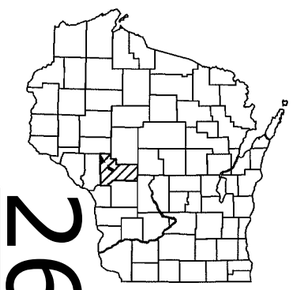
EAU JULY 2013

PROJECT ID: 1023-04-82
WITH: N/A

COUNTY: JACKSON

ORDER OF SHEETS

TOTAL SHEETS = 88



N

26

DESIGN DESIGNATION 1023-04-80

A.A.D.T. 2016	=	27,700
A.A.D.T. 2036	=	38,300
D.H.V. 2036	=	3,677
D.D.	=	58/42
T.	=	21.6%
DESIGN SPEED	=	70 MPH
ESALS	=	48,000,000

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

OSSEO - BLACK RIVER FALLS

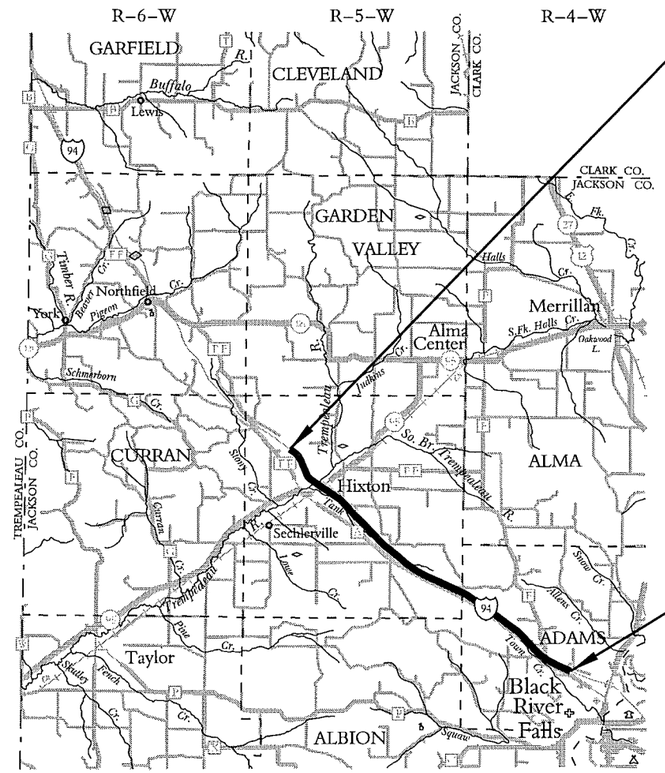
STH 95 TO CTH F (EB & WB)

IH 94

JACKSON COUNTY

STATE PROJECT NUMBER
1023-04-82

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1023-04-82	WISC 2013345	1



BEGIN PROJECT 1023-05-78 E.B.
STA. 890+00
Y = 136915.40
X = 41702.29

END PROJECT 1023-04-82
STA. 1437+56
Y = 103507.24
X = 85752.60

LAYOUT
SCALE 0 2 MI.
TOTAL NET LENGTH OF CENTERLINE = 0.00 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), JACKSON COUNTY.

CONVENTIONAL SYMBOLS

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

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	MIKE BERTHOLD
Project Manager	CHAD HINES
Regional Examiner	DAN OJIBWAY
Regional Supervisor	RICK SHERMO
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 1/28/13 (Signature)

E

UTILITY CONTACTS

CARL DONAHUE
AT&T LEGACY - COMMUNICATION LINE
866 ROCK CREEK RD.
PLANO, IL 60545
(847) 420-9115
cdonahue@att.com

JERRY EWERT
BLACK RIVER FALLS UTILITIES - WATER
119 N. WATER ST.
BLACK RIVER FALLS, WI 54615
(715) 284-9463
jewert@wppisys.org

JAMEY OLDEEN
CHARTER COMMUNICATIONS - COMMUNICATION LINE
2304 S. MAIN ST.
RICE LAKE, WI. 54868
(715) 205-6834

KEVIN BABCOCK
JACKSON ELECTRIC COOPERATIVE - ELECTRICITY
119 HARRISON ST.
P.O. BOX 546
BLACK RIVER FALLS, WI. 54615
(715) 284-5385

NANCY DOTSON
XCEL ENERGY - COMMUNICATION LINE
1414 W. HAMILTON AVE.
P.O. BOX 8
EAU CLAIRE, WI. 54702-0008
(715) 737-2574
nancy.j.dotson@xcelenergy.com

NANCY DOTSON
XCEL ENERGY - ELECTRICITY
1414 W. HAMILTON AVE.
P.O. BOX 8
EAU CLAIRE, WI. 54702-0008
(715) 737-2574
nancy.j.dotson@xcelenergy.com

JERRY EWERT
BLACK RIVER FALLS UTILITIES - ELECTRICITY
119 N. WATER ST.
BLACK RIVER FALLS, WI. 54615
(715) 284-9463
jewert@wppisys.org

STEVE BLADO
CENTURYLINK - COMMUNICATION LINE
333 N. FRONT ST.
P.O. BOX 4800
LA CROSSE, WI. 54602
(608) 795-5543
steve.blado@centurytel.

ROGER STAFFON
HAIFIELD SANITARY DISTRICK #1 - SEWER
N9415 HWY. K
MERRILLAN, WI. 54754
(715) 333-7732

TOM STANTON
NORTHERN NAUTRAL GAS COMPANY - GAS/PETROLEUM
6579 420TH ST.
HARRIS, MN 55032

NANCY DOTSON
XCEL ENTERGY - ELECTRICITY - TRANSMISSION
1414 W. HAMILTON AVE.
P.O. BOX 8
EAU CLAIRE, WI. 54702-0008
(715)737-2574
nancy.j.dotson@xcelenergy.com

MIKE LIGHTFOOT
TRI-COUNTY COMMUNICATIONS COOPERATIVE - COMMUNICATION LINE
23451 WHITEHALL RD.
P.O. BOX 846
INDEPENDENCE, WI. 54747
(715)797-1553
mlfoot@triwest.net

PAUL SKROCH
VILLAGE OF HIXTON - WATER
145 E. MAIN ST.
P.O. BOX 127
HIXTON, WI. 54635
(715) 963-3732

DAN SANDE
WE ENERGIES - GAS/PETROLEUM
333 W. EVERETT ST. A299
MILWAUKEE, WI. 53203
(414) 550-4993
Dan.Sande@we-energies.com

JEFF MADSON
WISCONSIN DEPARTMENT OF TRANSPORTATION - COMMUNICATION LINE
STE. 300
433 W. ST. PAUL AVE.
MILWAUKEE, WI. 53203-3007
(414) 225-3723
Jeffrey.Madson@dot.wi.gov

MIKE ADAMS
WISCONSIN DOT RWIS PROGRAM - COMMUNICATION TOWER
RM 501
P.O. BOX 7986
MADISON, WI. 53707-7986
(608) 266-5004
Michael.Adams@dot.wi.gov

WISDOT CONTACT

WISCONSIN DOT NW REGION
CHAD HINES
718 W. CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
PHONE: (715) 836-7276
EMAIL: chad.hines@dot.wi.gov

DESIGN CONTACT

WISCONSIN DOT NW REGION
MIKE BERTHOLD
718 W. CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
PHONE: (715) 836-3922
EMAIL: mike.berthold@dot.wi.gov

DNR CONTACT

WISCONSIN DNR LA CROSSE SERVICE CENTER
KAREN KALVELAGE
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
PHONE: (608) 785-9115

24-HOUR SPILLS HOTLINE
(800) 943-0003

GENERAL NOTES

CURVE DATA IS BASED ON ARC DEFINITION.

PAVEMENT REMOVAL SHALL BE TO THE NEAREST JOINT OR A SAWED EDGE AS DIRECTED BY THE ENGINEER.

WHEN PORTIONS OF EXISTING ASPHALTIC SURFACES ARE TO BE REMOVED TO ACCOMMODATE NEW CONSTRUCTION. THE LINE OF SUCH REMOVAL SHALL BE NEATLY DELINEATED WITH A SAW CUTJOINT THROUGH THE ASPHALTIC SURFACE SO THAT REMOVAL OF THE ASPHALT SHALL BE ACCOMPLISHED WITHOUT DAMAGE TO REMAINING PORTIONS. THE LOCATION OF SAW CUTS AND THE AMOUNT REMOVED WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE, SUBBASE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD. THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

IN SUPERELEVATED SECTIONS, THE SHOULDER SLOPE SHALL BE A CONTINUATION OF THE PAVEMENT SLOPE ON THE HIGH SIDE OF THE CURVE. THE SHOULDER ON THE LOW SIDE OF THE CURVE SHALL SLOPE AT A 4% RATE DOWNWARD. EXCEPT WHEN SUPERELEVATION RATES EXCEED 4% IN WHICH CASE THE LOW SIDE SHOULDER SLOPE SHALL EQUAL THE SUPERELEVATED PAVEMENT SLOPE.

RESHAPE AND SEED ANY PREVIOUSLY GRASSED AREAS THAT ARE DISTURBED BY OPERATIONS OUTSIDE THE NORMAL CONSTRUCTION LIMITS.

UTILITY LOCATIONS AS LISTED IN THE SPECIAL PROVISIONS ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH DIGGERS HOTLINE OR THE UTILITIES WITH FACILITIES IN THE PROJECT AREA. THERE ARE UTILITIES IN THE PROJECT THAT ARE NOT LISTED.

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

THE 6-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED IN TWO LAYERS CONSISTING OF A 4-INCH LOWER LAYER AND A 2-INCH UPPER LAYER.

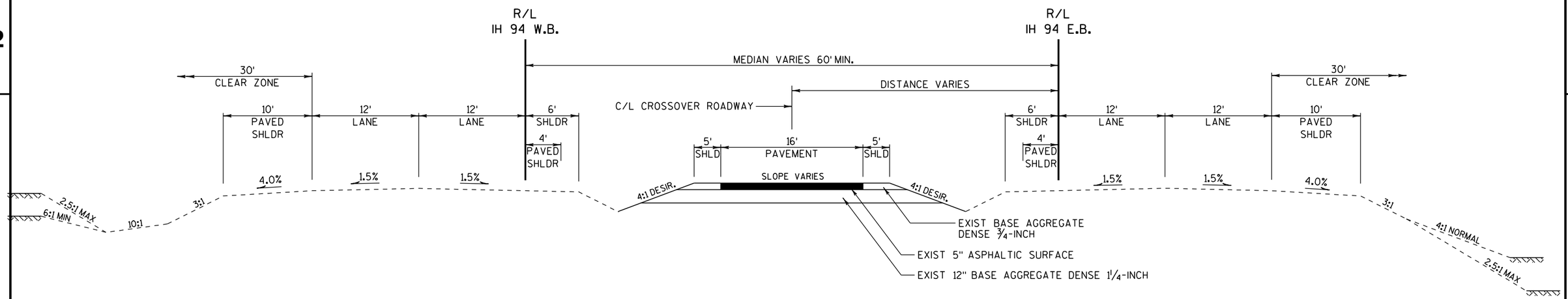
LIST OF STANDARD ABBREVIATIONS

AGG	AGGREGATE
AH	AHEAD
ASPH	ASPHALTIC
AADT	ANNUAL AVERAGE DAILY TRAFFIC
BK.	BACK
CONC	CONCRETE
CO	COUNTY
CTH	COUNTY TRUNK HIGHWAY
CR	CRUSHED
CY or CUYD	CUBIC YARD
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DD	DIRECTIONAL DISTRIBUTION
EB	EASTBOUND
EL or ELEV	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FERT	FERTILIZE
HES	HIGH EARLY STRENGTH
CWT	HUNDRED WEIGHT
LT	LEFT
LHF	LEFT HAND FORWARD
LF	LINEAR FOOT
LS	LUMP SUM
NC	NORMAL CROWN
PAVT	PAVEMENT
PT	POINT
PC	POINT OF CURVATURE
PI	PINT OF INTERSECTION
PT	POINT OF TANGENCY
POC	POINT ON CURVE
POT	POINT ON TANGENT
R	RADIUS
R	RANGE
REQD	REQUIRED
RT	RIGHT
RHF	RIGHT-HAND-FORWARD
R/W	RIGHT-OF-WAY
RD	RAOD
SALV	SALVAGED
SEC	SECTION
SF	SQUARE FEET
SY	SQUARE YARD
STH	STATE TRUNK HIGHWAY
STA	STATION
SE	SUPERELEVATION
T	TANGENT
TEL	TELEPHONE
TEMP	TEMPORARY
TC	TOP OF CURB
T or TN	TOWN
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
UG	UNDERGROUND
USH	UNITED STATES HIGHWAY
VAR	VARIABLE
WB	WESTBOUND

TYPICAL SECTION & DETAIL INDEX

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

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	GENERAL NOTES	SHEET 2	E

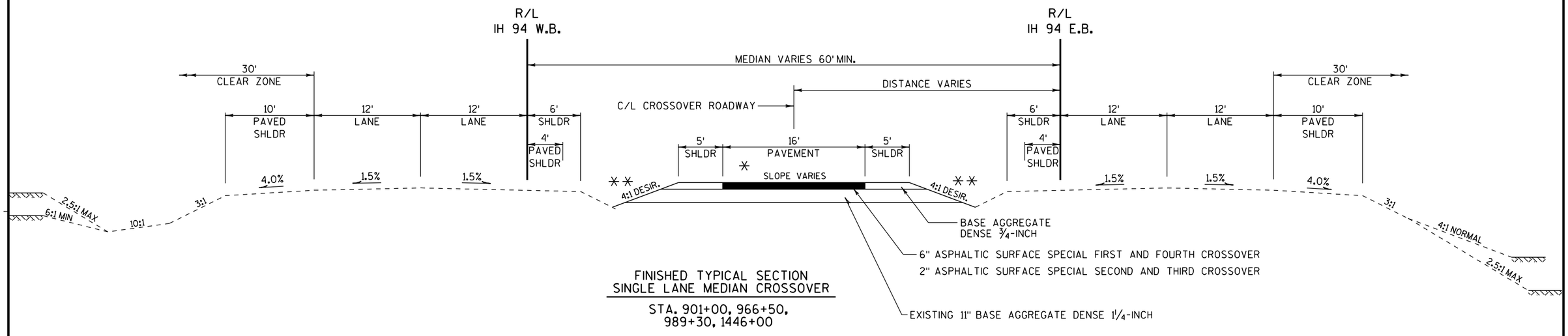


EXISTING TYPICAL SECTION
SINGLE LANE MEDIAN CROSSOVER

STA. 901+00, 966+50,
989+30, 1446+00

* REMOVE ASPHALTIC SURFACE AND 1" OF BASE AGGREGATE BY MILLING.

** CONSTRUCT 10:1 SHOULDER INSLOPES IN GORE AREAS.



FINISHED TYPICAL SECTION
SINGLE LANE MEDIAN CROSSOVER

STA. 901+00, 966+50,
989+30, 1446+00

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	TYPICAL SECTIONS	SHEET	E

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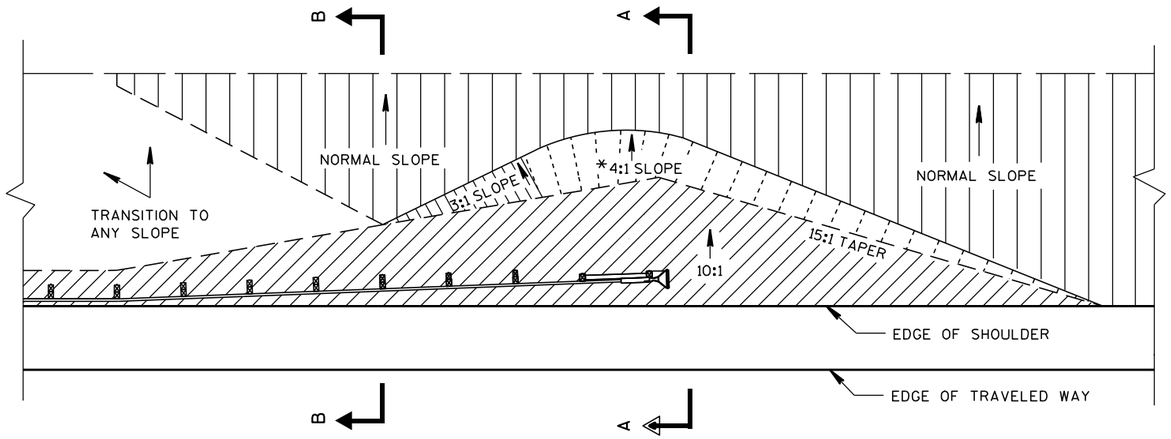
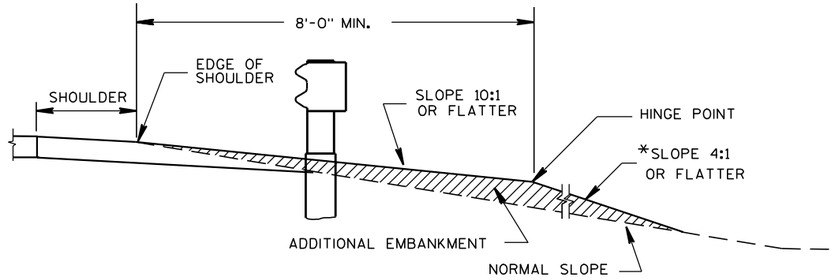
WISDOT/CADDS SHEET 42

2

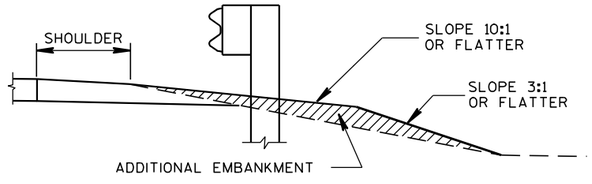


PLAN VIEW

*A 3:1 MAXIMUM SLOPE MAY BE USED FOR INSTALLATIONS ON EXISTING HIGHWAYS.



SECTION A-A



SECTION B-B

FILL AREA AT BEAM GUARD

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CONSTRUCTION DETAILS	SHEET	E

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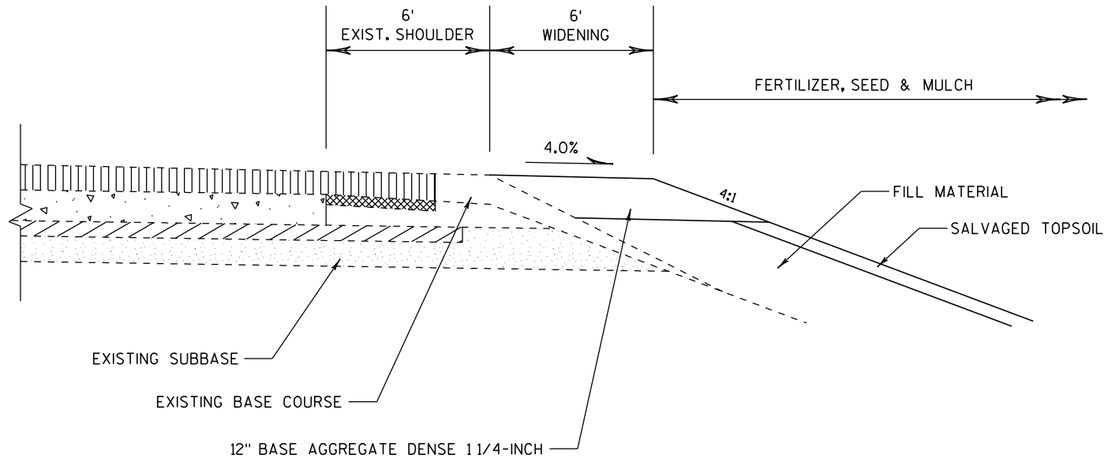
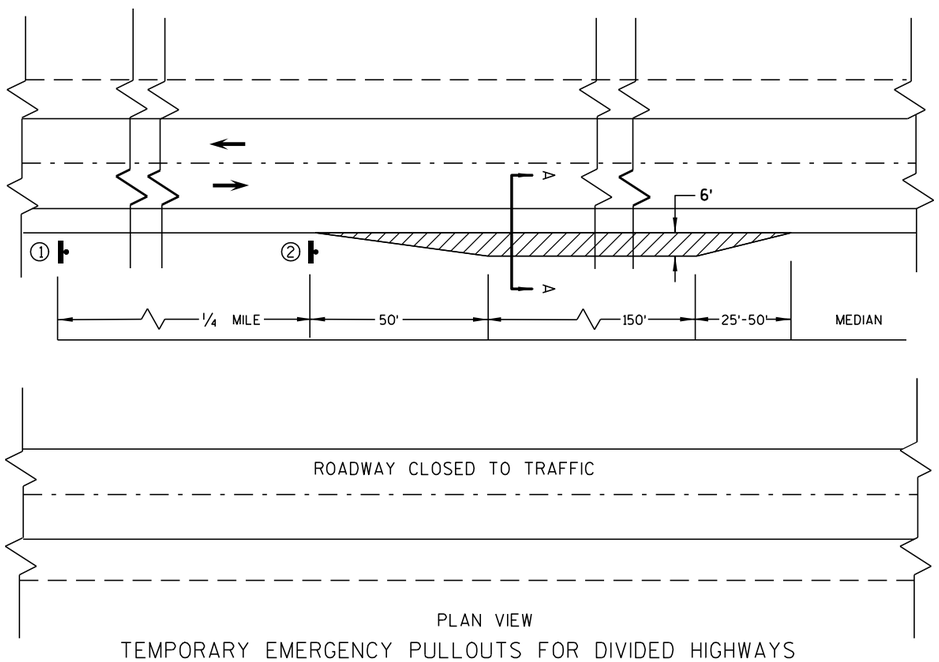
WISDOT/CADDS SHEET 42

2

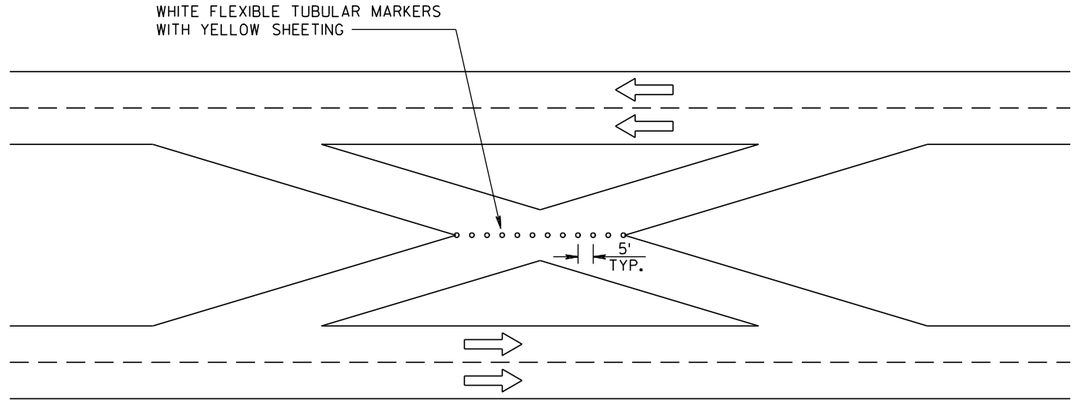


TEMPORARY EMERGENCY PULLOUTS



PLAN VIEW

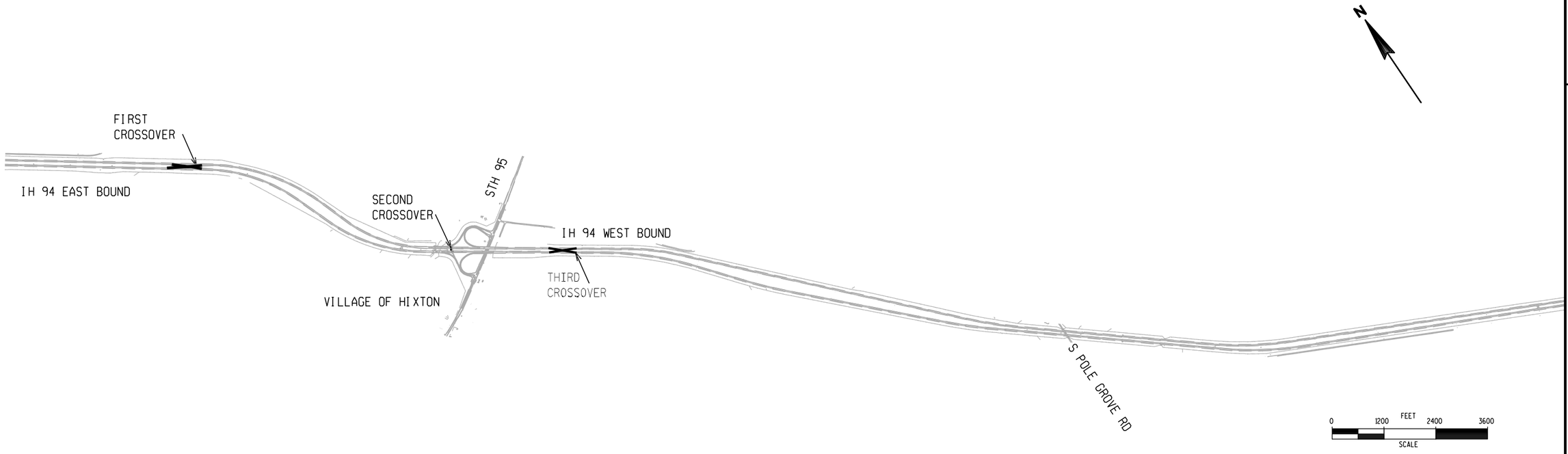
TEMPORARY EMERGENCY PULLOUTS FOR DIVIDED HIGHWAYS

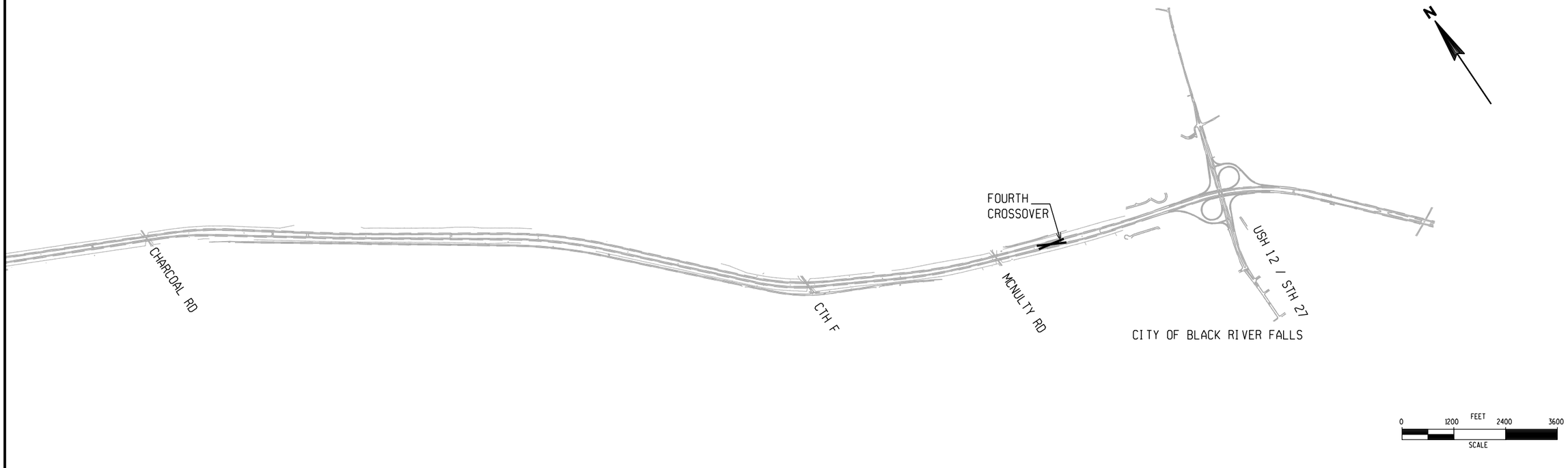


OVER-WINTER PROTECTION OF CROSSOVER

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CONSTRUCTION DETAILS	SHEET	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\CONST DETAIL\021001_cd_OVER_WINTER_V2.dgn PLOT DATE : 16-APR-2013 15:47 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 200:1
WISDOT/CADDS SHEET 42





PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSSOVER OVERVIEW	SHEET NO:	E

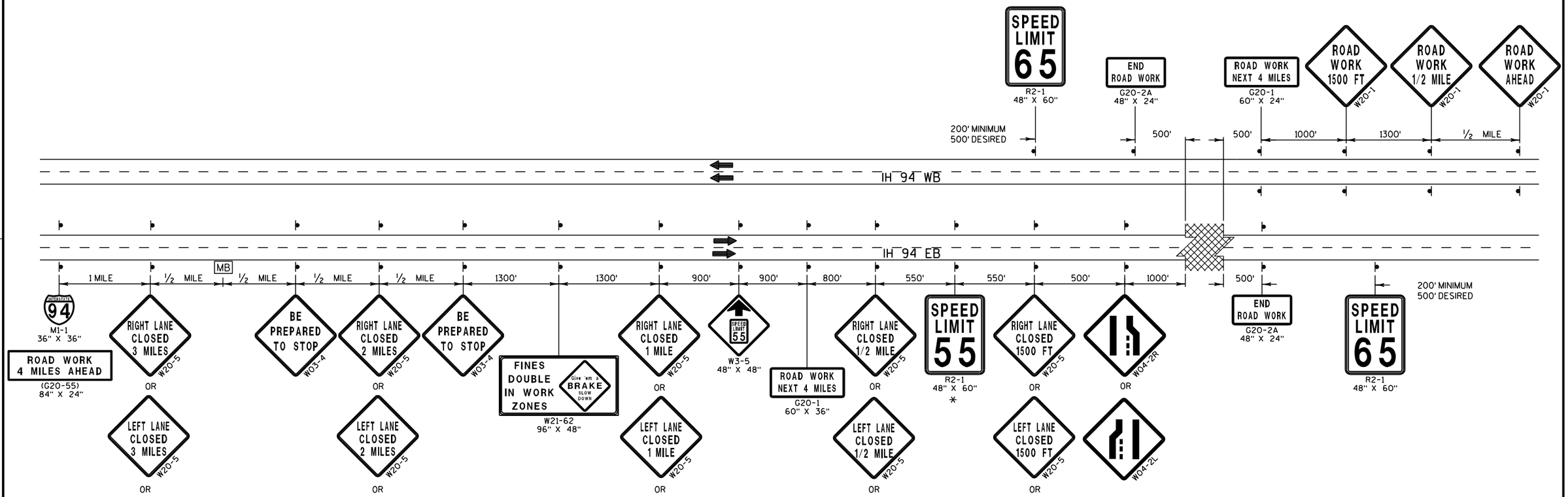
FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\CROSS-OVERS\025021_tc_PL102_103.DGN PLOT DATE : 28-NOV-2012 15:56 PLOT BY : dotjdb PLOT NAME : PLOT SCALE : 2:1

NOTES:
COORDINATE LOCATIONS OF LANE CLOSURES/SPEED REDUCTION ADVANCED SIGNING WITH DETAILS SHOWN ON ALTERNATE ROUTE DETAIL.

TRAFFIC CONTROL SHOWN IS FOR LANE CLOSURES IN ONE DIRECTION AT ANY GIVEN TIME. IMPLEMENT TRAFFIC CONTROL SHOWN ON EB IH 94 FOR WB IH 94 IF LANE CLOSURES ARE IMPLEMENTED IN BOTH DIRECTIONS AT ANY ONE TIME.

RETURN SPEED LIMIT TO 65 MPH AND COVER SIGNS DURING NON-WORKING HOURS.

LEGEND
- POST WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN REMOTE CONTROL SEE ALT. ROUTE DETAIL FOR LOCATION
- * — REPEAT AT 1 MILE INTERVALS WITH LANE CLOSURE



PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL ADVANCED WARNING	SHEET	E

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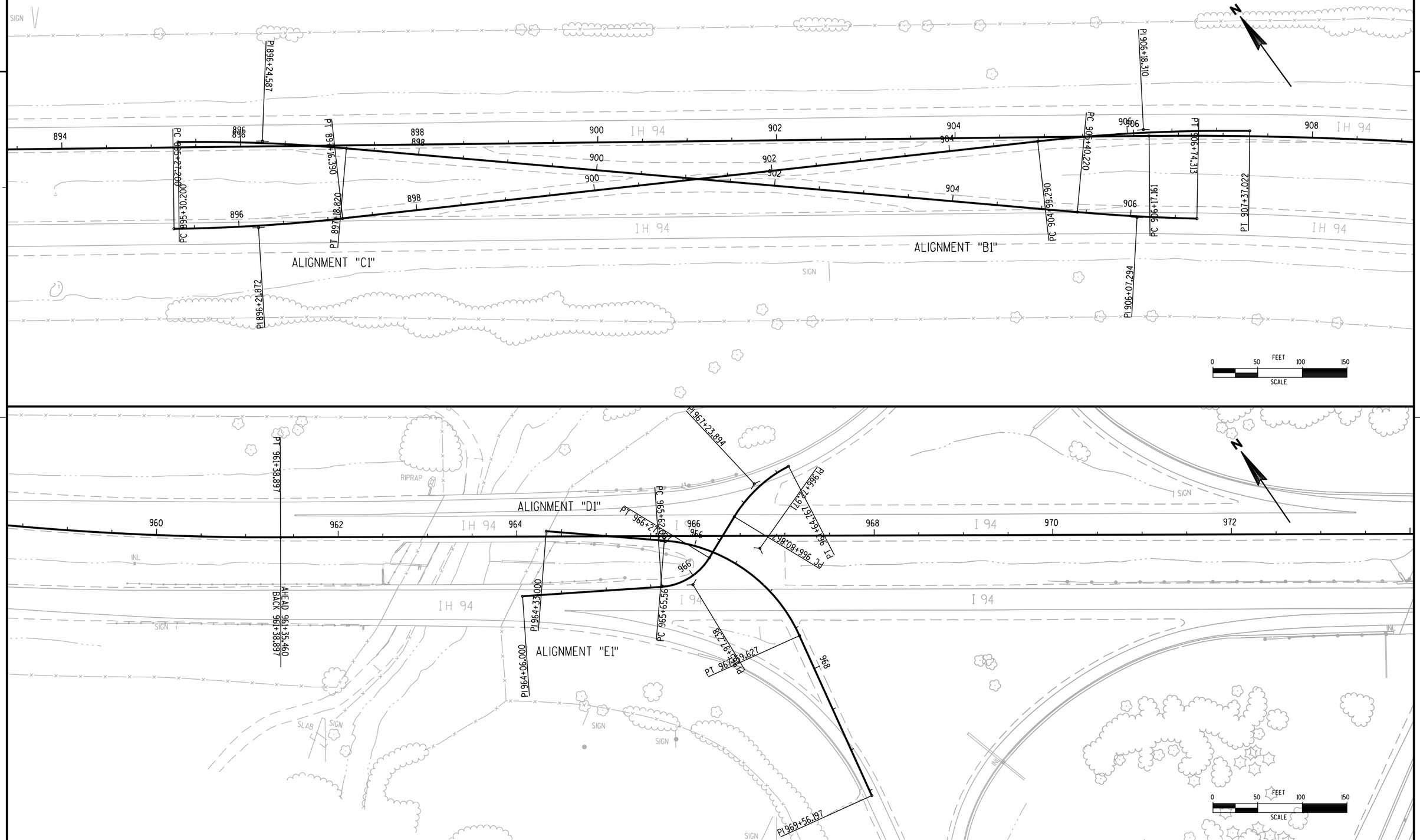
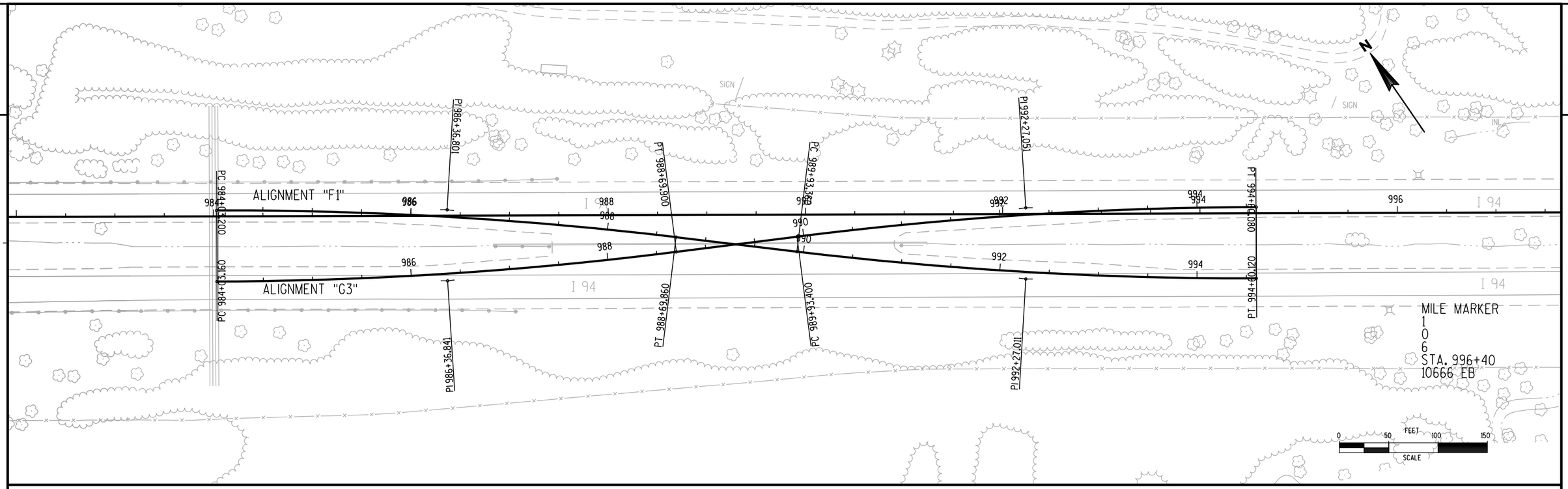
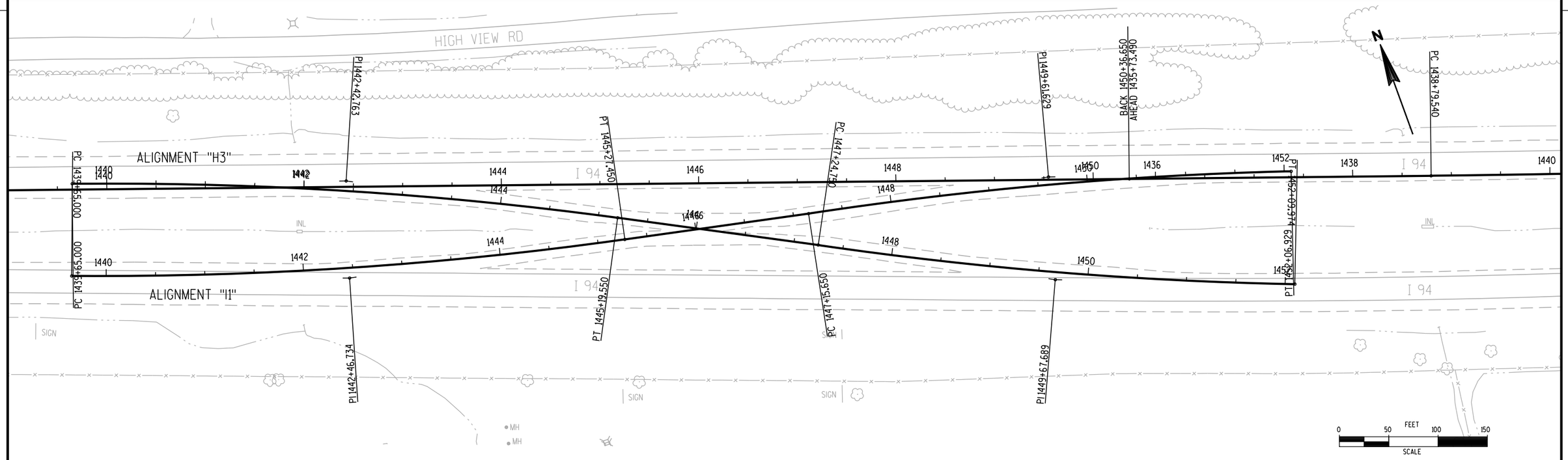


PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: CROSSOVER ALIGNMENTS	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\CROSS-OVERS\027201_AD2.DGN PLOT DATE : 02-OCT-2012 13:48 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

2





PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: CROSSOVER ALIGNMENTS	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\CROSS-OVERS\027201_AD2.DGN PLOT DATE : 02-OCT-2012 13:49 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

****

CHAIN B1
List C B1,C ,B3
Description B - LINE
Layer 1
Feature ALI

****

CURVE B1

PC X 42138.357 Y 136613.747 STA 895+30.200
CC X 41034.038 Y 135055.357
PI X 42215.368 Y 136559.175 STA 896+24.587
TAN 94.387'
DB S 54°40'39.17" E
DA S 49°01'09.71" E
LChord Distance 188.543' Bearing S 51°50'54.44" E
External Distance 2.331'
Middle Ordinate 2.328'
Radius 1910.000'
DEG 2°59'59.20"
DELTA 5°39'29.46"
LENGTH 188.620'
PT X 42286.623 Y 136497.276 STA 897+18.820

CURVE B1

Distance 821.400' Bearing S 49°01'09.71" E

CURVE B3

PC X 42906.724 Y 135958.598 STA 905+40.220
CC X 44163.419 Y 137396.937
PI X 42957.234 Y 135914.467 STA 906+07.294
TAN 67.074'
DB S 48°51'21.13" E
DA S 52°52'42.11" E
LChord Distance 134.066' Bearing S 50°52'01.62" E
External Distance 1.177'
Middle Ordinate 1.177'
Radius 1910.000'
DEG 2°59'59.20"
DELTA -4°01'20.99"
LENGTH 134.093'
PT X 43010.716 Y 135873.987 STA 906+74.313

CURVE B3

****

CHAIN LENGTH 1144.113'

****

****

CHAIN C1
List C C1,C ,C3
Description C - LINE
Layer 1
Feature ALI

****

CURVE C1

PC X 42077.577 Y 136537.809 STA 895+27.200
CC X 43182.317 Y 138095.901
PI X 42154.807 Y 136483.051 STA 896+21.872
TAN 94.672'
DB S 54°39'43.46" E
DA S 60°20'14.47" E
LChord Distance 189.113' Bearing S 57°29'58.97" E
External Distance 2.345'
Middle Ordinate 2.342'
Radius 1910.000'
DEG 2°59'59.20"
DELTA -5°40'31.02"
LENGTH 189.190'
PT X 42237.073 Y 136436.198 STA 897+16.390

CURVE C1

Distance 782.900' Bearing S 60°20'14.47" E

CURVE C3

PC X 42917.377 Y 136048.747 STA 904+99.290
CC X 41973.417 Y 134388.313
PI X 43020.845 Y 135989.925 STA 906+18.310
TAN 119.020'
DB S 60°22'54.06" E
DA S 53°15'00.91" E
LChord Distance 237.578' Bearing S 56°48'57.48" E
External Distance 3.705'
Middle Ordinate 3.698'
Radius 1910.000'
DEG 2°59'59.20"
DELTA 7°07'53.14"
LENGTH 237.732'
PT X 43116.210 Y 135918.713 STA 907+37.022

CURVE C3

****

CHAIN LENGTH 1209.822'

