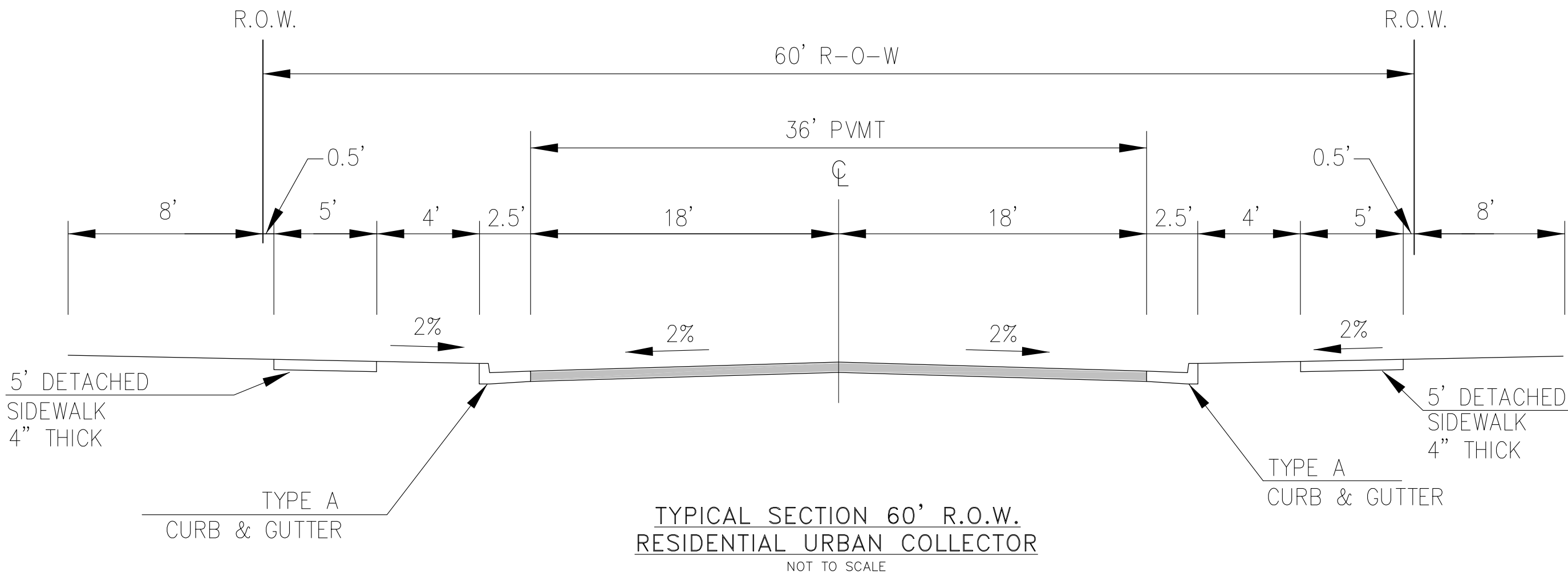


KINGSTON PEAK PL, WAHLUKE DR, HACKBERRY HILL ST, TIN MOUNTAIN TR,
YAMSAY WY, HOCKING TR, SALT SPRING WY, WHISKEY HILL LN, SHUKSAN LN
SPERRY TER, SAWTOOTH RIDGE WY, ELK HILLS DR, CRAFTON CT,
TRAPPE DR, LONG RIDGE CT, KEYNOT CT, BEACON BUTTE PL, SOLOMON TR.

NOTE:
Pavement section to be determined
by Hveem analysis and design. Design
to be approved by El Paso County PCD Engineering



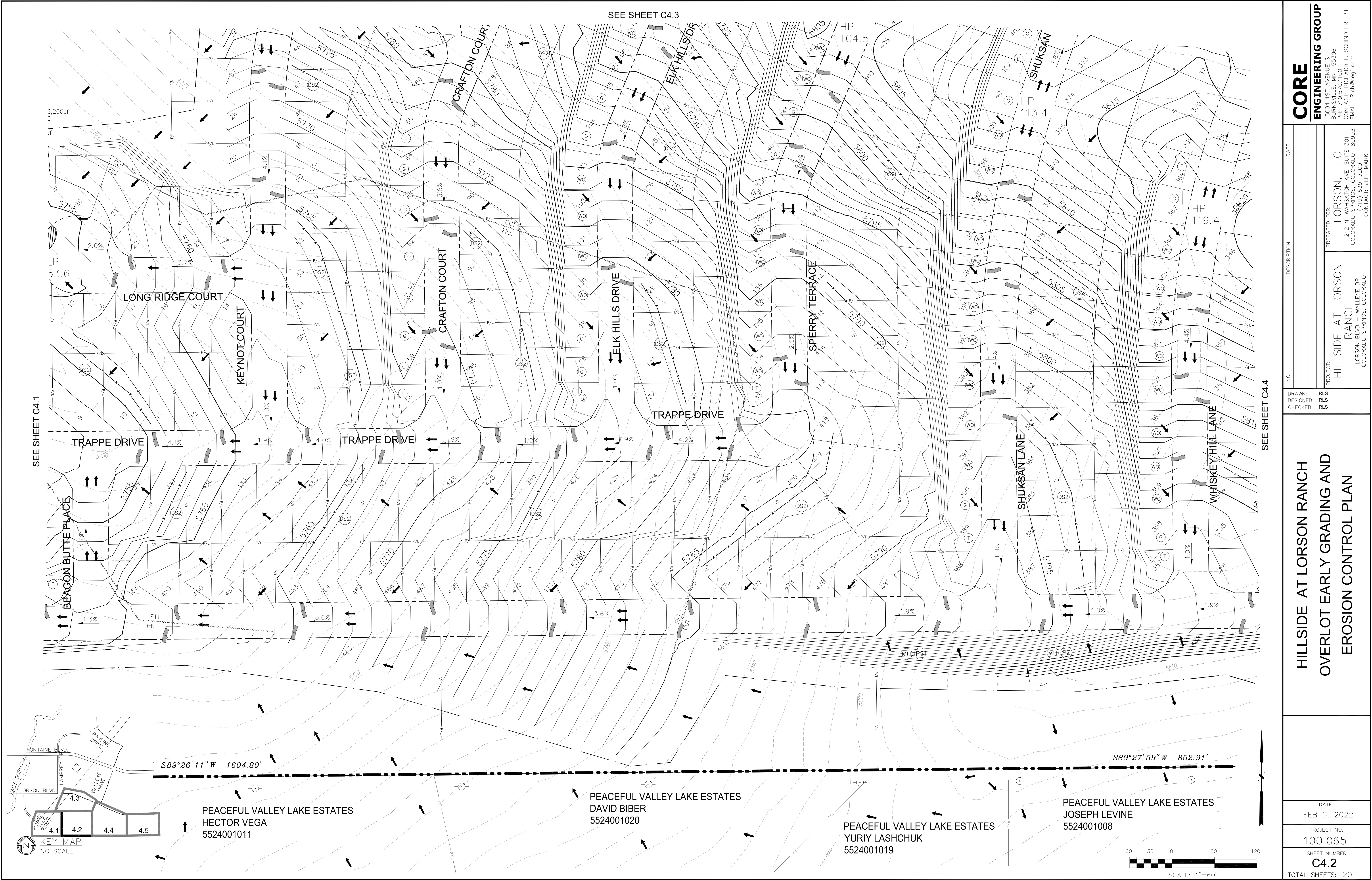
NOTE:
Pavement section to be determined
by Hveem analysis and design. Design
to be approved by PCD Engineering

DESIGN SPEED: 40 MPH
POSTED SPEED: 35 MPH

<div>OVERLOT EARLY SITE GRADING TYPICAL ROADWAY SECTIONS</div>		<div>CORE</div> <div>ENGINEERING GROUP</div> <div>15004 1ST AVENUE S. BURNSVILLE, MN 55306 PH: 719.570.1100 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: Rich@ceg1.com</div>	
		DATE:	
		DESCRIPTION	
		NO.	
		PROJECT:	
DRAWN: RLS DESIGNED: RLS CHECKED: RLS		<div>HILLSIDE AT LORSON RANCH</div> <div>LORSON BLVD – WALLEYE DR COLORADO SPRINGS, COLORADO</div>	<div>PREPARED FOR: LORSON, LLC 212 N. WAHSATCH AVE, SUITE 301 COLORADO SPRINGS, COLORADO 80903 (719) 635-3200 CONTACT: JEFF MARK</div>

[illegible]

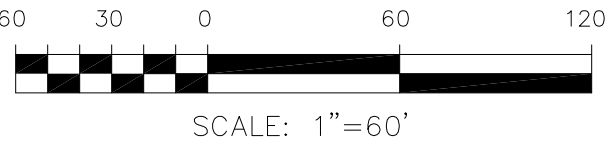
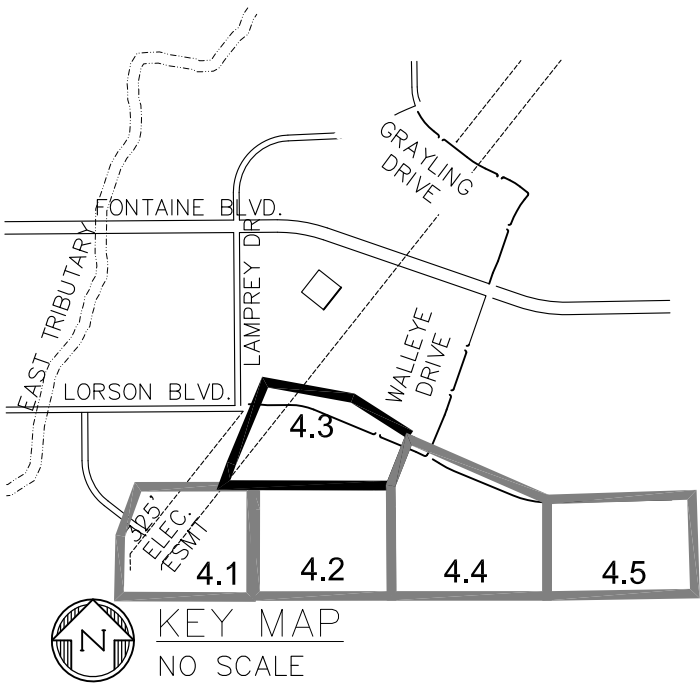
<div><div>HILLSIDE AT LORSON RANCH OVERLOT EARLY GRADING AND EROSION CONTROL PLAN</div><div>C4.1</div><div>TOTAL SHEETS: 20</div></div>		DATE: FEB 5, 2022	
		PROJECT NO. 100.065	
		SHEET NUMBER C4.1	
		DRAWN: DESIGNED: CHECKED:	
		RLS RLS RLS	
<div><div>HILLSIDE AT LORSON RANCH</div><div>LORSON BLVD. WALLEYE DR COLORADO SPRINGS, COLORADO</div></div>		PROJECT: HILLSIDE AT LORSON RANCH	
		PREPARED FOR: LORSON, LLC 212 N. WAHSATCH AVE. SUITE 301 COLORADO SPRINGS, COLORADO 80903 (719) 635-3200 CONTACT: JEFF MARK	
		NO.	
		DESCRIPTION	
		DATE	
<div><div>CORE</div><div>ENGINEERING GROUP</div><div>15004 1ST AVENUE S. PHILADELPHIA, PA 19104-3506 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: Rich@eg1.com</div></div>			



SEE SHEET C4.3

SEE SHEET C4.4

CORE ENGINEERING GROUP 15004 1ST AVENUE S. BURNING WOOD, CO 80506 PHONE: 719.570.1100 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: Rich@ceg1.com	
DATE	
DESCRIPTION	
NO.	
PREPARED FOR: LORSON, LLC 212 N. WAHSATCH AVE, SUITE 301 COLORADO SPRINGS, COLORADO 80903 CONTACT: JEFF MARK	
PROJECT: HILLSIDE AT LORSON RANCH LORSON BLVD. - WALLEYE DR COLORADO SPRINGS, COLORADO	
DRAWN: RLS	CHECKED: RLS
DESIGNED: RLS	
HILLSIDE AT LORSON RANCH OVERLOT EARLY GRADING AND EROSION CONTROL PLAN	
DATE: FEB 5, 2022	
PROJECT NO. 100.065	
SHEET NUMBER C4.2	
TOTAL SHEETS: 20	

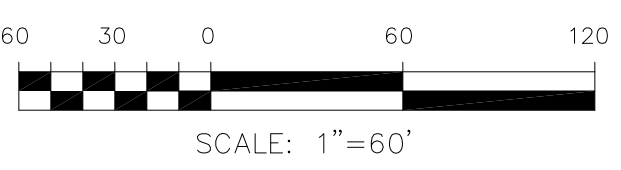
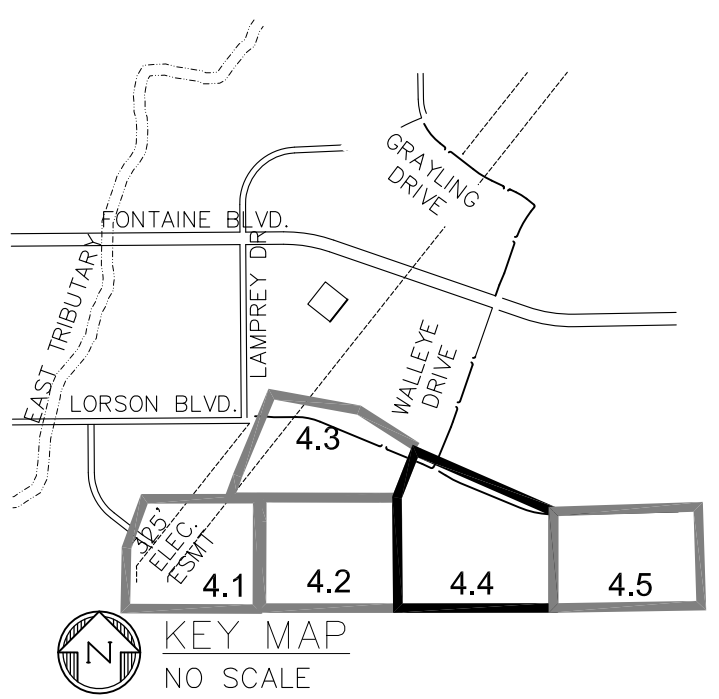
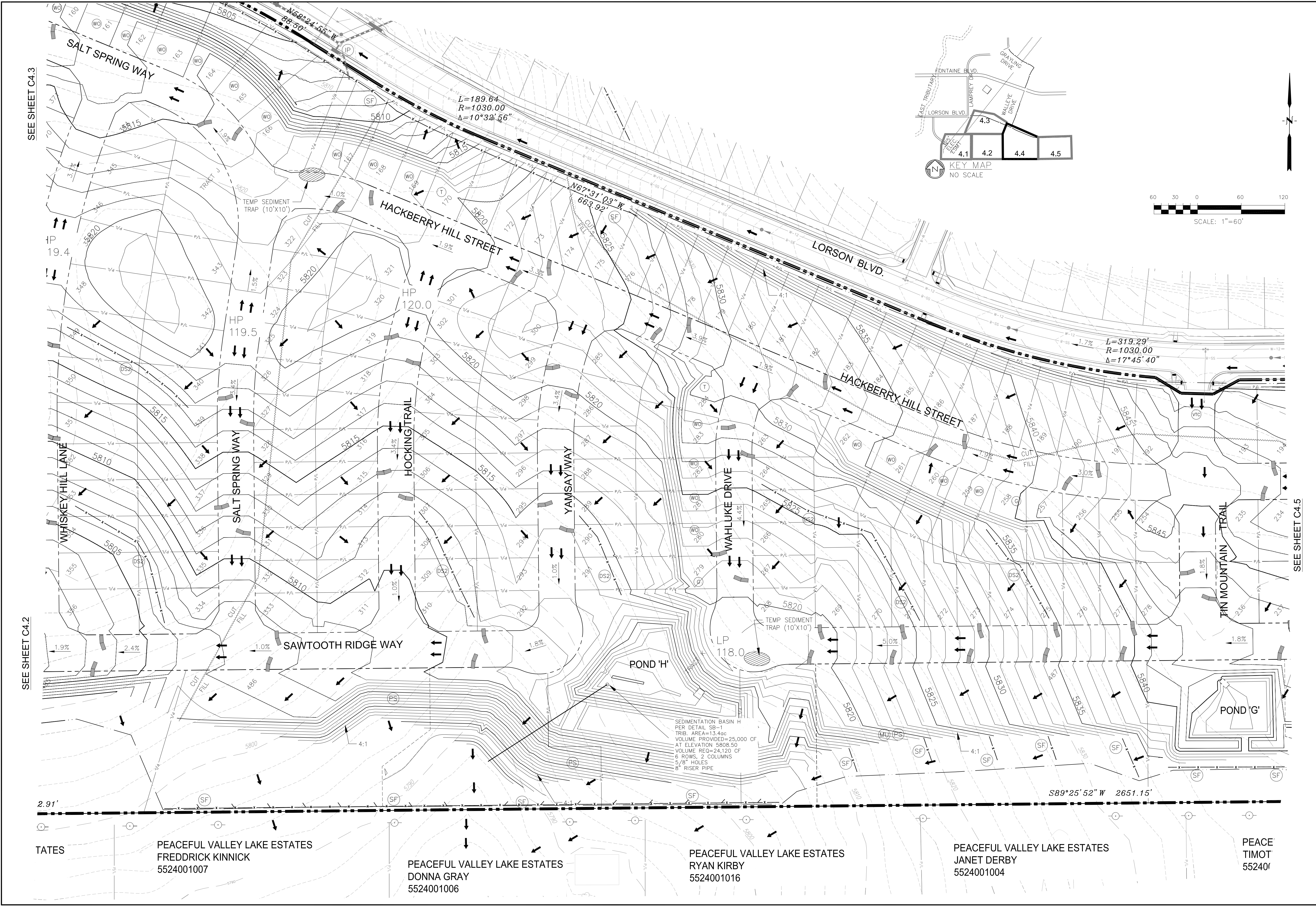


SEE SHEET C4.2

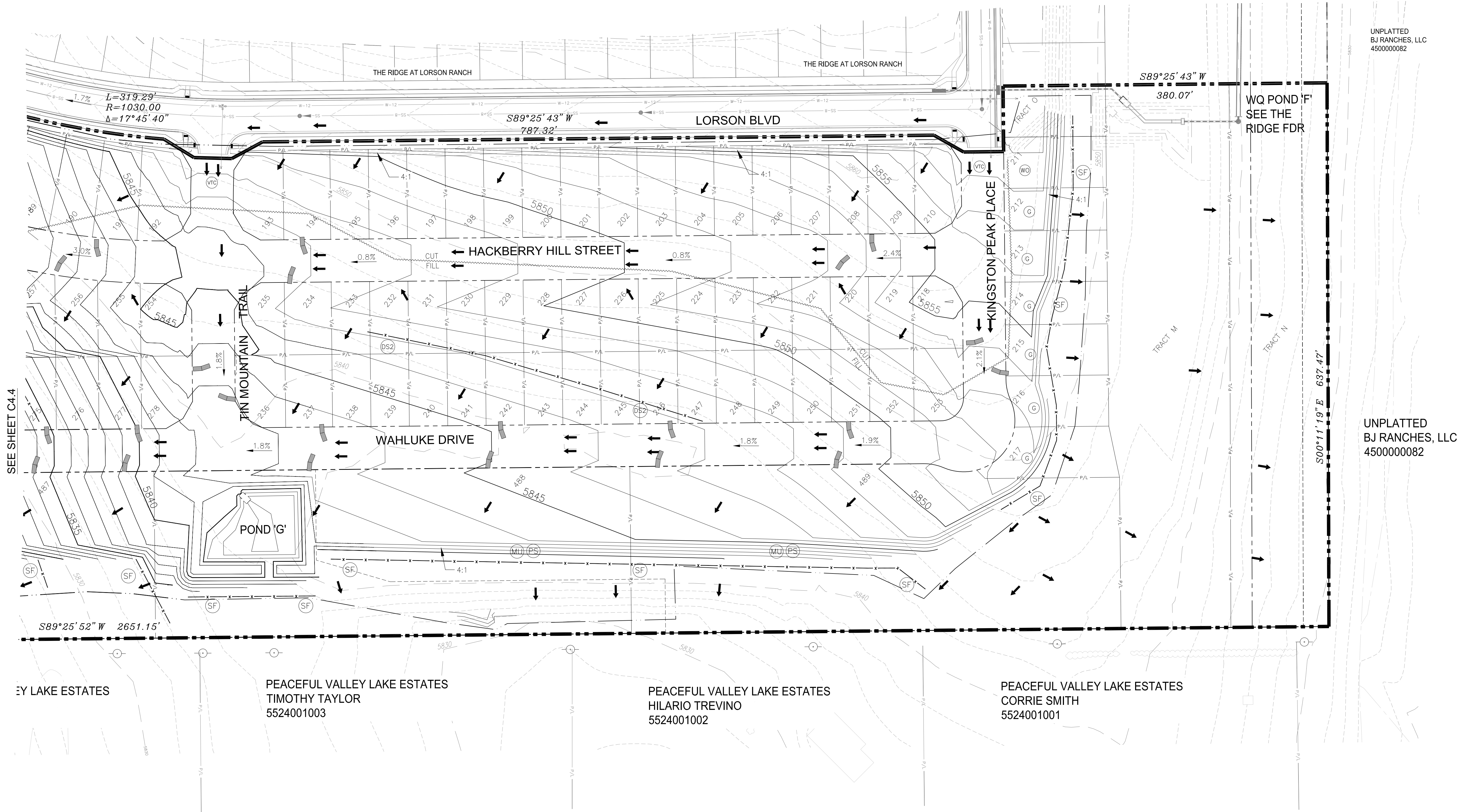
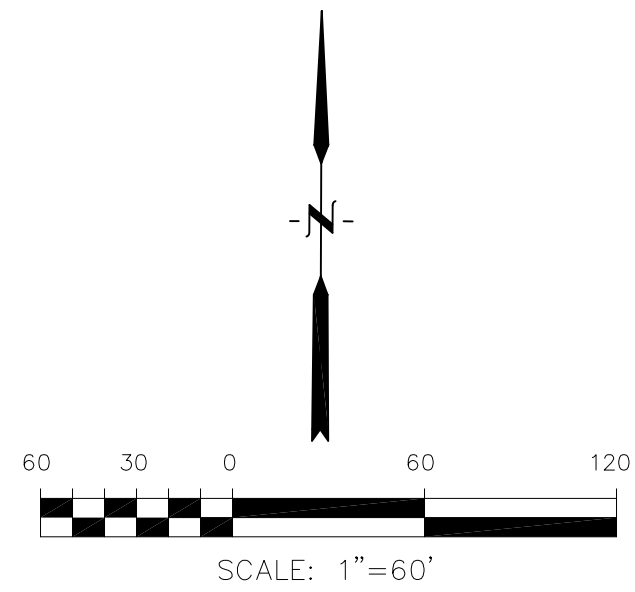
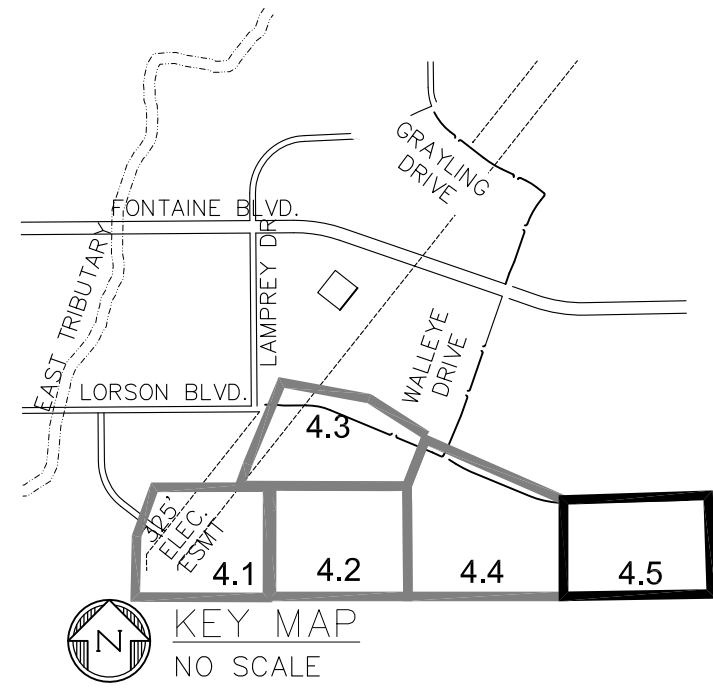
SEE SHEET C4.2

