WASHINGTON CITY
PLANNING COMMISSION MEETING
STAFF REVIEW

AGENDA ITEM:	4a
HEARING DATE:	November 01, 2023
ACTION REQUESTED:	C-23-14, A request for a Conditional Use Permit for a new LDS Church building located at 524 East Washington Parkway
APPLICANT:	Chad Spencer - Evans & Associates Architecture
OWNER:	The Church of Jesus Christ of Latter-Day Saints
ENGINEER:	David Peterson - Excel Engineering
REVIEWED BY:	Eldon Gibb - City Planner
RECOMMENDATION:	Recommend approval with conditions

Background

The applicant is requesting approval of a Conditional Use Permit to build a new LDS Church located at 524 East Washington Parkway. Churches are allowed in residential areas through the approval of a conditional use permit. The property is currently zoned Single-Family Residential - 6,000 Sq. Ft. Min. (R-1-6). Also, for the Planning Commissioners information, the City Council recently approved a height waiver for the steeple portion of the church to a maximum height of seventy-one feet and five inches (71’5”).

The new proposed church site is showing a (roughly) 24,000 square foot building, 281 parking stalls, and a pavilion area. The new church building will have an exterior consisting of brick with stucco accents (see attached elevations and site plan) and a generous landscaping plan surrounding the project.

Staff has reviewed the requested proposal and finds it to be in harmony with surrounding and existing developments, and would be a good addition to the area. If all the conditions are met, the project will be an asset to our community and staff would like to recommend approval of the Conditional Use Permit for the development of the proposed church site.

Recommendation

Staff recommends that the Planning Commision approve C-23-14, allowing for a new LDS Church to be located at 524 East Washington Parkway, based on the following findings and subject to the following conditions:

Findings

1. The proposed use, at the particular location, provides a service or facility which will contribute to the general well being of the neighborhood and community; and

2. That such use will not, under the circumstances of the particular case, be detrimental to the health, safety or general welfare of the persons residing or working in the vicinity, or injurious to property or improvements in the vicinity; and

3. The proposed use will comply with the regulations and conditions specified in this title and associating state and federal titles, for such use; and

4. The proposed use will conform to the intent of the general plan.

Conditions

1.The development of the site shall meet the requirements of City adopted codes.

2. A complete set of engineered construction drawings, with other required construction documents, shall be submitted for staff review and approval prior to the start of any construction and prior to the issuance of any required permits.

3. A detailed landscape plan showing plant species and irrigation methods for the site shall be included with the construction drawings for review and approval prior to the issuance of any permits.

4. All signs shall be located outside of the driveway visibility triangles.

5. All outdoor lighting shall be directed inward to the site.

6. Parking area standards shall be met, including the required number of parking spaces, the required number of disabled parking spaces and their loading zone area, parking space dimensions, and parking lot landscaping. These items shall be included in the construction drawings for review and approval prior to the issuance of any permits.

7. Areas for the collection of trash shall be adequately screened from public view.

8. A compliance letter for the recommendations of the geotechnical report shall be submitted prior to occupancy.

9. A traffic impact study will be required to be submitted to the Public Works Department for

review and approval prior to the issuance of building permits.

10. A road dedication extending Tortoise Rock Drive to Washington Parkway will be required to be accepted and approved by the City prior to occupancy of the building.

ea architecture

NARRATIVE

DATE:	July 31, 2023
PROJECT:	Sienna Hills &
	Washington UT East Stake
PROJECT ADDRESS:	Washington Parkway and Tortoise Rock Drive
	Washington, Utah

To Whom it May Concern,

The Church of Jesus Christ of Latter-day Saints is proposing to construct a new meetinghouse on parcel W-5-2-11-1311 in Washington, Utah. This meetinghouse will be a similar style to other meetinghouses located elsewhere in the city. The ridge of the proposed building is 31'-6 3/4" above the finish floor. The church is requesting a waiver for the steeple portion of the meetinghouse. The top of the steeple is 71'-5" above the finish floor. We appreciate your consideration of this waiver.

Thanks,
Chad Spencer
ea architecture

11576 south state street suite 103b • draper, utah 84020 • ph 801.553.8272 • fax 801.553.8273

Washington City
Where Dixie Began

WashingtonCity.org

PROJECT FLOW CARD **CUP-23-13 LDS Church Tortoise Rock Drive**

MEETING DATE **11/1/23 PC**

Planning	Reviewed. No comments	
Hillside	NA	
Public Works	Reviewed - no concerns. Full review of civil site construction plans will occur if CUP approved	
Engineer	Reviewed, no concerns	
Fire Dept.	No concerns with concept, will conduct FLS review with plan submittal	
Parks/Trails	Reviewed, No Comments	
Building dept	Reviewed no concerns	
Washington Power	No concerns over project scope or location	
Dixie Power	NA	
Economic Dev.	Reviewed. No Comments.	
Administrative	Reviewed. No Comments.	

Additional Comments:

A New Meetinghouse for:

Sienna Hills & Washington UT East Stake

Consultant	Consultant Name	Address		Contact	Phone	E-mail
ARCHITECT:	**Evans & Associates Architecture**	11576 South State Street #103B	Draper, Utah 84020	**Chad Spencer**	(801) 553-8272	*chad@studio-ea.com*
CIVIL ENGINEER:	**Excel Engineering, Inc.**	12 West 100 North #201	American Fork, Utah 84003	**David Peterson**	(801) 756-4504	*david@excelcivil.com*
LANDSCAPE ARCHITECT:	**PKJ Design Group**	3450 North Triumph Blvd, Suite 102	Lehi, Utah 84043	**Jeremy Ainsworth**	(801) 753-5644	*jainsworth@pkjdesigngroup.com*
ELECTRICAL ENGINEER:	**Envision Engineering**	**240 East Morris Avenue, Suite 200**	**Salt Lake City, Utah 84115**	**Scott Kingery**	**(801) 534-1130**	**skingery@envisioneng.com**

Vicinity Map



DRAWING INDEX

General		Landscaping	
G101	Cover Sheet	L100	Landscape Plan
Site Development		L101	Landscape Color Plan
C-ROS	Survey	L102	Landscape Plan
C201	Grading and Drainage Plan West	L103	Landscape Plan
C202	Grading and Drainage Plan East	L104	Landscape Plan
C203	Washington Parkway Grading and Utility Plan	L105	Landscape Plan
C204	Tortoise Rock Road Plan and Profile	L106	Materials Plan
C205	Sewer Extension Plan and Profile	L107	Edging Plan
C206	Utility Plan	L501	Landscape Details
C207	Erosion Control Plan	I100	Irrigation Overall
C208	BMP Details	I101	Irrigation Cover
C209	Storm Drain Details	I102	Irrigation Plan
C301	Electrical Site Plan	I103	Irrigation Plan
C302	Electrical Site Illumination Plan	I104	Irrigation Plan
C303	Electrical Site Details	I105	Irrigation Plan
C401	Architectural Site Plan	I501	Irrigation Details
C411	Enlarged Architectural Site Plan	I502	Irrigation Details
C412	Enlarged Architectural Site Plan	I503	Irrigation Details
C413	Enlarged Architectural Site Plan	Architectural	
C414	Enlarged Architectural Site Plan	A201	Building Elevations
C415	Enlarged Architectural Site Plan	A202	Building Elevations
C416	Enlarged Architectural Site Plan		
C417	Enlarged Architectural Site Plan		
C418	Enlarged Architectural Site Plan		
C501	Site Details		
C502	Site Details		
C503	Site Details		
C504	Site Details		
C511	Stair Sections		
C811	Pavilion Plans Views		
C812	Pavilion Plan Views		
C813	Pavilion Section and Detail Views		
C814	Pavilion Roof Views and Details		
ST101	Storage Building		

evans + associates architecture
11576 south state street, suite 103b, draper, utah 84020
phone 801-553-8272 fax 801-553-8273

Stamp

LICENSED ARCHITECT
PAUL ANTHONY EVANS
273770
STATE OF UTAH

A New Meetinghouse for:
Sienna Hills &
Washington UT East Stake
Parcel: W-5-2-11-1311
Tortoise Rock Drive
Washington, Utah

Project for:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

Revisions			
Mark	Date	Description	

Project Number
23-79

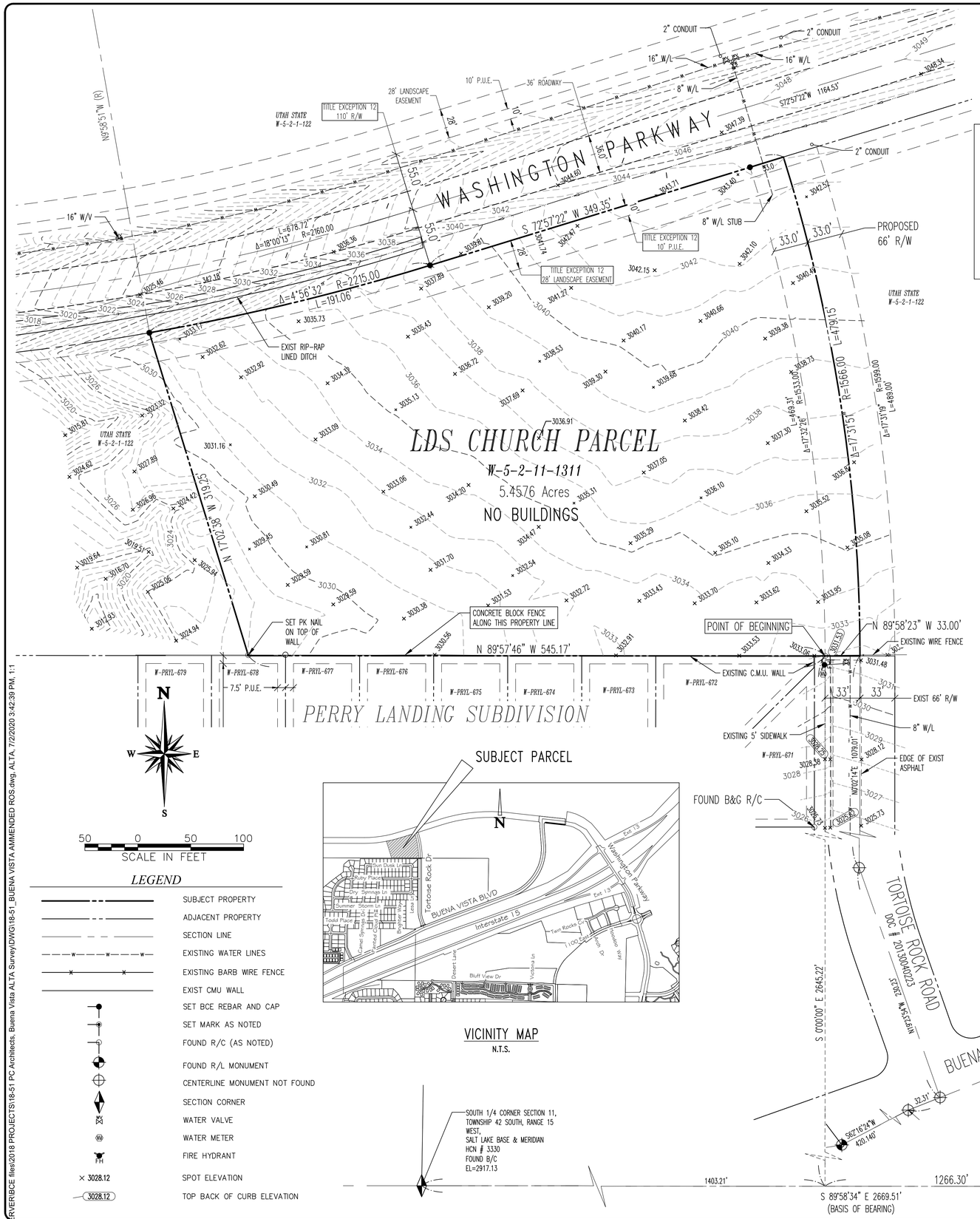
Plan Series
Heritage 23-2

Property Number
501-4560-22010101

Date
May 1, 2023

Sheet Title
COVER SHEET

Sheet
G101



LEGEND

- SUBJECT PROPERTY
- ADJACENT PROPERTY
- SECTION LINE
- EXISTING WATER LINES
- EXISTING BARB WIRE FENCE
- EXIST CMU WALL
- SET BCE REBAR AND CAP
- SET MARK AS NOTED
- FOUND R/C (AS NOTED)
- FOUND R/L MONUMENT
- CENTERLINE MONUMENT NOT FOUND
- SECTION CORNER
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- × 3028.12 SPOT ELEVATION
- 3028.12 TOP BACK OF CURB ELEVATION

VICINITY MAP
N.T.S.

REVISED ALTA/NSPS LAND TITLE SURVEY FOR:

CORP. OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

BUENA VISTA, WASHINGTON UTAH STAKE, PROJECT # 5014560

LOCATED IN THE NW 1/4 AND NE 1/4 OF SECTION 11 TOWNSHIP 42 SOUTH, RANGE 15 WEST, SALT LAKE BASE AND MERIDIAN WASHINGTON , UTAH

LOT DATA

AREA: 5.4576 ACRES
ADDRESS: NOT YET ASSIGNED
ZONED: R-1-6 (SINGLE FAMILY - MINIMUM 6000 SF)
REQUIRED SET BACKS ARE 25' MIN. FRONT AND 10' MIN. SIDE

SUBJECT PARCEL FALLS WITHIN FLOOD ZONE "X" AREA OF MINIMAL FLOOD HAZARD, PER FIRM MAP #49053C0815G EFFECTIVE 4/1/2009

PROJECT BENCHMARK IS BLM BRASS CAP FOUND AT THE SOUTH 1/4 CORNER OF SECTION 11 T42S, R15W, SLB&M HCN #3330 EL.=2917.13

SURVEYOR'S CERTIFICATE

COMMITMENT FOR TITLE INSURANCE No. 8-004652; EFFECTIVE DATE JUNE 15, 2020

TO:

INSURED - THE CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS, & THE CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS, A UTAH CORPORATION SOLE

INSURER - BACKMAN TITLE SERVICES, LTD

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1-5, 11, 13, 16, OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON JULY 19, 2018 AND JUNE 15, 2020.

MARC L. BROWN,
PROFESSIONAL LAND SURVEYOR
UTAH LICENSE #170223

PROFESSIONAL LAND SURVEYOR
MARC L. BROWN
170223
07-02-20
STATE OF UTAH

TITLE EXCEPTIONS

ITEMS 1, 2, 4-10, 13 DO NOT AFFECT SURVEY EXCEPT AS NOTED HEREON.

3. EASEMENTS, LIENS, ENCUMBRANCES, OR CLAIMS OF EASEMENTS, LIENS OR ENCUMBRANCES WHICH ARE NOT SHOWN BY THE PUBLIC RECORDS.

11. A RIGHT OF WAY AND EASEMENT IN FAVOR OF CP NATIONAL CORPORATION, TO LAY, MAINTAIN, OPERATE, REPAIR, INSPECT, PROTECT, REMOVE AND REPLACE ELECTRIC POWER LINES. RECORDED: SEPT 20, 1981 DOC 231670

EXACT LOCATION UNDISCLOSED. NO EVIDENCE OF POWER UTILITIES FOUND.

12. ROAD DEDICATION PLAT OF WASHINGTON PARKWAY AND MAIN STREET, RECORDED: MAY 29, 2018. DOC 20180022079 INCLUDES:
LANDSCAPE EASEMENT - NORTHERLY 28 FEET,
PUBLIC UTILITY EASEMENT - NORTHERLY 10 FEET.

DEED DESCRIPTIONS

PARCEL 1

BEGINNING AT THE NORTHEAST CORNER OF THE PERRY LANDING SUBDIVISION. SAID POINT ALSO BEING THE NORTHWEST CORNER OF TORTOISE ROCK DRIVE (A PUBLIC ROAD DOC. #20130040223). NOTE: SAID POINT OF BEGINNING BEING LOCATED N89°58'34"W, 1,266.30 FEET AND N00°00'00"E, 2,645.22 FEET FROM THE SOUTHEAST CORNER OF SECTION 11, TOWNSHIP 42 SOUTH, RANGE 15 WEST, OF THE SALT LAKE BASE AND MERIDIAN, BASED ON THE OFFICIAL ROAD DEDICATION PLAT OF SAID TORTOISE ROCK DRIVE; THENCE N89°57'46"W, ALONG THE NORTH SUBDIVISION BOUNDARY LINE OF SAID PERRY LANDING, 475.71 FEET; THENCE DEPARTING SAID LINE AND RUNNING N14°25'36"W, 332.43 FEET TO A POINT LOCATED ON THE "PROPOSED" SOUTHERLY RIGHT-OF-WAY LINE OF WASHINGTON PARKWAY, SAID POINT ALSO BEING LOCATED ON A NON-TANGENT CURVE TO THE LEFT, HAVING A RADIUS OF 2,212.00 FEET, AND A CENTRAL ANGLE OF 04°48'45". (RADIAL LINE BEARS N12°41'11"W); THENCE EASTERLY ALONG SAID RIGHT-OF-WAY AND CURVE, 185.80 FEET; THENCE CONTINUING ALONG SAID RIGHT-OF-WAY, N72°57'03"E, 354.53 FEET TO A POINT LOCATED ON THE "PROPOSED" CENTERLINE OF THE TORTOISE ROCK DRIVE EXTENSION, SAID POINT ALSO BEING LOCATED ON A NON-TANGENT CURVE TO THE RIGHT, HAVING A RADIUS OF 1,566.00 FEET, AND A CENTRAL ANGLE OF 17°35'07". (RADIAL LINE BEARS S72°02'07"W); THENCE DEPARTING SAID WASHINGTON PARKWAY AND RUNNING SOUTHERLY ALONG THE CENTERLINE OF SAID TORTOISE ROCK DRIVE AND CURVE, 480.64 FEET TO A POINT LOCATED ON THE NORTH DEDICATED LINE OF SAID TORTOISE ROCK DRIVE; THENCE N89°58'23"W, ALONG SAID LINE, 33.00 FEET TO THE POINT OF BEGINNING.

PARCEL 2

BEGINNING AT THE NORTHEAST CORNER OF THE PERRY LANDING SUBDIVISION, SAID POINT ALSO BEING THE NORTHWEST CORNER OF TORTOISE ROCK DRIVE (A PUBLIC ROAD DOC.#20130040223). NOTE: SAID POINT OF BEGINNING BEING LOCATED N89°58'34"W, 1,266.30 FEET AND N00°00'00"E 2645.22 FEET FROM THE SOUTHEAST CORNER OF SECTION 11, TOWNSHIP 42 SOUTH, RANGE 15 WEST OF THE SALT LAKE BASE AND MERIDIAN, BASED ON THE OFFICIAL ROAD DEDICATION OF SAID TORTOISE ROCK DRIVE; THENCE N89°57'46"W, 475.71 FEET ALONG THE NORTH SUBDIVISION BOUNDARY LINE OF SAID PERRY LANDING TO THE TRUE POINT OF BEGINNING; THENCE ALONG SAID BOUNDARY LINE N89°57'46"W 69.46 FEET, THENCE N17°02'38"W, 319.25 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF WASHINGTON PARKWAY, SAID POINT ALSO BEING LOCATED ON A NON-TANGENT CURVE TO THE LEFT, HAVING A RADIUS OF 2,215.00 FEET, AND A CENTRAL ANGLE OF 02°07'15", (RADIAL LINE BEARS N09°58'51"W); THENCE EASTERLY 81.99 FEET ALONG SAID RIGHT-OF-WAY AND CURVE; THENCE S14°25'36"E 331.43 FEET TO THE TRUE POINT OF BEGINNING.

NOTE: BASIS OF BEARING IS FROM PERRY LANDING SUBDIVISION PLAT AND TORTOISE ROCK DRIVE ROAD DEDICATION PLAT; THIS RESULTS IN THE BEARINGS ON WASHINGTON PARKWAY ROAD DEDICATION PLAT (DOC #S01800220079) TO BE ROTATED 0°0'09" CLOCKWISE TO MATCH.

SURVEYED BOUNDRY DESCRIPTION

BEGINNING AT THE NORTHEAST CORNER OF THE PERRY LANDING SUBDIVISION, SAID POINT ALSO BEING THE NORTHWEST CORNER OF TORTOISE ROCK DRIVE (A PUBLIC ROAD DOC.#20130040223). NOTE: SAID POINT OF BEGINNING BEING LOCATED N89°58'34"W, 1,266.30 FEET AND N00°00'00"E 2645.22 FEET FROM THE SOUTHEAST CORNER OF SECTION 11, TOWNSHIP 42 SOUTH, RANGE 15 WEST OF THE SALT LAKE BASE AND MERIDIAN, BASED ON THE OFFICIAL ROAD DEDICATION OF SAID TORTOISE ROCK DRIVE; THENCE N89°57'46"W, ALONG THE NORTH SUBDIVISION BOUNDARY LINE OF SAID PERRY LANDING, 545.17 FEET; THENCE DEPARTING SAID LINE N17°02'38"W, 319.25 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF WASHINGTON PARKWAY. SAID POINT ALSO BEING LOCATED ON A NON-TANGENT CURVE TO THE LEFT, HAVING A RADIUS OF 2,215.00 FEET, AND A CENTRAL ANGLE OF 07°03'47", (RADIAL LINE BEARS N09°58'51"W); THENCE EASTERLY ALONG SAID RIGHT-OF-WAY AND SAID CURVE, 273.05 FEET; THENCE CONTINUING ALONG SAID RIGHT-OF-WAY, N72°57'22"E 349.35 FEET TO A POINT LOCATED ON THE "PROPOSED" EXTENDED CENTERLINE OF TORTOISE ROCK DRIVE, SAID POINT ALSO BEING LOCATED ON A NON-TANGENT CURVE TO THE RIGHT, HAVING A RADIUS OF 1,566.00 FEET, AND A CENTRAL ANGLE OF 17°31'51". (RADIAL LINE BEARS S72°57'22"W); THENCE DEPARTING SAID WASHINGTON PARKWAY AND RUNNING SOUTHERLY ALONG THE "PROPOSED" CENTERLINE OF SAID TORTOISE ROCK DRIVE AND CURVE, 479.15 FEET TO A POINT LOCATED ON THE NORTH DEDICATED LINE OF SAID TORTOISE ROCK DRIVE; THENCE N89°58'23"W, ALONG SAID LINE, 33.00 FEET TO THE POINT OF BEGINNING.

CONTAINS 5.4576 ACRES.

BASIS OF BEARING IS FROM PERRY LANDING SUBDIVISION PLAT AND TORTOISE ROCK DRIVE ROAD DEDICATION PLAT; THIS RESULTS IN THE BEARINGS ON WASHINGTON PARKWAY ROAD DEDICATION PLAT (DOC #S01800220079) TO BE ROTATED 0°0'09" CLOCKWISE TO MATCH.

NARRATIVE

THIS ALTA/NSPS LAND TITLE SURVEY WAS DONE AT THE REQUEST OF THE CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS.

THE BASIS OF BEARINGS IS N89°58'34"E BETWEEN THE FOUND MONUMENTS ON THE SOUTH SECTION LINE OF SECTION 12 T42S, R15W, SLB&M AS SHOWN ON THIS PLAT. ALL OTHER MONUMENTATION FOUND OR SET IN THE COURSE OF THIS SURVEY IS AS SHOWN ON THIS PLAT.

THERE IS NO EVIDENCE OF EARTH WORK OR BUILDING CONSTRUCTION. WASHINGTON PARKWAY IS A RECENTLY CONSTRUCTED PAVED ROAD.

REFERENCED DOCUMENTS

R/S 7405-18

PERRY LANDING SUBDIVISION DOC #20140010500

TORTOISE ROCK ROAD DEDICATION DOC # 20130040223

WASHINGTON PARKWAY ROAD DEDICATION DOC # 20180022079

REVISIONS			
NO.	DESCRIPTION	DATE	BY

BROWN CONSULTING ENGINEERS, P.C.
CIVIL ENGINEERING-LAND SURVEYING-LAND PLANNING
957 WEST 1000 SOUTH, SUITE 5
SPANISH FORK, UTAH 84660
(435) 628-4700 FAX (435) 628-4725

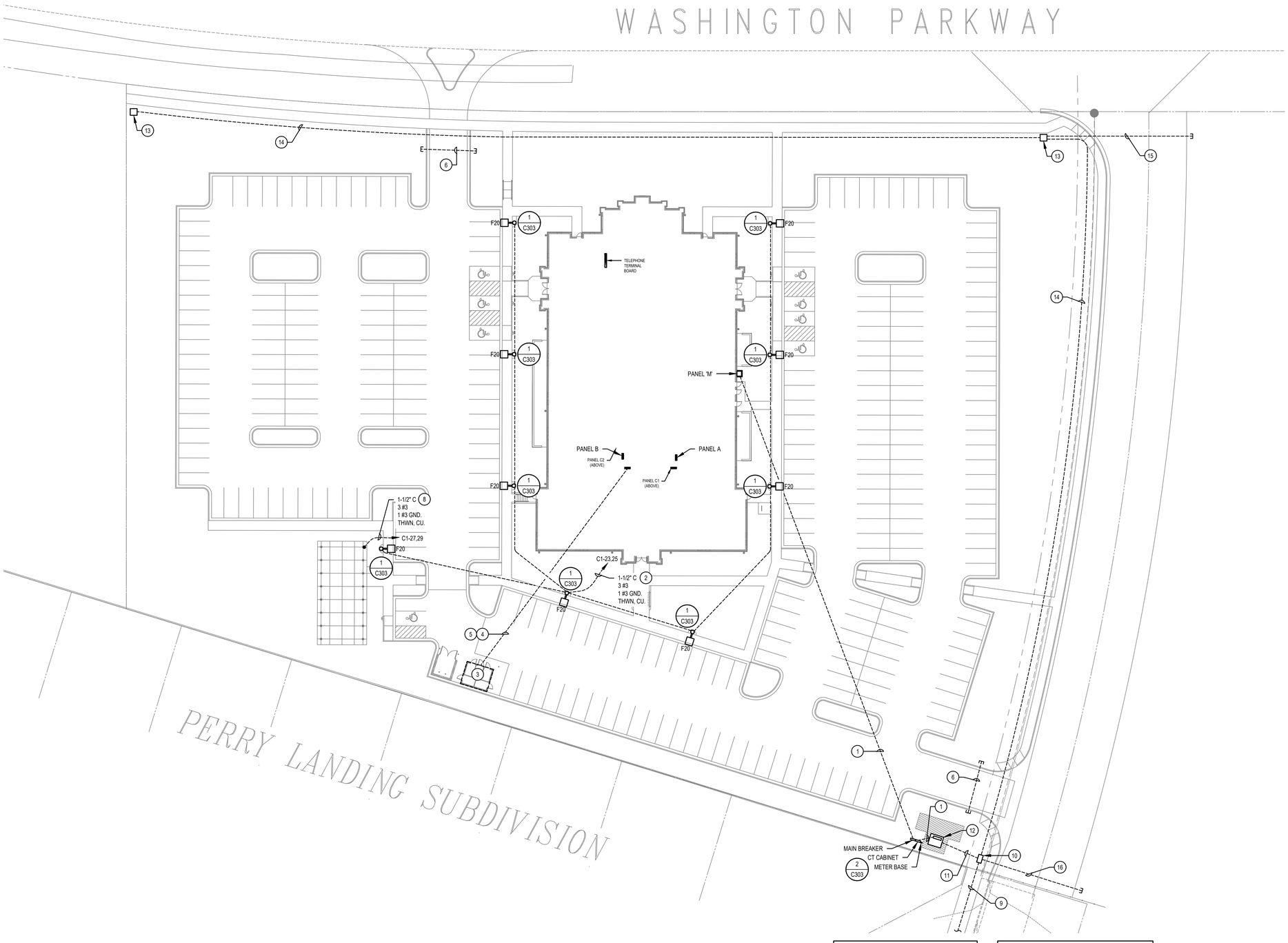
REVISED ALTA/NSPS SURVEY
BUENA VISTA, PROJECT # 5014560
FOR
CORP. OF THE PRES. BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
LOCATED IN THE NW 1/4 & NE 1/4 OF SEC. 11, T42S, R15W, S.L.B. & M.
WASHINGTON, UTAH

CHECKED BY : MLB
DRAWN BY : ADJ
DATE : JUNE 2020
JOB NO. : 18-51

SCALE : 1"=50'

SHEET NO. : C-ROS

N:\RIVERBCE files\2018 PROJECTS\18-51 PC Architects, Buena Vista ALTA Survey\DWG\18-51_BUENA VISTA AMMENDED ROS.dwg, ALTA, 7/22/2020 3:42:39 PM, 1:1



ELECTRICAL SITE PLAN

SCALE: 1" = 40'-0"

NORTH

WASHINGTON CITY POWER REPRESENTATIVE:
MIKE RUESCH
435.655.3300

CENTURYLINK REPRESENTATIVE:
<name>
801.###.####

COMCAST REPRESENTATIVE:
<name>
801.###.####

WASHINGTON CITY POWER CERTIFYED CONTRACTORS:
TRI STATE ELECTRIC - 435.656.1062
KV ELECTRIC - 435.673.4696
SNOW ELECTRIC - 435.673.6653
KRS ELECTRIC - 855.203.6312
HUNT ELECTRIC - 435.233.6524
SOUTHLAND ELECTRIC - 435.674.5456
TRIPLE E ELECTRIC - 435.627.2990

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ENVISION ENGINEERING
240 East Morris Ave, Suite 200
South Salt Lake City, UT 84115
P (801) 534-1130
P (801) 534-1080
www.envisioneng.com

GENERAL NOTES

1. ALL CONDUITS THAT ARE 1" AND LARGER THAT ARE ROUGH-IN UNDER THE SLAB SHALL BE PLACED UNDER THE VAPOR BARRIER.
2. ALL BELOW GRADE CONDUITS AND LIGHT POLE CONDUITS SHALL BE PLACED BELOW THE GRAVEL BASE. DO NOT INSTALL CONDUIT ON TOP OF GRAVEL, DIRECTLY BELOW THE SIDEWALK / BUILDING SLAB OR WITHIN THE GRAVEL BASE.

UTILITY REQUIREMENTS

1. BURY CONDUITS PER UTILITY REQUIREMENTS. REFER TO SHEET C3.03 FOR TYPICAL TRENCHING REQUIREMENTS.
2. VERIFY AND COMPLY WITH ALL WASHINGTON CITY POWER, CENTURYLINK AND COMCAST REQUIREMENTS.
3. INCLUDE IN BID ALL LINE EXTENSION FEES, UNDERGROUND FEES, AND ALL MISC. FEES CHARGED BY WASHINGTON CITY POWER, CENTURYLINK AND COMCAST.

KEYED NOTES (#)

1. REFER TO SINGLE LINE DIAGRAM FOR CONDUIT AND CONDUCTOR REQUIREMENTS.
2. ROUTE THROUGH LIGHTING CONTROL PANEL. SEE DIAGRAM ON SHEET E607 FOR ADDITIONAL INFORMATION.
3. REFER TO ELECTRICAL DRAWINGS FOR STORAGE BUILDING ELECTRICAL REQUIREMENTS.
4. EXTEND ONE (1) 1-1/4" CONDUIT WITH BRANCH CIRCUIT C1-19,21 TO FEED STORAGE BUILDING.
5. SEAL CONDUITS AS REQUIRED SO WATER DOES NOT RUN BACK INTO THE BUILDING FROM THE STORAGE BUILDING.
6. TWO (2) 4" CONDUIT SLEEVES.
7. EXTEND ONE (1) 4" CONDUITS WITH TRUE TAPES FROM THE TELEPHONE TERMINAL BOARD TO THE LOCATION SHOWN. UTILIZE LONG SWEEP ELBOWS. COORDINATE EXACT STUB LOCATION AND ALL REQUIREMENTS WITH DIRECT COMMUNICATIONS PRIOR TO ANY ROUGH-IN.
8. PROVIDE ALL REQUIRED CONDUIT, BRANCH CIRCUITS, LIGHT FIXTURES, RECEPTACLES, LOCKABLE NON-FUSED, NEMA 3R, 30A, 2 POLE DISCONNECT AND LIGHTING CONTROLS FOR PAVILION. REFER TO THE PAVILION DRAWINGS FOR LOCATIONS, QUANTITIES AND OTHER REQUIREMENTS. SEE E604 FOR FIXTURE REQUIREMENTS.
9. TO PJ0407 400' TO THE SOUTH. ALL TRENCHING, CONDUIT, CONDUCTORS AND TERMINATIONS ARE BY THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR.
10. NEW WASHINGTON CITY POWER PRIMARY VAULT AND BASE ARE PROVIDED BY THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR. ALL REQUIRED TERMINATIONS ARE BY THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR.
11. PRIMARY FEEDER FROM PRIMARY VAULT TO THE UTILITY TRANSFORMER INCLUDING ALL TRENCHING, CONDUIT, CONDUCTORS AND TERMINATIONS ARE BY THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR.
12. UTILITY TRANSFORMER AND BASE ARE PROVIDED BY WASHINGTON CITY POWER CERTIFIED CONTRACTOR. ALL PRIMARY TERMINATIONS ARE BY THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR.
13. NEW WASHINGTON CITY POWER PSE 9 SWITCHGEAR AND BASE ARE PROVIDED BY THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR. ALL REQUIRED TERMINATIONS ARE BY THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR.
14. NEW PRIMARY FEEDER INCLUDING ALL TRENCHING, CONDUIT, CONDUCTORS AND TERMINATIONS ARE BY THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR.
15. EXTEND EIGHT (8) 3" CONDUIT FROM THE SWITCHGEAR TO THE EAST SIDE OF TORTOISE ROCK DRIVE. MARK EXACT STUB LOCATION ON THE REDLINE AS-BUILT DRAWINGS. ALL TRENCHING AND CONDUIT ARE PROVIDED BY THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR.
16. EXTEND FOUR (4) 3" CONDUIT FROM THE SWITCHGEAR TO THE EAST SIDE OF TORTOISE ROCK DRIVE. MARK EXACT STUB LOCATION ON THE REDLINE AS-BUILT DRAWINGS. ALL TRENCHING AND CONDUIT ARE PROVIDED BY THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR.
17. IF THE THE WASHINGTON CITY POWER CERTIFIED CONTRACTOR AND BUILDING CONTRACTOR ARE NOT THE SAME CONTRACTOR, THE BUILDING CONTRACTOR SHALL CONTRACT WITH ONE OF THE WASHINGTON CITY POWER CERTIFIED CONTRACTORS FOR THE UTILITY INSTALLATION. INCLUDE ALL REQUIRED UTILITY INSTALLATION COSTS IN THE ELECTRICAL BID.

evans + associates architecture
11576 south state street, suite 103b, draper, utah 84020
phone 801-553-8272 fax 801-553-8273

Stamp

REGISTERED PROFESSIONAL ENGINEER
DAVID P. WHITTON
No.264397
STATE OF UTAH

2023/09/29

A New Meetinghouse for:
Sienna Hills &
Washington UT East Stake
Parcel: W-5-2-11-1311
Tortoise Rock Drive
Washington, Utah

Project for:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

Revisions		
Mark	Date	Description

Project Number
23-79
Plan Series
Heritage 23-2
Property Number
501-4560-22010101
Date
May 1, 2023

Sheet Title
ELECTRICAL SITE PLAN

Sheet
C301



East Elevation

SCALE: 1/8" = 1'-0"

1



North Elevation

SCALE: 1/8" = 1'-0"

2

Exterior Materials

North Elevation	
Brick Veneer:	1,911 sf / 76.7%
Precast Concrete:	99 sf / 4.0%
Openings:	483 sf / 19.4%
East Elevation	
Brick Veneer:	1,104 sf / 86.5%
Precast Concrete:	32 sf / 2.5%
Openings:	140 sf / 11.0%
South Elevation	
Brick Veneer:	1,957 sf / 78.5%
Precast Concrete:	101 sf / 4.1%
Openings:	435 sf / 17.4%
West Elevation	
Brick Veneer:	2,277 sf / 92.5%
Precast Concrete:	47 sf / 1.9%
Openings:	138 sf / 5.6%
Total	
Brick Veneer:	7,250 sf / 83.1%
Precast Concrete:	279 sf / 3.2%
Openings:	1,196 sf / 13.7%

Revision Schedule

#	Description	Date

ea architecture
11576 South State Street, Suite 103b
Draper, Utah 84020

Project for:

THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

A New Building for

Project Number:	23-76
Property Number:	501-2393-22010101

May 1, 2023

Exterior Elevations

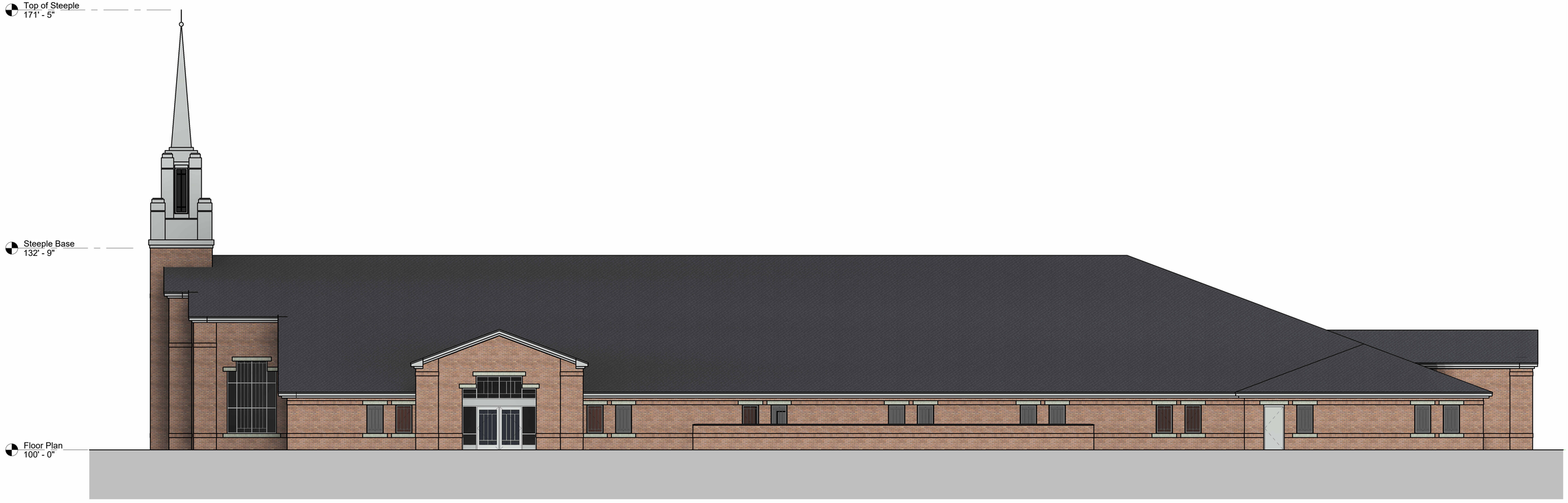
A202



West Elevation

SCALE: 1/8" = 1'-0"

1



South Elevation

SCALE: 1/8" = 1'-0"

2

Exterior Materials

North Elevation	
Brick Veneer:	1,911 sf / 76.7%
Precast Concrete:	99 sf / 4.0%
Openings:	483 sf / 19.4%
East Elevation	
Brick Veneer:	1,104 sf / 86.5%
Precast Concrete:	32 sf / 2.5%
Openings:	140 sf / 11.0%
South Elevation	
Brick Veneer:	1,957 sf / 78.5%
Precast Concrete:	101 sf / 4.1%
Openings:	435 sf / 17.4%
West Elevation	
Brick Veneer:	2,277 sf / 92.5%
Precast Concrete:	47 sf / 1.9%
Openings:	138 sf / 5.6%
Total	
Brick Veneer:	7,250 sf / 83.1%
Precast Concrete:	279 sf / 3.2%
Openings:	1,196 sf / 13.7%

Revision Schedule

#	Description	Date

ea architecture
11576 South State Street, Suite 103b
Draper, Utah 84020

Project for:

THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

A New Building for

Project Number: 23-76

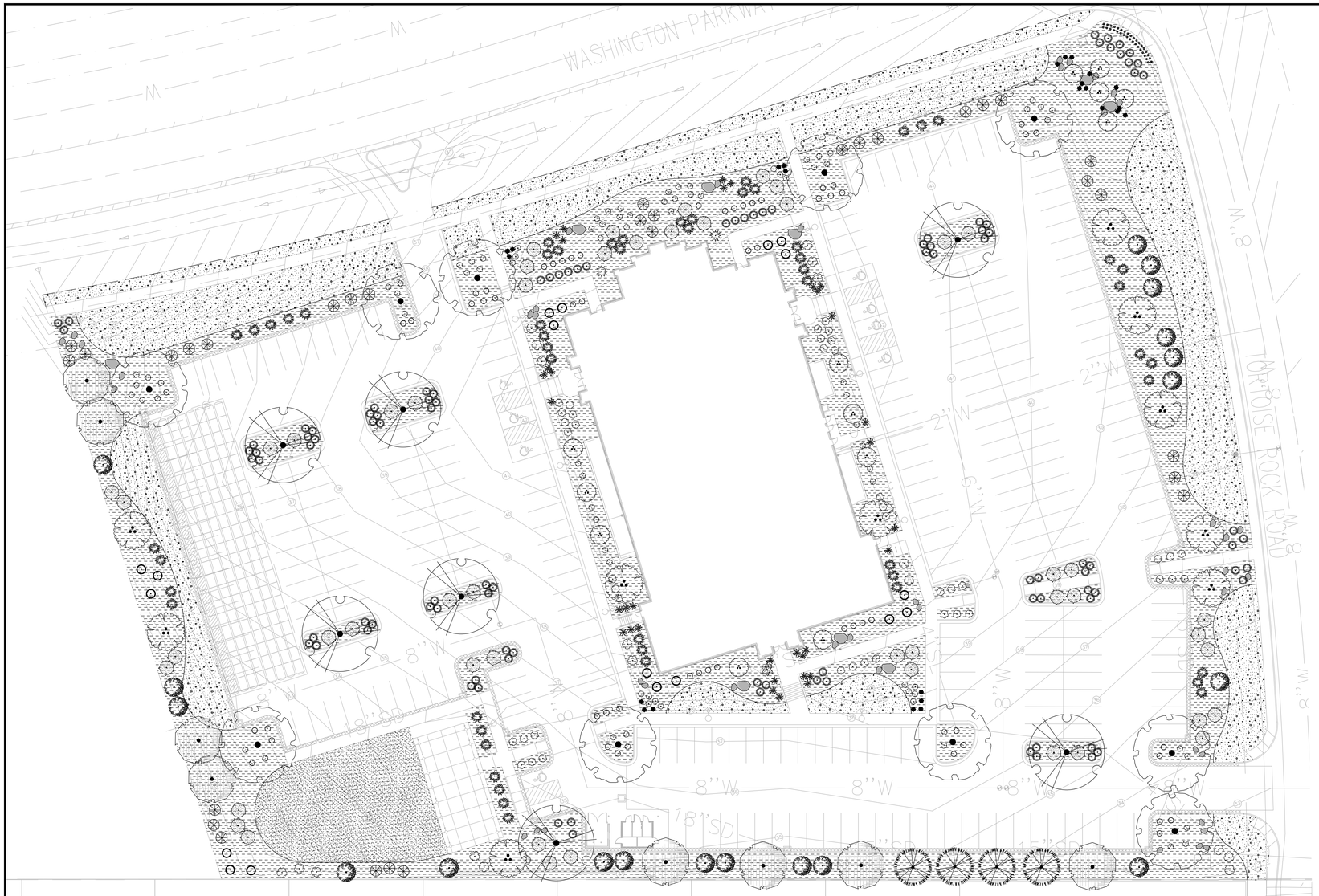
Property Number: 501-2393-22010101

May 1, 2023

Exterior Elevations

A201

Hampton



SITE MATERIALS LEGEND

NOTE: SITE MATERIALS QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE)