****

2

****
CHAIN D1
List D1,C ,D1,3
Description D - LINE
Layer 1
Feature ALI
****
D1 X 46393.172 Y 131391.109 Z 9999.990 STA 964+33.000
Distance 132.567' Bearing S 50°54'33.12" E
CURVE D1
PC X 46496.063 Y 131307.519 STA 965+65.567
CC X 46381.303 Y 131166.260
PI X 46579.425 Y 131239.795 STA 966+72.971
TAN 107.404'
DB S 50°54'33.12" E
DA S 10°10'59.57" W
LChord Distance 184.997' Bearing S 20°21'46.78" E
External Distance 29.328'
Middle Ordinate 25.258'
Radius 182.000'
DEG 31°28'52.31"
DELTA 61°05'32.68"
LENGTH 194.060'
PT X 46560.436 Y 131134.083 STA 967+59.627
CURVE D1
Distance 196.570' Bearing S 10°10'59.57" W
D3 X 46525.683 Y 130940.610 Z 0.000 STA 969+56.197
****
CHAIN LENGTH 523.197'
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CHAIN E1
List E1,C ,E1,C ,E2
Description E - LINE
Layer 1
Feature ALI
****
E1 X 46329.970 Y 131346.061 Z 9999.990 STA 964+06.000
Distance 156.027' Bearing S 59°24'08.86" E
CURVE E1
PC X 46464.273 Y 131266.643 STA 965+62.027
CC X 46498.885 Y 131325.175
PI X 46494.581 Y 131248.720 STA 965+97.238
TAN 35.211'
DB S 59°24'08.86" E
DA N 65°50'46.92" E
LChord Distance 62.536' Bearing S 86°46'40.97" E
External Distance 8.576'
Middle Ordinate 7.615'
Radius 68.000'
DEG 84°15'30.60"
DELTA -54°45'04.22"
LENGTH 64.980'
PT X 46526.709 Y 131263.128 STA 966+27.007
CURVE E1
Distance 53.860' Bearing N 65°50'46.92" E
CURVE E2
PC X 46575.854 Y 131285.166 STA 966+80.867
CC X 46638.664 Y 131145.105
PI X 46615.114 Y 131302.772 STA 967+23.894
TAN 43.027'
DB N 65°50'46.92" E
DA S 82°50'12.90" E
LChord Distance 82.860' Bearing N 81°30'17.01" E
External Distance 5.916'
Middle Ordinate 5.697'
Radius 153.500'
DEG 37°19'34.47"
DELTA 31°19'00.18"
LENGTH 83.900'
PT X 46657.804 Y 131297.407 STA 967+64.767
CURVE E2
****
CHAIN LENGTH 358.767'
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2

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	ALIGNMENT DATA – D & E LINE	SHEET:	E

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CHAIN F1
List C F1,C ,F2
Description F - LINE
Layer 1
Feature ALI

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CURVE F1
PC X 48020.115 Y 130279.989 STA 984+03.160
CC X 45865.732 Y 127125.463
PI X 48213.053 Y 130148.222 STA 986+36.801
TAN 233.641'
DB S 55°40'08.01" E
DA S 48°40'08.07" E
LChord Distance 466.410' Bearing S 52°10'08.04" E
External Distance 7.138'
Middle Ordinate 7.125'
Radius 3820.000'
DEG 1°29'59.60"
DELTA 6°59'59.94"
LENGTH 466.700'
PT X 48388.495 Y 129993.924 STA 988+69.860

CURVE F1
Distance 123.500' Bearing S 48°40'08.07" E

CURVE F2
PC X 48481.232 Y 129912.363 STA 989+93.360
CC X 51003.996 Y 132780.823
PI X 48656.682 Y 129758.058 STA 992+27.011
TAN 233.651'
DB S 48°40'08.07" E
DA S 55°40'09.09" E
LChord Distance 466.430' Bearing S 52°10'08.58" E
External Distance 7.139'
Middle Ordinate 7.126'
Radius 3820.000'
DEG 1°29'59.60"
DELTA -7°00'01.02"
LENGTH 466.720'
PT X 48849.630 Y 129626.286 STA 994+60.080

CURVE F2

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CHAIN LENGTH 1056.920'

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CHAIN G3
List C G3,C ,G4
Description G3 - LINE
Layer 1
Feature ALI

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CURVE G3
PC X 47979.670 Y 130220.319 STA 984+03.200
CC X 50132.881 Y 133375.645
PI X 48172.658 Y 130088.623 STA 986+36.841
TAN 233.641'
DB S 55°41'24.62" E
DA S 62°41'24.57" E
LChord Distance 466.410' Bearing S 59°11'24.59" E
External Distance 7.138'
Middle Ordinate 7.125'
Radius 3820.000'
DEG 1°29'59.60"
DELTA -6°59'59.94"
LENGTH 466.700'
PT X 48380.257 Y 129981.428 STA 988+69.900

CURVE G3
Distance 123.500' Bearing S 62°41'24.57" E

CURVE G4
PC X 48489.991 Y 129924.766 STA 989+93.400
CC X 46737.367 Y 126530.549
PI X 48697.599 Y 129817.566 STA 992+27.051
TAN 233.651'
DB S 62°41'24.57" E
DA S 55°41'23.54" E
LChord Distance 466.430' Bearing S 59°11'24.05" E
External Distance 7.139'
Middle Ordinate 7.126'
Radius 3820.000'
DEG 1°29'59.60"
DELTA 7°00'01.02"
LENGTH 466.720'
PT X 48890.594 Y 129685.864 STA 994+60.120

CURVE G4

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CHAIN LENGTH 1056.920'

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CHAIN H3
List C H10,C ,H12
Description H3 - LINE
Layer 1
Feature ALI

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CURVE H10
PC X 84589.146 Y 103923.665 STA 1439+65.000
CC X 83319.324 Y 100320.895
PI X 84851.113 Y 103831.333 STA 1442+42.763
TAN 277.763'
DB S 70°35'04.70" E
DA S 62°16'01.20" E
LChord Distance 554.063' Bearing S 66°25'32.95" E
External Distance 10.085'
Middle Ordinate 10.059'
Radius 3820.000'
DEG 1°29'59.60"
DELTA 8°19'03.49"
LENGTH 554.550'
PT X 85096.969 Y 103702.075 STA 1445+19.550

CURVE H10
Distance 205.200' Bearing S 62°16'01.20" E

CURVE H12
PC X 85278.596 Y 103606.585 STA 1447+24.750
CC X 87091.538 Y 106968.972
PI X 85492.432 Y 103491.288 STA 1449+67.689
TAN 242.939'
DB S 61°40'01.96" E
DA S 68°56'42.12" E
LChord Distance 484.898' Bearing S 65°18'22.04" E
External Distance 7.717'
Middle Ordinate 7.702'
Radius 3820.000'
DEG 1°29'59.60"
DELTA -7°16'40.16"
LENGTH 485.224'
PT X 85719.152 Y 103404.009 STA 1452+09.974

CURVE H12

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CHAIN LENGTH 1244.974'

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CHAIN I1
List C I1,C ,I3
Description I - LINE
Layer 1
Feature ALI

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CURVE I1
PC X 84556.685 Y 103835.931 STA 1439+65.000
CC X 85890.668 Y 107415.441
PI X 84820.682 Y 103737.547 STA 1442+46.734
TAN 281.734'
DB S 69°33'39.54" E
DA S 77°59'49.60" E
LChord Distance 561.942' Bearing S 73°46'44.57" E
External Distance 10.375'
Middle Ordinate 10.347'
Radius 3820.000'
DEG 1°29'59.60"
DELTA -8°26'10.06"
LENGTH 562.450'
PT X 85096.257 Y 103678.957 STA 1445+27.450

CURVE I1
Distance 188.200' Bearing S 77°59'49.60" E

CURVE I3
PC X 85280.342 Y 103639.819 STA 1447+15.650
CC X 84531.921 Y 99893.852
PI X 85521.554 Y 103591.626 STA 1449+61.629
TAN 245.979'
DB S 78°42'05.10" E
DA S 71°19'57.96" E
LChord Distance 490.941' Bearing S 75°01'01.53" E
External Distance 7.911'
Middle Ordinate 7.895'
Radius 3820.000'
DEG 1°29'59.60"
DELTA 7°22'07.13"
LENGTH 491.279'
PT X 85754.593 Y 103512.895 STA 1452+06.929

CURVE I3

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CHAIN LENGTH 1241.929'

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CHAIN RLWB4
List RLWB54,C ,RLWB27,C ,RLWB26,STA,961+35.46 ,C ,RLWB25,RLWB49,STA
List ,1023+82.08 ,C ,RLWB24,STA ,1101+85.21 ,C ,RLWB23,RLWB48,STA
List ,1166+16.00 ,C ,RLWB22,STA ,1253+61.56 ,C ,RLWB19,C ,RLWB20,STA
List ,1342+82.53 ,RLWB34
Description IH 94 WB R/L WEST END ON EDGE OF PAVEMENT
****
RLWB54 X 41702.292 Y 136915.401 Z 9999.990 STA 890+00.000
Distance 1617.161' Bearing S 54°40'39.17" E
CURVE RLWB27
PC X 43021.751 Y 135980.395 STA 906+17.161
CC X 40341.595 Y 132222.175
PI X 44211.001 Y 135132.288 STA 920+77.846
TAN 1460.685'
DB S 54°30'20.23" E
DA S 19°23'12.33" E
LChord Distance 2785.247' Bearing S 36°56'46.28" E
External Distance 225.596'
Middle Ordinate 215.085'
Radius 4616.000'
DEG 1°14'28.48"
DELTA 35°07'07.90"
LENGTH 2829.330'
PT X 44695.865 Y 133754.424 STA 934+46.491
Distance 615.925' Bearing S 19°23'36.32" E
CURVE RLWB26
PC X 44900.385 Y 133173.446 STA 940+62.417
CC X 47992.903 Y 134261.072
PI X 45256.846 Y 132159.897 STA 951+36.822
TAN 1074.405'
DB S 19°22'35.60" E
DA S 55°40'08.01" E
LChord Distance 2041.940' Bearing S 37°31'21.81" E
External Distance 171.574'
Middle Ordinate 163.041'
Radius 3278.200'
DEG 1°44'52.01"
DELTA -36°17'32.41"
LENGTH 2076.480'
PT X 46144.082 Y 131553.960 STA 961+38.897
*** Station Equation *** BACK STA 961+38.897 AHEAD STA 961+35.460
Distance 4621.340' Bearing S 55°40'08.01" E
CURVE RLWB25
PC X 49960.348 Y 128947.642 STA 1007+56.800
CC X 46729.179 Y 124216.085
PI X 50468.896 Y 128600.356 STA 1013+72.615
TAN 615.815'
DB S 55°40'15.30" E
DA S 43°24'06.20" E
LChord Distance 1224.577' Bearing S 49°32'10.75" E
External Distance 32.999'
Middle Ordinate 32.810'
Radius 5729.580'
DEG 0°59'60.00"
DELTA 12°16'09.10"
LENGTH 1226.920'
PT X 50892.028 Y 128152.933 STA 1019+83.720
Distance 429.850' Bearing S 43°24'06.20" E
RLWB49 X 51187.382 Y 127840.624 Z 0.000 STA 1024+13.570
*** Station Equation *** BACK STA 1024+13.570 AHEAD STA 1023+82.080
Distance 6262.310' Bearing S 43°24'06.20" E
CURVE RLWB24
PC X 55490.274 Y 123290.717 STA 1086+44.390
CC X 63686.021 Y 131026.519
PI X 56009.691 Y 122740.417 STA 1094+01.109
TAN 756.719'
DB S 43°20'46.77" E
DA S 51°01'44.37" E
LChord Distance 1510.038' Bearing S 47°11'15.57" E
External Distance 25.376'
Middle Ordinate 25.319'
Radius 11270.000'
DEG 0°30'30.21"
DELTA -7°40'57.60"
LENGTH 1511.170'
PT X 56598.013 Y 122264.496 STA 1101+55.560
*** Station Equation *** BACK STA 1101+55.560 AHEAD STA 1101+85.210
Distance 4286.160' Bearing S 51°01'44.37" E
CURVE RLWB23
PC X 59930.349 Y 119568.814 STA 1144+71.370
CC X 64710.895 Y 125412.519
PI X 60628.816 Y 118997.421 STA 1153+73.781
TAN 902.411'
DB S 50°42'52.24" E
DA S 64°20'46.87" E
LChord Distance 1792.066' Bearing S 57°31'49.56" E
External Distance 53.739'
Middle Ordinate 53.359'
Radius 7550.000'
DEG 0°45'31.98"
DELTA -13°37'54.63"
LENGTH 1796.300'
PT X 61442.274 Y 118606.741 STA 1162+67.670
Distance 325.624' Bearing S 64°27'19.75" E
RLWB48 X 61736.068 Y 118466.328 Z 458.325 STA 1165+93.294

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*** Station Equation *** BACK STA 1165+93.294 AHEAD STA 1166+16.000
Distance 7341.117' Bearing S 64°25'46.17" E
CURVE RLWB22
PC X 68358.157 Y 115297.744 STA 1239+57.117
CC X 65026.825 Y 108364.557
PI X 68999.753 Y 114989.463 STA 1246+68.933
TAN 711.817'
DB S 64°20'10.13" E
DA S 53°45'43.12" E
LChord Distance 1417.576' Bearing S 59°02'56.62" E
External Distance 32.865'
Middle Ordinate 32.726'
Radius 7692.000'
DEG 0°44'41.55"
DELTA 10°34'27.01"
LENGTH 1419.590'
PT X 69573.882 Y 114568.679 STA 1253+76.707
*** Station Equation *** BACK STA 1253+76.707 AHEAD STA 1253+61.560
Distance 2160.760' Bearing S 53°45'43.12" E
CURVE RLWB19
PC X 71316.682 Y 113291.365 STA 1275+22.320
CC X 85574.239 Y 132845.446
PI X 71700.363 Y 113011.610 STA 1279+97.161
TAN 474.841'
DB S 53°54'10.49" E
DA S 56°09'03.91" E
LChord Distance 949.499' Bearing S 55°01'37.20" E
External Distance 4.658'
Middle Ordinate 4.657'
Radius 24200.000'
DEG 0°14'12.33"
DELTA -2°14'53.42"
LENGTH 949.560'
PT X 72094.723 Y 112747.122 STA 1284+71.880
Distance 3209.570' Bearing S 56°09'03.91" E
CURVE RLWB20
PC X 74760.301 Y 110959.376 STA 1316+81.450
CC X 68370.124 Y 101434.328
PI X 75853.269 Y 110226.123 STA 1329+97.595
TAN 1316.145'
DB S 56°08'35.08" E
DA S 43°03'04.77" E
LChord Distance 2615.131' Bearing S 49°35'49.92" E
External Distance 75.265'
Middle Ordinate 74.774'
Radius 11470.000'
DEG 0°29'58.30"
DELTA 13°05'30.31"
LENGTH 2620.828'
PT X 76751.740 Y 109264.360 STA 1343+02.278
*** Station Equation *** BACK STA 1343+02.278 AHEAD STA 1342+82.530
Distance 2217.472' Bearing S 43°03'04.74" E
RLWB34 X 78265.504 Y 107643.959 Z 9999.990 STA 1365+00.002
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CHAIN LENGTH 47517.467'
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CHAIN RLWB2
List RLWB34,C ,RLWB17,STA ,1393+23.58 ,C ,RLWB16,STA ,1429+42.09 ,RLWB28
List ,STA ,1435+73.49 ,C ,RLWB2,STA ,1453+89.92 ,C ,RLWB1,3
Description  IH 94 R/L WB - F TO RIVER EDGE OF PAVEMENT
**************************************************************************
RLWB34 X    78265.504 Y   107643.959 Z 9999.990          STA 1365+00.000
          Distance      904.386'   Bearing  S 43°03'13.26" E
CURVE RLWB17
          PC X    78882.913 Y   106983.111              STA 1374+04.386
          CC X    83075.474 Y   110903.574
          PI X    79536.522 Y   106284.139              STA 1383+61.342
                    TAN 956.956'
                    DB S 43°04'44.81" E
                    DA S 62°00'33.76" E
                    LChord          Distance     1887.856'   Bearing  S 52°32'39.29" E
                    External Distance 79.224'
                    Middle Ordinate 78.145'
                    Radius 5740.000'
                    DEG  0°59'53.46"
                    DELTA -18°55'48.96"
                    LENGTH 1896.470'
          PT X    80381.537 Y   105835.014              STA 1393+00.856
*** Station Equation ***   BACK STA 1393+00.856  AHEAD STA 1393+23.580
          Distance     1888.525'   Bearing  S 62°00'35.41" E
CURVE RLWB16
          PC X    82049.158 Y   104948.692              STA 1412+12.105
          CC X    87443.510 Y   115099.356
          PI X    82809.903 Y   104544.410              STA 1420+73.602
                    TAN 861.498'
                    DB S 62°00'45.18" E
                    DA S 70°35'04.70" E
                    LChord          Distance     1718.177'   Bearing  S 66°17'54.94" E
                    External Distance 32.237'
                    Middle Ordinate 32.147'
                    Radius 11495.000'
                    DEG  0°29'54.39"
                    DELTA -8°34'19.51"
                    LENGTH 1719.780'
          PT X    83622.411 Y   104258.036              STA 1429+31.885
*** Station Equation ***   BACK STA 1429+31.885  AHEAD STA 1429+42.090
          Distance     2094.560'   Bearing  S 70°35'04.70" E
RLWB28 X    85597.860 Y   103561.775 Z 9999.990          STA 1450+36.650
*** Station Equation ***   BACK STA 1450+36.650  AHEAD STA 1435+73.490
          Distance      306.050'   Bearing  S 70°35'04.70" E
CURVE RLWB2
          PC X    85886.507 Y   103460.039              STA 1438+79.540
          CC X    93595.366 Y   125447.842
          PI X    86618.447 Y   103203.423              STA 1446+55.162
                    TAN 775.621'
                    DB S 70°40'46.14" E
                    DA S 74°29'33.55" E
                    LChord          Distance     1550.384'   Bearing  S 72°35'09.84" E
                    External Distance 12.906'
                    Middle Ordinate 12.899'
                    Radius 23300.000'
                    DEG  0°14'45.26"
                    DELTA -3°48'47.41"
                    LENGTH 1550.670'
          PT X    87365.833 Y   102996.052              STA 1454+30.210
*** Station Equation ***   BACK STA 1454+30.210  AHEAD STA 1453+89.920
          Distance     1151.610'   Bearing  S 74°29'33.55" E
CURVE RLWB1
          PC X    88475.520 Y   102688.155              STA 1465+41.530
          CC X    87059.273 Y    97592.463
          PI X    89956.875 Y   102276.441              STA 1480+79.035
                    TAN 1537.505'
                    DB S 74°28'03.99" E
                    DA S 42°02'55.30" E
                    LChord          Distance     2952.770'   Bearing  S 58°15'29.64" E
                    External Distance 218.950'
                    Middle Ordinate 210.246'
                    Radius 5288.840'
                    DEG  1°05'00.00"
                    DELTA 32°25'08.70"
                    LENGTH 2992.530'
          PT X    90986.638 Y   101134.727              STA 1495+34.060
          Distance      283.940'   Bearing  S 42°02'55.30" E
RLWB3 X    91176.810 Y   100923.880 Z -99999.900        STA 1498+18.000
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CHAIN LENGTH 14788.521'
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PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	ALIGNMENT DATA – RL WEST BOUND	SHEET:	E

DATE 09MAY13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1023-04-82 QUANTITY
0010	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	9,500.000	9,500.000
0020	205.3000.S	TEMPORARY EMERGENCY PULLOUTS	EACH	17.000	17.000
0030	211.0100	PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) 01.1023-04-82	LS	1.000	1.000
0040	213.0100	FINISHING ROADWAY (PROJECT) 01. 1023-04-82	EACH	1.000	1.000
0050	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	400.000	400.000
0060	305.0500	SHAPING SHOULDERS	STA	98.000	98.000
0070	614.0010	BARRIER SYSTEM GRADING SHAPING FINISHING	EACH	15.000	15.000
0080	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	189.000	189.000
0090	614.0370	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	EACH	15.000	15.000
0100	614.0515	GUARDRAIL STIFENED LHW	LF	2,588.000	2,588.000
0110	614.0925	SALVAGED GUARDRAIL END TREATMENTS	EACH	6.000	6.000
0120	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01.1023-04-82	EACH	1.000	1.000
0130	619.1000	MOBILIZATION	EACH	1.000	1.000
0140	628.1504	SILT FENCE	LF	8,100.000	8,100.000
0150	628.1520	SILT FENCE MAINTENANCE	LF	8,100.000	8,100.000
0160	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0170	643.0100	TRAFFIC CONTROL (PROJECT) 01.1023-04-82	EACH	1.000	1.000
0180	643.0300	TRAFFIC CONTROL DRUMS	DAY	3,015.000	3,015.000
0190	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	83.000	83.000
0200	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	510.000	510.000
0210	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	64.000	64.000
0220	643.0900	TRAFFIC CONTROL SIGNS	DAY	1,488.000	1,488.000
0230	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	2.000	2.000
0240	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	112.000	112.000
0250	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	148.000	148.000
0260	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	7,240.000	7,240.000
0270	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	27,956.000	27,956.000
0280	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01.1023-04-82	LS	1.000	1.000
0290	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5. 00/HR	HRS	1,200.000	1,200.000
0300	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	300.000	300.000
0310	SPV.0060	SPECIAL 01. FLEXIBLE TUBULAR MARKER POSTS	EACH	149.000	149.000
0320	SPV.0060	SPECIAL 02. FLEXIBLE TUBULAR MARKER BASES	EACH	149.000	149.000
0330	SPV.0195	SPECIAL 01. ASPHALTIC SURFACE SPECIAL	TON	2,210.000	2,210.000

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REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION TO STATION	LOCATION	204.0120 SY	REMARKS
0010	896+00 - 906+00	IH 94 MEDIAN	2500	1ST CROSSOVER 6" DEPTH
0010	966+00 - 967+00	IH 94 MEDIAN	700	2ND CROSSOVER 2" DEPTH
0010	967+00 - 967+16	IH 94 EXIT RAMP	200	2ND CROSSOVER 2" DEPTH
0010	986+00 - 994+00	IH 94 MEDIAN	3800	3RD CROSSOVER 2" DEPTH
0010	1442+00 - 1452+00	IH 94 MEDIAN	2300	4TH CROSSOVER 6" DEPTH
		TOTAL 0010	9500	

BASE AGGREGATE DENSE 3/4-INCH

CATEGORY	STATION TO STATION	LOCATION	305.0110 TON	REMARKS
0010	896+00 - 906+00	IH 94	100	1ST CROSSOVER 6" DEPTH
0010	966+00 - 967+00	IH 94 MEDIAN	25	2ND CROSSOVER 2" DEPTH
0010	967+00 - 967+16	IH 94 EXIT RAMP	25	2ND CROSSOVER 2" DEPTH
0010	986+00 - 994+00	IH 94 MEDIAN	50	3RD CROSSOVER 2" DEPTH
0010	1442+00 - 1452+00	IH 94 MEDIAN	100	4TH CROSSOVER 6" DEPTH
			100	UNDIST.
		TOTAL 0010	400	

SHAPING SHOULDERS

CATEGORY	STATION TO STATION	LOCATION	305.0500 STA	REMARKS
0010	895+50 - 906+50	IH 94 EB MEDIAN	22	CROSSOVER
0010	895+50 - 906+50	IH 94 WB MEDIAN	22	CROSSOVER
0010	964+00 - 966+00	IH 94 EB MEDIAN	2	CROSSOVER
0010	964+00 - 966+00	IH 94 WB MEDIAN	2	CROSSOVER
0010	984+00 - 994+00	IH 94 EB MEDIAN	7	CROSSOVER
0010	984+00 - 994+00	IH 94 WB MEDIAN	7	CROSSOVER
0010	1442+00 - 1451+00	IH 94 EB MEDIAN	18	CROSSOVER
0010	1442+00 - 1451+00	IH 94 WB MEDIAN	18	CROSSOVER
		TOTAL 0010	98	

TEMPORARY EMERGENCY PULLOUTS

CATEGORY	STATION	LOCATION	205.3000.S EACH	REMARKS	* FILL CY	* SALVAGED TOPSOIL SY	* FERTILIZER TYPE B CWT	* SEEDING MIX NO. 30 LB	* MULCHING SY	* BASE AGGREGATE DENSE 1 1/4-INCH TON
0010	936+00	IH 94 WB MEDIAN	1		100	330	0.3	9	470	135.00
0010	957+00	IH 94 WB MEDIAN	1		100	330	0.3	9	470	135.00
0010	995+50	IH 94 WB MEDIAN	1		100	330	0.3	9	470	135.00
0010	1025+50	IH 94 WB MEDIAN	1		225	450	0.3	10	630	135.00
0010	1054+00	IH 94 WB MEDIAN	1		230	550	0.4	10	770	135.00
0010	1085+00	IH 94 WB MEDIAN	1		28	200	0.2	6	280	135.00
0010	1115+50	IH 94 WB MEDIAN	1		28	200	0.2	6	280	135.00
0010	1143+50	IH 94 WB MEDIAN	1		5	100	0.2	6	140	135.00
0010	1173+00	IH 94 WB MEDIAN	1		15	200	0.2	6	280	135.00
0010	1205+00	IH 94 WB MEDIAN	1		10	110	0.2	6	150	135.00
0010	1240+00	IH 94 WB MEDIAN	1		10	110	0.2	6	150	135.00
0010	1269+00	IH 94 WB MEDIAN	1		24	175	0.2	6	245	135.00
0010	1300+00	IH 94 WB MEDIAN	1		49	175	0.2	6	245	135.00
0010	1330+00	IH 94 WB MEDIAN	1		5	100	0.2	6	140	135.00
0010	1360+00	IH 94 WB MEDIAN	1		42	300	0.3	9	420	135.00
0010	1394+00	IH 94 WB MEDIAN	1		9	100	0.2	69	140	135.00
0010	1423+00	IH 94 WB MEDIAN	1		9	100	0.2	69	140	135.00
		TOTAL 0010	17		989	3860	4.1	248	5420	2295.00

* ITEMS AND QUANTITIES FOR INFORMATION ONLY.

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BARRIER SYSTEM GRADING SHAPING FINISHING

Items and quantities are for info only.

CATEGORY	POST #1 STATION	LOCATION	EXCAVATION COMMON CY	BORROW CY	SALVAGED TOPSOIL SY	FERTILIZER TYPE B CWT	SEEDING LB	MULCHING SY	614.0010 EACH	REMARKS
0010	961+24.3	LT.	62.00	5.00	250.00	0.18	8.00	250.00	1	TREMPEALEAU RIVER
0010	959+14.2	RT.	0.00	45.00	150.00	0.09	4.00	165.00	1	STA. EQUATION
0010	972+66.8	LT.	0.00	45.00	150.00	0.09	4.00	165.00	1	STH 95
0010	970+74.3	RT.	0.00	45.00	150.00	0.09	4.00	165.00	1	STH 95
0010	1091+74	LT.	0.00	45.00	150.00	0.09	4.00	165.00	1	54-INCH RCCP
0010	1131+96.5	LT.	0.00	45.00	150.00	0.09	4.00	165.00	1	2-9'X6' BOX CULVERT
0010	1229+61.6	LT.	0.00	90.00	200.00	0.12	6.00	200.00	1	2-48" RCCP
0010	1230+36.8	RT.	0.00	45.00	150.00	0.09	4.00	165.00	1	CHARCOAL ROAD
0010	1281+75.5	LT.	0.00	45.00	150.00	0.09	4.00	165.00	1	ROCK CUT
0010	1336+90.1	LT.	0.00	45.00	150.00	0.09	4.00	165.00	1	1-60" RCCP
0010	1374+74.1	LT.	0.00	45.00	150.00	0.09	4.00	165.00	1	1-10'X7' BOX
0010	1385+01	LT.	0.00	90.00	200.00	0.12	6.00	200.00	1	CTH F
0010	1384+63	RT.	0.00	45.00	150.00	0.09	4.00	165.00	1	CTH F
0010	1430+05.8	LT.	0.00	90.00	200.00	0.12	6.00	200.00	1	McNulty
0010	1429+04.7	RT.	0.00	45.00	150.00	0.09	4.00	165.00	1	STA. EQUATION
0010			62.00	770.00	2500.00	1.53	70.00	2665.00		TOTALS
		TOTAL 0010							15	

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GUARDRAIL STIFFENED LHW

CATEGORY	STATION TO STATION	LOCATION		614.0515 LF	REMARKS
0010	961+74.30 - 962+99.3	LT.	*	125.0	TREMPEALEAU RIVER
0010	959+64.24 - 962+73.3	RT.	*	312.5	STA. EQUATION
0010	973+16.80 - 974+16.8	LT.	*	100.0	STH 95
0010	971+24.30 - 973+99.3	RT.	*	275.0	STH 95
0010	1092+24.0 - 1093+99	LT.	*	162.5	54-INCH RCCP
0010	1132+46.5 - 1133+09	LT.	*	75.0	2-9'X6' BOX CULVERT
0010	1228+67.6 - 1230+05.1	LT.	*	137.5	2-48" RCCP
0010	1230+86.8 - 1233+24.3	RT.	*	237.5	CHARCOAL ROAD
0010	1282+35.1 - 1283+75.5	LT.	*	150.0	ROCK CUT
0010	1336+90.1 - 1337+40.1	LT.	*	250.0	1-60" RCCP
0010	1375+27.2 - 1375+77.2	LT.	*	50.0	1-10'X7' BOX
0010	1385+51.0 - 1387+01	LT.	*	150.0	CTH F
0010	1385+13.0 - 1387+25.5	RT.	*	212.5	CTH F
0010	1430+55.8 - 1431+80.8	LT.	*	125.0	McNULTY ROAD
0010	1429+69.3 - 1431+94.3	RT.	*	225.0	STA. EQUATION
		TOTAL 0010		2588	

* (LHW) LONGER POST AT HALF POST SPACING REQUIRED FOR ALL BEAM GUARD

STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

CATEGORY	STATION TO STATION	LOCATION	614.0370 EACH	REMARKS
0010	961+24.3 - 961+74.3	LT.	1	TREMPEALEAU RIVER
0010	959+14.2 - 959+64.2	RT.	1	STA. EQUATION
0010	972+66.8 - 973+16.8	LT.	1	STH 95
0010	970+74.3 - 971+24.3	RT.	1	STH 95
0010	1091+74.0 - 1092+24	LT.	1	54-INCH RCCP
0010	1131+96.5 - 1132+46.5	LT.	1	2-9'X6' BOX CULVERT
0010	1228+17.6 - 1228+67.6	LT.	1	2-9'X6' BOX CULVERT
0010	1230+36.8 - 1230+86.8	RT.	1	CHARCOAL ROAD
0010	1281+75.5 - 1282+35.1	LT.	1	ROCK CUT
0010	1336+90.1 - 1337+40.1	LT.	1	1-60" RCCP
0010	1374+74.1 - 1375+27.2	LT.	1	1-10'X7' BOX
0010	1385+01.0 - 1385+51	LT.	1	CTH F
0010	1384+63.0 - 1385+13	RT.	1	CTH F
0010	1430+05.8 - 1430+55.8	LT.	1	McNULTY ROAD
0010	1429+04.7 - 1429+69.3	RT.	1	STA. EQUATION
	TOTAL 0010		15	

STEEL THRIE BEAM STRUCTURE APPROACH

CATEGORY	STATION TO STATION	LOCATION	614.0200 LF	REMARKS
0010	962+99.3 - 963+20	LT.	21	TREMPEALEAU RIVER
0010	962+73.3 - 962+94	RT.	21	STA. EQUATION
0010	974+16.8 - 974+37.5	LT.	21	STH 95
0010	973+99.3 - 974+20	RT.	21	STH 95
0010	1233+24.3 - 1233+44.9	RT.	21	CHARCOAL ROAD
0010	1387+01.0 - 1387+21.7	LT.	21	CTH F
0010	1387+25.5 - 1387+46.2	RT.	21	CTH F
0010	1431+80.8 - 1432+01.5	LT.	21	McNULTY ROAD
0010	1431+94.3 - 1432+15	RT.	21	STA. EQUATION
	TOTAL 0010		189	

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SALVAGED GUARDRAIL END TREATMENTS

CATEGORY	TYPE	STATION	LOCATION	614.0925 EACH	REMARKS
0010	TYPE 2	1093+86	LT.	1	54-INCH RCCP
0010	TYPE 2	1133+09	LT.	1	2-9'X6' BOX CULVERT
0010	TYPE 2	1229+91.6	LT.	1	2-9'X6' BOX CULVERT
0010	TYPE 2	1283+62	LT.	1	ROCK CUT
0010	TYPE 2	1339+76.6	LT.	1	1-60" RCCP
0010	TYPE 2 MGS	1375+77.2	LT.	1	1-10'X7' BOX
			TOTAL 0010	6	

SILT FENCE

CATEGORY	LOCATION	628.1504 LF	REMARKS
0010	IH 94 W.B. MEDIAN	5100	17 TEMP. EMER. PULLOUTS
0010	IH 94 W.B. SHLD	3000	15 BARRIER SYSTEMS
0010			
	TOTAL 0010	8100	

SILT FENCE MAINTENANCE

CATEGORY	LOCATION	628.1520 LF	REMARKS
0010	IH 94 W.B. MEDIAN	5100	17 TEMP. EMER. PULLOUTS
0010	IH 94 W.B. SHLD	3000	15 BARRIER SYSTEMS
	TOTAL 0010	8100	

TRAFFIC CONTROL ITEMS

CATEGORY	TYPE	DAYS	LOCATION	643.0300 TRAFFIC CONTROL DRUMS NO.	643.0300 DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO.	643.0420 DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C NO.	643.0715 DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS NO.	643.0800 DAYS	643.0900 TRAFFIC CONTROL SIGNS NO.	643.0900 DAYS	REMARKS
0010	CROSSOVERS	20	IH 94 E.B.	–	–	–	–	–	–	–	–	15	300	SEE CONSTRUCTION DETAIL
0010	CROSSOVERS	20	IH 94 W.B.	–	–	–	–	–	–	–	–	15	300	ADVANCED WARNING
0010	ADVANCED WARNING	22	IH 94 E.B.	–	–	–	–	–	–	–	–	20	440	SEE CONSTRUCTION DETAIL
0010	ADVANCED WARNING	22	IH 94 W.B.	–	–	–	–	–	–	–	–	20	440	ADVANCED WARNING
0010	LANE CLOSURE	20	IH 94 E.B.	40	1200	2	40	12	240	1	20	1	1	SEE CONSTRUCTION DETAIL
0010	LANE CLOSURE	22	IH 94 W.B.	40	1200	2	42	12	264	2	44	1	1	LANE CLOSURE
0010					600									UNDIST.
0010	LANE CLOSURE AT RAMPS	1	IH 94 W.B.	15	15	1	1	6	6	–	–	6	6	SEE S.D.D. 15 D 15-1
			TOTAL 0010		3015		83		510		64		1488	

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TRAFFIC CONTROL COVERING SIGNS TYPE II

CATEGORY	NUMBER OF CYCLES	NUMBER OF SIGNS	LOCATION	643.0920 EACH	REMARKS
0010	1	1	928+87, IH 94 W.B.	1	65 M.P.H. 48"X60"
0010	1	1	1421+33 IH 94 W.B.	1	65 M.P.H. 48"X60"
			TOTAL 0010	2	

TRAFFIC CONTROL SIGNS FIXED MESSAGE

CATEGORY	LOCATION	643.1000 SF	REMARKS
0010	IH 94 E.B. WEST OF STH 95	56	PERIODIC LANE CLOSURES
0010			WATCH FOR
0010			SLOW TRAFFIC
0010	IH 94 W.B. EAST OF McNULTY	56	PERIODIC LANE CLOSURES
0010			WATCH FOR
0010			SLOW TRAFFIC
	TOTAL 0010	112	

TRAFFIC CONTROL SIGNS PCMS

CATEGORY	SIGNS EACH	LOCATION	643.1050 DAY	REMARKS
0010	1	EB IH 94	74	WEST ENF OF PROJECT
0010	1	WB IH 94	74	EAST END OF PROJECT
		TOTAL 0010	148	

PAVEMENT MARKING EPOXY 4-INCH

CATEGORY	STATION	TO	STATION	LOCATION	646.0106 LF	REMARKS
0010	895+00	-	907+00	IH 94 MEDIAN	1200	1ST CROSSOVER E.B. YELLOW
0010	895+00	-	907+00	IH 94 MEDIAN	1200	1ST CROSSOVER W.B. YELLOW
0010	964+50	-	967+50	IH 94 MEDIAN	300	2ND CROSSOVER E.B. YELLOW
0010	964+50	-	967+50	IH 94 MEDIAN	300	2ND CROSSOVER W.B. YELLOW
0010	967+00	-	967+16	IH 94 EXIT RAMP	40	2ND CROSSOVER E.B. WHITE
0010	985+00	-	995+00	IH 94 MEDIAN	1000	3RD CROSSOVER E.B. YELLOW
0010	985+00	-	995+00	IH 94 MEDIAN	1000	3RD CROSSOVER W.B. YELLOW
0010	1441+00	-	1452+00	IH 94 MEDIAN	1100	4TH CROSSOVER E.B. YELLOW
0010	1441+00	-	1452+00	IH 94 MEDIAN	1100	4TH CROSSOVER W.B. YELLOW
			TOTAL 0010		7240	

CONSTRUCTION STAKING RESURFACING REFERENCE

CATEGORY	LOCATION	650.8000 LF	REMARKS
0010	IH 94 E.B.	13978	ALIGNMENT HAS EQUATIONS
0010	IH 94 W.B.	13978	ALIGNMENT HAS EQUATIONS
0010			
	TOTAL 0010	27956	

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SPECIAL (01.FLEXIBLE TUBULAR MARKER POSTS)

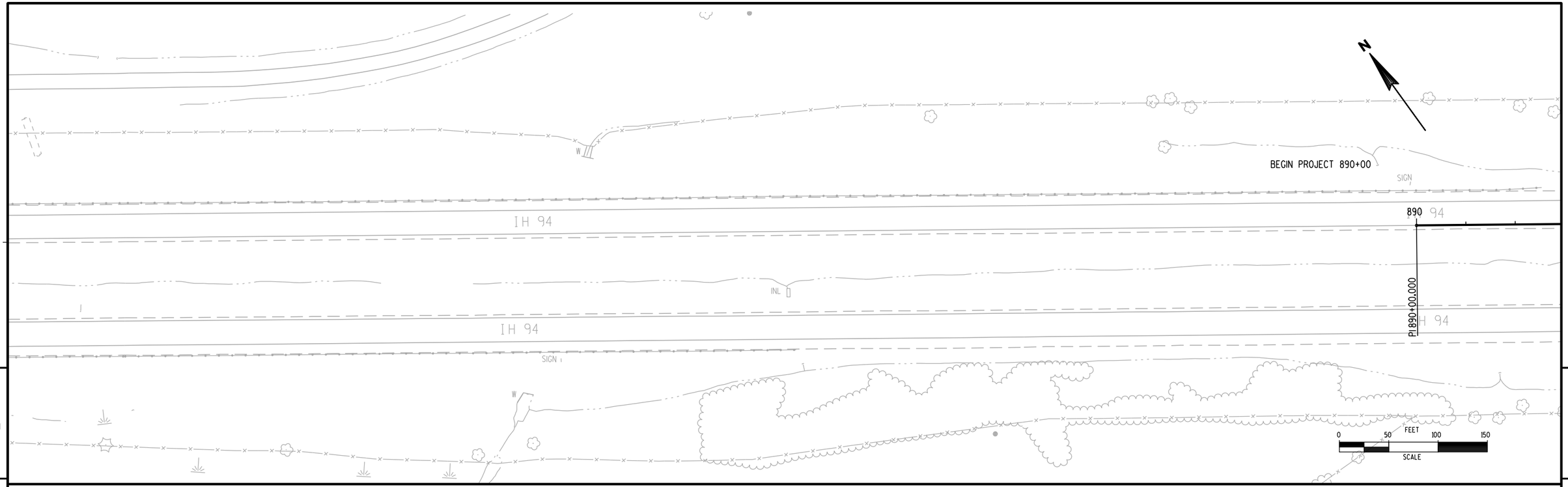
CATEGORY	STATION TO	STATION	LOCATION	SPV.0060.01 EACH	REMARKS
0010	900+45	- 902+25	IH 94 WB	37	MEDIAN CROSSOVER
0010	966+00	- 967+00	IH 94 WB	21	RAMP CROSSOVER
0010	987+45	- 990+90	IH 94 WB	70	MEDIAN CROSSOVER
0010	1445+60	- 1446+60	IH 94 WB	21	MEDIAN CROSSOVER
			TOTAL 0010	149	

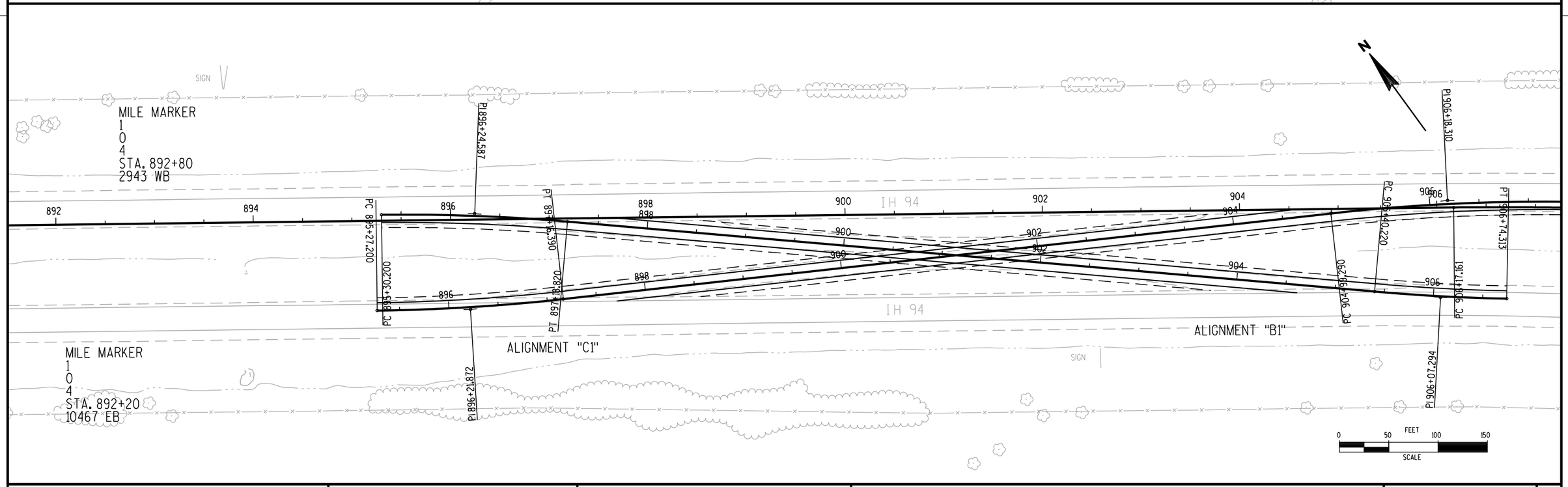
SPECIAL (02.FLEXIBLE TUBULAR MARKER BASES)

CATEGORY	STATION TO	STATION	LOCATION	SPV.0060.02 EACH	REMARKS
0010	900+45	- 902+25	IH 94 WB	37	MEDIAN CROSSOVER
0010	966+00	- 967+00	IH 94 WB	21	RAMP CROSSOVER
0010	987+45	- 990+90	IH 94 WB	70	MEDIAN CROSSOVER
0010	1445+60	- 1446+60	IH 94 WB	21	MEDIAN CROSSOVER
			TOTAL 0010	149	

SPECIAL (01. ASPHALTIC SURFACE SPECIAL)

CATEGORY	STATION TO	STATION	LOCATION	SPV.0195.01 TON	REMARKS
0010	896+00	- 906+00	IH 94 MEDIAN	840	1ST CROSSOVER 6" DEPTH
0010	966+00	- 967+00	IH 94 MEDIAN	80	2ND CROSSOVER 2" DEPTH
0010	967+00	- 967+16	IH 94 EXIT RAMP	25	2ND CROSSOVER 2" DEPTH
0010	986+00	- 994+00	IH 94 MEDIAN	425	3RD CROSSOVER 2" DEPTH
0010	1442+00	- 1452+00	IH 94 MEDIAN	840	4TH CROSSOVER 6" DEPTH
			TOTAL 0010	2210	





