

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1000-81-70	WISC 2024303	1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
 PLAN OF PROPOSED IMPROVEMENT
VARIOUS POND LOCATIONS
 IH 94 EW FWY - IH 41 ZOO FWY
IH 41
MILWAUKEE COUNTY

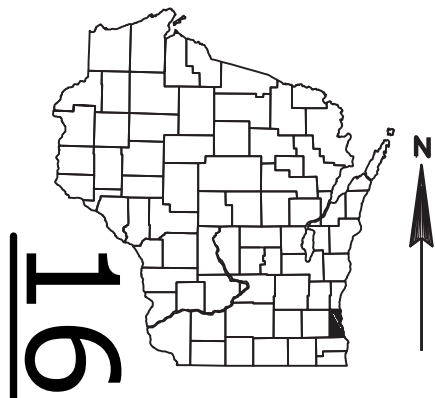
STATE PROJECT NUMBER
1000-81-70

PROJECT ID: 1000-81-70
 WITH: N/A

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 = 72



DESIGN DESIGNATION

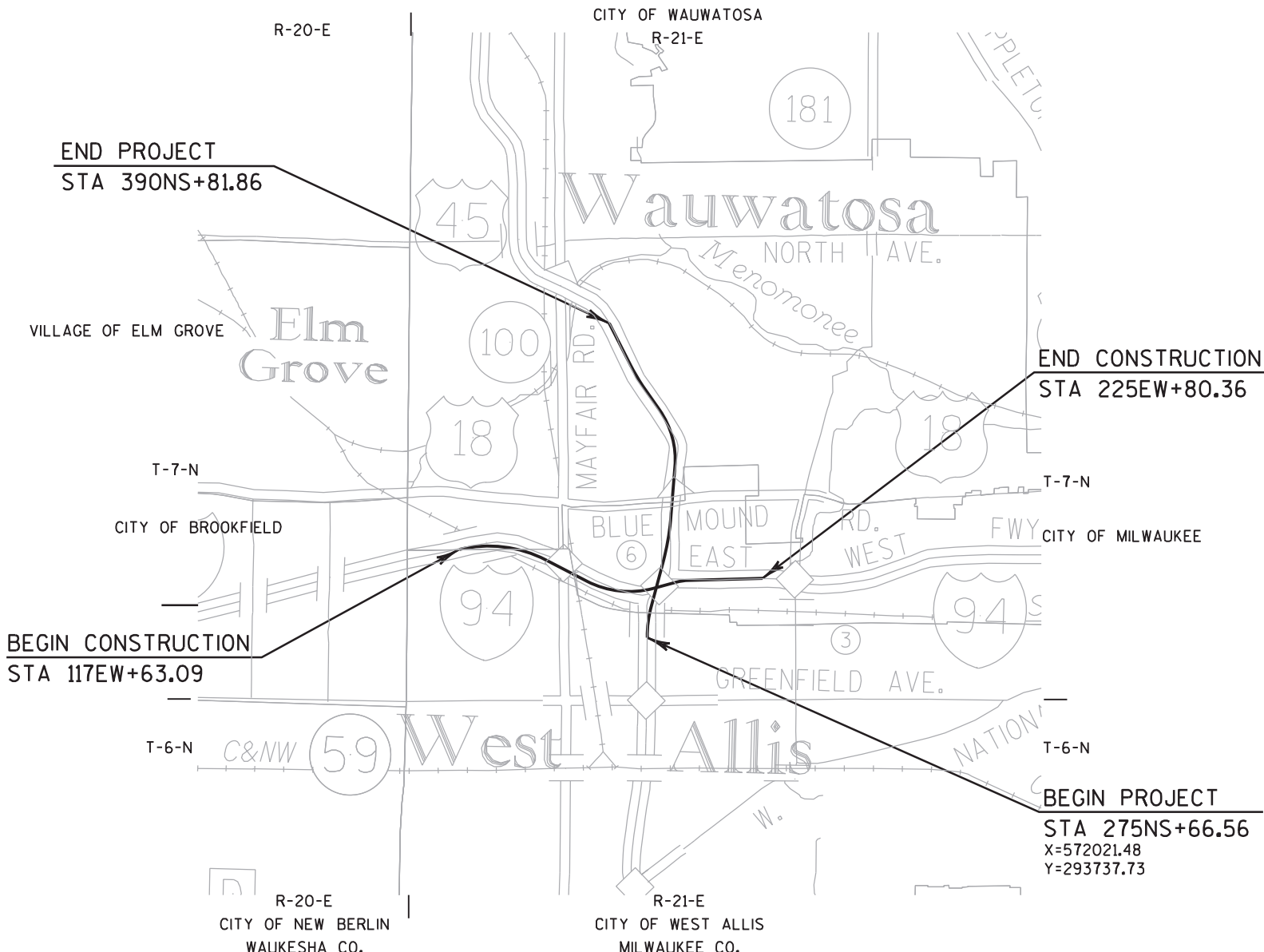
- A.A.D.T.
- A.A.D.T.
- D.H.V.
- D.D.
- T.
- DESIGN SPEED
- ESALS

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)
 - SURVEY CONTROL POINT
 - COMBUSTIBLE FLUIDS
 - HIGH VOLTAGE
 - MARSH AREA
 - WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such)
- SPECIAL DITCH
- GRADE ELEVATION
- CULVERT (Profile View)
- UTILITIES**
- ELECTRIC
- FIBER OPTIC
- GAS
- SANITARY SEWER
- STORM SEWER
- TELEPHONE
- WATER
- OVERHEAD ELECTRIC
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE
- TRANSMISSION TOWER



LAYOUT
 SCALE 0 0.5 MI.
 TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY ZONE, NAD 83 (2007)
 ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007)

ORIGINAL PLANS PREPARED BY
Jacobs 1610 N. 2ND STREET #201
 MILWAUKEE, WI 53212

WILLIAM T. STOECK
 35921-006
 MILWAUKEE, WI
 PROFESSIONAL ENGINEER

2/16/2024 (Date) *William T. Stoeck* (Signature)

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

PREPARED BY

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Designer	JACOBS
Project Manager	CLAYTON SMITH, P.E.
Regional Examiner	STEVE CHOJNACKI, P.E.
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APPROVED FOR THE DEPARTMENT
 DATE: 2/16/2024 *Clayton Smith* (Signature)

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MILWAUKEE, CITY OF

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Dial 811 or (800) 242-8511

www.DiggersHotline.com

GENERAL NOTES

NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

WHEN THE QUANTITY OF BASE AGGREGATE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

REMOVAL OF EROSION CONTROL DEVICES IS INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.

PLACE AND SPREAD TOPSOIL TO A MINIMUM DEPTH OF 6 INCHES.

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN THREE (3) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN THREE (3) CALENDAR DAYS OF INITIAL OR REPEATED DISTURBANCE, SEED THOSE AREAS WITH TEMPORARY SEED.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

EROSION CONTROL DEVICES ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND BY THE ENGINEER. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE DEVICE IS NO LONGER REQUIRED.

FERTILIZER SHALL NOT BE USED WITHIN 100' OF NAVIGABLE WATERWAYS OR WETLANDS

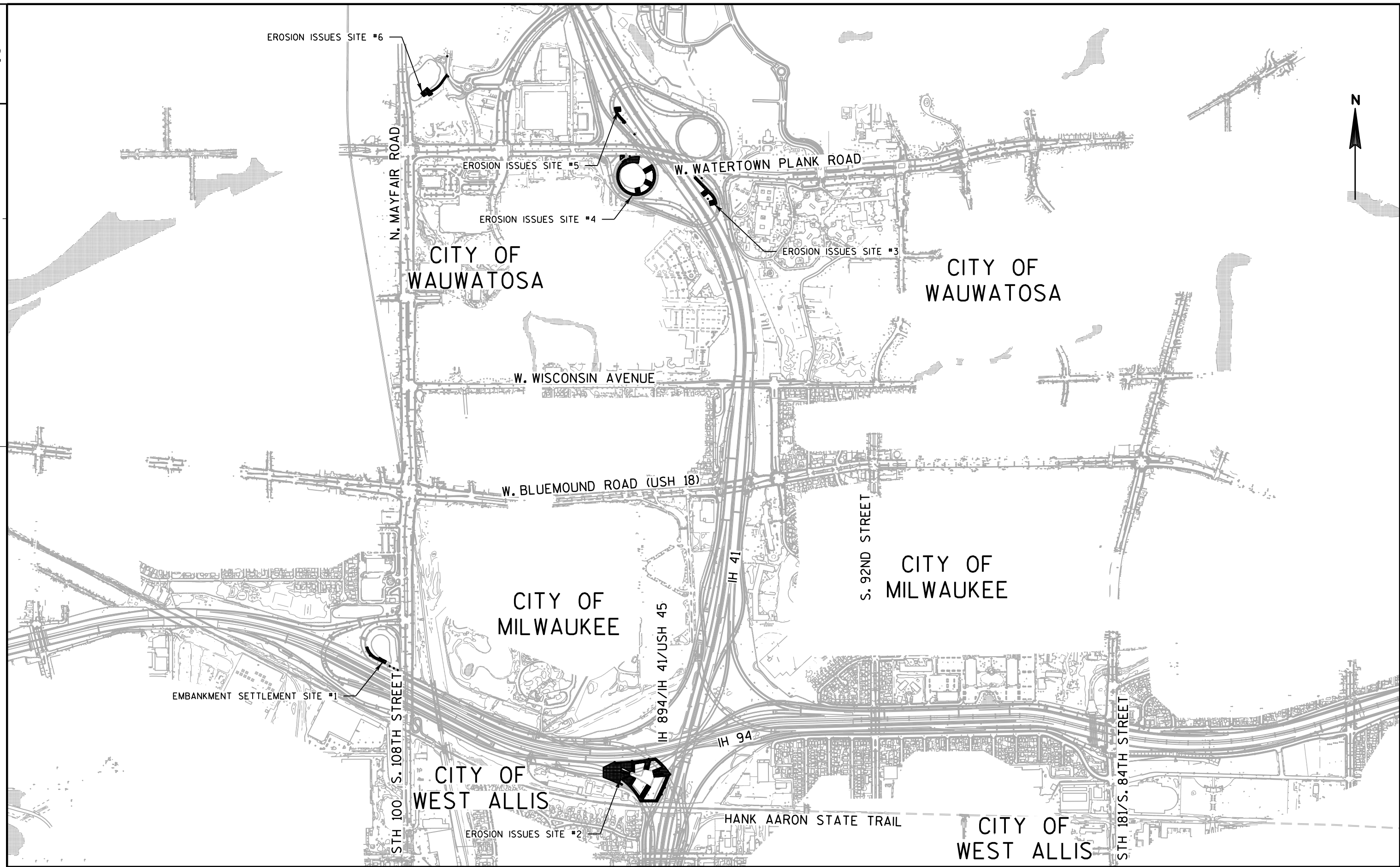
ALL PRIVATE EXISTING UTILITIES ARE TO BE ADJUSTED BY THE UTILITIES CONCERNED.

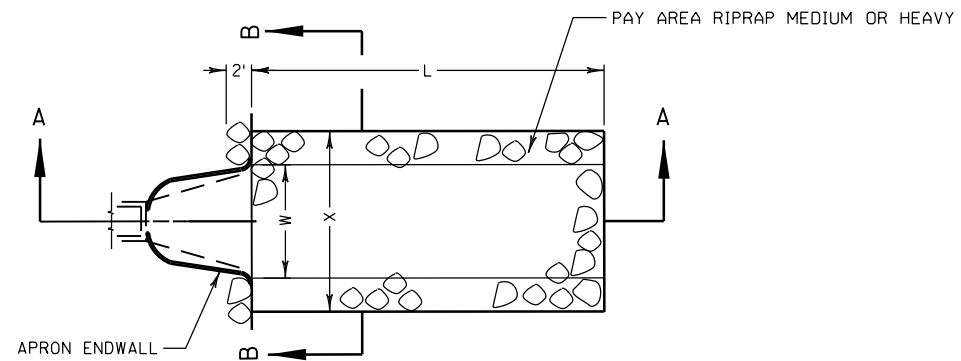
ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- CONSTRUCTION DETAILS
- REMOVAL PLANS
- EROSION CONTROL
- TRAFFIC CONTROL
- DETOUR
- ALIGNMENT LAYOUT

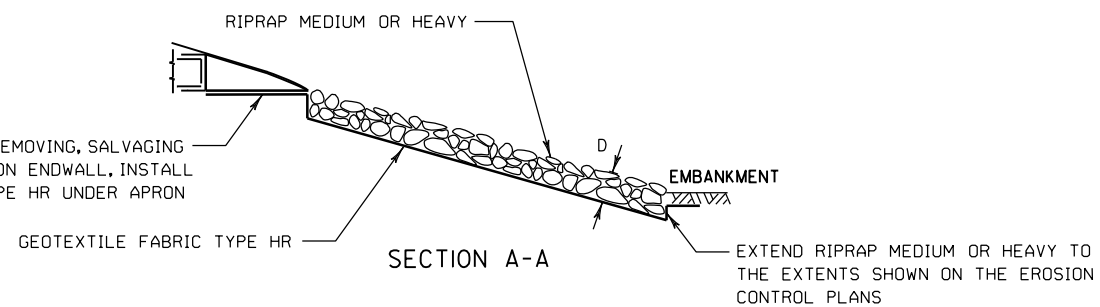
STANDARD ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
ASPH	ASPHALTIC
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CMCP	CULVERT PIPE CORRUGATED METAL
CONC	CONCRETE
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
EB	EASTBOUND
ENB	EXISTING NOISE BARRIER
FE	FIELD ENTRANCE
FL	FLOW LINE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LP	LOW POINT
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PGL	PROFILE GRADE LINE
PLE	PERMANENT LIMITED EASEMENT
PNB	PROPOSED NOISE BARRIER
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RRSP	RAILROAD SPIKE
RT	RIGHT
SALV	SALVAGED
SAPBC	SALVAGED ASPHALTIC PAVEMENT BASE COARSE
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
VCL	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT
WB	WESTBOUND



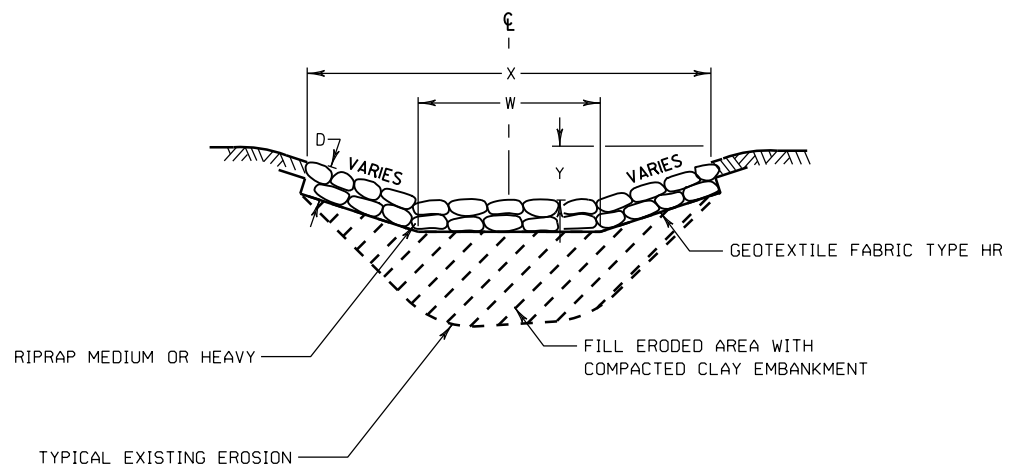


PLAN VIEW



SECTION A-A

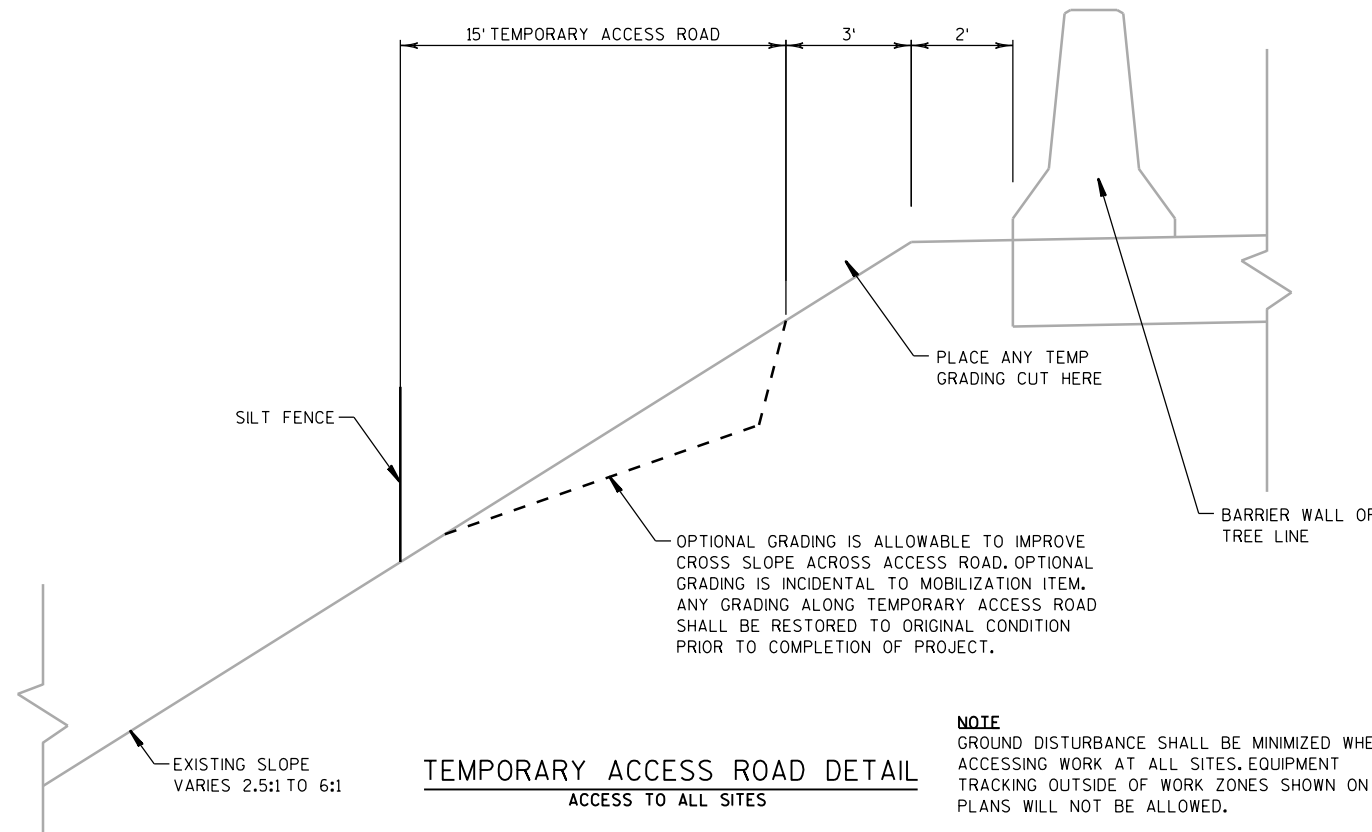
AT LOCATIONS WHERE REMOVING, SALVAGING AND REINSTALLING APRON ENDWALL, INSTALL GEOTEXTILE FABRIC TYPE HR UNDER APRON ENDWALL



SECTION B-B

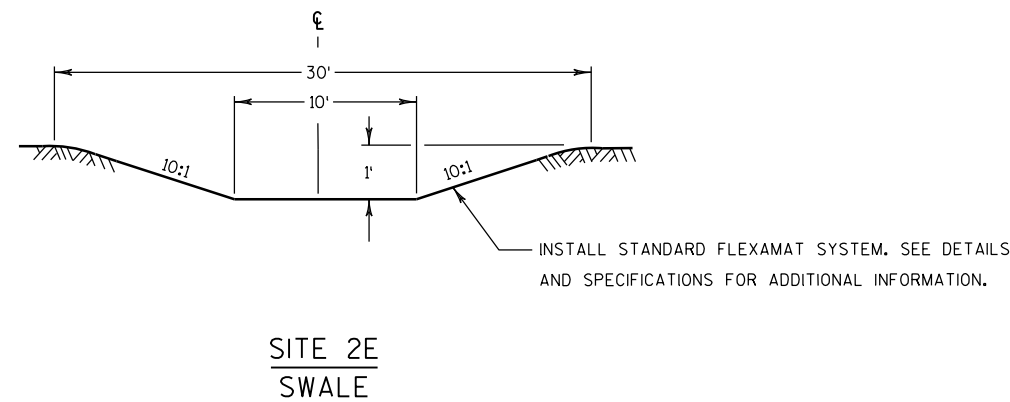
- L = LENGTH OF RIPRAP MEDIUM TO THE EXTENTS SHOWN ON THE EROSION CONTROL PLANS OR AS DIRECTED BY THE ENGINEER
- D = 18" FOR RIPRAP MEDIUM 24" FOR RIPRAP HEAVY
- W - SEE QUANTITY TABLE FOR DIMENSION
- X = W+6' (MIN. 8') FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE
- Y = 12" FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE

**RIPRAP AND GEOTEXTILE FABRIC DETAIL
AT APRON ENDWALLS**
SEE EROSION CONTROL PLAN FOR LOCATIONS

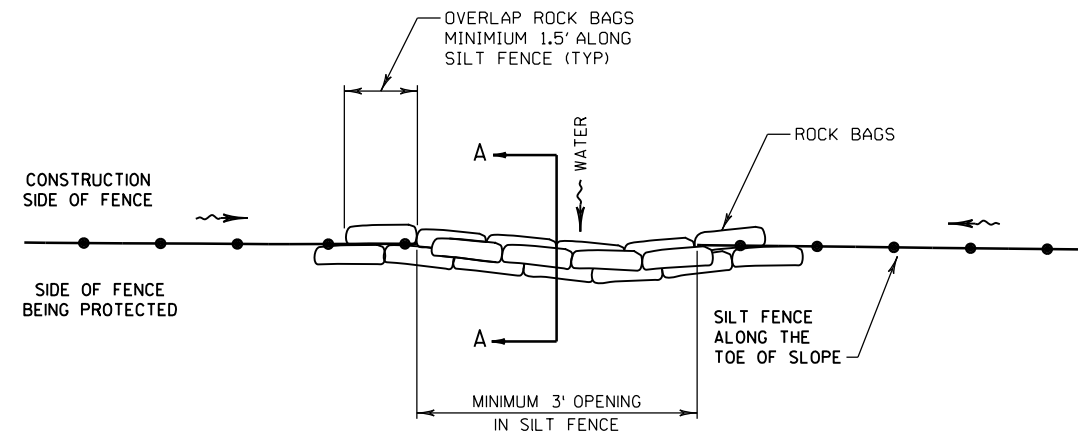


TEMPORARY ACCESS ROAD DETAIL
ACCESS TO ALL SITES

NOTE
GROUND DISTURBANCE SHALL BE MINIMIZED WHEN ACCESSING WORK AT ALL SITES. EQUIPMENT TRACKING OUTSIDE OF WORK ZONES SHOWN ON PLANS WILL NOT BE ALLOWED.



**SITE 2E
SWALE**



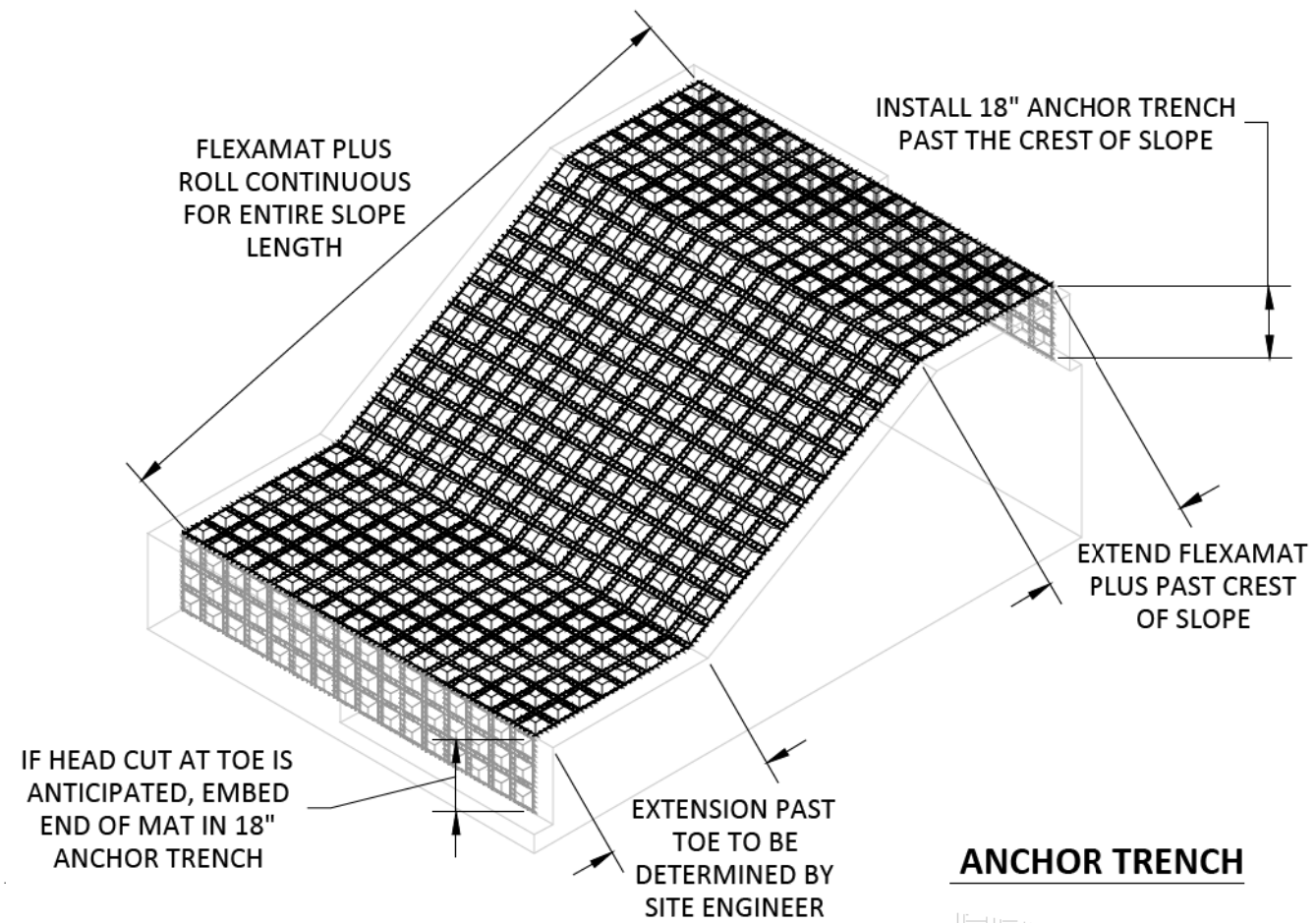
PLAN VIEW



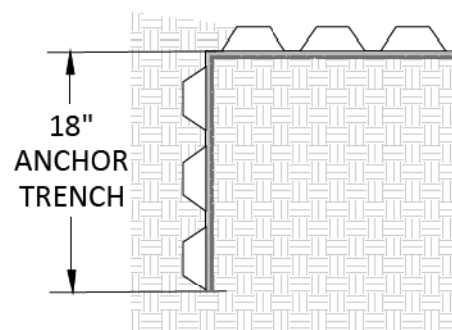
SECTION A-A

SILT FENCE DRAINAGE OUTLET, ROCK BAGS

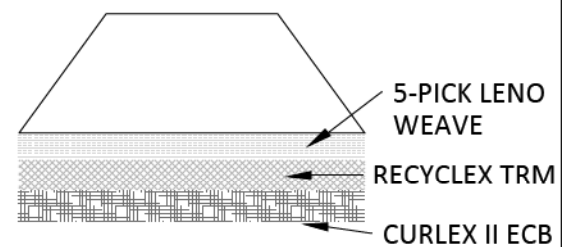
ISOMETRIC VIEW OF SLOPE AND ANCHOR TRENCHES



ANCHOR TRENCH



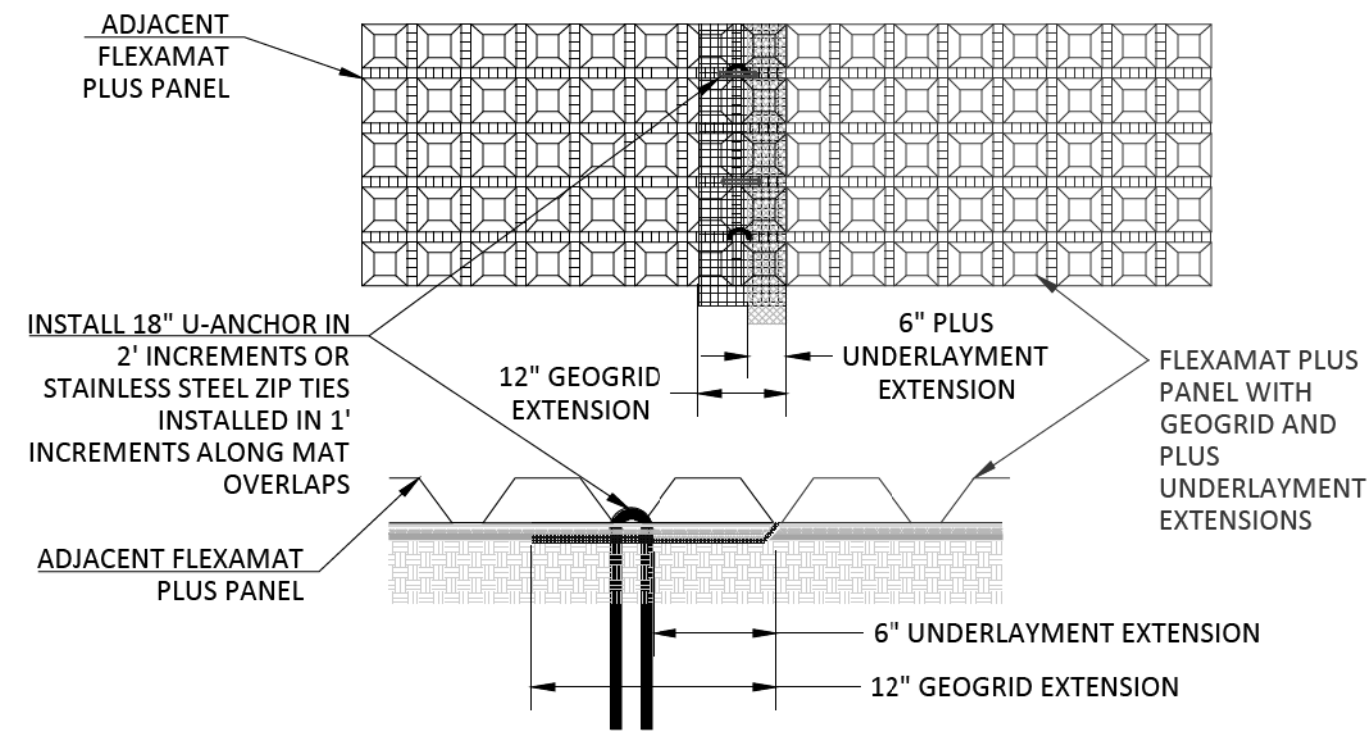
FLEXAMAT PLUS UNDERLAYMENT



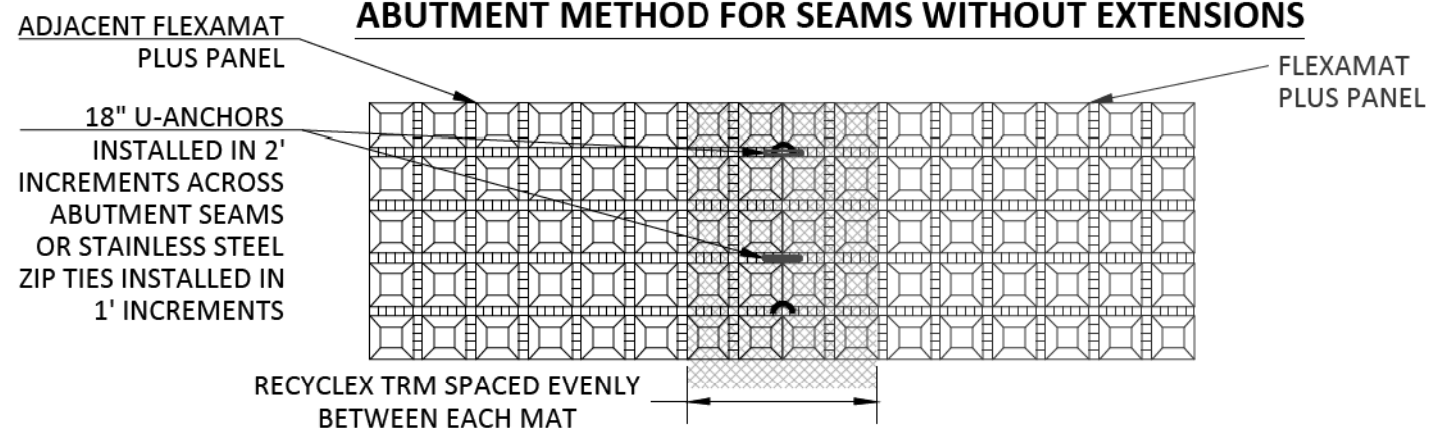
NOTES

1. AN ENGINEER OR MANUFACTURERS REPRESENTATIVE SHALL BE ON-SITE FOR THE START OF THE INSTALLATION.
2. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND
3. PRIOR TO FLEXAMAT PLUS INSTALLATION SEE AND FERTILIZE SUBGRADE WITH SITE SPECIFIED SEED MIX IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
4. INSTALL FLEXAMAT PLUS ROLLS THAT ARE CONTINUOUS FOR ENTIRE SLOPE LENGTH. FOR SLOPES LONGER THAN 16', USE MATS WITH EXTENSIONS CUT TO THE LENGTH OF THE SLOPE. INSTALL MATS SO THAT THE MATTING EXTENDS PAST THE CREST OF SLOPE AND INTO AN 18" ANCHOR TRENCH.
-FOR ARMORED SLOPE LENGTHS OF 16' OR LESS, INSTALL A TRM SEAM EQUALLY UNDER ADJACENT MATS.
-ARMORED SLOPE LENGTHS LONGER THAN 16', INSTALL NEXT MAT OVER EXTENSIONS.
5. INSTALL SUBSEQUENT MATS OVER THE GEOGRID EXTENSION AND TRM UNDERLAYMENT EXTENSION OF THE PREVIOUSLY INSTALLED MAT. ENSURE THE GEOGRID AND TRM UNDERLAYMENT EXTENSIONS ARE LAYING FLAT ON THE SUBGRADE BEFORE INSTALLING ADJACENT MAT OVER THE EXTENSION.
6. INSTALL #3 REBAR 18" U-ANCHOR IN 2' INCREMENTS ACROSS THE GEOGRID AND TRM EXTENSION OVERLAP. INSTALL ANCHORS PERPENDICULAR TO THE SLOPE DIRECTLY BEHIND THE FIRST ROW OF BLOCKS ON THE ADJACENT MAT.
7. AT THE END OF THE ARMORED SLOPE, IF THE HEAD CUT IS ANTICIPATED, EMBED THE MAT 18" IN A TERMINATION TRENCH. FILL AND COMPACT TERMINATION TRENCH WITH SUITABLE FILL.