SYMBOL	1 LANDSCAPE DESCRIPTION	QTY
1-01	NON-SEEDING BERMUDA GRASS SODDED LAWN AREA ONLY IN WASHINGTON COUNTY. LAWN AREAS SHALL BE SOD. NEW TURF AREAS TO BE SODDED WITH DESERT BERMUDA OR APPROVED EQUAL. FINE LEVEL ALL AREAS PRIOR TO LAYING SOD. ALL LAWN AREAS TO RECEIVE MIN. 6" DEPTH OF QUALITY TOPSOIL. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED LAWN. ALL LAWN AREAS SHALL BE IRRIGATED WITH 100% COVERAGE BY POP-UP SPRAY HEADS AND GEAR-DRIVEN ROTORS. ALL DECIDUOUS AND CONIFER TREES PLANTED WITHIN SOD AREAS SHALL HAVE A FOUR FOOT(4') DIAMETER TREE RING COVERED WITH CHOCOLATE BROWN BARK MULCH, NO SHREDDED FINES. SUBMIT SAMPLES TO BE APPROVED BY LANDSCAPE ARCHITECT AND OWNER BEFORE INSTALLATION. SEE REDDESERTSODFARM.COM	5,208 sf
1-10	1" MINUS TAN CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. ROCK MULCH PLANTING AREAS TO RECEIVE MIN. 12" DEPTH OF QUALITY TOPSOIL. WHERE PLANTING IS SPARSE, ADDITIONAL TOPSOIL IS NOT NECESSARY. PREPARE A HOLE TWICE THE WIDTH OF THE CONTAINER, WATER IN PLANT, BACKFILL WITH A 3:1 RATIO OF SOIL TO COMPOST. TAMP LIGHTLY AND WATER AGAIN. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED PLANTINGS. PROVIDE 3" DEPTH OF ROCK MULCH TOP DRESSING. KEEP ROCK AWAY FROM TOP OF ROOT BALL OF ALL PLANT MATERIAL. IF REQUIRED BY CITY, INSTALL DEWITT 5OZ WEED BARRIER LANDSCAPE FABRIC UNDER ALL ROCK AREAS. KEEP WEED BARRIER 1 FOOT AWAY FROM EDGE OF ROOT BALL OF ALL PLANT MATERIAL. IF WEED BARRIER IS NOT REQUIRED OR INSTALLED, AT OWNER'S APPROVAL, USE TREFLAN 10 AS A PRE-EMERGENT. APPLY ACCORDING TO LABEL DIRECTIONS AFTER PLANTING AND AFTER APPLYING MULCH. THIS AREA WILL ALSO NEED AN ANNUAL MAINTENANCE PROGRAM. SUBMIT PROGRAM TO OWNER.	52,007 sf
1-11	1" MINUS GREY CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. ROCK MULCH PLANTING AREAS TO RECEIVE MIN. 12" DEPTH OF QUALITY TOPSOIL. WHERE PLANTING IS SPARSE, ADDITIONAL TOPSOIL IS NOT NECESSARY. PREPARE A HOLE TWICE THE WIDTH OF THE CONTAINER, WATER IN PLANT, BACKFILL WITH A 3:1 RATIO OF SOIL TO COMPOST. TAMP LIGHTLY AND WATER AGAIN. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED PLANTINGS. PROVIDE 3" DEPTH OF ROCK MULCH TOP DRESSING. KEEP ROCK AWAY FROM TOP OF ROOT BALL OF ALL PLANT MATERIAL. IF REQUIRED BY CITY, INSTALL DEWITT 5OZ WEED BARRIER LANDSCAPE FABRIC UNDER ALL ROCK AREAS. KEEP WEED BARRIER 1 FOOT AWAY FROM EDGE OF ROOT BALL OF ALL PLANT MATERIAL. IF WEED BARRIER IS NOT REQUIRED OR INSTALLED, AT OWNER'S APPROVAL, USE TREFLAN 10 AS A PRE-EMERGENT. APPLY ACCORDING TO LABEL DIRECTIONS AFTER PLANTING AND AFTER APPLYING MULCH. THIS AREA WILL ALSO NEED AN ANNUAL MAINTENANCE PROGRAM. SUBMIT PROGRAM TO OWNER.	23,465 sf

SYMBOL	1 LANDSCAPE DESCRIPTION	QTY
1-26	BOULDERS - DECORATIVE	51
1-27	6" CONCRETE MOW CURB	1,408 lf
1-28	5" DEEP STEEL EDGING - INSTALL PER MANUFACTURER SPECIFICATION.	540 lf

Design Criteria

Eco-Region	10.2- Southern Warm Desert
Climate zone	Zone 8
Zoning ordinance	Washington City
Water availability	Secondary Water - POC on Irrigation Plan: 70-80 PSI provided by City
Soil type	See topsoil test report
Slopes	flat
Wind	West
Setbacks/easements	No special easements
Microclimates	Nothing unique to site
Soil ph	See topsoil test report
Lawn Area Percentage	8%
Undeveloped property	N/A
Irrigation system	Secondary Water

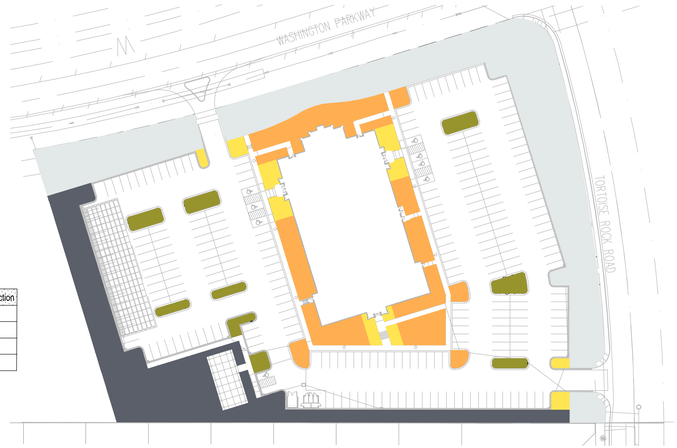
* Refer to AEC Design Guidelines

Plant Coverage

	Shrubs-Mature Coverage	Actual%	Tree Purpose	Actual#	% Required by Local Jurisdiction
Street Frontage	25% - 50%	50%	Frame Building	(6)	50%
Primary Entries	30% - 55%	50%	Frame Entry	(4)	50%
Building Perimeter	25% - 45%	50%	Accent Building	(16)	50%
Perimeter	5% - 15%	50%	Screen Lot	(22)	50%

LANDSCAPE DATA

Total Site Area	4.92 Acre	% of Site/Landscape	%/# Required by Local Jurisdiction
Total Landscape Area	1.8 Acre	37%	N/A
Shrubs/Groundcover	468 Shrubs	50%	50%



PROTOTYPICAL PLANT COVERAGE MAP

PLANT COVERAGE DIAGRAM	
SYMBOL	COVERAGE AREA
	STREET FRONTAGE
	PRIMARY ENTRIES
	BUILDING PERIMETER
	PERIMETER SIDES
	PERIMETER REAR

*NOTE: THIS DIAGRAM IS USED TO DEFINE PLANT COVERAGE AREAS. CALCULATE PLANT COVERAGE AND ENTER INFORMATION IN THE PLANT COVERAGE TABLE.

SITE REQUIREMENT CALCULATIONS

STREET FRONTAGE
NO STREET TREES OR SHRUBS REQUIRED AS PER CITY

PLANT COVERAGE COUNT:	**REQUIRED:**	**PROVIDED:**
	50%	50%
MAXIMUM TURF AREA OF LANDSCAPE:	<8%	8% (5,986 s£)

IRRIGATED AREA (14,338 sq. ft.)

PKJ DESIGN GROUP
Landscape Architecture & Planning & Visualization
3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 753-5644
www.pkjdesigngroup.com

811 BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC
1-800-662-4111
www.bluestakes.org

0' 15' 30' 60' 120'
GRAPHIC SCALE: 1" = 30'

evans + associates architecture
planning + interiors
phone 801-553-8272 fax 801-553-8273

Stamp
LICENSED LANDSCAPE ARCHITECT
JEREMY AINSWORTH
8128727 5301
ELECTRONIC SEAL
STATE OF UTAH

A New Building for
SIENNA HILLS
Buena Vista RD.
Washington, Utah

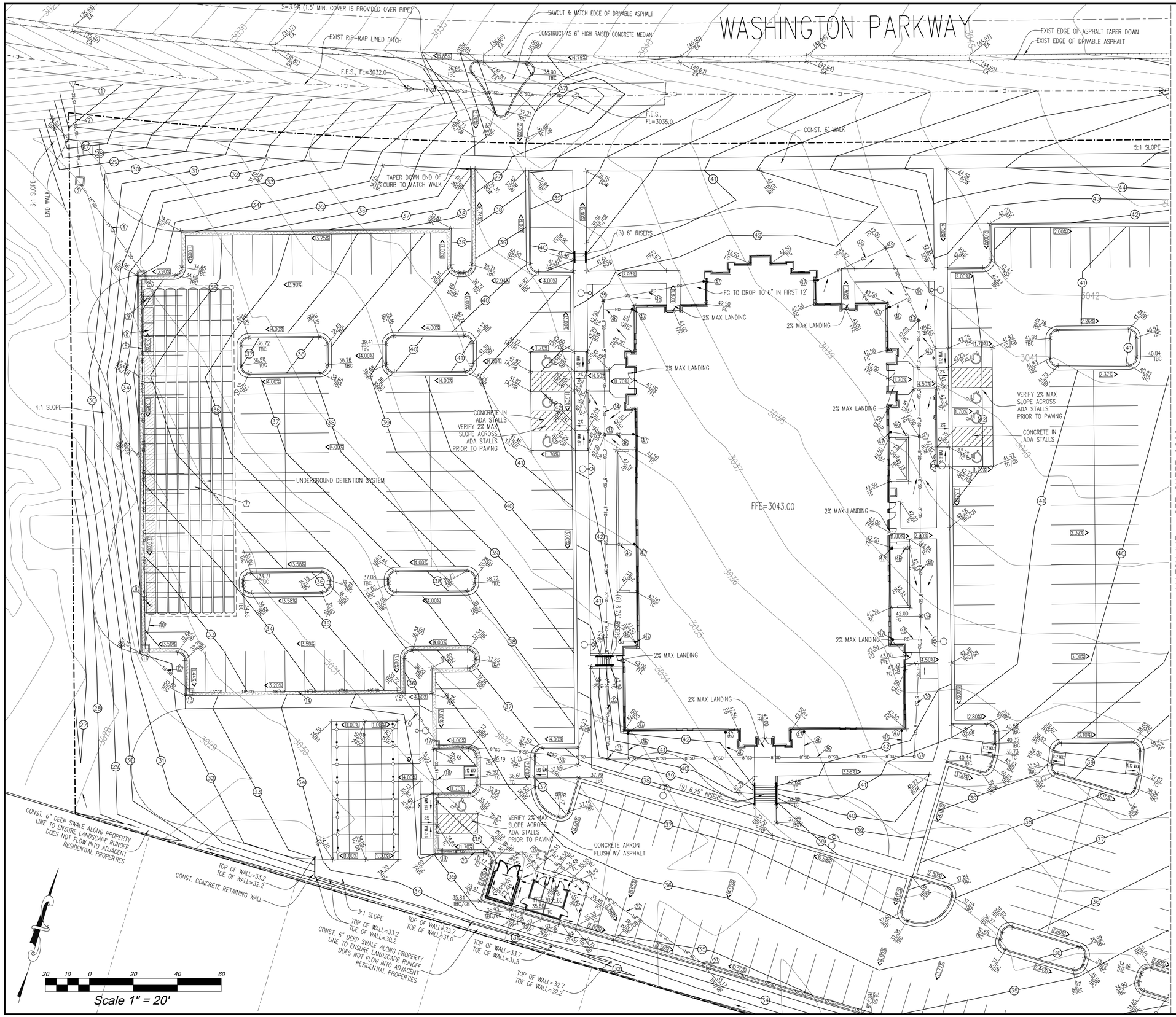
Project for:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

Revisions		
Mark	Date	Description

Project Number
UT23075 (22-59)
Plan Series
Stake Center
Property Number
502-1091-22020101
Date
October 12, 2023

Sheet Title
LANDSCAPE PLAN

Sheet
L100



STORM DRAIN KEYED NOTES

1. CONST. F.E.S., FL=3025.00, F.E.S TO DISCHARGE IN TO EXIST GRAVEL SWALE.
2. CONST. 43.9 L.F. 15" ADS HP STORM PIPE @ S=1.7%
3. CONST. 3'X3' BOX, GRATE=3029.50, 15" IE THRU=3025.75
4. CONST. 48.8 L.F. 15" ADS HP STORM PIPE @ S=1.7%
5. CONST. 3'X5' OVERFLOW BOX W/ BAFFLE & 4.25" ORIFICE PLATE INSTALLED ON THE BAFFLE, TBC=3033.96, GRATE=3033.46, TOP OF BAFFLE=3031.04, ORIFICE FL=3026.60, 12" IE IN=3026.60, 15" IE OUT=3026.60, BOTTOM OF BOX=3025.60
6. CONST. 150.0 L.F. 12" PERFORATED ADS PIPE @ S=0.1%, WRAP PERFORATED PIPE IN FABRIC, CAP 12" PIPE, FL=3026.75
7. CONST. CULTEC UNDERGROUND STORAGE SYSTEM WITH (168) RECHARGER 330XLHD CHAMBERS. INSTALL 9" OF STONE BETWEEN CHAMBERS, 6" ABOVE CHAMBERS AND 15" OF STONE UNDER SYSTEM. SYSTEM STORES 16,146 CUBIC FEET. TOP OF GRAVEL=3031.04, TOP OF CHAMBERS=3030.54, 18" IE INTO CHAMBERS=3028.08, BOTTOM OF CHAMBERS=3028.00, BOTTOM OF GRAVEL=3026.75 TO 3026.60 (SLOPE BOTTOM OF GRAVEL TOWARD PERFORATED PIPE), INSTALL 30 MIL PVC LINER WITH NON-WOVEN GEOTEXTILE FABRIC ON BOTH SIDES OF LINER. INSTALL PER CULTEC STANDARD DETAILS AND SPECIFICATIONS. STORMTECH AND OTHER STORM WATER CHAMBERS ARE ALLOWED; HOWEVER, THEY ARE TO BE SUBMITTED TO EXCEL ENGINEERING TO BE REVIEWED, AND FOUND TO COMPLY WITH ALL PERTINENT DESIGN PARAMETERS PRIOR TO APPROVAL AND INSTALLATION.
8. CONST. SEPARATOR ROW
9. CONST. INSPECTION PORT
10. CONST. 14.3 L.F. 18" ADS HP STORM PIPE @ S=0.5%
11. CONST. 3'X3' CATCH BASIN (NO FACE INLET) W/ SNOUT 24F OVER OUTLET, TBC=3032.10, GRATE=3031.60, 18" IE THRU=3028.15, BOTTOM OF BOX=3023.65
12. CONST. 26.6 L.F. 18" ADS HP STORM PIPE @ S=1.4%
13. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3032.52, GRATE=3032.02, 18" IE THRU=3028.52
14. CONST. 93.0 L.F. 18" ADS HP STORM PIPE @ S=1.2%
15. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3035.72, GRATE=3035.22, 18" IE THRU=3029.59
16. CONST. 27.6 L.F. 18" ADS HP STORM PIPE @ S=0.2%
17. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3035.49, GRATE=3034.99, 8" IE IN=3032.38, 18" IE THRU=3029.65
18. CONST. 45.9 L.F. 18" ADS HP STORM PIPE @ S=0.2%
19. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3035.00, GRATE=3034.50, 15" IE THRU=3029.74
20. CONST. 44.1 L.F. 18" ADS HP STORM PIPE @ S=0.2%
21. CONST. 3'X3' BOX, GRATE=3035.73, 18" IE THRU=3029.83
22. CONST. 87.6 L.F. 18" ADS HP STORM PIPE @ S=0.2%
23. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3035.17, GRATE=3034.67, 15" IE IN=5030.01, 18" IE OUT=5030.01
24. CONST. 185.5 L.F. 15" ADS HP STORM PIPE @ S=0.2%
25. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3033.38, GRATE=3032.88, 15" IE THRU=3030.38
26. CONST. 59.2 L.F. 15" ADS HP STORM PIPE @ S=0.8%
27. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3034.58, GRATE=3034.08, 15" IE THRU=3030.83
28. CONST. 98.8 L.F. 15" ADS HP STORM PIPE @ S=2.4%
29. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3036.92, GRATE=3036.42, 15" IE OUT=3033.17
30. CONST. 77.3 L.F. 8" ADS N-12 PIPE @ S=5.0%
31. CONST. 12" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3039.00, BASE OF GRATE=3038.75, 8" IE THRU=3036.25.
32. CONST. 147.8 L.F. 8" ADS N-12 PIPE @ S=2.0%
33. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE THRU=3039.22.
34. CONST. 61.0 L.F. 8" ADS N-12 PIPE @ S=1.0%
35. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE OUT=3039.03.
36. CONST. 139.4 L.F. 8" ADS N-12 PIPE @ S=1.0%
37. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3040.80, BASE OF GRATE=3040.55, 8" IE THRU=3037.70.
38. CONST. 63.9 L.F. 8" ADS N-12 PIPE @ S=0.9%
39. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE THRU=3038.28.
40. CONST. 81.7 L.F. 8" ADS N-12 PIPE @ S=0.9%
41. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE THRU=3039.02.
42. CONST. 52.9 L.F. 8" ADS N-12 PIPE @ S=0.9%
43. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE THRU=3039.50.
44. CONST. 36.1 L.F. 8" ADS N-12 PIPE @ S=0.9%
45. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE THRU=3039.83.
46. CONST. 6" ADS @ S=1% MIN. CONNECT TO DRAIN BASIN OR INTO PIPE WITH INSERTA TEE (SEE PLAN VIEW)
47. CONST. DOWNSPOUT COLLECTION BOX, SEE DETAIL K/C513

*YARD DRAIN INLET PROTECTION NOTE: INSTALL FLEXSTORM INSERT INSIDE BASIN AND COVER BASIN WITH LANDSCAPE FABRIC PLACED UNDER GRATE. SEE SITE DETAILS.

GRADING LEGEND

FFE	FINISHED FLOOR ELEV.
BOW	BACK OF WALK
GB	GRADE BREAK
TC	TOP OF CONCRETE
TBC	TOP BACK OF CURB
TA	TOP OF ASPHALT
RIM	RIM ELEVATION
FL	FLOWLINE
EG	EXIST GROUND
LIP	LIP OF CURB
FG	FINISHED GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
IE	INVERT ELEVATION
6.00%	DIRECTION OF DRAINAGE
(00.00)	EXISTING ELEVATION
00.00 TBC	PROPOSED ELEVATION
4808	EXISTING CONTOUR
00	PROPOSED CONTOUR
00	STORM DRAIN KEYED NOTE
	CARRY CURB (HATCHED)

BENCH MARK

SOUTH 1/4 CORNER OF SECTION 11, T42S, R15W, SLB&M (FOUND BRASS CAP) BENCHMARK ELEV=2917.13

evans + associates architecture
11576 south state street, suite 103b, draper, utah 84020
phone 801-553-8272
fax 801-553-8273

Stamp

REGISTERED PROFESSIONAL ENGINEER
NO. 270393
DAVID W. PETERSON
STATE OF UTAH

A New Meetinghouse for:
Sienna Hills &
Washington UT East Stake
Parcel: W-5-2-11-1311
Tortoise Rock Drive
Washington, Utah

Project for:
THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

Revisions		
Mark	Date	Description

Project Number
23-79
Plan Series
Heritage 23-2
Property Number
501-4560-22010101
Date
May 1, 2023

Sheet Title
GRADING & DRAINAGE PLAN WEST

Sheet
C201



GRADING LEGEND

FFE	FINISHED FLOOR ELEV.
BOW	BACK OF WALK
GB	GRADE BREAK
TC	TOP OF CONCRETE
TBC	TOP BACK OF CURB
TA	TOP OF ASPHALT
RIM	RIM ELEVATION
FL	FLOWLINE
EG	EXIST GROUND
LIP	LIP OF CURB
FG	FINISHED GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
IE	INVERT ELEVATION
0.000%	DIRECTION OF DRAINAGE
(00.00)	EXISTING ELEVATION
00.00 TBC	PROPOSED ELEVATION
4808	EXISTING CONTOUR
	PROPOSED CONTOUR
KD	STORM DRAIN KEYED NOTE
	CARRY CURB (HATCHED)

STORM DRAIN KEYED NOTES

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2. CONST. 43.9 L.F. 15" ADS HP STORM PIPE @ S=1.7%
3. CONST. 3'X3' BOX, GRATE=3029.50, 15" IE THRU=3025.75
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6. CONST. 150.0 L.F. 12" PERFORATED ADS PIPE @ S=0.1%, WRAP PERFORATED PIPE IN FABRIC, CAP 12" PIPE, FL=3026.75
7. CONST. CULTEC UNDERGROUND STORAGE SYSTEM WITH (168) RECHARGER 330XLHD CHAMBERS. INSTALL 9" OF STONE BETWEEN CHAMBERS, 6" ABOVE CHAMBERS AND 15" OF STONE UNDER SYSTEM. SYSTEM STORES 16,146 CUBIC FEET. TOP OF GRAVEL=3031.04, TOP OF CHAMBERS=3030.54, 18" IE INTO CHAMBERS=3028.08, BOTTOM OF CHAMBERS=3028.00, BOTTOM OF GRAVEL=3026.75 TO 3026.60 (SLOPE BOTTOM OF GRAVEL TOWARD PERFORATED PIPE), INSTALL 30 MIL PVC LINER WITH NON-WOVEN GEOTEXTILE FABRIC ON BOTH SIDES OF LINER. INSTALL PER CULTEC STANDARD DETAILS AND SPECIFICATIONS. STORMTECH AND OTHER STORM WATER CHAMBERS ARE ALLOWED; HOWEVER, THEY ARE TO BE SUBMITTED TO EXCEL ENGINEERING TO BE REVIEWED, AND FOUND TO COMPLY WITH ALL PERTINENT DESIGN PARAMETERS PRIOR TO APPROVAL AND INSTALLATION.
8. CONST. SEPARATOR ROW
9. CONST. INSPECTION PORT
10. CONST. 14.3 L.F. 18" ADS HP STORM PIPE @ S=0.5%
11. CONST. 3'X3' CATCH BASIN (NO FACE INLET) W/ SNOUT 24F OVER OUTLET, TBC=3032.10, GRATE=3031.60, 18" IE THRU=3028.15, BOTTOM OF BOX=3023.65
12. CONST. 26.6 L.F. 18" ADS HP STORM PIPE @ S=1.4%
13. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3032.52, GRATE=3032.02, 18" IE THRU=3028.52
14. CONST. 93.0 L.F. 18" ADS HP STORM PIPE @ S=1.2%
15. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3035.72, GRATE=3035.22, 18" IE THRU=3029.59
16. CONST. 27.6 L.F. 18" ADS HP STORM PIPE @ S=0.2%
17. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3035.49, GRATE=3034.99, 8" IE IN=3032.38, 18" IE THRU=3029.65
18. CONST. 45.9 L.F. 18" ADS HP STORM PIPE @ S=0.2%
19. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3035.00, GRATE=3034.50, 15" IE THRU=3029.74
20. CONST. 44.1 L.F. 18" ADS HP STORM PIPE @ S=0.2%
21. CONST. 3'X3' BOX, GRATE=3035.73, 18" IE THRU=3029.83
22. CONST. 87.6 L.F. 18" ADS HP STORM PIPE @ S=0.2%
23. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3035.17, GRATE=3034.67, 15" IE IN=5030.01, 18" IE OUT=5030.01
24. CONST. 185.5 L.F. 15" ADS HP STORM PIPE @ S=0.2%
25. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3033.38, GRATE=3032.88, 15" IE THRU=3030.38
26. CONST. 59.2 L.F. 15" ADS HP STORM PIPE @ S=0.8%
27. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3034.58, GRATE=3034.08, 15" IE THRU=3030.83
28. CONST. 98.8 L.F. 15" ADS HP STORM PIPE @ S=2.4%
29. CONST. 2'X3' CATCH BASIN (NO FACE INLET), TBC=3036.92, GRATE=3036.42, 15" IE OUT=3033.17
30. CONST. 77.3 L.F. 8" ADS N-12 PIPE @ S=5.0%
31. CONST. 12" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3039.00, BASE OF GRATE=3038.75, 8" IE THRU=3036.25.
32. CONST. 147.8 L.F. 8" ADS N-12 PIPE @ S=2.0%
33. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE THRU=3039.22.
34. CONST. 61.0 L.F. 8" ADS N-12 PIPE @ S=1.0%
35. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE OUT=3039.03.
36. CONST. 139.4 L.F. 8" ADS N-12 PIPE @ S=1.0%
37. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3040.80, BASE OF GRATE=3040.55, 8" IE THRU=3037.70.
38. CONST. 63.9 L.F. 8" ADS N-12 PIPE @ S=0.9%
39. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE THRU=3038.28.
40. CONST. 81.7 L.F. 8" ADS N-12 PIPE @ S=0.9%
41. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE THRU=3039.02.
42. CONST. 52.9 L.F. 8" ADS N-12 PIPE @ S=0.9%
43. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE THRU=3039.50.
44. CONST. 36.1 L.F. 8" ADS N-12 PIPE @ S=0.9%
45. CONST. 10" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE*, TOP OF MULCH=3042.00, BASE OF GRATE=3041.75, 8" IE THRU=3039.83.
46. CONST. 6" ADS @ S=1% MIN. CONNECT TO DRAIN BASIN OR INTO PIPE WITH INSERTA TEE (SEE PLAN VIEW)
47. CONST. DOWNSPOUT COLLECTION BOX, SEE DETAIL K/C513

*YARD DRAIN INLET PROTECTION NOTE: INSTALL FLEXSTORM INSERT INSIDE BASIN AND COVER BASIN WITH LANDSCAPE FABRIC PLACED UNDER GRATE. SEE SITE DETAILS.

BENCH MARK

SOUTH 1/4 CORNER OF SECTION 11, T4S, R15W, SLB&M (FOUND BRASS CAP)
BENCHMARK ELEV=2917.13

evans + associates architecture
11576 south state street, suite 103b, draper, utah 84020
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REGISTERED PROFESSIONAL ENGINEER
NO. 270393
DAVID W. PETERSON
STATE OF UTAH

A New Meetinghouse for:

Sienna Hills & Washington UT East Stake

Parcel: W-5-2-11-1311
Tortoise Rock Drive
Washington, Utah

Project for:

THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

Revisions		
Mark	Date	Description

Project Number
23-79

Plan Series
Heritage 23-2

Property Number
501-4560-22010101

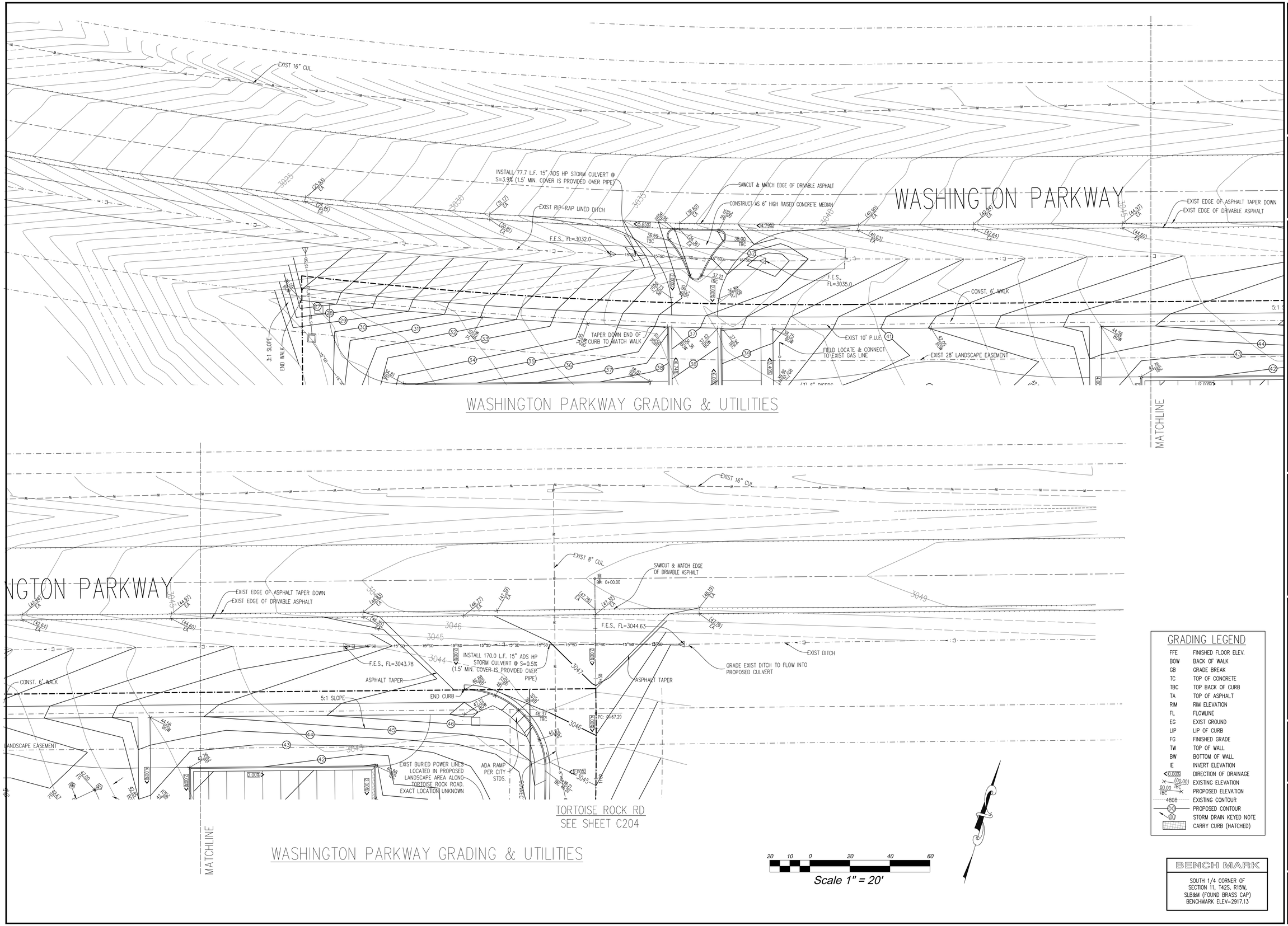
Date
May 1, 2023

Sheet Title

GRADING & DRAINAGE PLAN EAST

Sheet

C202



GRADING LEGEND

FFE	FINISHED FLOOR ELEV.
BOW	BACK OF WALK
GB	GRADE BREAK
TC	TOP OF CONCRETE
TBC	TOP BACK OF CURB
TA	TOP OF ASPHALT
RIM	RIM ELEVATION
FL	FLOWLINE
EG	EXIST GROUND
LIP	LIP OF CURB
FG	FINISHED GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
IE	INVERT ELEVATION
	DIRECTION OF DRAINAGE
	EXISTING ELEVATION
	PROPOSED ELEVATION
	EXISTING CONTOUR
	PROPOSED CONTOUR
	STORM DRAIN KEYED NOTE
	CARRY CURB (HATCHED)

BENCH MARK

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5/1/23

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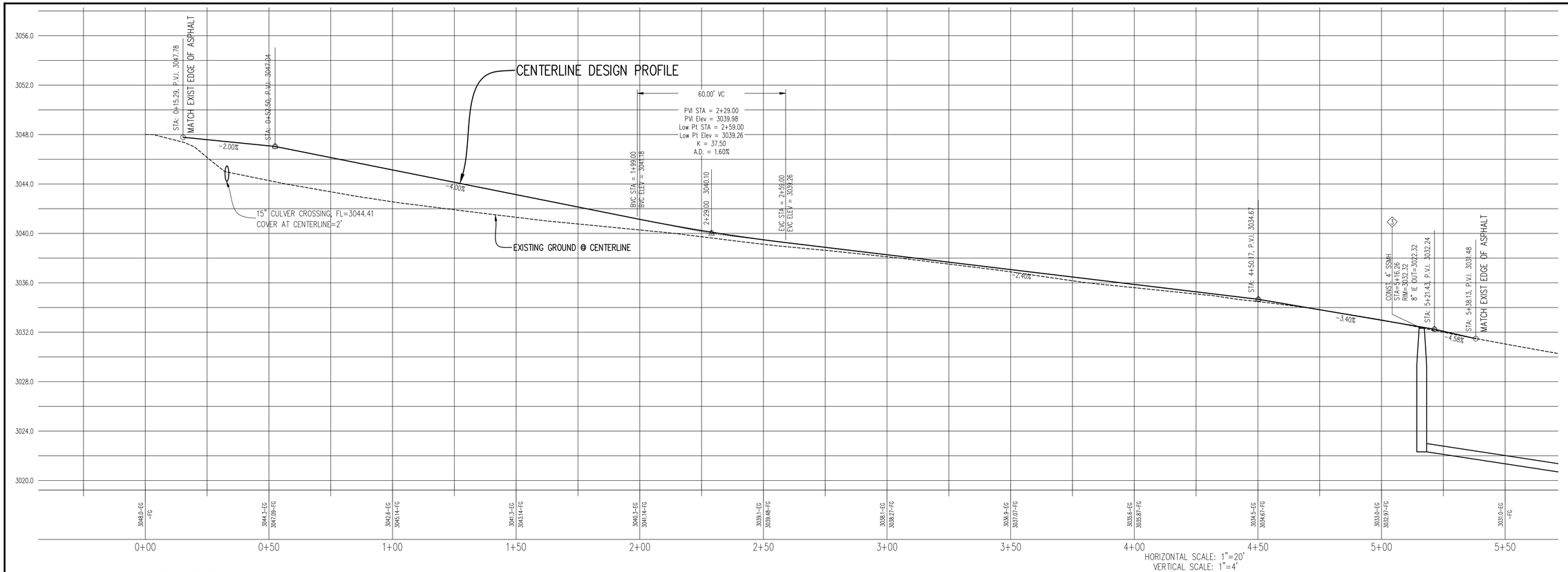
Project for:
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Sheet Title
WASHINGTON PARKWAY GRADING & UTILITY PLAN

Sheet
C203



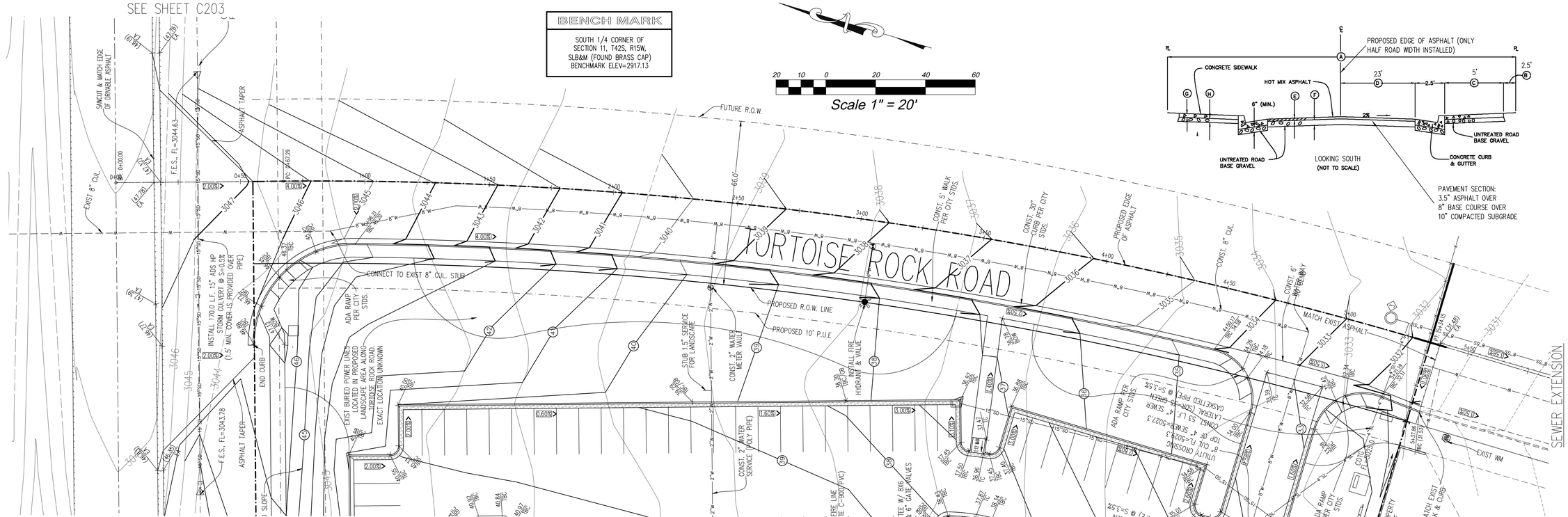
WASHINGTON PARKWAY
SEE SHEET C203

BENCH MARK

SOUTH 1/4 CORNER OF SECTION 11, T42S, R15W, SLB&M (FOUND BRASS CAP) BENCHMARK ELEV=2917.13

20 10 0 20 40 60

Scale 1" = 20'



TORTOISE ROCK ROAD PLAN/PROFILE

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A New Meetinghouse for:
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Washington UT East Stake
Parcel: W-5-2-11-1311
Tortoise Rock Drive
Washington, Utah

Project for:
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Sheet Title
TORTOISE ROCK RD
PLAN/PROFILE

Sheet
C204

EXIST 10' P.U.E.

FIELD LOCATE & CONNECT TO EXIST GAS LINE

EXIST 28' LANDSCAPE EASEMENT

EXIST BURIED POWER LINES LOCATED IN PROPOSED LANDSCAPE AREA ALONG TORTOISE ROCK ROAD. EXACT LOCATION UNKNOWN

CONNECT TO EXIST 8" CUL STUB

UNDERGROUND DETENTION SYSTEM

PROPOSED GAS LINE

INSTALL FIRE HYDRANT & VALVE

STUB 8" CUL. FOR FUTURE CONNECTION

3/4" SERVICE FOR FOUNTAIN

4" FL=5036.5

CONST. 18 L.F. 4" SEWER LATERAL (SDR-35 GREEN GASKETTED PIPE) @ S=2%

CONST. 77 L.F. 4" SEWER LATERAL (SDR-35 GREEN GASKETTED PIPE) @ S=2%

CONST. 18 L.F. 4" SEWER LATERAL (SDR-35 GREEN GASKETTED PIPE) @ S=11%

4" FL=5036.5

FFE=3043.00

INSTALL ALARM PANEL AT ENTRANCE NEXT TO LOCKBOX

FDC

INSTALL KNOX BOX BY RISER ROOM DOOR (SEE ARCHITECT PLANS)

CONST. FIRE LINE CONNECTION TO FLOOR FLANGE BY UTILITIES CONTRACTOR. INSTALL (1) PIECE RISER IN BUILDING (SEE FIRE SPRINKLER PLANS)

CULINARY TO CROSS UNDER STORM DRAIN

CONST. 83 L.F. 4" SEWER LATERAL (SDR-35 GREEN GASKETTED PIPE) @ S=2%

4" FL=5036.5

CONST. 12 L.F. 4" SEWER LATERAL (SDR-35 GREEN GASKETTED PIPE) @ S=30%

3/4" SERVICE TO COME FROM BUILDING

CONST. 87 L.F. 4" SEWER LATERAL (SDR-35 GREEN GASKETTED PIPE) @ S=2.2%

CONST. 8" FIRE LINE (BLUE-BRUTE C-900 PVC)

FFE=3035.60

COTG FL=5036.1

COTG FL=5034.5

COTG FL=5032.8

COTG FL=5030.9

COTG FL=5028.3

COTG FL=5025.0

INSTALL 90° BEND

STUB 1.5" SERVICE FOR LANDSCAPE

CONST. 2" WATER SERVICE (POLY PIPE)

CONST. 2" WATER METER VAULT

66.0'

CONST. 6" FIRE LINE (BLUE-BRUTE C-900 PVC)

INSTALL FIRE HYDRANT & VALVE

INSTALL 8" TEE W/ 8X6 REDUCERS & 6" GATE VALVES

INSTALL 22.5° BEND

CONST. 73 L.F. 4" SEWER LATERAL (SDR-35 GREEN GASKETTED PIPE) @ S=3.5%

UTILITY CROSSING 8" CUL FL=5033.0 TOP OF 4" SEWER=5030.4

CONST. 95 L.F. 4" SEWER LATERAL (SDR-35 GREEN GASKETTED PIPE) @ S=3.5%

UTILITY CROSSING 8" CUL FL=5029.3 TOP OF 4" SEWER=5027.3

CONST. 53 L.F. 4" SEWER LATERAL (SDR-35 GREEN GASKETTED PIPE) @ S=3.5%

PROPOSED R.O.W. LINE

PROPOSED 10' P.U.E

INSTALL FIRE HYDRANT & VALVE

CONST. 8" CUL.

