



Address: TBD , El Paso County, CO

Generation and Transmission
Association, Inc.



PCD FILE NO. PPR261

Construction Plans prepared in cooperation with:



I, the owner/developer have read and will comply with the requirements of the grading and erosion control plan.

H. Steven Gray, Vice President
Tri-State Generation and Transmission Association, Inc.
1100 W. 116th Ave, Westminster, CO 80234

This grading and erosion control plan was prepared under my direction and supervision and is correct to the best of my knowledge and belief. said plan has been prepared according to the criteria established by the County for grading and erosion control plans. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this plan.



David Scheldt, P.E. #47195

04-27-2026
Date

County plan review is provided only for general conformance with County Design Criteria. The County is not responsible for the accuracy and adequacy of the design, dimensions, and/or elevations which shall be confirmed at the job site. The County through the approval of this document assumes no responsibility for completeness and/or accuracy of this document.

In accordance with ECM Section 1.12, these construction documents will be valid for construction for a period of 2 years from the date signed by the El Paso County Engineer. If construction has not started within those 2 years, the plans will need to be resubmitted for approval, including payment of review fees at the Planning and Community Development Director's discretion.

Daniel Torres, P.E.
Reason: Authorized signatory
as County Engineer designee
Date: 2025.05.26
14-6430-06107

Joshua J. Palmer, P.E.
County Engineer Signature/ECM Administrator

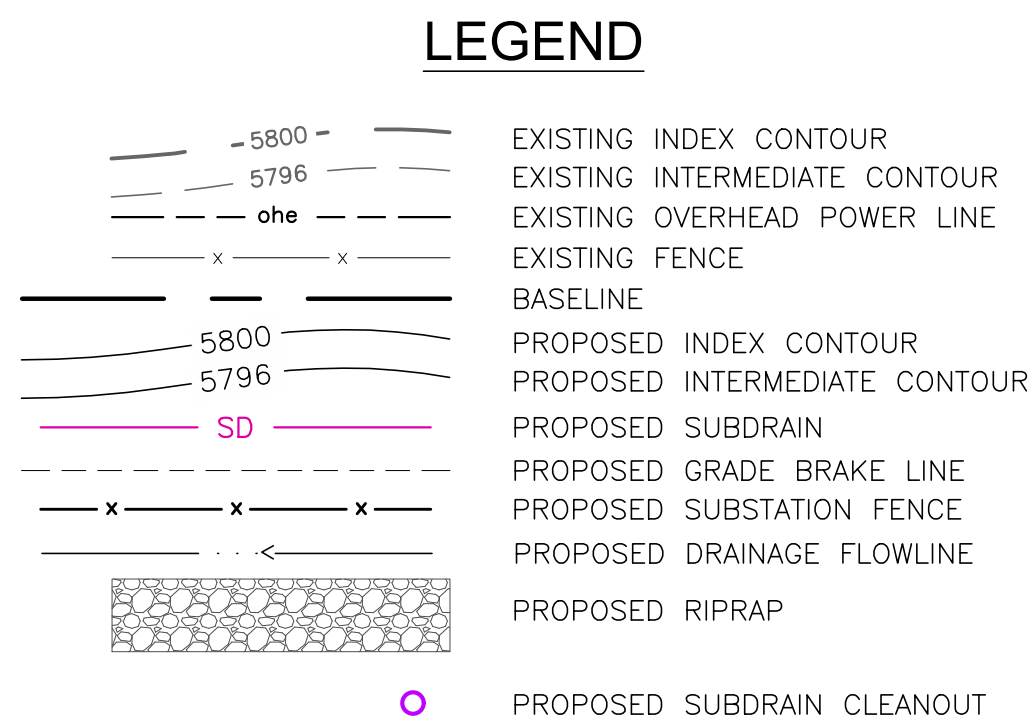
5/26/2026

Date _____

 TRI-STATE Generation and Transmission A Transwestern Energy Corporation		1100 W. 116th Ave. P.O. Box 33695 Denver, Colorado 80233 303-452-6111		1100 W. 116th Ave. P.O. Box 33695 Denver, Colorado 80233 303-452-6111	
Draw TMC		Date 11/17/25		Draw No. 116	
App'd		Date		Date 11/19/24	
CROSSPOINT SUBSTATION COVER SHEET		TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED		REVISIONS FOR EPC COMMENTS REVISIONS FOR EPC COMMENTS REVISIONS FOR EPC COMMENTS	
230 KV 330 KV		11/17/24 11/19/24		11/19/24 11/19/24	
A Transwestern Energy Corporation		11/17/24 11/19/24		11/19/24 11/19/24	
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1100 W. 116					

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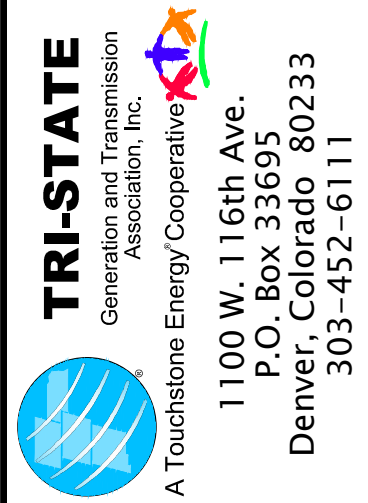
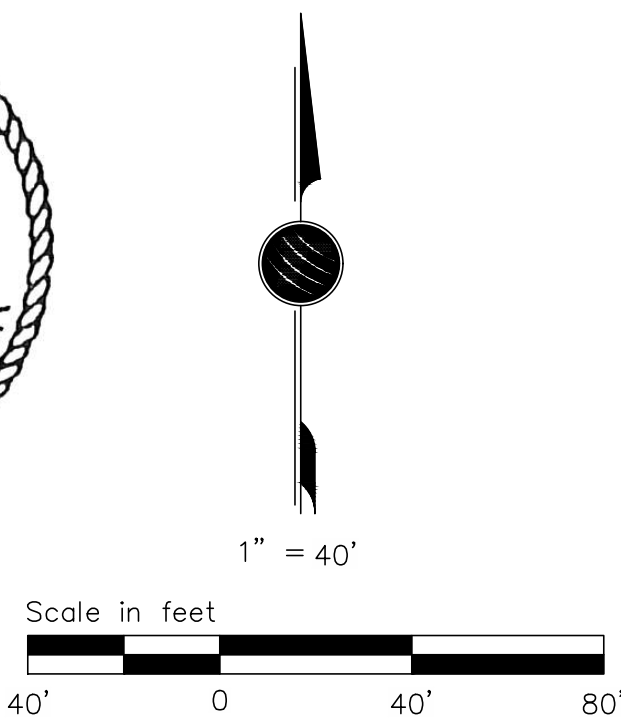
*SEE S1174-A-01-019 FOR SCHEMATIC DRAINAGE MODEL PLAN



NOTE:

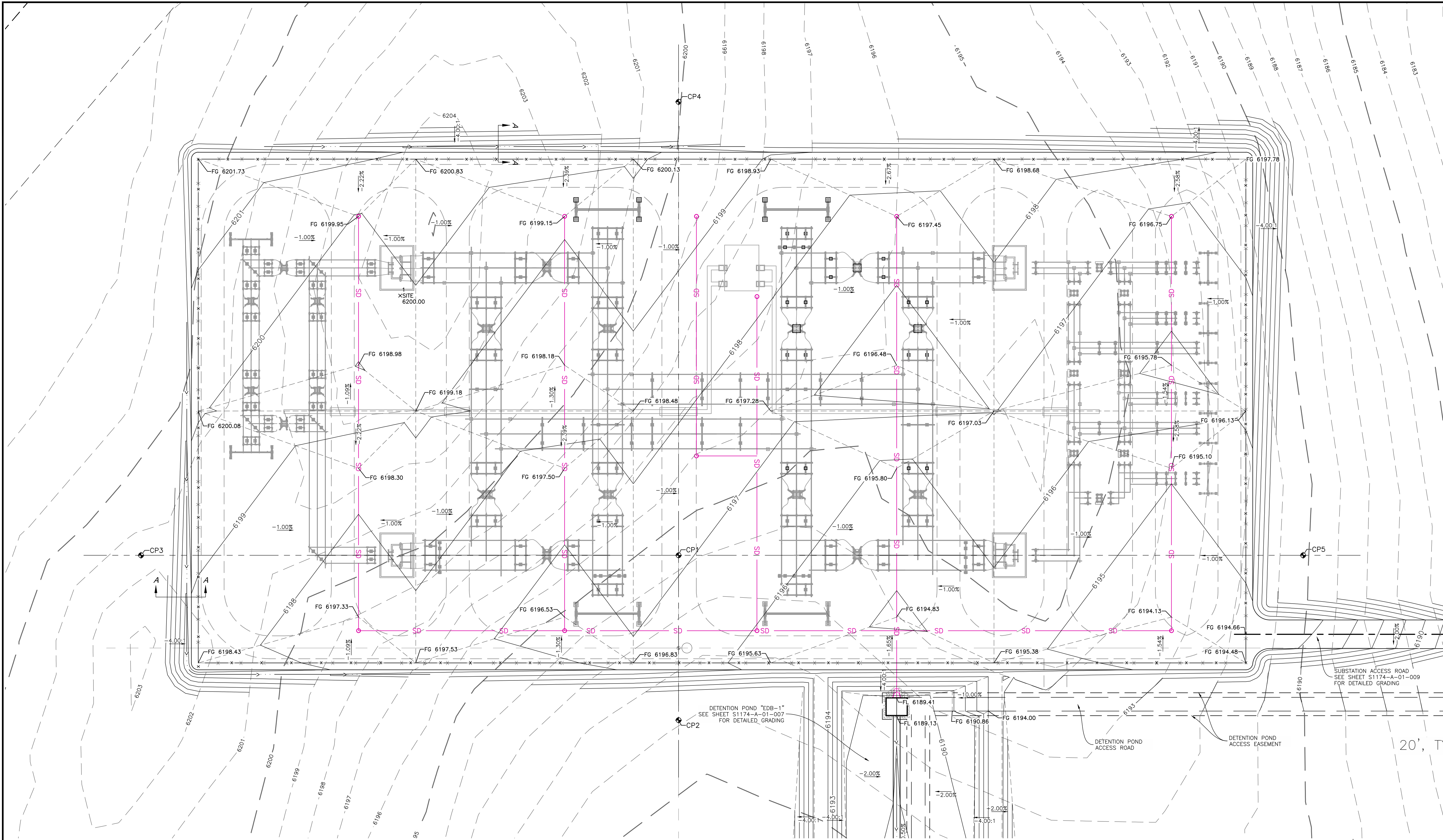
- THE HORIZONTAL LOCATION FOR THE CONTROL POINT AT THE INTERSECTION OF THE TWO BASELINES IS FIXED. LOCATIONS FOR OTHER CONTROL POINTS MAY BE ADJUSTED ALONG THE BASELINE AS NECESSARY TO PROVIDE FOR CLEAR LINES OF SIGHT AROUND EXISTING VEGETATION TO REMAIN.
- SURVEYOR SHALL SET THE CONTROL POINTS OUTSIDE THE SUBSTATION SECURITY FENCE IN-THE-FIELD, AND REPORT THE COORDINATES AND ELEVATIONS TO THE OWNER'S AUTHORIZED TECHNICAL REPRESENTATIVE (OATR).
- COORDINATE SYSTEM: COLORADO STATE PLANE CENTRAL ZONE
SCALE FACTOR = 1.0003476302
- SEE S1174-A-01-019 FOR SCHEMATIC DRAINAGE MODEL PLAN

Control Point Table			
Point #	Northing	Easting	Raw Description
5001	1370951.62	3358778.72	CP1
5002	1370807.62	3358778.72	CP2
5003	1370951.62	3358309.22	CP3
5004	1371347.62	3358778.72	CP4
5005	1370951.62	3359324.22	CP5



Dwn: TMC
Appd:
Date: 11/17/25
Date:
M.F.
Revision
Dwg. No.
Mfr.
Drawing Title

S1174-A-01-005



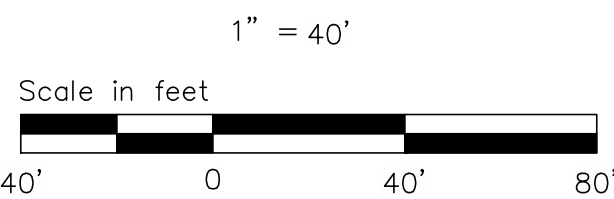
LEGEND

- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING OVERHEAD POWER LINE
- EXISTING FENCE
- BASELINE
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- PROPOSED SUBDRAIN
- PROPOSED GRADE BRAKE LINE
- PROPOSED SUBSTATION FENCE
- PROPOSED DRAINAGE FLOWLINE
- PROPOSED RIPRAP
- PROPOSED SUBDRAIN CLEANOUT

NOTE:

- THE HORIZONTAL LOCATION FOR THE CONTROL POINT AT THE INTERSECTION OF THE TWO BASELINES IS FIXED. LOCATIONS FOR OTHER CONTROL POINTS MAY BE ADJUSTED ALONG THE BASELINE AS NECESSARY TO PROVIDE FOR CLEAR LINES OF SIGHT AROUND EXISTING VEGETATION TO REMAIN.
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SCALE FACTOR = 1.0003476302

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5005	1370951.62	3359324.22	CP5



CROSSPOINT SUBSTATION
230 KV
GRADING PLAN

TRI-STATE
Generation and Transmission
Association, Inc.
A Touchstone Energy Cooperative
1100 W. 116th Ave.
P.O. Box 33695
Denver, Colorado 80233
303-452-6111

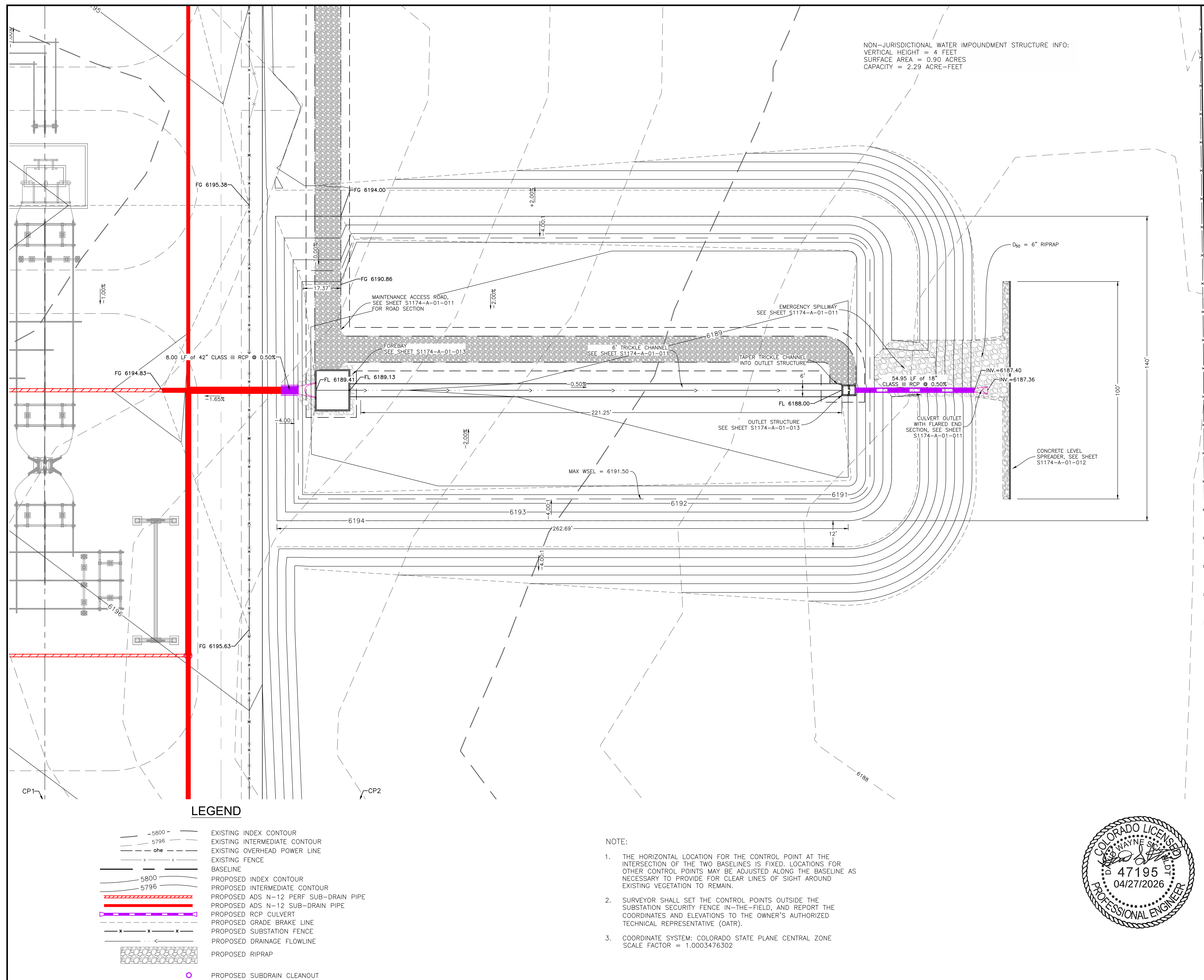
Dwn: TMC	Date: 11/17/25
Appd:	Date:

S1174-A-01-006

TRI-STATE GENERATION & TRANSMISSION
ASSOCIATION, INCORPORATED
UPDATED BY: WJUDGATE 4/23/2026 3:33 PM Contract:
S1174-A-01-009 FOR DETAILED GRADING
SUBSTATION ACCESS ROAD
SEE SHEET S1174-A-01-009
FOR DETAILED GRADING
DETENTION POND ACCESS EASEMENT
DETENTION POND ACCESS ROAD
20'

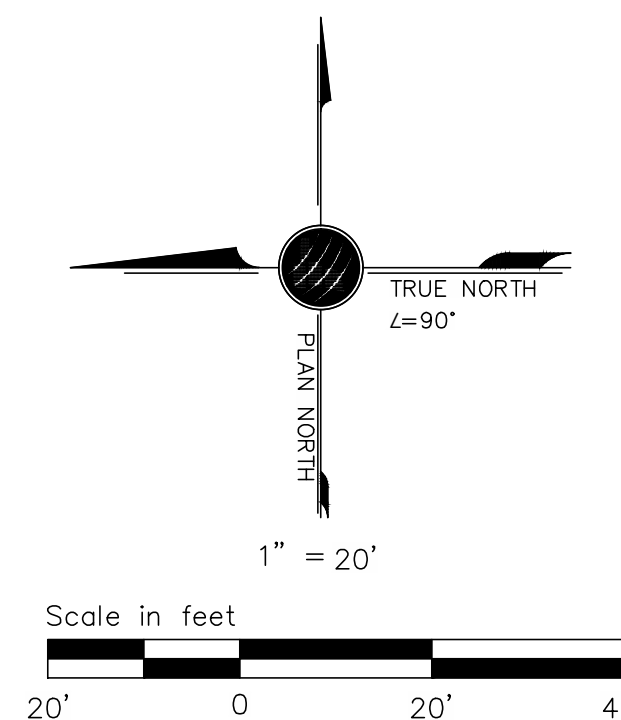
No.	Date	Appd.	Revision	M.F.
7				
6				
5				
4				
3	04/21/26	WL	DWS	REVISED PER EPC COMMENTS
2	04/22/26	WL	DWS	ISSUED-FOR-BID SET
1	03/10/26	WL	DWS	REVISED PER EPC COMMENTS

	Dwg. No.	MFR.	Drawing Title
			Reference Drawings

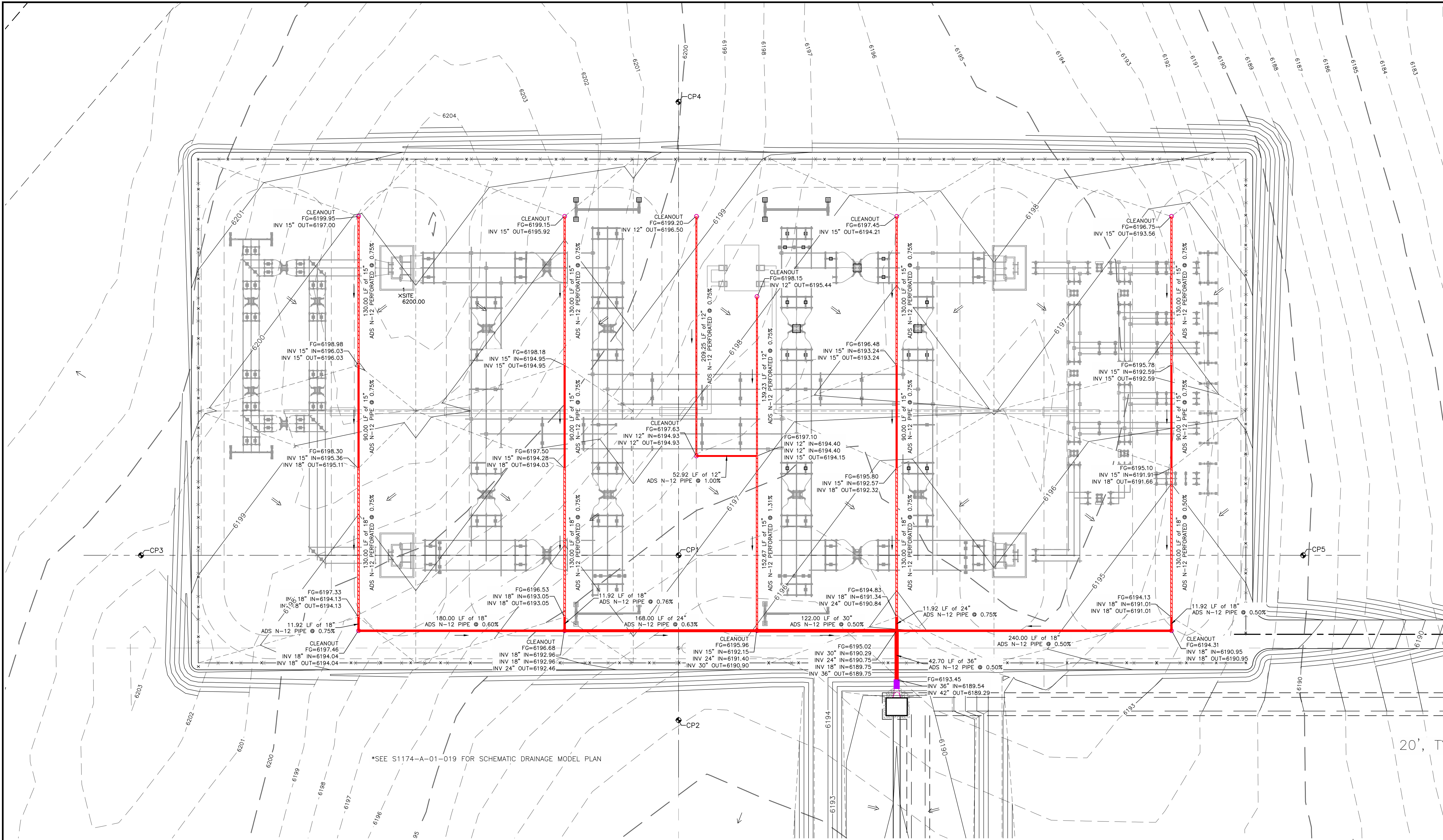


NOTE:

1. THE HORIZONTAL LOCATION FOR THE CONTROL POINT AT THE INTERSECTION OF THE TWO BASELINES IS FIXED. LOCATIONS FOR OTHER CONTROL POINTS MAY BE ADJUSTED ALONG THE BASELINE AS NECESSARY TO PROVIDE FOR CLEAR LINES OF SIGHT AROUND EXISTING VEGETATION TO REMAIN.
2. SURVEYOR SHALL SET THE CONTROL POINTS OUTSIDE THE SUBSTENTION SECURITY FENCE, 100-FOOT, AND REPORT THE COORDINATES AND ELEVATIONS TO THE OWNER'S AUTHORIZED TECHNICAL REPRESENTATIVE (OATR).
3. COORDINATE SYSTEM: COLORADO STATE PLANE CENTRAL ZONE SCALE FACTOR = 1.0003476302



TRI-STATE Generation and Transmission Association, Inc. A Touchstone Energy Cooperative 1100 W. 116th Ave. P.O. Box 33695 Denver, Colorado 80233 303-452-6111	CROSSPOINT SUBSTATION DETENTION POND (EDB-1) GRADING 230 KV TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED UPDATED BY: WLDGATE 4/23/2026 3:33 PM Contract: .										7									
	6																			
	5																			
	4																			
	3	04/27/26	WL	DWS	REVISED PER EPC COMMENTS															
	2	04/22/26	WL	DWS	ISSUED-FOR-BID SET															
	1	03/10/26	WL	DWS	REVISED PER EPC COMMENTS															
	No	Date	Dwn.	Appd.	Revision	M.F.														
	Dwn: TMC	Date: 11/17/25																		
	Appd:	Date:																		
S1174-A-01-007																				



LEGEND

- 5800- EXISTING INDEX CONTOUR
- 5796- EXISTING INTERMEDIATE CONTOUR
- oh- EXISTING OVERHEAD POWER LINE
- x-x-x- EXISTING FENCE
- BASELINE
- 5800- PROPOSED INDEX CONTOUR
- 5796- PROPOSED INTERMEDIATE CONTOUR
- - - - - PROPOSED ADS N-12 PERF SUB-DRAIN PIPE
- - - - - PROPOSED ADS N-12 SUB-DRAIN PIPE
- - - - - PROPOSED GRADE BRAKE LINE
- x-x-x-x- PROPOSED SUBSTATION FENCE
- - - - - PROPOSED DRAINAGE FLOWLINE
- o- PROPOSED SUBDRAIN CLEANOUT

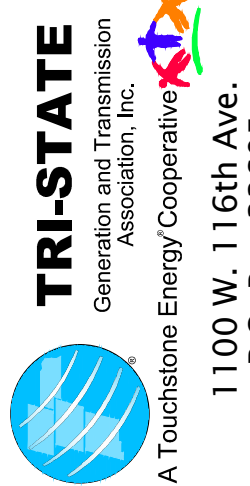
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SCALE FACTOR = 1.0003476302

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5005	1370951.62	3359324.22	CP5



CROSSPOINT SUBSTATION
230 KV
SUBDRAIN PLAN



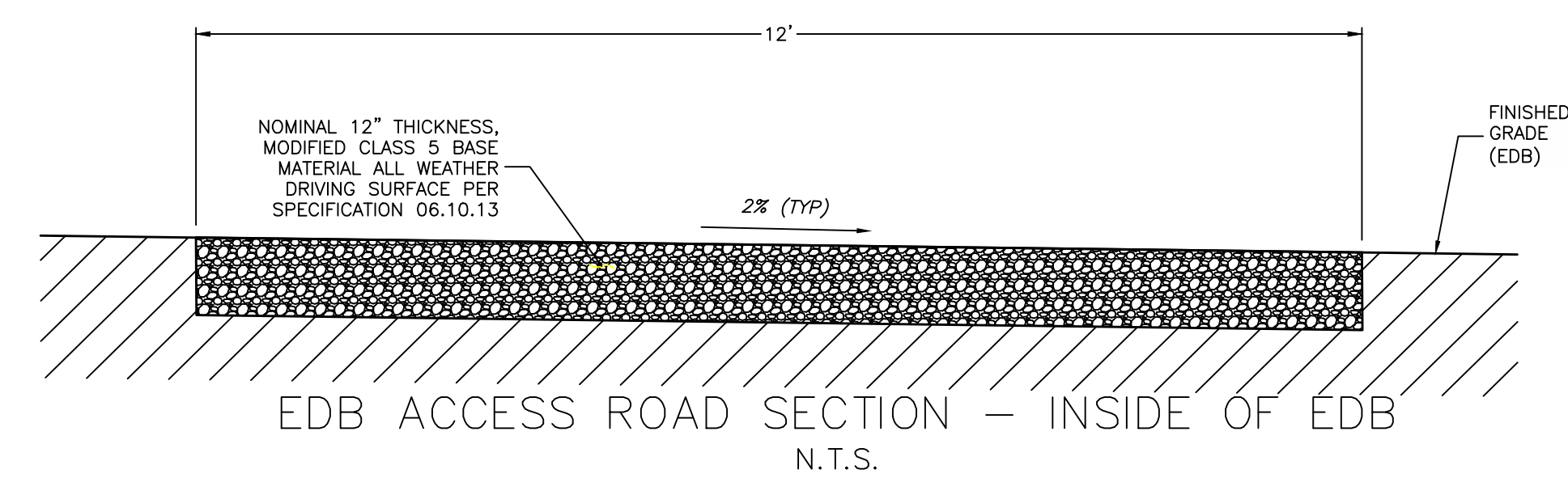
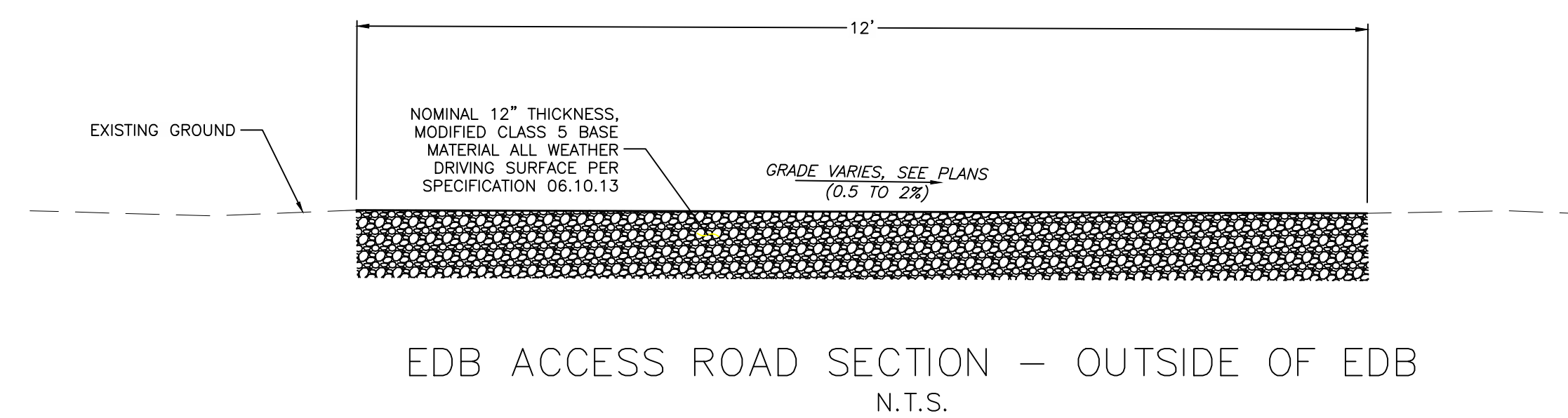
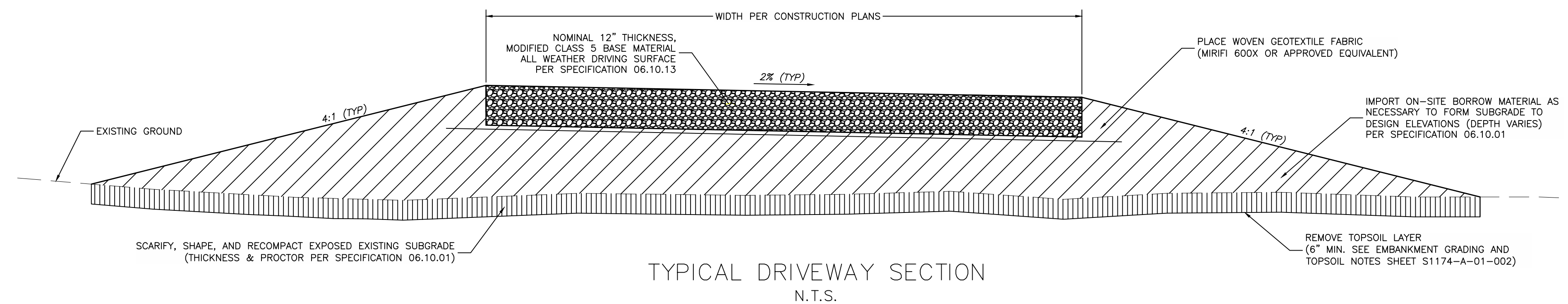
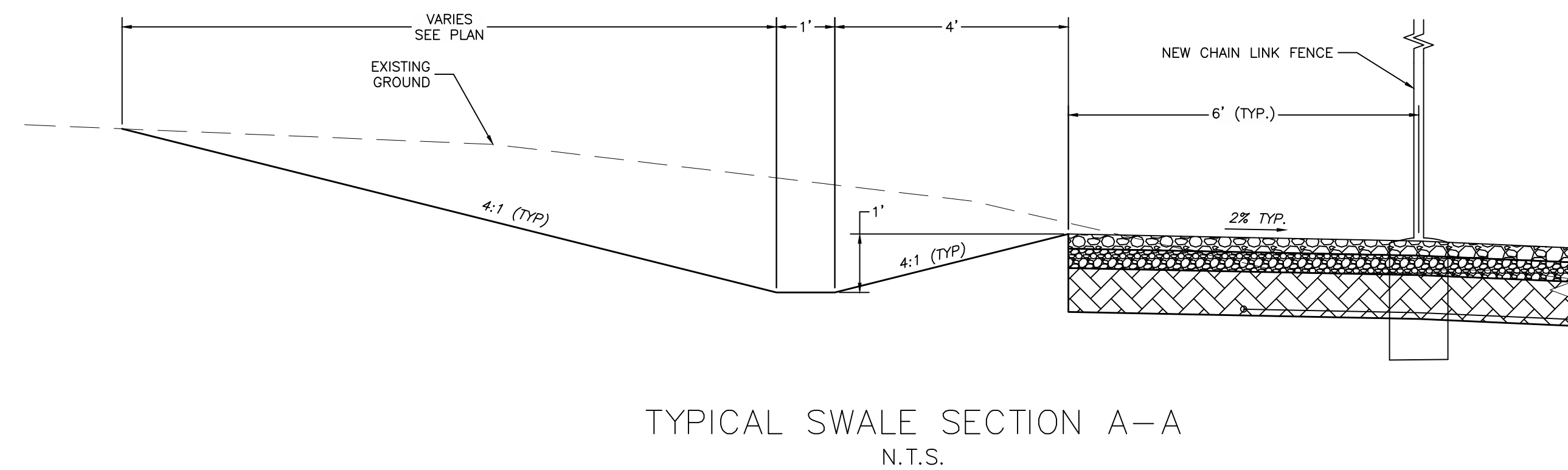
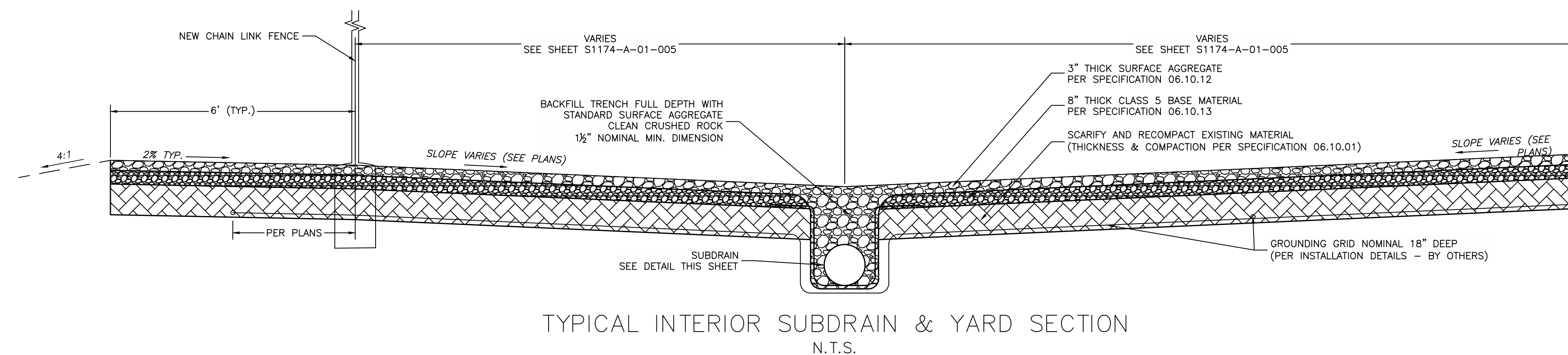
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Appd:	Date:

S1174-A-01-008

TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED
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S1174-A-01-SHEETS.dwg

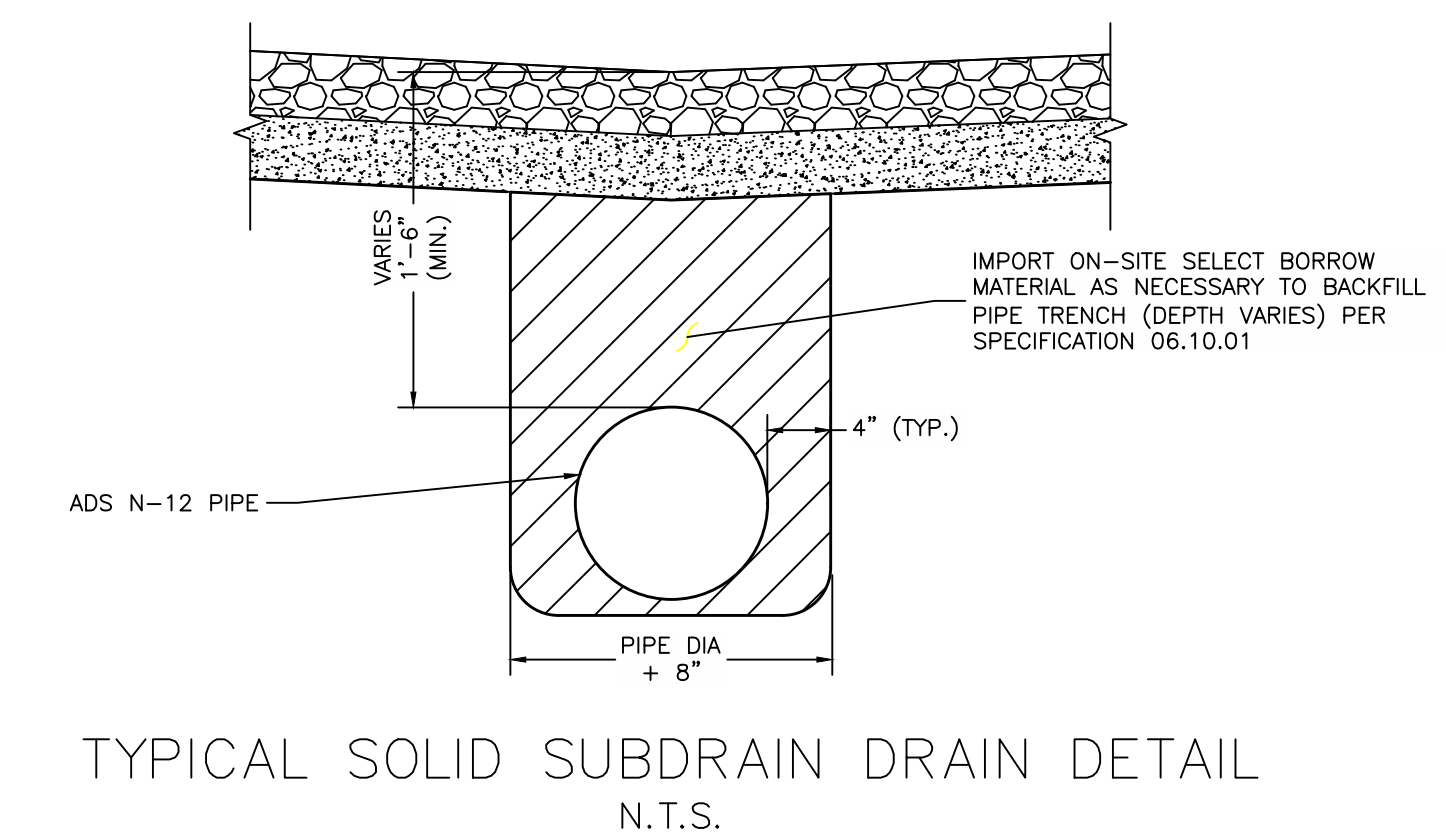
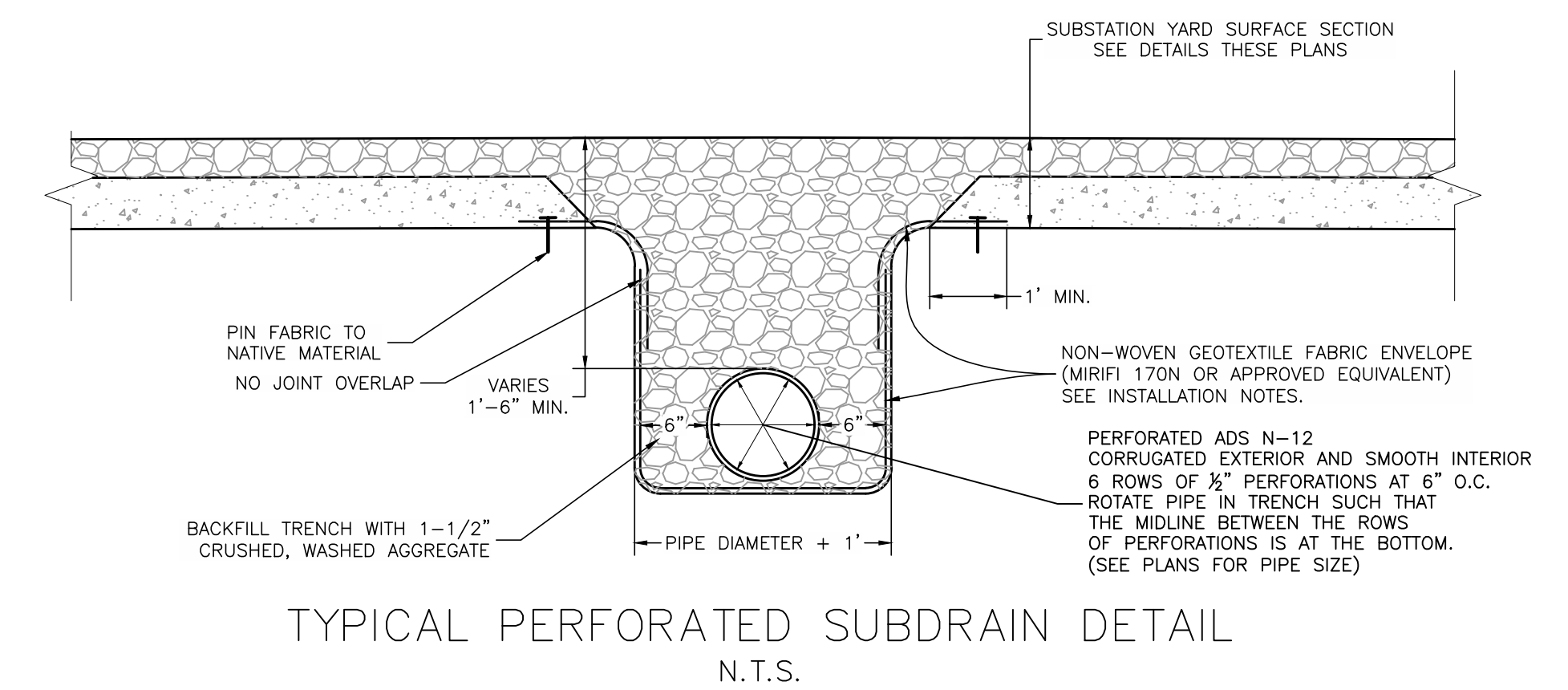
No.	Date	Appd.	Revision
7			
6			
5			
4			
3	04/21/26	WL	DWS REVISED PER EPC COMMENTS
2	04/22/26	WL	DWS ISSUED-FOR-BID SET
1	03/10/26	WL	DWS REVISED PER EPC COMMENTS

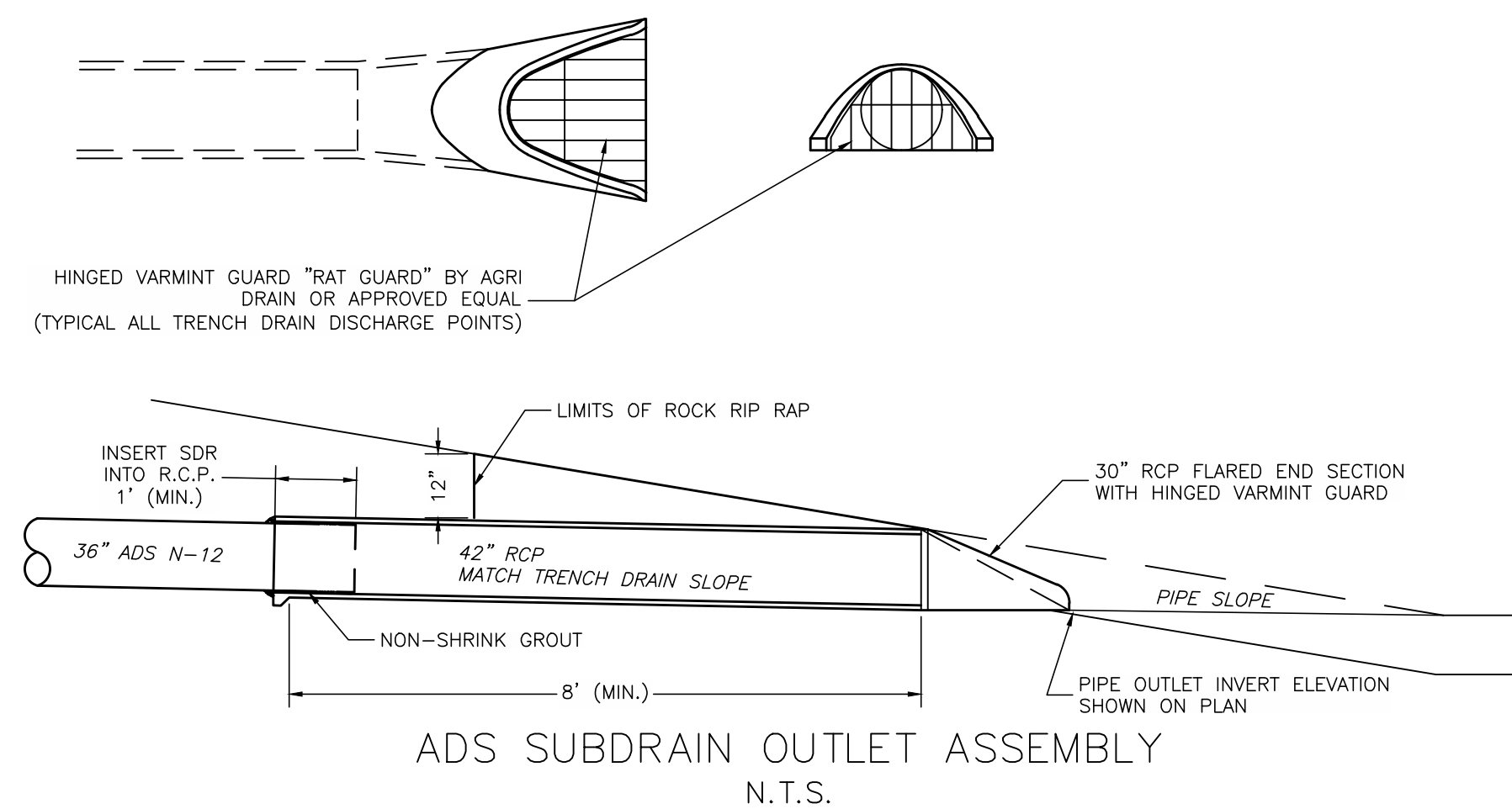
Dwg. No.	Mfr.	Drawing Title
		Reference Drawings



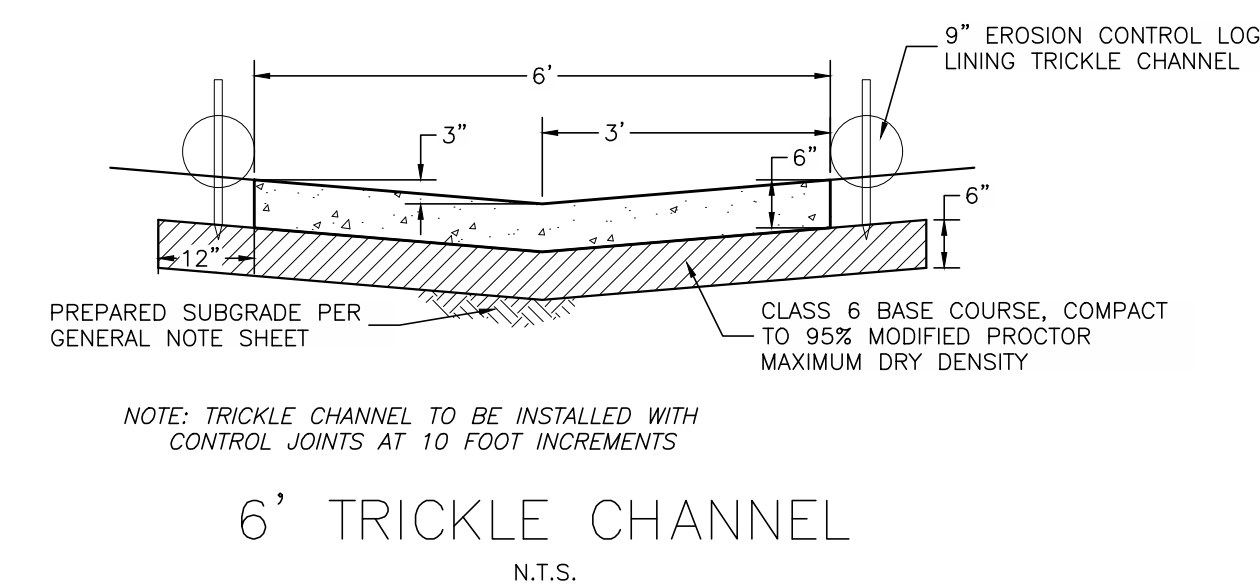
PIPE, AGGREGATE, & FABRIC INSTALLATION NOTES:

1. LAY FABRIC IN TRENCH PRIOR TO PLACEMENT OF AGGREGATE.
2. INSTALL PERFORATED PIPE TO DESIGN GRADES WITH PERFORATIONS PER DETAIL.
3. BACKFILL TO DESIGN SURFACE GRADES AND ELEVATIONS WITH 1/2" CRUSHED AGGREGATE PER SPECIFICATIONS.

