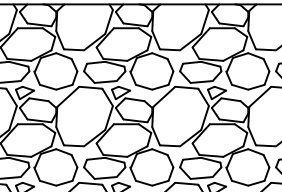
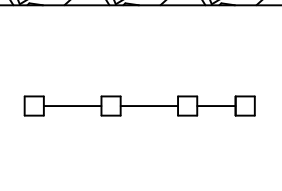


SOUTH RIVERFRONT PARK EXTENSION

BURLINGTON, IOWA

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PLAN VIEW LEGEND	
RIP RAP	
CHAIN LINK FENCE	

NOTE LEGEND APPLIES
TO ALL PLAN VIEW
SHEETS



LOCATION MAP NOT TO SCALE



DIRECTORY			
PROJECT MANAGER		FACULTY ADVISOR	
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EMAIL	ugrin—jerin@uiowa.edu	EMAIL	rick—fosse@uiowa.edu
CLIENT CONTACT			
CONTACT	CHAD BIRD		
EMAIL	BirdC@burlingtoniowa.org		

PREPARED FOR



MAY 9TH, 2025

SHEET INDEX

CS	COVER SHEET
EX1	EXISTING CONDITIONS
RM1—3	REMOVALS AND CLEANUP
A1—3	SITE LAYOUT
G1—6	GRADING
SS1—6	STORM SEWER
PL1—10	PARKING LOT
TR1—6	TRAIL
LS1—6	LANDSCAPING
ST1—3	STRUCTURE
BR1—3	BOAT RAMP
D1—2	FISHING DOCK

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COVER SHEET

BURLINGTON, IA 52601

SHEET NAME
COVER SHEET

SHEET NO.
CS

PROJECT:	CEE: 4850
DATE :	5/9/25
DRAWN BY:	CLR
REVISION:	



MISSISSIPPI RIVER

BOAT RAMP RIVER ACCESS

PUBLIC WORKS
STORAGE BUILDING

PARKING LOT

FORMER GRAIN ELEVATOR SITE

FORMER RAILWAY SCALE HOUSE

BNSF RAILYARD

PROJECT:	CEE: 4850
DATE :	5/9/25
DRAWN BY:	JDU
REVISION:	

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EXISTING SITE

BURLINGTON, IA 52601

SHEET NAME
EXISTING CONDITIONS
SHEET NO.
EX1

REMOVALS AND SITE CLEANUP

REMOVAL NOTES

- PHASE I AND II ENVIRONMENTAL ASSESSMENTS RECOMMENDED ON SITE FROM
 - CLEARING, GRUBBING, AND DEBRIS REMOVAL INCLUDES REMOVING SHRUBBERY, TREE DEBRIS, EXCESS VEGETATION.
 - DEBRIS REMOVAL INCLUDES REMOVING TOP 12” OF EXISTING SITE SOIL, REMOVING DEBRIS IN SOIL AND PREPARING FOR IMPROVEMENTS. REMOVING UNSUITABLE MATERIAL, WASTE, DEBRIS IN SOIL
 - PAINT MARKING REMOVAL REQUIRED ON EXISTING PARKING LOT. REPAINTING FOR ADDITIONAL BOAT TRAILER PARKING WITH ADDITION OF SECOND RIVER ACCESS.
 - REMOVAL OF PUBLIC WORKS STORAGE STRUCTURE AND
- FORMER SCALE HOUSE STRUCTURE, CONTRACTOR REQUIRED TO OBTAIN DEMOLITION PERMITS.
- EXISTING PARKING LOT REQUIRES PAVEMENT REMOVAL, IN PREP FOR PARKING LOT EXTENSION AND BOAT RAMP CONSTRUCTION.
 - PCC REMOVALS FROM PARKING LOT, FRONT STREET, FORMER GRAIN ELEVATOR PAD, CAN BE RECYCLED FOR USE IN AGGREGATE BASE COURSE

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PROJECT: CEE: 4850
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REMOVAL PLAN

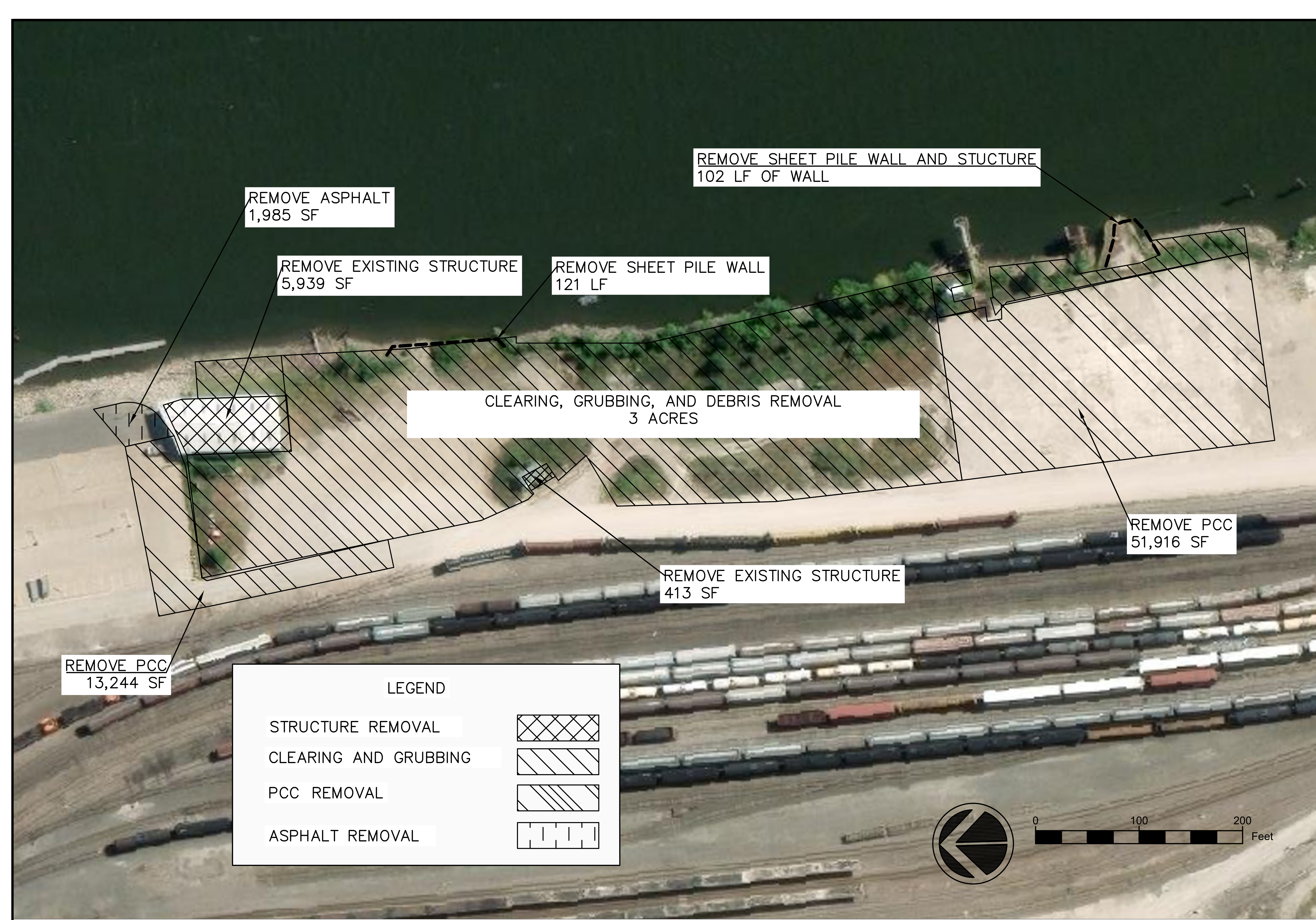
BURLINGTON, IA 52601

SHEET NAME

REMOVAL
NOTES

SHEET NO.

RM 1



PROJECT:	CEE:4850
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REMOVAL PLAN	
BURLINGTON, IA 52601	

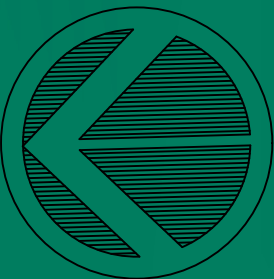
SHEET NAME
REMOVAL PLAN

SHEET NO.
RM 2



PAINT MARKING REMOVALS

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	DATE :	5/9/2025
	DRAWN BY:	JDJ
	REVISION:	
REMOVAL PLAN	EDUCATIONAL - NOT FOR CONSTRUCTION	
	BURLINGTON, IA 52601	
	SHEET NAME	
	PAINT REMOVAL	
RM 3	SHEET NO.	



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DATE :	5/9/25
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REVISION:	

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RIVERFRONT PARK

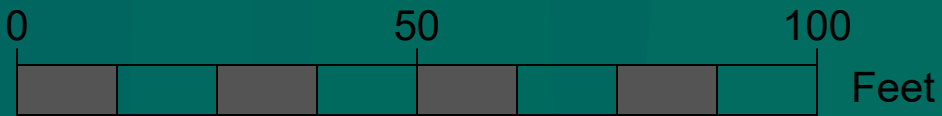
BURLINGTON, IA 52601

SHEET NAME

SITE
LAYOUT

SHEET NO.

A1



MISSISSIPPI RIVER

EXISTING BOAT RAMP

NEW BOAT RAMP

RIPRAP EROSION CONTROL

PAVILION

PARKING LOT
EXTENSION

EXISTING
PARKING LOT

RAILWAY HISTORY FEATURE

DELINEATES EXISTING LOT FROM EXTENSION

BNSF RAILYARD

PROJECT:	CEE: 4850
DATE :	5/9/25
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REVISION:	

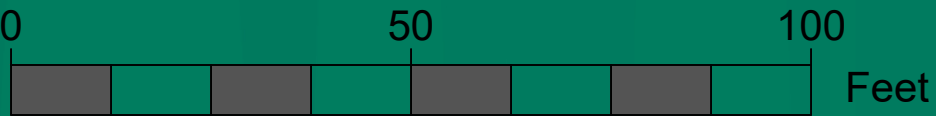
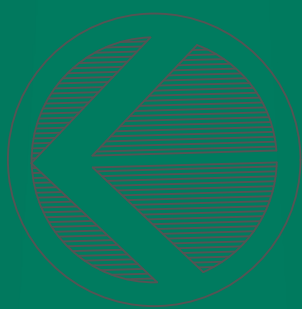
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RIVERFRONT PARK

BURLINGTON, IA 52601

SHEET NAME
SITE LAYOUT
SHEET NO.
A2



MISSISSIPPI RIVER

FISHING DOCK

RIPRAP EROSION CONTROL

RIVERFRONT
TRAIL LOOP

BNSF RAILYARD

PROJECT:	CEE: 4850
DATE :	5/9/25
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RIVERFRONT PARK

BURLINGTON, IA 52601

SHEET NAME

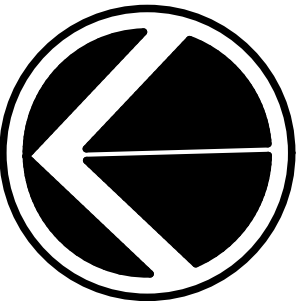
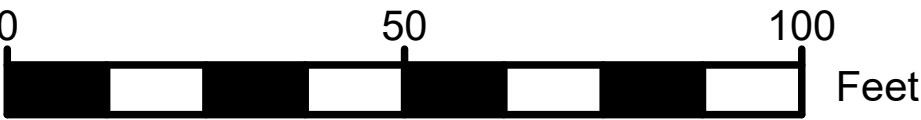
SITE
LAYOUT

SHEET NO.

A3

NOTES

- GRADING SLOPES AND CONTOURS FOR PAVEMENTS, AND GREENSPACE COMPLYING WITH SUDAS STANDARDS
- SITE GRADING UTILIZES NATURAL CONTOURS DRAINING TO RIVER, SOUTH TRAIL LOOP DRAINS TO STORM SEWER STRUCTURES AND CULVERT OUTLET



MISSISSIPPI RIVER

DRAINAGE STRUCTURES

RAILYARD

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SITE GRADING

BURLINGTON, IA 52601

SHEET NAME

GRADING
PLAN

SHEET NO.

G1

PROJECT:

CEE: 4850

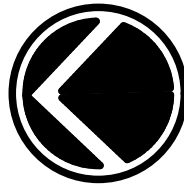
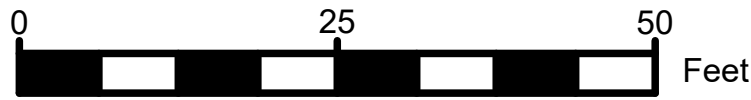
DATE :

5/9/25

DRAWN BY:

JDU

REVISION:



MISSISSIPPI RIVER

FISHING DOCK

SHELTER

RAILCAR

RAILYARD

PROJECT:	CEE: 4850
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SITE GRADING

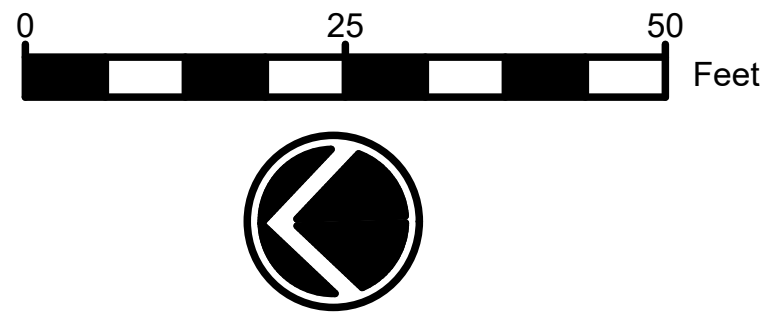
BURLINGTON, IA 52601

SHEET NAME

GRADING
PLAN

SHEET NO.

G2



MISSISSIPPI RIVER

NEW BOAT RAMP

NEW PARKING LOT

SHELTER

RAILYARD

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SITE GRADING

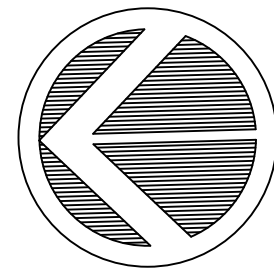
BURLINGTON, IA 52601

SHEET NAME

GRADING
PLAN

SHEET NO.

G3



NOTES:

- SPOT ELEVATIONS ARE SHOWN IN FEET
- ELEVATION POINTS PLACED AT MAJOR GEOMETRY POINTS
- SPOT ELEVATIONS ARE SHOWN AT TOP OF PAVEMENT SURFACES

MISSISSIPPI RIVER

RAILYARD

PROJECT:	CEE: 4850
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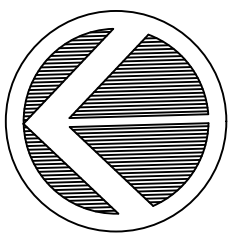
SITE GRADING
BURLINGTON, IA 52601

SHEET NAME

PAVEMENT SPOT
ELEVATIONS

SHEET NO.

G4



MISSISSIPPI RIVER

FISHING DOCK

SHELTER

RAILCAR

RAILYARD

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SITE GRADING

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SHEET NAME

PAVEMENT SPOT
ELEVATIONS

SHEET NO.

G5

PROJECT: CEE: 4850

DATE : 5/9/25

DRAWN BY: JAD

REVISION:

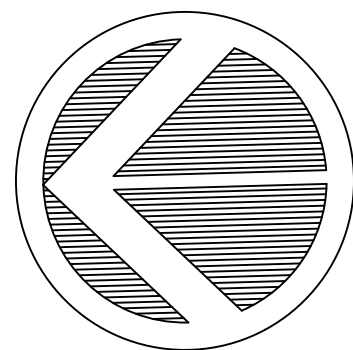
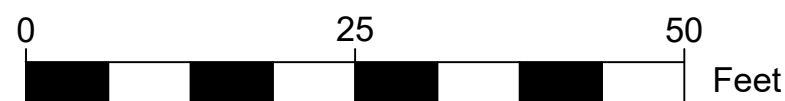
MISSISSIPPI RIVER

NEW BOAT RAMP

SHELTER

NEW PARKING LOT

RAILYARD



PROJECT:	CEE: 4850
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SITE GRADING

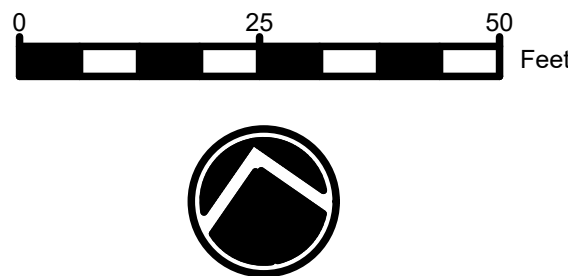
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SHEET NAME

PAVEMENT SPOT
ELEVATIONS

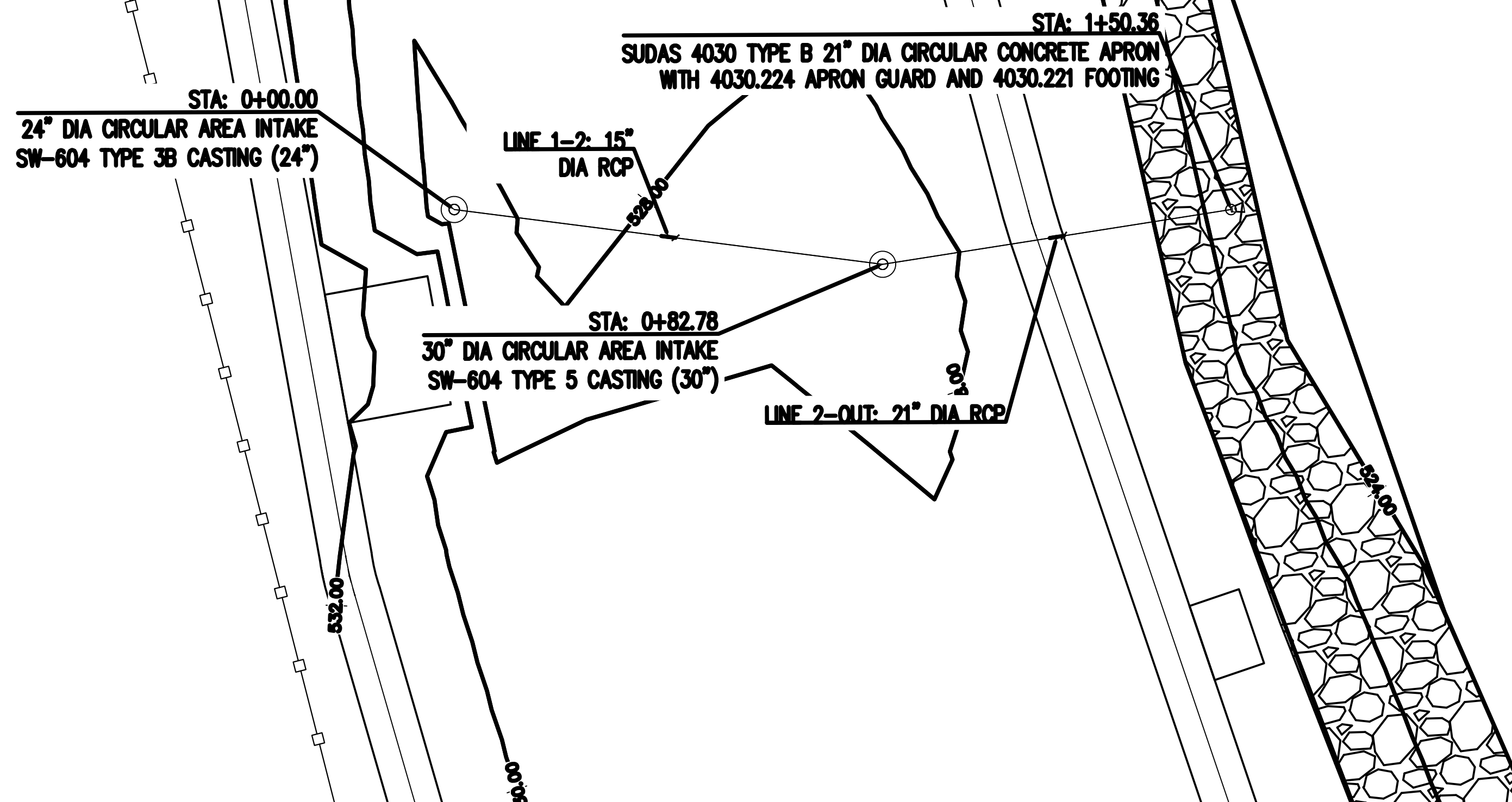
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G6



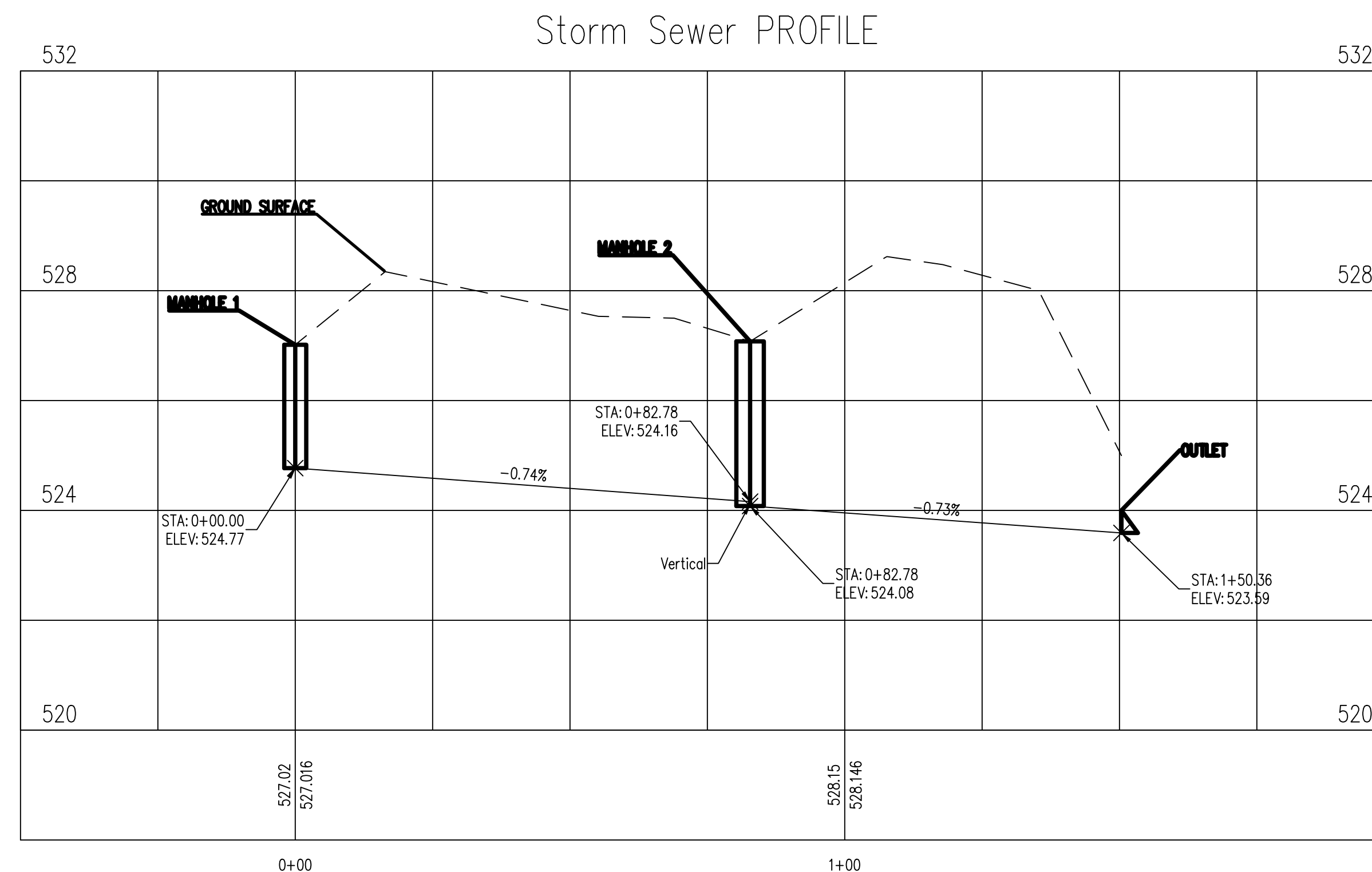
RAILYARD

MISSISSIPPI RIVER



NOTES:

- ELEVATIONS SHOWN ARE INVERT ELEVATIONS
- STORM SEWER PIPE WILL BE REINFORCED CONCRETE PIPE, SEE PLAN VIEW FOR PIPE DIAMETERS
- SEE DETAIL SHEETS FOR STRUCTURES, CASTINGS, PIPE INSTALLATION DETAILS



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PROJECT:	CEE: 4850
DATE :	5/9/25
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STORM SEWER

BURLINGTON, IA 52601

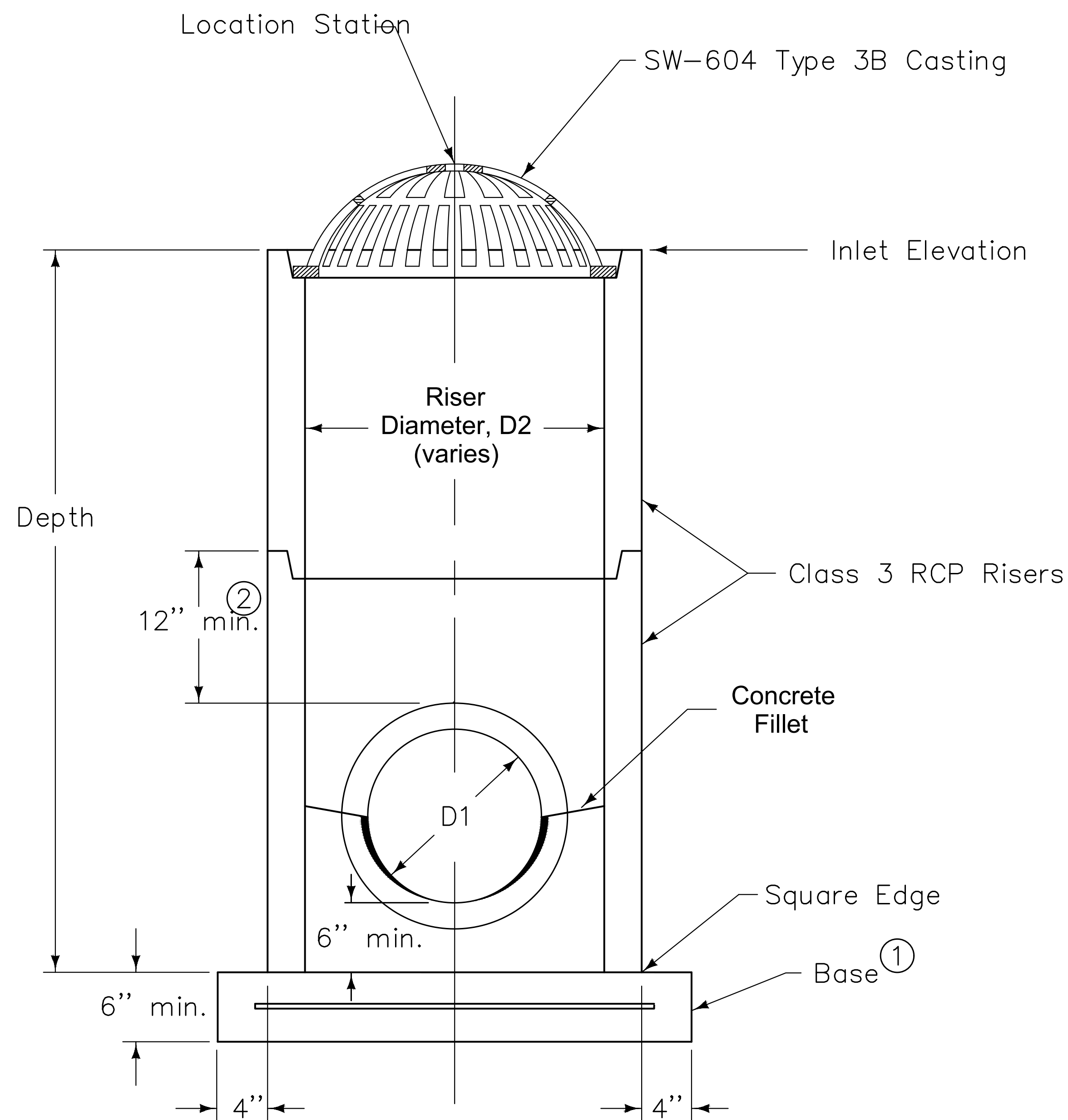
SHEET NAME

PLAN AND
PROFILE

SHEET NO.

SS1

MH1 AREA INTAKE DETAILS

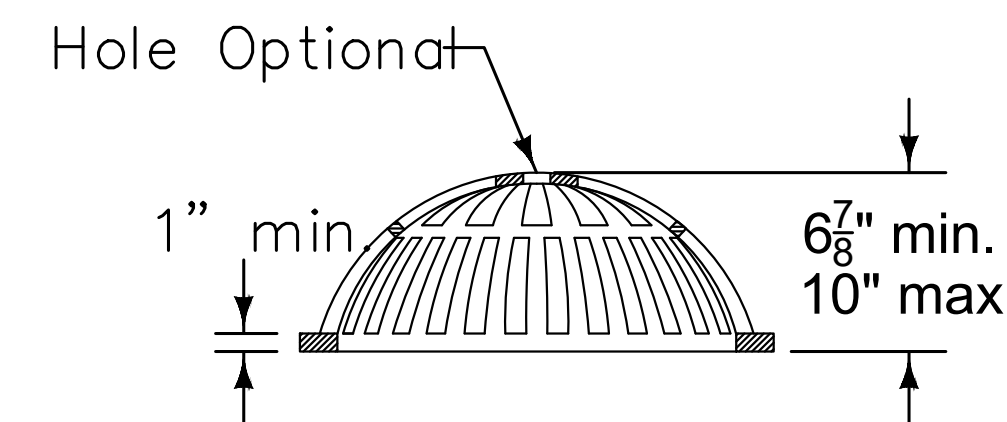
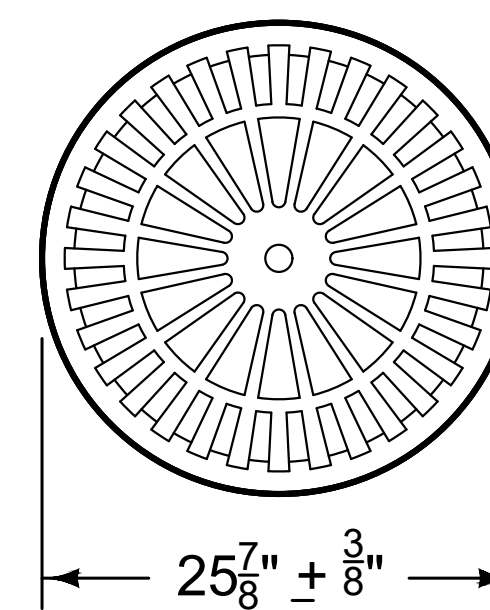


TYPICAL SECTION

CASE 1

INTAKE SIZE – CASE 1	
Outlet Pipe Diameter, D1	Minimum Riser Diameter, D2
12''	18''
15''	24''
18''	24''
21''	30''
24''	30''
27''	36''

- ① Precast (shown) or cast-in-place base:
- Precast: 6 inch thick concrete with #6 welded wire mesh on 4 inch centers (WWF 4" x 4"). Center mesh vertically within base.
 - Cast-in-place: 8 inch thick non-reinforced concrete.
- ② 12 inch minimum riser height above all pipes.



TYPE 3B

For Placement on 24" RCP

PROJECT:	CEE: 4850
DATE :	5/9/25
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BURLINGTON, IA 52601

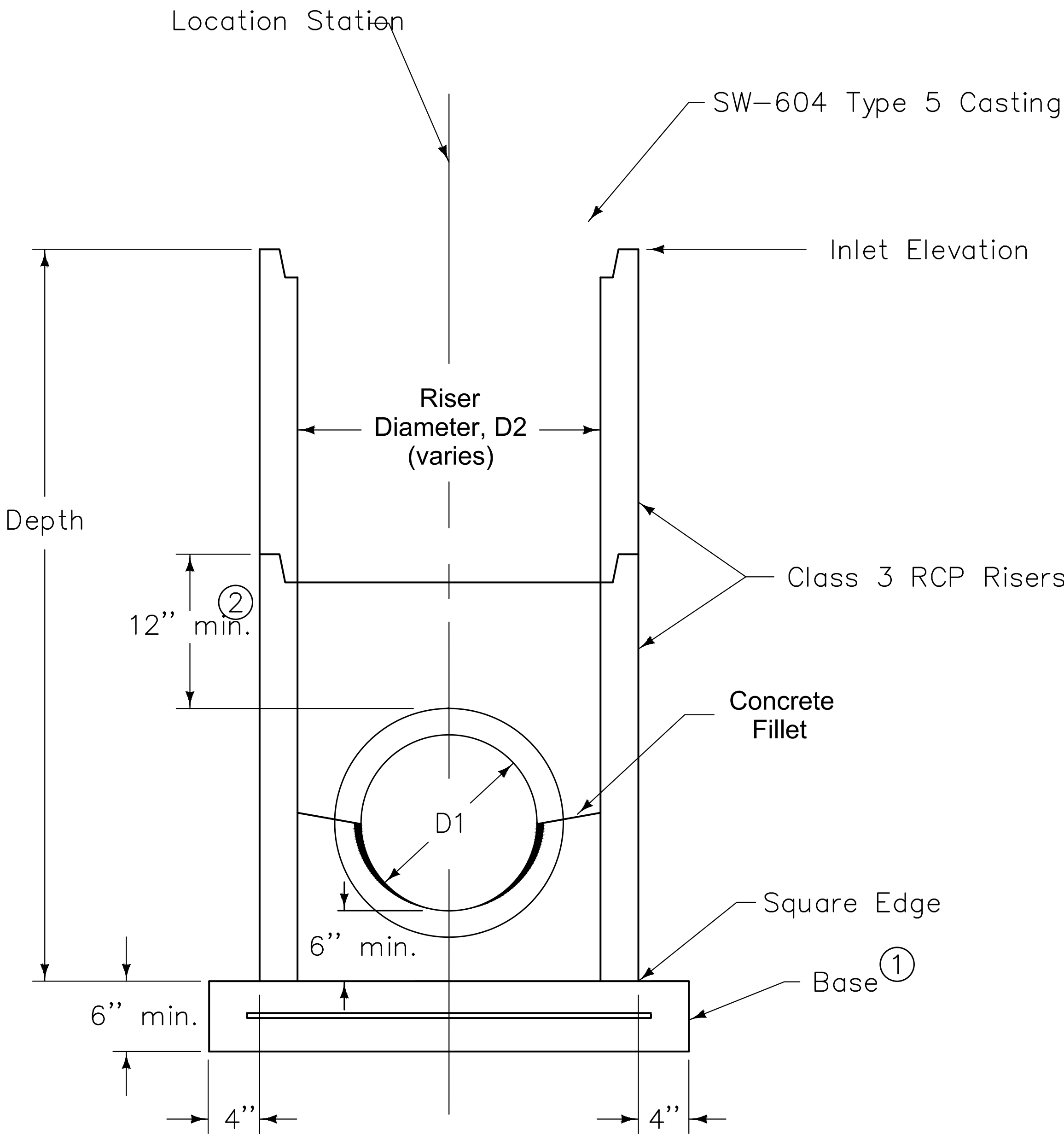
SHEET NAME

STORM SEWER
DETAILS

SHEET NO.

