump Station Site	1	LS	\$ 50,000.00	\$ 50,000.00
21	Generator and Hookup	1	EA	\$ 50,000.00	\$ 50,000.00
22	Metering Station	1	LS	\$ 50,000.00	\$ 50,000.00
SUBTOTAL					\$ 6,247,290.00
CONTINGENCY				20%	\$ 1,249,458.00
CONSTRUCTION TOTAL					\$ 7,496,748.00
INCIDENTALS					
1	Engineering Design	5.0%	LS	\$ 426,208.16	\$ 426,208.16
1	Bidding & Negotiating	0.1%	HR	\$ 10,000.00	\$ 10,000.00
2	Engineering Construction Services	5.8%	HR	\$ 499,800.00	\$ 499,800.00
3	Topographic & Property Survey	0.2%	EST	\$ 20,000.00	\$ 20,000.00
4	Geotechnical Report	0.1%	EST	\$ 10,000.00	\$ 10,000.00
20	SCADA Design & Improvements	0.9%	EST	\$ 75,000.00	\$ 75,000.00
38	Miscellaneous Professional Services	0.6%	EST	\$ 50,000.00	\$ 50,000.00
39		0.0%	EST		
40		0.0%	EST		
SUBTOTAL					\$ 1,091,008.16
TOTAL PROJECT COST					\$ 8,587,756.16

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Engineer's Opinion of Probable Cost

AIRPORT CONNECTION PHASE 2
Washington City

25-Apr-23
BCW/

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 107,400.00	\$ 107,400.00
2	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
3	Traffic Control	1	LS	\$ 25,000.00	\$ 25,000.00
4	SWPPP Compliance and Erosion Control	1	LS	\$ 15,000.00	\$ 15,000.00
5	Dust Control & Watering	1	LS	\$ 15,000.00	\$ 15,000.00
6	Subsurface Investigation	20	HR	\$ 250.00	\$ 5,000.00
7	Construction Staking	1	LS	\$ 12,500.00	\$ 12,500.00
8	Clearing, Grubbing, Excavation, & Demolition	1	LS	\$ 7,500.00	\$ 7,500.00
9	16" PVC C900 Fittings, Installation, Bedding, and Backfill	100	LF	\$ 130.00	\$ 13,000.00
10	16" Butterfly Valve Assembly	4	EA	\$ 8,000.00	\$ 32,000.00
11	Control Valve Vault	1	EA	\$ 200,000.00	\$ 200,000.00
12	Misc. Connections, Fittings, & Tie-Ins	1	LS	\$ 5,000.00	\$ 5,000.00
13	Bituminous Surface Course - Pipe Trench	1,000	SF	\$ 7.00	\$ 7,000.00
14	Bituminous Surface Course - Building Pad	15,000	SF	\$ 6.00	\$ 90,000.00
15	6" Roadbase	15,000	SF	\$ 2.00	\$ 30,000.00
16	Booster Pump Station	1	LS	\$ 1,000,000.00	\$ 1,000,000.00
17	Booster Pump Station Electrical and Mechanical	1	LS	\$ 500,000.00	\$ 500,000.00
18	Booster Pump Station Site	1	LS	\$ 50,000.00	\$ 50,000.00
19	Generator and Hookup	1	EA	\$ 50,000.00	\$ 50,000.00
20	Fencing and Gate	1	LS	\$ 40,000.00	\$ 40,000.00
21	Metering Station	1	LS	\$ 50,000.00	\$ 50,000.00
SUBTOTAL					\$ 2,255,400.00
CONTINGENCY				20%	\$ 451,080.00
CONSTRUCTION TOTAL					\$ 2,706,480.00
INCIDENTALS					
1	Engineering Design	5.1%	LS	\$ 165,330.85	\$ 165,330.85
1	Bidding & Negotiating	0.3%	HR	\$ 10,000.00	\$ 10,000.00
2	Engineering Construction Services	5.6%	HR	\$ 180,400.00	\$ 180,400.00
3	Topographic & Property Survey	0.6%	EST	\$ 20,000.00	\$ 20,000.00
4	Geotechnical Report	0.3%	EST	\$ 10,000.00	\$ 10,000.00
20	SCADA Design & Improvements	2.3%	EST	\$ 75,000.00	\$ 75,000.00
38	Miscellaneous Professional Services	1.6%	EST	\$ 50,000.00	\$ 50,000.00
39		0.0%	EST		
40		0.0%	EST		
SUBTOTAL					\$ 510,730.85
TOTAL PROJECT COST					\$ 3,217,210.85

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Engineer's Opinion of Probable Cost

AIRPORT CONNECTION PHASE 3
Washington City

25-Apr-23
BCW/

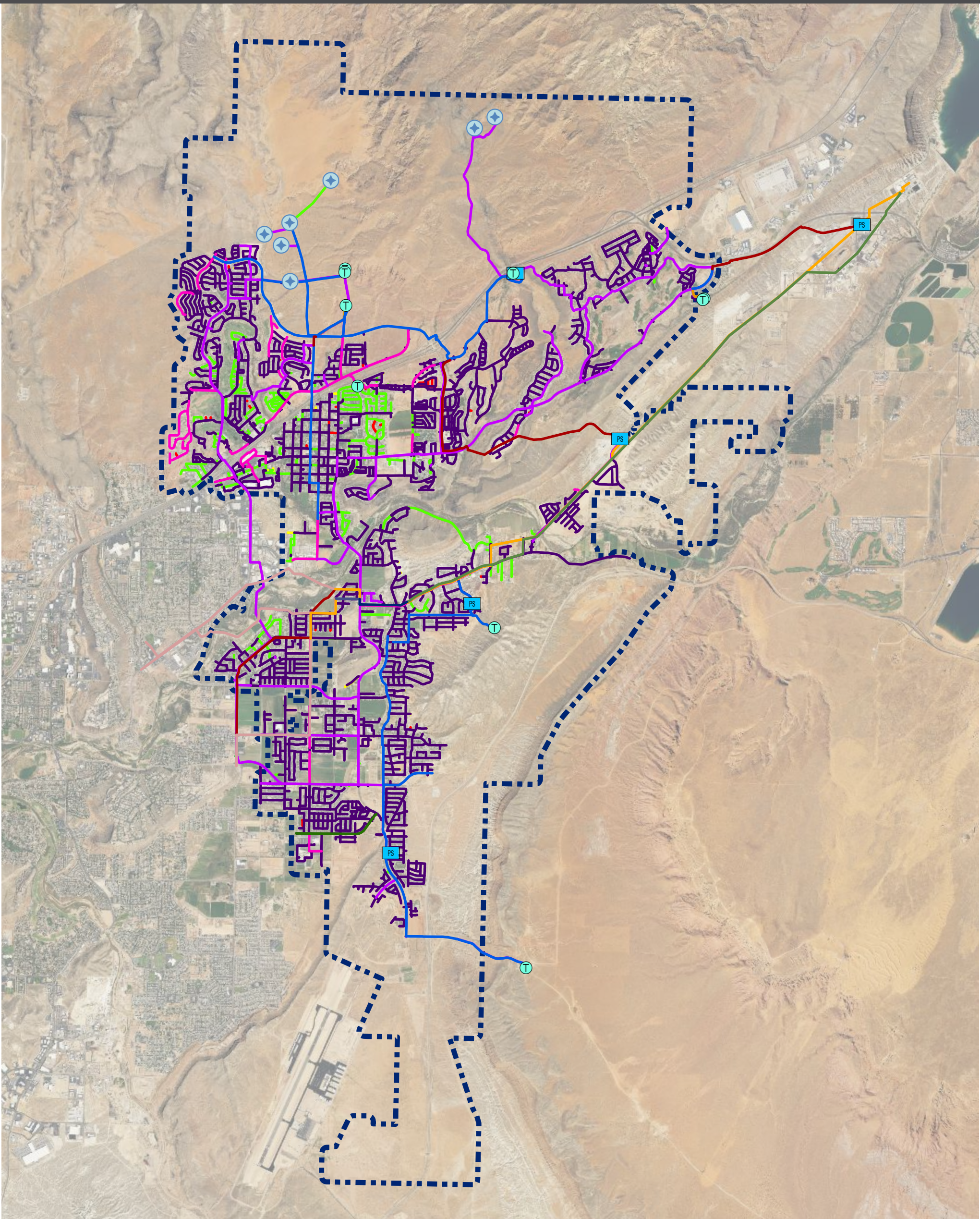
NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
GENERAL CONSTRUCTION					
1	Mobilization	5%	LS	\$ 128,402.50	\$ 128,402.50
2	Pre-Construction DVD	1	LS	\$ 1,000.00	\$ 1,000.00
3	Traffic Control	1	LS	\$ 25,000.00	\$ 25,000.00
4	SWPPP Compliance and Erosion Control	1	LS	\$ 15,000.00	\$ 15,000.00
5	Dust Control & Watering	1	LS	\$ 15,000.00	\$ 15,000.00
6	Subsurface Investigation	20	HR	\$ 250.00	\$ 5,000.00
7	Construction Staking	1	LS	\$ 12,500.00	\$ 12,500.00
8	Clearing, Grubbing, Excavation, & Demolition	1	LS	\$ 7,500.00	\$ 7,500.00
9	16" PVC C900 Fittings, Installation, Bedding, and Backfill	50	LF	\$ 130.00	\$ 6,500.00
10	20" PVC C900 Fittings, Installation, Bedding, and Backfill	50	LF	\$ 131.00	\$ 6,550.00
11	16" Butterfly Valve Assembly	2	EA	\$ 8,000.00	\$ 16,000.00
12	20" Butterfly Valve Assembly	2	EA	\$ 11,500.00	\$ 23,000.00
13	Control Valve Vault	1	EA	\$ 200,000.00	\$ 200,000.00
14	Misc. Connections, Fittings, & Tie-Ins	1	LS	\$ 5,000.00	\$ 5,000.00
15	Bituminous Surface Course - Building Pad	15,000	SF	\$ 6.00	\$ 90,000.00
16	6" Roadbase	15,000	SF	\$ 2.00	\$ 30,000.00
17	Booster Pump Station	1	LS	\$ 1,250,000.00	\$ 1,250,000.00
18	Booster Pump Station Electrical and Mechanical	1	LS	\$ 600,000.00	\$ 600,000.00
19	Booster Pump Station Site	1	LS	\$ 75,000.00	\$ 75,000.00
20	Generator and Hookup	1	EA	\$ 75,000.00	\$ 75,000.00
21	Fencing and Gate	1	LS	\$ 60,000.00	\$ 60,000.00
22	Metering Station	1	LS	\$ 50,000.00	\$ 50,000.00
SUBTOTAL					\$ 2,696,452.50
CONTINGENCY				20%	\$ 539,290.50
CONSTRUCTION TOTAL					\$ 3,235,743.00
INCIDENTALS					
1	Engineering Design	5.1%	LS	\$ 195,075.93	\$ 195,075.93
1	Bidding & Negotiating	0.3%	HR	\$ 10,000.00	\$ 10,000.00
2	Engineering Construction Services	5.7%	HR	\$ 215,700.00	\$ 215,700.00
3	Topographic & Property Survey	0.5%	EST	\$ 20,000.00	\$ 20,000.00
4	Geotechnical Report	0.3%	EST	\$ 10,000.00	\$ 10,000.00
20	SCADA Design & Improvements	2.0%	EST	\$ 75,000.00	\$ 75,000.00
38	Miscellaneous Professional Services	1.3%	EST	\$ 50,000.00	\$ 50,000.00
39		0.0%	EST		
40		0.0%	EST		
SUBTOTAL					\$ 575,775.93
TOTAL PROJECT COST					\$ 3,811,518.93

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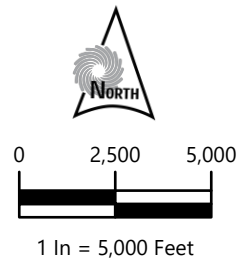
APPENDIX D

System Maps

WASHINGTON CITY EXISTING WATER SYSTEM



MAP LEGEND



Water Mains

- 1"
- 2"
- 3"
- 4"
- 6"
- 8"

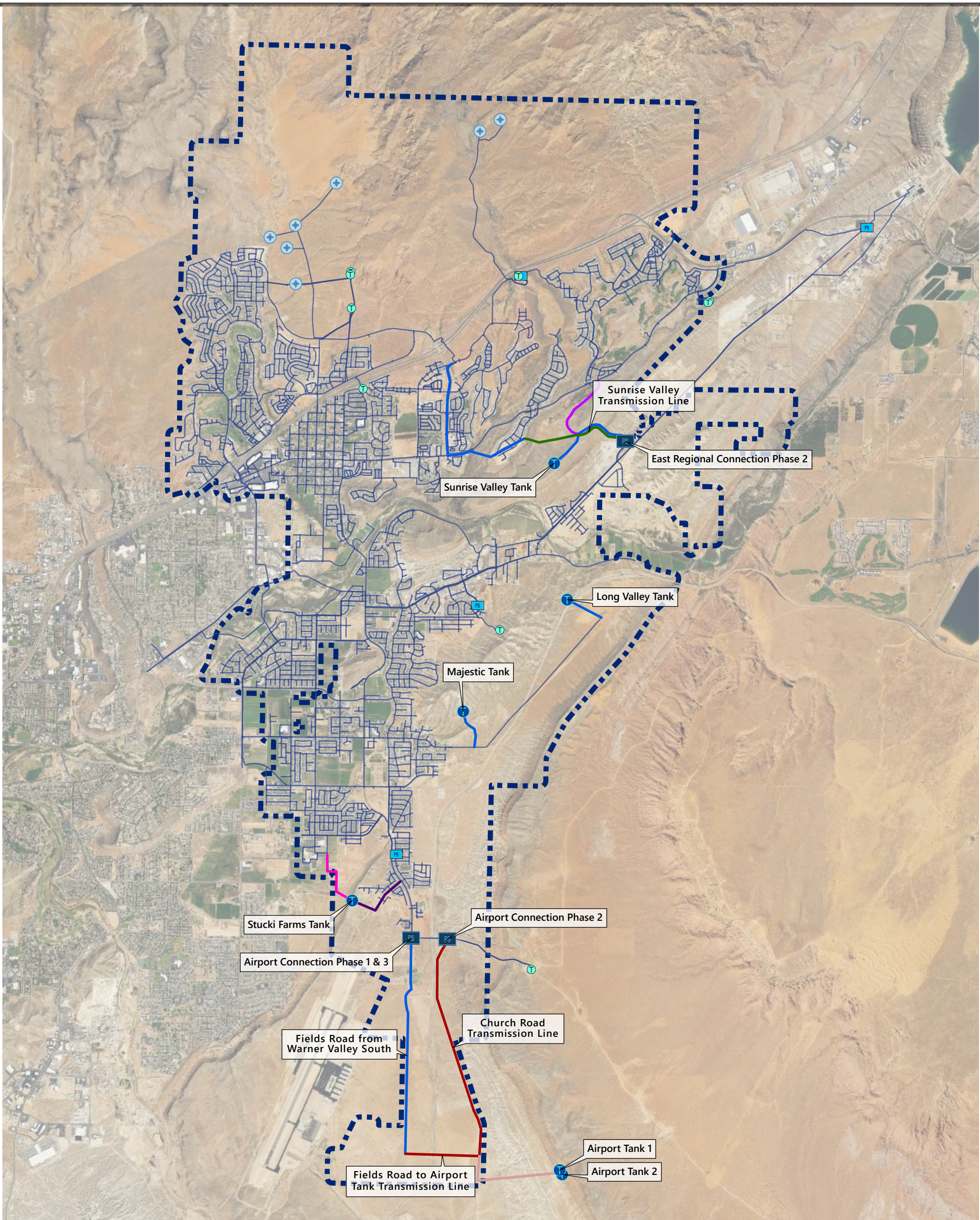
- 10"
- 12"
- 14"
- 16"
- 20"
- 24"
- 30"

