





X:\2510000\2517502\Drawings\Sheet\Drawings\CD\2517502\_CD\01-Storm.dwg, LG01, 9/6/2022 1:43:27 PM, CS

LAYER LINETYPE LEGEND

EXISTING

PROPOSED

PHASE LINE

MATCH LINE

SECTION LINE

BOUNDARY LINE

PROPERTY LINE

EASEMENT LINE

RIGHT OF WAY

R.O.W. A LINE

CENTERLINE

CITY LIMITS

WIRE FENCE

CHAIN LINK FENCE

WOOD FENCE

MASONRY FENCE

GUARDRAIL

CONC. BARRIER

CABLE TV

ELECTRIC

FIBER OPTIC

GAS MAIN

IRRIGATION MAIN

OIL/PETRO. MAIN

OVERHEAD UTILITY

SANITARY SEWER

STORM DRAIN

TELEPHONE

WATER MAIN

RAW WATER LINE

SWALE/WATERWAY FLOWLINE

DIVERSION DITCH

DIVERSION CHANNEL

MAJOR DRAINAGE BASIN

MINOR DRAINAGE BASIN

TOP OF SLOPE

TOE OF SLOPE

EDGE OF WATER

INDEX CONTOUR

INTERMEDIATE CONTOUR

DEPRESSION CONT. (INDEX)

DEPRESSION CONT. (INTER)

TOP OF CUTS

TOE OF FILLS

CUT AND FILL LINE

SILT FENCE

100 YEAR FLOODPLAIN

500 YEAR FLOODPLAIN

FLOODWAY

BASE FLOOD ELEVATION

EDGE OF WETLANDS

STONE WALL

UTILITIES LEGEND

EXISTING

PROPOSED

STORM SEWER

MANHOLE

STORM INLET

AREA INLET - SQUARE

AREA INLET - ROUND

FLARED END SECTION

RIPRAP

SANITARY SEWER

LINE MARKER

SERVICE MARKER

CLEAN-OUT

MANHOLE W/ DIRECTIONAL FLOW ARROW

WATER LINE

LINE MARKER

SERVICE MARKER

FIRE HYDRANT

FIRE CONNECTION

MANHOLE

BEND

BLOW-OFF VALVE

WELL

METER

VALVE

REDUCER

THRUST BLOCK

CROSS

PLUG W/ THRUST BLOCK

TEE

REVERSE ANCHOR ANODE

AIR & VACUUM VALVE ASSEMBLY

TRANSMISSION BLOW-OFF ASSEMBLY

GAS LINE

MARKER

SERVICE MARKER

METER

VALVE

PLUG

TEE

DRY UTILITIES

CABLE TV MARKER

CABLE TELEVISION PEDESTAL

ELECTRIC MARKER

ELECTRIC SERVICE MARKER

ELECTRICAL PEDESTAL

ELECTRICAL METER

ELECTRICAL MANHOLE

FIBER-OPTIC MARKER

IRRIGATION PEDESTAL

TELEPHONE MARKER

TELEPHONE PEDESTAL

TELEPHONE MANHOLE

UTILITY POLE

GUY ANCHOR

GUY POLE

MISC. UTILITIES

VENT PIPE

TEST HOLE DESIGNATOR

MONUMENTATION LEGEND

EXISTING

PROPOSED

ALUMINUM CAP - FOUND

BRASS CAP - FOUND

BENCHMARK - FOUND

CROSS - FOUND

MONUMENT - SET

MONUMENT - FOUND (DEFAULT)

MONUMENT - FOUND (ALTERNATE 1)

MONUMENT - FOUND (ALTERNATE 2)

MONUMENT - FOUND (ALTERNATE 3)

MONUMENT - FOUND (ALTERNATE 4)

MONUMENT - FOUND (ALTERNATE 5)

MONUMENT - FOUND (ALTERNATE 6)

MONUMENT - FOUND (ALTERNATE 7)

NAIL & WASHER - FOUND

PANEL - FOUND

PK NAIL - FOUND

ROW MONUMENT - FOUND

ROW MARKER - FOUND

SECTION CORNER - FOUND

SECTION CORNER - SET

QUARTER-SECTION CORNER - FOUND

QUARTER-SECTION CORNER - SET

SECTION CENTER - FOUND

SECTION CENTER - FOUND

CONTROL/TRaverse POINT - SET

PARKING METER

TRAFFIC SIGNAL BOX

TRAFFIC SIGNAL POLE

TRAFFIC SIGNAL

BARRICADE

GUARD RAIL POST

IMPACT ATTENUATOR

BRIDGE STYLE HIGHWAY SIGN POST

CANTILEVER STYLE HIGHWAY SIGN POST

RAILROAD MARKER/SIGN

STREET LIGHT

STREET LIGHT - SINGLE

STREET LIGHT - DOUBLE

LUMINAIRE

ALTERNATE LUMINAIRE

SIGNAL MAST ARM W/ LUMINAIRE

PEDESTAL POLE FOUNDATION

TRAFFIC SIGNAL POLE

ROUND PULL BOX

MEDIUM PULL BOX

LARGE PULL BOX (20X33X15)

SIGNAL HEAD WITHOUT BACK PLATE

SIGNAL HEAD WITH BACK PLATE

PEDESTRIAN SIGNAL HEAD

VIDEO IMAGE DETECTOR

OPTICOM DETECTOR

VEHICLE DETECTION ZONE

STORM WATER MANAGEMENT

KEY

SYMBOL

CHECK DAM

CONSTRUCTION ROAD STABILIZATION

CURB SOCK INLET PROTECTION

CONCRETE WASHOUT AREA

DIVERSION DITCH AND DIKE, TEMPORARY

DIVERSION CHANNEL, TEMPORARY

DEWATERING

EROSION CONTROL BLANKET

INLET FILTER

INLET PROTECTION

MULCHING

OUTLET PROTECTION

PAVED FLUME

PERMENENT SEEDING

REINFORCED CONCRETE DAM

ROUGH CUT STREET CONTROL

SEDIMENT BASIN

SEDIMENT CONTROL LOG

SILT FENCE

SURFACE ROUGHENING

STABILIZED STAGING AREA

SEDIMENT TRAP

STRAW BALE BARRIER

TERRACING

TEMPORARY SEEDING

TEMPORARY STREAM CROSSING CULVERT/BRIDGE

TEMPORARY STREAM CROSSING FORD TYPE

TEMPORARY SLOPE DRAIN

VEHICLE TRACKING CONTROL

VEHICLE TRACKING CONTROL WITH WASH RACK

DRAINAGE REPORT PLANS

KEY

BASIN DESIGNATION (NO COEFFICIENT)

BASIN DESIGNATION (1 COEFFICIENT)

BASIN DESIGNATION (2 COEFFICIENTS)

ANALYSIS POINT IDENTIFIER

BASIN DESIGNATION (HISTORIC)

BASIN DESIGNATION (DEVELOPED)

SUB-BASIN DESIGNATION (DEVELOPED)

DRAINAGE PIPE IDENTIFIER

DRAINAGE POINT IDENTIFIER (HEXAGONAL)

DRAINAGE POINT IDENTIFIER (TRIANGULAR)

SWMM DESIGNATION 1

SWMM DESIGNATION 2

SWMM DESIGNATION 3

SWMM DESIGNATION 4

LANDSCAPE LEGEND

EXISTING

PROPOSED

TREE - CONIFEROUS

TREE - DECIDUOUS

SHRUB/BUSH

SHRUBS AND BUSHES

IRRIGATION BOX

IRRIGATION SPRINKLER

IRRIGATION VALVE

BOLLARD

FLAGPOLE

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

BRYAN T. LAW, P.E.

COLORADO P.E. 25043

FOR AND ON BEHALF OF JR ENGINEERING, LLC

25043

09/09/22

LATIGO TRAILS - FILING NO.

9

LEGEND

SHEET 2 OF 17

JOB NO. 25175.02

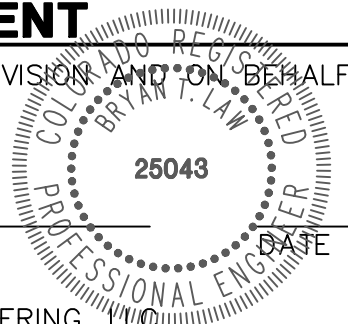
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PREPARED FOR  
BRUM, LLC  
101 N. CASCADE, SUITE 200  
COLORADO SPRINGS, CO 80903  
ATTN: BOB IRWIN  
P~(719)-475-7474

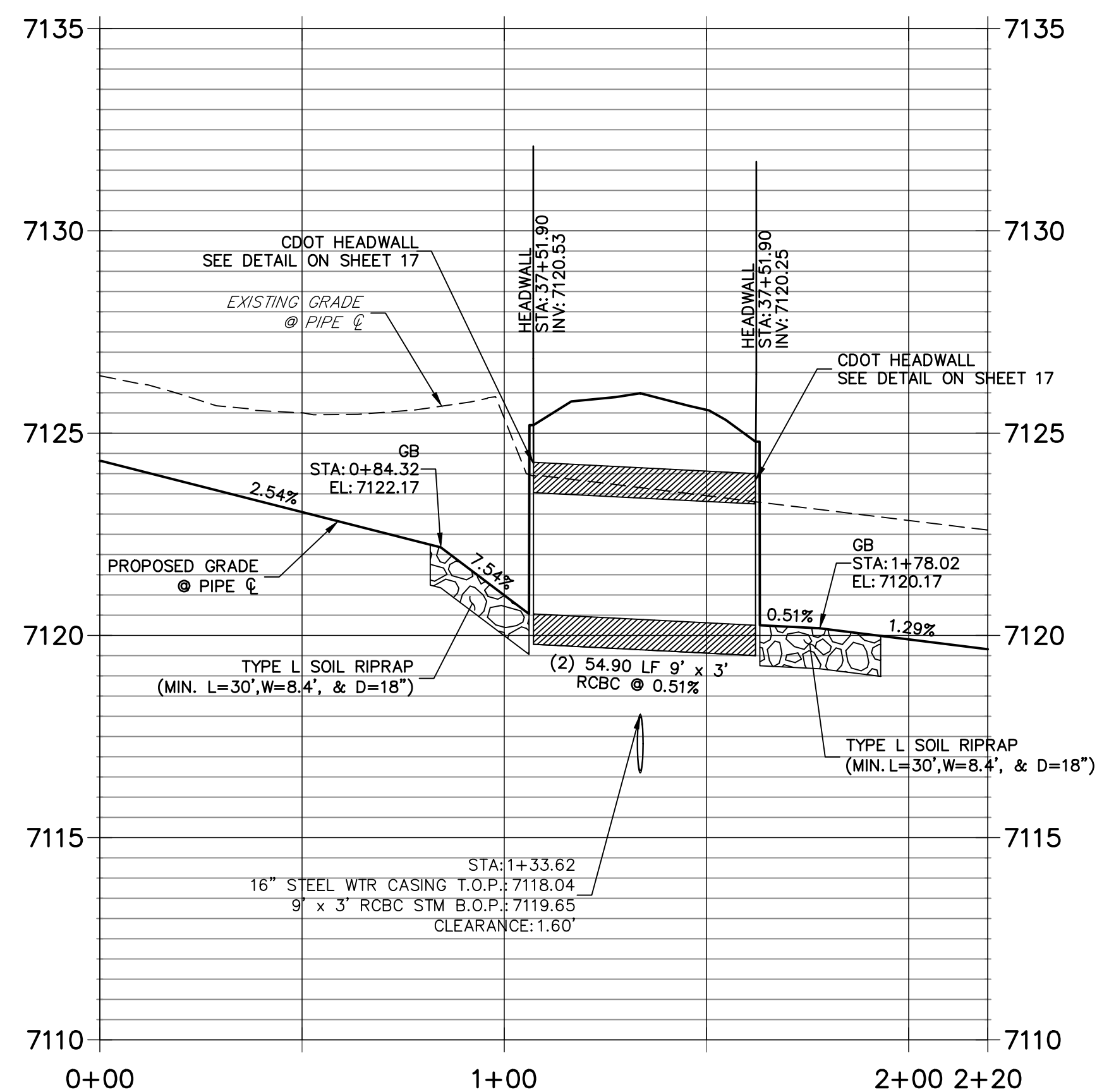
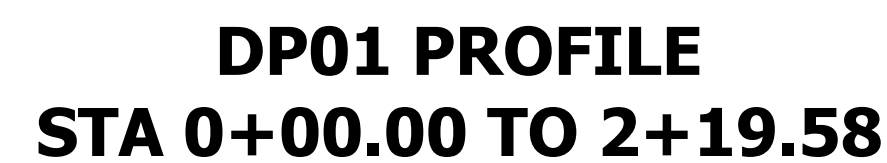
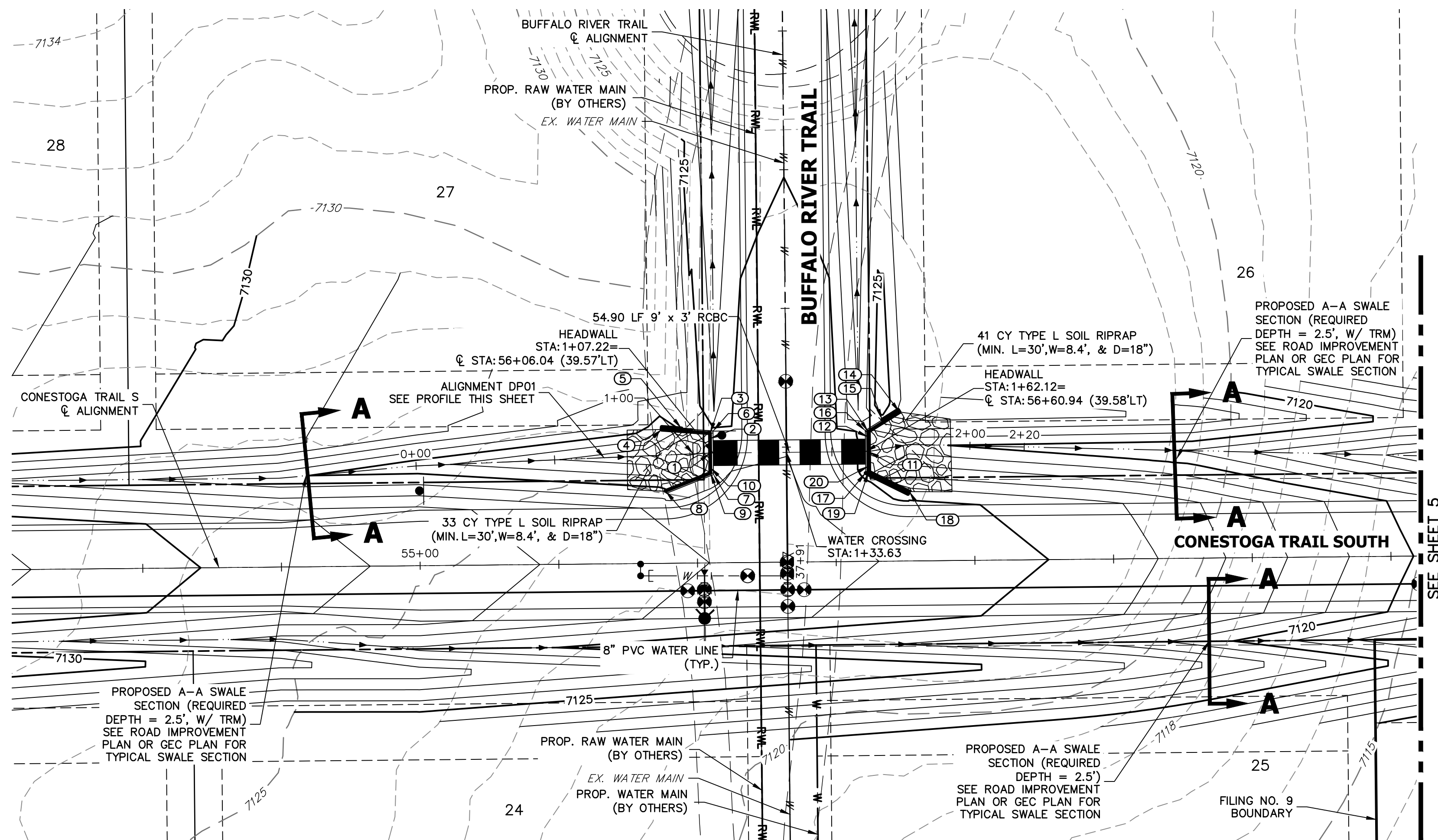
J.R. ENGINEERING  
A Western Company  
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Know what's below.  
Call before you dig.