SEE SHEET C4.4

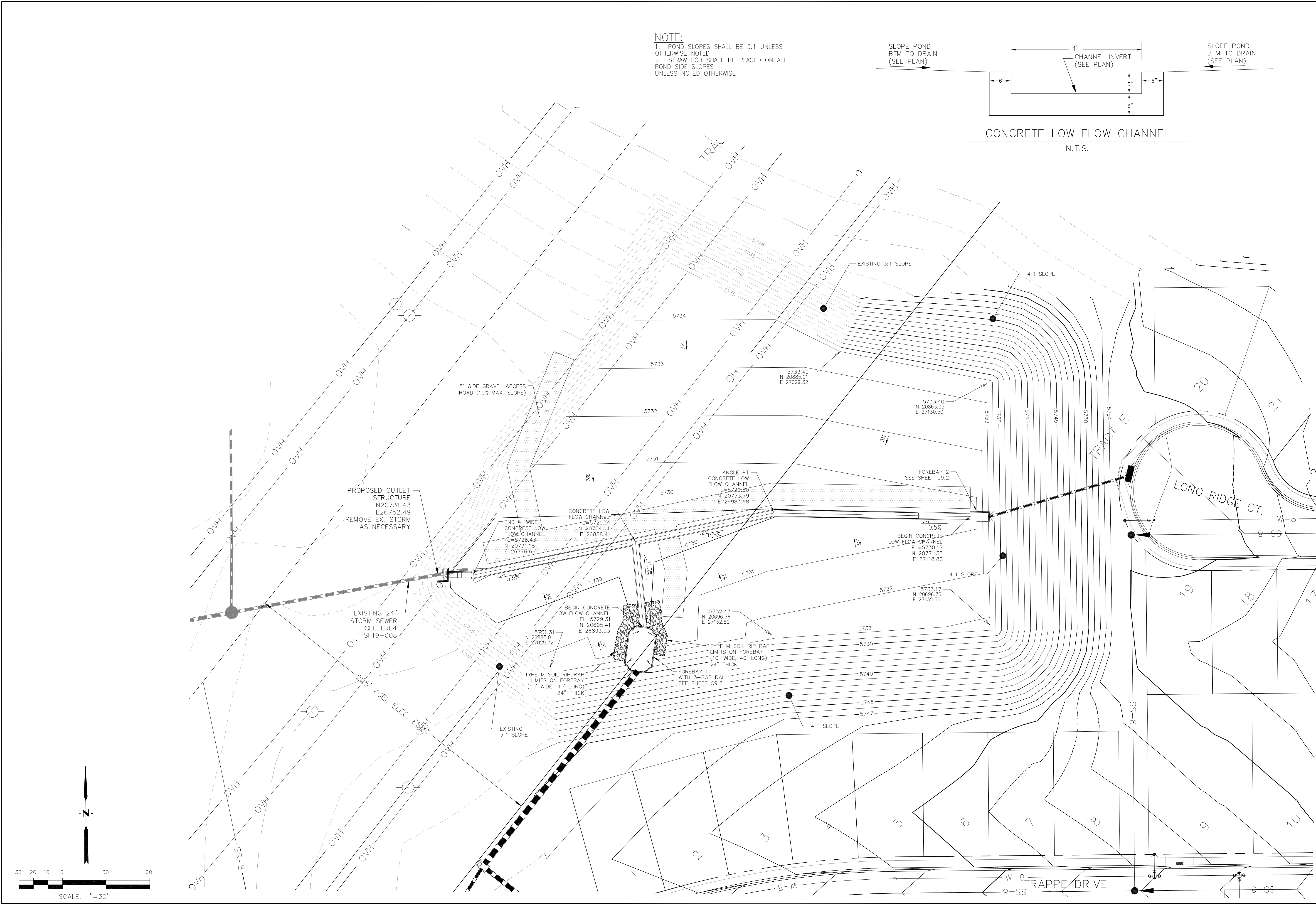
CORE ENGINEERING GROUP 15004 1ST AVENUE S. DENVER, CO 80202 PHONE: 303.550.1100 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: Rich@ceg1.com	
DATE	
DESCRIPTION	
NO.	
PROJECT: HILLSIDE AT LORSON RANCH LORSON, LLC 212 N. WAHSATCH AVE, SUITE 301 COLORADO SPRINGS, COLORADO 80903 (719) 635-3200 CONTACT: JEFF MARK	
DRAWN: RLS	
DESIGNED: RLS	
CHECKED: RLS	
HILLSIDE AT LORSON RANCH AND OVERLOT EARLY GRADING AND EROSION CONTROL PLAN	
DATE: FEB 5, 2022	
PROJECT NO. 100.065	
SHEET NUMBER C4.3	
TOTAL SHEETS: 20	



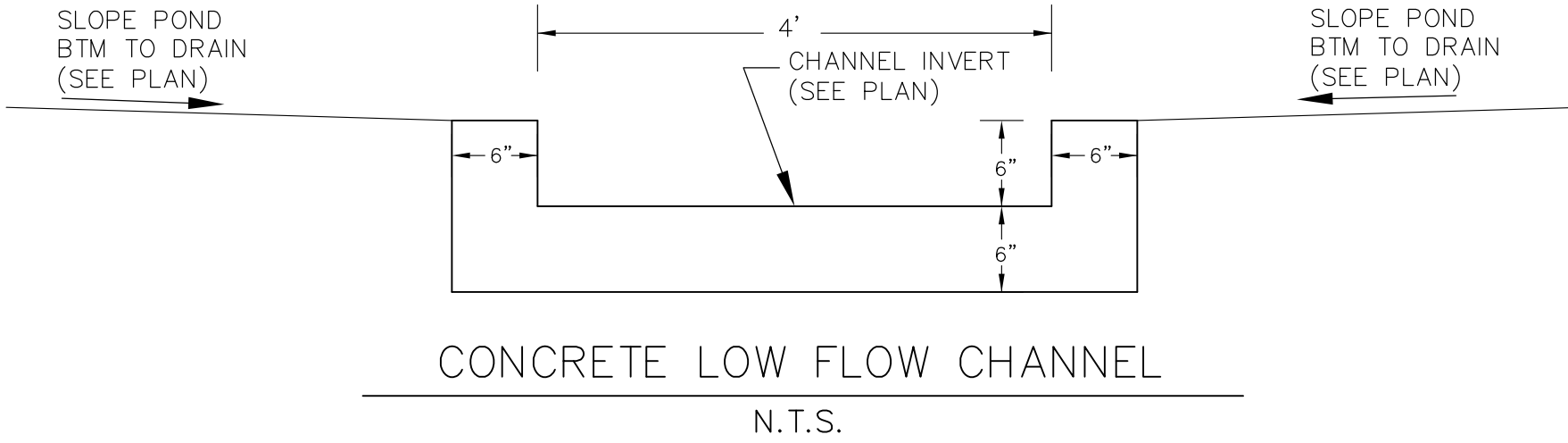
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DATE:	
DESCRIPTION:	
NO:	
DRAWN: RLS	
DESIGNED: RLS	
CHECKED: RLS	
PROJECT: HILLSIDE AT LORSON RANCH PREPARED FOR: LORSON, LLC 212 N. WAHATCH AVE, SUITE 301 COLORADO SPRINGS, COLORADO 80903 LORSON BLVD - WALLEYE DR COLORADO SPRINGS, COLORADO (719) 635-3200 CONTACT: JEFF MARK	
HILLSIDE AT LORSON RANCH OVERLOT EARLY GRADING AND EROSION CONTROL PLAN	
DATE:	FEB 5, 2022
PROJECT NO.	100.065
SHEET NUMBER	C4.4
TOTAL SHEETS:	20



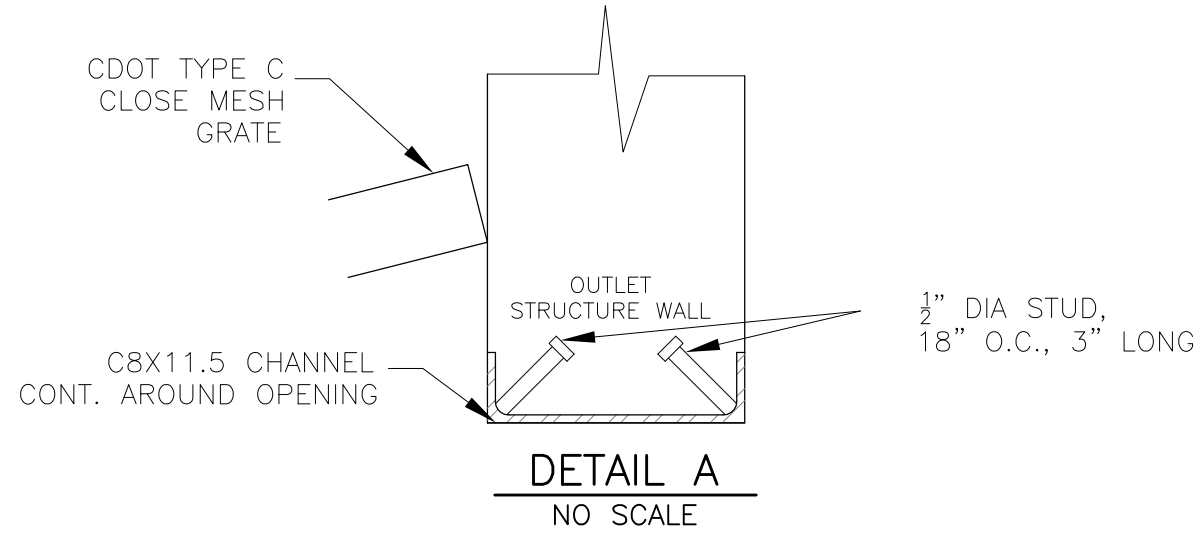
CORE ENGINEERING GROUP 15004 1ST AVENUE S, DENVER, CO 80202 PHONE: 303.750.1100 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: Rich@ceg1.com	
DATE	
DESCRIPTION	
NO.	
DRAWN: RLS DESIGNED: RLS CHECKED: RLS	
HILLSIDE AT LORSON RANCH OVERLOT EARLY GRADING AND EROSION CONTROL PLAN	
UNPLATTED BJ RANCHES, LLC 4500000082	
UNPLATTED BJ RANCHES, LLC 4500000082	
DATE: FEB 5, 2022	
PROJECT NO. 100.065	
SHEET NUMBER C4.5	
TOTAL SHEETS: 20	