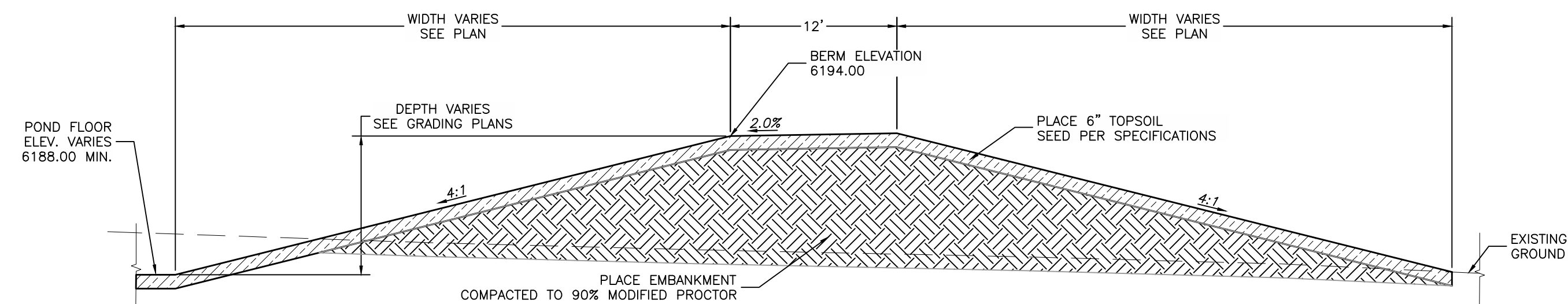
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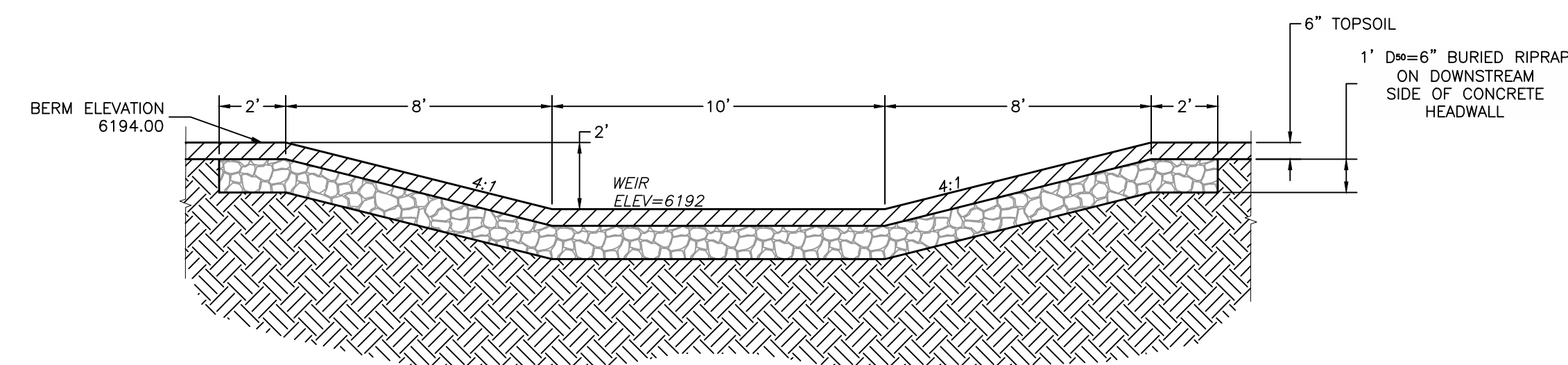
RCP CULVERT OUTLET DETAIL
N.T.S.



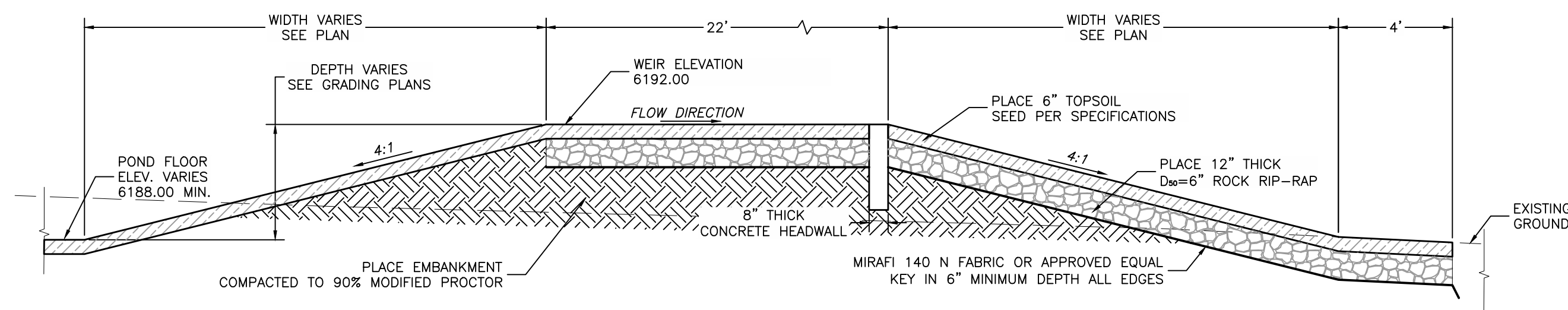
TYPICAL CLEANOUT DETAIL
N.T.S.



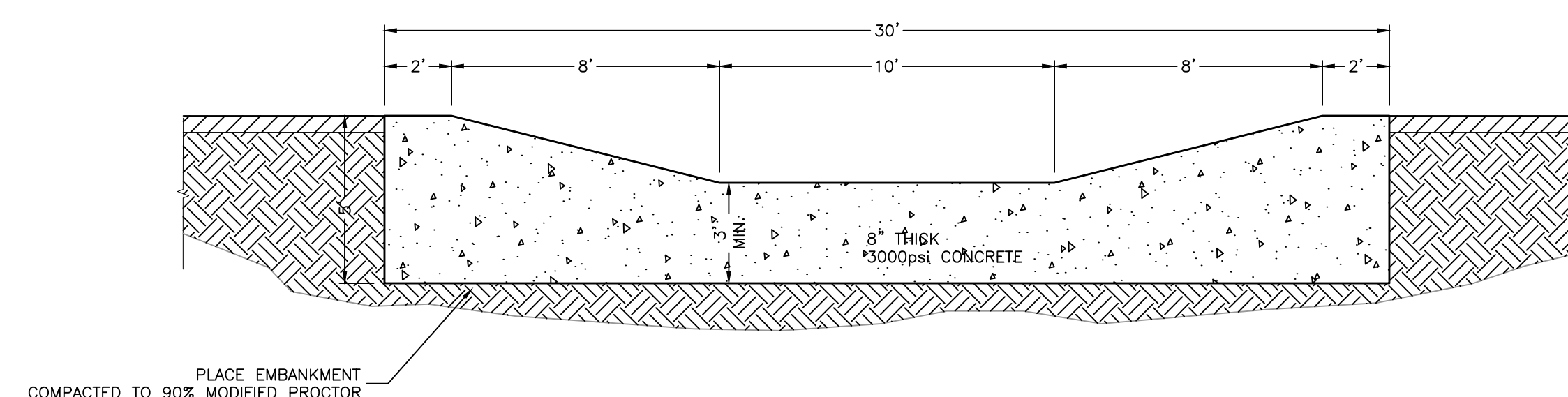
TYPICAL POND BERM SECTION
N.T.S.



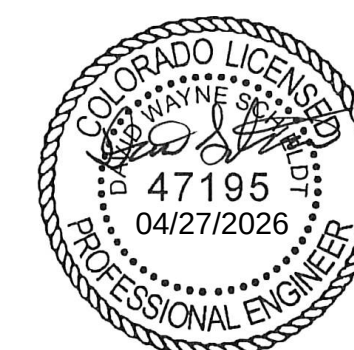
DETENTION BERM EMERGENCY WEIR DETAIL
N.T.S.

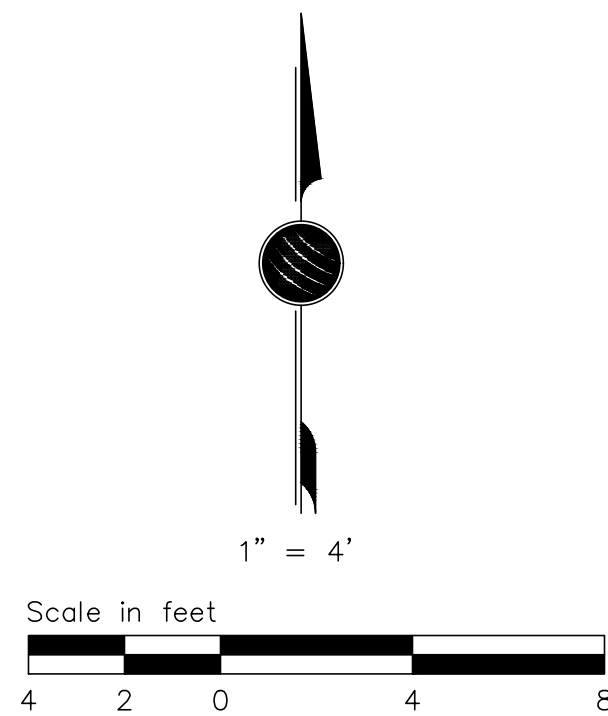
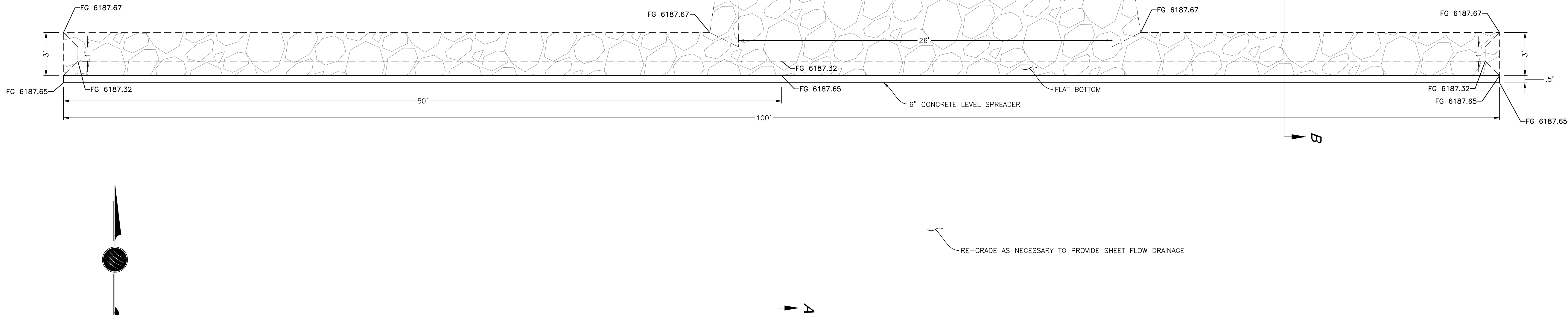


TYPICAL POND BERM & OVERFLOW WEIR SECTION
N.T.S.

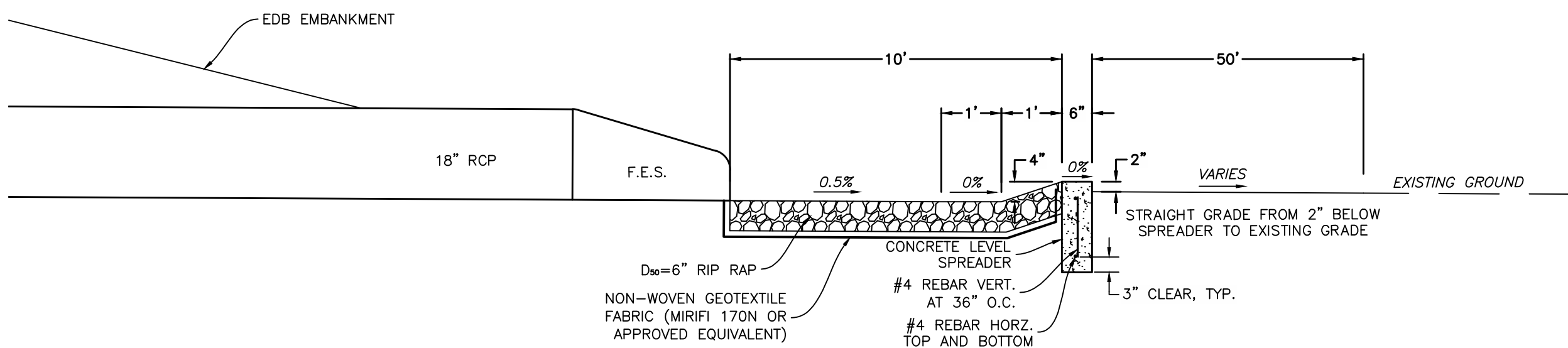


DETENTION BERM EMERGENCY WEIR
CONCRETE HEADWALL DETAIL
N.T.S.

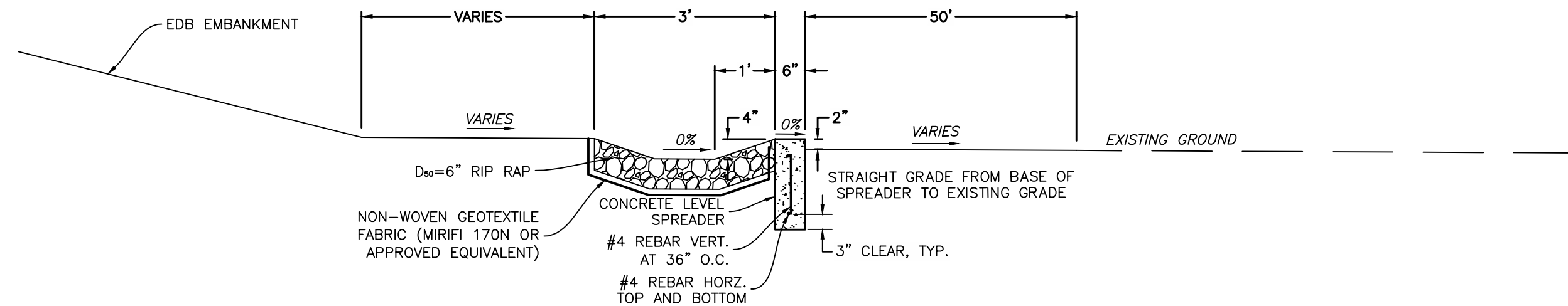
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CONCRETE LEVEL SPREADER DETAIL



SECTION A-A
CONCRETE LEVEL SPREADER SECTION
N.T.S.



SECTION B-B
CONCRETE LEVEL SPREADER SECTION
N.T.S.