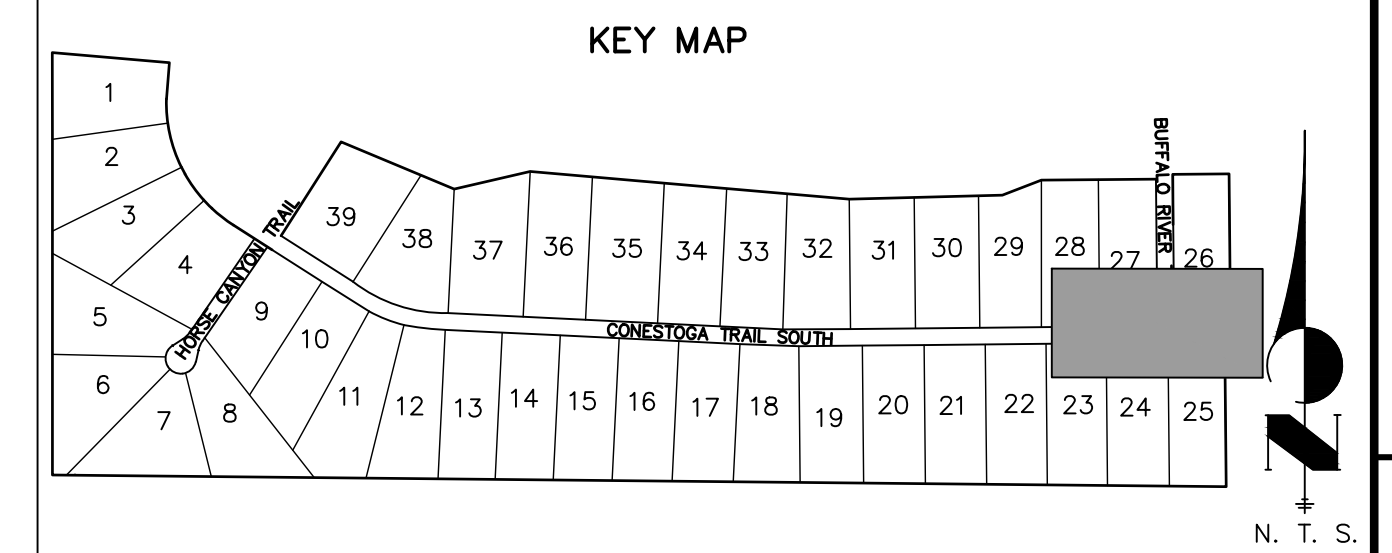






WEST HEADWALL AND WINGWALL			
POINT Name	STATION AND OFFSET	FINAL GRADE	TOP OF WALL
1	STA: 1+06.12 (0.00 )	FG = 7120.53	TOW = 7125.20
2	STA: 1+06.12 (-5.25 LT)	FG = 7120.53	TOW = 7125.20
3	STA: 1+06.12 (-7.17 LT)	FG = 7120.88	TOW = 7125.20
4	STA: 0+88.95 (-9.19 LT)	FG = 7124.03	TOW = 7124.70
5	STA: 0+96.18 (-9.38 LT)	FG = 7125.20	TOW = 7125.20 (WALL GR)
6	STA: 1+07.22 (-8.00 LT)	FG = 7125.20	TOW = 7125.20
7	STA: 1+07.22 (7.76 RT)	FG = 7125.20	TOW = 7125.20
8	STA: 0+89.38 (12.92 RT)	FG = 7125.20	TOW = 7125.20
9	STA: 1+05.88 (7.18 RT)	FG = 7121.01	TOW = 7125.20
10	STA: 1+05.94 (5.25 RT)	FG = 7120.53	TOW = 7125.20

EAST HEADWALL AND WINGWALL			
POINT Name	STATION AND OFFSET	FINAL GRADE	TOP OF WALL
11	STA:1+63.21 (0.00 )	FG = 7120.25	TOW = 7124.79
12	STA:1+64.06 (-5.17 LT)	FG = 7120.25	TOW = 7124.79
13	STA:1+64.38 (-7.07 LT)	FG = 7120.72	TOW = 7124.79
14	STA:1+76.72 (-12.08 LT)	FG = 7123.70	TOW = 7124.50
15	STA:1+70.07 (-10.50 LT)	FG = 7124.79	TOW = 7124.79 (WALL GB)
16	STA:1+62.12 (-7.61 LT)	FG = 7124.79	TOW = 7124.79
17	STA:1+62.12 (7.68 RT)	FG = 7124.79	TOW = 7124.79
18	STA:1+75.17 (16.72 RT)	FG = 7124.30	TOW = 7124.79
19	STA:1+63.21 (7.20 RT)	FG = 7120.68	TOW = 7124.79
20	STA:1+63.21 (5.25 RT)	FG = 7120.25	TOW = 7124.79

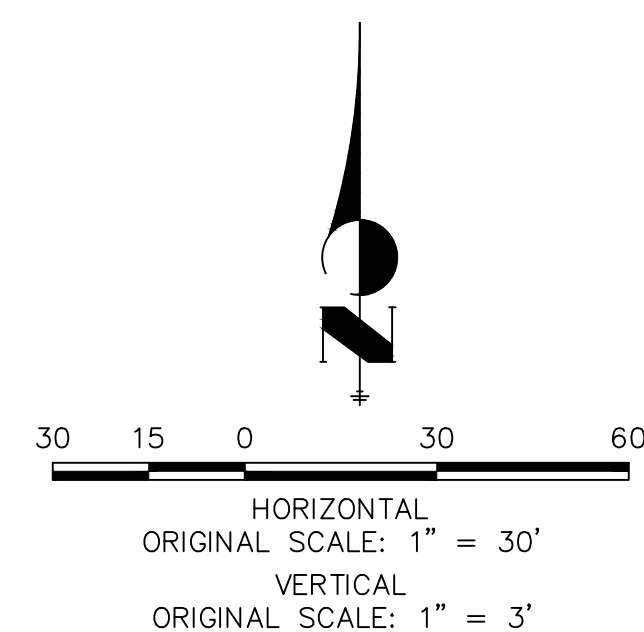


- ## NOTES

1. SEE SHEET 1 FOR BENCHMARK. SEE SHEET 2 FOR LEGEND.
2. ALL STATIONING IS PIPE CENTERLINE UNLESS OTHERWISE NOTED.
3. ALL RCP STORM SEWER SHALL BE CLASS III UNLESS OTHERWISE NOTED.
4. PIPE LENGTHS INCLUDE FES LENGTH AND/OR HEADWALL THICKNESS.
5. PIPES SHALL HAVE JOINT RESTRAINTS ON LAST 3 JOINTS AT PIPE OUTFALL.

### HEADWALL/WINGWALL NOTES

1. SEE SHEET 17 FOR CDOT DETAIL M-601-10 & M-601-20 FOR ADDITIONAL HEADWALL & WINGWALL DETAILS.
2. PIPE INVERT IN/OUT ELV. SHALL MATCH GRADE.
3. HEADWALL DIMENSIONS SHALL BE 81" X 174".
4. TOP OF WALL ELEVATION SHALL MATCH TOP OF WINGWALL ELEVATION.



Know what's **below**.  
**Call** before you dig.

## ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR  
ENGINEERING

*B. T.*

BRYAN T. LAW, P.E.  
COLORADO P.E. 25043  
FOR AND ON BEHALF OF JB ENGINEERING, LLC

09/09/22



**J·R ENGINEERING**  
A Westrian Company

Fort Collins 970-491-9888 • [www.jirengineering.com](http://www.jirengineering.com)

BRUM, LLC  
101 N. CASCADE, SUITE 200  
COLORADO SPRINGS, CO 80903  
ATTN: BOB IRWIN  
P~(719)-475-7474

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR

BY	DATE
----	------

BY	DATE
----	------

No.	REVISION
-----	----------

No.	REVISION
-----	----------

H-SCALE	1"=30'
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H-SCALE	1"=30'
---------	--------

H-SCALE	1"=30'
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H-SCALE	1"=30'
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H-SCALE	1"=30'
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H-SCALE	1"=30'
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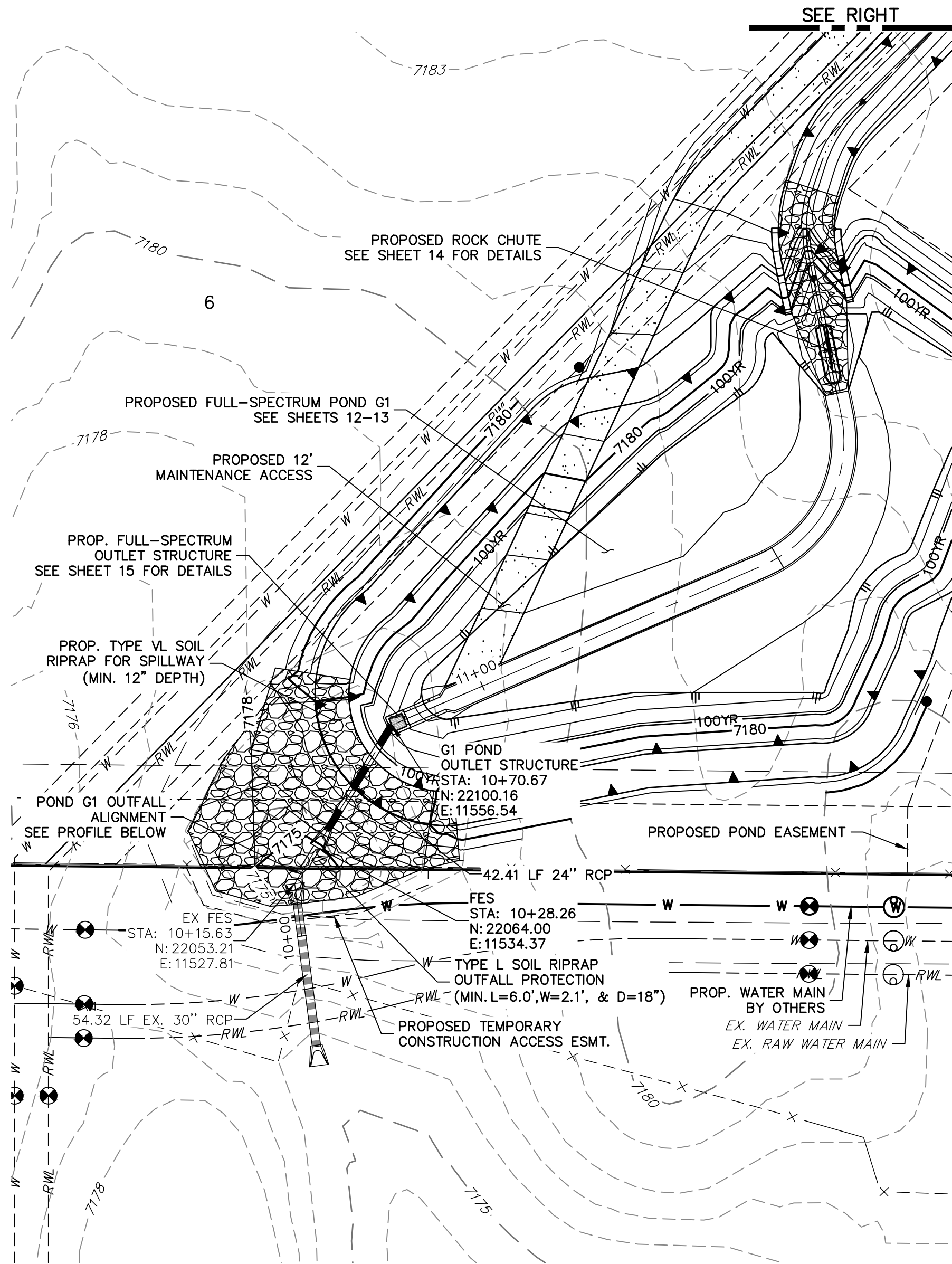
LATIGO TRAILS – FILING NO. 9

# STORM SEWER PLAN AND PROFILE

SHEET 3 OF 17

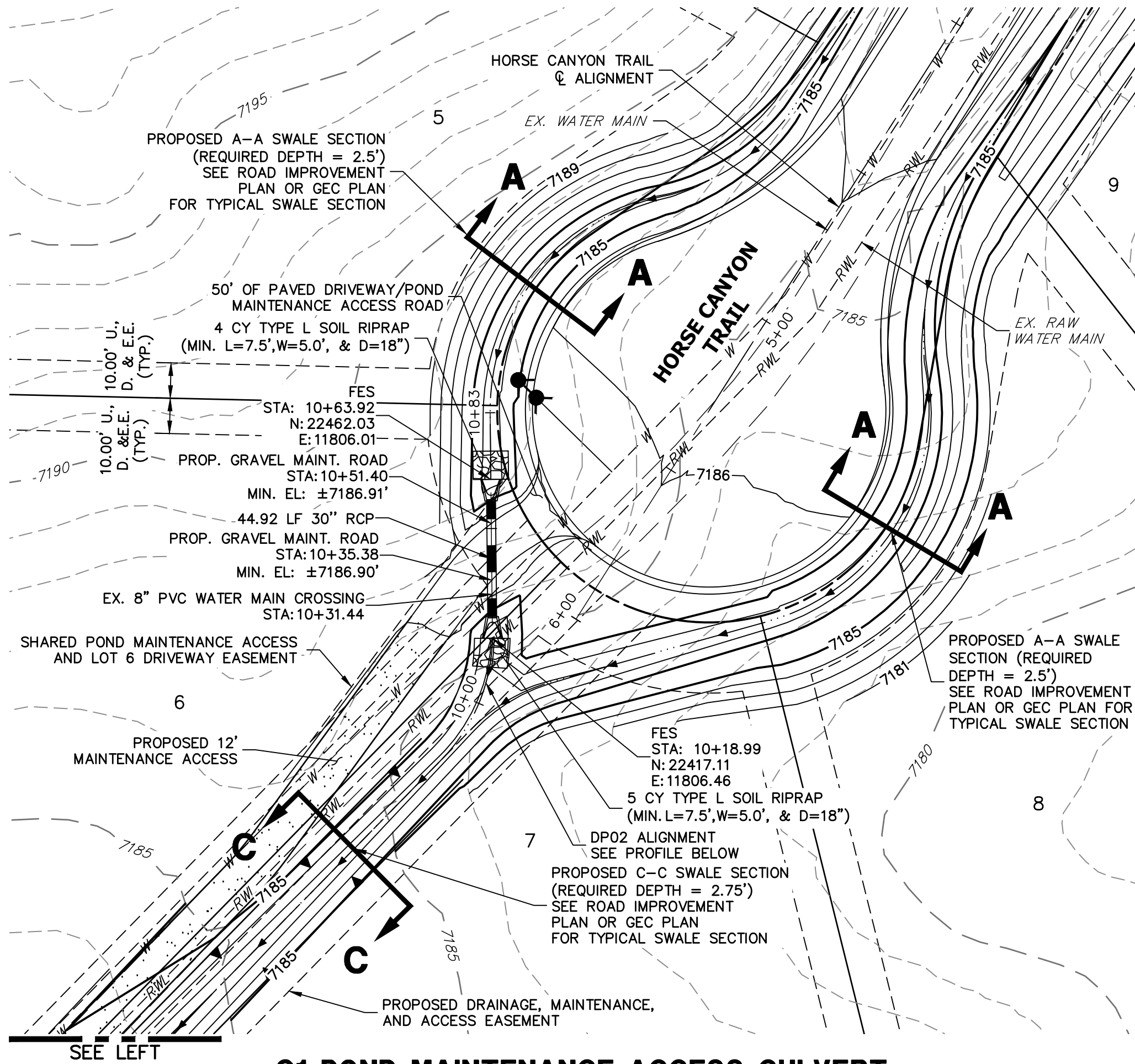
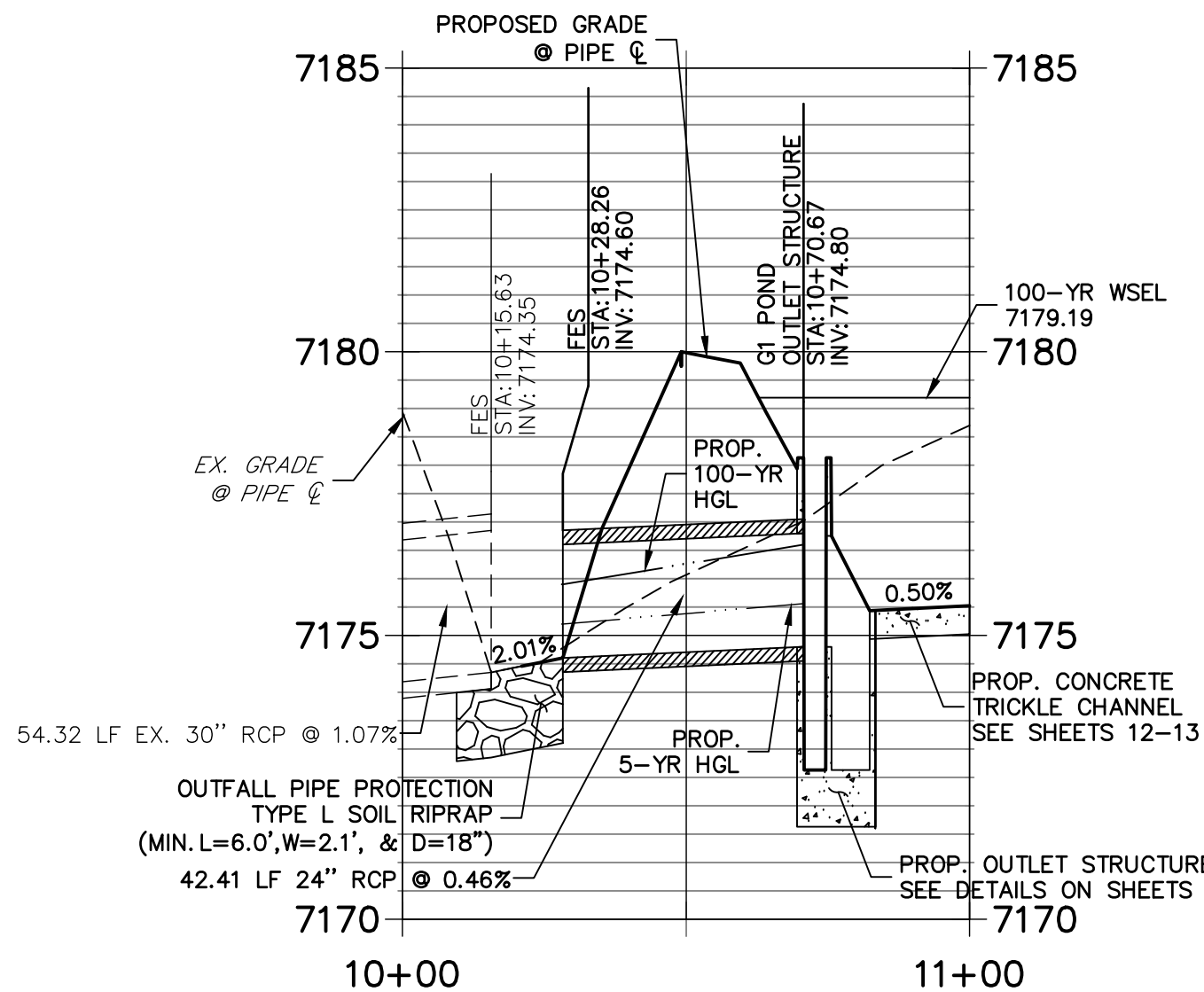
JOB NO. 25175.02