- 36"
- 48"
- 60"
- 72"
- Unknown

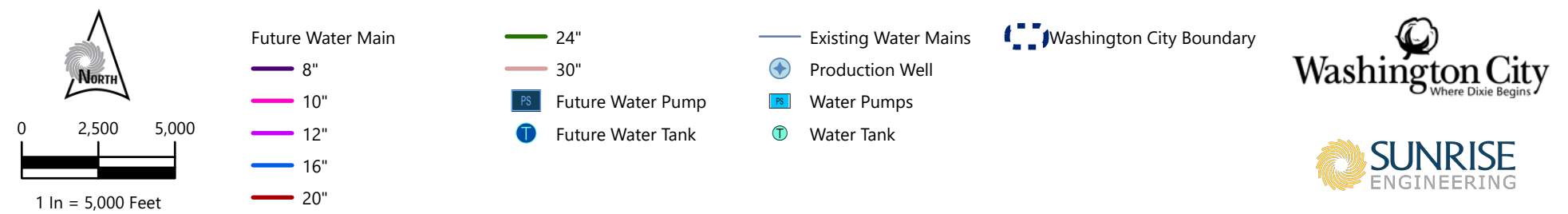
- Water Tank
- Production Well
- Water Pumps
- Washington City Boundary



WATER SYSTEM WITH FUTURE IMPROVEMENTS



MAP LEGEND



APPENDIX E

Cash Flow

Cash Flow		Fiscal Year	Actual 2019	Actual 2020	Actual 2021	Actual 2022	Budgeted 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028	Projected 2029	Projected 2030	Projected 2031	Projected 2032	Projected 2033
WATER SYSTEM INFORMATION																	
Annual Population Growth Rate																	
Annual Interest Rate (Inflation)																	
Average Rate/ERI/Month (Annual Change +)																	
Impact Fee																	
Connection Fee																	
Total ERI's																	
New ERI's																	
WATER FUND ACCOUNTING																	
Water Revenues																	
Water Sales																	
Connection Fees																	
Other Revenue (Hydrant Meters, etc.)																	
Interest																	
TOTAL WATER FUND REVENUE																	
Water Expenses																	
Salaries Regular																	
Employee Benefits																	
Overtime																	
Uniforms																	
Dues And Memberships																	
Software Subscriptions																	
Training & Travel																	
Office Equipment- Supplies & Maint.																	
Supplies & Materials																	
Fuel																	
Fleet Charges																	
Small Tools & Minor Equipment																	
Building & Grounds																	
Utilities																	
Telephone																	
Professional & Technical																	
Water Purchase Sand Hollow																	
Water Purchase Quail Lake Raw																	
Administrative Costs																	
District Surcharge																	
Uncollectable accounts																	
Fees & Charges																	
Miscellaneous/Service																	
Other Projects																	
Funded Depreciation																	
Sub-Total Expenses																	
% Non-Impact Fee Eligible																	
Existing Debt Service																	
Water Revenue Refunding Bonds 2016B																	
Sub-Total Existing Non-Impact Fee Debt Service																	
New Debt Service																	
N/A																	
Sub-Total New Non-Impact Fee Debt Service																	
TOTAL WATER FUND EXPENSES																	
NET CASHFLOW WATER FUND																	
IMPACT FEE FUND ACCOUNTING																	
Impact Fee Revenues																	
Impact Fees																	
Interest																	
TOTAL IMPACT FEE FUND REVENUE																	
% Impact Fee Eligible																	
Existing Eligible Debt Service																	
Water Revenue Refunding Bonds 2016B																	
Sub-Total Impact Fee Debt Service																	
New Debt Service																	
Sunrise Tank (Including Transmission and Booster Pump)																	
Sunrise Valley Tank (Including Transmission line)																	
Sub-Total New Impact Fee Debt Service																	
Misc. Impact Fee Projects																	
NET CASHFLOW IMPACT FEE FUND																	
CASH ON HAND																	
Water Fund Balance (FY Year End June 30)																	
% of Expenses (Goal = 150%)																	
Impact Fee Fund Balance (FY Year End June 30)																	
TOTAL																	
Renewal and Replacement Fund Balance																	
PLAN FOR NEW PROJECTS																	
Long Valley Tank																	
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3	Cash Flow	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
4	Fiscal Year	2024	2025	2026	2027	2028	2029	2040	2041	2042	2043	2044
4	WATER SYSTEM INFORMATION											
5	Annual Population Growth Rate	4.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
6	Annual Interest Rate (inflation)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
7	Average Rate(ERU)/Month (Annual Change +/-)	\$ 55.50	\$ 55.50	\$ 55.50	\$ 55.50	\$ 55.50	\$ 55.50	\$ 55.50	\$ 55.50	\$ 55.50	\$ 55.50	\$ 55.50
8	Impact fee	\$ 4,086	\$ 4,086	\$ 4,086	\$ 4,086	\$ 4,086	\$ 4,086	\$ 4,086	\$ 4,086	\$ 4,086	\$ 4,086	\$ 4,086
9	Connection Fee	\$ 380	\$ 380	\$ 380	\$ 380	\$ 380	\$ 380	\$ 380	\$ 380	\$ 380	\$ 380	\$ 380
14	Total ERU's	30,576	31,647	32,754	33,901	35,087	36,315	37,586	38,902	40,263	41,673	43,131
15	New ERU's	1176	1070	1108	1146	1187	1228	1271	1316	1362	1409	1459
16												
17	WATER FUND ACCOUNTING											
18	Water Revenues											
19	Water Sales	\$ 19,972,303	\$ 20,720,285	\$ 21,445,495	\$ 22,196,088	\$ 22,972,951	\$ 23,777,004	\$ 24,609,199	\$ 25,470,521	\$ 26,361,989	\$ 27,284,659	\$ 28,239,627
20	Connection Fees	\$ 446,887	\$ 406,667	\$ 420,900	\$ 435,632	\$ 450,879	\$ 466,660	\$ 482,993	\$ 499,897	\$ 517,394	\$ 535,503	\$ 554,245
21	Other Revenue (Hydrant Meters, etc.)	\$ 812,649	\$ 828,850	\$ 845,372	\$ 862,224	\$ 879,412	\$ 896,943	\$ 914,823	\$ 933,059	\$ 951,659	\$ 970,630	\$ 989,979
22	Interest	\$ 319,557	\$ 331,525	\$ 343,128	\$ 355,137	\$ 367,567	\$ 380,432	\$ 393,747	\$ 407,528	\$ 421,792	\$ 436,555	\$ 451,834
23	TOTAL WATER FUND REVENUE	\$ 21,551,395	\$ 22,287,327	\$ 23,054,895	\$ 23,849,081	\$ 24,670,809	\$ 25,521,038	\$ 26,400,762	\$ 27,311,006	\$ 28,252,834	\$ 29,227,346	\$ 30,235,680
24												
25	Water Expenses											
26	Salaries Regular	\$ 2,626,854	\$ 2,797,599	\$ 2,979,443	\$ 3,173,107	\$ 3,379,359	\$ 3,599,017	\$ 3,832,954	\$ 4,082,096	\$ 4,347,432	\$ 4,630,015	\$ 4,930,966
27	Employee Benefits	\$ 1,760,190	\$ 1,874,603	\$ 1,996,452	\$ 2,126,221	\$ 2,264,426	\$ 2,411,614	\$ 2,568,368	\$ 2,735,332	\$ 2,913,108	\$ 3,102,460	\$ 3,304,120
28	Overtime	\$ 36,110	\$ 37,826	\$ 39,622	\$ 41,504	\$ 43,476	\$ 45,541	\$ 47,704	\$ 49,970	\$ 52,344	\$ 54,830	\$ 57,434
29	Uniforms	\$ 10,656	\$ 11,162	\$ 11,692	\$ 12,248	\$ 12,829	\$ 13,439	\$ 14,077	\$ 14,746	\$ 15,446	\$ 16,180	\$ 16,949
30	Dues And Memberships	\$ 6,424	\$ 6,729	\$ 7,049	\$ 7,384	\$ 7,734	\$ 8,102	\$ 8,487	\$ 8,890	\$ 9,312	\$ 9,754	\$ 10,218
31	Software Subscriptions	\$ 1,764	\$ 1,848	\$ 1,936	\$ 2,028	\$ 2,124	\$ 2,225	\$ 2,330	\$ 2,441	\$ 2,557	\$ 2,679	\$ 2,806
32	Training & Travel	\$ 20,239	\$ 21,200	\$ 22,207	\$ 23,262	\$ 24,367	\$ 25,524	\$ 26,737	\$ 28,007	\$ 29,337	\$ 30,731	\$ 32,190
33	Office Equipment - Supplies & Maint.	\$ 34,906	\$ 36,564	\$ 38,301	\$ 40,120	\$ 42,026	\$ 44,022	\$ 46,113	\$ 48,303	\$ 50,598	\$ 53,001	\$ 55,519
34	Supplies & Materials	\$ 463,170	\$ 485,170	\$ 508,216	\$ 532,356	\$ 557,643	\$ 584,131	\$ 611,877	\$ 640,941	\$ 671,386	\$ 703,277	\$ 736,683
35	Fuel	\$ 65,934	\$ 69,066	\$ 72,346	\$ 75,783	\$ 79,383	\$ 83,153	\$ 87,103	\$ 91,240	\$ 95,574	\$ 100,114	\$ 104,870
36	Fleet Charges	\$ 116,316	\$ 121,841	\$ 127,628	\$ 133,690	\$ 140,041	\$ 146,693	\$ 153,660	\$ 160,959	\$ 168,605	\$ 176,614	\$ 185,003
37	Small Tools & Minor Equipment	\$ 17,167	\$ 17,983	\$ 18,837	\$ 19,732	\$ 20,669	\$ 21,651	\$ 22,679	\$ 23,756	\$ 24,885	\$ 26,067	\$ 27,305
38	Building & Grounds	\$ 22,397	\$ 23,461	\$ 24,575	\$ 25,742	\$ 26,965	\$ 28,246	\$ 29,588	\$ 30,993	\$ 32,465	\$ 34,007	\$ 35,623
39	Utilities	\$ 1,129,190	\$ 1,230,327	\$ 1,336,267	\$ 1,447,240	\$ 1,563,484	\$ 1,685,249	\$ 1,812,799	\$ 1,946,407	\$ 2,086,361	\$ 2,232,963	\$ 2,386,529
40	Telephone	\$ 24,689	\$ 25,862	\$ 27,091	\$ 28,377	\$ 29,725	\$ 31,137	\$ 32,615	\$ 34,166	\$ 35,788	\$ 37,488	\$ 39,269
41	Professional & Technical	\$ 195,247	\$ 204,521	\$ 214,236	\$ 224,412	\$ 235,072	\$ 246,238	\$ 257,934	\$ 270,186	\$ 283,020	\$ 296,463	\$ 310,546
42	Water Purchase Sand Hollow	\$ 4,666,069	\$ 4,887,707	\$ 5,119,873	\$ 5,363,067	\$ 5,617,813	\$ 5,884,659	\$ 6,164,180	\$ 6,456,979	\$ 6,763,685	\$ 7,084,960	\$ 7,421,496
43	Water Purchase Quail Lake Raw	\$ 1,691,366	\$ 1,771,706	\$ 1,855,862	\$ 1,944,016	\$ 2,036,356	\$ 2,133,083	\$ 2,234,405	\$ 2,340,539	\$ 2,451,715	\$ 2,568,171	\$ 2,690,159
44	Administrative Costs	\$ 647,473	\$ 678,228	\$ 710,443	\$ 744,190	\$ 779,539	\$ 816,567	\$ 855,354	\$ 895,983	\$ 938,542	\$ 983,123	\$ 1,029,821
45	District Surcharge	\$ 684,597	\$ 717,115	\$ 751,178	\$ 786,859	\$ 824,235	\$ 863,386	\$ 904,397	\$ 947,356	\$ 992,355	\$ 1,039,492	\$ 1,088,868
46	Uncollectable accounts	\$ 6,045	\$ 6,332	\$ 6,633	\$ 6,948	\$ 7,278	\$ 7,624	\$ 7,986	\$ 8,366	\$ 8,763	\$ 9,179	\$ 9,615
47	Fees & Charges	\$ 9,253	\$ 9,692	\$ 10,153	\$ 10,635	\$ 11,140	\$ 11,669	\$ 12,224	\$ 12,804	\$ 13,412	\$ 14,050	\$ 14,717
48	Miscellaneous Service	\$ 4,949	\$ 5,184	\$ 5,430	\$ 5,688	\$ 5,959	\$ 6,242	\$ 6,538	\$ 6,849	\$ 7,174	\$ 7,515	\$ 7,872
49	Other Projects	\$ 1,392,178	\$ 1,458,307	\$ 1,527,576	\$ 1,600,136	\$ 1,676,143	\$ 1,755,759	\$ 1,839,158	\$ 1,926,518	\$ 2,018,028	\$ 2,113,884	\$ 2,214,293
50	Funded Depreciation	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
51	Sub-Total Expenses % Non-Impact Fee Eligible	\$ 18,133,184	\$ 19,000,033	\$ 19,913,048	\$ 20,874,746	\$ 21,887,785	\$ 22,954,971	\$ 24,079,268	\$ 25,263,807	\$ 26,511,892	\$ 27,827,016	\$ 29,212,868
52	Existing Debt Service											
53	Water Revenue Refunding Bonds 2016B 66%	\$ 397,910	\$ 395,138	\$ 378,770	\$ 233,834	\$ 214,892	\$ 212,846	\$ 214,001	\$ 148,958	\$ 171,497	\$ 166,650	\$ 112,303
54	Sub-Total Existing Non-Impact Fee Debt Service	\$ 397,910	\$ 395,138	\$ 378,770	\$ 233,834	\$ 214,892	\$ 212,846	\$ 214,001	\$ 148,958	\$ 171,497	\$ 166,650	\$ 112,303
55	New Debt Service											
56	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
57	Sub-Total New Non-Impact Fee Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
58	TOTAL WATER FUND EXPENSES	\$ 18,531,094	\$ 19,395,171	\$ 20,291,818	\$ 21,108,580	\$ 22,102,677	\$ 23,167,817	\$ 24,293,269	\$ 25,412,764	\$ 26,683,389	\$ 27,993,666	\$ 29,325,171
59												
60	NET CASHFLOW WATER FUND	\$ 3,020,302	\$ 2,892,156	\$ 2,763,077	\$ 2,740,501	\$ 2,568,132	\$ 2,353,221	\$ 2,107,493	\$ 1,898,242	\$ 1,569,445	\$ 1,233,680	\$ 910,509
61												
62	IMPACT FEE FUND ACCOUNTING											
63	Impact Fee Fund Revenues											
64	Impact Fees	\$ 4,804,816	\$ 4,372,383	\$ 4,525,416	\$ 4,683,806	\$ 4,847,739	\$ 5,017,410	\$ 5,193,019	\$ 5,374,775	\$ 5,562,892	\$ 5,757,593	\$ 5,959,109
65	Interest	\$ 14,895	\$ 13,554	\$ 14,029	\$ 14,520	\$ 15,028	\$ 15,554	\$ 16,098	\$ 16,662	\$ 17,245	\$ 17,849	\$ 18,473
66	TOTAL IMPACT FEE FUND REVENUE	\$ 4,819,711	\$ 4,385,937	\$ 4,539,445	\$ 4,698,325	\$ 4,862,767	\$ 5,032,964	\$ 5,209,117	\$ 5,391,437	\$ 5,580,137	\$ 5,775,442	\$ 5,977,582
67												
68	% Impact Fee Eligible											
69	Existing Eligible Debt Service											
70	Water Revenue Refunding Bonds 2016B 34%	\$ 204,984	\$ 203,556	\$ 195,124	\$ 120,460	\$ 110,702	\$ 109,648	\$ 110,243	\$ 76,736	\$ 88,347	\$ 85,850	\$ 57,853
71	Sub-Total Impact Fee Debt Service	\$ 204,984	\$ 203,556	\$ 195,124	\$ 120,460	\$ 110,702	\$ 109,648	\$ 110,243	\$ 76,736	\$ 88,347	\$ 85,850	\$ 57,853
72	New Debt Service											
73	Airport Tank (Including Transmission and Booster Pump)	\$ 12,379,055	\$ 591,442	\$ 591,442	\$ 591,442	\$ 591,442	\$ 591,442	\$ 591,442	\$ 591,442	\$ 591,442	\$ 591,442	\$ 591,442
74	Sunrise Valley Tank (Including Transmission line)	\$ 9,742,669	\$ 465,482	\$ 465,482	\$ 465,482	\$ 465,482	\$ 465,482	\$ 465,482	\$ 465,482	\$ 465,482	\$ 465,482	\$ 465,482
75	Sub-Total New Impact Fee Debt Service	\$ 1,056,924	\$ 1,056,924	\$ 1,056,924	\$ 1,056,924	\$ 1,056,924	\$ 1,056,924	\$ 1,056,924	\$ 1,056,924	\$ 1,056,924	\$ 1,056,924	\$ 1,056,924
76	Misc. Impact Fee Projects	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
77	NET CASHFLOW IMPACT FEE FUND	\$ 3,557,803	\$ 3,125,457	\$ 3,287,397	\$ 3,520,942	\$ 3,695,141	\$ 3,866,392	\$ 4,041,951	\$ 4,257,777	\$ 4,434,866	\$ 4,632,668	\$ 4,862,805
78	CASH ON HAND											
79	Water Fund Balance (FY Year End June 30)	\$ 12,104,937	\$ 10,673,445	\$ 13,436,523	\$ 6,874,361	\$ 3,845,177	\$ (2,127,349)	\$ (19,856)	\$ 1,878,385	\$ 3,447,831	\$ 4,681,510	\$ 5,592,019
80	% of Expenses (goal = 150%)	65%	55%	66%	33%	17%	9%	0%	7%	13%	17%	19%
81	Impact Fee Fund Balance (FY Year End June 30)	\$ 18,567,992	\$ 22,284,892	\$ 26,163,731	\$ 30,276,115	\$ 34,562,698	\$ 39,020,532	\$ 43,653,925	\$ 48,503,144	\$ 53,529,452	\$ 58,753,562	\$ 64,207,809
82	TOTAL	\$ 30,672,930	\$ 32,958,338	\$ 39,600,254	\$ 37,150,476	\$ 38,407,875	\$ 36,893,183	\$ 43,634,068	\$ 50,381,529	\$ 56,977,283	\$ 63,435,072	\$ 69,799,828
83	Renewal and Replacement Fund Balance	\$ 22,369,688	\$ 23,869,688	\$ 25,369,688	\$ 26,869,688	\$ 28,369,688	\$ 29,869,688	\$ 31,369,688	\$ 32,869,688	\$ 34,369,688	\$ 35,869,688	\$ 37,369,688
84	PLAN FOR NEW PROJECTS											
85	Storage Project											
86	Impact Fee Eligible Cost											
87	Non-impact Fee Eligible Cost	\$ -	\$ -	\$ -	\$ 9,302,662	\$ -	\$ 8,325,748	\$ -	\$ -	\$ -	\$ -	\$ -
88	Total Project Cost (Including Inflation)				\$ 9,302,662		\$ 8,325,748					
89	Boosters Pumps/Transmission Lines											
90	Impact Fee Eligible Cost											
91	Non-impact Fee Eligible Cost	\$ 17,397,266	\$ 4,323,648	\$ -	\$ -	\$ 5,597,316	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
92	Total Project Cost (Including Inflation)	\$ 17,397,266	\$ 4,323,648			\$ 5,597,316						
93	Other Projects											
94	Impact Fee Eligible Cost											
95	Non-impact Fee Eligible Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
96	Total Project Cost											
97	RENEWAL & REPLACEMENT PROJECTS											
98	Project Cost (Paid by Water Fund)	\$ 427,582	\$ 447,892	\$ 469,167	\$ 491,452	\$ 514,796	\$ 539,249	\$ 564,863	\$ 591,694	\$ 619,799	\$ 649,240	\$ 680,079