SS2

MH2 AREA INTAKE DETAILS

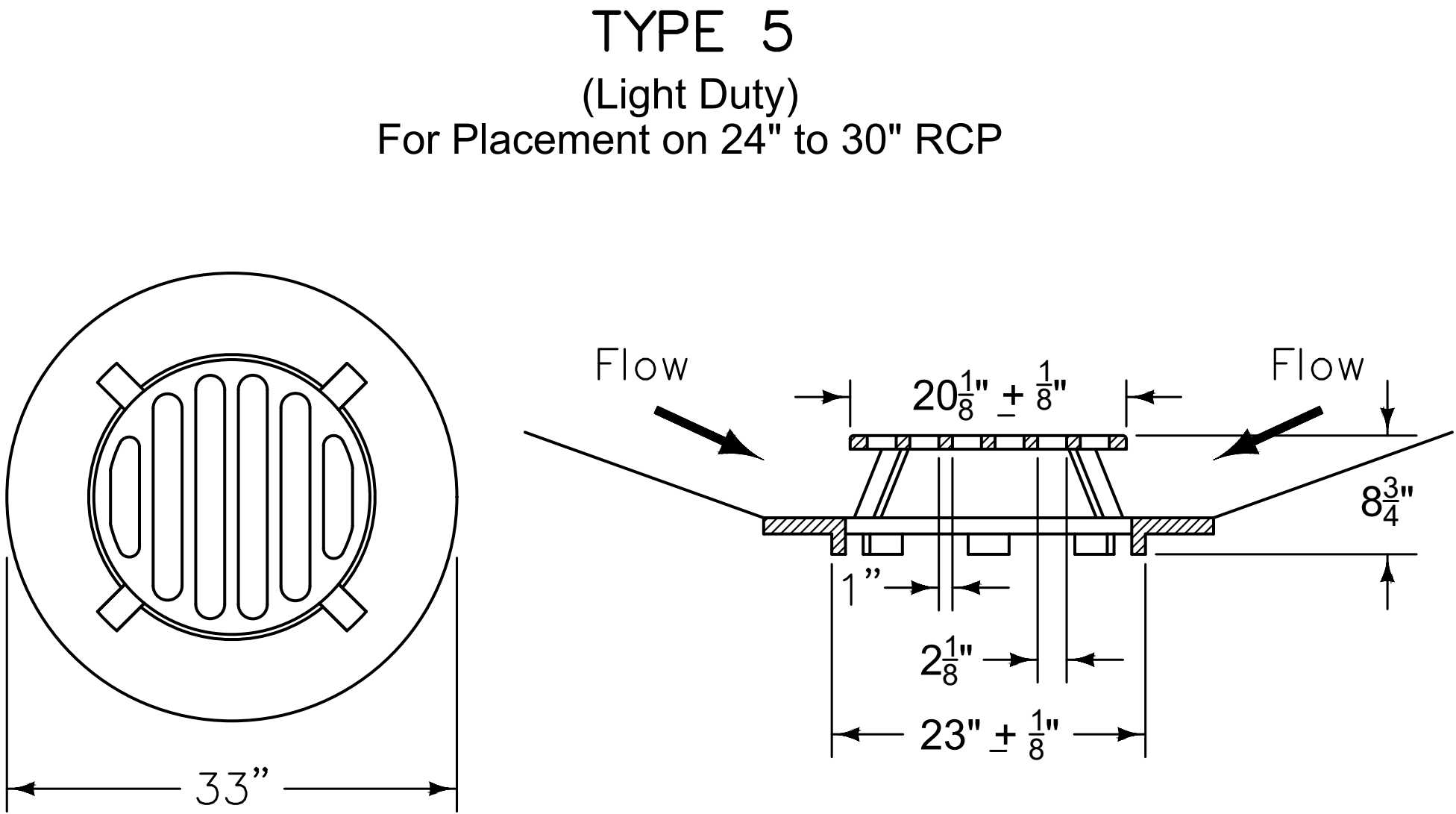


TYPICAL SECTION

CASE 1

INTAKE SIZE – CASE 1	
Outlet Pipe Diameter, D1	Minimum Riser Diameter, D2
12''	18''
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- ② 12 inch minimum riser height above all pipes.



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BURLINGTON, IA 52601

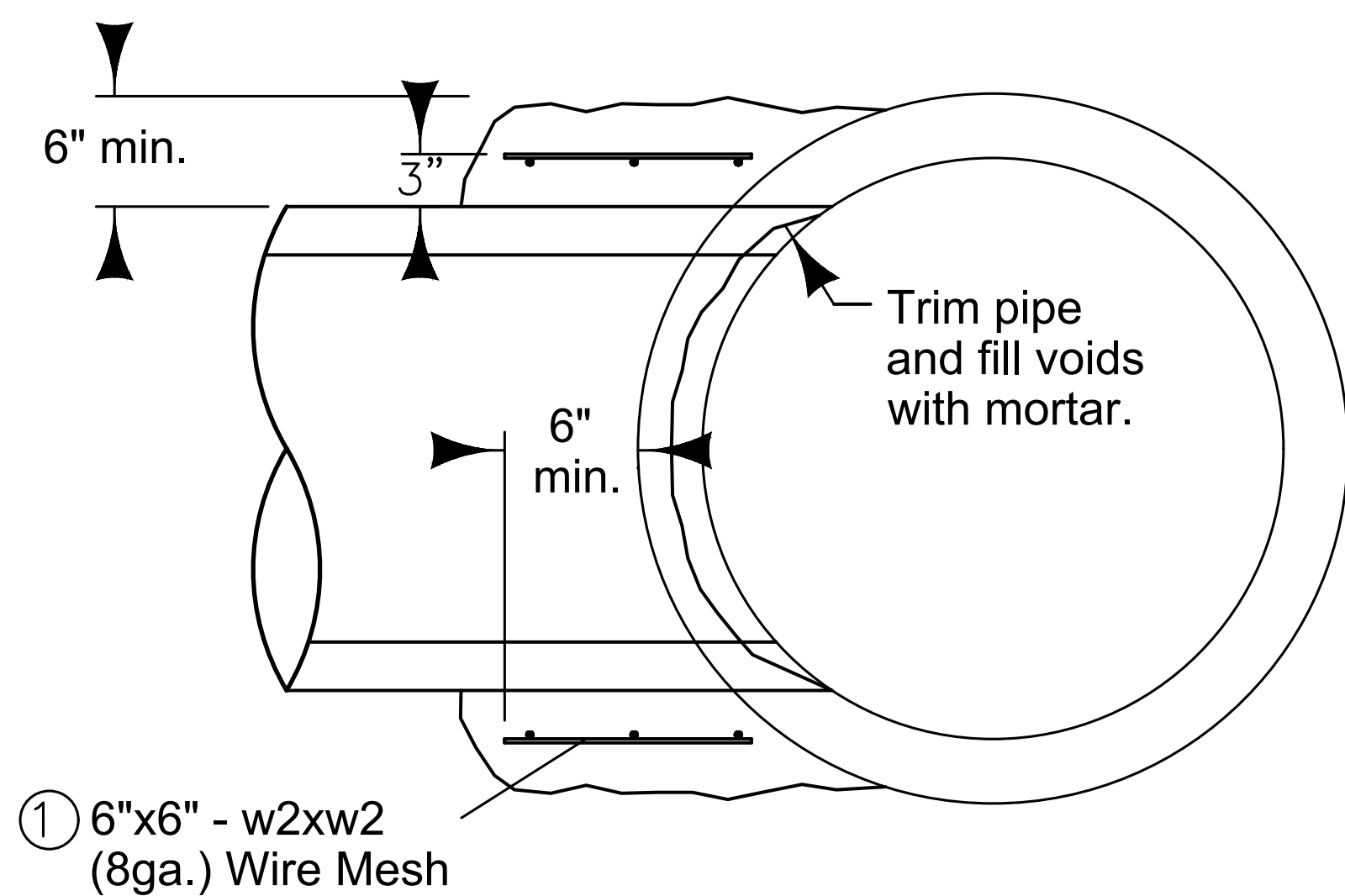
SHEET NAME

STORM SEWER
DETAILS

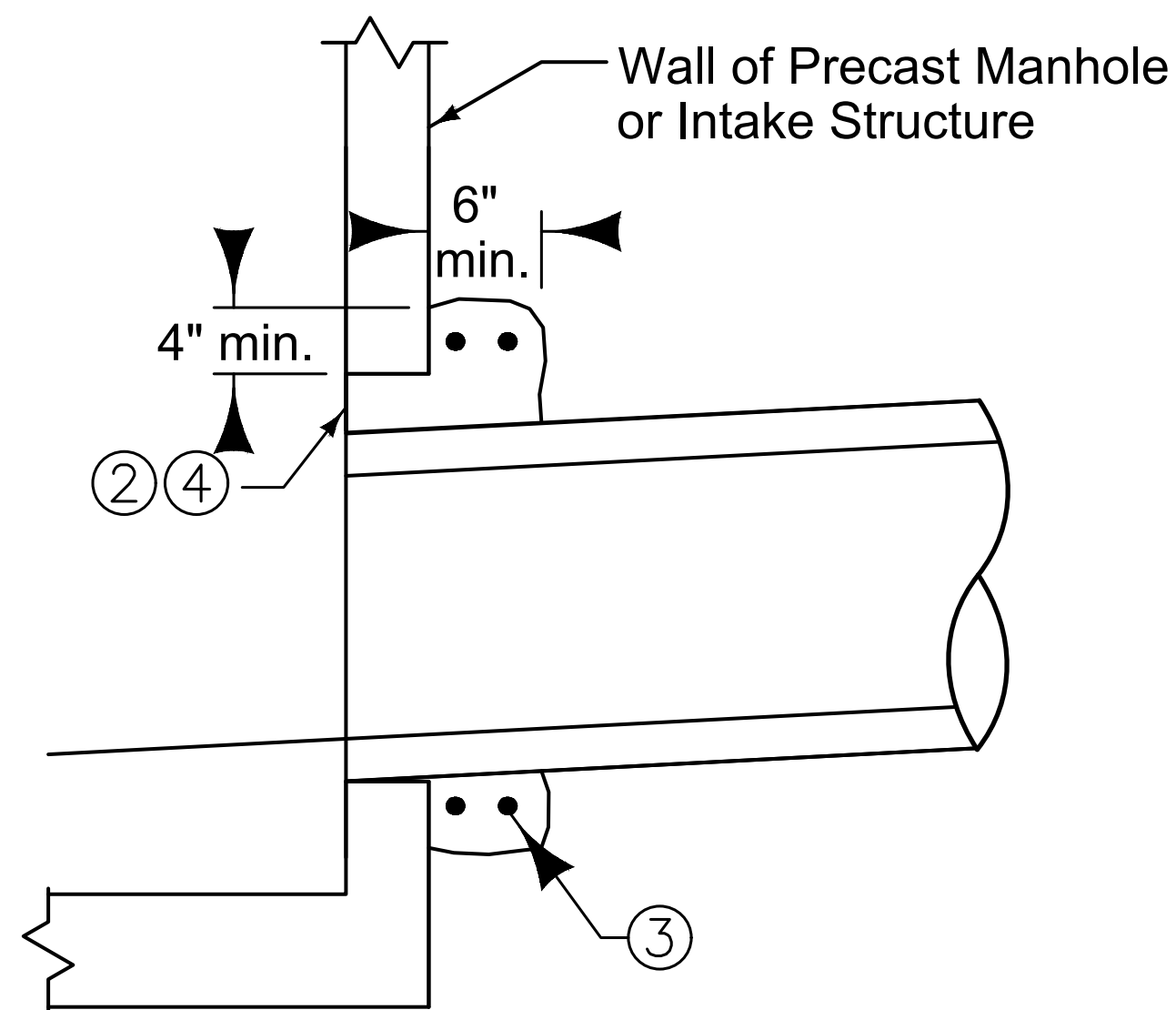
SHEET NO.

SS3

STORM SEWER PIPE DETAILS

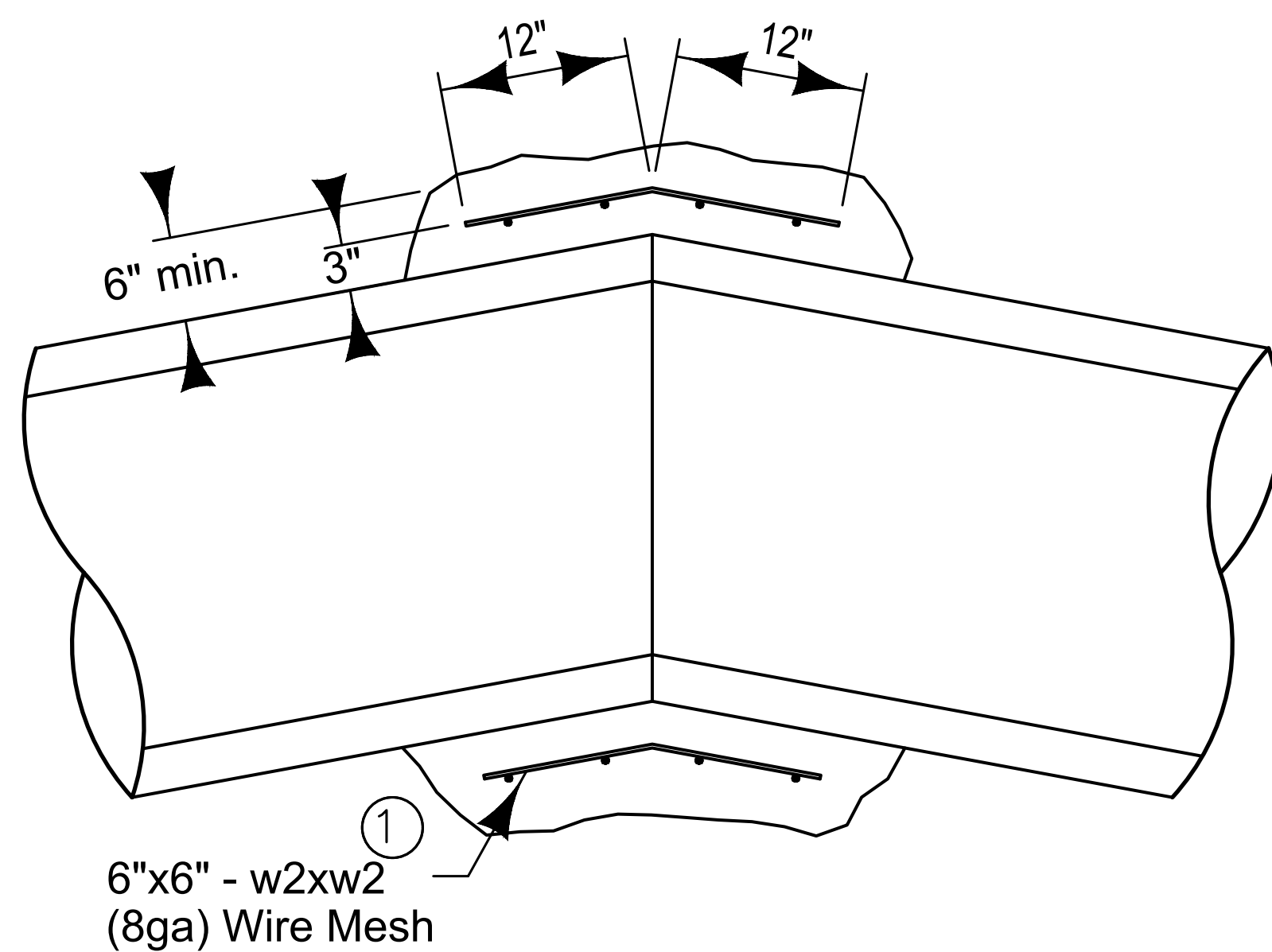


TYPE PC-1 CONCRETE COLLAR CONNECTION

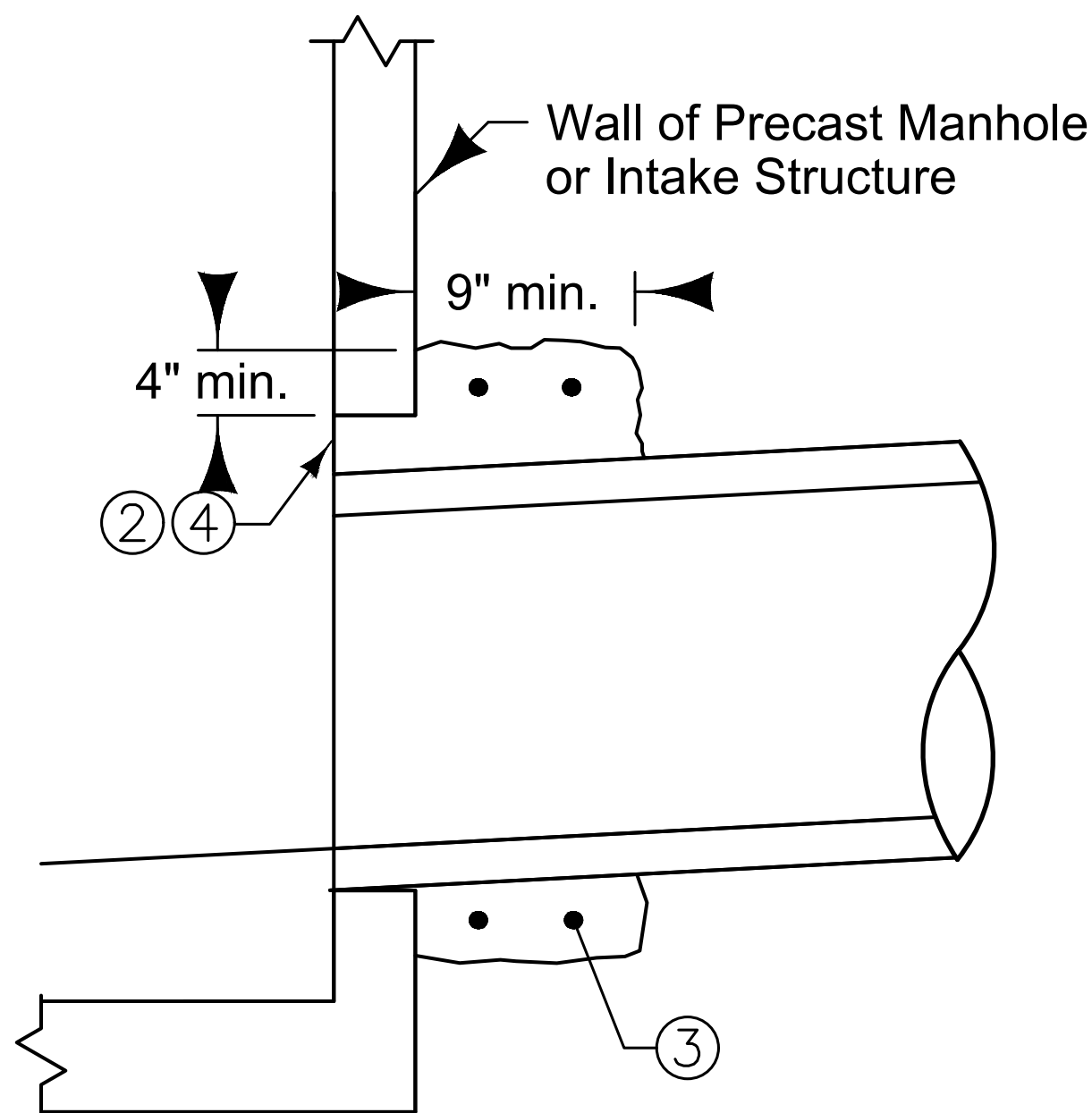


CONCRETE COLLAR FOR PIPES 12" AND SMALLER

- ① Lap ends of wire mesh a minimum of 6 inches.
- ② Concrete collar is required when annular space between the outside of the pipe and the wall of the structure is 2 inches or greater.
- ③ Provide two #4 hoop bars in concrete collar. Lap bars a minimum of 6 inches.
- ④ Trowel concrete flush with inside wall of structure.

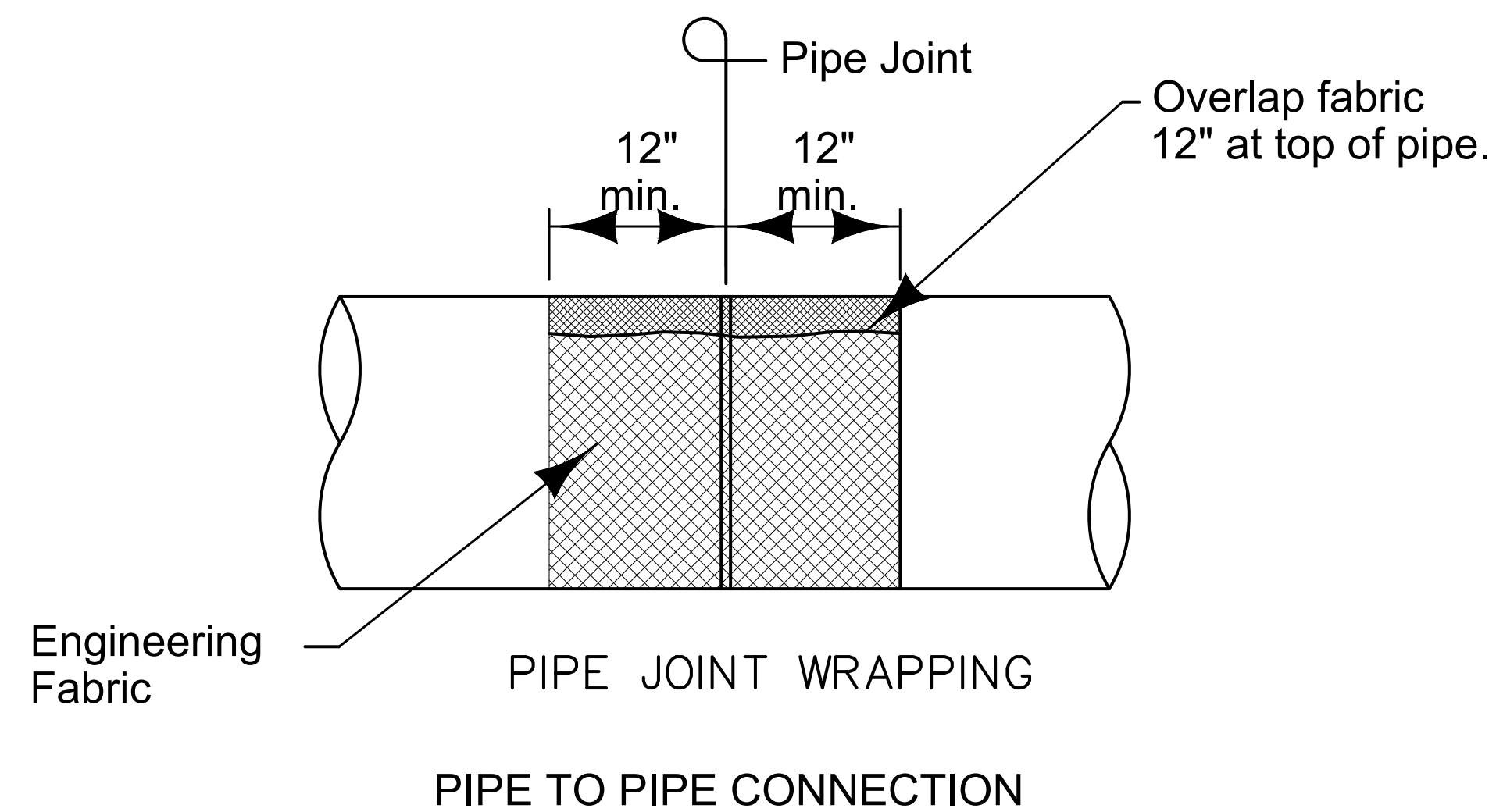


TYPE PC-2 CONCRETE COLLAR CONNECTION

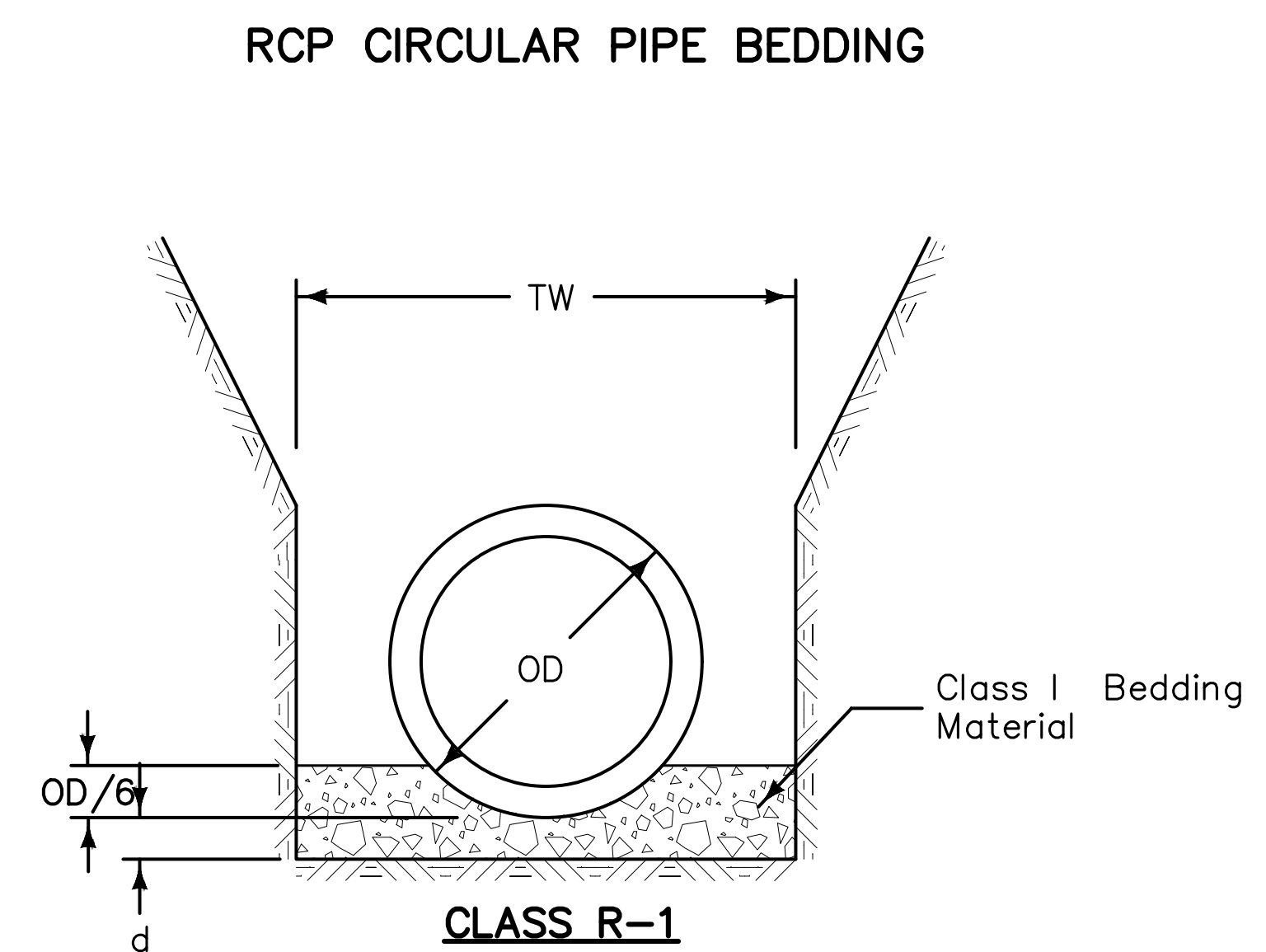


CONCRETE COLLAR FOR PIPES GREATER THAN 12"

PIPE TO STRUCTURE CONNECTION



PIPE TO PIPE CONNECTION



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STORM SEWER

BURLINGTON, IA 52601

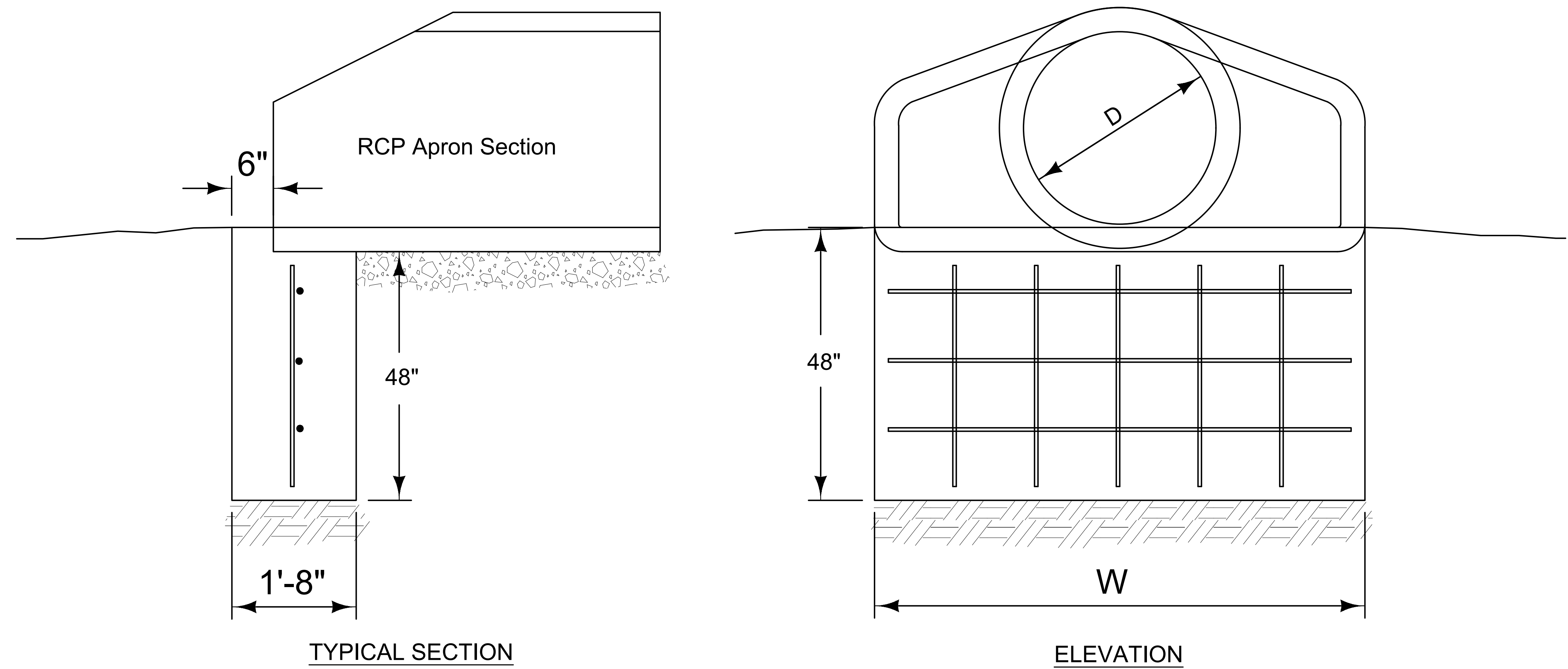
SHEET NAME

STORM SEWER
DETAILS

SHEET NO.