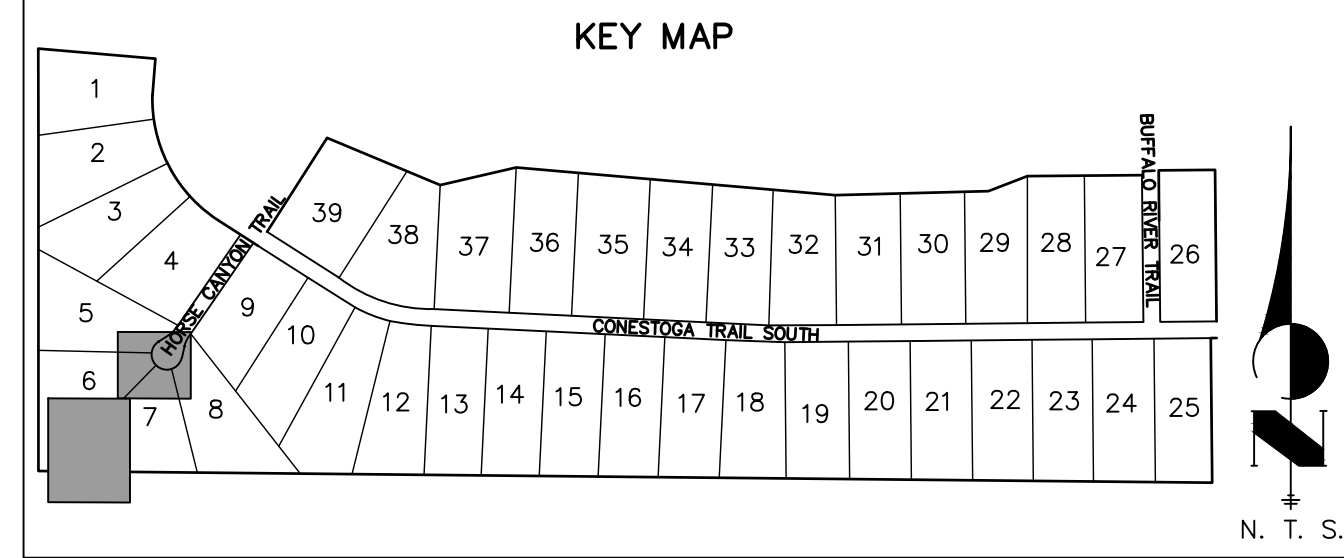
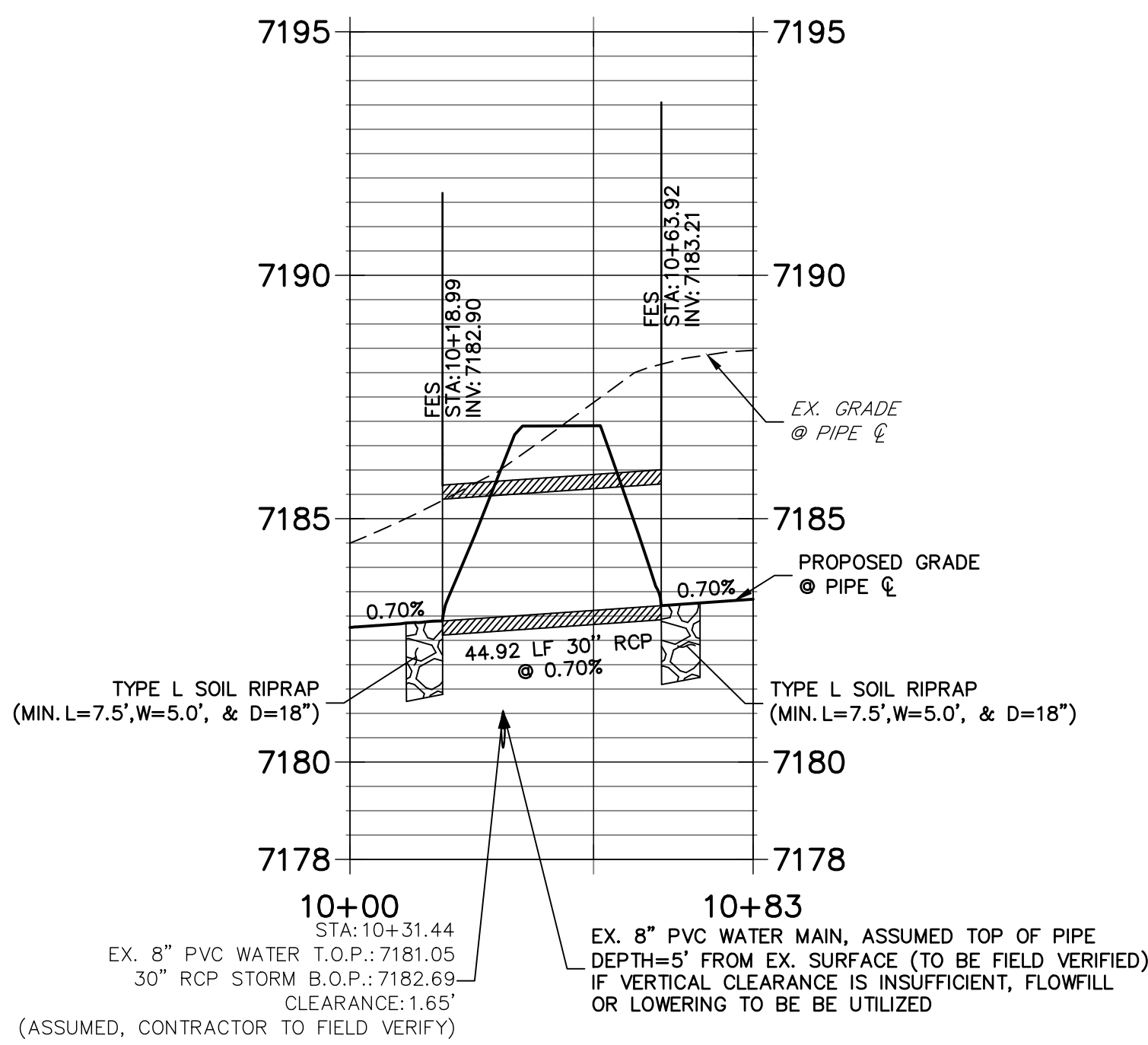
G1 POND OUTFALL

POND G1 OUTFALL PROFILE  
STA 10+00.00 TO 10+99.92



G1 POND MAINTENANCE ACCESS CULVERT

DP02 PROFILE  
STA 10+00.00 TO 10+82.78



NOTES

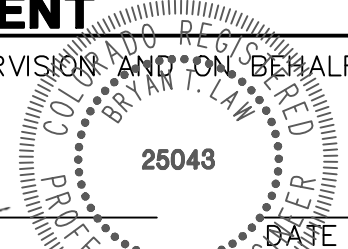
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ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

BRYAN T. LAW, P.E.  
COLORADO P.E. 25043  
FOR AND ON BEHALF OF JR ENGINEERING, LLC



09/09/22

LATIGO TRAILS - FILING NO. 9

STORM SEWER PLAN AND  
PROFILE

SHEET 4 OF 17

JOB NO. 25175.02

BY DATE

No. REVISION

H-SCALE 1"=30'  
V-SCALE 1"=3'

DATE 09/07/22  
DESIGNED BY SAV  
DRAWN BY SAV  
CHECKED BY

JOB NO. 25175.02

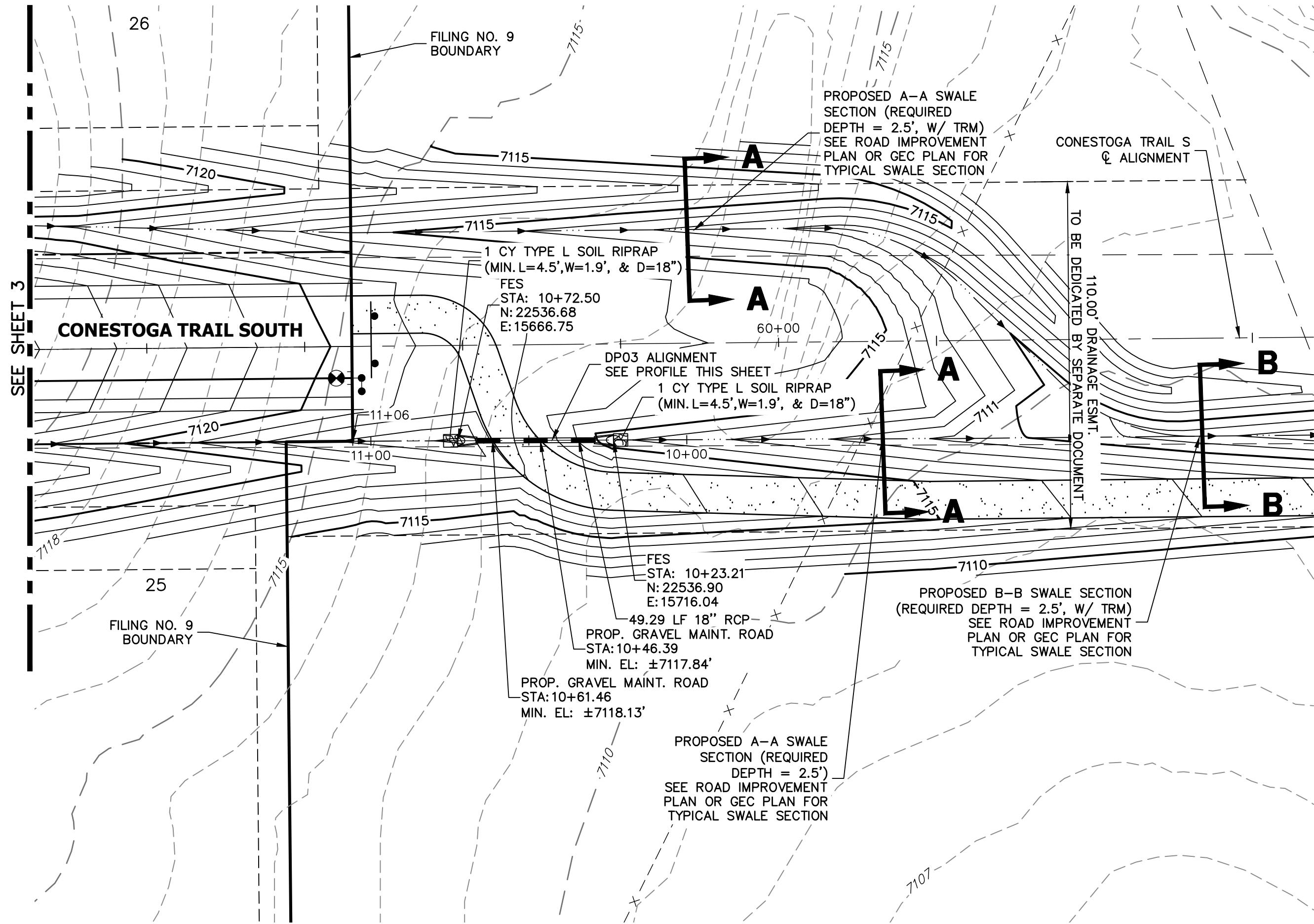
PREPARED FOR

J.R. ENGINEERING  
A Western Company

BRUM, LLC  
101 N. CASCADE, SUITE 200  
COLORADO SPRINGS, CO 80903  
ATTN: BOB IRWIN  
P~(719)-475-7474

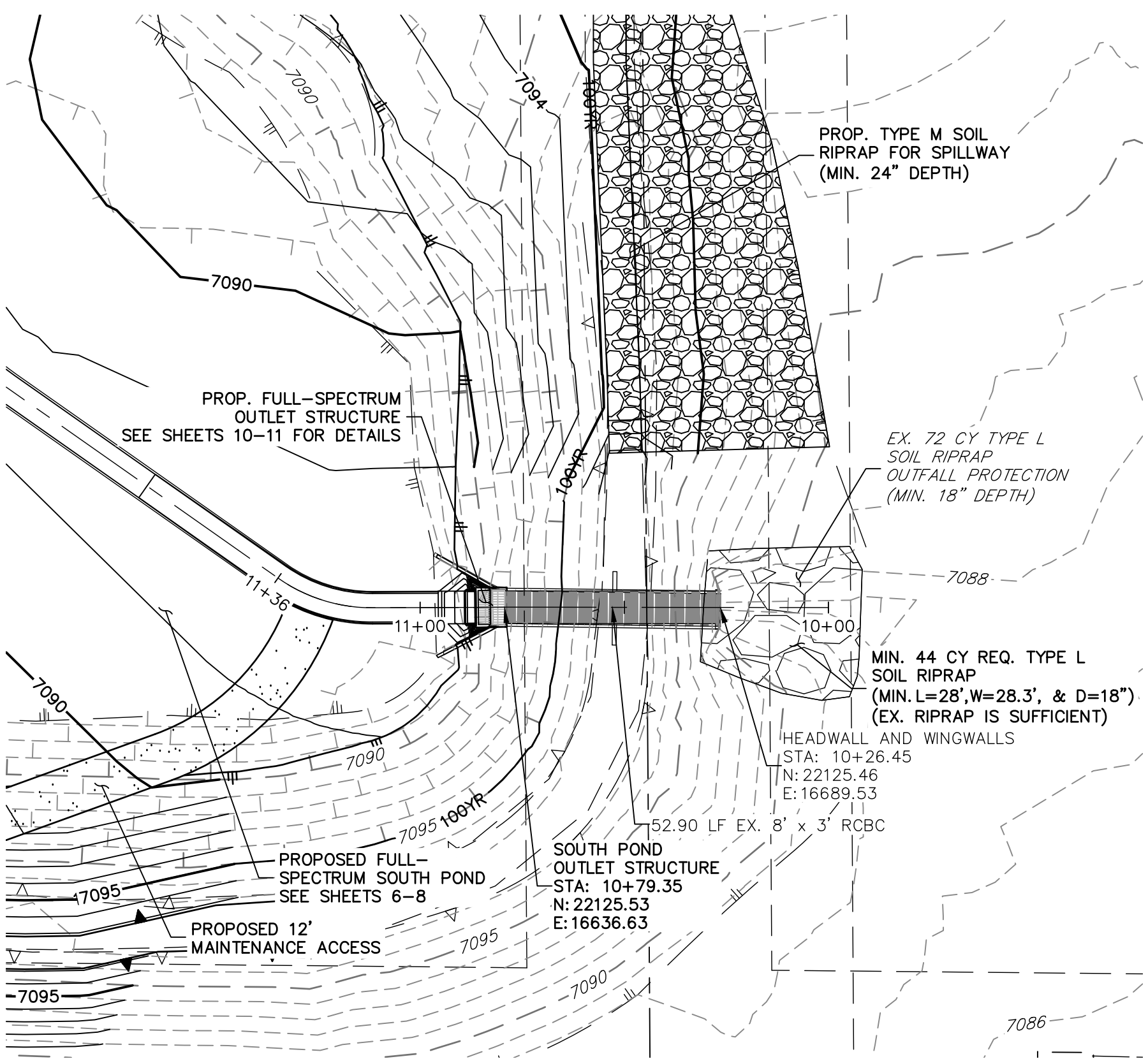
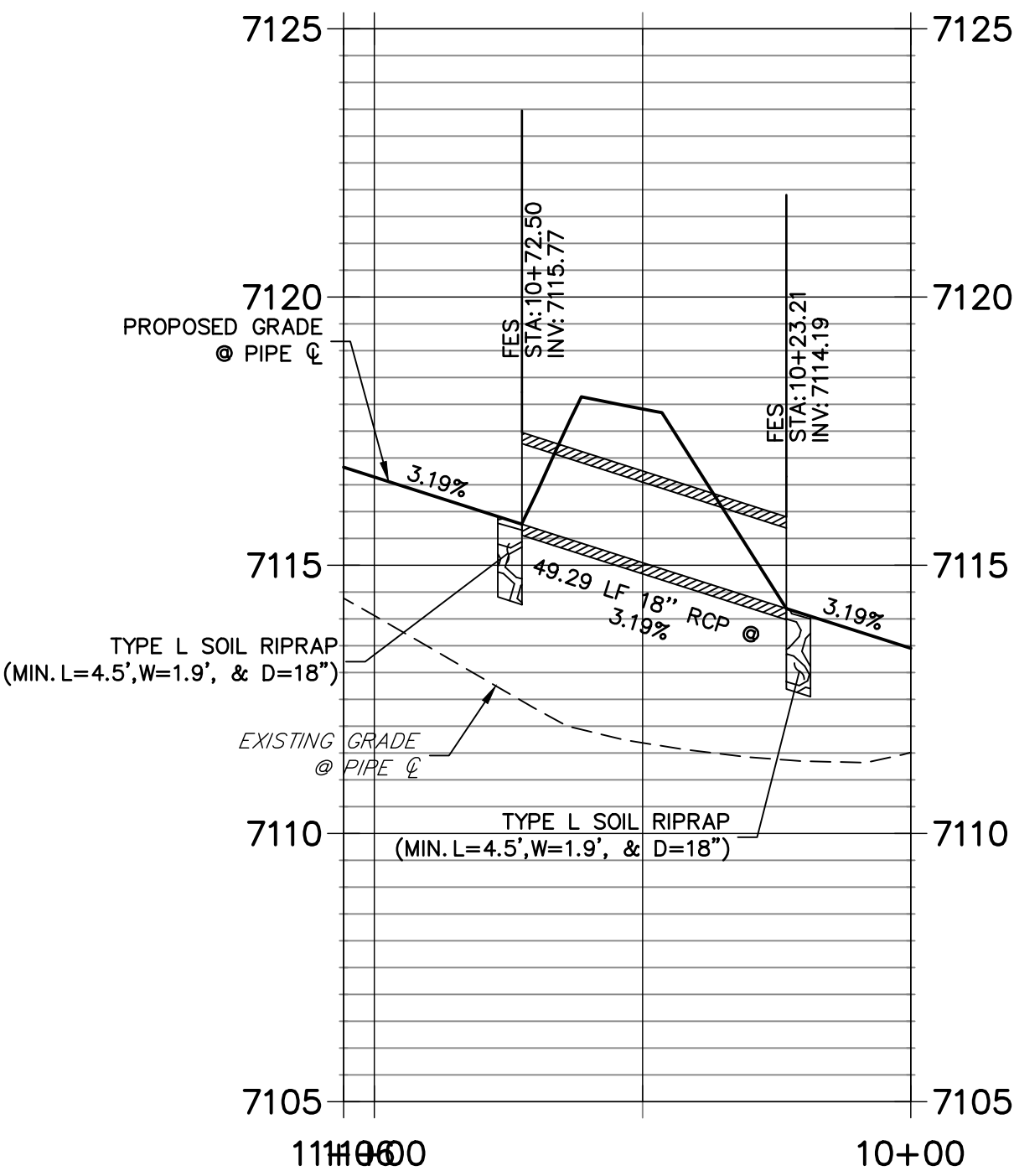
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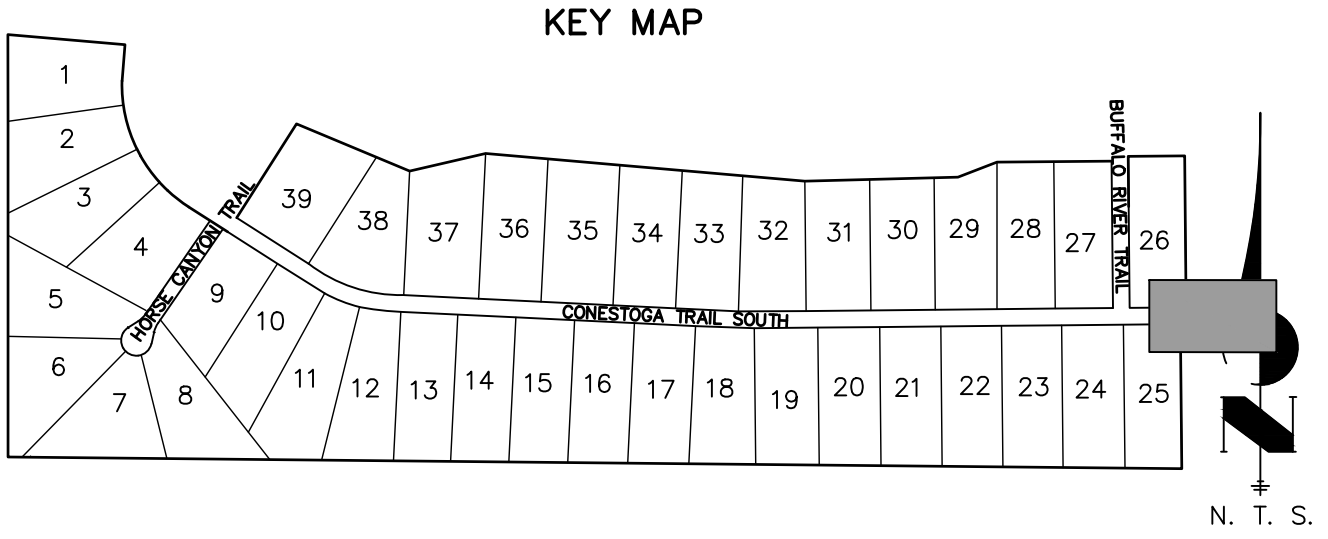
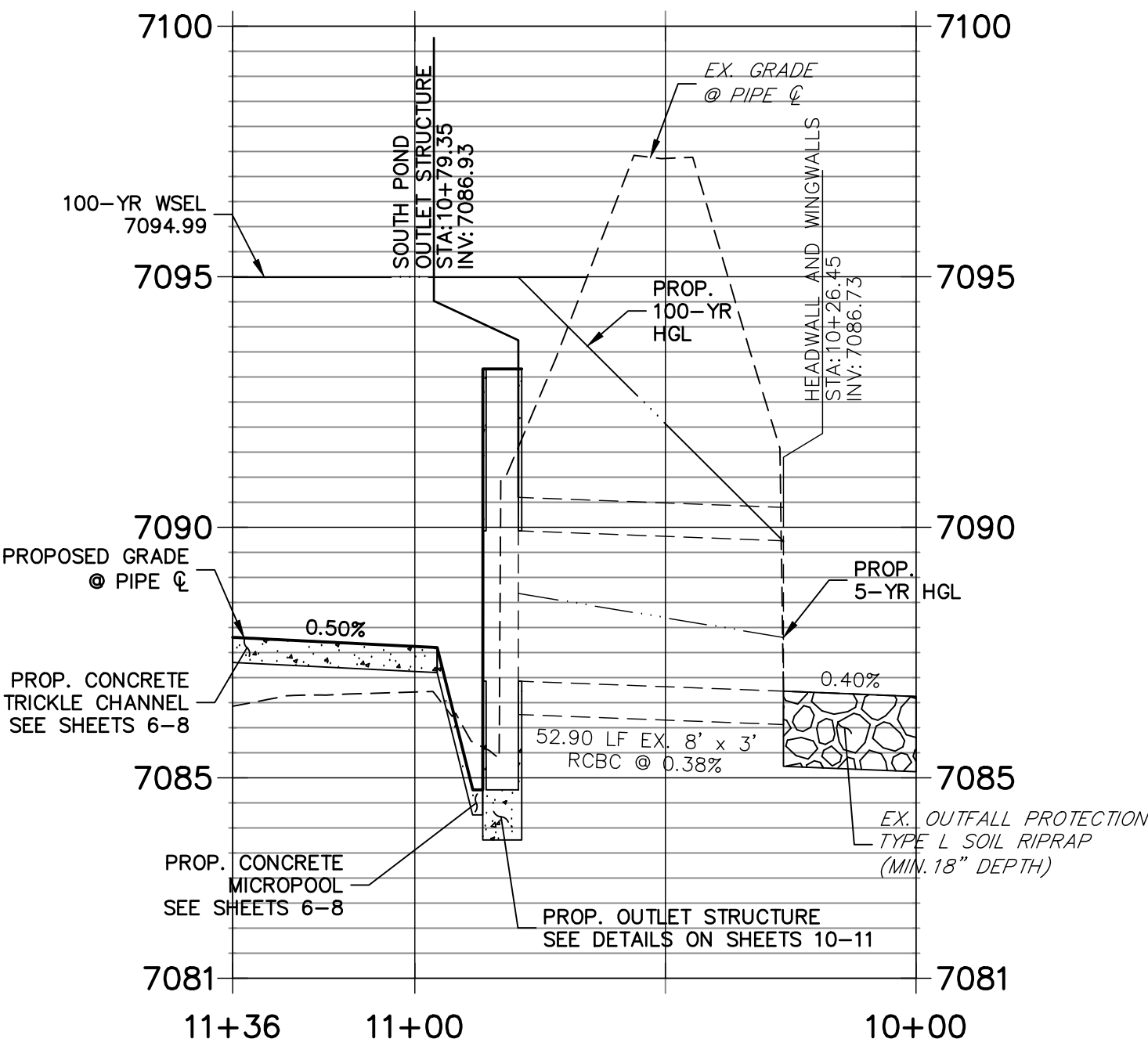
**SOUTH POND MAINTENANCE ACCESS CULVERT**

