EAU

MARCH 2015

PROJECT ID: 7220-01-71
WITH: 7600-02-70, 7600-02-71

COUNTY: DUNN

ORDER OF SHEETS

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

TOTAL SHEETS = 166

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY REHABILITATION-MAINTENANCE PROJECT

CITY OF MENOMONIE, BROADWAY STREET

24TH AVENUE TO 11TH AVENUE

STH 25

DUNN COUNTY

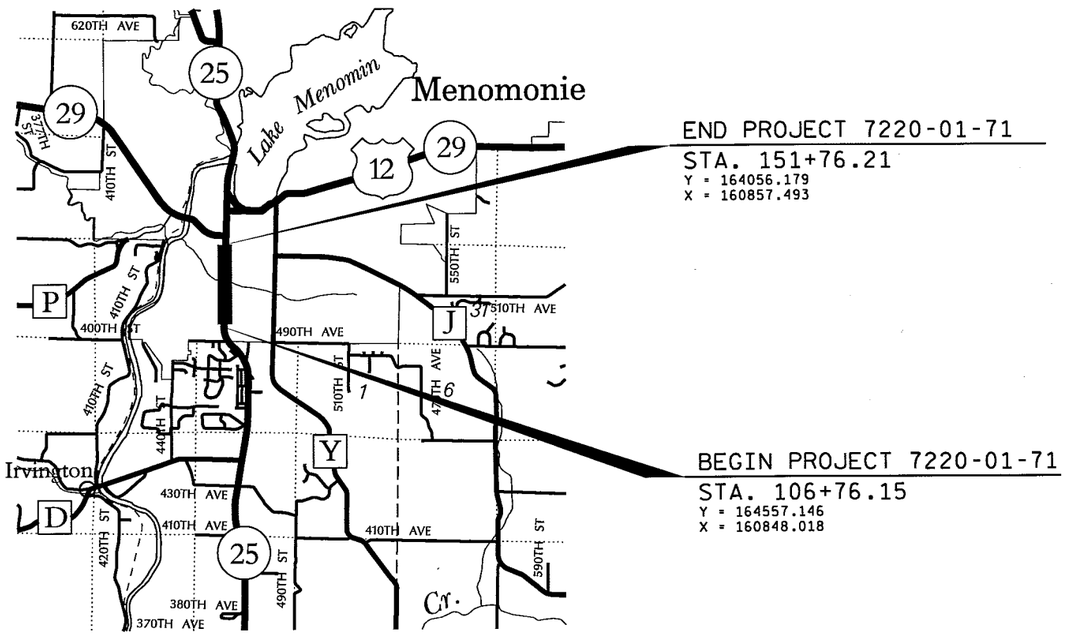
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7220-01-71	WISC 2015150	1

STATE PROJECT NUMBER
7220-01-71

R-13-W

R-12-W

T-28-N



T-27-N

LAYOUT
SCALE 0 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.852 MI.

Horizontal coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Dunn County, NAD 83 (1991).

Vertical information shown on this plan is referenced to NGVD 29.

DESIGN DESIGNATION

A.A.D.T. 2010	=	12,600
A.A.D.T. 2038	=	17,000
D.H.V.	=	1,972
D.D.	=	58/42
T.	=	5.5%
DESIGN SPEED	=	30/35/40 MPH
ESALS	=	5,533,400

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

ACCEPTED FOR CITY OF MENOMONIE
22 Oct 14
DATE: (SIGNATURE)

ORIGINAL PLANS PREPARED BY

KL Engineering
[A] Better Experience

WISCONSIN
MIKE D. SCARMON
E-37613
EVANSVILLE, WI
PROFESSIONAL ENGINEER

10-15-2014
(DATE) (SIGNATURE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	KL ENGINEERING, INC.
Designer	KL ENGINEERING, INC.
Project Manager	TARA WEISS
Regional Examiner	DANIEL OJIBWAY
Regional Supervisor	TIM MASON
C.O. Examiner	JANE ENGELBRETSEN

APPROVED FOR THE DEPARTMENT
DATE: 10/20/14 (Signature)

E

DIGGERS HOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

24-7 TELCOM INC.
GARY WAYNE
E4528 CTH C
DOWNSVILLE, WI 54735
715-231-200 (OFFICE)
715-308-1915 (MOBILE)

CITY OF MENOMONIE – WATER/SANITARY
SEWER/STREET LIGHTS/TRAFFIC SIGNALS
RANDY EIDE, DIRECTOR OF PUBLIC WORKS
800 WILSON AVENUE
MENOMONIE, WI 54751
715-232-2207 (OFFICE)
715-308-0664 (MOBILE)

CHARTER COMMUNICATIONS
TOM HAAS
2304 SOUTH MAIN STREET
RICE LAKE, WI 54868
715-719-0564 (OFFICE)
715-370-1601 (MOBILE)

AT&T WISCONSIN
RICK PODOLAK
AT&T WI DESIGN ENGINEERING
304 S. DEWEY STREET
EAU CLAIRE, WI 54701
715-839-5565 (OFFICE)
715-410-0656 (MOBILE)

XCEL ENERGY – ELECTRICITY
MIKE JOHNSEN
320 HELLER ROAD
MENOMONIE, WI 54751
715-232-7415 (OFFICE)
715-577-7428 (MOBILE)

XCEL ENERGY – GAS/PETROLEUM
MIKE JOHNSEN
320 HELLER ROAD
MENOMONIE, WI 54751
715-232-7415 (OFFICE)
715-577-7428 (MOBILE)

DNR AREA LIAISON

CHRIS WILLGER
DEPARTMENT OF NATURAL RESOURCES
1300 W. CLAIRMONT STREET
EAU CLAIRE, WI 54702
(715) 839-1609
CHRISTOPHERJ.WILLGER@WISCONSIN.GOV

UW STOUT FACILITIES

MIKE MCCLUSKEY
UNIVERSITY OF WISCONSIN-STOUT
PHYSICAL PLANT GENERAL SERVICES BUILDING
915 SOUTH BROADWAY
MENOMONIE, WI, 54751
(715)-232-1475

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
STORM SEWER & EROSION CONTROL
SIGNING
PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT
CONTROL POINTS

DESIGN CONTACTS

CONSULTANT DESIGNER
BRAD CUNNINGHAM, P.E.
KL ENGINEERING, INC.
5950 SEMINOLE CENTRE COURT, SUITE 200
MADISON, WI 53711
(608) 663-1218
BCUNNINGHAM@KLENGINEERING.COM

CONSULTANT PROJECT MANAGER
MIKE SCARMON, P.E.
KL ENGINEERING, INC.
5950 SEMINOLE CENTRE COURT, SUITE 200
MADISON, WI 53711
(608) 663-1218
MSCARMON@KLENGINEERING.COM

SEWER & WATER
DAVID SCHOFIELD, P.E.
CEDAR CORPORATION
604 WILSON AVENUE
MENOMONIE, WI 54751
(715) 235-9081
DAVID.SCHOFIELD@CEDARCORP.COM

ABBREVIATIONS

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

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO NGVD 29

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WCCS DUNN CO. WITH NAD 83 (1991) ADJUSTMENTS.

CONTACT THE UTILITIES AND DIGGERS HOTLINE TO LOCATE AND FIELD VERIFY UTILITIES PRIOR TO THE START OF WORK. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTACT ANY LOCAL, MUNICIPAL OR OTHER UTILITY THAT IS NOT A MEMBER OF DIGGERS HOTLINE SEPARATELY.

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

RIGHT OF WAY LINES SHOWN ARE APPROXIMATE.

PROTECT INLETS WITH PROPER INLET PROTECTION AT LOCATIONS EXHIBITING RISK OF BEING IMPACTED BY CONSTRUCTION OPERATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE EXACT LOCATIONS OF PRIVATE ENTRANCES ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL DRIVEWAYS ARE TO BE REPLACED IN KIND UNLESS OTHERWISE DIRECTED BY THE ENGINEER, OR AS SHOWN ON THE PLANS.

THE EXACT LOCATION AND WIDTH OF TEMPORARY ACCESS FOR DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER. STAGE CONSTRUCTION AT ALL DRIVEWAYS TO PROVIDE ACCESS AT ALL TIMES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTORS EXPENSE.

PLACE SALVAGED TOPSOIL IN ALL GRADED AREAS AS DESIGNATED BY THE ENGINEER IMMEDIATELY AFTER GRADING HAS BEEN COMPLETED. SEED, MULCH AND FERTILIZE OR SOD AND FERTILIZE ALL AREAS 5 DAYS AFTER PLACEMENT OF SALVAGED TOPSOIL.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS, FLOODWAY OR FLOODPLAIN OF ANY WATERWAY.

CONSTRUCTION PERMITS FOR SIDEWALK AND/OR DRIVEWAY CONSTRUCTION HAVE BEEN OBTAINED AND SUCH RIGHTS WILL BE EXTENDED TO THE CONTRACTOR.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.

FENCE SAFETY INCLUDED AS UNDISTRIBUTED IN THE MISCELLANEOUS QUANTITIES INTENDED FOR USE WHEN RECONSTRUCTING CURB RAMP AREAS AT INTERSECTIONS. PLACE FENCE SAFETY AS THE ENGINEER DIRECTS.

RESTORE ALL LANDSCAPED AREAS IMPACTED BY SIDEWALK AND CURB RAMP MODIFICATIONS AS THE ENGINEER DIRECTS.

CURB AND GUTTER GRADES AND LAYOUT DATA ARE GIVEN TO THE FLANGE OF THE CURB.

SAWCUT ASPHALTIC AND CONCRETE DRIVEWAYS AND/OR PARKING LOTS AT THE MATCHLINE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.

ALL MANHOLE INLET OFFSETS ARE GIVEN TO THE CENTER OF THE STRUCTURE.

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN AND PROVIDE DOCUMENTATION TO THE ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS. THIS ALSO INCLUDES VERIFICATION OF INVERT ELEVATIONS AT ALL PROPOSED STORM SEWER CONNECTION POINTS TO EXISTING SYSTEMS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM "TRAFFIC CONTROL COVERING SIGNS TYPE 1 OR TYPE 2.

COMMON EXCAVATION QUANTITIES ARE INCLUDED FOR SIDEWALK AND CURB RAMP AREAS. MAXIMUM DEPTH EXCAVATION WAS ASSUMED TO BE 1-FOOT WITHIN THE FOOTPRINT OF THE SIDEWALK AREAS.

5 FOOT WIDE SIDEWALK REQUIRES TRANSVERSE JOINTS SPACED AT 5 FEET, 8 FOOT WIDE SIDEWALK REQUIRES TRANSVERSE JOINTS SPACED AT 8 FEET.

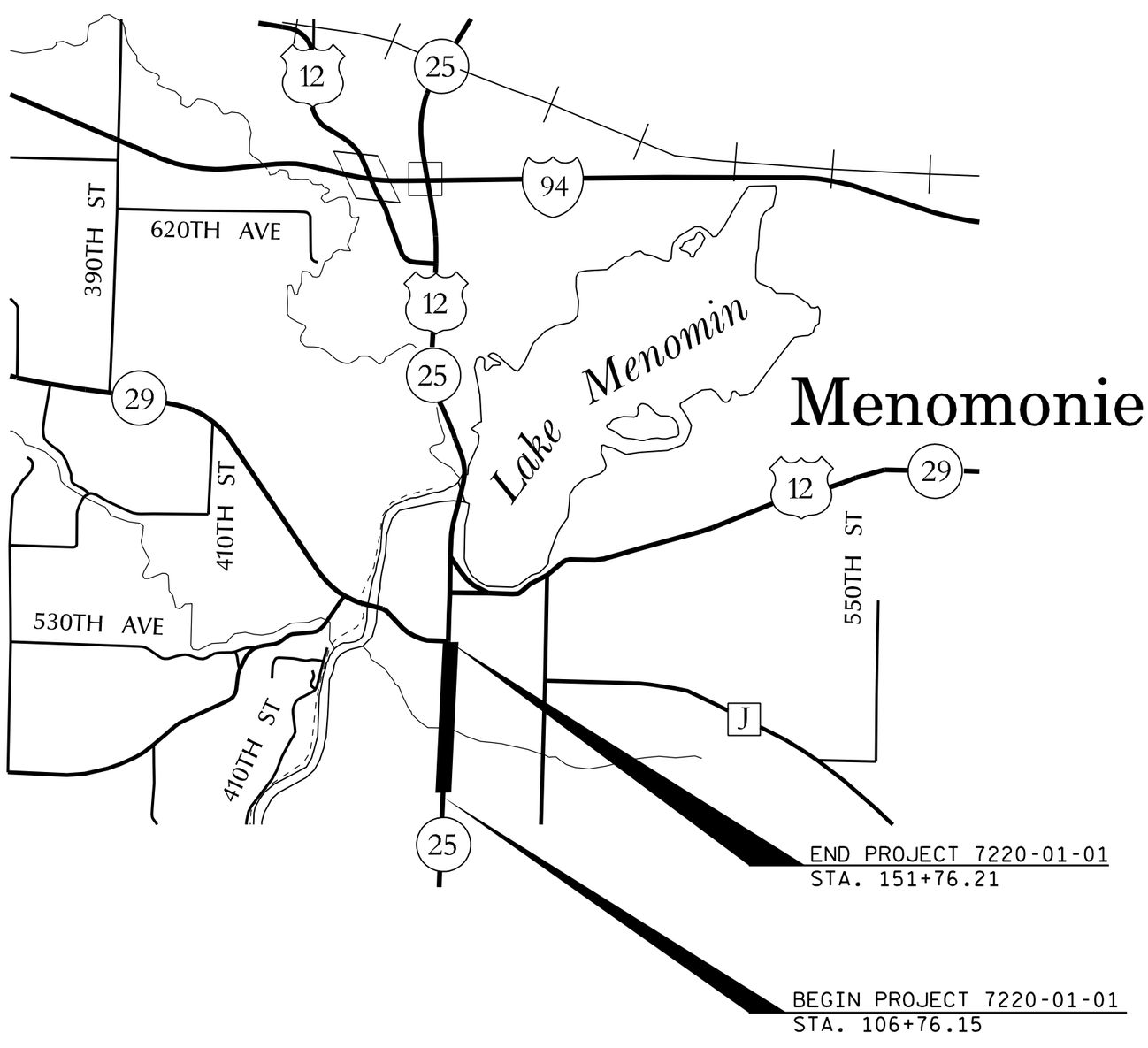
SIDEWALK AND CURB & GUTTER REPLACEMENT SHOULD BE THE NEAREST JOINT. LIMITS ARE APPROXIMATE AND ARE TO BE VERIFIED IN THE FIELD BY THE ENGINEER. MATCH EXISTING SIDEWALK WIDTH.

REFER TO MISCELLANEOUS QUANTITIES FOR UNDISTRIBUTED LANDSCAPING ITEMS FOR RESTORATION OF SIDEWALK REPLACEMENT AREAS.

ASPHALTIC SURFACE/HMA PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYER THICKNESSES:.

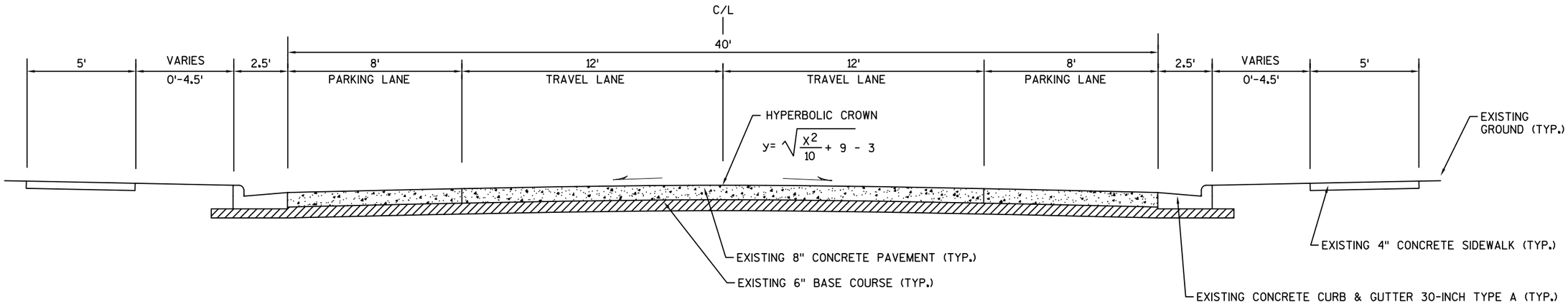
PAVEMENT THICKNESS (INCH)	LOWER (INCH)	NOM AGG SIZE (MM)	UPPER (INCH)	NOM AGG SIZE (MM)
2 .5	1 .0	9.5	1.5	9.5

2



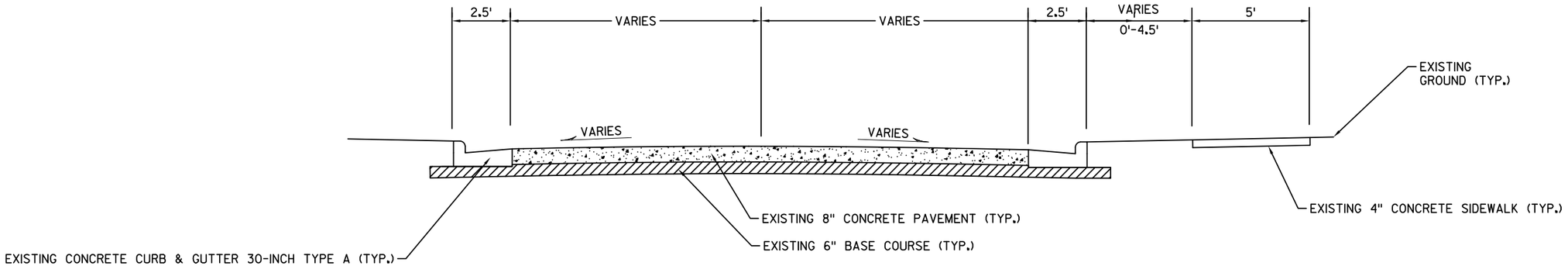
NET LENGTH OF ROADWAY = 0.852 MI.

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PROJECT OVERVIEW	SHEET 4	E



EXISTING TYPICAL SECTION

STA. 106+76.15 - STA. 151+76.21



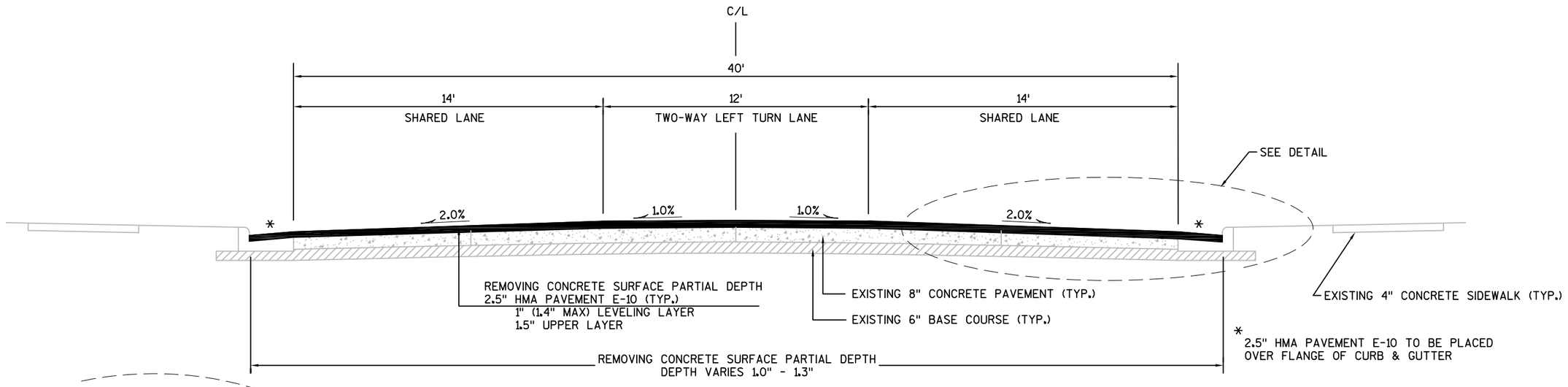
EXISTING TYPICAL SECTION SIDE STREETS

11TH AVE.
12TH AVE.
13TH AVE.
14TH AVE.
15TH AVE.
16TH AVE.
17TH AVE.
20TH AVE.
21ST AVE.
22ND AVE.
23RD AVE.
24TH AVE.

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TYPICAL SECTIONS	SHEET 5	E

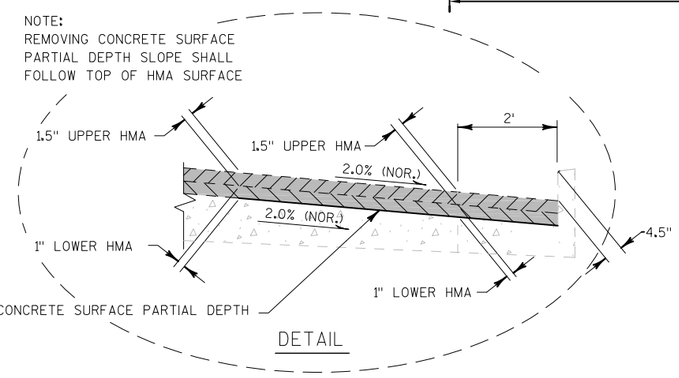
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TYPICAL SECTIONS\SOUTH BROADWAY R020301A_TS.DWG 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- 1"=5'

WISDOT/CADDS SHEET 42

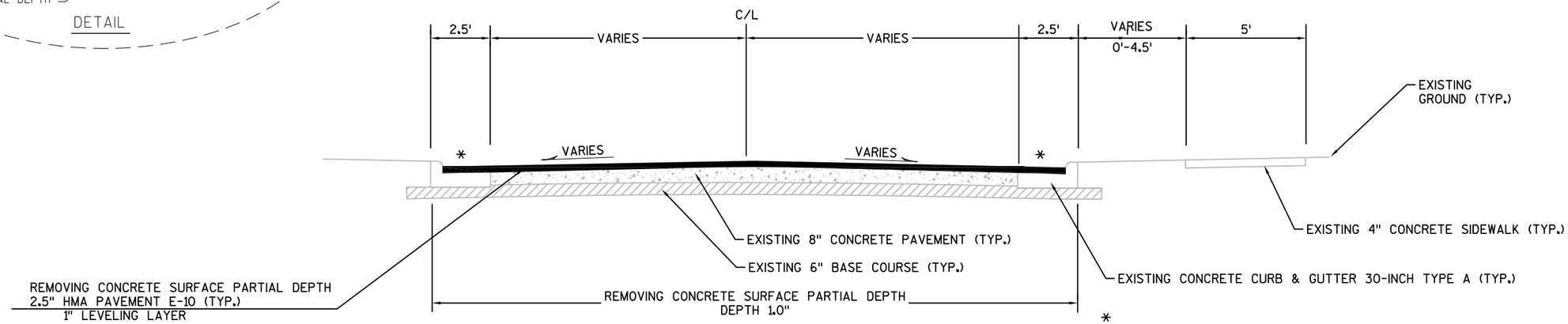


PROPOSED TYPICAL SECTION

STA. 106+76.15 - STA. 151+76.21



DETAIL



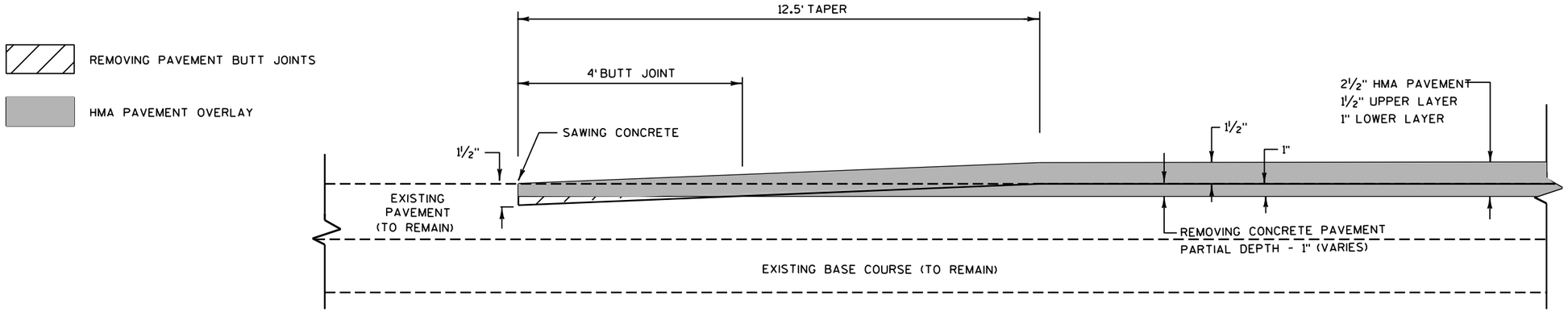
PROPOSED TYPICAL SECTION SIDE STREETS

17TH AVE.

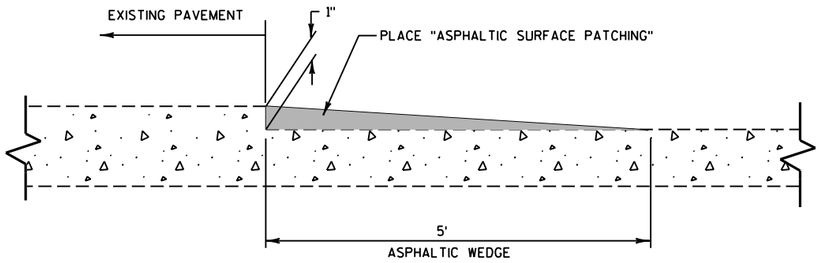
12TH AVE.	20TH AVE.
13TH AVE.	21ST AVE.
14TH AVE.	22ND AVE.
15TH AVE.	23RD AVE.
16TH AVE.	24TH AVE.

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TYPICAL SECTIONS	SHEET 6	E

2



BUTT JOINT DETAIL



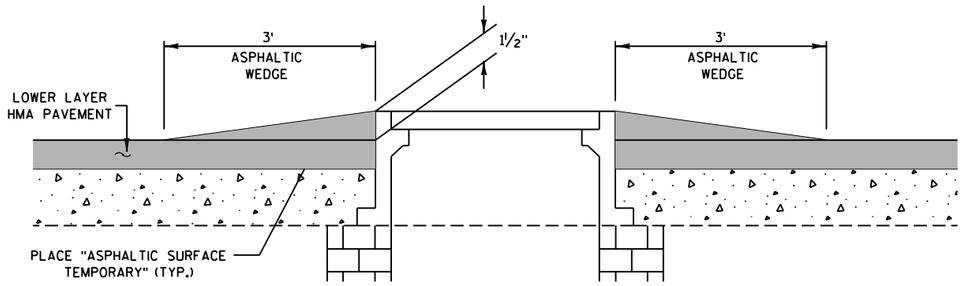
NOTE:

REMOVAL OF ASPHALTIC WEDGES WILL BE PAID FOR AS "REMOVING PAVEMENT BUTT JOINTS".

TEMPORARY WEDGES DETAIL (MATCH POINTS)

(SIDE STREETS / MATCH POINTS)

NOTE: PROVIDE PRIOR TO OPENING LANE TO TRAFFIC.

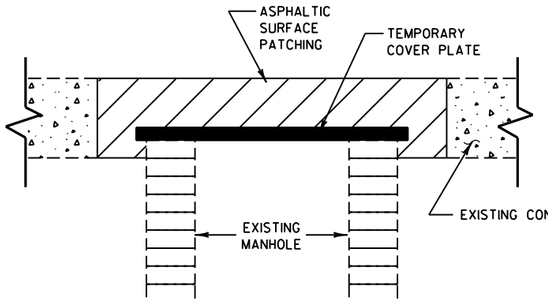


NOTE:

REMOVAL OF ASPHALTIC WEDGES WILL BE PAID FOR AS "REMOVING PAVEMENT BUTT JOINTS."

TEMPORARY WEDGES DETAIL (MANHOLES)

NOTE: PROVIDE PRIOR TO OPENING LANE TO TRAFFIC



STEP 1

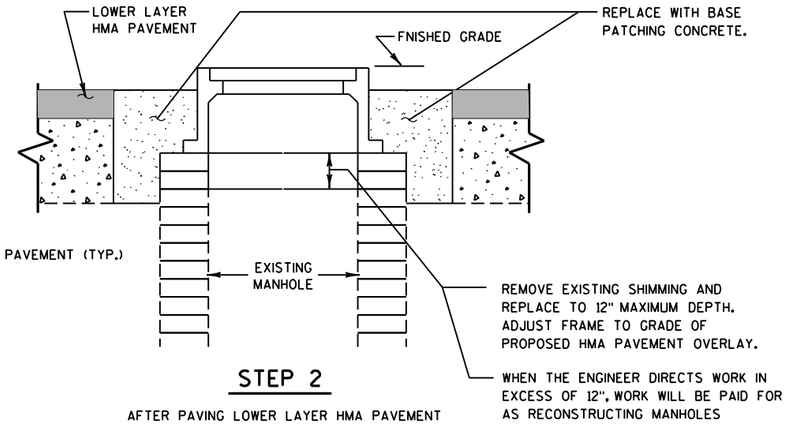
PROIR TO MILLING

A. REMOVE AND STORE MANHOLE COVER

B. FURNISH AND INSTALL TEMPORARY COVER PLATE *

C. BACKFILL USING ASPHALT SURFACE PATCHING *

* TO BE PAID FOR UNDER CONTRACT ITEMS



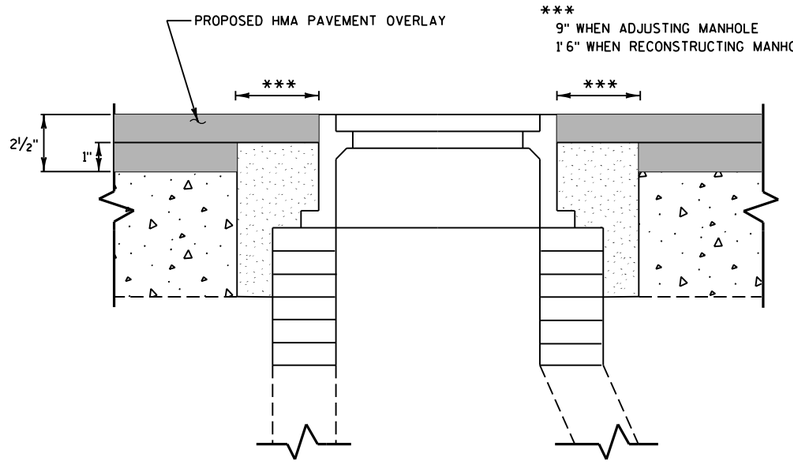
STEP 2

AFTER PAVING LOWER LAYER HMA PAVEMENT

A. EXCAVATE AND REMOVE TEMPORARY COVER PLATE

B. ADJUST MANHOLE AND REINSTALL MANHOLE COVER TO FINISH GRADE

(BACKFILL AND OTHER WORK TO BE DONE IN ACCORDANCE WITH ITEM - ADJUSTING MANHOLE COVERS)

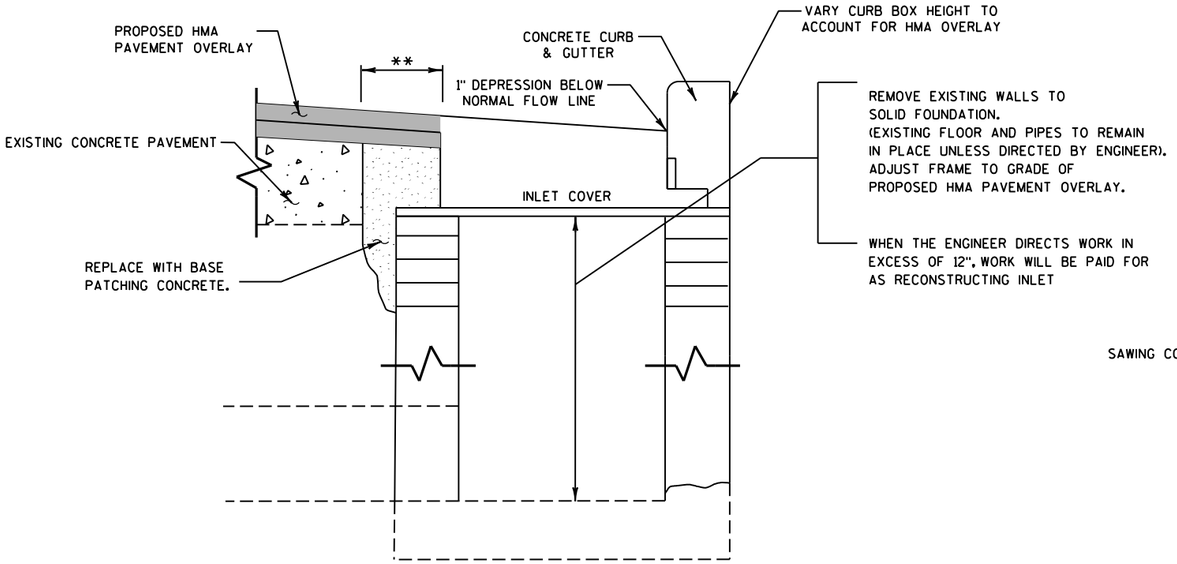


STEP 3

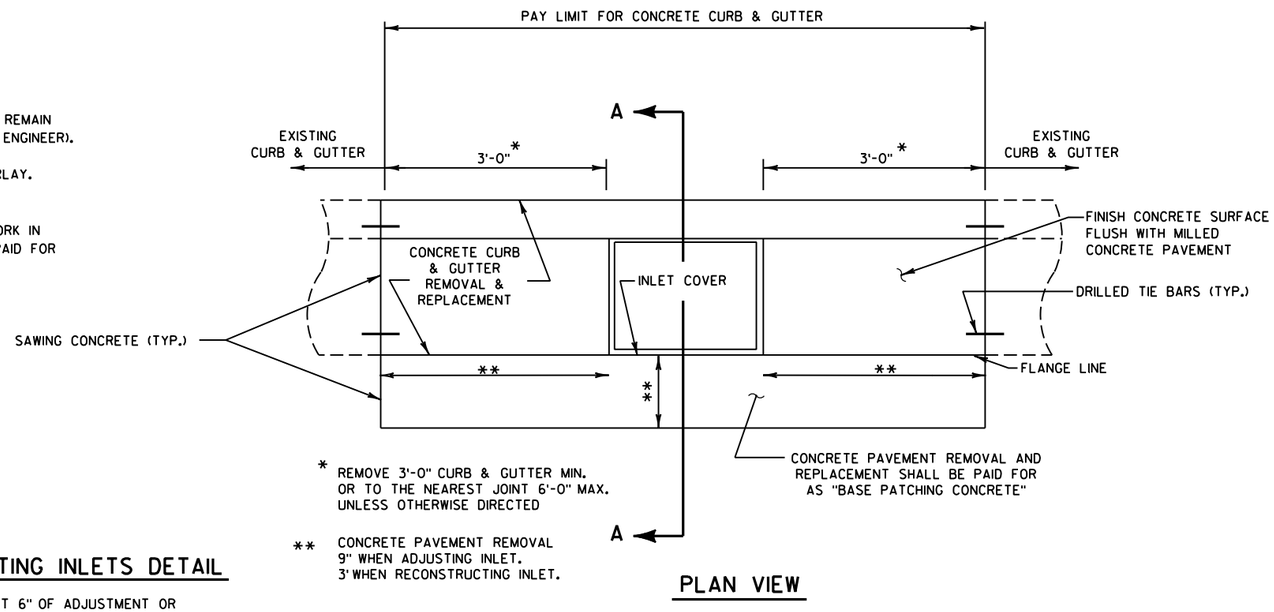
A. PAVE UPPER LAYER HMA PAVEMENT

ADJUSTING OR RECONSTRUCTING MANHOLE COVERS DETAIL

WHEN NEW COVERS ARE PLACED, THE FIRST 6" OF ADJUSTMENT OR REPAIRING SHALL BE INCIDENTAL TO THE COST OF THE NEW COVER. ANY ADJUSTMENT OR REPAIR OF BRICKWORK BETWEEN 6" AND 12" WILL BE PAID AS ADJUSTING MANHOLE COVERS. REPAIRS GREATER THAN 12" WILL BE PAID AS RECONSTRUCTING MANHOLES.



SECTION A-A



* REMOVE 3'-0" CURB & GUTTER MIN. OR TO THE NEAREST JOINT 6'-0" MAX. UNLESS OTHERWISE DIRECTED

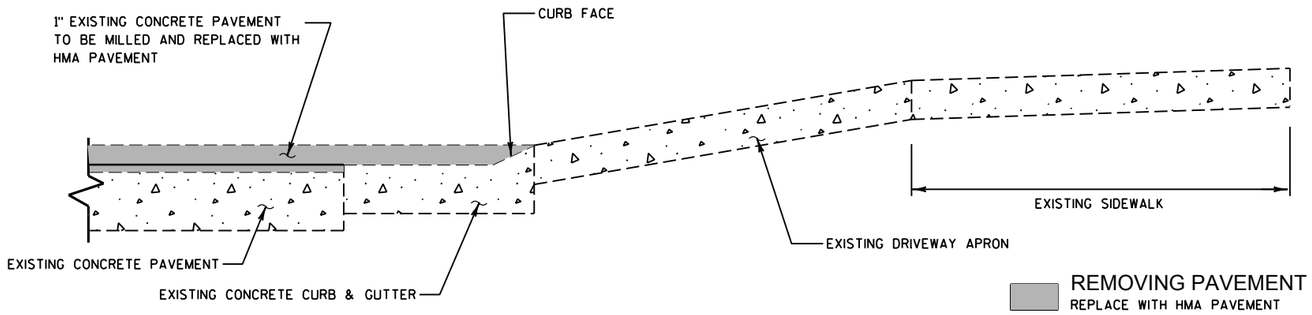
** CONCRETE PAVEMENT REMOVAL 9" WHEN ADJUSTING INLET. 3' WHEN RECONSTRUCTING INLET.

PLAN VIEW

ADJUSTING OR RECONSTRUCTING INLETS DETAIL

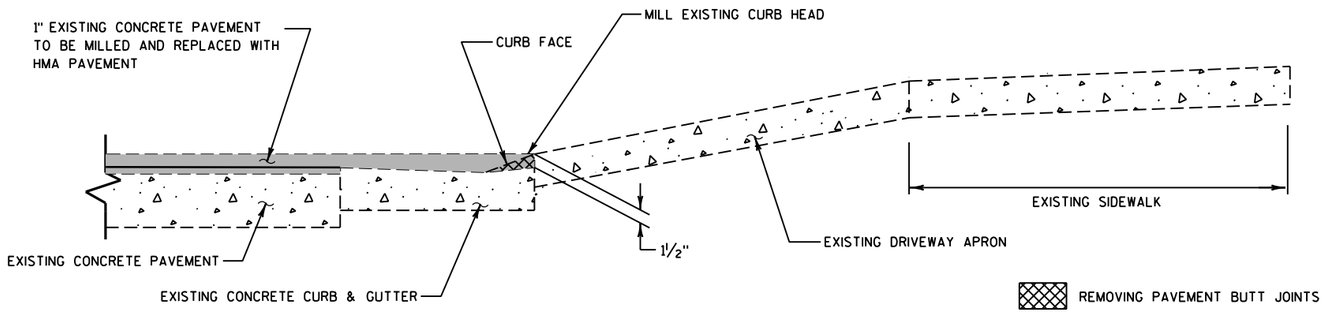
WHEN NEW COVERS ARE PLACED, THE FIRST 6" OF ADJUSTMENT OR REPAIRING SHALL BE INCIDENTAL TO THE COST OF THE NEW COVER. ANY ADJUSTMENT OR REPAIR OF BRICKWORK BETWEEN 6" AND 12" WILL BE PAID AS ADJUSTING INLET COVERS. REPAIRS GREATER THAN 12" WILL BE PAID AS RECONSTRUCTING INLETS.

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS	SHEET 8	E



EXISTING CONCRETE/ASPHALT DRIVEWAY DETAIL

(NO WORK REQUIRED ON APRON)



EXISTING COMMERCIAL DRIVEWAY DETAIL

(NO WORK REQUIRED ON APRON)

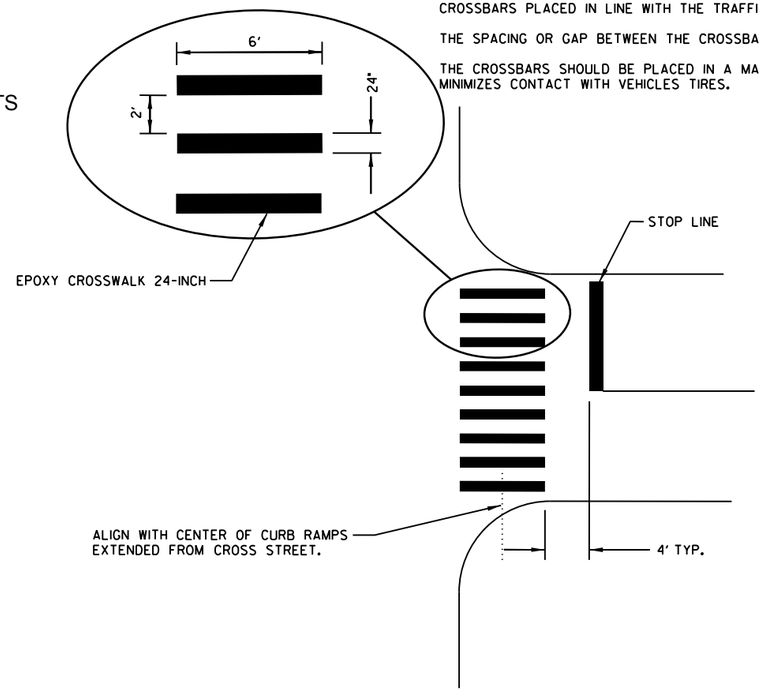
2

CROSSWALKS

CROSSWALKS HAVE 24 INCH WIDE 6 FOOT LONG CROSSBARS PLACED IN LINE WITH THE TRAFFIC FLOW.

THE SPACING OR GAP BETWEEN THE CROSSBARS IS 24 INCHES

THE CROSSBARS SHOULD BE PLACED IN A MANNER THAT MINIMIZES CONTACT WITH VEHICLES TIRES.



CROSS WALK & STOP LINES DETAIL

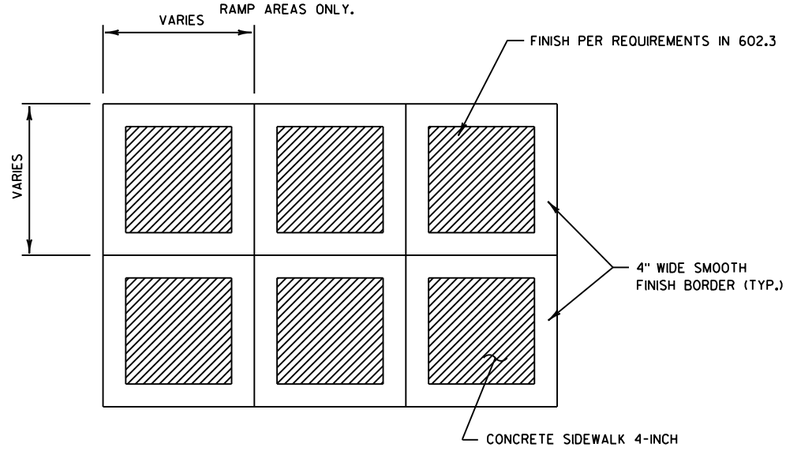
SEE PAVEMENT MARKING PLANS FOR LOCATIONS

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS	SHEET 9	E

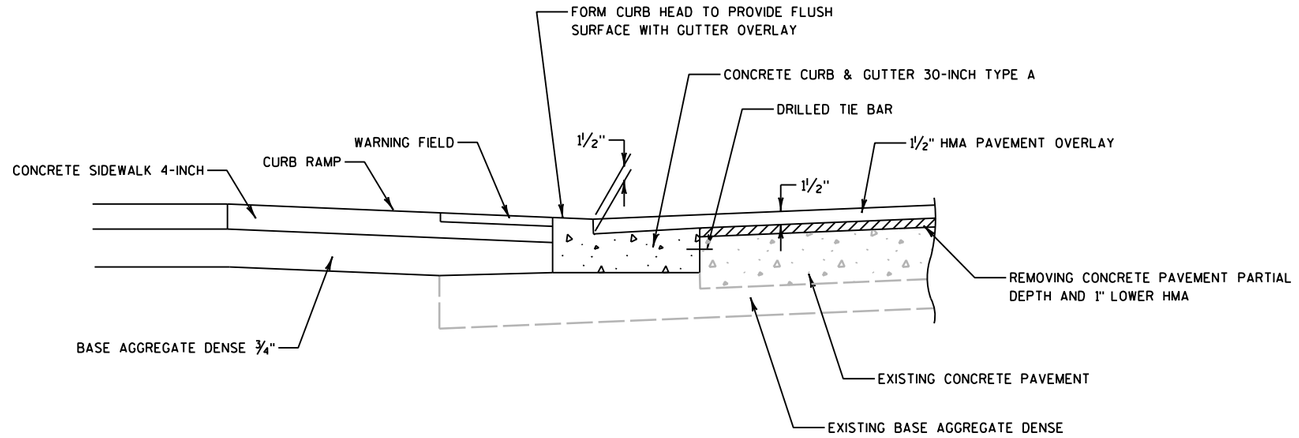
2

NOTE:

FINISHING AS SHOWN SHALL BE CONSIDERED INCIDENTAL TO THE CONCRETE SIDEWALK BID ITEM. FINISHING APPLIES TO SIDEWALK IN CURB RAMP AREAS ONLY.



CONCRETE FINISHING DETAIL FOR CURB RAMP AREAS (SOUTH BROADWAY)

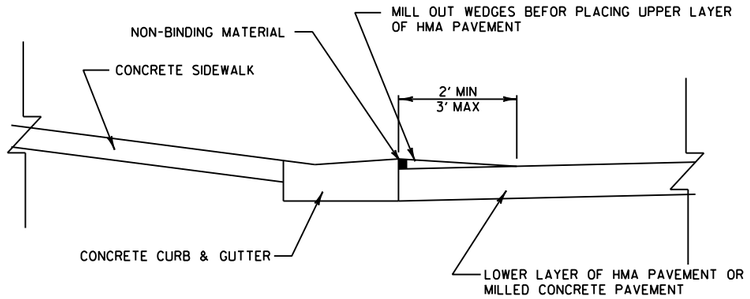


CURB RAMP DETAIL IN OVERLAY AREAS

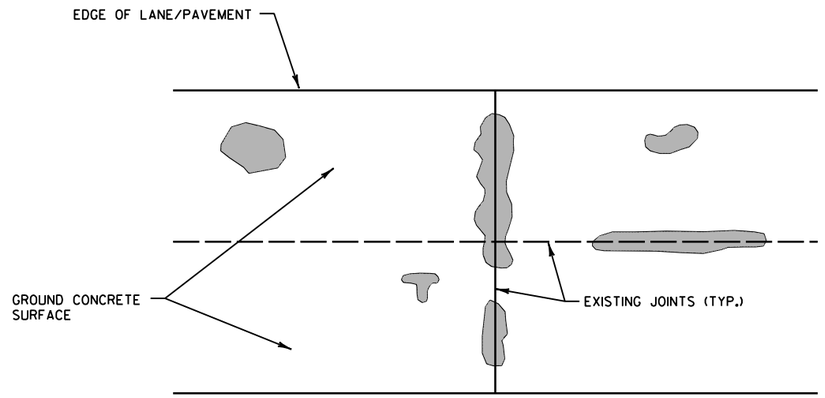
2

NOTE: INCIDENTAL TO TEMPORARY CROSSWALK ACCESS ITEM.

TEMPORARILY PLACE ASPHALT SURFACE WEDGE AT CURB RAMPS



TEMPORARY ASPHALT RAMP AT CURB RAMPS



NOTES:

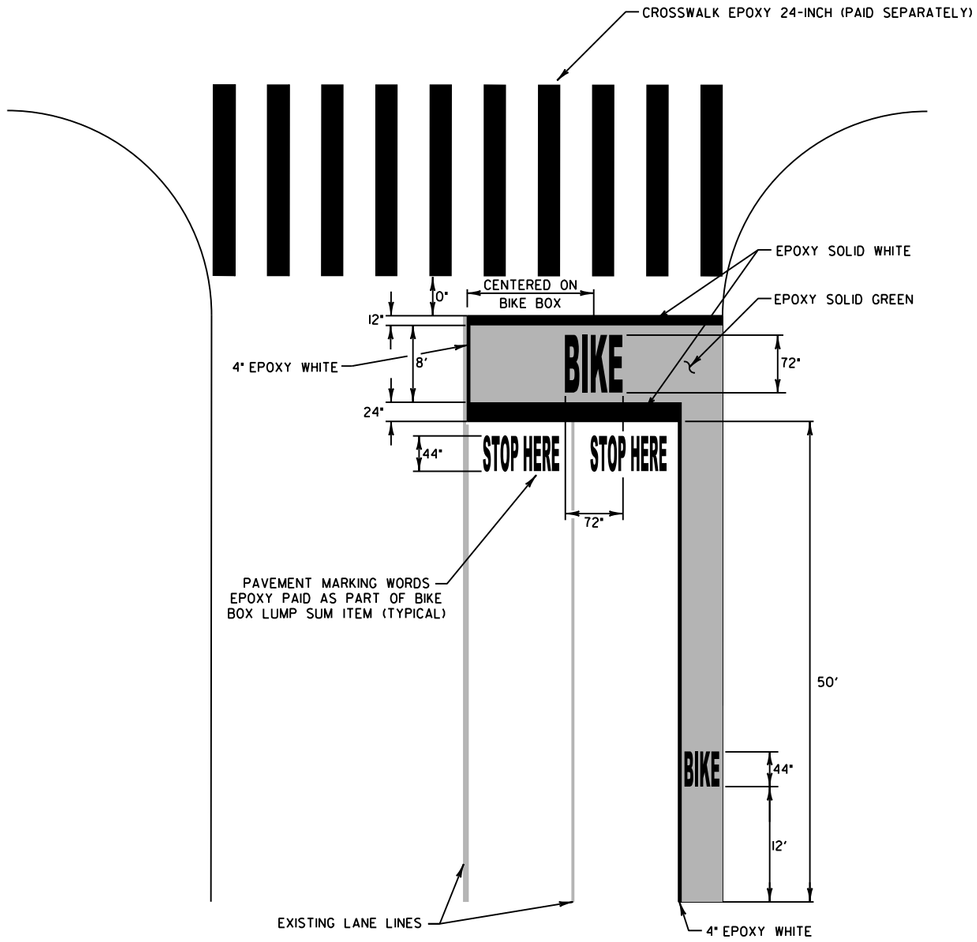
- AFTER THE EXISTING PAVEMENT IS GROUND, REMOVE REMAINDER OF CRACKFILL, PATCHING, AND UNSOUND CONCRETE TO A MINIMUM DEPTH OF 4".

- REPAVE AREAS WITH ASPHALTIC SURFACE PATCHING PAID SEPARATELY FROM THIS ITEM.

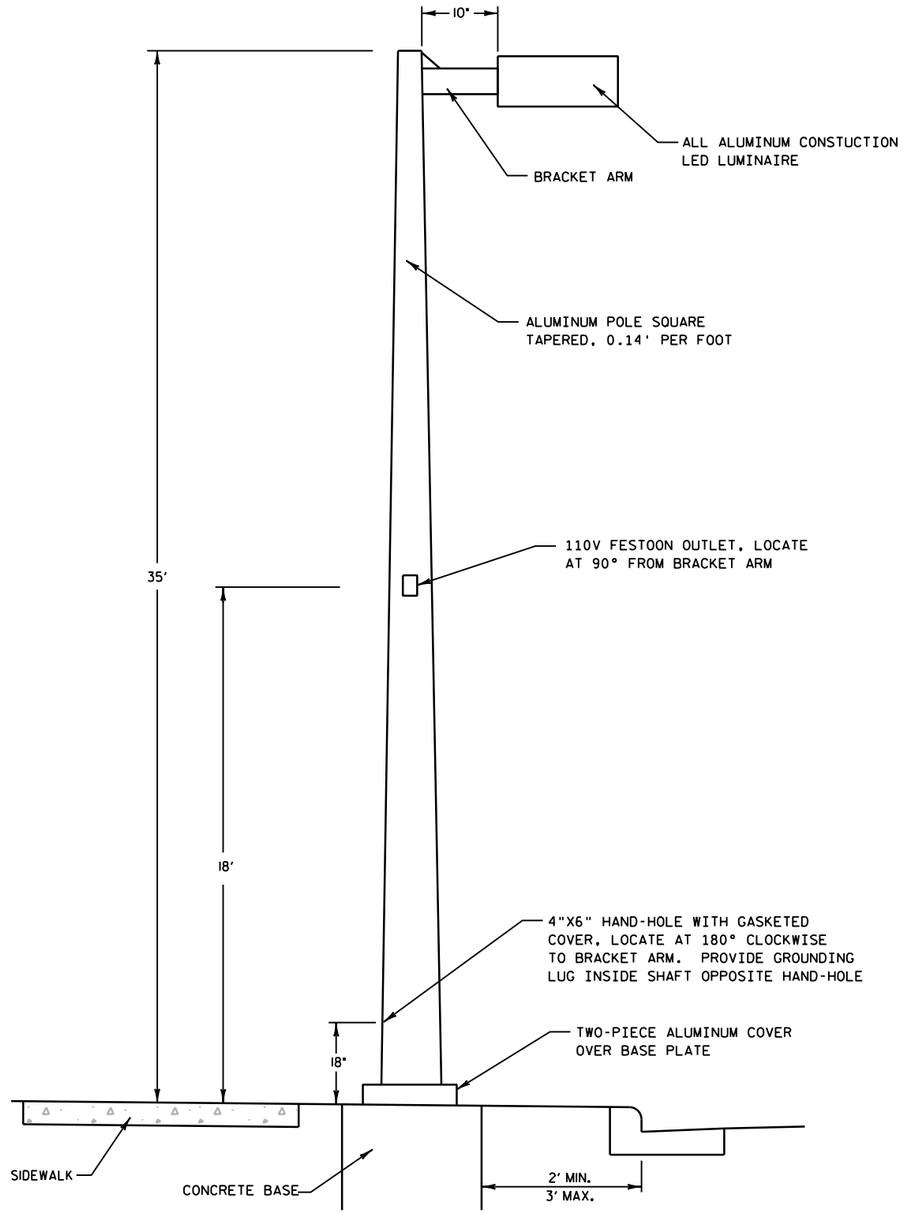
PREPARE FOUNDATION FOR ASPHALT PAVING - SPECIAL

- SEE S.D.D. "CONCRETE PAVEMENT PARTIAL DEPTH REPAIR" FOR DETAILS ON REPAIR AREAS. REPAIRS TO BE INCIDENTAL TO "PREPARE FOUNDATION FOR ASPHALT PAVING - SPECIAL" ITEM.

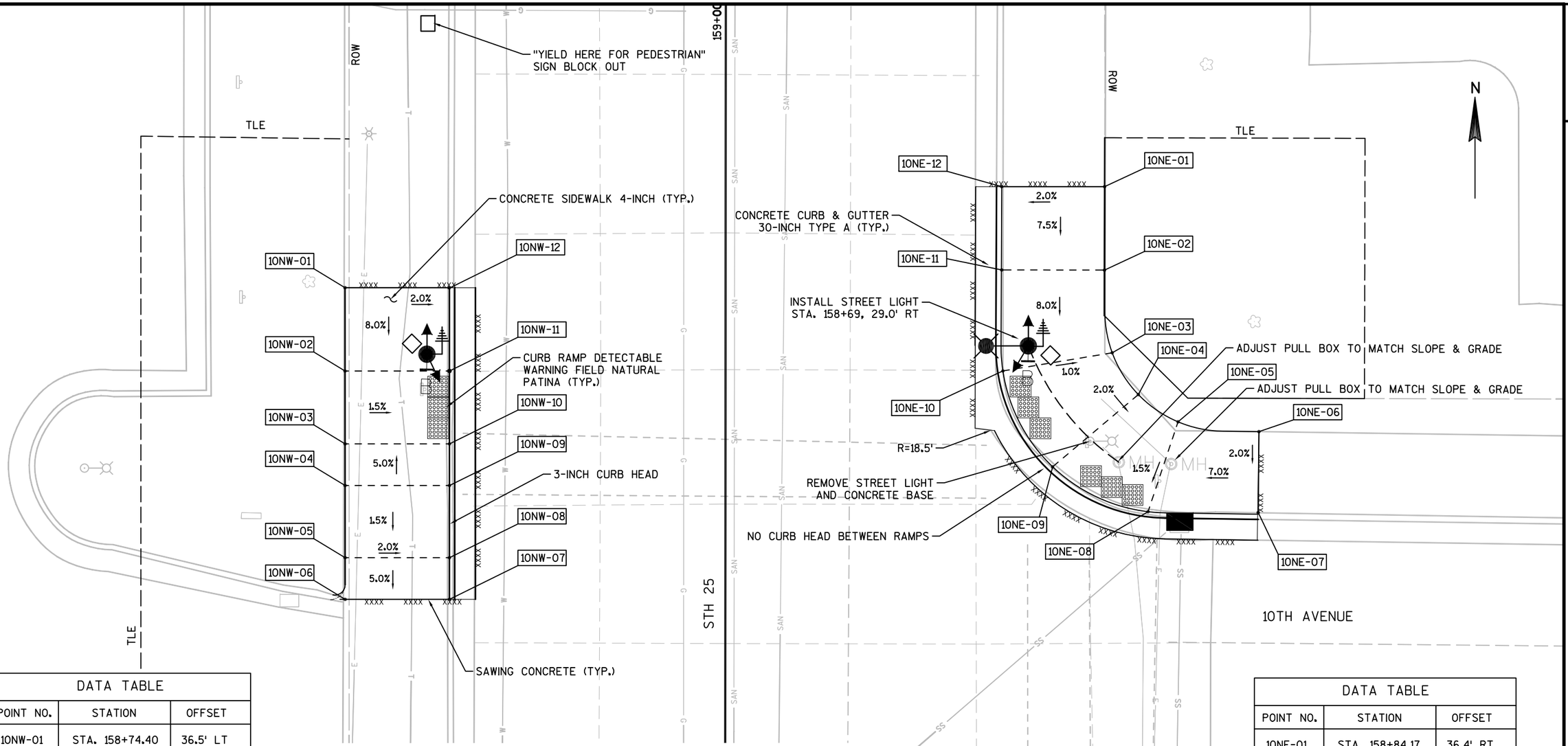
PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS	SHEET 10	E



BIKE BOX PAVEMENT MARKING DETAIL



STREET LIGHT DETAIL



DATA TABLE		
POINT NO.	STATION	OFFSET
10NW-01	STA. 158+74.40	36.5' LT
10NW-02	STA. 158+66.40	36.5' LT
10NW-03	STA. 158+59.40	36.5' LT
10NW-04	STA. 158+55.40	36.5' LT
10NW-05	STA. 158+48.46	36.5' LT
10NW-06	STA. 158+44.46	36.5' LT
10NW-07	STA. 158+44.48	26.5' LT
10NW-08	STA. 158+48.47	26.5' LT
10NW-09	STA. 158+55.41	26.5' LT
10NW-10	STA. 158+59.41	26.5' LT
10NW-11	STA. 158+66.41	26.5' LT
10NW-12	STA. 158+74.41	26.5' LT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

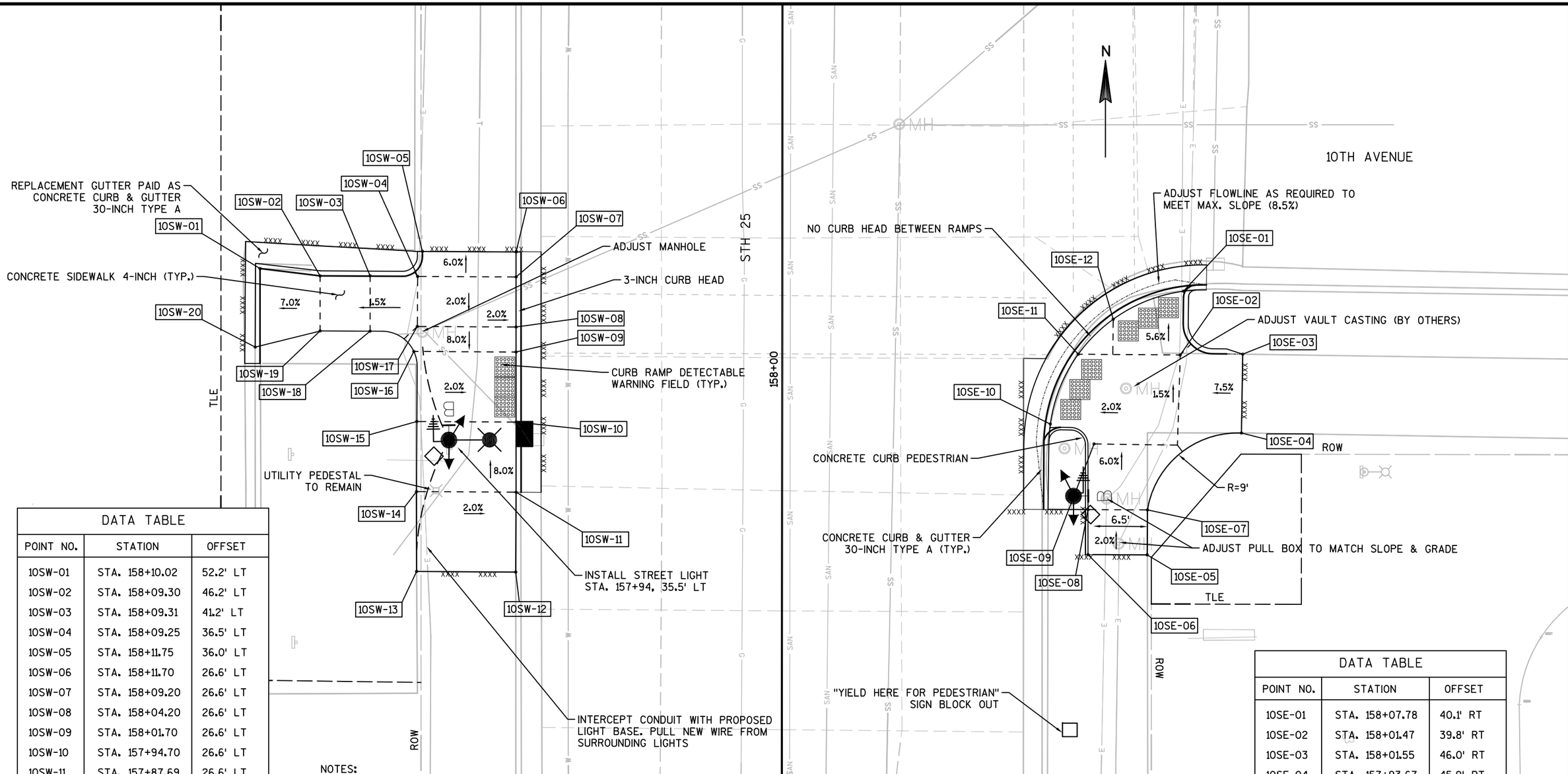
5) ELECTRICAL DETAILS SHOWN ON THIS SHEET.

6) SEE UNDISTRIBUTED QUANTITIES FOR LOCATIONS OF LOCATING AND LOWERING EXISTING CONDUIT TO CODE COMPLIANT DEPTH AS REQUIRED.

7) REFER TO OTHER PLAN SECTIONS FOR SIGNING, FLASHING BEACONS AND STORM SEWER DETAILS.

DATA TABLE		
POINT NO.	STATION	OFFSET
10NE-01	STA. 158+84.17	36.4' RT
10NE-02	STA. 158+76.16	36.4' RT
10NE-03	STA. 158+68.21	37.1' RT
10NE-04	STA. 158+64.20	39.7' RT
10NE-05	STA. 158+61.58	43.5' RT
10NE-06	STA. 158+60.65	51.2' RT
10NE-07	STA. 158+52.71	51.2' RT
10NE-08	STA. 158+52.95	40.6' RT
10NE-09	STA. 158+57.25	31.4' RT
10NE-10	STA. 158+66.46	26.6' RT
10NE-11	STA. 158+76.16	26.5' RT
10NE-12	STA. 158+84.16	26.5' RT

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 10TH AVE. NORTH	SHEET 12	E



DATA TABLE		
POINT NO.	STATION	OFFSET
10SW-01	STA. 158+10.02	52.2' LT
10SW-02	STA. 158+09.30	46.2' LT
10SW-03	STA. 158+09.31	41.2' LT
10SW-04	STA. 158+09.25	36.5' LT
10SW-05	STA. 158+11.75	36.0' LT
10SW-06	STA. 158+11.70	26.6' LT
10SW-07	STA. 158+09.20	26.6' LT
10SW-08	STA. 158+04.20	26.6' LT
10SW-09	STA. 158+01.70	26.6' LT
10SW-10	STA. 157+94.70	26.6' LT
10SW-11	STA. 157+87.69	26.6' LT
10SW-12	STA. 157+79.72	26.6' LT
10SW-13	STA. 157+79.77	36.5' LT
10SW-14	STA. 157+87.75	36.5' LT
10SW-15	STA. 157+94.75	36.5' LT
10SW-16	STA. 158+01.75	36.8' LT
10SW-17	STA. 158+04.25	36.5' LT
10SW-18	STA. 158+03.77	41.2' LT
10SW-19	STA. 158+03.78	46.2' LT
10SW-20	STA. 158+02.18	52.7' LT

DATA TABLE		
POINT NO.	STATION	OFFSET
10SE-01	STA. 158+07.78	40.1' RT
10SE-02	STA. 158+01.47	39.8' RT
10SE-03	STA. 158+01.55	46.0' RT
10SE-04	STA. 157+93.67	45.9' RT
10SE-05	STA. 157+81.48	36.5' RT
10SE-06	STA. 157+81.51	30.5' RT
10SE-07	STA. 157+85.98	36.5' RT
10SE-08	STA. 157+86.01	30.5' RT
10SE-09	STA. 157+92.57	31.2' RT
10SE-10	STA. 157+94.55	26.8' RT
10SE-11	STA. 158+01.53	29.6' RT
10SE-12	STA. 158+05.03	33.1' RT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

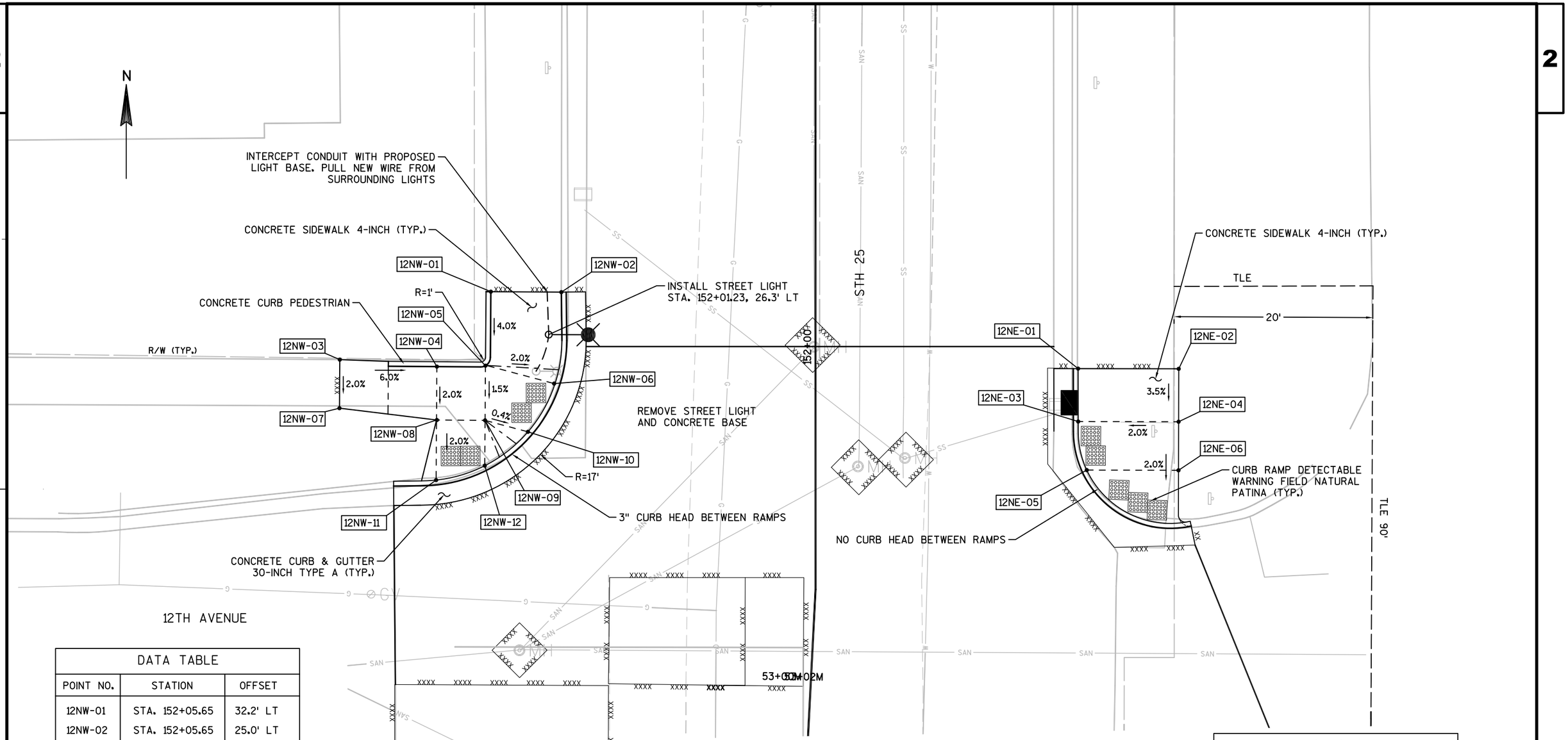
5) ELECTRICAL DETAILS SHOWN ON THIS SHEET.

