



Staff Report to the Ogden Valley Planning Commission

Weber County Planning Division

Synopsis

Application Information

Agenda Item:	CUP: 2023-01 Request for approval of a conditional use permit for a public utility substation that will house a well pumping facility for Wolf Creek Water and Sewer Improvement District.
Application Type:	Administrative
File Number:	CUP 2023-01
Applicant:	Wolf Creek Water and Sewer Improvement District
Approximate Address:	5675 E Elkhorn Drive, Eden
Project Area:	0.50 acres
Zoning:	RE-15
Existing Land Use:	Public Utility Substation
Proposed Land Use:	Public Utility Substation
Parcel ID:	N/A

Adjacent Land Use

North:	Residential	South:	Residential
East:	Residential	West:	Residential

Staff Information

Report Presenter:	Steve Burton sburton@webercountyutah.gov 801-399-8766
Report Reviewer:	RG

Applicable Ordinances

- Weber County Land Use Code Title 104 Chapter 3 (RE-15 Zone)
- Weber County Land Use Code Title 108 Chapter 4 (Conditional Uses)
- Weber County Land Use Code Title 108 Chapter 10 (Public Utility Substations)
- Weber County Land Use Code Title 108 Chapter 2 (Ogden Valley Architectural, Landscape, and Screening Standards)
- Weber County Land Use Code Title 108 Chapter 1 (Design Review)

Background and Summary

Wolf Creek Water and Sewer Improvement district is requesting a conditional use permit for a well house facility on a property owned by Eden Village LLC that will be part of a residential subdivision in the near future. The purpose of the well house is to provide additional water and infrastructure to the district.

The application is being processed as an administrative review due to the approval procedures in Uniform Land Use Code of Weber County, Utah (LUC) §108-1-2 which require the planning commission to review and approve applications for conditional use permits and design reviews.

Analysis

General Plan: As a conditional use, this operation is allowed in the RE-15 Zone. With the establishment of appropriate conditions as determined by the land use authority, this operation will not negatively impact any of the goals and policies of the General Plan.

Zoning: The subject property is located within the RE-15 zone. The purpose and intent of the RE-15 zone are described in LUC 104-3-1:

The major purpose of the RE-15 and RE-20 Zones is to provide and protect residential development at a low density in a semi-agricultural or rural environment. It is also to provide for certain rural amenities on larger minimum lots, in conjunction with the primary residential nature of the zone.

The proposed site plan indicates that the well house and tank will be 30 feet from the front lot line, 8 feet from the rear lot line, and 20 feet from the side lot lines. This proposal meets the zoning setbacks except for the rear setback requirement of 30 feet, however, Sec 108-10-2, site development standards allow a rear setback of five feet minimum.

Under the LUC 108-10, there is not minimum lot area for public utility substations. The proposed improvements will be located on a site of approximately .50 acres.

Conditional Use Review: A review process has been outlined in LUC §108-4-3 to ensure compliance with the applicable ordinances and to mitigate anticipated detrimental effects. The applicant has received approval from the County Engineering Division and the Weber Fire District for the proposal.

The following is an analysis of the proposal reviewed against the conditional use standards:

(1) Standards relating to safety for persons and property. The proposal is not anticipated or expected to negatively impact this property, surrounding properties, or persons. The applicant has submitted plans to re-seed any areas disturbed by construction with a mountain seed mix to re-vegetate the property.

(2) Standards relating to infrastructure, amenities, and services: The proposal is not anticipated or expected to negatively impact any existing infrastructure, amenities, or services in the area.

(3) Standards relating to the environment. The proposal is not anticipated or expected to negatively impact the environment.

(4) Standards relating to the current qualities and characteristics of the surrounding area and compliance with the intent of the general plan. The proposal is not anticipated to negatively impact the surrounding area, nor is it contrary to the recommendations of the general plan.

Design Review: The proposed conditional use mandates a design review as outlined in LUC §108-1 to ensure that the general design, layout and appearance of the building remains orderly and harmonious with the surrounding neighborhood. The matters for consideration are as follows:

Considerations relating to traffic safety and traffic congestion. The proposal includes a site plan that identifies an access road to the pump house off of the future public street. Neither traffic safety hazards nor traffic congestion are anticipated given the minimal site visitations to the substations.

Considerations relating to landscaping. The owner has provided a landscaping plan that includes drought tolerant perennials and shrubs, included as part of exhibit A. The proposed landscaping plan meets the requirements outlined in the Architectural, Landscape, and Screening Design Standards (108-2).

Considerations relating to buildings and site layout. The applicant has submitted elevations of the proposed pump house (Exhibit A) that indicate the outside of the building will consist of hardieplank lap siding, split face CMU, and steel roofing, which complies with the aesthetic requirements outlined in LUC 108-2.

Staff Recommendation

Staff recommends approval of this conditional use application subject to the applicant meeting the review agency requirements and the following conditions:

1. Any outdoor lighting must meet the requirements of the Ogden Valley Outdoor Lighting Ordinance (108-16).

This recommendation is based on the following findings:

- The proposed use is allowed in the RE-15 zone and meets the appropriate site development standards.
- The criteria for issuance of a conditional use permit have been met because mitigation of potential detrimental effects can be accomplished.

Exhibits

- A. Building elevations and Site Plan

Map 1





WCWSID - EAST WELL

5650 E ELKHORN DR

2023
EDEN, WEBER, UTAH

GENERAL NOTES

1. ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION OF SITE IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH BY THE ENGINEER, PLANNING, CODES AND SPECIFICATIONS AND APPLICABLE COUNTY, STATE AND FEDERAL REGULATIONS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE HIGHER QUALITY STANDARD SHALL APPLY.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT THE CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.
3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL APPLICABLE AGENCIES. THE CONTRACTOR SHALL NOTIFY THE DESIGNATED PUBLIC WORKS INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY, OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS.
4. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE CITY AND ALL UTILITY COMPANIES INVOLVED WITH REGARD TO RELOCATIONS OR ADJUSTMENTS OF EXISTING UTILITIES DURING CONSTRUCTION AND TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE.
5. THE CONTRACTOR SHALL HAVE ONE (1) COPY OF APPROVED PLANS, AND ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS AND A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB, ON SITE AT ALL TIMES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY.
7. IF DURING THE CONSTRUCTION PROCESS CONDITIONS ARE ENCOUNTERED BY THE CONTRACTOR, HIS SUBCONTRACTORS, OR OTHER AFFECTED PARTIES, WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
8. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS OR DESIGNATED TO BE PROVIDED, INSTALLED, CONSTRUCTED, REMOVED AND RELOCATED UNLESS SPECIFICALLY NOTED OTHERWISE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADWAYS FREE AND CLEAR OF ALL CONSTRUCTION DEBRIS AND DIRT TRACKED FROM THE SITE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT DRAWINGS ON A SET OF RECORD DRAWINGS KEPT AT THE CONSTRUCTION SITE, AND AVAILABLE TO THE COUNTY INSPECTOR AT ALL TIMES.
11. THE CONTRACTOR SHALL SEQUENCE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO MINIMIZE POTENTIAL UTILITY CONFLICTS. IN GENERAL, STORM SEWER AND SANITARY SEWER SHOULD BE CONSTRUCTED PRIOR TO INSTALLATION OF WATER LINES AND DRY UTILITIES.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL UTILITY RELOCATIONS CONSISTENT WITH THE CONTRACTORS SCHEDULE FOR THIS PROJECT, WHETHER SHOWN OR NOT SHOWN AS IT RELATES TO THE CONSTRUCTION ACTIVITIES CONTEMPLATED IN THESE PLANS.

GENERAL GRADING NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST APWA STANDARDS AND SPECIFICATION FOR PUBLIC WORKS AND THE COMPANY STANDARDS. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATIONS AND ENTRIES. FINISHED GRADE AT FOUNDATION FOR WOOD FRAMED STRUCTURES SHALL BE 8 INCHES BELOW TOP OF FOUNDATION AND DRAINAGE SHALL BE A MINIMUM OF 5% WITHIN 10 FEET FROM THE BUILDING.
2. MAXIMUM SLOPES SHALL BE 3:1 FOR CUT AND FILL UNLESS OTHERWISE NOTED.
3. COMPACTION REQUIREMENTS AND TESTING SHALL BE PERFORMED TO MEET THE MANUAL OF STD. SPECIFICATIONS (ORANGE BOOK, LATEST EDITION).
4. NO FILL SHALL BE PLACED UNTIL VEGETATION HAS BEEN REMOVED AND SUB-GRADE PREPARED PER THE SOILS REPORT.
5. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS.
6. CONTRACTOR SHALL COMPLY WITH STORM WATER POLLUTION PREVENTION PLAN BY INSTALLING BMP'S PRIOR TO COMMENCEMENT OF EXCAVATION ACTIVITIES. CONTACT THE COUNTY INSPECTOR FOR INSPECTION.
7. ALL RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND ALL SUBSEQUENT REPORTS, ADDENDUM ETC. SHALL BE CONSIDERED A PART OF THE GRADING PLAN CONTAINED HEREIN AND SHALL BE COMPLIED WITH.
8. THE CONTRACTOR SHALL CONTACT BLUE STAKES FOR LOCATION MARKING PRIOR TO COMMENCING EXCAVATION ACTIVITIES.
9. COUNTY MAY REQUIRE A PRE-CONSTRUCTION MEETING BEFORE A PERMIT IS ISSUED.
10. STREETS ADJACENT TO THE PROJECT SHALL BE CLEAN AT ALL TIMES.
11. CONTRACTOR IS RESPONSIBLE FOR ARRANGING FOR ALL REQUIRED INSPECTIONS.
12. PRIOR TO TAKING WATER FROM A FIRE HYDRANT, THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE WATER UTILITY TO OBTAIN A WATER METER.

CULINARY WATER GENERAL NOTES

1. ALL INSTALLATION AND MATERIALS INSTALLED SHALL BE NEW AND CONFORM TO CRIMSON RIDGE WATER COMPANY STANDARDS, SPECIFICATIONS AND PLANS.
2. ALL INTERIOR SURFACES AND COATINGS SHALL COMPLY WITH ANSISF STANDARD 61 OR OTHER STANDARDS APPROVED BY THE DIRECTOR. THIS REQUIREMENT APPLIES TO ANY PIPES AND FITTINGS, PROTECTIVE MATERIALS (E.G. PAINTS, COATINGS, CONCRETE ADMIXTURES, CONCRETE RELEASE AGENTS, OR CONCRETE SEALERS), JOINING AND SEALING MATERIALS (E.G., ADHESIVES, CAULKS, GASKETS, PRIMERS AND SEALANTS) AND MECHANICAL DEVICES (E.G., ELECTRICAL WIRE, SWITCHES, SENSORS, VALVES, OR SUBMERSIBLE PUMPS) THAT MAY COME INTO CONTACT WITH THE DRINKING WATER.
3. THE CURRENT REQUIREMENTS OF THE UTAH DIVISION OF DRINKING WATER, GOVERNING THE MATERIALS AND INSTALLATION USED IN THE PROJECT SHALL BE MET.
4. THRUST BLOCKING AND MECHANICAL RESTRAINTS ARE REQUIRED AT ALL BENDS AND FITTINGS.
5. ALL WATERLINES AT SEWER CROSSINGS SHALL BE LOCATED ABOVE AND HAVE AN 18-INCH VERTICAL SEPARATION FROM THE SEWER PIPE. IF THIS IS NOT PROVIDED, CARE SHALL BE TAKEN TO ENSURE, THERE ARE NO JOINTS IN EITHER PIPE WITHIN 20' OF THE POINT AT WHICH THE PIPES CROSS EACH OTHER, EITHER THROUGH INSTALLING THE PIPES IN CASINGS OR BY PLACEMENT OF JOINTS.
6. DISINFECTION TESTS SHALL BE PERFORMED BY THE WATER UTILITY WITH COOPERATION FROM THE CONTRACTOR IN PERFORMING ANY NECESSARY EXCAVATION AND SUBSEQUENT BACKFILLING AT NO COST TO THE COUNTY.
7. CHLORINATION OF COMPLETED WATER LINE. THE NEW WATER LINES SHALL BE DISINFECTED BY CHLORINATION IN ACCORDANCE WITH AWWA STANDARD C651-14. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL RELATED COSTS AND FEES RELATED TO THE CHLORINATION OF THE COMPLETED WATER LINE. THIS TEST SHALL BE PERFORMED PRIOR TO CONNECTION OF THE NEW WATER LINES TO THE EXISTING WATER SYSTEM. THE CONTRACTOR SHALL NOTIFY THE WATER UTILITY AT LEAST 24 HOURS BEFORE THE CHLORINATION IS DESIRED.
8. A MINIMUM HORIZONTAL CLEARANCE OF 10 FEET SHALL BE MAINTAINED FROM SANITARY SEWER MAINS.
9. UNLESS OTHERWISE SPECIFIED, ALL WATERLINES SHALL BE AWWA DUCTILE IRON PC 250 AND SHALL BE PRESSURE TESTED AT 200 PSI FOR AT LEAST 2 HOUR.
10. CONTRACTOR SHALL LOCATE VALVES PRIOR TO CONNECTION WITH EXISTING SYSTEM, BUT SHALL NOT OPERATE ANY VALVE WITHOUT PERMISSION FROM THE WATER UTILITY.
11. ALL WATER MAINS, VALVES, FIRE HYDRANTS, SERVICES AND APPURTENANCES SHALL BE INSTALLED, TESTED, AND APPROVED PRIOR TO COMMISSIONING TANK.
12. THE WATER UTILITY REQUIRES THE USE OF CORROSION RESISTANT MATERIALS FOR ALL CULINARY WATER IMPROVEMENTS. SPECIFICALLY, TRIPAC BLUE BOLTS OR STAINLESS STEEL BOLTS MUST BE USED ON ALL FITTINGS. FURTHER, ALL METAL FITTINGS SHALL BE POLY WRAPPED.

UTILITY DISCLAIMER

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT.

NOTICE TO CONTRACTOR

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS: OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF UTAH DEPARTMENT OF INDUSTRIAL RELATIONS CONSTRUCTION SAFETY ORDERS". THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

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

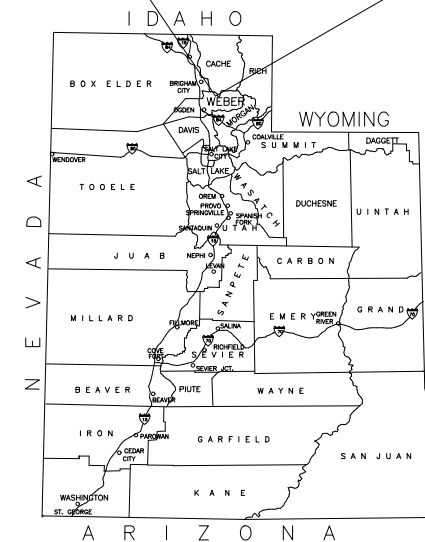
SWPPP GENERAL NOTES

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY UPDES PERMITS AS REQUIRED BY THE COUNTY ENGINEERING DEPARTMENT AND UTAH STATE DEPT. OF ENV. QUALITY.
2. ALL STRUCTURAL EROSION MEASURES SHALL BE INSTALLED AS SHOWN ON THE SWPPP PLAN, PRIOR TO ANY OTHER GROUND-DISTURBING ACTIVITY. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR, UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS ARE STABILIZED WITH HARD SURFACE OR LANDSCAPING.
3. INSPECTION TO BE PERFORMED WEEKLY BY A RSI OR OTHER CERTIFIED INSPECTOR.