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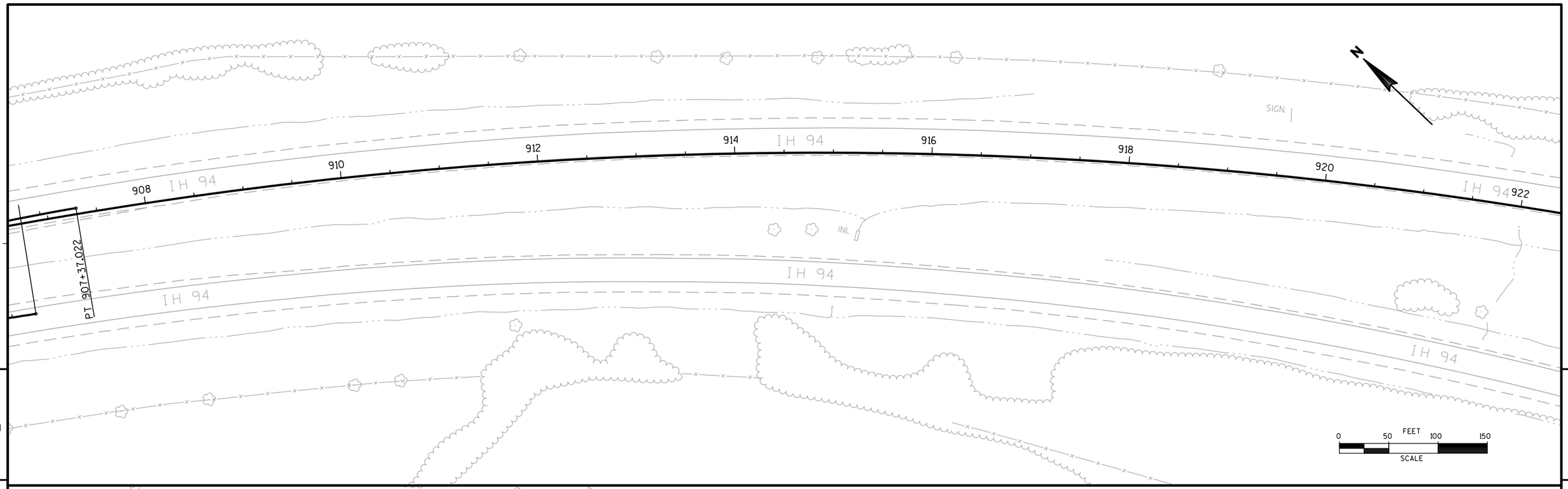

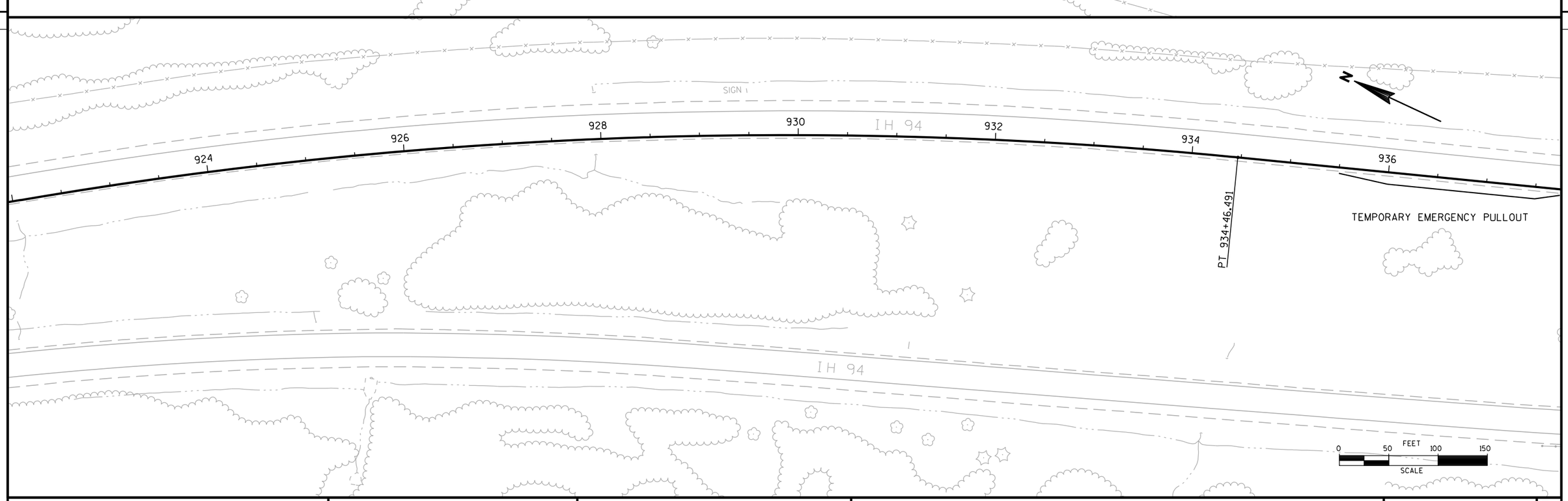

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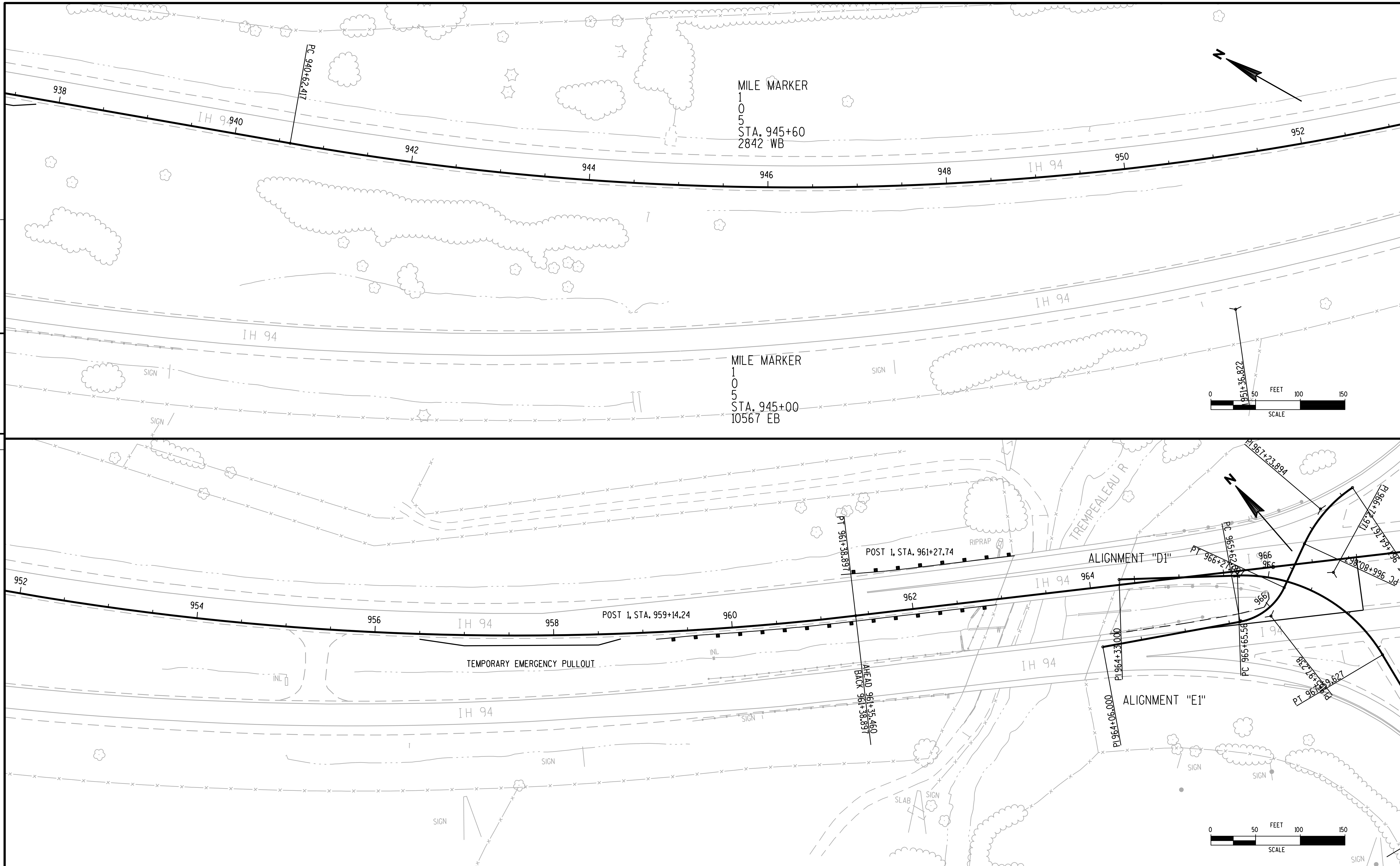

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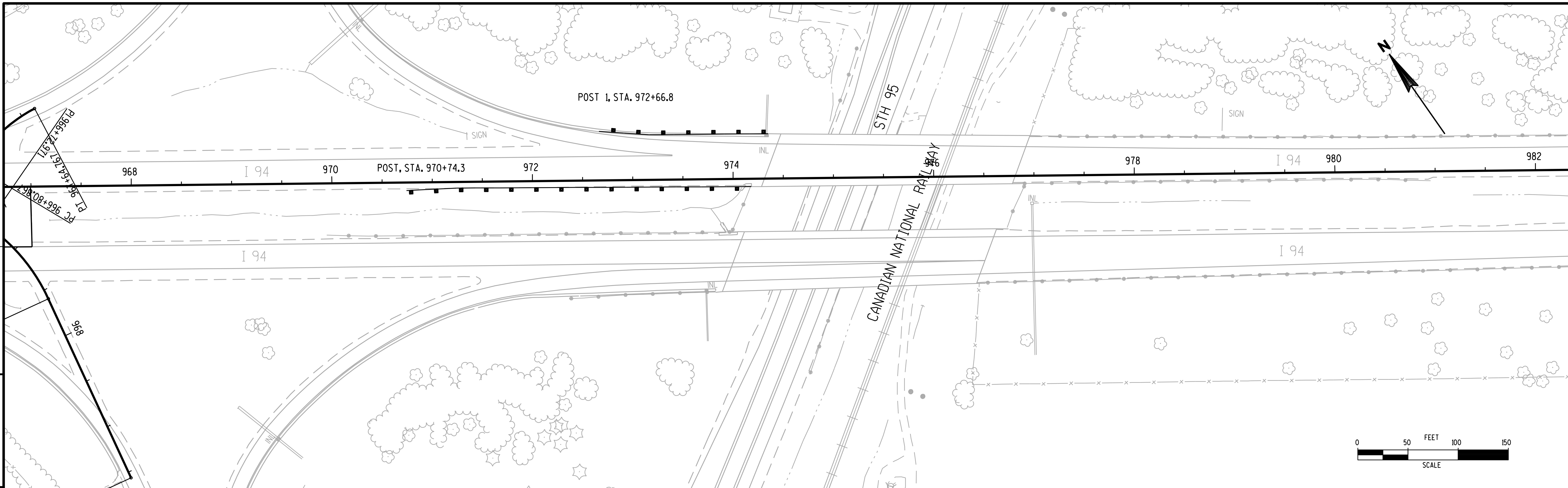

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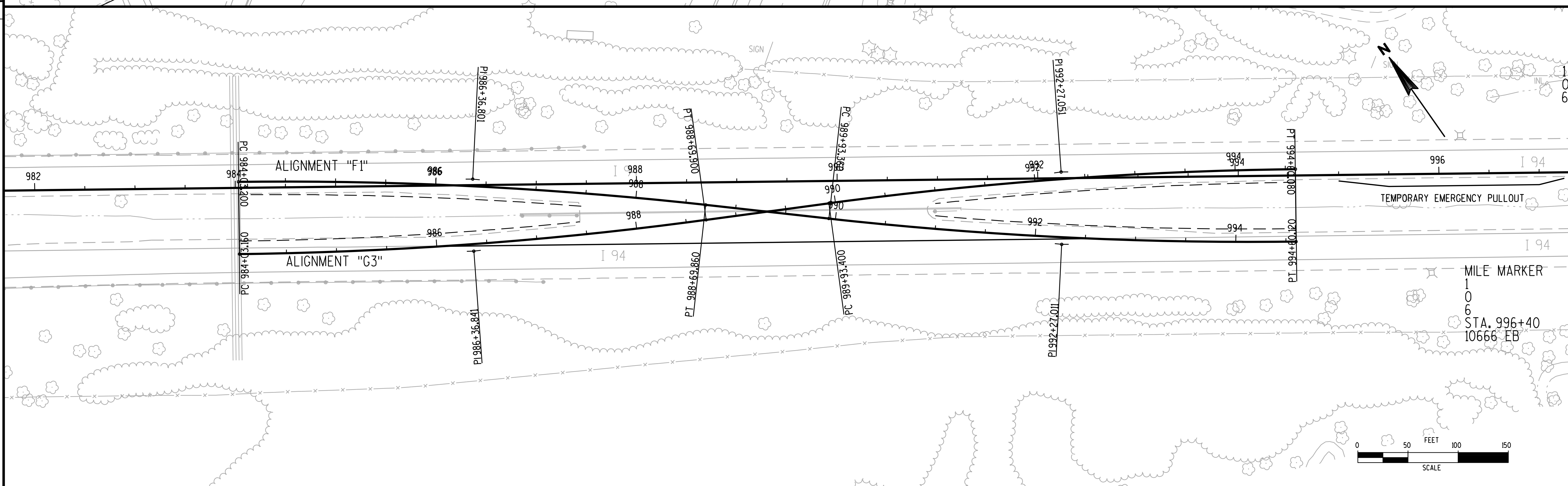

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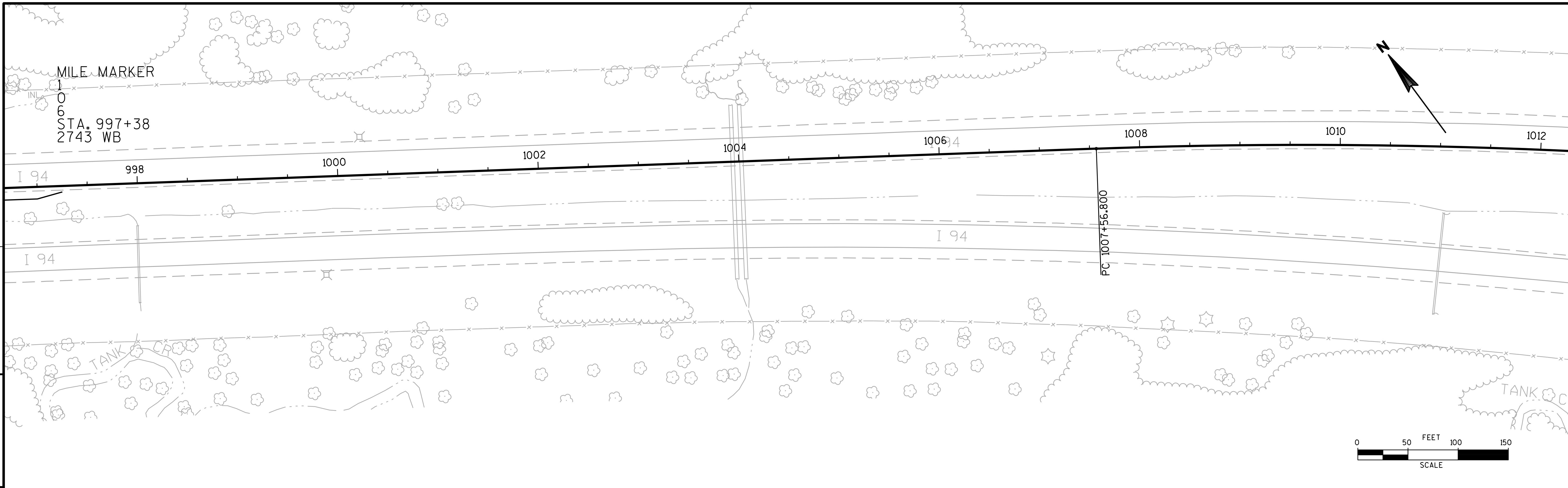

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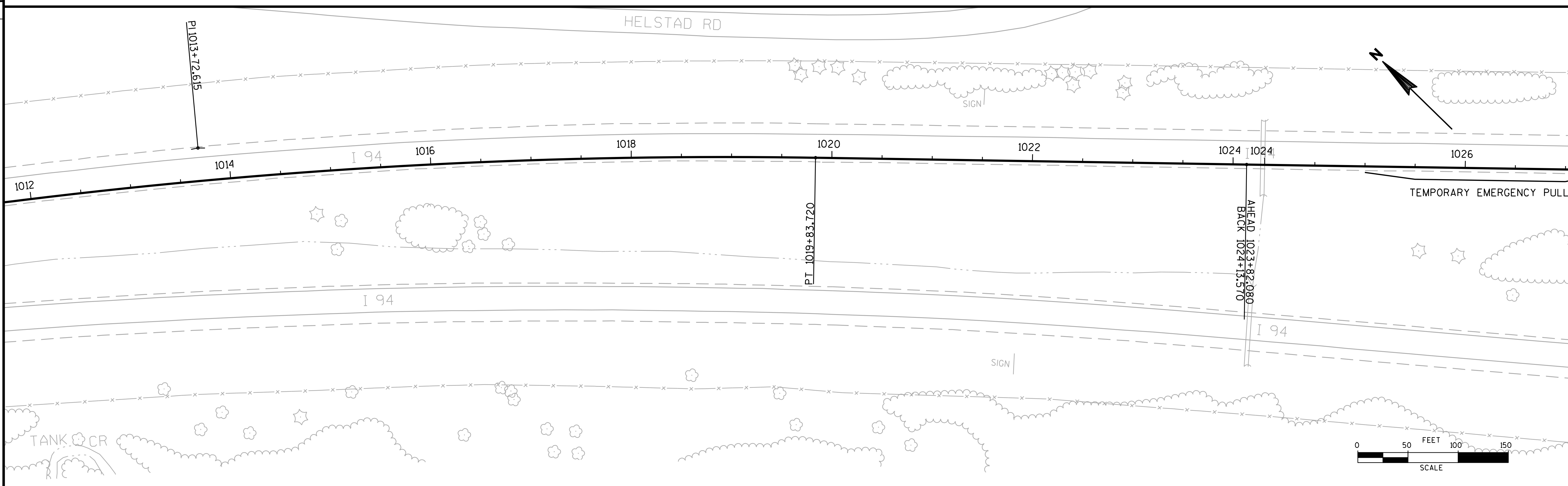

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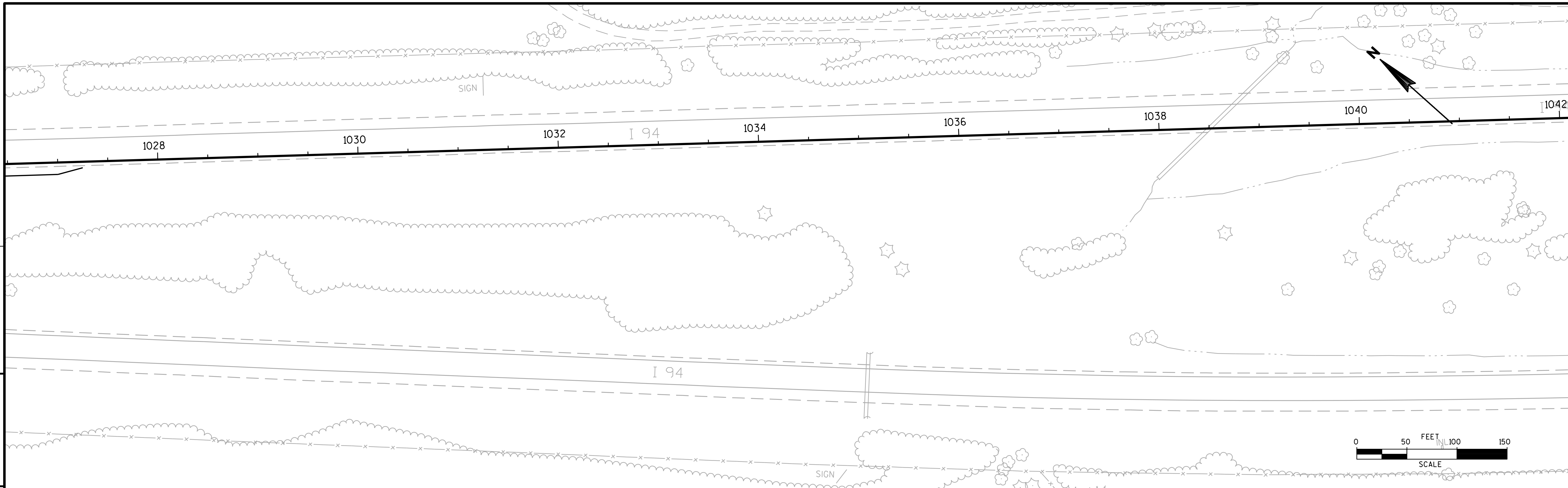

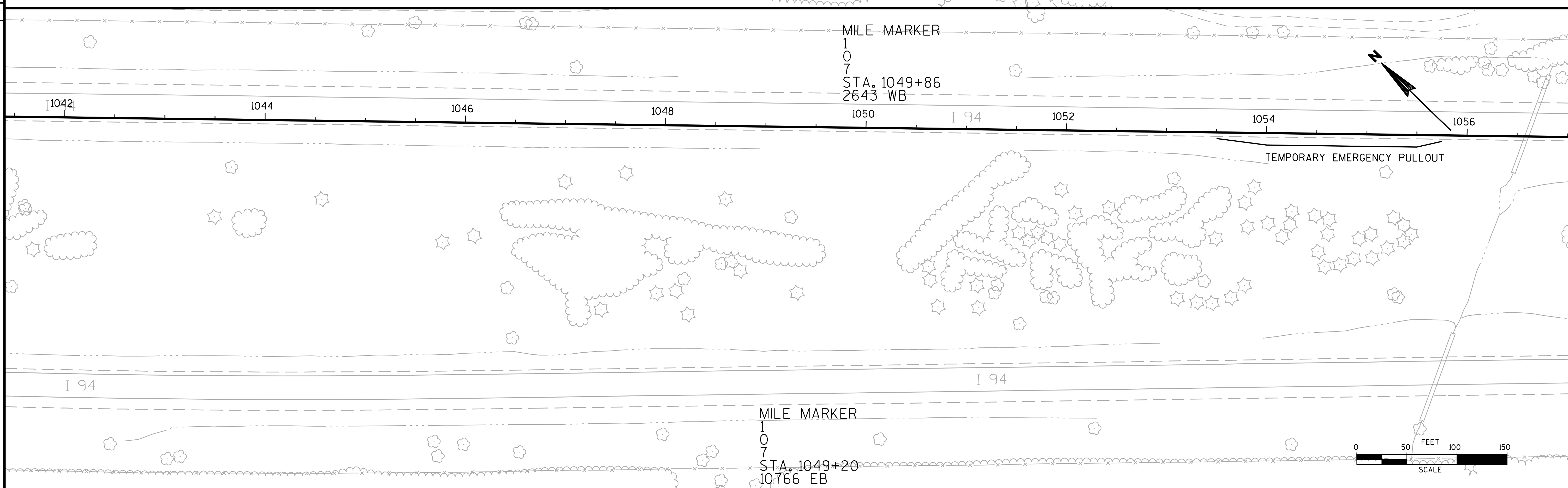

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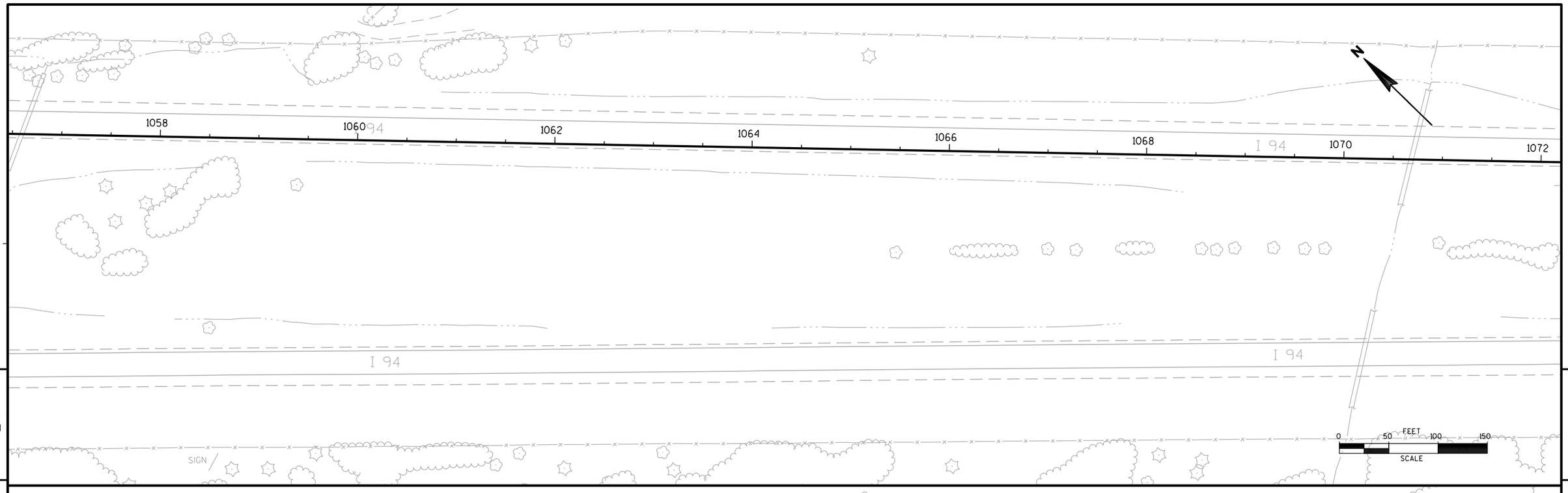

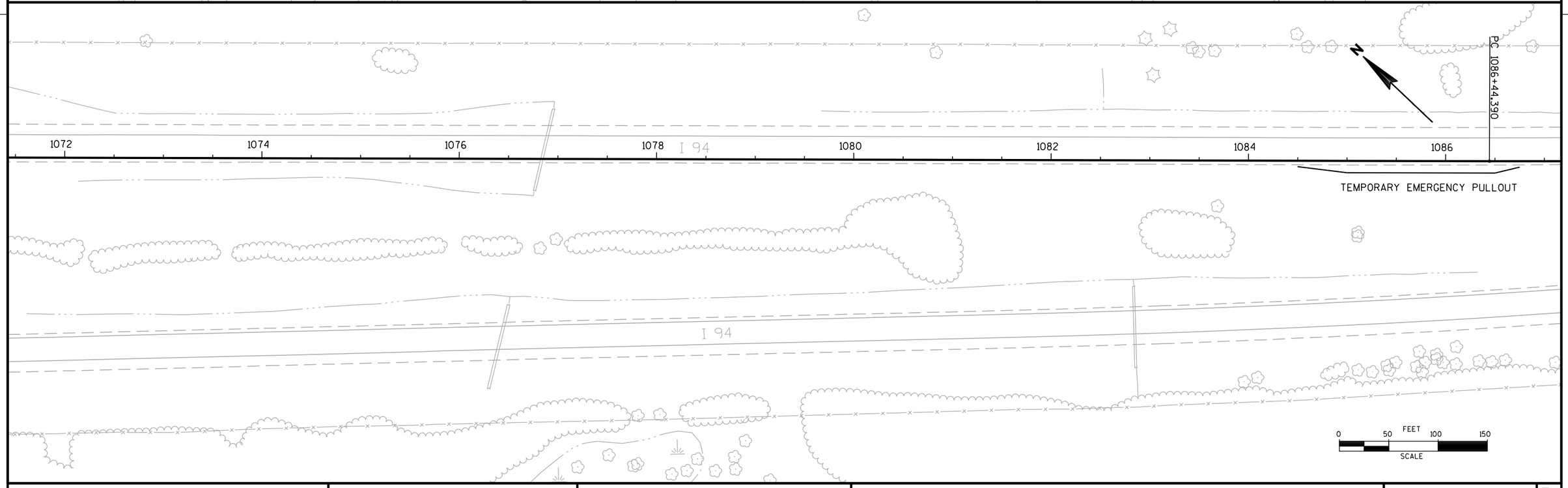

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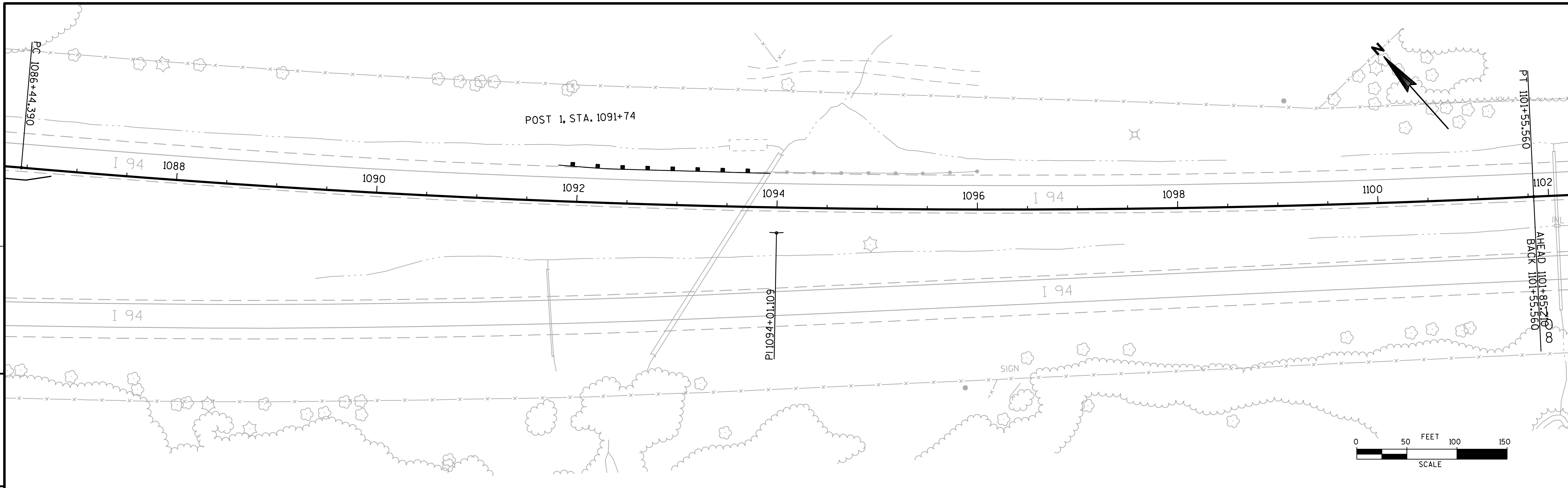

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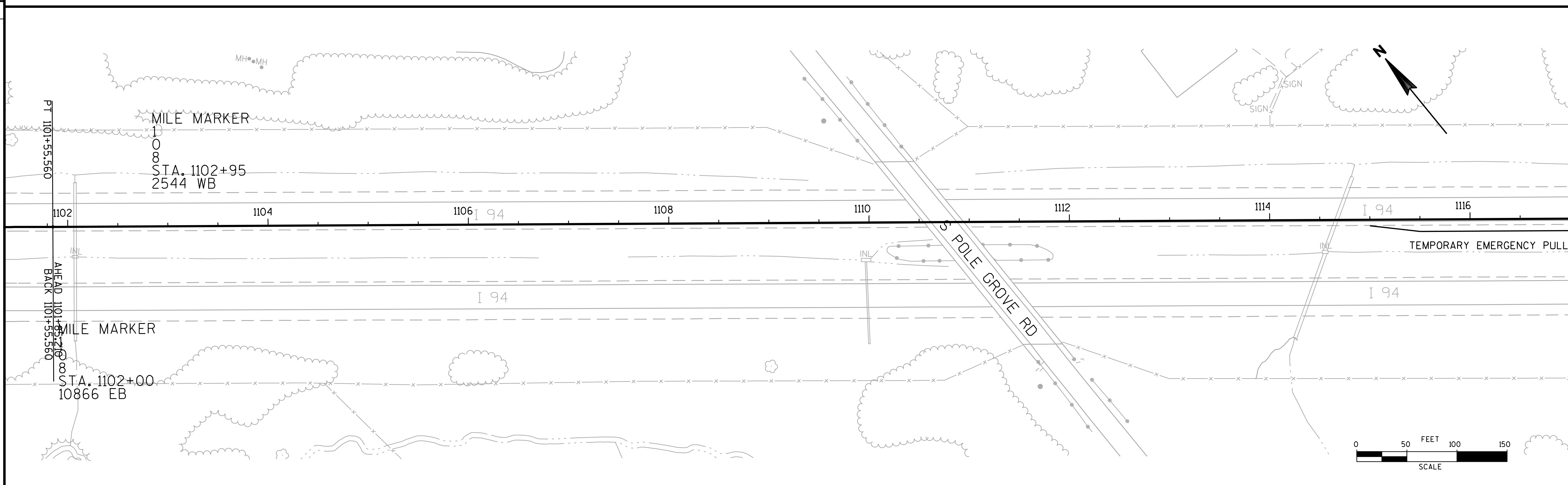

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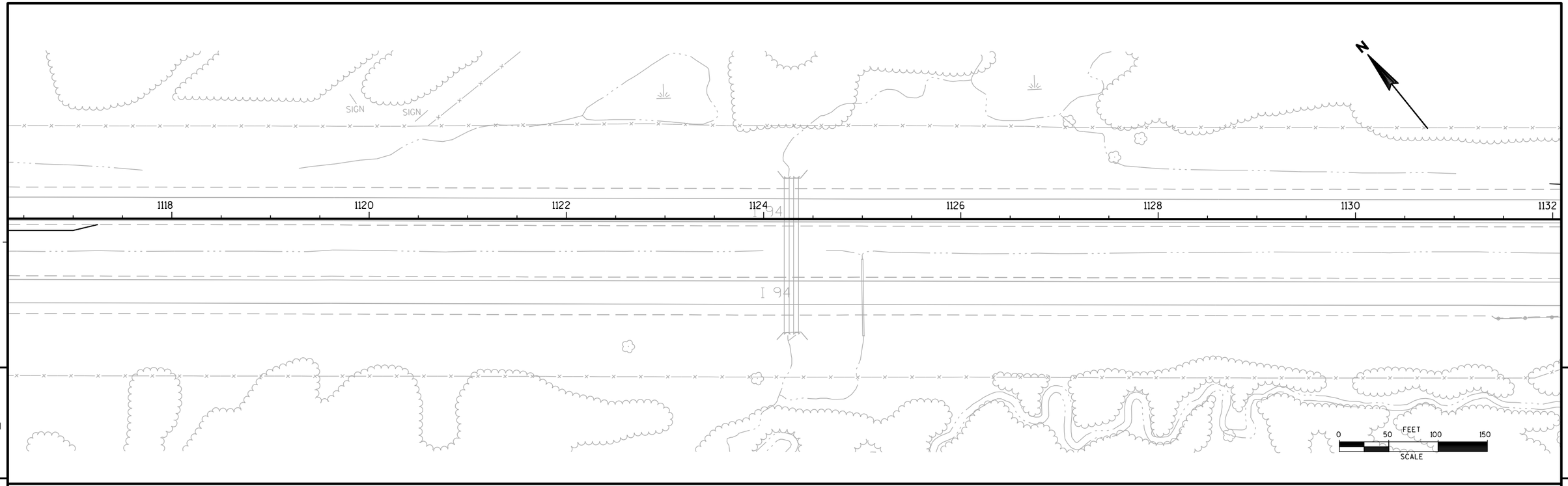
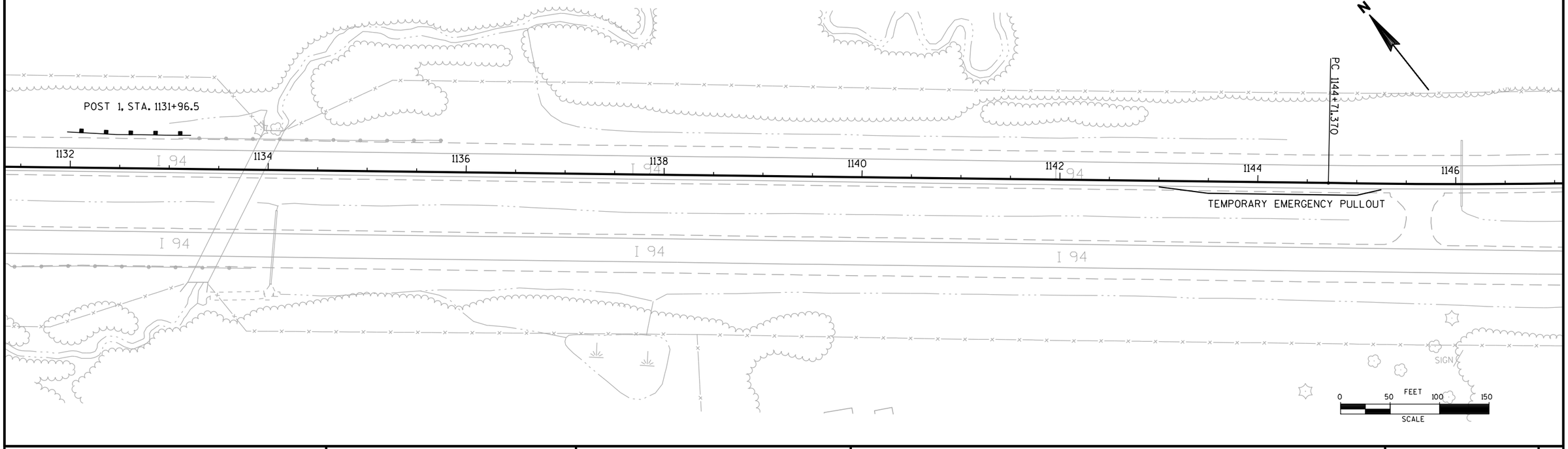




PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\021202_WB2013TEP.DGN PLOT DATE : 29-OCT-2012 12:15 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

MILE MARKER
1
0
9
STA. 1155+75
2444 WB

MILE MARKER
1
0
9
STA. 1154+80
10965 EB

PI 1153+73.781

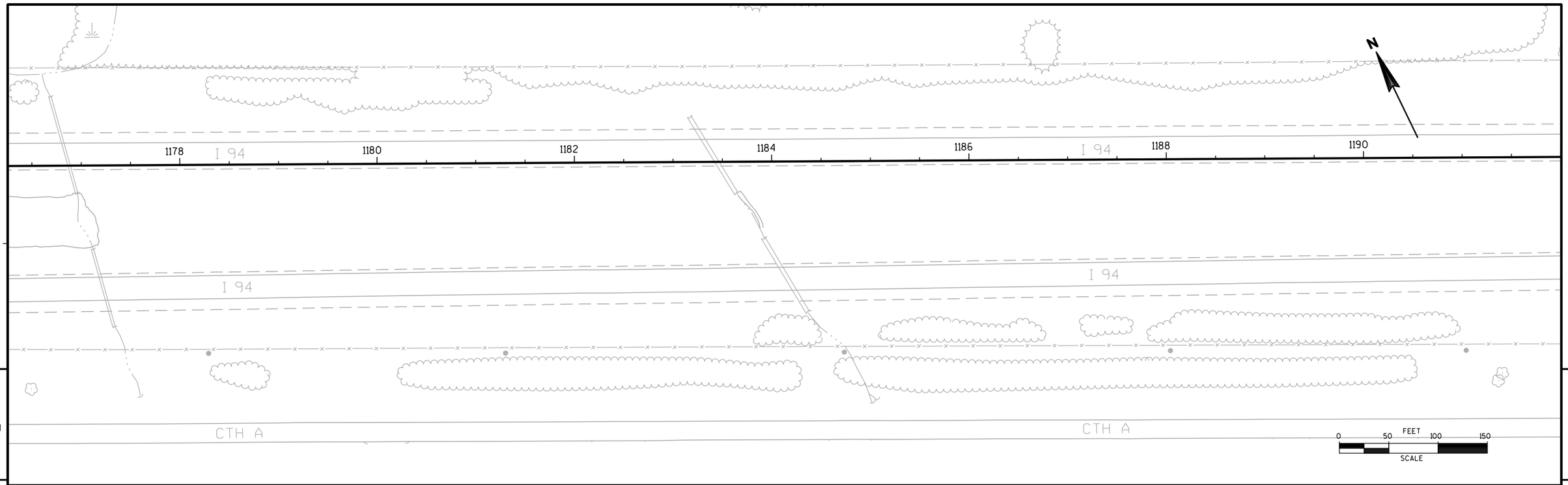
PT 1162+67.670

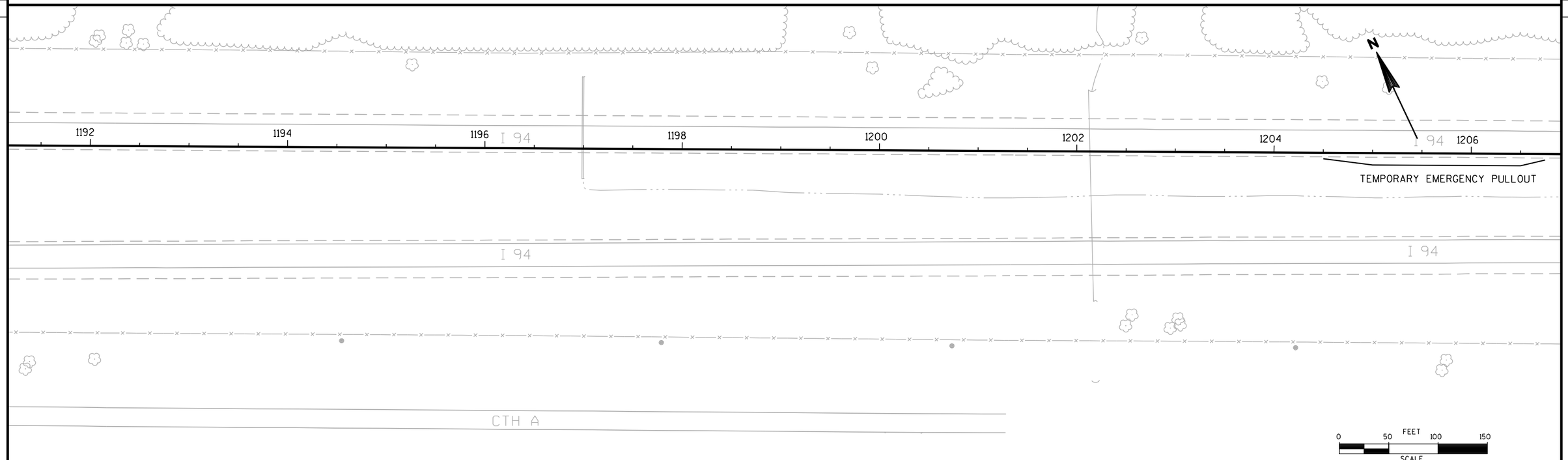
BACK 1165+93.294
AHEAD 1166+16.000

TEMPORARY EMERGENCY PULLOUT

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\021202_WB2013TEP.DGN PLOT DATE : 29-OCT-2012 12:16 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1





PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO: E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\021202_WB2013TEP.DGN PLOT DATE : 29-OCT-2012 12:16 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