APPENDIX F

Impact Fee Certification

CERTIFICATION OF IMPACT FEE ANALYSIS BY CONSULTANT

In accordance with Utah Code Annotated § 11-36a-306, Blaine Worrell, P.E., on behalf of Sunrise Engineering, Inc., make the following certification:

I certify that the attached Impact Fee Facilities Plan and Impact Fee Analysis:

1. Includes only the costs of public facilities that are:
 - a. Allowed under the Impact Fees Act; and
 - b. Actually incurred; or
 - c. Projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. Does not include:
 - a. costs of operation and maintenance of public facilities;
 - b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents; or
 - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and that methodological standards set forth by the Federal Office of Management and Budget for federal grant reimbursement;
3. Offsets costs with grants or other alternate sources of payment; and
4. Complies in each and every relevant respect with the Impact Fees Act.

Blaine Worrell, P.E., makes this certification with the following qualifications:

1. All of the recommendations for implementation of the Impact Fee Facilities Plan ("IFFP") made in the IFFP documents or in the Impact Fee Analysis documents are followed in their entirety by the Washington City, Utah, staff, and elected officials.
2. If all or a portion of the IFFP or Impact Fee Analyses are modified or amended, this certification is no longer valid.
3. All information provided to Sunrise Engineering, Inc., its contractors or suppliers, is assumed to be correct, complete and accurate. This includes information provided by Washington City, Utah, and outside sources.

4. The undersigned is trained and licensed as a professional engineer and has not been trained or licensed as a lawyer. Nothing in the foregoing certification shall be deemed an opinion of law or an opinion of compliance with law which under applicable professional licensing laws or regulations or other laws or regulations must be rendered by a lawyer licensed in the State of Utah.
5. The foregoing Certification is an expression of professional opinion based on the undersigned's best knowledge, information and belief and shall not be construed as a warranty or guaranty of any fact or circumstance.
6. The foregoing certification is made only to Washington City, Utah, and may not be used or relied upon by any other person or entity without the expressed written authorization of the undersigned.

Sunrise Engineering, Inc.

By: _____

Dated: 08/16/2023

ORDINANCE NO. 2023-28
AN ORDINANCE OF WASHINGTON CITY APPROVING AND ADOPTING A
CULINARY WATER MASTER PLAN AND ESTABLISHING AND ADOPTING A WATER
IMPACT FEE TO ADDRESS THE WATER SYSTEM NEEDS OF THE CITY. THIS
ORDINANCE AMENDS, SUPERSEDES AND REPLACES THE EXISTING WASHINGTON
CITY WATER MASTER PLAN.

WHEREAS, the City Council of Washington City ("City Council") finds and determines that growth and development activity in the City will create additional demand and need for the water system in the City and will require that the City's culinary water system be improved and enlarged to support said growth and development in the City;

WHEREAS, the City has, pursuant to Utah Code Ann. § 11-36-201, had a study and analysis performed addressing water needs and impacts in the City to determine existing culinary water system conditions and needs, and to determine projected needs as the City grows during the next 20 years, which study and analysis shall serve as a Culinary Water Master Plan, for the culinary water system;

WHEREAS, the City Council desires to give formal acceptance and approval of said Culinary Water Master Plan for the culinary water system;

WHEREAS, the City Council, after a public notice as required by law, held in a public hearing on **August 23, 2023** to consider the adoption of this Ordinance, a copy of which, as well as a copy of the Culinary Water Master Plan for the culinary water system, has been made available for public inspection at the Washington City Office Building for a period of 10 days prior to such public hearing.

NOW THEREFORE, BE IT HEREBY ORDAINED, by the City Council as follows:

1. Washington City hereby approves and adopts the following master and capital facilities plan for the water system of the City: *Washington City, Culinary Water Master Plan Update, User Rate Analysis, Impact Fee Analysis, and Impact Fee Facilities Plan*, dated **August 2023**, prepared by Sunrise Engineering.
2. The City hereby establishes one service area consisting of the entire geographical area of Washington City, including future annexed area.
3. The City Council may adjust the impact fee at the time the same is charged to (a) respond to unusual circumstances in specific cases and (b) ensure that impact fees are imposed fairly.
4. All impact fees received by the City pursuant to the Ordinance shall be used for,

and, as appropriate refunded in compliance with Utah Code Ann 11-36-301, 302, and 303, as amended.

5. Any fee payer that has paid an impact fee pursuant to this Ordinance may challenge the impact fee by filing:

- (a) an appeal to City pursuant to section 8 of this Ordinance; or
- (b) a request for arbitration as provided in Utah Code Ann. 11-36-402(1), as amended; or
- (c) an action in state district court as provided in Utah Code Ann. 11-36-401 (4) (c) (iii), as amended.

6. Any person or entity who has paid or made an impact fee required by this Ordinance may challenge or appeal the impact fee by filing a written notice of appeal with the City Recorder within 30 days of the date that the fee was paid or made. Upon receiving the challenge or appeal, the City shall set a hearing date to consider the merits of the challenge or appeal. The hearing panel, which shall consist of the City Council or such other body as the City shall designate, shall hold a hearing and make a decision within 30 days after the date that the challenge or appeal is filed. The person or entity challenging or appealing the fee may appear at the hearing and present any written or oral evidence deemed relevant to the imposition of the fee. The decision of the hearing panel shall be in writing and shall be supported by written findings. No appeal shall be permitted unless and until the impact fees at issue have been paid.

7. This Ordinance supersedes and/or repeals the provision(s) of any ordinance(s) or resolution(s) that is-are inconsistent with the provisions of this Ordinance.

8. The City hereby establishes an impact fee to be charged to all new connections to the City's culinary water system based on table 1 below, which impact fees shall be paid to the City.

TABLE 1

IMPACT FEE		
METER SIZE	ERU's	IMPACT FEE
5/8" & 3/4"	1	\$4,085.00
1"	1.78	\$7,263.00
1 1/2"	4.00	\$16,342.00
2"	7.11	\$29,053.00
3"	16	\$65,370.00
4"	28.44	\$116,214.00
6"	64	\$261,482.00

9. This Ordinance shall take effect **November 21, 2023**, upon publication or posting, as required by law.

PASSED AND ORDERED POSTED on this **23rd day of August**, 2023.