CROSSPOINT SUBSTATION
230 KV
LEVEL SPREADER DETAILS

TRI-STATE GENERATION & TRANSMISSION
ASSOCIATION, INCORPORATED

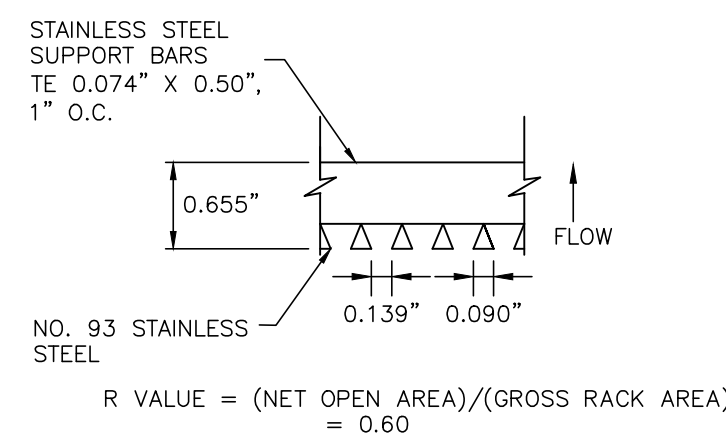
TRI-STATE
Generation and Transmission
Association, Inc.
1100 W. 116th Ave.
P.O. Box 33895
Denver, Colorado 80233
303-452-6111

Dwn: TMC
Appd: 47195
Date: 11/17/25
Date: 04/27/2026

S1174-A-01-012

No.	Date	Dwn.	Appd.	Revision	M.F.
7					
6					
5					
4					
3	04/27/26	WL	DWS	REVISED PER EPC COMMENTS	
2	04/22/26	WL	DWS	ISSUED-FOR-BID SET	
1	03/10/26	WL	DWS	REVISED PER EPC COMMENTS	

PATH: \\QMS1\Projects\Active Projects\2023\23148-1567 Crosspoint Substation\Civil\Sheets\S1174-A-01-SHEETS.dwg



1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE. THE GASKET SHALL BE 1/4-INCH THICK, 60 DUROMETER EPDM RUBBER IN A CONTINUOUS SHEET. THE SHEET OF THE ORIFICE PLATE SHEET SHALL BE PLACED BETWEEN THE ORIFICE PLATE AND THE CONCRETE WALL, WITH THE WIDTH OF THE OVERLAP BETWEEN THE PLATE AND THE CONCRETE. OPENINGS SHALL BE CUT INTO THE SHEET CORRESPONDING TO THE PLATE BOLT HOLES AND THE CONCRETE WALL. OPENING CUTS MADE EITHER BY THE CONTRACTOR IN THE FIELD OR BY THE MANUFACTURER, OR EQUIVALENT GASKET APPROVED BY EPC. NOTE THAT CAULK IS NOT AN APPROVED EQUIVALENT AND WILL NOT BE ACCEPTED BY EPC.

1. WELL-SCREEN TRASH RACKS SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
2. TRASH RACK OPEN AREAS ARE FOR SPECIFIED TRASH RACK MATERIALS. TOTAL TRASH RACK SIZE MAY NEED TO BE ADJUSTED FOR MATERIALS HAVING DIFFERENT OPEN AREA/GROSS AREA RATIO (R VALUE).
3. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

1. ALL SAFETY GRATES SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
2. SAFETY GRATES SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL GRATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
3. SAFETY GRATES SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
4. STRUCTURAL DESIGN OF SAFETY GRATES SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

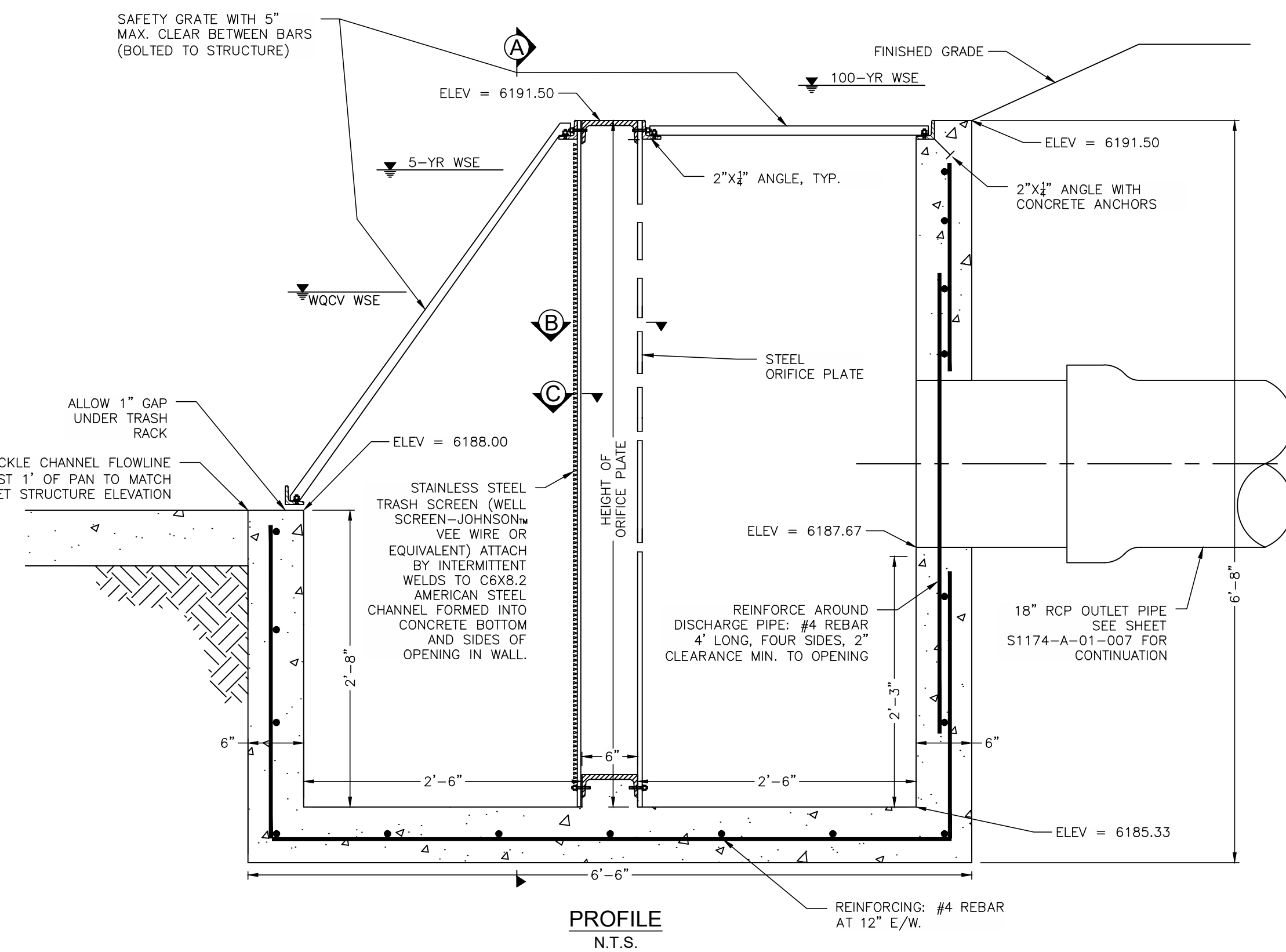
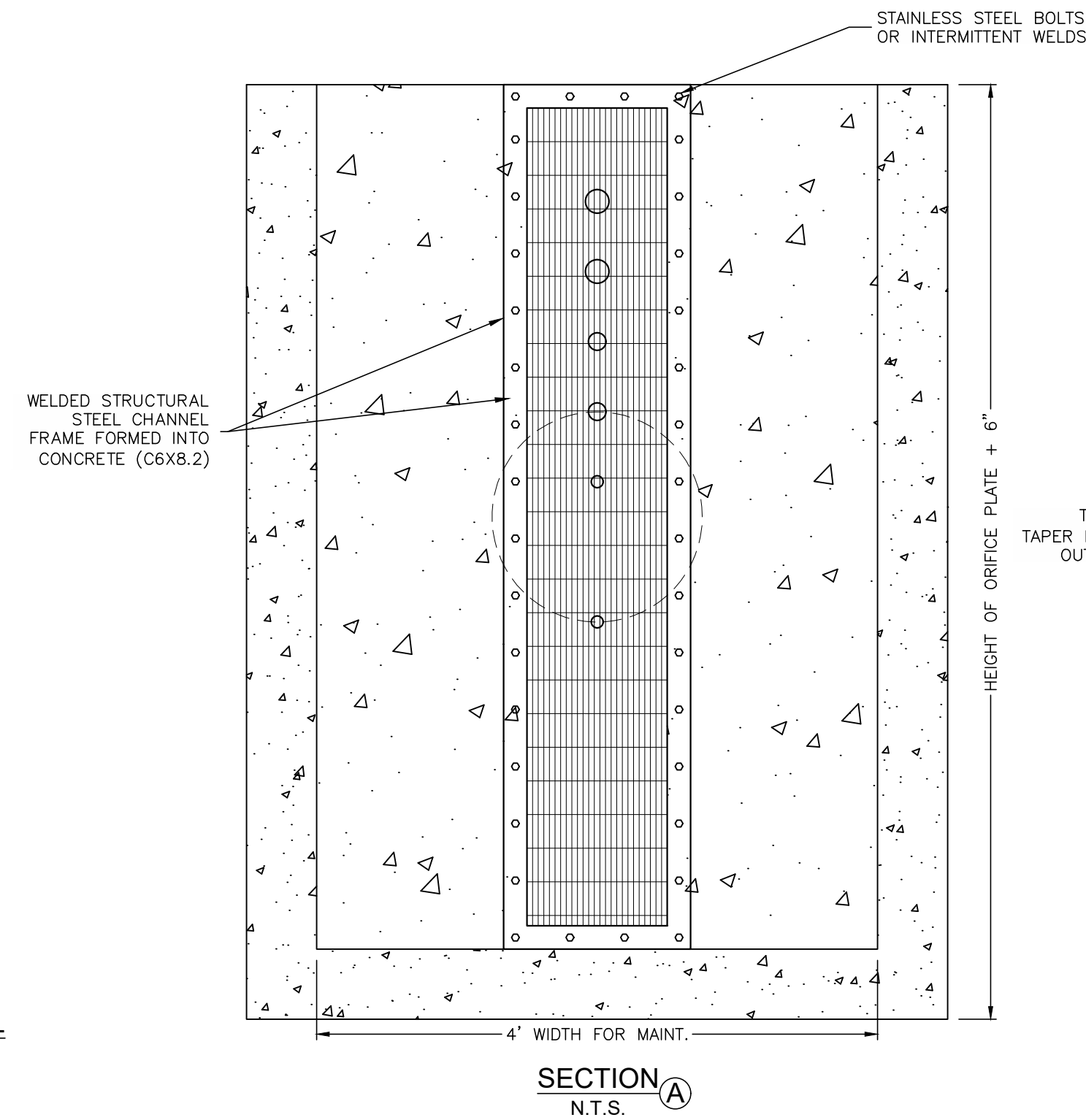
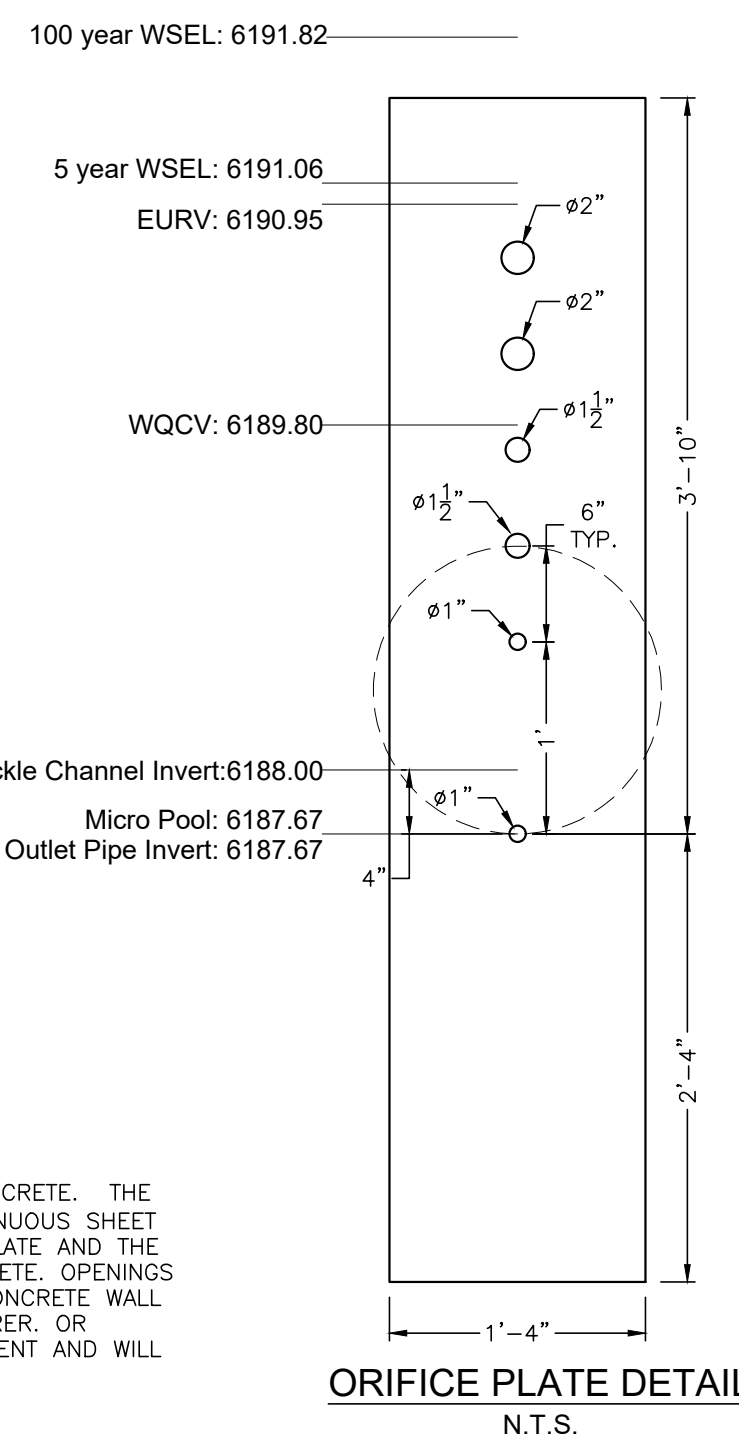


Figure 1 is a plan view of a rectangular building footprint. The overall dimensions are 6'-6" wide by 5'-0" deep. The building footprint is 2'-6" wide by 4'-0" deep. The setbacks are 2'-9" on the left, 9" on the top, 6" on the right, and 6" on the bottom. The building footprint is centered within the setbacks.

Technical drawing of a rectangular plate with a circular hole and a dashed rectangular area. The drawing includes the following dimensions:

- Overall width: 5'
- Overall height: 6'-8"
- Top margin: 3'-3"
- Left margin: 6"
- Right margin: 6"
- Top section width: 4'
- Section widths: 1'-6", 1', 1'-6"
- Bottom section height: 2'-8"
- Bottom section width: 3"

The circular hole is located in the center of the plate. A dashed rectangular area is shown at the bottom, with a width of 3" and a height of 2'-8".

Technical drawing of a window frame assembly. The drawing shows a cross-section of the frame with various dimensions and components labeled.

