Storm Water Pollution Prevention Plan

for:

Overlook PH1, PH2, PH3 at Summit Powder Mountain

Eden, Utah 84310

Operator(s):

Geneva Rock Products, Inc.
Jake Allen, Project Manager
302 West 5500 South
Murray, UT 84107
Mobil: 801-395-4454
Email: jallen@genevarock.com

SWPPP Contact(s):

Express Environmental Services, Inc.
Jennie Gallegos
3269 Hidden Peak Rd.
Erda, UT 84074
Phone: 435-833-0150
Fax: 435-833-0149 / Email: JennieG@ExpressEnvironmentalServices.com

SWPPP Preparation Date:

08/16/2019

Estimated Project Dates:

Project Start Date: 08/19/2019
Project Completion Date: 07/30/2020

Contents

SECTION 1: CONTACT INFORMATION/ RESPONSIBLE PARTIES

1.1 Owner(s) & Contractor(s)

Owner(s):

SMHG PMDP Phase II, LLC
Don Guerra, Authorized Signatory
Phone:

Project Manager(s):

Geneva Rock Products
Jake Allen, Project Manager
302 West 5500 South
Murray, UT 84107
Phone: 801-395-4454
Email: jallen@genevarock.com
Area of control: Total Project Site

Site Supervisor(s):

Geneva Rock Products
Casey Harris, Project Superintendent
302 West 5500 South
Murray, UT 84107
Phone: 435-994-0619
Email: charris@genevarock.com
Area of control: Total Project Site

SWPPP Contact(s):

Geneva Rock Products
Jake Allen, Project Manager
302 West 5500 South
Murray, UT 84107
Phone: 801-395-4454
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This SWPPP was Prepared by:

Express Environmental Services, Inc.
Jennie Gallegos
3269 Hidden Peak Rd.
Erda, UT 84074
Phone: 435-833-0150
Fax: 435-833-0149 / Email: JennieG@expressenvironmentalservices.com

Subcontractor(s):

Express Environmental Services, Inc.
Alfredo Gallegos
3269 Hidden Peak Rd.
Erda, UT 84074
Phone: 435-833-0150
Fax: 435-833-0149 / Email: alfredgallego@hotmail.com

Emergency 24-Hour Contact:

Geneva Rock Products
Jake Allen, Project Manager
Cell: 801-395-4454

Express Environmental Services, Inc.
Alfredo Gallegos, General Manager
alfredgallego@hotmail.com
Mobil: 801-558-6240

1.2 Storm Water Team

Role or Responsibility: Total Project Site
Position: Project Manager
Name: Jake Allen
Telephone Number: 801-395-4454
Email: jallen@genevarock.com

Role or Responsibility: Development of SWPP Plan/ Inspection of BMPs
Position: General Manager
Name: Alfredo Gallegos
Telephone Number: 801-558-6240
Email: alfredog@expressenvironmentalservices.com

SECTION 2: SITE EVALUATION, ASSESSMENT, & PLANNING

2.1 Project/Site Information

Project/Site Name: Overlook Ph1, Ph2, Ph3 at Summit Powder Mountain
Project Street/Location: N/A
City: Eden State: Utah ZIP Code: 84310
County or Similar Subdivision: Weber

Latitude/Longitude (Use **one** of three possible formats, and specify method)

Latitude:	Longitude:
1. 41 ° 21 ' 52.45" N (degrees, minutes, seconds)	1. 111 ° 44 ' 38.13" W (degrees, minutes, seconds)
2. _ _ ° _ _ . _ _ ' N (degrees, minutes, decimal)	2. _ _ ° _ _ . _ _ ' W (degrees, minutes, decimal)
3. _ _ . _ _ _ _ ° N (decimal)	3. _ _ . _ _ _ _ ° W (decimal)

Method for determining latitude/longitude:
☐ USGS topographic map (specify scale: ____) ☐ EPA Web site ☐ GPS
☒ Other (please specify): Google Earth Pro

Is the project located in Indian country? ☐ Yes ☒ No
If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable."____

Is this project considered a federal facility? ☐ Yes ☒ No

UPDES project or permit tracking number*: **UTR395499**

**(This is the unique identifying number assigned to your project by your permitting authority after you have applied for coverage under the appropriate National Pollutant Discharge Elimination System (UPDES) construction general permit.)*

2.2 Nature of Construction Activity

Describe the general scope of the work for the project, major phases of construction, etc.:
This SWPPP will cover the work performed for the Overlook PH1, PH2, PH3 at Summit Powder Mountain project located in Eden, UT.

The project will consist of the demolition of the site and the construction of 18 residential units. All associated paved walkways, curb and gutters, paved parking areas and stalls, and utilities will be completed for the project site. Improvements including excavation and backfill, new curb gutter, park strip, asphalt pavement, drive approaches, and any associated utilities. Landscaping Improvements, irrigation, topsoil, sod, trees as required.

What is the function of the construction activity?
☐ Residential ☐ Commercial ☐ Industrial ☐ Road Construction ☒ Linear Utility
☐ Other (please specify):

Estimated Project Start Date:	08/19/2019
Estimated Project Completion Date:	07/30/2020

2.3 Construction Site Estimates

The following are estimates of the construction site.

Total project area:	Approximately 5 acres
Construction site area to be disturbed:	Approximately 5 acres
Percentage impervious area before construction:	0%
Runoff coefficient before construction:	0.21
Percentage impervious area after construction:	20%
Runoff coefficient after construction	0.43

2.4 Soils, Slopes, Vegetation, and Current Drainage Patterns

Soil type(s):
Cut and fill on this project have been designed and will be constructed so as to minimize erosion. In addition, slope runoff velocities can be reduced by creating diversions, installing erosion control blankets and surface contouring as needed or directed by project engineer.

The top layers encountered on the project site were found to be 6 inches to 3.5 feet of native topsoil. The topsoil is overlying soils of sand with gravel, sandy lean clay with gravel and sandy fat clay with gravel as investigated and reported in the Geotechnical Investigation by Intermountain GeoEnvironmental Services, Inc. Ground water was not encountered at any test hole on the project site. The ground water fluctuations were not explored at this time.

Slopes (describe current slopes and note any changes due to grading or fill activities):
The project area is located on a ridge top and is irregular in shape with a slope downward to the south and north.

Drainage Patterns (describe current drainage patterns and note any changes dues to grading or fill activities):
The majority of any precipitation will be directed by sheet flow to the new storm water inlets of the site which will drain into a holding pond located south-west of the project site.

Vegetation:
The project site is undeveloped, alpine highland with native vegetation of pine, grasses, flowers and shrubs.

Other:

2.5 Emergency Related Projects

Emergency-Related Project? ☐ Yes ☒ No

2.6 Phase/Sequence of Construction Activity

Phase I - ***Before any site grading activities begin***

- Install perimeter silt fences
- Install storm drain inlet protection on at existing inlets
- Construct stabilized construction exits

Phase II - ***Site grading***

- Begin site clearing and grubbing operations
- Begin overall site grading and topsoil stripping
- Establish topsoil stockpile
- Install silt fences around stockpile and cover stockpiles
- Disturbed areas where construction will cease for more than 14 days will be stabilized with erosion controls

Phase III - ***Infrastructure (utilities, parking lot, etc.) & building construction***

- Construct staging and materials storage area
- Install temporary sanitary facilities and dumpsters
- Install utilities, sanitary sewers, and water services
- Construct temporary concrete washout area
- Begin construction of building foundation and structure
- Install gutters, curbs, and prepare pavement subgrade

Phase IV - ***Final stabilization and landscaping***

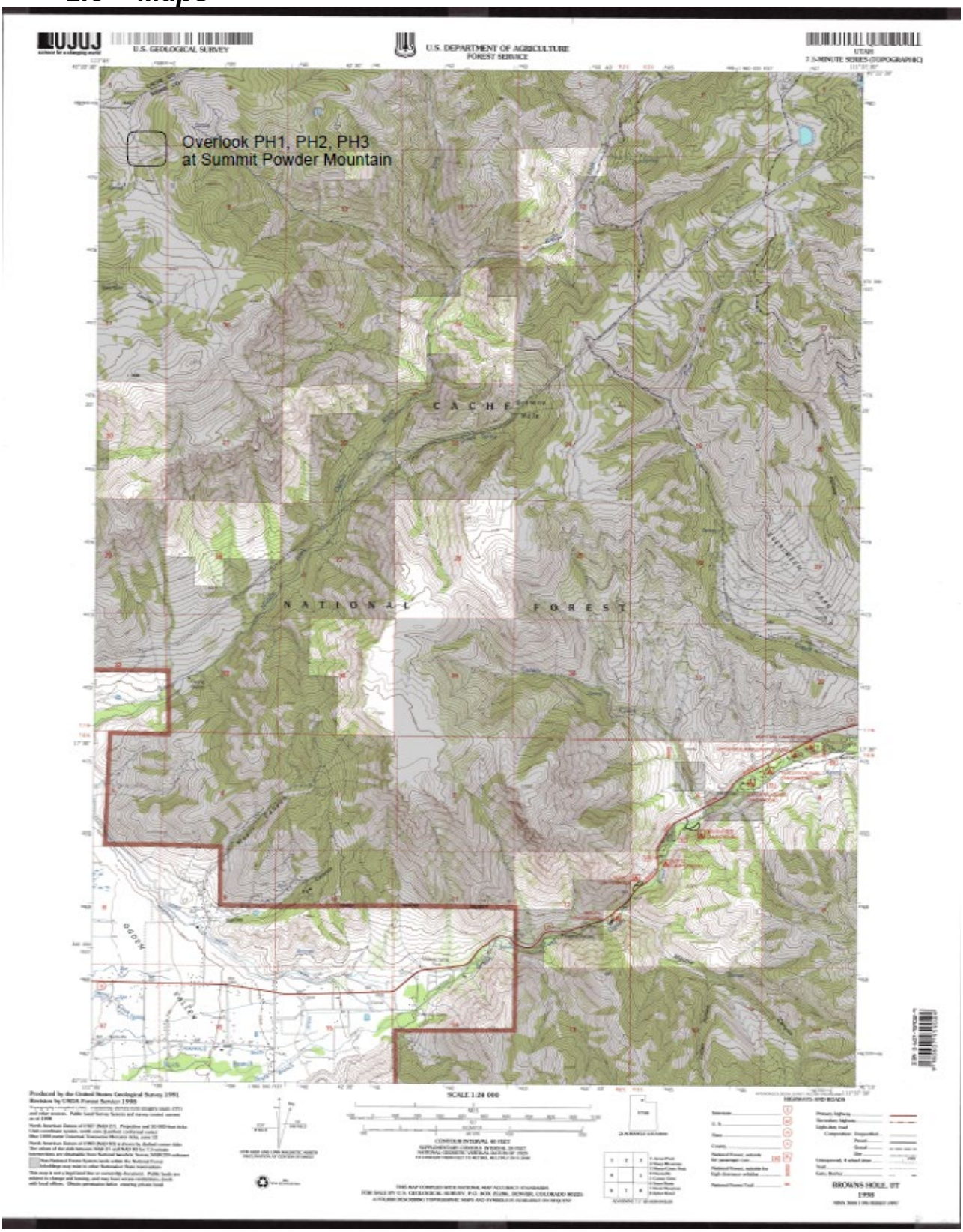
- Parking lot paved, exterior building constructed
- Remove temporary concrete washout area
- Finalize pavement activities
- Remove all temporary control BMPs and stabilize any areas disturbed by their removal with permanent erosion controls
- Prepare and install final landscaping
- Monitor stabilized areas until final stabilization is reached

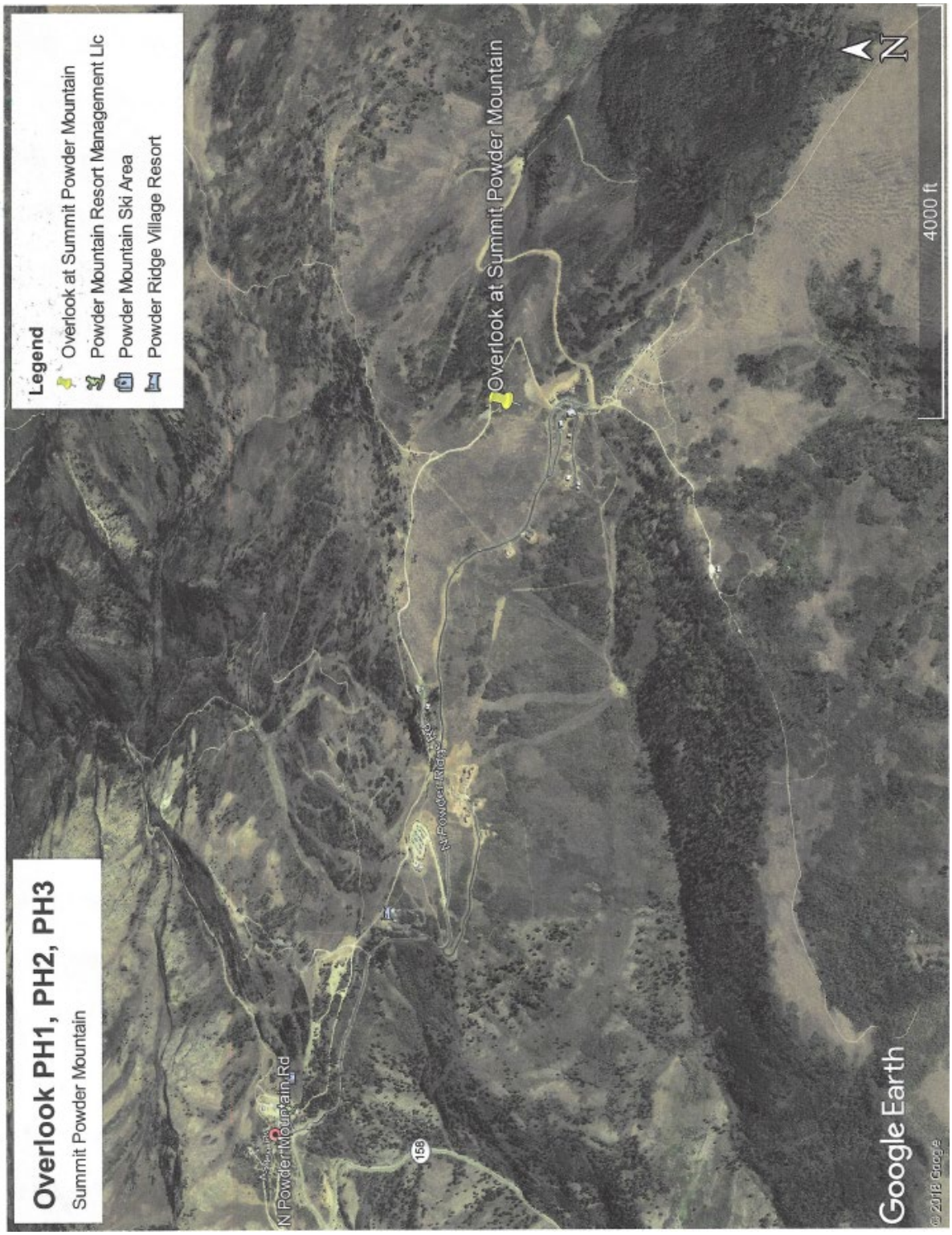
(See construction project manual for more exact dates of events in the described Phases.)

2.7 Site Features and Sensitive Areas to be Protected

The Overlook construction project will be protected with a silt fence or other perimeter control along the north and south borders of the project improvement areas to minimize the disturbance of soil for properties surrounding the site. There are no unique features to be preserved at the project site.

2.8 Maps


U.S. GEOLOGICAL SURVEY
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Overlook PH1, PH2, PH3
at Summit Powder Mountain
CACHE
NATIONAL
FOREST
OGDEN
SCALE 1:24 000
BROWNS HOLE, UT
1998



The location map is filed in Appendix A

The SWPPP site map(s) are filed in Appendix B

SECTION 3: WATER QUALITY

3.1 UIC Class 5 Injection Wells

- ☐ French Drain
- ☐ Commercially Manufactured pre-cast or pre-built subsurface infiltration system
- ☐ Drywell(s), seepage pit(s), improved sinkhole(s)

Description of your Class V Injection Well:
Not Applicable.

DWQ contact information:

Name:

Date:

Additional information:

Local Requirements:

3.2 Discharge Information

Does your project/site discharge storm water into a Municipal Separate Storm Sewer System (MS4)? ☒ Yes ☐ No

List the MS4 that receives the discharge from the construction project:
Salt Lake City MS4

Are there any surface waters that are located within 50 feet of your construction disturbances?
☐ Yes ☒ No

List the water body:

3.3 Receiving Waters

Table 1 – Names of Receiving Waters (see http://wq.deq.utah.gov)

Name(s) of the first surface water that receives storm water directly from your site and/or from the MS4. (note multiple rows provided where your site has more than one point of discharge that flows to different surface waters)
1. Ogden River
2.
3.
4.
5.
6.

3.4 Impaired Waters

Table 2. - Impaired Waters

	Is this surface water listed as "impaired"?	If you answered yes, then answer the following:		
		What pollutant(s) are causing the impairment?	Has a TMDL been completed?	Pollutant(s) for which there is a TMDL
1.	☐ Yes ☒ No		☐ Yes ☒ No	
2.	☐ Yes ☐ No		☐ Yes ☐ No	
3.	☐ Yes ☐ No		☐ Yes ☐ No	
4.	☐ Yes ☐ No		☐ Yes ☐ No	
5.	☐ Yes ☐ No		☐ Yes ☐ No	
6.	☐ Yes ☐ No		☐ Yes ☐ No	

3.5 High Water Quality

Table 3 – High Water Quality

	Is this surface water designated as High Water Quality? (see Appendix C)	If you answered yes, specify which category the surface water is designated as?
1.	☐ Yes ☒ No	☐ Category 1 ☐ Category 2
2.	☐ Yes ☐ No	☐ Category 1 ☐ Category 2
3.	☐ Yes ☐ No	☐ Category 1 ☐ Category 2
4.	☐ Yes ☐ No	☐ Category 1 ☐ Category 2
5.	☐ Yes ☐ No	☐ Category 1 ☐ Category 2
6.	☐ Yes ☐ No	☐ Category 1 ☐ Category 2

3.6 Dewatering Practices

General

- Dewatering from building footings or other construction site sources should not be discharged without treatment. Also, turbid water should be filtered or allowed to settle before being discharged from the site.

Specific Dewatering Practices

Dewatering Practice # 1

- Dewatering activities are expected to occur at the project site. Dewatering will continue as long as needed for the groundwater table to be lowered, for construction sites to remain dry, or until all utility ditches or cofferdams are no longer needed. When dewatering BMPs are installed on the project site, locations should be documented on the SWPPP drawing.

Installation

- Assure that the dewatering discharge doesn't cause scouring of the receiving area. Base the design of any structural BMPs (i.e., basins or sumps) that are to receive dewatering discharge on the anticipated flow rate from the dewatered area.

- Prior to discharging to any surface water, pump sediment-laden water from any areas being dewatered through a geotextile material filter bag.

- List Dates this method was utilized:

Maintenance Requirements

3.7 Control Storm Water Flowing onto and through the Project

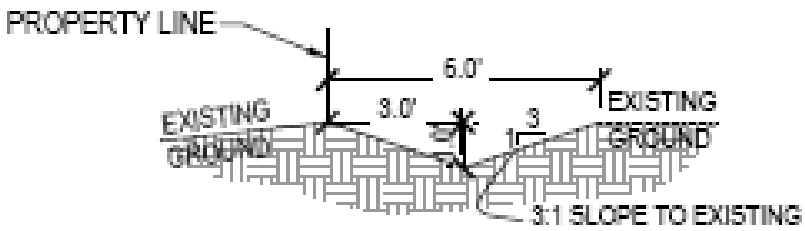
General

- The swale will have a positive drainage to convey runoff to a storm drain inlet of the site. The inlet will be raised 1 foot above the bottom of the swale to allow for infiltration of the run-on. The vegetated swale will have a trapezoidal shape with a slope ratio of 2:1. The bottom of the swale will be at least 2 feet above the seasonal high water table and bedrock. The slopes of the swale will be stabilized with a dense cover of water-tolerant, erosion-resistant grasses, mulch and erosion control blankets immediately after final grade is reached.

Specific Stormwater Control

Stormwater Flow Practice # 1

- Stormwater Control activities are not expected to occur at the project site. If stormwater flow does occur, the SWPPP will be revised to address the need for appropriate BMPs.



NOTES:

1. PROTECT CHANNEL FROM EROSION AS NECESSARY WITH RIP RAP, EROSION CONTROL MATS AND /OR ROCK CHECK DAMS
2. SEDIMENT TRAPS REQUIRED AT 200' SPACING OR AS SHOWN ON PLANS, WHICHEVER IS MORE STRINGENT.
3. FOR SWALES STEEPER THAN 5%, STABILIZE SWALES WITH RIP RAP LINING IN SWALE AND ROCK CHECK DAMS SPACED AT EVERY THREE FEET OF DROP IN FLOWLINE.

Installation

- The vegetated swale will be installed before site grading operations begin at the construction site.
- This method will not be utilized on the project.

Maintenance Requirements:

- The swale will be inspected for erosion and structural failures weekly and immediately after storm events. Before vegetation has been established in the swale, it will be inspected for erosion and accumulation of debris and sediment. Remove debris, sediment, and repair erosion and embankments immediately.

Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

3.8 Protect Storm Drain Inlets

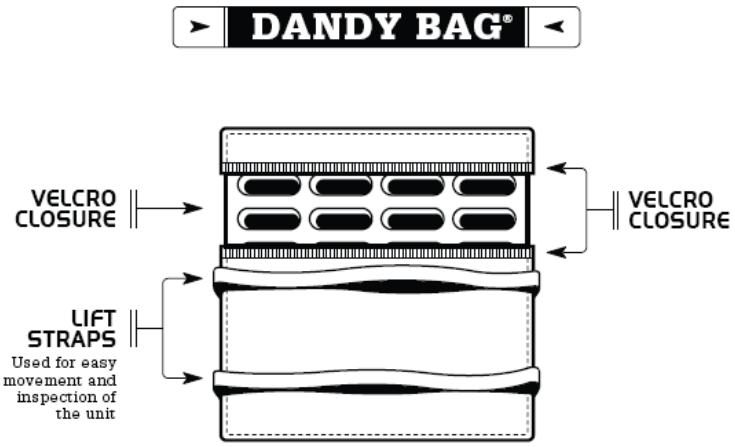
General

- Existing storm drain inlets will be protected to prevent storm water from entering without first being filtered or treated to remove sediment. All storm drain inlets made operable during construction will be protected to prevent storm water from entering without first being filtered or treated to remove sediment. The Protection devices will be removed once the construction site has been permanently stabilized.

Specific Storm Drain Inlet Controls

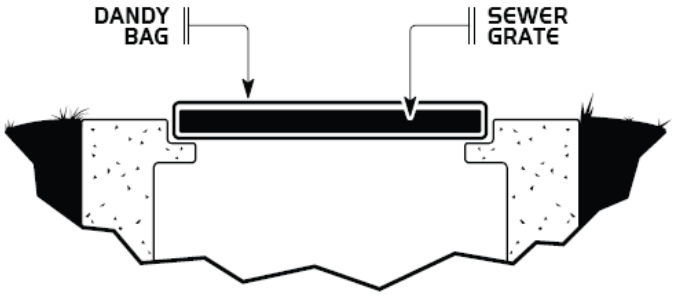
Storm Drain Inlet Control # 1

- Work covered under this item consists of installing an inlet protection system. The purpose is to keep silt, sediment and construction debris out of the storm water system.



Installation

- Existing inlets will be protected before construction activities begin on-site. New inlets will be protected when installation is completed.
- This method will not be utilized on the project.



Maintenance Requirements

- Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, you must remove the deposited sediment by the end of the same workday in which it is found or by the end of the following workday if removal by the same workday is not feasible.

Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

SECTION 4: POLLUTION PREVENTION STANDARDS

4.1 Potential Sources of Pollution

Clearing, Grading, Excavating	X							X		See SWPPP Site Map/Project Manual
Paving	X							X		See SWPPP Site Map/Project Manual
Concrete Washout			X	X				X		See SWPPP Site Map/Project Manual
Construction, Painting, Cleaning		X		X				X	X	See SWPPP Site Map/Project Manual
Demolition, Disposal	X							X		See SWPPP Site Map/Project Manual
Dewatering	X	X								See SWPPP Site Map/Project Manual
Drilling /Blasting	X			X				X		See SWPPP Site Map/Project Manual
Material Delivery/Storage	X	X	X	X	X	X		X	X	See SWPPP Site Map/Project Manual
Hazardous Waste			X	X	X	X			X	See SWPPP Site Map/Project Manual
Contaminated Spills		X	X	X	X	X			X	See SWPPP Site Map/Project Manual
Septic Waste		X		X			X		X	See SWPPP Site Map/Project Manual
Equipment's Fueling/Maintenance/ Storage						X			X	See SWPPP Site Map/Project Manual
Landscaping	X	X						X		See SWPPP Site Map/Project Manual
Trash and Debris								X	X	See SWPPP Site Map/Project Manual

4.2 Non-Storm Water Discharges

Authorized Non-Storm Water Discharges	Comments
1. Discharges from fire-fighting activities.	None are anticipated
2. Fire Hydrant flushing.	No hyper-chlorinated water discharges (from water lines disinfection) will be allowed in the storm drain. Prior arrangements must be made with the Sanitary Sewer Treatment Facility before high-chlorine water is flushed in to the sanitary sewer.
3. Waters used to wash vehicles where detergents are not used.	Concrete trucks are rinsed on the site without the use of detergents. Washout water is retained on the site.
4. Water used to control dust.	will be allowed on the site
5. Potable water sources including waterline flushing, routine external building wash down that does not use detergents.	Not on Site
6. Pavement wash waters were spills or leaks of toxic or hazardous material have not occurred (unless all spilled material has been removed) and where detergents are not used.	water discharges will be allowed in the storm drain – though not anticipated on the site
7. Uncontaminated air conditions or compressor condensate.	Not on Site
8. Uncontaminated ground water or spring water,	Not on Site
9. Foundation or footing drains where flows are not contaminated with process materials such as solvents	Not on Site
10. Landscape irrigation	water discharges will be allowed in the storm drain

4.2: (Place name of BMP here -- reference to detailed instructions in Appendix M)

Repeat as needed

4.3 Natural Buffers or Equivalent Sediment Controls

Buffer Compliance Alternatives

Are there any surface waters within 50 feet of your project's earth disturbances? ☐ YES ☒ NO

Check the compliance alternative that you have chosen:

☐ I will provide and maintain a 50-foot undisturbed natural buffer.

☐ I will provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by additional erosion and sediment controls, which in combination achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

☐ It is infeasible to provide and maintain an undisturbed natural buffer of any size, therefore I will implement erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

☐ I qualify for one of the exceptions in Part 2.1.2.a.v. (If you have checked this box, provide information on the applicable buffer exception that applies, below.)

Buffer Exceptions

Which of the following exceptions to the buffer requirements applies to your site?

☒ There is no discharge of storm water to the surface water that is located 50 feet from my construction disturbances.

☐ No natural buffer exists due to preexisting development disturbances that occurred prior to the initiation of planning for this project.

☐ For a "linear project" (defined in Appendix A), site constraints (e.g., limited right-of-way) make it infeasible for me to meet any of the CGP Part 2.1.2.a.v.3 compliance alternatives. Include documentation here of the following:

☐ The project qualifies as "small residential lot" construction (defined in Part 2.1.2.a.v.3 and in Appendix D).

For Alternative 1 (see Appendix D, Part 2.3.a):
For Alternative 2 (see Appendix D, Part 2.3.b):

☐ Buffer disturbances are authorized under a CWA Section 404 permit.

☐ Buffer disturbances will occur for the construction of a water-dependent structure or water access area (e.g., pier, boat ramp, and trail).

SECTION 5: EROSION AND SEDIMENT CONTROLS

5.1 Minimize Disturbed Area and Protect Natural Features and Soil

The Overlook construction project will be protected with a silt fence or other perimeter control along the north and south borders of the project improvement areas to minimize the disturbance of soil for properties surrounding the site. There are no unique features to be preserved at the project site.

5.1: (Place name of BMP here – reference to detailed instructions, Appendix M)

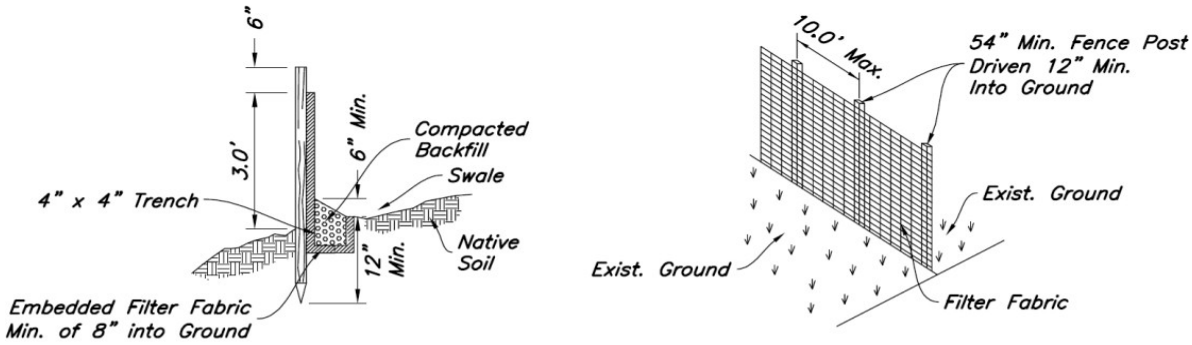
Repeat as needed

5.2 Establish Perimeter Controls and Sediment Barriers

Before being discharged from the construction site, sediment-contaminated storm water will be filtered through silt fencing along the borders of the project site.

Specific Perimeter Controls *Perimeter Control # 1*

- Silt fence will be installed along the perimeters of the site and around any topsoil stockpile. Silt fences will be installed by excavating a 6 to 8-inch-deep trench along the line of proposed installation. Wooden posts supporting the silt fence will be spaced 6 feet apart and driven securely into the ground; a minimum of 18 to 20 inches deep. The silt fence will be fastened securely to the wooden posts with staples or zip-ties spaced every 12 inches at the top, mid-section, and bottom of the wooden post. The bottom edge of the silt fence will extend across the bottom of the trench and the trench will be backfilled and compacted to prevent stormwater and sediment from discharging underneath the silt fence.



Posts: Steel Either T or U Type or 2"x2" Hardwood
Filter Fabric: 1. MIRAFI 140N
2. Dupont TYPAR 3341
3. or Approved Equal

Notes:

1. *Filter cloth to be fastened securely to fence posts with wire ties or staples.*
2. *When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.*
3. *Collected material shall be removed when "bulges" develop in the silt fence.*

Installation

- Silt fences will be installed before construction begins and around topsoil stockpiles when they have been established.
- List Dates this method was utilized: Maintenance Requirements
- The silt fence will be maintained on a regular basis and before it has accumulated sediment to one-half of the above-ground height. If gaps or tears are found during the inspection, the fabric will be repaired or replaced immediately.
-

Responsible Staff:

- Assigned by GENEVA ROCK PRODUCTS

5.3 Retain Sediment On-Site

General

- Sediment basins or ponds can be used to capture sediment from stormwater runoff before it leaves a construction site and allows a pool to form in an excavated or natural depression, where sediment can settle. The pool is dewatered through a single riser and drainage hole leading to a suitable outlet on the downstream side of the embankment or through the gravel of a rock dam. The water is released more slowly than it would be without the control structure.

Specific Sediment Basin Controls

- A sediment basin is constructed by excavation or by erecting an earthen embankment across a low area or drainage swale. The basin can be temporary (up to 3 years) or permanent. Construct the basins before any grading takes place in the drainage area. For permanent structures, a qualified professional engineer experienced in designing dams should complete the basin design.
- Limit sediment basins with rock dams to a drainage area of 50 acres. Limit the rock dam height to 8 feet with a top width of at least 5 feet. Side slopes for rock dams should be no steeper than 2:1 on the basin side of the structure and 3:1 on the outlet side. Cover the basin side of the rock dam with fine gravel from top to bottom for at least 1 foot. This slows the drainage rate from the pool that forms and gives sediments time to settle. The detention time should be at least 8 hours.
- Outfit sediment basins with earthen embankments with a dewatering pipe riser set just above the sediment removal cutoff level. Place the riser pipe at the deepest point of the basin and make sure it extends no farther than 1 foot below the level of the earthen dam. Place a water-permeable cover over the primary dewatering riser pipe to prevent trash and debris from entering and clogging the spillway.

Installation

- A retention pond is located to the south-west of the project.

Maintenance Requirements

- Inspect basins after each storm event to ensure proper drainage from the collection pool and determine the need for structural repairs. Replace material eroded from earthen embankments or stones moved from rock dams immediately. Locate sediment basins in an area that is easily accessible to maintenance crews for removal of accumulated sediment. Remove sediment from the basin when the storage capacity has reached approximately 50 percent. Remove trash and debris from around dewatering devices promptly after rainfall events.

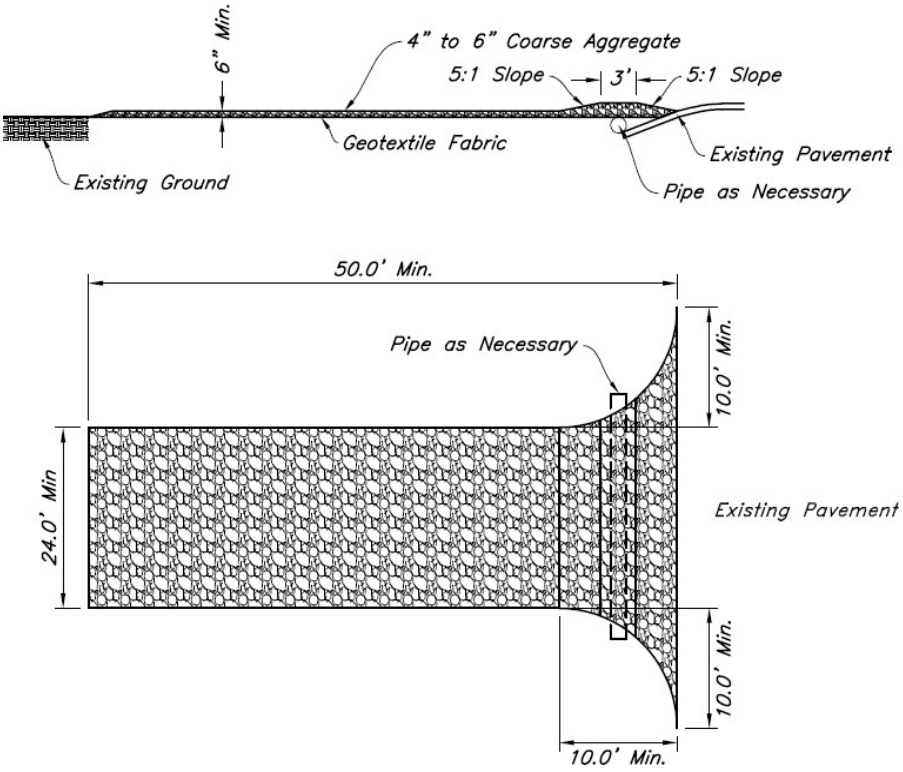
Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

5.4 Establish Stabilized Construction Exits

A construction exit will be located on the south-west side of the project site accessing Meridian Avenue. All construction vehicles exiting the site will be limited to this access. The access will be stabilized with quarry spalls, crushed rock, or asphalt to prevent tracking sediment onto either road or into the gutters. As the construction phasing progresses the construction access may be relocated to accommodate the construction process.

Specific Track-Out Controls Track-Out Control # 1
Track-Out Control Description



Installation

- Truck-out will be constructed before construction begins.
- List Dates this method was utilized:

Maintenance Requirements

- Maintenance of the truck-out should occur as needed when sediment has been tracked-out from the site onto the surface of off-site streets, other paved areas, and sidewalks. The Sediment must be remove the end of the same workday in which the track-out occurs or by the end of the next workday if track-out occurs on a non-workday. The sediment can be removed by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. It is prohibited to remove the sediment by hosing or sweeping it into any stormwater conveyance (unless it is connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water.

Responsible Staff:

- Assigned by GENEVA ROCK PRODUCTS

5.5 Protect Slopes

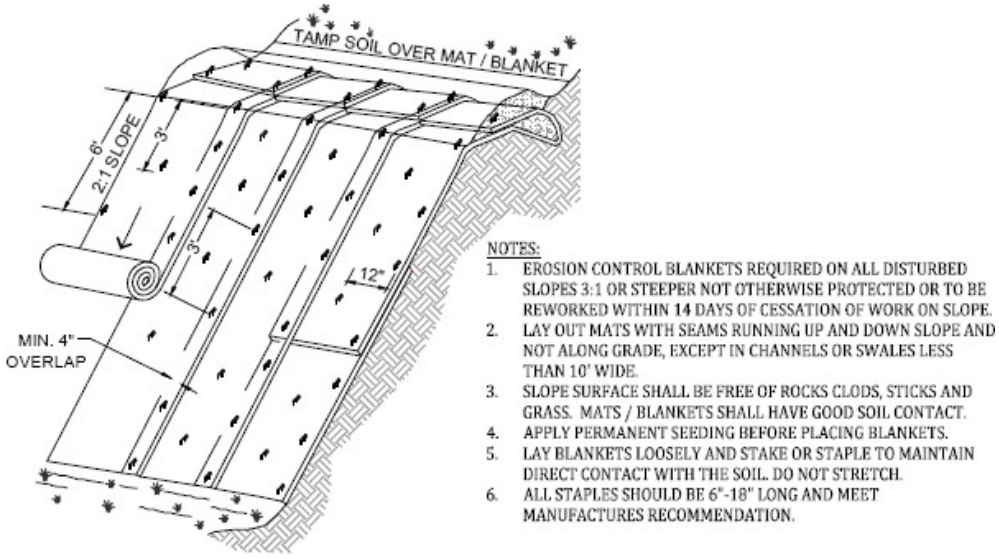
General

- Cut and fill slopes on this project have been designed and will be constructed to minimize erosion. In addition, slope runoff velocities can be reduced by terracing, creating diversions, installing erosion control blankets and surface contouring.
- No change will be made to the grade surrounding the project.
- Steep slopes have not been noted on this project.

Specific Steep Slope Controls

Steep Slope Control # 1

- Erosion control blankets will be used to provide stabilization for the slopes greater than 2:1. The blanket will cover the entire area of the graded slope and bottom channel. The bottom and side slopes will be seeded and mulched before the blanket is applied. The blanket will be installed by digging a small trench on the upside of the slope, 6 inches deep, and stapling the leading edge of the blanket in the trench. The blanket will be rolled down the slope slowly to maintain soil contact and stapled in intervals according to the manufacture's recommendation. The erosion control blanket will always be installed according to the manufacturer's instructions and specifications.



Installation

- This method will not be utilized on the project.

Maintenance Requirements

- The erosion control blanket will be inspected until vegetation is established to determine if cracks, tears, or breaches have formed in the fabric; if so, the blanket will be repaired or replaced immediately.

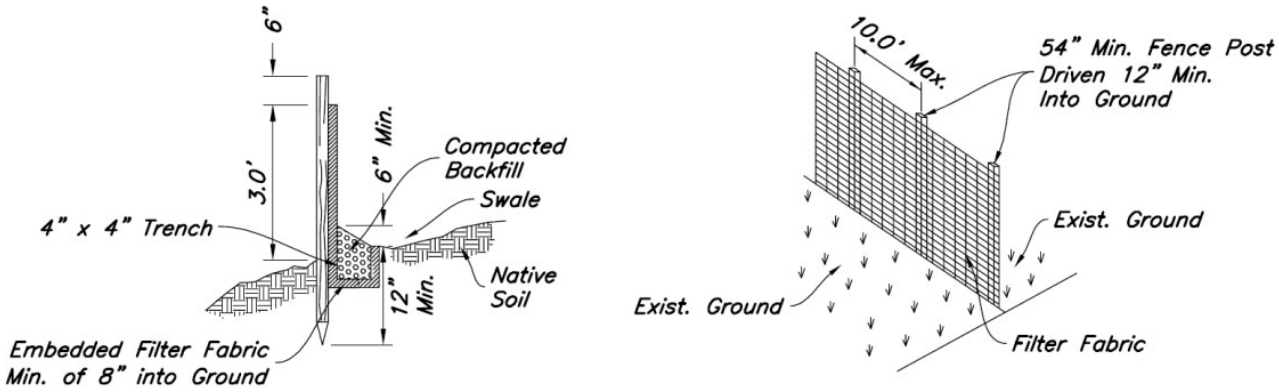
Responsible Staff: Assigned by GENEVA ROCK PRODUCTS

5.6 Stockpiled Soil or Other Erodible Material

Stockpiled Sediment Control # 1

Perimeter Control Description

- Silt fence will be installed along the around any topsoil stockpile. Silt fences will be installed by excavating a 6 to 8-inch-deep trench along the line of proposed installation. Wooden posts supporting the silt fence will be spaced 6 feet apart and driven securely into the ground; a minimum of 18 to 20 inches deep. The silt fence will be fastened securely to the wooden posts with staples or zip-ties spaced every 12 inches at the top, mid-section, and bottom of the wooden post. The bottom edge of the silt fence will extend across the bottom of the trench and the trench will be backfilled and compacted to prevent stormwater and sediment from discharging underneath the silt fence.



Posts: Steel Either T or U Type or 2"x2" Hardwood
Filter Fabric: 1. MIRAFI 140N
2. Dupont TYPAR 3341
3. or Approved Equal

Notes:

1. *Filter cloth to be fastened securely to fence posts with wire ties or staples.*
2. *When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.*
3. *Collected material shall be removed when "bulges" develop in the silt fence.*

Installation

- List Dates this method was utilized:

Maintenance Requirements

- If gaps or tears are found during the inspection, the fabric will be repaired or replaced immediately.

Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

5.7 Minimize Dust

General

The owner, operator, and contractors responsible for dust control at a site will have to determine which practices accommodate their needs according to the site and weather conditions of the area. Dust control will be implemented as needed once site grading has begun and during windy conditions (forecasted or actual wind conditions of 20 mph or greater) while site grading is occurring.

Specific Dust Controls

Dust Control # 1

- Sprinkling/Irrigation. Spraying of potable water at a rate of 300 gallons per acre or less can be performed by a mobile pressure-type distributor truck no more than three times a day during the months of May–July and once per day during the months of August–October or whenever the dryness of the soil warrants it.

Installation

- List Dates this method was utilized:

Dust Control # 2

- Mulch. Hydro mulching options can be utilized for a quick and effective means of dust control may be wood fiber, straw, or a soil tackifier. This can be performed by a mobile pressure-type distributor truck using potable water at a rate specified by product manufacturer.

Installation

- List Dates this method was utilized:

Maintenance Requirements

- Reapply dust control when soil dries, and dust begins to form.

Responsible Staff

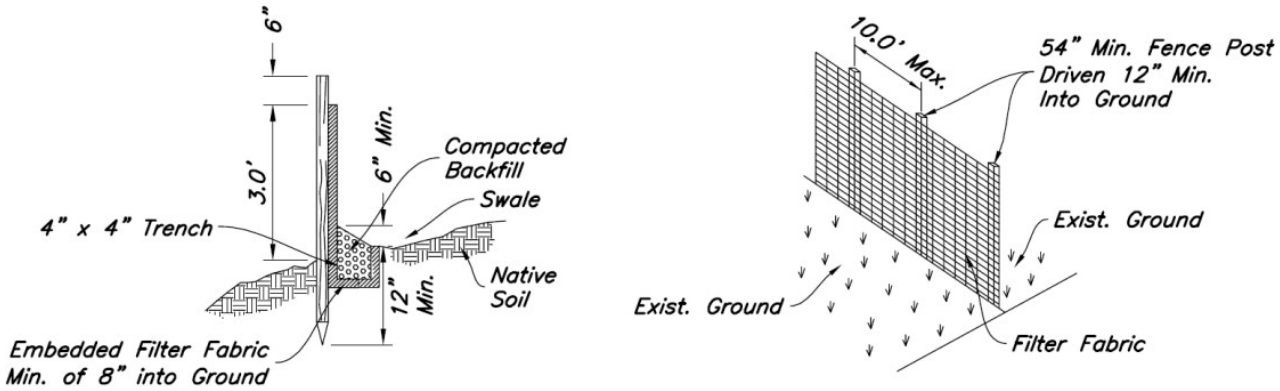
- Assigned by GENEVA ROCK PRODUCTS

5.8 Topsoil

Stockpiled Sediment Control # 1

Perimeter Control Description

- Silt fence will be installed along the around any topsoil stockpile. Silt fences will be installed by excavating a 6 to 8-inch-deep trench along the line of proposed installation. Wooden posts supporting the silt fence will be spaced 6 feet apart and driven securely into the ground; a minimum of 18 to 20 inches deep. The silt fence will be fastened securely to the wooden posts with staples or zip-ties spaced every 12 inches at the top, mid-section, and bottom of the wooden post. The bottom edge of the silt fence will extend across the bottom of the trench and the trench will be backfilled and compacted to prevent stormwater and sediment from discharging underneath the silt fence.



Posts: Steel Either T or U Type or 2"x2" Hardwood
Filter Fabric: 1. MIRAFI 140N
2. Dupont TYPAR 3341
3. or Approved Equal

Notes:

1. Filter cloth to be fastened securely to fence posts with wire ties or staples.
2. When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
3. Collected material shall be removed when "bulges" develop in the silt fence.

Installation

- List Dates this method was utilized:

Maintenance Requirements

- If gaps or tears are found during the inspection, the fabric will be repaired or replaced immediately.

Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

5.9 Soil Compaction

General

- In areas where final vegetative stabilization will occur, heavy construction traffic will be kept to a minimum.

Specific Soil Compaction Controls

Soil Compaction Control # 1

- The project manager of the site will determine the method of traffic control in these areas. Several methods available to be utilized include 48" orange safety fence, safety cones, temporary construction fencing, or any other method which proves effective.

Installation

- List Dates this method was utilized:

Maintenance Requirements

- Maintenance will be completed on an "as needed" basis and may include repairing, replacing, or moving the controls to maintain effectiveness.

Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

5.10 High Altitude/Heavy Snows

Date Snow is Expected	Date of High Altitude/Heavy Snow Conditions BMPs to be Installed	Date of First Heavy Snow
	Scheduled:	
	Actual:	

5.10: (Place name of BMP here – reference to detailed instructions, Appendix M)

5.11 Chemical Treatment

Soil Types
List all the soil types (including soil types expected to be found in fill material) that are expected to be exposed during construction and that will be discharged to locations where chemicals will be applied: Not Applicable.

Treatment Chemicals
List all treatment chemicals that will be used at the site and explain why these chemicals are suited to the soil characteristics: Not Applicable

Describe the dosage of all treatment chemicals you will use at the site or the methodology you will use to determine dosage: Not Applicable

Provide information from any applicable Material Safety Data Sheets (MSDS):
Not Applicable

Describe how each of the chemicals will stored: Not Applicable

Include references to applicable state or local requirements affecting the use of treatment chemicals, and copies of applicable manufacturer's specifications regarding the use of your specific treatment chemicals and/or chemical treatment systems: Not Applicable

Special Controls for Cationic Treatment Chemicals *(if applicable)*
If you have been authorized by your applicable Regional Office to use cationic treatment chemicals, include the official EPA authorization letter or other communication, and identify the specific controls and implementation procedures you are required to implement to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards: Not Applicable

Schematic Drawings of Stormwater Controls/Chemical Treatment Systems Provide schematic drawings of any chemically-enhanced stormwater controls or chemical treatment systems to be used for application of treatment chemicals:
Not Applicable

Training
Describe the training that personnel who handle and apply chemicals have received prior to permit coverage, or will receive prior to the use of treatment chemicals: Not Applicable

5.12 Stabilize Soils

Description of Practice

- Stabilization of fine graded disturbed areas using a continuous cover of grass sod.

Specific Topsoil Controls

Topsoil Control # 1

Residential or commercial areas where quick establishment or aesthetics are factors

Installation

- Only use sod harvested, delivered and installed within the same 48-hour period.
- Do not place sod in extreme temperatures.
- Prior to temporary or final sod placement, fine grade the base soil.
- The first row of sod shall be laid in a straight-line perpendicular to the slopes with remaining rows placed parallel to and butted tightly against each other.
- Lateral joints shall be staggered to promote more uniform growth and strength.
- List Dates this method was utilized:

Maintenance Requirements

- Limit foot traffic to low use for the first two to three weeks.
- Ensure irrigation rate does not result in runoff.
- Install salt-tolerant sod where needed.
- Replace when >25% of any individual piece of sod is no longer viable.
- Restore areas where rolling edges are present, or sod is displaced.

Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

5.12: (Place name of BMP here – reference to detailed instructions, Appendix M)	
☐	☐

5.13 Final Stabilization

Description of Practice

- Permanent stabilization will be done immediately after the final design grades are achieved but no later than 14 days after construction ceases. Permanent stabilization will be completed in accordance with the final stabilization procedures on the landscaping plan pages.
- Permanent vegetation such as turf sod, trees, shrubs, perennials and grasses will be established after the final phase of construction; however, mulch, hydro seeding, or other means of soil coverage may be used to protect exposed soil for temporary stabilization.
- Design Specifications can be located on the landscape plan pages.

Installation

- The dry season for Northern Utah generally begins in June but can start as late as the beginning of July. The second week in September signals the end of the dry season and the beginning of the Monsoon season.
- List dates of installation:
- Approximate completion date: 07/30/2020

Maintenance Requirements

- Permanent landscape will be maintained by the owner or operator as a post construction BMP. Regular watering, pruning, fertilizing and replacing of any diseased or dead vegetation will preserve effectiveness of permanent stabilization.

Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

SECTION 6: POLLUTION PREVENTION

6.1 Spill Prevention and Response

The following general practices will be used throughout the project to reduce the potential for spills.

Material safety data sheets, a material inventory, and emergency contact information will be maintained at the on-site project trailer.

- Potential pollutants will be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practicable, material storage areas should not be located near storm drain inlets and should be equipped with covers, roofs, or secondary containment as needed to prevent storm water from contacting stored materials. Chemicals that are not compatible (such as sodium bicarbonate and hydrochloric acid) shall be stored in segregated areas so that spilled materials cannot combine and react.
- Materials disposal will be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.
- Materials no longer required for construction will be removed from the site as soon as practicable.
- Adequate garbage, construction waste, and sanitary waste handling and disposal facilities will be provided to the extent necessary to keep the site clear of obstruction and BMPs clear and functional.
- GENEVA ROCK PRODUCTS and the project superintendent will be responsible for spill prevention and response. Contact information is below:

Jake Allen, Project Manager
Cell: 801-395-4454
Email: jallen@genevarock.com

Specific Materials Handling Practices

- All pollutants, including waste materials and demolition debris, that occur on-site during construction will be handled in a way that does not contaminate storm water.
- All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored on site will be covered and contained and protected from vandalism.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, will be conducted under cover during wet weather and on an impervious surface to prevent the release of contaminants onto the ground.

Materials spilled during maintenance operations will be cleaned up immediately and properly disposed of.

- Wheel wash water will be settled and discharged on site by infiltration. Wheel wash water will not be discharged to the storm water system or the storm water treatment system.
- Application of agricultural chemicals, including fertilizers and pesticides, will be conducted in a manner and at application rates that will not result in loss of chemical to storm water runoff. Manufacturers' recommendations will be followed for application rates and procedures.
- pH-modifying sources will be managed to prevent contamination of runoff and storm water collected on site. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.
- At least one concrete washout location will be provided and maintained on a regular basis for all concrete washout waters. These may include a detention basin, straw bale washout, washout dumpster, and so forth. The slurry will be disposed of according to the local ordinances of the city, county and/or state.

Spill Response

- The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize their migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on site and prevent their release into receiving waters.

- If a spill of pollutants threatens storm water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The site superintendent will be notified immediately when a spill, or the threat of a spill, is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping ESC facilities and entering the receiving waters, facility personnel will respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing materials and equipment for spill response and cleanup will be maintained at the site. Each spill kit may contain:
- Oil absorbent pads (one bale)
- Oil absorbent booms (40 feet)
- 55-gallon drums (2)
- 9-mil plastic bags (10)
- Personal protective equipment including gloves and goggles

If oil sheen is observed on surface water (e.g., settling ponds, detention pond, swales), absorbent pads and/or booms will be applied to contain and remove the oil. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.

- The site superintendent, or his designee, will be responsible for completing the spill reporting form and for reporting the spill to the appropriate state or local agency (see Forms at the end of this section).
- Facility personnel with primary responsibility for spill response and cleanup will receive training from the site superintendent. This training will include identifying the location of spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

Any discharges in 24 hours equal to or in excess of the reportable quantities listed in 40 CFR 117, 40 CFR 110, and 40 CFR 302 will be reported to the National Response Center and the Division of Water Quality (DWQ) as soon as practical after knowledge of the spill is known to the permittees. The permittee shall submit within 14 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and measures taken and/or planned to be taken to the Division of Water Quality (DWQ), 288 North 1460 West, P.O. Box 144870, Salt Lake City, Utah 84114-4870. The Storm Water Pollution Prevention Plan must be modified within14 calendar days of knowledge of the release to provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

Agency	Phone Number
National Response Center	(800) 424-8802
Division of Water Quality (DWQ) 24-Hr Reporting	(801)-231-1769 (801) 536-4123
Utah Department of Health Emergency Response	(801) 580-6681

Material	Media Released To	Reportable Quantity
Engine oil, fuel, hydraulic & brake fluid	Land	25 gallons
Paints, solvents, thinners	Land	100 lbs. (13 gallons)
Engine oil, fuel, hydraulic & brake fluid	Water	Visible Sheen
Antifreeze, battery acid, gasoline, engine degreasers	Air, Land, Water	100 lbs. (13 gallons)
Refrigerant	Air	1 lb.

6.2 Construction and Domestic Waste

Construction and Domestic Waste

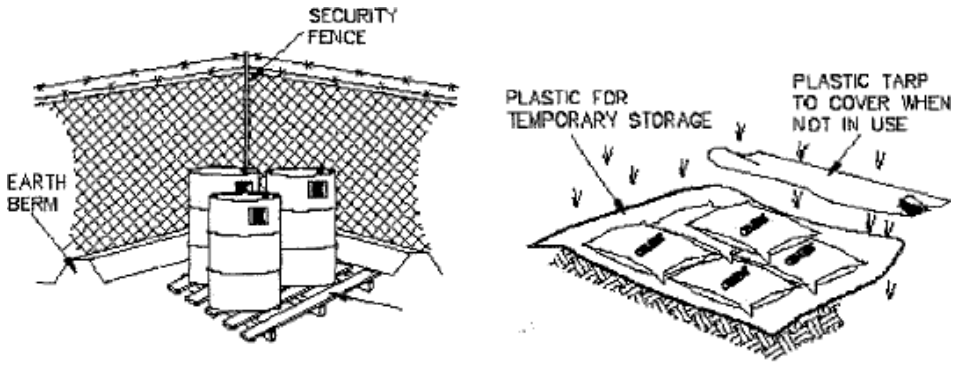
- Subcontractors are responsible for the daily cleanup and disposal of building materials. For more specific responsibilities see project manual.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description

- All waste materials will be collected and disposed of into metal trash dumpsters in the materials storage area. Dumpsters will be placed away from stormwater conveyances and drains, and meet all federal, state, and municipal regulations. Only trash and construction debris from the site will be deposited in the dumpster. No construction materials will be buried on-site. All personnel will be instructed, during tailgate training sessions, regarding the correct disposal of trash and construction debris. The individual who manages day-today site operations will be responsible for seeing that these practices are followed by the contractor and sub-contractors.



Installation

- Dumpsters will be installed as soon as materials storage area has been completed.

Maintenance Requirements

- The dumpsters will be inspected and emptied on a regular schedule set by the project manager. If trash and construction debris are exceeding the dumpster's capacity, the dumpsters will be emptied more frequently.

Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

Sanitary Waste

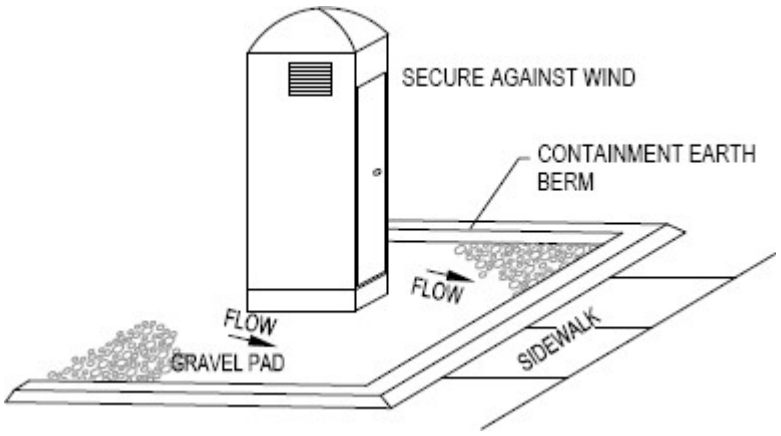
Sanitary waste must be properly managed and disposed of to reduce the risk of pollution from chemicals and microorganisms found in sanitary waste. Practices such as proper handling and spill prevention and cleanup measures can reduce the potential for contamination of surface or ground water.

Specific Pollution Prevention Practices

Pollution Prevention Practice #1

Description

- Portable toilets will be provided at the site throughout the construction phase. The toilets will be in the staging area. The portable toilets will be located away from concentrated flow paths and traffic flow. They will be secured to the ground with rebar stakes and will have collection pans underneath as secondary containment.



Installation

- Portable toilets will be installed as soon as materials staging area has been completed.

Maintenance Requirements

- The toilets will be inspected and emptied or replaced on a regular schedule set by the project manager. If needed, the toilets will be emptied or replaced more frequently.

Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

6.3 Washing of Applicators and Containers used for Concrete, Paint or Other Materials

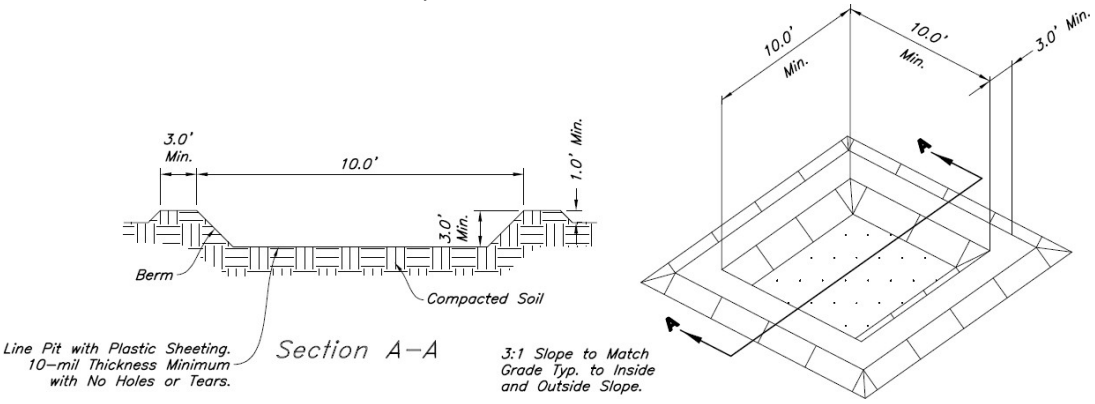
General

Responsible management of common chemicals such as solvents, paints, cleaners and concrete can significantly reduce polluted runoff (WEF and ASCE, 1998). Such products (Cementitious: having the properties of cement; this type of wash water and solids also come from using such construction materials as mortar, plaster, stucco, and grout) must be handled properly in all stages of development, use, and disposal. Specific materials management can be found in the MSDS information located in the office trailer.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1 Description

- A temporary washout will be constructed or installed on the site. The Project Manager will determine the washout method best suited for this project. The recommended minimum for a built on site washout will be 10' square to contain all concrete and liquid waste from washout operations. The washout will be lined with a plastic membrane at least 10 mils thick without any holes or tears. A sign will be posted at the washout site stating that it is the washout facility.



Installation

- The washout will be constructed/installed before any concrete pours are scheduled.

Maintenance Requirements

- The washout areas will be inspected daily by the site superintendent or project manager to ensure that all concrete washing is being discharged into the washout area, no leaks or tears are present, and to identify when concrete wastes need to be removed. The washout areas will be cleaned out once the area is filled to 75 percent of the holding capacity. Once the area's holding capacity has been reached, the wastes will be allowed to harden; the concrete will be broken up and disposed. The plastic sheeting will be replaced if tears occur during removal of concrete wastes from the washout area.

Responsible Staff:

- Assigned by GENEVA ROCK PRODUCTS

6.4 Establish Proper Building Material Staging Areas

General

- Building material will be stored on site. They will be arranged in a way that will minimize the effect of contamination of storm water runoff. Material safety data sheets, material inventory, emergency contact numbers and complete HAZMAT Protocols for the project will be maintained in the office trailer.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description

- All hazardous waste materials such as oil filters, petroleum products, paint, and equipment maintenance fluids will be stored in structurally sound and sealed containers, within the hazardous materials storage area. Hazardous waste materials will be stored in appropriate and clearly marked containers and segregated from other non-waste materials. Secondary containment will be provided for all waste materials in the hazardous materials storage area and will consist of commercially available spill pallets. Additionally, all hazardous waste materials will be disposed of in accordance with federal, state, and municipal regulations. Hazardous waste materials will not be disposed of into the on-site dumpsters. All personnel will be instructed, during tailgate training sessions, regarding proper procedures for hazardous waste disposal. The individual who manages day-to-day site operations will be responsible for seeing that these procedures are followed.

Installation

- BMPs implemented for hazardous or toxic waste activities will begin at the start of the project.

Maintenance Requirements

- The hazardous waste material storage areas will be inspected bi-weekly and after storm events. The storage areas will be kept clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Material safety data sheets, material inventory, and emergency contact numbers will be maintained in the office trailer.

Responsible Staff

- Assigned by GENEVA ROCK PRODUCTS

6.5 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices

General

- Vehicles and equipment will be maintained off-site. All vehicles and equipment including subcontractor vehicles will be checked for leaking oil and fluids. Vehicles leaking fluids will not be allowed on-site. Drip pans will be placed under all vehicles and equipment that are parked overnight.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description

- Several types of vehicles and equipment will be used on-site throughout the project, including graders, scrapers, excavators, loaders, paving equipment, rollers, trucks and trailers, backhoes, and forklifts. All major equipment/vehicle fueling and maintenance will be performed off-site. When vehicle fueling must occur on-site, the fueling activity will occur in the staging area. Only minor equipment maintenance will occur on-site. All equipment fluids generated from maintenance activities will be disposed of into designated drums stored on spill pallets. Absorbent, spill-cleanup materials and spill kits will be available at the combined staging and materials storage area.

Installation

- BMPs implemented for equipment and vehicle maintenance and fueling activities will begin at the start of the project.

Maintenance Requirements

- Inspect equipment/vehicle storage area bi-weekly and after storm events. Vehicles and equipment will be inspected on a regular basis as laid out in the project manual. Leaks will be repaired immediately, or the problem vehicle(s) or equipment will be removed from the project site.

Responsible Staff:

- Assigned by GENEVA ROCK PRODUCTS

6.6 Control Equipment/Vehicle Washing

General

- All equipment and vehicle washing will be performed off-site.

Responsible Staff:

- Assigned by GENEVA ROCK PRODUCTS

6.7 Pesticides, Herbicides, Insecticides, Fertilizers, and Landscape Materials

General

- All landscaping materials will be kept off-site until final landscaping has been completed.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1 Description

- All landscaping materials such as pesticides, herbicides, insecticides and fertilizers will be stored in structurally sound and sealed containers, within the hazardous materials storage area. Landscaping materials will be stored in appropriate and clearly marked containers and segregated from other hazardous-waste materials. Additionally, all landscaping materials will be disposed of in accordance with federal, state, and municipal regulations. Landscaping waste materials will not be disposed of into the on-site dumpsters. The individual who manages day-to-day site operations will be responsible for seeing that these procedures are followed.

Installation

- BMPs implemented for pesticides, herbicides, insecticides, fertilizers, and landscape material activities will begin at the end of the project when landscaping begins.

Maintenance Requirements

- The hazardous waste material storage area will be inspected bi-weekly and after storm events. The storage areas will be kept clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Material safety data sheets, material inventory, and emergency contact numbers will be maintained in the office trailer.

Responsible Staff:

- Assigned by GENEVA ROCK PRODUCTS

6.8 Other Pollution Prevention Practices

6.8: (Place name of BMP here – reference to detailed instructions, Appendix M)

6.8: (Place name of BMP here – reference to detailed instructions, Appendix M)

Repeat as needed

SECTION 7: INSPECTIONS & CORRECTIVE ACTIONS

7.1 Inspections

1. Inspection Personnel:

The site inspections at this project will be performed by a designated SWPPP Inspector from GENEVA ROCK PRODUCTS.

2. Inspection Schedule:

Minimum Inspection Requirements:

☑ At least once every 7 calendar days; or

☐ At least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.

Inspection Reports are filed in Appendix E

7.2 Corrective Actions

Personnel Responsible for Corrective Actions

- The SWPPP Inspector will submit a copy of the inspection report by email to the project manager, Jake Allen and/or anyone he requires to receive a copy. For corrective actions identified, Mr. Allen will be responsible for initiating the corrective action within 24 hours of the report and completing maintenance as soon as possible or before the next storm event if the corrective action was not caused by rain or precipitation. For any corrective actions requiring a SWPPP amendment or change to a stormwater conveyance or control design, Mr. Allen will initiate the corrective action and amend the SWPPP.

Corrective Action Forms

- Corrective Action forms will be submitted by email to the project manager, Jake Allen and/or anyone he requires to receive a copy.

Corrective Action Log is located in Appendix F.

7.3 Delegation of Authority

Duly Authorized Representative(s) or Position(s):

Geneva Rock Products
Jake Allen, Project Manager
302 West 5500 South
Murray, UT 84107
Phone: 801-395-4454
Email: jallen@genevarock.com
Area of control: Total Project Site

See the signed delegation of authority forms in Appendix K.

SECTION 8: TRAINING AND RECORDKEEPING

8.1 Training

Instructions:

- Training your staff and subcontractors is an effective BMP. As with the other steps you take to prevent storm water problems at your site, document that the personnel required to be trained in CGP Part 6 completed the appropriate training.
- The following personnel, at a minimum, must receive training, and therefore should be listed out individually in the table below:
  - ✓ Personnel who are responsible for the design, installation, maintenance, and/or repair of storm water controls (including pollution prevention measures);
  - ✓ Personnel responsible for the application and storage of treatment chemicals (if applicable);
  - ✓ Personnel who are responsible for conducting inspections as required in Part 4.1.1; and
  - ✓ Personnel who are responsible for taking corrective actions as required in Part 5.
- Include dates, number of attendees, subjects covered, and length of training.
- For more on this subject, see , Chapter 8.

Individual(s) Responsible for Training:
GENEVA ROCK PRODUCTS will conduct training of all personnel where needed to understand governing permit regulations. Records of training will be maintained at the GENEVA ROCK PRODUCTS corporate office.