MILE MARKER
1
1
0
STA. 1208+05
2345 WB

1208 1210 1212 1214 I 94 1216 1218 1220

INL

I 94

MILE MARKER
1
1
0
STA. 1207+60
11065 EB

N

0 50 FEET 100 150
SCALE

5

5

CHARCOAL RD

POST 1, STA. 1228+17.6

1222 I 94 1224 1226 1228 1230 1232 I 94 1234 1236

POST 1, STA. 1230+36.8

INL

I 94

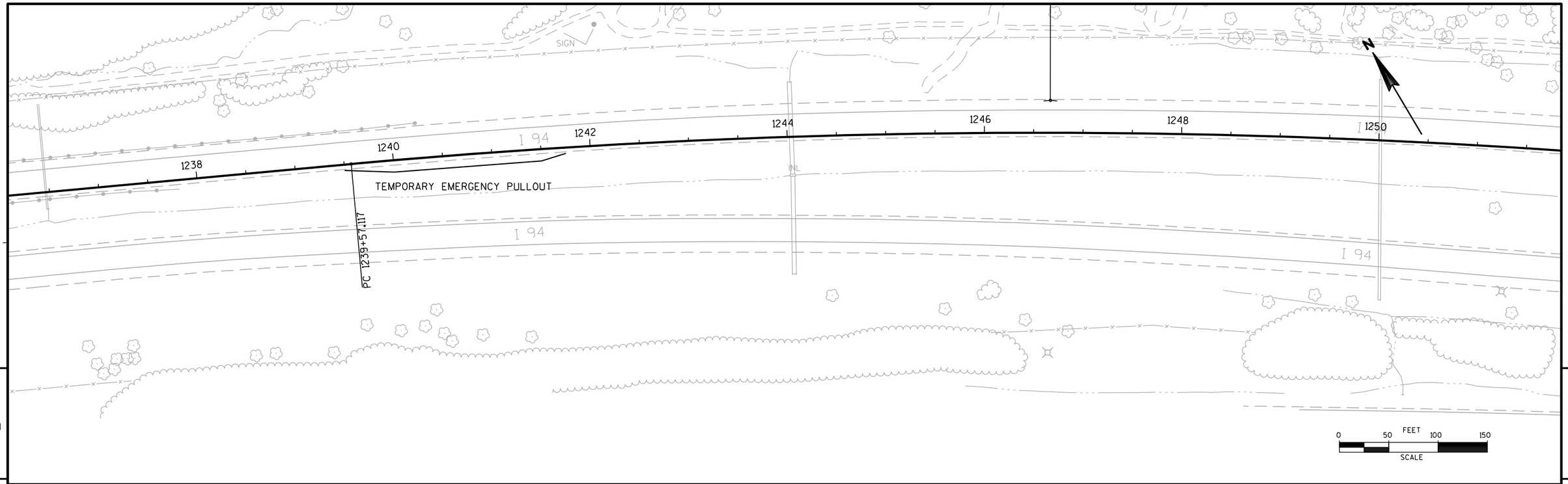
I 94

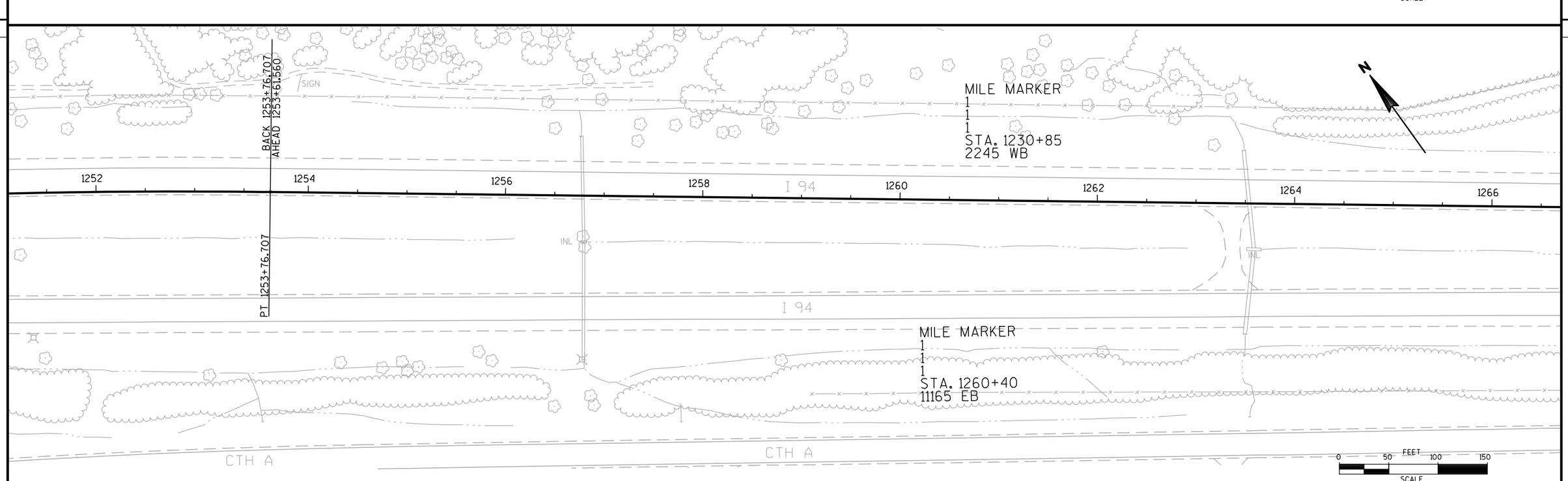
N

0 50 FEET 100 150
SCALE

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO:	E

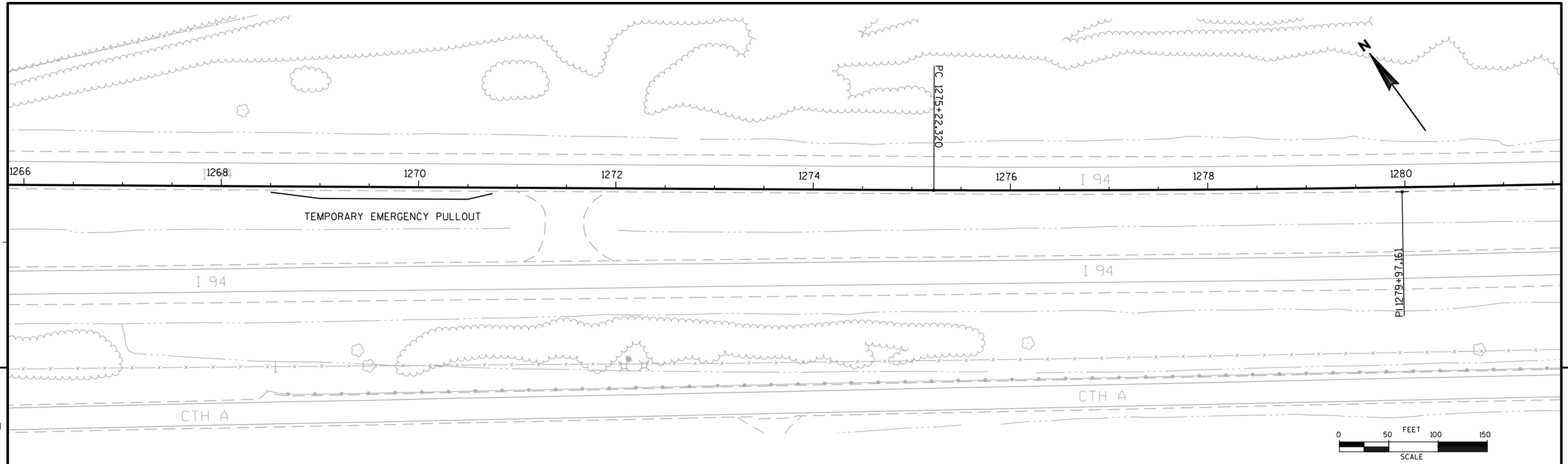
FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\021202_WB2013TEP.DGN PLOT DATE : 29-OCT-2012 12:18 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

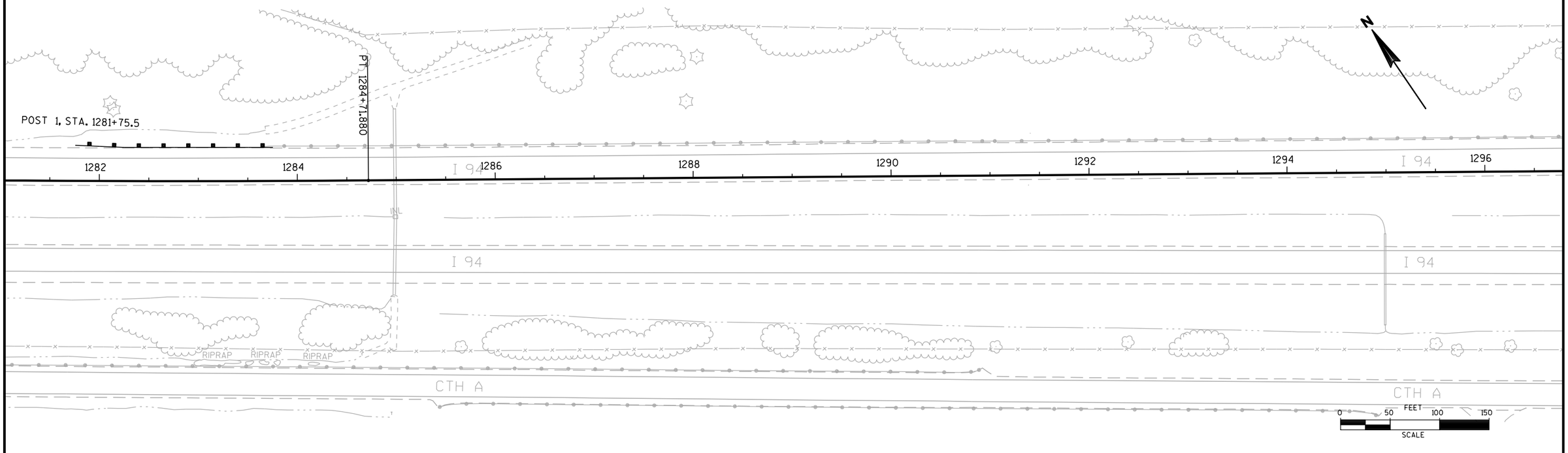




PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO: E

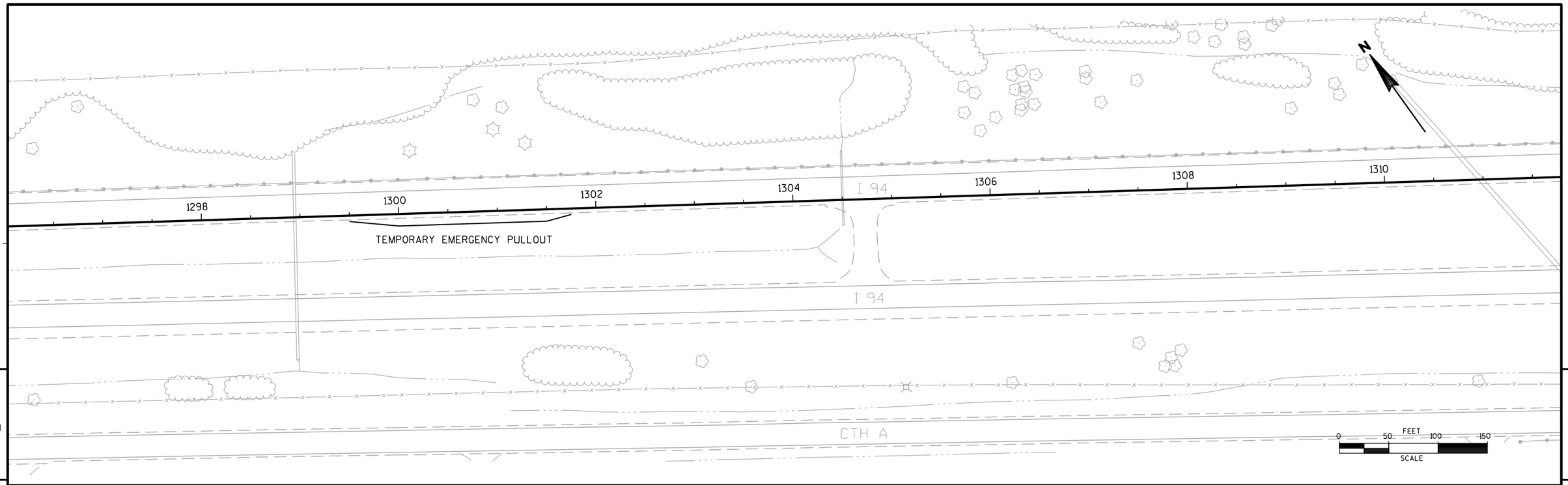
FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\021202_WB2013TEP.DGN PLOT DATE : 29-OCT-2012 12:18 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

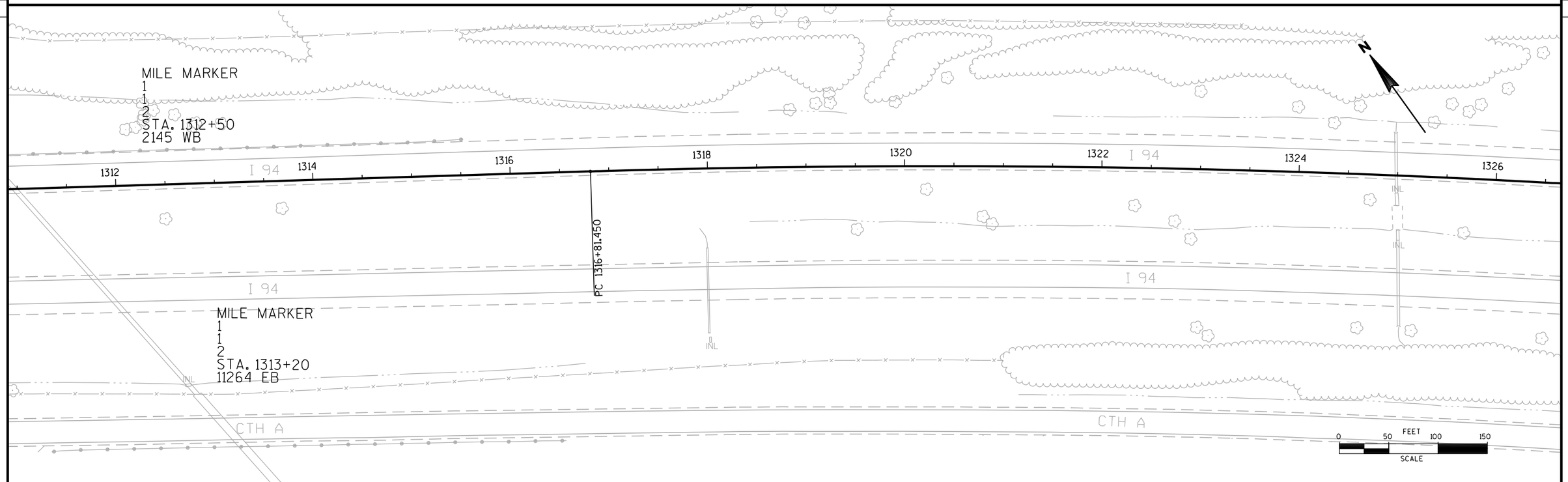




PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\021202_WB2013TEP.DGN PLOT DATE : 29-OCT-2012 12:19 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1





PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\021202_WB2013TEP.DGN PLOT DATE : 29-OCT-2012 12:20 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

POST 1, STA. 1336+90.1

1328 1330 1332 1334 1336 1338 1340

TEMPORARY EMERGENCY PULLOUT

I 94

CTH A

INL

0 50 100 150 FEET

SCALE

BACK 1343+02.278
AHEAD 1342+82.530

1342 1344 1346 1348 1350 1352 1354 1356

PT 1343+02.278

RIPRAP

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO: E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\021202_WB2013TEP.DGN PLOT DATE : 29-OCT-2012 12:21 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

MILE MARKER
1
1
3
STA. 1365+10
2045 WB

1356 1358 1360 1362 1364 1366 1368 1370

I 94

TEMPORARY EMERGENCY PULLOUT

INL

PI 1365+00.000

I 94

MILE MARKER
1
1
3
STA. 1365+50
11364 EB

CTH A

CTH A

N

0 50 100 150 FEET
SCALE

5

5

PC 1374+04.386

1372 1374 1376 1378 1380 1382 1384 1386

POST 1, STA. 1374+74.1

I 94

POST 1, STA. 1385+01

POST 1, STA. 1384+63

INL

PI 1383+61.342

CTH A

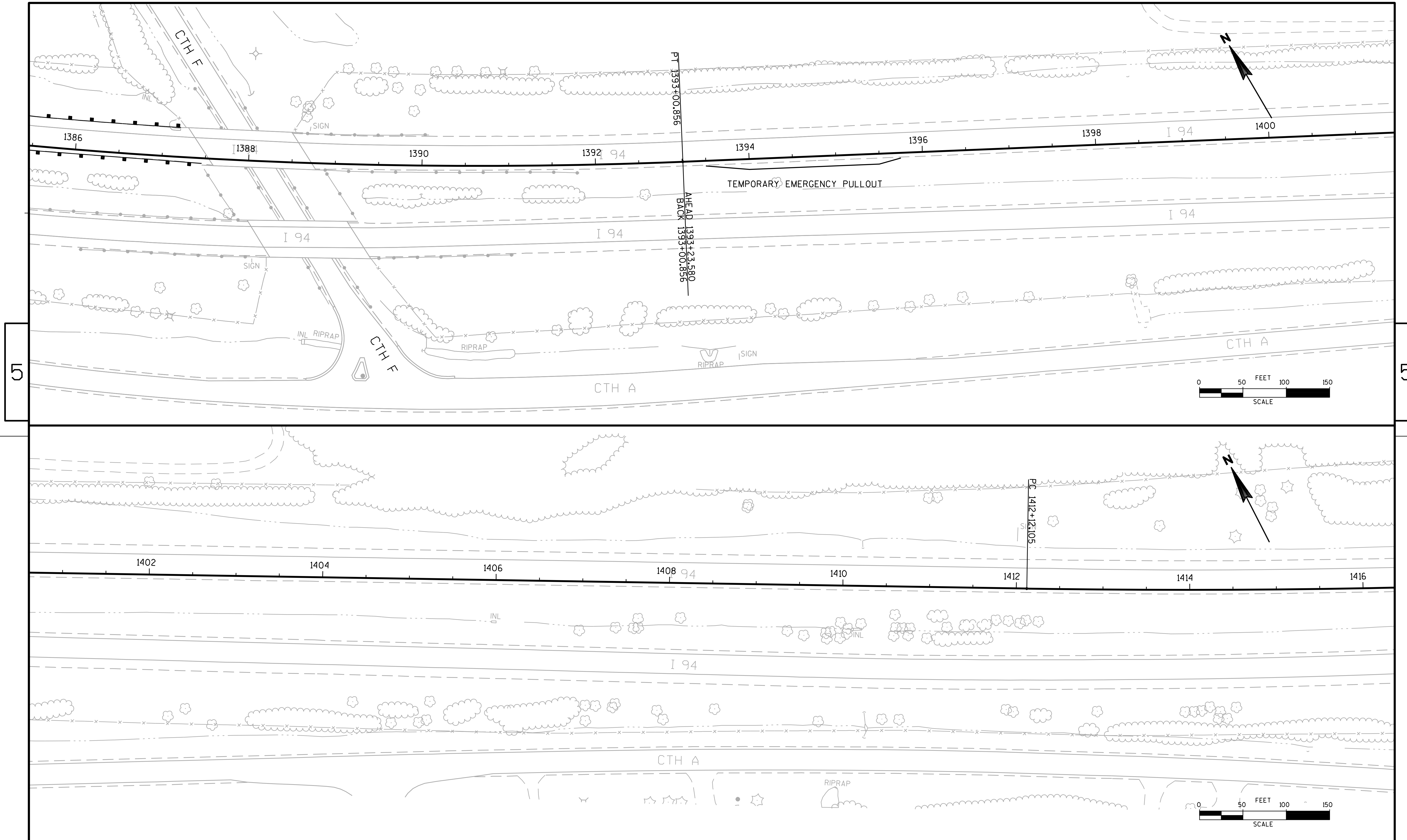
CTH A

N

0 50 100 150 FEET
SCALE

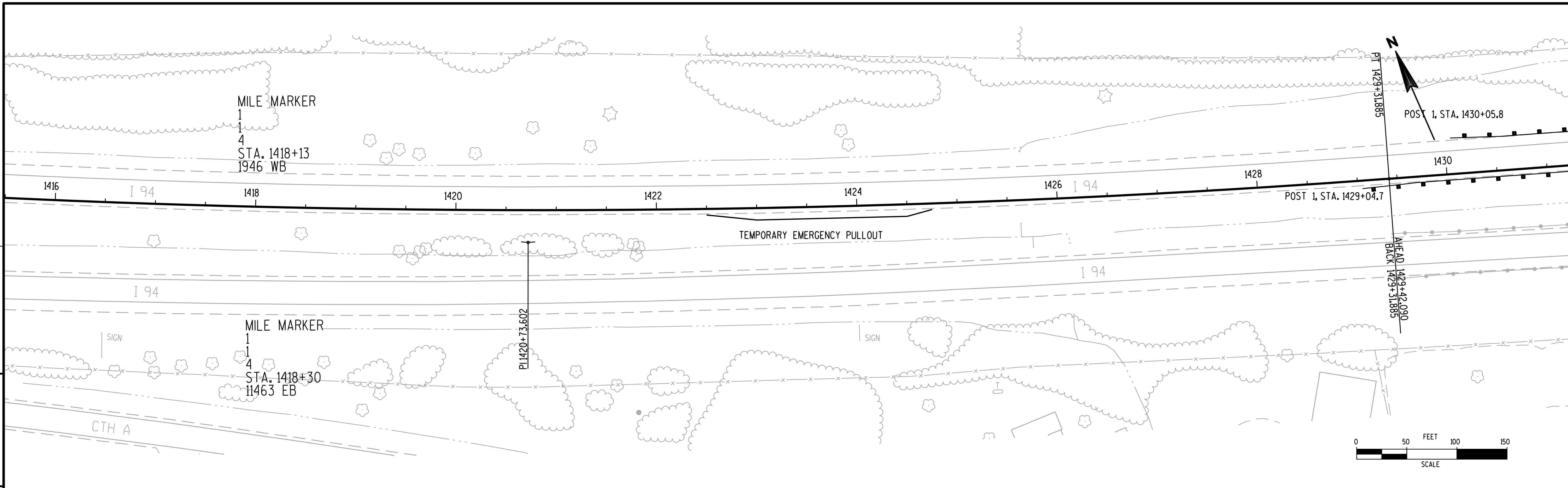
PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO:	E

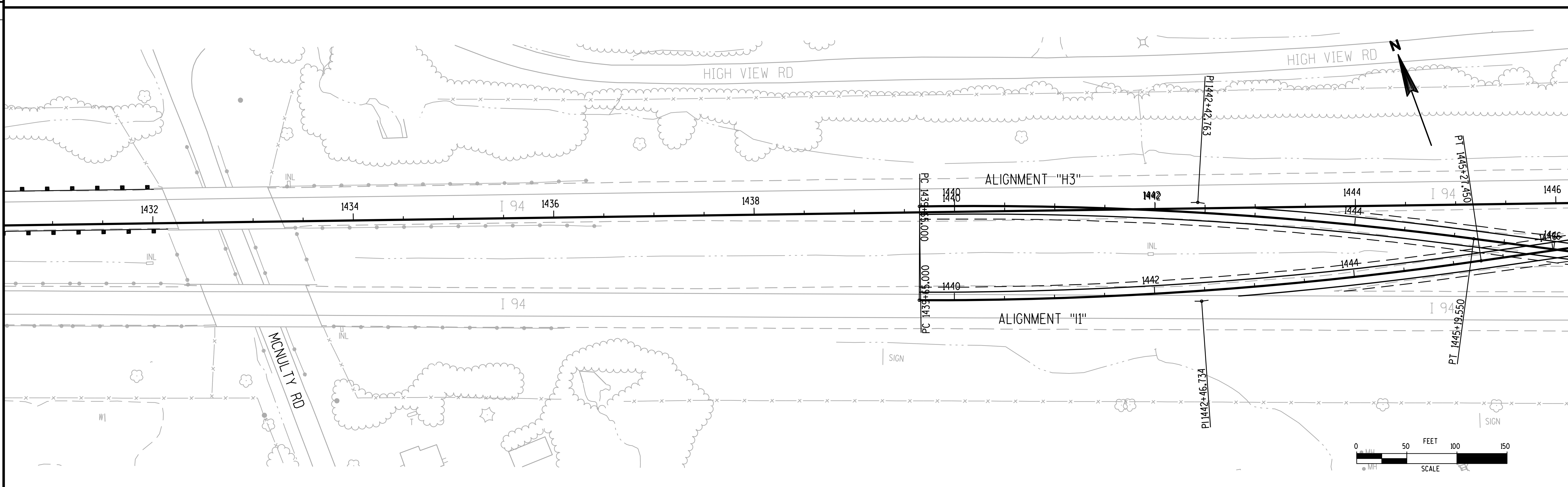
FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\021202_WB2013TEP.DGN PLOT DATE : 29-OCT-2012 12:21 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1



PROJECT NO: 1023-04-82 | HWY: IH 94 | COUNTY: JACKSON | PLAN SHEETS: WEST BOUND | SHEET NO: E

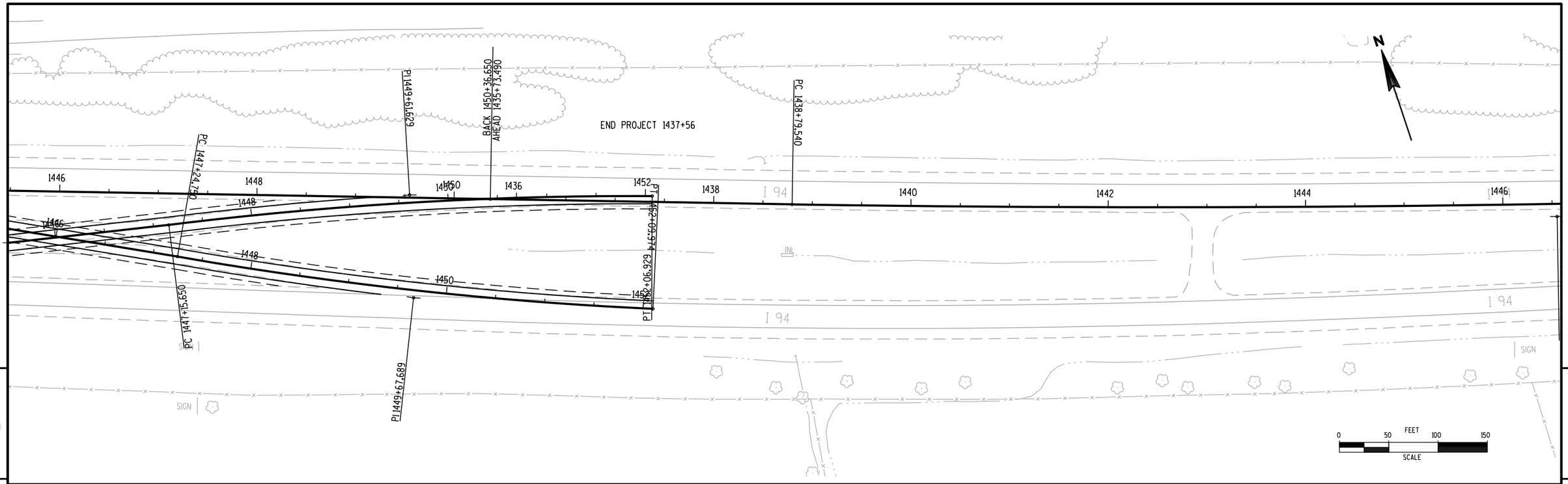
FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\021202_WB2013TEP.DGN PLOT DATE : 29-OCT-2012 12:22 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

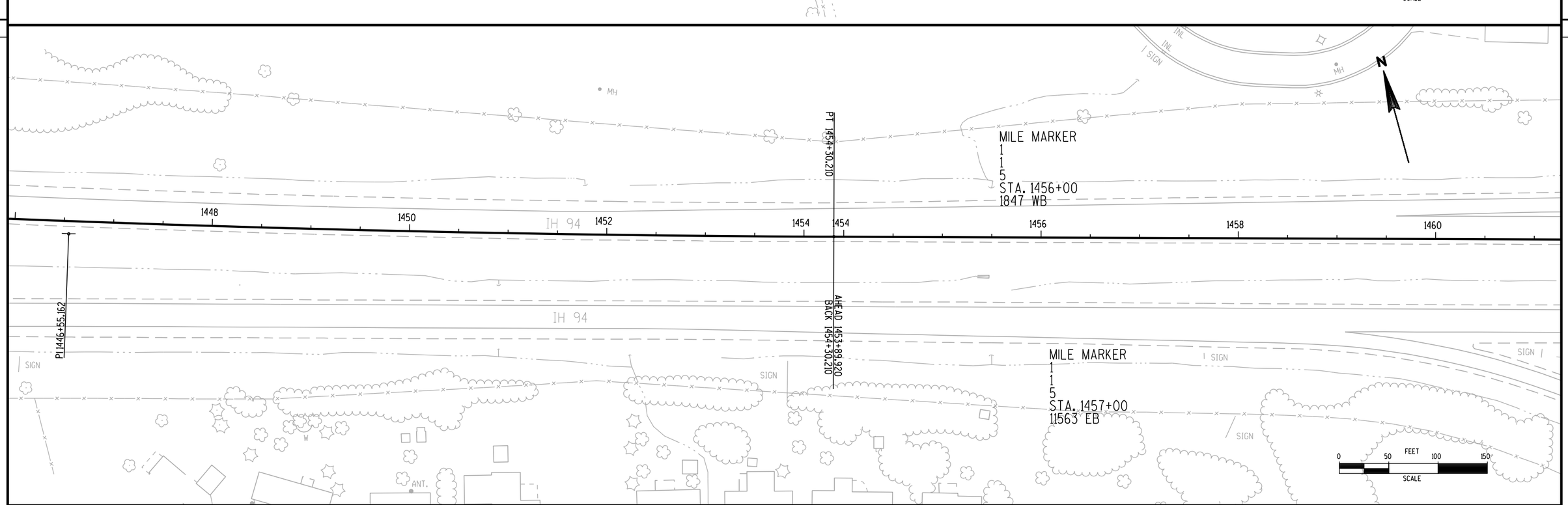




PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\PL33_34.DGN PLOT DATE : 30-NOV-2012 13:32 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1





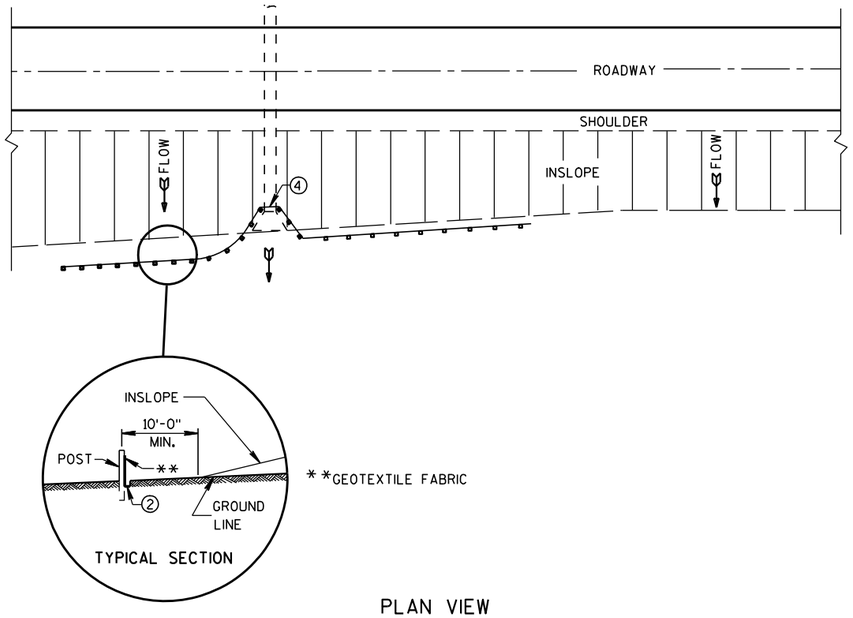
PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	PLAN SHEETS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\PLAN SHEETS\PL35_36.DGN PLOT DATE : 30-NOV-2012 13:34 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

Standard Detail Drawing List

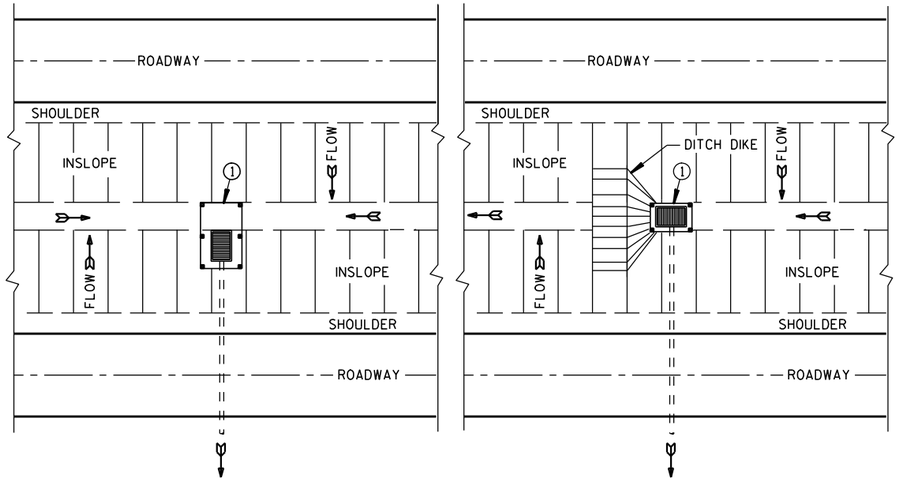
08E09-06	SILT FENCE
14B15-07A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B18-06B	STEEL PLATE BEAM GUARD, CLASS "A" AT MEDIAN APPROACH TO BRIDGES
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B24-07A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15D05-02	TRAFFIC CONTROL, SINGLE LANE CROSSOVER ENTRANCE WITH BARRIER
15D07-03	TRAFFIC CONTROL, TEMPORARY EXIT RAMP CROSSOVER
15D08-03	TRAFFIC CONTROL, TEMPORARY ENTRANCE RAMP CROSSOVER
15D10-02	TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT WITH BARRIER
15D11-03	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D12-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D13-01	TEMPORARY EMERGENCY PULLOUTS
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D27-01	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

6



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



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.

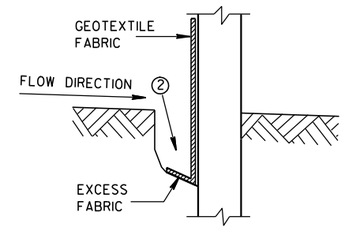
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

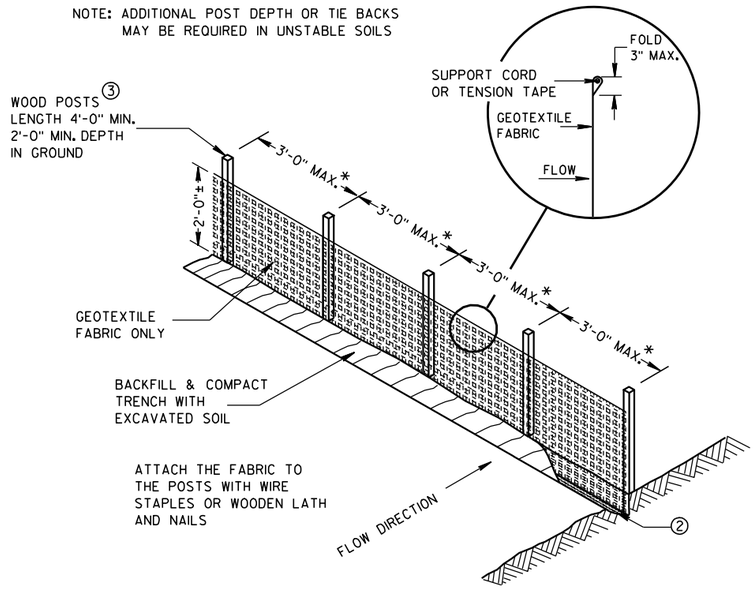
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

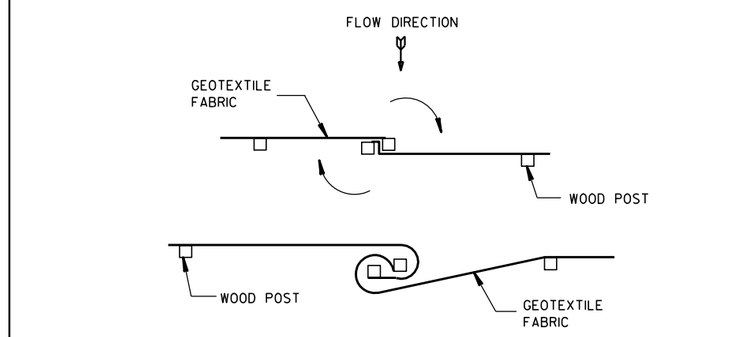


TRENCH DETAIL

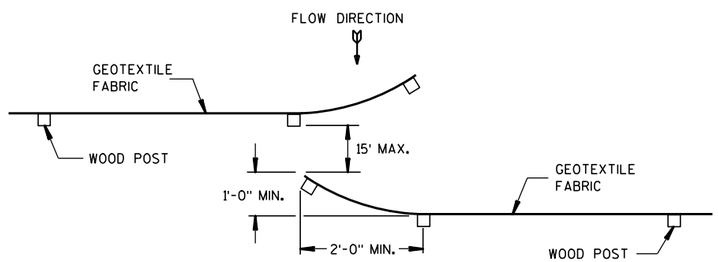


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

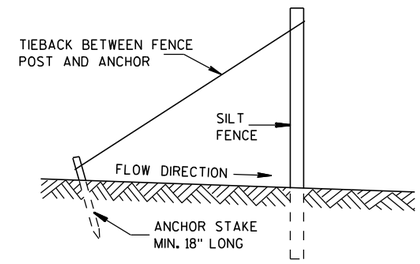


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

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.

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

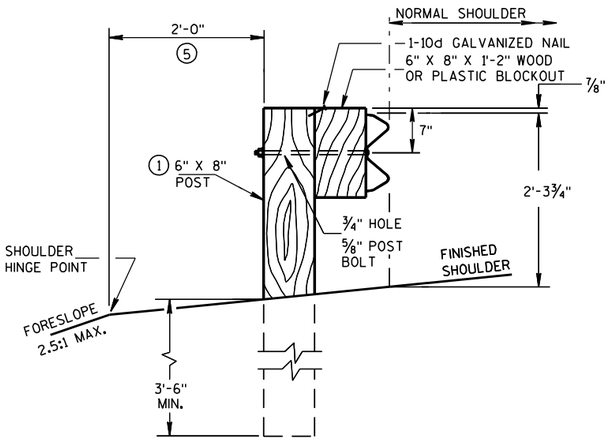
(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

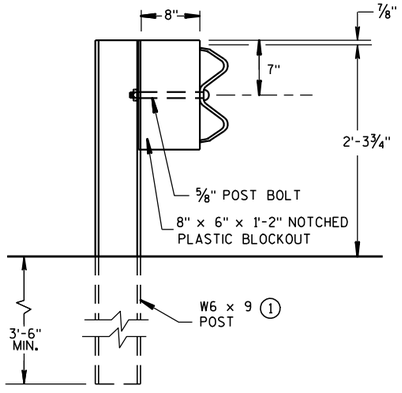
(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

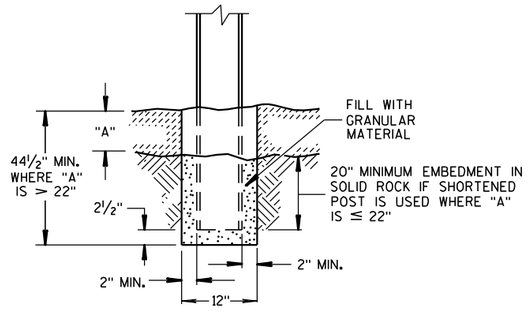
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



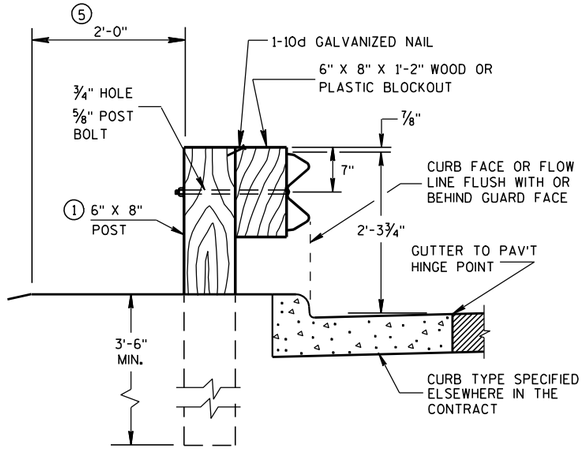
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



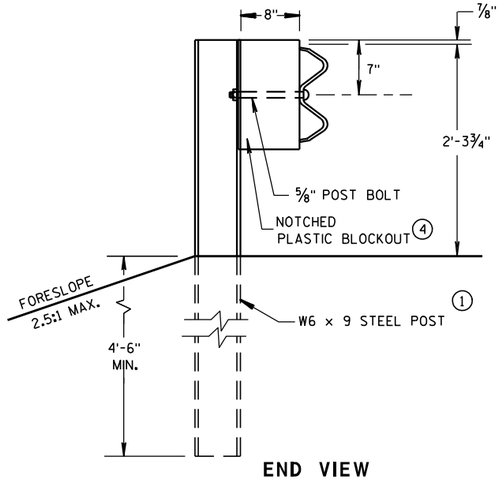
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



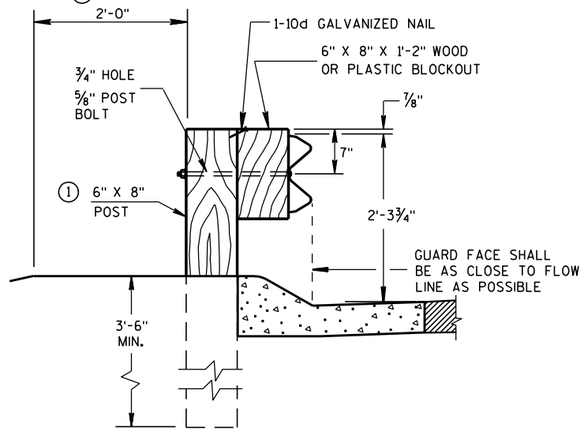
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



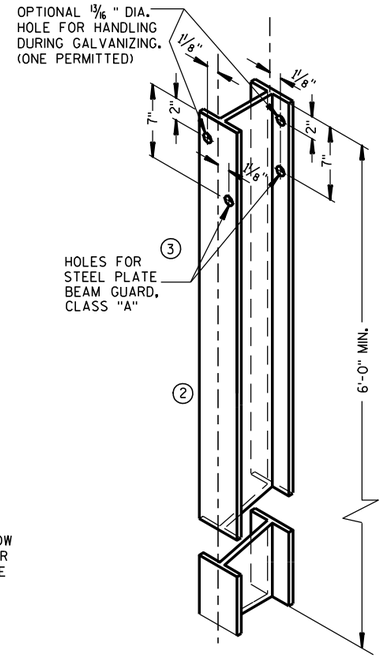
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

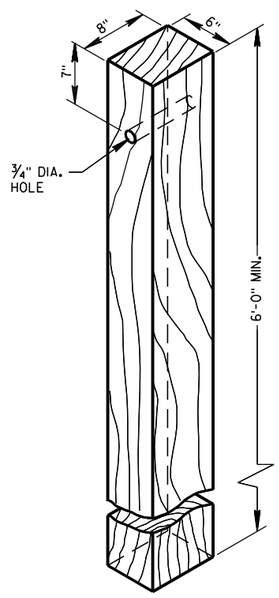


END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

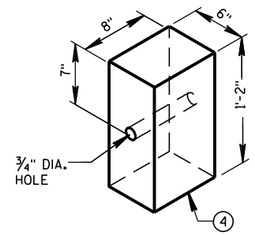


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

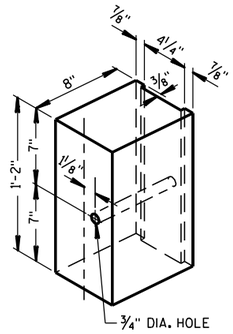
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



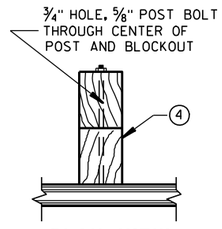
WOOD POST
(6"X8") NOMINAL



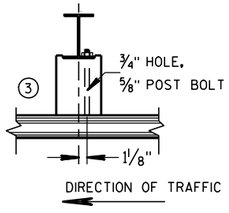
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



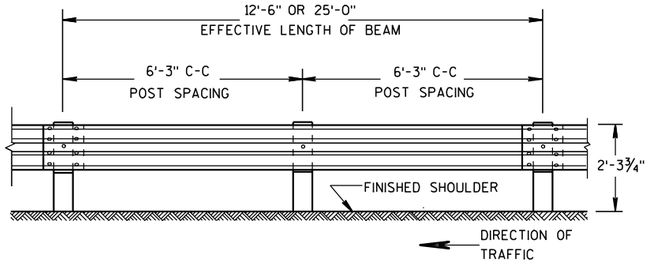
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

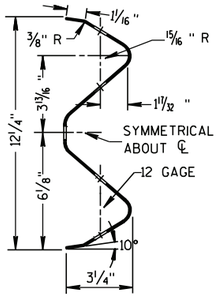
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

6
S.D.D. 14 B 15-7a

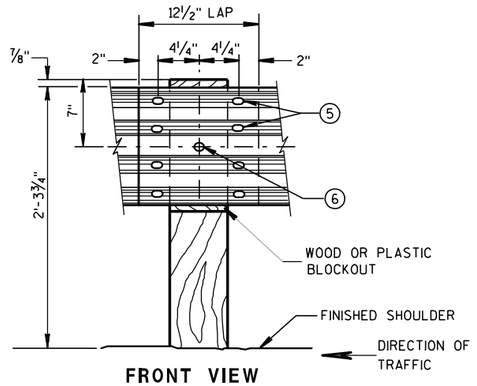


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM

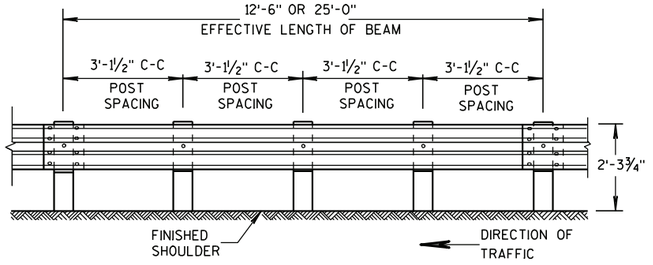


FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

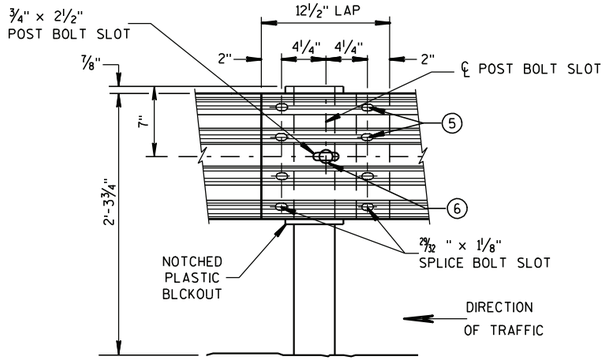
GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 8 - 5/8" ϕ X 2 " BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
6. 5/8" ϕ X 1'-6" BUTTON HEAD BOLT AND AND RECESS NUT WITH ROUND WASHER UNDER NUT.