SS4

FLARED END OUTLET DETAILS



REINFORCING BAR LIST

D	W	Mark	Size	Length	Count
12"	2'-4"	4f1	4	2'-0"	3
		4f2	4	3'-8"	2
15"	2'-10 1/2"	4f1	4	2'-6 1/2"	3
		4f2	4	3'-8"	2
18"	3'-5"	4f1	4	3'-1"	3
		4f2	4	3'-8"	3
24"	4'-6"	4f1	4	4'-2"	3
		4f2	4	3'-8"	3
30"	5'-7"	4f1	4	5'-3"	3
		4f2	4	3'-8"	4
36"	6'-8"	4f1	4	6'-4"	3
		4f2	4	3'-8"	5
42"	7'-3"	4f1	4	6'-11"	3
		4f2	4	3'-8"	5

D	W	Mark	Size	Length	Count
48"	7'-10"	4f1	4	7'-6"	3
		4f2	4	3'-8"	6
54"	8'-5"	4f1	4	8'-1"	3
		4f2	4	3'-8"	6
60"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	6
66"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	6
72"	10'-0"	4f1	4	9'-8"	3
		4f2	4	3'-8"	7
78"	10'-7"	4f1	4	10'-3"	3
		4f2	4	3'-8"	7
84"	11'-1"	4f1	4	10'-9"	3
		4f2	4	3'-8"	8

PROJECT:	CEE: 4850
DATE :	5/9/25
DRAWN BY:	JDU
REVISION:	

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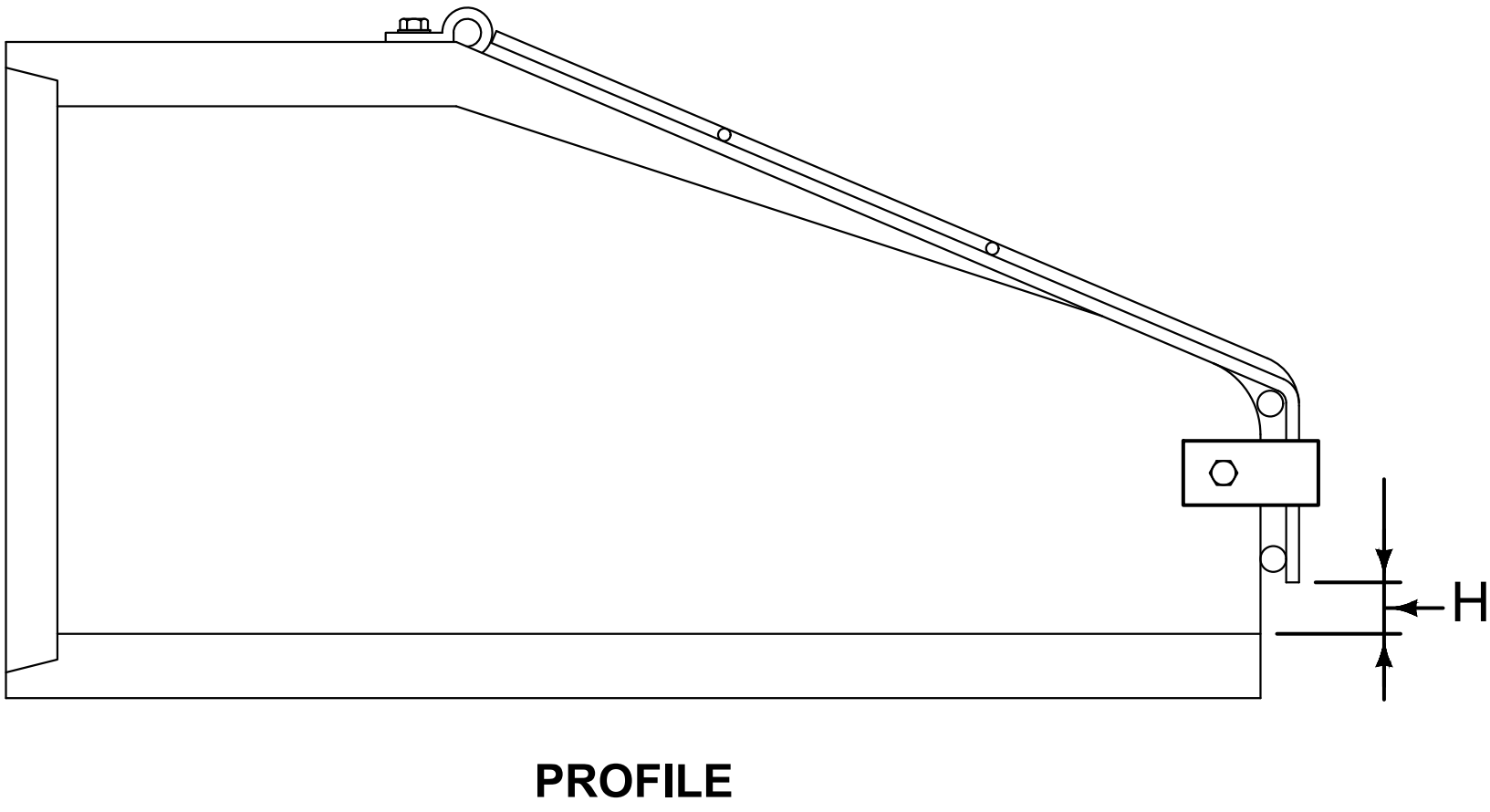
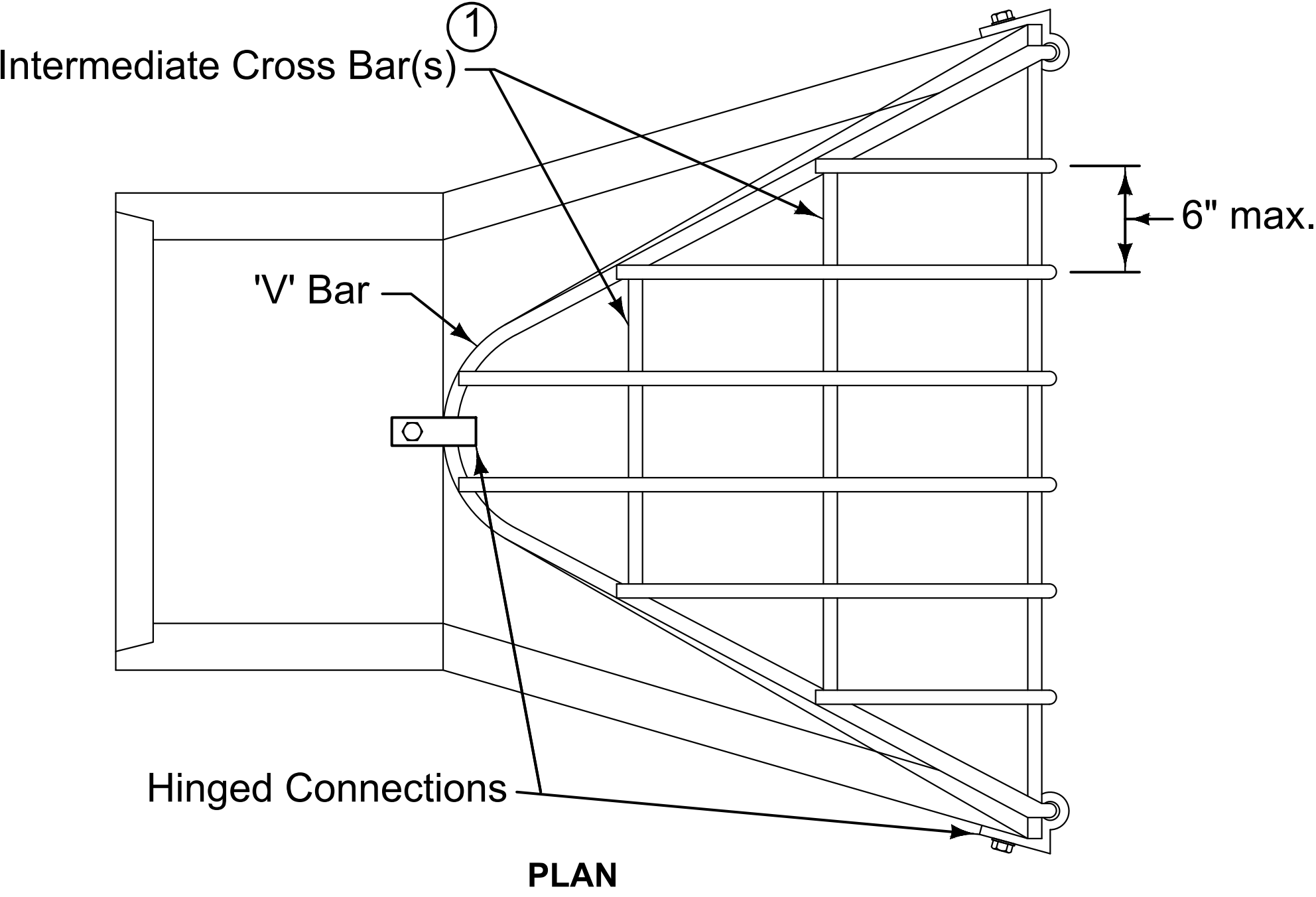
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STORM SEWER
BURLINGTON, IA 52601

SHEET NAME
STORM SEWER
DETAILS

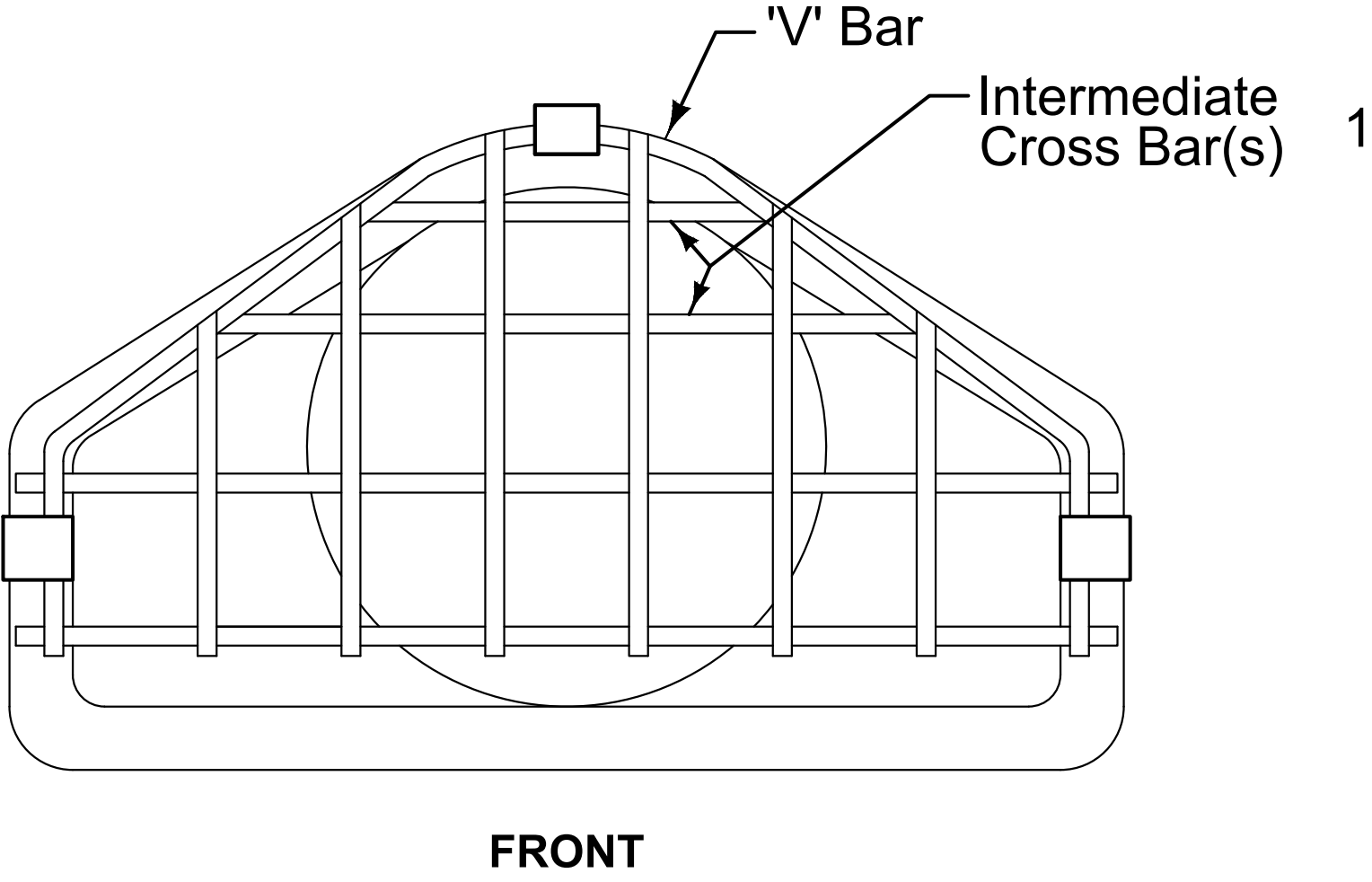
SHEET NO.
SS5

RCP FLARED END OUTLET APRON GUARD DETAILS



Provide guard dimensions to fit with type of apron provided. Ensure 'V' Bar completely rests on apron.

- ① All guards must include at least one intermediate cross bar. If pipe diameter, or equivalent diameter, is 60 inches or greater, use two intermediate cross bars equally spaced.



ROUND		ARCH		ELLIPTICAL	
PIPE SIZE	H	EQUIVALENT DIAMETER	H	EQUIVALENT DIAMETER	H
12"	2½"	18" to 24"	4"	18"	3"
15"	3"	30" to 36"	5"	24"	4"
18" – 24"	4"	42" to 54"	6"	30" to 36"	5"
27" – 36"	5"	60" to 72"	7"	42" to 54"	6"
42" – 54"	6"			60"	7"
60" – 72"	7"				
78" – 90"	8"				

BAR SIZES				
	PIPE SIZE (DIA. or EQUIV.)	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE
ROUND	12" – 24"	¾"	⅝"	¾"
	27" – 48"	7⁄8"	¾"	1"
	54" – 90"	1 1⁄8"	1"	1 1⁄4"
ARCH	up to 24" eq.	¾"	⅝"	¾"
	30" to 48"	7⁄8"	¾"	1"
	54" to 72"	1 1⁄8"	1"	1 1⁄4"
ELLIPTICAL	up to 24" eq.	¾"	⅝"	¾"
	30" to 48"	7⁄8"	¾"	1"
	54" to 60"	1 1⁄8"	1"	1 1⁄4"
BOLT LENGTH = PIPE WALL THICKNESS + 2 1⁄2"				

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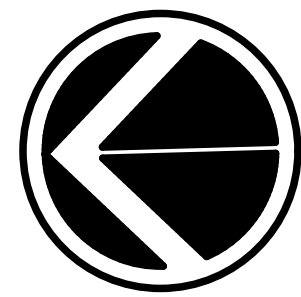
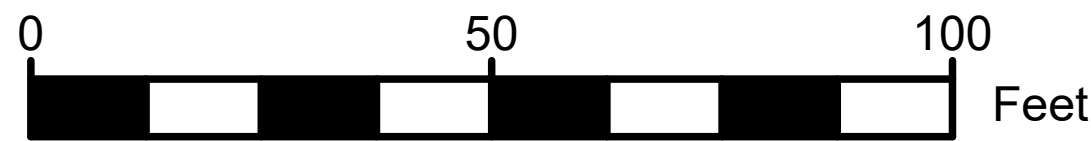
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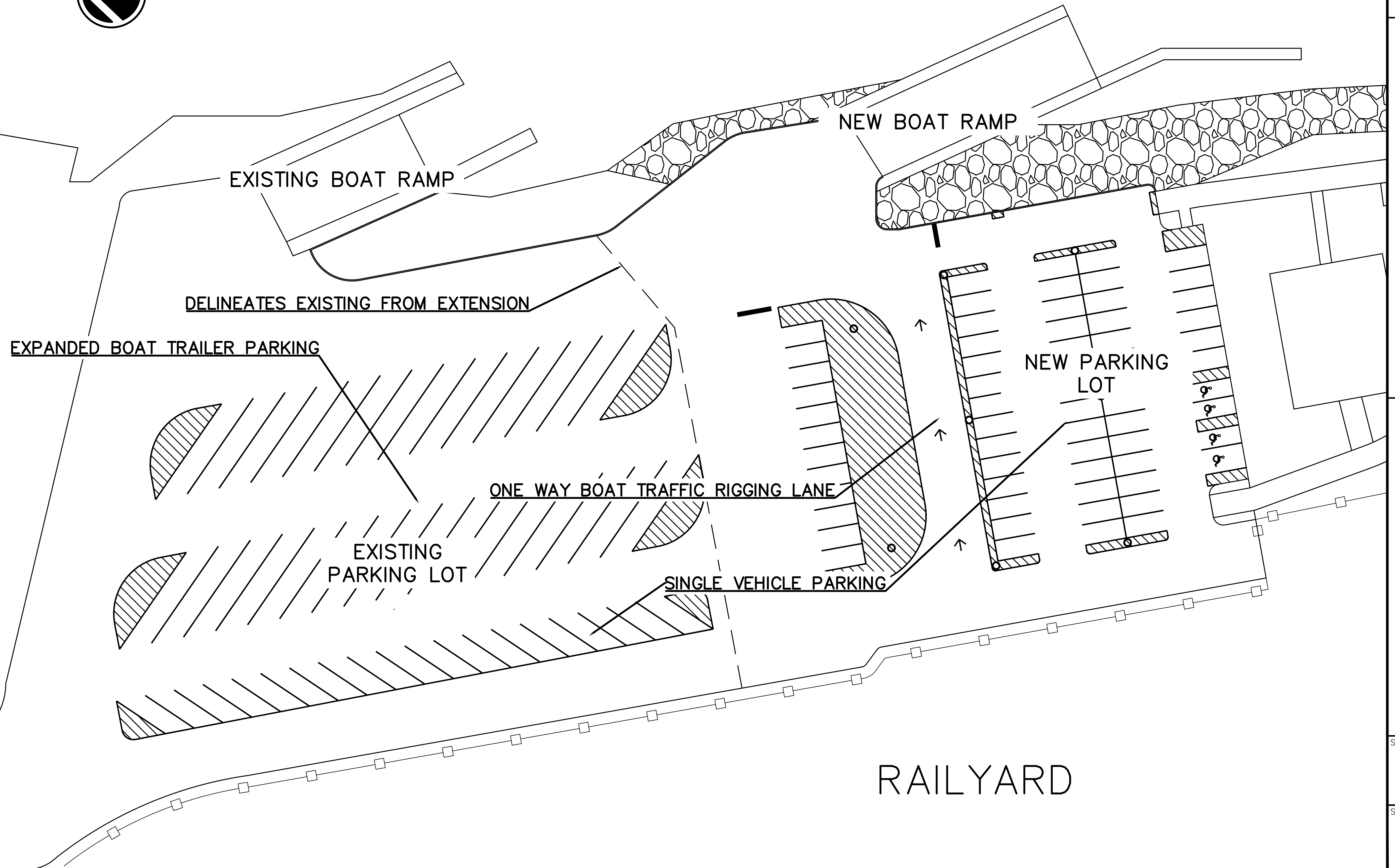
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BURLINGTON, IA 52601

SHEET NAME
STORM SEWER
DETAILS

SHEET NO.
SS6



MISSISSIPPI RIVER



PROJECT:	CEE: 4850
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PARKING LOT
BURLINGTON, IA 52601

SHEET NAME
PARKING LOT
EXTENSION

SHEET NO.
PL1

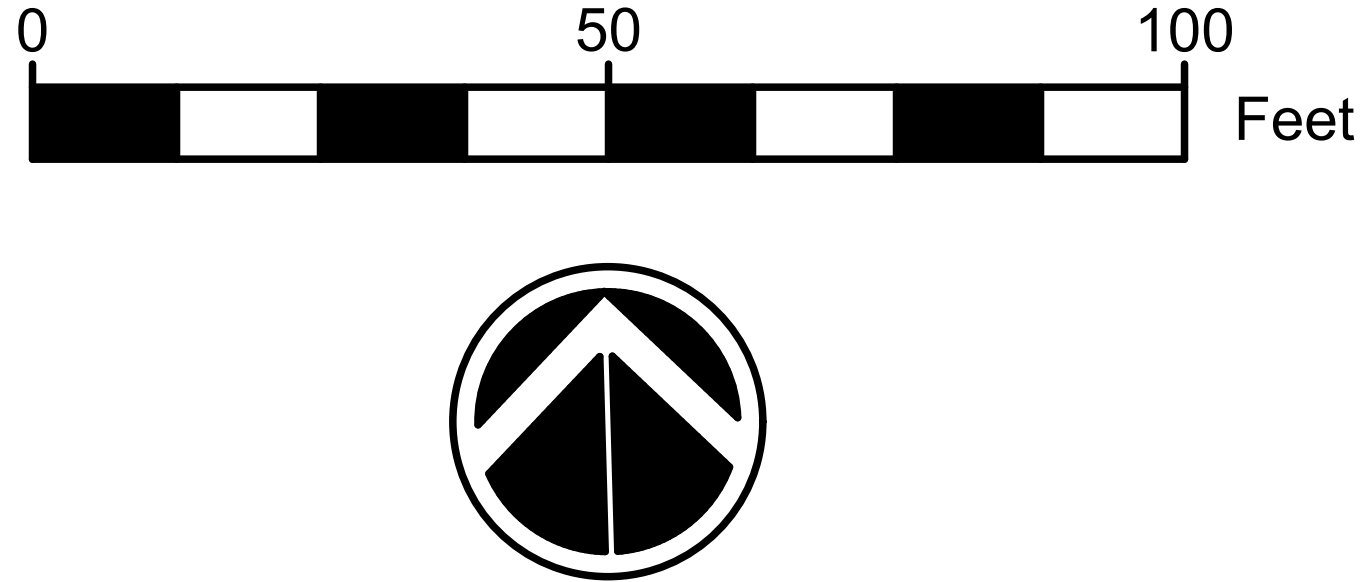
RAILYARD

EXISTING
PARKING LOT

PARKING LOT
EXTENSION

NEW BOAT RAMP

MISSISSIPPI RIVER



REFERENCE POINT:
NAD83 IOWA STATE PLANE SOUTH US FOOT
(EXISTING LOT EDGE)
N: 303062.13'
E: 2304631.37'

DELINEATES EXISTING FROM EXTENSION'

NOTES

- DIMENSIONS IN FEET
- PAVEMENT CONNECTS WITH EXISTING PARKING LOT PAVEMENT, MATCHING DIMENSIONS AND GEOMETRY.
- SEE JOINTING AND PAINTING PLANS FOR FURTHER DIMENSION INFORMATION

PROJECT:	CEE: 4850
DATE :	5/9/25
DRAWN BY:	JDU
REVISION:	

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PARKING LOT

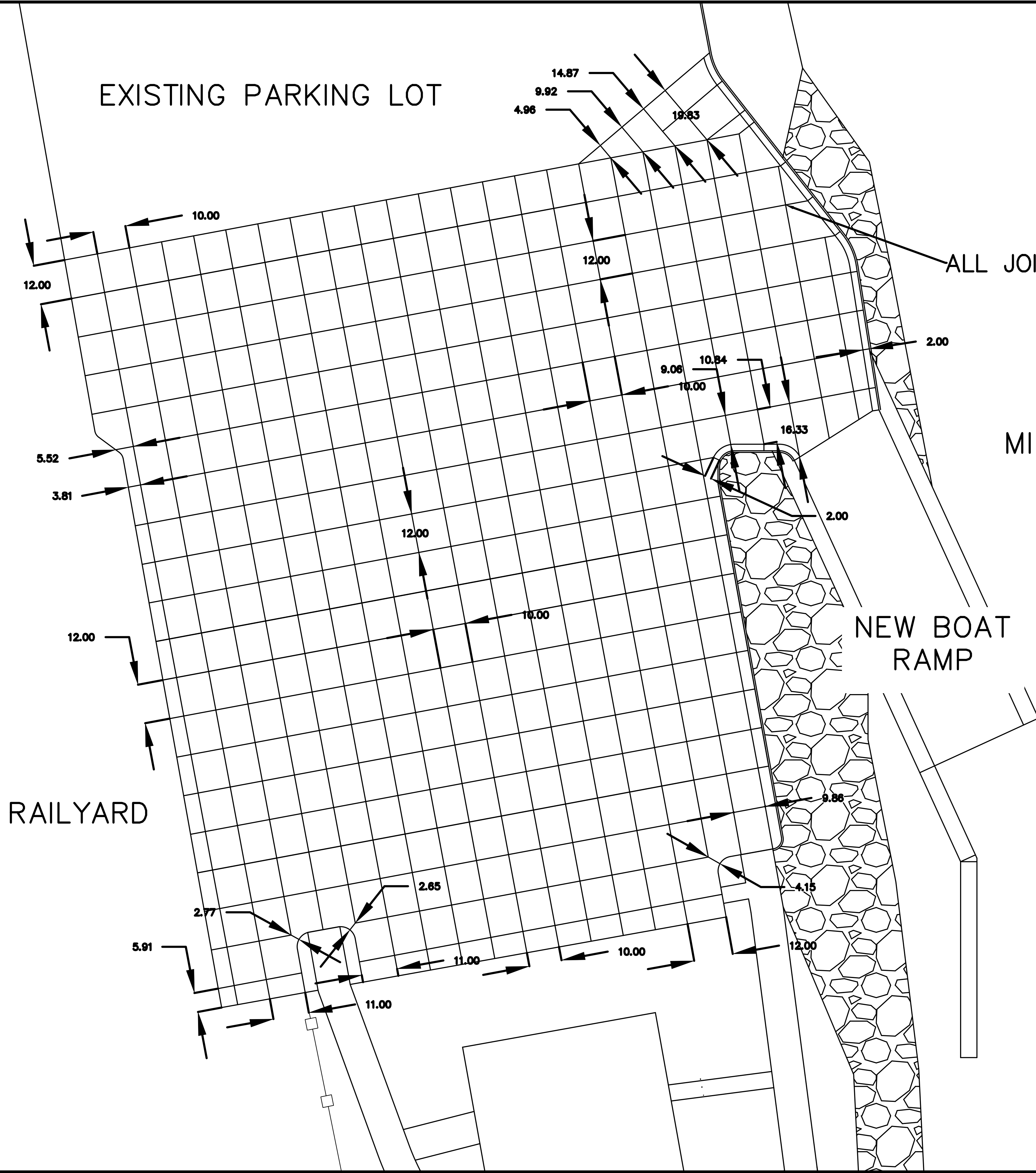
BURLINGTON, IA 52601

SHEET NAME

PARKING LOT
GEOMETRICS

SHEET NO.

PL2



ALL JOINTS "C" JOINTS (SEE DETAILS)

NOTES

- PCC PANELS ARE 10' X 12' SPACING COMPLYING WITH SUDAS PAVEMENT JOINTING SPECIFICATIONS
- VARYING DIMENSIONS ON IRREGULAR PANELS AROUND COMPLEX GEOMETRY
- ALL JOINTS SPECIFIED AS SUDAS "C" JOINT UNREINFORCED
- SEE PARKING LOT DETAIL SHEETS ON JOINTING SPECIFICATIONS
- PAVEMENT CONSTRUCTED OF 7" PCC WITH 6" AGGREGATE BASE, ON 12" COMPACTED SUBGRADE

NOTE DIMENSIONS IN FEET

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PARKING LOT

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SHEET NAME

PARKING LOT
JOINTING PLAN

SHEET NO.

PL3

RAILYARD

EXISTING BOAT RAMP

MISSISSIPPI RIVER

NOTES

- PAVEMENT MARKINGS WILL BE WHITE WATERBORNE PAINT PER SUDAS SPECS.
- BOAT TRAILER PARKING ARE PULL THROUGH, WITH INCREASED STALLS SERVICING NEW BOAT RAMP ADDITION
- ALL PAINT MARKINGS 4" IN WIDTH PER SUDAS SPECS.

NOTE DIMENSIONS IN FEET

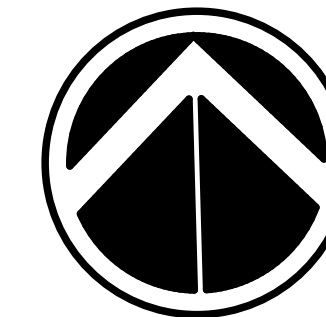
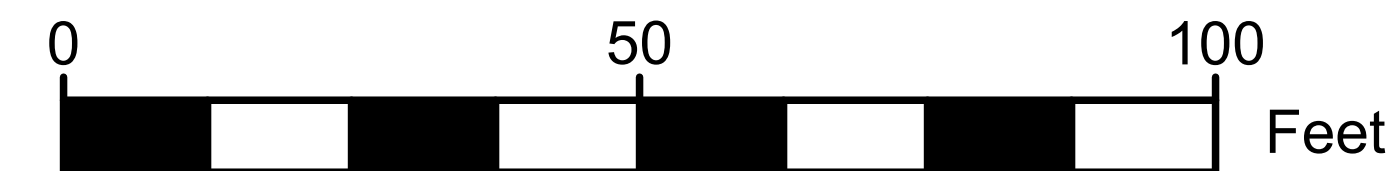
REFERENCE POINT:
NAD83 IOWA STATE PLANE SOUTH US FOOT
(EXISTING LOT EDGE)
N: 303082.13'
E: 2304631.57'

19 SINGLE VEHICLE PARKING
9' X 18' 45° ANGLED SLOTS

30 PULL THROUGH BOAT TRAILER PARKING
10' X 50' 45° ANGLED SLOTS

SEPARATES EXISTING LOT (NORTH)
FROM LOT EXTENSION (SOUTH)

12 SPACES 108.0000



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PARKING LOT

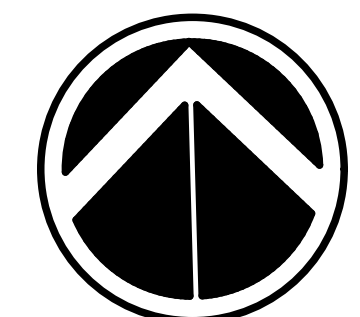
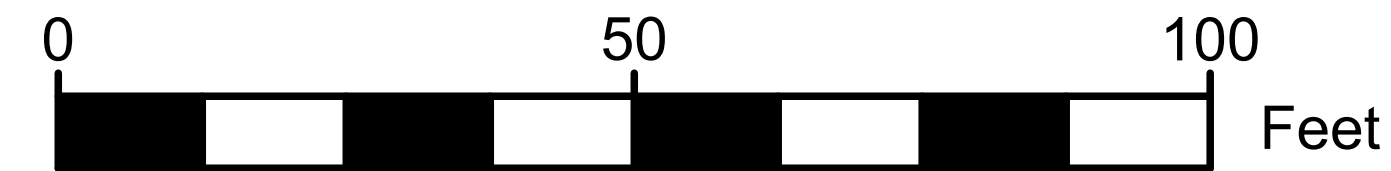
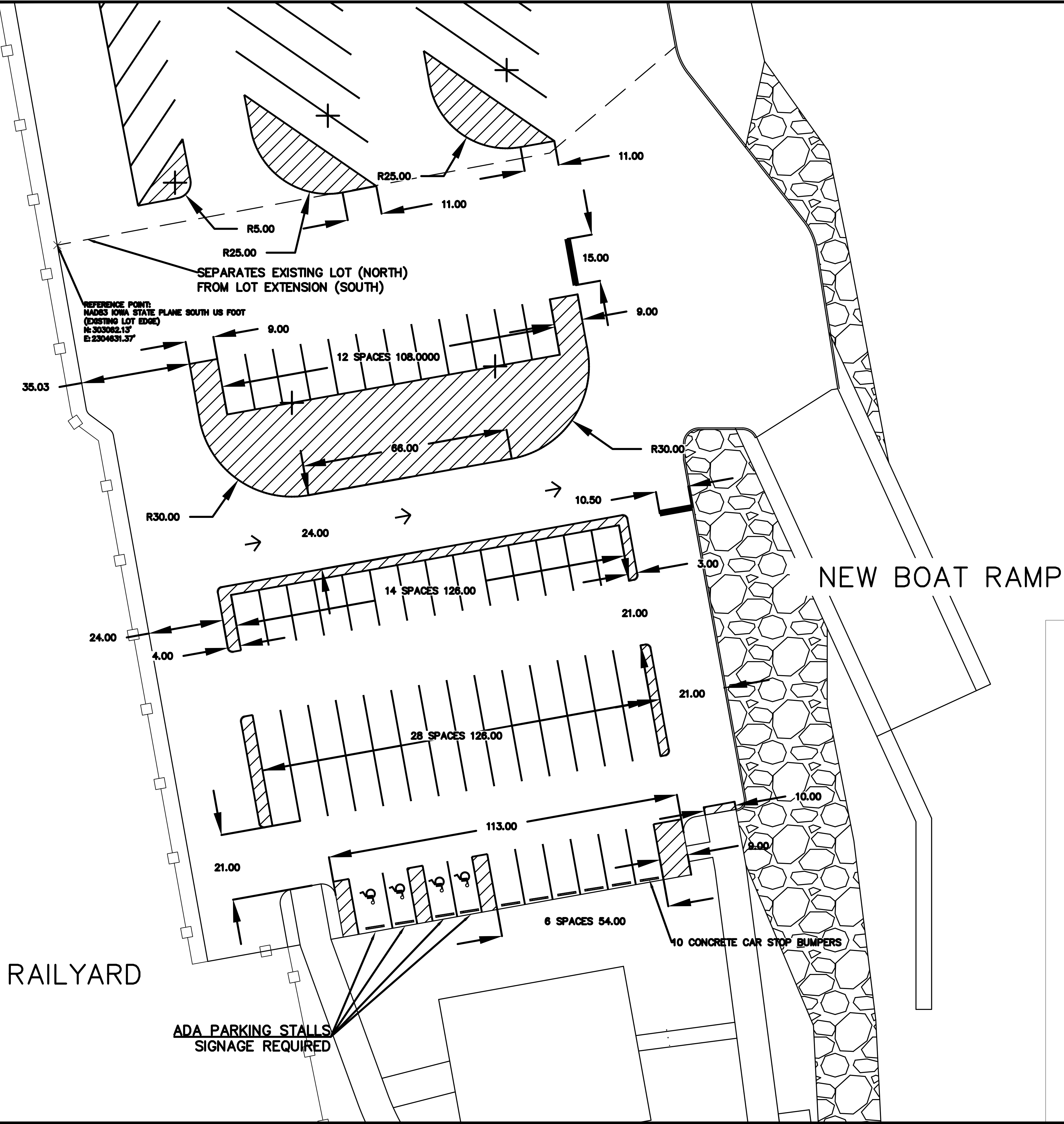
BURLINGTON, IA 52601

SHEET NAME

EXISTING LOT
PAINTING PLAN

SHEET NO.

PL4



MISSISSIPPI RIVER

NEW BOAT RAMP

NOTES

- PAVEMENT MARKINGS WILL BE WHITE WATERBORNE PAINT PER SUDAS SPECS.
- ADA PARKING BASED ON SUDAS STANDARDS
- SEE DETAIL ON STOP BAR
- SINGLE VEHICLE PARKING STALLS SEE SUDAS SPEC AND DETAIL FOR DIMENSIONS INFORMATION
- ALL PAINT MARKINGS 4" IN WIDTH PER SUDAS SPECS.