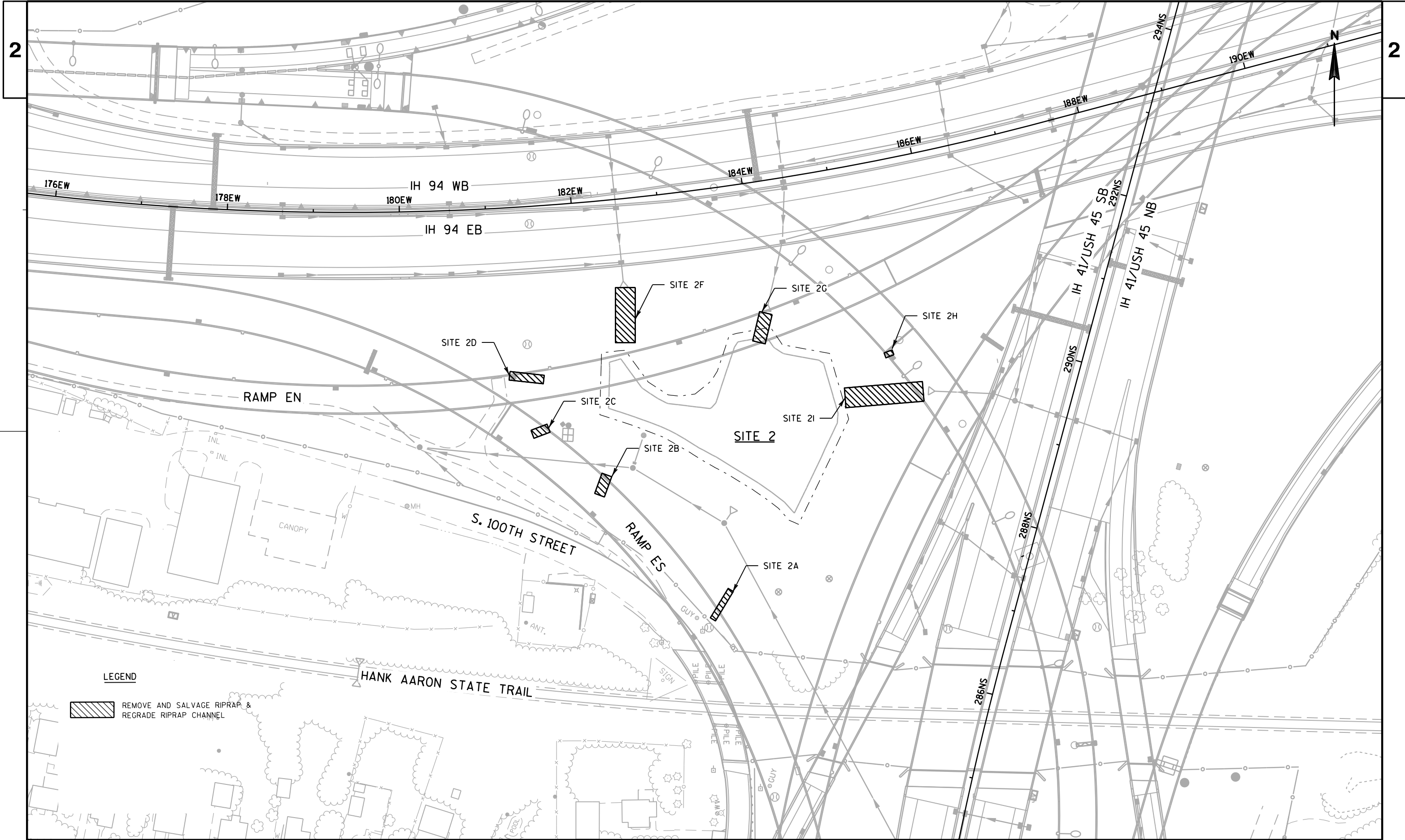
ABUTMENT METHOD FOR SEAMS WITH EXTENSIONS

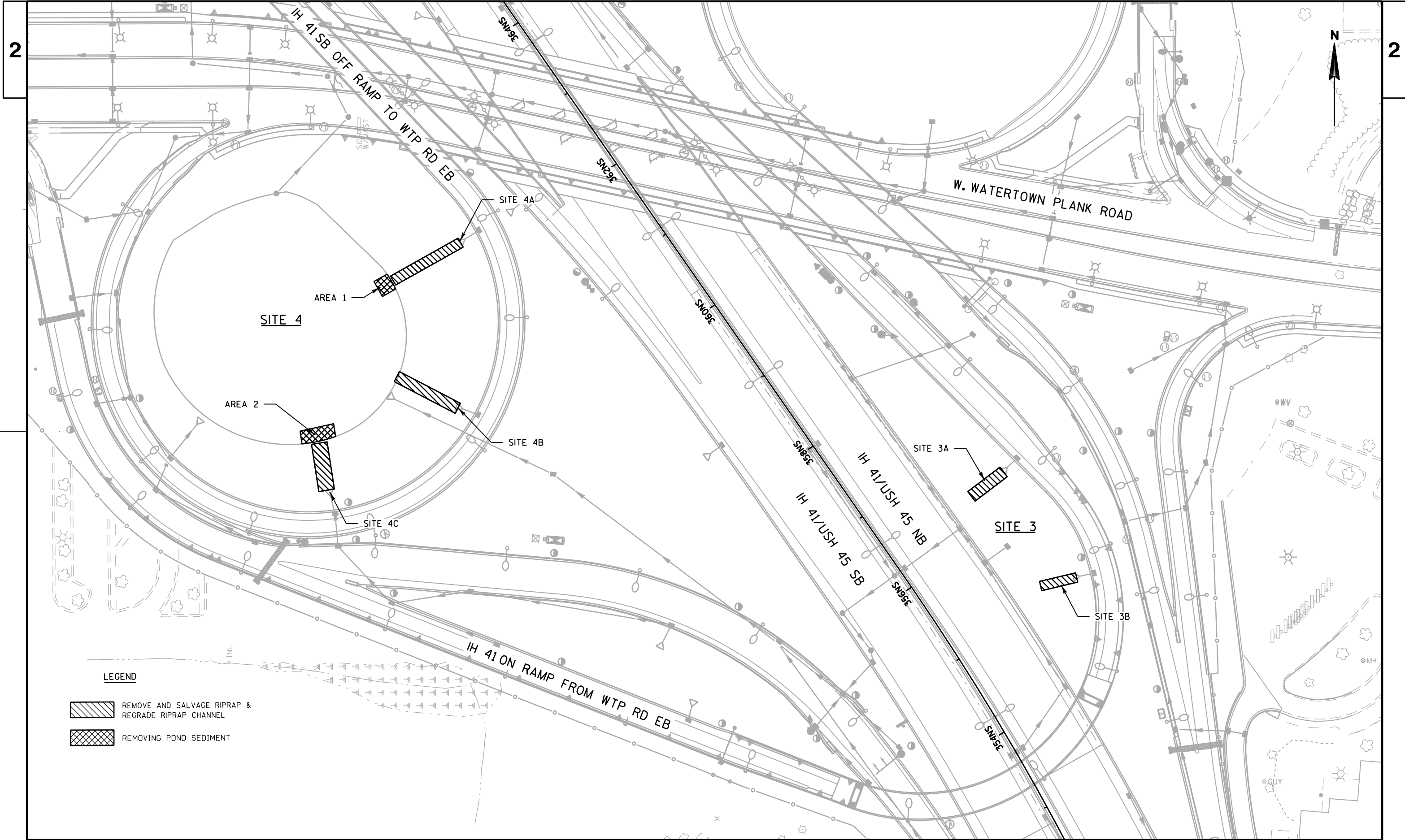


ABUTMENT METHOD FOR SEAMS WITHOUT EXTENSIONS



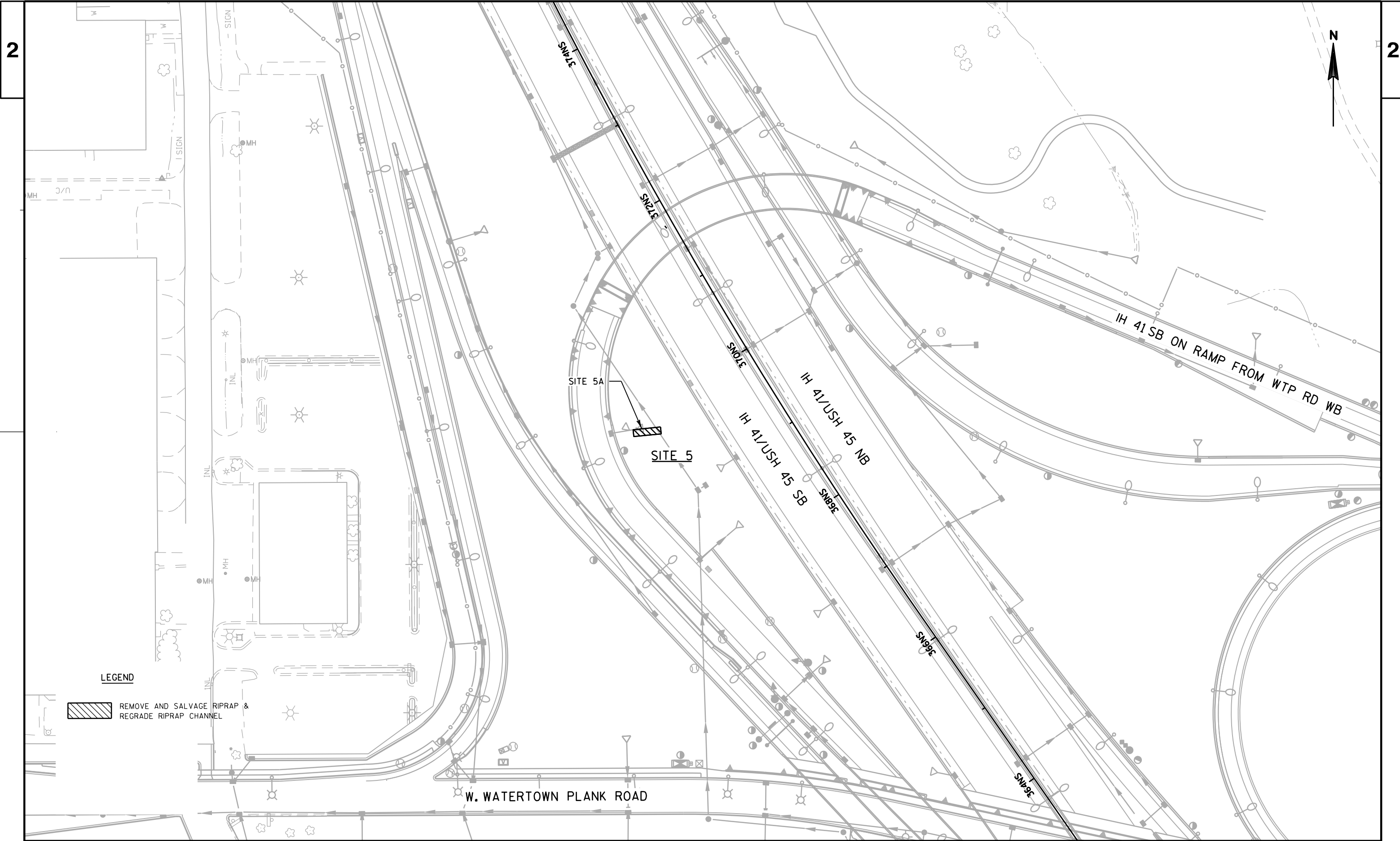
FLEXAMAT STANDARD TIED CONCRETE BLOCK
EROSION CONTROL MAT

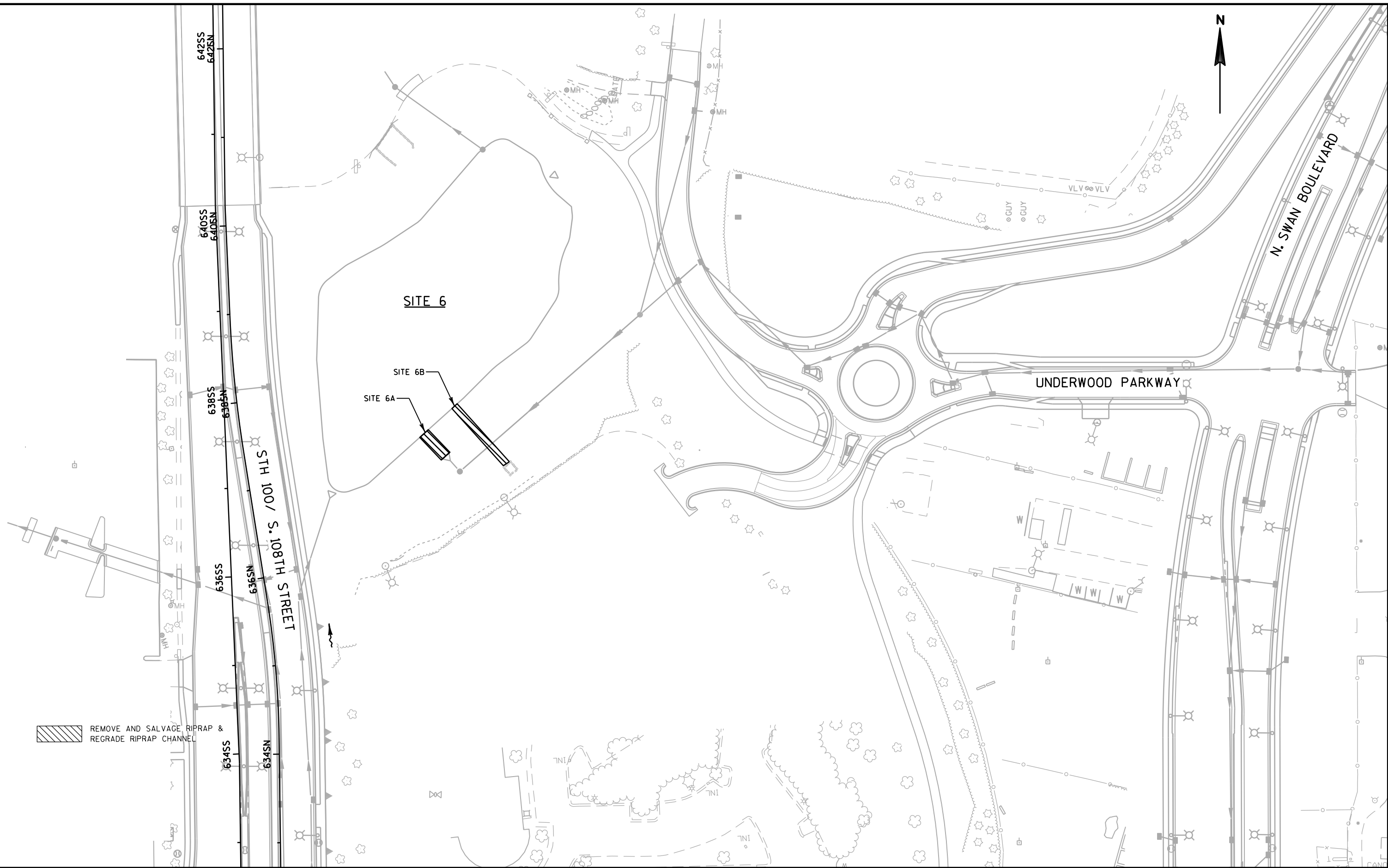


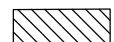


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





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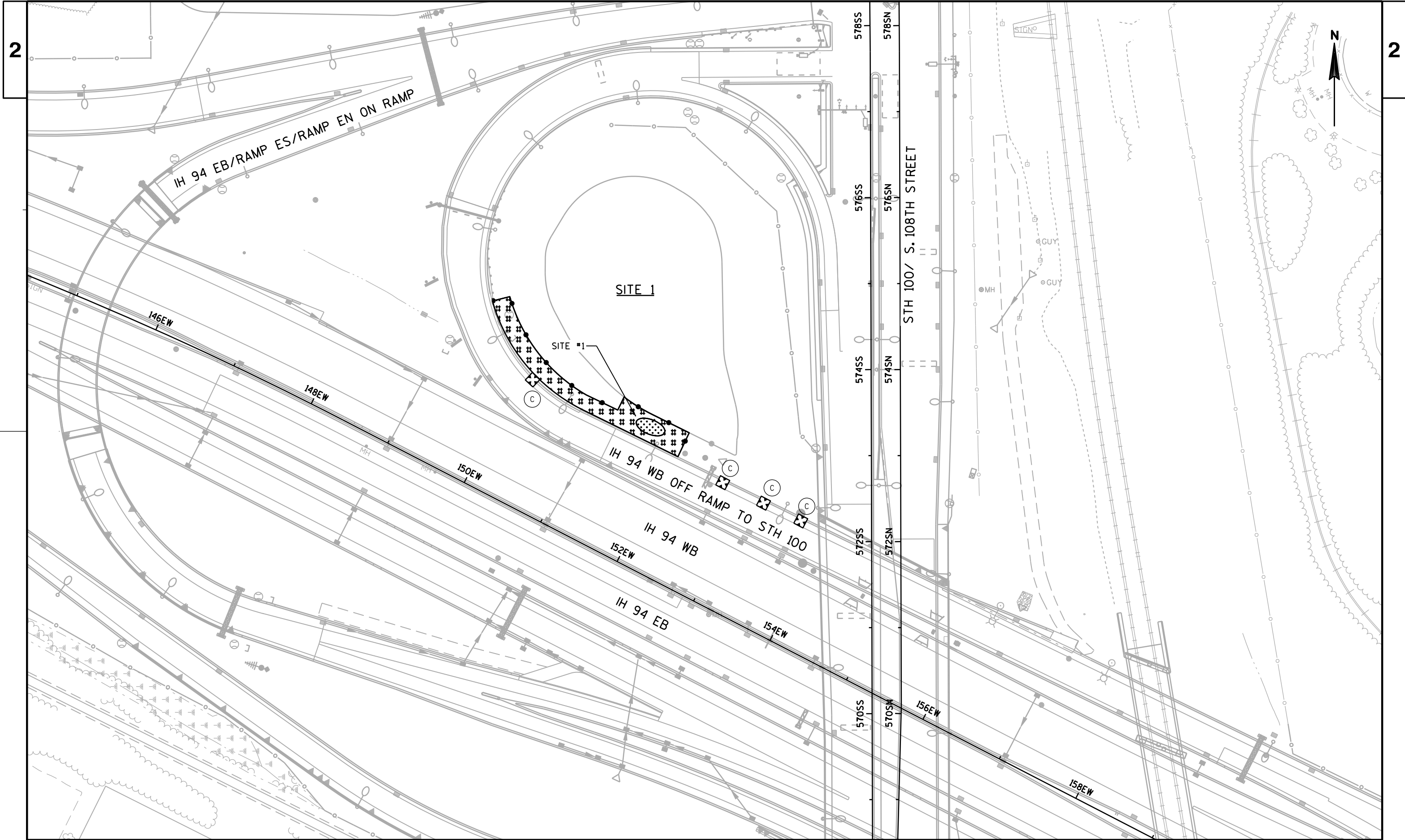


 REMOVE AND SALVAGE RIPRAP & REGRADE RIPRAP CHANNEL

LEGEND

-  EROSION MAT URBAN CLASS I TYPE B, TOPSOIL, FERTILIZER TYPE B, SEEDING TEMPORARY, AND SEEDING MIXTURE*
-  SOD LAWN
-  RIPRAP MEDIUM/ REMOVE, SALVAGE AND REINSTALL RIPRAP MEDIUM
-  SWALE AND FLEXAMAT STANDARD TIED CONCRETE BLOCK EROSION CONTROL MAT
-  GRADING REPAIR
-  BASE AGGREGATE DENSE 1 1/4-INCH AND ASPHALTIC MATERIAL BINDER
-  SILT FENCE
-  SURFACE WATER FLOW
-  INLET PROTECTION TYPE C
-  INLET PROTECTION TYPE D
-  TURBIDITY BARRIER
-  FENCE SAFETY
-  TRACKING PAD

* SEE "RESTORATION ITEMS" MISCELLANEOUS QUANTITIES TABLE FOR SEEDING MIXTURE TYPE



2

2

PROJECT NO: 1000-81-70

HWY: ZOO IC - IH 41, IH 94

COUNTY: MILWAUKEE

EROSION CONTROL

SHEET

E

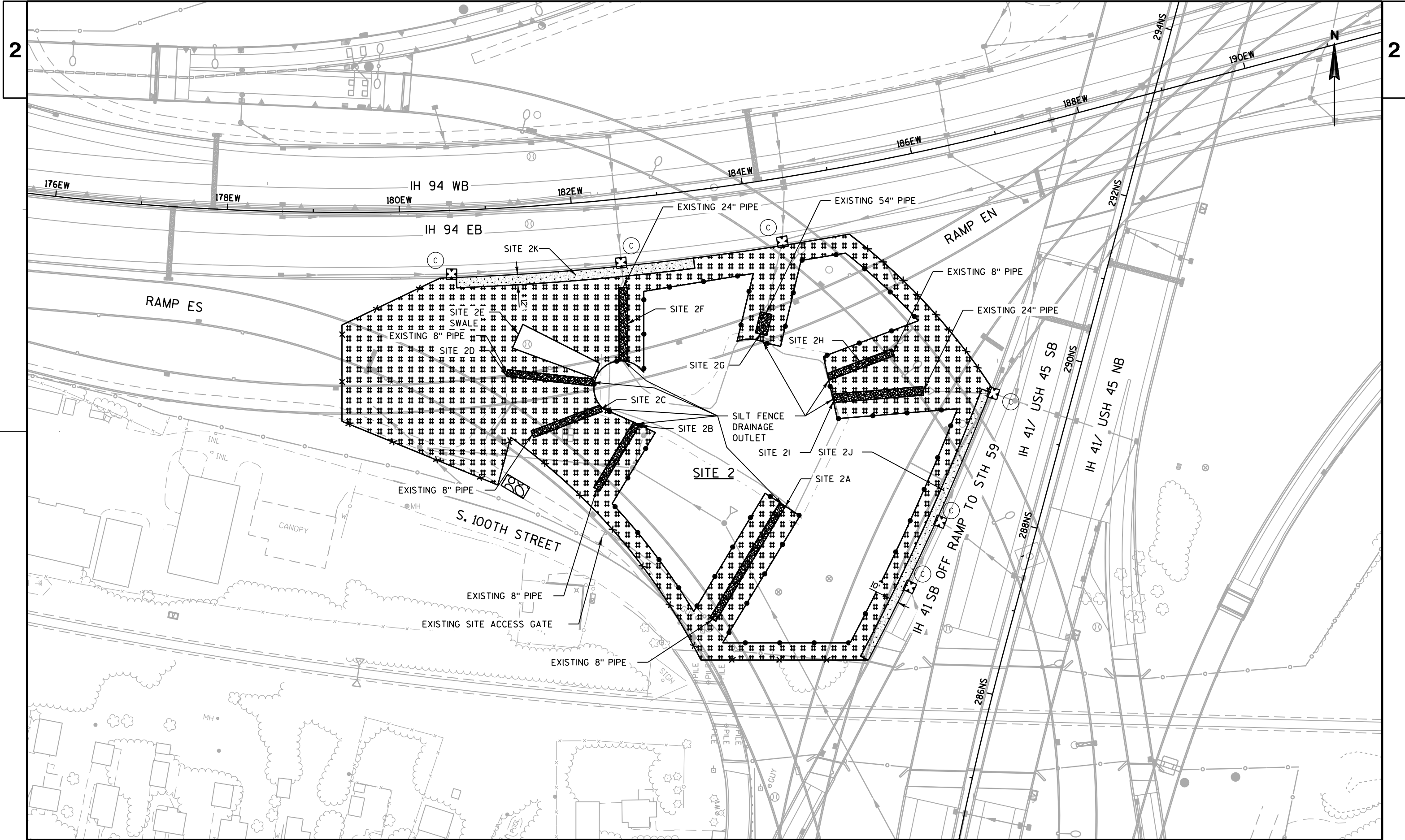
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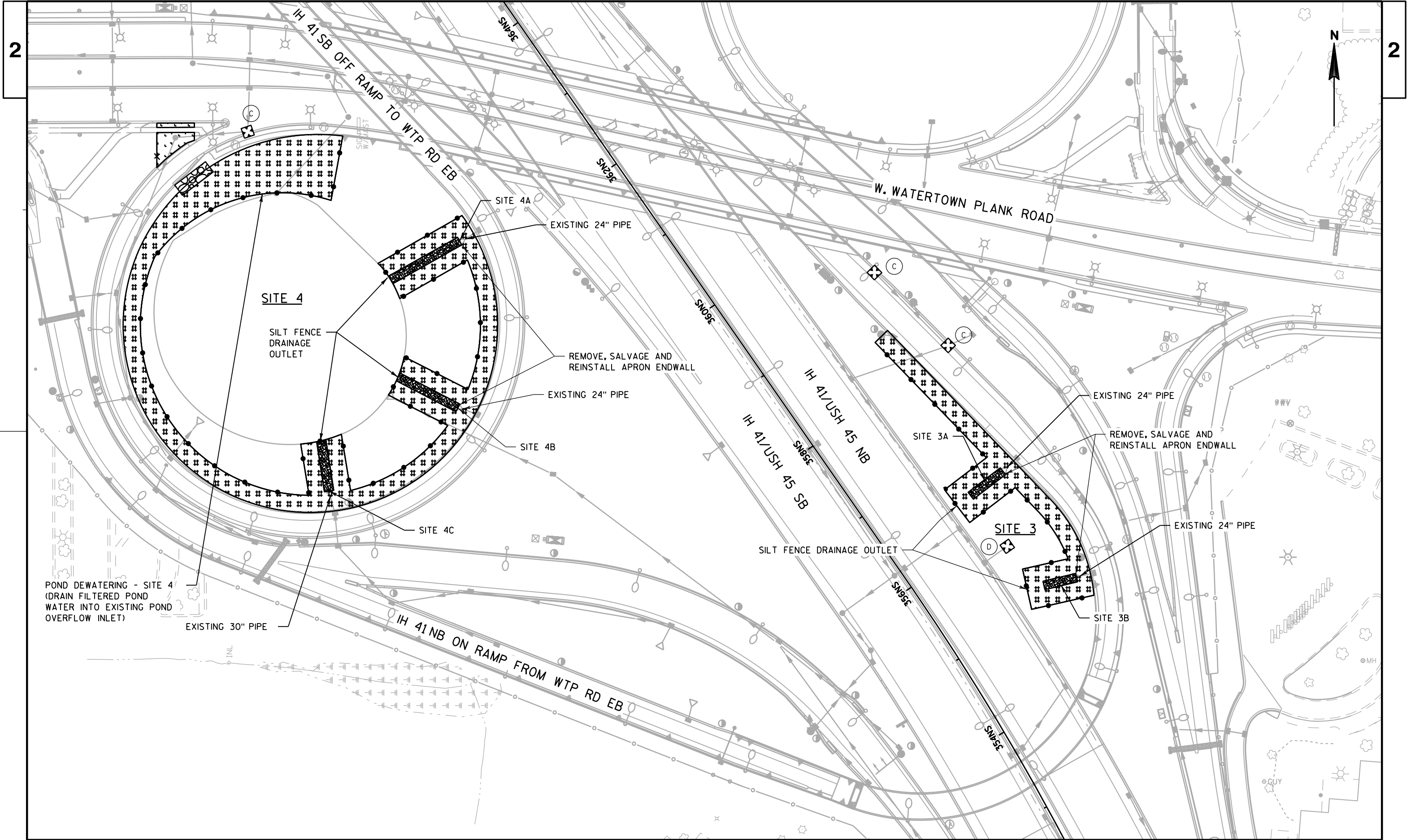
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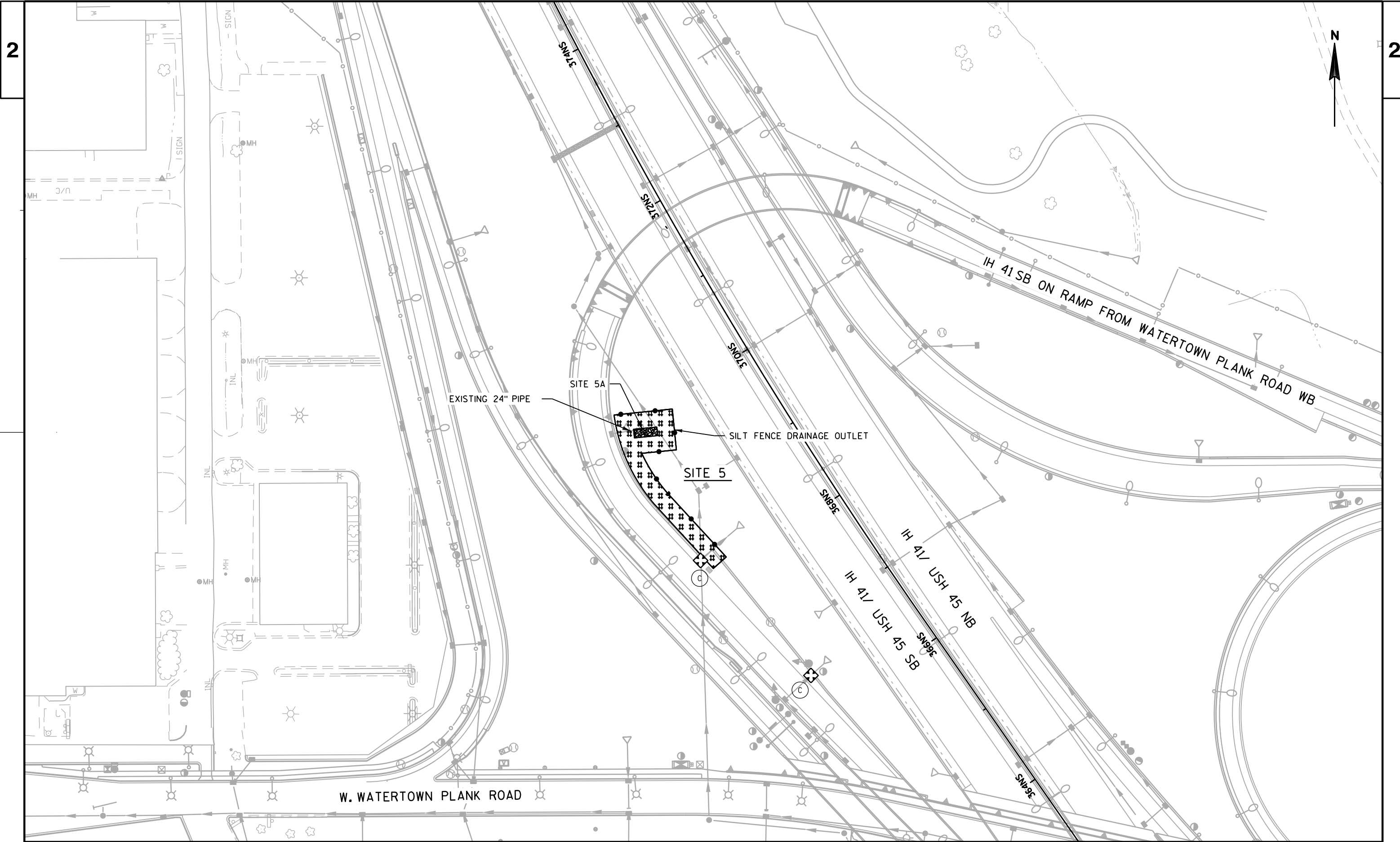
PLOT BY : dschar1a