**DP03 PROFILE  
STA 10+00.00 TO 11+05.74**

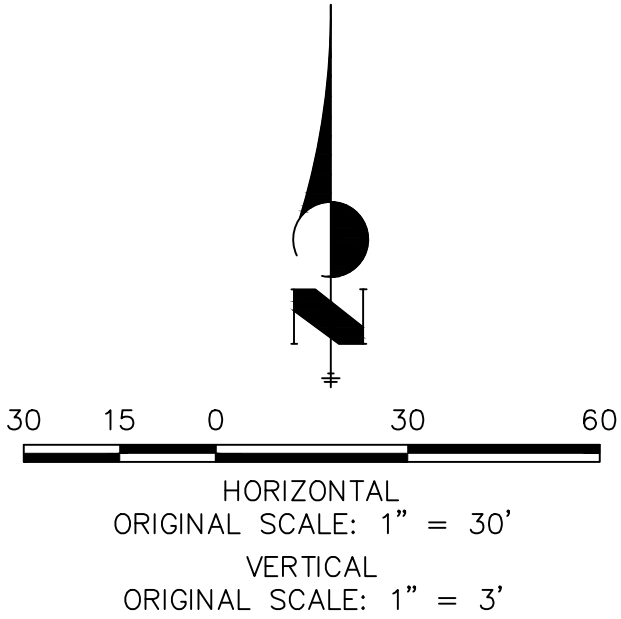


**SOUTH POND OUTFALL**

**SOUTH POND OUTFALL PROFILE  
STA 10+00.00 TO 11+36.33**



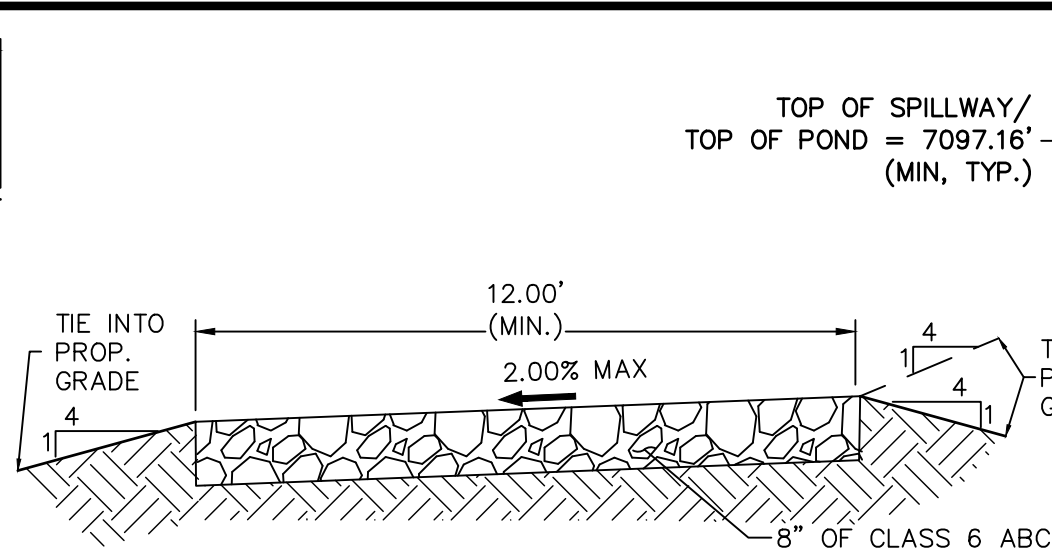
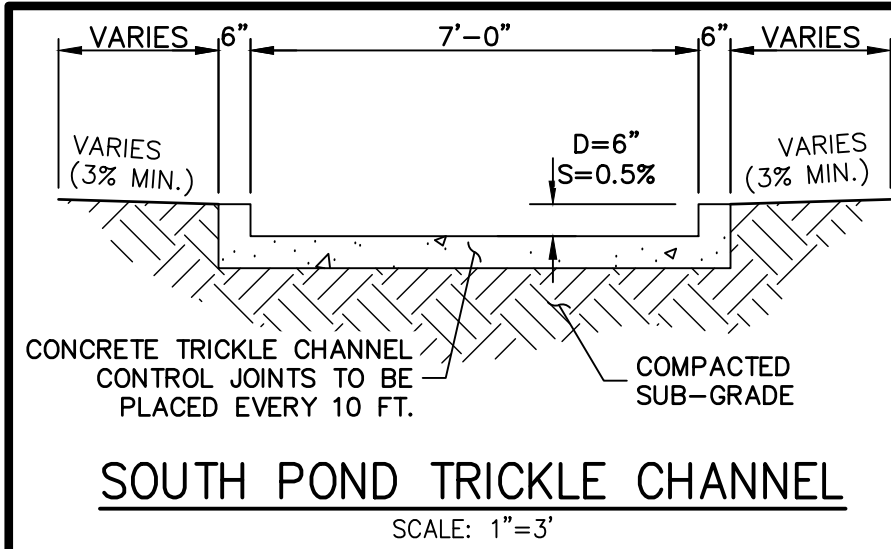
- NOTES**
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**ENGINEER'S STATEMENT**  
PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING  
*Bryan T. Law*  
BRYAN T. LAW, P.E.  
COLORADO P.E. 25043  
FOR AND ON BEHALF OF JR ENGINEERING, LLC  
DATE 09/09/22

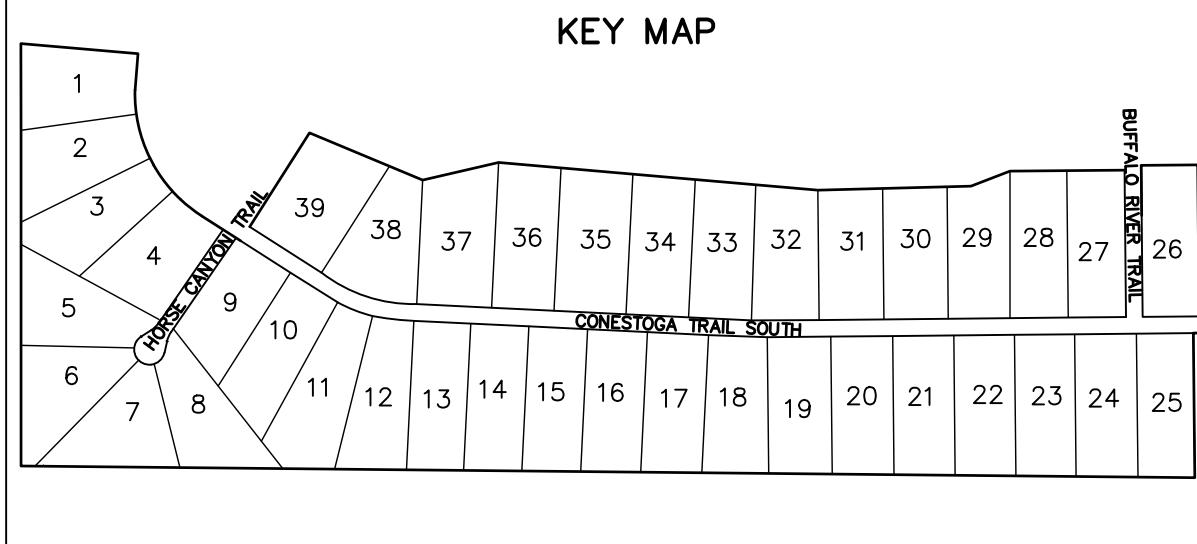
LATIGO TRAILS – FILING NO. 9		SHEET 5 OF 17	
		JOB NO. 25175.02	
STORM SEWER PLAN AND PROFILE		DESIGNED BY SAV	
		DRAWN BY SAV	
		CHECKED BY	
		DATE 09/07/22	
		V-SCALE 1" = 3'	
		H-SCALE 1" = 30'	
		No. REVISION	
		BY DATE	
</			





SOUTH POND EMERGENCY SPILLWAY

SCALE: 1"=10'



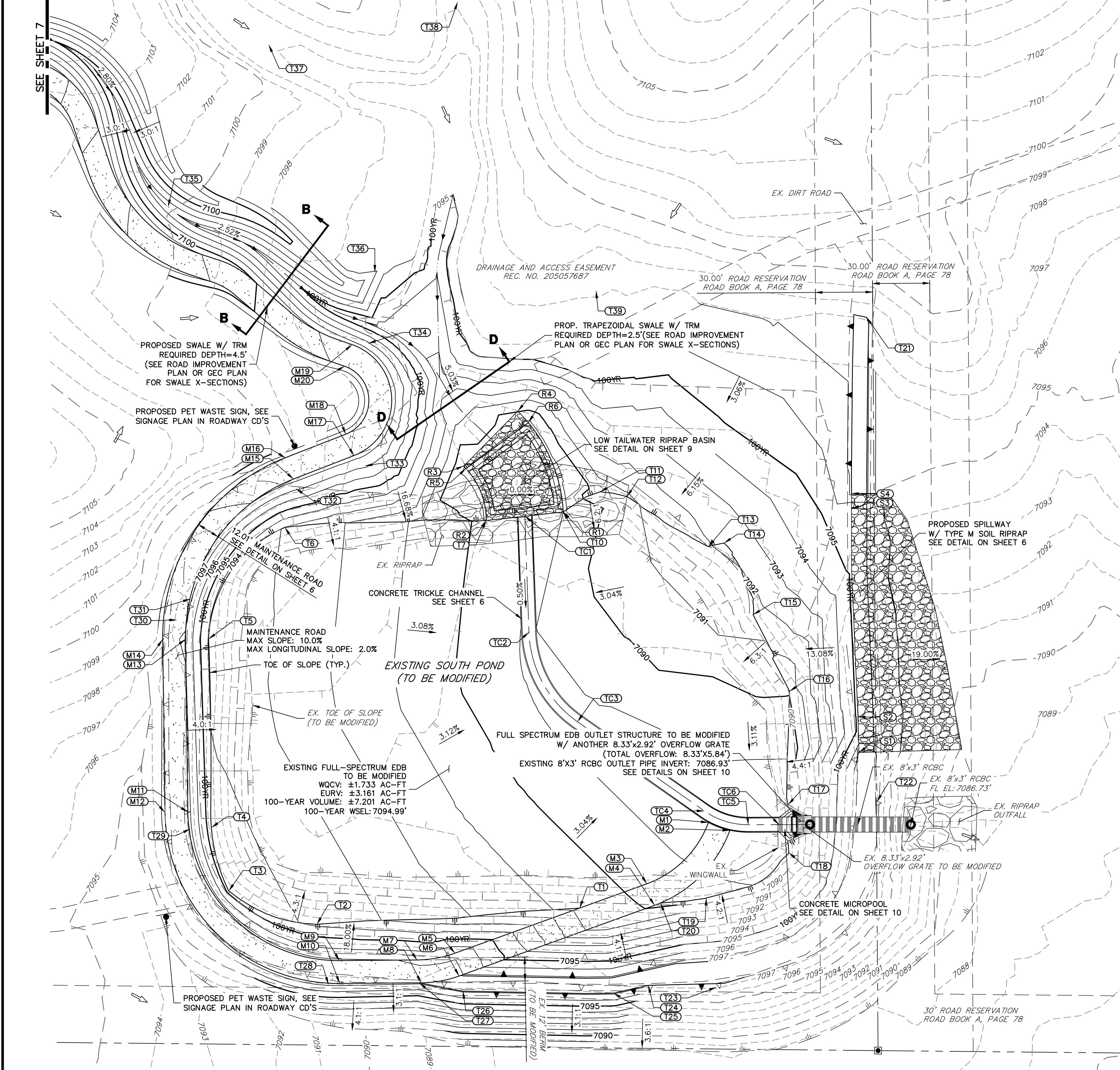
N. T. S.

12' GRAVEL MAINTENANCE ACCESS ROAD TYPICAL SECTION

N.T.S.