FRONT VIEW

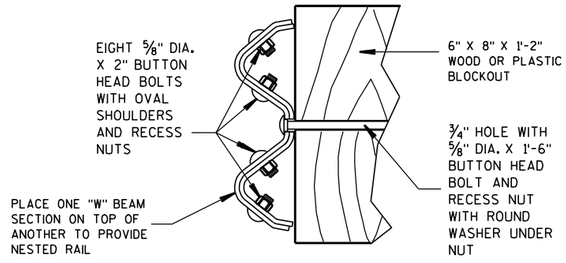
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

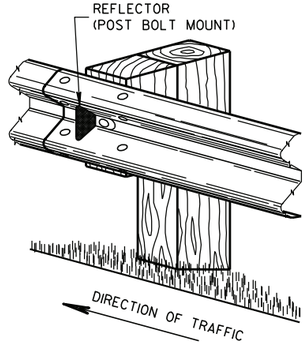


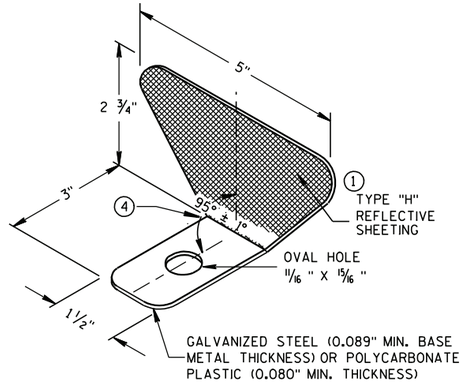
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (2)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (3)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (4)	



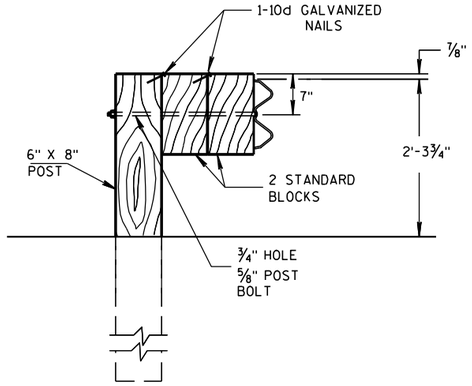


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

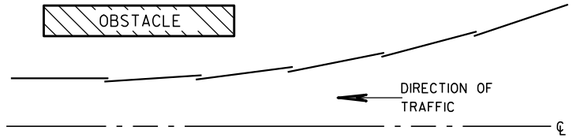
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 15-7b

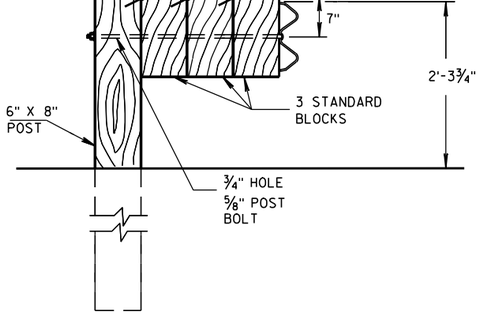


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

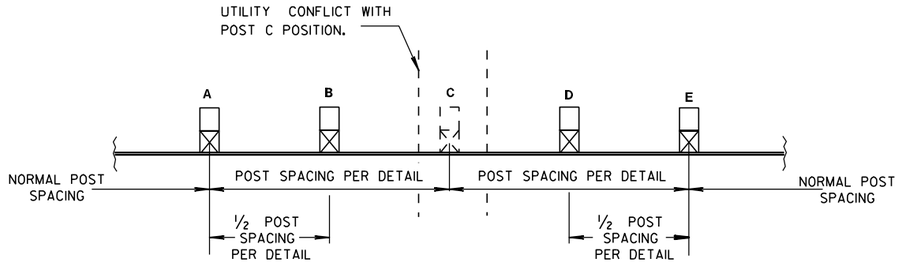


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

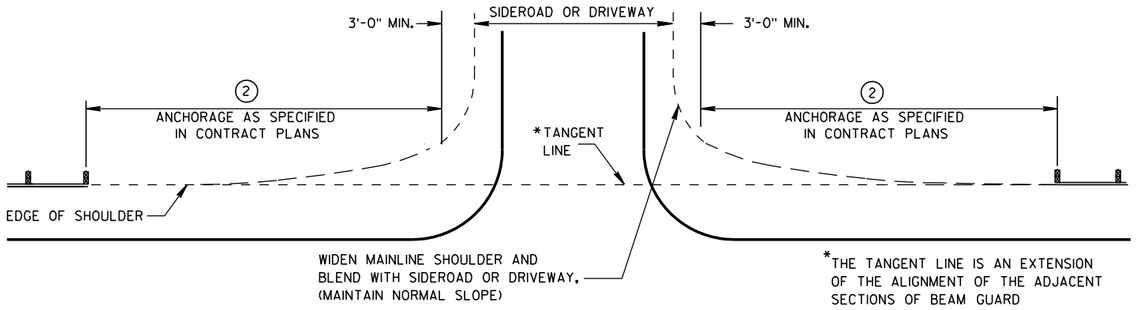
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

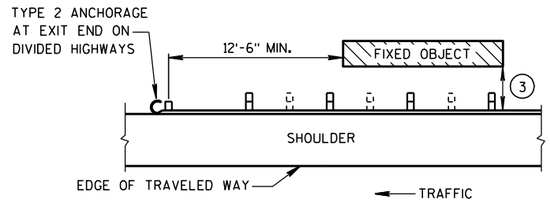
5/23/11	/S/ Jerry H. Zogg	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

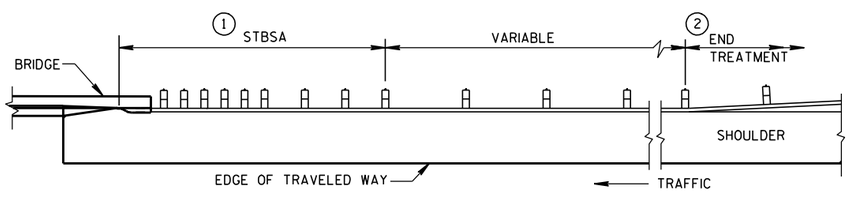
6
S.D.D. 14 B 15-7c



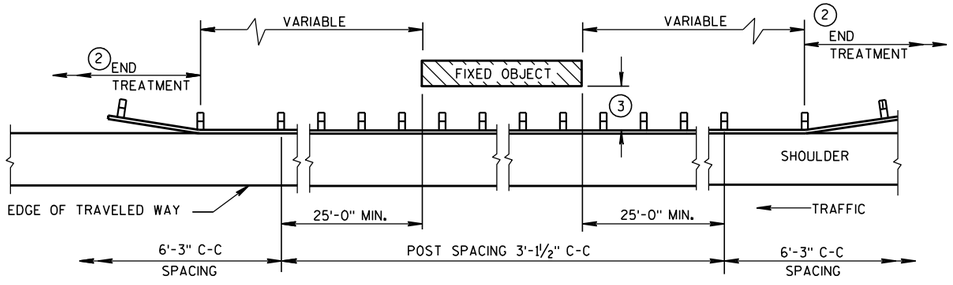
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

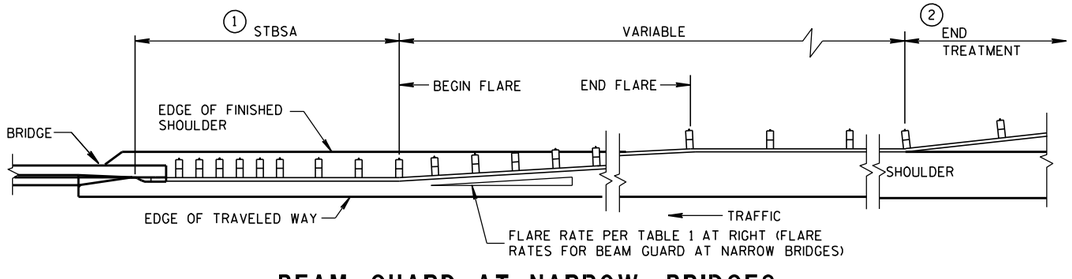


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-21-07
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

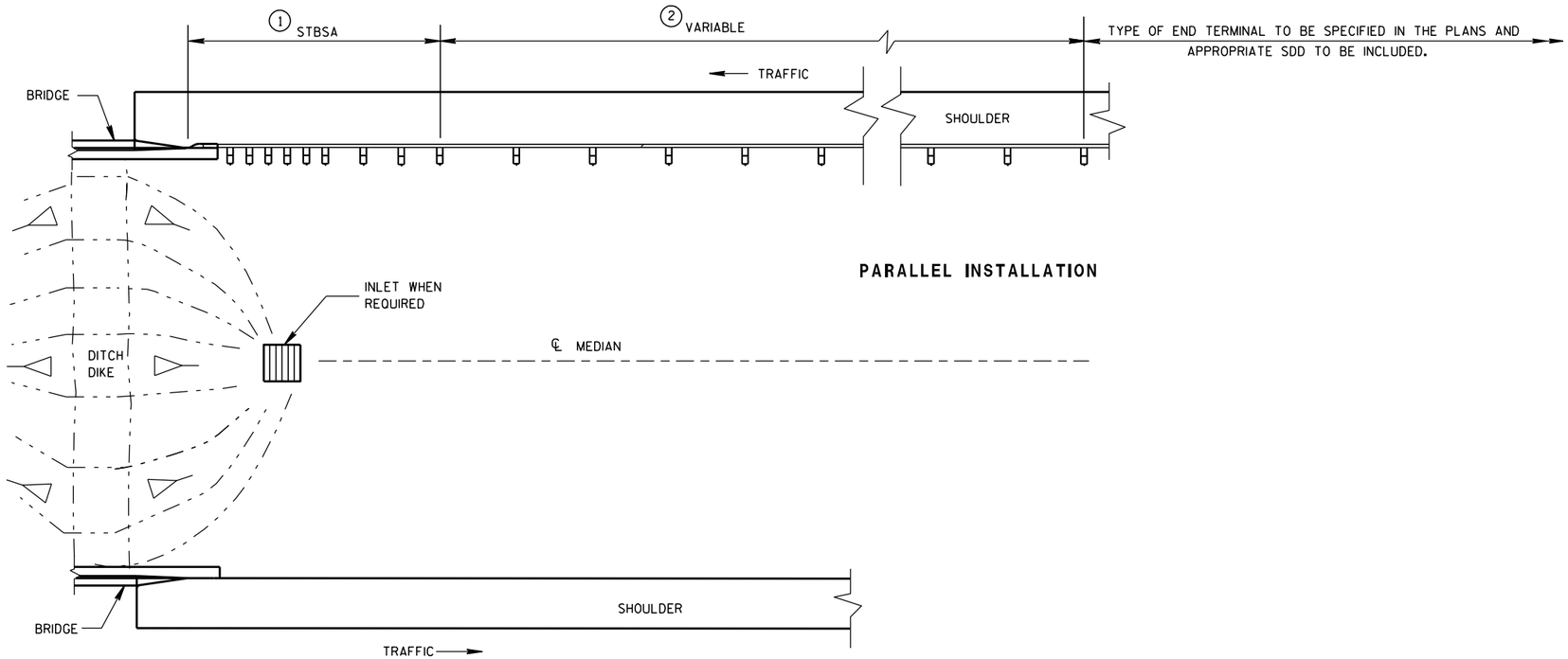
FHWA

6

S.D.D. 14 B 18-6a

GENERAL NOTES

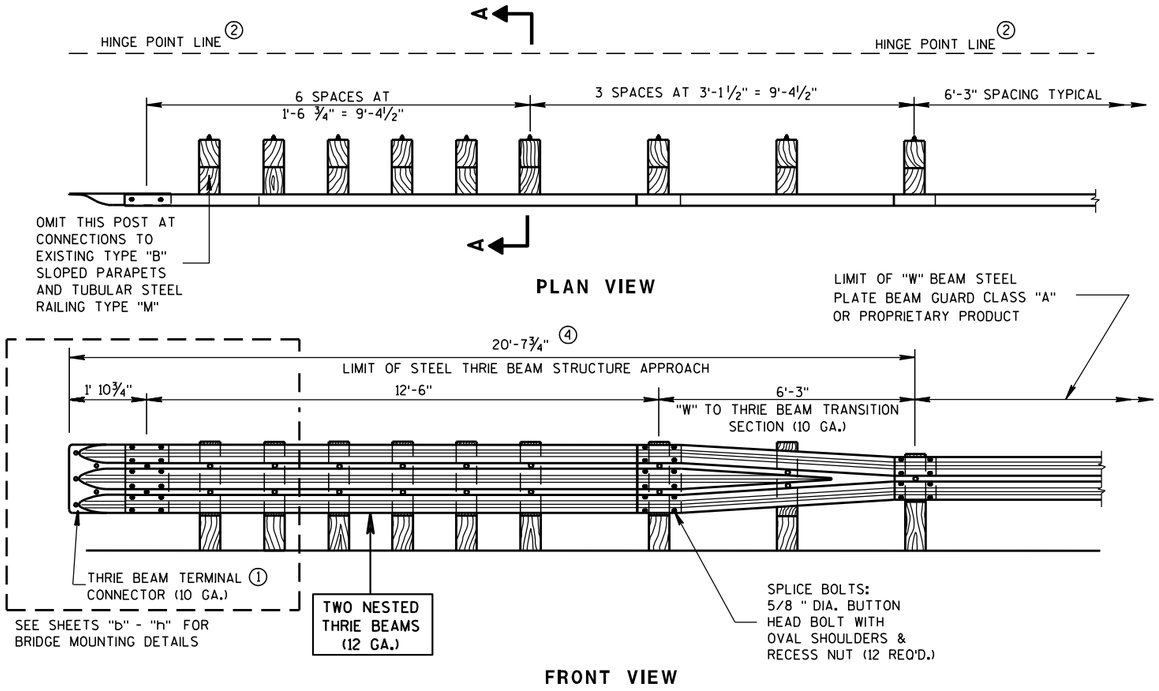
1. STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
2. LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.



PARALLEL INSTALLATION

BEAM GUARD AT MEDIAN APPROACH TO BRIDGES

STEEL PLATE BEAM GUARD CLASS "A" AT MEDIAN APPROACH TO BRIDGES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8-21-07 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



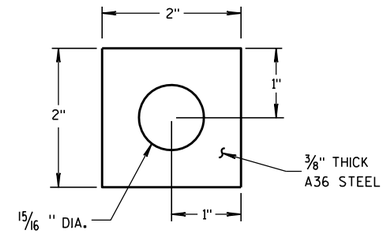


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

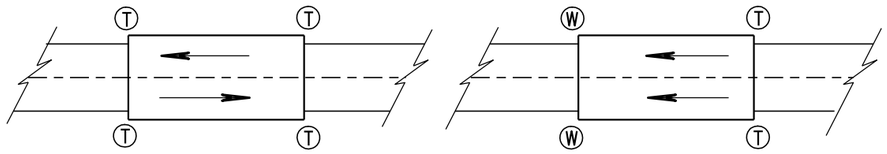
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



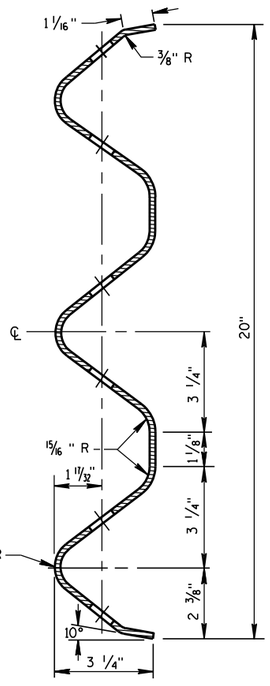
TWO WAY TRAFFIC

ONE WAY TRAFFIC

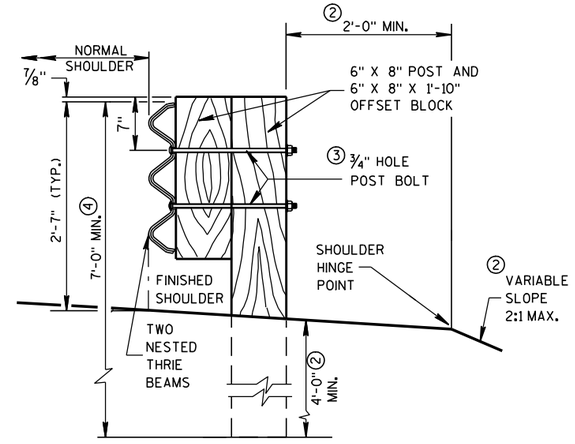
(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

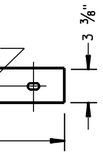
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

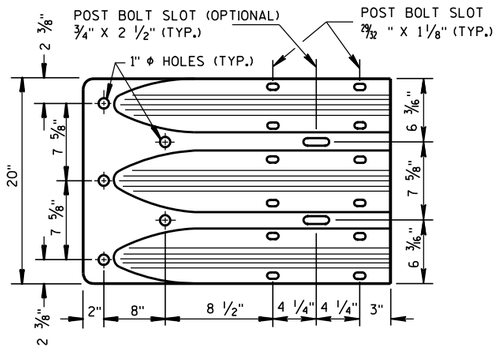


SECTION THRU THRIE BEAM RAIL ELEMENT

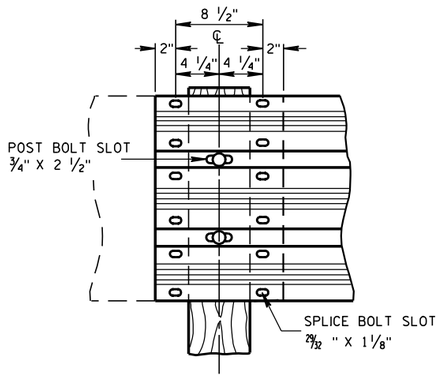


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



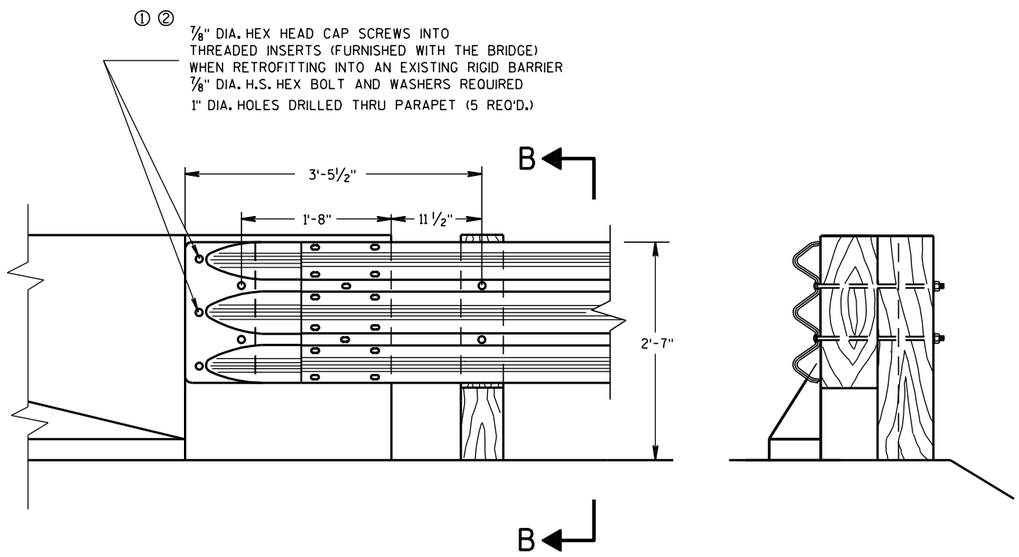
THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

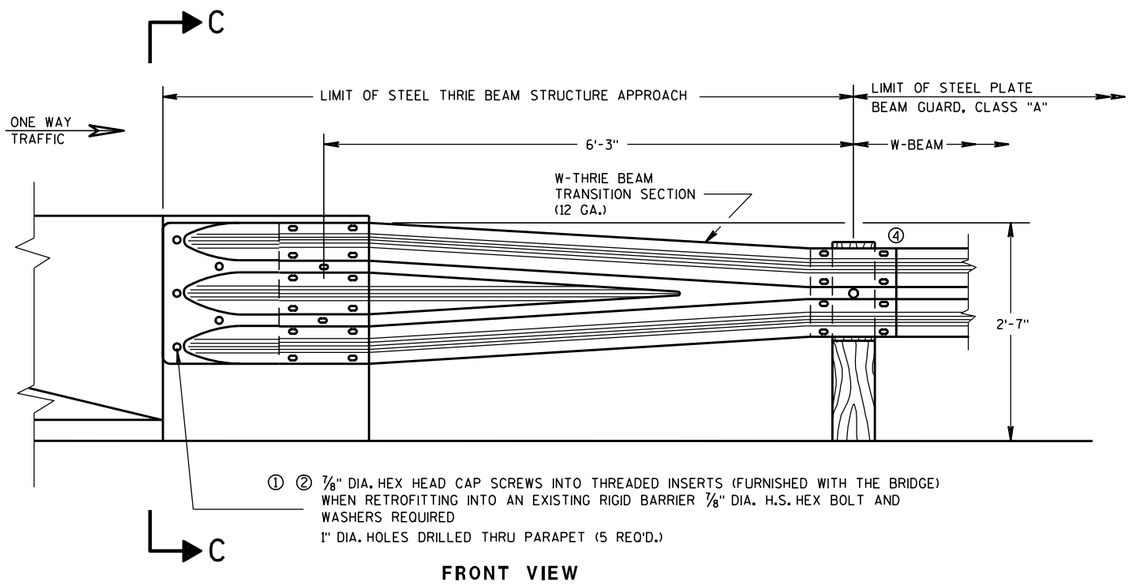
FHWA



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

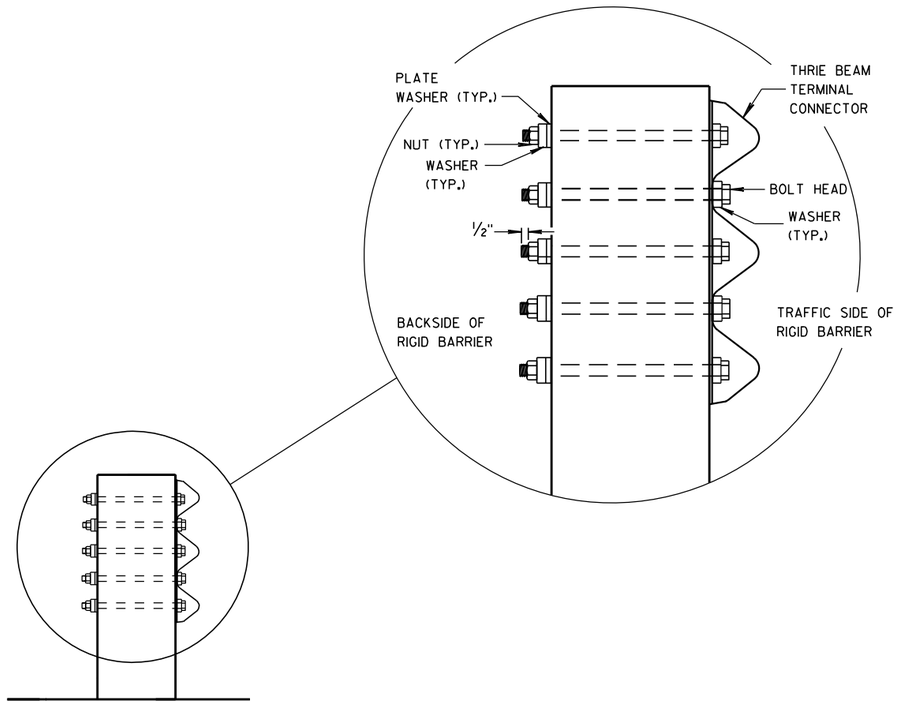
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



SECTION C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS [52
ENGINEER

FHWA

6

S.D.D. 14 B 20-11b

6

S.D.D. 14 B 20-11b

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

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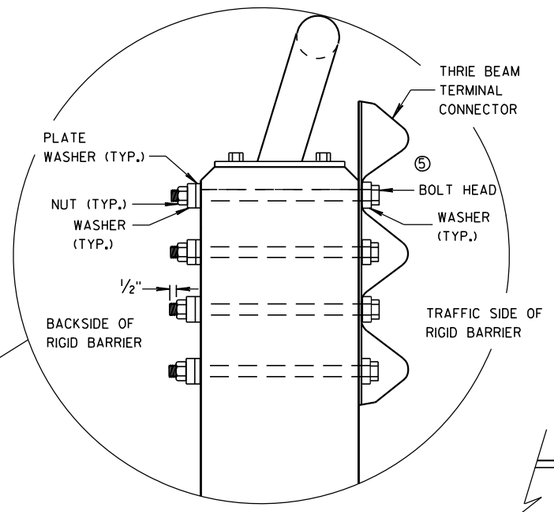
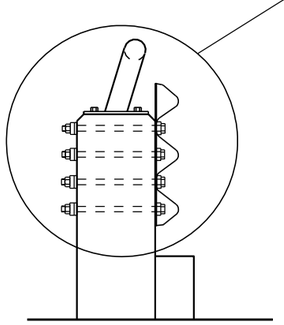
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

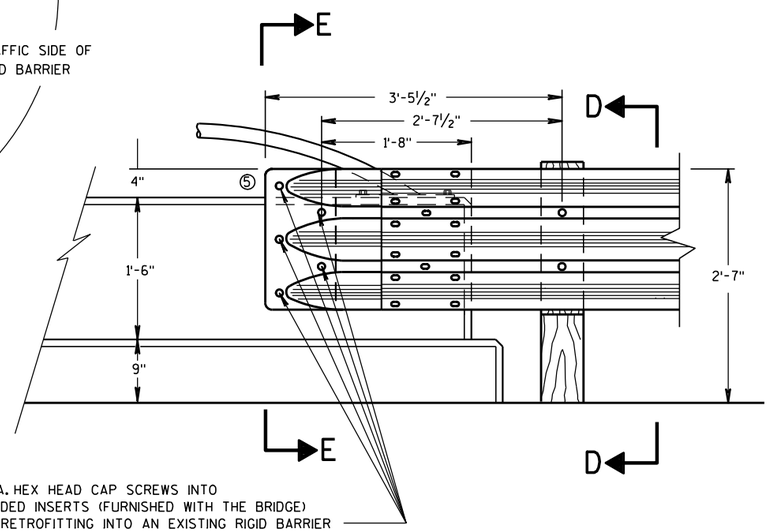
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



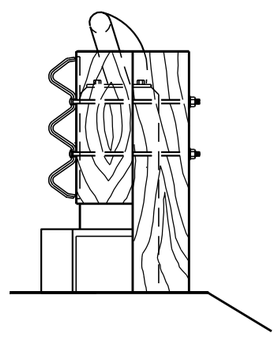


SECTION E-E



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

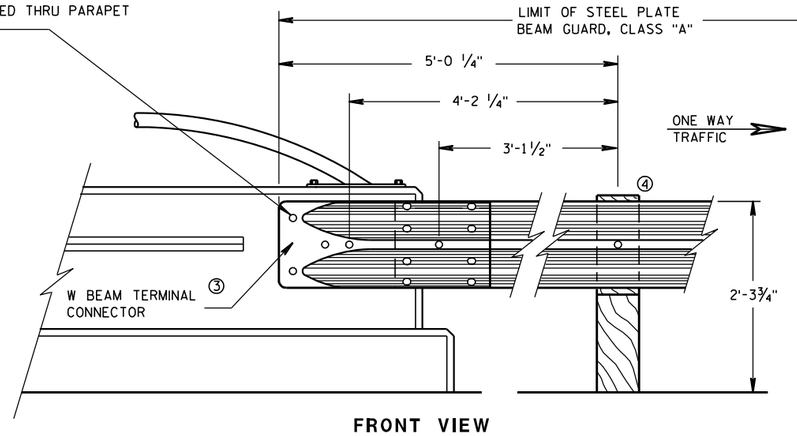
FRONT VIEW



SECTION D-D

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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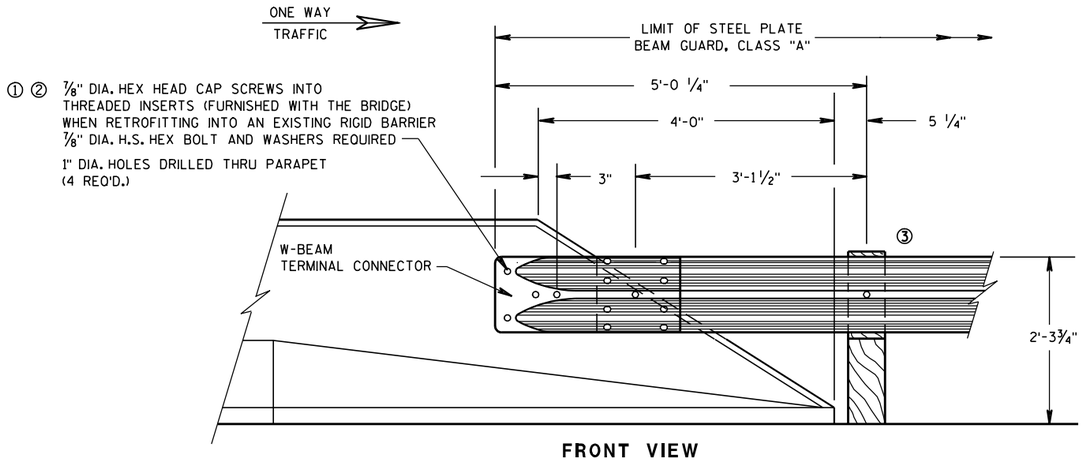


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

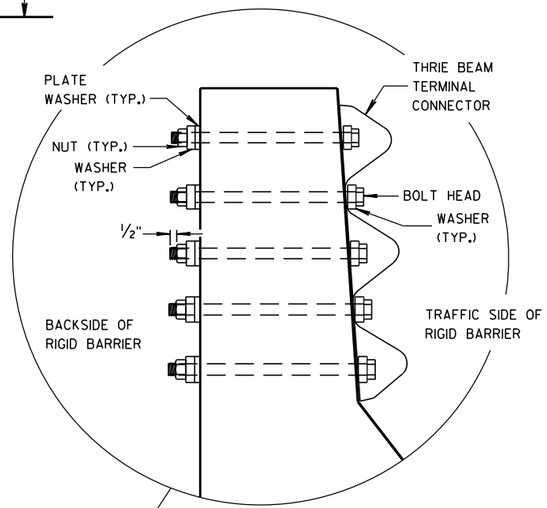
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

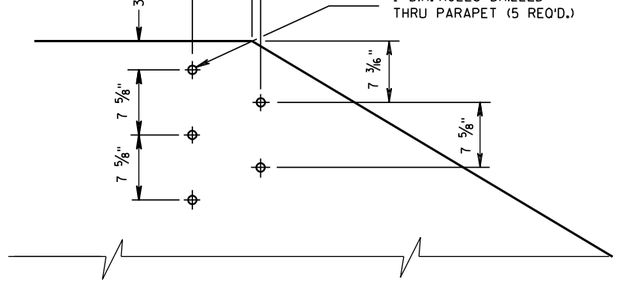
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

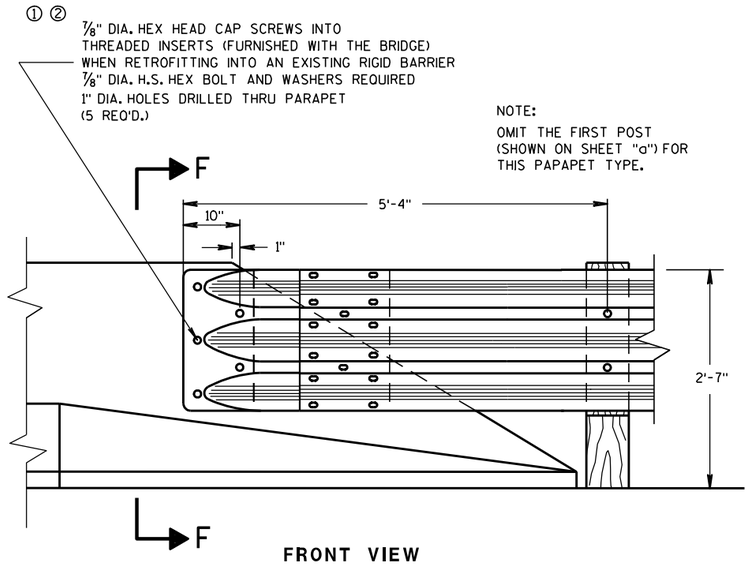
③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

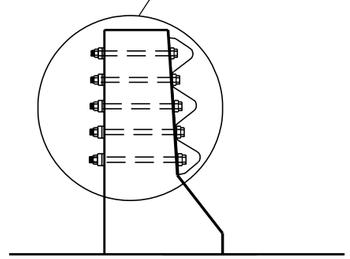




DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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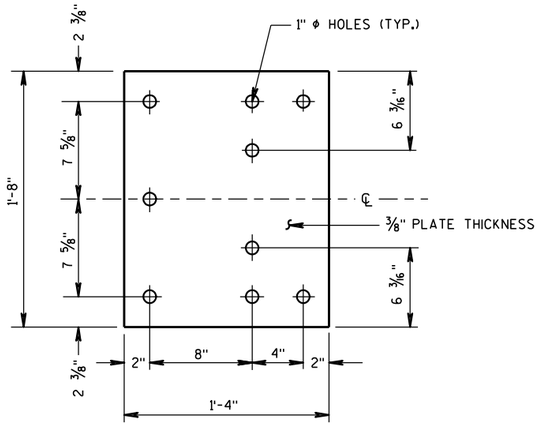
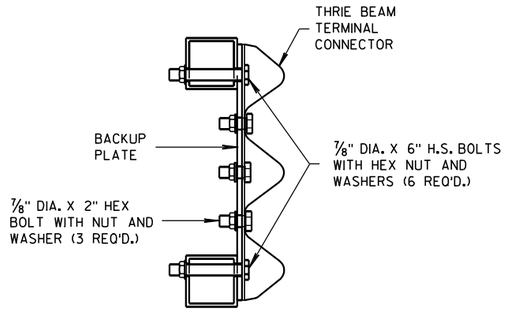


BACK-UP PLATE DETAIL



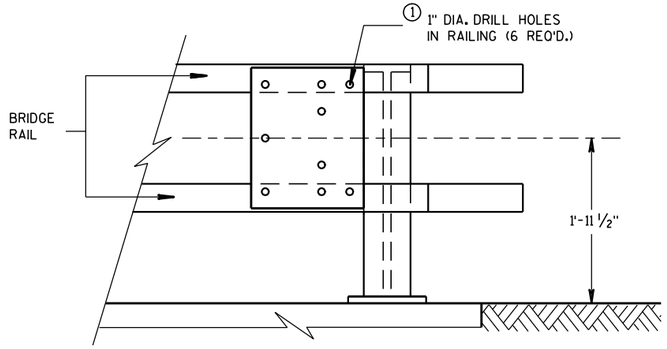
SECTION G-G

GENERAL NOTES

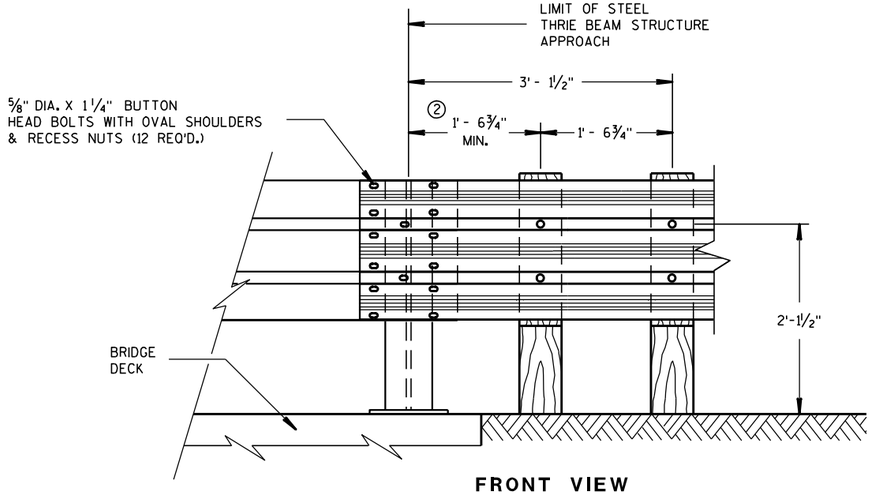
BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.

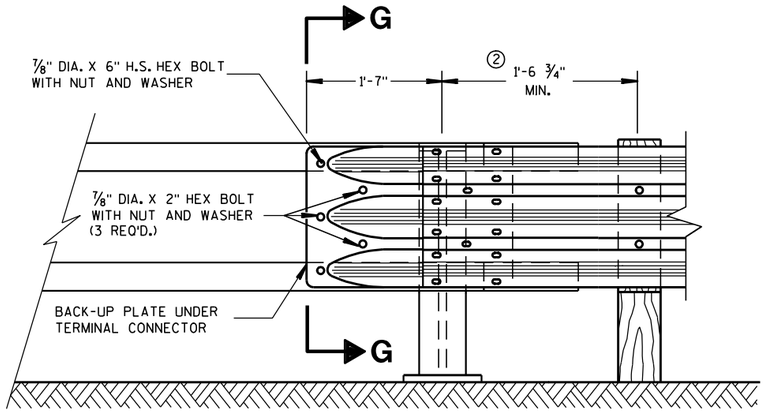


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

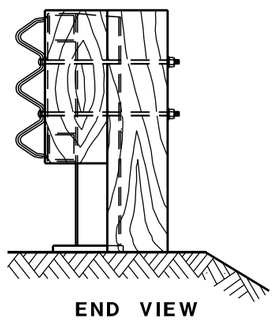


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



END VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"

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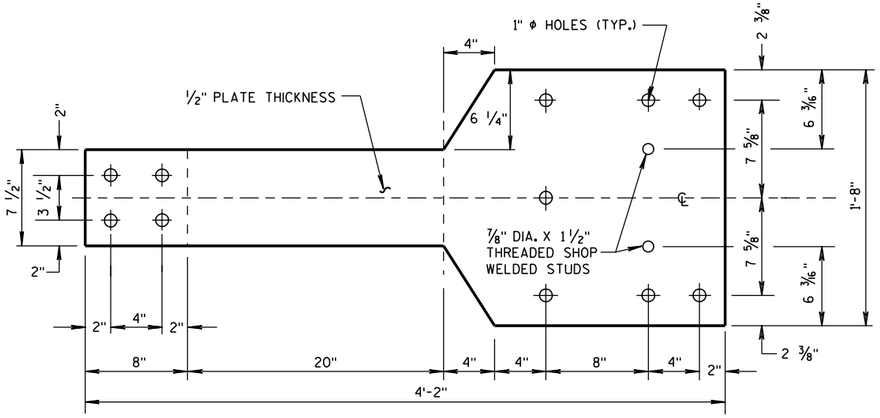
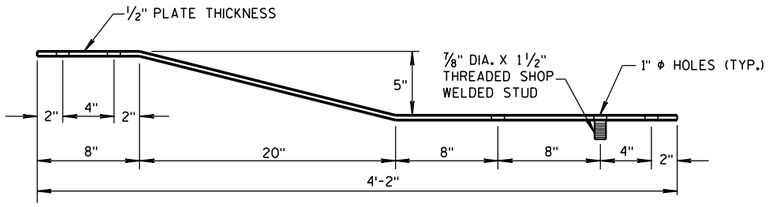
GENERAL NOTES

① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.