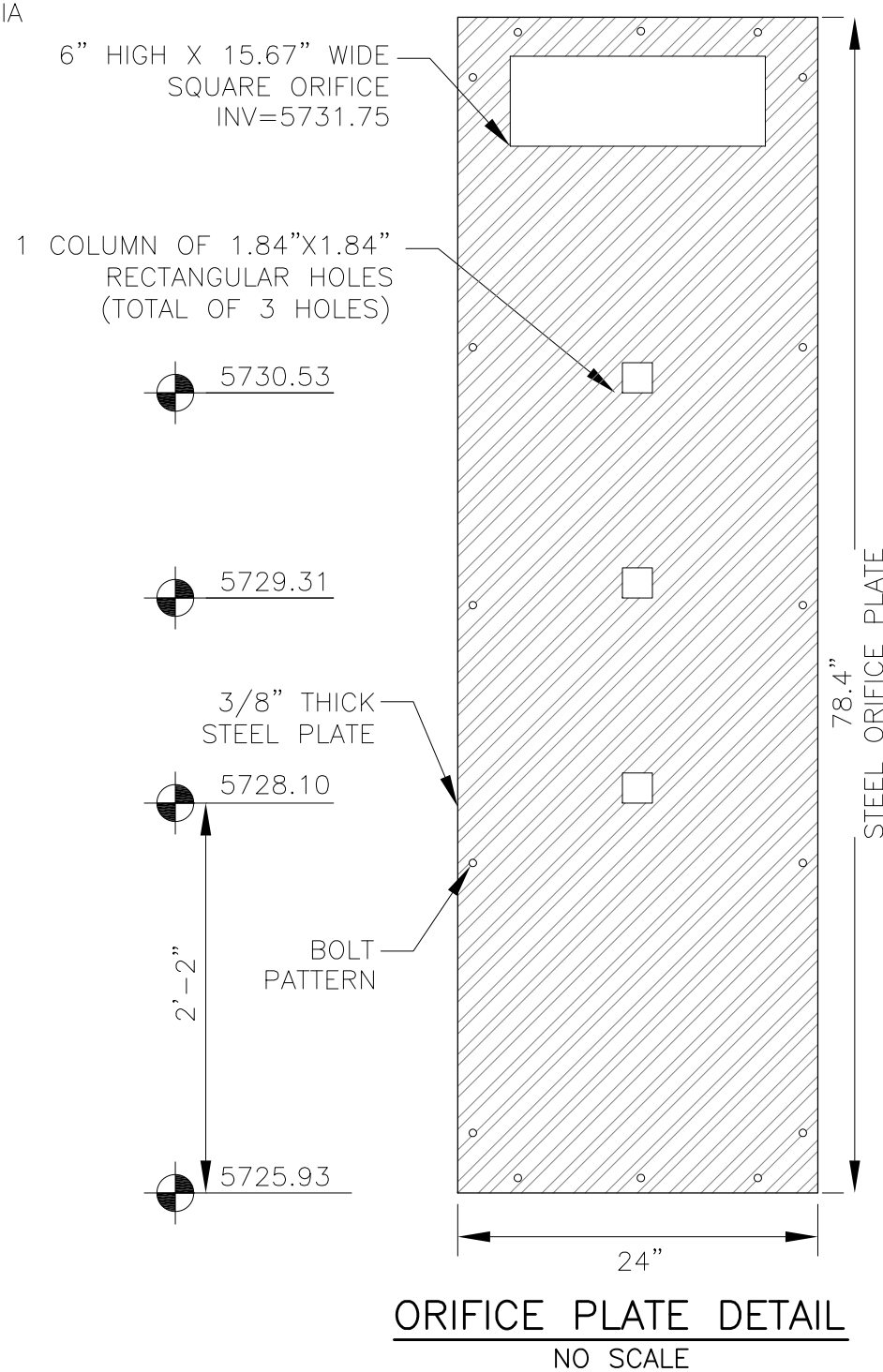
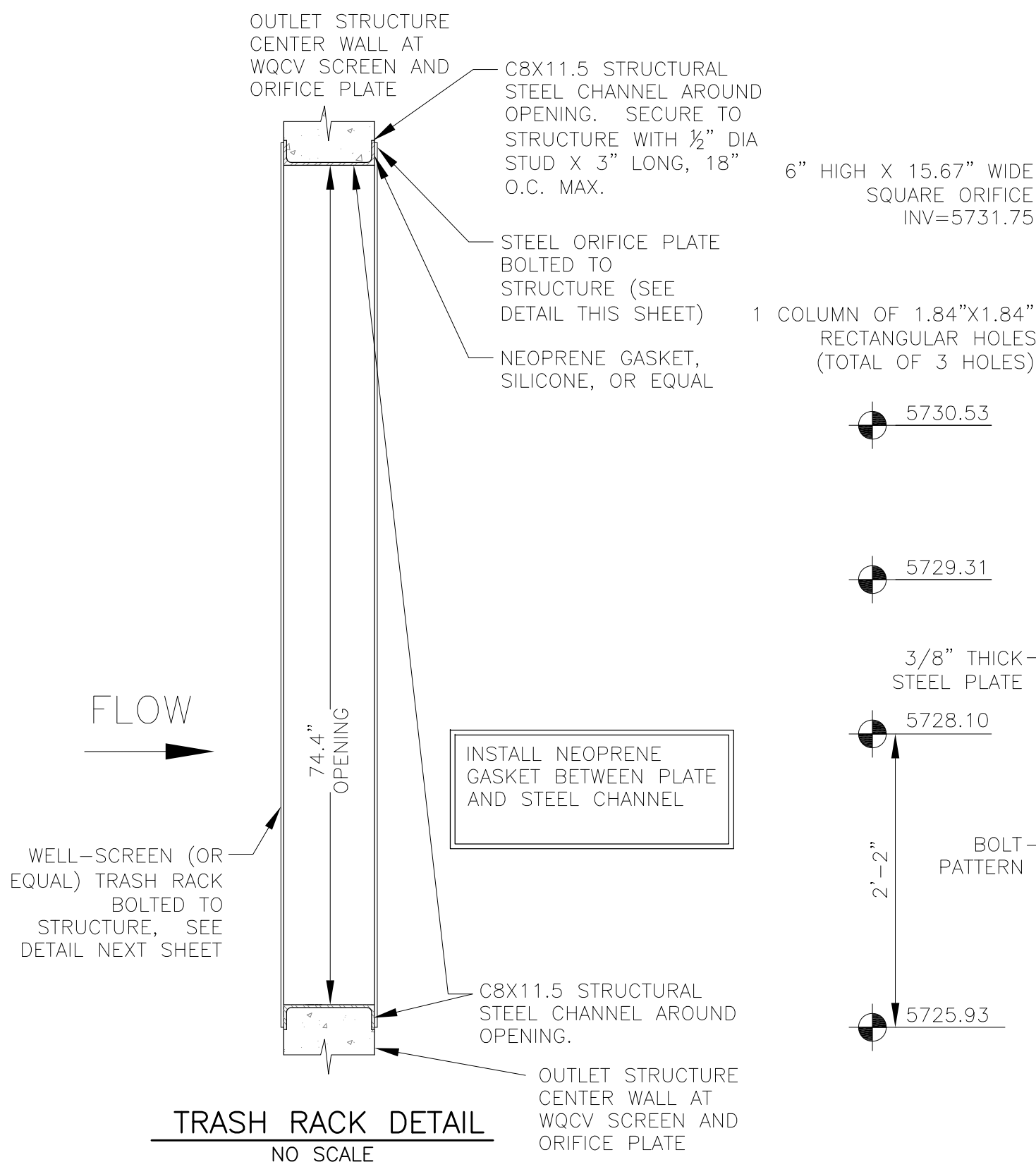
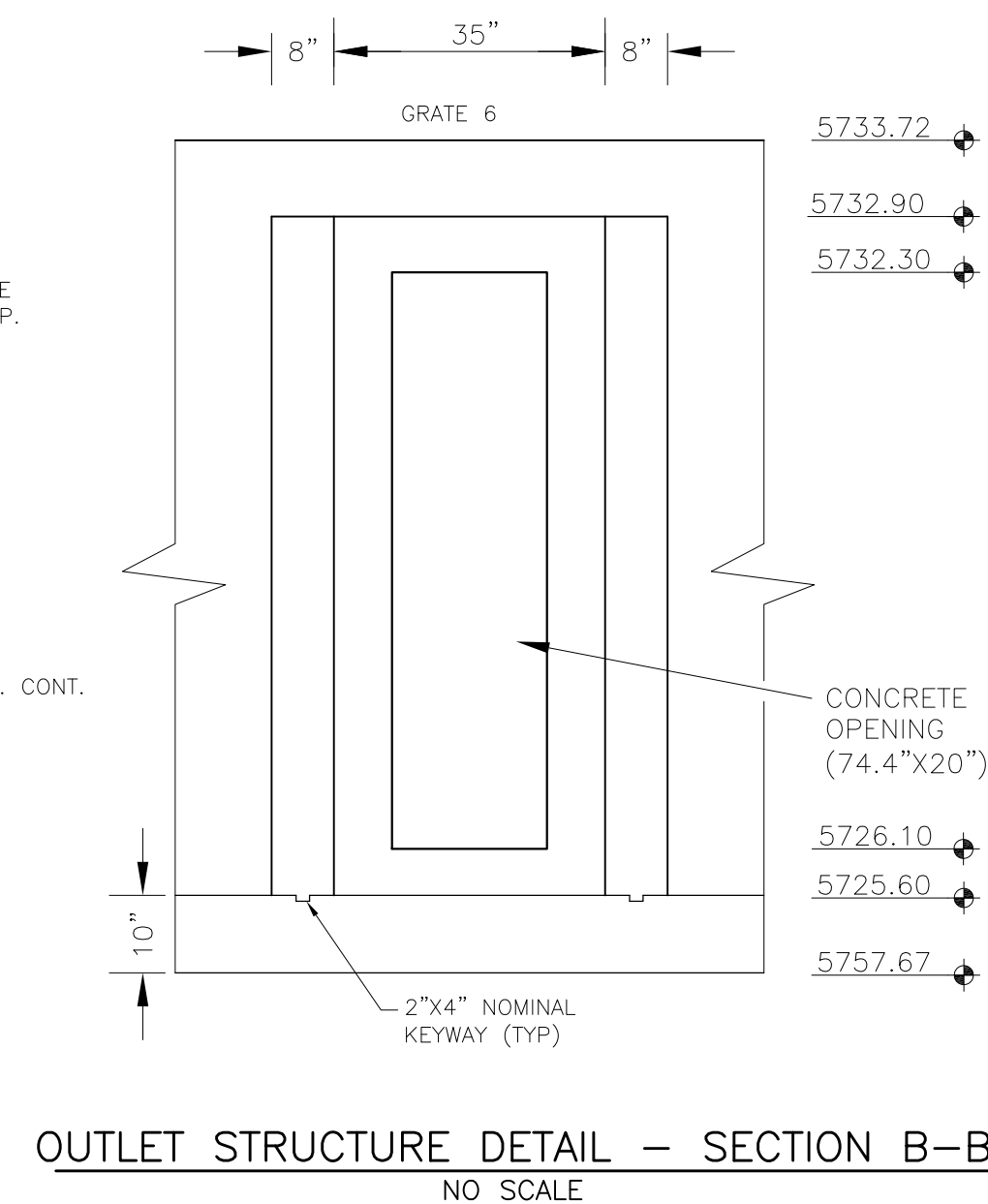
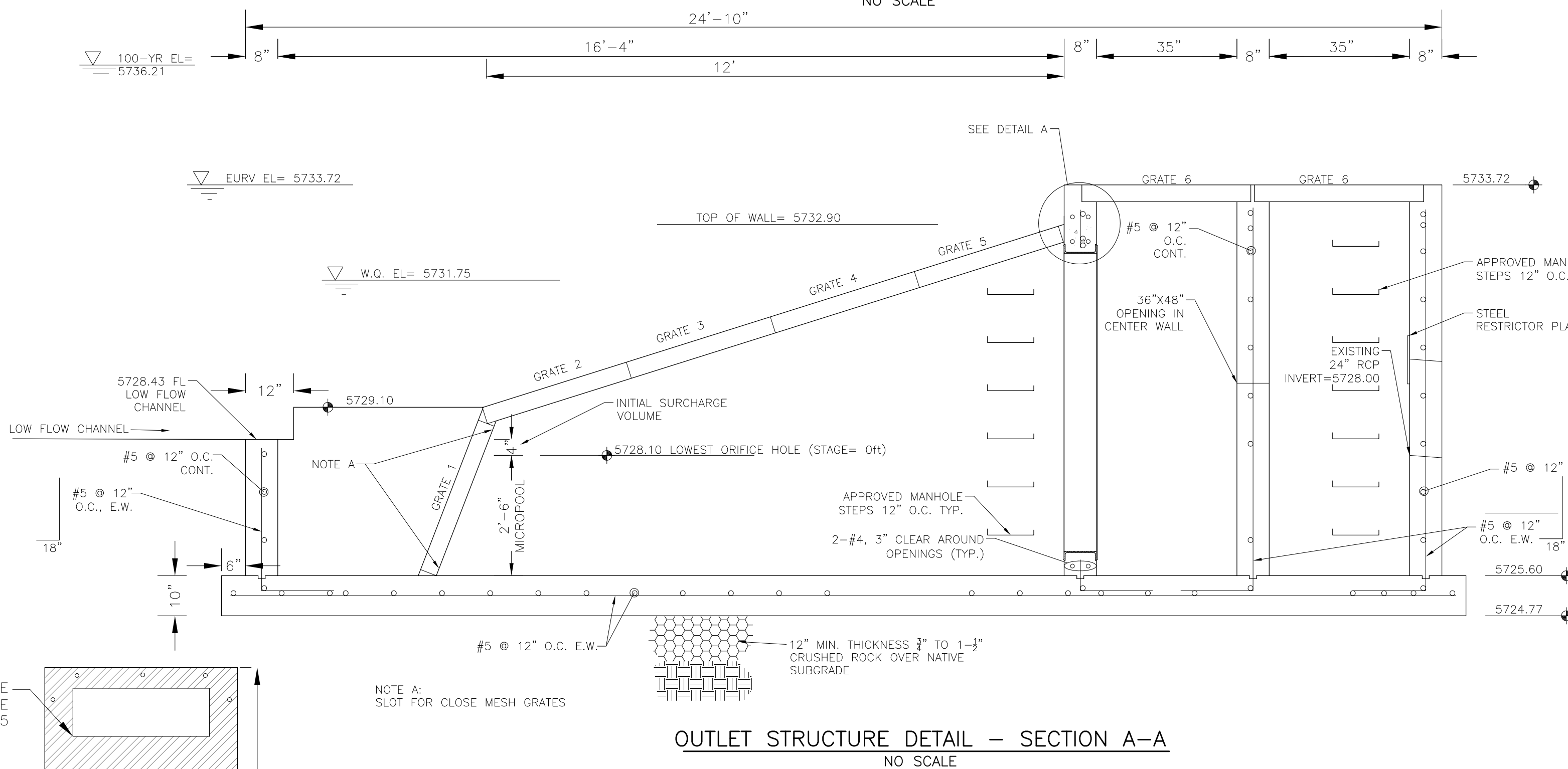
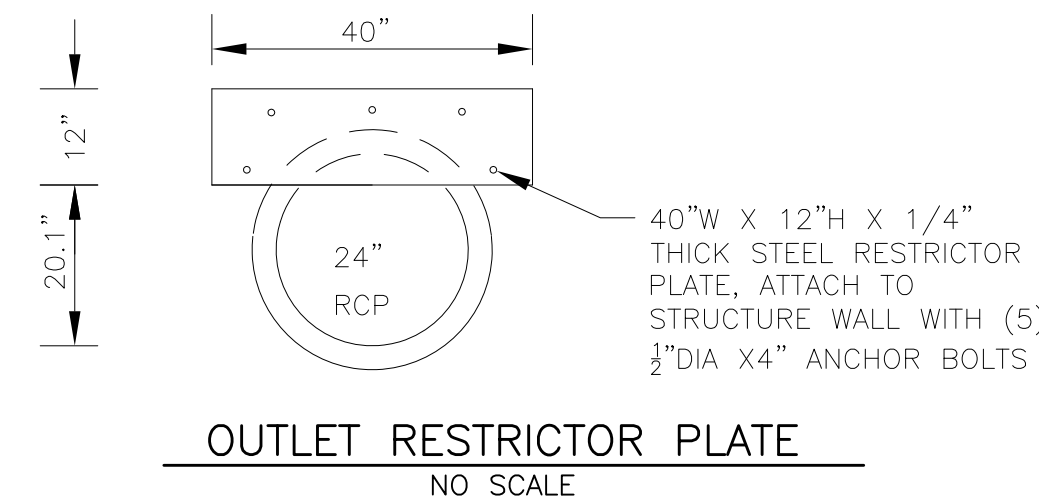
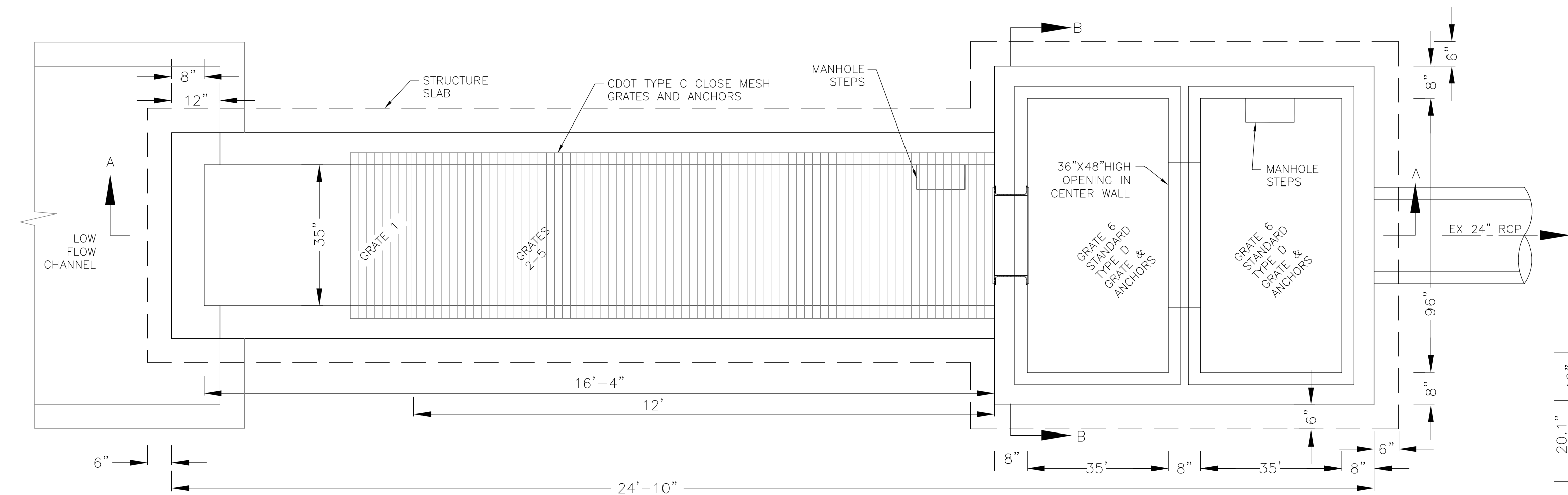
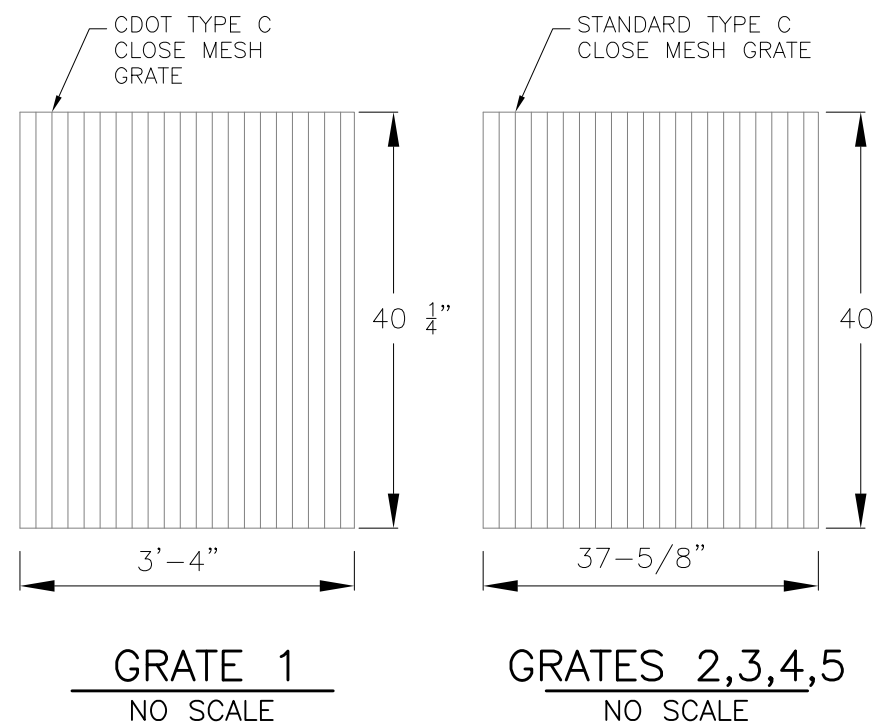
NOTE:
1. POND SLOPES SHALL BE 3:1 UNLESS OTHERWISE NOTED
2. STRAW ECB SHALL BE PLACED ON ALL POND SIDE SLOPES UNLESS NOTED OTHERWISE



CORE ENGINEERING GROUP 15004 1ST AVENUE S. BURNING WOOD P.O. BOX 1100 COLORADO SPRINGS, CO 80903 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: Rich@ceg1.com	
DATE	
DESCRIPTION	
NO.	
PROJECT	HILLSIDE AT LORSON RANCH
PREPARED FOR:	LORSON, LLC 212 N. WAHSATCH AVE. SUITE 301 COLORADO SPRINGS, COLORADO 80903 CONTACT: JEFF MARK
DRAWN:	RLS
DESIGNED:	RLS
CHECKED:	RLS
POND E1 POND GRADING AND TRICKLE CHANNEL	
DATE: FEB 5, 2022	
PROJECT NO. 100.065	
SHEET NUMBER C9.1	
TOTAL SHEETS: 20	



NOTE:
AFTER CONCRETE STRUCTURE HAS BEEN POURED
ALL GRATE DIMENSIONS SHALL BE FIELD VERIFIED
PRIOR TO GRATE CONSTRUCTION

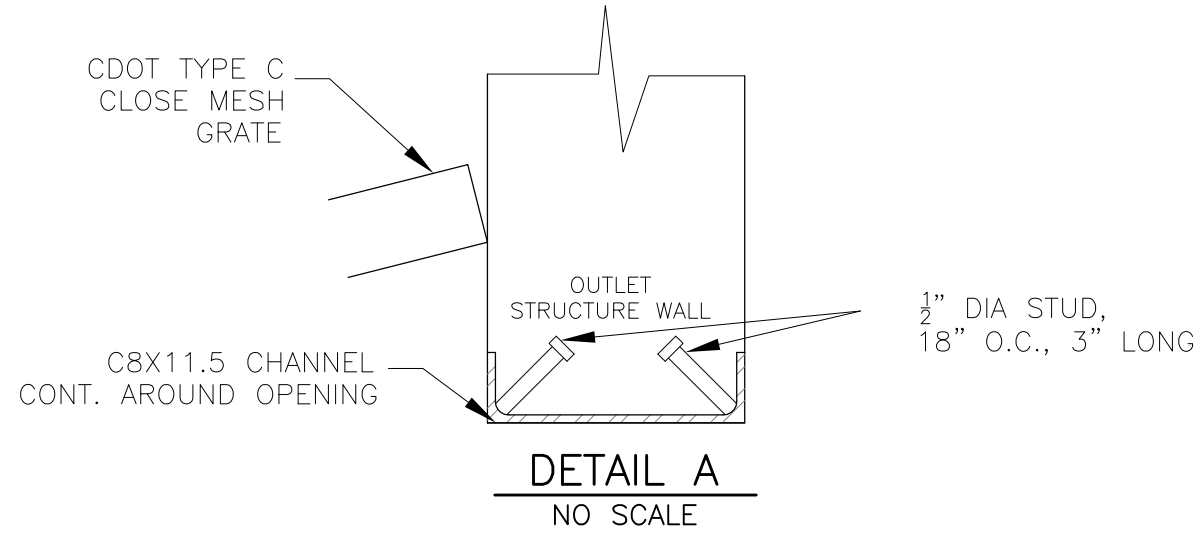


OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

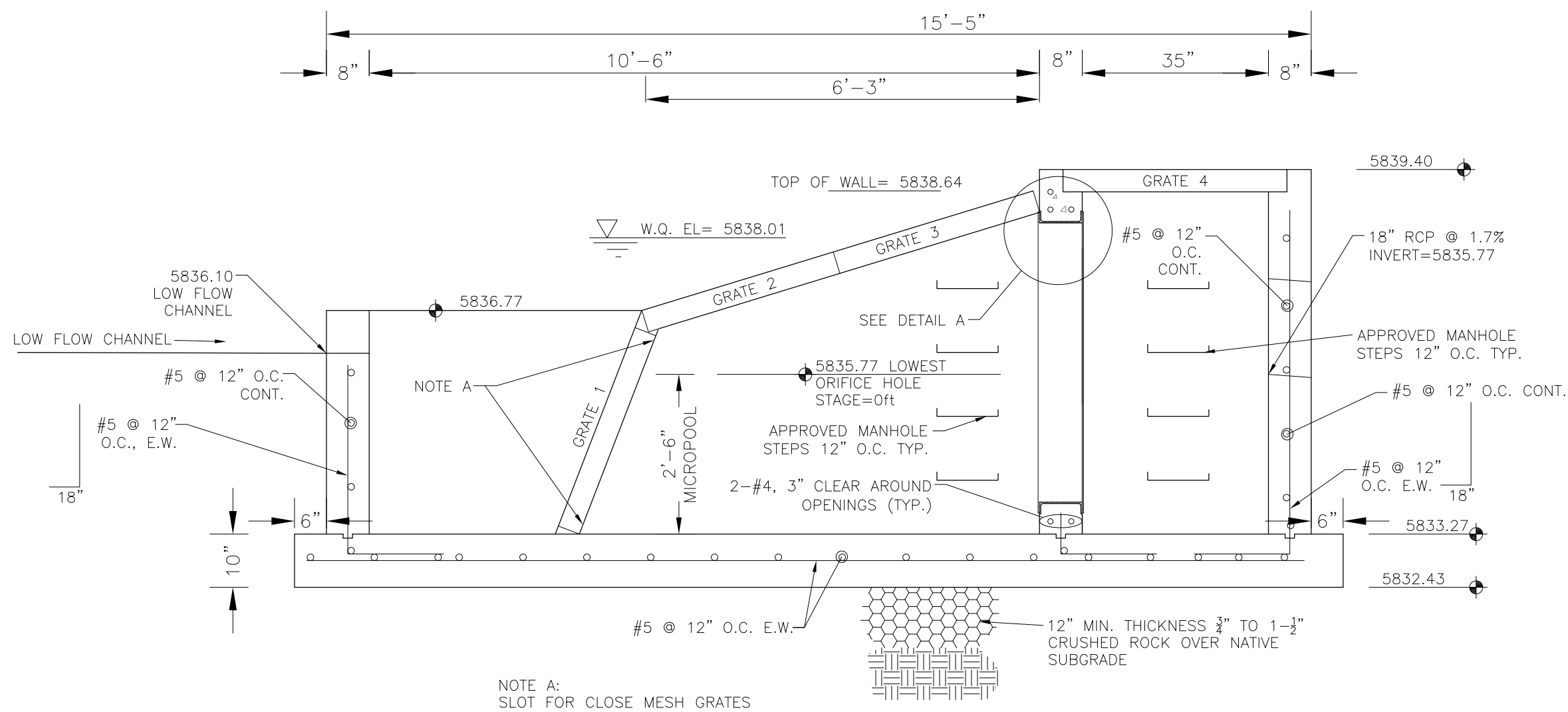
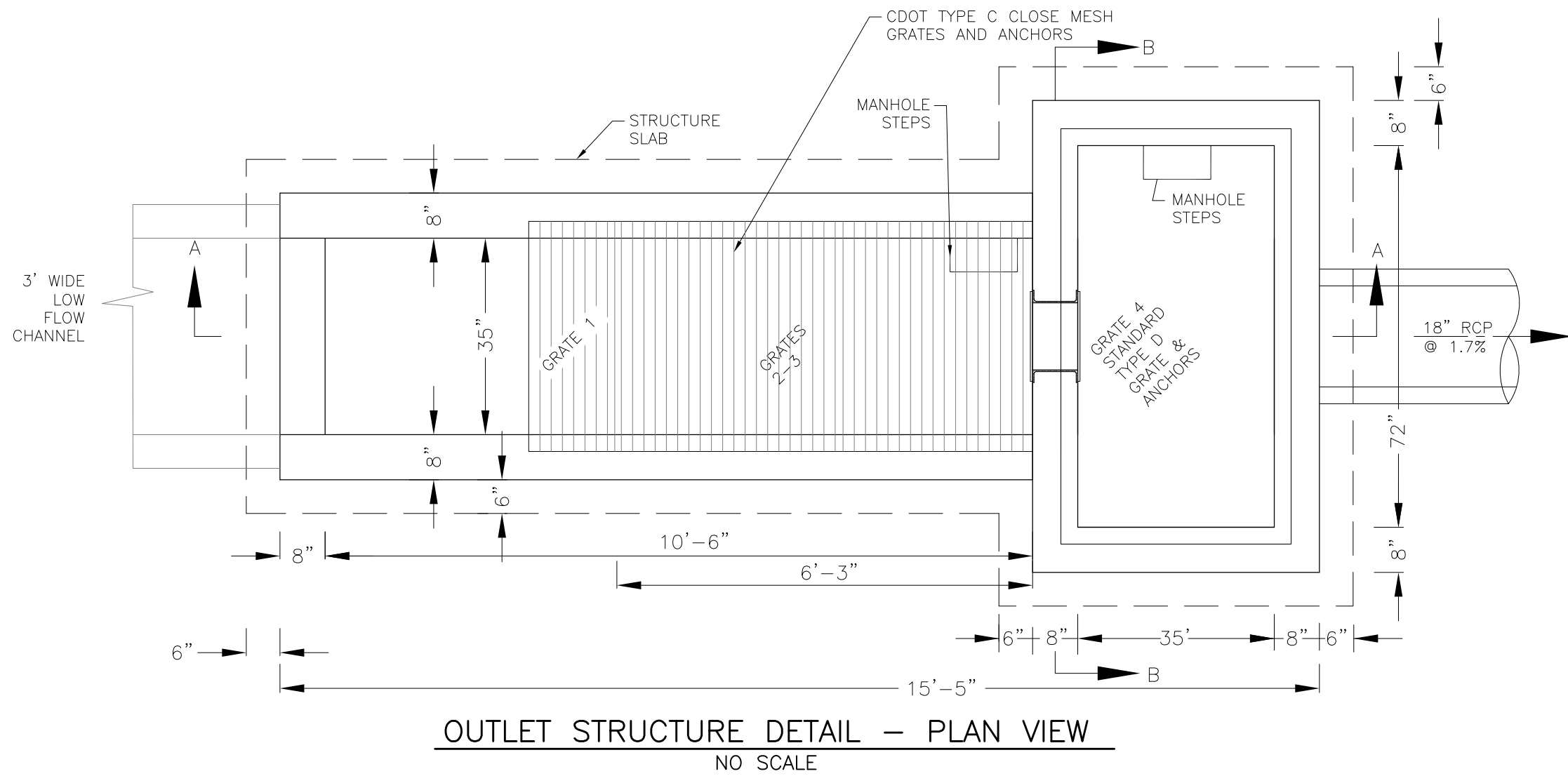
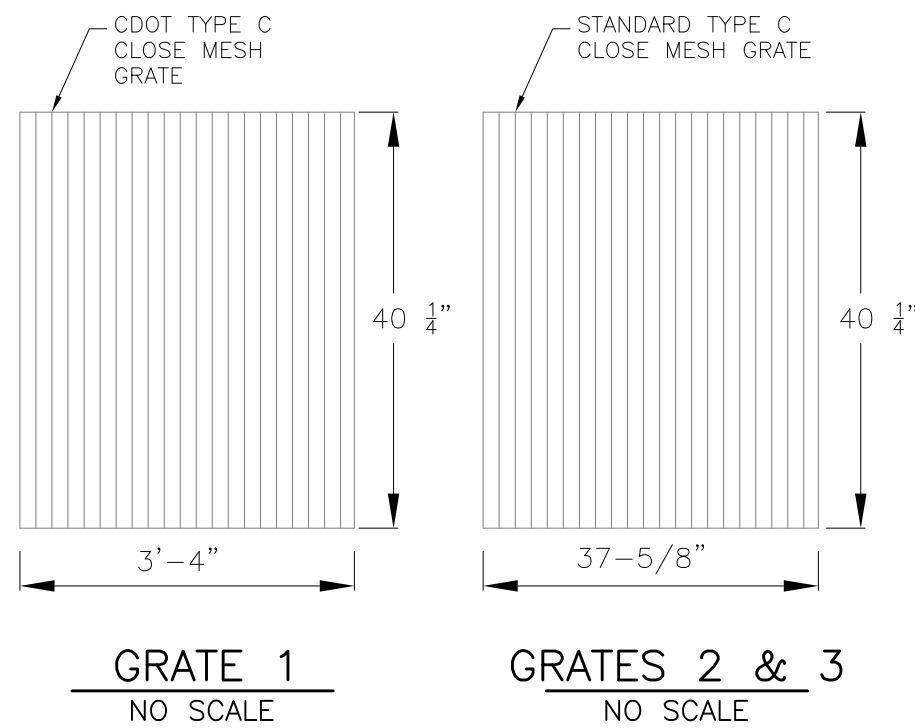
1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL COMPONENTS OF THE OUTLET STRUCTURE.
2. GRADE 60 REINFORCING STEEL REQUIRED. SEE TABLE FOR THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING BARS. ALL REINFORCING STEEL SHALL HAVE A TWO-INCH MINIMUM CLEARANCE FROM EDGE OF CONCRETE, UNLESS OTHERWISE NOTED.
3. CONCRETE FOR THE OUTLET STRUCTURE AND FOREBAY SHALL BE CDOT CLASS D CONCRETE.
4. CONCRETE FOR DRAIN CHANNELS SHALL BE CDOT CLASS B CONCRETE
5. EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213. EXPANSION JOINT MATERIAL SHALL BE 1/2" THICK, SHALL EXTEND THE FULL DEPTH OF CONTACT SURFACE AND THE JOINT SHALL BE SEALED, REFER TO DETAILS.
6. ALL EXPOSED CONCRETE CORNERS SHALL HAVE A 3/8" CHAMFER UNLESS OTHERWISE NOTED.
7. SUBGRADE TO BE 12" THICK CLEAN FILL COMPACTED TO 95% STANDARD PROCTOR DENSITY PER ASTM M698 UNDER STRUCTURE.
8. REFER TO POND DETAILS FOR PRESEDIMENTATION/FOREBAY DESIGN.
9. ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION OF OUTLET STRUCTURE TO SCHEDULE OBSERVATION VISITS FOR STRUCTURES.