6) SEE UNDISTRIBUTED QUANTITIES FOR LOCATIONS OF LOCATING AND LOWERING EXISTING CONDUIT TO CODE COMPLIANT DEPTH AS REQUIRED.

7) REFER TO OTHER PLAN SECTIONS FOR SIGNING, FLASHING BEACONS AND STORM SEWER DETAILS.

8) REFER TO UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION REGARDING UW STOUT VAULT COORDINATION REQUIREMENTS.

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 10TH AVE. SOUTH	SHEET 13	E



DATA TABLE		
POINT NO.	STATION	OFFSET
12NW-01	STA. 152+05.65	32.2' LT
12NW-02	STA. 152+05.65	25.0' LT
12NW-03	STA. 151+98.65	47.8' LT
12NW-04	STA. 151+97.93	37.8' LT
12NW-05	STA. 151+98.03	32.8' LT
12NW-06	STA. 151+96.17	25.6' LT
12NW-07	STA. 151+93.65	47.8' LT
12NW-08	STA. 151+92.43	37.8' LT
12NW-09	STA. 151+92.40	32.8' LT
12NW-10	STA. 151+91.20	28.4' LT
12NW-11	STA. 151+86.25	37.9' LT
12NW-12	STA. 151+87.73	32.8' LT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

5) ELECTRICAL DETAILS SHOWN ON THIS SHEET.

6) SEE UNDISTRIBUTED QUANTITIES FOR LOCATIONS OF LOCATING AND LOWERING EXISTING CONDUIT TO CODE COMPLIANT DEPTH AS REQUIRED.

7) REFER TO OTHER PLAN SECTIONS FOR SIGNING AND STORM SEWER DETAILS.

DATA TABLE		
POINT NO.	STATION	OFFSET
12NE-01	STA. 151+97.73	28.3' RT
12NE-02	STA. 151+97.74	37.4' RT
12NE-03	STA. 151+92.28	28.2' RT
12NE-04	STA. 151+92.29	37.4' RT
12NE-05	STA. 151+87.28	29.1' RT
12NE-06	STA. 151+87.29	37.4' RT

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 12TH AVE. NORTH	SHEET 14	E

DATA TABLE		
POINT NO.	STATION	OFFSET
12SW-01	STA. 151+48.02	37.6' LT
12SW-02	STA. 151+46.04	32.6' LT
12SW-03	STA. 151+40.19	37.6' LT
12SW-04	STA. 151+39.98	32.6' LT
12SW-05	STA. 151+39.98	29.3' LT
12SW-06	STA. 151+39.98	26.0' LT
12SW-07	STA. 151+34.98	23.5' LT
12SW-08	STA. 151+34.98	26.9' LT
12SW-09	STA. 151+33.28	32.1' LT
12SW-10	STA. 151+34.84	33.7' LT
12SW-11	STA. 151+35.19	37.6' LT
12SW-12	STA. 151+30.00	31.8' LT
12SW-13	STA. 151+30.00	26.8' LT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

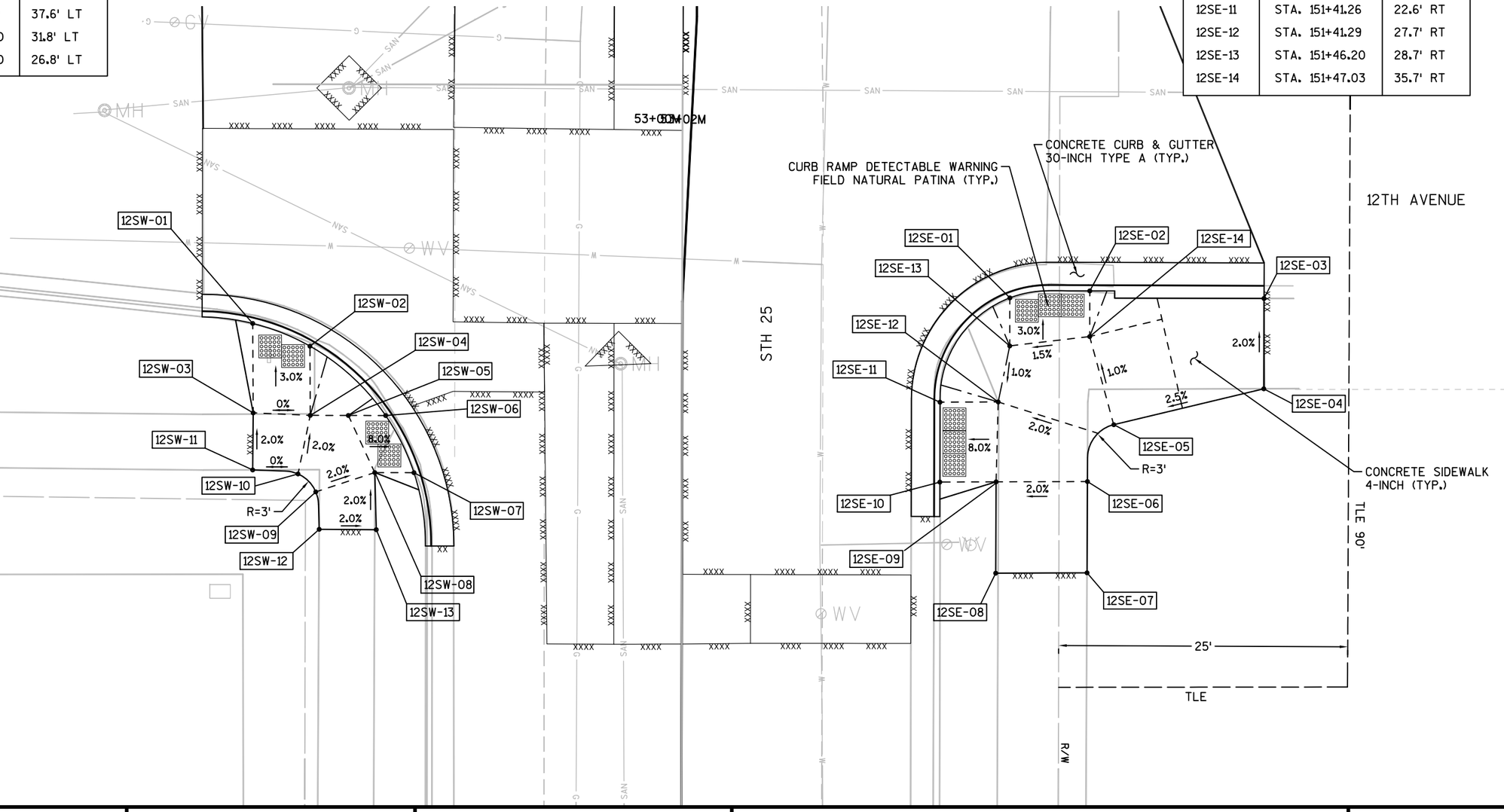
4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

5) SEE UNDISTRIBUTED QUANTITIES FOR LOCATIONS OF LOCATING AND LOWERING EXISTING CONDUIT TO CODE COMPLIANT DEPTH AS REQUIRED.

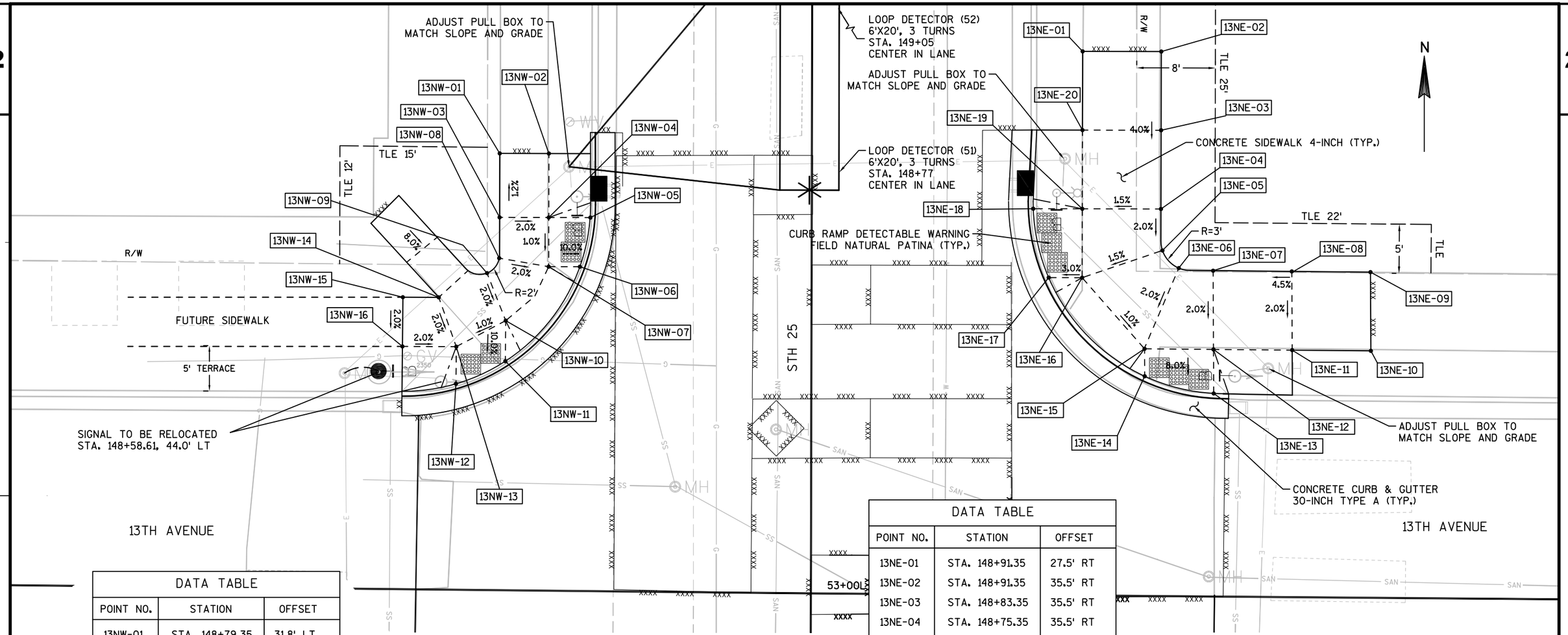
6) REFER TO OTHER PLAN SECTIONS FOR SIGNING AND STORM SEWER DETAILS.

N

DATA TABLE		
POINT NO.	STATION	OFFSET
12SE-01	STA. 151+50.41	28.7' RT
12SE-02	STA. 151+51.03	35.7' RT
12SE-03	STA. 151+50.40	50.9' RT
12SE-04	STA. 151+42.49	50.9' RT
12SE-05	STA. 151+39.31	37.8' RT
12SE-06	STA. 151+34.33	35.5' RT
12SE-07	STA. 151+26.34	35.5' RT
12SE-08	STA. 151+26.29	27.5' RT
12SE-09	STA. 151+34.29	27.5' RT
12SE-10	STA. 151+34.26	22.6' RT
12SE-11	STA. 151+41.26	22.6' RT
12SE-12	STA. 151+41.29	27.7' RT
12SE-13	STA. 151+46.20	28.7' RT
12SE-14	STA. 151+47.03	35.7' RT



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 12TH AVE. SOUTH	SHEET 15	E



DATA TABLE		
POINT NO.	STATION	OFFSET
13NW-01	STA. 148+79.35	31.8' LT
13NW-02	STA. 148+79.35	26.8' LT
13NW-03	STA. 148+74.35	31.8' LT
13NW-04	STA. 148+74.35	26.8' LT
13NW-05	STA. 148+74.35	22.5' LT
13NW-06	STA. 148+69.35	23.6' LT
13NW-07	STA. 148+69.35	26.8' LT
13NW-08	STA. 148+70.20	31.8' LT
13NW-09	STA. 148+68.68	33.0' LT
13NW-10	STA. 148+63.86	31.1' LT
13NW-11	STA. 148+59.73	31.1' LT
13NW-12	STA. 148+57.42	36.1' LT
13NW-13	STA. 148+61.20	36.1' LT
13NW-14	STA. 148+66.20	37.9' LT
13NW-15	STA. 148+66.21	41.6' LT
13NW-16	STA. 148+61.21	41.6' LT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

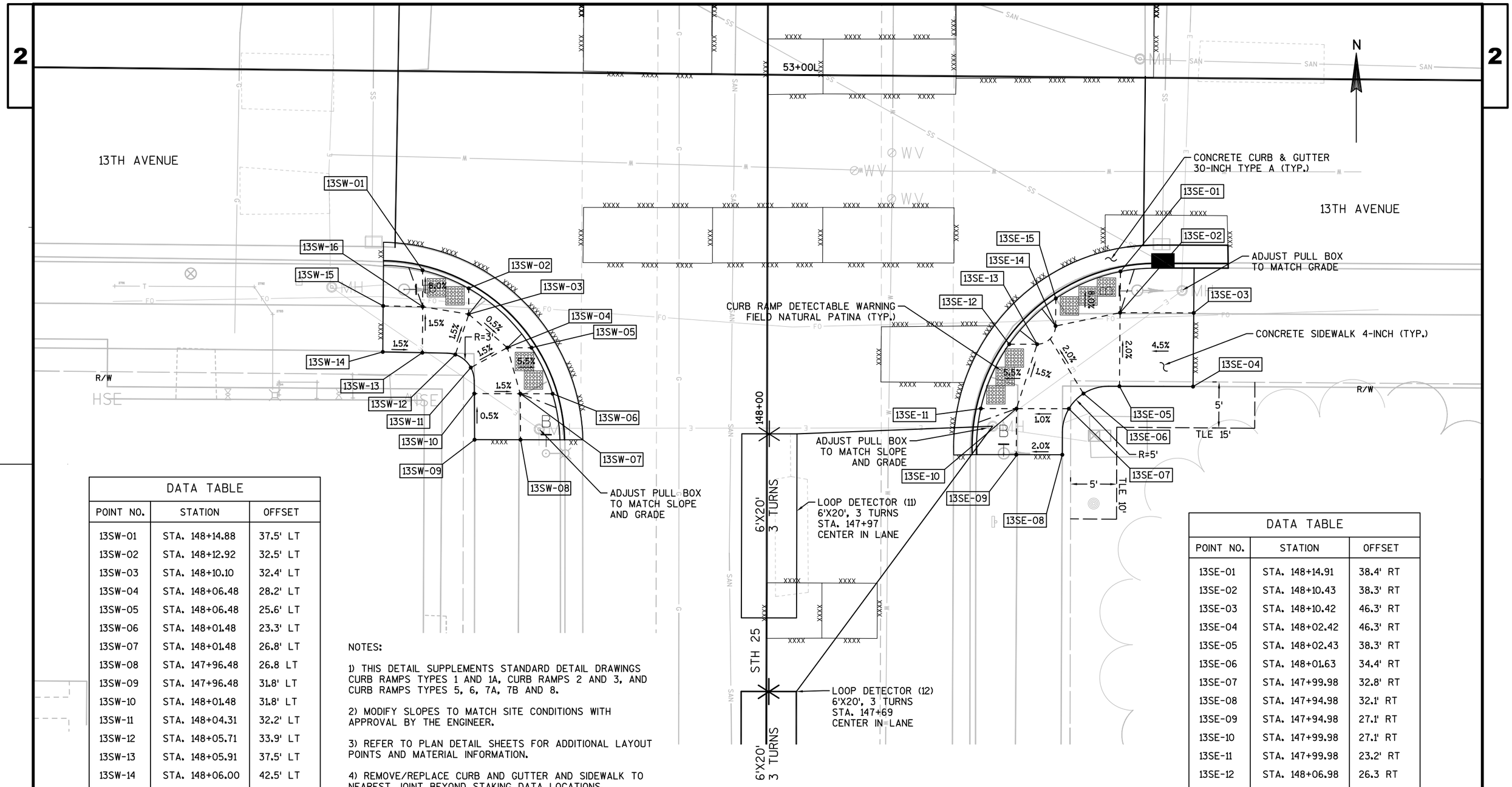
5) ELECTRICAL DETAILS SHOWN ON THIS SHEET.

6) SEE UNDISTRIBUTED QUANTITIES FOR LOCATIONS OF LOCATING AND LOWERING EXISTING CONDUIT TO CODE COMPLIANT DEPTH AS REQUIRED.

7) REFER TO OTHER PLAN SECTIONS FOR SIGNING AND STORM SEWER DETAILS.

DATA TABLE		
POINT NO.	STATION	OFFSET
13NE-01	STA. 148+91.35	27.5' RT
13NE-02	STA. 148+91.35	35.5' RT
13NE-03	STA. 148+83.35	35.5' RT
13NE-04	STA. 148+75.35	35.5' RT
13NE-05	STA. 148+71.13	35.7' RT
13NE-06	STA. 148+69.34	37.3' RT
13NE-07	STA. 148+69.09	40.8' RT
13NE-08	STA. 148+69.03	48.8' RT
13NE-09	STA. 148+68.98	56.8' RT
13NE-10	STA. 148+60.98	56.9' RT
13NE-11	STA. 148+61.03	48.9' RT
13NE-12	STA. 148+61.09	40.9' RT
13NE-13	STA. 148+56.61	40.9' RT
13NE-14	STA. 148+58.35	33.9' RT
13NE-15	STA. 148+61.13	33.9' RT
13NE-16	STA. 148+68.35	27.5' RT
13NE-17	STA. 148+68.35	24.1' RT
13NE-18	STA. 148+75.35	22.5' RT
13NE-19	STA. 148+75.35	27.5' RT
13NE-20	STA. 148+83.35	27.5' RT

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 13TH AVE. NORTH	SHEET 16	E



DATA TABLE		
POINT NO.	STATION	OFFSET
13SW-01	STA. 148+14.88	37.5' LT
13SW-02	STA. 148+12.92	32.5' LT
13SW-03	STA. 148+10.10	32.4' LT
13SW-04	STA. 148+06.48	28.2' LT
13SW-05	STA. 148+06.48	25.6' LT
13SW-06	STA. 148+01.48	23.3' LT
13SW-07	STA. 148+01.48	26.8' LT
13SW-08	STA. 147+96.48	26.8 LT
13SW-09	STA. 147+96.48	31.8' LT
13SW-10	STA. 148+01.48	31.8' LT
13SW-11	STA. 148+04.31	32.2' LT
13SW-12	STA. 148+05.71	33.9' LT
13SW-13	STA. 148+05.91	37.5' LT
13SW-14	STA. 148+06.00	42.5' LT
13SW-15	STA. 148+11.00	42.5' LT
13SW-16	STA. 148+10.91	37.5' LT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

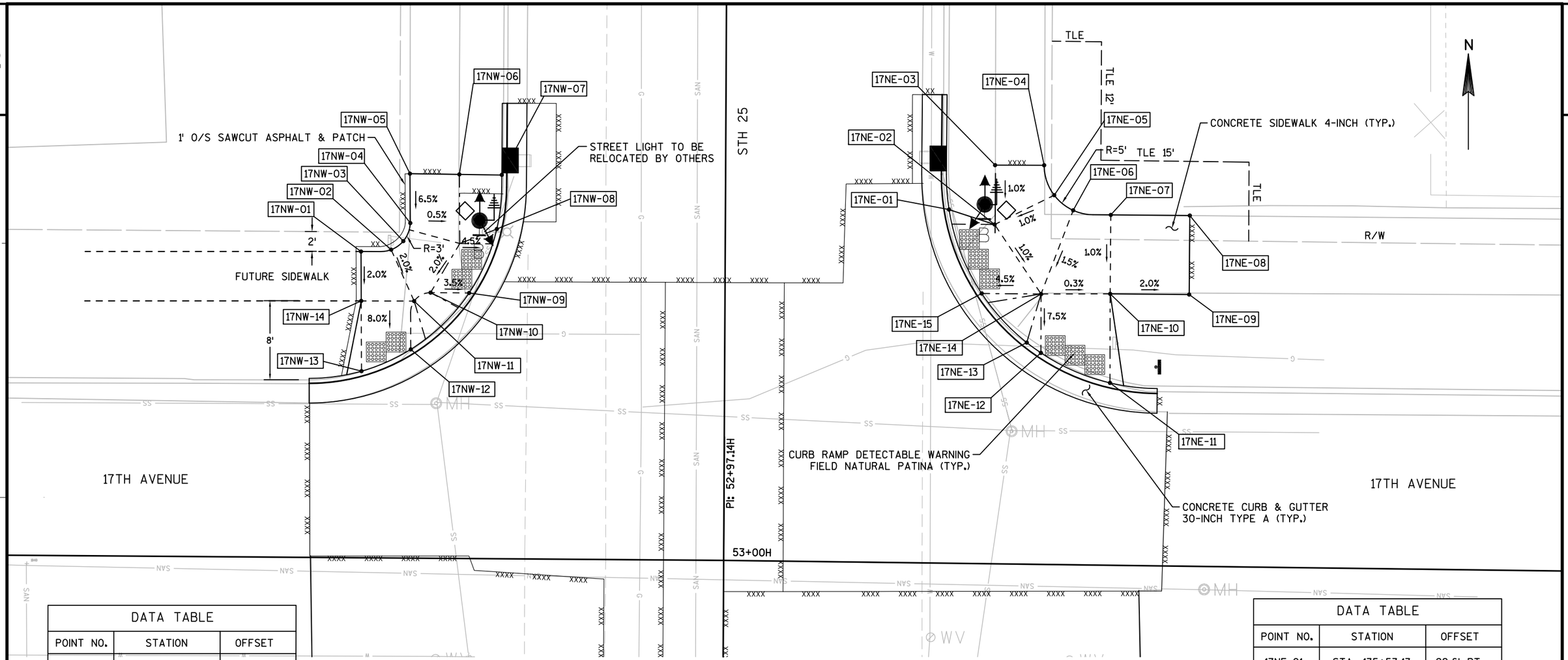
5) ELECTRICAL DETAILS SHOWN ON THIS SHEET.

6) SEE UNDISTRIBUTED QUANTITIES FOR LOCATIONS OF LOCATING AND LOWERING EXISTING CONDUIT TO CODE COMPLIANT DEPTH AS REQUIRED.

7) REFER TO OTHER PLAN SECTIONS FOR SIGNING AND STORM SEWER DETAILS.

DATA TABLE		
POINT NO.	STATION	OFFSET
13SE-01	STA. 148+14.91	38.4' RT
13SE-02	STA. 148+10.43	38.3' RT
13SE-03	STA. 148+10.42	46.3' RT
13SE-04	STA. 148+02.42	46.3' RT
13SE-05	STA. 148+02.43	38.3' RT
13SE-06	STA. 148+01.63	34.4' RT
13SE-07	STA. 147+99.98	32.8' RT
13SE-08	STA. 147+94.98	32.1' RT
13SE-09	STA. 147+94.98	27.1' RT
13SE-10	STA. 147+99.98	27.1' RT
13SE-11	STA. 147+99.98	23.2' RT
13SE-12	STA. 148+06.98	26.3 RT
13SE-13	STA. 148+06.98	29.3' RT
13SE-14	STA. 148+08.97	31.3' RT
13SE-15	STA. 148+11.96	31.3' RT

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 13TH AVE. SOUTH	SHEET 17	E



DATA TABLE		
POINT NO.	STATION	OFFSET
17NW-01	STA. 135+48.58	36.9' LT
17NW-02	STA. 135+48.78	33.8' LT
17NW-03	STA. 135+49.66	32.6' LT
17NW-04	STA. 135+51.49	31.9' LT
17NW-05	STA. 135+56.49	32.0' LT
17NW-06	STA. 135+56.44	27.0' LT
17NW-07	STA. 135+56.40	22.7' LT
17NW-08	STA. 135+50.93	23.1' LT
17NW-09	STA. 135+44.44	25.9' LT
17NW-10	STA. 135+44.45	29.9' LT
17NW-11	STA. 135+43.59	31.5' LT
17NW-12	STA. 135+38.70	31.8' LT
17NW-13	STA. 135+36.47	36.8' LT
17NW-14	STA. 135+43.58	36.8' LT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

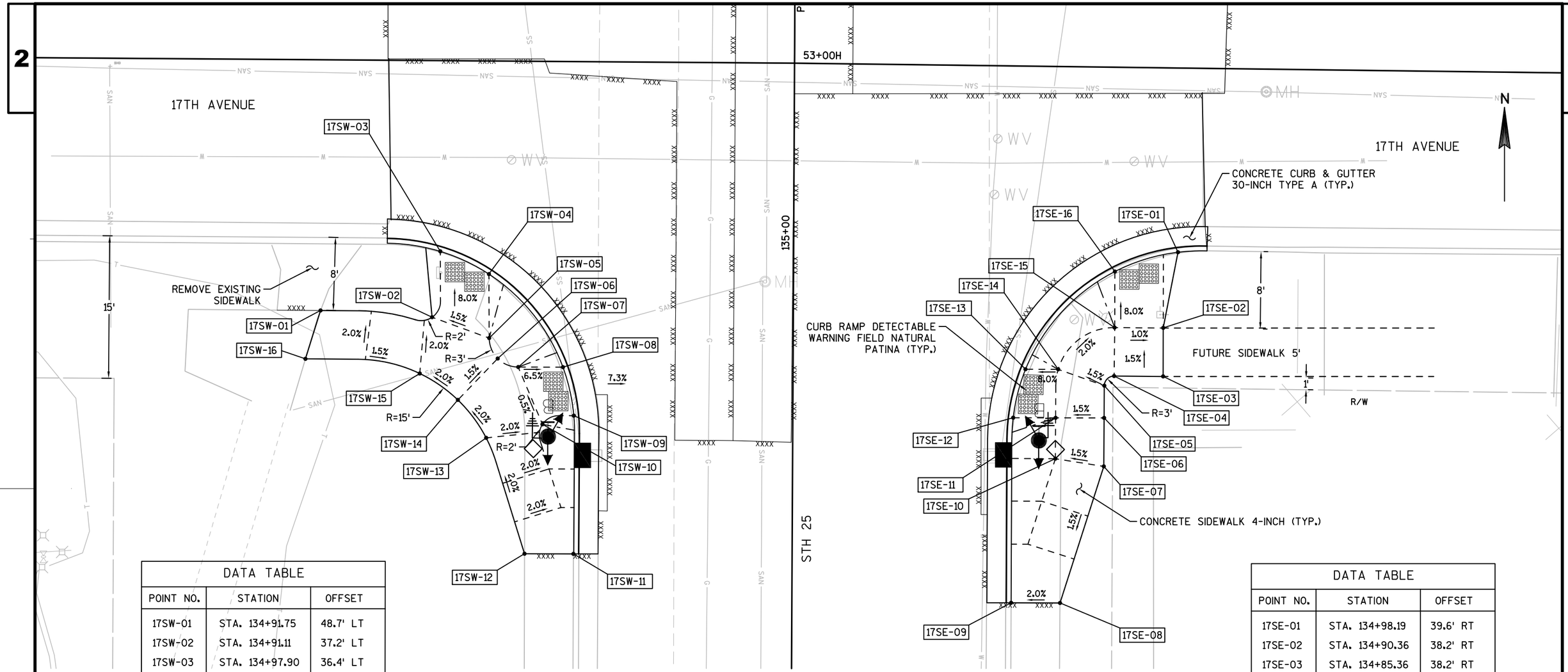
3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

5) REFER TO OTHER PLAN SECTIONS FOR FLASHING BEACON DETAILS.

DATA TABLE		
POINT NO.	STATION	OFFSET
17NE-01	STA. 135+53.13	22.6' RT
17NE-02	STA. 135+51.64	27.3' RT
17NE-03	STA. 135+57.65	27.3' RT
17NE-04	STA. 135+57.66	32.3' RT
17NE-05	STA. 135+54.63	33.3' RT
17NE-06	STA. 135+53.11	35.2' RT
17NE-07	STA. 135+52.66	39.0' RT
17NE-08	STA. 135+52.64	47.0' RT
17NE-09	STA. 135+44.64	47.0' RT
17NE-10	STA. 135+44.67	39.0' RT
17NE-11	STA. 135+35.65	39.0' RT
17NE-12	STA. 135+38.66	32.0' RT
17NE-13	STA. 135+39.69	30.6' RT
17NE-14	STA. 135+44.62	32.0' RT
17NE-15	STA. 135+44.64	26.0' RT

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 17TH AVE. NORTH	SHEET 18	E



DATA TABLE		
POINT NO.	STATION	OFFSET
17SW-01	STA. 134+91.75	48.7' LT
17SW-02	STA. 134+91.11	37.2' LT
17SW-03	STA. 134+97.90	36.4' LT
17SW-04	STA. 134+95.58	31.4' LT
17SW-05	STA. 134+88.98	31.3' LT
17SW-06	STA. 134+86.88	30.5' LT
17SW-07	STA. 134+86.01	28.3' LT
17SW-08	STA. 134+86.04	23.7' LT
17SW-09	STA. 134+81.03	22.6' LT
17SW-10	STA. 134+80.12	25.8' LT
17SW-11	STA. 134+66.78	22.6 LT
17SW-12	STA. 134+66.70	27.6' LT
17SW-13	STA. 134+78.70	31.6' LT
17SW-14	STA. 134+82.59	34.5' LT
17SW-15	STA. 134+85.30	38.5' LT
17SW-16	STA. 134+86.75	50.3' LT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

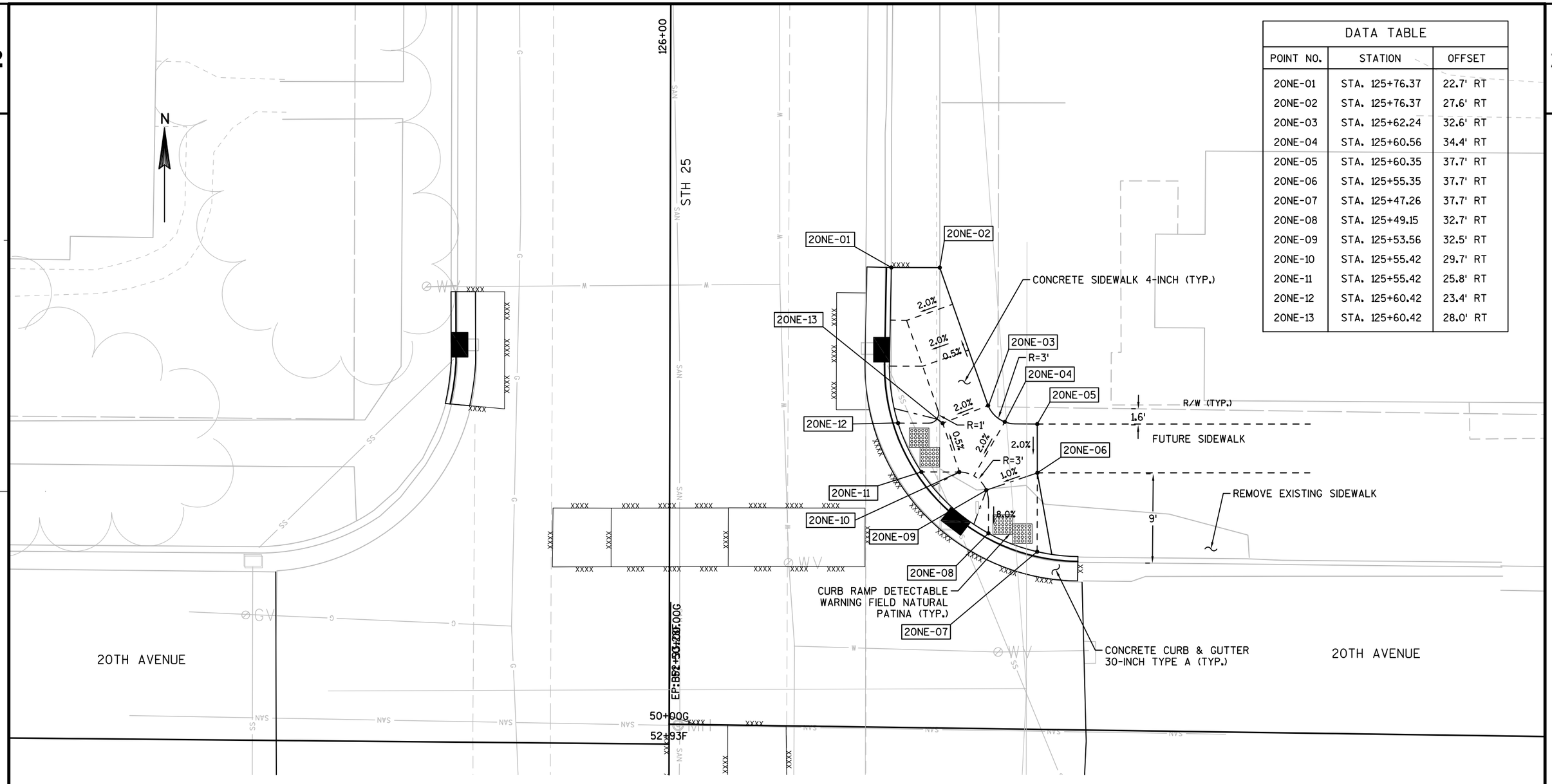
3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

5) REFER TO OTHER PLAN SECTIONS FOR FLASHING BEACON DETAILS.

DATA TABLE		
POINT NO.	STATION	OFFSET
17SE-01	STA. 134+98.19	39.6' RT
17SE-02	STA. 134+90.36	38.2' RT
17SE-03	STA. 134+85.36	38.2' RT
17SE-04	STA. 134+85.39	33.1' RT
17SE-05	STA. 134+84.39	32.1' RT
17SE-06	STA. 134+81.07	32.1' RT
17SE-07	STA. 134+76.07	32.1' RT
17SE-08	STA. 134+61.97	27.6' RT
17SE-09	STA. 134+61.96	22.6' RT
17SE-10	STA. 134+76.84	27.1' RT
17SE-11	STA. 134+81.05	27.1' RT
17SE-12	STA. 134+81.04	22.7' RT
17SE-13	STA. 134+86.05	24.0' RT
17SE-14	STA. 134+86.05	27.3' RT
17SE-15	STA. 134+90.39	33.1' RT
17SE-16	STA. 134+96.16	33.1' RT

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 17TH AVE. SOUTH	SHEET 19	E



DATA TABLE		
POINT NO.	STATION	OFFSET
20NE-01	STA. 125+76.37	22.7' RT
20NE-02	STA. 125+76.37	27.6' RT
20NE-03	STA. 125+62.24	32.6' RT
20NE-04	STA. 125+60.56	34.4' RT
20NE-05	STA. 125+60.35	37.7' RT
20NE-06	STA. 125+55.35	37.7' RT
20NE-07	STA. 125+47.26	37.7' RT
20NE-08	STA. 125+49.15	32.7' RT
20NE-09	STA. 125+53.56	32.5' RT
20NE-10	STA. 125+55.42	29.7' RT
20NE-11	STA. 125+55.42	25.8' RT
20NE-12	STA. 125+60.42	23.4' RT
20NE-13	STA. 125+60.42	28.0' RT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 20TH AVE. NORTH	SHEET 20	E

2

N

20TH AVENUE

20TH AVENUE

50+00.00

52+93.00

125+00

STH 25

CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA (TYP.)

CONCRETE CURB & GUTTER 30-INCH TYPE A (TYP.)

20SE-01
20SE-02
20SE-03
20SE-04
20SE-05
20SE-06
20SE-07
20SE-08
20SE-09
20SE-10
20SE-11
20SE-12
20SE-13

6.5%
5.0%
1.0%
8.0%
1.5%
R=3'
R=1'
R=5'
8'
3'
FUTURE SIDEWALK
R/W (TYP.)
CONCRETE SIDEWALK 4-INCH (TYP.)

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

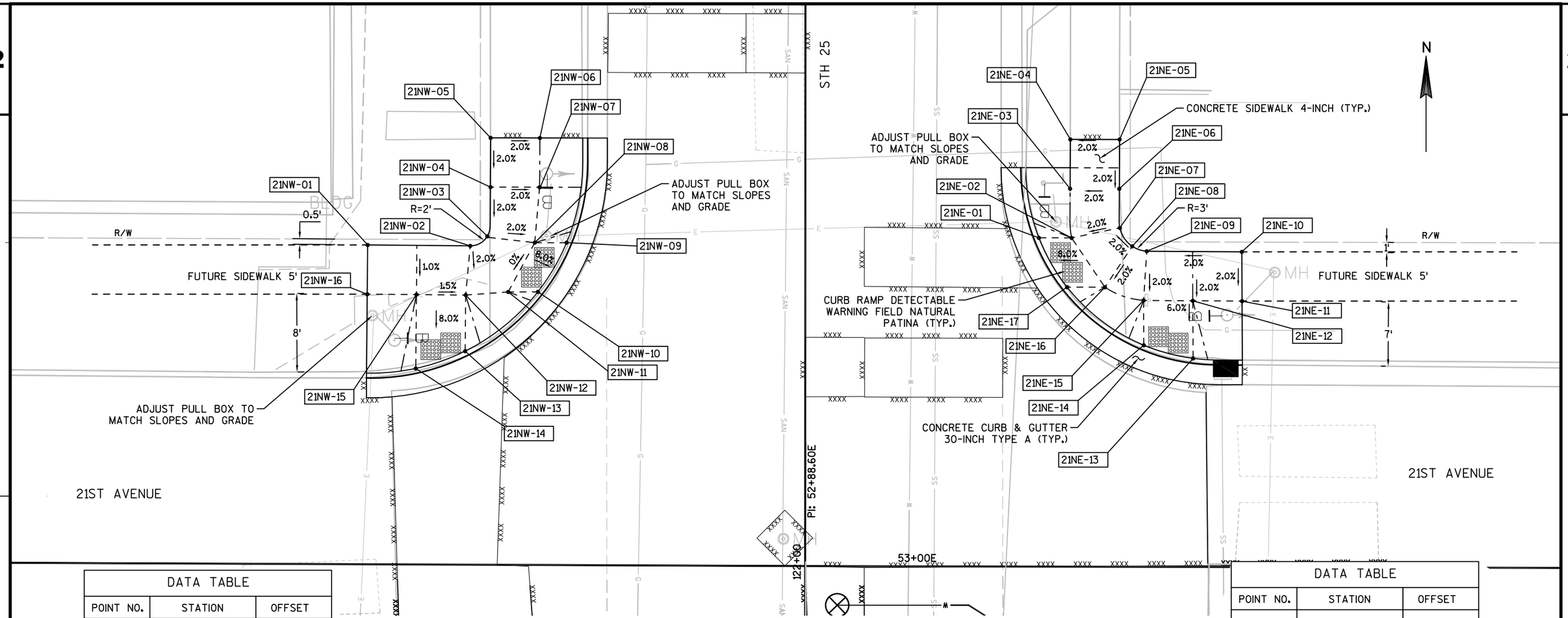
3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

DATA TABLE

POINT NO.	STATION	OFFSET
20SE-01	STA. 125+09.34	32.8' RT
20SE-02	STA. 125+11.24	37.8' RT
20SE-03	STA. 125+04.23	37.8' RT
20SE-04	STA. 124+99.23	37.8' RT
20SE-05	STA. 124+98.82	35.0' RT
20SE-06	STA. 124+96.71	32.7' RT
20SE-07	STA. 124+94.18	32.0' RT
20SE-08	STA. 124+94.18	27.0' RT
20SE-09	STA. 124+99.21	28.4 RT
20SE-10	STA. 124+99.25	23.9' RT
20SE-11	STA. 125+04.23	26.8' RT
20SE-12	STA. 125+04.20	29.7' RT
20SE-13	STA. 125+05.56	32.3' RT

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 20TH AVE. SOUTH	SHEET 21	E



DATA TABLE		
POINT NO.	STATION	OFFSET
21NW-01	STA. 122+32.16	44.4' LT
21NW-02	STA. 122+32.07	34.0' LT
21NW-03	STA. 122+33.04	32.3' LT
21NW-04	STA. 122+38.04	32.0' LT
21NW-05	STA. 122+43.04	32.0' LT
21NW-06	STA. 122+43.03	27.0' LT
21NW-07	STA. 122+38.03	27.0' LT
21NW-08	STA. 122+32.35	27.5' LT
21NW-09	STA. 122+32.39	24.2' LT
21NW-10	STA. 122+26.54	27.9' LT
21NW-11	STA. 122+27.37	30.2' LT
21NW-12	STA. 122+27.06	34.5' LT
21NW-13	STA. 122+21.38	34.5' LT
21NW-14	STA. 122+19.62	39.6' LT
21NW-15	STA. 122+27.11	39.5' LT
21NW-16	STA. 122+27.16	44.5' LT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

5) ELECTRICAL DETAILS SHOWN ON THIS SHEET.

6) SEE UNDISTRIBUTED QUANTITIES FOR LOCATIONS OF LOCATING AND LOWERING EXISTING CONDUIT TO CODE COMPLIANT DEPTH AS REQUIRED.

7) REFER TO OTHER PLAN SECTIONS FOR SIGNING AND STORM SEWER DETAILS.

DATA TABLE		
POINT NO.	STATION	OFFSET
21NE-01	STA. 122+32.91	23.7' RT
21NE-02	STA. 122+32.91	27.0' RT
21NE-03	STA. 122+37.91	26.9' RT
21NE-04	STA. 122+42.91	26.9' RT
21NE-05	STA. 122+42.90	31.9' RT
21NE-06	STA. 122+37.90	31.9' RT
21NE-07	STA. 122+33.93	31.9' RT
21NE-08	STA. 122+32.06	33.2' RT
21NE-09	STA. 122+31.56	34.7' RT
21NE-10	STA. 122+31.50	44.3' RT
21NE-11	STA. 122+26.50	44.4' RT
21NE-12	STA. 122+26.53	39.4' RT
21NE-13	STA. 122+20.67	39.4' RT
21NE-14	STA. 122+22.01	34.4' RT
21NE-15	STA. 122+26.55	34.4' RT
21NE-16	STA. 122+27.90	30.4' RT
21NE-17	STA. 122+27.91	26.6' RT

DATA TABLE		
POINT NO.	STATION	OFFSET
21SW-01	STA. 121+78.30	57.6' LT
21SW-02	STA. 121+78.27	46.0' LT
21SW-03	STA. 121+75.02	41.1' LT
21SW-04	STA. 121+78.25	41.1' LT
21SW-05	STA. 121+77.42	36.1' LT
21SW-06	STA. 121+72.97	36.1' LT
21SW-07	STA. 121+67.77	30.2' LT
21SW-08	STA. 121+67.76	24.4' LT
21SW-09	STA. 121+62.76	22.6' LT
21SW-10	STA. 121+62.77	27.4' LT
21SW-11	STA. 121+57.75	26.2' LT
21SW-12	STA. 121+47.75	26.1' LT
21SW-13	STA. 121+47.76	31.1' LT
21SW-14	STA. 121+57.74	31.2' LT
21SW-15	STA. 121+61.54	32.3' LT
21SW-16	STA. 121+64.74	34.2' LT
21SW-17	STA. 121+68.64	38.6' LT
21SW-18	STA. 121+70.18	42.3' LT
21SW-19	STA. 121+71.17	47.0' LT
21SW-20	STA. 121+73.39	57.6' LT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

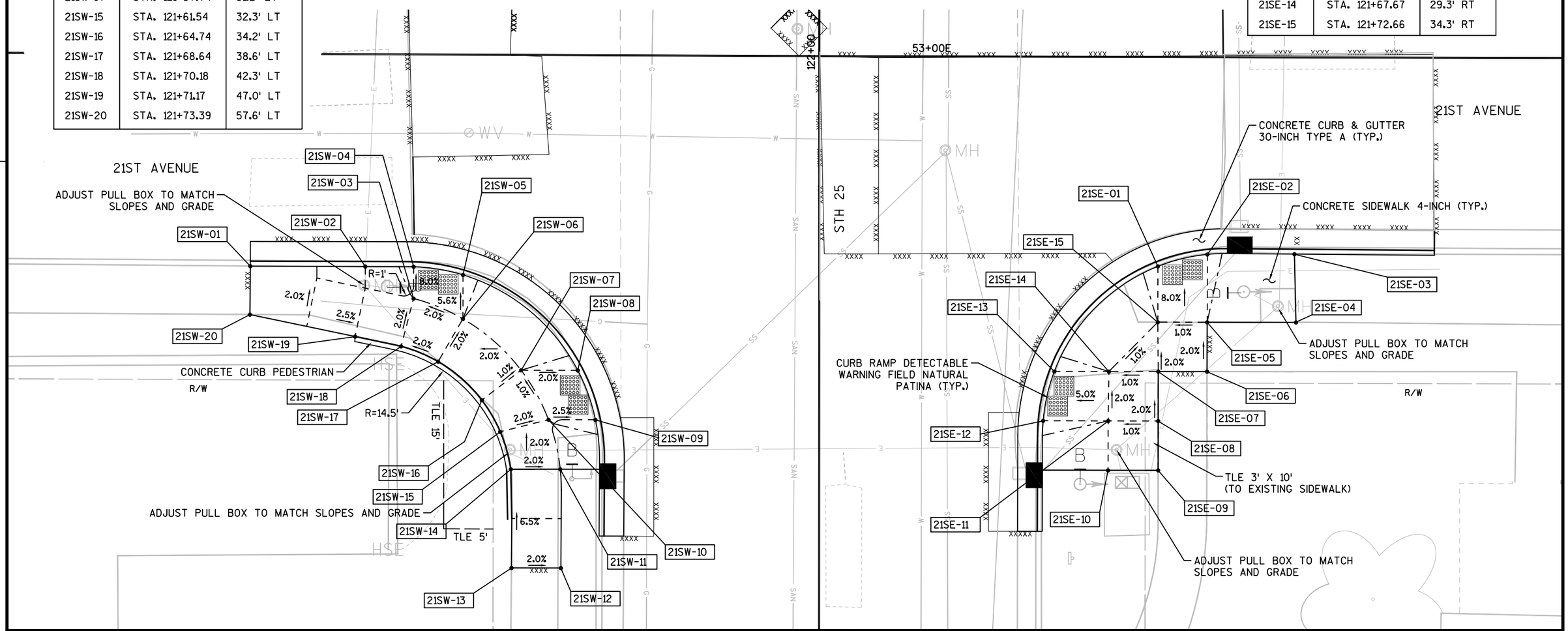
5) ELECTRICAL DETAILS SHOWN ON THIS SHEET.

6) SEE UNDISTRIBUTED QUANTITIES FOR LOCATIONS OF LOCATING AND LOWERING EXISTING CONDUIT TO CODE COMPLIANT DEPTH AS REQUIRED.

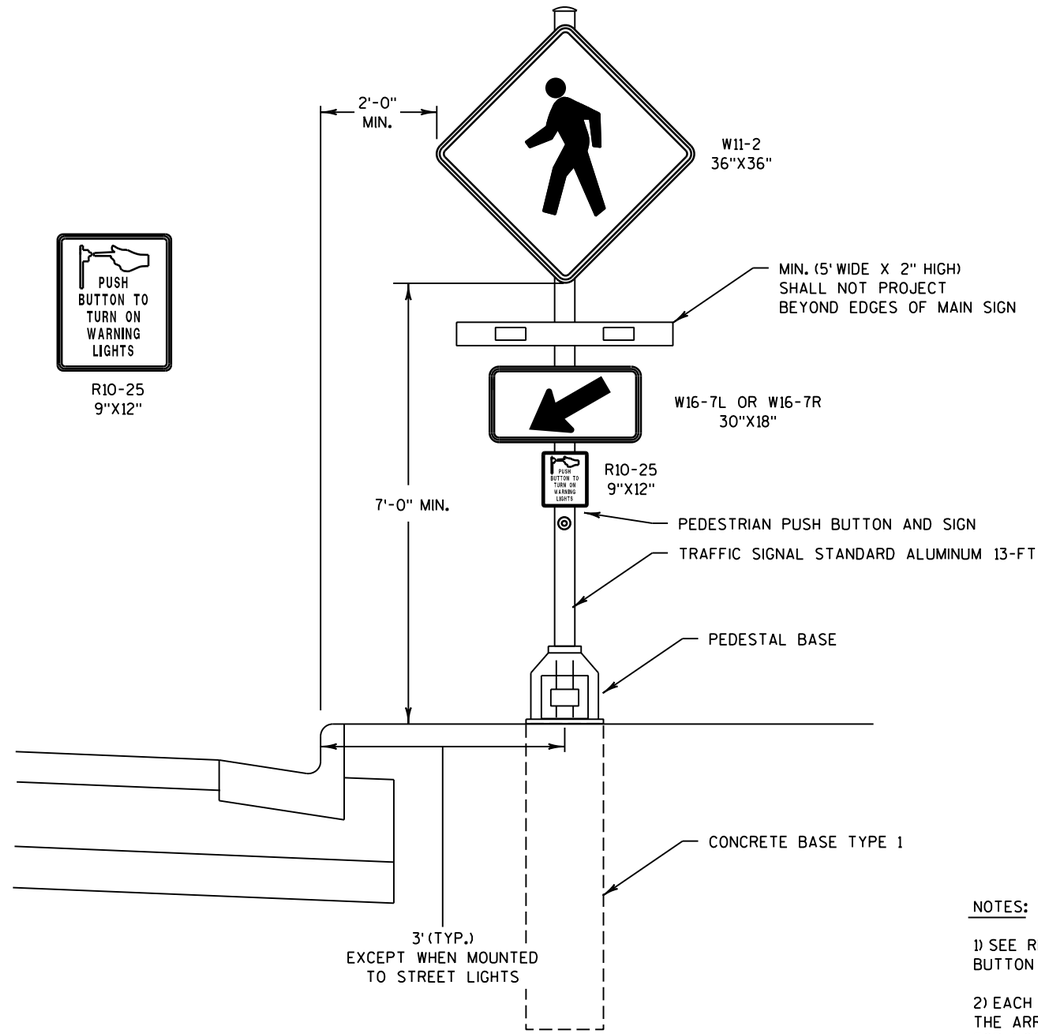
7) REFER TO OTHER PLAN SECTIONS FOR SIGNING AND STORM SEWER DETAILS.

N

DATA TABLE		
POINT NO.	STATION	OFFSET
21SE-01	STA. 121+78.31	34.3' RT
21SE-02	STA. 121+79.53	39.3' RT
21SE-03	STA. 121+79.56	48.1' RT
21SE-04	STA. 121+72.65	48.3' RT
21SE-05	STA. 121+72.66	39.3' RT
21SE-06	STA. 121+67.66	39.3' RT
21SE-07	STA. 121+67.67	34.3' RT
21SE-08	STA. 121+62.66	34.3' RT
21SE-09	STA. 121+57.66	34.3' RT
21SE-10	STA. 121+57.67	29.3' RT
21SE-11	STA. 121+62.67	29.3' RT
21SE-12	STA. 121+62.60	22.7' RT
21SE-13	STA. 121+67.68	23.8' RT
21SE-14	STA. 121+67.67	29.3' RT
21SE-15	STA. 121+72.66	34.3' RT



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - 21ST AVE. SOUTH	SHEET 23	E



R10-25
9"X12"

RECTANGULAR RAPID FLASHING BEACON DETAIL

NO SCALE

NOTES:

1) SEE RECTANGULAR RAPID BEACON PLAN SHEETS FOR BEACON AND PUSH BUTTON LOCATIONS.

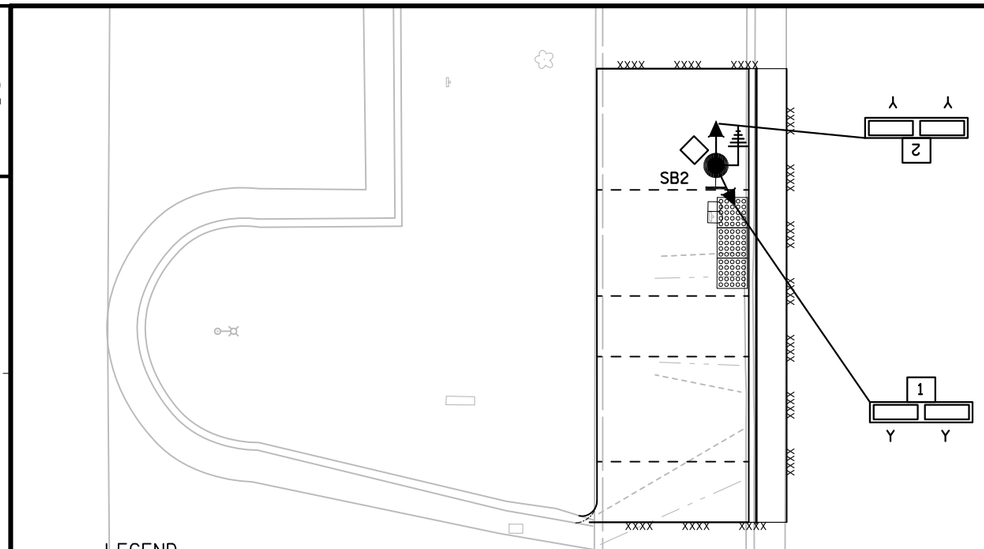
2) EACH RRFB POLE SHALL HAVE ONE (1) W16-7L SIGN OR ONE (1) W16-7R SIGN. THE ARROW SHALL BE DIRECTED TOWARDS THE CURB. REFER TO SIGNING PLANS FOR LOCATIONS

3) EACH RRFB POLE SHALL HAVE ONE (1) W11-2 SIGN. REFER TO SIGNING PLANS FOR LOCATIONS

4) LOCATE R10-25 SIGN ABOVE PUSH BUTTON ACTIVATION BUTTON 4' MOUNTING HEIGHT TO PUSH BUTTON.

5) LIGHT BAR, CONTROLS, BATTERY, WIRELESS RADIO, SOLAR PANEL, HARDWARE AND INCIDENTALS ARE CONSIDERED PART OF THE "SYSTEM" BID ITEM. ALL OTHER ITEMS SHALL BE CONSIDERED SEPARATELY.

6) FIELD LOCATE ALL BASES TO PROVIDE 1.5' MAXIMUM REACH FROM ACCESSIBLE SLOPED AREA.



LEGEND

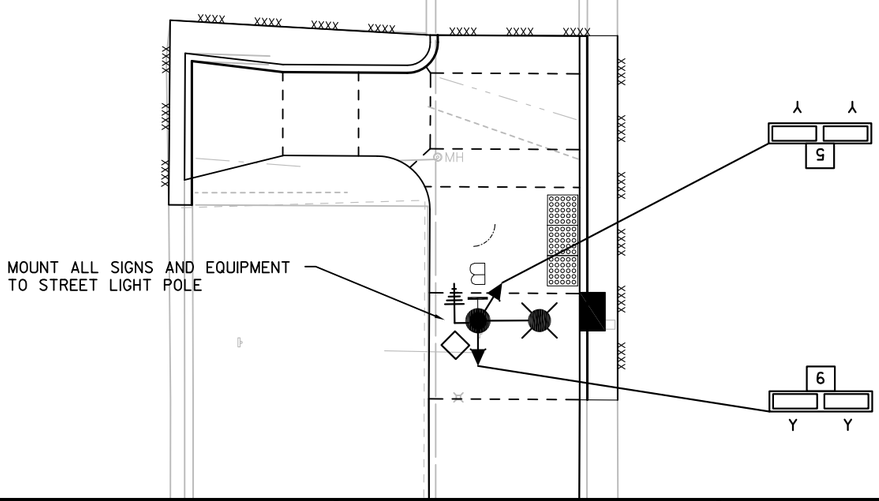
- FLASHER HEAD, POLE MOUNT
- X — FLASHER HEAD NUMBER
- Y Y — YELLOW RECTANGULAR RAPID FLASHING BEACON
- SOLAR PANEL
- RADIO ANTENNA
- B — PEDESTRIAN PUSHBUTTON

NOTES:

LENSES ARE MIN. 5" W X 2" H

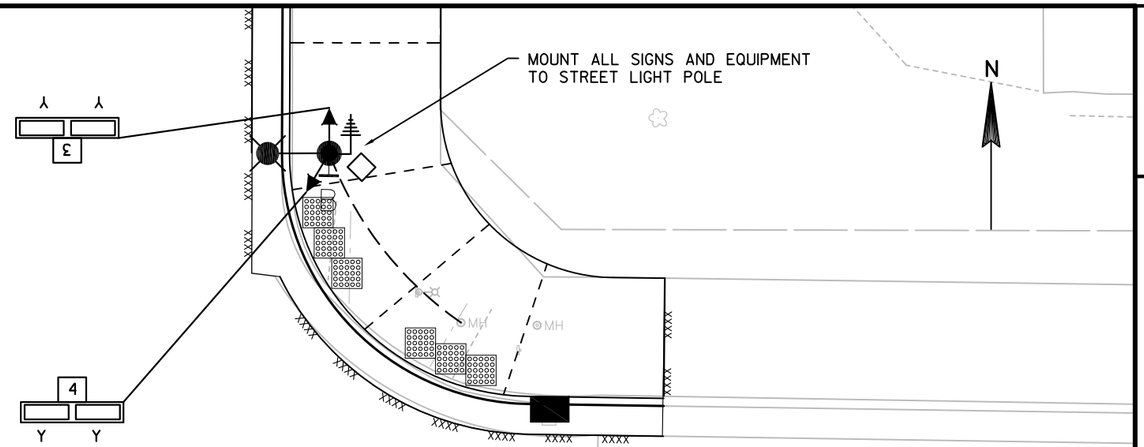
SEE PERMANENT SIGNING PLAN FOR RRFB SIGNS

SEE RECTANGULAR RAPID FLASHING BEACON DETAIL FOR INFORMATION ON RRFB ASSEMBLIES

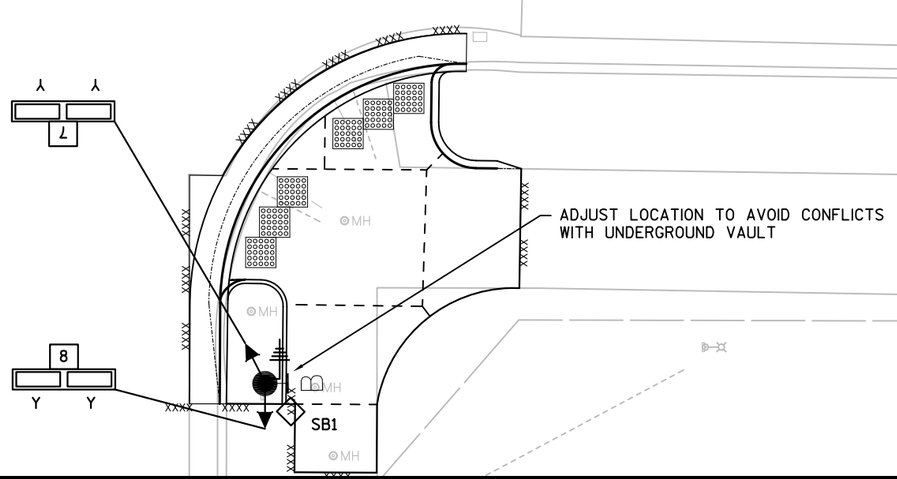


STH 25

158+00



10TH AVENUE



2

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	RECTANGULAR RAPID FLASHING BEACON - 10TH AVENUE	SHEET 25	E

LEGEND

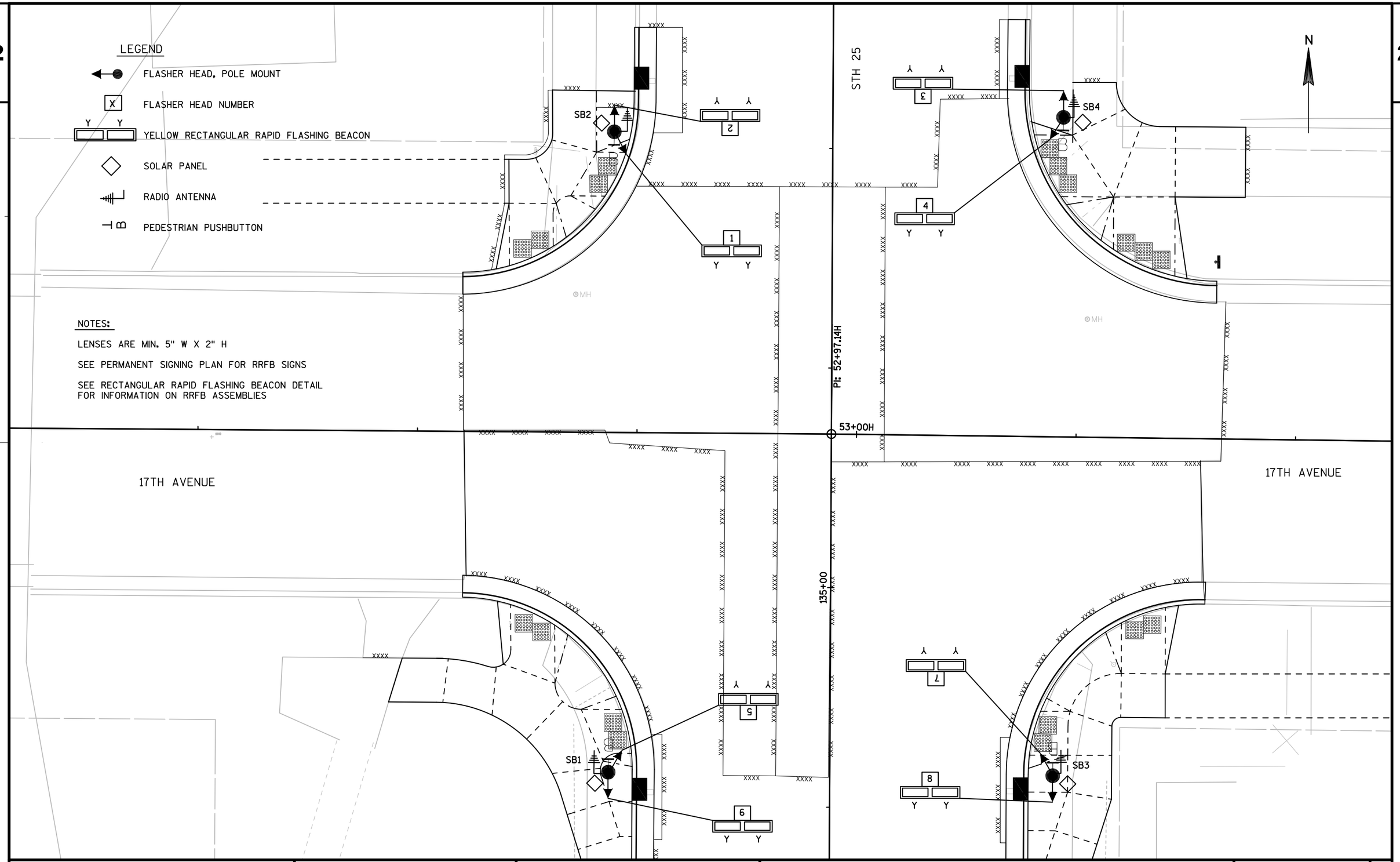
- FLASHER HEAD, POLE MOUNT
- X — FLASHER HEAD NUMBER
- Y Y — YELLOW RECTANGULAR RAPID FLASHING BEACON
- SOLAR PANEL
- RADIO ANTENNA
- B — PEDESTRIAN PUSHBUTTON

NOTES:

LENSES ARE MIN. 5" W X 2" H

SEE PERMANENT SIGNING PLAN FOR RRFB SIGNS

SEE RECTANGULAR RAPID FLASHING BEACON DETAIL FOR INFORMATION ON RRFB ASSEMBLIES



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	RECTANGULAR RAPID FLASHING BEACON - 17TH AVENUE	SHEET 26	E

2

N

PAVEMENT JOINT REPAIR (TYP.)
INCIDENTAL TO PREPARE FOUNDATION FOR ASPHALT
PAVING - SPECIAL - SEE DETAIL

BEGIN PROJECT
STA. 106+76.15
SEE BUTT JOINT DETAIL
MATCH EXISTING

PT: 106+58.98

107+00

108+00

109+00

30A

110+00

111+00

112+00

STH 25

24TH AVENUE

52+00A

52+95A

50+00B

EP:BB2+50

SEE BUTT JOINT DETAIL
MATCH EXISTING

DETERIORATED PAVEMENT JOINT TO BE REMOVED
WITH CONCRETE BASE PATCHING (TYP.)

MATCH LINE STA. 112+50

SEE BUTT JOINT DETAIL
MATCH EXISTING

51+00B

24TH AVENUE

LEGEND

- CONCRETE BASE PATCHING STAGE 1
- CONCRETE BASE PATCHING STAGE 2
- CONCRETE BASE PATCHING STAGE 3
- HMA PAVEMENT
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- X — CURB RAMP TYPE 'X' (SEE S.D.D.)

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN DETAILS	SHEET 27	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN DETAILS\SOUTH BROADWAY\021200TPD.DWG LAST SAVED : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:40_XREF

LEGEND

- CONCRETE BASE PATCHING STAGE 1
- CONCRETE BASE PATCHING STAGE 2
- CONCRETE BASE PATCHING STAGE 3
- HMA PAVEMENT
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- CURB RAMP TYPE 'X' (SEE S.D.D.)

PAVEMENT JOINT REPAIR (TYP.)
INCIDENTAL TO PREPARE FOUNDATION FOR ASPHALT PAVING - SPECIAL - SEE DETAIL

DETERIORATED PAVEMENT JOINT TO BE REMOVED WITH CONCRETE BASE PATCHING (TYP.)

SEE BUTT JOINT DETAIL
MATCH EXISTING

MATCH LINE STA. 112+50

MATCH LINE STA. 118+50

PI: 115+87.22

BP: 50+00.00

STH 25

23RD AVENUE

CANOPY

FILLER CAP

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN DETAILS	SHEET 28	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN DETAILS\SOUTH BROADWAY\021201PD.DWG PLOT DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

LEGEND

- CONCRETE BASE PATCHING STAGE 1
- CONCRETE BASE PATCHING STAGE 2
- CONCRETE BASE PATCHING STAGE 3
- HMA PAVEMENT
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- CURB RAMP TYPE 'X' (SEE S.D.D.)

MATCH LINE STA. 118+50

MATCH LINE STA. 124+50

BP: 50+00.00D

PC: 122+75.58

PT: 52+88.60E

STH 25

22ND AVENUE

21ST AVENUE

50+00S

51+00S

51+00E

52+00E

53+00E

54+00E

119+00

120+00

121+00

122+00

123+00

124+00

SEE BUTT JOINT DETAIL
MATCH EXISTING

SEE CURB RAMP DETAILS
FOR LOOPS AND SIGNAL WORK

CSW 4"
PED

TLE

30A

CSW 4"

DETERIORATED PAVEMENT JOINT TO BE REMOVED
WITH CONCRETE BASE PATCHING (TYP.)

CSW 4"

SEE BUTT JOINT DETAIL
MATCH EXISTING

CSW 4"

CANOPY

PAVEMENT JOINT REPAIR (TYP.)
INCIDENTAL TO PREPARE FOUNDATION FOR ASPHALT
PAVING - SPECIAL - SEE DETAIL

SEE BUTT JOINT DETAIL
MATCH EXISTING

N

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN DETAILS	SHEET 29 E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN DETAILS\SOUTH BROADWAY\021201PD.DWG PLOT DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

LEGEND

- CONCRETE BASE PATCHING STAGE 1
- CONCRETE BASE PATCHING STAGE 2
- CONCRETE BASE PATCHING STAGE 3
- HMA PAVEMENT
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- CURB RAMP TYPE 'X' (SEE S.D.D.)