PLOT NAME : D3119266_022001.ec0@LOT SCALE : 100:1

WISDOT/CADD SHEET 42



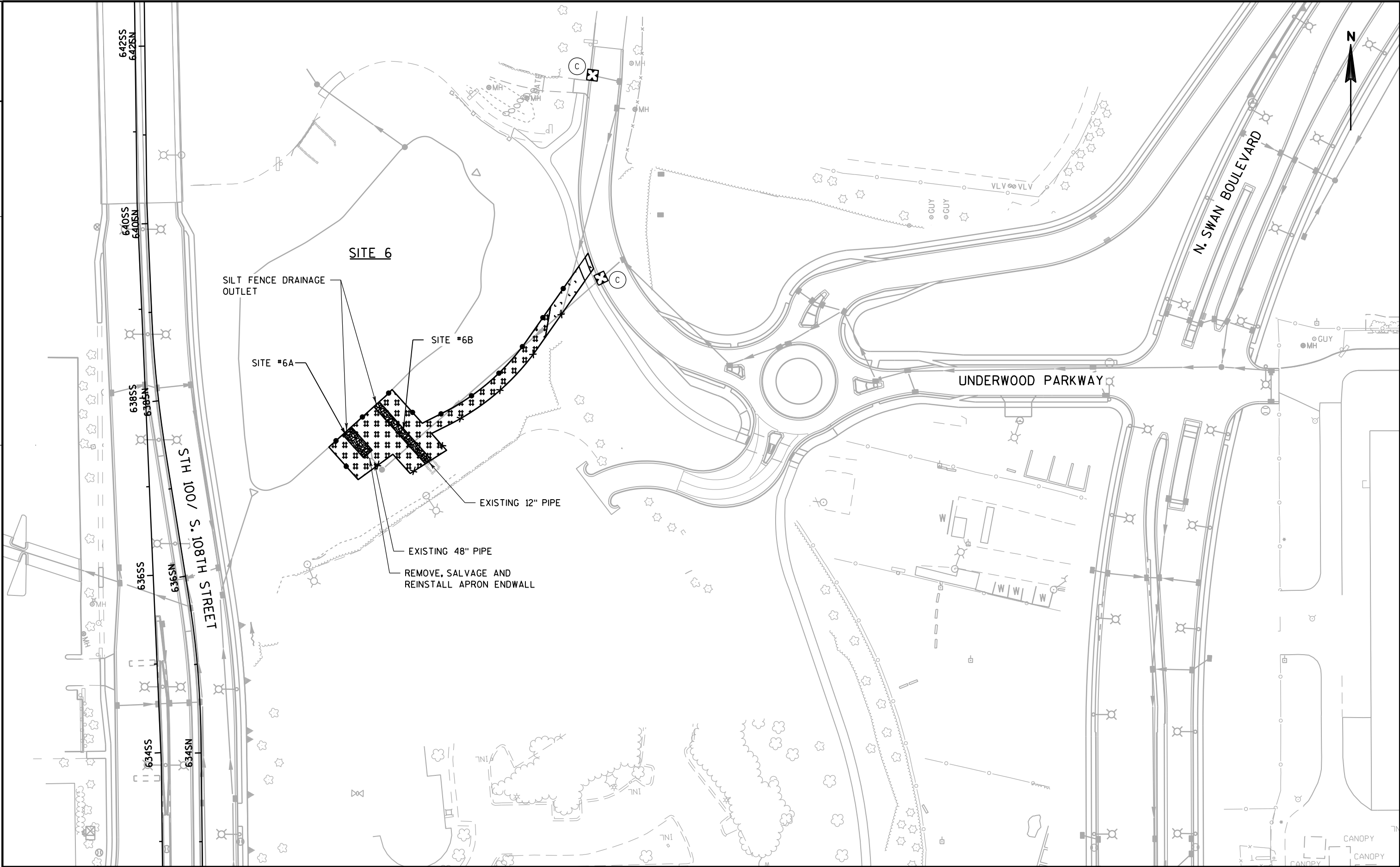




2

2





SITE		TOP RIGHT	TOP LEFT	BOTTOM LEFT	BOTTOM RIGHT
1A	STATION	152EW+06.23	151EW+19.05	151EW+18.45	152EW+08.09
	OFFSET	180.91 LT	178.12 LT	137.82 LT	141.12 LT
2A	STATION	287NS+47.34	287NS+49.59	286NS+05.31	286NS+03.14
	OFFSET	289.03 LT	296.71 LT	340.20 LT	332.56 LT
2B	STATION	287NS+94.95	287NS+97.20	287NS+11.73	287NS+09.48
	OFFSET	477.07 LT	484.75 LT	509.57 LT	501.89 LT
2C	STATION	288NS+05.81	287NS+56.09	287NS+49.59	287NS+99.31
	OFFSET	527.90 LT	596.85 LT	592.19 LT	523.24 LT
2D	STATION	288NS+33.11	288NS+17.80	288NS+09.89	288NS+25.21
	OFFSET	543.16 LT	641.98 LT	640.77 LT	541.95 LT
2E	STATION	288NS+48.11	288NS+65.17	288NS+57.29	288NS+40.23
	OFFSET	541.79 LT	640.32 LT	641.70 LT	543.17 LT
2F	STATION	289NS+46.21	289NS+43.56	288NS+61.52	288NS+64.17
	OFFSET	532.28 LT	541.92 LT	519.70 LT	510.05 LT
2G	STATION	289NS+59.60	289NS+59.27	289NS+34.28	289NS+34.61
	OFFSET	362.20 LT	375.70 LT	374.98 LT	361.48 LT
2H	STATION	289NS+57.07	289NS+10.28	289NS+03.78	289NS+50.57
	OFFSET	217.00 LT	281.89 LT	277.23 LT	212.34 LT
2I	STATION	289NS+24.43	288NS+88.78	288NS+79.39	289NS+15.04
	OFFSET	170.92 LT	269.68 LT	266.25 LT	167.49 LT
2J	STATION	289NS+38.48	289NS+39.50	286NS+05.17	286NS+02.95
	OFFSET	94.01 LT	103.96 LT	159.42 LT	149.69 LT
2K	STATION	183EW+33.22	180EW+63.26	180EW+63.26	183EW+33.22
	OFFSET	78.00 RT	78.00 RT	90.00 RT	90.00 RT
3A	STATION	356NS+54.81	356NS+52.79	356NS+42.80	356NS+44.82
	OFFSET	164.17 RT	117.21 RT	117.65 RT	164.61 RT
3B	STATION	355NS+10.02	355NS+22.44	355NS+13.43	355NS+01.10
	OFFSET	167.78 RT	131.02 RT	127.60 RT	164.39 RT
4A	STATION	362NS+35.15	362NS+43.98	362NS+33.96	362NS+25.19
	OFFSET	200.43 LT	292.11 LT	292.83 LT	201.34 LT
4B	STATION	360NS+74.60	361NS+43.80	361NS+39.10	360NS+69.90
	OFFSET	3089.00 LT	345.31 LT	354.14 LT	317.83 LT
4C	STATION	361NS+29.09	361NS+33.84	360NS+80.84	360NS+76.08
	OFFSET	460.71 LT	470.63 LT	496.53 LT	486.62 LT
5A	STATION	369NS+78.21	369NS+89.74	369NS+80.98	369NS+69.43
	OFFSET	136.84 LT	161.12 LT	165.49 LT	141.23 LT
6A	STATION	637SN+36.76	637SN+29.70	637SN+00.17	637SN+07.23
	OFFSET	211.01 RT	200.09 RT	219.19 RT	230.11 RT
6B	STATION	637SN+63.23	637SN+57.83	636SN+82.60	636SN+85.84
	OFFSET	246.35 RT	239.69 RT	286.86 RT	294.29 RT

NOTES











1. STATION AND OFFSET FOR INFORMATION ONLY, CONFIRM FINAL LOCATION WITH FIELD ENGINEER.

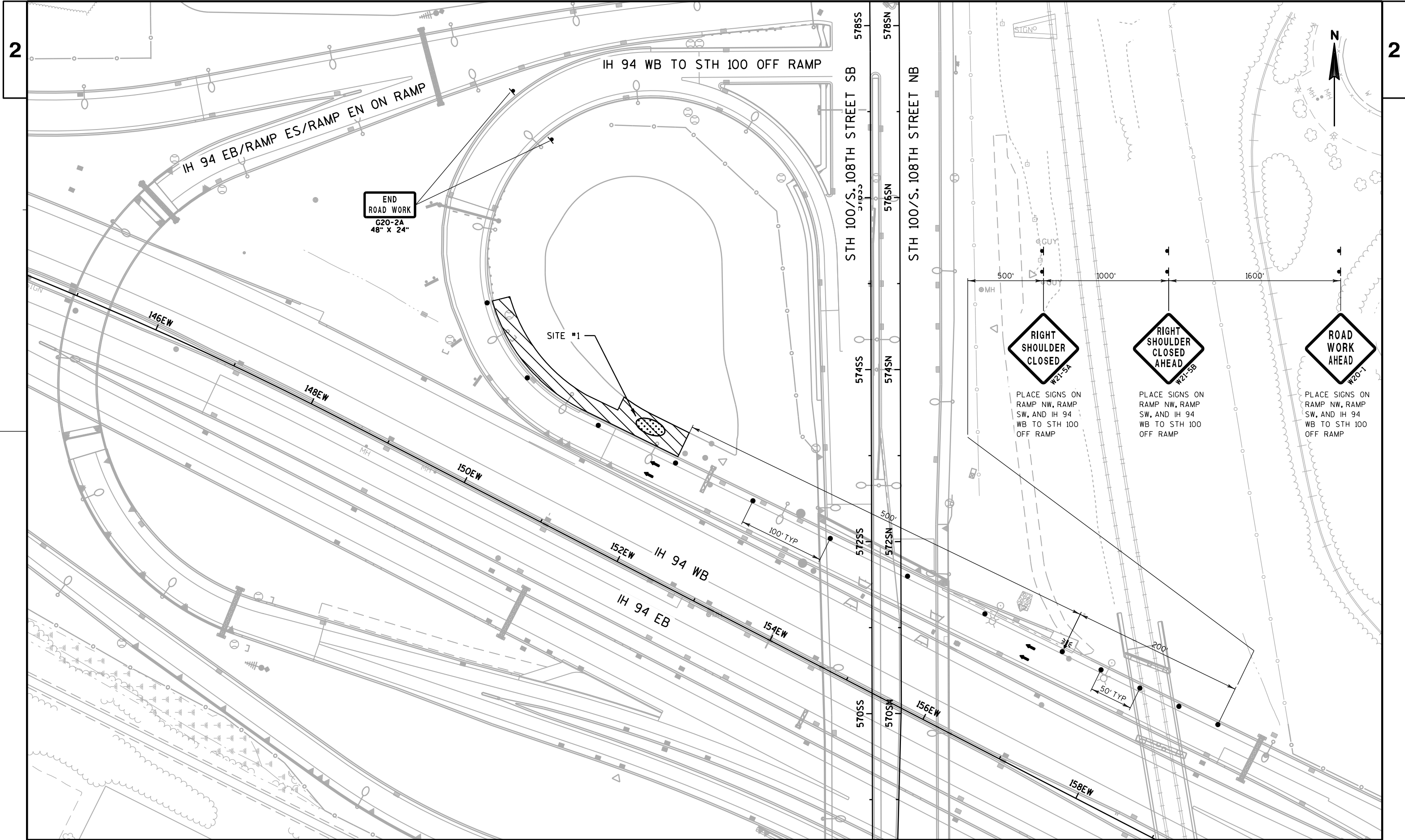
GENERAL NOTES FOR TRAFFIC CONTROL

- 1) THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- 2) ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- 3) "W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- 4) FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE C STEADY BURN WARNING LIGHT.
- 5) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.
- 6) TRAFFIC CONTROL DRUM SPACING SHALL BE 50' UNLESS OTHERWISE NOTED.
- 7) INSTALL PROPOSED TRAFFIC CONTROL SIGNS ON BOTH OUTSIDE SHOULDER AND MEDIAN SIDE OF ALL DIVIDED ROADWAYS.

FOR STAGE 2, ALL TRAFFIC CONTROL PLANS SHOWN ARE INTENDED FOR NIGHT WORK ONLY. ALL ROADWAYS WILL REOPEN COMPLETELY WHEN WORK IS CONCLUDED EACH NIGHT. CLOSURES ARE NOT INTENDED FOR LONG TERM OR PEAK/OFF-PEAK HOURS.

TRAFFIC CONTROL LEGEND

-  TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A
-  TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A AND ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL ARROW BOARD
-  TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
-  TRAFFIC CONTROL DRUM
-  TRAFFIC FLOW ARROW
-  WORK ZONE
-  TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE



2

2

PROJECT NO: 1000-81-70

HWY: ZOO IC - IH 41, IH 94

COUNTY: MILWAUKEE

TRAFFIC CONTROL - STAGE 1

SHEET

E

FILE NAME : j:\wisdot\3119266\sheets\3119266_025101-1.tc.dgn

PLOT DATE : 15-FEB-2024 22:54

PLOT BY : dschar1a

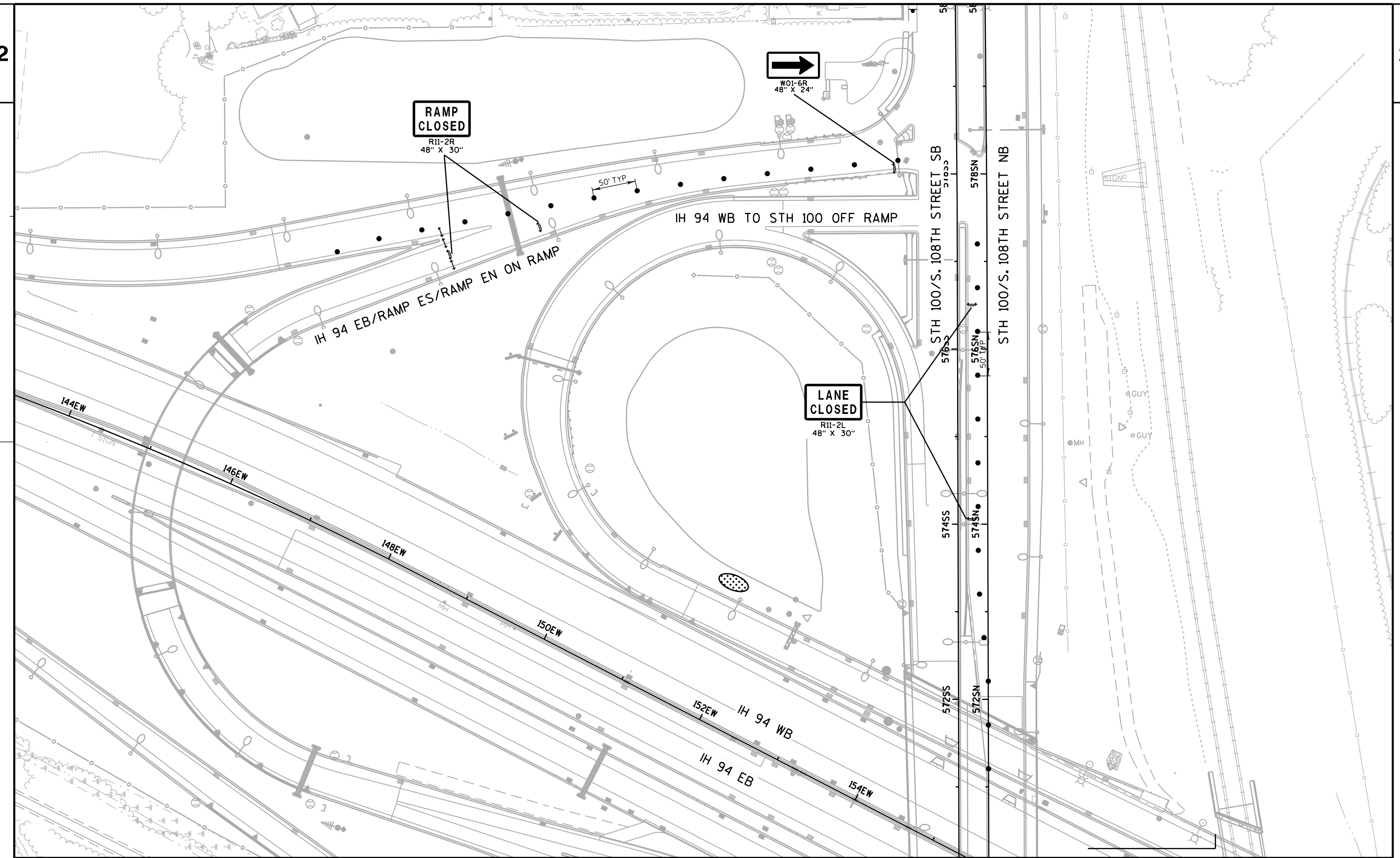
PLOT NAME : D3119266_025101-1.c11 PLOT SCALE : 100:1

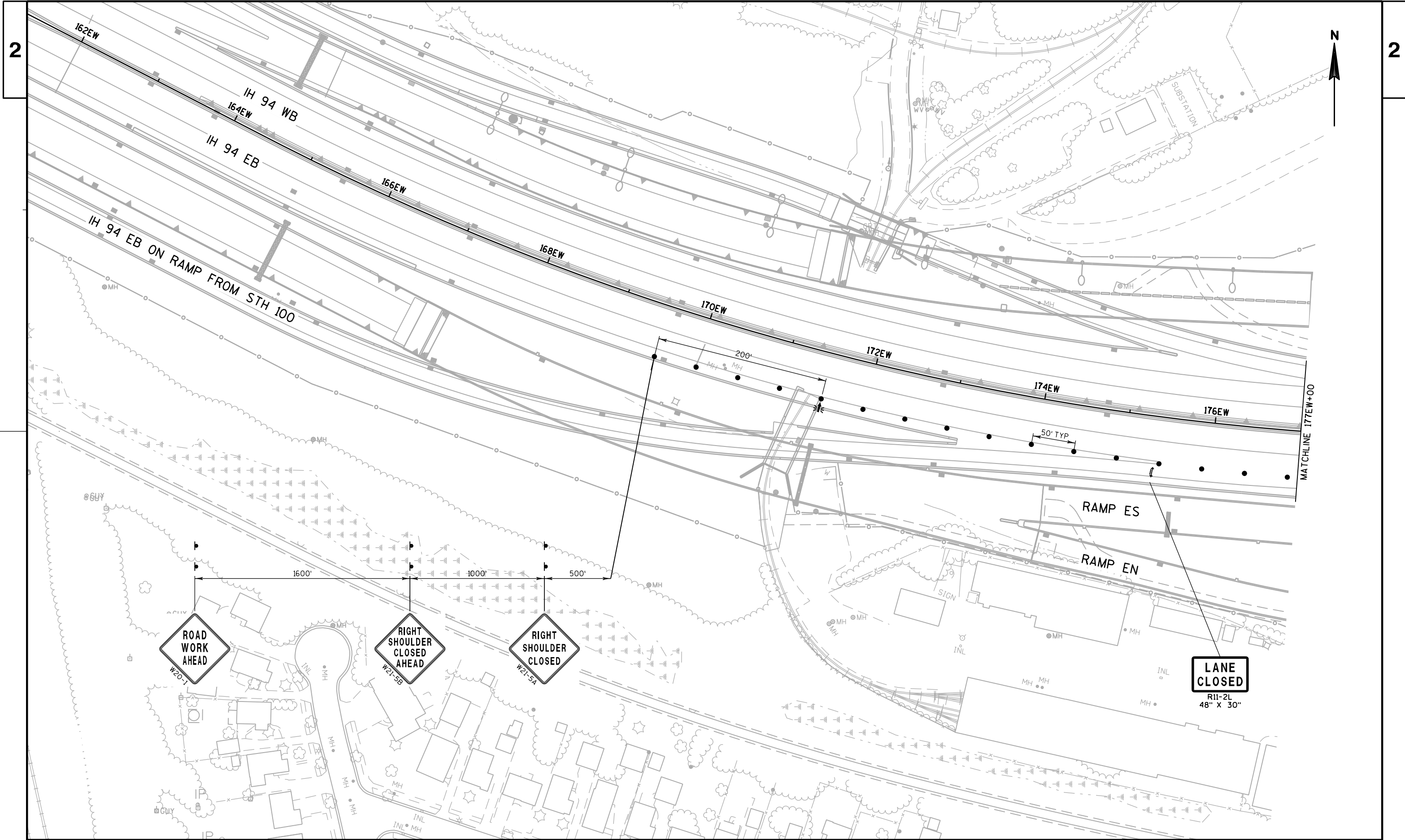
WISDOT/CADD SHEET 42

**RAMP
CLOSED**
R11-2R
48" X 30"



**LANE
CLOSED**
R11-2L
48" X 30"

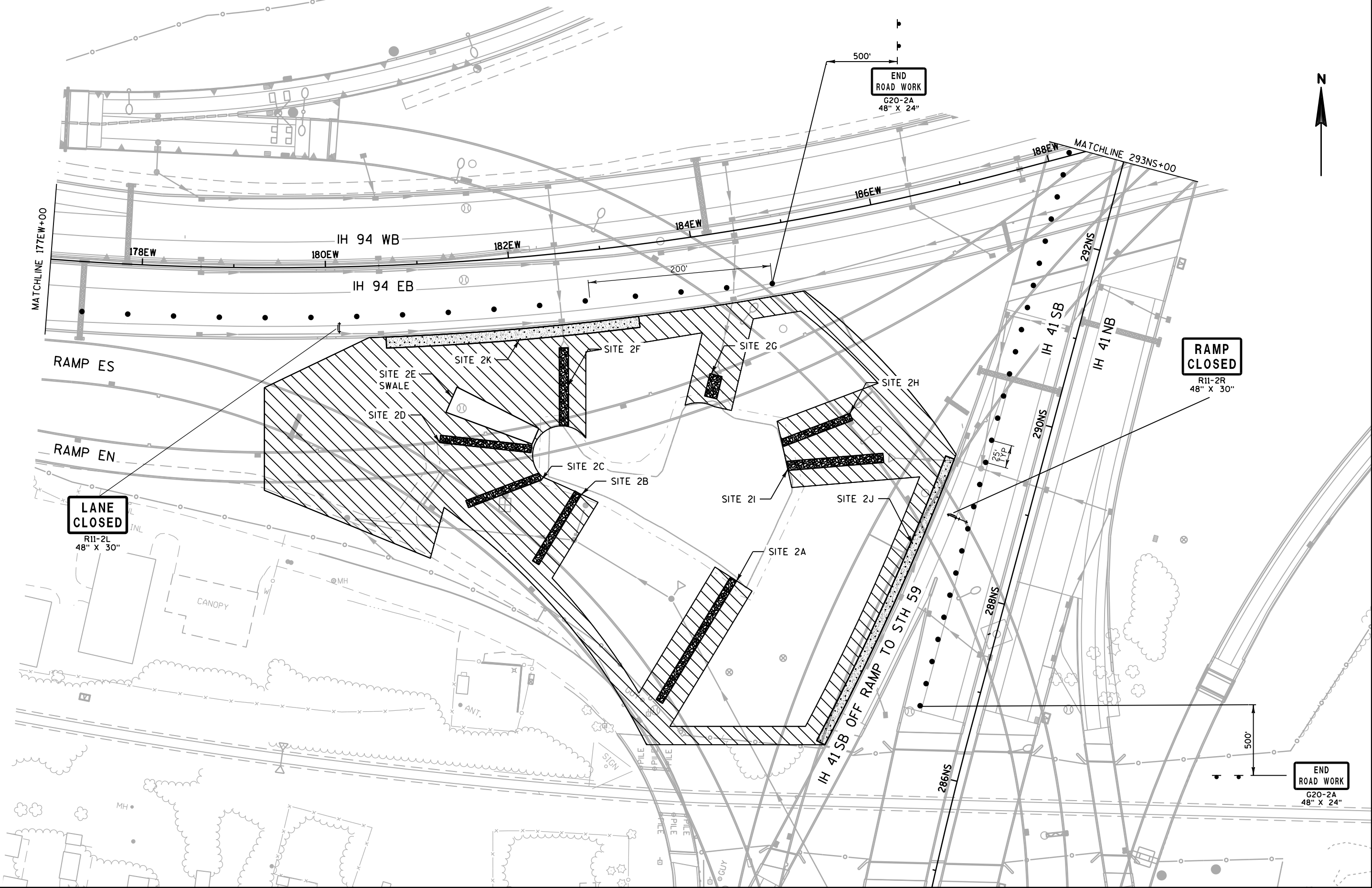


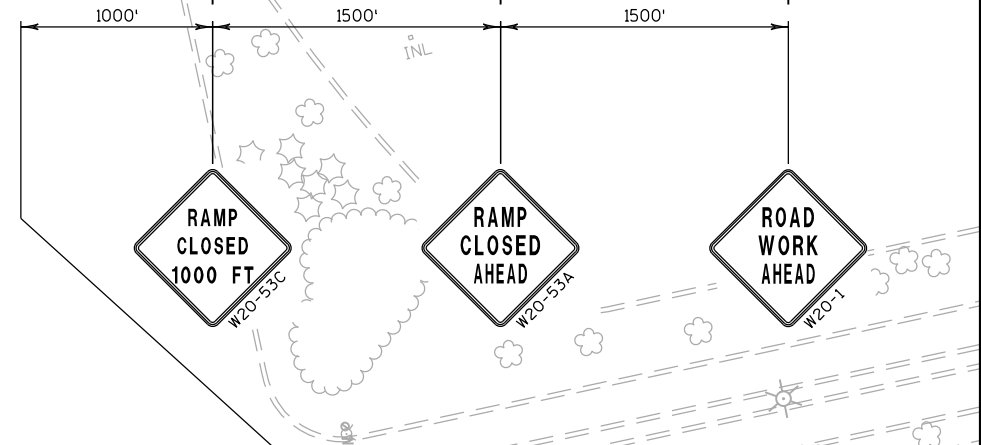
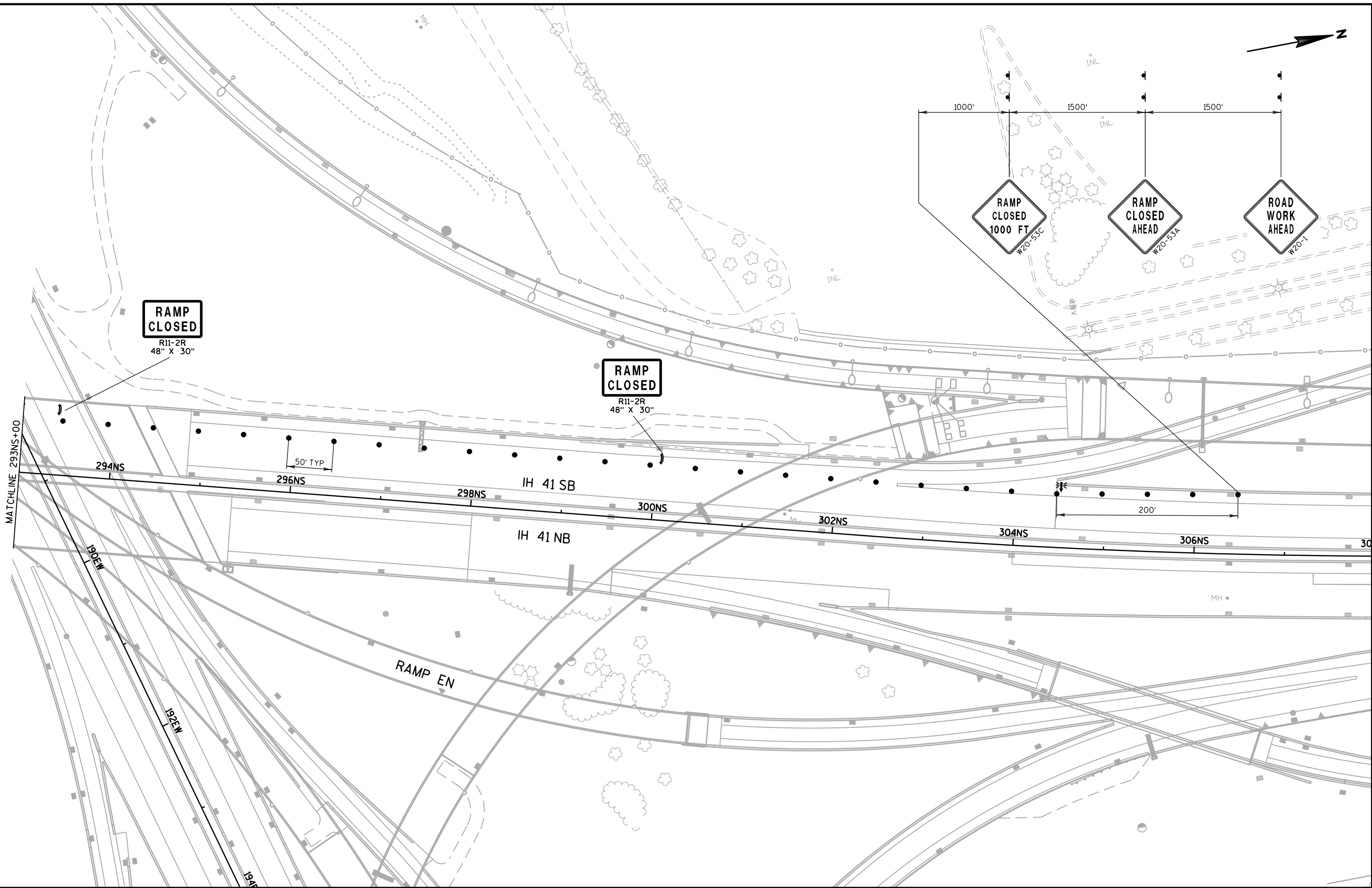


2 2

PROJECT NO: 1000-81-70	HWY: ZOO IC - IH 41, IH 94	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 2	SHEET	E
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FILE NAME : j:\wisdot\3119266\sheets\3119266_025103_tc.dgn PLOT DATE : 15-FEB-2024 23:02 PLOT BY : dschar1a PLOT NAME : D3119266_025103.fc12PLOT SCALE : 100:1 WISDOT/CADD SHEET 42





**RAMP
CLOSED**
R11-2R
48" X 30"

**RAMP
CLOSED**
R11-2R
48" X 30"

MATCHLINE 293NS+00

294NS

50' TYP

296NS

298NS

IH 41 SB

300NS

IH 41 NB

302NS

304NS

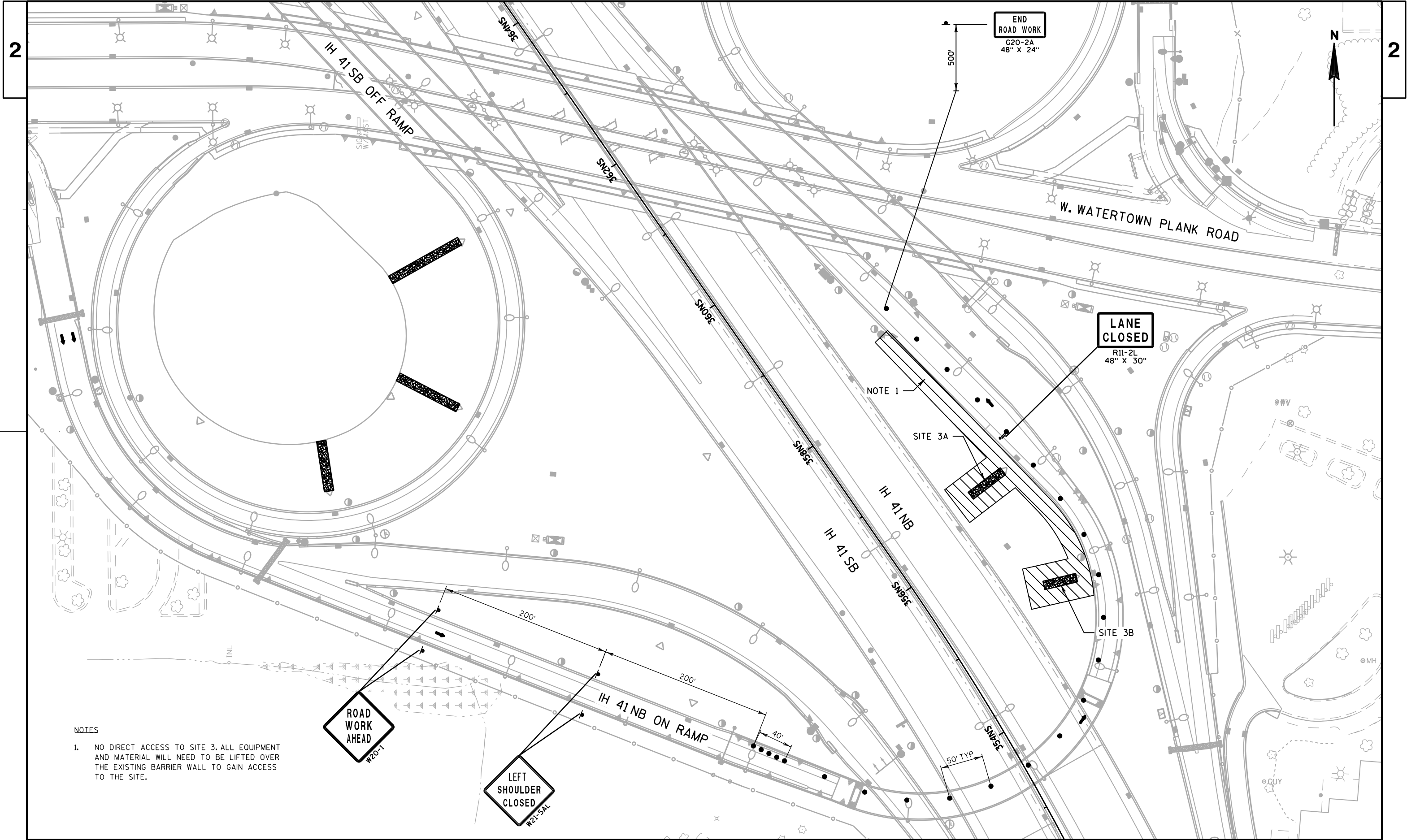
306NS

308NS

190EW

192EW

RAMP EN



NOTES

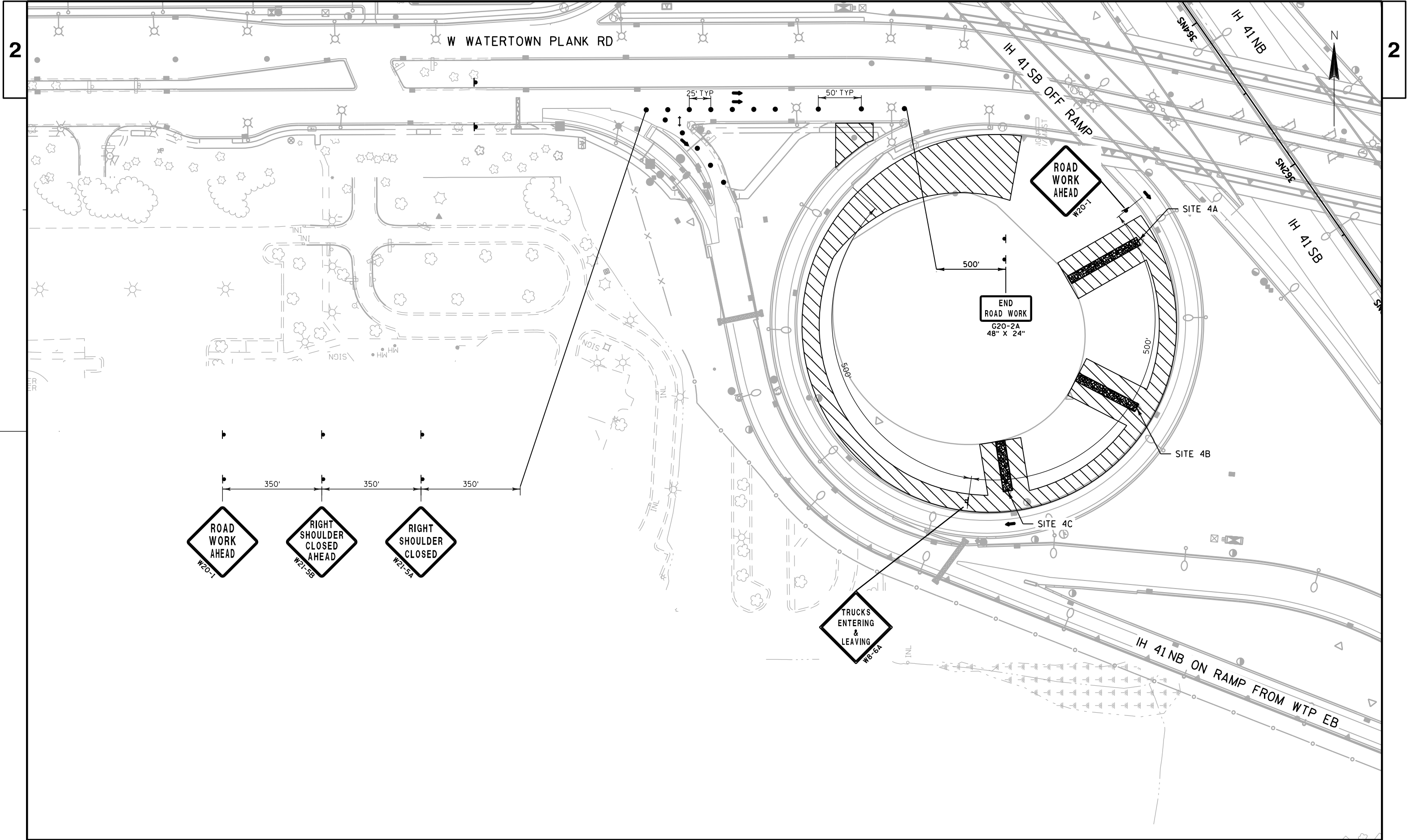
1. NO DIRECT ACCESS TO SITE 3. ALL EQUIPMENT AND MATERIAL WILL NEED TO BE LIFTED OVER THE EXISTING BARRIER WALL TO GAIN ACCESS TO THE SITE.