WQCV WELL-SCREEN NOTES:

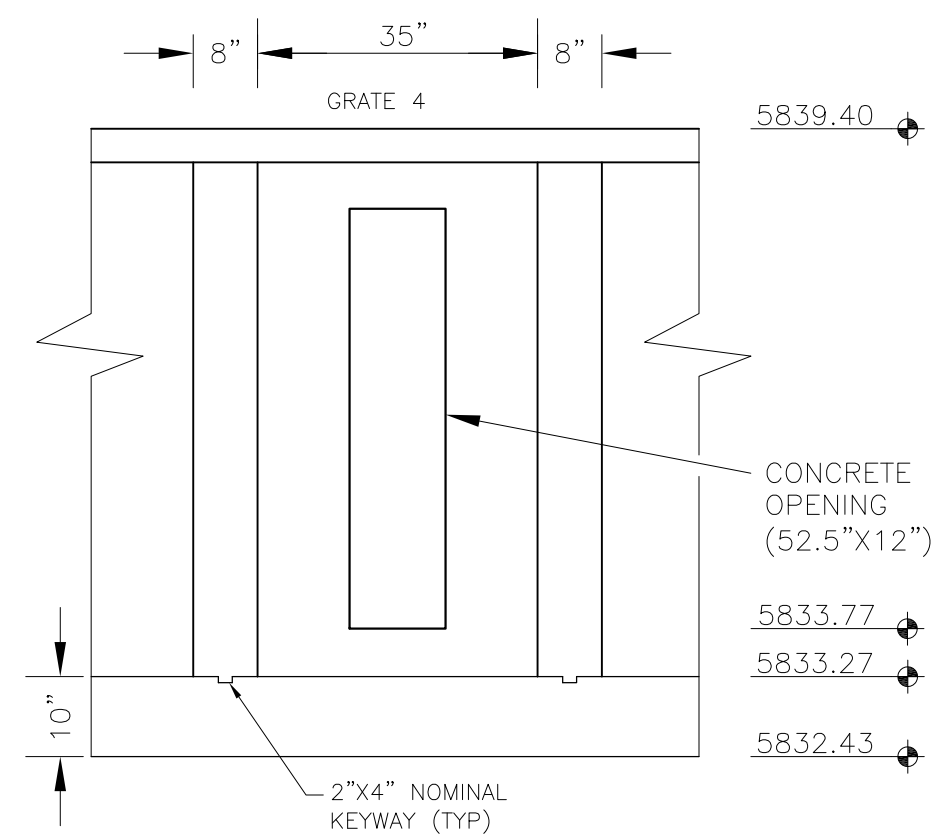
1. Well-Screen shall be stainless steel and attached by stainless steel bolts along edge of the mounting frame.
2. WQCV Well Screen
 - Type of Screen: Stainless steel #93 Vee Wire (Johnson Vee Wire (tm) Stainless Steel Screen or equivalent with 60% open area)
 - Screen slot opening dimension: 0.139" (Screen #93 Vee Wire Slot Opening)
 - Type and Size of Support Rod: TE 0.074"X0.50"
 - Spacing of Support Rod (O.C.): 1.0 Inch
 - Total Screen Thickness: 0.655"
 - Carbon Steel Holding Frame Type: 3/4" x 1.0" angle



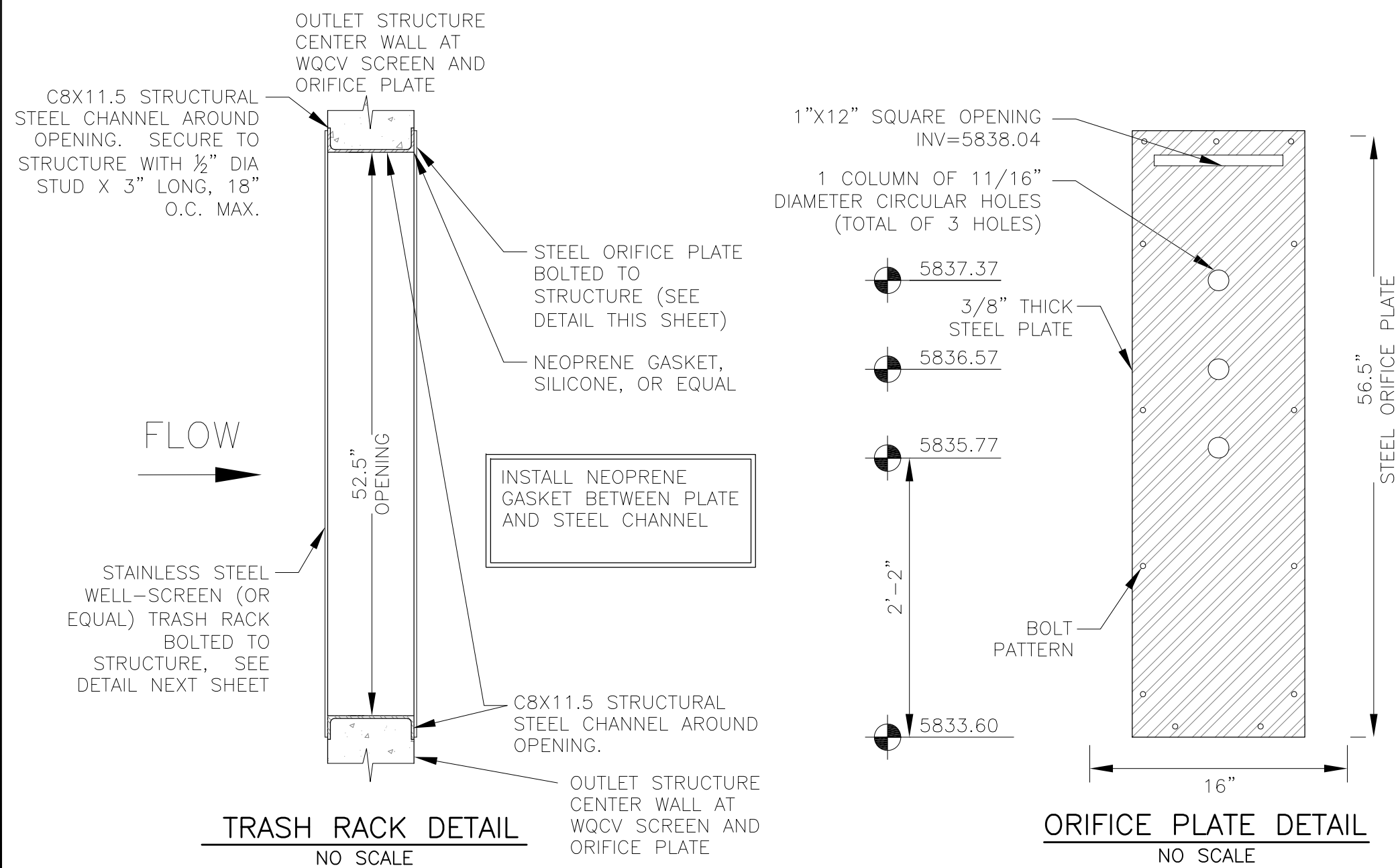
NOTE:
AFTER CONCRETE STRUCTURE HAS BEEN POURED
ALL GRATE DIMENSIONS SHALL BE FIELD VERIFIED
PRIOR TO GRATE CONSTRUCTION



OUTLET STRUCTURE DETAIL - SECTION A-A
NO SCALE



OUTLET STRUCTURE DETAIL - SECTION B-B
NO SCALE

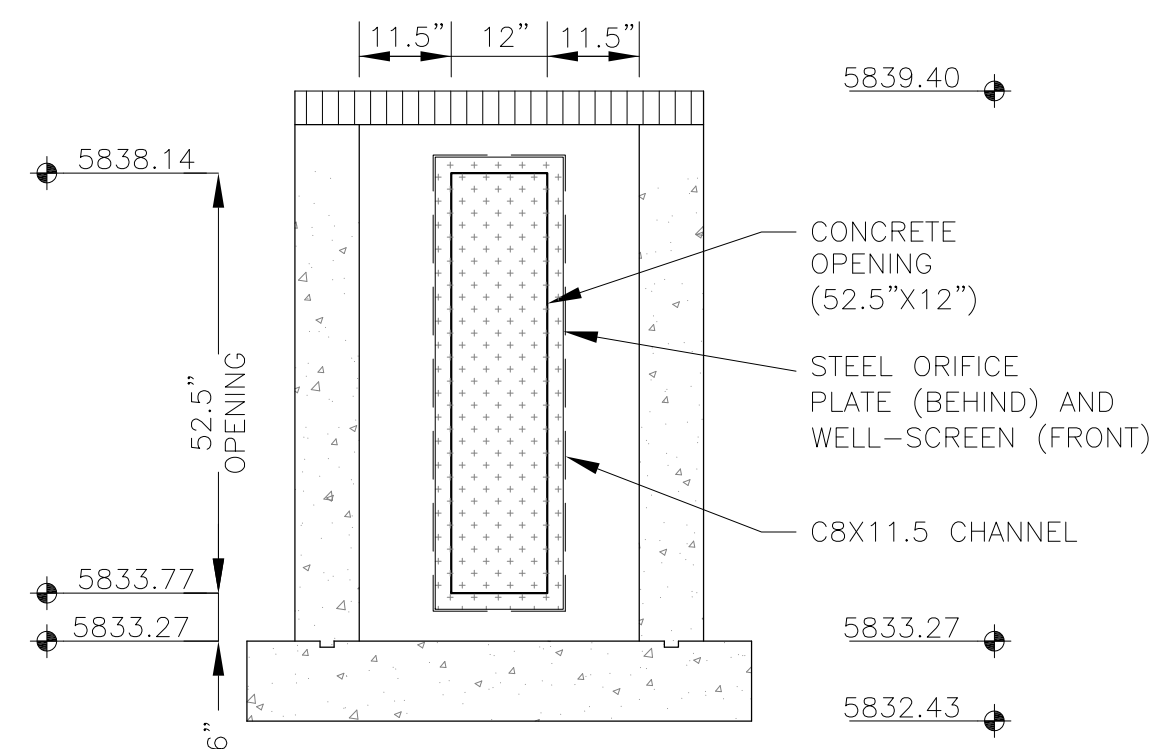


OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

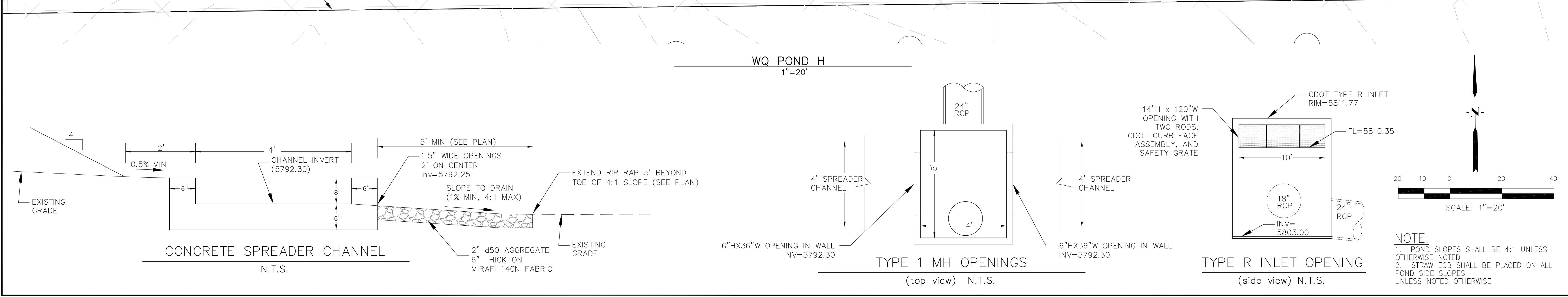
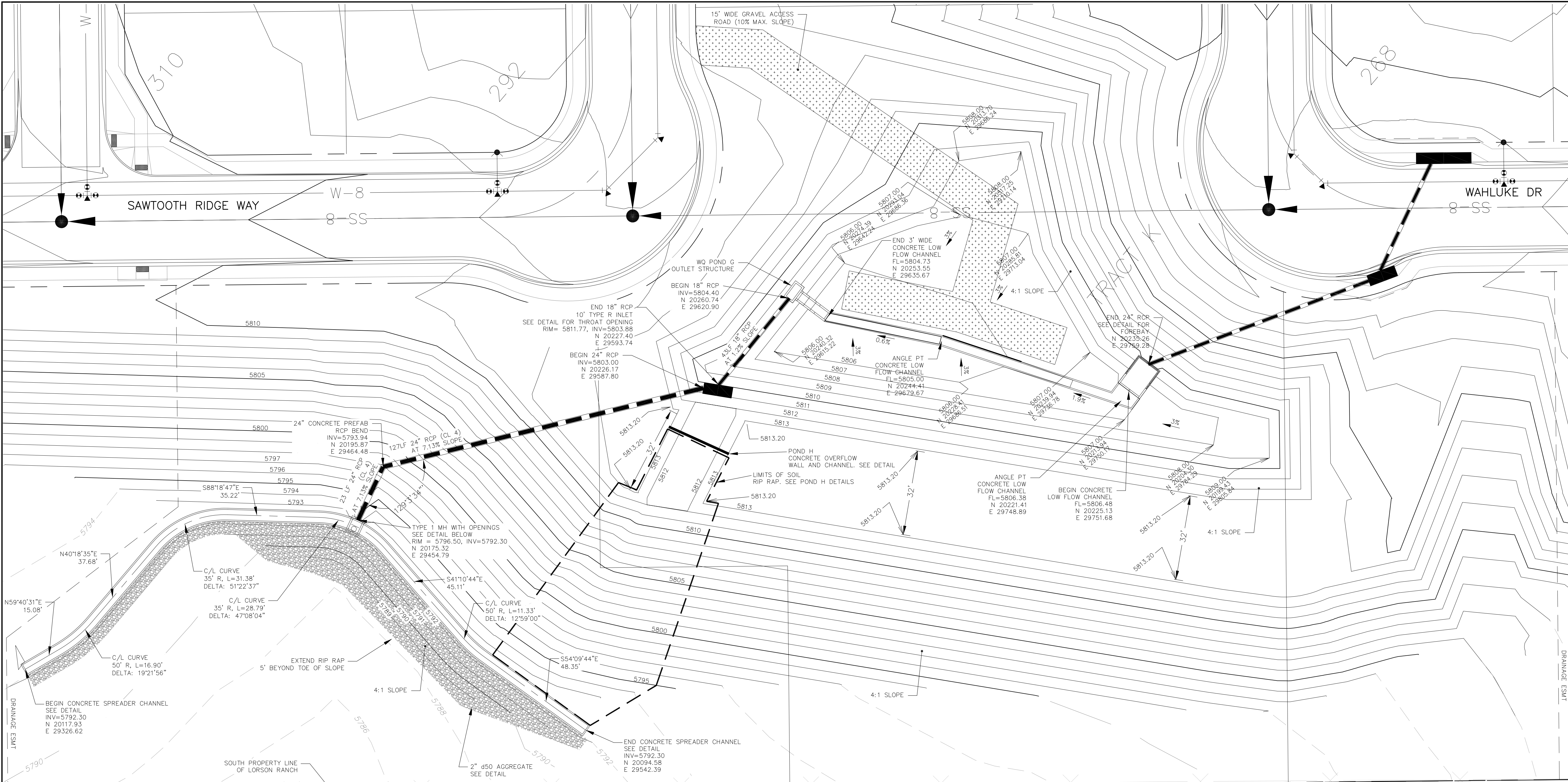
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL COMPONENTS OF THE OUTLET STRUCTURE.
- GRADE 60 REINFORCING STEEL REQUIRED. SEE TABLE FOR THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING BARS. ALL REINFORCING STEEL SHALL HAVE A TWO-INCH MINIMUM CLEARANCE FROM EDGE OF CONCRETE, UNLESS OTHERWISE NOTED.
- CONCRETE FOR THE OUTLET STRUCTURE AND FOREBAY SHALL BE CDOT CLASS D CONCRETE.
- CONCRETE FOR DRAIN CHANNELS SHALL BE CDOT CLASS B CONCRETE
- EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213. EXPANSION JOINT MATERIAL SHALL BE 1/2" THICK, SHALL EXTEND THE FULL DEPTH OF CONTACT SURFACE AND THE JOINT SHALL BE SEALED, REFER TO DETAILS.
- ALL EXPOSED CONCRETE CORNERS SHALL HAVE A 3/8" CHAMFER UNLESS OTHERWISE NOTED.
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- REFER TO POND DETAILS FOR PRESEDIMENTATION/FOREBAY DESIGN.
- ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION OF OUTLET STRUCTURE TO SCHEDULE OBSERVATION VISITS FOR STRUCTURES.

WQCV WELL-SCREEN NOTES:

- Well-Screen shall be stainless steel and attached by stainless steel bolts along edge of the mounting frame.
- WQCV Well Screen
 - Type of Screen: Stainless steel #93 Vee Wire (Johnson Vee Wire (tm) Stainless Steel Screen or equivalent with 60% open area)
 - Screen slot opening dimension: 0.139" (Screen #93 Vee Wire Slot Opening)
 - Type and Size of Support Rod: TE 0.074"x0.50"
 - Spacing of Support Rod (O.C.): 1.0 Inch
 - Total Screen Thickness: 0.655"
 - Carbon Steel Holding Frame Type: 3/4" x 1.0" angle



OUTLET STRUCTURE DETAIL - SECTION B-B
NO SCALE



CORE

ENGINEERING GROUP

15004 1ST AVENUE S,
SUITE 301
DENVER, CO 80202
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@ceg1.com

DATE

DESCRIPTION

NO.