2018 International Codes, 2017 NEC, and the ICC A117.1-09

WELL HOUSE OCCUPANCY & BUILDING SUMMARY						
TYPE OF CONSTRUCTION	USE GROUP	OCCUPANT LOAD	RISK CATEGORY	SQUARE FOOTAGE	BUILDING HEIGHT	SPRINKLERS
V-B	U	2	II	550.00 SQ. FT.	1-STORY, 16-FEET	NO

*Per IBC Table 1004.5, Accessory storage areas, mechanical equipment room (550 s.f. / 300)



PROJECT CONTACTS

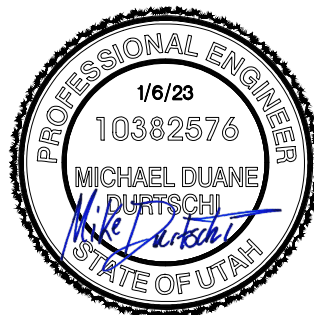
OWNER: Wolf Creek Water and Sewer I.D.
Rob Thomas
801-745-3435
2580 N Hwy 162 Sutie A
Eden, UT 84310

PROJECT ENGINEER: MIKE DURTSCHI, P.E. 801-476-0202
GARDNER ENGINEERING
1580 W 2100 S
WEST HAVEN, UT 84401
476-0202
MIKED@GECIVIL.COM



8143 South 2475 East South Weber, Utah 84405
Phone: 801 814-1714

GEOTECHNICAL INVESTIGATION
CG PROJECT NO.:110-009 W/ ADDENDUM
PREPARED BY: MARK CHRISTENSEN



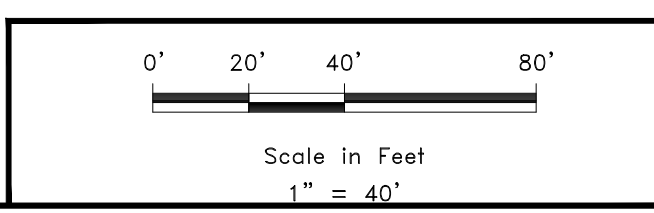
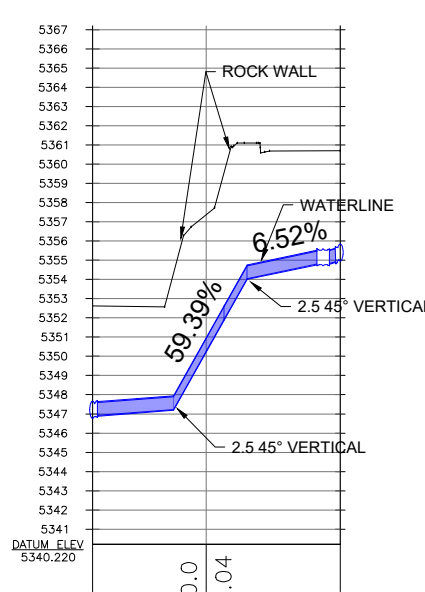
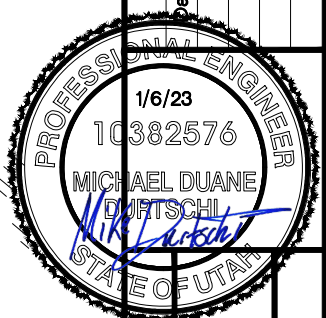
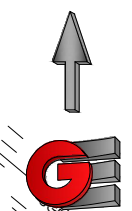
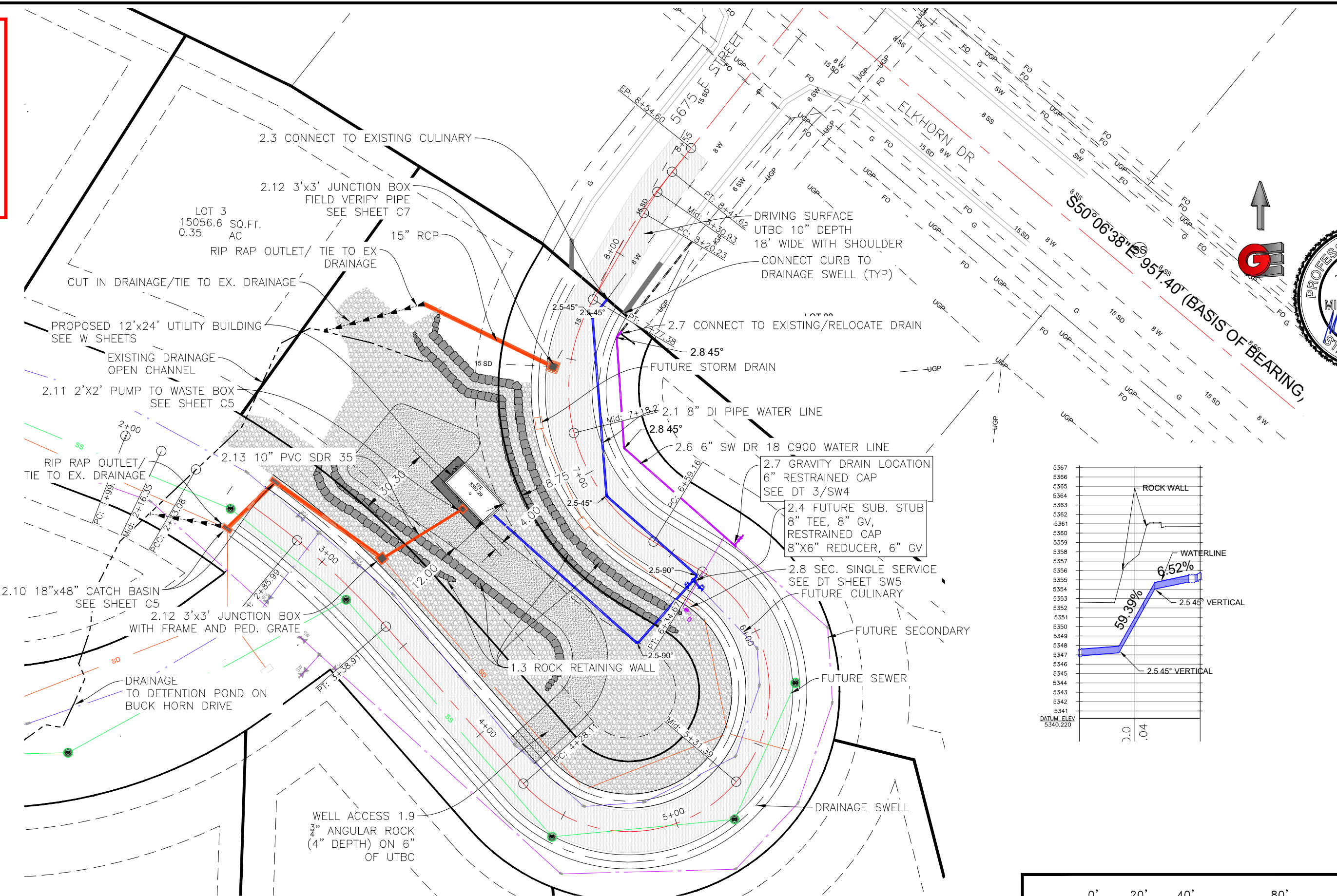
SHEET INDEX

SHEET C0	COVER
SHEET C1	SITE PLAN
SHEET C2	GRADING PLAN
SHEET C3	GRADING PLAN ENLARGED
SHEET C4	LANDSCAPE PLAN
SHEET C5	ACCESS ROAD
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SHEET W3	WELL HOUSE PLAN
SHEETS W4 - W5	WELL HOUSE MATERIALS
SHEET SW	SWPPP
SHEETS D SERIES	DETAILS
SHEETS E SERIES	ELECTRICAL DRAWINGS
SHEETS S-SERIES	STRUCTURAL DRAWINGS

ALL IMPROVEMENTS TO CONFORM TO CURRENT COUNTY STANDARDS AND SPECIFICATIONS
CULINARY WATER IMPROVEMENTS TO CONFORM TO THE WCWSID WATER UTILITY'S STANDARDS AND SPECIFICATIONS
SECONDARY WATER IMPROVEMENTS TO CONFORM TO THE WCWSID SECONDARY WATER UTILITY'S STANDARDS AND SPECIFICATIONS

5650 E ELKHORN DR
WCWSID - EAST WELL
PRELIMINARY DRAWINGS

R:\2319 - WOLF CREEK WATER AND SEWER\2104- EAST WELL\DESIGN\DWG\WCWSID EAST WELL DESIGN.DWG



Date: 1/6/2023		Scale: 1" = 40'	
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Checked: MDD			

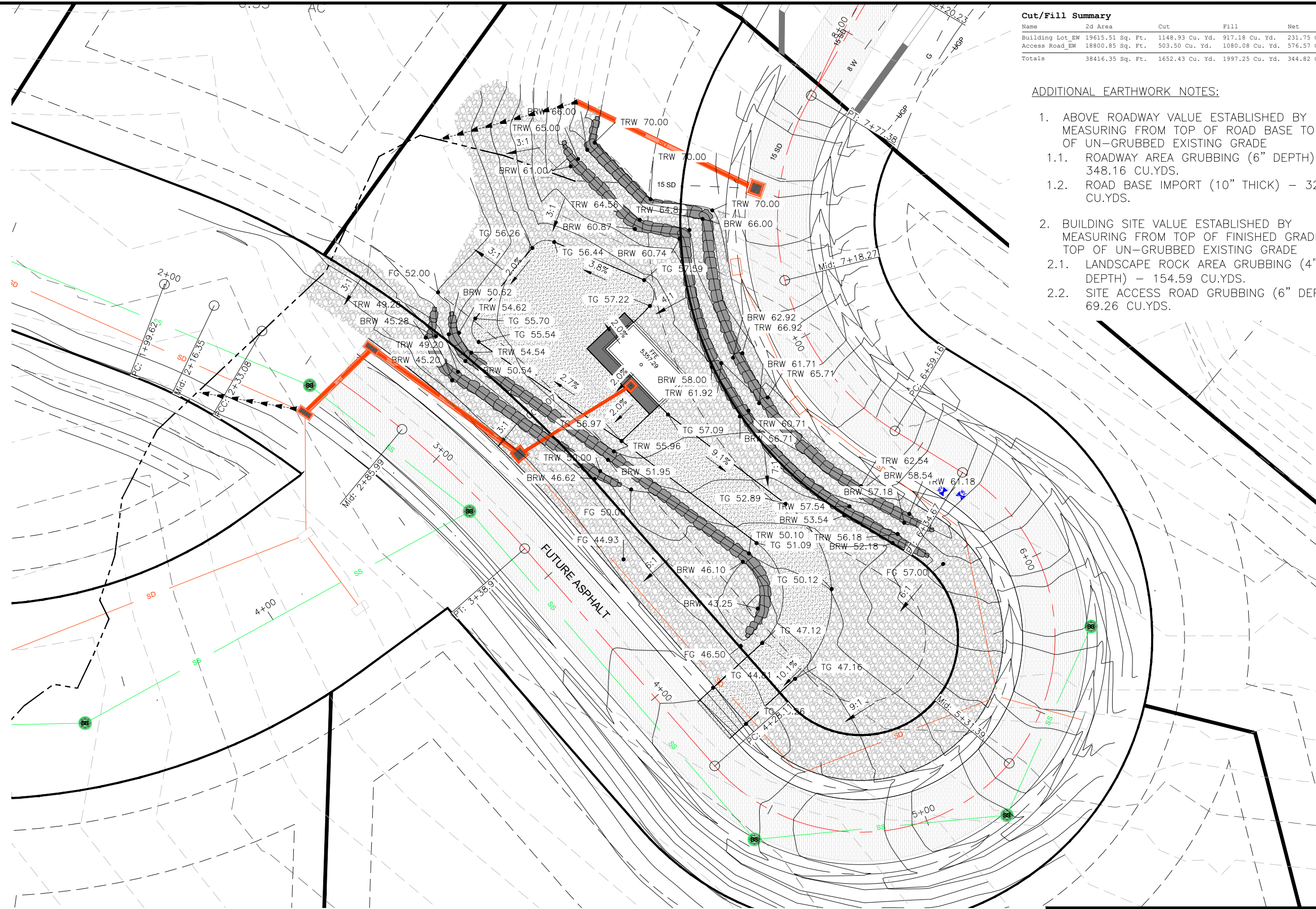
Revisions	Date	Description

SITE PLAN
WCWSID - EAST WELL
5650 E ELKHORN DR
EDEN, WEBER, UTAH

GARDNER ENGINEERING
CIVIL & LAND PLANNING
MUNICIPAL & LAND SURVEYING
1580 W 2100S, WEST HAVEN, UT 84405
P 801.476.0202 F 801.476.0066

C1

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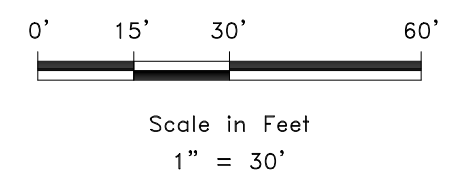
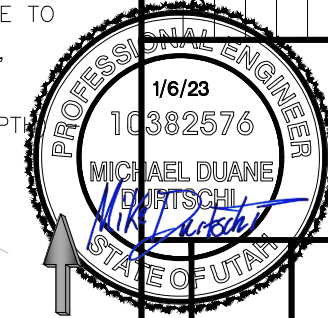


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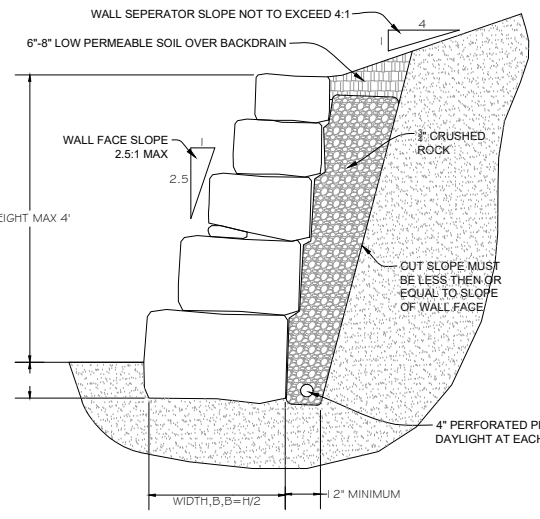
Name	2d Area	Cut	Fill	Net
Building Lot_EW	19615.51 Sq. Ft.	1148.93 Cu. Yd.	917.18 Cu. Yd.	231.75 Cu. Yd.<Cut>
Access Road_EW	18800.85 Sq. Ft.	503.50 Cu. Yd.	1080.08 Cu. Yd.	576.57 Cu. Yd.<Fill>
Totals	38416.35 Sq. Ft.	1652.43 Cu. Yd.	1997.25 Cu. Yd.	344.82 Cu. Yd.<Fill>

ADDITIONAL EARTHWORK NOTES:

1. ABOVE ROADWAY VALUE ESTABLISHED BY MEASURING FROM TOP OF ROAD BASE TO TOP OF UN-GRUBBED EXISTING GRADE
 - 1.1. ROADWAY AREA GRUBBING (6" DEPTH) - 348.16 CU.YDS.
 - 1.2. ROAD BASE IMPORT (10" THICK) - 328.4 CU.YDS.
2. BUILDING SITE VALUE ESTABLISHED BY MEASURING FROM TOP OF FINISHED GRADE TO TOP OF UN-GRUBBED EXISTING GRADE
 - 2.1. LANDSCAPE ROCK AREA GRUBBING (4" DEPTH) - 154.59 CU.YDS.
 - 2.2. SITE ACCESS ROAD GRUBBING (6" DEPT) 69.26 CU.YDS.