ROAD WORK AHEAD
W20-1

LEFT SHOULDER CLOSED
W21-5AL

LANE CLOSED
R11-2L
48" X 30"

END ROAD WORK
G20-2A
48" X 24"



PROJECT NO: 1000-81-70

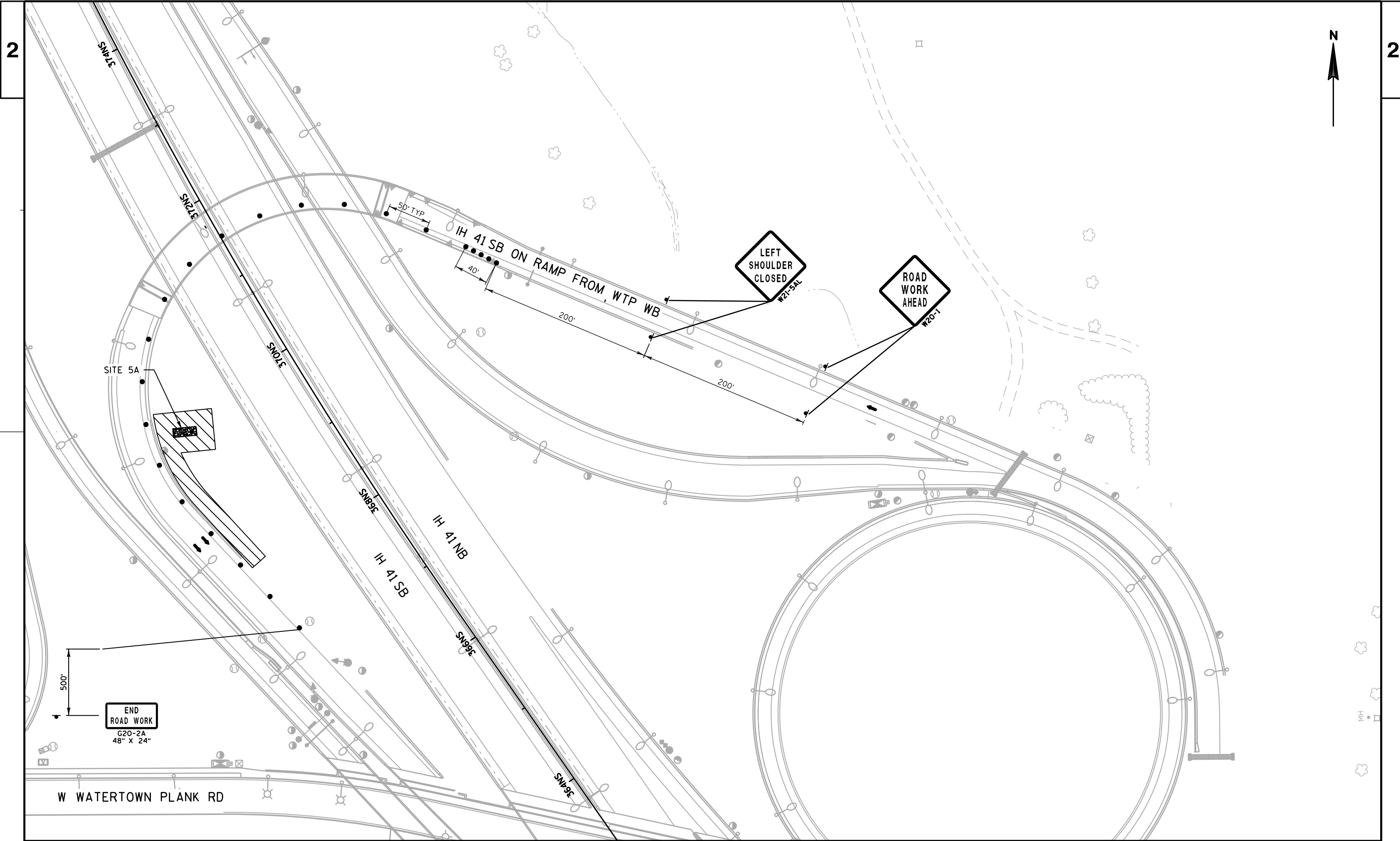
HWY: ZOO IC - IH 41, IH 94

COUNTY: MILWAUKEE

TRAFFIC CONTROL - STAGE 4

SHEET

E



PROJECT NO: 1000-81-70

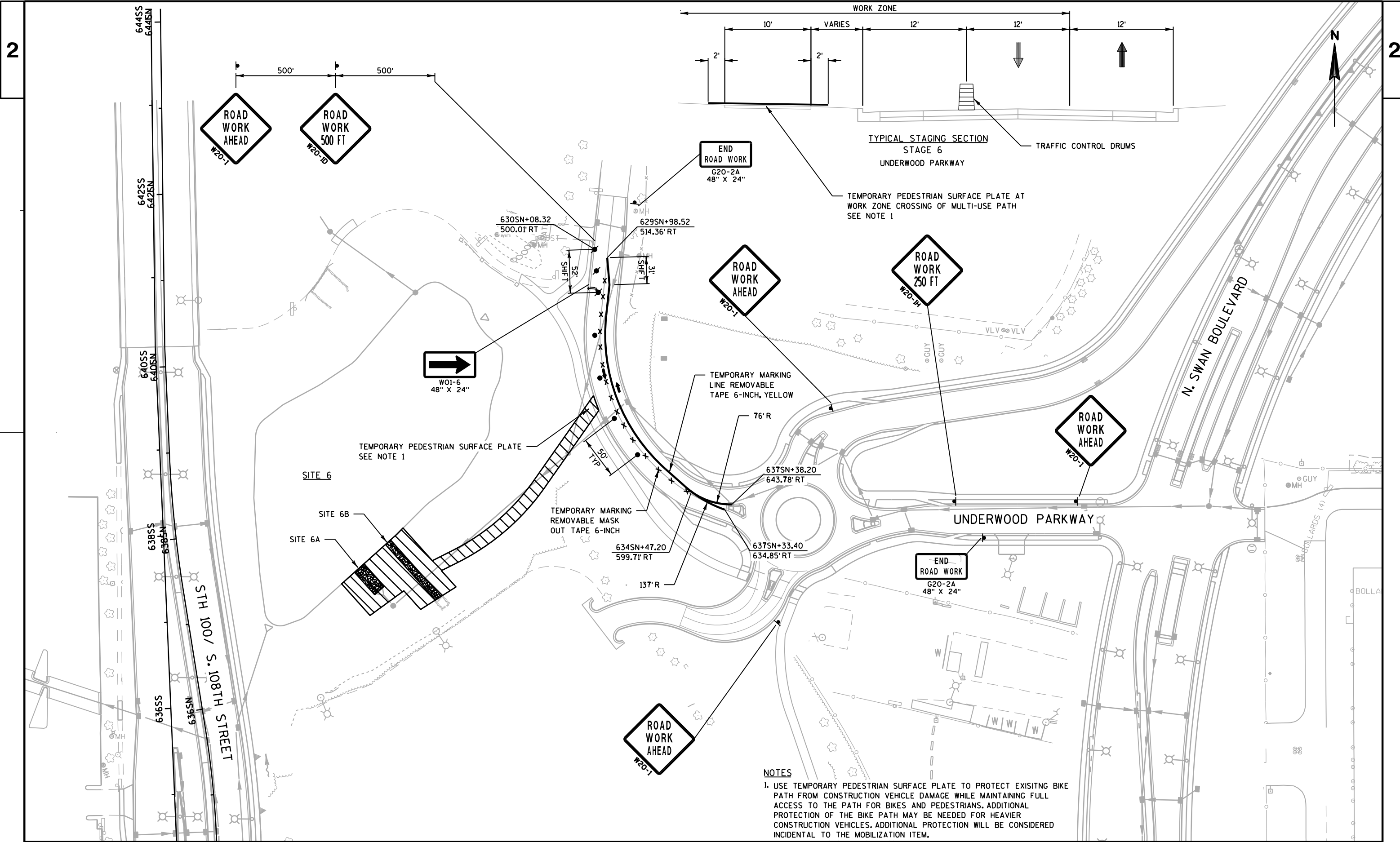
HWY: ZOO IC - IH 41, IH 94

COUNTY: MILWAUKEE

TRAFFIC CONTROL - STAGE 5

SHEET

E



NOTES

1. USE TEMPORARY PEDESTRIAN SURFACE PLATE TO PROTECT EXISTING BIKE PATH FROM CONSTRUCTION VEHICLE DAMAGE WHILE MAINTAINING FULL ACCESS TO THE PATH FOR BIKES AND PEDESTRIANS. ADDITIONAL PROTECTION OF THE BIKE PATH MAY BE NEEDED FOR HEAVIER CONSTRUCTION VEHICLES. ADDITIONAL PROTECTION WILL BE CONSIDERED INCIDENTAL TO THE MOBILIZATION ITEM.

LEGEND

- ▲ PROPOSED SIGN MOUNTED ON POST(S)
- TRAFFIC CONTROL DETOUR SIGNS
- DETOUR ROUTE
- - - SECONDARY DETOUR ROUTE
- - - TERTIARY DETOUR ROUTE
- XXX CLOSURE
- ➔ TRAFFIC FLOW ARROW
- PCMS TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE
- ▨ WORK ZONE

<p>MO4-5 24" X 12" TO</p> <p>M1-1 24" X 24" 41</p> <p>MB3-2 24" X 12" EAST</p> <p>M1-1 24" X 24" 94</p>	<p>②</p> <p>MB3-1 24" X 12" NORTH</p> <p>M1-1 24" X 24" 41</p> <p>MB3-3 24" X 12" SOUTH</p> <p>M1-1 24" X 24" 41</p> <p>MB3-2 24" X 12" EAST</p> <p>M1-1 24" X 24" 94</p>	<p>①</p> <p>TO</p> <p>41</p> <p>EAST</p> <p>94</p>	<p>②</p> <p>NORTH</p> <p>41</p> <p>SOUTH</p> <p>41</p> <p>EAST</p> <p>94</p>	<p>①</p> <p>TO</p> <p>41</p> <p>EAST</p> <p>94</p>
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RAMP CLOSED AHEAD
W20-53A

<p>➔</p> <p>M06-1 21" X 21" A</p>	<p>➔</p> <p>M05-1R 21" X 21" B</p>	<p>➔</p> <p>M06-1 21" X 21" C</p>	<p>➔</p> <p>M05-1L 21" X 21" D</p>	<p>➔</p> <p>M06-1 21" X 21" E</p>
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GENERAL NOTES

ALL TRAFFIC CONTROL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED IN THE PLANS.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.

ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

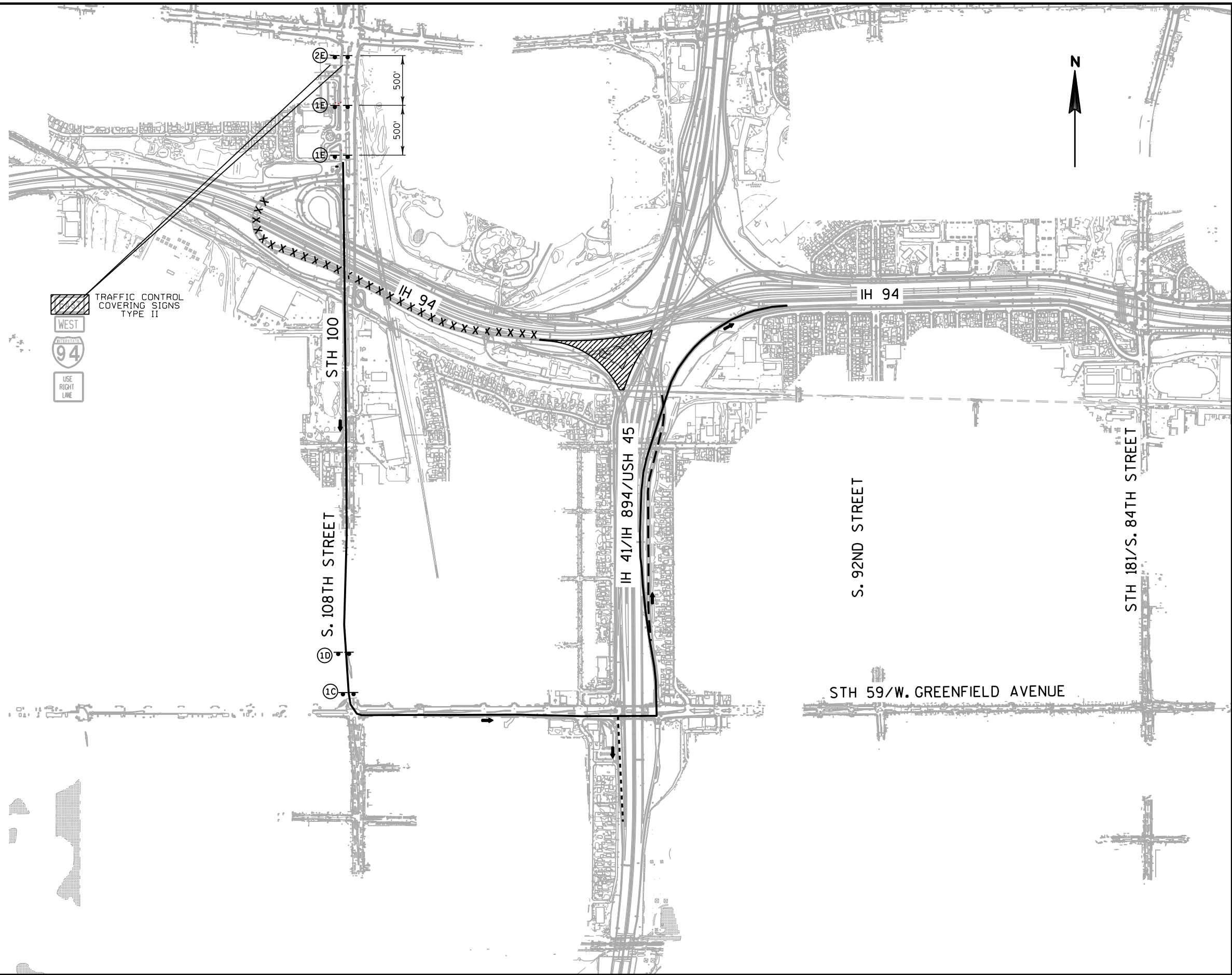
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS UNLESS OTHERWISE PROVIDED IN THE PLAN.

LOCATION AND SPACING OF SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS DETOUR SHALL BE COVERED AS DIRECTED BY THE ENGINEER.

DETOUR SIGNS SHALL BE COVERED OR REMOVED WHEN DETOUR IS NOT IN USE OR AS DIRECTED BY THE ENGINEER.

INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE ON DIVIDED ROADWAY.



LEGEND

- PROPOSED SIGN MOUNTED ON POST(S)
- TRAFFIC CONTROL DETOUR SIGNS
- DETOUR ROUTE
- SECONDARY DETOUR ROUTE
- TERTIARY DETOUR ROUTE
- XXX** CLOSURE
- TRAFFIC FLOW ARROW
- TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE
- WORK ZONE

②
MB3-2 24" X 12" EAST
M1-1 24" X 24" 94

①
M04-5 24" X 12" TO
M1-1 24" X 24" 41
MB3-2 24" X 12" EAST
M1-1 24" X 24" 94

③
M04-5 24" X 12" TO
MB3-2 24" X 12" EAST
M1-1 24" X 24" 94

MB3-1 24" X 12" NORTH
M1-1 24" X 24" 41
MB3-3 24" X 12" SOUTH
M1-1 24" X 24" 41

RAMP CLOSED AHEAD W20-53A

Ⓐ M06-1 21" X 21" →
Ⓑ M05-1R 21" X 21" ↗
Ⓒ M06-1 21" X 21" ←
Ⓓ M05-1L 21" X 21" ↖
Ⓔ M06-1 21" X 21" ↑

GENERAL NOTES

ALL TRAFFIC CONTROL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED IN THE PLANS.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.

ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

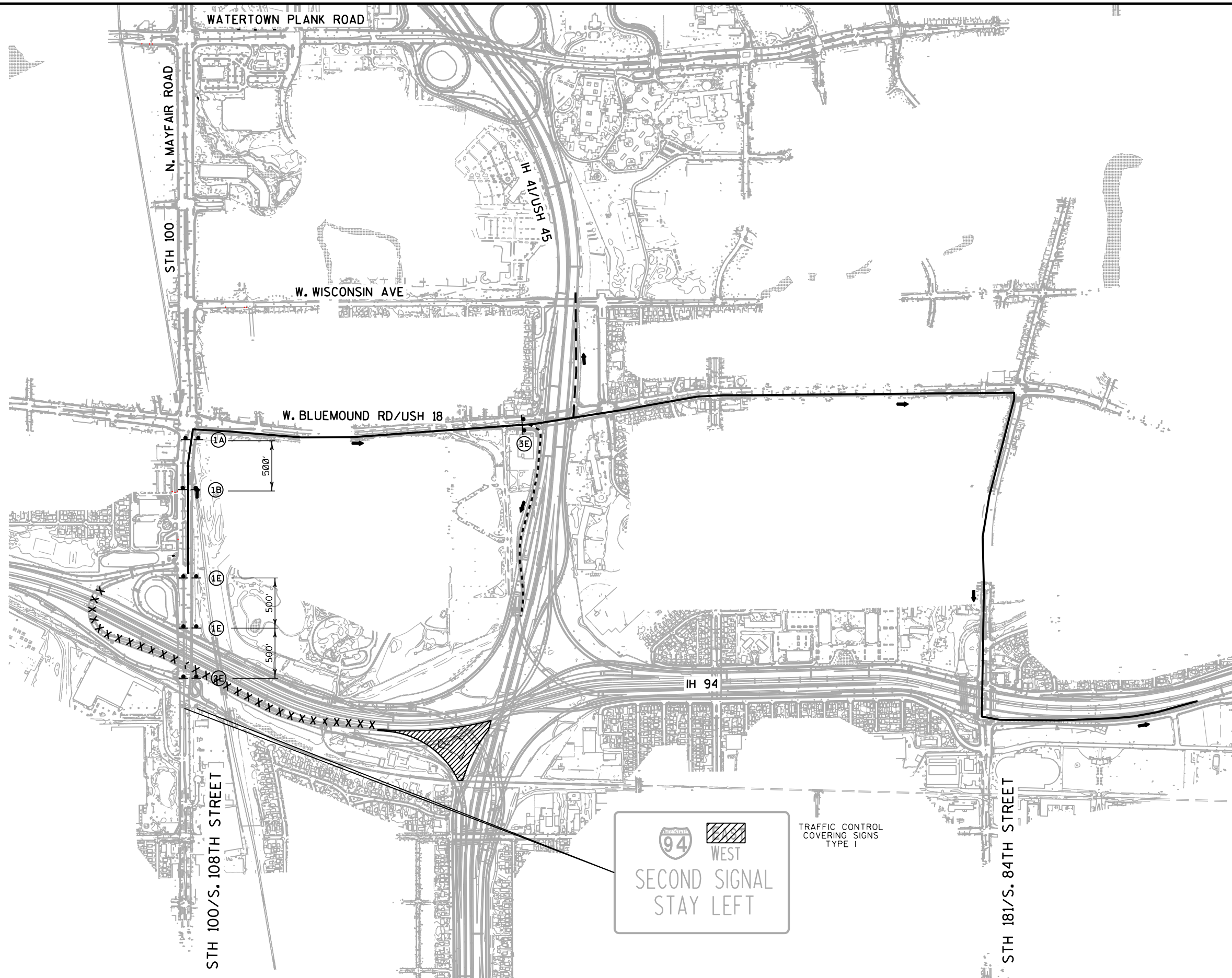
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS UNLESS OTHERWISE PROVIDED IN THE PLAN.

LOCATION AND SPACING OF SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS DETOUR SHALL BE COVERED AS DIRECTED BY THE ENGINEER.

DETOUR SIGNS SHALL BE COVERED OR REMOVED WHEN DETOUR IS NOT IN USE OR AS DIRECTED BY THE ENGINEER.

INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE ON DIVIDED ROADWAY.




WEST
SECOND SIGNAL
STAY LEFT

TRAFFIC CONTROL COVERING SIGNS TYPE I

LEGEND

- ▲ PROPOSED SIGN MOUNTED ON POST(S)
- TRAFFIC CONTROL DETOUR SIGNS
- DETOUR ROUTE
- - - SECONDARY DETOUR ROUTE
- XXX CLOSURE
- ➔ TRAFFIC FLOW ARROW
- PCMS TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE
- ▨ WORK ZONE

①	MO4-5 24" X 12" T0	②	MB3-3 24" X 12" SOUTH
	MB3-3 24" X 12" SOUTH		MI-1 24" X 24" 41
	MI-1 24" X 24" 41		
Ⓐ	M06-1 21" X 21" ➔	Ⓑ	M05-1R 21" X 21" ➡
Ⓒ	M06-1 21" X 21" ➔	Ⓓ	M05-1L 21" X 21" ➡
Ⓔ	M06-1 21" X 21" ⬆		

GENERAL NOTES

ALL TRAFFIC CONTROL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED IN THE PLANS.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.

ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

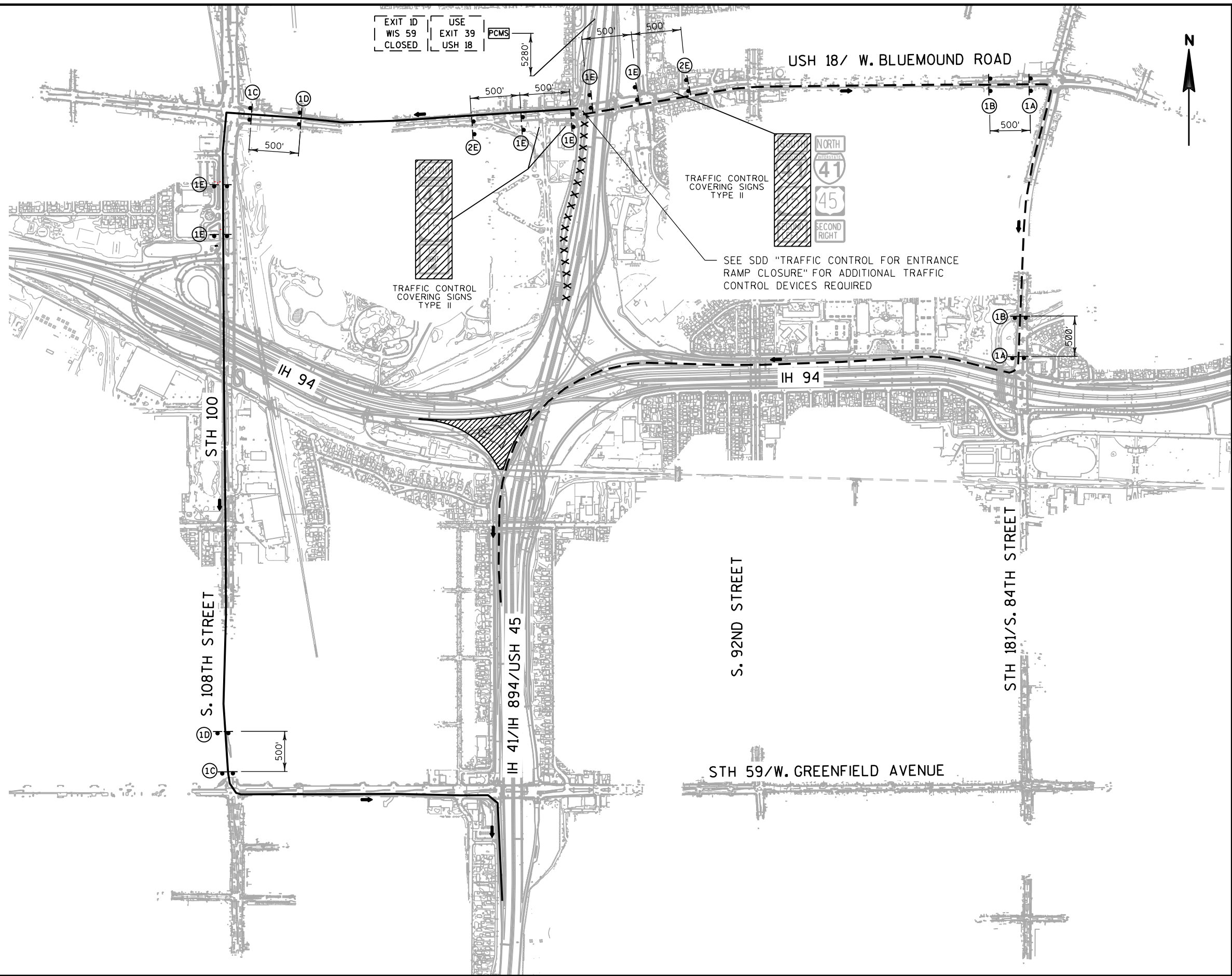
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS UNLESS OTHERWISE PROVIDED IN THE PLAN.

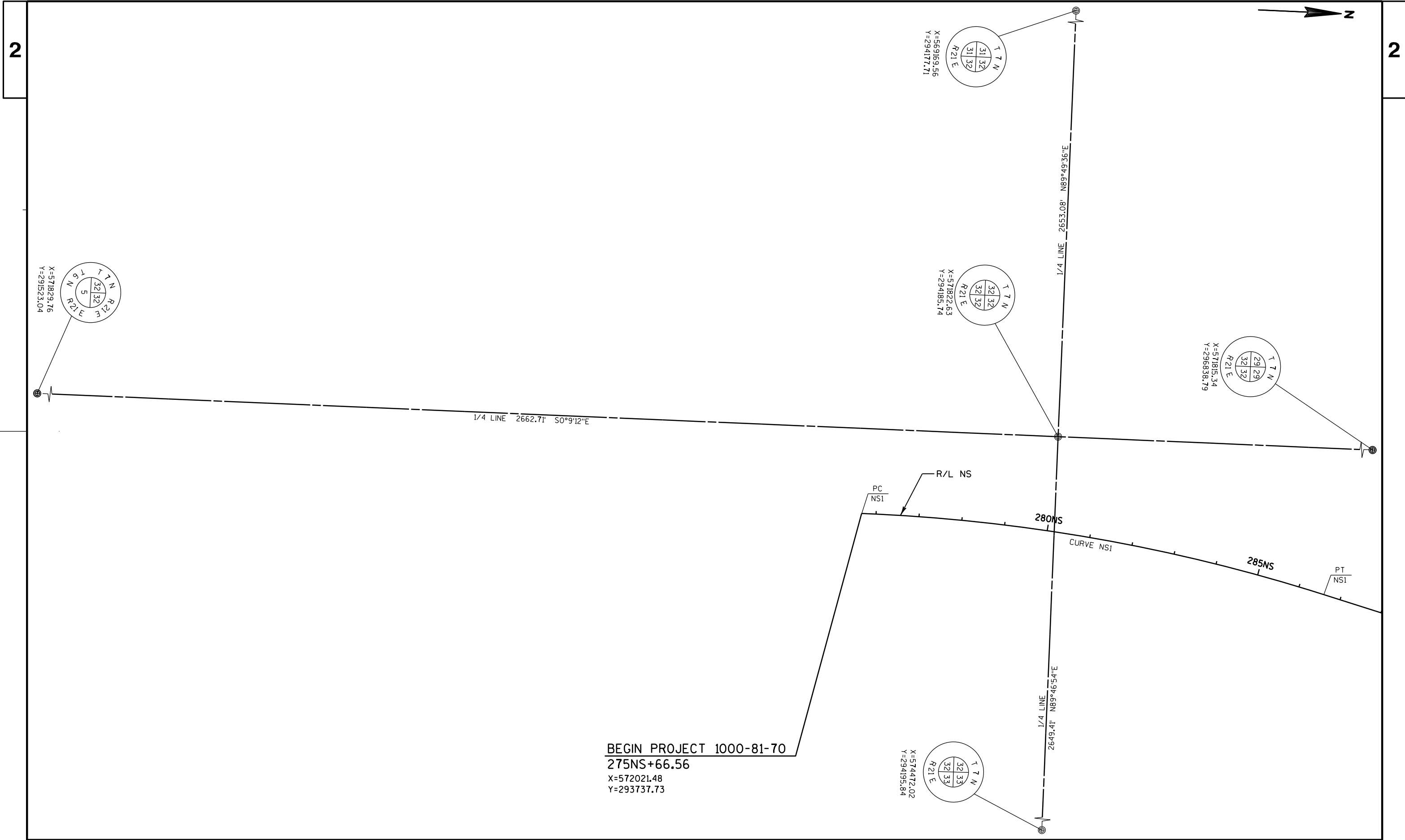
LOCATION AND SPACING OF SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS DETOUR SHALL BE COVERED AS DIRECTED BY THE ENGINEER.

DETOUR SIGNS SHALL BE COVERED OR REMOVED WHEN DETOUR IS NOT IN USE OR AS DIRECTED BY THE ENGINEER.

INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE ON DIVIDED ROADWAY.



