PROJECT ID: 1693-38-72
WBS N/A
COUNTY: MILWAUKEE

ORDER OF SHEETS

Section No. 1 Title
Section No. 2 Typical Sections and Details
~~Section No. 3 Estimate of Quantities~~
~~Section No. 3 Miscellaneous Quantities~~
Section No. 4 Right of Way Plat
Section No. 5 Plan and Profile
Section No. 6 Standard Detail Drawings
~~Section No. 7 Sign Plates~~
~~Section No. 8 Structure Plans~~
~~Section No. 9 Computer Earthwork Data~~
Section No. 9 Cross Sections

TOTAL SHEETS =

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1693-38-72		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

NORTH BANK TRAIL

CANAL STREET - 33RD COURT

CITY OF MILWAUKEE
MILWAUKEE COUNTY

STATE PROJECT NUMBER
1693-38-72

N

DBE GOAL: 8%

FEDERALLY FUNDED CMAQ PROJECT

CONVENTIONAL SYMBOLS

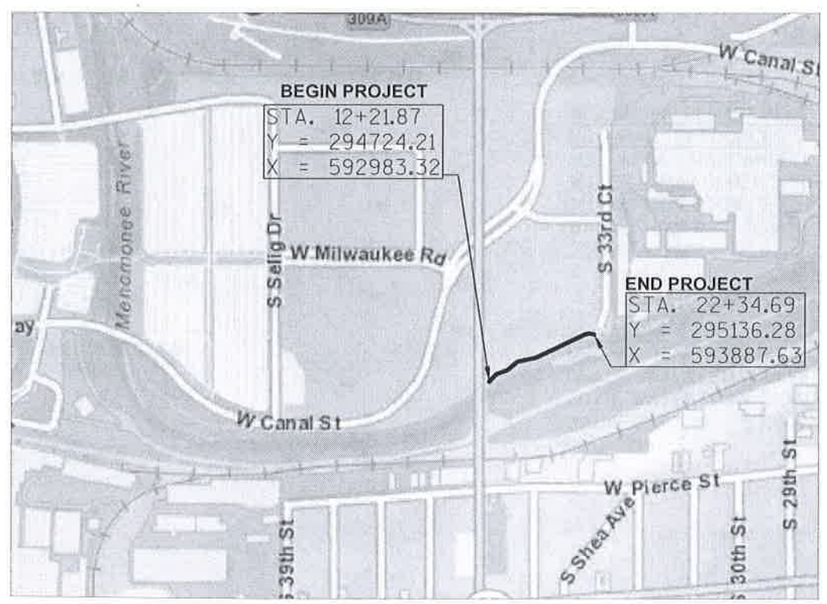
PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (635.56)
- CULVERT (Profile View)

UTILITIES
- ELECTRIC — E —
- FIBER OPTIC — FO —
- GAS — G —
- SANITARY SEWER — SAN —
- STORM SEWER — SS —
- TELEPHONE — T —
- WATER — W —
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

R21E

T7N



LAYOUT
SCALE 0 — 0.125 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY, NAD 1983 (2007).

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO MILWAUKEE CITY DATUM.

TO CONVERT ELEVATIONS SHOWN ON THIS PLAN TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929, ADD 580.603.

ACCEPTED FOR
CITY OF MILWAUKEE

10/28/15 — (Date) — For Commissioner of Public Works

10/28/15 — (Date) — Assistant Executive Director, RACM

ORIGINAL PLANS PREPARED BY

WISCONSIN ADAM B. HAMMEN E-33761 MILWAUKEE WI PROFESSIONAL ENGINEER

10/28/15 — (Date) — (Signature)

NORTH BANK TRAIL
MILWAUKEE COUNTY, WISCONSIN

PREPARED BY

THE SIGMA GROUP
Single Source. Sound Solutions.
www.thesigmagroup.com
1300 West Canal Street
Milwaukee, WI 53233
Phone: 414-643-4200
Fax: 414-643-4210

Surveyor: THE SIGMA GROUP, INC.
Designer: THE SIGMA GROUP, INC.
Project Manager: ADAM B. HAMMEN, P.E.

TITLE SHEET

E

2

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS TRAIL
TYPICAL SECTIONS AND DETAILS FES LIFTS
PLAN DETAILS
WETLAND IMPACTS/ PROTECTED WETLAND AREAS
REMOVAL PLANS
CONTOUR MAP - EXISTING CONTOURS
CONTOUR MAP - PROPOSED SUBGRADE
CONTOUR MAP - FINAL SURFACE
CONTAMINATED MATERIALS
EROSION CONTROL PLANS
EROSION CONTROL DETAILS
DEWATERING DETAIL
SUB DRAINAGE PLANS
SUB DRAINAGE DETAILS
PLANTING AND SEEDING PLANS
PERMANENT SIGNING
PERMANENT SIGNING DETAILS
PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT PLAN

UTILITY CONTACTS

CITY OF MILWAUKEE
MR. TIM THUR
CHIEF SEWER DESIGN MANAGER
841 N BROADWAY
ROOM 820
MILWAUKEE, WI 53202
414-286-2463

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT (MMSD)
MR. LARRY ANDERSON (PRIMARY FIELD CONTACT)
QA INSPECTOR
260 W SEEBOTH STREET
MILWAUKEE, WI 53204-1446
414-225-2241

MMSD
MS. DEBRA JENSEN (ALTERNATE CONTACT)
PLANNING SERVICES SUPERVISOR
260 W SEEBOTH STREET
MILWAUKEE, WI 53204-1446
414-225-2143

MMSD
MR. DAVID FOWLER (ALTERNATE CONTACT)
260 W SEEBOTH STREET
MILWAUKEE, WI 53204-1446
414-277-6368

GENERAL NOTES

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND ANY AFFECTED UTILITIES THAT ARE NOT MEMBERS OF DIGGERS HOTLINE, PRIOR TO THE START OF WORK.

2. NO TREES OR SHRUBS ARE TO BE DAMAGED OR REMOVED UNLESS OTHERWISE INDICATED FOR REMOVAL BY THE DRAWINGS OR AS APPROVED BY THE ENGINEER.

3. THE CRUSHED AGGREGATE FOR SHOULDERS ADJACENT TO THE PAVEMENT SHALL NOT BE PLACED UNTIL AFTER THE PAVEMENT HAS BEEN LAID.

4. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN OPERATING CONSTRUCTION VEHICLES THROUGHOUT THE PROJECT, ESPECIALLY AT AREAS WHERE THE EXISTING VEGETATION OR WETLANDS HAVE BEEN IDENTIFIED FOR PRESERVATION.

5. EROSION CONTROL MEASURES SHALL BE ADJUSTED AS NEEDED IN THE FIELD TO MEET FIELD CONDITIONS.

6. IF DAMAGE OCCURS TO UTILITIES, NOTIFY THE AFFECTED UTILITY OWNER(S) IMMEDIATELY.

7. CONTRACTOR SHALL COMPLY WITH ALL CITY OF MILWAUKEE, DNR AND ARMY CORPS OF ENGINEERS PERMIT REQUIREMENTS FOR THE PROJECT.

8. DO NOT STORE MATERIALS OR EQUIPMENT ON PROTECTED WETLAND AREAS.

STANDARD ABBREVIATIONS

℄	-	CENTERLINE
DEG	-	DEGREE
EC	-	EROSION CONTROL
HAST	-	HANK AARON STATE TRAIL
IE	-	INVERT ELEVATION
LT	-	LEFT
MMSD	-	MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
MH	-	MANHOLE
NTS	-	NOT TO SCALE
P.L.	-	PROPERTY LINE
PC	-	POINT OF CURVE
PI	-	POINT OF INTERSECT
PT	-	POINT OF TANGENT
R	-	RADIUS
R/W	-	RIGHT OF WAY
RT	-	RIGHT
STA	-	STATION
SDD	-	STANDARD DETAIL
TLE	-	TEMPORARY LIMITED EASEMENT
VPI	-	VERTICAL POINT OF INTERSECTION

THE FOLLOWING SHEETS AND DESIGN:
- FES LIFT PLANTING PLANS
- SEEDING PLANS
- TREE PLANTING PLANS

PROVIDED BY
MAREK LANDSCAPING, LLC
820 E. KNAPP ST. MILWAUKEE, WI 53202

THE FOLLOWING SHEETS AND DESIGN:
- FES DESIGN AND TYPICAL CROSS SECTIONS
- FES INSTALLATION DETAILS

PROVIDED BY
INTER-FLUVE, INC.
3602 ATWOOD, AVE. SUITE 3, MADISON, WI 53714

OTHER AGENCY CONTACTS

CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS,
INFRASTRUCTURE DIVISION
MR. JEFFREY POLENSKE
CITY ENGINEER
841 N BROADWAY
ROOM 701
MILWAUKEE, WI 53202
414-286-3701

REDEVELOPMENT AUTHORITY OF THE CITY OF MILWAUKEE
MR. DAVID MISKY
809 N. BROADWAY
ROOM 701
MILWAUKEE, WI 53202
414-286-8682

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MS. APRIL MARCANGELI
WATER MANAGEMENT SPECIALIST
141 NW BARSTOW ST., RM 180
WAUKESHA, WI 53188
262-574-2132

DESIGN
MR. ADAM HAMMEN
THE SIGMA GROUP, INC.
1300 WEST CANAL ST.
MILWAUKEE, WI 53233
414-643-4165

US ARMY CORPS OF ENGINEERS
MR. ANTHONY JERNIGAN
USACE WAUKESHA OFFICE
20711 WATERTOWN ROAD, SUITE F
WAUKESHA, WI 53186
(651) 290-5729

DIGGERS HOTLINE
Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: GENERAL NOTES	SHEET 002	E

2

N

PALERMO'S PIZZA

33RD COURT

PROJECT 1693-38-72
END TRAIL CONSTRUCTION
22+34.69
Y = 295136.28
X = 593887.63

PROPERTY LINE
PROPOSED TLE

100-YR FLOOD
ELEV PROPOSED

100-YR FLOOD
ELEV EXISTING

℄ NORTH BANK
TRAIL ALIGNMENT

100-YR FLOOD
ELEV EXISTING

100-YR FLOOD
ELEV PROPOSED

REDEVELOPMENT
AUTHORITY
CITY OF MILWAUKEE

REDEVELOPMENT
AUTHORITY
CITY OF MILWAUKEE

PROPERTY LINE

PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90

100-YR FLOOD
ELEV EXISTING

PROPERTY LINE

STEWARDSHIP
PAVILION

35TH STREET BRIDGE
(OVERHEAD)

℄ CONNECTOR
TRAIL
ALIGNMENT

REDEVELOPMENT
AUTHORITY
CITY OF MILWAUKEE

EXPOSED CONCRETE
ENCASED MMSD SEWER

MENOMONEE RIVER

PROJECT 1693-38-72
BEGIN TRAIL CONSTRUCTION
12+21.87
Y = 294724.21
X = 592983.32

REDEVELOPMENT
AUTHORITY
CITY OF MILWAUKEE

2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: PROJECT OVERVIEW	SHEET 003	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-02 PROJECT OVERVIEW 100\PROJECT OVERVIEW 100.DWG PLOT DATE : 7/10/2015 3:43 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

PALERMO'S PIZZA

GRASS

ASPHALT DRIVE

CONC. CURB & GUTTER

GRASS

CHAINLINK FENCE

N

35TH STREET BRIDGE (OVERHEAD)

PROPERTY LINE

PROPERTY LINE

WETLAND
DO NOT DISTURB

PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90

PLAN DETAIL C

STEWARDSHIP PAVILION

℄ NORTH BANK TRAIL ALIGNMENT

EX. MH
RIM: 14.59
24" N INV: -1.23
24" E INV: -1.05

VERTICAL 10" PLASTIC PIPE
BOTTOM ELEVATION APPROX 2.5

EX. MH3
RIM: 14.44
18" SE INV: -1.06
24" SW INV: -1.98
24" W INV: -1.97

CONCRETE BRIDGE SUPPORTS

20' MMSD EASE. DOC. #09738366

REDEVELOPMENT AUTHORITY CITY OF MILWAUKEE

30' WIDE UTILITY EASE. PER DOC. #9154310

PLAN DETAIL B

℄ CONNECTOR TRAIL ALIGNMENT

STONE WALL

JOINT PLAN DETAIL A

EX. MH4
RIM: 13.03
18" NE INV. 0.68
8" W INV. 6.38
18" SW INV. 0.63

PAVILION

EX. MH2
RIM: 18.17
27" E INV: -2.13
27" SW INV: -2.23
18" NW INV: -0.83

PLAN DETAIL A

STORM OUTFALL
24" S INV:0.97

REDEVELOPMENT AUTHORITY CITY OF MILWAUKEE

MENOMONEE RIVER

30' SEWER EASE. DOC. #9154310

20' MMSD EASE. DOC. #09738366

30' UTILITY EASE. PER CSM 7701

PROJECT 1693-38-72
BEGIN TRAIL CONSTRUCTION
12+21.87
Y = 294724.21
X = 592983.32

EX. MH5
RIM: 18.42
27" NE INV. 0.88

CONCRETE BRIDGE SUPPORTS

2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: PROJECT OVERVIEW	SHEET 004	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-03 PROJECT OVERVIEW 40\PROJECT OVERVIEW 40.DWG PLOT DATE : 7/10/2015 3:43 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

PROJECT 1693-38-72
END TRAIL CONSTRUCTION
22+34.69
Y = 295136.28
X = 593887.63

N

PALERMO'S PIZZA

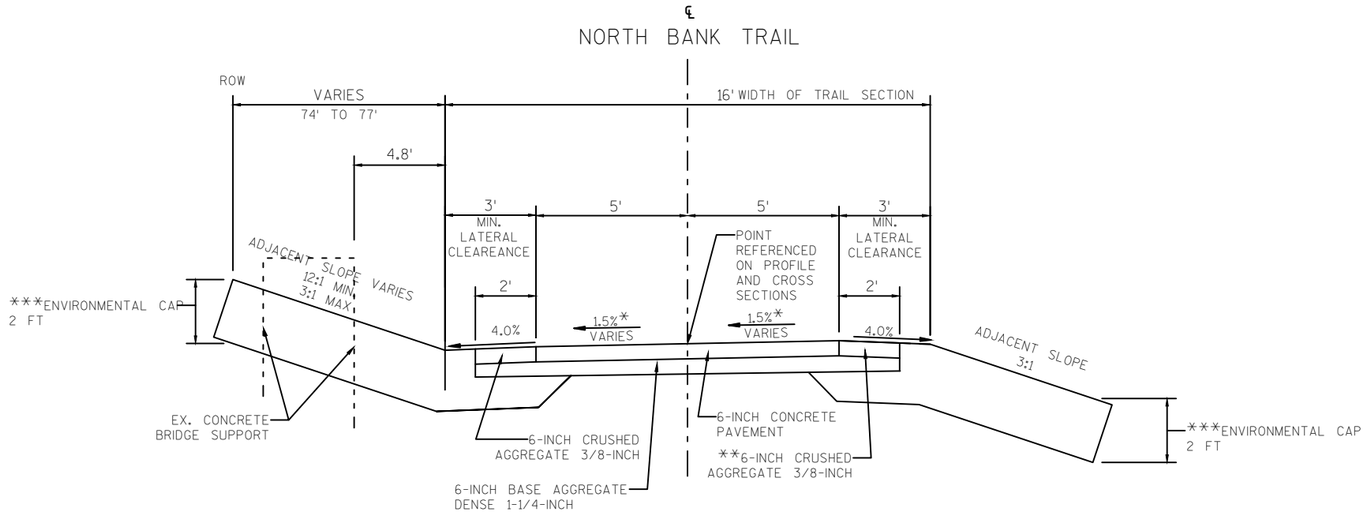
GATE CONTROL BOXES
POST
POST
LANE STRIPING
GRAVEL
GRAVEL
PROPERTY LINE
PROPOSED TLE
PROPERTY LINE
GATE CONTROL BOX
POST
POST
POST
GATE
ASPHALT
LANE STRIPING
ASPHALT
CONC. CURB &
GRASS
ASPHALT DRIVE
GRASS
℄ NORTH BANK TRAIL ALIGNMENT
CHAINLINK FENCE
SAWWES
EX. MH1
RIM: 12.68
27" E INV: -1.82
27" W INV: -1.82
MH
EXPOSED CONCRETE ENCASED MMSD SEWER
WETLAND DO NOT DISTURB
MENOMONEE RIVER
REDEVELOPMENT AUTHORITY CITY OF MILWAUKEE
33RD COURT
GRASS
CONCRETE DRIVEWAY
MH
PLAN DETAIL D
MH
SSS
SAN
22
21
20
19

2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: PROJECT OVERVIEW	SHEET 005	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-03 PROJECT OVERVIEW 40\PROJECT OVERVIEW 40.DWG PLOT DATE : 7/10/2015 3:43 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42



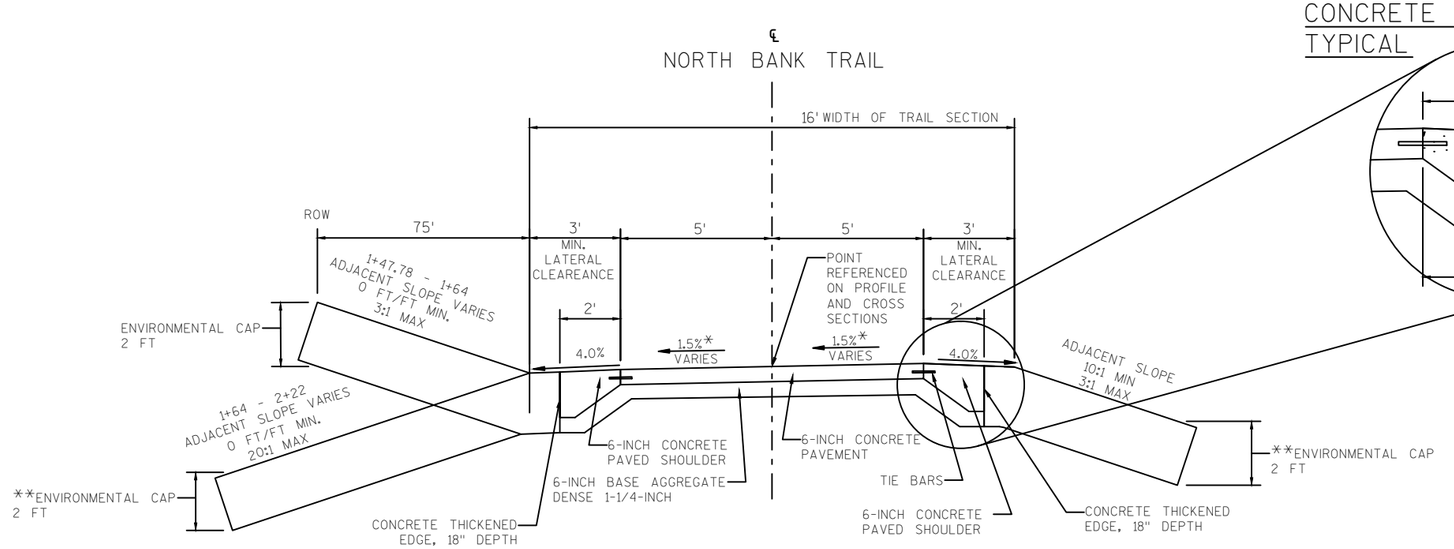
TYPICAL FINISHED CONCRETE SECTION

STA 1+00 - 1+47.78

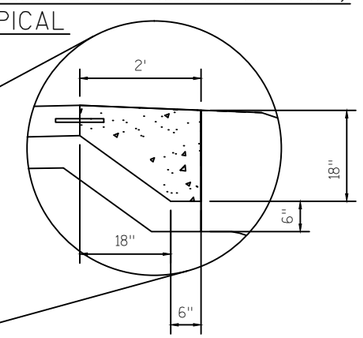
*TYPICAL DESIRED CROSS SLOPE IS 1.5 PERCENT, WITH 1.0 PERCENT BEING THE MINIMUM AND 2.0 PERCENT BEING THE MAXIMUM. CROSS SLOPE DIRECTION VARIES. REFER TO CALLOUTS SHOWN ON PLAN AND PROFILE SHEETS FOR CROSS SLOPE DIRECTION AND LOCATION OF TRANSITION AREAS.

**TAPER RIGHT SHOULDER STA 1+00 - 1+37.47

***SEE EROSION CONTROL DETAILS EC1 TO EC 7 FOR ENVIRONMENTAL CAP DETAILS.



CONCRETE THICKENED EDGE, TYPICAL



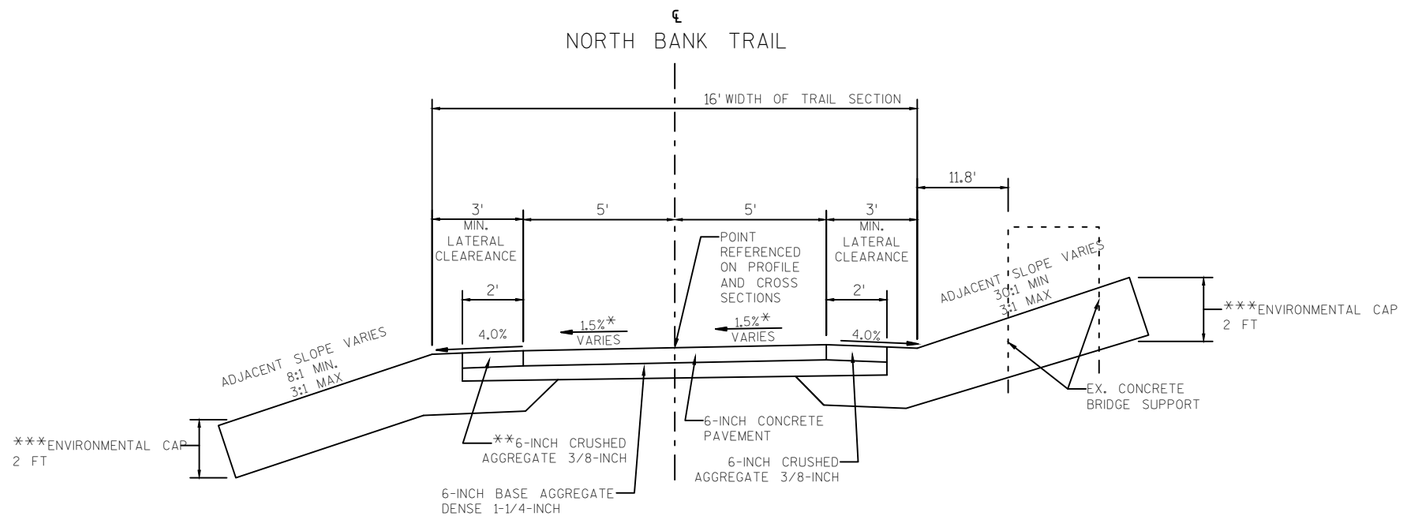
TYPICAL FINISHED CONCRETE SECTION

STA 1+47.78 - 2+22

*TYPICAL DESIRED CROSS SLOPE IS 1.5 PERCENT, WITH 1.0 PERCENT BEING THE MINIMUM AND 2.0 PERCENT BEING THE MAXIMUM. CROSS SLOPE DIRECTION VARIES. REFER TO CALLOUTS SHOWN ON PLAN AND PROFILE SHEETS FOR CROSS SLOPE DIRECTION AND LOCATION OF TRANSITION AREAS.

**SEE EROSION CONTROL DETAILS EC1 TO EC 7 FOR ENVIRONMENTAL CAP DETAILS.

2



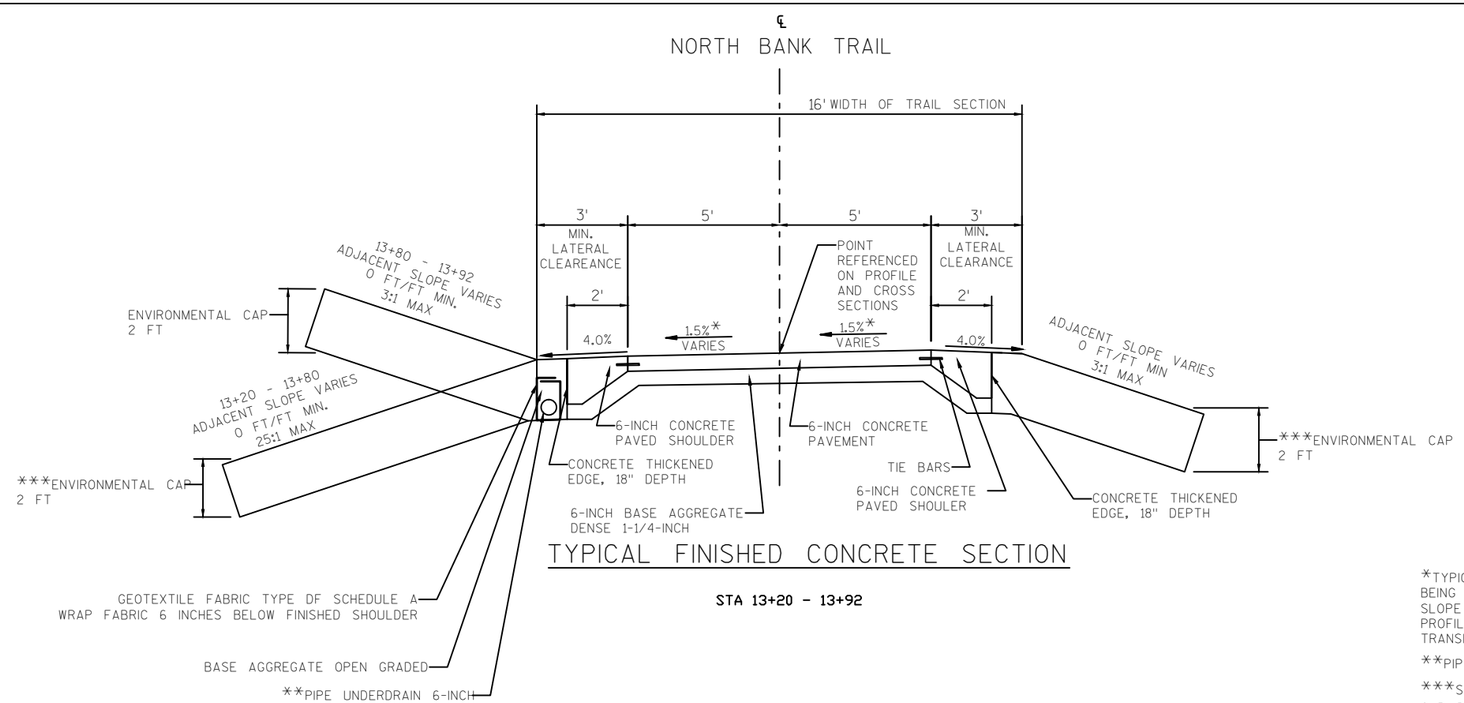
TYPICAL FINISHED CONCRETE SECTION

STA 12+21.87 - 13+20

*TYPICAL DESIRED CROSS SLOPE IS 1.5 PERCENT, WITH 1.0 PERCENT BEING THE MINIMUM AND 2.0 PERCENT BEING THE MAXIMUM. CROSS SLOPE DIRECTION VARIES. REFER TO CALLOUTS SHOWN ON PLAN AND PROFILE SHEETS FOR CROSS SLOPE DIRECTION AND LOCATION OF TRANSITION AREAS.

**TAPER LEFT SHOULDER STA 12+21.87 - 12+56

***SEE EROSION CONTROL DETAILS EC1 TO EC 7 FOR ENVIRONMENTAL CAP DETAILS.



TYPICAL FINISHED CONCRETE SECTION

STA 13+20 - 13+92

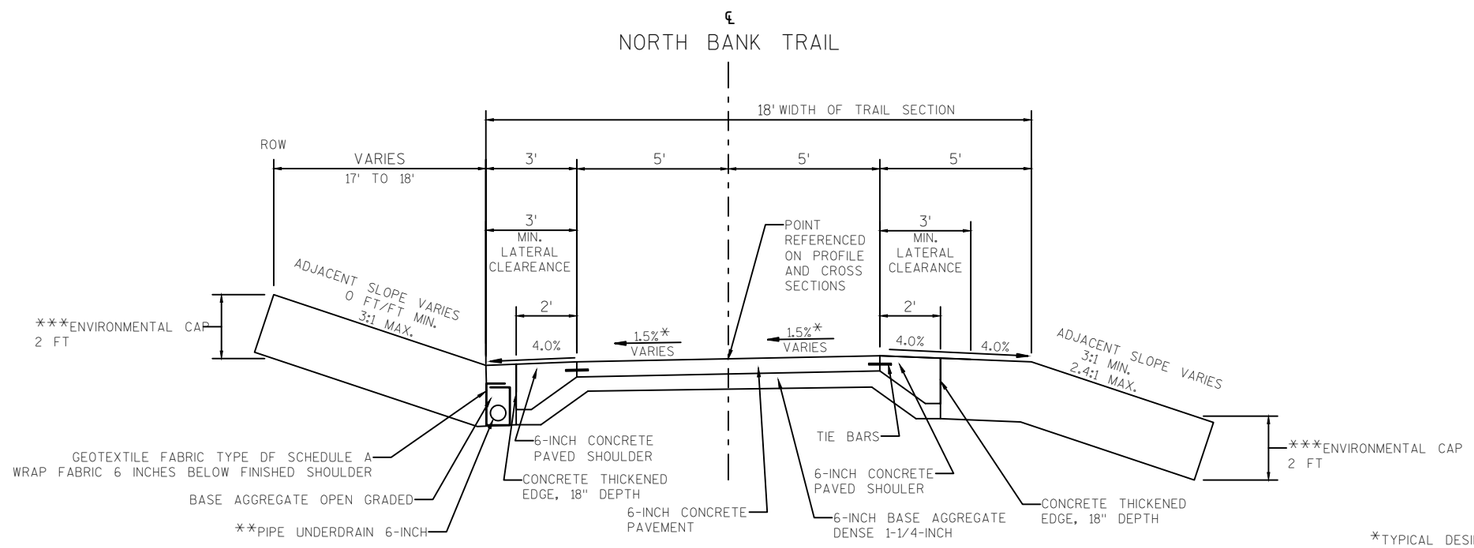
*TYPICAL DESIRED CROSS SLOPE IS 1.5 PERCENT, WITH 1.0 PERCENT BEING THE MINIMUM AND 2.0 PERCENT BEING THE MAXIMUM. CROSS SLOPE DIRECTION VARIES. REFER TO CALLOUTS SHOWN ON PLAN AND PROFILE SHEETS FOR CROSS SLOPE DIRECTION AND LOCATION OF TRANSITION AREAS.

**PIPE UNDERDRAIN SECTION STA 13+43.77 - 13+92

***SEE EROSION CONTROL DETAILS EC1 TO EC 7 FOR ENVIRONMENTAL CAP DETAILS.

2

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 007	E



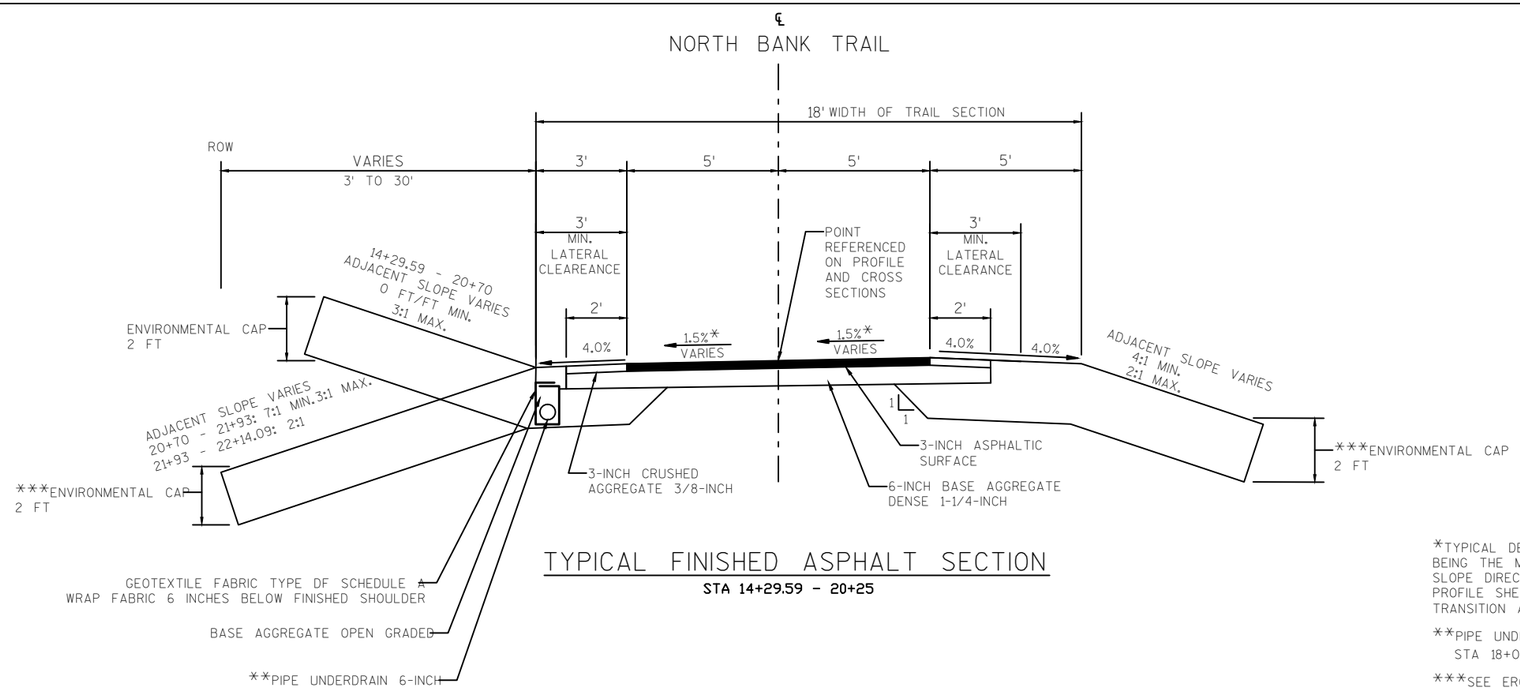
TYPICAL FINISHED CONCRETE SECTION

STA 13+92 - 14+29.59

*TYPICAL DESIRED CROSS SLOPE IS 1.5 PERCENT, WITH 1.0 PERCENT BEING THE MINIMUM AND 2.0 PERCENT BEING THE MAXIMUM. CROSS SLOPE DIRECTION VARIES. REFER TO CALLOUTS SHOWN ON PLAN AND PROFILE SHEETS FOR CROSS SLOPE DIRECTION AND LOCATION OF TRANSITION AREAS.

**PIPE UNDERDRAIN SECTION STA 13+92 - 14+29.59

***SEE EROSION CONTROL DETAILS EC1 TO EC 7 FOR ENVIRONMENTAL CAP DETAILS.



TYPICAL FINISHED ASPHALT SECTION

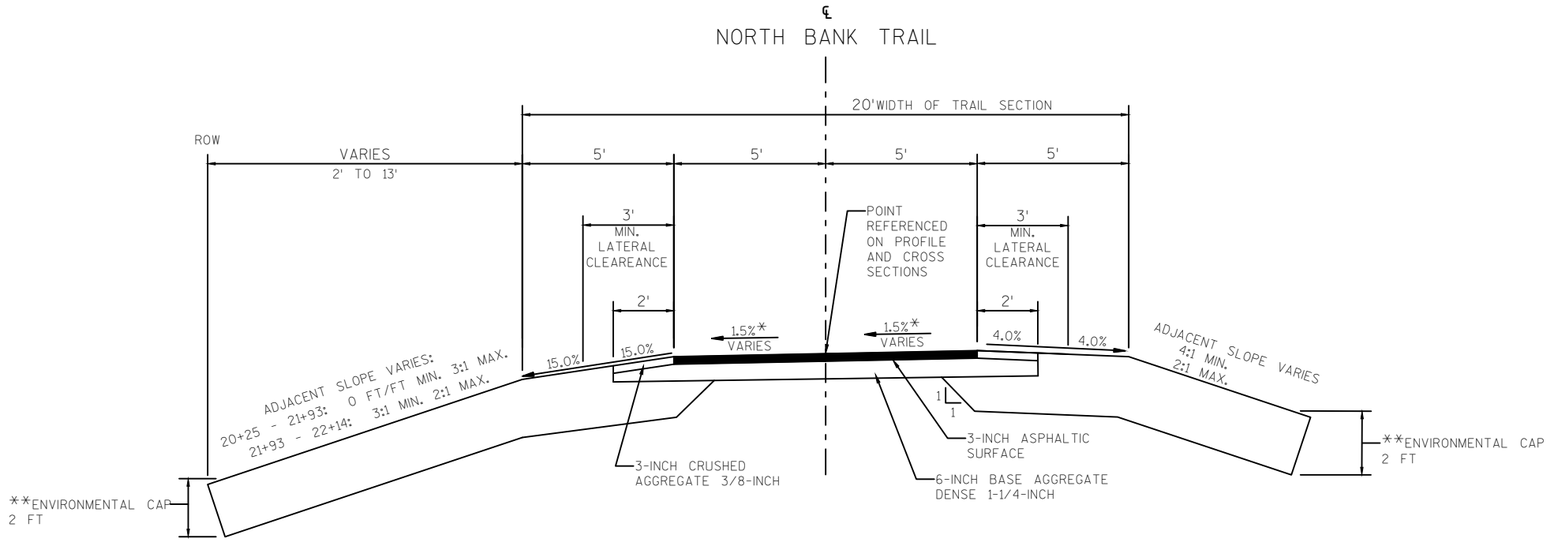
STA 14+29.59 - 20+25

*TYPICAL DESIRED CROSS SLOPE IS 1.5 PERCENT, WITH 1.0 PERCENT BEING THE MINIMUM AND 2.0 PERCENT BEING THE MAXIMUM. CROSS SLOPE DIRECTION VARIES. REFER TO CALLOUTS SHOWN ON PLAN AND PROFILE SHEETS FOR CROSS SLOPE DIRECTION AND LOCATION OF TRANSITION AREAS.

**PIPE UNDERDRAIN SECTION STA 14+29.59 - 14+48.98 & STA 18+05.85 - 19+08.56

***SEE EROSION CONTROL DETAILS EC1 TO EC 7 FOR ENVIRONMENTAL CAP DETAILS.

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 008	E



TYPICAL FINISHED ASPHALT SECTION

STA 20+25 - 22+14

*TYPICAL DESIRED CROSS SLOPE IS 1.5 PERCENT, WITH 1.0 PERCENT BEING THE MINIMUM AND 2.0 PERCENT BEING THE MAXIMUM. CROSS SLOPE DIRECTION VARIES. REFER TO CALLOUTS SHOWN ON PLAN AND PROFILE SHEETS FOR CROSS SLOPE DIRECTION AND LOCATION OF TRANSITION AREAS.

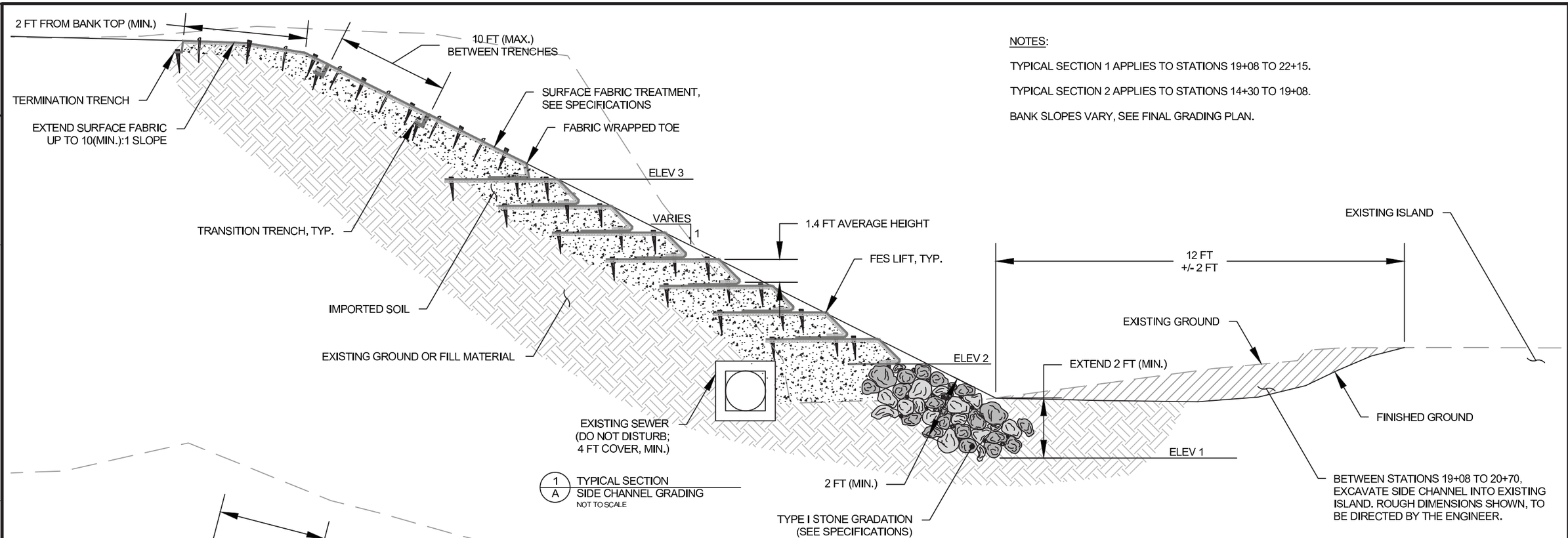
**SEE EROSION CONTROL DETAILS EC1 TO EC 7 FOR ENVIRONMENTAL CAP DETAILS.