90° BEND

TORTOISE ROCK ROAD

*SEE SHEETS C203-C205 FOR UTILITIES IN WASHINGTON PARKWAY & TORTOISE ROCK RD.

BENCH MARK

SOUTH 1/4 CORNER OF SECTION 11, T4S, R1W, SLB&M (FOUND BRASS CAP) BENCHMARK ELEV=2917.13

20 10 0 20 40 60

Scale 1" = 20'

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Stamp

REGISTERED PROFESSIONAL ENGINEER
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DAVID W. PETERSON
STATE OF UTAH

A New Meetinghouse for:

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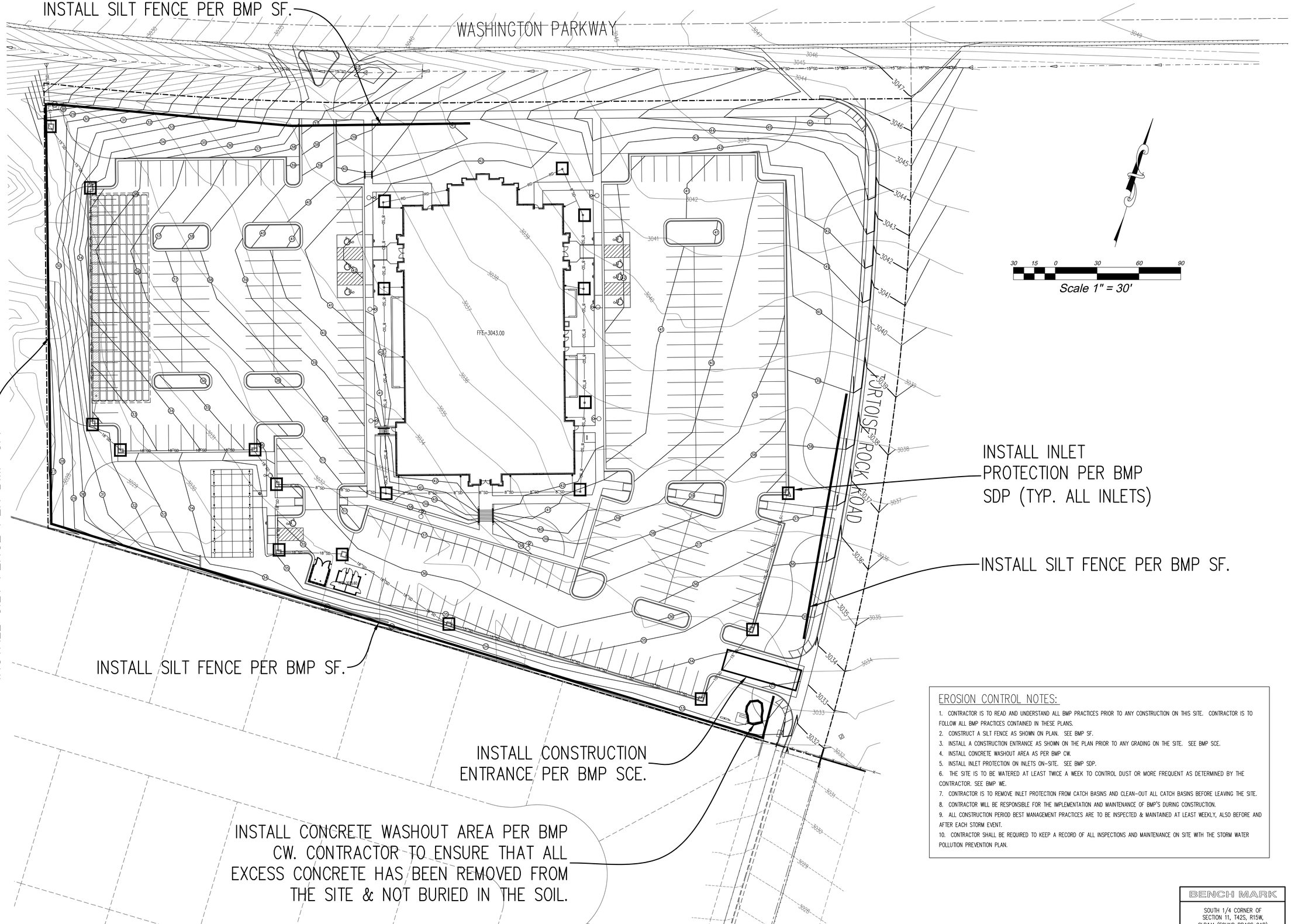
Project Number	23-79
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Sheet Title

UTILITY PLAN

Sheet

C206



EROSION CONTROL NOTES:

1. CONTRACTOR IS TO READ AND UNDERSTAND ALL BMP PRACTICES PRIOR TO ANY CONSTRUCTION ON THIS SITE. CONTRACTOR IS TO FOLLOW ALL BMP PRACTICES CONTAINED IN THESE PLANS.
2. CONSTRUCT A SILT FENCE AS SHOWN ON PLAN. SEE BMP SF.
3. INSTALL A CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN PRIOR TO ANY GRADING ON THE SITE. SEE BMP SCE.
4. INSTALL CONCRETE WASHOUT AREA AS PER BMP CW.
5. INSTALL INLET PROTECTION ON INLETS ON-SITE. SEE BMP SDP.
6. THE SITE IS TO BE WATERED AT LEAST TWICE A WEEK TO CONTROL DUST OR MORE FREQUENT AS DETERMINED BY THE CONTRACTOR. SEE BMP WE.
7. CONTRACTOR IS TO REMOVE INLET PROTECTION FROM CATCH BASINS AND CLEAN-OUT ALL CATCH BASINS BEFORE LEAVING THE SITE.
8. CONTRACTOR WILL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF BMP'S DURING CONSTRUCTION.
9. ALL CONSTRUCTION PERIOD BEST MANAGEMENT PRACTICES ARE TO BE INSPECTED & MAINTAINED AT LEAST WEEKLY, ALSO BEFORE AND AFTER EACH STORM EVENT.
10. CONTRACTOR SHALL BE REQUIRED TO KEEP A RECORD OF ALL INSPECTIONS AND MAINTENANCE ON SITE WITH THE STORM WATER POLLUTION PREVENTION PLAN.

BENCH MARK

SOUTH 1/4 CORNER OF SECTION 11, T4S, R1W, SLB&M (FOUND BRASS CAP) BENCHMARK ELEV=2917.13

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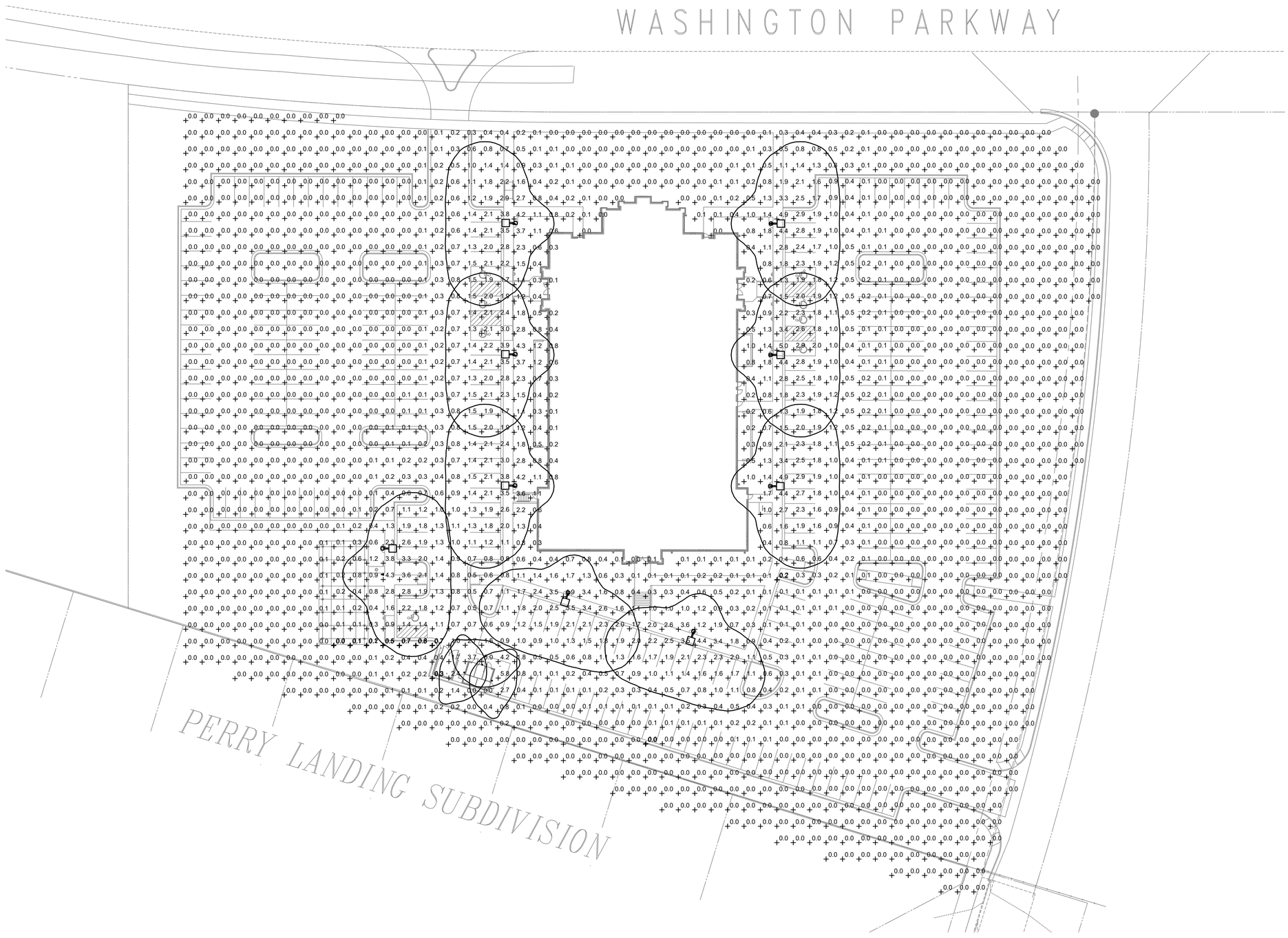
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Sheet Title
EROSION CONTROL PLAN

Sheet
C207



ELECTRICAL SITE ILLUMINATION PLAN

SCALE: 1" = 40'-0"

NORTH

ENVISION ENGINEERING
240 East Morris Ave. Suite 200
South Salt Lake City, UT 84115
p (801) 534-1130
p (801) 534-1080
www.envisioneng.com

evans + associates architecture
11576 south state street, suite 103b, draper, utah 84020
phone 801-553-8272 fax 801-553-8273

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REGISTERED PROFESSIONAL ENGINEER
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STATE OF UTAH
2023/09/29

A New Meetinghouse for:

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Parcel: W-5-2-11-1311
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Washington, Utah

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Sheet Title

ELECTRICAL SITE ILLUMINATION PLAN

Sheet

C302

DESIGN CRITERIA:

1. 2018 INTERNATIONAL BUILDING CODE WITH STATEWIDE AMENDMENTS
2. TYPE OF CONSTRUCTION: TYPE II–B.
3. BUILDING USE: ASSEMBLY A–3
4. BUILDING OCCUPANCY CATEGORY: II
5. BUILDING HEIGHT: PER PLANS
6. BUILDING VOLUME: 19,800 CU. FT.
7. NO. OF OCCUPANTS: 120
8. ROOF DEAD LOAD – 11 PSF PLUS FRAMING WEIGHT
   a. SHINGLES AND FELT: 3.5 PSF
   a. DIAPHRAGM SHEATHING: 2.3 PSF
   b. WOOD DECK: 4.0 PSF
   c. MISCELLANEOUS: 1.2 PSF
9. ROOF LIVE LOAD – 20 PSF
10. SNOW LOAD
    a. Pg: 31 PSF (GROUND SNOW LOAD)
    b. Pf = 0.7 * Pg * Ce * Ct * Is = 23 PSF (ROOF SNOW LOAD)
       1) Ce: 0.9
       2) Ct: 1.2
       3) Is: 1.0
       4) BUILDING ELEVATION: 4509 3FT
    c. Ps = Pf Cs
       1) Cs: 1.0 FOR A 4:12 PITCH
       2) Ps: 23 PSF
11. WIND LOAD (ULTIMATE)
    a. V3s: 103 MPH
    b. EXPOSURE: C
    c. W: 1.00
12. SEISMIC LOAD (ULTIMATE)
    a. Ie: 1.00
    b. Ss: 1.29
    c. S1: 0.41
    d. Fa: 1.0
    e. Fv: 1.5
    f. Sds: 0.86
    g. Sd1: 0.81
    h. Ωo: 1.25
    i. Cd: 2.5
    j. SITE CLASS: D
    k. SEISMIC DESIGN CATEGORY: D
    l. R: 1.25 (CANTILEVERED STEEL COLUMNS)
    m. EQUIVALENT LATERAL FORCE PROCEDURE
    n. Cs = 0.69
13. ALLOWABLE SOIL BEARING PRESSURE:
    a. 2500 PSF
    b. ALLOWABLE FOUNDATION AND LATERAL PRESSURE = 100 PSF/FT BELOW NATURAL GRADE (TABLE 1806.2 OF 2018 IBC). SEE SOILS REPORT
    c. USE CONSTRAINED CONDITIONS FOR CONCRETE PIERS
    d. COORDINATE ALL SITE GRADING AND SOIL WORK WITH THE SOILS REPORT.
    e. SOILS REPORT FROM GSH DATED NOV. 3, 2017, # 0153–364–17.

THE PAVILION, PICNIC TABLES, TRASH RECEPTACLES AND DRINKING FOUNTAINS, ARE ORDERED THROUGH THE CHURCH PURCHASING DEPARTMENT. PLEASE CONTACT THE PROJECT MANAGER TO RESOLVE AND COORDINATE ORDERING DETAILS AND MATERIAL RESPONSIBILITIES. KITS #1 AND #3 USE ASPHALT SHINGLES. KITS #2 AND #4 USE METAL PANELS.

PAVILION CONSTRUCTION SEQUENCE NOTES:

1. VERIFY PERMIT REQUIREMENTS BEFORE SIGNING CONTRACTS.
   a. BUILDING PERMIT
   b. PLANNING OR CONDITIONAL USE PERMIT
   c. OBTAIN REQUIRED USE PERMIT
2. REMOVE ALL VEGETATION, ROCKS, OUTCROPPINGS, AND TREES FROM LOCATION OF PAVILION SLAB. STRIP 6" OF TOP SOIL.
3. LEVEL PAVILION BUILDING AREA. AVOID GRADING THAT ALLOWS WATER TO DRAIN TOWARD PAVILION.
4. DIG COLUMN CAISSONS.
5. PLACE COLUMN CAISSON FORMS AND SET REINFORCING STEEL.
6. SET COLUMN ANCHOR BOLTS USING PLYWOOD TEMPLATE OF APPROXIMATELY THE SAME SIZE AS COLUMN BASE PLATE TO INSURE BOLT LOCATION ACCURACY.
7. PLACE CONCRETE IN CAISSON FORMS FROM BOTTOM OF PIER UP TO A LEVEL 1–1/2" BELOW BOTTOM OF COLUMN BASE PLATE. LET CONCRETE CURE 7 DAYS.
8. SET HSS COLUMNS OVER PRE–SET ANCHOR BOLTS ALLOWING COLUMNS TO REST ON LEVELING NUTS AND 1/4"x 3" PLATE WASHERS. LEVELING NUTS ARE TO BE USED TO SET COLUMNS PLUMB AND TRUE AND AT CORRECT BEARING HEIGHT TO RECEIVE GLU–LAM BEAMS.
9. AFTER COLUMNS ARE SET PLUMB AND TRUE, VERIFY ACCURACY OF DIMENSIONS BETWEEN COLUMNS AND SECURE COLUMNS IN PLACE USING 1/4"x 3" PLATE WASHERS UNDER NUTS. TIGHTEN NUTS WITH ADDITIONAL 1/4 TURN PAST SNUG.
10. THE WEIGHT OF GLU–LAM BEAMS IS APPROXIMATELY 500 POUNDS EACH. SOME FORM OF MECHANICAL HOIST IS RECOMMENDED FOR SETTING BEAMS ON TOP OF STEEL TUBE COLUMNS.
11. NOTCH A 1"x 1" HOLE AT TOP OF BEAMS NEAR CENTER PEAK FOR ELECTRICAL CONDUIT TO PASS THROUGH.
12. LIFT GLU–LAM BEAMS AND SET EACH END IN THE COLUMN SADDLE PLATES.
13. ANCHOR BEAMS IN SADDLES WITH (8) SIMPSON SDS25112 WOOD SCREWS.
14. ONCE GLU–LAM BEAMS ARE SET AND SECURELY BOLTED, ADEQUATELY BRACE EACH BEAM USING 2x LUMBER TO PREVENT BEAMS FROM OVERTURNING UNTIL ROOF DECK AND ROOF SHEATHING ARE SECURELY ANCHORED IN PLACE.
15. SET 2x8 TONGUE AND GROOVE ROOF DECK WITH COMMON OR RING SHANK NAILS IN ACCORDANCE WITH SUPPLIERS' RECOMMENDATIONS.
16. INSTALL 2x6 FASCIA BOARD AROUND ENTIRE ROOF PERIMETER. ALIGN TOP OF FASCIA BOARD WITH TOP OF ROOF DECKING.
17. INSTALL WOOD ROOF SHEATHING OVER 2x8 TONGUE AND GROOVE ROOF DECK AT 45 DEGREES AS SHOWN IN ROOF DIAPHRAGM DETAIL.
18. LAY 30 POUND FELT UNDERLAYMENT OVER ENTIRE ROOF STARTING AT FASCIA DRIP EDGE, OVERLAP EACH ROLL 6" AS FELTS ARE LAID UP TO RIDGE.
19. INSTALL PRE–FINISHED METAL DRIP EDGING ON ALL PERIMETER EDGES OF ROOF.
20. INSTALL FIBERGLASS SHINGLES OVER ROOF UNDERLAYMENT AND PRE–FINISHED METAL DRIP EDGING. FOLLOW MANUFACTURER'S INSTRUCTIONS.
21. PLACE NON–SHRINK GROUT UNDER COLUMN BASE PLATES. FINISH NON–SHRINK GROUT EDGES TO 45 DEGREES.
22. PLACE REMAINDER OF CONCRETE SLAB ANY TIME AFTER GLU–LAM BEAMS, ROOF DECKING, AND PLYWOOD ROOF SHEATHING ARE SECURELY IN PLACE.
23. FINISH TOP SURFACE OF CONCRETE SLAB WITH A LIGHT BROOM FINISH.
24. AS SOON AS CONCRETE HAS CURED ENOUGH TO SUPPORT AN EARLY ENTRY SAW (4–6 HOURS AFTER PLACEMENT), CUT CONTROL JOINTS IN SLAB TOP SURFACE. DEPTH OF CONTROL JOINTS IS TO BE 1" DEEP.
25. INSTALL MEMBRANE CURING ON CONCRETE SLAB.
26. ALLOW CONCRETE SLAB TO CURE A MINIMUM OF 7 DAYS BEFORE PROCEEDING WITH REMAINDER OF PAVILION WORK.
27. ALL STEEL COLUMNS, SADDLES, BOLTS, AND BASE PLATES TO BE POWDER COATED TOUCH–UP FINISH PAINTING BY OTHERS.
28. STAIN ALL EXPOSED WOOD.

SITE PREPARATION:

1. REMOVE ALL ORGANIC MATERIAL AND TOPSOIL FROM PAVILION AREA. VERIFY SUITABILITY OF SUBGRADE. FOUNDATIONS ARE TO BE ON UNDISTURBED, NATURAL SOIL OR ENGINEERED FILL EXTENDING TO SUITABLE UNDISTURBED NATURAL SOILS
2. PLACE FOOTINGS/CAISSONS IN FIRM UNDISTURBED NATURAL SUBGRADE (UNLESS NOTED OTHERWISE BY GEOTECHNICAL REPORT).
3. COMPACT SUBGRADE AND FILL UNDER CONCRETE FLOOR SLAB TO 95 PERCENT OF ASTM D–1557 (UNLESS NOTED OTHERWISE BY GEOTECHNICAL REPORT).
4. INSTALL AND COMPACT 6 INCH GRANULAR BASE BENEATH CONCRETE FLOOR SLAB TO 95 PERCENT OF ASTM D–1557.

UTILITIES: (BY OTHERS)

1. INSTALL PLUMBING LINE FOR COLD WATER.
2. INSTALL ELECTRICAL LIGHTS, BOXES, CONDUITS, AND SWITCHES.

SPECIFICATIONS:

SCOPE– ONE EACH 30 FOOT BY 60 FOOT PAVILION WITH MINIMUM 4 INCH THICK CONCRETE SLAB. PROVIDE SHINGLES, ROOFING FELTS, FASCIA, SHEATHING, ROOF FRAMING, BEAMS, SOFFIT, CONNECTION HARDWARE, COLUMNS, CONCRETE SLAB, CONCRETE CAISSONS AND FINISHES TO CONSTRUCT COMPLETE PAVILION.

PAVILION HAS BEEN DESIGNED AS A FREE STANDING, OPEN STRUCTURE. RE–ENGINEER PAVILION IF WALLS ARE ADDED, IF STRUCTURE IS TO ADJOIN ANOTHER STRUCTURE, OR IF OTHER SUCH MODIFICATIONS ARE MADE. PROPERLY BRACE WOOD BEAMS AND MEMBERS UNTIL COMPLETE STRUCTURAL SYSTEM HAS BEEN CONSTRUCTED.

CONCRETE:

1. CONCRETE SLAB ON GRADE IS TO BE REINFORCED AND BE 4" MINIMUM THICK. INSTALL WITH CRACK CONTROL JOINTS AS SHOWN. SURFACE IS TO HAVE A BULL FLOAT FINISH AND BE LIGHTLY BROOMED.
2. EDGE OF SLAB IS TO BE THICKENED TO 8" WIDE AND BE REINFORCED WITH (2) #4 CONTINUOUS BARS. LAP SPLICES 24".
3. PROVIDE DEFORMED REINFORCING STEEL BARS CONFORMING TO ASTM A615 WITH A MINIMUM YIELD STRENGTH OF 60,000 PSI. SECURELY ANCHOR REINFORCING STEEL, AND PROVIDE CLEARANCES, IN ACCORDANCE WITH THE LATEST EDITION OF ACI 318.
4. MINIMUM CONCRETE MIX DESIGN REQUIREMENTS:
   a. COMPRESSIVE STRENGTH OF CONCRETE TO BE 4,500 PSI AT 28 DAYS.
   b. MAX W/C: 0.45
   c. 6% (+/–1.5%) AIR ENTRAINMENT.
   d. CEMENT TYPE II/V
   e. DESIGNED FOR THE FOLLOWING EXPOSURE CATEGORIES AND CLASSES:
   e.a. F2, S1 (PER ACI 318 TABLEL 4.2.1)
   f. LIMIT SLUMP TO 4" (+/–1")
5. VERIFY STRENGTH REQUIREMENTS AND CEMENT TYPE REQUIREMENTS WITH THE GEOTECHNICAL EVALUATION REPORT.
6. ALL CONCRETE WORK TO BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 318.
7. SLAB TO BE SEALED WITH WEATHERWORKER J–29A CONCRETE SEALER, BY DAYTON SUPERIOR CORPORATION. INSTALL AS PER MANUFACTURERS INSTRUCTIONS.
8. MEMBRANE CONCRETE CURING: USE CLEAR CURE J7wb BY DAYTON SUPERIOR CORPORATION. FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS.

STRUCTURAL STEEL:

1. ALL STEEL PLATES TO BE ASTM A36
2. STEEL TUBES TO BE ASTM A500, GRADE B, Fy = 46,000 PSI
3. ALL WELDING IS TO BE DONE IN ACCORDANCE WITH LATEST AWS STANDARDS. IF WELDS ARE NOT SPECIFIED, ALL WELDS ARE TO DEVELOP THE FULL STRENGTH OF ALL COMPONENT PARTS.
4. ALL BOLTS ARE TO BE ASTM A325 EXCEPT THAT ANCHOR BOLTS ARE TO BE ASTM F1554 GRADE 55.
5. ALL EXPOSED BOLTS ARE TO BE PAINTED TO MATCH STRUCTURE.
6. ALL HOLES IN STEEL TO BE 1/16" LARGER THAN THE DIAMETER OF THE CONNECTING BOLT UNLESS NOTED OTHERWISE.
7. ALL FABRICATED STEEL IS TO BE PRIMED AND FINISH POWDER COATED.

WOOD:

1. GLU–LAM BEAMS:
   c. SOUTHERN YELLOW PINE
   d. 24F–V3 STRESS COMBINATION
   e. 2–INCH NOMINAL THICK LAMINATIONS
   f. 5–1/8" MINIMUM WIDTHS
   g. RESORCINOL ADHESIVE
   h. DOUBLE PITCHED AND TAPERED
   i. ARCHITECTURAL APPEARANCE GRADE
   j. STAIN AND SEAL FINISH
   k. ROOF PITCH IS TO BE 4 VERTICAL TO 12 HORIZONTAL (4:12)
   l. MATERIALS, MANUFACTURE AND QUALITY CONTROL OF GLUE LAMINATED BEAMS SHALL BE IN CONFORMANCE WITH "AMERICAN NATIONAL STANDARD FOR WOOD PRODUCTS – STRUCTURAL GLUED LAMINATED TIMBER" ANSI/AITC A190.1.
   m. MEMBERS SHALL BE MARKED WITH AN AITC OR APA/EWS QUALITY MARK AND, IN ADDITION, AN AITC OR APA/EWS CERTIFICATE OF CONFORMANCE SHALL BE PROVIDED TO INDICATE CONFORMANCE WITH ANSI/AITC A190.1.
   n. FACTORY SEAL BEAMS AND INDIVIDUALLY WRAP FOR PROTECTION IN TRANSIT, STORAGE, AND ERECTION.
   o. TEMPORARY STORAGE SHALL CONSIST OF LEVELED BLOCKS, WELL OFF GROUND, SEPARATION WITH WOOD STRIPS FOR AIR CIRCULATION AROUND EACH MEMBER, COVER TOP AND SIDES WITH MOISTURE RESISTANT PAPER.
   p. USE NON–MARRING SLINGS WHEN HANDLING, DRY–IN ROOF AS SOON AS ERECTED.
   q. PROTECTIVE WRAPPING SHALL REMAIN ON BEAMS UNTIL DECK HAS BEEN INSTALLED AND SHINGLES APPLIED.
2. ROOF FRAMING
   a. USE GALVANIZED NAILS.
   b. 2x6 FASCIA: NO. 1 SOUTHERN YELLOW PINE, KILN DRIED, CHROMATED COPPER ARSENATE PRESSURE TREATED (0.4 PCF), SURFACED ON FOUR SIDES, AND STAINED. FASCIA IS TO BE FREE OF ANY GROOVES OR INCISIONS.
      1) MITER ENDS OF FASCIA AT CORNERS
      2) BUTT FASCIA ONLY AT BEAM ENDS
      3) FASTEN FASCIA TO BEAM WITH NOT LESS THAN THREE 16d COMMON, GALVANIZED NAILS AT EACH BEAM JUNCTION AT EAVE AND TO OUTLOOKERS WITH TWO 16d COMMON, GALVANIZED NAILS AT EACH RAKE.
   c. 2x8 ROOF DECK:
      1) DOUGLAS FIR LARCH, SINGLE TONGUED AND GROOVED, SPECIFIED LENGTH, CENTER MATCHED, EDGE VEED TWO SIDES, KILN DRIED, AND STAINED – NO. 2 GRADE.
      2) DECK FURNISHED IN SPECIFIED LENGTHS SO ALL JOINTS OCCUR OVER BEAMS – RANDOM LENGTH DECK IS UNACCEPTABLE. DECK SHALL BE INSTALLED WITH A 2 SPAN CONDITION, MINIMUM.
      3) INSTALL IN ACCORDANCE WITH SUPPLIER'S SPECIFICATIONS USING 16d COMMON OR RING SHANK NAILS. MINIMUM. NAILING SHALL BE FACE NAILED USING (3) NAILS AT EACH BEARING POINT WITH A 4TH NAIL DIAGONALLY THROUGH THE TONGUE OF THE DECKING MEMBER. NAILS MUST PENETRATE 1–1/2 INCHES INTO SOLID WOOD.
      4) INSTALL WITH TONGUES UP ON SLOPED ROOFS.
3. ROOF SHEATHING:
   a. 7/16" THICK PLYWOOD OR ORIENTED STRAND BOARD COMPLYING WITH STANDARD PS–1 OF THE AMERICAN PLYWOOD ASSOCIATION APA/ANSI A199.1. APPROPRIATE APA STAMP IDENTIFYING FOLLOWING REQUIREMENTS: 24/0 SPAN INDEX RATING, EXTERIOR EXPOSURE, 18 PERCENT MAXIMUM MOISTURE CONTENT WHEN FABRICATED.
   b. INSTALL DIRECTLY OVER WOOD TONGUE AND GROOVE ROOF DECKING IN 4'x8' PANELS AT 45 DEGREES TO DECKING. STAGGER PANEL JOINTS APPROXIMATELY 4'–0" AND GAP JOINTS 1/4 INCH. STAPLE AROUND PERIMETER OF EACH PANEL WITH 3 STAPLES PER LINEAR FOOT. STAPLE WITHIN FIELD OF EACH PANEL WITH (2) ROWS OF STAPLES AT 8" O.C.
   c. PROTECT SHEATHING WITH 30 POUND FELT IMMEDIATELY AFTER INSTALLATION

ROOF SYSTEM

1. 50 YEAR ASPHALT SHINGLE by OWENS CORNING WITH A LIFETIME WARRANTY
2. PROFILE NOMINAL SIZE: 13"x 39 3/8"
3. EXPOSURE: 5 5/8"
4. COLOR AS PER OWNER FROM MANUFACTURERS STANDARD COLOR SELECTION.
5. INSTALL PER MANUFACTURER'S INSTRUCTIONS
6. PROVIDE EDGE AND TERMINATION DETAIL COMPONENTS AS REQUIRED TO OBTAIN MANUFACTURER'S WARRANTY.

STAIN:

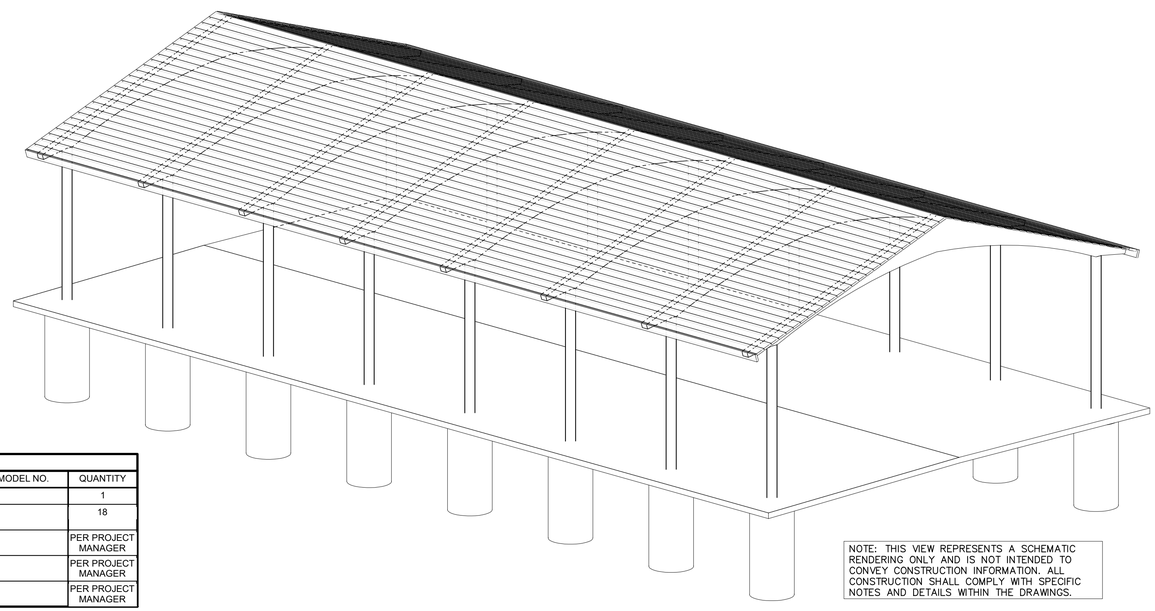
1. BEAMS, DECK, AND FASCIA SHALL BE FACTORY STAINED WITH "OLYMPIC" SEMI–TRANSPARENT STAIN. BEAMS AND FASCIA TO BE STAINED NO. 708 WALNUT, DECK TO BE STAINED NO. 911 CAPE COD GRAY OR AS SELECTED BY OWNER.

ELASTOMERIC JOINT SEALANTS:

1. PROVIDE SIKASIL–728 NS NON–SAG SILICONE SEALANT AT SAW CUT JOINTS AND COLD JOINTS.
2. PROVIDE DOW CORNING 791 SILICONE WEATHERPROOFING SEALANT AT COLUMN/CONCRETE JOINT.
3. CLEAN AND PREPARE SURFACES.
4. USE PROPER PRIMER AND BACKING MATERIALS AS REQUIRED TO INSTALL SEALANTS.
5. PROVIDE MASKING AND TEST STRIPS AS NEEDED.
6. INSTALL ALL RELATED SEALANTS AND MATERIALS AS PER THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.

PLUMBING AND ELECTRICAL: (BY OTHERS)

1. COORDINATE PLUMBING AND ELECTRICAL REQUIREMENTS WITH ARCHITECTURAL AND CITE PLANS, BY OTHERS.



NOTE: THIS VIEW REPRESENTS A SCHEMATIC RENDERING ONLY AND IS NOT INTENDED TO CONVEY CONSTRUCTION INFORMATION. ALL CONSTRUCTION SHALL COMPLY WITH SPECIFIC NOTES AND DETAILS WITHIN THE DRAWINGS.

OWNER PROVIDED EQUIPMENT LIST			
ITEM	MANUFACTURER	MODEL NO.	QUANTITY
PAVILION KIT			1
8' WELDED FRAME PICNIC TABLE			18
DRINKING FOUNTAIN			PER PROJECT MANAGER
BIKE RACK			PER PROJECT MANAGER
TRASH RECEPTACLES			PER PROJECT MANAGER

Supplier:

SMITH STEELWORKS

PROFESSIONAL ENGINEER SEAL
DOUGLAS M. FARLEY
No.318831
04/14/2023
STATE OF UTAH

30'x60' Glulam Pavilian
Kit 1 Option A

Project for:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

Mark	Date	Description

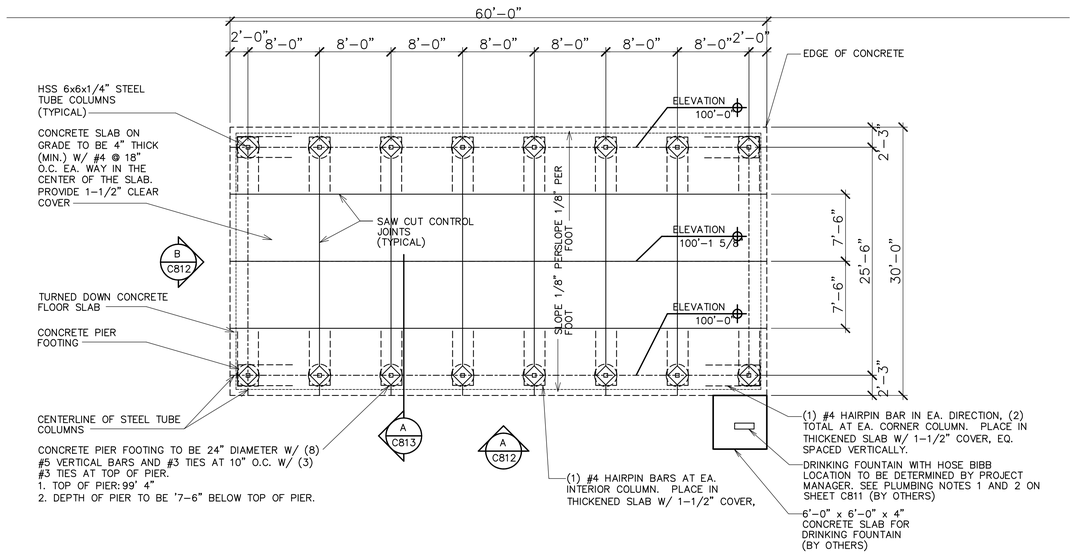
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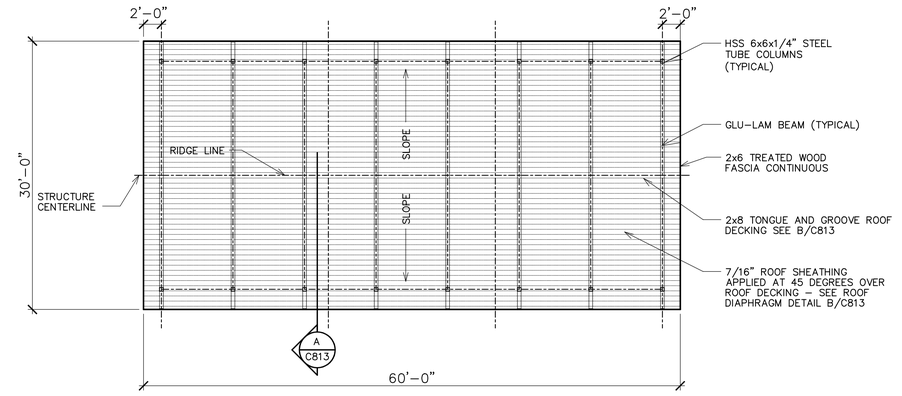
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Sheet Title:
PLAN VIEWS

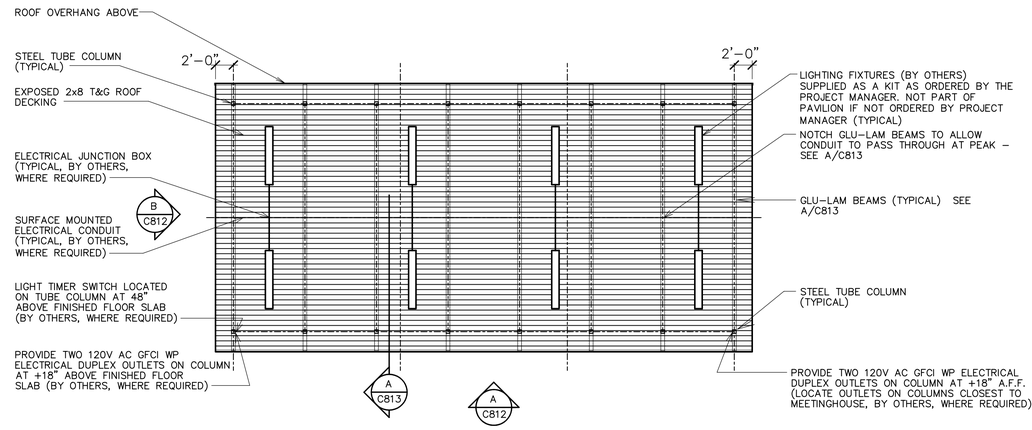
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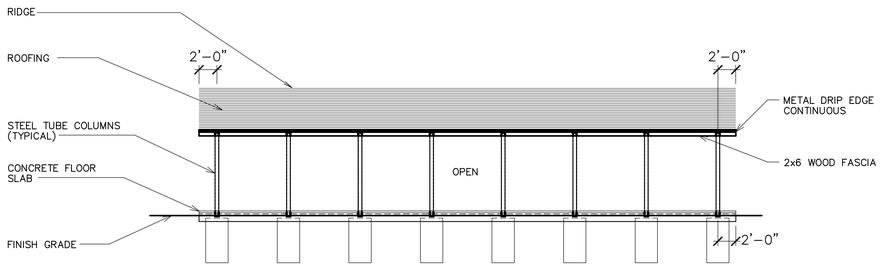
1 FLOOR PLAN
SCALE: 1/8" = 1'-0"



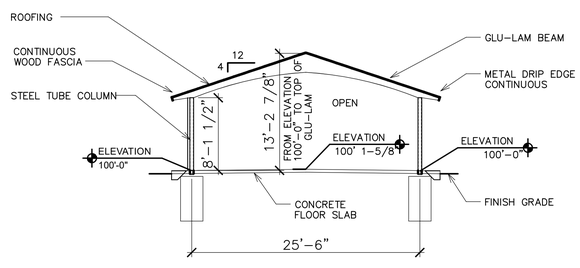
2 ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"



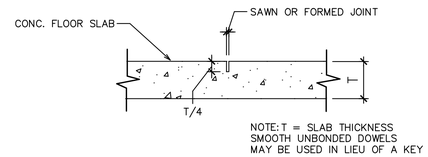
3 REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"



A SIDE ELEVATION
SCALE: 1/8" = 1'-0"



B END ELEVATION
SCALE: 1/4" = 1'-0"



4 CONTROL JOINT DETAIL
SCALE: 1 1/2" = 1'-0"

Supplier:
SMITH STEELWORKS

Stamp Not Valid Unless Signed
PROFESSIONAL ENGINEER
DOUGLAS M. FARLEY
No.318831
04/14/2023
STATE OF UTAH