Washington City

Attest by:

Kress Staheli, Mayor

Tara Pentz, City Recorder



CULINARY WATER MASTER PLAN UPDATE

AUGUST 2023

INTRODUCTION

- UPDATE TO THE 2017 MASTER PLAN
- INCLUDES AN ANALYSIS ON THE SYSTEM'S SOURCE, STORAGE, AND DISTRIBUTION
- PROVIDES RECOMMENDED IMPROVEMENTS IN THE 20-YEAR WINDOW
- INCLUDES A USER RATE ANALYSIS
- THIS MASTER PLAN IS BEING USED AS THE IMPACT FEE FACILITIES PLAN AND INCLUDES AN IMPACT FEE ANALYSIS

GROWTH RATE ANALYSIS

Calendar Year	Population	Est. Growth rate	# of Conn.	# of ERU
2022	40,594	-	13,916	16,389
2023	43,395	6.9%	14,876	17,520
2024	46,389	6.9%	15,903	18,729
2025	49,590	6.9%	17,000	20,021
2026	52,318	5.5%	17,935	21,122
2027	55,195	5.5%	18,921	22,284
2028	58,231	5.5%	19,962	23,509
2029	60,560	4.0%	20,761	24,450
2030	62,982	4.0%	21,591	25,428
2031	65,502	4.0%	22,455	26,445
2032	68,122	4.0%	23,353	27,503
2033	70,506	3.5%	24,170	28,465
2034	72,974	3.5%	25,016	29,462
2035	75,528	3.5%	25,892	30,493
2036	78,171	3.5%	26,798	31,560
2037	80,907	3.5%	27,736	32,665
2038	83,739	3.5%	28,707	33,808
2039	86,670	3.5%	29,711	34,991
2040	89,703	3.5%	30,751	36,216
2041	92,843	3.5%	31,827	37,483
2042	96,092	3.5%	32,941	38,795

HISTORICAL USAGE

Calendar Year	Total Usage (Thousand gallons)	Number of ERUs	Usage Per ERU (gpd/ERU)
2019	2,428,666	13,817	481.6
2020	2,626,927	14,553	494.6
2021	2,634,571	15,879	454.6
2022	2,901,830	16,389	485.1
4-Year Average:	2,647,998	15,159	478.9

THE 4-YEAR AVERAGE USAGE PER DAY RESULTS IN:

- APPROXIMATELY 14,550 GALLONS PER MONTH
- APPROXIMATELY 174,600 GALLONS PER YEAR

SOURCE ANALYSIS

EXISTING SOURCE CAPACITY

Total Required Source Capacity	10,256	gpm
Total Existing Source Available	17,442	gpm
Existing Culinary System Source Capacity Surplus	7,186	gpm
Surplus Capacity can Serve	11,483	ERUs

PROJECTED CAPACITY (10-YEAR WINDOW)

Total Required Source Capacity	16,370	gpm
Total Existing Source Available	17,442	gpm
Culinary System Source Capacity Surplus	1,072	gpm

PROJECTED CAPACITY (20-YEAR WINDOW)

Total Required Source Capacity	21,962	gpm
Total Existing Source Available	17,442	gpm
Culinary System Source Capacity Deficit	-4,520	gpm

STORAGE ANALYSIS

EXISTING STORAGE CAPACITY

Total Required Storage Capacity	8,029,456	gal
Total Existing Storage Capacity	9,810,000	gal
Existing Culinary System Storage Capacity Surplus	1,780,544	gal
Surplus Capacity can Serve	3,718	ERUs

PROJECTED CAPACITY (10-YEAR WINDOW)

Total Required Storage Capacity	12,708,360	gal
Total Existing Storage Capacity	9,810,000	gal
Projected Culinary System Storage Capacity Deficit	-2,898,360	gal

PROJECTED CAPACITY (20-YEAR WINDOW)

Total Required Storage Capacity	16,988,484	gal
Total Existing Storage Capacity	9,810,000	gal
Projected Culinary System Storage Capacity Deficit	-7,178,484	gal

DISTRIBUTION ANALYSIS

WATER MODELING SOFTWARE WAS USED TO ANALYZE DISTRIBUTION SYSTEM UNDER THE FOLLOWING SCENARIOS:

- EXISTING AND PROJECTED AVERAGE DAY DEMAND
- EXISTING AND PROJECTED PEAK DAY DEMAND
- EXISTING AND PROJECTED PEAK INSTANTANEOUS DEMAND
- DYNAMIC MODEL DURING HIGH USAGE

RECOMMENDED IMPROVEMENTS

Storage Improvements	Est. Installation Year
Long Valley - 2.5 MG Tank	2023
Airport 1 - 2.5 MG Tank	2024
Sunrise Valley - 2.5 MG Tank	2025
Majestic - 2.5 MG Tank	2032
Airport 2 - 2.5 MG Tank	2036
Stucki Farms - 1 MG Tank	2038
Distribution Improvements	Est. Installation Year
Washington Fields Rd. Transmission Line	2023
Fields Road To Airport Tank Transmission Line	2024
Airport Connection Phase 1	2024
Perry's Landing Pressure Zone Adjustment	2024
Sunrise Valley Transmission Line	2025
Shadow Ridge 6" Line Replacement	2025
Lion's Head Dr. PRV	2025
Church Road Transmission Line	2033
East Regional Connection Phase 2	2033
Airport Connection Phase 2	2034
Airport Connection Phase 3	2037



USER RATE DEVELOPMENT

EXISTING USER RATES

BASE RATE

Meter Size	Base Rate
5/8"	\$18.17
3/4"	\$18.17
1"	\$33.00
1 1/2"	\$73.00
2"	\$130.00
3"	\$291.00
4"	\$517.00
6"	\$1,163.00

TIER STRUCTURE

Tier	Threshold Gallons	Washington City	WCWCD*	Rate/1000 gal
1	0 - 5,000	\$0.74	\$0.96	\$1.70
2	5,001 - 10,000	\$0.86	\$0.96	\$1.82
3	10,001 - 15,000	\$0.98	\$0.96	\$1.94
4	15,001 - 20,000	\$1.10	\$0.96	\$2.06
5	20,001 - 25,000	\$1.20	\$0.96	\$2.16
6	25,001 - 30,000	\$1.34	\$0.96	\$2.30
7	30,001 - 35,000	\$1.51	\$0.96	\$2.47
8	35,001 - 40,000	\$1.68	\$0.96	\$2.64
9	40,001 - Unlimited	\$1.85	\$0.96	\$2.81
Average Water Use Cost Based On		14,368	gal	\$26.07
Base Rate				\$18.17
Total Average Water Bill (Base Rate Plus Overage Plus Surcharge)				\$45.99

*WCWCD rate will increase by \$0.10 every year through 2026

**City average water usage = 14,368 gal/month

*** Surcharge is a \$1.75 charge from the WCWCD

WCWCD CHARGES

- WASHINGTON CITY GETS A MAJORITY OF ITS SOURCE FROM THE WASHINGTON COUNTY WATER CONSERVANCY DISTRICT (WCWCD)
- THE WCWCD RATES INCREASE \$0.10 PER THOUSAND GALLONS ON AN ANNUAL BASIS
- CITY'S EXISTING RATE STRUCTURE INCLUDES A PER THOUSAND GALLON COST FOR THE WCWCD. THIS IS A WEIGHTED AVERAGE BASED ON THE WATER PROVIDED BY THE CITY AND THE ASSOCIATED COST VERSUS PURCHASED FROM WCWCD AT THEIR RATE.
- REFLECTS THE ANNUAL COST INCREASE FROM THE WCWCD WITHOUT THE CITY NEEDING TO ADJUST ITS PORTION OF THE RATE ON AN ANNUAL BASIS.
- AN ADDITIONAL SURCHARGE OF \$1.75 IS ALSO PAID TO DISTRICT PER USER EACH MONTH

USER RATE PHILOSOPHY

BASE RATE

- Revenue covers the system's fixed costs
- Fixed costs are the expenses the system has before producing and delivering any water

OVERAGE RATE

- Revenue covers the system's variable costs
- Variable costs are the costs for the system to produce and deliver water to customers
- Dependent upon the amount of water used

AVERAGE USER RATE ANALYSIS

EXPENSES

- O&M EXPENSES: \$10,671,243
- OTHER EXPENSES: \$ 1,658,076
- EXISTING DEBT: \$ 411,770
- NEW DEBT: \$ 1,056,924
- TOTAL EXPENSES: \$13,798,013
 - FIXED: \$5,496,645
 - VARIABLE: \$8,301,368

FY 2024	%	Fixed	%	Variable	Total
Total O&M Expenses					\$ 10,671,243
OTHER EXPENSES					
Capital Projects/ Replenish Enterprise Fund	0%	\$ -	100%	\$ 1,658,076	\$ 1,658,076
EXISTING DEBT SERVICE NOT IMPACT FEE ELIGIBLE					
Water Revenue Refunding Bonds 2016B	100%	\$ 411,770	0%	\$ -	\$ 411,770
NEW DEBT SERVICE					
Airport Tank and Transmission Line	100%	\$ 591,442	0%	\$ -	\$ 591,442
Sunrise Valley Tank and Transmission Line	100%	\$ 465,482	0%	\$ -	\$ 465,482
TOTAL EXPENSES:		\$ 5,496,645		\$ 8,301,368	\$ 13,798,013
OTHER INCOME (BESIDES WATER SALES)					
Connection Fees	0%	\$ -	100%	\$ 459,370	\$ 459,370
Other Revenue (Hydrant Meters, etc.)	0%	\$ -	100%	\$ 665,939	\$ 665,939
Interest	30%	\$ 59,872	70%	\$ 139,701	\$ 199,573
Total Other Income:		\$ 59,872		\$ 1,265,010	\$ 1,324,882
Total Expenses - Total Other Income:		\$ 5,436,773		\$ 7,036,358	\$ 12,473,131
Total Project System Billed ERU's in FY 2024		18,729		18,729	18,729
Monthly Cost Per Billed ERU in FY 2024		\$ 24.19		\$ 31.31	\$ 55.50
BASE AND OVERAGE RATE DETERMINATION					
Resident Base Cost (0 Gallons)	\$ 24.19				
Non-Resident Base Cost (0 Gallons)	\$ 48.38				
Resident Variable Cost (Avg Usage)			\$ 31.31		
Non-Resident Variable Cost (Avg Usage)			\$ 62.62		
Average Use/Billed ERU (Gal)			12,200		
Resident Cost/1000 Gallons			\$ 2.57		
Total Average Monthly Resident Rate/Billed ERU					\$ 55.50
Total Average Monthly Non-Resident Rate/Billed ERU					\$ 111.00
WCWCD Surcharge (Surcharge is added on top of base rate)					\$ 1.75

RATE CALCULATION – BASE RATE

- $$\frac{\text{FIXED COSTS} - \text{NON WATER SALES INCOME}}{\text{Number of ER 's}} = \underline{\text{\$/ERU}}$$
- $$\frac{\$5,496,645 - \$59,872}{18,729 \text{ ERU}} = \underline{\text{\$24.19/ERU/Month}}$$

RATE CALCULATION – OVERAGE RATE

- $$\frac{\text{VARIABLE COSTS} - \text{NON WATER SALES INCOME}}{\text{Number of ERU's}} = \underline{\text{\$/ERU}}$$
- $$\frac{\$8,301,368 - \$1,265,010}{18,729 \text{ ERU}} = \underline{\text{\$31.31/ERU/Month}}$$

USER RATE

- USER RATES ARE A COMBINATION OF A BASE RATE AND OVERAGE RATES
- OVERAGE RATES ARE CHARGED BASED ON USAGE, TYPICALLY PER THOUSAND GALLONS USED
- USER RATE CALCULATION SHOWS THE AVERAGE MONTHLY USER RATE SHOULD BE **\$55.50** TO COVER WATER SYSTEM'S EXPENSES

REQUIRED USER RATE (ERU/MONTH)	
BASE RATE	\$24.19
OVERAGE RATE	\$31.31
TOTAL AVERAGE RATE	\$55.50
INCREASE FROM EX.	\$11.26

OVERAGE RATE STRUCTURE PHILOSOPHY

- AN OVERAGE RATE STRUCTURE ESTABLISHES A PER THOUSAND GALLON COST TO USE WATER
- TYPICALLY, INCREASE THE PER THOUSAND GALLON COST AS MORE WATER IS USED
- INCENTIVIZE CUSTOMERS TO USE LESS WATER
- HISTORICALLY, IF OVERALL CUSTOMERS HIT THE CITY'S AVERAGE USE, THEN THE RATE STRUCTURE GENERATES ENOUGH REVENUE TO COVER EXPENSES

CONSERVATION

- CONSERVATION IS CRITICAL TO LOCAL COMMUNITIES, INCLUDING WASHINGTON CITY
- CONSERVATION HAS AN UNINTENDED CONSEQUENCE FOR USER RATES AND THE WATER SYSTEM BUDGET
- CONSERVATION REDUCES USE AND THEREFORE REDUCES REVENUE, AND POTENTIALLY NOT COVER EXPENSES
- ASSUMING CONSERVATION WILL OCCUR, A NEW APPROACH IS NEEDED TO ENSURE THE USER RATE STRUCTURE WILL PROVIDE SUFFICIENT REVENUE TO OPERATE THE SYSTEM

PROPOSED RATE STRUCTURE OPTIONS

RECOMMENDATIONS

- NEW RATE STRUCTURE SHOULD BE BASED ON THE CITY'S CONSERVATION TARGET USE INSTEAD OF EXISTING AVERAGE USE
- NEW RATE STRUCTURES SHOULD BE "AGGRESSIVE" IN PROMOTING CONSERVATION

	USAGE (GAL/MONTH)
CURRENT AVERAGE USAGE	14,368
CITY'S CONSERVATION TARGET	12,200

PROPOSED RATE STRUCTURE OPTION 1

Tier	Threshold Gallons	Washington City	WCWCD*	Rate/1000 gal	WCWCD Increase*	Rate/1000 gal**
1	0 - 12,000	\$1.16	\$1.41	\$2.57	\$0.10	\$2.67
2	12,001 - 15,000	\$1.28	\$1.41	\$2.69	\$0.10	\$2.79
3	15,001 - 20,000	\$1.41	\$1.41	\$2.82	\$0.10	\$2.92
4	20,001 - 25,000	\$1.55	\$1.41	\$2.96	\$0.10	\$3.06
5	25,001 - 30,000	\$1.70	\$1.41	\$3.11	\$0.10	\$3.21
6	30,001 - 35,000	\$1.87	\$1.41	\$3.28	\$0.10	\$3.38
7	35,001 - 40,000	\$2.06	\$1.41	\$3.47	\$0.10	\$3.57
8	40,001 - 45,000	\$2.27	\$1.41	\$3.68	\$0.10	\$3.78
9	45,001 & Up	\$2.49	\$1.41	\$3.90	\$0.10	\$4.00
Average Water Use Cost Based On		12,200	gal			\$32.60
			Base Rate			\$24.19
Total Average Water Bill (Base Rate Plus Overage Plus \$1.75 Surcharge)						\$58.54

*WCWCD has a planned \$0.10 increase per year until FY 2025

**Final proposed tier rates based on planning period rates plus \$0.10 WCWCD increase July 1, 2023

- SIMILAR TIER BREAKS AS EXISTING. 10% INCREASE PER TIER

PROPOSED RATE STRUCTURE OPTION 2

Tier	Threshold Gallons	Washington City	WCWCD*	Rate/1000 gal	WCWCD Increase*	Rate/1000 gal**
1	0 - 12,000	\$1.16	\$1.41	\$2.57	\$0.10	\$2.67
2	12,001 - 20,000	\$1.45	\$1.41	\$2.86	\$0.10	\$2.96
3	20,001 - 30,000	\$1.81	\$1.41	\$3.22	\$0.10	\$3.32
4	30,001 - 40,000	\$2.26	\$1.41	\$3.67	\$0.10	\$3.77
5	40,001 & Up	\$2.83	\$1.41	\$4.24	\$0.10	\$4.34
Average Water Use Cost Based On		12,200	gal			\$32.63
			Base Rate			\$24.19
Total Average Water Bill (Base Rate Plus Overage Plus \$1.75 Surcharge)						\$58.57