N

20TH AVENUE

51+00F

52+00F

SEE BUTT JOINT DETAIL
MATCH EXISTING

DETERIORATED PAVEMENT JOINT TO BE REMOVED
WITH CONCRETE BASE PATCHING (TYP.)

PT: 129+24.10

MATCH LINE STA. 124+50

125+00

126+00

127+00

128+00

129+00

130+00

MATCH LINE STA. 130+50

STH 25

30A

30A

CSW 4"

CSW 4"

PAVEMENT JOINT REPAIR (TYP.)
INCIDENTAL TO PREPARE FOUNDATION FOR ASPHALT
PAVING - SPECIAL - SEE DETAIL

SEE BUTT JOINT DETAIL
MATCH EXISTING

51+00G

52+00G

51+00G

AVENUE

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN DETAILS	SHEET 30	E

LEGEND

- CONCRETE BASE PATCHING STAGE 1
- CONCRETE BASE PATCHING STAGE 2
- CONCRETE BASE PATCHING STAGE 3
- HMA PAVEMENT
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- CURB RAMP TYPE 'X' (SEE S.D.D.)

FIELD LOCATE LIMITS OF CURB & GUTTER REPLACEMENT OVER SUNKEN ROAD SECTION

PAVEMENT JOINT REPAIR (TYP.) INCIDENTAL TO PREPARE FOUNDATION FOR ASPHALT PAVING - SPECIAL - SEE DETAIL

SEE BUTT JOINT DETAIL MATCH EXISTING

DETERIORATED PAVEMENT JOINT TO BE REMOVED WITH CONCRETE BASE PATCHING (TYP.)

SEE BUTT JOINT DETAIL MATCH EXISTING

MATCH LINE STA. 130+50

MATCH LINE STA. 136+50

131+00 132+00 133+00 134+00 135+00 136+00

STH 25

17TH AVENUE

50+00H 52+00H 54+00H

PI: 52+97.14H

PC: 54+73.68H

CSW

CSW 4"

30A

TLE

N

2

N

16TH AVENUE

15TH AVENUE

MATCH LINE STA. 136+50

MATCH LINE STA. 142+50

PI: 137+15.60

137+00

138+00

139+00

140+00

141+00

142+00

52+00

53+00

53+171 HP

52+85J

EP: 53+16.51

EP: 52+84.76J

30A

STH 25

SEE BUTT JOINT DETAIL
MATCH EXISTING

PAVEMENT JOINT REPAIR (TYP.)
INCIDENTAL TO PREPARE FOUNDATION FOR ASPHALT
PAVING - SPECIAL - SEE DETAIL

SEE BUTT JOINT DETAIL
MATCH EXISTING

DETERIORATED PAVEMENT JOINT TO BE REMOVED
WITH CONCRETE BASE PATCHING (TYP.)

SEE BUTT JOINT DETAIL
MATCH EXISTING

LEGEND

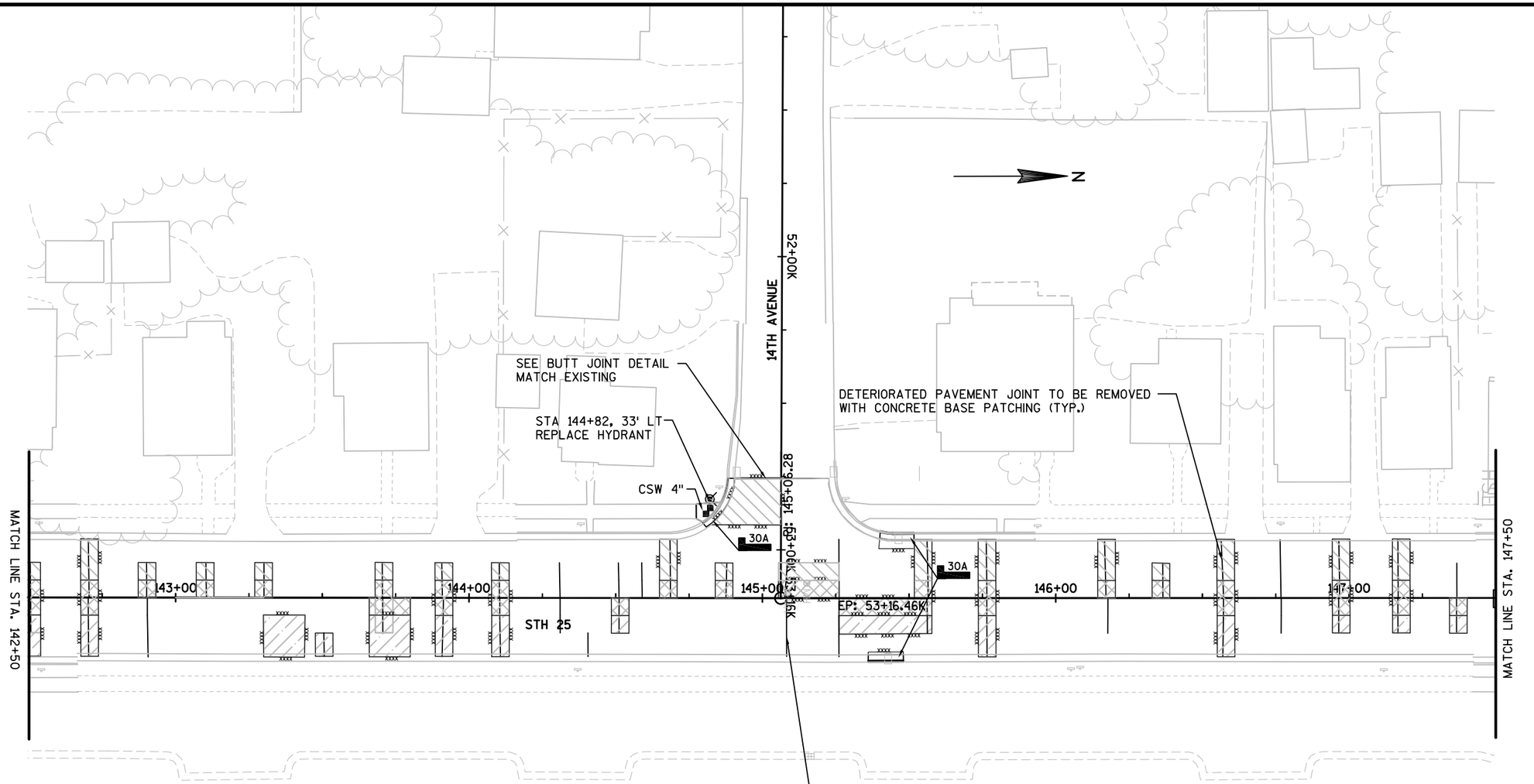
- CONCRETE BASE PATCHING STAGE 1
- CONCRETE BASE PATCHING STAGE 2
- CONCRETE BASE PATCHING STAGE 3
- HMA PAVEMENT
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET
- 30A CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- CURB RAMP TYPE 'X' (SEE S.D.D.)

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN DETAILS	SHEET 32	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN DETAILS\SOUTH BROADWAY\021201PD.DWG PLOT DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2



LEGEND

- CONCRETE BASE PATCHING STAGE 1
- CONCRETE BASE PATCHING STAGE 2
- CONCRETE BASE PATCHING STAGE 3
- HMA PAVEMENT
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- X — CURB RAMP TYPE 'X' (SEE S.D.D.)

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN DETAILS	SHEET 33	E

2

MATCH LINE STA. 147+50

13TH AVENUE

12TH AVENUE

STH 25

N

SEE CURB RAMP DETAILS FOR LOOP AND SIGNAL WORK

SEE BUTT JOINT DETAIL MATCH EXISTING

DETERIORATED PAVEMENT JOINT TO BE REMOVED WITH CONCRETE BASE PATCHING (TYP.)

SEE BUTT JOINT DETAIL MATCH EXISTING

END PROJECT
STA.152+00.00
SEE BUTT JOINT DETAIL MATCH EXISTING

CSW 4"

TLE

PED

30A

4A

148+00

149+00

150+00

151+00

152+00

153+00

52+00L

53+00L

54+00L

52+00M

PI: 151+50.00

PI: 151+75.01

PAVEMENT JOINT REPAIR (TYP.)
INCIDENTAL TO PREPARE FOUNDATION FOR ASPHALT PAVING - SPECIAL - SEE DETAIL

SEE BUTT JOINT DETAIL MATCH EXISTING

SEE BUTT JOINT DETAIL MATCH EXISTING

LEGEND

- CONCRETE BASE PATCHING STAGE 1
- CONCRETE BASE PATCHING STAGE 2
- CONCRETE BASE PATCHING STAGE 3
- HMA PAVEMENT
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET
- 30A CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- CURB RAMP TYPE 'X' (SEE S.D.D.)

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN DETAILS	SHEET 34	E

2

LEGEND

- CONCRETE BASE PATCHING STAGE 1
- CONCRETE BASE PATCHING STAGE 2
- CONCRETE BASE PATCHING STAGE 3
- HMA PAVEMENT
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- CURB RAMP TYPE 'X' (SEE S.D.D.)

N

STH 29

P: 157+50.43

CSW 4"

30A

CSW 4"

30A

154+00 155+00 156+00 157+00 158+00 159+00

STH 25

30A

CSW 4"

30A

CSW 4"

10TH AVENUE

POST

POST

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN DETAILS	SHEET 35	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN DETAILS\SOUTH BROADWAY\021200_DTL.DWG LOG DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:40_XREF

2

N

NOTE:

EXISTING ELEVATIONS, PIPE SIZES AND STRUCTURE DEPTHS SHALL BE VERIFIED IN THE FIELD.

ALL INLETS TO BE FIELD POURED

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

BEGIN PROJECT
STA. 106+76.15
SEE BUTT JOINT DETAIL
MATCH EXISTING

PT: 106+58.98

CITY OF MENOMONIE-WATER

XCEL ENERGY-GAS

STA 108+42, 9' LT - 108+62, 9' LT
REPLACE 20 LF SANITARY SEWER

1.0 STA. 109+32, 22.5' LT
ADJUST INLET

ADJUSTING SANITARY MANHOLE COVER

STA. 111+70, 22.5' LT
RECONSTRUCT INLET 3.0

24TH AVENUE

52+00A

50+00B

EP:BB2+50

MATCH LINE STA. 112+50

107+00 108+00 109+00 110+00 111+00 112+00

STH 25

CITY OF MENOMONIE-SANITARY

CITY OF MENOMONIE-STORM SEWER

ADJUSTING SANITARY MANHOLE COVER

2.0A STA. 109+42, 14.0' RT
ADJUST MANHOLE COVER

2.0 STA. 109+32, 22.5' RT
RECONSTRUCT INLET

AT&T

STA. 111+81, 25.0' RT
ADJUST INLET 6.0

STA. 112+07, 14.0' RT
ADJUST MANHOLE COVER 3.0A

STA. 112+38, 41.0' RT
ADJUST INLET 4.0

51+00B

LEGEND

C INLET PROTECTION TYPE C (SEE S.D.D.)

REMOVING INLETS

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	UTILITIES, STORM SEWER & EROSION CONTROL PLAN	SHEET 36	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\STORM SEWER\SOUTH BROADWAY\0225-01-71_SS.DWG PLOT DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

LEGEND

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

REMOVING INLETS

NOTE:

EXISTING ELEVATIONS, PIPE SIZES AND STRUCTURE DEPTHS SHALL BE VERIFIED IN THE FIELD.

ALL INLETS TO BE FIELD POURED

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

N

MATCH LINE STA. 112+50

MATCH LINE STA. 118+50

STH 25

23RD AVENUE

CANOPY

FILLER CAP

4.0A STA. 115+25, 14.0' RT
ADJUST MANHOLE COVER

STA 115+54, 6' LT
SANITARY MANHOLE
REPLACE RINGS

7.0 STA. 115+00, 22.5' LT
ADJUST INLET

PI: 115+87.22

CITY OF MENOMONIE-SANITARY

XCEL ENERGY-GAS

11.0 STA. 118+33, 22.5' LT
RECONSTRUCT INLET

CITY OF MENOMONIE-WATER

CITY OF MENOMONIE-STORM SEWER

10.0 STA. 115+00, 22.5' RT
RECONSTRUCT INLET

14.0 STA. 118+33, 22.5' RT
RECONSTRUCT INLET

113+00 114+00 115+00 116+00 117+00 118+00

50+00C 51+00C

BP: 50+00.00C

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	UTILITIES, STORM SEWER & EROSION CONTROL PLAN	SHEET 37	E

LEGEND

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

REMOVING INLETS

NOTE:

EXISTING ELEVATIONS, PIPE SIZES AND STRUCTURE DEPTHS SHALL BE VERIFIED IN THE FIELD.

ALL INLETS TO BE FIELD POURED

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

N

MATCH LINE STA. 118+50

MATCH LINE STA. 124+50

22ND AVENUE

21ST AVENUE

STH 25

50+00S

51+00S

53+00S

54+00S

51+00E

52+00E

53+00E

54+00E

119+00

120+00

121+00

122+00

123+00

124+00

BP: 50+00.00D

PI: 52+88.60E

PC: 122+75.58

STA 118+67 4' LT
SANITARY MANHOLE
REPLACE RINGS

CITY OF MENOMONIE-SANITARY

XCEL ENERGY-GAS

STA. 121+57, 22.5' LT
INLET 2X3-FT TYPE H COVER
8 LF 12" W/CONC. COLLAR
15.0

ADJUSTING SANITARY
MANHOLE COVER

STA 121+97, 10' RT
1-CONNECT TO EXIST
54-LF 8" WATERMAIN
1-8" GATE VALVE
2-8" 22.5° BENDS REQ'D.

5.0A STA. 118+63, 14.0' RT
ADJUST MANHOLE COVER

CITY OF MENOMONIE-WATER

CITY OF MENOMONIE-STORM SEWER

STA. 121+57, 22.5' RT
RECONSTRUCT INLET
18.0

STA. 121+80, 42.0' RT
ADJUST INLET
17.0

STA 121+75, 54' RT
1-HYDRANT
1-6" GATE VALVE
15 LF 6" WATERMAIN
1-8"X6" TEE
1-8" MJ PLUG

16.0 STA. 122+20, 42.0' RT
ADJUST INLET

6.0A STA. 121+90, 13.0' RT
ADJUST MANHOLE COVER

CANOPY

FILLER CAP

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	UTILITIES, STORM SEWER & EROSION CONTROL PLAN	SHEET 38	E

LEGEND

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

REMOVING INLETS

NOTE:

EXISTING ELEVATIONS, PIPE SIZES AND STRUCTURE DEPTHS SHALL BE VERIFIED IN THE FIELD.

ALL INLETS TO BE FIELD POURED

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

N

20TH AVENUE

51+00F

52+00F

51+00G

52+00G

MATCH LINE STA. 124+50

MATCH LINE STA. 130+50

125+00

126+00

127+00

128+00

129+00

130+00

STH 25

22.0 STA. 124+89, 22.5' LT
RECONSTRUCT INLET

8.0A STA. 125+19, 7.0' RT
ADJUST MANHOLE COVER

ADJUSTING SANITARY MANHOLE COVER

AT&T

19.0 STA. 125+68, 22.5' LT
RECONSTRUCT INLET

CITY OF MENOMONIE-SANITARY

XCEL ENERGY-GAS

ADJUSTING SANITARY MANHOLE COVER

PT: 129+24.10

STA. 129+58, 22.5' LT
INLET 2X3-FT TYPE H
8 LF 12" W/CONC. COLLAR 27.0

9.0A STA. 129+74, 4.0' RT
ADJUST MANHOLE COVER

23.0 STA. 125+68, 22.5' RT
INLET 2X3-FT TYPE H

24.0 STA. 125+52, 29.0' RT
RECONSTRUCT INLET

CITY OF MENOMONIE-WATER

STA. 129+58, 22.5' RT
INLET 2X3-FT TYPE H
8 LF 12" W/CONC. COLLAR 28.0

STA. 124+72, 15.0' RT
ADJUST MANHOLE COVER 7.0A

STA. 124+90, 22.5' RT
RECONSTRUCT INLET 26.0

XCEL ENERGY & CHARTER
OVERHEAD ELECTRIC & COMMUNICATION
LINES

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	UTILITIES, STORM SEWER & EROSION CONTROL PLAN	SHEET 39 E

LEGEND

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

REMOVING INLETS

NOTE:

EXISTING ELEVATIONS, PIPE SIZES AND STRUCTURE DEPTHS SHALL BE VERIFIED IN THE FIELD.

ALL INLETS TO BE FIELD POURED

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

N

MATCH LINE STA. 130+50

STA 130+52, 5' LT
SANITARY MANHOLE
REPLACE RINGS

STA 131+26, 5' LT
SANITARY MANHOLE
REPLACE RINGS

29.0 STA. 131+45, 22.5' LT
INLET 2X3-FT TYPE H
8 LF 12" W/CONC. COLLAR

ADJUSTING SANITARY
MANHOLE COVER

10.0A STA. 131+58, 6.0' RT
ADJUST MANHOLE COVER

30.0 STA. 131+53, 22.5' RT
ADJUST INLET

CITY OF MENOMONIE-STORM SEWER

CITY OF MENOMONIE-WATER

XCEL ENERGY-GAS

STA 133+15, 3' LT
SANITARY MANHOLE
REPLACE RINGS

CITY OF MENOMONIE-SANITARY

STA. 134+77, 22.5' LT
ADJUST INLET 33.0

AT&T

STA 134+95, 6' LT
SANITARY MANHOLE
REPLACE RINGS

STA. 134+77, 22.5' RT
ADJUST INLET 31.0

XCEL ENERGY & CHARTER
OVERHEAD ELECTRIC & COMMUNICATION
LINES

131+00 132+00 133+00 134+00 135+00 136+00

STH 25

17TH AVENUE

52+00H 53+00H 54+00H

PI: 52+97.14H

12.0A STA. 135+33, 29.0' LT
ADJUST MANHOLE COVER

34.0 STA. 135+58, 22.5' LT
RECONSTRUCT INLET

32.0 STA. 135+58, 22.5' RT
ADJUST INLET

11.0A STA. 135+31, 29.0' RT
ADJUST MANHOLE COVER

PC: 54+73.68H

MATCH LINE STA. 136+50

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	UTILITIES, STORM SEWER & EROSION CONTROL PLAN	SHEET 40	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\STORM SEWER\SOUTH BROADWAY\0225_01_SS.DWG PLOT DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

2

N

16TH AVENUE

15TH AVENUE

52+001

52+001

53+001

52+852

MATCH LINE STA. 136+50

MATCH LINE STA. 142+50

137+00

138+00

139+00

140+00

141+00

142+00

PI: 137+15.60

EP: 53+16.51

EP: 52+84.76J

STH 25

13.0A STA. 138+54, 15.0' LT
ADJUST MANHOLE COVER

37.0 STA. 138+86, 22.5' LT
ADJUST INLET

CITY OF MENOMONIE-STORM SEWER

XCEL ENERGY-GAS

CITY OF MENOMONIE-SANITARY

STA. 142+15, 22.5' LT
ADJUST INLET 42.0

STA. 141+97, 13.0' LT
ADJUST MANHOLE COVER 14.0A

ADJUSTING SANITARY
MANHOLE COVER

ADJUSTING SANITARY
MANHOLE COVER

38.0 STA. 138+83, 22.5' RT
ADJUST INLET

CITY OF MENOMONIE-WATER

STA 141+64, 10' RT
ABANDON WATER
SERVICE LATERAL

STA. 142+13, 22.5' RT
ADJUST INLET 40.0

STA 142+45, 11' RT
ABANDON WATER
SERVICE LATERAL

LEGEND

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

REMOVING INLETS

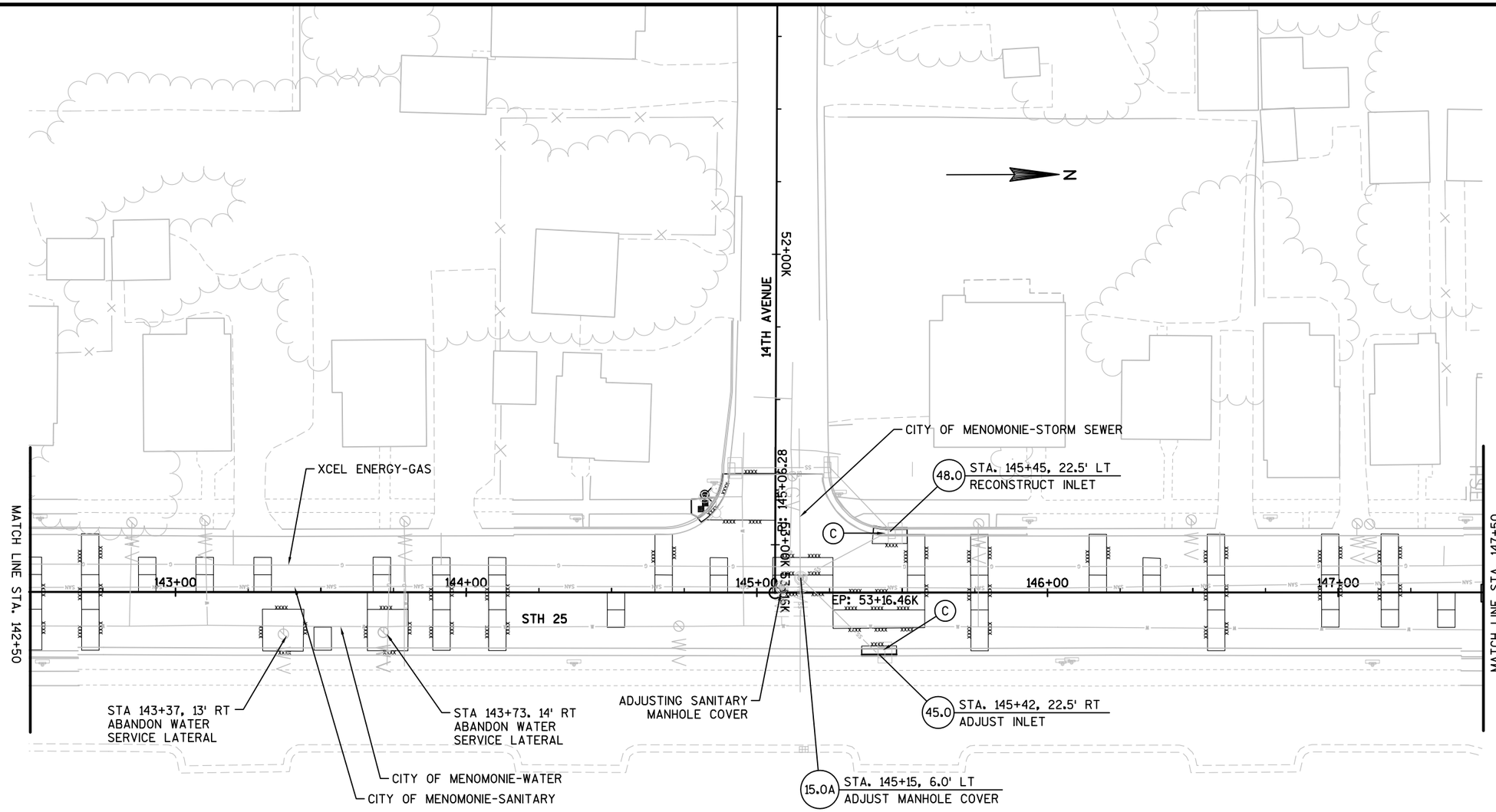
NOTE:

EXISTING ELEVATIONS, PIPE SIZES AND STRUCTURE DEPTHS SHALL BE VERIFIED IN THE FIELD.

ALL INLETS TO BE FIELD POURED

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	UTILITIES, STORM SEWER & EROSION CONTROL PLAN	SHEET 41	E



LEGEND

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

REMOVING INLETS

NOTE:

EXISTING ELEVATIONS, PIPE SIZES AND STRUCTURE DEPTHS SHALL BE VERIFIED IN THE FIELD.

ALL INLETS TO BE FIELD POURED

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

2

N

13TH AVENUE

12TH AVENUE

STH 25

MATCH LINE STA. 147+50

148+00

149+00

150+00

151+00

152+00

153+00

52+00L

53+00L

54+00L

52+00M

53+00M

PI: 151+50.00

PI: 151+75.01

24-7 TELECOM INC.-
COMMUNICATION LINE

16.0A STA. 148+47, 14.0' LT
ADJUST MANHOLE COVER

STA 148+53, 4' LT
SANITARY MANHOLE
REPLACE RINGS

54.0 STA. 148+77, 22.5' LT
ADJUST INLET

CITY OF MENOMONIE-SANITARY

XCEL ENERGY-GAS

ADJUSTING SANITARY
MANHOLE COVER

STA 151+69, 29' LT
SANITARY MANHOLE
REPLACE RINGS

END PROJECT
STA.152+00.00
SEE BUTT JOINT DETAIL
MATCH EXISTING

CITY OF MENOMONIE-STORM SEWER

ADJUSTING SANITARY
MANHOLE COVER

XCEL ENERGY-
ELECTRIC

49.0 STA. 148+77, 22.5' RT
INLET 2X3-FT TYPE H
8 LF 12" W/CONC. COLLAR

CITY OF MENOMONIE-WATER

17.0A STA. 151+89, 9.0' RT
ADJUST MANHOLE COVER

51.0 STA. 148+16, 43.0' RT
RECONSTRUCT INLET

57.0 STA. 151+94, 26.5' RT
ADJUST INLET

NOTE:

EXISTING ELEVATIONS, PIPE SIZES AND STRUCTURE DEPTHS SHALL BE VERIFIED IN THE FIELD.

ALL INLETS TO BE FIELD POURED

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

LEGEND

C INLET PROTECTION TYPE C (SEE S.D.D.)

REMOVING INLETS

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	UTILITIES, STORM SEWER & EROSION CONTROL PLAN	SHEET 43	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\STORM SEWER\SOUTH BROADWAY\0225010SSDWG PLOT DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1:40_XREF

2

LEGEND

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

REMOVING INLETS

NOTE:

EXISTING ELEVATIONS, PIPE SIZES AND STRUCTURE DEPTHS SHALL BE VERIFIED IN THE FIELD.

ALL INLETS TO BE FIELD POURED

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

N

CITY OF MENOMONIE-WATER

XCEL ENERGY-GAS

CITY OF MENOMONIE-STORM SEWER

CITY OF MENOMONIE-SANITARY

STA. 157+94, 26.5' LT
INLET COVER
60.0

19.0A STA. 158+02, 36.0' LT
ADJUST MANHOLE COVER

P: 157-50.43

61.0 STA. 158+52, 44.0' RT
INLET COVER

10TH AVENUE

154+00 155+00 156+00 157+00 158+00 159+00

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	UTILITIES, STORM SEWER & EROSION CONTROL PLAN	SHEET 44	E

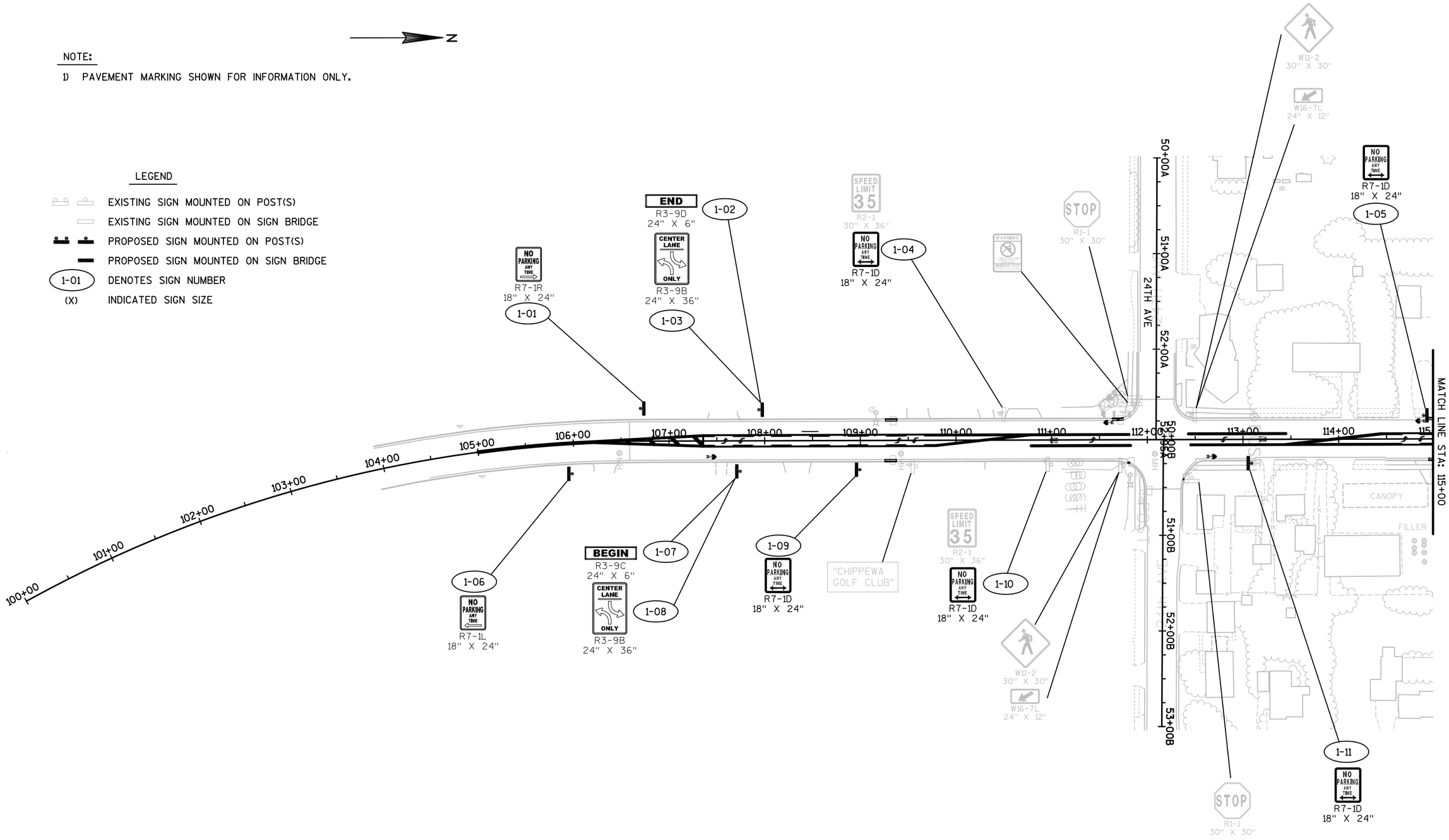
NOTE:

1) PAVEMENT MARKING SHOWN FOR INFORMATION ONLY.

N

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON SIGN BRIDGE
- 1-01 DENOTES SIGN NUMBER
- (X) INDICATED SIGN SIZE



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN: PERMANENT SIGNING PLAN	SHEET 45	E

NOTE:

1) PAVEMENT MARKING SHOWN FOR INFORMATION ONLY.

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON SIGN BRIDGE
- 1-01 DENOTES SIGN NUMBER
- (X) INDICATED SIGN SIZE

REMOVE OVERHEAD SIGN ASSEMBLY & BASE

2-01 SPEED LIMIT 35 R2-1 30" X 36"; NO PARKING ANY TIME R7-1D 18" X 24"

2-02 NO PARKING ANY TIME R7-1D 18" X 24"; NO PARKING HERE TO CORNER R7-51L 18" X 24"

2R-01

2-03 ONLY R3-8A 36" X 30"

2R-02 ONLY R3-5L 42" X 48"

2R-03 R3-6R 42" X 48"

2-04 SPEED LIMIT 30 R2-1 30" X 36"; NO PARKING ANY TIME R7-1D 18" X 24"

2-05 ONLY R3-8A 36" X 30"

2R-04 ONLY R3-5L 42" X 48"

2R-05 R3-6R 42" X 48"

2-06 NO PARKING ANY TIME R7-1D 18" X 24"

2R-06 NO PARKING HERE TO CORNER R7-51L 18" X 24"

2M-01 "PHELAN PARK"

2M-02 STOP R1-1 30" X 30"

2-07 NO PARKING ANY TIME R7-1D 18" X 24"

2R-07 NO PARKING 2:00AM TO 7:00AM R7-1D 18" X 24"

2-08 CENTER LANE ONLY R3-9B 24" X 36"

STOP R1-1 30" X 30" (x3)

NO PARKING ANY TIME R7-1D 18" X 24" (x3)

"CHIP" VALLEY GOLF CLUB

"MENOMINEE HIGH SCHOOL"

BLDG

CANOPY

FILLER CAP

21ST AVE

20TH AVE

22ND AVE

23RD AVE

50+00E

51+00E

52+00E

54+00E

55+00E

55+85E

50+00C

51+00C

52+00C

53+00C

50+00D

51+00D

52+00D

53+00D

50+00F

51+00F

52+00F

50+00G

51+00G

52+00G

MATCH LINE STA: 115+00

MATCH LINE STA: 130+00

115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00

REMOVE OVERHEAD SIGN ASSEMBLY & BASE

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN: PERMANENT SIGNING PLAN	SHEET 46	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\SIGNING\SOUTH BROADWAY\023201_PSLDWG DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

2

N

MATCH LINE STA: 130+00

MATCH LINE STA: 145+00

17TH AVE

16TH AVE

15TH AVE

"FOWLER COURT PARK"

3-01 CENTER LANE ONLY R3-9B 24" X 36"

3-02 W11-2 30" X 30"

3-03 W16-7R 24" X 12"

3-04 PUSH BUTTON TO TURN ON WARNING LIGHTS R10-25 9" X 12"

3M-01 STOP R1-1 30" X 30"

3-05 W11-2 30" X 30"

3-06 W16-7L 24" X 12"

3-07 PUSH BUTTON TO TURN ON WARNING LIGHTS R10-25 9" X 12"

3-16 HERE TO PEDESTRAINS R1-5aL 18" X 24"

STOP R1-1 30" X 30"

SPEED LIMIT 30 R2-1 30" X 36"

STOP R1-1 30" X 30"

3-08 NO PARKING ANY TIME R7-1D 18" X 24"

3-09 NO PARKING ANY TIME R7-1D 18" X 24"

3-17 HERE TO PEDESTRAINS R1-5aL 18" X 24"

3R-01 NO PARKING 2:00AM TO 7:00AM R7-1D 18" X 24"

NORTH M 3-1 24" X 12"

25 M1-6 24" X 24"

NO PARKING ANY TIME R7-1D 18" X 24"

NO PARKING ANY TIME R7-1D 18" X 24"

3M-02 STOP R1-1 30" X 30"

3-10 W11-2 30" X 30"

3-11 W16-7L 24" X 12"

3-12 PUSH BUTTON TO TURN ON WARNING LIGHTS R10-25 9" X 12"

3-13 W11-2 30" X 30"

3-14 W16-7R 24" X 12"

3-15 PUSH BUTTON TO TURN ON WARNING LIGHTS R10-25 9" X 12"

SPEED LIMIT 25 R2-1 30" X 36"

NO PARKING ANY TIME R7-1D 18" X 24"

STOP R1-1 30" X 30"

NO PARKING ANY TIME R7-1D 18" X 24"

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON SIGN BRIDGE
- 1-01 DENOTES SIGN NUMBER
- (X) INDICATED SIGN SIZE

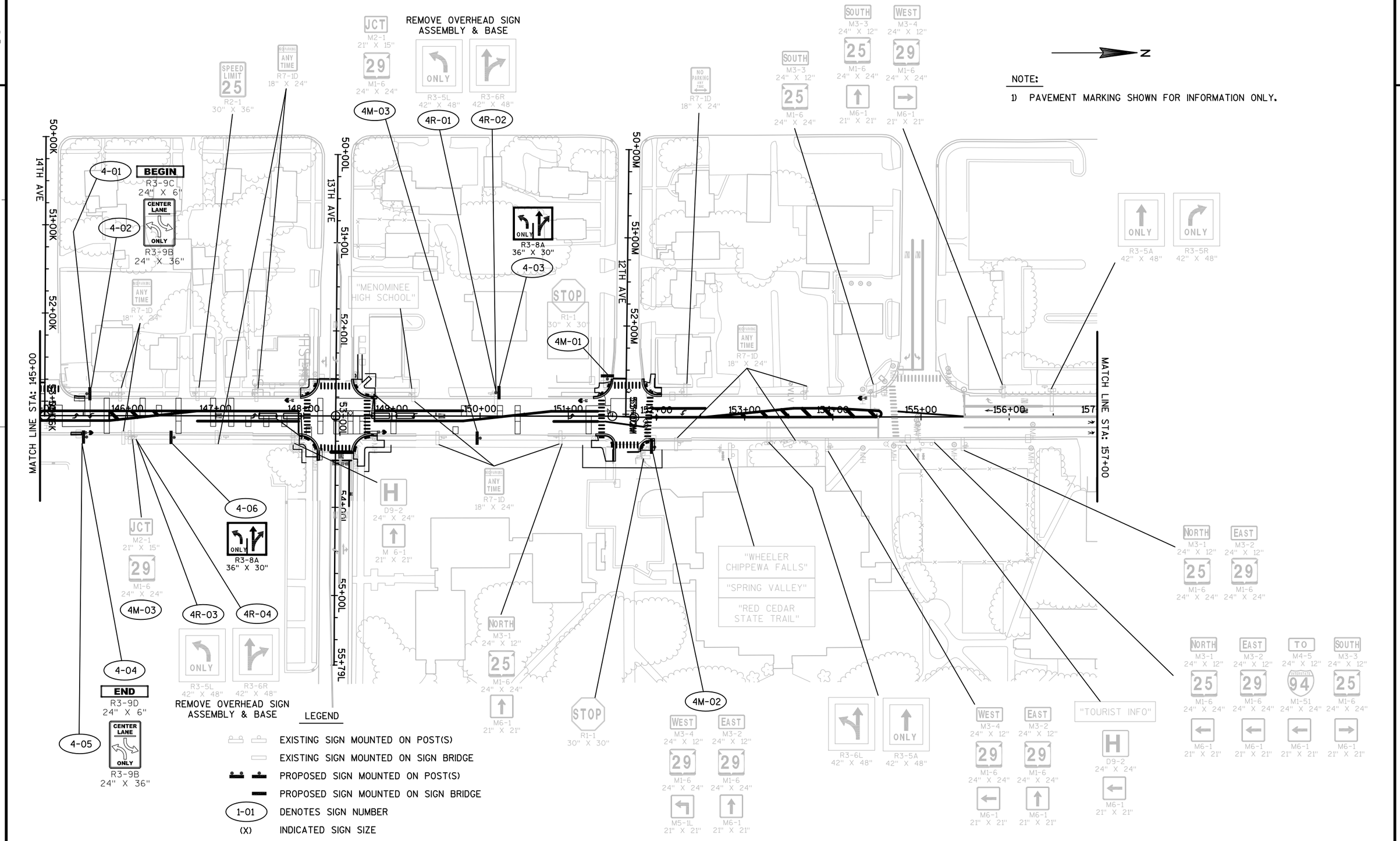
NOTE:

1) PAVEMENT MARKING SHOWN FOR INFORMATION ONLY.

2) * DENOTES SIGNS ARE LOCATED ON RECTANGULAR RAPID FLASHING BEACONS. SEE RECTANGULAR RAPID FLASHING BEACON DETAIL FOR MORE INFORMATION

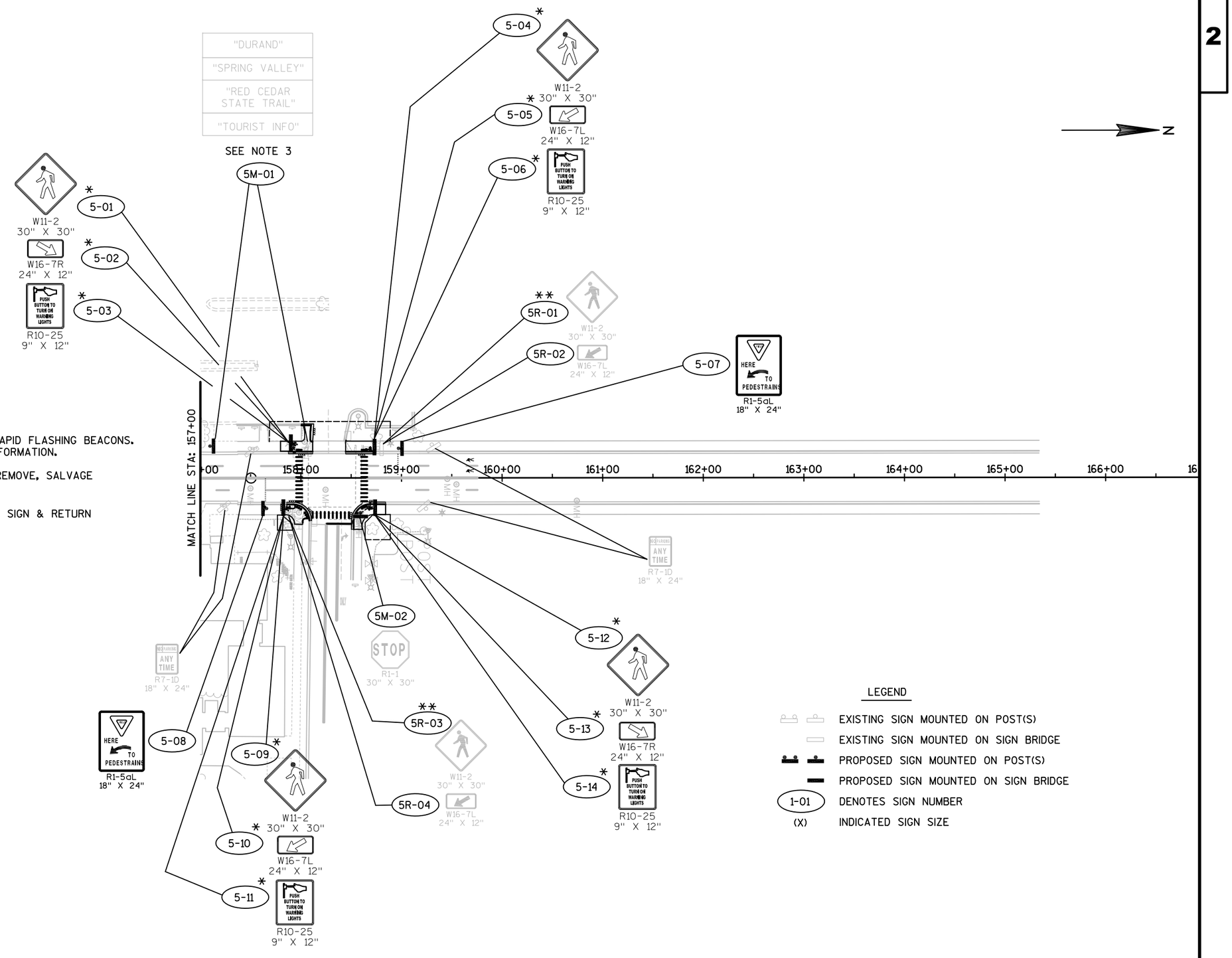
PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN: PERMANENT SIGNING PLAN	SHEET 47	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\SIGNING\SOUTH BROADWAY\023201_PSLDW DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:100_XREF



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN: PERMANENT SIGNING PLAN	SHEET 48	E

2



NOTE:

1) PAVEMENT MARKING SHOWN FOR INFORMATION ONLY.

2) *DENOTES SIGNS ARE LOCATED ON RECTANGULAR RAPID FLASHING BEACONS. SEE RAPID FLASHING BEACON DETAIL FOR MORE INFORMATION.

3) SIGN 5M-01 IS TO BE INSTALLED UNDER SPV.0105, REMOVE, SALVAGE AND REINSTALL SIGN SUPPORT ASSEMBLY.

4) **DENOTES REMOVE & SALVAGE EXISTING FLASHING SIGN & RETURN TO THE CITY.

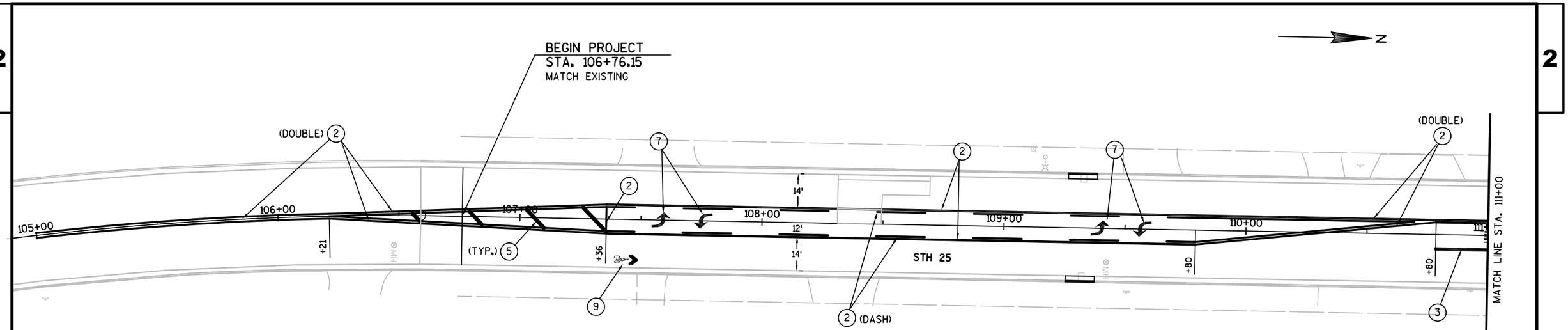
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON SIGN BRIDGE
- (1-01) DENOTES SIGN NUMBER
- (X) INDICATED SIGN SIZE

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PLAN: PERMANENT SIGNING PLAN	SHEET 49	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\SIGNING\SOUTH BROADWAY\023201_PSLDWG DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

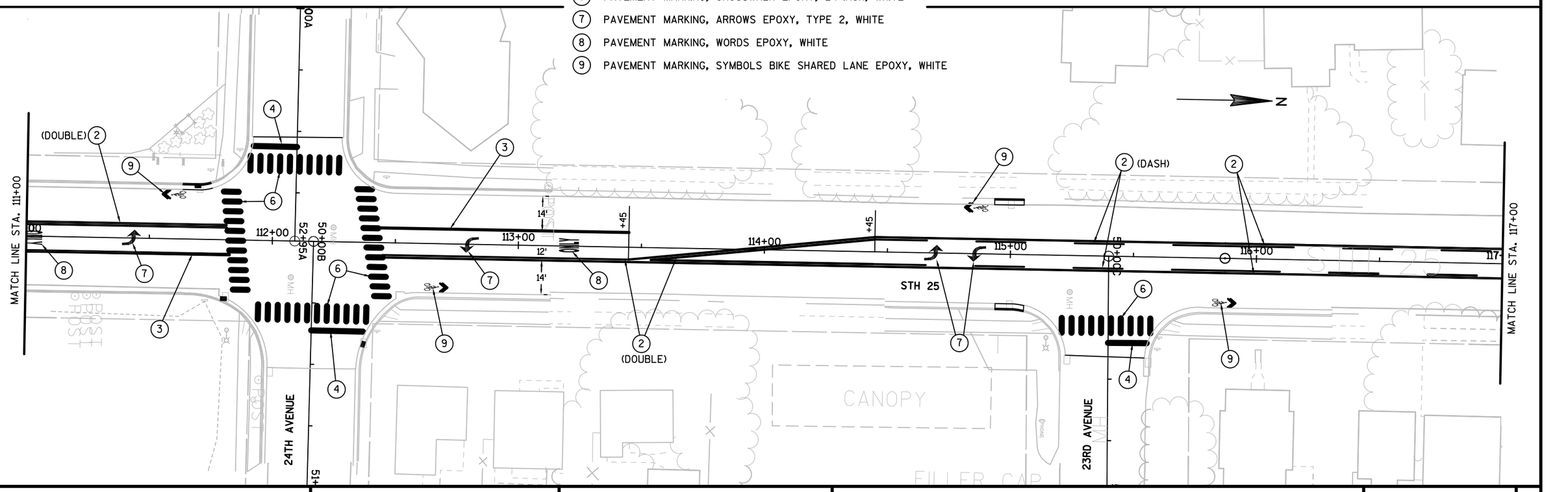


NOTE (APPLIES TO ALL SHEETS):

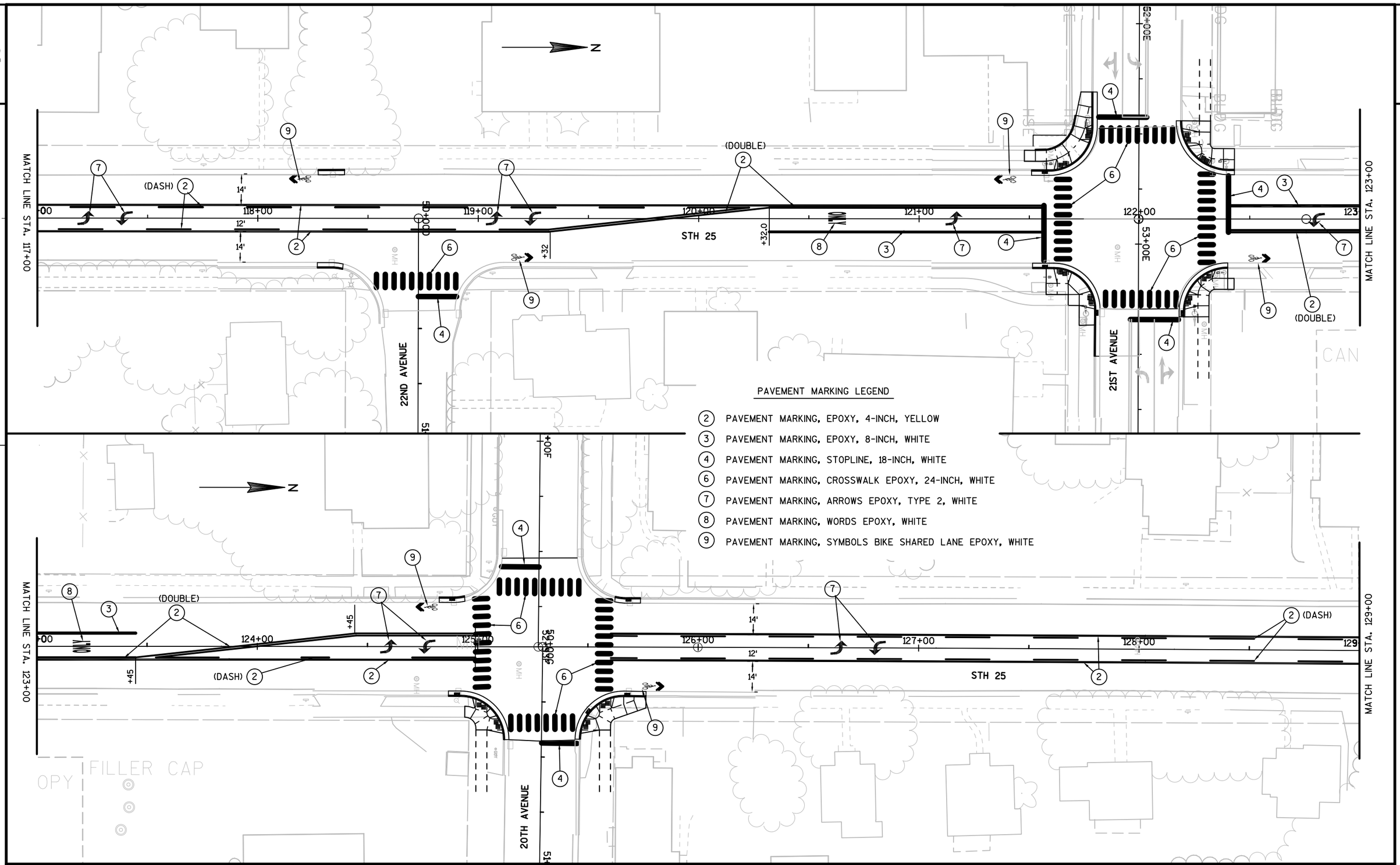
1) REMOVE & RESTORE EXISTING SIDE STREET PAVEMENT MARKING.
2) EXISTING PAINTED CURB HEAD WILL NOT BE RESTORED IF CURB IS REPLACED.

PAVEMENT MARKING LEGEND

(2) PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW
(3) PAVEMENT MARKING, EPOXY, 8-INCH, WHITE
(4) PAVEMENT MARKING, STOPLINE, 18-INCH, WHITE
(5) PAVEMENT MARKING, DIAGONAL EPOXY, 12-INCH, YELLOW
(6) PAVEMENT MARKING, CROSSWALK EPOXY, 24-INCH, WHITE
(7) PAVEMENT MARKING, ARROWS EPOXY, TYPE 2, WHITE
(8) PAVEMENT MARKING, WORDS EPOXY, WHITE
(9) PAVEMENT MARKING, SYMBOLS BIKE SHARED LANE EPOXY, WHITE



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 50	E

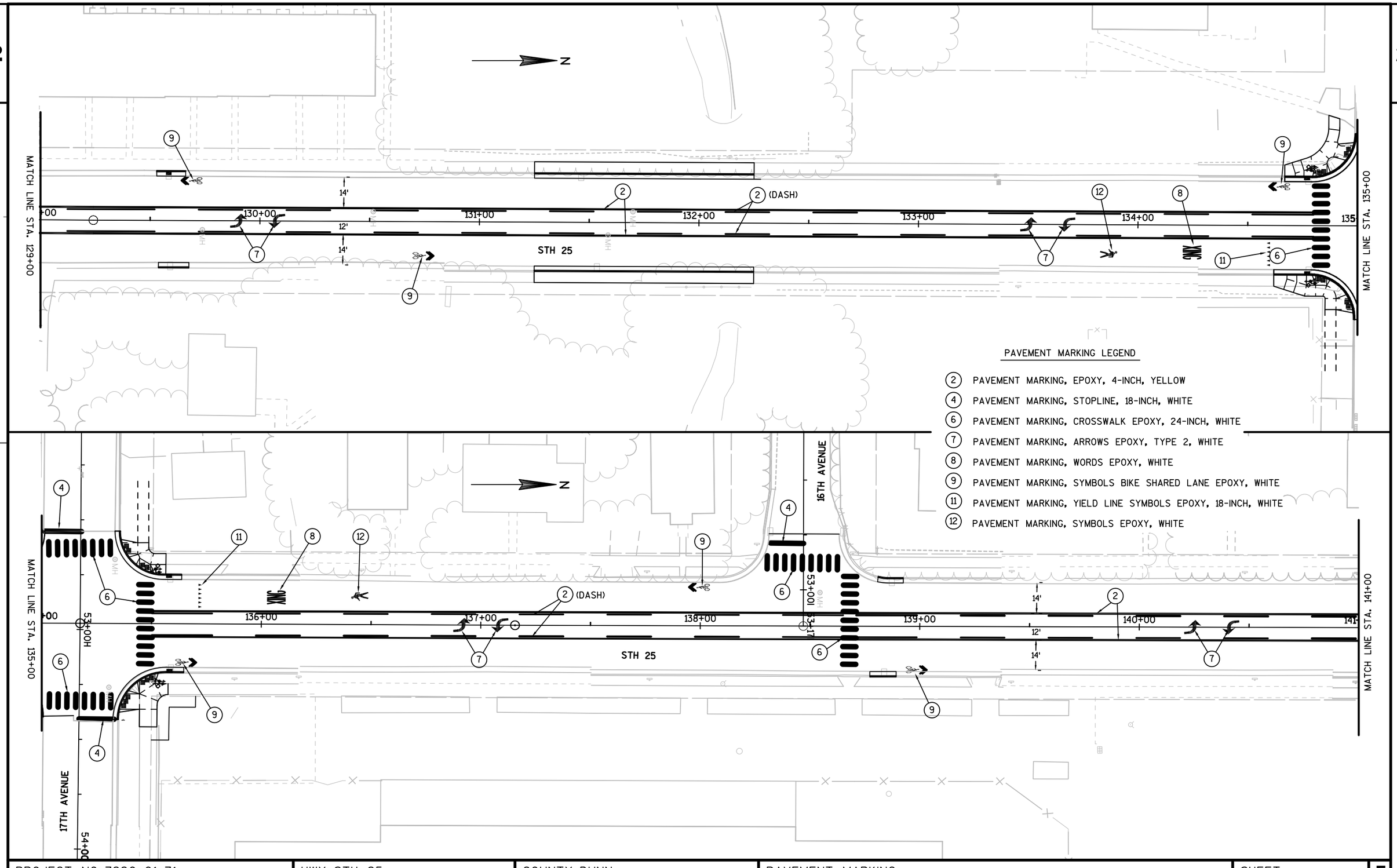


PAVEMENT MARKING LEGEND

(2) PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW
(3) PAVEMENT MARKING, EPOXY, 8-INCH, WHITE
(4) PAVEMENT MARKING, STOPLINE, 18-INCH, WHITE
(6) PAVEMENT MARKING, CROSSWALK EPOXY, 24-INCH, WHITE
(7) PAVEMENT MARKING, ARROWS EPOXY, TYPE 2, WHITE
(8) PAVEMENT MARKING, WORDS EPOXY, WHITE
(9) PAVEMENT MARKING, SYMBOLS BIKE SHARED LANE EPOXY, WHITE

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET	E

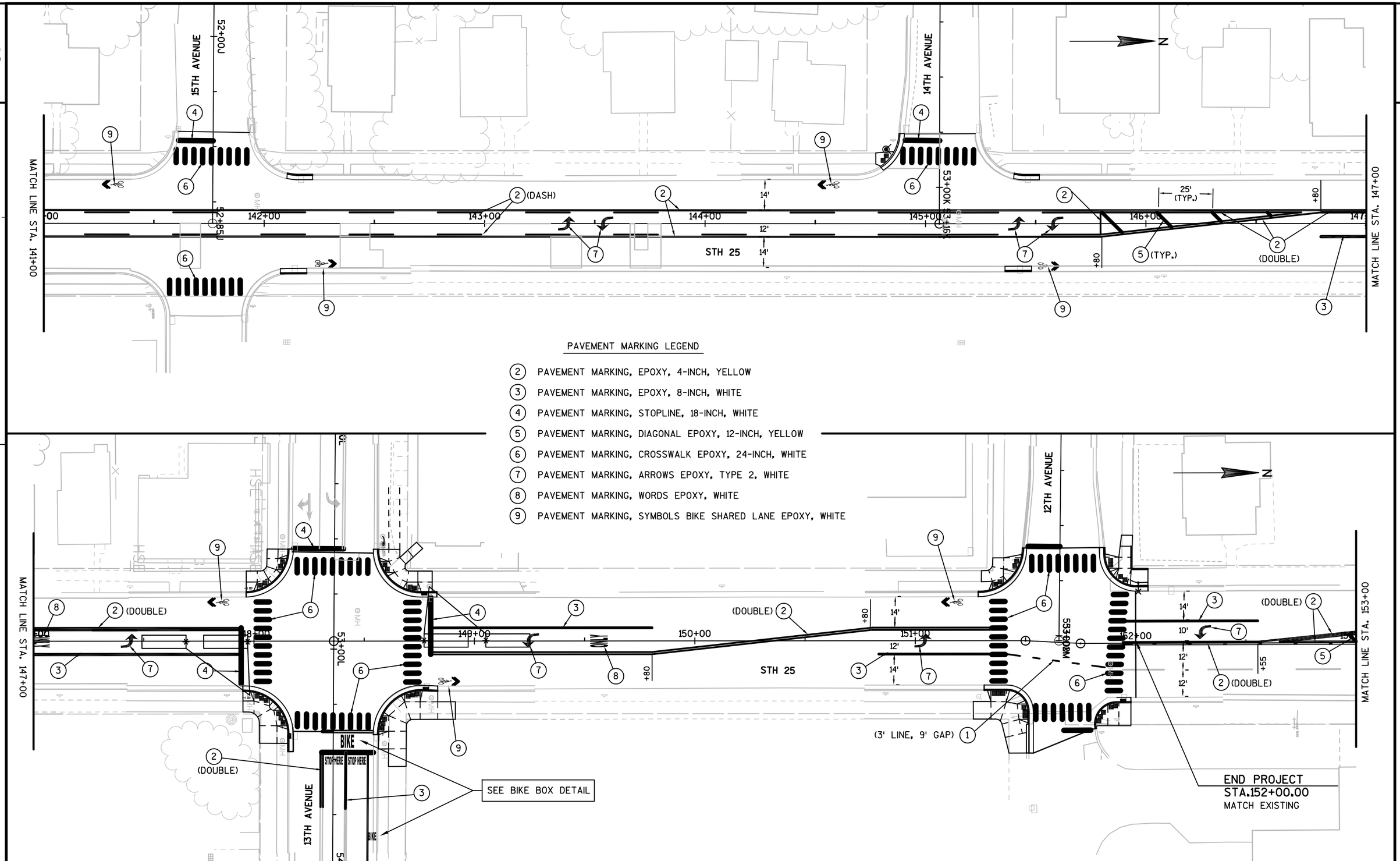
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\MARKING\SOUTH BROADWAY\024501_PMK.DWG DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 0.30000000 = 1'-0" XREF
WISDOT/CADDS SHEET 42



PAVEMENT MARKING LEGEND

(2) PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW
(4) PAVEMENT MARKING, STOPLINE, 18-INCH, WHITE
(6) PAVEMENT MARKING, CROSSWALK EPOXY, 24-INCH, WHITE
(7) PAVEMENT MARKING, ARROWS EPOXY, TYPE 2, WHITE
(8) PAVEMENT MARKING, WORDS EPOXY, WHITE
(9) PAVEMENT MARKING, SYMBOLS BIKE SHARED LANE EPOXY, WHITE
(11) PAVEMENT MARKING, YIELD LINE SYMBOLS EPOXY, 18-INCH, WHITE
(12) PAVEMENT MARKING, SYMBOLS EPOXY, WHITE

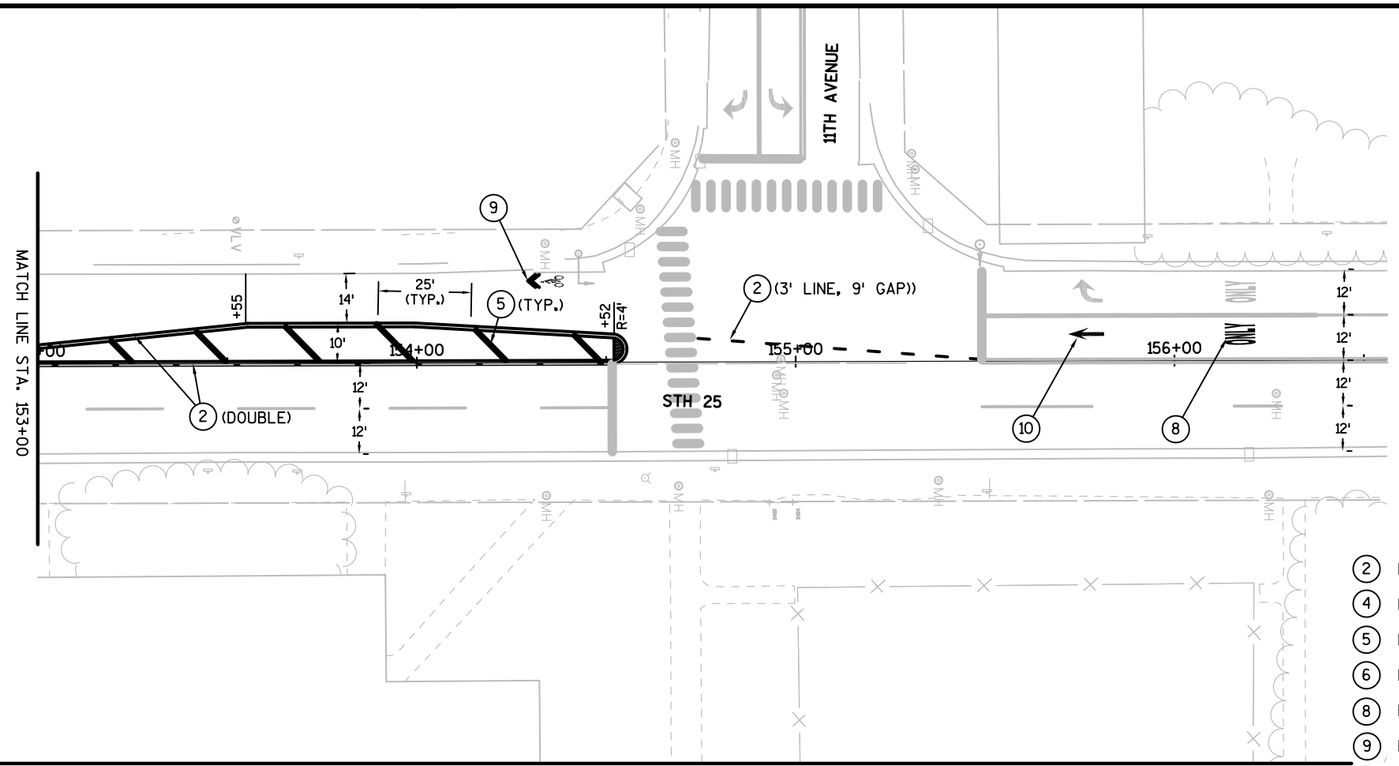
PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 52	E

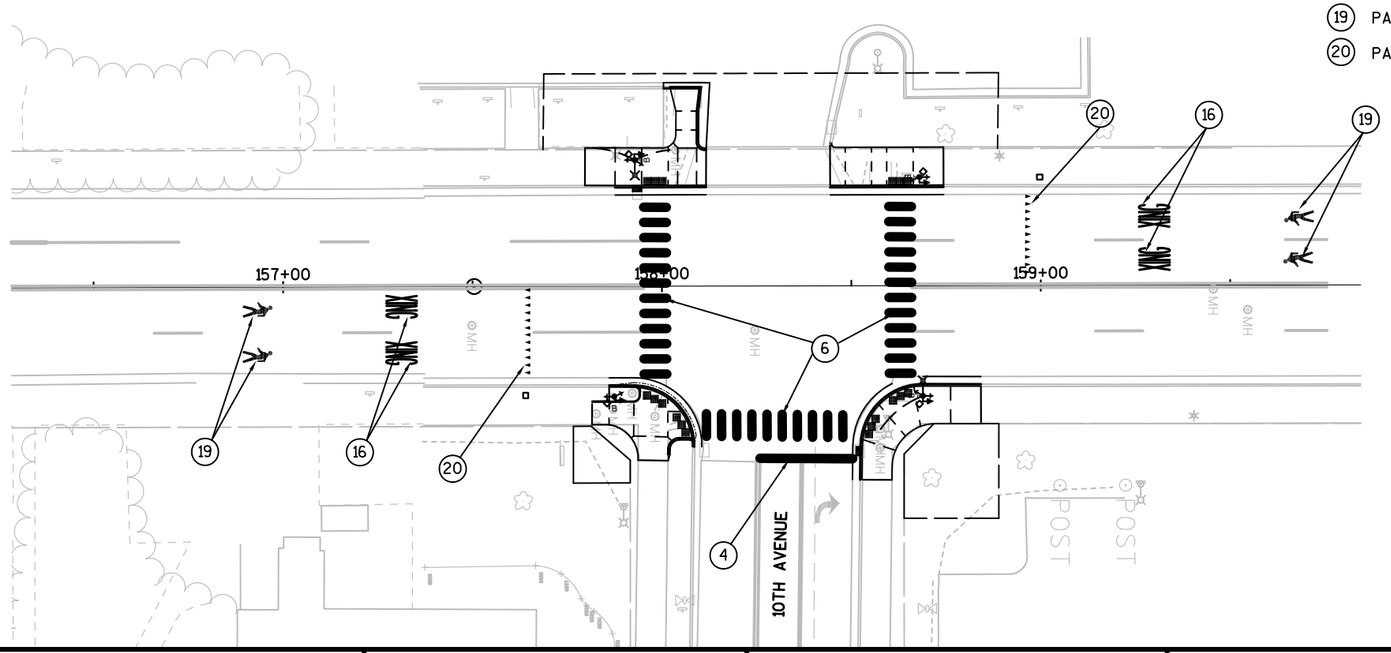


PAVEMENT MARKING LEGEND

(2) PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW
(3) PAVEMENT MARKING, EPOXY, 8-INCH, WHITE
(4) PAVEMENT MARKING, STOPLINE, 18-INCH, WHITE
(5) PAVEMENT MARKING, DIAGONAL EPOXY, 12-INCH, YELLOW
(6) PAVEMENT MARKING, CROSSWALK EPOXY, 24-INCH, WHITE
(7) PAVEMENT MARKING, ARROWS EPOXY, TYPE 2, WHITE
(8) PAVEMENT MARKING, WORDS EPOXY, WHITE
(9) PAVEMENT MARKING, SYMBOLS BIKE SHARED LANE EPOXY, WHITE

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 53	E



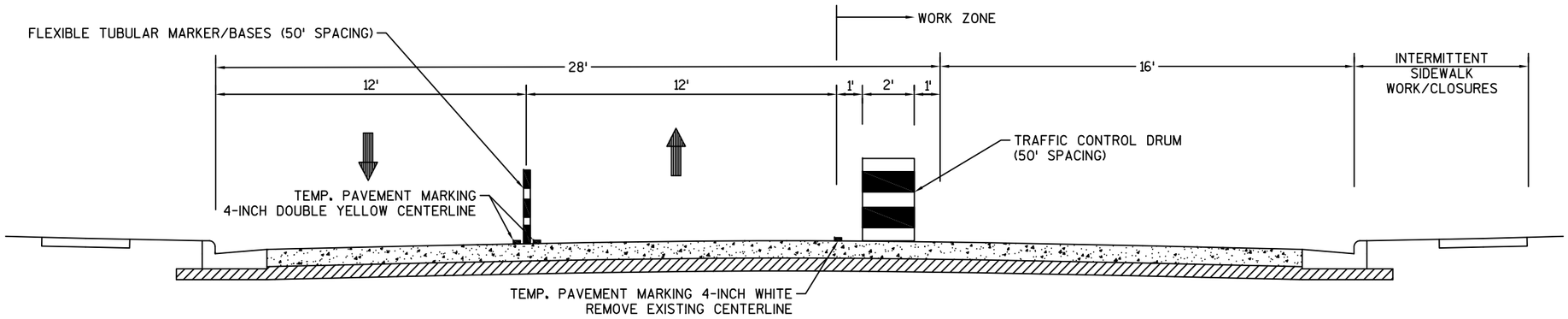


PAVEMENT MARKING LEGEND

(2) PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW
(4) PAVEMENT MARKING, STOPLINE, 18-INCH, WHITE
(5) PAVEMENT MARKING, DIAGONAL EPOXY, 12-INCH, YELLOW
(6) PAVEMENT MARKING, CROSSWALK EPOXY, 24-INCH, WHITE
(8) PAVEMENT MARKING, WORDS EPOXY, WHITE
(9) PAVEMENT MARKING, SYMBOLS BIKE SHARED LANE EPOXY, WHITE
(10) PAVEMENT MARKING, ARROWS EPOXY, TYPE 1, WHITE
(16) PAVEMENT MARKING CONTRAST GROOVED PREFORMED THERMOPLASTIC WORDS, WHITE
(19) PAVEMENT MARKING CONTRAST GROOVED PREFORMED THERMOPLASTIC SYMBOLS, WHITE
(20) PAVEMENT MARKING CONTRAST GROOVED PREFORMED THERMOPLASTIC YIELD LINE SYMBOLS, 18-INCH, WHITE

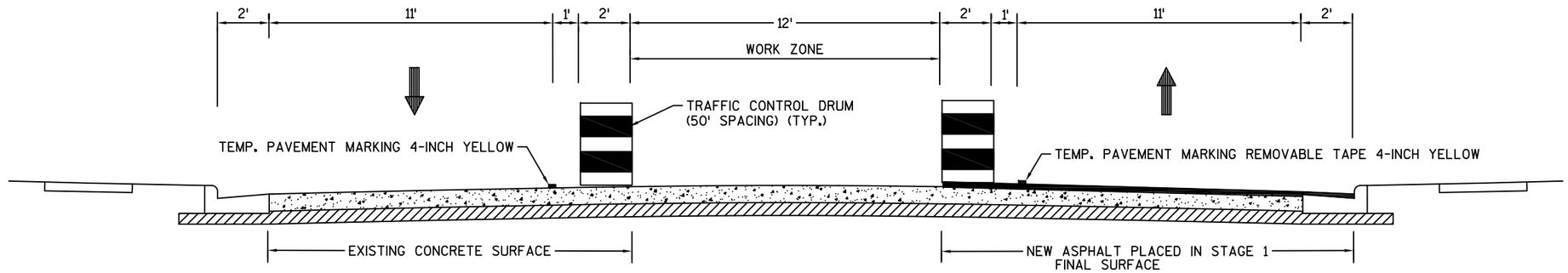
NOTE: REMOVING EXISTING CROSSWALK PAVEMENT MARKINGS SHALL BE PAID AS REMOVING PAVEMENT MARKING SYMBOLS. EACH SYMBOL INCLUDES ONE LANE WIDTH OF EXISTING CROSSWALK MARKINGS.