30'x60' Glulam Pavilion
Kit 1 Option A

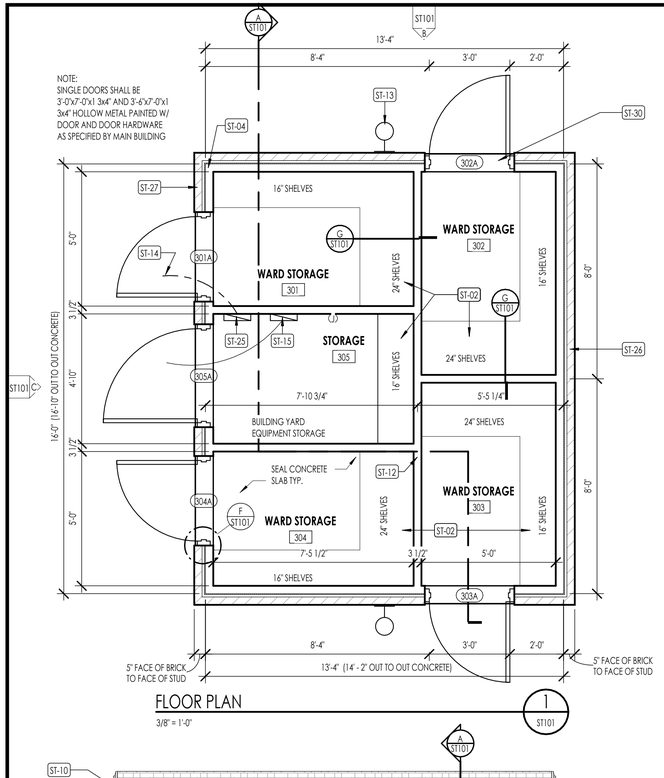
Project for:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

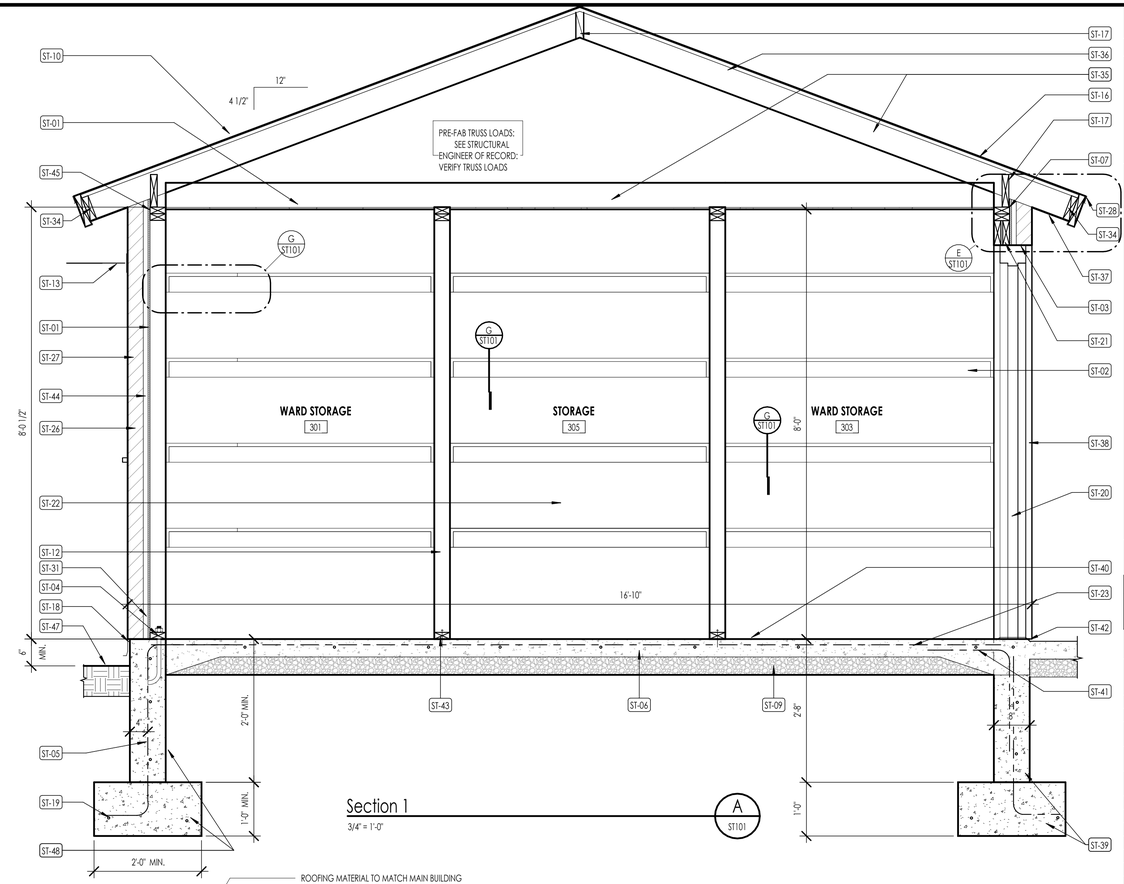
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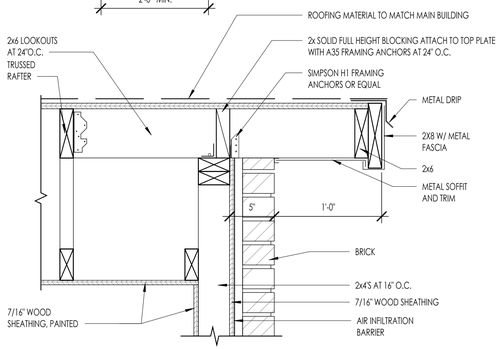
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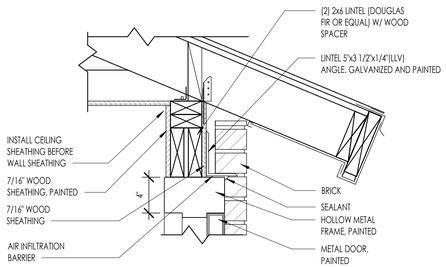
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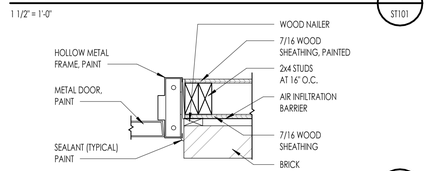
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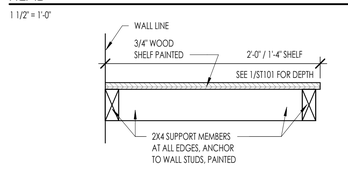












DOOR SCHEDULE

MARK	ROOM NUMBER	SINGLE/PAIR	TYPE	WIDTH	HEIGHT	THICKNESS	FRAME TYPE	DETAIL HEAD	DETAIL JAMB	DETAIL THRESHOLD	FIRE RATING	HARDWARE GROUP	KEYING	REMARKS
301A	301	S	M	3'-0"	7'-0"	1 3/4"	4	E/ST101	F/ST101			1	AA8	BUILDING YARD EQUIPMENT STORAGE
302A	302	S	M	3'-0"	7'-0"	1 3/4"	4	E/ST101	F/ST101			1	AA9	WARD STORAGE
303A	303	S	M	3'-0"	7'-0"	1 3/4"	4	E/ST101	F/ST101			1	AA10	WARD STORAGE
304A	304	S	M	3'-0"	7'-0"	1 3/4"	4	E/ST101	F/ST101			1	AA11	WARD STORAGE
305A	305	S	M	3'-6"	7'-0"	1 3/4"	4	E/ST101	F/ST101			1	AA12	WARD STORAGE

FLOOR PLAN LEGEND

HATCH PATTERN	DESCRIPTION
	POURED IN PLACE CONCRETE
	WOOD STUD WALL
	ASPHALT ROOFING, SEE SPECIFICATIONS
	MASONRY VENEER, SEE SPECIFICATIONS

FLOOR PLAN GENERAL NOTES

1. ALL DIMENSIONS ARE TO INTERIOR FACE-OF-STUD (F.O.S.) UNLESS NOTED OTHERWISE.
2. CEILING HEIGHTS MEASURED FROM PLYWOOD OR CONCRETE - SEE SECTIONS
3. REFER TO ENLARGED PLANS FOR ALL UNIT DIMENSIONS, WINDOW TYPES, DOORS AND WALLS.
4. REFER TO ENLARGED PLANS FOR ALL DECKS/PATIOS.
5. COORDINATE WITH ALL ENLARGED PLANS FOR ADDITIONAL INFORMATION AND DETAILS.
6. ALL TOPPING SLABS MUST BE POURED AFTER ROOF IS COMPLETE AND BUILDING IS DRIED IN.
7. SEE SHEET A002 FOR PROJECT GENERAL NOTES AND SHEET A003 FOR PROJECT KEYNOTES. REVIEW ALL NOTES PRIOR TO CONSTRUCTION.
8. COORDINATE WITH STRUCTURAL FRAMING PLANS AND SHEAR WALL PLANS FOR LOCATIONS OF COLUMNS, BEAMS, SHEAR WALLS, ETC.
9. COORDINATE WITH BUILDER/OWNER FOR ALL INTERIOR FINISHES
10. COORDINATE WITH ELECTRICAL DRAWINGS FOR ALL LIGHTING, POWER AND DATA REQUIREMENTS.
11. ALL EXTERIOR WALLS ARE ASSUMED TO BE 2X4 STUD WALLS UNLESS SHOWN/NOTED OTHERWISE.
12. ALL INTERIOR WALLS ARE ASSUMED TO BE 2X4 STUD WALLS UNLESS SHOWN/NOTED OTHERWISE.
13. ALL ROOF TRUSSES TO HAVE RAISED ENERGY HEEL CONSTRUCTION TO ALLOW FOR FULL DEPTH INSULATION OVER EXTERIOR WALLS (COORDINATE INSULATION REQUIREMENTS WITH RESCHECKS).

FLOOR PLAN KEY NOTES

Specification Keynote	Instructional Keynote
# Key Note Info	# Key Note Info

KEYNOTE INSTRUCTIONAL

ST-01	7/16" WOOD SHEATHING W/ APA SPAN RATING OF 24/0 MINIMUM, NAIL W/ 8d NAILS AT 6" O.C. AT PANEL EDGES AND 8d NAILS AT 6" O.C. AT INTERMEDIATE SUPPORTS TYPICAL.
ST-02	FIXED SHELVING (4 SHELVES EQUAL SPACING)
ST-03	LINTEL 5"x3 1/2"x1/4"(LLV) ANGLE, GALVANIZED AND PAINTED
ST-04	2x4 SILL PLATE W/ 1/2" DIA. x 6" EMBEDMENT ANCHOR BOLTS AT 32" O.C. MAX. (MAXIMUM 12" FROM CORNER)
ST-05	#4 AT 16" O.C. EACH WAY HORZ. AND VERTICAL. CONCRETE SHALL BE 4500 PSI STRENGTH AT 28 DAYS
ST-06	4" CONCRETE SLAB WITH #4 BARS AT 18" O.C. EACH WAY WITH 1" CLEAR TO TOP OF SLAB. CONCRETE SHALL BE 3000 PSI AT 28 DAYS
ST-07	SIMPSON H1 FRAMING ANCHORS OR EQUAL AT EACH TRUSS END TYPICAL
ST-09	4" THICK GRAVEL BASE COMPACTED TO 95% OF STANDARD PROCTOR
ST-10	ROOFING MATERIAL TO MATCH MAIN BUILDING
ST-11	METAL WALL LOUVER L5 W/ INSECT SCREEN (BOTH ENDS OF BUILDING)
ST-12	2x4 STUD WALLS AT 16" O.C. (TYP.)
ST-13	LOW-PROFILE LED LIGHT - ONE CENTERED ON 3 ELEVATIONS WITH DOORS
ST-14	INSTALL CONDUIT FOR SPRINKLING SYSTEM CONTROLS. COORDINATE WITH INSTALLER FOR LOCATION. REFER TO IRRIGATION PLANS FOR REQUIREMENTS.
ST-15	30 AMP-1P SERVICE RATED DISCONNECT
ST-16	19/32" ROOF SHEATHING W/ APA SPAN RATING OF 40/20 MINIMUM, NAIL W/ 8d NAILS AT 6" O.C. ATPANEL EDGES, AND 8d NAILS AT 12" O.C. AT INTERMEDIATE SUPPORTS. NAIL SHEATHING TO BLOCKING W/ 8d NAILS AT 6" O.C.
ST-17	2x SOLID FULL HEIGHT BLOCKING. SHAPE TOP TO MATCH ROOF SLOPE. ATTACH TO TOP PLATE WITH A35 FRAMING ANCHORS AT 24" O.C.
ST-18	PRE-FINISHED METAL DRIP EDGE WITH HEMMED EDGE- PROVIDE WEEP VENTS AT 32" O.C. AT BASE OF MASONRY FINISH GRADE
ST-19	(2) #4 CONTINUOUS, CONCRETE SHALL BE 3000 PSI STRENGTH AT 28 DAYS
ST-20	METAL DOOR AND FRAME PAINTED
ST-21	(2) 2x6 HEADER (DOUGLAS FIR OR EQUAL) W/ WOOD SPACER
ST-22	PAINTED WALL AND CEILING SHEATHING
ST-23	CONCRETE FLOOR SLAB SEALED (TYP.)
ST-25	AUTOMATIC IRRIGATION CONTROLLER
ST-26	BRICK W/ METAL TIES AT 16" O.C. EA. WAY
ST-27	BRICK TO MATCH MAIN BUILDING
ST-28	METAL DRIP AND FASCIA
ST-29	DEAD BOLT AND LOCK SET. (TYP.)
ST-30	METAL THRESHOLD
ST-31	MORTAR GUARD IN WALL CAVITY
ST-34	2x6 CONTINUOUS
ST-35	2x6 MIN. TOP AND BOTTOM CHORDS
ST-36	TRUSSED RAFTERS AT 24" O.C. - SEE STRUCTURAL FOR TRUSS LOADING
ST-37	METAL SOFFIT AND TRIM
ST-38	BRICK BEYOND
ST-39	VERIFY FOOTING AND FOUNDATION CONFIGURATION AND DEPTH WITH SOILS REPORT
ST-40	CONCRETE FLOOR SLAB SEALED (TYP.)
ST-41	#4 DOWEL 12"/16" @ 18" O.C. AT ALL OPENINGS
ST-42	SLOPE CONCRETE SLAB AT DOOR AS SHOWN
ST-43	POWDER-ACTUATED FASTENERS AT 16" O.C.
ST-44	AIR INFILTRATION BARRIER
ST-45	(2) 2x4 TOP PLATE
ST-47	FINISH GRADE
ST-48	WHERE POSSIBLE, CHANGE THE STRIP FOOTING AND FOUNDATION WALL TO A DOWNTURNED SLAB IF IT WOULD RESULT IN FOUNDATION COST SAVINGS

CODE REVIEW

Allowable height, stories, and area (Table 504.3, 504.4, 506.2) - VB, Not Sprinklered

Occupancy	Height (ft)	Story	Area (sf)
S-1	40	1	9,000

Actual height, stories and area

Occupancy	Height (ft)	Story	Area (sf)
S-1	11'- 9"	1	214

Table 1004.1.2 Maximum Floor Area Allowances Per Occupant

Occupant Load: 214/300 = 0.71 = 1 occupant

Building is unconditioned - no heating or cooling

Architect / Engineer:
ea architecture
11576 South State Street, Suite 103b
Draper, Utah 84020

Stamp:
LICENSED ARCHITECT
PAUL VERNON EVANS
273770
STATE OF UTAH

Project for:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

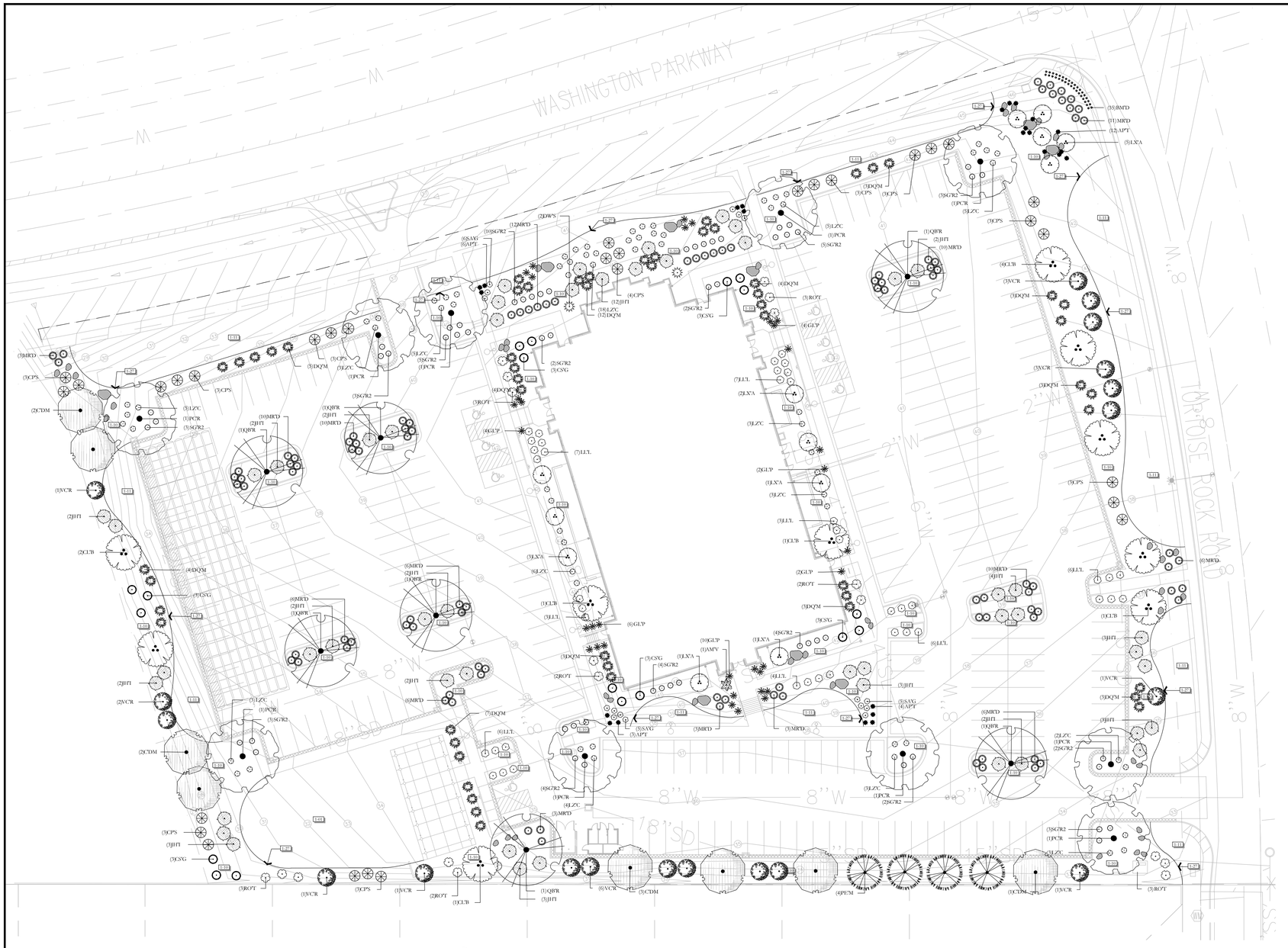
Mark	Date (D-M-Y)	Description

Project Number: 22-57
Plan Series: G300-MH-09-SR
Property Number: 501-7795-22010101

Sheet Title: STORAGE BUILDING

Sheet: ST101

3/6/2023 11:55:24 AM



PLANT LEGEND

NOTE: PLANT QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.

CONIFERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	CS'G	18	Cupressus sempervirens 'Glauca' Blue Italian Cypress	B & B		6'-7'
	PE'M	4	Pinus eldarica Mondell Pine	B & B		5'-6'

DECIDUOUS TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	C'DM	8	Cercidium x 'Desert Museum' Desert Museum Palo Verde	B & B	Multi-trunked	
	CL'B	10	Chilopsis linearis 'Burgundy Lace' Burgundy Lace Desert Willow	B & B	Multi-trunked	
	LX'A	13	Lagerstroemia indica x fauriei 'Arapaho' Arapaho Crape Myrtle	B & B	Multi-trunked	
	PC'R	10	Pistacia chinensis 'Red Push' Red Push Chinese Pistache	B & B	2"Cal	
	QB'R	7	Quercus buckleyi Red Rock Oak	B & B	2"Cal	

EVERGREEN TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	VC'R	19	Vauquelinia californica Arizona Rosewood	B & B	Multi-trunked	7'-9'

DECIDUOUS SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	SG'R2	55	Salvia greggii 'Red' Red Autumn Sage	3 gal

EVERGREEN SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	CP'S	31	Cytisus purgans `Spanish Gold' Spanish Gold Broom	5 gal
	JH'I	49	Juniperus horizontalis `Monber' TM Icee Blue Juniper	5 gal
	LL'L	42	Leucophyllum langmaniae 'Lynn's Legacy' Lynn's Legacy Texas Sage	5 gal
	LZ'C	68	Leucophyllum zygophyllum Cimmeron Texas Sage	5 gal
	RO'T	18	Rosmarinus officinalis 'Tuscan Blue' Tuscan Blue Rosemary	5 gal

GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	MR'D	105	Muhlenbergia rigens Deer Grass	5 gal

PERENNIALS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	BM'D	35	Baileya multiradiata Desert Marigold	1 gal
	GL'P	34	Gaura lindheimeri 'Siskiyou Pink' Siskiyou Pink Gaura	1 gal
	SA'G	16	Sphaeralcea ambigua Desert Globemallow	1 gal

SUCCULENTS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	AM'V	1	Agave americana 'Marginata' Variegated Century Plant	5 gal
	AP'T	25	Agave parryi var. truncata Artichoke Parry's Agave	5 gal
	DQ'M	54	Dasylirion quadrangulatum Mexican Grass Tree	5 gal
	DW'S	2	Dasylirion wheeleri Grey Desert Spoon	5 gal

SITE MATERIALS LEGEND

NOTE: SITE MATERIALS QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.

SYMBOL	1 LANDSCAPE DESCRIPTION	QTY
1-01	NON-SEEDING BERMUDA GRASS SODDED LAWN AREA ONLY IN WASHINGTON COUNTY. LAWN AREAS SHALL BE SOD. NEW TURF AREAS TO BE SODDED WITH DESERT BERMUDA OR APPROVED EQUAL. FINE LEVEL ALL AREAS PRIOR TO LAYING SOD. ALL LAWN AREAS TO RECEIVE MIN. 6" DEPTH OF QUALITY TOPSOIL. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED LAWN. ALL LAWN AREAS SHALL BE IRRIGATED WITH 100% COVERAGE BY POP-UP SPRAY HEADS AND GEAR-DRIVEN ROTORS. ALL DECIDUOUS AND CONIFER TREES PLANTED WITHIN SOD AREAS SHALL HAVE A FOUR FOOT(4') DIAMETER TREE RING COVERED WITH CHOCOLATE BROWN BARK MULCH, NO SHREDDED FINES. SUBMIT SAMPLES TO BE APPROVED BY LANDSCAPE ARCHITECT AND OWNER BEFORE INSTALLATION. SEE REDDESERTSODFARM.COM	5,208 sf
1-10	1" MINUS TAN CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. ROCK MULCH PLANTING AREAS TO RECEIVE MIN. 12" DEPTH OF QUALITY TOPSOIL. WHERE PLANTING IS SPARSE, ADDITIONAL TOPSOIL IS NOT NECESSARY. PREPARE A HOLE TWICE THE WIDTH OF THE CONTAINER, WATER IN PLANT, BACKFILL WITH A 3:1 RATIO OF SOIL TO COMPOST. TAMP LIGHTLY AND WATER AGAIN. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED PLANTINGS. PROVIDE 3" DEPTH OF ROCK MULCH TOP DRESSING. KEEP ROCK AWAY FROM TOP OF ROOT BALL OF ALL PLANT MATERIAL. IF REQUIRED BY CITY, INSTALL DEWITT 5OZ WEED BARRIER LANDSCAPE FABRIC UNDER ALL ROCK AREAS. KEEP WEED BARRIER 1 FOOT AWAY FROM EDGE OF ROOT BALL OF ALL PLANT MATERIAL. IF WEED BARRIER IS NOT REQUIRED OR INSTALLED, AT OWNER'S APPROVAL, USE TREFLAN 10 AS A PRE-EMERGENT. APPLY ACCORDING TO LABEL DIRECTIONS AFTER PLANTING AND AFTER APPLYING MULCH. THIS AREA WILL ALSO NEED AN ANNUAL MAINTENANCE PROGRAM. SUBMIT PROGRAM TO OWNER.	52,007 sf
1-11	1" MINUS GREY CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. ROCK MULCH PLANTING AREAS TO RECEIVE MIN. 12" DEPTH OF QUALITY TOPSOIL. WHERE PLANTING IS SPARSE, ADDITIONAL TOPSOIL IS NOT NECESSARY. PREPARE A HOLE TWICE THE WIDTH OF THE CONTAINER, WATER IN PLANT, BACKFILL WITH A 3:1 RATIO OF SOIL TO COMPOST. TAMP LIGHTLY AND WATER AGAIN. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED PLANTINGS. PROVIDE 3" DEPTH OF ROCK MULCH TOP DRESSING. KEEP ROCK AWAY FROM TOP OF ROOT BALL OF ALL PLANT MATERIAL. IF REQUIRED BY CITY, INSTALL DEWITT 5OZ WEED BARRIER LANDSCAPE FABRIC UNDER ALL ROCK AREAS. KEEP WEED BARRIER 1 FOOT AWAY FROM EDGE OF ROOT BALL OF ALL PLANT MATERIAL. IF WEED BARRIER IS NOT REQUIRED OR INSTALLED, AT OWNER'S APPROVAL, USE TREFLAN 10 AS A PRE-EMERGENT. APPLY ACCORDING TO LABEL DIRECTIONS AFTER PLANTING AND AFTER APPLYING MULCH. THIS AREA WILL ALSO NEED AN ANNUAL MAINTENANCE PROGRAM. SUBMIT PROGRAM TO OWNER.	23,465 sf

SYMBOL	1 LANDSCAPE DESCRIPTION	QTY
1-26	BOULDERS - DECORATIVE	51
1-27	6" CONCRETE MOW CURB	1,408 lf
1-28	5" DEEP STEEL EDGING - INSTALL PER MANUFACTURER SPECIFICATION.	540 lf

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JEREMY AINSWORTH
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ELECTRONIC SEAL
STATE OF UTAH

A New Building for
SIENNA HILLS
Buena Vista RD.
Washington, Utah

Project for:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

Revisions		
Mark	Date	Description

Project Number
UT23075 (22-59)
Plan Series
Stake Center
Property Number
502-1091-22020101
Date
October 12, 2023

Sheet Title
LANDSCAPE COLOR PLAN

Sheet
L101

PKJ DESIGN GROUP
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0' 15' 30' 60' 120'
GRAPHIC SCALE: 1" = 30'



PLANT LEGEND

NOTE: PLANT QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.

CONIFERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	CS'G	18	Cupressus sempervirens 'Glauca' Blue Italian Cypress	B & B		6'-7'
	PE'M	4	Pinus eldarica Mondell Pine	B & B		5'-6'

DECIDUOUS TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	C'DM	8	Cercidium x 'Desert Museum' Desert Museum Palo Verde	B & B	Multi-trunked	
	CL'B	10	Chilopsis linearis 'Burgundy Lace' Burgundy Lace Desert Willow	B & B	Multi-trunked	
	LX'A	13	Lagerstroemia indica x fauriei 'Arapaho' Arapaho Crape Myrtle	B & B	Multi-trunked	
	PC'R	10	Pistacia chinensis 'Red Push' Red Push Chinese Pistache	B & B	2"Cal	
	QB'R	7	Quercus buckleyi Red Rock Oak	B & B	2"Cal	

EVERGREEN TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	VC'R	19	Vauquelinia californica Arizona Rosewood	B & B	Multi-trunked	7'-9'

DECIDUOUS SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	SG'R2	55	Salvia greggii 'Red' Red Autumn Sage	3 gal

EVERGREEN SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	CP'S	31	Cytisus purgans `Spanish Gold' Spanish Gold Broom	5 gal
	JH'I	49	Juniperus horizontalis `Monber` TM Icee Blue Juniper	5 gal
	LL'L	42	Leucophyllum langmaniae 'Lynn's Legacy' Lynn's Legacy Texas Sage	5 gal
	LZ'C	68	Leucophyllum zygophyllum Cimmeron Texas Sage	5 gal
	RO'T	18	Rosmarinus officinalis 'Tuscan Blue' Tuscan Blue Rosemary	5 gal

GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	MR'D	105	Muhlenbergia rigens Deer Grass	5 gal

PERENNIALS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	BM'D	35	Baileya multiradiata Desert Marigold	1 gal
	GL'P	34	Gaura lindheimeri 'Siskiyou Pink' Siskiyou Pink Gaura	1 gal
	SA'G	16	Sphaeralcea ambigua Desert Globemallow	1 gal

SUCCULENTS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	AM'V	1	Agave americana 'Marginata' Variegated Century Plant	5 gal
	AP'T	25	Agave parryi var. truncata Artichoke Parry's Agave	5 gal
	DQ'M	54	Dasylirion quadrangulatum Mexican Grass Tree	5 gal
	DW'S	2	Dasylirion wheeleri Grey Desert Spoon	5 gal

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Washington, Utah

Project for:
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OF LATTER-DAY SAINTS

Revisions		
Mark	Date	Description

Project Number
UT23075 (22-59)
Plan Series
Stake Center
Property Number
502-1091-22020101
Date
October 12, 2023

Sheet Title
LANDSCAPE PLAN

Sheet
L102



PLANT LEGEND

NOTE: PLANT QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.

CONIFERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	CS'G	18	Cupressus sempervirens 'Glauca' Blue Italian Cypress	B & B		6'-7'
	PE'M	4	Pinus eldarica Mondell Pine	B & B		5'-6'

DECIDUOUS TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	C'DM	8	Cercidium x 'Desert Museum' Desert Museum Palo Verde	B & B	Multi-trunked	
	CL'B	10	Chilopsis linearis 'Burgundy Lace' Burgundy Lace Desert Willow	B & B	Multi-trunked	
	LX'A	13	Lagerstroemia indica x fauriei 'Arapaho' Arapaho Crape Myrtle	B & B	Multi-trunked	
	PC'R	10	Pistacia chinensis 'Red Push' Red Push Chinese Pistache	B & B	2"Cal	
	QB'R	7	Quercus buckleyi Red Rock Oak	B & B	2"Cal	

EVERGREEN TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE
	VC'R	19	Vauquelinia californica Arizona Rosewood	B & B	Multi-trunked	7'-9'

DECIDUOUS SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	SG'R2	55	Salvia greggii 'Red' Red Autumn Sage	3 gal

EVERGREEN SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	CP'S	31	Cytisus purgans `Spanish Gold' Spanish Gold Broom	5 gal
	JH'I	49	Juniperus horizontalis `Monber` TM Icee Blue Juniper	5 gal
	LL'L	42	Leucophyllum langmaniae 'Lynn's Legacy' Lynn's Legacy Texas Sage	5 gal
	LZ'C	68	Leucophyllum zygophyllum Cimmeron Texas Sage	5 gal
	RO'T	18	Rosmarinus officinalis 'Tuscan Blue' Tuscan Blue Rosemary	5 gal

GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	MR'D	105	Muhlenbergia rigens Deer Grass	5 gal

PERENNIALS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	BM'D	35	Baileya multiradiata Desert Marigold	1 gal
	GL'P	34	Gaura lindheimeri 'Siskiyou Pink' Siskiyou Pink Gaura	1 gal
	SA'G	16	Sphaeralcea ambigua Desert Globemallow	1 gal

SUCCULENTS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
	AM'V	1	Agave americana 'Marginata' Variegated Century Plant	5 gal
	AP'T	25	Agave parryi var. truncata Artichoke Parry's Agave	5 gal
	DQ'M	54	Dasylirion quadrangulatum Mexican Grass Tree	5 gal
	DW'S	2	Dasylirion wheeleri Grey Desert Spoon	5 gal

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Sheet Title
LANDSCAPE PLAN

Sheet
L103

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	LX'A	13	Lagerstroemia indica x fauriei 'Arapaho' Arapaho Crape Myrtle	B & B	Multi-trunked	
	PC'R	10	Pistacia chinensis 'Red Push' Red Push Chinese Pistache	B & B	2"Cal	
	QB'R	7	Quercus buckleyi Red Rock Oak	B & B	2"Cal	

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	DW'S	2	Dasylirion wheeleri Grey Desert Spoon	5 gal

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LANDSCAPE PLAN

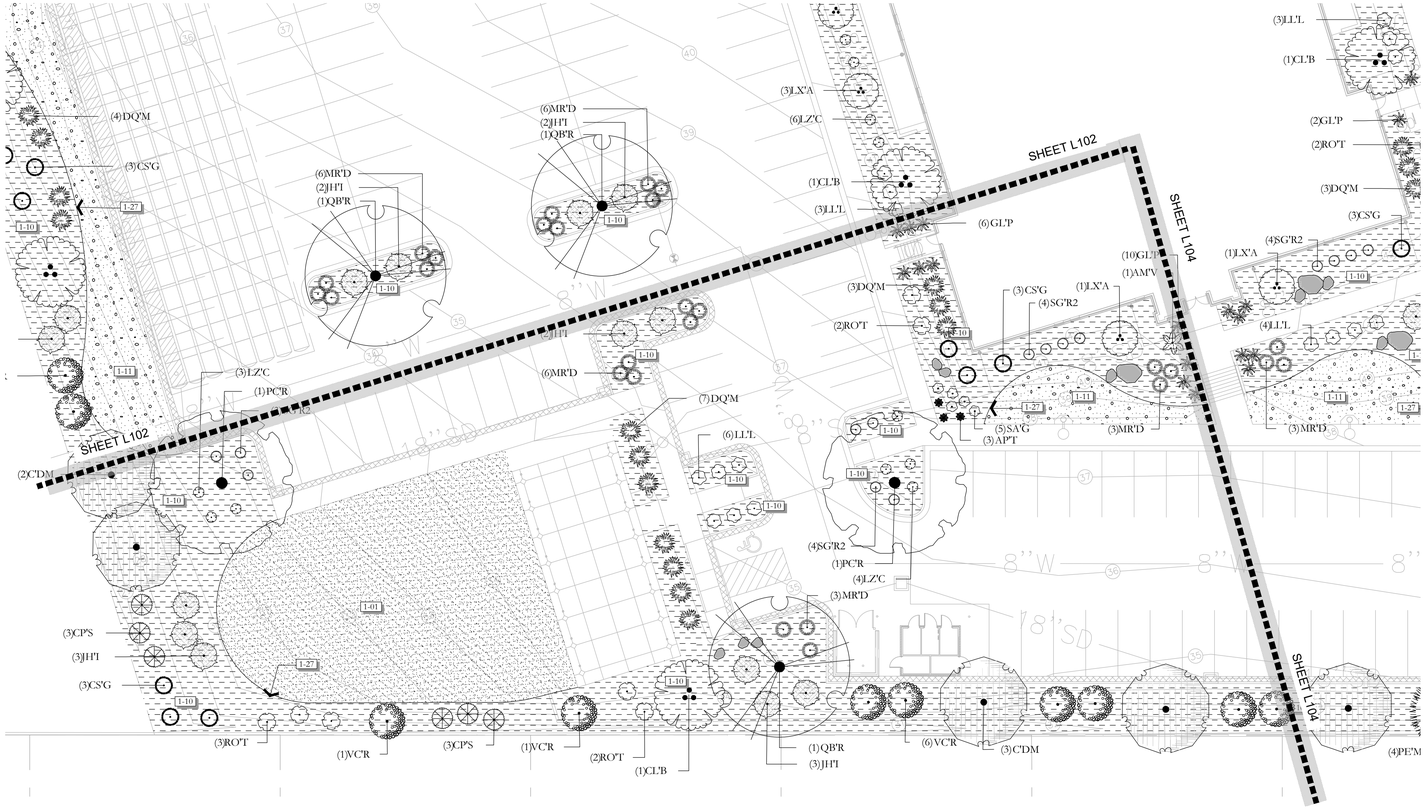
Sheet
L104

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0' 10' 20' 40' 80'
GRAPHIC SCALE: 1" = 20'



PLANT LEGEND

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GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	CONT
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PERENNIALS	CODE	QTY	BOTANICAL / COMMON NAME	CONT
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LANDSCAPE PLAN

Sheet

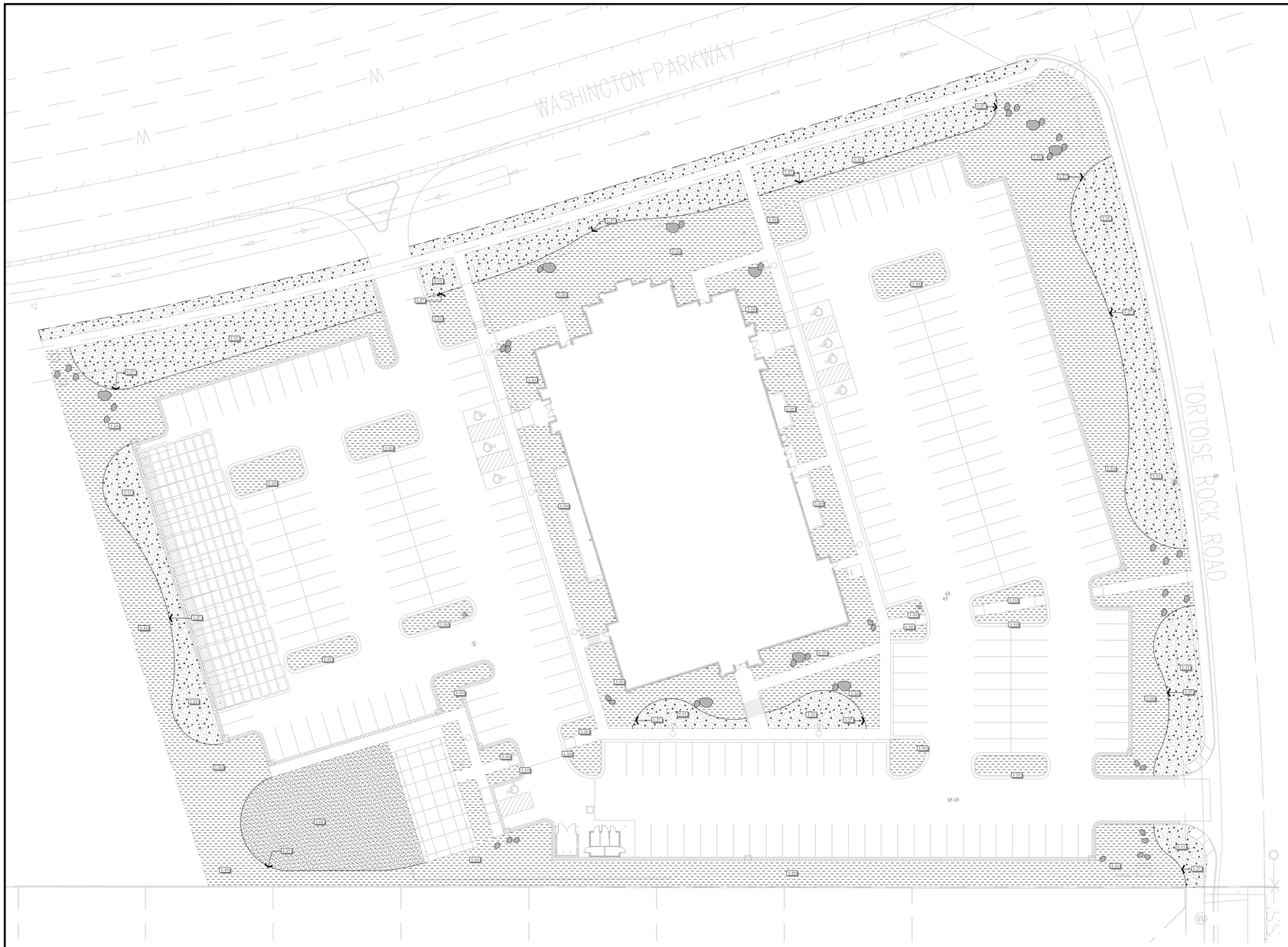
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SITE MATERIALS LEGEND

NOTE: SITE MATERIALS QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.)