GENEVA ROCK PRODUCTS will ensure persons overseeing the SWPPP on this project understand governing permit regulations.

Describe Training Conducted:

General stormwater and BMP awareness training for staff and subcontractors:

Detailed training for staff and subcontractors with specific stormwater responsibilities:

Training Attendee Name	Title of Training	Duration	Date of Training

Training documentation and log are filed in Appendix J.

8.2 Recordkeeping

Instructions:

- The following is a list of records you should keep at your project site available for inspectors to review:
- Dates of grading, construction activity, and stabilization (which is covered in Sections 2 and 3)
- A copy of the construction general permit (attach)
- The signed and certified NOI form or permit application form (attach)
- A copy of the letter from EPA or/the state notifying you of their receipt of your complete NOI/application (attach)
- Inspection reports (attach)
- Check your permit for additional details
- For more on this subject, see , Chapter 6.C.

Records will be retained for a minimum period of at least 3 years after the permit is terminated.

Date(s) when major grading activities occur:

Date(s) when construction activities temporarily or permanently cease on a portion of the site:

Date(s) when an area is either temporarily or permanently stabilized:

Date(s) when a rainfall event measuring 0.5 inches or greater:

Date of Event	Quantity	Signature of PM or Super

Maintain all records in Appendices A-M

8.3 Log of Changes to the SWPPP

Log of changes and updates to the SWPPP:

Amendments to the SWPPP are filed in Appendix G

SECTION 9: CERTIFICATION

Owner

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:	Title:
Signature:	Date:

General Contractor

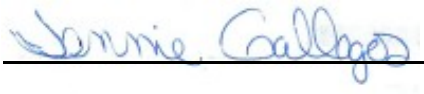
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:	Title:
Signature:	Date:

Professional/SWPPP Author

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Jennie Gallegos Title: Erosion Control Analyst

Signature:  **Date: August 16, 2019**

SWPPP APPENDICES

Attach the following documentation to the SWPPP:

Appendix A – General Location Map

Appendix B – Site Maps

Appendix C – Construction General Permit

Appendix D – NOI, Local, County and other State Permits. and Acknowledgement Letter from EPA/State/MS4

Appendix E – Inspection Reports

Appendix F – Corrective Action Log (see CGP 5.4)

Appendix G – SWPPP Amendment Log (see CGP 7.4.3)

Appendix H – Subcontractor Certifications/Agreements/Delegation of Authority (see CGP Appendix G16.1.2)

Appendix I – Grading and Stabilization Activities Log (see CGP 7.2.4.b)

Appendix J – Training Log (see CGP 6)

Appendix K – Construction Plans (if desired – may be referenced)

Appendix L – Additional Information (i.e., Other permits such as dewatering, stream alteration, wetland; and out of date SWPPP documents)

Appendix M – BMP Instruction and Detail Specifications

Appendix A – General Location Map

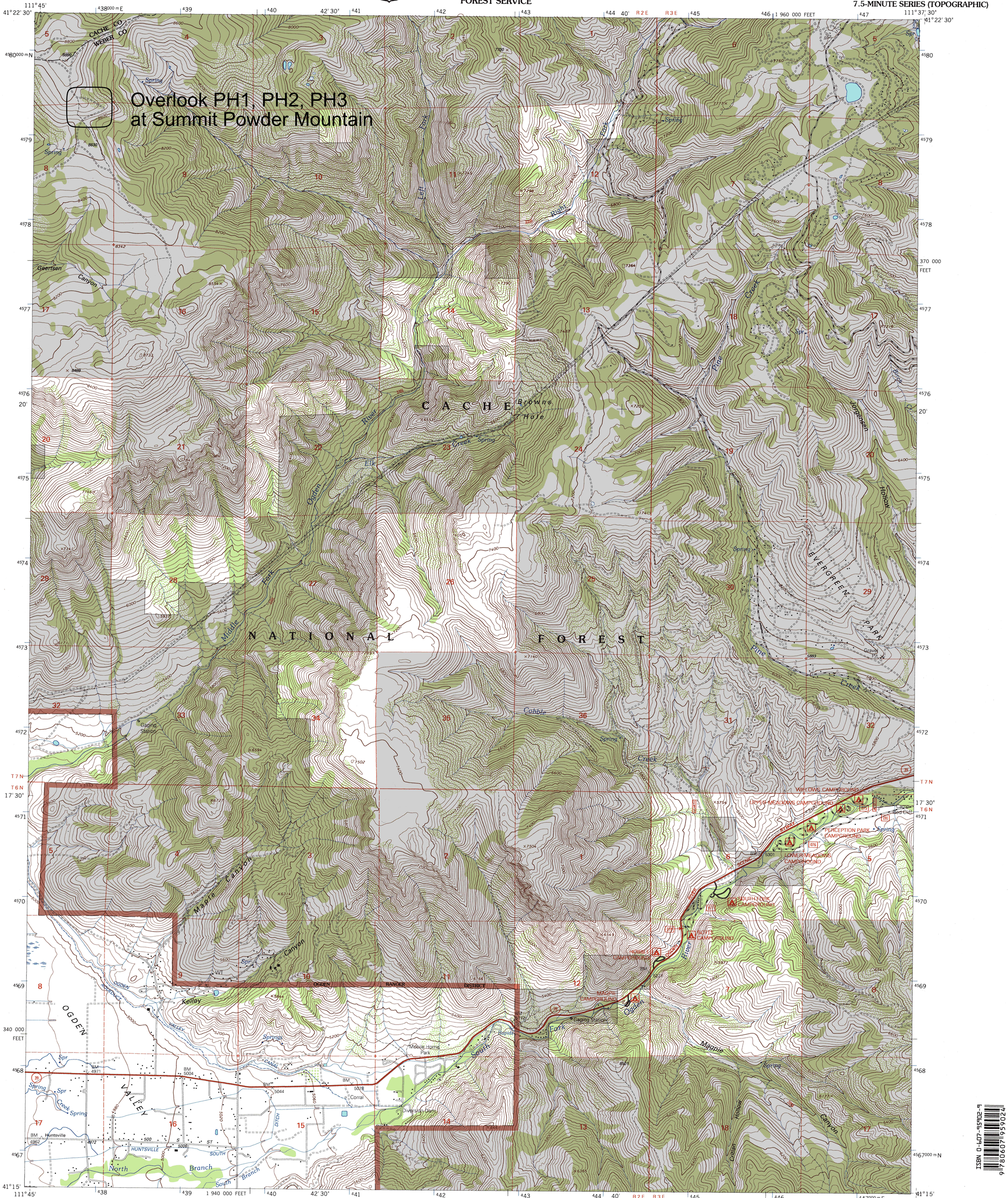
USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

BROWNS HOLE QUADRANGLE
UTAH
7.5-MINUTE SERIES (TOPOGRAPHIC)

Overlook PH1, PH2, PH3
at Summit Powder Mountain



Produced by the United States Geological Survey 1991
Revision by USDA Forest Service 1998

Topography compiled 1962. Planimetry derived from imagery taken 1997 and other sources. Public Land Survey System and survey control current as of 1998

North American Datum of 1927 (NAD 27). Projection and 10 000-foot ticks: Utah coordinate system, north zone (Lambert conformal conic)
Blue 1000-meter Universal Transverse Mercator ticks, zone 12

North American Datum of 1983 (NAD 83) is shown by dashed corner ticks
The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software

Non-National Forest System lands within the National Forest Inholdings may exist in other National or State reservations

This map is not a legal land line or ownership document. Public lands are subject to change and leasing, and may have access restrictions; check with local offices. Obtain permission before entering private lands

UTM GRID AND 1998 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
GN 0°27' 8 MILS — MN 14° 249 MILS

20% TOTAL RECOVERED FIBER

SCALE 1:24 000

1 5 0 1 MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10 000 FEET
1 5 0 1 2 KILOMETERS
1000 0 1000 2000 METERS

CONTOUR INTERVAL 40 FEET
SUPPLEMENTARY CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
TO CONVERT FROM FEET TO METERS, MULTIPLY BY 0.3048

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, P.O. BOX 25286, DENVER, COLORADO 80225
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

UTAH
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 James Peak
2 Sharp Mountain
3 Monte Cristo Peak
4 Huntsville
5 Causey Dam
6 Snow Basin
7 Durst Mountain
8 Bybee Knoll
ADJOINING 7.5' QUADRANGLES

HIGHWAYS AND ROADS

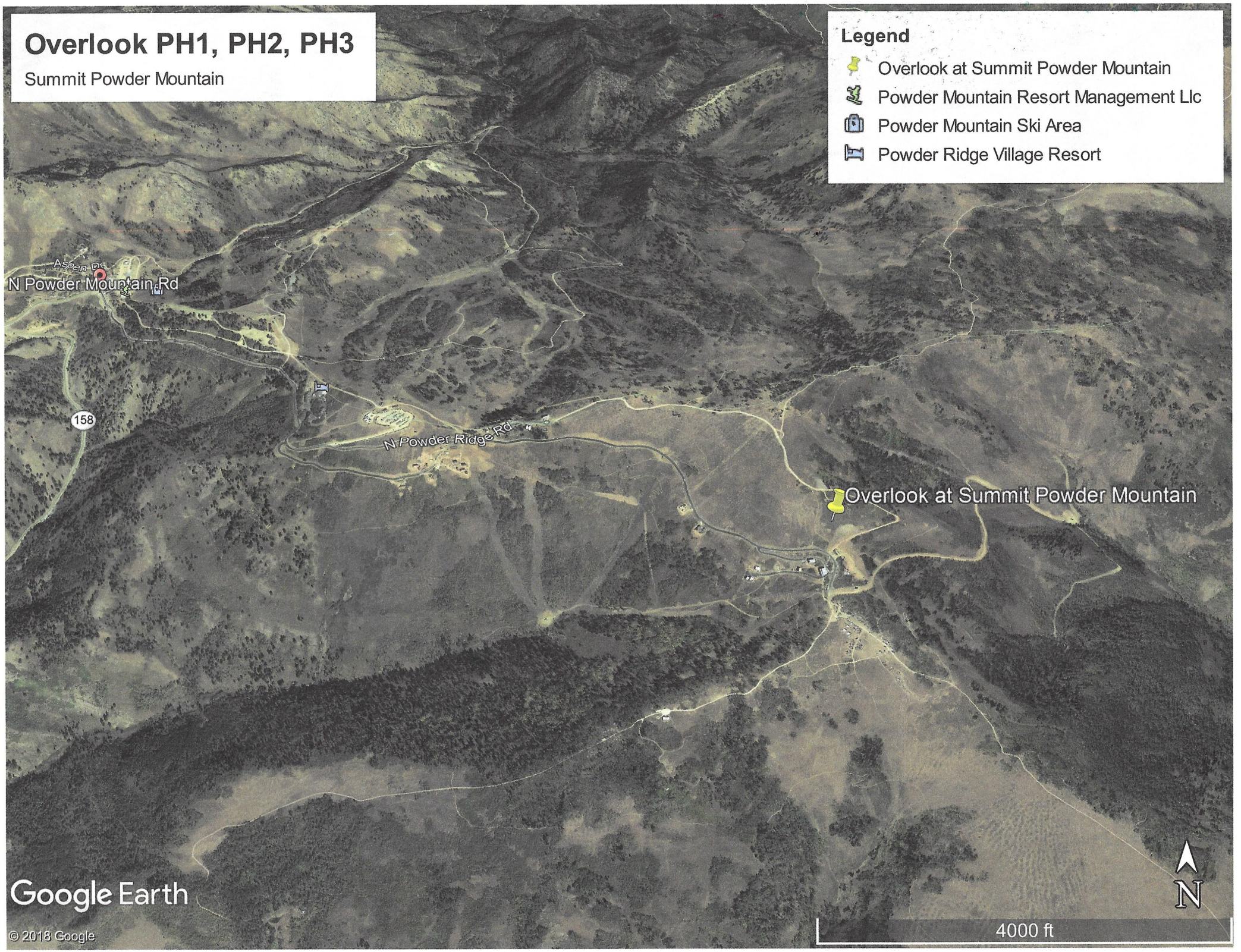
Interstate 5
U. S. 101
State 79
County 6
National Forest, suitable for passenger cars 105 61
National Forest, suitable for high clearance vehicles 105
National Forest Trail 384

Primary highway
Secondary highway
Light-duty road
Composition: Unspecified
Paved
Gravel
Dirt
Unimproved; 4 wheel drive 4WD
Trail
Gate; Barrier

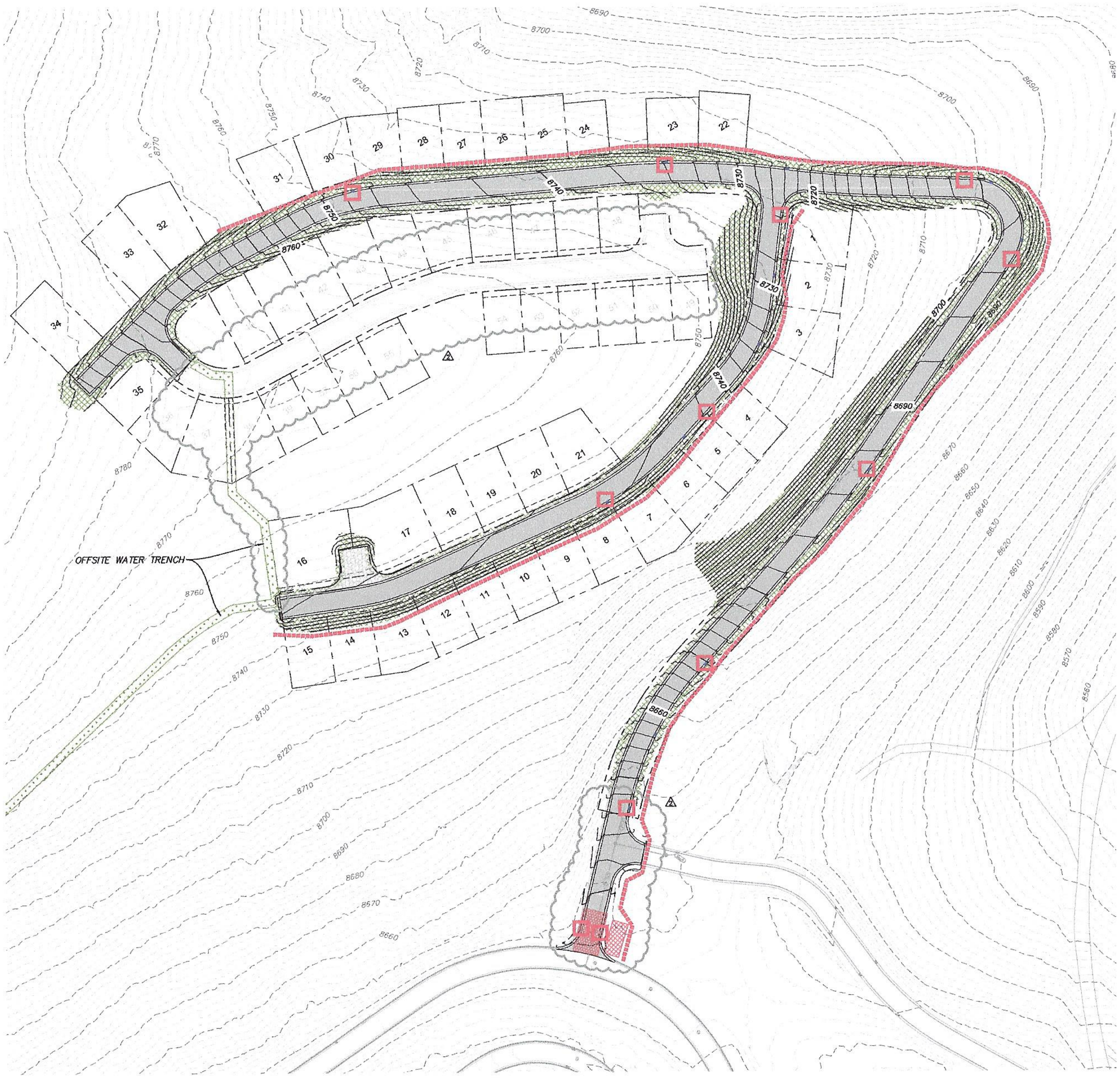
BROWNS HOLE, UT
1998
NIMA 3666 I SW-SERIES V897

ISBN 0-607-95502-5
9 780607 955024

INTERIOR-GEOLOGICAL SURVEY, RESTON VIRGINIA-2000


Overlook PH1, PH2, PH3
Summit Powder Mountain
Legend
Overlook at Summit Powder Mountain
Powder Mountain Resort Management Llc
Powder Mountain Ski Area
Powder Ridge Village Resort
N Powder Mountain Rd
158
N Powder Ridge Rd
Overlook at Summit Powder Mountain
Google Earth
© 2018 Google
N
4000 ft

Appendix B – Site Maps



LEGEND

- HATCHING INDICATES AREAS LESS THAN 3:1 SLOPE TO BE SEEDED FOR REVEGETATION.
- HATCHING INDICATES SLOPES 3:1 OR STEEPER TO BE SEEDED AND REQUIRING EROSION CONTROL BLANKET.
- INSTALL 15' X 30' VEHICLE WASH DOWN AREA WITH 1"–2.5" COARSE AGGREGATE PLACED A MINIMUM 8" THICK. SUPPLY WATER FOR VEHICLE WASH DOWN.
- STABILIZED CONSTRUCTION ENTRANCE FOR SITE INGRESS/EGRESS. IF ALTERNATE ACCESS POINTS ARE APPROVED BY OWNER, ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES WILL BE REQUIRED.
- INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN.
- INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN.

EXPOSED SLOPES:

ANY EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:

A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED. USE THE FOLLOWING SEED MIXTURE.
   i. MEADOW BROME (RIGOR) 14 lb/AC
   ii. ORCHARD GRASS 10 lb/AC
   iii. ALFALFA (ADAK) 4 lb/AC
B) TRACKING STRAW PERPENDICULAR TO SLOPES
C) INSTALLING A LIGHT-WEIGHT, TEMPORARY EROSION CONTROL BLANKET

TALISMAN CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS
1	MWB	3/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MEADOWS AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

EROSION CONTROL PLAN

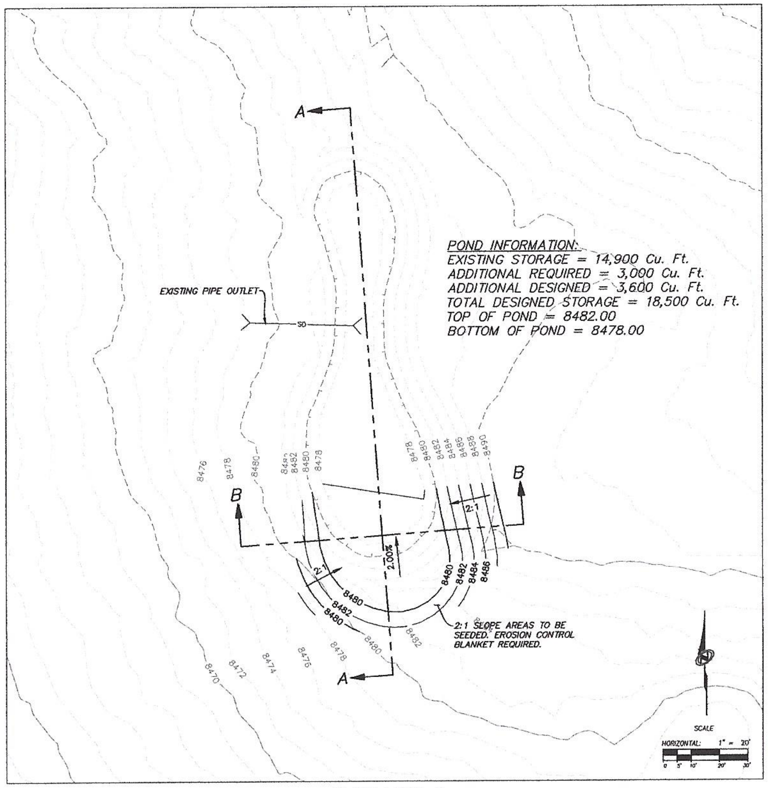
TCC JOB NUMBER: 18-200.23

DATE SUBMITTED: 04.16.2019

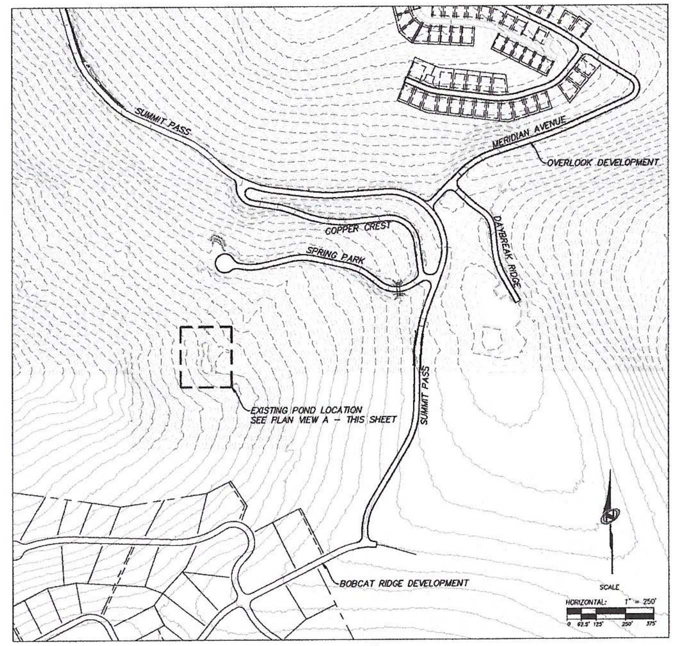
REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 60'
0 15' 30' 60' 90'

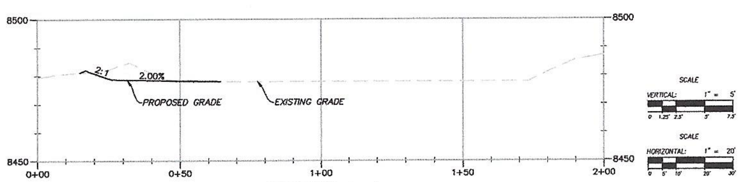
SHEET NUMBER
600
22 OF 33



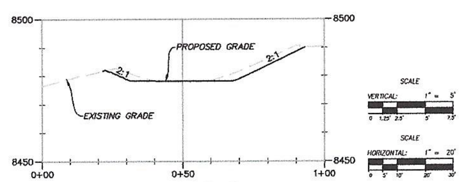
PLAN VIEW A



KEY MAP



SECTION A–A



SECTION B–B

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS
1	MWB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

EXISTING POND MODIFICATION

TCC JOB NUMBER: 18-200.23

DATE SUBMITTED: 04.16.2019

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
STATE OF UTAH

SHEET NUMBER
510
21 OF 33

Appendix C – Construction General Permit

STATE OF UTAH

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF WATER QUALITY

Utah Pollutant Discharge Elimination System (UPDES)

General Permit for Storm Water Discharges from Construction Activities

UPDES Permit No. UTRC00000

This Permit is issued in compliance with the provisions of the Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated 2004, as amended (the "Act") and the federal Water Pollution Control Act (33 U.S.c. §§ 1251 et. seq., as amended by the Water Quality Act of 1987, P.L. 100-4), and the rules and Regulations made pursuant to those statutes. This permit authorizes "owners/operators" of construction activities (defined in Part 1.1.1 and Part 10) that meet the requirements of Part 1. of this Utah Pollutant Discharge Elimination System (UPDES) general permit, to discharge pollutants in accordance with the effluent limitations and conditions set forth herein. Permit coverage is required from the "commencement of earth-disturbing activities" (see Part 10) until "final stabilization" (see Part 2.2.14).

This permit becomes effective on July 1, 2019.

This permit and the authorization to discharge expire at midnight on June 30, 2024.

Signed this 18th day of June, 2019

Erica Brown Gaddis, PhD
Director

Table of Contents

Appendix A – BUFFER REQUIREMENTS

1. COVERAGE UNDER THIS PERMIT

To be covered under this permit you must meet the eligibility conditions and follow the requirements for applying for permit coverage in this Part.

1.1. ELIGIBILITY CONDITIONS

1.1.1. **All "operators"** of a construction site must sign on the notice of intent or NOI (see part 1.4 for NOI). Owners (or lessee's) and general contractors are both considered "operators" for the purposes of this permit (see definition of "operator" in Part 10). Except for areas listed in part 1.2.2, this permit does not cover area that is not legally owned or leased by the operator defined in Part 10, that has operational control over construction plans and specifications.

1.1.2. **The Project**:

a. A project covered by this permit will **disturb 1 or more acres** of land, or will disturb less than 1 acre of land but be part of a common plan of development or sale[1] that will ultimately disturb 1 or more acres of land; or

b. A project's **discharges have been designated** by the Director as needing a permit under UAC 317-8-3.9(1)(a)5. or UAC 317-8-3.9(6)(e)2.

c. **Single lot residential projects** that disturb **less than 1 acre** of land and are part of a common plan of development or sale may be covered under the Common Plan Permit (UTRH00000) in lieu of this permit. Information on this permit can be found on the DWQ construction storm water web site at https://deq.utah.gov/legacy/permits/water-quality/utah-pollutant-discharge-elimination-system/storm-water-general-construction.htm.

d. Projects **less than five acres** with a **rainfall erosivity factor** ("R" in the revised universal soil loss equation, or RUSLE) value of **less than five** during the period of construction activity may waiver the requirements of this permit by submitting an **Erosivity Waiver Certification.** Information on the Erosivity Waiver can be found on the DWQ construction storm water web site at https://deq.utah.gov/legacy/permits/water-quality/utah-pollutant-discharge-elimination-system/storm-water-general-construction.htm.

1.1.3. **A project is located** within the state of Utah, except for Indian Country (Storm water permits for Indian Country within the State must be acquired through EPA Region VIII, except for facilities on the Navajo Reservation or on the Goshute Reservation which must acquire storm water permits through EPA Region IX).

1.1.4. **Discharges from a project cannot**;

a. **already have coverage** under the UPDES CGP or any other UPDES permit for a storm water discharge associated with construction activity (UPDES wastewater and industrial permit coverage for separate discharges associated with the site is allowed) or,

[1] See definition for common plan of development or sale in Part 10

b. **be in the process of receiving coverage** under a different UPDES permit for a storm water discharge from construction activities that has been denied, terminated, or revoked[2],

c. **be treated with "cationic treatment chemicals"** (see Definitions) unless and until you notify DWQ in advance of receiving permit coverage and have received written approval. To be able to use "cationic treatment chemicals" you must demonstrate to DWQ that appropriate controls and implementation procedures are used to ensure that your use of cationic treatment chemicals will not lead to discharges that cause an exceedance of water quality standards or harm fish populations.

1.1.5. Eligibility for Emergency-Related Construction Activities. If you are conducting earth-disturbing activities in response to a public emergency (e.g., natural disaster, widespread disruption in essential public services), and the related work requires immediate authorization to avoid imminent endangerment to human health, public safety, or the environment, or to reestablish public services, your requirements are:

a. If the emergency related activity is accomplished within 30-days you are waived from the normal requirements to submit an NOI and prepare a SWPPP, but you must submit a report to DWQ within 45-days and show:

(1) the nature of the emergency work performed,

(2) a description of earth disturbances that occurred,

(3) the proximity of the work to waters of the State, and what was done to protect water quality during the emergency work, and

(4) the occurrence of the public emergency must be substantiated.

b. If the emergency activity continues longer than 30-days you are authorized to discharge on the condition that a complete and accurate NOI is submitted within 30 calendar days after commencing earth-disturbing activities establishing that you are eligible under this permit. You are also required to provide emergency documentation in your SWPPP to substantiate the occurrence of the public emergency.

1.1.6. Water Quality Standards – Eligibility for New Sources. If you are a "new source" (as defined in Part 10), you are not eligible for coverage under this permit for discharges that have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. Where such a determination is made, adjustments must be made to storm water controls to bring the discharge into compliance with water quality standards immediately or permit coverage will be rescinded. DWQ expects that compliance with the storm water control requirements of this permit, including the requirements applicable to such discharges in Part 3.2, will result in discharges that will not cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

[2] Projects having been denied, terminated, or revoked must resolve the problem causing the ineligibility before the same or other coverage will be restored.

1.1.7. Discharging to Waters with High Water Quality – Eligibility for New Sources. If you are a "new source" (as defined in Part 10), you are eligible to discharge to a Category 1 water if your discharge is temporary and limited and where best management practices will be employed to minimize pollution effects, to a Category 2 water only if your discharge will not lower the water quality of the applicable water body. In the absence of information demonstrating otherwise, DWQ expects that compliance with the storm water control requirements of this permit, including the requirements applicable to such discharges in Part 3.2, will result in discharges that will not lower the water quality of the applicable water.

Your project will be considered to discharge to a Category 1 or 2 water if the first surface water to which you discharge is identified by the state as a Category 1 or 2 water. For discharges that enter a storm sewer system prior to discharge, the first surface water to which you discharge is the water body that receives the storm water discharge from the storm sewer system. Please refer to water quality information at http://mapserv.utah.gov/surfacewaterquality/

1.2. DISCHARGES AUTHORIZED UNDER THIS PERMIT. The following is a list of discharges that are allowed under this permit provided that appropriate storm water controls are designed, installed, and maintained:

1.2.1. Storm water discharges, including **storm water, snowmelt, and surface water runoff and drainage**, associated with construction activity under UAC R317-8-3.9(6)(d)10. or UAC R317-8-3.9(6)(e)1.;

1.2.2. Storm water discharges from **construction support activities** (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided:

a. The support **activity is directly related to the construction site** required to have permit coverage for storm water discharges;

b. The support activity **does not serve multiple unrelated construction projects**;

c. The support activity **does not continue to operate beyond the completion of the construction** activity at the project it supports; and

d. Storm water controls are implemented in accordance with Part 2 and, if applicable, Part 3, for discharges from the support activity areas.

1.2.3. The following non-storm water discharges from your construction activity are allowed under this permit, provided that you comply with all applicable requirements for these discharges in Part 2:

a. Discharges from emergency fire-fighting activities;

b. Fire hydrant flushings;

c. Properly managed landscape irrigation;

d. Water used to wash vehicles and equipment, provided that there is no discharge of soaps, solvents, or detergents used for such purposes;

e. Water used to control dust;

f. Potable water including uncontaminated water line flushings;

g. External building washdown, provided soaps, solvents, and detergents are not used, and external surfaces do not contain hazardous substances;

h. Pavement wash waters, provided spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents (including biodegradable soy bean oils and biodegradable detergents) are not used. You are prohibited from directing pavement wash waters directly into any surface water, storm drain inlet, or storm water conveyance unless the conveyance is connected to a sediment basin, sediment trap, or similarly effective control for the pollutants present. Per 2.2.5.d., hosing of accumulated sediments on pavement into any storm water conveyance is prohibited;

i. Uncontaminated air conditioning or compressor condensate;

j. Uncontaminated, non-turbid discharges of ground water (from natural sources) or spring water; and,

k. Foundation or footing drains where flows are not contaminated with process materials such as solvents, contaminated ground water, or sediment from construction activity.

1.2.4. Comingling of the non-storm water discharges above with other permitted discharges is also authorized.

1.2.5. **Discharging of construction dewatering** (groundwater that intersects with excavation) must be permitted under UTG070000 (Construction Dewatering and Hydrostatic Test Permit), and the Municipal Separate Storm Sewer System (MS4) (of jurisdiction) notified of the discharge. Permitting is not required under UTG070000 if the construction dewatering does not leave the site (it is percolated into the ground on site).

1.3. PROHIBITED DISCHARGES.

1.3.1. Wastewater from washing tools and vehicles after pouring, prepping, or finishing concrete.

1.3.2. Wastewater from washing and cleanout of stucco, paint, concrete, form release oils, curing compounds, and other construction materials;

1.3.3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;

1.3.4. Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and

1.3.5. Toxic or hazardous substances from a spill or other release.

To prevent the above-listed prohibited non-storm water discharges, operators must comply with the applicable pollution prevention requirements in Part 2.3.

1.4. NOTICE OF INTENT (NOI). To be covered under this permit, you must develop a SWPPP (see part 7.1), submit a complete and accurate NOI, and remit the permit fee. The permit fee covers a year of permit coverage. If a project extends more than a year the permit must be renewed and the permit fee must be remitted again.

There is a 60-day grace period after the permit expiration date where projects may be completed or the permit renewed.

All NOI applications and project storm water compliance plans must also be submitted to regulated MS4s (see the list of municipalities on the DWQ municipal storm water web site https://deq.utah.gov/legacy/permits/water-quality/utah-pollutant-discharge-elimination-system/storm-water-municipal.htm). Not all municipalities are regulated MS4s (see definitions Part 10).

1.4.1. How to Submit Your NOI. NOIs and permit fees may be submitted online at https://secure.utah.gov/stormwater. A paper copy of the NOI form may be downloaded from the DWQ construction storm water web site at https://deq.utah.gov/legacy/permits/water-quality/utah-pollutant-discharge-elimination-system/storm-water-general-construction.htm, of which the NOI form and permit fee may be mailed to:

Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870

1.4.2. Start and End of Permit Coverage and Deadlines. Coverage under a permit must be obtained before soil disturbing activities begin. The permit is effective immediately after the NOI has been successfully entered into the storm water database and the permit fee is paid. Active coverage may be affected by the following conditions:

a. a notice of termination (NOT) is submitted.

b. the yearly permit fee is kept current and renewed year by year for the period of construction activity,

c. when this general permit (UTRC00000) expires, if no arrangement has been made for continuing coverage, NOIs may need to be submitted for continuing coverage under a new or reissued replacement permit,

d. coverage under the CGP is rescinded or revoked for the project site for administrative reasons for which the permittee will be notified in writing, or

e. if all storm water discharges for the site are permitted under a different general or individual UPDES permit, this permit is terminated on the day the other permit coverage begins.

1.4.3. Exception to NOI Deadline for "Existing Permits". Existing permits are construction projects with soil disturbances that require coverage under a UPDES construction storm water permit, and which had active coverage under UTRC00000 at the time of expiration of that general permit, or that received coverage before this permit was issued. Existing projects may be automatically covered under this permit. Permittees will be contacted with the email address listed on their NOI if further action is needed. **Existing projects have 3 months** from the issuance of this permit to update site storm water controls and the site SWPPP to meet requirements in this permit.

1.4.4. Continuation of Coverage After this Permit Expires. If this permit is not reissued or replaced by the expiration date, it will be administratively extended by the Director and remain in force and effect until issuance of a comparable CGP. Permit coverage will continue under this permit until the earliest of:

a. authorization of, and an application process, is provided for coverage under a reissued or replacement version of this permit; or

b. the permittee's submittal of a Notice of Termination; or

c. the issuance of an individual permit or denial of coverage (see part 1.4.4 below) for the project's discharges.

DWQ reserves the right to modify or revoke and reissue this permit under UAC317-8-5.6, in which case you will be notified of any relevant changes to which you may be subject.

1.4.5. Procedures for Denial of Coverage. Following a submittal of a complete and accurate NOI, you may be notified in writing by DWQ that you are not covered, and that you must either apply for and/or obtain coverage under an individual UPDES permit or an alternate general UPDES permit. This notification will include a brief statement of the reasons for this decision and will provide application information. Any interested person may request that DWQ consider requiring an individual permit under this paragraph.

If you are already a permittee with coverage under this permit, the notice will set a deadline to file the permit application, and will include a statement that on the effective date of the individual UPDES permit or alternate general UPDES permit, as it applies to you, coverage under this general permit will terminate. DWQ may grant additional time to submit the application if requested. If you are covered under this permit and fail to submit an individual UPDES permit application or an NOI for an alternate general UPDES permit as required by DWQ, then the applicability of this permit to your site is terminated at the end of the day specified by DWQ as the deadline for application submittal. DWQ may take appropriate enforcement action for any unpermitted discharge. If you submit a timely permit application, then when an individual UPDES permit is issued to you or you are provided with coverage under an alternate general UPDES permit, your coverage under this permit is terminated on the effective date of the individual permit or date of coverage under the alternate general permit.

1.5. REQUIREMENT TO POST A NOTICE OF YOUR PERMIT COVERAGE All permitted sites must have a sign posted in a conspicuous, safe, publically accessible place and near the entrance to the project. The font on the sign must large enough for normal corrected vision to easily read the sign contents from a public right-of-way. At a minimum, the notice must include:

1.5.1. the UPDES Permit tracking number,

1.5.2. the name of a contact person for questions, SWPPP requests, or information about the project,

a. the contact phone number (must be available during business hours) or

b. an email address (must be checked and responded to within 24-hours on week days).

2. TECHNOLOGY-BASED EFFLUENT LIMITATIONS. You must comply with the following technology-based effluent limitations in this Part.

2.1. GENERAL STORM WATER CONTROL DESIGN, INSTALLATION, AND MAINTENANCE REQUIREMENTS. You must design, install, and maintain storm water controls required in Parts 2.2 and 2.3 to minimize the discharge of pollutants in storm water from construction activities. To meet this requirement, you must:

2.1.1. Account for the following factors in designing your storm water controls:

a. The expected amount, frequency, intensity, and duration of precipitation;

b. The nature of storm water runoff and run-on at the site, including factors such as expected flow from impervious surfaces, slopes, and site drainage features. You must design storm water controls to control storm water volume, velocity, and peak flow rates to minimize discharges of pollutants in storm water and to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points; and

c. The soil type and range of soil particle sizes expected to be present on the site.

2.1.2. Design and install all storm water controls in accordance with good engineering practices, including applicable design specifications (see manufacturer specifications and/or applicable erosion and sediment control manuals or ordinances – departures from such specifications must reflect good engineering practices and must be explained in your SWPPP).

2.1.3. Complete installation of storm water controls by the time each phase of construction activities has begun.

a. Before construction activity in any given portion of the site begins, install and make operational any downgradient sediment controls (e.g., buffers, perimeter controls, exit point controls, storm drain inlet protection).

b. Following the installation of storm water controls for the initial construction activities (e.g., clearing, grading, excavating), adjust storm water control and management strategies throughout the project to meet and match the needs for each phase of construction, if applicable, as the project progresses towards completion.

2.1.4. Ensure that all storm water controls are maintained, remain in effective operating condition during permit coverage, and are protected from activities that would reduce their effectiveness.

a. Comply with any specific maintenance requirements for the storm water controls listed in this permit. Regular maintenance is expected and is not limited to response actions from inspections or identified problems.

b. Follow maintenance recommendations from the manufacturer or utilize good engineering practices based on site conditions and document deviations from manufacture recommendations.

c. Any time maintenance issues are discovered in storm water controls, make repairs immediately if practical, prior to weather or activities utilizing the control, or within seven business days, whichever comes first.

d. Any time you find that a storm water control needs to be installed (where none had previously been), replaced, or removed, you must record the corrective action as required in Part 5.

2.2. EROSION AND SEDIMENT CONTROL REQUIREMENTS. You must implement erosion and sediment controls in accordance with the following requirements to minimize the discharge of pollutants in storm water from construction activities.

2.2.1. Provide and maintain natural buffers and/or equivalent erosion and sediment controls when a water of the state is located within 50 feet of the site's earth disturbances. Additional guidance for buffers is provided in Appendix A.

a. Compliance Alternatives. For any discharges to waters of the State located within 50 feet of your site's earth disturbances, you must comply with one of the following alternatives:

(1) Provide and maintain a 50-foot undisturbed natural buffer; or

(2) Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve, in combination, the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or

(3) If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

b. See Appendix A, Part A.2.2. for exceptions to the compliance alternatives.

2.2.2. Preserve naturally vegetated areas where possible and, if feasible, direct storm water to these areas to maximize storm water infiltration and filtering to reduce pollutant discharges.

2.2.3. Install sediment controls along any perimeter areas of the site that will receive pollutant discharges.

a. Remove sediment before it has accumulated to the point where the control has become ineffective. Often that is one-half of the above-ground height of any perimeter control.

b. **Exception.** For areas at "linear construction sites" (as defined in Part 10) where perimeter controls are infeasible (e.g., due to a limited or restricted right-of-way), implement other practices as necessary to minimize pollutant discharges to perimeter areas of the site.

2.2.4. Minimize sediment track-out.

a. **Restrict vehicle use to properly designated exit points**;

b. Use appropriate stabilization techniques at all points that exit onto paved roads[3].

(1) **Exception**: Stabilization is not required for exit points at linear utility construction sites that are used only episodically and for very short durations over the life of the project, provided other exit point controls[4] are implemented to minimize sediment track-out;

[3] An example of appropriate stabilization techniques is the use of aggregate stone with an underlying geotextile or non-woven filter fabric, and turf mats.

c. Implement additional track-out controls[5] as necessary to ensure that sediment removal occurs prior to vehicle exit; and

d. Where sediment has been tracked-out from your site onto paved roads, sidewalks, or other paved areas outside of your site, you must remove deposited sediment before it accumulates significantly and is tracked beyond the immediate vicinity of the project. Frequency of removal is dependent on site conditions, whatever is necessary to control off site tracking. . Remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked-out sediment into any storm water conveyance, storm drain inlet, or water of the state[6].

2.2.5. Manage stockpiles or land clearing debris piles composed, in whole or in part, of sediment and/or soil:

a. Locate the piles outside of any natural buffers established under Part 2.2.1 and away from any storm water conveyances, drain inlets, and areas where storm water flow is concentrated;

b. Install a sediment barrier along all downgradient perimeter areas;[7]

c. For piles that will be unused for 14 or more days and are stored in areas that are being inspected at a reduced frequency due to temporary stabilization or frozen conditions (Part 4.4.1. and 4.4.3.), provide cover[8] or appropriate temporary stabilization (consistent with Part 2.2.14);

d. You are prohibited from hosing down or sweeping soil or sediment accumulated on pavement or other impervious surfaces into any storm water conveyance, storm drain inlet, or water of the state.

e. Where practicable, contain and securely protect from wind.

2.2.6. Minimize dust. On areas of exposed soil, minimize the generation of dust through the appropriate application of water or other dust suppression techniques.

2.2.7. Minimize steep slope disturbances. Minimize the disturbance of "steep slopes" (as defined in Part 10).

2.2.8. Preserve native topsoil,[9] unless infeasible.

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[4] Examples of other exit point controls include preventing the use of exit points during wet periods; minimizing exit point use by keeping vehicles on site to the extent possible; limiting exit point size to the width needed for vehicle and equipment usage; using scarifying and compaction techniques on the soil; and avoiding establishing exit points in environmentally sensitive areas (e.g., karst areas; steep slopes).

[5] Examples of additional track-out controls include the use of wheel washing, rumble strips, and rattle plates.

[6] Fine grains that remain visible (i.e., staining) on the surfaces of off-site streets, other paved areas, and sidewalks after you have implemented sediment removal practices are not a violation of Part 2.2.4.

[7] Examples of sediment barriers include berms, dikes, fiber rolls, silt fences, sandbags, gravel bags, or straw bale.

[8] Examples of cover include tarps, blown straw and hydromulching.

[9] Stockpiling topsoil at off-site locations, or transferring topsoil to other locations, is an example of a practice that is consistent with the requirements in Part 2.2.8. Preserving native topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed. For example, some sites may be designed to be highly impervious after construction, and therefore little or no vegetation is intended to remain, or may not have space to stockpile native topsoil on site for later use, in which case, it may not be feasible to preserve topsoil.

2.2.9. Minimize soil compaction[10] in areas of your site where final vegetative stabilization will occur or where infiltration practices will be installed:

a. Restrict vehicle and equipment use in these locations to avoid soil compaction; and

b. Before seeding or planting areas of exposed soil that have been compacted, use techniques that rehabilitate and condition the soils as necessary to support vegetative growth.

2.2.10. Protect storm drain inlets.

a. Install inlet protection measures that remove sediment from discharges prior to entry into any storm drain inlet that carries storm water flow from your site to a surface water of the state, provided you have authority to access the storm drain inlet;[11] and

b. Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, remove the deposited sediment by the end of the same business day in which it is found.

2.2.11. Minimize erosion of storm water conveyance channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters. Use erosion controls and velocity dissipation devices[12] within and along the length of any storm water conveyance channel and at any outlet to slow down runoff to minimize erosion.

2.2.12. If you install a sediment basin or similar impoundment:

a. Situate the basin or impoundment outside of any water of the state and any natural buffers established under Part 2.2.1;

b. Design the basin or impoundment to avoid collecting water from wetlands;

c. Design the basin or impoundment to provide storage for either:

(1) The calculated volume of runoff from a 2-year, 24-hour storm; or

(2) 3,600 cubic feet per acre drained.

d. Utilize outlet structures that withdraw water from near the surface of the sediment basin or similar impoundment, unless infeasible;[13]

e. Use erosion controls and velocity dissipation devices to prevent erosion at inlets and outlets; and

f. Remove accumulated sediment to maintain at least one-half of the design capacity and conduct all other appropriate maintenance to ensure the basin or impoundment remains in effective operating condition.

[10] Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted.
[11] Inlet protection measures can be removed in the event of flood conditions or to prevent erosion
[12] Examples of velocity dissipation devices include check dams, sediment traps, riprap, and grouted riprap at outlets.
[13] The circumstances in which it is infeasible to design outlet structures in this manner are rare. A possible exception is dealing with or treating for temperature, but there may be other reasons. If you determine that it is infeasible to meet this requirement, you must provide documentation in your SWPPP to support your determination, including the specific conditions or time periods when this exception will apply.

2.2.13. If using treatment chemicals (e.g., polymers, flocculants, coagulants):

a. **Use conventional erosion and sediment controls before and after the application of treatment chemicals**. Chemicals may only be applied where treated storm water is directed to a sediment control (e.g., sediment basin, perimeter control) before discharge.

b. **Select appropriate treatment chemicals**. Chemicals must be appropriately suited to the types of soils likely to be exposed during construction and present in the discharges being treated (i.e., the expected turbidity, pH, and flow rate of storm water flowing into the chemical treatment system or area).

c. **Minimize discharge risk from stored chemicals**. Store all treatment chemicals in leak- proof containers that are kept under storm-resistant cover and surrounded by secondary containment structures (e.g., spill berms, decks, spill containment pallets), or provide equivalent measures designed and maintained to minimize the potential discharge of treatment chemicals in storm water or by any other means (e.g., storing chemicals in a covered area, having a spill kit available on site and ensuring personnel are available to respond expeditiously in the event of a leak or spill).

d. **Comply with state/local requirements**. Comply with applicable state and local requirements regarding the use of treatment chemicals.

e. **Use chemicals in accordance with good engineering practices and specifications of the chemical provider/supplier**. Use treatment chemicals and chemical treatment systems in accordance with good engineering practices, and with dosing specifications and sediment removal design specifications provided by the provider/supplier of the applicable chemicals, or document in your SWPPP specific departures from these specifications and how they reflect good engineering practice. Consider changing site conditions that may affect dosing levels such as temperature.

f. **Ensure proper training**. Ensure that all persons who handle and use treatment chemicals at the construction site are provided with appropriate, product-specific training. Among other things, the training must cover proper dosing requirements.

g. **Perform additional measures specified by DWQ for the authorized use of cationic chemicals**. If you have been authorized to use cationic chemicals at your site pursuant to Part 1.1.4.c, you must perform all additional measures as conditioned by your authorization to ensure that the use of such chemicals will not cause an exceedance of water quality standards or harm fish populations.

2.2.14. Stabilize exposed portions of the site. Implement and maintain stabilization measures (e.g., seeding protected by erosion controls until vegetation is established, sodding, mulching, erosion control blankets, hydromulch, gravel) that minimize erosion from exposed portions of the site in accordance with Parts 2.2.14.a and 2.2.14.b.

a. **Stabilization Deadlines**:

(1) Initiate the installation of stabilization measures in any areas of exposed soil where construction activities have permanently ceased or will be temporarily inactive for 14 or more calendar days as soon as possible and prior to the end of the 14th day of inactivity; and

(2) Complete the installation of stabilization measures as soon as practicable, but no later than 14 calendar days after stabilization has been initiated.[14]

(3) **Exceptions**:

(i) Arid, semi-arid, and drought-stricken areas[15] (as defined in Part 10). Where a project is an arid, semi-arid, or a seasonally dry period or a period in which drought is occurring, and vegetative stabilization measures are being used:

(1) Initiate as soon as practicable and, within 14 calendar days of a temporary or permanent cessation of work in any portion of your site, complete the installation of temporary non-vegetative stabilization measures to the extent necessary to prevent erosion;[16]

(2) As soon as practicable, given conditions or circumstances on the site, complete all activities necessary to seed or plant the area to be stabilized; and

(3) If construction is occurring during the seasonally dry period[17], indicate in your SWPPP the beginning and ending dates of the seasonally dry period and your site conditions. Also include the schedule you will follow for initiating and completing vegetative stabilization.

(ii) **Discharges to a sediment- or nutrient-impaired water** (a water having a TMDL identifying sediment or nutrients as the cause of impairment) or to a water that is high quality for antidegradation purposes (see part 3). Complete stabilization as soon as practicable, but no later than seven (7) calendar days after stabilization has been initiated.

b. **Final Stabilization Criteria** (for any areas not covered by permanent structures):

(i) Establish uniform, perennial vegetation (i.e., evenly distributed, without large bare areas) that provides 70 percent or more of the vegetative cover that was provided by vegetation prior to commencing earth-disturbing activities; and/or

(ii) Implement permanent non-vegetative stabilization measures[18] to provide effective cover.

(iii) **Exceptions**:

(1) **Arid, semi-arid, and drought-stricken areas** (as defined in Part 10). Final stabilization is met if the area has been seeded or planted in a manner that vegetation is expected to be

[14] If vegetative stabilization measures are being implemented, stabilization is considered "installed" when all activities necessary to seed or plant the area are completed. If non-vegetative stabilization measures are being implemented, stabilization is considered "installed" when all such measures are implemented or applied.

[15] If you are in an area receiving more than 20 inches of average annual precipitation that is in a drought (as determined by the NOAA drought predictor http://www.cpc.ncep.noaa.gov/products/Drought/) and a seasonal dry period, to comply with drought conditions you must identify the normal seasonal dry period in the SWPPP.

[16] The extent necessary to prevent erosion in arid and semi-arid areas means for visually flat areas, stabilization is not required (roughly from 0 percent up to 5 percent) unless an erosion concern exists. Areas with slopes roughly 5 percent to 20 percent must have, at minimum, controls to reduce storm water velocities to a point that erosion is controlled. Over a 20 percent slope requires soil surface stabilization. The amount of stabilization provided must increase commensurately with increasingly steeper slopes.

[17] The lower elevations of the Wasatch Front are semi-arid, the seasonal dry period for the Wasatch Front is June, July, and August.

[18] Examples of permanent non-vegetative stabilization measures include riprap, gravel, gabions, and geotextiles.

established within three (3) years which provides 70 percent or more of the cover that was provided by vegetation prior to commencing earth disturbing activities and, to the extent necessary to prevent erosion on the seeded or planted area, non-vegetative erosion controls meet standards in footnote 16.

(2) Disturbed areas on agricultural land that are restored to their preconstruction agricultural use. The Part 2.2.14b final stabilization criteria does not apply.

(3) Areas that need to remain disturbed. In limited circumstances, stabilization may not be required if the intended function of a specific area of the site necessitates that it remain disturbed, and only the minimum area needed remains disturbed (e.g., dirt access roads, utility pole pads, areas being used for storage of vehicles, equipment, materials).

2.3. POLLUTION PREVENTION REQUIREMENTS: Implement pollution prevention controls in accordance with the following requirements to minimize the discharge of pollutants in storm water and to prevent the discharge of pollutants from spilled or leaked materials from construction activities.

2.3.1. For equipment and vehicle fueling and maintenance:

a. Provide an effective means of eliminating the discharge of spilled or leaked chemicals, including fuels and oils, from these activities;[19]

b. If applicable, comply with the Spill Prevention Control and Countermeasures (SPCC) requirements in 40 CFR part 112 and Section 311 of the CWA;

c. Ensure adequate supplies are available at all times to handle spills, leaks, and disposal of used liquids;

d. Use drip pans and absorbents under or around leaky vehicles;

e. Dispose of or recycle oil and oily wastes in accordance with other federal, state, tribal, or local requirements; and

f. Clean up spills or contaminated surfaces immediately, using dry clean up measures (do not clean contaminated surfaces by hosing the area down), and eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.

2.3.2. For equipment and vehicle washing:

a. Provide an effective means of minimizing the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other types of wash waters;[20]

[19] Examples of effective means include:
- Locating activities away from waters of the state and storm water inlets or conveyances so that storm water coming into contact with these activities cannot reach waters of the state;
- Providing secondary containment (e.g., spill berms, decks, spill containment pallets) and cover where appropriate; and
- Having a spill kit available on site and ensuring personnel are available to respond expeditiously in the event of a leak or spill.

b. Ensure there is no discharge of soaps, solvents, or detergents in equipment and vehicle wash water; and

c. For storage of soaps, detergents, or solvents, provide either (1) cover (e.g., plastic sheeting, temporary roofs) to minimize the exposure of these detergents to precipitation and to storm water, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas.

2.3.3. For storage, handling, and disposal of building products and materials:

a. For building materials and building products[21] that have the potential to mobilize or release pollutants, provide either (1) cover (e.g., plastic sheeting, temporary roofs) to minimize the exposure of these products to precipitation and to storm water, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas.

b. **For pesticides, herbicides, insecticides, fertilizers, and landscape materials**:

(1) In storage areas, provide either (1) cover (e.g., plastic sheeting, temporary roofs) to minimize the exposure of these chemicals to precipitation and to storm water, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas; and

(2) Comply with all application and disposal requirements included on the registered pesticide, herbicide, insecticide, and fertilizer label (see also Part 2.3.5).

c. **For diesel fuel, oil, hydraulic fluids, other petroleum products, and other chemicals**:

(1) Store chemicals in water-tight containers, and provide either (1) cover (e.g., plastic sheeting, temporary roofs) to minimize the exposure of these containers to precipitation and to storm water, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas (e.g., having a spill kit available on site and ensuring personnel are available to respond expeditiously in the event of a leak or spill), or provide secondary containment (e.g., spill berms, decks, spill containment pallets); and

(2) Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. You are prohibited from hosing the area down to clean surfaces or spills. Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.

d. **For hazardous or toxic wastes**:[22]

(1) Separate hazardous or toxic waste from construction and domestic waste;

(2) Store waste in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled in accordance with applicable Resource

[20] Examples of effective means include locating activities away from waters of the state and storm water inlets or conveyances and directing wash waters to a sediment basin or sediment trap, using filtration devices, such as filter bags or sand filters, or using other similarly effective controls.

[21] Examples of building materials and building products typically present at construction sites include asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures, and gravel and mulch stockpiles.

[22] Examples of hazardous or toxic waste that may be present at construction sites include paints, caulks, sealants, fluorescent light ballasts, solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids.

Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, tribal, or local requirements;

(3) Store all outside containers within appropriately-sized secondary containment (e.g., spill berms, decks, spill containment pallets) to prevent spills from being discharged, or provide a similarly effective means designed to prevent the discharge of pollutants from these areas (e.g., storing chemicals in a covered area, having a spill kit available on site);

(4) Dispose of hazardous or toxic waste in accordance with the manufacturer's recommended method of disposal and in compliance with federal, state, tribal, and local requirements;

(5) Clean up spills immediately, using dry clean-up methods, and dispose of used materials properly. You are prohibited from hosing the area down to clean surfaces or spills. Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge; and

(6) Follow all other federal, state, tribal, and local requirements regarding hazardous or toxic waste.

e. **For construction and domestic wastes**:[23]

(1) Provide waste containers (e.g., dumpster, trash receptacle) of sufficient size and number to contain construction and domestic wastes;

(2) Provide containment or cover for waste that is blowable or that can leach nutrients, metals, pesticides, herbicides, oil, grease, bacteria, or other pollutants;

(3) On business days, clean up and dispose of waste in designated waste containers; and

(4) Clean up immediately if containers overflow.

f. **For sanitary waste**, position portable toilets so that they are secure and will not be tipped or knocked over. Locate them away from waters of the state and, when possible, at least 10 feet from any storm water conveyance, inlet, curb and gutter, or conduit to a waterway. If it is not possible to maintain at least 10 feet of separation, evaluate the need for additional controls such as secondary containment, additional surface preparation, or berms and implement as appropriate.

2.3.4. For washing applicators and containers used for stucco, paint, concrete, form release oils, curing compounds, or other materials:

a. Direct wash water into a leak-proof container or leak-proof and lined pit designed so that no overflows can occur due to inadequate sizing or precipitation;

b. Handle washout or cleanout wastes as follows:

(1) Do not dump liquid wastes in storm sewers or waters of the state;

(2) Dispose of liquid wastes properly[24]; and

[23] Examples of construction and domestic waste include packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, demolition debris; and other trash or building materials.

(3) Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes in Part 2.3.3; and

c. Locate any washout or cleanout activities as far away as possible from waters of the state and storm water inlets or conveyances, and, to the extent feasible, determine areas to be used for these activities and conduct such activities only in these areas.

2.3.5. For the application of fertilizers:

a. Apply at a rate and in amounts consistent with manufacturer's specifications, or document in the SWPPP departures from the manufacturer specifications where appropriate in accordance with Part 7.3.5.b.(5)(ix);

b. Apply at the appropriate time of year for your location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth;

c. Avoid applying before heavy rains that could cause excess nutrients to be discharged;

d. Never apply to frozen ground;

e. Never apply to storm water conveyance channels; and

f. Follow all other federal, state, tribal, and local requirements regarding fertilizer application.

2.3.6. Emergency Spill Notification Requirements: Discharges of toxic or hazardous substances from a spill or other release are prohibited (see Part 1.3). Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR 110, 40 CFR 117, or 40 CFR 302 occurs during a 24-hour period, you must notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 as soon as you have knowledge of the release. You must also, within seven (7) calendar days of knowledge of the release, provide a description of the release, the circumstances leading to the release, and the date of the release. State, tribal, or local requirements may necessitate additional reporting of spills or discharges to local emergency response, public health, or drinking water supply agencies.

2.3.7. Construction Dewatering Requirements: Water or accumulated storm water that is removed from excavations, trenches, foundations, vaults, or other similar points of accumulation must be permitted by UPDES permit UTG070000 (UPDES Construction Dewatering and Hydrostatic Test Permit) in accordance with Part 1.2.5., unless it can be managed on site. An option for on site management is percolation of the water back into the ground (assuming it is uncontaminated).

[24] Proper disposal of liquid waste: 1) evaporate the waste and dispose of the residual solids with other solid waste, 2) have a liquid waste hauler for wash water haul it off and dispose of it, 3) settle it and pretreat it if necessary with arrangements to discharge the liquid waste to a treatment plant that has the ability to treat it and dispose of it.

3. WATER QUALITY-BASED EFFLUENT LIMITATIONS.

3.1. GENERAL EFFLUENT LIMITATION TO MEET APPLICABLE WATER QUALITY STANDARDS.

Discharges must be controlled as necessary to meet applicable water quality standards. DWQ expects that compliance with the conditions in this permit will result in storm water discharges being controlled as necessary to meet applicable water quality standards. If at any time you become aware, or DWQ determines, that discharges are not being controlled as necessary to meet applicable water quality standards, you must take corrective action as required in Parts 5.1 and 5.2, and document the corrective actions as required in Part 5.4.

DWQ may insist that you install additional controls on a site-specific basis, or require you to obtain coverage under an individual permit, if information in your NOI or from other sources indicates that your discharges are not controlled as necessary to meet applicable water quality standards. This includes situations where additional controls are necessary to comply with a wasteload allocation in an EPA-established or approved TMDL.

The NOI process requires that you determine if the watershed that you discharge into is impaired or if it is considered high quality. Only the first surface water you discharge to is used when determining if your discharge enters an impaired or high quality waterbody. For discharges that enter a storm water system prior to discharge, the first water of the state to which you discharge is the waterbody that receives the storm water discharge from the storm sewer system. Please refer to water quality information at http://mapserv.utah.gov/surfacewaterquality/

Each of these cases, impaired or high quality, may require an extra effort to maintain water quality standards. An impaired water body can have an approved TMDL (see Part 10 for definitions) or it can be on the list waiting a TMDL study. An EPA-approved TMDL is a water quality standard. If your project is in an area covered by an EPA-approved TMDL that has sediment or nutrients (particularly phosphorus) identified as the pollutant(s) of concern, you must provide an extra effort to prevent sediment from leaving the site. Nutrients are a component in topsoil from natural biotic systems. Nitrogen (a nutrient) is infused into the soil from biotic systems but also at times from the atmosphere during certain weather conditions. Some soils have phosphorus (a nutrient) from geologic formations in addition to biotic sources. Special efforts including site controls and management efforts must be employed for impaired or high quality waters, but especially for areas with TMDLs identifying sediment or nutrients as the pollutants of concern. Your SWPPP must show the special efforts you are taking for sensitive water bodies.

3.2. DISCHARGE LIMITATIONS FOR SITES DISCHARGING TO SENSITIVE WATERS[25]

For any portion of the site that discharges to a sediment or nutrient-impaired water or to a water that is identified as impaired or high quality you must comply with the inspection frequency specified in 4.3 and you must comply with the stabilization deadline specified in Part 2.2.14.[26]

[25] Your construction site will be considered to discharge to an impaired or high quality water if the first water to which you discharge is an impaired or high quality water for the pollutants contained in the discharge from your site. For discharges that enter a storm sewer system prior to discharge, the first water to which you discharge is the waterbody that receives the storm water discharge from the storm sewer system.

If you discharge to a water that is impaired for a parameter other than sediment or nutrients, you must address that parameter in your SWPPP if that pollutant has a presence in the construction process for your site. If the impaired parameter is naturally occurring in soils, it is assumed that the erosion control BMPs required by this permit will address the concern and it does not need to be addressed in the SWPPP as a pollutant source. You must deploy whatever control mechanisms that's needed to limit the discharge of that pollutant to meet water quality standards. This includes, if requested by DWQ, comparing the load discharged from the site for that pollutant to ensure it does not exceed a wasteload allocation for that pollutant in the applicable TMDL for the watershed.

[26] If you qualify for any of the reduced inspection frequencies in Part 4.4, you may conduct inspections in accordance with Part 4.4 for any portion of your site that discharges to a sensitive water.

4. SITE INSPECTION REQUIREMENTS.

4.1. PERSON(S) RESPONSIBLE FOR INSPECTING THE SITE. The person(s) inspecting your site may be a person on your staff or a third party you hire to conduct such inspections. You are responsible for ensuring that the person who conducts inspections is a "qualified person" and currently certified.

a. A "qualified person" is a person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention, who possesses the skills to assess conditions at the construction site that could impact storm water quality, and the skills to assess the effectiveness of any storm water controls selected and installed to meet the requirements of this permit, such as but not limited to the following:

(1) Utah Registered Storm Water Inspector (RSI)

(2) Certified Professional in Erosion and Sediment Control (CPESC)

(3) Certified Professional in Storm Water Quality (CPSWQ)

(4) Certified Erosion, Sediment, and Storm Water Inspector (CESSWI)

(5) Certified Inspector of Sediment and Erosion Control (CISEC)

(6) National Institute for Certification in Engineering Technologies, Erosion and Sediment Control, Level 3 (NICET)

(7) Utah Department of Transportation Environmental Control Supervisor (ECS)

4.2. FREQUENCY OF INSPECTIONS.[27] At a minimum, you must conduct a site inspection in accordance with one of the two schedules listed below, unless you are subject to the Part 4.3 site inspection frequency for discharges to sensitive waters or qualify for a Part 4.4 reduction in the inspection frequency:

4.2.1. At least once every seven (7) calendar days; or

4.2.2. Once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.50 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge.[28] To determine if a storm event of 0.50 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.50 inches or greater, you must record the total rainfall measured for that day in accordance with Part 4.7.1.d.

4.3. INCREASE IN INSPECTION FREQUENCY FOR SITES DISCHARGING TO SENSITIVE WATERS. For any portion of the site that discharges to a sediment or nutrient-

[27] Inspections are only required during the site's normal working hours.

[28] "Within 24 hours of the occurrence of a storm event" means that you must conduct an inspection within 24 hours once a storm event has produced 0.50 inches within a 24-hour period, even if the storm event is still continuing. Thus, if you have elected to inspect bi-weekly in accordance with Part 4.2.2 and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.50 inches or more of rain, you must conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

impaired water or to a high quality water (see Part 3), instead of the inspection frequency specified in Part 4.2, you must conduct inspections in accordance with the following inspection frequencies:

Once every seven (7) calendar days and within 24 hours of the occurrence of a storm event of 0.50 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge. To determine if a storm event of 0.50 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.50 inches or greater, you must record the total rainfall measured for that day in accordance with Part 4.7.1d.

4.4. REDUCTIONS IN INSPECTION FREQUENCY.

4.4.1. STABILIZED AREAS.

a. **Temporarily Stabilized Areas**. You may reduce the frequency of inspections to twice per month for the first month, no more than 14 calendar days apart, then once per month in any area of your site where the stabilization steps in part 2.2.14.a. have been completed. If construction activity resumes in this portion of the site at a later date, the inspection frequency immediately increases to that required in Parts 4.2 and 4.3, as applicable. You must document the beginning and ending dates of this period in your SWPPP.

b. **Permanently Stabilized Areas.** Inspections requirements are suspended.

c. **Exception For "Linear Construction Sites"** (as defined in Part 10) where disturbed portions have undergone final stabilization at the same time active construction continues on others, you may reduce the frequency of inspections to twice per month for the first month, no more than 14 calendar days apart, in any area of your site where the stabilization steps in 2.2.14.a have been completed. After the first month, inspect once more within 24 hours of the occurrence of a storm event of 0.50 inches or greater. If there are no issues or evidence of stabilization problems, you may suspend further inspections. If "wash-out" of stabilization materials and/or sediment is observed, following re-stabilization, inspections must resume at the inspection frequency required in Part 4.4.1.a. Inspections must continue until final stabilization is visually confirmed following a storm event of 0.50 inches or greater.

4.4.2. ARID, SEMI-ARID (as defined in Part 10). For inspection frequencies (shown below) where it is required to inspect after a storm event, to determine if a storm event of 0.50 inches or greater has occurred on your site you must either keep a properly maintained rain gauge on your site or obtain the storm event information from a weather station that is representative of your location.

a. **Arid Areas:** Inspections are required once a month and within 24 hours of the occurrence of a storm event of 0.50 inches or greater.

b. **Semi-Arid Areas:** Inspections are the same as in parts 4.2.1 and 4.2.2 except for the seasonally dry times of the year where they go to once a month and within 24 hours of the occurrence of a

storm event of 0.50 inches or greater.[29] Where the inspection frequency changes to once a month the SWPPP must show the reference for the seasonally dry time period.