NOTES

1. ALL PROPOSED POND IMPROVEMENTS ARE PRIVATE UNLESS OTHERWISE NOTED.
2. SEE SHEETS 3-5 FOR PROPOSED STORM SEWER DESIGN.



POINT TABULATION			
ID NO.	DESCRIPTION	NORTHING/EASTING	ELEVATION
M1	MAINT. ROAD	N: 22126.60 E: 16583.37	7088.28
M2	MAINT. ROAD	N: 22122.43 E: 16594.62	7088.23
M3	MAINT. ROAD	N: 22094.40 E: 16551.04	7089.66
M4	MAINT. ROAD	N: 22083.12 E: 16555.12	7089.85
M5	MAINT. ROAD	N: 22057.99 E: 16450.42	7096.85
M6	MAINT. ROAD	N: 22046.01 E: 16452.57	7097.16
M7	MAINT. ROAD	N: 22054.41 E: 16430.48	7096.95
M8	MAINT. ROAD	N: 22042.43 E: 16432.63	7097.17
M9	MAINT. ROAD	N: 22054.09 E: 16389.81	7097.15
M10	MAINT. ROAD	N: 22042.09 E: 16389.91	7097.37
M11	MAINT. ROAD	N: 22132.06 E: 16310.20	7097.36
M12	MAINT. ROAD	N: 22131.91 E: 16298.20	7097.58
M13	MAINT. ROAD	N: 22222.75 E: 16309.02	7096.94
M14	MAINT. ROAD	N: 22222.59 E: 16297.02	7097.16
M15	MAINT. ROAD	N: 22306.84 E: 16365.73	7098.34
M16	MAINT. ROAD	N: 22318.03 E: 16361.38	7098.56
M17	MAINT. ROAD	N: 22319.19 E: 16397.45	7098.40
M18	MAINT. ROAD	N: 22330.37 E: 16393.10	7098.66
M19	MAINT. ROAD	N: 22377.36 E: 16396.40	7098.56
M20	MAINT. ROAD	N: 22366.02 E: 16392.46	7098.79
R1	RIPRAP LOW TAILWTR	N: 22289.59 E: 16507.16	7088.79
R2	RIPRAP LOW TAILWTR	N: 22285.12 E: 16466.78	7088.79
R3	RIPRAP LOW TAILWTR	N: 22313.58 E: 16454.91	7089.10
R4	RIPRAP LOW TAILWTR	N: 22342.46 E: 16483.31	7090.07
R5	EDGE OF RIPRAP	N: 22312.30 E: 16456.15	7088.79
R6	EDGE OF RIPRAP	N: 22336.41 E: 16488.86	7088.79
S1	SPILLWAY	N: 22163.26 E: 16662.35	7097.16
S2	SPILLWAY	N: 22181.99 E: 16661.78	7095.16
S3	SPILLWAY	N: 22291.30 E: 16658.42	7095.16
S4	SPILLWAY	N: 22299.30 E: 16658.41	7097.16
T1	TOE	N: 22081.64 E: 16515.77	7090.68
T2	TOE	N: 22073.12 E: 16377.87	7093.80
T3	TOE	N: 22090.65 E: 16331.62	7094.64
T4	TOE	N: 22123.93 E: 16322.51	7094.44
T5	TOE	N: 22222.90 E: 16321.08	7093.92
T6	TOE	N: 22281.40 E: 16361.05	7092.95
T7	TOE	N: 22285.12 E: 16466.78	7088.79

POINT TABULATION			
ID NO.	DESCRIPTION	NORTHING/EASTING	ELEVATION
T10	TOE	N: 22289.59 E: 16507.16	7088.79
T11	TOE	N: 22300.12 E: 16526.49	7090.43
T12	TOE	N: 22297.63 E: 16540.60	7090.83
T13	TOE	N: 22271.43 E: 16583.36	7091.95
T14	TOE	N: 22273.27 E: 16591.56	7092.20
T15	TOE	N: 22235.64 E: 16606.76	7091.58
T16	TOE	N: 22195.40 E: 16625.90	7090.07
T17	TOE	N: 22135.88 E: 16625.10	7088.27
T18	TOE	N: 22110.76 E: 16625.53	7088.40
T19	TOE	N: 22086.91 E: 16582.29	7089.36
T20	TOE	N: 22084.31 E: 16558.17	7089.76
T21	TOP	N: 22391.67 E: 16666.35	7097.16
T22	TOP	N: 22137.42 E: 16671.65	7097.16
T23	TOP	N: 22040.11 E: 16587.52	7097.16
T24	TOP	N: 22041.09 E: 16551.73	7097.16
T25	TOP	N: 22037.00 E: 16533.48	7097.16
T26	TOP	N: 22038.06 E: 16454.48	7097.16
T27	TOP	N: 22042.38 E: 16431.60	7097.16
T28	TOP	N: 22041.55 E: 16384.06	7097.16
T29	TOP	N: 22123.18 E: 16311.59	7097.16
T30	TOP	N: 22232.92 E: 16304.37	7097.16
T31	TOP	N: 22243.95 E: 16311.59	7097.16
T32	TOP	N: 22301.80 E: 16366.87	7097.16
T33	TOP	N: 22313.77 E: 16403.15	7097.16
T34	TOP	N: 22377.99 E: 16404.85	7097.16
T35	TOP	N: 22449.66 E: 16299.83	7097.16
T36	TOP	N: 22415.26 E: 16408.41	7097.16
T37	TOP	N: 22534.71 E: 16352.63	7097.16
T38	TOP	N: 22557.13 E: 16451.79	7097.16
T39	TOP	N: 22405.59 E: 16524.32	7097.16
TC1	TRICKLE CHANNEL	N: 22287.36 E: 16486.99	7088.79
TC2	TRICKLE CHANNEL	N: 22226.40 E: 16489.16	7088.49
TC3	TRICKLE CHANNEL	N: 22179.45 E: 16514.61	7088.21
TC4	TRICKLE CHANNEL	N: 22132.66 E: 16581.16	7087.80
TC5	TRICKLE CHANNEL	N: 22125.38 E: 16604.32	7087.68
TC6	TRICKLE CHANNEL	N: 22125.44 E: 16620.43	7087.60

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

BRYAN T. LAW, P.E.  
COLORADO P.E. 25043  
FOR AND ON BEHALF OF JR ENGINEERING, LLC

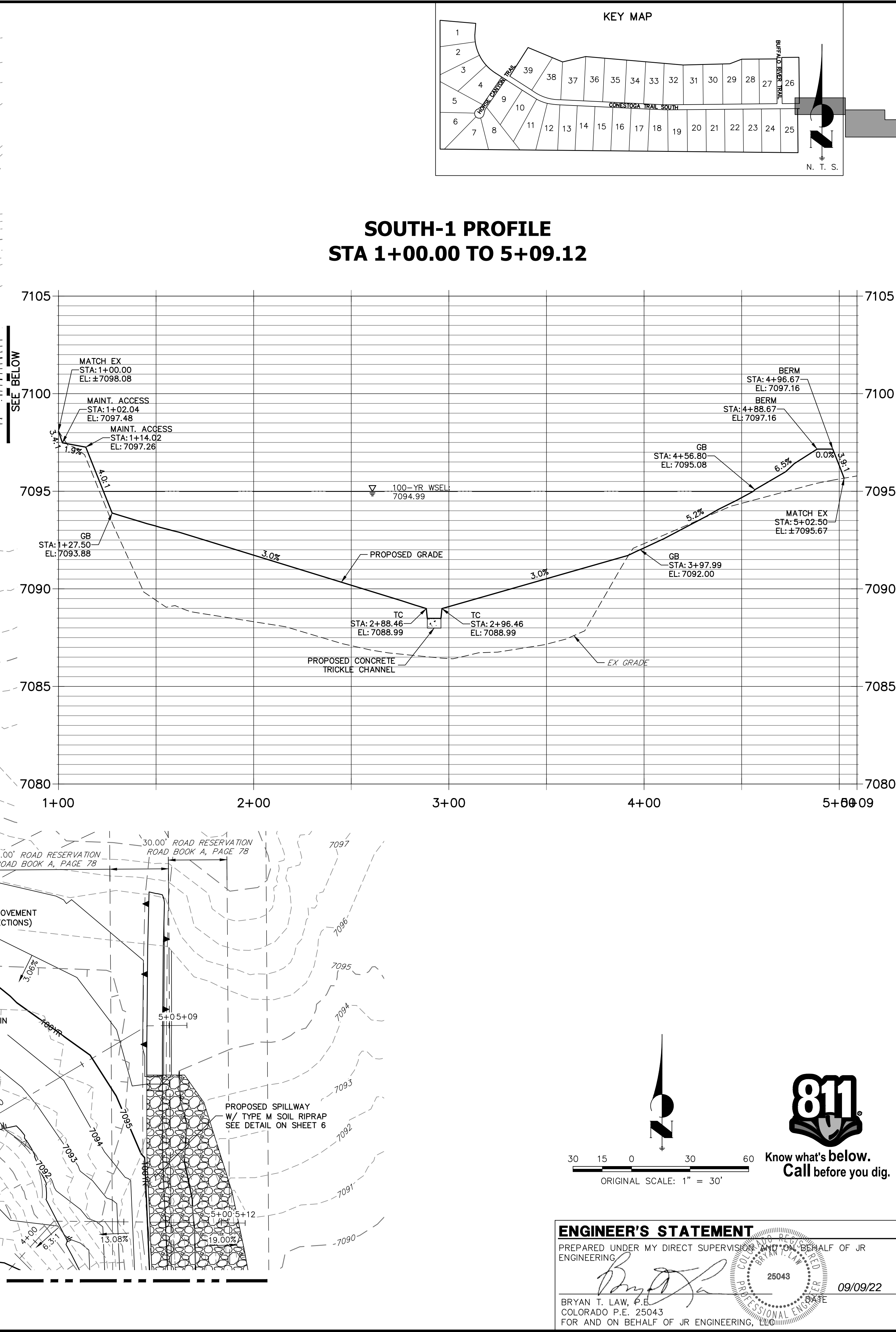
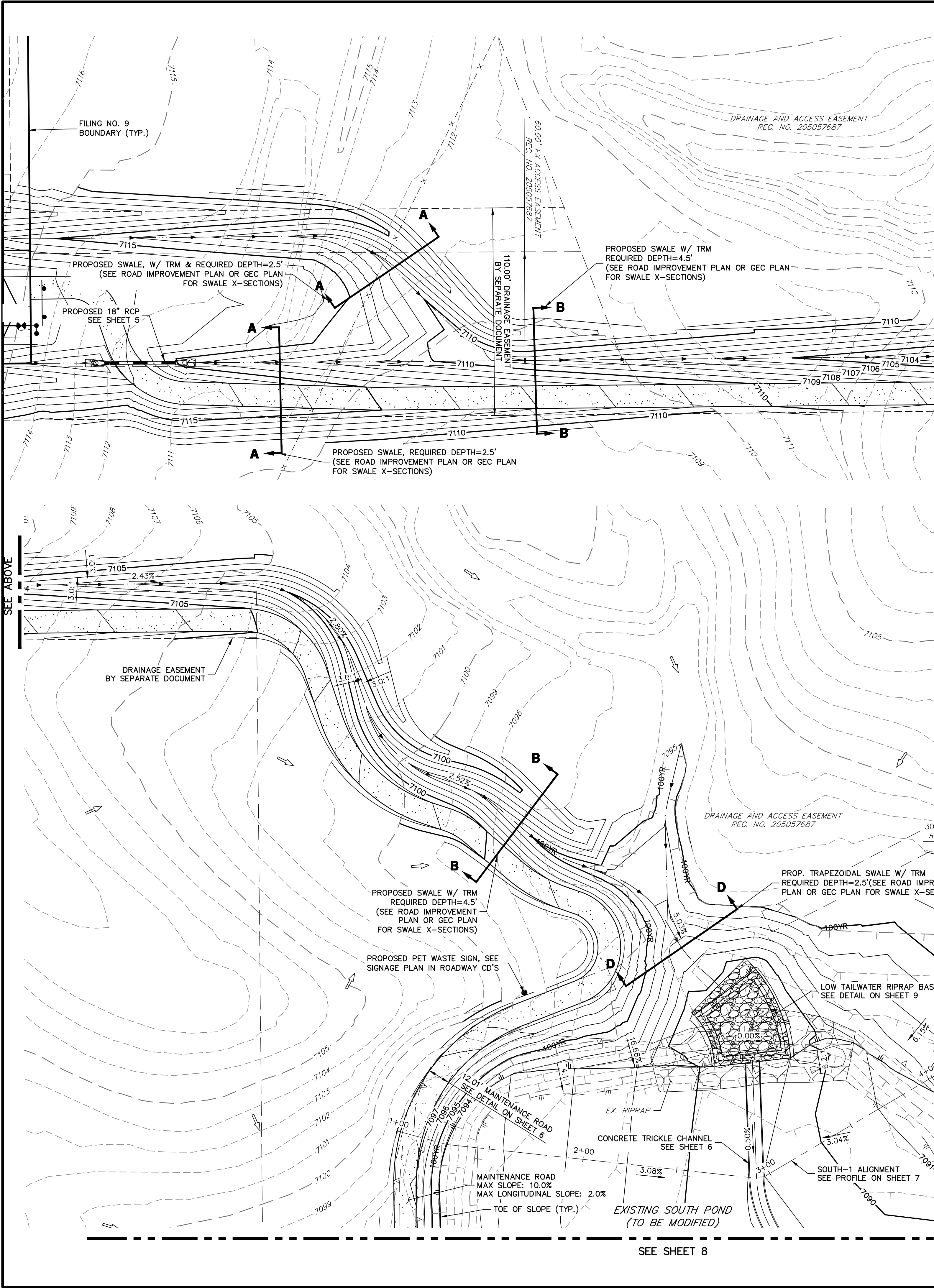
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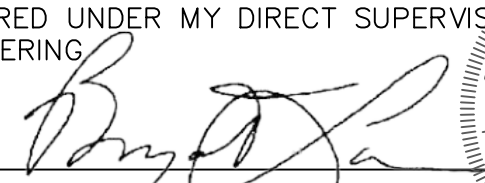
9  
SOUTH POND PLANS


SHEET 6 OF 17  
JOB NO. 25175.02





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<b>J.R. ENGINEERING</b> A Westman Company  Central 303-740-9888 • Colorado Springs 719-583-2583 Fort Collins 970-491-9888 • www.jrengineering.com	
BY	DATE
No.	REVISION
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V-SCALE	N/A
DATE	09/07/22
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SHEET	7 OF 17
JOB NO.	25175.02

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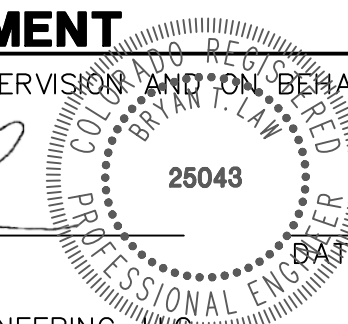






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SOUTH POND PLANS

JOB NO. 25175.02

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V-SCALE	3/8"=1'				
DATE	09/07/22				
DESIGNED BY	GAG				
DRAWN BY	GAG				

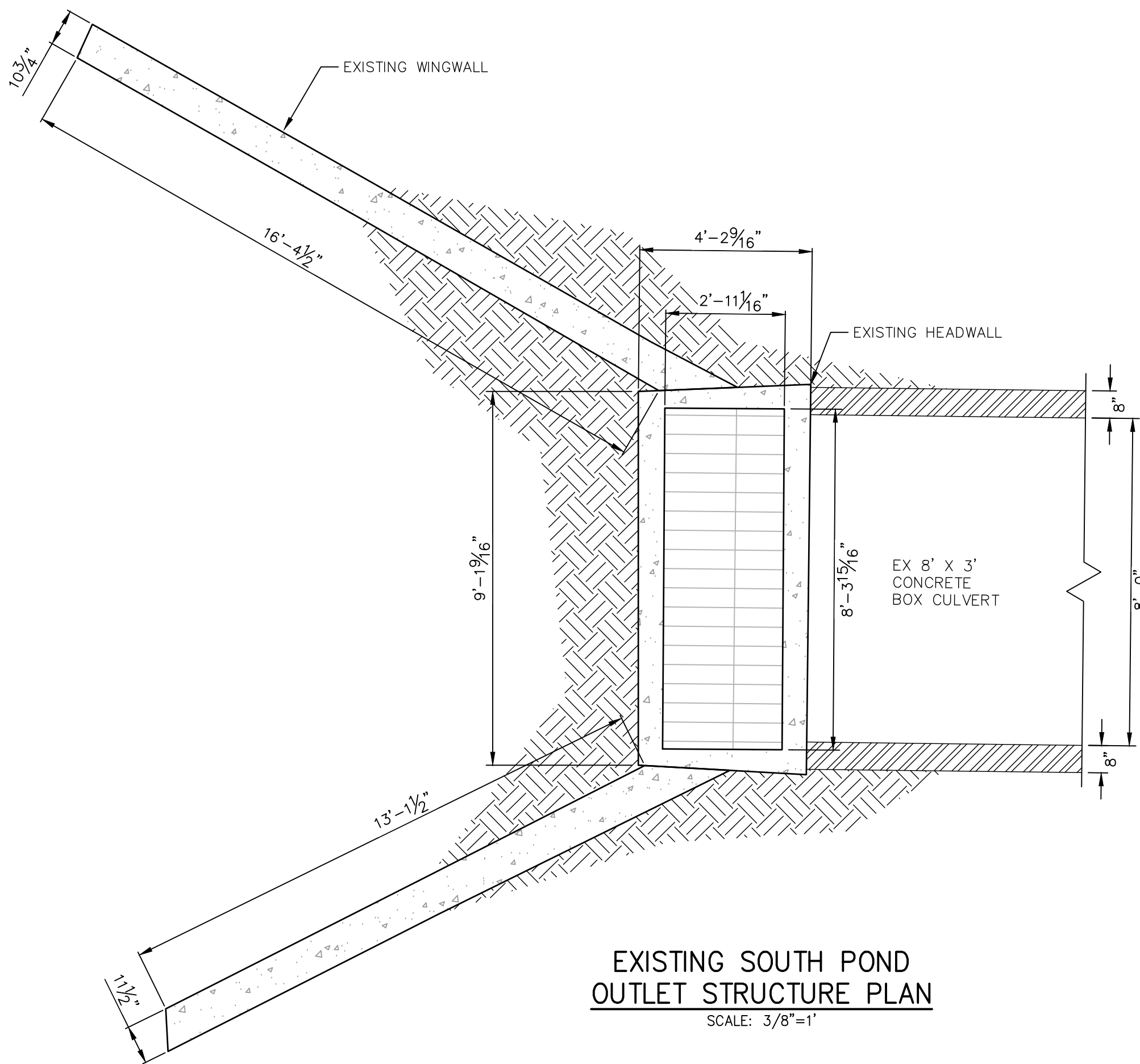
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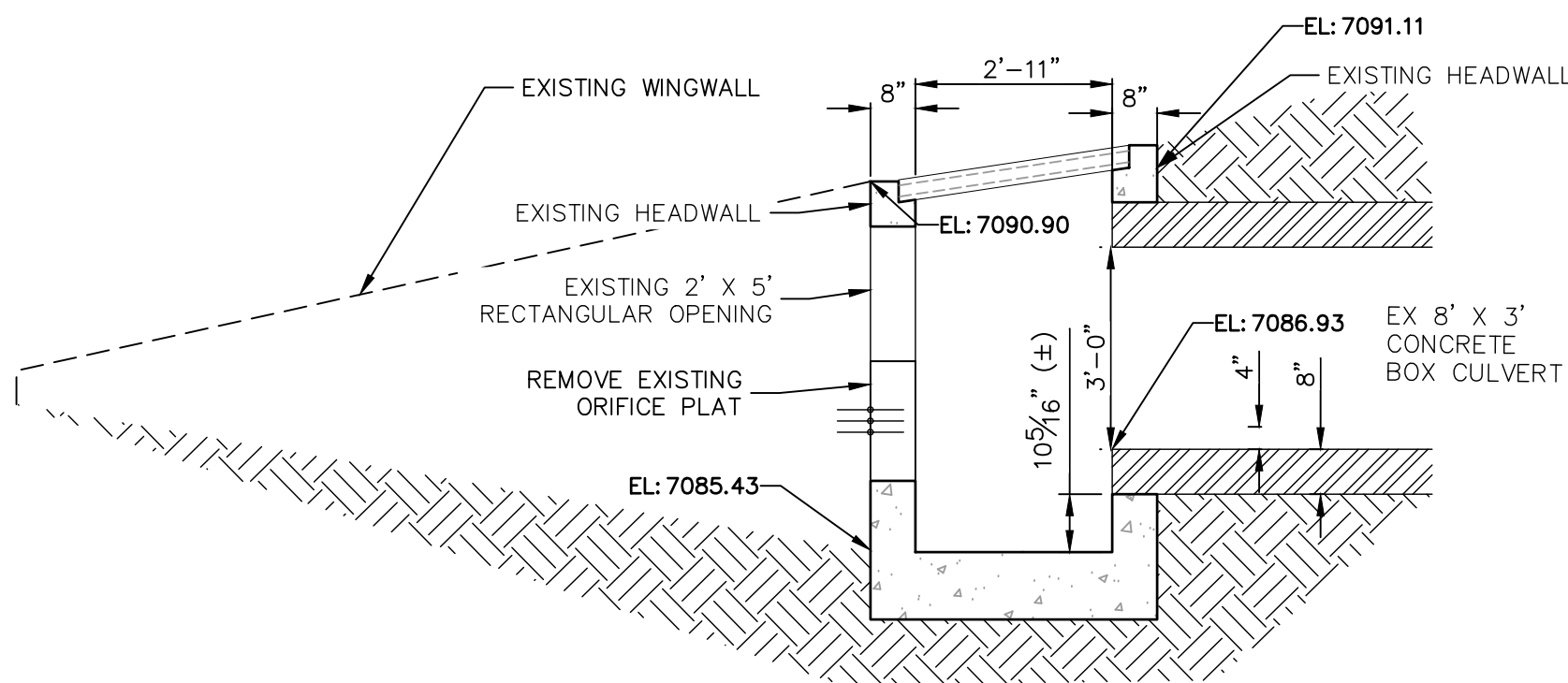