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 54	E



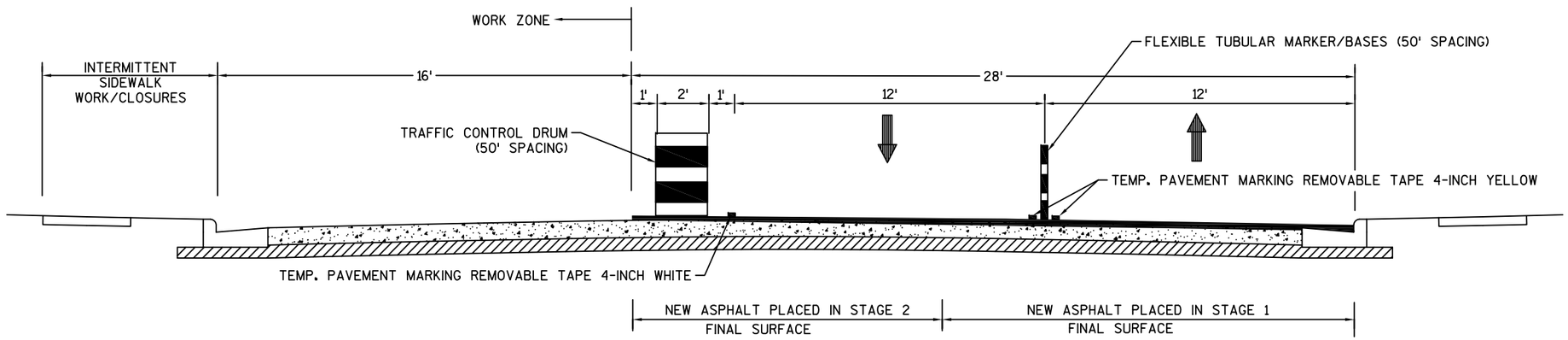
STAGE ONE TYPICAL SECTION

24TH AVE. - 12TH AVE.



STAGE TWO TYPICAL SECTION

24TH AVE. - 12TH AVE.



STAGE THREE TYPICAL SECTION

24TH AVE. - 12TH AVE.

NOTE:

SEE S.D.D. 15D30 "TRAFFIC CONTROL, SIDEWALK CLOSURE" FOR DETAILS NOT SHOWN ON THE PLAN.

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL TYPICAL SECTION	SHEET 55	E

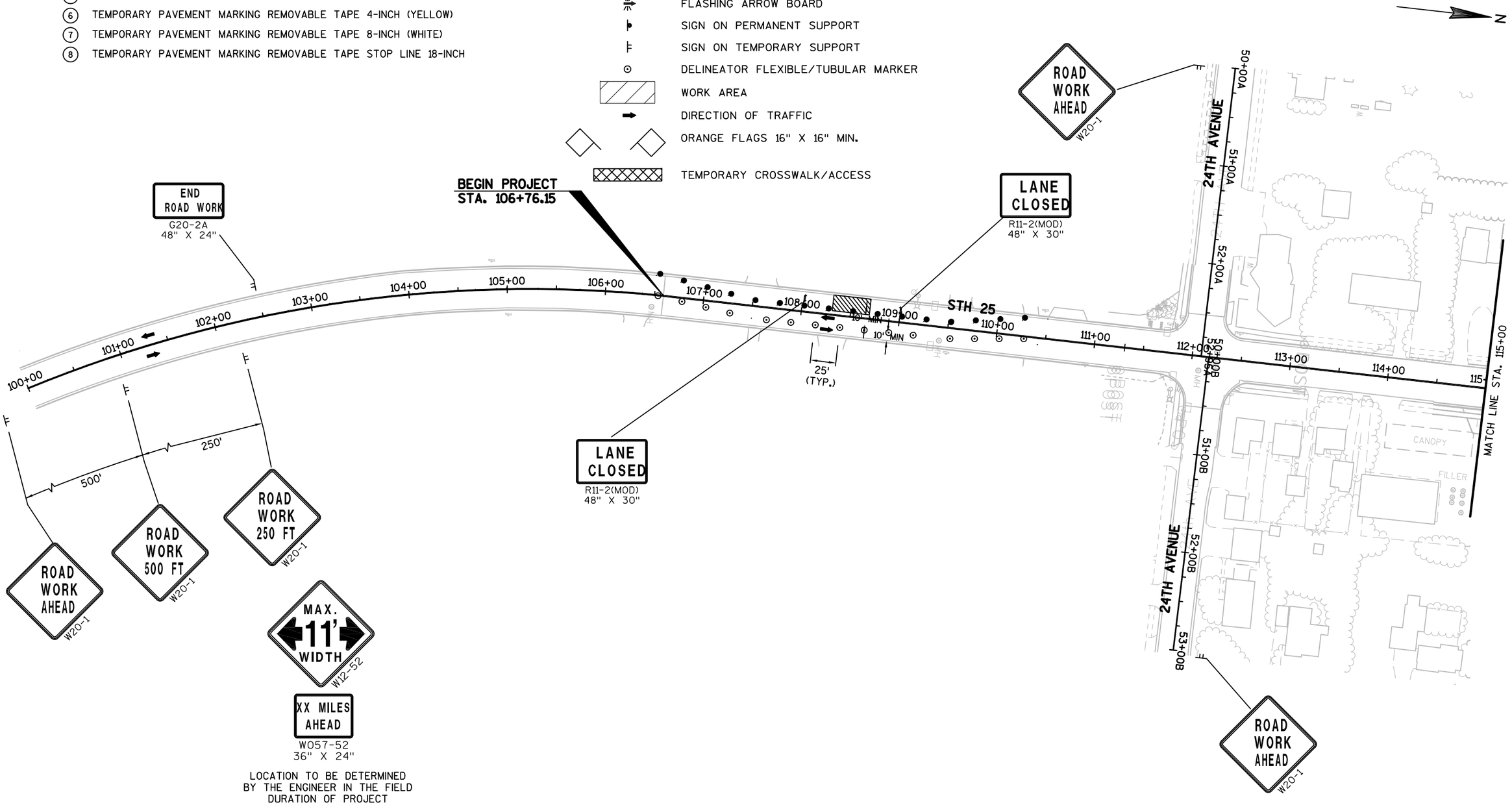
2

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1A	SHEET 56 E

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

N

ROAD WORK AHEAD W20-1

ROAD WORK AHEAD W20-1

LANE CLOSED R11-2(MOD) 48" X 30"

R3-2 24" X 24"

MAINTAIN TRAFFIC SIGNAL OPERATION ALL RED FLASH

STH 25

10' MIN

30' MIN

25' (TYP.)

LANE CLOSED R11-2(MOD) 48" X 30"

R3-1 24" X 24"

ROAD CLOSED R11-2 48" X 30"

W01-7 48" X 24"

ROAD WORK AHEAD W20-1

ROAD WORK AHEAD W20-1

ROAD CLOSED AHEAD W20-3

ROAD WORK AHEAD W20-1

MATCH LINE STA. 115+00

23RD AVENUE

22ND AVENUE

21ST AVENUE

20TH AVENUE

116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130

50+00C 51+00C 52+00C 53+00C 54+00C 55+00C

50+00D 51+00D 52+00D 53+00D 54+00D 55+00D

50+00E 51+00E 52+00E 53+00E 54+00E 55+00E

50+00F 51+00F 52+00F 53+00F 54+00F 55+00F

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1A	SHEET 57 E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\SOUTH BROADWAY\D260101STA1A.DWG 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

2

ROAD WORK AHEAD W20-1

ROAD WORK AHEAD W20-1

ROAD WORK AHEAD W20-1

ROAD CLOSED AHEAD W20-3

ROAD CLOSED R11-2 48" X 30"

17TH AVENUE

16TH AVENUE

15TH AVENUE

13TH AVENUE

50+00H 51+00H 52+00H 53+00H 54+00H 55+00H 56+00H 56+79H

50+00I 51+00I 52+00I 53+00I 54+00I

50+00J 51+00J 52+00J 53+00J 54+00J

50+00K 51+00K 52+00K 53+00K 54+00K

134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00

STH 25

10' MIN

25' (TYP.)

LANE CLOSED R11-2(MOD) 48" X 30"

LANE CLOSED R11-2(MOD) 48" X 30"

MATCH LINE STA. 148+00

ROAD WORK AHEAD W20-1

N

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1A	SHEET 58	E

2

N

MAX. 11' WIDTH W12-52

LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD DURATION OF PROJECT

XX MILES AHEAD
W057-52
36" X 24"

ROAD WORK AHEAD W20-1

ROAD WORK 250 FT W20-1

ROAD WORK 500 FT W20-1

250'

500'

12TH AVENUE

STH 29

STH 25

END PROJECT STA. 152+00.00

MATCH LINE STA. 148+00

13TH AVENUE

10TH AVENUE

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

149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00

50+00L 51+00L 52+00L 53+00L 54+00L 55+00L 55+79L

50+00M 51+00M 52+00M 53+00M

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

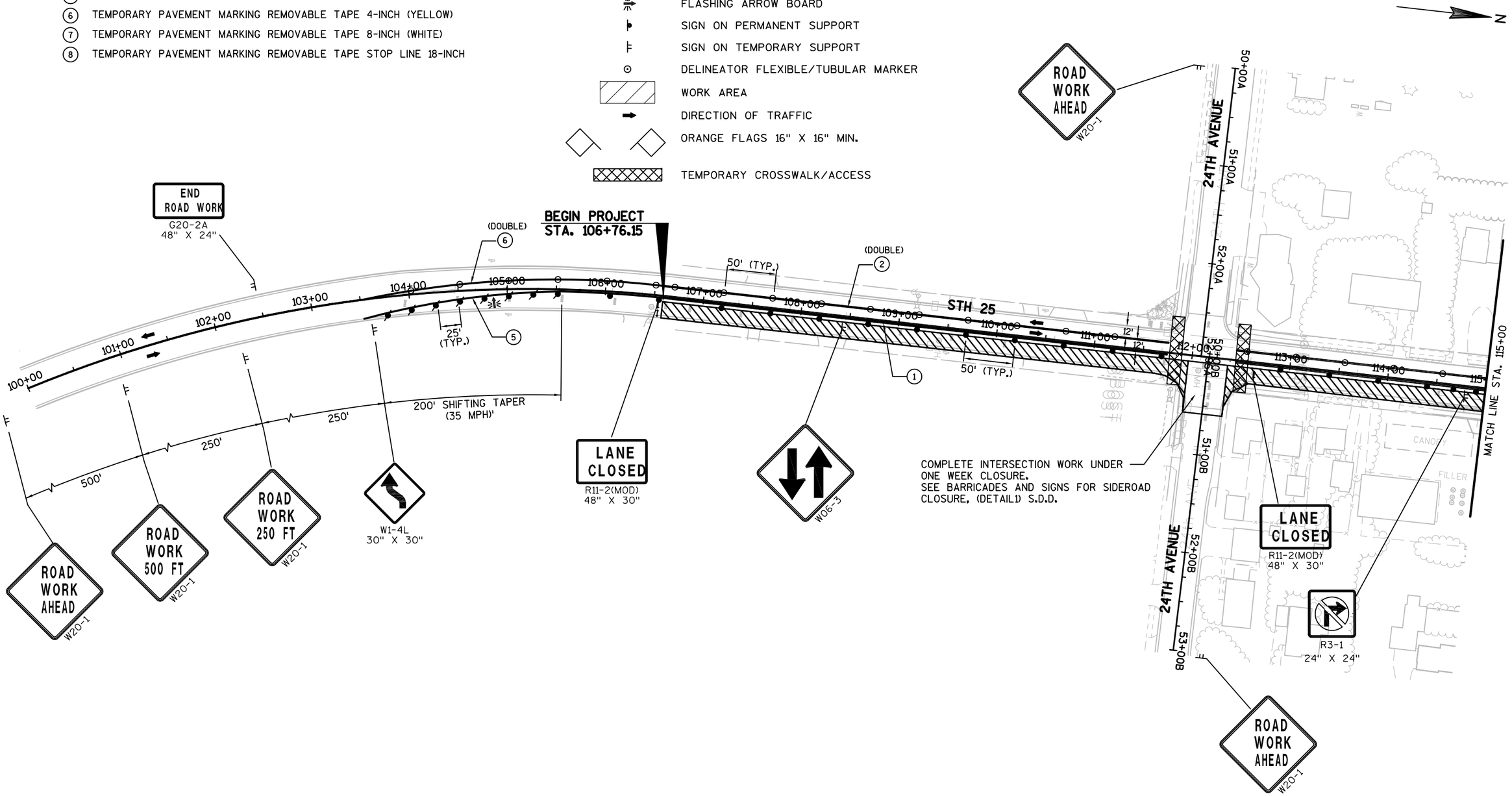
PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1A	SHEET 59	E

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1	SHEET 60	E

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

N

MATCH LINE STA. 115+00

MATCH LINE STA. 130+00

STH 25

23RD AVENUE

22ND AVENUE

21ST AVENUE

20TH AVENUE

ROAD WORK AHEAD W20-1

R3-2 24" X 24"

W06-3

50' (TYP.)

25' (TYP.)

LANE CLOSED R11-2(MOD) 48" X 30"

ROAD CLOSED R11-2 48" X 30"

R3-1 24" X 24"

STOP R1-1 30" X 30"

ALL WAY R1-4 18" X 6"

W01-7 48" X 24"

ROAD CLOSED AHEAD W20-3

ROAD WORK AHEAD W20-1

COMPLETE INTERSECTION WORK UNDER ONE WEEK CLOSURE.
SEE BARRICADES AND SIGNS FOR SIDEROAD CLOSURE, (DETAIL1) S.D.D.

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1	SHEET 61 E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\SOUTH BROADWAY\D2601_ASE.DWG 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 0.12000000 = 1'-0" XREF

WISDOT/CADDS SHEET 42

2

N

ROAD WORK AHEAD W20-1

W06-3

50' (TYP.)

17TH AVENUE

16TH AVENUE

15TH AVENUE

STH 25

W01-7 48" X 24"

R3-2 24" X 24"

MATCH LINE STA. 130+00

MATCH LINE STA. 145+00

50+00H 51+00H 52+00H 53+00H 54+00H 55+00H 56+00H 56+79H

50+00U 51+00U 52+00U 53+00U

130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145

LANE CLOSED

R11-2(MOD) 48" X 30"

R3-1 24" X 24"

COMPLETE INTERSECTION WORK UNDER ONE WEEK CLOSURE.
SEE BARRICADES AND SIGNS FOR SIDEROAD CLOSURE, (DETAIL1) S.D.D.

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1	SHEET	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\SOUTH BROADWAY\D260TCSTG1.DWG 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 0.12000000 = 1'-0" XREF

WISDOT/CADDS SHEET 42

2

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

N

ROAD WORK AHEAD W20-1

14TH AVENUE

12TH AVENUE

13TH AVENUE

10TH AVENUE

STH 29

STH 25

MATCH LINE STA. 145+00

MATCH LINE STA. 160+00

50+00K 51+00K 52+00K 53+00K 53+00L 54+00L 55+00L 55+78L

146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160

BP: 50+00.00

EP: 55+78.87

RP: 52+96.39

STOP
R1-1
30" X 30"
ALL WAY
R1-4
18" X 6"

W01-7
48" X 24"

W06-3

W01-4R

W01-6
48" X 24"

50' (TYP.)

25' (TYP.)

LANE CLOSED
R11-2(MOD)
48" X 30"

END PROJECT
STA. 152+00.00

COMPLETE INTERSECTION WORK UNDER ONE WEEK CLOSURE.
SEE BARRICADES AND SIGNS FOR SIDEROAD CLOSURE, (DETAIL1) S.D.D.

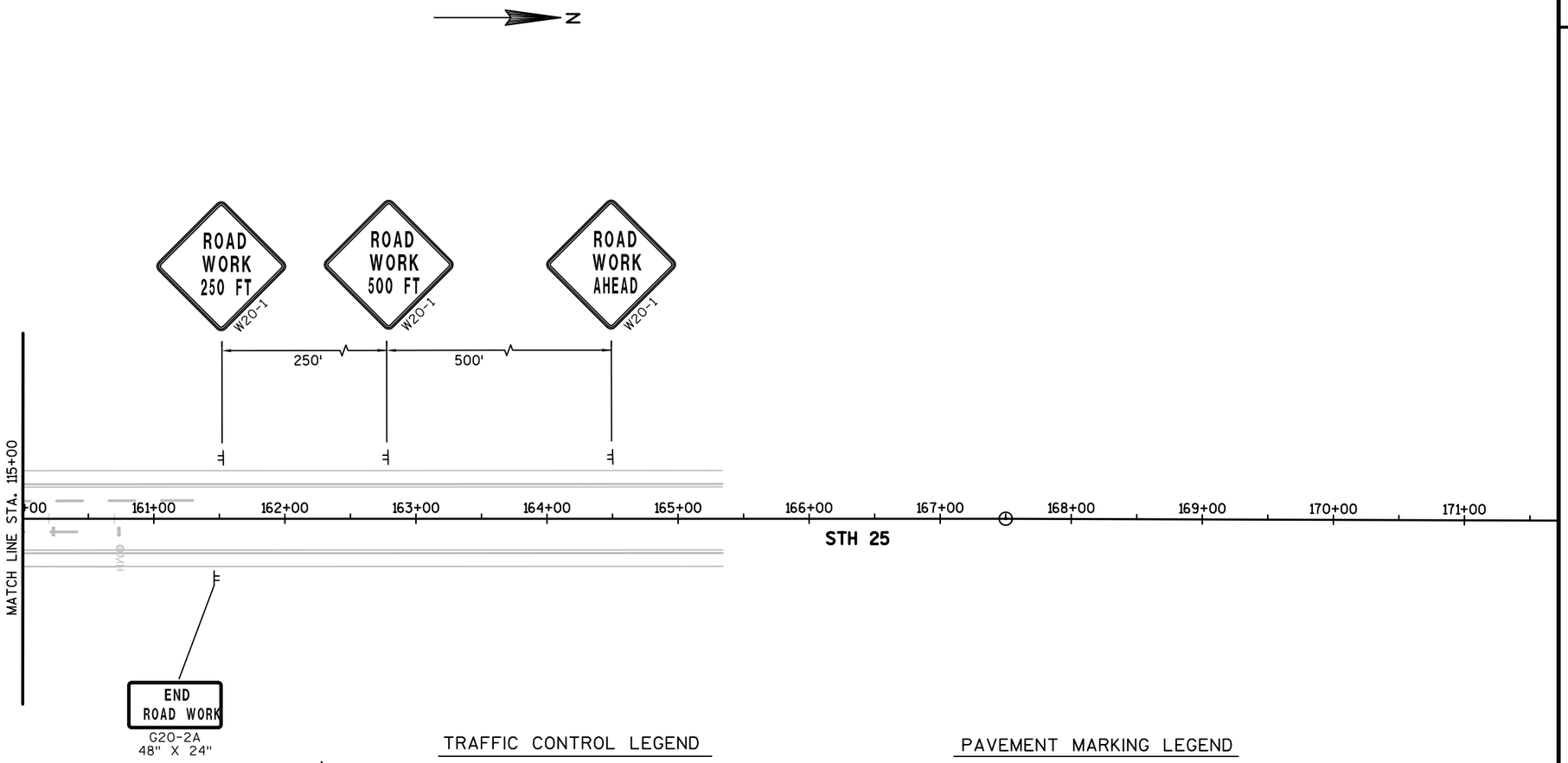
STAGE TO KEEP ONE CROSSWALK/SIDEWALK OPEN AT ALL TIMES. SEE S.D.D. FOR SIDEWALK CLOSURE SIGNING.

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1	SHEET 63	E

2



TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1	SHEET 64	E

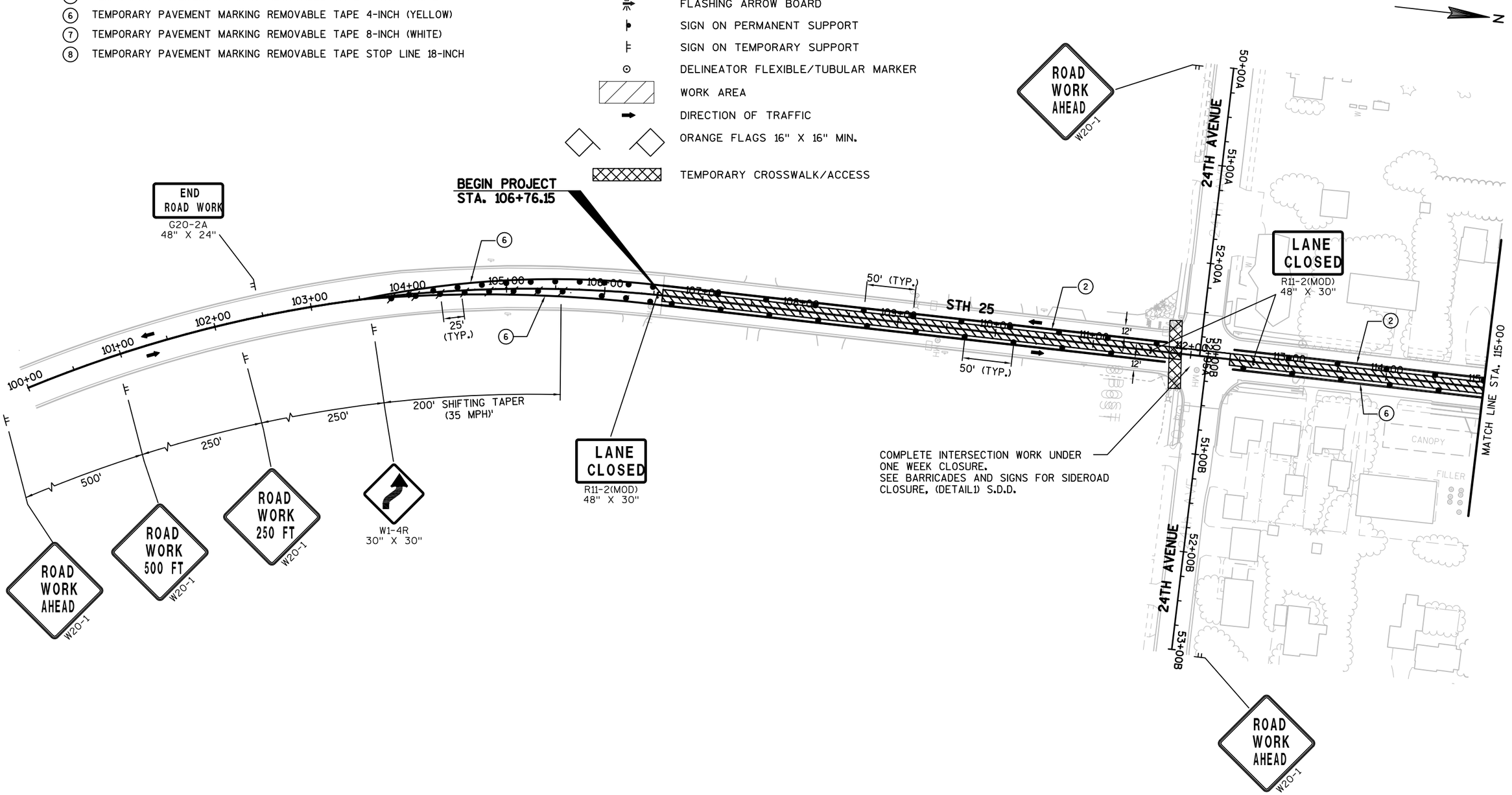
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\SOUTH BROADWAY\D200_STE.DWG DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 0.12000000 = 1'-0" _XREF
WISDOT/CADDS SHEET 42

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 2	SHEET 65	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\SOUTH BROADWAY\D260101-ST2.DWG 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

** RIGHT IN/ RIGHT OUT ONLY

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

N

COMPLETE INTERSECTION WORK UNDER ONE WEEK CLOSURE. SEE BARRICADES AND SIGNS FOR SIDEROAD CLOSURE, (DETAIL1) S.D.D.

MATCH LINE STA. 115+00

MATCH LINE STA. 130+00

STH 25

23RD AVENUE

22ND AVENUE

21ST AVENUE

20TH AVENUE

50' (TYP.)

50' (TYP.)

12'

12'

CANOPY

FILLER CAP

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 2	SHEET 66 E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\SOUTH BROADWAY\D260101-SE.DWG PLOT DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

** RIGHT IN/ RIGHT OUT ONLY

N

ROAD WORK AHEAD W20-1

COMPLETE INTERSECTION WORK UNDER ONE WEEK CLOSURE.
SEE BARRICADES AND SIGNS FOR SIDEROAD CLOSURE, (DETAIL1) S.D.D.

17TH AVENUE

16TH AVENUE

15TH AVENUE

STH 25

50' (TYP.)

LANE CLOSED
R11-2(MOD)
48" X 30"

R3-2
24" X 24"

W01-6
48" X 24"

MATCH LINE STA. 130+00

MATCH LINE STA. 145+00

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 2	SHEET 67	E

2

ROAD WORK AHEAD W20-1

N

MAINTAIN ACCESS TO 12TH AVENUE EXCEPT FOR WHEN WORK ZONE IS IN THE MIDDLE OF THE INTERSECTION. COMPLETE INTERSECTION WORK UNDER ONE WEEK CLOSURE. SEE BARRICADES AND SIGNS FOR SIDEROAD CLOSURE, (DETAIL1) S.D.D.

14TH AVENUE

12TH AVENUE

STH 29

STH 25

13TH AVENUE

10TH AVENUE

MATCH LINE STA. 145+00

50+00K
51+00K
52+00K
53+00K
50+00L
51+00L
52+00L
53+00L
54+00L
55+00L
55+79L
50+00M
51+00M
52+00M
53+00M

146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00

12' 12'

50' (TYP.) 50' (TYP.)

25' (TYP.) 25' (TYP.)

STOP
R1-1
30" X 30"
ALL WAY
R1-4
18" X 6"

COMPLETE INTERSECTION WORK UNDER ONE WEEK CLOSURE. SEE BARRICADES AND SIGNS FOR SIDEROAD CLOSURE, (DETAIL1) S.D.D.

END PROJECT
STA. 152+00.00

W01-6
48" X 24"

LANE CLOSED
R11-2(MOD)
48" X 30"

R3-2
24" X 24"

ROAD WORK 250 FT W20-1

ROAD WORK 500 FT W20-1

250' 500'

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

POST

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

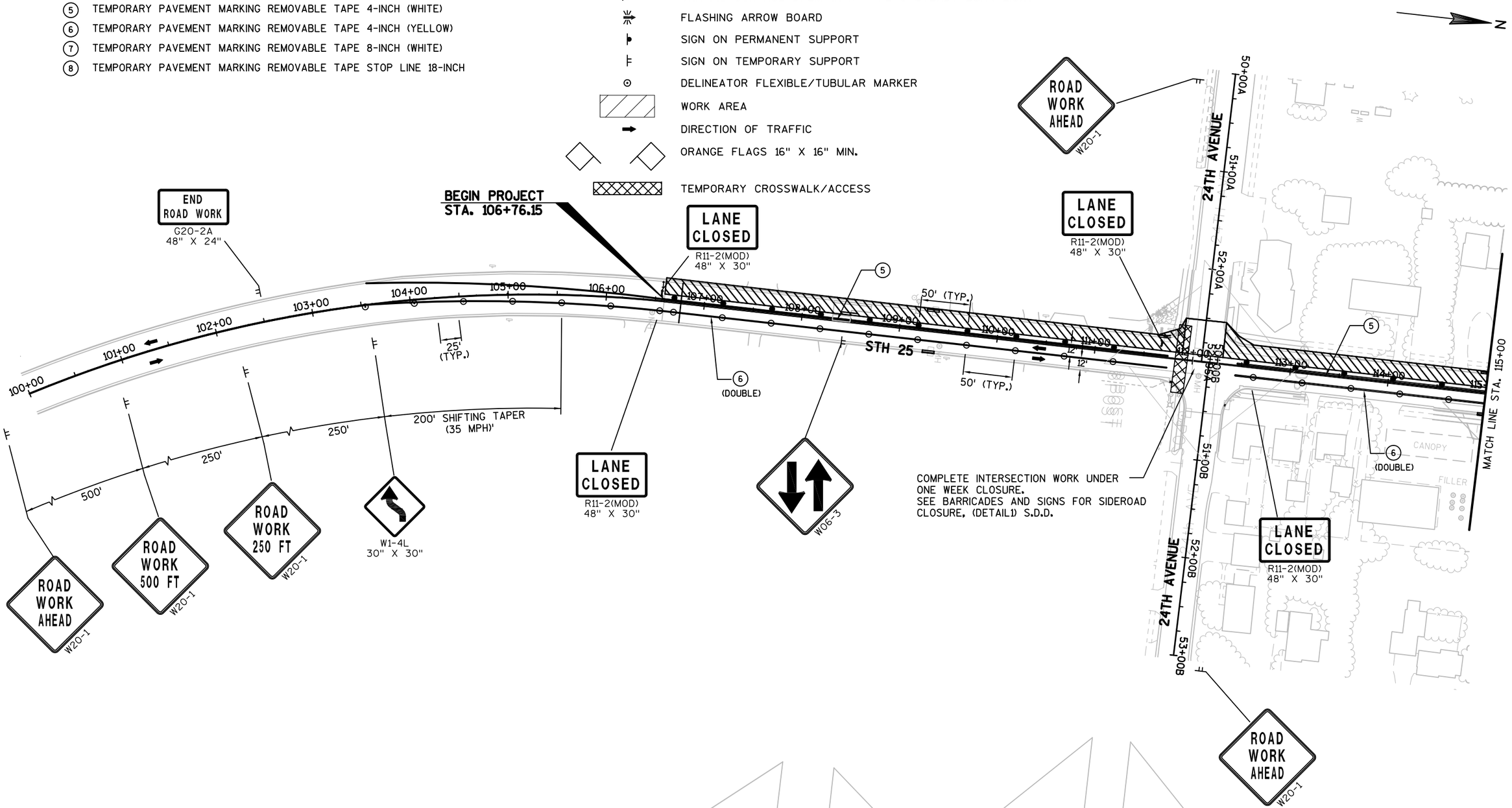
PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 2	SHEET 68	E

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS



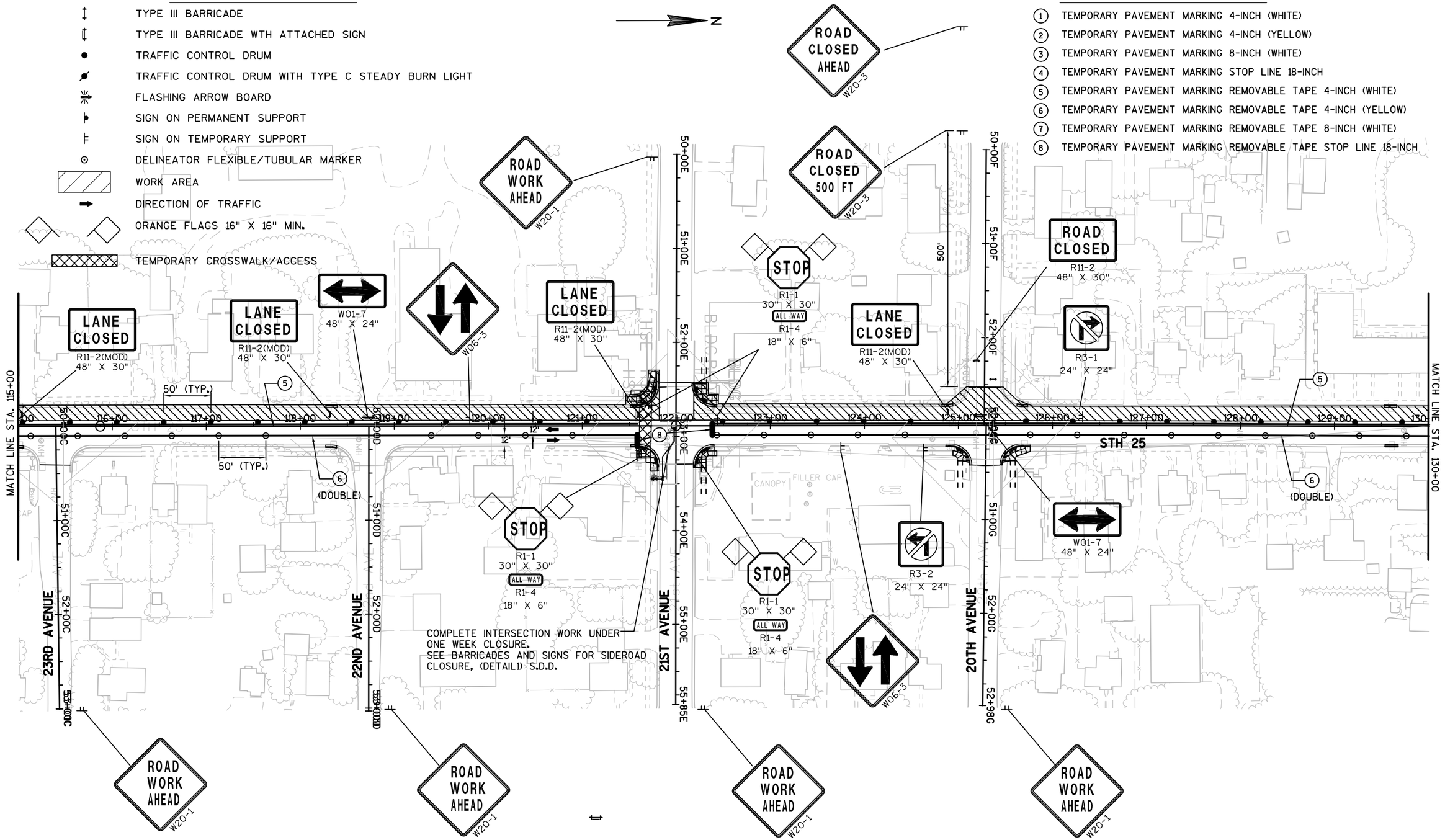
PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 3	SHEET 69	E

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 3	SHEET 70	E

2

N

ROAD WORK AHEAD W20-1

LANE CLOSED R11-2(MOD) 48" X 30"

W06-3

17TH AVENUE

ROAD CLOSED AHEAD W20-3

ROAD CLOSED R11-2 48" X 30"

LANE CLOSED R11-2(MOD) 48" X 30"

16TH AVENUE

ROAD CLOSED AHEAD W20-3

R3-1 24" X 24"

ROAD CLOSED R11-2 48" X 30"

15TH AVENUE

ROAD CLOSED AHEAD W20-3

R3-1 24" X 24"

LANE CLOSED R11-2(MOD) 48" X 30"

MATCH LINE STA. 130+00

MATCH LINE STA. 145+00

50' (TYP.)

STH 25

25'

(DOUBLE)

COMPLETE INTERSECTION WORK UNDER ONE WEEK CLOSURE.
SEE BARRICADES AND SIGNS FOR SIDEROAD CLOSURE, (DETAIL1) S.D.D.

W06-3

R3-2 24" X 24"

R3-2 24" X 24"

LANE CLOSED R11-2(MOD) 48" X 30"

W01-7 48" X 24"

ROAD WORK AHEAD W20-1

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 3	SHEET 71	E

2

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

N

14TH AVENUE

MATCH LINE STA. 145+00

ROAD WORK AHEAD W20-1

R3-1 24" X 24"

LANE CLOSED R11-2(MOD) 48" X 30"

STOP R1-1 30" X 30" ALL WAY R1-4 18" X 6"

ROAD CLOSED AHEAD W20-3

W06-3

50' (TYP.)

12TH AVENUE

ROAD CLOSED R11-2 48" X 30"

W01-6 48" X 24"

25' (TYP.)

STH 29

STH 25

LANE CLOSED R11-2(MOD) 48" X 30"

125' TAPER

25' (TYP.)

MATCH LINE STA. 160+00

(DOUBLE)

STOP R1-1 30" X 30" ALL WAY R1-4 18" X 6"

COMPLETE INTERSECTION WORK UNDER ONE WEEK CLOSURE.
SEE BARRICADES AND SIGNS FOR SIDEROAD CLOSURE, (DETAIL1) S.D.D.

13TH AVENUE

STOP R1-1 30" X 30" ALL WAY R1-4 18" X 6"

R3-2 24" X 24"

LANE CLOSED R11-2(MOD) 48" X 30"

END PROJECT STA. 152+00.00

(DOUBLE)

STAGE TO KEEP ONE CROSSWALK/SIDEWALK OPEN AT ALL TIMES. SEE S.D.D. FOR SIDEWALK CLOSURE SIGNING.

10TH AVENUE

ROAD WORK AHEAD W20-1

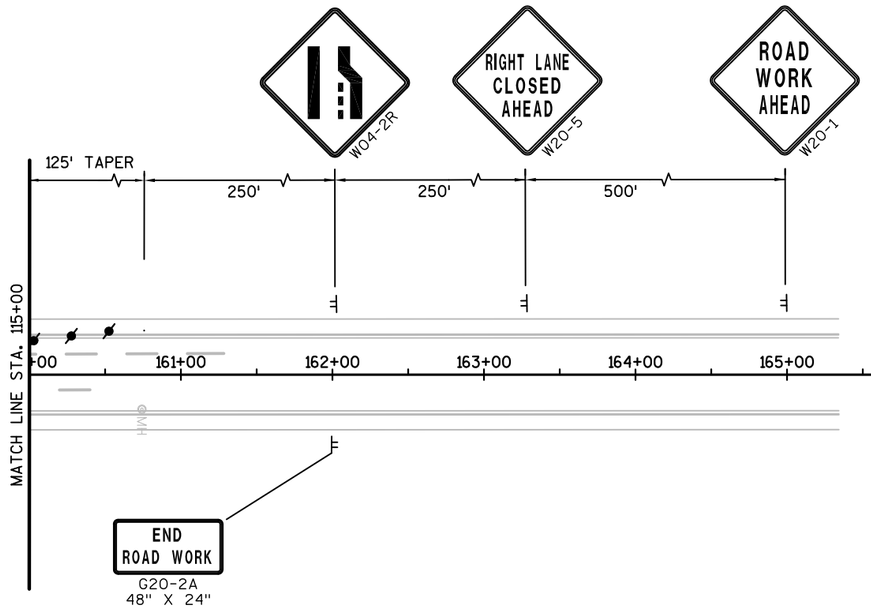
PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 3	SHEET 72	E

2

N



TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- ORANGE FLAGS 16" X 16" MIN.
- TEMPORARY CROSSWALK/ACCESS

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
3. TEMPORARY PAVEMENT MARKING 8-INCH (WHITE)
4. TEMPORARY PAVEMENT MARKING STOP LINE 18-INCH
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
6. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
7. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
8. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE STOP LINE 18-INCH

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 3	SHEET 73	E

2

2

N

BP: 100+00.00

100+00

101+00

102+00

103+00

104+00

105+00

106+00

PT: 106+58.98

107+00

108+00

109+00

110+00

111+00

112+00

113+00

114+00

115+00

MATCH LINE STA. 115+00

STH 25

BEGIN PROJECT
STA. 106+76.15

N0° 01' 58.80"W
928.24

24TH AVE

50+00

51+00

52+00

53+00

BP: 50+00.00

S89° 40' 44.60"E
294.62

EP: 52+94.62

BP: 50+00.00

S89° 33' 32.11"E
300.01

EP: 53+00.01

STH 25
PI: 100+00.00
X: 161,013.897
Y: 163,908.041

STH 25
PI STA = 103+36.28
Y = 164202.712
X = 160851.858
DELTA = 28°09'14"
D = 4°16'20"
T = 336.28
L = 658.98
R = 1341.09
PC STA = 100+00.00
PT STA = 106+58.98

24th Avenue (West Side)
PI: 50+00.00
X: 160,553.094
Y: 165,090.751

24th Avenue (East Side)
PI: 50+00.00
X: 160,847.707
Y: 165,096.744

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	ALIGNMENT DIAGRAM	SHEET 74 E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\ALIGNMENT DIAGRAMS\SOUTH BROADWAY 7220-01-71 ALIGN 1.DWG 10/30/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1" = 100'_XREF

WISDOT/CADDS SHEET 42

2

N

21st Avenue
PI: 50+00.00
X: 160,559.179
Y: 166,080.758

20th Avenue (West Side)
PI: 50+00.00
X: 160,554.635
Y: 166,410.134

BP: 50+00.00

S89° 45' 47.76"E
288.60

S89° 28' 37.55"E
293.28

PI: 115+87.22

N0° 01' 36.41"E
688.36

BP: 50+00.00

PC: 122+75.58

EP: 52+93.28

PT: 129+24.10

116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130

STH 25

22nd Avenue
PI: 50+00.00
X: 160,847.627
Y: 165,752.922

20th Avenue (East Side)
PI: 50+00.01
X: 160,847.917
Y: 166,409.521

BP: 50+00.00

PI: 52+88.60

N0° 17' 03.98"E
791.50

STH 25
PI STA = 125+99.84
Y = 166479.836
X = 160847.421
DELTA = 0°27'21"
D = 0°04'13"
T = 324.26
L = 648.52
R = 81512.51
PC STA = 122+75.58
PT STA = 129+24.10

S89° 52' 22.13"E
303.09

S89° 11' 18.87"E
298.03

S89° 51' 30.09"E
296.38

MATCH LINE STA. 115+00

MATCH LINE STA. 130+00

22ND AVE

21ST AVE

20TH AVE

EP: 53+03.09

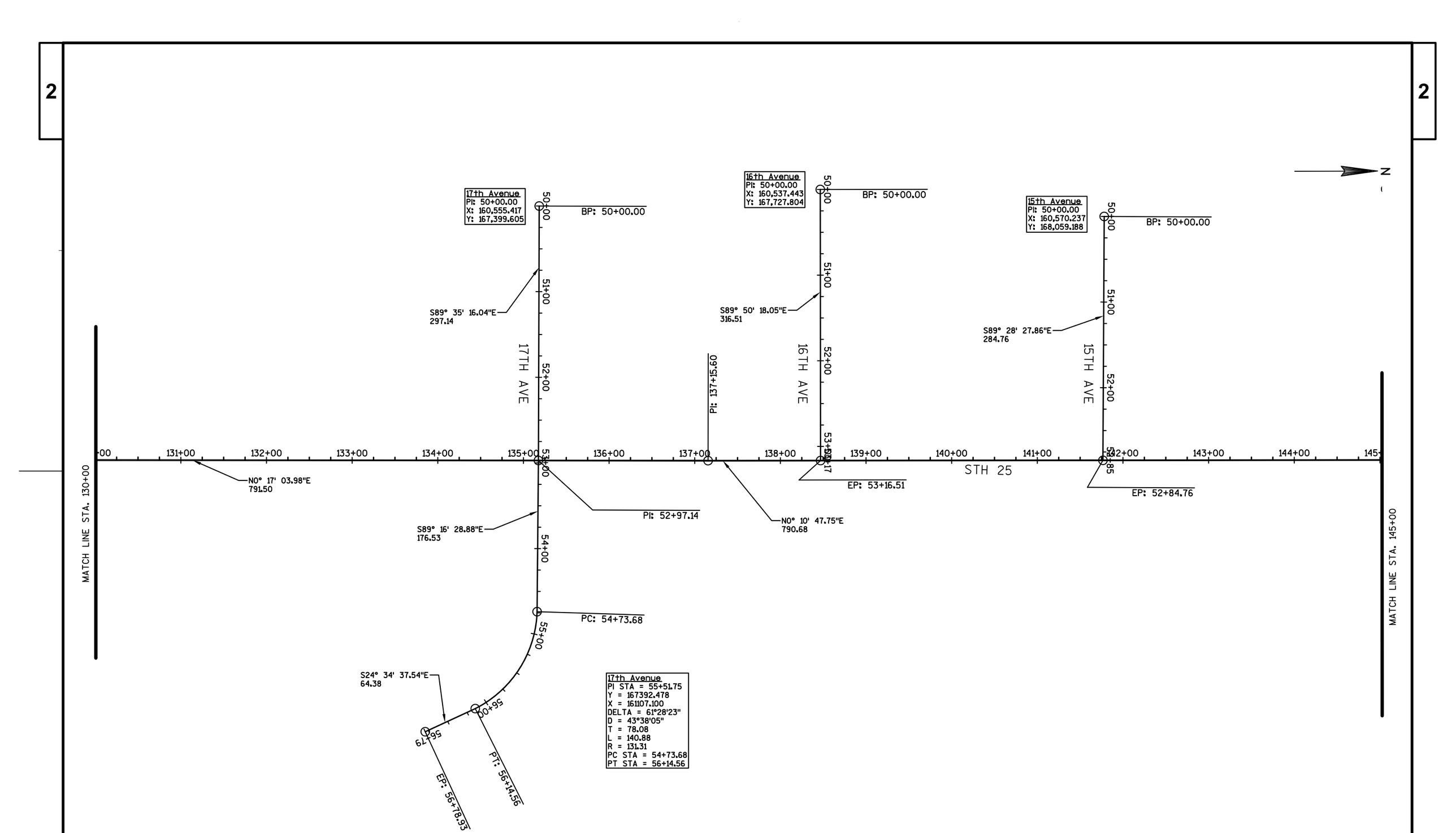
EP: 55+84.98

EP: 52+98.03

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	ALIGNMENT DIAGRAM	SHEET 75	E

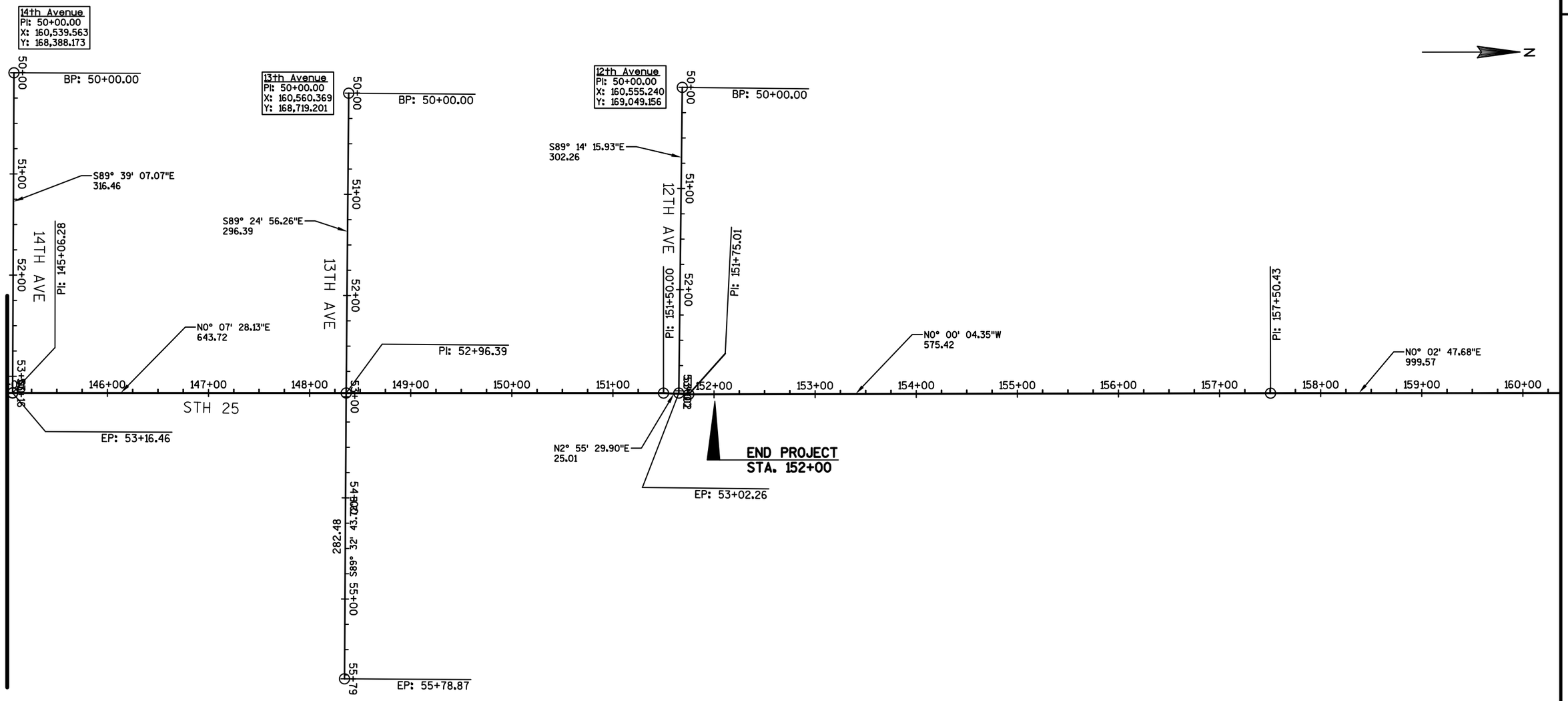
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\ALIGNMENT DIAGRAMS\SOUTH BROADWAY\7220E_01.DWG 10/30/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1" = 100'_XREF

2



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	ALIGNMENT DIAGRAM	SHEET 76	E

2



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	ALIGNMENT DIAGRAM	SHEET 77	E

2

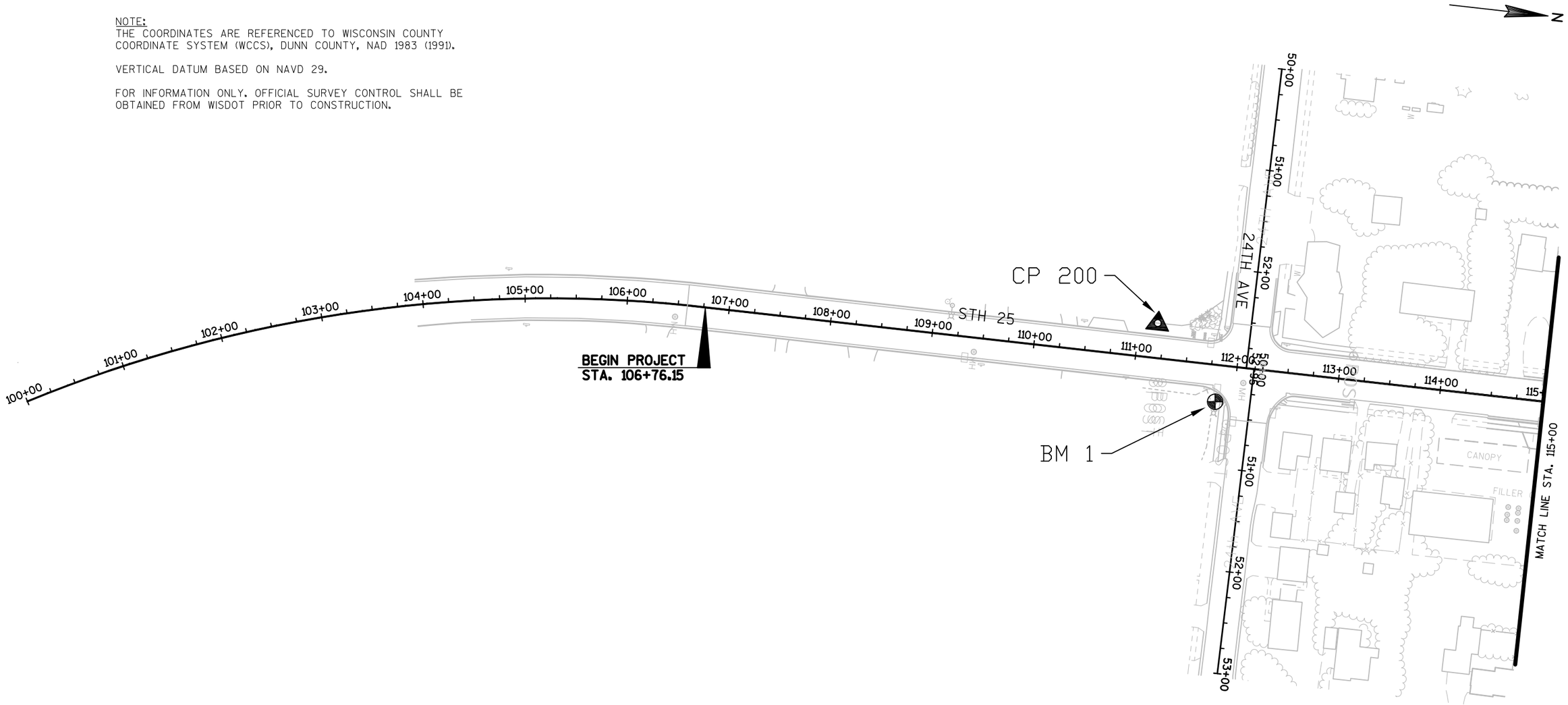
CONTROL POINT LOCATIONS

POINT NAME	TYPE	X	Y	ELEV	STATION	OFFSET	DESCRIPTION
1	BM	160884.619	165062.225	884.28	111+82	36.9 RT	RR SPIKE PPOL *26AA
200	CP	160820.891	164996.142	---	111+16	26.9 LT	5/8IN RB KL CAP

NOTE:
THE COORDINATES ARE REFERENCED TO WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DUNN COUNTY, NAD 1983 (1991).

VERTICAL DATUM BASED ON NAVD 29.

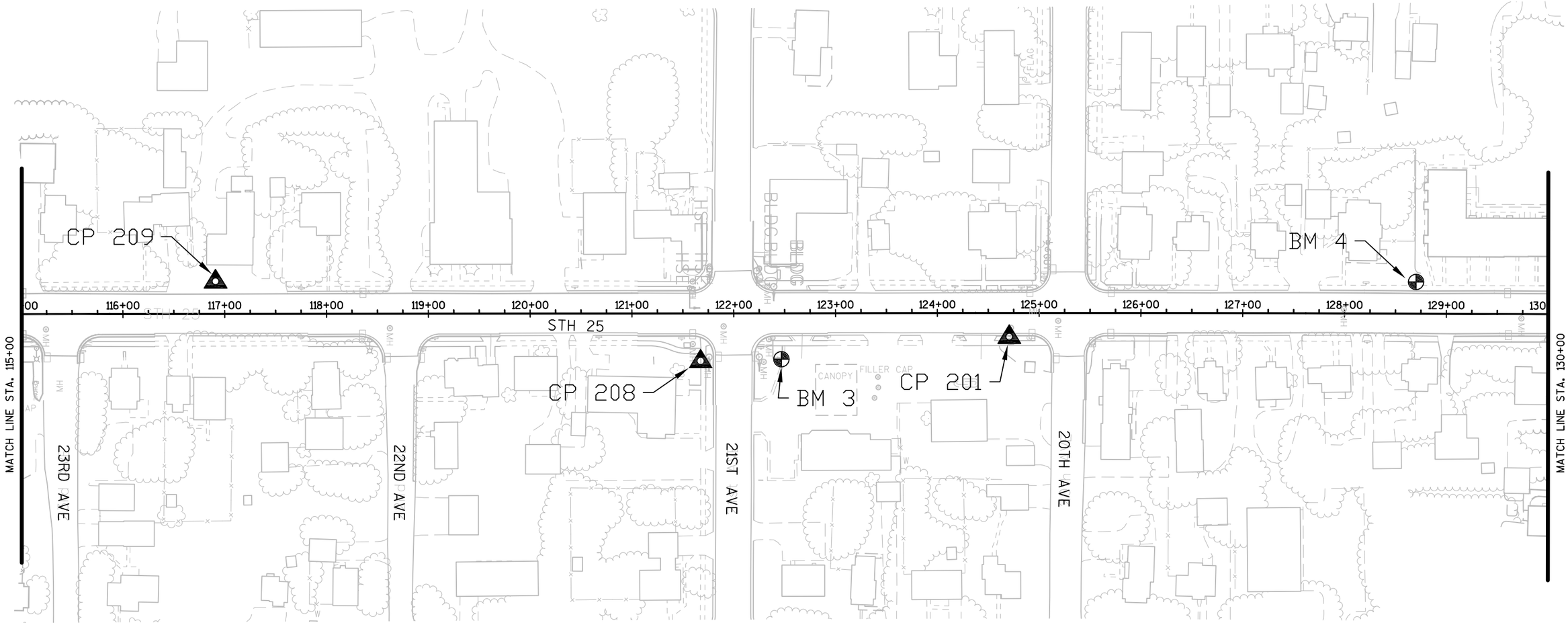
FOR INFORMATION ONLY. OFFICIAL SURVEY CONTROL SHALL BE OBTAINED FROM WISDOT PRIOR TO CONSTRUCTION.