DRAWN: RLS

DESIGNED: RLS

CHECKED: RLS

PROJECT: HILLSIDE AT LORSON RANCH

PREPARED FOR: LORSON, LLC
212 N. WAHSATCH AVE, SUITE 301
COLORADO SPRINGS, COLORADO 80903
(719) 635-3200
CONTACT: JEFF MARK

WQ POND H

POND GRADING AND

CONCRETE SPREADER CHANNEL

DATE:

FEB 5, 2022

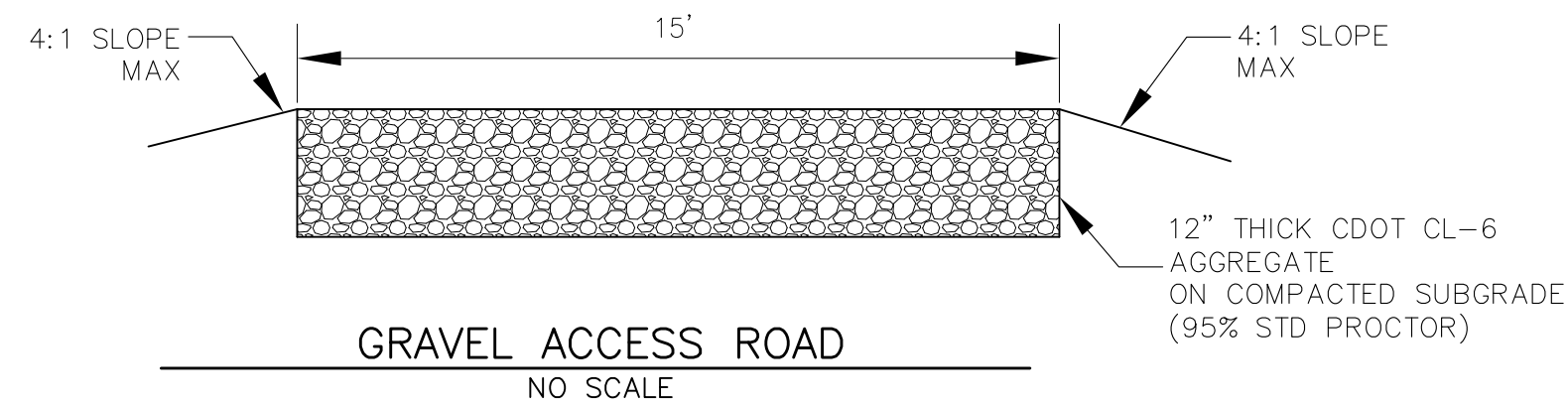
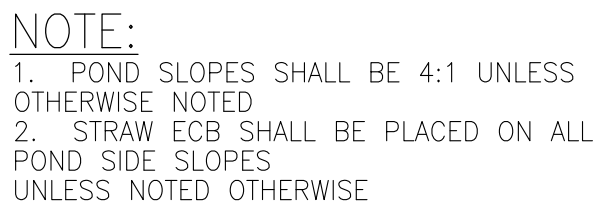
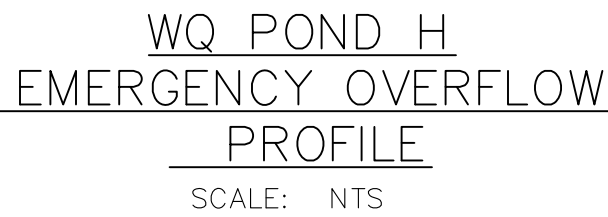
PROJECT NO.

100.065

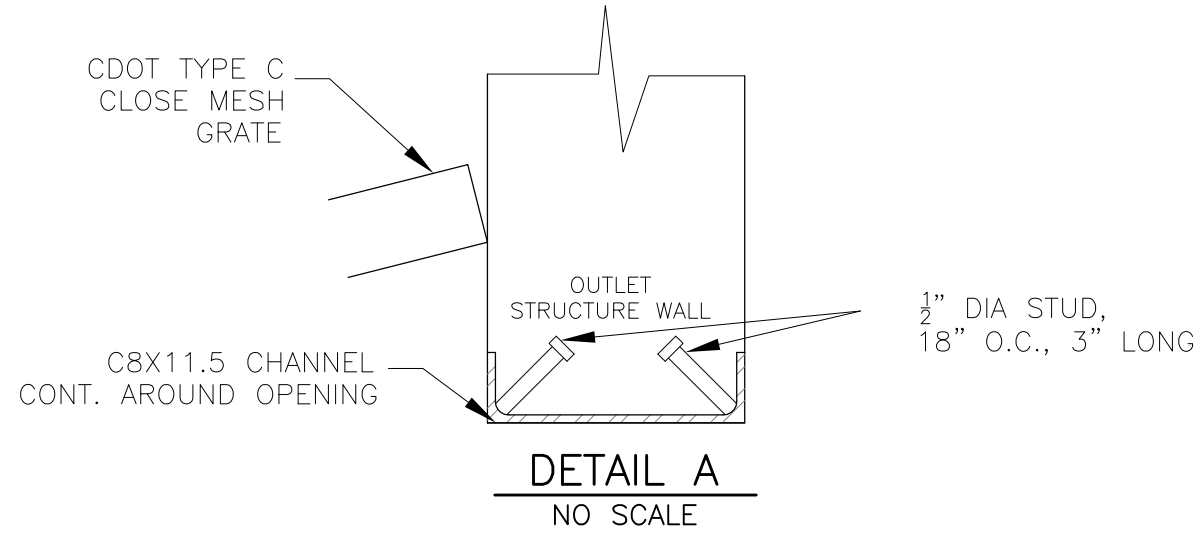
SHEET NUMBER

C9.6

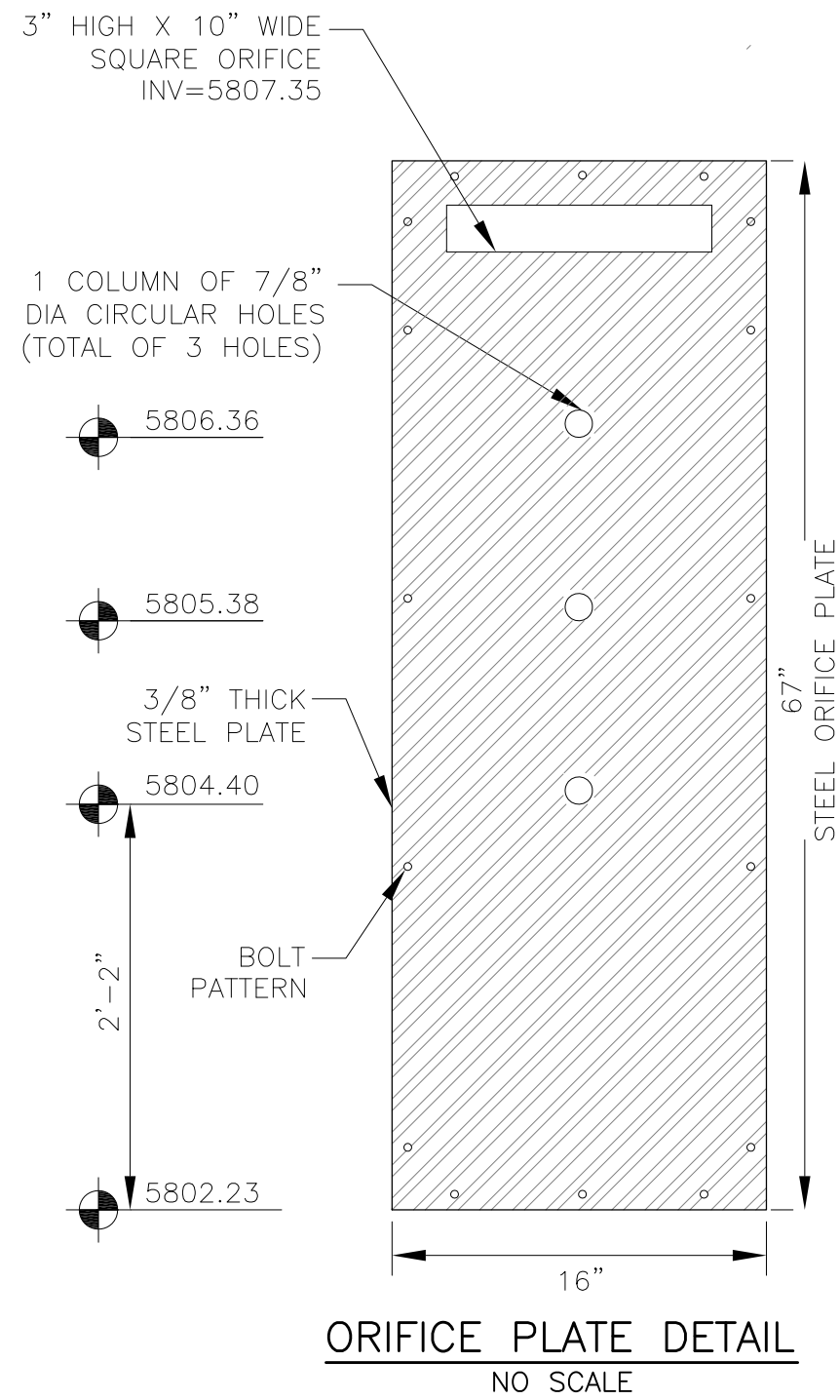
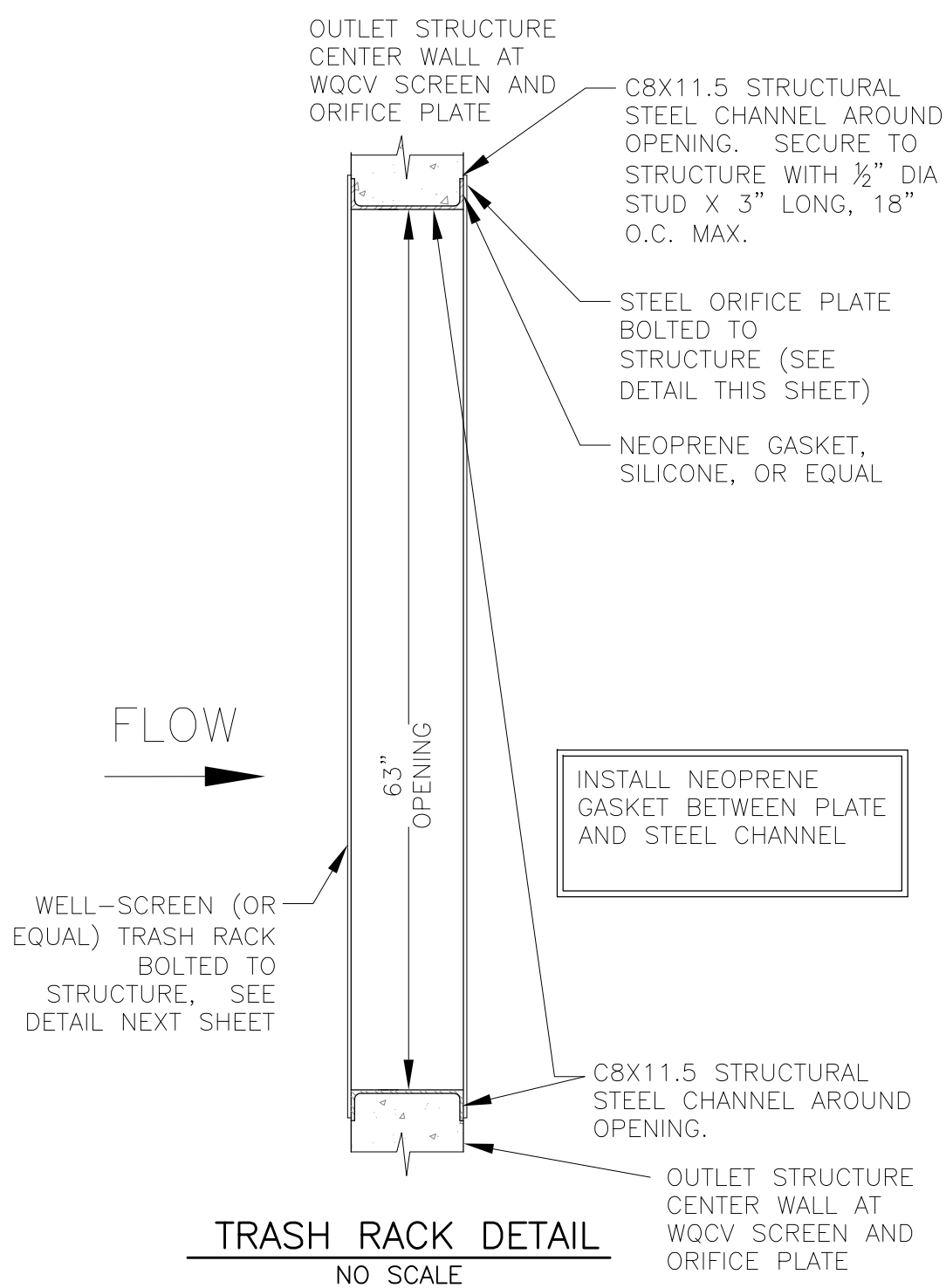
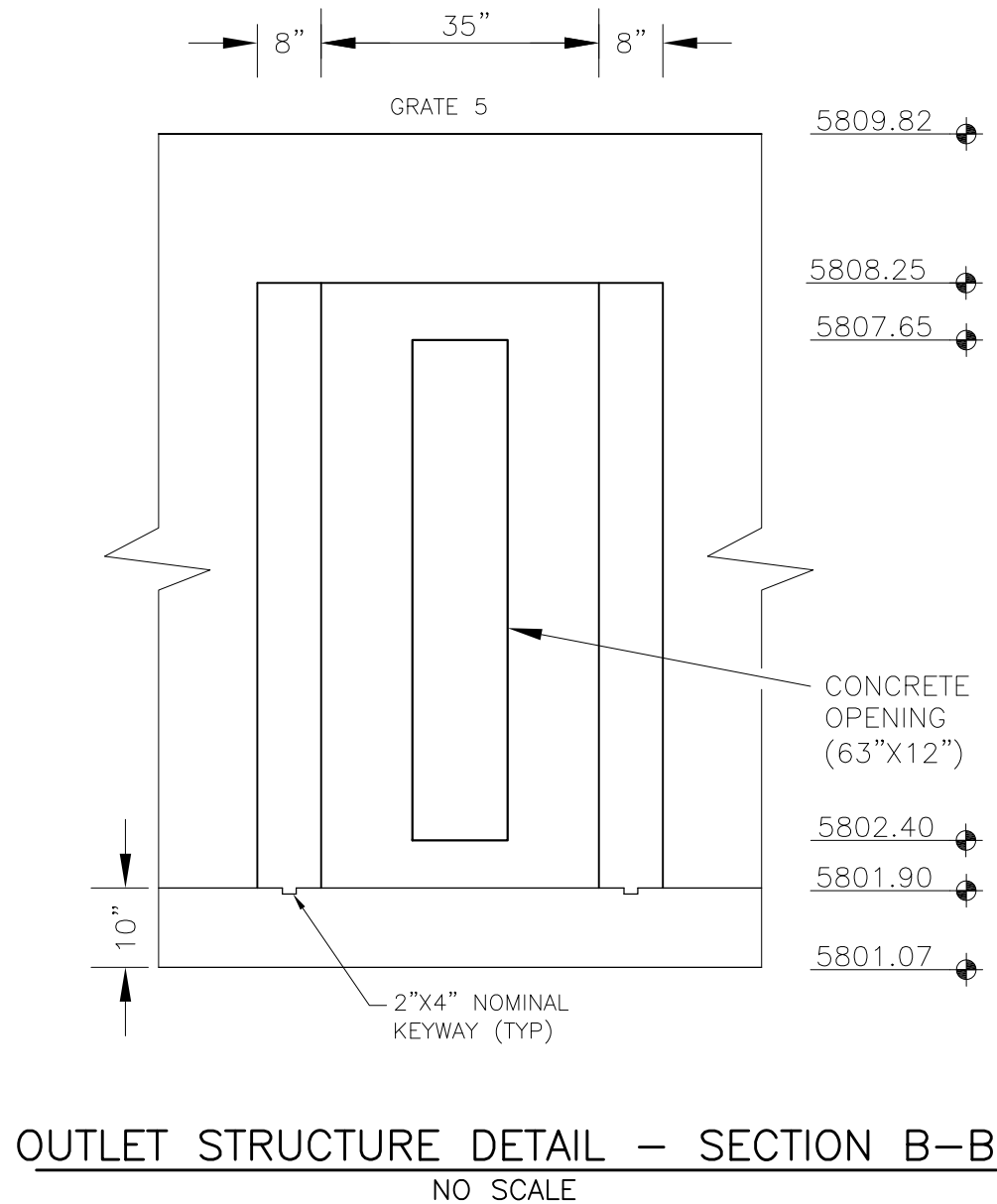
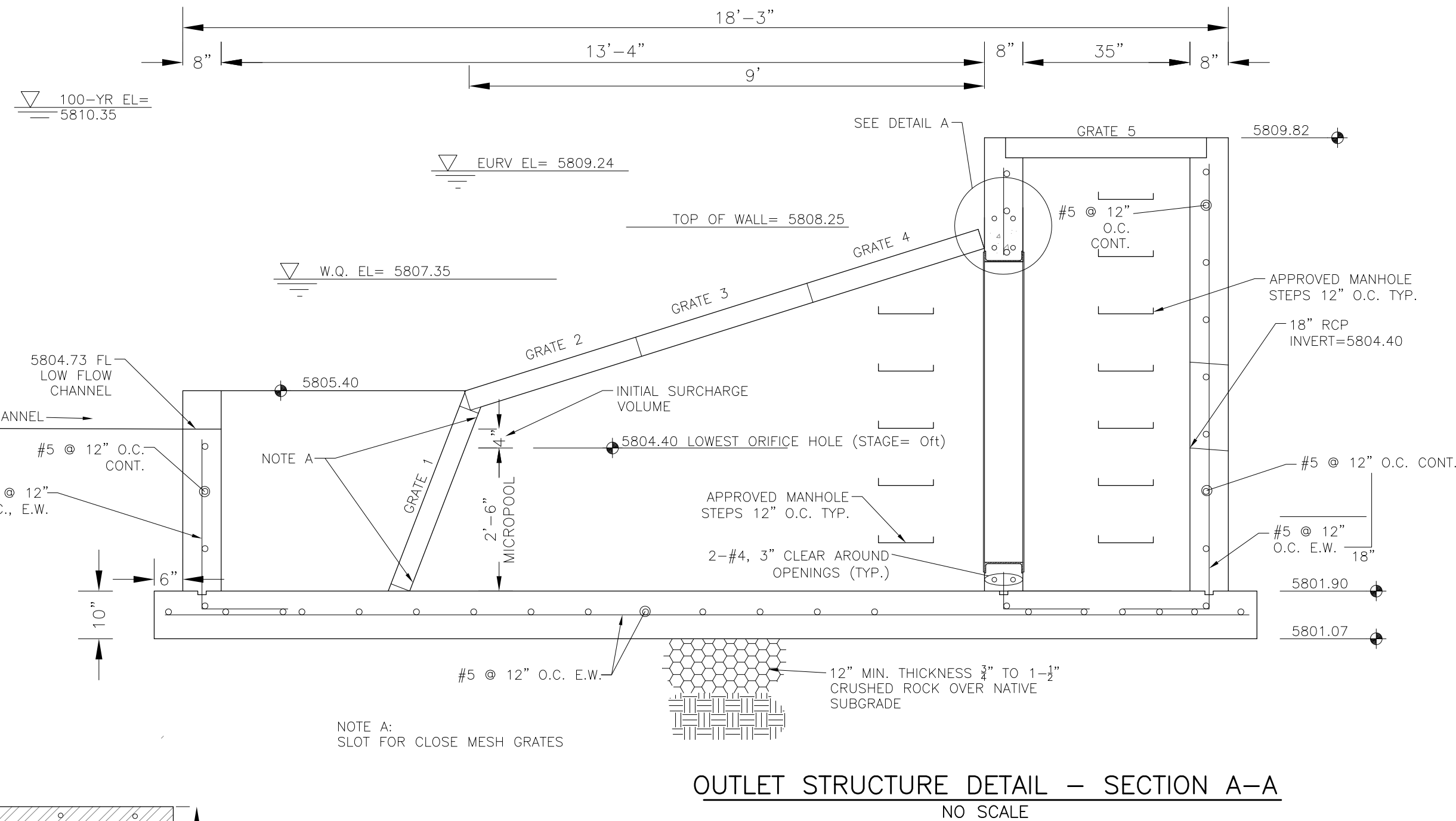
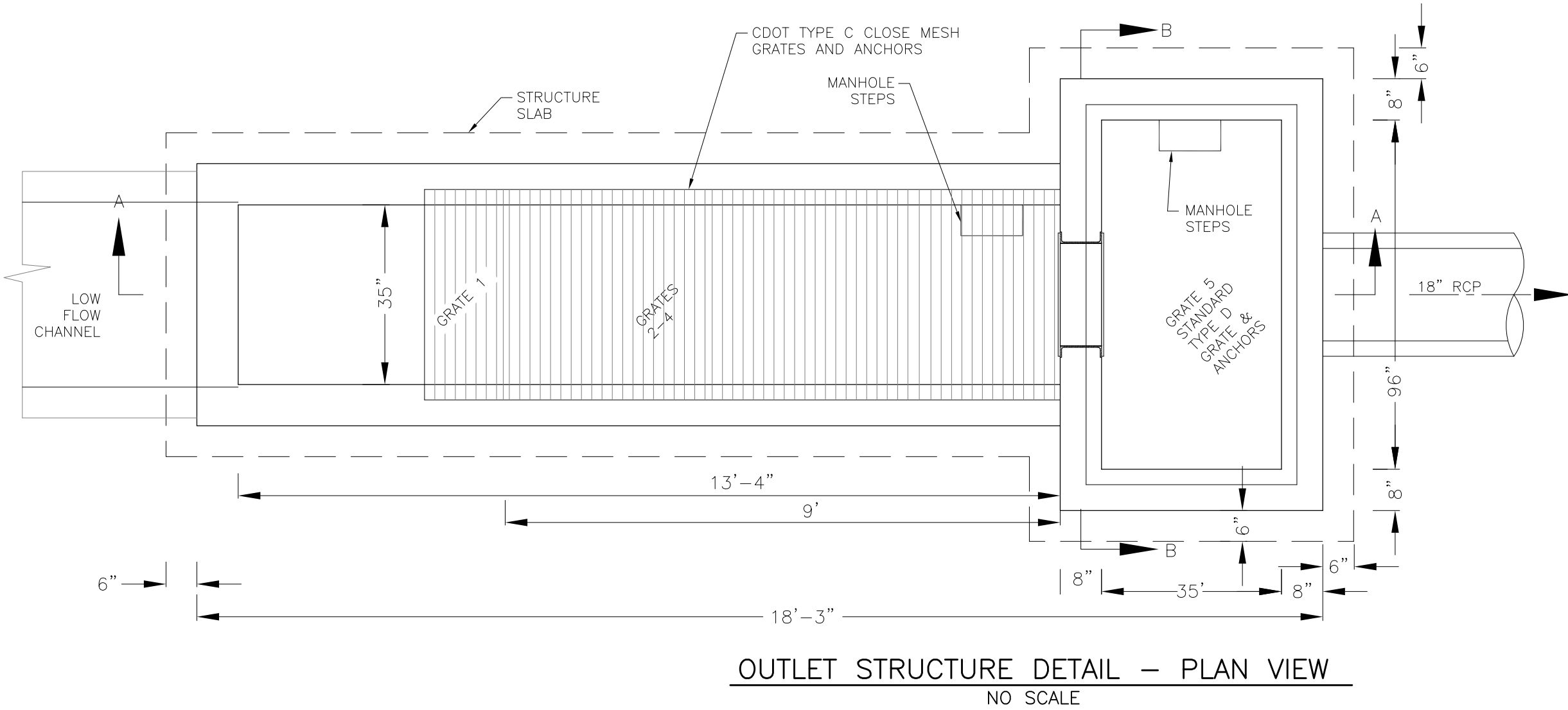
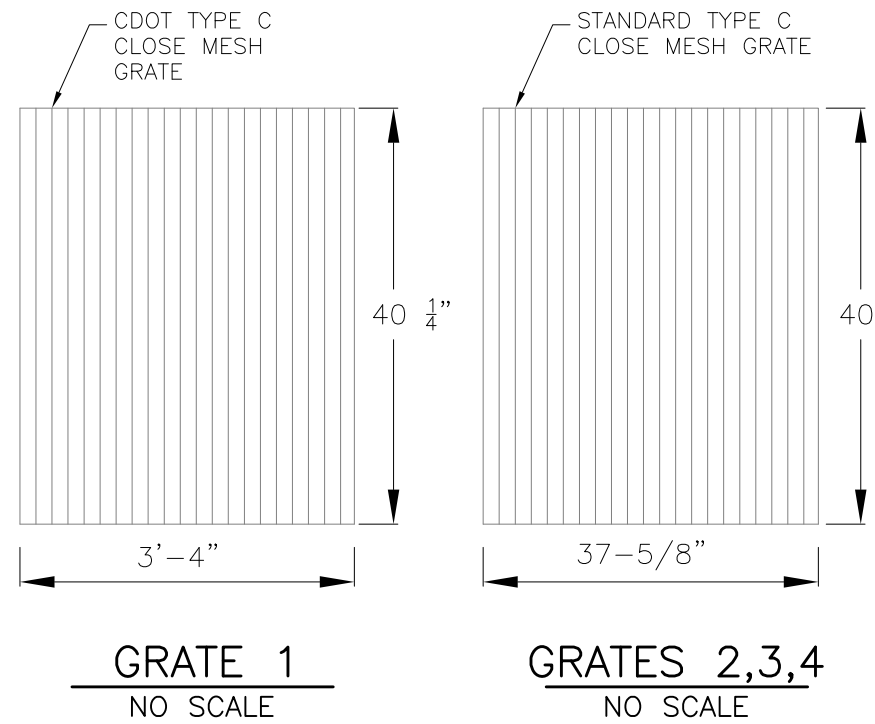
TOTAL SHEETS: 20