4.4.3. Frozen conditions

a. If you are suspending construction activities due to frozen conditions, you may temporarily suspend inspections on your site until thawing conditions (as defined in Part 10) begin to occur if:

(1) Runoff is unlikely due to continuous frozen conditions that are likely to continue at your site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, you must immediately resume your regular inspection frequency as described in Parts 4.2 and 4.3, as applicable;

(2) Land disturbances have been suspended; and

(3) Disturbed areas of the site have been stabilized, where possible, in accordance with Part 2.2.14.a.

b. If you are still conducting construction activities during frozen conditions, you may reduce your inspection frequency to once per month if:

(1) Runoff is unlikely due to continuous frozen conditions that are likely to continue at your site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, you must immediately resume your regular inspection frequency as described in Parts 4.2 and 4.3, as applicable; and

(2) Except for areas in which you are actively conducting construction activities, disturbed areas of the site have been stabilized in accordance with Part 2.2.14.a.

You must document the beginning and ending dates of this period in your SWPPP.

4.5. AREAS THAT MUST BE INSPECTED: During your site inspection, you must at a minimum inspect the following areas of your site:

4.5.1. All areas that have been cleared, graded, or excavated and that have not yet completed stabilization consistent with Part 2.2.14.a;

4.5.2. All storm water controls (including pollution prevention controls) installed at the site to comply with this permit;[30]

4.5.3. Material, waste, borrow, and equipment storage and maintenance areas that are covered by this permit;

4.5.4. All areas where storm water typically flows within the site, including drainage ways designed to divert, convey, and/or treat storm water;

[29] The Seasonally dry period for the semi-arid areas on the Wasatch Front is June, July, and August. For other areas there are a few internet sites where it is possible to look up the annual rainfall for an area.

[30] This includes the requirement to inspect for sediment that has been tracked out from the site onto paved roads, sidewalks, or other paved areas consistent with Part 2.2.4.

4.5.5. All points of discharge from the site; and

4.5.6. All locations where stabilization measures have been implemented.

4.5.7. You are not required to inspect areas that, at the time of the inspection, are considered unsafe to your inspection personnel.

4.6. REQUIREMENTS FOR INSPECTIONS; During your site inspection, you must at a minimum:

4.6.1. Check whether all storm water controls (i.e., erosion and sediment controls and pollution prevention controls) are properly installed, appear to be operational, and are working as intended to minimize pollutant discharges. Consider what has caused a BMP's failure if it is not operational;

4.6.2. Check for the presence of conditions that could lead to spills, leaks, or other accumulations of pollutants on the site;

4.6.3. Identify any locations where new or modified storm water controls are necessary to meet the requirements of Parts 2 and/or 3;

4.6.4. Check for signs of visible erosion and sedimentation (i.e., sediment deposits) that have occurred and are attributable to your discharge at points of discharge and, if applicable, the banks of any waters of the state flowing within or immediately adjacent to the site;

4.6.5. Identify any incidents of noncompliance observed;

4.6.6. If a discharge is occurring during your inspection:

a. Identify all discharge points at the site; and

b. Observe and document the visual quality of the discharge, and take note of the characteristics of the storm water discharge, including color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of storm water pollutants.

4.6.7. Based on the results of your inspection, complete any necessary maintenance under Part 2.1.4 and corrective action under Part 5.

4.7. INSPECTION REPORT[31]

4.7.1. You must complete an inspection report within 24 hours of completing any site inspection. Each inspection report must include the following:

a. The inspection date;

b. The UPDES CGP permit tracking number;

c. Names and titles of personnel making the inspection;

d. A summary of your inspection findings, covering at a minimum the observations you made in accordance with Part 4.6, including any necessary maintenance or corrective actions;

e. If you are inspecting your site at the frequency specified in Part 4.2.2, Part 4.3, Part 4.4.1.c, Part 4.4.2.a, or Part 4.4.2.b and you conducted an inspection because of rainfall measuring 0.50

[31] See DWQ construction storm water web page for ideas and examples of self-inspection forms.

inches or greater, you must include the applicable rain gauge or weather station readings that triggered the inspection; and

f. If you determined that it is unsafe to inspect a portion of your site, you must describe the reason you found it to be unsafe and specify the locations to which this condition applies.

4.7.2. Each inspection report must be signed in accordance with 9.16(1)b. of this permit.

4.7.3. You must keep a copy, in paper or electronic form, of all inspection reports at the site or at an easily accessible location, so that it can be made available at the time of an on-site inspection or upon request by DWQ, a local municipality of jurisdiction, or by the EPA.

4.7.4. You must retain all inspection reports completed for this Part for at least three (3) years from the date that your permit coverage expires or is terminated.

4.8. INSPECTIONS BY DWQ MS4 OR EPA: You must allow an authorized representative of DWQ, the MS4 of jurisdiction or the EPA to conduct the following activities at reasonable times. To the extent that you are utilizing shared controls that are not on site to comply with this permit, you must make arrangements for DWQ to have access at all reasonable times to those areas where the shared controls are located.

4.8.1. Enter onto all areas of the site, including any construction support activity areas covered by this permit, any off-site areas where shared controls are utilized to comply with this permit, discharge locations, adjoining waterbodies, and locations where records are kept under the conditions of this permit;

4.8.2. Access and copy any records that must be kept under the conditions of this permit;

4.8.3. Inspect your construction site, including any construction support activity areas covered by this permit (see Part 1.2.2), any storm water controls installed and maintained at the site, and any off-site shared controls utilized to comply with this permit; and

4.8.4. Sample or monitor for the purpose of ensuring compliance.

5. CORRECTIVE ACTIONS

5.1. CONDITIONS TRIGGERING CORRECTIVE ACTION: You must take corrective action to address any of the following conditions identified at your site:

5.1.1. A storm water control needs repair or replacement (beyond routine maintenance required under Part 2.1.4); or

5.1.2. A storm water control necessary to comply with the requirements of this permit was never installed, or was installed incorrectly; or

5.1.3. Your discharges are causing an exceedance of applicable water quality standards; or

5.1.4. A prohibited discharge has occurred (see Part 1.3).

5.2. CORRECTIVE ACTION DEADLINES: For any corrective action triggering conditions in Part 5.1, you must:

5.2.1. When site conditions warrant immediate attention, take all reasonable steps to minimize or prevent the discharge of pollutants until a permanent solution for the problem is installed and made operational;

5.2.2. When the problem does not require a new or replacement control or significant repair, the corrective action must be completed by the close of the next business day;

5.2.3. When the problem requires a new or replacement control or significant repair, the corrective action must be completed no later than seven (7) calendar days from the time of discovery. If it is infeasible to complete the installation or repair within seven (7) calendar days (e.g., due to availability of materials, excessive costs to expedite shipping or activities, or lengthy installation times) you must document in your records why it is infeasible and provide a reasonable correction schedule.

5.3. CORRECTIVE ACTION REQUIRED BY DWQ: You must comply with any corrective actions required by DWQ as a result of permit violations found during an inspection carried out under Part 4.8.

5.4. CORRECTIVE ACTION REPORT: For each corrective action taken in accordance with this Part, you must complete a report in accordance with the following:

5.4.1. Within 24 hours of identifying the corrective action condition, document the specific condition and the date and time it was identified.

5.4.2. Within 24 hours of the observed completion of a corrective action and in accordance with the deadlines in Part 5.2, document the actions taken to address the condition, including the date and whether any SWPPP modifications are required.

5.4.3. Where these actions result in changes to any of the storm water controls or procedures documented in your SWPPP, you must modify your SWPPP (and SWPPP map) accordingly within seven (7) calendar days of completing this work.

5.4.4. You must keep a copy of all corrective action reports at the site or at an easily accessible location, so that it can be made available at the time of an on-site inspection or upon request by

DWQ. Corrective action reports may be maintained and made available in paper or electronically.

5.4.5. You must retain all corrective action reports completed for this Part for at least three (3) years from the date that your permit coverage expires or is terminated.

6. STAFF TRAINING REQUIREMENTS

Each operator, or group of multiple operators, must assemble a "storm water team" to carry out compliance activities associated with the requirements in this permit.

6.1. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, you must ensure that the following personnel[32] on the storm water team understand the requirements of this permit and their specific responsibilities with respect to those requirements:

6.1.1. Personnel who are responsible for the design, installation, maintenance, and/or repair of storm water controls (including pollution prevention controls);

6.1.2. Personnel responsible for the application and storage of treatment chemicals (if applicable);

6.1.3. Personnel who are responsible for conducting inspections as required in Part 4.1; and

6.1.4. Personnel who are responsible for taking corrective actions as required in Part 5.

6.2. YOU ARE RESPONSIBLE FOR ENSURING THAT ALL ACTIVITIES ON THE SITE COMPLY with the requirements of this permit. You are not required to provide formal training for subcontractors or other outside service providers, but you must ensure that such personnel understand any requirements of this permit that may be affected by the work they are subcontracted to perform. You should document that you have explained or have given subcontractors information about how to perform their work in compliance with the SWPPP.

6.3. AT A MINIMUM, MEMBERS OF THE STORM WATER TEAM MUST BE TRAINED to understand the following if related to the scope of their job duties (e.g., only personnel responsible for conducting inspections need to understand how to conduct inspections):

6.3.1. The permit deadlines associated with installation, maintenance, and removal of storm water controls and with stabilization;

6.3.2. The location of all storm water controls on the site required by this permit and how they are to be maintained;

6.3.3. The proper procedures to follow with respect to the permit's pollution prevention requirements; and

6.3.4. When and how to conduct inspections, record applicable findings, and take corrective actions.

6.4. EACH MEMBER OF THE STORM WATER TEAM MUST HAVE EASY ACCESS TO AN ELECTRONIC OR PAPER COPY of applicable portions of this permit, the most updated copy of your SWPPP, and other relevant documents or information that must be kept with the SWPPP.

[32] If the person requiring training is a new employee who starts after you commence construction activities, you must ensure that this person has the proper understanding as required above prior to assuming particular responsibilities related to compliance with this permit.

7. STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

7.1. GENERAL REQUIREMENTS

All operators associated with a construction site under this permit must develop a SWPPP consistent with the requirements in Part 7 prior to their submittal of the NOI.[33] The SWPPP must be kept up-to-date throughout coverage under this permit.

If a SWPPP was prepared under a previous version of this permit, the operator must review and update the SWPPP to ensure that this permit's requirements are addressed prior to submitting an NOI for coverage under this permit.

7.2. SWPPP WRITER/REVIEWER CERTIFICATION REQUIREMENT Beginning January 1, 2021, a "qualified" SWPPP writer must write or certify SWPPPs for all projects disturbing greater than 5 acres, including small construction projects (1 to 5 acres) that have a perennial surface water within 50 feet of the project, or having a steep slope (70% or 35 degrees or more) with an elevation change from the slope of 10 feet or more (at any point during the time of construction – not including stock piles). A "qualified" SWPPP writer is knowledgeable in the principles and practices that must be considered in the development of a SWPPP. Acceptable qualifications include but are not limited to:

a. Utah Registered SWPPP Writer (RSW)

b. Licensed Professional Engineer (PE) in a related field or Professional Geologist (PG)

c. Certified Professional in Erosion and Sediment Control (CPESC)

d. Certified Professional in Storm Water Quality (CPSWQ)

e. National Institute for Certification in Engineering Technologies, Erosion and Sediment Control, Level 3 (NICET)

7.3. SWPPP CONTENTS. At a minimum, the SWPPP must include the information specified in this Part and as specified in other parts of this permit.

7.3.1. Storm Water Team. Identify the personnel (by name or position) that are part of the storm water team, as well as their individual responsibilities, including which members are responsible for conducting inspections.

7.3.2. Nature of Construction Activities.[34] Include the following:

a. A description of the nature of your construction activities, including the age or dates of past renovations for structures that are undergoing demolition;

b. The size of the property (in acres or length in miles if a linear construction site);

[33] The SWPPP does not establish the effluent limits that apply to your site's discharges; these limits are established in this permit in Parts 2 and 3.

[34] If plans change due to unforeseen circumstances or for other reasons, the requirement to describe the sequence and estimated dates of construction activities is not meant to "lock in" the operator to meeting these dates. When departures from initial projections are necessary, this should be documented in the SWPPP itself, or in associated records, as appropriate.

c. The total area expected to be disturbed by the construction activities including on-site and off-site construction support activity areas (to the nearest quarter acre or nearest quarter mile if a linear construction site);

d. A description of any on-site and off-site construction support activity areas covered by this permit (see Part 1.2.2);

e. A description and projected schedule for the following:

(1) Commencement of construction activities in each portion of the site, including clearing and grubbing, mass grading, demolition activities, site preparation (i.e., excavating, cutting and filling), final grading, and creation of soil and vegetation stockpiles requiring stabilization;

(2) Temporary or permanent cessation of construction activities in each portion of the site;

(3) Temporary or final stabilization of exposed areas for each portion of the site; and

(4) Removal of temporary storm water controls and construction equipment or vehicles, and the cessation of construction-related pollutant-generating activities.

f. A list and description of all pollutant-generating activities[35] on the site. For each pollutant-generating activity, include an inventory of pollutants or pollutant constituents (e.g., sediment, fertilizers, pesticides, paints, caulks, sealants, fluorescent light ballasts, contaminated substrates, solvents, fuels) associated with that activity, which could be discharged in storm water from your construction site. You must take into account where potential spills and leaks could occur that contribute pollutants to storm water discharges, and any known hazardous or toxic substances, such as PCBs and asbestos, that will be disturbed or removed during construction;

g. Business days and hours for the project;

7.3.3. Site Map. Include a legible map, or series of maps, showing the following features of the site:

a. Boundaries of the property;

b. Locations where construction activities will occur, including:

(1) Locations where earth-disturbing activities will occur (note any phasing), including any demolition activities;

(2) Approximate slopes before and after major grading activities (note any steep slopes (as defined in Part 10));

(3) Locations where sediment, soil, or other construction materials will be stockpiled;

(4) Any water of the state crossings;

(5) Designated points where vehicles will exit onto paved roads;

(6) Locations of structures and other impervious surfaces upon completion of construction; and

(7) Locations of on-site and off-site construction support activity areas covered by this permit (see Part 1.2.2).

[35] Examples of pollutant-generating activities include paving operations; concrete, paint, and stucco washout and waste disposal; solid waste storage and disposal; and dewatering operations

c. Locations of all waters of the state within one mile downstream of the site's discharge point. Also identify if any are listed as impaired or high quality water;

d. Type and extent of pre-construction cover on the site (e.g., vegetative cover, forest, pasture, pavement, structures);

e. Drainage patterns of storm water and authorized non-storm water before and after major grading activities;

f. Storm water and authorized non-storm water discharge locations, including:

(1) Locations where storm water and/or authorized non-storm water will be discharged to storm drain inlets;[36] and

(2) Locations where storm water or authorized non-storm water will be discharged directly to waters of the state.

g. Locations of all potential pollutant-generating activities identified in Part 7.3.2.g;

h. Locations of storm water controls, including natural buffer areas and any shared controls utilized to comply with this permit; and

i. Locations where polymers, flocculants, or other treatment chemicals will be used and stored.

7.3.4. Non-Storm water Discharges. Identify all authorized non-storm water discharges in Part 1.2.3 that will or may occur.

7.3.5. Description of Storm water Controls.

a. For each of the Part 2.2 erosion and sediment control effluent limits, Part 2.3 pollution prevention effluent limits as applicable to your site, you must include the following:

(1) A description of the specific control(s) to be implemented to meet the effluent limit;

(2) Any applicable storm water control design specifications (including references to any manufacturer specifications and/or erosion and sediment control manuals/ordinances relied upon);[37]

(3) Routine storm water control maintenance specifications; and

(4) The projected schedule for storm water control installation/implementation.

b. You must also include any of the following additional information as applicable.

(1) **Natural buffers** and/or equivalent sediment controls (see Part 2.2.1 and Part 10). You must include the following:

(i) The compliance alternative to be implemented;

[36] The requirement to show storm drain inlets in the immediate vicinity of the site on your site map only applies to those inlets that are easily identifiable from your site or from a publicly accessible area immediately adjacent to your site.

[37] Design specifications may be found in manufacturer specifications and/or in applicable erosion and sediment control manuals or ordinances. Any departures from such specifications must reflect good engineering practice and must be explained in the SWPPP.

(ii) If complying with alternative 2, the width of natural buffer retained;

(iii) If complying with alternative 2 or 3, the erosion and sediment control(s) you will use to achieve an equivalent sediment reduction, and any information you relied upon to demonstrate the equivalency;

(iv) If complying with alternative 3, a description of why it is infeasible for you to provide and maintain an undisturbed natural buffer of any size;

(v) For "linear construction sites" where it is infeasible to implement compliance alternative 1, 2, or 3, a rationale for this determination, and a description of any buffer width retained and/or supplemental erosion and sediment controls installed; and

(vi) A description of any disturbances that are exempt under Part 2.2.1 that occur within 50 feet of a water of the state.

(2) **Perimeter controls for a "linear construction site**" (see Part 2.2.3). For areas where perimeter controls are not feasible, include documentation to support this determination and a description of the other practices that will be implemented to minimize discharges of pollutants in storm water associated with construction activities.

Note: Routine maintenance specifications for perimeter controls documented in the SWPPP must include the Part 2.2.3.a requirement that sediment be removed before it has accumulated to one-half of the above-ground height of any perimeter control.

(3) **Sediment track-out controls** (see Parts 2.2.4.b and 2.2.4.c). Document the specific stabilization techniques and/or controls that will be implemented to remove sediment prior to vehicle exit.

(4) **Sediment basins** (see Part 2.2.12). In circumstances where it is infeasible to utilize outlet structures that withdraw water from the surface, include documentation to support this determination, including the specific conditions or time periods when this exception will apply.

(5) **Treatment chemicals** (see Part 2.2.13), you must include the following:

(i) A listing of the soil types that are expected to be exposed during construction in areas of the project that will drain to chemical treatment systems. Also include a listing of soil types expected to be found in fill material to be used in these same areas, to the extent you have this information prior to construction;

(ii) A listing of all treatment chemicals to be used at the site and why the selection of these chemicals is suited to the soil characteristics of your site;

(iii) If DWQ authorized you to use cationic treatment chemicals for sediment control, include the specific controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to an exceedance of water quality standards, or harm to aquatic life;

(iv) The dosage of all treatment chemicals to be used at the site or the methodology to be used to determine dosage;

(v) Information from any applicable Safety Data Sheet (SDS);

(vi) Schematic drawings of any chemically enhanced storm water controls or chemical treatment systems to be used for application of the treatment chemicals;

(vii) A description of how chemicals will be stored consistent with Part 2.2.13.c;

(viii) References to applicable local requirements affecting the use of treatment chemicals, and copies of applicable manufacturer's specifications regarding the use of your specific treatment chemicals and/or chemical treatment systems; and

(ix) A description of the training that personnel who handle and apply chemicals have received prior to permit coverage, or will receive prior to use of the treatment chemicals at your site.

(6) **Stabilization measures** (see Part 2.2.14). You must include the following:

(i) The specific vegetative and/or non-vegetative practices that will be used;

(ii) The stabilization deadline that will be met in accordance with Part 2.2.14.a(1)-(2);

(iii) It is important to meet the deadlines during the wet times of the year (if the area has a wet time of the year). During the dry times of the year the significance of stabilization deadlines is less important.

(7) **Spill prevention and response procedures** (see Part 1.3.5 and Part 2.3). You must include the following:

(i) Procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases. Identify the name or position of the employee(s) responsible for detection and response of spills or leaks; and

(ii) Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity consistent with Part 2.3.6 and established under either 40 CFR 110, 40 CFR 117, or 40 CFR 302, occurs during a 24-hour period. Contact information must be in locations that are readily accessible and available to all employees.

(iii) You may also reference the existence of Spill Prevention Control and Countermeasure (SPCC) plans developed for the construction activity under Part 311 of the CWA, or spill control programs otherwise required by an UPDES permit for the construction activity, provided that you keep a copy of that other plan on site or electronically available.[38]

(8) **Waste management procedures** (see Part 2.3.3). Describe the procedures you will follow for handling, storing and disposing of all wastes generated at your site consistent with state and local requirements, including clearing and demolition debris, removal of spoil (excess dirt) from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste.

[38] Even if you already have an SPCC or other spill prevention plan in existence, your plans will only be considered adequate if they meet all of the requirements of this Part, either as part of your existing plan or supplemented as part of the SWPPP

(9) **Application of fertilizers** (see Part 2.3.5). Document any departures from the manufacturer specifications where appropriate.

7.3.6. Procedures for Inspection, Maintenance, and Corrective Action. Describe the procedures you will follow for maintaining your storm water controls, conducting site inspections, and, where necessary, taking corrective actions, in accordance with Part 2.1.4, Part 4, and Part 5 of this permit. Also include:

a. Personnel responsible for conducting inspections;

b. The inspection schedule you will follow, which is based on whether your site is subject to Part 4.2 or Part 4.3, or whether your site qualifies for any of the reduced inspection frequencies in Part 4.4;

c. If you will be conducting inspections in accordance with the inspection schedule in Part 4.2.2, or Part 4.3, the location of the rain gauge or the address of the weather station you will be using to obtain rainfall data;

d. If you will be reducing your inspection frequency in accordance with Part 4.4.3, the beginning and ending dates of frozen conditions on your site; and

e. Any maintenance or inspection checklists or other forms that will be used.

7.3.7. Staff Training. Include documentation that the required personnel were, or will be, trained in accordance with Part 6.

7.3.8. Compliance with Other Requirements.

a. **Utah Water Quality Act Underground Injection Control (UIC) Program Requirements for Certain Subsurface Storm Water Controls**. If you are using any of the following storm water controls at your site, as they are described below, you must document any contact you have had with DWQ for implementing the requirements for underground injection wells in the Safe Drinking Water Act and DEQ's implementing regulations at UAC R317-7. In addition there may be local requirements related to such structures. Such controls (below) would generally be considered Class V UIC wells and all Class V UIC wells must be reported to DWQ for an inventory:

b. Infiltration trenches (if storm water is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system);

c. Commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate storm water flow; and

d. Drywells, seepage pits, or improved sinkholes (if storm water is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system).

7.3.9. SWPPP Certification. You must sign and date your SWPPP in accordance with 9.16(1)a.

7.3.10. Post-Authorization Additions to the SWPPP. Once you are authorized for coverage under this permit, you must include the following documents as part of your SWPPP:

a. A copy of your NOI submitted to DWQ along with any correspondence exchanged between you and DWQ related to coverage under this permit;

b. A copy of this permit (an electronic copy easily available to the storm water team is also acceptable).

7.4. ON-SITE AVAILABILITY OF YOUR SWPPP

7.4.1. You must keep a current copy of your SWPPP at the site or at an easily accessible location so that it can be made available at the time of an on-site inspection or upon request by DWQ, the EPA, or an MS4. The SWPPP can be stored electronically as long as personnel on-site can access it and make it available for inspector review.

7.5. SWPPP MODIFICATIONS.

7.5.1. You must modify your SWPPP, including the site map(s), within seven (7) days of any of the following conditions:

a. Whenever you make changes to your construction plans, storm water controls, or other activities at your site that are no longer accurately reflected in your SWPPP. This includes changes made in response to corrective actions triggered under Part 5. You do not need to modify your SWPPP if the estimated dates in Part 7.3.2.f change during the course of construction;

b. To reflect areas on your site map where operational control has been transferred (e.g., new general contractor or owner),note the change and the date of transfer since initiating permit coverage;

c. If inspections or investigations by DWQ or its authorized representatives determine that SWPPP modifications are necessary for compliance with this permit;

d. Where DWQ determines it is necessary to install and/or implement additional controls at your site in order to meet the requirements of this permit, the following must be included in your SWPPP:

(1) A copy of any correspondence describing such measures and requirements; and

(2) A description of the controls that will be used to meet such requirements.

e. To reflect any revisions to applicable federal, state, tribal, or local requirements that affect the storm water controls implemented at the site; and

f. If applicable, if a change in chemical treatment systems or chemically enhanced storm water control is made, including use of a different treatment chemical, different dosage rate, or different area of application.

7.5.2. You must maintain records showing the dates of all SWPPP modifications. The records must include the name of the person authorizing each change (see Part 7.5.1 above) and a brief summary of all changes.

7.5.3. All modifications made to the SWPPP consistent with Part 7.5 must be authorized by a person identified in 9.16.(1)b.

7.5.4. Upon determining that a modification to your SWPPP is required, you must notify any persons or subcontractors that may be impacted by the change to the SWPPP.

8. HOW TO TERMINATE COVERAGE. Until you terminate coverage under this permit, you must comply with all conditions and effluent limitations in the permit. To terminate permit coverage, you must submit to DWQ a complete and accurate Notice of Termination (NOT, the NOT can be done online in the same account that the NOI was taken out in), which certifies that you have met the requirements for terminating in Part 8.

8.1. MINIMUM INFORMATION REQUIRED IN NOT.

8.1.1. UPDES ID (i.e., permit tracking number) provided by DWQ when you received coverage under this permit;

8.1.2. Basis for submission of the NOT (see Part 8.2);

8.1.3. Operator contact information;

8.1.4. Name of site and address (or a description of location if no street address is available); and

8.1.5. NOT certification.

8.2. CONDITIONS FOR TERMINATING CGP COVERAGE. You must terminate CGP coverage only if one or more of the following conditions has occurred:

8.2.1. You have completed all construction activities at your site and, if applicable, construction support activities covered by this permit (see Part 1.2.2.c), and you have met the following requirements:

a. You have met the requirements for final vegetative or non-vegetative stabilization in Part 2.2.14.b for any areas that (1) were disturbed during construction, (2) are not covered over by permanent structures, and (3) over which you had control during the construction activities.;

b. You have removed and properly disposed of all construction materials, waste and waste handling devices, and have removed all equipment and vehicles that were used during construction, unless intended for long-term use following your termination of permit coverage;

c. You have removed all storm water controls that were installed and maintained during construction, except those that are intended for long-term use following your termination of permit coverage or those that are biodegradable; and

d. You have removed all potential pollutants and pollutant-generating activities associated with construction, unless needed for long-term use following your termination of permit coverage; or

8.2.2. You have transferred control of all areas of the site for which you are responsible under this permit to another operator, and that operator has submitted a new NOI and obtained coverage under this permit. This only applies if the new operator obtains a new NOI. Termination is not required if a transfer form has been signed by both the previous operator and the new one to move the existing coverage; or

8.2.3. Coverage under an individual or alternative general UPDES permit has been obtained.

8.2.4. Completed homes that are occupied by home owners where at least temporary sediment and erosion controls are in place are allowed to be terminated without final stabilization. If a home owner buys a newly completed house the permit can be terminated while the property is being transferred to the home owner. The home owner should not be involved in the permit process. If

a home owner builds his/her house, they must terminate when the house is approved for occupancy where temporary storm water controls are in place on the site.

8.3. HOW TO SUBMIT YOUR NOT.

8.3.1. It is preferred that the DWQ "on-line" NOI system be used to submit an electronic NOT.

Access to the DWQ online storm water database found at the DWQ webpage at https://secure.utah.gov/stormwater. You must logon to the account created when the NOI was submitted and find the "Terminate" (or NOT) button for the permit tracking number when you wish to terminate a coverage. In the case where the permittee does not have access to the account for which the NOI was submitted the permittee must either contact DWQ and request account access or fill out and submit to DWQ a paper copy of the NOT form, which can be downloaded from the same DWQ website.

8.4. DEADLINE FOR SUBMITTING THE NOT. You must submit your NOT within 30 calendar days after any one of the conditions in Part 8.2 occurs.

8.5. PARTIAL NOT REQUIREMENTS. A partial NOT must be filed if a portion of the permitted site is sold to a new owner prior to completion of construction. You must notify the new owner of the requirement to obtain a storm water permit unless the new owner is the home owner. Prior to releasing a residential lot to a home owner the site must be temporarily stabilized as required in 8.2.4. You must notify DWQ of the change in ownership and provide the name, address, and telephone number of the new owner.

8.6. EFFECTIVE DATE OF TERMINATION OF COVERAGE. Your authorization to discharge under this permit terminates at midnight of the calendar day that a complete NOT is submitted to DWQ.

9. STANDARD PERMIT CONDITIONS.

9.1. DUTY TO COMPLY.

(1) The permittee must comply with all conditions of the UPDES permit. Any permit noncompliance is a violation of the Utah Water Quality Act, as amended and is grounds for enforcement action; permit termination, revocation and reissuance or modification; or denial of a permit renewal application.

(2) Penalties for Violations of Permit Conditions. The Utah Water Quality Act, in 19-5-115, provides that any person who violates the Act, or any permit, rule, or order adopted under it is subject to a civil penalty not to exceed $10,000 per day of such violation.

(3) Willful Non-Compliance or Negligence. Any person who willfully or with gross negligence violates the Act, or any permit, rule or order adopted under it is subject to a fine of not more than $25,000 per day of violation. Any person convicted under 19-5-115 a second time shall be punished by a fine not exceeding $50,000 per day.

(4) False Statements. The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act, the rules, or this Permit, or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for 6 months, or by both. Utah Code Ann. § 19-5-115(4).

9.2. DUTY TO REAPPLY. If the permittee wishes to continue an activity regulated by this permit after the expiration date of the permit, the permittee shall apply for and obtain a new permit as required in R317-8-3.1

9.3. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (Upon reduction, loss, or failure of the treatment facility, the permittee, to the extent necessary to maintain compliance with the permit, shall control production of all discharges until the facility is restored or an alternative method of treatment is provided.)

9.4. DUTY TO MITIGATE. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of the UPDES permit which has a reasonable likelihood of adversely affecting human health or the environment.

9.5. DUTY TO PROVIDE INFORMATION. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by the permit.

9.6. OTHER INFOMRATION. When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the Notice of Intent or in any other report to the Director, he or she shall promptly submit such facts or information.

9.7. OIL AND HAZARDOUS SUBSTANCE LIABILITY. Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under the "Act".

9.8. PROPERTY RIGHTS. The issuance of this Permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

9.9. SEVERABILITY. The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit shall not be affected thereby.

9.10. RECORDS RETENTION.

(1) The Permittee shall retain copies of SWPPPs and all reports required by this Permit, and records of all data used to complete the Notice of Intent to be covered by this Permit, for a period of at least three years from the date that the site is finally stabilized. This period may be extended by request of the Director at any time.

(2) After final stabilization of the construction site is complete, the SWPPP is no longer required to be maintained on site, but may be maintained by the Permittee(s) at its primary headquarters. However, you must continue to allow DWQ access to the SWPPP as described in paragraph B.10(1) (above).

9.11. ADDRESSES. All written correspondence under this permit shall be directed to the Division of Water Quality at the following address:

Department of Environmental Quality
Division of Water Quality
195 North 1950 West
PO Box 144870
Salt Lake City, Utah 84114-4870

9.12. STATE LAWS.

(1) Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Utah Code Ann. § 19-5-117.

(2) No condition of this Permit shall release the Permittee from any responsibility or requirements under other environmental statutes or regulations.

9.13. PROPER OPERATION AND MAINTENANCE. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit and with the requirements of SWPPPs. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary

facilities or similar systems, installed by a Permittee only when necessary to achieve compliance with the conditions of the Permit.

9.14. INSPECTION AND ENTRY. The Permittee shall allow, upon presentation of credentials, the Director or an authorized representative:

(1) To enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

(2) Have access to and copy at reasonable times, any records that must be kept under the conditions of this Permit;

(3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

(4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by law, any substances or parameters at any location.

9.15. REOPENER CLAUSE.

(1) Reopener Due to Water Quality Impacts. If there is evidence indicating that the storm water discharges authorized by this Permit cause, have the reasonable potential to cause or contribute to, a violation of a water quality standard, the discharger may be required to obtain an individual permit or an alternative general permit in accordance with Part 1.4.4 of this Permit or the Permit may be modified to include different limitations and/or requirements.

(2) Reopener Guidelines. Permit modification or revocation will be conducted according to UAC R317-8-5.6 and UAC R317-8-6.2.

(3) Permit Actions. This Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Permit condition.

9.16. SIGNATORY REQUIREMENTS.

(1) All Notices of Intent, SWPPPs, reports, certifications or information submitted to the Director, or that this Permit requires to be maintained by the Permittee, shall be signed as follows:

a. All notice of intent (NOIs), notices of termination (NOTs), and SWPPPs shall be signed as follows:

i. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

ii. For a partnership of sole proprietorship: by a general partner or the proprietor, respectively; or

iii. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. Regional Administrators of EPA).

b. All reports required by the Permit and other information requested by the Director or by an authorized representative of the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

i. The authorization is made in writing by a person described above and kept with the SWPPP; and

ii. The authorization specifies either an individual or a position having responsibility for overall operation of the regulated site, facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

c. Certification. Any person signing documents under this Part B.16 shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations

10. DEFINITIONS AND ACRONYMS

"Act" – is a reference to the Utah Water Quality Act, or Utah Code Annotated Title 19, Chapter 5.

"Agricultural Land" - cropland, grassland, rangeland, pasture, and other agricultural land, on which agricultural and forest-related products or livestock are produced and resource concerns may be addressed. Agricultural lands include cropped woodland, marshes, incidental areas included in the agricultural operation, and other types of agricultural land used for the production of livestock.

"Antidegradation Policy" or "Antidegradation Requirements" - the water quality standards regulation that requires maintenance of water quality:

Waters whose existing quality is better than the established standards for the designated uses will be maintained at high quality unless it is determined by the Board, after appropriate intergovernmental coordination and public participation in concert with the Utah continuing planning process, allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. However, existing instream water uses shall be maintained and protected. No water quality degradation is allowable which would interfere with or become injurious to existing instream water uses.

In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with Section 316 of the Federal Clean Water Act.

Category 1 Waters: Waters which have been determined by the Board to be of exceptional recreational or ecological significance or have been determined to be a State or National resource requiring protection, shall be maintained at existing high quality through designation, by the Board after public hearing, as Category 1 Waters. New point source discharges of wastewater, treated or otherwise, are prohibited in such segments after the effective date of designation. Protection of such segments from pathogens in diffuse, underground sources is covered in R317-5 and R317-7 and the Regulations for Individual Wastewater Disposal Systems (R317-501 through R317-515). Other diffuse sources (nonpoint sources) of wastes shall be controlled to the extent feasible through implementation of best management practices or regulatory programs.

Discharges may be allowed where pollution will be temporary and limited after consideration of the factors in R317-2-3.5.b.4., and where best management practices will be employed to minimize pollution effects.

Waters of the state designated as Category 1 Waters are listed in UAC R317-2-12.1.

Category 2 Waters: Category 2 Waters are designated surface water segments which are treated as Category 1 Waters except that a point source discharge may be permitted provided that the discharge does not degrade existing water quality. Discharges may be allowed where pollution will be temporary and limited after consideration of the factors in UAC R317-2-3.5.b.4., and where best management practices will be employed to minimize

pollution effects. Waters of the state designated as Category 2 Waters are listed in UAC R317-2-12.2.

Category 3 Waters: For all other waters of the state, point source discharges are allowed and degradation may occur, pursuant to the conditions and review procedures outlined in in the paragraph below (Antidegradation Review).

Antidegradation Review (ADR): An antidegradation review will determine whether the proposed activity complies with the applicable antidegradation requirements for receiving waters that may be affected.

An antidegradation review (ADR) may consist of two parts or levels. A Level I review is conducted to insure that existing uses will be maintained and protected.

Both Level I and Level II reviews will be conducted on a parameter-by-parameter basis. A decision to move to a Level II review for one parameter does not require a Level II review for other parameters. Discussion of parameters of concern is those expected to be affected by the proposed activity.

Antidegradation reviews shall include opportunities for public participation, as described in UAC R317-2-3.5e.

"Arid Areas" – areas with an average annual rainfall of 0 to 10 inches.

"Bank" (e.g., stream bank or river bank) – the rising ground bordering the channel of a water of the State of Utah.

"Best Management Practices (BMPs) – schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce pollution of waters of the State. BMPs include treatment requirements, operating procedures, and practices to control storm water associated with construction activity, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"Bluff" – a steep headland, promontory, riverbank, or cliff.

"Borrow Areas" – the areas where materials are dug for use as fill, either onsite or off-site.

"Category 1, 2, and/or 3 Waters" – see "Antidegradation Policy" or "Antidegradation Requirements".

"Cationic Treatment Chemical" – polymers, flocculants, or other chemicals that contain an overall positive charge. Among other things, they are used to reduce turbidity in storm water discharges by chemically bonding to the overall negative charge of suspended silts and other soil materials and causing them to bind together and settle out. Common examples of cationic treatment chemicals are chitosan and cationic PAM.

"Commencement of Earth-Disturbing Activities" - the initial disturbance of soils (or 'breaking ground') associated with clearing, grading, or excavating activities or other construction-related activities (e.g., stockpiling of fill material).

"Commencement of Pollutant-Generating Activities" – at construction sites (for the purposes of this permit) occurs in any of the following circumstances:

• Clearing, grubbing, grading, and excavation has begun;

• Raw materials related to your construction activity, such as building materials or products, landscape materials, fertilizers, pesticides, herbicides, detergents, fuels, oils, or other chemicals have been placed at your site;

• Use of authorized non-storm water for washout activities, or dewatering activities, have begun; or

• Any other activity has begun that causes the generation of or the potential generation of pollutants.

"Common Plan of Development or Sale" –is a plan to subdivide a parcel of land into separate parts for separate sale. This can be for a residential, commercial, or industrial development. The plan originates as a single parcel that is separated into parts. This usually goes through an approval process by a local governmental unit, but in some cases, it may not require that process. The original plan is considered the "common plan of development or sale" whether phased or completed in steps.

Additional information related to Common Plan of Development for Permit Purposes:

For UPDES storm water permit purposes, a common plan must have been initiated after October, 1992. A common plan of development or sale remains so until each lot or section of the development has fulfilled its planned purposes (e.g. in a residential development as homes are completed, stabilized, and sold or occupied). As lots or separated sections of the development are completed, the lot or section is stabilized, and the plan purposes are fulfilled for that area, lot, or section, it is no longer part of the common plan of development or sale (e.g. if a home is sold in a development and the owner decides to add a garage somewhere on the lot, that garage project is not part of the common plan of development or sale. In this process a common plan of development or sale may become reduced in size and/or separated by completed areas which are no longer part of the common plan of development or sale, but all unfinished lots remain part of the same common plan of development or sale until they are completed, stabilized, and fulfilled according to the purposes of the plan.

"Construction Activities" – earth-disturbing activities, such as the clearing, grading, and excavation of land.

"Construction and Development Point Source Category" (C&D Rule) – as published in 40 CFR § 450 is the regulation requiring effluent limitations guidelines (ELG's) and new source performance standards (NSPS) for controlling the discharge of pollutants from construction sites.

"Construction Site" – the land or water area where construction activities will occur and where storm water controls will be installed and maintained. The construction site includes construction support activities, which may be located at a different part of the property from where the primary construction activity will take place, or on a different piece of property altogether. The construction site is often a smaller subset of the lot or parcel within which the project is taking place.

"Construction Support Activities" – a construction-related activity that specifically supports the construction activity and involves earth disturbance or pollutant-generating activities of its own. This can include activities associated with concrete or asphalt batch plants, equipment staging yards, materials storage areas, excavated material disposal areas, and borrow areas.

"Construction Waste" – discarded material (such as packaging materials, scrap construction materials, masonry products, timber, steel, pipe, and electrical cuttings, plastics, and styrofoam).

"Conveyance Channel" – a temporary or permanent waterway designed and installed to safely convey storm water flow within and out of a construction site.

"Corrective Action" – for the purposes of the permit, any action taken to (1) repair, modify, or replace any storm water control used at the site; (2) clean up and dispose of spills, releases, or other deposits found on the site; and (3) remedy a permit violation.

"CWA" – the Clean Water Act or the Federal Water Pollution Control Act, 33 U.S.C. section 1251 et seq.

"Dewatering" – the act of draining rainwater and/or groundwater from building foundations, vaults, and trenches.

"Director" – the director of the Division of Water Quality, otherwise known as the Executive Secretary of the Utah Water Quality Board.

"Discharge" –discharge of storm water or "discharge of a pollutant."

"Discharge of a Pollutant" – the addition of any "pollutant" or combination of pollutants to "waters of the State" from any "point source," or any addition of any pollutant or combination of pollutants to the waters of the State. This includes additions of pollutants into waters of the State from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. See 40 CFR 122.2.

"Discharge Point" – for the purposes of this permit, the location where collected and concentrated storm water flows are discharged from the construction site.

"Discharge-Related Activity" – activities that cause, contribute to, or result in storm water and allowable non-storm water point source discharges, and measures such as the siting, construction, and operation of storm water controls to control, reduce, or prevent pollutants from being discharged.

"Discharge to an Impaired Water" – for the purposes of this permit, a discharge to an impaired water occurs if the first water of the State to which you discharge is identified by DWQ or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting an applicable water quality standard, or is included in an EPA-approved or DWQ established total maximum daily load (TMDL). For discharges that enter a storm sewer system prior to discharge, the water of the State to which you discharge is the first water of the State that receives the storm water discharge from the storm sewer system.

"Domestic Waste" – for the purposes of this permit, typical household trash, garbage or rubbish items generated by construction activities.

"Drought-Stricken Area" – for the purposes of this permit, an area in which the National Oceanic and Atmospheric Administration's U.S. Seasonal Drought Outlook indicates for the period during which the construction will occur that any of the following conditions are likely: (1) "Drought to persist or intensify", (2) "Drought ongoing, some improvement", (3) "Drought likely to improve, impacts ease", or (4) "Drought development likely". See http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php

"Earth-Disturbing Activity" or "Land-Disturbing Activity" – actions taken to alter the existing vegetation and/or underlying soil of a site, such as clearing, grading, site preparation (e.g., excavating, cutting, and filling), soil compaction, and movement and stockpiling of top soils.

"Effective Operating Condition" – for the purposes of this permit, a storm water control is kept in effective operating condition if it has been implemented and maintained in such a manner that it is working as designed to minimize pollutant discharges.

"Effluent Limitations" – for the purposes of this permit, any of the Part 2 or Part 3 requirements.

"Electronic Notice of Intent" – DWQ's online system for submitting electronic Construction General Permit forms. Can be accessed at https://secure.utah.gov/stormwater.

"Emergency-Related Project" – a project initiated in response to a public emergency (e.g., natural disaster, disruption in essential public services), for which the related work requires immediate authorization to avoid imminent endangerment to human health or the environment, or to reestablish essential public services.

"Excursion" – a violation of a standard or limit.

"Existing Project" – a construction project that commenced construction activities prior to the issuance date of this permit.

"Existing Permit Coverage" – means that the permittee had permit coverage under a previous permit prior to the issuance of this permit.

"Exit Points" – any points of egress from the construction site to be used by vehicles and equipment during construction activities.

"Exposed Soils" – for the purposes of this permit, soils that as a result of earth-disturbing activities are disturbed and exposed to the elements of weather.

"Final Stabilization" – All disturbed areas must be covered by permanent structures such as pavement, concrete slab, building, etc., or for areas not covered by permanent structures but that are receiving 20 inches or more of average annual precipitation, vegetation has been established with a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover equivalent to 70 percent of the natural background vegetative cover. In the case of areas that are not covered by permanent structures, but that are receiving less than 20 inches of average annual precipitation (arid areas, 0-10 inches; semi-arid areas, 10-20 inches), final stabilization is equivalent to the requirements of 2.2.2.b of this permit, including the provisions for permanent stabilization.

"Groundwater" – water in the voids and interstitial spaces around soil particles beneath the surface of the ground, even if it is only temporary.

"Hazardous Materials" or "Hazardous Substances" or "Hazardous or Toxic Waste" – for the purposes of this permit, any liquid, solid, or contained gas that contain properties that are dangerous or potentially harmful to human health or the environment. See also 40 CFR §261.2.

"Impaired Water" or "Water Quality Impaired Water" or "Water Quality Limited Segment" – for the purposes of this permit, waters identified as impaired on the CWA Section 303(d) list, or waters with an EPA-approved or established TMDL. Your construction site will be considered to discharge to an impaired water if the first water of the state to which you discharge is identified by DWQ pursuant to Section 303(d) of the CWA as not meeting an applicable water quality standard, or is included in an EPA-approved or DWQ established total maximum daily load (TMDL). For discharges that enter a storm sewer system prior to discharge, the first water of the state to which you discharge is the water body that receives the storm water discharge from the storm sewer system.

"Impervious Surface" – for the purpose of this permit, any land surface with a low or no capacity for soil infiltration including, but not limited to, pavement, sidewalks, parking areas and driveways, packed gravel or soil, or rooftops.

"Indian Country" or "Indian Country Lands" – defined at 40 CFR §122.2 as:

1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of way running through the reservation;

2. All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof; and

3. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-ways running through the same.

"Infeasible" – for the purpose of this permit, infeasible means not technologically possible or not economically practicable and achievable in light of best industry practices. DWQ notes that it does not intend for any permit requirement to conflict with state water rights law.

"Install" or "Installation" – when used in connection with storm water controls, to connect or set in position storm water controls to make them operational.

"Intermittent (or Seasonal) Stream" – one which flows at certain times of the year when ground water provides water for stream flow, or during and immediately after some precipitation events or snowmelt.

"Landward" – positioned or located away from a water body, and towards the land.

"Level Spreader" – a temporary storm water control used to spread storm water flow uniformly over the ground surface as sheet flow to prevent concentrated, erosive flows from occurring.

"Linear Construction Project" – includes the construction of roads, bridges, conduits, substructures, pipelines, sewer lines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities in a long, narrow area.

"Minimize" – to reduce and/or eliminate to the extent achievable using storm water controls that are technologically available and economically practicable and achievable in light of best industry practices.

"Municipal Separate Storm Sewer System" or "MS4" – defined at 40 CFR §122.26(b)(8) as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1. Owned and operated by a state, city, town, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the State;

2. Designed or used for collecting or conveying storm water;

3. Which is not a combined sewer; and

4. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

"Native Topsoil" – the uppermost layer of naturally occurring soil for a particular area, and is often rich in organic matter, biological activity, and nutrients.

"Native Vegetation" – the species of plants that have developed for a particular region or ecosystem and are considered endemic to that area.

"Natural Buffer" – for the purposes of this permit, an area of undisturbed natural cover surrounding surface waters within which construction activities are restricted. Natural cover includes the vegetation, exposed rock, or barren ground that exists prior to commencement of earth-disturbing activities.

"Natural Vegetation" – vegetation that occurs spontaneously without regular management, maintenance or species introductions, removals, and that generally has a strong component of native species.

"New Operator of a New or Existing Project" – an operator that through transfer and/or operation replaces the operator of an already permitted construction project.

"New Project" – a construction project that commenced construction activities on or the issuance date of this permit.

"New Source" – for the purpose of this permit, a construction project that commenced construction activities on or after the issuance date of this permit.

"New Source Performance Standards (NSPS)" – for the purposes of this permit, NSPS are technology-based standards that apply to construction sites that are new sources under 40 CFR 450.24.

"Non-Storm Water Discharges" – discharges that do not originate from storm events. They can include, but are not limited to, discharges of process water, air conditioner condensate, noncontact

cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

"Non-Turbid" – is a term used in this permit to describe water that appears visually clear and there appears to be no evidence of silt or sediment present in the water.

"Notice of Intent" (NOI) – the form (electronic or paper) required for authorization of coverage under the Construction General Permit.

"Notice of Termination" (NOT) – the form (electronic or paper) required for terminating coverage under the Construction General Permit.

"Operational" – for the purpose of this permit, storm water controls are made "operational" when they have been installed and implemented, are functioning as designed, and are properly maintained.

"Operator" – for the purposes of this permit and in the context of storm water discharges associated with construction activity, any party associated with a construction project that meets either of the following two criteria:

1. The party which has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications (e.g. in most cases this is the owner of the site, sometimes it is a lessor); or

2. The party which has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the permit; in most cases this is the general contractor of the project).

"Ordinary High Water Mark" – the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris.

"Outfall" – see "Discharge Point."

"Owner" – for the purpose of this permit an owner has legal ownership of property on which construction activity is taking place. Except in the case of leased property, an owner is the party that has ultimate control over the destiny of a project. This is the lessor in the case of leased property.

"Permittee" – is the owner and/or operator named in the NOI for the project.

"Point(s) of Discharge" – see "Discharge Point."

"Point Source" – any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, landfill leachate collection system, or vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

"Pollutant" – defined at 40 CFR §122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

"Pollutant-Generating Activities" – at construction sites (for the purposes of this permit), those activities that lead to or could lead to the generation of pollutants, either as a result of earth disturbance or a related support activity. Some of the types of pollutants that are typically found at construction sites are:

- sediment;
- nutrients;
- heavy metals;
- pesticides and herbicides;
- oil and grease;
- bacteria and viruses;
- trash, debris, and solids;
- treatment polymers; and
- any other toxic chemicals.

"Pollution Prevention Measures" – storm water controls designed to reduce or eliminate the addition of pollutants to construction site discharges through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

"Polymers" – for the purposes of this permit, coagulants and flocculants used to control erosion on soil or to enhance the sediment removal capabilities of sediment traps or basins. Common construction site polymers include polyacrylamide (PAM), chitosan, alum, polyaluminum chloride, and gypsum.

"Prohibited Discharges" – discharges that are not allowed under this permit, including:

1. Wastewater from washout of concrete;

2. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;

4. Soaps or solvents used in vehicle and equipment washing;

5. Toxic or hazardous substances from a spill or other release; and

6. Waste, garbage, floatable debris, construction debris, and sanitary waste from pollutant generating activities.

"Provisionally Covered Under this Permit" – for the purposes of this permit, DWQ provides temporary coverage under this permit for emergency-related projects prior to receipt of a complete and

accurate NOI. Discharges from earth-disturbing activities associated with the emergency-related projects are subject to the terms and conditions of the permit during the period of temporary coverage.

"Receiving Water" – a "Water of the State into which the regulated storm water discharges. If the discharge is to a storm sewer system, the receiving water is the waterbody to which the storm system discharges.

"Regulatory Authority" – as it pertains to this permit means EPA, DWQ, or a local MS4 that oversights construction activity.

"Run-On" – sources of storm water that drain from land located upslope or upstream from the regulated site in question.

"Semi-Arid Areas" – areas with an average annual rainfall of over 10 to 20 inches.

"Site" – for construction activities, the land or water area where earth-disturbing activities take place, including construction support activities.

"Small Construction Activity" – defined at Utah Administrative Code R317-8-3.9(6)(e)1. and incorporated here by reference. A small construction activity includes clearing, grading, and excavating resulting in a land disturbance that will disturb equal to or greater than one (1) acre and less than five (5) acres of land or will disturb less than one (1) acre of total land area but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one (1) acre and less than five (5) acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site.

"Small Residential Lot" – for the purpose of this permit, a lot being developed for residential purposes that will disturb less than 1 acre of land, but is part of a larger residential project that will ultimately disturb greater than or equal to 1 acre.

"Snowmelt" – the conversion of snow into overland storm water and groundwater flow as a result of warmer temperatures.

"Spill" – for the purpose of this permit, the release of a hazardous or toxic substance from its container or containment.

"Stabilization" – the use of vegetative and/or non-vegetative cover to prevent erosion and sediment loss in areas of disturbed soil exposed from the construction process.

"Steep Slopes" –for this permit steep slopes are defined as those that are 70 percent or greater in grade.

"Storm Event" – a precipitation event that results in a measurable amount of precipitation.

"Storm Sewer" – a system of pipes (separate from sanitary sewers) that carries storm water runoff from buildings and land surfaces.

"Storm Sewer System" – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) designed or used for collecting or conveying storm water.

"Storm Water" – storm water runoff from precipitation, snow melt runoff, and surface runoff and drainage.

"Storm Water Control Measure" - refers to any storm water control, BMP, or other method (including narrative effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the state.

"Storm Water Controls" – see "Storm Water Control measure."

"Storm Water Discharge Associated with Construction Activity" – as used in this permit, a discharge of pollutants in storm water to waters of the state from areas where land disturbing activities (e.g., clearing, grading, or excavation) occur, or where construction materials or equipment storage or maintenance (e.g., fill piles, borrow area, concrete truck chute wash down, fueling), or other industrial storm water directly related to the construction process (e.g., concrete or asphalt batch plants), are located.

"Storm Water Inlet" or "Storm Drain Inlet" – an entrance or opening to a storm water conveyance system, generally placed below grade so as to receive storm water drainage from the surrounding area.

"Storm Water Team" – the group of individuals responsible for oversight of the development and modifications of the SWPPP, and oversight of compliance with the permit requirements. The individuals on the "Storm water Team" must be identified in the SWPPP.

"Subcontractor" – for the purposes of this permit, an individual or company that takes a portion of a contract from the general contractor or from another subcontractor.

"Surface Water" – for this permit a surface water is defined all open water bodies, streams, lakes, ponds, marshes, wetlands, watercourses, waterways, springs, drainage systems, and all other bodies or accumulations of water on the surface only. Surface water is visible water, standing or flowing, above the surface of the ground.

"SWPPP" (Storm Water Pollution Prevention Plan) – a site-specific, written document that, among other things: (1) identifies potential sources of storm water pollution at the construction site; (2) describes storm water control measures to reduce or eliminate pollutants in storm water discharges from the construction site; and (3) identifies procedures the operator will implement to comply with the terms and conditions of this general permit.

"Temporary Stabilization" – a condition where exposed soils or disturbed areas are provided a temporary vegetative and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

"Thawing Conditions" – for the purposes of this permit, thawing conditions are expected based on the historical likelihood of two or more days with daytime temperatures greater than 32˚F. This date can be determined by looking at historical weather data. The estimation of thawing conditions is for planning purposes only. During construction the permittee will be required to conduct site inspections based upon actual conditions (i.e., if thawing conditions occur

sooner than expected, the permittee will be required to conduct inspections at the regular frequency).

"Total Maximum Daily Load" or "TMDL" – the sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure.

"Toxic Waste" – see "Hazardous Materials."

"Turbidity" – when the term is used in a narrative it means a condition of water quality characterized by the presence of cloudiness usually caused by suspended solids and/or organic material. It refers to the visual clarity in water and is measured in a test passing light through a sample of water and quantifying the amount of light passing. The measurement is not directly proportional to the quantity of sediment in the water sample it is directly related to the quantity of light that passes through the sample. Particulate size and other factors can affect the amount of light that passes through the sample. This measurement is called nephelometric turbidity units or ntu.

"Uncontaminated Discharge" – a discharge that does not cause or contribute to an exceedance of applicable water quality standards.

"Upland" - the dry land area above and 'landward' of the ordinary high water mark.

"Utah Pollutant Discharge Elimination System (UPDES)" – The State of Utah's program for issuing, modifying, revoking and resissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 102, 318, and 405 of the Clean water Act (CWA) for the "discharge" of "pollutants" to "Waters of the State". This program is specifically designed to be compatible with the federal National Pollutant Discharge Elimination System (NPDES) program established and administered by the EPA.

"Water-Dependent Structures" – structures or facilities that are required to be located directly adjacent to a waterbody or wetland, such as a marina, pier, boat ramp, etc.

"Water Quality Standards" –are provisions of State law which consist of a designated use or uses for the waters of the United States, water quality criteria for such waters based upon such uses, and an antidegradation policy to protect high quality waters. Water quality standards protect the public health or welfare, enhance the quality of water and serve the purposes of the Utah Water Quality Act.

"Waters of the State" – means all streams, lakes, ponds, marshes, water-courses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion thereof, except that bodies of water confined to and retained within the limits of private property, and which do not develop into or constitute a nuisance, or a public health hazard, or a menace to fish and

wildlife, shall not be considered to be "waters of the state" under this definition (Section 19-5-102).

"Wetland" – those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. On-site evaluations are typically required to confirm the presence and boundaries of wetlands.

"Work day" – for the purposes of this permit, a work day is a calendar day on which construction activities will take place.

Acronyms
C&D – Construction & Development
CGP – Construction General Permit
CFR – Code of Federal Regulations
CPoD – Common Plan of Development or Sale
CWA – Clean Water Act
DEQ – Department of Environmental Quality
DDW – Division of Drinking Water
DWQ – Division of Water Quality
EPA – United States Environmental Protection Agency
MS4 – Municipal Separate Storm Sewer System
NMFS – United States National Marine Fisheries Service
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
NRC – National Response Center
NRCS – National Resources Conservation Service
POTW – Publicly Owned Treatment Works
SPCC – Spill Prevention Control and Countermeasure
SW – Storm Water
SWMP – Storm Water Management Plan
SWPPP – Storm Water Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UAC – Utah Administrative Code
UCA – Utah Code Annotated
UPDES – Utah Pollution Discharge Elimination System
UWQA – Utah Water Quality Act
WQS – Water Quality Standard

Appendix A

Buffer Requirements

The purpose of this appendix is to assist you in complying with the requirements in Part 2.2.1 of the permit regarding the establishment of natural buffers and/or equivalent sediment controls. This appendix is organized as follows:

A.1 SITES THAT ARE REQUIRED TO PROVIDE AND MAINTAIN NATURAL BUFFERS AND/OR EQUIVALENT EROSION AND SEDIMENT CONTROLS

The requirement in Part 2.2.1 to provide and maintain natural buffers and/or equivalent erosion and sediment controls applies for any discharges to waters of the state located within 50 feet of your site's earth disturbances. If the water of the state is not located within 50 feet of earth-disturbing activities, Part 2.2.1 does not apply. See Figure A-1.

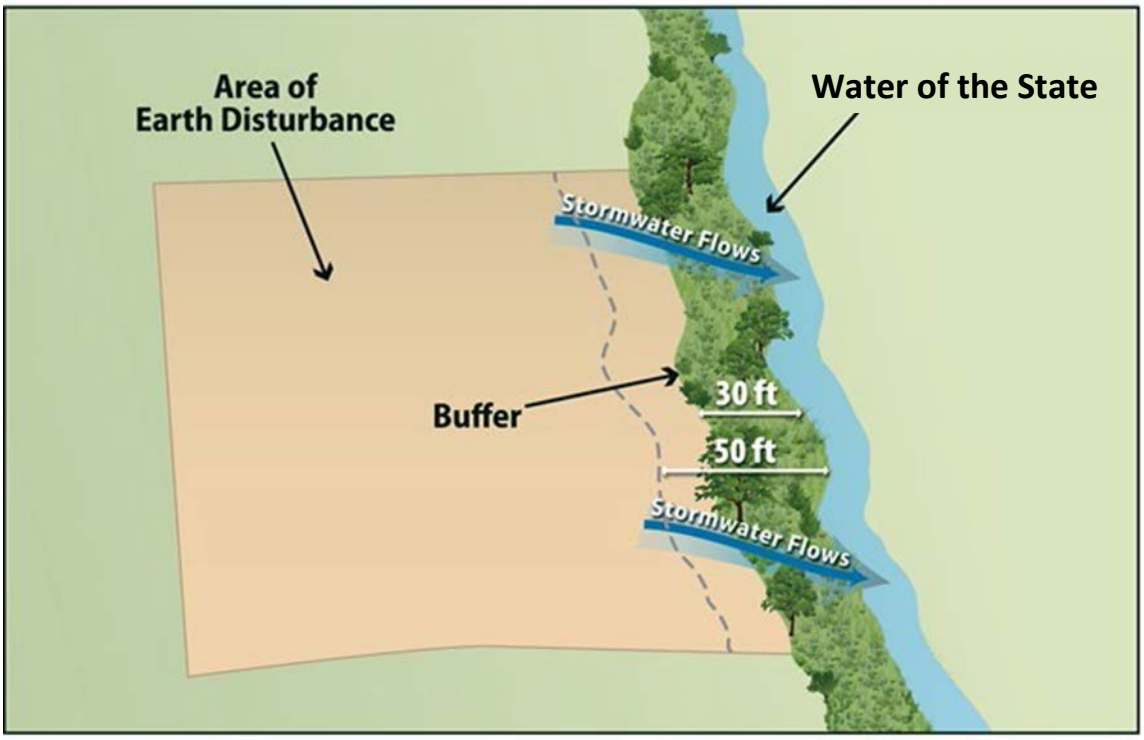

Figure A-1 Example of earth-disturbing activities within 50 feet of a water of the state.

A.2 COMPLIANCE ALTERNATIVES AND EXCEPTIONS

A.2.1. Compliance Alternatives

If Part 2.2.1 applies to your site, you have three compliance alternatives from which you can choose, unless you qualify for any of the exceptions (see below and Part 2.2.1.a):

1. Provide and maintain a 50-foot undisturbed natural buffer; or
2. Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or
3. If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

The compliance alternative selected must be maintained throughout the duration of permit coverage.

See Part A.2.2 below for exceptions to the compliance alternatives.

See Part A.2.3 for requirements applicable to providing and maintaining natural buffers under compliance alternatives 1 and 2 above.

See Part A.2.4 for requirements applicable to providing erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer under compliance alternatives 2 and 3 above.

A.2.2. Exceptions to the Compliance Alternatives

The following exceptions apply to the requirement to implement one of the Part 2.2.1.a compliance alternatives (see also Part 2.2.1.b):

- The following disturbances within 50 feet of a water of the state are exempt from the requirements Part 2.2.1 and this Appendix:
  - Construction approved under a CWA Section 404 permit; or
  - Construction of a water-dependent structure or water access areas (e.g., pier, boat ramp, trail).
- If there is no discharge of storm water to waters of the state through the area between the disturbed portions of the site and any waters of the state located within 50 feet of your site, you are not required to comply with the requirements in Part 2.2.1 and this Appendix. This includes situations where you have implemented controls measures, such as a berm or other barrier that will prevent such discharges.
- Where no natural buffer exists due to preexisting development disturbances (e.g., structures, impervious surfaces) that occurred prior to the initiation of planning for the current development of the site, you are not required to comply with the requirements in Part 2.2.1 and this Appendix.

  Where some natural buffer exists but portions of the area within 50 feet of the water of the state are occupied by preexisting development disturbances, you are required to comply with the requirements in Part 2.2.1 and this Appendix. For the purposes of calculating the sediment load reduction for either compliance alternative 2 or 3, you are not expected to compensate for the reduction in buffer function that would have resulted from the area covered by these preexisting disturbances. Clarity about how to implement the compliance alternatives for these situations is provided in A.2.3 and A.2.4 below.

  If during your project, you will disturb any portion of these preexisting disturbances, the area removed will be deducted from the area treated as a "natural buffer."
- For "linear construction sites" (see Definitions), you are not required to comply with this requirement if site constraints (e.g., limited right-of-way) make it infeasible to implement one of the Part 2.2.1.a compliance alternatives, provided that, to the extent feasible, you limit disturbances within 50 feet of any waters of the state and/or you provide supplemental erosion and sediment controls to treat storm water discharges from earth

disturbances within 50 feet of the water of the state. You must also document in your SWPPP your rationale for why it is infeasible for you to implement one of the Part 2.2.1.a compliance alternatives, and describe any buffer width retained and supplemental erosion and sediment controls installed.

- For "small residential lot" construction (i.e., a lot being developed for residential purposes that will disturb less than 1 acre of land, but is part of a larger residential project that will ultimately disturb greater than or equal to 1 acre), you have the option of complying with one of the "small residential lot" compliance alternatives in Part A.3 of this appendix.

  Note that you must document in your SWPPP if any disturbances related to any of the above exceptions occurs within the buffer area on your site.

A.2.3. Requirements for Providing and Maintaining Natural Buffers

This part applies to you if you choose compliance alternative 1 (50-foot buffer), compliance alternative 2 (a buffer of < 50 feet supplemented by additional erosion and sediment controls that achieve the equivalent sediment load reduction as the 50-foot buffer), or if you are providing a buffer in compliance with one of the "small residential lot" compliance alternatives in Part A.3.

Buffer Width Measurement

Where you are retaining a buffer of any size, the buffer should be measured perpendicularly from any of the following points, whichever is further landward from the water:

4. The ordinary high water mark of the water body, defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris; or
5. The edge of the stream or river bank, bluff, or cliff, whichever is applicable.

Refer to Figure A-2 and Figure A-3. You may find that specifically measuring these points is challenging if the flow path of the water of the state changes frequently, thereby causing the measurement line for the buffer to fluctuate continuously along the path of the waterbody. Where this is the case, DWQ suggests that rather than measuring each change or deviation along the water's edge, it may be easier to select regular intervals from which to conduct your measurement. For instance, you may elect to conduct your buffer measurement every 5 to 10 feet along the length of the water.

Additionally, note that if earth-disturbing activities will take place on both sides of a water of the state that flows through your site, to the extent that you are establishing a buffer around this water, it must be established on both sides. For example, if you choose compliance alternative 1, and your project calls for disturbances on both sides of a small stream, you would need to retain the full 50 feet of buffer on both sides of the water. However, if your construction activities will only occur on one side of the stream, you would only need to retain the 50-foot buffer on the side of the stream where the earth- disturbance will occur.

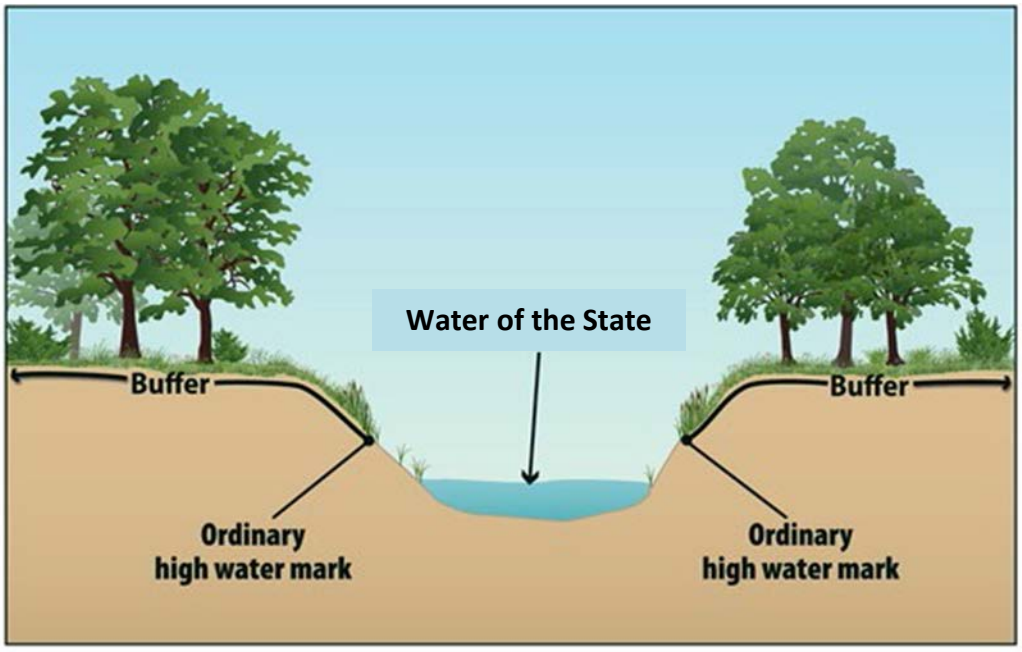

Figure A-2 Buffer measurement from the ordinary high water mark of the water body, as indicated by a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, and/or the presence of litter/debris.