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONTROL POINT DETAIL	SHEET 78	E

CONTROL POINT LOCATIONS

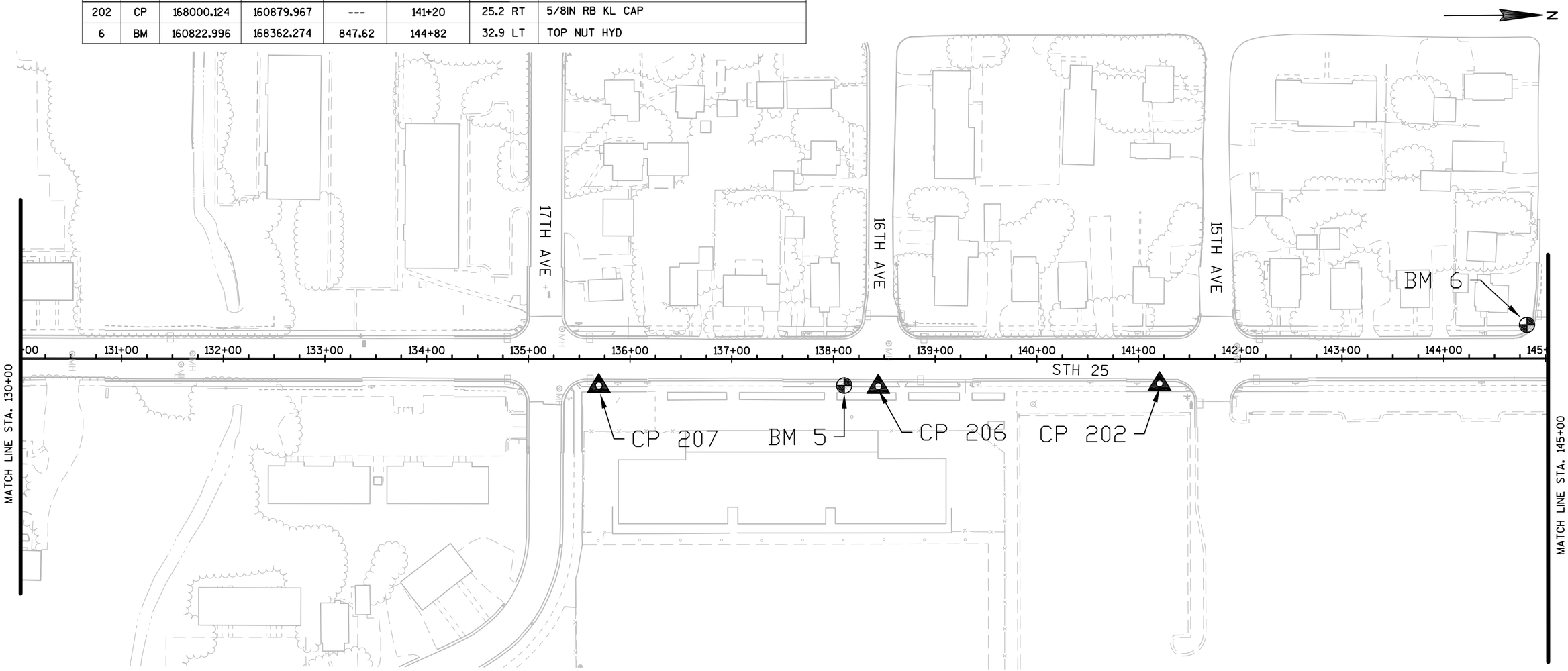
POINT NAME	TYPE	X	Y	ELEV	STATION	OFFSET	DESCRIPTION
209	CP	160819.282	165570.216	---	116+90	28.2 LT	MAG NAIL
208	CP	160895.338	166047.267	---	121+67	47.6 RT	5/8IN RB KL CAP
3	BM	160893.494	166125.594	871.64	122+46	45.7 RT	BLACK SQ SW COR SUPERAMERICA SIGN BASE
201	CP	160872.421	166348.164	---	124+68	24.6 RT	5/8IN RB KL CAP
4	BM	160818.481	166749.885	869.52	128+70	30.8 LT	RR SPIKE LPM *23DD26



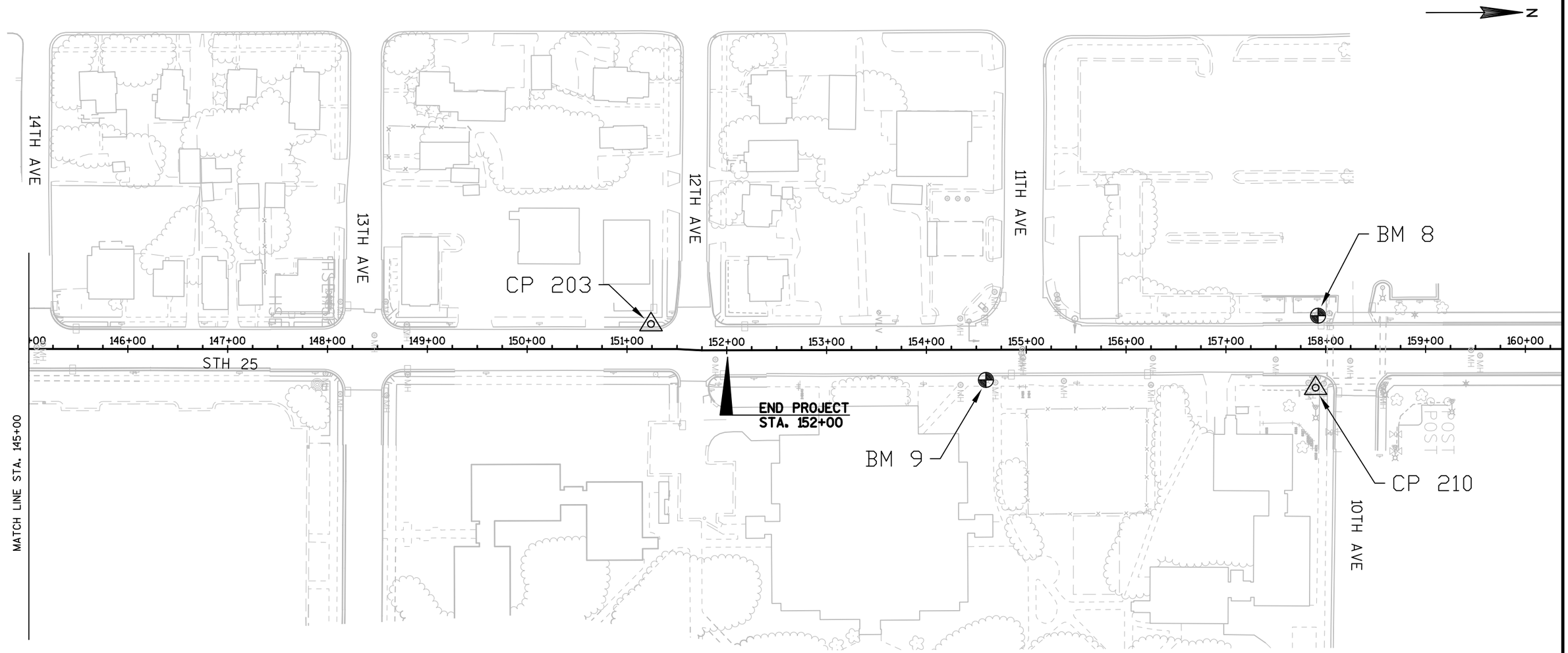
PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONTROL POINT DETAIL	SHEET 79	E

CONTROL POINT LOCATIONS

POINT NAME	TYPE	X	Y	ELEV	STATION	OFFSET	DESCRIPTION
207	CP	160879.488	167448.848	---	135+69	26.7 RT	6IN NAIL
5	BM	160880.001	167690.309	843.04	138+10	26.2 RT	TOP NUT HYD
206	CP	160880.948	167723.416	---	138+44	27.0 RT	6IN NAIL
202	CP	168000.124	160879.967	---	141+20	25.2 RT	5/8IN RB KL CAP
6	BM	160822.996	168362.274	847.62	144+82	32.9 LT	TOP NUT HYD



PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONTROL POINT DETAIL	SHEET 80	E



CONTROL POINT LOCATIONS

POINT NAME	TYPE	X	Y	ELEV	STATION	OFFSET	DESCRIPTION
203	CP	160832.723	169003.748	---	151+24	24.6 LT	5/8" REBAR W/KL CAP
9	BM	160889.447	169340.455	848.16	154+60	30.6 RT	NE FLANGE BOLT ON HYDRANT
210	CP	160896.900	169669.787	---	157+90	38.2 RT	5/8" REBAR W/KL CAP
8	BM	160826.054	169672.008	844.33	157+92	32.7 LT	CHISELED SQUARE ON CONC. SIGN BASE

PROJECT NO: 7220-01-71	HWY: STH 25	COUNTY: DUNN	CONTROL POINT DETAIL	SHEET 81 E

DATE 30DEC14 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	7220-01-71 QUANTITY
0020	204.0105	Removing Pavement Butt Joints	SY	338.000	338.000
0030	204.0109.S	Removing Concrete Surface Partial Depth	SF	226,056.000	226,056.000
0050	204.0150	Removing Curb & Gutter	LF	1,550.000	1,550.000
0060	204.0155	Removing Concrete Sidewalk	SY	700.000	700.000
0080	204.0195	Removing Concrete Bases	EACH	3.000	3.000
0090	204.0220	Removing Inlets	EACH	6.000	6.000
0100	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	48.000	48.000
0110	205.0100	Excavation Common	CY	300.000	300.000
0120	213.0100	Finishing Roadway (project) 01. 7220-01-71	EACH	1.000	1.000
0150	305.0110	Base Aggregate Dense 3/4-Inch	TON	205.000	205.000
0160	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	315.000	315.000
0180	390.0303	Base Patching Concrete	SY	230.000	230.000
0190	390.0403	Base Patching Concrete Shes	SY	10.000	10.000
0200	416.0610	Drilled Tie Bars	EACH	1,255.000	1,255.000
0210	416.0620	Drilled Dowel Bars	EACH	2,740.000	2,740.000
0220	455.0145	Asphaltic Material PG64-34p	TON	230.000	230.000
0230	455.0605	Tack Coat	GAL	3,015.000	3,015.000
0240	460.1110	Hma Pavement Type E-10	TON	3,685.000	3,685.000
0250	460.2000	Incentive Density HMA Pavement	DOL	2,360.000	2,360.000
0270	465.0110	Asphaltic Surface Patching	TON	40.000	40.000
0280	465.0125	Asphaltic Surface Temporary	TON	95.000	95.000
0290	520.8000	Concrete Collars for Pipe	EACH	6.000	6.000
0300	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	1,390.000	1,390.000
0320	601.0600	Concrete Curb Pedestrian	LF	125.000	125.000
0330	602.0405	Concrete Sidewalk 4-Inch	SF	7,910.000	7,910.000
0340	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	408.000	408.000
0380	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	48.000	48.000
0390	611.0430	Reconstructing Inlets	EACH	13.000	13.000
0400	611.0624	Inlet Covers Type H	EACH	6.000	6.000
0410	611.0639	Inlet Covers Type H-S	EACH	2.000	2.000
0420	611.3230	Inlets 2x3-Ft	EACH	6.000	6.000
0430	611.8110	Adjusting Manhole Covers	EACH	29.000	29.000
0440	611.8115	Adjusting Inlet Covers	EACH	19.000	19.000
0450	611.8120.S	Cover Plates Temporary	EACH	37.000	37.000
0500	616.0700.S	Fence Safety	LF	660.000	660.000
0510	619.1000	Mobilization	EACH	0.600	0.600
0530	624.0100	Water	MGAL	12.000	12.000
0540	625.0100	Topsoil	SY	1,950.000	1,950.000
0550	628.1905	Mobilizations Erosion Control	EACH	12.000	12.000
0560	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0570	628.2006	Erosion Mat Urban Class I Type A	SY	1,950.000	1,950.000
0590	628.7015	Inlet Protection Type C	EACH	39.000	39.000
0600	629.0210	Fertilizer Type B	CWT	1.200	1.200
0610	630.0140	Seeding Mixture No. 40	LB	35.000	35.000
0620	630.0200	Seeding Temporary	LB	53.000	53.000
0650	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	30.000	30.000
0660	634.0816	Posts Tubular Steel 2x2-Inch X 16-FT	EACH	1.000	1.000
0670	637.2210	Signs Type II Reflective H	SF	130.000	130.000
0690	637.2230	Signs Type II Reflective F	SF	66.000	66.000
0700	638.2102	Moving Signs Type II	EACH	7.000	7.000
0710	638.2602	Removing Signs Type II	EACH	16.000	16.000

3

DATE 30DEC14 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	7220-01-71 QUANTITY
0720	638.3000	Removing Small Sign Supports	EACH	11.000	11.000
0730	642.5001	Field Office Type B	EACH	1.000	1.000
0740	643.0200	Traffic Control Surveillance and Maintenance (project) 01. 7220-01-71	DAY	106.000	106.000
0770	643.0300	Traffic Control Drums	DAY	14,514.000	14,514.000
0780	643.0420	Traffic Control Barricades Type III	DAY	2,687.000	2,687.000
0790	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	237.000	237.000
0800	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	237.000	237.000
0820	643.0715	Traffic Control Warning Lights Type C	DAY	1,468.000	1,468.000
0830	643.0800	Traffic Control Arrow Boards	DAY	43.000	43.000
0840	643.0900	Traffic Control Signs	DAY	7,496.000	7,496.000
0890	646.0106	Pavement Marking Epoxy 4-Inch	LF	12,405.000	12,405.000
0900	646.0126	Pavement Marking Epoxy 8-Inch	LF	790.000	790.000
0910	646.0600	Removing Pavement Markings	LF	5,445.000	5,445.000
0920	647.0156	Pavement Marking Arrows Epoxy Type 1	EACH	1.000	1.000
0930	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	34.000	34.000
0950	647.0256	Pavement Marking Symbols Epoxy	EACH	6.000	6.000
0970	647.0336	Pavement Marking Symbols Bike Shared Lane Epoxy	EACH	25.000	25.000
0980	647.0356	Pavement Marking Words Epoxy	EACH	13.000	13.000
1000	647.0526	Pavement Marking Yield Line Symbols Epoxy 18-Inch	EACH	36.000	36.000
1010	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	441.000	441.000
1030	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	134.000	134.000
1040	647.0796	Pavement Marking Crosswalk Epoxy 24-Inch	LF	2,016.000	2,016.000
1050	649.0100	Temporary Pavement Marking 4-Inch	LF	17,443.000	17,443.000
1060	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	20,988.000	20,988.000
1070	649.1100	Temporary Pavement Marking Stop Line 18-Inch	LF	84.000	84.000
1090	650.5500	Construction Staking Curb Gutter And Curb & Gutter	LF	1,330.000	1,330.000
1110	650.8000	Construction Staking Resurfacing Reference	LF	4,530.000	4,530.000
1130	650.9910	Construction Staking Supplemental Control (Project) 01. 7220-01-71	LS	1.000	1.000
1160	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	105.000	105.000
1180	652.0800	Conduit Loop Detector	LF	695.000	695.000
1190	652.0900	Loop Detector Slots	LF	595.000	595.000
1210	653.0900	Adjusting Pull Boxes	EACH	17.000	17.000
1230	654.0101	Concrete Bases Type 1	EACH	7.000	7.000
1260	655.0230	Cable Traffic Signal 5-14 Awg	LF	180.000	180.000
1310	655.0630	Electrical Wire Lighting 4 Awg	LF	2,850.000	2,850.000
1330	655.0800	Loop Detector Wire	LF	1,540.000	1,540.000
1360	657.0100	Pedestal Bases	EACH	6.000	6.000
1380	657.0420	Traffic Signal Standards Aluminum 13-Ft	EACH	6.000	6.000
1450	658.0500	Pedestrian Push Buttons	EACH	8.000	8.000
1540	690.0150	Sawing Asphalt	LF	92.000	92.000
1550	690.0250	Sawing Concrete	LF	11,610.000	11,610.000
1570	ASP.1T0A	On-The-Job Training Apprentice At $5. 00/Hr	HRS	2,000.000	2,000.000
1580	ASP.1T0G	On-The-Job Training Graduate At $5.00/Hr	HRS	630.000	630.000
1590	SPV.0060	Special 01. Removing Hydrant	EACH	1.000	1.000

3

DATE 30DEC14 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	7220-01-71 QUANTITY
1600	SPV.0060	Special 02. Hydrant	EACH	2.000	2.000
1610	SPV.0060	Special 03. Gate Valve, 6-Inch	EACH	2.000	2.000
1620	SPV.0060	Special 04. Gate Valve, 8-Inch	EACH	1.000	1.000
1630	SPV.0060	Special 05. Adjusting Sanitary Manhole Covers Special	EACH	8.000	8.000
1640	SPV.0060	Special 06. Adjusting Water Gate Valve Boxes	EACH	25.000	25.000
1650	SPV.0060	Special 07. Abandon Water Lateral	EACH	4.000	4.000
1660	SPV.0060	Special 08. Remove Overhead Sign	EACH	4.000	4.000
1670	SPV.0060	Special 09. Remove Street Light	EACH	2.000	2.000
1680	SPV.0060	Special 10. Install Salvaged Street Light And Concrete Base	EACH	1.000	1.000
1710	SPV.0060	Special 13. Remove, Salvage And Reinstall Traffic Signal Assembly	EACH	1.000	1.000
1730	SPV.0060	Special 15. Pavement Marking Contrast Grooved Preformed Thermoplastic Words	EACH	4.000	4.000
1740	SPV.0060	Special 16. Pavement Marking Contrast Grooved Preformed Thermoplastic Symbols	EACH	4.000	4.000
1750	SPV.0060	Special 17. Pavement Marking Contrast Grooved Preformed Thermoplastic Yield Line 18-In	EACH	24.000	24.000
1760	SPV.0060	Special 18. Furnish And Install Street Light And Concrete Base	EACH	2.000	2.000
1810	SPV.0090	Special 01. Watermain Ductile Iron 6-Inch	LF	30.000	30.000
1820	SPV.0090	Special 02. Watermain Ductile Iron 8-Inch	LF	54.000	54.000
1830	SPV.0090	Special 03. Sanitary Sewer 8-Inch Pvc	LF	20.000	20.000
1840	SPV.0090	Special 04. Concrete Curb And Gutter Cure And Seal Treatment	LF	1,515.000	1,515.000
1850	SPV.0090	Special 05. Locate And Lower Existing Conduit	LF	240.000	240.000
1860	SPV.0105	Special 01. Milling And Removing Temporary Joint	LS	1.000	1.000
1870	SPV.0105	Special 02. Prepare Foundation For Asphaltic Paving - Special	LS	1.000	1.000
1880	SPV.0105	Special 03. Rectangular Rapid Flashing Beacon System, Sth 25 & 17th Avenue	LS	1.000	1.000
1890	SPV.0105	Special 04. Rectangular Rapid Flashing Beacon System, Sth 25 & 10th Avenue	LS	1.000	1.000
1900	SPV.0105	Special 05. Remove, Salvage And Reinstall Sign Support Assembly	LS	1.000	1.000
1920	SPV.0105	Special 07. Temporary Crosswalk Access, Sth 25 & 24th Avenue	LS	1.000	1.000
1930	SPV.0105	Special 08. Temporary Crosswalk Access, Sth 25 & 21st Avenue	LS	1.000	1.000
1940	SPV.0105	Special 09. Temporary Crosswalk Access, Sth 25 & 20th Avenue	LS	1.000	1.000
1950	SPV.0105	Special 10. Temporary Crosswalk Access, Sth 25 & 17th Avenue	LS	1.000	1.000
1960	SPV.0105	Special 11. Temporary Crosswalk Access, Sth 25 & 13th Avenue	LS	1.000	1.000
1970	SPV.0105	Special 12. Temporary Crosswalk Access, Sth 25 & 12th Avenue	LS	1.000	1.000
1980	SPV.0105	Special 13. Bike Box Pavement Marking	LS	1.000	1.000
1990	SPV.0105	Special 14. Construction Staking Curb Ramps	LS	1.000	1.000

DATE 30DEC14 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	7220-01-71 QUANTITY
2000	SPV.0105	Special 15. Project Concrete Crack Mitigation And Repair Special 7220-01-71	LS	1.000	1.000
2030	SPV.0165	Special 01. Concrete Sidewalk Cure And Seal Treatment	SF	7,910.000	7,910.000
2040	SPV.0170	Special 01. Reheating Hma Pavement Longitudinal Joints Special	STA	90.500	90.500
2090	SPV.0180	Special 05. Base Patching Concrete Special	SY	3,220.000	3,220.000
2100	SPV.0180	Special 06. Base Patching Concrete Shes Special	SY	100.000	100.000

3

STAGING NOTE: STAGED QUANTITIES ARE BASED ON THE TRAFFIC CONTROL PLANS CHANGES IN PROJECT STAGING WILL AFFECT STAGED QUANTITIES.

REMOVING PAVEMENT BUTT JOINTS

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	STATION	-	STATION	LT/RT	204.0105 REMOVING PAVEMENT BUTT JOINTS (SY)
0010	STAGE 1						
		STH 25 - NB	106+76	-	106+80	RT	7
		24TH AVE.	111+77	-	112+53	RT	18
		23RD AVE.	115+21	-	115+57	RT	16
		22ND AVE.	118+55	-	118+91	RT	16
		21ST AVE.	121+80	-	122+20	RT	18
		20TH AVE.	125+12	-	1215+46	RT	15
		17TH AVE.	134+99	-	135+35	RT	16
		15TH AVE.	141+56	-	141+92	RT	16
		13TH AVE.	148+16	-	148+56	RT	18
		12TH AVE.	151+54	-	151+81	RT	14
		STH 25 - NB	151+96	-	152+00	RT	7
						STAGE 1 SUBTOTAL	161
0010	STAGE 2						
		STH 25	106+76	-	106+80	LT & RT	6
		STH 25	151+96	-	152+00	LT & RT	6
						STAGE 2 SUBTOTAL	12
0010	STAGE 3						
		STH 25 - SB	106+76	-	106+80	LT	7
		24TH AVE.	111+90	-	112+30	LT	18
		21ST AVE.	121+79	-	122+19	LT	18
		20TH AVE.	125+09	-	125+47	LT	17
		17TH AVE.	134+99	-	135+35	LT	16
		16TH AVE.	138+29	-	138+65	LT	16
		15TH AVE.	141+59	-	141+95	LT	16
		14TH AVE.	144+89	-	145+25	LT	16
		13TH AVE.	148+16	-	148+56	LT	18
		12TH AVE.	151+49	-	151+85	LT	16
		STH 25 - SB	151+96	-	152+00	LT	7
						STAGE 3 SUBTOTAL	165
						CATEGORY 0010 TOTALS	338
						PROJECT TOTALS	**338**

REMOVING CONCRETE SIDEWALK

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	204.0155 REMOVING CONCRETE SIDEWALK (SY)
0010	STAGE 1		
		21ST AVE.	
		SE QUAD	10
		NE QUAD	14
		20TH AVE.	
		SE QUAD	11
		NE QUAD	13
		STH 25	
		STA. 131+50 RT	56
		13TH AVE.	
		SE QUAD	24
		NE QUAD	48
		12TH AVE.	
		SE QUAD	41
		NE QUAD	18
		STAGE 1 SUBTOTAL	235
0010	STAGE 3		
		21ST AVE.	
		SW QUAD	44
		NW QUAD	15
		STH 25	
		STA. 131+50 LT	56
		13TH AVE.	
		SW QUAD	19
		NW QUAD	16
		12TH AVE.	
		SW QUAD	13
		NW QUAD	22
		STAGE 3 SUBTOTAL	185
		UNDISTRIBUTED	30
		CATEGORY 0010 TOTALS	450
0020	STAGE 1		
		17TH AVE.	
		SE QUAD	18
		NE QUAD	24
		10TH AVE.	
		SE QUAD	29
		NE QUAD	43
		STAGE 1 SUBTOTAL	114
0020	STAGE 3		
		17TH AVE.	
		SW QUAD	20
		NW QUAD	12
		14TH AVE.	
		SW QUAD	9
		10TH AVE.	
		SW QUAD	46
		NW QUAD	34
		STAGE 3 SUBTOTAL	121
		UNDISTRIBUTED	15
		CATEGORY 0020 TOTALS	250
		PROJECT TOTALS	**700**

REMOVING PAVEMENT SURFACE PARTIAL DEPTH

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	STATION	-	STATION	204.0109.S REMOVING PAVEMENT SURFACE PARTIAL DEPTH (SF)
0010	STAGE 1	STH 25	106+76	-	152+00	85,884
	STAGE 2	STH 25	106+76	-	152+00	54,288
	STAGE 3	STH 25	106+76	-	152+00	85,884
					PROJECT TOTALS	**226,056**

REMOVING CURB & GUTTER

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	204.0150 REMOVING CURB & GUTTER (LF)
0010	STAGE 1		
		21ST AVE.	82
		20TH AVE.	81
		13TH AVE.	69
		12TH AVE.	69
		STH 25 - NB	225
		STAGE 1 SUBTOTAL	526
0010	STAGE 3		
		21ST AVE.	93
		13TH AVE.	68
		12TH AVE.	61
		STH 25 - SB	222
		STAGE 3 SUBTOTAL	444
		UNDISTRIBUTED FOR SPOT CURB AND GUTTER REPLACEMENT	200
		CATEGORY 0010 TOTALS	1,170
0020	STAGE 1		
		17TH AVE.	75
		10TH AVE.	84
		STAGE 1 SUBTOTAL	159
0020	STAGE 3		
		17TH AVE.	71
		14TH AVE.	20
		10TH AVE.	80
		STAGE 3 SUBTOTAL	171
		UNDISTRIBUTED FOR SPOT CURB AND GUTTER REPLACEMENT	50
		CATEGORY 0020 TOTALS	380
		PROJECT TOTALS	**1,550**

BASE PATCHING CONCRETE

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION			SPV.0180.05 BASE PATCHING CONCRETE SPECIAL (SY)	SPV.0180.06 BASE PATCHING CONCRETE SHES SPECIAL (SY)	*416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)	*690.0250 SAWING CONCRETE (LF)
0010	STAGE 1								
		108+70	--	108+76	4	--	--	8	24
		109+40	--	109+46	9	--	--	16	40
		110+09	--	110+33	21	1	7	16	75
		110+52	--	110+73	19	1	7	16	69
		110+88	--	110+94	4	--	--	8	24
		111+08	--	111+14	4	--	--	8	24
		111+57	--	111+63	4	--	--	8	24
		111+97	--	112+03	9	--	--	16	34
		111+79	--	112+51	173	9	28	--	185
		112+56	--	112+62	4	--	--	8	24
		114+04	--	114+10	4	--	--	8	24
		114+57	--	114+63	9	--	--	16	40
		115+09	--	115+40	34	2	11	16	95
		115+67	--	115+73	9	--	--	16	40
		116+29	--	116+35	9	--	--	16	40
		117+67	--	117+73	9	--	--	16	40
		121+15	--	121+21	4	--	--	8	24
		121+35	--	121+41	4	--	--	8	24
		121+80	--	122+00	76	4	10	16	96
		122+17	--	122+23	9	--		16	40
		122+27	--	122+33	9	--	--	16	40
		122+66	--	122+72	9	--	--	16	40
		123+70	--	124+10	62	3	15	16	108
		124+69	--	124+94	20	1	9	8	55
		125+10	--	125+30	13	1	7	8	50
		125+45	--	125+51	9	--	--	16	40
		126+55	--	126+61	9	--	--	16	40
		127+95	--	128+01	4	--	--	8	24
		128+55	--	128+61	4	--	--	8	24
		129+76	--	129+82	4	--	--	8	24
		130+90	--	131+76	134	7	14	16	148
		132+82	--	132+88	9	--	--	16	40
		133+12	--	133+18	4	--	--	8	24
		133+72	--	133+78	9	--	--	16	40
		135+14	--	135+56	139	7	16	16	109
		136+00	--	136+06	4	--	--	8	24
		136+30	--	136+36	9	--	--	16	40
		140+20	--	140+26	9	--	--	16	40
		140+40	--	140+46	9	--	--	16	40
		141+00	--	141+06	9	--	--	16	40
0010	STAGE 1 SUBTOTAL				896	36	124	504	1,976

*ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLAN SET

BASE PATCHING CONCRETE

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION			SPV.0180.05 BASE PATCHING CONCRETE SPECIAL (SY)	SPV.0180.06 BASE PATCHING CONCRETE SHES SPECIAL (SY)	*416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)	*690.0250 SAWING CONCRETE (LF)
0010	STAGE 1 SUBTOTAL				896	36	124	504	1,976
0010	STAGE 1								
		141+20	--	141+26	9	--	--	16	40
		141+55	--	141+61	9	--	--	16	34
		141+39	--	142+05	103	5	48	-	157
		141+92	--	141+98	9	--	--	16	34
		142+09	--	142+15	4	--	--	8	24
		142+30	--	142+36	9	--	--	16	40
		142+50	--	142+56	4	--	--	8	24
		142+67	--	142+73	9	--	--	16	40
		143+50	--	143+56	5	--	--	8	28
		143+70	--	143+76	4	--	--	8	24
		143+90	--	143+96	9	--	--	16	40
		144+09	--	144+15	9	--	--	16	40
		144+48	--	144+54	4	--	--	8	24
		145+26	--	145+56	22	1	11	8	75
		145+75	--	145+81	10	--	--	16	40
		146+55	--	146+61	9	--	--	16	40
		146+95	--	147+01	4	--	--	9	24
		146+15	--	146+21	4	--	--	8	24
		146+35	--	146+41	4	--	--	8	24
		147+55	--	147+61	4	--	--	8	24
		147+75	--	147+81	4	--	--	8	24
		148+03	--	148+09	5	--	--	8	28
		148+15	--	148+21	9	--	--	16	40
		148+33	--	148+39	9	--	--	16	34
		148+33	--	148+70	55	3	13	--	73
		148+50	--	148+56	9	--	--	16	34
		148+62	--	148+68	9	--	--	16	34
		149+00	--	149+06	9	--	--	16	40
		149+70	--	149+76	5	--	--	8	28
		150+40	--	150+46	9	--	--	16	40
		151+20	--	151+26	9	--	--	16	40
		UNDISTRIBUTED (A)			20	--	--	--	110
		UNDISTRIBUTED (B)			60	--	10	45	160
0010	STAGE 1 SUBTOTAL				1,352	45	206	910	3,461
0020	STAGE 1								
		141+55	--	141+71	15	1	--	8	14
		142+30	--	142+54	27	1	9	4	34
		143+30	--	143+44	22	1	12	15	56
		143+66	--	143+80	19	1	4	8	50
		UNDISTRIBUTED (C)			5	--	2	3	8
0020	STAGE 1 SUBTOTAL				88	4	27	38	162

*ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLANSET

(A) FOR INLET REPAIR AREAS
(B) ADDITIONAL AREAS TO BE LOCATED BY THE ENGINEER (5% OF TOTAL)
(C) FOR UTILITY REPAIR AREAS

BASE PATCHING CONCRETE

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION			SPV.0180.05 BASE PATCHING CONCRETE SPECIAL (SY)	SPV.0180.06 BASE PATCHING CONCRETE SHES SPECIAL (SY)	*416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)	*690.0250 SAWING CONCRETE (LF)
0010	STAGE 2								
		108+49	--	109+10	44	2	20	16	143
		109+20	--	109+26	4	--	--	8	24
		109+40	--	109+46	8	--	--	16	30
		109+60	--	109+66	4	--	--	8	24
		110+12	--	110+33	26	1	--	16	47
		110+52	--	110+73	28	1	--	16	44
		110+90	--	110+96	4	--	--	8	18
		111+10	--	111+16	4	--	--	8	18
		111+60	--	111+66	4	--	--	8	18
		111+96	--	112+02	4	--	--	8	18
		112+25	--	113+19	65	3	37	16	212
		114+03	--	114+09	4	--	--	8	18
		114+65	--	114+71	8	--	--	16	30
		115+27	--	115+33	8	--	--	16	30
		115+66	--	115+72	4	--	--	8	18
		116+26	--	116+32	8	--	--	16	30
		117+77	--	117+83	8	--	--	16	30
		119+53	--	119+59	4	--	--	8	24
		121+14	--	121+20	4	--	--	8	18
		121+34	--	121+40	8	--	--	16	30
		121+80	--	122+00	13	1	7	8	51
		122+16	--	122+22	4	--	--	8	18
		122+66	--	122+72	8	--	--	16	30
		123+46	--	123+52	4	--	--	8	24
		123+70	--	124+10	25	1	15	8	51
		125+03	--	125+11	5	--	--	8	27
		125+10	--	125+30	51	3	7	8	31
		125+45	--	125+51	8	--	--	16	30
		126+55	--	126+61	8	--	--	16	30
		126+35	--	126+41	4	--	--	8	24
		127+15	--	127+21	4	--	--	8	24
		127+95	--	128+01	8	--	--	16	30
		128+55	--	128+61	8	--	--	16	30
		129+76	--	129+82	8	--	--	16	30
		130+90	--	131+76	103	5	24	32	172
		132+25	--	132+31	4	--	--	8	24
		132+84	--	132+90	4	--	--	8	18
		133+15	--	133+21	8	--	--	16	30
		133+72	--	133+78	4	--	--	8	18
		134+78	--	135+18	66	3	7	16	130
		136+00	--	136+06	4	--	--	8	18
		136+30	--	136+36	8	--	--	16	30
		137+90	--	137+96	4	--	--	8	24
		140+20	--	140+26	8	--	--	16	30
		140+40	--	140+46	4	--	--	8	18
0010	STAGE 2 SUBTOTAL				625	20	117	544	1,766

*ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLANSET

BASE PATCHING CONCRETE

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION			SPV.0180.05 BASE PATCHING CONCRETE SPECIAL (SY)	SPV.0180.06 BASE PATCHING CONCRETE SHES SPECIAL (SY)	*416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)	*690.0250 SAWING CONCRETE (LF)
0010	STAGE 2 SUBTOTAL				625	20	117	544	1,766
	STAGE 2								
		140+82	--	141+03	19	1	7	16	64
		141+20	--	141+26	4	--	--	9	18
		141+55	--	141+61	4	--	--	8	18
		141+92	--	141+98	8	--	--	16	30
		142+09	--	142+15	4	--	--	8	18
		142+30	--	142+36	8	--	--	16	30
		142+50	--	142+56	8	--	--	16	30
		142+67	--	142+73	8	--	--	16	30
		142+87	--	142+93	4	--	--	8	24
		143+07	--	143+13	4	--	--	8	24
		143+27	--	143+33	4	--	--	8	24
		143+70	--	143+76	8	--	--	16	30
		143+90	--	143+96	8	--	--	16	30
		144+10	--	144+16	8	--	--	16	30
		144+65	--	144+71	4	--	--	8	24
		144+50	--	144+56	4	--	--	8	18
		144+85	--	144+91	4	--	--	8	24
		145+07	--	145+26	14	1	17	8	53
		145+26	--	145+56	25	1	11	16	55
		145+75	--	145+81	8	--	--	16	30
		146+15	--	146+21	4	--	--	8	24
		146+33	--	146+39	4	--	--	8	24
		146+55	--	146+61	8	--	--	16	30
		146+95	--	147+01	8	--	--	16	30
		146+15	--	146+21	8	--	--	16	30
		146+35	--	146+41	4	--	--	8	18
		147+55	--	147+61	4	--	--	8	18
		147+75	--	147+81	4	--	--	8	18
		148+15	--	148+21	8	--	--	16	30
		148+33	--	148+39	4	--	--	8	18
		148+50	--	148+56	8	--	--	16	30
		148+62	--	148+68	4	--	--	8	18
		149+00	--	149+06	4	--	--	8	18
		149+80	--	149+86	4	--	--	8	24
		150+20	--	150+26	4	--	--	8	24
		150+40	--	150+46	8	--	--	16	30
		151+23	--	151+45	24	1	8	16	74
		151+65	--	151+76	7	--	--	8	35
		UNDISTRIBUTED (B)			45	--	8	50	145
0010	STAGE 2 SUBTOTAL				947	24	168	1,035	3,007
0020	STAGE 2								
		108+30	--	108+50	13	1	6	2	48
		141+55	--	141+71	7	-	4	--	15
		142+30	--	142+54	27	1	6	--	14
		143+66	--	143+80	5	-	4	4	20
		UNDISTRIBUTED (C)			3	-			
0020	STAGE 2 SUBTOTAL				55	2	20	6	97

*ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLANSET

(B) ADDITIONAL AREAS TO BE LOCATED BY THE ENGINEER (5% OF TOTAL)
(C) FOR UTILITY REPAIR AREAS

BASE PATCHING CONCRETE

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION STATION	--	STATION	SPV.0180.05 BASE PATCHING CONCRETE SPECIAL (SY)	SPV.0180.06 BASE PATCHING CONCRETE SHES SPECIAL (SY)	*416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)	*690.0250 SAWING CONCRETE (LF)
0010	STAGE 3								
		108+49	--	109+10	41	2	23	8	72
		109+20	--	109+26	4	--	--	8	18
		109+40	--	109+46	4	--	--	8	18
		109+60	--	109+66	4	--	--	8	18
		110+12	--	110+33	37	2	7	16	51
		110+52	--	110+73	14	1	7	8	33
		112+25	--	113+19	71	4	37	16	121
		114+57	--	114+63	4	--	--	8	18
		115+17	--	115+23	4	--	--	8	18
		116+26	--	116+32	4	--	--	8	18
		117+70	--	117+76	4	--	--	8	18
		119+53	--	119+59	4	--	--	8	18
		120+13	--	120+19	5	--	--	8	22
		120+56	--	120+61	5	--	--	8	28
		121+33	--	121+39	4	--	--	8	18
		121+77	--	121+83	5	--	--	8	22
		121+89	--	122+21	38	2	8	12	75
		122+50	--	122+56	9	--	--	16	34
		122+66	--	122+72	4	--	--	8	18
		123+49	--	123+57	12	1	--	16	37
		125+03	--	125+11	11	1	--	16	35
		125+45	--	125+51	4	--	--	8	18
		126+35	--	126+41	4	--	--	8	18
		126+55	--	126+61	4	--	--	8	18
		127+15	--	127+21	4	--	--	8	18
		127+95	--	128+01	4	--	--	8	18
		128+55	--	128+61	4	--	--	8	18
		129+76	--	129+82	4	--	--	8	18
		130+93	--	130+99	4	--	--	8	18
		131+16	--	131+36	14	1	7	8	32
		131+55	--	131+95	32	2	15	16	68
		132+25	--	132+31	9	--	--	16	34
		133+12	--	133+18	4	--	--	8	18
		134+78	--	135+18	121	6	30	16	106
		136+30	--	136+36	9	--	--	16	34
		137+90	--	137+96	4	--	--	8	18
		140+20	--	140+26	4	--	--	8	18
		140+82	--	141+03	20	1	7	16	51
		141+92	--	141+98	9	--	--	16	34
		142+27	--	142+33	4	--	--	8	18
0010	STAGE 3 SUBTOTAL				553	23	141	412	1,285

*ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLANSET

3

BASE PATCHING CONCRETE

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION STATION	--	STATION	SPV.0180.05 BASE PATCHING CONCRETE SPECIAL (SY)	SPV.0180.06 BASE PATCHING CONCRETE SHES SPECIAL (SY)	*416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)	*690.0250 SAWING CONCRETE (LF)
0010	STAGE 3 SUBTOTAL				553	23	141	412	1,285
0010	STAGE 3								
		142+47	--	142+53	4	--	--	9	18
		142+67	--	142+73	10	--	--	16	34
		142+87	--	142+93	4	--	--	9	18
		143+07	--	143+13	4	--	--	8	18
		143+27	--	143+33	4	--	--	8	18
		143+67	--	143+73	4	--	--	8	18
		143+90	--	143+96	4	--	--	8	18
		144+10	--	144+16	4	--	--	8	18
		144+65	--	144+71	9	--	--	16	34
		144+85	--	144+91	4	--	--	8	18
		145+07	--	145+26	14	1	17	8	33
		145+53	--	145+59	9	--	--	16	34
		145+73	--	145+79	9	--	--	16	34
		146+15	--	146+21	9	--	--	16	34
		146+33	--	146+39	4	--	--	8	18
		146+55	--	146+61	9	--	--	16	34
		146+93	--	146+99	9	--	--	16	34
		147+15	--	147+21	9	--	--	16	34
		148+16	--	148+22	9	--	--	16	34
		148+36	--	148+78	69	3	30	16	110
		149+80	--	149+86	4	--	--	8	18
		150+20	--	150+26	4	--	--	8	18
		150+40	--	150+46	4	--	--	8	18
		151+23	--	151+45	19	1	8	8	40
		151+43	--	151+65	51	2	29	8	82
		151+65	--	151+76	17	1	--	16	39
		UNDISTRIBUTED (A)			22	--	--	--	135
		UNDISTRIBUTED (B)			45	--	11	35	105
0010	STAGE 3 SUBTOTAL				922	31	236	745	2,351
0020	STAGE 3								
		108+30	--	108+50	48	2	16	6	60
		144+82	--	145+06	34	2	24	--	74
		UNDISTRIBUTED (C)			5	--	3	--	7
0020	STAGE 3 SUBTOTAL				87	4	43	6	141
SUMMARY									
0010	STAGE 1 SUBTOTAL				1,352	45	206	910	3,461
	STAGE 2 SUBTOTAL				947	24	168	1,035	3,007
	STAGE 3 SUBTOTAL				922	31	236	745	2,351
	CATEGORY 0010 TOTALS				3,220	100	610	2,690	8,820
0020	STAGE 1 SUBTOTAL				88	4	27	38	162
	STAGE 2 SUBTOTAL				55	2	20	6	97
	STAGE 3 SUBTOTAL				87	4	43	6	141
	CATEGORY 0020 TOTALS				230	10	90	50	400
	PROJECT TOTALS				**3,450**	**110**	**700**	**2,740**	**9,220**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLANSET

(A) FOR INLET REPAIR AREAS
(B) ADDITIONAL AREAS TO BE LOCATED BY THE ENGINEER (5% OF TOTAL)
(C) FOR UTILITY REPAIR AREAS

ASPHALT ITEMS

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	455.0145 ASPHALTIC MATERIAL PG64-34P (GAL)	455.0605 TACK COAT (GAL)	460.1110 HMA PAVEMENT TYPE E-10 (TON)	465.0110 ASPHALTIC SURFACE PATCHING (TON)	465.0125 ASPHALTIC SURFACE TEMPORARY (TON)
0010	STAGE 1						
		STH 25 - NB	78	1145	1,255	15	--
		UNDISTRIBUTED FOR WEDGEING @ 131+75	2	--	26	--	--
0010	STAGE 1 SUBTOTAL		80	1,145	1,281	15	0
0010	STAGE 2						
		STH 25 - NB & SB	69	725	1,106	10	--
		UNDISTRIBUTED FOR WEDGEING @ 131+75	1	--	13	--	--
0010	STAGE 2 SUBTOTAL		70	725	1,119	10	0
0010	STAGE 3						
		STH 25 - SB	78	1145	1,259	15	--
		UNDISTRIBUTED FOR WEDGEING @ 131+75	2	--	26	--	--
0010	STAGE 3 SUBTOTAL		80	1,145	1,285	15	0
	CATEGORY 0010 TOTALS		230	3,015	3,685	40	0
0020	STAGE 1A						
		STH 25 - NB & SB	--	--	--	--	95
0020	STAGE 1A SUBTOTAL		--	--	--	--	95
	CATEGORY 0020 TOTALS		0	0	0	0	95
	PROJECT TOTALS		**230**	**3,015**	**3,685**	**40**	**95**

TACK COAT RATES USED:
0.07 GAL/SY FOR CONCRETE PAVEMENT SURFACE
0.05 GAL/SY FOR NEW HMA PAVEMENT

AGGREGATE ITEMS

CATEGORY	STAGE	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)	624.0100 WATER (MGAL)
0010	STAGE 1				
		STH 25 - NB	12	38	1
		21ST AVE.	14	10	1
		20TH AVE.	10	10	0
		13TH AVE.	21	10	1
		12TH AVE.	13	8	0
		UNDISTRIBUTED	5	4	0
	STAGE 1 SUBTOTAL		75	80	3
0010	STAGE 3				
		STH 25 - SB	13	36	1
		21ST AVE.	18	19	1
		20TH AVE.	--	--	--
		13TH AVE.	12	10	0
		12TH AVE.	10	11	0
		UNDISTRIBUTED	3	4	0
	STAGE 3 SUBTOTAL		56	80	3
	CATEGORY 0010 TOTALS		130	160	6
0020	STAGE 1				
		STA. 121+80-122+00	--	16	0
		STA. 141+55-141+71	--	5	0
		STA. 142+30-142+54	--	9	0
		STA. 143+30-143+44	--	8	0
		STA. 143+66-143+80	--	6	0
		17TH AVE.	16	12	1
		10TH AVE	16	19	1
		UNDISTRIBUTED	3	5	1
	STAGE 1 SUBTOTAL		35	80	3
0020	STAGE 2				
		STA. 121+80-122+00	--	5	0
		STA. 141+55-141+71	--	3	0
		STA. 142+30-142+54	--	3	0
		STA. 143+66-143+80	--	3	0
		UNDISTRIBUTED	0	1	0
	STAGE 2 SUBTOTAL		0	15	0
0020	STAGE 3				
		17TH AVE.	14	10	0
		14TH AVE.	6	4	0
		10TH AVE	18	16	1
		STA. 108+30-108+50	--	16	0
		STA. 144+82-145+06	--	11	0
		UNDISTRIBUTED	2	3	0
	STAGE 3 SUBTOTAL		40	60	2
	CATEGORY 0020 TOTALS		75	155	7
	PROJECT TOTALS		**205**	**315**	**12**

3

CONCRETE SIDEWALK

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	205.0100 EXCAVATION COMMON (CY)	602.0405 CONCRETE SIDEWALK 4-INCH (SF)	SPV.0165.01 CONCRETE SIDEWALK CURE AND SEAL TREATMENT (SF)	602.0515 CURB RAMP DETECTABLE WARNING FIELD (NATURAL PATINA) (SF)
0010	STAGE 1					
		21ST AVE.				
		SE QUAD	11	305	305	16
		NE QUAD	9	255	255	16
		20TH AVE.				
		SE QUAD	6	149	149	16
		NE QUAD	9	255	255	16
		STH 25				
		STA. 131+50 RT	19	500	500	--
		13TH AVE.				
		SE QUAD	10	281	281	24
		NE QUAD	21	564	564	24
		12TH AVE.				
		SE QUAD	16	419	419	24
		NE QUAD	5	137	137	20
0010		STAGE 1 SUBTOTAL	106	2,865	2,865	156
0010	STAGE 3					
		21ST AVE.				
		SW QUAD	15	403	403	16
		NW QUAD	11	288	288	16
		STH 25				
		STA. 131+50 LT	19	500	500	--
		13TH AVE.				
		SW QUAD	7	198	198	16
		NW QUAD	11	290	290	16
		12TH AVE.				
		SW QUAD	6	159	159	16
		NW QUAD	8	220	220	16
0010		STAGE 3 SUBTOTAL	77	2,058	2,058	96
		UNDISTRIBUTED	15	350	350	--
		CATEGORY 0010 TOTALS	198	5,273	5,273	252
0020	STAGE 1					
		17TH AVE.				
		SE QUAD	12	316	316	16
		NE QUAD	11	297	297	24
		10TH AVE.				
		SE QUAD	10	265	265	24
		NE QUAD	14	385	385	24
0020		STAGE 1 SUBTOTAL	47	1,263	1,263	88
0020	STAGE 3					
		17TH AVE.				
		SW QUAD	13	342	342	16
		NW QUAD	7	182	182	16
		14TH AVE.				
		SW QUAD	3	75	75	12
		10TH AVE.				
		SW QUAD	15	395	395	12
		NW QUAD	11	285	285	12
0020		STAGE 3 SUBTOTAL	49	1,279	1,279	68
		UNDISTRIBUTED	6	95	95	--
		CATEGORY 0020 TOTALS	102	2,637	2,637	156
		PROJECT TOTALS	**300**	**7,910**	**7,910**	**408**

CONCRETE CURB & GUTTER

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	601.0409 30-INCH TYPE A (LF)	601.0600 PEDESTRIAN CURB (LF)	SPV.0090.04 CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT (LF)	*416.0610 DRILLED TIE BARS (EACH)
0010	STAGE 1					
		21ST AVE.	60	--	60	24
		20TH AVE.	63	--	63	25
		13TH AVE.	63	--	63	25
		12TH AVE.	39	15	54	16
		STH 25 - NB	225	--	225	90
		STAGE 1 SUBTOTAL	450	15	465	180
	STAGE 3					
		21ST AVE.	90	27	117	36
		13TH AVE.	62	--	62	25
		12TH AVE.	56	18	74	22
		STH 25 - SB	222	--	222	87
		STAGE 3 SUBTOTAL	430	45	475	170
		UNDISTRIBUTED	200	10	210	80
		CATEGORY 0010 TOTALS	1,080	70	1,150	430
0020	STAGE 1					
		17TH AVE.	68	--	68	27
		10TH AVE.	82	20	102	33
		STAGE 1 SUBTOTAL	150	20	170	60
	STAGE 3					
		17TH AVE.	60	--	60	24
		14TH AVE.	20	--	20	9
		10TH AVE.	80	35	115	32
		STAGE 3 SUBTOTAL	160	35	195	65
		UNDISTRIBUTED	50	10	60	20
		CATEGORY 0020 TOTALS	310	55	365	125
		PROJECT TOTALS	**1,390**	**125**	**1,515**	**555**

* ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLAN SET

LANDSCAPING ITEMS

CATEGORY	LOCATION	625.0100 TOPSOIL (SY)	628.2006 EROSION MAT URBAN CLASS I TYPE A (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0140 SEEDING MIXTURE NO. 40 (LB)	630.0200 SEEDING TEMPORARY (LB)
0010	STH 25	300	300	0.2	5	8
	CURB RAMP REPAIRS	1,350	1,350	0.9	24	36
	UNDISTRIBUTED	300	300	0.2	5	8
	PROJECT TOTAL	**1,950**	**1,950**	**1.2**	**35**	**53**

STORM SEWER ITEMS

CATEGORY	WORK TO BE COMPLETED DURING STAGE	STRUCTURE NO.	STATION	OFFSET	204.0220 REMOVING INLETS (EACH)	204.0245 REMOVING STORM SEWER (12") (LF)	520.8000 CONCRETE COLLARS FOR PIPE (EACH)	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH (LF)	611.0430 RECONSTRUCTING INLETS (EACH)	611.0624 INLETS COVERS TYPE H (EACH)	611.0639 INLETS COVERS TYPE H-S (EACH)	611.3230 INLETS 2x3-FT (EACH)	*611.8110 ADJUSTING MANHOLE COVERS (EACH)	611.8115 ADJUSTING INLET COVERS (EACH)	*611.8120.S TEMPORARY COVER PLATES (EACH)
0010	STAGE 1														
		2.0	109+32	22.5' RT	--	--	--	--	1	--	--	--	--	--	--
		2.0A	109+42	14.0' RT	--	--	--	--	--	--	--	--	1	--	1
		6.0	111+81	25.0' RT	--	--	--	--	--	--	--	--	--	1	--
		3.0A	112+07	14.0' RT	--	--	--	--	--	--	--	--	1	--	1
		4.0	112+38	41.0' RT	--	--	--	--	--	--	--	--	--	1	--
		10.0	115+00	22.5' RT	--	--	--	--	1	--	--	--	--	--	--
		4.0A	115+25	14.0' RT	--	--	--	--	--	--	--	--	1	--	1
		14.0	118+33	22.5' RT	--	--	--	--	1	--	--	--	--	--	--
		5.0A	118+63	14.0' RT	--	--	--	--	--	--	--	--	1	--	1
		18.0	121+57	22.5' RT	--	--	--	--	1	--	--	--	--	--	--
		17.0	121+80	42.0' RT	--	--	--	--	--	--	--	--	--	1	--
		6.0A	121+90	13.0' RT	--	--	--	--	--	--	--	--	1	--	1
		16.0	122+20	42.0' RT	--	--	--	--	--	--	--	--	--	1	--
		7.0A	124+72	15.0' RT	--	--	--	--	--	--	--	--	1	--	1
		26.0	124+90	22.5' RT	--	--	--	--	1	--	--	--	--	--	--
		8.0A	125+19	7.0' RT	--	--	--	--	--	--	--	--	1	--	1
		24.0	125+52	29.0' RT	--	--	--	--	1	--	1	--	--	--	--
		23.0	125+68	22.5' RT	1	8	1	8	--	1	--	1	--	--	--
		28.0	129+58	22.5' RT	1	8	1	8	--	1	--	1	--	--	--
		30.0	131+53	22.5' RT	--	--	--	--	--	--	--	--	--	1	--
		31.0	134+77	22.5' RT	--	--	--	--	--	--	--	--	--	1	--
		11.0A	135+31	29.0' RT	--	--	--	--	--	--	--	--	1	--	1
		32.0	135+58	22.5' RT	--	--	--	--	--	--	--	--	--	1	--
		38.0	138+83	22.5' RT	--	--	--	--	--	--	--	--	--	1	--
		40.0	142+13	22.5' RT	--	--	--	--	--	--	--	--	--	1	--
		45.0	145+42	22.5' RT	--	--	--	--	--	--	--	--	--	1	--
		49.0	148+77	22.5' RT	1	8	1	8	--	1	--	1	--	--	--
		51.0	148+16	43.0' RT	--	--	--	--	1	--	--	--	--	--	--
		17.0A	151+89	9.0' RT	--	--	--	--	--	--	--	--	1	--	1
		57.0	151+94	26.5' RT	--	--	--	--	--	--	--	--	--	1	--
		61.0	158+52	44.0' RT	--	--	--	--	--	--	--	--	--	1	--
0010	STAGE 1 SUBTOTAL				3	24	3	24	7	3	1	3	9	12	9
0010	STAGE 2														
		9.0A	129+74	4.0' RT	--	--	--	--	--	--	--	--	1	--	1
		10.0A	131+58	6.0' RT	--	--	--	--	--	--	--	--	1	--	1
		15.0A	145+15	6.0' LT	--	--	--	--	--	--	--	--	1	--	1
0010	STAGE 2 SUBTOTAL				0	0	0	0	0	0	0	0	3	0	3
0010	STAGE 3														
		1.0	109+32	22.5' LT	--	--	--	--	--	--	--	--	--	1	--
		3.0	111+70	22.5' LT	--	--	--	--	1	--	--	--	--	--	--
		7.0	115+00	22.5' LT	--	--	--	--	--	--	--	--	--	1	--
		11.0	118+33	22.5' LT	--	--	--	--	1	--	--	--	--	--	--
		15.0	121+57	22.5' LT	1	8	1	8	--	1	--	1	--	--	--
		22.0	124+89	22.5' LT	--	--	--	--	1	--	--	--	--	--	--
		19.0	125+68	22.5' LT	--	--	--	--	1	--	1	--	--	--	--
		27.0	129+58	22.5' LT	1	8	1	8	--	1	--	1	--	--	--
		29.0	131+45	22.5' LT	1	8	1	8	-	1	--	1	--	--	--
		33.0	134+77	22.5' LT	--	--	--	--	--	--	--	--	--	1	--
		12.0A	135+33	29.0' LT	--	--	--	--	--	--	--	--	1	--	1
		34.0	135+58	22.5' LT	--	--	--	--	1	--	--	--	--	--	--
		13.0A	138+54	15.0' LT	--	--	--	--	--	--	--	--	1	--	1
		37.0	138+86	22.5' LT	--	--	--	--	--	--	--	--	--	1	--
		14.0A	141+97	13.0' LT	--	--	--	--	--	--	--	--	1	--	1
		42.0	142+15	22.5' LT	--	--	--	--	--	--	--	--	--	1	--
		48.0	145+45	22.5' LT	--	--	--	--	1	--	--	--	--	--	--
		16.0A	148+47	14.0' LT	--	--	--	--	--	--	--	--	1	--	1
		54.0	148+77	22.5' LT	--	--	--	--	--	--	--	--	--	1	--
		60.0	157+94	26.5' LT	--	--	--	--	--	--	--	--	--	1	--
		19.0A	158+02	36.0' LT	--	--	--	--	--	--	--	--	1	--	1
0010	STAGE 3 SUBTOTAL				3	24	3	24	6	3	1	3	5	7	5
	PROJECT TOTALS				**6**	**48**	**6**	**48**	**13**	**6**	**2**	**6**	**17**	**19**	**17**

* ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLAN SET

INLET PROTECTION

CATEGORY	WORK COMPLETED DURING STAGE	LOCATION	STATION	OFFSET	628.7015 TYPE C (EACH)
0010	STAGE 1				
		STH 25	109+42	14.0' RT	1
		STH 25	111+81	25.0' RT	1
		STH 25	111+99	54.0' RT	1
		STH 25	112+38	41.0' RT	1
		STH 25	115+00	22.5' RT	1
		STH 25	118+33	22.5' RT	1
		STH 25	121+57	22.5' RT	1
		STH 25	121+80	42.0' RT	1
		STH 25	122+20	42.0' RT	1
		STH 25	124+90	22.5' RT	1
		STH 25	125+14	42.5' RT	1
		STH 25	125+52	29.0' RT	1
		STH 25	125+68	22.5' RT	1
		STH 25	129+58	22.5' RT	1
		STH 25	131+53	22.5' RT	1
		STH 25	134+77	22.5' RT	1
		STH 25	135+58	22.5' RT	1
		STH 25	138+83	22.5' RT	1
		STH 25	142+13	22.5' RT	1
		STH 25	145+42	22.5' RT	1
		STH 25	148+16	43.0' RT	1
		STH 25	148+77	22.5' RT	1
		STH 25	151+94	26.5' RT	1
		STH 25	158+10	43.0' RT	1
		STH 25	158+52	44.0' RT	1
0010		STAGE 1 SUBTOTAL			25
0010	STAGE 3				
		STH 25	109+32	22.5' LT	1
		STH 25	110+70	22.5' LT	1
		STH 25	115+00	22.5' LT	1
		STH 25	118+33	22.5' LT	1
		STH 25	121+57	22.5' LT	1
		STH 25	124+89	22.5' LT	1
		STH 25	125+68	22.5' LT	1
		STH 25	129+58	22.5' LT	1
		STH 25	131+45	22.5' LT	1
		STH 25	134+77	22.5' LT	1
		STH 25	135+58	22.5' LT	1
		STH 25	138+86	22.5' LT	-
		STH 25	142+15	22.5' LT	1
		STH 25	145+45	22.5' LT	1
		STH 25	148+77	22.5' LT	1
0010				STAGE 3 SUBTOTAL	14
		PROJECT TOTALS			**39**

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 (EACH)	628.1910 EMERGENCY (EACH)
STAGE 1	3	1
STAGE 2	3	1
STAGE 3	3	1
STAGE 4	3	1
PROJECT TOTALS	**12**	**4**

SAWING

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	690.0150 SAWING ASPHALT (LF)	*690.0250 SAWING CONCRETE (LF)
0010	STAGE 1			
		STH 25 - NB	14	370
		24TH AVE.	--	--
		23RD AVE.	--	40
		22ND AVE.	--	40
		21ST AVE.	--	109.5
		20TH AVE.	--	147
		15TH AVE.	--	--
		13TH AVE.	--	111
		12TH AVE.	28	117.5
		STAGE 1 SUBTOTAL	42	935
0010	STAGE 2			
		STH 25	--	32
		STAGE 2 SUBTOTAL	0	32
0010	STAGE 3			
		STH 25 - SB	--	356
		24TH AVE.	--	44
		21ST AVE.	20	123
		20TH AVE.	--	42
		16TH AVE.	--	40
		15TH AVE.	--	40
		14TH AVE.	--	30
		13TH AVE.	--	142
		12TH AVE.	--	144
		STAGE 3 SUBTOTAL	20	961
		CATEGORY 0010 TOTALS	62	1,928
0020	STAGE 1			
		17TH AVE.	--	110
		10TH AVE.	--	137.5
		STAGE 1 SUBTOTAL	0	248
0020	STAGE 3			
		17TH AVE.	--	110
		10TH AVE.	30	105
		STAGE 3 SUBTOTAL	30	215
		CATEGORY 0020 TOTALS	30	462
		PROJECT TOTALS	**92**	**2,390**

* ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLAN SET

TEMPORARY PAVEMENT MARKINGS

WORK TO BE COMPLETED DURING STAGE	STATION	-	STATION	LOCATION	649.0100 TEMPORARY PAVEMENT MARKING 4-INCH WHITE (LF)	649.0100 TEMPORARY PAVEMENT MARKING 4-INCH YELLOW (LF)	649.0400 REMOVABLE TAPE 4-INCH WHITE (LF)	649.0400 REMOVABLE TAPE 4-INCH YELLOW (LF)	649.1100 TEMPORARY STOP LINE 18-INCH (EACH)	646.0600 REMOVING PAVEMENT MARKINGS (LF)
STAGE 1	100+00	-	111+75	STH 25	500	1,000	325	650	--	1,175
	112+45	-	121+56	STH 25	917	1,834	--	--	17	911
	122+37	-	134+77	STH 25	1,242	2,484	--	--	--	1,240
	135+53	-	148+00	STH 25	1,250	2,500	--	--	17	1,247
	148+78	-	154+50	STH 25	346	711	125	460	--	572
			STAGE 1 SUBTOTAL			12,784		1,560	34	5,145
STAGE 2	100+00	-	111+75	STH 25	--	500	--	1,135	--	--
	112+45	-	121+56	STH 25	--	917	--	917	--	--
	122+37	-	134+77	STH 25	--	1,242	--	1,242	--	--
	135+53	-	148+00	STH 25	--	1,250	--	1,250	--	--
	148+78	-	154+50	STH 25	--	--	--	--	--	--
			STAGE 2 SUBTOTAL			3,909		4,544	0	0
STAGE 3	100+00	-	111+75	STH 25	--	--	825	1,650	--	--
	112+45	-	121+56	STH 25	--	--	910	1,820	--	--
	122+37	-	134+77	STH 25	--	--	1,233	2,466	--	--
	135+53	-	148+00	STH 25	--	--	1,242	2,484	--	--
	148+78	-	154+50	STH 25	--	--	554	950	--	--
			STAGE 3 SUBTOTAL			0		14,134	0	0
			UNDISTRIBUTED TOTALS			750		750	50	300
			PROJECT TOTALS			**17,443**		**20,988**	**84**	**5,445**

TEMPORARY CROSSWALK ACCESS

CATEGORY	LOCATION	SPV.0105.07 (LS)	SPV.0105.08 (LS)	SPV.0105.09 (LS)	SPV.0105.10 (LS)	SPV.0105.11 (LS)	SPV.0105.12 (LS)
0010							
	24TH AVENUE	1	--	--	--	--	--
	21ST AVENUE	--	1	--	--	--	--
	20TH AVENUE	--	--	1	--	--	--
	17TH AVENUE	--	--	--	1	--	--
	13TH AVENUE	--	--	--	--	1	--
	12TH AVENUE	--	--	--	--	--	1
	PROJECT TOTALS	**1**	**1**	**1**	**1**	**1**	**1**

FENCE SAFETY

CATEGORY	LOCATION	616.0700.S FENCE SAFETY (LF)
0010		
	21ST AVE.	120
	20TH AVE.	60
	17TH AVE.	120
	13TH AVE.	120
	12TH AVE.	120
	10TH AVE.	120
	PROJECT TOTALS	**660**

TRAFFIC CONTROL DEVICES

WORK TO BE COMPLETED DURING STAGE	LOCATION	STATION	-	STATION	LT/RT	DAYS IN PHASE	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENACE (DAYS)	643.0300 DRUMS (NO.)	643.0300 DRUMS (DAYS)	643.0420 BARRICADES TYPE III (NO.)	643.0420 BARRICADES TYPE III (DAYS)	643.0715 WARNING LIGHTS TYPE C (NO.)	643.0715 WARNING LIGHTS TYPE C (DAYS)	643.0800 ARROW BOARDS (NO.)	643.0800 ARROW BOARDS (DAYS)	643.0900 TRAFFIC CONTROL SIGNS (NO.)	643.0900 TRAFFIC CONTROL SIGNS (DAYS)	643.0500 FLEXIBLE TUBULAR MARKER POSTS (EACH)	643.0600 FLEXIBLE TUBULAR MARKER BASES (EACH)
STAGE 1A	STH 25	103+50	-	159+00		14	14	50	700	11	154	0	0	0	0	34	476	48	48
				STAGE 1A SUBTOTAL			14	50	700	11	154	0	0	0	0	34	476	48	48
STAGE 1	STH 25	103+50	-	159+00		38	38	139	5,282	25	950	20	760	1	38	69	2,622	82	82
				STAGE 1 SUBTOTAL			38	139	5,282	25	950	20	760	1	38	69	2,622	82	82
STAGE 2	STH 25	103+50	-	159+00		22	22	192	4,224	27	594	13	286	0	0	72	1,584	--	--
				STAGE 2 SUBTOTAL			22	192	4,224	27	594	13	286	0	0	72	1,584	0	0
STAGE 3	STH 25	103+50	-	159+00		32	32	119	3,808	27	864	11	352	0	0	77	2,464	82	82
				STAGE 3 SUBTOTAL			32	119	3,808	27	864	11	352	0	0	77	2,464	82	82
				UNDISTRIBUTED TOTALS			--	--	500	--	125	--	70	--	5	--	350	25	25
				PROJECT TOTALS			**106**	**14,514**		**2,687**		**1,468**		**43**		**7,496**		**237**	**237**

PAVEMENT MARKING

CATEGORY	BEGIN STA - END STA	646.0106 EPOXY 4-INCH (WHITE) (LF)	646.0106 EPOXY 4-INCH (YELLOW) (LF)	646.0126 EPOXY 8-INCH (WHITE) (LF)	647.0156 ARROWS EPOXY TYPE 1 (EACH)	647.0166 ARROWS EPOXY TYPE 2 (EACH)	647.0256 SYMBOLS EPOXY (EACH)	647.0336 BIKE SHARED LANE EPOXY (EACH)	647.0356 WORDS EPOXY (EACH)	647.0526 YIELD LINE SYMBOLS EPOXY 18-INCH (EACH)	647.0566 STOP LINE EPOXY 18-INCH (LF)	647.0726 DIAGONAL EPOXY 12-INCH (YELLOW) (LF)	647.0796 CROSSWALK EPOXY 24-INCH (LF)	SPV.0060.15 CONTRAST GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE) (EACH)	SPV.0060.16 CONTRAST GROOVED PREFORMED THERMOPLASTIC SYMBOLS (WHITE) (EACH)	SPV.0060.17 CONTRAST GROOVED PREFORMED THERMOPLASTIC YIELD LINE 18-IN (EACH)	SPV.0105.13 BIKE BOX PAVEMENT MARKING (LS)
0010	105+00 - 112+50	-	1,900	105	-	5	-	-	1	-	40	35	270	-	-	-	-
	112+50 - 115+65	-	1,100	105	-	3	-	-	1	-	17	-	60	-	-	-	-
	115+65 - 119+10	-	800	-	-	3	-	-	-	-	17	-	60	-	-	-	-
	119+10 - 122+40	-	620	125	-	2	-	-	1	-	95	-	234	-	-	-	-
	122+40 - 125+60	-	860	105	-	3	-	-	1	-	33	-	240	-	-	-	-
	125+60 - 135+50	-	2,350	-	-	6	-	-	-	-	33	-	216	-	-	-	-
	135+50 - 139+00	-	890	-	-	2	-	-	-	-	17	-	120	-	-	-	-
	139+00 - 142+20	-	800	-	-	2	-	-	-	-	18	-	108	-	-	-	-
	142+20 - 145+50	-	830	-	-	3	-	-	-	-	18	-	54	-	-	-	-
	145+50 - 148+75	-	720	115	-	2	-	-	1	-	76	30	228	-	-	-	-
	148+75 - 152+00	15	570	175	-	2	-	-	1	-	52	-	222	-	-	-	-
	152+00 - 156+50	-	950	60	1	1	-	-	1	-	-	69	-	-	-	-	-
	CATEGORY 0010 TOTALS	12,405		790	1	34	0	0	7	0	416	134	1,812	0	0	0	0
0020	105+00 - 112+50	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
	112+50 - 115+65	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
	115+65 - 119+10	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
	119+10 - 122+40	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
	122+40 - 125+60	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
	125+60 - 135+50	-	-	-	-	-	1	4	1	6	-	-	-	-	-	-	-
	135+50 - 139+00	-	-	-	-	-	1	3	1	6	-	-	-	-	-	-	-
	139+00 - 142+20	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
	142+20 - 145+50	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
	145+50 - 148+75	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	1
	148+75 - 152+00	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
	152+00 - 156+50	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
	156+50 - 160+00	-	-	-	-	-	4	-	4	24	25	-	204	4	4	24	-
	CATEGORY 0020 TOTALS	0		0	0	0	6	25	6	36	25	0	204	4	4	24	1
	PROJECT TOTALS	**12,405**		**790**	**1**	**34**	**6**	**25**	**13**	**36**	**441**	**134**	**2,016**	**4**	**4**	**24**	**1**

CONSTRUCTION STAKING

STATION	-	STATION	DESCRIPTION	650.5500 CURB GUTTER AND CURB & GUTTER (LF)	650.8000 RESURFACING REFERENCE (LF)	650.9910.01 SUPPLEMENTAL CONTROL (LS)	SPV.0105.14 CURB RAMPS (LS)
106+76	-	152+00	STH 25	1330	4530	1	1
			PROJECT TOTALS	**1330**	**4530**	**1**	**1**

MISCELLANEOUS LUMP SUM PAVEMENT ITEMS

CATEGORY	PROJECT	SPV.0105.01 MILLING AND REMOVING TEMPORARY JOINT (PROJECT) (LS)	SPV.0105.02 PREPARE FOUNDATION FOR ASPHALTIC PAVING - SPECIAL (PROJECT) (LS)	SPV.0105.15 CONCRETE CRACK MITIGATION AND REPAIR SPECIAL (PROJECT) (LS)	SPV.0170.01 REHEATING HMA PAVEMENT LONGITUDINAL JOINTS SPECIAL (PROJECT) (STA)
0010	7220-01-71	1	1	1	90.50
	PROJECT TOTALS	**1**	**1**	**1**	**90.50**

3

PERMANENT SIGNING TYPE II

CATEGORY	SIGN #	SIGN CODE	SIGN SIZE	SIGN SIZE IN	638.2102 MOVING SIGNS TYPE II (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	634.0814 POSTS TUBULAR STEEL 2X2 INCH 14 FT (EACH)	634.0816 POSTS TUBULAR STEEL 2X2 INCH 16 FT (EACH)	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	SPV.0060.08 REMOVE OVERHEAD SIGN (EACH)	SPV.0105.05 REMOVE, SALVAGE AND REINSTALL SIGN SUPPORT ASSEMBLY (LS)	SIGN MOUNTED ON SAME POST AS	REMARKS
0010	1-01	R7-1R	2S	18X24	--	--	--	1	--	3.00	--	--	--	--	NO PARKING ANY TIME (RIGHT ARROW)
	1-02	R3-9D	2S	24X6	--	--	--	1	--	1.00	--	--	--	--	END (PLAQUE)
	1-03	R3-9B	2S	24X36	--	--	--	--	--	6.00	--	--	--	1-02	CENTER LANE LEFT TURN ONLY SYMBOL
	1-04	R7-1D	2S	18X24	--	--	--	--	--	3.00	--	--	--	EXISTING	NO PARKING ANY TIME (DOUBLE ARROW)
	1-05	R7-1D	2S	18X24	--	--	--	1	--	3.00	--	--	--	--	NO PARKING ANY TIME (DOUBLE ARROW)
	1-06	R7-1L	2S	18X24	--	--	--	1	--	3.00	--	--	--	--	NO PARKING ANY TIME (LEFT ARROW)
	1-07	R3-9C	2S	24X6	--	--	--	1	--	1.00	--	--	--	--	BEGIN (PLAQUE)
	1-08	R3-9B	2S	24X36	--	--	--	--	--	6.00	--	--	--	1-07	CENTER LANE LEFT TURN ONLY SYMBOL
	1-09	R7-1D	2S	18X24	--	--	--	1	--	3.00	--	--	--	--	NO PARKING ANY TIME (DOUBLE ARROW)
	1-10	R7-1D	2S	18X24	--	--	--	--	--	3.00	--	--	--	EXISTING	NO PARKING ANY TIME (DOUBLE ARROW)
	1-11	R7-1D	2S	18X24	--	--	--	1	--	3.00	--	--	--	--	NO PARKING ANY TIME (DOUBLE ARROW)
	2-01	R7-1D	2S	18X24	--	--	--	--	--	3.00	--	--	--	EXISTING	NO PARKING ANY TIME (DOUBLE ARROW)
	2R-01				--	1	--	--	--	--	--	--	--	--	
	2-02	R7-1D	2S	18X24	--	--	--	1	--	3.00	--	--	--	--	NO PARKING ANY TIME (DOUBLE ARROW)
	2-03	R3-8A	2S	36X30	--	--	--	1	--	7.50	--	--	--	--	LEFT ONLY / AHEAD, RIGHT
	2R-02				--	1	--	--	--	--	--	1	--	--	
	2R-03				--	1	--	--	--	--	--	--	--	2R-02	
	2-04	R7-1D	2S	18X24	--	--	--	--	--	3.00	--	--	--	EXISTING	NO PARKING ANY TIME (DOUBLE ARROW)
	2R-04				--	1	--	--	--	--	--	1	--	--	
	2R-05				--	1	--	--	--	--	--	--	--	2R-04	
	2-05	R3-8A	2S	36X30	--	--	--	1	--	7.50	--	--	--	--	LEFT ONLY / AHEAD, RIGHT
	2-06	R7-1D	2S	18X24	--	--	--	1	--	3.00	--	--	--	--	NO PARKING ANY TIME (DOUBLE ARROW)
	2R-06				--	1	1	--	--	--	--	--	--	--	
	2M-01				1	--	1	1	--	--	--	--	--	--	
	2M-02				1	--	1	1	--	--	--	--	--	--	
	2-07	R7-1D	2S	18X24	--	--	--	1	--	3.00	--	--	--	--	NO PARKING ANY TIME (DOUBLE ARROW)
	2R-07				--	1	1	--	--	--	--	--	--	--	
	2-08	R3-9B	2S	24X36	--	--	--	1	--	6.00	--	--	--	--	CENTER LANE LEFT TURN ONLY SYMBOL
	3-01	R3-9B	2S	24X36	--	--	--	1	--	6.00	--	--	--	--	CENTER LANE LEFT TURN ONLY SYMBOL
	3M-01		2M		1	--	1	1	--	--	--	--	--	--	
	3-08	R7-1D	2S	18X24	--	--	--	1	--	3.00	--	--	--	--	NO PARKING ANY TIME (DOUBLE ARROW)
	3-09	R7-1D	2S	18X24	--	--	--	1	--	3.00	--	--	--	--	NO PARKING ANY TIME (DOUBLE ARROW)
	3R-01				--	1	1	--	--	--	--	--	--	--	
	3M-02		(3)		1	--	1	1	--	--	--	--	--	--	
	4-01	R3-9C	2S	24X6	--	--	--	1	--	1.00	--	--	--	--	BEGIN (PLAQUE)
	4-02	R3-9B	2S	24X36	--	--	--	--	--	6.00	--	--	--	4-01	CENTER LANE LEFT TURN ONLY SYMBOL
	4R-01				--	1	--	--	--	--	--	1	--	--	
	4R-02				--	1	--	--	--	--	--	--	--	4R-01	
	4-03	R3-8A	2S	36X30	--	--	--	1	--	7.50	--	--	--	--	LEFT ONLY / AHEAD, RIGHT
	4M-01				1	--	1	1	--	--	--	--	--	--	
	4-04	R3-9D	2S	24X6	--	--	--	1	--	1.00	--	--	--	--	END (PLAQUE)
	4-05	R3-9B	2S	24X36	--	--	--	--	--	6.00	--	--	--	4-04	CENTER LANE LEFT TURN ONLY SYMBOL
	4R-03				--	1	--	--	--	--	--	1	--	--	
	4R-04				--	1	--	--	--	--	--	--	--	4R-03	
	4-06	R3-8A	2S	36X30	--	--	--	1	--	7.50	--	--	--	--	LEFT ONLY / AHEAD, RIGHT
	4M-02				1	--	1	--	1	--	--	--	--	--	
		CATEGORY 0010 TOTALS			**6**	**12**	**9**	**25**	**1**	**112**	**--**	**4**	**--**		