EXISTING OUTLET STRUCTURE



EXISTING SOUTH POND  
OUTLET STRUCTURE PLAN

SCALE: 3/8"=1'



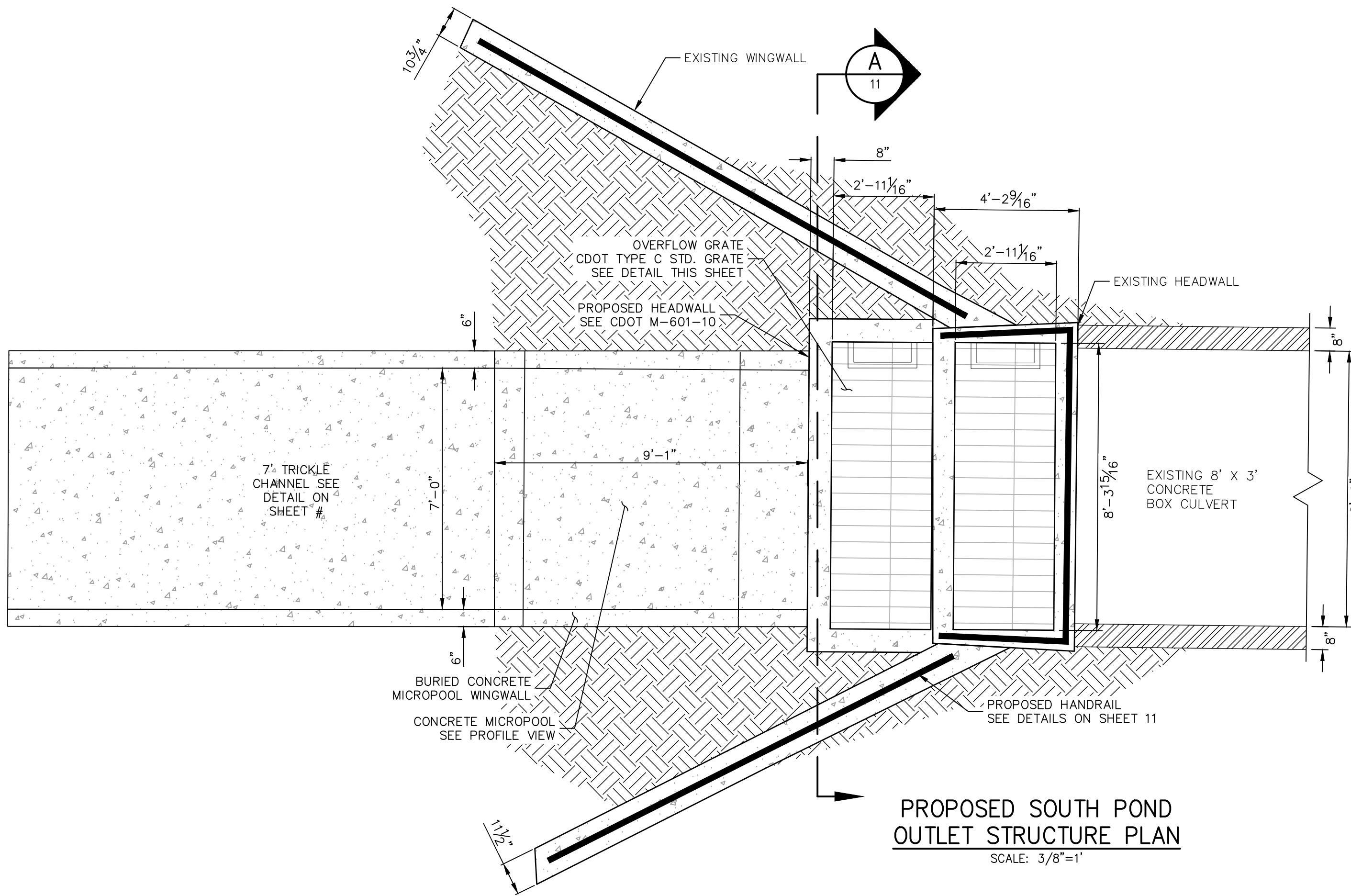
EXISTING SOUTH POND  
OUTLET STRUCTURE PROFILE

SCALE: 3/8"=1'

**SOUTH POND OUTLET STRUCTURE PLATE AND GRADING NOTES:**

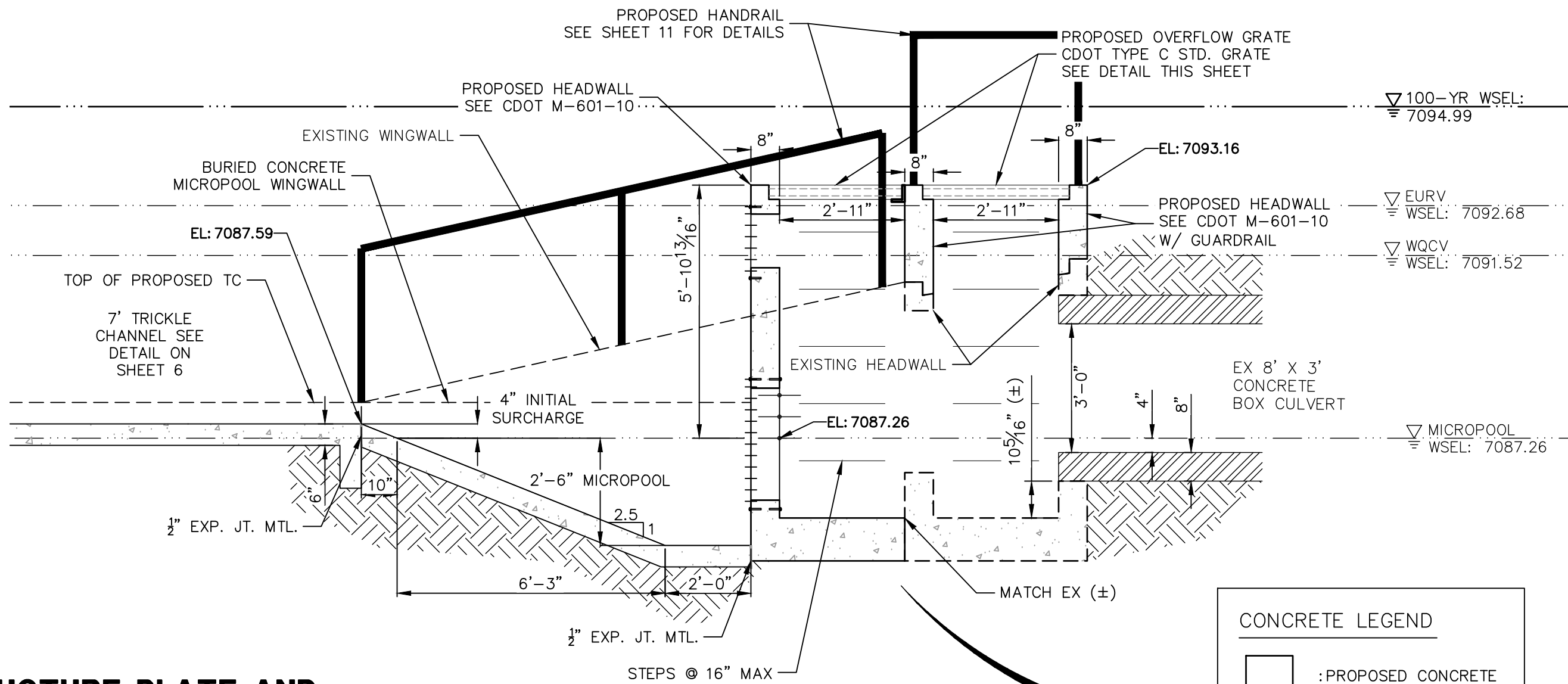
- ORIFICE PLATE:**
1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
  2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER.
- TRASH RACKS:**
3. TRASH RACKS SHALL BE 1 1/4" SCH.40 STEEL PIPE, GALVANIZED, @ 6" CENTERS. SUPPORT BARS SHALL BE 1/2"x2" STEEL RECTANGULAR BARS, GALVANIZED, @ 36". ALL TRASH RACKS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE.
  4. REMOVABLE TRASH RACK SECTIONS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED & LOCKABLE OR BOLTABLE ACCESS PANELS AS SHOWN ON THE PLANS.
  5. STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
  6. STRUCTURAL STEEL FOR GRATES, ORIFICE PLATES, AND BARS SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH CDOT STANDARD SPECIFICATIONS, SUBSECTION 712.06.
  7. ALL HARDWARE, BOLTS, AND FASTENERS SHALL BE STAINLESS STEEL.
  8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PLATES AND GRATING FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.
- STRUCTURAL:**
9. FOR GENERAL STRUCTURE AND REINFORCEMENT NOTES SEE SHEET 16

PROPOSED OUTLET STRUCTURE



PROPOSED SOUTH POND  
OUTLET STRUCTURE PLAN

SCALE: 3/8"=1'



PROPOSED SOUTH POND  
OUTLET STRUCTURE PROFILE

SCALE: 3/8"=1'

CONCRETE LEGEND	
	: PROPOSED CONCRETE
	: EXISTING CONCRETE
LEGEND ONLY PERTAINS TO THIS DETAIL	



**ENGINEER'S STATEMENT**

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

BRYAN T. LAW, P.E.  
COLORADO P.E. 25043  
FOR AND ON BEHALF OF JR ENGINEERING, LLC

09/09/22

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SOUTH POND PLANS

SHEET 10 OF 17

JOB NO. 25175.02

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A Western Company



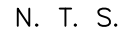
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DESIGNATED BY WRITTEN  
AUTHORIZATION.









T1	TOE	N: 22115.02 E: 11567.16	7176.12
T2	TOE	N: 22179.80 E: 11635.94	7177.8
T3	TOE	N: 22197.64 E: 11659.87	7177.55
T4	TOE	N: 22209.52 E: 11667.16	7177.30
T5	TOE	N: 22212.42 E: 11666.97	7177.30
T6	TOE	N: 22216.05 E: 11668.81	7177.24
T7	TOE	N: 22217.43 E: 11673.00	7177.02

T24	TOP	N: 22193.57 E: 11597.89	7181.50
T25	TOP	N: 22202.78 E: 11614.12	7181.50
T26	TOP	N: 22205.55 E: 11627.82	7181.50
T27	TOE	N: 22207.59 E: 11632.15	7181.50
T28	TOP	N: 22217.72 E: 11644.60	7181.50
T29	TOP	N: 22237.39 E: 11667.10	7181.89
T30	TOP	N: 22233.34 E: 11672.22	7181.50

1. ALL PROPOSED POND IMPROVEMENTS ARE PRIVATE UNLESS OTHERWISE NOTED.
2. SEE SHEETS 3-5 FOR PROPOSED STORM SEWER DESIGN.



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ENT  
DIVISION AND ON BEHALF  
BRYANT I. LAW  
25043  
PROFESSIONAL ENGINEER  
CASE  
ENGINEERING, LLC

09/09/22

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12 OF 17

JOB NO. 25175.02

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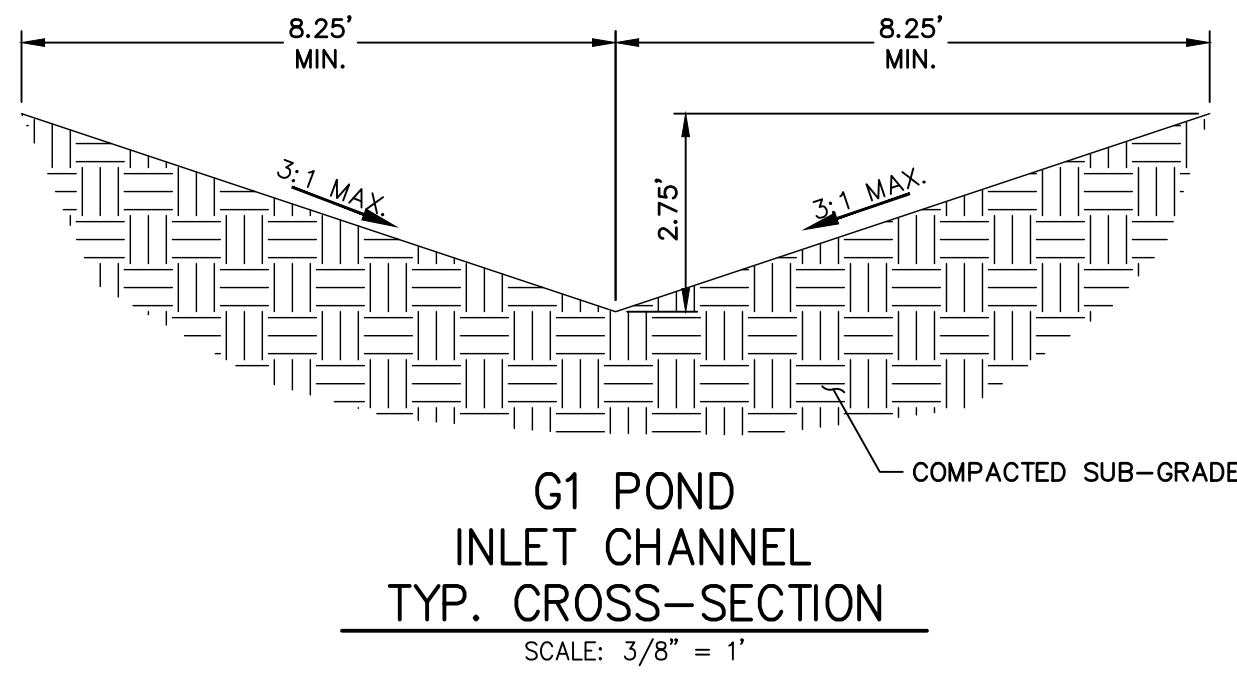
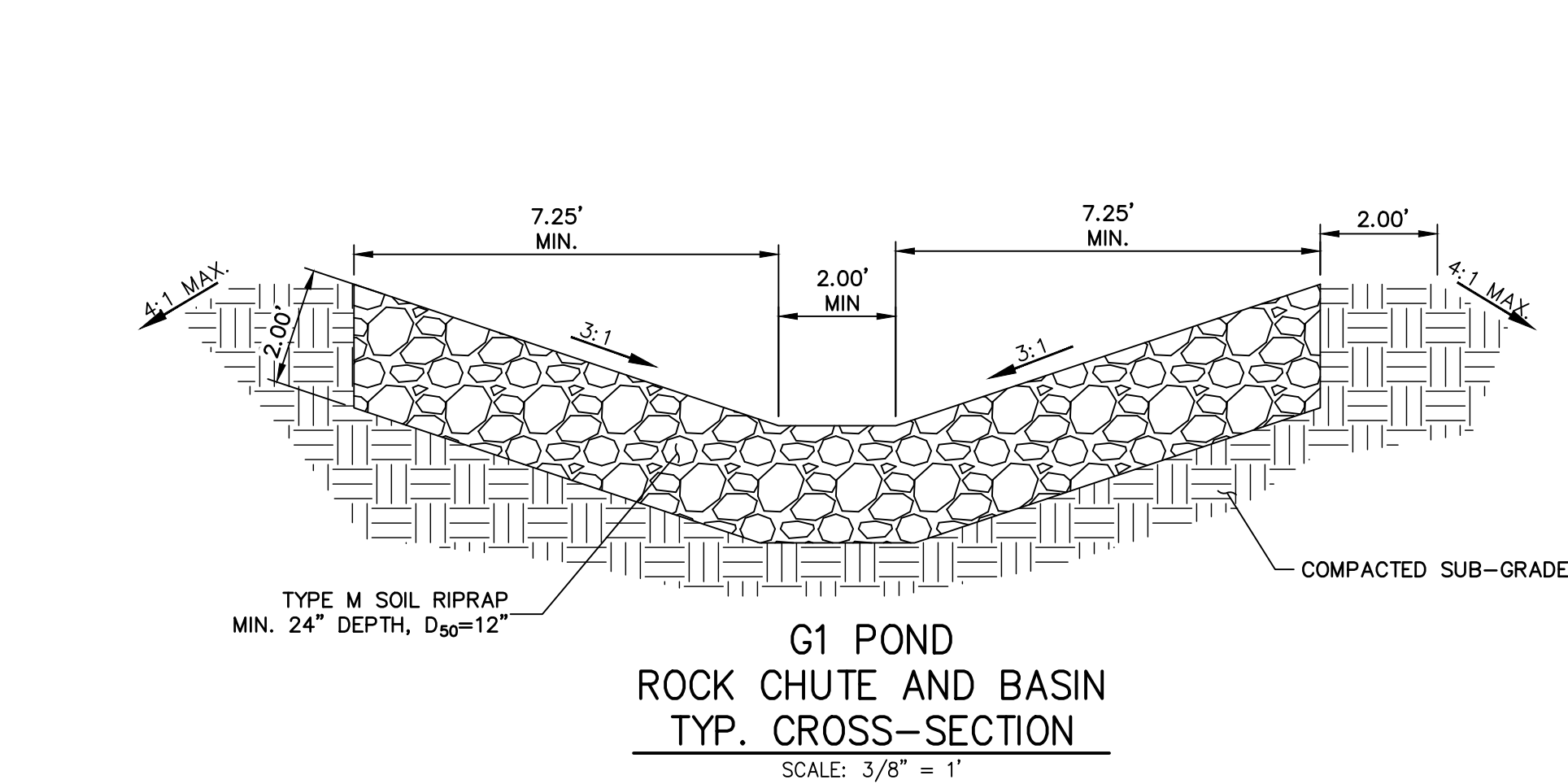
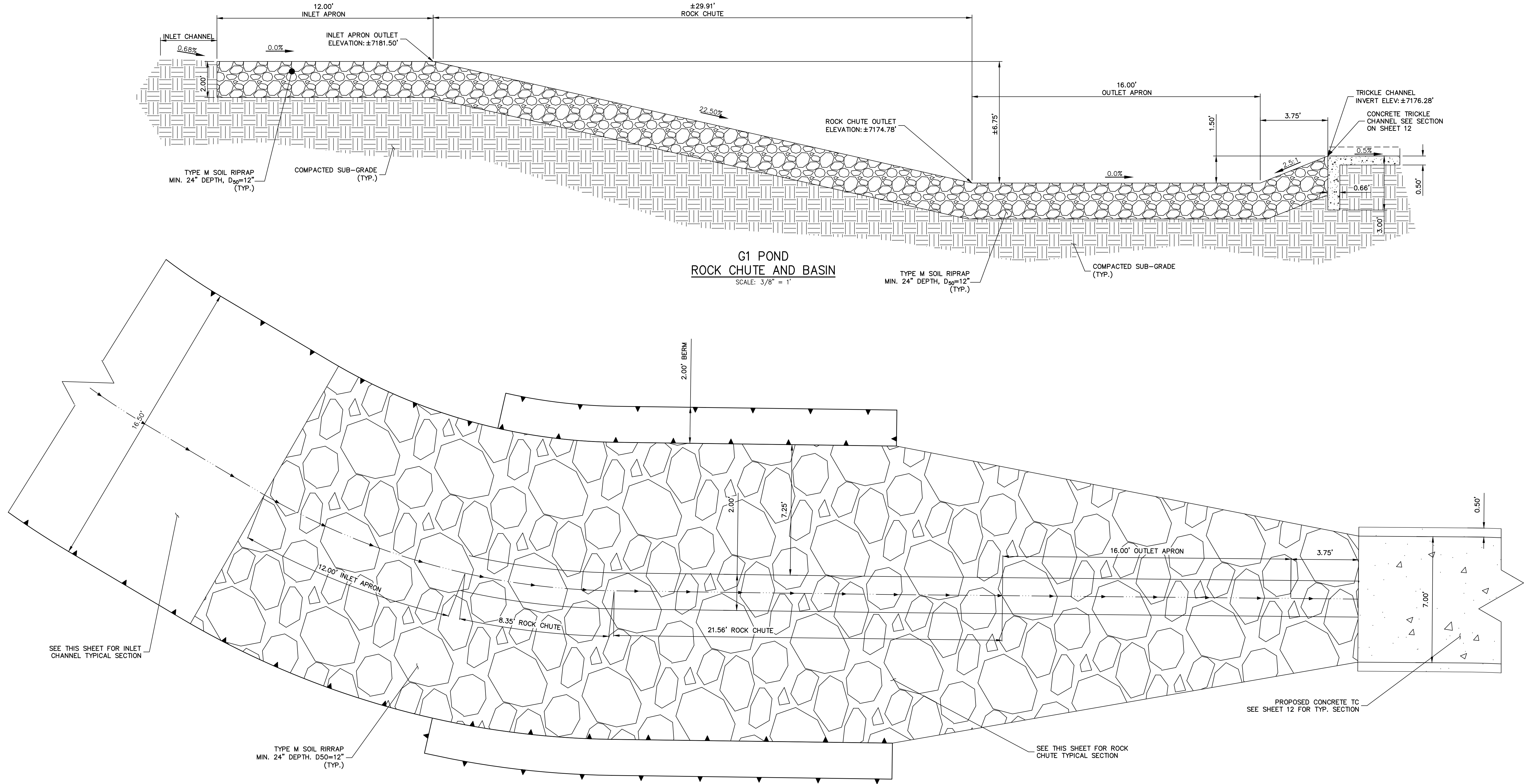
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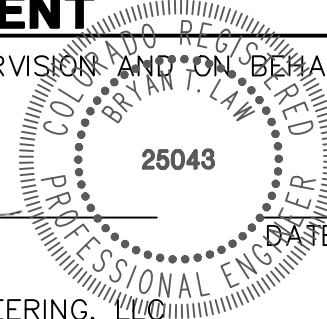