NOTES:

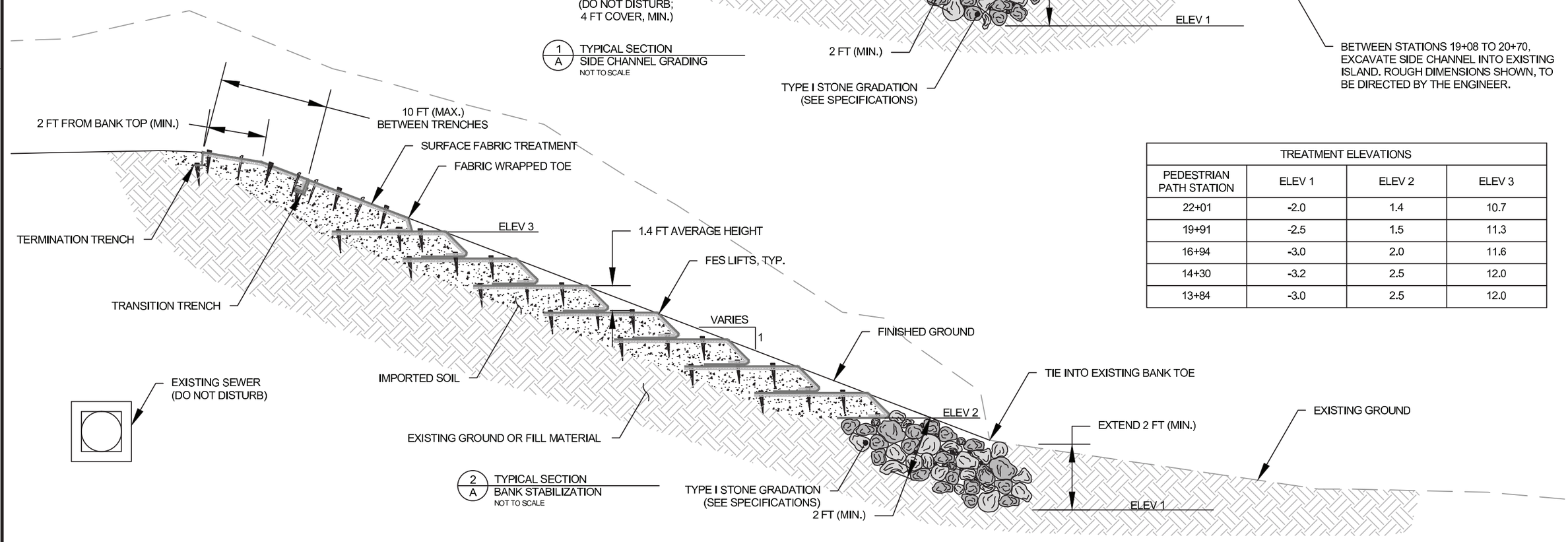
TYPICAL SECTION 1 APPLIES TO STATIONS 19+08 TO 22+15.

TYPICAL SECTION 2 APPLIES TO STATIONS 14+30 TO 19+08.

BANK SLOPES VARY, SEE FINAL GRADING PLAN.

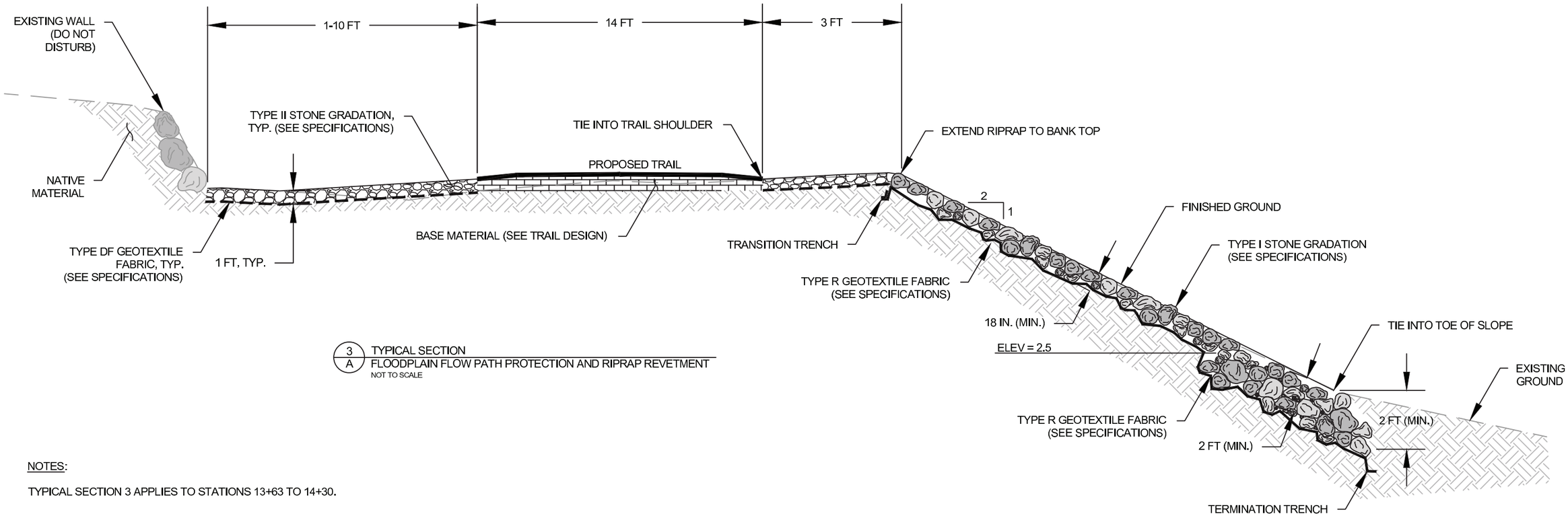


1/A TYPICAL SECTION
SIDE CHANNEL GRADING
NOT TO SCALE



2/A TYPICAL SECTION
BANK STABILIZATION
NOT TO SCALE

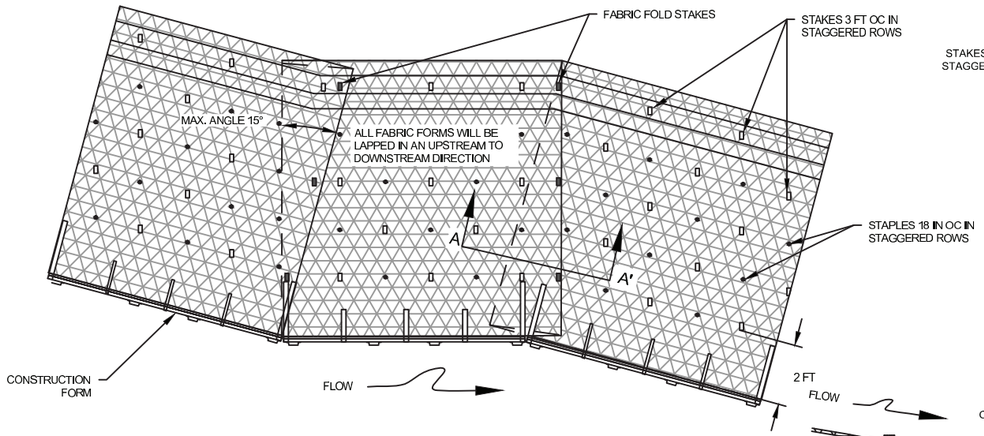
TREATMENT ELEVATIONS			
PEDESTRIAN PATH STATION	ELEV 1	ELEV 2	ELEV 3
22+01	-2.0	1.4	10.7
19+91	-2.5	1.5	11.3
16+94	-3.0	2.0	11.6
14+30	-3.2	2.5	12.0
13+84	-3.0	2.5	12.0



3/A TYPICAL SECTION
FLOODPLAIN FLOW PATH PROTECTION AND RIPRAP REVETMENT
NOT TO SCALE

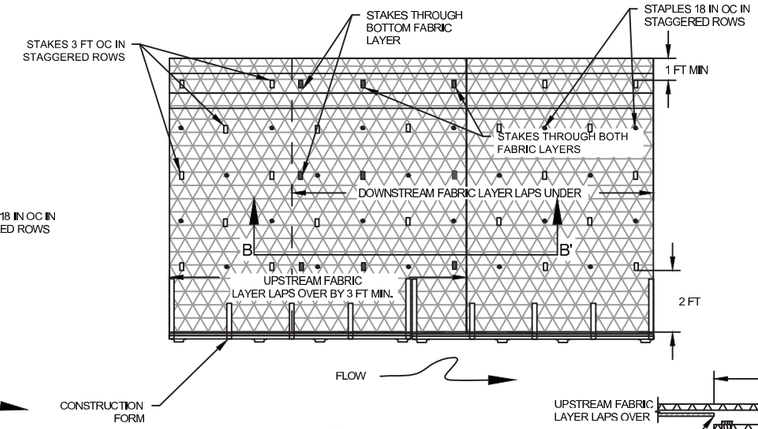
NOTES:

TYPICAL SECTION 3 APPLIES TO STATIONS 13+63 TO 14+30.

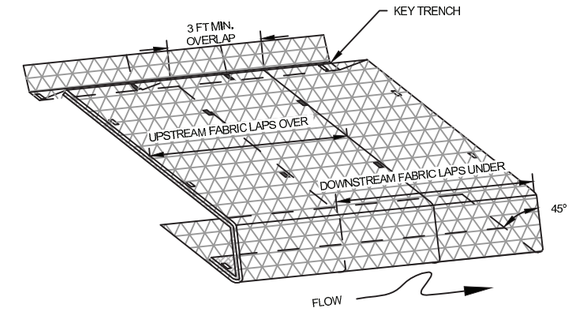


5 A TYPICAL DETAIL FOLDING OF OUTER FABRIC
NOT TO SCALE

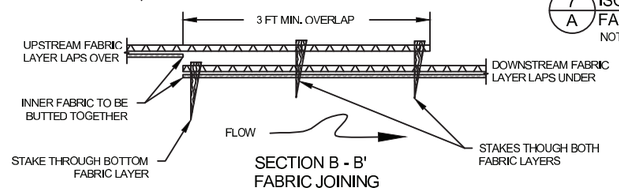
SECTION A - A'
FABRIC FOLD
NOT TO SCALE



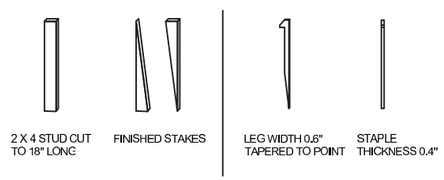
6 A TYPICAL DETAIL FABRIC JOINING
NOT TO SCALE



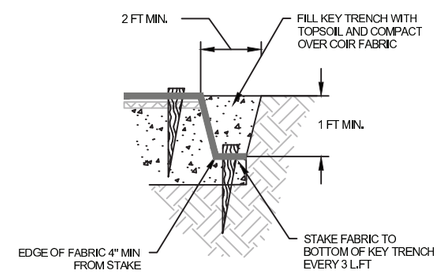
7 A ISOMETRIC DETAIL FABRIC JOINING
NOT TO SCALE



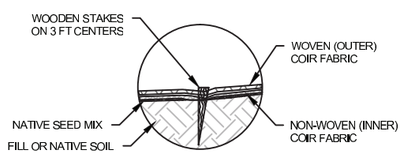
SECTION B - B'
FABRIC JOINING
NOT TO SCALE



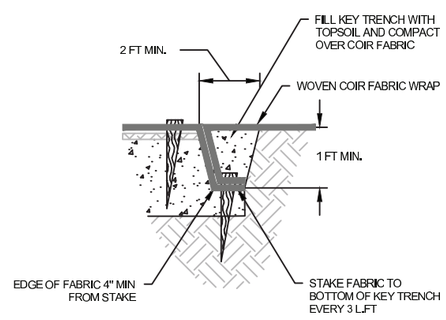
8 A WOODEN STAKE AND STAPLES FABRICATING DETAIL
NOT TO SCALE



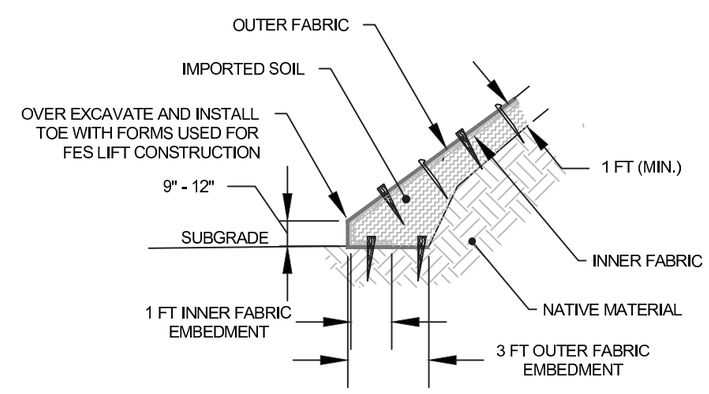
10 A KEY TRENCH DETAIL TERMINATION TRENCH
NOT TO SCALE



9 A SURFACE FABRIC TREATMENT BIODEGRADABLE FABRICS AND STAKES
NOT TO SCALE



11 A KEY TRENCH DETAIL TRANSITION TRENCH
NOT TO SCALE



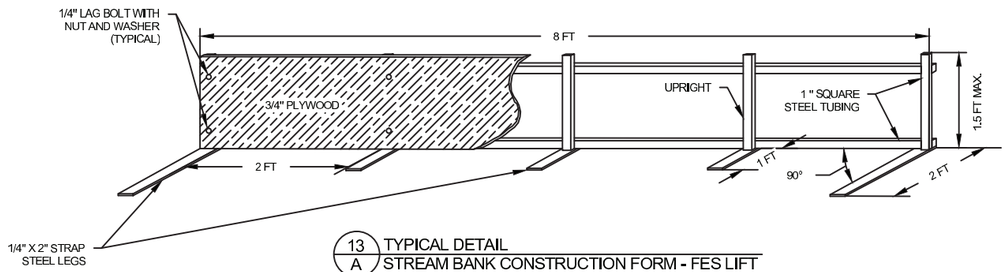
12 A SURFACE FABRIC TREATMENT FABRIC WRAPPED TOE
NOT TO SCALE

GENERAL NOTES ON SECURING COIR FABRIC

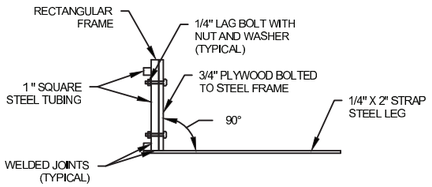
1. SECURE THE OUTER FABRIC (WOVEN, WHERE APPLICABLE), WITH A WOODEN STAKE THROUGH THE FABRIC ON 3 FT CENTERS (SEE DETAIL VIEWS 5 & 6)
NOTE: THE HOLES FOR STAKES SHALL NOT BE PRECUT. ALLOW THE STAKE TO BREAK THE MINIMUM NUMBER OF STRANDS AS IT IS BEING DRIVEN IN. DRIVE STAKES SO THAT 2" TO 3" OF THE TOP OF THE STAKE IS LEFT EXPOSED.

2. OUTER FABRIC ENDS SHALL BE JOINED BY LAPPING THE UPSTREAM PIECE OF FABRIC OVER THE DOWNSTREAM PIECE AS SHOWN IN DETAIL 5. OVERLAPS SHALL BE A MINIMUM OF 3 FT, INNER FABRIC ENDS SHALL BE BUTTED TOGETHER, NOT OVERLAPPED. OVERLAPS SHALL BE STAGGERED FROM LIFT TO LIFT BY A MINIMUM OF 15 FT.

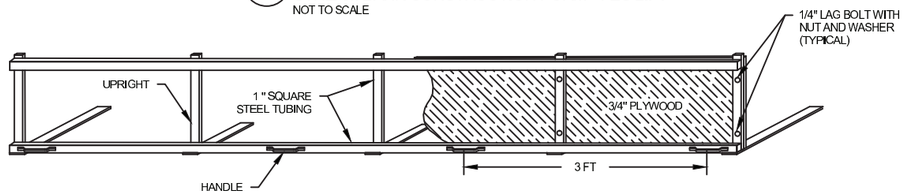
3. STAKING SPACING IS DEFINED IN SPECIFICATIONS FOR FES LIFT AND SURFACE FABRIC.



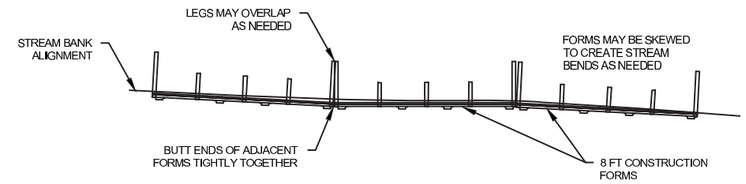
13 A TYPICAL DETAIL
STREAM BANK CONSTRUCTION FORM - FES LIFT
NOT TO SCALE



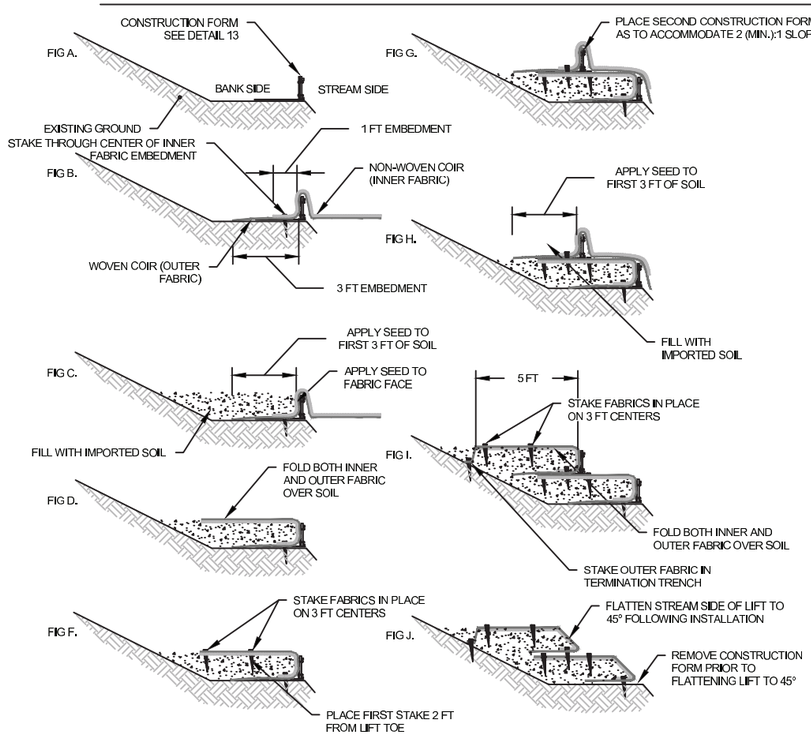
14 A TYPICAL DETAIL
STREAM BANK CONSTRUCTION FORM - FES LIFT
NOT TO SCALE



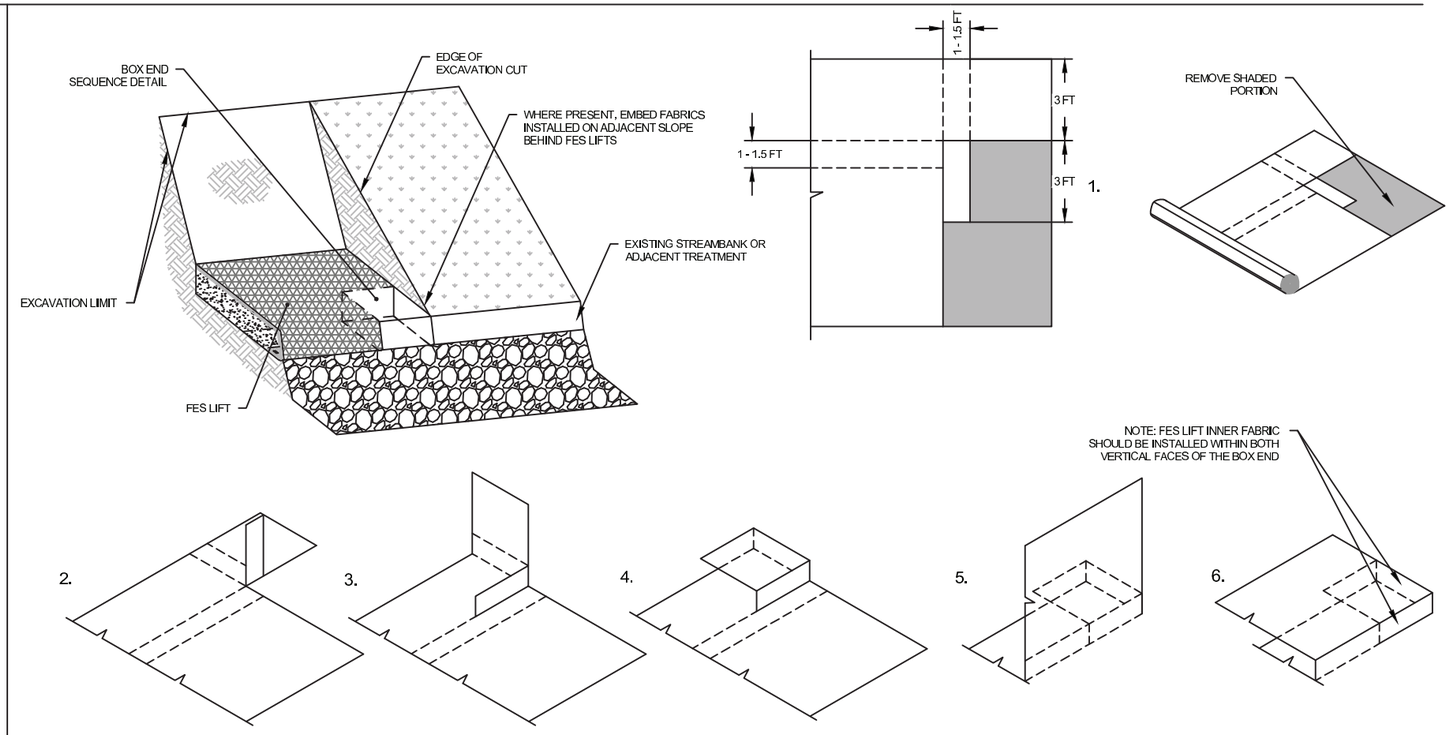
15 A TYPICAL DETAIL
STREAM BANK CONSTRUCTION FORM - FES LIFT
NOT TO SCALE



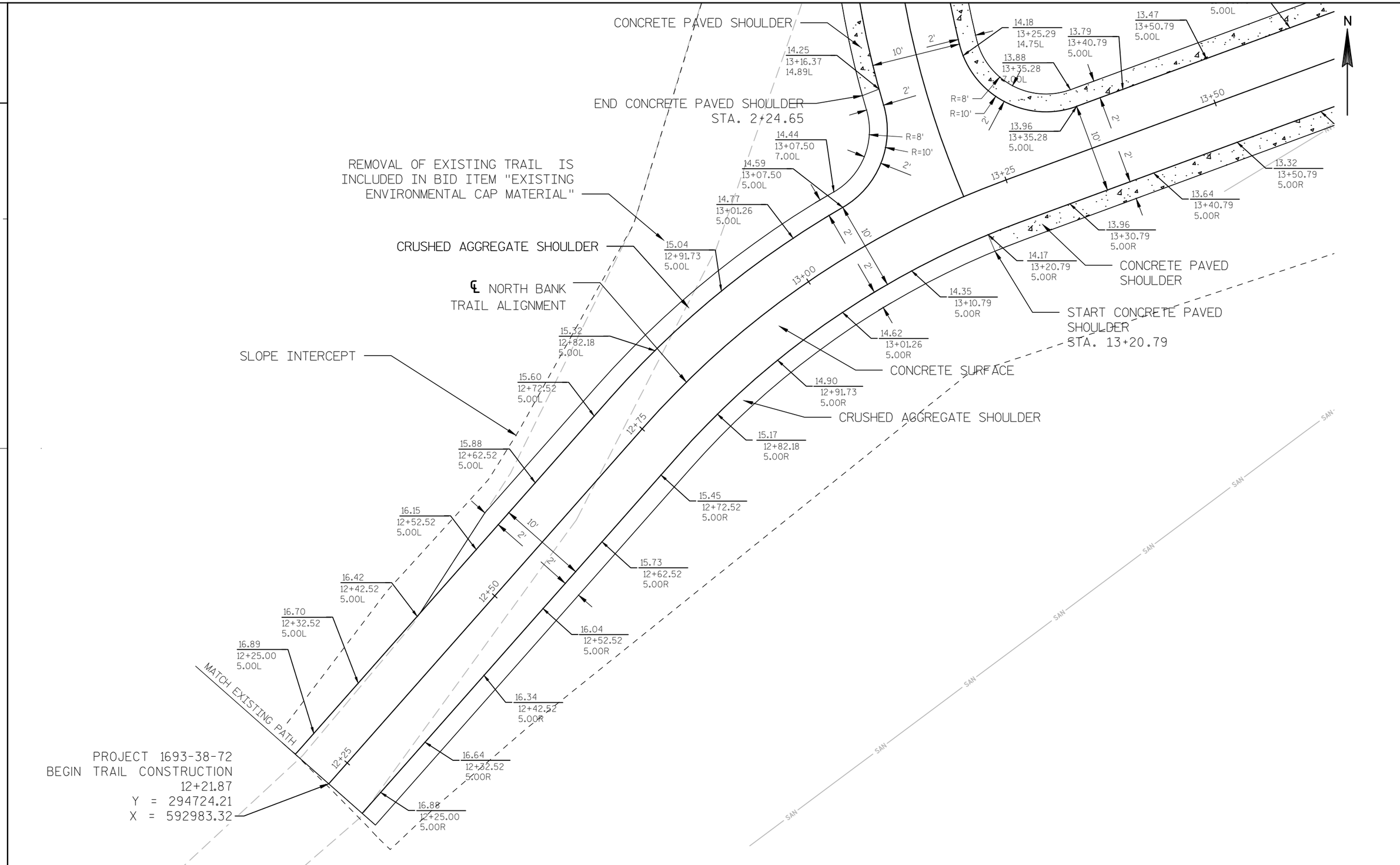
16 A TYPICAL DETAIL - SUGGESTED PLACEMENT
STREAM BANK CONSTRUCTION FORM - FES LIFT
NOT TO SCALE



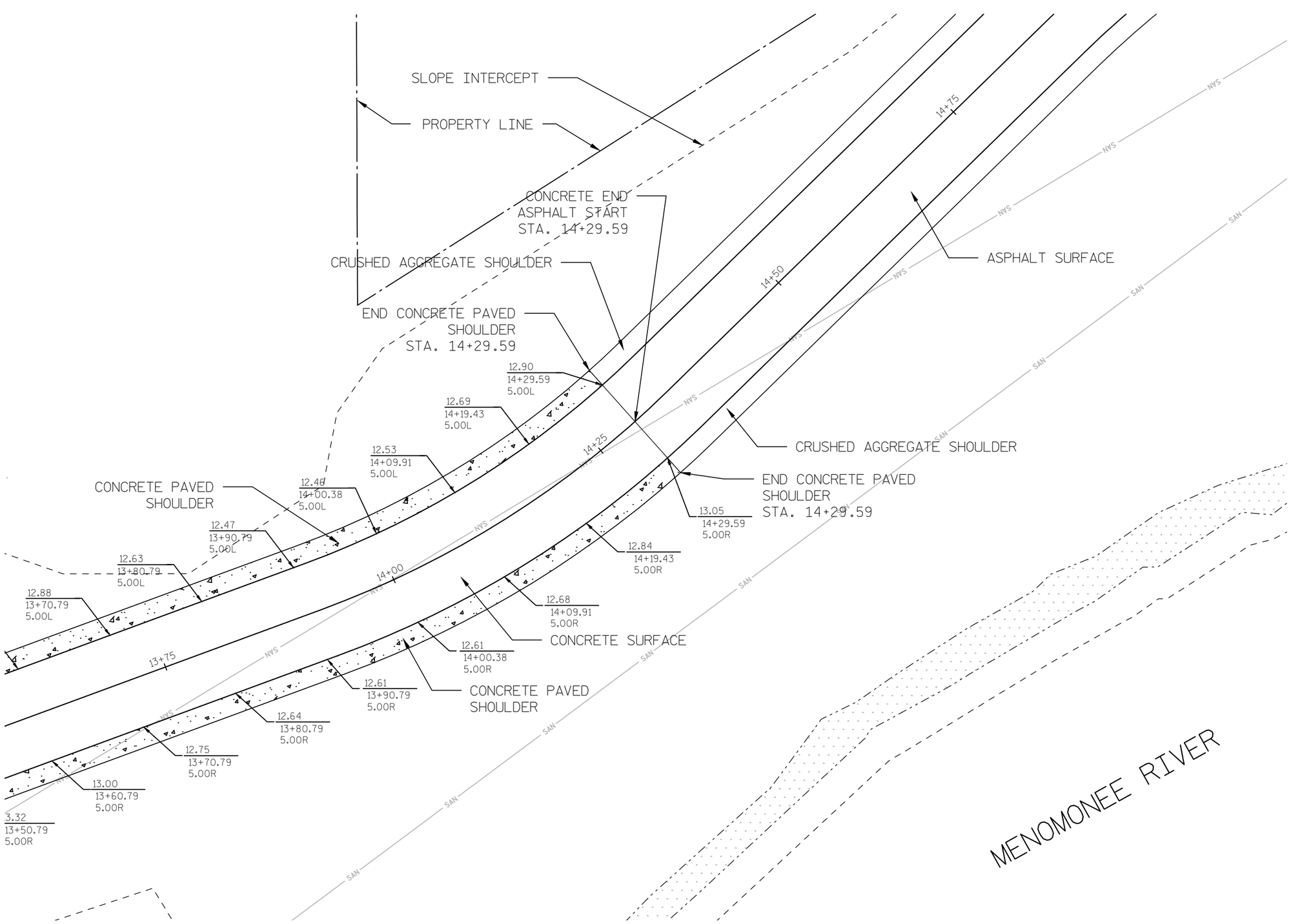
17 A SUGGESTED CONSTRUCTION SEQUENCE
FES LIFT
NOT TO SCALE



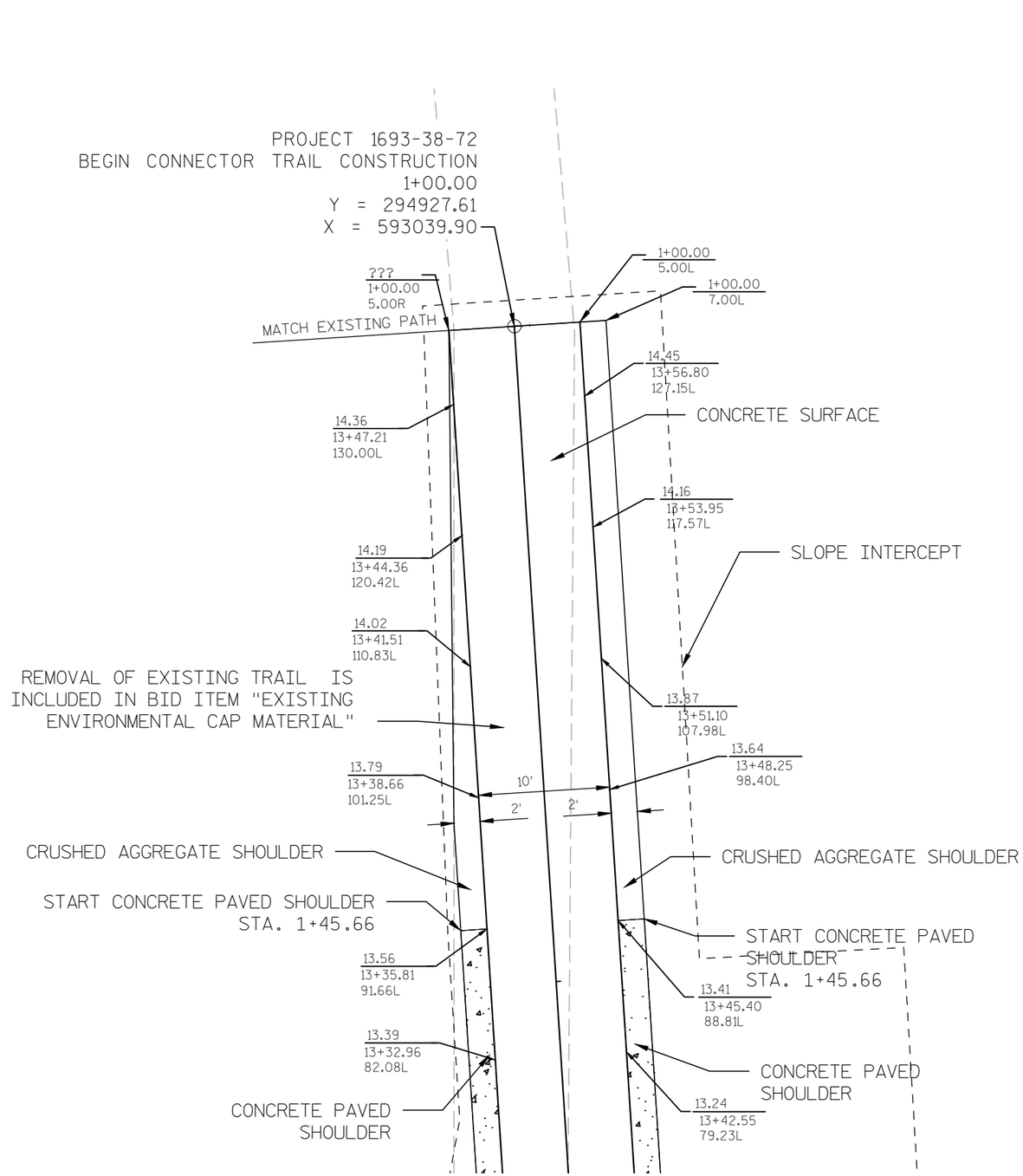
18 A SUGGESTED CONSTRUCTION SEQUENCE
FES LIFT - BOX ENDS
NOT TO SCALE

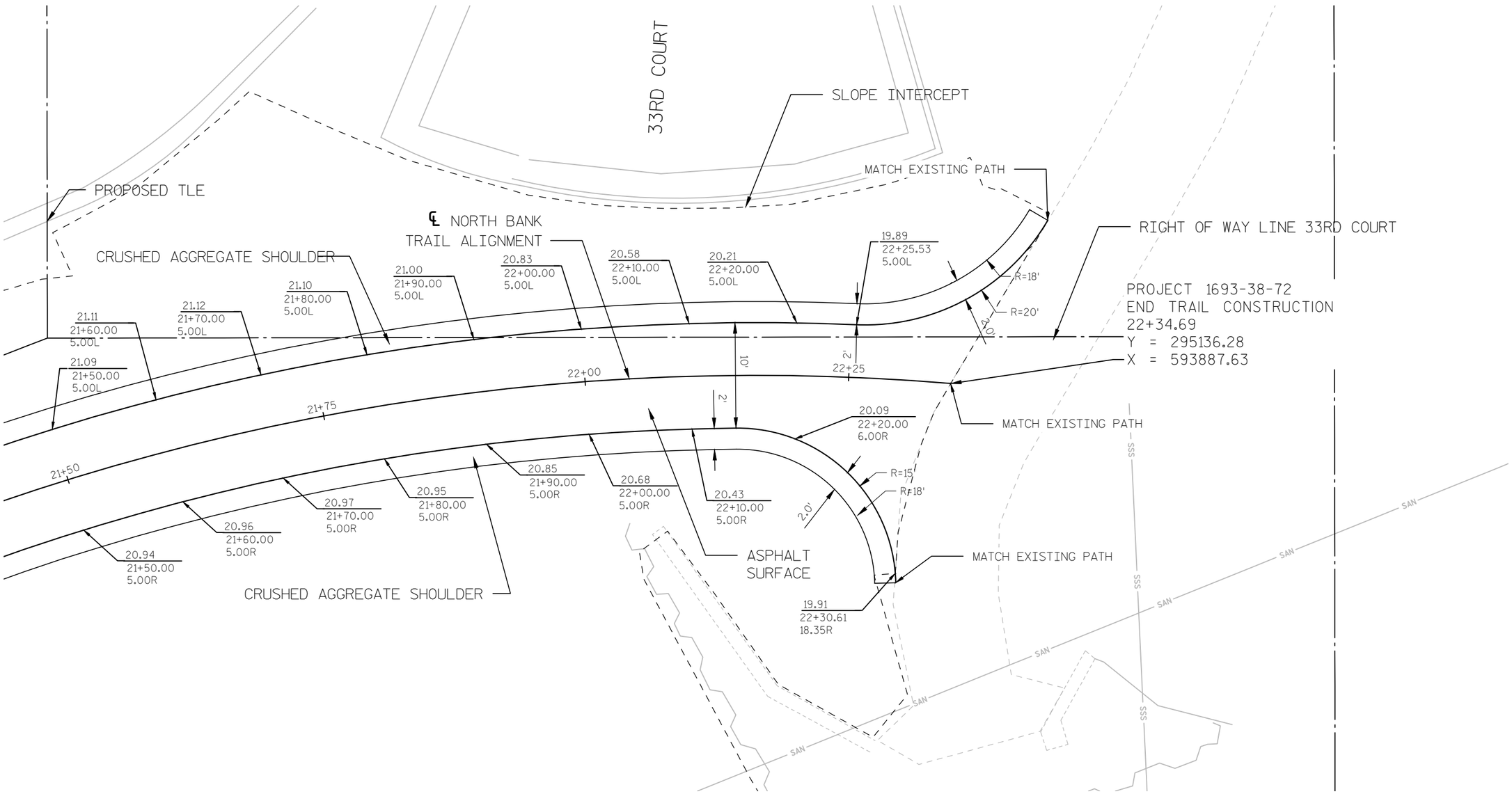


PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: PLAN DETAIL A	SHEET 014	E

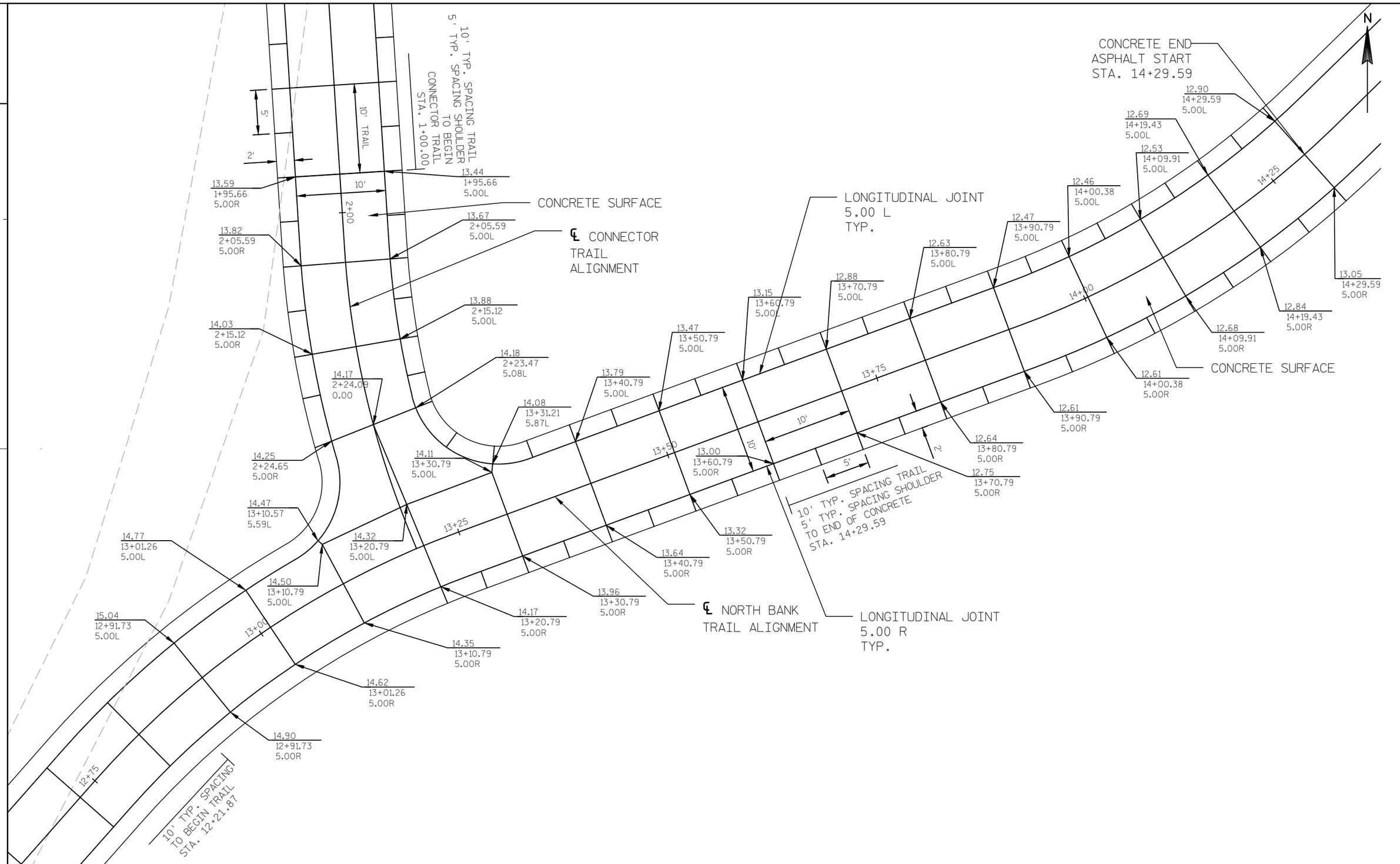


PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: PLAN DETAIL B	SHEET 015	E


N
PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90
???
1+00.00
5.00R
MATCH EXISTING PATH
1+00.00
5.00L
1+00.00
7.00L
14.45
13+56.80
127.15L
CONCRETE SURFACE
14.36
13+47.21
130.00L
14.16
13+53.95
117.57L
SLOPE INTERCEPT
14.19
13+44.36
120.42L
14.02
13+41.51
110.83L
REMOVAL OF EXISTING TRAIL IS
INCLUDED IN BID ITEM "EXISTING
ENVIRONMENTAL CAP MATERIAL"
13.87
13+51.10
107.98L
13.64
13+48.25
98.40L
13.79
13+38.66
101.25L
10'
2'
2'
CRUSHED AGGREGATE SHOULDER
CRUSHED AGGREGATE SHOULDER
START CONCRETE PAVED SHOULDER
STA. 1+45.66
START CONCRETE PAVED
SHOULDER
STA. 1+45.66
13.56
13+35.81
91.66L
13.41
13+45.40
88.81L
13.39
13+32.96
82.08L
CONCRETE PAVED
SHOULDER
CONCRETE PAVED
SHOULDER
13.24
13+42.55
79.23L



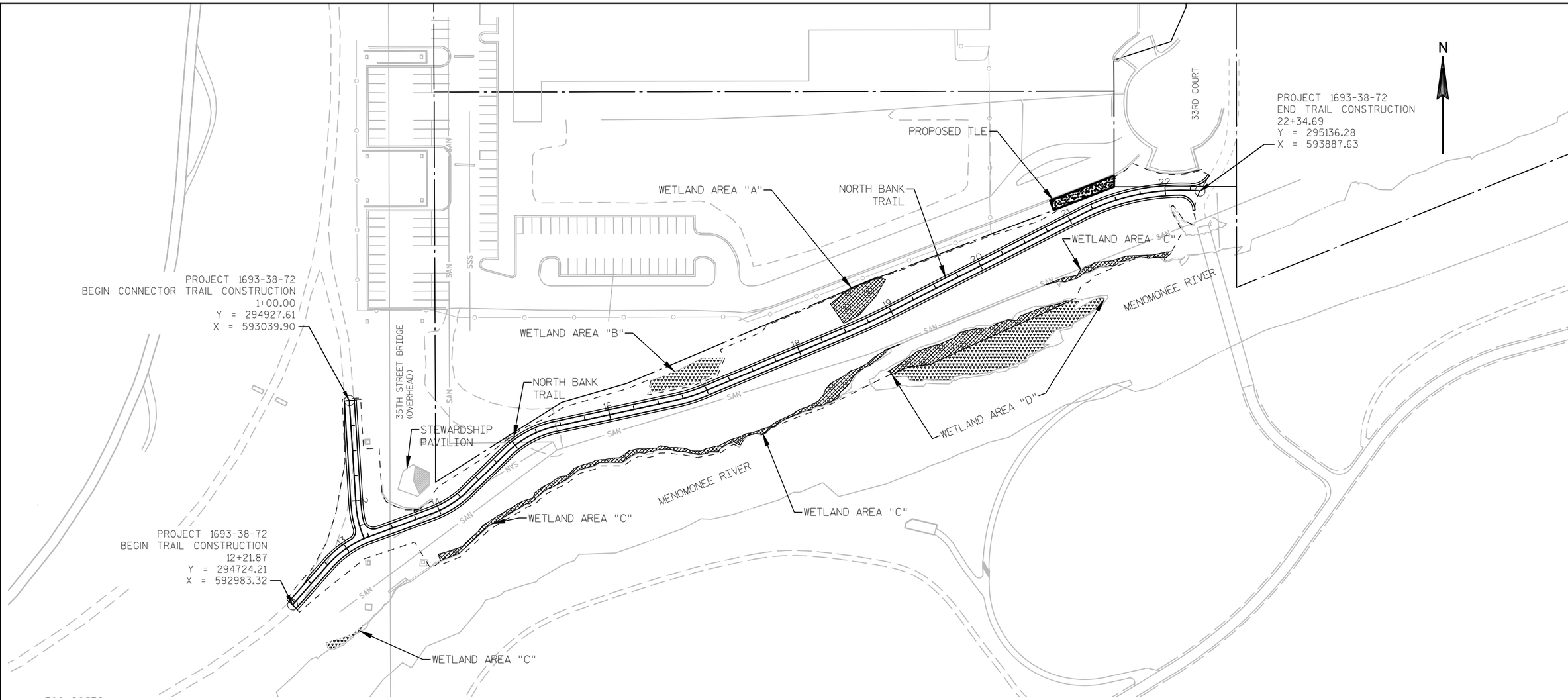
PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: PLAN DETAIL D	SHEET 017	E



PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: PLAN DETAILS - JOINT DETAIL A	SHEET 018	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-06 JOINT DETAILS\PLAN DETAILS - JOINTS.DWG PLOT DATE : 7/10/2015 3:45 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 42



WETLANDS TO BE IMPACTED BY LAND DISTURBANCE AND GRADING ACTIVITIES.