***NOTE* DIMENSIONS IN FEET**

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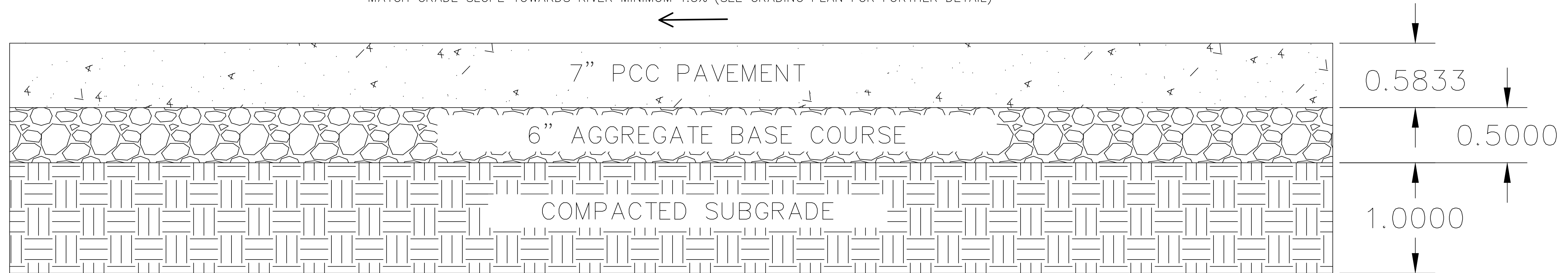
PARKING LOT
BURLINGTON, IA 52601

SHEET NAME
NEW LOT PAINTING PLAN
SHEET NO.
PL5

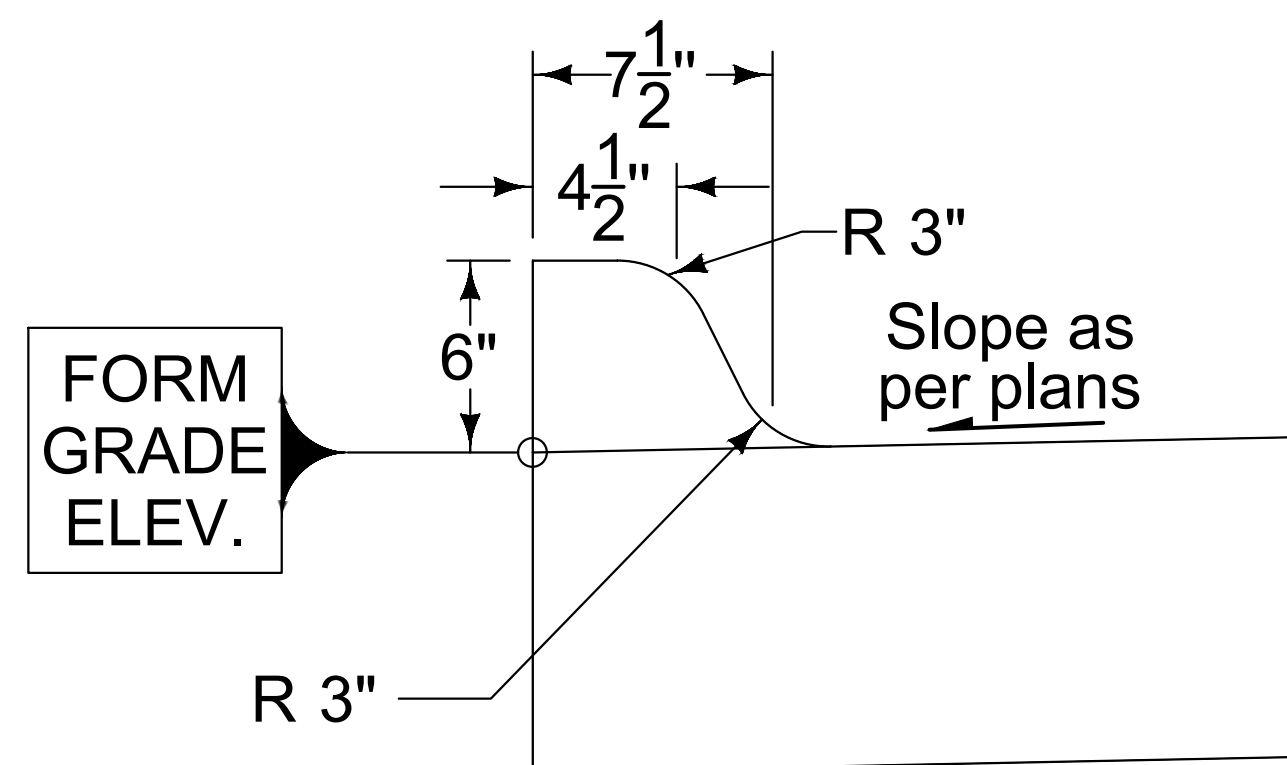
TYPICAL PARKING LOT PAVEMENT SECTION

NOTE DIMENSIONS IN FEET

MATCH GRADE SLOPE TOWARDS RIVER MINIMUM 1.5% (SEE GRADING PLAN FOR FURTHER DETAIL)

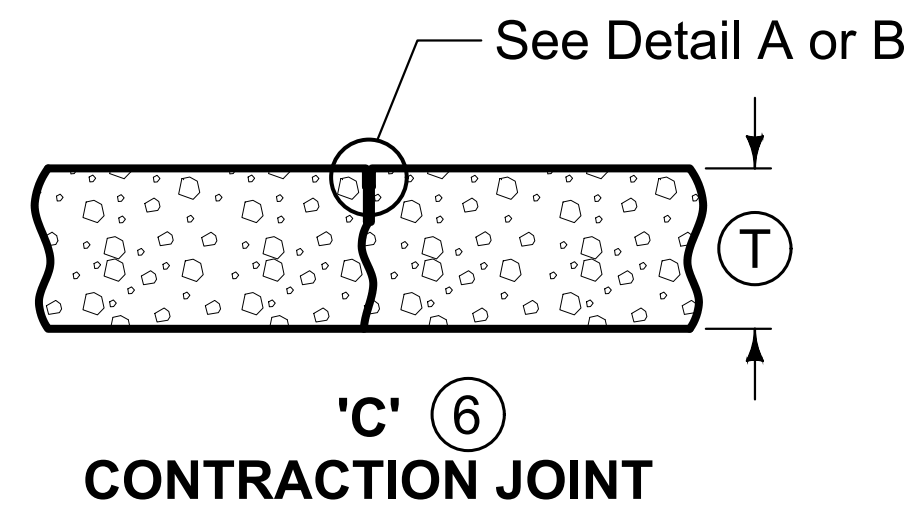


CURB DETAIL (SUDAS)

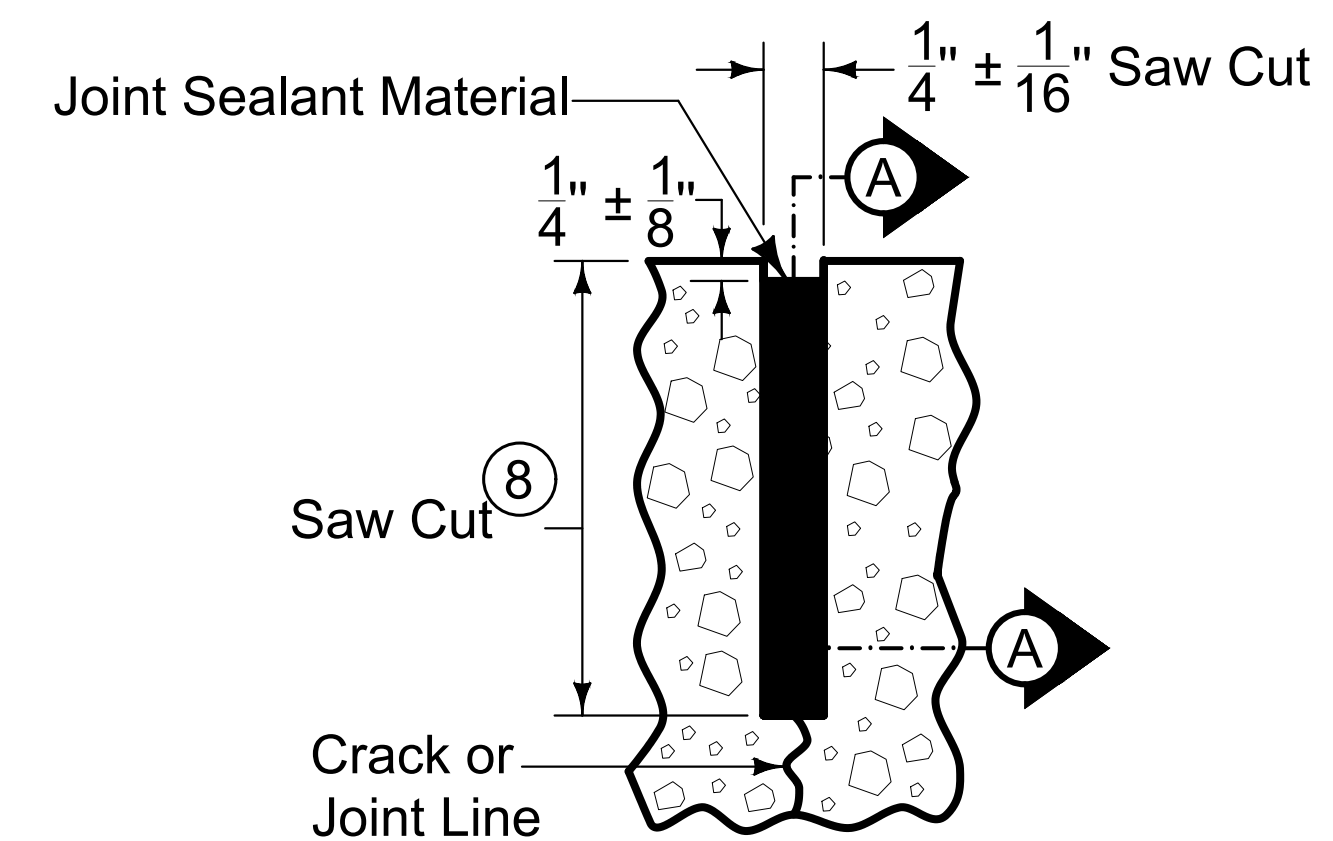


6" STANDARD CURB

PAVEMENT JOINTING DETAILS (SUDAS)



- ⑥ Unless specified otherwise, use 'CD' transverse contraction joints in mainline pavement when T is greater or equal to 8 inches. Use 'C' joints when T is less than 8 inches.



(Saw cut formed by conventional concrete sawing equipment.)

- ⑧ Saw 'CD' joint to a depth of $T/3 \pm 1/4"$; saw 'C' joint to a depth of $T/4 \pm 1/4"$.

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PARKING LOT

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SHEET NAME

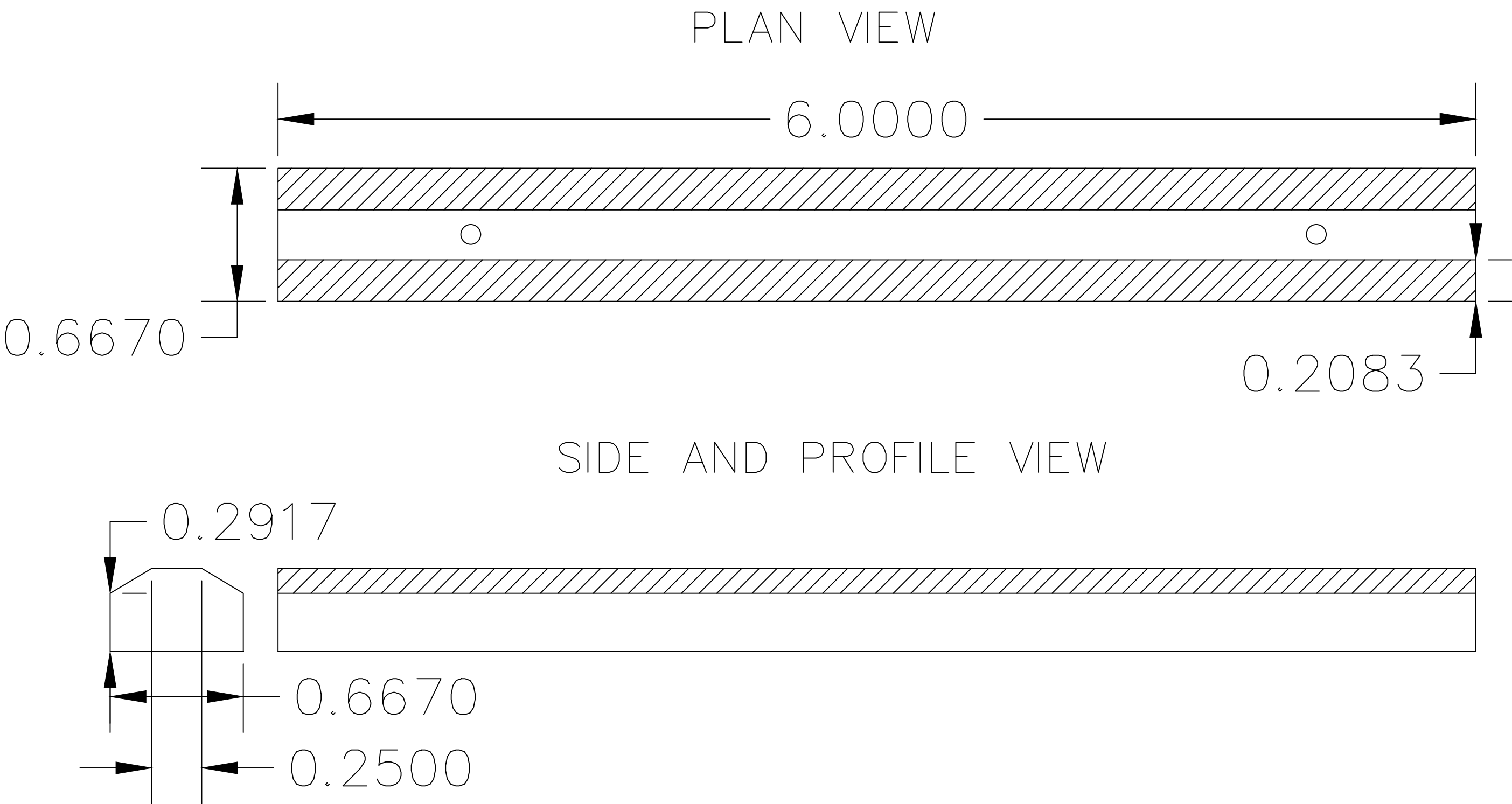
PARKING LOT
DETAILS

SHEET NO.

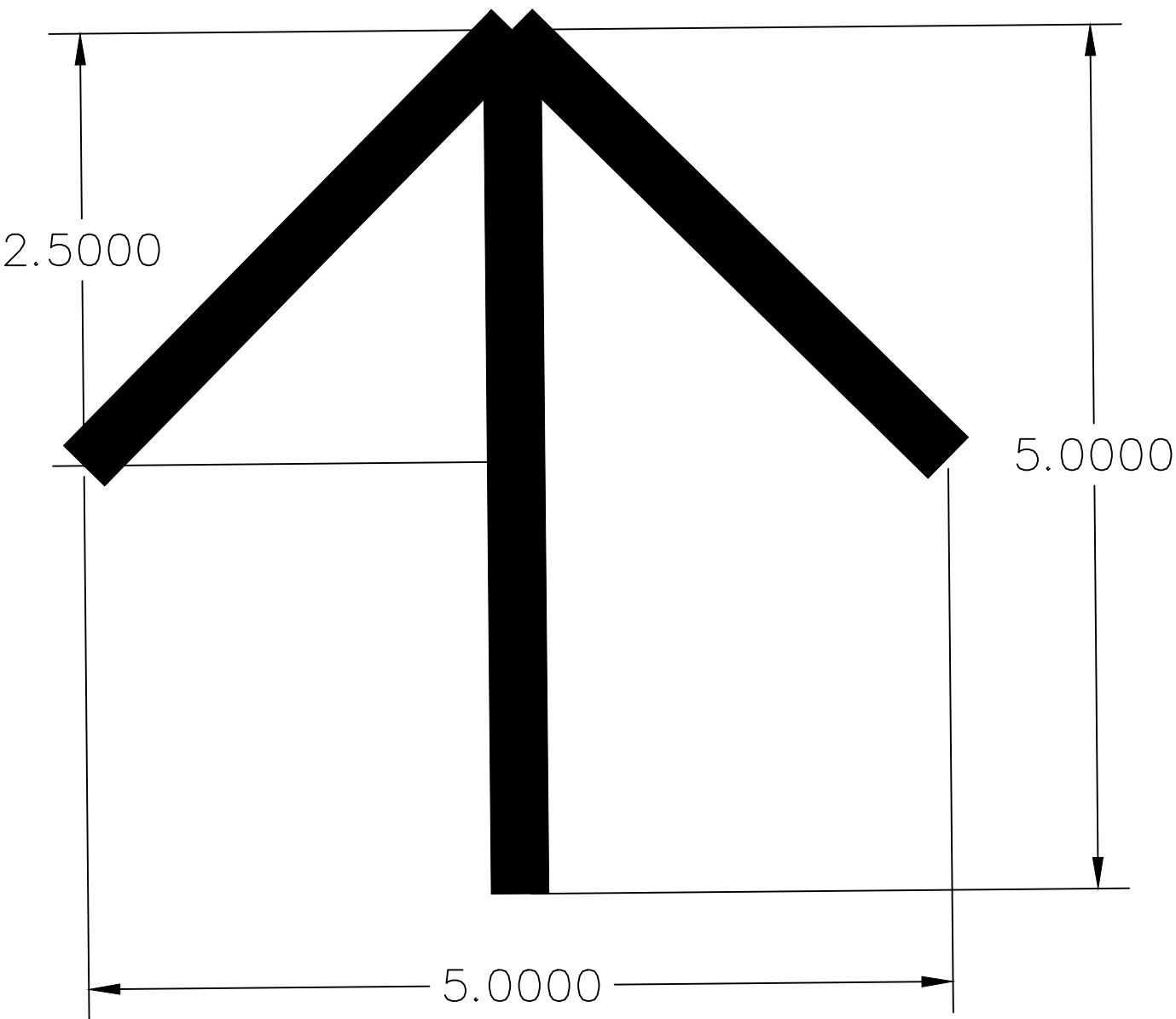
PL6

QUIKRETE 6' CONCRETE CAR STOP PARKING BUMPER

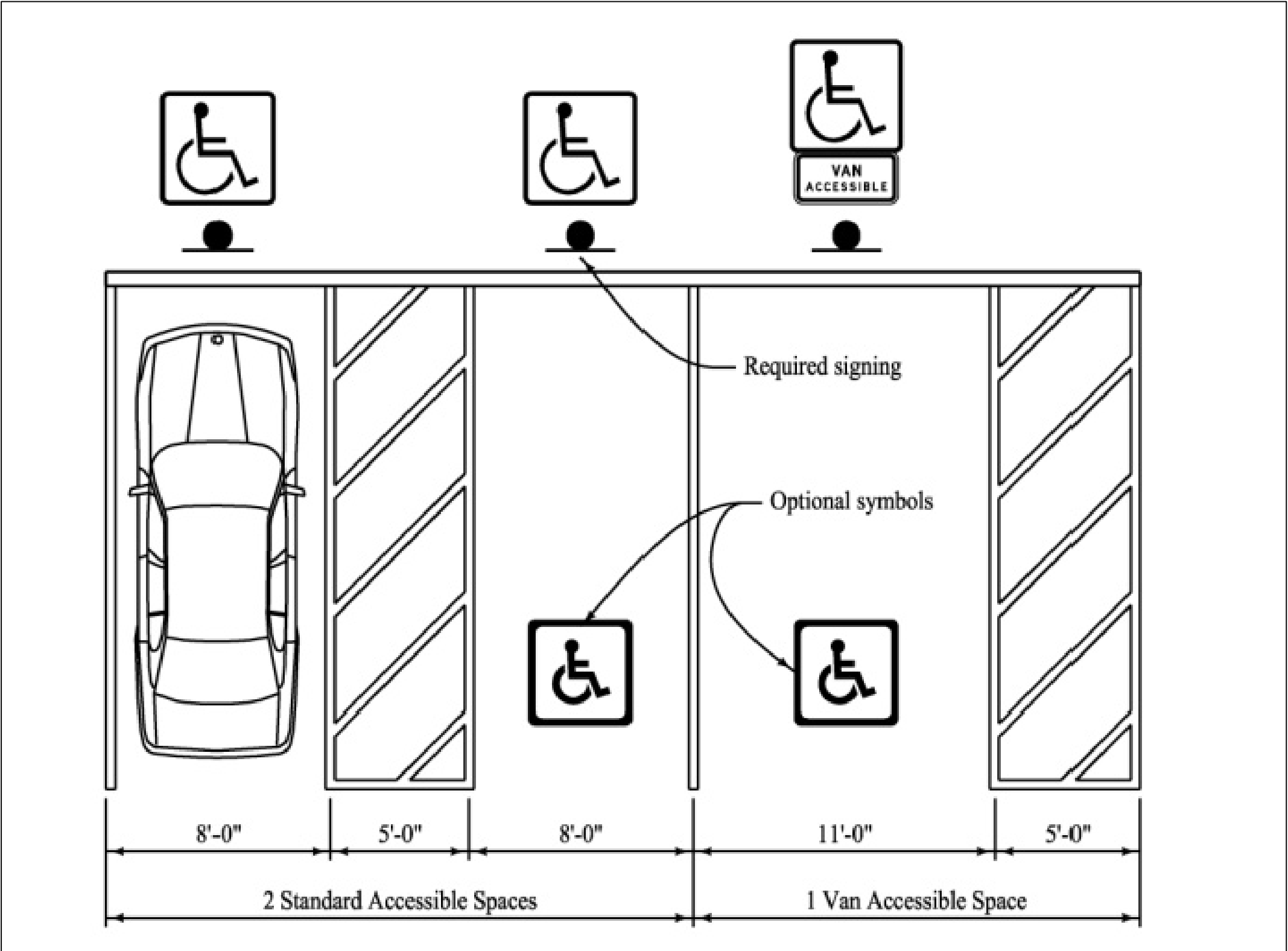
NOTE DIMENSIONS IN FEET



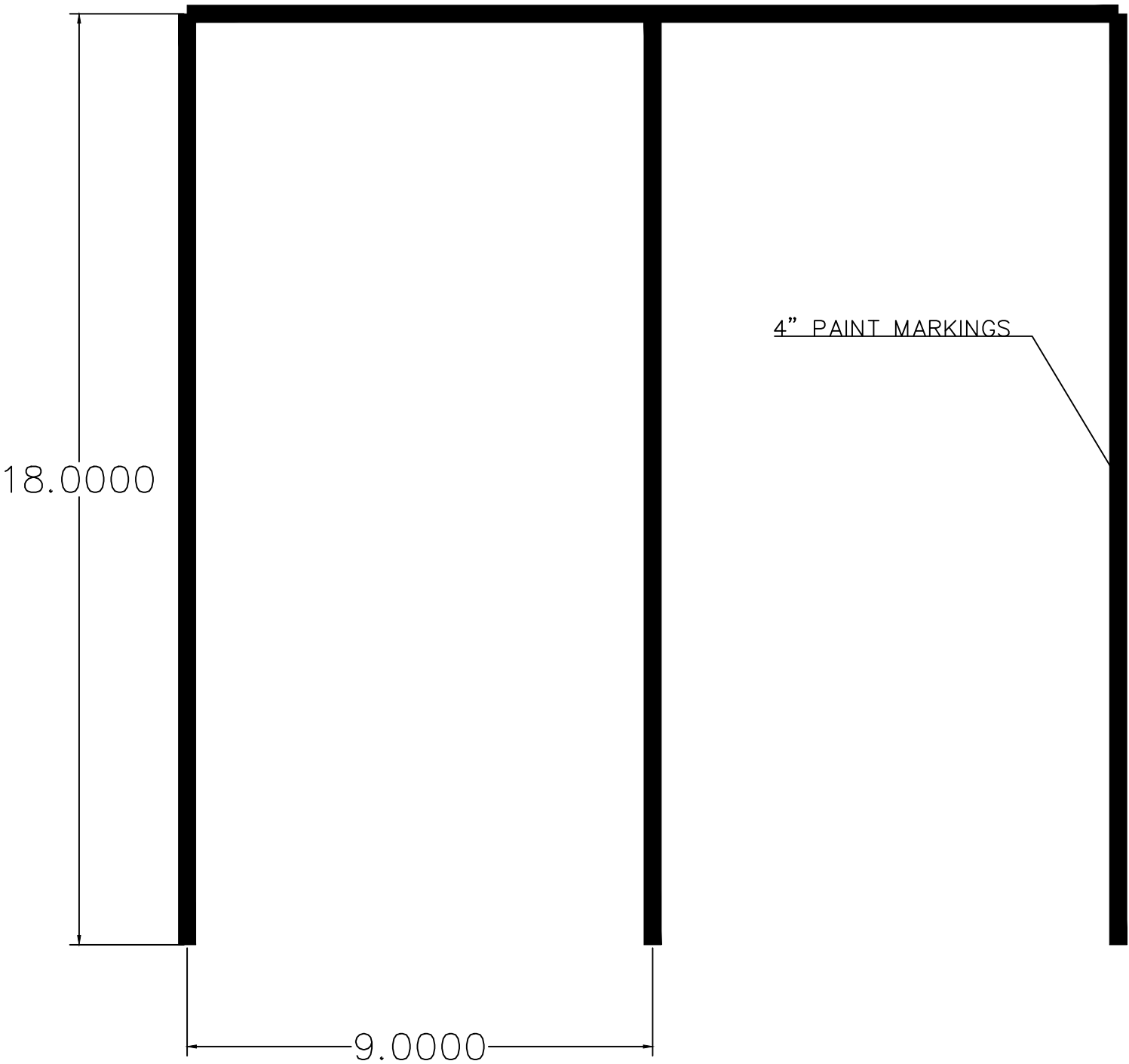
VEHICLE DIRECTION ARROW PAINT MARKING DETAIL



SUDAS ACCESSIBLE SPACE DIMENSIONS



SINGLE VEHICLE PARKING STALL DETAIL



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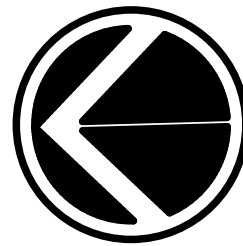
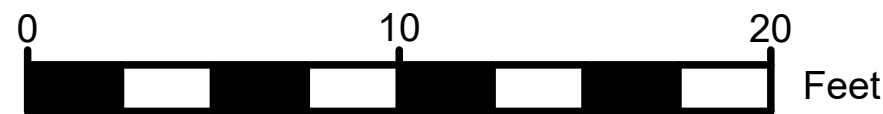
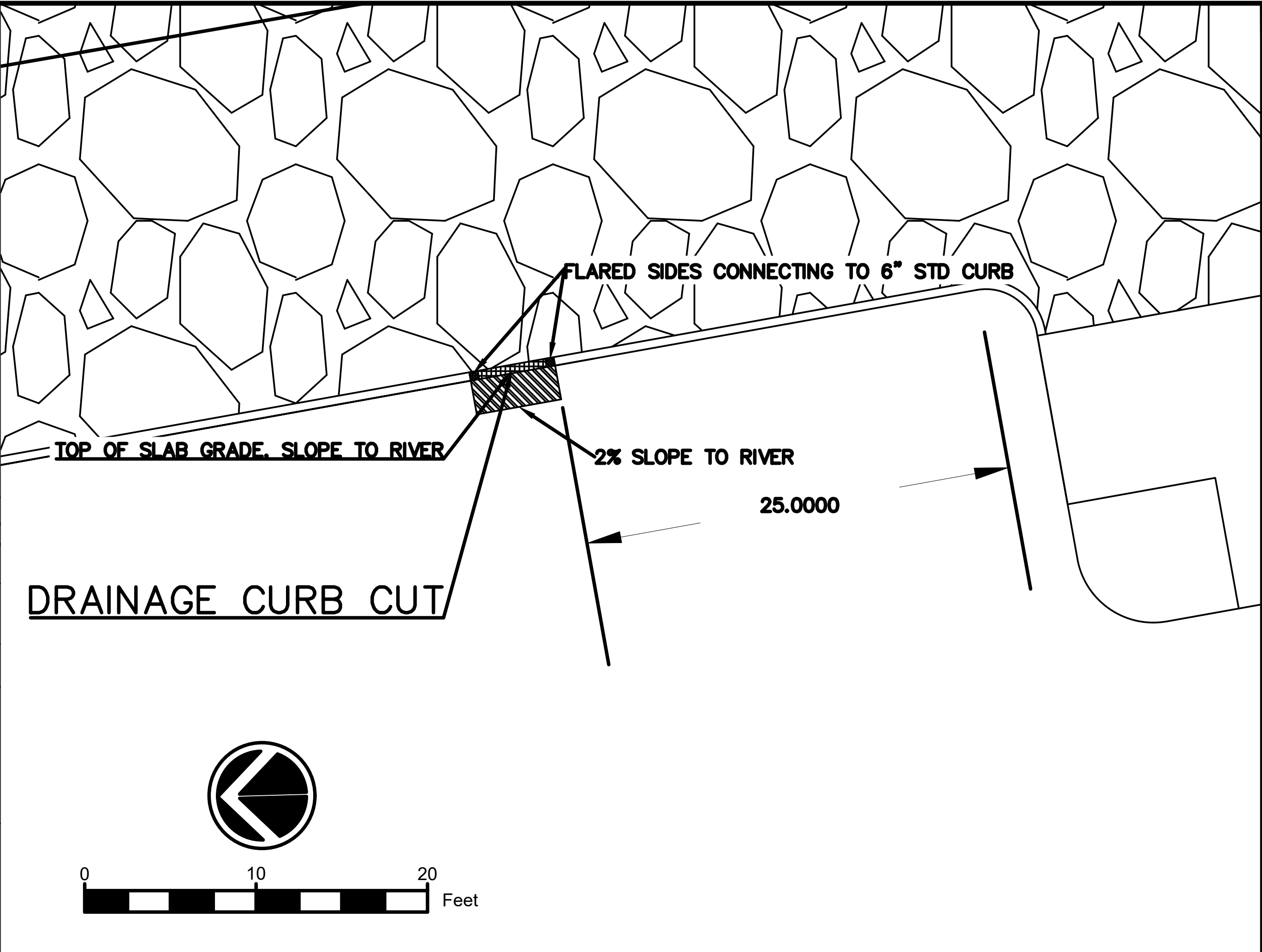
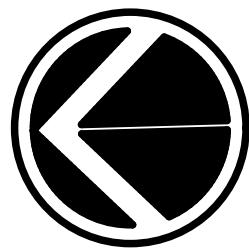
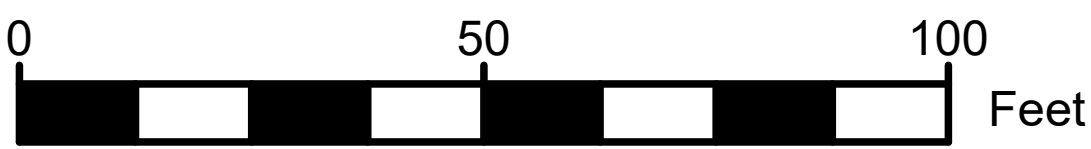
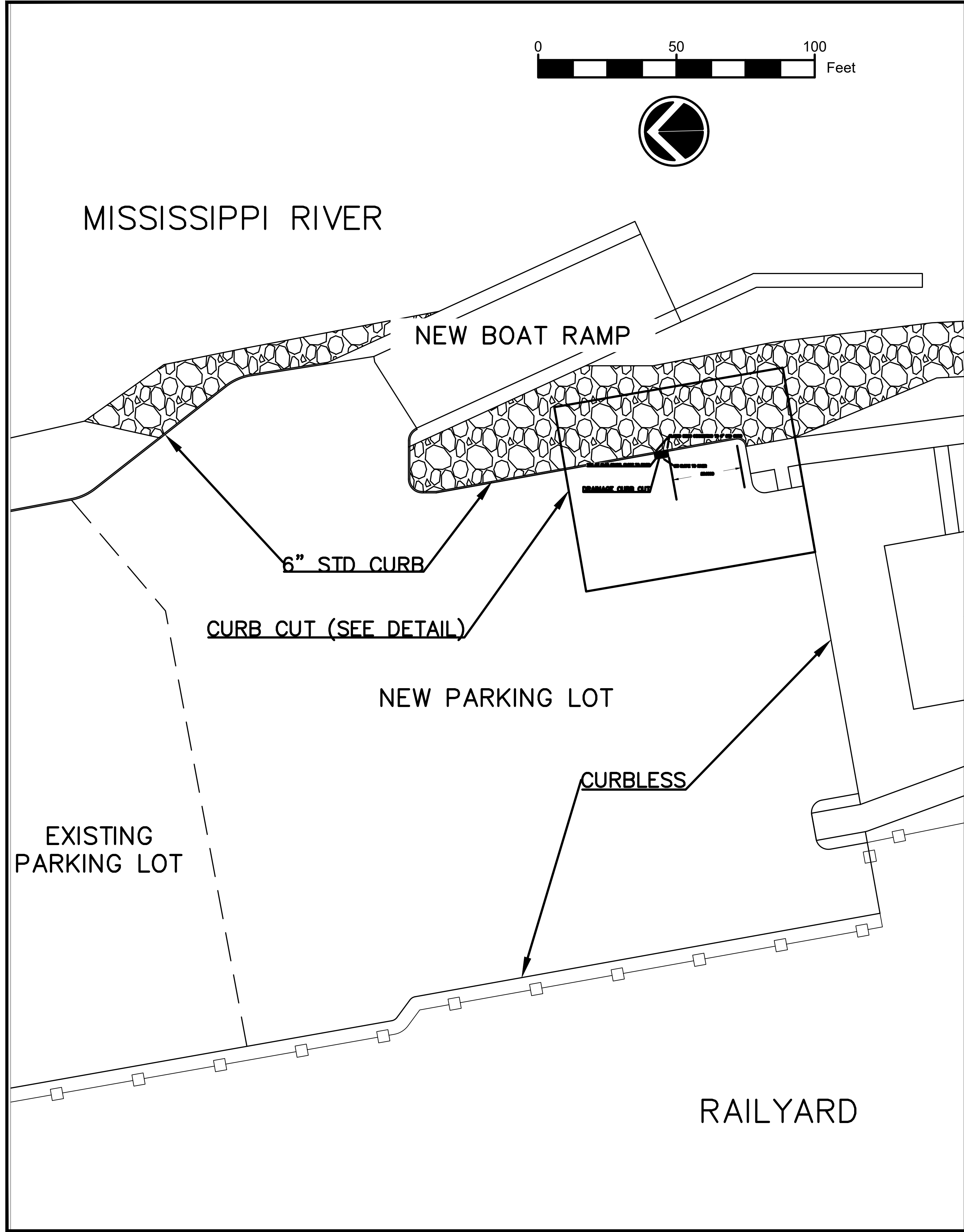
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SHEET NAME

PARKING LOT
DETAILS

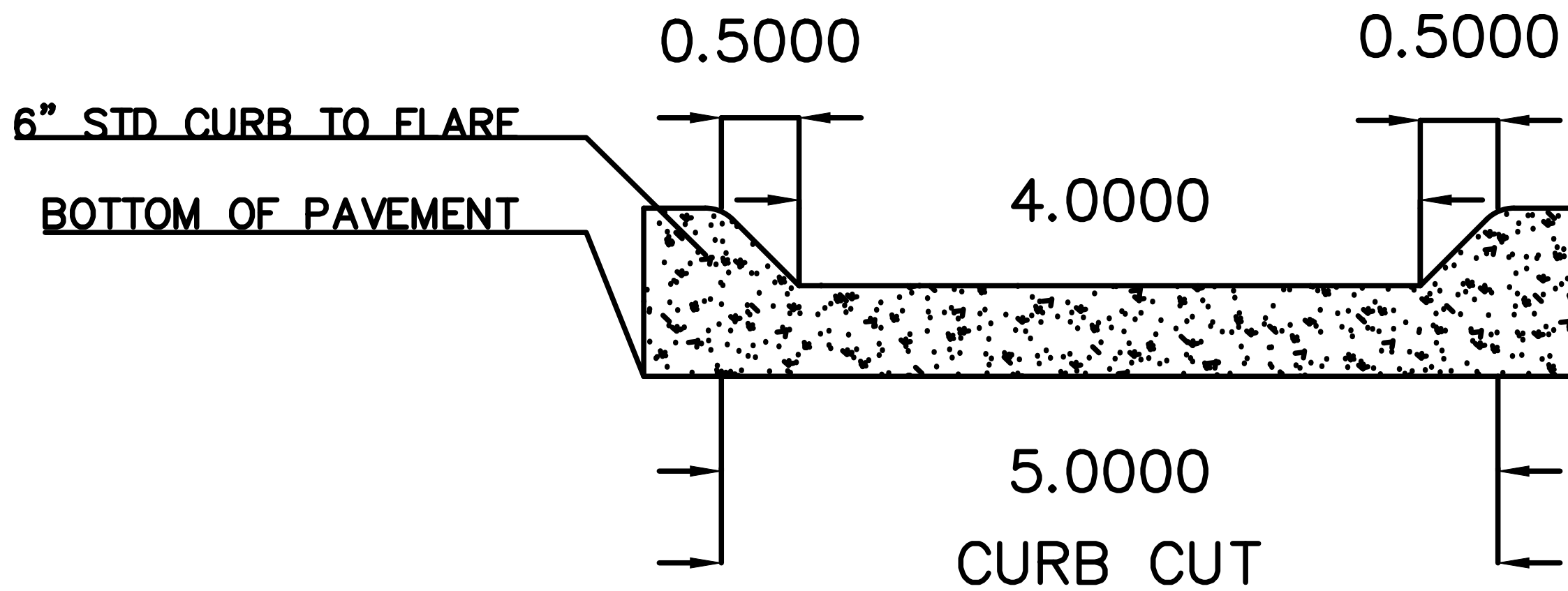
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PL7