SYMBOL	1 LANDSCAPE DESCRIPTION	QTY
1-01	NON-SEEDING BERMUDA GRASS SODDED LAWN AREA ONLY IN WASHINGTON COUNTY. LAWN AREAS SHALL BE SOD. NEW TURF AREAS TO BE SODDED WITH DESERT BERMUDA OR APPROVED EQUAL. FINE LEVEL ALL AREAS PRIOR TO LAYING SOD. ALL LAWN AREAS TO RECEIVE MIN. 6" DEPTH OF QUALITY TOPSOIL. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED LAWN. ALL LAWN AREAS SHALL BE IRRIGATED WITH 100% COVERAGE BY POP-UP SPRAY HEADS AND GEAR-DRIVEN ROTORS. ALL DECIDUOUS AND CONIFER TREES PLANTED WITHIN SOD AREAS SHALL HAVE A FOUR FOOT(4') DIAMETER TREE RING COVERED WITH CHOCOLATE BROWN BARK MULCH, NO SHREDDED FINES. SUBMIT SAMPLES TO BE APPROVED BY LANDSCAPE ARCHITECT AND OWNER BEFORE INSTALLATION. SEE REDDESERTSODFARM.COM	5,208 sf
1-10	1" MINUS TAN CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. ROCK MULCH PLANTING AREAS TO RECEIVE MIN. 12" DEPTH OF QUALITY TOPSOIL. WHERE PLANTING IS SPARSE, ADDITIONAL TOPSOIL IS NOT NECESSARY. PREPARE A HOLE TWICE THE WIDTH OF THE CONTAINER, WATER IN PLANT, BACKFILL WITH A 3:1 RATIO OF SOIL TO COMPOST. TAMP LIGHTLY AND WATER AGAIN. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED PLANTINGS. PROVIDE 3" DEPTH OF ROCK MULCH TOP DRESSING. KEEP ROCK AWAY FROM TOP OF ROOT BALL OF ALL PLANT MATERIAL. IF REQUIRED BY CITY, INSTALL DEWITT 5OZ WEED BARRIER LANDSCAPE FABRIC UNDER ALL ROCK AREAS. KEEP WEED BARRIER 1 FOOT AWAY FROM EDGE OF ROOT BALL OF ALL PLANT MATERIAL. IF WEED BARRIER IS NOT REQUIRED OR INSTALLED, AT OWNER'S APPROVAL, USE TREFLAN 10 AS A PRE-EMERGENT. APPLY ACCORDING TO LABEL DIRECTIONS AFTER PLANTING AND AFTER APPLYING MULCH. THIS AREA WILL ALSO NEED AN ANNUAL MAINTENANCE PROGRAM. SUBMIT PROGRAM TO OWNER.	52,007 sf
1-11	1" MINUS GREY CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. ROCK MULCH PLANTING AREAS TO RECEIVE MIN. 12" DEPTH OF QUALITY TOPSOIL. WHERE PLANTING IS SPARSE, ADDITIONAL TOPSOIL IS NOT NECESSARY. PREPARE A HOLE TWICE THE WIDTH OF THE CONTAINER, WATER IN PLANT, BACKFILL WITH A 3:1 RATIO OF SOIL TO COMPOST. TAMP LIGHTLY AND WATER AGAIN. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED PLANTINGS. PROVIDE 3" DEPTH OF ROCK MULCH TOP DRESSING. KEEP ROCK AWAY FROM TOP OF ROOT BALL OF ALL PLANT MATERIAL. IF REQUIRED BY CITY, INSTALL DEWITT 5OZ WEED BARRIER LANDSCAPE FABRIC UNDER ALL ROCK AREAS. KEEP WEED BARRIER 1 FOOT AWAY FROM EDGE OF ROOT BALL OF ALL PLANT MATERIAL. IF WEED BARRIER IS NOT REQUIRED OR INSTALLED, AT OWNER'S APPROVAL, USE TREFLAN 10 AS A PRE-EMERGENT. APPLY ACCORDING TO LABEL DIRECTIONS AFTER PLANTING AND AFTER APPLYING MULCH. THIS AREA WILL ALSO NEED AN ANNUAL MAINTENANCE PROGRAM. SUBMIT PROGRAM TO OWNER.	23,465 sf

SYMBOL	1 LANDSCAPE DESCRIPTION	QTY
1-26	BOULDERS - DECORATIVE	51
1-27	6" CONCRETE MOW CURB	1,408 lf
1-28	5" DEEP STEEL EDGING - INSTALL PER MANUFACTURER SPECIFICATION.	540 lf

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L105



SITE MATERIALS LEGEND

NOTE: SITE MATERIALS QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.)

———	1-27	6" CONCRETE MOW CURB	1,408 lf
— —	1-28	5" DEEP STEEL EDGING - INSTALL PER MANUFACTURER SPECIFICATION.	540 lf

evans + associates architecture
planning + development
www.evansassociates.com
phone 801-553-8272 fax 801-553-8273

Stamp

LICENSED LANDSCAPE ARCHITECT
JEREMY AINSWORTH
8128727-5301
ELECTRONIC SEAL
STATE OF UTAH

A New Building for
SIENNA HILLS
Buena Vista RD.
Washington, Utah

Project for:
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS

Revisions		
Mark	Date	Description

Project Number
UT23075 (22-59)

Plan Series
Stake Center

Property Number
502-1091-22020101

Date
October 12, 2023

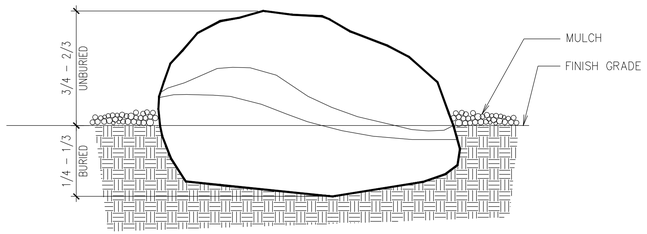
Sheet Title
EDGING PLAN

Sheet
L105

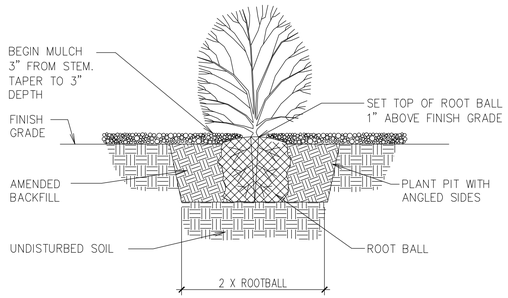
PKJ DESIGN GROUP
Landscape Architecture & Planning & Visualization
3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 753-5644
www.pkjdesigngroup.com

811 BLUE STAKES OF UTAH
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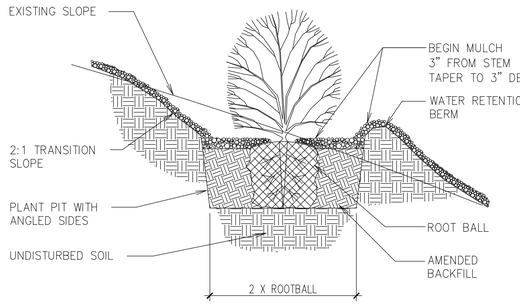
0' 15' 30' 60' 120'
GRAPHIC SCALE: 1" = 30'



A BOULDER PLACEMENT DETAIL
NOT TO SCALE

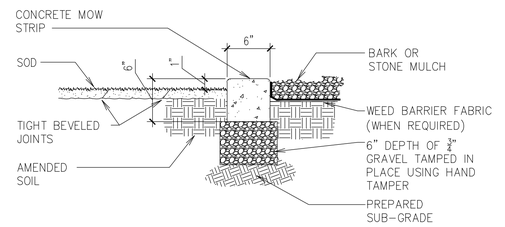


B SHRUB PLANTING DETAIL
NOT TO SCALE

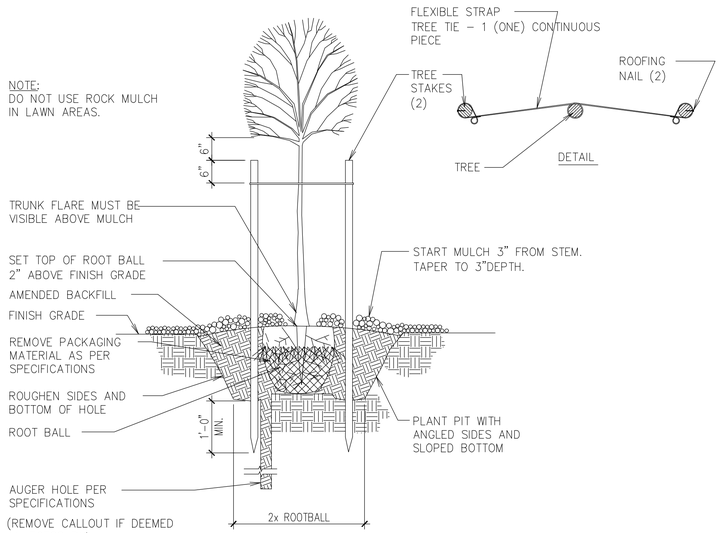


C SLOPE PLANTING
NOT TO SCALE

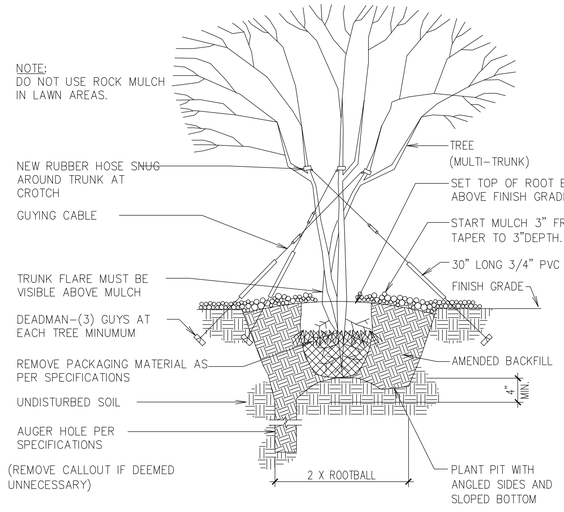
NOTES:
1. MOW STRIP TO BE 4,500 PSI CONCRETE WITH 6% AIR ± 1 1/2.
2. INSTALL EXPANSION AND CONTROL JOINTS AS PER SPECIFICATIONS.
3. PROVIDE POSITIVE DRAINAGE AROUND MOW STRIPS. DO NOT CREATE A DAM EFFECT WITH PLACEMENT OF MOW STRIP.
4. MAXIMUM 1/2" WIDTH VARIATION.
5. FOLLOW LAYOUT PLAN PRECISELY AS SHOWN ON MOW STRIP/EDGING DIMENSION PLAN.
6. RAISE THE LAWN GRADE 1" WHEN SEEDING.



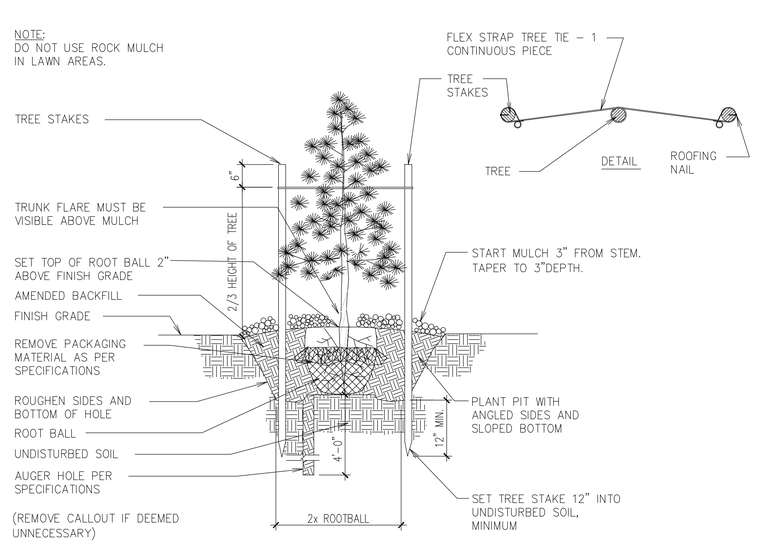
D CONCRETE MOW STRIP
NOT TO SCALE



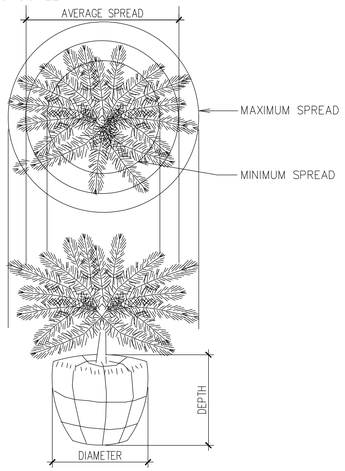
E TREE PLANTING AND STAKING
NOT TO SCALE



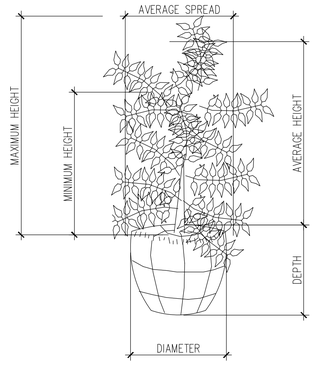
TREE GUYING (MULTI–TRUNK TREE)
NOT TO SCALE



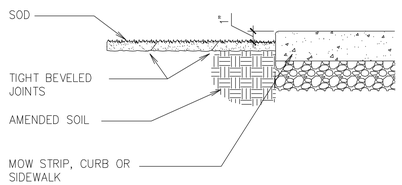
G CONIFER PLANTING AND STAKING
NO SCALE



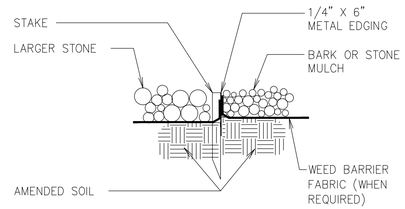
H TYPICAL MEASUREMENT FOR PROSTRATE TYPE PLANTS
NOT TO SCALE



I TYPICAL MEASUREMENT FOR BROAD UPRIGHT TYPE
NOT TO SCALE



J SOD INSTALLATION
NOT TO SCALE



K METAL EDGE DETAIL
NOT TO SCALE

evans + associates architecture
1776 w. 2550 s. ogden, utah 84401
phone 801-553-8272 fax 801-553-8273

Stamp

REGISTERED LANDSCAPE ARCHITECT
JEREMY AINSWORTH
8139121-5301
ELECTRONIC SEAL
STATE OF UTAH

A New Building for
SIENNA HILLS
Buena Vista RD.
Washington, Utah

Project for:
THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

Revisions		
Mark	Date	Description

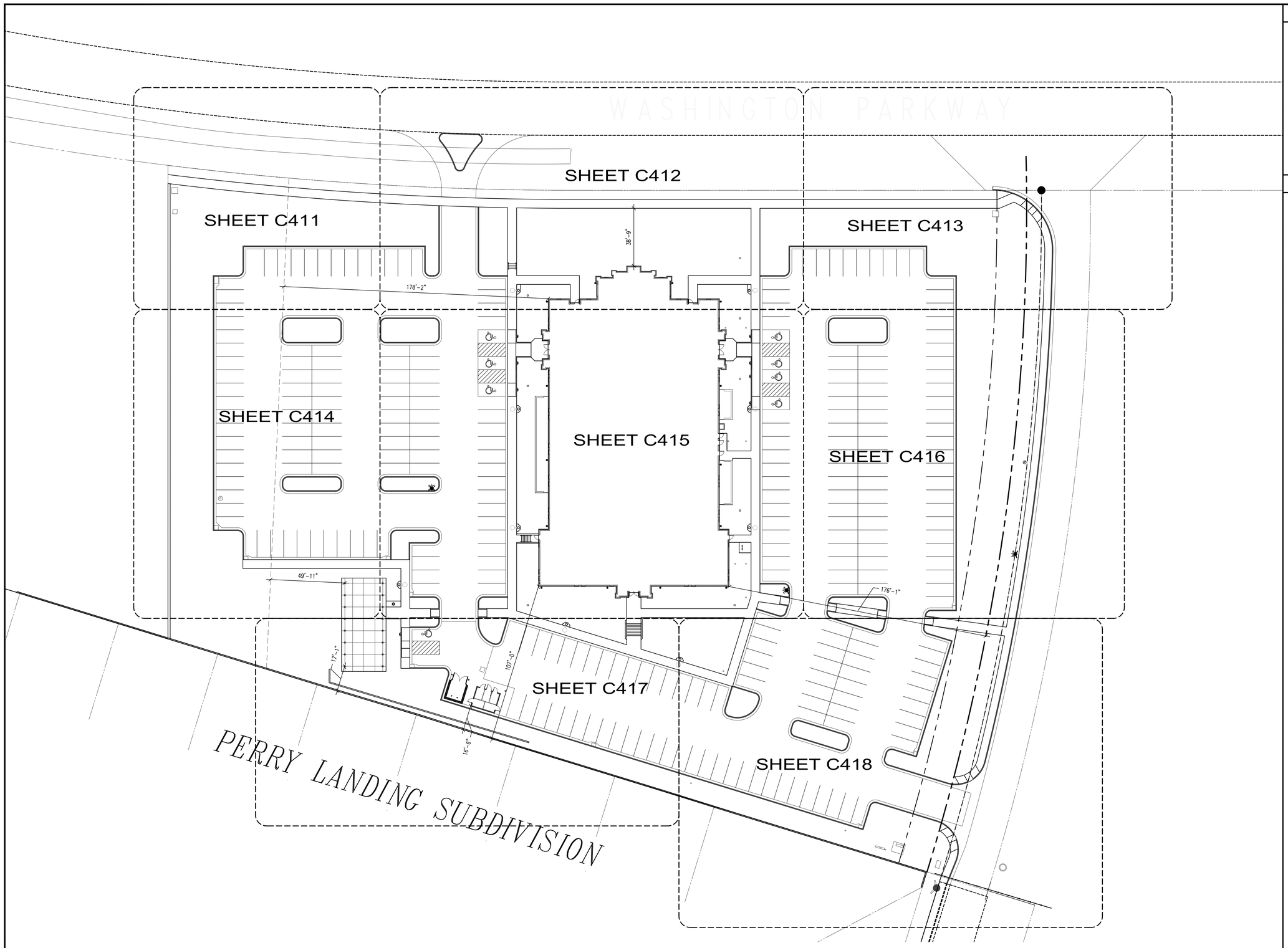
Project Number	UT23075 (22-59)
Plan Series	Stake Center
Property Number	502-1091-22020101
Date	October 12, 2023

Sheet Title
LANDSCAPE DETAILS

Sheet
L501

PKJ DESIGN GROUP
Landscape Architecture / Planning & Visualization
3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 753-5644
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ARCHITECTURAL SITE PLAN

SCALE: 1" = 30'-0"

NORTH

GENERAL NOTES

1. CONCRETE RADII ARE 4'-0" UNLESS NOTED OTHERWISE.
2. COORDINATE ALL SITE WORK WITH ALL OTHER CONTRACT DOCUMENTS.
3. ALL APPLICABLE ELEMENTS OF THE AMERICAN'S WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES WILL BE ADHERED TO.
4. ALL NOTED ITEMS ARE NEW UNLESS NOTED OTHERWISE.
5. ALL CONSTRUCTION IS TO BE DONE PER THE LATEST EDITION OF THE WASHINGTON CITY DESIGN STANDARDS AND PUBLIC IMPROVEMENTS SPECIFICATIONS.

SITE INFORMATION

TOTAL PARCEL AREA: 5.4576 ACRES

BUILDING AREAS
- CHAPEL: 24,076 SF
- PAVILION: 1,462 SF
- STORAGE BUILDING: 236 SF

PARKING STALLS REQUIRED
1 STALL FOR 3.5 FIXED SEATS
300 SEATS IN CHAPEL = 86 STALLS

1 STALL FOR 7 FEET LINEAR PEW
473 LF IN CHAPEL = 68 STALLS

TOTAL PARKING STALLS PROVIDED
REGULAR: 273 STALLS
ACCESSIBLE: 6 STALLS
VAN ACCESSIBLE: 2 STALLS

TOTAL SPACES PROVIDED: 281 STALLS

evans + associates architecture
11576 south state street, suite 103b, draper, utah 84020
phone 801-553-8272 fax 801-553-8273

Stamp

LICENSED ARCHITECT
PAUL ANTHONY EVANS
273770
STATE OF UTAH

A New Meetinghouse for:
Sienna Hills &
Washington UT East Stake
Parcel: W-5-2-11-1311
Tortoise Rock Drive
Washington, Utah

Project for:
THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

Revisions	Mark	Date	Description

Project Number
23-79
Plan Series
Heritage 23-2
Property Number
501-4560-22010101
Date
May 1, 2023

Sheet Title
ARCHITECTURAL SITE PLAN

Sheet
C401

WASHINGTON CITY
PLANNING COMMISSION MEETING
STAFF REVIEW

AGENDA ITEM: 5a

HEARING DATE: November 01, 2023

ACTION REQUESTED: Z-23-11 - A request to rezone approximately .58 acres located at 139 East 300 North, from the current Residential - 6000 square foot Min. (R-1-6) zoning, to a proposed Residential - 2 (R-2) zoning designation.

APPLICANT: Kevin Demille

OWNER: Demille & Sons

ENGINEER: Brad Sapp

REVIEWED BY: Eldon Gibb, City Planner

RECOMMENDATION: Recommend approval to the City Council

Background

The applicant is requesting approval to change the zoning of approximately .58 acres, located at 139 East 300 North. The requested change is from the current zoning of Residential 6,000 square foot minimum (R-1-6), to a proposed Residential 2 - (R-2) zoning designation.

The R-2 request is for the purpose of developing the .58 acres into a residential development.

This particular location has a General Plan Land Use designation of Medium Density (MD). Medium Density supports Residential 6,000 square foot (R-1-6), Residential 8,000 square foot (R-1-8) and Residential - 2 (R-2) zoning designations. The surrounding zoning to this parcel is Residential 6,000 square feet (R-1-6) to the north, east, south and west.

Staff has no concerns with the proposed zone change as outlined.

Recommendation

Staff recommends that the Planning Commission recommend approval of Z-23-11, for the zone change request from Residential Residential 6,000 square foot minimum (R-1-6), to the proposed Residential - 2 (R-2) onto the City Council, based on the following findings below.

Findings

1. That the requested zoning conforms to the intent of the land use designation of the General Plan.

2. The utilities that will be necessary for this type of development will be readily accessible to the site.

Z-23-11

Patricia and Garret Gibson-

My spouse and I are in the house right next to the proposed zone change on the property a developer purchased. I handled the trust of Gary and Edna Gibson which both passed away. The property is in a complete residential block between 2 properties and single family zoned. We split the property with our other family members. The developer was out on our property Demille brothers from La Verkin and the plans drawn up what they planned to build 2 STORY DUPLEXES which no where in the CITY ZONING MEETING shows what is PROPOSED IT'S NOT JUST A SIMPLE R1 TO AN R2 FOR MULTIPLE RESIDENCE . NO ONE HAS NOTED WITH THE ZONE CHANGE IF PASSED R1 TO R2

IT'S NOT THAT SIMPLE RESIDENCE OWNERS NEED TO AND ALSO THE BOARD KNOW AS HOMEOWNERS WE ARE AGAINST 2 STORIES BEING APPROVED TO BUILD ON THIS PROPERTY AT 139 E 300 N. This would be put between 2 PROPERTY OWNERS ourselves and Mike Draper.

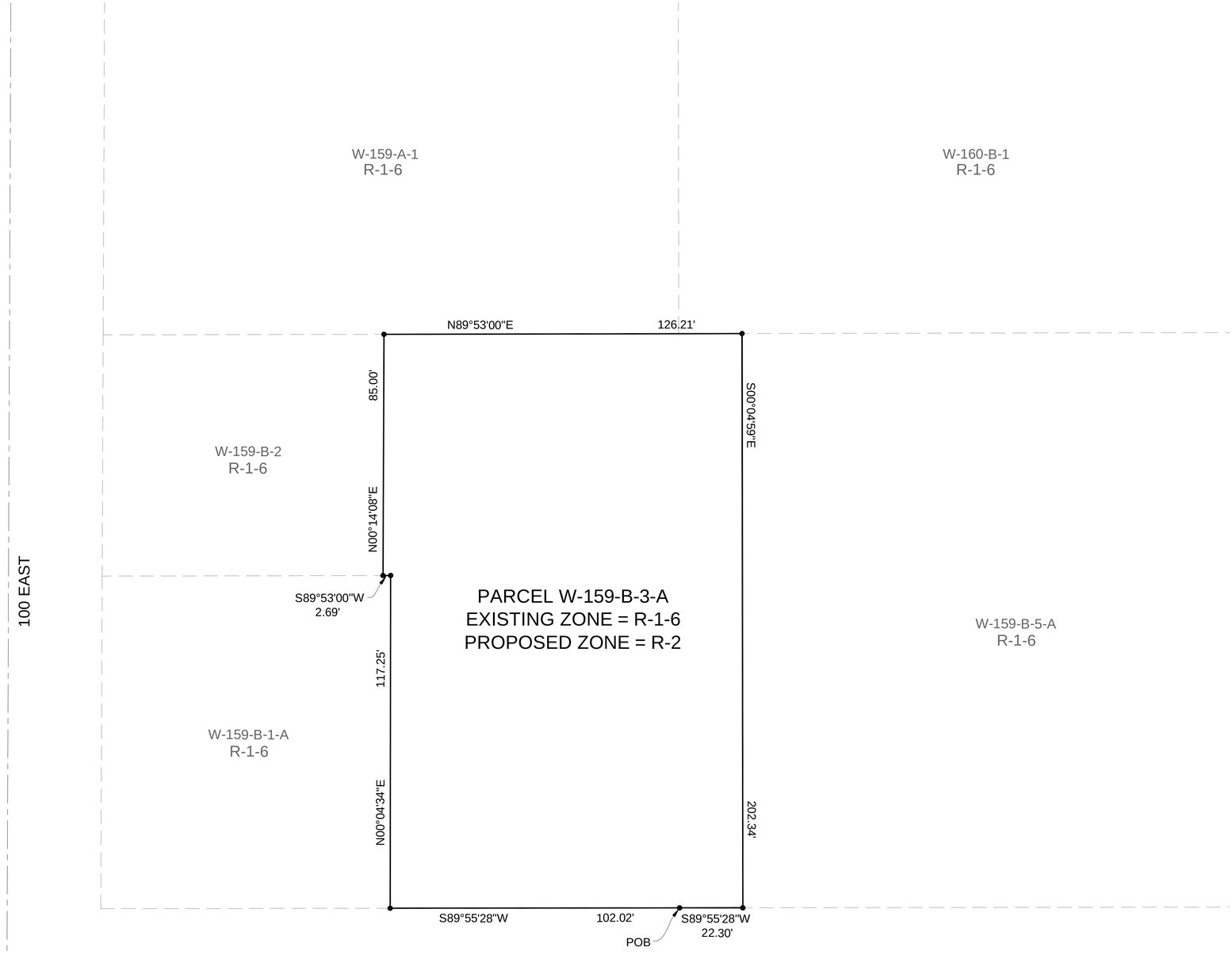
THIS AREA IS ALL SINGLE FAMILY HOMES. THIS ZONE CHANGE WOULD BE OK IF THE PROPOSED DEVELOPER WAS BUILDING DUPLEXES BUT"SINGLE LEVEL ONLY"! PEOPLE ONLY SEE THE ZONE CHANGE NOT WHAT IS PROPOSED TO BE BUILT . WE FEEL DUPLEXES SHOULD BE BACKED UP TO AN AREA LIKE THE DUPLEXES ON 100 N AND 200 E. BACKED TO A WALL NO RESIDENTIAL ON EITHER SIDE OF IT. THIS DEVELOPER NEEDS TO BUILD WHAT CONFORMS TO SINGLE LEVEL AND SINGLE FAMILY DWELLINGS IF DUPLEXES JUST ONE LEVEL. 2 STORIES DO NOT BELONG ON A BLOCK WITH SINGLE FAMILY HOMES. HOME OWNERS HAVE NOT SEEN THE PLANS WE HAVE AND WISH THAT THE BOARD WOULD REVIEW AND HEAR OUR CONCERNS WEDS. AT 6PM. There are duplexes up on the 500 NORTH 200 EAST BLOCK ONE STORY DUPLEX BUT NEXT TO THE FREEWAY AND NOT BETWEEN HOMES AND NO 2 STORIES THEY BLEND IN WELL.

WE WOULD APPRECIATE THE BOARD TO ALLOW US AND OTHER HOMEOWNERS THAT FEEL SINGLE STORY ARE THE ONLY THING THAT NEEDS TO BE APPROVED . PLEASE DO NOT PASS ON THROUGH THE ZONE CHANGE WITHOUT VIEWING THE 2 STORY PROBLEM THIS CREATES FOR RESIDENCES AROUND OUR HOMES. MR KEVIN DEMILLE NEEDS TO BE REFUSED 2 STORIES ONLY SINGLE LEVEL DUPLEXES SHOULD BE ALLOWED. THANK YOU WE WILL BE AT THE MEETING .
GARRET AND PATTY GIBSON

Z-23-11
Matthew E. Kreitzer
I have several comments: 1. The first is a question: When was the decision made to approve this zone change request? Word on the street is that the zoning change was made weeks ago and this is the only reason why the current owner of 139 E 300 N proceeded to purchase the property in the first place. If this is the case, it appears to be an unethical arrangement between Washington City and the applicant for the zone change request. A. If this is the case, why is a “Public Hearing” even held? 2. It is difficult enough to witness the small-town feel of Washington City disappear as exponential, seemingly unchecked growth litters our once small town with the addition of MANY two-story dwellings, and apartment buildings. The requested zone change would allow for two-story dwellings in an area of single family blocks of houses. This would adversely affect both the hometown feeling and block, or diminish the scenic views that our area is known for. It may also have a negative effect on property values. 3. Two-story dwellings ought to

be reserved for areas backed by a hill, or at the end of a street rather than in the middle of single family homes. 4. We are not opposed to single family units being built on the property, we just oppose the construction of two-story buildings.

Standard zone change from R-1-6 to R-2 to allow for two duplex buildings at 139 East 300 North



AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY
Call before you Dig
1-800-662-4111
BLUE STAKES LOCATION CENTER (UTAH)

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

PROPERTY INFO

PROPERTY ADDRESS = W-159-B-3-A
139 EAST 300 NORTH
WASHINGTON, UTAH

** TOTAL AREA OF PARCEL = 0.58 ACRES **

CIVIL ENGINEERS:

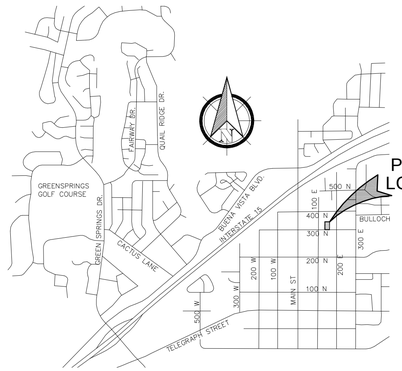
PREMIER DESIGN & ENGINEERING
75 EAST 100 NORTH
IVINS, UTAH 84738
(435) 313-2267
CONTACT: MARC FONGER / ERIC MCFADDEN

OWNER / DEVELOPER:

DEMILLE / OWENS
933 S 900 W
HURRICANE UTAH 84837
(435) 619-0190

PARCEL W-159-B-3-A LEGAL DESCRIPTION

WASHINGTON TOWN RESURVEY BLK 47 (W) Lot: 1 BEGINNING AT THE SOUTHERLY CORNER COMMON TO LOTS 1 AND 2, BLOCK 47, WASHINGTON TOWN RE-SURVEY. THENCE, SOUTH 89°55'28" WEST 102.02 FEET ALONG THE BLOCK LINE TO THE SOUTHWEST CORNER OF THE EAST HALF (E1/2) OF LOT 2, SAID BLOCK 47; THENCE NORTH 0°04'34" EAST 117.25 FEET ALONG THE WESTERLY LINE OF THE EAST HALF (E1/2) OF LOT 2, SAID BLOCK 47; THENCE SOUTH 89°53'00" WEST 2.69 FEET TO THE EASTERLY LINE OF THE WESTERLY 99.00 FEET OF THE NORTHERLY 85.00 FEET OF THE WESTERLY ONE HALF (W1/2) OF SAID LOT 2, BLOCK 47; THENCE NORTH 0°14'08" EAST 85.00 FEET ALONG THE EASTERLY LINE OF THE WESTERLY 99.00 FEET OF THE NORTHERLY 85.00 FEET OF THE WESTERLY ONE HALF (W1/2) OF SAID LOT 2, BLOCK 47; THENCE NORTH 89°53'00" EAST 126.21 FEET ALONG THE NORTHERLY LINE OF SAID LOTS 1 AND 2, BLOCK 47; THENCE SOUTH 0°04'59" EAST 202.34; THENCE SOUTH 89°55'28" WEST 22.30 ALONG THE SOUTHERLY OF LINE OF SAID LOT 1, BLOCK 47, TO THE POINT OF BEGINNING.



VICINITY MAP

DATE:	9/29/2023
DRAWN BY:	E.A.M.
CHECKED BY:	M.R.F.
CLIENT:	D/O

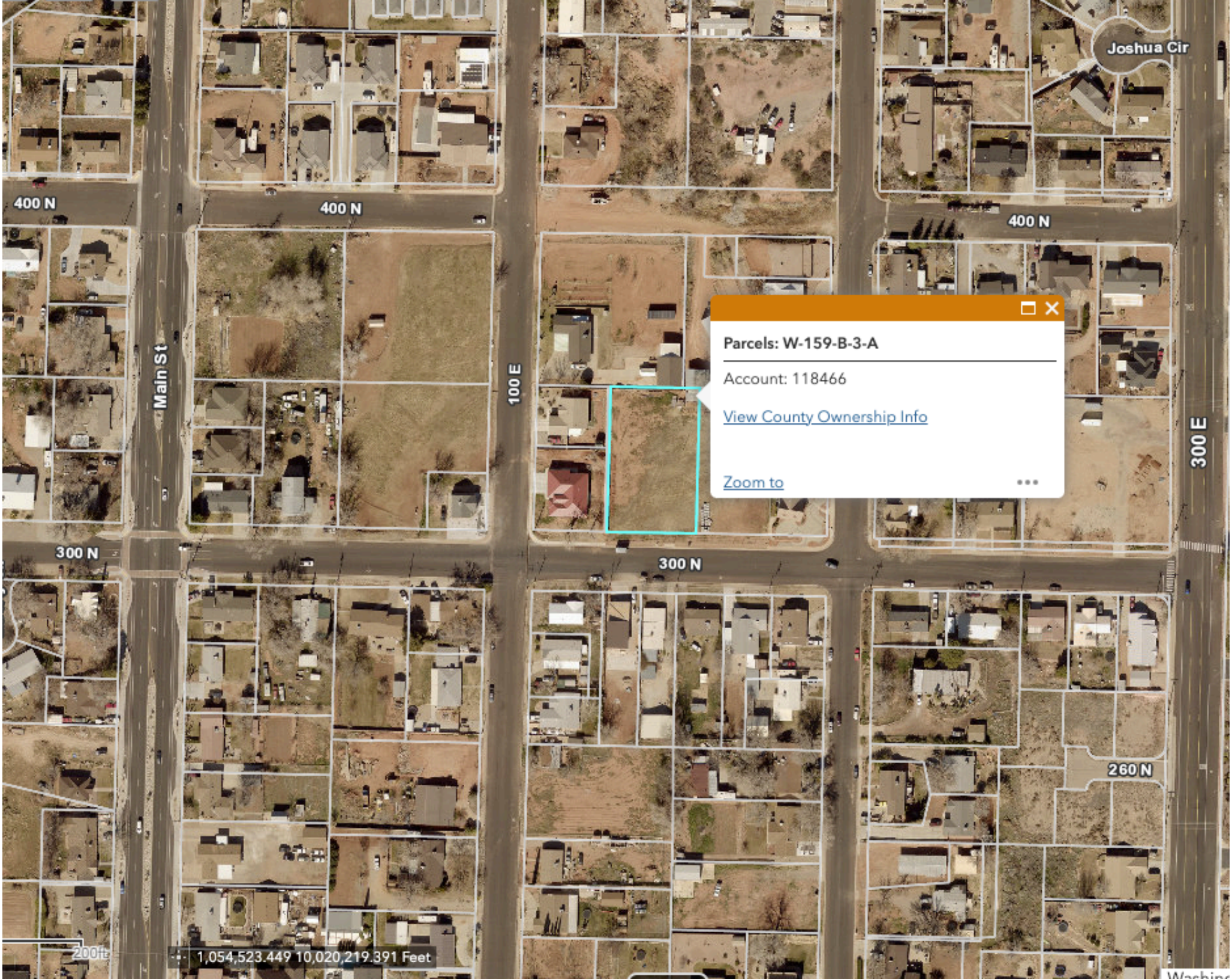
SCALE: 1" = 20'

ZONE CHANGE
139 EAST 300 NORTH
DEMILLE / OWENS
LOCATED IN WASHINGTON, UTAH 84780

PREMIER Design & Engineering
75 EAST 100 NORTH IVINS, UTAH 84738 (435) 313-2267

LICENSED PROFESSIONAL ENGINEER
9/29/2023
License No. 323886
Marc R. Fonger
STATE OF UTAH

SHEET
ZC


Joshua Cir
400 N
400 N
400 N
Main St
100 E
300 E
300 N
300 N
260 N
Parcels: W-159-B-3-A
Account: 118466
View County Ownership Info
Zoom to
200ft
1,054,523.449 10,020,219.391 Feet

Washington City
Where Dixie Began

WashingtonCity.org

PROJECT FLOW CARD **Z-23-11 Zone Change -139 East 300 North**
MEETING DATE **11/1/23 PC 11/8/23 CC**

Planning	Reviewed. OK to move forward	
Hillside	NA	
Public Works	Reviewed - No concern with zone change. Civil site construction plans will be reviewed as a separate submittal.	
Engineer	From an engineering standpoint the zone change should be fine. PBM	
Fire Dept.	NA	
Parks/Trails	Reviewed, the City will require a trail easement along 300 N	
Building dept	Reviewed no concerns	
Washington Power	No concerns over project	
Dixie Power	NA	
Economic Dev.	Reviewed. No Comments.	
Administrative	Reviewed. No Comments.	

Additional Comments:

WASHINGTON CITY
PLANNING COMMISSION MEETING
STAFF REVIEW

AGENDA ITEM:	6a
HEARING DATE:	November 01, 2023
ACTION REQUESTED:	Z-23-12, A request to Overlay-Zone roughly 47.72 acres located at approximately the east end of Foundry drive, adding the overlay zoning of Extraction to the current/existing Heavy Industrial (I-2) and Open Space (OS) zoning designations.
APPLICANT:	Red Waters Industrial Dev LLC
OWNER:	Red Waters Industrial Dev LLC and Plumb Holdings SG LLC
ENGINEER:	Rick Meyer - Bush and Gudgell
REVIEWED BY:	Eldon Gibb, City Planner
RECOMMENDATION:	Neutral recommendation

Background

On August 24, 2023 the hillside committee met regarding the proposed application. The hillside committee recommended approval noting that the areas in the hillside that are being disturbed are non contiguous and not prominent features adding the condition that the applicant shall apply for and submit all the required documents to the city for the extraction overlay zone where the City will work with the applicant through the extraction overlay zone change process and that approval by the city of this zone change shall be given prior to any dirt being moved on this site (See attached Hillside Committee minutes below).

The applicant is requesting approval to add the “Extraction Overlay Zone” designation to the current Heavy Industrial (I-2) and Open Space (OS) zoning designations. The total area of the site is 47.72 acres and located at the east end of Foundry Drive which is just east of Sunrise Valley Industrial Park.

The proposed change is for the purpose of having the availability to excavate and remove approximately 4.2 million cubic yards of material. The material is being removed in preparation for the site to be used as an industrial yard to store equipment and materials for construction.

Grading of the site will begin closest to Foundry Drive and proceed north/east with the site being

brought to finished grade as the grading progresses. Excavation depth ranges from 0 feet up to 134 feet. Drainage from the site will be routed to a detention pond located at the the south end of the project (closest to Foundry Drive) and will also serve as a sediment pond. The detention has been oversized to help reduce flows well below existing runoffs rates and the applicant is planning to maintain/service the detention as needed.

The applicant has identified the life expectancy of the project between 2 and 5 years depending on the market which will dictate volume quantities. An estimated 50 to 80 trucks will leave the site traveling both north and south on Country Way to varied destinations.

Although the area of this site is secluded between two ridges and not directly adjacent to residential development, staff is neutral in their recommendation. The closest residential home (lot 79 Red Trails at Sunrise Valley) will be approximately ½ mile from the site and with the increased semi-truck traffic to the nearby residential neighborhoods there will be an increased wear and tear on the public streets. Staff is also concerned with the stated time frame being up to 5 years. Once the extraction overlay is complete, staff is concerned with providing future roadway connectivity to the parcels of land at the north/east end of the proposed property and making such improvements to the lot that include landscaping, hard surfaced parking and roadway connectivity to adjacent parcels.

Recommendation

Staff is deferring to the Planning Commission as to what they feel is appropriate in a recommendation of approval or denial of Z-23-12, for the Extraction Overlay-Zone request adding it to the current/existing Heavy Industrial (I-2) and Open Space (OS) zoning designations, to the City Council, based on the following findings and conditions:

Findings

1. That the proposed use, at this particular location, is necessary or desirable to provide a service or facility which will contribute to the general well being of the community and local economy; and

2. That such use will not, under the circumstances of the particular case, be detrimental to the health, safety or general welfare of the persons residing or working in the vicinity, or injurious to property or improvements in the vicinity; and

3. The proposed use will comply with the regulations and conditions specified in this article for such use; and

4. The proposed use will conform to the intent of the general plan.

Conditions

1. No part of the extraction operation will be permitted closer than three hundred feet (300') to a residential subdivision.

2. Extraction operations shall be strictly controlled so as to minimize any possible contamination of ‘any’ ground water.

3. Hours of operation will be limited to 7:00 am to 7:00 pm. No operations shall take place on Sunday or legal holidays.

4. All equipment on and off the site, utilized in the extraction process shall be operated and maintained so as to minimize the creation and dissemination of noise and vibration from the site. Access and haulage roads on the site shall be maintained in a dust free condition.

5. Where appropriate, the applicant shall provide National Pollutant Discharge Elimination System (NPDES) permits.

6. A grading permit will be obtained from the Washington City Public Works Department before work will commence.

7. If any geotechnical hazards are encountered, or any stabilization is needed, Geotechnical reports shall be strictly followed.

7. Any deviation from the submitted plans shall be submitted to and reviewed by the city and involve the proper approvals of such changes.

8. The time frame allowed for this overlay zone approval is 60 months and the applicant shall submit an annual “progress report” to the city. This report shall summarize the activities carried out and shall include a site plan indicating the current extent of operations, amount of material removed, material still to be removed and updates on significant issues raised either by the applicant or the city. The progress report shall include calculations by a licensed land surveyor indicating the volume of material excavated during the calendar year and remaining material to be removed.

9. When the estimated 4.2 million cubic yards of material is removed and/or the five year timeline is complete (whichever comes first), the applicant shall work with the city and submit any needed applications and/or provide improvements to the parcel if the applicant desires to further use the proposed land as an industrial use as stated in their application.

East Valley Industrial
Hillside Review Committee Minutes
August 24, 2023

In Attendance: Drew, Eldon, Councilman Ivie, Dave Black, James Dotson, Jason Smith, Todd Houghton, Gene Arbuckle, Wayne Rogers, Bob Hermandsen, Judd Palmer.

Bob explained the project and the surrounding areas and the uses currently in operation noting the adjacent land to the south and west being industrial and the north and east being BLM. Bob discussed the grade of the project noting the south / west corner where the property is accessed and detention basin being located will be considered “ground zero” with there being an increased grade of 2% moving east and north through the project and to the property line.

Dave discussed the concern of scarring that may present itself with the amount of cutting and the field trip may clear up concern in this regard. The Committee discussed the area of the project and the unusable land as it currently sits. Wayne discussed the cuts and the Preliminary Geotech report noting the rock in the area that will be cut into for this project.