*WCWCD has a planned \$0.10 increase per year until FY 2025

**Final proposed tier rates based on planning period rates plus \$0.10 WCWCD increase July 1, 2023

- REDUCED NUMBER OF TIERS. 25% INCREASE PER TIER

PROPOSED RATE STRUCTURE OPTION 3

Tier	Threshold Gallons	Washington City	WCWCD*	Rate/1000 gal	WCWCD Increase*	Rate/1000 gal**
1	0 - 12,000	\$1.16	\$1.41	\$2.57	\$0.10	\$2.67
2	12,001 - 20,000	\$1.28	\$1.41	\$2.69	\$0.10	\$2.79
3	20,001 - 30,000	\$1.60	\$1.41	\$3.01	\$0.10	\$3.11
4	30,001 - 40,000	\$2.40	\$1.41	\$3.81	\$0.10	\$3.91
5	40,001 & Up	\$3.60	\$1.41	\$5.01	\$0.10	\$5.11
Average Water Use Cost Based On		12,200	gal			\$32.60
			Base Rate			\$24.19
Total Average Water Bill (Base Rate Plus Overage Plus \$1.75 Surcharge)						\$58.54

*WCWCD has a planned \$0.10 increase per year untill FY 2025

**Final proposed tier rates based on planning period rates plus \$0.10 WCWCD increase July 1, 2023

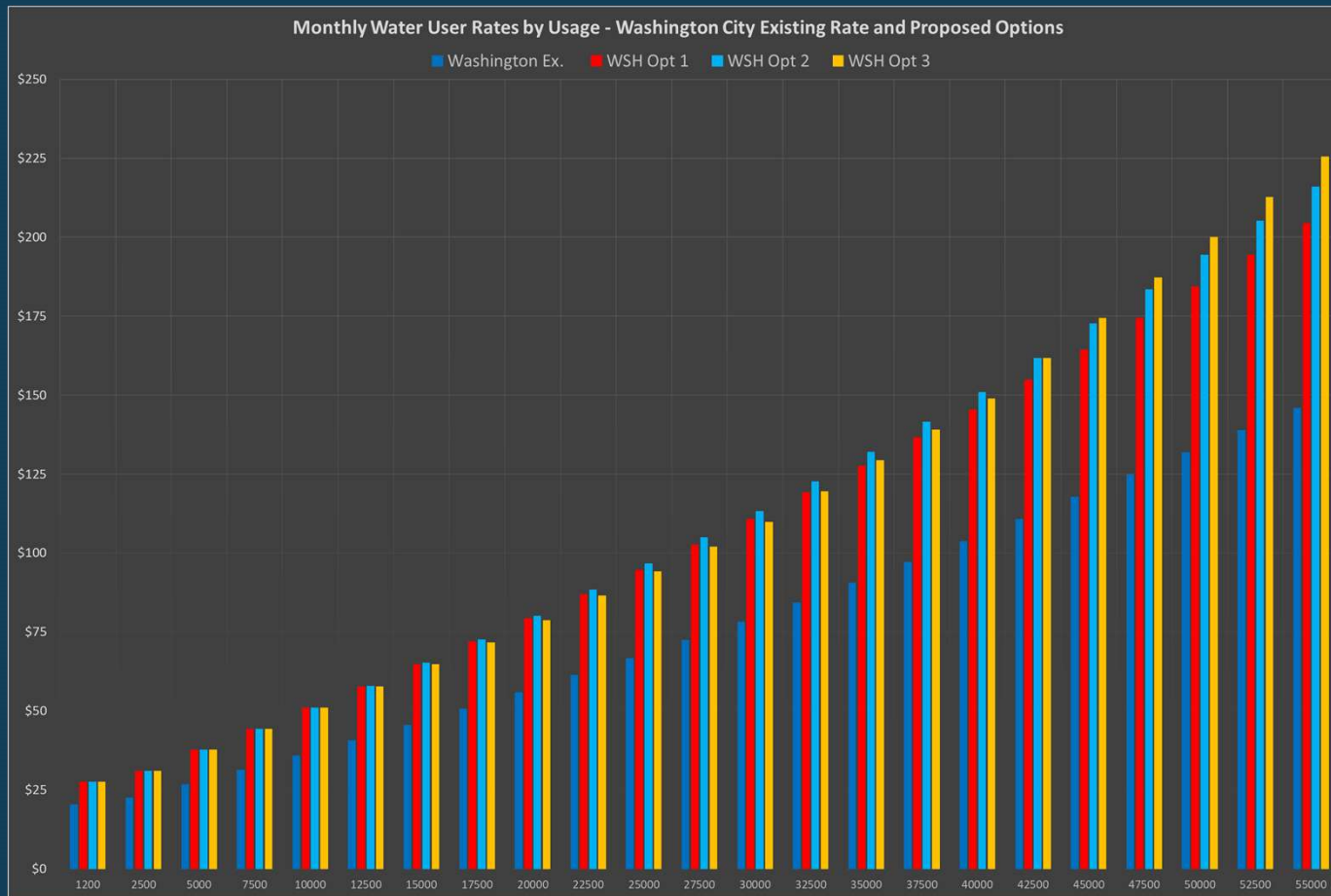
- REDUCED NUMBER OF TIERS WITH VARIED TIER INCREASES
- 2ND TIER INCREASE BY 10%
- 3RD TIER INCREASE BY 25%
- 4TH AND 5TH TIER INCREASE BY 50%

WATER BILL SNAP SHOTS

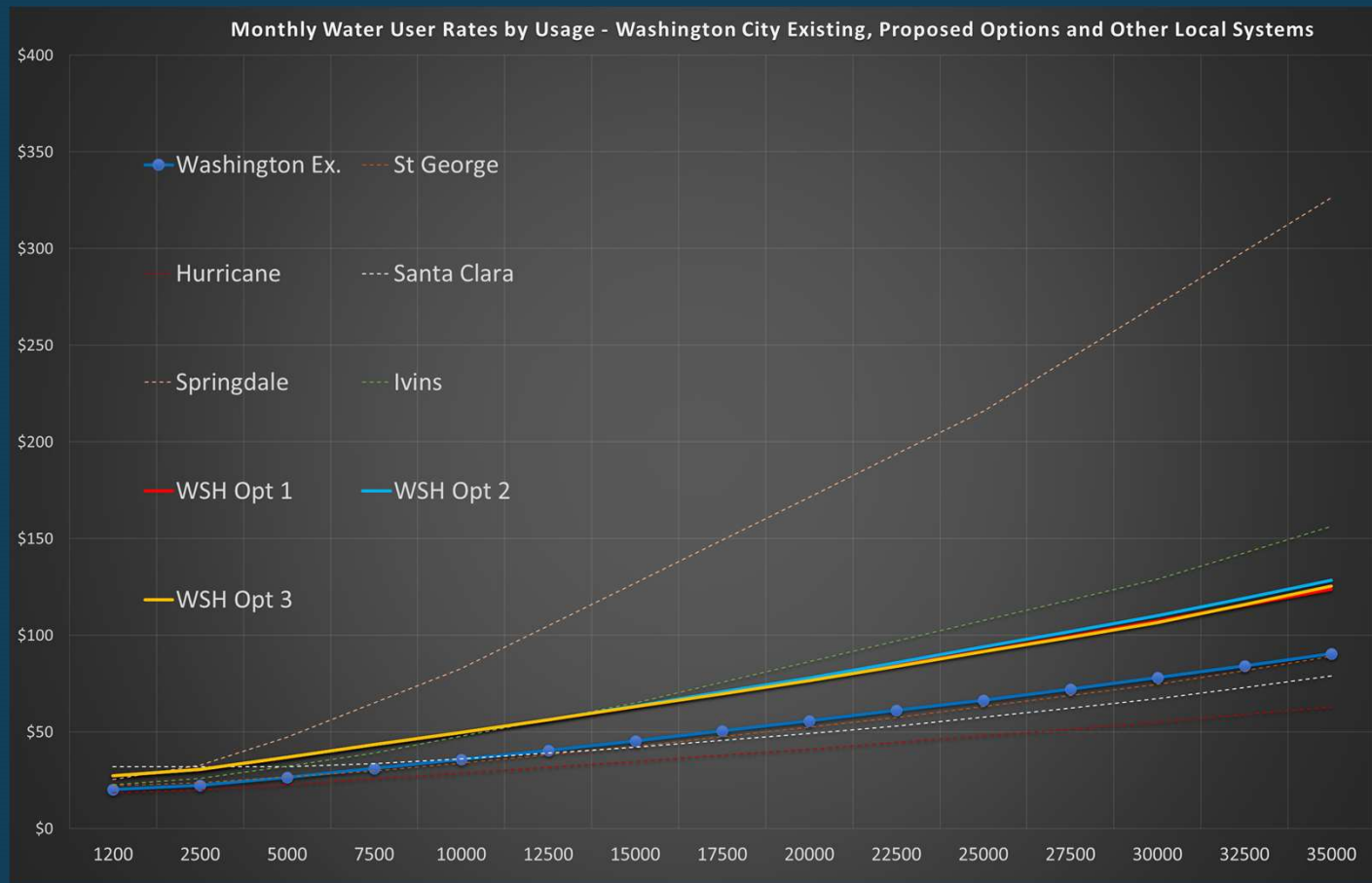
- THIS TABLE SHOWS 4 SNAP SHOTS OF WHAT AN AVERAGE MONTHLY WATER BILL WOULD BE FOR FOUR DIFFERENT LEVELS OF WATER USERS UNDER THE EXISTING RATES AND PROPOSED OPTIONS

Scenario	Usage	Existing	Option 1	Option 2	Option 3
Low Use/Fixed Income	5,000	\$26.67	\$37.54	\$37.54	\$37.54
Average Use w/ Conservation Goal	12,200	\$40.04	\$56.79	\$56.82	\$56.79
Current Average Use	14,368	\$44.97	\$64.13	\$64.93	\$64.13
High Water User	36,000	\$93.06	\$131.02	\$135.73	\$133.11

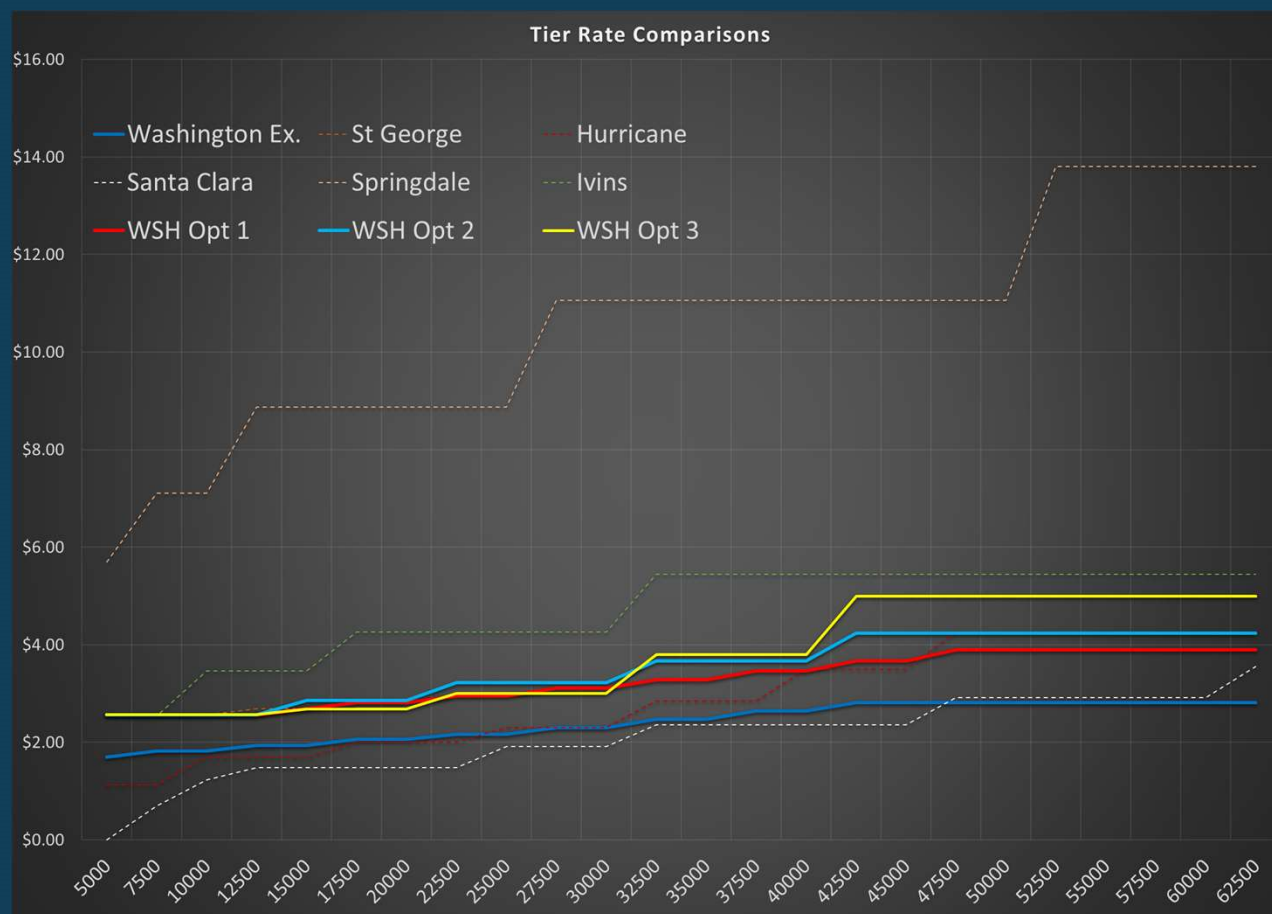
TIER OPTION COMPARISONS



USER RATE COMPARISON TO OTHER LOCAL COMMUNITIES



OVERAGE TIER COMPARISON TO OTHER LOCAL COMMUNITIES





IMPACT FEE DEVELOPMENT

EXISTING WATER IMPACT FEES

Meter Size	ERUs	Impact Fee
5/8" & 3/4"	1	\$2,412.00
1"	1.78	\$4,288.00
1 1/2"	4.00	\$9,648.00
2"	7.11	\$17,152.00
3"	16.00	\$38,592.00
4"	28.44	\$68,608.00
6"	64.00	\$154,368.00

CAPITAL FACILITY PLAN 0-10 YEAR PROJECTS

SUMMARY OF 0-10 YEAR IMPROVEMENTS (COSTS IN 2023 DOLLARS)