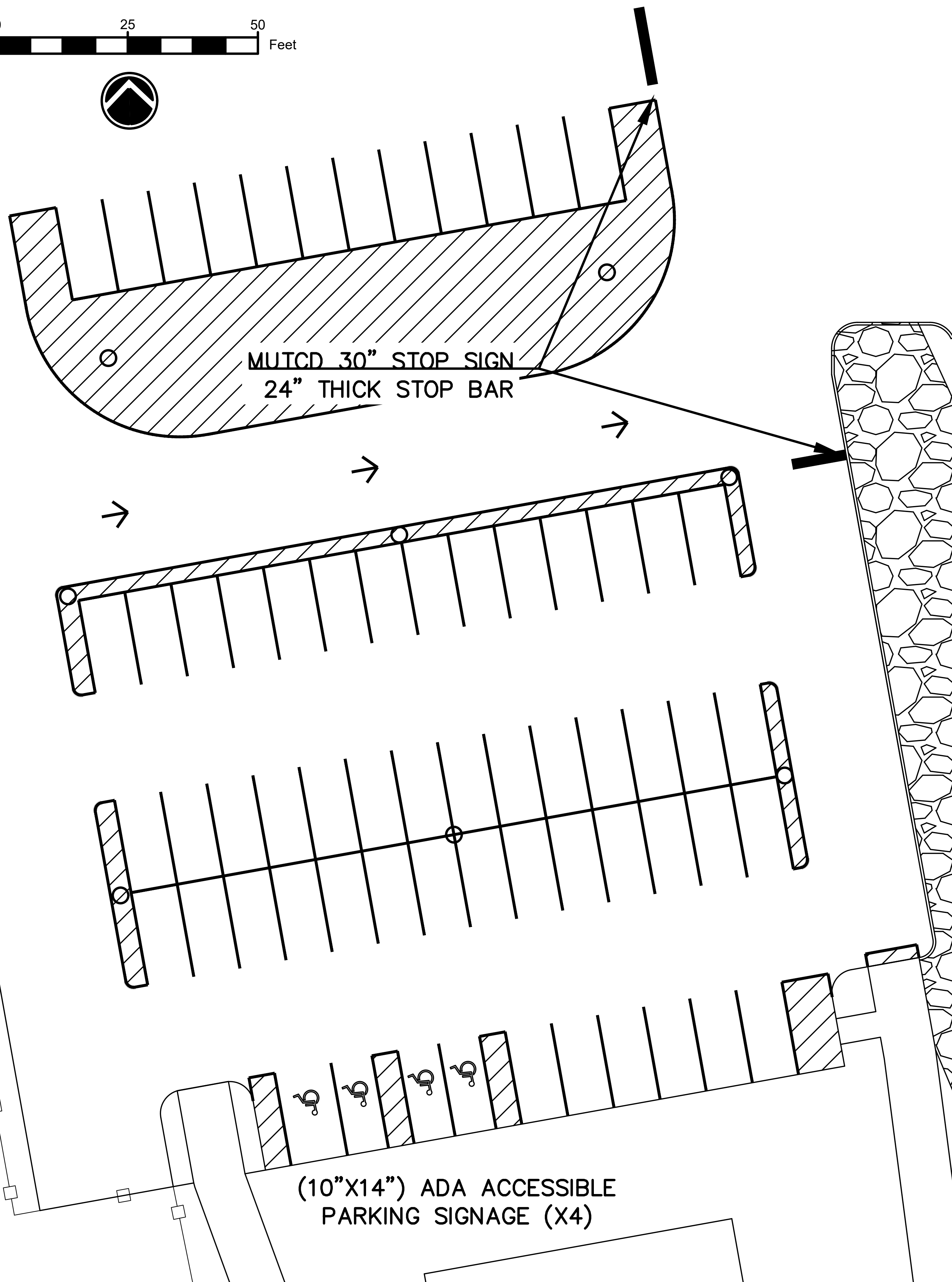
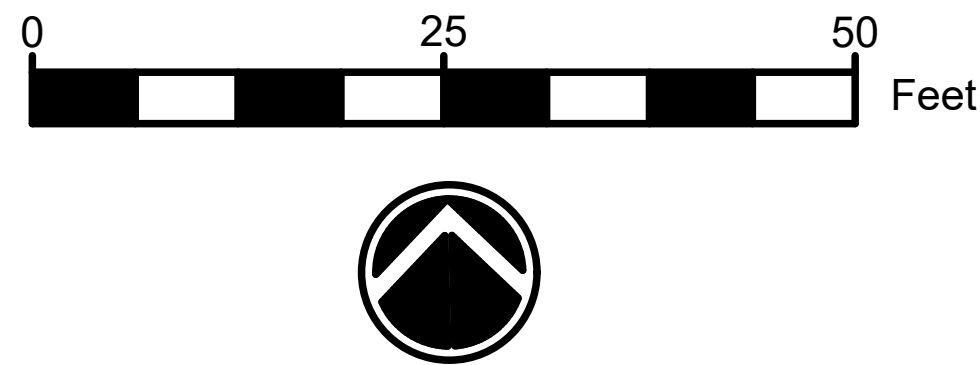


DRAINAGE CURB CUT DETAIL

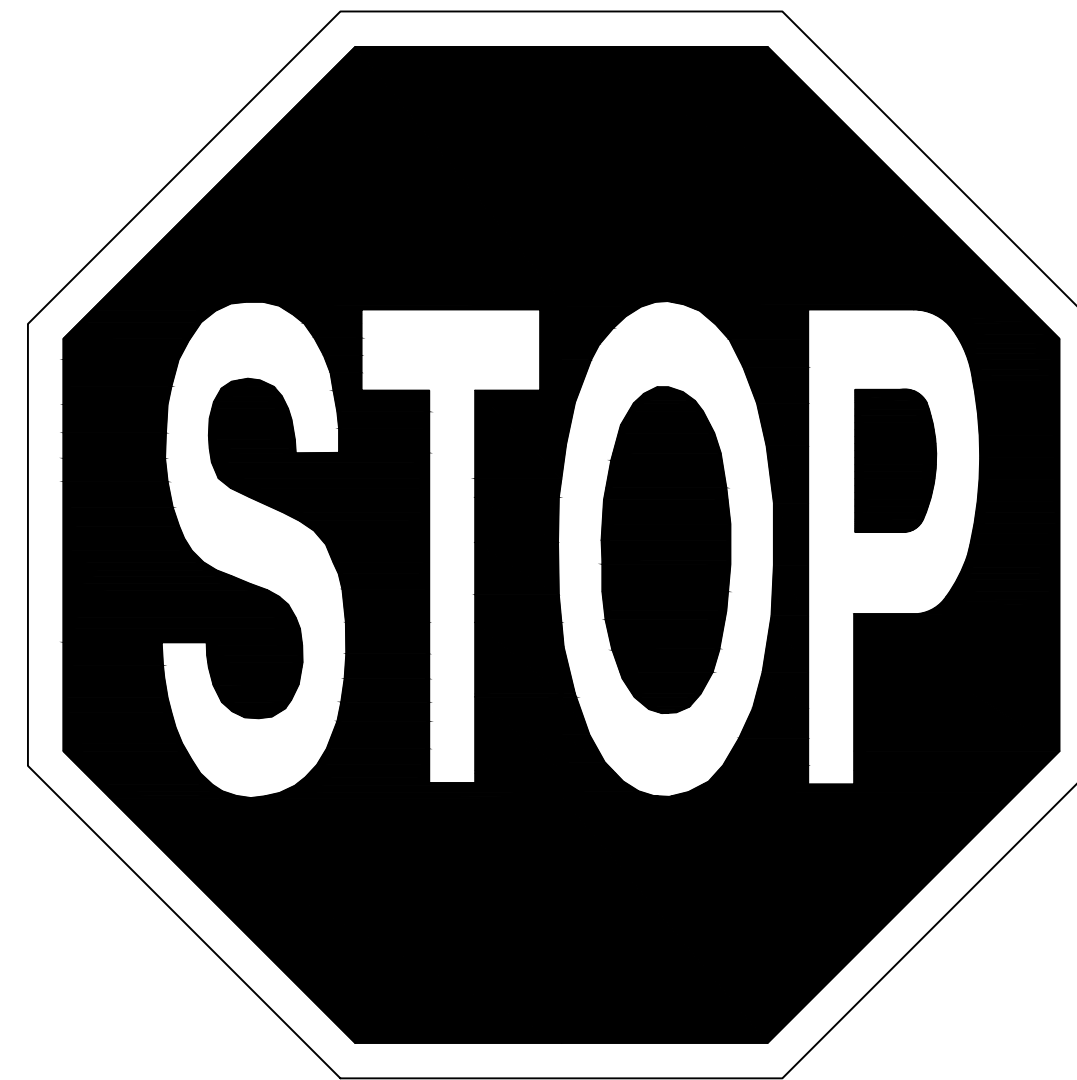
NOTE DIMENSIONS IN FEET



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SHEET NAME	PARKING LOT CURB DETAILS
SHEET NO.	PL8



MUTCD 30”
STOP SIGN



ADA PARKING
SIGN
(10”X14”)



NOTES:

- STOP SIGN PLACEMENT AIDS PARKING LOT EFFICIENCY AND SAFETY, YIELDS TO BOAT TRAILER AND INCOMING SINGLE USER VEHICLE TRAFFIC
- SIGNAGE PLACEMENT AND DIMENSIONS FOLLOW STANDARDS AND GUIDANCE FROM SUDAS AND MUTCD
- STOP SIGN MOUNTED WITH BREAKAWAY SIGN POLE
- STOP BAR 24” THICKNESS YELLOW WATERBORNE PAINT
- ADA SIGNAGE REQUIRED ON ADA ACCESSIBLE PARKING SPOTS, PAINT MARKINGS OPTIONAL PER SUDAS GUIDANCE

PROJECT:	CEE: 4850
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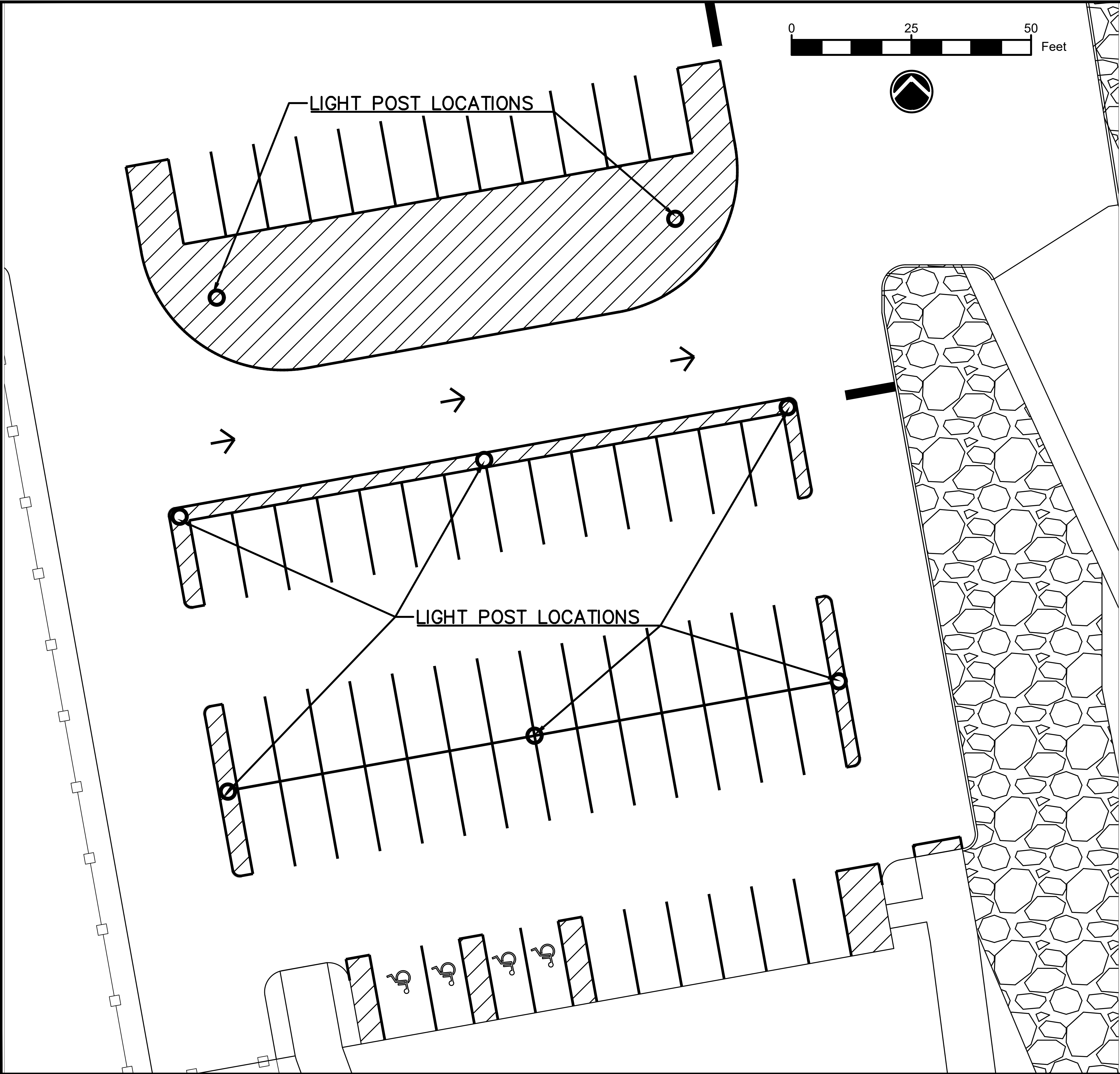
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SHEET NAME

PARKING LOT
SIGNAGE

SHEET NO.

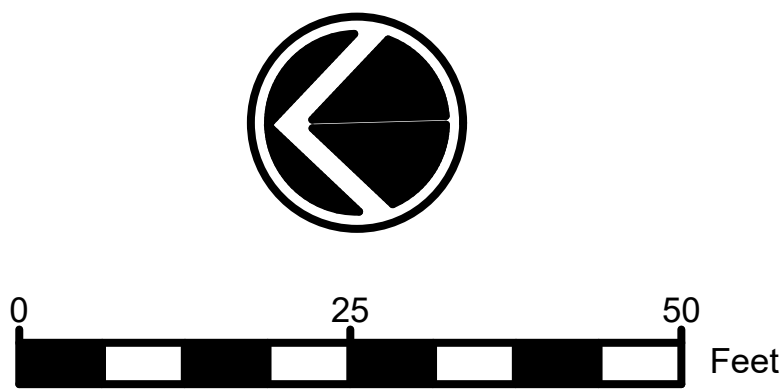
PL9



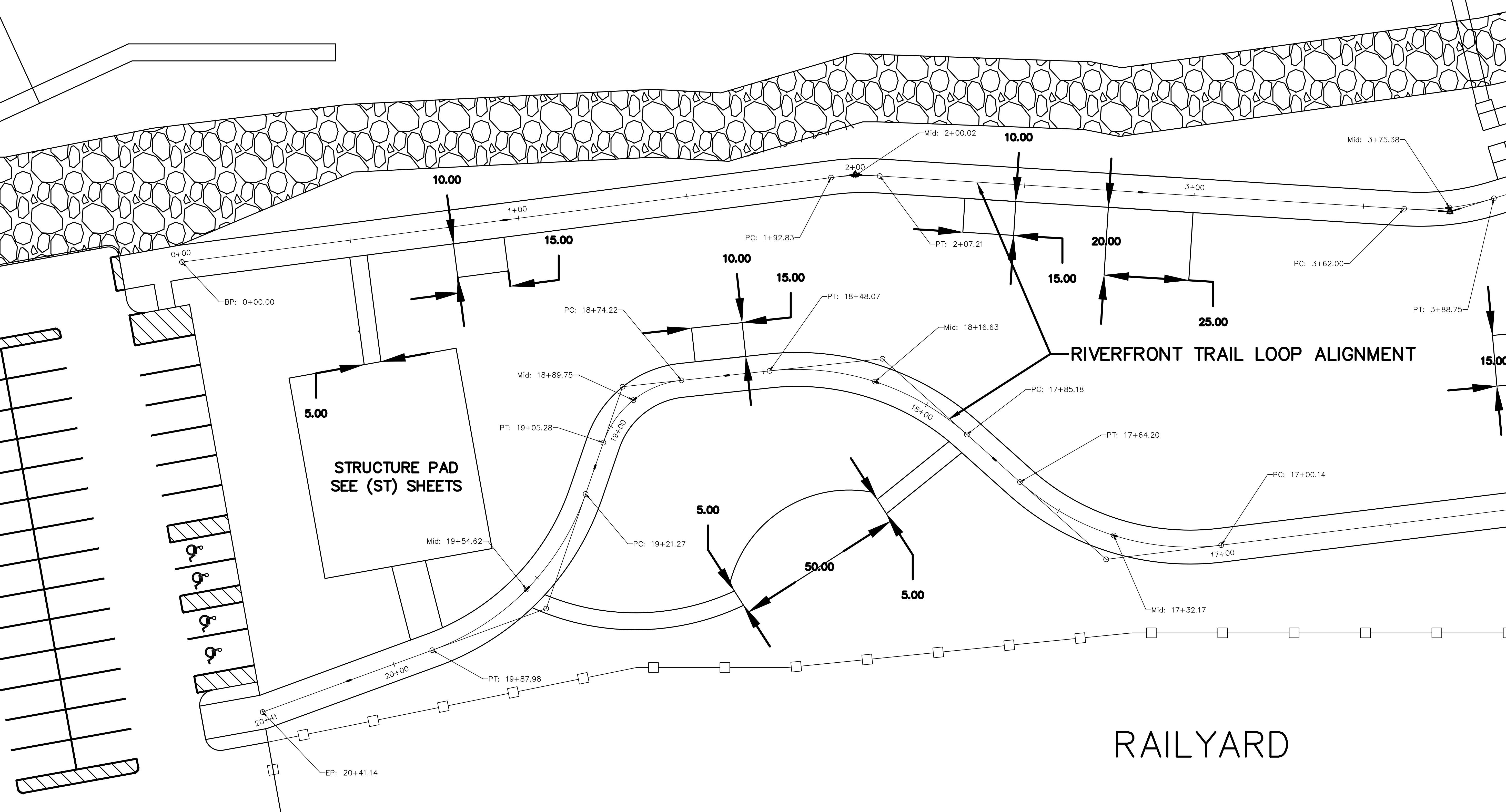
NOTES:

- LIGHTING LAYOUT FOLLOWS SUDAS GUIDANCE PROVIDING AREA EFFICIENT LIGHTING DESIGN FOR NEW PARKING AREAS
- USE CONSISTENT LIGHTING UNITS AS EXISTING PARKING LOT
- LIGHTING LAYOUT WILL FOLLOW SUDAS TYPE 5 IES DISTRIBUTION GENERAL AREA LIGHTING
- CHOICE OF LED OR HPS LIGHTS
- PAVEMENT TYPE IS PORTLAND CEMENT CONCRETE PAVEMENT WITH REFLECTANCE CATEGORY R1 PER SUDAS GUIDANCE
- KEEP MOUNTING HEIGHTS CONSISTENT WITH LIGHTING UNITS IN EXISTING PARKING LOT
- CONNECT TO EXISTING INFRASTRUCTURE AND CONDUITS FOR WIRING

PROJECT:	CEE: 4850
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SHEET NAME	
LIGHTING PLAN	
SHEET NO.	
PL10	



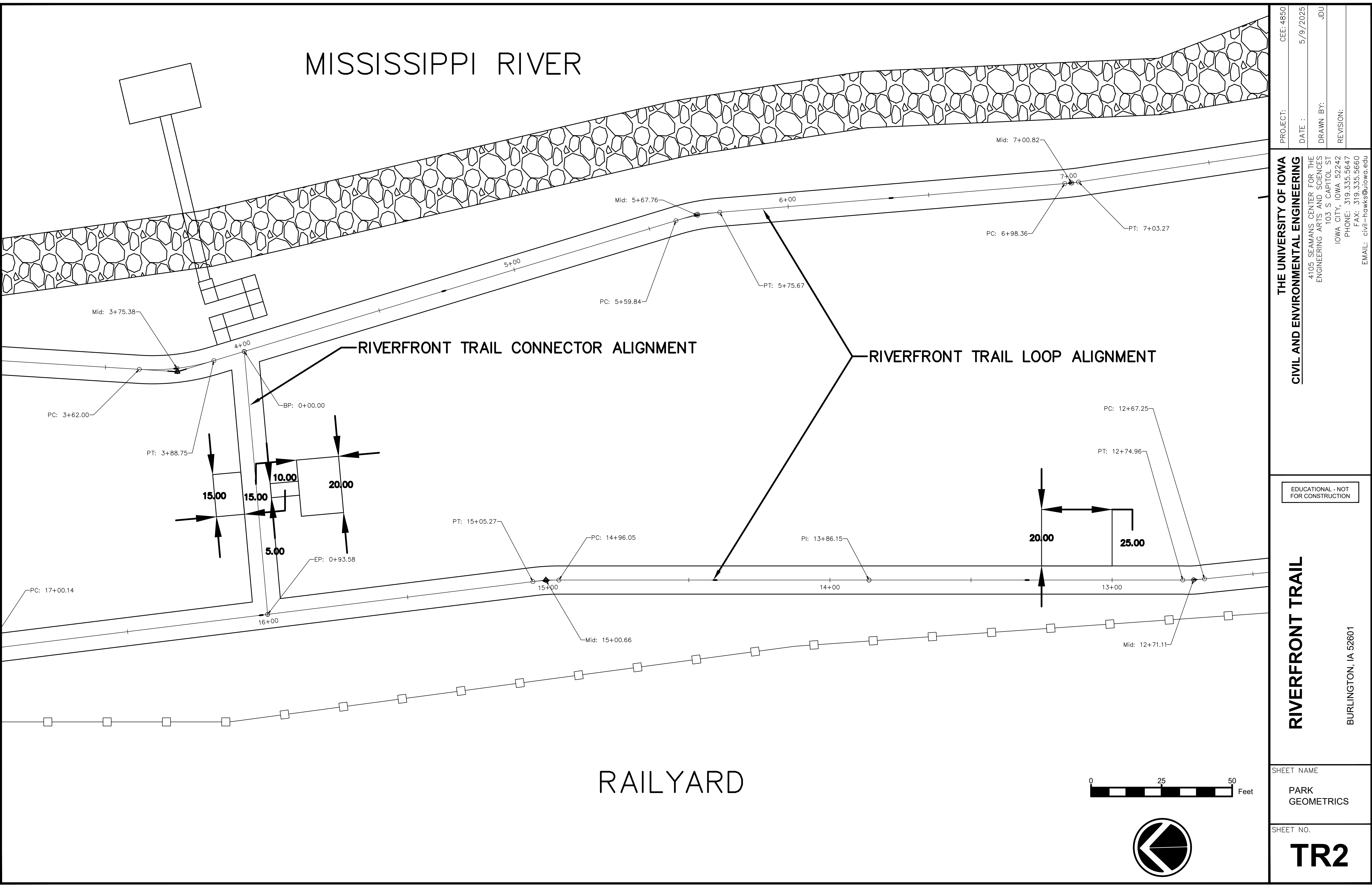
MISSISSIPPI RIVER



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---	---

SHEET NAME
PARK GEOMETRICS
SHEET NO.
TR1



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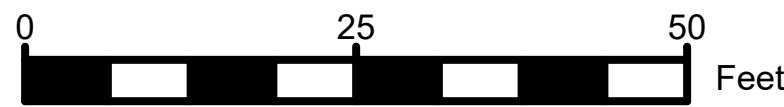
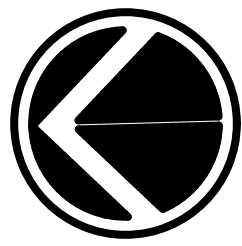
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SHEET NAME
PARK
GEOMETRICS

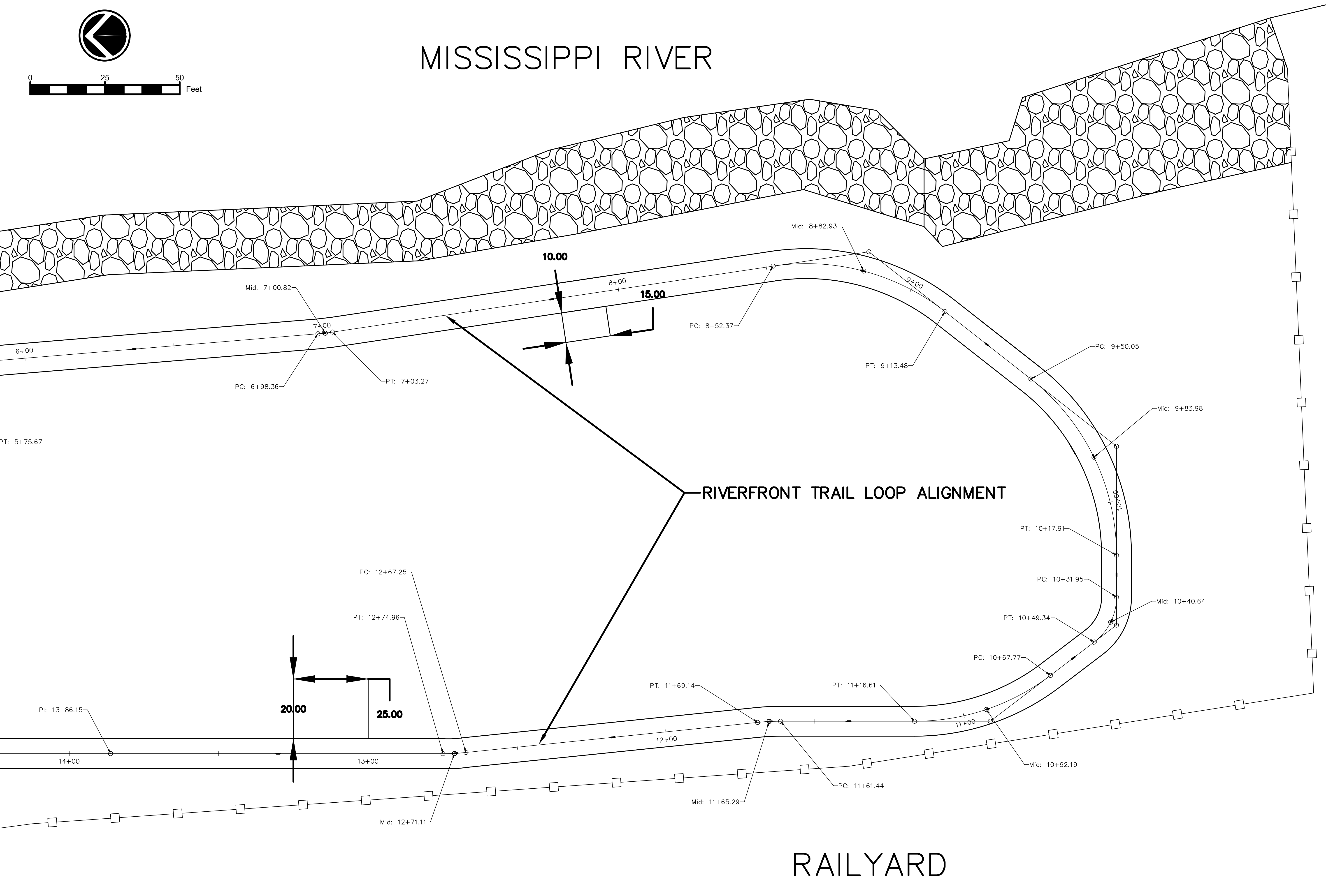
SHEET NO.
TR2



MISSISSIPPI RIVER

RAILYARD

RIVERFRONT TRAIL LOOP ALIGNMENT



PROJECT:	CEE: 4850
DATE :	5/9/2025
DRAWN BY:	JDU
REVISION:	

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
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RIVERFRONT TRAIL

BURLINGTON, IA 52601

SHEET NAME
PARK
GEOMETRICS

SHEET NO.
TR3

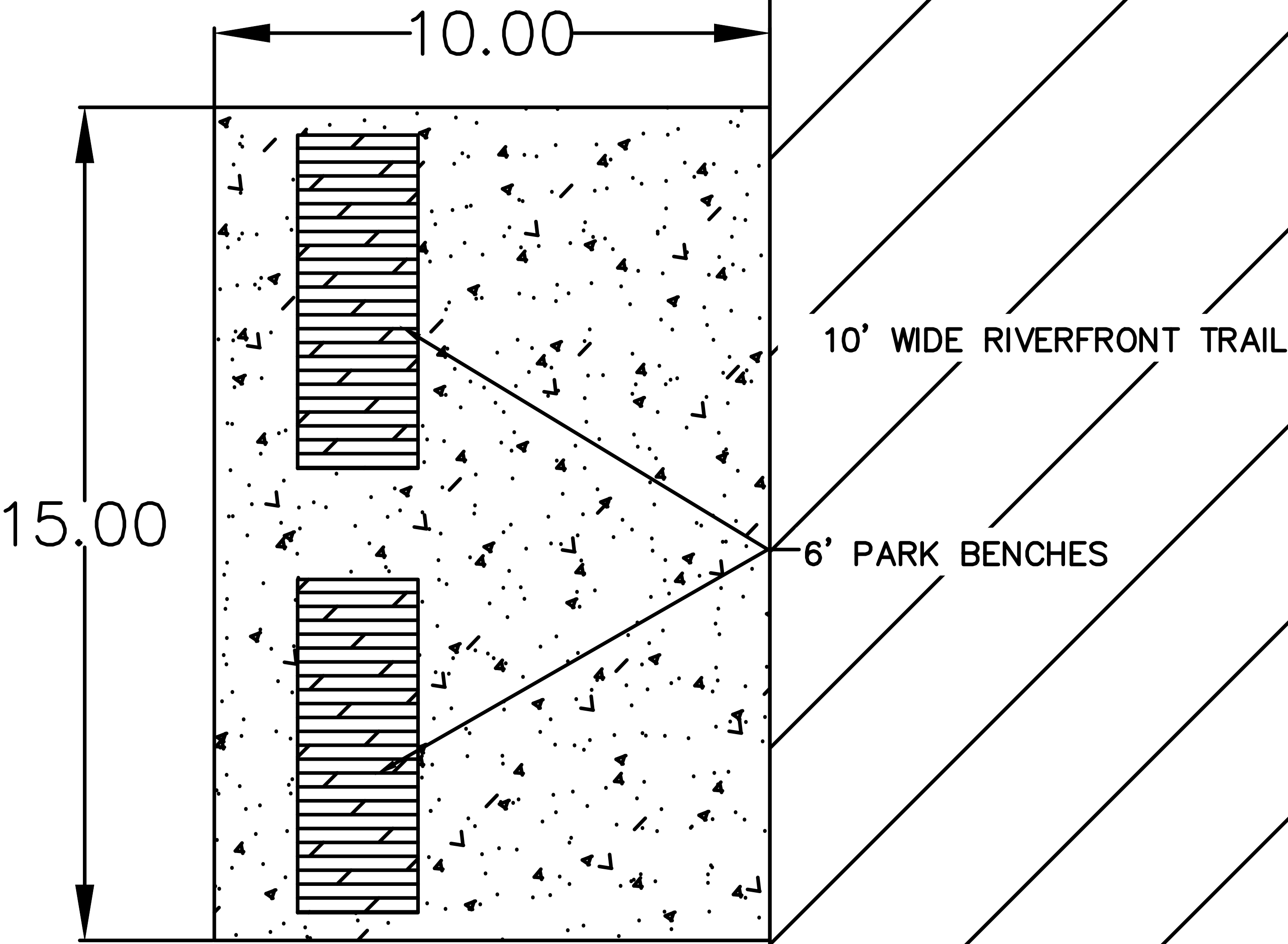
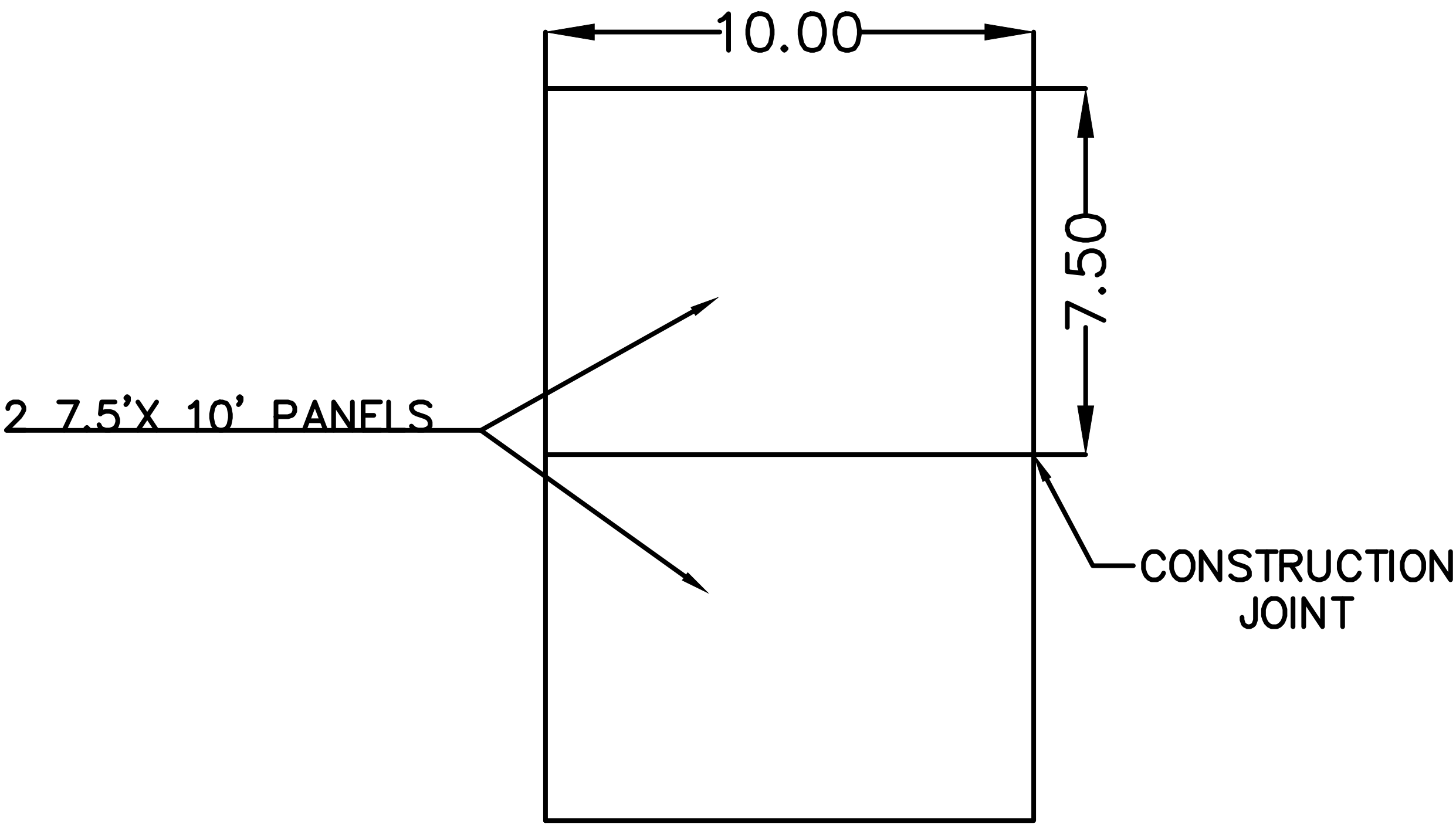
NOTE DIMENSIONS IN FEET

BENCH PAD DETAIL

NOTES:

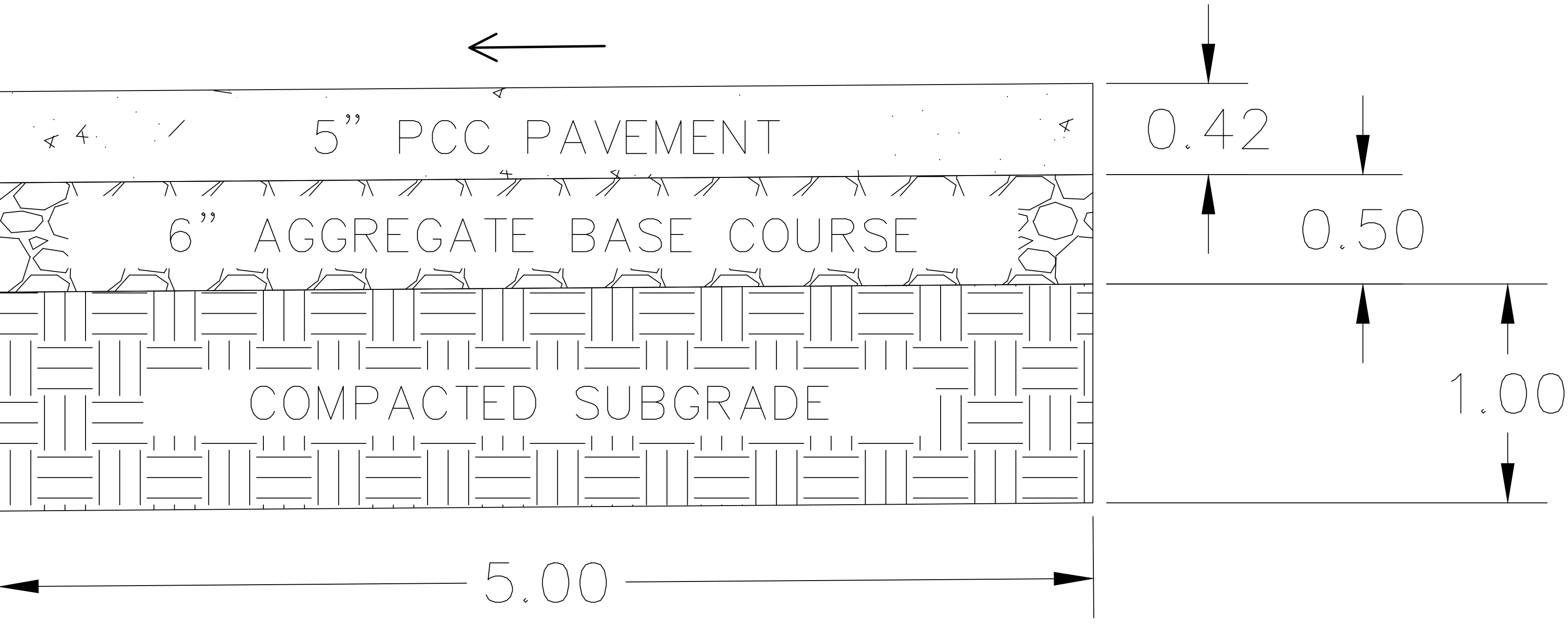
- BENCH PADS DESIGNED TO HOLD 2 6' WIDE PARK BENCHES
- STRUCTURE PAD DIMENSIONS SIZED TO ACCOMODATE ADA ACCESSIBLITY, SAFETY FROM MULTI-USE TRAIL, AND FLEXIBILITY OF BENCH SIZES
- BENCH PAD THICKNESS FOLLOWS SIDEWALK DETAIL, 5" PCC PAVEMENT (SEE DETAILS ON SIDEWALK PAVEMENT)