PROTECTED WETLAND AREAS. DO NOT FILL, GRADE OR OTHERWISE DISTURB.

ANTICIPATED LIMITS OF LAND DISTURBANCE.

WETLAND AREAS (ACRES)	
A	0.027
B	0.027
C	0.062
D	0.157
TOTAL	0.273

ANTICIPATED WETLAND IMPACTS (ACRES)	
A*	0.027
B	0.000
C	0.058
D	0.043
TOTAL	0.128

*IMPACTS TO WETLAND AREA "A" WERE APPROVED UNDER A PREVIOUS WDNR WATER QUALITY CERTIFICATION.

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: WETLAND IMPACTS SUMMARY/ PROTECTED WETLAND AREAS	SHEET 019	E

2

NORTH BANK TRAIL

WETLAND AREA "A"

WETLAND AREA "C"

N

20+63.88
71.82' RT

MENOMONEE RIVER

WETLAND AREA "B"

17+07.32
-31.41' LT

17+27.12
-23.95' LT

17+14.46
-11.29' LT

16+48.32
-24.33' LT

16+44.10
-13.08' LT

16+86.84
-11.16' LT

WETLAND AREA "D"

19+10.29
64.66' RT

18+87.20
56.84' RT

18+73.96
56.82' RT

WETLAND AREA "C"

MENOMONEE RIVER

WETLANDS TO BE IMPACTED BY LAND DISTURBANCE AND GRADING ACTIVITIES.

PROTECTED WETLAND AREAS. DO NOT FILL, GRADE OR OTHERWISE DISTURB.

ANTICIPATED LIMITS OF LAND DISTURBANCE.

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: PROTECTED WETLAND AREAS	SHEET 020	E

2

PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90

35TH STREET BRIDGE
(OVERHEAD)

STEWARDSHIP
PAVILION

NORTH BANK
TRAIL

MANHOLES TO REMAIN

WETLAND
DO NOT DISTURB

MENOMONEE RIVER

PROJECT 1693-38-72
BEGIN TRAIL CONSTRUCTION
12+21.87
Y = 294724.21
X = 592983.32

N

2

CLEARING AND GRUBBING REGION

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: REMOVAL PLAN	SHEET 021	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-09 REMOVAL PLANS\13596-REMOVAL.DWG PLOT DATE : 7/10/2015 3:46 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2

33RD COURT

N

POST

POST

POST

POST

POST

CHIS

MH

MH

SALVAGE EXISTING PLANTINGS AT THIS AREA. DO NOT DAMAGE. (INCIDENTAL TO OVERALL CLEARING AND GRUBBING.)

PROPOSED TLE

LIGHT POLES TO REMAIN

PROJECT 1693-38-72
END TRAIL CONSTRUCTION
22+34.69
Y = 295136.28
X = 593887.63

NORTH BANK TRAIL

MANHOLE TO REMAIN

MENOMONEE RIVER

WETLAND AREA
ISLAND MANAGEMENT AREA: REMOVE INVASIVE PLANT SPECIES.
DO NOT OTHERWISE DISTURB

ISLAND MAINTENANCE AREA

CLEARING AND GRUBBING REGION

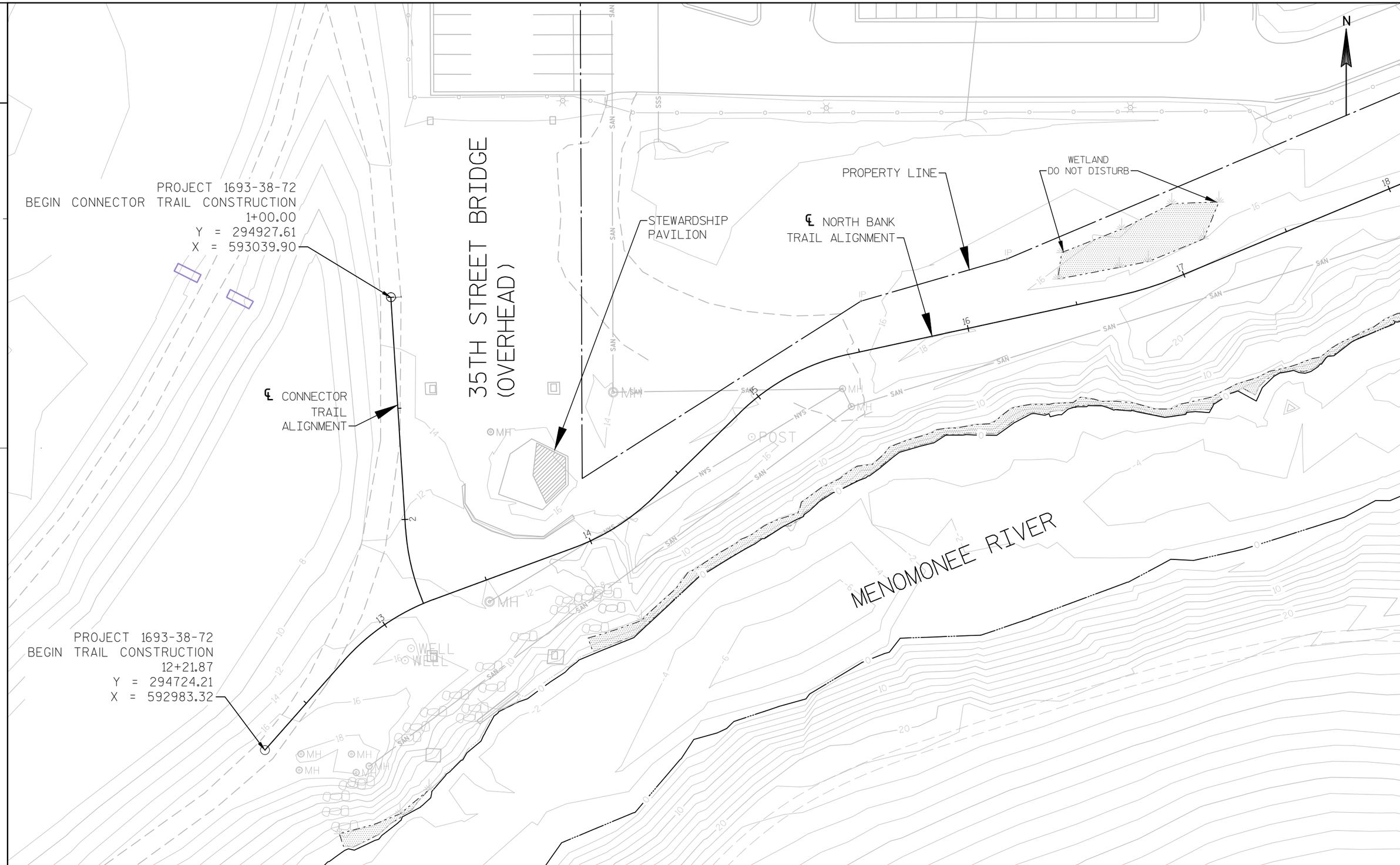
2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: REMOVAL PLAN	SHEET 022	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-09 REMOVAL PLANS\13596-REMOVAL.DWG PLOT DATE : 7/10/2015 3:46 PM PLOT BY : ADAM HAMMEN PLOT NAME : ---------- PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2



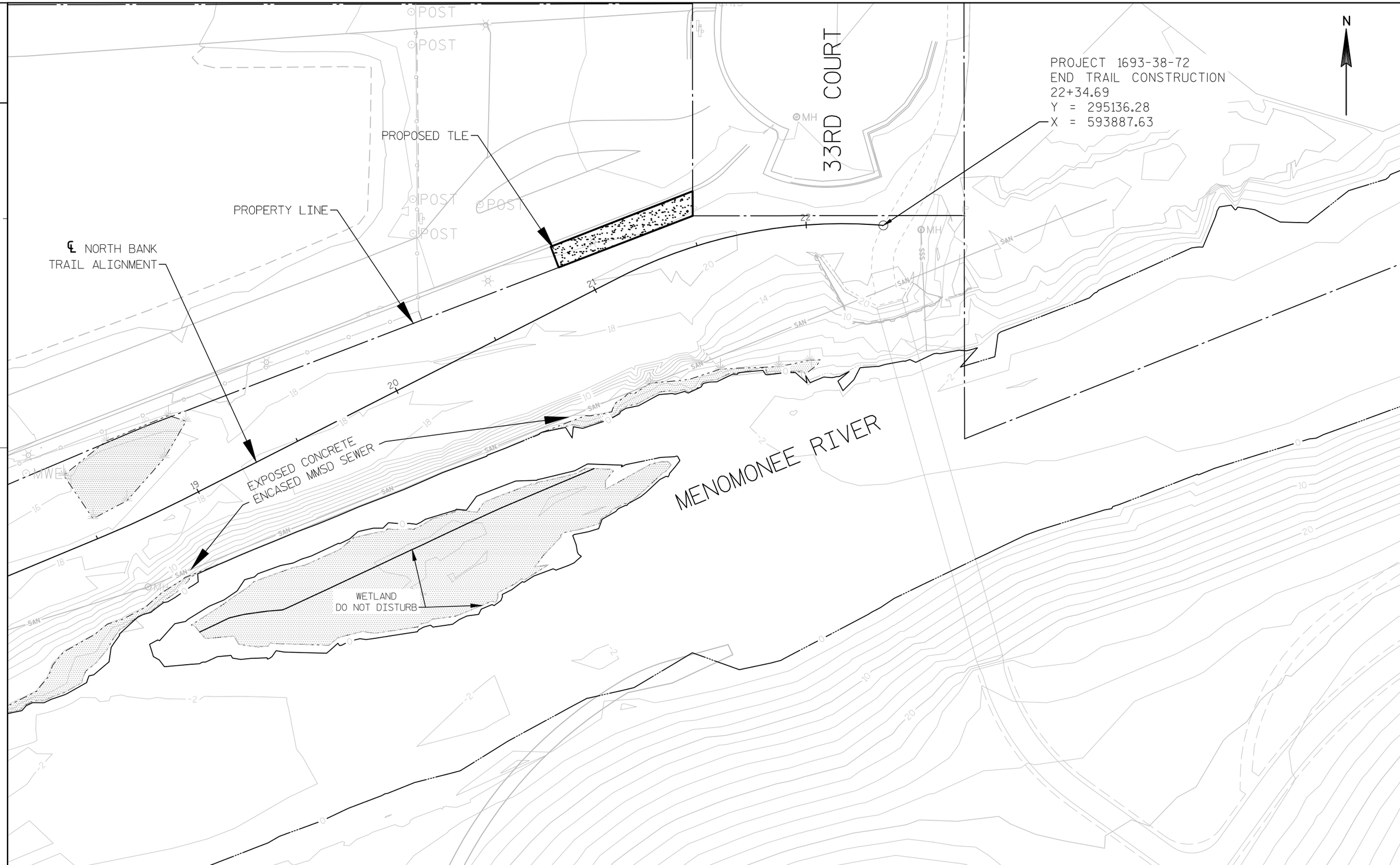
2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: EXISTING CONTOURS	SHEET 023	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-10 EXISTING CONTOURS\EX CONTOURS 40.DWG PLOT DATE : 7/10/2015 3:47 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2



2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: EXISTING CONTOURS	SHEET 024	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-10 EXISTING CONTOURS\EX CONTOURS 40.DWG PLOT DATE : 7/10/2015 3:47 PM PLOT BY : ADAM HAMMEN PLOT NAME : ---------- PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90

35TH STREET BRIDGE
(OVERHEAD)

STEWARDSHIP
PAVILION

NORTH BANK
TRAIL

WETLAND
DO NOT DISTURB

MENOMONEE RIVER

PROJECT 1693-38-72
BEGIN TRAIL CONSTRUCTION
12+21.87
Y = 294724.21
X = 592983.32

2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: SUBGRADE	SHEET 025	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-11 SUBGRADE PLAN\13596-SUB_GRADE.DWG PLOT DATE : 7/10/2015 3:47 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

N

33RD COURT

PROJECT 1693-38-72
END TRAIL CONSTRUCTION
22+34.69
Y = 295136.28
X = 593887.63

PROPOSED TLE

EXCAVATION BELOW INDICATED SUBGRADE
IS REQUIRED IN THIS AREA.
REFER TO CONTAMINATED MATERIAL
PLAN FOR EXCAVATION DEPTHS AT THIS AREA.

NORTH BANK
TRAIL

MENOMONEE RIVER

CHANNEL CUT

WETLAND
DO NOT DISTURB

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: SUBGRADE	SHEET 026	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-11 SUBGRADE PLAN\13596-SUB_GRADE.DWG PLOT DATE : 7/10/2015 3:47 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40_XREF

2

PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90

35TH STREET BRIDGE
(OVERHEAD)

STEWARDSHIP
PAVILION

NORTH BANK
TRAIL

WETLAND
DO NOT DISTURB

MENOMONEE RIVER

PROJECT 1693-38-72
BEGIN TRAIL CONSTRUCTION
12+21.87
Y = 294724.21
X = 592983.32

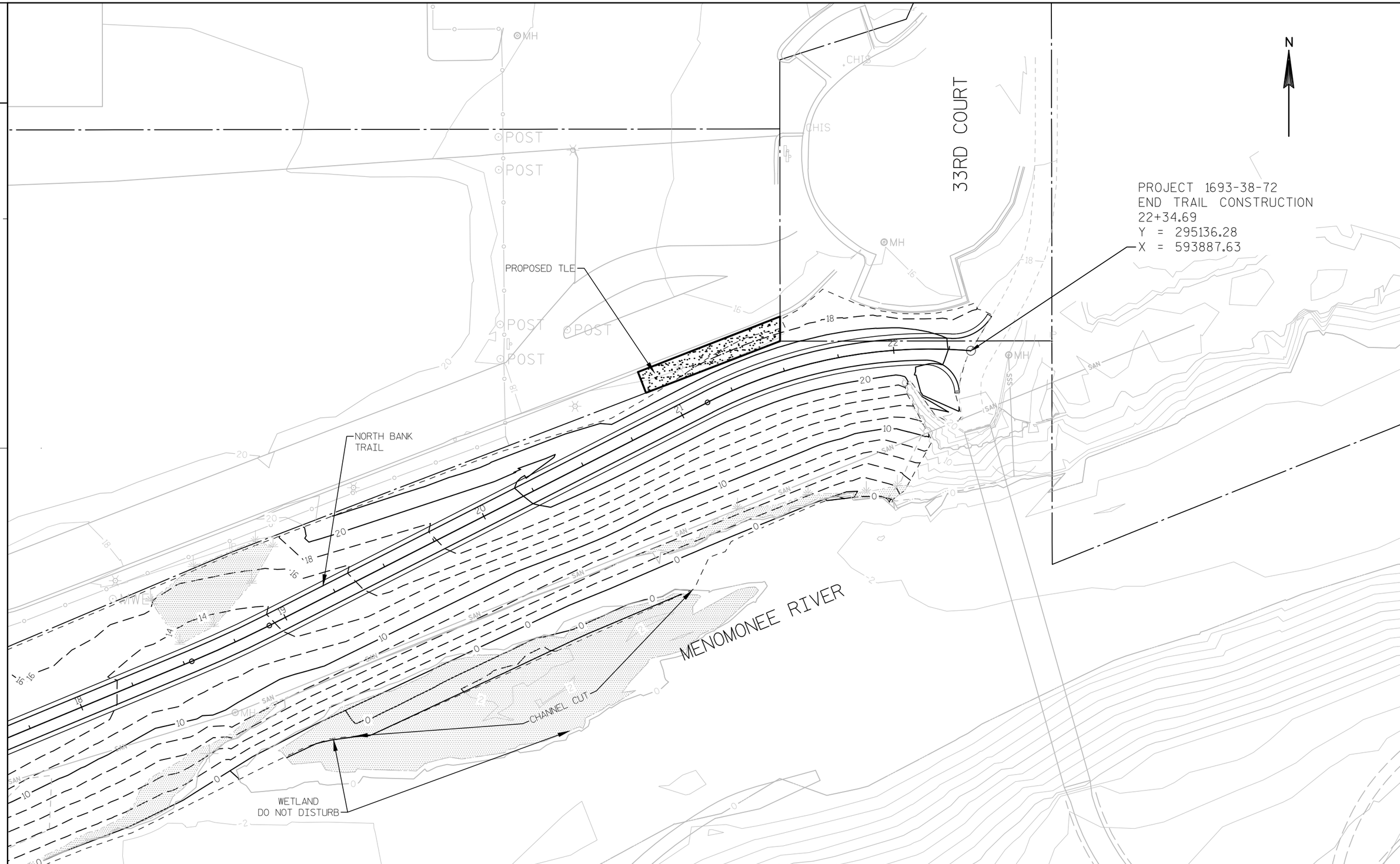
2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: FINAL GRADE	SHEET 027	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-12 FINAL GRADING PLAN\13596-FINAL_GRADE.DWG PLOT DATE : 7/10/2015 3:48 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

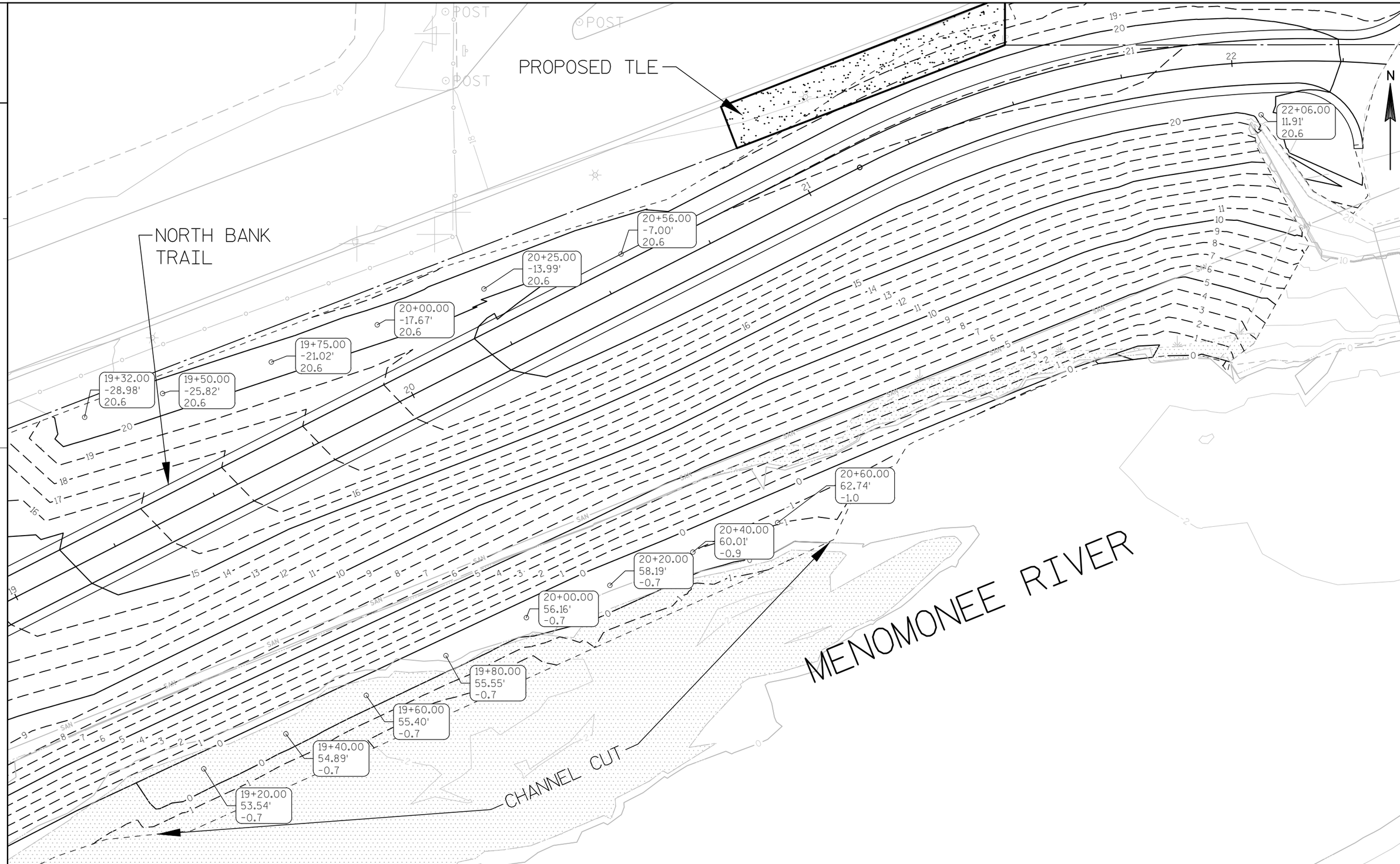


PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: FINAL GRADE	SHEET 028	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-12 FINAL GRADING PLAN\13596-FINAL_GRADE.DWG PLOT DATE : 7/10/2015 3:48 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2



2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: PLAN DETAIL - GRADING DETAIL, FINAL GRADES	SHEET 029	E

2

PALERMO'S PIZZA

N

33RD COURT

PROJECT 1693-38-72
END TRAIL CONSTRUCTION
22+34.69
Y = 295136.28
X = 593887.63

LEAD CONTAMINATED SOIL AREA: EXCAVATE TO A DEPTH OF APPROXIMATELY 10 FEET.
LEAD CONTAMINATED SOIL ESTIMATE IS APPROXIMATELY 1,200 CUBIC YARDS.

PROPOSED TLE

℄ NORTH BANK TRAIL ALIGNMENT

PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90

35TH STREET BRIDGE (OVERHEAD)

PROPERTY LINE

WETLAND DO NOT DISTURB

STEWARDSHIP PAVILION

℄ CONNECTOR TRAIL ALIGNMENT

MENOMONEE RIVER

PROJECT 1693-38-72
BEGIN TRAIL CONSTRUCTION
12+21.87
Y = 294724.21
X = 592983.32

SAN

SSS

LEAD CONTAMINATED SOIL AREA. THE TOP TWO FEET OF SOIL MATERIAL WITHIN THIS AREA IS CONSIDERED TO BE CLEAN MATERIAL. EXCAVATED MATERIAL THAT ORIGINATES FROM DEEPER THAN TWO FEET BELOW THE EXISTING GROUND SURFACE SHALL BE DISPOSED OF IN A LICENSED DNR LANDFILL AS THIS SOIL IS CONTAMINATED WITH LEAD, FOUNDRY SLAG/SAND, CONCRETE AND MASONRY DEBRIS, AND VOLATILE ORGANIC COMPOUNDS.

THE TOP TWO FEET OF SOIL MATERIAL WITHIN THIS AREA IS CONSIDERED TO BE CLEAN MATERIAL. EXCAVATED MATERIAL THAT ORIGINATES FROM DEEPER THAN TWO FEET BELOW THE EXISTING GROUND SURFACE SHALL BE DISPOSED OF IN A LICENSED DNR LANDFILL, AS THIS SOIL IS CONTAMINATED WITH FOUNDRY SLAG/SAND, CONCRETE AND MASONRY DEBRIS, AND VOLATILE ORGANIC COMPOUNDS.

EXCAVATED MATERIAL THAT ORIGINATES FROM WITHIN THIS AREA SHALL BE DISPOSED OF IN A LICENSED DNR LANDFILL, AS THIS SOIL IS CONTAMINATED WITH FOUNDRY SLAG/SAND, CONCRETE AND MASONRY DEBRIS, AND VOLATILE ORGANIC COMPOUNDS.

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: CONTAMINATED MATERIAL	SHEET 030	E

2

PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90

35TH STREET BRIDGE
(OVERHEAD)

STEWARDSHIP
PAVILION

NORTH BANK
TRAIL

WETLAND
DO NOT DISTURB

MATCH LINE STA. 17+50

N

TURBIDITY BARRIER

MENOMONEE RIVER

PROJECT 1693-38-72
BEGIN TRAIL CONSTRUCTION
12+21.87
Y = 294724.21
X = 592983.32

2

FES LIFTS. SEE DETAILS 1A, 2A, 5A THROUGH 18A, AND EC-1.

STONE TYPE 1 AT TOE OF FES LIFTS. SEE DETAILS 1A AND 2A.

BASE AGGREGATE DENSE 1-1/4 INCH. SEE DETAIL EC-6.

SURFACE FABRIC TREATMENT. SEE DETAILS 1A, 2A, 5A THROUGH 18A, AND EC-2

STONE TYPE 1 OVER WISDOT TYPE R GEOTEXTILE FABRIC. SEE DETAIL 4A AND EC-4.

SEED WITH PROPERLY ANCHORED MULCH. SEE DETAIL EC-7.

CLASS 1 URBAN TYPE B (BIODEGRADABLE) MATTING WITH WISDOT URBAN (BIODEGRADABLE) ANCHORING DEVICES. SEE DETAIL EC-3.

STONE TYPE 2 OVER WISDOT TYPE DF GEOTEXTILE FABRIC. SEE DETAIL 3A AND EC-5

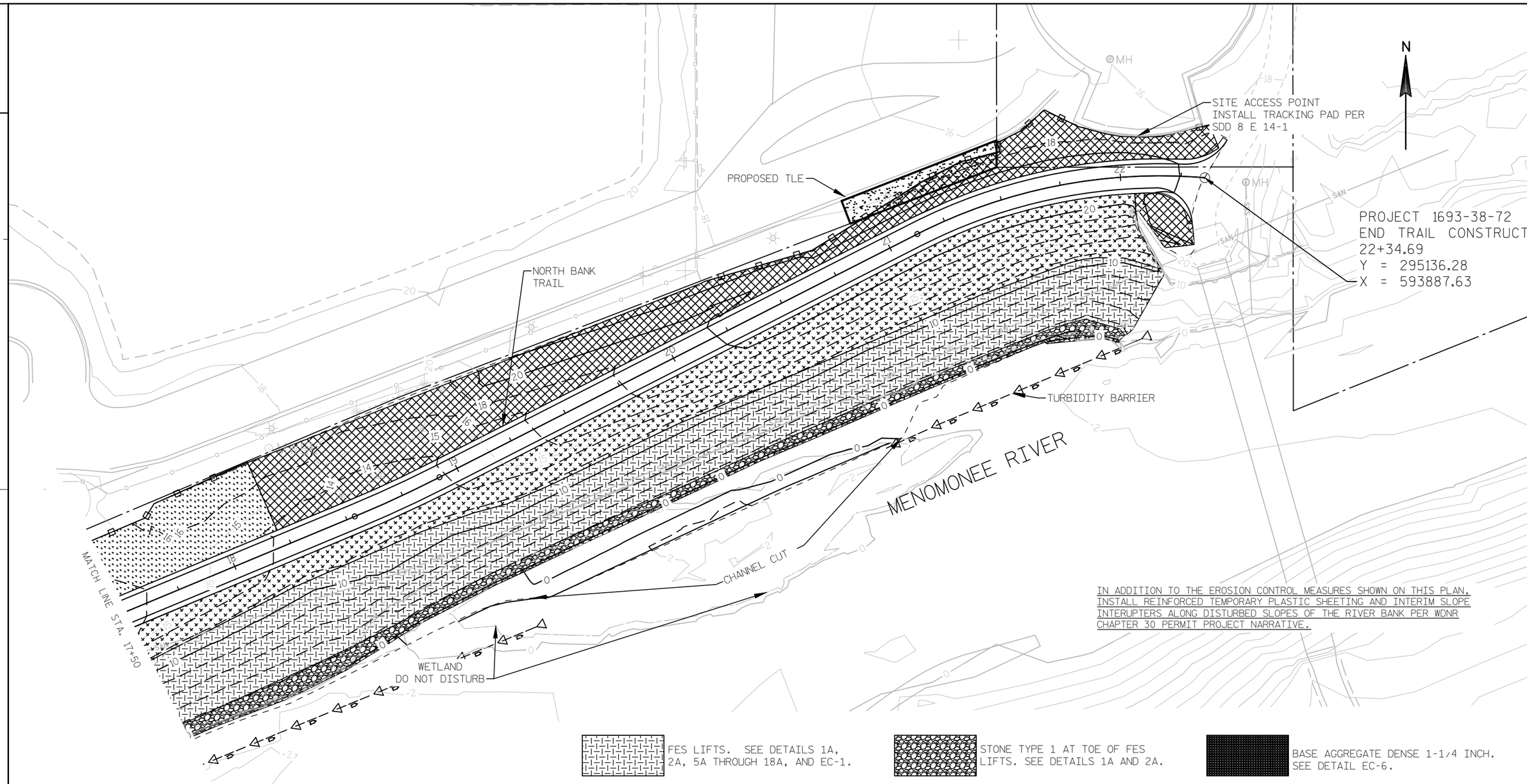
TURBIDITY BARRIER PER SDD 8 E 11-2

SILT FENCE PER SDD 8 E 9-6

IN ADDITION TO THE EROSION CONTROL MEASURES SHOWN ON THIS PLAN, INSTALL REINFORCED TEMPORARY PLASTIC SHEETING AND INTERIM SLOPE INTERUPTERS ALONG DISTURBED SLOPES OF THE RIVER BANK PER WDNR CHAPTER 30 PERMIT PROJECT NARRATIVE.

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: EROSION CONTROL	SHEET 031	E

2



IN ADDITION TO THE EROSION CONTROL MEASURES SHOWN ON THIS PLAN, INSTALL REINFORCED TEMPORARY PLASTIC SHEETING AND INTERIM SLOPE INTERUPTERS ALONG DISTURBED SLOPES OF THE RIVER BANK PER WDNR CHAPTER 30 PERMIT PROJECT NARRATIVE.

FES LIFTS. SEE DETAILS 1A, 2A, 5A THROUGH 18A, AND EC-1.

STONE TYPE 1 AT TOE OF FES LIFTS. SEE DETAILS 1A AND 2A.

BASE AGGREGATE DENSE 1-1/4 INCH. SEE DETAIL EC-6.

SURFACE FABRIC TREATMENT. SEE DETAILS 1A, 2A, 5A THROUGH 18A, AND EC-2

STONE TYPE 1 OVER WISDOT TYPE R GEOTEXTILE FABRIC. SEE DETAIL 4A AND EC-4.

SEED WITH PROPERLY ANCHORED MULCH. SEE DETAIL EC-7.

CLASS 1 URBAN TYPE B (BIODEGRADABLE) MATTING WITH WISDOT URBAN (BIODEGRADABLE) ANCHORING DEVICES. SEE DETAIL EC-3.

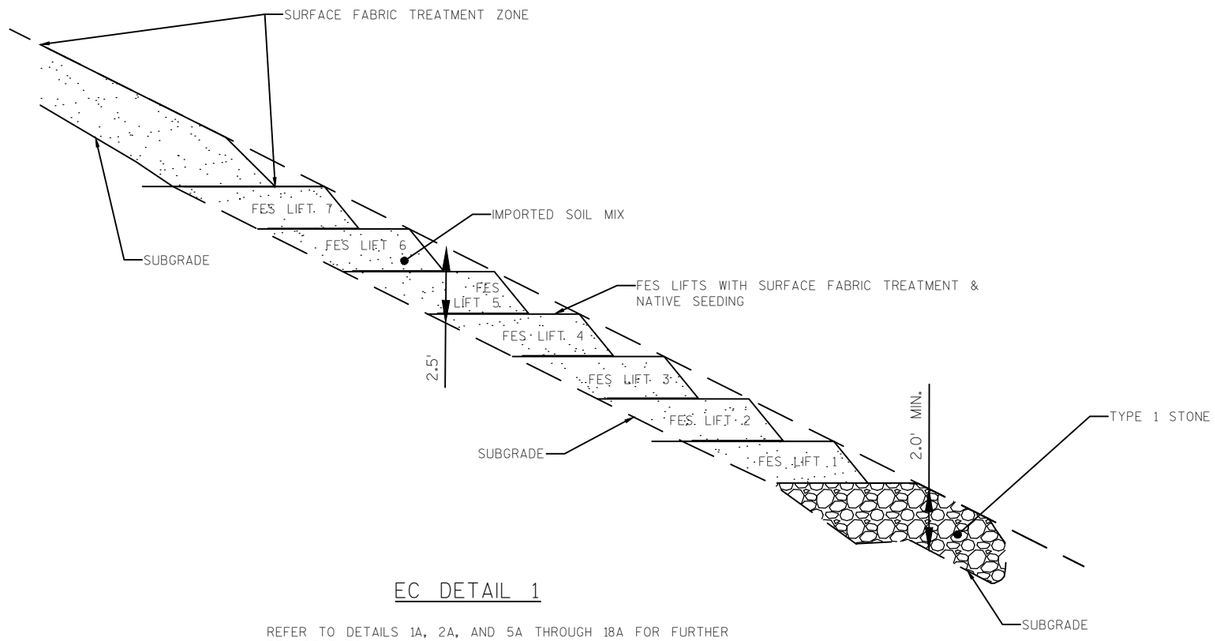
STONE TYPE 2 OVER WISDOT TYPE DF GEOTEXTILE FABRIC. SEE DETAIL 3A AND EC-5

TURBIDITY BARRIER PER SDD 8 E 11-2

SILT FENCE PER SDD 8 E 9-6

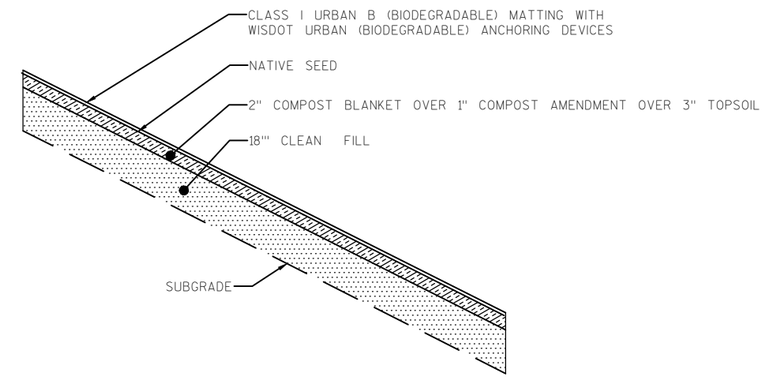
PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: EROSION CONTROL	SHEET 032	E

2

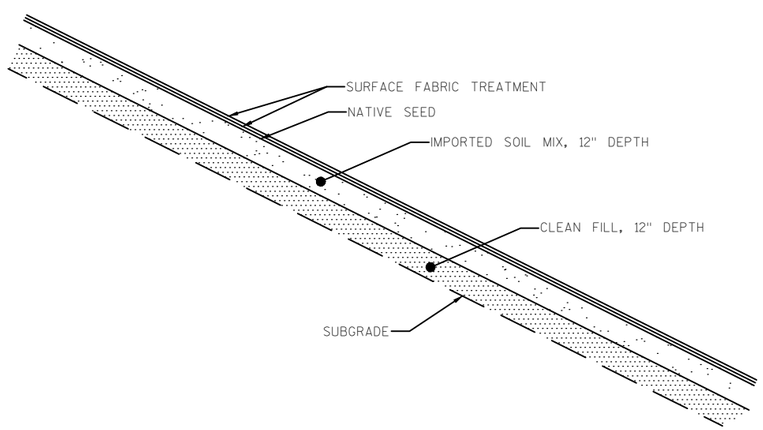


EC DETAIL 1

REFER TO DETAILS 1A, 2A, AND 5A THROUGH 18A FOR FURTHER REQUIREMENTS.

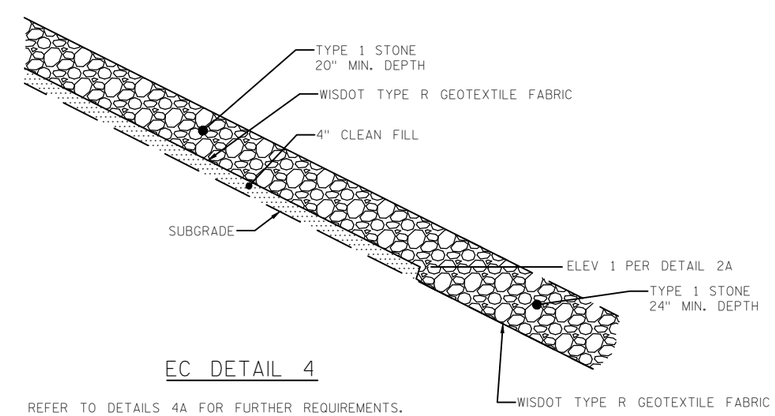


EC DETAIL 3



EC DETAIL 2

REFER TO DETAILS 1A, 2A, AND 5A THROUGH 18A FOR FURTHER REQUIREMENTS.