Date: 1/6/2023	Scale: 1" = 30'	Designed: JKH	Drafted: JKH	Checked: MDD
Revisions	Description	Date		
<p>GRADING PLAN WCWSID - EAST WELL 5650 E ELKHORN DR EDEN, WEBER, UTAH</p>				
<p>GARDNER ENGINEERING CIVIL & LAND PLANNING MUNICIPAL & LAND SURVEYING 1580 W 2100S, WEST HAVEN, UT 84405 P 801.476.0202 F 801.476.0066</p>				
				<p>C2</p> <p>12</p>

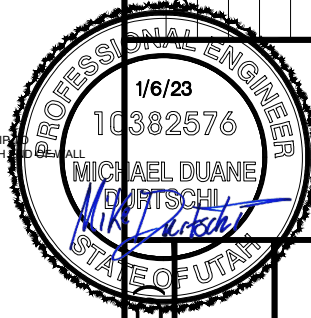
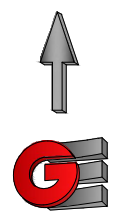


1 TYP. ROCK WALL

Scale: NTS



Scale in Feet
1" = 20'



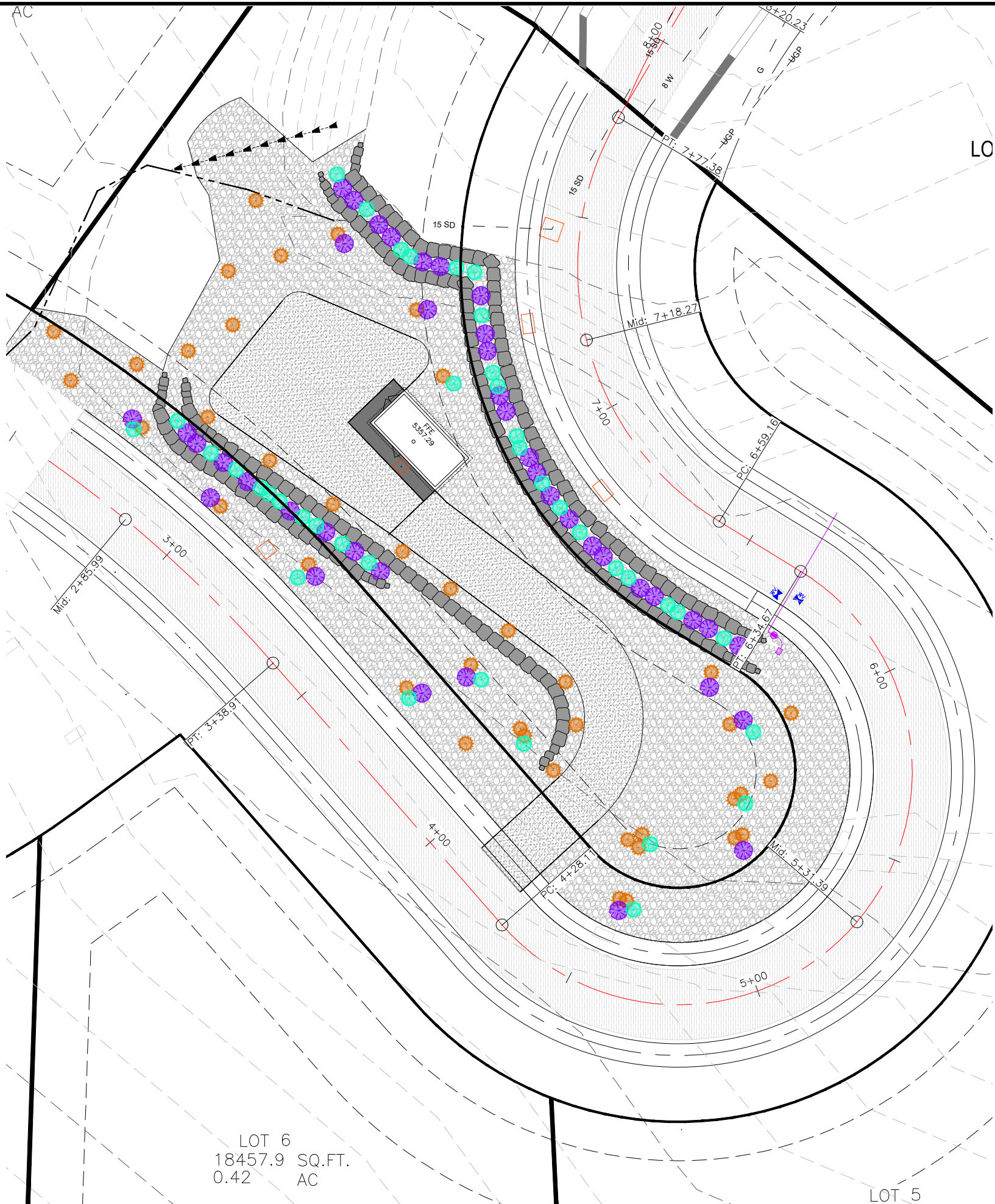
Date:	1/6/2023
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Drafted:	JKH
Checked:	MDD

Revisions	Description	Date

GRADING PLAN (ENLARGED)	
WCWSID - EAST WELL	
5650 E ELKHORN DR	
EDEN, WEBER, UTAH	

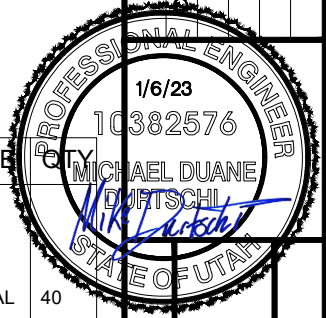
GARDNER ENGINEERING CIVIL & LAND PLANNING MUNICIPAL & LAND SURVEYING 1580 W 2100S, WEST HAVEN, UT 84405 P 801.476.0202 F 801.476.0066	

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PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
SHRUBS				
	CARYOPTERIS X CLANDONENSIS 'BLUE MIST'	BLUE MIST BLUEBEARD	5 GAL	40
PERENNIALS				
	LAVENDULA X INTERMEDIA 'PHENOMENAL'	PHENOMENAL LAVENDER	1 GAL	42
	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	1 GAL	42
	2-3" COBBLE - 4" DEPTH		CYDS	165



LANDSCAPING PLAN
WCWSID - EAST WELL
5650 E ELKHORN DR
EDEN, WEBER, UTAH

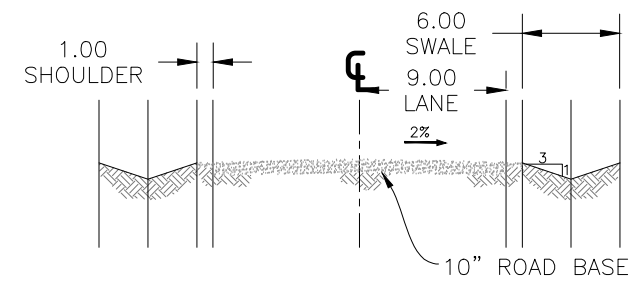
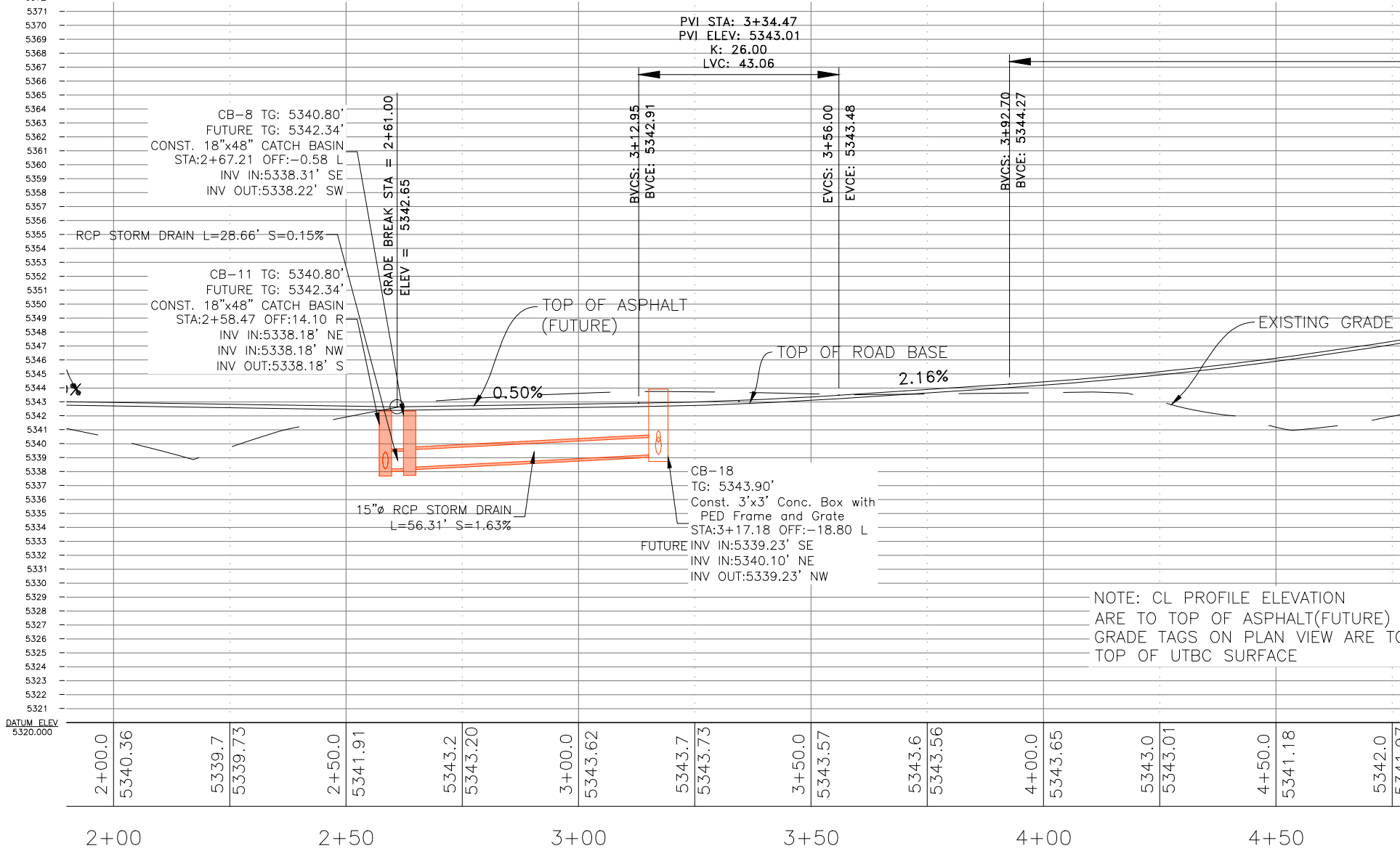
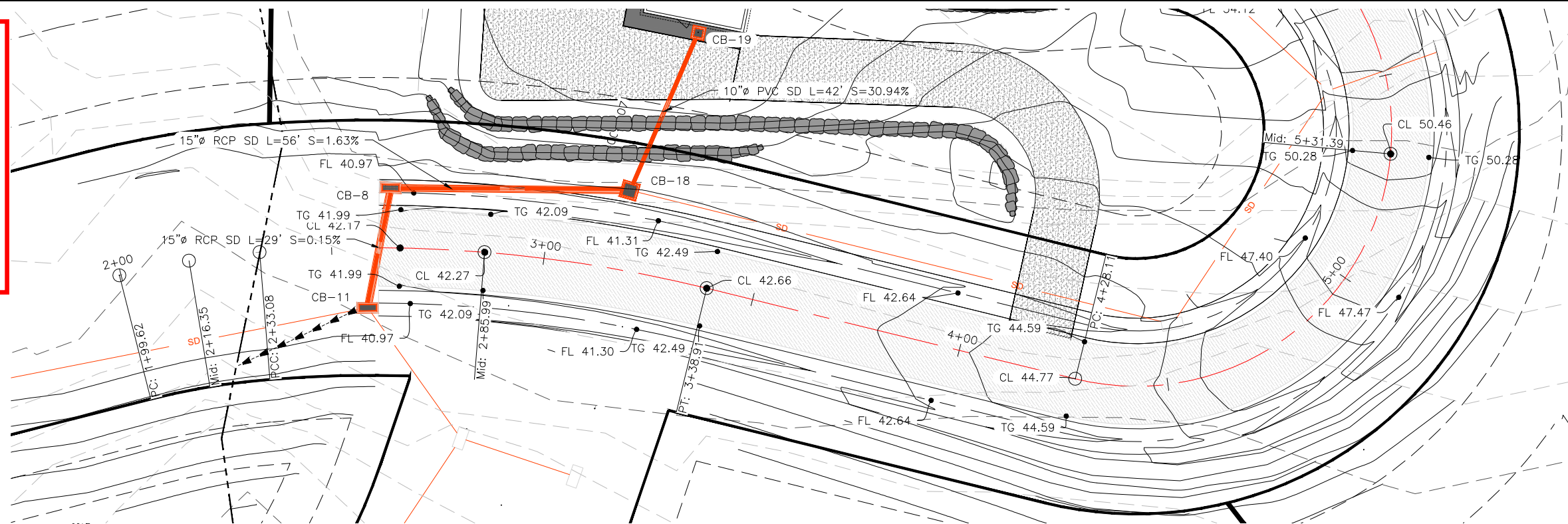
GARDNER ENGINEERING
CIVIL & LAND PLANNING
MUNICIPAL & LAND SURVEYING
1580 W 2100S, WEST HAVEN, UT 84405
P 801.476.0202 F 801.476.0066



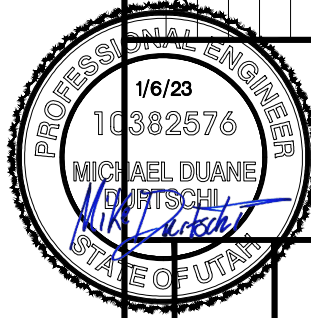
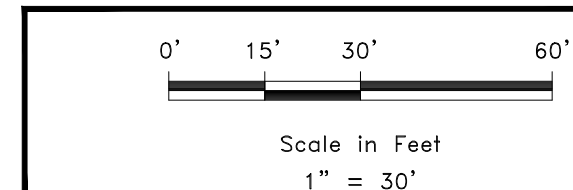
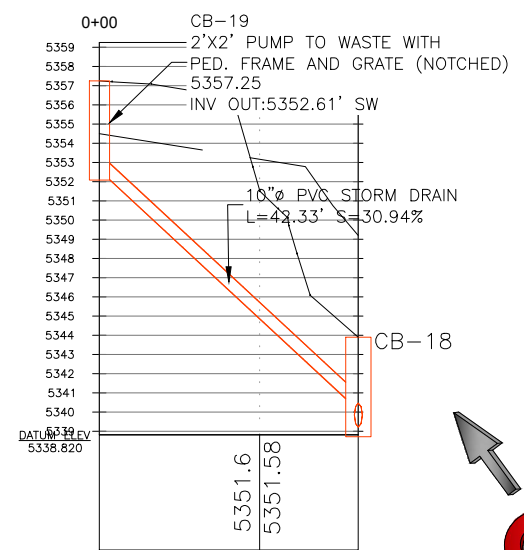
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Date: 1/6/2023
Scale: 1" = 30'
Designed: JKH
Drafted: JKH
Checked: MDD