JOINTING DETAIL



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RIVERFRONT TRAIL	
BURLINGTON, IA 52601	
SHEET NAME	BENCH PAD DETAILS
SHEET NO.	TR4

TYPICAL SIDEWALK SECTION

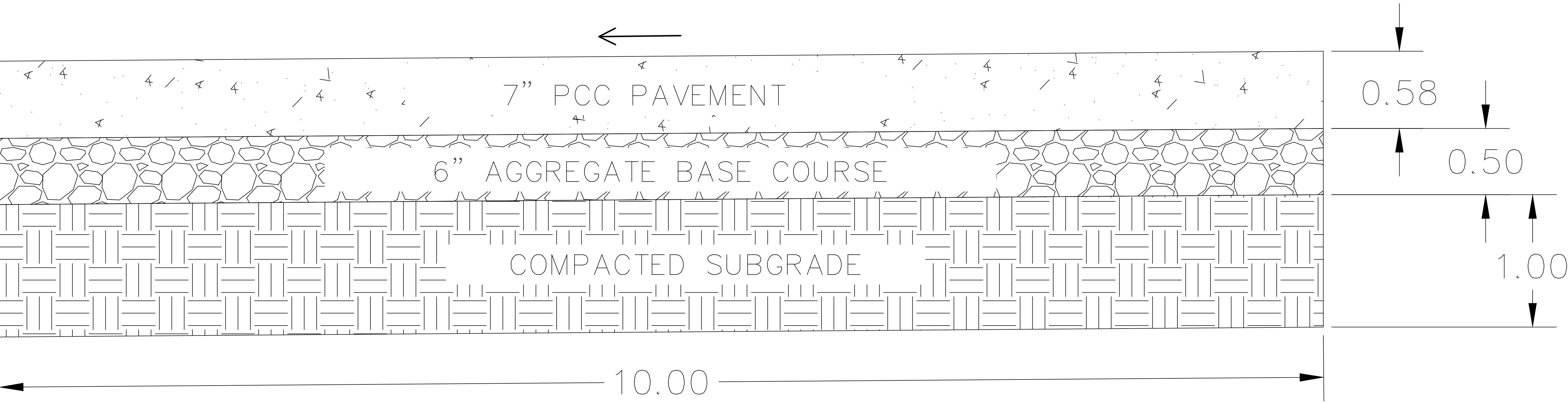


NOTES:

- SIDEWALK AND TRAIL WILL HAVE A MINIMUM SLOPE OF -1.5% TOWARDS THE RIVER AND A MAXIMUM CROSS SLOPE OF 2.0%
- CONTROL JOINTS:
SIDEWALK: EVERY 5 FT
TRAIL EVERY 10 FT

NOTE DIMENSIONS IN FEET

TYPICAL TRAIL SECTION



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RIVERFRONT TRAIL

Burlington, IA 52601

SHEET NAME
Trail Details
SHEET NO.
TR5

RIVERFRONT TRAIL GEOMETRY TABLES

LINE TABLE: ALIGNMENTS				
LINE #	LENGTH	DIRECTION	START POINT	END POINT
L1	192.83'	S07° 24' 37"E	0+00.00	1+92.83
L2	154.79'	S03° 34' 38"W	2+07.21	3+62.00
L3	171.09'	S16° 51' 32"E	3+88.75	5+59.84
L4	122.69'	S04° 46' 03"E	5+75.67	6+98.36
L5	149.10'	S08° 31' 12"E	7+03.27	8+52.37
L6	36.57'	S38° 09' 32"W	9+13.48	9+50.05
L7	14.04'	N90° 00' 00"W	10+17.91	10+31.95
L8	18.44'	N37° 18' 21"W	10+49.34	10+67.77
L9	44.83'	N00° 00' 00"E	11+16.61	11+61.44
L10	98.11'	N05° 53' 08"W	11+69.14	12+67.25
L11	111.19'	N00° 00' 00"E	12+74.96	13+86.15
L12	109.91'	N00° 00' 00"E	13+86.15	14+96.05
L13	194.87'	N07° 02' 18"W	15+05.27	17+00.14
L14	20.98'	N41° 54' 00"E	17+64.20	17+85.18
L15	26.15'	N06° 08' 33"W	18+48.07	18+74.22
L16	16.00'	N71° 00' 49"W	19+05.28	19+21.27
L17	53.16'	N20° 03' 17"W	19+87.98	20+41.14

CURVE TABLE: ALIGNMENTS					
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
C1	75.00'	14.38'	S01° 54' 59.92"E	1+92.83	2+07.21
C2	75.00'	26.75'	S06° 38' 27.31"E	3+62.00	3+88.75
C3	75.00'	15.83'	S10° 48' 47.74"E	5+59.84	5+75.67
C4	75.00'	4.91'	S06° 38' 37.43"E	6+98.36	7+03.27
C5	75.00'	61.10'	S14° 49' 10.43"W	8+52.37	9+13.48
C6	75.00'	67.86'	S64° 04' 46.23"W	9+50.05	10+17.91
C7	18.90'	17.39'	N63° 39' 10.54"W	10+31.95	10+49.34
C8	75.00'	48.83'	N18° 39' 10.54"W	10+67.77	11+16.61
C9	75.00'	7.70'	N02° 56' 34.05"W	11+61.44	11+69.14
C10	75.00'	7.70'	N02° 56' 34.05"W	12+67.25	12+74.96
C11	75.00'	9.21'	N03° 31' 08.75"W	14+96.05	15+05.27
C12	75.00'	64.06'	N17° 25' 51.18"E	17+00.14	17+64.20
C13	75.00'	62.89'	N17° 52' 43.62"E	17+85.18	18+48.07
C14	27.43'	31.06'	N38° 34' 40.97"W	18+74.22	19+05.28
C15	75.00'	66.71'	N45° 32' 02.91"W	19+21.27	19+87.98

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RIVERFRONT TRAIL

BURLINGTON, IA 52601

SHEET NAME

GEOMETRY
TABLES

SHEET NO.

TR6

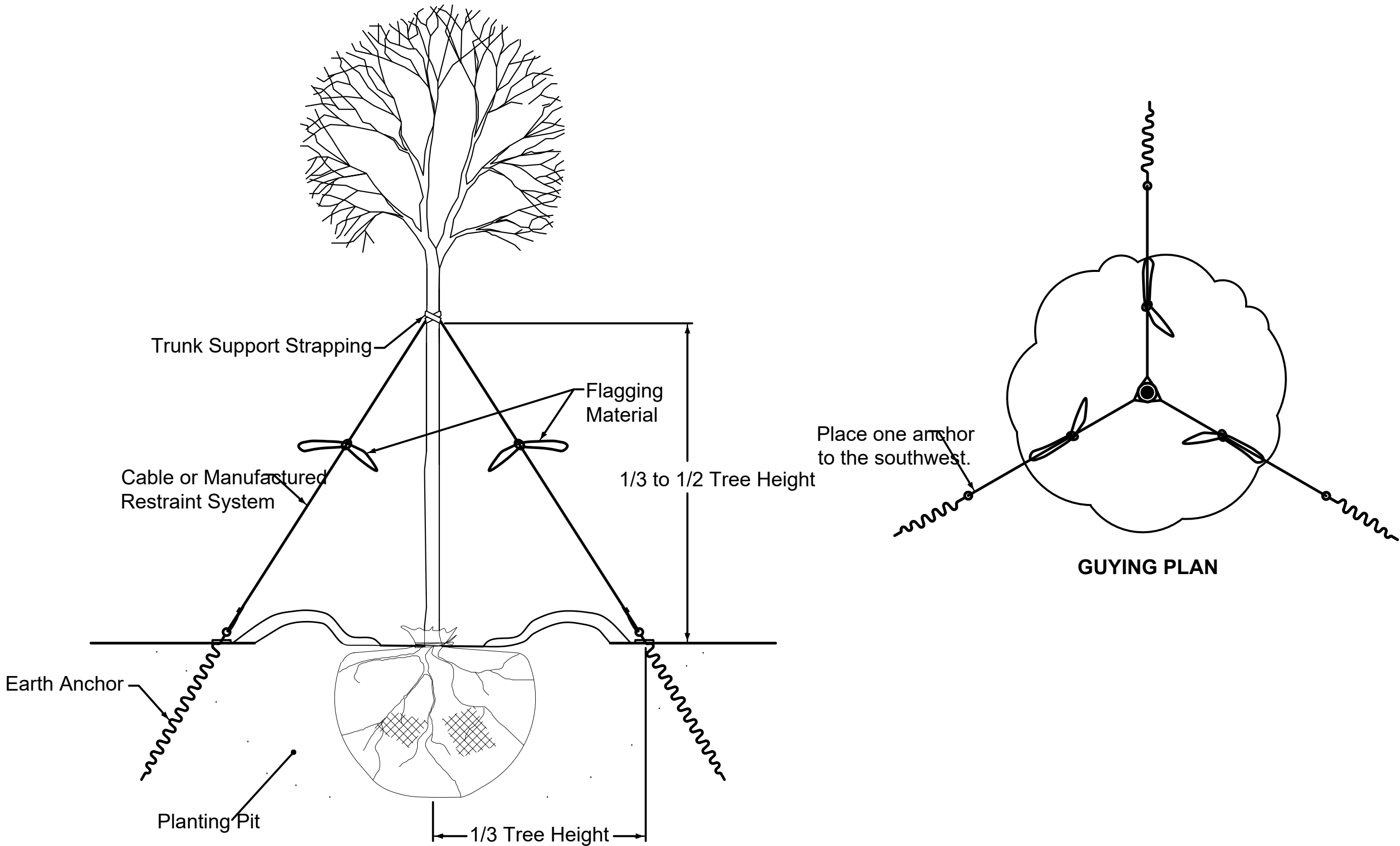
NOTES:

- STAKE OR GUY TREES AS NECESSARY BASED ON SIZE AND SITE CONDITIONS
- APPLY 10–10–10 FERTILIZER AT THE RECOMMENDED RATE
- WATER ALL PLANTINGS AFTER INSTALLATION AND DURING ESTABLISHMENT

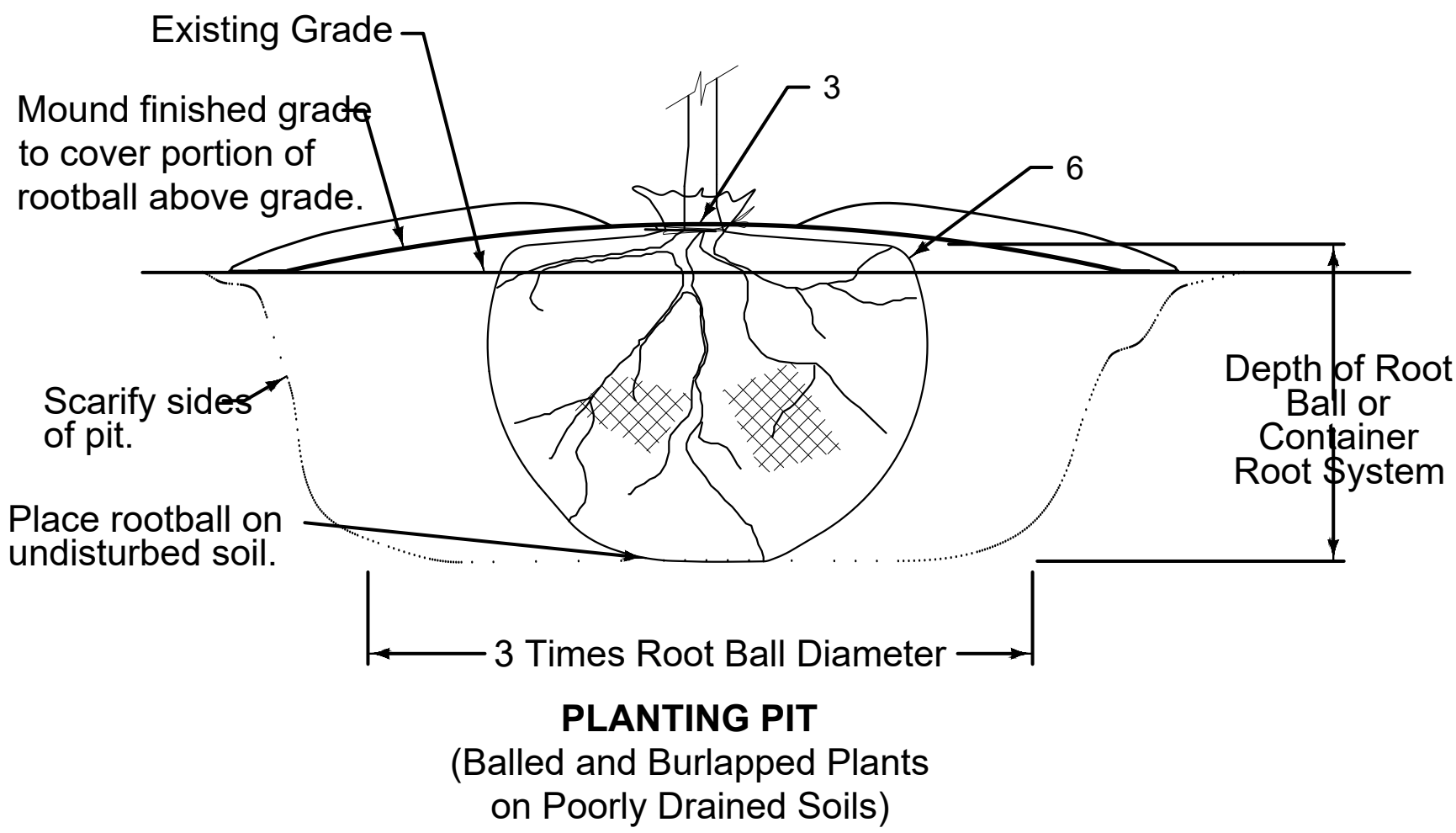
TREE PLANTING PLAN DETAILS

TYPE	SIZE	AMOUNT	NOTES
BUR OAK	4"	4	
SILVER MAPLE	4"	4	GUYING RECOMMENDED
BALD CYPRESS	4"	3	GUYING RECOMMENDED

TREE GUYING DETAIL (SUDAS)



PLANTING PIT DETAIL (SUDAS)



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LANDSCAPING

BURLINGTON, IA 52601

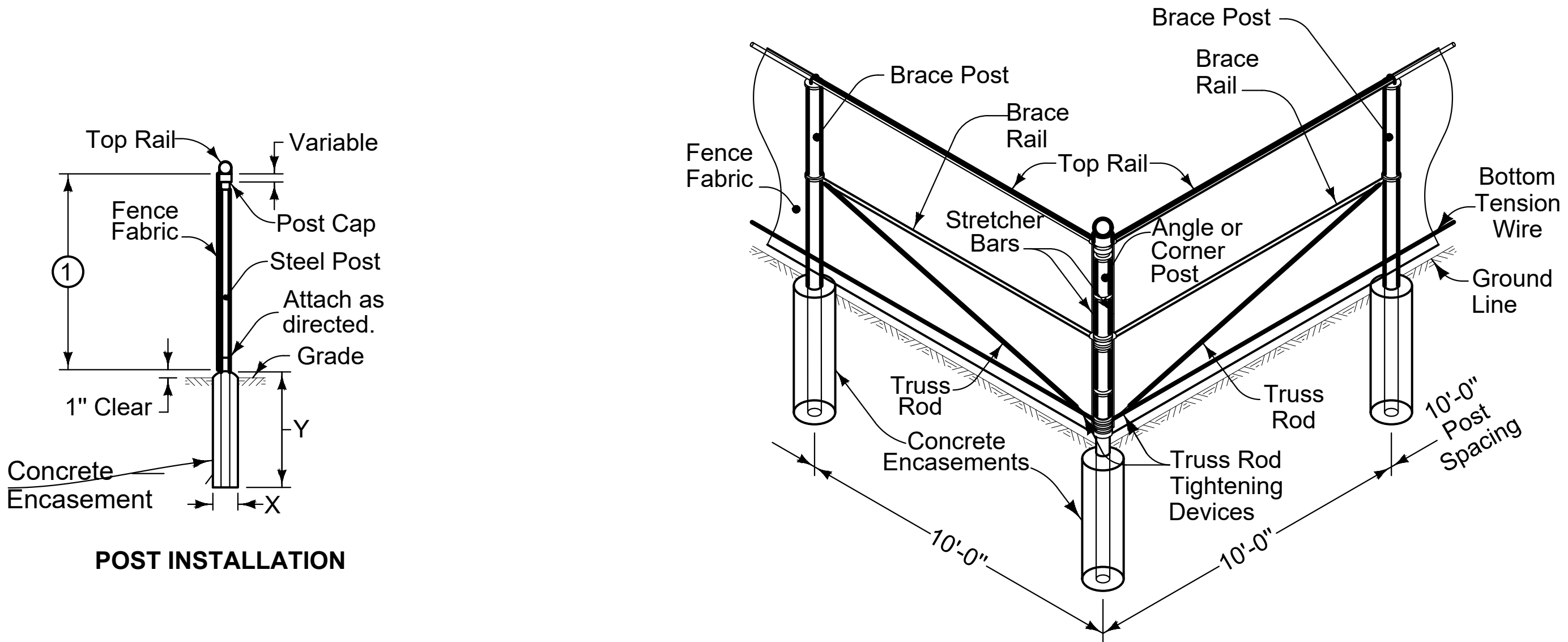
SHEET NAME

LANDSCAPING
DETAILS

SHEET NO.

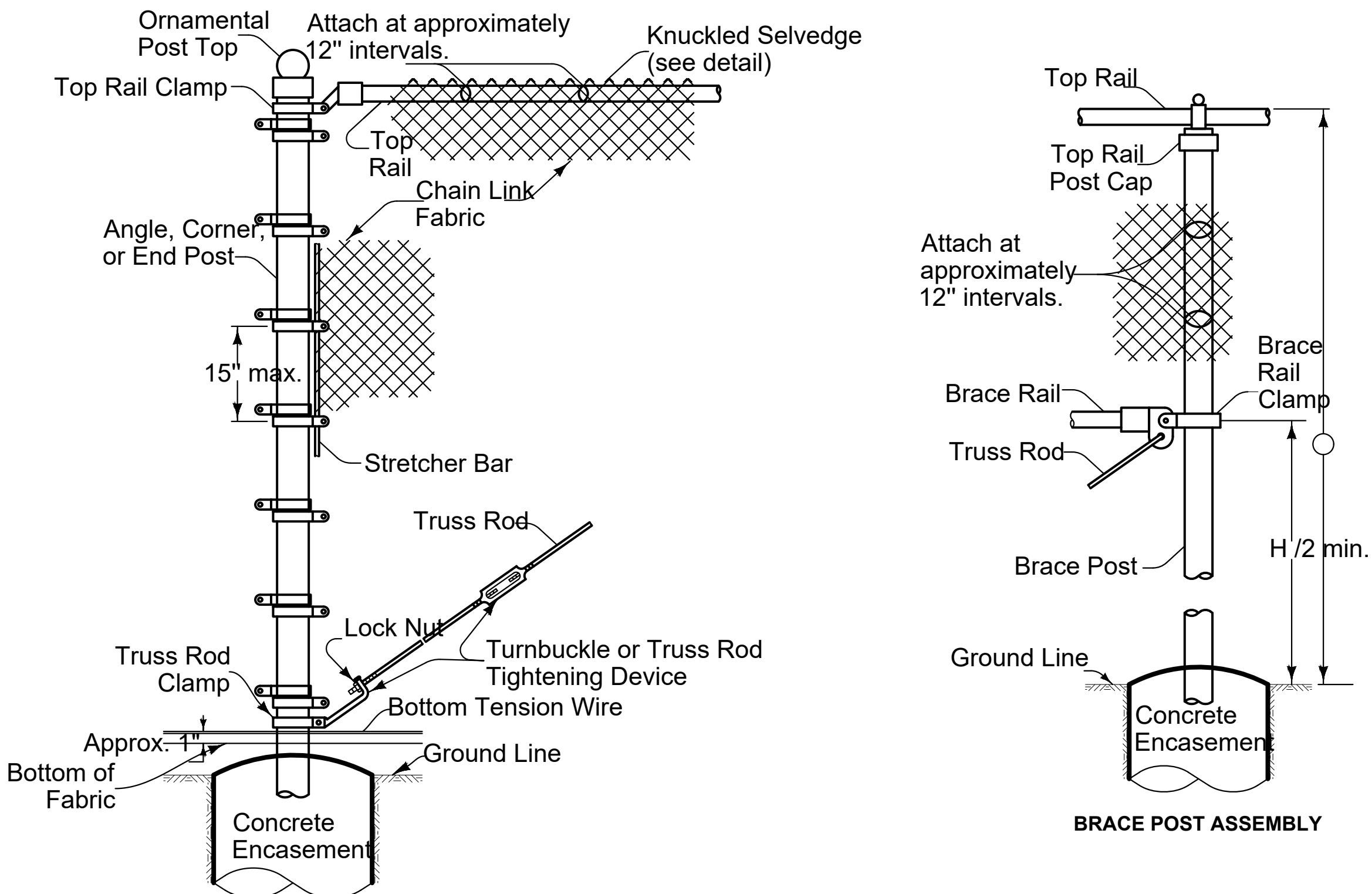
LS1

FENCE POST DETAIL (SUDAS)



POST INSTALLATION

ANGLE OR CORNER POST INSTALLATION



ANGLE, CORNER, OR
END POST ASSEMBLY

BRACE POST ASSEMBLY

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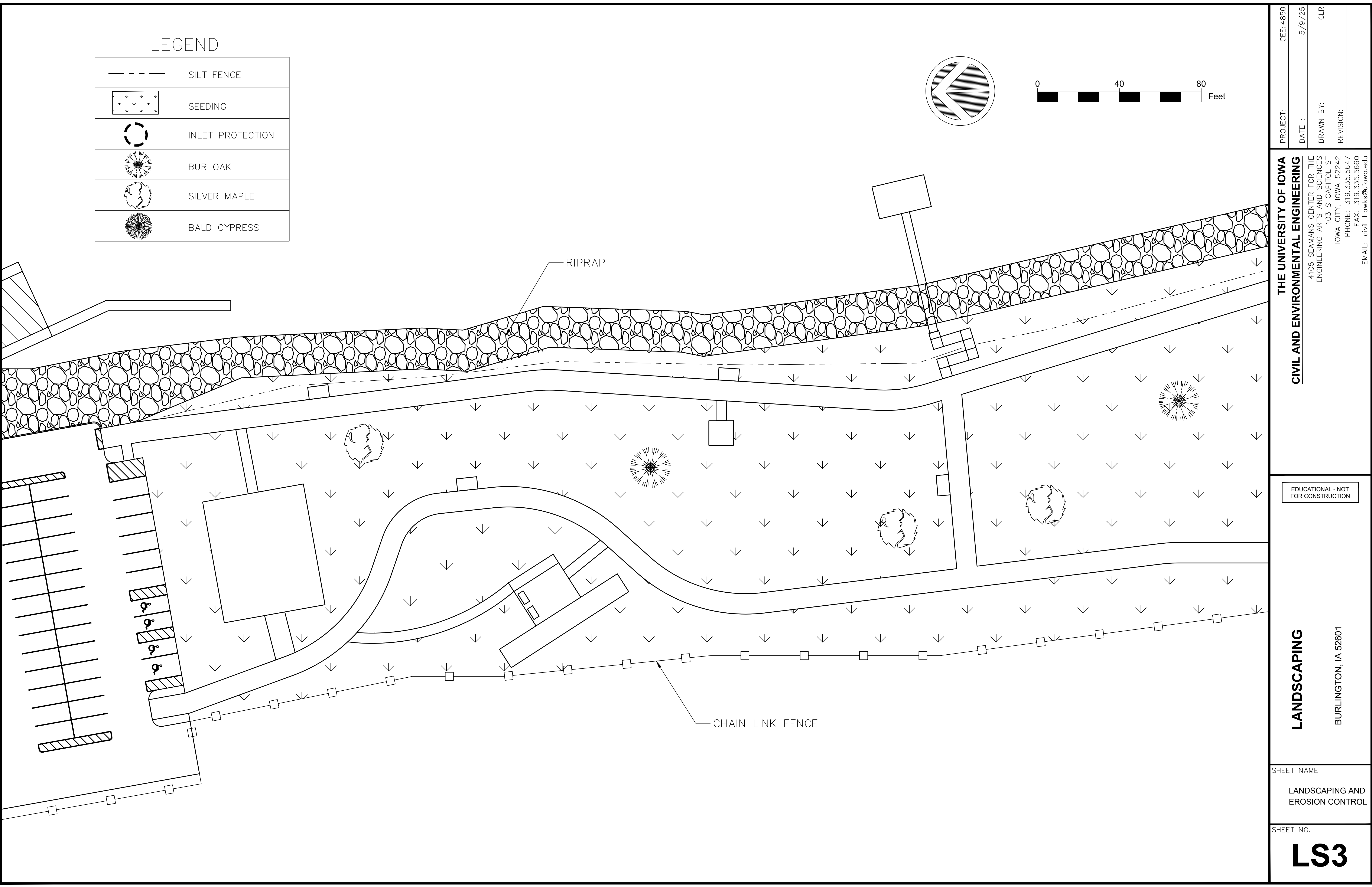
BURLINGTON, IA 52601

SHEET NAME

FENCE
DETAILS

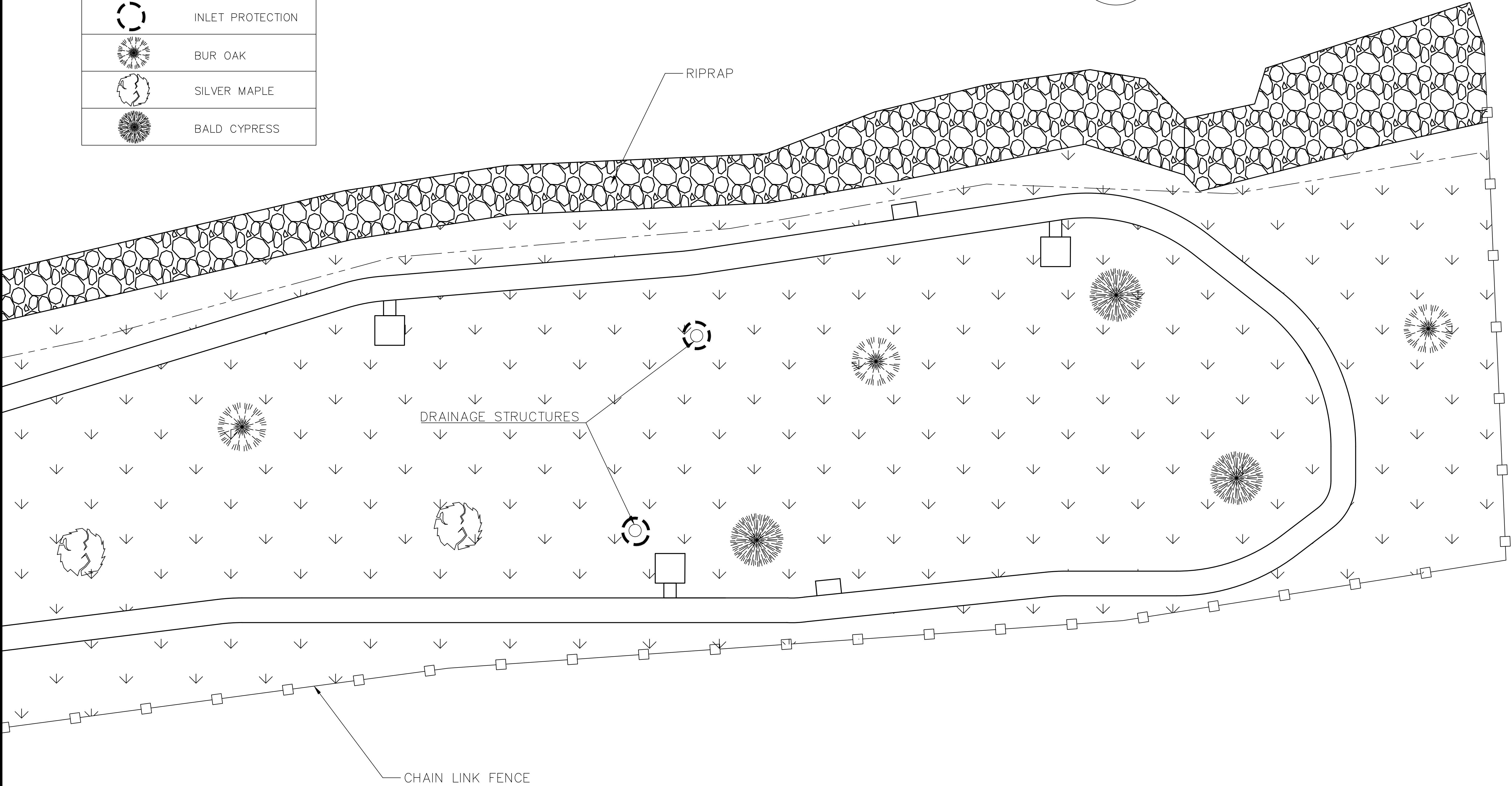
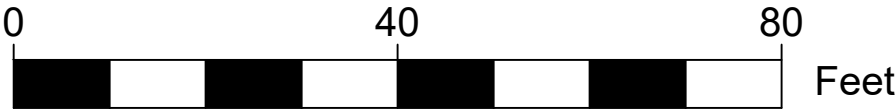
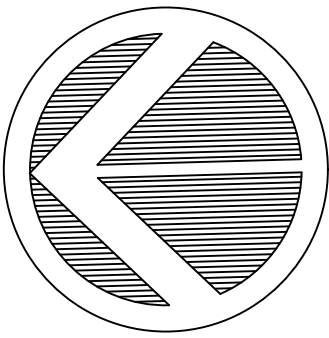
SHEET NO.

LS2



LEGEND

	SILT FENCE
	SEEDING
	INLET PROTECTION
	BUR OAK
	SILVER MAPLE
	BALD CYPRESS



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LANDSCAPING

BURLINGTON, IA 52601

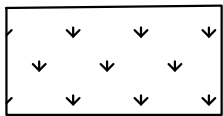
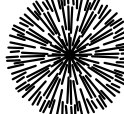
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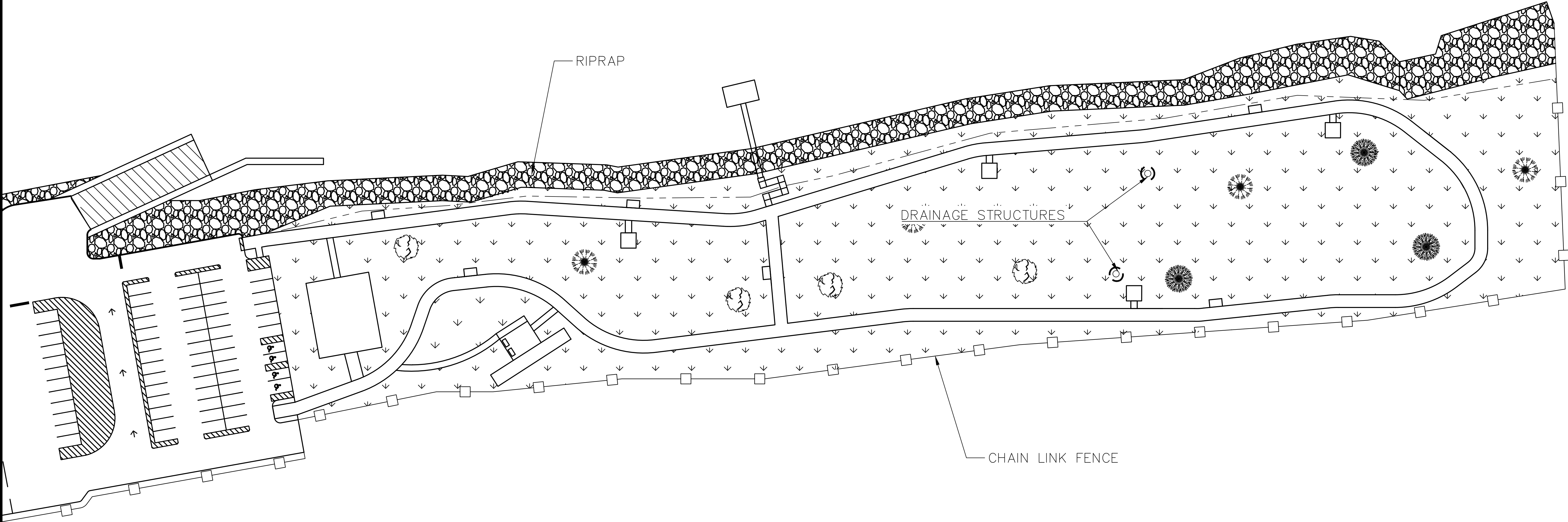
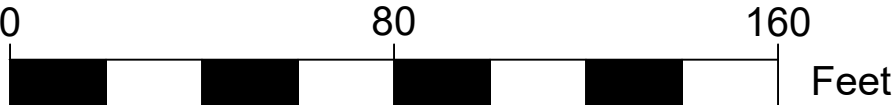
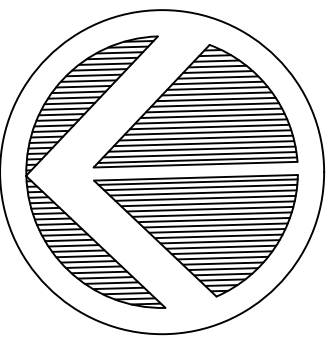
LANDSCAPING AND
EROSION CONTROL

SHEET NO.

LS4

LEGEND

	SILT FENCE
	SEEDING
	INLET PROTECTION
	BUR OAK
	SILVER MAPLE
	BALD CYPRESS



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RIVERFRONT REDEVELOPMENT

BURLINGTON, IA

SHEET NAME

LANDSCAPING AND
EROSION CONTROL

SHEET NO.