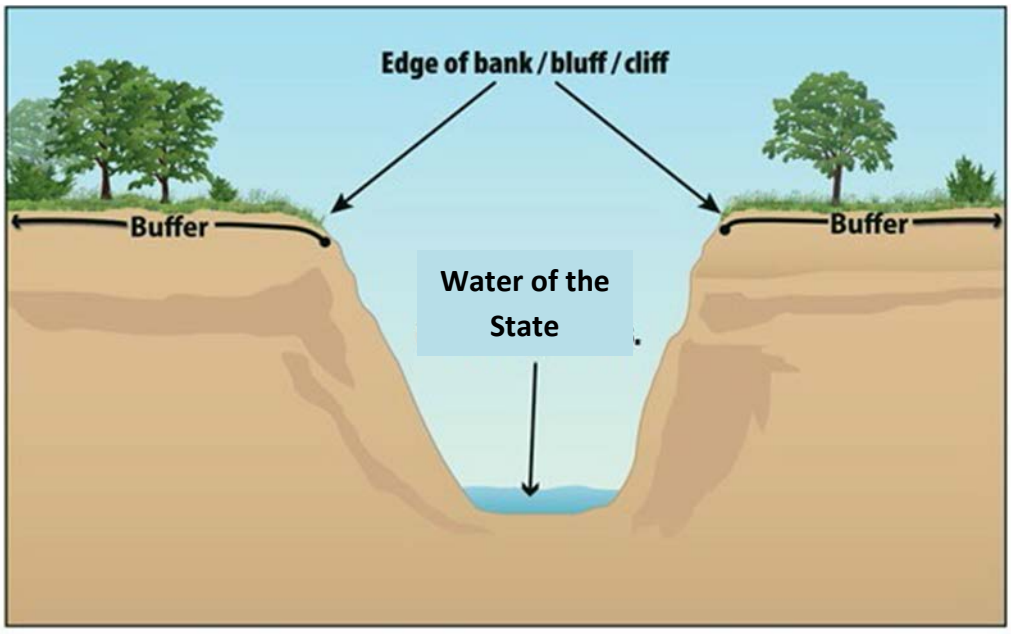

Figure A-3 Buffer measurement from the edge of the bank, bluff, or cliff, whichever is applicable.

Limits to Disturbance Within the Buffer

You are considered to be in compliance with the requirement to provide and maintain a natural buffer if you retain and protect from construction activities the natural buffer that existed prior to the commencement of construction. If the buffer area contains no vegetation prior to the

commencement of construction (e.g., sand or rocky surface), you are not required to plant vegetation. As noted above, any preexisting structures or impervious surfaces may occur in the natural buffer provided you retain and protect from disturbance the buffer areas outside of the preexisting disturbance.

To ensure that the water quality protection benefits of the buffer are retained during construction, you are prohibited from conducting any earth-disturbing activities within the buffer during permit coverage. In furtherance of this requirement, **prior to commencing earth-disturbing activities on your site, you must delineate, and clearly mark off, with flags, tape, or a similar marking device, the buffer area on your site.** The purpose of this requirement is to make the buffer area clearly visible to the people working on your site so that unintended disturbances are avoided.

While you are not required to enhance the quality of the vegetation that already exists within the buffer, you are encouraged to do so where such improvements will enhance the water quality protection benefits of the buffer. (Note that any disturbances within the buffer related to buffer enhancement are permitted and do not constitute construction disturbances.) For instance, you may want to target plantings where limited vegetation exists, or replace existing vegetation where invasive or noxious plant species (see http://plants.usda.gov/java/noxiousDriver) have taken over. In the case of invasive or noxious species, you may want to remove and replace them with a diversity of native trees, shrubs, and herbaceous plants that are well-adapted to the climatic, soil, and hydrologic conditions on the site. You are also encouraged to limit the removal of naturally deposited leaf litter, woody debris, and other biomass, as this material contributes to the ability of the buffer to retain water and filter pollutants.

If a portion of the buffer area adjacent to the water of the state is owned by another party and is not under your control, you are only required to retain and protect from construction activities the portion of the buffer area that is under your control. For example, if you comply with compliance alternative 1 (provide and maintain a 50-foot buffer), but 10 feet of land immediately adjacent to the water of the U.S. is owned by a different party than the land on which your construction activities are taking place and you do not have control over that land, you must only retain and protect from construction activities the 40-foot buffer area that occurs adjacent to the property on which your construction activities are taking place. DWQ would consider you to be in compliance with this requirement regardless of the activities that are taking place in the 10-foot area that is owned by a different party than the land on which your construction activities are taking place that you have no control over.

Discharges to the Buffer

You must ensure that all discharges from the area of earth disturbance to the natural buffer are first treated by the site's erosion and sediment controls (for example, you must comply with the Part 2.2.3 requirement to install sediment controls along any perimeter areas of the site that will receive pollutant discharges), **and if necessary to prevent erosion caused by storm water flows within the buffer, you must use velocity dissipation devices.** The purpose of this requirement is to decrease the rate of storm water flow and encourage infiltration so that the pollutant filtering functions of the buffer will be achieved. To comply with this requirement,

construction operators typically will use devices that physically dissipate storm water flows so that the discharge entering the buffer is spread out and slowed down.

SWPPP Documentation

You are required to document in your SWPPP the natural buffer width that is retained. For example, if you are complying with alternative 1, you must specify in your SWPPP that you are providing a 50-foot buffer. Or, if you will be complying with alternative 2, you must document the reduced width of the buffer you will be retaining (and you must also describe the erosion and sediment controls you will use to achieve an equivalent sediment reduction, as required in Part A.2.4 below). Note that you must also show any buffers on your site map in your SWPPP consistent with Part 7.3.3.h. Additionally, if any disturbances related to the exceptions in Part A.2.2 occur within the buffer area, you must document this in the SWPPP.

A.2.4 Guidance for Providing the Equivalent Sediment Reduction as a 50-foot Buffer

This part applies to you if you choose compliance alternative 2 (provide and maintain a buffer that is less than 50 feet that is supplemented by erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot buffer) or compliance alternative 3 (implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot buffer).

Determine Whether it is Feasible to Provide a Reduced Buffer

EPA recognizes that there will be a number of situations in which it will be infeasible to provide and maintain a buffer of any width. While some of these situations may exempt you from the buffer requirement entirely (see A.2.2), if you do not qualify for one of these exemptions, there still may be conditions or circumstances at your site that make it infeasible to provide a natural buffer. For example, there may be sites where a significant portion of the property on which the earth-disturbing activities will occur is located within the buffer area, thereby precluding the retention of natural buffer areas.

Therefore, you should choose compliance alternative 2 if it is feasible for you to retain some natural buffer on your site. (Note: For any buffer width retained, you are required to comply with the requirements in Part A.2.3, above, concerning the retention of vegetation and restricting earth disturbances.) Similarly, if you determine that it is infeasible to provide a natural buffer of any size during construction, you should choose alternative 3.

Design Controls That Provide Equivalent Sediment Reduction as 50-foot Buffer

You must next determine what additional controls must be implemented on your site that, alone or in combination with any retained natural buffer, achieve a reduction in sediment equivalent to that achieved by a 50-foot buffer.

Note that if only a portion of the natural buffer is less than 50 feet, you are only required to implement erosion and sediment controls that achieve the sediment load reduction equivalent to the 50-foot buffer for discharges through that area. You would not be required to provide additional treatment of storm water discharges that flow through 50 feet or more of natural buffer. See Figure A-4.

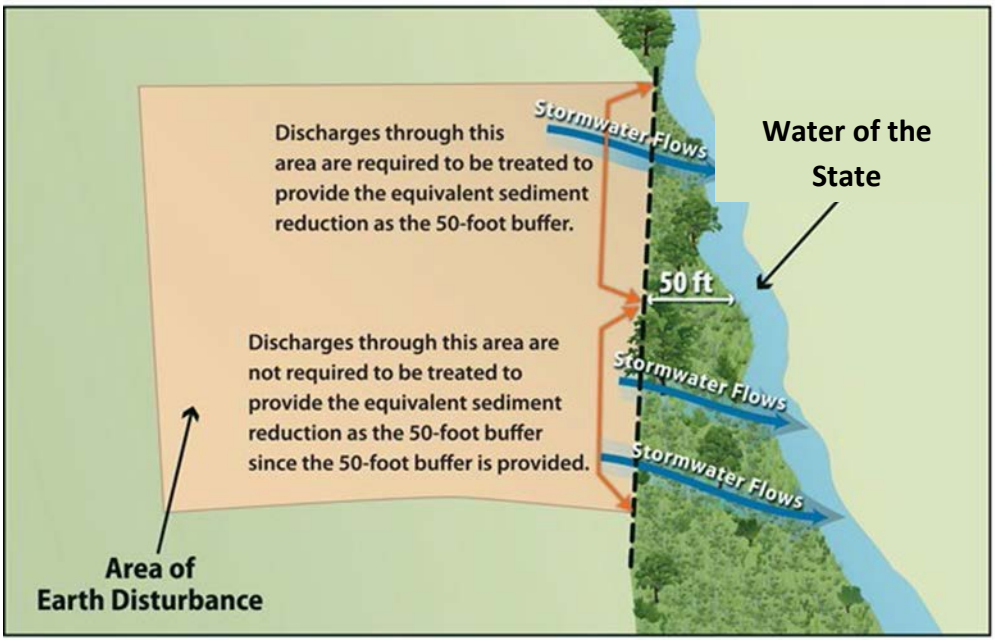

Figure A-4 Example of how to comply with the requirement to provide the equivalent sediment reduction when only a portion of your earth-disturbances discharge to a buffer of less than 50- feet.

Steps to help you meet compliance alternative 2 and 3 requirements are provided below.

Step 1 - Estimate the Sediment Reduction from the 50-foot Buffer

In order to design controls that match the sediment removal efficiency of a 50-foot buffer, you first need to know what this efficiency is for your site. The sediment removal efficiencies of natural buffers vary according to a number of site-specific factors, including precipitation, soil type, land cover, slope length, width, steepness, and the types of erosion and sediment controls used to reduce the discharge of sediment prior to the buffer. EPA has simplified this calculation by developing buffer performance tables covering a range of vegetation and soil types for the areas covered by the CGP. See Attachment 1 of this Appendix, Tables A-8 and A-9. Note: buffer performance values in Tables A-8 and A-9 represent the percent of sediment captured through the use of perimeter controls (e.g., silt fences) and 50-foot buffers at disturbed sites of fixed proportions and slopes.[39] The number of tables has been reduced since many were irrelevant and

[39] EPA used the following when developing the buffer performance tables:

- The sediment removal efficiencies are based on the U.S. Department of Agriculture's RUSLE2 ("Revised Universal Soil Loss Equation 2") model for slope profiles using a 100-foot long denuded slopes.
- Sediment removal was defined as the annual sediment delivered at the downstream end of the 50-foot natural buffer (tons/yr/acre) divided by the annual yield from denuded area (tons/yr/acre).
- As perimeter controls are also required by the CGP, sediment removal is in part a function of the reduction due to a perimeter control (i.e., silt fence) located between the disturbed portion of the site and the upstream edge of the natural buffer and flow traveling through a 50-foot buffer of undisturbed natural vegetation.
- It was assumed that construction sites have a relatively uniform slope without topographic features that accelerate the concentration for erosive flows. (footnote continues on next page)

Table A-8 for Idaho most closely represents northern Utah, and Table A-9 for New Mexico most closely represents southern Utah.

Using Table A-8 for northern Utah or A-9 for southern Utah (see Attachment 1 of this Appendix), you can determine the sediment removal efficiency of a 50-foot buffer for your geographic area by matching the vegetative cover type that best describes your buffer area and the type of soils that predominate at your site. For example, if your site is located in Idaho (northern Utah --Table A-8), and your buffer vegetation corresponds most closely with that of tall fescue grass, and the soil type at your site is best typified as sand, your site's sediment removal efficiency would be 44 percent.

In this step, you should choose the vegetation type in the tables that most closely matches the vegetation that would exist naturally in the buffer area on your site regardless of the condition of the buffer. However, because you are not required to plant any additional vegetation in the buffer area, in determining what controls are necessary to meet this sediment removal equivalency in Step 2 below, you will be able to take credit for this area as a fully vegetated "natural buffer."

Similarly, if a portion of the buffer area adjacent to the water of the state is owned by another party and is not under your control, you can treat the area of land not under your control as having the equivalent vegetative cover and soil type that predominates on the portion of the property on which your construction activities are occurring.

> *For example, if your earth-disturbances occur within 50 feet of a water of the state, but the 10 feet of land immediately adjacent to the water of the state is owned by a different party than the land on which your construction activities are taking place and you do not have control over that land, you can treat the 10 foot area adjacent to the stream as having the equivalent soil and vegetation type that predominates in the 40 foot area under your control. You would then make the same assumption in Step 2 for purposes of determining the equivalent sediment removal (which would be 44% in this case).*

Alternatively, you may do your own calculation of the effectiveness of the 50-foot buffer based upon your site-specific conditions, and may use this number as your sediment removal equivalency standard to meet instead of using Tables A-8 and A-9. This calculation must be documented in your SWPPP.

Step 2 - Design Controls That Match the Sediment Removal Efficiency of the 50-foot Buffer

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- It was assumed that vegetation has been removed from the disturbed portion of the site and a combination of cuts and fills have resulted in a smooth soil surface with limited retention of near-surface root mass.

To represent the influence of soil, EPA analyzed 11 general soil texture classifications in its evaluation of buffer performance. To represent different types of buffer vegetation, EPA evaluated 4 or more common vegetative types for each state/territory covered under the permit. For each vegetation type evaluated, EPA considered only permanent, non-grazed, and non-harvested vegetation, on the assumption that a natural buffer adjacent to the water of the U.S. will typically be undisturbed. EPA also evaluated slope steepness and found that sediment removal efficiencies present in Tables A-8 and A-9 are achievable for slopes that are less than nine percent.

Once you determine the estimated sediment removal efficiency of a 50-foot buffer for your site in Step 1, you must next select storm water controls that will provide an equivalent sediment load reduction. These controls can include the installation of a single control, such as a sediment pond or additional perimeter controls, or a combination of storm water controls. Whichever control(s) you select, you must demonstrate in your SWPPP that the controls will provide at a minimum the same sediment removal capabilities as a 50-foot natural buffer (Step 1). You may take credit for the removal efficiencies of your required perimeter controls in your calculation of equivalency, because these were included in calculating the buffer removal efficiencies in Tables C-8 through C-9. (Note: You are reminded that the controls must be kept in effective operating condition until you complete final stabilization on the disturbed portions of the site discharging to the water of the state)

To make the determination that your controls and/or buffer area achieve an equivalent sediment load reduction as a 50-foot buffer, you should use a model or other type of calculation. As mentioned above, there are a variety of models available that can be used to support your calculation, including USDA's RUSLE-series programs and the WEPP erosion model, SEDCAD, SEDIMOT, or other models. An example is provided in Attachment 3 to help illustrate how this determination could be made.

If you retain a buffer of less than 50 feet, you may take credit for the removal that will occur from the reduced buffer and only need to provide additional controls to make up the difference between the removal efficiency of a 50 foot buffer and the removal efficiency of the narrower buffer. For example, if you retain a 30 foot buffer, you can account for the sediment removal provided by the 30 foot buffer retained, and you will only need to design controls to make up for the additional removal provided by the 20 feet of buffer that is not being provided. To do this, you would plug the width of the buffer that is retained into RUSLE or another model, along with other storm water controls that will together achieve a sediment reduction equivalent to a natural 50-foot buffer.

As described in Step 1 above, you can take credit for the area you retained as a "natural buffer" as being fully vegetated, regardless of the condition of the buffer area.

> *For example, if your earth-disturbances occur 30 feet from a water of the state, but the 10 feet of land immediately adjacent to the water of the U.S. is owned by a different party than the land on which your construction activities are taking place and you do not have control over that land, you can treat the 10-foot area as a natural buffer, regardless of the activities that are taking place in the area. Therefore, you can assume (for purposes of your equivalency calculation) that your site is providing the sediment removal equivalent of a 30-foot buffer, and you will only need to design controls to make up for the additional removal provided by the 20-foot of buffer that is not being provided.*

Step 3 - Document How Site-Specific Controls Will Achieve the Sediment Removal Efficiency of the 50-foot Buffer

In Steps 1 and 2, you determined both the expected sediment removal efficiency of a 50-foot buffer at your site, and you used this number as a performance standard to design controls to be installed at your site, which alone or in combination with any retained natural buffer, achieves

the expected sediment removal efficiency of a 50-foot buffer at your site. The final step is to document in your SWPPP the information you relied on to calculate the equivalent sediment reduction as an undisturbed natural buffer.

DWQ will consider your documentation to be sufficient if it generally meets the following:

- For Step 1, refer to the table in Attachment 1 that you used to derive your estimated 50-foot buffer sediment removal efficiency performance. Include information about the buffer vegetation and soil type that predominate at your site, which you used to select the sediment load reduction value in Tables A-8 and A-9. Or, if you conducted a site-specific calculation for sediment removal efficiency, provide the specific removal efficiency, and the information you relied on to make your site-specific calculation.
- For Step 2, (1) Specify the model you used to estimate sediment load reductions from your site; and (2) the results of calculations showing how your controls will meet or exceed the sediment removal efficiency from Step 1.

If you choose compliance alternative 3, you must also include in your SWPPP a description of why it is infeasible for you to provide and maintain an undisturbed natural buffer of any size.

A.3 SMALL RESIDENTIAL LOT COMPLIANCE ALTERNATIVES

EPA has developed two additional compliance alternatives applicable only to "small residential lots" that are unable to provide and maintain a 50 foot buffer.

> A small residential lot (Common Plan Lot) is a lot or grouping of lots being developed for residential purposes that will disturb less than 1 acre of land, but that is part of a larger residential project that will ultimately disturb greater than or equal to 1 acre.

The following steps describe how a small residential lot operator would achieve compliance with one these 2 alternatives.

A.3.1 Small Residential Lot Compliance Alternative Eligibility

In order to be eligible for the small residential lot compliance alternatives, the following conditions must be met:

6. The lot or grouping of lots meets the definition of "small residential lot"; and
7. The operator must follow the guidance for providing and maintaining a natural buffer in Part A.2.3 of this Appendix, including:
    - Ensure that all discharges from the area of earth disturbance to the natural buffer are first treated by the site's erosion and sediment controls, and use velocity dissipation devices if necessary to prevent erosion caused by storm water within the buffer;
    - Document in the SWPPP the natural buffer width retained on the property, and show the buffer boundary on your site plan; and

- Delineate, and clearly mark off, with flags, tape, or other similar marking device, all natural buffer areas.

A.3.2. Small Residential Lot Compliance Alternatives

You must next choose from one of two small residential lot compliance alternatives and implement the storm water control practices associated with that alternative.

Note: The compliance alternatives provided below are not mandatory. Operators of small residential lots can alternatively choose to comply with the any of the options that are available to other sites in Part 2.2.1.a and A.2.1 of this Appendix.

Small Residential Lot Compliance Alternative 1

Alternative 1 is a straightforward tiered-technology approach that specifies the controls that a small residential lot must implement based on the buffer width retained. To meet the requirements of small residential lot compliance alternative 1, you must implement the controls specified in Table A-1 based on the buffer width to be retained. See footnote 40, below, for a description of the controls you must implement.

For example, if you are an operator of a small residential lot that will be retaining a 35-foot buffer and you choose Small Residential Lot Compliance Alternative 1, you must implement double perimeter controls between earth disturbances and the water of the state.

In addition to implementing the applicable control, you must also document in your SWPPP how you will comply with small residential lot compliance alternative 1.

Table A-1 Alternative 1 Requirements[40]

Retain 50 foot Buffer	Retain <50 and >30 Buffer	Retain ≤30 foot Buffer
No Additional Requirements	Double Perimeter Controls	Double Perimeter Controls and 7-Day Site Stabilization

Small Residential Lot Compliance Alternative 2

Alternative 2 specifies the controls that a builder of a small residential lot must implement based on both the buffer width retained and the site's sediment discharge risk. By incorporating the

[40]Description of Additional Controls Applicable to Small Residential Lot Compliance Alternatives 1 and 2:
•I No Additional Requirements: If you implement a buffer of 50 feet or greater, then you are not subject to any additional requirements. Note that you are required to install perimeter controls between the disturbed portions of your site and the buffer in accordance with Part 2.2.3.
•I Double Perimeter Control: In addition to the reduced buffer width retained on your site, you must provide a double row of perimeter controls between the disturbed portion of your site and the water of the U.S. spaced a minimum of 5 feet apart.
•I Double Perimeter Control and 7-Day Site Stabilization: In addition to the reduced buffer width retained on your site and the perimeter control implemented in accordance with Part 2.2.3, you must provide a double row of perimeter controls between the disturbed portion of your site and the water of the U.S. spaced a minimum of 5 feet apart, and you are required to complete the stabilization activities specified in Parts 2.2.14 within 7 calendar days of the temporary or permanent cessation of earth-disturbing activities.

sediment risk, this approach may result in the implementation of controls that are more appropriate for the site's specific conditions.

Step 1 – Determine Your Site's Sediment Risk Level

To meet the requirements of Alternative 2, you must first determine your site's sediment discharge "risk level" based on the site's slope, location, and soil type. To help you to determine your site's sediment risk level, EPA developed five different tables for different slope conditions. You should select the table that most closely corresponds to your site's average slope.

> *For example, if your site's average slope is 7 percent, you should use Table C-4 to determine your site's sediment risk.*

After you determine which table applies to your site, you must then use the table to determine the "risk level" (e.g., "low", "moderate", or "high") that corresponds to your site's location and predominant soil type.[41]

> *For example, based on Table C-3, a site located in Northern Utah with a 4 percent average slope and with predominately sandy clay loam soils would fall into the "low" risk level.*

Table A-2 Risk Levels for Sites with Average Slopes of ≤ 3 Percent

Soil Type / Location	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Idaho (Northern Utah)	Low	Low	Low	Low	Low
New Mexico (Southern Utah)	Low	Low	Low	Low	Low

Table A-3 Risk Levels for Sites with Average Slopes of > 3 Percent and ≤ 6 Percent

Soil Type / Location	Clay	Silty Clay Loam or Clay- Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Idaho (Northern Utah)	Low	Low	Low	Low	Low
New Mexico (Southern Utah)	Low	Low	Low	Low	Moderate

[41] One source for determining your site's predominant soil type is the USDA's Web Soil Survey located at http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

Table A-4 Risk Levels for Sites with Average Slopes of > 6 Percent and ≤ 9 Percent

Soil Type / Location	Clay	Silty Clay Loam or Clay- Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Idaho (Northern Utah)	Low	Low	Low	Low	Low
New Mexico (Southern Utah)	Low	Low	Low	Low	Moderate

Table A-5 Risk Levels for Sites with Average Slopes of > 9 Percent and ≤ 15 Percent

Soil Type / Location	Clay	Silty Clay Loam or Clay- Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Idaho (Northern Utah)	Low	Low	Low	Low	Low
New Mexico (Southern Utah)	Low	Moderate	Low	Moderate	Moderate

Table A-6 Risk Levels for Sites with Average Slopes of > 15 Percent

Soil Type / Location	Clay	Silty Clay Loam or Clay- Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Idaho (Northern Utah)	Low	Low	Low	Low	Moderate
New Mexico (Southern Utah)	Moderate	Moderate	Moderate	Moderate	High

Step 2 – Determine Which Additional Controls Apply

Once you determine your site's "risk level", you must next determine the additional controls you need to implement on your site, based on the width of buffer you plan to retain. Table A-7

specifies the requirements that apply based on the "risk level" and buffer width retained. See footnote 40, above, for a description of the additional controls that are required.

For example, if you are the operator of a small residential lot that falls into the "moderate" risk level, and you decide to retain a 20-foot buffer, using Table A-7 you would determine that you need to implement double perimeter controls to achieve compliance with small residential lot compliance alternative 2.

You must also document in your SWPPP your compliance with small residential lot compliance alternative 2.

Table A-7. Alternative 2 Requirements

Risk Level Based on Estimated Soil Erosion	Retain ≥ 50' Buffer	Retain <50' and >30' Buffer	Retain ≤30' and >10' Buffer	Retain ≤ 10' Buffer
Low Risk	No Additional Requirements	No Additional Requirements	Double Perimeter Control	Double Perimeter Control
Moderate Risk	No Additional Requirements	Double Perimeter Control	Double Perimeter Control	Double Perimeter Control and 7-Day Site Stabilization
High Risk	No Additional Requirements	Double Perimeter Control	Double Perimeter Control and 7-Day Site Stabilization	Double Perimeter Control and 7-Day Site Stabilization

ATTACHMENT 1

Sediment Removal Efficiency Tables[42]

EPA recognizes that very high removal efficiencies, even where theoretically achievable by a 50-foot buffer, may be very difficult to achieve in practice using alternative controls. Therefore in the tables below, EPA has limited the removal efficiencies to a maximum of 90%. Efficiencies that were calculated at greater than 90% are shown as 90%, and this is the minimum percent removal that must be achieved by alternative controls.

For the Utah CGP only the tables for Idaho and New Mexico are shown. The table for Idaho substitutes for northern Utah and the table for New Mexico substitutes for southern Utah.

Table A-8 Estimated 50-foot Buffer Performance in Idaho* (Northern Utah)

	Estimated % Sediment Removal				
Type of Buffer Vegetation**	**Clay**	**Silty Clay Loam or Clay-Loam**	**Sand**	**Sandy Clay Loam, Loamy Sand or Silty Clay**	**Loam, Silt, Sandy Loam or Silt Loam**
Tall Fescue Grass	42	52	44	48	85
Medium-density Weeds	28	30	28	26	60
Low-density Warm-season Native Bunchgrass (i.e., Grama Grass)	25	26	24	24	55
Northern Mixed Prairie Grass	28	30	28	26	50
Northern Range Cold Desert Shrubs	28	28	24	26	50

* Applicable for sites with less than nine percent slope

** Characterization focuses on the under-story vegetation

Table A-9 Estimated 50-foot Buffer Performance in New Mexico* (Southern Utah)

	Estimated % Sediment Removal				
Type of Buffer Vegetation **	**Clay**	**Silty Clay Loam or Clay-Loam**	**Sand**	**Sandy Clay Loam, Loamy Sand or Silty Clay**	**Loam, Silt, Sandy Loam or Silt Loam**
Tall Fescue grass	71	85	80	86	90

[42] The buffer performances were calculated based on a denuded slope upgradient of a 50-foot buffer and a perimeter controls, as perimeter controls are a standard requirement (see Part 2.2.3).

Medium-density Weeds	56	73	55	66	78
Low-density Warm-season Native Bunchgrass (i.e., Grama Grass)	53	70	51	62	67
Southern Mixed Prairie Grass	53	71	52	63	50
Southern Range Cold Desert Shrubs	56	73	55	65	53

* Applicable for sites with less than nine percent slope

** Characterization focuses on the under-story vegetation

ATTACHMENT 2

Using the Sediment Removal Efficiency Tables – Questions and Answers

– **What if my specific buffer vegetation is not represented in Tables A-8 and A-9?** Tables A-8 and A-9 provide a range of factors affecting buffer performance; however, there are likely instances where the specific buffer vegetation type on your site is not listed. If you do not see a description of the type of vegetation present at your site, you should choose the vegetation type that most closely matches the vegetation type on your site. You can contact your local Cooperative Extension Service Office (http://nifa.usda.gov/partners-and-extension-map) for assistance in determining the vegetation type in Tables C-8 through C-9 that most closely matches your site-specific vegetation.

– **What if there is high variability in local soils?** EPA recognizes that there may be a number of different soil type(s) on any given construction site. General soil information can be obtained from USDA soil survey reports (http://websoilsurvey.nrcs.usda.gov) or from individual site assessments performed by a certified soil expert. Tables A-8 and A-9 present eleven generic soil texture classes, grouping individual textures where EPA has determined that performance is similar. If your site contains different soil texture classes, you should use the soil type that best approximates the predominant soil type at your site.

– **What if my site slope is greater than 9 percent after final grade is reached?** As indicated in the buffer performance tables, the estimated sediment removal efficiencies are associated with disturbed slopes of up to 9 percent grade. Where your graded site has an average slope of greater than 9 percent, you should calculate a site-specific buffer performance.

– **How do I calculate my own estimates for sediment reduction at my specific site?** If you determine that it is necessary to calculate your own sediment removal efficiency using site- specific conditions (e.g., slopes at your site are greater than 9 percent), you can use a range of available models that are available to facilitate this calculation, including USDA's RUSLE- series programs and the WEPP erosion model, SEDCAD, SEDIMOT, or other equivalent models.

– **What is my estimated buffer performance if my site location is not represented by Tables Tables A-8 and A-9?** If your site is located in an area not represented by Tables A-8 and A-9, you should use the table that most closely approximates conditions at your site (Table A-8 generally represents northern Utah, Table A-9 generally represents southern Utah). You may instead choose to conduct a site-specific calculation of the buffer performance.

– **What if only a portion of my site drains to the buffer area?** If only a portion of your site drains to a water of the State, where that water is within 50 feet of your earth disturbances, you are only required to meet the equivalency requirement for the storm water flows corresponding to those portions of the site. See Attachment 3 for an example of how this is expected to work.

ATTACHMENT 3

Example of How to Use the Sediment Removal Efficiency Tables

Arid Location With Pre-existing Disturbances in the Natural Buffer (6.5 acre site located in southern Utah)

An operator of a site in southern Utah determines that it is not feasible to provide a 50-foot buffer, but a 28-foot buffer can be provided. Because the operator will provide a buffer that is less than 50 feet, the operator must determine which controls, in combination with the 28-foot buffer, achieve a sediment load reduction equivalent to the 50-foot buffer. In this example, the project will disturb 6.5 acres of land, but only 1.5 acres of the total disturbed area drains to the buffer area. Within the 28-foot buffer area is a preexisting concrete walkway. The equivalence analysis starts with Step 1 in Part A.2.4 of this Appendix with a review of the southern Utah buffer performance (Table A-9). The operator determines that the predominate vegetation type in the buffer area is prairie grass, the soil type is similar to silt, and the site is of a uniform, shallow slope (e.g., 3 percent grade). Although the operator will take credit for the disturbance caused by the concrete walkway as a natural buffer in Step 2, here the operator can treat the entire buffer area as being naturally vegetated with prairie grass. Based on this information, the operator refers to Table A-9 to estimate that the 50-foot buffer would retain 50 percent of eroded soil.

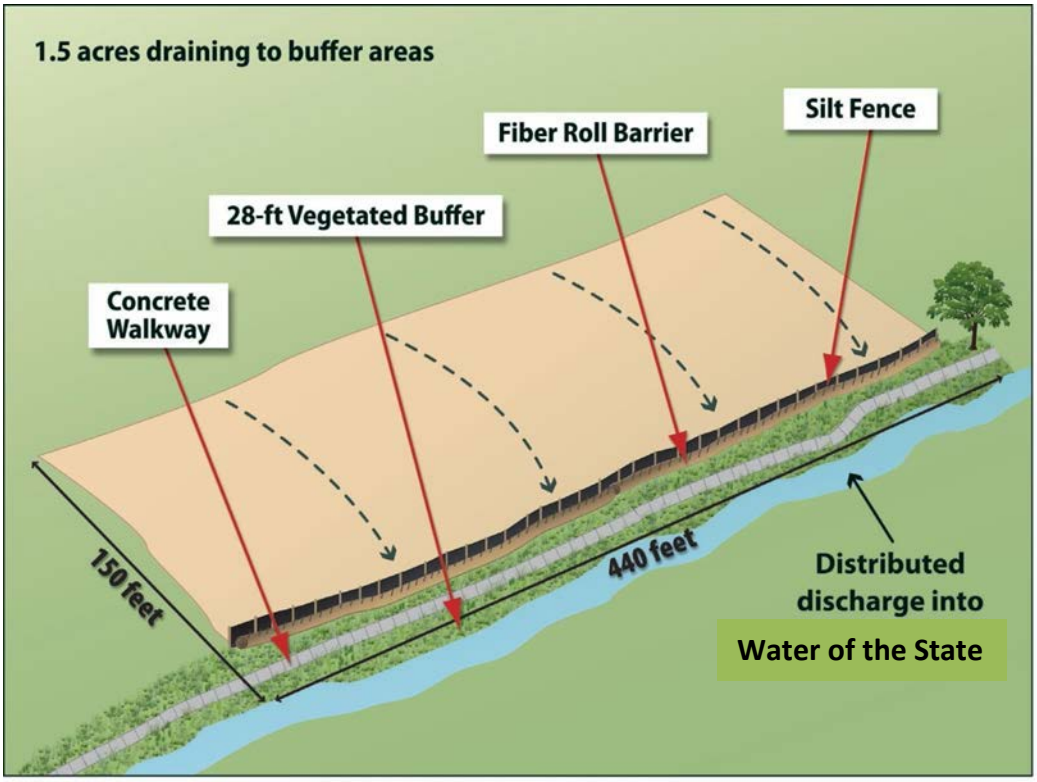


Figure A-5 Example – Equivalent Sediment Load Reductions at a 6.5 ac Site in Southern Utah.

The second step is to determine, based on the 50 percent sediment removal efficiency found in Table A-9, what sediment controls, in combination with the 28-foot buffer area, can be implemented to reduce

sediment loads by 50 percent or more. The operator does not have to account the reduction in buffer function caused by the preexisting walkway, and can take credit for the entire 28-foot buffer being fully vegetated in the analysis. For this example, using the RUSLE2 profile model, the operator determined that installing a fiber roll barrier between the silt fence (already required by Part 2.2.3) and the 28-foot buffer will achieve an estimated 84 percent sediment removal efficiency. See Figure A-5. Note that this operator is subject to the requirement in Part A.2.3 of this Appendix to ensure that discharges through the silt fence, fiber roll barrier, and 28-foot buffer do not cause erosion within the buffer. The estimated sediment reduction is greater than the required 50 percent; therefore the operator will have met the buffer alternative requirement.

Appendix D – NOI, Local, County and other State Permits. and Acknowledgement Letter from EPA/State/MS4

STATE OF UTAH, DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER QUALITY
195 North 1950 West, P.O. Box 144870, Salt Lake City, Utah 84114-4870 (801) 536-4300

NOI

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under the UPDES General Permit No. UTR395499 **SEE REVERSE FOR INSTRUCTIONS**

Submission of this Notice of Intent constitutes notice that the party(s) identified in Section I of this form intends to be authorized by UPDES General Permit No. UTR395499 **issued for storm water discharges associated with construction activity in the State of Utah. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.**

Is this NOI seeking continuation for previously expired permit coverage at the same site? Y ◉ N ○
If yes, what is the number of the previous permit coverage? Permit No.

Permit Start Date 08/15/2019 **Permit Expiration Date:** 08/15/2020

I. OPERATOR INFORMATION

Name (Owner): Watts Enterprises **Phone:** 801-897-4880

Address: 5200 S Highland Dr. STE 101 **Status of Owner/Operator:** PRIVATE

City: SALT LAKE CITY **State:** UT **Zip:** 84117

Contact Person: Rick Everson **Phone:** 801-897-4880

Name (Operator): Geneva Rock Products, Inc. **Phone:** 801-395-4454

Address: 1250 Stock Road **Status of Owner/Operator:** PRIVATE

City: OGDEN **State:** UT **Zip:** 84401

Contact Person: Jake Allen **Phone:** 801-395-4454

II. FACILITY SITE / LOCATION INFORMATION

Is the facility located in Indian Country? Y ○ N ◉

Name: The Overlook at Powder Mountain Phase 1 and Phase 2

Project No. (if any):

Address: 6965 E Powder Mountain Rd **County:** WEBER

City: EDEN **State:** UT **Zip:** 84310

Latitude: 41.363611 **Longitude:** 111.743611

Method (check one): ☐ USGS Topo Map, Scale ☐ EPA Web site ☑ GPS ☐ Other

III. SITE INFORMATION

Municipal Separate Storm Sewer System (MS4) Operator Name: Weber County

Receiving Water Body: Pineview Reservoir guess **this is known** ○ **this is a guess** ◉

Estimate of distance to the nearest water body? 5.98 miles **ft.** ○ **miles.** ◉

Is the receiving water an impaired or high quality water body (see http://wq.deq.utah.gov/)? Yes ◉ No ○

List the Number of any other UPDES permits at the site:

IV. TYPE OF CONSTRUCTION (Check all that apply)

1. ☐ Residential 2. ☐ Commercial 3. ☐ Industrial 4. ☑ Road 5. ☐ Bridge 6. ☑ Utility

7. ☐ Contouring, Landscaping 8. ☐ Pipeline 9. ☐ Other (Please list)

INSTRUCTIONS

Notice Of Intent (NOI) For Permit Coverage Under the UPDES General Permit For Storm Water Discharges From Construction Activities

Who Must File A Notice Of Intent (NOI) Form State law at UAC R317-8-3.9 prohibits point source discharges of storm water from construction activities to a water body(ies) of the State without a Utah Pollutant Discharge Elimination System (UPDES) permit. The operator of a construction activity that has such a storm water discharge must submit a NOI to obtain coverage under the UPDES Storm Water General Permit. If you have questions about whether you need a permit under the UPDES Storm Water program, or if you need information as to whether a particular program is administered by EPA or a state agency, contact the storm water coordinator at (801) 536-4300.

Where To File NOI Form The preferred method of submitting an NOI to apply for the construction general storm water permit (CGP) is electronically on-line at http://www.waterquality.utah.gov/UPDES/stormwatercon.htm. The fee can be submitted on line also. If on-line is not an option for you send a paper form of the NOI to the following address:

Department of Environmental Quality
Division of Water Quality
P.O. Box 144870
Salt Lake City, UT 84114-4870

Beginning of Coverage CGP coverages are issued immediately after submitting an NOI with the permit fee. The permittee should be aware that though you may not have a permit in hand, if you have submitted a completed NOI with the permit fee you are covered by the conditions in the permit and will be expected to comply with permit conditions. You can print a copy of the CGP from the DWQ web site.

Permit Fees. The permit fee is $150.00 per year. The fee is paid by Visa/Master Card on-line when an NOI is filed (by check if submitted with a paper NOI). If the project continues for more than one year the fee must be submitted again in a renewal process on-line. CGP coverage will not be issued until the fee is paid.

Length of Coverage: CGP coverage starts the day that the NOI and fee is received at DWQ and expires a year from issuance. All CGP coverages must be renewed within 60-days after the yearly expiration date, or be terminated with a notice of termination (NOT) before the expiration date. To terminate the permit the site must meet the permit conditions for final stabilization (see permit definitions), or must continue under a different permit holder. In most cases the DWQ or municipality of jurisdiction will perform a final inspection when a CGP coverage submits an NOT. If the site passes the final inspection the permit is terminated.

The Storm Water General Permit for Construction Activities UTRC00000 will expire on May 30, 2019. The Clean Water Act requires that all UPDES permits be renewed every 5 years. If a project extends beyond the expiration date of the Permit it must continue coverage under the renewed permit that will subsequently be developed to continue the same or similar permit coverage for construction activity.

SECTION I - FACILITY OPERATOR INFORMATION Supply the legal name(s) of the person(s), firm(s), public organization(s), or any other entity(ies) that qualifies as the owner of the project (see permit definitions). Do the same for the operator (most commonly the general contractor) that conducts the construction operation at the facility or site to be permitted. The owner and the general contractor of the project may be the same.

Enter the complete address and telephone number of the owner and operator and a contact person and number for each. Enter the appropriate letter to indicate the legal status of the operator of the facility.
F = Federal M = Public (other than Fed or State) S = State P = Private

SECTION II - FACILITY/SITE LOCATION INFORMATION Enter the facility name or legal name and project number (if any) of the site and complete street address, including city, state and ZIP code. The latitude and longitude of the facility must be included to the approximate centroid of the site, and the method of how the Lat/Long was obtained (USGS maps, GPS, Internet Map sites [such as Google Earth], or other).

Indicate whether the facility is located in Indian Country. If the facility is located in Indian Country, do not complete this NOI, instead submit an application for coverage under a storm water permit to EPA Region VIII except for facilities on the Navajo Reservation or on the Goshute Reservation which should submit an application to EPA Region IX.

SECTION III - SITE ACTIVITY INFORMATION If the storm water discharges to a municipal separate storm sewer system (MS4), enter the name of the operator of the MS4 (e.g., the name of the City or County of jurisdiction) and the receiving water of the discharge from the MS4 if it is known (if it is not known please estimate or guess and indicate so). (An MS4 is defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is owned or operated by a state, city, town, county, district, association or other public body which is designed or used for collecting or conveying storm water).

For Impaired Waters: Go to http://wq.deq.utah.gov and identify the water body that will receive the storm water discharge from the permitted site, on the map provided at the web site (zoom in for easier resolution). On the left hand side of the page you will see "**2010 Assessment**" or "**2013 Assessment**" depending on the year you refer to the web site (the assessment is done every 3 years). The **20XX Assessment** the will indicate if the water is impaired. If there is nothing after **20XX Assessment** or the narrative after does not include the word "impaired", your receiving water is not impaired.

For High Quality Waters: On the web page referred to in the paragraph above on the left hand side of the page you will see "**Anti-Degradation Category**". Under **Anti-Degradation Category** you will see the category of the water body. Only categories 1 and 2 are high quality water bodies. Some waters may be both categories 1 and 3. If your water body is both category 1 and 3 it means the headwaters of your water body is within Forest Service boundaries, and because it is within Forest Service boundaries it is category 1. If your project is within Forest Service boundaries then your water body is category 1 and it is "high quality". If your project is not within Forest Service boundaries then your water body is category 3 and is not "high quality". Again, category 1 waters are high quality waters, category 3 waters are not high quality waters.

SECTION IV - TYPE OF CONSTRUCTION Check each type of construction that applies to this application.

SECTION V - BEST MANAGEMENT PRACTICES Check each type of best management practice that will be used to control storm water runoff at the job site.

SECTION VI – GOOD HOUSEKEEPING PRACTICES Check each type of good housekeeping practice that you will use on the site any time during construction activities.

SECTION VII – ADDITIONAL Provide an estimate of the total number of acres of the site on which soil will be disturbed (to the nearest hundredth of an acre). An email address is required of the best contact associated with the project for the communication needs.

SECTION VIII – CERTIFICATION State statutes provide for severe penalties for submitting false information on this application form. State regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, state, Federal, or other public facility: by either a principal executive officer or ranking elected official.

POLLUTION PREVENTION PLAN A storm water pollution prevention plan (SWP3) is required to be in hand before the NOI can be submitted. It is important to know SWP3 requirements (contained in the permit) even during the design portion of the project. A copy of the permit can be obtained from the Division of Water Quality's storm water construction web site. Guidance material for developing a SWP3 can be obtained from the Division of Water Quality's storm water construction web site.

V. BEST MANAGEMENT PRACTICES

Identify proposed Best Management Practices (BMPs) to reduce pollutants in storm water discharges (Check all that apply):

1. ☐ Silt Fence/Straw Wattle/Perimeter Controls 2. ☐ Sediment Pond 3. ☐ Seeding/Preservation of Vegetation

4. ☐ Mulching/Geotextiles 5. ☐ Check Dams 6. ☐ Structural Controls (Berms, Ditches, etc.)

7. ☑ Other (Please list) Inlet Barriers, Earth Berms

VI. GOOD HOUSEKEEPING PRACTICES

Identify proposed Good Housekeeping Practices to reduce pollutants in storm water discharges (Check all that apply even if they apply only during a part of the construction time):

1. ☑ Sanitary/Portable Toilet 2. ☑ Washout Areas 3. ☐ Construction Chemicals/Building Supplies Storage Area

4. ☑ Garbage/Waste Disposal 5. ☐ Non-Storm Water 6. ☑ Track Out Controls 7. ☐ Spill Control Measures

VII. ADDITIONAL

Estimated Area to be Disturbed (in Acres): 5.50 **Total Area of Plot (in Acres):** 5.50

A storm water pollution prevention plan has been prepared for this site and is to the best of my knowledge in Compliance with State and/or Local Sediment and Erosion Plans and Requirements. Y ◉ N ○
(A pollution prevention plan is required to be on hand before submittal of the NOI.)

Enter the best e-mail address to contact the permittee: Jallen@genevarock.com

VIII.CERTIFICATION: I certify under penalty of law that I have read and understand the Part 1 eligibility requirements for coverage under the general permit for storm water discharges from construction activities. I further certify that to the best of my knowledge, all discharges and BMPs that have been scheduled and detailed in a storm water pollution prevention plan will satisfy requirements of this permit. I understand that continued coverage under this storm water general permit is contingent upon maintaining eligibility as provided for in Part 1.

I also certify under penalty of law that this document and all attachments were prepared under the direction or supervision of those who have placed their signature(s) below, in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name (Owner): **Date:**

Watts Enterprises

Signature:

Print Name (Operator): **Date:**

Geneva Rock Products, Inc.

Signature:

Amount of Permit Fee Enclosed: $ 150.00

Appendix E – Inspection Reports

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY WATER QUALITY

SWPPP COMPLIANCE INSPECTION FORM

UDOT Keeping Utah Moving

BACKGROUND INFORMATION

Project Name:		Project PIN:		MS4 Name:	
Project Location:				County:	
Owner:		General Contractor:		UPDES Permit #:	
Project Contact:		Phone:		Permit Expiration:	

INSPECTION INFORMATION

Date of Inspection:		Start time:		Start time:		Date of Last Rain Event:	
Reason for Inspection:	☐ Scheduled ☐ > 0.5" Rain ☐ Random			Duration (hrs):	
Weather:	☐ Sunny ☐ Cloudy ☐ Rainy ☐ Snowy			Approx. Rainfall (in):	

1. Is the SWPPP on site and accessible, or is the SWPPP location posted in an obvious place and reasonably accessible (in a short time)?	☐ Yes ☐ No ☐ NA
2. Are erosion control, sediment control, and good housekeeping BMP's installed on the site as shown in the SWPPP?	☐ Yes ☐ No ☐ NA
3. Has the SWPPP been updated to reflect the current site conditions (modifications dated & initialed on site map, new BMPs on site map, discontinued BMPs crossed off site map, new BMP details & spec's in SWPPP, SWPPP amendment Log, etc.)?	☐ Yes ☐ No ☐ NA
4. Are on-site inspections being performed and recorded by a qualified person on a weekly or biweekly basis, reporting items required by permit? (Inspector name &qualifications, weather, problems/repairs, corrective action, new BMPs, removed BMPs, discharges, etc.)	☐ Yes ☐ No ☐ NA
5. Have all corrective action items from previous inspections been addressed and documented within the time frame allotted by the inspector?	☐ Yes ☐ No ☐ NA
6. Are SW flows entering and leaving the construction site controlled, managed, or diverted around the site? (e.g. perimeter controls, berms, silt fence, upgradient boundary diversion, down gradient boundary sediment control, etc.)	☐ Yes ☐ No ☐ NA
7. Is there evidence of sediment discharge such as mud flows or soil deposits from the construction site in downstream locations?	☐ Yes ☐ No ☐ NA
8. Is there evidence of vehicles tracking soil off the construction site?	☐ Yes ☐ No ☐ NA
9. Is there soil, construction material, landscaping items, or other debris piled on impervious surfaces (roads, drives) that could be washed with SW to a storm drain or water body?	☐ Yes ☐ No ☐ NA
10. Is there a need to repair, maintain, or improve erosion control BMPs (temporary stabilization, erosion blankets, mulch, vegetated strips, rip rap, surface roughening, pipe slope drain, dust control, etc)?	☐ Yes ☐ No ☐ NA
11. Is there a need to repair, maintain, or improve sediment control BMPs (silt fence, check dams, fiber rolls, sediment trap/basin, inlet protection, waddles, straw bails, curb cut-back, etc?	☐ Yes ☐ No ☐ NA
12. Is there a need to repair, maintain, or improve good housekeeping controls (clean track out pad, sweeping, construction materials management, litter/trash control, port-o-potties staked down, fueling areas, concrete wash out area, proper curb ramps, spill prevention, etc)?	☐ Yes ☐ No ☐ NA
13. Are there disturbed areas that have not had construction activities for 14 to 21 days without stabilization? (except snow or frozen ground)?	☐ Yes ☐ No ☐ NA
14. Are there places where BMPs are needed and should be installed or not needed and should be removed?	☐ Yes ☐ No ☐ NA

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of.fine and imprisonment for knowing violations.

Owner:				
	(Print Name)	(Title)	(Signature)	(Date)
General Contractor:				
	(Print Name)	(Title)	(Signature)	(Date)

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY WATER QUALITY

COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

LTDOT Keeping Utah Moving

Project Name:		Date of Inspection:		Page		of	
Project Location:							

COMMENTS

CORRECTIVE ACTIONS

Identify the problem and its location. If appropriate, describe (in general terms) what needs to be completed.

#	SEV Code	Location and Descritption of Deficiency, Spill, or Permit Violation	Corrective Action Needed
1			
2			
3			
4			
5			
6			

SEV Codes and Descriptions

DOR11	Discharge without a permit	BR19B	Failure to properly operate and maintain BMP's
DOR18	Failure to apply for a Notice of Termination	BR19A	Failure to properly install/implement BMP's
BOR12	Failure to conduct inspections	EOR16	Failure to submit required report (non-DMR)
BOC17	Failure to develop any or adequate SWPPP/SWMP	AOR22	Narrative effluent violation
BOC18	Failure to implement SWPPP/SWMP	DOR12	Failure to submit required permit information
BOR41	Failure to maintain records	AOR12	Numeric effluent violation
COR11	Failure to monitor	BOR42	Violation of a milestone in an order

Appendix F – Corrective Action Log

Project Name: Overlook at Powder Mountain
SWPPP Contact: Jake Allen, Project Manager

Inspection Date	Inspector Name(s)	Description of BMP Deficiency	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible person

Appendix G – SWPPP Amendment Log

Project Name: Overlook at Powder Mountain
SWPPP Contact: Jake Allen, Project Manager

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

Appendix H – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION
STORM WATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: Overlook at Powder Mountain

Operator(s): GENEVA ROCK PRODUCTS

As a subcontractor, you are required to comply with the Storm water Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact storm water must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

Delegation of Authority

I, __Jake Allen____, hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the UPDES "General Permit for Storm Water Discharges Associated with Construction Activity" (CGP), at the construction site:

Overlook at Powder Mountain_____, Permit No. UTR395499_____

The designee is authorized to sign all reports required by the Permit and other information requested by the Director of the Utah Division of Water Quality, or by an authorized representative of the Executive Secretary.

Name of Person or Position: _____

Owner/Operator:_____

Mailing Address: _____

City, State, Zip Code: _____

Phone Number: _____

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Part G.16.1.2. of the CGP, and that the designee above meets the definition of a "duly authorized representative" as set forth in Part G.16.1.2 of the CGP.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Title: _____

Signature: _____

Date: _____

Appendix I – Grading and Stabilization Activities Log

Project Name: Overlook at Powder Mountain
SWPPP Contact: Jake Allen, Project Manager

Date Grading Activity Initiated	Description of Grading Activity	Date Grading Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures are Initiated	Description of Stabilization Measure and Location

Appendix J – SWPPP Training Log

Storm Water Pollution Prevention Training Log

Project Name: **Overlook at Powder Mountain**

Project Location: **Eden, UT 84310**

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Storm Water Training Topic:

- ❑ **Erosion Control BMPs**
- ❑ **Emergency Procedures**
- ❑ **Sediment Control BMPs**
- ❑ **Good Housekeeping BMPs**
- ❑ **Non-Storm Water BMPs**

Specific Training Objective:_____

_____

Attendee Roster:

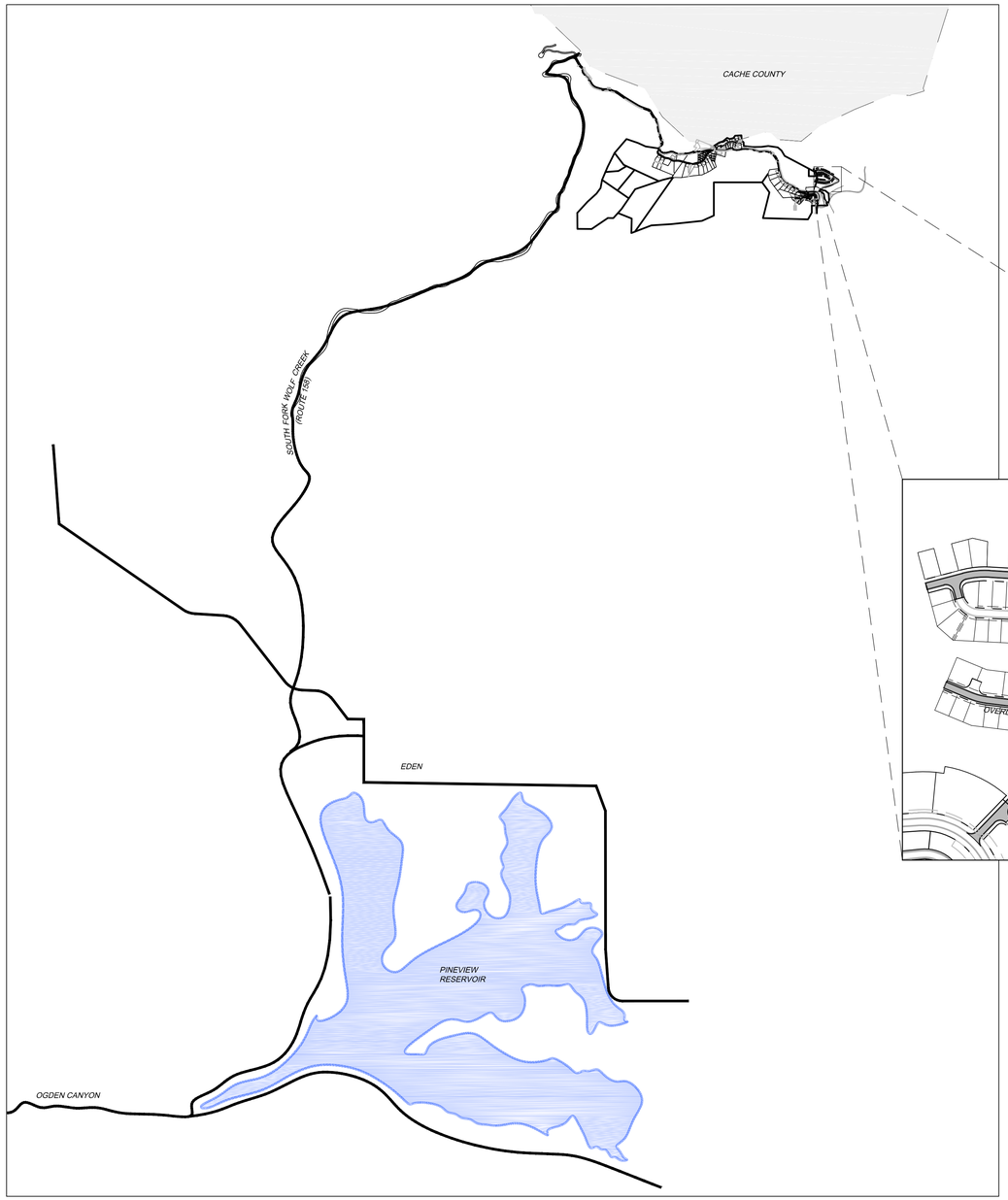
No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

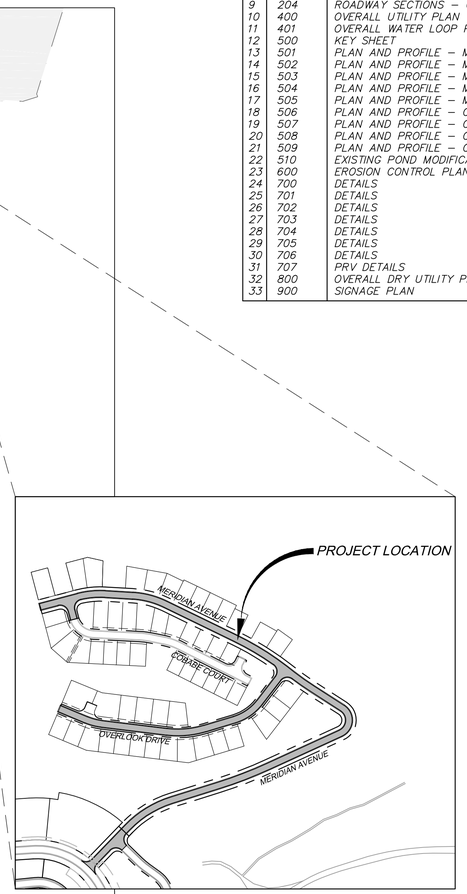
Appendix K – Construction plans

The permittee may elect to use this section to place a small copy of construction plans as a reference for the convenience of those using the SWPPP. It is not a permit requirement to place a copy of the construction plans here in the SWPPP.

OVERLOOK PH1, PH2, & PH3
AT SUMMIT POWDER MOUNTAIN
SITE CONSTRUCTION DRAWINGS

Located in Secs 05 & 08 T7N R2E
Weber County, Utah





SHEET INDEX:

	SHEET NO.	SHEET DESCRIPTION
1	001	CIVIL TITLE SHEET
2	002	GENERAL NOTES & LEGEND
3	003	TYPICAL ROAD SECTIONS
4	100	SITE DEMOLITION PLAN
5	200	OVERALL SITE & GRADING PLAN
6	201	CUT – FILL PLAN
7	202	ROADWAY SECTIONS – MERIDIAN AVENUE
8	203	ROADWAY SECTIONS – OVERLOOK DRIVE
9	204	ROADWAY SECTIONS – OVERLOOK RIDGE
10	400	OVERALL UTILITY PLAN
11	401	OVERALL WATER LOOP PLAN
12	500	KEY SHEET
13	501	PLAN AND PROFILE – MERIDIAN AVENUE STA: 8+50 – 13+50
14	502	PLAN AND PROFILE – MERIDIAN AVENUE STA: 13+50 – 18+50
15	503	PLAN AND PROFILE – MERIDIAN AVENUE STA: 18+50 – 23+50
16	504	PLAN AND PROFILE – MERIDIAN AVENUE STA: 23+50 – 28+50
17	505	PLAN AND PROFILE – MERIDIAN AVENUE STA: 28+50 – 31+16
18	506	PLAN AND PROFILE – COBABE COURT STA: 10+00 – 15+00
19	507	PLAN AND PROFILE – COBABE COURT STA: 15+00 – 18+16
20	508	PLAN AND PROFILE – OVERLOOK DRIVE STA: 10+00 – 15+00
21	509	PLAN AND PROFILE – OVERLOOK DRIVE STA: 15+00 – 19+00
22	510	EXISTING POND MODIFICATION
23	600	EROSION CONTROL PLAN
24	700	DETAILS
25	701	DETAILS
26	702	DETAILS
27	703	DETAILS
28	704	DETAILS
29	705	DETAILS
30	706	DETAILS
31	707	PRV DETAILS
32	800	OVERALL DRY UTILITY PLAN
33	900	SIGNAGE PLAN

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MAS	5/20/2019	SOUTH 200' AT MERIDIAN AVE
2	LAB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.
CIVIL TITLE SHEET

DATE SUBMITTED: 04.16.2019
TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

SCALE
HORIZONTAL: 1" =3000'
0 750' 1500' 3000' 4500'

SHEET NUMBER
001
1 OF 33

CALL 811 BEFORE YOU DIG
BLUE STAKES OF UTAH

DATE: 7/9/2019 4:52 PM
PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\PLAN\001 CIVIL TITLE SHEET.dwg

GENERAL NOTES

1. ALL CONSTRUCTION MUST STRICTLY FOLLOW THE STANDARDS AND SPECIFICATIONS SET FORTH BY: GOVERNING UTILITY MUNICIPALITY, GOVERNING CITY OR COUNTY (IF UN-INCORPORATED), INDIVIDUAL PRODUCT MANUFACTURERS, THE DESIGN ENGINEER, AND AMERICAN PUBLIC WORKS ASSOCIATION (APWA). THE ORDER LISTED ABOVE IS ARRANGED BY SENIORITY. IF A CONSTRUCTION PRACTICE IS NOT SPECIFIED BY ANY OF THE LISTED SOURCES, CONTRACTOR MUST CONTACT DESIGN ENGINEER FOR DIRECTION.
2. CONTRACTOR TO STRICTLY FOLLOW GEOTECHNICAL RECOMMENDATIONS FOR THIS PROJECT. ALL GRADING INCLUDING BUT NOT LIMITED TO CUT, FILL, COMPACTION, ASPHALT SECTION, SUBBASE, TRENCH EXCAVATION/BACKFILL, SITE GRUBBING, RETAINING WALLS AND FOOTINGS MUST BE COORDINATED DIRECTLY WITH THE PROJECT GEOTECHNICAL ENGINEER.
3. TRAFFIC CONTROL, STRIPING & SIGNAGE TO CONFORM TO CURRENT UDOT TRANSPORTATION ENGINEER'S MANUAL AND MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.
5. CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING CONSTRUCTION.
6. AT ALL LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.
7. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT, ADOPTED EDITION OF ADA ACCESSIBILITY GUIDELINES.
8. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED THOROUGHLY REVIEWED PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
9. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND NOTIFYING ENGINEER OR INSPECTING AUTHORITY 48 HOURS IN ADVANCE OF COVERING UP ANY PHASE OF CONSTRUCTION REQUIRING OBSERVATION.
10. ANY WORK IN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE PERMITS FROM THE APPROPRIATE, CITY, COUNTY OR STATE AGENCY CONTROLLING THE ROAD, INCLUDING OBTAINING REQUIRED INSPECTIONS.
11. ALL DIMENSIONS, GRADES & UTILITY DESIGNS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES.
12. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING AND BRING UP ANY QUESTIONS BEFOREHAND.
13. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH BY THE GEOTECHNICAL ENGINEER.
14. CATCH SLOPES SHALL BE GRADED AS SPECIFIED ON GRADING PLANS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FLAGGING, CAUTION SIGNS, LIGHTS, BARRICADES, FLAGMEN, AND ALL OTHER DEVICES NECESSARY FOR PUBLIC SAFETY.
16. CONTRACTOR SHALL, AT THE TIME OF BIDDING AND THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE OF UTAH AND SHALL BE BONDABLE FOR AN AMOUNT EQUAL TO OR GREATER THAN THE AMOUNT BID AND TO DO THE TYPE OF WORK CONTEMPLATED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PLANS AND SPECIFICATIONS.
17. CONTRACTOR SHALL INSPECT THE SITE OF THE WORK PRIOR TO BIDDING TO SATISFY HIMSELF BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS HE MAY PREFER OF THE LOCATION OF THE PROPOSED WORK AND OF THE ACTUAL CONDITIONS OF AND AT THE SITE OF WORK. IF, DURING THE COURSE OF HIS EXAMINATION, A BIDDER FINDS FACTS OR CONDITIONS WHICH APPEAR TO HIM TO BE IN CONFLICT WITH THE LETTER OR SPIRIT OF THE PROJECT PLANS AND SPECIFICATIONS, HE SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING HIS BID. SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, HE HAS RELIED AND IS RELYING ON HIS OWN EXAMINATION OF (1) THE SITE OF THE WORK, (2) ACCESS TO THE SITE, AND (3) ALL OTHER DATA AND MATTERS REQUISITE TO THE FULFILLMENT OF THE WORK AND ON HIS OWN KNOWLEDGE OF EXISTING FACILITIES ON AND IN THE VICINITY OF THE SITE OF THE WORK TO BE CONSTRUCTED UNDER THIS CONTRACT. THE INFORMATION PROVIDED BY THE ENGINEER IS NOT INTENDED TO BE A SUBSTITUTE FOR, OR A SUPPLEMENT TO, THE INDEPENDENT VERIFICATION BY THE CONTRACTOR TO THE EXTENT SUCH INDEPENDENT INVESTIGATION OF SITE CONDITIONS IS DEEMED NECESSARY OR DESIRABLE BY THE CONTRACTOR. CONTRACTOR SHALL ACKNOWLEDGE THAT HE HAS NOT RELIED SOLELY UPON OWNER- OR ENGINEER-FURNISHED INFORMATION REGARDING SITE CONDITIONS IN PREPARING AND SUBMITTING HIS BID.
18. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTOR'S USE DURING CONSTRUCTION.
19. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER, ENGINEER, AND/OR GOVERNING AGENCIES.
20. CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, CONTROL POINTS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.
21. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND 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 THE ENGINEER.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE-TESTING AND/OR RE-INSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.
23. IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT. THERE WILL BE NO EXTRA COST DUE TO THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.
24. WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.
25. CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL STRUCTURES AND OTHER FACILITIES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS-BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.
26. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.

GENERAL NOTES CONT.

27. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PROJECT PLANS AND SPECIFICATIONS. THEREFORE, THE OWNER IS RELYING UPON THE EXPERIENCE AND EXPERTISE OF THE CONTRACTOR. PRICES PROVIDED WITHIN THE CONTRACT DOCUMENTS SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THE TRUE INTENT AND PURPOSE OF THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE COMPETENT, KNOWLEDGEABLE AND HAVE SPECIAL SKILLS IN THE NATURE, EXTENT AND INHERENT CONDITIONS OF THE WORK TO BE PERFORMED. CONTRACTOR SHALL ALSO ACKNOWLEDGE THAT THERE ARE CERTAIN PECULIAR AND INHERENT CONDITIONS EXISTENT IN THE CONSTRUCTION OF THE PARTICULAR FACILITIES WHICH MAY CREATE, DURING THE CONSTRUCTION PROGRAM, UNUSUAL OR UNSAFE CONDITIONS HAZARDOUS TO PERSONS, PROPERTY AND THE ENVIRONMENT. CONTRACTOR SHALL BE AWARE OF SUCH PECULIAR RISKS AND HAVE THE SKILL AND EXPERIENCE TO FORESEE AND TO ADOPT PROTECTIVE MEASURES TO ADEQUATELY AND SAFELY PERFORM THE CONSTRUCTION WORK WITH RESPECT TO SUCH HAZARDS.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STRIPING AND/OR PAVEMENT MARKINGS NECESSARY TO TIE EXISTING STRIPING INTO FUTURE STRIPING. METHOD OF REMOVAL SHALL BE BY GRINDING OR SANDBLASTING.
29. CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER PROVISIONS NECESSARY TO PROTECT WORKMEN FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 4' OR MORE. FOR EXCAVATIONS 4 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH INDUSTRIAL COMMISSION OF UTAH SAFETY ORDERS SECTION 68 - EXCAVATIONS, AND SECTION 69 - TRENCHES, ALONG WITH ANY LOCAL CODES OR ORDINANCES.
30. ALL EXISTING GATES AND FENCES TO REMAIN UNLESS OTHERWISE NOTED ON PLANS. PROTECT ALL GATES AND FENCES FROM DAMAGE.