The Committee discussed drainage for this site including the adjacent property owner and drainage coming onto this site from the BLM land. Bob explained the drainage flow and the drainage ditches that will be installed at the boundaries of the project to move the water to the detention basin. Bob explained the existing access road and flat pad up top that is not included in the proposal will not be touched. The pad will sit higher than this project and they are not in any way altering the current access road nor will they be using this road as it sits higher than their proposed project.

City staff discussed the public road stubbed to this project and that the turnaround prior to entering this site will need to be maintained. Bob clarified that no changes to this stubbed road and/or the turnaround that was previously approved in the adjacent subdivision will not be altered.

The hillside committee visited the site and oriented themselves with the project. Bob discussed the amount of dirt that will be removed from the site and what is needing to happen in this proposal. Bob discussed the south and east hillside/ridge noting they will not be disturbing the hillside in the 40% and greater areas which he pointed out on the mountain to identify.

City staff asked about the grade difference between the adjacent property owners. Bob explained this will be a 2/1 slope, mitigated with rock protection either encountered when cutting this area or they will fill it in after the cut is made due to no rock being exposed.

Gene gave kudos to the applicant for preserving the south and east ridge in the 40% and greater sloped areas. The committee discussed the viewsheds of this site noting the residential area in the Sunrise Valley subdivisions and that the view from the landfill area will be blocked by a hillside.

The committee discussed the City's extraction overlay zone and its applicability to this project. City Staff commented on the need to apply for the overlay zone and answered clarifying questions in this regard. Dave mentioned the preliminary Geotech report looks good but that they should keep the rock cuts as steep as possible but still meeting the slope stability standards which Bob and Wayne acknowledge.

The committee discussed the volume of dirt that this site will be removing and the truck and trailer traffic that will be continually going to and from this site. City staff expressed concern to allocate this traffic towards the landfill as much as possible and that this will be addressed in the extraction overlay zone change process.

James made a motion to recommend approval of the East Valley Industrial Hillside application in that they have met the requirements noting that the areas in the hillside that are being disturbed are non contiguous and not prominent features adding the condition that the applicant shall apply for and submit all the required documents to the city for the extraction overlay zone where the City will work with the applicant through the extraction overlay zone change process and that approval by the city of this zone change shall be given prior to any dirt being moved on this site.

Gene Second the motion which passed unanimously.

BUSH & GUDGELL, INC.
Engineers • Planners • Surveyors
205 East Tabernacle
St. George, Utah 84770
(435) 673-2337 (ph.)
(435) 673-3161 (fax)

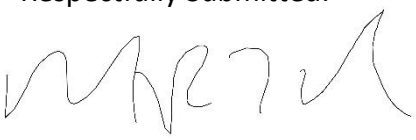
October 2, 2023

RE: Extraction Overlay Zone Change

Dear Council / Commission members,

With this Extraction Overlay Zone Change request, the applicant desires to remove material from the site for use on the owner's other projects. The applicant has gone through the Hillside approval process with the city. The project lies within three separate parcels including numbers W-4187-A-5, W-4187-A-1, and W-4187-A-4. The current zoning on the properties is a combination of I-2 and Open Space. This zoning will be in harmony with the industrial nature of adjacent properties in Washington City. Please see the attached exhibits for reference. Your consideration of this request is greatly appreciated.

Respectfully Submitted:



_____

Bob Hermandson
President
Bush and Gudgell

Washington City
Where Dixie Began

WashingtonCity.org

PROJECT FLOW CARD **Z-23-12 Zone Change -Extraction Overlay- south of county dump**

MEETING DATE **11/1/23 PC 11/8/23 CC**

Planning	Reviewed. OK to move forward	
Hillside	8/24/23 Hillside Committee reviewed plans, visited the site and recommended approval of the submitted plans (as shown in this packet) noting that the areas in the hillside that are being disturbed are non contiguous and not prominent features with the added conditions that the applicant apply for and submit to the city the extraction overlay zone.	
Public Works	Reviewed. OK to move forward with the condition that a grading permit and construction drawings be approved prior to commencement of any work.	
Engineer	Reviewed, no concern	
Fire Dept.	NA	
Parks/Trails	NA	
Building dept	NA	
Washington Power	NA	
Dixie Power	NA	
Economic Dev.	NA	
Administrative	NA	

Additional Comments:











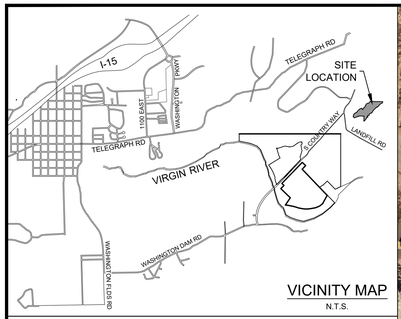


Looking Northeast



Looking Southwest

Image Landsat / Copernicus
Google Earth



VICINITY MAP
N.T.S.

GRAPHIC SCALE

150 0 75 150 300

(IN FEET)
1 inch = 150 ft.

CONTENTS	
1	SITE PLAN
2	CST VENTURES - PLAN & PROFILE
3	SLOPE MAP
4	GRADING PLAN
5	CUT FILL MAP
6	CROSS SECTIONS
7	CROSS SECTIONS

PROJECT NOTE:
THE PURPOSE OF THIS PROJECT IS TO GRADE AND CREATE DEVELOPABLE LAND IN THE ARE SHOWN ON THESE MAPS. END USE OF THE LAND IS YET TO BE DETERMINED.

OFFSITE DRAINAGE BASINS

S88°39'28"E 2677.53'

GRADING LIMITS

1:1 MAX CUT SLOPE

DRAINAGE SWALE, SEE DETAIL PAGE 3

N29°07'49"E 426.57'

COUNTRY WAY

N39°45'55"E 589.95'

N33°36'21"E 438.51'

SUNRISE VALLEY INDUSTRIAL

CULVERT CROSSING.

FLOOD CONTROL DRAINAGE BASIN

40.00'

30.00'

S88°45'30"E 495.01'

N2°51'44"W 428.78'

R=317.00'
L=110.98'
Δ=20°03'33"
CB=S70°00'55"W
CD=110.42

FOUNDRY DRIVE

N30°00'52"W 66.00'

R=383.00'
L=61.28'
Δ=9°10'03"
CB=N64°34'10"E
CD=61.22'

CST VENTURES INC

N1°04'48"E 1038.67'

S1°04'54"W 1038.67'

N67°36'39"E 273.36'

N89°47'49"E 376.51'

N43°23'47"W 209.00'

R=1167.00'
L=123.51'
Δ=6°03'50"
CB=N46°25'11"W
CD=123.45'

POINT OF BEGINNING 2

N0°00'00"E 151.28'

N88°54'37"W 495.07'

S89°01'20"E 1901.24' (TIE 1)

S89°01'20"E 2641.25' (TIE 2)

POINT OF BEGINNING 1

N89°01'20"W 3371.60'

SOUTHWEST CORNER SECTION 17,TOWNSHIP 42 SOUTH, RANGE 14 WEST, SALT LAKE BASE & MERIDIAN, 2013 BLM ALUM. CAP (CO. REF. NO. N5-42-14)

S1°10'21"W 2613.55'

LEGAL DESCRIPTION:

COMMENCING AT THE SOUTHWEST CORNER OF SECTION 17, TOWNSHIP 42 SOUTH, RANGE 14 WEST, SALT LAKE BASE AND MERIDIAN, AND RUNNING THENCE SOUTH 89°01'20" EAST ALONG THE SECTION LINE 1901.24 FEET TO THE POINT OF BEGINNING; THENCE NORTH 49°27'06" WEST 209.00 FEET; THENCE NORTHWESTERLY ALONG A 1167.00 FOOT RADIUS CURVE TO THE RIGHT, (LONG CHORD BEARS NORTH 46°25'11" WEST A DISTANCE OF 123.45 FEET), CENTER POINT LIES NORTH 36°14'20" EAST THROUGH A CENTRAL ANGLE OF 06°03'50", A DISTANCE OF 123.51 FEET; THENCE NORTH 36°14'20" EAST 376.51 FEET; THENCE NORTH 67°36'39" EAST 273.36 FEET; THENCE NORTH 06°50'39" WEST 305.17 FEET; THENCE EASTERLY ALONG A 383.00 FOOT RADIUS NON-TANGENT CURVE TO THE LEFT, (LONG CHORD BEARS NORTH 64°34'10" EAST A DISTANCE OF 61.22 FEET), CENTER POINT LIES NORTH 20°50'49" EAST THROUGH A CENTRAL ANGLE OF 09°10'03", A DISTANCE OF 61.28 FEET; THENCE NORTH 30°00'52" EAST 66.00 FEET; THENCE SOUTHWESTERLY ALONG A 317.00 FOOT RADIUS NON-TANGENT CURVE TO THE RIGHT, (LONG CHORD BEARS SOUTH 70°00'55" WEST A DISTANCE OF 110.42 FEET), CENTER POINT LIES NORTH 30°00'52" EAST THROUGH A CENTRAL ANGLE OF 20°03'33", A DISTANCE OF 110.98 FEET; THENCE NORTH 02°51'44" WEST 428.78 FEET; THENCE NORTH 33°36'21" EAST 438.51 FEET; THENCE NORTH 28°45'32" EAST 519.00 FEET; THENCE NORTH 23°07'49" EAST 426.57 FEET; THENCE SOUTH 88°39'28" EAST 2677.53 FEET; THENCE SOUTH 01°10'21" WEST 2613.55 FEET; THENCE NORTH 89°01'20" WEST 3371.60 FEET TO THE POINT OF BEGINNING

LESS AND EXCEPTING THE FOLLOWING:

COMMENCING AT THE SOUTHWEST CORNER OF SECTION 17, TOWNSHIP 42 SOUTH, RANGE 14 WEST, SALT LAKE BASE AND MERIDIAN, AND RUNNING THENCE SOUTH 89°01'20" EAST ALONG THE SECTION LINE 2641.25 FEET AND NORTH 151.28 TO THE POINT OF BEGINNING; THENCE NORTH 01°04'48" EAST 1039.98 FEET; THENCE SOUTH 88°45'30" EAST 495.01 FEET; THENCE SOUTH 01°04'34" WEST 1038.67 FEET; THENCE NORTH 88°54'37" WEST 495.07 FEET TO THE POINT OF BEGINNING

CONTAINING 7,795,268 SQUARE FEET OR 178.95 ACRES.

No.	Date	By	Revision

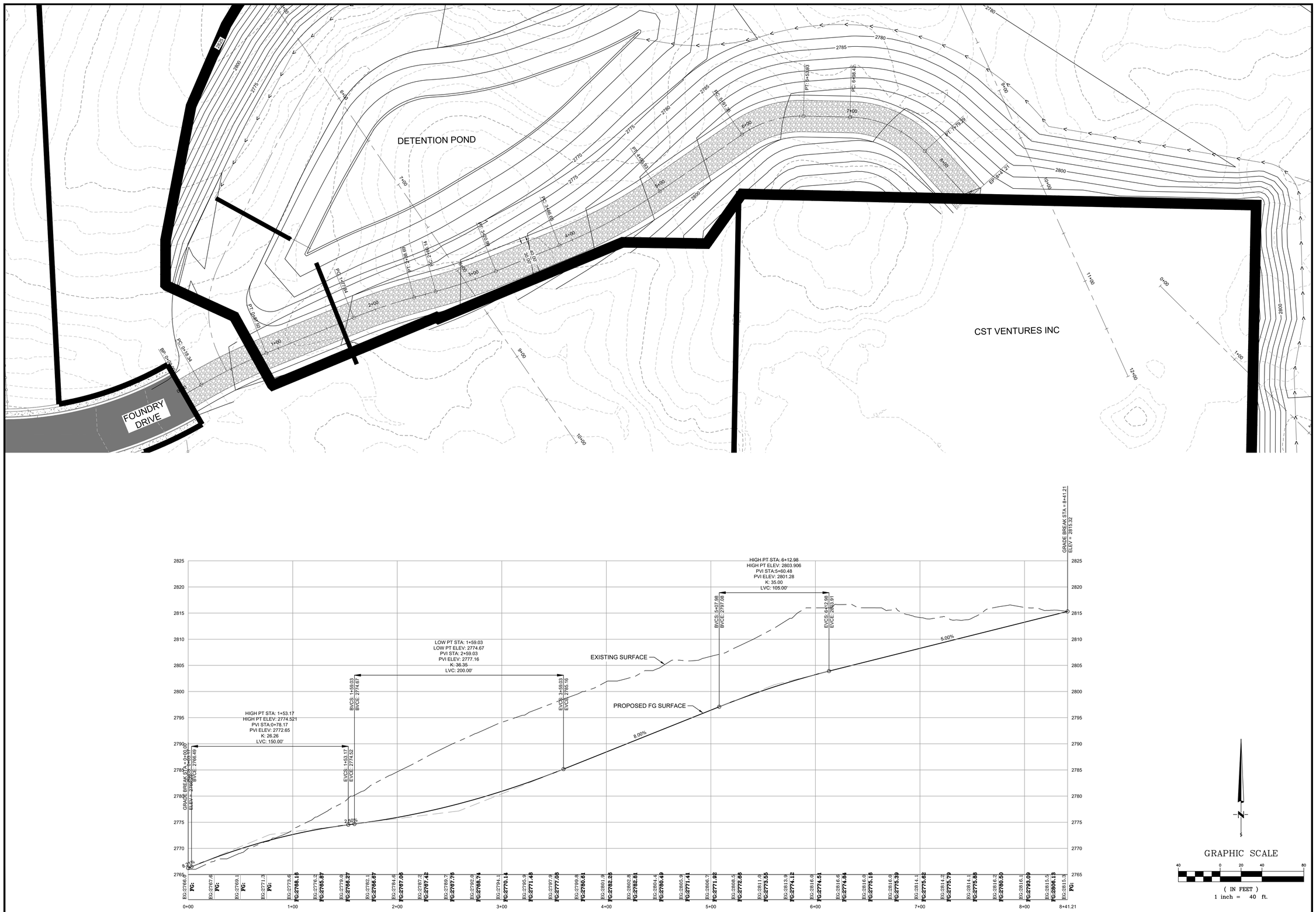
BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
205 East Tabernacle Suite #4
St. George, Utah 84770
Phone (435) 673-2337 / Fax (435) 673-3161
www.bushandgudgell.com

DATE: MAY 2023
DRAWN: RM
APPROVED:
SCALE: NOTED
JOB NO.: 221249

SITE PLAN
EAST VALLEY INDUSTRIAL HILLSIDE
WASHINGTON, UTAH

SHEET 1 OF 7 SHEETS
FILE:

X:\221000-221999\221249 - East Valley Industrial\221249 - HILLSIDE.dwg



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PLAN & PROFILE
EAST VALLEY INDUSTRIAL HILLSIDE
WASHINGTON, UTAH

SHEET 2 OF 7 SHEETS
FILE:

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COUNTRY WAY

38
110,790 S.F.

37
123,776 S.F.

36
131,714 S.F.

FOUNDRY DRIVE

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

SLOPE TABLE		
COLOR	SLOPE RANGE	AREA WITHIN PROPOSED DISTURBED BOUNDARY, SF
	20.01% - 25%	299,817
	25.01% - 30%	265,147
	30.01% - 40%	344,482
	40% & UP	378,070

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SLOPE MAP

EAST VALLEY INDUSTRIAL HILLSIDE
WASHINGTON, UTAH

SHEET 3 OF 7 SHEETS

FILE:

COUNTRY WAY

38
110,790 S.F.

37
123,776 S.F.

36
131,714 S.F.

CULVERT CROSSING.

CULVERT CROSSING.

FOUNDRY DRIVE

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

APPROXIMATELY **4,178,400** CU.YD. OF CUT **0** CU.YD. OF FILL AND **4,178,600** CU.YD. OF **EXPORT** MATERIAL IS REQUIRED (FOR GRADING PERMIT ONLY) THE CONTRACTOR SHOULD VERIFY THE QUANTITIES FOR COMPLETION OF WORK. QUANTITIES ARE BASED ON FINISH GRADE OF ROADS & PADS.

ALL IMPORTED STRUCTURAL FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO DELIVERY TO THE SITE. ALL IMPORTED STRUCTURAL FILL SHALL BE PLACED IN 8-INCH LOOSE HORIZONTAL LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DRY DENSITY (ASTM D-1557).

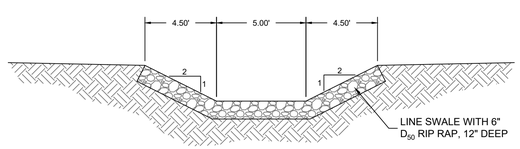
ALL EXCAVATION, GRADING AND FILL OPERATIONS WITHIN THE BUILDING AREA SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER TO VERIFY SUB-SOIL CONDITIONS AND DETERMINE ADEQUACY OF SITE PREPARATION, SUITABILITY OF FILL MATERIALS AND COMPLIANCE WITH COMPACTION REQUIREMENTS.

THE CONTRACTOR SHALL PROVIDE SUITABLE EQUIPMENT TO CONTROL DUST AND AIR POLLUTION CAUSED BY CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL ALSO PROVIDE SUITABLE MUD AND DIRT CONTAINMENT TO MAINTAIN THE WORK SITE, ACCESS ROADWAYS AND ADJACENT PROPERTIES IN A CLEAN CONDITION.

ALL EXCAVATION AND GRADING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF WASHINGTON CITY AND APPENDIX K OF THE UNIFORM BUILDING CODE, 1994 EDITION, AND THE SPECIFICATIONS AND REQUIREMENTS INCLUDED IN THE GEOTECHNICAL STUDY.

GEOTECHNICAL ENGINEER TO PROVIDE GRADING COMPLETION REPORT TO CONFIRM WORK HAS BEEN PERFORMED IN CONFORMANCE WITH THEIR RECOMMENDATIONS.

OWNER IS RESPONSIBLE FOR ALL ON-SITE DRAINAGE AND DETENTION.



DRAINAGE SWALE DETAIL
SCALE: NTS

No.	Date	By	Revision

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www.bushandgudgell.com

DATE: MAY 2023
DRAWN: RM
APPROVED:
SCALE: NOTED
JOB NO.: 221249

GRADING PLAN
EAST VALLEY INDUSTRIAL HILLSIDE
WASHINGTON, UTAH

SHEET 4 OF 7 SHEETS
FILE:

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COUNTRY WAY

38
110,790 S.F.

37
123,776 S.F.

36
131,714 S.F.

FOUNDRY DRIVE

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

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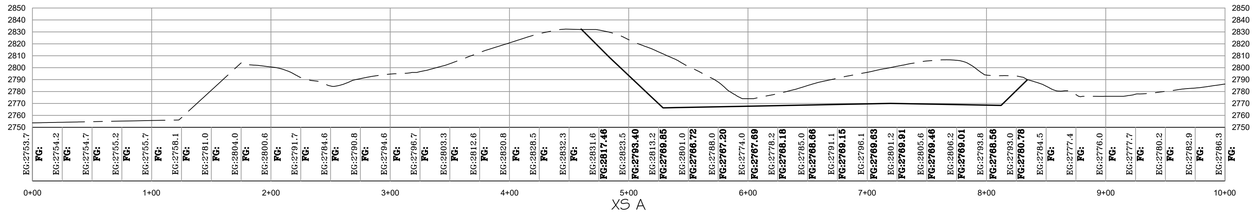
CUT FILL MAP

EAST VALLEY INDUSTRIAL HILLSIDE
WASHINGTON, UTAH

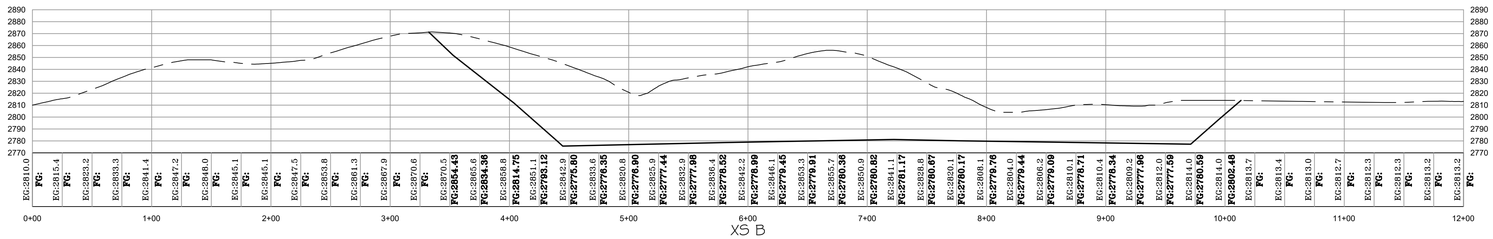
SHEET 5 OF 7 SHEETS

FILE:

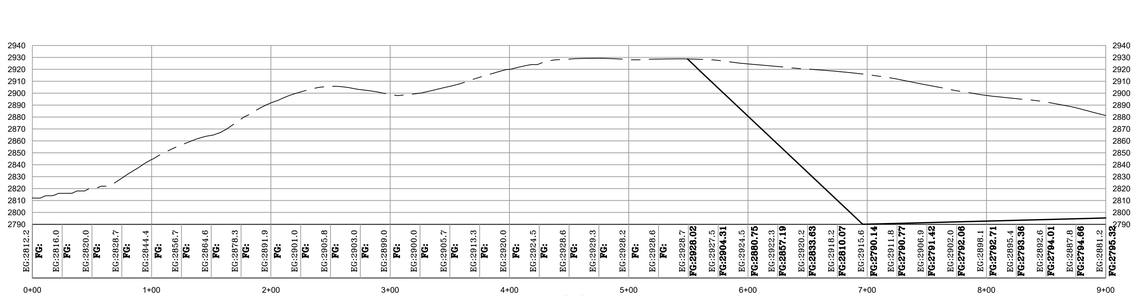
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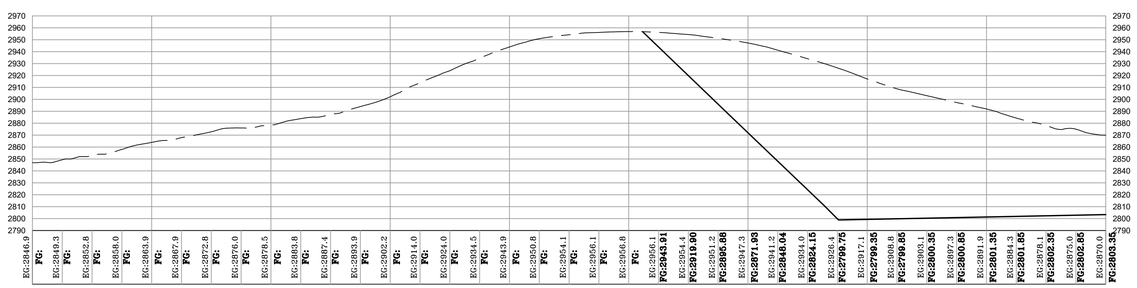
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V: 1"=60'
STA: 0+00 TO STA: 10+00



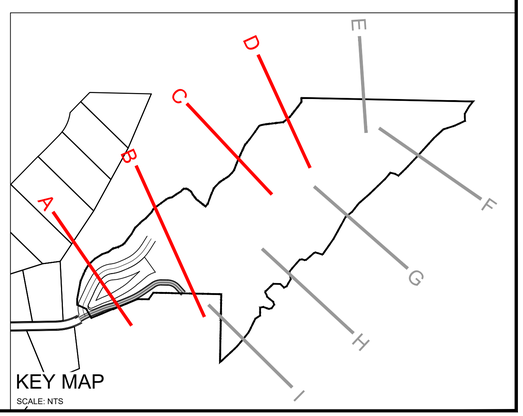
XS B
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V: 1"=60'
STA: 0+00 TO STA: 12+00



XS C
H: 1"=60'
V: 1"=60'
STA: 0+00 TO STA: 9+00



XS D
H: 1"=60'
V: 1"=60'
STA: 0+00 TO STA: 9+00



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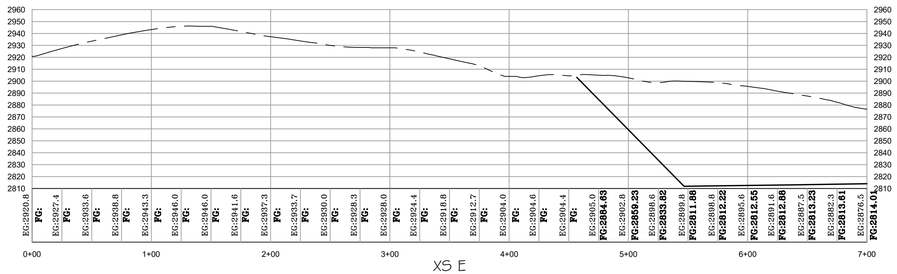
No	Date	By	Revision

DATE: MAY 2023
DRAWN:
APPROVED:
SCALE: N/A
JOB NO.: 221249

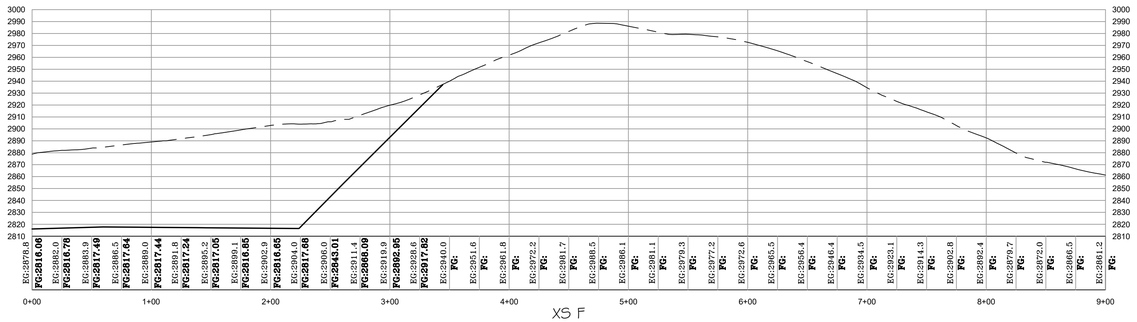
CROSS SECTIONS
EAST VALLEY INDUSTRIAL HILLSIDE
WASHINGTON, UTAH

SHEET 6 OF 7 SHEETS
FILE:

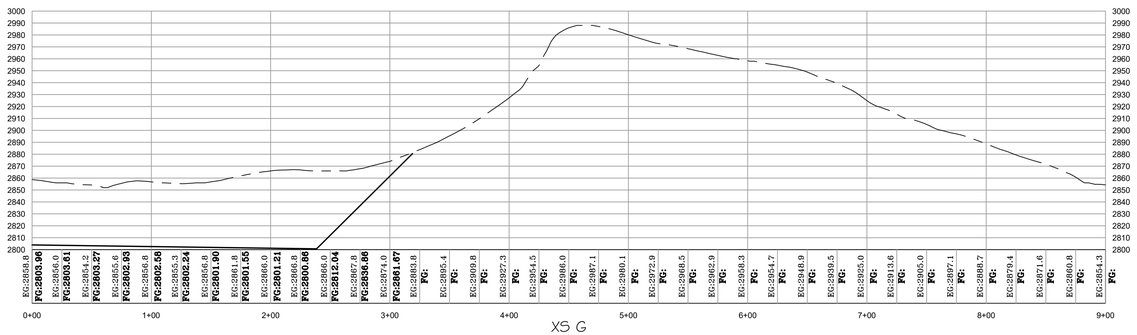
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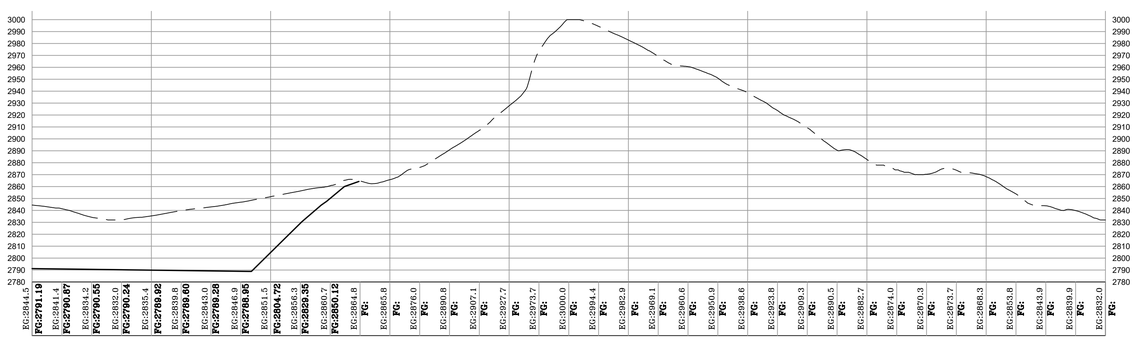
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STA: 0+00 TO STA: 7+00



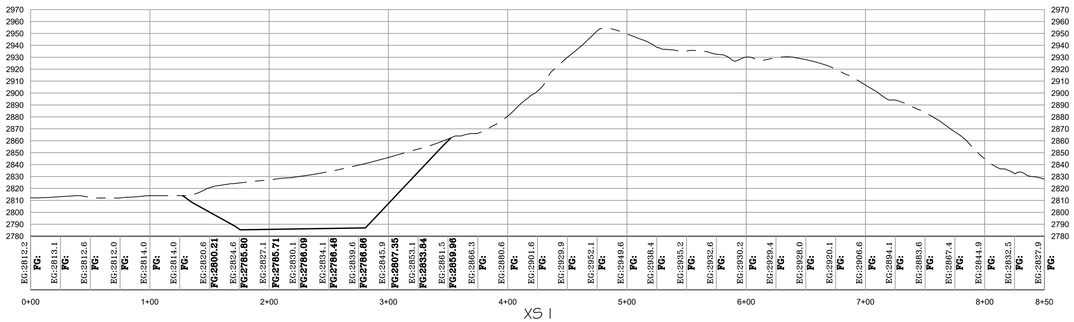
XS F
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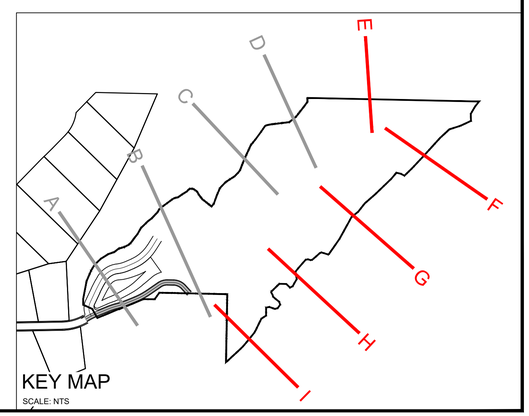
XS G
H: 1"=60'
V: 1"=60'
STA: 0+00 TO STA: 9+00



XS H
H: 1"=60'
V: 1"=60'
STA: 0+00 TO STA: 9+00



XS I
H: 1"=60'
V: 1"=60'
STA: 0+00 TO STA: 8+50



KEY MAP
SCALE: NTS

BUSH & GUDGELL, INC.
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No	Date	By	Revision

DATE: MAY 2023
DRAWN: RM
APPROVED:
SCALE: N/A
JOB NO.: 221249

CROSS SECTIONS
EAST VALLEY INDUSTRIAL HILLSIDE
WASHINGTON, UTAH

SHEET 7 OF 7 SHEETS
FILE:

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SITE PLAN
FOR

East Valley Industrial

Located in

Washington, Utah

Located in the SE ¼ of SEC. 17, T42 S, R 14 W, SLB&M

PREPARED BY: Bush & Gudgell Engineering

205 East Tabernacle Suite #4
St. George City, Utah 84770
Phone: (435) 673-2337
Fax: (435) 673-3161
www.bushandgudgell.com

Project Engineer	Rick Meyer, P.E.
Date	October 12, 2023
Job Number	B&G #221249

Soil removal from this site will happen during Washington City legal hours of operation. Section 8-8-2 of the Washington City code states that construction activities shall not occur outside the hours of 6:00 a.m. and 10:00 p.m. Operations for this project will be well within those hours.

The life expectancy of this project, including extracting material from the site will be largely market driven. While an exact span cannot be provided, it is expected that it will take between two and five years to remove material from the site.

1. Projected Use of Land

The proposed land use for this site is to be an industrial yard for construction operations. It is not anticipated that there will be many buildings on site. It will primarily be used for storing equipment and materials for construction. There will be some gravel parking areas. No landscaping is proposed for the site.

2. Circulation Plan

Access to the property will be from Foundry Drive. Other roads used to transport material will be Smelter Drive, Country Way, Landfill Road, Washington Dam Road, and future connection to Long Valley. While the traffic to and from this site will be industrial in nature, the adjacent roads were designed for this type of traffic. Anticipated traffic will be mainly trucks (dump trucks and semis) hauling dirt, gravel, or rock.

It is anticipated that there will be between 50 and 80 trucks leaving the site each day. These trucks will be hauling legal loads on dedicated roadways. These roadways are also used by other entities as well. The roads were designed for heavy traffic, with an industrial pavement section. No repair of the roadways is anticipated by the landowner.

3. Existing Facilities Plan

Existing utilities (water, sewer, power, communications) have been stubbed to the property at the end of Foundry Drive. This will be the point of connection for utilities. Water consumption for the site will be tied to dust prevention and material conditioning (bringing soils to spec moisture content).

4. Mitigation Plan

Mitigation of site activities will be handled topographically. The site lies between two ridge lines. Negative impacts due to site activity (dust, noise, etc) will be contained within the two ridge lines.

5. Grading Plan

Grading of the site will commence at the south end and proceed to the north. Site will be brought to proposed finish grade as grading progresses. There will not be phasing. Progress of grading will be dictated by market needs for excavated material. See grading plans submitted for details of the grading (existing and proposed contours and cross

sections). Excavation depths will range from 0’ to 134’. Total excavated volume is anticipated to be 4.2 million cubic yards.

6. Drainage Plan

The drainage watershed for the proposed project is slightly larger than the project itself. The proposed project covers approximately 48 acres. The offsite portion of the watershed is an additional 7.5 acres. Drainage from the site will be routed to a detention pond located at the south end of the project. The pond has been oversized to help reduce flows well below existing runoff rates. Additionally, the pond will serve as a sediment pond. As runoff will be passing over raw land it is anticipated that it will carry some sediment with it. As it enters the pond, velocity will decrease and sediment will settle out. As such the pond will need to be maintained as sediment level rises in the pond. The site owner will be responsible for maintenance of the detention/sediment pond.

RECLAMATION PLAN
FOR

East Valley Industrial

Located in

Washington, Utah

Located in the SE ¼ of SEC. 17, T42 S, R 14 W, SLB&M

PREPARED BY: Bush & Gudgell Engineering

205 East Tabernacle Suite #4
St. George City, Utah 84770
Phone: (435) 673-2337
Fax: (435) 673-3161
www.bushandgudgell.com

Project Engineer	Rick Meyer, P.E.
Date	October 2, 2023
Job Number	B&G #221249

1. Concurrent Reclamation

Proposed reclamation for the site is limited to bringing the site to finish grade and constructing drainage swales needed for conveying stormwater. No landscaping is proposed. Grading will begin at the south end and progress northward. Hillside cuts are expected to be into rock, so no slope stabilization will be needed.

2. Topographic Map

A topographic map has been included as an "additional document". It shows the existing and proposed contours, as well as proposed cross sections through the project.

3. Grading Plan

The grading plan has also been included under the "additional document" portion of the submittal.

4. Revegetation Plan

No landscaping is proposed as part of this project.

5. Drainage/Hydrology Plan

A drainage study was submitted as part of the hillside review process. It indicated that drainage flows from northeast to southwest through the site. No floodplains or wetlands will be impacted by the proposed improvements. Erosion will be minimal on the cut slopes, since they will be in bedrock. Sediment transported through the site will be captured in the site detention pond.

6. Proposed Use

Specifics of the final site are not known at this time. However, it is expected that the site will remain as a single industrial yard for construction equipment and material storage. The site is currently zoned I-2 industrial and is not expected to change.

7. Cross Sections

Cross sections of the proposed grading have been included under the "additional document" portion of the submittal.

8. Restoration Material

Restoration material for the site will be material produced from the site excavation. It will be graded and compacted as appropriate for the site activities.

9. Building and Equipment Removal

The purpose of this site is to be a storage yard for construction equipment and materials. The equipment used in the excavation of this site will be stored at this location in the end, so they will not need to be moved off site. It is not anticipated that temporary buildings for use during excavation will be needed or used. Buildings (if any) will be for long term use of the site.

10. Financial Analysis

As previously mentioned reclamation for the site consists of bringing the site to final proposed grade. Since there are no separate reclamation activities, no financial estimates have been generated for the project.

Applied GeoTech

May 30, 2023

J.P. Excavating, Inc.
4102 South 1440 East Circle
St. George, Utah 84790

Attention: Judd Palmer

Subject: Hillside Review Geotechnical Consultation
East Valley Hillside Industrial
Washington, Utah
AGEC Project No. 2230631

REFERENCES:

The following references by AGEC were utilized during preparation of this report:

1. Plans by Bush & Gudgell Engineering, Inc., Job No. 221249, dated May 2023.
2. UGS, Geologic Map 209, Harrisburg Dome Quadrangle, 2003, by Robert F. Biek Map 191
3. UGS, Washington County Special Study 127 (Hazard Evaluation), 2008, by Lund etal.
4. AGEC Geotechnical Studies, Sunrise Valley Industrial Phases 1-2, (Plumb Industrial), Project No. 2190306, July 2, 2019. Includes information from a previous 2004 study.

SCOPE

We understand that the property is proposed to be used initially as a borrow pit for various types of fill materials. Subsequent to the removal of the materials, the property will be used for possible industrial facilities (details not known at this time).

This report presents the results of a geological and preliminary geotechnical review of the property for the proposed industrial development to be located in Washington, Utah, as shown on Figure 1. At this time the access was limited on the property to a excavation company (Cedar Excavation) yard on the south end of the site. To avoid significant

disturbance to access the property for subsurface investigation, the study was conducted based on a site review, literature review and review of our adjacent property work.

The site evaluation consists of the following:

- Site observations of the property.
- Review of the geologic conditions and literature (Ref. No.s 2 and 3.
- Review of the proposed grading plan (Ref No. 1).
- Review of the previous studies by AGEC in 2004 and 2019.

Based on our evaluation, our professional opinion for the suitability of the site is provided in our conclusions and preliminary recommendations.

PROPOSED CONSTRUCTION

We understand it is proposed to grade approximately 47 acres by removing or cutting approximately 4.18 million cubic yards of material from the property. A proposed grading plan (Ref No. 1) indicates cuts of up to approximately 130 feet are proposed. The area will be graded by cutting the valley area up to the hillside slopes using cut slopes of 1:1 (horizontal to vertical). A drainage swell will be provided at the base of the cut slopes. The property grade overall will be a slope down to the south at approximately 2 to 3 percent.

SITE CONDITIONS

The subject site consists of a parcel of property that consists of approximately 47 acres which is part of a larger 179 acre parcel. The site map and boundary are shown on Figures 1 and 2. The site is located east of Phases 1 and 2 of the Sunrise Valley Industrial Park and north of the Cedar Excavation Equipment Yard. There is undeveloped property to the north and a borrow/gravel pit over the ridge to the east.

The site is primarily a valley between two ridges on the east and west. The ridge on the east is very steep and the ridge on the west is more of a gentle slope. There are small ravines (erosion paths) through the property with natural slope and drainage from north to the south. The site has limited vegetation with small brush and grasses. Several photos of the site are attached.

GEOLOGIC CONDITIONS

A. Regional Geology

The site is located in the St. George Basin. This basin is bounded by the Pine Valley mountains to the north, the Hurricane cliffs to the east, the Beaver Dam mountains to the west and the Mt. Trumbull area to the south. Within the basin are numerous mesas, buttes and pediment surfaces which formed as fluvial systems incised the strata along the western margin of the Colorado Plateau.

The stratigraphy of the area is comprised of deposits ranging from Permian to Quaternary in age (see Figure 3). Bedrock units include various sedimentary rocks including limestone, sandstone, siltstone, shale and claystone. Quaternary units include colluvial, alluvial, eolian and talus deposits as well as a basalt flow.

B. Tectonic Setting

The site is located on the Harrisburg Dome. The Harrisburg Dome is related to the late Cretaceous/Early Paleocene Virgin Anticline (Biek, 2003b). Several north/south trending faults can be found in the vicinity, including the Washington Fault and the Hurricane Fault. Also, two northeast/southwest trending thrust and reverse faults can be found along the east side of the site. These faults are related to the formation of the Virgin Anticline and are, therefore, late Cretaceous to early Paleocene in age (Biek, 2003b).

The Washington Fault is located approximately 1½-2 miles west of the site. The sense of displacement on this high angle normal fault is down to the west (Higgins, 1998). The Washington Fault is thought to bifurcate into several smaller faults creating a wide fault zone north of the city of Washington (Christenson and Deen, 1983; Willis and Higgins, 1995). The Washington Fault is considered to be active due to evidence for late Quaternary offset of both the Washington basalt flow and late Pleistocene sediments (Willis and Higgins, 1995; Higgins, 1998).

The Hurricane Fault is located more than 6½ miles east of the site. The sense of displacement on this high angle normal fault is down to the west (Biek, 2003b). The Hurricane Fault is considered to be active due to evidence for displacement of Quaternary basaltic flows, fault scarps in alluvium, as well as recent seismic activity, including the 1992 St. George earthquake (Christenson, 1995; Black et al., 2003; Biek, 2003a).

C. Stratigraphy

The geology of the site consists of a combination of bedrock of the Permian Kaibab Formation and the Triassic-aged Moenkopi Formation as well as younger Quaternary-aged basalt flow, alluvial, colluvial, eolian and talus deposits. These units are described below (from Biek, 2003b):

Older alluvial and colluvial deposits (Qaco) - Poorly to moderately sorted, clay to boulder size, locally derived sediments deposited in small drainages and swales; gradational with alluvial and colluvial deposits; older deposits form incised, inactive surface up to about 20 feet above modern drainages; generally less than 20 feet thick.

Moenkopi Formation, Lower red member (TRml) - Interbedded, laminated to thin bedded, moderate reddish brown mudstone and siltstone with local, thin, laminated, light olive gray gypsum beds and veinlets; deposited in a tidal flat environment; about 150 to 200 feet thick.