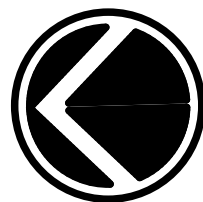
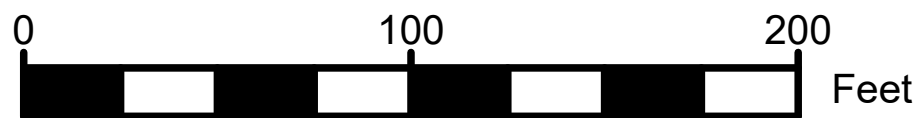
LS5

PROJECT: CEE: 4850

DATE : 04/11/2025

DRAWN BY: CLR

REVISION:

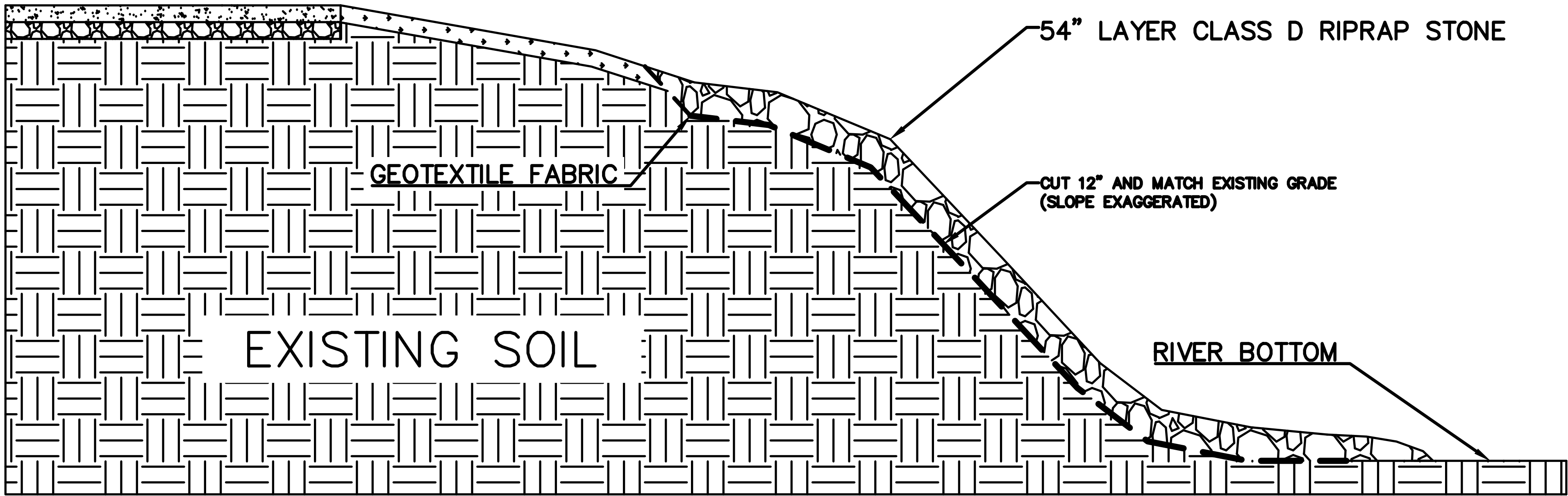


CLASS D RIPRAP BANK STABILIZATION

RIPRAP EROSION CONTROL TYPICAL SECTION

NOTES:

- RIPRAP STANDARDS AND SPECIFICATIONS COMPLY WITH IOWA DOT CLASS D REVETMENT
- STONE MATERIAL MUST COMPLY WITH IOWA DOT CLASS D REVETMENT STANDARDS AND GRADATION
- RIPRAP QUANTITIES RECORDED BY TON
- GEOTEXTILE FABRIC REQUIRED BENEATH STONE FOR BANK INTEGRITY
- RIP RAP EXTENDS 5 FEET INTO RIVER BOTTOM



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BANK STABILIZATION

BURLINGTON, IA 52601

SHEET NAME

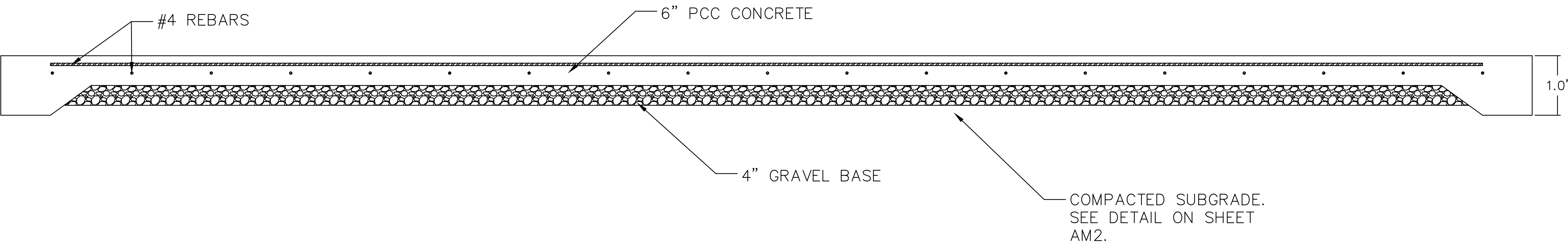
RIPRAP
BANK STABLE

SHEET NO.

LS6

NOTES:

- USE ROMTEC MODEL 3011 DIMENSIONAL LUMBER PAVILION OR EQUAL APPROVED BY OWNER
- THE SHAPE AND SIZE OF THE SLAB WILL BE DEPENDENT ON THE PREFABRICATED PAVILION CHOSEN.
- PROPER FOOTING WILL NEED TO BE DESIGNED TO CORRESPOND WITH THE PAVILION CHOSEN.



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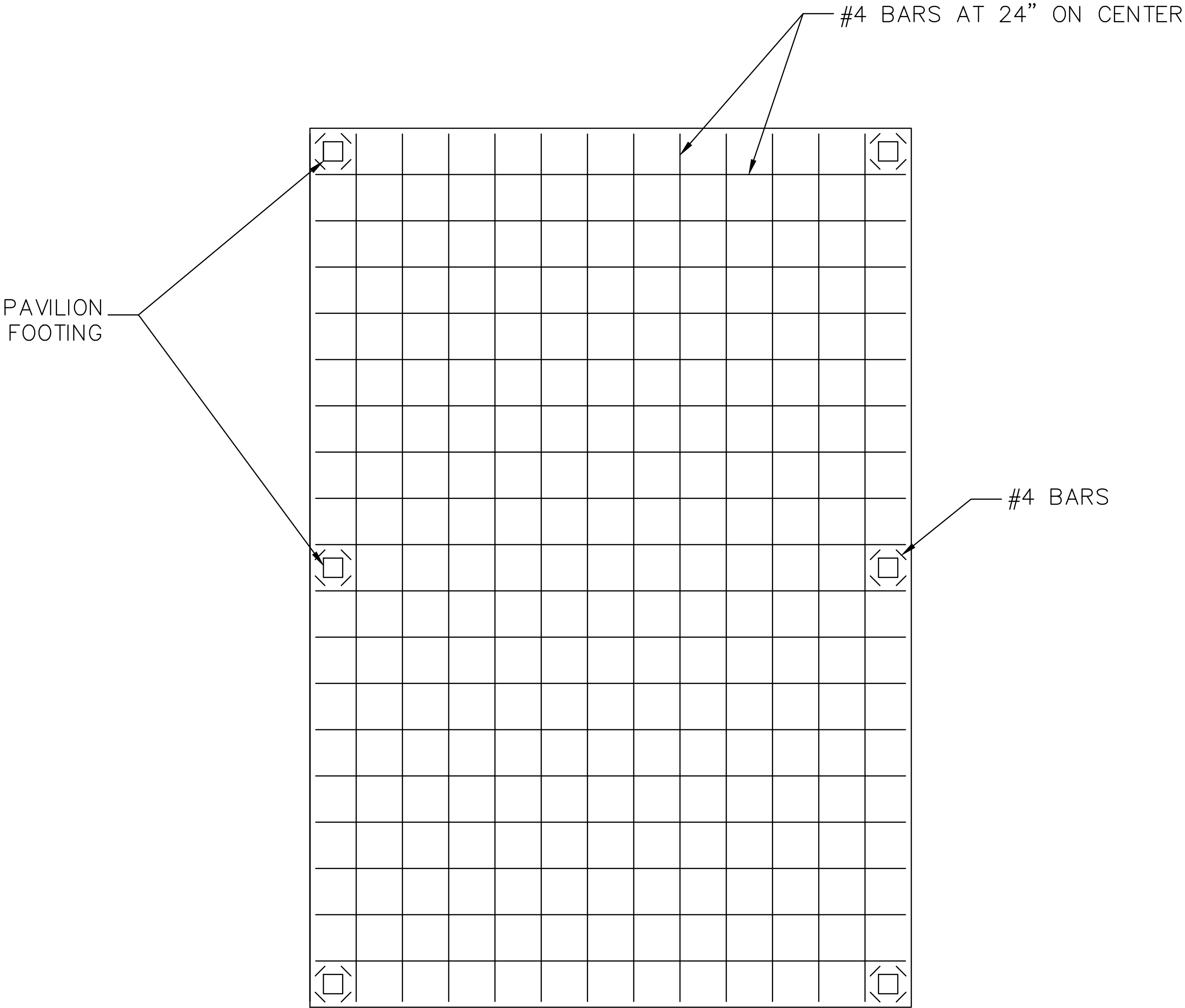
PARK STRUCTURES	BURLINGTON, IA 52601	
	SHEET NAME	

PAVILION PAD CROSS SECTION	
-------------------------------	--

SHEET NO.	
ST1	

NOTES:

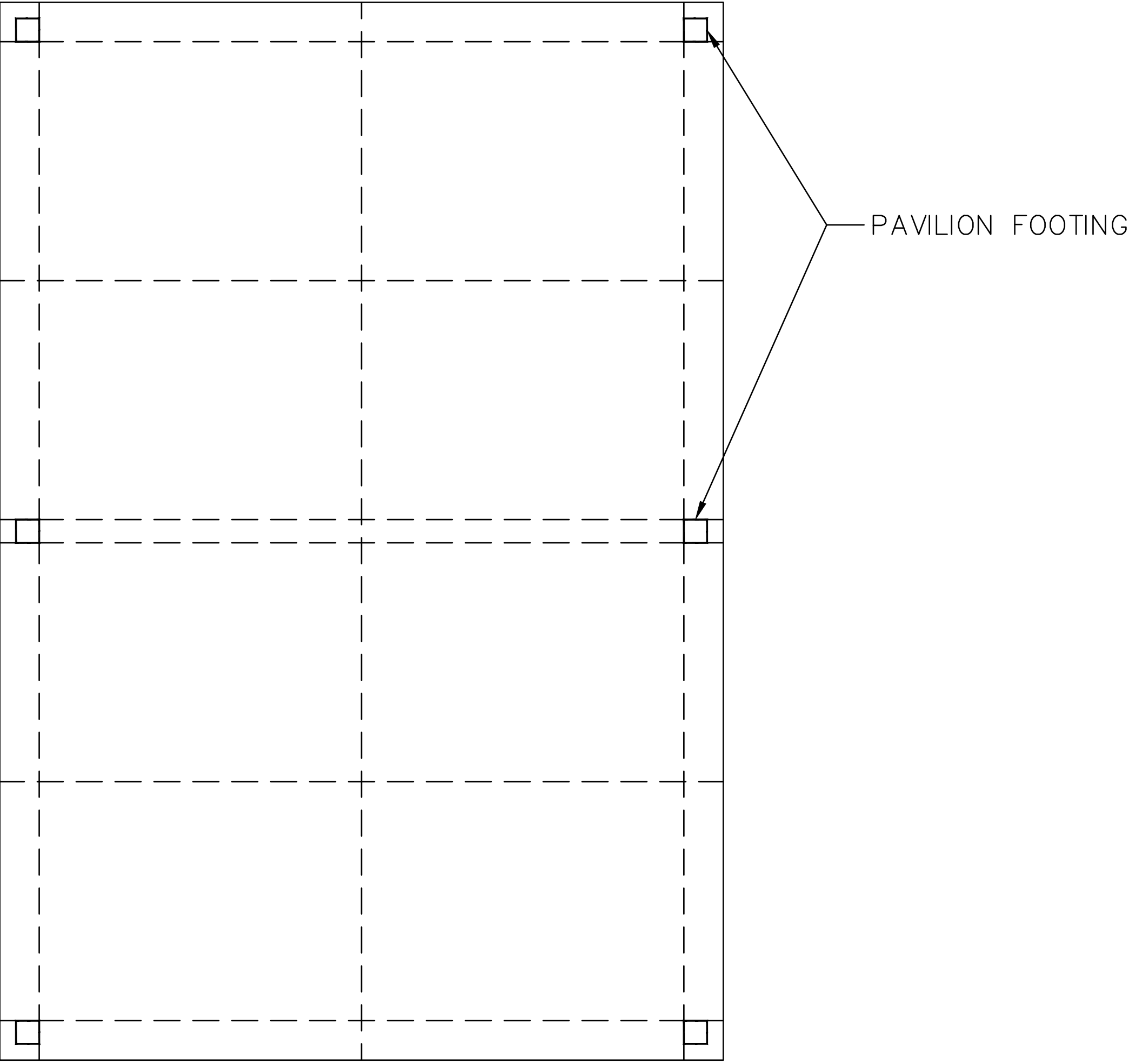
–REINFORCEMENT IS SHOWN FOR DEMONSTRATION PURPOSES ONLY. ACTUAL REINFORCEMENT WILL NEED TO BE DESIGNED AFTER OBTAINING THE SITE SOIL PROPERTIES AND DIMENSIONING OF THE PAD



PAVILION PAD REINFORCEMENT CONCEPT

NOTES:

- SAW CUT SPACING WILL NEED TO BE DESIGNED TO THE CHOSEN PAD DIMENSIONS FOR CONTROL JOINTING
- ENSURE SAW CUTS EXTEND TO THE CORNERS OF SQUARE FOOTINGS
- ISOLATE FOOTINGS WITH EXPANSION MATERIAL
- CONTRACTOR TO SUPPLY 100–AMP SERVICE FOR LIGHTS AND SOUND



PAVILION PAD SAW CUT CONCEPT

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PARK STRUCTURES

BURLINGTON, IA 52601

SHEET NAME

PAVILION PAD
DETAILS

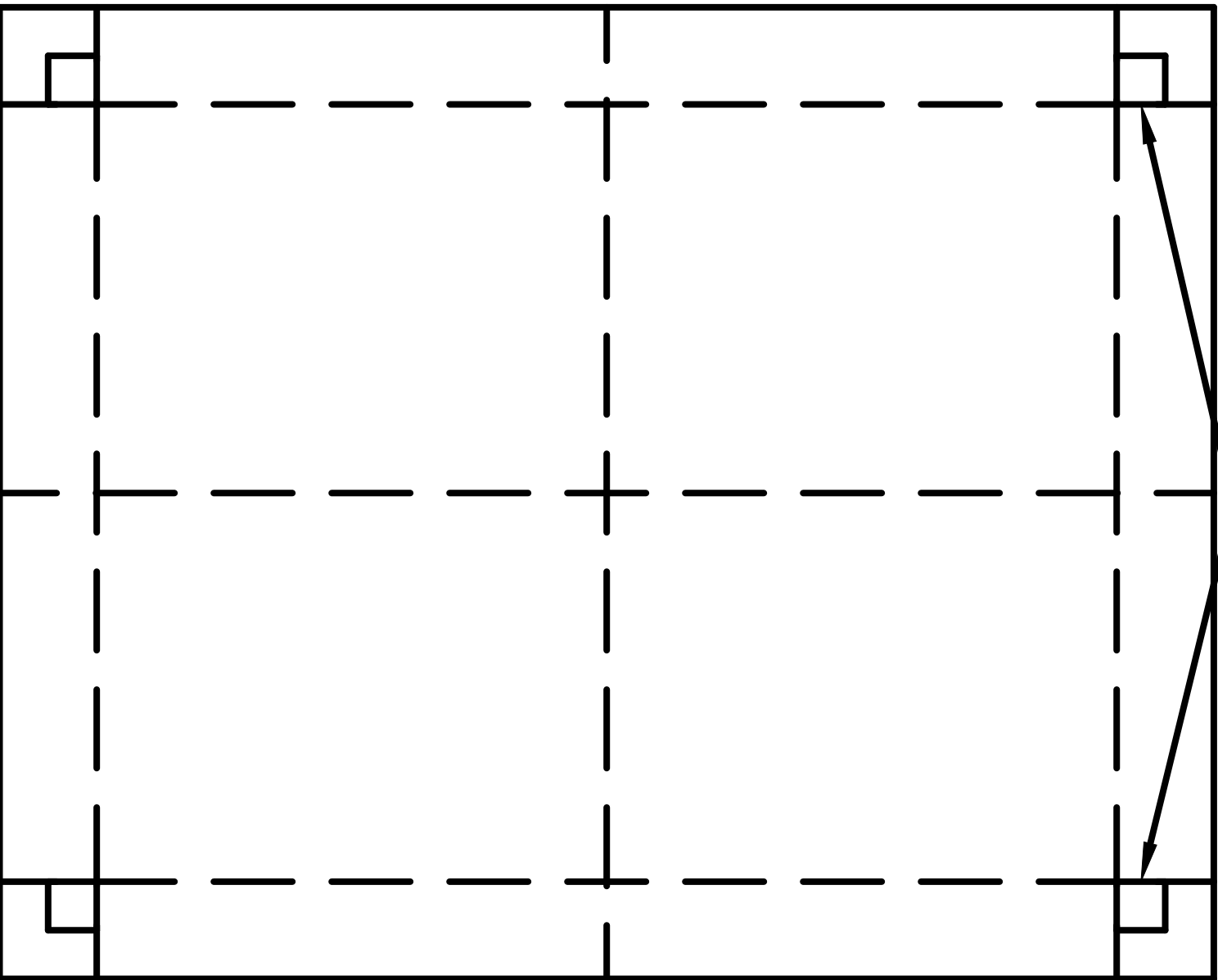
SHEET NO.

ST2

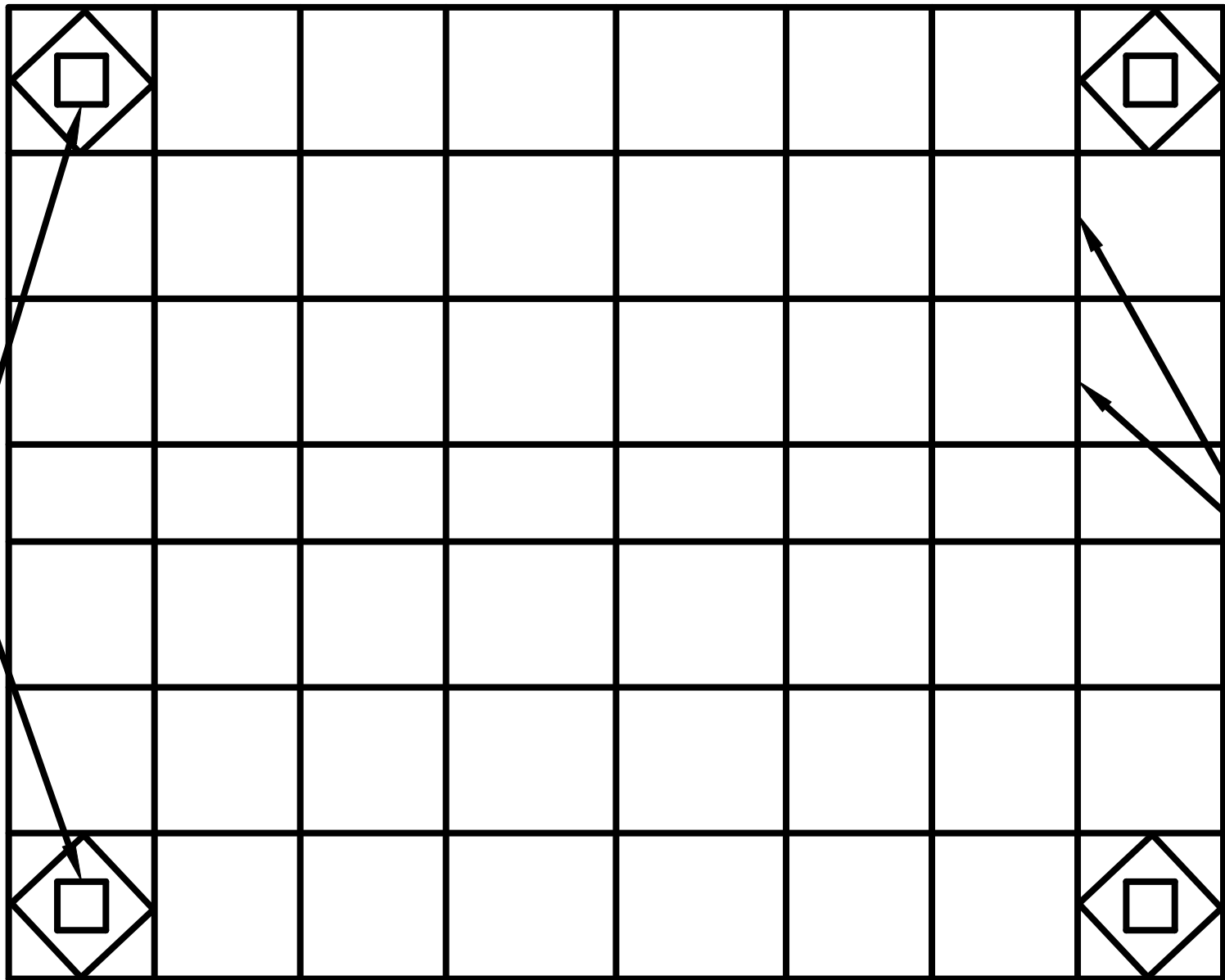
MULTIPURPOSE PAD DETAIL

MULTIPURPOSE PAD OPTION 1: SMALL STRUCTURE (REINFORCED)

SHELTER PAD SAW CUT CONCEPT



SHELTER PAD REINFORCEMENT CONCEPT

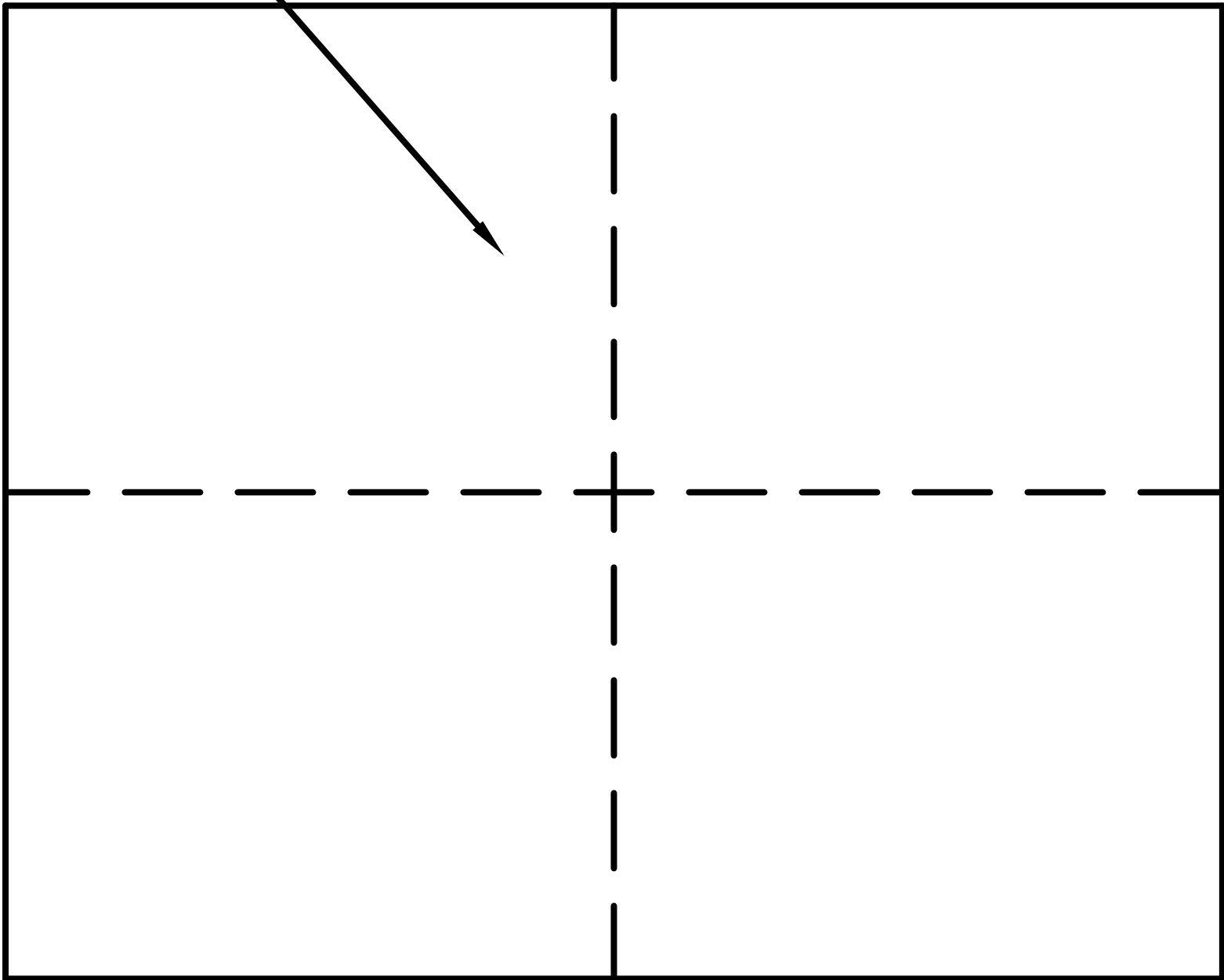


NOTES:

- MULTI-PURPOSE PADS DESIGNED 20'X25' CAN BE DESIGNED FLEXIBLY TO ACCOMMODATE SMALL SHELTER STRUCTURE, OR COVERLESS FOR PICNIC TABLES OR OTHER AMENITIES
- MULTIPURPOSE PAD OPTION 1 DESIGNED TO ACCOMODATE SMALL SHELTER STRUCTURE, ACTUAL DIMENSIONS DEPEND ON SPECIFIED STRUCTURE
- TYPICAL SECTION INCLUDES 6" PCC CONCRETE PAVEMENT ATOP 4" AGGREGATE BASE COURSE ATOP 12" COMPACTED SUBGRADE
- SAW CUT SPACING WILL BE DETERMINANT ON SPECIFIED SHELTER
- ISOLATE FOOTINGS WITH EXPANSION MATERIAL
- ENSURE SAW CUTS EXTEND TO THE CORNERS OF SQUARE FOOTINGS
- PADS DRAIN AT 1.5% SLOPE TOWARDS NEAREST DRAINAGE
- SEE ST1 FOR TYPICAL SECTION FOR FURTHER STRUCTURE PAD DETAILS

MULTIPURPOSE PAD OPTION 2: NO STRUCTURE (NOT REINFORCED)

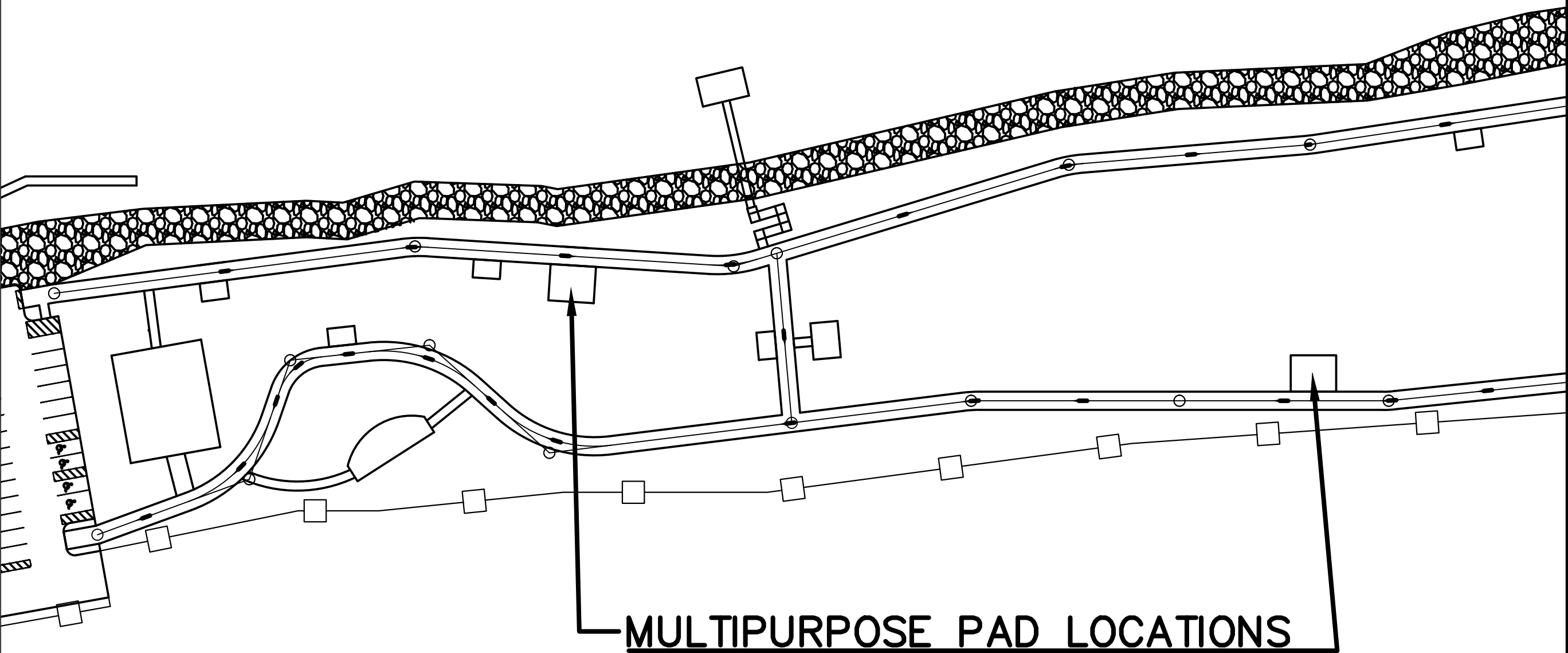
4 12.5'X 10' PANELS



NOTES:

- MULTI-PURPOSE PAD OPTION 2 DESIGNED FOR PICNIC BENCHES AND MISCELLANEOUS PARK AMENITIES
- TYPICAL SECTION INCLUDES 6" PCC CONCRETE PAVEMENT ATOP 4" AGGREGATE BASE COURSE ATOP 12" COMPACTED SUBGRADE
- 2 PADS LOCATED ALONG RIVERFRONT TRAIL LOOP

MISSISSIPPI RIVER



RAILYARD

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STRUCTURE PADS

BURLINGTON, IA 52601

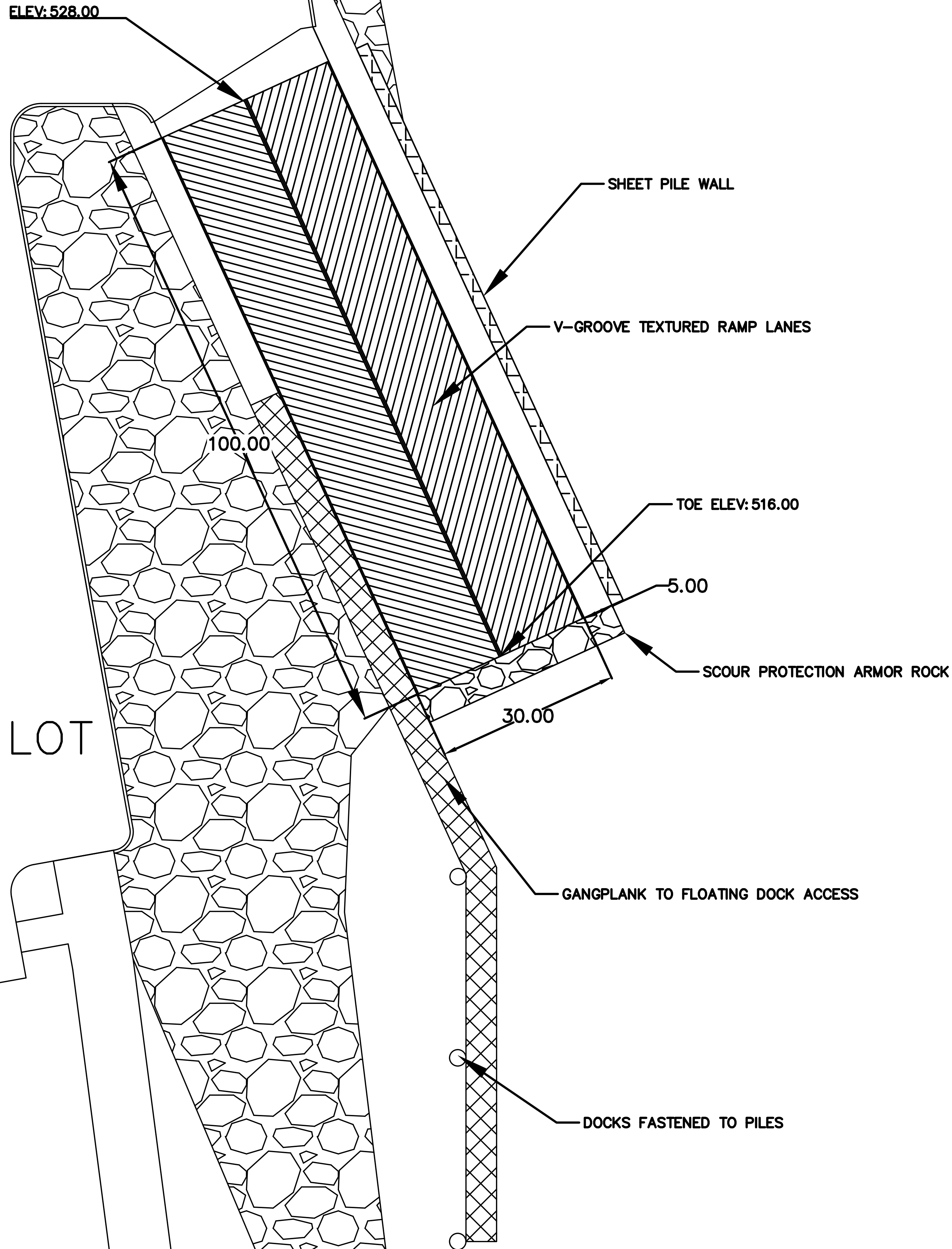
SHEET NAME

SMALL PAD
DETAILS

SHEET NO.