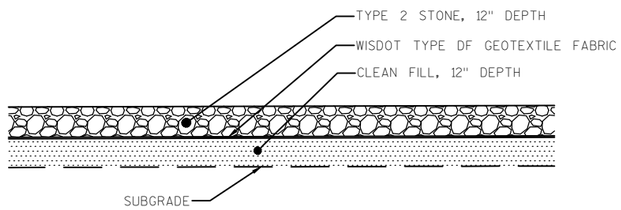


EC DETAIL 4

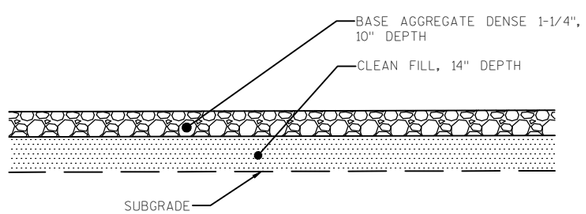
REFER TO DETAILS 4A FOR FURTHER REQUIREMENTS.

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	EROSION CONTROL DETAILS	SHEET 033	E

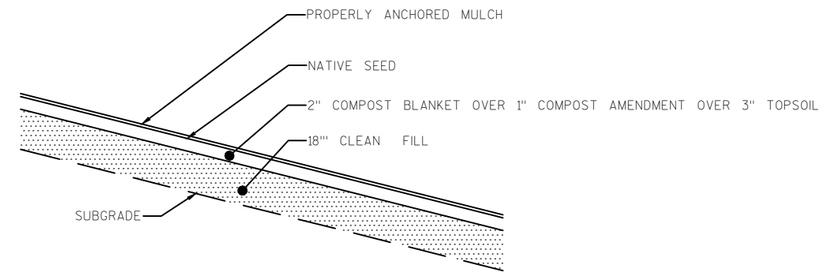
2



EC DETAIL 5



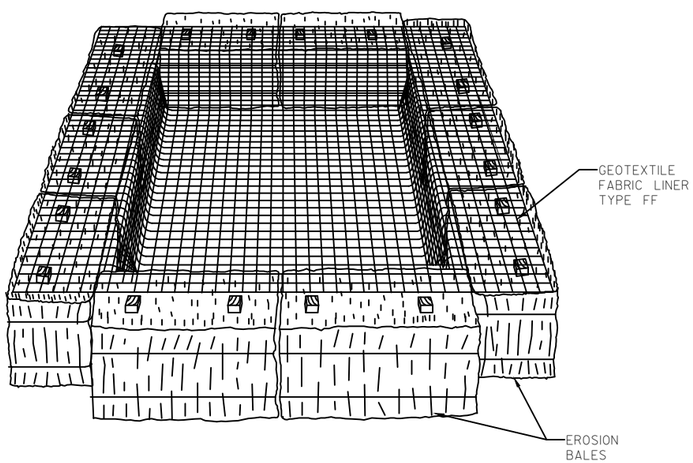
EC DETAIL 6



EC DETAIL 7

2

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	EROSION CONTROL DETAILS	SHEET 034	E



TEMPORARY SETTLING BASIN

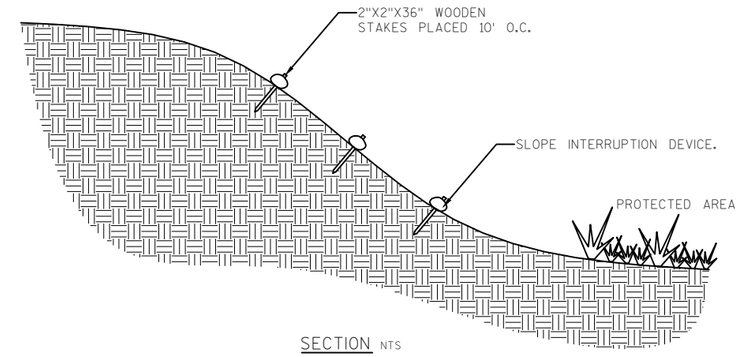
(SIZE TO BE DETERMINED IN FIELD AS INDICATED BELOW:)

STORAGE VOLUME (C.F.) = 16 X GPM (PUMP RATE)

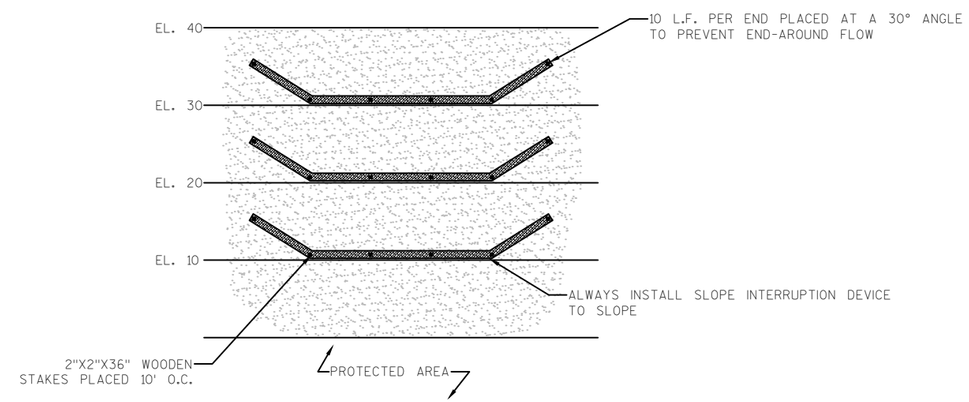
EXAMPLE:
CONTRACTOR INDICATES PUMP CAPABLE OF 50 GPM
HEIGHT OF BALES = 1.5 FT.

SOLUTION:
SV (C.F.) = 16 X 50
SV = 800 C.F.
$\frac{800 \text{ C.F.}}{1.5 \text{ FT.}}$ = 533 S.F.
USE A 20 FT. X 27 FT. BASIN

NOTES:
REMOVE SEDIMENT FROM THE UPSLOPE SIDE OF THE SOCK WHEN ACCUMULATION HAS REACHED 1/2 OF EFFECTIVE HEIGHT OF SOCK



SECTION NTS



PLAN NTS

SLOPE INTERRUPTION DEVICE

2

PROJECT 1693-38-72
END TRAIL CONSTRUCTION
22+34.69

PROPOSED TLE

33RD COURT

N

℄ NORTH BANK
TRAIL ALIGNMENT

LEAD IMPACTED SOIL AREA

LAND DISTURBANCE LIMIT

INSTALL
TEMPORARY METAL SHEETING FOR
DEWATERING OF CHANNEL DEWATERING ZONE
TOP OF SHEETING ELEVATION: 1.5'

LAND DISTURBACE LIMIT

WETLAND. DO
NOT DISTURB WETLAND
OUTSIDE OF LAND
DISTURBANCE LIMITS

INSTALL
TEMPORARY METAL SHEETING FOR
DEWATERING OF CHANNEL DEWATERING ZONE
TOP OF SHEETING ELEVATION:1.5'

MMSD MANHOLE FOR DISCHARGE
OF EXCAVATION WATER
ASSOCIATED WITH LEAD
IMPACTED SOIL AREA

MENOMONEE RIVER

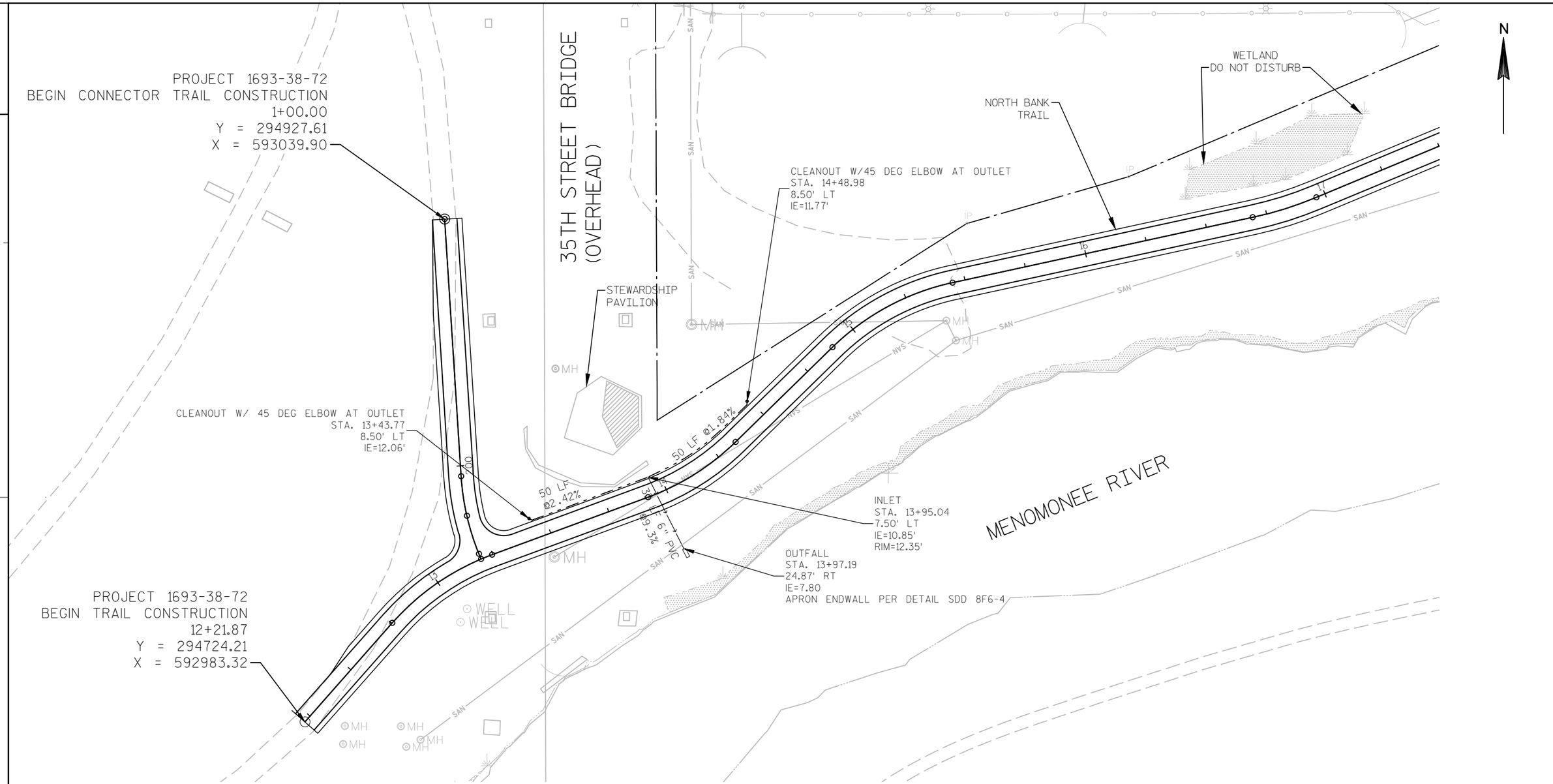
WATER PUMPED FROM THE CHANNEL DEWATERING ZONE SHALL BE RUN THROUGH A SEDIMENT FILTER BAG OR SETTLING BASIN PRIOR TO DISCHARGE TO RIVER.

CHANNEL DEWATERING ZONE

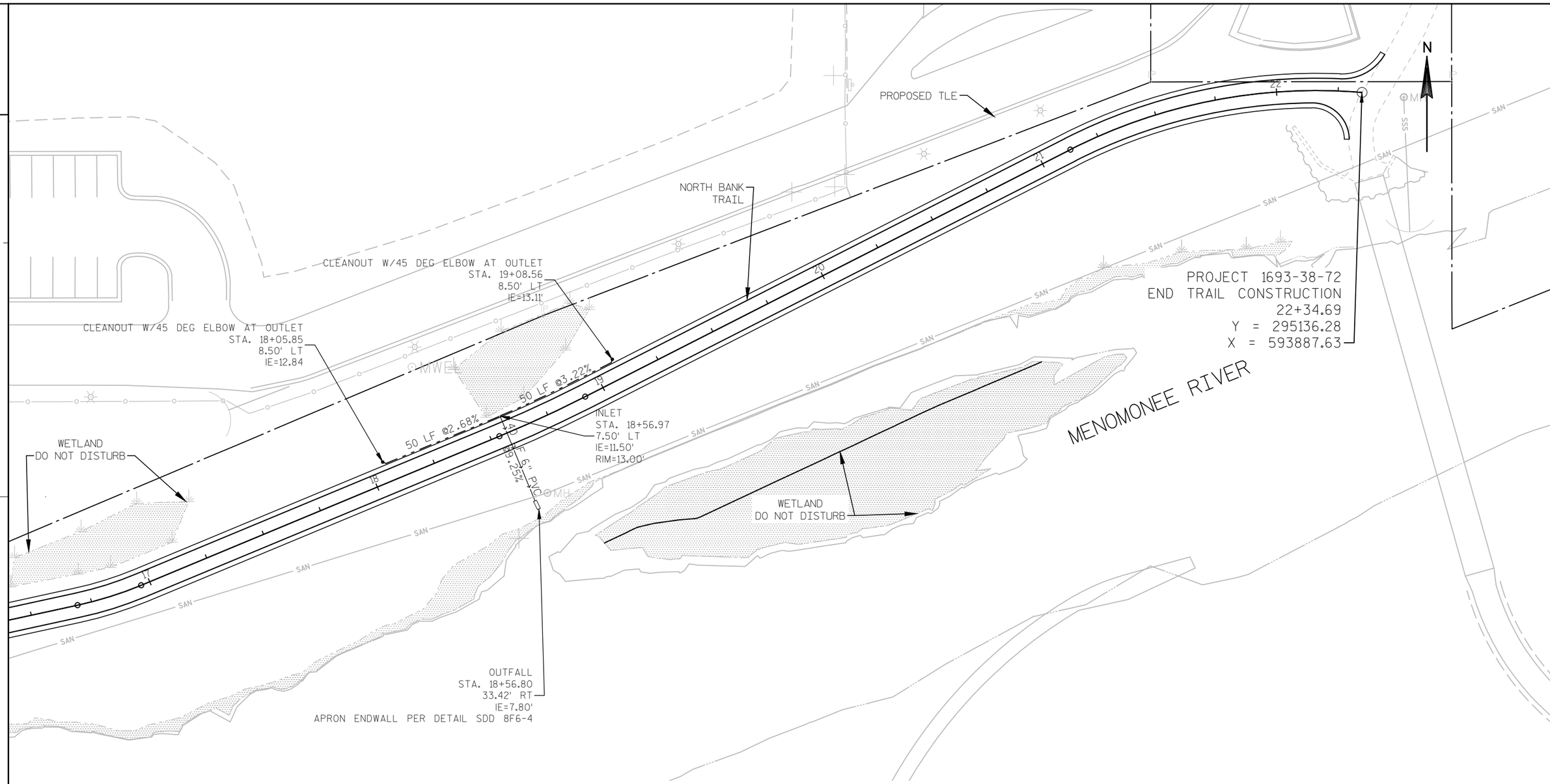
PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: DEWATERING DETAIL FOR CHANNEL AND LEAD AREA	SHEET 036	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-17 DEWATERING\DEWATERING PLAN.DWG PLOT DATE : 7/10/2015 3:50 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42


PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90
35TH STREET BRIDGE
(OVERHEAD)
STEWARDSHIP
PAVILION
CLEANOUT W/45 DEG ELBOW AT OUTLET
STA. 14+48.98
8.50' LT
IE=11.77'
NORTH BANK
TRAIL
WETLAND
DO NOT DISTURB
CLEANOUT W/ 45 DEG ELBOW AT OUTLET
STA. 13+43.77
8.50' LT
IE=12.06'
50 LF @1.84%
50 LF
@2.42%
6" PVC
@9.3%
INLET
STA. 13+95.04
7.50' LT
IE=10.85'
RIM=12.35'
OUTFALL
STA. 13+97.19
24.87' RT
IE=7.80
APRON ENDWALL PER DETAIL SDD 8F6-4
MENOMONEE RIVER
PROJECT 1693-38-72
BEGIN TRAIL CONSTRUCTION
12+21.87
Y = 294724.21
X = 592983.32
N
PIPE UNDERDRAIN 6-INCH
PIPE UNDERDRAIN
UNPERFORATED 6-INCH

2



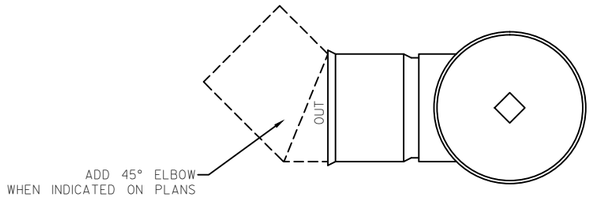
PIPE UNDERDRAIN 6-INCH

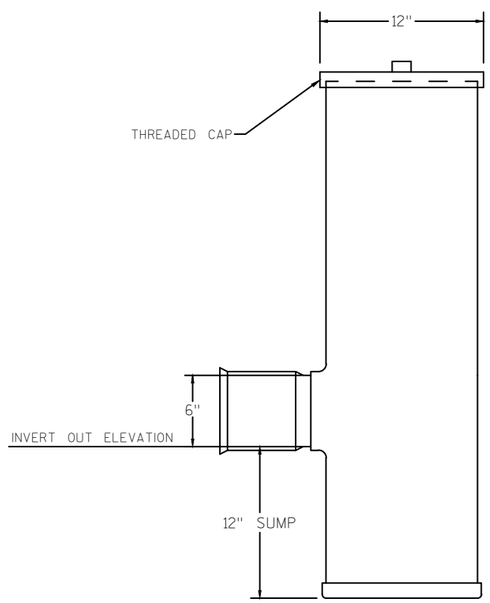
PIPE UNDERDRAIN UNPERFORATED 6-INCH

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: SUB DRAINAGE	SHEET 038	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-18 SUBDRAINAGE PLANS\13596-SUB_DRAINAGE.DWG PLOT DATE : 7/10/2015 3:51 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42



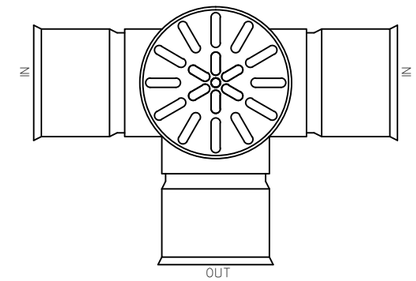


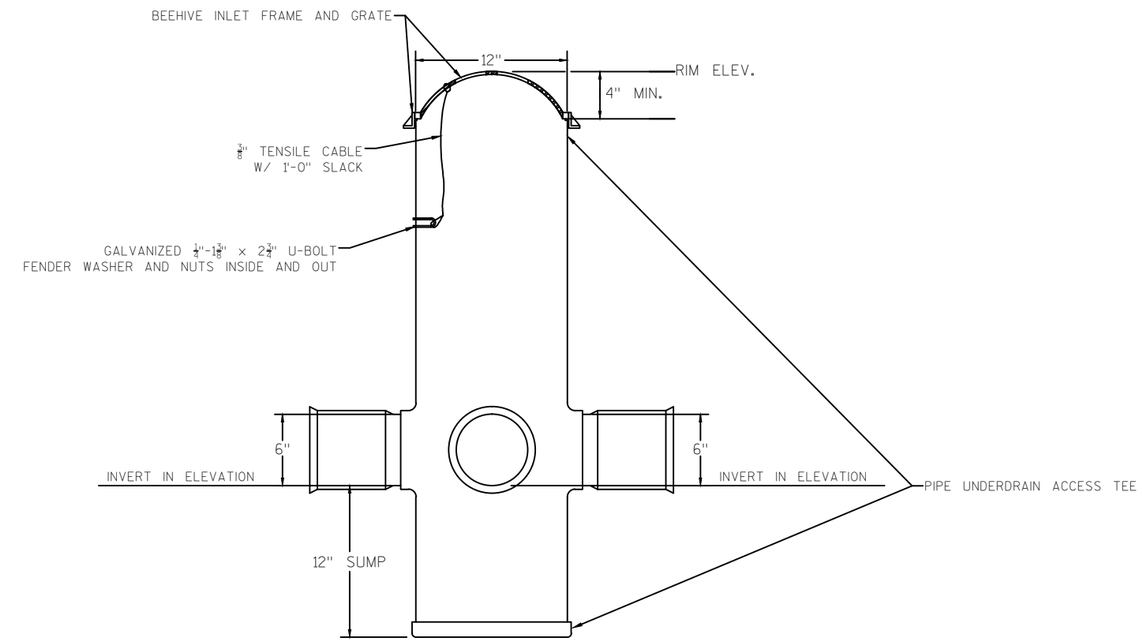
CLEANOUT, 12-INCH

STA. 13+43.77
STA. 14+48.98
STA. 18+05.85
STA. 19+08.56

GENERAL NOTES
CLEANOUT SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHLORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHLORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESTINATION: D 3034, TYPE PSM, SDR 23.5 PVC SEWER PIPE. ALL JOINTS SHALL BE SOLVENT WELDED.

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



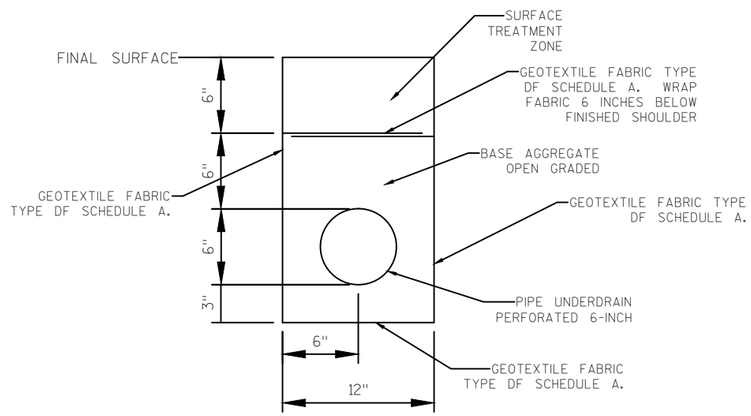


INLET, 12-INCH

STA. 13+94.90
STA. 18+56.99

GENERAL NOTES
PIPE UNDERDRAIN ACCESS TEE: SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHLORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHLORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESTINATION: D 3034, TYPE PSM, SDR 23.5 PVC SEWER PIPE. ALL JOINTS SHALL BE SOLVENT WELDED.

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



DETAIL FOR PIPE UNDERDRAIN PERFORATED 6-INCH

SURFACE TREATMENT ZONE:

13+43.77 - 14+29.59: TYPE 1 STONE
14+29.59 - 14+48.98: CRUSHED AGGREGATE 3/8 INCH
18+05.85 - 19+08.56: CRUSHED AGGREGATE 3/8 INCH

2

PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90

35TH STREET BRIDGE
(OVERHEAD)

MENOMONEE RIVER

PROJECT 1693-38-72
BEGIN TRAIL CONSTRUCTION
12+21.87
Y = 294724.21
X = 592983.32

HARDSCAPE FEATURE
PLACE AT LEAST TWO SLABS
BELOW ELEV 0.50'

PIONEER NATIVE SEED MIX
(TOTAL AREA: 1.06 ACRES)

WET PRAIRIE NATIVE SEED MIX (TOTAL AREA:
0.21 ACRES)

ISLAND MANAGEMENT AREA (TOTAL: 0.13 ACRES)

IMPROVED TURF TYPE TALL FESCUE SEED MIX
(TOTAL: 0.05 ACRES)
(1 FT. WIDE BETWEEN EDGE OF TRAIL AND
PIONEER NATIVE SEED MIX ALONG BOTH SIDES
OF TRAIL)

NOTES:

1. ISLAND MANAGEMENT TO CONSIST OF PRESERVING THE EXISTING WILLOW SPECIES AND REMOVAL OF OTHER INVASIVE SPECIES.

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: SEEDING & PLANTING PLAN (WEST)	SHEET 041	E

2

PIONEER NATIVE SEED MIX
(TOTAL AREA: 1.06 ACRES)

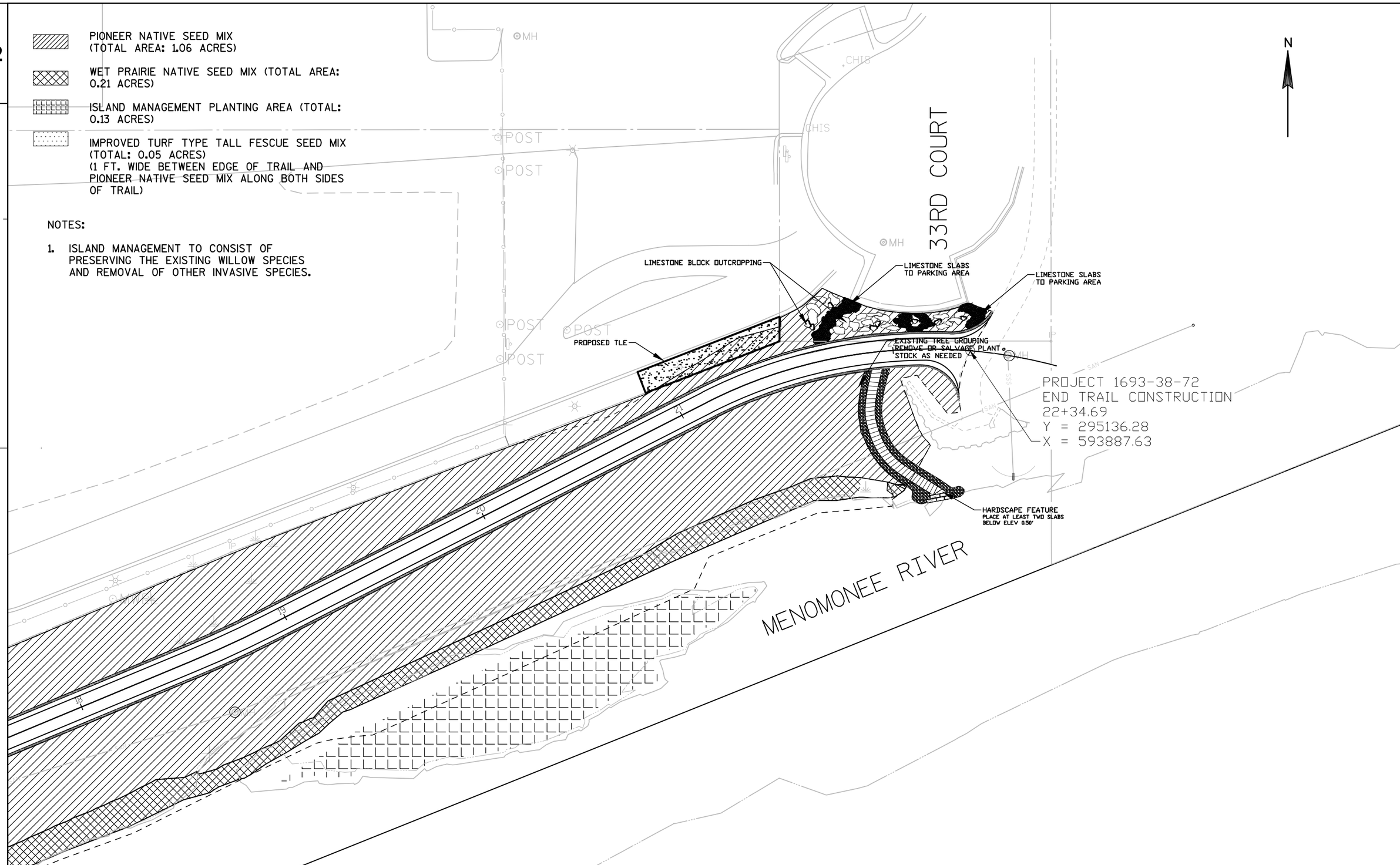
WET PRAIRIE NATIVE SEED MIX (TOTAL AREA: 0.21 ACRES)

ISLAND MANAGEMENT PLANTING AREA (TOTAL: 0.13 ACRES)

IMPROVED TURF TYPE TALL FESCUE SEED MIX
(TOTAL: 0.05 ACRES)
(1 FT. WIDE BETWEEN EDGE OF TRAIL AND PIONEER NATIVE SEED MIX ALONG BOTH SIDES OF TRAIL)

NOTES:

1. ISLAND MANAGEMENT TO CONSIST OF PRESERVING THE EXISTING WILLOW SPECIES AND REMOVAL OF OTHER INVASIVE SPECIES.

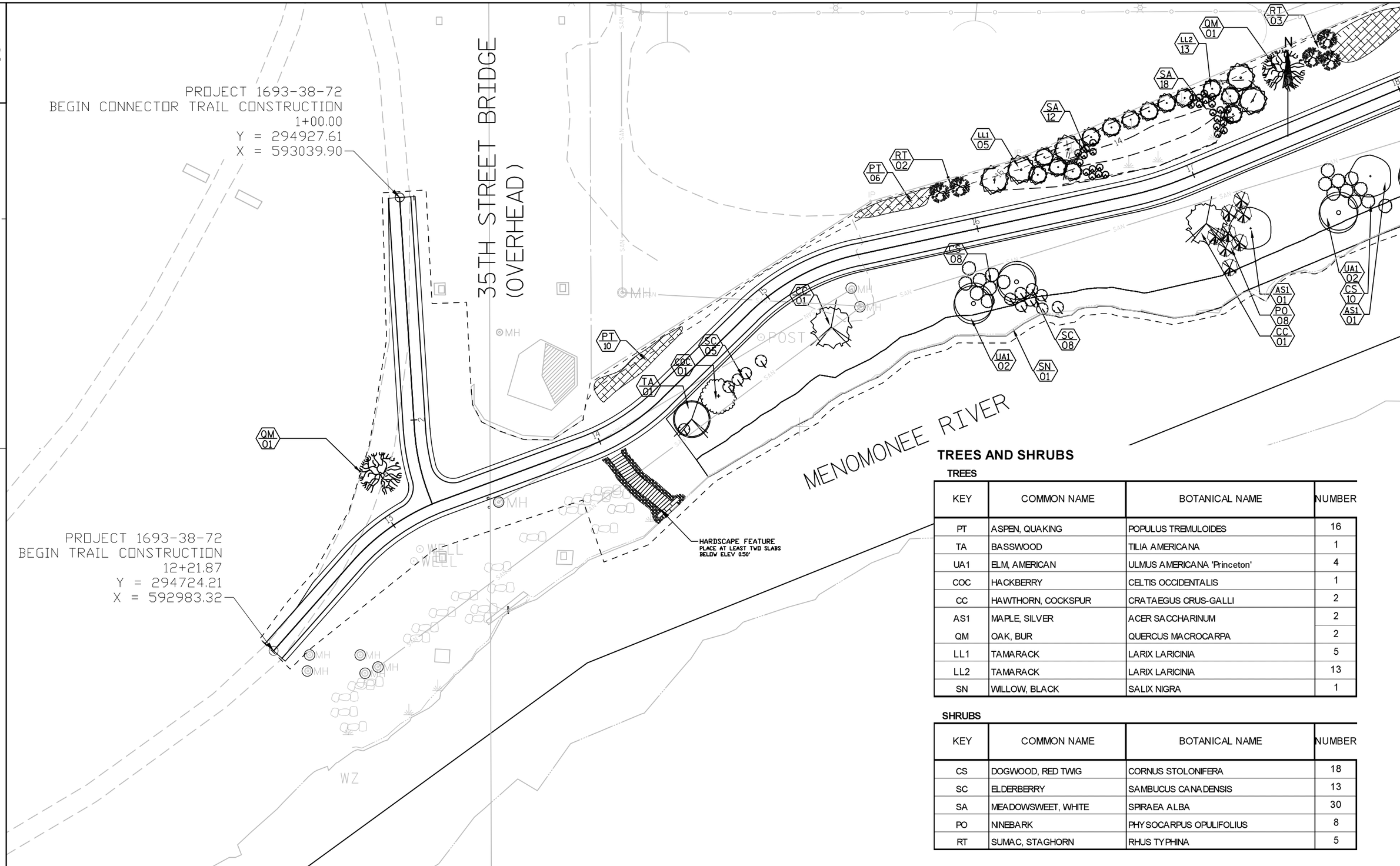


2

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: SEEDING PLAN (EAST)	SHEET 042	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-20 LANDSCAPING PLANS\LANDSCAPE PLAN.DWG PLOT DATE : 7/10/2015 3:52 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42



TREES AND SHRUBS

TREES

KEY	COMMON NAME	BOTANICAL NAME	NUMBER
PT	ASPEN, QUAKING	POPULUS TREMULOIDES	16
TA	BASSWOOD	TILIA AMERICANA	1
UA1	ELM, AMERICAN	ULMUS AMERICANA 'Princeton'	4
COC	HACKBERRY	CELTIS OCCIDENTALIS	1
CC	HAWTHORN, COCKSPUR	CRATAEGUS CRUS-GALLI	2
AS1	MAPLE, SILVER	ACER SACCHARINUM	2
QM	OAK, BUR	QUERCUS MACROCARPA	2
LL1	TAMARACK	LARIX LARICINIA	5
LL2	TAMARACK	LARIX LARICINIA	13
SN	WILLOW, BLACK	SALIX NIGRA	1

SHRUBS

KEY	COMMON NAME	BOTANICAL NAME	NUMBER
CS	DOGWOOD, RED TWIG	CORNUS STOLONIFERA	18
SC	ELDERBERRY	SAMBUCUS CANADENSIS	13
SA	MEADOWSWEET, WHITE	SPIRAEA ALBA	30
PO	NINEBARK	PHYSOCARPUS OPULIFOLIUS	8
RT	SUMAC, STAGHORN	RHUS TYPHINA	5

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: TREE PLANTING PLAN (WEST)	SHEET 043	E

2

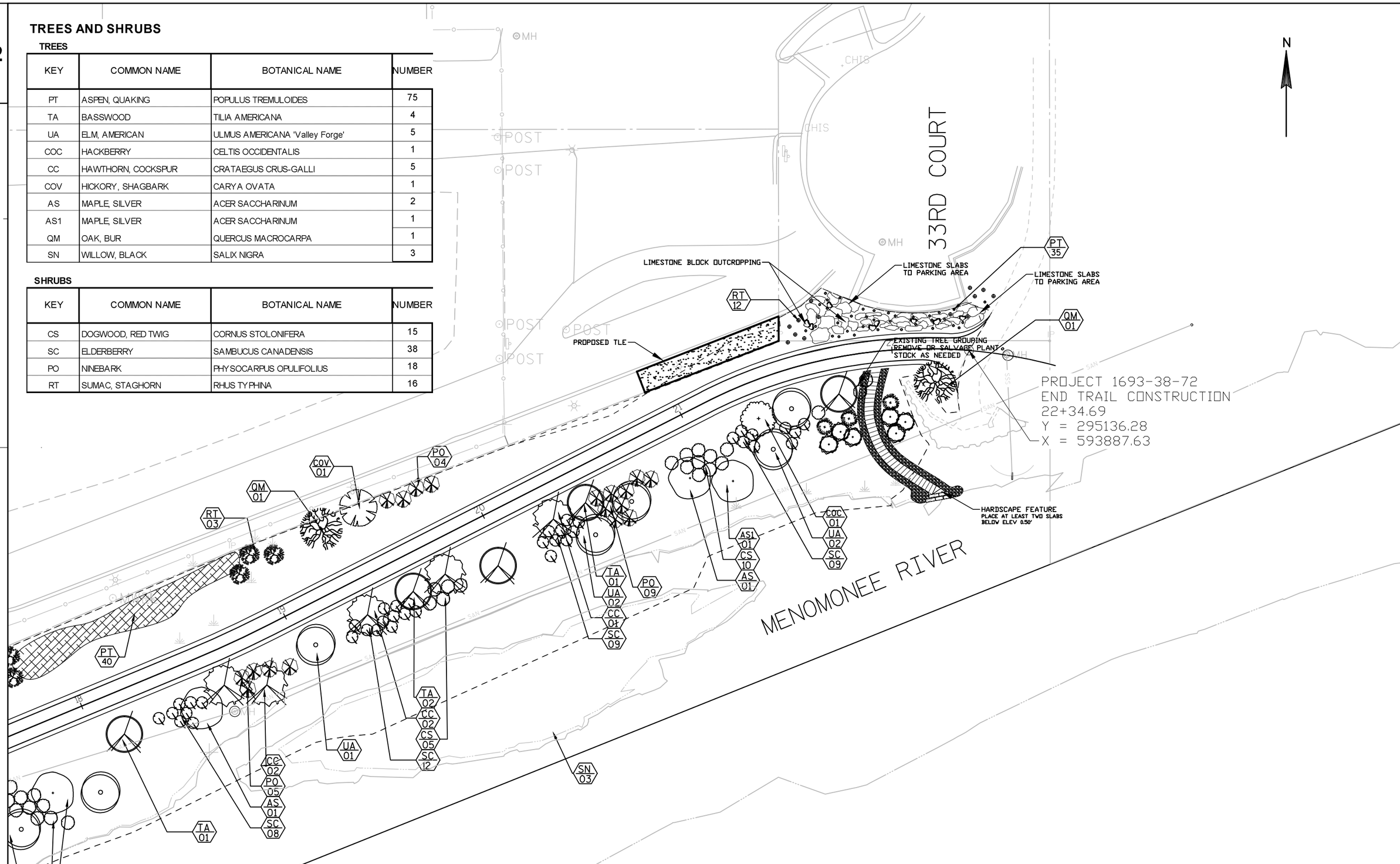
TREES AND SHRUBS

TREES

KEY	COMMON NAME	BOTANICAL NAME	NUMBER
PT	ASPEN, QUAKING	POPULUS TREMULOIDES	75
TA	BASSWOOD	TILIA AMERICANA	4
UA	ELM, AMERICAN	ULMUS AMERICANA 'Valley Forge'	5
COC	HACKBERRY	CELTIS OCCIDENTALIS	1
CC	HAWTHORN, COCKSPUR	CRATAEGUS CRUS-GALLI	5
COV	HICKORY, SHAGBARK	CARYA OVATA	1
AS	MAPLE, SILVER	ACER SACCHARINUM	2
AS1	MAPLE, SILVER	ACER SACCHARINUM	1
QM	OAK, BUR	QUERCUS MACROCARPA	1
SN	WILLOW, BLACK	SALIX NIGRA	3

SHRUBS

KEY	COMMON NAME	BOTANICAL NAME	NUMBER
CS	DOGWOOD, RED TWIG	CORNUS STOLONIFERA	15
SC	ELDERBERRY	SAMBUCUS CANADENSIS	38
PO	NINEBARK	PHYSOCARPUS OPULIFOLIUS	18
RT	SUMAC, STAGHORN	RHUS TYPHINA	16



2

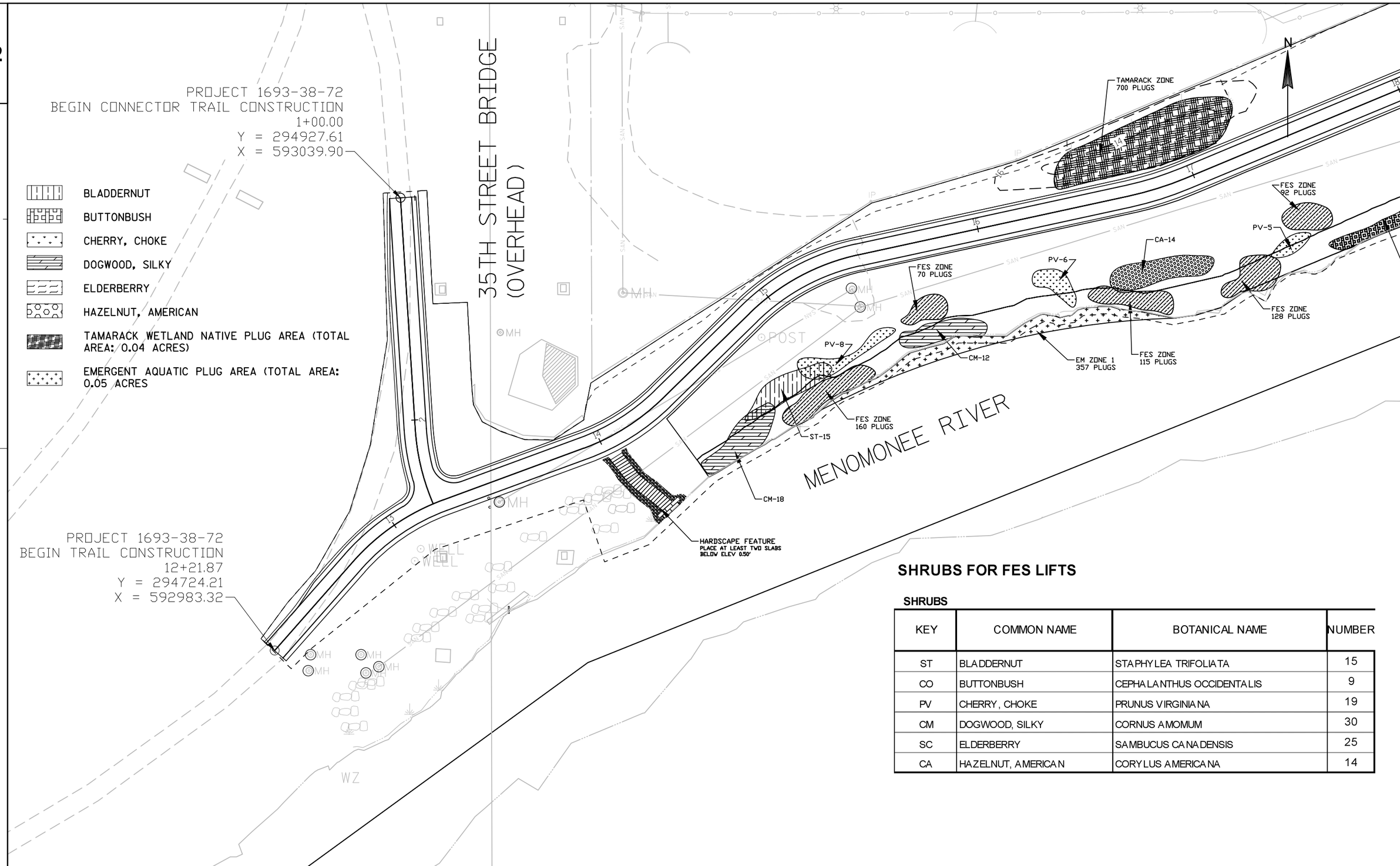
PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: TREE PLANTING PLAN (EAST)	SHEET 044	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-20 LANDSCAPING PLANS\LANDSCAPE PLAN.DWG PLOT DATE : 7/10/2015 3:52 PM PLOT BY : ADAM HAMMEN PLOT NAME : ---------- PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