Revisions	Date	Description



1 TEMP. ACCESS ROAD
Scale: NTS



Date:	1/6/2023
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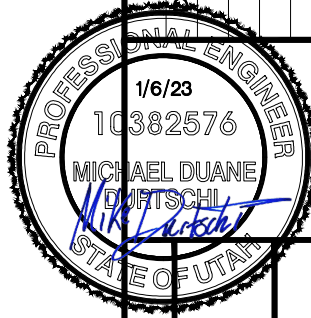
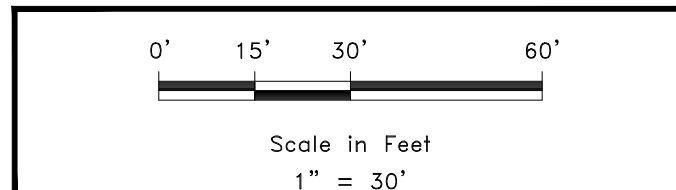
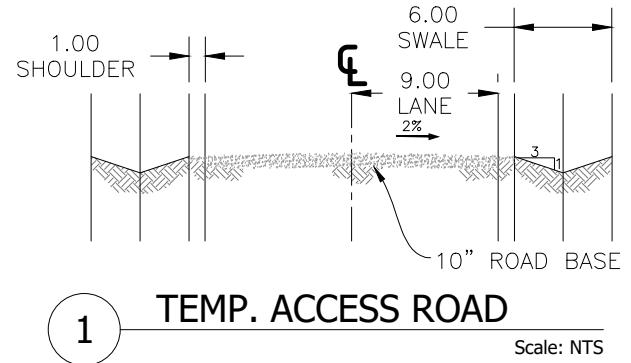
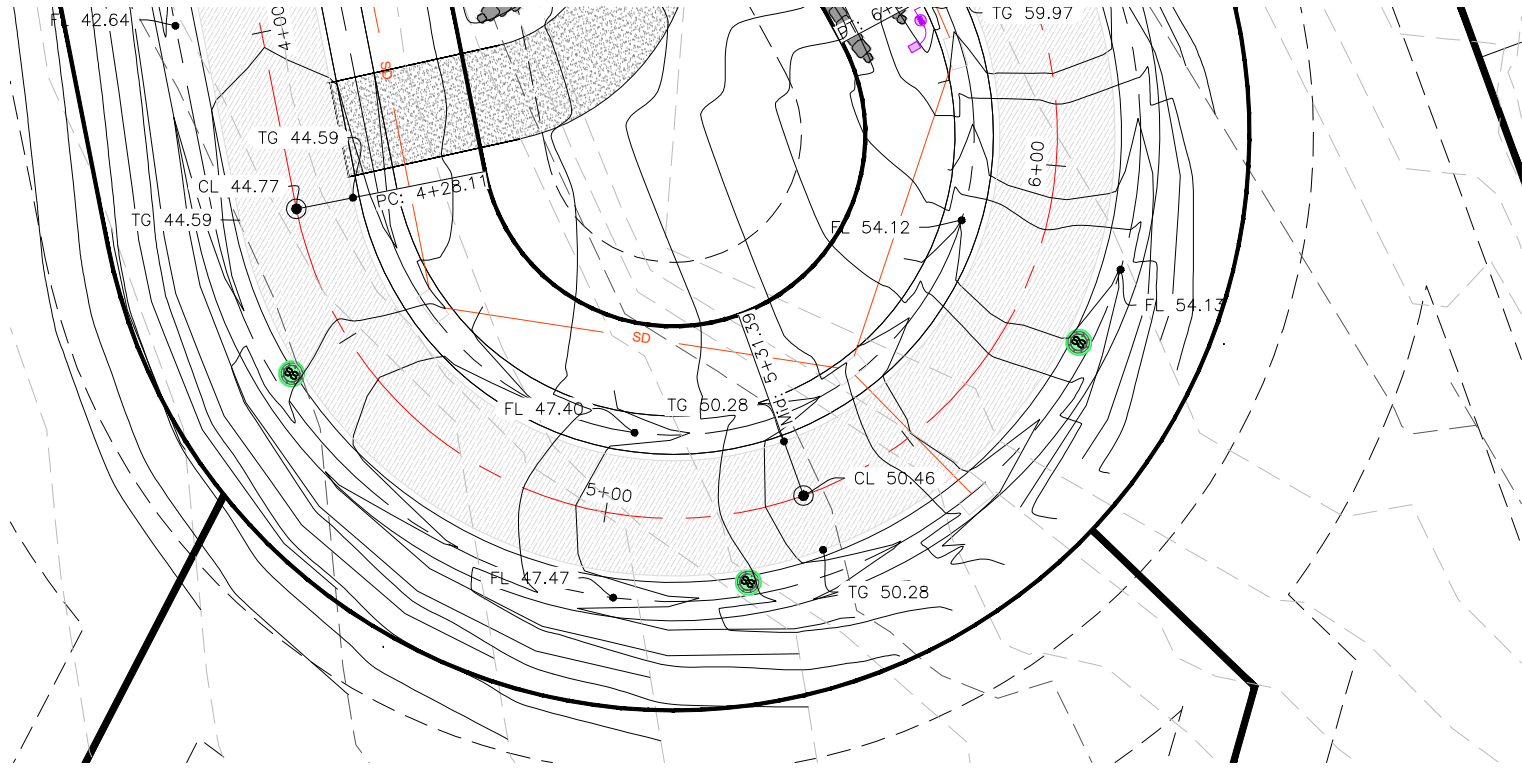
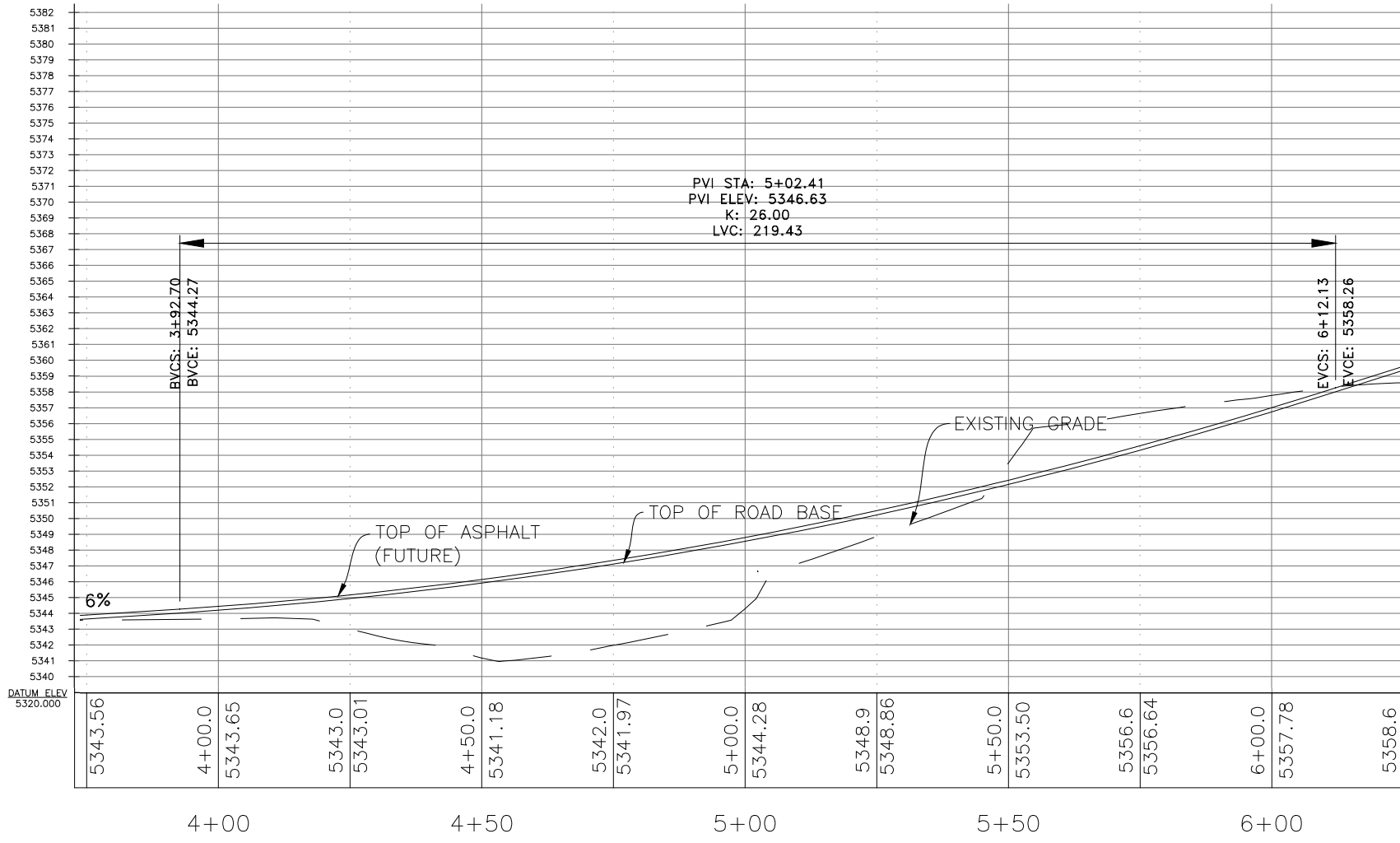
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MICHAEL DUANE
OMITSCHI
STATE OF UTAH

ACCESS ROAD
WCWSID - EAST WELL
5650 E ELKHORN DR
EDEN, WEBER, UTAH

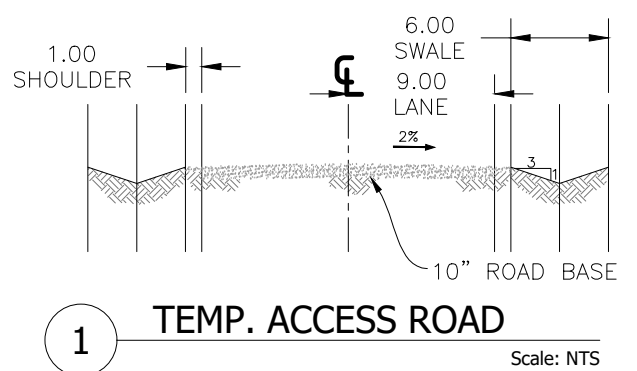
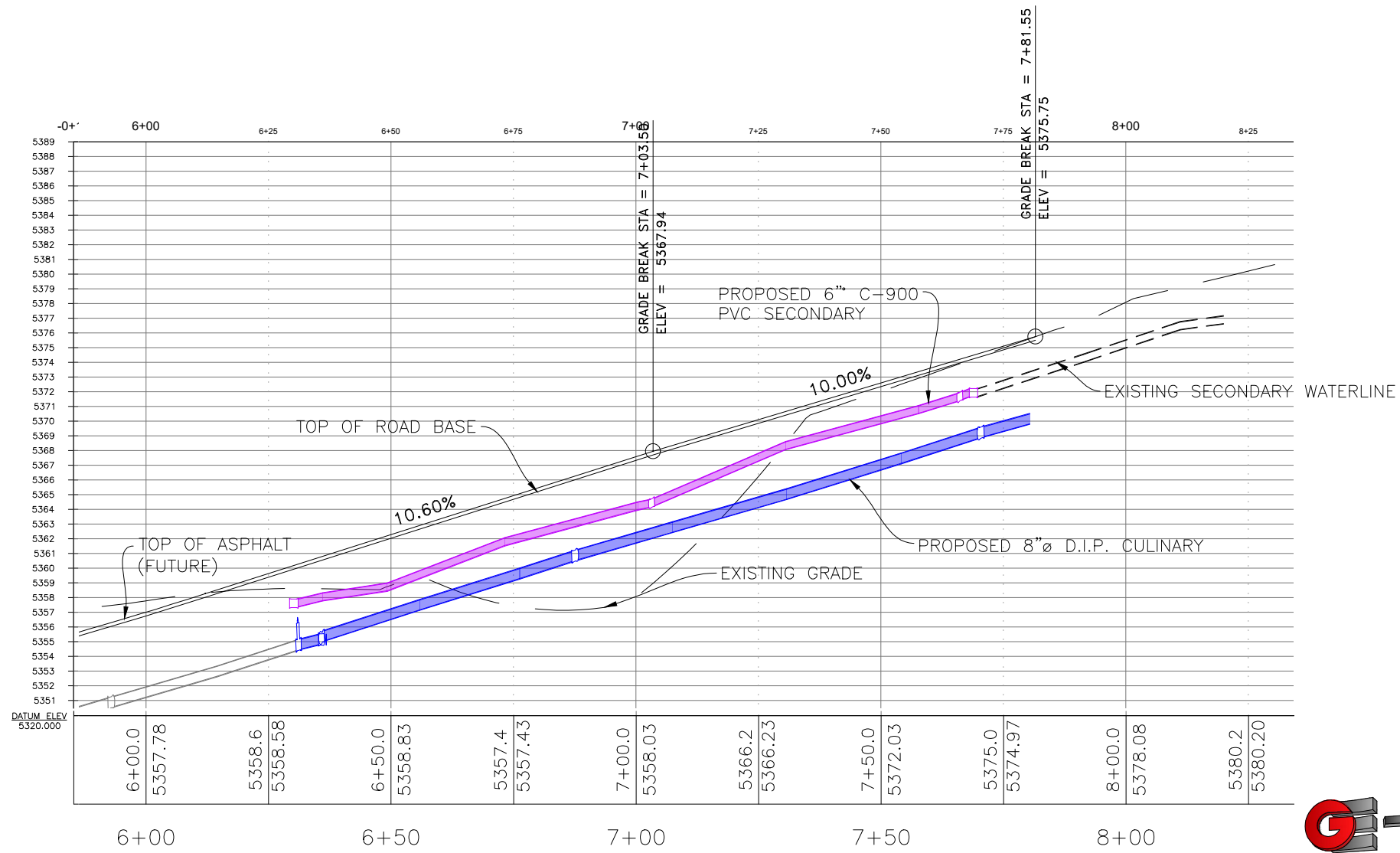
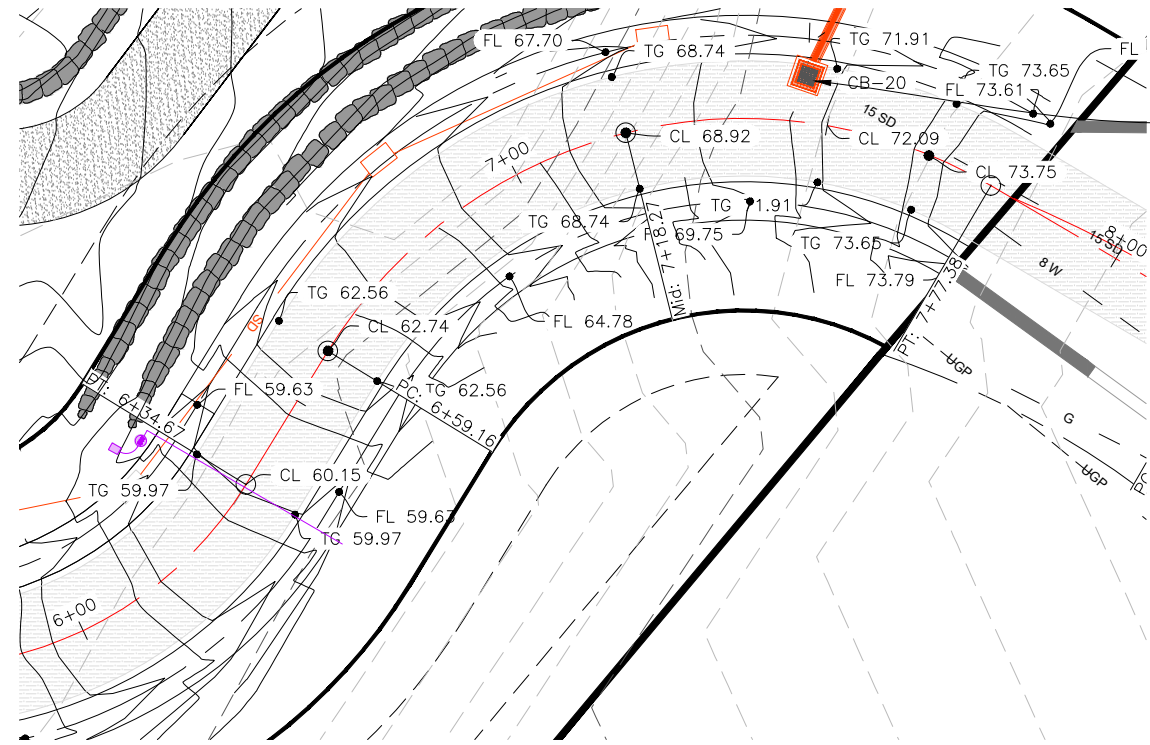
GARDNER ENGINEERING
CIVIL, LAND PLANNING
MUNICIPAL, LAND SURVEYING
1580 W 2100S, WEST HAVEN, UT 84405
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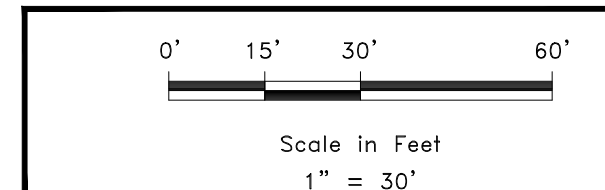
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<p>GARDNER ENGINEERING CIVIL & LAND PLANNING MUNICIPAL & LAND SURVEYING 1580 W 2100S, WEST HAVEN, UT 84405 P 801.476.0202 F 801.476.0066</p>	<p>ACCESS ROAD WCWSID - EAST WELL 5650 E ELKHORN DR EDEN, WEBER, UTAH</p>	<p>Date: 1/6/2023 Scale: 1" = 30' Designed: JKH Drafted: JKH Checked: MDD</p>			
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Date	Description				