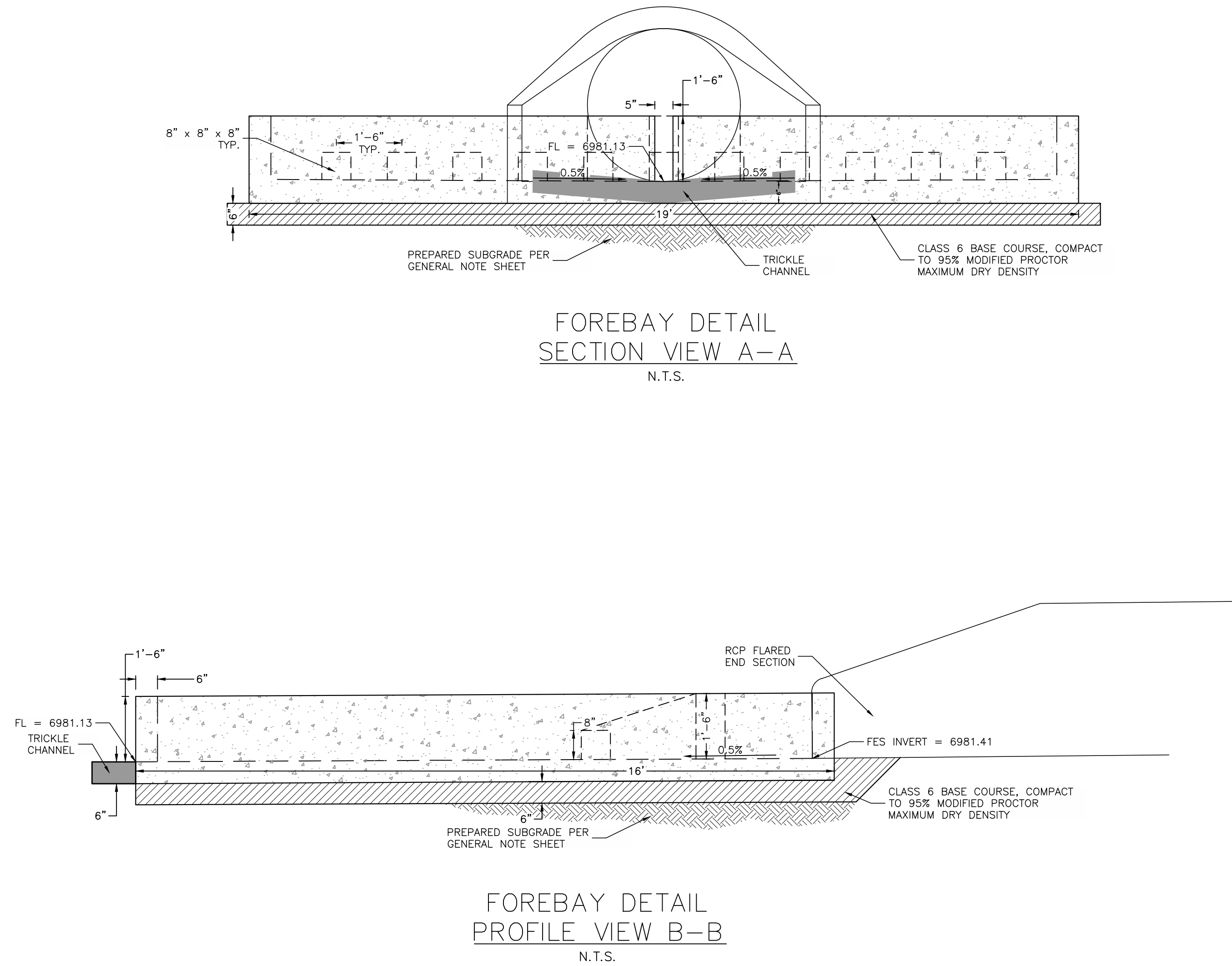
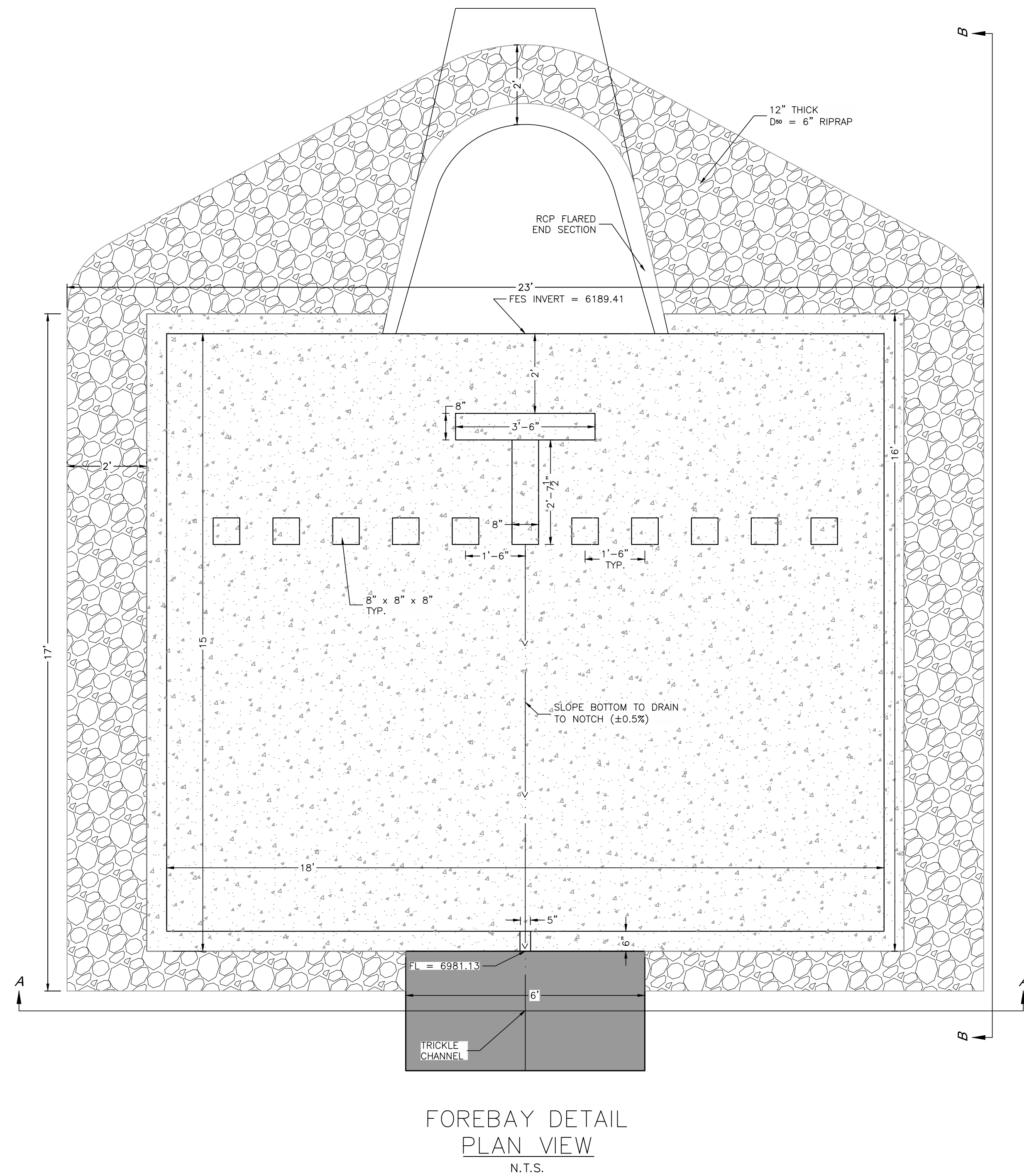
Dimensions:

- Overall width: 6'-8"
- Overall height: 3'-5"
- Top horizontal segment: 2'-9"
- Top horizontal segment: 6'-6"
- Top horizontal segment: 2'-6"
- Top horizontal segment: 6"
- Vertical segment: 3'-3"
- Vertical segment: 3"

Components:

- Window frame assembly (outer frame)
- Window pane (indicated by dashed lines)
- Window sill (bottom horizontal part)
- Window head (top horizontal part)
- Window jamb (vertical part)
- Window mullion (vertical part)
- Window transom (horizontal part)
- Window lintel (top horizontal part)
- Window sill (bottom horizontal part)
- Window head (top horizontal part)
- Window jamb (vertical part)
- Window mullion (vertical part)
- Window transom (horizontal part)
- Window lintel (top horizontal part)

[illegible]



CROSSPOINT SUBSTATION		230 KV		FOREBAY DETAILS		TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED		UPDATED BY: WJL/GATE 4/23/2026 3:33 PM Contract: .		PATH: \\QMS1\A\Projects\Active Projects\2023\23148-TSGT Crosspoint Substation\Facility\Drawings\S1174-A-01-SHEETS.dwg	
TRI-STATE Generation and Transmission Association, Inc.		1100 W. 116th Ave. P.O. Box 33895 Denver, Colorado 80233 303-452-6111		A Touchstone Energy Cooperative		47195 04/27/2026		Dwn: TMC		Date: 11/17/25	
7		6		5		4		3		2	
DWS		DWS		DWS		DWS		DWS		DWS	
REVISED PER EPC COMMENTS		REVISED PER EPC COMMENTS		REVISED PER EPC COMMENTS		REVISED PER EPC COMMENTS		REVISED PER EPC COMMENTS		REVISED PER EPC COMMENTS	
4/24/27/26		4/24/27/26		4/24/27/26		4/24/27/26		4/24/27/26		4/24/27/26	
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No.		No.		No.		No.		No.		No.	
Date		Date		Date		Date		Date		Date	
Revision		Revision		Revision		Revision		Revision		Revision	
M.F.		M.F.		M.F.		M.F.		M.F.		M.F.	
Dwg. No.		Dwg. No.		Dwg. No.		Dwg. No.		Dwg. No.		Dwg. No.	
M.F.		M.F.		M.F.		M.F.		M.F.		M.F.	
Reference Drawings		Reference Drawings		Reference Drawings		Reference Drawings		Reference Drawings		Reference Drawings	
Drawing Title		Drawing Title		Drawing Title		Drawing Title		Drawing Title		Drawing Title	

S1174-A-01-014

LEGEND

PROPERTY BOUNDARY
LIMITS OF CONSTRUCTION
TOE OF FILL SLOPE
TOP OF CUT SLOPE
STAGING AREA

DD DIVERSION DITCH (INITIAL)
TB TOPSOIL BERM (INITIAL)
ST SEDIMENT TRAP (INITIAL/INTERIM)
SW STRAW WATTLE (INITIAL/INTERIM)
CP CULVERT PROTECTION (INITIAL/INTERIM)
VEQ SEEDING (FINAL) - SEE NOTES
GRV GRAVEL (FINAL)
T/P TRACKING PAD (INITIAL/INTERIM)

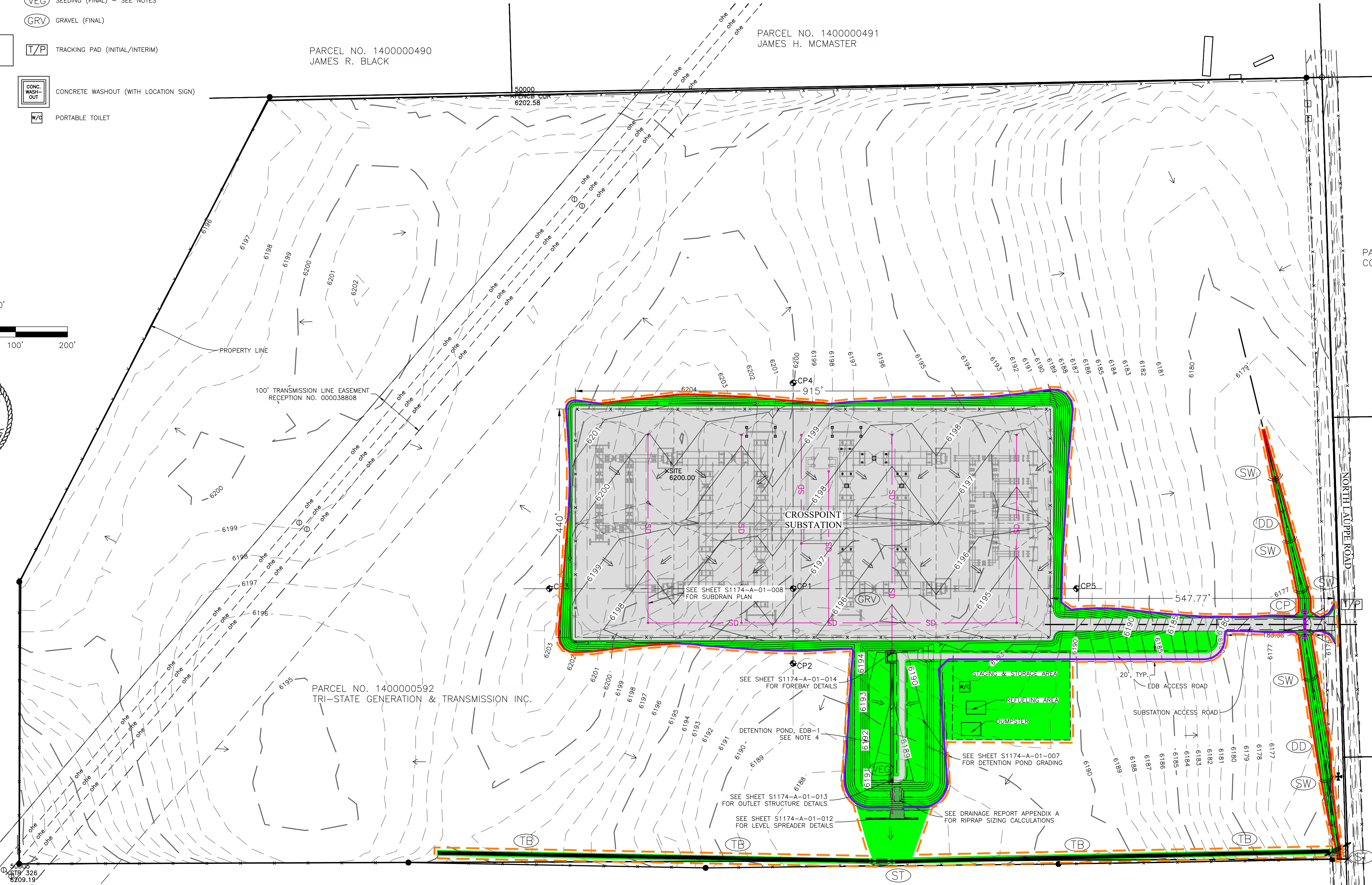
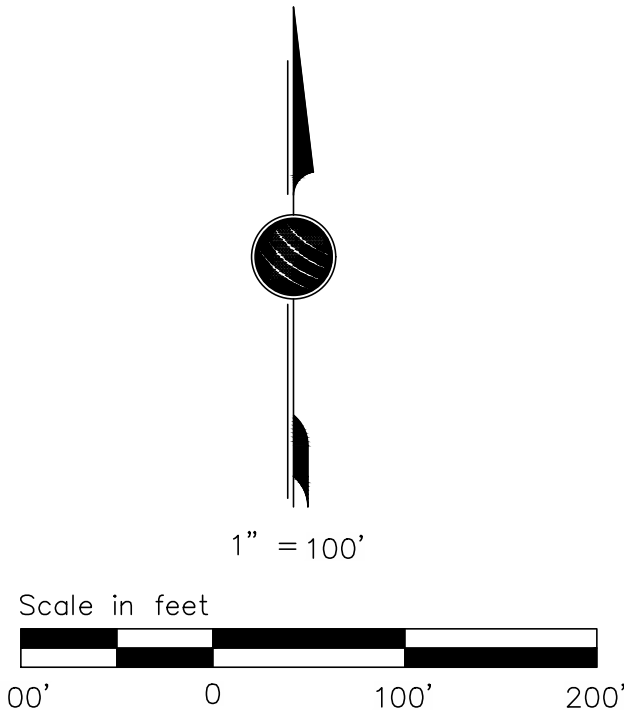
CONC. WASH-OUT
PORTABLE TOILET

EXISTING OVERHEAD POWER LINE
EXISTING FENCE
EXISTING CULVERT
EXISTING UTILITY POLE
EXISTING GUY ANCHOR
EXISTING INDEX CONTOUR
EXISTING INTERMEDIATE CONTOUR
EXISTING DRAINAGE FLOWLINE

PROPOSED SUBDRAIN LINE
PROPOSED FENCE
PROPOSED CULVERT
PROPOSED INDEX CONTOUR
PROPOSED INTERMEDIATE CONTOUR
PROPOSED DRAINAGE FLOWLINE
PROPOSED DRAINAGE FLOW ARROW
EXISTING DRAINAGE FLOW ARROW

NOTES:

- EXISTING VEGETATION CONSISTS OF NATIVE GRASSES AND WEEDS AT 30-60% GROUND COVER.
- NO BATCH PLANTS WILL BE UTILIZED ON SITE.
- NO PART OF THE SITE LIES WITHIN THE FEMA 100 YEAR FLOODPLAIN.
- CONCRETE OUTLET STRUCTURE MUST BE INSTALLED IN ORDER TO USE DETENTION POND AS A TEMPORARY SEDIMENT POND DURING CONSTRUCTION.
- SEEDING SHALL BE WEED-FREE HAY MULCH AT 5,000 LBS PER ACRE WHEN DISTRIBUTED UNIFORMLY. CONTRACTOR SHALL UTILIZE EL PASO COUNTY CONSERVATION DISTRICT'S NATIVE SHOTGUN MIX.