3

PERMANENT SIGNING TYPE II

CATEGORY	SIGN #	SIGN CODE	SIGN SIZE	SIGN SIZE IN	638.2102 MOVING SIGNS TYPE II (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	634.0814 POSTS TUBULAR STEEL 2X2 INCH 14 FT (EACH)	634.0816 POSTS TUBULAR STEEL 2X2 INCH 16 FT (EACH)	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	SPV.0060.08 REMOVE OVERHEAD SIGN (EACH)	SPV.0105.05 REMOVE, SALVAGE AND REINSTALL SIGN SUPPORT ASSEMBLY (LS)	SIGN MOUNTED ON SAME POST AS	REMARKS
0020	3-02	W11-2	2S	30X30	--	--	--	--	--	--	6.25	--	--	--	PEDESTRIAN CROSSING SYMBOL
	3-03	W16-7R	2S	24X12	--	--	--	--	--	--	2.00	--	--	3-02	RIGHT DIAGONAL DOWNWARD POINTING ARROW (YELLOV
	3-04	R10-25	2S	9X12	--	--	--	--	--	0.75	--	--	--	3-02	PUSH BUTTON TO TURN ON WARNING LIGHTS
	3-05	W11-2	2S	30X30	--	--	--	--	--	--	6.25	--	--	--	PEDESTRIAN CROSSING SYMBOL
	3-06	W16-7L	2S	24X12	--	--	--	--	--	--	2.00	--	--	3-05	LEFT DIAGONAL DOWNWARD POINTING ARROW (YELLOW
	3-07	R10-25	2S	9X12	--	--	--	--	--	0.75	--	--	--	3-05	PUSH BUTTON TO TURN ON WARNING LIGHTS
	3-10	W11-2	2S	30X30	--	--	--	--	--	--	6.25	--	--	--	PEDESTRIAN CROSSING SYMBOL
	3-11	W16-7L	2S	24X12	--	--	--	--	--	--	2.00	--	--	3-10	LEFT DIAGONAL DOWNWARD POINTING ARROW (YELLOW
	3-12	R10-25	2S	9X12	--	--	--	--	--	0.75	--	--	--	3-10	PUSH BUTTON TO TURN ON WARNING LIGHTS
	3-13	W11-2	2S	30X30	--	--	--	--	--	--	6.25	--	--	--	PEDESTRIAN CROSSING SYMBOL
	3-14	W16-7R	2S	24X12	--	--	--	--	--	--	2.00	--	--	3-13	RIGHT DIAGONAL DOWNWARD POINTING ARROW (YELLOV
	3-15	R10-25	2S	9X12	--	--	--	--	--	0.75	--	--	--	3-13	PUSH BUTTON TO TURN ON WARNING LIGHTS
	3-16	R5-1aL	2S	18x24	--	--	--	1	--	3.00	--	--	--	--	YIELD HERE TO PEDESTRIANS
	3-17	R5-1aL	2S	18x24	--	--	--	1	--	3.00	--	--	--	--	YIELD HERE TO PEDESTRIANS
	5M-01				--	--	--	--	--	--	--	--	1	--	
	5-01	W11-2	2S	30X30	--	--	--	--	--	--	6.25	--	--	--	PEDESTRIAN CROSSING SYMBOL
	5-02	W16-7R	2S	24X12	--	--	--	--	--	--	2.00	--	--	5-01	RIGHT DIAGONAL DOWNWARD POINTING ARROW (YELLOV
	5-03	R10-25	2S	9X12	--	--	--	--	--	0.75	--	--	--	5-01	PUSH BUTTON TO TURN ON WARNING LIGHTS
	5-04	W11-2	2S	30X30	--	--	--	--	--	--	6.25	--	--	--	PEDESTRIAN CROSSING SYMBOL
	5-05	W16-7L	2S	24X12	--	--	--	--	--	--	2.00	--	--	5-04	LEFT DIAGONAL DOWNWARD POINTING ARROW (YELLOW
	5-06	R10-25	2S	9X12	--	--	--	--	--	0.75	--	--	--	5-04	PUSH BUTTON TO TURN ON WARNING LIGHTS
	5R-01				--	1	1	--	--	--	--	--	--	--	
	5R-02				--	1	--	--	--	--	--	--	--	5R-01	
	5-07	R5-1aL	2S	18x24	--	--	--	1	--	3.00	--	--	--	--	YIELD HERE TO PEDESTRIANS
	5-08	R5-1aL	2S	18x24	--	--	--	1	--	3.00	--	--	--	--	YIELD HERE TO PEDESTRIANS
	5R-03				--	1	1	--	--	--	--	--	--	--	
	5R-04				--	1	--	--	--	--	--	--	--	5R-03	
	5-09	W11-2	2S	30X30	--	--	--	--	--	--	6.25	--	--	--	PEDESTRIAN CROSSING SYMBOL
	5-10	W16-7L	2S	24X12	--	--	--	--	--	--	2.00	--	--	5-09	LEFT DIAGONAL DOWNWARD POINTING ARROW (YELLOW
	5-11	R10-25	2S	9X12	--	--	--	--	--	0.75	--	--	--	5-09	PUSH BUTTON TO TURN ON WARNING LIGHTS
	5-12	W11-2	2S	30X30	--	--	--	--	--	--	6.25	--	--	--	PEDESTRIAN CROSSING SYMBOL
	5-13	W16-7R	2S	24X12	--	--	--	--	--	--	2.00	--	--	5-12	RIGHT DIAGONAL DOWNWARD POINTING ARROW (YELLOV
	5-14	R10-25	2S	9X12	--	--	--	--	--	0.75	--	--	--	5-12	PUSH BUTTON TO TURN ON WARNING LIGHTS
	5M-02				1	--	--	1	--	--	--	--	--	--	
		CATEGORY 0020 TOTALS			**1**	**4**	**2**	**5**	**--**	**18**	**66**	**--**	**1**		
		PROJECT TOTALS			**7**	**16**	**11**	**30**	**1**	**130**	**66**	**4**	**1**		

TRAFFIC SIGNALS AND LIGHTING

CATEGORY	LOCATION	204.0195 REMOVING CONCRETE BASES (EA)	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0800 CONDUIT LOOP DETECTOR LF	653.0900 ADJUSTING PULL BOXES (EA)	* 654.0101 CONCRETE BASES TYPE 1 (EA)	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	655.0800 LOOP DETECTOR WIRE LF	652.0900 LOOP DETECTOR SLOTS LF	SPV.0060.09 REMOVE STREET LIGHT (EA)	SPV.0060.10 INSTALL SALVAGED STREET LIGHT AND CONCRETE BASE (EA)	SPV.0060.18 FURNISH AND INSTALL STREET LIGHT AND CONCRETE BASE (EA)	SPV.0090.05 LOCATE AND LOWER EXISTING CONDUIT (LF)	SPV.0060.13 REMOVE, SALVAGE AND REINSTALL TRAFFIC SIGNAL ASSEMBLY (EA)
0010	12TH AVE - NORTH	1	10	--	--	--	--	1400	--	--	1	1	--	30	--
	12TH AVE - SOUTH	--	--	--	--	--	--	--	--	--	--	--	--	30	--
	13TH AVE - NORTH	--	--	170	3	--	--	--	385	135	--	--	--	30	--
	13TH AVE - SOUTH	--	--	175	3	--	--	--	385	160	--	--	--	30	--
	21ST AVE - NORTH	--	--	170	3	--	--	--	385	140	--	--	--	30	--
	21ST AVE - SOUTH	--	--	180	4	--	--	--	385	160	--	--	--	30	--
	CATEGORY 0010 TOTALS	1	10	695	13	0	0	1400	1540	595	1	1	0	180	0
0020	10TH AVE - NORTH	1	50	--	2	--	--	650	--	--	1	--	1	30	--
	10TH AVE - SOUTH	--	35	--	2	--	--	800	--	--	--	--	1	30	--
	13TH AVE - NORTH	1	10	--	--	1	180	--	--	--	--	--	--	--	1
	CATEGORY 0020 TOTALS	2	95	0	4	1	180	1450	0	0	1	0	2	60	1
	PROJECT TOTALS	3	105	695	17	1	180	2850	1540	595	2	1	2	240	1

* ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLANSET

WATERMAIN ITEMS

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	SPV.0060.01 REMOVING HYDRANT (EACH)	SPV.0060.02 HYDRANT (EACH)	SPV.0060.03 GATE VALVE 6-INCH (EACH)	SPV.0060.04 GATE VALVE 8-INCH (EACH)	SPV.0090.01 WATERMAIN DUCTILE IRON 6-INCH (LF)	SPV.0090.02 WATERMAIN DUCTILE IRON 8-INCH (LF)	SPV.0060.07 ABANDON WATER LATERAL (EACH)
0020	STAGE 1A								
		121+75, 54' RT	--	1	1	--	--	--	--
		121+75 - 121+90, 54' RT	--	--	--	--	15	--	--
		121+97, 2' RT	--	--	--	1	--	--	--
		121+90, 54' RT - 121+97, 2' RT	--	--	--	--	--	54	
		141+64, 10' RT	--	--	--	--	--	--	1
		142+45, 11' RT	--	--	--	--	--	--	1
		143+37, 13' RT	--	--	--	--	--	--	1
		143+73, 14' RT	--	--	--	--	--	--	1
		144+82, 33' LT	1	1	1	--	--	--	--
		144+82 - 144+97, 33' LT	--	--	--	--	15	--	--
		STAGE 1A SUBTOTAL	1	2	2	1	30	54	4
		PROJECT TOTALS	**1**	**2**	**2**	**1**	**30**	**54**	**4**

RECTANGULAR RAPID FLASHING BEACONS

CATEGORY	LOCATION	* 654.0101 CONCRETE BASES TYPE 1 (EA)	657.0100 PEDESTAL BASES (EA)	657.0420 TRAFFIC SIGNAL STANDARDS ALUMNUM 13-FT (EA)	658.0500 PEDESTRIAN PUSH BUTTONS (EA)	SPV.0105.03 RECTANGULAR RAPID FLASHING BEACON SYSTEM (LOCATION) (LS)	SPV.0105.04 RECTANGULAR RAPID FLASHING BEACON SYSTEM (LOCATION) (LS)
0020	17TH AVENUE	4	4	4	4	1	--
	10TH AVENUE	2	2	2	4	--	1
	PROJECT TOTALS	**6**	**6**	**6**	**8**	**1**	**1**

* ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLANSET

SANITARY SEWER ITEMS

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	SPV.0090.03 SANITARY SEWER 8-INCH PVC (LF)
0020	STAGE 1A		
		108+42 - 108+62, 9' LT	20
		STAGE 1A SUBTOTAL	20
		PROJECT TOTALS	**20**

SANITARY ADJUSTMENT ITEMS

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	SPV.0060.05 ADJUSTING SANITARY MANHOLE COVERS SPECIAL (EACH)	*611.8110 ADJUSTING MANHOLE COVERS (EACH)	*611.8120.S TEMPORARY COVER PLATES (EACH)
0020	STAGE 2				
		112+25, 6' LT	--	1	1
		115+54, 6' LT	1	--	1
		118+67, 4' LT	1	--	1
		122+02, 2' LT	--	1	1
		125+30, 1' RT	--	1	1
		128+00, 4' LT	--	1	1
		130+52, 5' LT	1	--	1
		131+26, 5' LT	1	--	1
		131+70, 5' LT	--	1	1
		133+15, 3' LT	1	--	1
		134+95, 6' LT	1	--	1
		138+50, 3' LT	--	1	1
		141+85, 2' LT	--	1	1
		145+15, 5' LT	--	1	1
		148+53, 4' LT	1	--	1
		151+45, 5' LT	--	1	1
		151+87, 4' RT	--	1	1
		STAGE 2 SUBTOTAL	7	10	17
0020	STAGE 3				
		108+62, 9' LT	--	1	1
		158+04, 37' LT	--	1	1
		151+69, 29' LT	1	--	1
		STAGE 3 SUBTOTAL	1	2	3
		PROJECT TOTALS	**8**	**12**	**20**

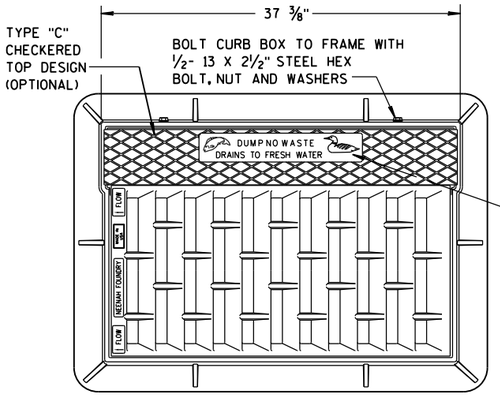
* ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLAN SET

WATERMAIN ADJUSTMENT ITEMS

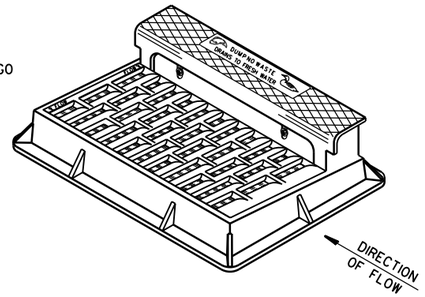
CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	SPV.0060.06 ADJUSTING WATER GATE VALVE BOXES (EACH)
0020	STAGE 1		
		111+80, 10' RT	1
		112+00, 32' RT	1
		112+10, 10' RT	1
		115+10, 15' RT	1
		119+05, 11' RT	1
		124+65, 13' RT	1
		125+35, 34' RT	1
		125+45, 12' RT	1
		135+05, 21' RT	1
		135+07, 35' RT	1
		135+10, 21' RT	1
		138+35, 15' RT	1
		144+73, 12' RT	1
		148+22, 13' RT	1
		148+25, 10' RT	1
		148+27, 13' RT	1
		151+22, 12' RT	1
		151+55, 24' RT	1
		STAGE 1 SUBTOTAL	18
0020	STAGE 2		
		110+20, 2' RT	1
		STAGE 2 SUBTOTAL	1
0020	STAGE 3		
		112+00, 35' LT	1
		121+90, 36' LT	1
		125+10, 27' LT	1
		125+20, 30' LT	1
		135+07, 29' LT	1
		138+35, 35' LT	1
		STAGE 3 SUBTOTAL	6
		PROJECT TOTALS	**25**

Standard Detail Drawing List

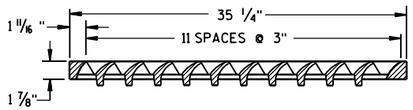
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09F11-04	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT WITH NEW ASPHALTIC OVERLAY
13C08-02	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR
13C14-04A	BASE PATCHING CONCRETE
13C14-04B	BASE PATCHING CONCRETE
13C14-04C	BASE PATCHING CONCRETE
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C18-03	MEDIAN ISLAND MARKING
15C20-01	YIELD MARKING
15C29-03F	PAVEMENT MARKING FOR SHARED LANE 35 MPH OR LESS
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

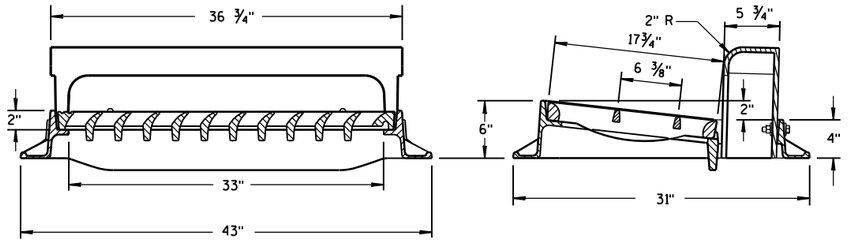


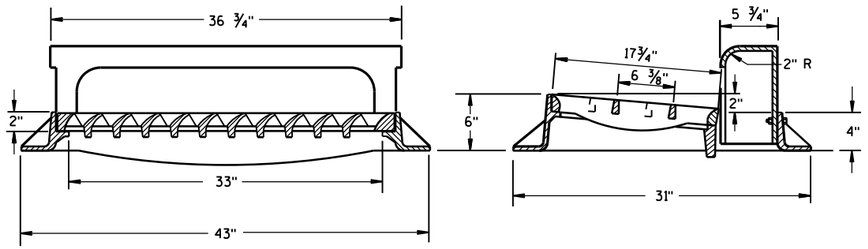
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

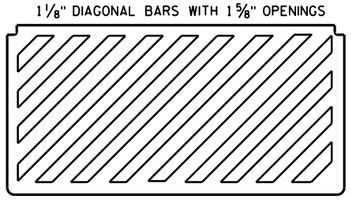






TYPE "H"

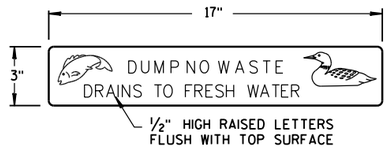
NOTE: EITHER CASTING IS ACCEPTABLE



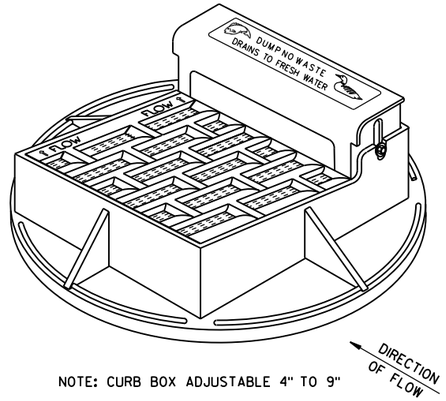
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

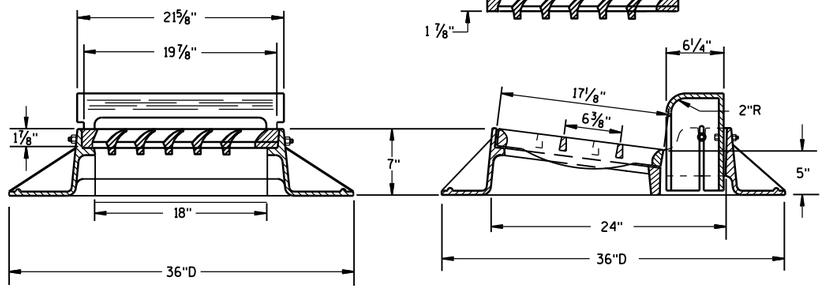


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



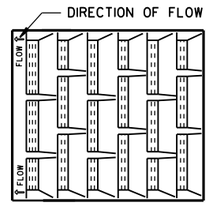
TYPE "A"

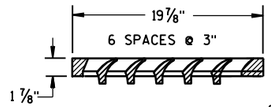
GENERAL NOTES

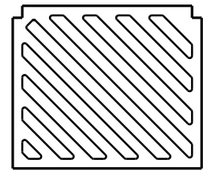
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



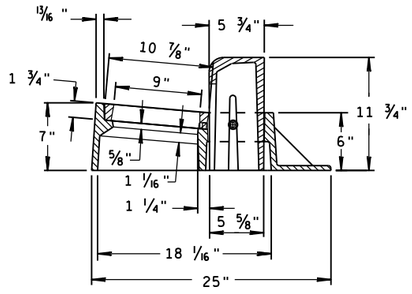


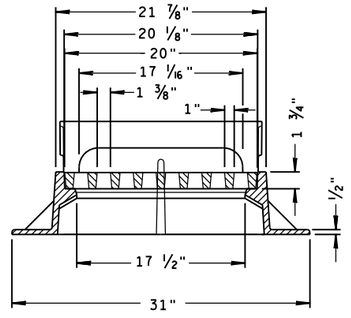


SPECIAL GRATE FOR TYPE "A" COVER

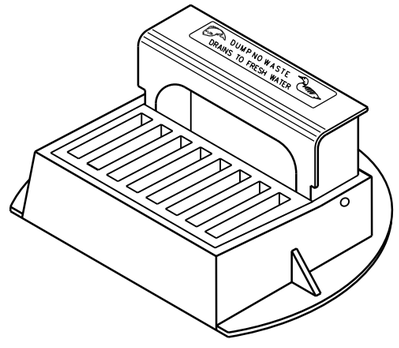
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"

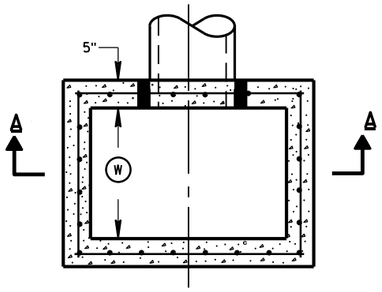


INLET COVERS TYPE A, H, A-S, H-S & Z

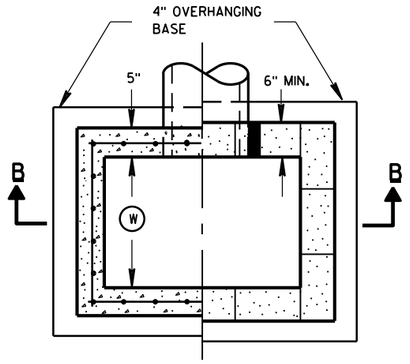
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

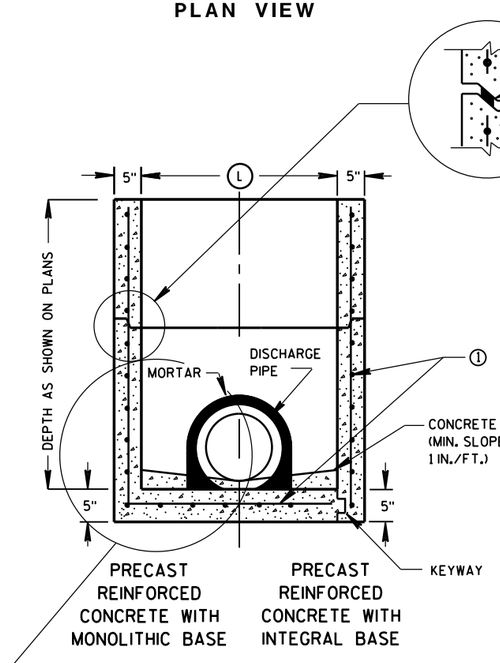
S.D.D. 8 A 5-19a



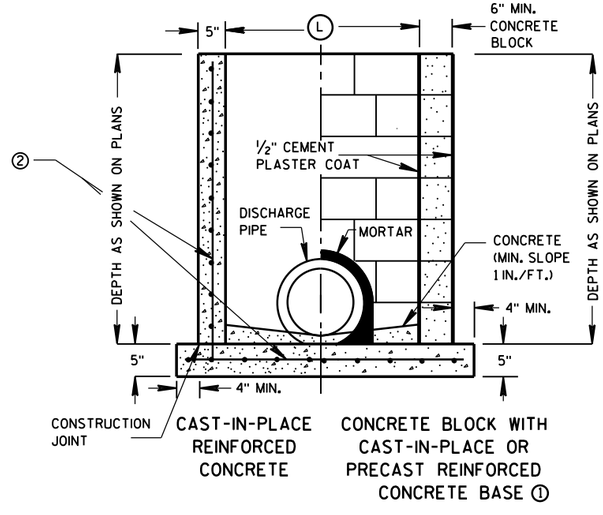
PLAN VIEW



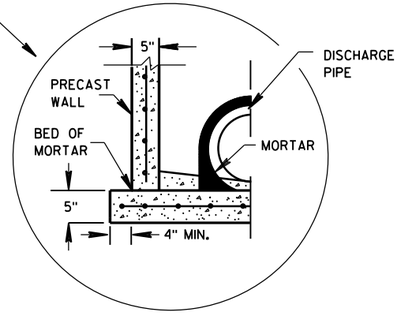
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

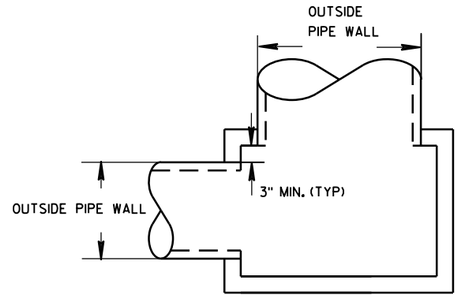
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

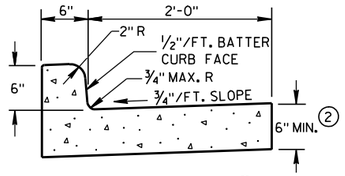
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
FHWA

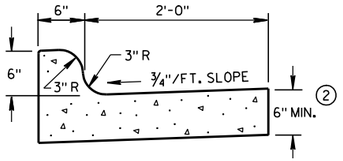
/S/ Jerry H. Zogg
ROADWAY STANDARDS DE ENGINEER

6
S.D.D. 8 C 7-1

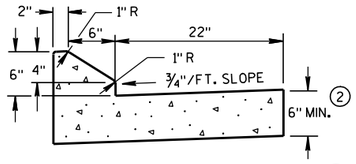
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT



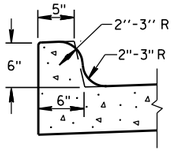
TYPES A & D (1)



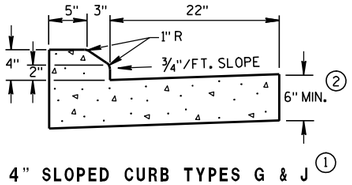
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

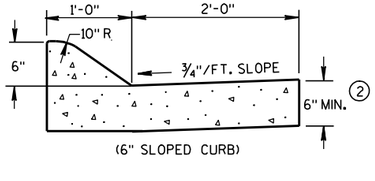


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

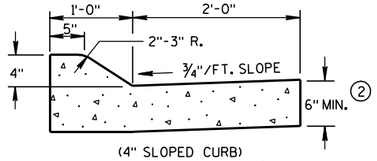


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

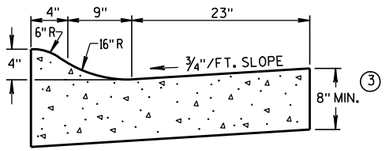


(6" SLOPED CURB)



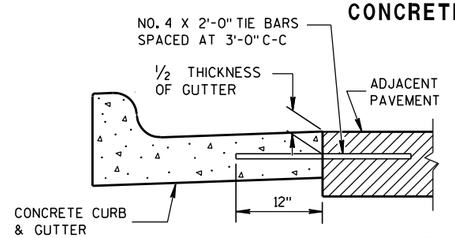
(4" SLOPED CURB)

TYPES A & D (1)

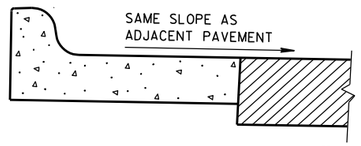


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

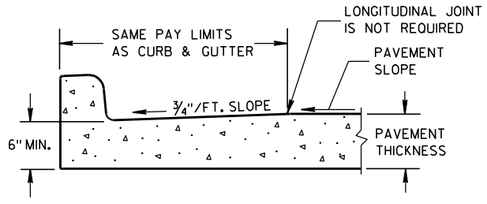
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

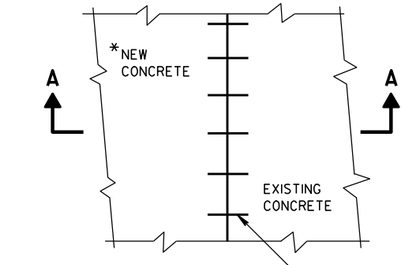
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

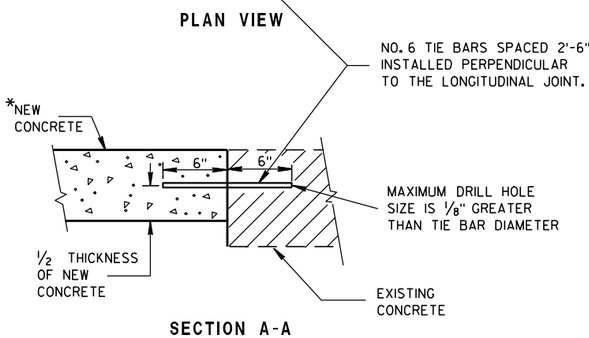


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



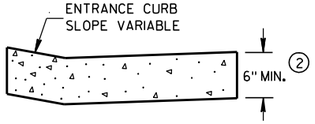
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW

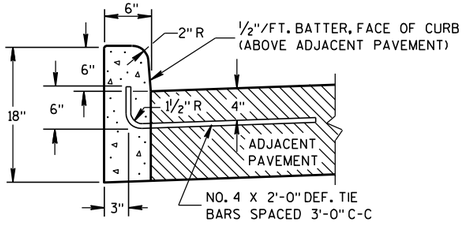


SECTION A-A

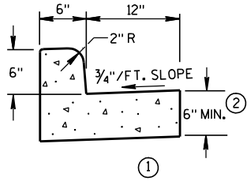
TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

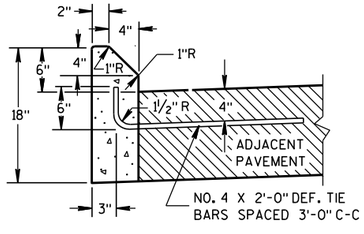


(1) TYPES A & D



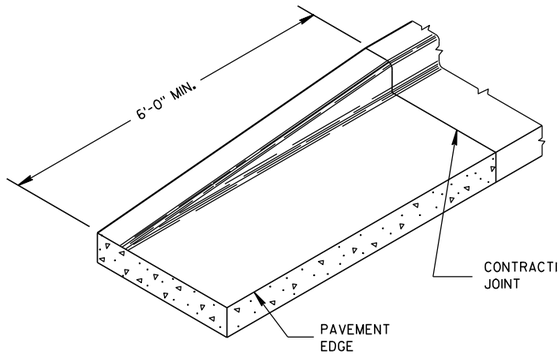
(1) TYPES A & D

CONCRETE CURB & GUTTER 18"



(1) TYPES G & J

CONCRETE CURB



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

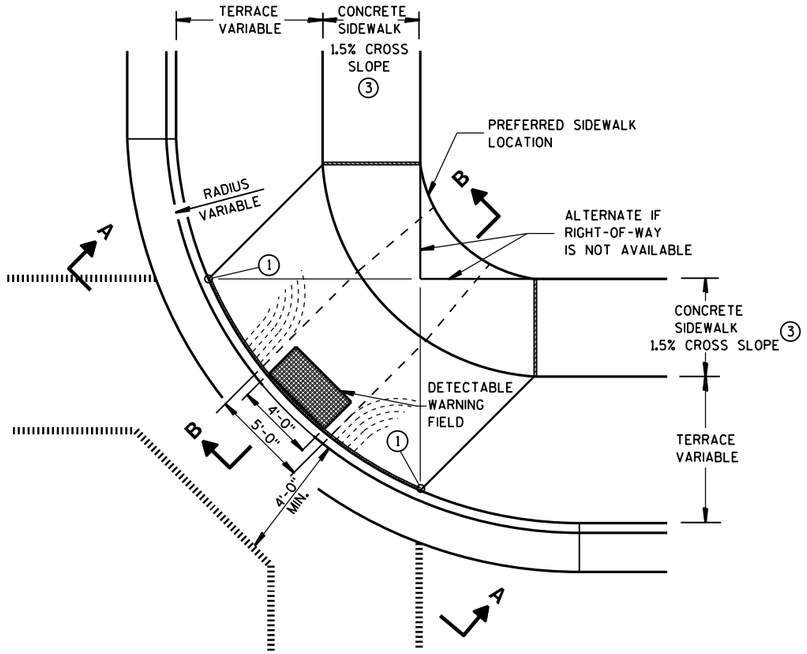
FHWA ENT

6

S.D.D. 8 D 1-17

6

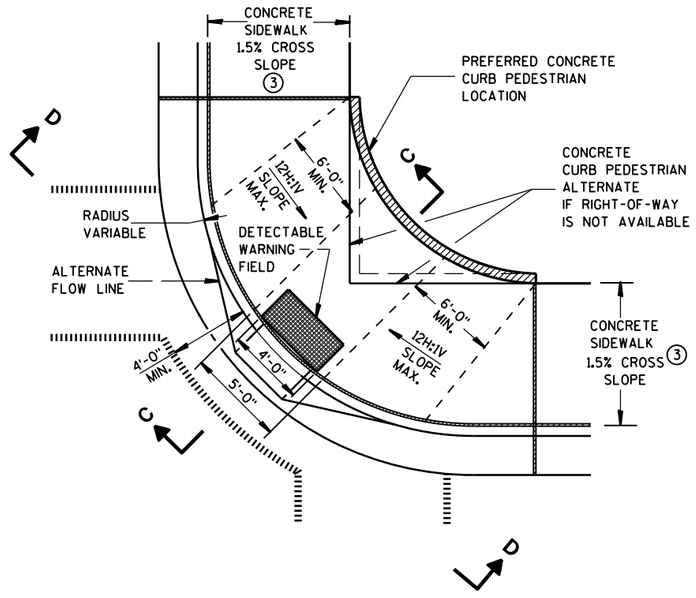
S.D.D. 8 D 1-17



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

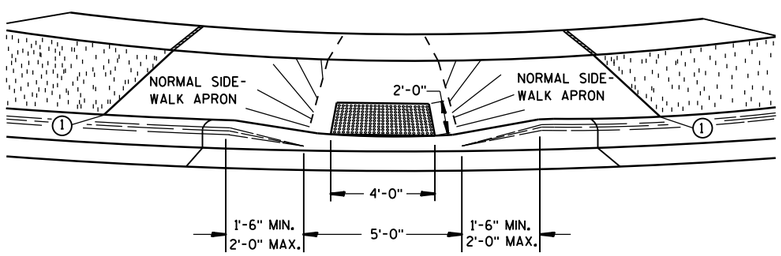
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

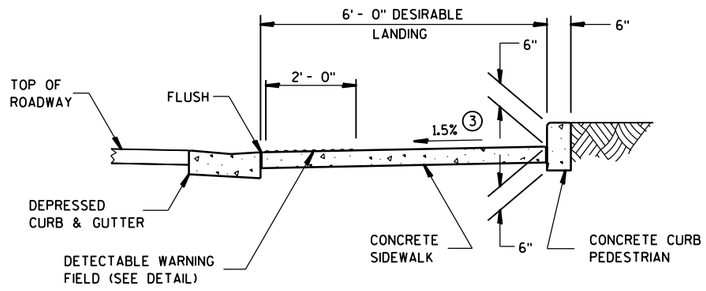
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

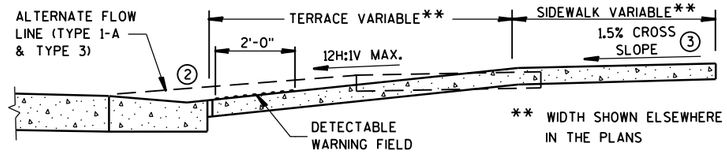
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



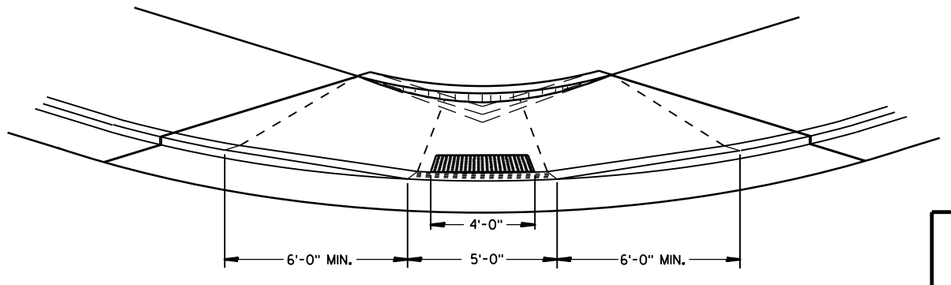
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

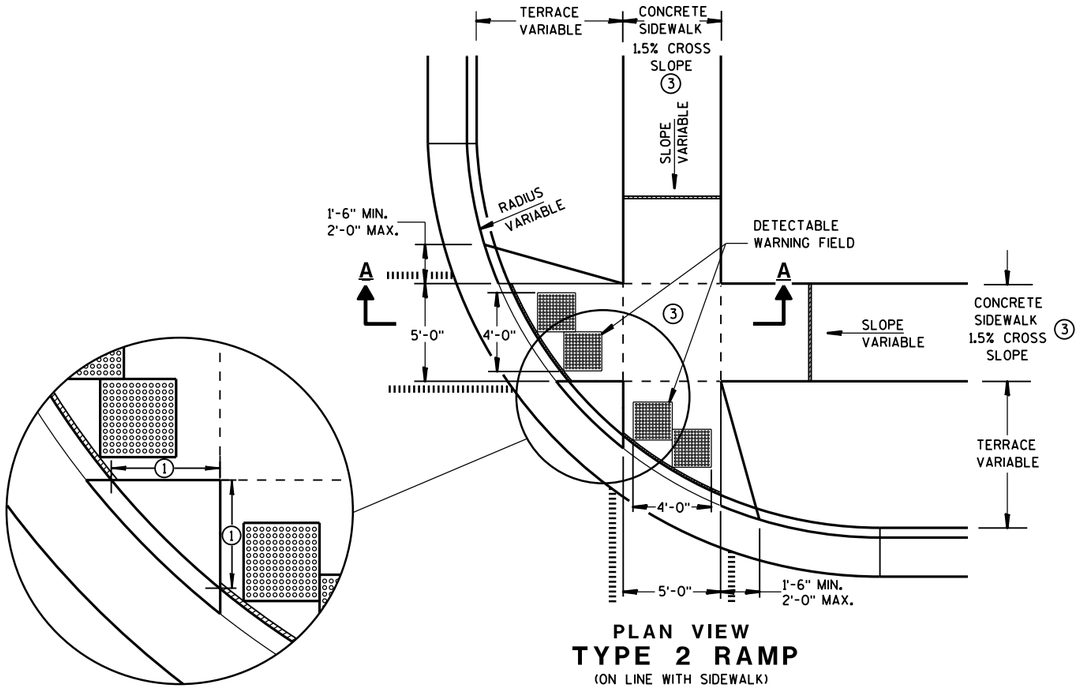
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15a

6

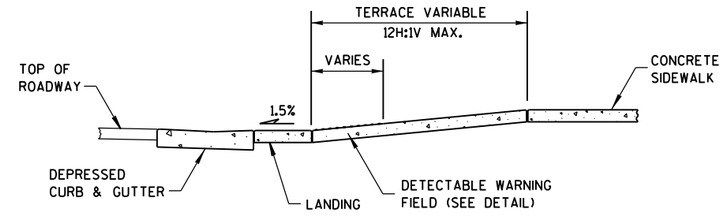
S.D.D. 8 D 5-15a



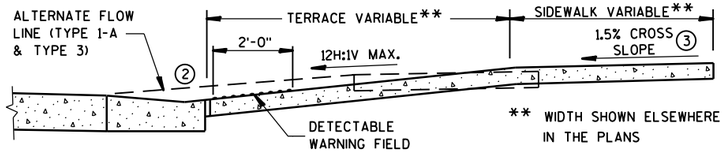
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

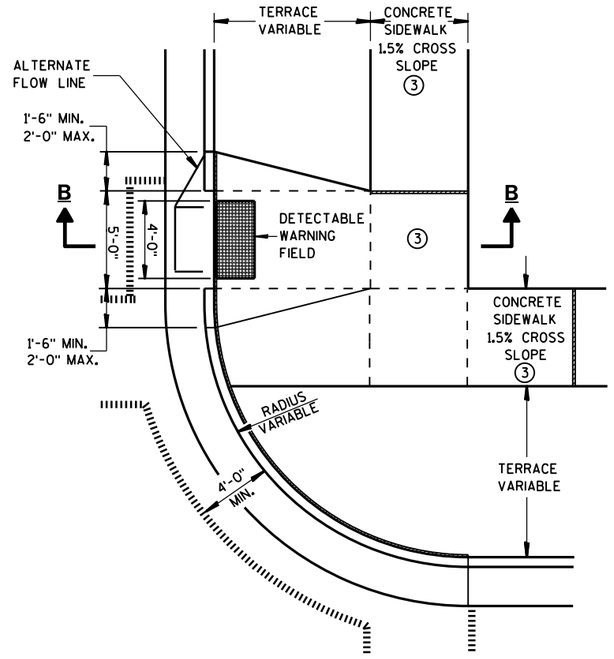
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

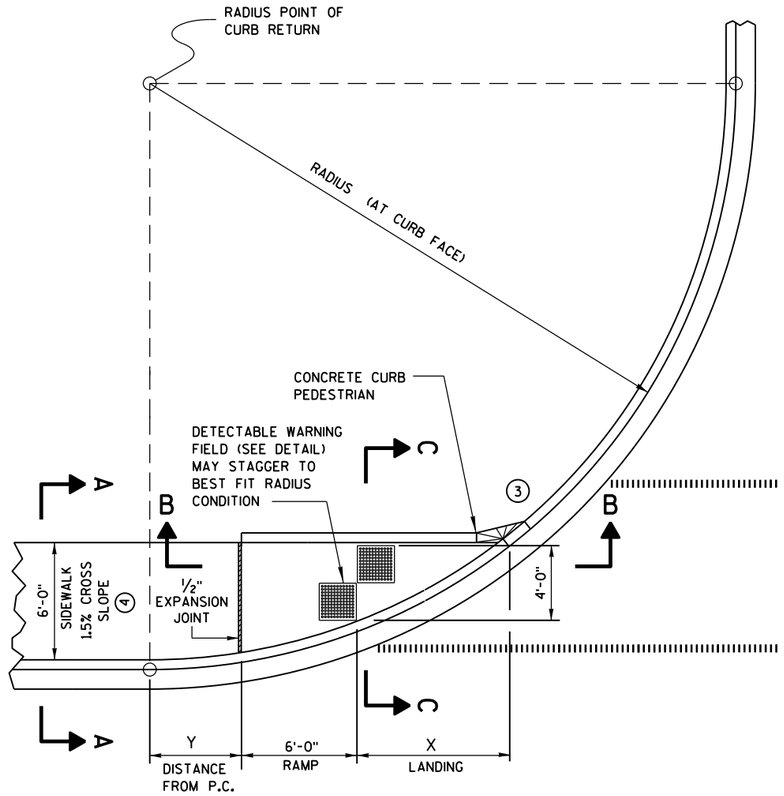
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

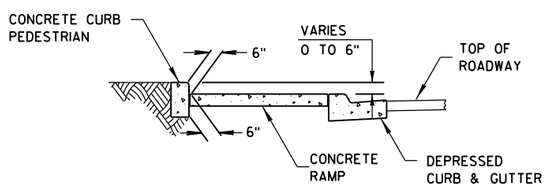
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

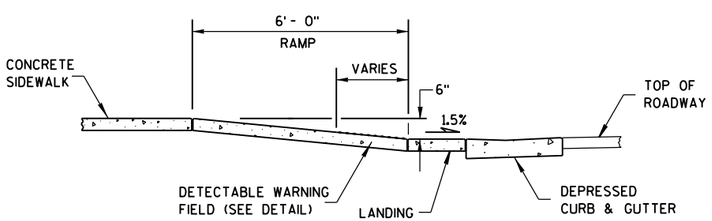
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



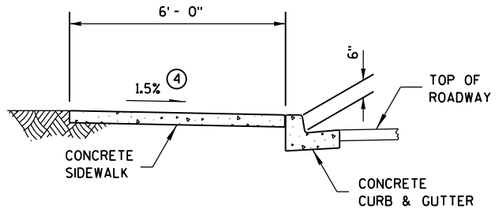
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

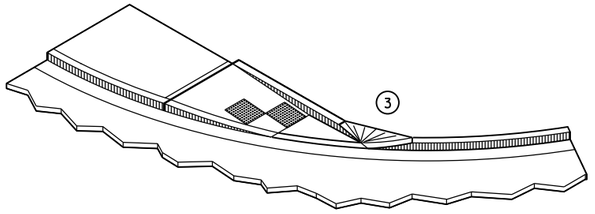
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

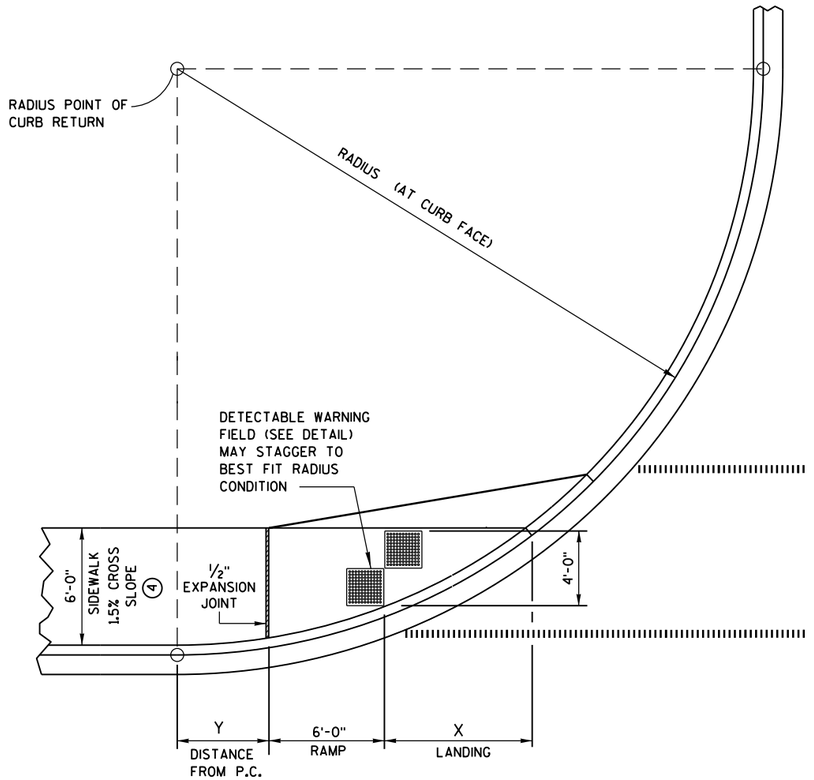
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

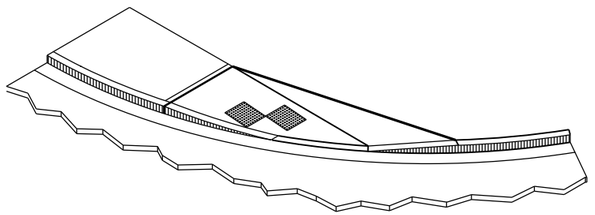
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

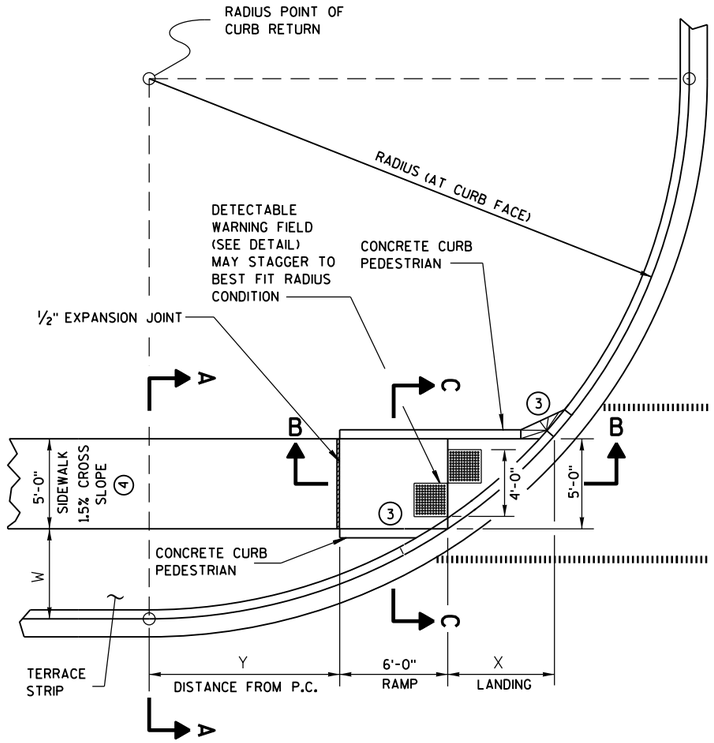
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPES 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15c



CURB RAMP TYPE 4B
PLAN VIEW

LEGEND

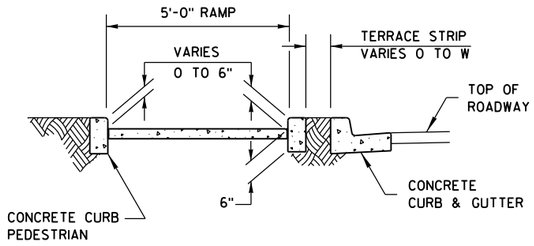
½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B

GENERAL NOTES

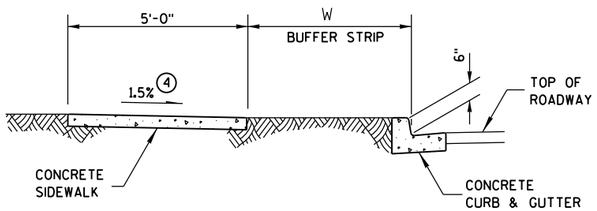
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

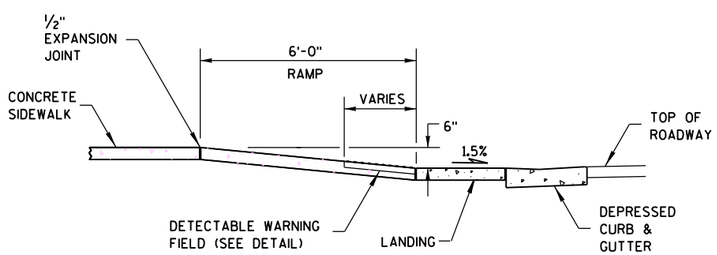
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

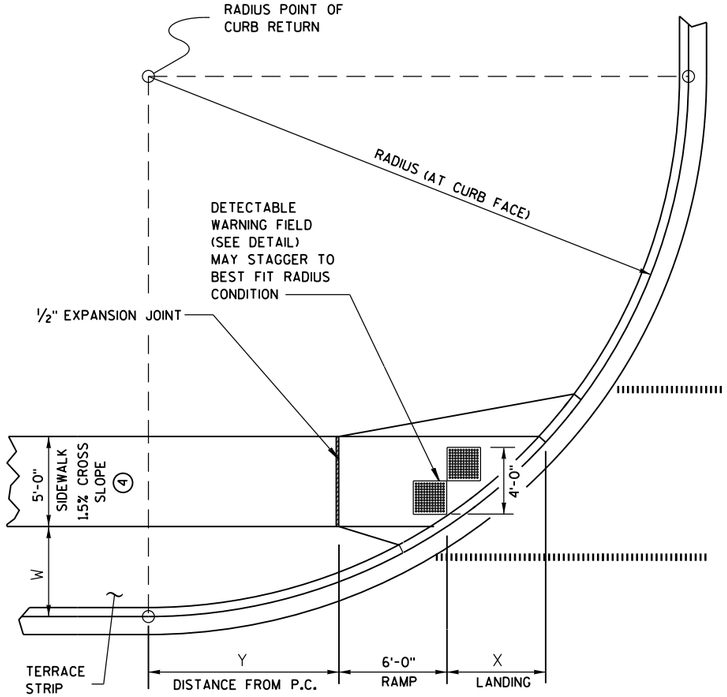
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



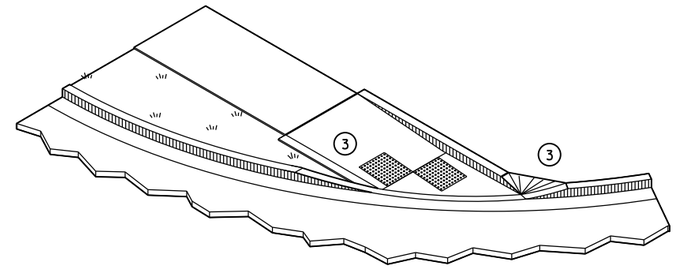
SECTION A-A FOR TYPE 4B



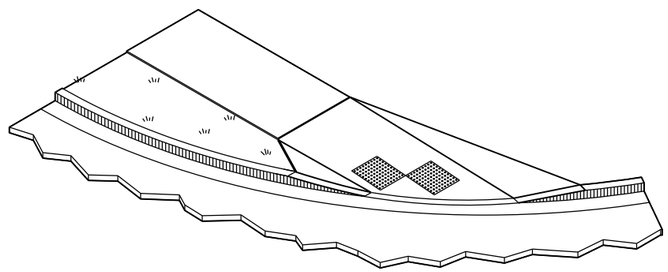
SECTION B-B FOR TYPE 4B



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



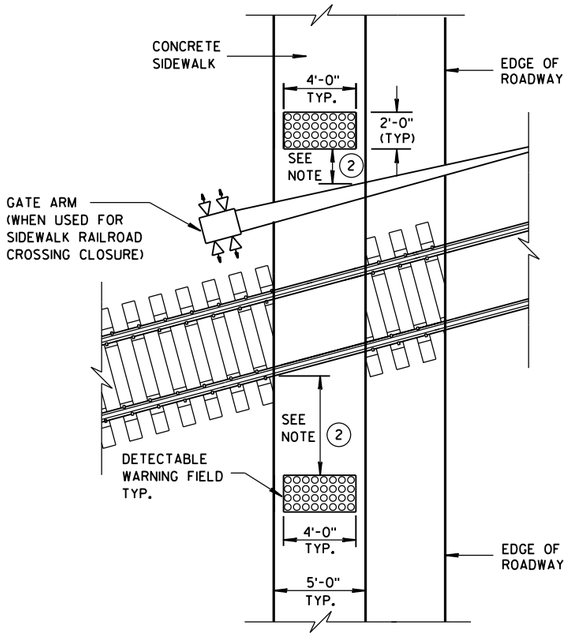
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

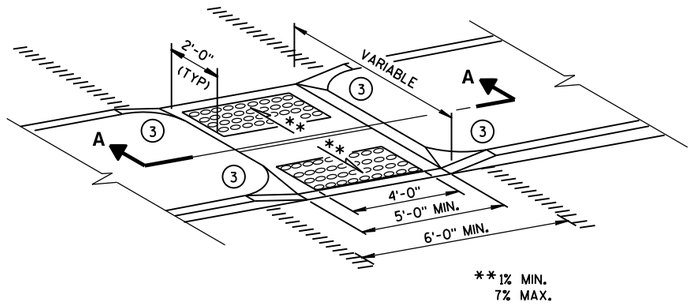
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

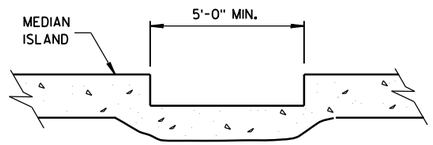
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

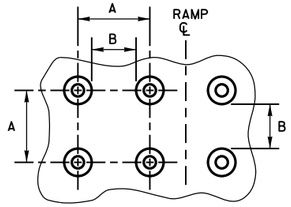
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



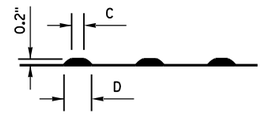
SECTION A-A



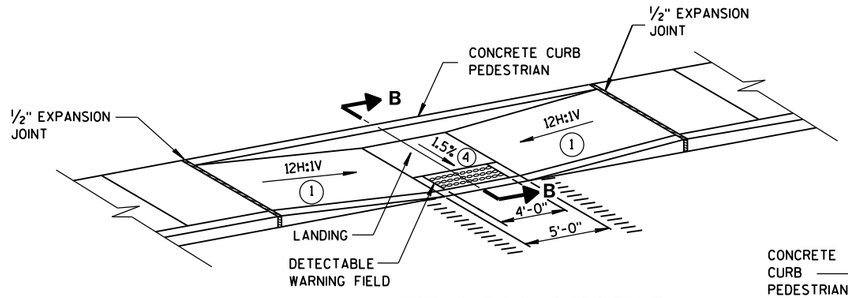
PLAN VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

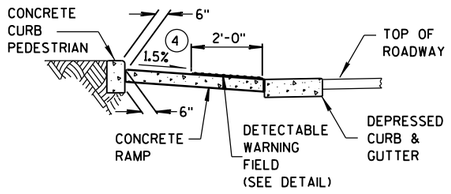
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

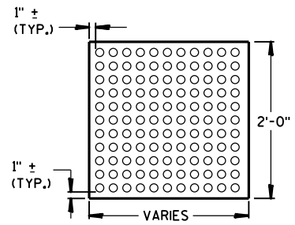


MID-BLOCK CROSSING
TYPE 7A



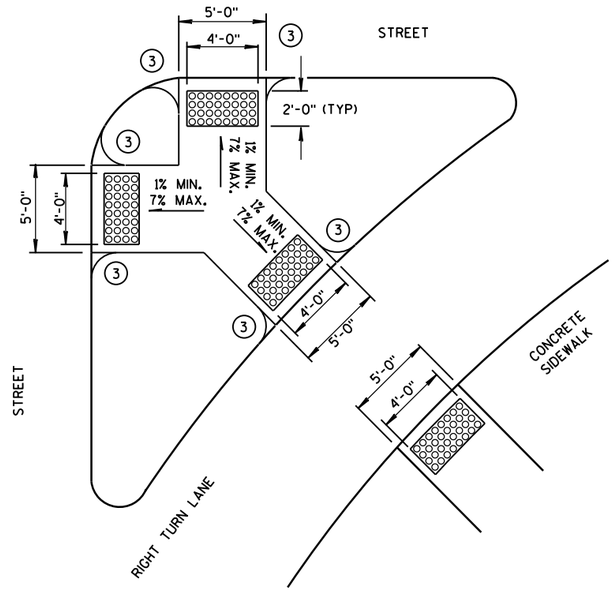
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

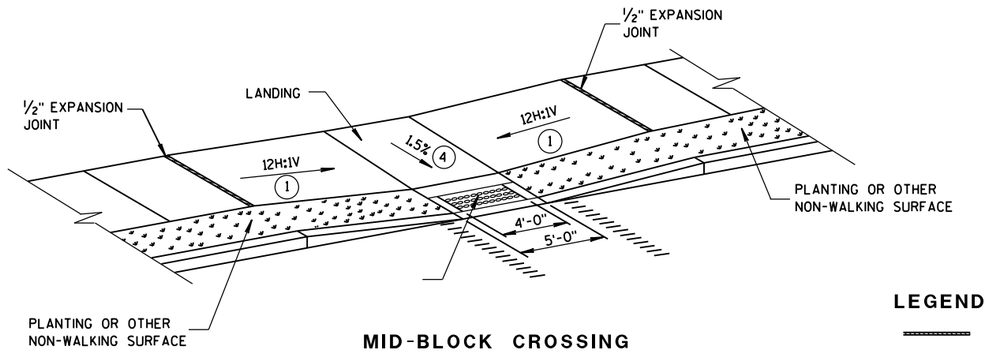


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

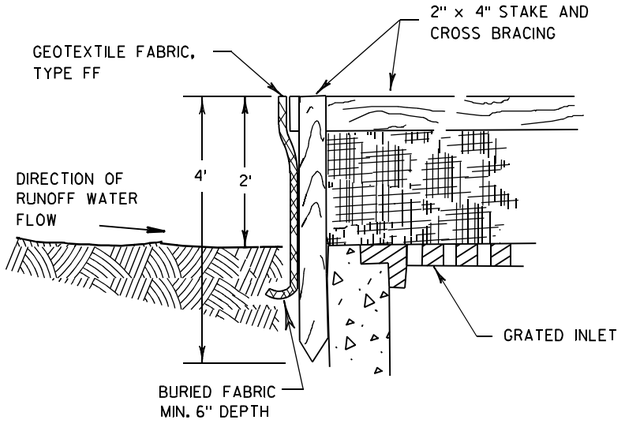
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

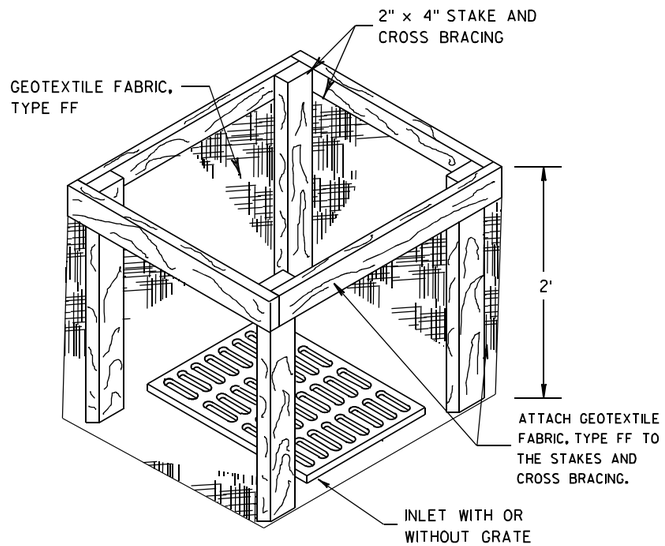
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

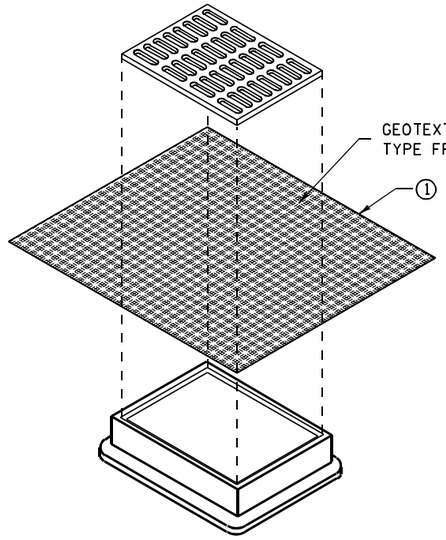
6

S.D.D. 8 D 5-15e



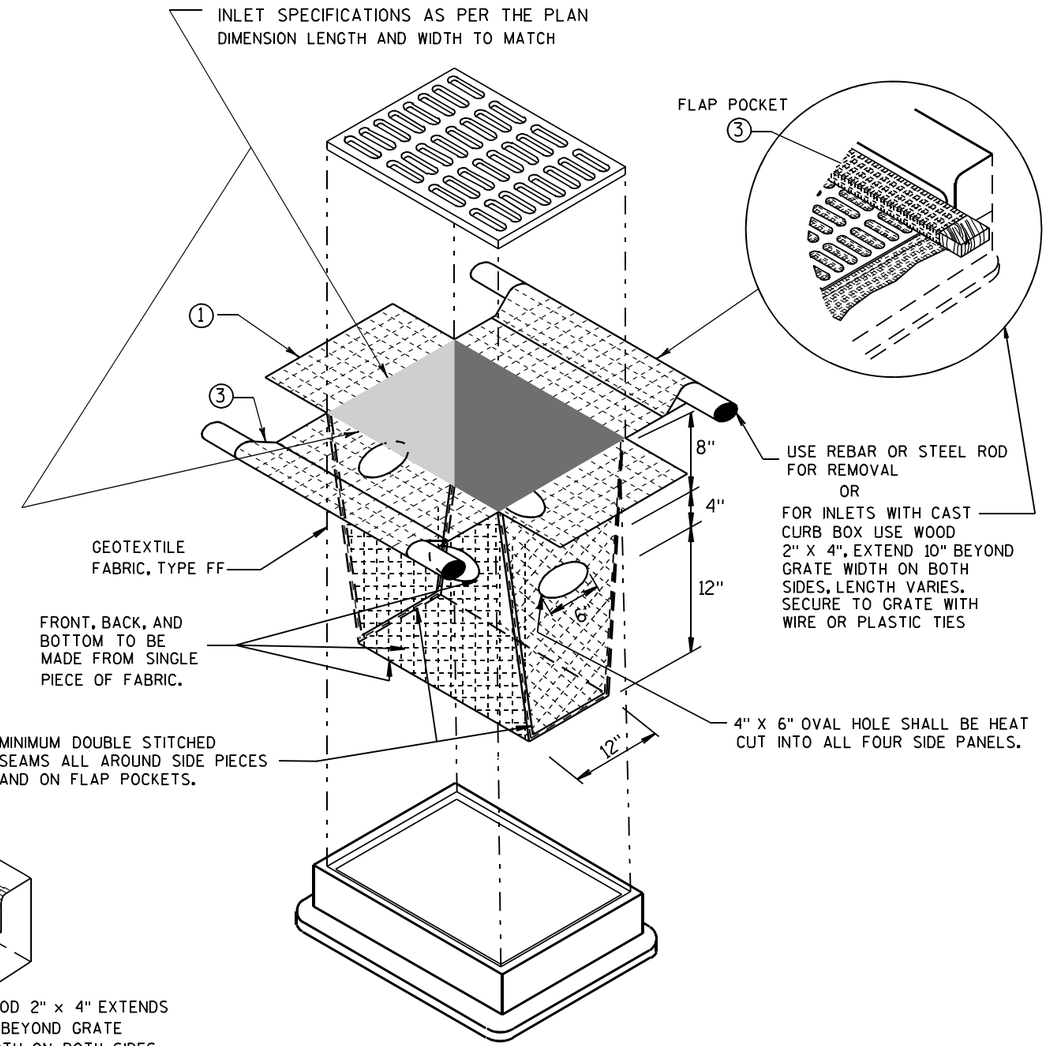


INLET PROTECTION, TYPE A



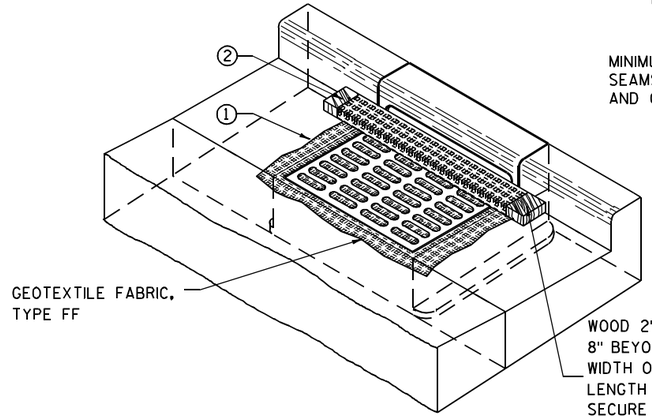
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

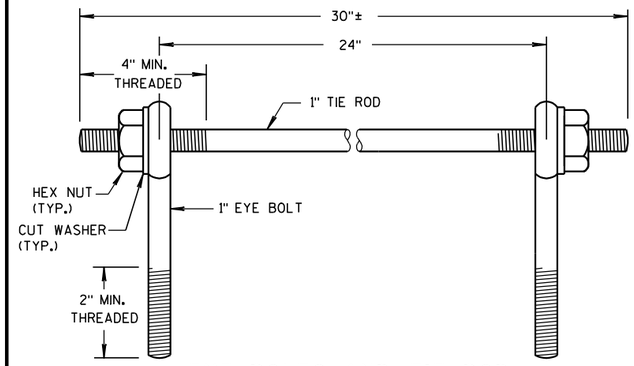
APPROVED

10/16/02
DATE

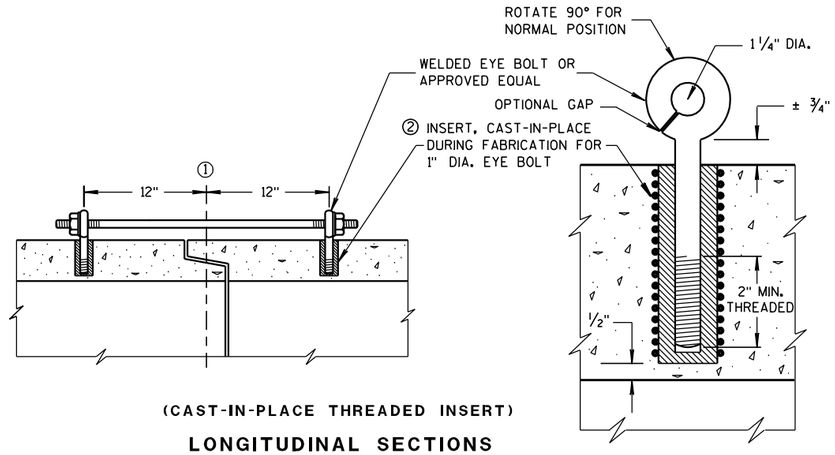
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6
S.D.D. 8 E 10-2