<div>WQ POND H</div> <div>POND DETAILS</div> <div>AND TRICKLE CHANNEL</div>		DATE: FEB 5, 2022	
		PROJECT NO. 100.065	
SHEET NUMBER C9.7		TOTAL SHEETS: 20	
DRAWN: DESIGNED: CHECKED:		RLS RLS RLS	
<div>HILLSIDE AT LORSON RANCH</div> <div>LORSON BLVD – WALLEVE DR</div> <div>COLORADO SPRINGS, COLORADO</div>		PROJECT: PREPARED FOR: 212 N. WAHSATCH AVE, SUITE 301 COLORADO SPRINGS, COLORADO 80903 (719) 635-3200 CONTACT: JEFF MARK	
		NO. 1. MODIFY CONCRETE SPREADER CHANNEL DATE NOV 30, 2021	
<div>CORE</div> <div>ENGINEERING GROUP</div> <div>15004 1ST AVENUE S.</div> <div>BURNSVILLE, MN 55306</div> <div>PH: 612-895-1000</div> <div>CONTACT: RICHARD L. SCHINDLER, P.E.</div> <div>EMAIL: Rich@cegl.com</div>			



NOTE:
AFTER CONCRETE STRUCTURE HAS BEEN POURED
ALL GRATE DIMENSIONS SHALL BE FIELD VERIFIED
PRIOR TO GRATE CONSTRUCTION

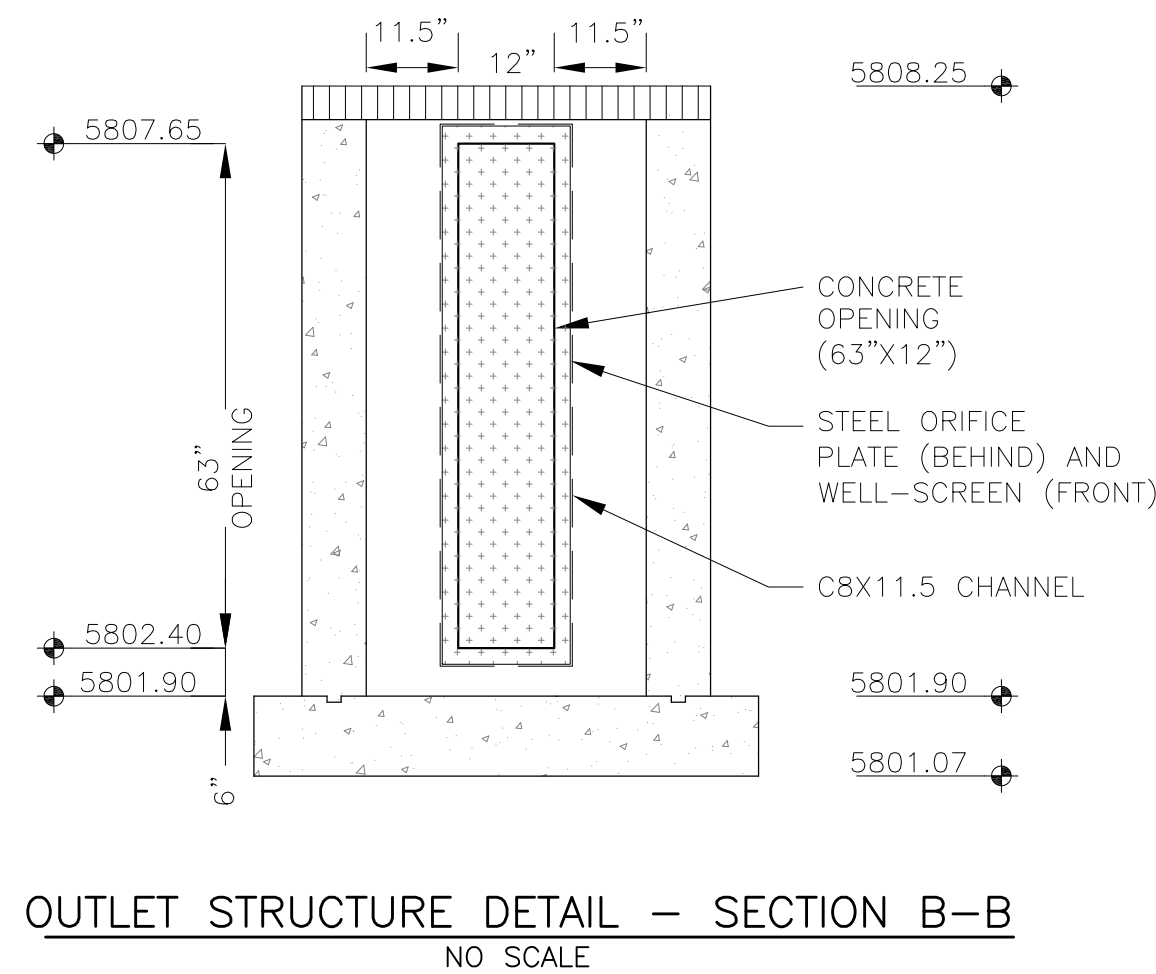


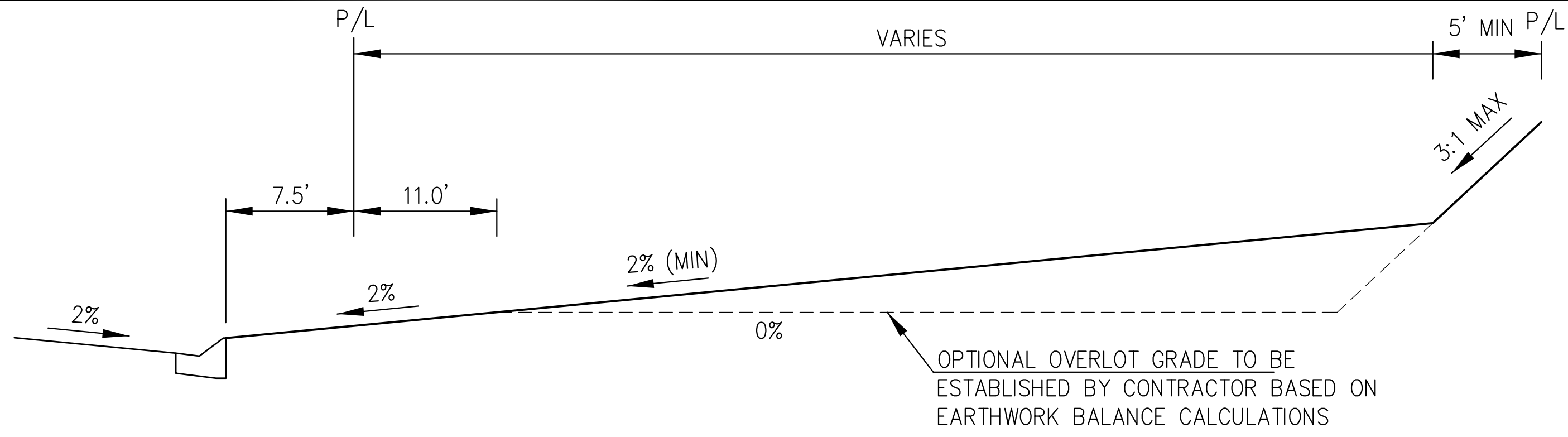
OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

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- GRADE 60 REINFORCING STEEL REQUIRED. SEE TABLE FOR THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING BARS. ALL REINFORCING STEEL SHALL HAVE A TWO-INCH MINIMUM CLEARANCE FROM EDGE OF CONCRETE, UNLESS OTHERWISE NOTED.
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- CONCRETE FOR DRAIN CHANNELS SHALL BE CDOT CLASS B CONCRETE.
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- REFER TO POND DETAILS FOR PRESEDIMENTATION/FOREBAY DESIGN.
- ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION OF OUTLET STRUCTURE TO SCHEDULE OBSERVATION VISITS FOR STRUCTURES.

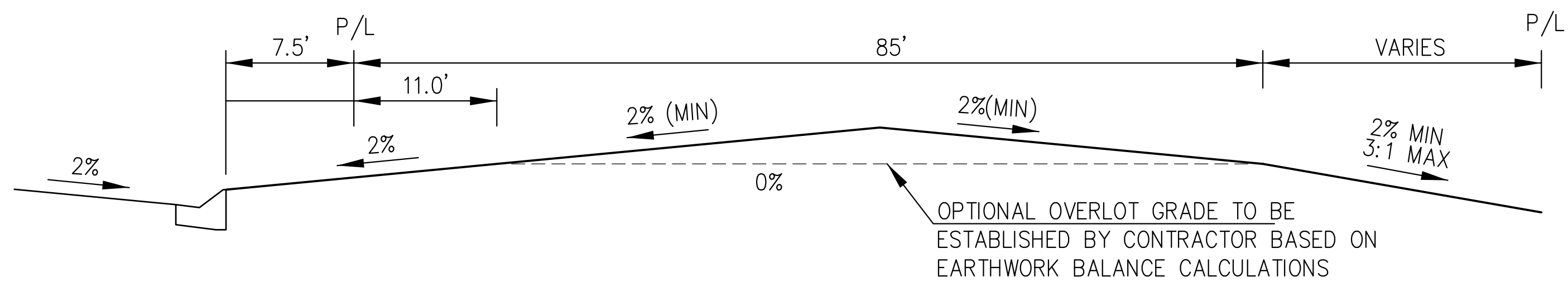
WQCV WELL-SCREEN NOTES:

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- WQCV Well Screen
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 - Spacing of Support Rod (O.C.): 1.0 Inch
 - Total Screen Thickness: 0.655"
 - Carbon Steel Holding Frame Type: 3/4" x 1.0" angle