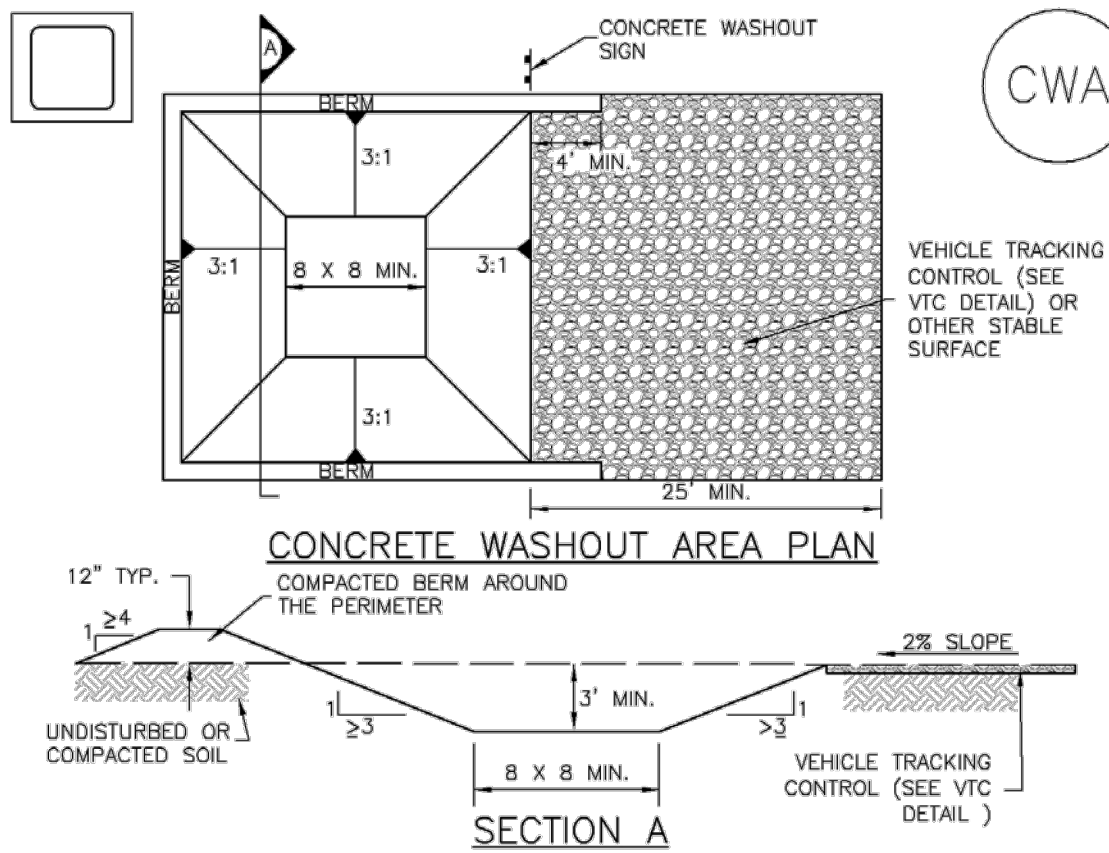


CROSSPOINT SUBSTATION 230 KV EROSION CONTROL PLAN		TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED		Dwn: TMC Appd: Date: 11/17/25	
1100 W. 116th Ave. P.O. Box 33695 Denver, Colorado 80233 303-452-6111		Dwg. No. M.F.		Drawing Title	
PATH: \\QMS1\Projects\Active Projects\2023\23148-1567 Crosspoint Substation\Facility Civil\Sheets\S1174-A-01-SHEETS.dwg		Revision		Reference Drawings	
4/23/2026 3:33 PM		No. Date		M.F.	
WLDGATE		1 03/10/26		DWS	
Contract		2 04/22/26		DWS	
		3 04/27/26		DWS	
		4		REVISED PER EPC COMMENTS	
		5		REVISED FOR BID SET	
		6			
		7			

S1174-A-01-015

Concrete Washout Area (CWA)

MM-1



CWA-1. CONCRETE WASHOUT AREA

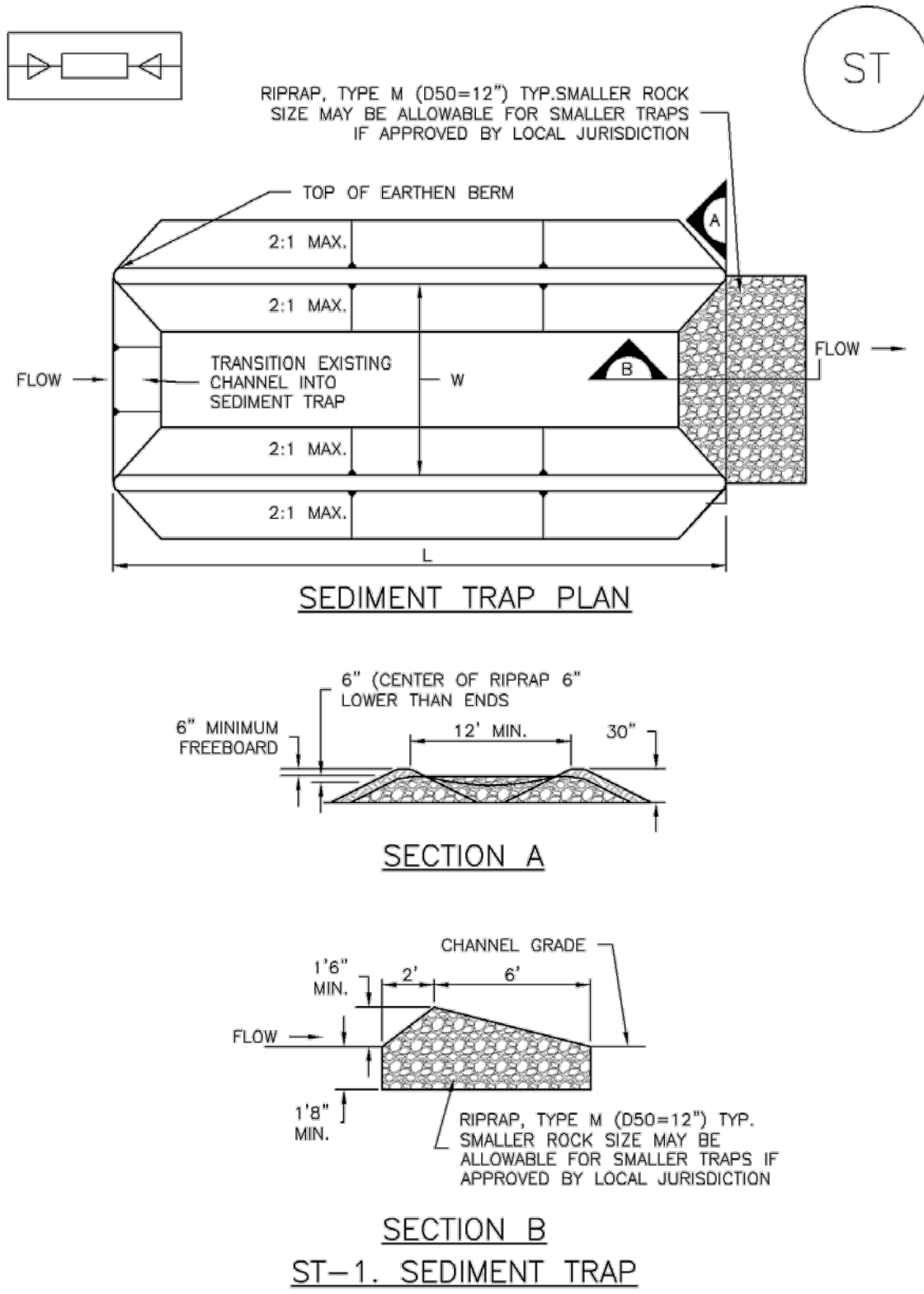
CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR CWA INSTALLATION LOCATION.
2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

November 2010 Urban Drainage and Flood Control District CWA-3
Urban Storm Drainage Criteria Manual Volume 3

SC-8

Sediment Trap (ST)

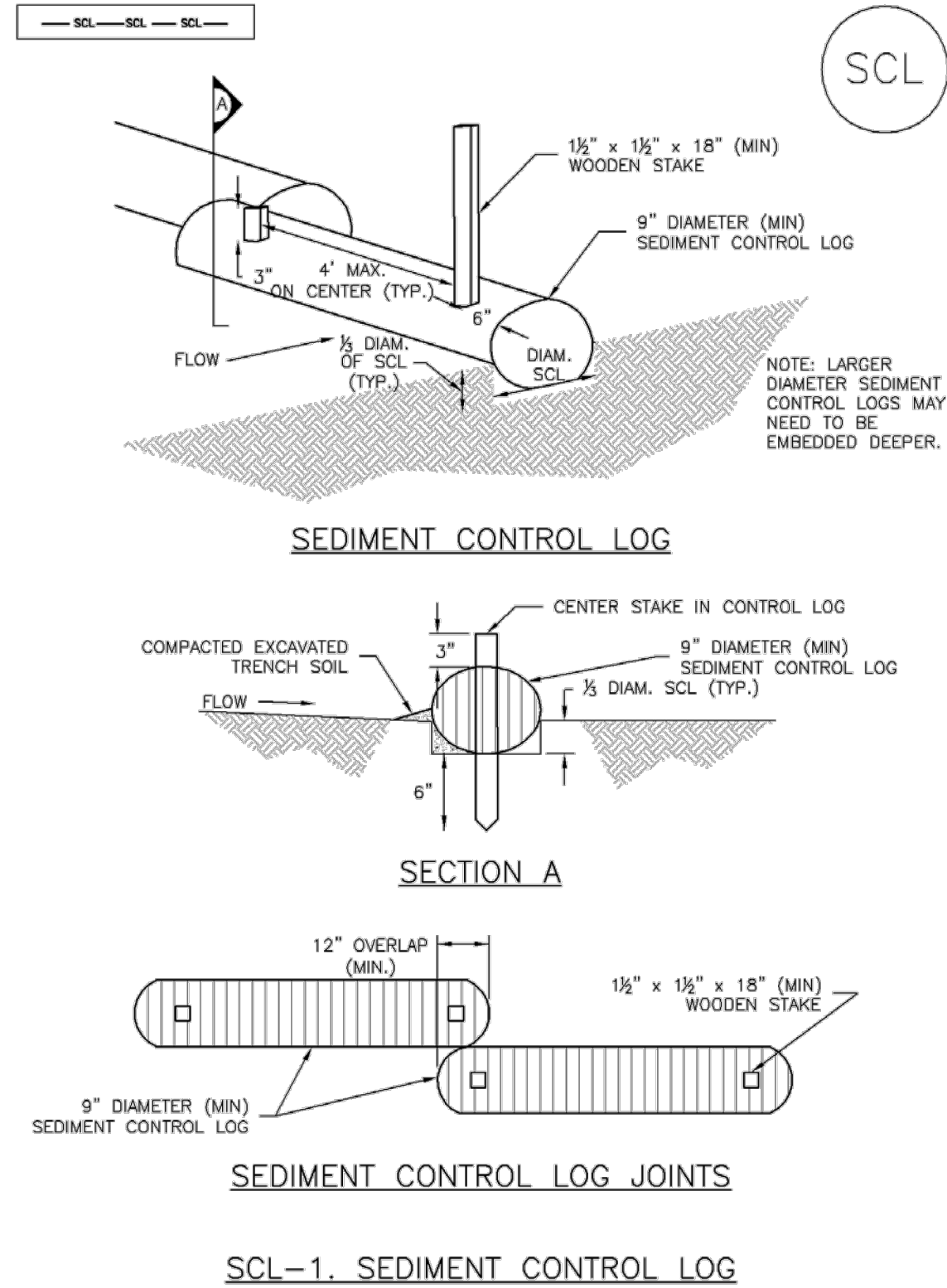


ST-1. SEDIMENT TRAP

ST-2 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

Sediment Control Log (SCL)

SC-2

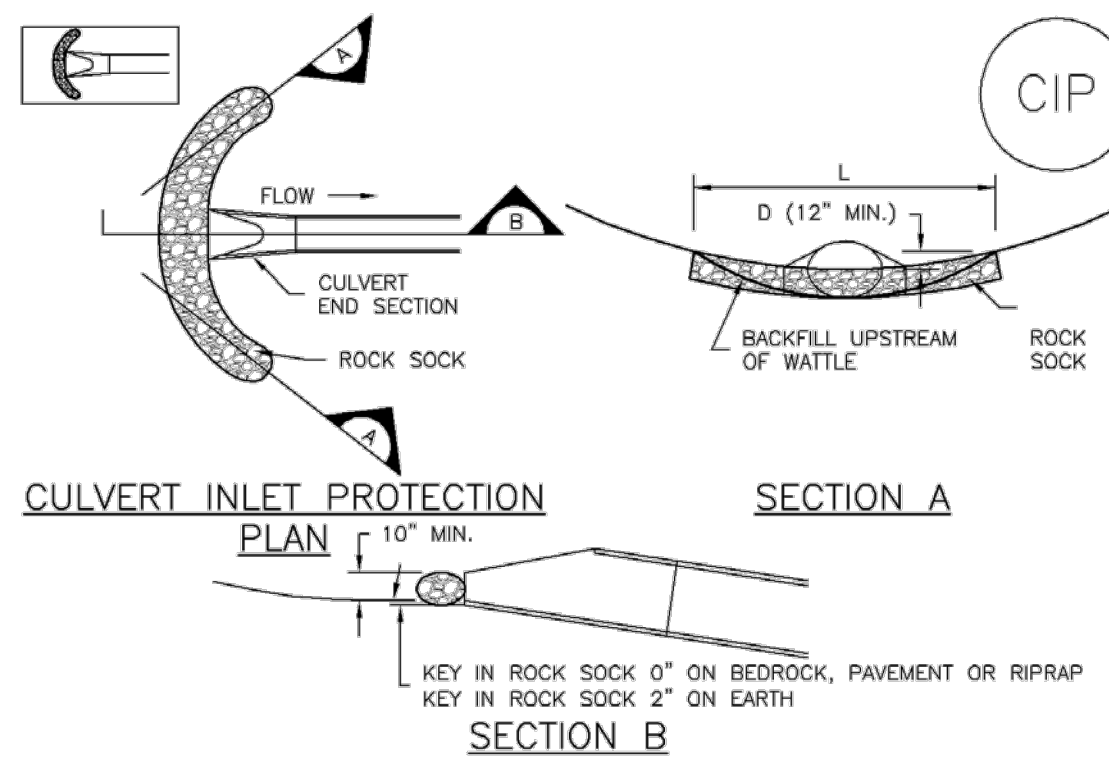


SCL-1. SEDIMENT CONTROL LOG

November 2010 Urban Drainage and Flood Control District SCL-3
Urban Storm Drainage Criteria Manual Volume 3

Inlet Protection (IP)