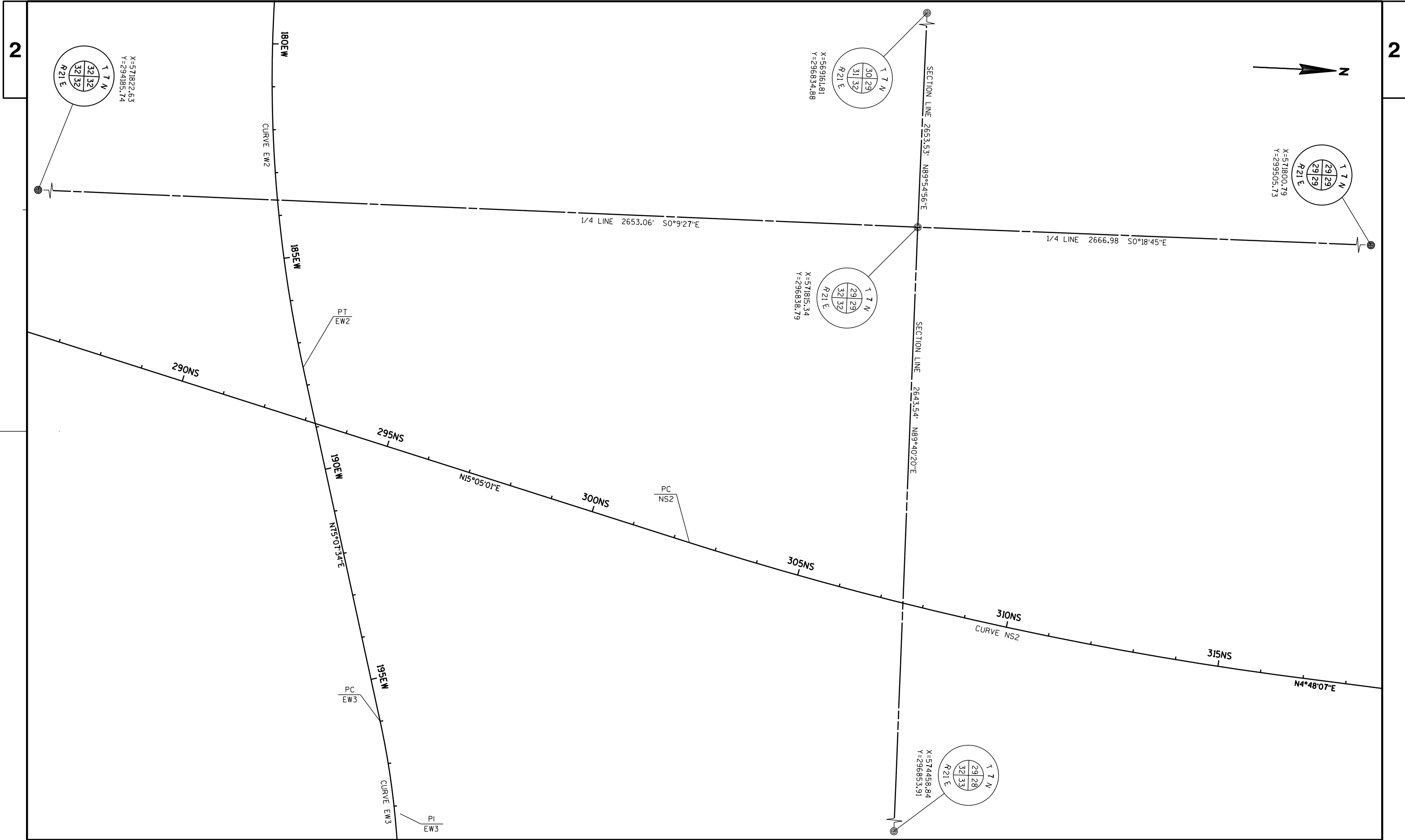


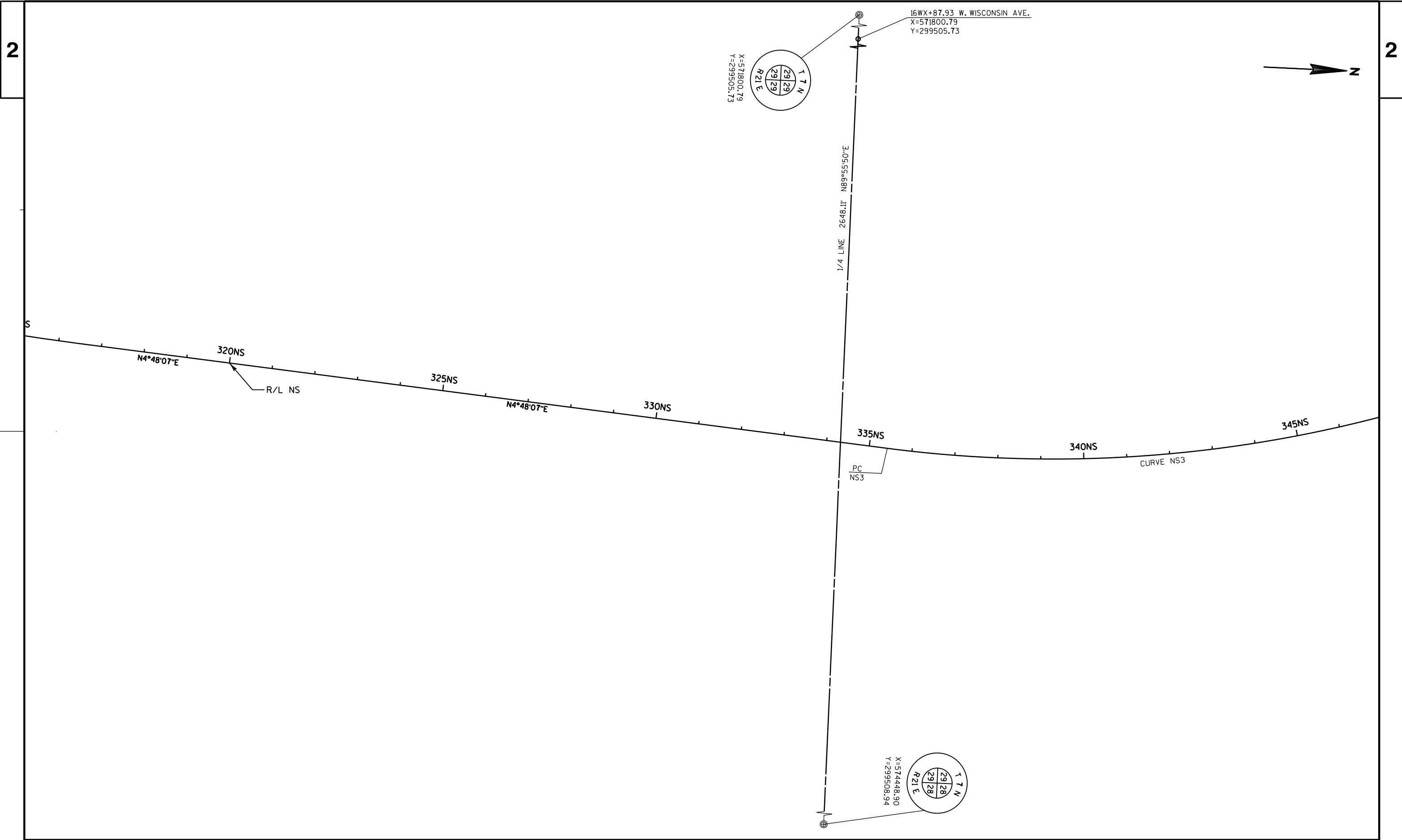
2

2



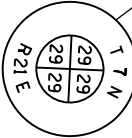
PROJECT NO: 1000-81-70	HWY: ZOO IC - IH 41, IH 94	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT	SHEET	E
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16WX+87.93 W. WISCONSIN AVE.
 X=571800.79
 Y=299505.73

X=571800.79
 Y=299505.73



1/4 LINE 2648.11' N89°55'50\"E

$N4^{\circ}48'07\"E$

320NS

R/L NS

325NS

$N4^{\circ}48'07\"E$

330NS

335NS

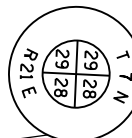
PC NS3

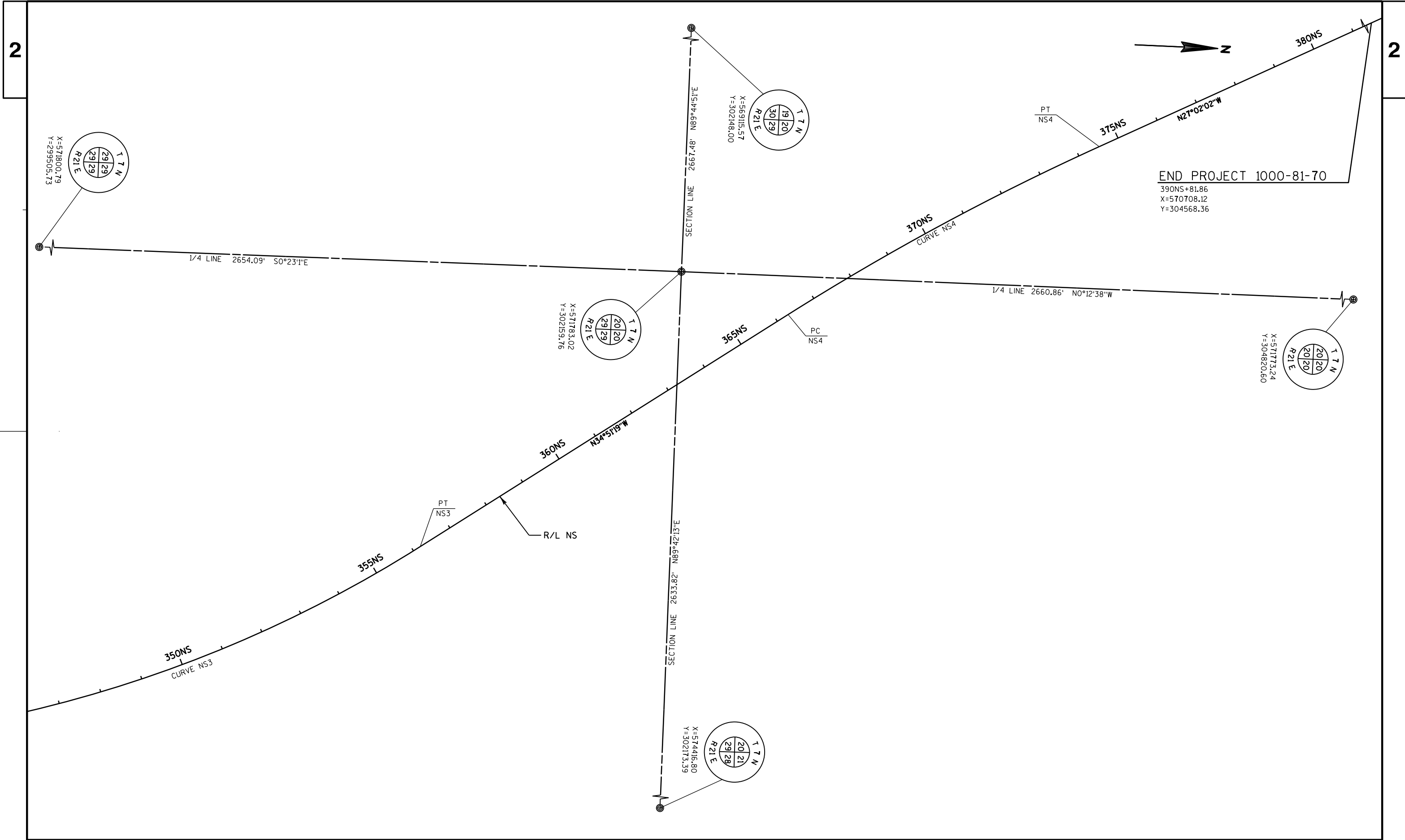
340NS

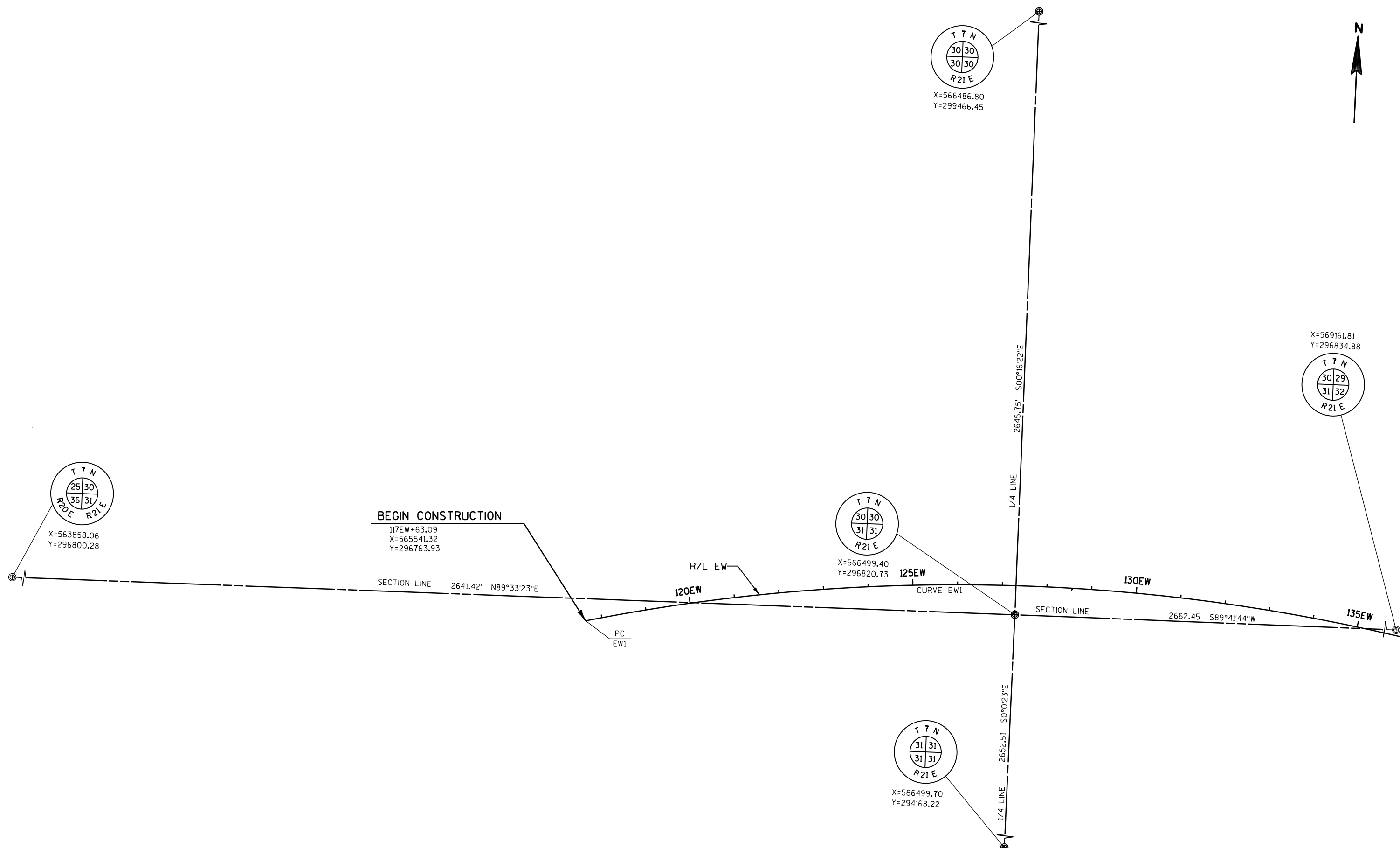
CURVE NS3

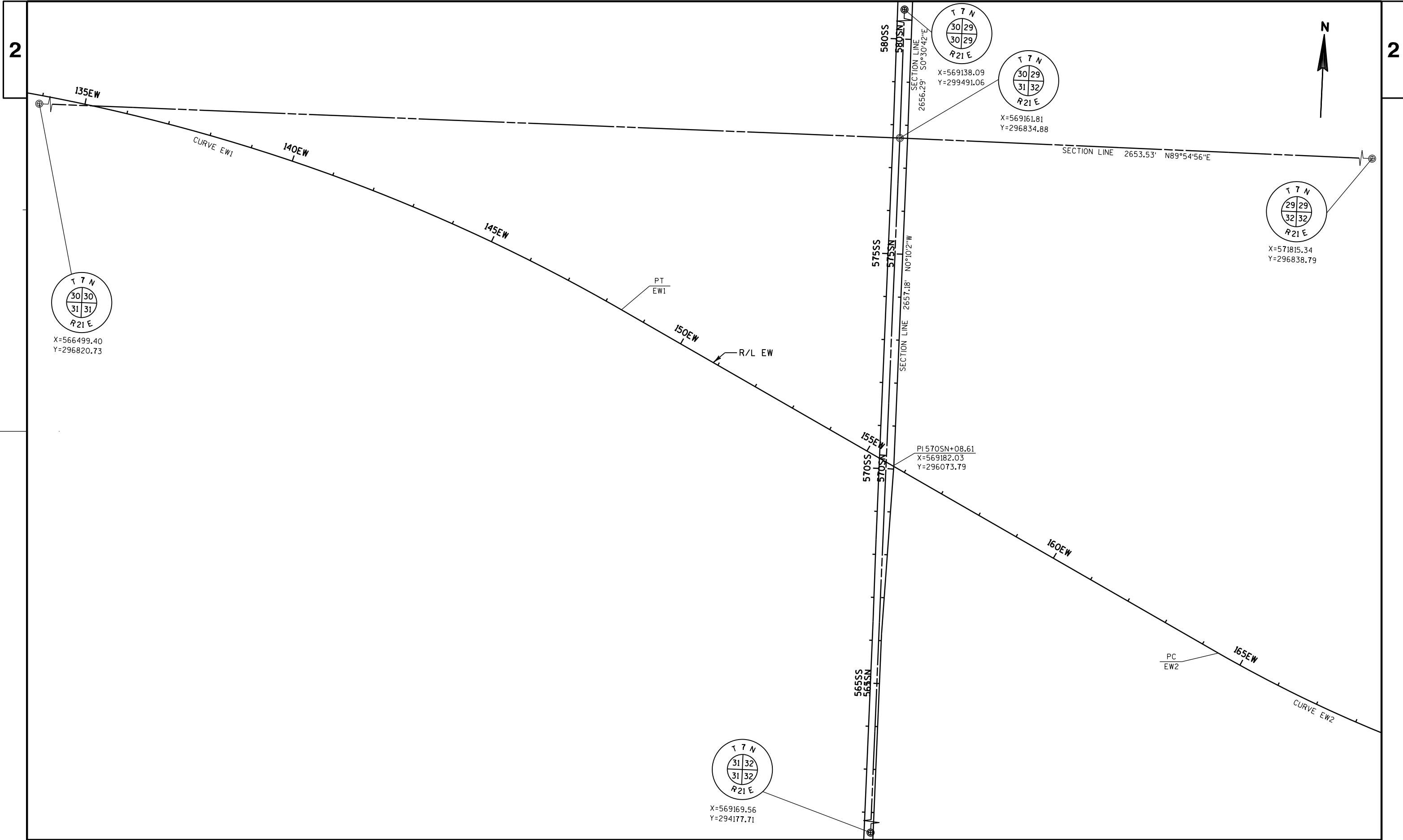
345NS

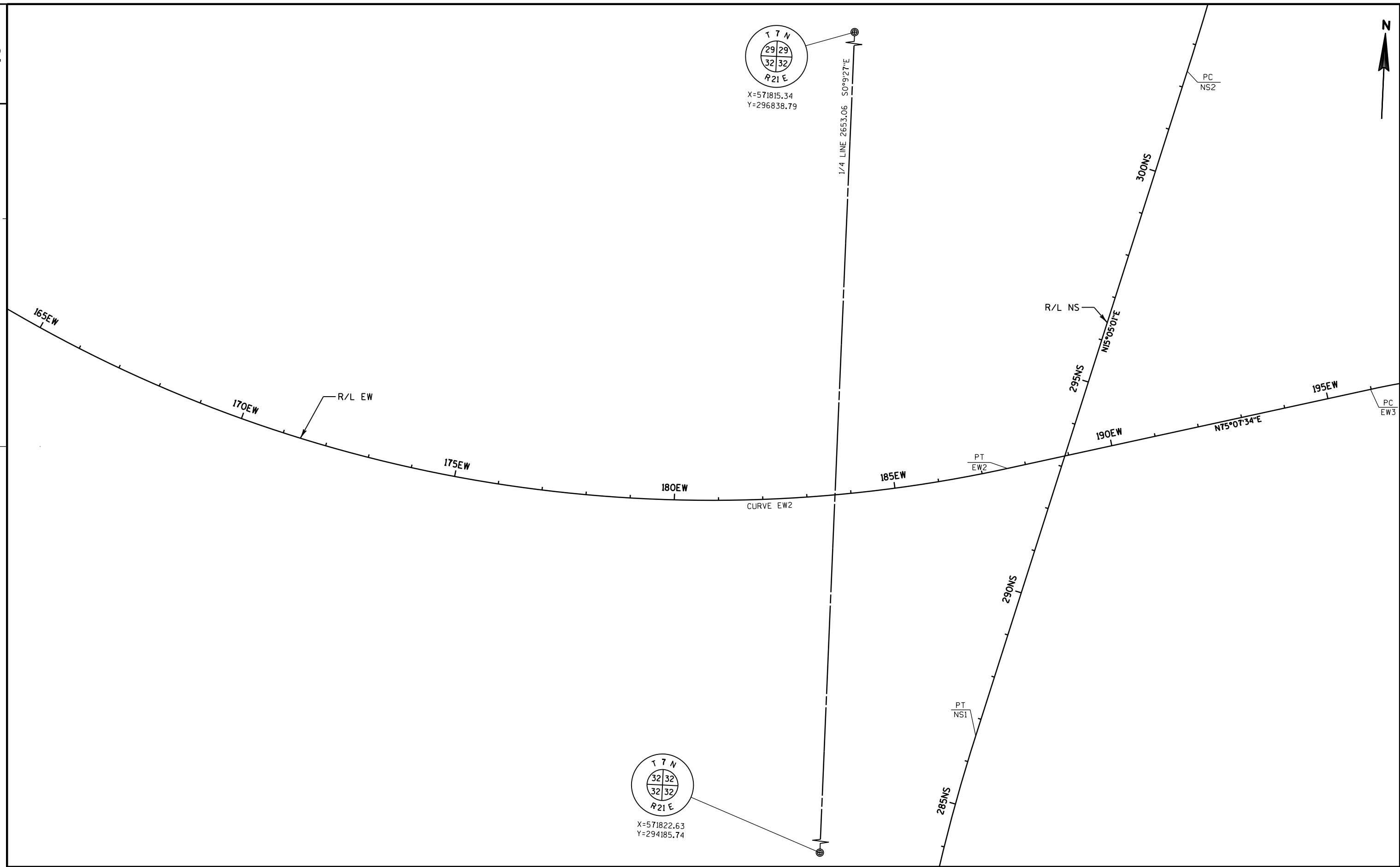
X=574448.90
 Y=299508.94









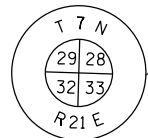


T 7 N
 29 29
 32 32
 R 21 E
 X=571815.34
 Y=296838.79

T 7 N
 32 32
 32 32
 R 21 E
 X=571822.63
 Y=294185.74

2

2



X=574458.84
Y=296853.91



END CONSTRUCTION

225EW+80.36
X=575993.50
Y=295775.41

195EW

CURVE EW3

200EW

PT EW3

205EW

210EW

N88°24'57"E

215EW

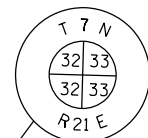
220EW

225EW

PC EW3

R/L EW

SECTION LINE 2658.10' S0°17'3"E



X=574472.02
Y=294195.84

PROJECT NO: 1000-81-70

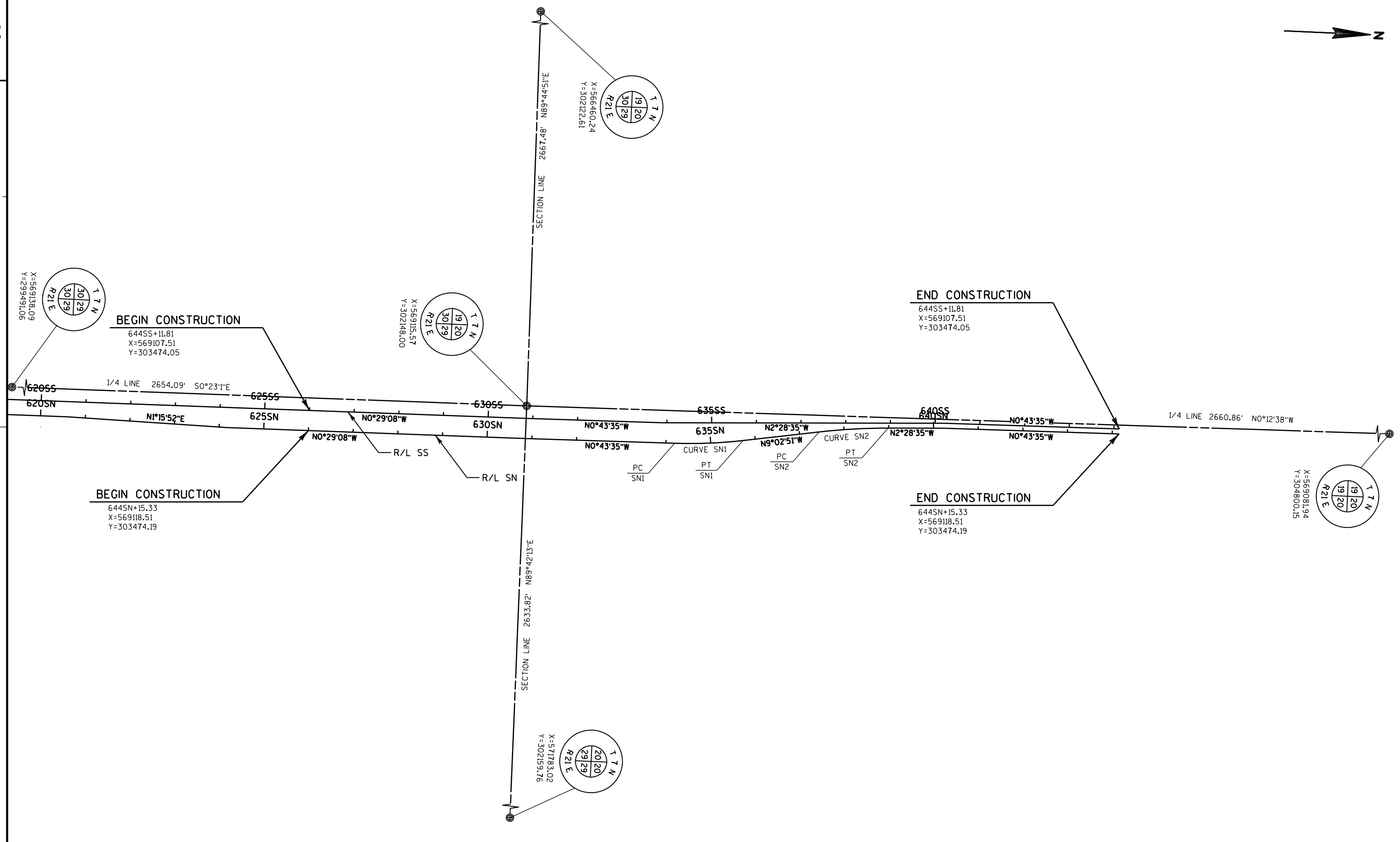
HWY: ZOO IC - IH 41, IH 94

COUNTY: MILWAUKEE

ALIGNMENT LAYOUT

SHEET

E



CURVE DATA - PROPOSED ROADWAY ALIGNMENTS											
CURVE NO.	PI	PI COORDINATES		Δ	D	T	L	E	R	PC	PT
		X	Y								
NS1	281NS+16.88	572018.44	294288.04	15°24'03"	1°24'28"	550.32	1094.01	37.04	4070.00	275NS+66.56	286NS+60.56
NS2	309NS+62.35	572760.64	297041.88	10°16'54"	0°42'39"	725.12	1446.35	32.55	8060.00	302NS+37.22	316NS+83.58
NS3	346NS+23.95	573067.49	300694.51	39°39'27"	1°54'35"	1081.77	2076.46	189.08	3000.00	335NS+42.18	356NS+18.64
NS4	370NS+41.48	571636.09	302749.78	7°49'18"	0°57'03"	411.88	822.49	14.06	6025.00	366NS+29.60	374NS+52.09
EW1	133EW+71.51	567103.99	297144.82	41°01'00"	1°19'57"	1608.42	3078.28	290.97	4300.00	117EW+63.09	148EW+41.36
EW2	176EW+55.69	571033.47	295115.04	42°11'33"	1°49'18"	1213.32	2315.97	225.93	3145.00	164EW+42.38	187EW+58.35
EW3	198EW+20.19	573232.40	295699.05	13°17'23"	3°00'56"	221.34	440.70	12.85	1900.00	195EW+98.85	200EW+39.55
SN1	634SN+96.41	569183.36	302559.10	8°19'16"	5°25'14"	76.89	153.51	2.79	1057.00	634SN+19.52	635SN+73.03
SN2	638SN+21.47	569132.20	302880.39	6°34'16"	4°14'39"	77.50	154.83	2.22	1350.00	637SN+43.98	638SN+98.80

Estimate Of Quantities

1000-81-70

Line	Item	Item Description	Unit	Total	Qty
0002	108.4400	CPM Progress Schedule	EACH	1.000	1.000
0004	204.9060.S	Removing (item description) 01. Pond Sediment	EACH	2.000	2.000
0006	204.9180.S	Removing (item description) 01. Geotextile Fabric	SY	1,140.000	1,140.000
0008	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	631.000	631.000
0010	606.0200	Riprap Medium	CY	643.000	643.000
0012	606.0300	Riprap Heavy	CY	50.000	50.000
0014	616.0700.S	Fence Safety	LF	2,143.000	2,143.000
0016	619.1000	Mobilization	EACH	1.000	1.000
0018	624.0100	Water	MGAL	8.000	8.000
0020	625.0100	Topsoil	SY	25,483.000	25,483.000
0022	628.1504	Silt Fence	LF	7,044.000	7,044.000
0024	628.1520	Silt Fence Maintenance	LF	285.000	285.000
0026	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0028	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0030	628.2008	Erosion Mat Urban Class I Type B	SY	25,165.000	25,165.000
0032	628.6005	Turbidity Barriers	SY	223.000	223.000
0034	628.7015	Inlet Protection Type C	EACH	24.000	24.000
0036	628.7020	Inlet Protection Type D	EACH	2.000	2.000
0038	628.7560	Tracking Pads	EACH	3.000	3.000
0040	628.7570	Rock Bags	EACH	800.000	800.000
0042	629.0210	Fertilizer Type B	CWT	22.000	22.000
0044	630.0120	Seeding Mixture No. 20	LB	654.000	654.000
0046	630.0200	Seeding Temporary	LB	686.000	686.000
0048	630.0500	Seed Water	MGAL	572.000	572.000
0050	631.0300	Sod Water	MGAL	9.000	9.000
0052	631.1000	Sod Lawn	SY	318.000	318.000
0054	643.0300	Traffic Control Drums	DAY	1,094.000	1,094.000
0056	643.0420	Traffic Control Barricades Type III	DAY	82.000	82.000
0058	643.0705	Traffic Control Warning Lights Type A	DAY	164.000	164.000
0060	643.0715	Traffic Control Warning Lights Type C	DAY	42.000	42.000
0062	643.0800	Traffic Control Arrow Boards	DAY	8.000	8.000
0064	643.0900	Traffic Control Signs	DAY	1,015.000	1,015.000
0066	643.0910	Traffic Control Covering Signs Type I	EACH	5.000	5.000
0068	643.0920	Traffic Control Covering Signs Type II	EACH	11.000	11.000
0070	643.1050	Traffic Control Signs PCMS	DAY	40.000	40.000
0072	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	407.000	407.000
0074	643.3960	Temporary Marking Removable Mask Out Tape 6-Inch	LF	356.000	356.000
0076	643.4100	Traffic Control Interim Lane Closure	EACH	5.000	5.000
0078	643.5000	Traffic Control	EACH	1.000	1.000
0080	644.1430	Temporary Pedestrian Surface Plate	SF	210.000	210.000
0082	645.0120	Geotextile Type HR	SY	1,360.000	1,360.000
0084	646.1020	Marking Line Epoxy 4-Inch	LF	200.000	200.000
0086	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	100.000	100.000
0088	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	100.000	100.000
0090	646.3555	Marking Line Grooved Contrast Permanent Tape 8-Inch	LF	200.000	200.000
0092	646.7120	Marking Diagonal Epoxy 12-Inch	LF	100.000	100.000
0094	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	250.000	250.000
0096	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0098	SPV.0060	Special 01. Traffic Control Close-Open Freeway Entrance Ramp	EACH	4.000	4.000
0100	SPV.0060	Special 02. Remove, Salvage and Reinstall Apron Endwall	EACH	5.000	5.000

Estimate Of Quantities

1000-81-70

Line	Item	Item Description	Unit	Total	Qty
0102	SPV.0060	Special 03. Pond Dewatering - Site 4	EACH	1.000	1.000
0104	SPV.0060	Special 04. Construction Staking Riprap and Base Aggregate Dense	EACH	18.000	18.000
0106	SPV.0075	Special 01. Pavement Cleanup Project 1000-81-70	HRS	48.000	48.000
0108	SPV.0085	Special 01. Native Pollinator Seeding Mixture No. 90A	LB	4.000	4.000
0110	SPV.0180	Special 01. Flexamat Standard Tied Concrete Block Erosion Control Mat	SY	337.000	337.000
0112	SPV.0180	Special 02. Remove and Salvage Riprap & Regrade Riprap Channel	SY	1,341.000	1,341.000
0114	SPV.0180	Special 03. Grading Repair	SY	6.000	6.000
0116	SPV.0180	Special 04. Asphaltic Material Binder	SY	948.000	948.000

MOBILIZATION

CATEGORY	STAGE	LOCATION	619.1000 MOBILIZATION EACH
1000	ALL	<u>1000-81-70</u>	1
<u>TOTAL</u>			<u>1</u>

CPM PROGRESS SCHEDULE

CATEGORY	PROJECT	108.4400 CPM PROGRESS SCHEDULE EACH
1000	<u>1000-81-70</u>	1
<u>TOTAL</u>		<u>1</u>

PAVEMENT CLEANUP

SPV.0075.01
PAVEMENT CLEANUP
PROJECT 1000-81-70

CATEGORY	LOCATION	HRS
1000	<u>SITES 1, 2, 3, 4 & 5</u>	40
<u>CATEGORY 1000 SUBTOTAL</u>		<u>40</u>
1100	<u>SITE 6</u>	8
<u>CATEGORY 1100 SUBTOTAL</u>		<u>8</u>
<u>TOTAL</u>		<u>48</u>

REMOVING POND SEDIMENT

CATEGORY	STAGE	LOCATION	STATION TO	STATION	OFFSET	** ESTIMATED POND SEDIMENT VOLUME CY	204.9035.S REMOVING POND SEDIMENT EACH
1000	4	<u>SITE 4</u>					
		AREA 1	362NS+25	-	362NS+50	LT	18
		AREA 2	361NS+25	-	361NS+55	LT	21
<u>SUBTOTALS</u>							<u>2</u>
<u>TOTALS</u>							<u>2</u>

**ESTIMATED POND SEDIMENT VOLUME FOR INFORMATION ONLY

POND DEWATERING

CATEGORY	STAGE	LOCATION	STATION TO	STATION	OFFSET	SPV.0060.03 POND DEWATERING - SITE 4 EACH
1000	4	<u>SITE 4</u>				
			361NS+00	-	364NS+25	LT
<u>SUBTOTALS</u>						<u>1</u>
<u>TOTALS</u>						<u>1</u>