1 TEMP. ACCESS ROAD
Scale: NTS



CONST. 3'X3' CONC. BOX W/
TRAFFIC RATED FRAME AND GRATE
(FIELD VERIFY EX. PIPE)



ACCESS ROAD
WCWSID - EAST WELL
5650 E ELKHORN DR
EDEN, WEBER, UTAH

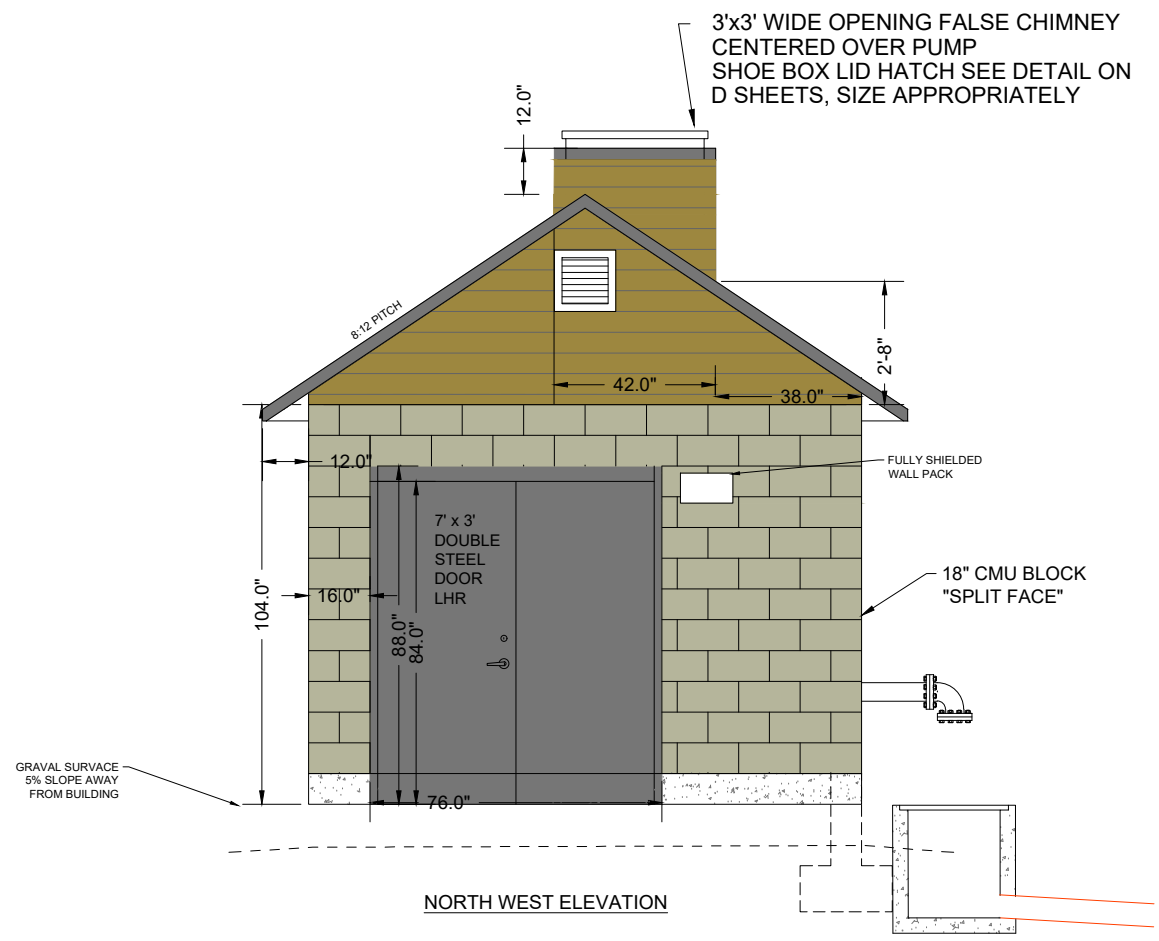
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MUNICIPAL LAND SURVEYING
1680 W 2100S, WEST HAVEN, UT 84405
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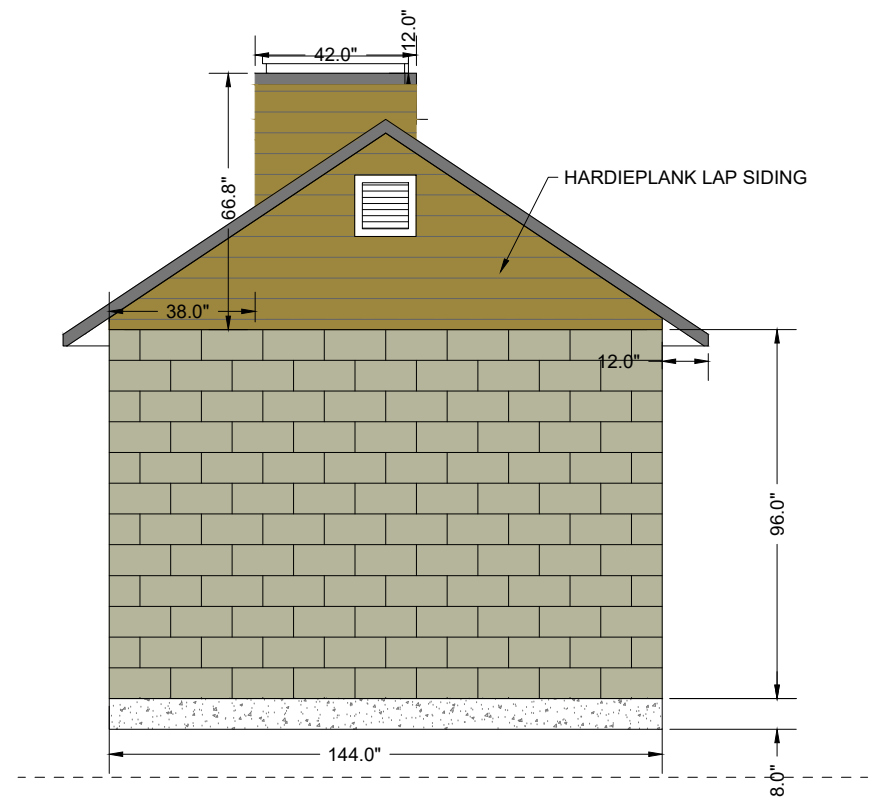
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Date:	1/6/2023
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Revisions	Date	Description



NORTH WEST ELEVATION



SOUTH EAST ELEVATION

NOTES: SEE SPECIFICATIONS

1. ALL VENTS AND WINDOW SHALL HAVE NO.16 STAINLESS STEEL SCREENING AND ALL VENTS SHALL HAVE INSULATED LOUVERS RATED FOR THE SITE CONDITIONS.
2. WELL HEAD ROOM SHALL HAVE A FAN AND EXHAUST VENT WITH INSULATED LOUVRE, VENTILATION SHALL BE CONTROLLED BY SWITCH OR TEMPERATURE SETTING.
3. OUTDOOR LIGHTING SHALL CONFORM TO OGDEN VALLEY OUTDOOR LIGHTING STANDARDS. LIGHT COLOR 3000K OR LESS, LIGHT SHALL BE FULLY SHIELDED FROM PROJECTING INTO SKY AND ADJACENT LOTS. LIGHTS SHALL BE OPERATED BY SENSORS, WITH A TWO MINUTE TIME SHUT OFF SETTING.
4. MATERIAL COLORS OF THE OUTER WELL HOUSE SHALL BE OF EARTHEN COLORS AND APPROVED BY ENGINEER.
5. HANG 1/2" SAG-AND MOISTURE-RESISTANT DRY WALL ON CEILING, PRIME + PAINT W/ 2 COATS SEMI- GLOSS ENAMEL.
6. INSTALL R-38 BATTING IN ATTIC AND INSTALL EXTERIOR WALLS WITH R-38 VALUE INSULATION PER CODE.
7. INSTALL WOOD (NO PRESS BOARD) AROUND WALL/CEILING INTERFACE, W/ PRIMER AND 2 COATS SEMI GLOSS ENAMEL PAINT.
8. INSTALL MOISTURE BARRIER AND STEEL ROOFING SYSTEM. ATTIC VENTING AS PER WEBER COUNTY BUILDING CODE.
9. PROVIDE ATTIC ACCESS PER CODE, TRIM OPENINGS.
10. PROVIDE APPROPRIATELY LOCATED AND SIZED OPENING IN CEILING W/ REMOVABLE CEILING PANEL FOR ATTIC ACCESS. PANELS SHALL BE INSULATED, TRIM CEILING AROUND OPENING.



ELEVATION

WCWSID - EAST WELL
5665 EAST ELK HORN DRIVE
EDEN, WEBER, UTAH

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W1
NUM

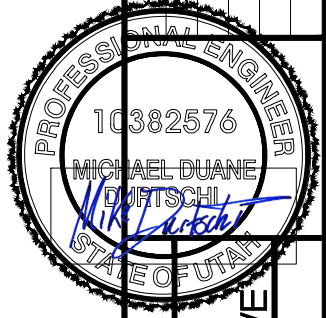
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Drafted:	MDD
Checked:	DLW

Revisions	Date	Description



NOTES: SEE SPECIFICATIONS

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2. WELL HEAD ROOM SHALL HAVE A FAN AND EXHAUST VENT WITH INSULATED LOUVRE, VENTILATION SHALL BE CONTROLLED BY SWITCH OR TEMPERATURE SETTING.
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ELEVATION (2)

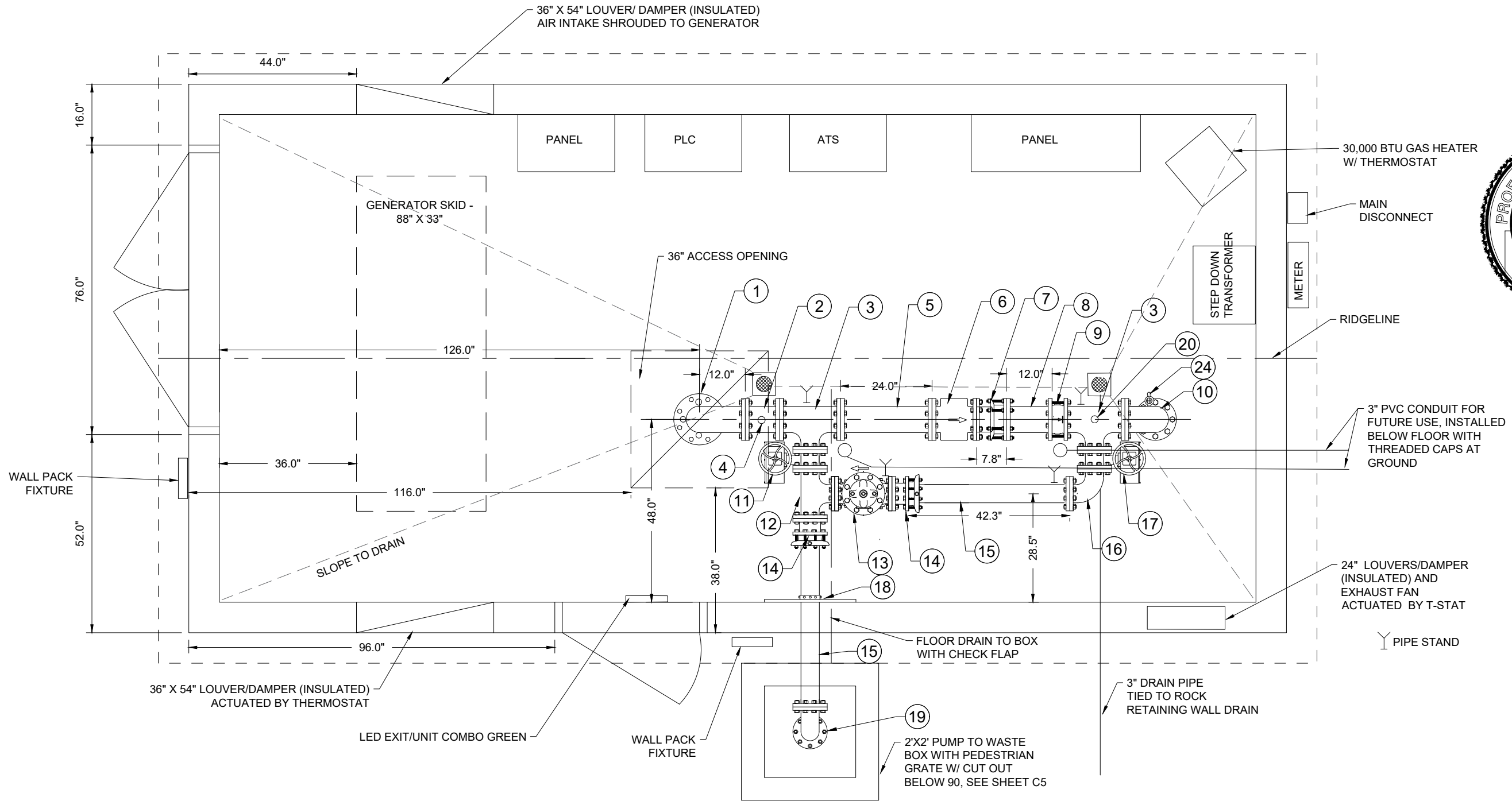
WCWSID - EAST WELL
5665 EAST ELK HORN DRIVE
EDEN, WEBER, UTAH

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W2
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Revisions	Date	Description