Source Improvements	Year of Improvement (FY)	Cost
Storage Improvements		Cost
Long Valley - 2.5 MG Tank	2024	\$ 7,538,500
Airport 1 - 2.5 MG Tank	2025	\$ 6,613,300
Sunrise Valley - 2.5 MG Tank	2026	\$ 6,996,700
Majestic - 2.5 MG Tank	2032	\$ 7,596,800
Total		\$ 28,745,300
Distribution Improvements		Cost
Washington Fields Rd. Transmission Line	2024	\$ 2,716,800
Airport Connection Phase 1	2025	\$ 994,900
Fields Road To Airport Tank Transmission Line	2025	\$ 4,410,300
Perry's Landing Pressure Zone Adjustment	2025	\$ 389,900
Sunrise Valley Transmission Line	2026	\$ 2,186,700
Shadow Ridge 6" Line Replacement	2026	\$ 264,000
Lion's Head Dr. PRV	2027	\$ 164,400
Total		\$ 11,127,000
Grand Total of All Projects		\$ 39,872,300

IMPACT FEE ANALYSIS

- MAXIMUM IMPACT FEE = \$4,085
- \$1,673 INCREASE FROM EXISTING IMPACT FEE

Existing Debt Service	Debt to be Paid FY2024-33		Impact Fee % Eligible	Eligible Costs
Water Revenue Refunding Bonds 2016B	\$ 5,244,791		34%	\$ 1,783,229
Subtotal				\$ 1,783,229
Proposed Improvement Projects (FY2024-34)	Total Current Estimated Cost	Year of Improvement	Impact Fee % Eligible	Eligible Costs w/ Inflation
Plans/Studies				
Culinary Water Master Plan	\$ 60,000	2028	100%	\$ 67,531
Subtotal				\$ 67,531
Source Projects				
	\$ -			\$ -
Subtotal				\$ -
Storage Projects (0-10 yr)				
Long Valley - 2.5 MG Tank	\$ 7,538,500	2024	100%	\$ 7,538,500
Airport 1 - 2.5 MG Tank	\$ 6,613,300	2025	100%	\$ 6,811,699
Sunrise Valley - 2.5 MG Tank	\$ 6,996,700	2026	100%	\$ 7,422,799
Majestic - 2.5 MG Tank	\$ 7,596,800	2032	100%	\$ 9,623,399
Subtotal				\$ 31,396,397
Distribution Projects (0-10 yr)				
Washington Fields Rd. Transmission Line	\$ 2,716,800	2024	100%	\$ 2,716,800
Airport Connection PH1 & Airport Transmission	\$ 994,900	2025	100%	\$ 1,024,747
Fields Road To Airport Tank Transmission Line	\$ 4,410,300	2025	100%	\$ 4,542,609
Perry's Landing Pressure Zone Adjustment	\$ 389,900	2025	0%	\$ -
Sunrise Valley Transmission Line	\$ 2,186,700	2026	100%	\$ 2,319,870
Shadow Ridge 6" Line Replacement	\$ 264,000	2026	0%	\$ -
Lion's Head Dr. PRV	\$ 164,400	2027	0%	\$ -
Subtotal				\$ 10,604,026
Total Cost Eligible For Impact Fee				\$ 43,851,182
Projected No. of Existing Culinary ERUs (beginning FY 2024)				18,729
Anticipated No. of Culinary ERUs (beginning FY 2034)				29,462
No. of New ERUs Due to Growth				10,733
Maximum Impact Fee = Total Eligible Cost / New ERU's				\$ 4,085.67

COMPARISON TO OTHER LOCAL COMMUNITIES

- WASHINGTON CITY MAXIMUM IMPACT FEE (FY 2024) = \$4,085
- WASHINGTON CITY IS THE FIRST TO LOOK AT NEW IMPACT FEES AFTER RECENT SPIKES IN COSTS.
- CONSTRUCTION COSTS ARE 50% TO 100% HIGHER THAN THEY WERE 2-3 YEARS AGO.

OTHER LOCAL COMMUNITY IMPACT FEES

Community	Impact Fee	Year Adopted
St. George	\$ 1,996.00	2020
Hurricane	\$ 2,058.00	2019
Santa Clara	\$ 1,973.00	2021
Springdale	\$ 6,060.00	2015
Ivins	\$ 3,331.85	2019

Culinary Master Plan, IFFPA, and Water User Rates

Briefing Document

Description: Staff is requesting approval of the Culinary Water Master Plan Update, User Rate Analysis, Impact Fee Analysis, and Impact Fee Facilities Plan with the associated adjustments in Impact Fees and User Rates.

Presenter: Lester Dalton

Submitted By: Lester Dalton

Recommendation: Approval

Background Information: Our consultants have performed a very detailed Quality Control process on the entire document. Minor typographical items were corrected with several significant items being found and rectified in the document being proposed for adoption. These significant items are shown below:

Impact fee related items:

- The projects in the Sunrise Valley area had an error which led to double charges for the transmission line related to the tank. This has been corrected and is reflected in all references in the document. - This correction resulted in a reduction to the Impact Fee calculated.
- There was a mis-labeling of the project related to the Majestic Tank; it had been incorrectly labeled as Airport Tank 2. This has been corrected and is reflected in all references in the document. - This correction had no effect on the Impact Fee calculation.
- An error was discovered that had left off 1 full year of anticipated new growth at the end of the 0-10 year planning window. This has been corrected and is reflected in all references in the document. - This correction resulted in a reduction to the Impact fee calculated.

User rate related items:

- We have experienced a 10 cent per thousand gallon rate increase from WCWCD during the time from the initial workshop sessions and the proposed adoption of the new City rates. This increase has been reflected in the rate tables being proposed for adoption.
- Rounding errors within spreadsheets resulted in slight variations on some upper tier rates. The error correction caused a few one cent changes. The Rate tables reflect this correction

User rates have seen pass-through increases related to water purchases from the WCWCD but have otherwise remained unchanged. The cost to provide culinary water service to our customers has increased significantly as our system has grown and inflation continues to climb, recent increases to pumping costs of the water have created significant costs for production. A rate adjustment is needed to accommodate continued service to our customers.

Proposed User Rates would include a Base Fee to cover fixed costs - \$24.19 per ERU Water Rates and Tiers would be adjusted to reflect conservation goals with 3 options being provided. All options have the proposed first tier equivalent to our conservation goals. Higher tiers have increased rates to incentivize customers to conserve water. As previously discussed, any of the proposed 3 options will provide the funding needed to operate the department properly. The variations simply promote conservation differently. The Resolutions have been included in the packet for your reference. We will be prepared to review during the meeting if requested.

Our previous Culinary Master Plan was adopted in 2017. We have experienced significant growth since that time with some change in projected growth areas necessitating an update to the Plan so that we are able to accommodate the continued growth within the City.

Dramatic increases in construction costs associated with new infrastructure have occurred. These increases have resulted in capital facilities costing nearly double what had been contemplated previously. In order to provide an acceptable level of service to the new growth areas of the City an adjustment to the culinary water impact fee is needed. Proposed Impact Fee - \$4,085 per ERU. The Ordinance reflecting this amount has been included for your reference.

Fiscal Impact: The proposed increases are to keep the Water Fund viable as a self-supporting enterprise fund thereby eliminating the need to burden the General Fund for Impact Fee eligible costs related to new development or the operational costs of providing water service to our customers.

Impacted Fund: Water

RESOLUTION NO. R2023-xx

A RESOLUTION OF WASHINGTON CITY AMENDING THE CURRENT CULINARY AND RAW WATER RATES.

WHEREAS, Washington City ("City") has conducted a review of the culinary water rates charged within the City; and

WHEREAS, the City has determined it is necessary to make the water rates more fair and equitable for all citizens; and

WHEREAS, the City desires to adopt the rate schedules set forth below, and thereby amend the current City Culinary Water Rates shown in the Master Fee Schedule; and

WHEREAS, the City Council has reviewed these amendments and finds that it is in the best interest of the public and promotes the health, safety, and welfare of the community.

NOW THEREFORE, BE IT RESOLVED by the City Council of Washington City as follows:

CONNECTION FEE

Meter Size	Connection Fee
5/8" & 3/4"	\$380
1"	\$480
1 ½"	\$772
2"	\$974
3"	\$1,562
4"	\$1,987
6"	\$3,107

RESIDENT WATER RATE

Meter Size	Monthly Base Rate	Tier	Threshold gallons		Washington City	WCWCD*	Rate Per 1000 gallons
5/8"	\$24.19	1	0	12,000	\$1.16	\$1.51	\$2.67
		2	12,001	15,000	\$1.28	\$1.51	\$2.79
		3	15,001	20,000	\$1.41	\$1.51	\$2.92

		4	20,001	25,000	\$1.55	\$1.51	\$3.06
		5	25,001	30,000	\$1.70	\$1.51	\$3.21
		6	30,001	35,000	\$1.87	\$1.51	\$3.38
		7	35,001	40,000	\$2.06	\$1.51	\$3.57
		8	40,001	45,000	\$2.27	\$1.51	\$3.78
		9	45,001	& Up	\$2.49	\$1.51	\$4.00

3/4"	\$24.19	1	0	12,000	\$1.16	\$1.51	\$2.67
		2	12,001	15,000	\$1.28	\$1.51	\$2.79
		3	15,001	20,000	\$1.41	\$1.51	\$2.92
		4	20,001	25,000	\$1.55	\$1.51	\$3.06
		5	25,001	30,000	\$1.70	\$1.51	\$3.21
		6	30,001	35,000	\$1.87	\$1.51	\$3.38
		7	35,001	40,000	\$2.06	\$1.51	\$3.57
		8	40,001	45,000	\$2.27	\$1.51	\$3.78
		9	45,001	& Up	\$2.49	\$1.51	\$4.00
1"	\$44	1	0	16,000	\$1.16	\$1.51	\$2.67
		2	16,001	32,000	\$1.28	\$1.51	\$2.79
		3	32,001	48,000	\$1.41	\$1.51	\$2.92
		4	48,001	64,000	\$1.55	\$1.51	\$3.06
		5	64,001	80,000	\$1.70	\$1.51	\$3.21
		6	80,001	96,000	\$1.87	\$1.51	\$3.38
		7	96,001	112,000	\$2.06	\$1.51	\$3.57
		8	112,001	128,000	\$2.27	\$1.51	\$3.78
		9	128,001	& Up	\$2.49	\$1.51	\$4.00
1 1/2"	\$97	1	0	27,000	\$1.16	\$1.51	\$2.67
		2	27,001	54,000	\$1.28	\$1.51	\$2.79
		3	54,001	81,000	\$1.41	\$1.51	\$2.92
		4	81,001	108,000	\$1.55	\$1.51	\$3.06
		5	108,001	135,000	\$1.70	\$1.51	\$3.21
		6	135,001	162,000	\$1.87	\$1.51	\$3.38
		7	162,001	189,000	\$2.06	\$1.51	\$3.57
		8	189,001	216,000	\$2.27	\$1.51	\$3.78
		9	216,001	& Up	\$2.49	\$1.51	\$4.00

2"	\$173	1	0	43,000	\$1.16	\$1.51	\$2.67
		2	43,001	86,000	\$1.28	\$1.51	\$2.79
		3	86,001	129,000	\$1.41	\$1.51	\$2.92
		4	129,001	172,000	\$1.55	\$1.51	\$3.06
		5	172,001	215,000	\$1.70	\$1.51	\$3.21
		6	215,001	258,000	\$1.87	\$1.51	\$3.38
		7	258,001	301,000	\$2.06	\$1.51	\$3.57
		8	301,001	344,000	\$2.27	\$1.51	\$3.78
		9	344,001	& Up	\$2.49	\$1.51	\$4.00
3"	\$388	1	0	87,000	\$1.16	\$1.51	\$2.67
		2	87,001	174,000	\$1.28	\$1.51	\$2.79
		3	174,001	261,000	\$1.41	\$1.51	\$2.92
		4	261,001	348,000	\$1.55	\$1.51	\$3.06
		5	348,001	435,000	\$1.70	\$1.51	\$3.21
		6	435,001	522,000	\$1.87	\$1.51	\$3.38
		7	522,001	609,000	\$2.06	\$1.51	\$3.57
		8	609,001	696,000	\$2.27	\$1.51	\$3.78
		9	696,001	& Up	\$2.49	\$1.51	\$4.00
4"	\$689	1	0	149,000	\$1.16	\$1.51	\$2.67
		2	149,001	298,000	\$1.28	\$1.51	\$2.79
		3	298,001	447,000	\$1.41	\$1.51	\$2.92
		4	447,001	596,000	\$1.55	\$1.51	\$3.06
		5	596,001	745,000	\$1.70	\$1.51	\$3.21
		6	745,001	894,000	\$1.87	\$1.51	\$3.38
		7	894,001	1,043,000	\$2.06	\$1.51	\$3.57
		8	1,043,001	1,192,000	\$2.27	\$1.51	\$3.78
		9	1,192,001	& Up	\$2.49	\$1.51	\$4.00

6"	\$1,549	1	0	327,000	\$1.16	\$1.51	\$2.67
		2	327,001	654,000	\$1.28	\$1.51	\$2.79
		3	654,001	981,000	\$1.41	\$1.51	\$2.92
		4	981,001	1,308,000	\$1.55	\$1.51	\$3.06
		5	1,308,001	1,635,000	\$1.70	\$1.51	\$3.21

		6	1,635,001	1,962,000	\$1.87	\$1.51	\$3.38
		7	1,962,001	2,289,000	\$2.06	\$1.51	\$3.57
		8	2,289,001	2,616,000	\$2.27	\$1.51	\$3.78
		9	2,616,001	& Up	\$2.49	\$1.51	\$4.00

*WCWCD has a planned \$0.10 increase per year until the year 2026.