Kaibab Formation, Harrisburg Member (Pkh) - Laterally variable sequence of interbedded, medium to very thick bedded, laminated and massive gypsum, gypsiferous mudstone, and lesser laminated limestone and cherty breccia above a medial limestone; deposited in a complex sequence of shallow marine and sabkha environments; only about the upper 250 feet is exposed in the quadrangle.

The geology of the site and vicinity is shown on Figure 3 with the key on Figure 3A. In general, the there are exposed bedrock layers through the majority of the site. These bedrock members of the Kaibab and Moenkopi Formations consist of the Harrisburg Member, Kaibab Formation (Pkh), which consists of limestone on the upper slope along the western portion of the site. The Lower Red member, Moenkopi Formation (Trml) is exposed on the eastern side of the site and borders the un-named thrust fault. There are older alluvial and colluvial deposits on the south end and northeast portion of the site, which appear to be relatively thin and are likely underlain by the Lower Red Member (Trml).

GEOLOGIC HAZARDS

Based on our review of the geologic literature, (Ref. No. 2 and 3) along with our experience on the adjacent properties the following summary of geologic hazards is provided. The other geologic hazards discussed in Reference No. 3 are not considered significant hazards.

1. **Hard Rock:** The site will likely have very hard rock throughout the site. We anticipate the excavation of the site will require blasting. See Figure 4A.

2. **Rockfall:** The property has a very steep ridge along the east side of the property. The hazard mapping indicates a "low hazard" for this area. Based on our observations, it is primarily due to the lack of fracture rock or a source for rock fall. See Figure 4B.
3. **Landslides or Landslide Susceptibility:** The geologic mapping indicates a non to moderate susceptibility for landslides. There are no landslides on the property and the susceptible areas are primarily existing washes or ravines that will be graded during the mass grading of the site. See Figure 4C.
4. **Expansive soil/rock:** The Site mapping for the hazard of expansive soil/rock indicates a moderate to low concern for the Lower Red Member (Trml). Our experience has also shown that there are claystone layers within this member. Subsequent to the excavation process through the site (cutting), the extent of these type of materials should be evaluated with further investigation. See Figure 4D.
5. **Soluble Soil and Rock Susceptibility:** The mapping indicates that there are bedrock units that contain significant amounts of both limestone and gypsum. The Harrisurg Formation is primarily limestone with pockets of gypsum. Our experience from the gravel pits on to the east and grading within the eastern portion Of Phase 2 within the Sunrise Industrial Park has shown that the gypsum is primarily crystalized and is not a significant concern. See Figure 4E.
6. **Faulting or Surface Fault Rupture:** The geologic hazard mapping does not indicate a concern for the mapped thrust fault located on the eastern side of the property shown on Figure 3 is not considered a concern.

GRADING RECOMMENDATIONS

Based on the proposed grading plan, the site will be primarily a source of borrow materials and the limestone portion of the site will likely be used for borrowing materials that can be used for various types of construction, including rock walls, crushing for granular borrow and likely basecourse. The eastern portion of the site or the Lower Red Member will likely be used primarily for borrow or fill materials.

The site is proposed to be graded significantly as shown on the provided grading plan (Ref No. 1). It is planned to blast, crush and process the various materials over time until the site is graded to the proposed grades. Following the grading, there are not specific plans for the proposed facilities. We anticipate light industrial type facilities may be constructed.

The limestone bedrock slopes on the west side of the property may be cut steeper than shown on the proposed grading plan. We anticipate that slopes as steep as ¼ to 1 (H:V) may be cut. This is based on the hardness and lack of fracturing in the bedrock.

The eastern slope within the Lower Red Member is moderately hard and should be cut to at lease 1:1 slope. The geologic map (Ref. No.2) indicates that the bedrock is dipping down to the east/southeast at approximately 20 to 30 degrees. Our experience in this formation is that the proposed 1:1 (Horizontal to Vertical) slopes will be stable.

The site is primarily bedrock and drainage should not be anticipated to infiltrate (retain) on the site.

CONCLUSIONS/PROFESSIONAL OPINION

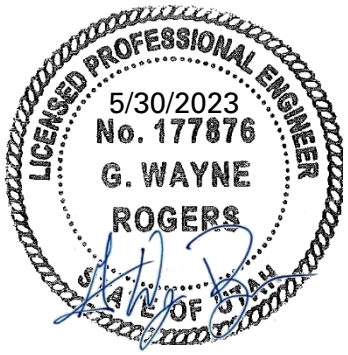
Based on our review the following conclusions were made:

1. It is our professional opinion that the site is suitable for the proposed grading and future industrial park. The geologic hazards discussed within the report are able to be mitigated and addressed during grading and construction.
2. The site drainage has been evaluated by Bush & Gudgell Engineering and appears to have been addressed from a geotechnical perspective.
3. It will be necessary to conduct further subsurface evaluation for design of the future structures.

LIMITATIONS

This report has been prepared in accordance with generally accepted soil and foundation engineering practices in the area for the use of the client for design purposes. The conclusions and recommendations included within the report are based on the information obtained from the literature review, referenced previous studies and our experience in the area. Variations in the subsurface conditions may not become evident until excavation is conducted. If the subsurface conditions or groundwater level are found to be significantly different from those described above, we should be notified to reevaluate our recommendations.

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.



G. Wayne Rogers, P.E.
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Attachments



Figure 1, Site Location Map

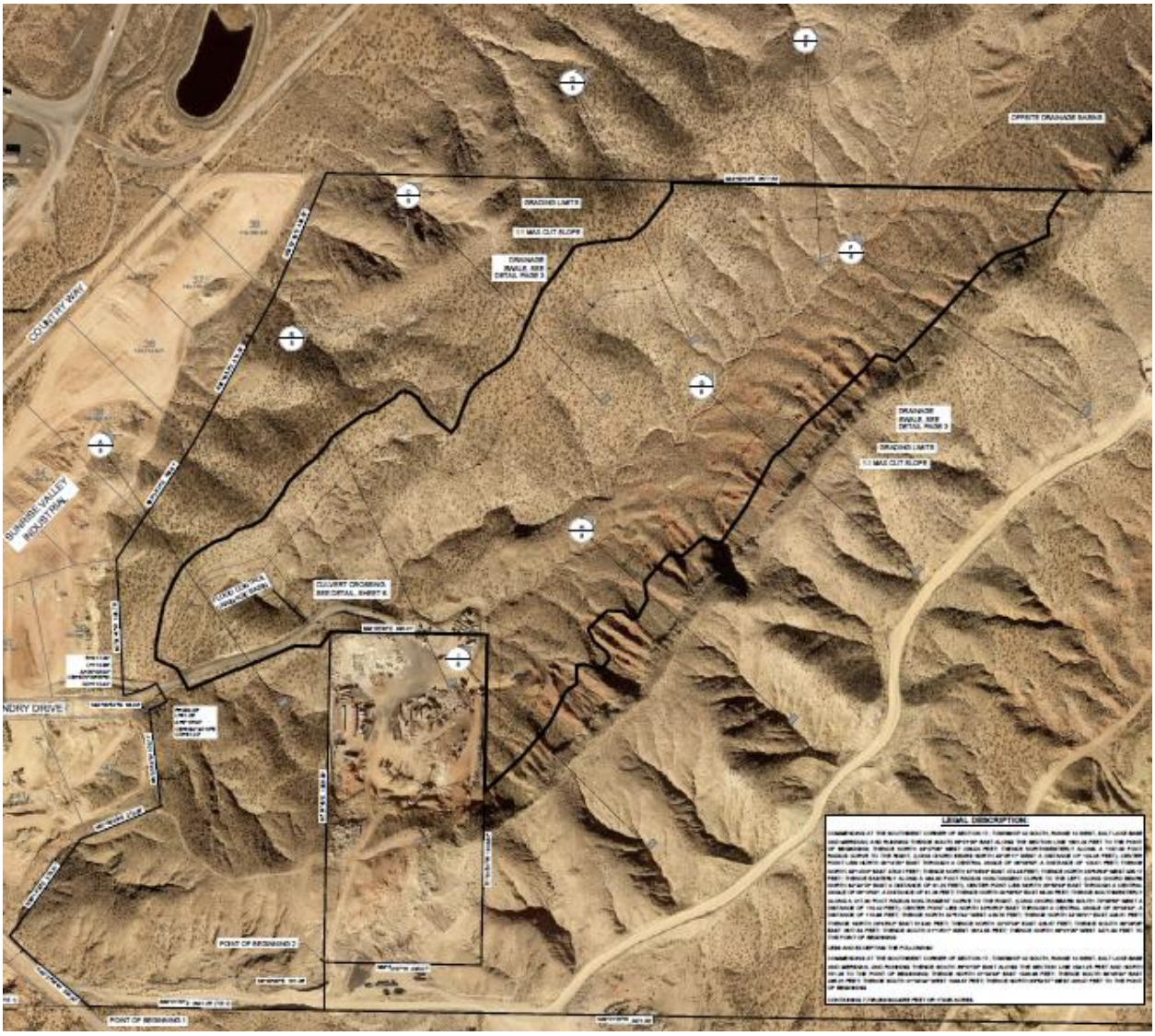


Figure 2, Project Site Boundary

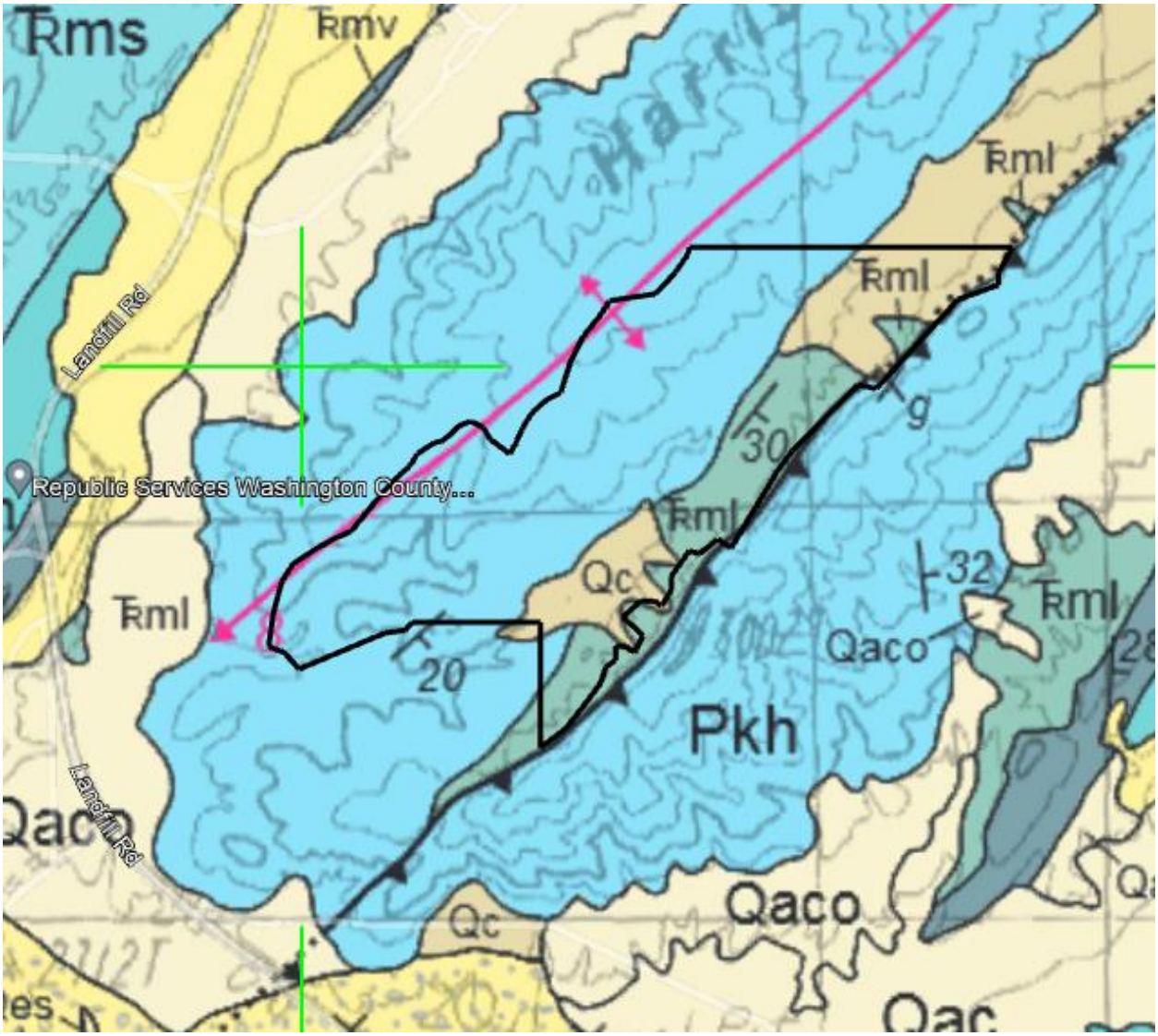


Figure 3, Geology Map, Utah Geological Survey, Geologic Map 209, Harrisburg Dome Quadrangle, 2003, by Robert F. Biek Map 191

Pkh: Harrisburg Member of Kaibab Formation
Thin- to thick-bedded limestone and cherty limestone, and medium- to thick-bedded, laminated gypsum and gypsiferous mudstone; gypsum abundance increases markedly westward from the Hurricane Cliffs, where it is uncommon, to the Beaver Dam Mountains, where it makes up about one-half of the member; characterized by wavy, irregular bedding likely due to gypsum dissolution; forms ledgy slopes that enclose a resistant, cliff- and ledge-forming medial white chert and limestone interval; Late Permian to Early Triassic subaerial erosion created significant paleotopography on the Kaibab Formation, with channels commonly several tens of feet deep but locally several hundred feet deep; unconformably overlain by river-channel and breccia deposits of the Rock Canyon Conglomerate at the deepest levels of incision, and locally by the Timpoweap, lower red, or Virgin Limestone Members in former paleotopographic high areas mostly southwest of St. George; deposited in shallow-marine and sabkha environments

TRml: Lower red member of the Moenkopi Formation
Interbedded, slope-forming, laminated to thin-bedded, moderate-reddish-brown mudstone, siltstone, and fine-grained sandstone with local, thin, laminated, light-olive-gray gypsum beds and veinlets; upper contact corresponds to the base of the first Virgin limestone bed; deposited in a tidal-flat environment (Stewart and others, 1972b; Dubiel, 1994); the upper part of the member at Kolob Canyons yielded the oldest known Early Triassic fossil vertebrate tracks in North America (Mickelson and others, 2006); generally thickens eastward, but ranges from 0 to about 300 feet (0-90 m) thick due to deposition over paleotopography, best exposed southwest of St. George, that developed on the Permian-Triassic unconformity.

Qc: Colluvial deposits
Poorly sorted, angular, clay- to boulder-size, locally derived sediment deposited principally by slope wash and soil creep; locally includes talus, alluvial, and eolian deposits too small to map separately; gradational with talus deposits; includes older colluvial deposits now incised by adjacent drainages; generally less than 20 feet (6 m) thick, although older colluvial deposits on the Kolob Plateau may be as much as 100 feet (30 m) thick.

Figure 3A, Key and notes to Figure 3



Figure 4A, Map of Potential Hard/Shallow Bedrock (no scale)

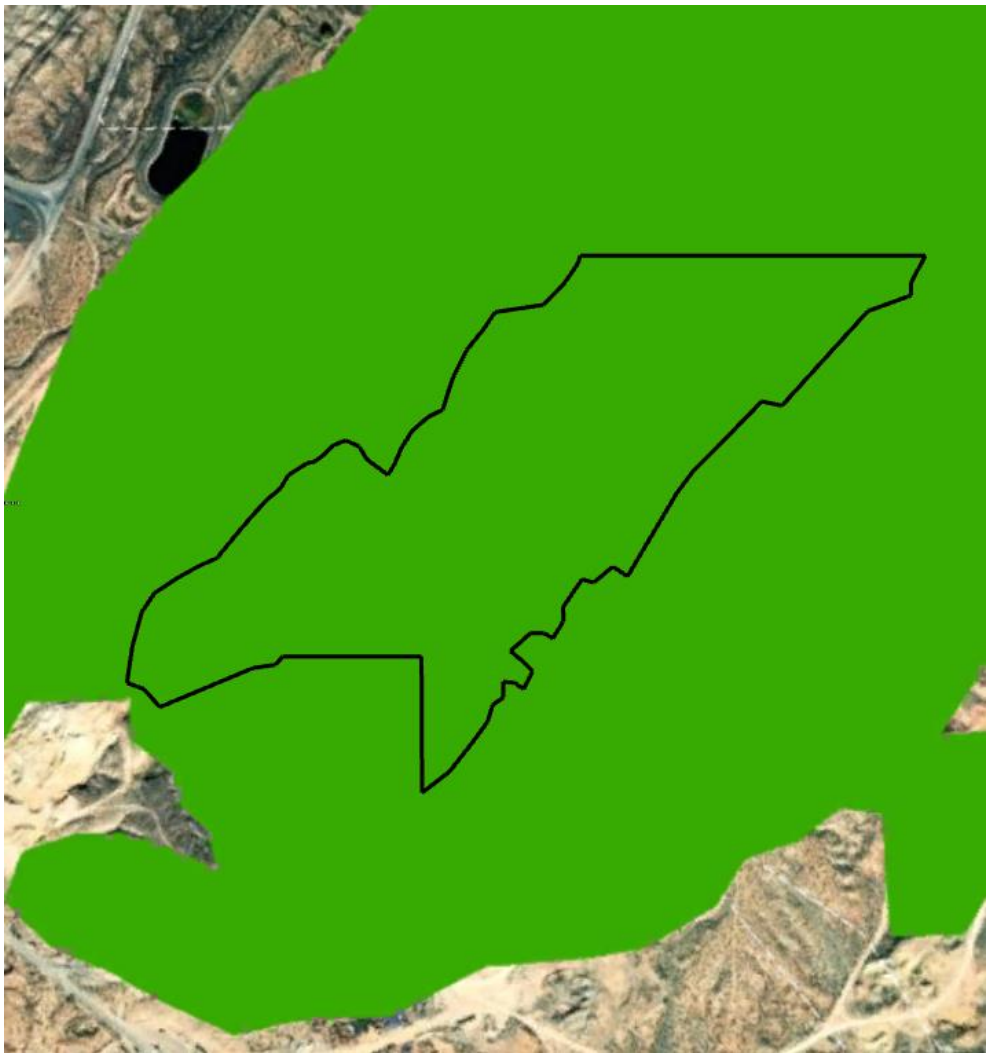


Figure 4B, Map of Potential Rock Fall Hazard (no scale)

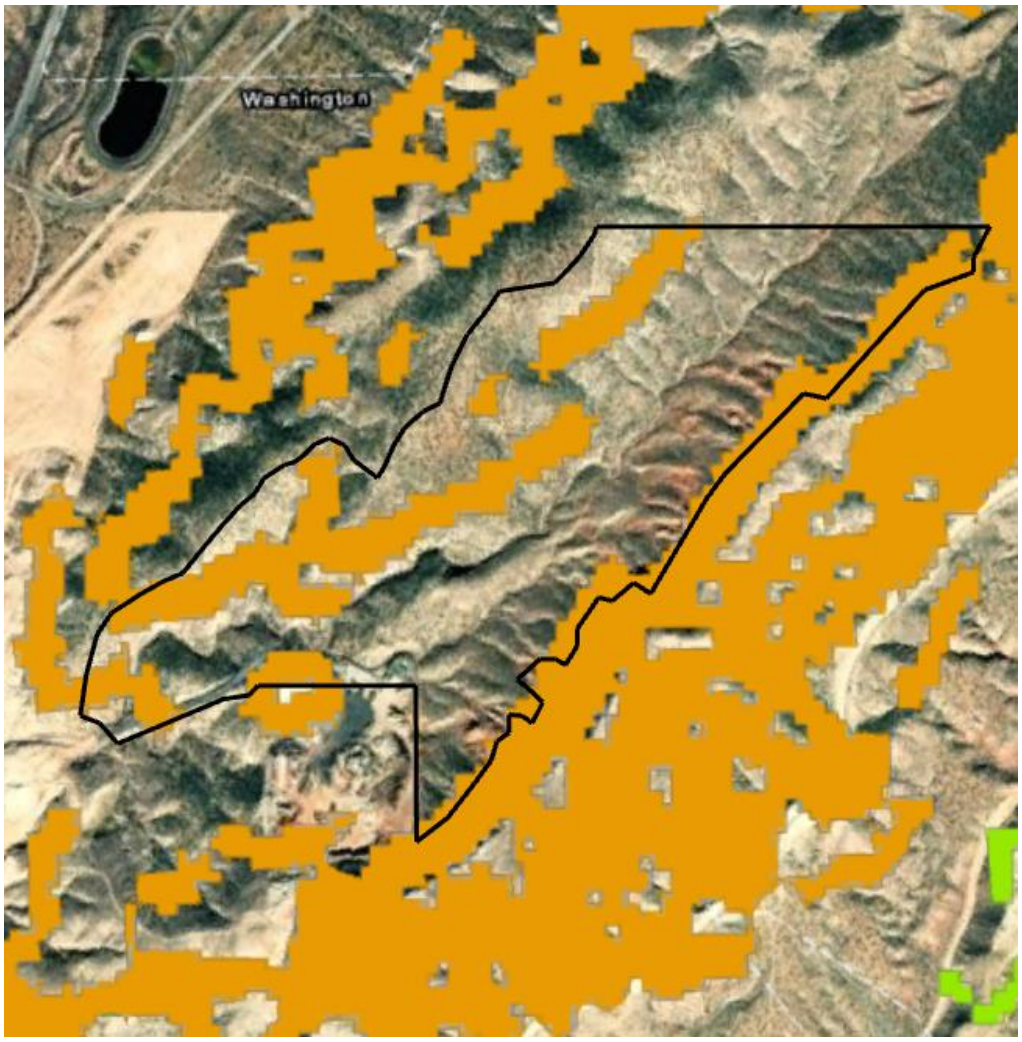


Figure 4C, Map of Landslide Susceptibility (no scale)

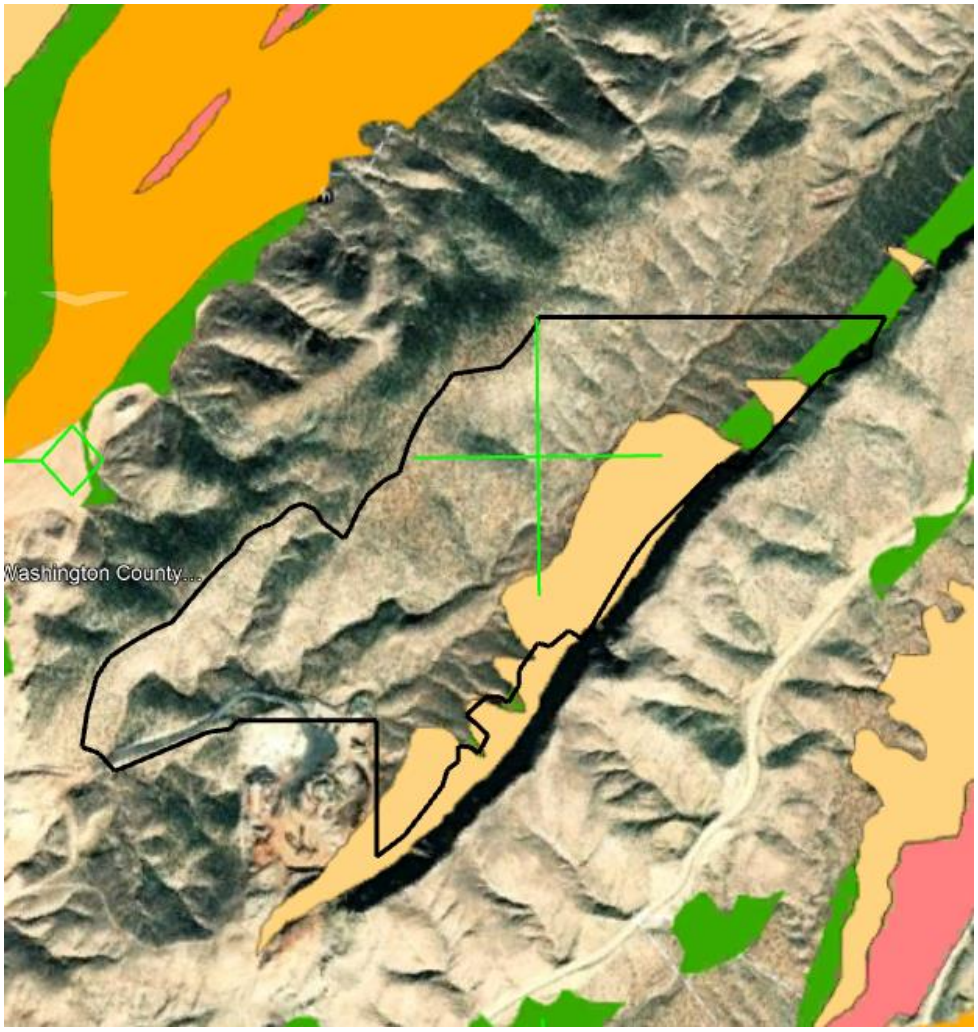
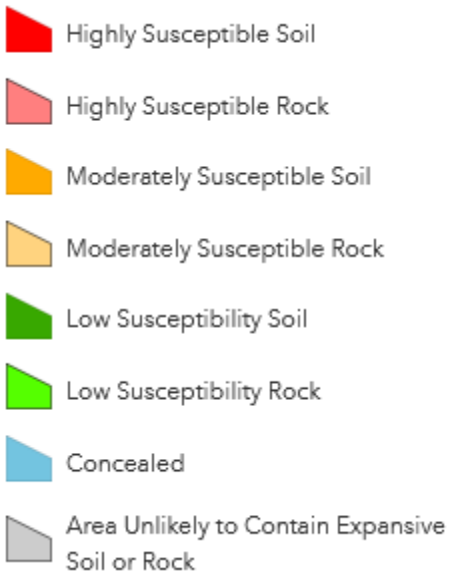


Figure 4D, Map of Potential Expansive Soil/Rock (no scale)



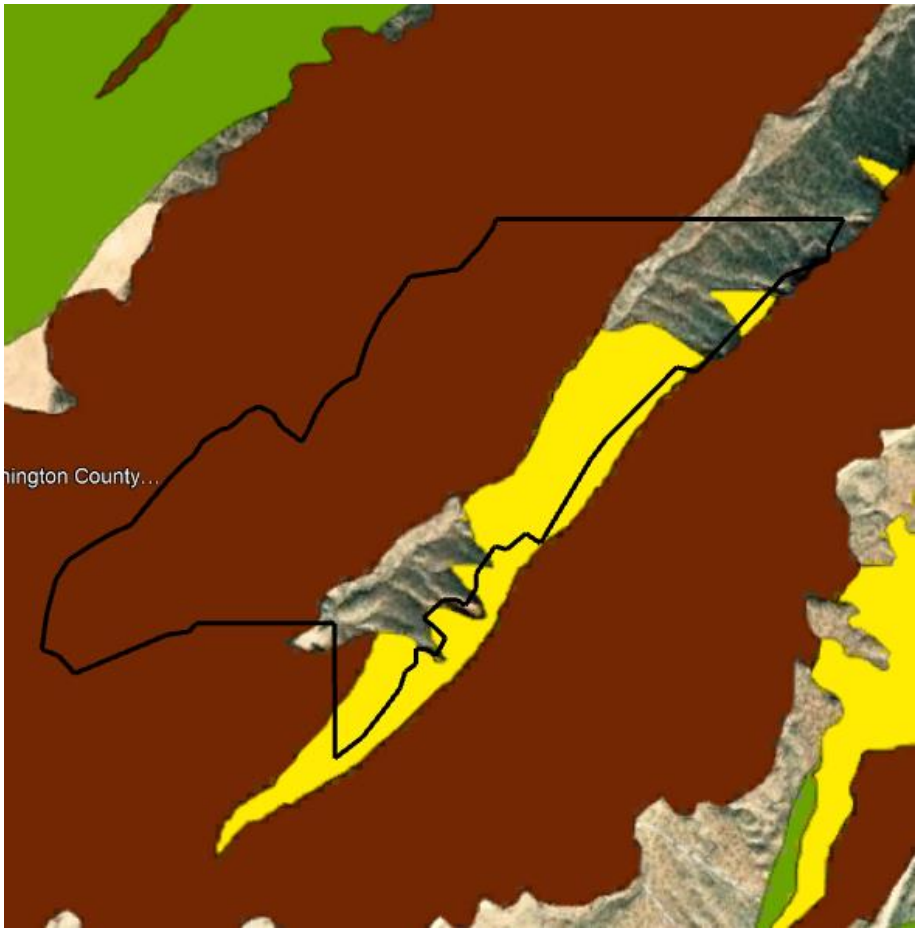


Figure 4E, Map of Potential Soil and Rock Solubility (no scale)

- Highly Soluble Soil Units
- Soil Units of Gypsiferous Silt
- Soil Units (Gypsum Bearing) Mapped by the NRCS
- Bedrock Units that Contain Gypsum
- Highly Soluble Bedrock Units with Abundant Gypsum
- Bedrock Units that Lack Massive Gypsum Deposits
- Bedrock Units that Contain Gypsum in Greater or Lesser Amounts
- Buried or Embedded Gypsiferous Rock Units
- Limestone Bedrock Units
- Bedrock Units that Contain Significant Amounts of Both Limestone and Gypsum

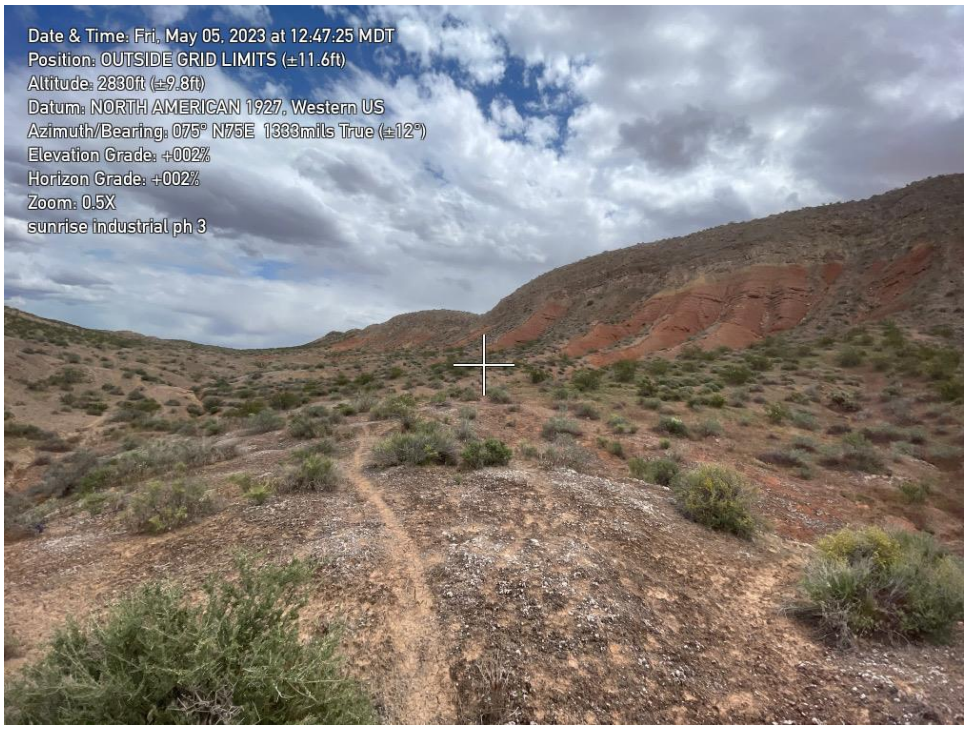


Photo No. 1, View of property from near south end of site, looking north to northeast.



Photo No. 2, View of small ravine or eroded area exposing Lower Red Member

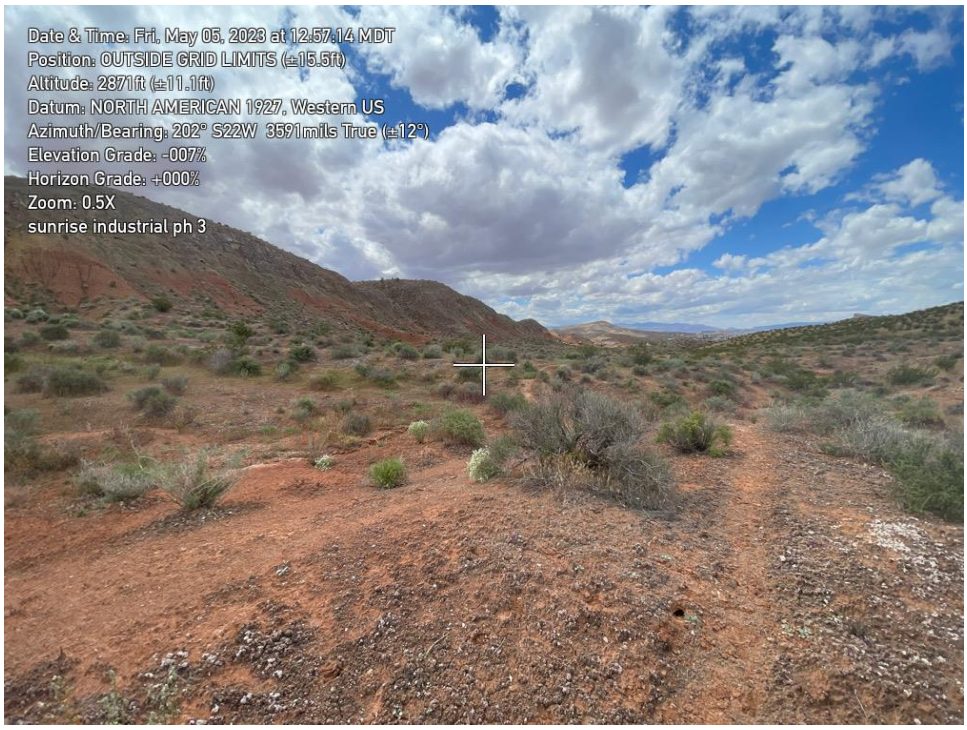


Photo No. 3, View of Site looking south from near north end of valley area.



Photo No. 4, View of Site looking west to northwest from near NWC of site.

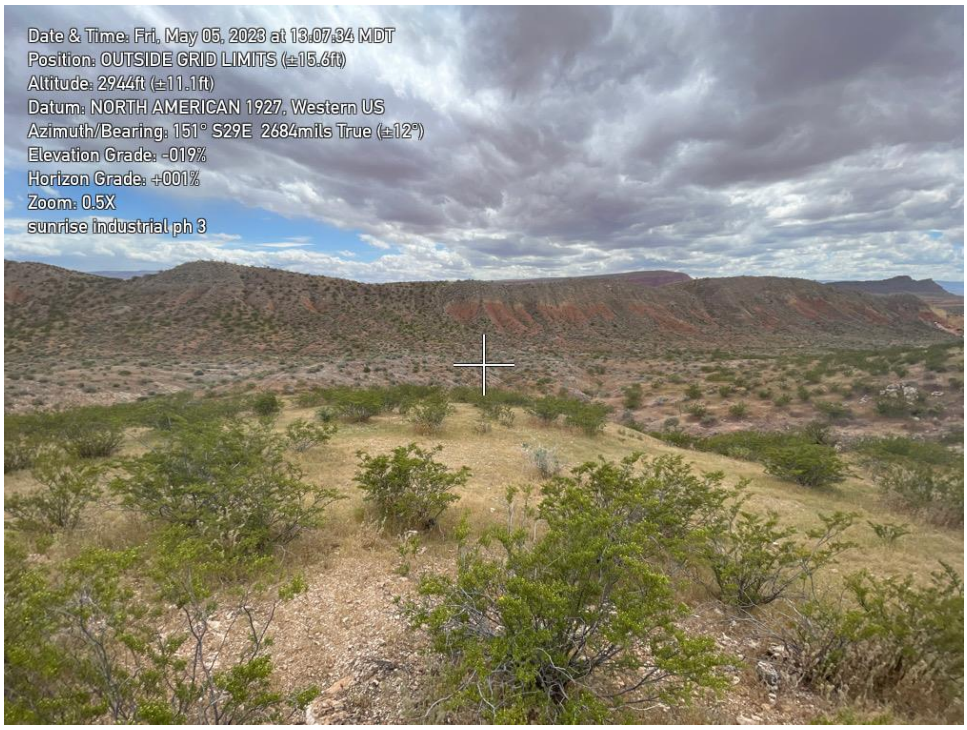


Photo No. 5, View of Site looking east from near NWC of site.



Photo No. 6, View of small ravines off west slope in limestone area.

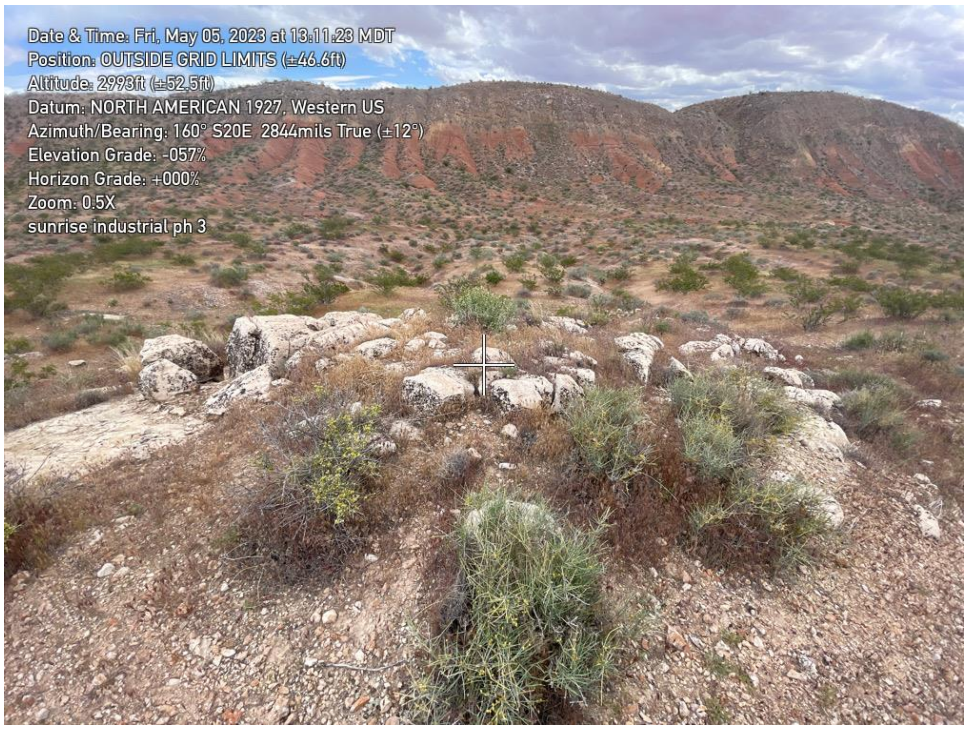


Photo No. 7, View of limestone outcropping on West ridge near n-s center of site



Photo No. 8, View of small drainage on south end of site exposing limestone rock.

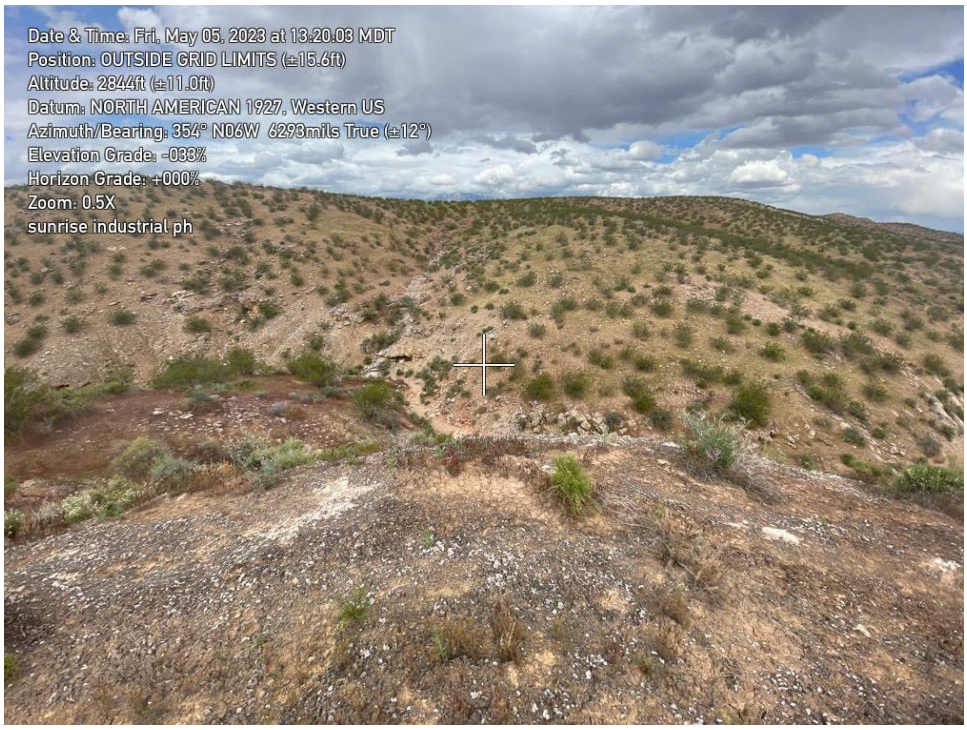


Photo No. 9, View of west ridge looking north from near south end of site.