SC-6



CIP-1. CULVERT INLET PROTECTION

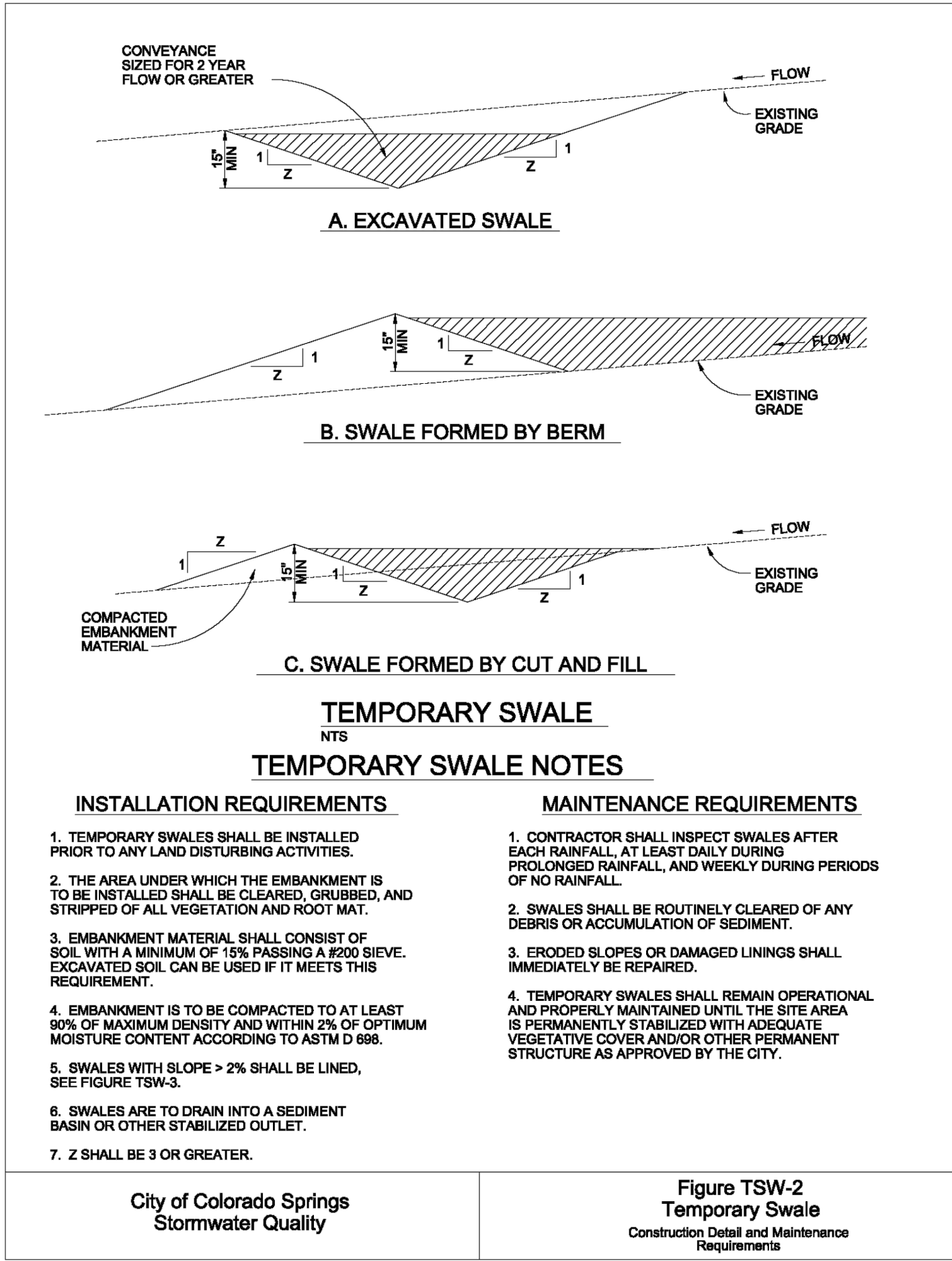
CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION OF CULVERT INLET PROTECTION.
2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.
5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

August 2013 Urban Drainage and Flood Control District IP-7
Urban Storm Drainage Criteria Manual Volume 3



TEMPORARY SWALE

TEMPORARY SWALE NOTES

INSTALLATION REQUIREMENTS

1. TEMPORARY SWALES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
3. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
4. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
5. SWALES WITH SLOPE > 2% SHALL BE LINED, SEE FIGURE TSW-3.
6. SWALES ARE TO DRAIN INTO A SEDIMENT BASIN OR OTHER STABILIZED OUTLET.
7. Z SHALL BE 3 OR GREATER.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SWALES AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS OF NO RAINFALL.
2. SWALES SHALL BE ROUTINELY CLEARED OF ANY DEBRIS OR ACCUMULATION OF SEDIMENT.
3. ERODED SLOPES OR DAMAGED LININGS SHALL IMMEDIATELY BE REPAIRED.
4. TEMPORARY SWALES SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs
Stormwater Quality

Figure TSW-2
Temporary Swale
Construction Detail and Maintenance
Requirements

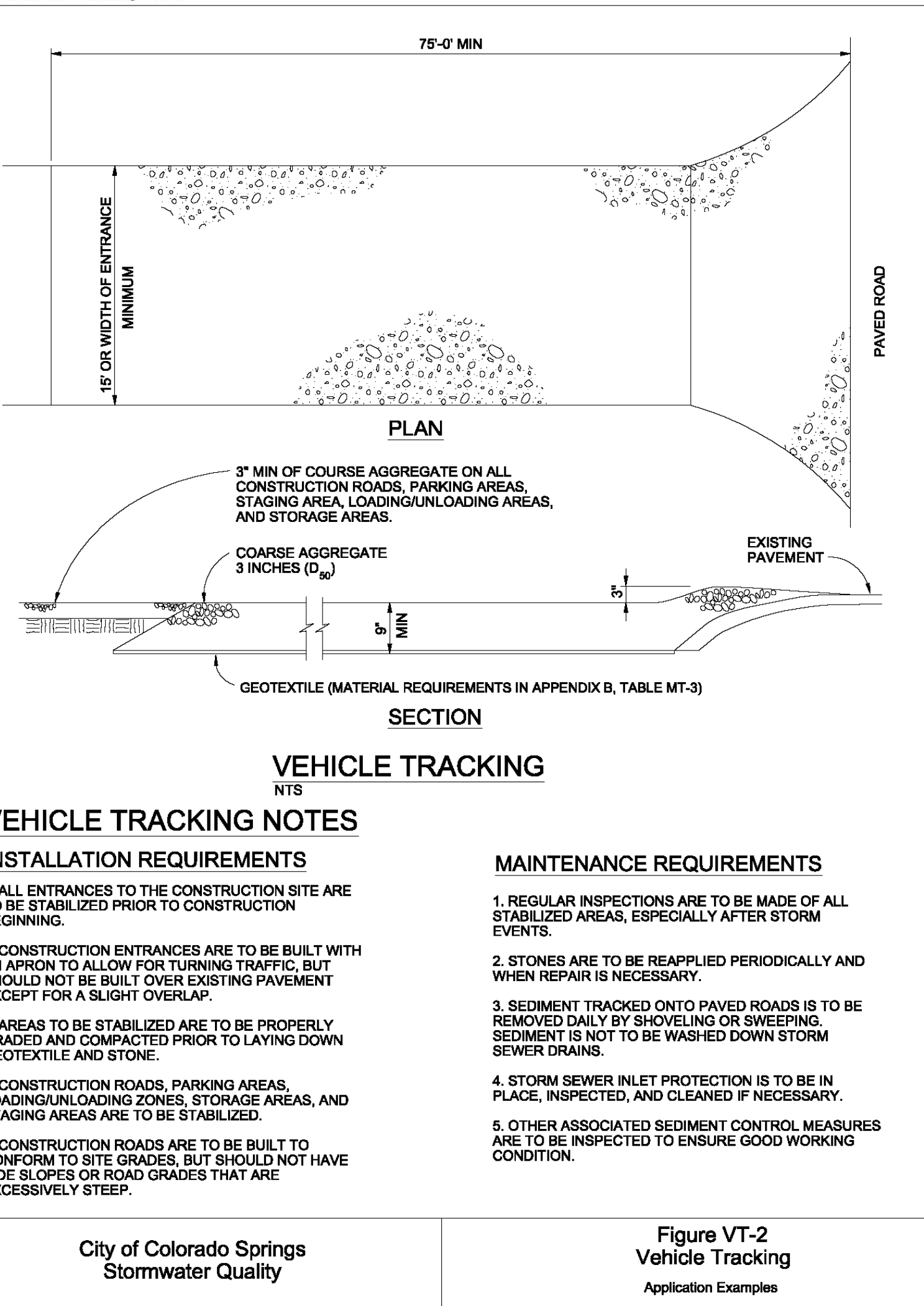
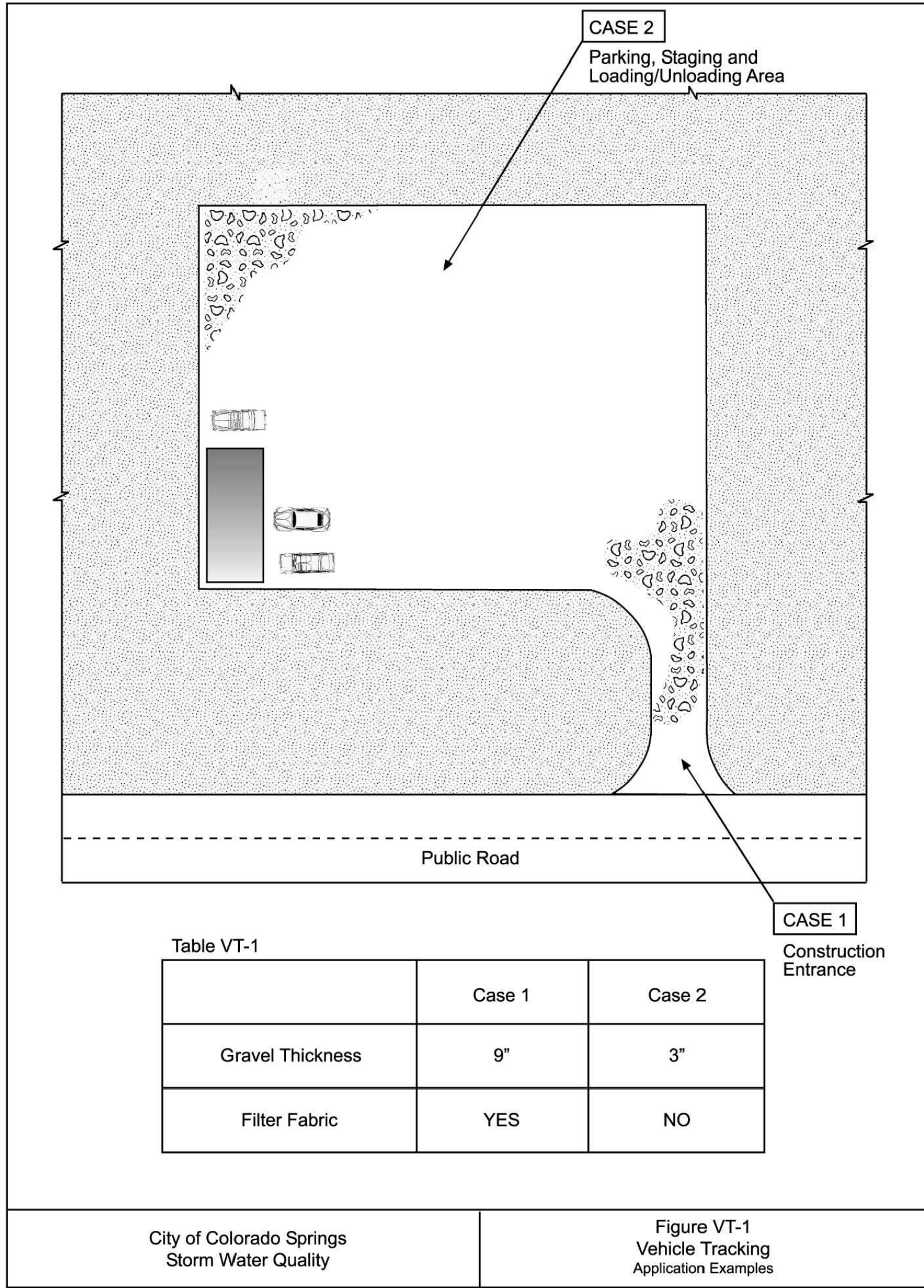


CROSSPOINT SUBSTATION
230 KV
EROSION CONTROL DETAILS

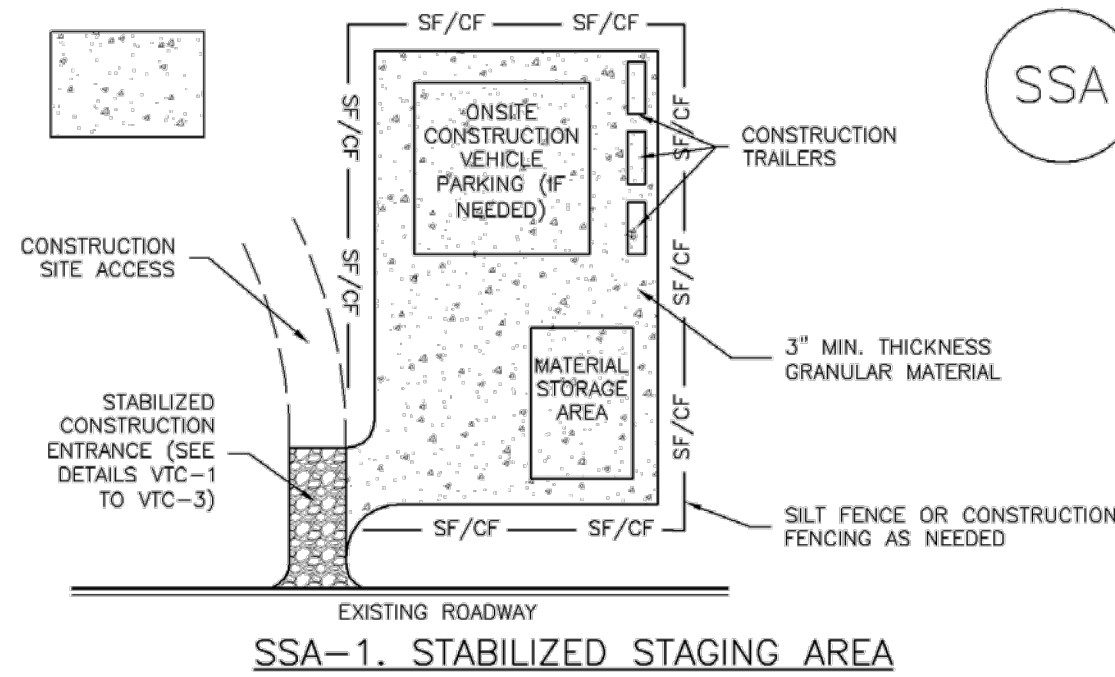
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Generation and Transmission
Association, Inc.
A Touchstone Energy Cooperative
1100 W. 116th Ave.
P.O. Box 33695
Denver, Colorado 80233
303-452-6111

Dwn: TMC Date: 11/17/25
Appd: Date:

S1174-A-01-016



Stabilized Staging Area (SSA) SM-6



STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
-LOCATION OF STAGING AREA(S)
-CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING AS NEEDED.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

November 2010 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 SSA-3

SM-6 Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

SSA-4 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 November 2010

NOTE: FOR RE-SEEDING, CONTRACTOR SHALL UTILIZE EL PASO COUNTY CONSERVATION DISTRICT'S NATIVE SHOTGUN MIX. CONTRACTOR SHALL UTILIZE BELOW TABLE FOR APPLICATION RATES.

DISTURBED AREAS SHALL BE MULCHED AFTER SEEDING WITH WEED-FREE HAY MULCH AT 5,000 LBS PER ACRE WHEN DISTRIBUTED UNIFORMLY.

Chapter 5
Native Vegetation Requirements and Guidelines

Table 5-1. El Paso County Conservation District All-Purpose Mix for Upland, Transition and Permanent Control Measure Areas

Common Name	Scientific Name	Growth Season / Form	% of Mix	Pounds PLS		
				• Irrigated broadcast • Irrigated hydroseeded 80 seeds/sq ft	• Non-irrigated broadcast • Non-irrigated hydroseeded • Irrigated drilled 40 seeds/sq ft	• Non-irrigated drilled 20 seeds/sq ft
Bluestem, big	<i>Andropogon gerardii</i>	Warm, sod	20	4.4	2.2	1.1
Grama, blue	<i>Bouteloua gracilis</i>	Warm, bunch	10	0.5	0.25	0.13
Green needlegrass ²	<i>Nassella viridula</i>	Cool, bunch	10	2	1	0.5
Wheatgrass, western ²	<i>Pascopyrum smithii</i>	Cool, sod	20	6.4	3.2	1.6
Grama, sideoats	<i>Bouteloua curtipendula</i>	Warm, bunch	10	2	1	0.5
Switchgrass ²	<i>Panicum virgatum</i>	Warm, bunch/sod	10	0.8	0.4	0.2
Prairie sandreed	<i>Calamovilfa longifolia</i>	Warm, sod	10	1.2	0.6	0.3
Yellow indiagrass ²	<i>Sorghastrum nutans</i>	Warm, sod	10	2	1	0.5
Seed rate (lbs PLS/acre)				19.3	9.7	4.8

¹For portions of facilities located near or on the bottom or where wet soil conditions occur. Planting of potted nursery stock wetland plants 2-foot on-center is recommended for sites with wetland hydrology.

²Species that will do well in the bottom of pond areas.

City of Colorado Springs
Stormwater Enterprise

5-11

Stormwater Construction Manual
December 2020

CROSSPOINT SUBSTATION
230 KV
EROSION CONTROL DETAILS

TRI-STATE GENERATION & TRANSMISSION
ASSOCIATION, INCORPORATED

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PATH: \\QMS1\Projects\Active Projects\2023\23148-1567 Crosspoint Substation\Facility\Civil\Sheets\S1174-A-01-SHEETS.dwg

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