ENGINEER'S STATEMENT

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BRYAN T. LAW, P.E.  
COLORADO P.E. 25043  
FOR AND ON BEHALF OF JR ENGINEERING, LLC



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G1 POND PLANS

SHEET 14 OF 17

JOB NO. 25175.02

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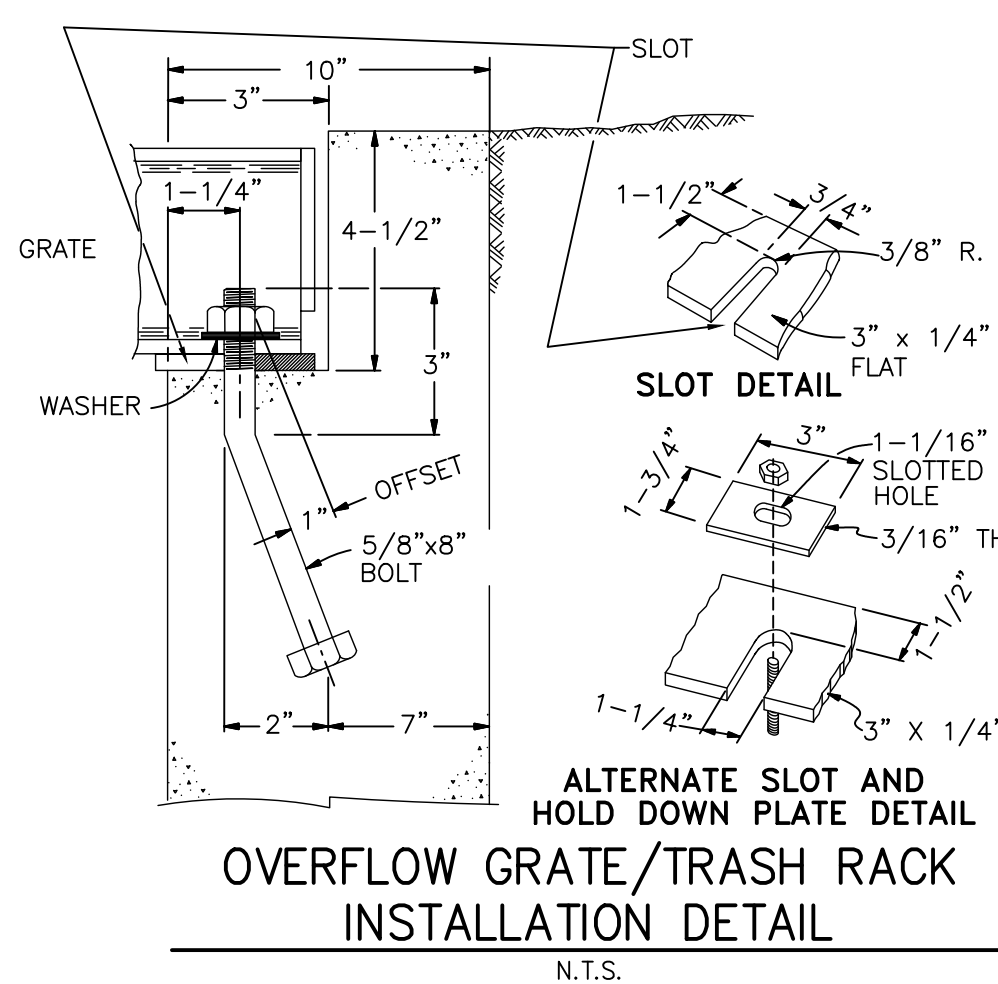
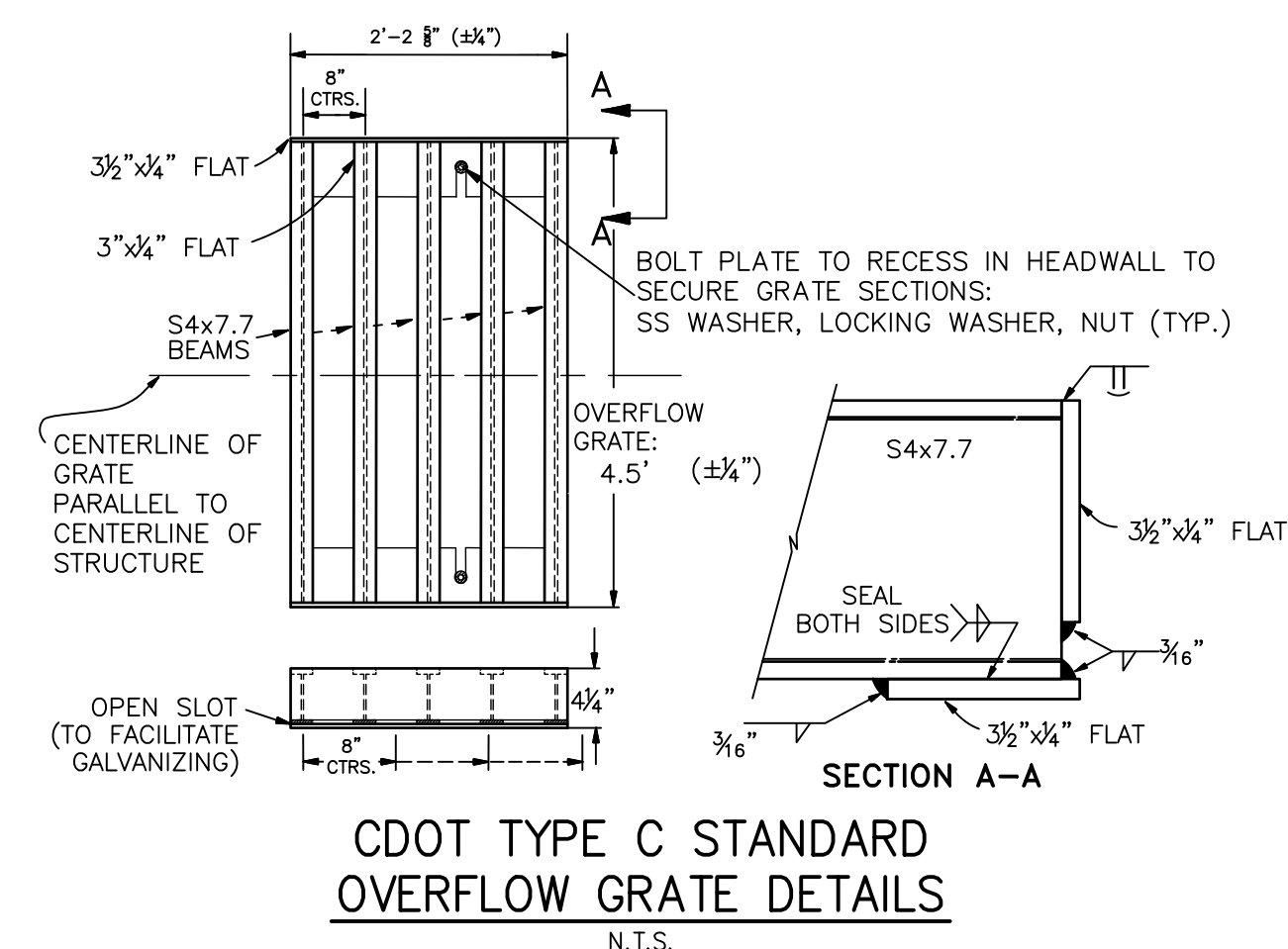
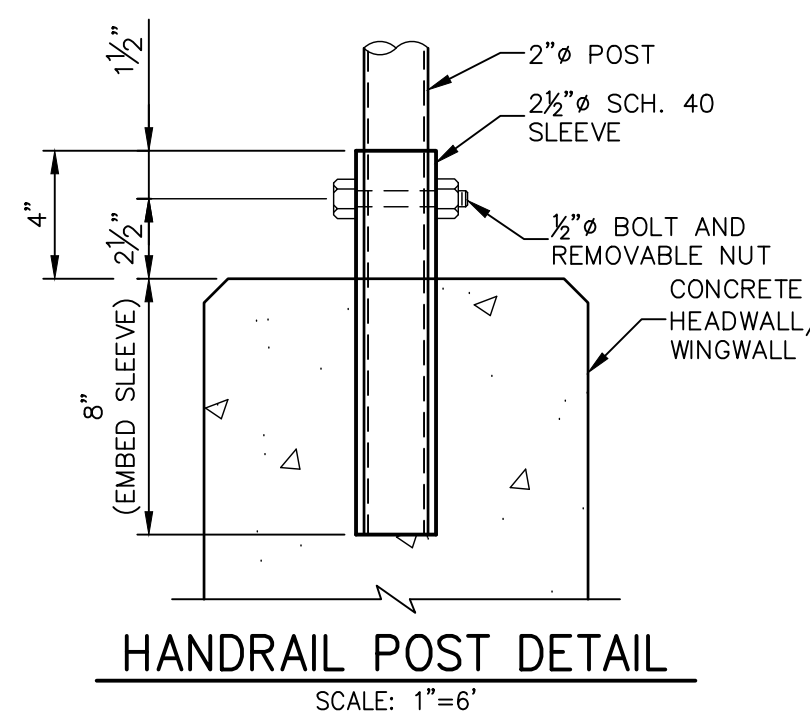
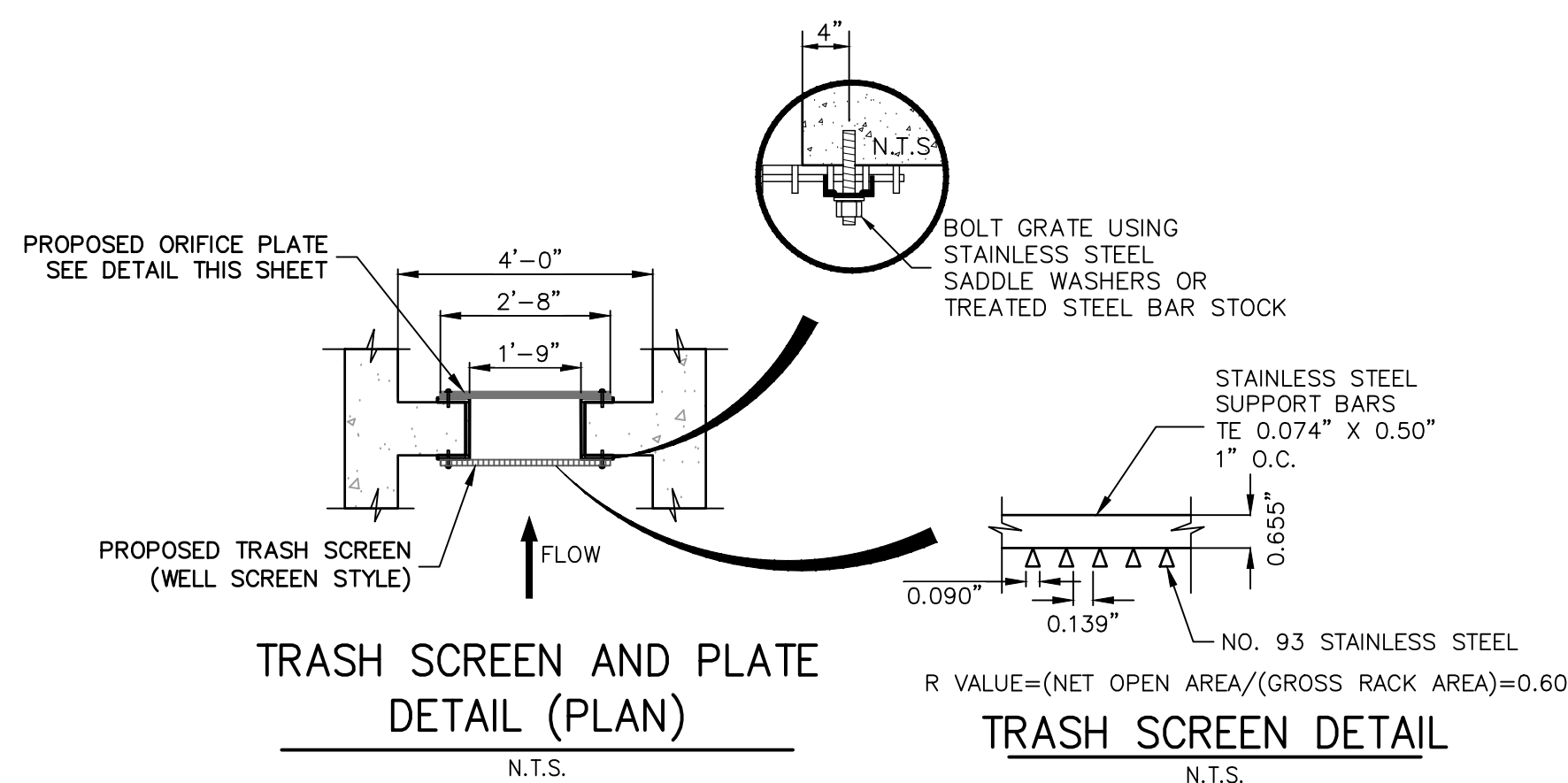
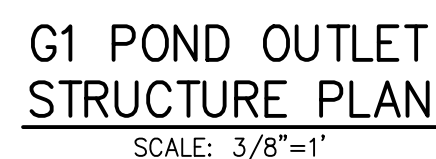
H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
		09/07/22	GAG	GAG	

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AUTHORIZATION.





**ORIFICE PLATE:**

1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE AND BETWEEN THE RESTRICTOR PLATE AND CONCRETE.
2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER.

**TRASH RACKS:**

3. TRASH RACKS SHALL BE 1½" SCH.40 STEEL PIPE, GALVANIZED, @ 6" CENTERS. SUPPORT BARS SHALL BE ½"x2" STEEL RECTANGULAR BARS, GALVANIZED, @ 36". ALL TRASH RACKS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE.
4. REMOVABLE TRASH RACK SECTIONS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE PROVIDED WITH HINGED & LOCKABLE OR BOLTABLE ACCESS PANELS AS SHOWN ON THE PLANS.
5. STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
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7. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PLATES AND GRATING FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.

**STRUCTURE:**

9. FOR GENERAL STRUCTURE AND REINFORCEMENT NOTES SEE SHEET 16

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ENGINEERING

*Bryan T. Law*

25043

09/09/2012

BRYAN T. LAW, P.E.  
COLORADO P.E. 25043  
FOR AND ON BEHALF OF JR ENGINEERING, LLC

25043

09/09/2012

PROFESSIONAL ENGINEER

SHEET 15 OF 17
JOB NO. 25175.02

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GENERAL STRUCTURE NOTES:

ALL WORK SHALL BE DONE IN ACCORDANCE WITH CITY OR COUNTY STANDARD CONSTRUCTION SPECIFICATIONS. EXCEPT AS SHOWN IN THE PLANS, STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH CDOT M-206-1, AND M-206-2 EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213

THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO A 1-800-922-1987 AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OF OTHER.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING AND PROVIDING ALL BRACING AND SHORING AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE EXCAVATION PROCEDURES INCLUDING ANY SHORING REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL METHODS AND MEANS OF CONSTRUCTION AS WELL AS ALL JOB SITE SAFETY & HEALTH PRECAUTIONS.