NON-RESIDENT WATER RATE

Meter Size	Monthly Base Rate	Tier	Threshold gallons		Washington City	WCWCD*	Rate Per 1000 gallons
5/8"	\$48.38	1	0	12,000	\$3.83	\$1.51	\$5.34
		2	12,001	15,000	\$4.07	\$1.51	\$5.58
		3	15,001	20,000	\$4.33	\$1.51	\$5.84
		4	20,001	25,000	\$4.61	\$1.51	\$6.12
		5	25,001	30,000	\$4.91	\$1.51	\$6.42
		6	30,001	35,000	\$5.25	\$1.51	\$6.76
		7	35,001	40,000	\$5.63	\$1.51	\$7.14
		8	40,001	45,000	\$6.05	\$1.51	\$7.56
		9	45,001	& Up	\$6.49	\$1.51	\$8.00
3/4"	\$48.38	1	0	12,000	\$3.83	\$1.51	\$5.34
		2	12,001	15,000	\$4.07	\$1.51	\$5.58
		3	15,001	20,000	\$4.33	\$1.51	\$5.84
		4	20,001	25,000	\$4.61	\$1.51	\$6.12
		5	25,001	30,000	\$4.91	\$1.51	\$6.42
		6	30,001	35,000	\$5.25	\$1.51	\$6.76
		7	35,001	40,000	\$5.63	\$1.51	\$7.14
		8	40,001	45,000	\$6.05	\$1.51	\$7.56
		9	45,001	& Up	\$6.49	\$1.51	\$8.00
1"	\$88	1	0	16,000	\$3.83	\$1.51	\$5.34
		2	16,001	32,000	\$4.07	\$1.51	\$5.58
		3	32,001	48,000	\$4.33	\$1.51	\$5.84
		4	48,001	64,000	\$4.61	\$1.51	\$6.12
		5	64,001	80,000	\$4.91	\$1.51	\$6.42

		6	80,001	96,000	\$5.25	\$1.51	\$6.76
		7	96,001	112,000	\$5.63	\$1.51	\$7.14
		8	112,001	128,000	\$6.05	\$1.51	\$7.56
		9	128,001	& Up	\$6.49	\$1.51	\$8.00
1 1/2"	\$194	1	0	27,000	\$3.83	\$1.51	\$5.34
		2	27,001	54,000	\$4.07	\$1.51	\$5.58
		3	54,001	81,000	\$4.33	\$1.51	\$5.84
		4	81,001	108,000	\$4.61	\$1.51	\$6.12
		5	108,001	135,000	\$4.91	\$1.51	\$6.42
		6	135,001	162,000	\$5.25	\$1.51	\$6.76
		7	162,001	189,000	\$5.63	\$1.51	\$7.14
		8	189,001	216,000	\$6.05	\$1.51	\$7.56
		9	216,001	& Up	\$6.49	\$1.51	\$8.00
2"	\$346	1	0	43,000	\$3.83	\$1.51	\$5.34
		2	43,001	86,000	\$4.07	\$1.51	\$5.58
		3	86,001	129,000	\$4.33	\$1.51	\$5.84
		4	129,001	172,000	\$4.61	\$1.51	\$6.12
		5	172,001	215,000	\$4.91	\$1.51	\$6.42
		6	215,001	258,000	\$5.25	\$1.51	\$6.76
		7	258,001	301,000	\$5.63	\$1.51	\$7.14
		8	301,001	344,000	\$6.05	\$1.51	\$7.56
		9	344,001	& Up	\$6.49	\$1.51	\$8.00
3"	\$776	1	0	87,000	\$3.83	\$1.51	\$5.34
		2	87,001	174,000	\$4.07	\$1.51	\$5.58
		3	174,001	261,000	\$4.33	\$1.51	\$5.84
		4	261,001	348,000	\$4.61	\$1.51	\$6.12
		5	348,001	435,000	\$4.91	\$1.51	\$6.42
		6	435,001	522,000	\$5.25	\$1.51	\$6.76
		7	522,001	609,000	\$5.63	\$1.51	\$7.14
		8	609,001	696,000	\$6.05	\$1.51	\$7.56
		9	696,001	& Up	\$6.49	\$1.51	\$8.00

4"	\$1,378	1	0	149,000	\$3.83	\$1.51	\$5.34
		2	149,001	298,000	\$4.07	\$1.51	\$5.58
		3	298,001	447,000	\$4.33	\$1.51	\$5.84
		4	447,001	596,000	\$4.61	\$1.51	\$6.12
		5	596,001	745,000	\$4.91	\$1.51	\$6.42
		6	745,001	894,000	\$5.25	\$1.51	\$6.76
		7	894,001	1,043,000	\$5.63	\$1.51	\$7.14
		8	1,043,001	1,192,000	\$6.05	\$1.51	\$7.56
		9	1,192,001	& Up	\$6.49	\$1.51	\$8.00
6"	\$3,098	1	0	327,000	\$3.83	\$1.51	\$5.34
		2	327,001	654,000	\$4.07	\$1.51	\$5.58
		3	654,001	981,000	\$4.33	\$1.51	\$5.84
		4	981,001	1,308,000	\$4.61	\$1.51	\$6.12
		5	1,308,001	1,635,000	\$4.91	\$1.51	\$6.42
		6	1,635,001	1,962,000	\$5.25	\$1.51	\$6.76
		7	1,962,001	2,289,000	\$5.63	\$1.51	\$7.14
		8	2,289,001	2,616,000	\$6.05	\$1.51	\$7.56
		9	2,616,001	& Up	\$6.49	\$1.51	\$8.00

*WCWCD has a planned \$0.10 increase per year until the year 2026.

CONSTRUCTION WATER RATE (hydrant meters and flushing of new installations)

Meter Size	Rental		Deposit	Washington City	WCWCD*	Rate Per 1000 gallons
¾"	\$2.50/Day	\$75/Month	\$750	\$2.49	\$1.51	\$4.00
2 ½"	\$5.00/Day	\$150/Month	\$1500	\$2.48		

*WCWCD has a planned \$0.10 increase per year until the year 2026.

QUAIL LAKE RAW WATER RATE (delivered to Razor Ridge pond)

Meter Size	Base	Washington City	WCWCD*	Rate Per 1000 gallons
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Varies	\$905	\$.08	\$1.51	\$1.59
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*WCWCD has a planned \$0.10 increase per year until the year 2026.

Drought Management Plan Staging Schedule Fee: The usage/overage fee schedule to be used shall be based upon the then effective Drought Management Plan Stages. The Drought Management Plan Ordinance, as amended from time to time, is incorporated into this resolution by reference and the four (4) stages of water availability / scarcity as referred to therein is incorporated herein by reference.

Drought Management Plan Staging		
<i>Stage</i>	<i>Rate Increase</i>	<i>Description</i>
1	-	Normal usage / Normal rate
2	10%	Reduction goal is 5-10% of peak use
3	25%	Reduction goal is 10-25% of peak use
4	50%	Reduction goal is 25-60% of peak use

Yearly Adjustment Review and Update: The Culinary Water Rates are to be reviewed and adjusted annually based on the Consumer Price Index and increased annually on July 1st of each year through 2026 to accommodate the \$0.10 increase from WCWCD. Said adjustments will occur automatically upon verification of the amount by the Public Works Director.

1. If any provision or clause of this resolution or the application thereof to any person or entity or circumstance is held to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such invalidity shall not affect other sections, provisions, clauses or applications hereof which can be implemented without the invalid provision(s), clauses(s) or application(s) hereof, and to this end the provisions and clauses of this resolution are declared to be severable.
2. This resolution supersedes or repeals the provision(s) of any ordinances(s) or resolutions(s) that is (are) inconsistent with the provisions of this resolution.
3. This Resolution shall take effect on August 31, 2023.

PASSED AND ORDERED POSTED, this 23rd day of August 2023.

WASHINGTON CITY

Kress Staheli, Mayor

ATTEST:

Tara Pentz, City Recorder

RESOLUTION NO. R2023-xx

A RESOLUTION OF WASHINGTON CITY AMENDING THE CURRENT CULINARY AND RAW WATER RATES.

WHEREAS, Washington City ("City") has conducted a review of the culinary water rates charged within the City; and

WHEREAS, the City has determined it is necessary to make the water rates more fair and equitable for all citizens; and

WHEREAS, the City desires to adopt the rate schedules set forth below, and thereby amend the current City Culinary Water Rates shown in the Master Fee Schedule; and

WHEREAS, the City Council has reviewed these amendments and finds that it is in the best interest of the public and promotes the health, safety, and welfare of the community.

NOW THEREFORE, BE IT RESOLVED by the City Council of Washington City as follows:

CONNECTION FEE

Meter Size	Connection Fee
5/8" & 3/4"	\$380
1"	\$480
1 1/2"	\$772
2"	\$974
3"	\$1,562
4"	\$1,987
6"	\$3,107

RESIDENT WATER RATE

Meter Size	Monthly Base Rate	Tier	Threshold gallons		Washington City	WCWCD*	Rate Per 1000 gallons
5/8"	\$24.19	1	0	12,000	\$1.16	\$1.51	\$2.67
		2	12,001	20,000	\$1.45	\$1.51	\$2.96
		3	20,001	30,000	\$1.81	\$1.51	\$3.32

		4	30,001	40,000	\$2.26	\$1.51	\$3.77
		5	40,001	& Up	\$2.83	\$1.51	\$4.34
3/4"	\$24.19	1	0	12,000	\$1.16	\$1.51	\$2.67
		2	12,001	20,000	\$1.45	\$1.51	\$2.96
		3	20,001	30,000	\$1.81	\$1.51	\$3.32
		4	30,001	40,000	\$2.26	\$1.51	\$3.77
		5	40,001	& Up	\$2.83	\$1.51	\$4.34

1"	\$44	1	0	16,000	\$1.16	\$1.51	\$2.67
		2	16,001	48,000	\$1.45	\$1.51	\$2.96
		3	48,001	80,000	\$1.81	\$1.51	\$3.32
		4	80,001	112,000	\$2.26	\$1.51	\$3.77
		5	112,001	Up	\$2.83	\$1.51	\$4.34
1 1/2"	\$97	1	0	27,000	\$1.16	\$1.51	\$2.67
		2	27,001	81,000	\$1.45	\$1.51	\$2.96
		3	81,001	135,000	\$1.81	\$1.51	\$3.32
		4	135,001	189,000	\$2.26	\$1.51	\$3.77
		5	189,001	Up	\$2.83	\$1.51	\$4.34
2"	\$173	1	0	43,000	\$1.16	\$1.51	\$2.67
		2	43,001	129,000	\$1.45	\$1.51	\$2.96
		3	129,001	215,000	\$1.81	\$1.51	\$3.32
		4	215,001	301,000	\$2.26	\$1.51	\$3.77
		5	301,001	Up	\$2.83	\$1.51	\$4.34
3"	\$388	1	0	87,000	\$1.16	\$1.51	\$2.67
		2	87,001	261,000	\$1.45	\$1.51	\$2.96
		3	261,001	435,000	\$1.81	\$1.51	\$3.32
		4	435,001	609,000	\$2.26	\$1.51	\$3.77
		5	609,001	Up	\$2.83	\$1.51	\$4.34
4"	\$689	1	0	149,000	\$1.16	\$1.51	\$2.67
		2	149,001	447,000	\$1.45	\$1.51	\$2.96
		3	447,001	745,000	\$1.81	\$1.51	\$3.32
		4	745,001	1,043,000	\$2.26	\$1.51	\$3.77
		5	1,043,001	Up	\$2.83	\$1.51	\$4.34

6"	\$1,549	1	0	327,000	\$1.16	\$1.51	\$2.67
		2	327,001	981,000	\$1.45	\$1.51	\$2.96
		3	981,001	1,635,000	\$1.81	\$1.51	\$3.32
		4	1,635,001	2,289,000	\$2.26	\$1.51	\$3.77
		5	2,289,001	& Up	\$2.83	\$1.51	\$4.34

*WCWCD has a planned \$0.10 increase per year until the year 2026.

NON-RESIDENT WATER RATE

Meter Size	Monthly Base Rate	Tier	Threshold gallons		Washington City	WCWCD*	Rate Per 1000 gallons
5/8"	\$48.38	1	0	12,000	\$3.83	\$1.51	\$5.34
		2	12,001	20,000	\$4.41	\$1.51	\$5.92
		3	20,001	30,000	\$5.13	\$1.51	\$6.64
		4	30,001	40,000	\$6.03	\$1.51	\$7.54
		5	40,001	& Up	\$7.17	\$1.51	\$8.68
3/4"	\$48.38	1	0	12,000	\$3.83	\$1.51	\$5.34
		2	12,001	20,000	\$4.41	\$1.51	\$5.92
		3	20,001	30,000	\$5.13	\$1.51	\$6.64
		4	30,001	40,000	\$6.03	\$1.51	\$7.54
		5	40,001	& Up	\$7.17	\$1.51	\$8.68
1"	\$88	1	0	16,000	\$3.83	\$1.51	\$5.34
		2	16,001	48,000	\$4.41	\$1.51	\$5.92
		3	48,001	80,000	\$5.13	\$1.51	\$6.64
		4	80,001	112,000	\$6.03	\$1.51	\$7.54
		5	112,001	Up	\$7.17	\$1.51	\$8.68
1 1/2"	\$194	1	0	27,000	\$3.83	\$1.51	\$5.34
		2	27,001	81,000	\$4.41	\$1.51	\$5.92
		3	81,001	135,000	\$5.13	\$1.51	\$6.64
		4	135,001	189,000	\$6.03	\$1.51	\$7.54
		5	189,001	Up	\$7.17	\$1.51	\$8.68
2"	\$346	1	0	43,000	\$3.83	\$1.51	\$5.34
		2	43,001	129,000	\$4.41	\$1.51	\$5.92

		3	129,001	215,000	\$5.13	\$1.51	\$6.64
		4	215,001	301,000	\$6.03	\$1.51	\$7.54
		5	301,001	Up	\$7.17	\$1.51	\$8.68
3"	\$776	1	0	87,000	\$3.83	\$1.51	\$5.34
		2	87,001	261,000	\$4.41	\$1.51	\$5.92
		3	261,001	435,000	\$5.13	\$1.51	\$6.64
		4	435,001	609,000	\$6.03	\$1.51	\$7.54
		5	609,001	Up	\$7.17	\$1.51	\$8.68
4"	\$1,378	1	0	149,000	\$3.83	\$1.51	\$5.34
		2	149,001	447,000	\$4.41	\$1.51	\$5.92
		3	447,001	745,000	\$5.13	\$1.51	\$6.64
		4	745,001	1,043,000	\$6.03	\$1.51	\$7.54
		5	1,043,001	Up	\$7.17	\$1.51	\$8.68
6"	\$3,098	1	0	327,000	\$3.83	\$1.51	\$5.34
		2	327,001	981,000	\$4.41	\$1.51	\$5.92
		3	981,001	1,635,000	\$5.13	\$1.51	\$6.64
		4	1,635,001	2,289,000	\$6.03	\$1.51	\$7.54
		5	2,289,001	& Up	\$7.17	\$1.51	\$8.68

*WCWCD has a planned \$0.10 increase per year until the year 2026.

CONSTRUCTION WATER RATE (hydrant meters and flushing of new installations)

Meter Size	Rental		Deposit	Washington City	WCWCD*	Rate Per 1000 gallons
¾"	\$2.50/Day	\$75/Month	\$750	\$2.83	\$1.51	\$4.34
2 ½"	\$5.00/Day	\$150/Month	\$1500	\$2.83		

*WCWCD has a planned \$0.10 increase per year until the year 2026.