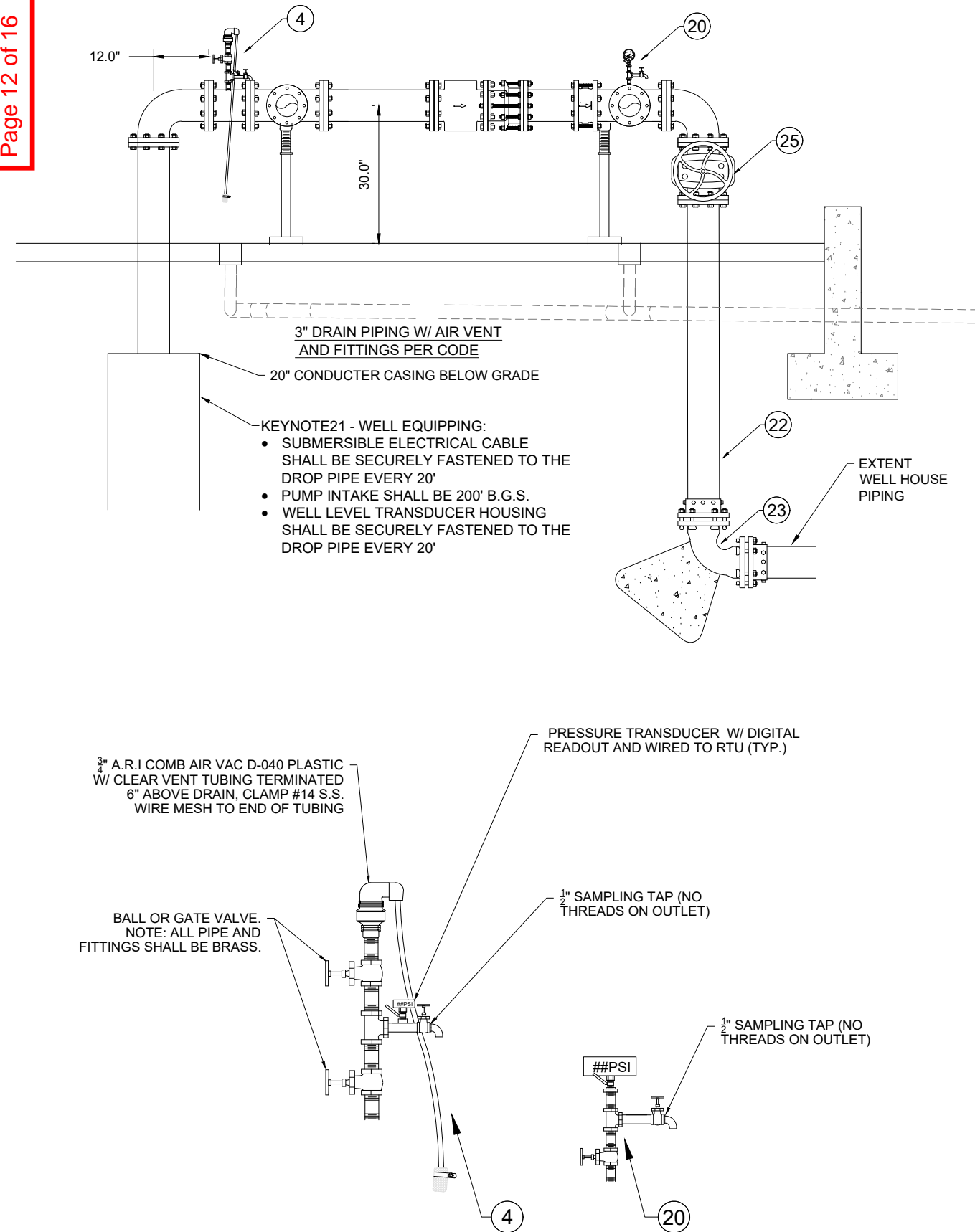
WELL PLAN
WCWSID - EAST WELL
5665 EAST ELK HORN DRIVE
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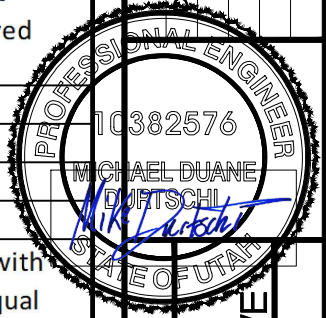
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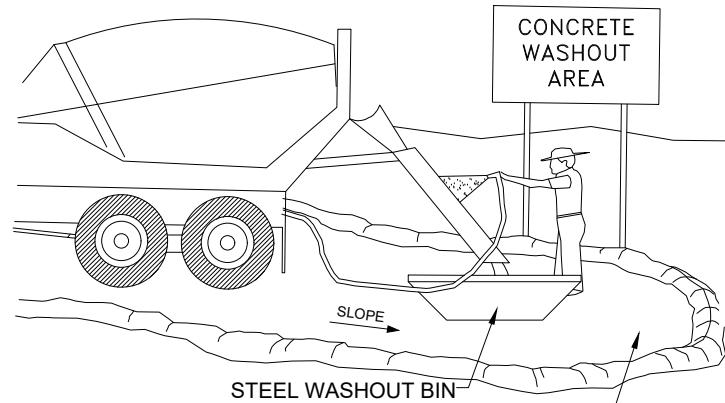
Bill of Materials - Well House Equipping			
Keynote #	Qty	Description	Notes
1	1	7x6 Discharge Head/Elbow	3 taps in flange for: power, transducer housing, casing vent
2	1	6" spool FLGxFLG	9" long, with direct tap for airvac
3	2	6" x 4" tee FLGxFLG	
4	2	3/4" Combination air vac assembly	3/4" tap, 3/4" fittings and brass piping, pressure transducer, see detail for components
5	1	6" spool FLGxFLG	24" long
6	1	6" magnetic flow meter	Direct mount readout, 4-20mA and pulse output connected to PLC, Rosemount 8750 W or approved equal
7	1	6" Restrained flanged coupling adapter	Romac, or approved equal
8	1	6" spool FLG x PE	24" length, field cut as needed
9	1	6" wafer style silent check valve	Val-Matic, or approved equal, drip tight
10	1	6" 90 degree elbow FLGxFLG	3/4" tap in "M" position
11	1	4" resilient seated butterfly valve FLGxFLG w/ manual and powered actuator	Valve: Keystone F221 Actuator: Keystone EPI2 with adjustable stroking times, 120V. or approved equal
12	1	4" tee FLGxFLG	
13	2	4" Pressure relief valve	Singer 106-RPS, set at pressure 20 #'s above static, atmospheric discharge
14	1	4" Restrained flange coupling adapter	Romac, or approved equal
15	2	4" spool FLG x PE	48" length, field cut as needed
16	1	4" 90 degree elbow	
17	1	4" butterfly valve FLGxFLG w/ manual actuator	Valve: Keystone F221 or approved equal
18	1	1/4" thick steel thrust plate	slotted around 4" pipe with restrained to wall and pipe with set-screw retainer gland
19	1	4" 90 degree elbow/ with screening	As shown on plans with downturn 90 elbow and # 4 mesh 316 SS screen, secured to elbow with flange adapter.
20	1	pressure transducer and hose bib	3/4" tap. Pressure transducer with readout, thd w/ ball valve. 1/2" smooth nose sampling tap with ball valve, brass piping
21	1 Lot	Well equipping	Seal plate on 7" casing, 7" x 6" flanged discharge head (Keyed item #1, above), transducer, transducer housing, submersible pump, drop pipe with check valve, submersible cable, casing vent
22	1	6" spool FLGxPE	8' length
23	1	6" 90 degree elbow MJxMJ	w/ thrust block
24	1	3/4" hose bib	3/4" tap with valve and bib, on elbow
25	1	6" Gate Valve FLG x FLG	



WELL MATERIALS
WCWSID - EAST WELL
5665 EAST ELK HORN DRIVE
EDEN, WEBER, UTAH

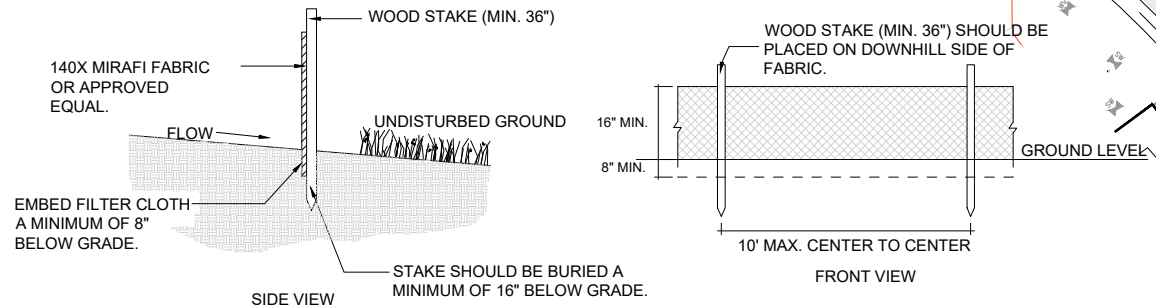


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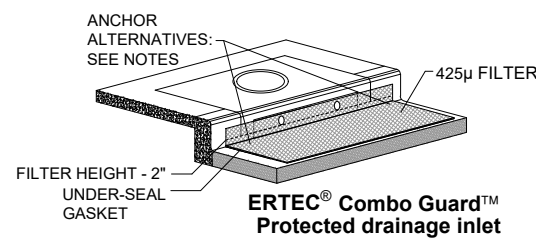
NOTES:

1. EXCESS AND WASTE CONCRETE SHALL BE DISPOSED OF OFF SITE OR AT DESIGNATED AREAS ONLY.
2. EXCESS AND WASTE CONCRETE SHALL NOT BE WASHED INTO THE STREET OR INTO A DRAINAGE SYSTEM.
3. FOR WASHOUT OF CONCRETE AND MORTAR PRODUCTS ONSITE, A DESIGNATED CONTAINMENT FACILITY OF SUFFICIENT CAPACITY TO RETAIN LIQUID AND SOLID WASTE SHALL BE PROVIDED.
4. ONSITE CONCRETE WASHOUT CONTAINMENT FACILITY SHALL BE A STEEL BIN OR APPROVED ALTERNATE.
5. SLURRY FROM CONCRETE AND ASPHALT SAW CUTTING SHALL BE VACUUMED OR CONTAINED, DRIED, PICKED UP AND DISPOSED OF PROPERLY.



2 SILT FENCE

Scale: NTS

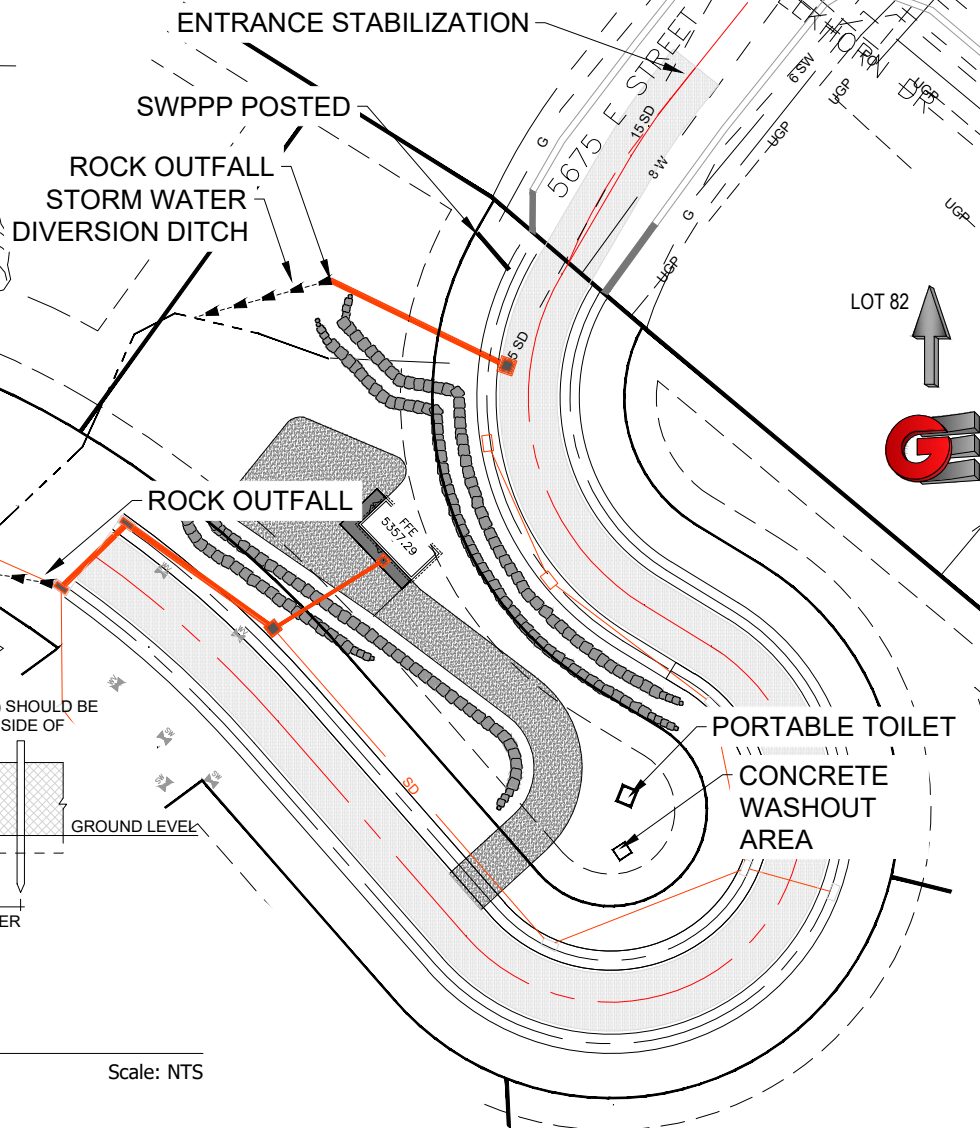
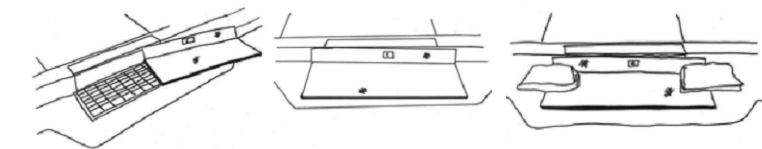


INSTALLATION NOTES

1. PLACEMENT: PLACE CG TIGHTLY AGAINST CURB OPENING AND COVER ENTIRE GRATE. CG SHOULD EXTEND AT LEAST 2 INCHES PAST GRATE TOWARDS STREET.
2. OVERLAP FOR LONG OPENINGS: OVERLAP CG UNITS AT LONGER OPENINGS.
3. ANCHOR: ANCHOR CG SO THAT WATER CANNOT FLOW BEHIND IT.
4. ALTERNATE ANCHOR METHODS: A) INSTALL GRAVEL BAGS AT EACH SIDE OF CG - HALF-ON AND HALF-OFF THE EDGES. USE HALF-FILLED GRAVEL BAGS (15 OR 20 LBS). ROUND ROCK IS RECOMMENDED. OR B) ATTACH WITH 16 GAUGE TIE-WIRE. CUT WIRE TO 18" LENGTH. AT EACH CORNER OF CG, FEED ONE END OF WIRE DOWN THROUGH CG, AROUND GRATE BAR, AND BACK UP THRU CG. ABOVE GROUND, TWIST WIRES SEVERAL TIMES, CUT-OFF EXCESS. OR C) FASTEN WITH CONCRETE ANCHORS/NAIls AT THE OUTSIDE EDGES OF CG.

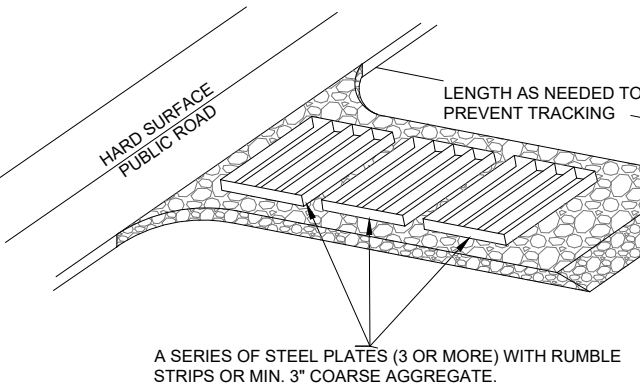
1A INLET PROTECTION - OPTION 1

Scale: NTS



EROSION CONTROL NOTES:

1. SANDBAGS WILL BE PLACED AT DISCHARGE LOCATIONS TO CONTAIN AND DIVERT STORM WATER THROUGH THE INLET PROTECTION.
2. AN EARTHEN BERM 6" HIGH WILL BE CONSTRUCTED TO CONTAIN THE STORM WATER AND DIVERT IT TO DISCHARGE AREAS.
3. STORM WATER WILL BE DISCHARGED INTO AN EXISTING DRAINAGE SYSTEM. EXISTING LINES SHALL BE INSPECTED PRIOR TO CERTIFICATE OF OCCUPANCY AND CLEANED IF NECESSARY.
4. THE STORM WATER POLLUTION PREVENTION PLAN SHALL CONFORM TO ALL STATE DIVISION OF ENVIRONMENTAL PROTECTION REGULATIONS.