UTILITY NOTES

1. CONTRACTOR SHALL COORDINATE LOCATION OF NEW "DRY UTILITIES" WITH THE APPROPRIATE UTILITY COMPANY, INCLUDING BUT NOT LIMITED TO: TELEPHONE SERVICE, GAS SERVICE, CABLE, POWER, INTERNET.
2. EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING A COMBINATION OF ON-SITE SURVEYS (BY OTHERS). PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY BLUE STAKES AT 1-800-662-4111 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.
3. CONTRACTOR SHALL POT HOLE ALL UTILITIES TO DETERMINE IF CONFLICTS EXIST PRIOR TO BEGINNING ANY EXCAVATION. NOTIFY ENGINEER OF ANY CONFLICTS. CONTRACTOR SHALL VERIFY LOCATION AND INVERTS OF EXISTING UTILITIES TO WHICH NEW UTILITIES WILL BE CONNECTED. PRIOR TO COMMENCING ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE REQUIRED PROCEDURES.
4. CARE SHOULD BE TAKEN IN ALL EXCAVATIONS DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT HIS EXPENSE.
5. ALL VALVES AND MANHOLE COVERS SHALL BE RAISED OR LOWERED TO MEET FINISHED GRADE.
6. CONTRACTOR SHALL CUT PIPES OFF FLUSH WITH THE INSIDE WALL OF THE BOX OR MANHOLE.
7. CONTRACTOR SHALL GROUT AT CONNECTION OF PIPE TO BOX WITH NON-SHRINKING GROUT, INCLUDING PIPE VOIDS LEFT BY CUTTING PROCESS, TO A SMOOTH FINISH.
8. CONTRACTOR SHALL GROUT WITH NON-SHRINK GROUT BETWEEN GRADE RINGS AND BETWEEN BOTTOM OF INLET LID FRAME AND TOP OF CONCRETE BOX.
9. SILT AND DEBRIS IS TO BE CLEANED OUT OF ALL STORM DRAIN BOXES. CATCH BASINS ARE TO BE MAINTAINED IN A CLEANED CONDITION AS NEEDED UNTIL AFTER THE FINAL BOND RELEASE INSPECTION.
10. CONTRACTOR SHALL CLEAN ASPHALT, TAR OR OTHER ADHESIVES OFF OF ALL MANHOLE LIDS AND INLET GRATES TO ALLOW ACCESS.
11. EACH TRENCH SHALL BE EXCAVATED SO THAT THE PIPE CAN BE LAID TO THE ALIGNMENT AND GRADE AS REQUIRED. THE TRENCH WALL SHALL BE SO BRACED THAT THE WORKMEN MAY WORK SAFELY AND EFFICIENTLY. ALL TRENCHES SHALL BE DRAINED SO THE PIPE LAYING MAY TAKE PLACE IN DEWATERED CONDITIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF DEWATERING AND NO COST CHANGE WILL BE PROVIDED.
12. CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES AMPLE MEANS AND DEVICES WITH WHICH TO REMOVE PROMPTLY AND TO PROPERLY DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION.
13. MAINTAIN A MINIMUM 18" VERTICAL SEPARATION DISTANCE BETWEEN ALL UTILITY CROSSINGS. AT WATER/SEWER CROSSINGS, WATER IS REQUIRED TO CROSS ABOVE SANITARY SEWER UNLESS AN EXCEPTION HAS BEEN GRANTED BY THE UTAH DIVISION OF DRINKING WATER.
14. CONTRACTOR SHALL START INSTALLATION AT LOW POINT OF ALL NEW GRAVITY UTILITY LINES.
15. ALL BOLTED FITTINGS MUST BE GREASED AND WRAPPED.
16. UNLESS SPECIFICALLY NOTED OTHERWISE, MAINTAIN AT LEAST 2 FEET OF COVER OVER ALL STORM DRAIN LINES AT ALL TIMES (INCLUDING DURING CONSTRUCTION).
17. ALL WATER LINES SHALL BE INSTALLED A MINIMUM OF 84" OF COVER TO TOP OF PIPE BELOW FINISHED GRADE.
18. ALL SEWER LINES AND SEWER SERVICES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET, PIPE EDGE TO PIPE EDGE, FROM THE WATER LINES.
19. CONTRACTOR SHALL INSTALL THRUST BLOCKING AT ALL WATERLINE ANGLE POINTS AND TEES.
20. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.
21. CONTRACTOR SHALL INSTALL MAGNETIC LOCATING TAPE CONTINUOUSLY OVER ALL NONMETALLIC PIPE.
22. THE CONTRACTOR SHALL NOTIFY TALISMAN CIVIL CONSULTANTS, LLC. IN WRITING AT LEAST 48 HOURS PRIOR TO BACKFILLING OF ANY PIPE WHICH STUBS TO A FUTURE PHASE OF CONSTRUCTION FOR INVERT VERIFICATION. TOLERANCE SHALL BE IN ACCORDANCE WITH THE REGULATORY AGENCY STANDARD SPECIFICATIONS.
23. UNDER NO CIRCUMSTANCE SHALL THE PIPE OR ACCESSORIES BE DROPPED INTO THE TRENCH.
24. THE CONTRACTOR SHALL MARK ALL UNDERGROUND UTILITIES IN LOCATIONS WHERE UTILITIES ARE NOT LOCATED WITHIN A ROADWAY. THE CONTRACTOR SHALL MARK UTILITIES AT ANGLE POINTS, PCs, AND PTs WITH A 2' REBAR STAKE INSTALLED FLUSH TO GRADE. SURVEY ALL LOCATIONS AND PROVIDE GPS COORDINATES WITH AS-BUILT DRAWINGS.

LEGEND:

SYMBOL / LINETYPE	DESCRIPTION	DETAIL
8"W PVC	PROPOSED 8"ø C-900 PVC WATER PIPE	APWA PLAN NO. 381, 382 - SHEET 701
10"W PVC	PROPOSED 10"ø C-900 PVC WATER PIPE	APWA PLAN NO. 381, 382 - SHEET 701
8"W HDPE	PROPOSED 8"ø HDPE WATER PIPE	APWA PLAN NO. 381, 382 - SHEET 701
10"W HDPE	PROPOSED 10"ø HDPE WATER PIPE	APWA PLAN NO. 381, 382 - SHEET 701
12"W HDPE	PROPOSED 12"ø HDPE WATER PIPE	APWA PLAN NO. 381, 382 - SHEET 701
2"W	PROPOSED 2"ø WATER SERVICE LATERAL	PMWSID PLAN NO. 541S - SHEET 704
W	PROPOSED AIR RELEASE ASSEMBLY	APWA PLAN NO. 575 - SHEET 704
W	PROPOSED WATER METER	PMWSID PLAN NO. 521S - SHEET 705
	PROPOSED WATER LINE REDUCER	APWA PLAN NO. 561, 562 - SHEET 703
	PROPOSED WATER VALVE	APWA PLAN NO. 561, 562 - SHEET 703
	PROPOSED FIRE HYDRANT ASSEMBLY	PMWSID PLAN NO. 511S - SHEET 705
8"SS PVC	PROPOSED 8"ø SDR35 PVC SEWER PIPE	APWA PLAN NO. 381, 382 - SHEET 701
8"SS HDPE	PROPOSED 8"ø HDPE SEWER PIPE	APWA PLAN NO. 381, 382 - SHEET 701
	PROPOSED PVC SANITARY SEWER LATERAL	PMWSID PLAN NO. 431S - SHEET 702
S	PROPOSED 4'ø SANITARY SEWER MANHOLE	PMWSID PLAN NO. 402S AND APWA PLAN NO. 411 - SHEET 702
SS	PROPOSED 5'ø SANITARY SEWER MANHOLE	PMWSID PLAN NO. 402S AND APWA PLAN NO. 411 - SHEET 702
15"SD	PROPOSED 15"ø CLIII RCP DRAINAGE PIPE	APWA PLAN NO. 381, 382 - SHEET 701
18"SD	PROPOSED 18"ø CLIII RCP DRAINAGE PIPE	APWA PLAN NO. 381, 382 - SHEET 701
D	PROPOSED STORM DRAIN MANHOLE	APWA PLAN NO. 341 - SHEET 701
	PROPOSED CATCH BASIN	APWA PLAN NO. 315 - SHEET 700
C	PROPOSED COMBINATION CATCH BASIN AND CLEANOUT BOX	APWA PLAN NO. 316 - SHEET 701
(1)2"COM	PROPOSED TELECOMMUNICATION CONDUIT (1)2"ø	N/A
TL	PROPOSED TELECOMMUNICATION PULL BOX	N/A
(2) 6" P	PROPOSED ELECTRICAL CONDUIT (2)6"ø	N/A
E	PROPOSED ELECTRICAL METER	N/A
TR	PROPOSED ELECTRICAL TRANSFORMER	N/A
	EASEMENT LINE	N/A
	PROPOSED LOT LINE	N/A
8"W	EXISTING 8"ø WATER LINE	N/A
16"W	EXISTING 16"ø WATER LINE	N/A
	EXISTING WATER VALVE	N/A
	EXISTING FIRE HYDRANT	N/A
15"SD	EXISTING 15"ø STORM DRAIN LINE	N/A
D	EXISTING STORM DRAIN MANHOLE	N/A
	EXISTING STORM DRAIN CATCH BASIN	N/A
8"SS	EXISTING 8"ø SANITARY SEWER LINE	N/A
S	EXISTING SANITARY SEWER MANHOLE	N/A
G G	EXISTING GAS PIPE/SLEEVE	N/A
P P	EXISTING MISCELLANEOUS POWER CONDUIT	N/A
(1)4"P	EXISTING 4"ø POWER CONDUIT	N/A
(1)2"COM	EXISTING 2"ø COMMUNICATION CONDUIT	N/A
8"SS HDPE	EXISTING SANITARY SEWER LINE TO BE REMOVED	N/A
15"SD	EXISTING STORM DRAIN LINE TO BE REMOVED	N/A
16"W	EXISTING WATER LINE TO BE REMOVED	N/A
S	EXISTING SANITARY SEWER MANHOLE TO BE REMOVED	N/A

NOTE: LEGEND MAY CONTAIN SYMBOLS THAT ARE NOT USED IN PLAN SET.

EROSION CONTROL GENERAL NOTES:

THE CONTRACTOR TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL FOR CONSTRUCTION OF THIS PROJECT. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO WEBER COUNTY ORDINANCES AND ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE COUNTIES. ALSO, INSPECTORS WILL HAVE THE RIGHT TO CHANGE THE FACILITIES AS NEEDED.

CONTRACTOR SHALL KEEP THE SITE WATERED TO CONTROL DUST. CONTRACTOR TO LOCATE A NEARBY HYDRANT FOR USE AND TO INSTALL TEMPORARY METER. CONSTRUCTION WATER COST TO BE INCLUDED IN BID.

WHEN GRADING OPERATIONS ARE COMPLETED AND THE DISTURBED GROUND IS LEFT "OPEN" FOR 14 DAYS OR MORE, THE AREA SHALL BE FURROWED PARALLEL TO THE CONTOURS.

THE CONTRACTOR SHALL MODIFY EROSION CONTROL MEASURES TO ACCOMMODATE PROJECT PLANNING.

ALL ACCESS TO PROPERTY WILL BE FROM PUBLIC RIGHT-OF-WAYS.

THE CONTRACTOR IS REQUIRED BY STATE AND FEDERAL REGULATIONS TO PREPARE A STORM WATER POLLUTION PREVENTION PLAN AND FILE A "NOTICE OF INTENT" WITH THE UTAH DIVISION OF WATER QUALITY.

MAINTENANCE:

ALL BEST MANAGEMENT PRACTICES (BMP'S) SHOWN ON THIS PLAN MUST BE MAINTAINED AT ALL TIMES UNTIL VEGETATION IS RE-ESTABLISHED.

THE CONTRACTOR'S RESPONSIBILITY SHALL INCLUDE MAKING BI-WEEKLY CHECKS ON ALL EROSION CONTROL MEASURES TO DETERMINE IF REPAIR OR SEDIMENT REMOVAL IS NECESSARY. CHECKS SHALL BE DOCUMENTED AND COPIES OF THE INSPECTIONS KEPT ON SITE.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF BARRIER.

SEDIMENT TRACKED ONTO PAVED ROADS MUST BE CLEANED UP AS SOON AS PRACTICAL, BUT IN NO CASE LATER THAN THE END OF THE NORMAL WORK DAY. THE CLEAN UP WILL INCLUDE SWEEPING OF THE TRACKED MATERIAL, PICKING IT UP, AND DEPOSITING IT TO A CONTAINED AREA.

EXPOSED SLOPES:

ANY EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:

A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED
B) TRACKING STRAW PERPENDICULAR TO SLOPES
C) INSTALLING A LIGHT-WEIGHT, TEMPORARY EROSION CONTROL BLANKET

SCOPE OF WORK:

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

CULINARY WATER NOTES

1. ALL MATERIALS THAT MAY COME IN CONTACT WITH DRINKING WATER, INCLUDING PIPES, GASKETS, LUBRICANTS AND O-RINGS, SHALL BE ANSI-CERTIFIED AS MEETING THE REQUIREMENTS OF ANSI/NSF STANDARD 61, DRINKING WATER SYSTEM COMPONENTS - HEALTH EFFECTS. TO PERMIT FIELD-VERIFICATION OF THIS CERTIFICATION, ALL COMPONENTS SHALL BE APPROPRIATELY STAMPED WITH THE NSF LOGO.
2. PIPE, JOINTS, FITTINGS, VALVES, AND FIRE HYDRANTS SHALL CONFORM TO ANSI/NSF STANDARD 61, AND APPLICABLE SECTIONS OF AWWA STANDARDS C104-A21.4-08 THROUGH C550-05 AND C900-07 THROUGH C950-07.
3. FOR PVC PIPE, ASTM D2774, RECOMMENDED PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING AND PVC PIPE AND AWWA MANUAL OF PRACTICE M23, 2003.
4. FOR HDPE PIPE, ASTM D2774, RECOMMENDED PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING AND AWWA MANUAL OF PRACTICE M55, 2006.
5. ALL TYPES OF INSTALLED PIPE SHALL BE PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600-10.
6. THE OPEN ENDS OF ALL PIPELINES UNDER CONSTRUCTION SHALL BE COVERED AND EFFECTIVELY SEALED AT THE END OF THE DAY'S WORK.
7. ALL NEW WATER MAINS OR APPURTENANCES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651-05 OR A METHOD APPROVED BY THE DIRECTOR. THE SPECIFICATIONS SHALL INCLUDE DETAILED PROCEDURES FOR THE ADEQUATE FLUSHING, DISINFECTION AND MICROBIOLOGICAL TESTING OF ALL WATER MAINS. ON ALL NEW AND EXTENSIVE DISTRIBUTION SYSTEM CONSTRUCTION, EVIDENCE OF SATISFACTORY DISINFECTION SHALL BE PROVIDED TO THE DIVISION. SAMPLES FOR COLIFORM ANALYSES SHALL BE COLLECTED AFTER DISINFECTION IS COMPLETE AND THE SYSTEM IS REFILLED WITH DRINKING WATER. A STANDARD HETEROTROPHIC PLATE COUNT IS ADVISABLE. THE USE OF WATER FOR PUBLIC DRINKING WATER PURPOSES SHALL NOT COMMENCE UNTIL THE BACTERIOLOGIC TESTS INDICATE THE WATER IS FREE FROM CONTAMINATION.

WEBER COUNTY

2380 WASHINGTON BLVD. #240
OGDEN, UT 84401
(801) 399-8374

ROCKY MOUNTIAN POWER

1438 WEST 2550 SOUTH
OGDEN, UT 84401
(801) 629-4429

POWDER MOUNTAIN WATER & SEWER DISTRICT

PO BOX 270
EDEN, UT 84310
(801) 745-0912

811 DIG SAFE - CALL 811 BEFORE YOU DIG

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS
1	MHS	5/20/2019	SOUTH 200' OF MORGAN AVE
2	LAB	6/20/2019	

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6.20.19
STATE OF UTAH

OVERLOOK PH1, PH2, PH3 AT S.P.M.

GENERAL NOTES & LEGEND

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

SHEET NUMBER
002
2 OF 33

DATE: 7/9/2019 4:52 PM

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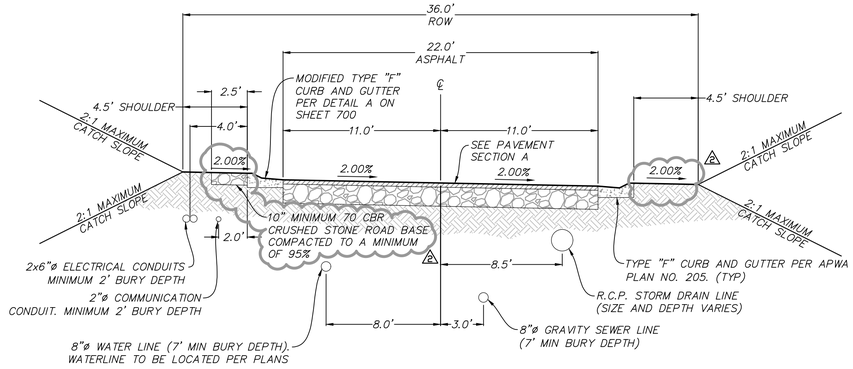
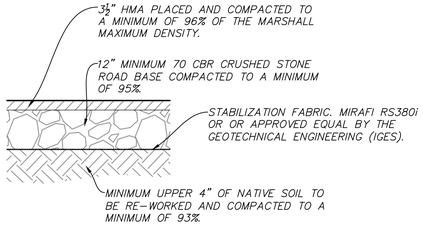
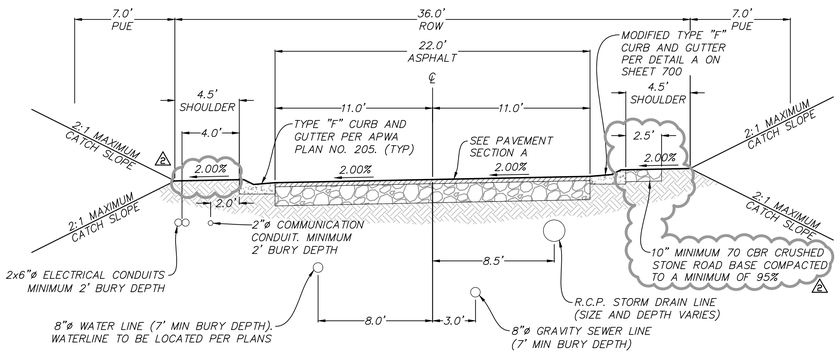


TYPICAL SECTION: MERIDIAN AVENUE

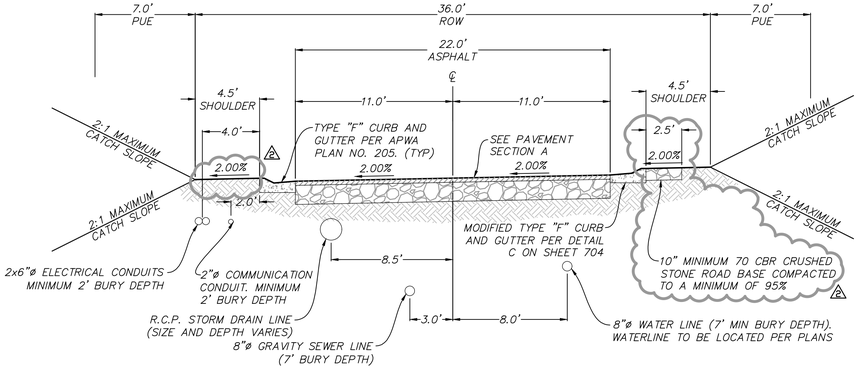


NOTE: PAVEMENT SECTION DETERMINED BY IGES GEOTECHNICAL REPORT DATED FEBRUARY 12, 2019 (REV.2).

PAVEMENT SECTION A



TYPICAL SECTION: COBABE COURT



TYPICAL SECTION: OVERLOOK DRIVE

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CIVIL CONSULTANTS
5217 SOUTH STATE STREET
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801.743.1300

NO.	BY	DATE	REVISIONS:
1	MHS	5/20/2019	SOUTH "JOG" AT MERIDIAN AVE
2	LJB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.

TYPICAL ROAD SECTIONS

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

SHEET NUMBER
003
3 OF 33

DATE: 7/9/2019 4:52 PM

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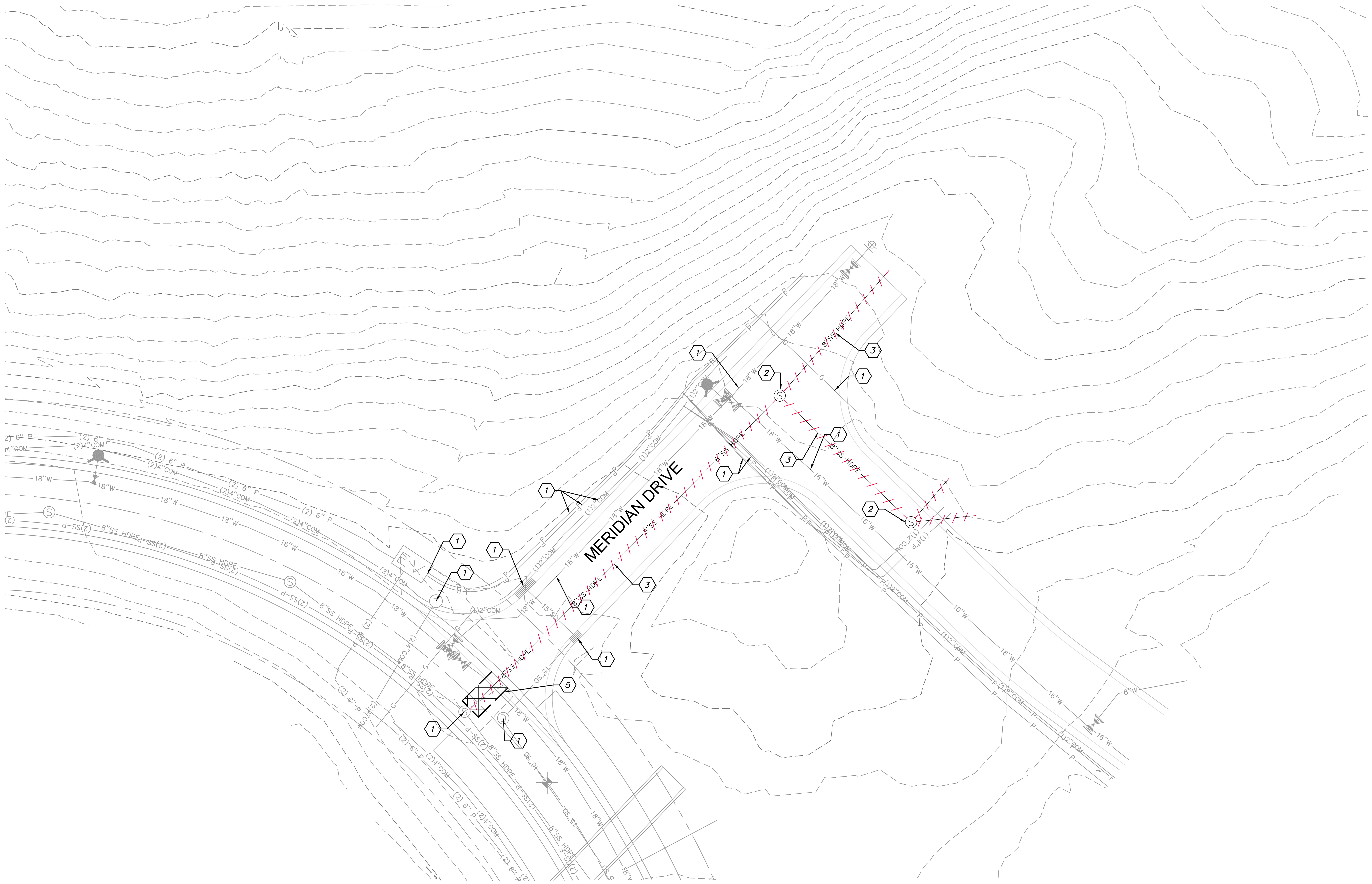

KEY NOTES

1. PROTECT IN PLACE EXISTING UTILITY LINES AND STRUCTURES.
2. REMOVE AND PROPERLY DISPOSE OF EXISTING SEWER MANHOLE.
3. REMOVE AND PROPERLY DISPOSE OF EXISTING SEWER PIPE.
4. REMOVE AND RELOCATE EXISTING PRESSURE RELEASE VALVE. SEE SITE AND UTILITY PLAN FOR NEW LOCATION.
5. SAWCUT, REMOVE AND PROPERLY DISPOSE OF EXISTING ASPHLAT

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CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

SITE DEMOLITION

TCC JOB NUMBER: 18-200.23

DATE SUBMITTED: 04.16.2019

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 20'
0 5 10 20 30

SHEET NUMBER
100
X OF 33

DATE: 7/9/2019 4:52 PM

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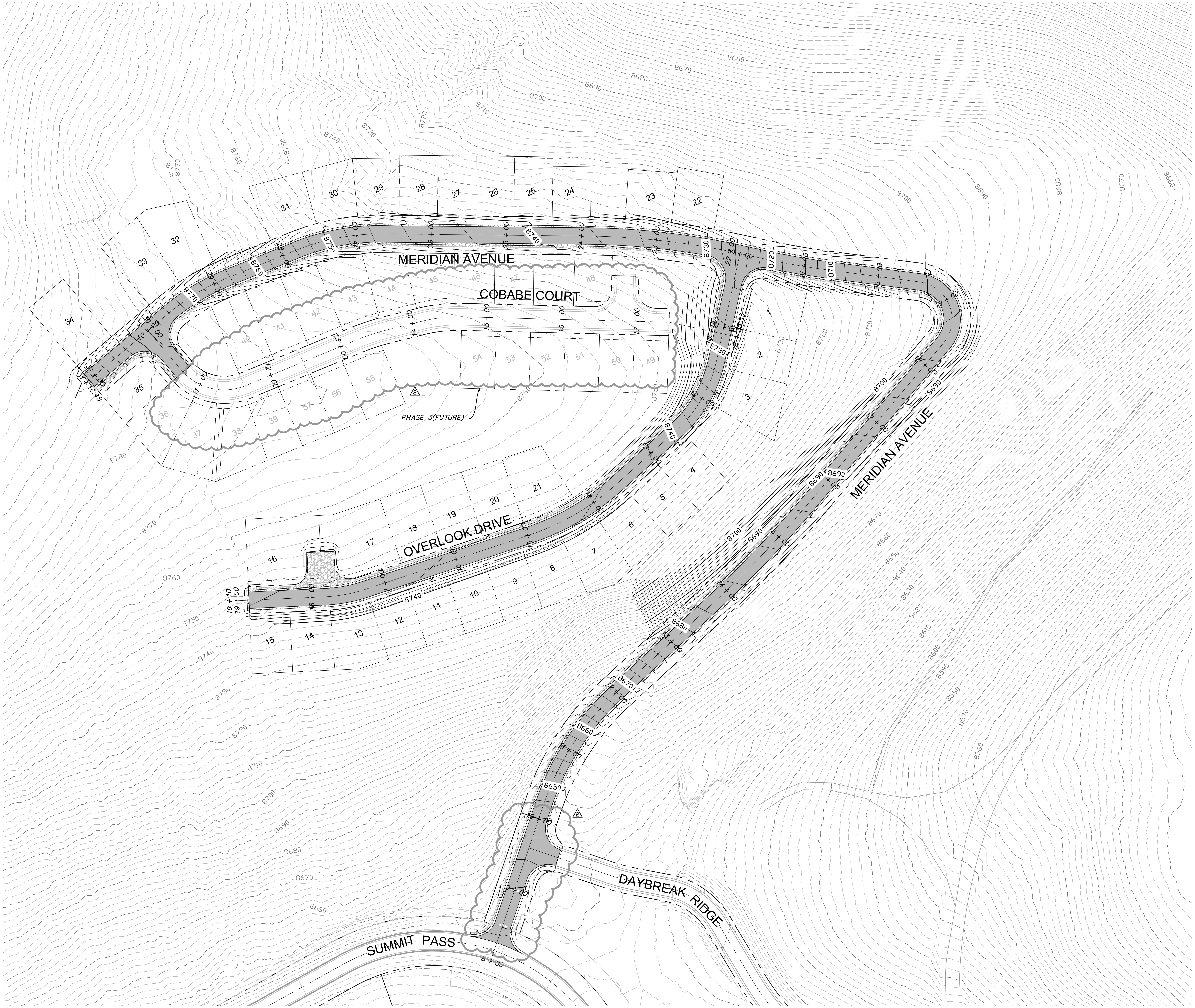

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NO.	BY	DATE	REVISIONS
1	MWB	5/29/2019	REVISION 1
2	SJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

OVERALL SITE & GRADING PLAN

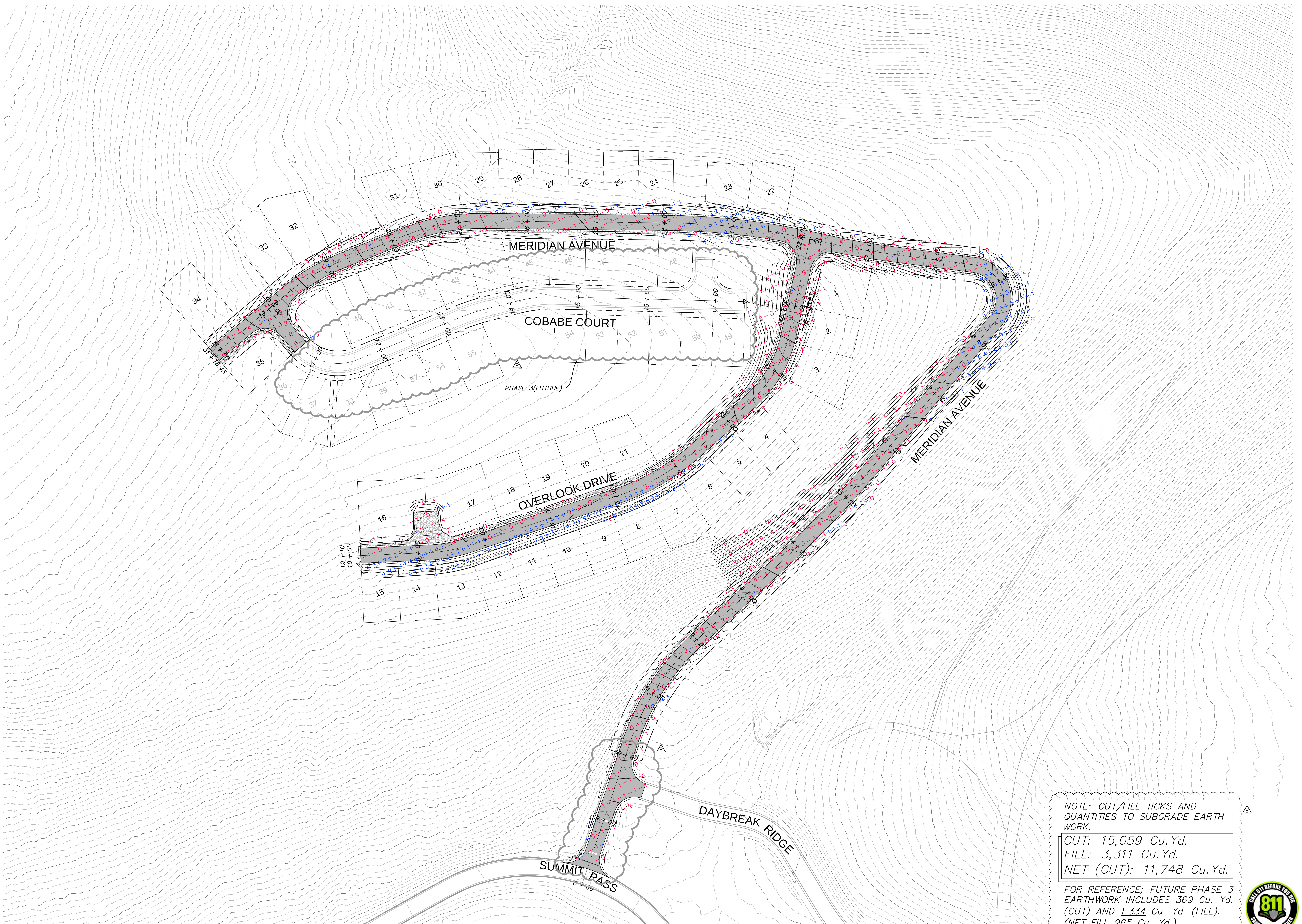
TCC JOB NUMBER: 18.200.23

DATE SUBMITTED: 04.16.2019

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 60'
0 15' 30' 60' 90'

SHEET NUMBER
200
4 OF 33



NOTE: CUT/FILL TICKS AND QUANTITIES TO SUBGRADE EARTH WORK.

CUT: 15,059 Cu.Yd.
FILL: 3,311 Cu.Yd.
NET (CUT): 11,748 Cu.Yd.

FOR REFERENCE; FUTURE PHASE 3 EARTHWORK INCLUDES 369 Cu. Yd. (CUT) AND 1,334 Cu. Yd. (FILL). (NET FILL 965 Cu. Yd.)

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801.743.1300

NO.	BY	DATE	REVISIONS:
1	MRB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

CUT - FILL PLAN

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY STATE OF UTAH

SCALE
HORIZONTAL: 1" = 60'
0 15' 30' 60' 90'

SHEET NUMBER
201
5 OF 33

DATE: 7/9/2019 4:53 PM
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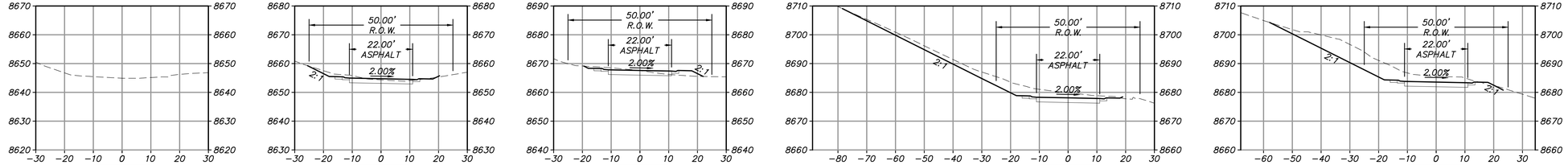

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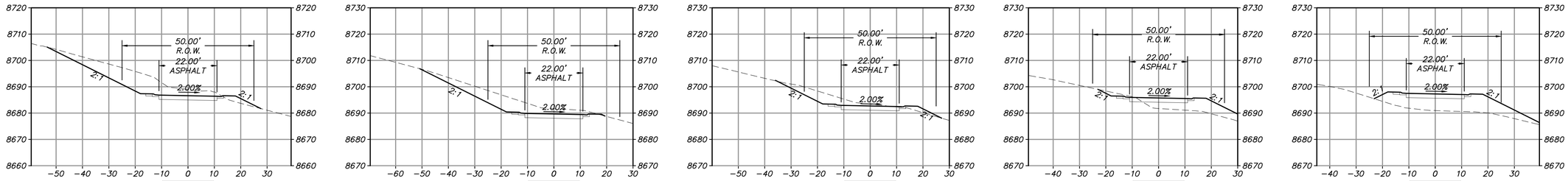
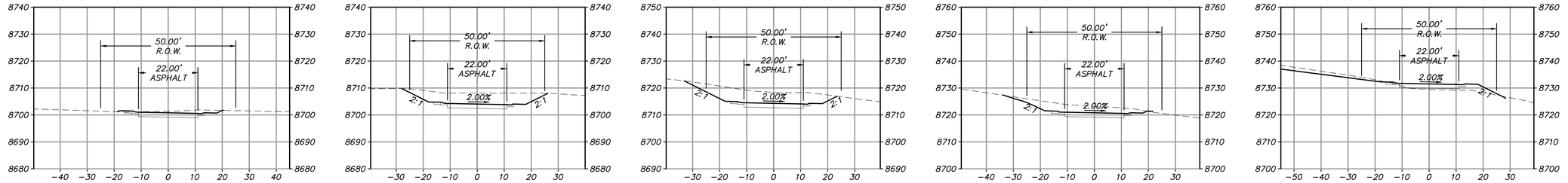
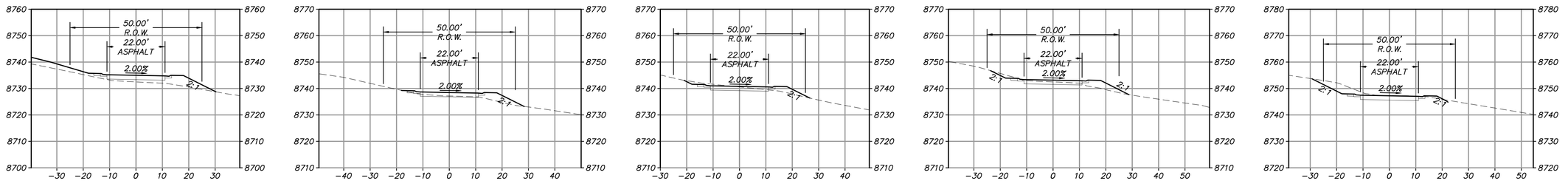


15+00 H:1"=20' V:1"=20' | 16+00 H:1"=20' V:1"=20' | 17+00 H:1"=20' V:1"=20' | 18+00 H:1"=20' V:1"=20' | 18+50 H:1"=20' V:1"=20'



19+50 H:1"=20' V:1"=20' | 20+00 H:1"=20' V:1"=20' | 21+00 H:1"=20' V:1"=20' | 21+50 H:1"=20' V:1"=20' | 22+50 H:1"=20' V:1"=20'



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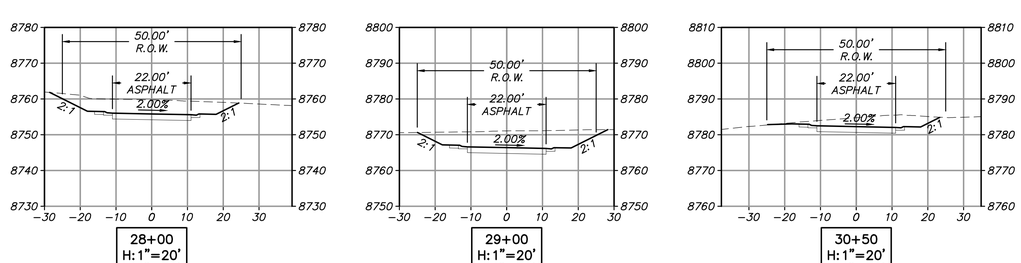

28+00 H:1"=20' V:1"=20' | 29+00 H:1"=20' V:1"=20' | 30+50 H:1"=20' V:1"=20'

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5217 SOUTH STATE STREET
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MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MAS	5/20/2019	SOUTH 200' OF MERIDIAN AVE
2	LAB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.

ROADWAY SECTIONS - MERIDIAN AVENUE

DATE SUBMITTED: 04.16.2019

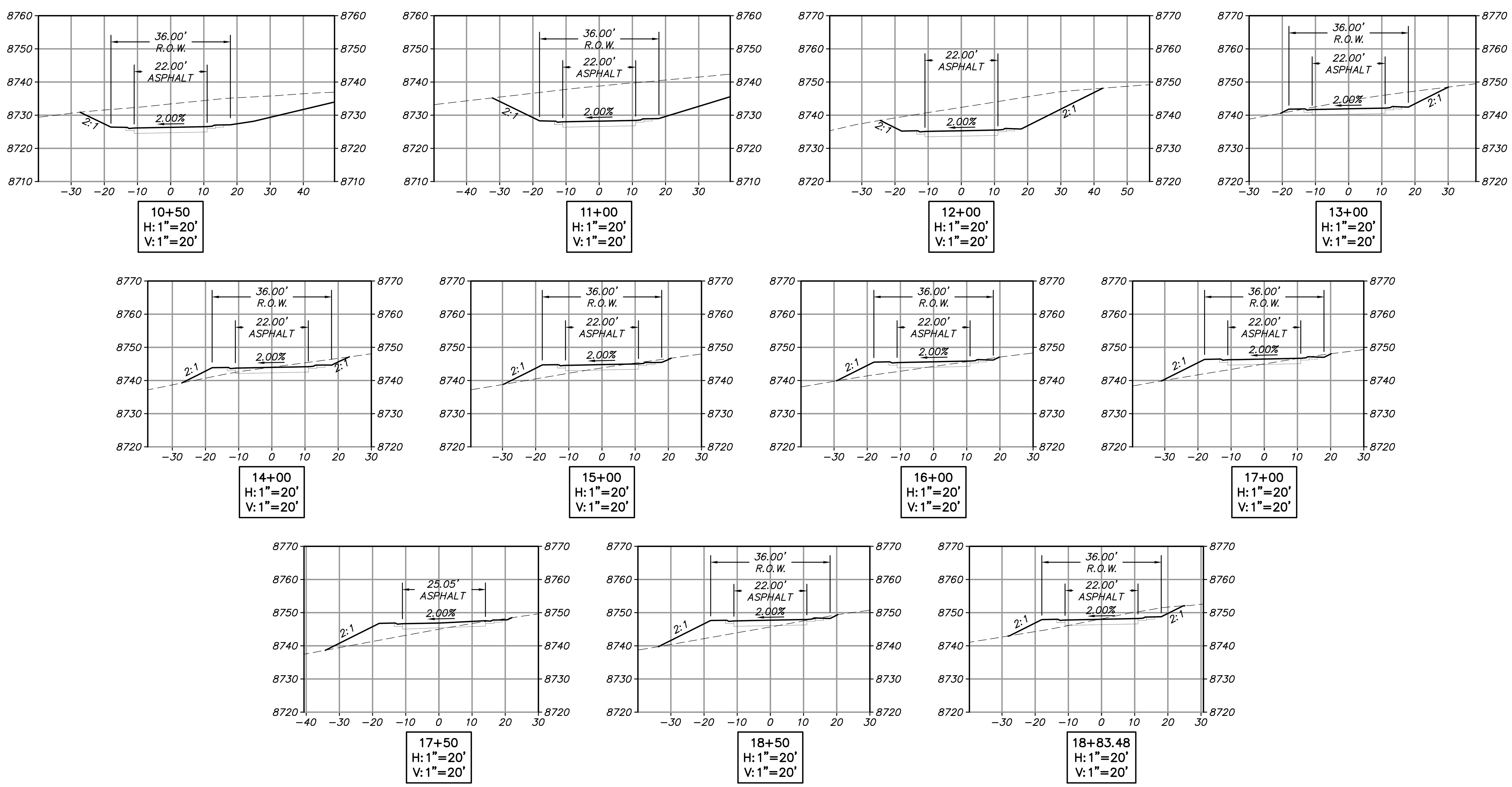
TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6.20.19
STATE OF UTAH

CALL 811 BEFORE YOU DIG
BLUE STAKES OF UTAH

SHEET NUMBER
202
6 OF 33

DATE: 7/9/2019 4:54 PM



TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MAB	5/29/2019	REVISION 1
2	SJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

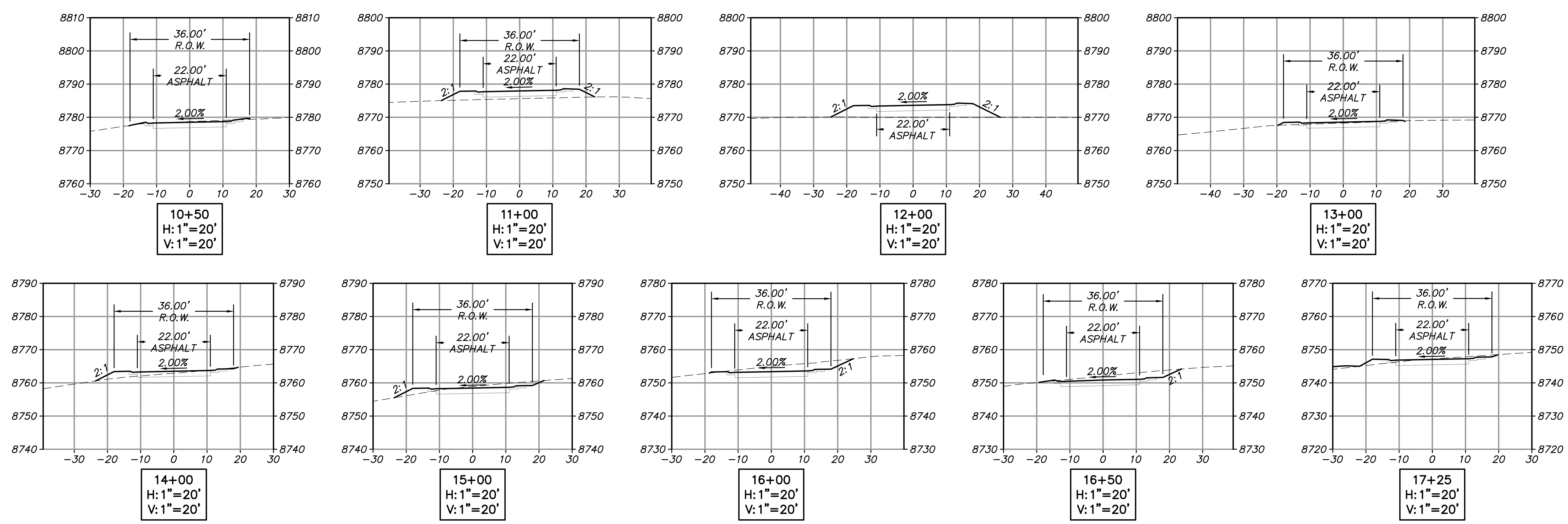
ROADWAY SECTIONS - OVERLOOK DRIVE

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY STATE OF UTAH

SHEET NUMBER
203
7 OF 33



TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS
1	MWB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

ROADWAY SECTIONS - COBABE COURT

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
STATE OF UTAH

SHEET NUMBER
204
8 OF 33

DATE: 7/9/2019 4:54 PM

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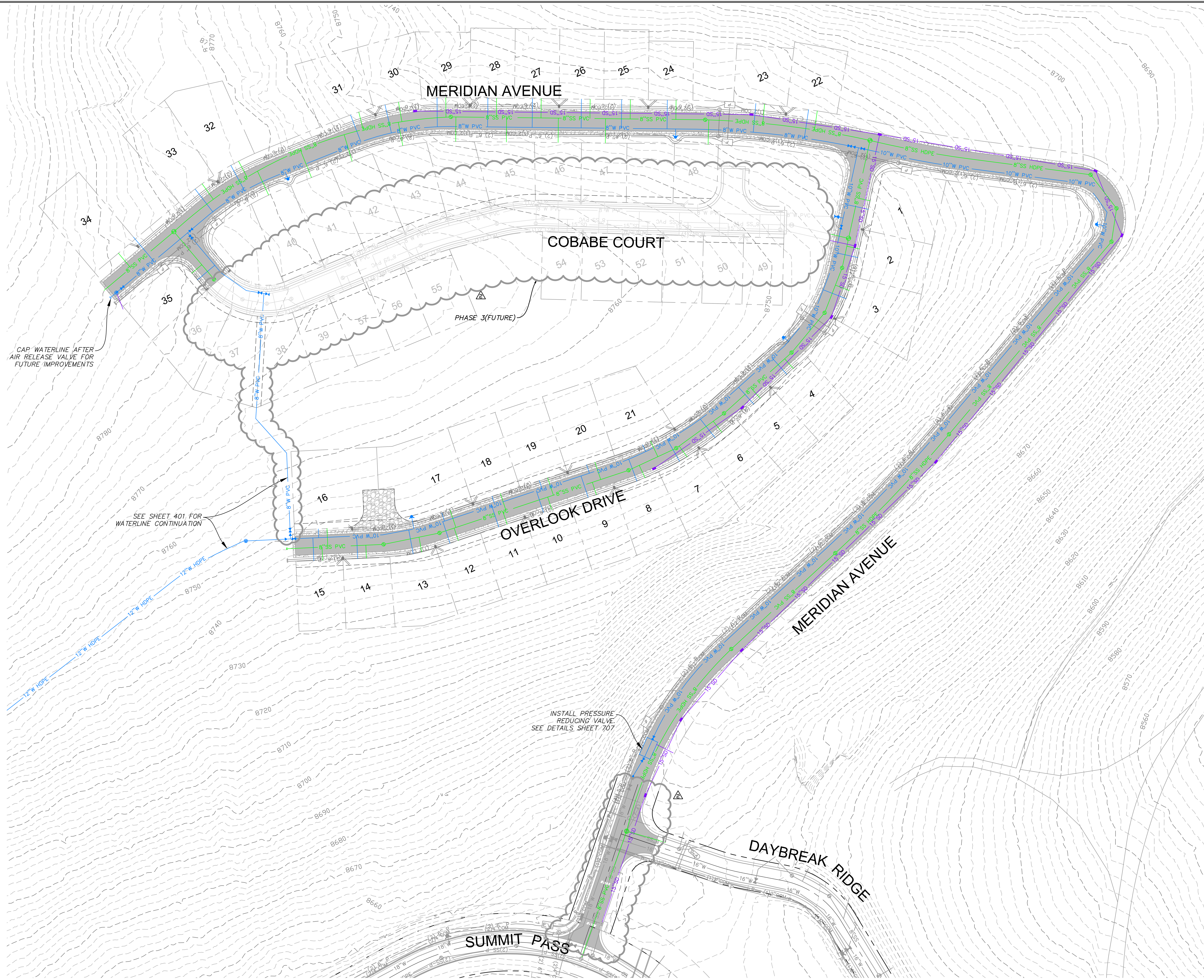

DATE: 7/10/2019 8:40 AM

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TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

OVERALL UTILITY PLAN

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

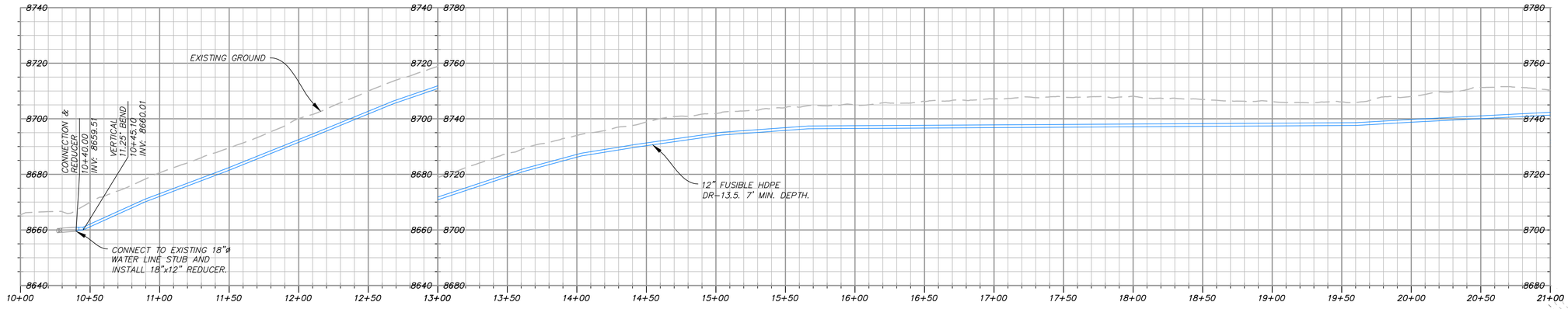
REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
STATE OF UTAH

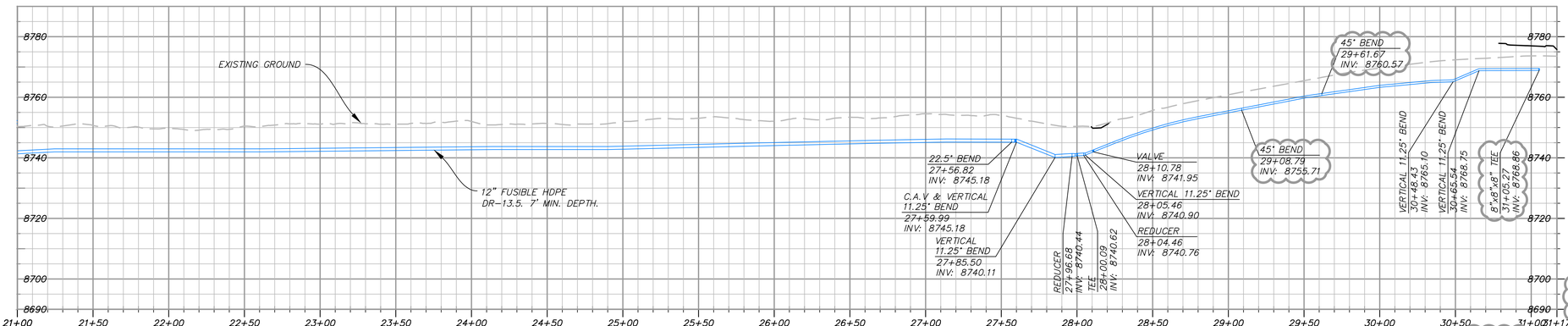
SCALE
HORIZONTAL: 1" = 50'
0 12.5' 25' 50' 75'

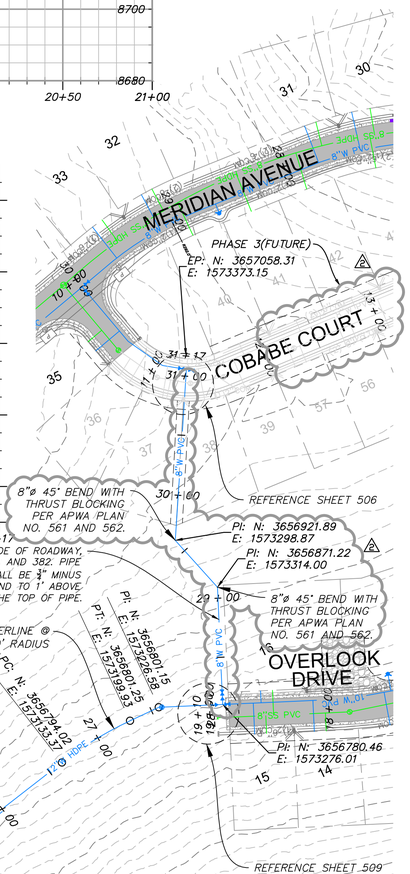
CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

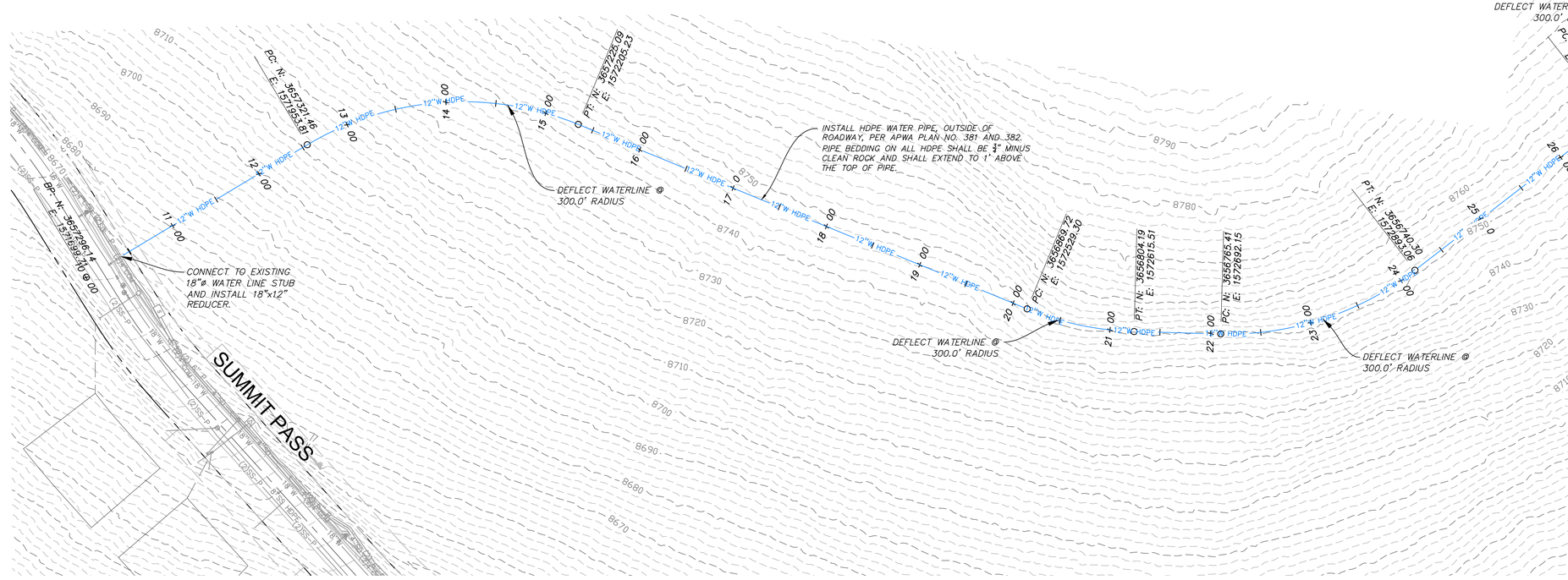
SHEET NUMBER
400
9 OF 33

DATE: 7/10/2019 8:40 AM









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CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS
2	LAB	6/20/2019	SOUTH 200' OF MERIDIAN AVE
1	MAS	5/7/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.

OVERALL WATER LOOP PLAN

DATE SUBMITTED: 04.16.2019

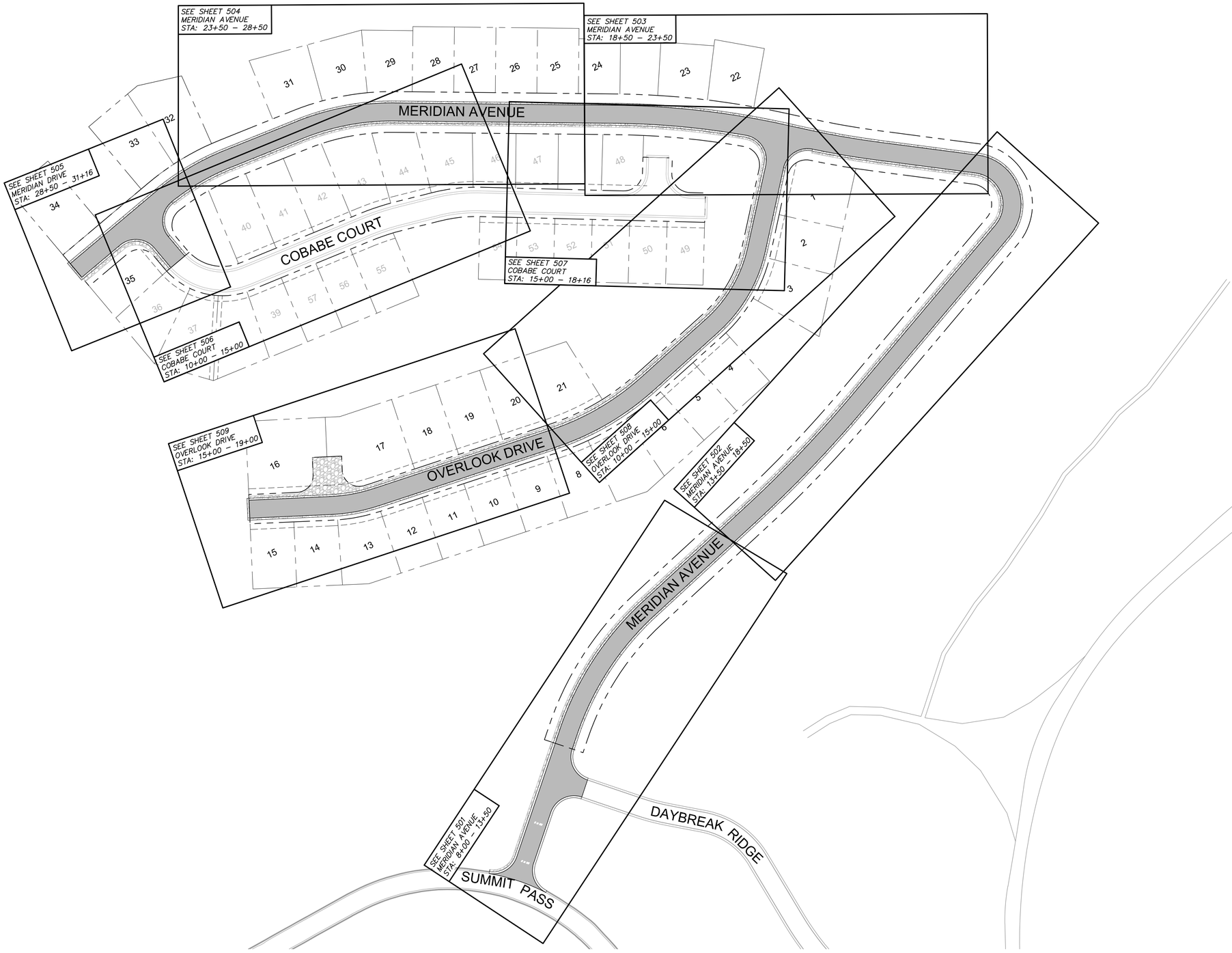
TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 60'
0 15' 30' 60' 90'

SHEET NUMBER
401
10 OF 33

CALL 811 BEFORE YOU DIG
811
STOP DIGGING PAINTING



TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS
1	MHK	5/7/2019	SOUTH 200' OF MERIDIAN AVE
2	LJB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.

KEY SHEET

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 60'
0 15' 30' 60' 90'

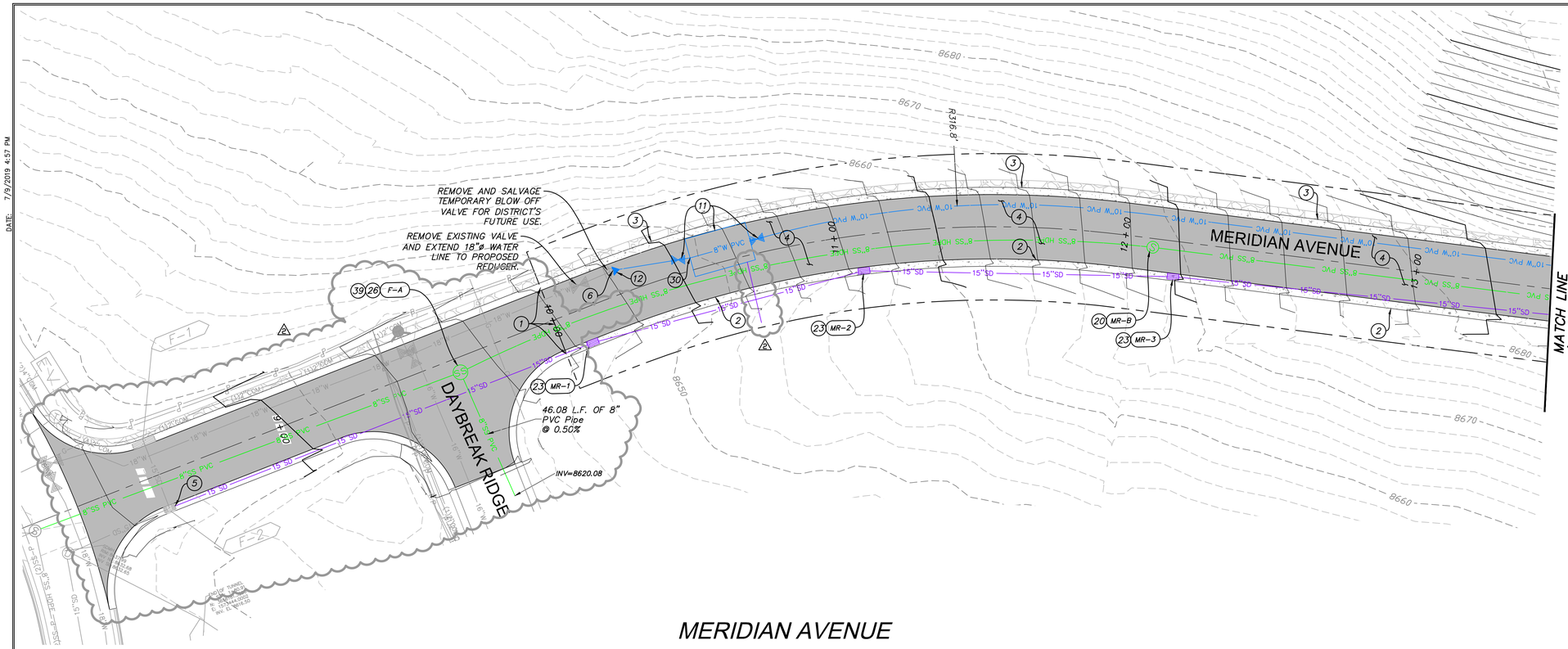
SHEET NUMBER
500
11 OF 33

CALL 811 BEFORE YOU DIG
BLUE STAKES OF UTAH

DATE: 7/9/2019 4:55 PM

PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\P\500 KEY SHEET.dwg

DATE: 7/9/2019 4:57 PM



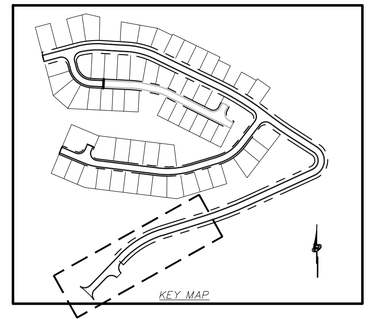
MERIDIAN AVENUE
STA: 8+00 TO 13+50

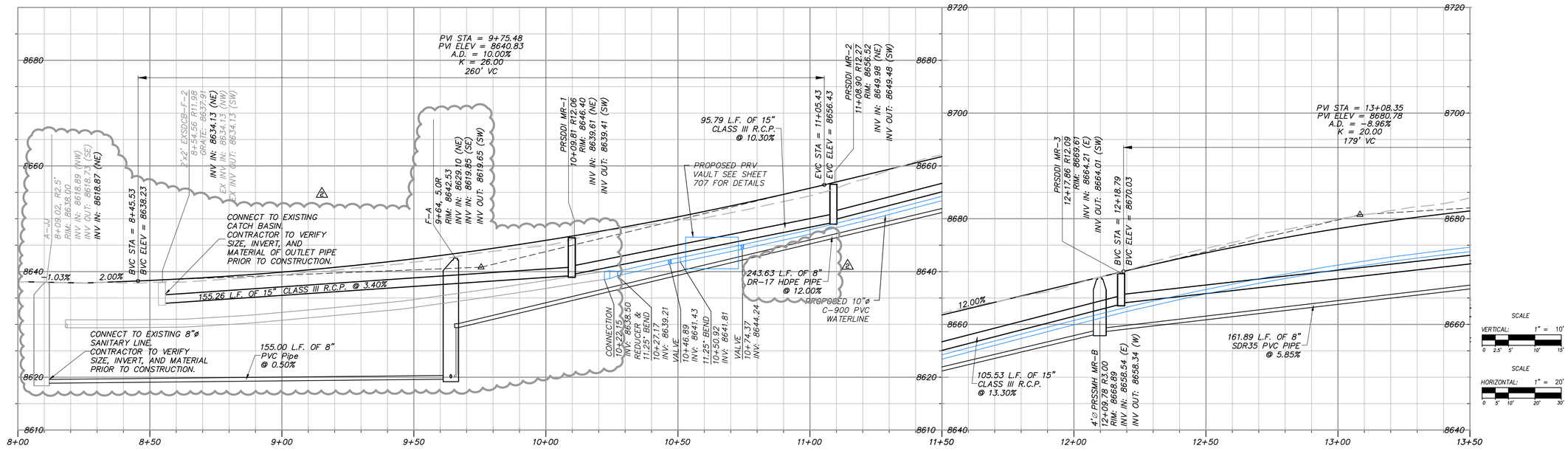
SITE SCOPE OF WORK:

NOTE: DRY UTILITY LAYOUT IS PRELIMINARY, PENDING COORDINATION WITH UTILITY AGENCIES.