CONSTRUCTION STAKING

SPV.0060.04
 CONSTRUCTION STAKING
 RIPRAP AND BASE AGGREGATE DENSE
 EACH

CATEGORY	STAGE	LOCATION	EACH		
1000	2	<u>SITE 2</u>			
		SITE 2A	1		
		SITE 2B	1		
		SITE 2C	1		
		SITE 2D	1		
		SITE 2F	1		
		SITE 2G	1		
		SITE 2H	1		
		SITE 2I	1		
		SITE 2J	1		
		SITE 2K	1		
		SITE 2 SUBTOTAL			10
		1000	3	<u>SITE 3</u>	
SITE 3A	1				
SITE 3B	1				
SITE 3 SUBTOTAL			2		
1000	3	<u>SITE 4</u>			
		SITE 4A	1		
		SITE 4B	1		
		SITE 4C	1		
SITE 4 SUBTOTAL			3		
1000	3	<u>SITE 5</u>			
		SITE 5A	1		
SITE 5 SUBTOTAL			1		
CATEGORY 1000 SUBTOTAL			16		
1100	6	<u>SITE 6</u>			
		SITE 6A	1		
		SITE 6B	1		
		SITE 6 SUBTOTAL			2
CATEGORY 1100 SUBTOTAL			2		
TOTAL			18		

WATER

CATEGORY	STAGE	LOCATION	624.0100 WATER MGAL	COMMENTS
1000	2	<u>SITE 2J</u>	3	BASE AGGREGATE DENSE
	2	<u>SITE 2K</u>	3	BASE AGGREGATE DENSE
SUBTOTALS			6	
UNDISTRIBUTED			2	
TOTAL			8	

REMOVING GEOTEXTILE FABRIC

CATEGORY	STAGE	LOCATION	STATION TO	STATION	OFFSET	PIPE SIZE	204.9180.S REMOVING GEOTEXTILE FABRIC SY
1000	2	<u>SITE 2</u>					
		SITE 2A	286NS+03 -	287NS+50	LT	8-INCH	32
		SITE 2B	287NS+09 -	287NS+97	LT	8-INCH	34
		SITE 2C	287NS+50 -	288NS+06	LT	8-INCH	23
		SITE 2D	288NS+10 -	288NS+33	LT	8-INCH	45
		SITE 2F	288NS+62 -	289NS+46	LT	24-INCH	164
		SITE 2G	289NS+34 -	289NS+60	LT	54-INCH	59
		SITE 2H	289NS+04 -	289NS+57	LT	8-INCH	7
		SITE 2I	288NS+80 -	289NS+23	LT	24-INCH	233
STAGE 2 SUBTOTAL							597
1000	3	<u>SITE 3</u>					
		SITE 3A	356NS+44 -	356NS+54	RT	24-INCH	74
		SITE 3B	355NS+02 -	355NS+22	RT	24-INCH	53
STAGE 3 SUBTOTAL							127
1000	4	<u>SITE 4</u>					
		SITE 4A	362NS+26 -	362NS+43	LT	24-INCH	120
		SITE 4B	360NS+70 -	361NS+43	LT	24-INCH	103
		SITE 4C	360NS+77 -	361NS+33	LT	30-INCH	112
STAGE 4 SUBTOTAL							335
1000	5	<u>SITE 5</u>					
		SITE 5A	369NS+70 -	369NS+89	LT	8-INCH	29
STAGE 5 SUBTOTAL							29
CATEGORY 1000 SUBTOTAL							1,088
1100	6	<u>SITE 6</u>					
		SITE 6A	636SN+97 -	637SN+33	RT	48-INCH	52
		SITE 6B	636SN+83 -	637SN+63	RT	12-INCH	79
SUBTOTALS							52
CATEGORY 1100 SUBTOTAL							52
TOTALS							1,140

BASE AGGREGATE DENSE

CATEGORY	STAGE	LOCATION	STATION TO	STATION	OFFSET	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	SPV.0180.04 ASPHALTIC MATERIAL BINDER SY
1000	2	<u>SITE 2J</u>					
			286NS+03 -	289NS+57	RT	256	384
		<u>SITE 2K</u>					
			180EW+63 -	183EW+33	LT	249	374
SUBTOTALS						505	758
UNDISTRIBUTED						126	190
TOTALS						631	948

RIPRAP ITEMS

CATEGORY	STAGE	LOCATION	STATION	OFFSET	PIPE SIZE	APRON ENDWALL EACH	STATION TO	STATION	OFFSET	PIPE SIZE	W FT	X FT	606.0200	606.0300	645.0120	SPV.0180.02
													RIPRAP MEDIUM CY	RIPRAP HEAVY CY	GEOTEXTILE FABRIC TYPE HR SY	REMOVE AND SALVAGE RIPRAP & REGRADE RIPRAP CHANNEL SY
<u>APRON ENDWALL</u>																
																SPV.0060.02
																REMOVE, SALVAGE AND REINSTALL APRON ENDWALL EACH
1000	2	<u>SITE 2</u>														
		SITE 2A	286NS+03	-	287NS+50	LT	8-INCH	2.0	8.0	69	--	138				32
		SITE 2B	287NS+09	-	287NS+97	LT	8-INCH	2.0	8.0	40	--	79				34
		SITE 2C	287NS+50	-	288NS+06	LT	8-INCH	2.0	8.0	38	--	76				23
		SITE 2D	288NS+10	-	288NS+33	LT	8-INCH	2.0	8.0	44	--	89				45
		SITE 2F	288NS+62	-	289NS+46	LT	24-INCH	4.0	10.0	47	--	94				164
		SITE 2G	289NS+34	-	289NS+60	LT	54-INCH	7.5	13.5	19	--	38				59
		SITE 2H	289NS+04	-	289NS+57	LT	8-INCH	2.0	8.0	36	--	71				7
		SITE 2I	288NS+80	-	289NS+23	LT	24-INCH	4.0	10.0	58	--	117				233
STAGE 2 SUBTOTAL													351	--	702	597
1000	3	<u>SITE 3</u>														
		SITE 3A	356NS+44	-	356NS+54	RT	24-INCH	4.0	10.0	26	--	52				74
		SITE 3B	355NS+02	-	355NS+22	RT	24-INCH	4.0	10.0	22	--	43				53
STAGE 3 SUBTOTAL													48	--	95	127
1000	4	<u>SITE 4</u>														
		SITE 4A	362NS+26	-	362NS+43	LT	24-INCH	4.0	10.0	52	--	104				120
		SITE 4B	360NS+70	-	361NS+43	LT	24-INCH	4.0	10.0	43	--	87				103
		SITE 4C	360NS+77	-	361NS+33	LT	30-INCH	5.0	11.0	36	--	72				112
STAGE 4 SUBTOTAL													131	--	263	335
1000	5	<u>SITE 5</u>														
		SITE 5A	369NS+70	-	369NS+89	LT	24-INCH	4.0	10.0	15	--	30				29
STAGE 5 SUBTOTAL													15	--	30	29
UNDISTRIBUTED													55	--	109	109
CATEGORY 1000 SUBTOTAL													600	--	1,199	1,197
1100	6	<u>SITE 6</u>														
		SITE 6A	637SN+00	-	637SN+38	LT	48-INCH	11.0	17.0	--	45	68				52
		SITE 6B	636SN+83	-	637SN+63	LT	12-INCH	2.0	8.0	39	--	78				79
STAGE 6 SUBTOTAL													39	45	146	131
UNDISTRIBUTED													4	5	15	13
CATEGORY 1100 SUBTOTAL													43	50	161	144
TOTALS													642	50	1,360	1,341

EROSION CONTROL ITEMS

CATEGORY	STAGE	ROADWAY	STATION	TO	STATION	616.0700.S	628.1504	628.1520	628.1905	628.1910	628.2008	628.6005	628.7015	628.7020	628.7560	628.7570	SPV.0180.01	SPV.0180.03
						FENCE SAFETY LF	SILT FENCE LF	SILT FENCE MAINTENANCE LF	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EROSION CONTROL EACH	EROSION MAT CLASS I TYPE B SY	TURBIDITY BARRIERS LF	INLET PROTECTION TYPE C EACH	INLET PROTECTION TYPE D EACH	TRACKING PADS EACH	ROCK BAGS EACH	TIED CONCRETE BLOCK EROSION CONTROL MAT SY	GRADING REPAIR SY
1000	1	<u>SITE 1</u>	149EW+00	-	152EW+50	--	345	18	--	--	669	--	4	--	--	--	--	6
		<u>UNDISTRIBUTED</u>				--	87	--	1	--	168	--	1	--	--	--	--	--
		STAGE 1 SUBTOTAL				--	432	18	1	--	837	--	5	--	--	--	--	6
1000	2	<u>SITE 2</u>	179EW+00	-	186EW+00	1,250	2,216	111	--	--	12,171	--	6	--	1	320	269	--
		<u>UNDISTRIBUTED</u>				313	554	--	1	1	3,043	--	2	--	--	80	68	--
		STAGE 2 SUBTOTAL				1,563	2,770	111	1	1	15,214	--	8	--	1	400	337	--
1000	3	<u>SITE 3</u>	355NS+00	-	359NS+00	--	663	34	--	--	1,412	--	2	1	--	80	--	--
		<u>UNDISTRIBUTED</u>				--	166	--	1	--	353	--	1	1	--	20	--	--
		STAGE 3 SUBTOTAL				--	829	34	1	--	1,765	--	3	2	--	100	--	--
1000	4	<u>SITE 4</u>	360NS+00	-	365NS+00	60	1,627	82	--	--	4,284	178	1	--	1	120	--	--
		<u>UNDISTRIBUTED</u>				15	407	--	1	1	1,071	45	1	--	1	30	--	--
		STAGE 4 SUBTOTAL				75	2,034	82	1	1	5,355	223	2	--	2	150	--	--
1000	5	<u>SITE 5</u>	368NS+00	-	370NS+00	--	332	17	--	--	672	--	2	--	--	40	--	--
		<u>UNDISTRIBUTED</u>				--	83	--	1	--	168	--	1	--	--	10	--	--
		STAGE 5 SUBTOTAL				--	415	17	1	--	840	--	3	--	--	50	--	--
		CATEGORY 1000 SUBTOTAL				1,638	6,480	262	5	2	24,011	223	21	2	3	700	337	6
1100	6	<u>SITE 6</u>	636SN+50	-	641SN+50	404	451	23	--	--	923	--	2	--	--	80	--	--
		<u>UNDISTRIBUTED</u>				101	113	--	1	1	231	--	1	--	--	20	--	--
		STAGE 6 SUBTOTAL				505	564	23	1	1	1,154	--	3	--	--	100	--	--
		CATEGORY 1100 SUBTOTAL				505	564	23	1	1	1,154	--	3	--	--	100	--	--
		TOTAL				2,143	7,044	285	6	3	25,165	223	24	2	3	800	337	6

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RESTORATION ITEMS

CATEGORY	STAGE	ROADWAY	STATION	TO	STATION	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL	631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY	SPV.0085.01 NATIVE POLLINATOR SEEDING MIXTURE NO. 90A LB
1000	1	<u>SITE 1</u>											
			149EW+00	-	152EW+50	669	1	19	19	16	--	--	--
		<u>UNDISTRIBUTED</u>				168	1	5	5	4	--	--	--
		STAGE 1 SUBTOTAL				837	2	24	24	20	--	--	--
1000	2	<u>SITE 2</u>											
			179EW+00	-	186EW+00	12,171	8	329	329	274	--	--	--
		<u>UNDISTRIBUTED</u>				3,043	2	83	83	69	--	--	--
		STAGE 2 SUBTOTAL				15,214	10	412	412	343	--	--	--
1000	3	<u>SITE 3</u>											
			355NS+00	-	359NS+00	1,412	1	39	39	32	--	--	--
		<u>UNDISTRIBUTED</u>				353	1	10	10	8	--	--	--
		STAGE 3 SUBTOTAL				1,765	2	49	49	40	--	--	--
1000	4	<u>SITE 4</u>											
			360NS+00	-	365NS+00	4,418	3	116	116	97	4	134	--
		<u>UNDISTRIBUTED</u>				1,105	1	29	29	25	1	34	--
		STAGE 4 SUBTOTAL				5,523	4	145	145	122	5	168	--
1000	5	<u>SITE 5</u>											
			368NS+00	-	370NS+00	672	1	19	19	16	--	--	--
		<u>UNDISTRIBUTED</u>				168	1	5	5	4	--	--	--
		STAGE 5 SUBTOTAL				840	2	24	24	20	--	--	--
		CATEGORY 1000 SUBTOTAL				24,179	20	654	654	545	5	168	--
1100	6	<u>SITE 6</u>											
			636SN+50	-	641SN+50	1,043	1	--	25	21	3	120	3
		<u>UNDISTRIBUTED</u>				261	1	--	7	6	1	30	1
		STAGE 6 SUBTOTAL				1,304	2	--	32	27	4	150	4
		CATEGORY 1100 SUBTOTAL				1,304	2	--	32	27	4	150	4
		TOTAL				25,483	22	654	686	572	9	318	4

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		TRAFFIC CONTROL STAGING ITEMS															
		* 643.0300		* 643.0420		* 643.0705		643.0715		643.0800		* 643.0900		* 643.1050			
		TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL WARNING LIGHTS TYPE C		TRAFFIC CONTROL ARROW BOARDS		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL SIGNS PCMS			
CATEGORY	ROADWAY	STAGE DURATION DAYS		EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY		
1000	STAGE 1 <u>IH 94 WB</u> <u>UNDISTRIBUTED</u>	2		13	26	--	--	--	--	--	--	1	2	20	40	--	--
					3		--		--		--		1		4		--
	STAGE 1A SUBTOTAL				29		--		--		--		3		44		--
1000	STAGE 2 <u>STH 100 NB</u> <u>STH 100 SB</u> <u>IH 94 EB/RAMP ES/RAMP EN ON RAMP FROM STH 100</u> <u>IH 94 EB</u> <u>IH 41 SB</u> <u>UNDISTRIBUTED</u>	2		13	26	2	4	4	8	--	--	--	--	2	4	--	--
				--	--	--	--	--	--	--	--	--	--	--	--	--	--
				14	28	6	12	12	24	--	--	--	--	3	6	--	--
				32	64	2	4	4	8	--	--	1	2	10	20	--	--
				43	86	4	8	8	16	--	--	1	2	12	24	1	9
					21		3		6		--		1		6		1
	STAGE 2 SUBTOTAL				225		31		62		--		5		60		10
1000	STAGE 3 <u>IH 41 NB ON RAMP FROM WTP EB</u> <u>UNDISTRIBUTED</u>	5		24	120	1	5	2	10	--	--	--	--	6	30	--	--
					12		1		2		--		--		3		--
	STAGE 3 SUBTOTAL				132		6		12		--		--		33		--
1000	STAGE 4 <u>IH 41 SB OFF RAMP TO WTP EB</u> <u>W. WATERTOWN PLANK RD</u> <u>UNDISTRIBUTED</u>	14		--	--	--	--	--	--	--	--	--	--	2	28	--	--
				15	210	1	14	2	28	--	--	--	--	8	112	--	--
					21		2		4		--		--		14		--
	STAGE 4 SUBTOTAL				231		16		32		--		--		154		--
1000	STAGE 5 <u>IH 41 SB ON RAMP FROM WTP WB</u> <u>UNDISTRIBUTED</u>	3		22	308	--	--	--	--	--	--	--	--	5	70	--	--
					31		--		--		--		--		7		--
	STAGE 5 SUBTOTAL				339		--		--		--		--		77		--
	CATEGORY 1000 SUBTOTAL				956		53		106		--		8		368		10
1000	STAGE 6 <u>UNDERWOOD PARKWAY</u> <u>UNDISTRIBUTED</u>	10		7	70	1	10	2	20	3	30	--	--	9	90	--	--
					7		1		2		3		--		9		--
	STAGE 6 SUBTOTAL				77		11		22		33		--		99		--
	CONTRACT TOTAL				1,033		64		128		33		8		467		10

* ADDITIONAL QUANTITIES ELSEWHERE
** FOR INFORMATION ONLY

TRAFFIC CONTROL DETOUR ITEMS

CATEGORY	STAGE	ROADWAY	TRAFFIC CONTROL DETOUR ITEMS																		
			DETOUR DURATION DAYS	643.0300		643.0420		643.0705		643.0715		643.0900		643.0910		643.0920		643.1050			
				EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY		
1000	2	<u>DETOUR</u>	2																		
		IH 94 EB/RAMP ES/ RAMP EN ON RAMP FROM STH 100 SB	--	--	--	--	--	--	--	--	--	54	108	--	--	--	2	2	4	1	9
		IH 94 EB/RAMP ES/ RAMP EN ON RAMP FROM STH 100 NB	--	--	--	--	--	--	--	--	--	62	124	2	2	4	--	--	--	1	9
		IH 41 ON RAMP FROM USH 18/W. BLUEMOUND ROAD	27	55	8	16	16	32	4	8	133	266	--	--	--	3	2	6	1	9	
		<u>UNDISTRIBUTED</u>		6		2		4		1		50			1			1		3	
		<u>SUBTOTAL</u>		61		18		36		9		548			5			11		30	
		<u>CONTRACT TOTAL</u>		61		18		36		9		548			5			11		30	

* ADDITIONAL QUANTITIES ELSEWHERE
 ** FOR INFORMATION ONLY
 NOTES: PLACE PCMS SIGNS WITH CLOSURE DATES 7 DAYS PRIOR TO FULL CLOSURES

TRAFFIC CONTROL

CATEGORY	STAGE	LOCATION	643.5000 TRAFFIC CONTROL EACH
1000	ALL	<u>1000-81-70</u>	1
		<u>TOTAL</u>	1

TRAFFIC CONTROL CLOSURE ITEMS

CATEGORY	STAGE	LOCATION	643.4100 TRAFFIC CONTROL INTERIM LANE CLOSURE EACH	SPV.0060.01 TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP EACH
1000	ALL	<u>VARIOUS</u>	5	4
		<u>TOTAL</u>	5	4

TEMPORARY PAVEMENT MARKING

CATEGORY	STAGE	LOCATION	643.3180	643.3960
			TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH YELLOW LF	TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH LF
1100	6	SITE 6	407	356
TOTAL			407	356

TEMPORARY PEDESTRIAN SURFACE PLATE

CATEGORY	STAGE	LOCATION	644.1430 TEMPORARY PEDESTRIAN SURFACE PLATE SF
1100	6	SITE 6	210
TOTAL			210

PAVEMENT MARKING ITEMS

CATEGORY	ROADWAY	* 646.1020 MARKING LINE EPOXY 4-INCH		** 646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH		*** 646.1555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH		**** 646.3555 MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH		***** 646.7120 MARKING LINE DIAGONAL EXPOXY 12-INCH
		YELLOW LF	WHITE LF	YELLOW LF	WHITE LF	WHITE LF	WHITE LF	WHITE LF	WHITE LF	WHITE LF
1000	UNDISTRIBUTED	100	100	--	100	100	100	100	100	100
SUBTOTAL		100	100	--	100	100	100	100	100	100
TOTAL		200		100		100		200		100

* MARKING LINE EPOXY 4-INCH FOR RAMP EDGELINES
 **MARKING LINE GROOVED WET REF EPOXY 4-INCH FOR MAINLINE EDGELINES
 ***MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH FOR LANE LINES
 ****MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH FOR LANE DROPS/SPLITS
 *****MARKING LINE DIAGONAL EPOXY 12-INCH FOR MAINLINE SHOULDERS

Standard Detail Drawing List

08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09D	ON RAMP LANE CLOSURE
15C02-09E	OFF RAMP LANE CLOSURE
15C02-09G	TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D16-06	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D29-06	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D50-03A	TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

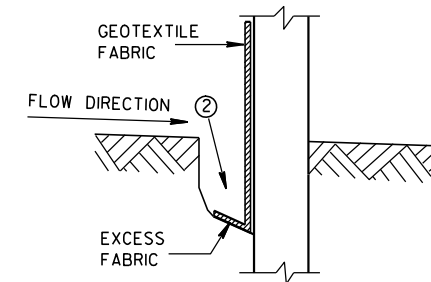


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

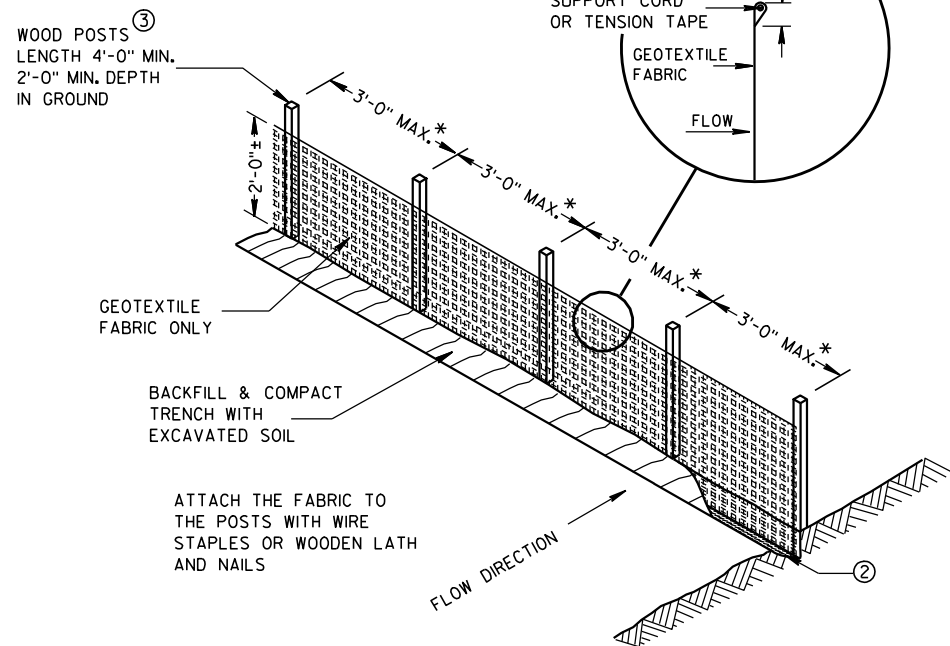
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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.



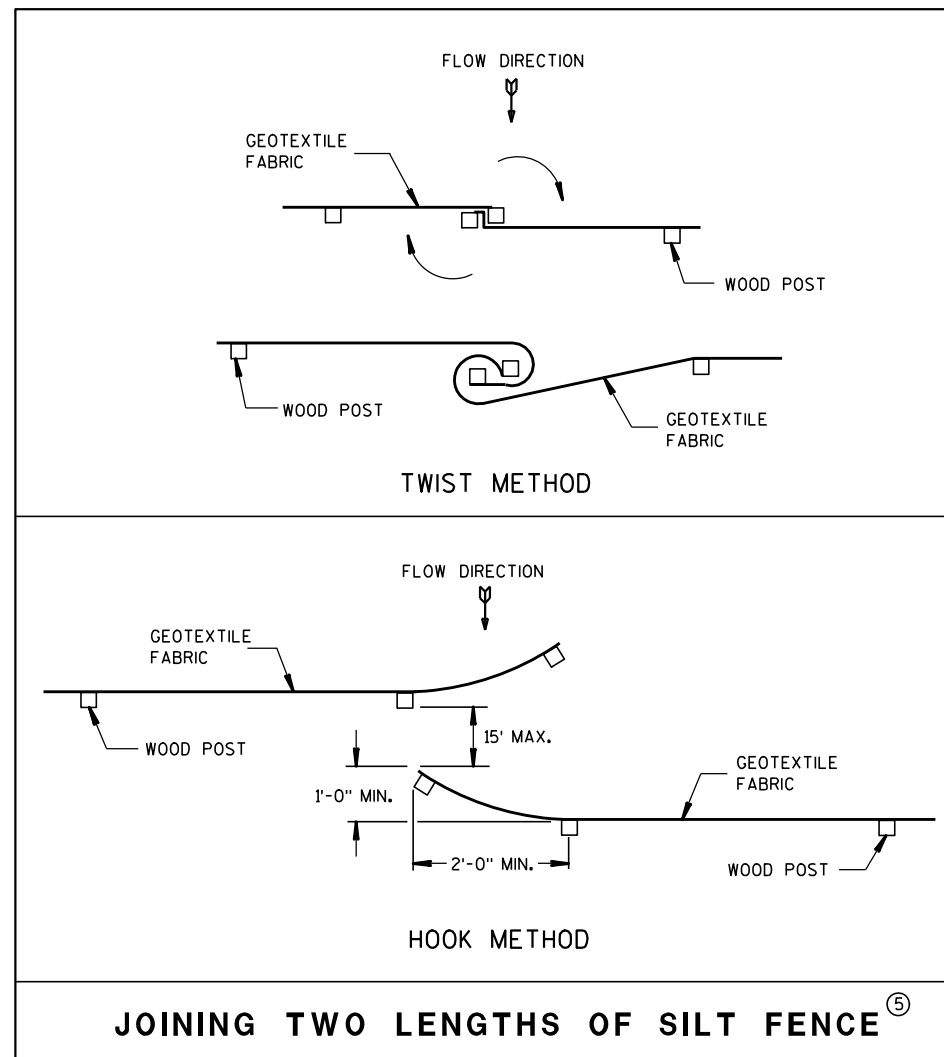
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

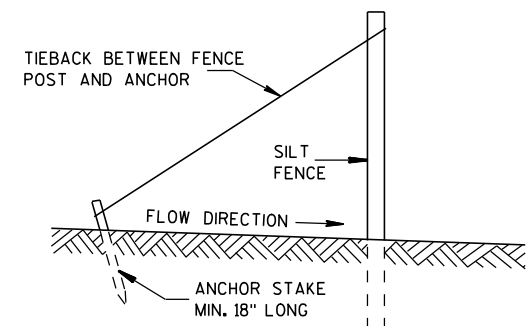


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

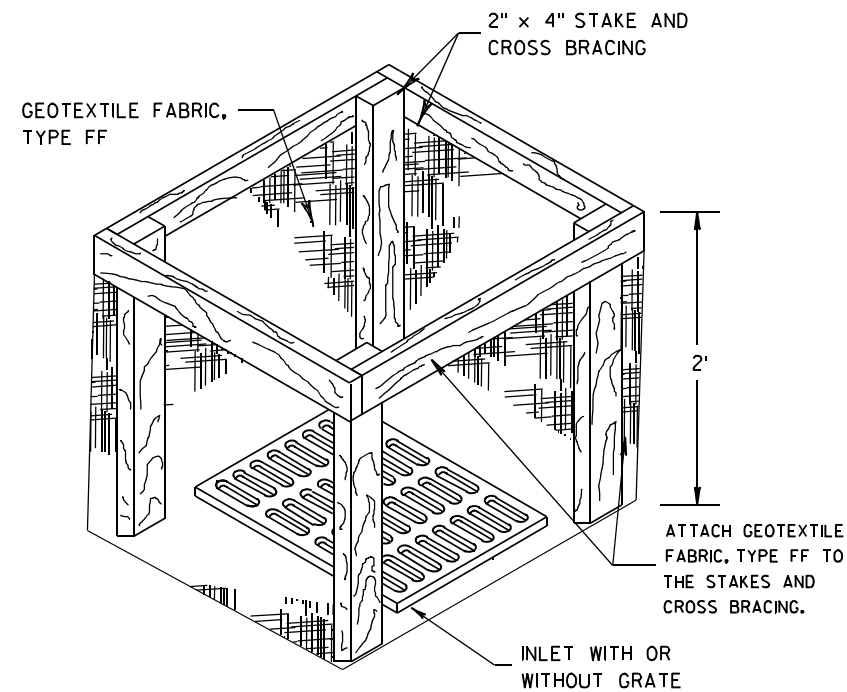
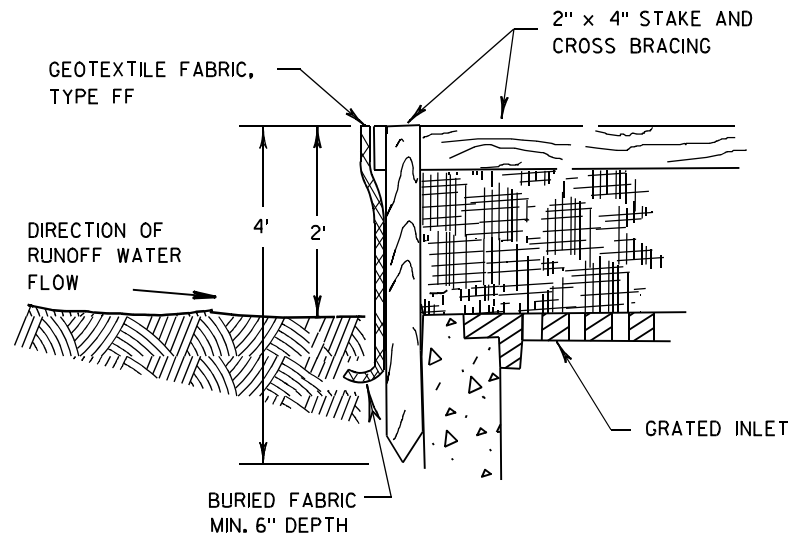
APPROVED

4-29-05

DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

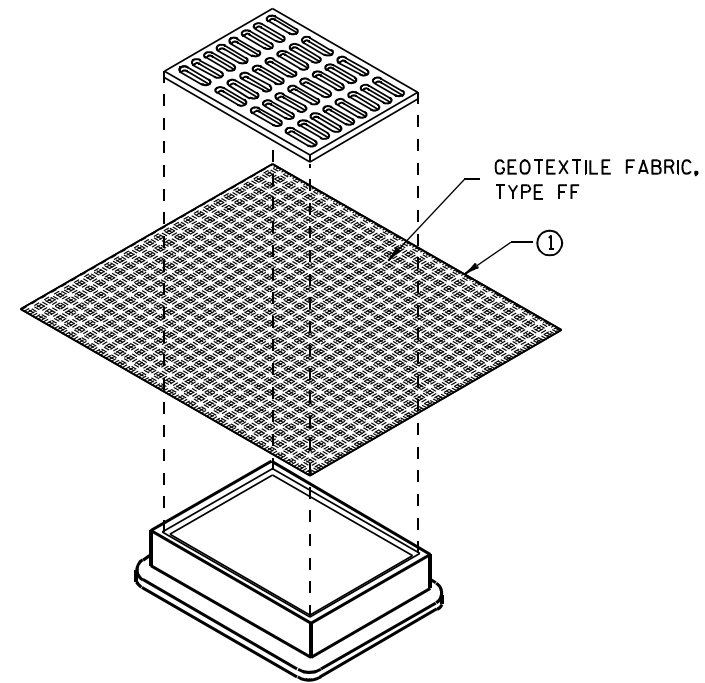
GENERAL NOTES

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.

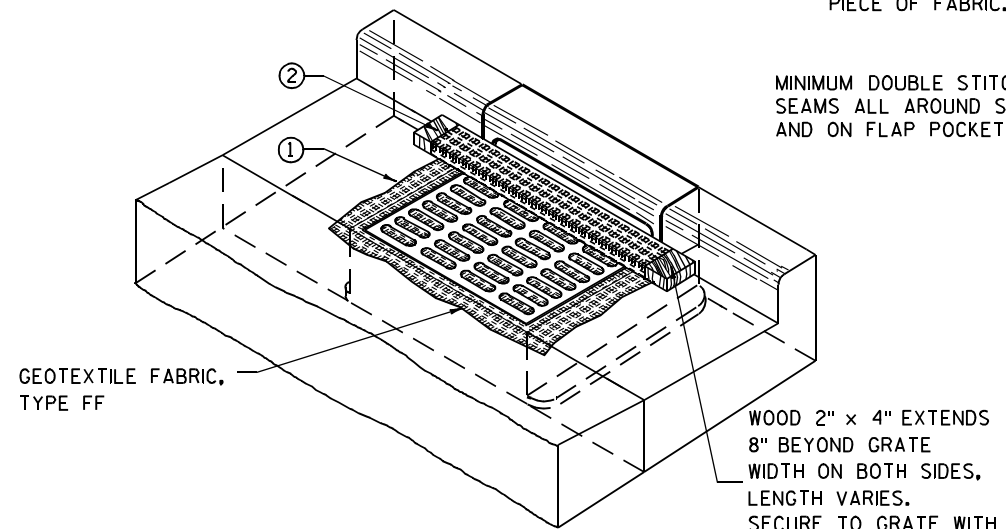
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

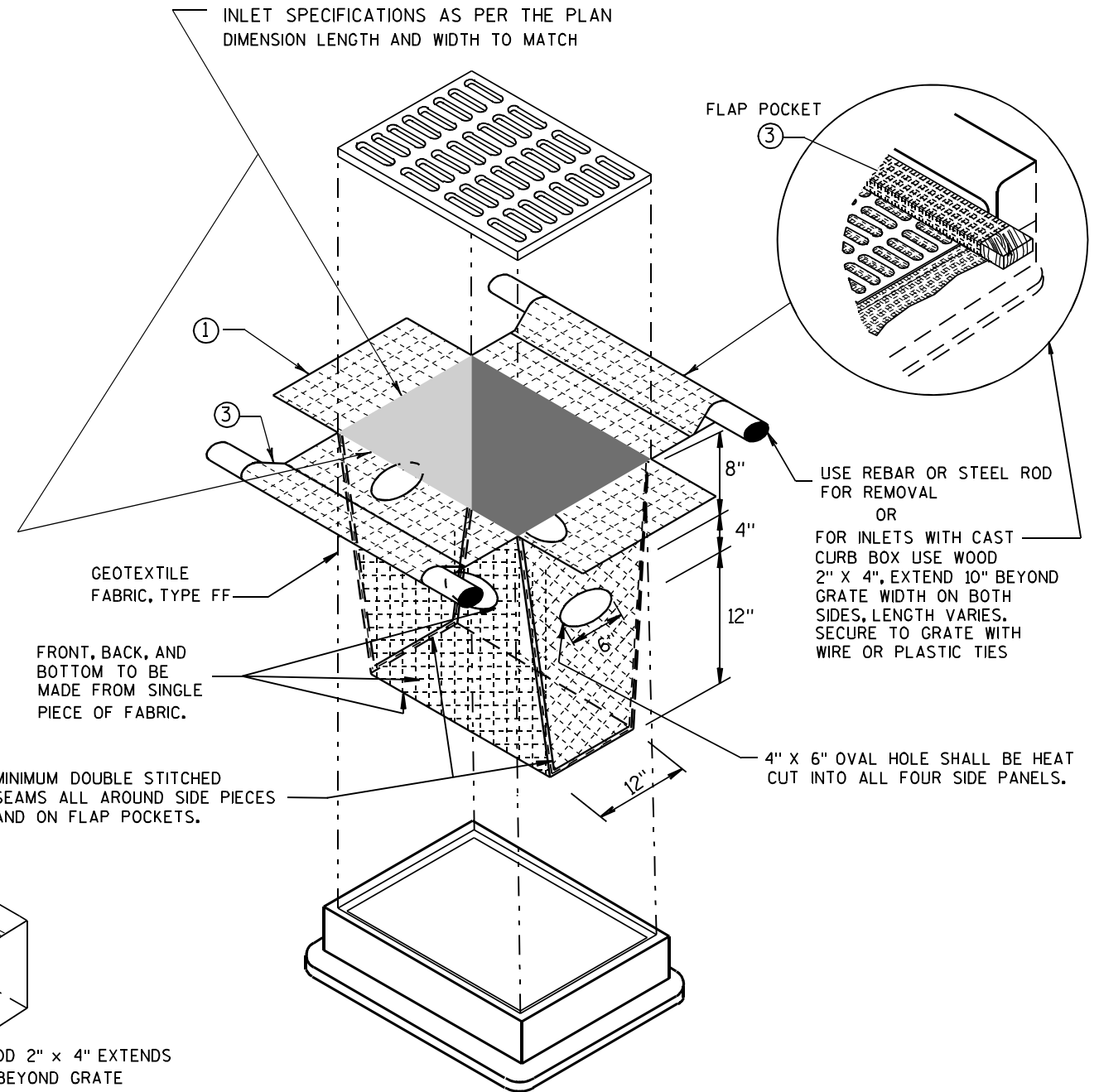
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.