PROJECT 1693-38-72
BEGIN CONNECTOR TRAIL CONSTRUCTION
1+00.00
Y = 294927.61
X = 593039.90

BLADDERNUT
BUTTONBUSH
CHERRY, CHOKE
DOGWOOD, SILKY
ELDERBERRY
HAZELNUT, AMERICAN
TAMARACK WETLAND NATIVE PLUG AREA (TOTAL AREA: 0.04 ACRES)
EMERGENT AQUATIC PLUG AREA (TOTAL AREA: 0.05 ACRES)



PROJECT 1693-38-72
BEGIN TRAIL CONSTRUCTION
12+21.87
Y = 294724.21
X = 592983.32

SHRUBS FOR FES LIFTS

SHRUBS

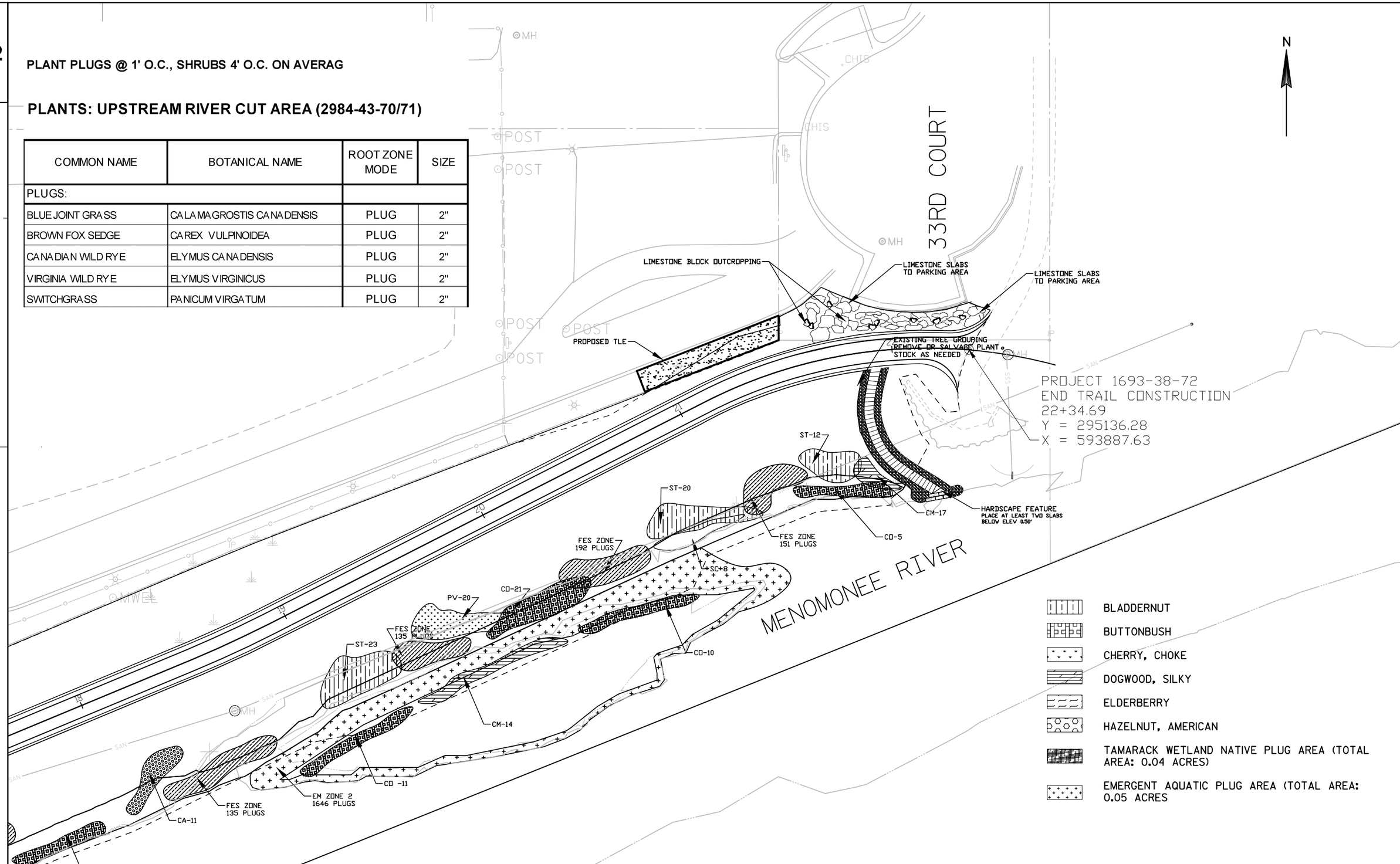
KEY	COMMON NAME	BOTANICAL NAME	NUMBER
ST	BLADDERNUT	STAPHYLEA TRIFOLIATA	15
CO	BUTTONBUSH	CEPHALANTHUS OCCIDENTALIS	9
PV	CHERRY, CHOKE	PRUNUS VIRGINIANA	19
CM	DOGWOOD, SILKY	CORNUS AMOMUM	30
SC	ELDERBERRY	SAMBUCUS CANADENSIS	25
CA	HAZELNUT, AMERICAN	CORYLUS AMERICANA	14

2

PLANT PLUGS @ 1' O.C., SHRUBS 4' O.C. ON AVERAG

PLANTS: UPSTREAM RIVER CUT AREA (2984-43-70/71)

COMMON NAME	BOTANICAL NAME	ROOT ZONE MODE	SIZE
PLUGS:			
BLUE JOINT GRASS	CALAMAGROSTIS CANADENSIS	PLUG	2"
BROWN FOX SEDGE	CAREX VULPINOIDEA	PLUG	2"
CANADIAN WILD RYE	ELYMUS CANADENSIS	PLUG	2"
VIRGINIA WILD RYE	ELYMUS VIRGINICUS	PLUG	2"
SWITCHGRASS	PANICUM VIRGATUM	PLUG	2"



PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: FES LIFT PLANTING PLAN (EAST)	SHEET 046	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-20 LANDSCAPING PLANS\LANDSCAPE PLAN.DWG PLOT DATE : 7/10/2015 3:52 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2

TREES AND SHRUBS (INCLUDING RIVER CUT AREAS)

ITEM 000.0000 TREES

SYMBOL	COMMON NAME	BOTANICAL NAME	TYPE	MATURE HEIGHT	SIZE WHEN PLANTED	ROOT ZONE MODE	MINIMUM SIZE: BALL/POT DIAMETER	MINIMUM SIZE: BALL /POT DEPTH	MINIMUM SIZE: ROOT SPREAD	MINIMUM SIZE: PLANT HOLE DIAMETER	MINIMUM SIZE: PLANT HOLE DEPTH	BRACE OR GUY	FERT. UNITS REQ'D.	RODENT PROTECTION REQ'D.	MULCH RING DIAMETER	PLANTING DETAIL
LARGE DECIDUOUS TREES																
PT	ASPEN, QUAKING	POPULUS TREMULOIDES	1	50'	2' HT.	#1 CG	-	-	-	-	-	NO	0	NO	NONE	TREE
TA	BASSWOOD	TILIA AMERICANA	1	50'	1.5" CAL.	B&B OR GROW BAG	20"	12"	-	60"	12"	NO	0	NO	60"	TREE
UA	ELM, AMERICAN	ULMUS AMERICANA 'Valley Forge'	1	60'	1.5" CAL.	B&B OR GROW BAG	20"	12"	-	60"	12"	NO	0	NO	60"	TREE
UA1	ELM, AMERICAN	ULMUS AMERICANA 'Princeton'	1	60'	1.5" CAL.	#1 CG	20"	12"	-	60"	12"	NO	0	NO	60"	TREE
COC	HACKBERRY	CELTIS OCCIDENTALIS	1	60'	1.5" CAL.	B&B OR GROW BAG	20"	12"	-	60"	12"	NO	0	NO	60"	TREE
COV	HICKORY, SHAGBARK	CARYA OVATA	1	80'	1.5" CAL.	B&B OR GROW BAG	20"	12"	-	60"	12"	NO	0	NO	60"	TREE
AS	MAPLE, SILVER	ACER SACCHARINUM	1	80'	1.5" CAL.	B&B OR GROW BAG	20"	12"	-	60"	12"	NO	0	NO	60"	TREE
AS1	MAPLE, SILVER	ACER SACCHARINUM	1	80'	1.5" CAL.	B&B OR GROW BAG	20"	12"	-	60"	12"	NO	0	NO	60"	TREE
QM	OAK, BUR	QUERCUS MACROCARPA	1	80'	1.5" CAL.	B&B OR GROW BAG	20"	12"	-	60"	12"	NO	0	NO	60"	TREE
SN	WILLOW, BLACK	SALIX NIGRA	1	50'	1.5" CAL.	#1 CG	20"	12"	-	60"	12"	NO	0	NO	60"	TREE
SMALL DECIDUOUS TREES																
CC	HAWTHORN, COCKSPUR	CRATAEGUS CRUS-GALLI	4	30'	5' HT.	B&B	16"	11"	-	48"	11"	NO	0	NO	48"	TREE
LARGE EVERGREEN TREES																
LL1	TAMARACK	LARIX LARICINIA	4	40'	20' HT.	B&B OR GROW BAG	-	-	-	-	-	NO	0	NO	NONE	TREE
SMALL EVERGREEN TREES																
LL2	TAMARACK	LARIX LARICINIA	4	40'	8' HT.	B&B OR GROW BAG	-	-	-	-	-	NO	0	NO	NONE	TREE

ITEM 000.0000 SHRUBS

SYMBOL	COMMON NAME	BOTANICAL NAME	TYPE	MATURE HEIGHT	SIZE WHEN PLANTED	ROOT ZONE MODE	MINIMUM SIZE: BALL/POT DIAMETER	MINIMUM SIZE: BALL /POT DEPTH	MINIMUM SIZE: ROOT SPREAD	MINIMUM SIZE: PLANT HOLE DIAMETER	MINIMUM SIZE: PLANT HOLE DEPTH	BRACE OR GUY	FERT. UNITS REQ'D.	RODENT PROTECTION REQ'D.	MULCH RING DIAMETER	PLANTING DETAIL
LARGE DECIDUOUS SHRUBS - DOES NOT INCLUDE FES RIVER CUT AREAS																
CS	DOGWOOD, RED TWIG	CORNUS SERICEA	3	7'	24" HT.	#3 CG	-	-	-	-	-	NO	0	NO	BED	SHRUB
SC	ELDERBERRY	SAMBUCUS CANADENSIS	3	8'	24" HT.	#3 CG	-	-	-	-	-	NO	0	NO	BED	SHRUB
SA	MEADOWSWEET, WHITE	SPIRAEA ALBA	3	4'	15" HT.	#1 CG	-	-	-	-	-	NO	0	NO	BED	SHRUB
PO	NINEBARK	PHYSOCARPUS OPULIFOLIUS	3	9'	24" HT.	#3 CG	-	-	-	-	-	NO	0	NO	BED	SHRUB
RT	SUMAC, STAGHORN	RHUS TYPHINA	3	13'	30" HT.	#3 CG	-	-	-	-	-	NO	0	NO	BED	SHRUB
LARGE DECIDUOUS SHRUBS - FES RIVER CUT AREAS ONLY																
ST	BLADDERNUT	STAPHYLEA TRIFOLIATA	3	10'	12" HT.	#1CG	-	-	-	-	-	NO	0	NO	NONE	SHRUB
CO	BUTTONBUSH	CEPHALANTHUS OCCIDENTALIS	3	7'	12" HT.	#1 CG	-	-	-	-	-	NO	0	NO	NONE	SHRUB
PV	CHERRY, CHOKE	PRUNUS VIRGINIANA	3	10'	12" HT.	#1 CG	-	-	-	-	-	NO	0	NO	NONE	SHRUB
CM	DOGWOOD, SILKY	CORNUS AMOMUM	3	8'	12" HT.	#1 CG	-	-	-	-	-	NO	0	NO	NONE	SHRUB
CA	HAZELNUT, AMERICAN	CORYLUS AMERICANA	3	8'	12" HT.	#1 CG	-	-	-	-	-	NO	0	NO	NONE	SHRUB
PO	NINEBARK	PHYSOCARPUS OPULIFOLIUS	3	9'	15" HT.	#1 CG	-	-	-	-	-	NO	0	NO	NONE	SHRUB

B&B BALLED & BURLAPPED

CG CONTAINER GROWN

2

Pioneer Native Seed Mix			
Species	**Common Name**	**Oz./Acre**	**Lbs/acre**
Graminoid Matrix:			
Andropogon gerardii	Big bluestem grass	48.00	**3.00**
Andropogon scoparius	Little bluestem grass	64.00	**4.00**
Bouteloua curtipendula	Side-oats grama	80.00	**5.00**
Elymus canadensis	Canada wild rye	192.00	**12.00**
Panicum virgatum	Switchgrass	32.00	**2.00**
Sorghastrum nutans	Indian grass	64.00	**4.00**
subtotal		**480.00**	**30.00**
Forbs:		**Oz./Acre**	**Lbs/acre**
Aster laevis	Smooth blue aster	1.00	
Aster novae-angliae	New England aster	1.00	
Cassia fasciculata	Partridge pea	6.00	
Coreopsis palmata	Prairie tickseed	2.00	
Desmodium canadense	Showy tick trefoil	3.00	
Echinacea purpurea	Broad-leaved purple coneflower	4.00	
Euphorbia corollata	Flowering spurge	0.75	
Helianthus grossesserrates	Sawtooth sunflower	0.25	
Helianthus rigidus	Prairie sunflower	0.25	
Heliopsis helianthoides	False sunflower	2.00	
Lespedeza capitata	Round-headed bush clover	1.50	
Monarda fistulosa	Wild bergamot	1.00	
Penstemon digitalis	Foxglove beard tongue	0.50	
Petalostemum purpureum	Purple prairie clover	5.00	
Ratibida pinnata	Yellow coneflower	3.50	
Rudbeckia hirta	Black-eyed Susan	5.00	
Silphium integrifolium var. *deamii*	Deam's rosin weed	3.00	
Silphium laciniatum	Compass plant	2.00	
Silphium terebinthinaceum	Prairie dock	0.50	
Solidago rigida	Rigid goldenrod	2.00	
Tradescantia ohiensis	Spiderwort	2.00	
Verbena stricta	Hoary vervain	2.75	
Zizia aurea	Golden alexanders	1.00	
subtotal		**50.00**	**3.125**
	Total	**530.00**	**33.125**
Cover Crop:		**% Mix**	**Lbs/acre**
	Oats	25%	10
	Flax	12%	4.8
	Buckwheat	3%	1.2
	Annual Rye	60%	24
	Total		**40**

Wet Prairie Native Seed Mix			
Species	**Common Name**	**Oz./Acre**	**Lbs/acre**
Graminoid Matrix:			
Andropogon gerardii	Big Bluestem	48.00	3.00
Calamagrostis canadensis	Blue Joint Grass	2.00	0.13
Carex bebbii	Bebb's Sedge	5.00	0.31
Carex vulpinoidea	Brown Fox Sedge	3.00	0.19
Elymus canadensis	Canada Wild Rye	192.00	12.00
Elymus virginicus	Virginia Wild Rye	72.00	4.50
Glyceria striata	Fowl Manna Grass	1.25	0.08
Juncus torreyi	Torrey's Rush	0.25	0.02
Leersia oryzoides	Rice Cut Grass	4.00	0.25
Panicum virgatum	Switch Grass	32.00	2.00
Scirpus atrovirens	Dark Green Rush	2.00	0.13
Scirpus cyperinus	Wool Grass	0.50	0.03
Scirpus fluviatilis	River Bulrush	4.00	0.25
Scirpus validus	Great Bulrush	4.00	0.25
subtotal		**322.00**	**23.13**
Forbs:		**Oz./Acre**	**Lbs/acre**
Alisma subcordatum	Water Plantain	4.25	
Asclepias incarnata	Swamp Milkweed	4.00	
Aster novae-angliae	New England Aster	0.50	
Aster puniceus	Swamp Aster	3.00	
Cassia hebecarpa	Wild Senna	2.00	
Epilobium coloratum	Cinnamon Willow-Herb	0.25	
Helenium autumnale	Sneezeweed	2.00	
Liatris pycnostachya	Prairie Blazing Star	3.00	
Lycopus americanus	Common Water Horehound	0.50	
Mimulus ringens	Monkey Flower	0.25	
Physostegia virginiana	False Dragonhead	4.00	
Polygonum pensylvanicum	Pinkweed	4.00	
Rudbeckia laciniata	Wild Golden Glow	6.00	
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	6.00	
Solidago graminifolia	Grass-leaved Goldenrod	0.25	
Thalictrum dasycarpum	Purple Meadow Rue	2.00	
Verbena hastata	Blue Vervain	1.00	
Vernonia fasciculata	Ironweed	2.00	
Zizia aurea	Golden Alexanders	3.00	
subtotal		**48.00**	**3.00**
	Total	**370.00**	**26.13**
Cover Crop:		**% Mix**	**Lbs/acre**
	Oats	25%	10
	Flax	12%	4.8
	Buckwheat	3%	1.2
	Annual Rye	60%	24
	Total		**40**

2

2

PLANTS: Tamarack Wetland

PLANT PLUGS @ 18" O.C.

COMMON NAME	BOTANICAL NAME	ROOT ZONE MODE	SIZE	QUANTITY	SPECIES CHARACTERISTICS Height	Bloom Time	Flower Color
PLUGS:							
OWL-FRUIT SEDGE	CAREX STIPATA	PLUG	2"	50	1-2'	N.A.	
BROWN FOX SEDGE	CAREX VULPINOIDEA	PLUG	2"	50	1-2'	N.A.	
CINNAMON WILLOW-HERB	EPILOBIUM COLORATUM	PLUG	2"	50	3-5'	June-Aug.	Pink
BLUE FLAG IRIS	IRIS VIRGINICA SHREVEI	PLUG	2"	50	3'	May-Jul.	Blue
DUDLEY'S RUSH	JUNCUS DUDLEYI	PLUG	2"	50	1'	N.A.	
SOFT RUSH	JUNCUS EFFUSUS	PLUG	2"	50	2-3'	N.A.	
TORREY'S RUSH	JUNCUS TORREYI	PLUG	2"	50	1-2'	N.A.	
AMERICAN WATER-HOREHOUND	LYCOPUS AMERICANUS	PLUG	2"	50	1-3'	June-Aug.	White
MONKEY FLOWER	MIMULUS RINGENS	PLUG	2"	50	2'	June-Sep.	Purple
OBEDIENT PLANT	PHYSOSTEGIA VIRGINIANA	PLUG	2"	50	5'	June-Jul.	Pink
THREE-SQUARE BULRUSH	SCIRPUS AMERICANUS	PLUG	2"	50	1-2'	N.A.	
DARK GREEN BULRUSH	SCIRPUS ATROVIRENS	PLUG	2"	50	3-4'	N.A.	
WOOL-GRASS	SCIRPUS CYPERINUS	PLUG	2"	50	3-4'	N.A.	
RUFOUS BULRUSH	SCIRPUS PENDULUS	PLUG	2"	50	2-3'	N.A.	
		PLUG TOTAL:		700			

EMERGENT AQUATIC PLUGS FOR PLANTING ZONES 1 & 2

EMERGENT AQUATIC PLUGS @ 18" O.C.

2

COMMON NAME	BOTANICAL NAME	ROOT ZONE MODE	SIZE	EM ZONE 1	EM ZONE 2
WATER PLANTAIN	ALISMA SUBCORDATUM	PLUG	2"	51	235
BLUE FLAG IRIS	IRIS VIRGINICA SHREVEI	PLUG	2"	51	235
ARROWHEAD	SAGITTARIA LATIFOLIA	PLUG	2"	51	235
DARK GREEN BULRUSH	SCIRPUS ATROVIRENS	PLUG	2"	51	235
RIVER BULRUSH	SCIRPUS FLUVIATILIS	PLUG	2"	51	235
SOFTSTEM BULRUSH	SCRIPUS VALIDUS CREBER	PLUG	2"	51	235
COMMON BURREED	SPARGANIUM EURYCARPUM	PLUG	2"	51	235

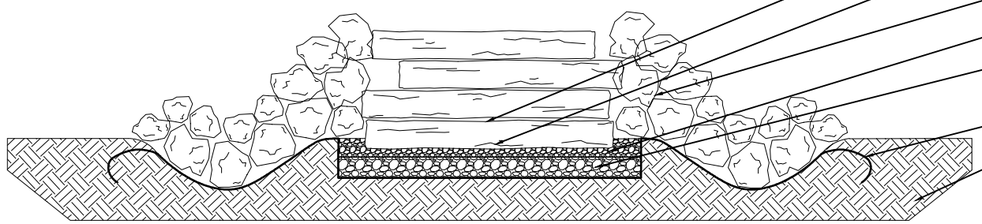
ZONE #1 -357 PLUGS (805 SF)

ZONE #2 - 1646 PLUGS (3,741 SF)

PLANTS: FES RIVER CUT AREA (0000-00-00/00)

PLANT PLUGS @ 18" O.C., SHRUBS 4.5' O.C. ON AVERAG

COMMON NAME	BOTANICAL NAME	ROOT ZONE MODE	SIZE	FES LIFT QUANTITY LIFTS 1-3	LIFTS 3-7	Mature Height	SPECIES CHARACTERISTICS Bloom Time	Flower Color
PLUGS:								
WETLAND								
NEW ENGLAND ASTER	ASTER NOVAE-ANGLIAE	PLUG	2"	70		3' - 7'	N.A.	Purple
BLUE JOINT GRASS	CALAMAGROSTIS CANADENSIS	PLUG	2"	70		2 - 4'	N.A.	
BROWN FOX SEDGE	CAREX VULPINOIDEA	PLUG	2"	70		1' - 2'	N.A.	
VIRGINIA WILD RYE	ELYMUS VIRGINICUS	PLUG	2"	70		3' - 5'	N.A.	
BLUE FLAG IRIS	IRIS VERSICOLOR	PLUG	2"	70		2' - 3'	July/Aug.	Blue
PRAIRIE BLAZING STAR	LIATRIS PYCNOSTACHYA	PLUG	2"	70		3 - 4'	Aug./Sept.	Magenta
MARSH BLAZING STAR	LIATRIS SPICATA	PLUG	2"	70		3' - 5'	July/Aug.	Magenta
GREAT BLUE LOBELIA	LOBELIA SIPHILITICA	PLUG	2"	70		1' - 3'	June/Aug.	Blue
WILD GOLDEN GLOW	RUDBECKIA LACINATA	PLUG	2"	70		4' - 6'	N.A.	Yellow
PRAIRIE CORDGRASS	SPARTINA PECTINATA	PLUG	2"	70		4' - 6'	N.A.	
BLUE VERVAIN	VERBENA HASTATA	PLUG	2"	70		2' - 3'	July/Oct.	Magenta
UPLAND								
BIG BLUESTEM	ANDROPOGON GERARDII	PLUG	2"		70	5'-7'	N.A.	
SIDE-OATS GRAMA	BOUTELOUA CURTIPENDULA	PLUG	2"		71	2'-3'	N.A.	
PRAIRIE COREOPSIS	COREOPSIS PALMATA	PLUG	2"		71	2'-3'		Yellow
CANADIAN WILD RYE	ELYMUS CANADENSIS	PLUG	2"		71	3' - 5'	N.A.	
SWITCHGRASS	PANICUM VIRGATUM	PLUG	2"		71	3' - 5'	N.A.	
YELLOW CONEFLOWER	RATIBIDA PINNATA	PLUG	2"		71	3' - 5'	July/Aug.	Yellow
OHIO SPIDERWORT	TRADESCANTIA OHIENSIS	PLUG	2"		71	1' - 2'	May/Aug.	Magenta
HOARY VERVAIN	VERBENA STRICTA	PLUG	2"		71	1' - 3'	July/Sept.	Magenta
CULVER'S ROOT	VERONICASTRUM VIRGINICUM	PLUG	2"		71	4'-6'		White
		PLUG TOTAL:		1428				



LIMESTONE SLAB OUTCROPPING, 6"-7" THICK SLABS, WIDTH VARIES (SEE NOTE), 4" OVERLAP MIN.

STAGGER VERTICAL JOINTS BETWEEN STONE ROWS WHERE MORE THAN A SINGLE STONE WIDTH IS USED TO CREATE SPILLWAY. VERTICAL RUNNING STONE JOINTS WILL NOT BE ACCEPTED.

LIGHT RIPRAP STONE, PER WISDOT SECTION 606.2.1

2-INCHES BASE AGGREGATE OPEN GRADED 3/4-INCH, PER WISDOT SECTION 310. OPEN GRADED BASE

6-INCHES BASE AGGREGATE OPEN GRADED 1-1/2-INCH, PER WISDOT SECTION 310. OPEN GRADED BASE

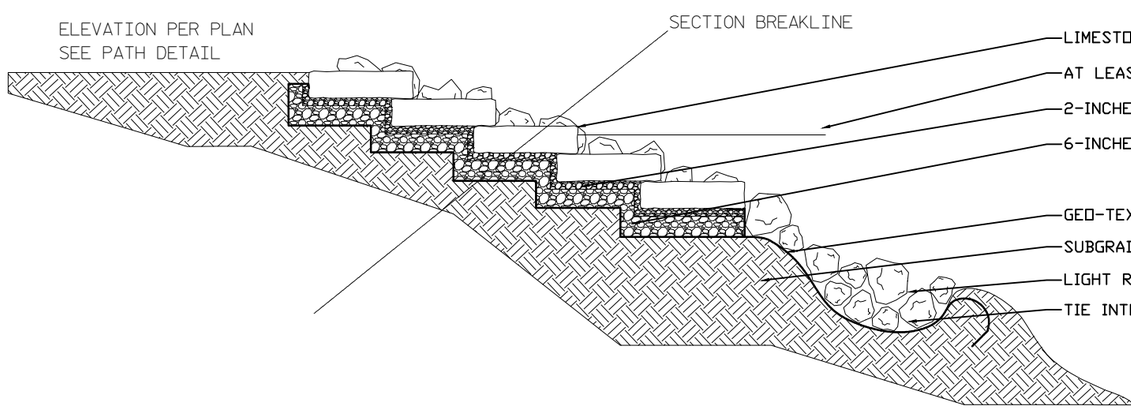
GEO-TEXTILE FILTER FABRIC, TYPE-R, CONTINUOUS, 1'-0" LAP JOINT MIN.

SUBGRADE

NOTE:
1. ONE OR TWO LIMESTONE SLABS MAY BE USED TO ACHIEVE 5-6' WIDTH
2. STAGGER JOINTS. NO RUNNING, STACKED JOINTS WILL BE ACCEPTED

1A TYPICAL SECTION HARDSCAPE FEATURE

NTS



LIMESTONE SLAB OUTCROPPING, 6"-7" THICK SLABS, WIDTH VARIES (SEE NOTE), 4" OVERLAP MIN.

AT LEAST TWO SLABS SHALL BE LOCATED BELOW ELEV 0.50'

2-INCHES BASE AGGREGATE OPEN GRADED 3/4-INCH, PER WISDOT SECTION 310. OPEN GRADED BASE

6-INCHES BASE AGGREGATE OPEN GRADED 1-1/2-INCH, PER WISDOT SECTION 310. OPEN GRADED BASE

GEO-TEXTILE FABRIC, TYPE-R, CONTINUOUS, 1'-0" LAP JOINT MIN.

SUBGRADE

LIGHT RIPRAP STONE, PER WISDOT SECTION 606.2.1

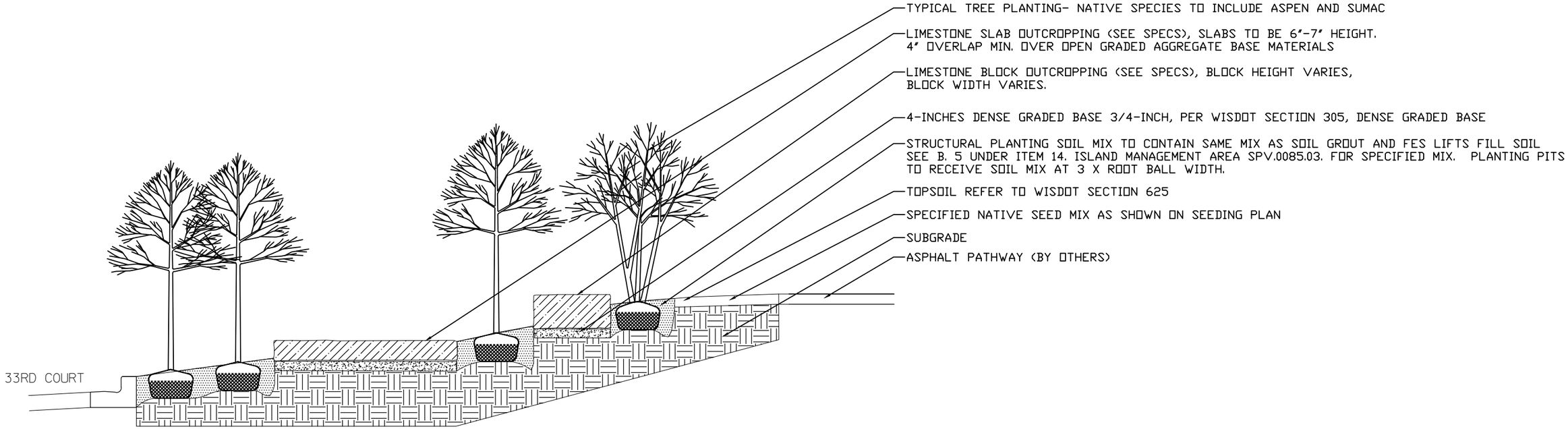
TIE INTO ADJACENT RIPRAP

NOTE:
1. ONE OR TWO LIMESTONE SLABS MAY BE USED TO ACHIEVE 5-6' WIDTH
2. STAGGER JOINTS. NO RUNNING, STACKED JOINTS WILL BE ACCEPTED

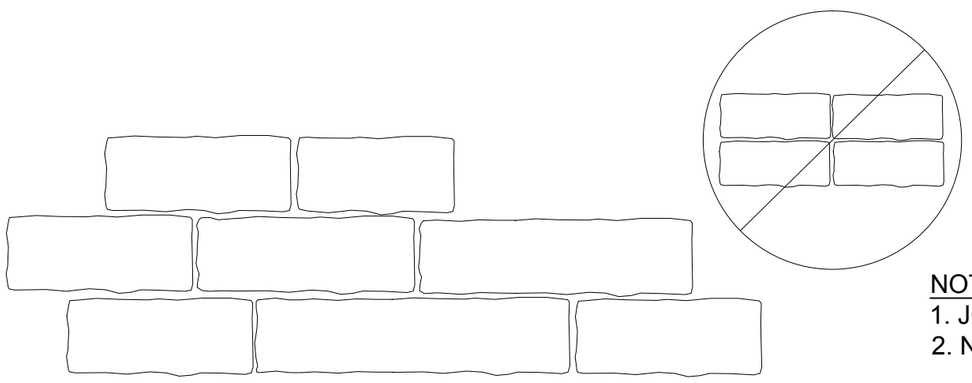
1B TYPICAL SECTION HARDSCAPE FEATURE

NTS

2



1A TYPICAL SECTION
LIMESTONE TRANSITION TO PARKING AREA NTS



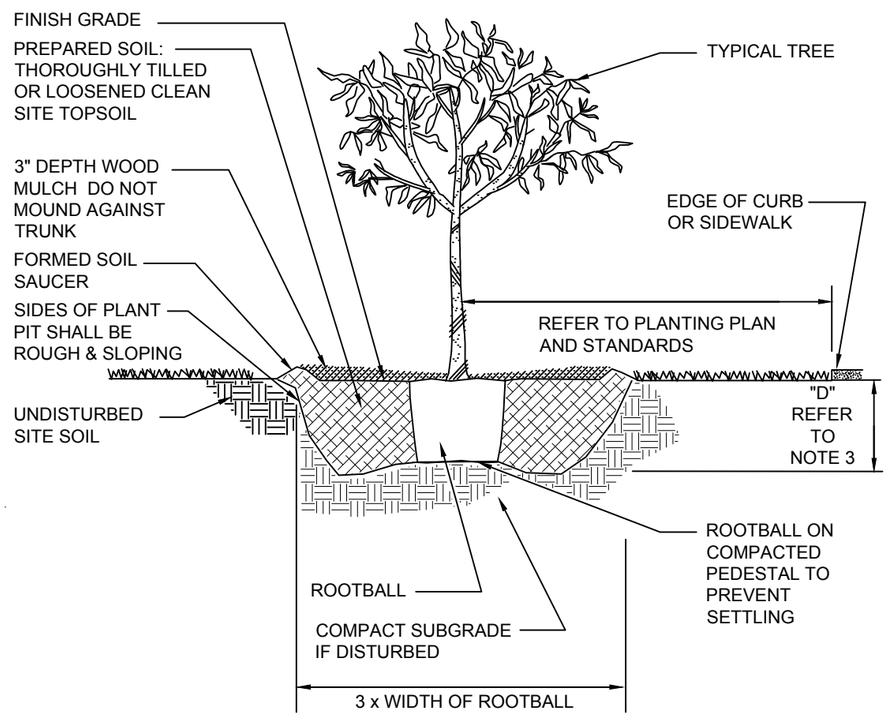
NOTE:
1. JOINTS SHALL BE STAGGERED, 1 STONE OVER 2, 2 STONES OVER 1
2. NO RUNNING, STACKED JOINTS WILL BE ACCEPTED

1A TYPICAL WALL ELEVATION
LIMESTONE VERTICAL JOINT DETAIL NTS

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: LANDSCAPE CONSTRUCTION DETAILS	SHEET 051	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-20 LANDSCAPING PLANS\LANDSCAPE PLAN.DWG PLOT DATE : 7/10/2015 3:53 PM PLOT BY : ADAM HAMMEN PLOT NAME : ---------- PLOT SCALE : ==========

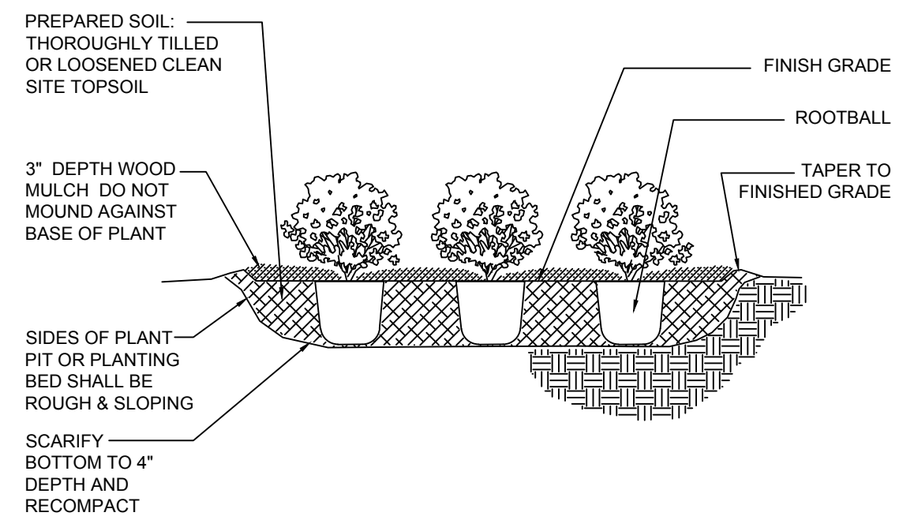
WISDOT/CADDS SHEET 42



NOTES:
1) NO PLANTS SHALL BE PRUNED EXCEPT AT THE DIRECTION OF ENGINEER OR ARCHITECT.
2) STAKE TREE ONLY IF NEEDED, PER DIRECTION OF ENGINEER OR ARCHITECT.
3) DEPTH ("D") OF PLANT TO BE EQUAL TO DEPTH OF ROOT BALL. TOP OF ROOT FLARE TO BE VISIBLE ABOVE LEVEL OF SOIL.
4) REMOVE ALL TWINE, ROPE, WIRE, BURLAP, AND PLASTIC WRAP FROM TOP HALF OF ROOTBALL. IF PLANT HAS WIRE BASKET CUT WIRE IN FOUR PLACES AND FOLD DOWN 8" INTO PLANTING HOLE.