FRONT VIEW



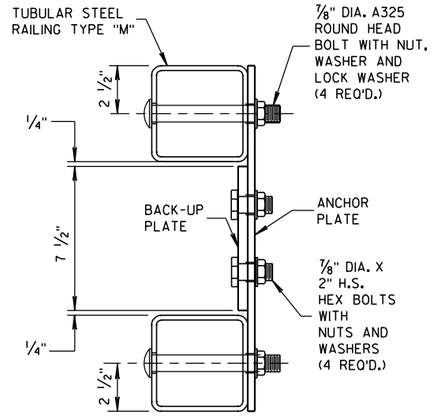
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

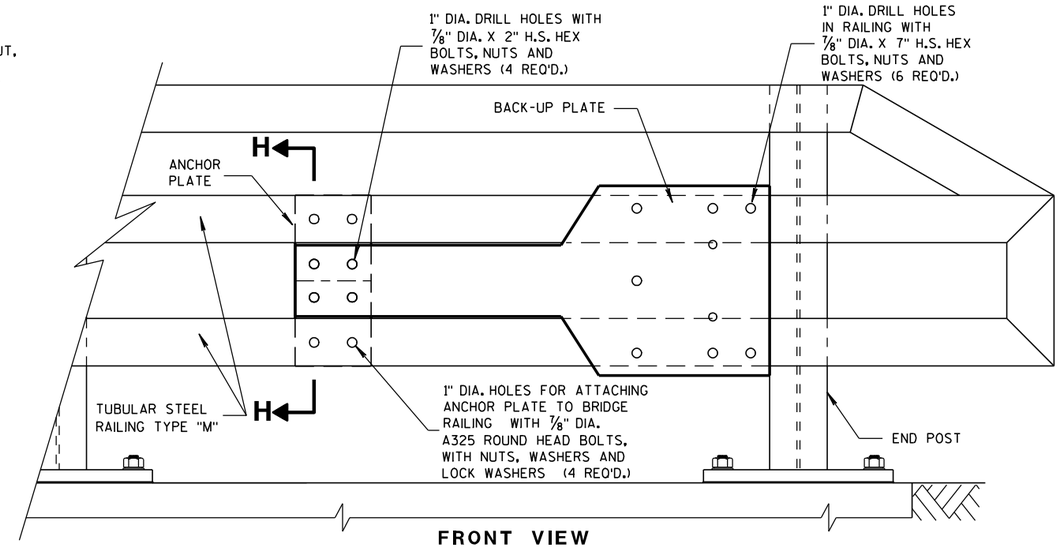
FRONT VIEW

ANCHOR PLATE DETAIL, TYPE "M"

SECTION I-I

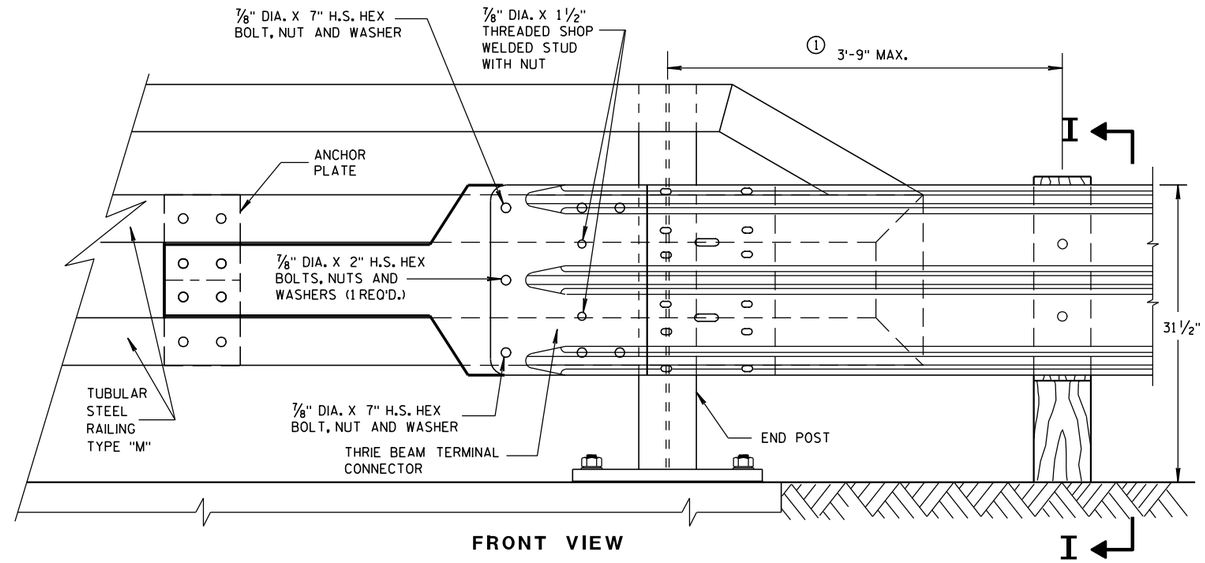


SECTION H-H

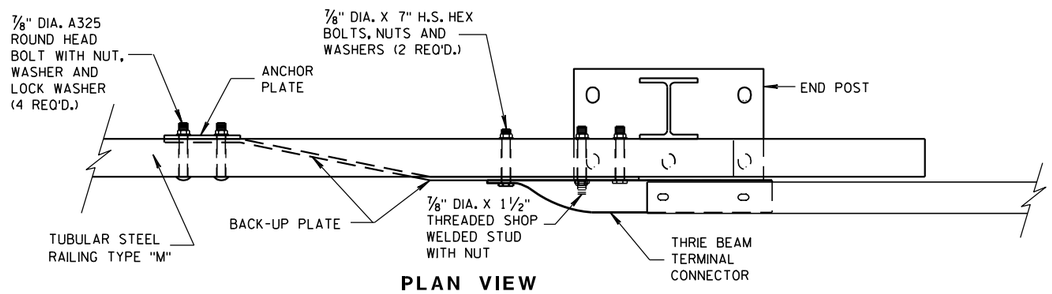


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"

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GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

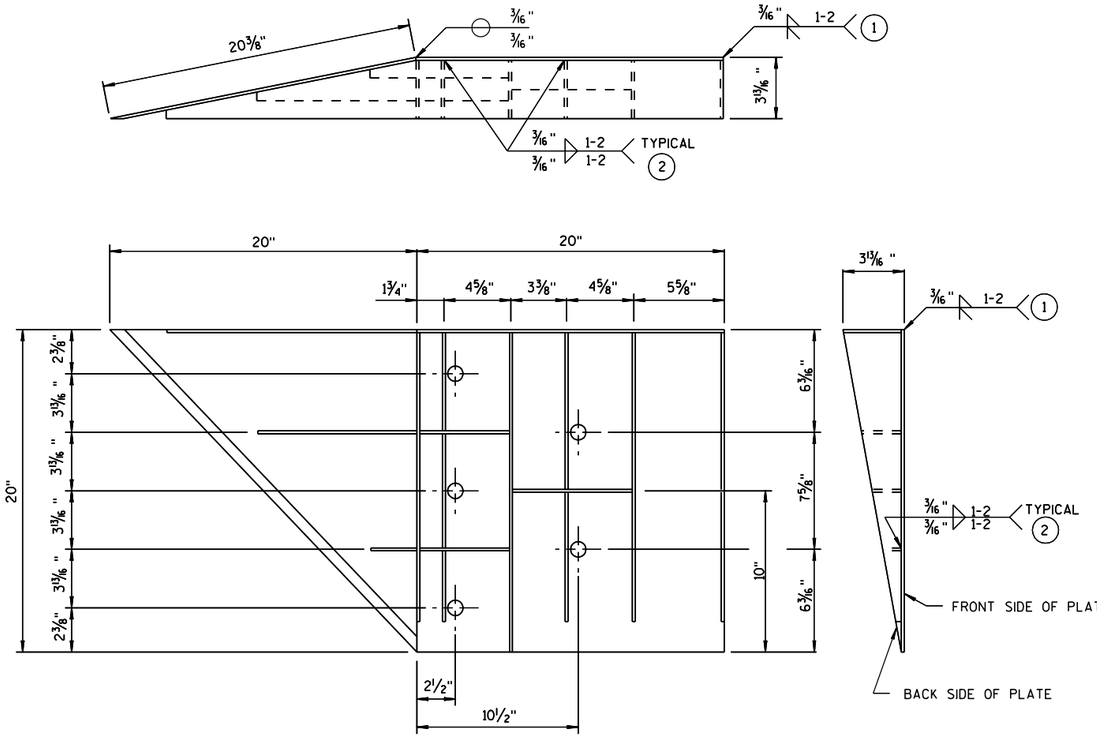
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

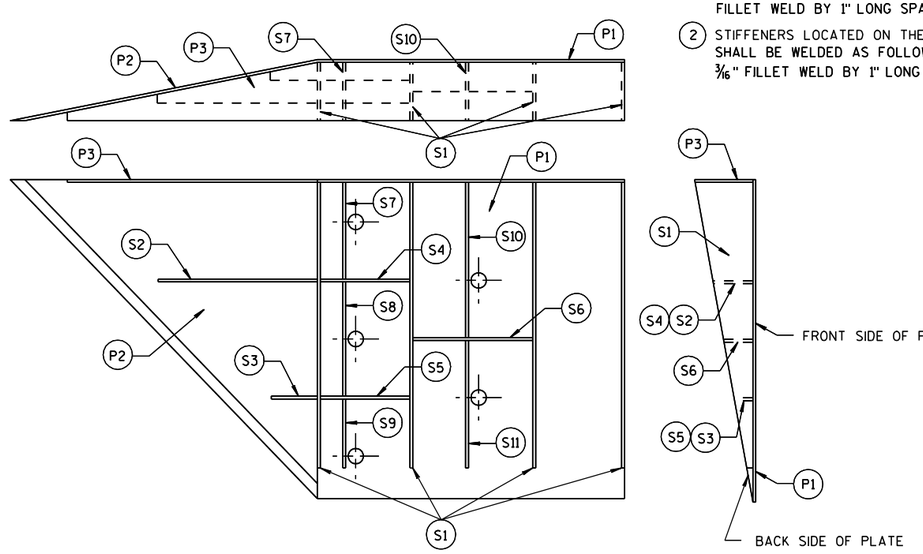


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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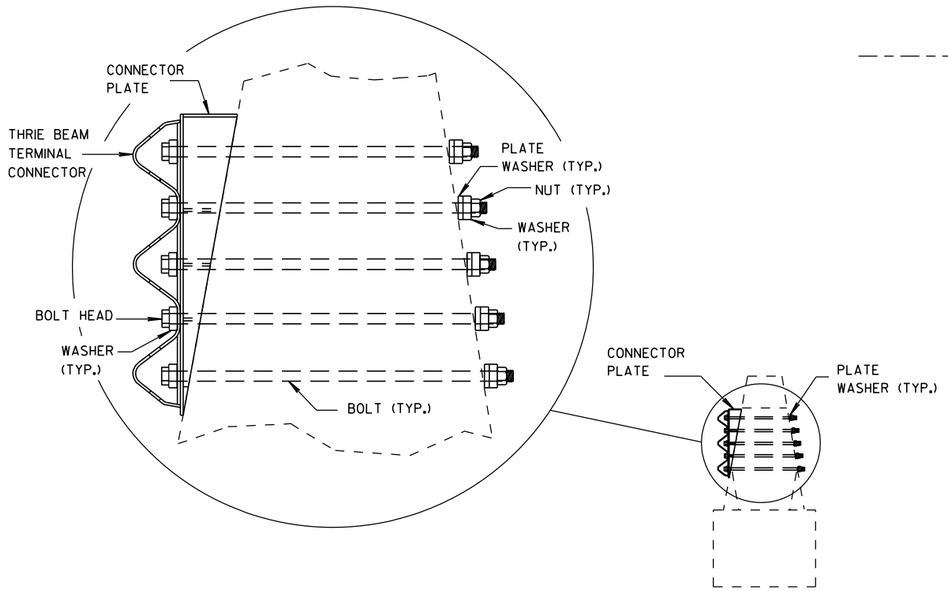
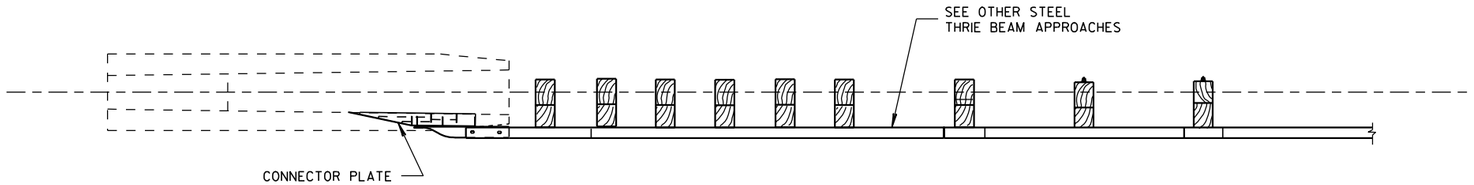
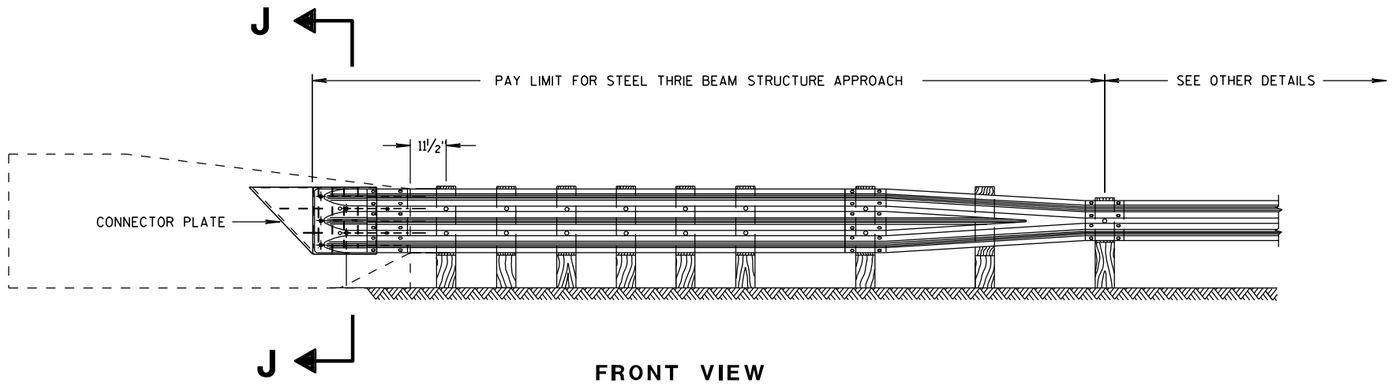


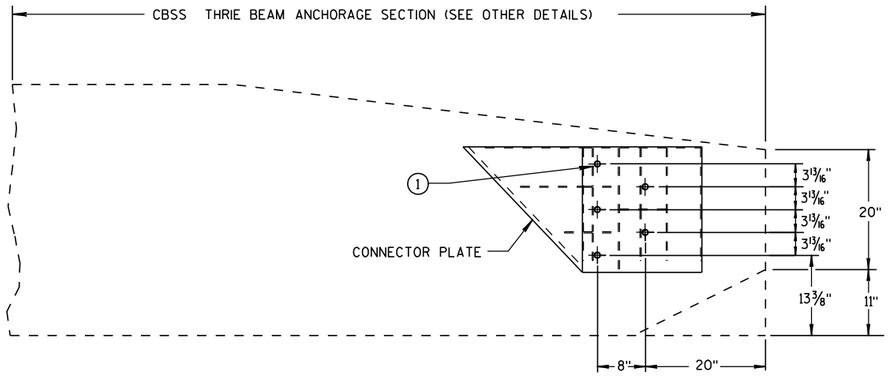
SECTION J-J



PLAN VIEW



FRONT VIEW



CONNECTOR PLATE LOCATION

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

CONNECTOR PLATE, DRILLING HOLES THROUGH PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(1) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT

STATE OF WISCONSIN
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ROADWAY STANDARDS ENGINEER

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BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
(1)	4	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
(2)	**	STEEL TUBE: OPTION 1 - QUANITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
(3)	2	SOIL PLATE: 2'-0" X 1'-6" X ¼" **
(4)	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
(5)	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
(6)	1	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
(7)	1	BEARING PLATE
(8)	1	BCT CABLE ASSEMBLY
(9)	1	CABLE ANCHOR BOX
(10)	1	STRUT & YOKE
(11)	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6½" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
(12)	3	STEEL PLATE BEAM: 12 GA. 13'-6½"
(13)	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
(14)	1	REFLECTIVE SHEETING TYPE H: 18" X 18"
(15)	1	E.A.T. MARKER POST

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL ⅝" ϕ X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL),AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

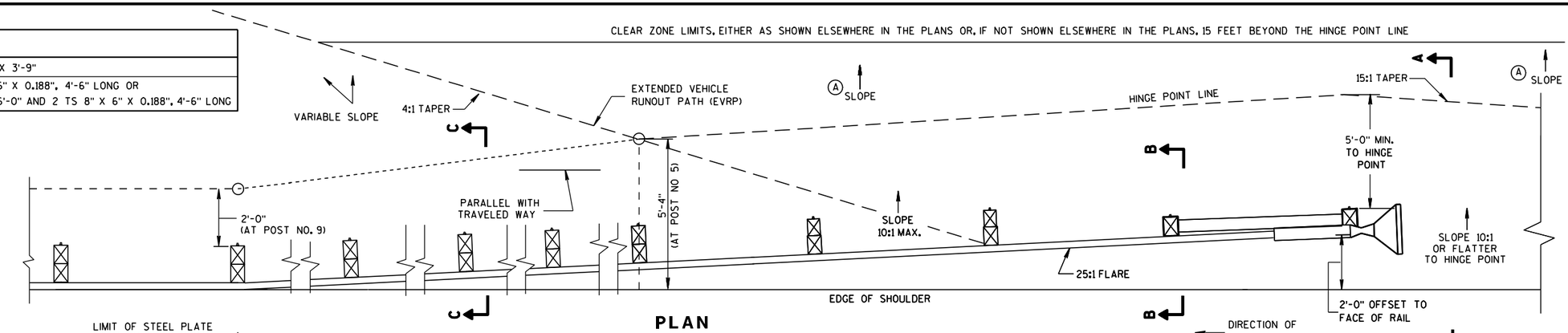
(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

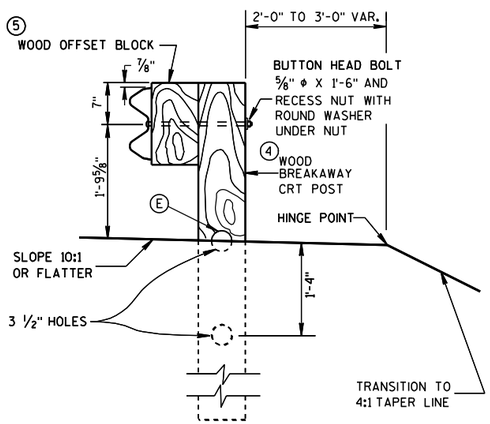
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

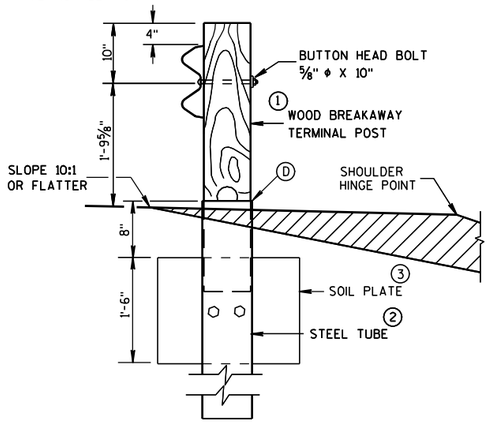
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.

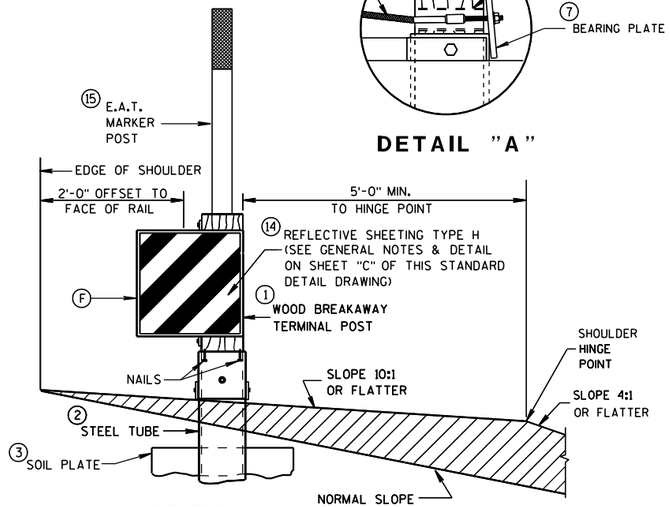




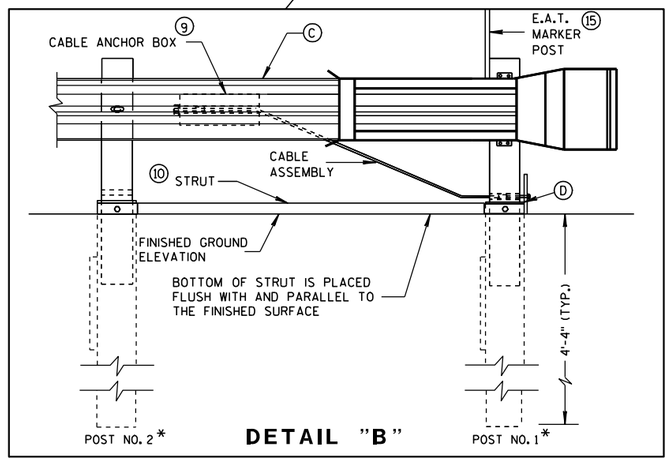
SECTION C-C
TYPICAL AT POST NOS. 6, 8



SECTION B-B
TYPICAL AT POST NO. 2*



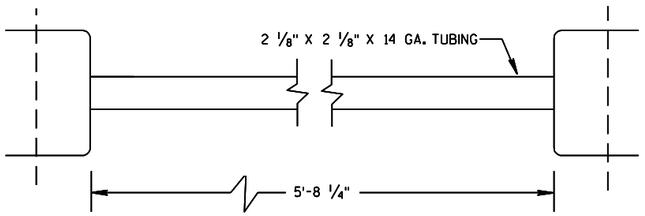
SECTION A-A
TYPICAL AT POST NO. 1*



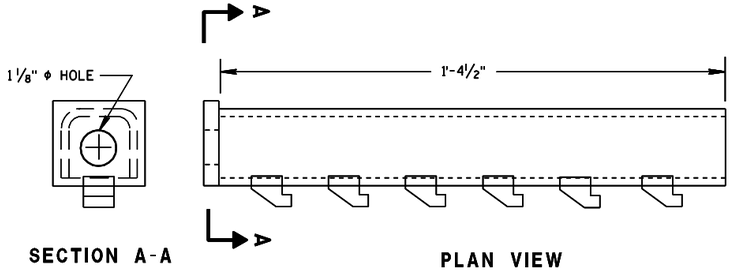
DETAIL "B"

STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

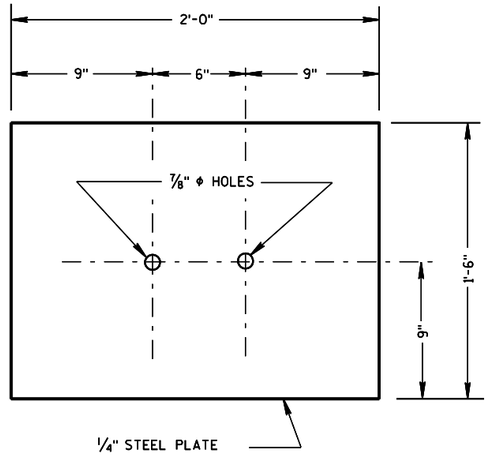
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



⑩ STRUT DETAIL (SKT-350)

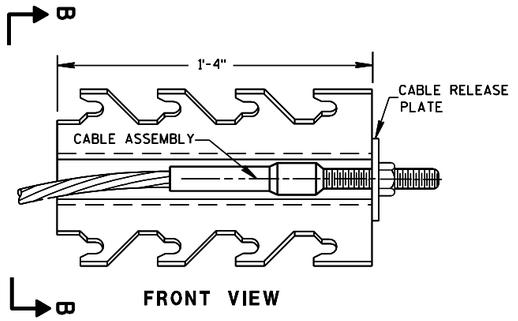


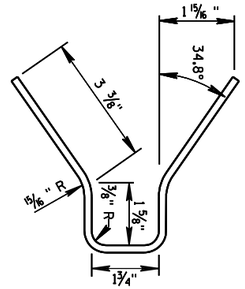
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



③ SOIL PLATE

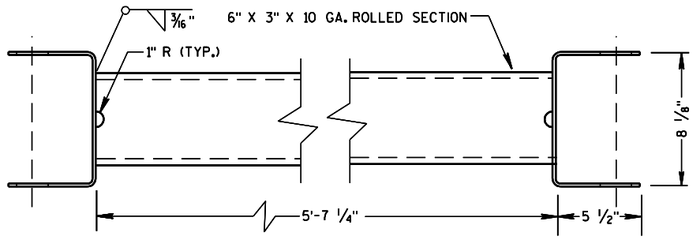
(SKT-350, ET-2000/ET-2000 PLUS)





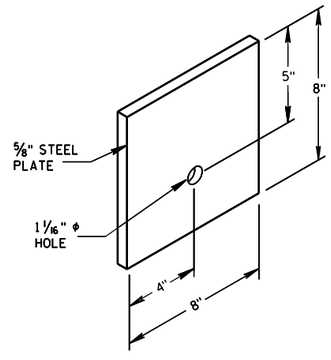
⑨ CABLE ANCHOR BOX (SKT-350)

(SKT-350)



⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



⑦ STEEL BEARING PLATE

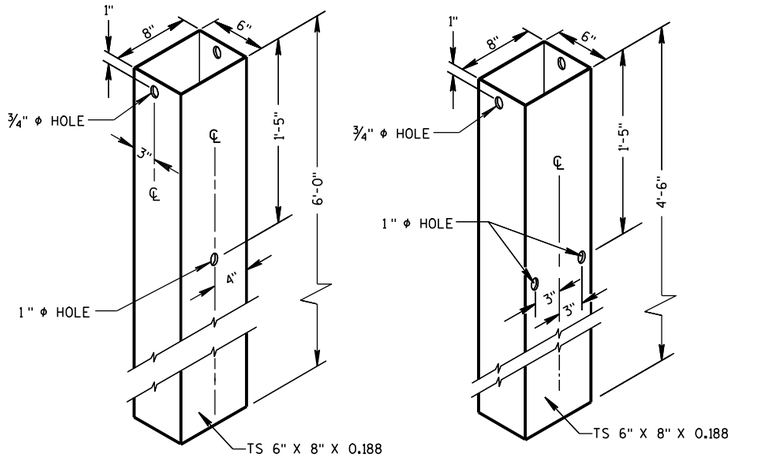
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

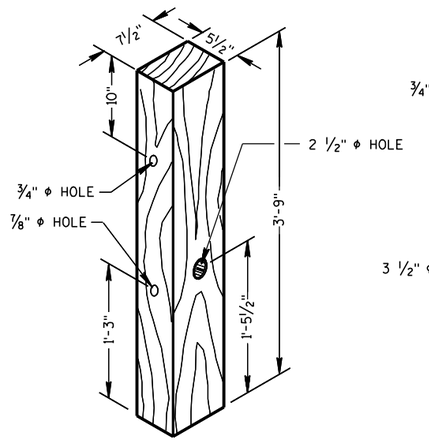
6

S.D.D. 14 B 24-7b

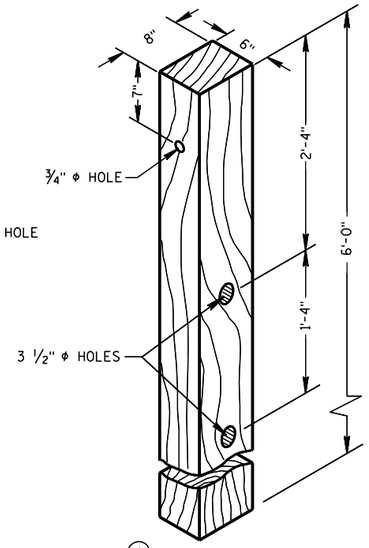


(2) 72" STEEL TUBE
(POSTS NO. 1-4

(2) 54" STEEL TUBE
(POSTS NO. 1-4



(1) TERMINAL POST
(POSTS NO. 1-4



(4) CRT POST
(POSTS NO'S 5-8

WOOD BREAKAWAY POSTS

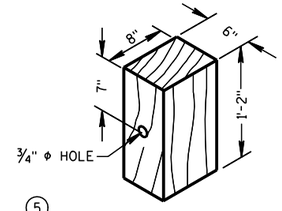
GENERAL NOTES

STEEL PLATE BEAM GUARD, ENERGY ABSORBING TERMINAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH SHALL INCLUDE HARDWARE, STEEL PLATE BEAM GUARD, POSTS, REFLECTIVE SHEETING AND INSTALLATION AS SHOWN.

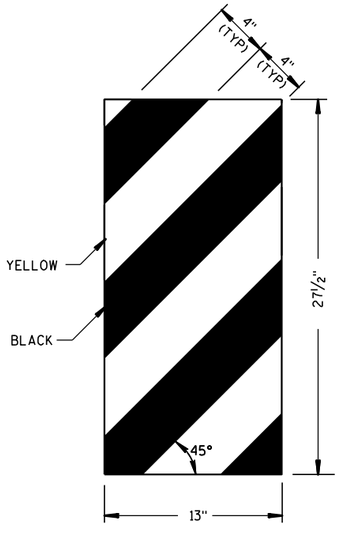
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

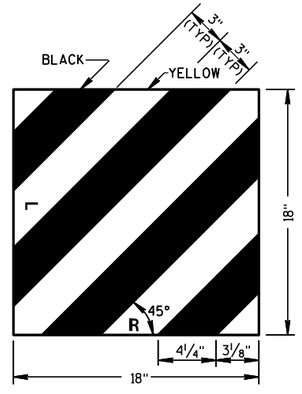
(G) ½" DIA. X 3" LAG BOLT WITH WASHER.



(5) WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

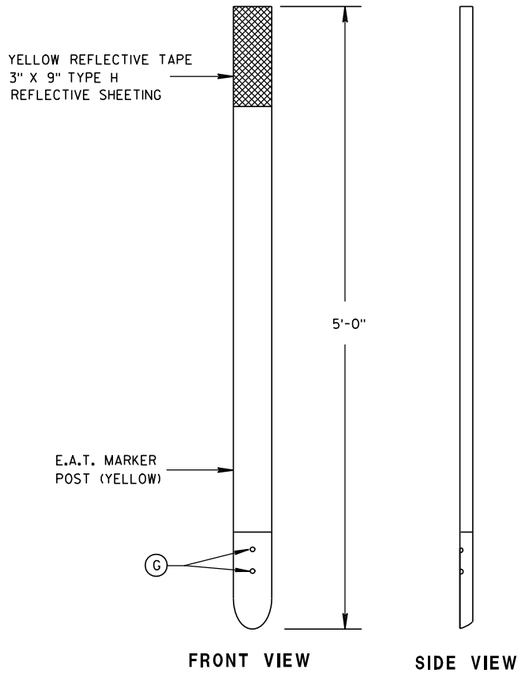


ET-2000 PLUS ONLY

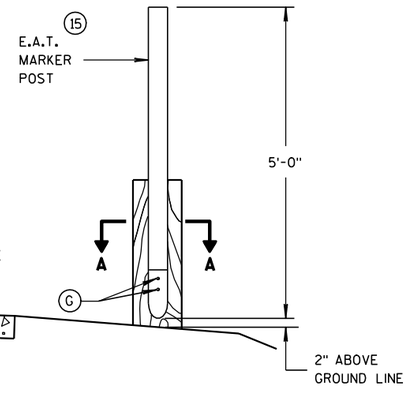


ET-2000 AND SKT-350

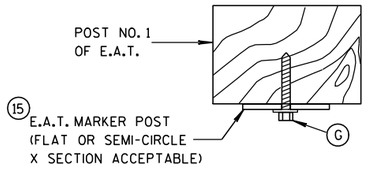
(14) REFLECTIVE SHEETING DETAILS



(15) E.A.T. MARKER POST



TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

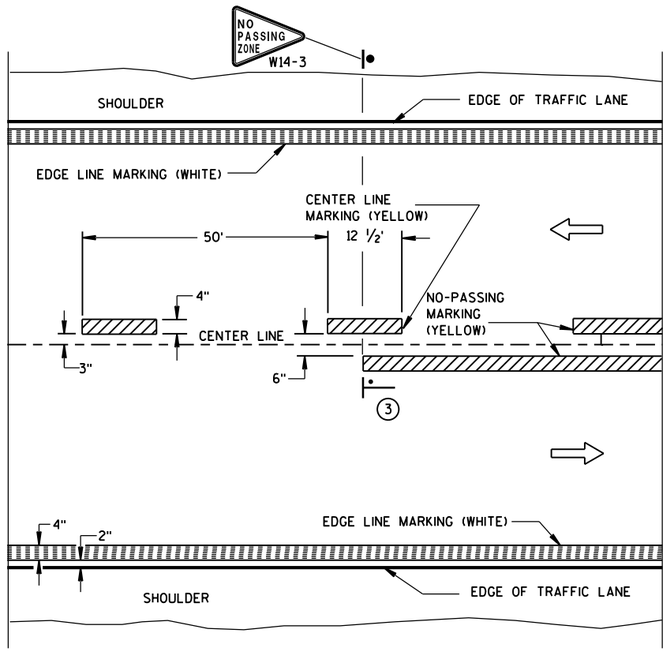
APPROVED
4-12-10
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

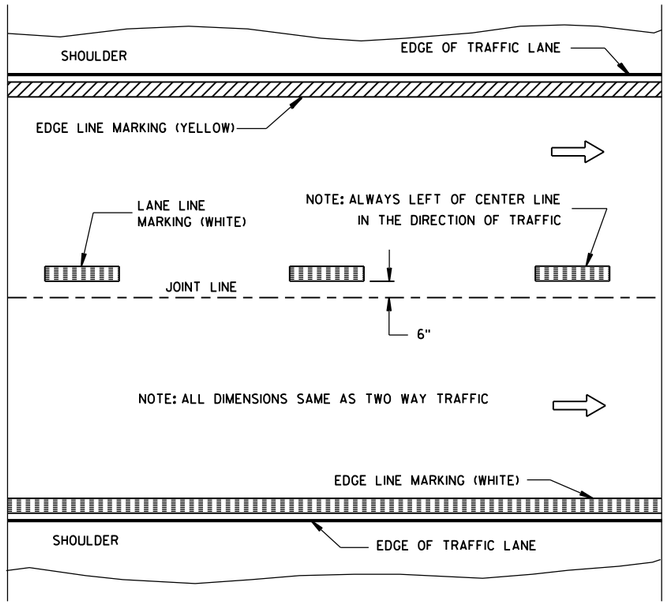
S.D.D. 14 B 24-7c

6

S.D.D. 14 B 24-7c

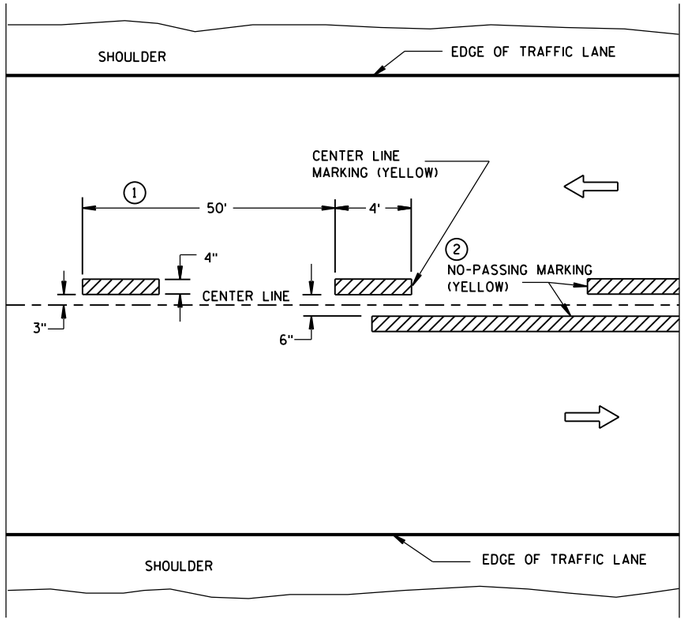


TWO WAY TRAFFIC

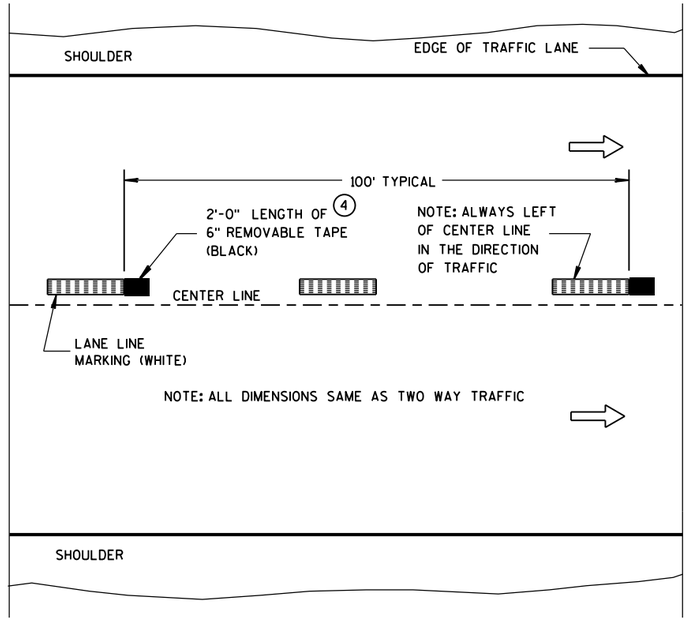


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

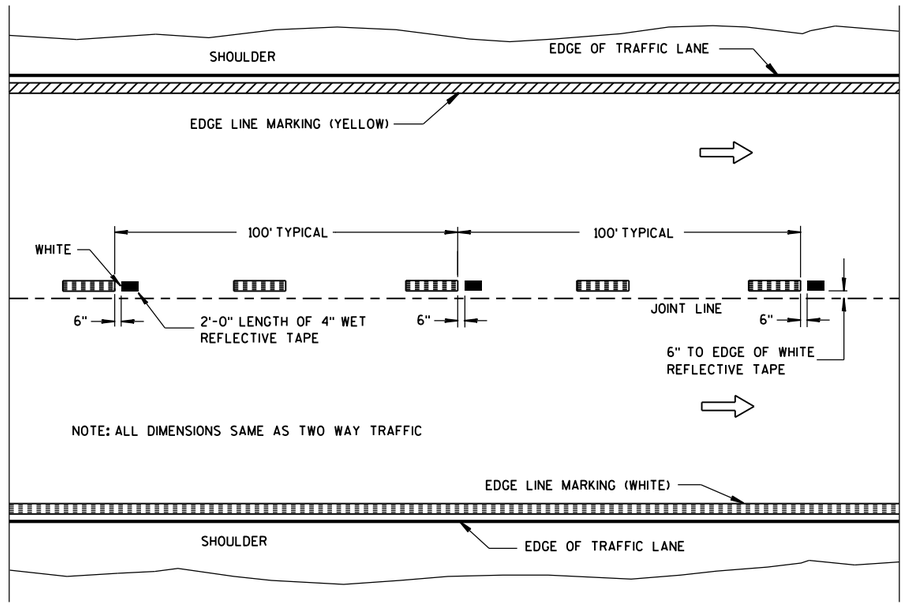
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

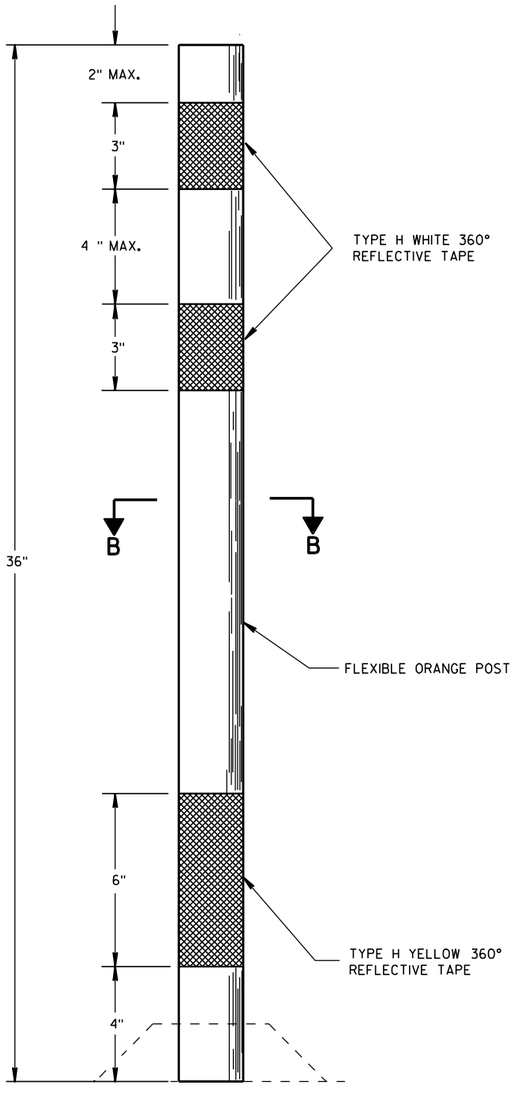
APPROVED
10-1-2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

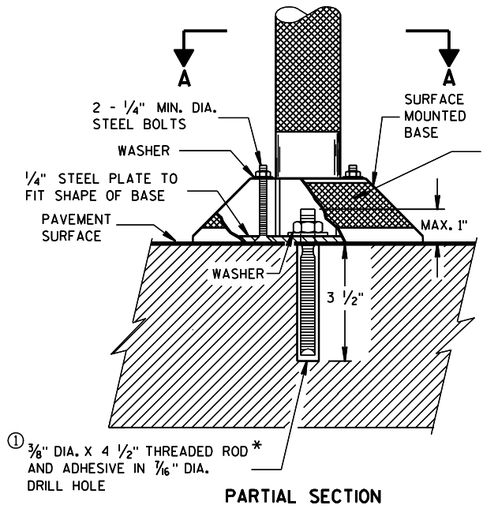
S.D.D. 15 C 8-15a

6

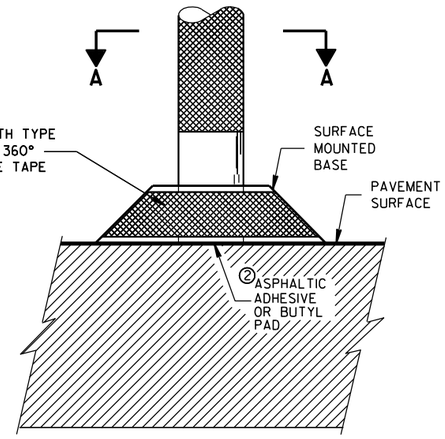
S.D.D. 15 C 8-15a



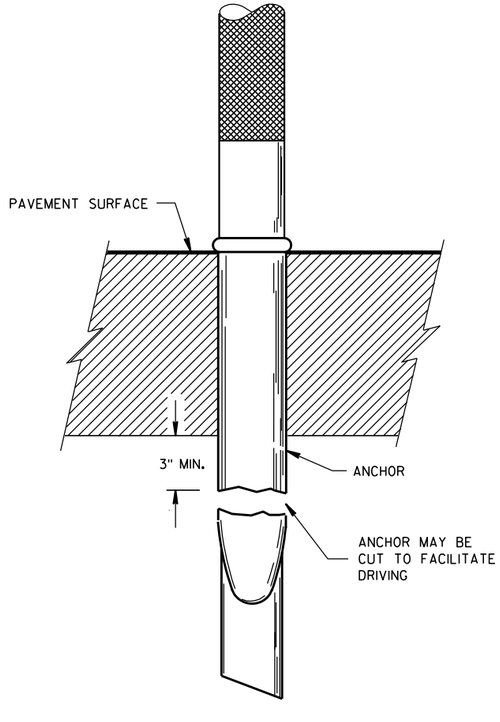
FLEXIBLE TUBULAR MARKER POST



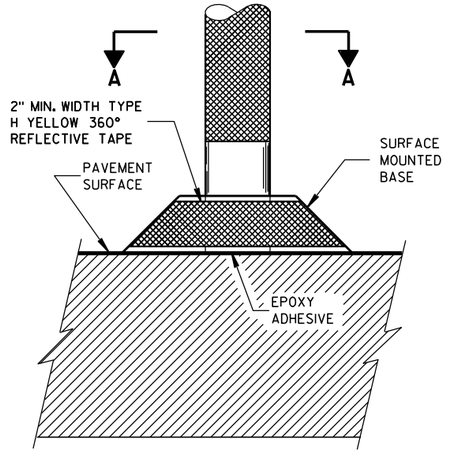
PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT



POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED



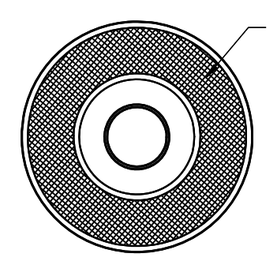
GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

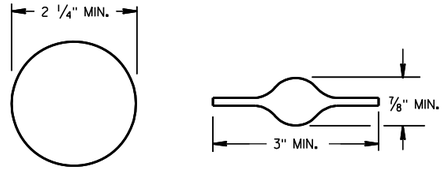
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



SECTION A-A

SURFACE MOUNTED BASE



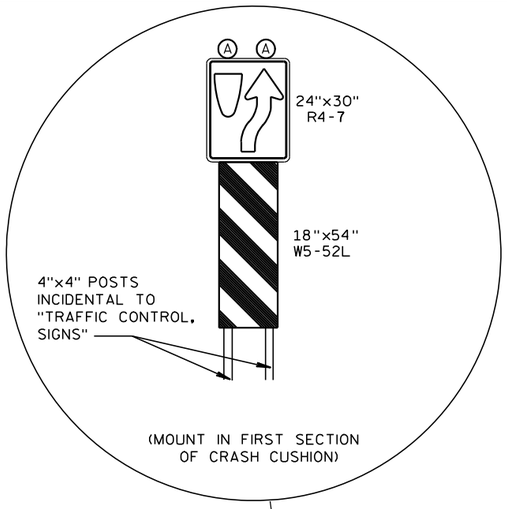
SECTION B-B

ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
2/17/94 DATE	/S/ Chester J. [illegible] DIRECTOR, OFFICE O
FHWA	

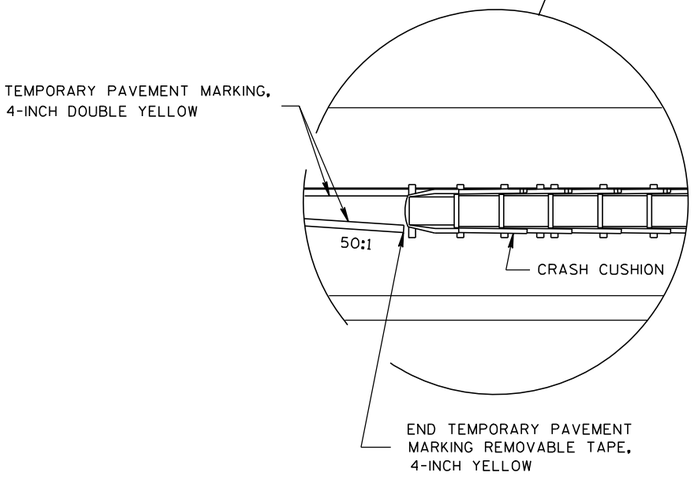
6

S.D.D. 15 C 11-5



LEGEND

- POST WITH ATTACHED SIGN
- DRUM
- FLEXIBLE TUBULAR MARKER POST AND BASE
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR)
- (A) WARNING LIGHT, TYPE A
- PORTABLE CRASH CUSHION
- TEMPORARY PRECAST CONCRETE BARRIER
- REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC



GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" 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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER.