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

1. MATCH EXISTING.
2. TYPE 'F' CURB AND GUTTER PER APWA PLAN NO. 205 ON SHEET 700.
3. MODIFIED TYPE 'F' CURB AND GUTTER PER DETAIL A/SHEET 700.
4. ASPHALT PAVEMENT PER PAVEMENT SECTION A/SHEET 003.
5. CONNECT TO EXISTING CATCH BASIN.
6. CONNECT TO EXISTING 18"ø WATER LINE.
11. INSTALL PRESSURE REDUCING VALVE AND VAULT PER DETAIL SHEET 707.
12. 18"x10" REDUCER WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
20. 4'ø SANITARY SEWER MANHOLE PER APWA PLAN NO. 411 WITH FRAME AND COVER PER PMWSID PLAN NO. 402S ON SHEET 702.
23. CATCH BASIN PER APWA PLAN NO. 315 ON SHEET 700.
24. ~~4'ø PRECAST STORM DRAIN MANHOLE PER APWA PLAN NO. 341 ON SHEET 701 WITH SOLID LID PER APWA PLAN NO. 362.~~
26. 5' SANITARY SEWER MANHOLE PER APWA PLAN NO. 411 WITH FRAME AND COVER PER PMWSID PLAN NO. 402S ON SHEET 702.
30. 10"ø 11.25° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
39. INSTALL MANHOLE PIPE DROP PER APWA PLAN NO. 433 ON SHEET 702.





PROFILE VIEW

SCALE
VERTICAL: 1" = 10'
0 2.5' 5' 10' 15'

SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
2	LAB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

PLAN AND PROFILE

MERIDIAN AVENUE STA: 8+50 - 13+50

TCC JOB NUMBER: 18-200.23

DATE SUBMITTED: 04.16.2019

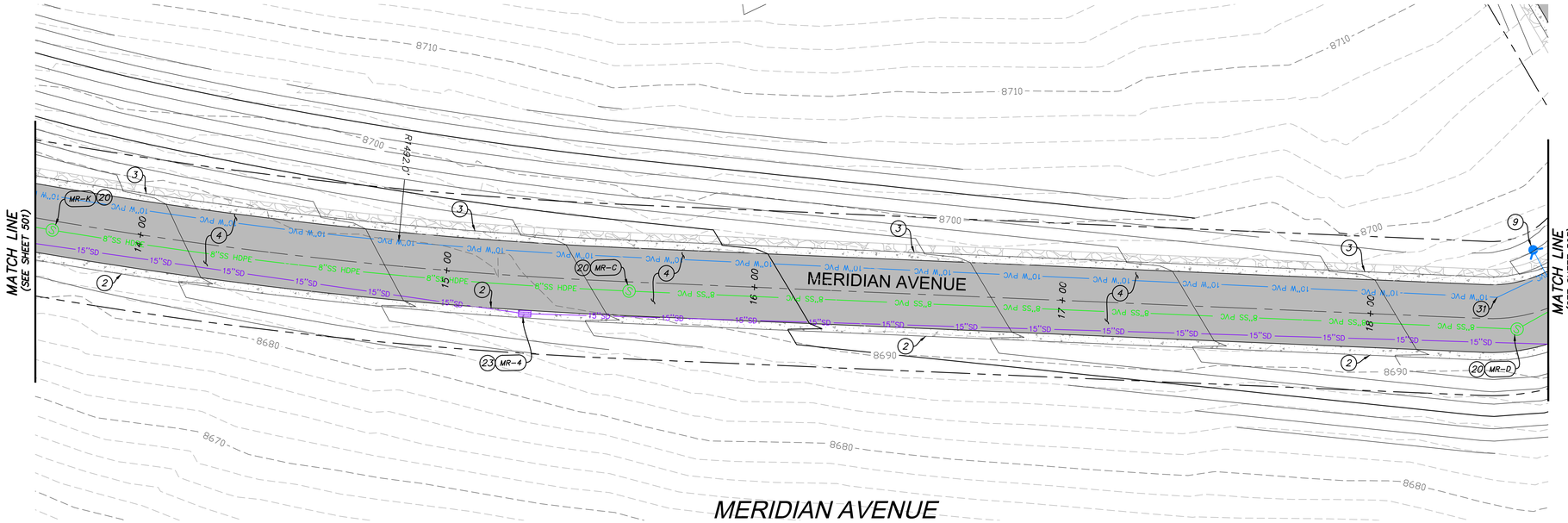
REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

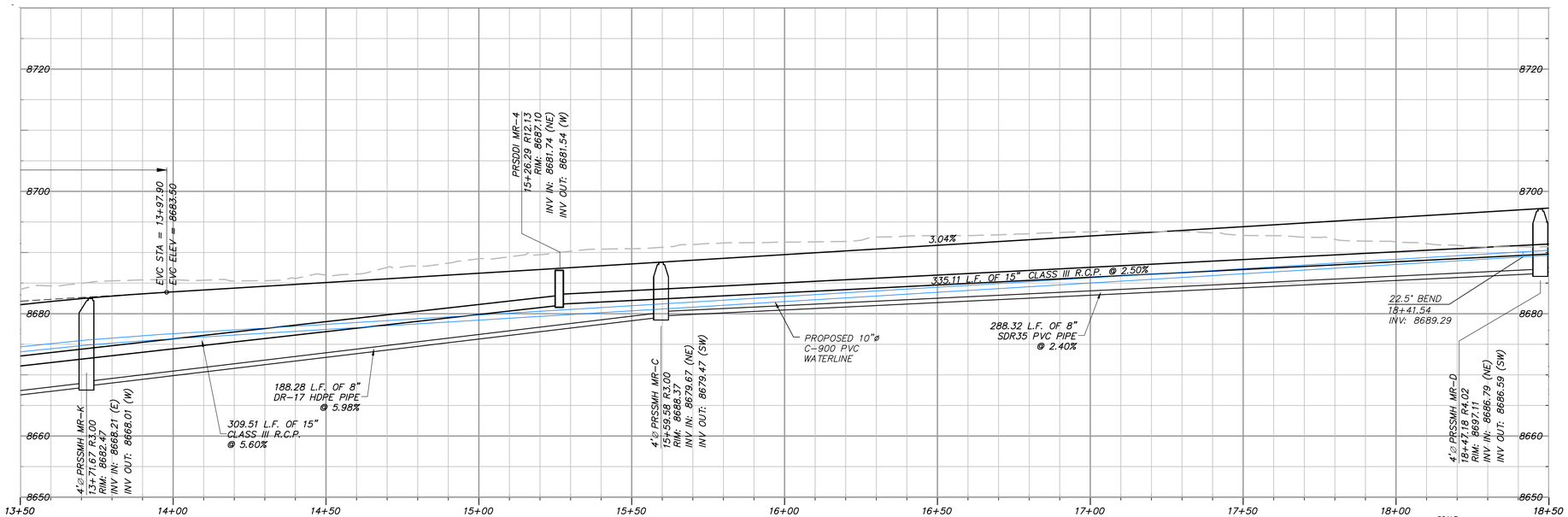
SHEET NUMBER
501
12 OF 33

CALL 811 BEFORE YOU DIG
BLUE STAKES OF UTAH
811
SAFE DIGGING PARTNER

PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\P\501 PLAN AND PROFILE.dwg



MERIDIAN AVENUE
STA: 13+50 TO 18+50



PROFILE VIEW

SCALE
VERTICAL: 1" = 10'
0 2.5' 5' 10' 15'

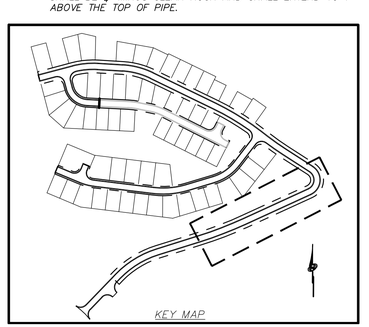
SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

SITE SCOPE OF WORK:

NOTE: DRY UTILITY LAYOUT IS PRELIMINARY, PENDING COORDINATION WITH UTILITY AGENCIES.

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

1. MATCH EXISTING.
2. TYPE 'F' CURB AND GUTTER PER APWA PLAN NO. 205 ON SHEET 700.
3. MODIFIED TYPE 'F' CURB AND GUTTER PER DETAIL A/SHEET 700.
4. ASPHALT PAVEMENT PER PAVEMENT SECTION A/SHEET 003.
5. CONNECT TO EXISTING CATCH BASIN.
6. CONNECT TO EXISTING 18"ø WATER LINE.
7. TRANSITION FROM MODIFIED TYPE "F" CURB AND GUTTER TO APWA TYPE "F" CURB AND GUTTER. SEE CURB AND GUTTER DETAILS ON SHEET 700.
8. 2"ø WATER SERVICE TAP PER APWA PLAN NO. 552. INSTALL DOUBLE BANDED STAINLESS STEEL SADDLES WITH CORP-STOP AT SADDLE. ROMAC, MUELLER, OR APPROVED EQUAL SADDLES AND CORP-STOP VALVES (INSTALLED PER MANUFACTURES RECOMMENDATIONS)
9. FIRE HYDRANT ASSEMBLY PER PMWSID PLAN NO. 511S ON SHEET 705.
10. AIR RELEASE ASSEMBLY PER APWA PLAN NO. 575 ON SHEET 704.
11. INSTALL PRESSURE REDUCING VALVE AND VAULT PER DETAIL SHEET 707.
12. 18"x10" REDUCER WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
13. 12"x8" REDUCER WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
14. 8" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
15. 8"x6"x8" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
16. 8"ø 11.25° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
17. 8"ø 22.5° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
18. 8"ø 45° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
19. 8"ø GATE VALVE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
20. 4'ø SANITARY SEWER MANHOLE PER APWA PLAN NO. 411 WITH FRAME AND COVER PER PMWSID PLAN NO. 402S ON SHEET 702.
21. 4"ø SANITARY SEWER LATERAL PER PMWSID PLAN NO. 431S ON SHEET 702.
22. 2'x4' CATCH BASIN PER APWA PLAN NO. 315 ON SHEET 700.
23. CATCH BASIN PER APWA PLAN NO. 315 ON SHEET 700.
24. ~~4'ø PRECAST STORM DRAIN MANHOLE PER APWA PLAN NO. 341 ON SHEET 701 WITH SOLID LID PER APWA PLAN NO. 302.~~ 2
25. CAP AND MARK UTILITY LINE FOR FUTURE CONNECTION.
26. 5' SANITARY SEWER MANHOLE PER APWA PLAN NO. 411 WITH FRAME AND COVER PER PMWSID PLAN NO. 402S ON SHEET 702.
27. 5' PRECAST STORM DRAIN MANHOLE PER APWA PLAN NO. 341 ON SHEET 701 WITH SOLID LID PER APWA PLAN NO. 302.
28. 10" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
29. 10"x6"x10" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
30. 10"ø 11.25° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
31. 10"ø 22.5° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
32. 10"ø 45° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
33. 10"ø GATE VALVE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
34. 10"x8" REDUCER WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
35. 12"x10" REDUCER WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
36. 12"ø 22.5° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
37. INSTALL PIPE ANCHORS ON 3:1 OR STEEPER SLOPES PER DETAIL A SHEET 704.
38. INSTALL HDPE WATER PIPE, OUTSIDE OF ROADWAY, PER APWA PLAN NO. 381 AND 382. PIPE BEDDING ON ALL HDPE SHALL BE ¾" MINUS CLEAN ROCK AND SHALL EXTEND TO 1' ABOVE THE TOP OF PIPE.



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SAFE DIGGING PARTNER

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
2	LAS	5/20/2019	SOUTH 200' OF MERIDIAN AVE
1	LAS	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.
PLAN AND PROFILE
MERIDIAN AVENUE STA: 13+50 - 18+50

TCC JOB NUMBER: 18-200.23

DATE SUBMITTED: 04.16.2019

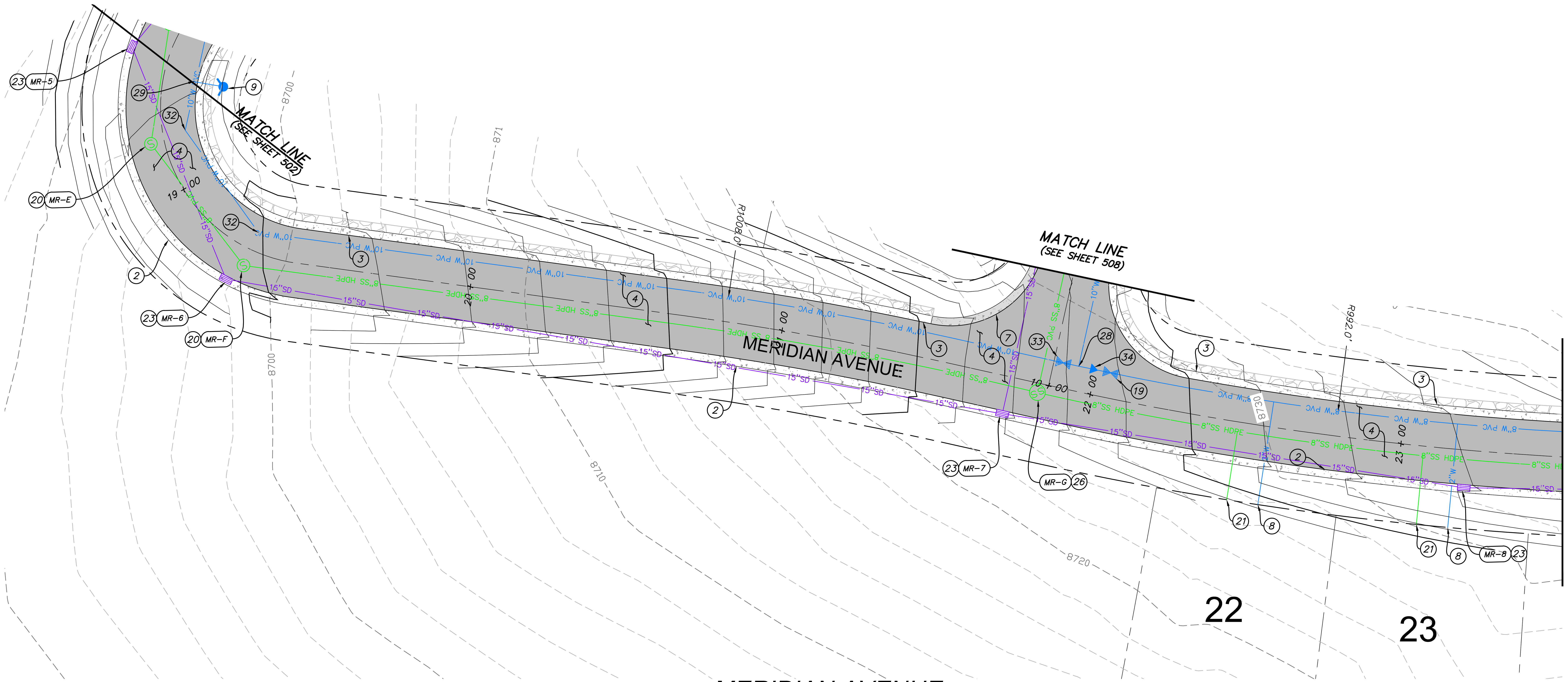
REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

SHEET NUMBER
502
13 OF 33

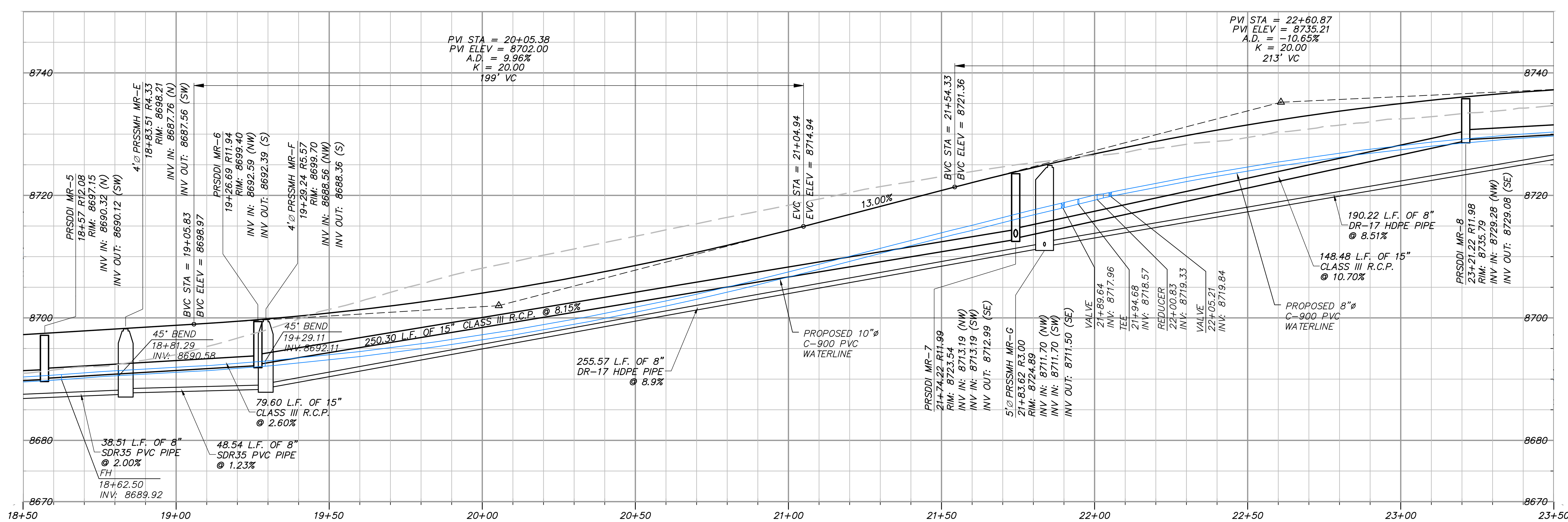
DATE: 7/9/2019 4:57 PM

PATH: N:\SLB0793\Civil\18-200.23-Overlook Phase1 and Phase2\PLS02 PLAN AND PROFILE.dwg



MERIDIAN AVENUE

STA: 18+50 TO 23+50



PROFILE VIEW

SITE SCOPE OF WORK:

NOTE: DRY UTILITY LAYOUT IS PRELIMINARY, PENDING COORDINATION WITH UTILITY AGENCIES.

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

1. MATCH EXISTING.
2. TYPE 'F' CURB AND GUTTER PER APWA PLAN NO. 205 ON SHEET 700.
3. MODIFIED TYPE 'F' CURB AND GUTTER PER DETAIL A/SHEET 700.
4. ASPHALT PAVEMENT PER PAVEMENT SECTION A/SHEET 003.
5. CONNECT TO EXISTING CATCH BASIN.
6. CONNECT TO EXISTING 18"Ø WATER LINE.
7. TRANSITION FROM MODIFIED TYPE "F" CURB AND GUTTER TO APWA TYPE "F" CURB AND GUTTER. SEE CURB AND GUTTER DETAILS ON SHEET 700.
8. 2"Ø WATER SERVICE TAP PER APWA PLAN NO. 552. INSTALL DOUBLE BANDED STAINLESS STEEL SADDLES WITH CORP-STOP AT SADDLE. ROMAC, MUELLER, OR APPROVED EQUAL SADDLES AND CORP-STOP VALVES (INSTALLED PER MANUFACTURES RECOMMENDATIONS)
9. FIRE HYDRANT ASSEMBLY PER PMWSID PLAN NO. 511S ON SHEET 705.
10. AIR RELEASE ASSEMBLY PER APWA PLAN NO. 575 ON SHEET 704.
11. INSTALL PRESSURE REDUCING VALVE AND VAULT PER DETAIL SHEET 707.
12. 18"x10" REDUCER WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
13. 12"x8" REDUCER WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
14. 8" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
15. 8"x6"x8" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
16. 8"Ø 11.25° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
17. 8"Ø 22.5° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
18. 8"Ø 45° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
19. 8"Ø GATE VALVE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
20. 4'Ø SANITARY SEWER MANHOLE PER APWA PLAN NO. 411 WITH FRAME AND COVER PER PMWSID PLAN NO. 402S ON SHEET 702.
21. 4"Ø SANITARY SEWER LATERAL PER PMWSID PLAN NO. 431S ON SHEET 702.
22. 2'x4' CATCH BASIN PER APWA PLAN NO. 315 ON SHEET 700.
23. CATCH BASIN PER APWA PLAN NO. 315 ON SHEET 700.
24. ~~4'Ø PRECAST STORM DRAIN MANHOLE PER APWA PLAN NO. 341 ON SHEET 701 WITH SOLID LID PER APWA PLAN NO. 302.~~ (2)
25. CAP AND MARK UTILITY LINE FOR FUTURE CONNECTION.
26. 5' SANITARY SEWER MANHOLE PER APWA PLAN NO. 411 WITH FRAME AND COVER PER PMWSID PLAN NO. 402S ON SHEET 702.
27. 5' PRECAST STORM DRAIN MANHOLE PER APWA PLAN NO. 341 ON SHEET 701 WITH SOLID LID PER APWA PLAN NO. 302.
28. 10" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
29. 10"x6"x10" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
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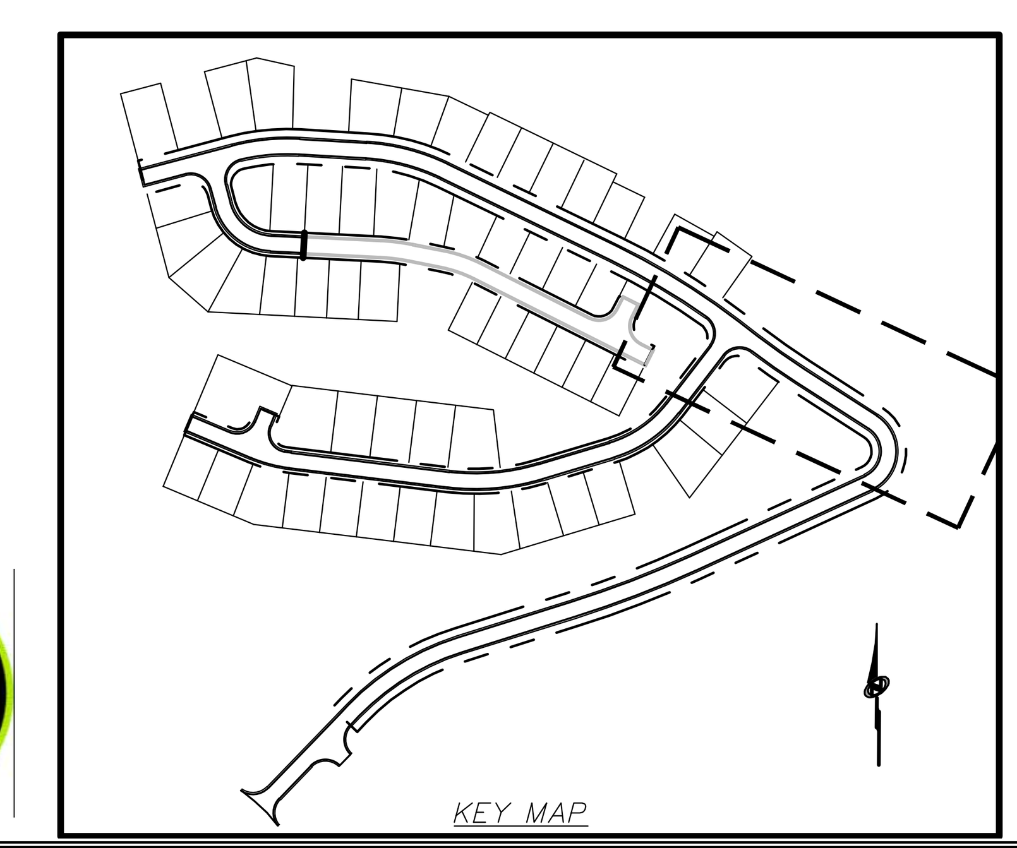
38. INSTALL HDPE WATER PIPE, OUTSIDE OF ROADWAY, PER APWA PLAN NO. 381 AND 382. PIPE BEDDING ON ALL HDPE SHALL BE $\frac{3}{4}$" MINUS CLEAN ROCK AND SHALL EXTEND TO 1' ABOVE THE TOP OF PIPE.



KEY MAP

CALL 811 BEFORE YOU DIG — SAFE DIGGING PARTNER

TALISMAN CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2	SJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

PLAN AND PROFILE

MERIDIAN AVENUE STA: 18+50 - 23+50

TCC JOB NUMBER: 18-200.23

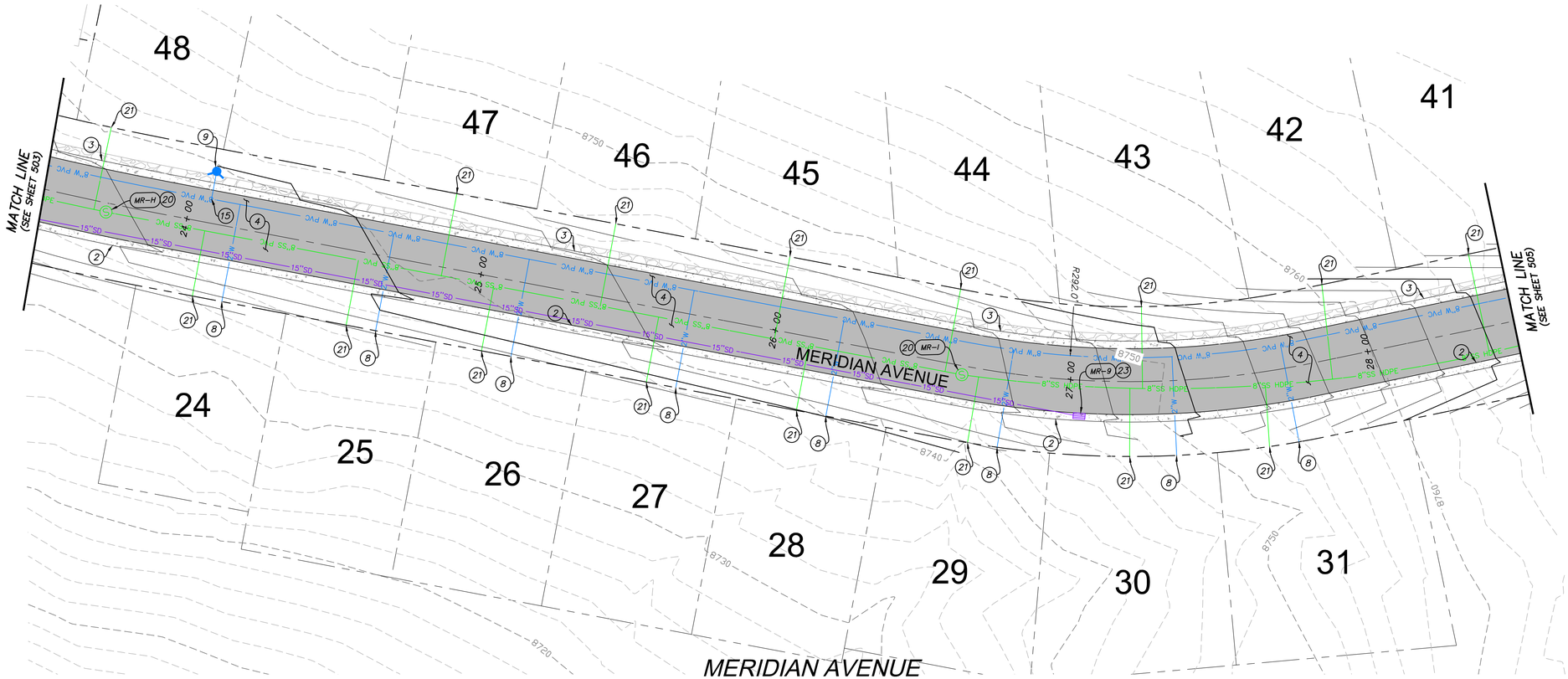
DATE SUBMITTED: 04.16.2019

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY 6/20/19 STATE OF UTAH

SCALE HORIZONTAL: 1" = 20'

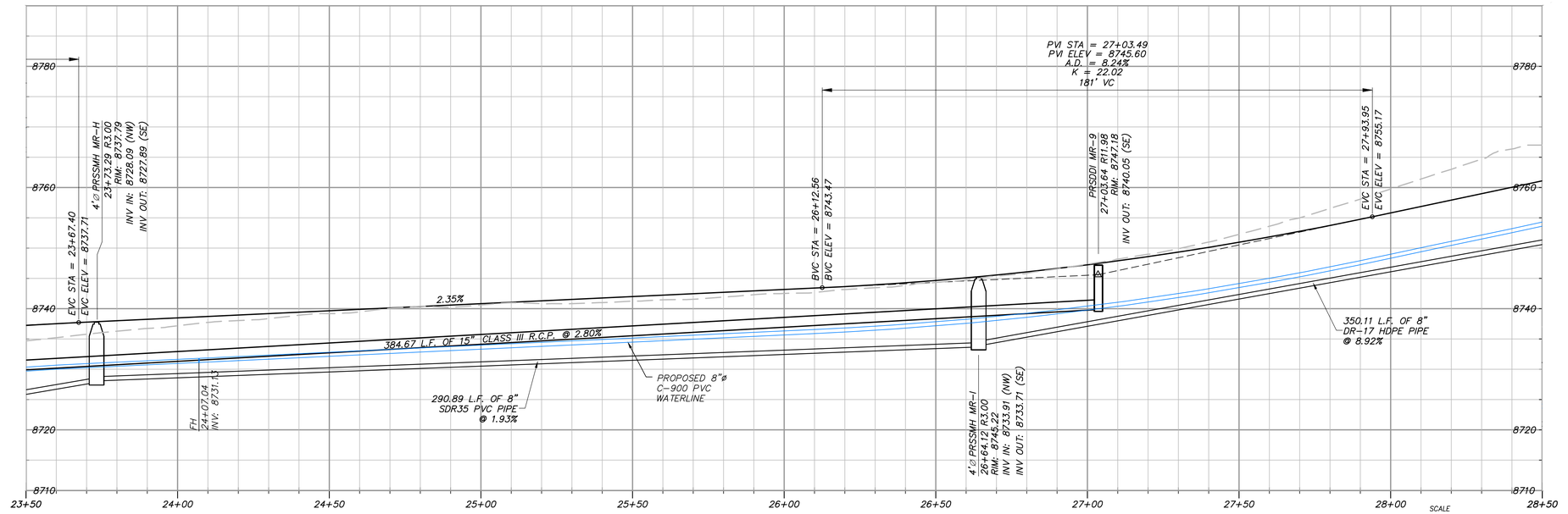
SHEET NUMBER

503



MERIDIAN AVENUE

STA: 23+50 TO 28+50



PROFILE VIEW

SCALE
VERTICAL: 1" = 10'
0 2.5' 5' 10' 15'

SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

CALL 811 BEFORE YOU DIG
811
BLUE STAKES OF UTAH

SITE SCOPE OF WORK:

NOTE: DRY UTILITY LAYOUT IS PRELIMINARY, PENDING COORDINATION WITH UTILITY AGENCIES.

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

1. MATCH EXISTING.
2. TYPE "F" CURB AND GUTTER PER APWA PLAN NO. 205 ON SHEET 700.
3. MODIFIED TYPE "F" CURB AND GUTTER PER DETAIL A/SHEET 700.
4. ASPHALT PAVEMENT PER PAVEMENT SECTION A/SHEET 003.
5. CONNECT TO EXISTING CATCH BASIN.
6. CONNECT TO EXISTING 18"ø WATER LINE.
7. TRANSITION FROM MODIFIED TYPE "F" CURB AND GUTTER TO APWA TYPE "F" CURB AND GUTTER. SEE CURB AND GUTTER DETAILS ON SHEET 700.
8. 2"ø WATER SERVICE TAP PER APWA PLAN NO. 552. INSTALL DOUBLE BANDED STAINLESS STEEL SADDLES WITH CORP-STOP AT SADDLE: ROMAC, MUELLER, OR APPROVED EQUAL SADDLES AND CORP-STOP VALVES (INSTALLED PER MANUFACTURES RECOMMENDATIONS)
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10. AIR RELEASE ASSEMBLY PER APWA PLAN NO. 575 ON SHEET 704.
11. INSTALL PRESSURE REDUCING VALVE AND VAULT PER DETAIL SHEET 707.
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22. 2'x4' CATCH BASIN PER APWA PLAN NO. 315 ON SHEET 700.
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24. ~~4'ø PRECAST STORM DRAIN MANHOLE PER APWA PLAN NO. 341 ON SHEET 701 WITH SOLID LID PER APWA PLAN NO. 302.~~ 2
25. CAP AND MARK UTILITY LINE FOR FUTURE CONNECTION.
26. 5' SANITARY SEWER MANHOLE PER APWA PLAN NO. 411 WITH FRAME AND COVER PER PMWSID PLAN NO. 402S ON SHEET 702.
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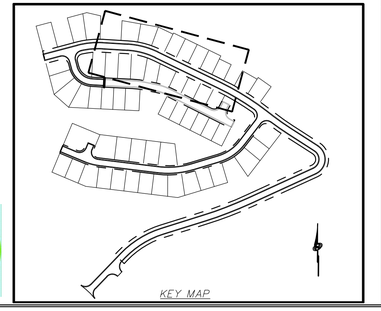


TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS
2	MAS	5/20/2019	SOUTH 200' OF MERIDIAN AVE
1	LAB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.

PLAN AND PROFILE

MERIDIAN AVENUE STA: 23+50 - 28+50

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

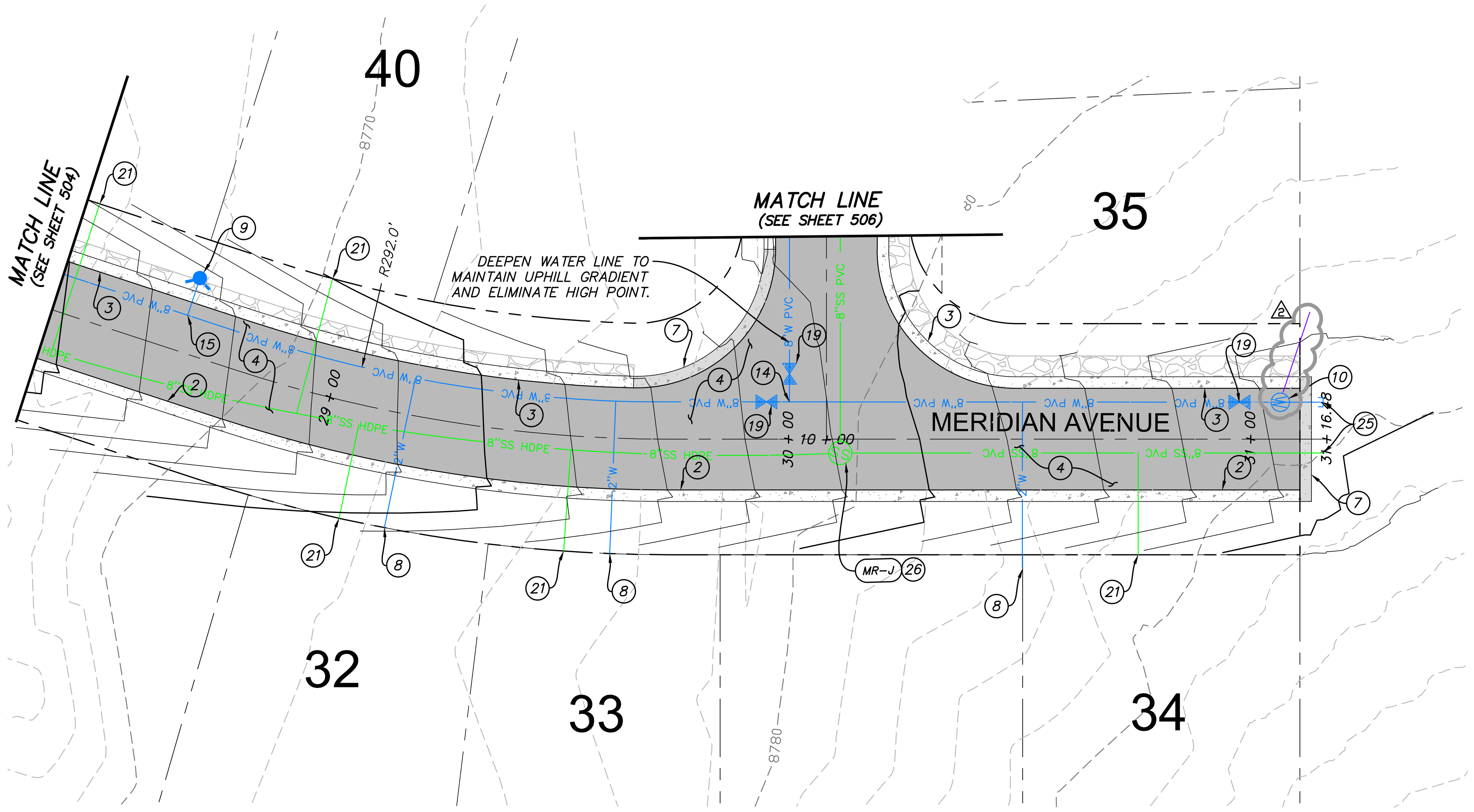
REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATMER
6/20/19
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

SHEET NUMBER
504
15 OF 33

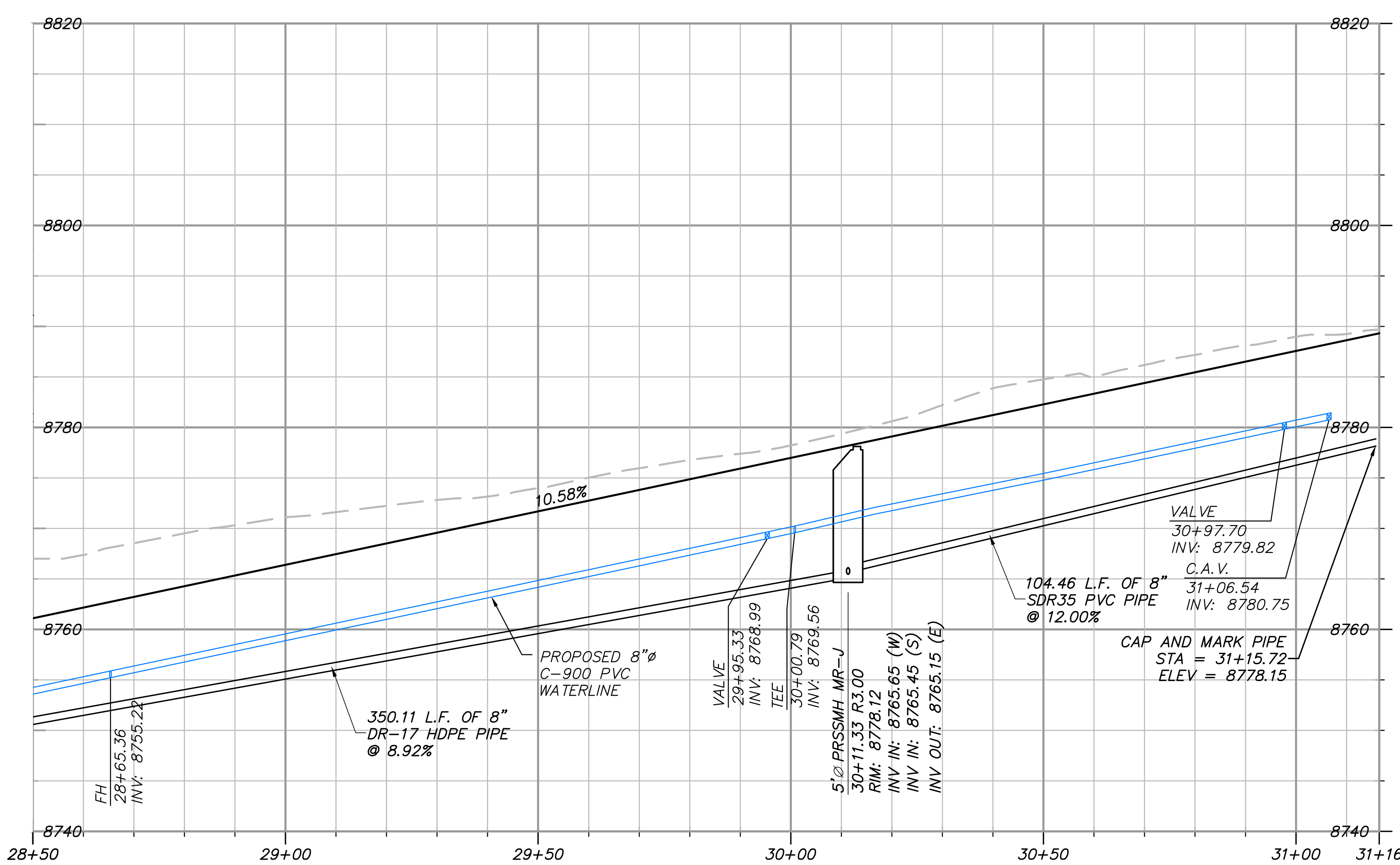
DATE: 7/9/2019 4:59 PM

PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\PJ\504 PLAN AND PROFILE.dwg



MERIDIAN AVENUE

STA: 28+50 TO 31+16



PROFILE VIEW

SCALE
VERTICAL: 1" = 10'
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SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

SITE SCOPE OF WORK:

NOTE: DRY UTILITY LAYOUT IS PRELIMINARY, PENDING COORDINATION WITH UTILITY AGENCIES.

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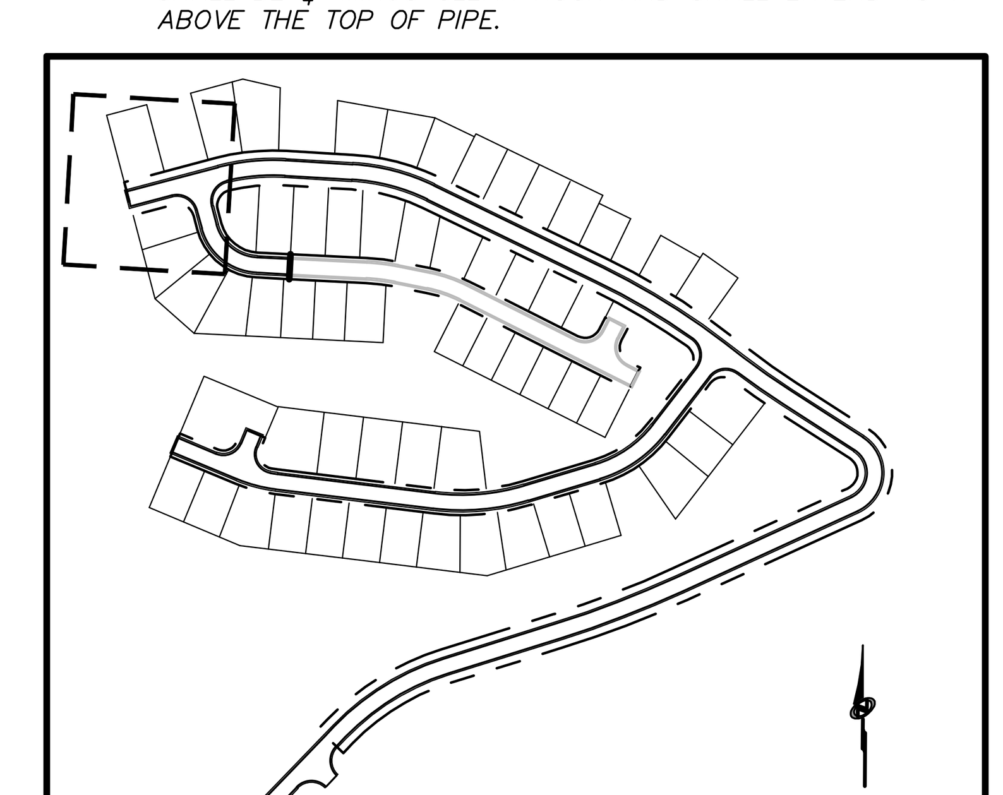


KEY MAP

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 300' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

PLAN AND PROFILE

MERIDIAN AVENUE STA: 28+50 - 31+16

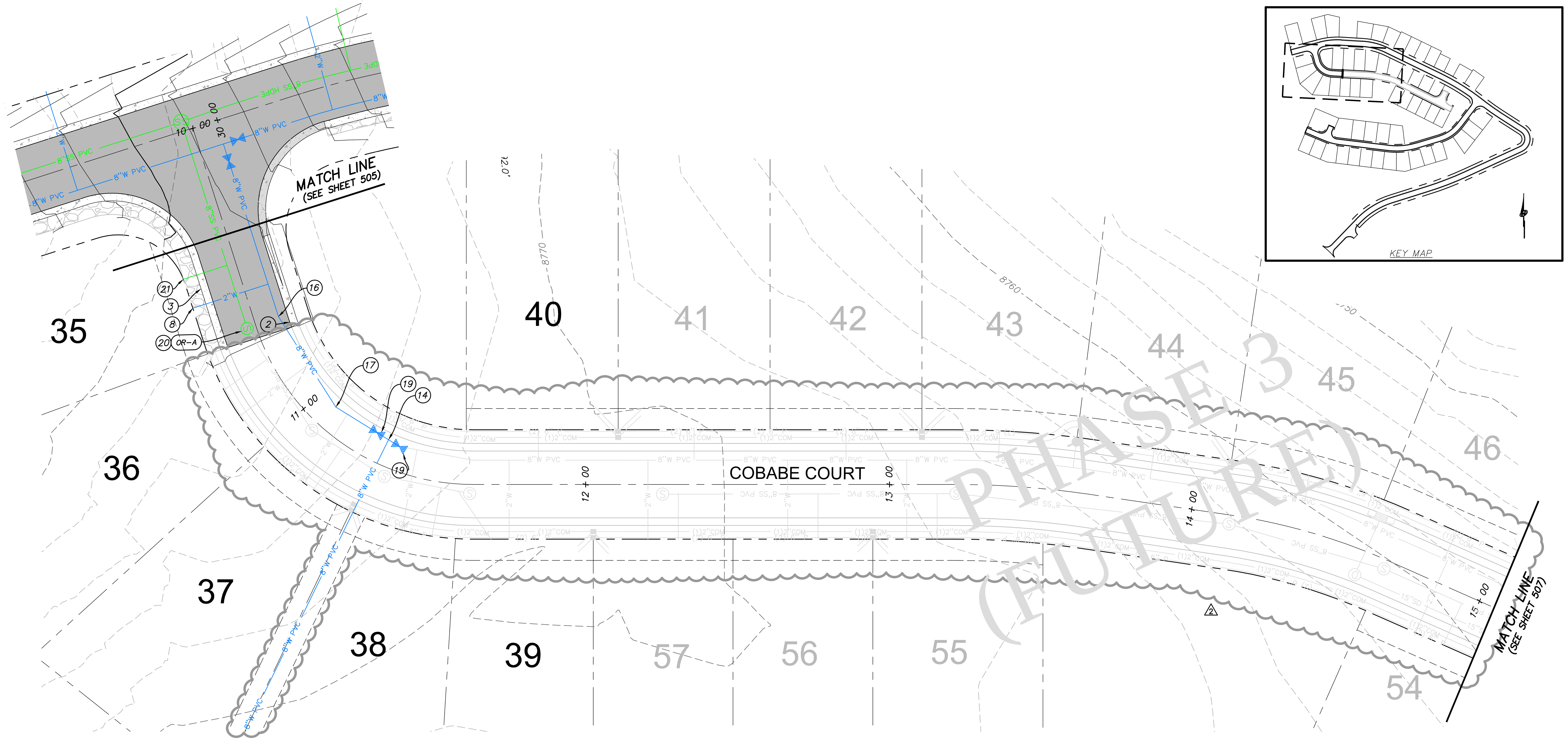
TCC JOB NUMBER: 18-200.23

DATE SUBMITTED: 04.16.2019

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
STATE OF UTAH

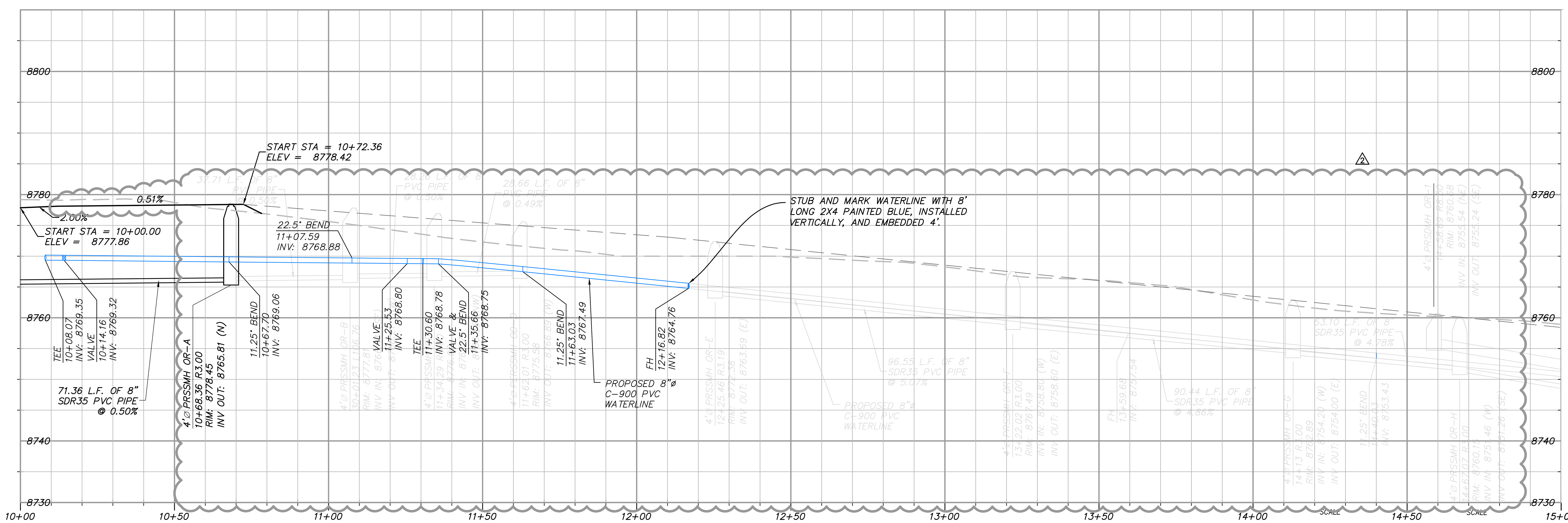
SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

SHEET NUMBER
505
16 OF 33



COBABE COURT

STA: 10+00 TO 12+10.82



PROFILE VIEW

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VERTICAL: 1" = 10'
HORIZONTAL: 1" = 20'

SITE SCOPE OF WORK:

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39. INSTALL MANHOLE PIPE DROP PER APWA PLAN NO. 433 ON SHEET 702.

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2	LB	6/20/2019	SOUTH 300' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

PLAN AND PROFILE

OVERLOOK RIDGE STA: 10+00 - 15+00

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY STATE OF UTAH

SCALE HORIZONTAL: 1" = 20'

DATE: 7/10/2019 8:40 AM
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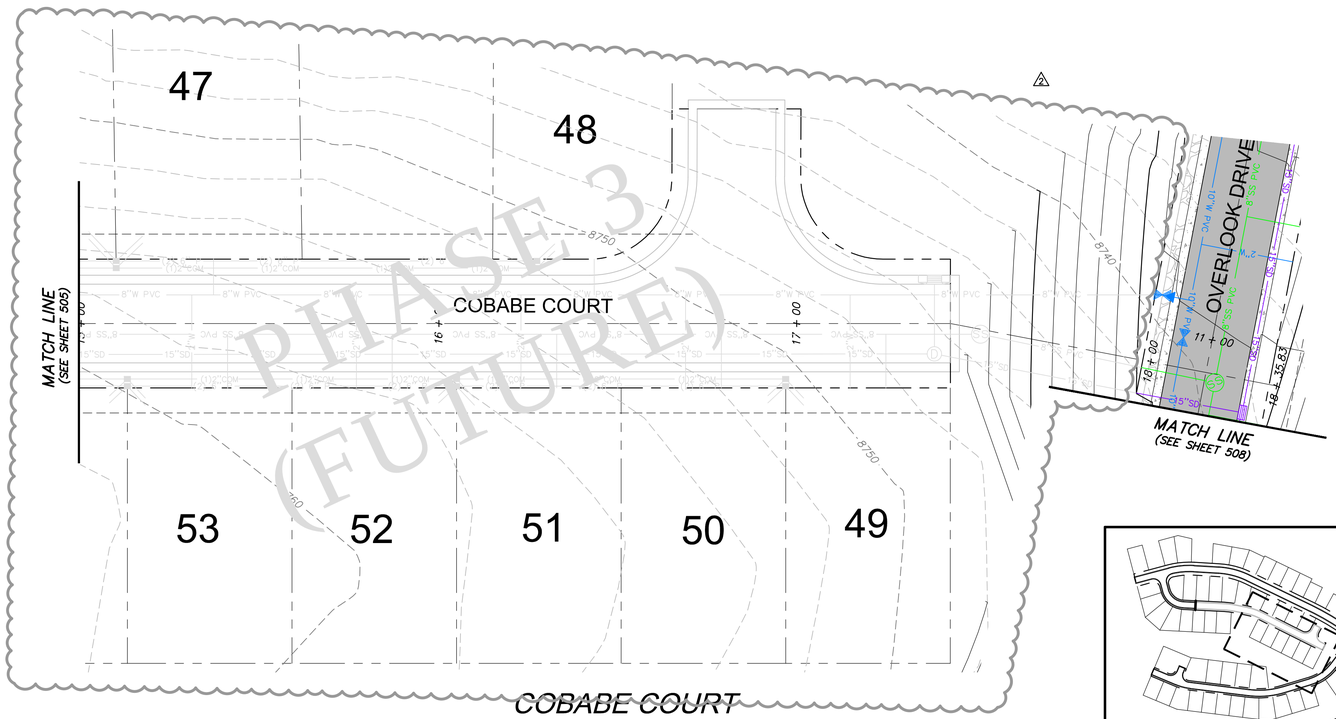
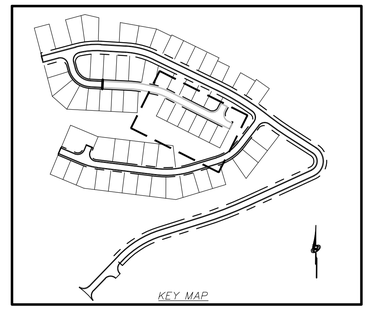
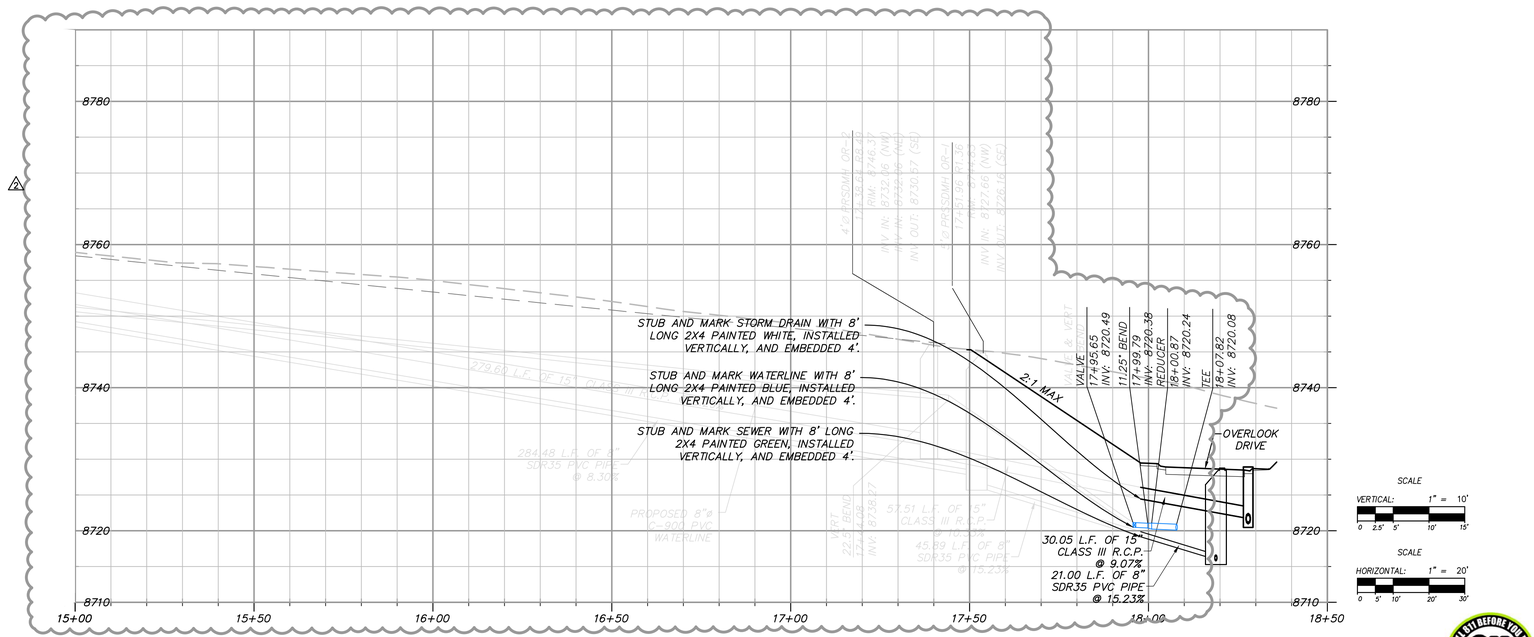


COBABE COURT
STA: 15+00 TO 18+16





PROFILE VIEW

SITE SCOPE OF WORK:

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MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
2	MAS	6/20/2019	SOUTH 200' OF MORGAN AVE
1	MAS	5/10/2019	
	LAB		

OVERLOOK PH1, PH2, PH3 AT S.P.M.
PLAN AND PROFILE
OVERLOOK RIDGE STA: 15+00 - 18+16

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

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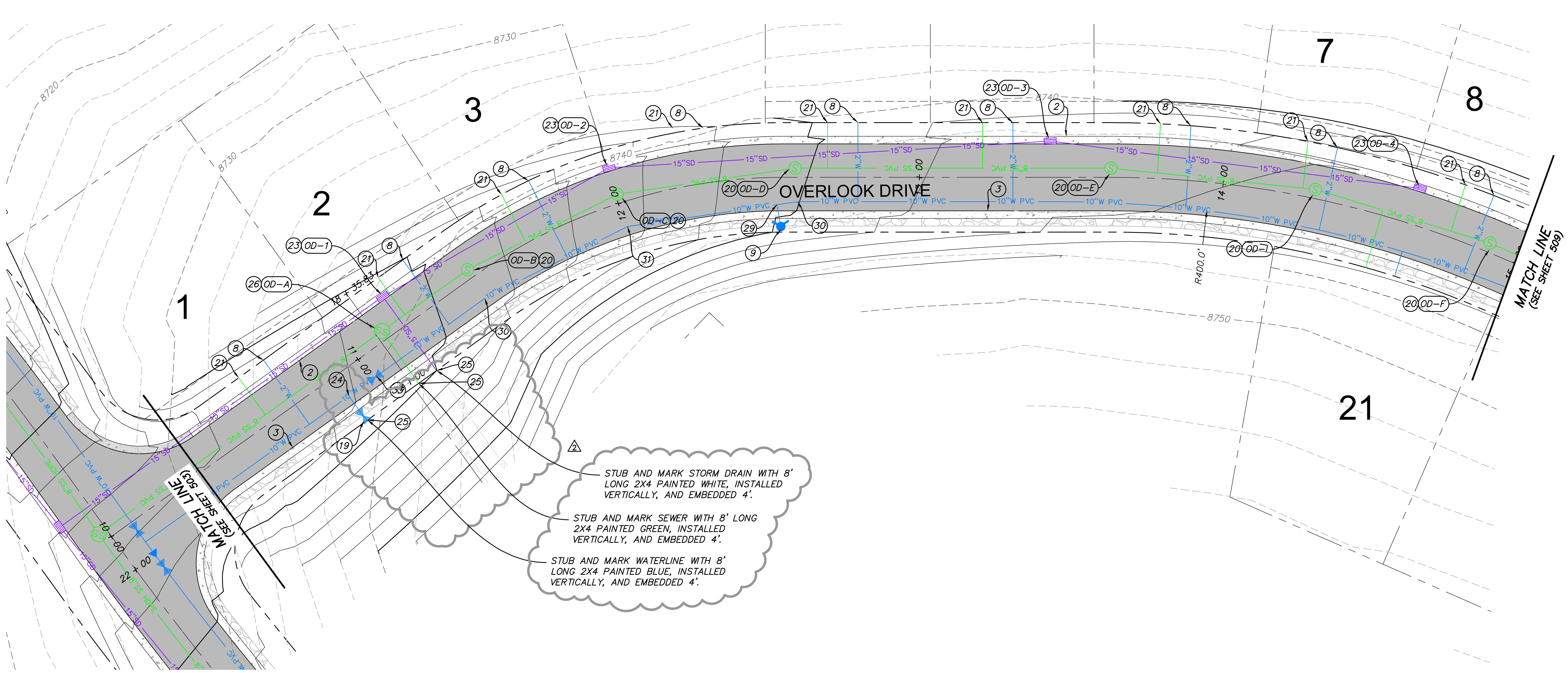
No. 7899506
RYAN W. CATHEY
7/20/19
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 20'

SHEET NUMBER
507
18 OF 33

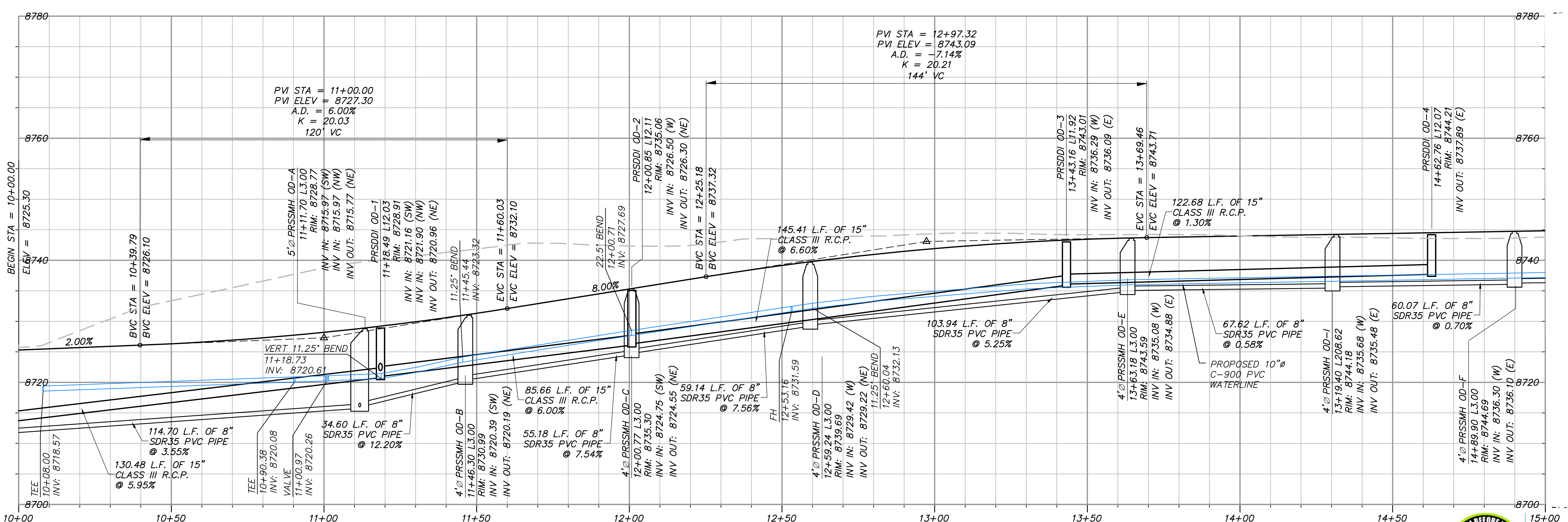
DATE: 7/9/2019 5:01 PM

PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\PW\507 PLAN AND PROFILE.dwg



OVERLOOK DRIVE

STA: 10+00 TO 15+00



PROFILE VIEW

SCALE
VERTICAL: 1" = 10'
HORIZONTAL: 1" = 20'

SITE SCOPE OF WORK:

NOTE: DRY UTILITY LAYOUT IS PRELIMINARY, PENDING COORDINATION WITH UTILITY AGENCIES.