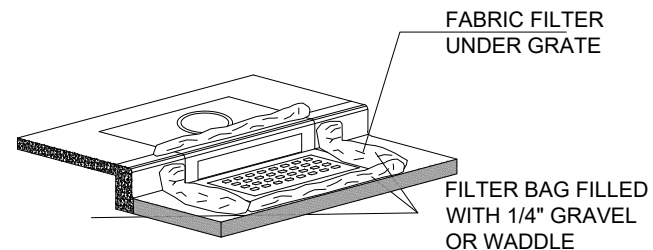


ENTRANCE STABILIZATION NOTES:

1. SEDIMENTS AND OTHER MATERIALS SHALL NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS SHALL BE STABILIZED SO AS TO PREVENT SEDIMENTS FROM BEING DEPOSITED INTO THE STORM DRAIN SYSTEMS. DEPOSITIONS MUST BE SWEEPED UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS INTO THE STORM DRAIN SYSTEM.
2. STABILIZED CONSTRUCTION ENTRANCE SHALL BE:
 - a. LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY AND SIDEWALK OR PARKING AREA.
 - b. A SERIES OF STEEL PLATES WITH "RUMBLE STRIPS", AND/OR MIN. 3" COARSE AGGREGATE WITH LENGTH, WIDTH AND THICKNESS AS NEEDED TO ADEQUATELY PREVENT ANY TRACKING ONTO PAVED SURFACES.
3. ADDING A WASH RACK WITH A SEDIMENT TRAP LARGE ENOUGH TO COLLECT ALL WASH WATER CAN GREATLY IMPROVE EFFICIENCY.
4. ALL VEHICLES ACCESSING THE CONSTRUCTION SITE SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE SITES.

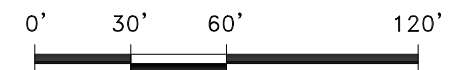
STREET MAINTENANCE NOTES:

1. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS IMMEDIATELY.
2. SWEEP PAVED AREAS THAT RECEIVE CONSTRUCTION TRAFFIC WHENEVER SEDIMENT BECOMES VISIBLE.
3. PAVEMENT WASHING WITH WATER IS PROHIBITED IF IT RESULTS IN A DISCHARGE TO THE STORM DRAIN SYSTEM.



1B INLET PROTECTION - OPTION 2

Scale: NTS



Scale in Feet
1:60

Date:	1/6/2023
Scale:	1:60
Designed:	JKH
Drafted:	JKH
Checked:	MDD

Revisions	Description	Date

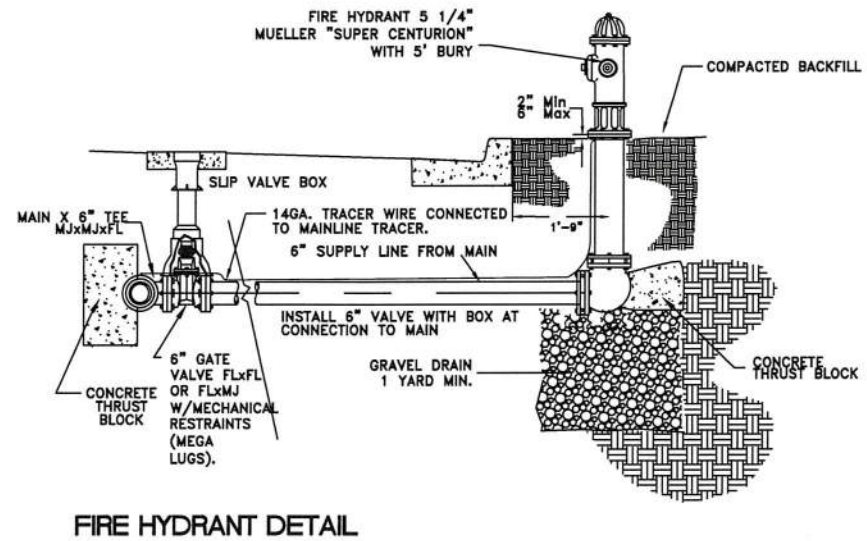


SWPP
WCWSID - EAST WELL
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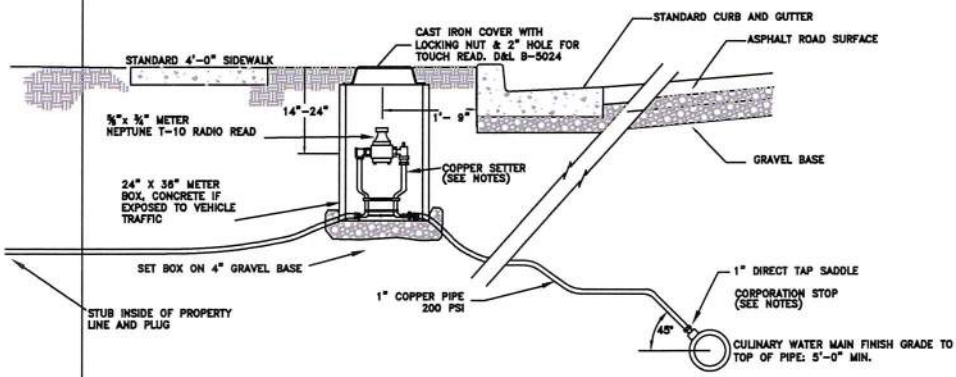
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12



FIRE HYDRANT DETAIL

NOTES:

- COPPER SETTERS
1" MUELLER W/DOUBLE CHECK AND LOCKING DEVICE
- CORPORATION STOPS
1" MUELLER
- ALL SERVICE FITTINGS:
1" MUELLER COMPRESSION W/S.S. INSERTS
- LOCATION OF METER
ON EXTENSION OF PROPERTY LINE

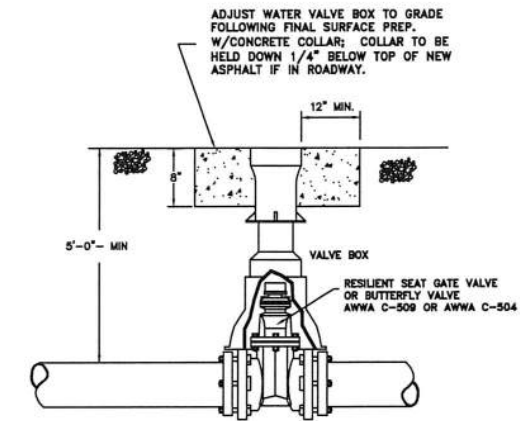


TYPICAL WATER CONNECTION/RE-CONNECTION

GENERAL NOTES:

1. ALL ITEMS SHALL BE INSTALLED NEW.
2. ALL ITEMS SHALL BE NSF 61 COMPLIANT AND MEET THE APPLICABLE AWWA STANDARD
3. THE CURRENT REQUIREMENTS OF THE UTAH DIVISION OF DRINKING WATER, GOVERNING THE MATERIALS AND INSTALLATION USED IN WATER PROJECTS SHALL BE MET.
4. THE WOLF CREEK WATER COMPANY SHALL BE CONTACTED AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION (CONTACT: SYSTEM OPERATOR, ROB THOMAS, 801.430.4647)
5. ALL PIPE SHALL BE DUCTILE IRON CLASS 51, MIN. WORKING PRESSURE 200 PSI.
6. ALL PIPE SHALL BE PRESSURE TESTED AT 200 PSI FOR AT LEAST 2 HOURS.
7. CHLORINE GRANULES SHALL BE INSTALLED AS MAIN LINE IS LAID.
8. TWO CHLORINE TESTS ARE REQUIRED, 24 HOURS APART, BEFORE FLUSHING AND TAKING A SAMPLE FOR BACTERIOLOGICAL TESTING.
9. CONTRACTOR'S LICENSE AND PROOF OF INSURANCE MUST BE PRESENTED TO AND VERIFIED BY SYSTEM OPERATOR.

NOTE: WHERE A WATER MAIN AND A SEWER MAIN MUST CROSS, THE WATER MAIN SHALL BE AT LEAST 18" ABOVE THE SEWER MAIN. SEPARATION DISTANCES ARE TO BE MEASURED EDGE-TO-EDGE. ALSO WATER MAINS SHALL NOT BE INSTALLED IN THE SAME TRENCH WITH EITHER SEWER OR SECONDARY PIPES.



TYPICAL VALVE

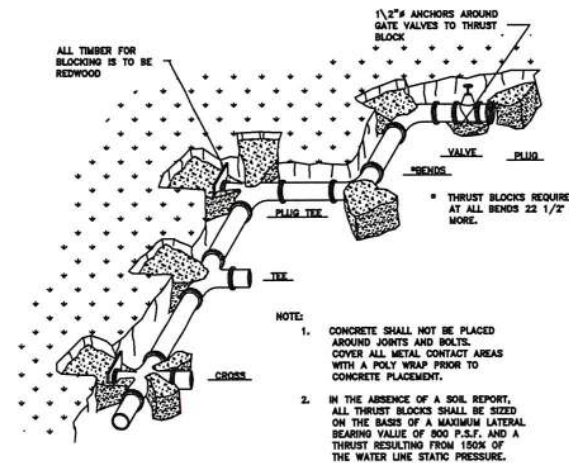
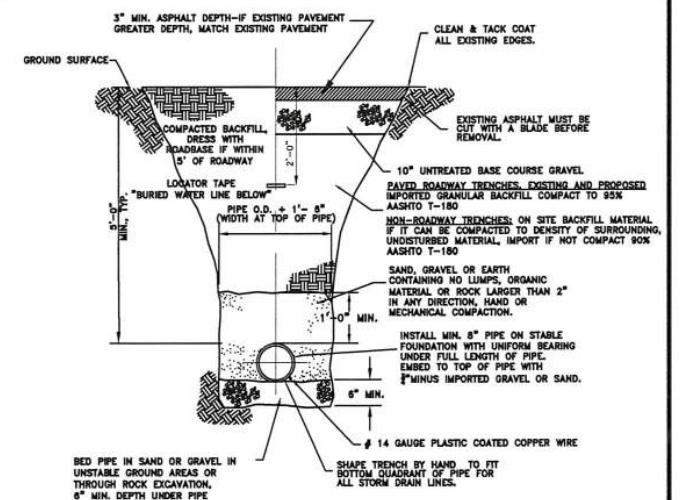


TABLE OF BEARING AREAS IN SQ. FT FOR CONCRETE THRUST BLOCKING

SIZE	BENDS			TEES			GATE VALVES			CROSSES			CROSSES & BENDS		
	90°	45°	180°	90°	45°	180°	90°	45°	180°	90°	45°	180°	90°	45°	180°
3	1.0	0.0	0.3	0	0.7	0.5	0.7	0.7	0.7	0.7	0.7	0.7	1.3	1.3	1.3
4	1.8	1.0	0.5	0	1.3	0.5	1.3	1.3	1.3	1.3	1.3	1.3	2.8	2.8	2.8
6	4.0	2.2	1.1	0	2.8	0.7	2.8	2.8	2.8	2.8	2.8	2.8	5.0	5.0	5.0
8	7.1	3.8	2.0	1.0	5.0	2.4	5.0	5.0	5.0	5.0	5.0	5.0	9.0	9.0	9.0
10	11.1	6.0	3.0	1.5	7.8	4.5	7.8	7.8	7.8	7.8	7.8	7.8	13.5	13.5	13.5
12	15.0	8.8	4.4	2.2	11.3	7.3	11.3	11.3	11.3	11.3	11.3	11.3	19.0	19.0	19.0
14	21.7	11.8	6.0	3.0	15.4	11.0	15.4	15.4	15.4	15.4	15.4	15.4	26.5	26.5	26.5
18	28.0	13.5	7.0	3.5	17.8		17.8	17.8	17.8	17.8	17.8	17.8	31.4	31.4	31.4
20	34.2	15.3	8.0	4.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0	38.0	38.0	38.0
24	44.2	24.0	12.2	6.1	31.4		31.4	31.4	31.4	31.4	31.4	31.4	50.0	50.0	50.0
28	58.0	31.4	16.0	8.0	40.0		40.0	40.0	40.0	40.0	40.0	40.0	65.0	65.0	65.0
36	84.0	44.0	22.0	11.0	56.0		56.0	56.0	56.0	56.0	56.0	56.0	90.0	90.0	90.0
48	144.0	78.0	40.0	20.0	102.0		102.0	102.0	102.0	102.0	102.0	102.0	162.0	162.0	162.0

*SIZE IS BRANCH SIZE.
FOR 100 P.S.I. INTERNAL STATIC PRESSURE AND 1000 LBS. PER SQ. FT. SOIL BEARING CAPACITY.

THRUST BLOCKING DETAIL
APPLIES TO ALL PRESSURE PIPE



TYPICAL TRENCH SECTION

ALL VALVES, TEES, CROSSES AND BENDS SHALL ALSO BE FITTED WITH MECHANICAL RESTRAINTS, SUCH AS MEGA LUGS OR APPROVED EQUAL.

AREAS GIVEN IN TABLE ARE BASED UPON AN INTERNAL STATIC PRESSURE OF 100 P.S.I. AND A SOIL BEARING CAPACITY OF 1000 LBS PER SQ. FT. BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED VALUES BY A CORRECTION FACTOR "F".

F = ACTUAL SPECIFIED TEST PRESSURE IN HUNDREDS OF LBS./SQ. IN. / ACTUAL SOIL BEARING CAPACITY IN THOUSANDS OF LBS.

EXAMPLE: TO FIND BEARING AREA FOR 8"-90° BEND WITH A STATIC INTERNAL PRESSURE OF 1500 P.S.I. AND WITH A SOIL BEARING CAPACITY OF 3000 LBS. PER SQ. FT.
F = 1.5 / 3 = 0.5 TABULATED VALUE = 7.1 SQ. FT.
0.5 X 7.1 = 3.56 ~ 4 SQ. FT. (~OR 2FT. LONG BY 2FT. HIGH.)

NOTE: WHERE A WATER MAIN AND A SEWER MAIN MUST CROSS, THE WATER MAIN SHALL BE AT LEAST 18" ABOVE THE SEWER MAIN. SEPARATION DISTANCES ARE TO BE MEASURED EDGE-TO-EDGE. ALSO WATER MAINS SHALL NOT BE INSTALLED IN THE SAME TRENCH WITH EITHER SEWER OR SECONDARY PIPES.

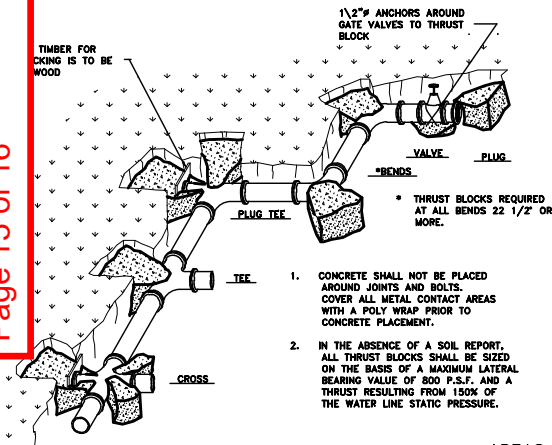


TABLE OF BEARING AREAS IN SQ. FT FOR CONCRETE THRUST BLOCKING

NOTE: FOR 100 P.S.I. INTERNAL STATIC PRESSURE AND 1000 LBS. PER SQ. FT. SOIL BEARING CAPACITY.

SIZE	BENDS				TEES*	GATE VALVES	DEAD ENDS	CROSS/BRANCH PLUGGED	CROSS/2 BRANCH PLUGGED
	90°	45°	22 1/2°	11 1/4°					
3	1.0	0.0	0.3	0	0.7	0.5	0.7	0.7	0.7
4	1.8	1.0	0.5	0	1.3	0.5	1.3	1.3	1.3
6	4.0	2.2	1.1	0	2.8	0.7	2.8	2.8	2.8
8	7.1	3.8	2.0	1.0	5.0	2.4	5.0	5.0	5.0
10	11.1	6.0	3.0	1.5	7.8	4.5	7.8	7.8	7.8
12	16.0	8.8	4.4	2.2	11.3	7.3	11.3	11.3	11.3
14	21.7	11.8	6.0	3.0	15.4	11.0	15.4	15.4	15.4
15	25.0	13.5	7.0	3.5	17.6	12.8	17.6	17.6	17.6
16	28.4	15.3	8.0	4.0	20.0	14.4	20.0	20.0	20.0
18	36.0	19.4	10.0	5.0	25.4	18.0	25.4	25.4	25.4
20	44.2	24.0	12.2	6.1	31.4	22.0	31.4	31.4	31.4
21	49.0	26.5	13.5	6.8	34.6	24.0	34.6	34.6	34.6
22	54.0	29.0	14.8	7.4	38.0	26.4	38.0	38.0	38.0
24	64.0	34.5	17.7	8.8	45.0	32.0	45.0	45.0	45.0
30	100.0	54.0	27.6	13.8	71.0	50.0	71.0	71.0	71.0
36	144.0	78.0	40.0	20.0	102.0	72.0	102.0	102.0	102.0

*SIZE IS BRANCH SIZE.