TRAFFIC CONTROL, SINGLE LANE CROSSOVER ENTRANCE WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-7-95
DATE

/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF [illegible]

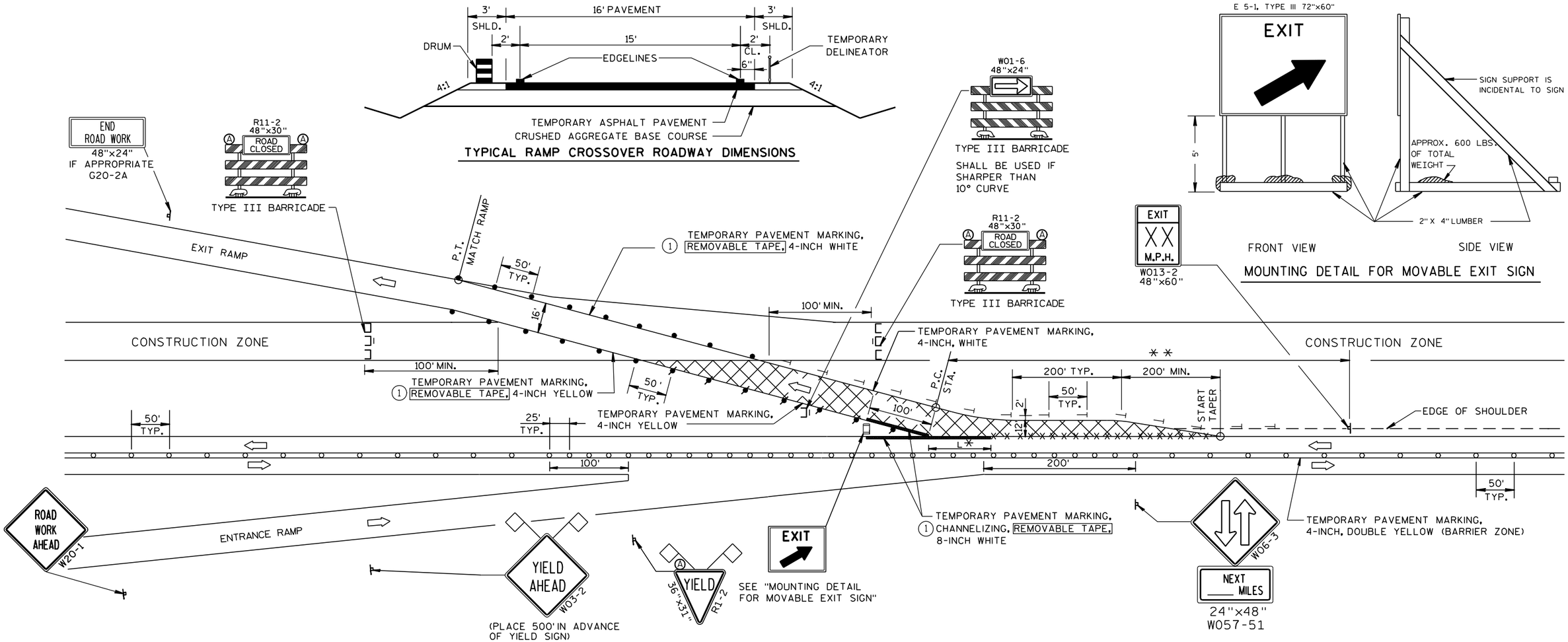
FHWA

6

S.D.D. 15 D 5-2

6

S.D.D. 15 D 5-2



LEGEND

- 8' TYPE III BARRICADE WITHOUT/WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- TEMPORARY DELINEATOR - WHITE (STEEL POST W/SINGLE DELINEATOR)
- (A) WARNING LIGHT, TYPE A
- TEMPORARY CROSSOVER ASPHALTIC PAVEMENT
- REMOVING PAVEMENT MARKINGS
- FLEXIBLE TUBULAR MARKER POST AND BASE
- FLAGS, 12" X 12", RED
- DIRECTION OF TRAFFIC

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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

(1) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER. OTHERWISE TEMPORARY PAVEMENT MARKING MAY BE USED.

TRAFFIC CONTROL FOR RAMP CROSSOVERS ARE TYPICAL FOR ALL CONSTRUCTION PHASES.

* LENGTH L SHALL BE REQUIRED WHEN TANGENT LENGTH OF EXIT RAMP PARALLEL TO MAINLINE EXCEEDS 300'. LENGTH SHALL BE EQUAL TO THE EXIT RAMP TANGENT LENGTH MINUS 300' OR AS APPROVED BY THE ENGINEER AND SHALL CHANGE TO ACCOMODATE PAVING GAPS.

** ADJUST EXIT RAMP SPEED AS NEEDED IN THE FIELD. DISTANCE TO SIGN LOCATION SHALL ALSO BE PLACED ACCORDING TO TABLE.

WORK ALONG EDGES OF RAMP SHALL MAINTAIN A 10 FOOT AREA CLEAR OF PHYSICAL OBSTRUCTIONS SUCH AS DROP OFFS FROM PAVEMENT REMOVAL OR BROKEN CONCRETE CHUNKS DURING PAVEMENT REMOVAL. THESE AREAS SHALL BE LEVELED WITH TEMPORARY FILL TO PROTECT THE TRAVELING PUBLIC WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE CROSSOVER.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" 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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

** TABLE FOR ADVANCE WARNING SIGN PLACEMENT DISTANCE

POSTED SPEED MPH	DESIRED SPEED AT CONDITION (MPH)				
	10	20	30	40	50
45	350	300	250		
50	425	400	325	225	
55	500	475	400	300	
60	575	550	500	400	300
65	650	625	575	500	375

TRAFFIC CONTROL, TEMPORARY EXIT RAMP CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-4-95
DATE

/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF 65

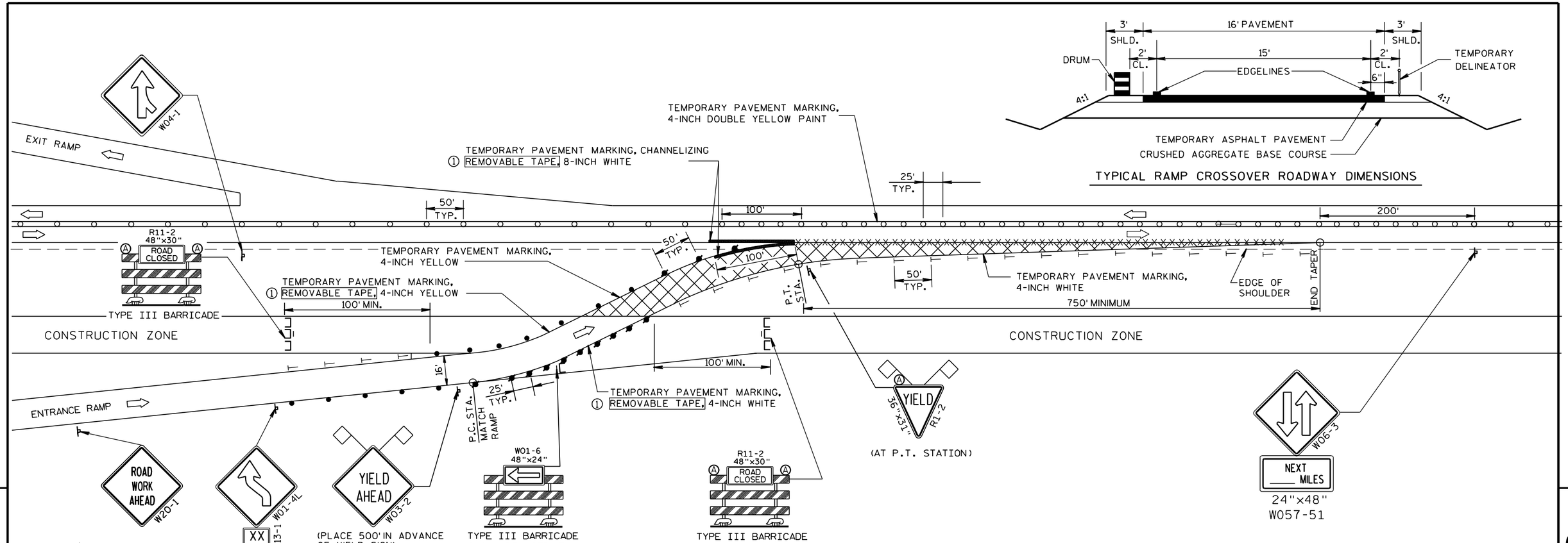
FHWA

6

S.D.D. 15 D 7-3

6

S.D.D. 15 D 7-3



TYPICAL RAMP CROSSOVER ROADWAY DIMENSIONS

LEGEND

- ⊏/⊏ 8' TYPE III BARRICADE WITHOUT/WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- Ⓐ WARNING LIGHT, TYPE A (SAME COLOR AS SIGN IT SUPPLEMENTS)
- TEMPORARY CROSSOVER ASPHALTIC PAVEMENT
- ~~XXXX~~ REMOVING PAVEMENT MARKINGS
- FLEXIBLE TUBULAR MARKER POST AND BASE
- FLAGS, 12" X 12", RED
- DIRECTION OF TRAFFIC

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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

① TEMPORARY PAVEMENT MARKING REMOVABLE, TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER.

TRAFFIC CONTROL FOR RAMP CROSSOVERS ARE TYPICAL FOR ALL CONSTRUCTION PHASES.

WORK ALONG EDGES OF RAMP SHALL MAINTAIN A 10 FOOT AREA CLEAR OF PHYSICAL OBSTRUCTIONS SUCH AS DROP OFFS FROM PAVEMENT REMOVAL OR BROKEN CONCRETE CHUNKS DURING PAVEMENT REMOVAL. THESE AREAS SHALL BE LEVELED WITH TEMPORARY FILL TO PROTECT THE TRAVELING PUBLIC WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE CROSSOVER.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" 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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

TRAFFIC CONTROL, TEMPORARY ENTRANCE RAMP CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-4-95
DATE

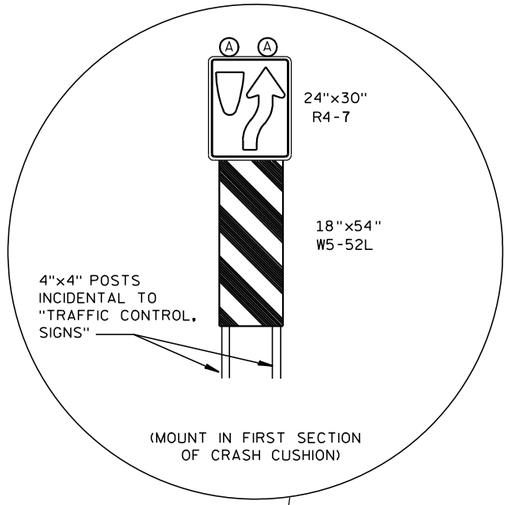
/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF [illegible]

FHWA

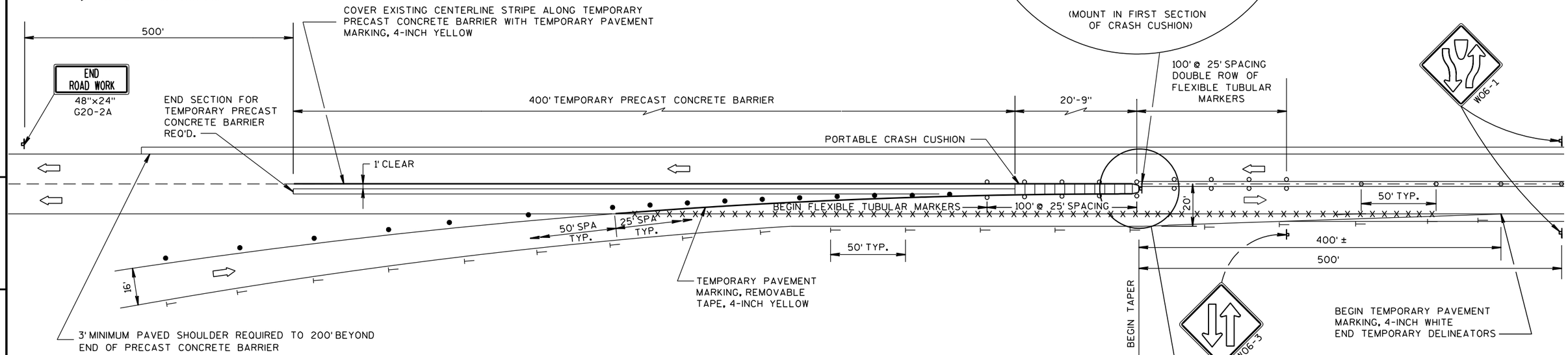
6
S.D.D. 15 D 8-3

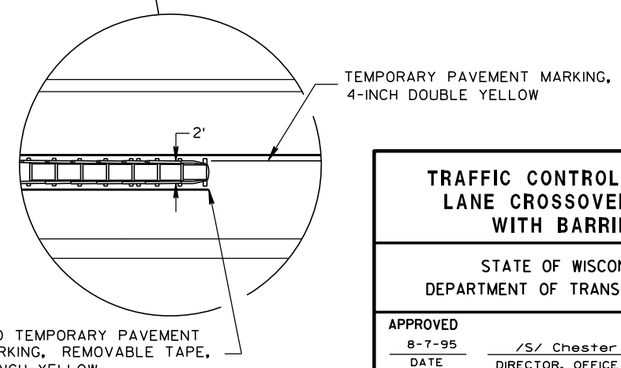
LEGEND

- POST WITH ATTACHED SIGN
- DRUM
- FLEXIBLE TUBULAR MARKER POST AND BASE
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- (A) WARNING LIGHT, TYPE A
- PORTABLE CRASH CUSHION
- TEMPORARY PRECAST CONCRETE BARRIER
- ××××× REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC



(MOUNT IN FIRST SECTION OF CRASH CUSHION)





GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" 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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER.

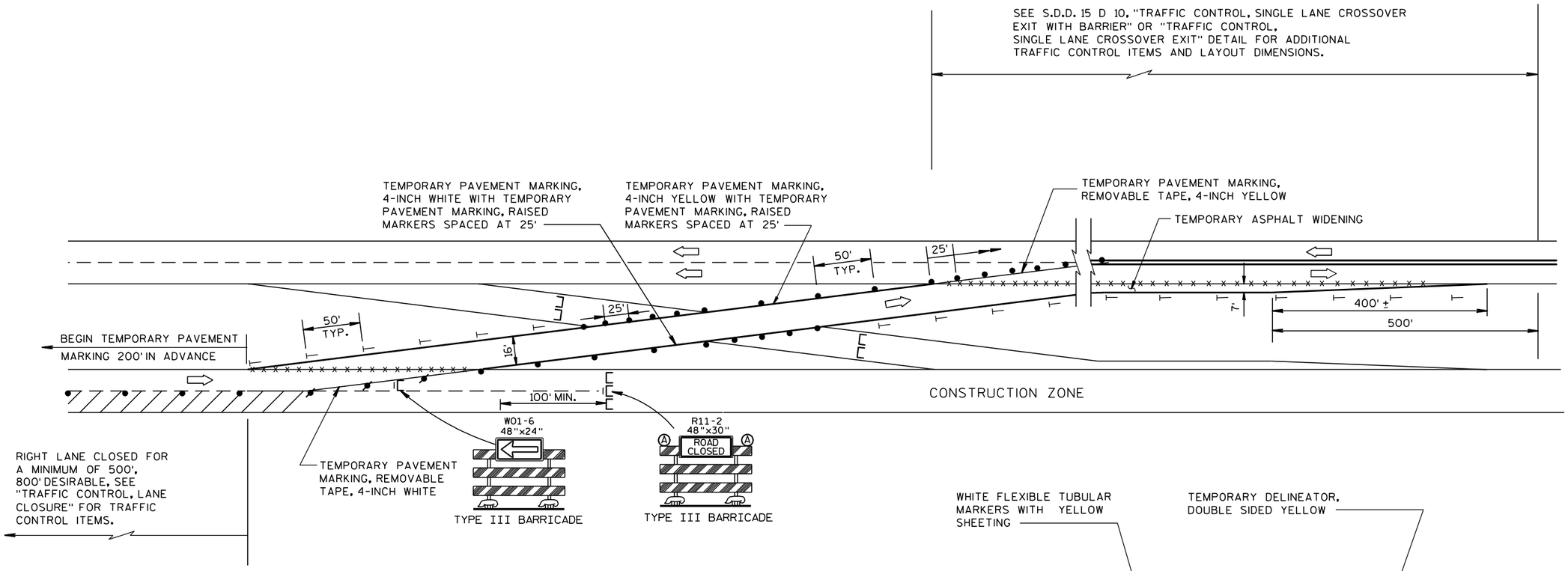
TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT WITH BARRIER

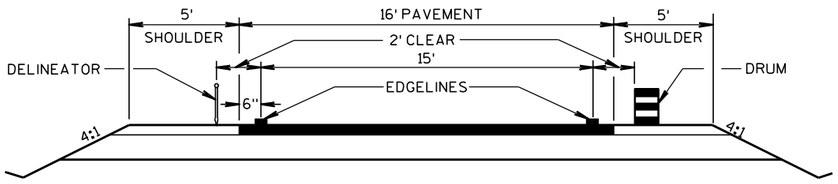
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-7-95 DATE
/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF
FHWA

S.D.D. 15 D 10-2

S.D.D. 15 D 10-2





TYPICAL CROSSOVER ROADWAY DIMENSIONS

LEGEND

- ⊏/I⊏ 8' TYPE III BARRICADE WITHOUT/WITH ATTACHED SIGN
- DRUM WITH WARNING LIGHTS, TYPE C
- DRUM
- TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE PAINT
- Ⓐ WARNING LIGHT, TYPE A
- REMOVING PAVEMENT MARKINGS
- TEMPORARY DELINEATOR (DOUBLE SIDED)
- FLEXIBLE TUBULAR MARKER AND BASE
- DIRECTION OF TRAFFIC

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.

THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

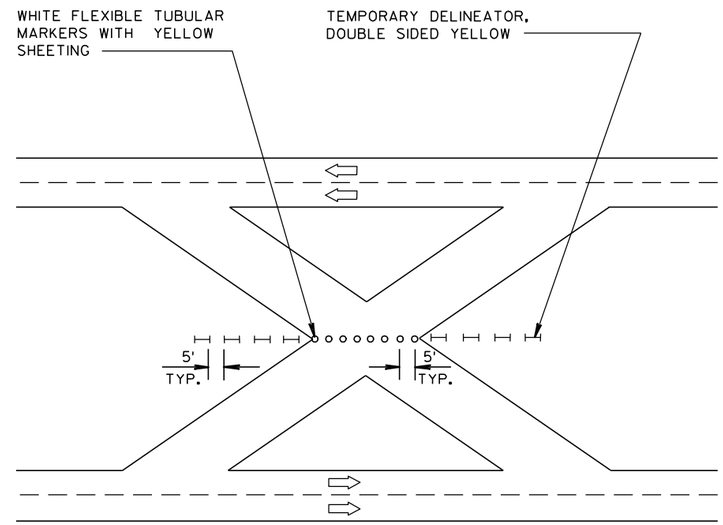
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER AND TEMPORARY PAVEMENT MARKING WHERE USED.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" 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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

REVERSE DEVICES WHEN OTHER LEG OF CROSSOVER IS IN USE.



PROTECTION OF CROSSOVER NOT IN USE
WHEN CONSTRUCTION IS NOT TAKING PLACE

TRAFFIC CONTROL, SINGLE LANE CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-22-96 DATE
/S/ Chester J. [illegible]
STATE TRAFFIC E

FHWA

6

S.D.D. 15 D 11-3

LEGEND

- POST WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN IN DRUM
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- 8' TYPE III BARRICADE
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

(1) CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

GENERAL NOTES CONTINUED:

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

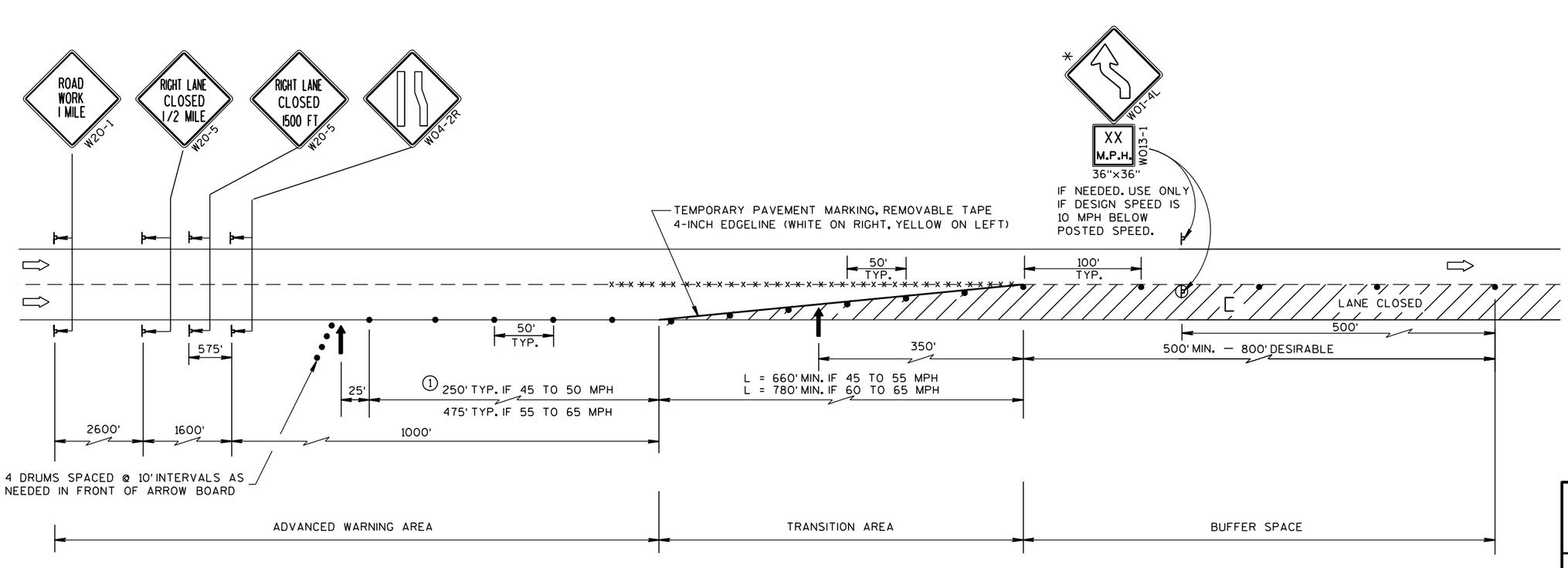
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

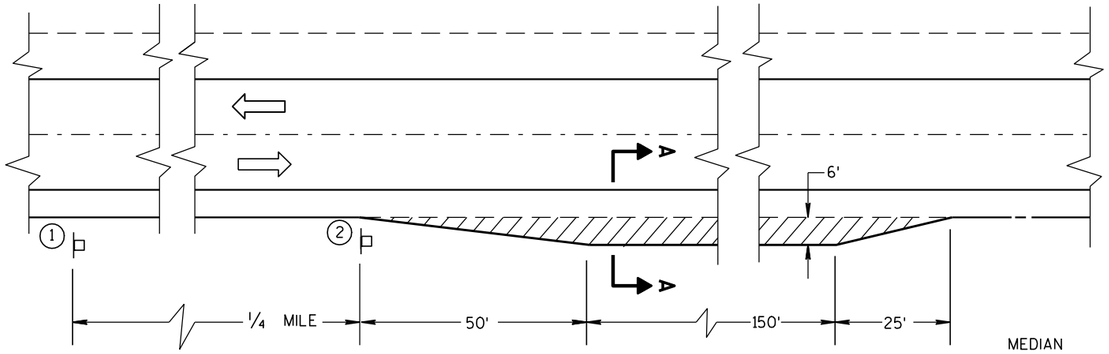


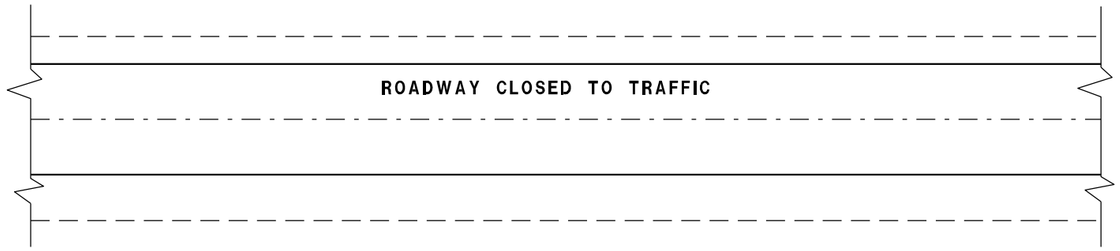
TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-7-95 DATE
/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF [illegible]
FHWA

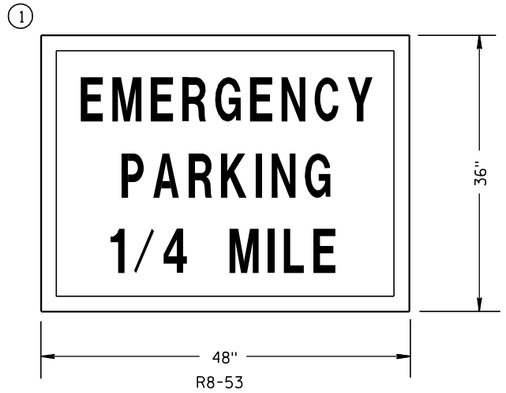
6
S.D.D. 15 D 12-2





PLAN VIEW

TEMPORARY EMERGENCY PULLOUTS FOR DIVIDED HIGHWAYS



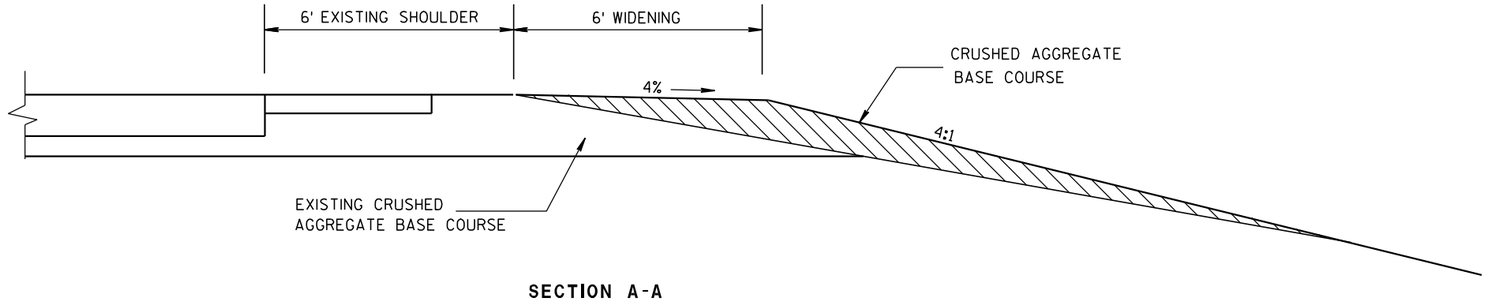
SIGNS TO BE BLACK LETTERS ON WHITE REFLECTIVE BACKGROUND

SIGNS FOR TEMPORARY EMERGENCY PULLOUTS

GENERAL NOTES

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

TEMPORARY EMERGENCY PULLOUTS AND SIGNS SHALL BE REMOVED AND THE ROADWAY RESTORED TO ITS ORIGINAL CROSS SECTION AND CONDITION PRIOR TO REOPENING THE ROADWAY TO ONE WAY TRAFFIC.

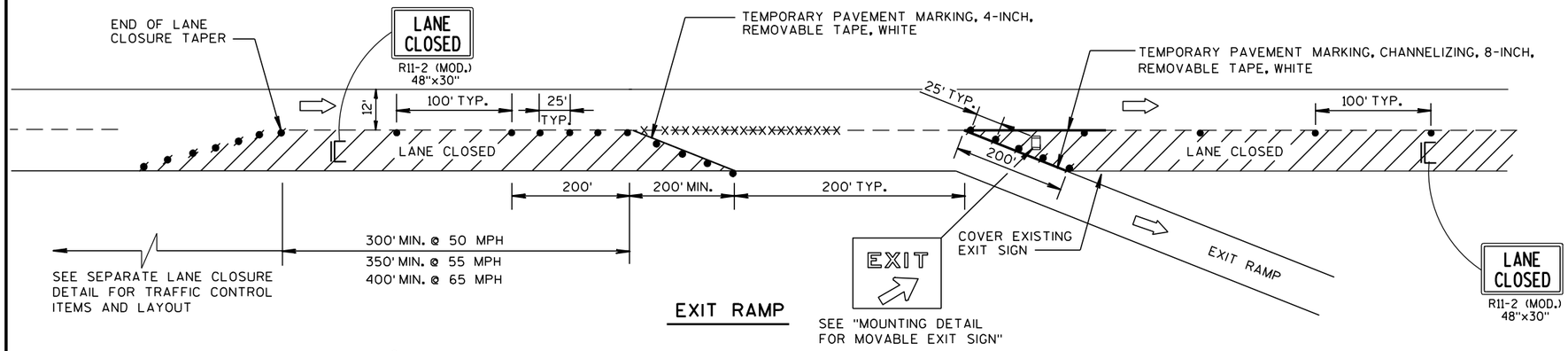


SECTION A-A

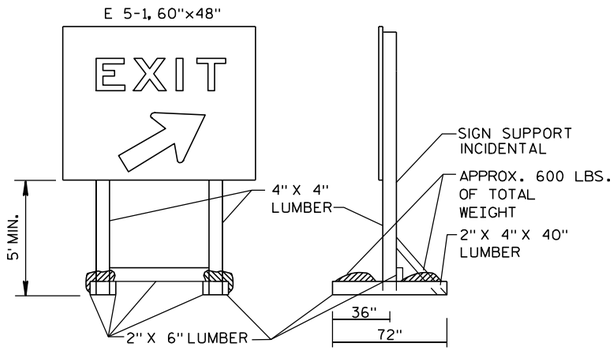
TEMPORARY EMERGENCY PULLOUTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10-22-96 DATE	/S/ Chester J. [illegible] STATE TRAFFIC E
FHWA	

6

S.D.D. 15 D 13-1

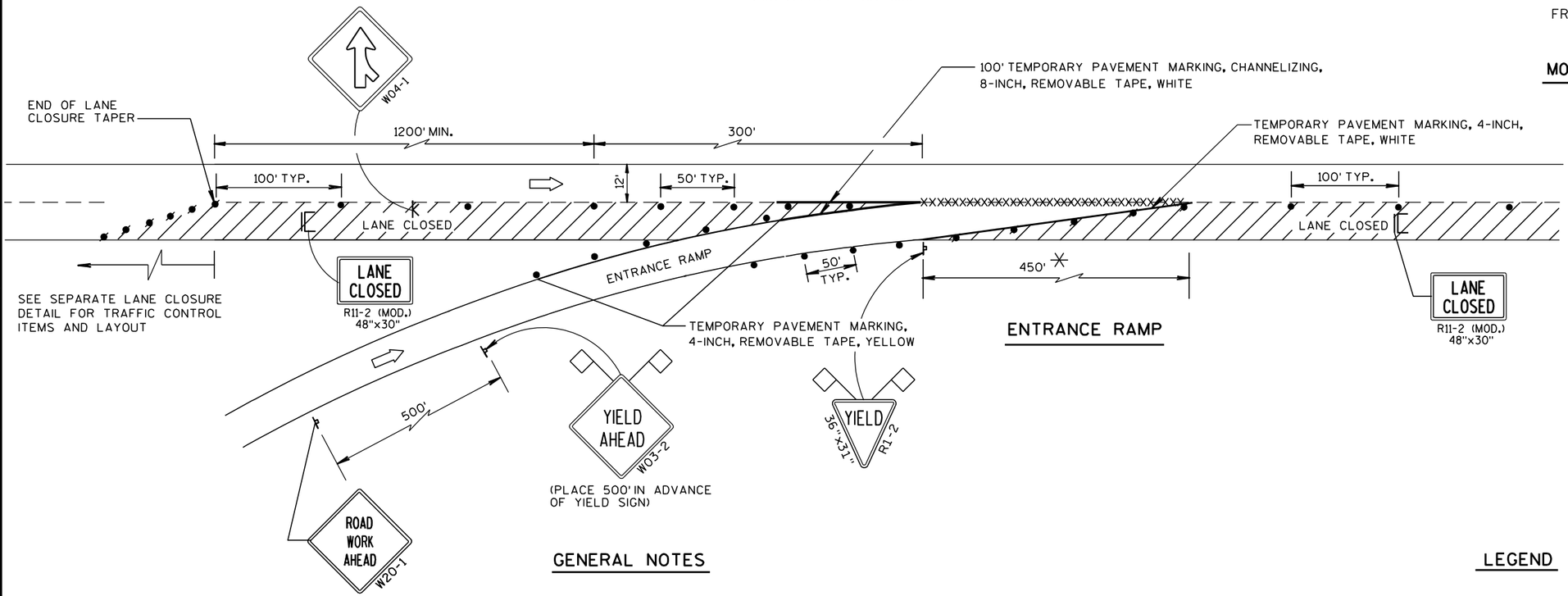


EXIT RAMP



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

MOUNTING DETAIL FOR MOVABLE EXIT SIGN



ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH 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.

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"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2 (MOD.) "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

✳ LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 DATE
/S/ Chester J. [illegible] CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

S.D.D. 15 D 15-1

SYMBOLS

- TRAFFIC CONTROL DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW
- ARROW BOARD IN CAUTION MODE

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.

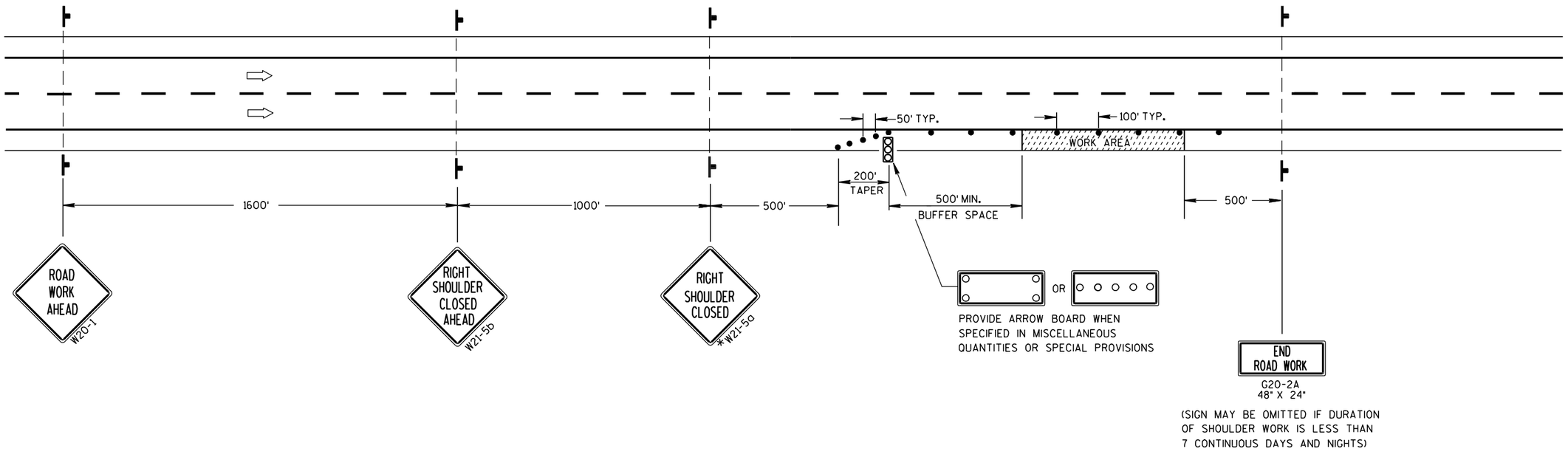
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/00
DATE

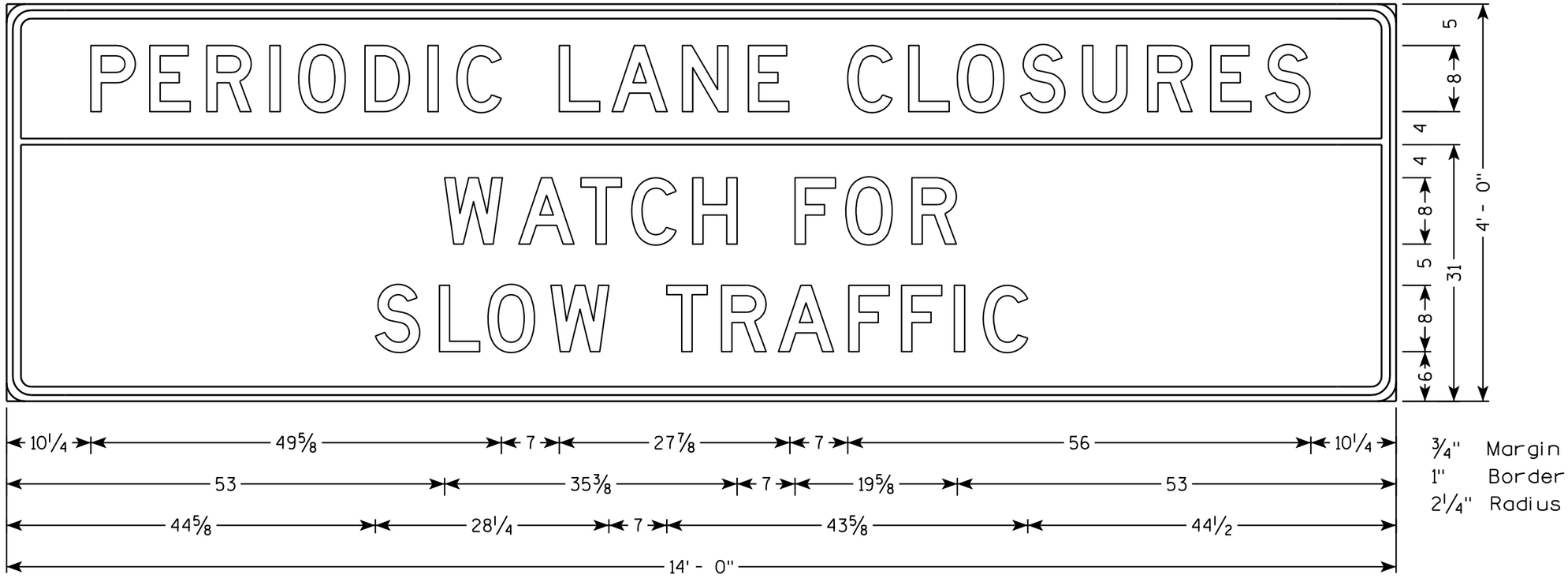
/S/ Chester J Spong
CHIEF SIGNS AND MARKING ENGINEER
FHWA

6

S.D.D. 15 D 27-1

NOTES

1. All Sign Type II - Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange except as noted
   Message - Black
3. Message Series - D



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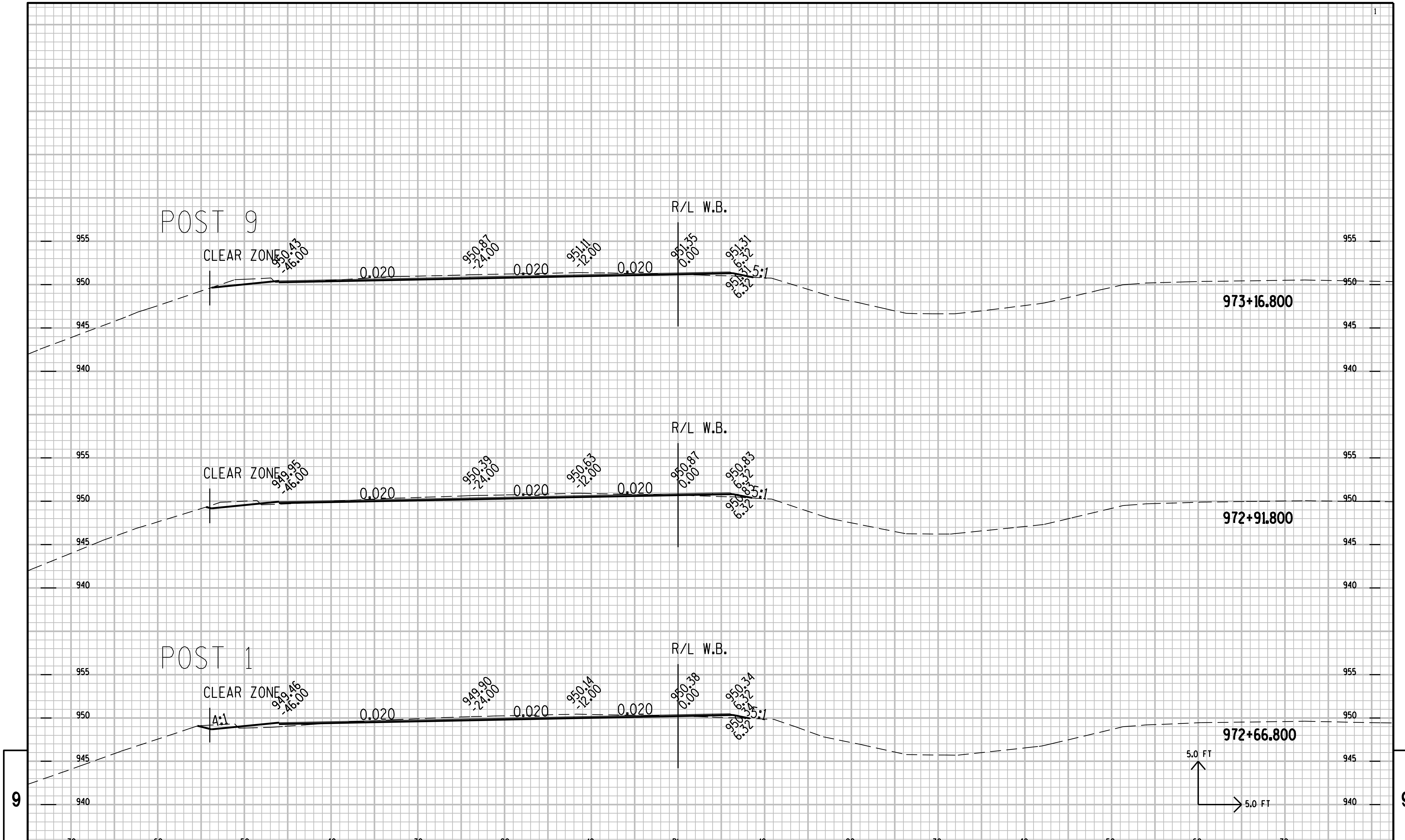
7