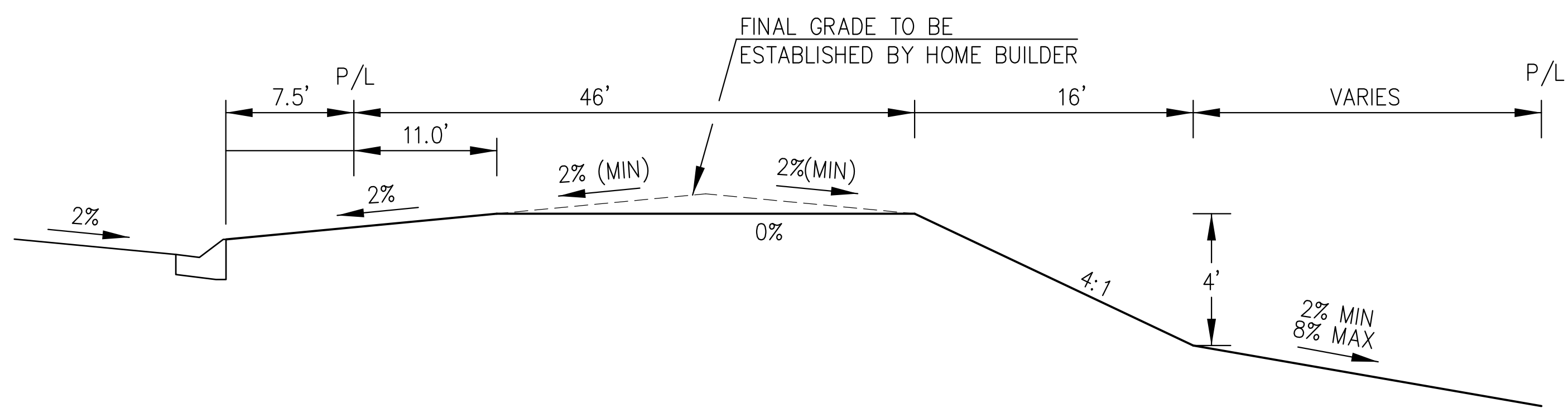




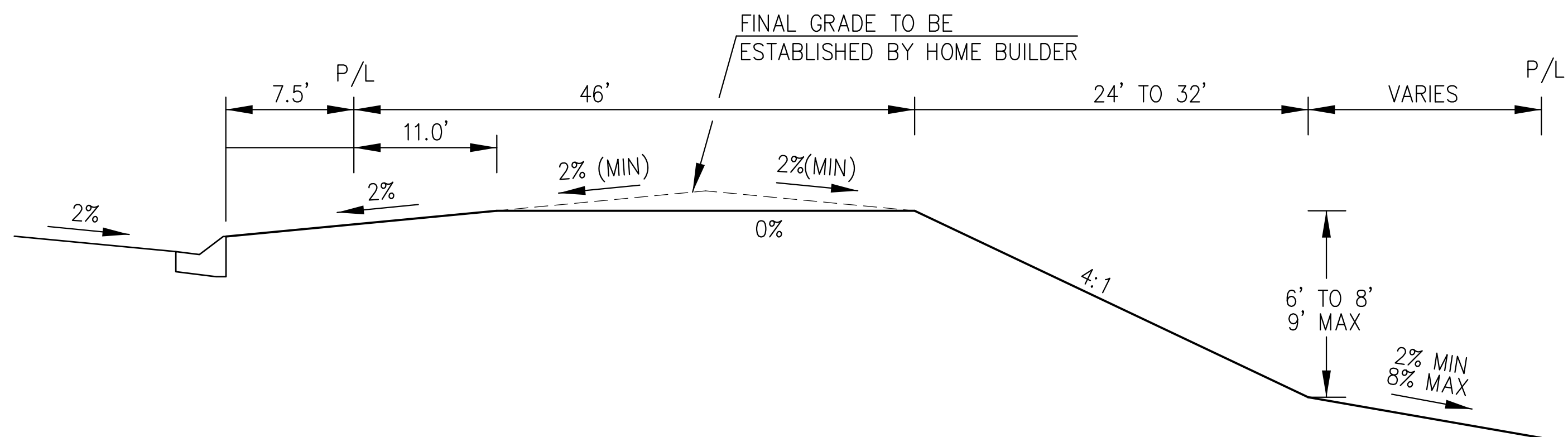
TYPICAL "A" LOT



TYPICAL "B" LOT

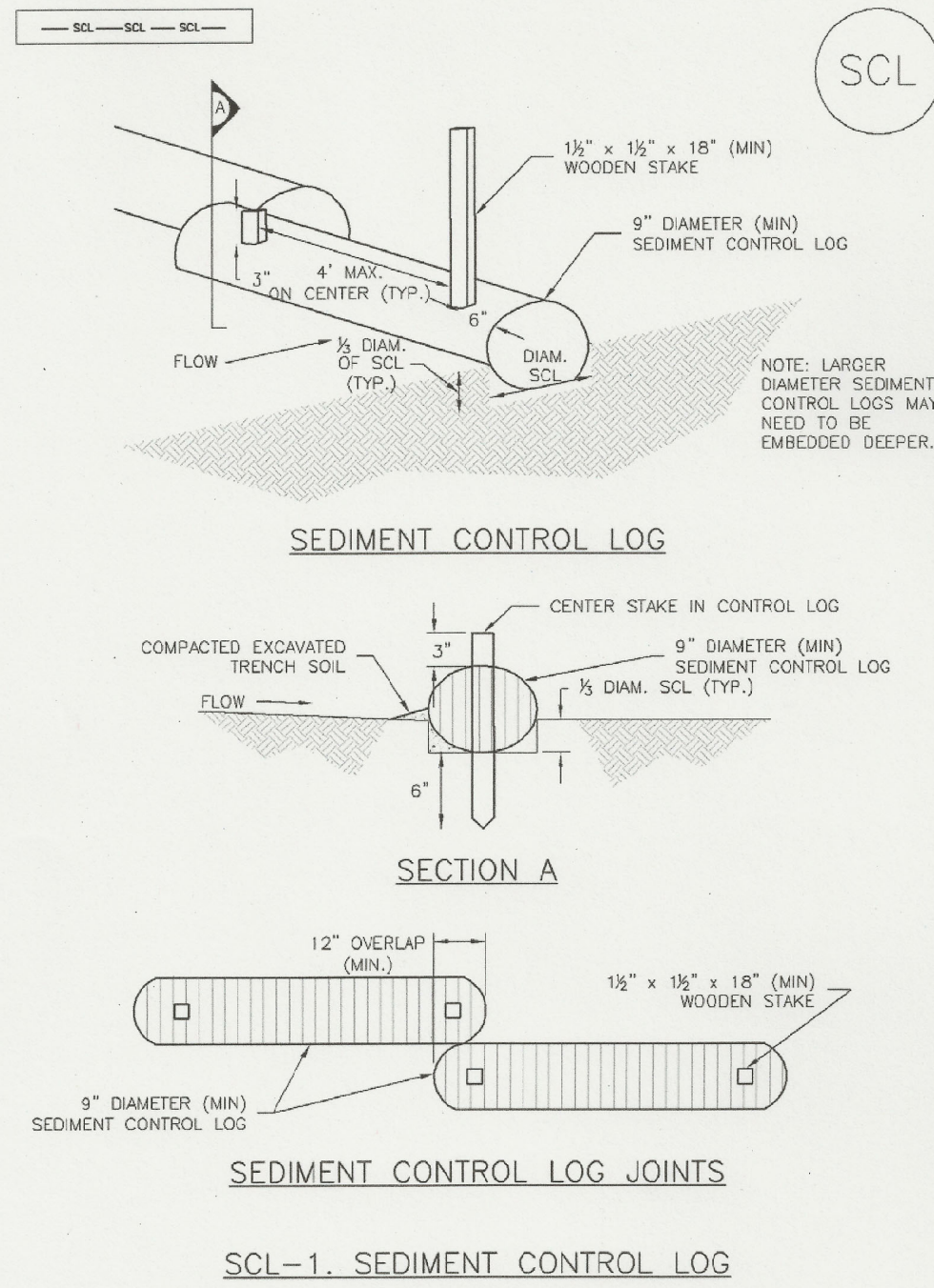


TYPICAL "GARDEN" LOT



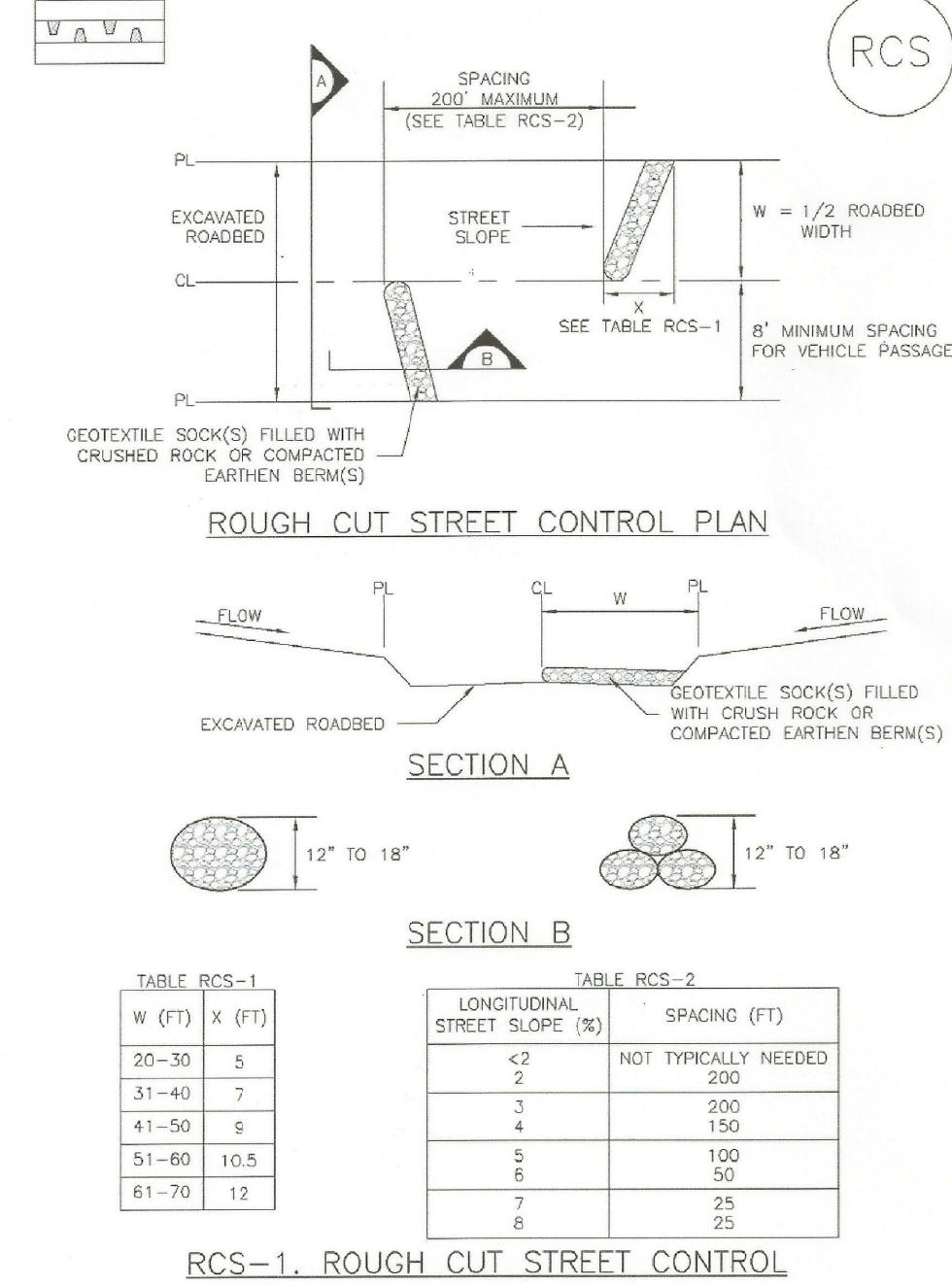
TYPICAL "WALKOUT" LOT

Sediment Control Log (SCL) SC-2



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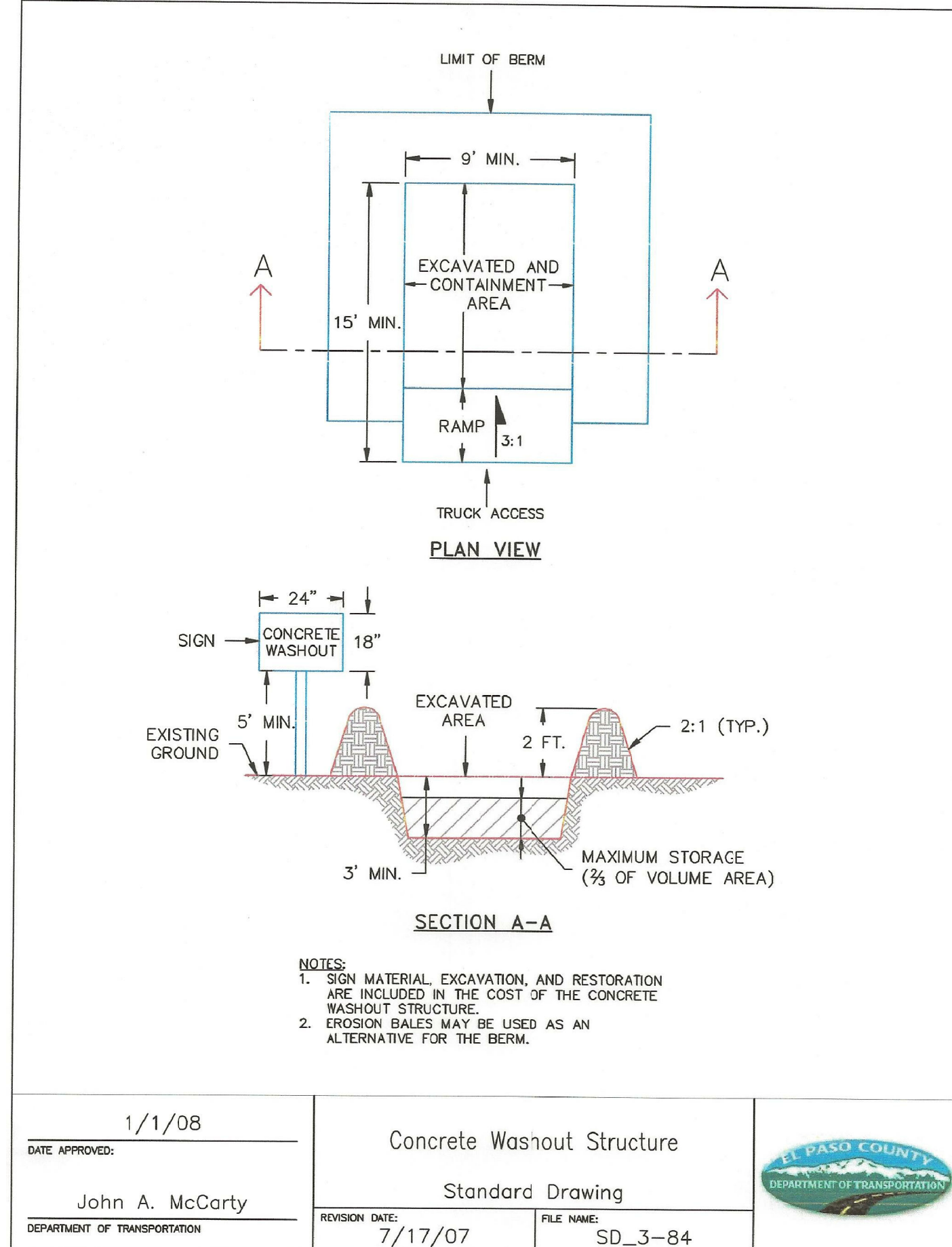
EC-9 Rough Cut Street Control (RCS)



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



City of Colorado Springs Stormwater Quality Figure IP-2 Straw Bale Inlet Protection Construction Detail and Maintenance Requirements 3-28



1/1/08 Concrete Washout Structure Standard Drawing John A. McCarty DEPARTMENT OF TRANSPORTATION 7/17/07 SD_3-84

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DATE

DESCRIPTION

NO.

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DESIGNED: RLS
CHECKED: RLS

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PROJECT:
HILLSIDE AT LORSON RANCH
LORSON BLVD - WALLEYE DR
COLORADO SPRINGS, COLORADO

GRADING AND EROSION CONTROL DETAILS

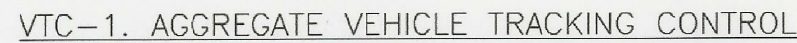
DATE:
FEB 5, 2022

PROJECT NO.
100.065

SHEET NUMBER
C12.1

TOTAL SHEETS: 20

SM-4



VTC-3



SEDIMENT BASIN NOTES

INSTALLATION REQUIREMENTS

1. SEDIMENT BASIN SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
3. THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DISCHARGE ITS VOLUME IN 40 HOURS.
4. THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. Baffles MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
5. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. OVERLAPTED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
6. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
7. WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, THE BASIN SHALL BE PROPERLY POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
2. SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
3. SEDIMENT BASINS 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 SB-1 Sediment Basin
Construction Detail and Maintenance Requirements

3-32

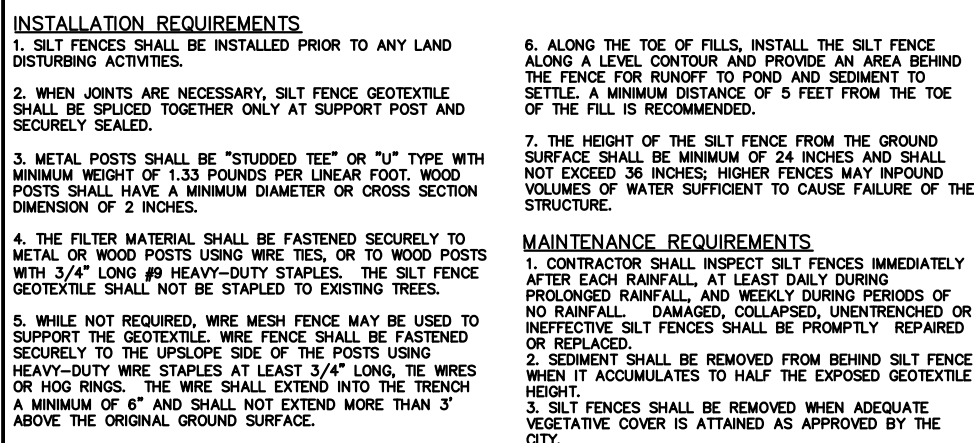
City of Colorado Springs
Stormwater Quality

Figure SF-2
Silt Fence
Construction Detail and Maintenance Requirements



**Figure SF-3 Silt Fence
Joint Tying**
Construction Detail and Maintenance
Requirements

TABLE SB-1TABLE SB-2City of Colorado Springs
Stormwater Quality

Figure SB-2
Outlet Sizing
Application Techniques and Maintenance Requirements

3-33



RECP-6 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

EC-6

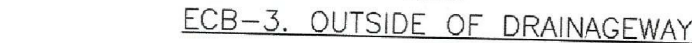


Figure 1 consists of three diagrams illustrating different types of jointing. Each diagram shows a cross-section of a joint with various dimensions and labels.

- STRAW:** This diagram shows a joint with a central vertical line representing the straw. The total width of the joint is labeled as W . The width of the straw itself is labeled as $\frac{1}{2} W$. The distance from the center of the straw to the outer edge of the joint is labeled as $3'$. The distance from the center of the straw to the inner edge of the joint is labeled as $6'$. The label "PERIMETER ANCHOR TRENCH OR JOINT, TYP." is at the top left.
- STRAW-COCONUT:** This diagram shows a joint with a central vertical line representing the straw. The total width of the joint is labeled as W . The width of the straw itself is labeled as $\frac{1}{2} W$. The distance from the center of the straw to the outer edge of the joint is labeled as $3'$. The distance from the center of the straw to the inner edge of the joint is labeled as $6'$. The label "PERIMETER ANCHOR TRENCH OR JOINT, TYP." is at the top left.
- COCONUT OR EXCELSIOR:** This diagram shows a joint with a central vertical line representing the coconut or excelsior. The total width of the joint is labeled as W . The width of the coconut or excelsior itself is labeled as $\frac{1}{2} W$. The distance from the center of the coconut or excelsior to the outer edge of the joint is labeled as $4'$. The distance from the center of the coconut or excelsior to the inner edge of the joint is labeled as $2'$. The label "PERIMETER ANCHOR TRENCH OR JOINT, TYP." is at the top left.

STAKING PATTERNS BY ECB TYPE

LOW FLOW CHANNEL

HIGH FLOW CHANNEL

STAKING PATTERNS BY SLOPE OR CHANNEL

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RECP-7

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DESIGNED: RLS
CHECKED: RLS

GRADING AND EROSION CONTROL DETAILS

DATE:
FEB 5, 2022

PROJECT NO.
100.065

SHEET NUMBER
C12.2

TOTAL SHEETS: 20

EC-2 Temporary and Permanent Seeding (TS/PS)

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses

Common ^a Name	Botanical Name	Growth Season ^b	Growth Form	Seeds/Pound	Pounds of PLS/acre
Alkali Soil Seed Mix					
Alkali searoot	<i>Sporobolus airoides</i>	Cool	Bunch	1,750,000	0.25
Basin wildrye	<i>Elymus cinereus</i>	Cool	Bunch	165,000	2.5
Sodar streambank wheatgrass	<i>Agropyron riparium 'Soda'</i>	Cool	Sod	170,000	2.5
Jose tall wheatgrass	<i>Agropyron elongatum 'Jose'</i>	Cool	Bunch	79,000	7.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					17.75
Fertile Loamy Soil Seed Mix					
Ephraim crested wheatgrass	<i>Agropyron cristatum 'Ephraim'</i>	Cool	Sod	175,000	2.0
Dural hard fescue	<i>Festuca ovina 'durasiacula'</i>	Cool	Bunch	565,000	1.0
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	Cool	Sod	130,000	3.0
Sodar streambank wheatgrass	<i>Agropyron riparium 'Soda'</i>	Cool	Sod	170,000	2.5
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	7.0
Total					15.5
High Water Table Soil Seed Mix					
Meadow foxtail	<i>Alopecurus pratensis</i>	Cool	Sod	900,000	0.5
Redtop	<i>Agrostis alba</i>	Warm	Open sod	5,000,000	0.25
Reed canarygrass	<i>Phalaris arundinacea</i>	Cool	Sod	68,000	0.5
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	Cool	Sod	130,000	3.0
Pathfinder switchgrass	<i>Panicum virgatum 'Pathfinder'</i>	Warm	Sod	389,000	1.0
Alkar tall wheatgrass	<i>Agropyron elongatum 'Alkar'</i>	Cool	Bunch	79,000	5.5
Total					10.75
Transition Turf Seed Mix^c					
Ruebens Canadian bluegrass	<i>Poa compressa 'Ruebens'</i>	Cool	Sod	2,500,000	0.5
Dural hard fescue	<i>Festuca ovina 'durasiacula'</i>	Cool	Bunch	565,000	1.0
Citation perennial ryegrass	<i>Lolium perenne 'Citation'</i>	Cool	Sod	247,000	3.0
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	Cool	Sod	130,000	3.0
Total					7.5

TS/PS-4 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

June 2012

Temporary and Permanent Seeding (TS/PS) EC-2

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.)

Common Name	Botanical Name	Growth Season ^b	Growth Form	Seeds/Pound	Pounds of PLS/acre
Sandy Soil Seed Mix					
Blue grama	<i>Bouteloua gracilis</i>	Warm	Sod-forming bunchgrass	825,000	0.5
Camper little bluestem	<i>Schizachyrium scoparium 'Camper'</i>	Warm	Bunch	240,000	1.0
Prairie sandreed	<i>Calamovilfa longifolia</i>	Warm	Open sod	274,000	1.0
Sand dropsseed	<i>Sporobolus cryptandrus</i>	Cool	Bunch	5,298,000	0.25
Vaughn sidecoats grama	<i>Bouteloua curtipendula 'Vaughn'</i>	Warm	Sod	191,000	2.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					10.25
Heavy Clay, Rocky Foothill Seed Mix					
Ephraim crested wheatgrass ^d	<i>Agropyron cristatum 'Ephraim'</i>	Cool	Sod	175,000	1.5
Oahu Intermediate wheatgrass	<i>Agropyron intermedium 'Oahu'</i>	Cool	Sod	115,000	5.5
Vaughn sidecoats grama ^e	<i>Bouteloua curtipendula 'Vaughn'</i>	Warm	Sod	191,000	2.0
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	Cool	Sod	130,000	3.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					17.5

^a All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.

^b See Table TS/PS-3 for seeding dates.

^c If site is to be irrigated, the transition turf seed rates should be doubled.

^d Crested wheatgrass should not be used on slopes steeper than 6H to 1V.

^e Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sidecoats grama.

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Urban Storm Drainage Criteria Manual Volume 3

TS/PS-5

Temporary and Permanent Seeding (TS/PS) EC-2

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-3 for appropriate seeding dates.

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

Species ^a (Common name)	Growth Season ^b	Pounds of Pure Live Seed (PLS)/acre ^c	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	½
5. Millet	Warm	3 - 15	½ - ¾
6. Sudangrass	Warm	5-10	½ - ¾
7. Sorghum	Warm	5-10	½ - ¾
8. Winter wheat	Cool	20-35	1 - 2
9. Winter barley	Cool	20-35	1 - 2
10. Winter rye	Cool	20-35	1 - 2
11. Triticale	Cool	25-40	1 - 2

^a Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

^b See Table TS/PS-3 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

^c Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

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Urban Storm Drainage Criteria Manual Volume 3

TS/PS-3

EC-2 Temporary and Permanent Seeding (TS/PS)

Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses

Seeding Dates	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
	Warm	Cool	Warm	Cool
January 1-March 15			✓	✓
March 16-April 30	4	1,2,3	✓	✓
May 1-May 15	4		✓	
May 16-June 30	4,5,6,7			
July 1-July 15	5,6,7			
July 16-August 31				
September 1-September 30		8,9,10,11		
October 1-December 31			✓	✓

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

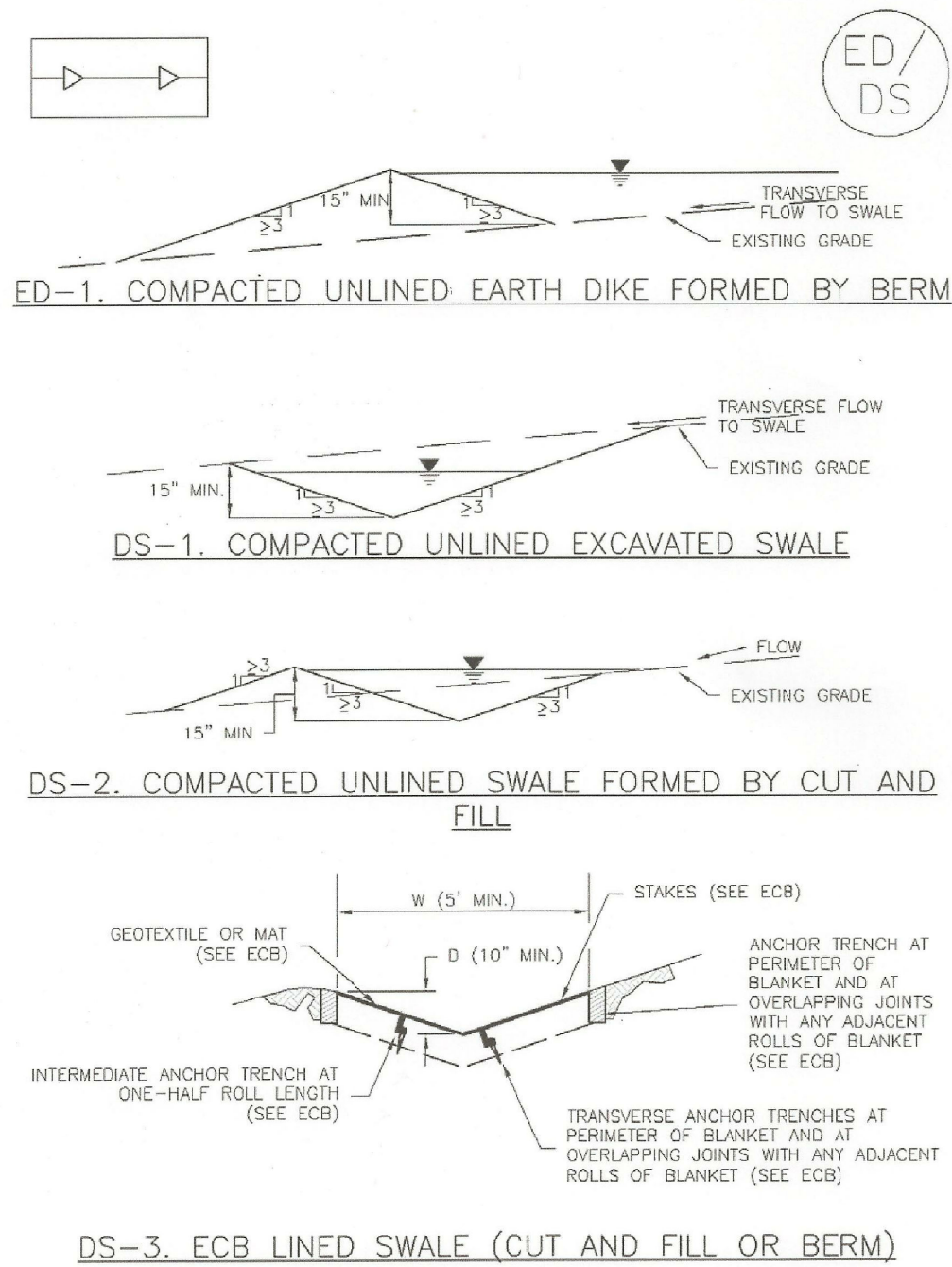
Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