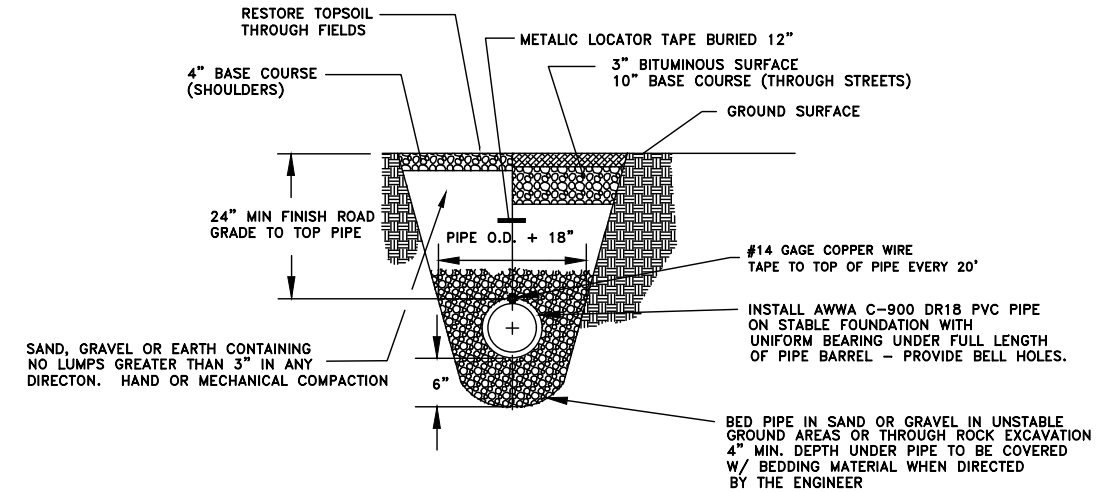
AREAS GIVEN IN TABLE ARE BASED UPON AN INTERNAL STATIC PRESSURE OF 100 P.S.I AND A SOIL BEARING CAPACITY OF 1000 LBS PER SQ. FT. BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED VALUES BY A CORRECTION FACTOR "F".

$$F = \frac{\text{ACTUAL SPECIFIED TEST PRESSURE IN HUNDREDS OF LBS/SQ. IN.}}{\text{ACTUAL SOIL BEARING CAPACITY IN THOUSANDS OF LBS.}}$$

EXAMPLE: TO FIND BEARING AREA FOR 8"-90° BEND WITH A STATIC INTERNAL PRESSURE OF 150 P.S.I AND WITH A SOIL BEARING CAPACITY OF 3000 LBS. PER SQ. FT.
 $F = 1.5 \div 3 = 0.5$ TABULATED VALUE = 7.1 SQ. FT.
 $0.5 \times 7.1 = 3.56$ SAU 4 SQ. FT. OR 2FT. LONG BY 2FT. HIGH.

THRUST BLOCK DETAIL

NTS



TRENCH DETAIL

NTS



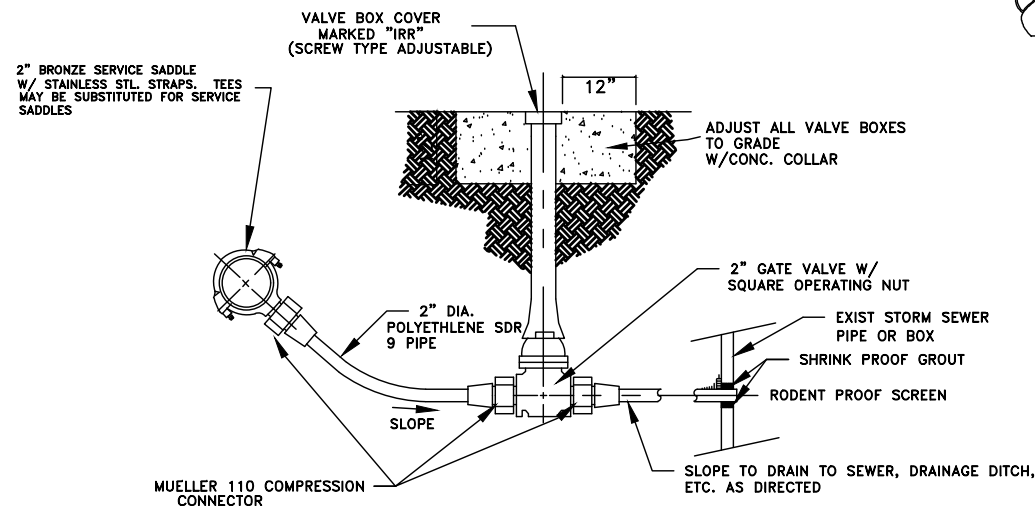
Date:	11-3-17
Scale:	NTS
Designed:	T.N.
Drafted:	T.N.
Checked:	DW

REGISTERED PROFESSIONAL ENGINEER
 Daniel Leon
 No. 354312
 Daniel Leon
 White
 1/01/17
 STATE OF UTAH

PRESSURIZED SECONDARY WATER SYSTEM
 WOLF CREEK WATER AND SEWER
 IMPROVEMENT DISTRICT
 OGDEN VALLEY, WEBER, UTAH

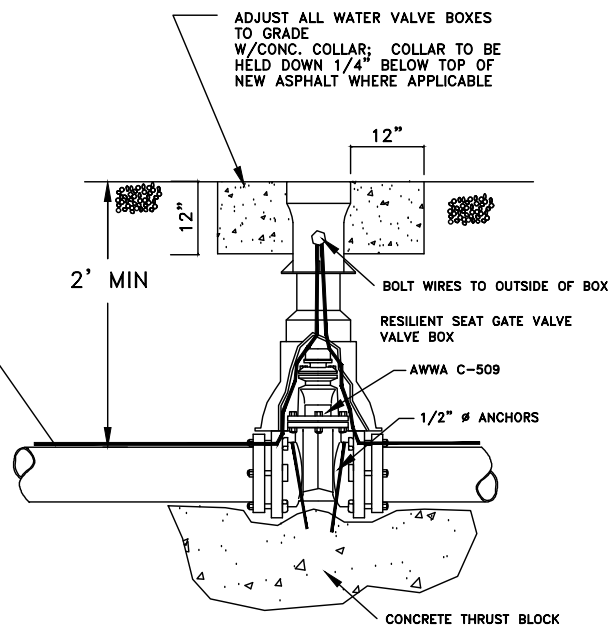
GARDNER ENGINEERING
 CIVIL - LAND PLANNING
 MUNICIPAL - LAND SURVEYING
 5150 SOUTH 375 EAST OGDEN, UT
 OFFICE: 801.476.0202 FAX: 801.476.0066

SW4
 6



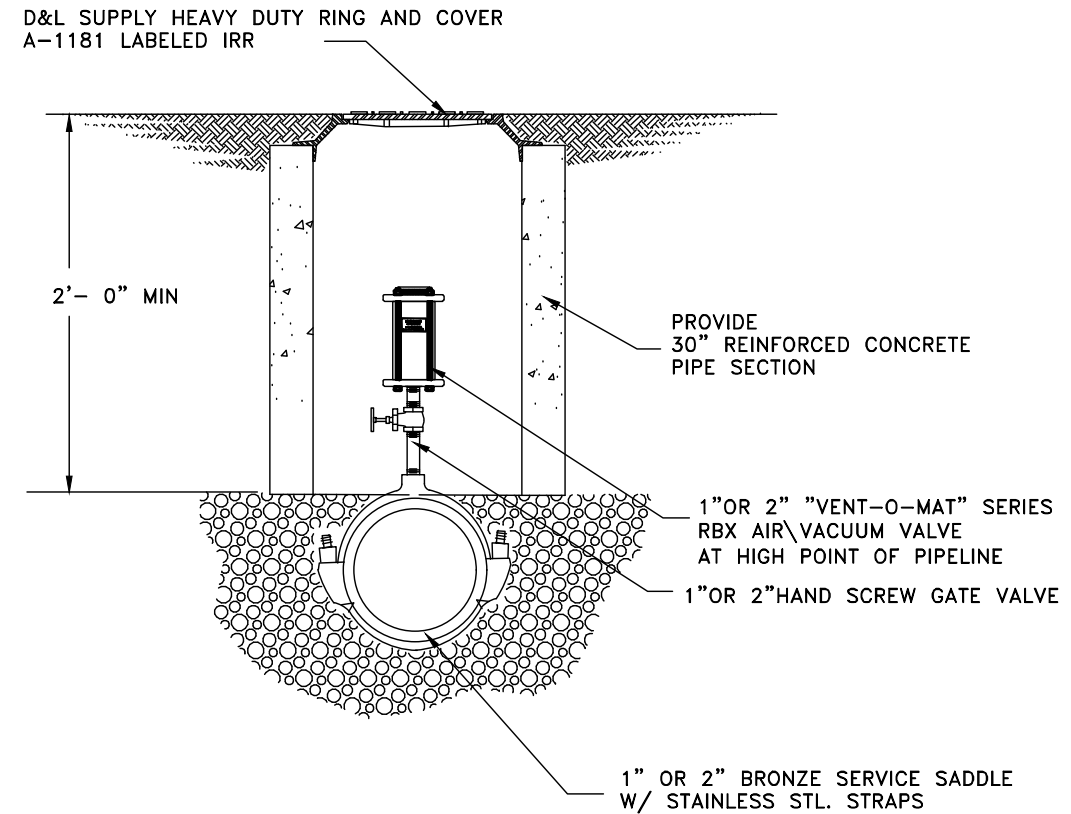
DRAIN VALVE DETAIL

NTS



RESILIENT SEAT GATE VALVE DETAIL

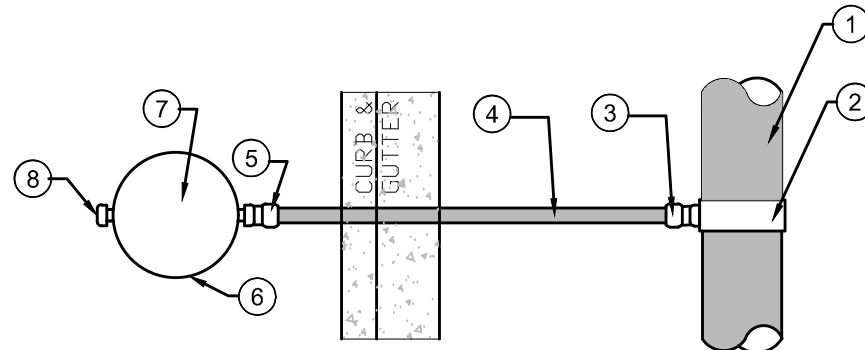
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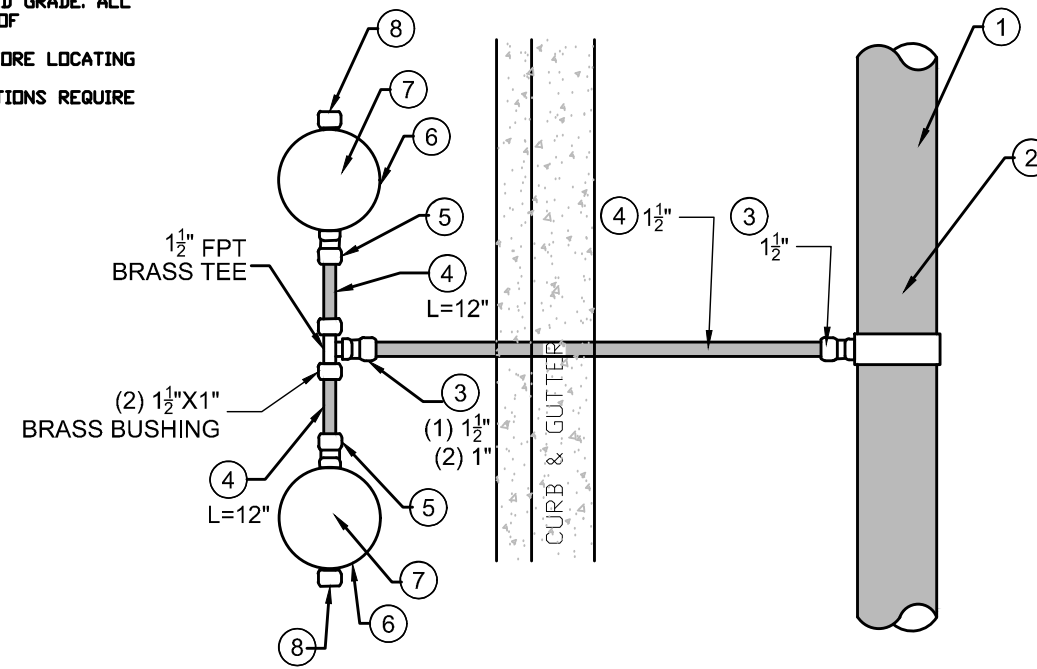
1" AIR/VAC VALVE DETAIL

NTS





SINGLE SERVICE



DOUBLE SERVICE

NOTES:

1. ALL SERVICE LINE AND FITTINGS ARE 1' UNLESS NOTED OTHERWISE.
2. INSTALL PLASTIC COATED #14 SOLID COPPER TRACING WIRE ON ALL MAINLINE PIPE. RUN WIRE UP THE OUTSIDE OF BOTTOM OF VALVE BOX THEN THROUGH THE INSIDE OF THE TOP PORTION OF THE BOX WITH TWO FEET OF WIRE EXTENDING ABOVE FINISHED GRADE. ALL SPLICES MADE WITH WATER PROOF CONNECTIONS.
3. OBTAIN DISTRICT APPROVAL BEFORE LOCATING METER IN ROADWAY.
4. ALL COMPRESSION-TYPE CONNECTIONS REQUIRE S.S. INSERT STIFFENERS.

- ① MAIN LINE (PURPLE IN COLOR) 4-12" C-900 DR-18 - ANYTHING ABOVE 12" TO BE APPROVED BY SWWID IN WRITING.
- ② SERVICE SADDLE MUELLER DR2S DR FORD FC202, HOT TAPPING WITHOUT A SADDLE IS NOT ALLOWED.
- ③ COMPRESSION FITTING - MUELLER H-15428 DR FORD C8444QNL.
- ④ SDR 9 CTS POLY (PURPLE IN COLOR) NOTE SLOPE MIN 2% FROM SERVICE BACK TO MAIN. INSTALL 2" WIDE METALLIC WARNING TAPE 6" ABOVE SERVICE LINE BETWEEN MAIN AND METER.
- ⑤ COMPRESSION FITTING MUELLER H 15451 N DR FORD C1444 QNL
- ⑥ METER BOX ASSEMBLY FORD PK 488-18-95059-015 DR MUELLER 3310I51818FAAS00507N SEE DETAILS AT LEFT. PURPLE POLYMER COVER STAMPED 'IRRIGATION'
- ⑦ WATER METER: NEPTUNE MACH 10 ULTRASONIC FURNISHED AND INSTALLED BY WCWSID PAID BY CUSTOMER.
- ⑧ 1" BRASS CAP
- ⑨ 14"X19"X12" PURPLE CARSON DR EQUIV. CONTROL VALVE BOX AND LID. PURPLE LID COVER STAMPED 'IRRIGATION'
- ⑩ 2"X2"X12" VALVE BOX MARKERS MUST BE SET ADJACENT TO EVERY VALVE & METER.

Date: 6-28-18
Scale: NTS
Designed: DW
Drafted: KAN
Checked: DW

Revisions	Date	Description



SERVICE CONNECTION
WOLF CREEK WATER AND SEWER
IMPROVEMENT DISTRICT
OGDEN VALLEY, WEBER, UTAH



SW5