QUAIL LAKE RAW WATER RATE (delivered to Razor Ridge pond)

Meter Size	Base	Washington City	WCWCD *	Rate Per 1000 gallons
Varies	\$905	\$.08	\$1.51	\$1.59

*WCWCD has a planned \$0.10 increase per year until the year 2026.

Drought Management Plan Staging Schedule Fee: The usage/overage fee schedule to be used shall be based upon the then effective Drought Management Plan Stages. The Drought Management Plan Ordinance, as amended from time to time, is incorporated into this resolution by reference and the four (4) stages of water availability / scarcity as referred to therein is incorporated herein by reference.

Drought Management Plan Staging		
<i>Stage</i>	<i>Rate Increase</i>	<i>Description</i>
1	-	Normal usage / Normal rate
2	10%	Reduction goal is 5-10% of peak use
3	25%	Reduction goal is 10-25% of peak use
4	50%	Reduction goal is 25-60% of peak use

Yearly Adjustment Review and Update: The Culinary Water Rates are to be reviewed and adjusted annually based on the Consumer Price Index and increased annually on July 1st of each year through 2026 to accommodate the \$0.10 increase from WCWCD. Said adjustments will occur automatically upon verification of the amount by the Public Works Director.

1. If any provision or clause of this resolution or the application thereof to any person or entity or circumstance is held to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such invalidity shall not affect other sections, provisions, clauses or applications hereof which can be implemented without the invalid provision(s), clauses(s) or application(s) hereof, and to this end the provisions and clauses of this resolution are declared to be severable.
2. This resolution supersedes or repeals the provision(s) of any ordinances(s) or resolutions(s) that is (are) inconsistent with the provisions of this resolution.
3. This Resolution shall take effect on August 31, 2023.

PASSED AND ORDERED POSTED, this 23rd day of August 2023.

WASHINGTON CITY

ATTEST:

Tara Pentz, City Recorder

Kress Staheli, Mayor

RESOLUTION NO. R2023-xx

A RESOLUTION OF WASHINGTON CITY AMENDING THE CURRENT CULINARY AND RAW WATER RATES.

WHEREAS, Washington City ("City") has conducted a review of the culinary water rates charged within the City; and

WHEREAS, the City has determined it is necessary to make the water rates more fair and equitable for all citizens; and

WHEREAS, the City desires to adopt the rate schedules set forth below, and thereby amend the current City Culinary Water Rates shown in the Master Fee Schedule; and

WHEREAS, the City Council has reviewed these amendments and finds that it is in the best interest of the public and promotes the health, safety, and welfare of the community.

NOW THEREFORE, BE IT RESOLVED by the City Council of Washington City as follows:

CONNECTION FEE

Meter Size	Connection Fee
5/8" & 3/4"	\$380
1"	\$480
1 1/2"	\$772
2"	\$974
3"	\$1,562
4"	\$1,987
6"	\$3,107

RESIDENT WATER RATE

Meter Size	Monthly Base Rate	Tier	Threshold gallons		Washington City	WCWCD*	Rate Per 1000 gallons
5/8"	\$24.19	1	0	12,000	\$1.16	\$1.51	\$2.67
		2	12,001	20,000	\$1.28	\$1.51	\$2.79
		3	20,001	30,000	\$1.60	\$1.51	\$3.11

		4	30,001	40,000	\$2.40	\$1.51	\$3.91
		5	40,001	& Up	\$3.60	\$1.51	\$5.11
3/4"	\$24.19	1	0	12,000	\$1.16	\$1.51	\$2.67
		2	12,001	20,000	\$1.28	\$1.51	\$2.79
		3	20,001	30,000	\$1.60	\$1.51	\$3.11
		4	30,001	40,000	\$2.40	\$1.51	\$3.91
		5	40,001	& Up	\$3.60	\$1.51	\$5.11

1"	\$44	1	0	16,000	\$1.16	\$1.51	\$2.67
		2	16,001	48,000	\$1.28	\$1.51	\$2.79
		3	48,001	80,000	\$1.60	\$1.51	\$3.11
		4	80,001	112,000	\$2.40	\$1.51	\$3.91
		5	112,001	Up	\$3.60	\$1.51	\$5.11
1 1/2"	\$97	1	0	27,000	\$1.16	\$1.51	\$2.67
		2	27,001	81,000	\$1.28	\$1.51	\$2.79
		3	81,001	135,000	\$1.60	\$1.51	\$3.11
		4	135,001	189,000	\$2.40	\$1.51	\$3.91
		5	189,001	Up	\$3.60	\$1.51	\$5.11
2"	\$173	1	0	43,000	\$1.16	\$1.51	\$2.67
		2	43,001	129,000	\$1.28	\$1.51	\$2.79
		3	129,001	215,000	\$1.60	\$1.51	\$3.11
		4	215,001	301,000	\$2.40	\$1.51	\$3.91
		5	301,001	Up	\$3.60	\$1.51	\$5.11
3"	\$388	1	0	87,000	\$1.16	\$1.51	\$2.67
		2	87,001	261,000	\$1.28	\$1.51	\$2.79
		3	261,001	435,000	\$1.60	\$1.51	\$3.11
		4	435,001	609,000	\$2.40	\$1.51	\$3.91
		5	609,001	Up	\$3.60	\$1.51	\$5.11
4"	\$689	1	0	149,000	\$1.16	\$1.51	\$2.67
		2	149,001	447,000	\$1.28	\$1.51	\$2.79
		3	447,001	745,000	\$1.60	\$1.51	\$3.11
		4	745,001	1,043,000	\$2.40	\$1.51	\$3.91
		5	1,043,001	Up	\$3.60	\$1.51	\$5.11

6"	\$1,549	1	0	327,000	\$1.16	\$1.51	\$2.67
		2	327,001	981,000	\$1.28	\$1.51	\$2.79
		3	981,001	1,635,000	\$1.60	\$1.51	\$3.11
		4	1,635,001	2,289,000	\$2.40	\$1.51	\$3.91
		5	2,289,001	& Up	\$3.60	\$1.51	\$5.11

*WCWCD has a planned \$0.10 increase per year until the year 2026.

NON-RESIDENT WATER RATE

Meter Size	Monthly Base Rate	Tier	Threshold gallons		Washington City	WCWCD*	Rate Per 1000 gallons
5/8"	\$48.38	1	0	12,000	\$3.83	\$1.51	\$5.34
		2	12,001	20,000	\$4.07	\$1.51	\$5.58
		3	20,001	30,000	\$4.71	\$1.51	\$6.22
		4	30,001	40,000	\$6.31	\$1.51	\$7.82
		5	40,001	& Up	\$8.71	\$1.51	\$10.22
3/4"	\$48.38	1	0	12,000	\$3.83	\$1.51	\$5.34
		2	12,001	20,000	\$4.07	\$1.51	\$5.58
		3	20,001	30,000	\$4.71	\$1.51	\$6.22
		4	30,001	40,000	\$6.31	\$1.51	\$7.82
		5	40,001	& Up	\$8.71	\$1.51	\$10.22
1"	\$88	1	0	16,000	\$3.83	\$1.51	\$5.34
		2	16,001	48,000	\$4.07	\$1.51	\$5.58
		3	48,001	80,000	\$4.71	\$1.51	\$6.22
		4	80,001	112,000	\$6.31	\$1.51	\$7.82
		5	112,001	Up	\$8.71	\$1.51	\$10.22
1 1/2"	\$194	1	0	27,000	\$3.83	\$1.51	\$5.34
		2	27,001	81,000	\$4.07	\$1.51	\$5.58
		3	81,001	135,000	\$4.71	\$1.51	\$6.22
		4	135,001	189,000	\$6.31	\$1.51	\$7.82
		5	189,001	Up	\$8.71	\$1.51	\$10.22
2"	\$346	1	0	43,000	\$3.83	\$1.51	\$5.34
		2	43,001	129,000	\$4.07	\$1.51	\$5.58

		3	129,001	215,000	\$4.71	\$1.51	\$6.22
		4	215,001	301,000	\$6.31	\$1.51	\$7.82
		5	301,001	Up	\$8.71	\$1.51	\$10.22
3"	\$776	1	0	87,000	\$3.83	\$1.51	\$5.34
		2	87,001	261,000	\$4.07	\$1.51	\$5.58
		3	261,001	435,000	\$4.71	\$1.51	\$6.22
		4	435,001	609,000	\$6.31	\$1.51	\$7.82
		5	609,001	Up	\$8.71	\$1.51	\$10.22
4"	\$1,378	1	0	149,000	\$3.83	\$1.51	\$5.34
		2	149,001	447,000	\$4.07	\$1.51	\$5.58
		3	447,001	745,000	\$4.71	\$1.51	\$6.22
		4	745,001	1,043,000	\$6.31	\$1.51	\$7.82
		5	1,043,001	Up	\$8.71	\$1.51	\$10.22
6"	\$3,098	1	0	327,000	\$3.83	\$1.51	\$5.34
		2	327,001	981,000	\$4.07	\$1.51	\$5.58
		3	981,001	1,635,000	\$4.71	\$1.51	\$6.22
		4	1,635,001	2,289,000	\$6.31	\$1.51	\$7.82
		5	2,289,001	& Up	\$8.71	\$1.51	\$10.22

*WCWCD has a planned \$0.10 increase per year until the year 2026.

CONSTRUCTION WATER RATE (hydrant meters and flushing of new installations)

Meter Size	Rental		Deposit	Washington City	WCWCD*	Rate Per 1000 gallons
¾"	\$2.50/Day	\$75/Month	\$750	\$3.60	\$1.51	\$5.11
2 ½"	\$5.00/Day	\$150/Month	\$1500	\$3.60		

*WCWCD has a planned \$0.10 increase per year until the year 2026.

QUAIL LAKE RAW WATER RATE (delivered to Razor Ridge pond)

Meter Size	Base	Washington City	WCWCD *	Rate Per 1000 gallons
Varies	\$905	\$.08	\$1.51	\$1.59

*WCWCD has a planned \$0.10 increase per year until the year 2026.

Drought Management Plan Staging Schedule Fee: The usage/overage fee schedule to be used shall be based upon the then effective Drought Management Plan Stages. The

Drought Management Plan Ordinance, as amended from time to time, is incorporated into this resolution by reference and the four (4) stages of water availability / scarcity as referred to therein is incorporated herein by reference.

Drought Management Plan Staging		
<i>Stage</i>	<i>Rate Increase</i>	<i>Description</i>
1	-	Normal usage / Normal rate
2	10%	Reduction goal is 5-10% of peak use
3	25%	Reduction goal is 10-25% of peak use
4	50%	Reduction goal is 25-60% of peak use

Yearly Adjustment Review and Update: The Culinary Water Rates are to be reviewed and adjusted annually based on the Consumer Price Index and increased annually on July 1st of each year through 2026 to accommodate the \$0.10 increase from WCWCD. Said adjustments will occur automatically upon verification of the amount by the Public Works Director.

1. If any provision or clause of this resolution or the application thereof to any person or entity or circumstance is held to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such invalidity shall not affect other sections, provisions, clauses or applications hereof which can be implemented without the invalid provision(s), clauses(s) or application(s) hereof, and to this end the provisions and clauses of this resolution are declared to be severable.
2. This resolution supersedes or repeals the provision(s) of any ordinances(s) or resolutions(s) that is (are) inconsistent with the provisions of this resolution.
3. This Resolution shall take effect on August 31, 2023.

PASSED AND ORDERED POSTED, this 23rd day of August 2023.

WASHINGTON CITY

Kress Staheli, Mayor

ATTEST:

Tara Pentz, City Recorder

RESOLUTION R2023-XX
A RESOLUTION HONORING AND REMEMBERING
THE FORGOTTEN SHIP of WWII

WHEREAS, on May 29, 1903 the Secretary of the Navy, William H Moody, announced in Salt Lake City that a new battleship would be named after the State of Utah; and

WHEREAS, after WWI, the U.S.S Utah was converted to a target ship and set sail for Hawaii for one last time on September 14, 1941; and

WHEREAS, as the Japanese launched their brutal attack on Pearl Harbor, the U.S.S Utah became the first vessel struck at 8:01 A.M. HST by an aerial torpedo that slammed into the port side as the crew raised the flag on the fantail. This attack on Pearl Harbor left 2,403 Americans dead. As legacies of that tragic day, the hulls of two battleships - the U.S.S Arizona and the U.S.S Utah - remain in the waters of Pearl Harbor; and

WHEREAS, as the U.S.S Utah was sinking, Chief Water Tender, Peter Tomich, instead of escaping, headed down to his station where he ordered his crew to get out. Knowing that unless the boilers were secured, they would rupture and explode, he ignored his own evacuation order and moved from valve to valve, setting the gauges and releasing steam to stabilize and secure the boilers, thus preventing the ship from turning into a massive inferno from which no one would escape; and

WHEREAS, a total of 30 officers and 431 men survived the attack, in part because of Peter Tomich's heroic efforts. Yet 58 lost their lives and 54 sailors and a baby named Nancy remain entombed in the U.S.S Utah to this day; and

WHEREAS, the attack that President Roosevelt called, "a day that will live in infamy" did not translate into an infamous legacy for the U.S.S Utah and the 58 lives lost onboard. Rather much the opposite, the U.S.S Utah was dubbed by history "The forgotten Ship" with little recognition from the home front and the Navy, leading to obscurity and stories untold; and

WHEREAS, now 82 years removed, the time has come to, right the "SHIP", to

forgive history and reset the legacy and memory, bringing honor and respect to those that served and died on the U.S.S Utah once and for all, as well as the state for which she was named; and

THEREFORE, BE IT RESOLVED that the Washington City Council and Mayor declare an Annual Pearl Harbor Remembrance Day to be held on the 7th day of December each year. Washington City will conduct a ceremony to begin at 8:01AM on Pearl Harbor Remembrance Day to honor the lives lost on the U.S.S Utah so that the ship and her sailors are forgotten no more. Washington City Leadership encourages other municipalities and the State of Utah to do the same.

PASSED AND APPROVED, on this 23rd day of August 2023.

Washington City

Kress Staheli, Mayor

Attest:

Tara Pentz
City Recorder

COUNCIL MEMBERS OF WASHINGTON CITY, UTAH:

Brett Henderson	☐ Aye	☐ Nay
Craig Coats	☐ Aye	☐ Nay
Kurt F. Ivie	☐ Aye	☐ Nay
Kimberly Casperson	☐ Aye	☐ Nay
Ben Martinsen	☐ Aye	☐ Nay