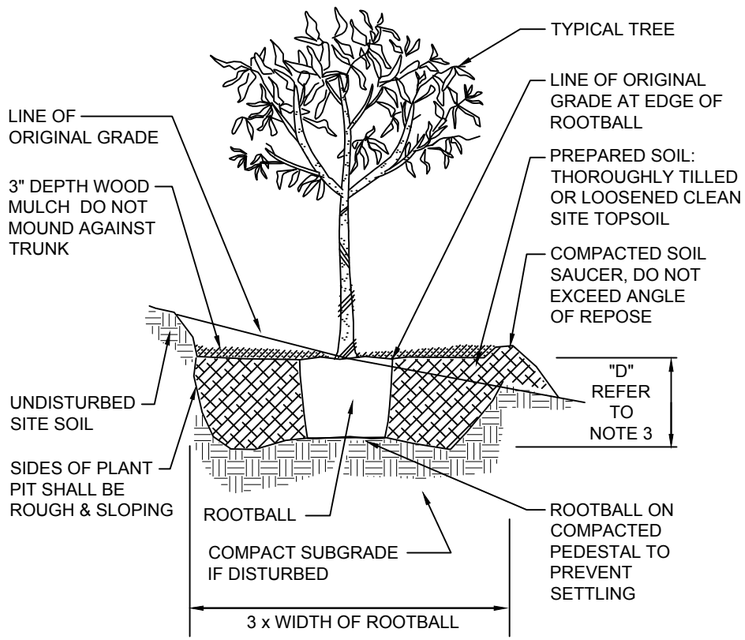
1 TYPICAL SECTION TREE PLANTING

NTS



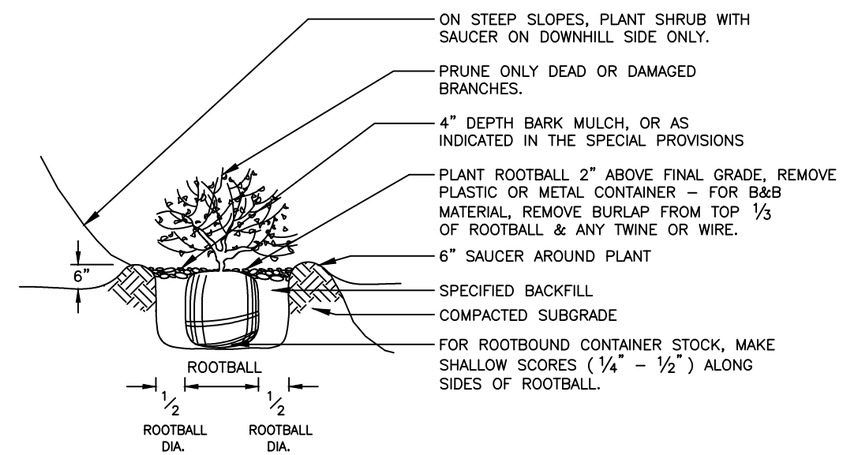
2 TYPICAL SECTION SHRUB PLANTING

NTS

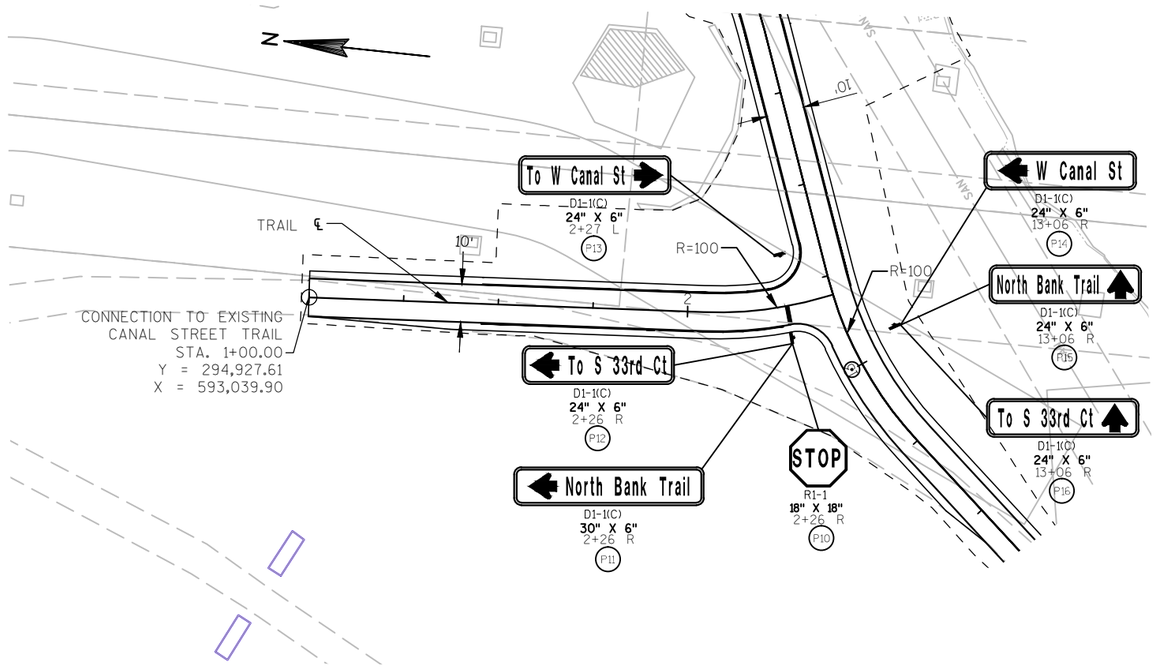


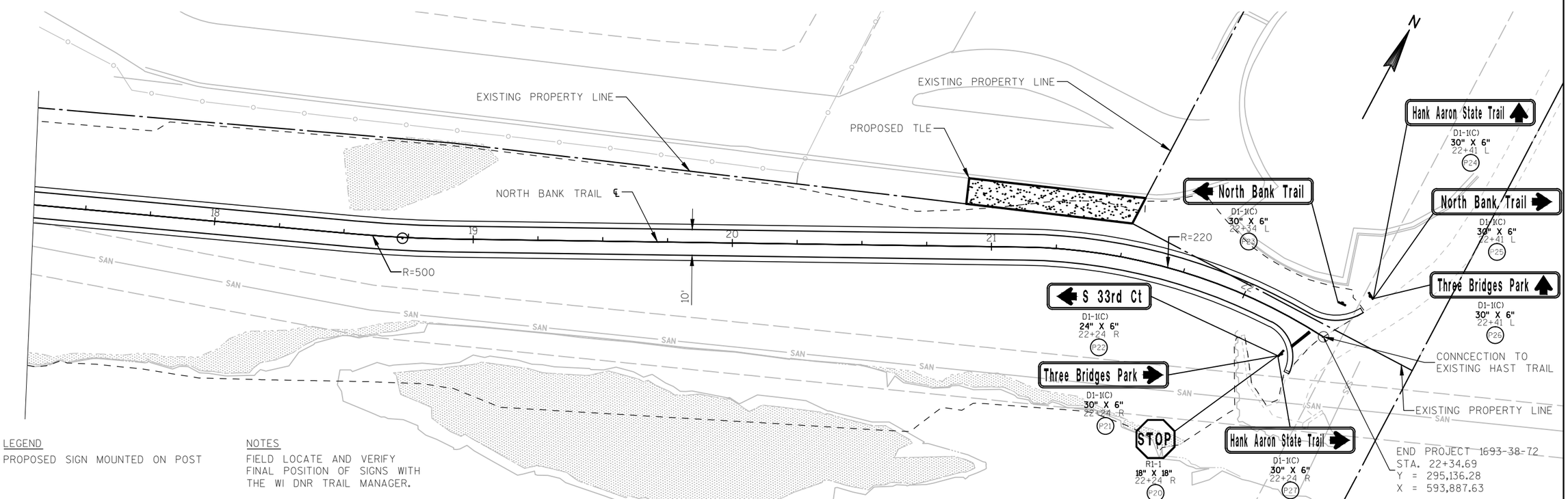
NOTES:
1) NO PLANTS SHALL BE PRUNED EXCEPT AT THE DIRECTION OF ENGINEER OR ARCHITECT.
2) STAKE TREE ONLY IF NEEDED, PER DIRECTION OF ENGINEER OR ARCHITECT.
3) DEPTH ("D") OF PLANT TO BE EQUAL TO DEPTH OF ROOT BALL. TOP OF ROOT FLARE TO BE VISIBLE ABOVE LEVEL OF SOIL.
4) REMOVE ALL TWINE, ROPE, WIRE, BURLAP, AND PLASTIC WRAP FROM TOP HALF OF ROOTBALL. IF PLANT HAS WIRE BASKET CUT WIRE IN FOUR PLACES AND FOLD DOWN 8" INTO PLANTING HOLE.

3 TYPICAL SECTION
TREE PLANTING ON SLOPE NTS



4 TYPICAL SECTION
SHRUB PLANTING ON SLOPE NTS





LEGEND

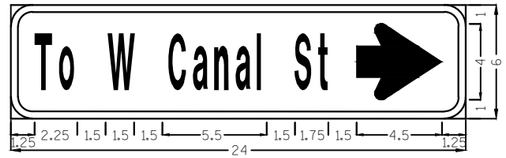
PROPOSED SIGN MOUNTED ON POST

NOTES

FIELD LOCATE AND VERIFY FINAL POSITION OF SIGNS WITH THE WI DNR TRAIL MANAGER.

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 054	E

1.125" RADIUS, 0.375" BORDER, WHITE ON GREEN;
STANDARD ARROW CUSTOM 4.500" X 4.000"
180 33/64 ;
"W" B; "Canal" B; "St" B;

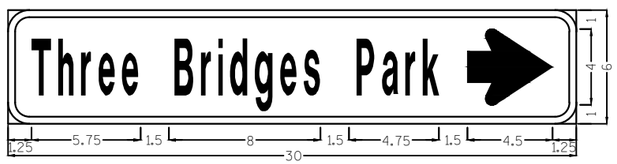


1.125" RADIUS, 0.375" BORDER, WHITE ON GREEN;
"To" B; "W" B; "Canal" B; "St" B;
STANDARD ARROW CUSTOM 4.500" X 4.000" 0 33/64 ;

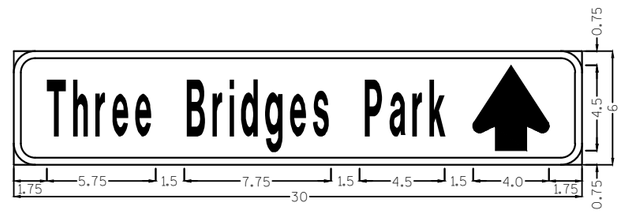
1.125" RADIUS, 0.375" BORDER, WHITE ON GREEN;
STANDARD ARROW CUSTOM 4.500" X 4.000"
180 33/64 ;
"S" B; "33rd" B; "Ct" B;

NOTES

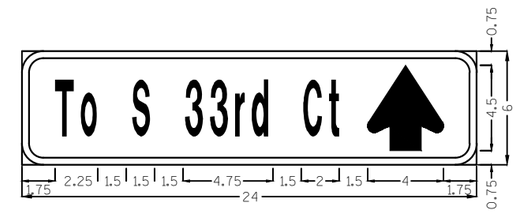
1. ALL SIGNS ARE TYPE II - TYPE H REFLECTIVE - REFERENCE WIS DOT STANDARD SPECIFICATION FOR HIGHWAY AND STRUCTURE CONSTRUCTION LATEST EDITION.
2. COLOR: AS NOTED
3. MESSAGE SERIES - B



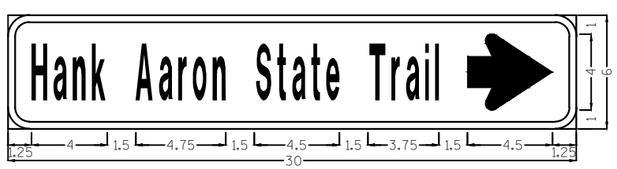
1.125" RADIUS, 0.375" BORDER, WHITE ON BROWN;
"Three" B; "Bridges" B; "Park" B;
STANDARD ARROW CUSTOM 4.500" X 4.000" 0 33/64 ;



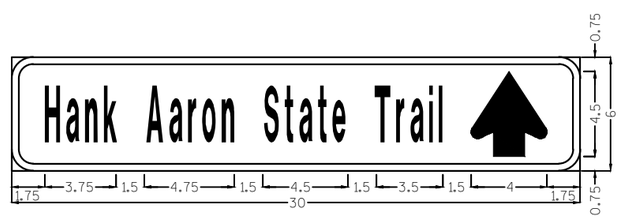
1.125" RADIUS, 0.375" BORDER, WHITE ON BROWN;
"Three" B; "Bridges" B; "Park" B;
STANDARD ARROW CUSTOM 4.500" X 4.000"
90 33/64 ;



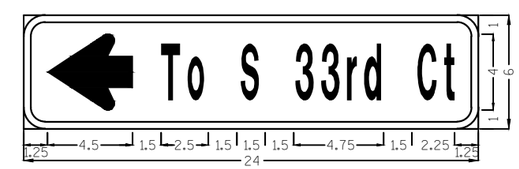
1.125" RADIUS, 0.375" BORDER, WHITE ON GREEN;
"To" B; "S" B; "33rd" B; "Ct" B;
STANDARD ARROW CUSTOM 4.500" X 4.000"
90 33/64 ;



1.125" RADIUS, 0.375" BORDER, WHITE ON BROWN;
"Hank" B; "Aaron" B; "State" B; "Trail" B;
STANDARD ARROW CUSTOM 4.500" X 4.000" 0 33/64 ;



1.125" RADIUS, 0.375" BORDER, WHITE ON BROWN;
"Hank" B; "Aaron" B; "State" B; "Trail" B;
STANDARD ARROW CUSTOM 4.500" X 4.000"
90 33/64 ;

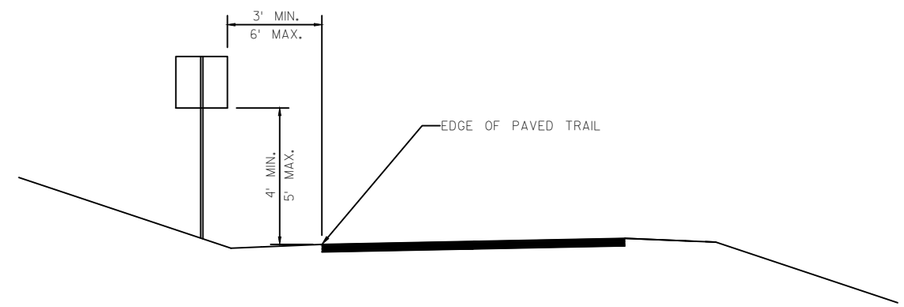


1.125" RADIUS, 0.375" BORDER, WHITE ON GREEN;
STANDARD ARROW CUSTOM 4.500" X 4.000"
180 33/64 ;
"To" B; "S" B; "33rd" B; "Ct" B;

1.125" RADIUS, 0.375" BORDER, WHITE ON BROWN;
"North" B; "Bank" B; "Trail" B;
STANDARD ARROW CUSTOM 4.500" X 4.000" 0 33/64 ;

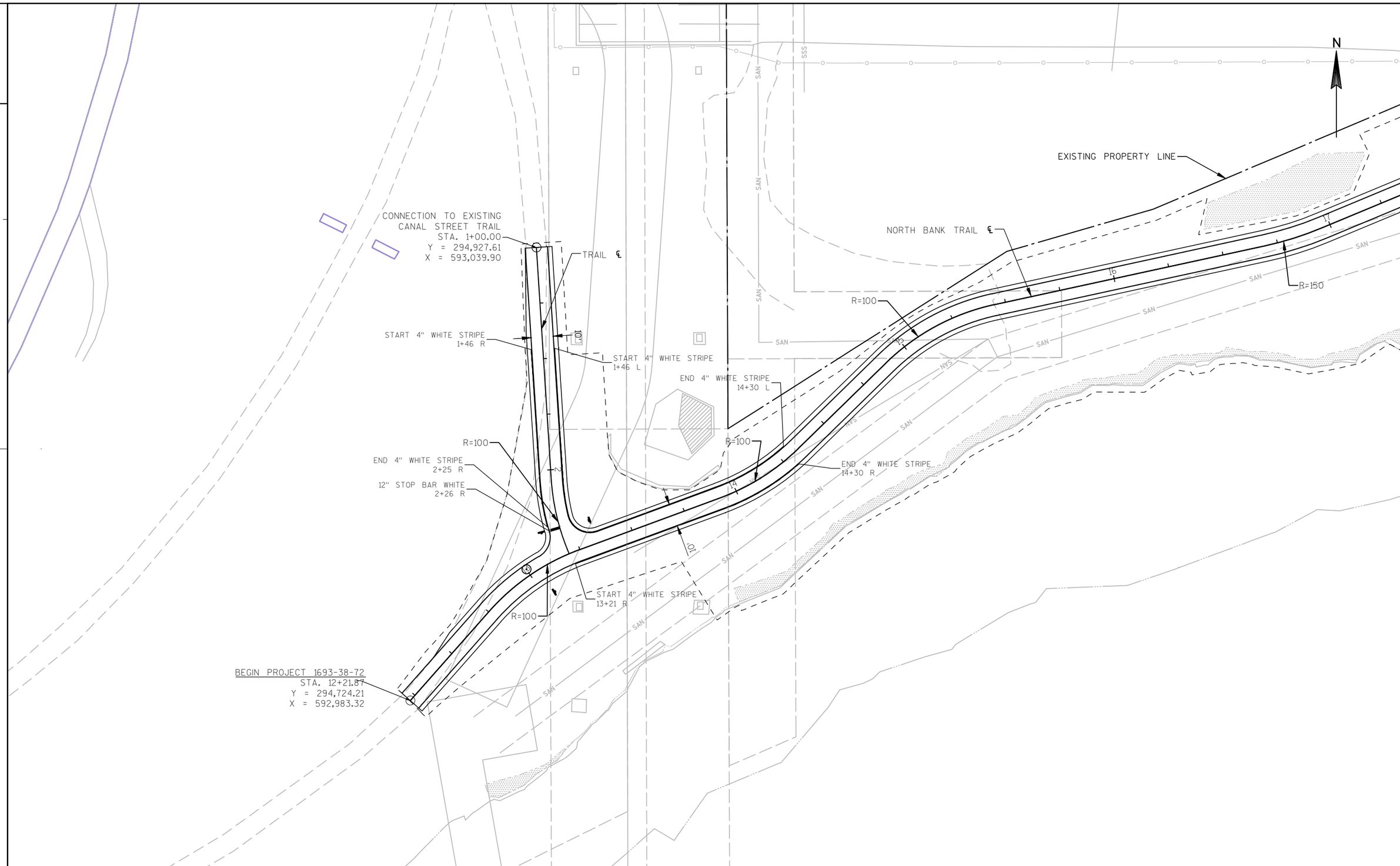
1.125" RADIUS, 0.375" BORDER, WHITE ON BROWN;
STANDARD ARROW CUSTOM 4.500" X 4.000"
180 33/64 ;
"North" B; "Bank" B; "Trail" B;

1.125" RADIUS, 0.375" BORDER, WHITE ON BROWN;
"North" B; "Bank" B; "Trail" B;
STANDARD ARROW CUSTOM 4.500" X 4.000"
90 33/64 ;



BIKE PATH SIGN MOUNTING HEIGHT

2

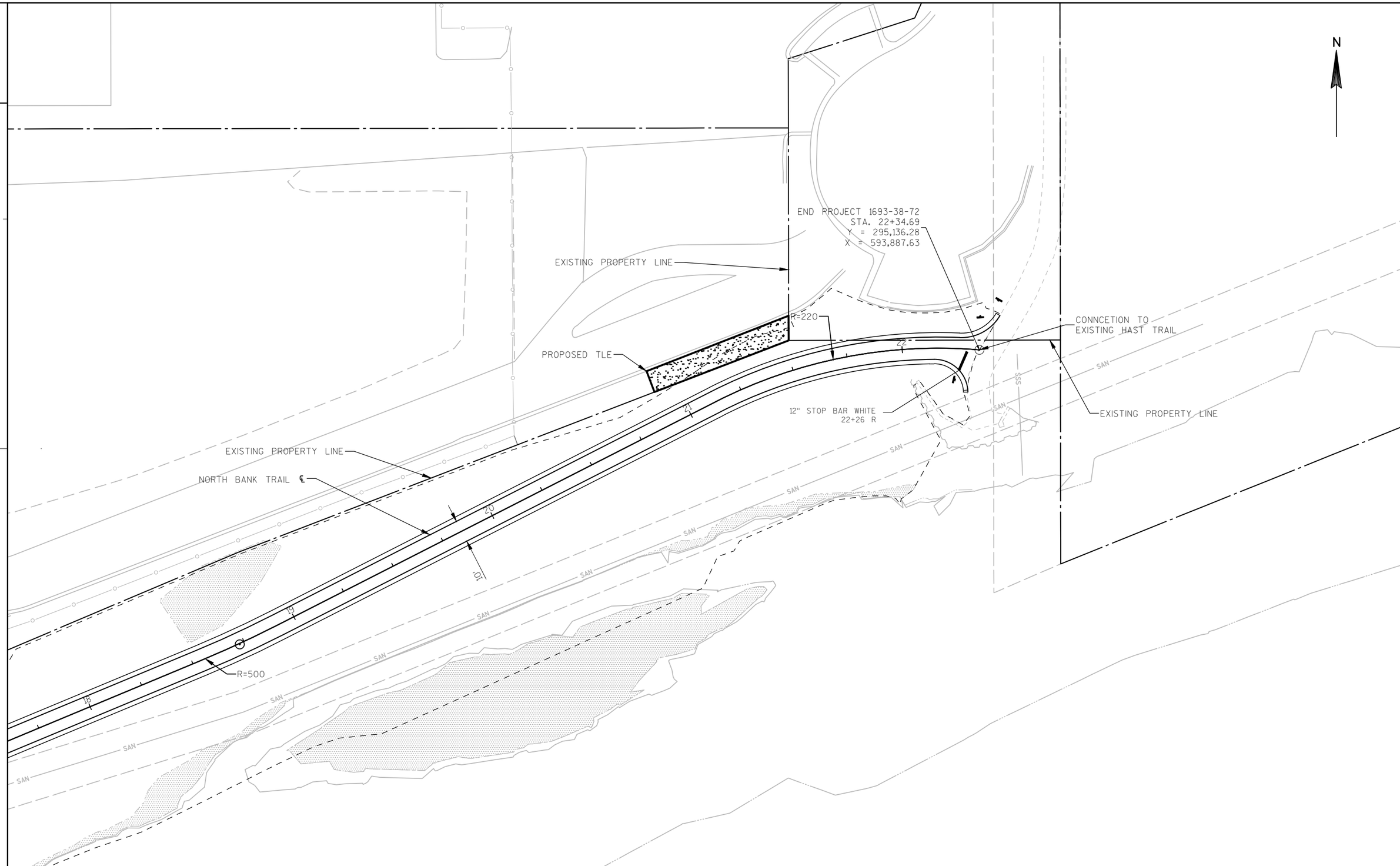


2

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 057	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-23 PAVEMENT MARKING\PAVE MARKING.DWG PLOT DATE : 7/10/2015 3:55 PM PLOT BY : ADAM HAMMEN PLOT NAME : ---------- PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42



PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 058	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-23 PAVEMENT MARKING\PAVE MARKING.DWG PLOT DATE : 7/10/2015 3:55 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40

2

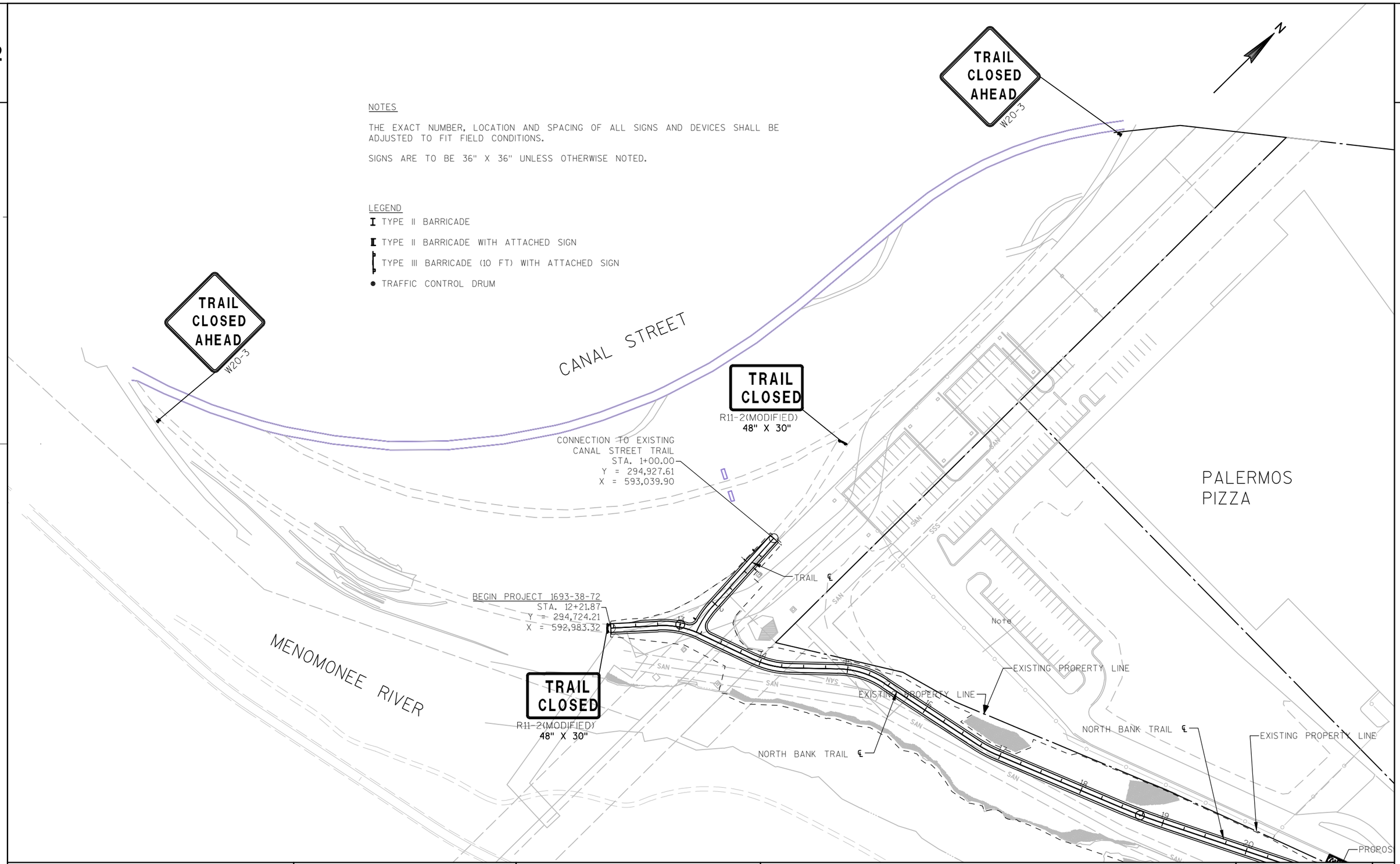
NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

SIGNS ARE TO BE 36" X 36" UNLESS OTHERWISE NOTED.

LEGEND

- TYPE II BARRICADE
- TYPE II BARRICADE WITH ATTACHED SIGN
- TYPE III BARRICADE (10 FT) WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM



PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SHEET 059	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-24 TRAFFIC CONTROL\TRAFFIC CONTROL PLAN.DWG PLOT DATE : 7/10/2015 3:55 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

PALERMOS PIZZA

33RD COURT

PROPOSED TLE

TRAIL CLOSED
R11-2(MODIFIED)
48" X 30"

TRAIL CLOSED
R11-2(MODIFIED)
48" X 30"

FALK/ REXNORD

EXISTING PROPERTY LINE

CONNCETION TO
EXISTING HAST TRAIL

MENOMONEE RIVER

BRIDGE

END PROJECT 1693-38-72
STA. 22+34.69
Y = 295,136.28
X = 593,887.63

TRAIL WORK AHEAD
W20-1

NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

SIGNS ARE TO BE 36" X 36" UNLESS OTHERWISE NOTED.

LEGEND

- TYPE II BARRICADE
- TYPE II BARRICADE WITH ATTACHED SIGN
- TYPE III BARRICADE (10 FT) WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM

2

PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SHEET 060	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\02-24 TRAFFIC CONTROL\TRAFFIC CONTROL PLAN.DWG PLOT DATE : 7/10/2015 3:55 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

CURVE 1
PI STA 2+20.57
Y: 294829.9395
X: 593146.3369
R = 100.00
D = 57°17'45"
L = 32.37
DELTA = 18°32'38" L
T = 16.33

CURVE 2
PI STA 13+00.52
Y: 294698.0338
X: 593093.6318
R = 100.00
D = 57°17'45"
L = 49.45
DELTA = 28°19'50" R
T = 25.24

CURVE 3
PI STA 14+13.39
Y: 294908.9665
X: 593087.6871
R = 100.00
D = 57°17'45"
L = 42.10
DELTA = 24°07'17" L
T = 21.37

CURVE 4
PI STA 15+17.67
Y: 294804.2062
X: 593266.6550
R = 100.00
D = 57°17'45"
L = 55.97
DELTA = 32°03'56" R
T = 28.74

CURVE 5
PI STA 16+82.73
Y: 295074.9015
X: 593334.9854
R = 150.00
D = 38°11'50"
L = 27.04
DELTA = 10°19'37" L
T = 13.55

CURVE 6
PI STA 18+72.71
Y: 295458.4790
X: 593345.7671
R = 500.00
D = 11°27'33"
L = 38.36
DELTA = 4°23'44" L
T = 19.19

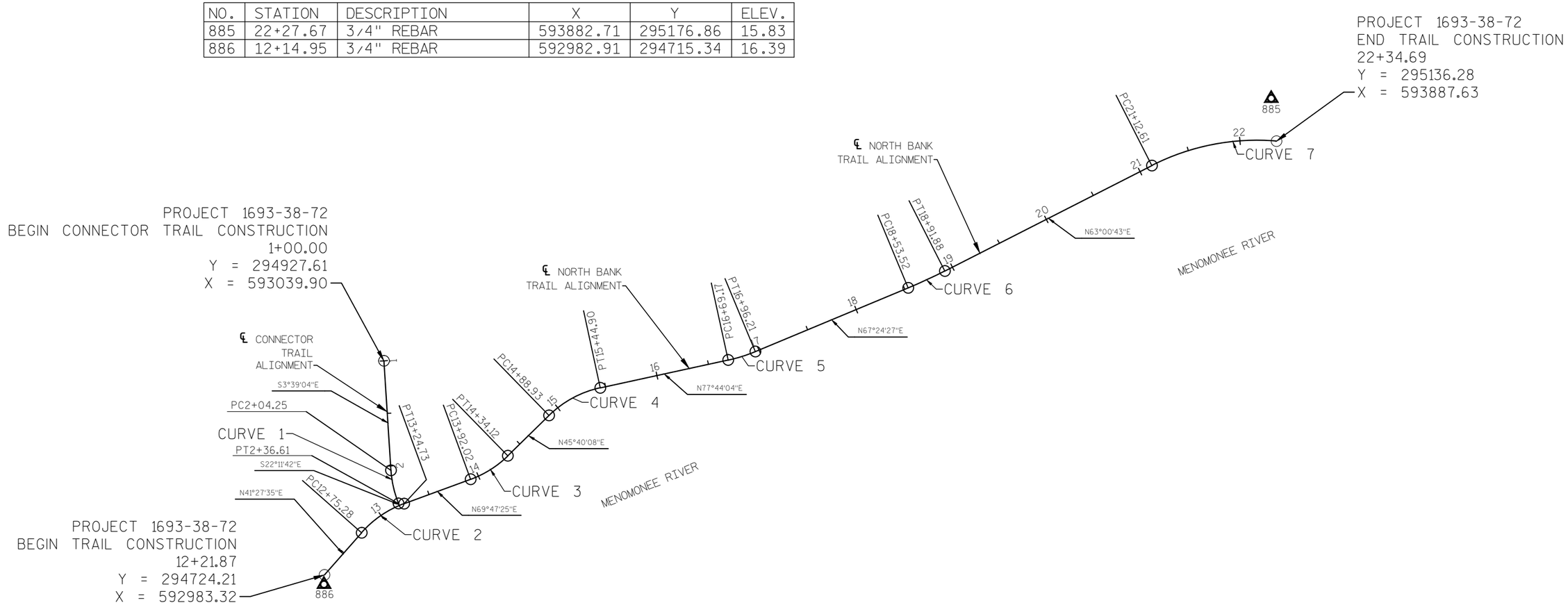
CURVE 7
PI STA 21+97.19
Y: 294917.0515
X: 593869.1945
R = 220.00
D = 26°02'37"
L = 161.50
DELTA = 42°03'39" R
T = 84.58

N

2

CONTROL POINTS

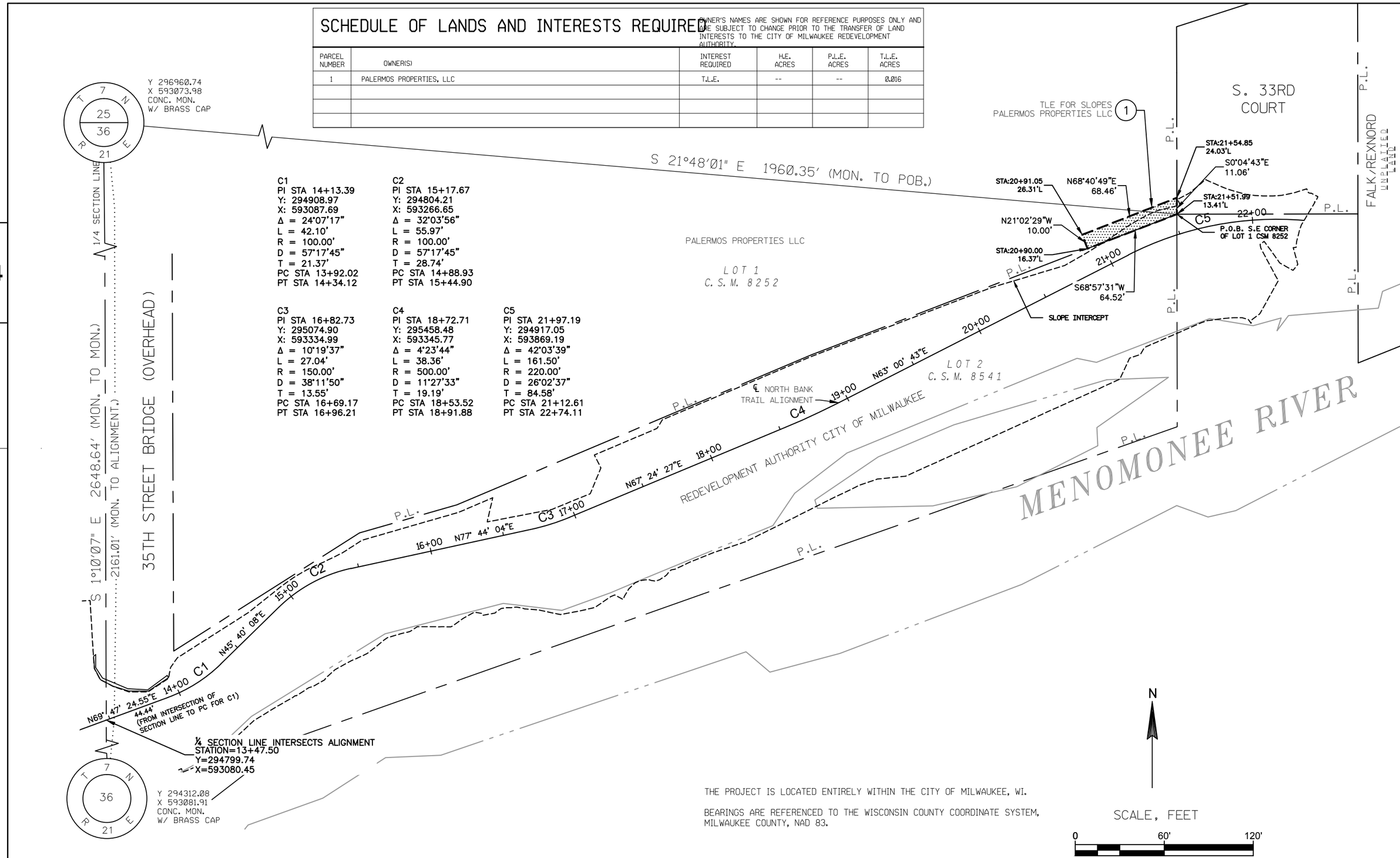
NO.	STATION	DESCRIPTION	X	Y	ELEV.
885	22+27.67	3/4" REBAR	593882.71	295176.86	15.83
886	12+14.95	3/4" REBAR	592982.91	294715.34	16.39



SCHEDULE OF LANDS AND INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE CITY OF MILWAUKEE REDEVELOPMENT AUTHORITY.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	H.E. ACRES	P.L.E. ACRES	T.L.E. ACRES
1	PALERMOS PROPERTIES, LLC	T.L.E.	--	--	0.016



C1
PI STA 14+13.39
Y: 294908.97
X: 593087.69
Δ = 24°07'17"
L = 42.10'
R = 100.00'
D = 57°17'45"
T = 21.37'
PC STA 13+92.02
PT STA 14+34.12

C2
PI STA 15+17.67
Y: 294804.21
X: 593266.65
Δ = 32°03'56"
L = 55.97'
R = 100.00'
D = 57°17'45"
T = 28.74'
PC STA 14+88.93
PT STA 15+44.90

C3
PI STA 16+82.73
Y: 295074.90
X: 593334.99
Δ = 10°19'37"
L = 27.04'
R = 150.00'
D = 38°11'50"
T = 13.55'
PC STA 16+69.17
PT STA 16+96.21

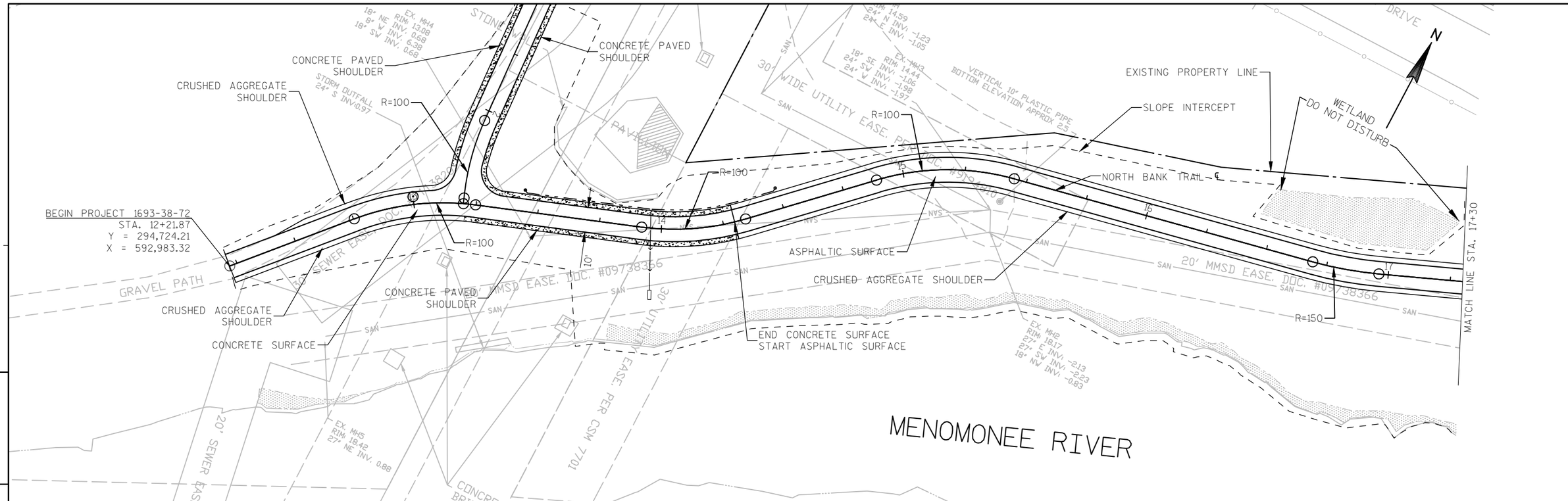
C4
PI STA 18+72.71
Y: 295458.48
X: 593345.77
Δ = 4°23'44"
L = 38.36'
R = 500.00'
D = 11°27'33"
T = 19.19'
PC STA 18+53.52
PT STA 18+91.88

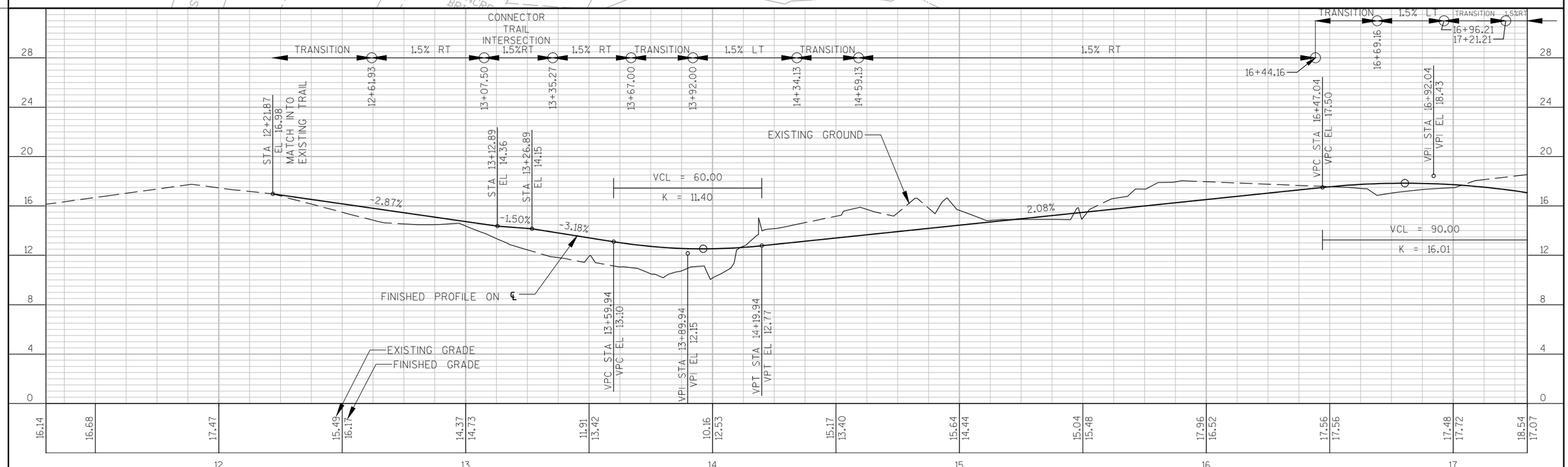
C5
PI STA 21+97.19
Y: 294917.05
X: 593869.19
Δ = 42°03'39"
L = 161.50'
R = 220.00'
D = 26°02'37"
T = 84.58'
PC STA 21+12.61
PT STA 22+74.11

THE PROJECT IS LOCATED ENTIRELY WITHIN THE CITY OF MILWAUKEE, WI.

BEARINGS ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 83.

PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN: TEMPORARY LIMITED EASEMENT	SHEET 062	E

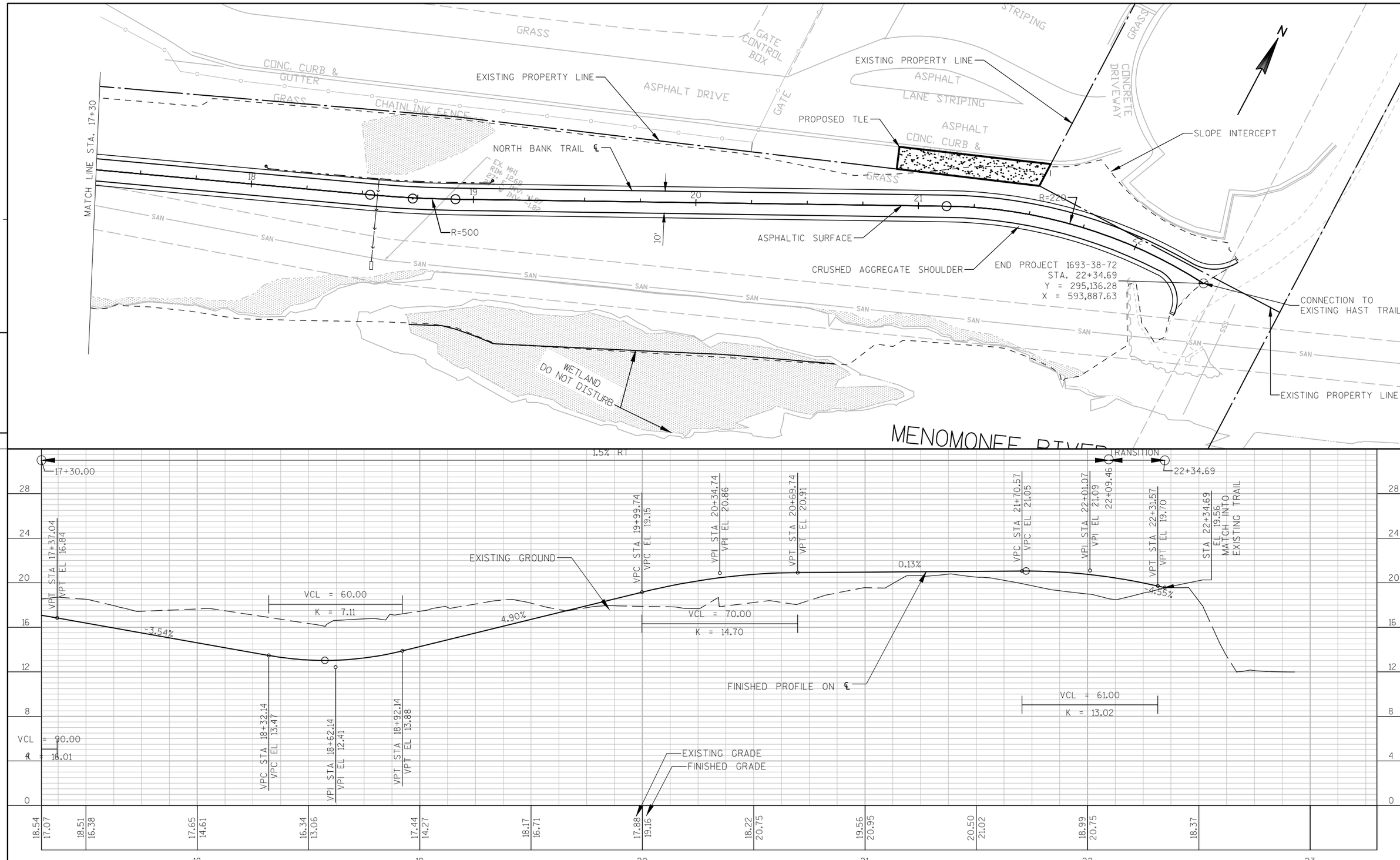




PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN AND PROFILE: TRAIL	SHEET 063	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\05-01 PLAN AND PROFILE\TRAIL_PP.DWG PLOT DATE : 7/10/2015 3:57 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40

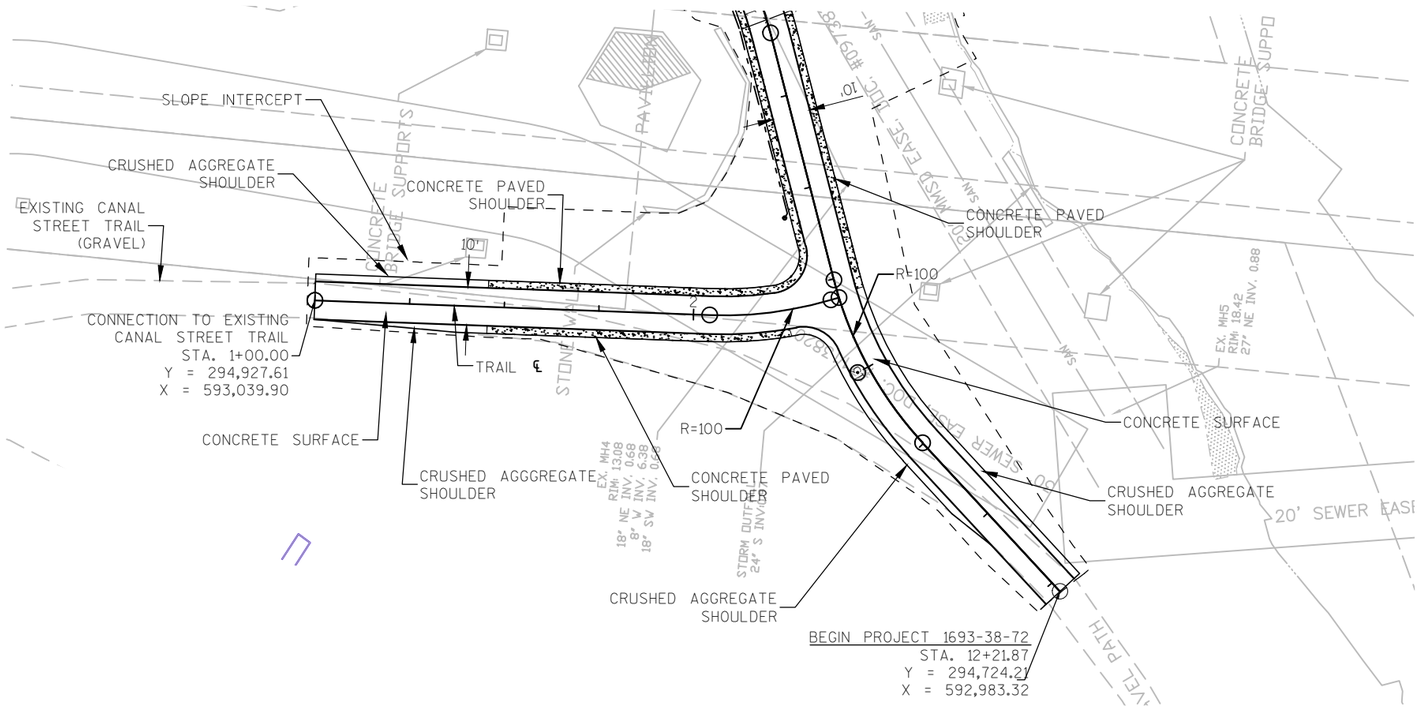
WISDOT/CADDS SHEET 44

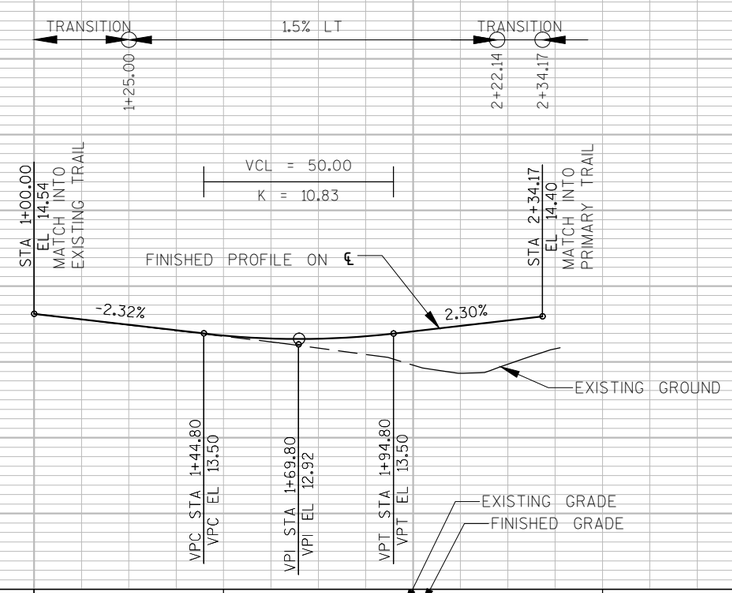


PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN AND PROFILE: TRAIL	SHEET 064	E

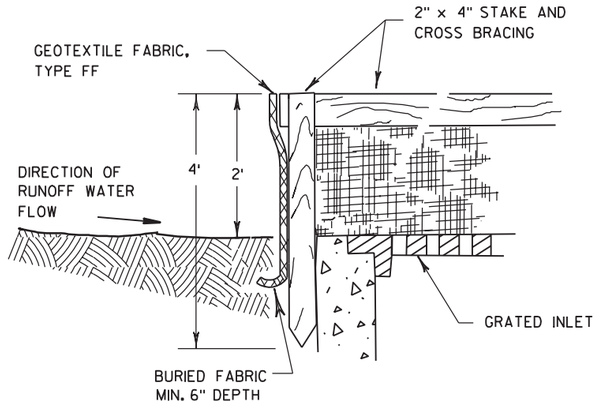
FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\05-01 PLAN AND PROFILE\TRAIL_PP.DWG PLOT DATE : 7/10/2015 3:57 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1:40

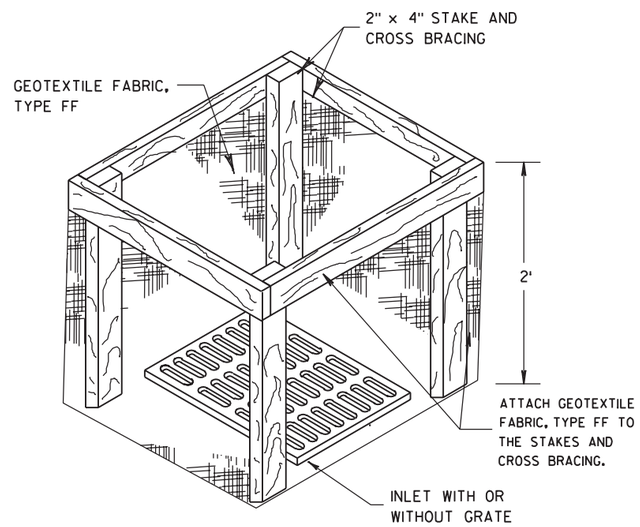
WISDOT/CADDS SHEET 44



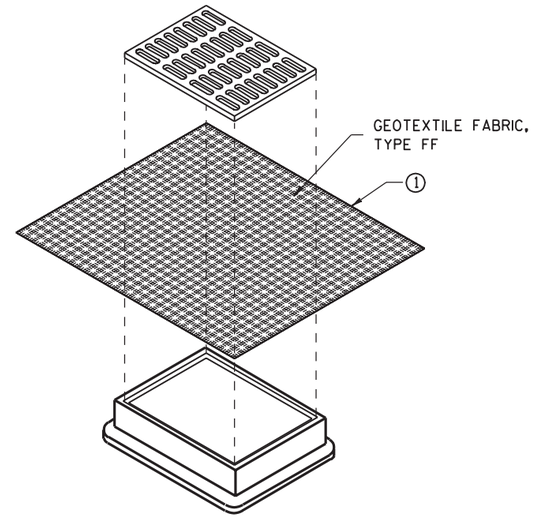


PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	PLAN AND PROFILE: TRAIL	SHEET 065	E



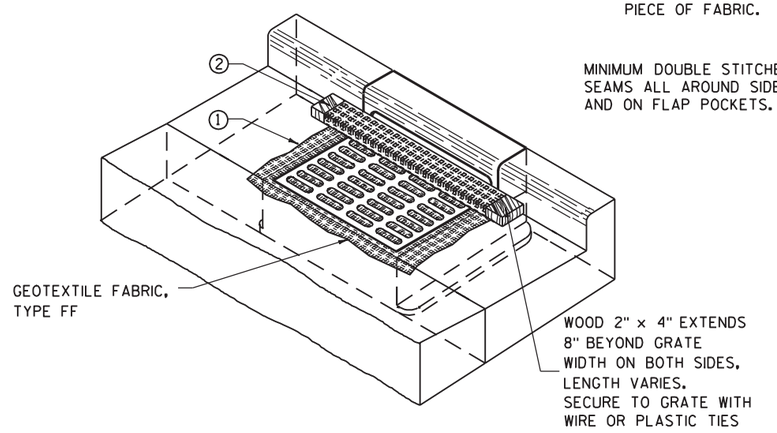


INLET PROTECTION, TYPE A

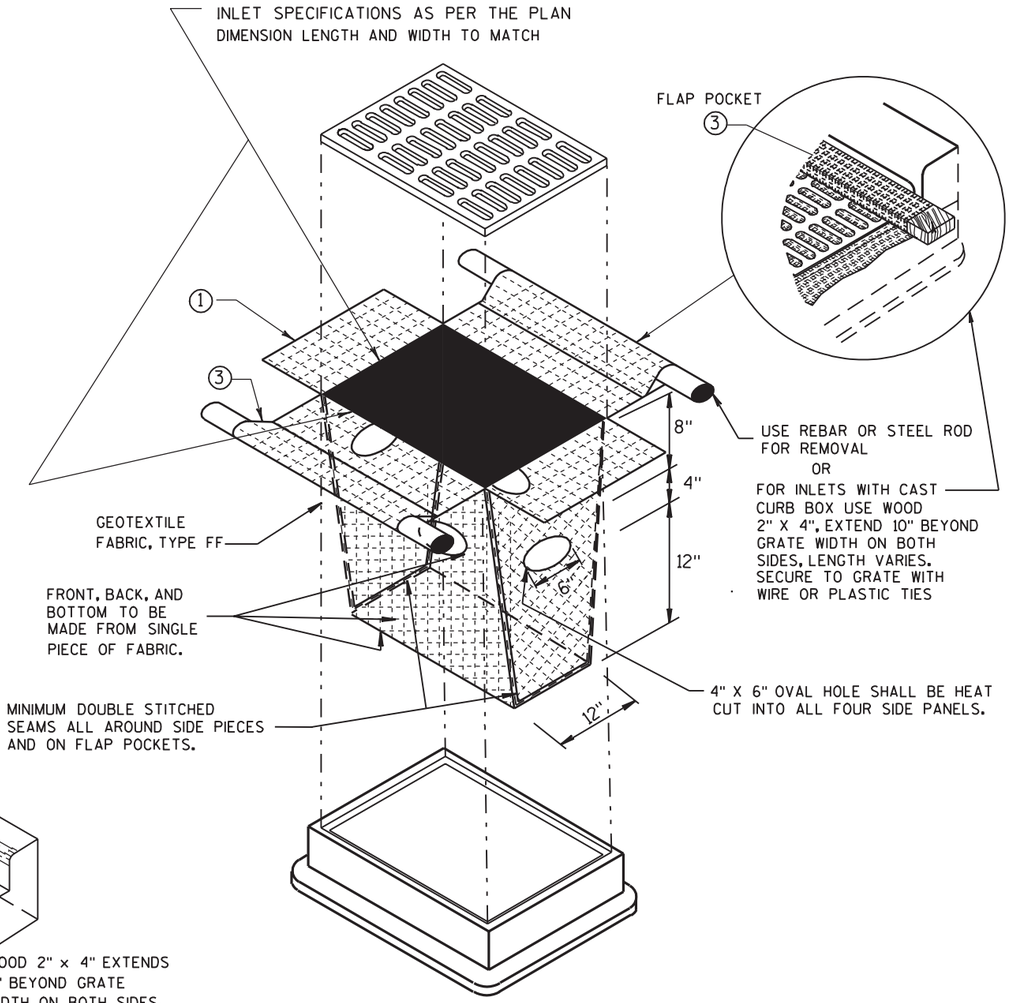


INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE 2)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
FHWA

CHIEF ROADWAY DEVELOPMENT ENGINEER

6

S.D.D. 8 E 10-2

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

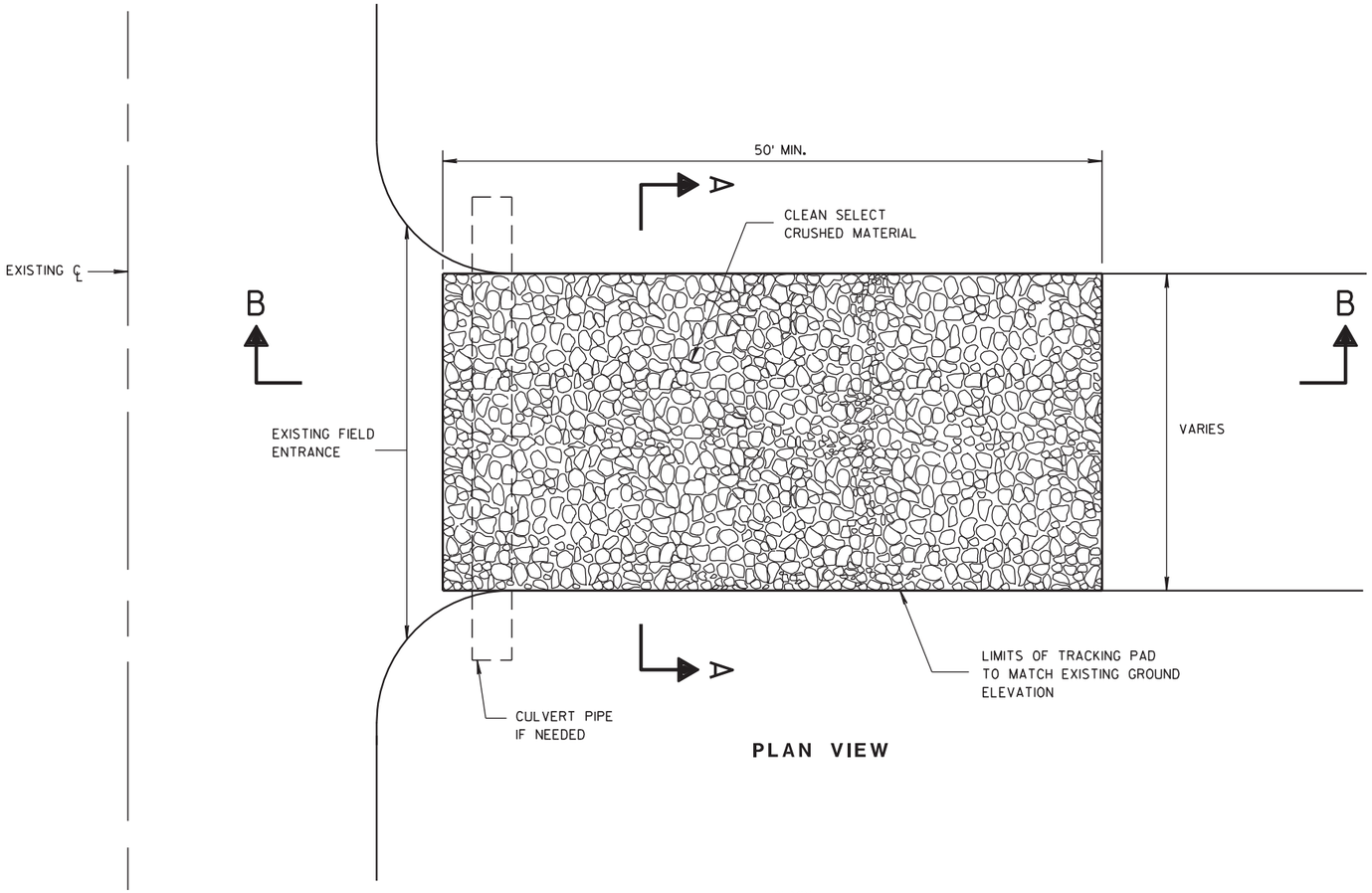
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

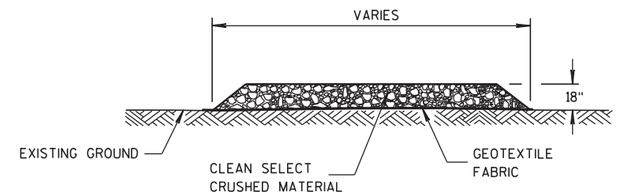
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

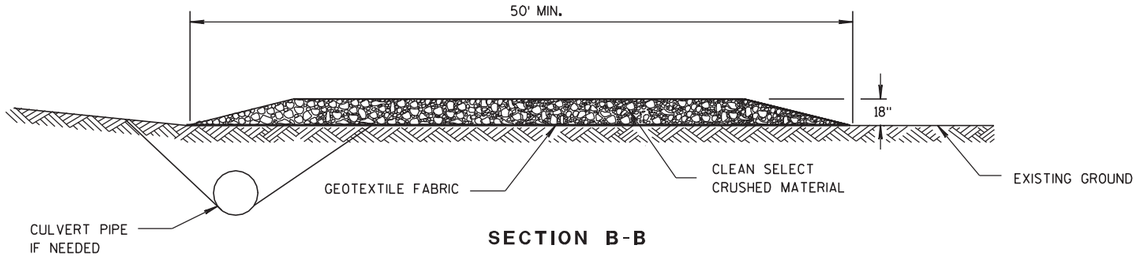
THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



PLAN VIEW



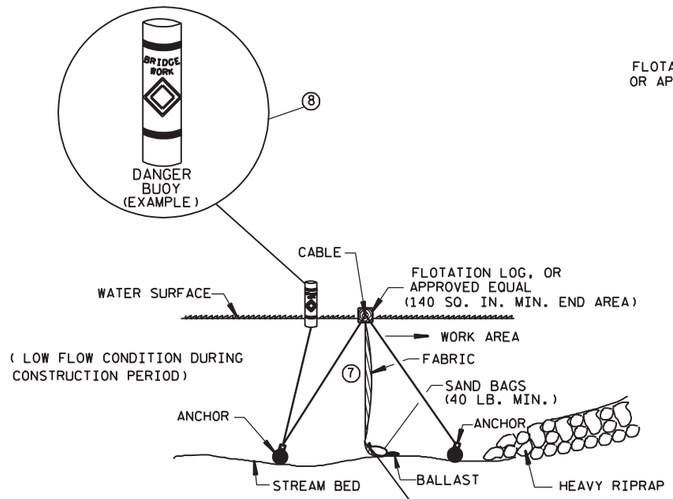
SECTION A-A



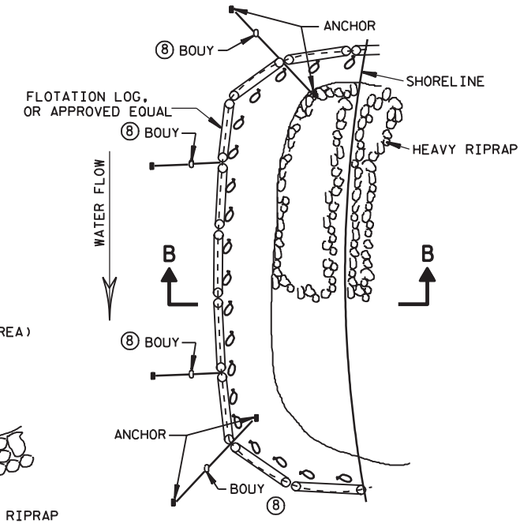
SECTION B-B

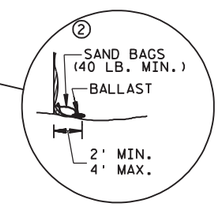
TRACKING PAD

TRACKING PAD	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3/24/2011 — DATE FHWA	/S/ Jerry H. Zong — ROADWAY STANDARDS ENGINEER ENT

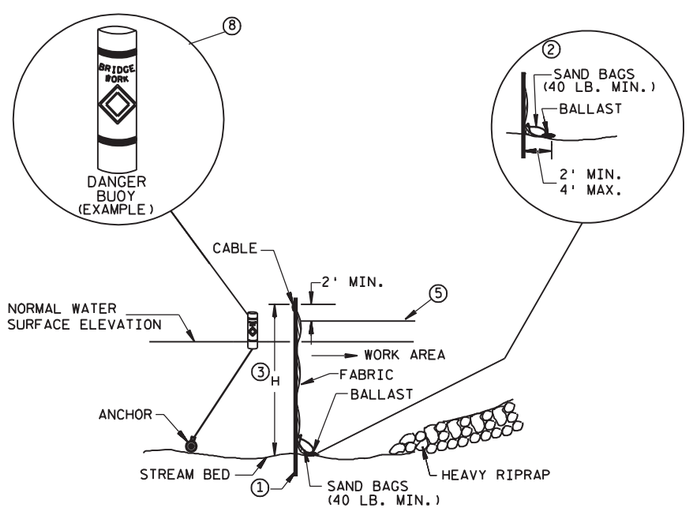


SECTION B-B



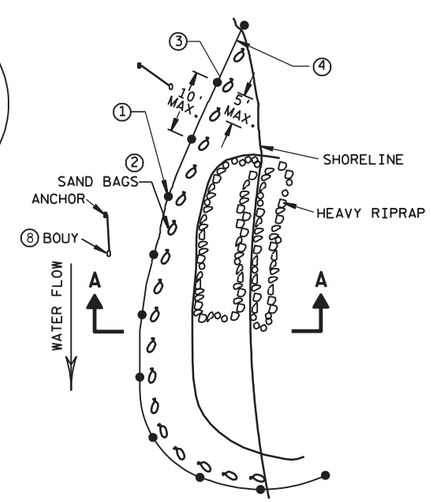


TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A

TURBIDITY BARRIER STANDARD POST INSTALLATION



PLAN VIEW

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

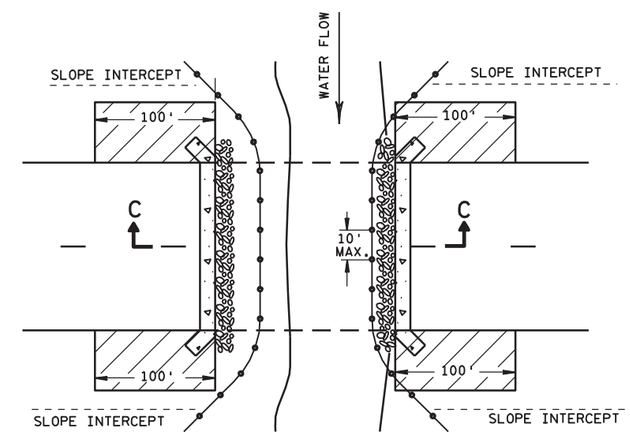
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

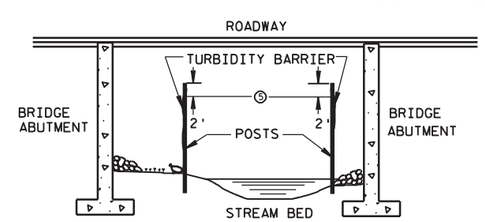
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

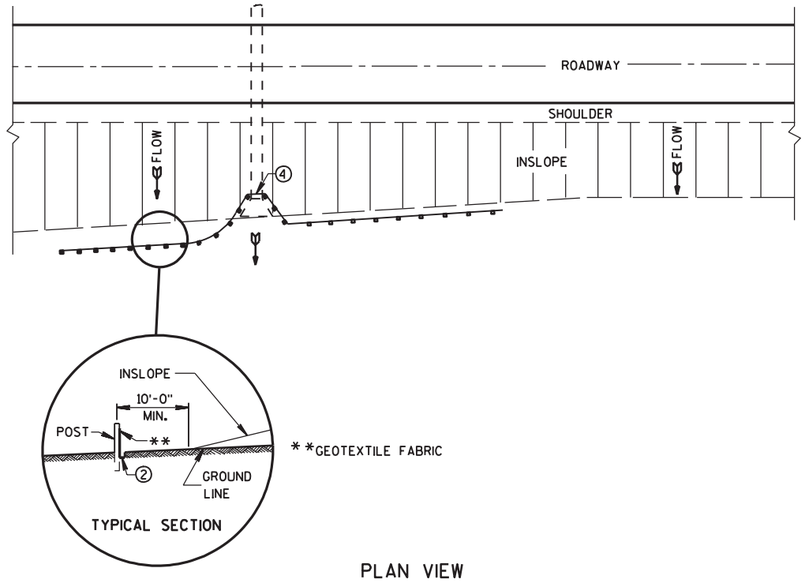
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02
DATE
FHWA

CHIEF ROADWAY DEVELOPMENT ENGINEER

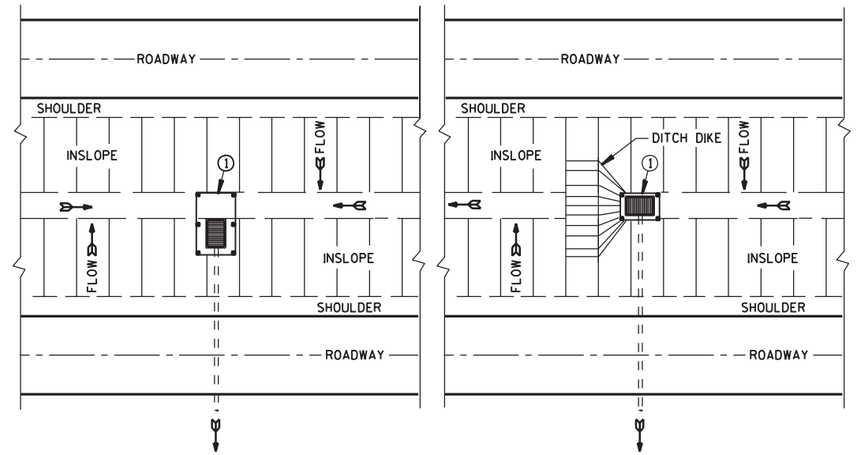
6

S.D.D. 8 E 11-2



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



SITUATION 1 SITUATION 2

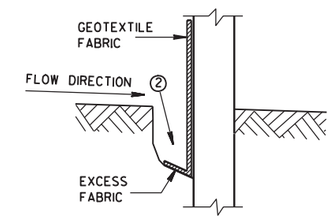
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

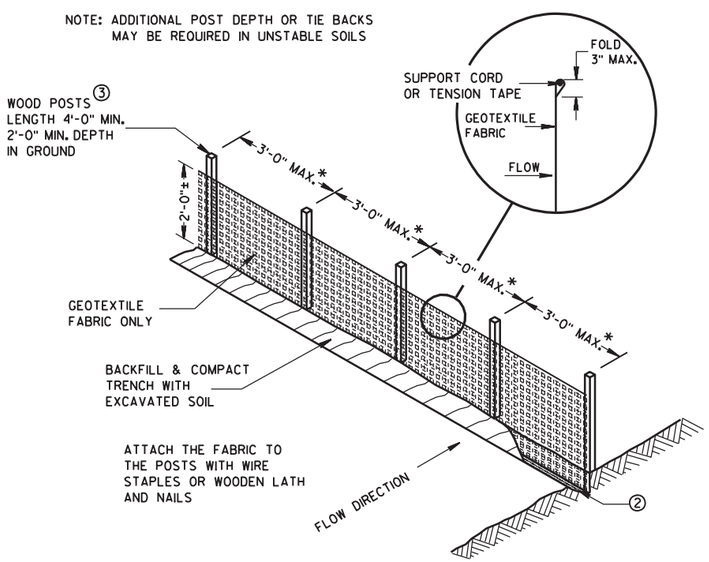
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

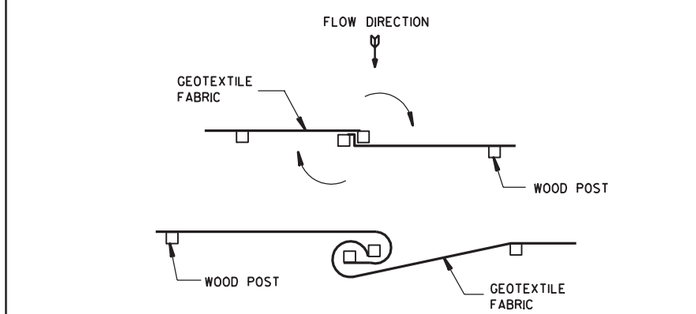


TRENCH DETAIL

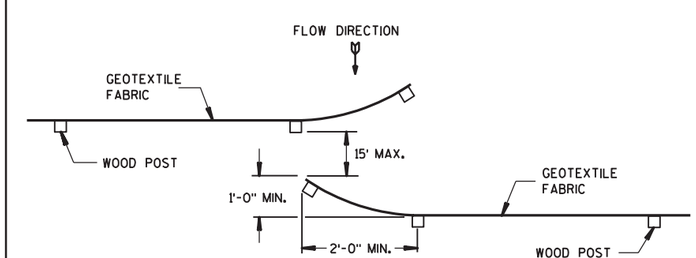


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

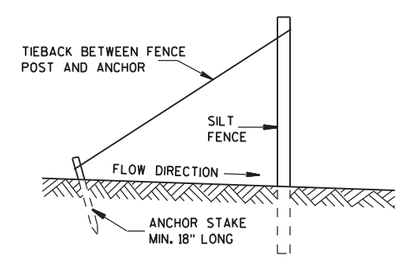


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

6

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE
FHWA

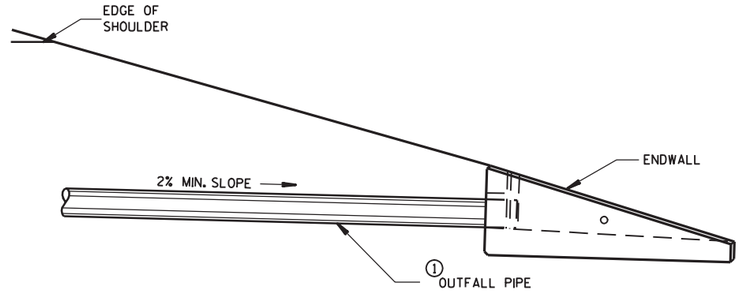
CHIEF ROADWAY DEVELOPMENT ENGINEER

S.D.D. 8 E 9-6

S.D.D. 8 E 9-6

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

**APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

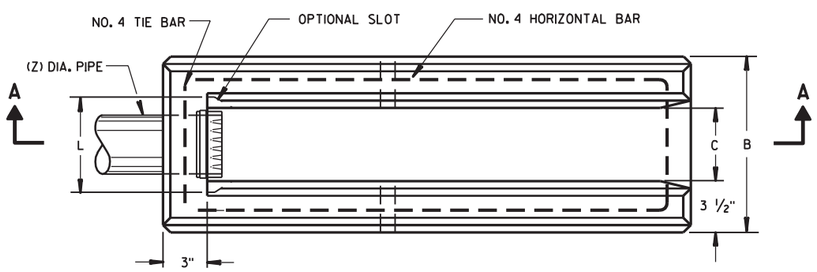
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

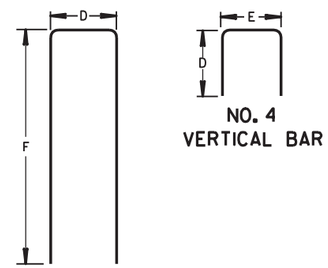
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

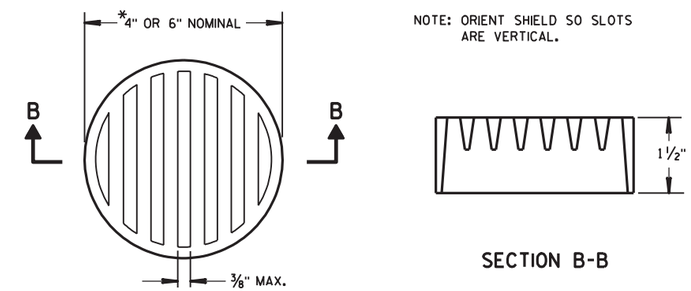
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



PLAN VIEW



BAR STEEL REINFORCEMENT DETAILS

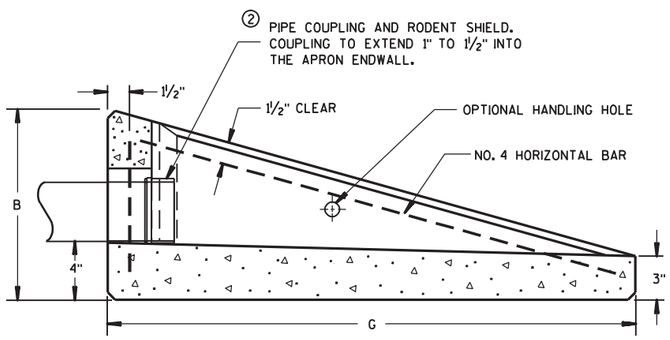


NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

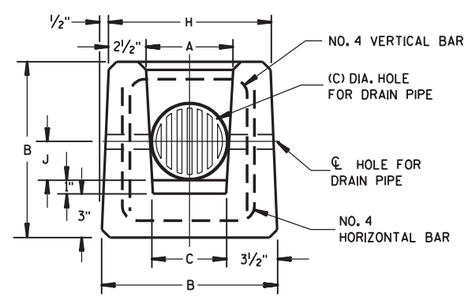
SECTION B-B

② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A



END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/10/98
DATE
FHWA

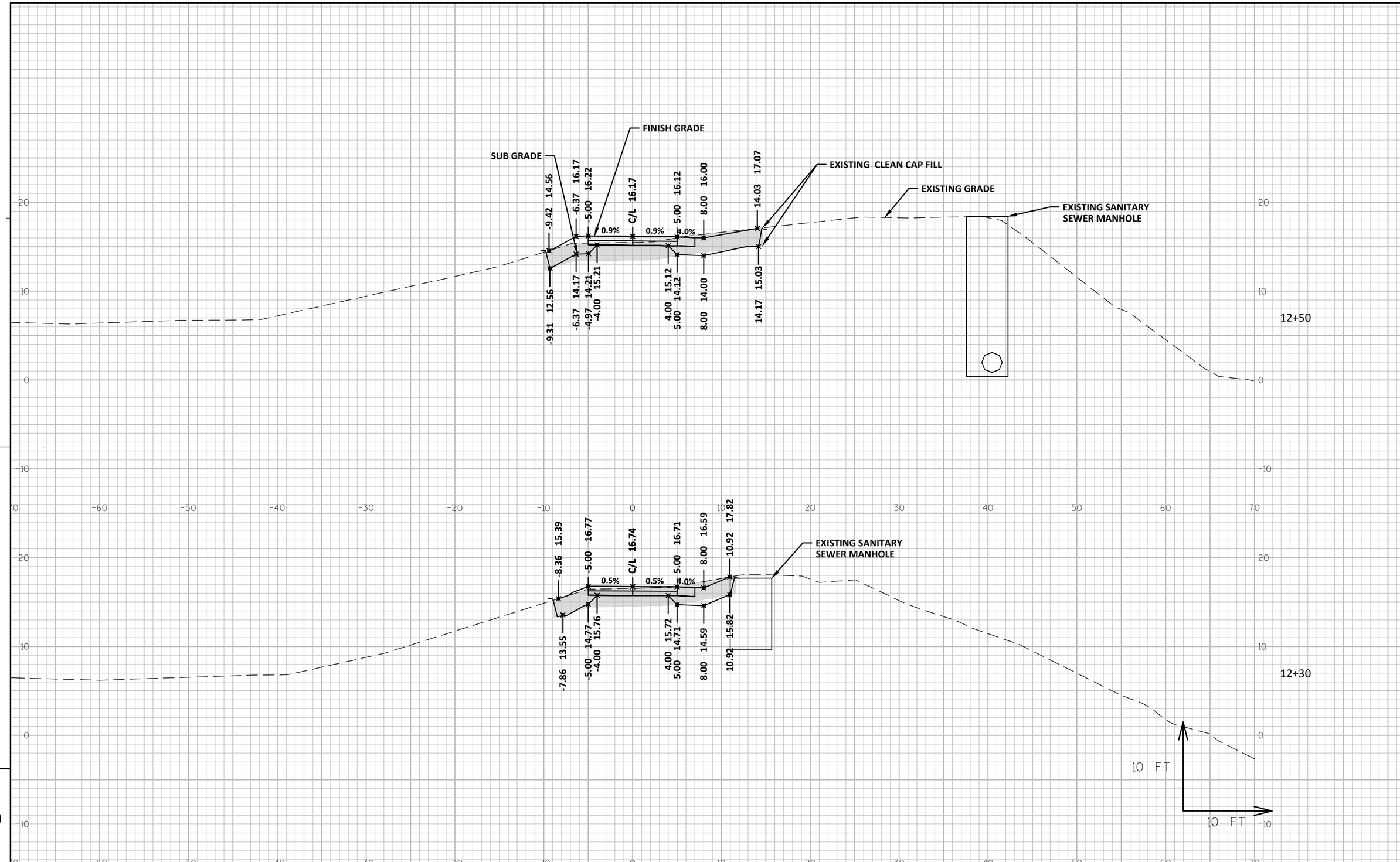
CHIEF ROADWAY DEVELOPMENT ENGINEER

6

S.D.D. 8 F 6-4

6

S.D.D. 8 F 6-4



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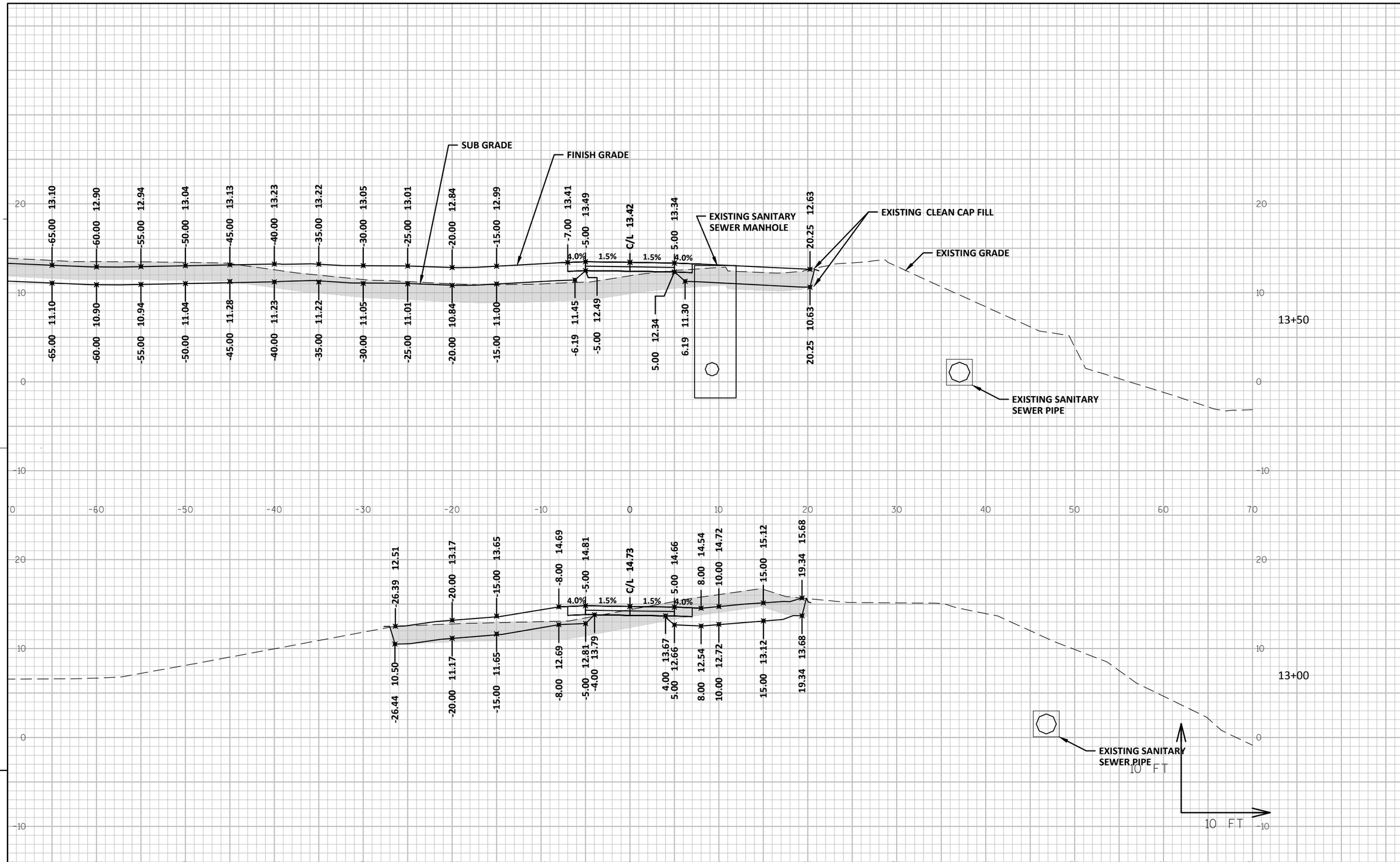
PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	CROSS SECTIONS: NORTH BANK TRAIL ALIGNMENT	SHEET 071	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\09-01 CROSS SECTIONS\CROSS SECTIONS.DWG PLOT DATE : 7/10/2015 3:57 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 49