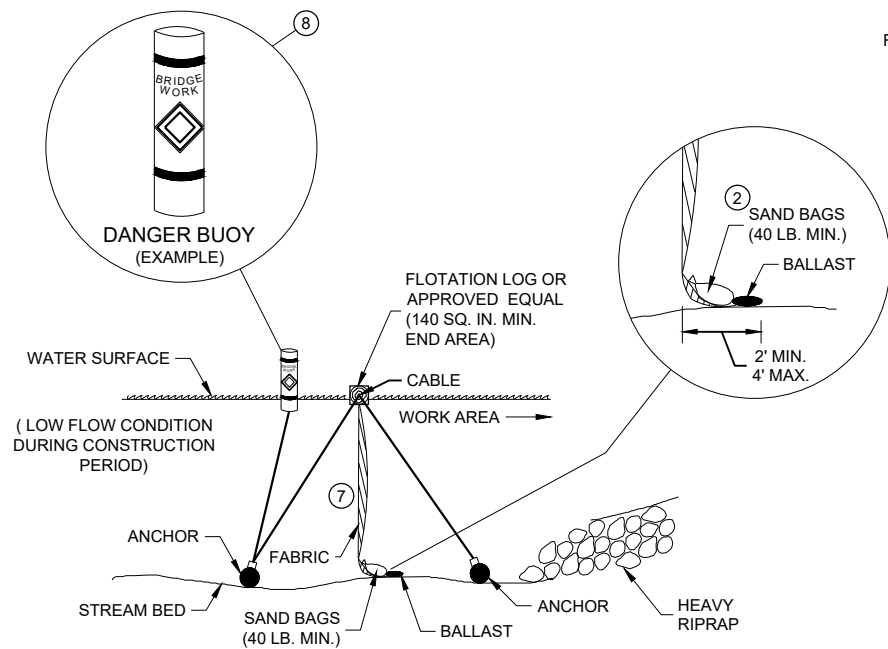
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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



INLET PROTECTION, TYPE D

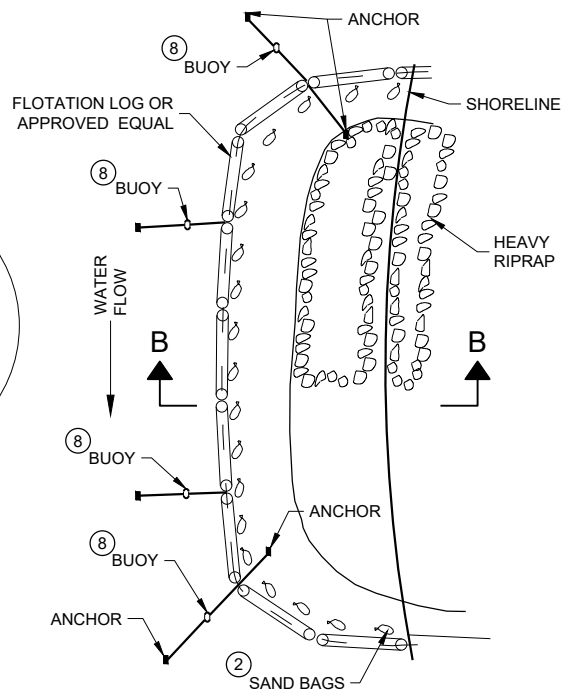
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/s/ Beth Connestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

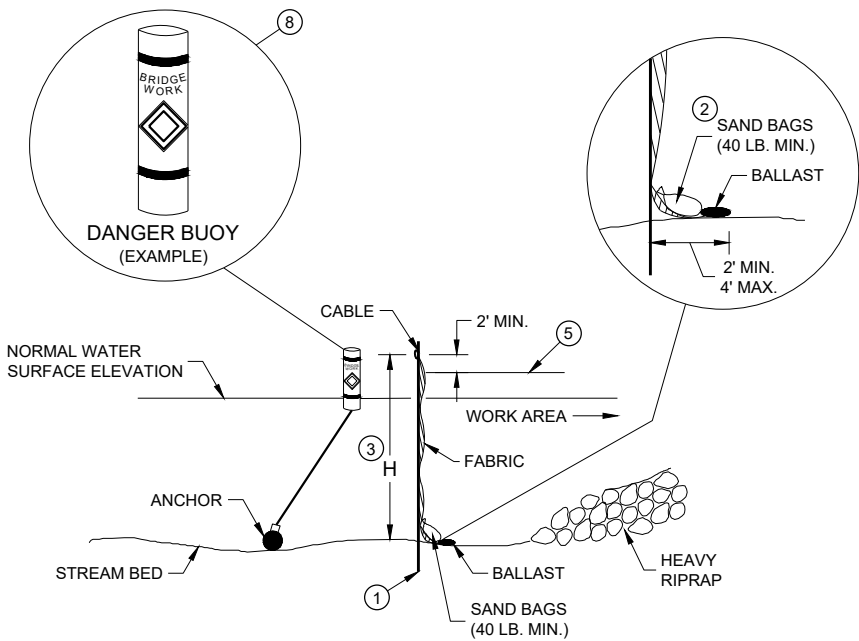


SECTION B - B

**TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6**

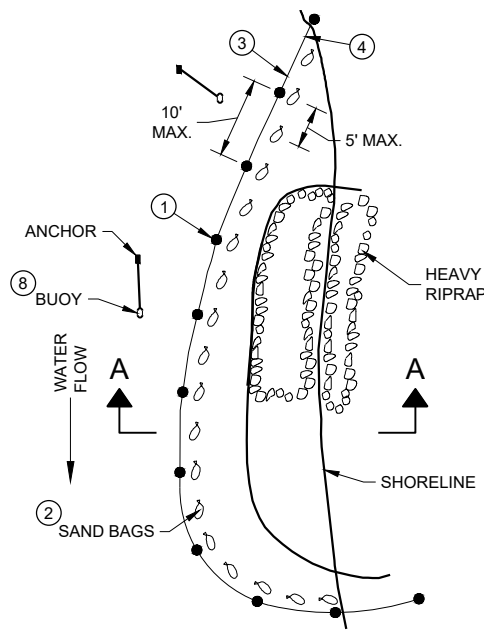


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW

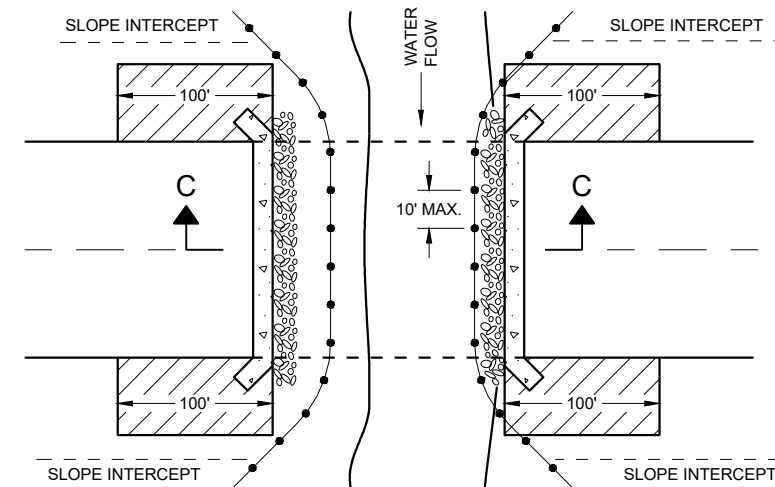
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

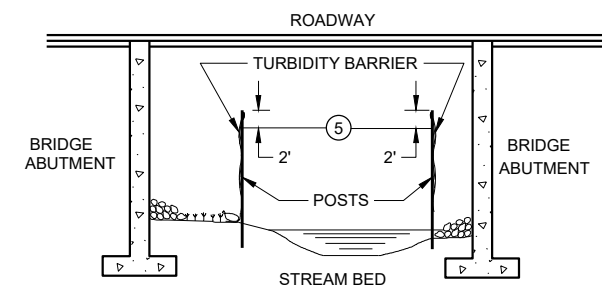
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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 SAND BAGS 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 FEET, 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. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK 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
6/4/02 DATE /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT
ENGINEER

FHWA

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.

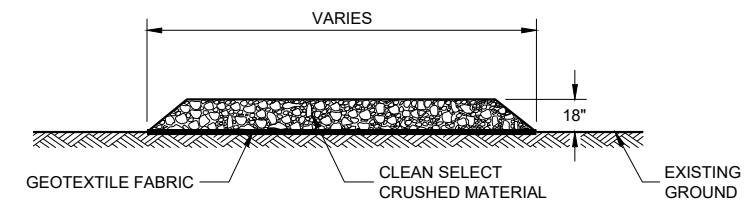
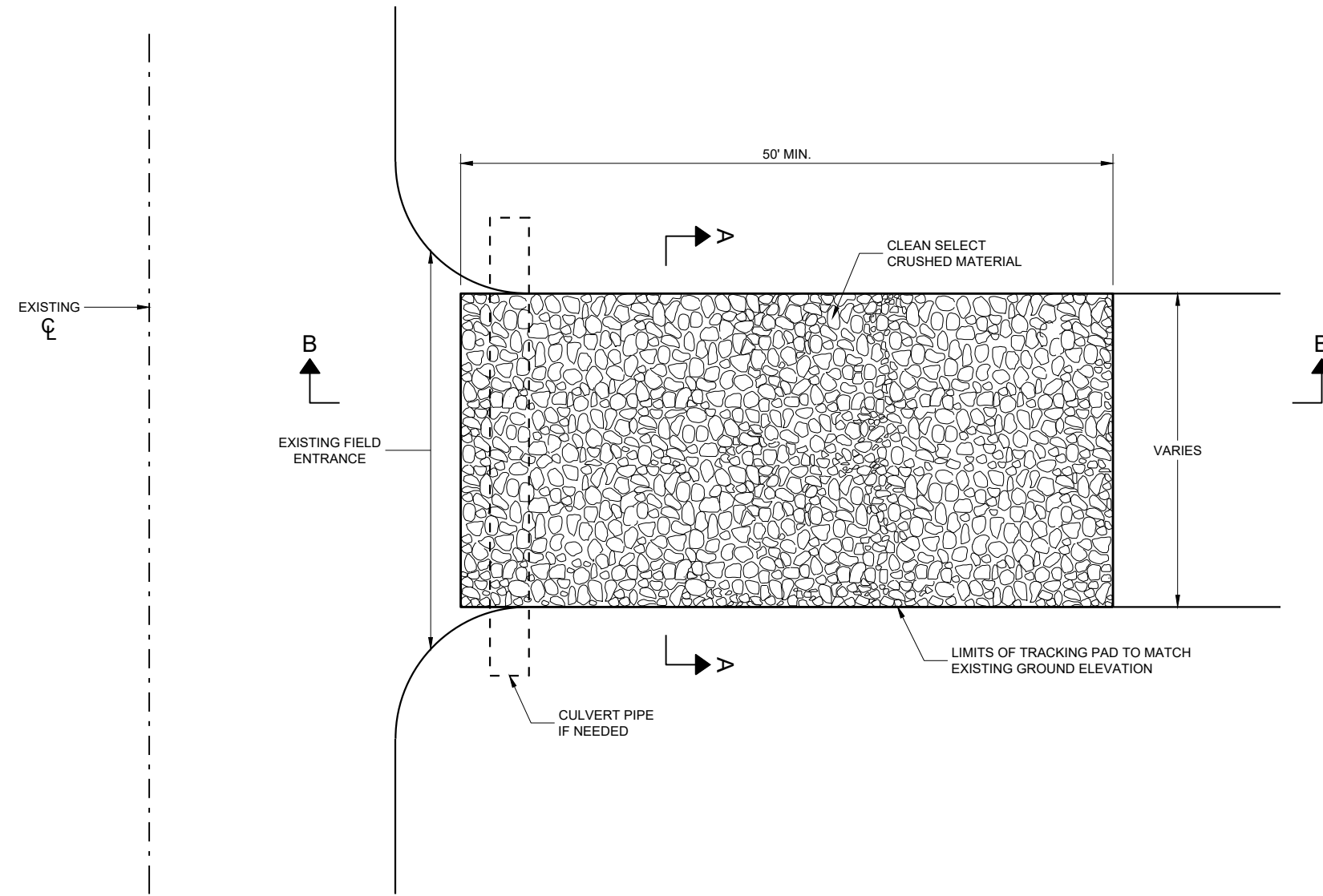
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

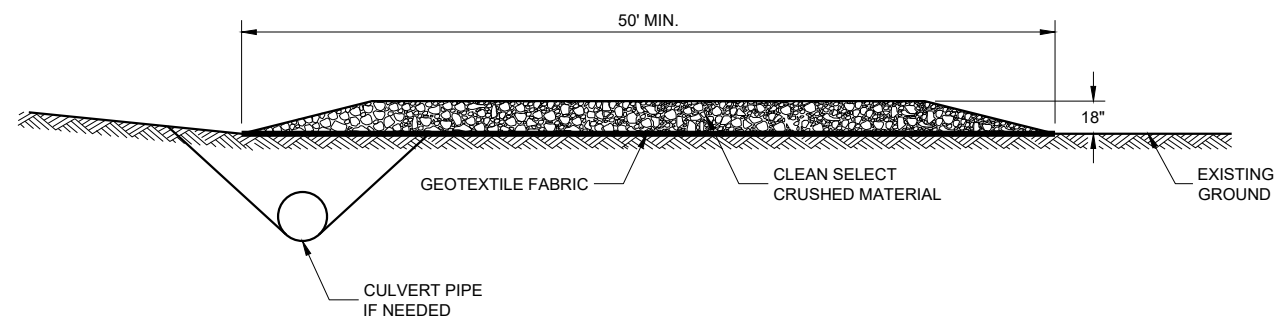
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

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.



SECTION A - A



SECTION B - B

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

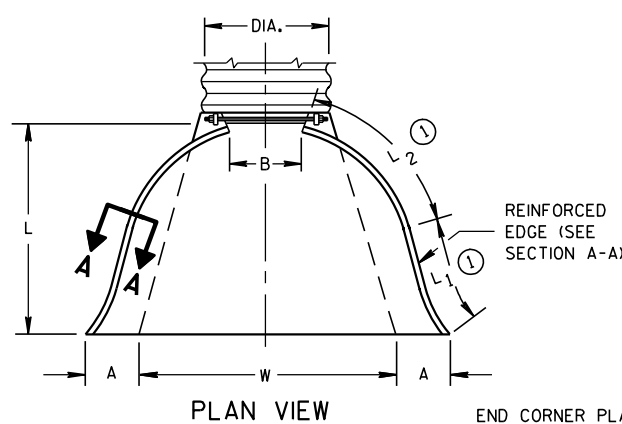
FHWA

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1	L2	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

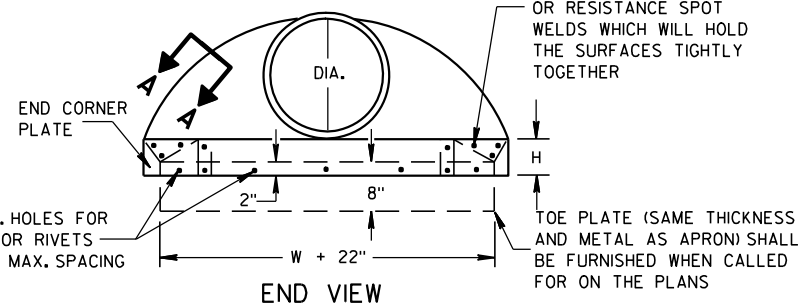
* EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1	
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1	
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1	
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1	
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1	
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1	
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1	
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1	
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1	
48	5	24	72	26	98	84	5	3 to 1	
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 to 1	
60	6	30-35	60	39	99	96	5	2 to 1	
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1	
72	7	24-36	78	21	99	108	6	2 to 1	
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1	
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1	
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1	

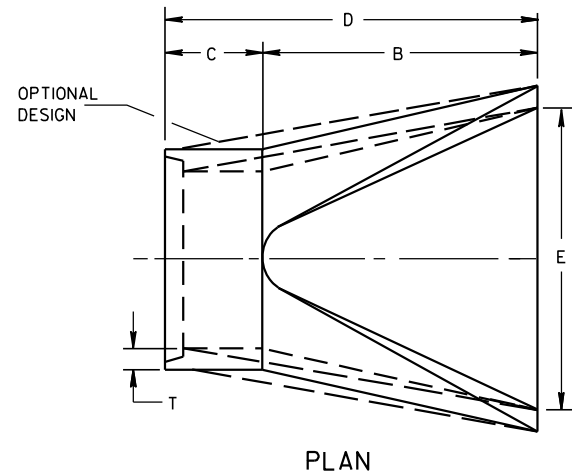
* MINIMUM
** MAXIMUM



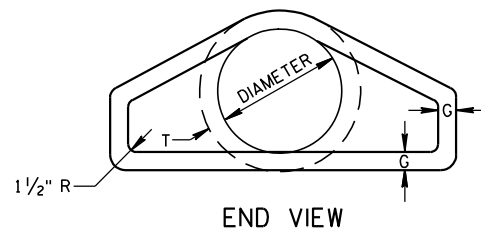
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



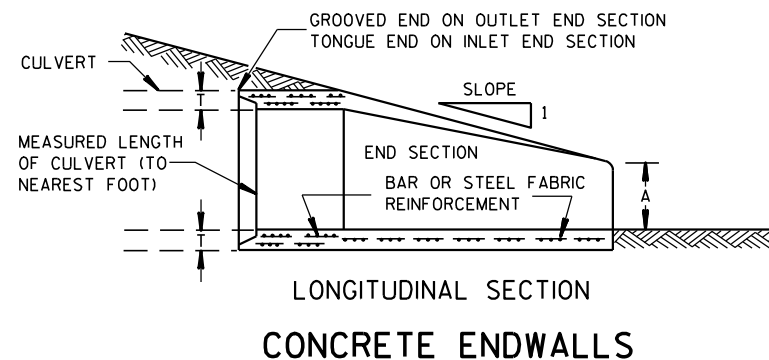
SIDE ELEVATION
METAL ENDWALLS



PLAN

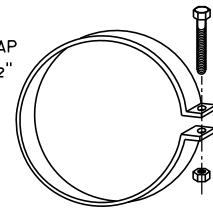


END VIEW

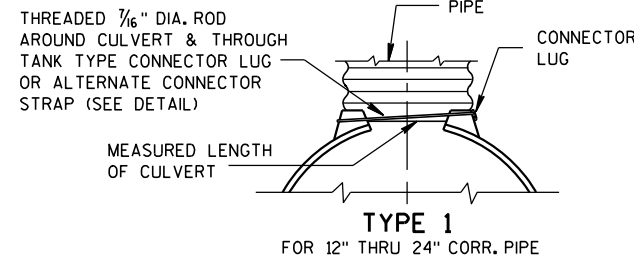


LONGITUDINAL SECTION
CONCRETE ENDWALLS

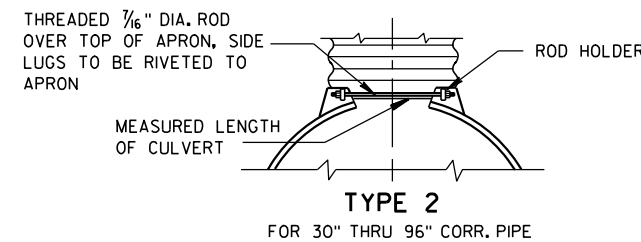
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



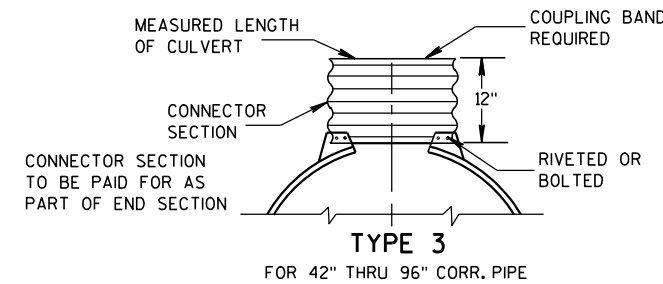
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



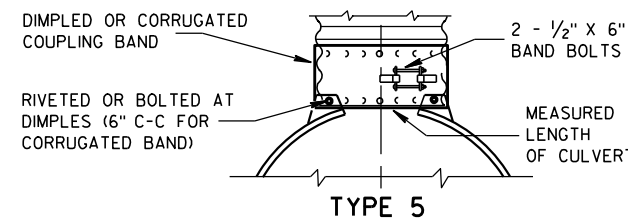
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

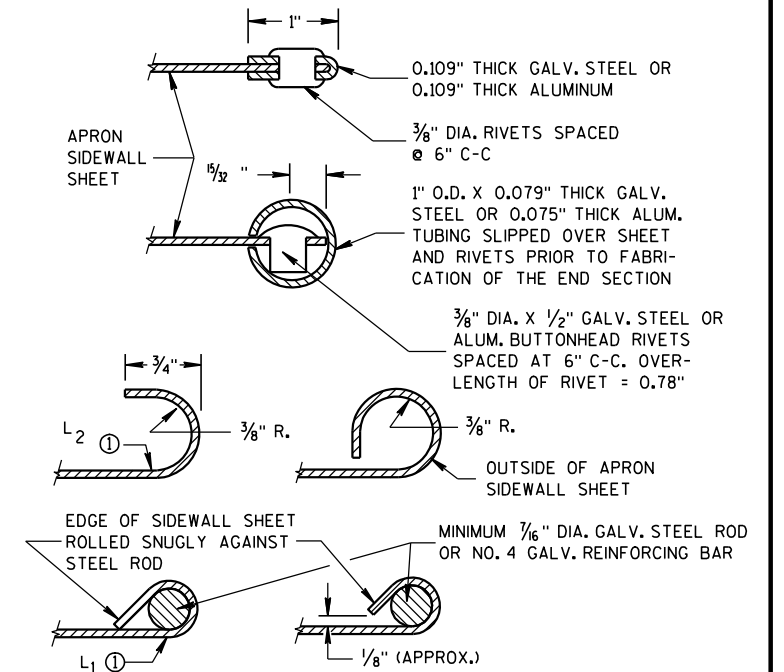
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VICE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

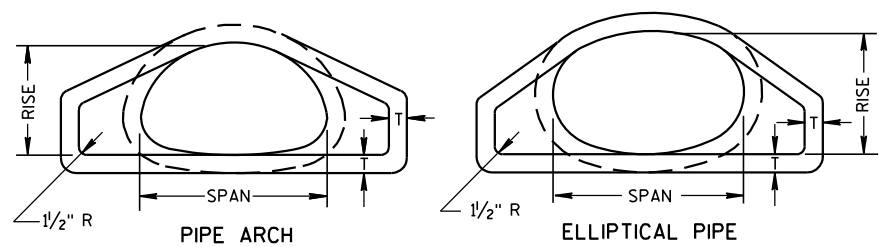
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

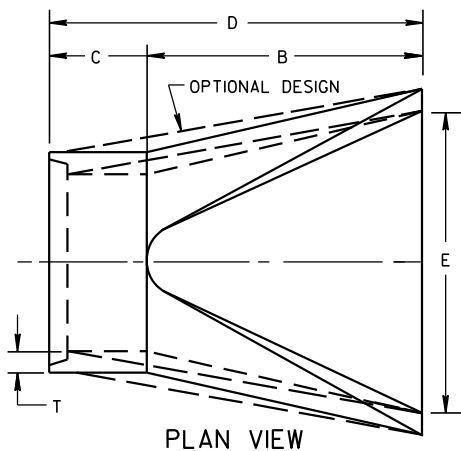
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

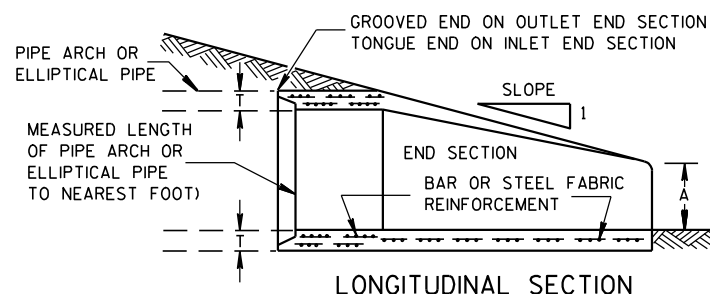
APPROVED
11/30/94 DATE /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



END VIEW

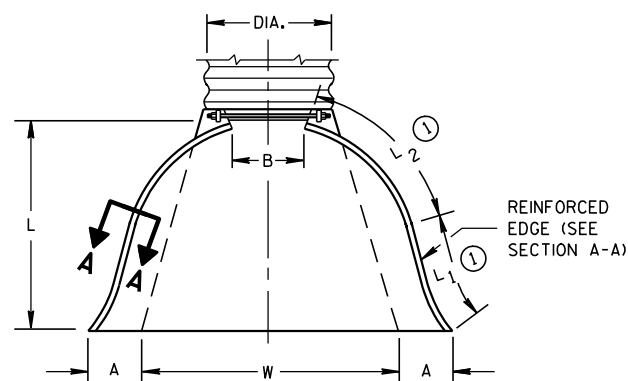


PLAN VIEW



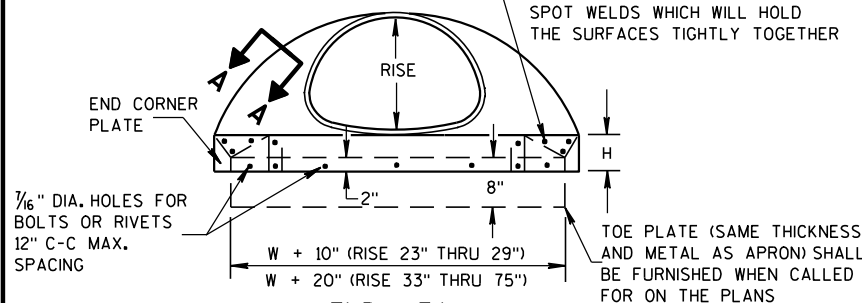
LONGITUDINAL SECTION

CONCRETE ENDWALLS

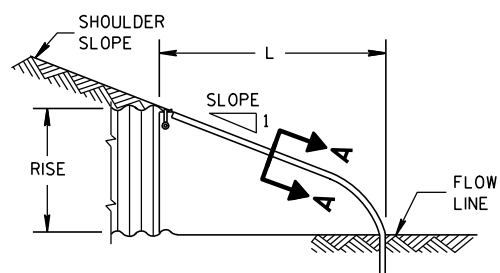


PLAN VIEW

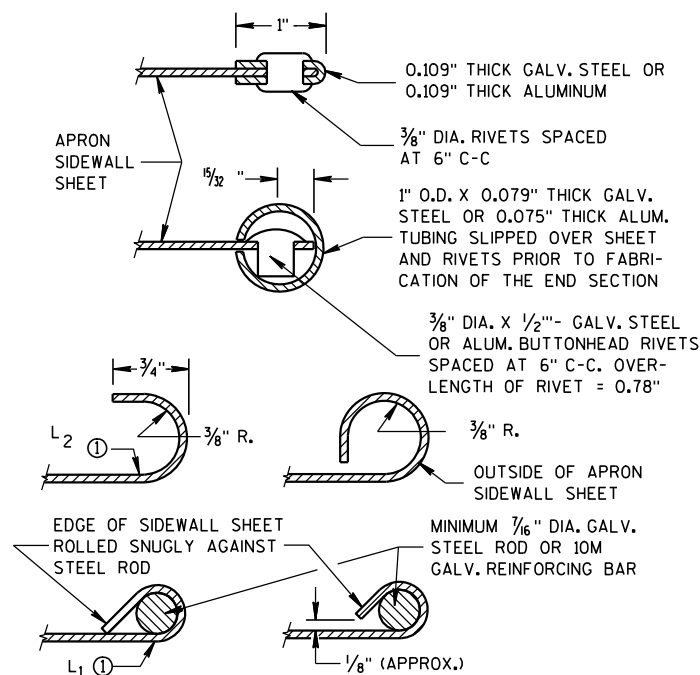
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW



SIDE ELEVATION
METAL ENDWALLS



SECTION A-A

2- 2 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 (⊙)	L2 (⊙)	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 (⊙)	L2 (⊙)	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED. * EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	**SPAN	**RISE	T	A	B	C	D	E	
24	29	18	3	8 1/2	39	33	72	48	3 to 1
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1
36	44	27	4	11 1/8	60	36	96	72	3 to 1
42	51	31	4 1/2	15 1/8	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28 1/2	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	**SPAN	**RISE	T	A	B	C	D	E	
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1
42	53	34	5	15 3/4	60	36	96	78	2 1/2 to 1
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1

**NOMINAL SIZE

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.

CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

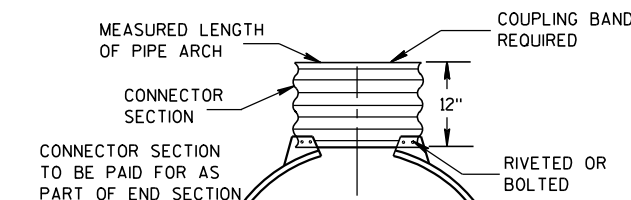
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

Ⓛ FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.