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	TEMPORARY SIGNING	SHEET E



PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

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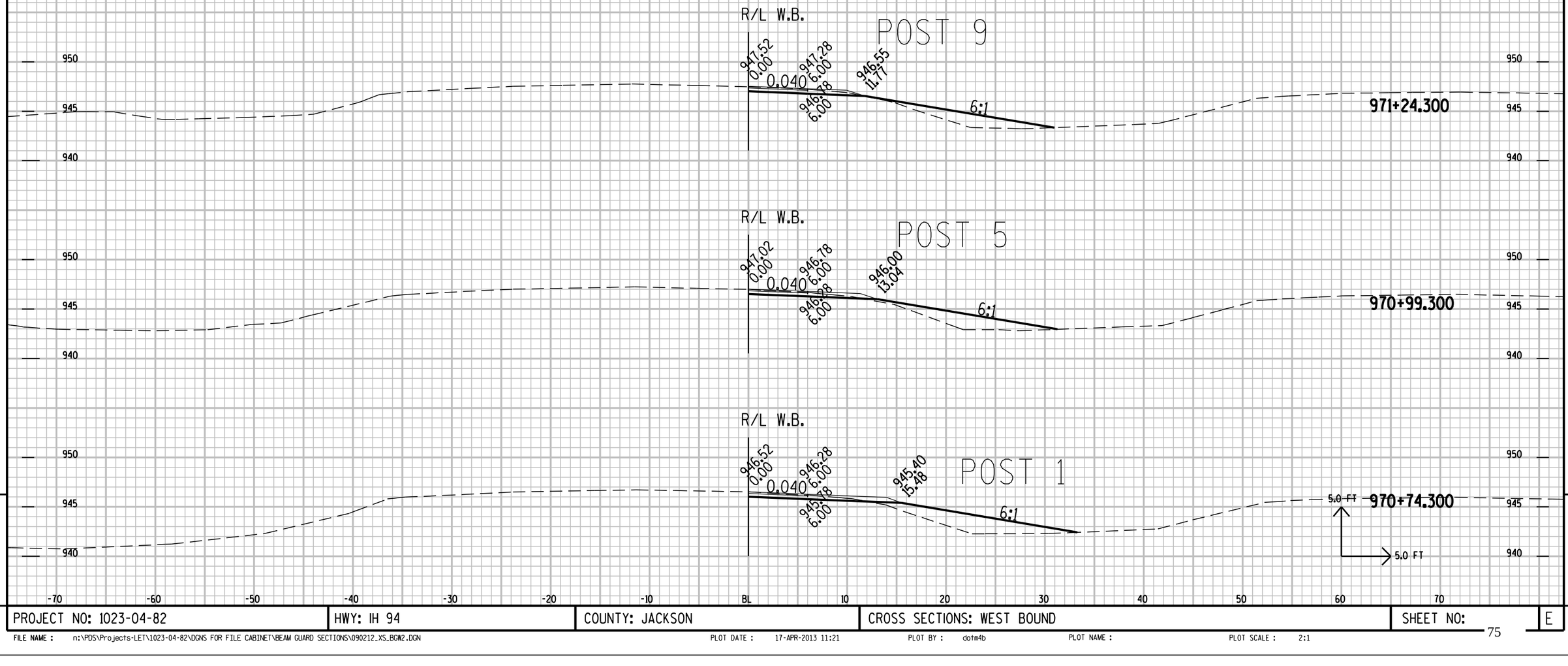

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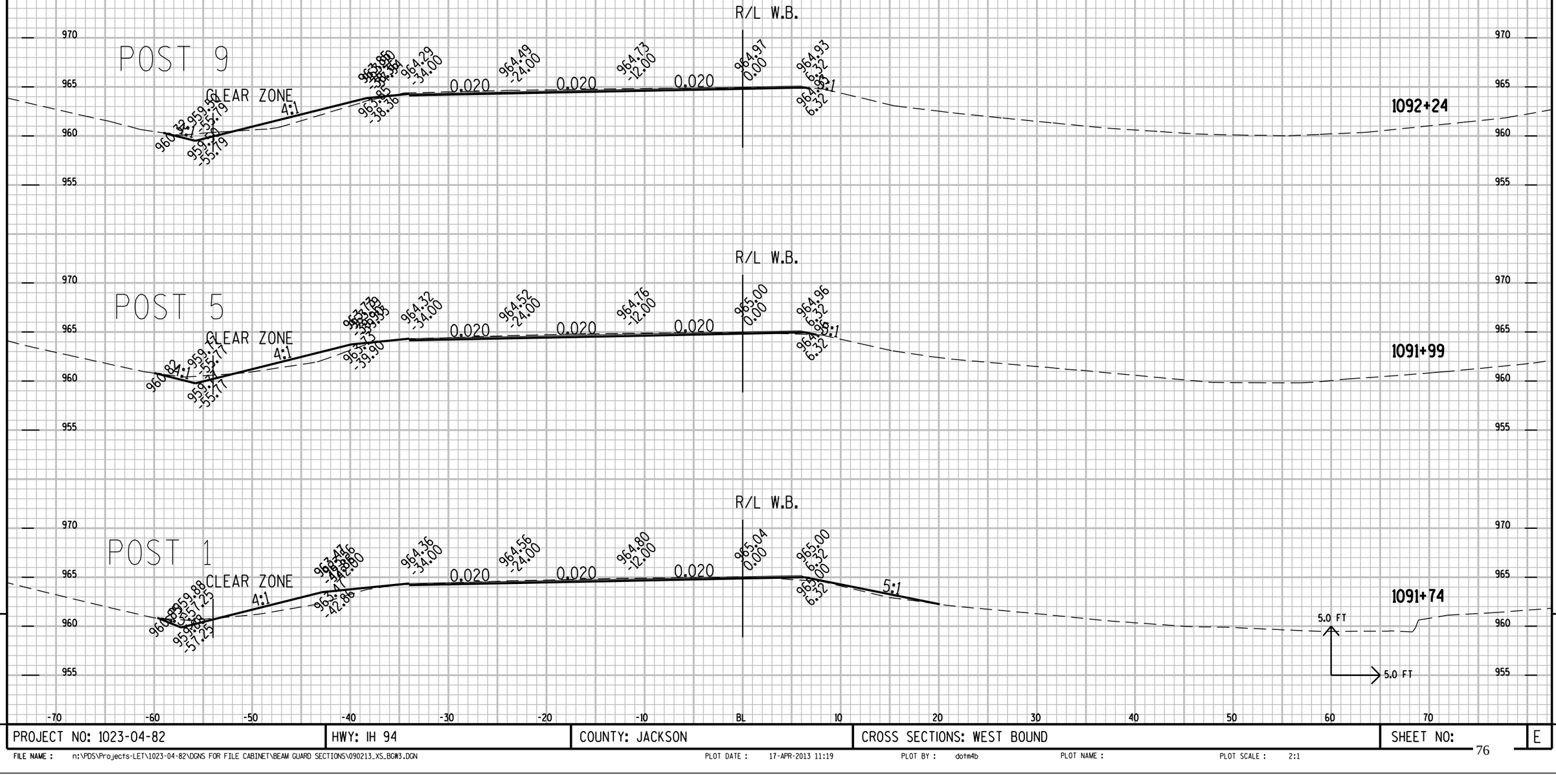
9

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E



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9

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

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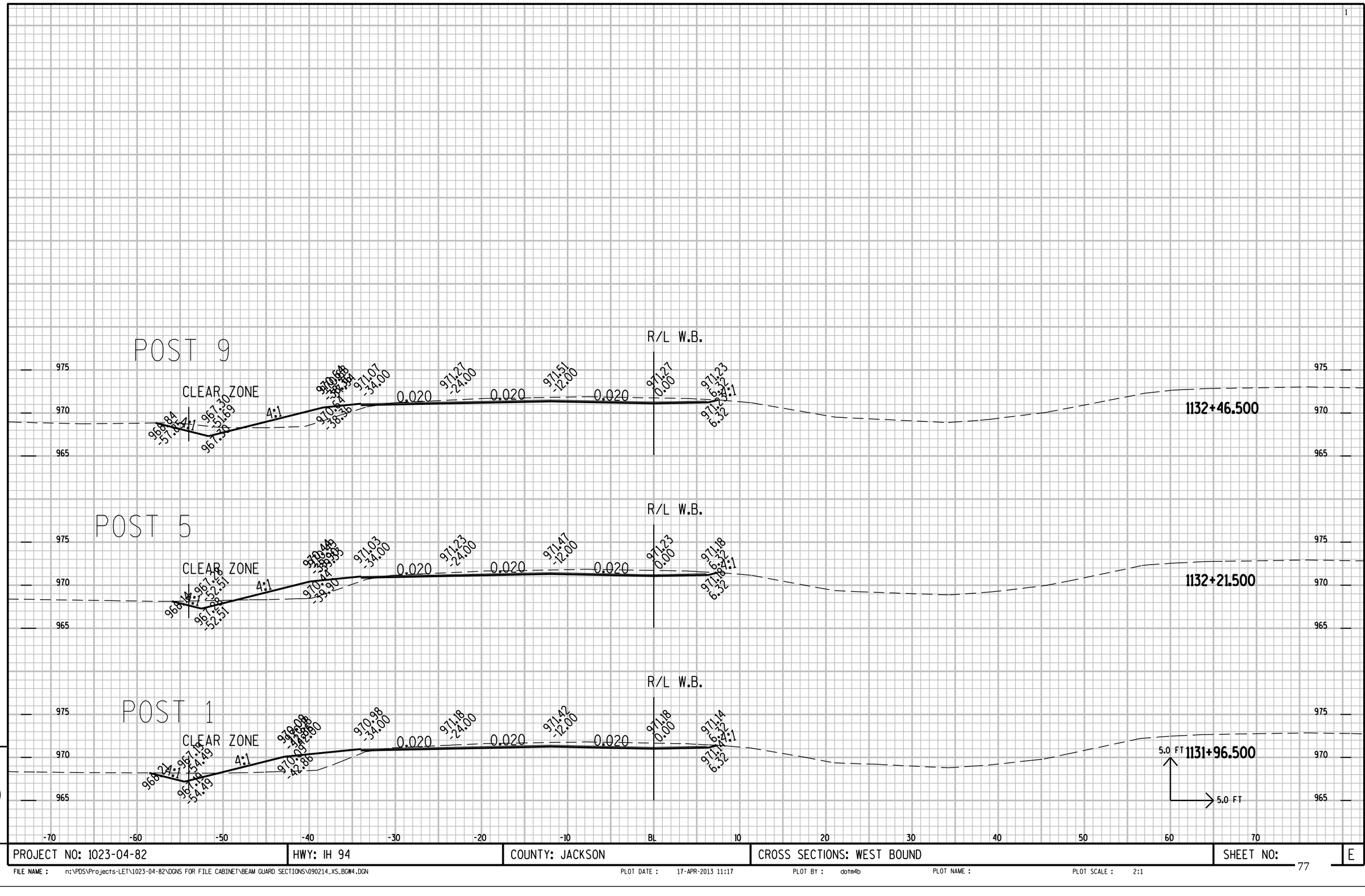
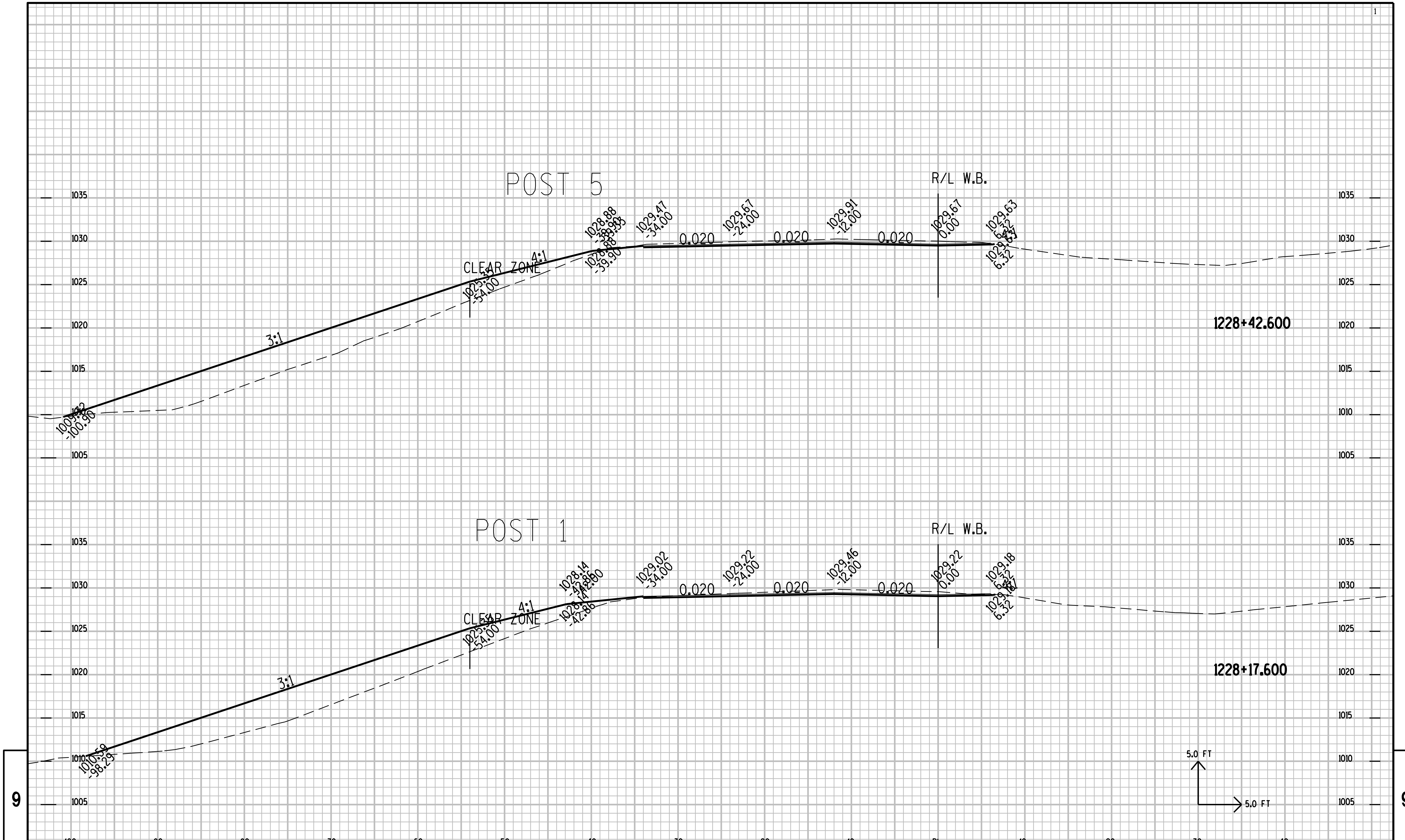


9

9

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\BEAM GUARD SECTIONS\090214_XS_BGM4.DGN PLOT DATE : 17-APR-2013 11:17 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1



PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\BEAM GUARD SECTIONS\090215_XS_BGW5.DGN PLOT DATE : 17-APR-2013 11:08 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

POST 9

R/L W.B.

CLEAR ZONE

1029.47
-38.36
1029.90
-34.00
0.020
1030.10
-24.00
0.020
1030.34
-12.00
0.020
1030.10
0.00
1030.06
6.32

1228+67.600

5.0 FT
5.0 FT

1035
1030
1025
1020
1015
1010
1005

-100 -90 -80 -70 -60 -50 -40 -30 -20 -10 BL 10 20 30 40

9

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\BEAM GUARD SECTIONS\090215_XS_BGW5.DGN PLOT DATE : 17-APR-2013 11:09 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

R/L W.B.

POST 9

1033.40
0.00
0.040
1033.16
6.00
1032.66
6.00
1032.43
1.77
6:1

1230+86.800

R/L W.B.

POST 5

1033.06
0.00
0.040
1032.82
6.00
1032.32
6.00
1032.04
3.04
6:1

1230+61.800

R/L W.B.

POST 1

1032.70
0.00
0.040
1032.46
6.00
1031.96
6.00
1031.58
15.48
6:1

1230+36.800

5.0 FT
5.0 FT

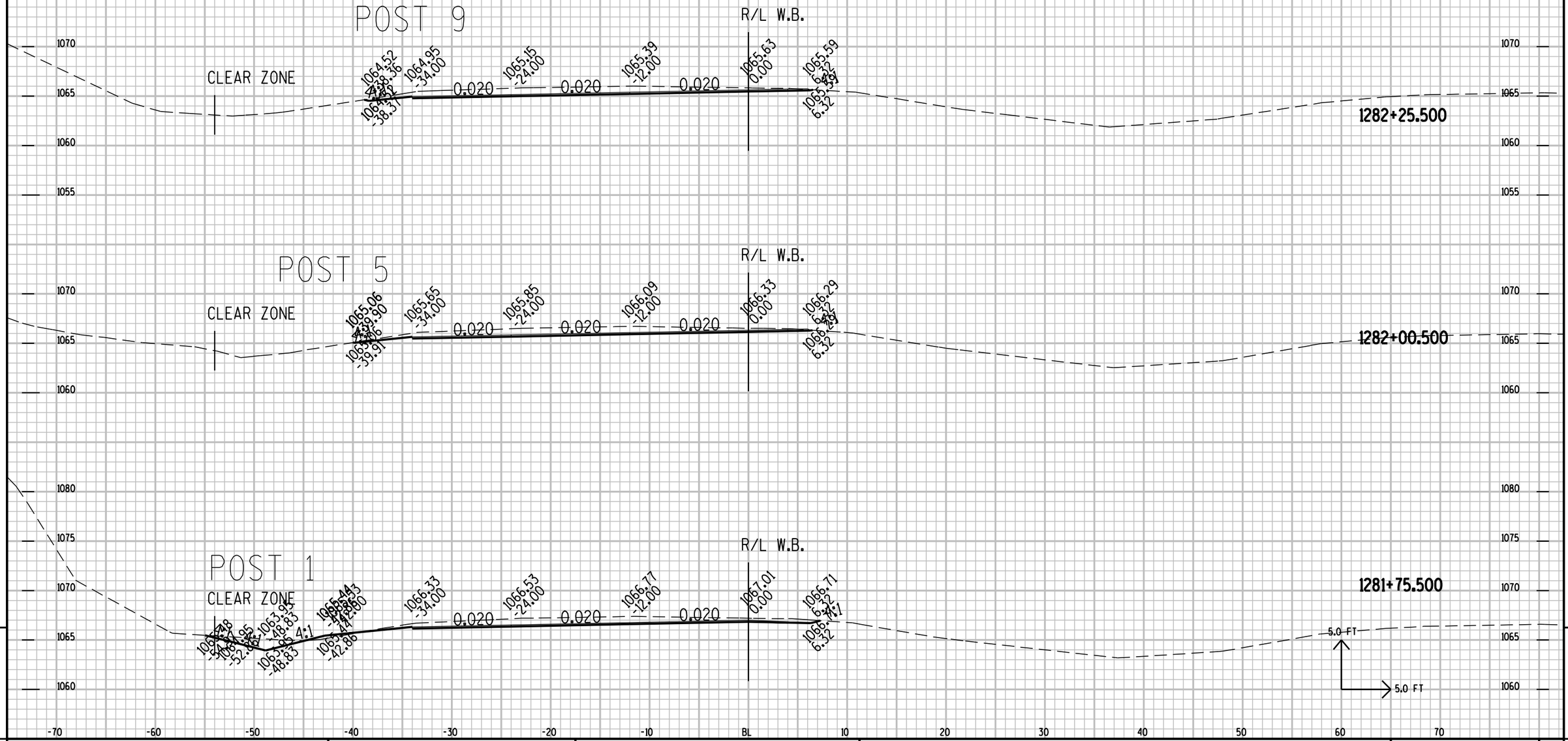
1035
1030
1025
1020
1015

-70 -60 -50 -40 -30 -20 -10 BL 10 20 30 40 50 60 70

9

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\BEAM GUARD SECTIONS\090216_XS_BGW6.DGN PLOT DATE : 17-APR-2013 11:34 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1



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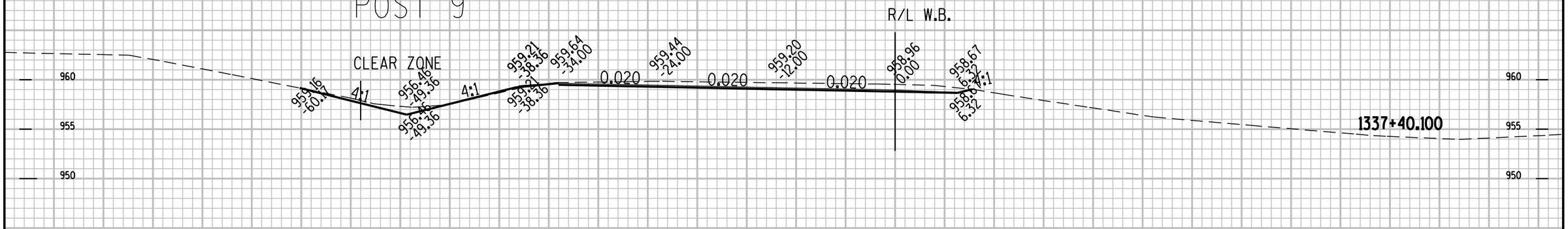
PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\BEAM GUARD SECTIONS\090217_XS_BGW7.DGN PLOT DATE : 17-APR-2013 11:46 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1

POST 9



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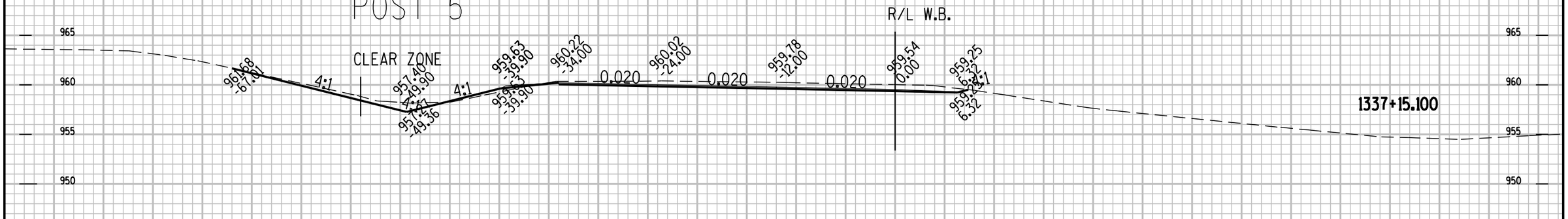

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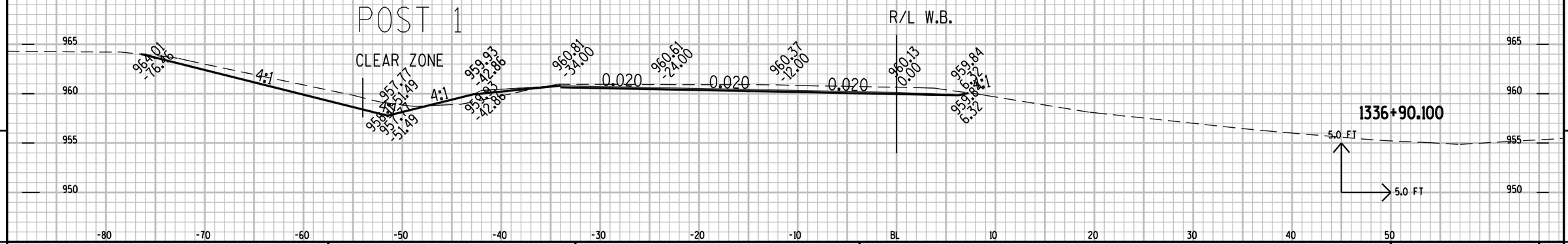

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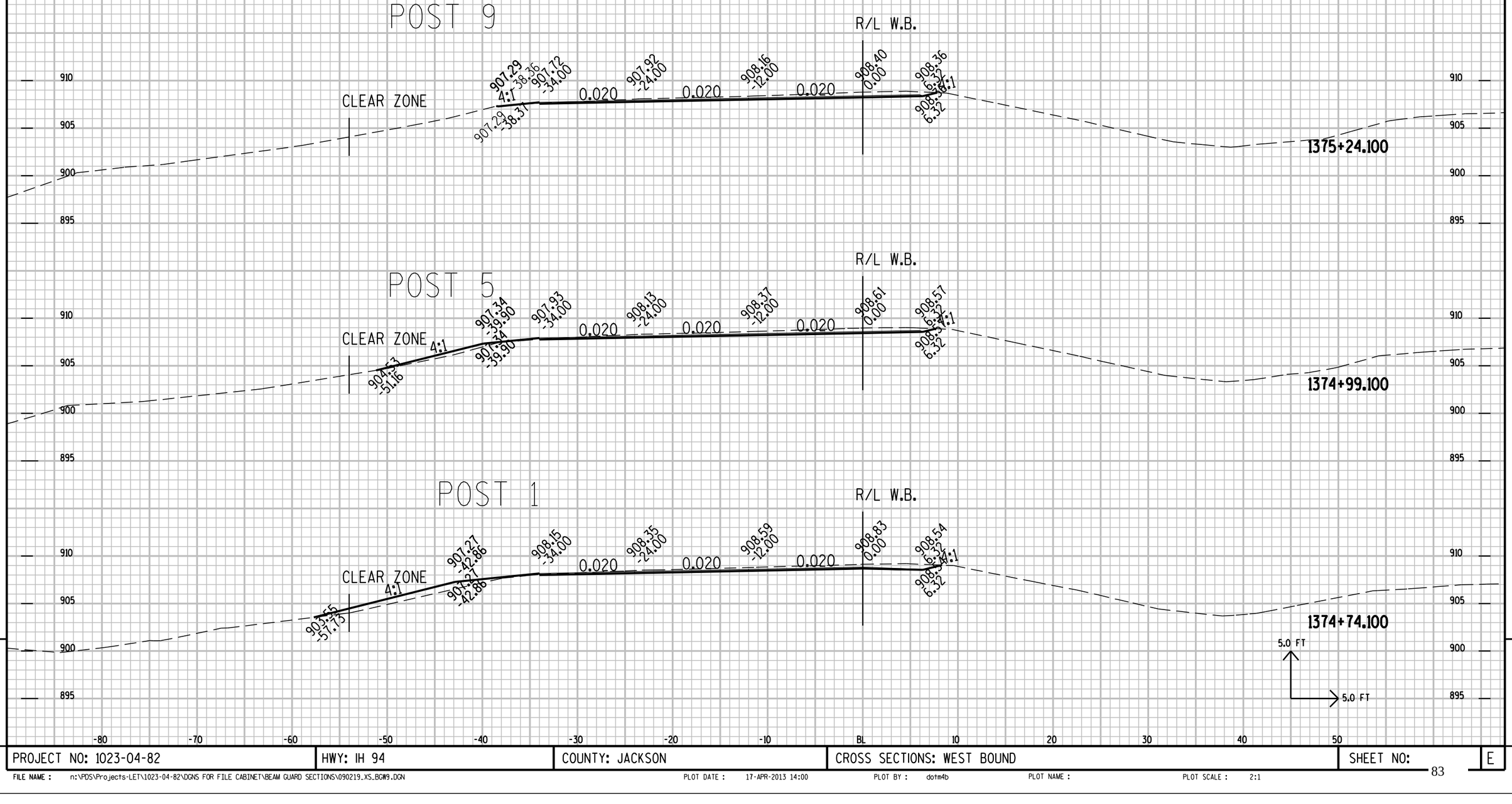
PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\BEAM GUARD SECTIONS\090218_XS_BGM8.DGN PLOT DATE : 17-APR-2013 11:55 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1



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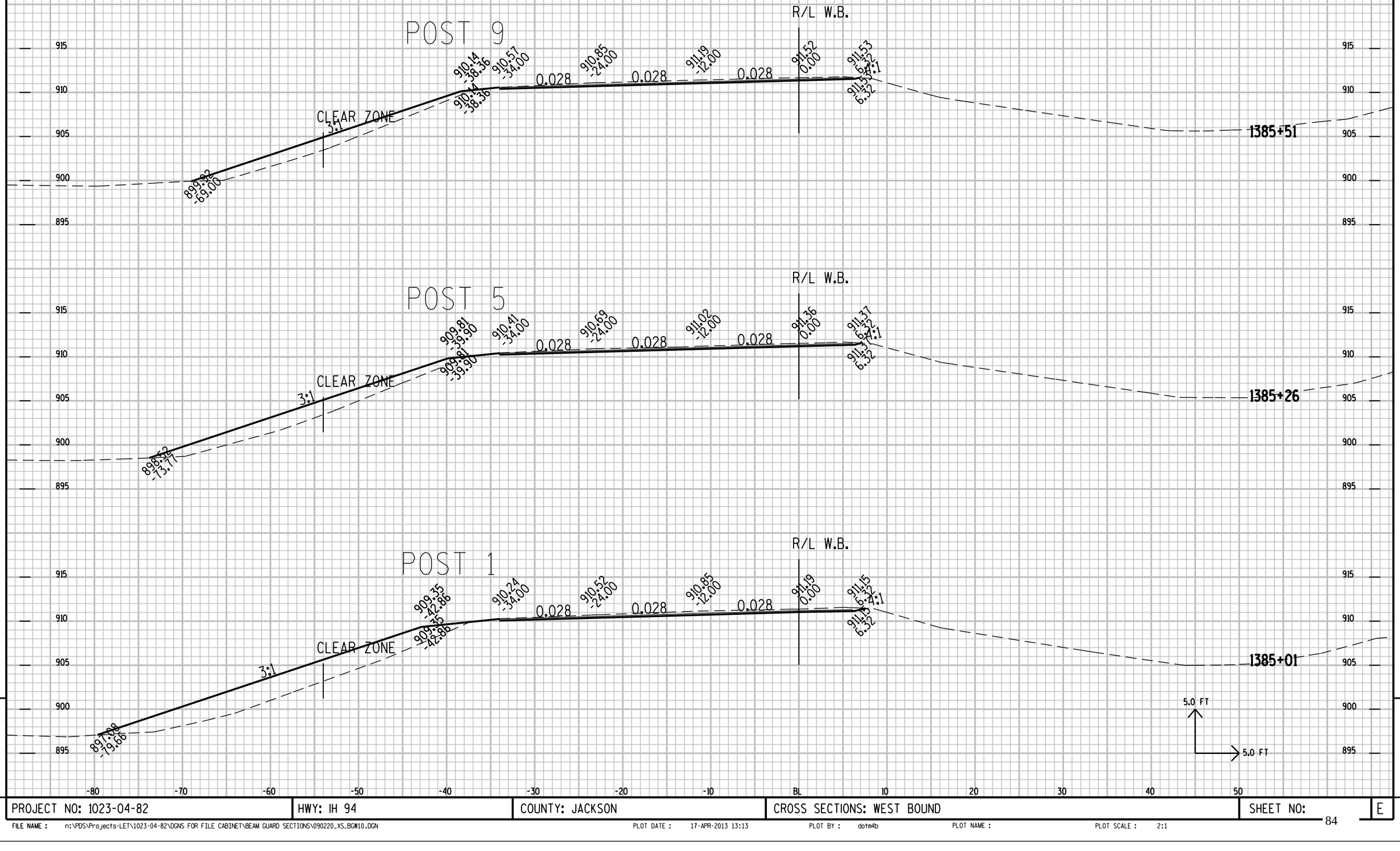
PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\BEAM GUARD SECTIONS\090219_XS_BGW9.DGN PLOT DATE : 17-APR-2013 14:00 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1



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PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

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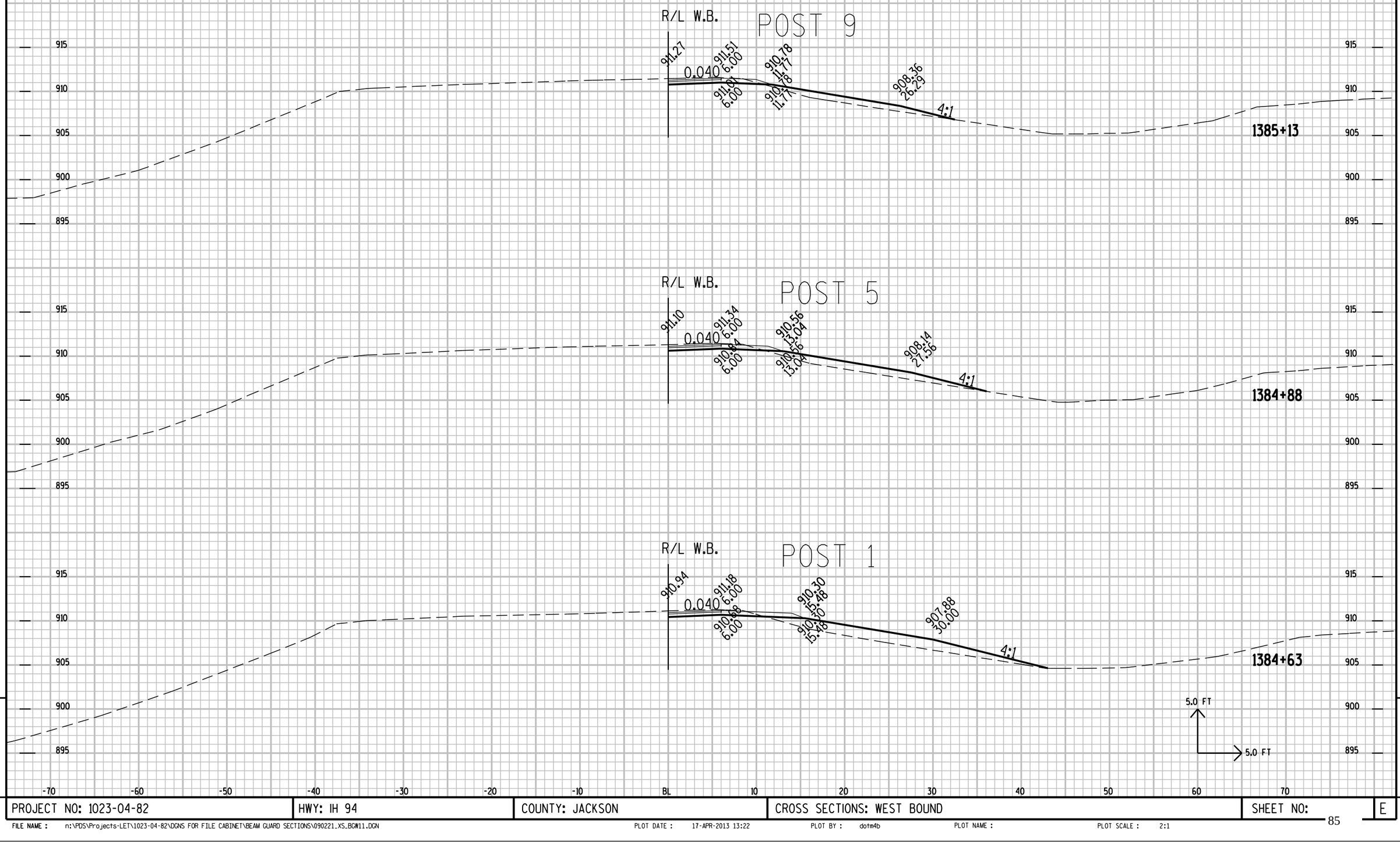

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PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

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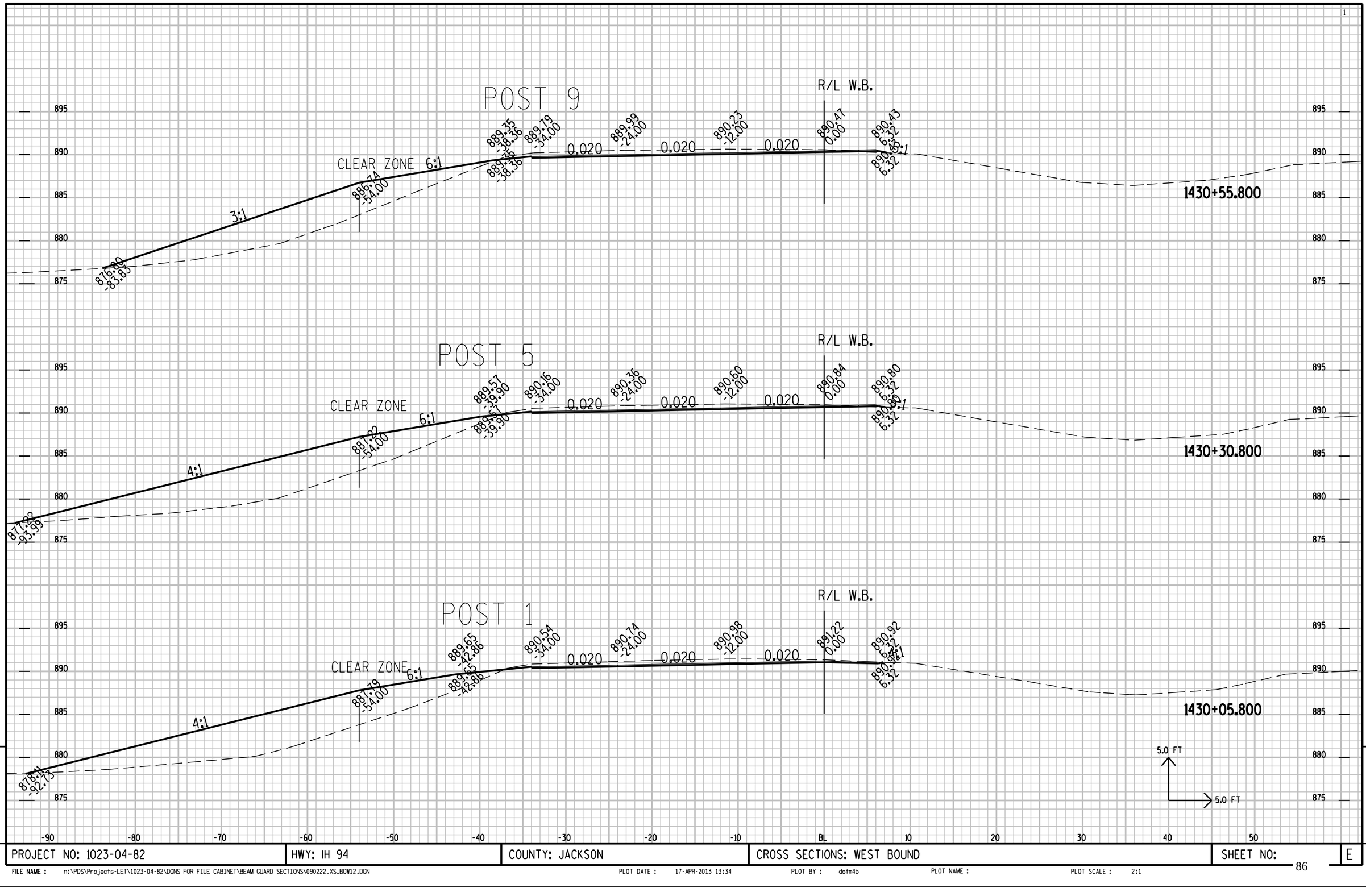

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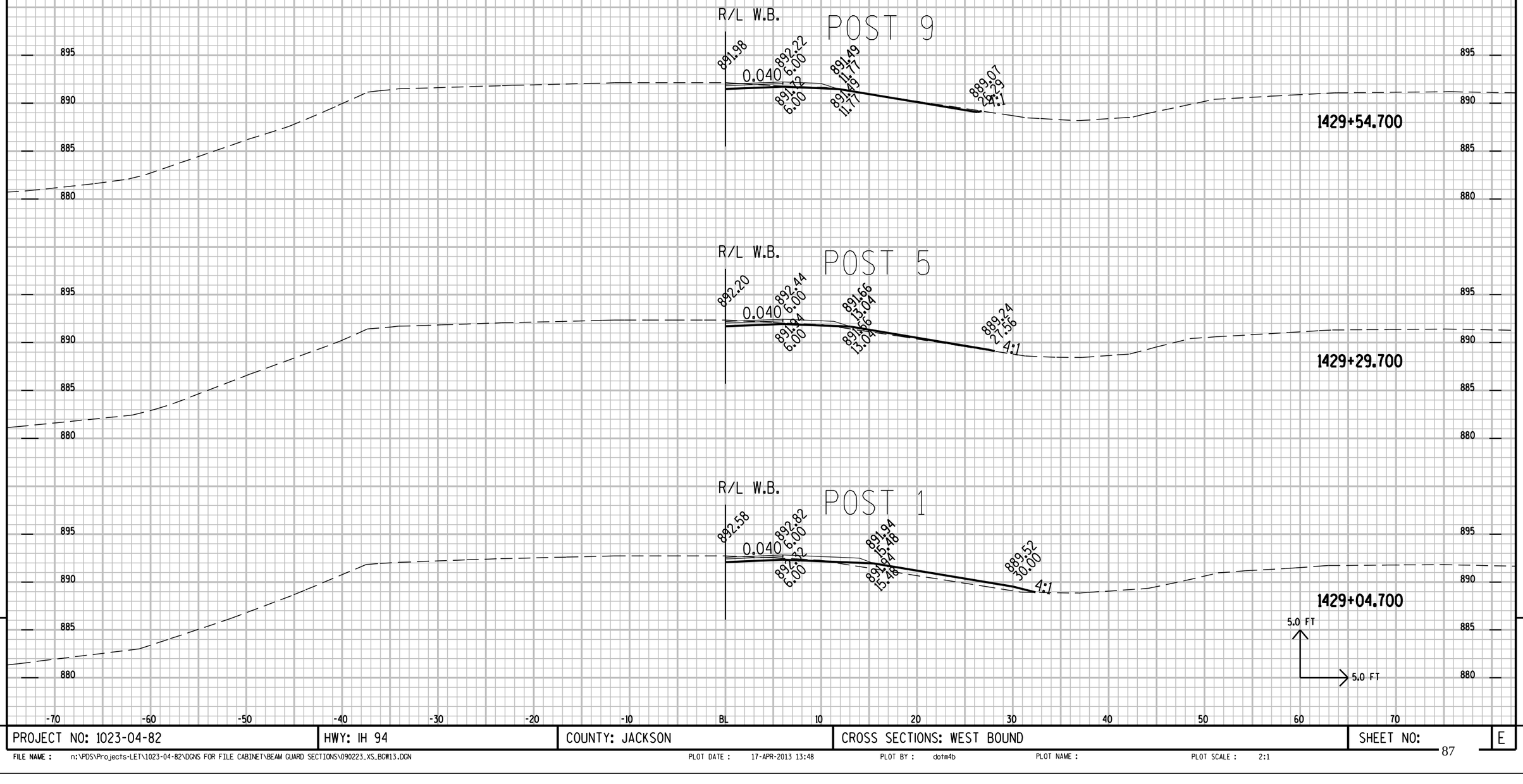
9

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

FILE NAME : n:\PDS\Projects-LET\1023-04-82\DGNS FOR FILE CABINET\BEAM GUARD SECTIONS\090222_XS_BGW12.DGN PLOT DATE : 17-APR-2013 13:34 PLOT BY : dotm4b PLOT NAME : PLOT SCALE : 2:1



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9

PROJECT NO: 1023-04-82	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: WEST BOUND	SHEET NO:	E

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Wisconsin Department of Transportation

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