ALL SOILS WORK INCLUDING (BUT NOT LIMITED TO) PIER DRILLING AND CONSTRUCTION, SOILS EXCAVATION, FILL PLACEMENT, AND STRUCTURE BACKFILL SHALL BE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT, UNLESS MORE STRINGENT REQUIREMENTS ARE PRINTED ON THE "IRRIGATION NOTES".

BACKFILL SHALL NOT BEGIN UNTIL CONCRETE WALLS REACH COMPRESSION STRENGTH AT LEAST 80 PERCENT OF THE REQUIRED 28 DAY STRENGTH, 0.8fc'.

REINFORCED CONCRETE:  
CLASS D CONCRETE: fc'=4,500 psi  
REINFORCING STEEL: fy=60,000 psi  
ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS D UNLESS NOTED OTHERWISE.

REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 U.N.O.  
REINFORCING BARS TO BE WELDED SHALL CONFORM TO ASTM A706, GRADE 60.  
ALL REINFORCING, EXCEPT PIER REINFORCING, SHALL BE EPOXY COATED AND SHALL CONFORM TO ASTM A775.  
ALL REINFORCING SHALL HAVE 2" CONCRETE COVER, U.N.O. ON PLANS, 3" AGAINST GROUND (BOTTOM SLAB)  
ALL REINFORCING SHALL BE HOOKED AROUND CORNERS AND LAPPED, SEE DETAILS.  
ALL LAP SPLICE LOCATIONS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

THE FOLLOWING TABLE GIVES THE MINIMUM CLASS B (STAGGERED) LAP SPLICE LENGTH FOR EPOXY COATED REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER, INCREASED BY 40% FOR HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE BELOW (TOP BARS.), AND INCREASED BY 75% IF BOTH CONDITIONS EXIST. THE INCREASES ABOVE FOR #6 THRU #11 BARS MAY BE 25%, 13%, AND 42% RESPECTIVELY.

#4	1'-3"	#5	1'-7"
#6	2'-5"	#7	2'-10"
#8	3'-8"	#9	4'-8"
#10	5'-11"	#11	7'-3"

WHEN THE CONTRACTOR ELECTS TO SUBSTITUTE EPOXY COATED REINFORCEMENT FOR BLACK REINFORCING BARS. THE MINIMUM LAP SPLICE SHALL BE AS DESCRIBED ABOVE.

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

THE CONTRACTOR SHALL SUBMIT REINFORCING STEEL PLACING DRAWINGS (PRIOR TO CONSTRUCTION) TO THE ENGINEER FOR REVIEW FOR CONFORMANCE WITH THE DESIGN DRAWINGS. THE DESIGN DRAWINGS SHALL GOVERN OVER PLACING DRAWINGS IN ALL CASES UNLESS MODIFICATIONS ARE APPROVED IN WRITING BY ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

E.F. = EACH FACE  
F.E. = FAR FACE  
N.F. = NEAR FACE  
I.F. = INSIDE FACE  
T.W. = TWO WAY  
E.S. = EACH SIDE  
O.F. = OUTSIDE FACE  
T.&B. = TOP AND BOTTOM  
T.F. = TOP FACE  
B.F. = BOTTOM FACE  
T.F. = TWO FACES  
Lp = LAP LENGTH

Outlet Structures

T-12

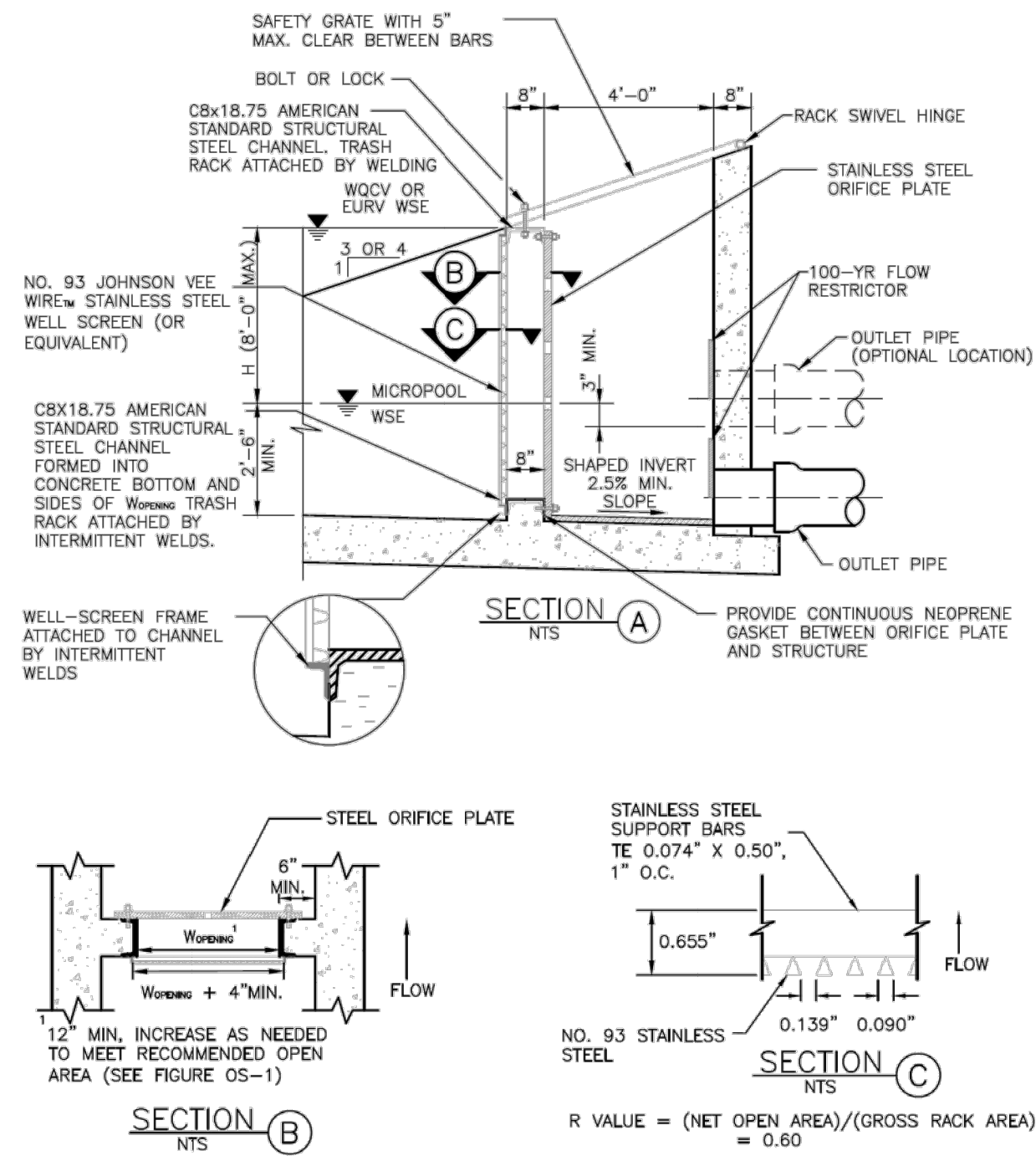


Figure OS-5. Typical outlet structure with well screen trash rack

T-12

Outlet Structures

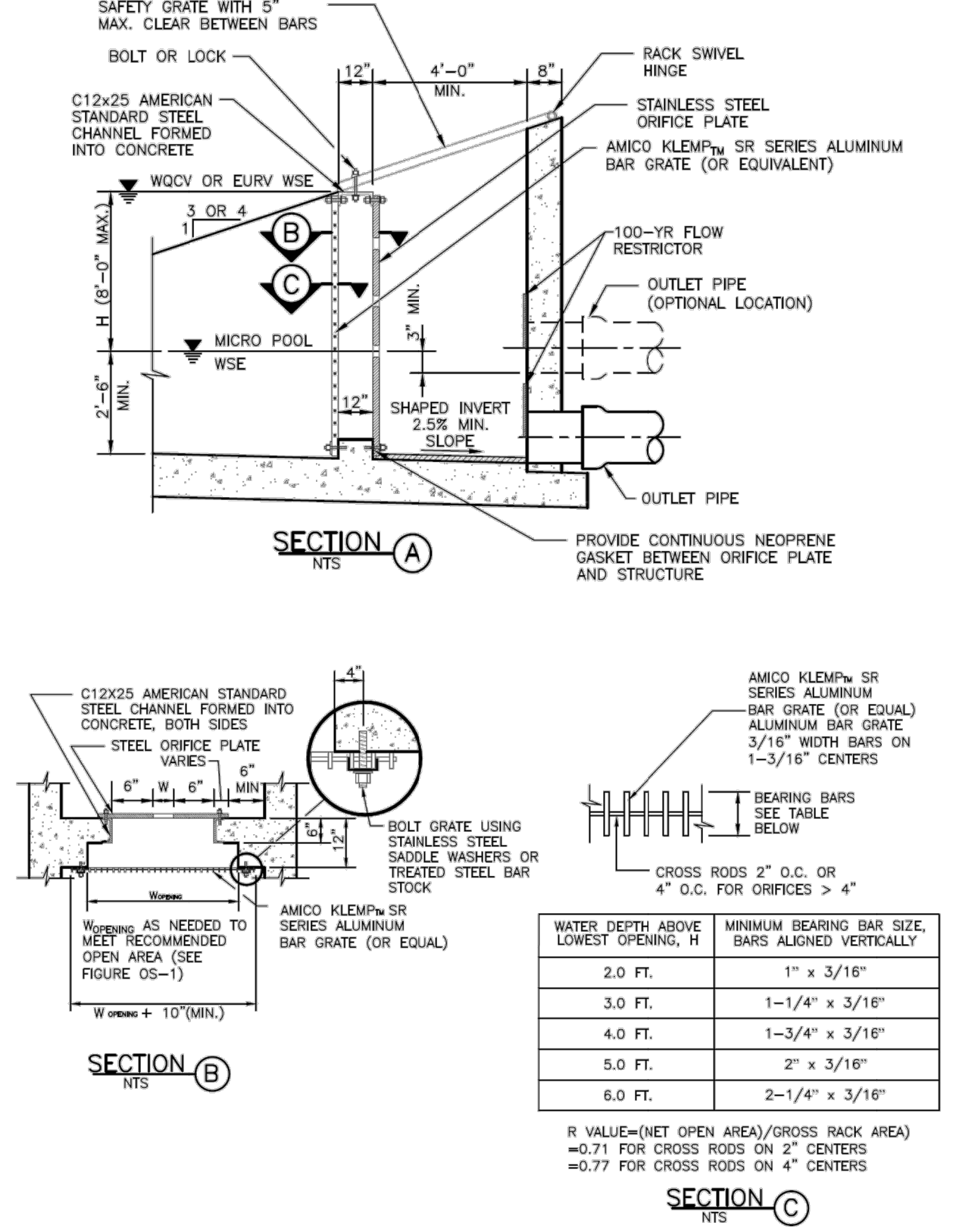
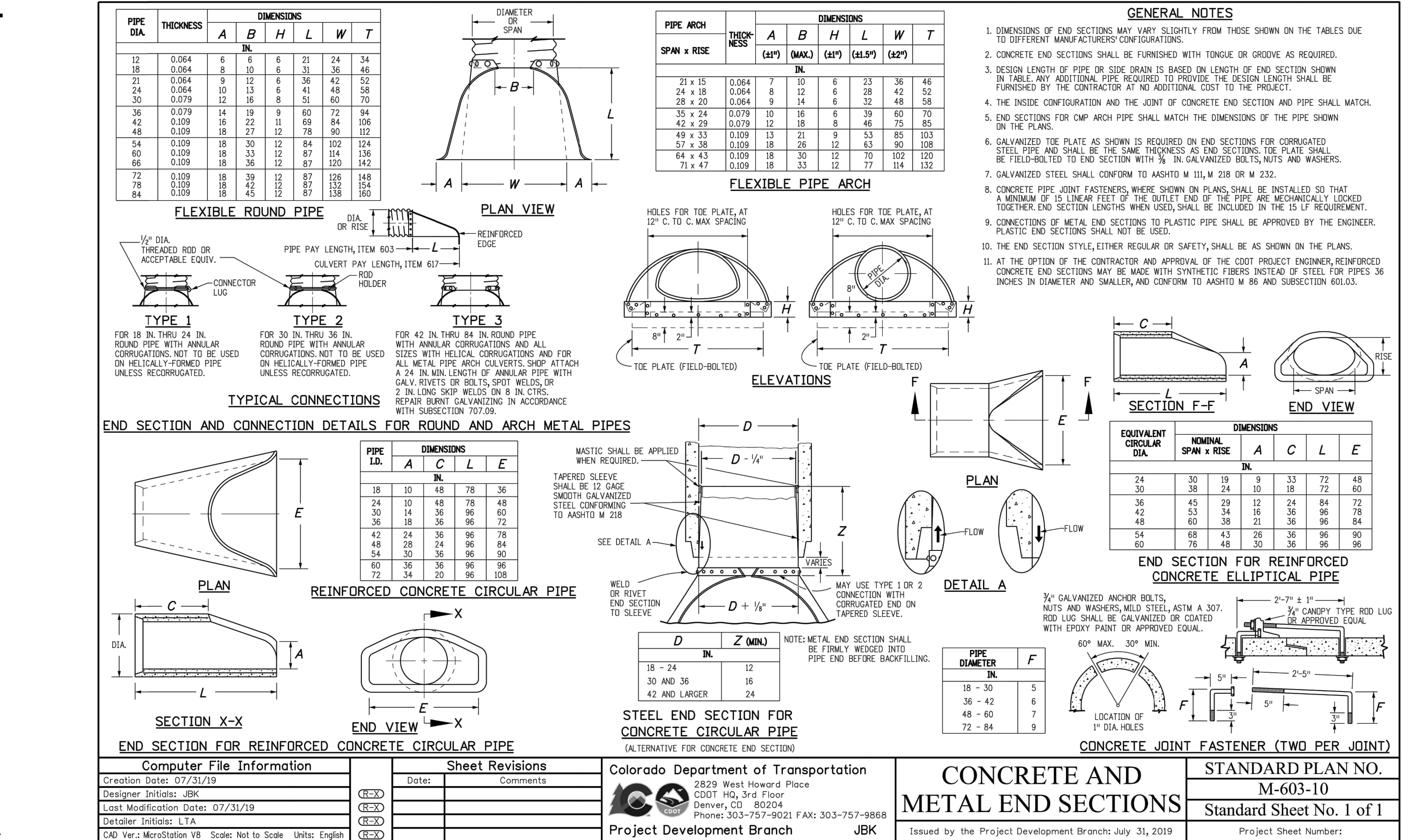
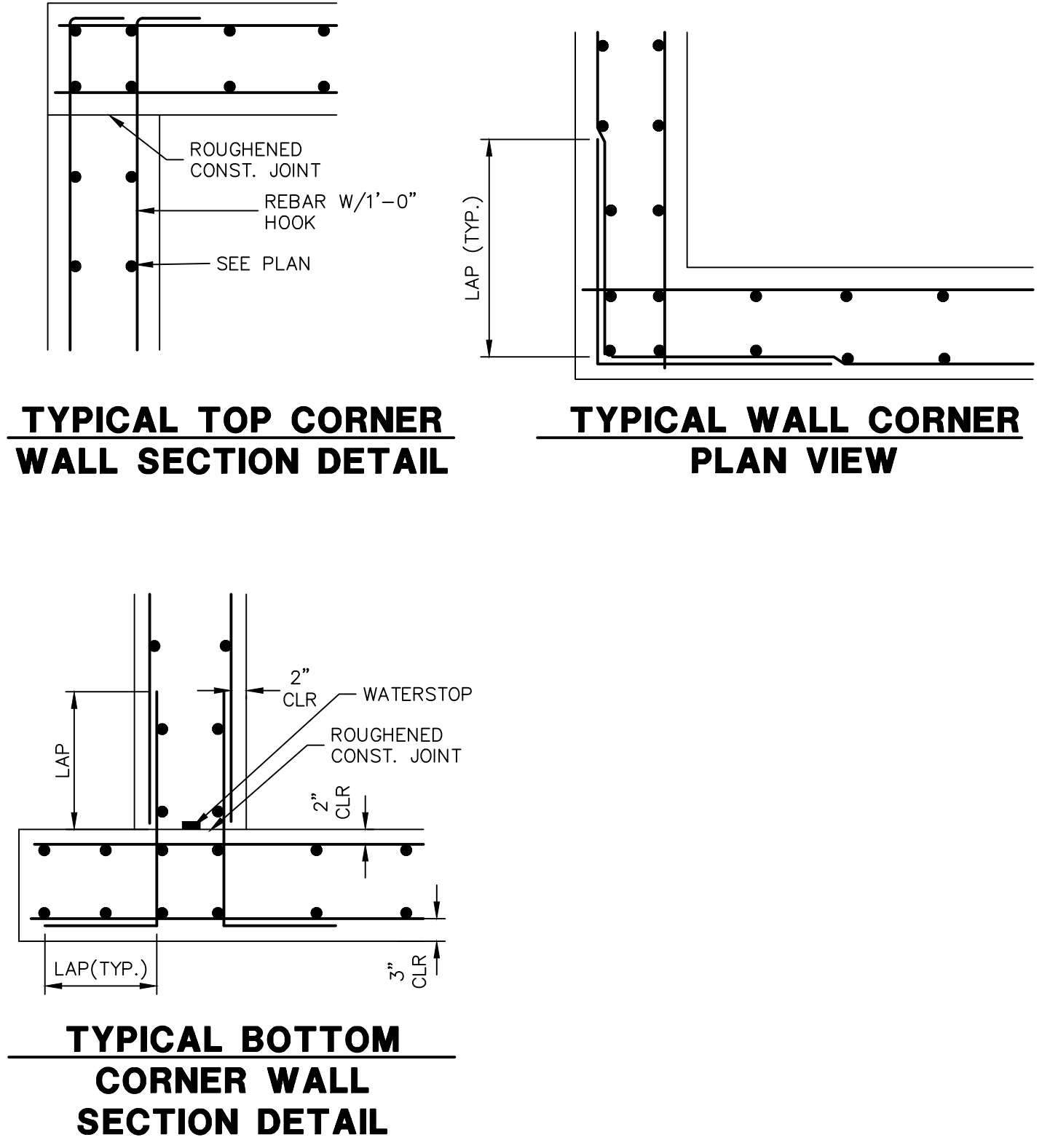


Figure OS-6. Typical outlet structure with bar grate trash rack



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STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT  
BRYAN T. LAW, P.E.  
COLORADO P.E. 25043  
FOR AND ON BEHALF OF JR ENGINEERING, LLC  
09/09/22  
25043  
PROFESSIONAL ENGINEER  
BRYAN T. LAW, P.E.  
09/09/22

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