TS/PS-6 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

June 2012

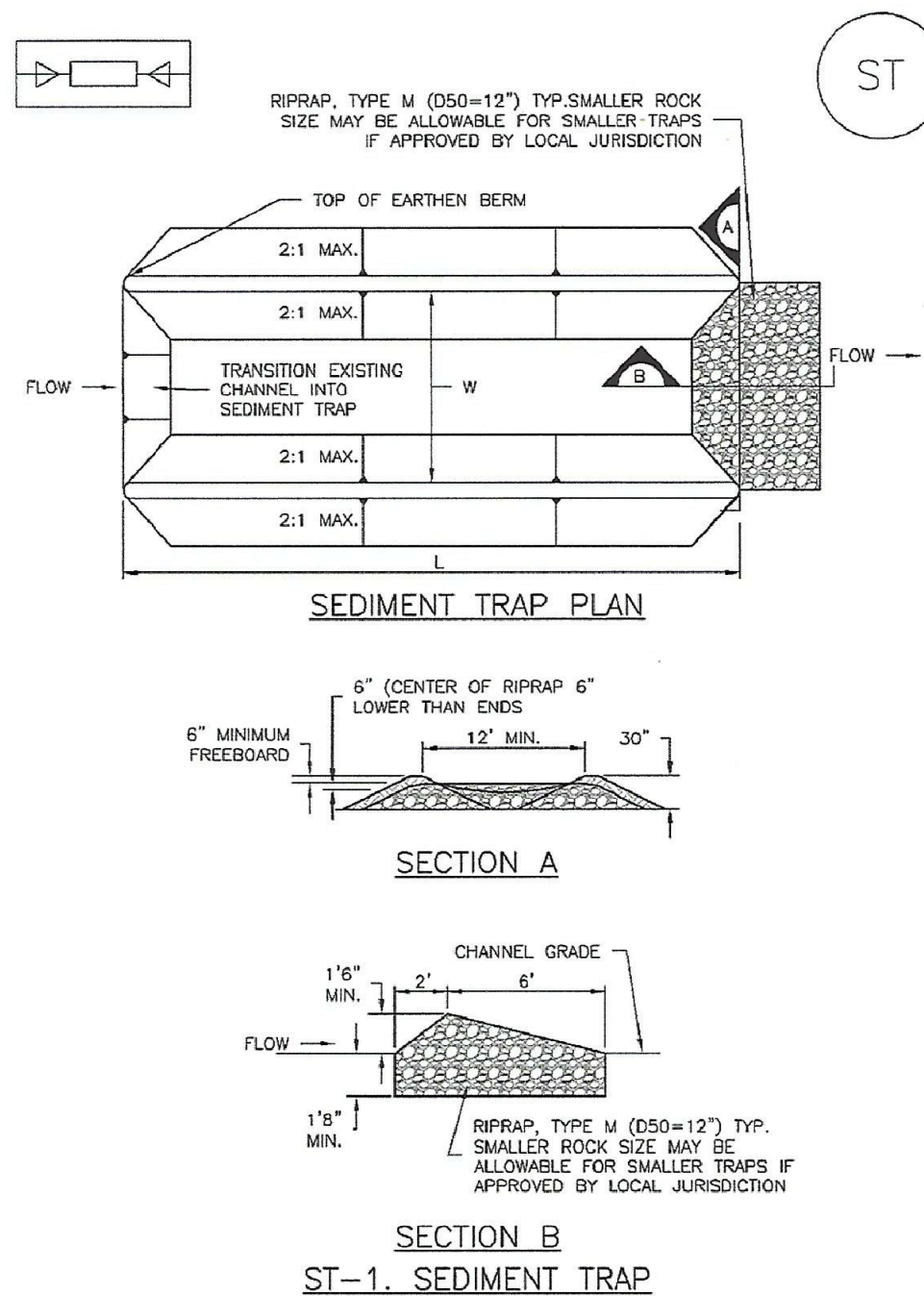
Earth Dikes and Drainage Swales (ED/DS) EC-10



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Urban Storm Drainage Criteria Manual Volume 3

ED/DS-3

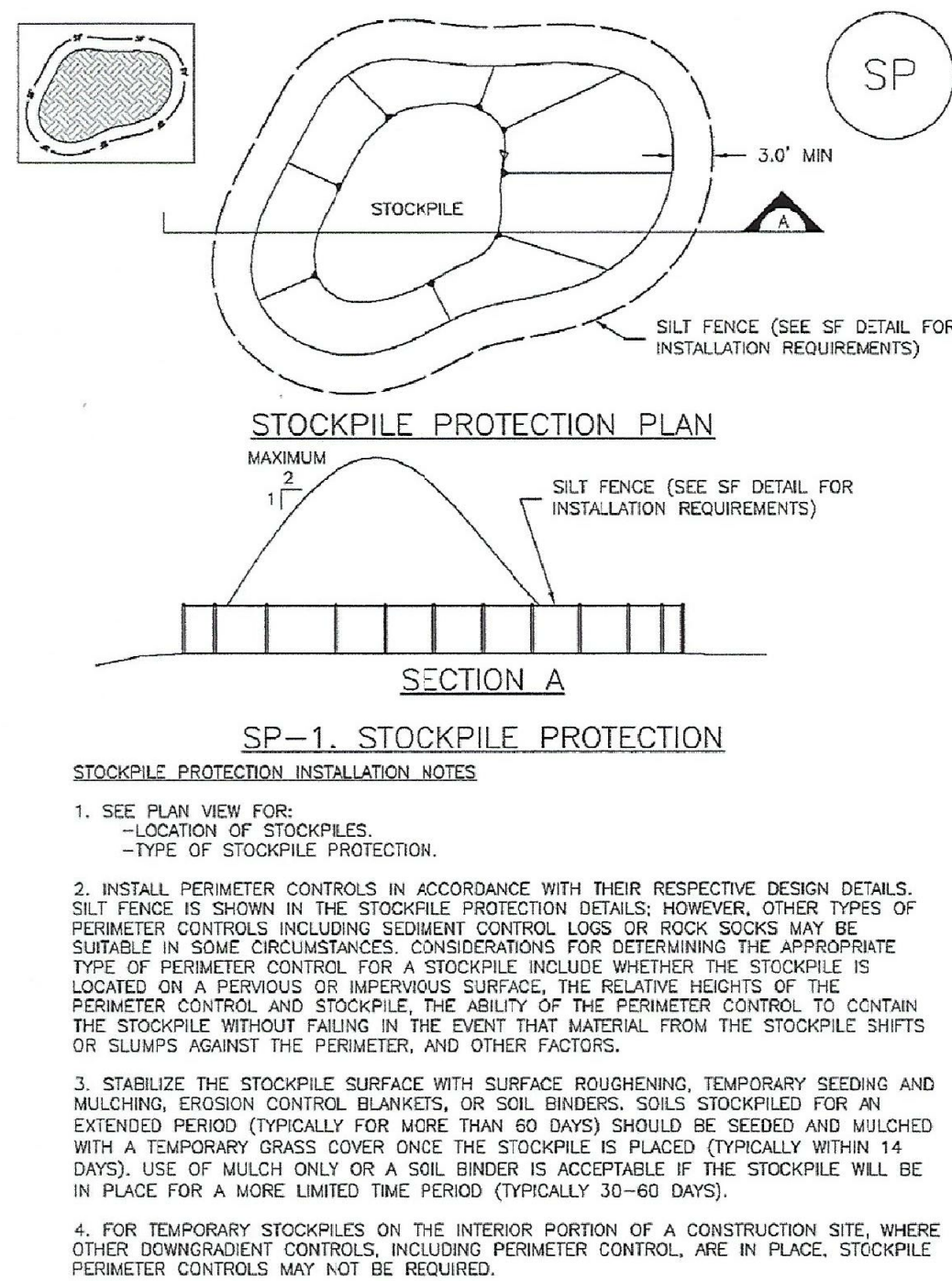
SC-8 Sediment Trap (ST)



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Urban Storm Drainage Criteria Manual Volume 3

November 2010

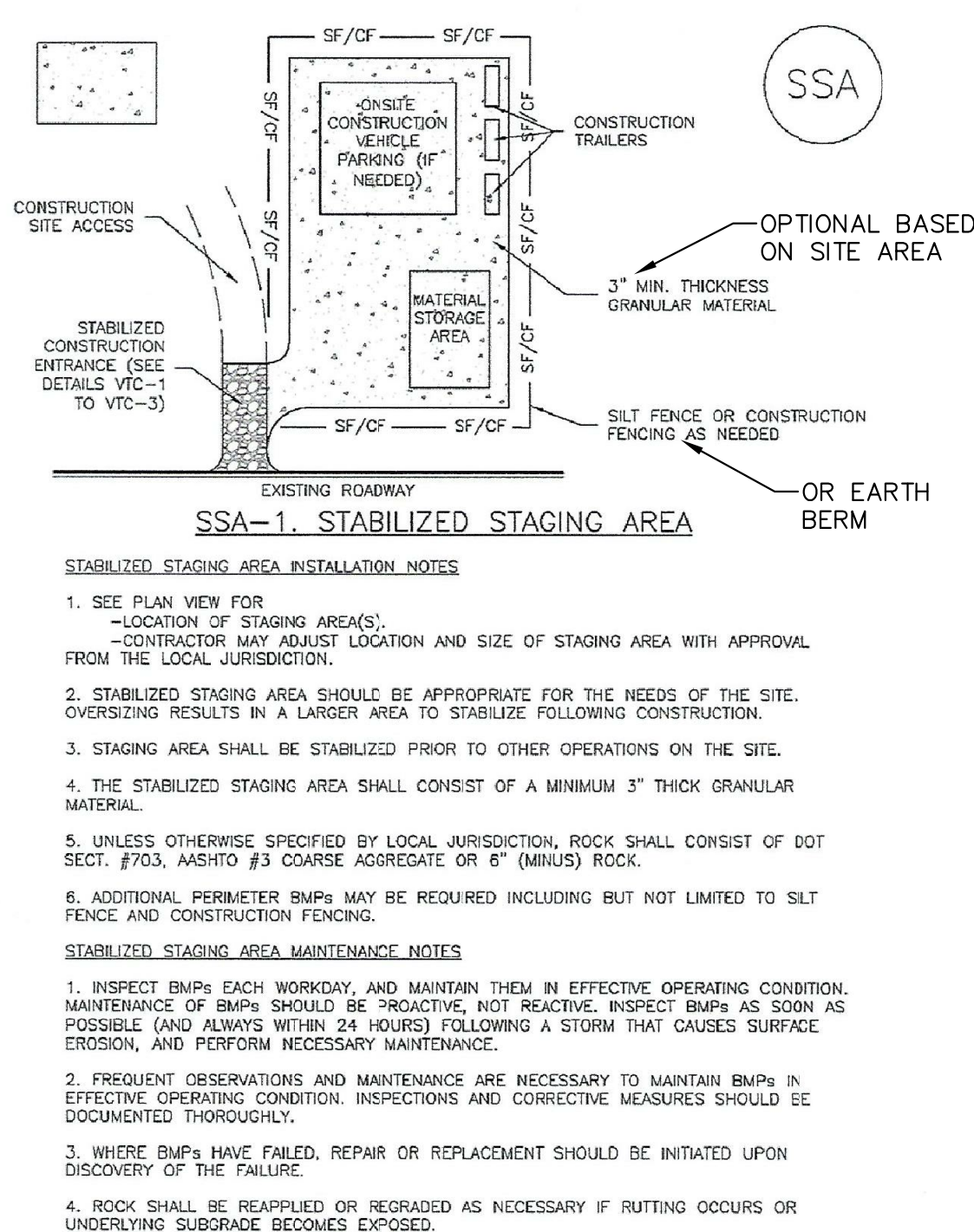
Stockpile Management (SP) MM-2



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Urban Storm Drainage Criteria Manual Volume 3

SP-3

Stabilized Staging Area (SSA) SM-6



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SSA-3

GRADING AND EROSION
CONTROL DETAILS

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DRAWN:

DESIGNED:

CHECKED:

RLS

RLS

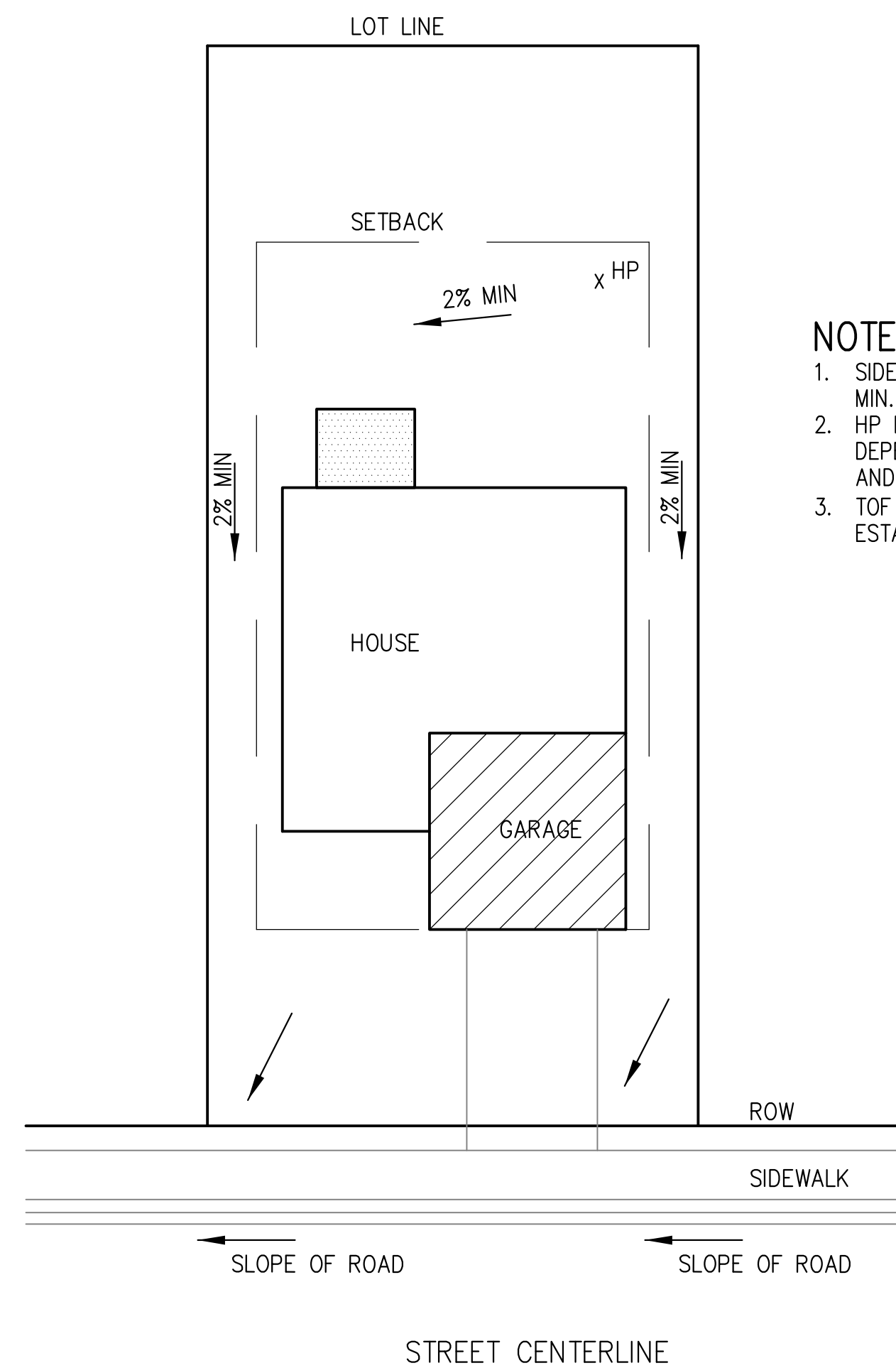
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DATE:
FEB 5, 2022

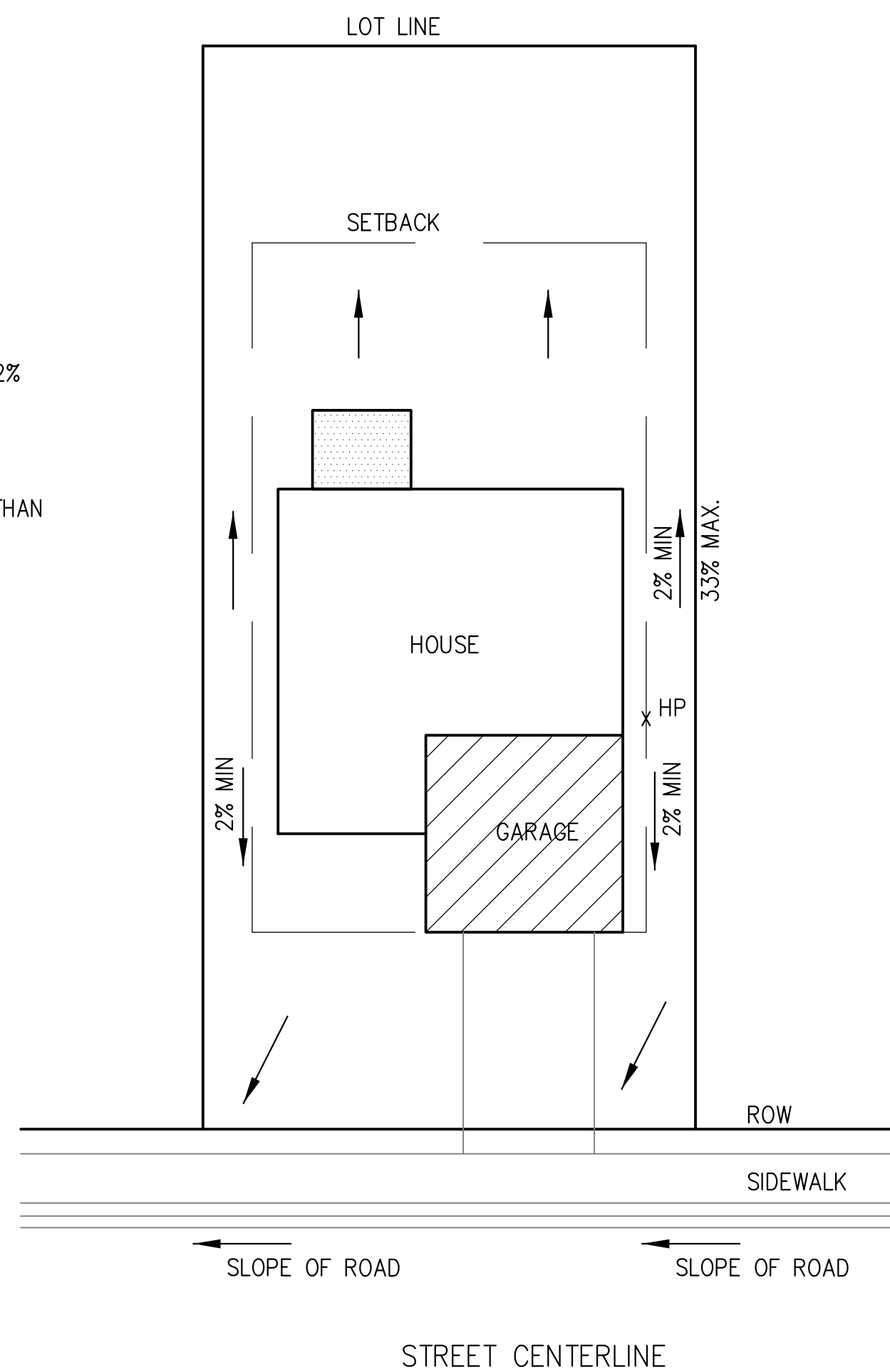
PROJECT NO.
100.065

SHEET NUMBER
C12.3

TOTAL SHEETS: 20



TYPICAL "A" LOT
DRAINAGE PATTERN
N.T.S.



TYPICAL "B", "G", "W/O"
LOT DRAINAGE PATTERN
N.T.S.

MULCHING NOTES

INSTALLATION REQUIREMENTS

1. ALL DISTURBED AREAS MUST BE MULCHED WITHIN 21 DAYS AFTER FINAL GRADE AND SEEDED AREAS ARE TO BE MULCHED WITHIN 45 DAYS AFTER SEEDING.
2. MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED- AND SEED-FREE, LONG STEMMED FIELD OR MARSH HAY, OR STRAW OF CENTS, BARLEY, WHEAT, RYE, OR TRITICALE. MULCHING BY THE TOLERANCE METHOD FOR CRITICAL AREAS WOULD REQUIRE CERTIFICATION PROGRAM.
3. HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD CHIP MANUFACTURED FROM CLEAN WHITE WOOD CHIPS CERTIFIED FREE FROM ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED MATERIAL. GRAVEL CAN ALSO BE USED.
4. MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.
5. MULCH IS TO BE ANCHORED EITHER BY GRIMPING (TUCKING MULCH FIBERS 4 INCHES INTO THE SOIL), USING NETTING (USE ON SMALL AREAS WITH STEEP SLOPES), OR WITH A TACKLER.
6. HYDRAULIC MULCHING AND TACKLIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER.

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED AREAS.
2. MULCH IS TO BE REPLACED IMMEDIATELY IN THOSE AREAS IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD BE RESEDED.

City of Colorado Springs
Stormwater Quality

**Figure MU-1
Mulching**
Construction Detail and Maintenance
Requirements

GRADING AND EROSION CONTROL DETAILS

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DESIGNED:	RLS
CHECKED:	RLS

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PROJECT NO.
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TOTAL SHEETS: 20