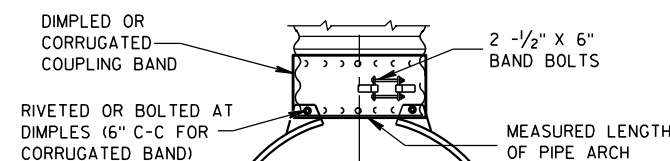
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:
ALL SIZES CORRUGATED PIPE ARCHES

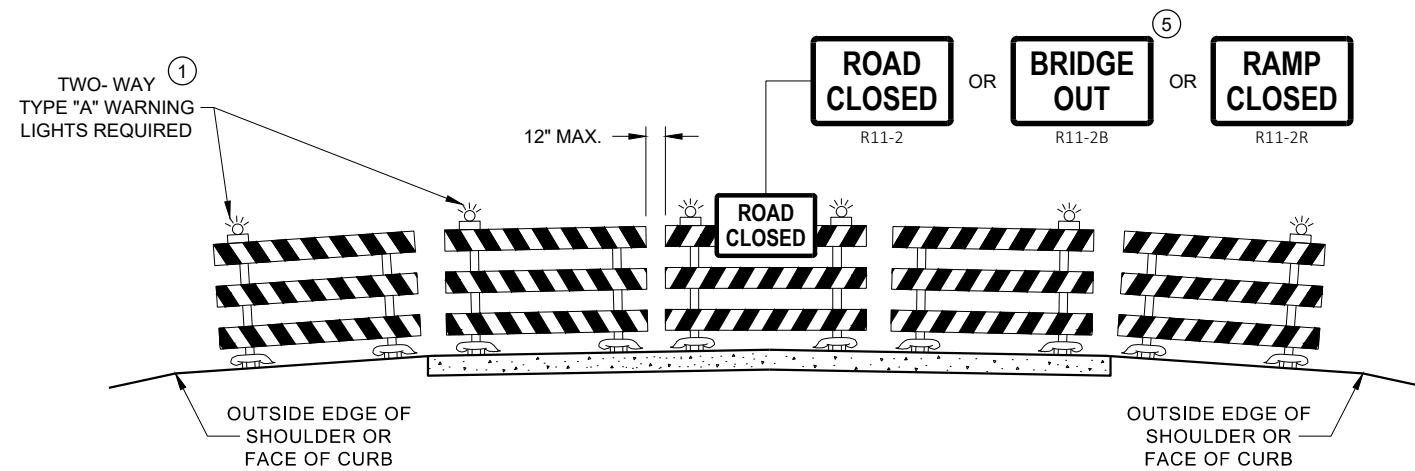
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

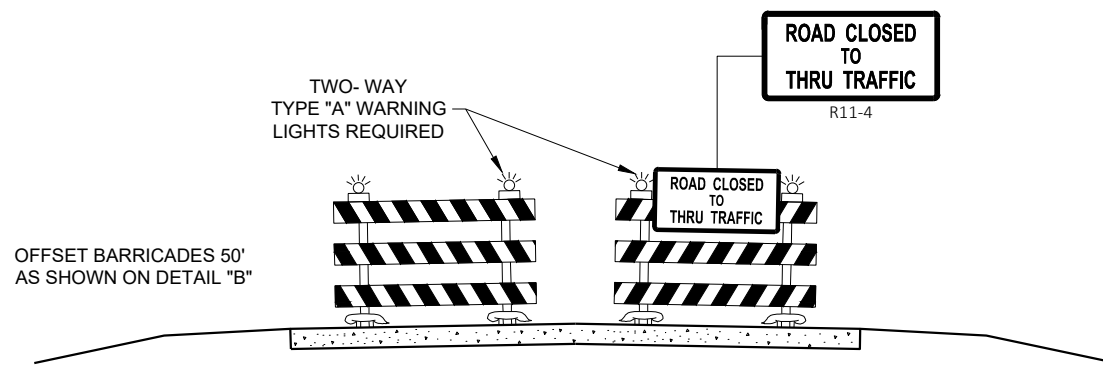
**APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



**DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW**



**DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL TO SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- TO MO4 - 5
- EAST M3 - X
- XX M1 - 6 OR XX M1 - 4 OR XX M1 - 1
- ↩ M05 - 1 OR → M06 - 1 OR ↑ M06 - 1

GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND TO SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT SHALL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOW:
 M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
 MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
 M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
 MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
 W20 - 53A SHALL BE 48" X 48"
- * PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

6

6

SDD 15C02 - 09d

SDD 15C02 - 09d

ON RAMP LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- TO MO4 - 5
- M1 - 4 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

GENERAL NOTES

- SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT SHALL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOW:
 MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
 M1 - 4, M1 - 5A, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
 MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- ① ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

SEE SDD 15D16 FOR RAMP CLOSURE

6

6

SDD 15C02 - 09e

SDD 15C02 - 09e

PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
RAMP CLOSED
USE EXIT XX

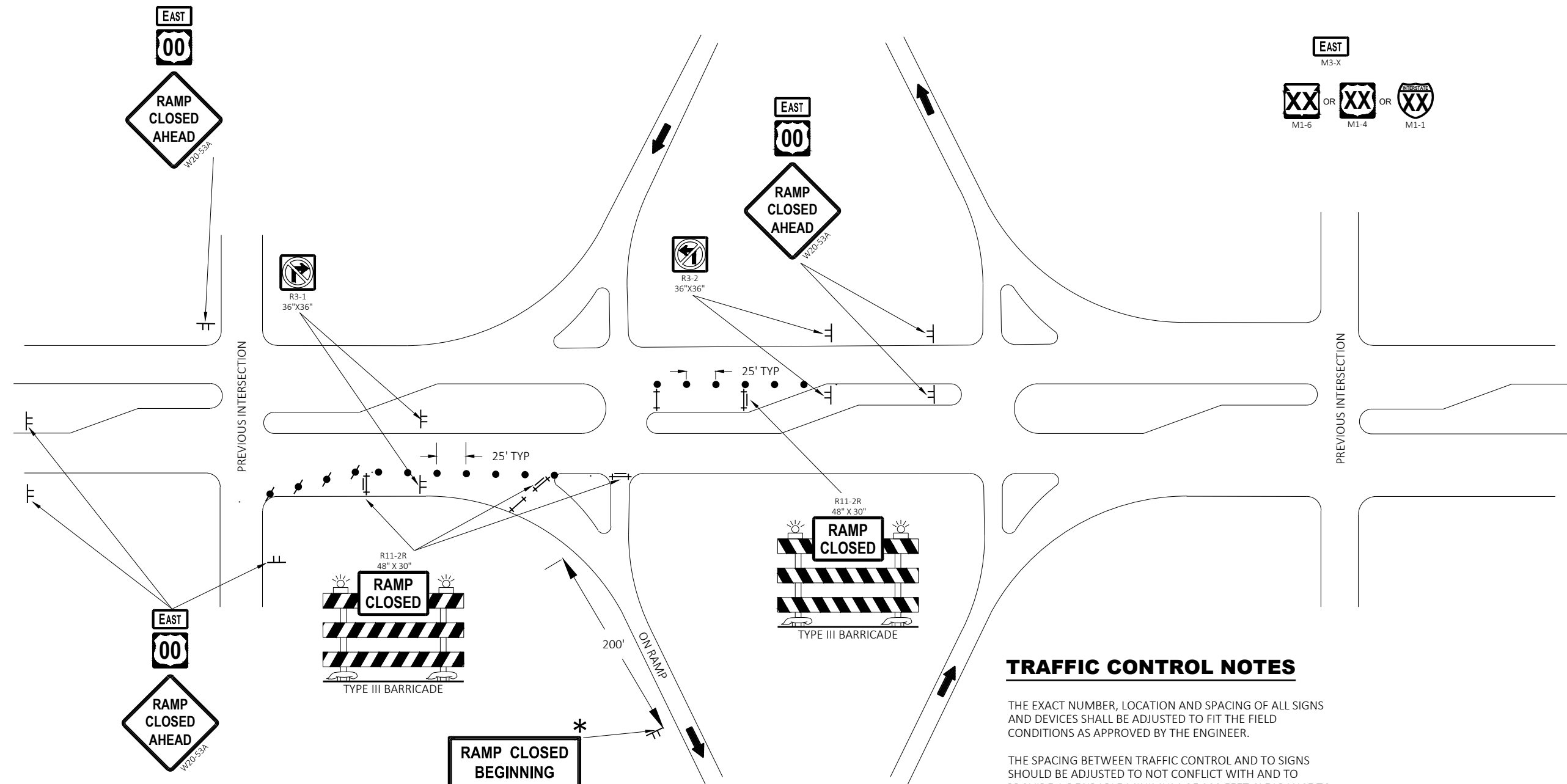
G20 - 56

**OFF RAMP
LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE May 2023 /S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE III BARRICADE WITH ATTACHED SIGN
- ↑ SIGN ON PERMANENT SUPPORT
- ↑ SIGN ON TEMPORARY SUPPORT
- ↓ DIRECTION OF TRAFFIC

RAMP CLOSED BEGINNING XXX-XX
G20-58

OR
PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXX DAY XX XX XX

TRAFFIC CONTROL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL AND TO SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

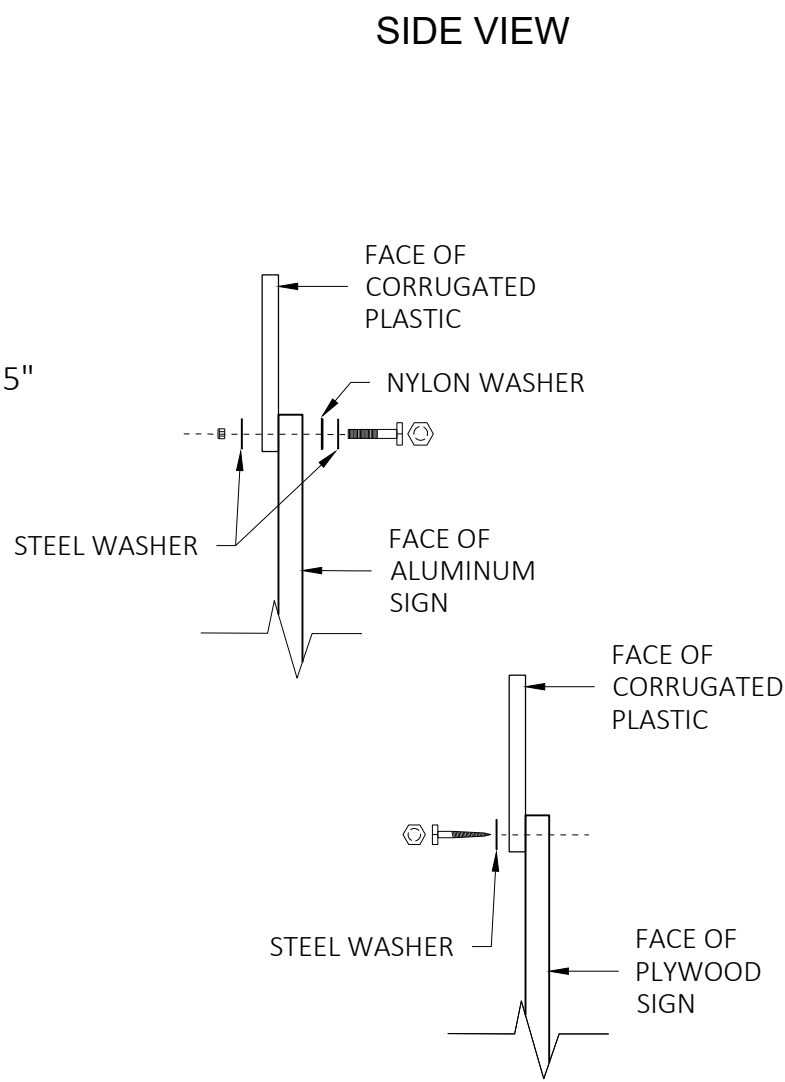
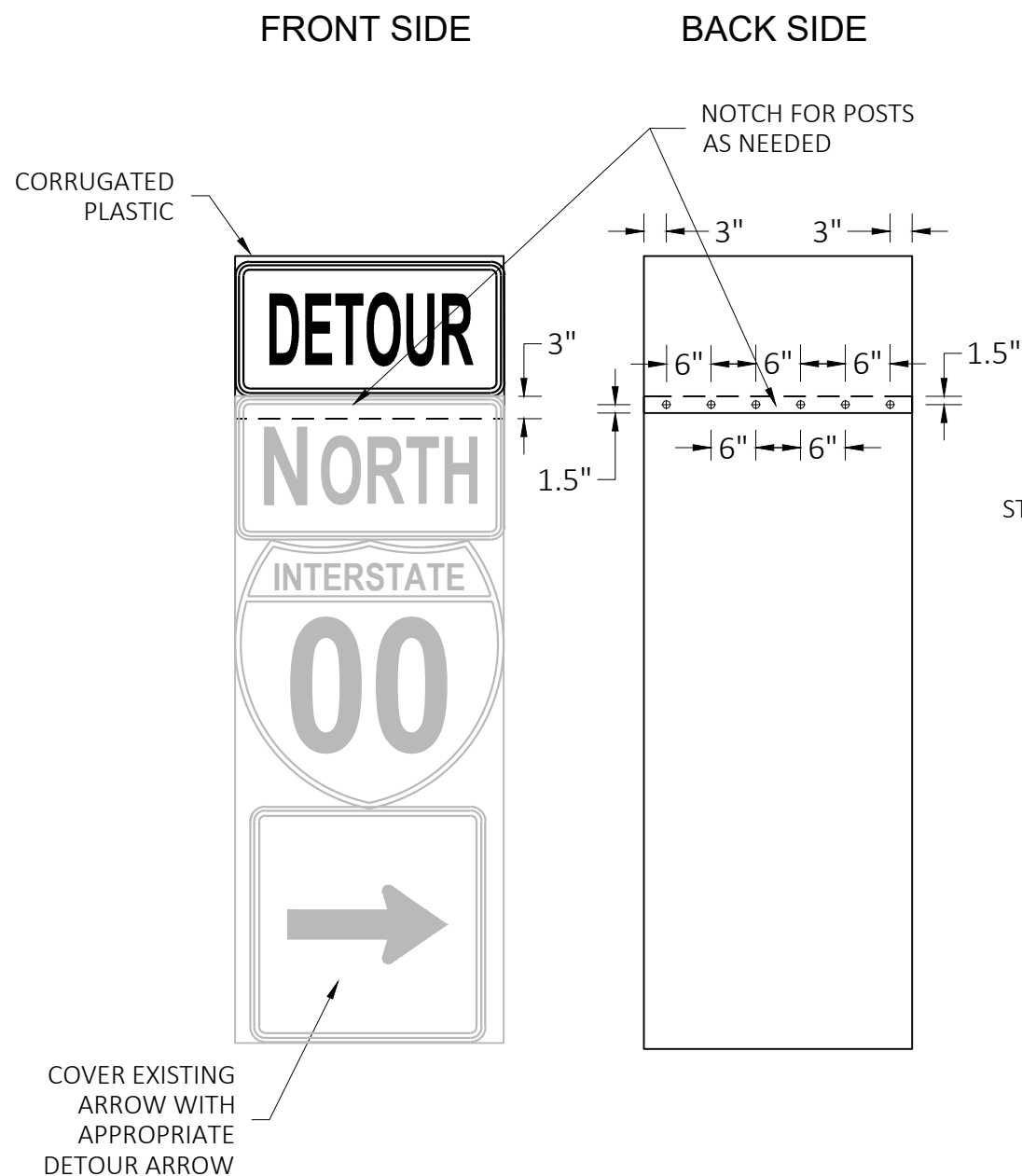
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT SHALL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

- SIGN SIZES SHALL BE AS FOLLOWS:
- M3-X SHALL BE 24"x24" (36" x18" IF NEEDED TO MATCH EXISTING SIGNS)
 - M1-1, M1-4, AND M1-6 SHALL BE 24"x24" (36"x36" IF NEEDED TO MATCH EXISTING SIGNS)
 - W20-53A SHALL BE 48"x48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3.
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

PLYWOOD SIGNS:

LAG SCREWS - 5/16" x 1"

ALUMINUM SIGNS:

MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS

WASHERS:

1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL

1-1/4" O.D. x 3/8" I.D. x .080 NYLON

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

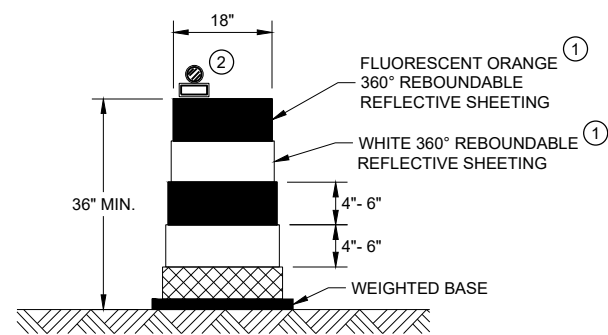
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

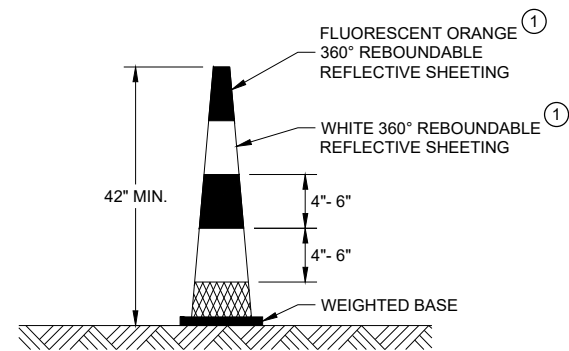
/S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



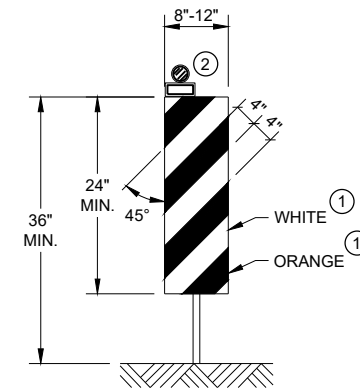
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"

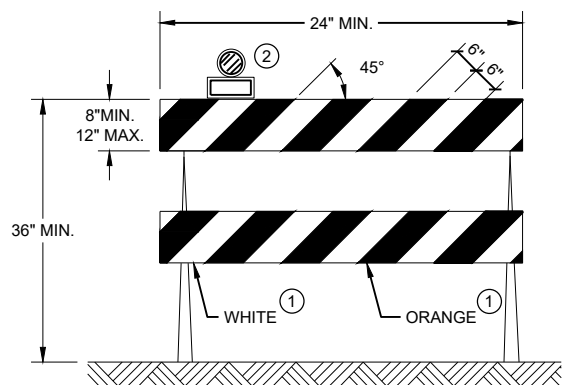


VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.

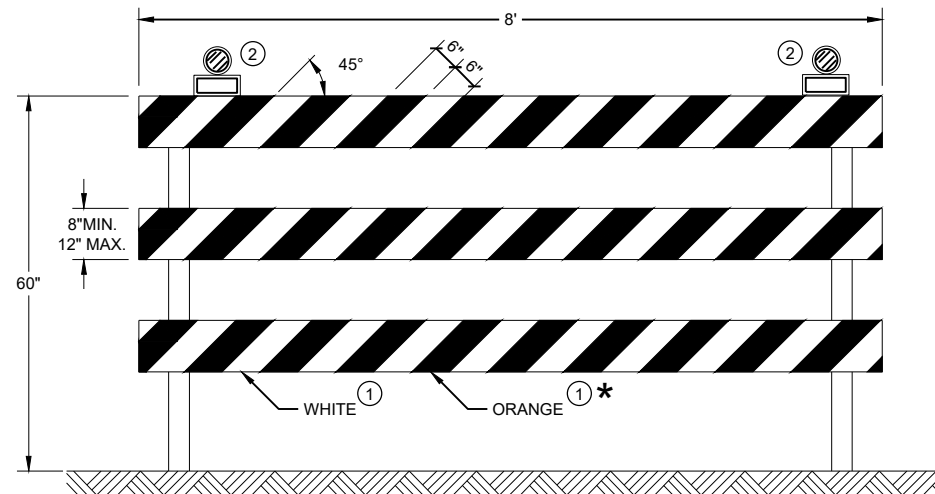
GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

LEGEND

- † TYPE III BARRICADE
- †† TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ⚡ TYPE "A" WARNING LIGHT (FLASHING)
- ➔ DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

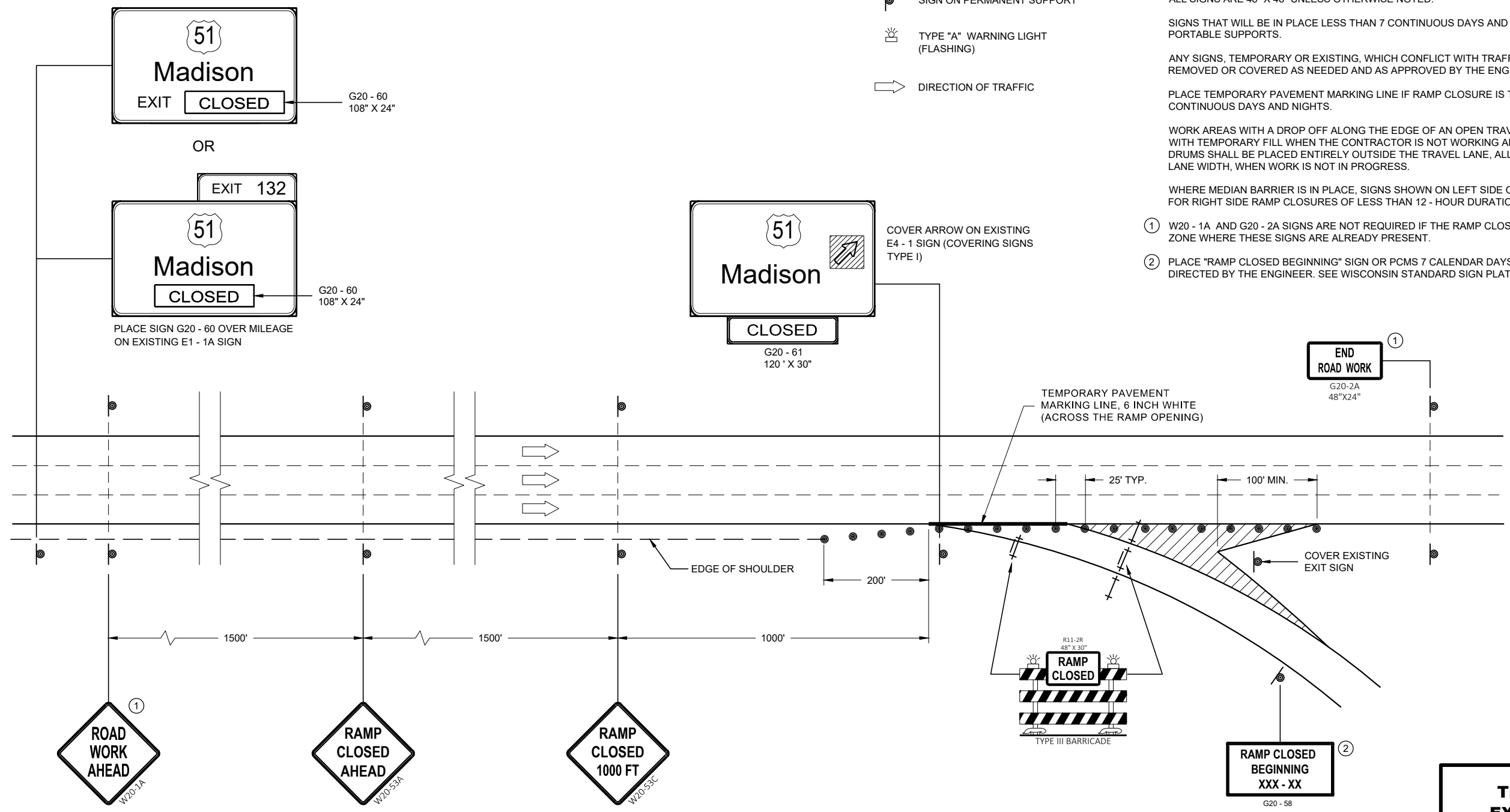
PLACE TEMPORARY PAVEMENT MARKING LINE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

① W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

② PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



**TRAFFIC CONTROL,
EXIT RAMP CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE May 2023 /S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

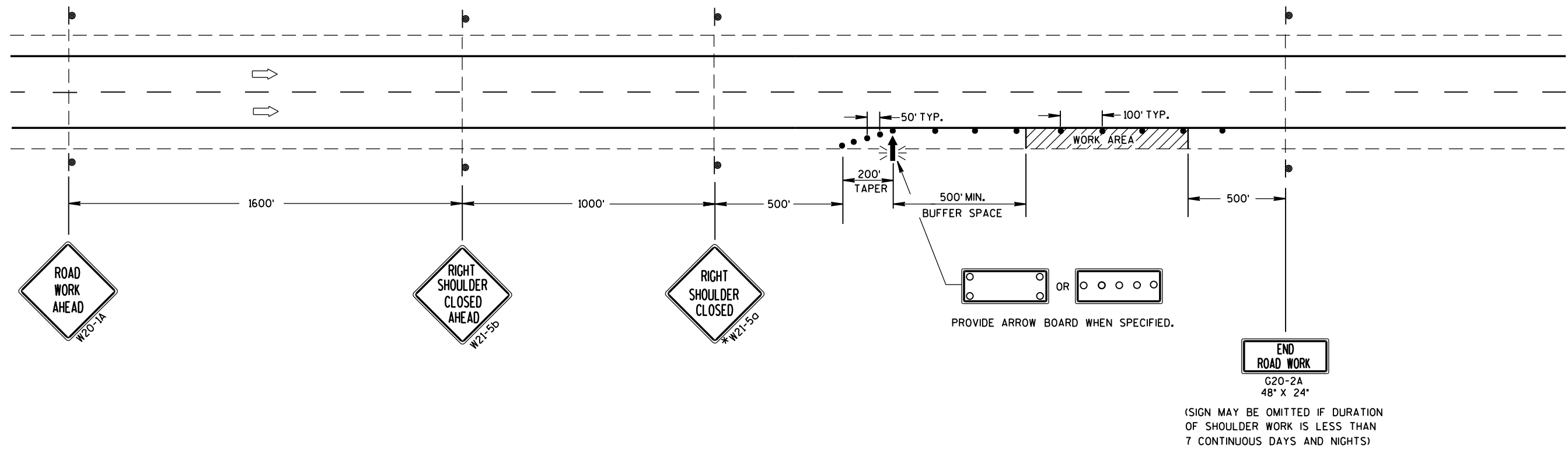
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-50 SIGN MAY BE OMITTED.





LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2016 DATE	/s/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

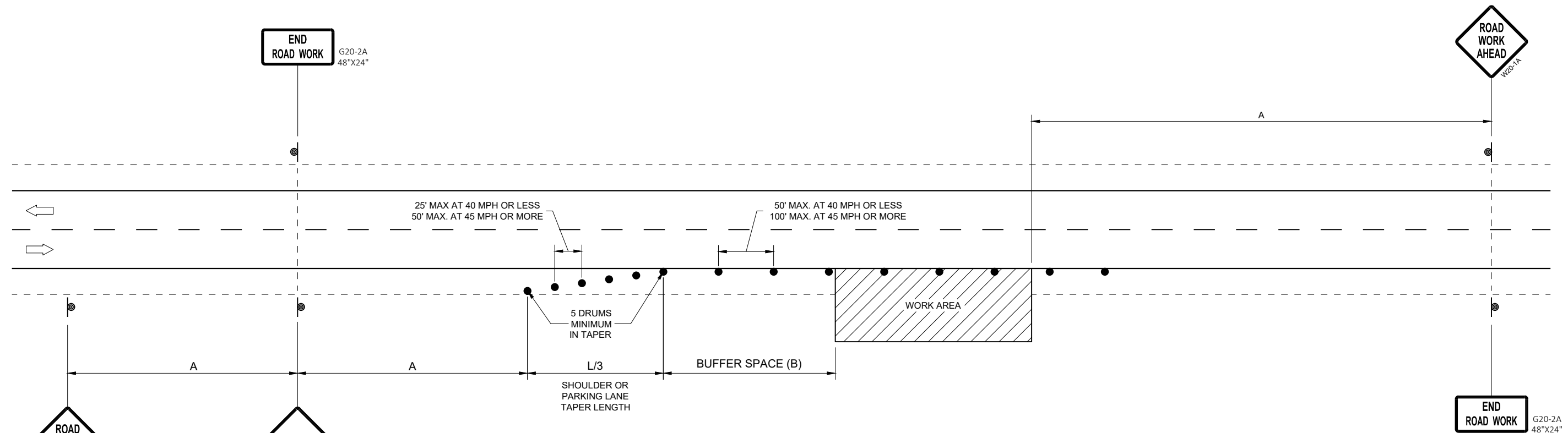
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

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6



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

OR
IF TRAFFIC CONTROL DEVICES
ENCROACH ONTO TRAVELED WAY, USE



TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION








APPROVED
May 2020 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

SDD 15D28 - 04

SDD 15D28 - 04

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

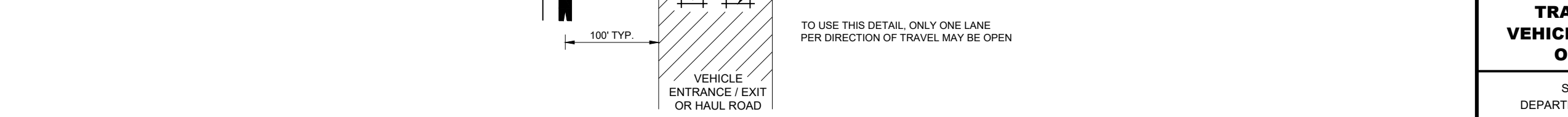
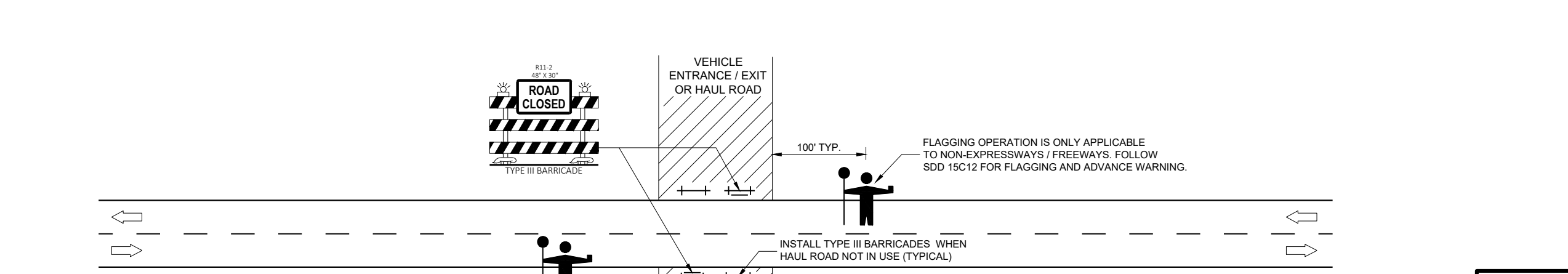
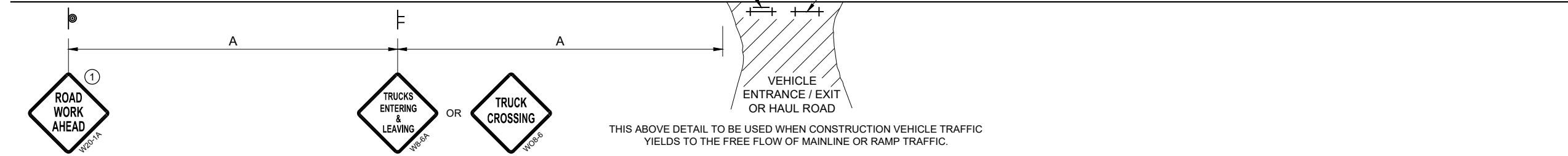
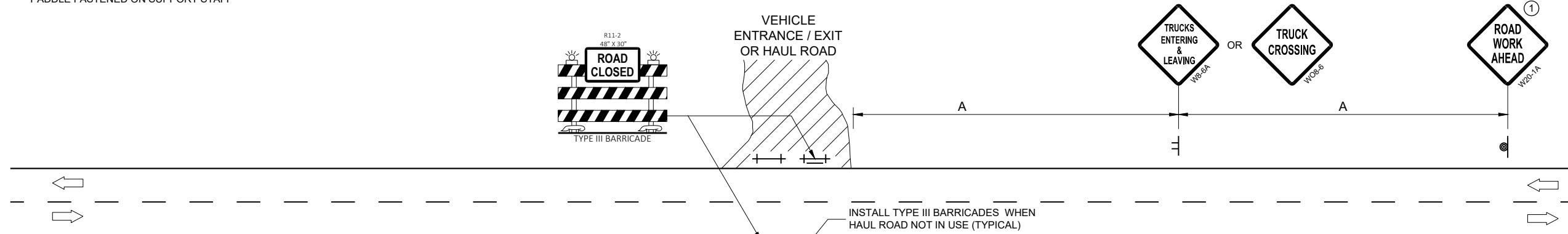
POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET
0-30	200'
35-40	350'
45-55	500'

GENERAL NOTES

- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
- "WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- WARNING SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.
- WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND / OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.
- PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.
- ① THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE ENTRANCE / EXIT CONDITIONS ARE SEPARATED BY MORE THAN TWO MILES FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

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THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

**TRAFFIC CONTROL,
VEHICLE ENTRANCE/EXIT
OR HAUL ROAD**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION








APPROVED _____
DATE May 2020 /S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D29 - 06

SDD 15D29 - 06

LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER $L/2$					
		W, LATERAL OFFSET (FT)					
		3	4	5	6	7	8
25	200	10	14	17	21	24	28
30	200	15	20	25	30	35	40
35	350	20	27	34	40	47	54
40	350	26	35	44	53	62	70
45	500	45	59	74	89	104	119
50	500	50	66	83	99	116	132
55	500	54	73	91	109	127	145

GENERAL NOTES

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

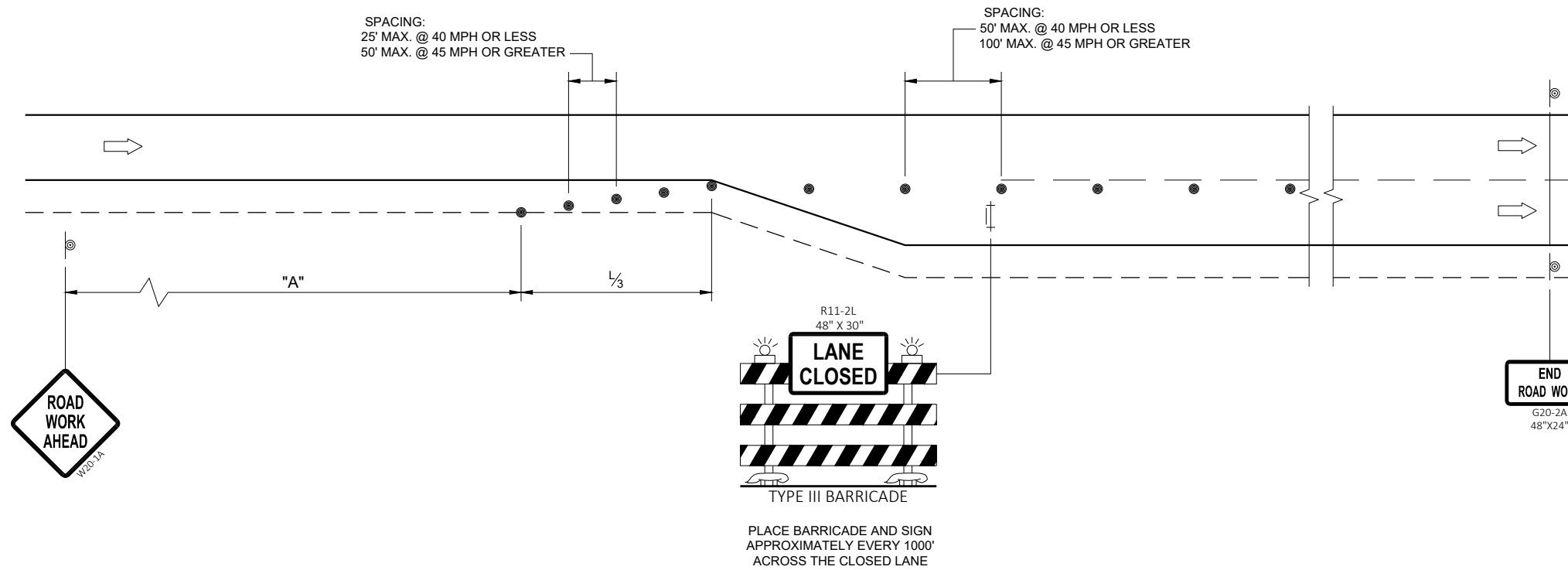
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.



6

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SDD 15D50-03a

SDD 15D50-03a

TRAFFIC CONTROL ADDED LANE CLOSURE WITHOUT LANE SHIFT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE May 2023	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

Notes



Wisconsin Department of Transportation

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