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

1. MATCH EXISTING.
2. TYPE 'F' CURB AND GUTTER PER APWA PLAN NO. 205 ON SHEET 700.
3. MODIFIED TYPE 'F' CURB AND GUTTER PER DETAIL A/SHEET 700.
4. ASPHALT PAVEMENT PER PAVEMENT SECTION A/SHEET 003.
5. CONNECT TO EXISTING CATCH BASIN.
6. CONNECT TO EXISTING 18"ø WATER LINE.
7. TRANSITION FROM MODIFIED TYPE "F" CURB AND GUTTER TO APWA TYPE "F" CURB AND GUTTER. SEE CURB AND GUTTER DETAILS ON SHEET 700.
8. 2"ø WATER SERVICE TAP PER APWA PLAN NO. 552. INSTALL DOUBLE BANDED STAINLESS STEEL SADDLES WITH CORP–STOP AT SADDLE. ROMAC, MUELLER, OR APPROVED EQUAL SADDLES AND CORP–STOP VALVES (INSTALLED PER MANUFACTURES RECOMMENDATIONS)
9. FIRE HYDRANT ASSEMBLY PER PMWSID PLAN NO. 511S ON SHEET 705.
10. AIR RELEASE ASSEMBLY PER APWA PLAN NO. 575 ON SHEET 704.
11. INSTALL PRESSURE REDUCING VALVE AND VAULT PER DETAIL SHEET 707.
12. 18"x10" REDUCER WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
13. 12"x8" REDUCER WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
14. 8" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
15. 8"x6"x8" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
16. 8"ø 11.25° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
17. 8"ø 22.5° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
18. 8"ø 45° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
19. 8"ø GATE VALVE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
20. 4'ø SANITARY SEWER MANHOLE PER APWA PLAN NO. 411 WITH FRAME AND COVER PER PMWSID PLAN NO. 402S ON SHEET 702.
21. 4"ø SANITARY SEWER LATERAL PER PMWSID PLAN NO. 431S ON SHEET 702.
22. 2'x4' CATCH BASIN PER APWA PLAN NO. 315 ON SHEET 700.
23. CATCH BASIN PER APWA PLAN NO. 315 ON SHEET 700.
24. 10"x8"x10" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
25. CAP AND MARK UTILITY LINE FOR FUTURE CONNECTION.
26. 5' SANITARY SEWER MANHOLE PER APWA PLAN NO. 411 WITH FRAME AND COVER PER PMWSID PLAN NO. 402S ON SHEET 702.
27. 5' PRECAST STORM DRAIN MANHOLE PER APWA PLAN NO. 341 ON SHEET 701 WITH SOLID LID PER APWA PLAN NO. 302.
28. 10" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
29. 10"x6"x10" TEE WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
30. 10"ø 11.25° BEND WITH THRUST BLOCKING PER APWA PLAN NO. 561 AND 562 ON SHEET 703.
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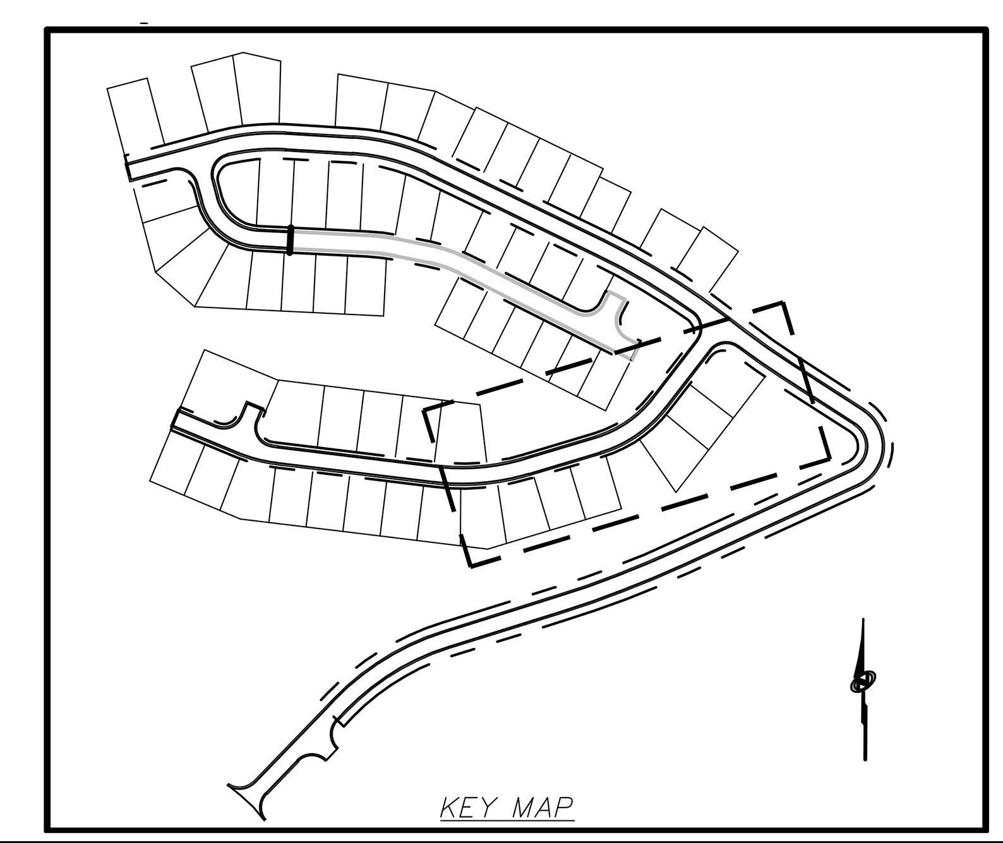
37. INSTALL PIPE ANCHORS ON 3:1 OR STEEPER SLOPES PER DETAIL A SHEET 704.
38. INSTALL HDPE WATER PIPE, OUTSIDE OF ROADWAY, PER APWA PLAN NO. 381 AND 382. PIPE BEDDING ON ALL HDPE SHALL BE ¾" MINUS CLEAN ROCK AND SHALL EXTEND TO 1' ABOVE THE TOP OF PIPE.



TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2		6/20/2019	SOUTH 200 OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

PLAN AND PROFILE

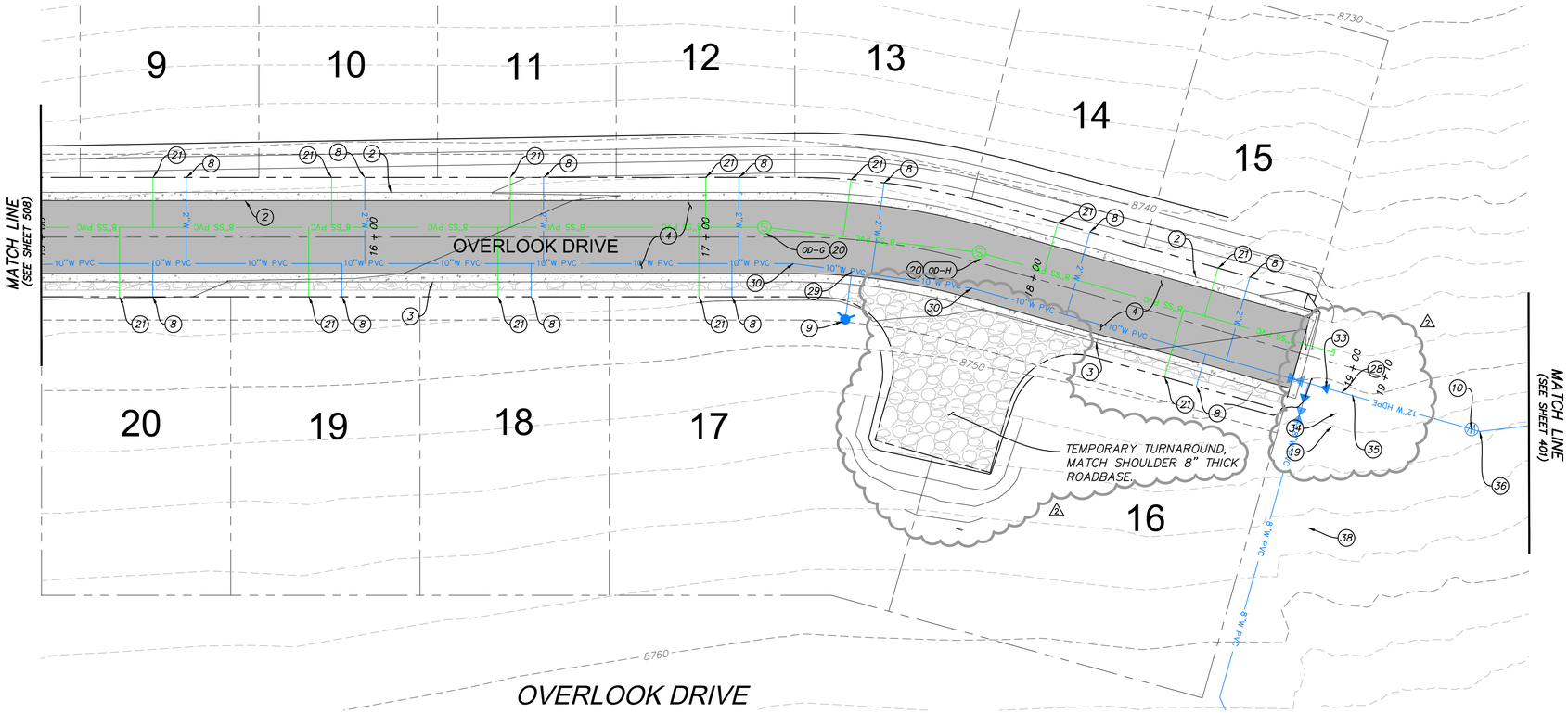
COBABE COURT STA: 10+00 - 15+00

TCC JOB NUMBER: 18-200.23

DATE SUBMITTED: 04.16.2019

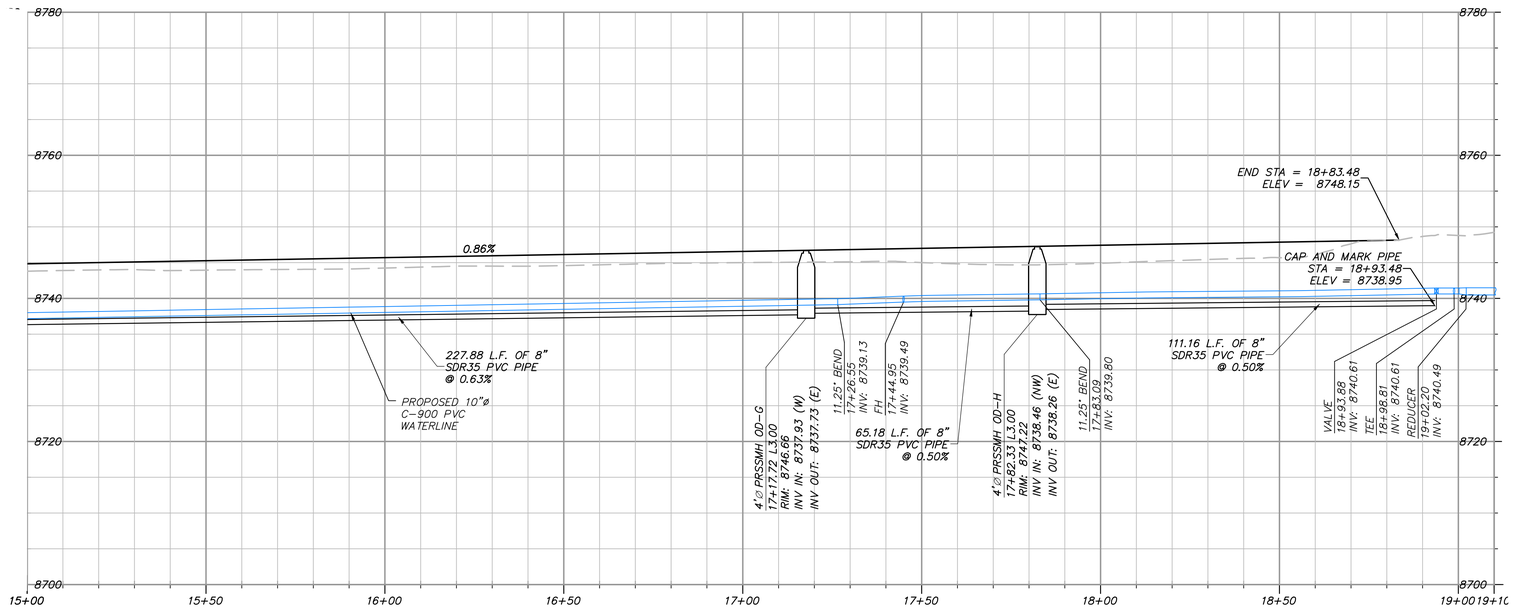
SCALE
HORIZONTAL: 1" = 20'

SHEET NUMBER
508
19 OF 33



OVERLOOK DRIVE

STA: 15+00 TO 19+00



PROFILE VIEW

SCALE
VERTICAL: 1" = 10'
0 2.5' 5' 10' 15

SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

SITE SCOPE OF WORK:

NOTE: DRY UTILITY LAYOUT IS PRELIMINARY, PENDING COORDINATION WITH UTILITY AGENCIES.

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

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22. 2'x4' CATCH BASIN PER APWA PLAN NO. 315 ON SHEET 700.
23. CATCH BASIN PER APWA PLAN NO. 315 ON SHEET 700.
24. ~~4'ø PRECAST STORM DRAIN MANHOLE PER APWA PLAN NO. 341 ON SHEET 701 WITH SOLID LID PER APWA PLAN NO. 302.~~ Δ2
25. CAP AND MARK UTILITY LINE FOR FUTURE CONNECTION.
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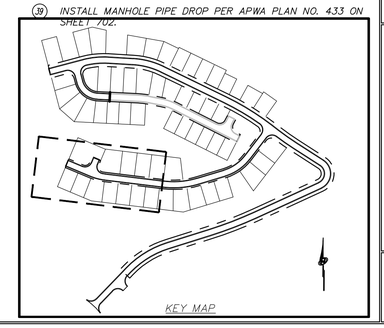
39. INSTALL MANHOLE PIPE DROP PER APWA PLAN NO. 433 ON SHEET 702.



TALISMAN
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5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MAS	5/7/2019	SOUTH 300' OF MORGAN AVE
2	LAB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.

PLAN AND PROFILE

COBABE COURT STA: 15+00 - 19+00

TCC JOB NUMBER: 18-200.23

DATE SUBMITTED: 04.16.2019

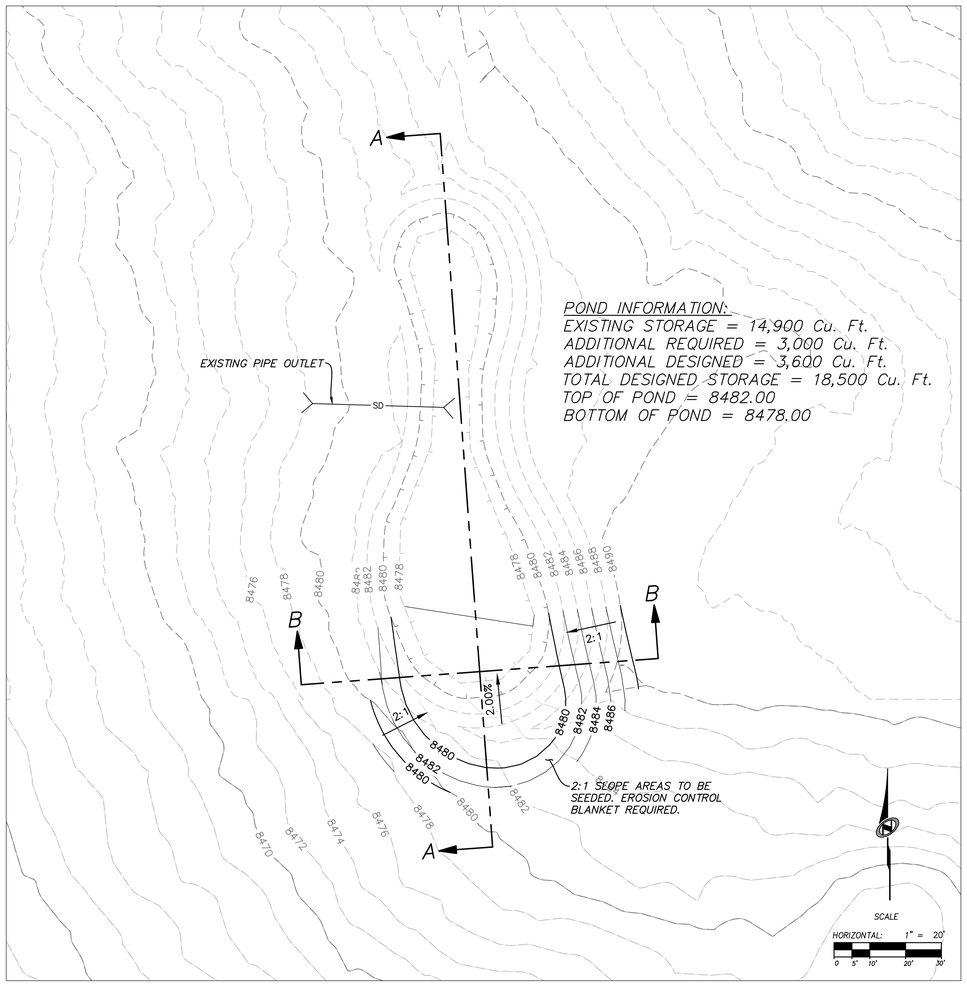
REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 20'
0 5' 10' 20' 30'

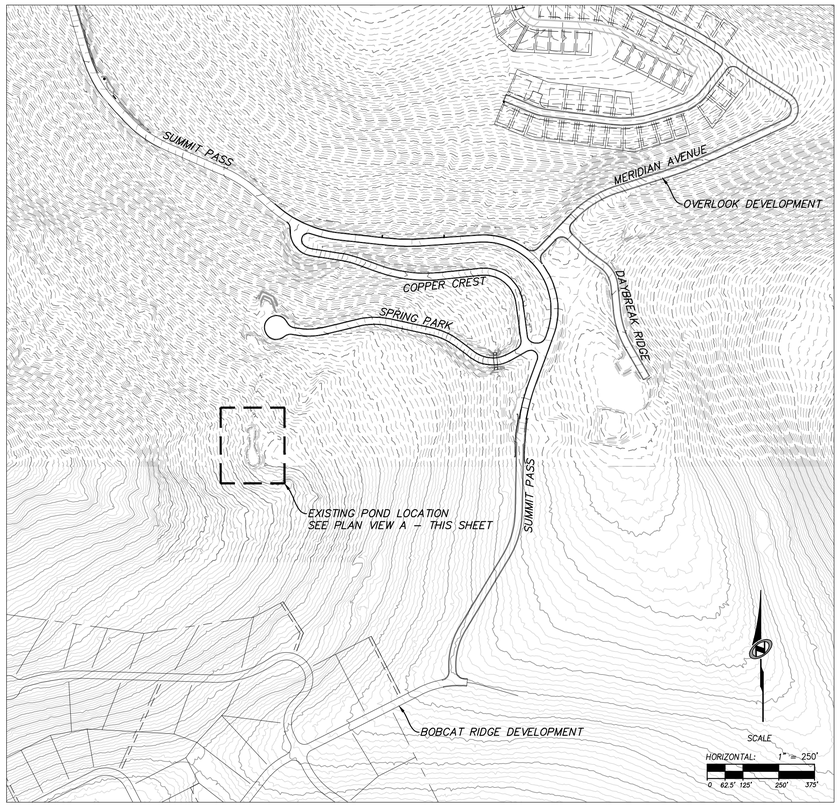
SHEET NUMBER
509
20 OF 33

DATE: 7/9/2019 5:03 PM

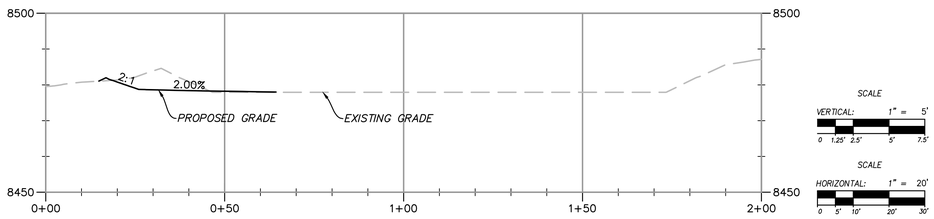
PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\PJ\509 PLAN AND PROFILE.dwg



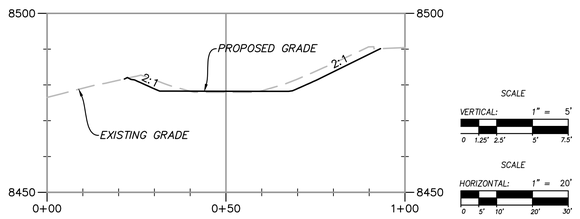
PLAN VIEW A



KEY MAP



SECTION A–A



SECTION B–B

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS
1	MHS	5/7/2019	CITY COMMENTS
2	EJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.
EXISTING POND MODIFICATION

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

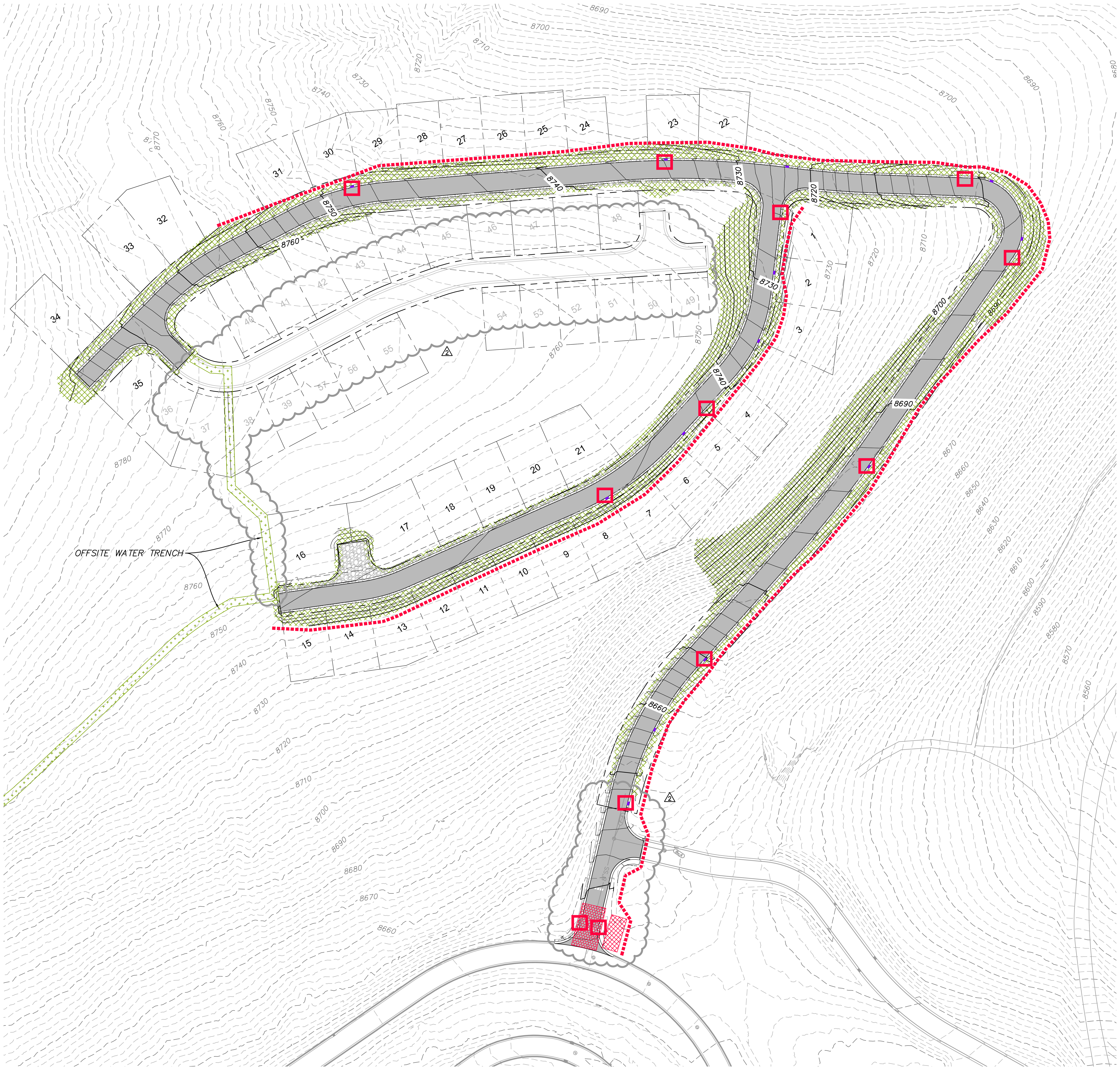
REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

SHEET NUMBER
510
21 OF 33

DATE: 7/9/2019 5:04 PM

PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\P\510 EXISTING POND MODIFICATION.dwg

DATE: 7/9/2019 5:04 PM



LEGEND

HATCHING INDICATES AREAS LESS THAN 3:1 SLOPE TO BE SEEDED FOR REVEGETATION.

HATCHING INDICATES SLOPES 3:1 OR STEEPER TO BE SEEDED AND REQUIRING EROSION CONTROL BLANKET.

INSTALL 15' X 30' VEHICLE WASH DOWN AREA WITH 1"–2.5" COARSE AGGREGATE PLACED A MINIMUM 8" THICK. SUPPLY WATER FOR VEHICLE WASH DOWN.

STABILIZED CONSTRUCTION ENTRANCE FOR SITE INGRESS/EGRESS. IF ALTERNATE ACCESS POINTS ARE APPROVED BY OWNER, ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES WILL BE REQUIRED.

INSTALL INLET PROTECTION IN FORM OF CONCRETE BLOCKS / FILTER CLOTH / GRAVEL OR SILT SACK AT EXISTING AND PROPOSED CATCH BASINS AS SHOWN ON PLAN.

INSTALL EARTH BERM ALONG DOWN GRADIENT LIMITS OF DISTURBANCE AS SHOWN ON PLAN.

EXPOSED SLOPES:
ANY EXPOSED SLOPE THAT WILL REMAIN UNTOUCHED FOR LONGER THAN 14 DAYS MUST BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS:

A) SPRAYING DISTURBED AREAS WITH A TACKIFIER VIA HYDROSEED. USE THE FOLLOWING SEED MIXTURE.
   i. MEADOW BROME (RIGOR) 14 lb/AC
   ii. ORCHARD GRASS 10 lb/AC
   iii. ALFALFA (ADAK) 4 lb/AC
B) TRACKING STRAW PERPENDICULAR TO SLOPES
C) INSTALLING A LIGHT-WEIGHT, TEMPORARY EROSION CONTROL BLANKET

TALISMAN
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5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.
EROSION CONTROL PLAN

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 60'
0 15' 30' 60' 90'

CALL 811 BEFORE YOU DIG
811
SAFE DIGGING PARTNER

SHEET NUMBER
600
22 OF 33

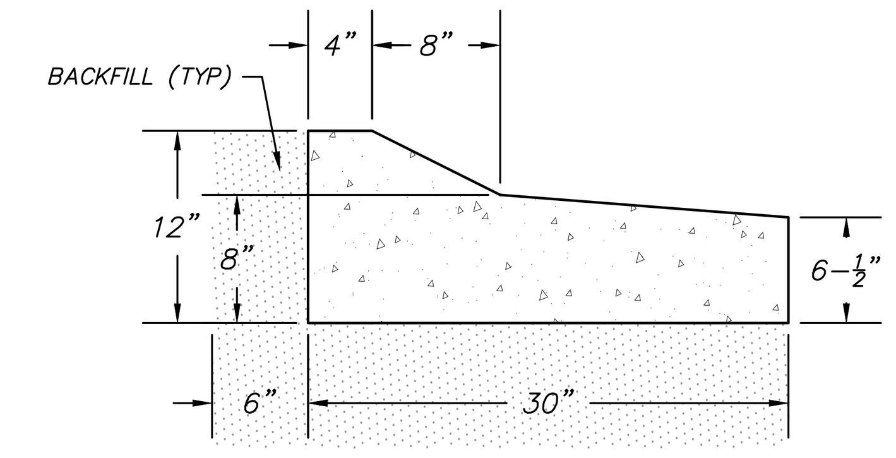
PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\IP\600 EROSION CONTROL.dwg

Curb and gutter

1. **GENERAL**
   A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   B. Additional requirements are specified in APWA Section 32 16 13.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. **EXECUTION**
   A. Base Course Placement: APWA Section 32 05 10. Thickness is 6-inches if flow-line grade is 0.5 percent (s=0.005) or greater. If slope is less, provide 8-inches. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10.
      1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install at the start or end of a street intersection curb return. Expansion joints are not required in concrete placement using slip-form construction.
      2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
      3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   C. Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.



MODIFIED TYPE "F" CURB AND GUTTER
A
NO SCALE

Catch basin

1. **GENERAL**
   A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.
   D. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A 615.

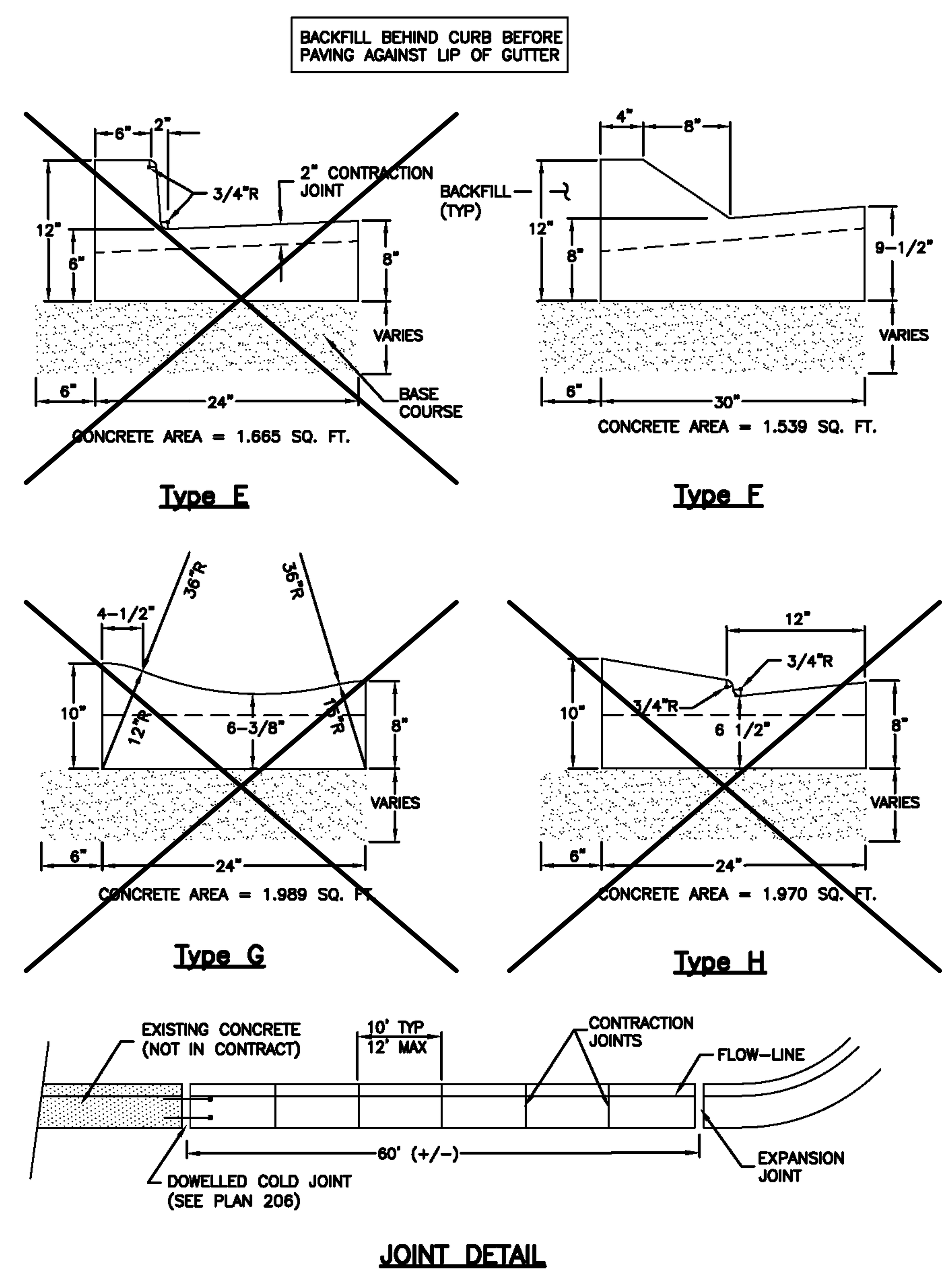
3. **EXECUTION**
   A. Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Curb Face Opening: Make opening at least 4-inches high. Provide at least a 2-inch drop between the "warp line" in the gutter flow-line and the top of the grate at the curb face opening.
   C. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   D. Backfill: Place backfill against the basin wall. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

47 3/4" Grate and frame

1. **GENERAL**
   A. The grate and frame fits cleanout box Type A in Plan 331.

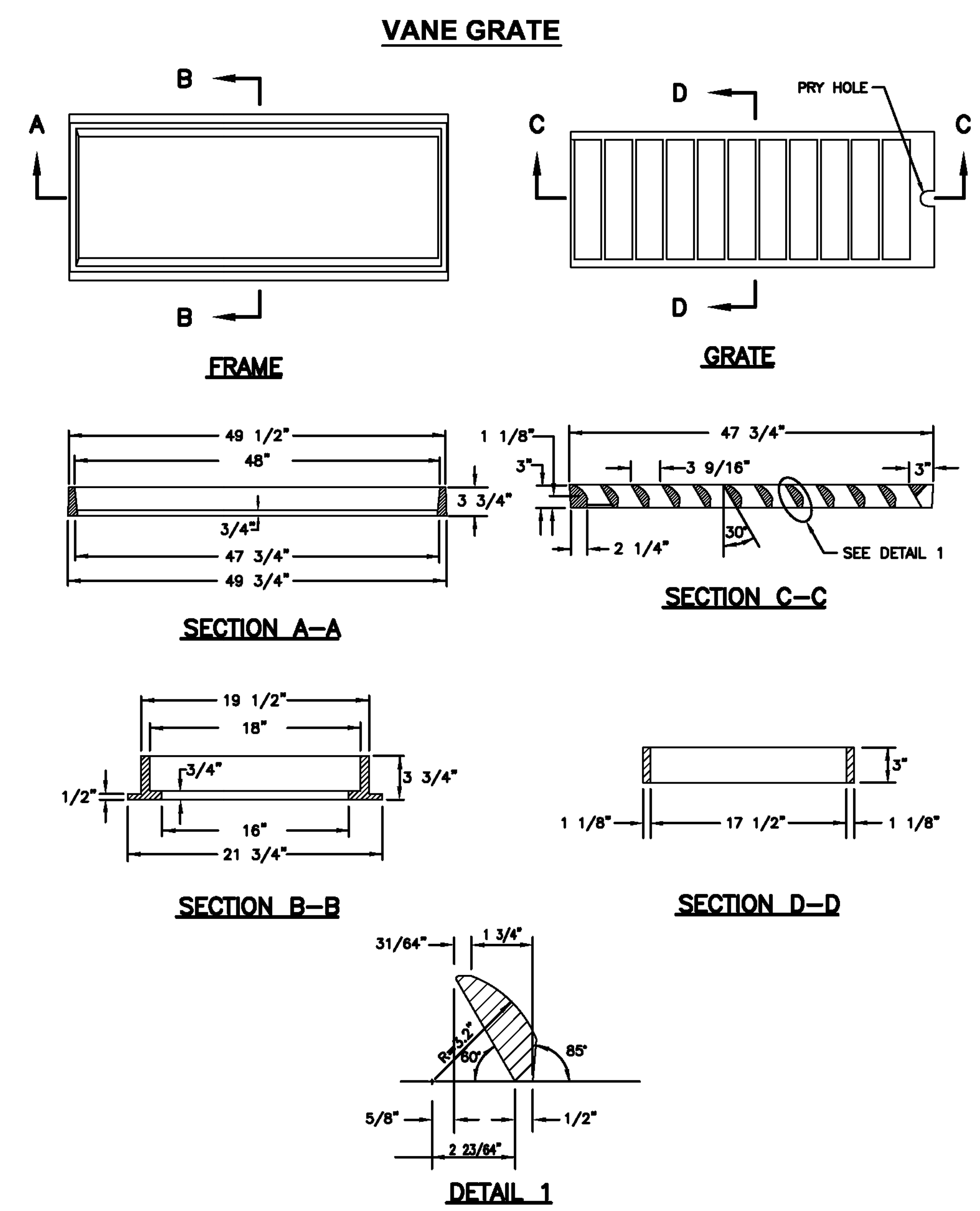
2. **PRODUCTS**
   A. Castings: Grey iron class 35 minimum per ASTM A 48, coated with asphalt based paint or better (except on machined surfaces).

3. **EXECUTION** (Not used)



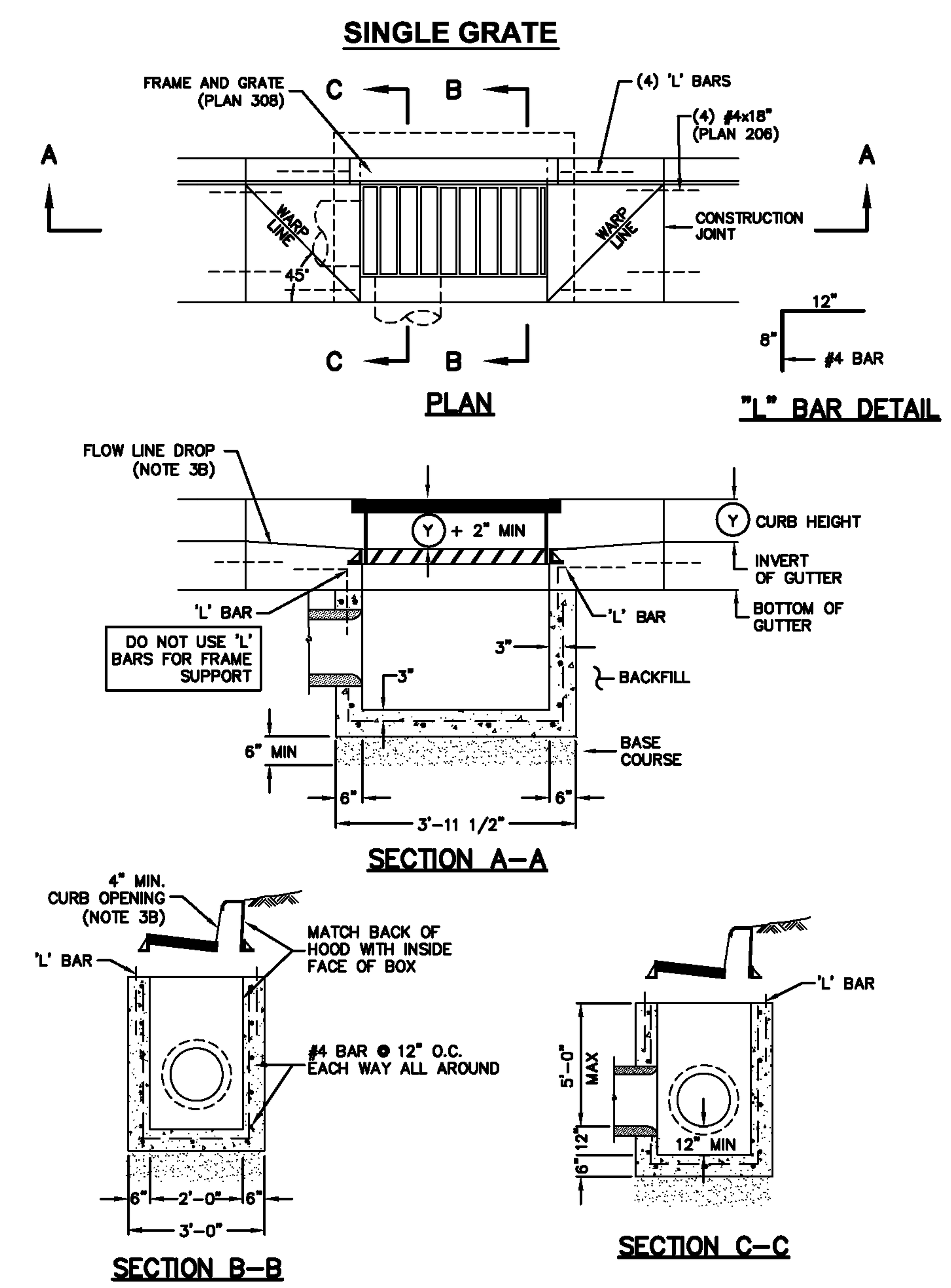
Curb and gutter

Plan **205**
Sheet 2 of 3



47 3/4" Grate and frame

Plan **309**
Sheet 1 of 2



Catch basin

Plan **315**
Sheet 1 of 2

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.
DETAILS

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY STATE OF UTAH

SHEET NUMBER
700
23 OF 33

DATE: 7/9/2019 5:04 PM

PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\IP\700 DETAILS.dwg

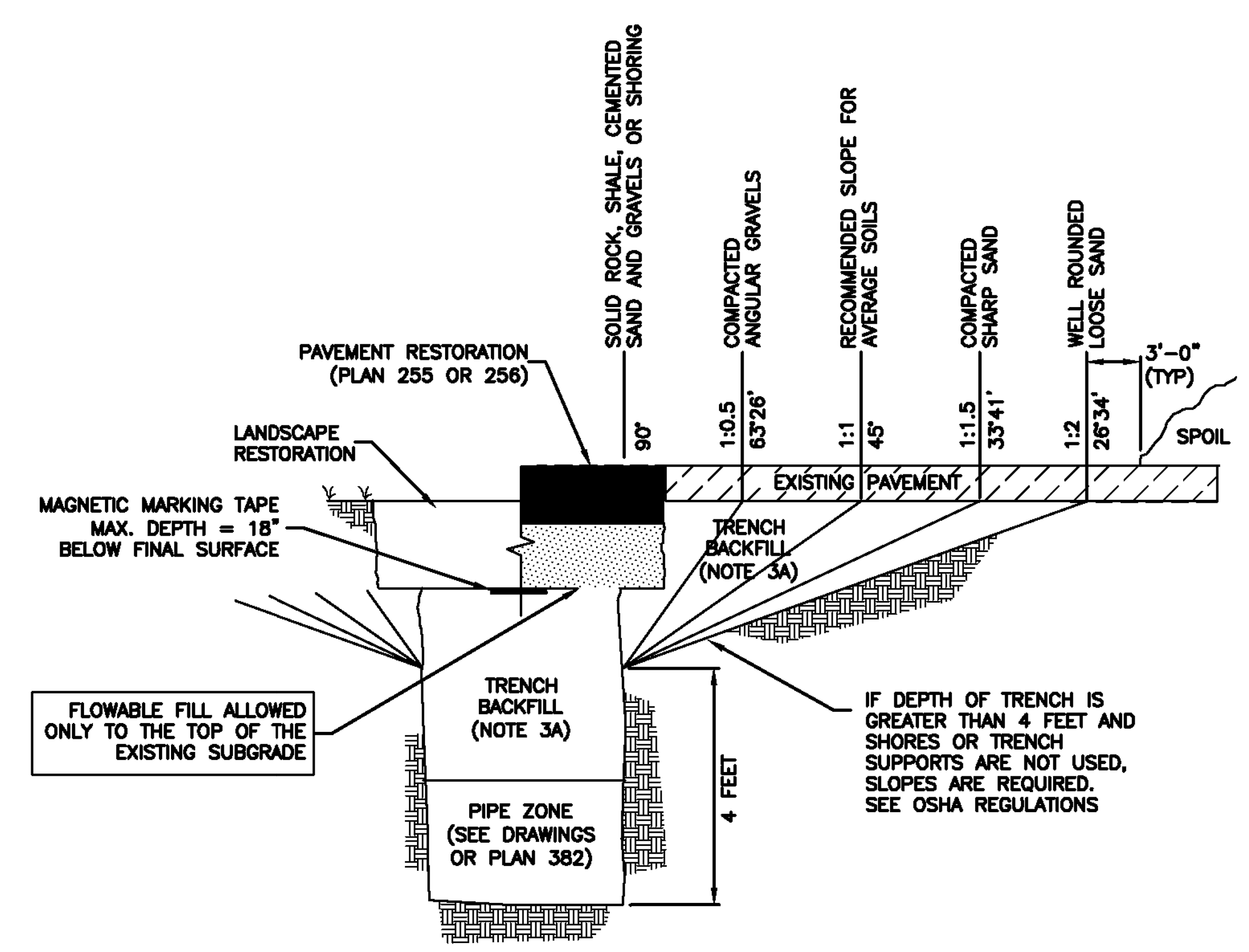
Trench backfill

1. **GENERAL**
   A. The drawing applies to backfilling the trench above the pipe zone.

2. **PRODUCTS**
   A. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 3-inches.
   B. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.

3. **EXECUTION**
   A. Trench Backfill:
      1) DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate as trench backfill.
      2) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.
      3) Water jetting is NOT allowed.
      4) Submission of quality control compaction test result data developed for haunching areas may be requested by ENGINEER at any time. Provide results of tests immediately upon request.
   B. Flowable Fill: When required, place controlled low strength material in the trench, APWA Section 31 05 15. Cure the fill before placing surface restorations.
   C. Surface Restoration:
      1) Landscaped Surface: Rake to match existing grade. Replace vegetation to match pre-construction conditions. Follow APWA Section 32 92 00 (turf or grass) or APWA Section 32 93 13 (ground cover) requirements.
      2) Paved Surface: Do not install asphalt or concrete surfacing until trench compaction is acceptable to ENGINEER. Follow APWA Section 33 05 25 (asphalt surfacing), or APWA Section 33 05 25 (concrete surfacing).

202



January 2011 — *Trench backfill* — Plan **381**

203

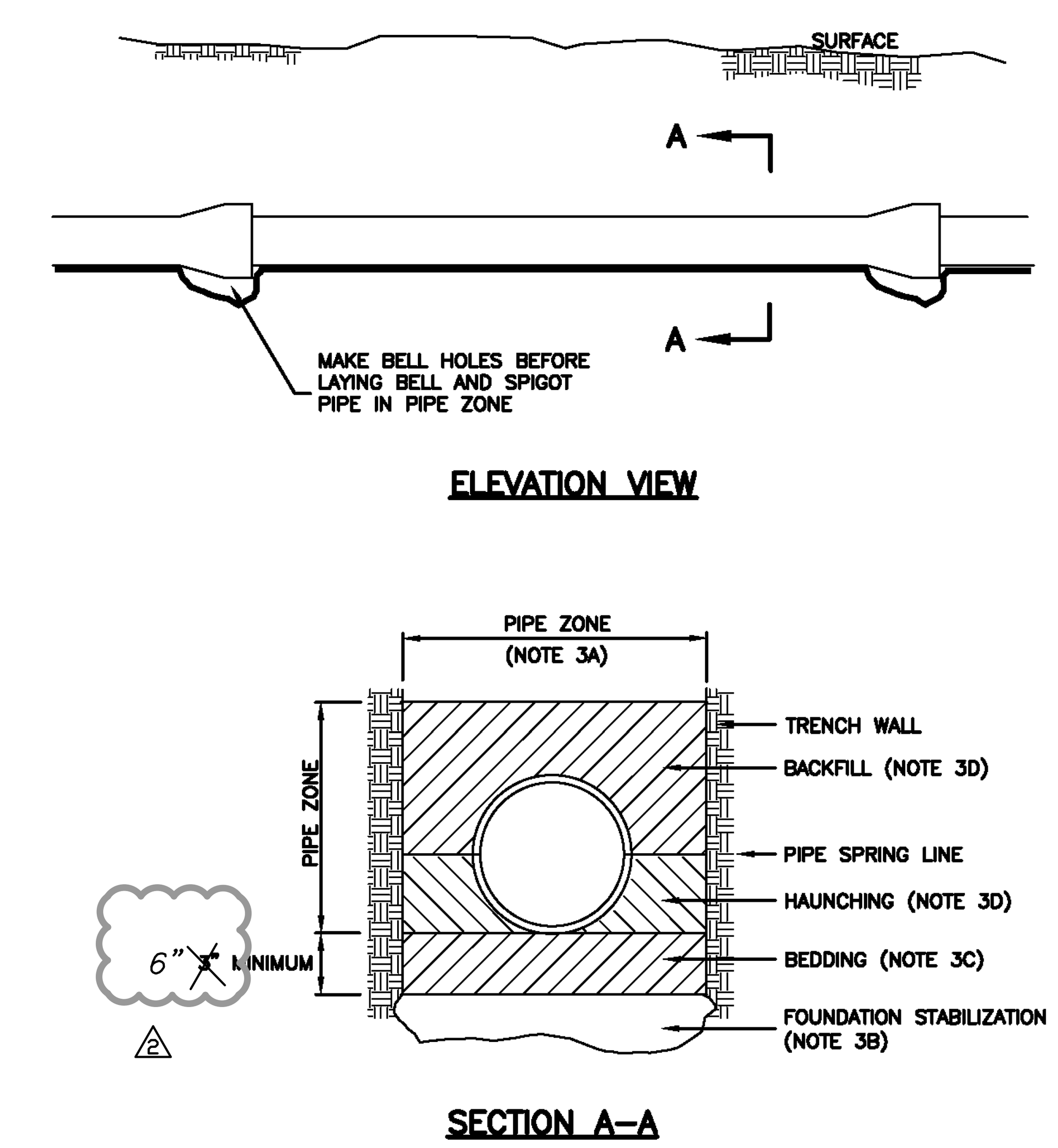
Pipe zone backfill

1. **GENERAL**
   A. Install the pipe in the center of the trench or no closer than 6-inches from the wall of the pipe to the wall of the trench.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches. 3/4" for plastic pipe
   C. Concrete: APWA Section 03 30 04.
   D. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.
   E. Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.

3. **EXECUTION**
   A. Excavate the Pipe Zone: Width is measured at the pipe spring line and includes any necessary sheathing. Provide width recommended by pipe manufacturer. Follow manufacturer's recommendations when using trench boxes.
   B. Foundation Stabilization: Get ENGINEER's permission before installing common fill. Vibrate to stabilize. Installation of stabilization-separation geotextile will be required to separate backfill material and native subgrade materials if common fill cannot provide a working surface or prevent soils migration.
   C. Base Course:
      1) Furnish untreated base course material unless specified otherwise by pipe manufacturer.
      2) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
      3) When using concrete, provide at least Class 2,000 per APWA Section 03 30 04.
   D. Pipe Zone: DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate in the pipe zone. Water jetting is NOT allowed.
      1) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26 unless pipe manufacturer requires more stringent installation.
      2) Submission of quality control compaction test result data developed for the haunch zone may be requested by ENGINEER at any time. CONTRACTOR is to provide results of tests immediately upon request.
   E. Flowable Fill (when required and if allowed by pipe manufacturer):
      1) Place the controlled low strength material, APWA Section 31 05 15.
      2) Prevent pipe flotation by installing in lifts and providing pipe restraints as required by pipe manufacturer.
      3) Reset pipe to line and grade if pipe "floats" out of position.

204



INSTALLATION

CONCRETE PIPE: FOLLOW ASTM C 1479
"STANDARD PRACTICE FOR INSTALLATION OF PRECAST CONCRETE SEWER, STORM DRAIN, AND CULVERT PIPE USING STANDARD INSTALLATIONS.

PVC AND HDPE PIPE: FOLLOW ASTM D 2321
"STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS"

CORRUGATED METAL PIPE: FOLLOW ASTM A 798
"STANDARD PRACTICE FOR INSTALLING FACOTRY-MADE CORRUGATED STEEL PIPE FOR SEWERS AND OTHER APPLICATIONS.

VITRIFIED CLAY PIPE: FOLLOW ASTM C 12.
"STANDARD RECOMMENDED PRACTICE FOR INSTALLING VITRIFIED CLAY PIPE LINES.

January 2011 — *Pipe zone backfill* — Plan **382**

205

TALISMAN CIVIL CONSULTANTS
5217 SOUTH STATE STREET SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MAB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 300' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

DETAILS

TCC JOB NUMBER: 18-200.23

DATE SUBMITTED: 04.16.2019

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY STATE OF UTAH

SHEET NUMBER 701

24 OF 33

DATE: 7/9/2019 5:07 PM
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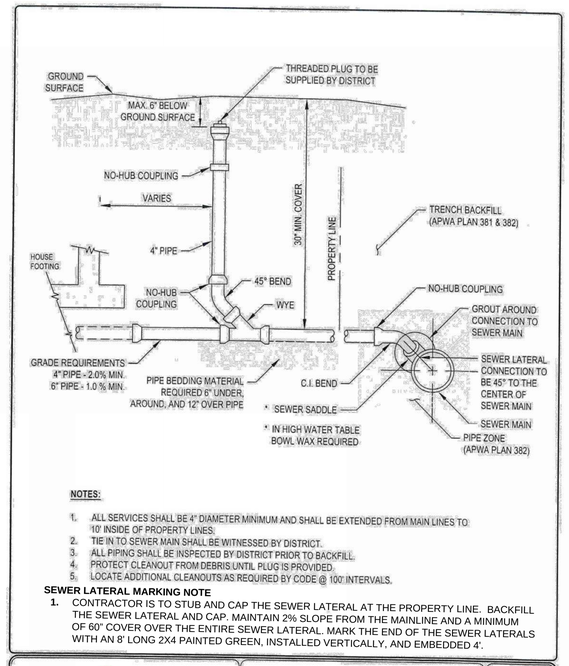
DATE: 7/9/2019 5:05 PM

Sanitary sewer manhole

1. **GENERAL**
   A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the manhole.
   B. Manhole size.
      1) Diameter is 4 feet: For sewers under 12" diameter.
      2) Diameter is 5 feet: For sewers 12" and larger, or when 3 or more pipes intersect the manhole.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.
   D. Riser and Reducing Riser: ASTM C 478.
   E. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A 615.
   F. Grout: 2 parts sand to 1 part cement mortar, ASTM C 1329.
   G. Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.

3. **EXECUTION**
   A. Foundation Stabilization: Get ENGINEER's permission to use a sewer rock or a granular backfill borrow in a geotextile wrap to stabilize an unstable foundation.
   B. Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   C. Invert Cover. During construction, place invert covers over the top of pipe in manholes that currently convey sewerage. See Plan 412.
   D. Pipe Connections: Grout around all pipe openings.
   E. Pipe Seal: Install rubber-based pipe seals on all plastic pipes when connecting plastic pipes to manholes. Hold water-stop in place with stainless steel bands.
   F. Joints: Place flexible gasket-type sealant in all riser joints. Finish with grout.
   G. Adjustment: If the required manhole adjustment is more than 1'-0", remove the cone and grade rings and adjust the manhole elevation with the appropriate manhole section, the cone section, and the grade rings or plastic form to make frame and lid match finish grade.
   H Finish: Provide smooth and neat finishes on interior of cones, shafts, and rings. Imperfect moldings or honeycombs will not be accepted.
   I. Backfill: Provide backfill against the manhole shaft. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.



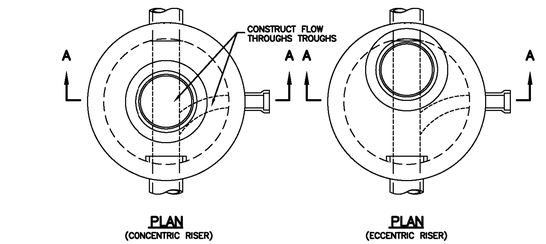
NOTES:

1. ALL SERVICES SHALL BE 4" DIAMETER MINIMUM AND SHALL BE EXTENDED FROM MAIN LINES TO 10' INSIDE OF PROPERTY LINES.
2. TIE IN TO SEWER MAIN SHALL BE WITNESSED BY DISTRICT.
3. ALL PIPING SHALL BE INSPECTED BY DISTRICT PRIOR TO BACKFILL.
4. PROTECT CLEANOUT FROM DEBRIS UNTIL PLUG IS PROVIDED.
5. LOCATE ADDITIONAL CLEANOUTS AS REQUIRED BY CODE @ 100' INTERVALS.

SEWER LATERAL MARKING NOTE

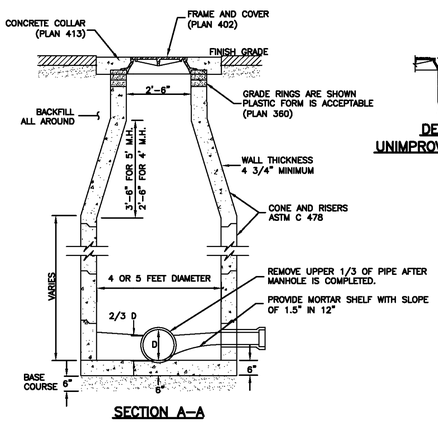
1. CONTRACTOR IS TO STUB AND CAP THE SEWER LATERAL AT THE PROPERTY LINE. BACKFILL THE SEWER LATERAL AND CAP. MAINTAIN 2% SLOPE FROM THE MAINLINE AND A MINIMUM OF 60" COVER OVER THE ENTIRE SEWER LATERAL. MARK THE END OF THE SEWER LATERALS WITH AN 8' LONG 2X4 PAINTED GREEN, INSTALLED VERTICALLY, AND EMBEDDED 4'.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT	SEWER LATERAL CONNECTION	PLAN NO. 431S

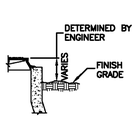


PLAN (CONCENTRIC RISER)

PLAN (ECCENTRIC RISER)



SECTION A–A

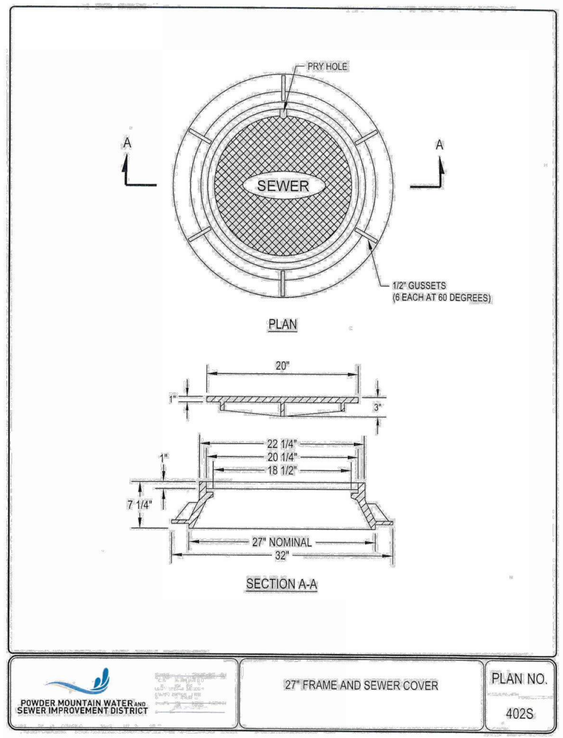


DETAIL UNIMPROVED AREAS

Sanitary sewer manhole

April 2011

Plan 411



POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT	27" FRAME AND SEWER COVER	PLAN NO. 402S

1 1/2" and 2" Service taps

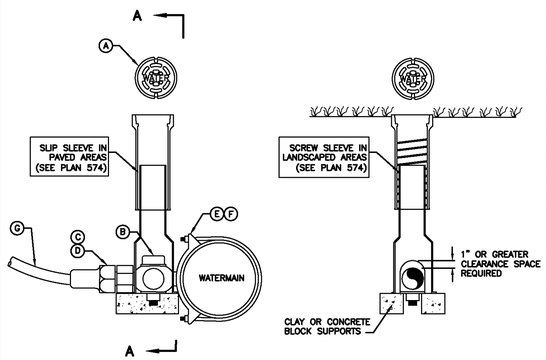
1. **GENERAL**
   A. Before backfilling around taps, secure inspection of installation by ENGINEER.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Tape: Teflon tape is required on all taps.

3. **EXECUTION**
   A. Tapping: Place taps a minimum of 36-inches apart. Use a tapping tool that is sized corresponding to the size of the service line to be installed. No taps within 36-inches of end of pipe.
   B. PVC or AC Pipe: A service saddle clamp is required on all PVC and AC pipe taps unless specified otherwise.
   C. Backfill: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   D. Blocks: Clay brick or concrete block required under valve box to assure a 1" or greater space between the box and the corporation stop and pipe assembly.

WATER SERVICE MARKING NOTE

1. CONTRACTOR IS TO PROVIDE A 2" VALVE (CURB STOP) AT THE PROPERTY LINE. BACKFILL THE WATER LATERAL AND VALVE. MAINTAIN A MINIMUM OF 72" OF COVER OVER THE ENTIRE WATER LATERAL. MARK THE END OF THE WATER LATERALS WITH AN 8' LONG 2X4 PAINTED BLUE, INSTALLED VERTICALLY, AND EMBEDDED 4'.



ELEVATION

SECTION A–A

LEGEND			
No.	*	ITEM	DESCRIPTION
A		VALVE BOX WITH LID	2 PIECE CAST IRON
B		CORPORATION STOP	BRASS
C		COPPER ADAPTER	
D		FLARE OR PACK JOINT COPPER ADAPTER	
E		SERVICE SADDLE CLAMP	D.I., A.C., C.I.
F		SERVICE SADDLE CLAMP	P.V.C.
G		COPPER PIPE (SERVICE LINE)	TYPE K (SOFT)

* FURNISHED BY UTILITY AGENCY

1 1/2" and 2" Service taps

August 2001

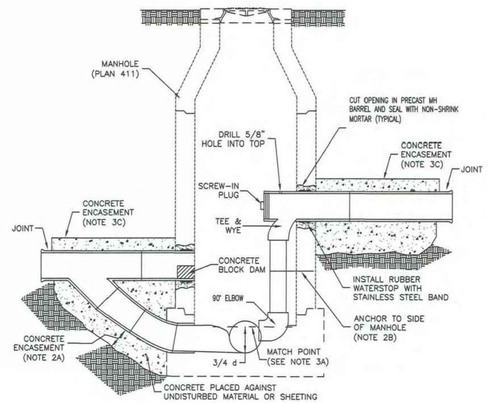
Plan 552

Pipe drop

1. **GENERAL**
   A. Only one drop pipe is allowed inside the manhole.
   B. Size of drop pipe is to be the same diameter as sewer mainline pipe that it serves.

2. **PRODUCTS**
   A. Concrete: Class 4000, APWA Section 03 30 04.
   B. Anchors: Use stainless steel anchors that are acceptable to ENGINEER.

3. **EXECUTION**
   A. At the match point, match the 3/4 diameter points of the pipes.
   B. If the drop is more than 18-inches, anchor the riser to the wall every 12-inches.
   C. Extend concrete encasement to first joint beyond excavation for drop connection.



ALTERNATE 1 — SHALLOW DROP (TYP) | ALTERNATE 2 — DEEP DROP (TYP)

SECTION

APWA Utah Chapter

Pipe drop

Plan 433 April 1997

TALISMAN CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MHS	5/10/2019	SOUTH 200' OF MORGAN AVE
2	LAB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.
DETAILS

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER No. 7899506 RYAN W. CATHEY 6/20/19 STATE OF UTAH

SHEET NUMBER 702

25 OF 33

PATH: N:\SLC\793\Cad\18-200.23-Overlook Phase1 and Phase2\PLV702 DETAILS.dwg

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Direct bearing thrust block

1. **GENERAL**
   - A. Thrust design for pipe sizes or configurations not shown require special design.
   - B. Bearing areas, volumes, and special thrust blocking details shown on Drawings take precedence over this plan.
   - C. Restraint sizing is based upon a maximum operating pressure of 150 psi and a test pressure of 200 psi, and a minimum soil bearing strength of 2,000 psf. Operating pressures in excess of 150 psi or soils with less than 2,000 pound bearing strength will require special design.
   - D. Before backfilling around thrust block, secure inspection of installation by ENGINEER.
2. **PRODUCTS**
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   - C. Thrust Bocks: Concrete Class 4000, APWA Section 03 30 04.
   - D. Grease: Non-oxide poly-FM.
3. **EXECUTION**
   - A. Pour concrete against undisturbed soil.
   - B. Pipe Joints: Do not cover with concrete. Leave completely accessible.
   - C. Grease: Apply grease to all buried metal surfaces. Wrap with polyethylene sheet and tape wrap.
   - D. Locking restraint devices may be used in conjunction with concrete thrust blocking (at discretion of ENGINEER).
   - E. Base Course and Backfill Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.

Tie-down thrust restraints

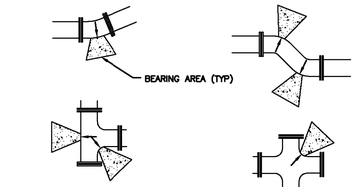
1. **GENERAL**
   - A. Thrust design for pipe sizes or configurations not shown require special design.
   - B. Bearing areas, volumes, and special thrust blocking details shown on Drawings take precedence over this plan.
   - C. Restraint sizing is based upon a maximum operating pressure of 150 psi and a test pressure of 200 psi, and a minimum soil bearing strength of 2,000 psf. Operating pressures in excess of 150 psi or soils with less than 2,000 pound bearing strength will require special design.
   - D. Before backfilling around thrust block, secure inspection of installation by ENGINEER.
2. **PRODUCTS**
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   - C. Concrete: Class 4,000 minimum, APWA Section 03 30 04.
   - D. Reinforcement: Deformed, steel, ASTM A 615. Give bars an epoxy coating at least 15 mils thick. Minimum stress yield strength of steel tie-down bars is 70,000 ksi.
   - E. Grease: Non-oxide poly-FM.
3. **EXECUTION**
   - A. Pour concrete against undisturbed soil. Concrete must be allowed to cure in thrust restraints for 5 days before pressurizing water lines or have additional approved thrust restraints installed before pressurizing the water line.
   - B. Pipe Joints: Do not cover with concrete. Leave completely accessible.
   - C. Grease: Apply grease to all buried metal surfaces. Wrap with polyethylene sheet and tape wrap.
   - D. Locking restraint devices may be used in conjunction with concrete thrust blocking (at discretion of ENGINEER).
   - E. Base Course and Backfill Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.

4" washout valve

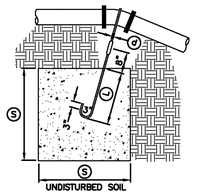
1. **GENERAL**
   - A. Before backfilling, secure inspection of installation by ENGINEER.
   - B. Water mains 12-inches and larger will require a special washout assembly design.
2. **PRODUCTS**
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   - C. Concrete: Class 4000, APWA Section 03 30 04.
3. **EXECUTION**
   - A. Pour concrete against undisturbed soil.
   - B. Apply tape wrap to the exterior of all galvanized pipe per AWWA C209.
   - C. Place plastic sheet at least 6 mils thick over drain gravel to prevent silting.
   - D. After installation of washout valve assembly, verify the washout valve riser drains to gravel.
   - E. Backfill and Base Course Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater of a modified proctor density, APWA Section 31 23 26.

Cover collar for water valve box

1. **GENERAL**
   - A. In a pavement surface, fill an annular space around a frame and cover casting with concrete. The concrete will support the casting under traffic loadings.
2. **PRODUCTS**
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Concrete: Class 4000, APWA Section 03 30 04.
   - C. Concrete Curing Agent: Type ID Class A (clear with fugitive dye), membrane forming compound, APWA Section 03 39 00.
3. **EXECUTION**
   - A. Base Course: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   - B. Pavement Preparation: Provide a neat vertical and concentric joint between concrete collar and existing asphalt concrete surface. Clean edges of all dirt, oil, and loose debris.