ST3

NEW PARKING LOT

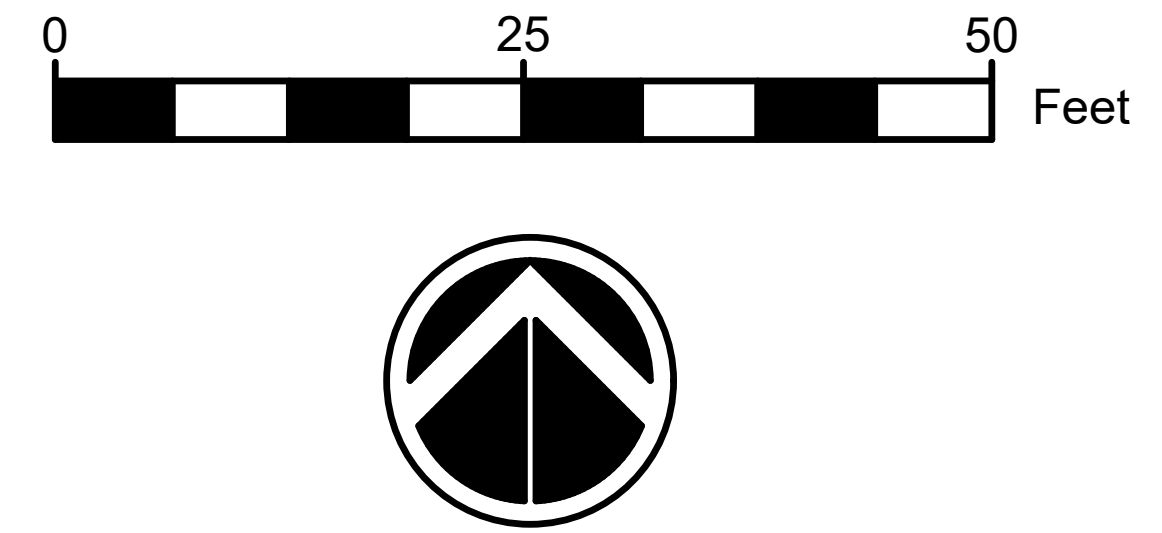


MISSISSIPPI RIVER

NOTES

- DESIGNED TO MIMIC EXISTING RAMP
- TWO V-GROOVE TEXTURED LAUNCH LANES AT 12% SLOPE
- DESIGNED AT ANGLE TO RIVER WITH SHEET PILE WALL DEFLECTING FLOW TO MAKE CALM EASILY ACCESSIBLE WATER FOR BOAT LAUNCHING
- TOE SCOUR PROTECTION TO PREVENT EROSION (SEE DETAIL)
- DOCK ACCESS TO RAMP FOR EASY ACCESSIBILITY

NOTE DIMENSIONS IN FEET



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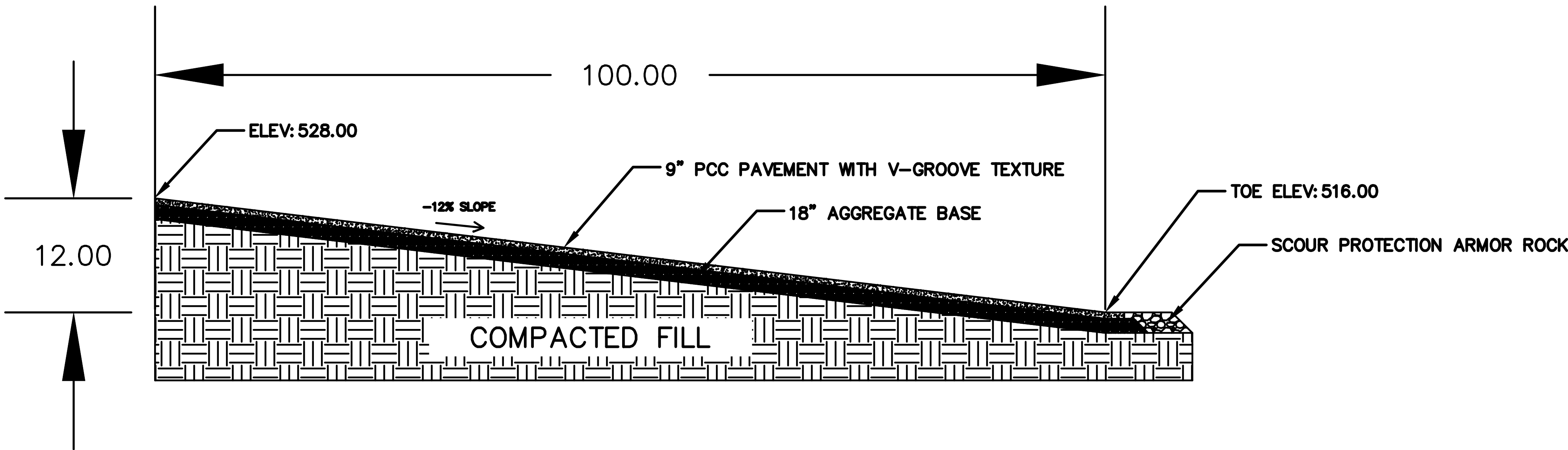
BOAT RAMP

BURLINGTON, IA 52601

SHEET NAME
BOAT RAMP
PLAN VIEW

SHEET NO.
BR1

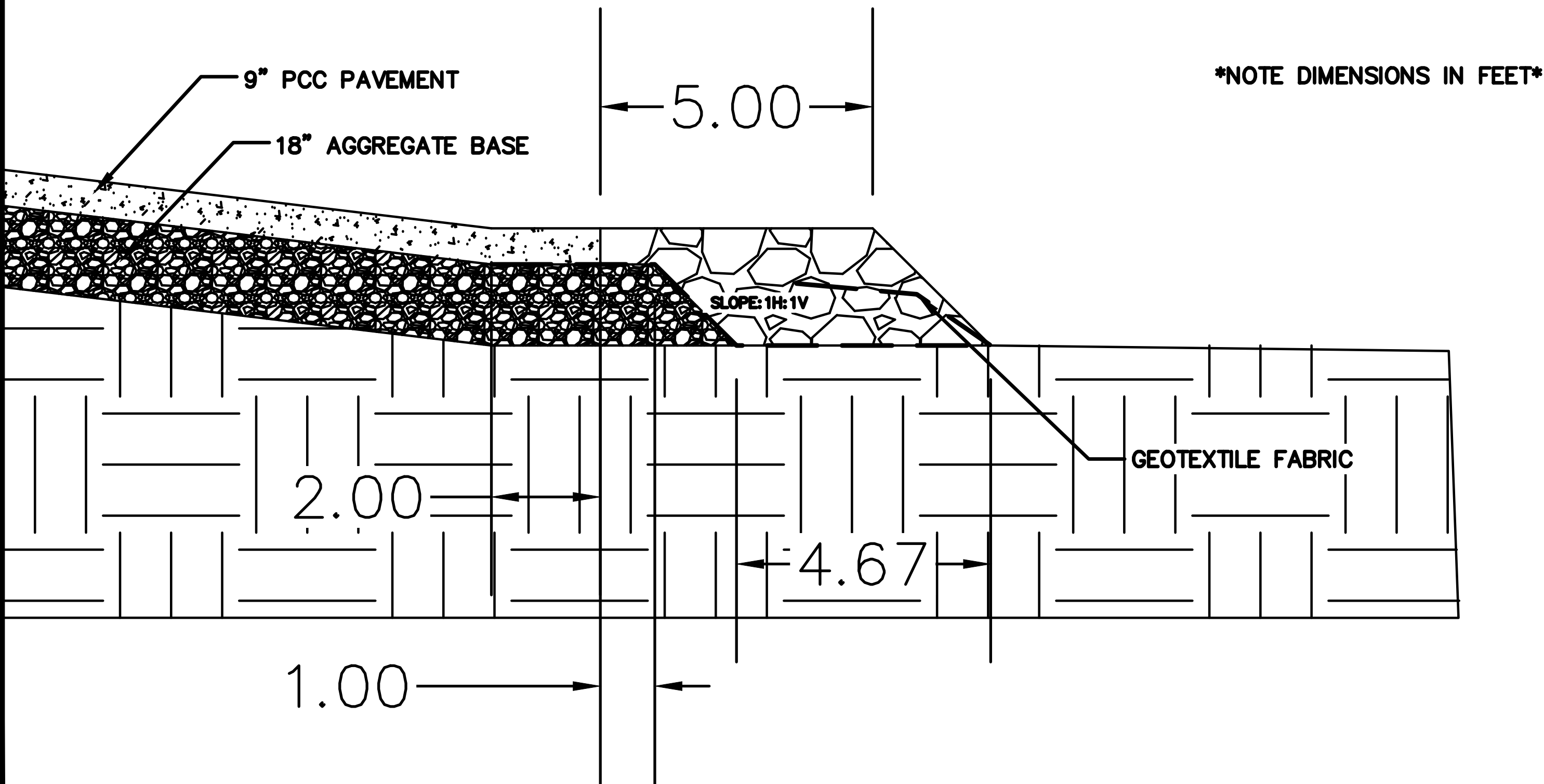
BOAT RAMP PROFILE VIEW



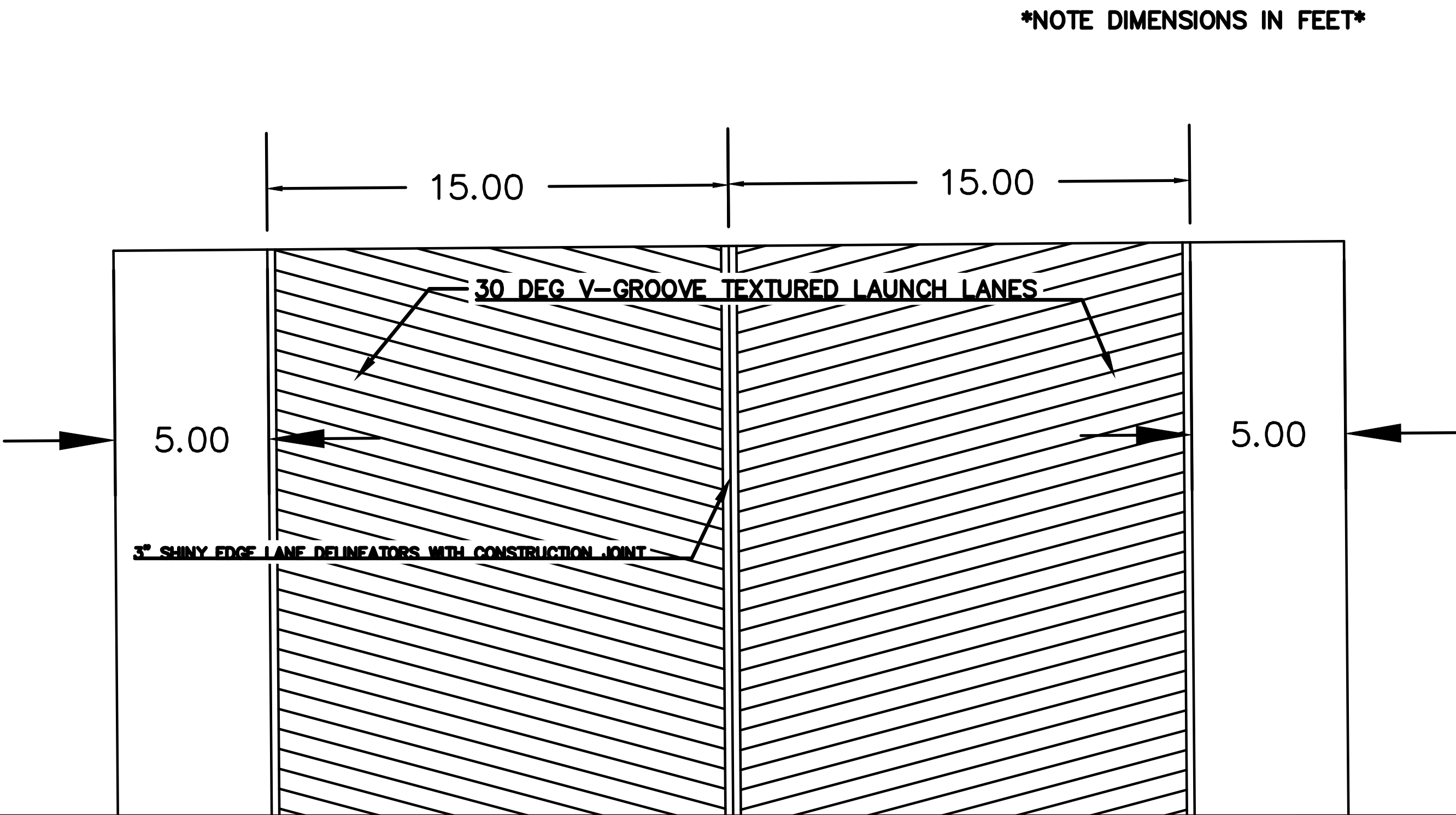
NOTES

- LENGTH AND SLOPE PROVIDE ACCESS FOR BOAT LAUNCHING IN VARYING WATER LEVELS AND CHANGING CONDITIONS
 - COMPACTED EMBANKMENT FILL WILL CONNECT TO EXISTING RIVER BOTTOM
- *NOTE DIMENSIONS IN FEET*

TOE REINFORCEMENT SCOUR PROTECTION DETAIL



BOAT RAMP PAVEMENT DETAIL



PROJECT:	CEE: 4850
DATE :	5/9/25
DRAWN BY:	JDU
REVISION:	

THE UNIVERSITY OF IOWA
CIVIL AND ENVIRONMENTAL ENGINEERING
4105 SEAMANS CENTER FOR THE
ENGINEERING ARTS AND SCIENCES
103 S CAPITOL ST
IOWA CITY, IOWA 52242
PHONE: 319.335.5647
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EMAIL: civil-hawks@iowa.edu

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FOR CONSTRUCTION

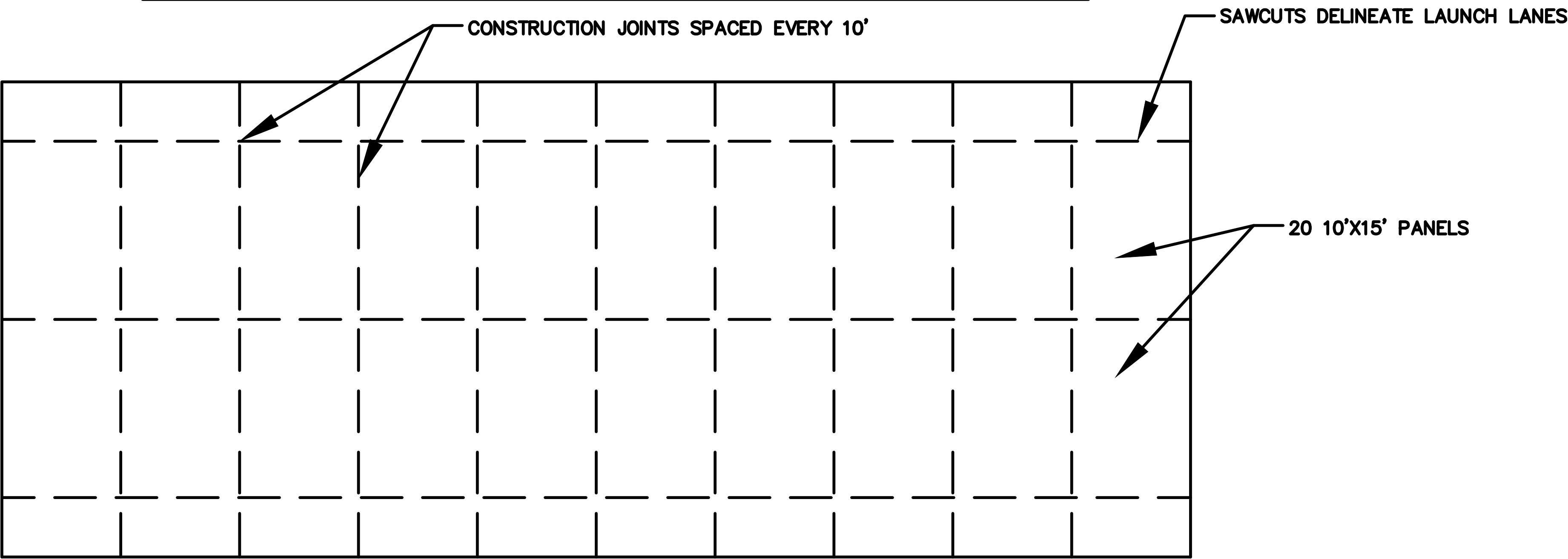
BOAT RAMP
BURLINGTON, IA 52601

SHEET NAME
BOAT RAMP
DETAILS

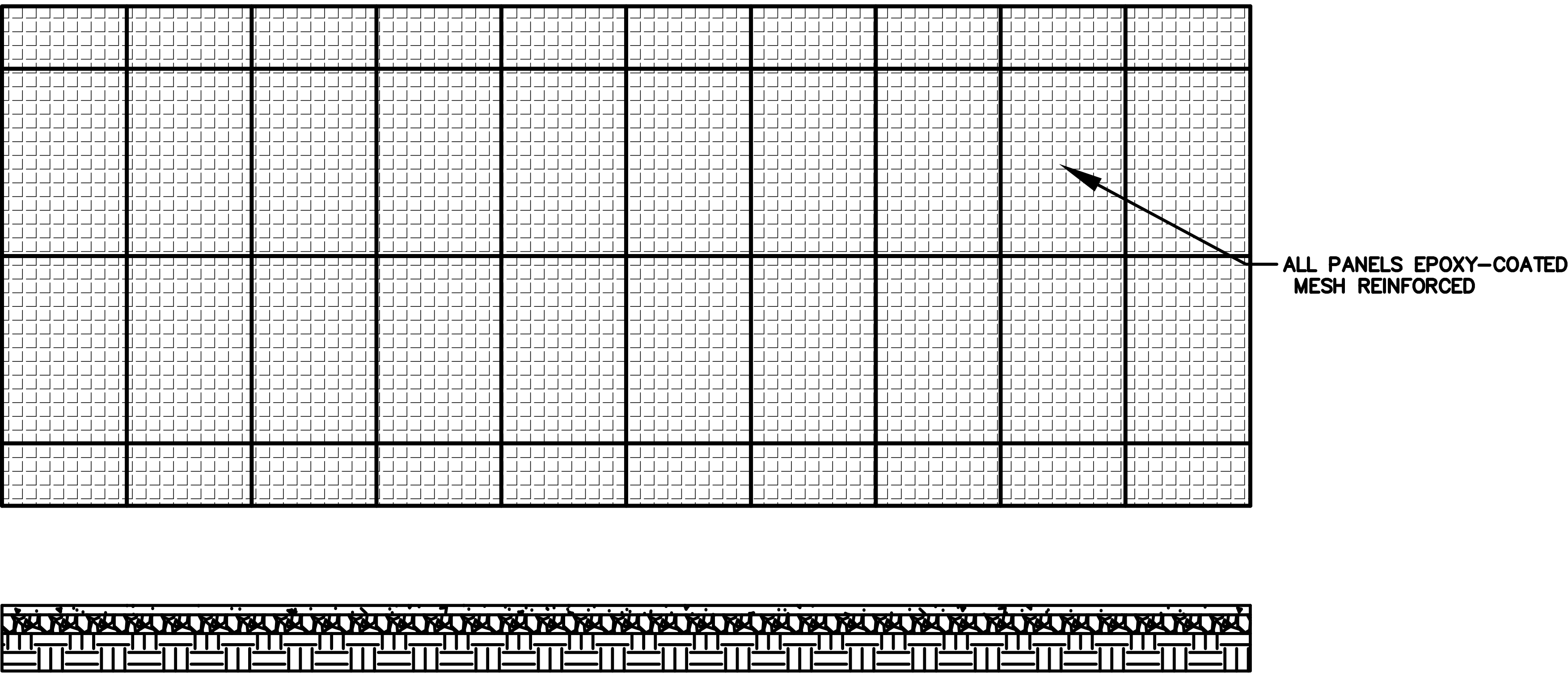
SHEET NO.
BR2

BOAT RAMP PAVEMENT DETAILS

BOAT RAMP JOINTING LAYOUT



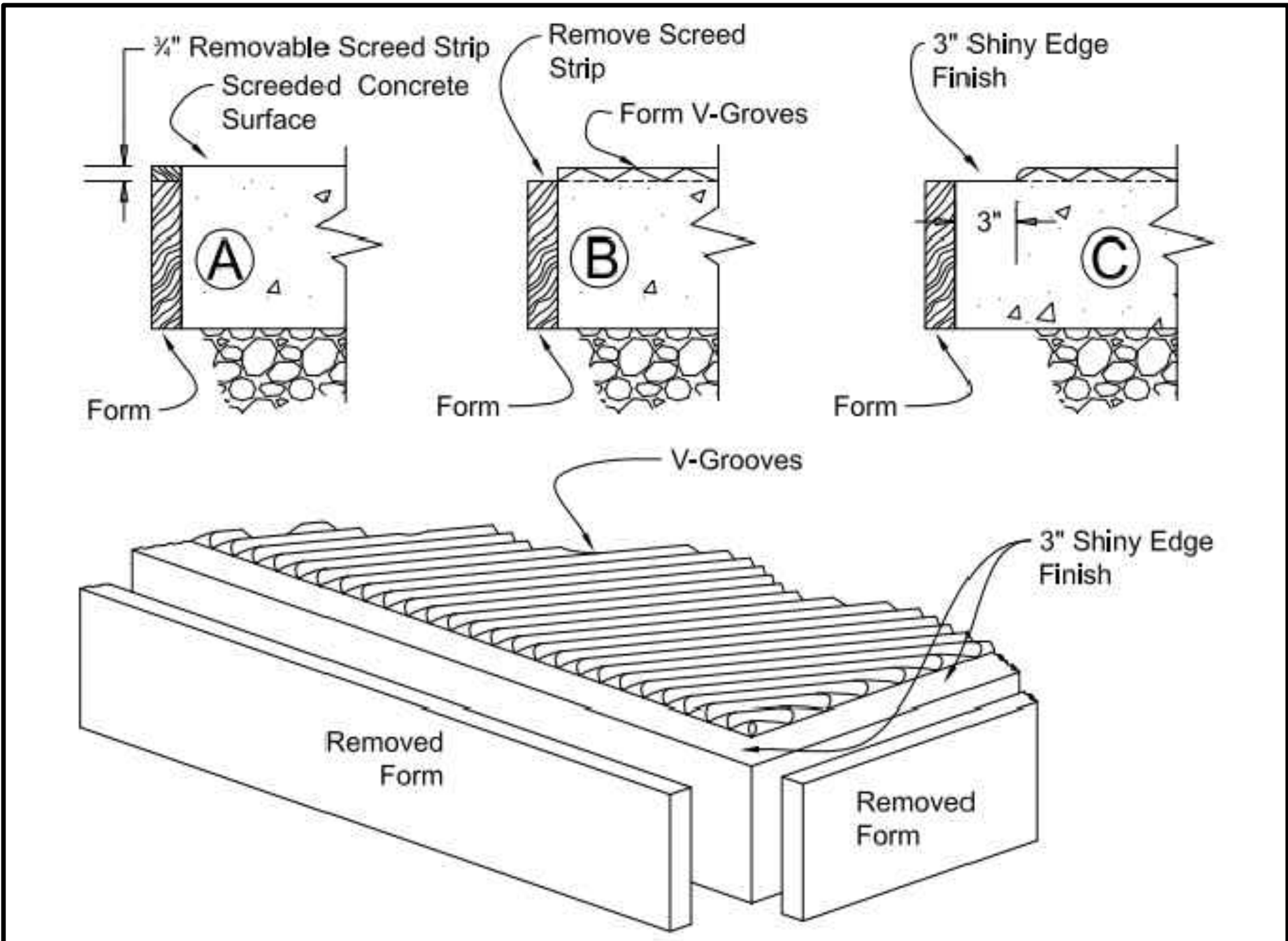
BOAT RAMP REINFORCEMENT



NOTES

- JOINTING LAYOUT SPACES SAWCUTS EVERY 10' LONGITUDINAL AND EVERY 15' HORIZONTAL
- SAWCUTS CUT $T/3$ (T = PVMT THICKNESS)
- MESH REINFORCEMENT PLACED DEPTH OF 5" INTO PCC PAVEMENT
- WIRE MESH REINFORCEMENT PROVIDES ADDED TENSILE STRENGTH
- MIX DESIGN REQUIRES: 5% AIR ENTRAINMENT, 0.4 W/C RATIO, 3-4" SLUMP, 5000 PSI COMPRESSIVE STRENGTH AT 28 DAYS
- COMPACTED GRANULAR SUBBASE, AND COMPACTED SUBGRADE, REQUIRING 12" MAXIMUM LIFTS
- PAVEMENT V-GROOVE TEXTURED

V-GROOVE PAVEMENT SURFACE DETAIL



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BOAT RAMP

BURLINGTON, IA 52601

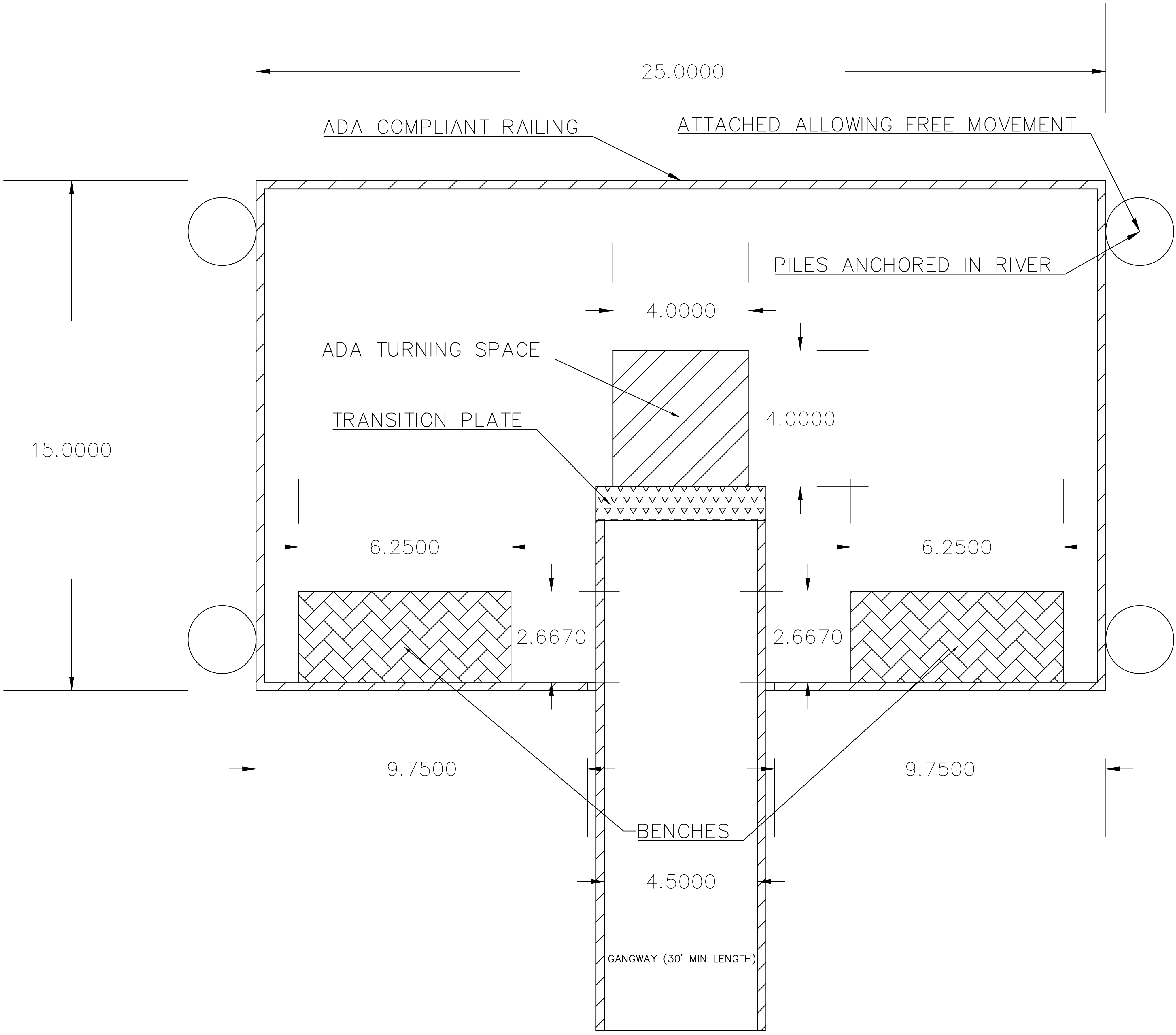
SHEET NAME

BOAT RAMP
DETAILS

SHEET NO.

BR3

ADA FISHING DOCK CONCEPT (PLAN VIEW)



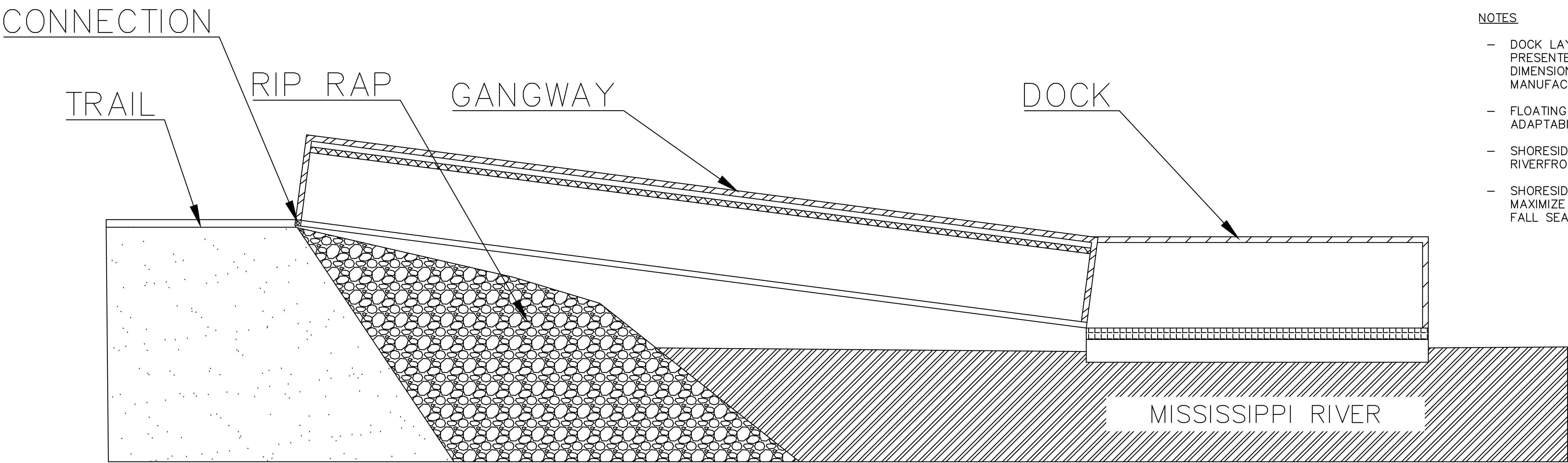
NOTE DIMENSIONS IN FEET

NOTES

- DOCK LAYOUT AND DIMENSIONS ARE PRESENTED AS A CONCEPT, ACTUAL LAYOUT, DIMENSIONS, DETAILS DETERMINED BY DESIRED MANUFACTURER TO MATCH CLOSELY
- DOCK DESIGN PROVIDES ADA COMPLIANT ACCESS TO MISSISSIPPI RIVER FISHERY
- GANGWAY ANCHORING SHORESIDE WILL BE PLACED AT ELEVATION THAT PROVIDES MAXIMUM AMOUNT OF ACCESS DURING SPRING, SUMMER, FALL SEASONS
- DOCK WILL BE MOUNTED AND ANCHORED TO ALLOW EASY DISASSEMBLY FOR MAINTENANCE STAFF IN EVENTS OF EXCESSIVE FLOOD STAGES
- PILE ANCHORING METHOD CAN BE SUBSTITUTED WITH WINCH AND CONCRETE BLOCK ANCHORING SYSTEM

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FISHING DOCK	
BURLINGTON, IA 52601	
SHEET NAME	PLAN VIEW
SHEET NO.	D1

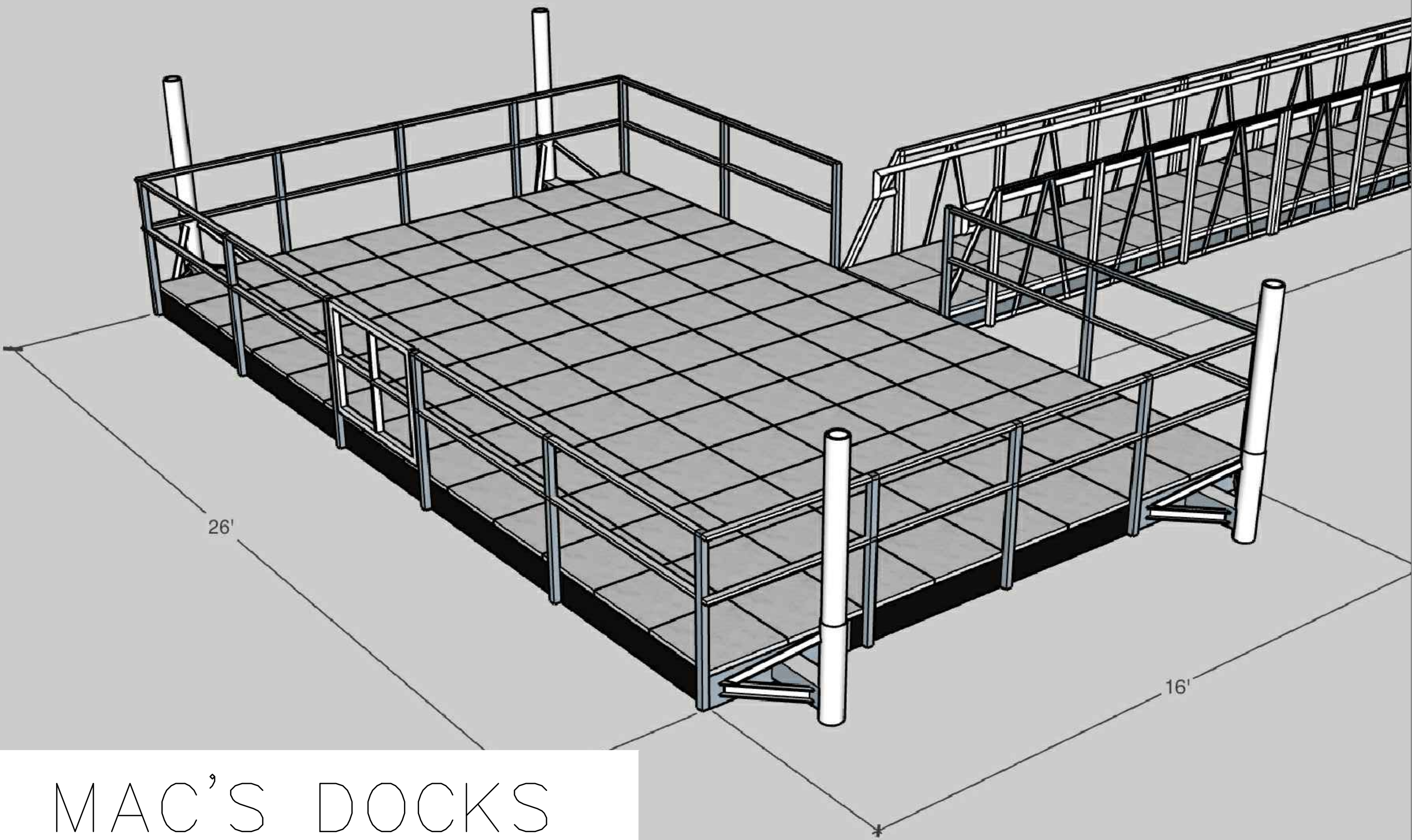
ADA FISHING DOCK CONCEPT (PROFILE VIEW)



NOTES

- DOCK LAYOUT AND DIMENSIONS ARE PRESENTED AS A CONCEPT, ACTUAL LAYOUT, DIMENSIONS, DETAILS DETERMINED BY DESIRED MANUFACTURER TO MATCH CLOSELY
- FLOATING DOCK DESIGN ALLOWS FOR ADAPTABILITY DURING CHANGING RIVER STAGES
- SHORESIDE ANCHORING WILL CONNECT TO RIVERFRONT TRAIL NETWORK
- SHORESIDE ANCHOR ELEVATION DETERMINED TO MAXIMIZE USABILITY DURING SPRING, SUMMER, FALL SEASONS

EZDOCK RENDERING



MAC'S DOCKS RENDERING

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FISHING DOCK

BURLINGTON, IA 52601

SHEET NAME

PROFILE VIEW
AND RENDERINGS

SHEET NO.

D2