PRELIMINARY DRAINAGE STUDY
FOR

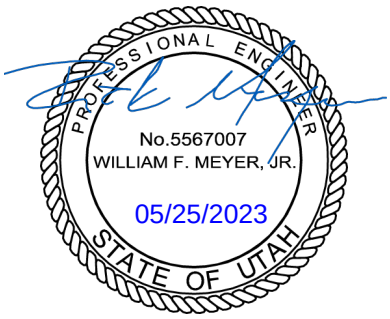
East Valley Industrial

An Industrial Development located in

Washington City, Utah

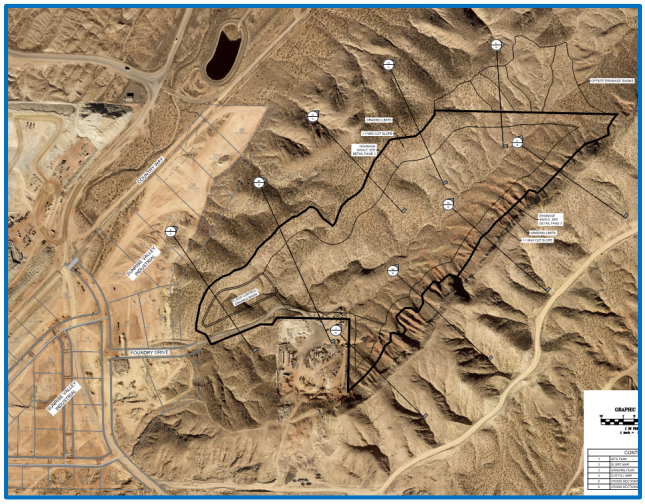
PREPARED BY: Bush & Gudgell Engineering

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Project Engineer	Rick Meyer, P.E.
Date	May 25, 2023
Job Number	B&G #221249

I. INTRODUCTION



The subject property is located in Washington City, Utah. Access to the property is granted from Foundry Drive. The project site is located south and east of the Sunrise Valley Industrial projec (currently under construction). It is on parcels W-4187-A-1, W-4187-A-4, and W-4187-A-5

The project is located within the south half of Section 17, Township 42 South, Range 14 West, Salt Lake Base and Meridian. The land is currently zoned OS and I-2.

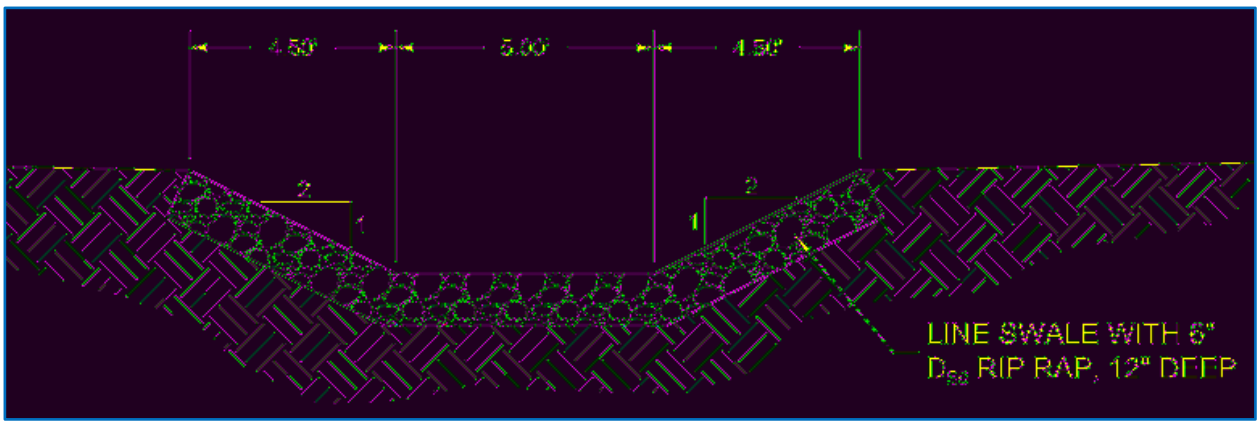
The purpose of the project is to grade and develop approximately 50 acres of the 180 acres of the parcels. See site plan in appendix. The watershed of the project is approximately 65 acres and has a potential for a high level of runoff. The purpose of this study is to determine the magnitude of expected runoff and how to handle the water to avoid flooding or property damage.

In summary, the expected runoff through the site during the 100-year storm event is 62 cfs. The release point for this flow is at the end of Foundry Drive in phase 2 of the Sunrise Valley Industrial subdivision. This flow is much too high for the streets or storm drain system to handle, so measures need to be taken to reduce this flow. It is proposed that a 150,000 cu ft flood control basin be constructed to reduce the flow off of this project to 8 cfs. This will help prevent flooding in the adjacent industrial subdivision.

In addition to the flood control basin, drainage channels will be constructed along the perimeter of the project to direct runoff to the basin. This channel will be 2.25' deep with 2:1 side slopes and a 5' flat bottom. The channel will be lined with 6" rip rap, 12" thick (see figure on page 2).

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II. METHODOLOGY

Software

Autodesk Storm and Sanitary Analysis (SSA) software was used to calculate runoff rates and volumes for the site. SSA uses the TR-55 method to calculate stormwater runoff. TR-55 uses rainfall rate, curve number, time of concentration, and area as inputs.

Model Setup

The rainfall rates were taken from the IDF table in appendix B of the Washington County Flood Control Authority Storm Drainage Systems Design and Management Manual. The 3-hour Farmer-Fletcher and 24-hour SCS Type II rainfall distributions were used for the three design storms used. The table below shows the rainfall intensities used in the model.

Design Rainfall Depths, inches	
10-year 3-hour	1.01
100-year 3-hour	1.69
100-year 24-hour	2.41

Curve number for the site is taken from a land use table that includes hydrologic soil group as a variable. A web soil survey was conducted to estimate the hydrologic soil group. A majority of the site is soil group D. The other portion is unidentified, and was assumed to be soil group D as well. From the table, soil group D on Natural Western Desert yields a curve number of 88. This is the value that was used in the model.

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Terrain slopes and Manning's roughness was used in SSA to calculate time of concentration. Time of concentration for the site was estimated to be 27.48 minutes.

III. RESULTS

The SSA model was run three times for the three rainfall rates (see above). Results can be seen in the table below.

SSA Model Results		
Storm I.D.	Peak Flow, cfs	Total Runoff, cu ft
10-year 3-hour	18.10	60,642
100-year 3-hour	61.69	169,355
100-year 24-hour	78.36	305,943

The flood control basin was sized by entering the allowable release into the model results screen. The storage volume required is calculated by the model. The table below shows the volume requirements for an 8 cfs release rate for the 10-year 3-hour and the 100-year 3-hours storms.

Storage Requirement, cu ft	
10-year 3-hour	26,252
100-year 3-hour	125,035

For purposes of this study a single drainage basin was modeled. However, flow from the drainage area is split and runs in two different drainage channels. As a conservative estimate, the drainage channels were sized to carry approximately 2/3 of the total watershed flow, or 40 cfs. In addition to carrying this flow, there is an additional 1' of freeboard that was designed into the channel. The Manning's equation was used to size the channel, with 2% channel slope and a coefficient of 0.04.

The western drainage channel will flow directly into the flood control basin, but there will likely be a road between the eastern channel and the basin, so a culvert was designed to convey the flow to the basin. This eastern channel will see less water than the western channel. For a conservative estimate the culvert was designed to convey about half of the expected flow, or 30 cfs. The culvert analysis was done using HY-8 culvert analysis software. A 24" HDPE culvert at 3% slope was designed to convey this water. This culvert will have about 4' of head on the upstream side at design flow.

Bush and Gudgell
205 East Tabernacle #4
St. George, UT 84770

www.bushandgudgell.com
Ph. 435-673-2337
Fax 435-673-3161

IV. CONCLUSION

Contributing are of this site is approximately 65 acres. This area has a high potential for stormwater runoff. Three design storms were analyzed and a 150,000 cu ft flood control basin was designed to reduce the peak expected flows from 62 cfs to 8 cfs.

Bush and Gudgell
205 East Tabernacle #4
St. George, UT 84770

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IV. APPENDICES

A. Site Plan

B. SSA Model Schematic

C. SSA Model Hydrographs and Reports

D. Drainage Channel Calculations and Detail

E. HY-8 Culvert Analysis

Bush and Gudgell
205 East Tabernacle #4
St. George, UT 84770

www.bushandgudgell.com
Ph. 435-673-2337
Fax 435-673-3161

Appendix A - Site Plan

Bush and Gudgell
205 East Tabernacle #4
St. George, UT 84770

www.bushandgudgell.com
Ph. 435-673-2337
Fax 435-673-3161

COUNTRY WAY

SUNRISE VALLEY INDUSTRIAL

SUNRISE VALLEY INDUSTRIAL

FOUNDRY DRIVE

GRADING LIMITS

1:1 MAX CUT SLOPE

DRAINAGE SWALE, SEE DETAIL PAGE 3

OFFSITE DRAINAGE BASINS

FLOOD CONTROL DRAINAGE BASIN

CULVERT CROSSING. SEE DETAIL, SHEET 6.

A 5 | B 5 | C 5 | D 5 | E 6 | F 6 | G 6 | H 6 | I 6

GRAPHIC SCALE

150 0 75 150 300

(IN FEET)
1 inch = 150 ft.

N

CONTENTS	
1	SITE PLAN
2	SLOPE MAP
3	GRADING PLAN
4	CUT FILL MAP
5	CROSS SECTIONS
6	CROSS SECTIONS

No	Date	By	Revision

BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
205 East Tabernacle Suite #4
St. George, Utah 84770
Phone (435) 673-2337 / Fax (435) 673-3161
www.bushandgudgell.com

DATE: MAY 2023
DRAWN: RM
APPROVED:
SCALE: NOTED
JOB NO.: 221249

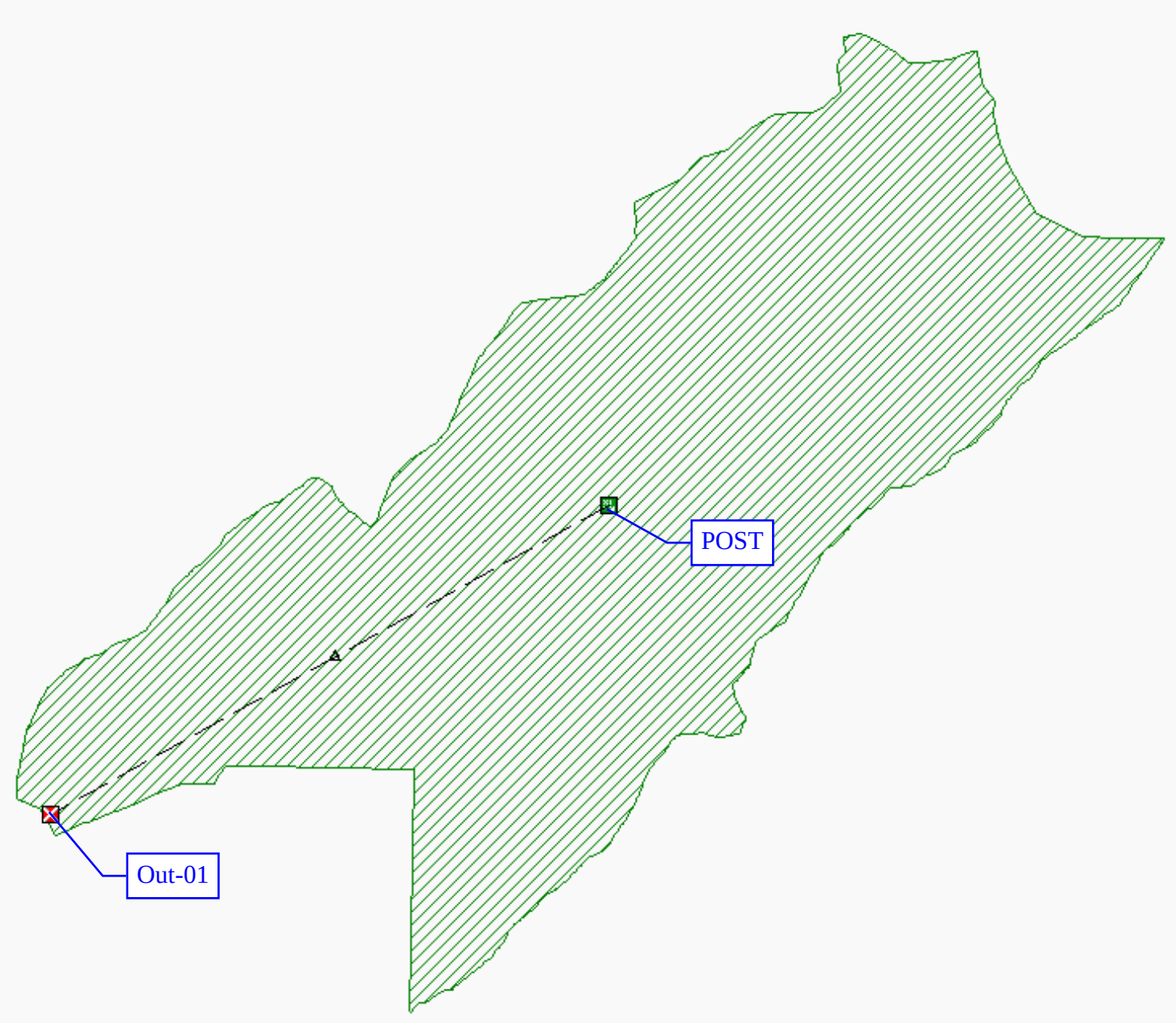
SITE PLAN
SUNRISE VALLEY PH 3 HILLSIDE
WASHINGTON, UTAH

SHEET 1 OF 6 SHEETS

FILE:

X:\221000-221999\221249 - East Valley Industrial\221249 - HILLSIDE.dwg

Appendix B – SSA Model Schematic



Bush and Gudgell
205 East Tabernacle #4
St. George, UT 84770

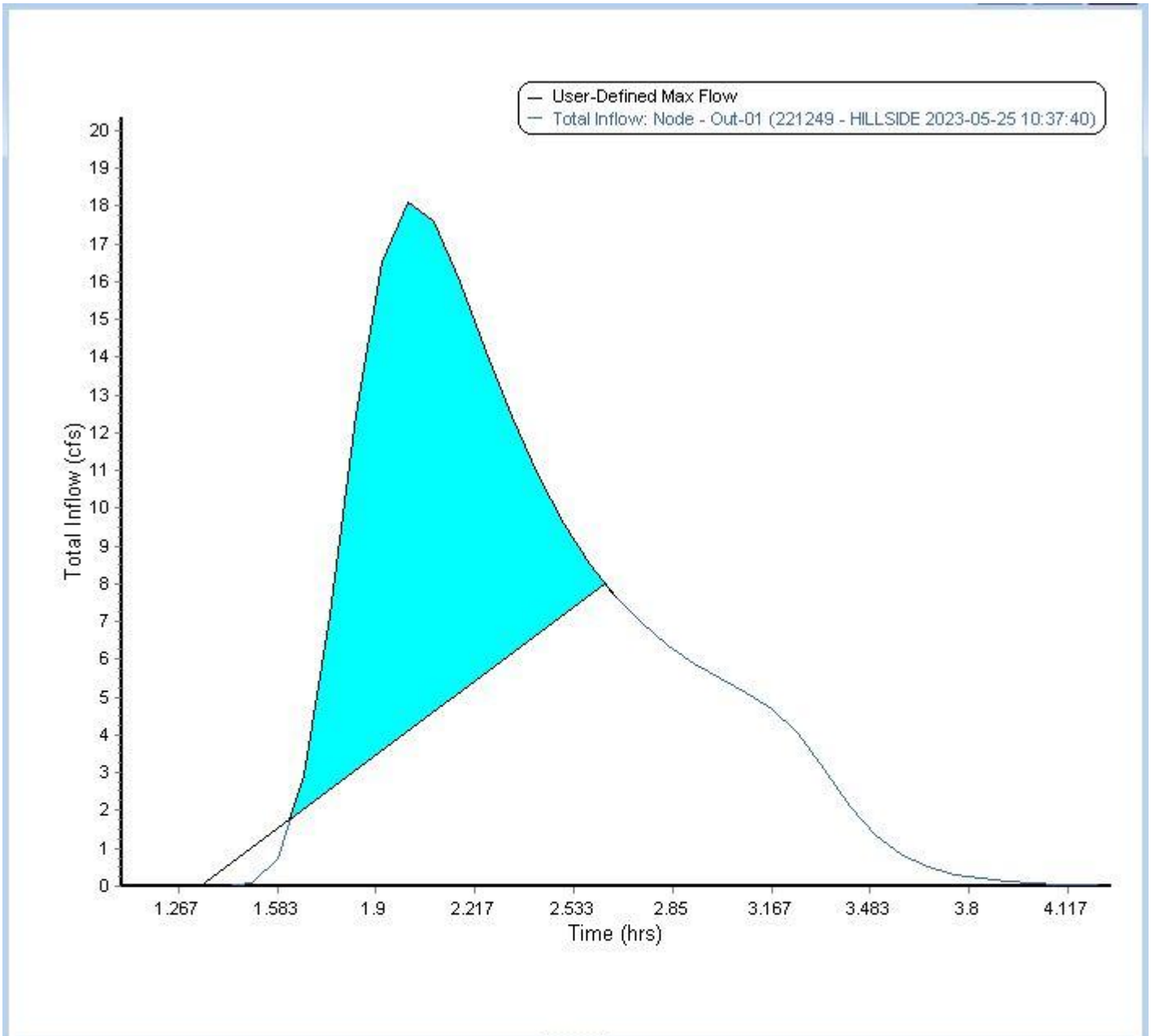
www.bushandgudgell.com
Ph. 435-673-2337
Fax 435-673-3161

Appendix C – SSA Model Hydrographs and Reports

Bush and Gudgell
205 East Tabernacle #4
St. George, UT 84770

www.bushandgudgell.com
Ph. 435-673-2337
Fax 435-673-3161

10-year 3-hour Hydrograph



Total Inflow Summary Table

Time period

From: 04/21/2023, 12:00:00 AM

To: 04/24/2023, 12:00:00 AM

Thresholds

Exceedance: 0

Deficit: 0

Detention storage

Max flow: 8

Element ID	Out-01
Maximum Total Inflow (cfs)	18.10
Minimum Total Inflow (cfs)	0.00
Event Mean Total Inflow (cfs)	0.23
Duration of Exceedances (hrs)	N/A
Duration of Deficits (hrs)	N/A
Number of Exceedances	N/A
Number of Deficits	N/A
Volume of Exceedance (ft³)	N/A
Volume of Deficit (ft³)	N/A
Total Inflow Volume (ft³)	60641.56
Detention Storage (ft³)	26251.83

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	POST	64.59	0.00	88.00	1.01	0.26	16.73	18.16	0 00:27:28

Subbasin Hydrology

Subbasin : POST

Input Data

Area (ac) 64.59
Peak Rate Factor 0.00
Weighted Curve Number 88.00
Rain Gage ID ..... WASHINGTON

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Natural western desert	64.59	D	88.00
Composite Area & Weighted CN	64.59		88.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr. 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.35	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	9.79	0.00	0.00
2 yr, 24 hr Rainfall (in) :	1.09	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	17.52	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	451	0.00	0.00
Slope (%) :	9.79	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	5.05	0.00	0.00
Computed Flow Time (min) :	1.49	0.00	0.00

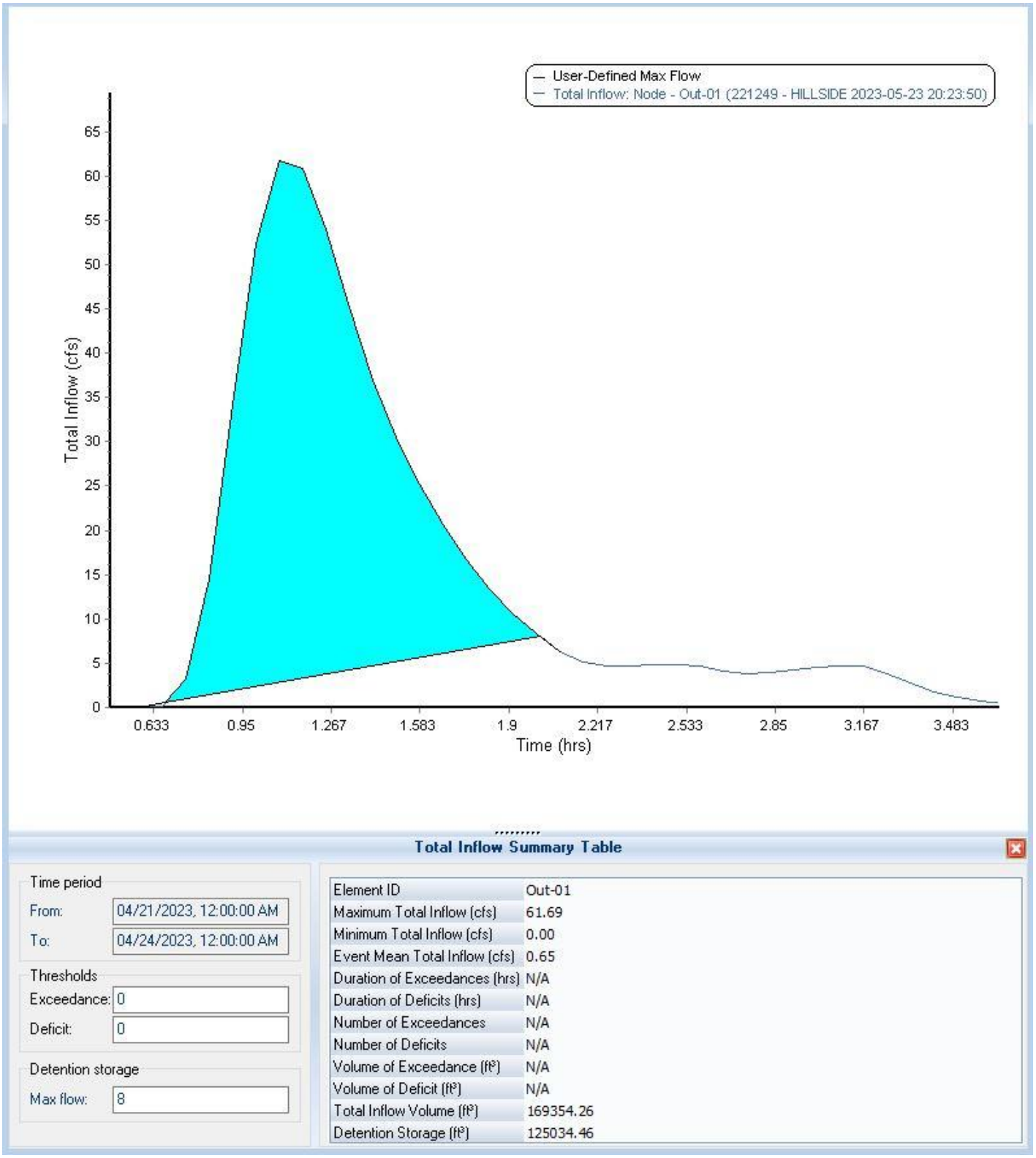
Channel Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.055	0.00	0.00
Flow Length (ft) :	3143.22	0.00	0.00
Channel Slope (%) :	3.7	0.00	0.00
Cross Section Area (ft^2) :	18	0.00	0.00
Wetted Perimeter (ft) :	13.94	0.00	0.00
Velocity (ft/sec) :	6.18	0.00	0.00
Computed Flow Time (min) :	8.48	0.00	0.00

Total TOC (min) 27.48

Subbasin Runoff Results

Total Rainfall (in) 1.01
Total Runoff (in) 0.26
Peak Runoff (cfs) 18.16
Weighted Curve Number 88.00
Time of Concentration (days hh:mm:ss) 0 00:27:29

100-year 3-hour Hydrograph



Total Inflow Summary Table

Time period

From:	04/21/2023, 12:00:00 AM
To:	04/24/2023, 12:00:00 AM

Thresholds

Exceedance:	0
Deficit:	0

Detention storage

Max flow:	8

Element ID	Out-01
Maximum Total Inflow (cfs)	61.69
Minimum Total Inflow (cfs)	0.00
Event Mean Total Inflow (cfs)	0.65
Duration of Exceedances (hrs)	N/A
Duration of Deficits (hrs)	N/A
Number of Exceedances	N/A
Number of Deficits	N/A
Volume of Exceedance (ft³)	N/A
Volume of Deficit (ft³)	N/A
Total Inflow Volume (ft³)	169354.26
Detention Storage (ft³)	125034.46

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	POST	64.59	0.00	88.00	1.69	0.72	46.64	62.59	0 00:27:28

Subbasin Hydrology

Subbasin : POST

Input Data

Area (ac) 64.59
Peak Rate Factor 0.00
Weighted Curve Number 88.00
Rain Gage ID ..... WASHINGTON

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Natural western desert	64.59	D	88.00
Composite Area & Weighted CN	64.59		88.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr. 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.35	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	9.79	0.00	0.00
2 yr, 24 hr Rainfall (in) :	1.09	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	17.52	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	451	0.00	0.00
Slope (%) :	9.79	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	5.05	0.00	0.00
Computed Flow Time (min) :	1.49	0.00	0.00

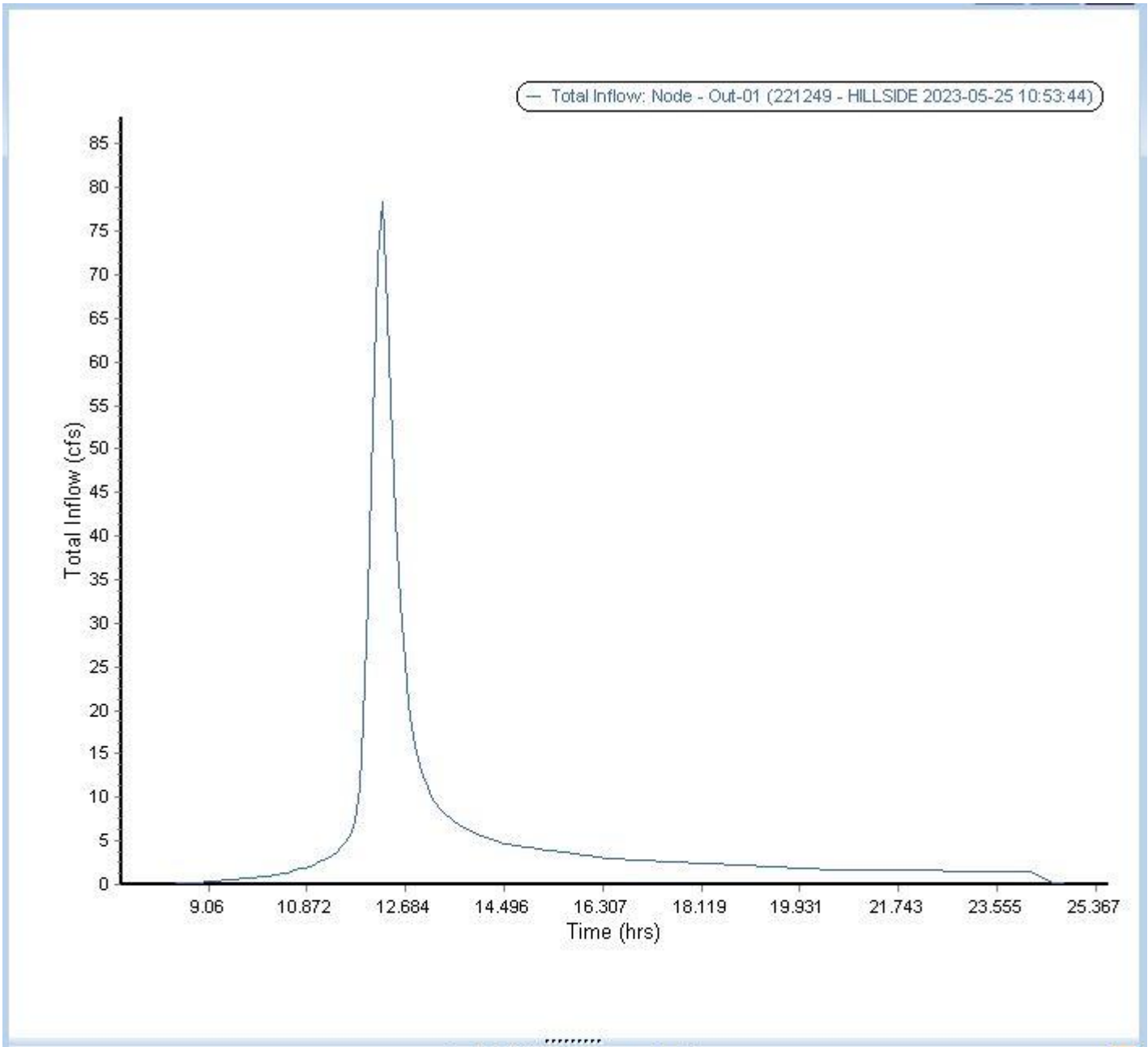
Channel Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.055	0.00	0.00
Flow Length (ft) :	3143.22	0.00	0.00
Channel Slope (%) :	3.7	0.00	0.00
Cross Section Area (ft^2) :	18	0.00	0.00
Wetted Perimeter (ft) :	13.94	0.00	0.00
Velocity (ft/sec) :	6.18	0.00	0.00
Computed Flow Time (min) :	8.48	0.00	0.00

Total TOC (min) 27.48

Subbasin Runoff Results

Total Rainfall (in) 1.69
Total Runoff (in) 0.72
Peak Runoff (cfs) 62.59
Weighted Curve Number 88.00
Time of Concentration (days hh:mm:ss) 0 00:27:29

100-year 24-hour Hydrograph



Total Inflow Summary Table

Time period

From:	04/21/2023, 12:00:00 AM
To:	04/24/2023, 12:00:00 AM

Thresholds

Exceedance:	0
Deficit:	0

Detention storage

Max flow:	0

Element ID	Out-01
Maximum Total Inflow (cfs)	78.36
Minimum Total Inflow (cfs)	0.00
Event Mean Total Inflow (cfs)	1.18
Duration of Exceedances (hrs)	N/A
Duration of Deficits (hrs)	N/A
Number of Exceedances	N/A
Number of Deficits	N/A
Volume of Exceedance (ft³)	N/A
Volume of Deficit (ft³)	N/A
Total Inflow Volume (ft³)	305943
Detention Storage (ft³)	N/A

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	POST	64.59	0.00	88.00	2.41	1.31	84.29	78.38	0 00:27:28

Subbasin Hydrology

Subbasin : POST

Input Data

Area (ac) 64.59
Peak Rate Factor 0.00
Weighted Curve Number 88.00
Rain Gage ID ..... WASHINGTON

Composite Curve Number

Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Natural western desert	64.59	D	88.00
Composite Area & Weighted CN	64.59		88.00

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr. 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.35	0.00	0.00
Flow Length (ft) :	100	0.00	0.00
Slope (%) :	9.79	0.00	0.00
2 yr, 24 hr Rainfall (in) :	1.09	0.00	0.00
Velocity (ft/sec) :	0.10	0.00	0.00
Computed Flow Time (min) :	17.52	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	451	0.00	0.00
Slope (%) :	9.79	0.00	0.00
Surface Type :	Unpaved	Unpaved	Unpaved
Velocity (ft/sec) :	5.05	0.00	0.00
Computed Flow Time (min) :	1.49	0.00	0.00

Channel Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	.055	0.00	0.00
Flow Length (ft) :	3143.22	0.00	0.00
Channel Slope (%) :	3.7	0.00	0.00
Cross Section Area (ft^2) :	18	0.00	0.00
Wetted Perimeter (ft) :	13.94	0.00	0.00
Velocity (ft/sec) :	6.18	0.00	0.00
Computed Flow Time (min) :	8.48	0.00	0.00

Total TOC (min) 27.48

Subbasin Runoff Results

Total Rainfall (in) 2.41
Total Runoff (in) 1.31
Peak Runoff (cfs) 78.38
Weighted Curve Number 88.00
Time of Concentration (days hh:mm:ss) 0 00:27:29

Appendix D – Drainage Channel Calculations and Detail

Bush and Gudgell
205 East Tabernacle #4
St. George, UT 84770

www.bushandgudgell.com
Ph. 435-673-2337
Fax 435-673-3161

PROJECT:	East Valley Industrial	*PROJECT NO:*	221249	*DATE:*	5/25/2023
SUBJECT:	Channel Calculations	*ENGINEER:*	RM	*SHEET:*	

East Valley Industrial Channel Calculations

Version: December 2010 / rmeyer

File Name: CE_Civil_Open_Channel_Steady_State_Flow 40 CFS.xls

Code Ref.: n/a

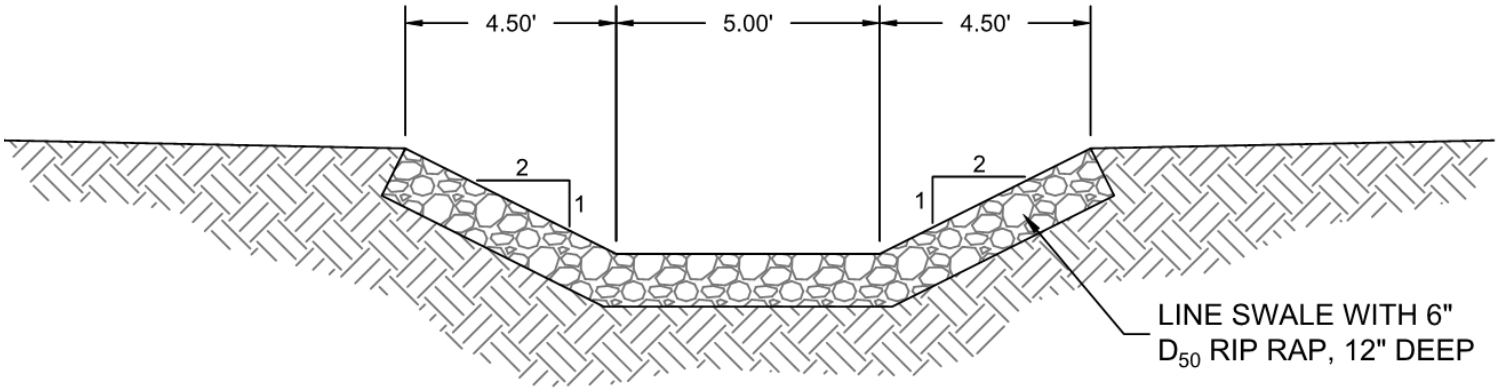
Choose Units	English
Channel Section	Trapezoidal, Triangle, Sqaure
Choose Mannings n	0.040 Rough rocks

Manning's Equation:

$$Q = \frac{\alpha * A^{5/3}}{n * P^{2/3}} \sqrt{S}$$

INPUT		
		Manning's n
y	1.17 ft	Water Depth
S	0.02 ft/ft	Channel Slope
b	5 ft	Channel Bottom Width
mL	2 (horiz):1(vert)	Channel Side Slope, Left Side
mR	2 (horiz):1(vert)	Channel Side Slope, Right Side
OUTPUT		
Q	**40.000 cfs**	Open Channel Flow
V	**4.670 ft/sec**	
Tw	**9.671 ft**	Top Width (Gutter Spread)

S_s	2.8
D_{50}	**0.20 ft**



DRAINAGE SWALE DETAIL

SCALE: NTS

BUSH AND GUDGELL
205 East Tabernacle #4
St George, UTAH 84770
TEL: (435) 673-2337 • FAX: (435) 673-3161

Appendix E – HY-8 Culvert Analysis

Crossing Properties

Name: East Valley Industrial

Parameter	Value	Units
DISCHARGE DATA		
Discharge Method	User-Defined	
Discharge List	Define...	
TAILWATER DATA		
Channel Type	Rectangular Channel	
Bottom Width	5.000	ft
Channel Slope	0.0200	ft/ft
Manning's n (channel)	0.040	
Channel Invert Elevation	100.000	ft
Rating Curve	View...	
ROADWAY DATA		
Roadway Profile Shape	Constant Roadway Elevation	
First Roadway Station	0.000	ft
Crest Length	30.000	ft
Crest Elevation	108.000	ft
Roadway Surface	Paved	
Top Width	60.000	ft

Discharge List Defined:

Number	Names	Flow (cfs)
1	10-yr	10.0
2	100-yr	30.0

Culvert Properties

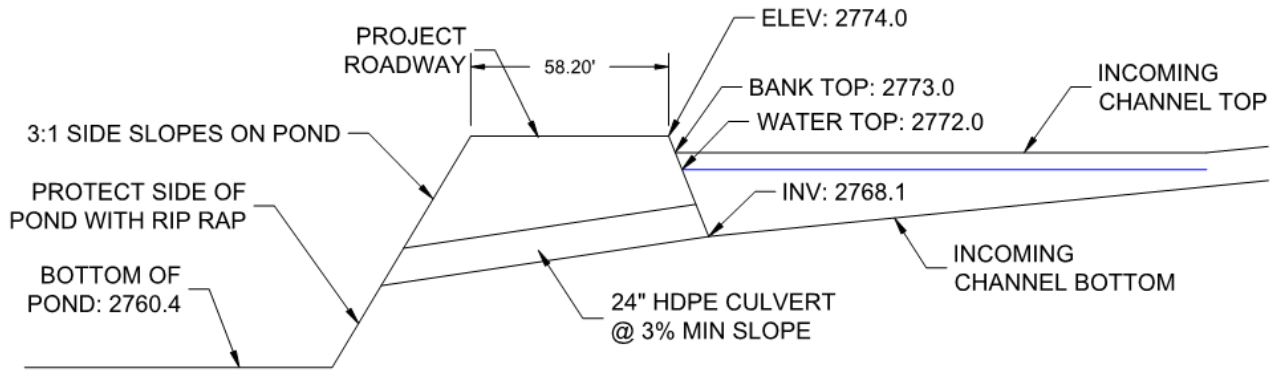
24" HDPE

Add Culvert

Duplicate Culvert

Delete Culvert

Parameter	Value	Units
CULVERT DATA		
Name	24" HDPE	
Shape	Circular	
Material	Smooth HDPE	
Diameter	2.000	ft
Embedment Depth	0.000	in
Manning's n	0.012	
Culvert Type	Straight	
Inlet Configuration	Beveled Edge (1.5:1) (Ke=0.2)	
Inlet Depression?	No	
SITE DATA		
Site Data Input Option	Culvert Invert Data	
Inlet Station	0.000	ft
Inlet Elevation	102.100	ft
Outlet Station	70.000	ft
Outlet Elevation	100.000	ft
Number of Barrels	1	
Computed Culvert Slope	0.030000	ft/ft



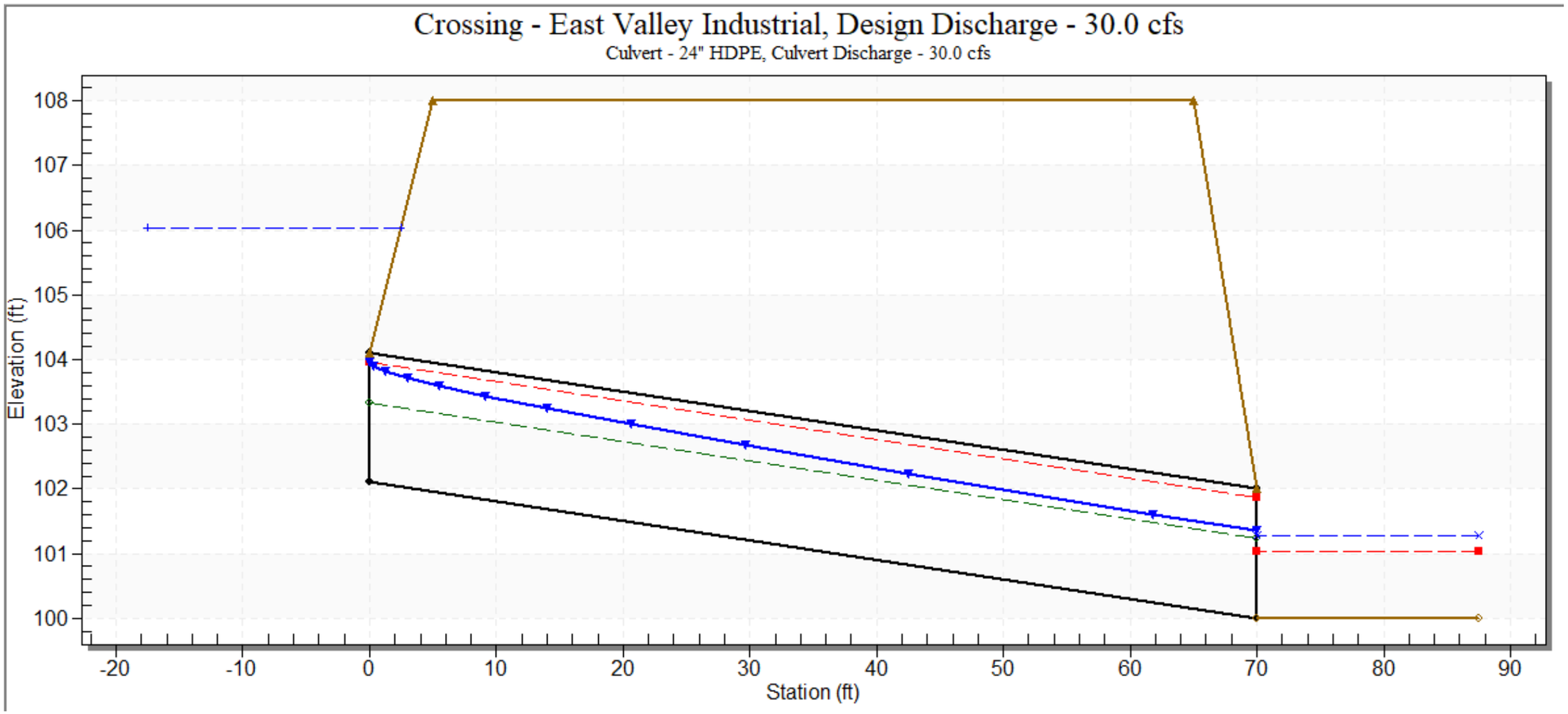
CULVERT CROSSING DETAIL

SCALE: 1" = 50' (HORIZ), 1" = 10' (VERT)

Bush and Gudgell
205 East Tabernacle #4
St. George, UT 84770

www.bushandgudgell.com
Ph. 435-673-2337
Fax 435-673-3161

Culvert Results



Headwater Elevation (ft)	Discharge Names	Total Discharge (cfs)	24" HDPE Discharge (cfs)	Roadway Discharge (cfs)	Iterations
103.71	10-yr	10.00	10.00	0.00	1
106.03	100-yr	30.00	30.00	0.00	1
108.00	Overtopping	40.69	40.69	0.00	Overtopping