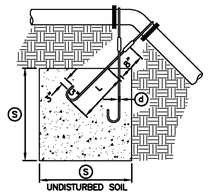


SIZE OF PIPE	MINIMUM BEARING AREA IN SQ. FT.				
	TEES, VALVES DEAD ENDS	90° BENDS	45° BENDS	22 1/2° BENDS	11 1/4° BENDS
4"	2	3	2	2	2
6"	4	5.5	3	1.5	1
8"	6.5	9.5	5	2.75	1.5
12"	14	20	11	5.5	3
14"	19	26.5	14.5	7.5	4
16"	24	34	18.5	9.5	6
20"	27	52	28.5	14.5	16
24"	53	74	41	21	53
30"	81	114	62	32	16



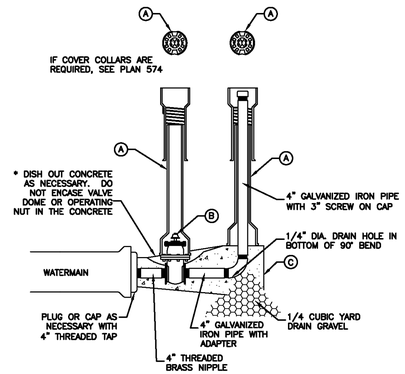
TYPE A RESTRAINT
FOR 11 1/4° – 22 1/2° VERTICAL BENDS

PIPE SIZE NOMINAL DIAMETER – INCH	VERTICAL BEND IN DEGREES	CONCRETE BLOCKING IN CUBIC FEET	(S) SIDE OF CUBE – FEET	(d) DIAMETER OF SHANK OR REBAR RODS – INCH	(L) DEPTH OF ROD CONCRETE – FEET
4"	11 1/4°	8	2.0	5/8"	1.5
	22 1/2°	15.6	2.5	5/8"	2.0
6"	11 1/4°	15.6	2.5	5/8"	2.0
	22 1/2°	34.3	3.25	5/8"	2.0
8"	11 1/4°	27	3.0	5/8"	2.0
	22 1/2°	64	4.0	5/8"	2.0
12"	11 1/4°	64	4.0	5/8"	2.0
	22 1/2°	125	5.0	3/4"	3.0
16"	11 1/4°	107	4.25	7/8"	3.0
	22 1/2°	216	6.0	7/8"	3.0
20"	11 1/4°	138	5.17	1"	3.5
	22 1/2°	334	6.94	1"	4.0
24"	11 1/4°	240	6.22	1"	4.0
	22 1/2°	476	7.81	1"	4.0
30"	11 1/4°	369	7.17	1"	4.0
	22 1/2°	733	9.02	1"	4.0

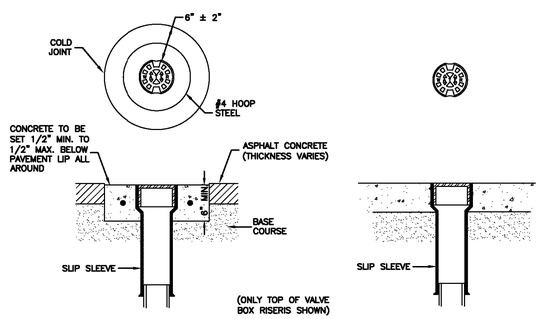


TYPE B RESTRAINT
FOR 45° VERTICAL BENDS

PIPE SIZE NOMINAL DIAMETER – INCH	VERTICAL BEND IN DEGREES	CONCRETE BLOCKING IN CUBIC FEET	(S) SIDE OF CUBE – FEET	(d) DIAMETER OF SHANK OR REBAR RODS – INCH	(L) DEPTH OF ROD CONCRETE – FEET
4"	45°	1	3.0	5/8"	2.0
6"		2.37	4.0	5/8"	2.5
8"		3.97	4.75	5/8"	3.0
12"		9.04	6.25	5/8"	4.0
16"		17.24	7.75	3/4"	4.0
20"		26.52	92.17	3/4"	4.0
24"		37.82	10.07	3/4"	4.0
30"		58.26	11.63	3/4"	4.0

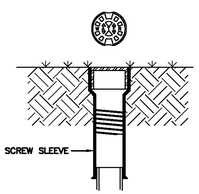


LEGEND		
No.	ITEM	DESCRIPTION
(A)	VALVE BOX WITH LID	2 PIECE CAST IRON
(B)	4" GATE VALVE WITH SCREW ENDS	2" x 2" OPERATING NUT
(C)	CONCRETE THRUST BLOCK	PLAN 561



ASPHALT CONCRETE

CONCRETE PAVEMENT



LANDSCAPED AREA

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MHH	5/7/2019	SOUTH 200' AT MERIDIAN AVE
2	EJB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.
DETAILS

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CARTER
6.20.19
STATE OF UTAH

SHEET NUMBER
703
26 OF 33

Plan 561 — *Direct bearing thrust block* — August 2010 — 267

Plan 562 — *Tie-down thrust restraints* — April 1997 — 269

Plan 571 — *4" Washout valve* — February 2011 — 271

Plan 574 — *Cover collar for water valve box* — August 2010 — 277

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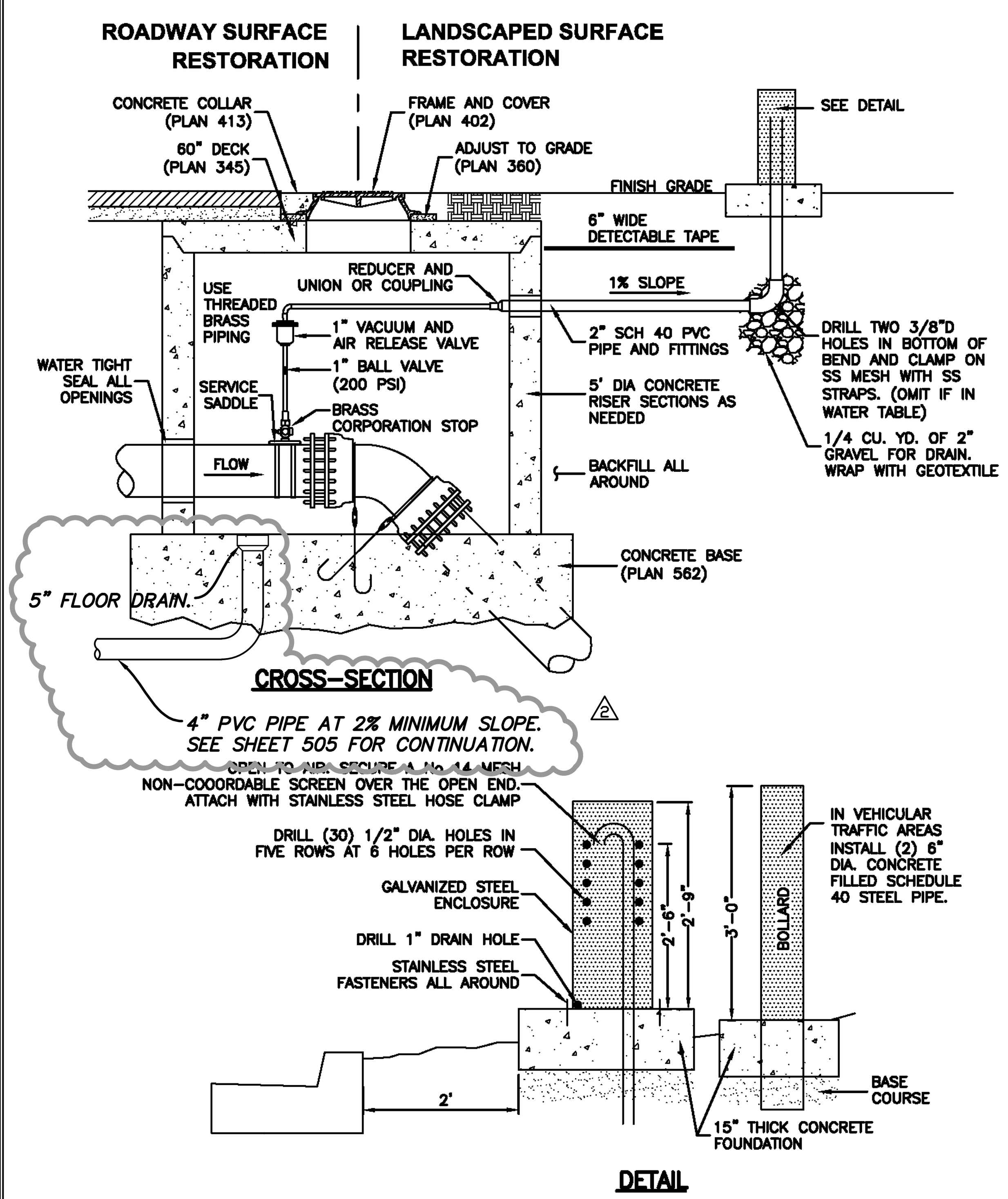
Air release assembly

1. **GENERAL**
   A. This drawing detail is applicable to water main piping less than 16-inches diameter.
   B. PCCP, steel, MLAC and other water main pipe materials will require special detail or design drawings. Submit the design and detail drawings and materials to the ENGINEER for review before installation.
   C. Installation in areas of high ground water or potential for water entering the vent pipe will require a special design to be provided by the ENGINEER.
   D. Before backfilling around the assembly, secure inspection of installation by ENGINEER.

2. **PRODUCTS**
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Drain Gravel: Sewer rock, ASTM size no. 3 (2" to 1") or equal, APWA Section 31 05 13.
   C. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   D. Concrete: Class 4000, APWA Section 03 30 04.
   E. Manhole: Riser, ASTM C 478.
   F. Reinforcement: Deformed, steel, ASTM A 615. Give bars an epoxy coating at least 15 mils thick. Minimum stress yield strength of steel tie-down bars is 70,000 ksi.
   G. Small Fittings: Brass. Do not use galvanized materials.
   H. PVC Pipe and Fittings: Schedule 40, APWA Section 33 05 07.
   I. Water Tight Wall Seal: Waterproof, compressible.

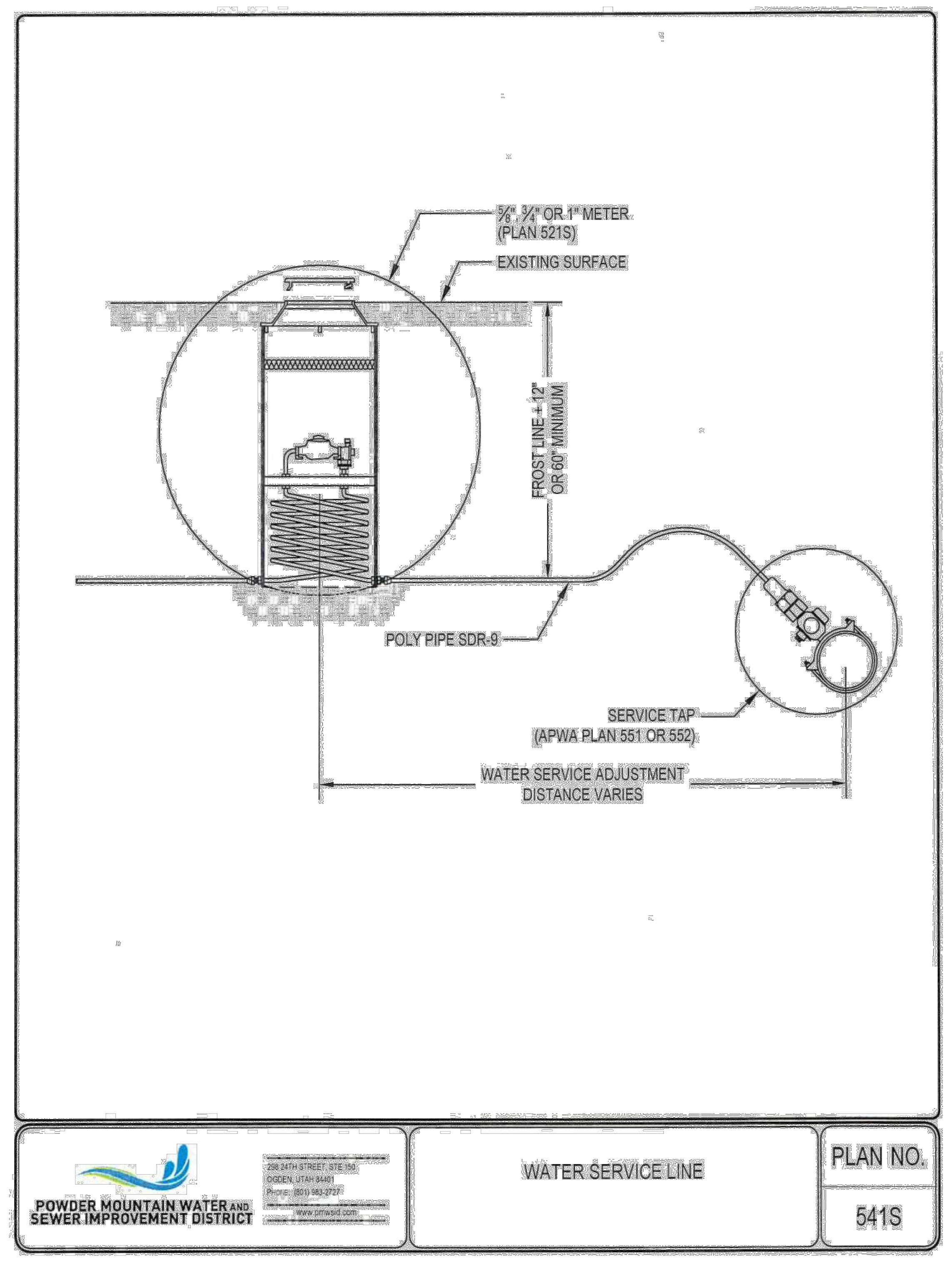
3. **EXECUTION**
   A. Base Course and Backfill Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Apply tape wrap to the exterior of all buried steel pipe per AWWA C209.
   C. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   D. Service saddle is required on all PVC and AC pipe taps unless specified otherwise. Ductile iron and cast iron pipe may be direct tapped.
   E. Seal manhole joints water-tight and ground flush with interior wall.
   F. Follow applicable AWWA and NSF standards when connecting piping.
   G. If diameter of air relief valve is greater than 2-inches, provide piping to match its diameter from water main connection to open to air.

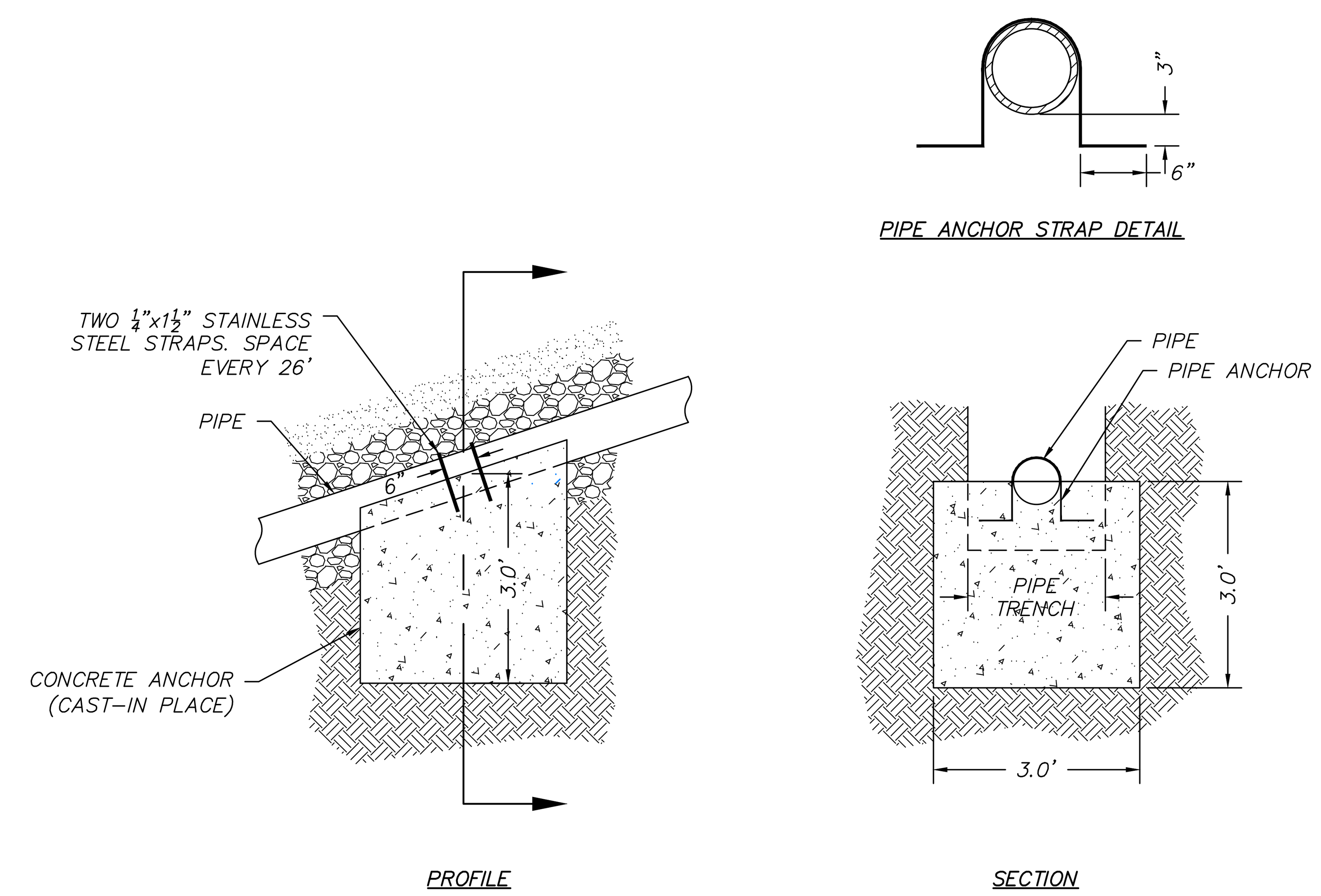
278



Air release assembly — Plan **575**

February 2011 — 279





A — PIPE ANCHOR DETAIL
SCALE: 1" = N.T.S.

TALISMAN CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.
DETAILS

DATE SUBMITTED: 04.16.2019

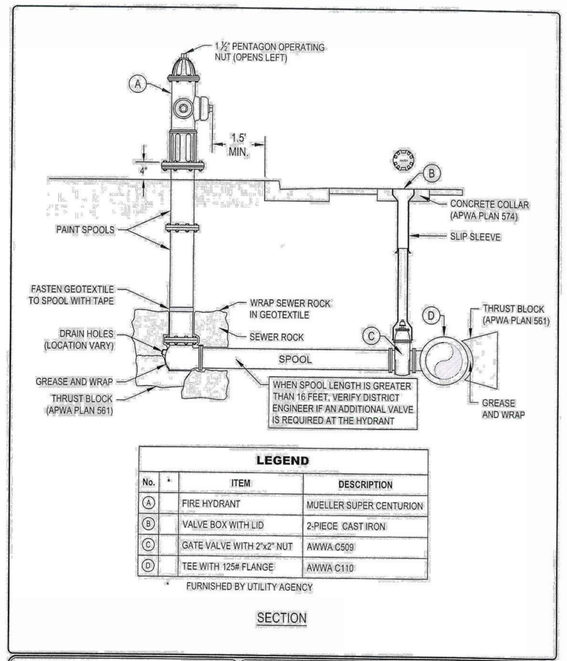
TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER — No. 7899506 — RYAN W. CATHEY — STATE OF UTAH

CALL 811 BEFORE YOU DIG — SAFE DIGGING PARTNER

SHEET NUMBER
704
27 OF 33

PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\P\704 DETAILS.dwg



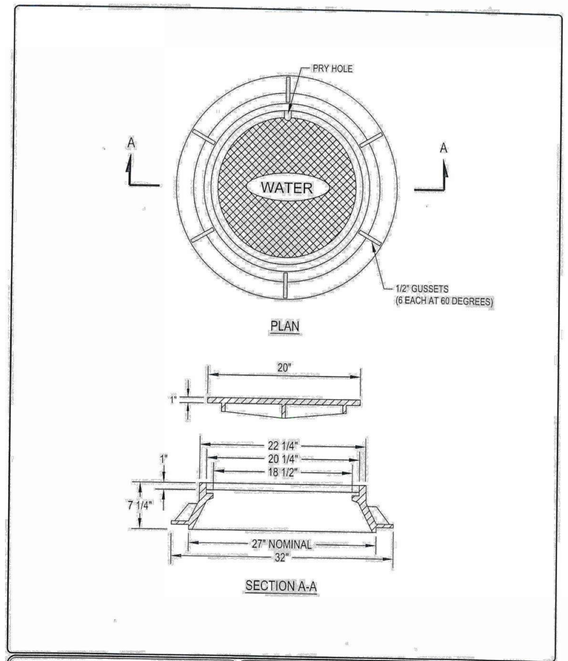
LEGEND

No.	*	ITEM	DESCRIPTION
A		FIRE HYDRANT	MUELLER SUPER CENTURION
B		VALVE BOX WITH LID	2-PIECE CAST IRON
C		GATE VALVE WITH 2"x2" NUT	AWWA C509
D		TEE WITH 125# FLANGE	AWWA C110

* FURNISHED BY UTILITY AGENCY

SECTION

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT | FIRE HYDRANT WITH VALVE | PLAN NO. 511S



PLAN

SECTION A-A

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT | 27" FRAME AND WATER COVER | PLAN NO. 502S

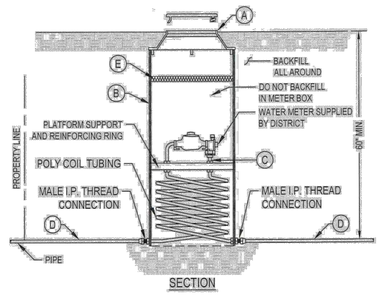
FIRE HYDRANT WITH VALVE

1. GENERAL
   A. BEFORE BACKFILLING, SECURE INSPECTION BY ENGINEER.
   B. ADDITIONAL REQUIREMENTS ARE SPECIFIED IN APWA SECTION 33 11 00.

2. PRODUCTS
   A. HYDRANT: DRY BARREL, AWWA C502.
   B. THRUST BLOCK: CONCRETE CLASS 4000, APWA SECTION 03 30 04
   C. REINFORCEMENT: DEFORMED, 60KSI YIELD GRADE STEEL, ASTM A 615.
   D. BACKFILL: APWA SECTION 31 05 13, MAXIMUM PARTICLE SIZE 2-INCHES.
      1) SEWER ROCK: ASTM SIZE No. 3 (2" TO 1") OR LARGER.
      2) OTHER TYPE OF COMMON FILL: CONTRACTOR'S CHOICE.
   E. GEOTEXTILE: STABILIZATION-SEPARATION FABRIC, APWA SECTION 31 05 19.

3. EXECUTION
   A. INSTALLATION:
      1) PROVIDE AT LEAST 1 CUBIC YARD OF SEWER ROCK AROUND DRAIN HOLE AT BASE OF HYDRANT SPOOL. WRAP GEOTEXTILE AROUND SEWER ROCK AND TAPE GEOTEXTILE TO HYDRANT SPOOL TO PREVENT SILTING OF SEWER ROCK.
      2) PAINT FIRE HYDRANT RED.
      3) APPLY NON-OXIDE GREASE TO ALL BURIED METAL SURFACES, WRAP WITH POLYETHYLENE SHEET AND TAPE WRAP.
      4) NOTIFY FIRE DEPARTMENT AS SOON AS HYDRANT IS PLACE IN SERVICE.
   B. THRUST BLOCKS:
      1) BEFORE POURING CONCRETE, WRAP PIPE SYSTEM WITH POLYETHYLENE SHEET TO PREVENT BONDING OF CONCRETE TO PIPE SYSTEM.
      2) REQUIRED FOR FLANGE OR WELDED PIPE SYSTEMS UNLESS APPROVED BY DISTRICT ENGINEER.
   C. BACKFILL:
      1) MAXIMUM LIFT THICKNESS IS 8-INCES BEFORE COMPACTION. COMPACTION IS 95 PERCENT OR GREATER RELATIVE TO A MODIFIED PROCTOR DENSITY, APWA SECTION 31 23 26.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT | FIRE HYDRANT WITH VALVE | PLANNO. 511S



SECTION

LEGEND

No.	ITEM	DESCRIPTION
A	FRAME AND COVER	DUCTILE IRON COVER (18" DIAMETER WITH SIDE MOUNTED PENTAGON NUT LOCK)
B	60" METER BOX (18" DIAMETER, 60" DEEP)	RIGID PVC, WHITE INTERIOR METER BOX, 18" DIAMETER METER PIT
C	METER YOKE	¾", 1" OR 1" METER YOKE
D	POLY PIPE SDR 9	
E	INSULATION PAD	18" DIAMETER, 4" THICK PAD.

NOTES:
1. DISTRICT PROVIDES METER ONLY. ALL LINES, METER BOX, YOKE AND OTHER EQUIPMENT PROVIDED BY OTHERS.
2. METER BOX, , PLATFORM SUPPORT, POLY COIL TUBING AND INLET/OUTLET ARE PRE-ASSEMBLED BY VENDOR. ASSEMBLY TO BE CUSTOM ORDERED BY OTHERS.

POWDER MOUNTAIN WATER AND SEWER IMPROVEMENT DISTRICT | ⅝", ¾" AND 1" METER | PLAN NO. 521S

TALISMAN
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5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS
1	MHS	5/20/2019	SOUTH 200' OF MORGAN AVE
2	LJB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.
DETAILS

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

CALL 811 BEFORE YOU DIG
IT'S DIGGING PARTNERS

SHEET NUMBER
705
28 OF 33

DATE: 7/9/2019 5:05 PM

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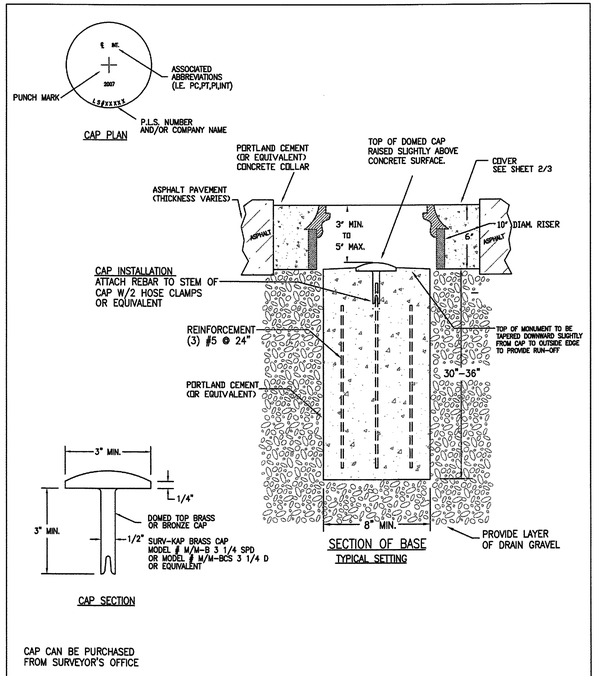
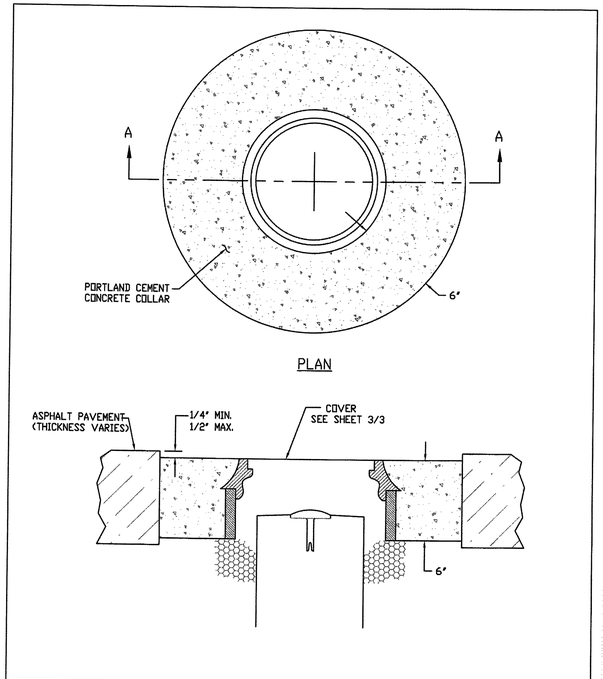
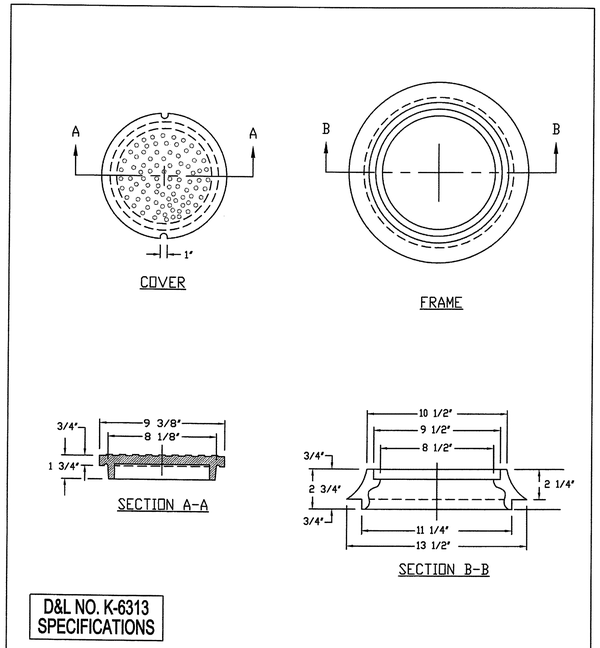


WEBER COUNTY SURVEY OFFICE	RING & LID SURVEY MONUMENT	STANDARD PLANS: Monument Standard
3/28/10 399-8020		SHEET 1 OF 3



WEBER COUNTY SURVEY OFFICE	Cover Collar For Survey Monuments	STANDARD PLANS: Monument Specifications
3/28/10 399-8020		SHEET 2 OF 3



D&L NO. K-6313 SPECIFICATIONS

WEBER COUNTY SURVEY OFFICE	RING & LID SURVEY MONUMENT	STANDARD PLANS: Monument Specifications
3/28/10 399-8020		SHEET 3 OF 3

TALISMAN
CIVIL CONSULTANTS
5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MAS	5/20/2019	SOUTH 200' OF MERIDIAN AVE
2	LAB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.
DETAILS

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

SHEET NUMBER
706
29 OF 33

DATE: 7/9/2019 5:05 PM

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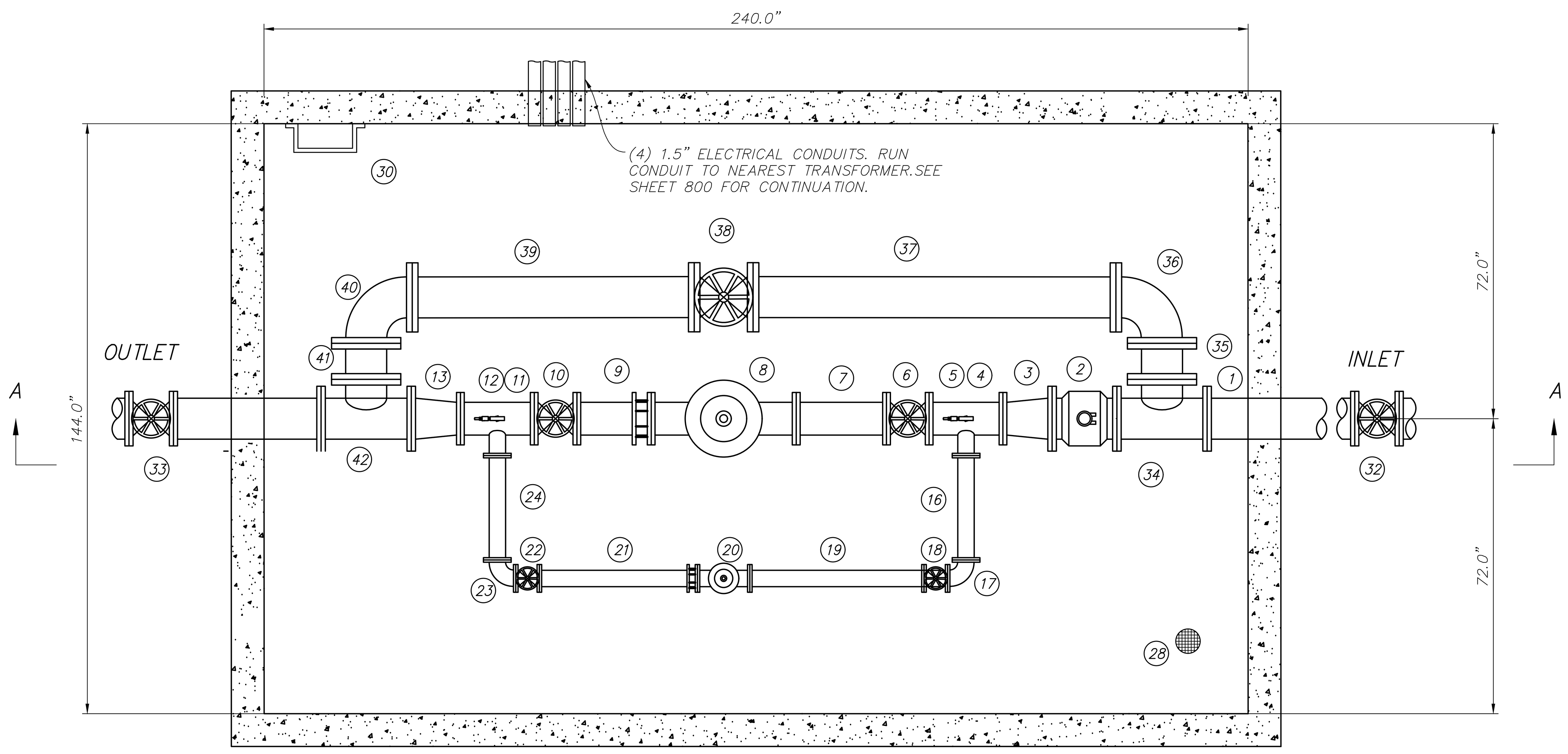
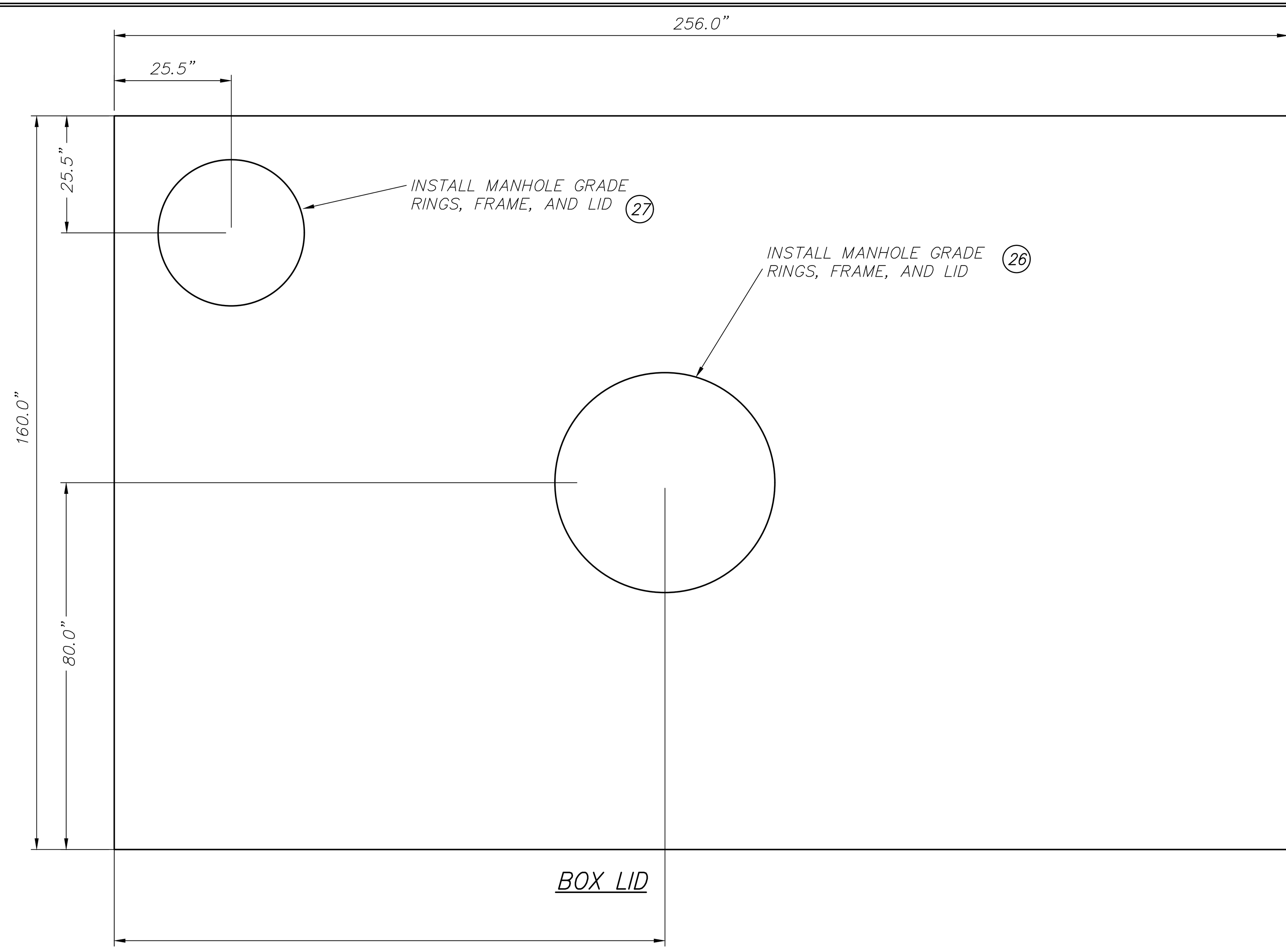
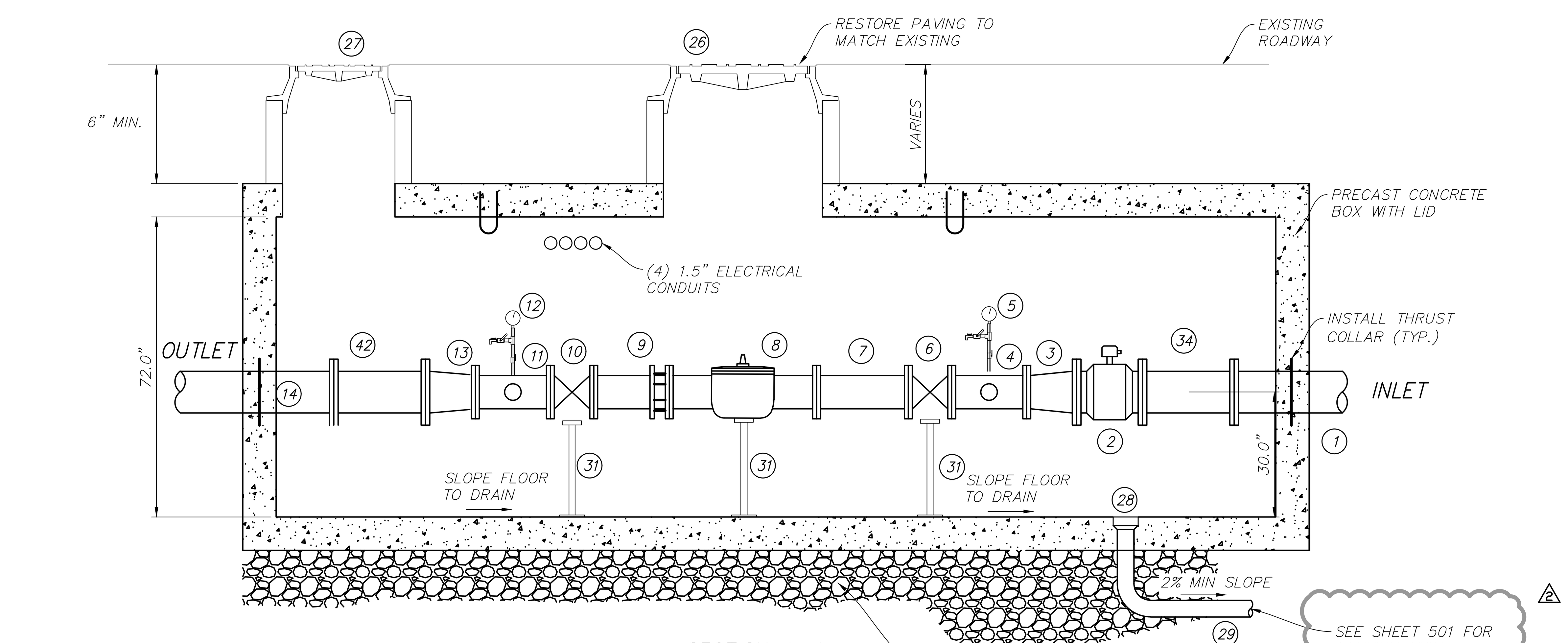


PLAN



BOX LID

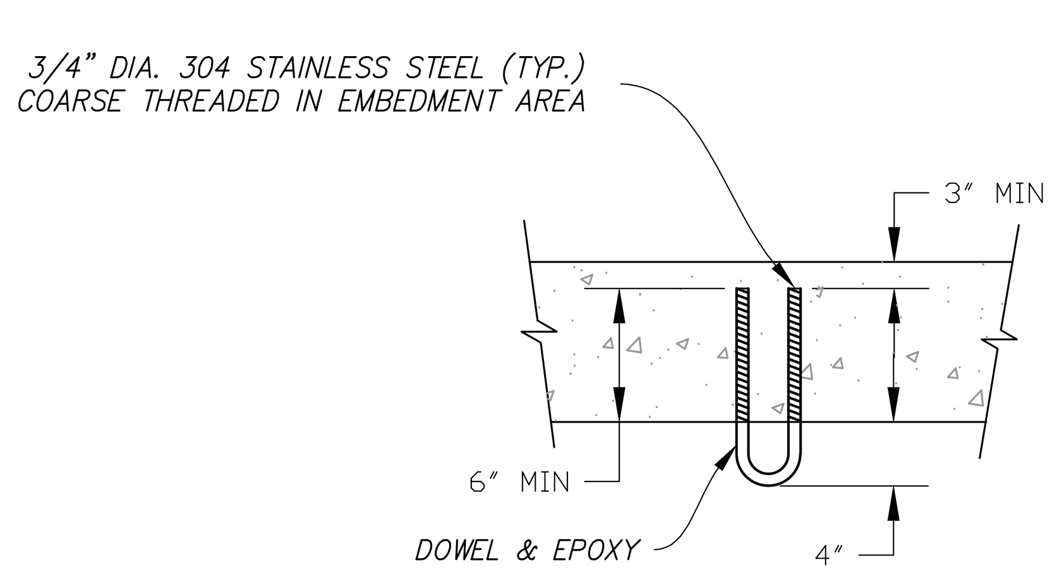


SECTION A–A

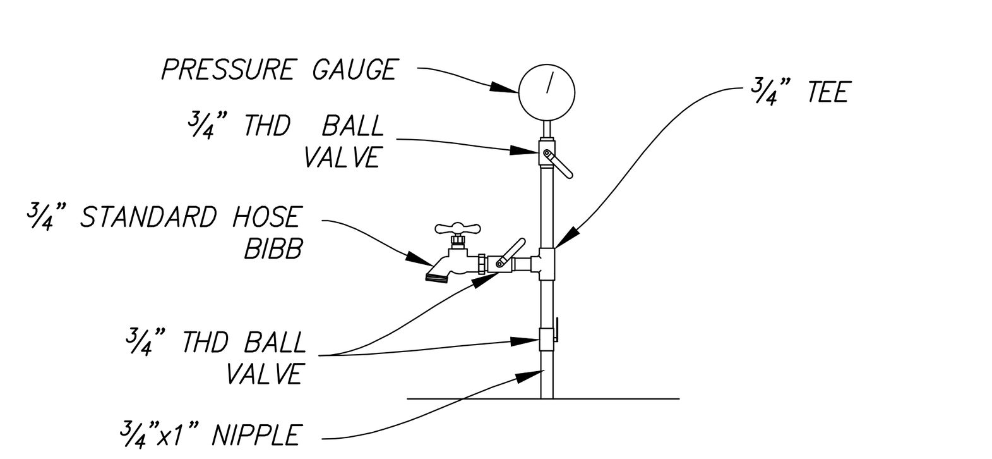
PRV VAULT #1 PRESSURES

MAINLINE PRESSURE
–INLET: 90 PSI
–OUTLET: 60 PSI

BYPASS PRESSURE
–INLET: 90 PSI
–OUTLET: 60 PSI

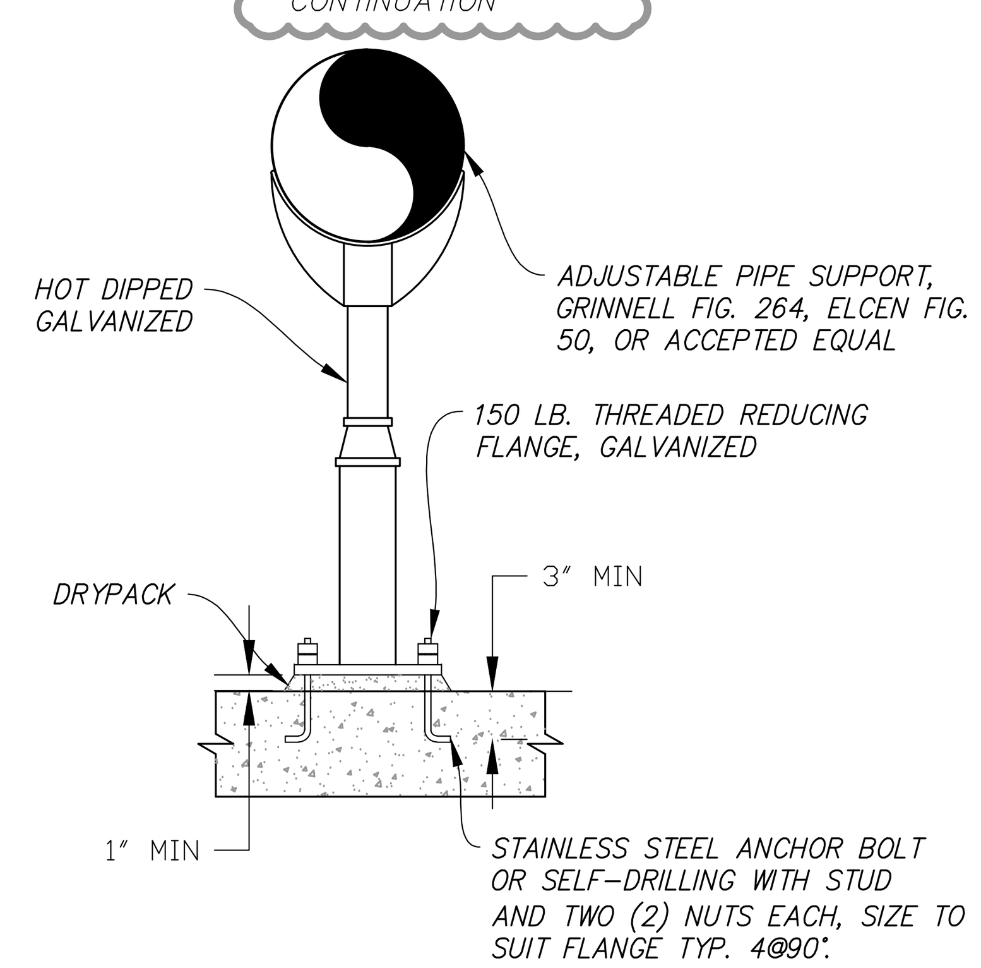


A / VAR EYELET DETAIL
NOT TO SCALE



ALL TUBING AND PARTS TO BE STAINLESS STEEL

B / VAR PRESSURE GAUGE TREE
NOT TO SCALE



NOTE: INSTALL 5 PIPE SUPPORT IN EACH VAULT, ONE UNDER EACH OF FOUR VALVES AND ONE UNDER MAINLINE PRV.

D / VAR ADJUSTABLE PIPE SUPPORT
NOT TO SCALE

NUMBER	DESCRIPTION	MAKE	SIZE/DIA	LENGTH	ACTION
1	INLET		10	[1]	INSTALL NEW
2	METER		6	15.8	INSTALL NEW KROHNE ENVIROMAG 2000 METER
3	REDUCER		10X6	12	INSTALL NEW
4	TEE		6X4	18	INSTALL NEW
5	GAUGE TREE				INSTALL NEW PER DETAIL B THIS SHEET
6	GV	MUELLER	6	13	INSTALL NEW
7	SPOOL		6	[1]	INSTALL NEW
8	PRV	CLA-VAL	6	25.4	INSTALL NEW CLA-VAL MODEL 90-01
9	SPOOL		6	[1]	INSTALL NEW FLXPE w/FLXmj ADAPTER
10	GV	MUELLER	6	13	INSTALL NEW
11	TEE		6X4	18	INSTALL NEW
12	GAUGE TREE				INSTALL NEW
13	REDUCER		6X10	12	INSTALL NEW
14	OUTLET		10	[1]	INSTALL NEW
15	NOT USED				
16	SPOOL		4	[1]	INSTALL NEW
17	90 BEND		4		INSTALL NEW
18	GV	MUELLER	4	11.5	INSTALL NEW CLA-VAL MODEL 90-01
19	SPOOL		4	[1]	INSTALL NEW, FLxPE w/FLXMJ ADAPTER
20	PRV	CLA-VAL	4	15	INSTALL NEW
21	SPOOL		4	[1]	INSTALL NEW
22	GV	MUELLER	4	11.5	INSTALL NEW
23	90 BEND		4		INSTALL NEW
24	SPOOL		4	[1]	INSTALL NEW
25	NOT USED				
26	MH AND COVER		48		INSTALL NEW HS-20 LOAD RATED
27	MH AND COVER		30		INSTALL NEW HS-20 LOAD RATED
28	5" FLOOR DRAIN		5		INSTALL NEW
29	4" PVC DRAIN PIPE		4		INSTALL NEW
30	POLUPROPYLENE MANHOLE STEPS				INSTALL NEW SPACED AT 12" O.C. PER MANFUACTURER'S SPECIFICATIONS
31	PIPE SUPPORT				INSTALL NEW PER DETAIL D, THIS SHEET
32	GV	MUELLER	10		INSTALL NEW
33	GV	MUELLER	10		INSTALL NEW
34	TEE		10	22	INSTALL NEW
35	SPOOL		10	6	INSTALL NEW
36	90 BEND		10		INSTALL NEW
37	SPOOL		10	[1]	INSTALL NEW
38	GV	MUELLER	10		INSTALL NEW
39	SPOOL		10	[1]	INSTALL NEW
40	90 BEND		10		INSTALL NEW
41	SPOOL		10	6	INSTALL NEW
42	TEE		10	22	INSTALL NEW

GENERAL NOTES

1. OWNER SHALL PROVIDE A PORTABLE GENERATOR TO PMWSID PRIOR TO SUBSTANTIAL COMPLETION TO PROVIDE TEMPORARY POWER FOR MAINTENANCE OF PRVS.

TALISMAN
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5217 SOUTH STATE STREET
SUITE 200
MURRAY, UT 84107
801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

PRV DETAILS

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

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801.743.1300

NO.	BY	DATE	REVISIONS:
1	MMB	5/29/2019	REVISION 1
2	TJB	6/20/2019	SOUTH 200' OF MERIDIAN AVE

OVERLOOK PH1, PH2, PH3 AT S.P.M.

OVERALL DRY UTILITY PLAN

TCC JOB NUMBER: 18-200.23

DATE SUBMITTED: 04.16.2019

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 50'
0 12.5' 25' 50' 75'

SHEET NUMBER
800
31 OF 33

DATE: 7/9/2019 5:06 PM

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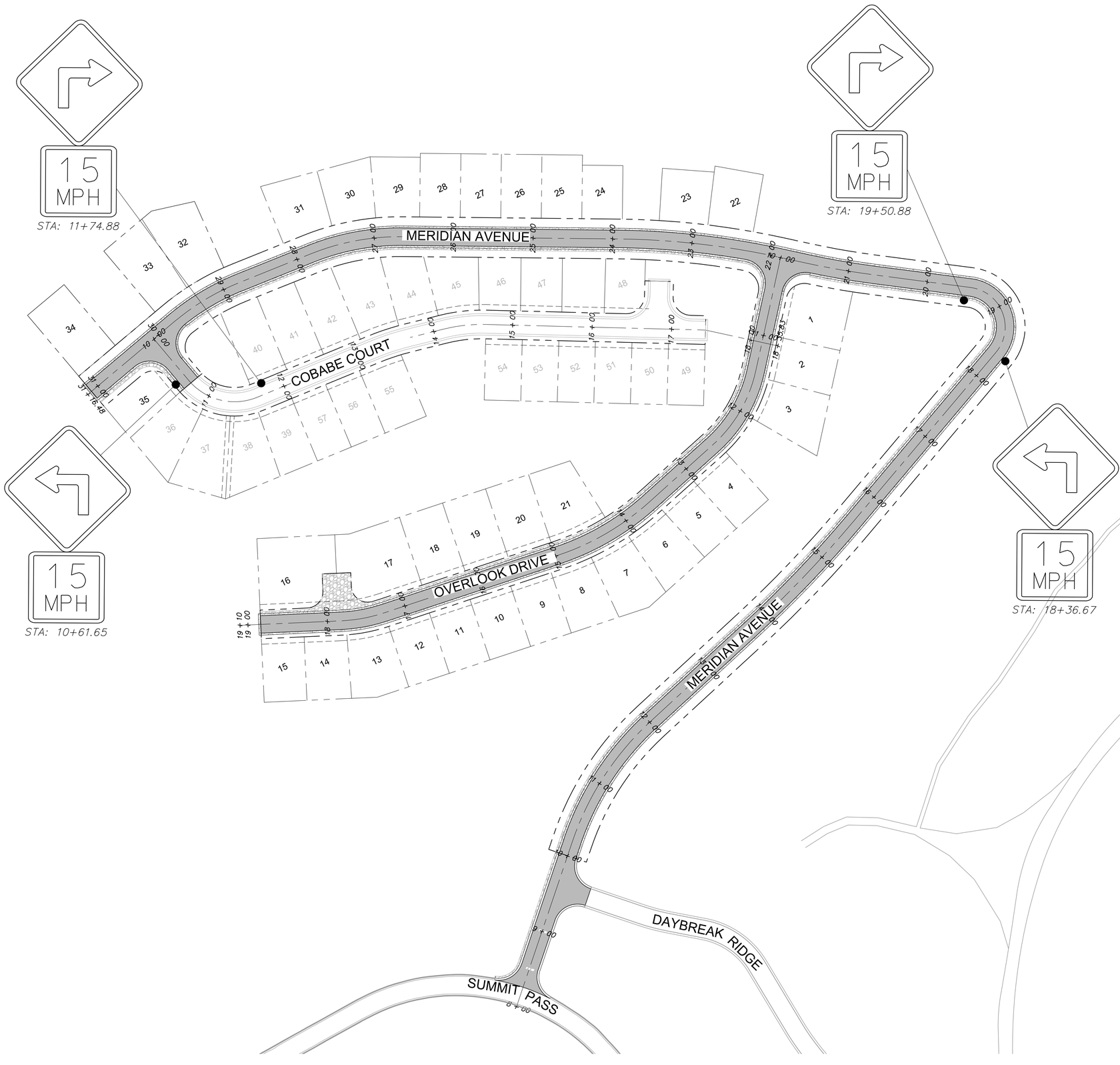

LEGEND

15 MPH — *INSTALL POST MOUNTED SIGN W13-1 PER CURRENT M.U.T.C.D. GUIDELINES*

INSTALL POST MOUNTED SIGN W1-1L PER CURRENT M.U.T.C.D. GUIDELINES

INSTALL POST MOUNTED SIGN W1-1R PER CURRENT M.U.T.C.D. GUIDELINES

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NO.	BY	DATE	REVISIONS:
1	MHH	5/20/2019	SOUTH 200' OF MERIDIAN AVE
2	LAB	6/20/2019	

OVERLOOK PH1, PH2, PH3 AT S.P.M.

SIGNAGE PLAN

DATE SUBMITTED: 04.16.2019

TCC JOB NUMBER: 18-200.23

REGISTERED PROFESSIONAL ENGINEER
No. 7899506
RYAN W. CATHEY
6/20/19
STATE OF UTAH

SCALE

HORIZONTAL: 1" = 60'

0 15' 30' 60' 90'

SHEET NUMBER

900

32 OF 33

CALL 811 BEFORE YOU DIG — SAFE DIGGING PARTNER

DATE: 7/9/2019 5:06 PM

PATH: N:\SLB0793\Cadd\18-200.23-Overlook Phase1 and Phase2\PA\900 SIGNAGE PLAN.dwg

Appendix L – Additional Information

(i.e., Other permits such as dewatering, stream alteration, wetland; and out of date SWPPP documents)

Utah Department of
Environmental Quality

195 North 1950 West
Salt Lake City, Utah 84114-4820
Attn: DAQ, Fugitive Dust Control Plan

Fugitive Dust Control Plan Application

Applicants have the option to complete the online dust control plan on the DEQ Online Services webpage or to submit a hard copy application.

Activities regulated by R307-309 may not commence before obtaining approval of the fugitive dust control plan. Therefore, online filing is encouraged because it provides instant approval.

Blank spaces must be completed for the application to be processed. If not applicable, enter N/A.

1. Applicant Information

Name:	Geneva Rock Products, Inc.
Address:	1250 Stock Road OGDEN, UT 84401
Phone:	8013954454
Email:	jallen@genevarock.com
Applicant Type:	Facility/Project Manager

2. Project Information

Project Name:	The Overlook at Powder Mountain Phase 1 and Phase 2
Address:	6965 E Powder Mountain Rd ALPINE, UT 84310
County:	WEBER
Directions:	south, east, West
Acreage:	5.5
Latitude:	41.365833
Longitude:	111.743611

3. Point of Contact

Name: Jake Allen

Company Name: Geneva Rock Products

Address: 1250 Stock Road OGDEN, UT 84401

Phone: 8013954454

Fax:

Cell:

4. On-site Superintendent/Supervisor/Foreman Contact

Name: Casey Harris

Company Name: Geneva Rock Products

On-Site Phone: 4359940619

Cell:

5. By signing this permit application I certify that:

A. I am authorized, on behalf of the individual or company listed in Section 1, as Applicant, to apply for a Fugitive Dust Control Plan and to commit to all of the terms and conditions of the requested plan.

B. Construction activities will be limited to lands that the applicant either owns or is authorized to use for construction activities.

C. The applicant accepts responsibility for assuring that all contractors, subcontractors, and all other persons on the construction site covered by this plan, comply with the terms and conditions of the Fugitive Dust Control Plan.

D. I understand that any false material statement, representation or certification made in this application may invalidate the plan or cause me to be subject to enforcement action pursuant to Utah Code Ann. 19-2-115.

E. Failure to comply with fugitive dust rules may result in compliance action and penalties up to $10,000 per violation/day.

Date: 08/15/2019
Printed Name: Geneva Rock Products, Inc.
Title: Facility/Project Manager
Company Name: Geneva Rock Products
Dust Plan Number: 21611

Dust Suppressants

	Check All that Apply
	Clay additives.
	Calcium chloride.
	Lime (calcium oxide).
	Magnesium chloride.
	Organic non-petroleum products, (ligninsulfonate, tall (pine) oil, and vegetable derivatives).
	Synthetic polymers (for example; polyvinyl acetate and vinyl acrylic).

FUGITIVE DUST CONTROL PLAN

PROJECT ACTIVITIES CHECKLIST INSTRUCTIONS:

PLACE A CHECK MARK NEXT TO EVERY ACTIVITY THAT WILL BE CONDUCTED ON THIS SITE, FOR EACH CHECKED ACTIVITY, COMPLETE THE CORRESPONDING CONTROL MEASURES/BEST MANAGEMENT PRACTICE (BMP) SELECTION PAGE. WHEN COMPLETED, YOU WILL HAVE THE OPTION TO PRINT THE ENTIRE PLAN.

	Project Activity	Check All that Apply
01	Backfilling area previously excavated or trenched.	**X**
02	Blasting soil & rock - drilling and blasting.	
03	Clearing for site preparation and vacant land cleanup.	**X**
04	Clearing forms, foundations, slab clearing and cleaning of forms, foundations and slabs prior to pouring concrete.	
05	Crushing of construction and demolition debris, rock and soil.	
06	Cut and fill soils for site grade preparation.	**X**
07	Demolition - Implosive demolition of a structure, using explosives.	
08	Demolition - mechanical/manual demolition of walls, stucco, concrete, freestanding structures, buildings and other structures.	
09	Disturbed soil throughout project including between structures. THIS ACTIVITY MUST BE SELECTED FOR ALL PROJECTS.	**X**
10	Disturbed land - long term stabilization and erosion control of large tracts of disturbed land that will not have continuing activity for more than 30 days.	
11	Hauling materials.	**X**
12	Paving/subgrade preparation for paving streets, parking lots, etc.	**X**
13	Sawing/cutting material, concrete, asphalt, block or pipe.	**X**
14	Screening of rock, soil or construction debris.	
15	Staging areas, equipment storage, vehicle parking lots, and material storage areas.	**X**
16	Stockpiles materials (storage), other soils, rock or debris, for future use or export.	
17	Tailings piles, ponds and erosion control.	

18	Trackout Prevention and Cleanup of mud, silt and soil tracked out onto paved roads.	**X**
19	Traffic - unpaved routes and parking, construction related traffic on unpaved interior and/or access roads and unpaved employee/worker parking areas.	
20	Trenching with track or wheel mounted excavator, shovel, backhoe or trencher.	**X**
21	Truck loading with materials including construction and demolition debris, rock and soil.	**X**

Backfilling area previously excavated or trenched.	**BMP 01**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Stabilize backfill material when not actively handling.

X	01-01	Water backfill material to maintain moisture or to form crust.
_	01-02	Apply and maintain a chemical stabilizer to backfill material to form crust.
_	01-03	Cover (natural or synthetic) or enclose backfill material when not actively handling.

Stabilize backfill material during handling.

X	01-04	Empty loader bucket slowly and minimize drop height from loader bucket.
X	01-05	Dedicate water truck or large hose to backfilling equipment and apply water as needed.
_	01-06	Mix moist soil with dry soil until the optimum moisture is reached.
_	01-07	Apply and mix water into the backfill material until optimum moisture is reached.
_	01-08	Apply and mix water and chemical solution into the backfill material until optimum moisture is reached.

Stabilize soil at completion of backfilling activity.

X	01-09	Apply water and maintain disturbed soils in a stable condition.
_	01-10	Apply and maintain a chemical stabilizer on disturbed soils to form a crust.

Stabilize material while using pipe padder equipment.

X	01-11	Mix moist soil with dry soil until the optimum moisture is reached.
_	01-12	Dedicate water truck or large hose to equipment and apply water as needed.
_	01-13	Not Applicable

Clearing for site preparation and vacant land cleanup.	**BMP 03**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Stabilize surface soils where support equipment and vehicles will operate.

X	03-01	Pre-water and maintain surface soils in a stabilized condition.
_	03-02	Apply and maintain a chemical stabilizer on surface soils.

Stabilize disturbed soil immediately after clearing and grubbing activities.

X	03-03	Water disturbed soils to form crust.
_	03-04	Apply and maintain a chemical stabilizer on disturbed soils to form crust.

Stabilize slopes at completion of activity.

_	03-05	Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slope.
X	03-06	Apply water and maintain sloping surfaces/wind breaks in a crusted condition.

Cut and fill soils for site grade preparation.	**BMP 06**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Stabilize surface soils where support equipment and vehicles will operate.

X 06-01	Pre-water and maintain surface soils in a stabilized condition.
_ 06-02	Apply and maintain a chemical stabilizer to surface soils.

Pre-water soils.

X 06-03	Dig a test hole to depth of cut or equipment penetration to determine if soils are moist at depth. Continue to pre-water if not moist to depth of cut.

Stabilize soil during cut activities.

X 06-04	Apply water to depth of cut prior to subsequent cuts.

Stabilize soil after cut and fill activities.

X 06-05	Water disturbed soils to maintain moisture.
_ 06-06	Apply and maintain a chemical stabilizer on disturbed soils to form crust following fill and compaction.
_ 06-07	Apply cover (natural or synthetic).

Disturbed soil throughout project including between structures. THIS ACTIVITY MUST BE SELECTED FOR ALL PROJECTS.	**BMP 09**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Limit disturbance of soils where possible.

_	09-01	Limit disturbance of soils with the use of fencing, barriers, barricades, and/or wind barriers.
X	09-02	Limit vehicle mileage and reduce speed.

Stabilize and maintain stability of all disturbed soil throughout construction site.

X	09-03	Apply water to stabilize disturbed soils. Soil moisture must be maintained such that soils can be worked without generating fugitive dust.
_	09-04	Apply and maintain a chemical stabilizer.
_	09-05	Use wind breaks.
_	09-06	Apply cover (natural or synthetic).

Hauling materials.	**BMP 11**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Limit visible dust opacity from vehicular operations.

X	11-01	Apply and maintain water/chemical suppressant to operational areas and haul routes.
_	11-02	Limit vehicle mileage and speed.

Stabilize materials during transport on site.

_	11-03	Use tarps or other suitable enclosures on haul trucks.
X	11-04	Apply water prior to transport.

Clean wheels and undercarriage of haul trucks prior to leaving construction site.

_	11-05	Clean wheels.
X	11-06	Sweep or water haul road.

Paving/subgrade preparation for paving streets, parking lots, etc.	BMP 12

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION.

Stabilize adjacent disturbed soils following paving activities.

X	12-01	Apply and maintain water on disturbed soils.
_	12-02	Apply and maintain chemical stabilizer on disturbed soils.
_	12-03	Stabilize disturbed soils with vegetation or hydroseeding.
_	12-04	Apply synthetic cover to disturbed soils.
_	12-05	There are no soils adjacent to paving activities.

Sawing/cutting material, concrete, asphalt, block or pipe.	BMP 13

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION.

Limit visible emissions.

X	13-01	Use water control to dust.
_	13-02	Use a vacuum to collect dust.

Staging areas, equipment storage, vehicle parking lots, and material storage areas.	**BMP 15**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Limit visible dust opacity from vehicular operations.

_	15-01	Limit vehicle mileage and speed.
X	15-02	Apply water on all vehicle traffic areas in the staging areas and unpaved access routes.

Stabilize staging area soils during use.

X	15-03	Pre-water and maintain surface soils in a stabilized condition.
_	15-04	Apply and maintain a chemical stabilizer to surface soils.

Stabilize staging area soils at project completion.

_	15-05	Apply a chemical stabilizer.
_	15-06	Apply screened or washed aggregate.
_	15-07	Use wind breaks.
_	15-08	Pave.
X	15-09	Completed project will cover staging area with buildings, paving, and/or landscaping.
_	15-10	Apply water to form adequate crust and prevent access.

Trackout Prevention and Cleanup of mud, silt and soil tracked out onto paved roads.	**BMP 18**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Prevent dust from trackout.

X	18-01	Clean trackout at the end of the work shift from paved surfaces to maintain dust control
_	18-02	Maintain dust control during working hours and clean trackout from paved surfaces at the end of the work shift/day.
_	18-03	Install gravel pad(s), clean, well-graded gravel or crushed rock. Minimum dimensions must be 30 feet wide by 3 inches deep, and, at minimum, 50' or the length of the longest haul truck, whichever is greater. Re-screen, wash or apply additional rock in gravel pad to maintain effectiveness.
_	18-04	Install wheel shakers. Clean wheel shakers on a regular basis to maintain effectiveness.
_	18-05	Install wheel washers. Maintain wheel washers on a regular basis to maintain effectiveness.
_	18-06	Motorized vehicles will only operate on paved surfaces.
_	18-07	Install cattle guard before paved road entrance.

All exiting traffic must be routed over selected trackout control device(s).

X	18-08	Clearly establish and enforce traffic patterns to route traffic over selected trackout control device(s).
_	18-09	Limit site accessibility to routes with trackout control devices in place by installing effective barriers on unprotected routes.

Trenching with track or wheel mounted excavator, shovel, backhoe or trencher.	**BMP 20**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION FROM EACH SECTION.

Presoak soils prior to trenching activities.

X	20-01	Pre-water surface.

Stabilize surface soils where trenching equipment, support equipment and vehicles will operate.

X	20-02	Pre-water and maintain surface soils in a stabilized condition.
_	20-03	Apply and maintain a chemical stabilizer to surface soils.
X	20-04	Limit mileage and speed.

Stabilize soils after trenching.

X	20-05	Apply and maintain water on excavated soil.
_	20-06	Apply and maintain chemical stabilizer on excavated soil.

Truck loading with materials including construction and demolition debris, rock and soil.	**BMP 21**

GENERAL REQUIREMENT: ALL ACTIVITIES MUST MEET OPACITY REQUIREMENTS IN R307-309-5

MAKE AT LEAST ONE SELECTION.

X	21-01	Pre-water and maintain surface soils in a stabilized condition where loaders, support equipment and vehicles will operate.
_	21-02	Apply and maintain a chemical stabilizer on surface soils where loaders, support equipment and vehicles will operate.
_	21-03	Empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping.

Appendix M – BMP Specifications