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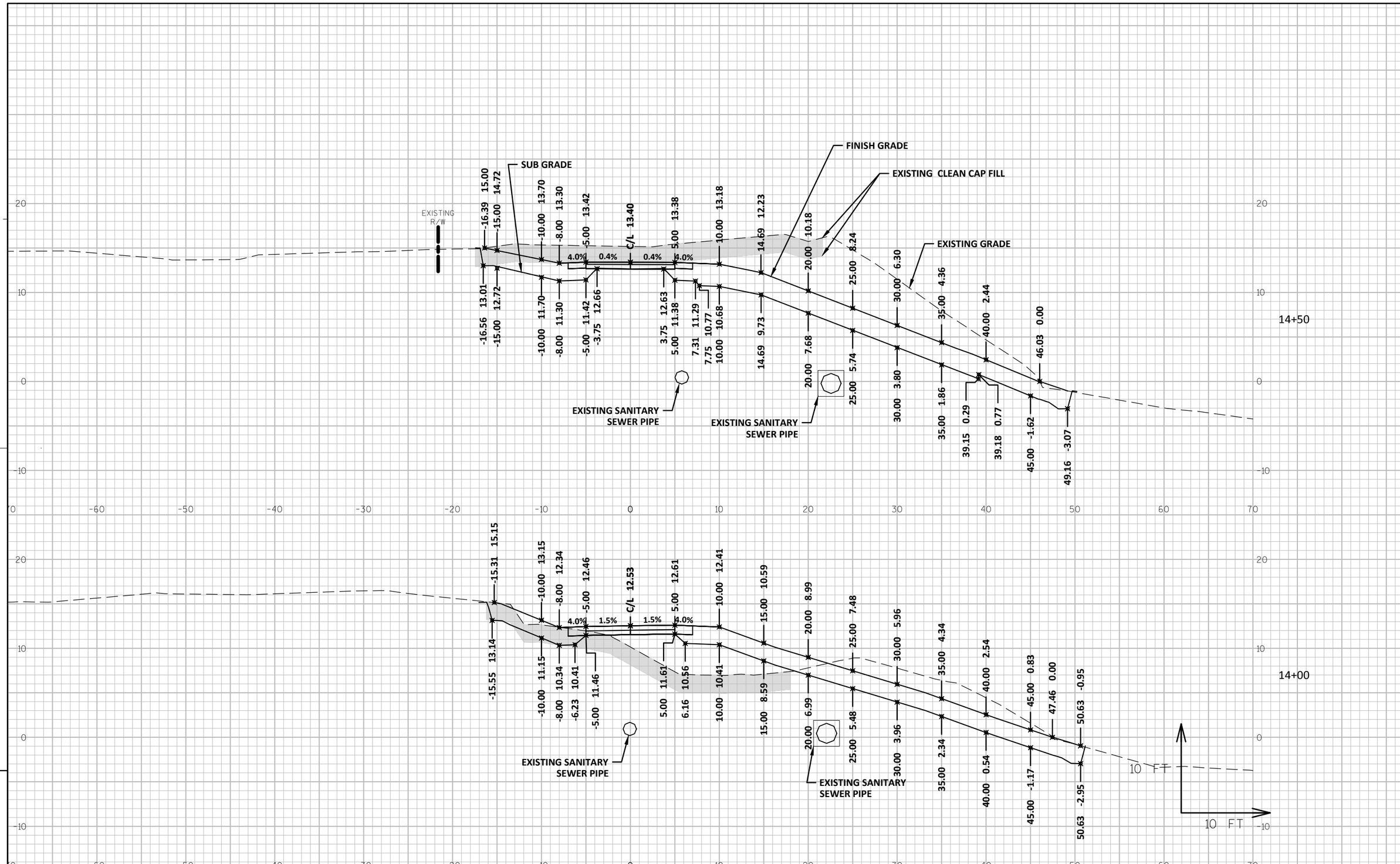
WISDOT/CADDS SHEET 49



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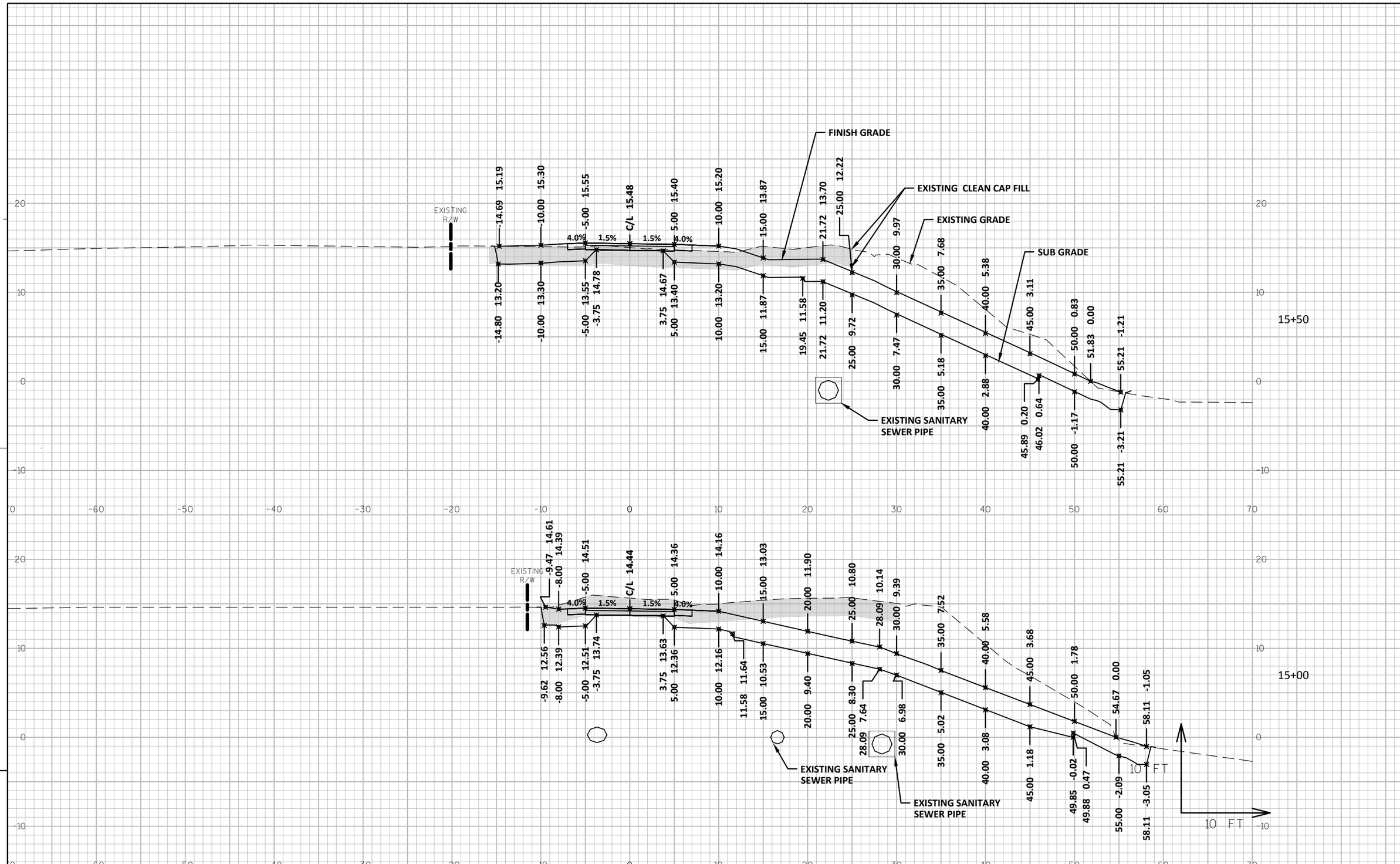
WISDOT/CADDS SHEET 49



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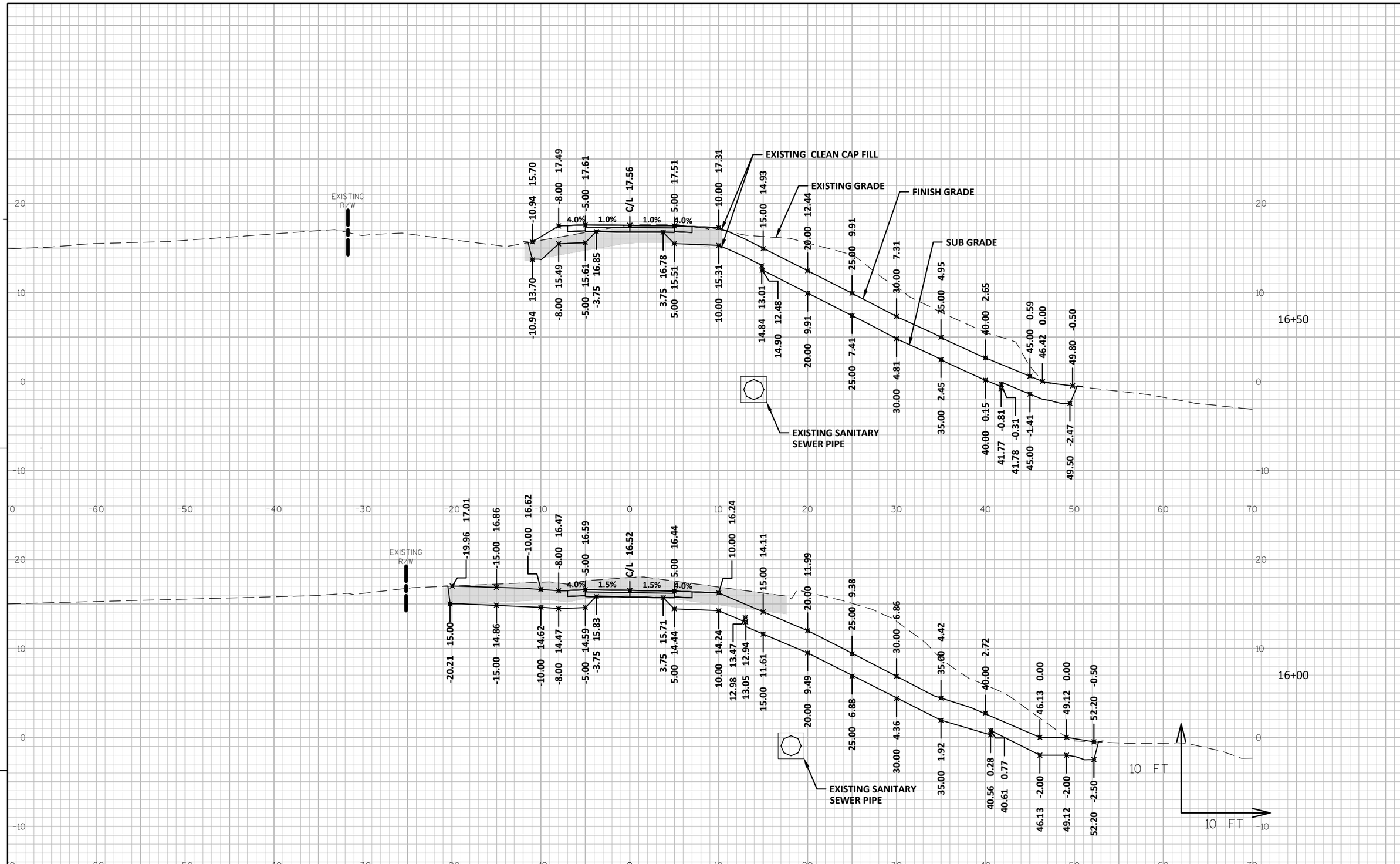

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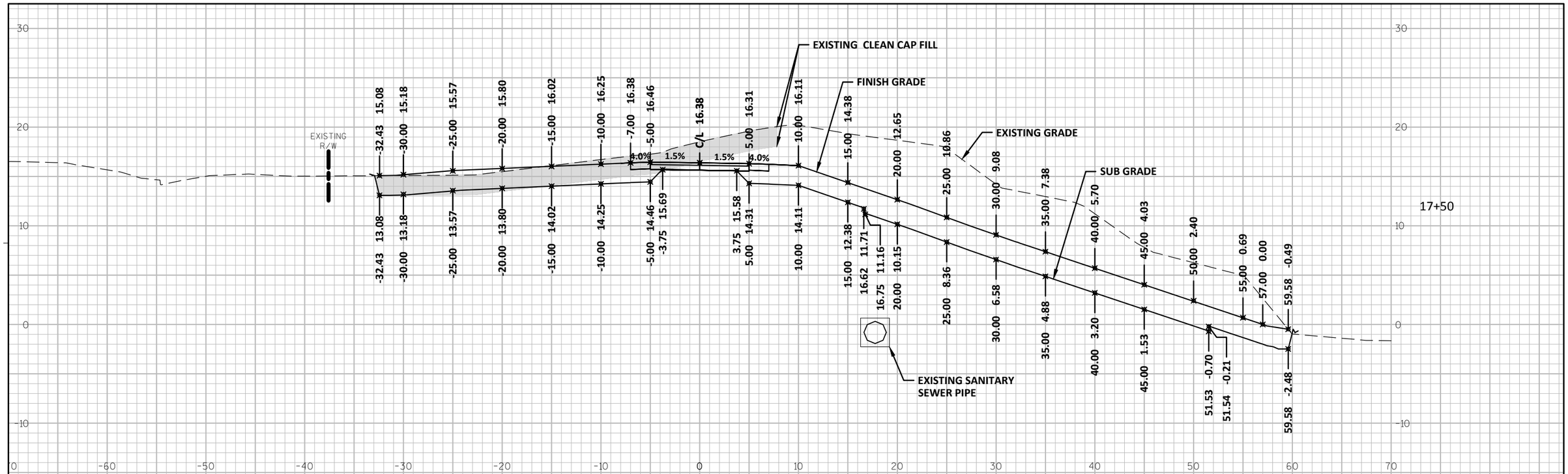

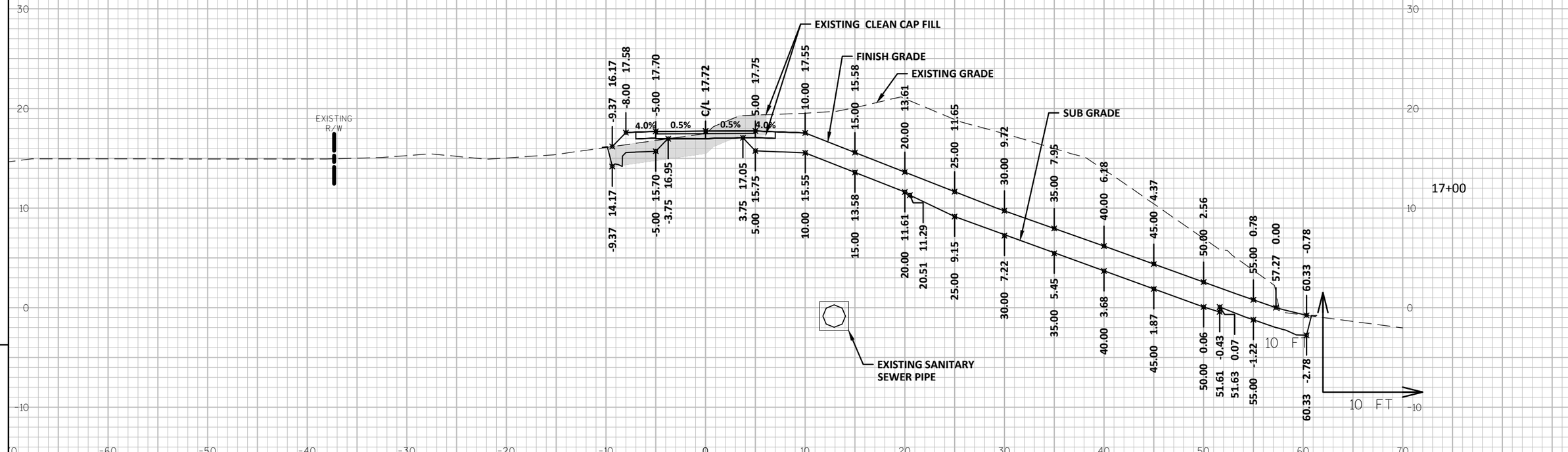

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PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	CROSS SECTIONS: NORTH BANK TRAIL ALIGNMENT	SHEET 076	E

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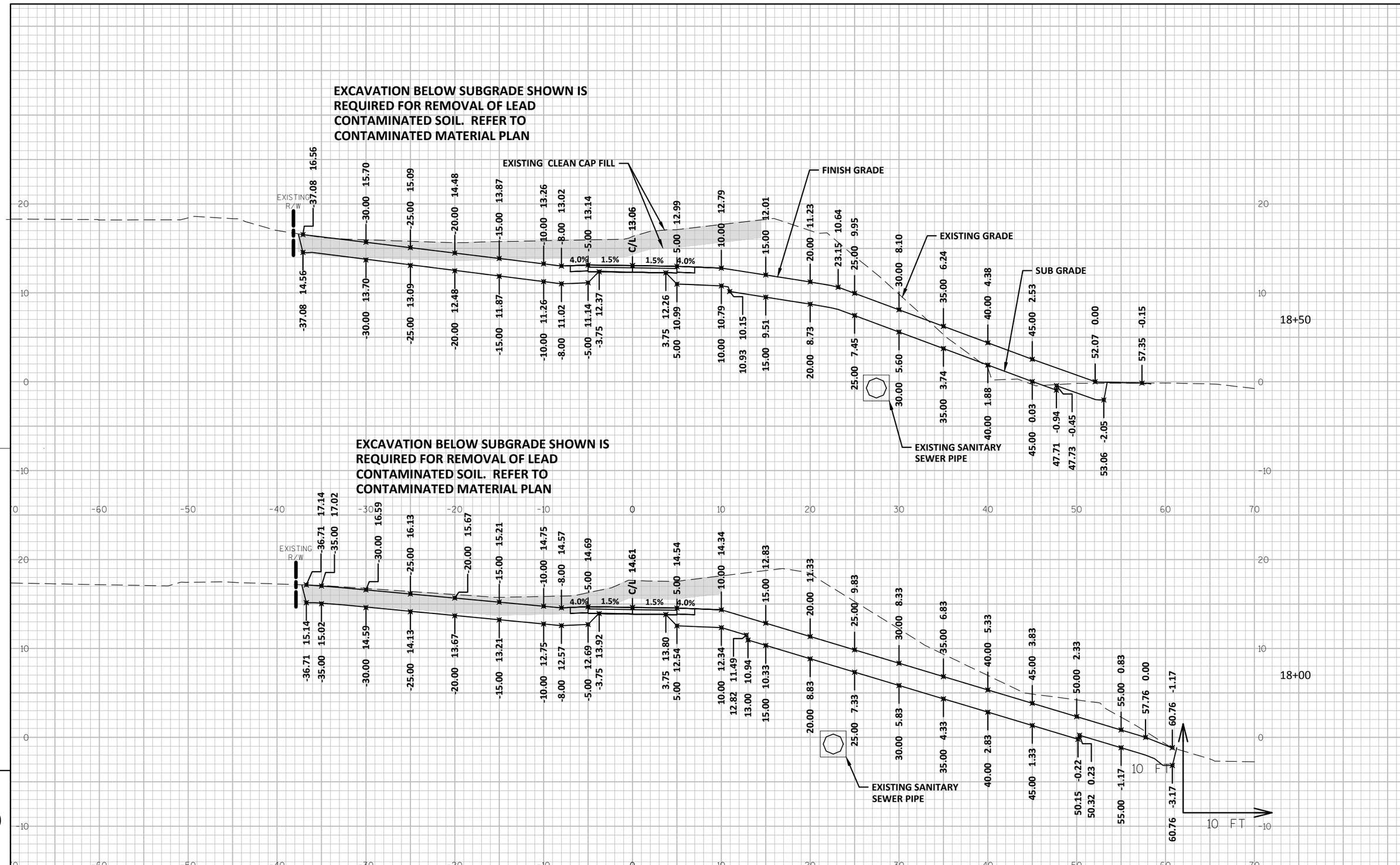

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PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	CROSS SECTIONS: NORTH BANK TRAIL ALIGNMENT	SHEET 077	E

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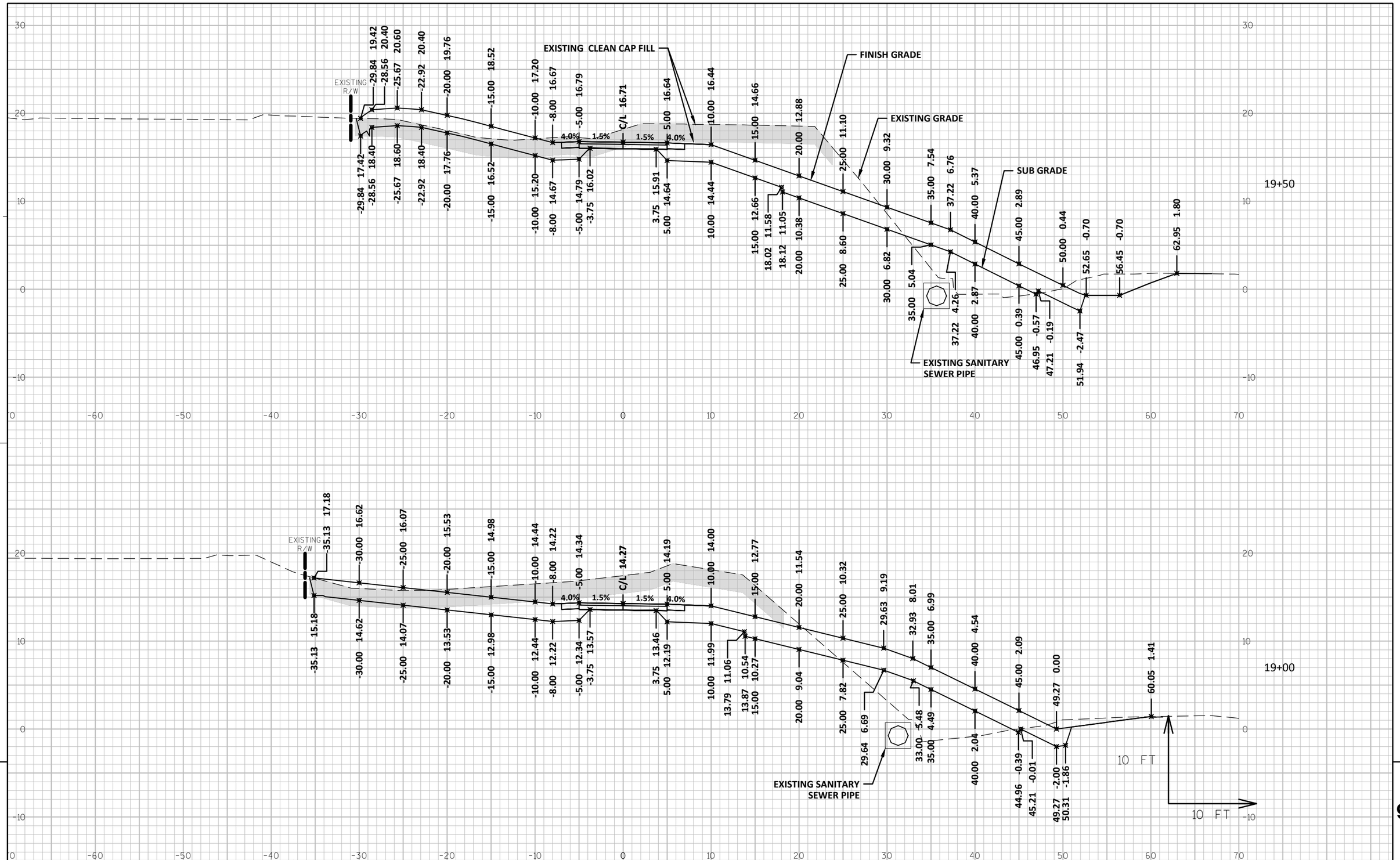

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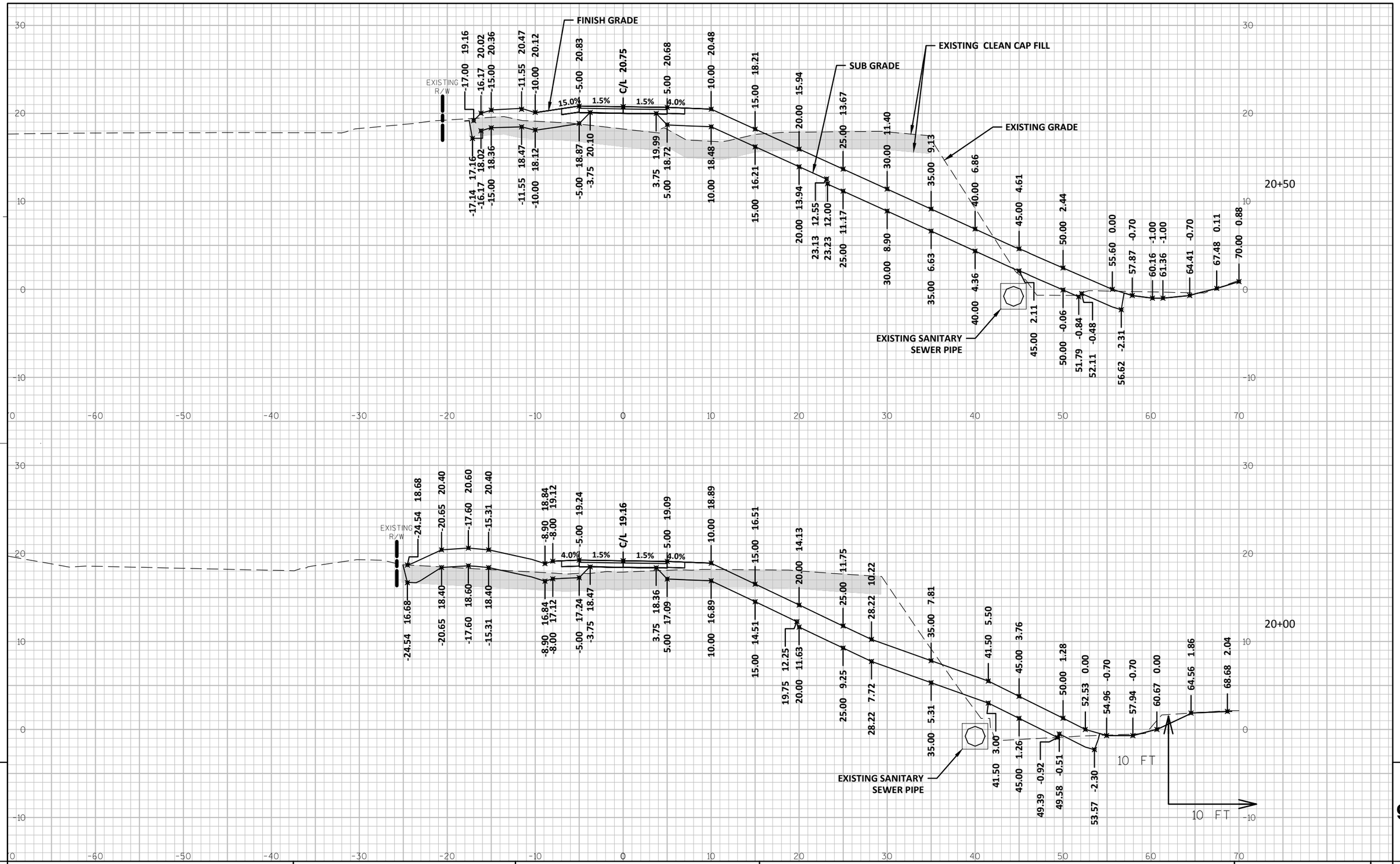

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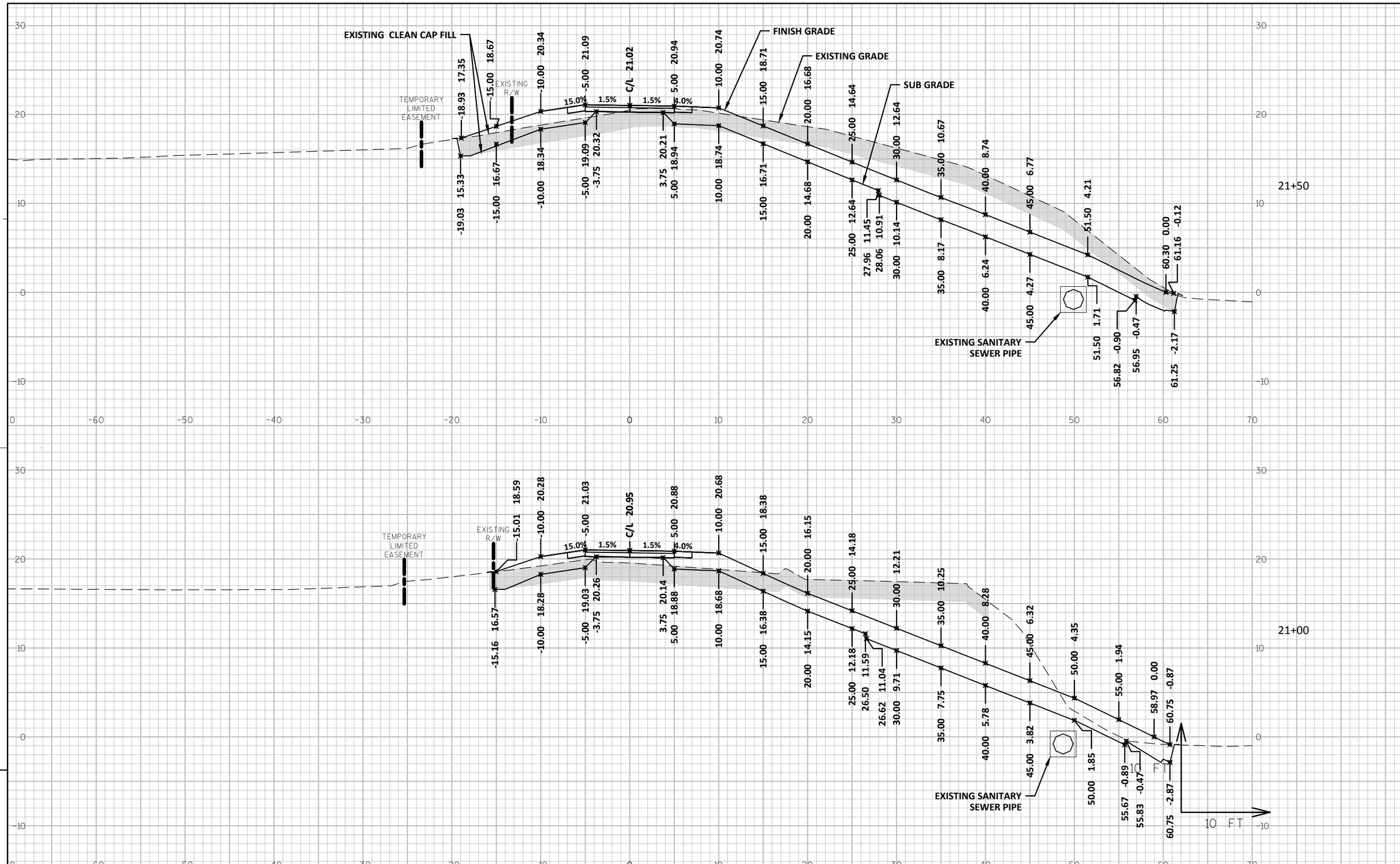

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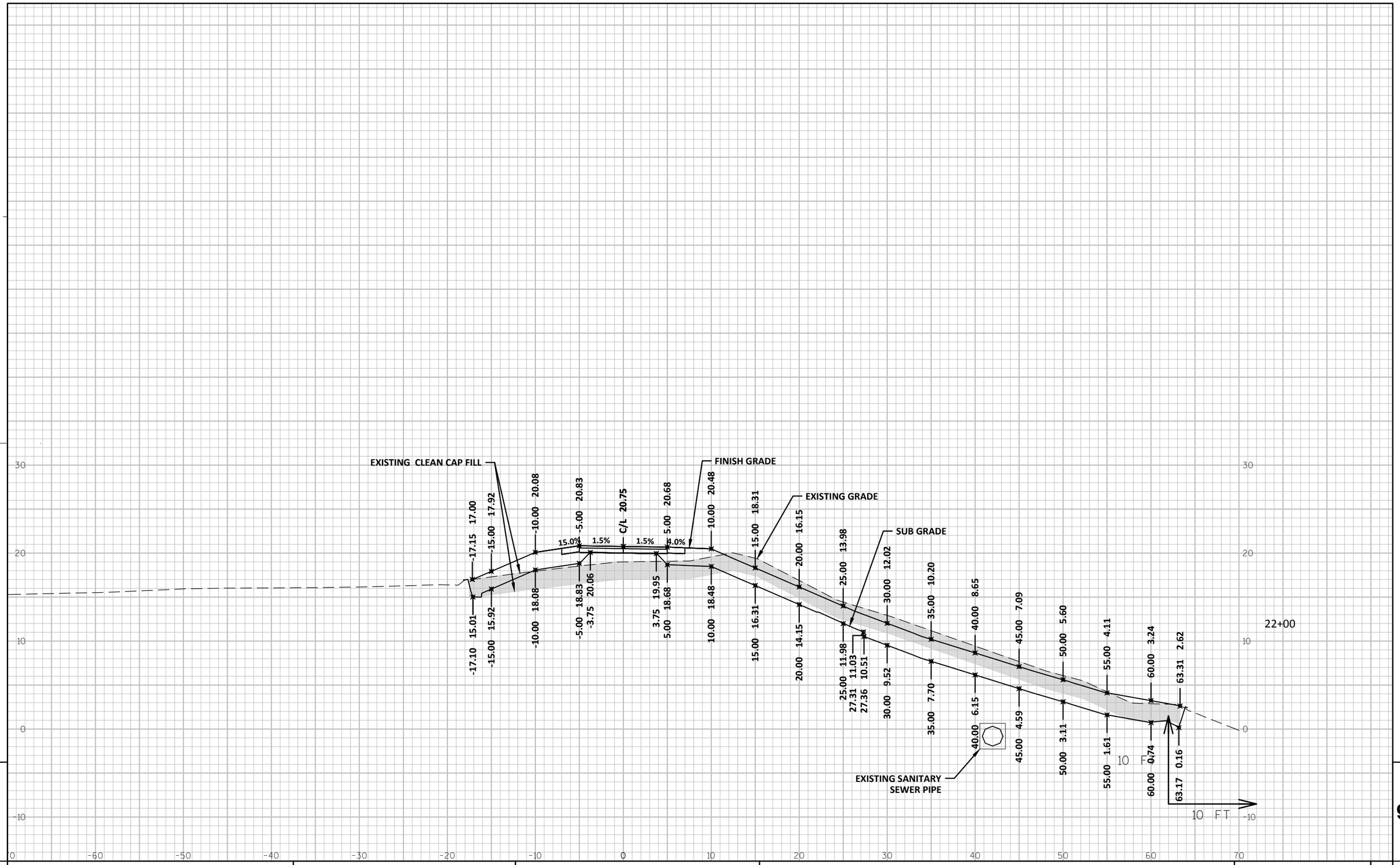

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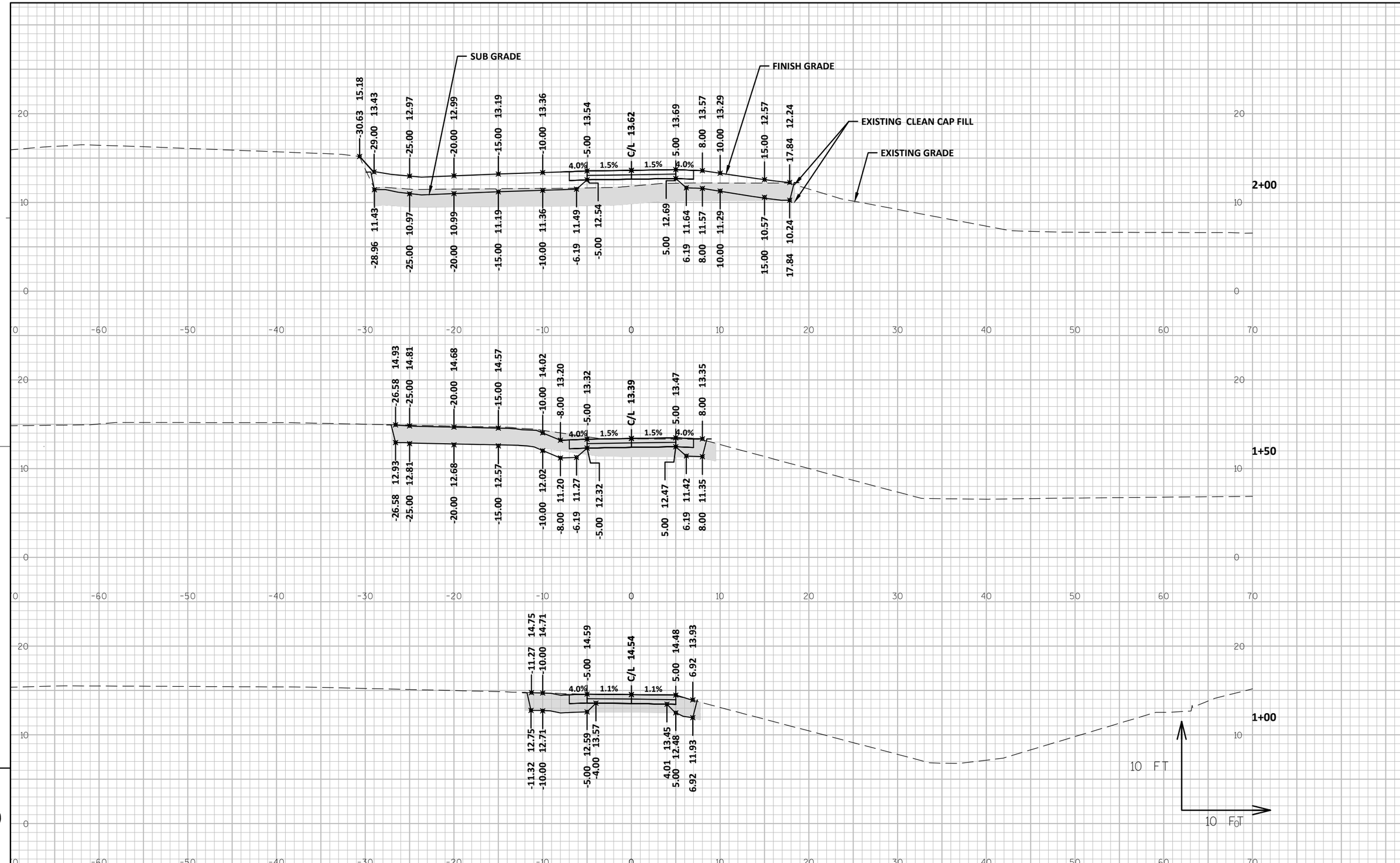
PROJECT NO:1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	CROSS SECTIONS: NORTH BANK TRAIL ALIGNMENT	SHEET 081	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\09-01 CROSS SECTIONS\CROSS SECTIONS.DWG PLOT DATE : 7/10/2015 4:00 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1693-38-72	NORTH BANK TRAIL	COUNTY: MILWAUKEE	CROSS SECTIONS: CONNECTOR TRAIL ALIGNMENT	SHEET 082	E

FILE NAME : I:\MILWCI\13596 - N. RIVER BANK\060 CAD\C - CIVIL\1693-38-02\SHEETSPLAN\09-01 CROSS SECTIONS\CROSS SECTIONS.DWG PLOT DATE : 7/10/2015 4:00 PM PLOT BY : ADAM HAMMEN PLOT NAME : PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 49