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

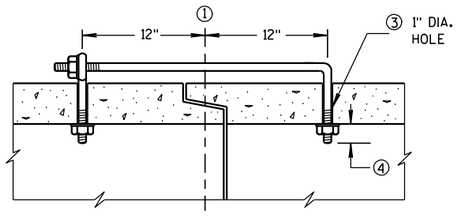
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

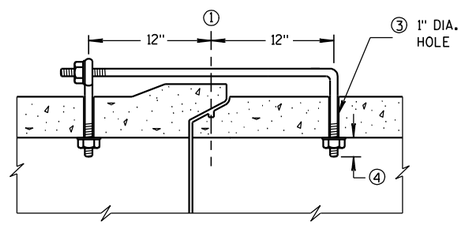
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

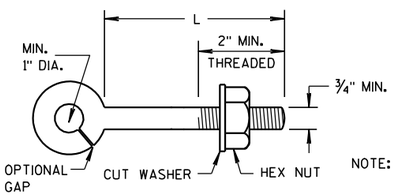


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

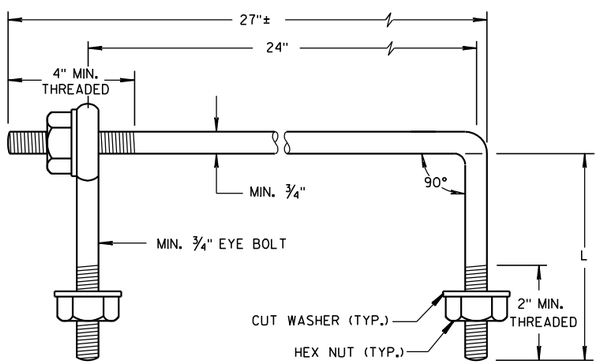
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

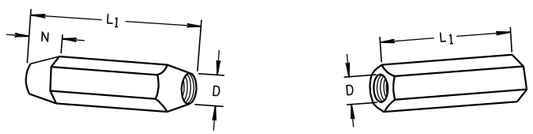
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

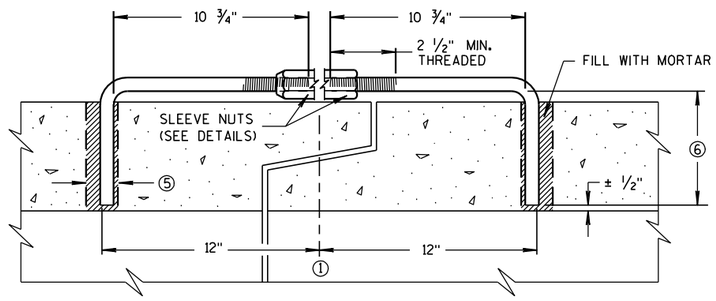
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

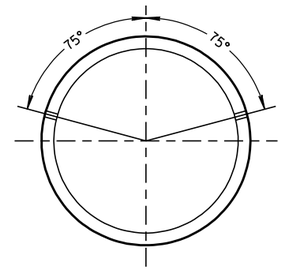
SLEEVE NUTS



LONGITUDINAL SECTION

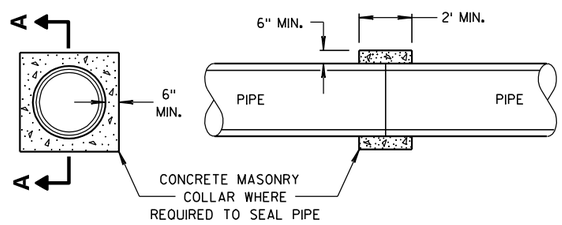
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

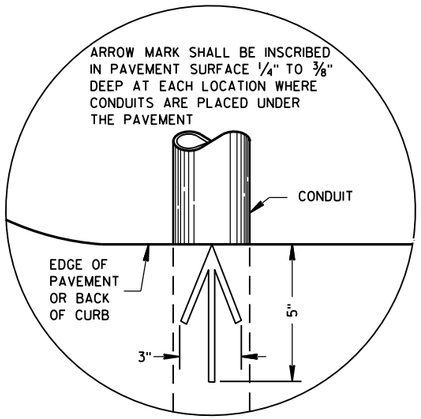
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
110
FHWA

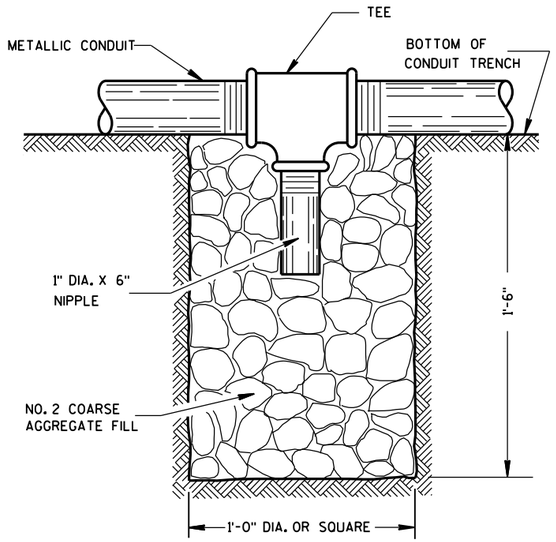
6

S.D.D. 8 F 4-7



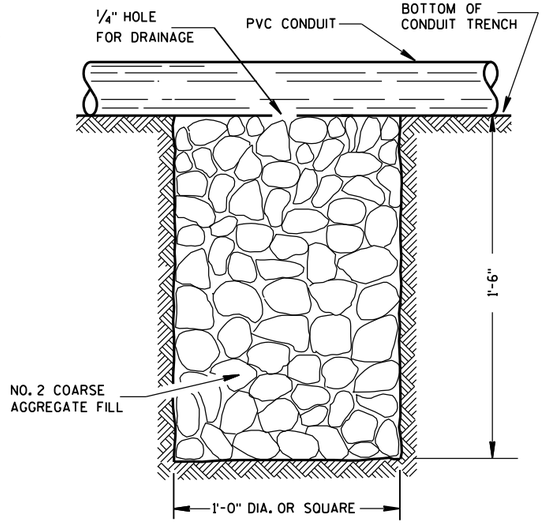
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

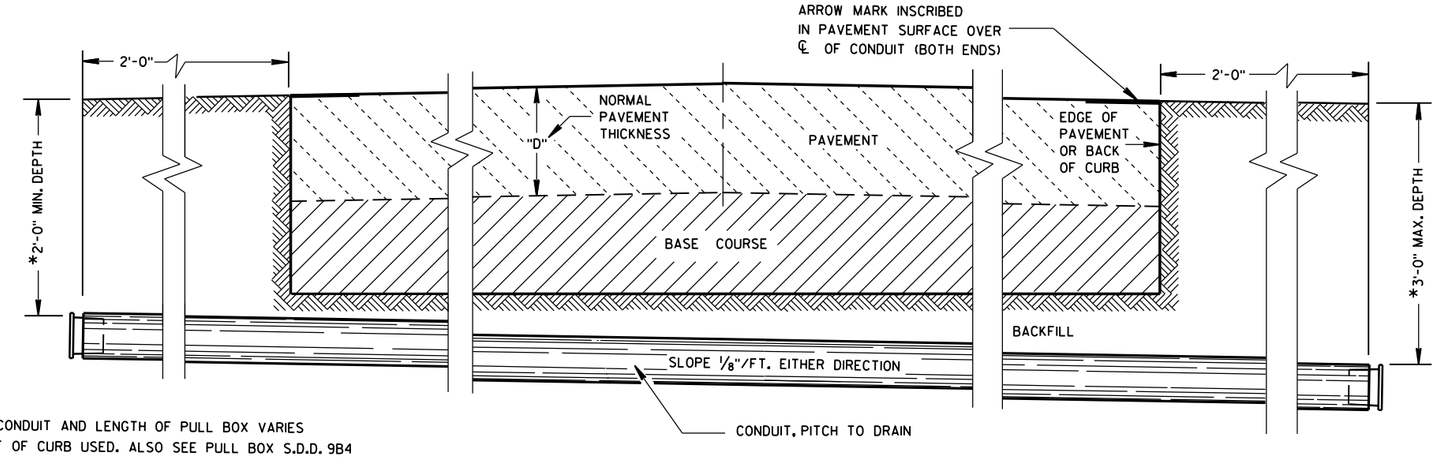
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT UNDER PAVED HIGHWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

6

S.D.D. 9 B 2-8

6

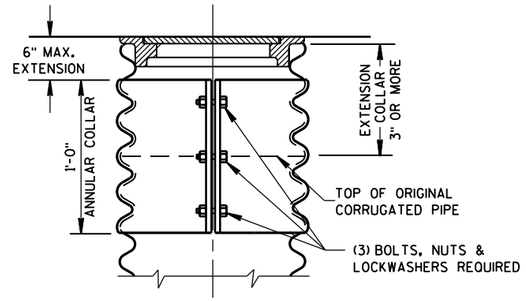
S.D.D. 9 B 2-8

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

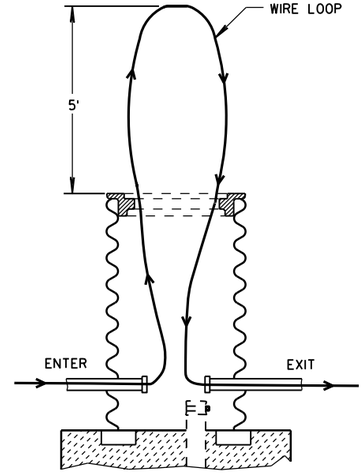
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

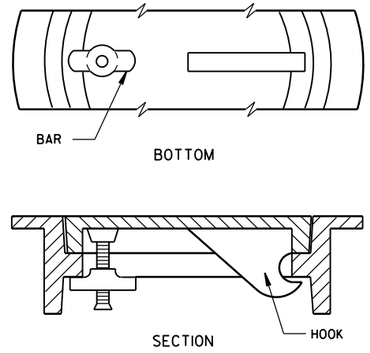
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

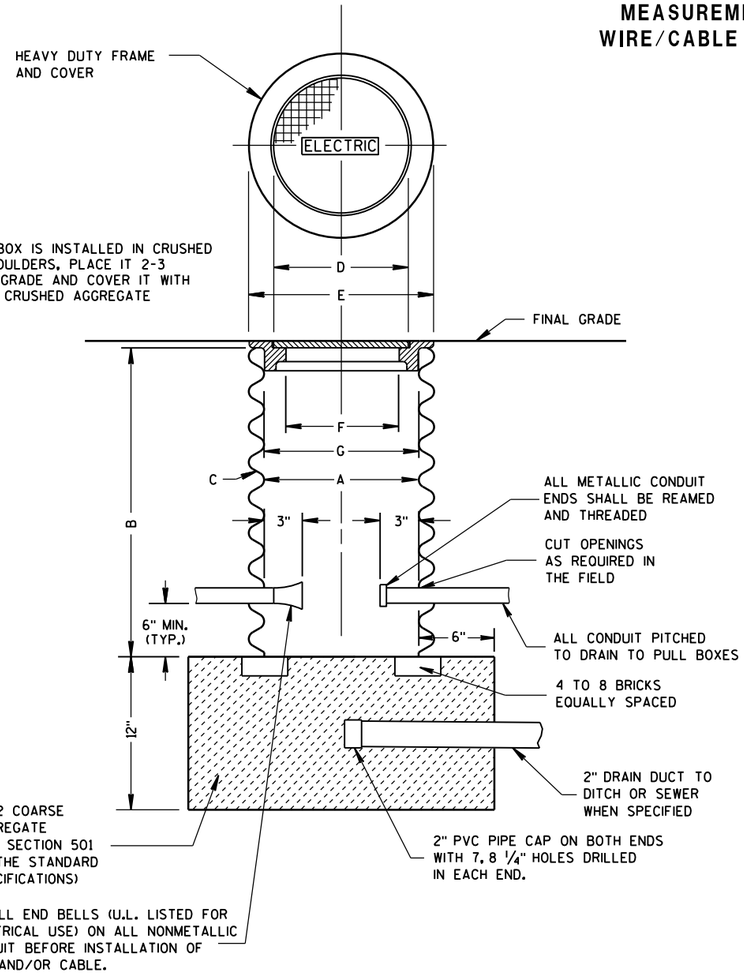


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



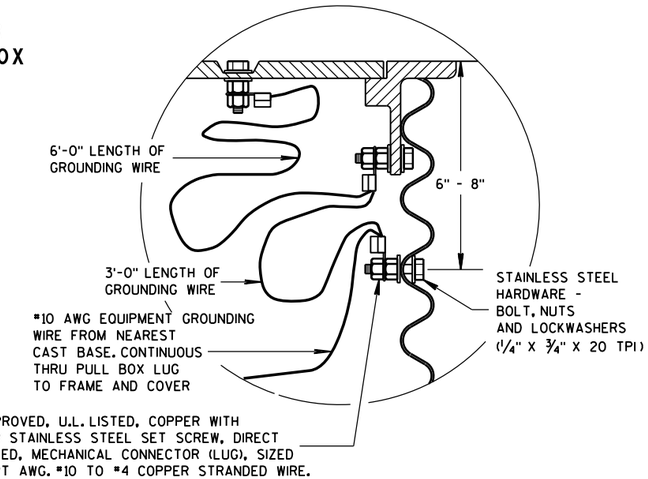
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

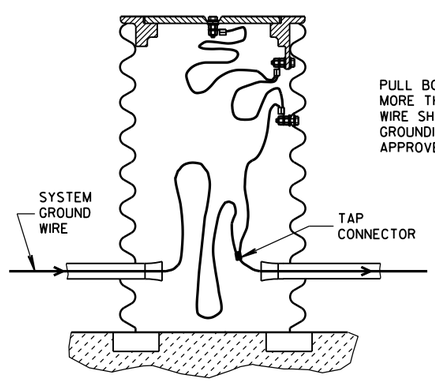


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

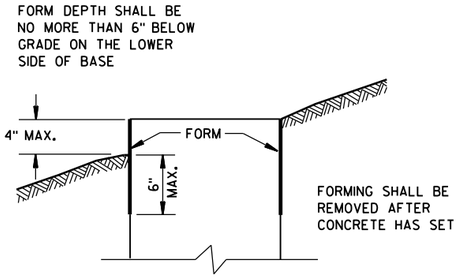
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 B 4-11



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

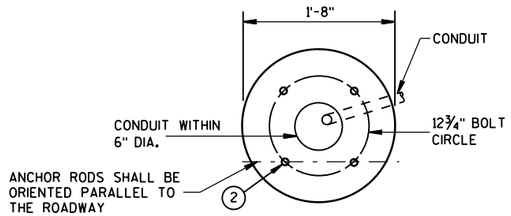
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

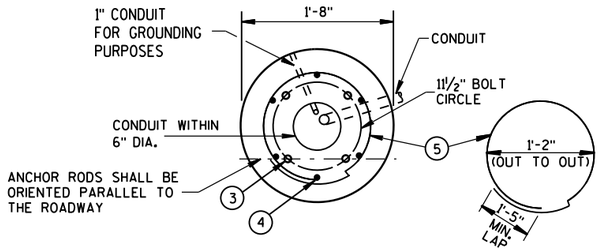
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

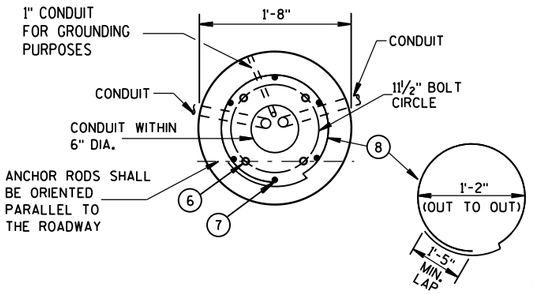
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

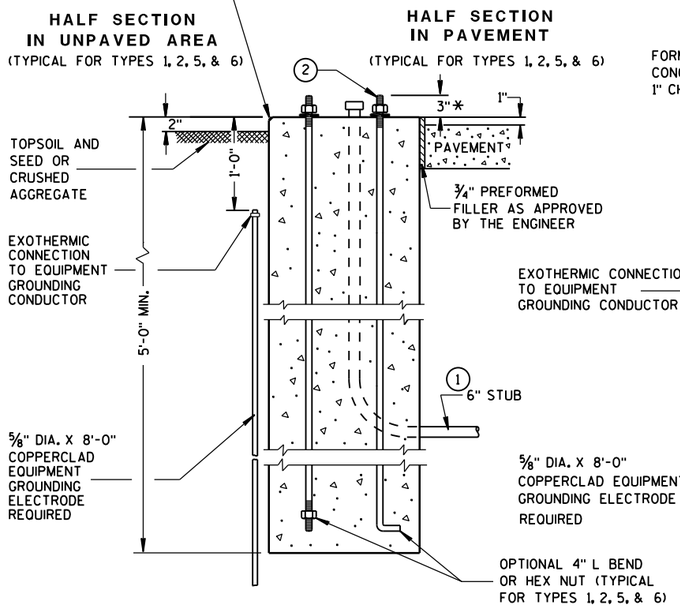


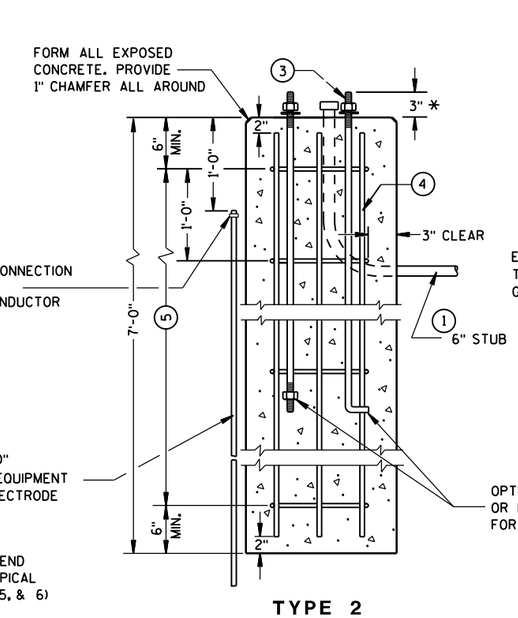




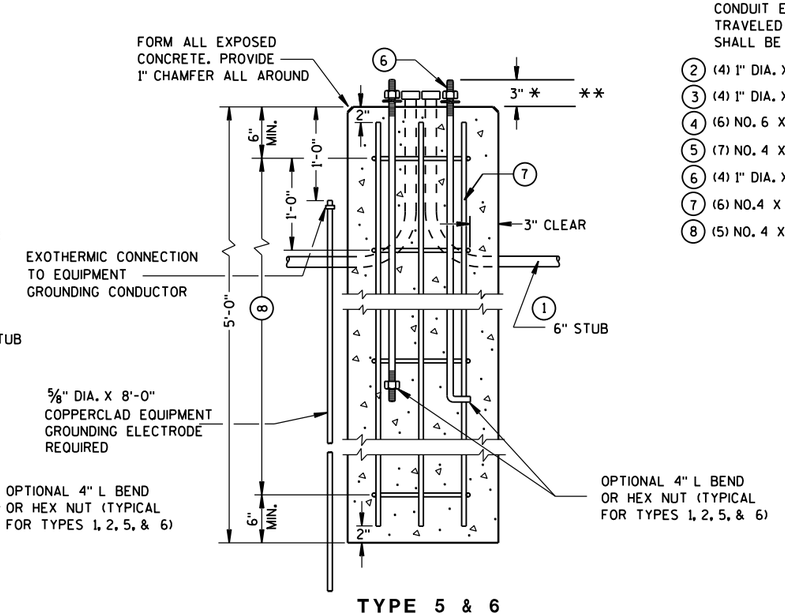
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)

HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)





TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 2-7

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

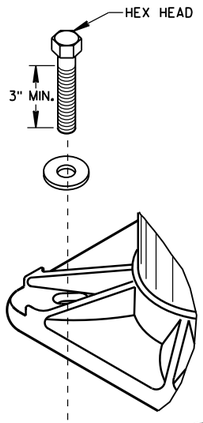
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

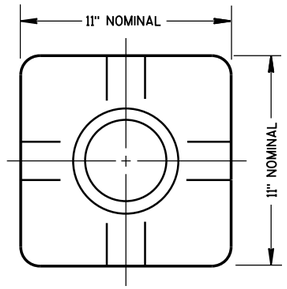
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

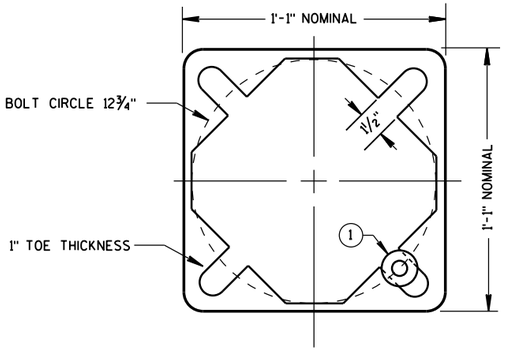
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

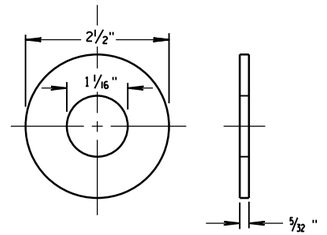




TOP VIEW
(PEDESTAL BASE)

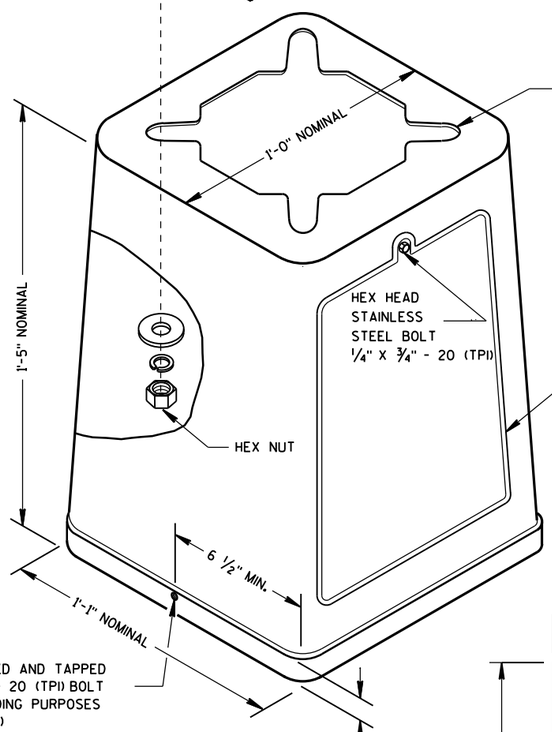


BOTTOM VIEW
(PEDESTAL BASE)

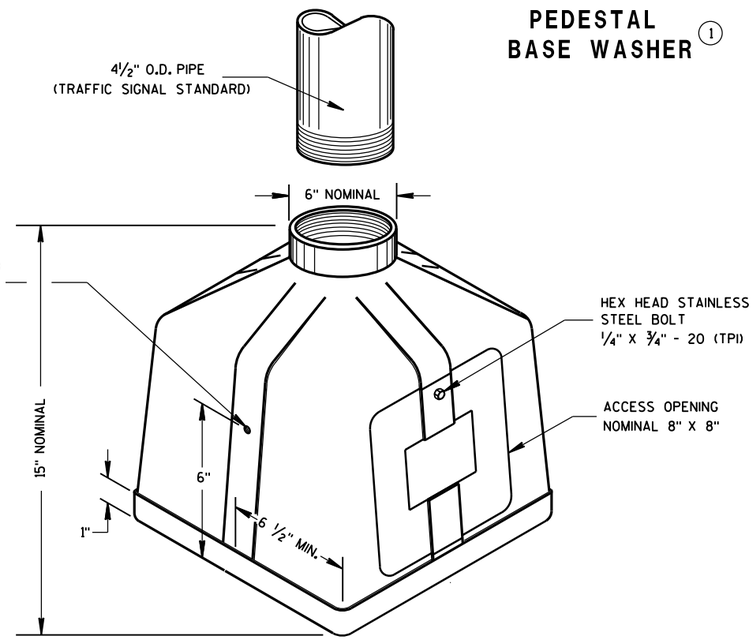


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

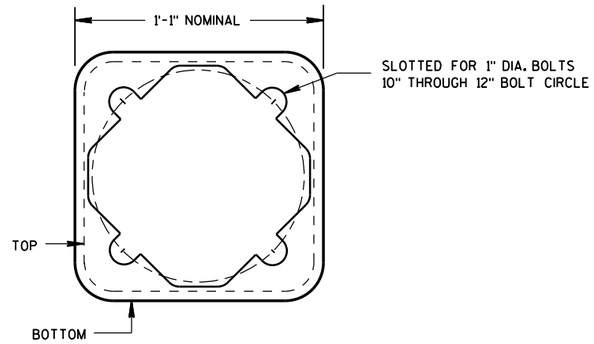


ISOMETRIC VIEW

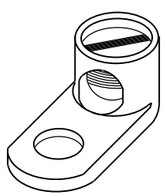


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

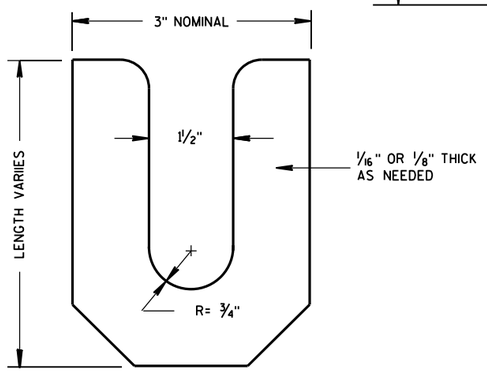


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

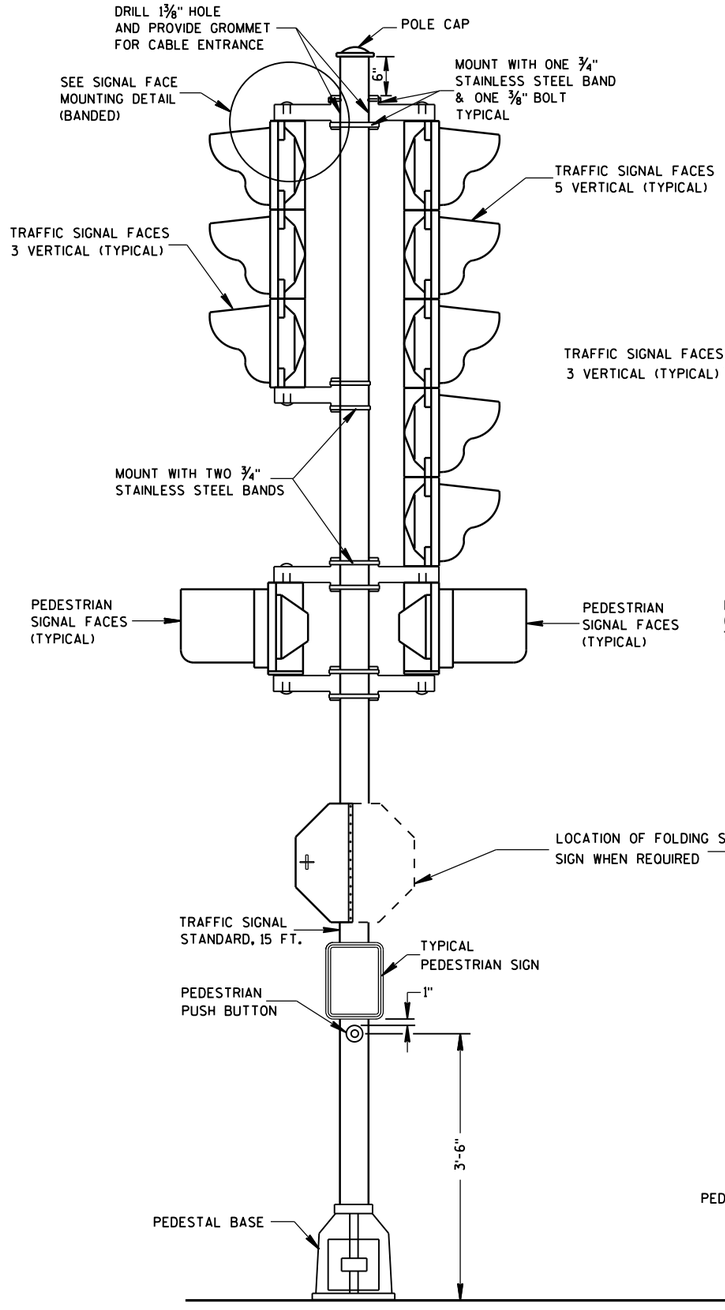
TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

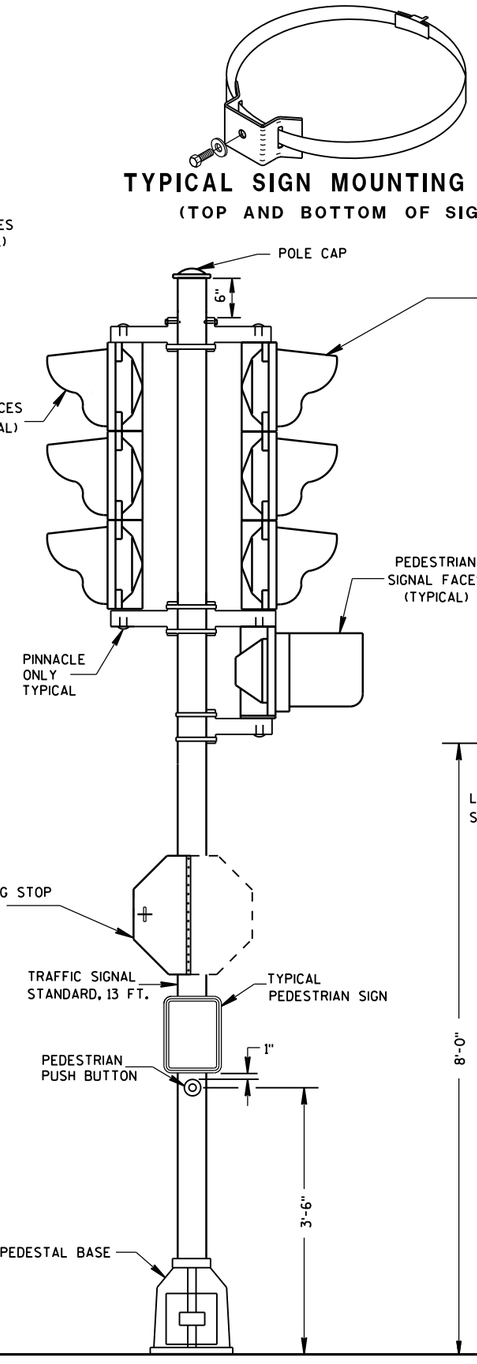
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 3-4

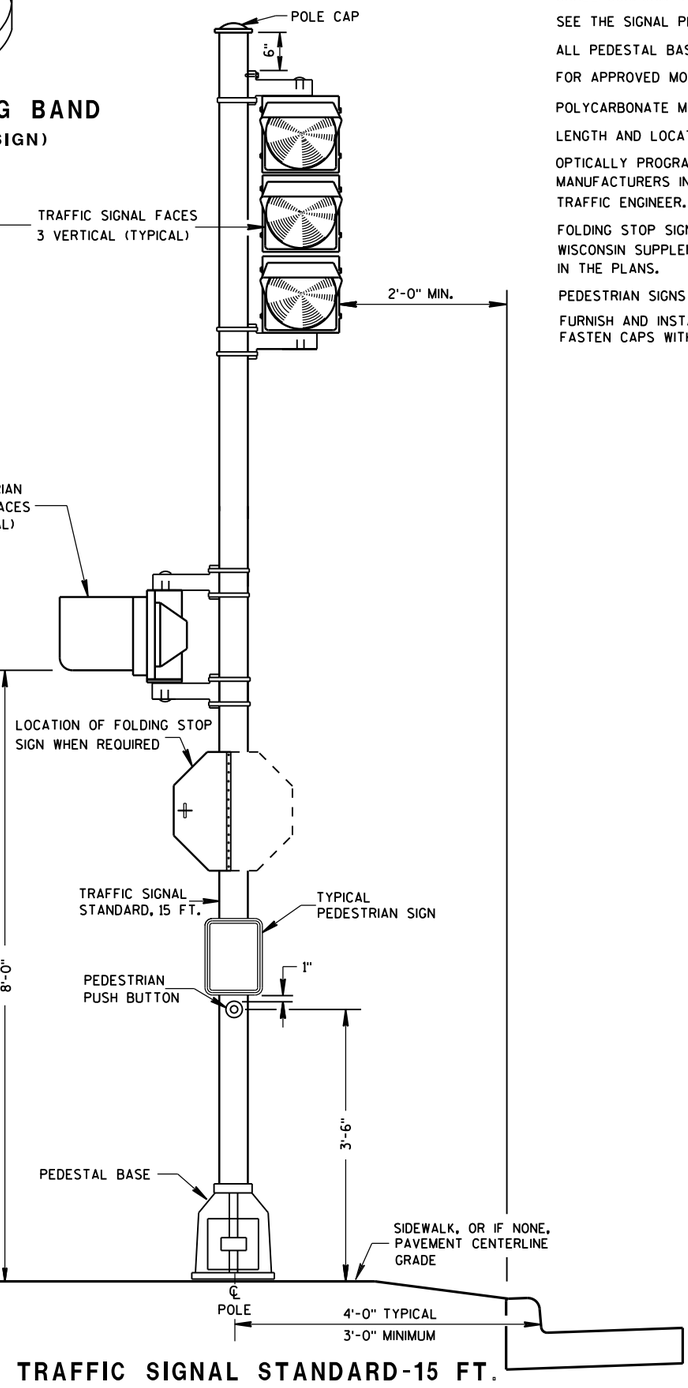


TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.

TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-15 FT.
3M MOUNTING (TYPICAL)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

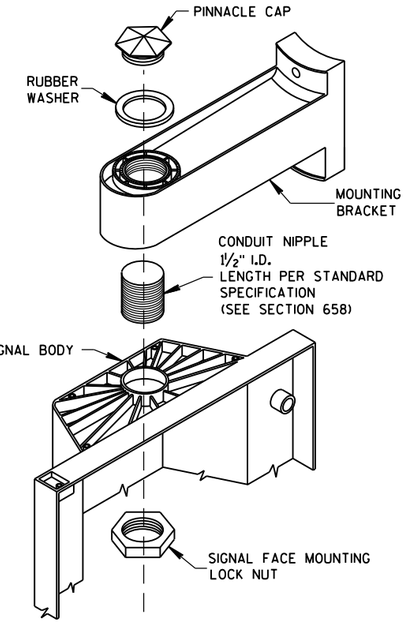
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



SIGNAL FACE MOUNTING DETAIL
(BANDED)

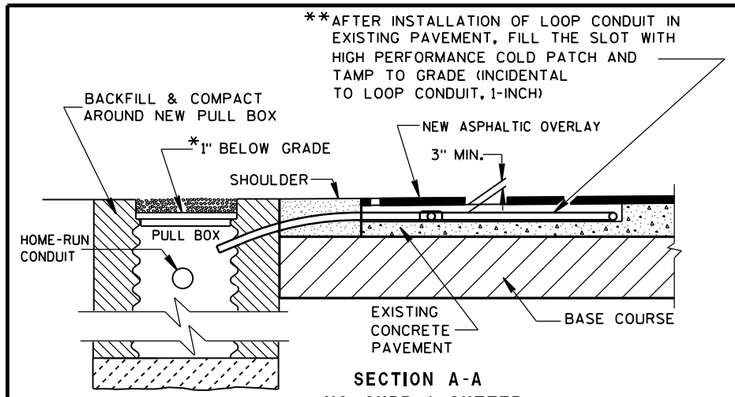
TRAFFIC SIGNAL STANDARD
POLY BRACKET MOUNTINGS
(TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

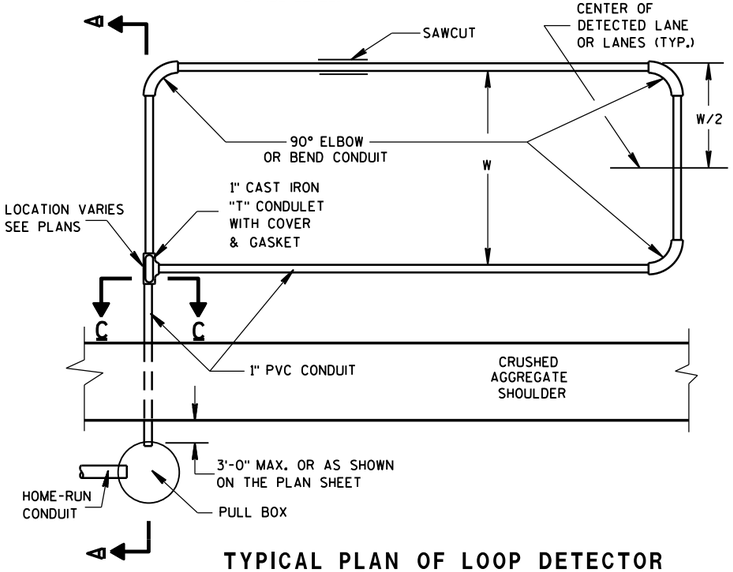
S.D.D. 9 E 6-5



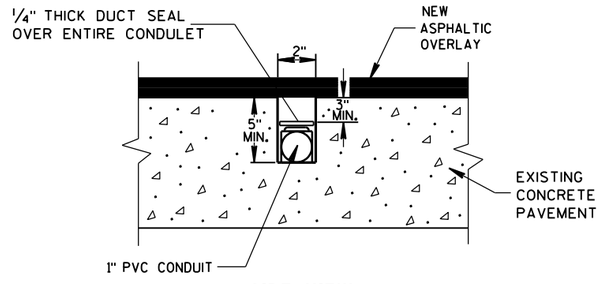
SECTION A-A
NO CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAIL

*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

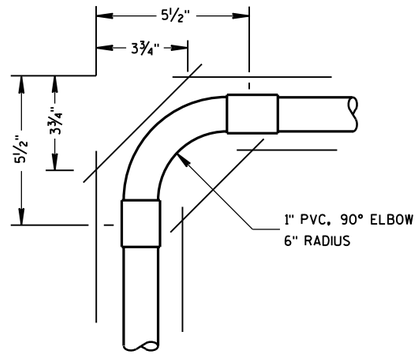


TYPICAL PLAN OF LOOP DETECTOR



SIDE VIEW
SECTION C-C

LOOP DETECTOR SLOT DETAIL



TOP VIEW

CORNER SAW SLOT DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

IN THE EVENT EPOXY IS USED AS A LOOP SLOT FILLER, THE SLOT SHALL BE TOTALLY CLEAN AND DRY BEFORE ITS INSTALLATION.

BEFORE PLACING THE 1 INCH CONDUIT IN THE CLEANED OUT SLOT, PLACE SOME OF THE TAR OR EPOXY SEALANT IN THE SLOT TO A DEPTH OF APPROXIMATELY 1/2 INCH.

ONCE THE 2" LOOP SLOT HAS BEEN CHIPPED OUT, THE LOOP INSTALLATION SHALL BE COMPLETED PRIOR TO OPENING THE LANE(S) TO TRAFFIC.

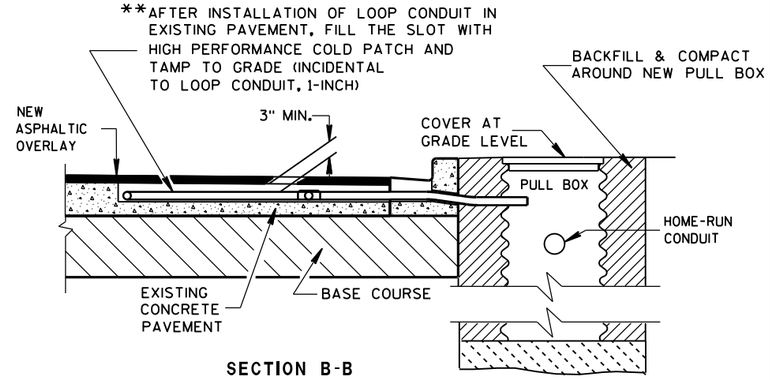
LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

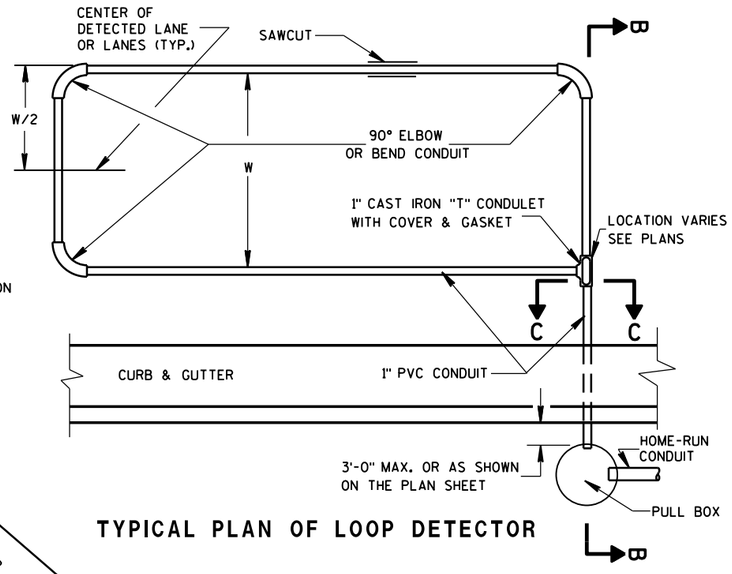
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP CONDUIT BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

** AFTER THE HIGH PERFORMANCE COLD PATCH HAS BEEN TAMPED, SEAL THE SLOT/HIGH PERFORMANCE COLD PATCH/ PAVEMENT OPENING WITH HOT POURED ELASTIC TYPE MATERIAL CONFORMING TO THE REQUIREMENTS OF THE "SPECIFICATION FOR JOINT SEALANTS, HOT POURED, FOR CONCRETE AND ASPHALT PAVEMENTS, ASTM DESIGNATION: D3405".

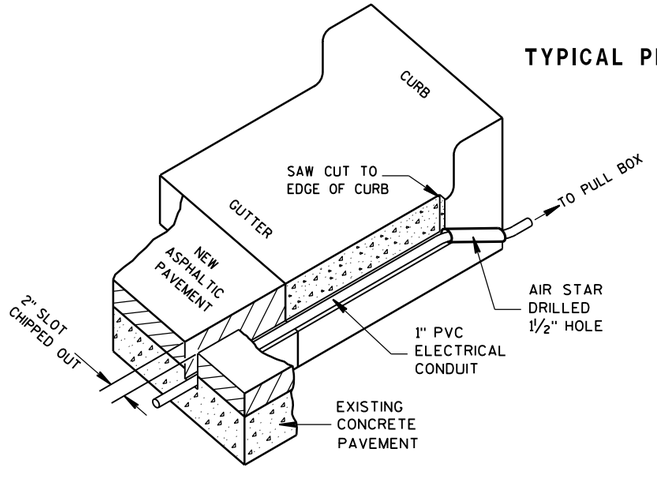


SECTION B-B
CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAIL



TYPICAL PLAN OF LOOP DETECTOR



ISOMETRIC VIEW

TYPICAL SAW CUT DETAIL FOR LEAD-IN CONDUIT

LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT WITH NEW ASPHALTIC OVERLAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

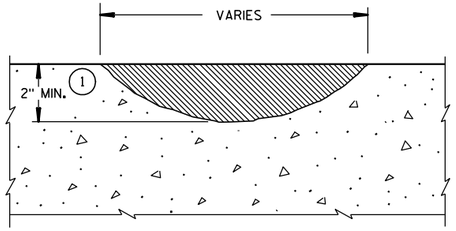
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

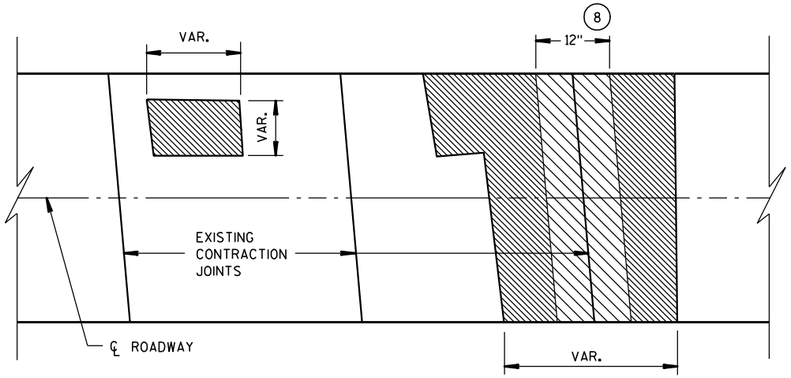
S.D.D. 9 F 11-4

6

S.D.D. 9 F 11-4

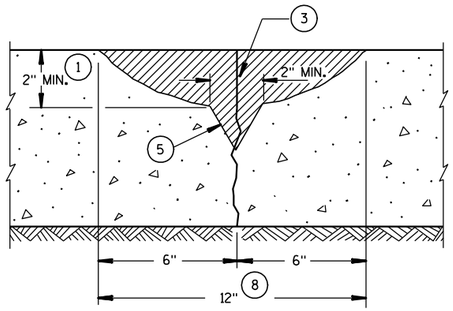


PROFILE VIEW

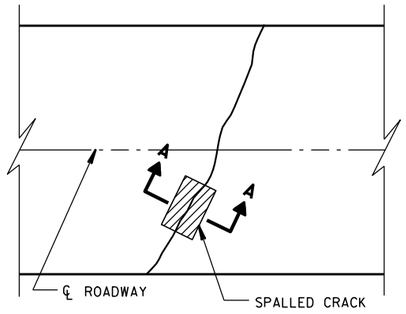


PLAN VIEW

SURFACE REPAIR



SECTION A-A

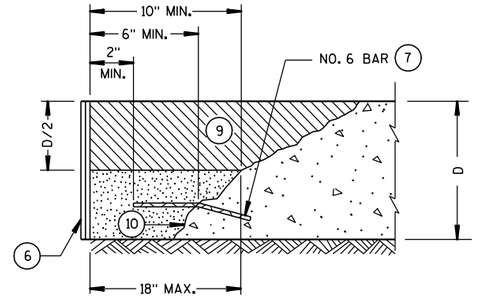


PLAN VIEW

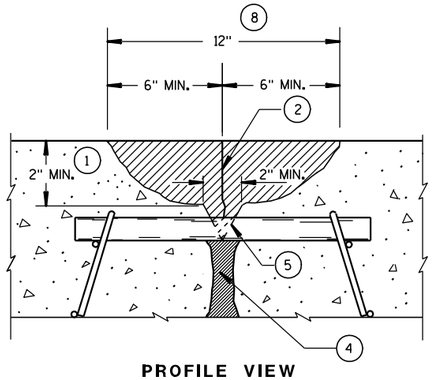
CRACK REPAIR

GENERAL NOTES

1. REMOVE ALL CONCRETE, TO LIMITS SHOWN, TO A MAXIMUM OF ½ THE PAVEMENT DEPTH OR TOP OF DOWELS.
2. IF REPAIR IS DEEPER THAN ANTICIPATED SAWCUT, COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK (1/4"). THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
3. COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK (1/4"). THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
4. CLEAN, DRY SAND WHEN NECESSARY.
5. REMOVE UNSOUND MATERIAL BY CHIPPING AT 1:1 SLOPE.
6. ¼" MINIMUM PREFORMED JOINT FILLER IF ADJACENT TO CONCRETE. EDGING REQUIRED. FULLY FORMED EDGE IF ADJACENT TO SHOULDER.
7. PAVEMENT TIES AS SHOWN. ALL EMBEDMENTS 6" MINIMUM AND INSTALLED WITH GROUT.
8. OVER 12" (NOMINAL WIDTH) WILL BE PAID AS SURFACE REPAIR.
9. PAID AS JOINT OR CRACK REPAIR.
10. FULL-DEPTH ADJUSTMENT SHALL BE CHIPPED TO BOTTOM OF PCC PAVEMENT AT 1:1 SLOPE.
11. BEYOND 18" WILL BE PAID AS SURFACE REPAIR.

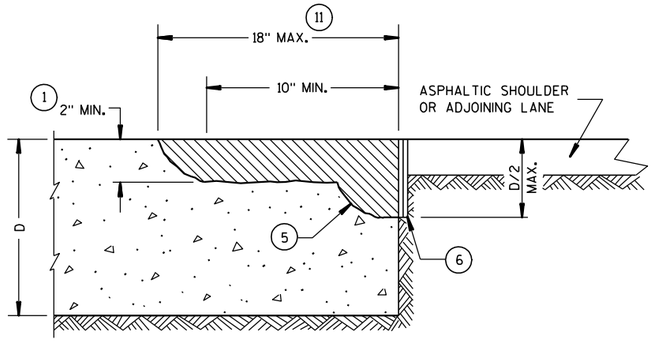


PROFILE VIEW

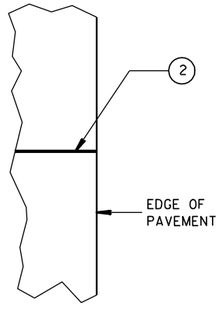


PROFILE VIEW

JOINT REPAIR

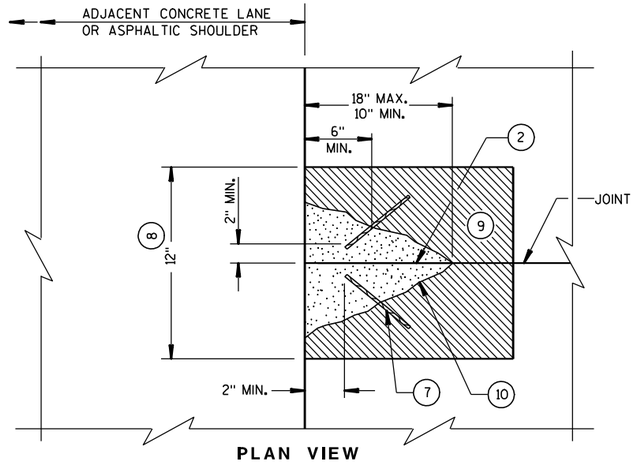


PROFILE VIEW



PLAN VIEW

EDGE REPAIR



PLAN VIEW

FULL DEPTH REPAIR ADJUSTMENT

CONCRETE PAVEMENT PARTIAL DEPTH REPAIR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/21/03 DATE
/S/ Bill Duckert PAVEMENT ENGR
FHWA

6
S.D.D. 13 C 8-2

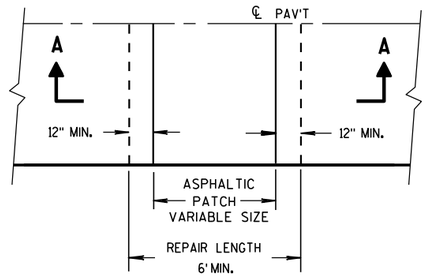
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

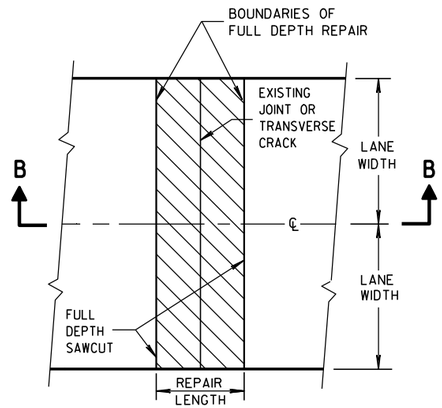
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

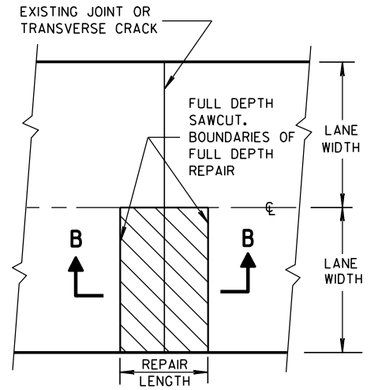
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



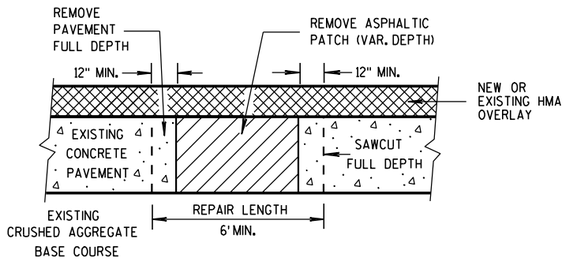
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

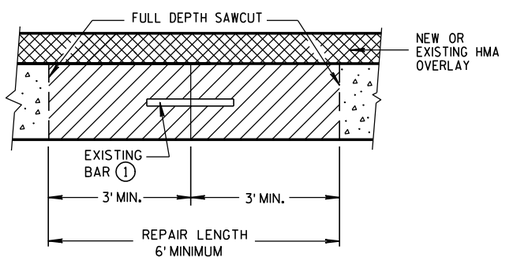
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

BASE PATCHING CONCRETE

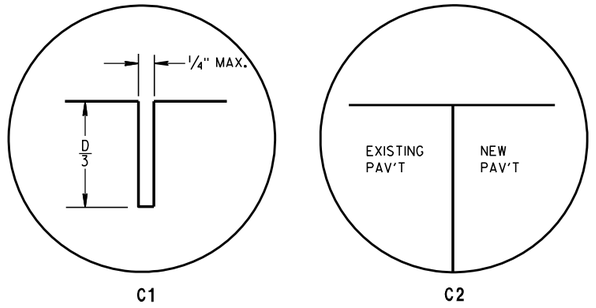
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

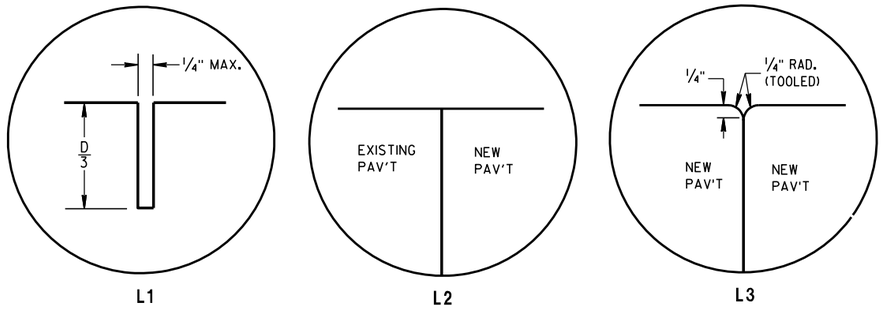
S.D.D. 13 C 14-4a

6

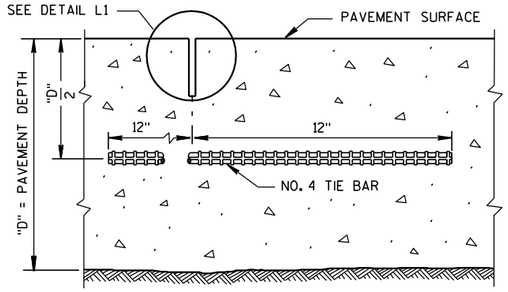
S.D.D. 13 C 14-4a



TRANSVERSE JOINTS

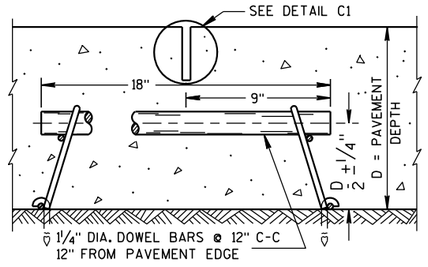


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

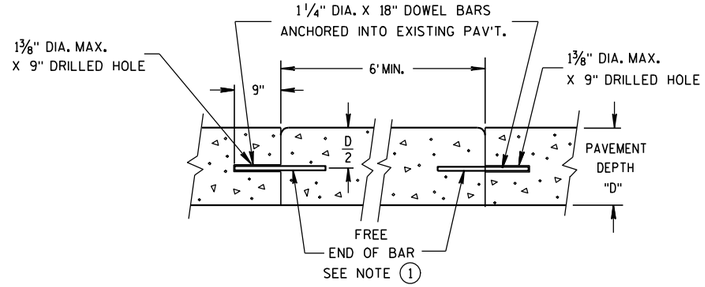
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

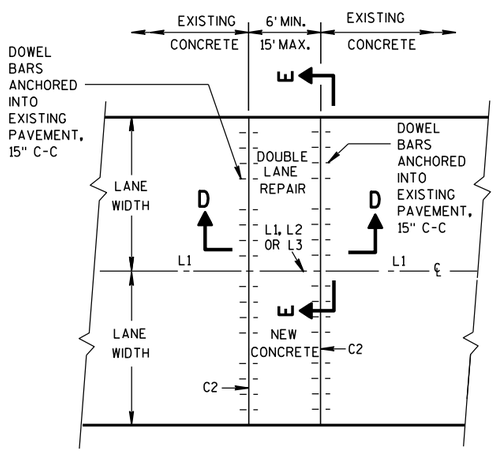
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

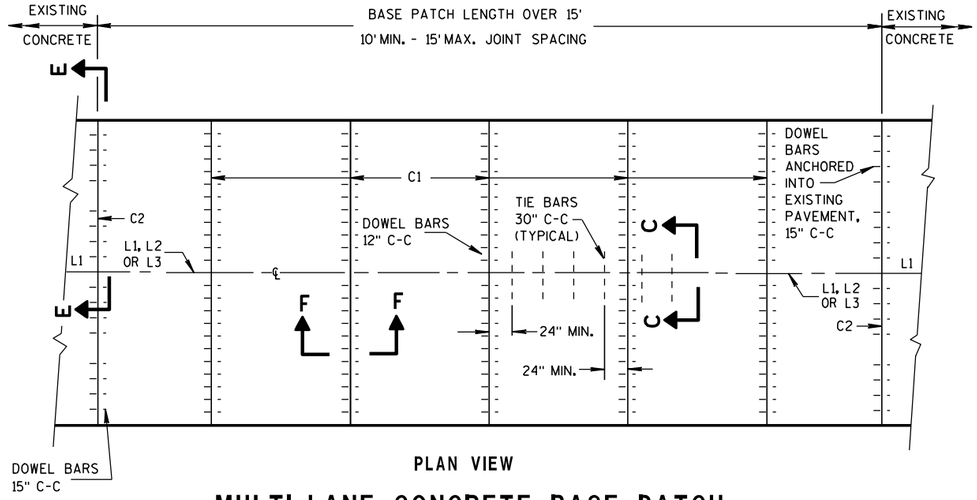


SECTION D-D



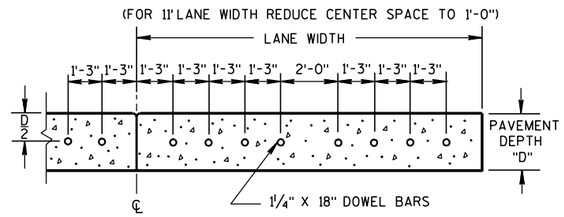
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH



SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

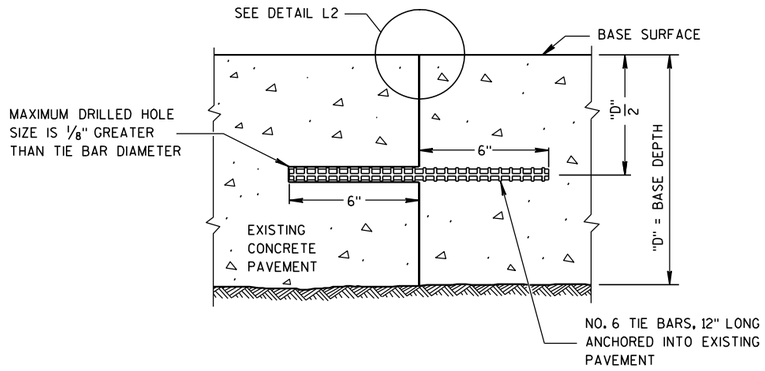
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 14-4b

6

S.D.D. 13 C 14-4b



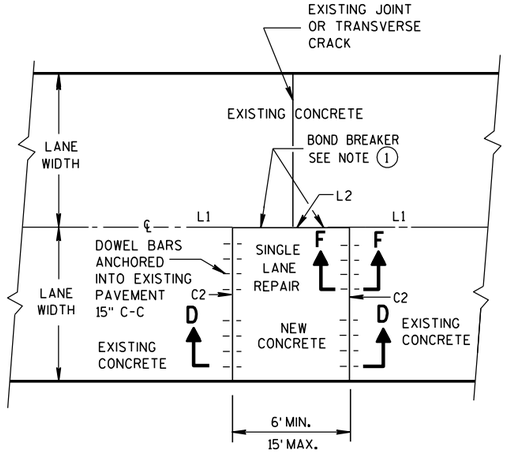
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

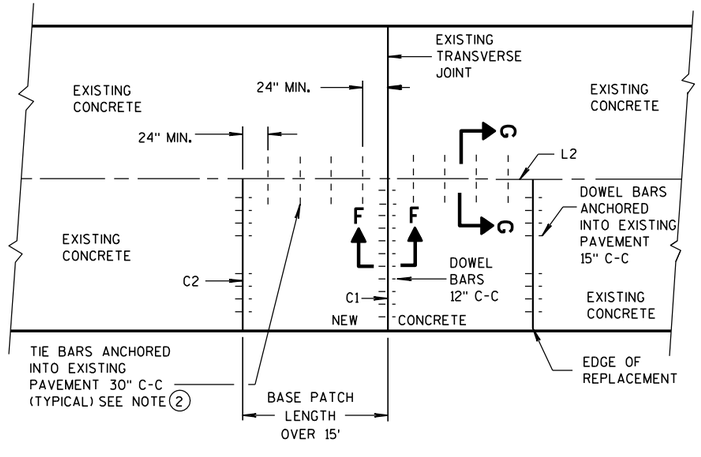
1. USE AN ENGINEER-APPROVED BOND BREAKER FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

2. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

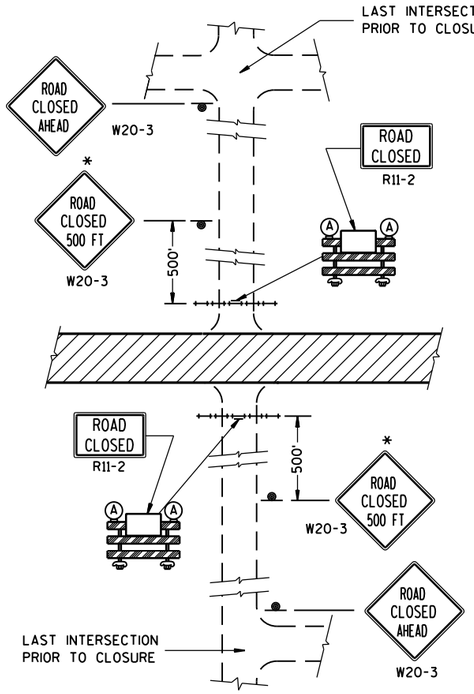
12-11-2009 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE NEER

FHWA

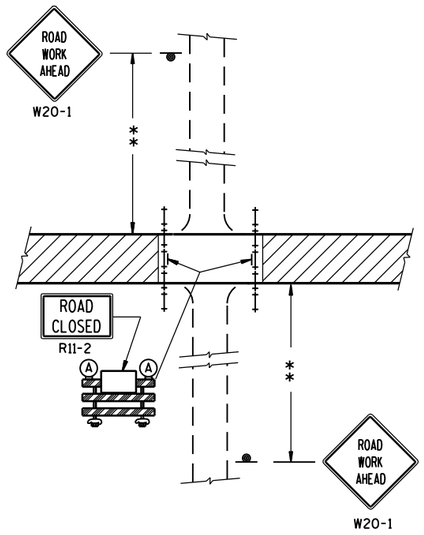
6

S.D.D. 13 C 14-4c



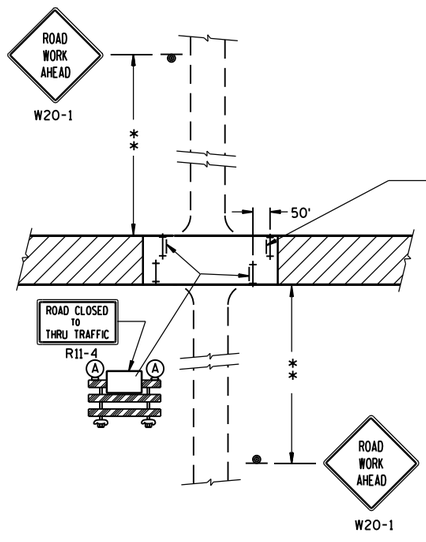
DETAIL 1

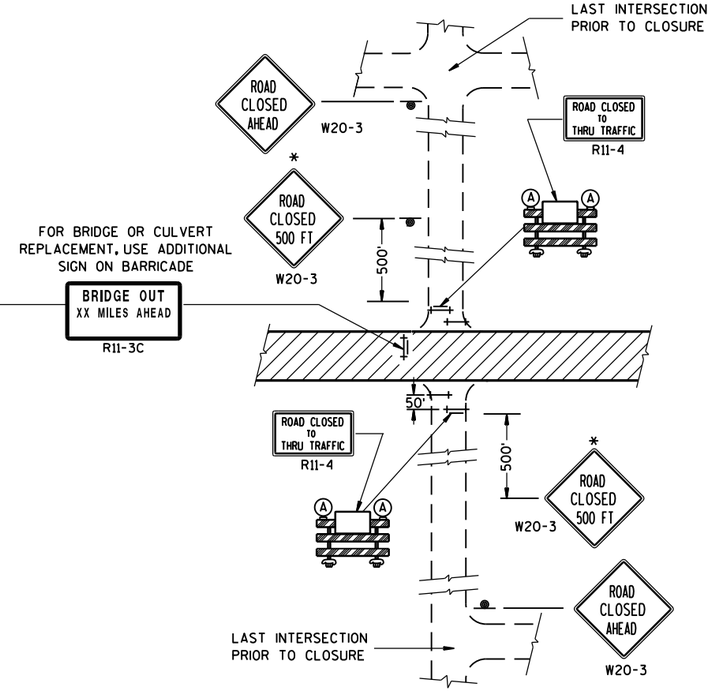
(NO ACCESS TO PROJECT)



DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).





DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).

DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

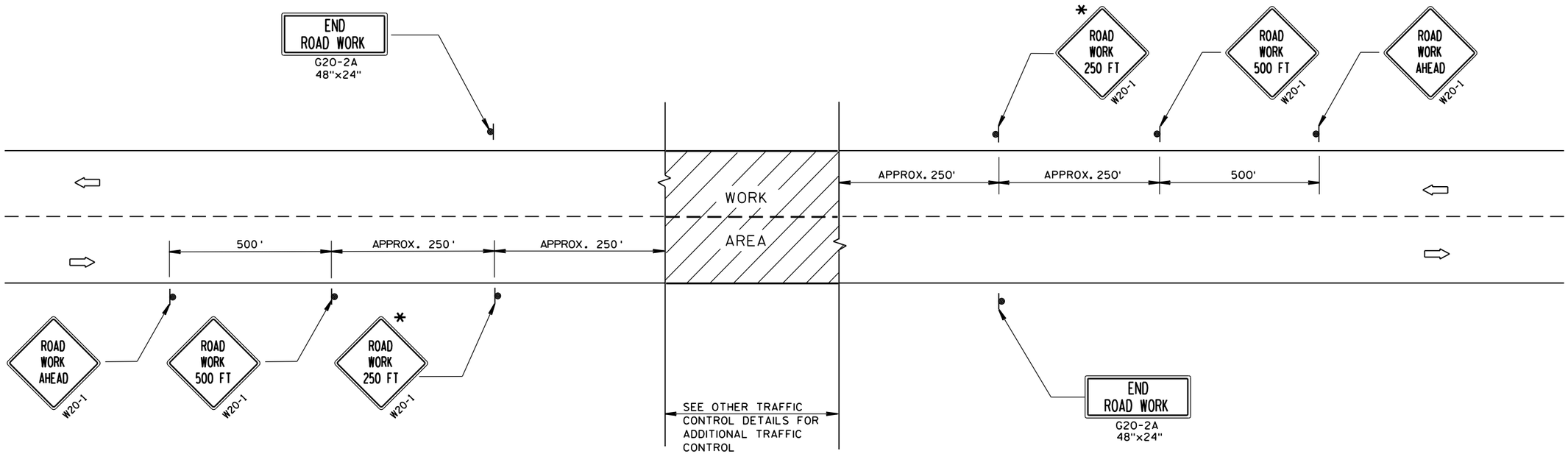
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

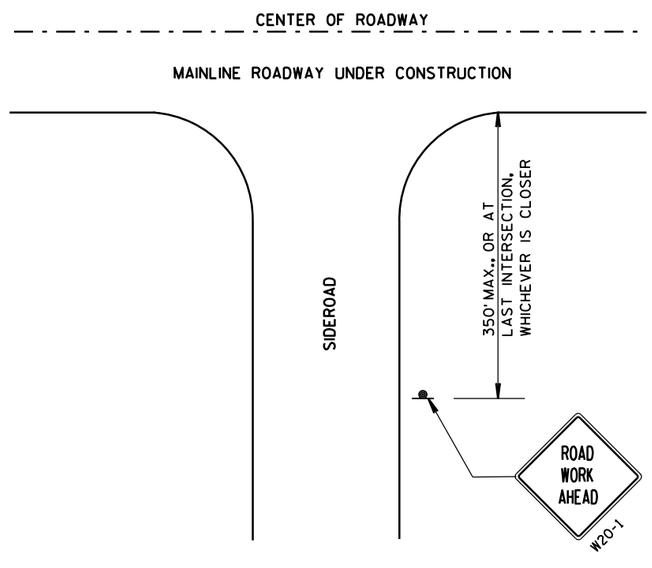
S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

SIGN

FHWA

6

S.D.D. 15 C 5-2

6

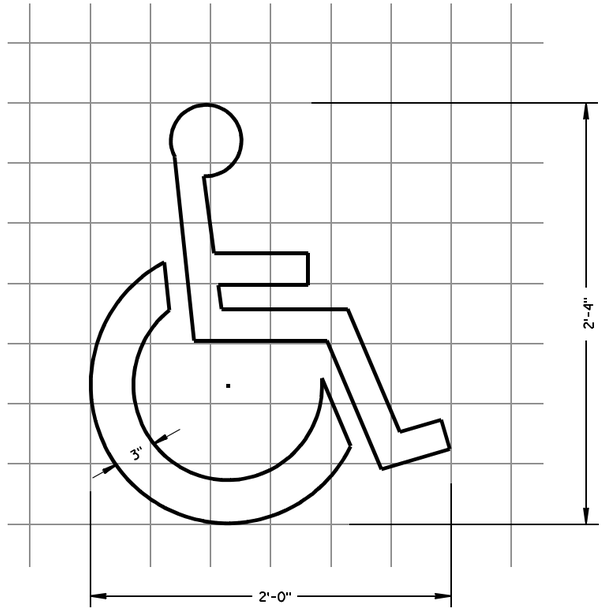
S.D.D. 15 C 5-2

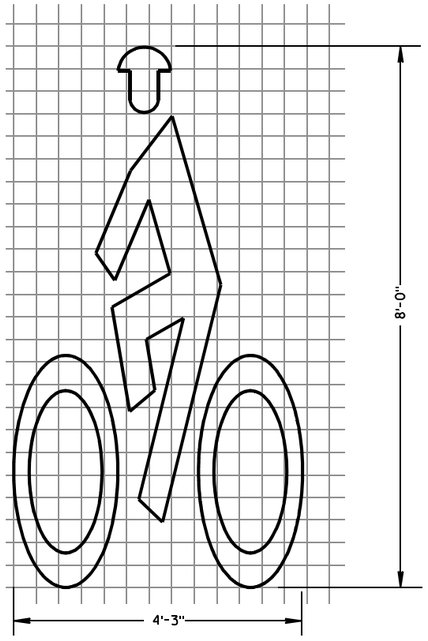
GENERAL NOTES

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

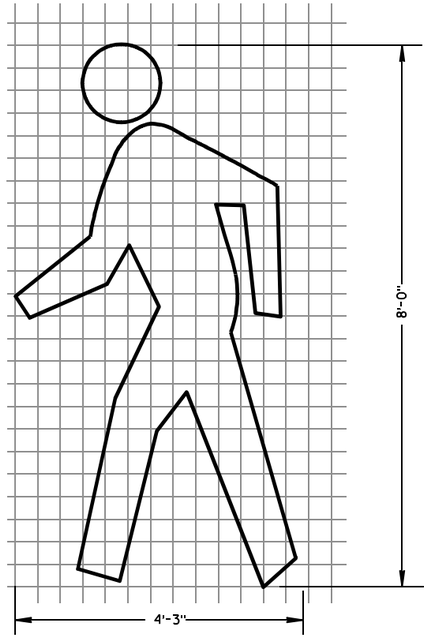
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

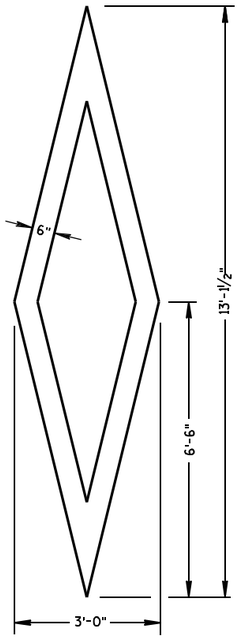




BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL LANE SYMBOL

6

6

S.D.D. 15 C 7-12a

S.D.D. 15 C 7-12a

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 DATE

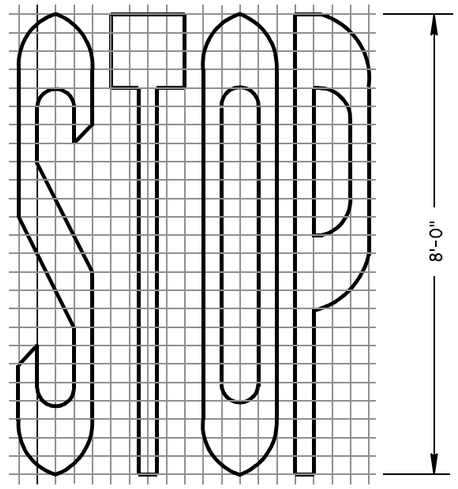
/S/ Thomas N Nathan
STATE TRAFFIC ENGINEER

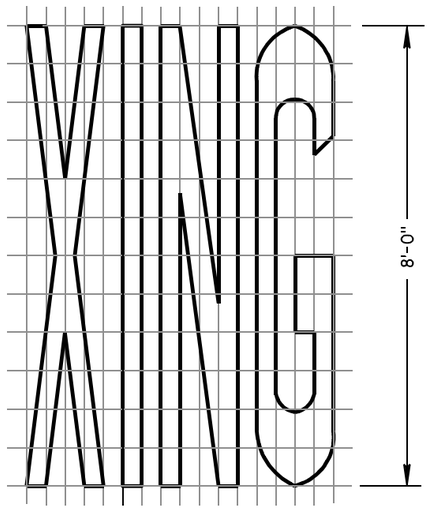
FHWA

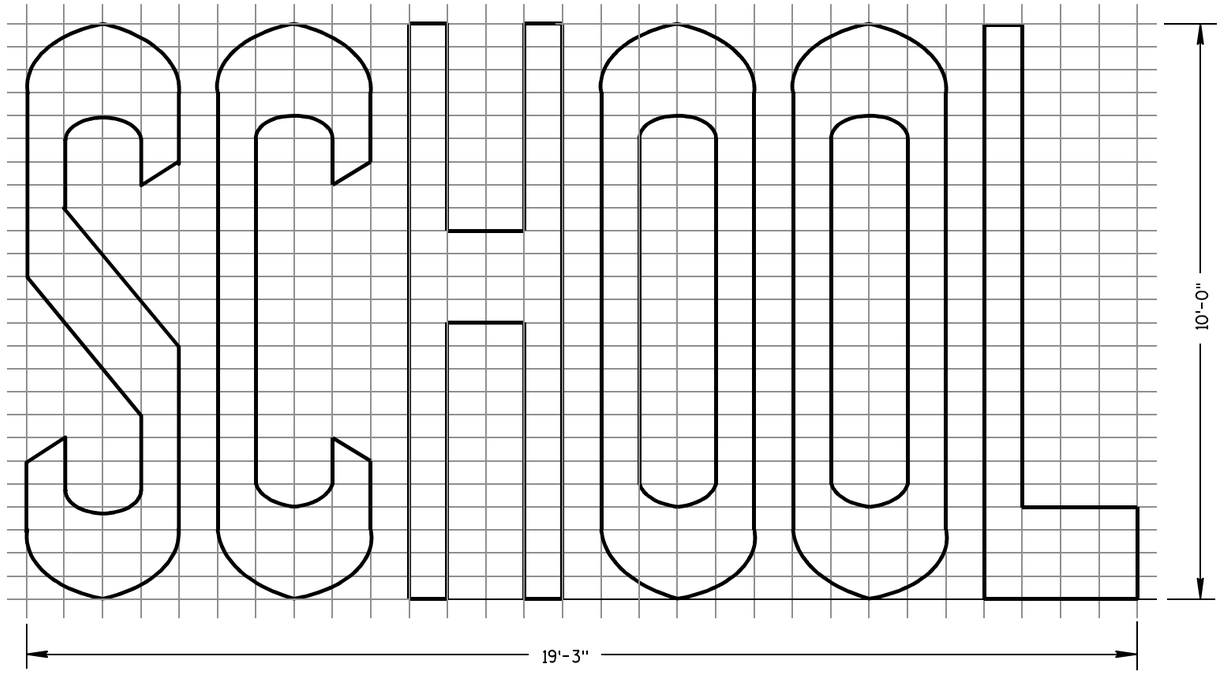
GENERAL NOTES

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

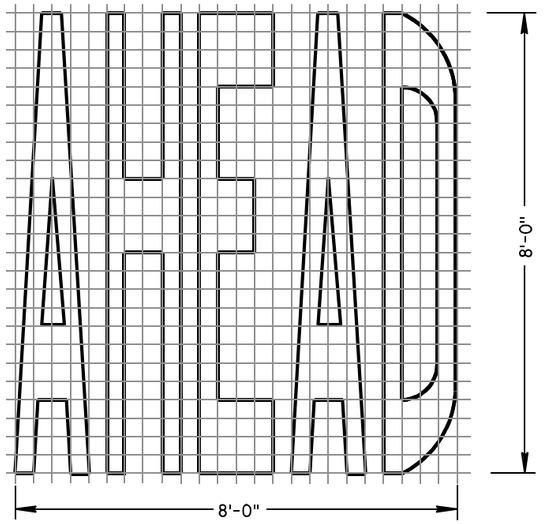
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

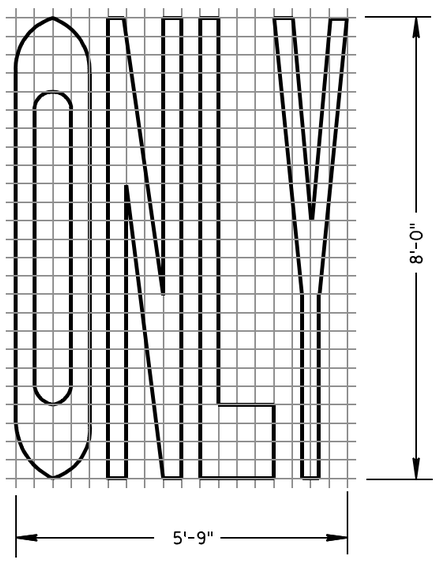


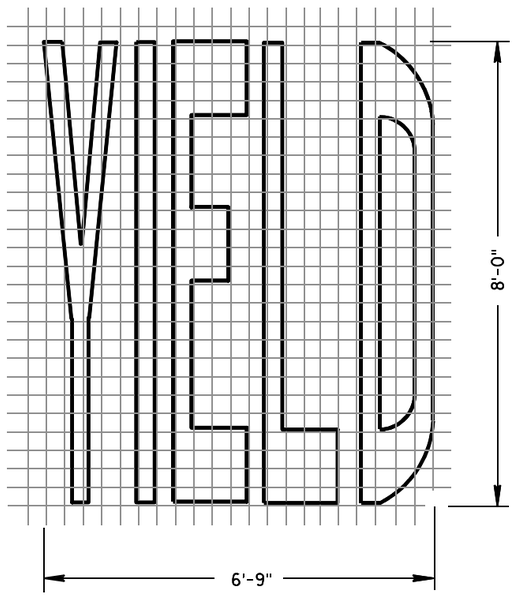


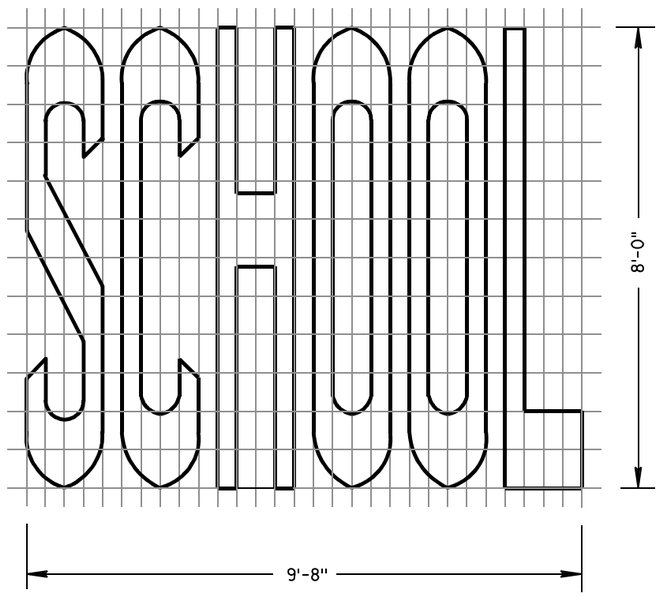


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 — DATE

/S/ Thomas N. Nothohm — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 7-12b

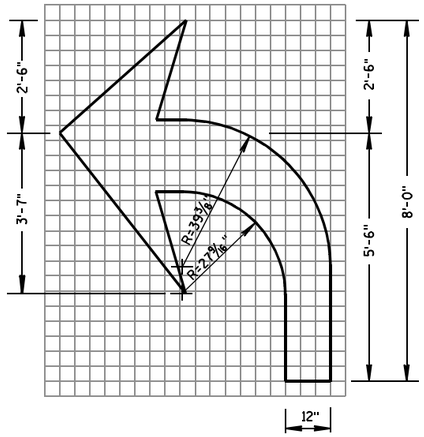
6

S.D.D. 15 C 7-12b

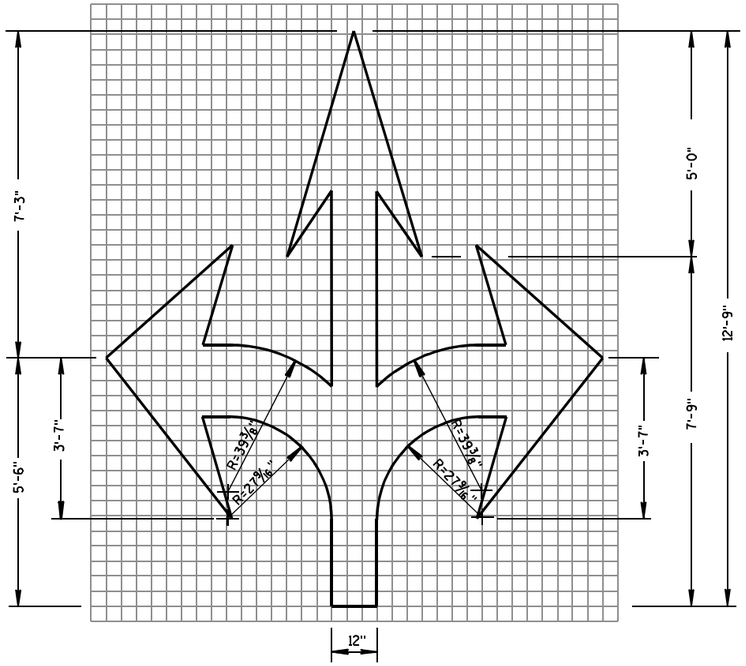
GENERAL NOTES

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

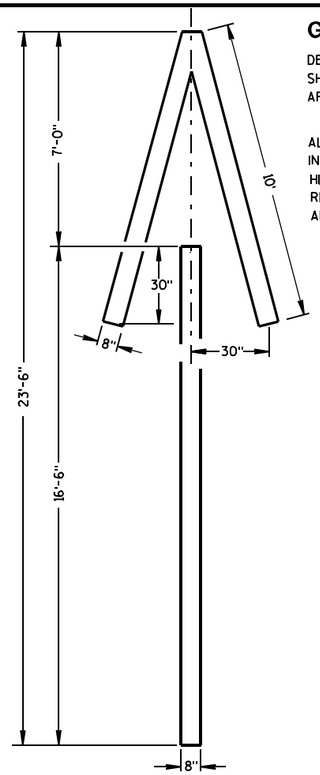
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



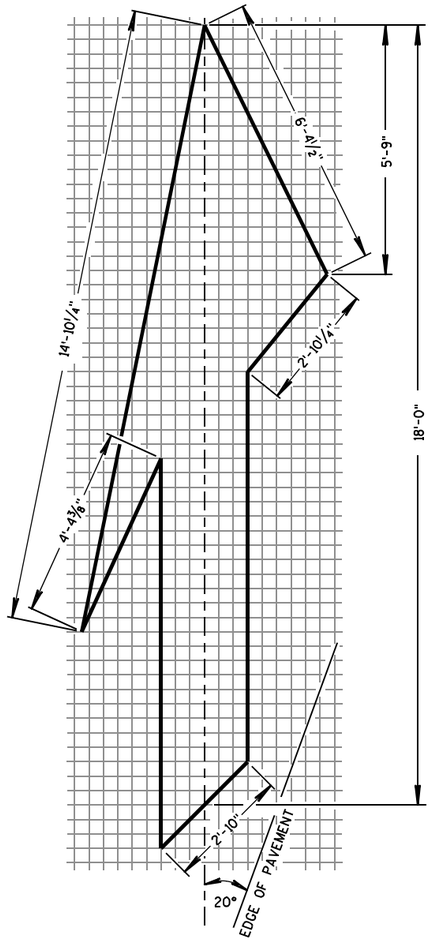
TYPE 2



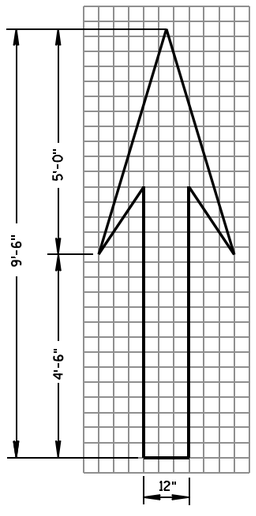
TYPE 6



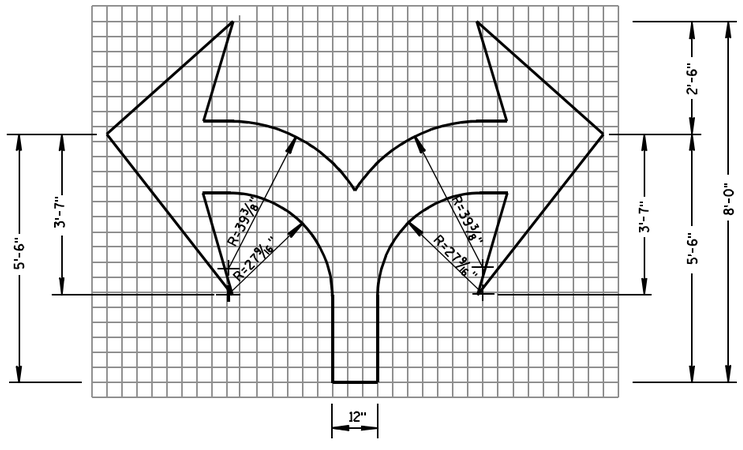
TYPE 4



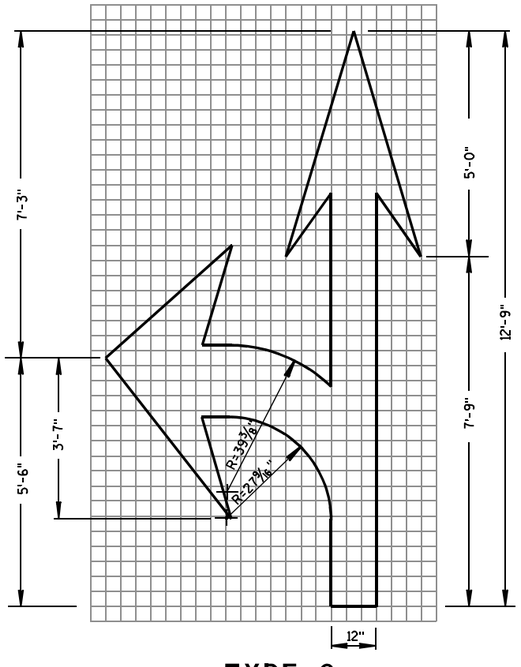
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

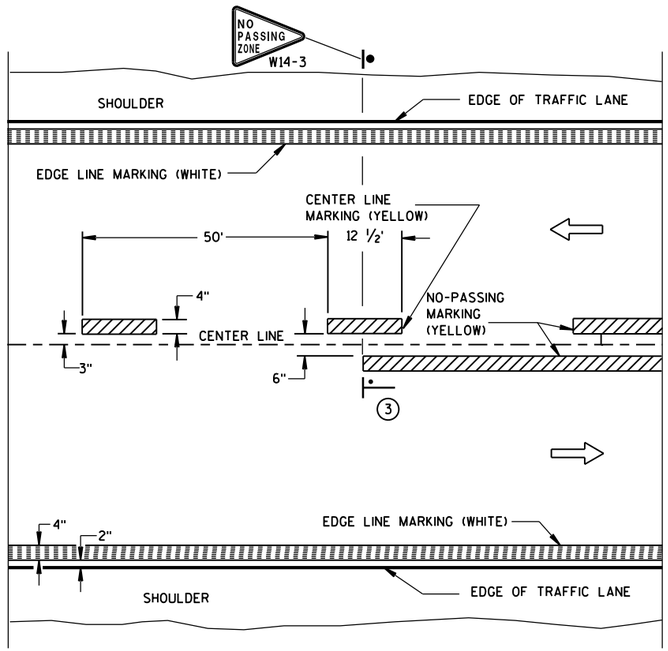
FHWA

6

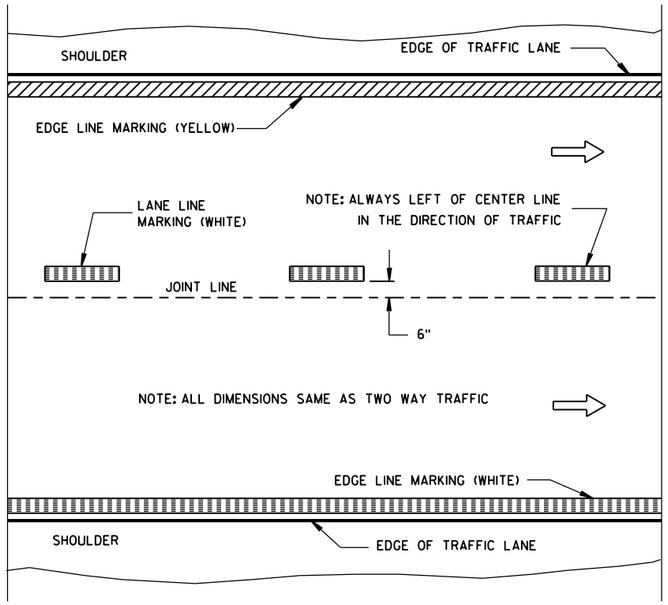
S.D.D. 15 C 7-12c

6

S.D.D. 15 C 7-12c

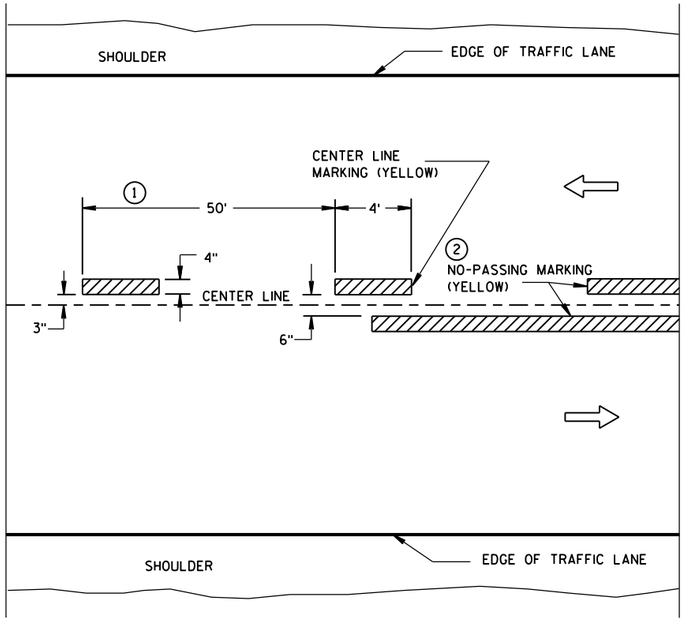


TWO WAY TRAFFIC

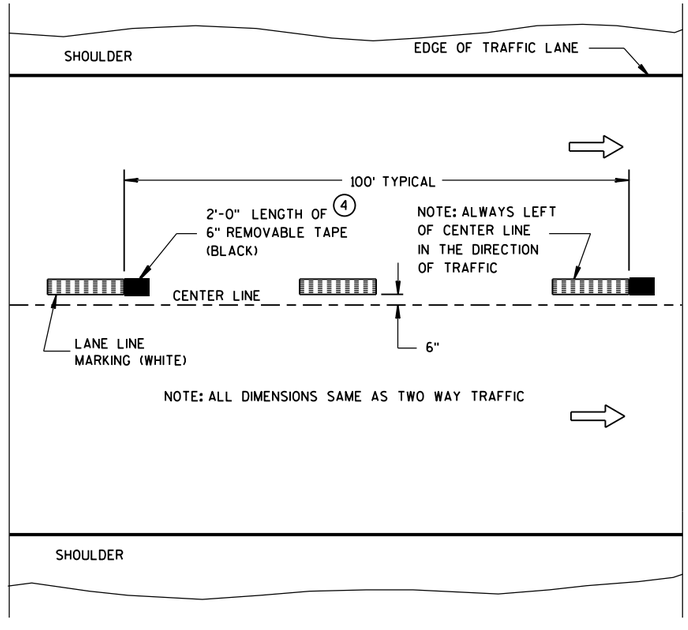


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

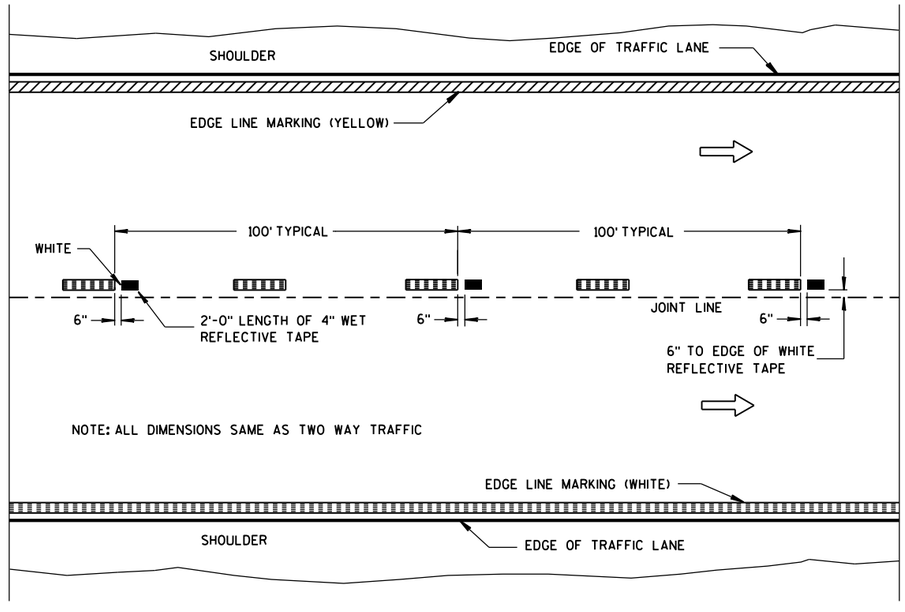
GENERAL NOTES

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

5-13-2013 DATE

/S/ Travis Feltes STATE TRAFFIC E

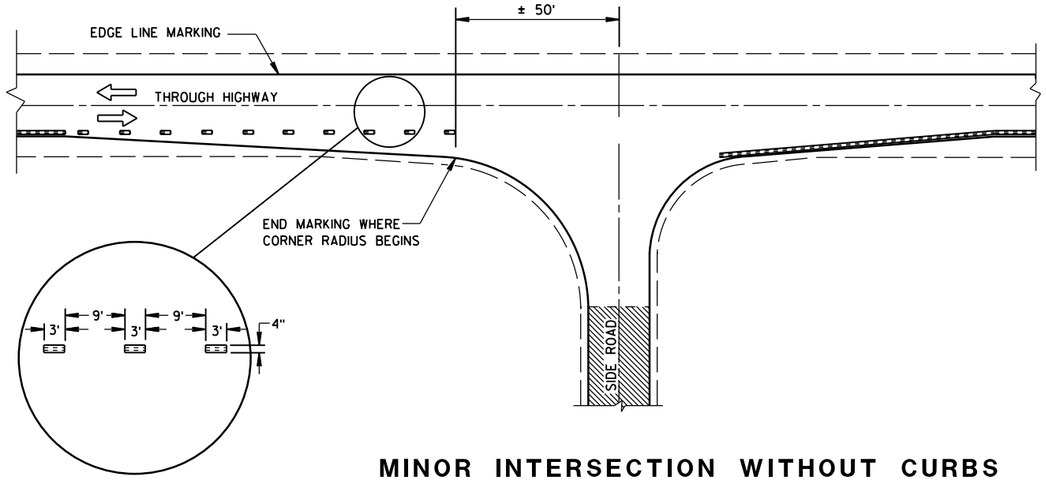
FHWA

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

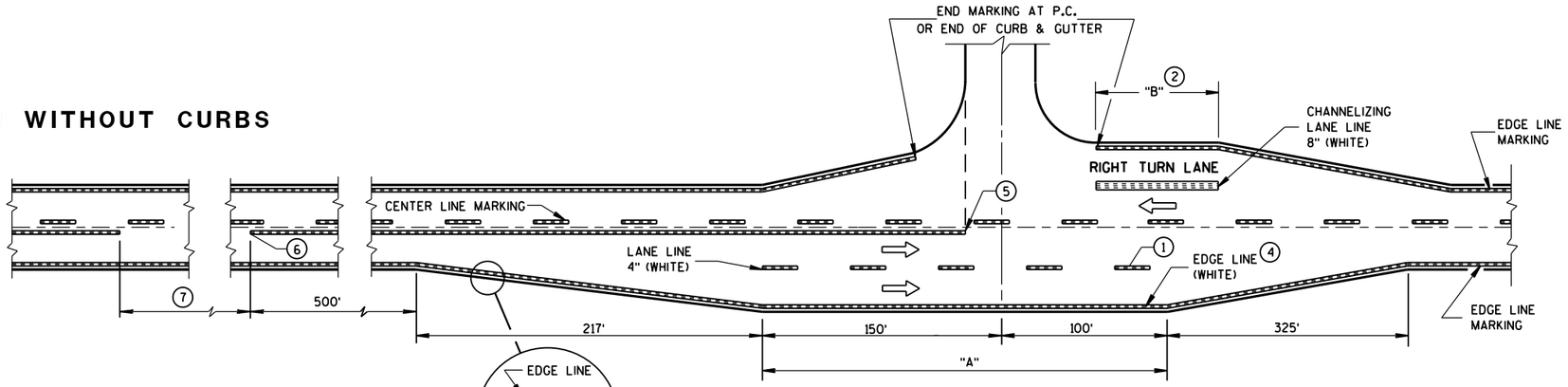
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

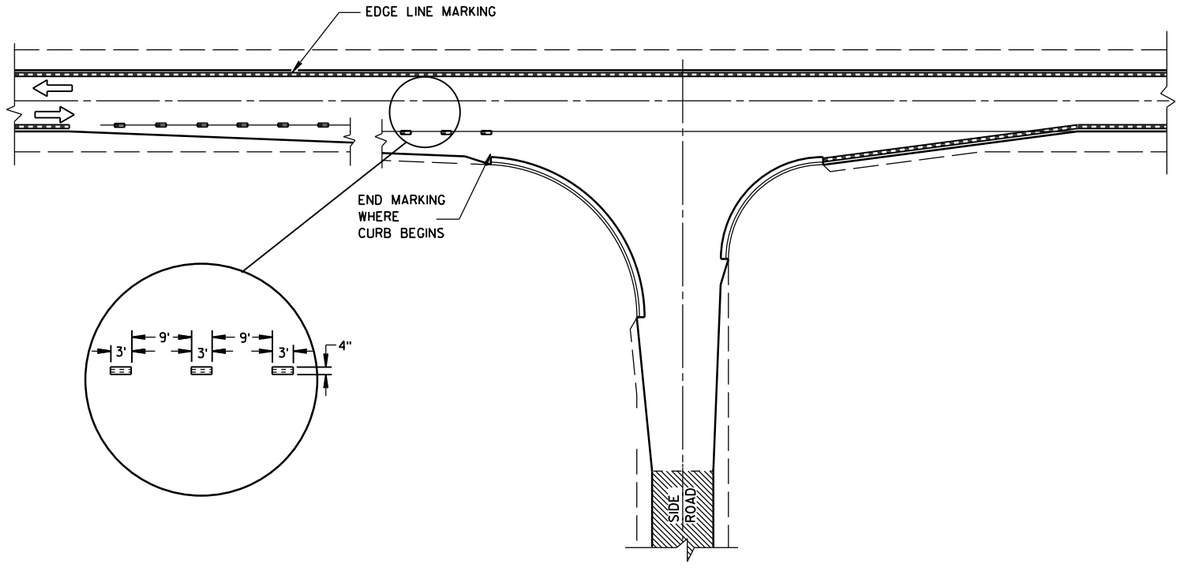
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



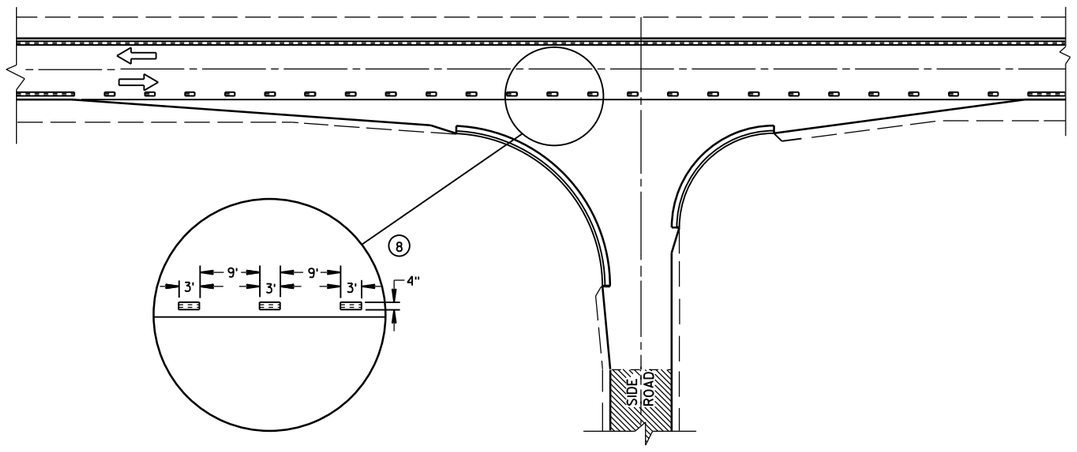
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

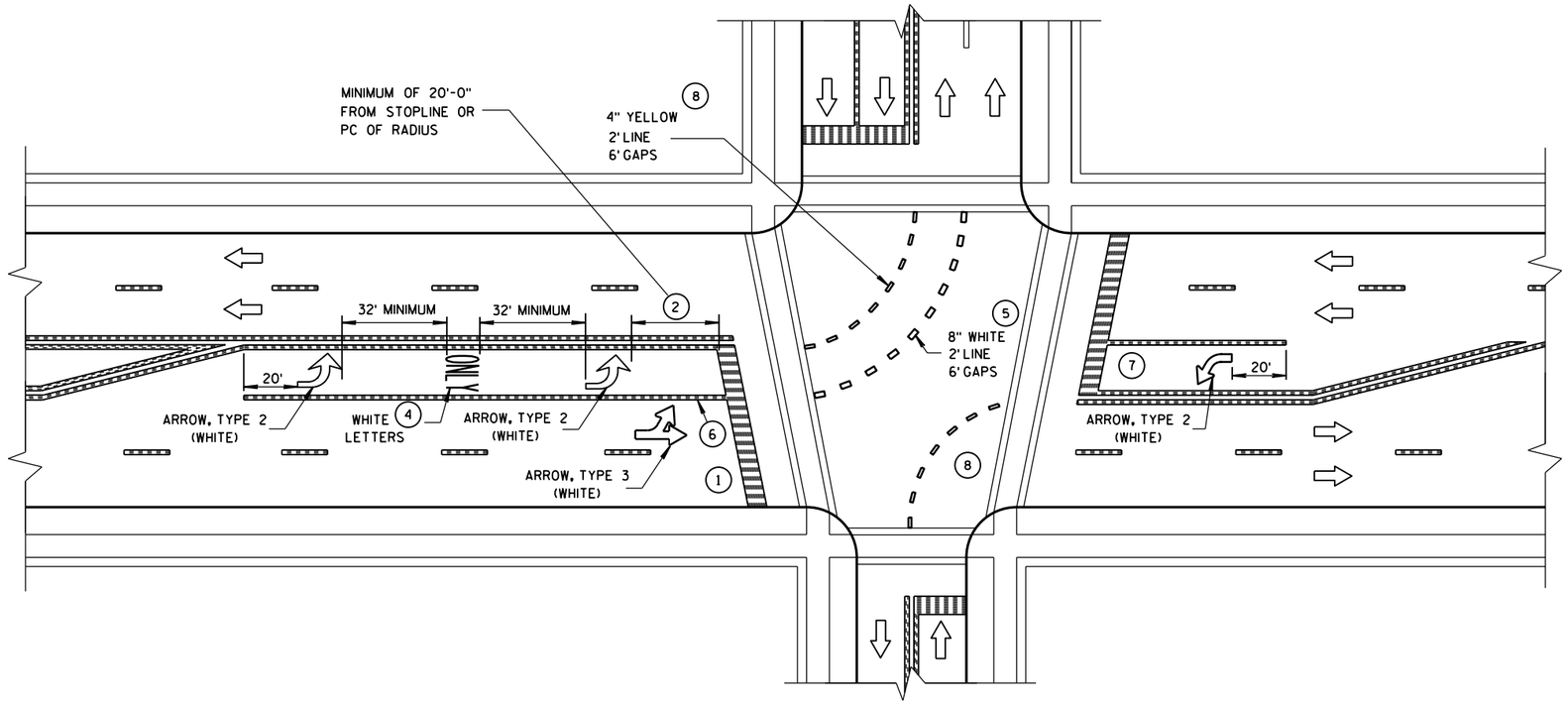
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-16b

6

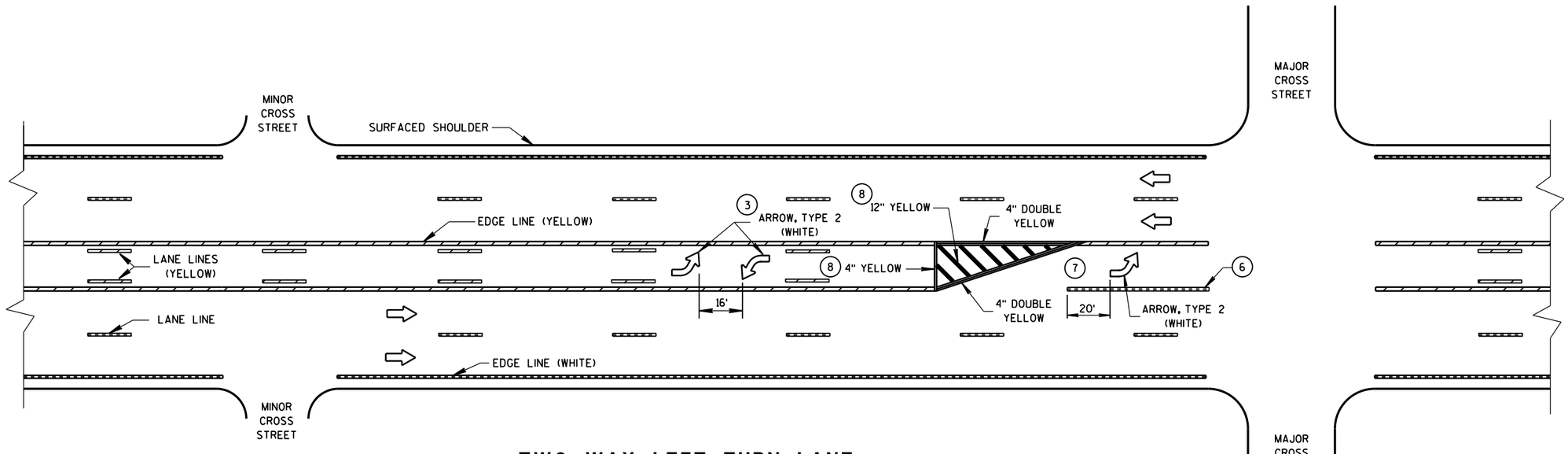
S.D.D. 15 C 8-16b



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



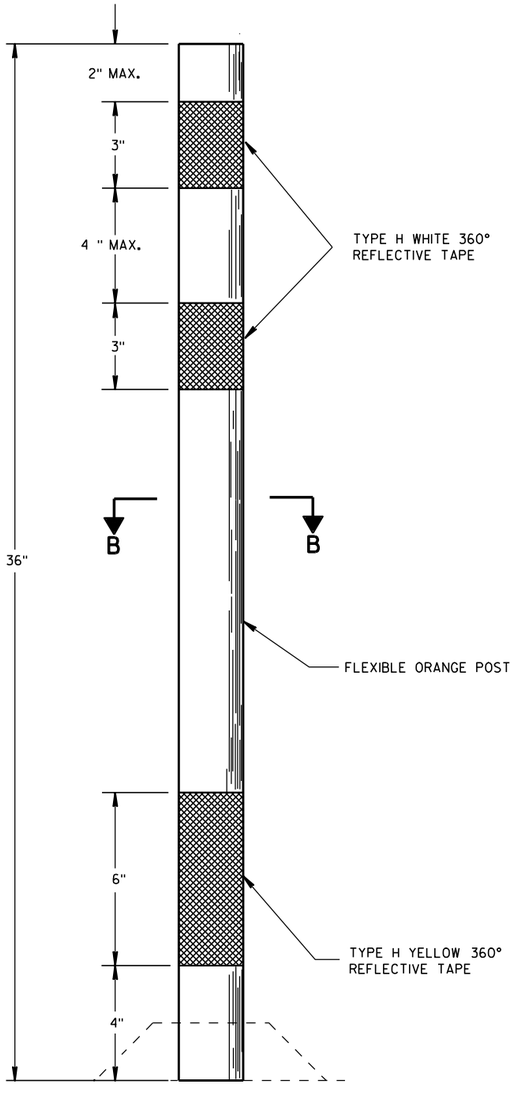
TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

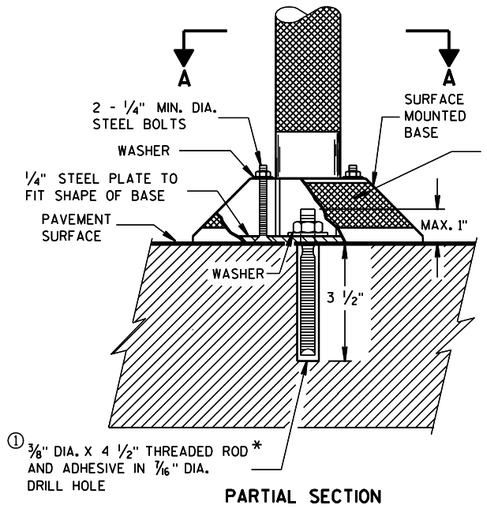
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

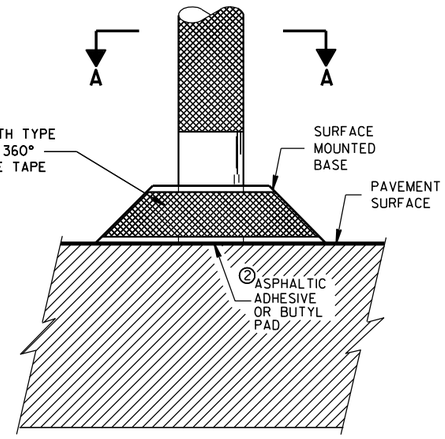
S.D.D. 15 C 8-16e



FLEXIBLE TUBULAR MARKER POST



PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT

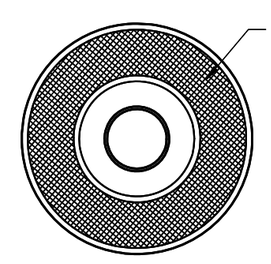
GENERAL NOTES

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.

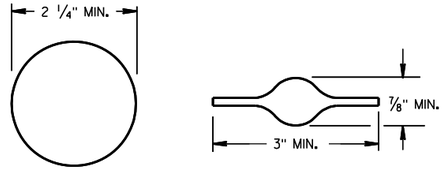
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

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



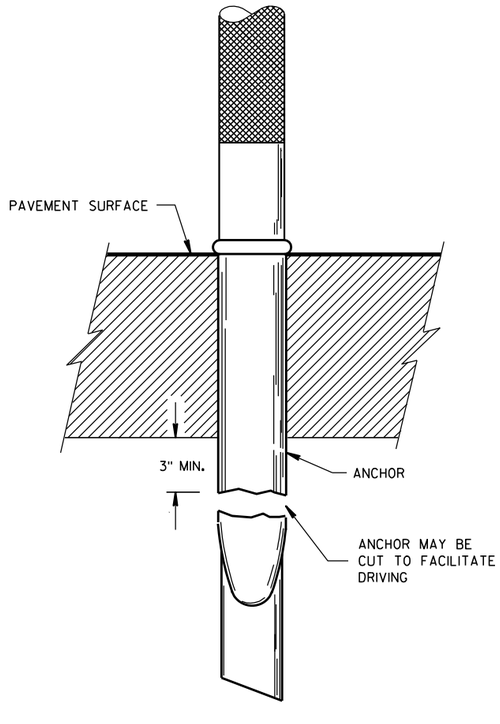
SECTION A-A

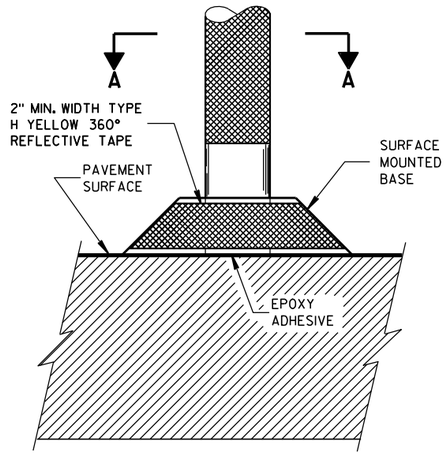
SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES





POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94 DATE

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

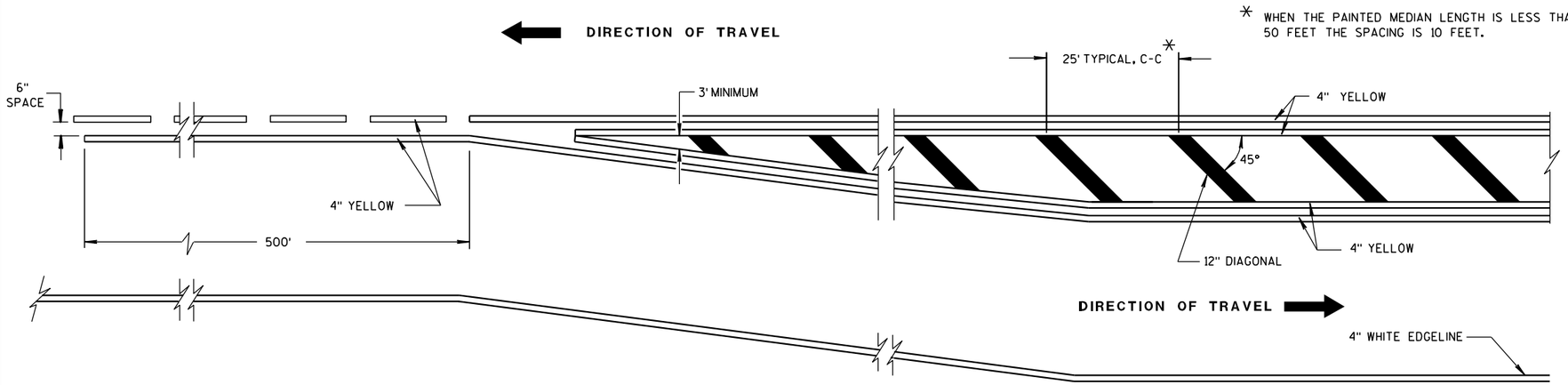
FHWA

6

S.D.D. 15 C 11-5

6

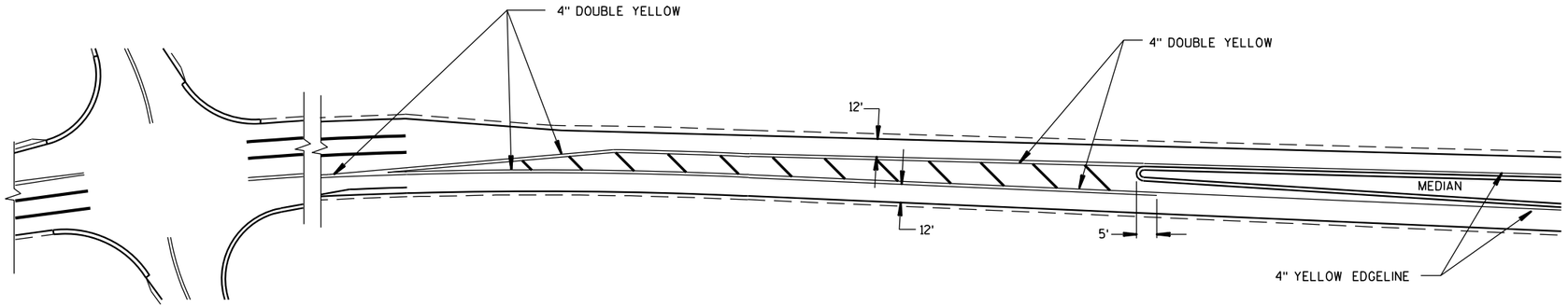
S.D.D. 15 C 11-5



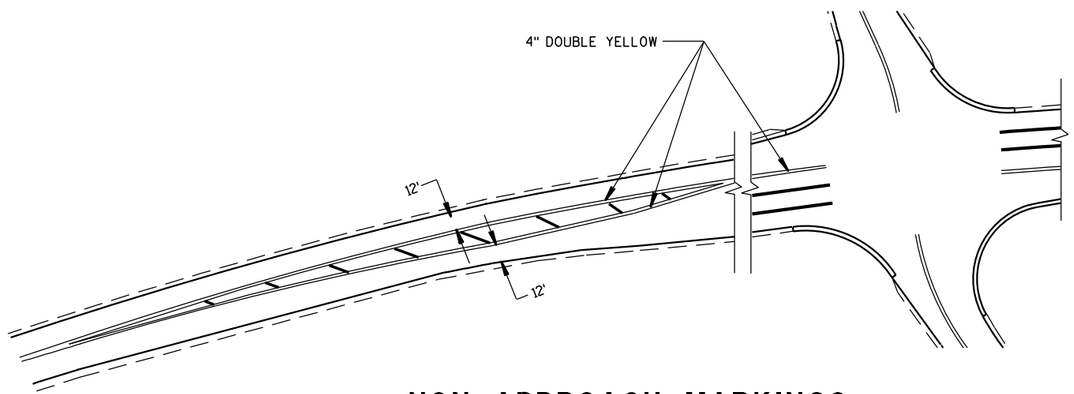
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

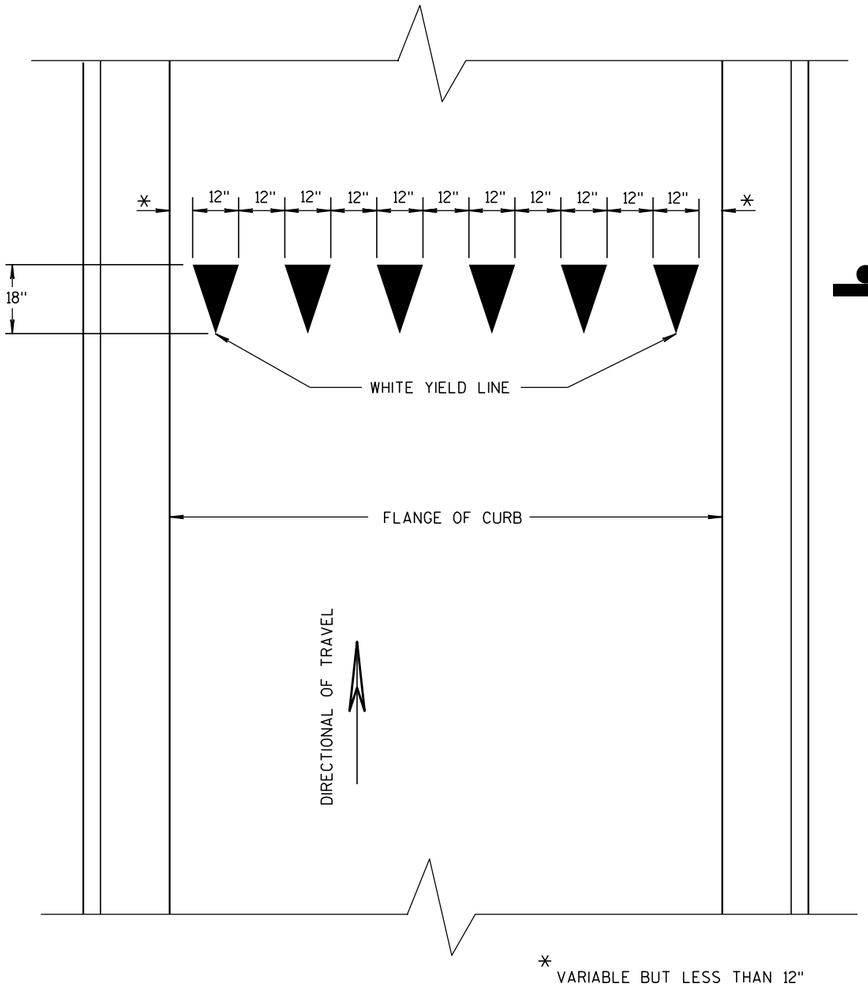
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER
FHWA	130 IGN

6

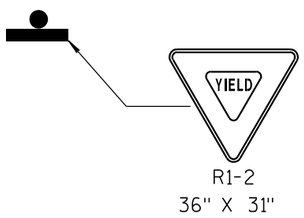
S.D.D. 15 C 18-3

6

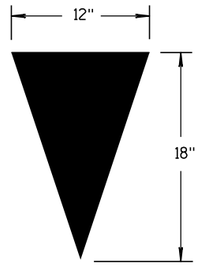
S.D.D. 15 C 18-3



YIELD LINE



R1-2
36" X 31"



YIELD TRIANGLE

YIELD MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1/28/05 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

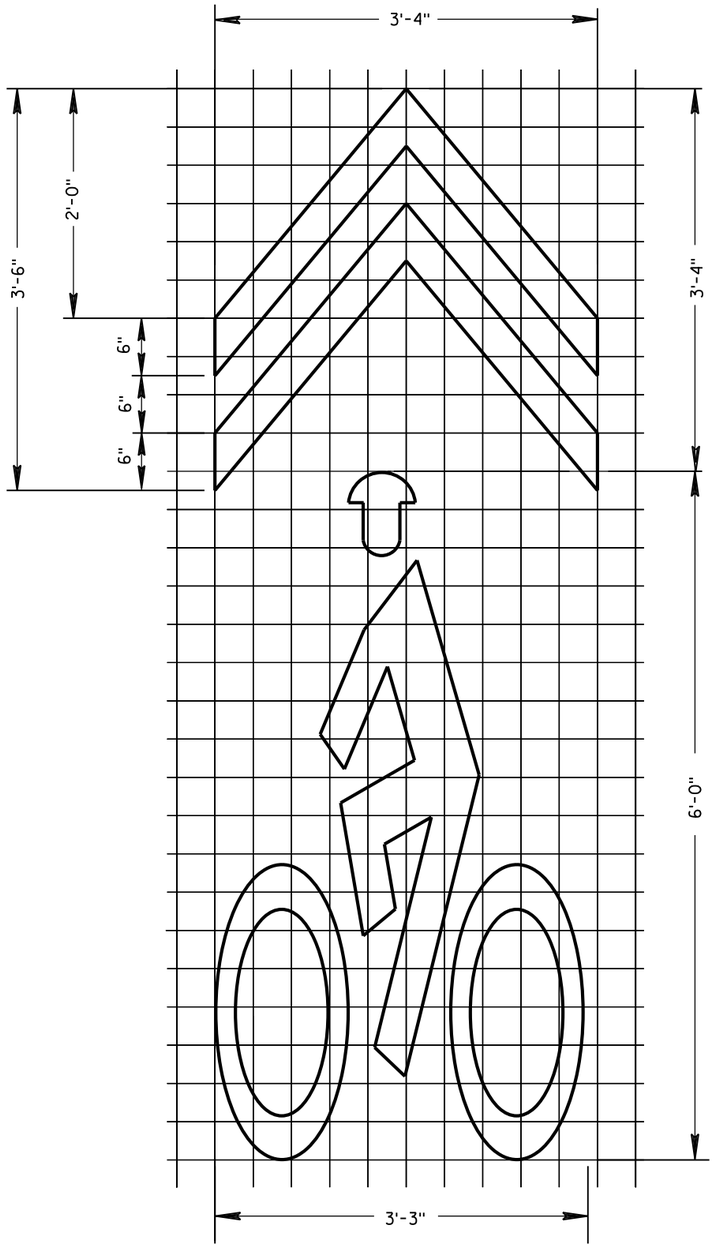
FHWA

6

S.D.D. 15 C 20-1

6

S.D.D. 15 C 20-1



BIKE SYMBOL FOR SHARED LANE

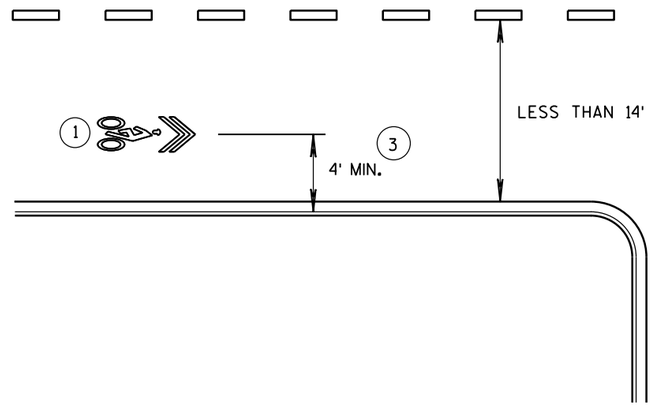
GENERAL NOTES

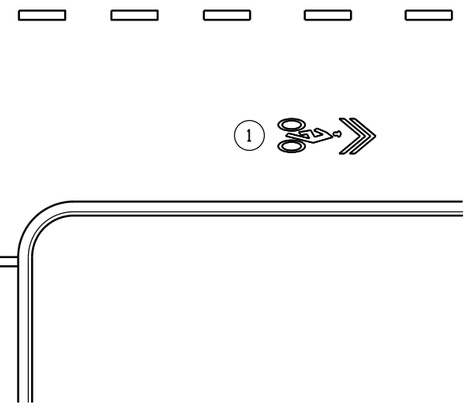
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

(1) SPACED A MAXIMUM OF 250 FEET.

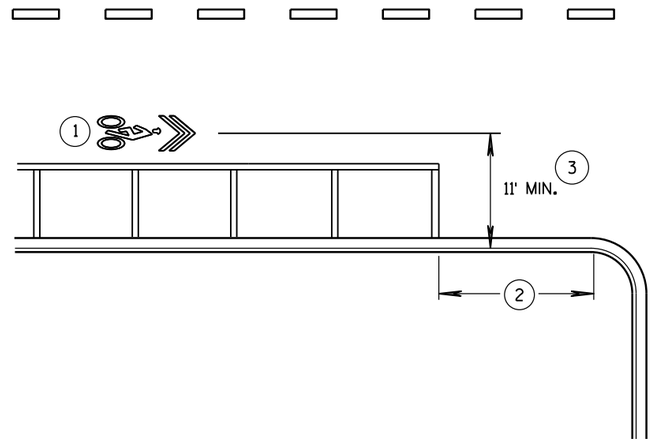
(2) 20 FOOT MINIMUM FROM CURB RADIUS.

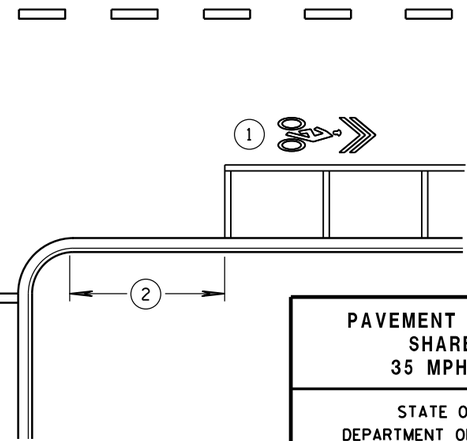
(3) OR TO EDGE OF PAVEMENT WITHOUT CURB.





WITHOUT PARKING





WITH PARKING

PAVEMENT MARKING FOR
SHARED LANE
35 MPH OR LESS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-30-2013
DATE
/S/ Travis Feltes
STATE TRAFFIC EN
FHWA

6

S.D.D. 15 C 29-3f

6

S.D.D. 15 C 29-3f

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"x60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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) CLEARANCE TO EXISTING SIGNS.

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 OR AS APPROVED BY THE ENGINEER.

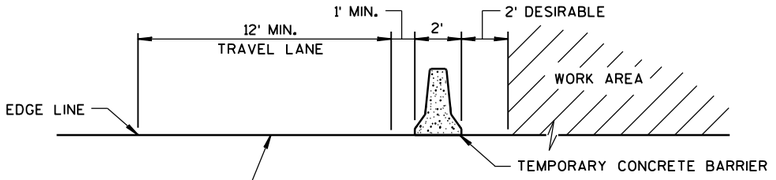
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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.

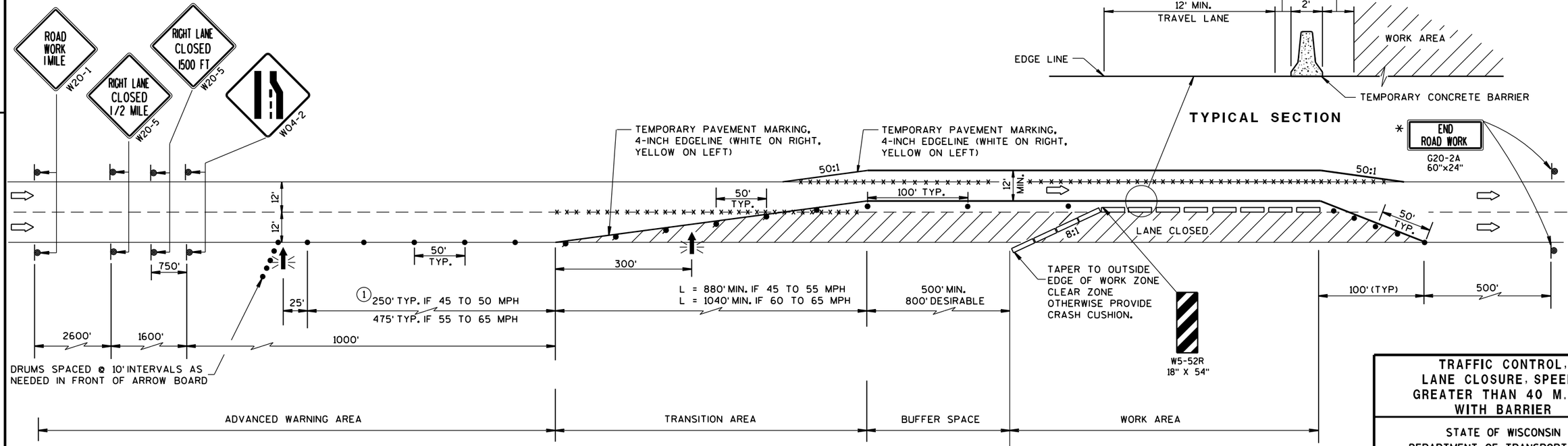
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE 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.



TYPICAL SECTION



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER — SIGN
FHWA

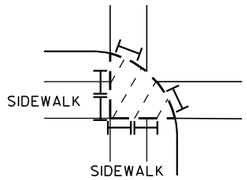
6

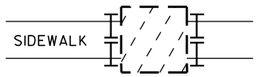
S.D.D. 15 D 3-2

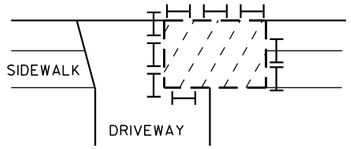
6

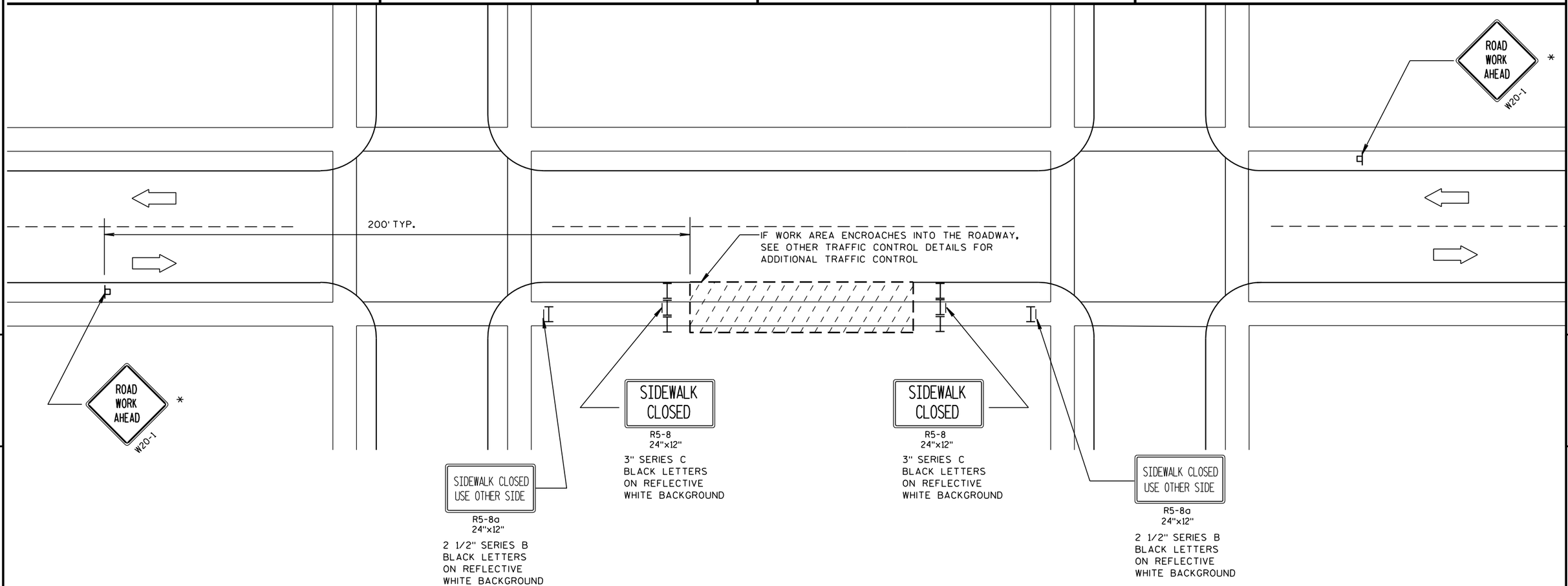
S.D.D. 15 D 3-2

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

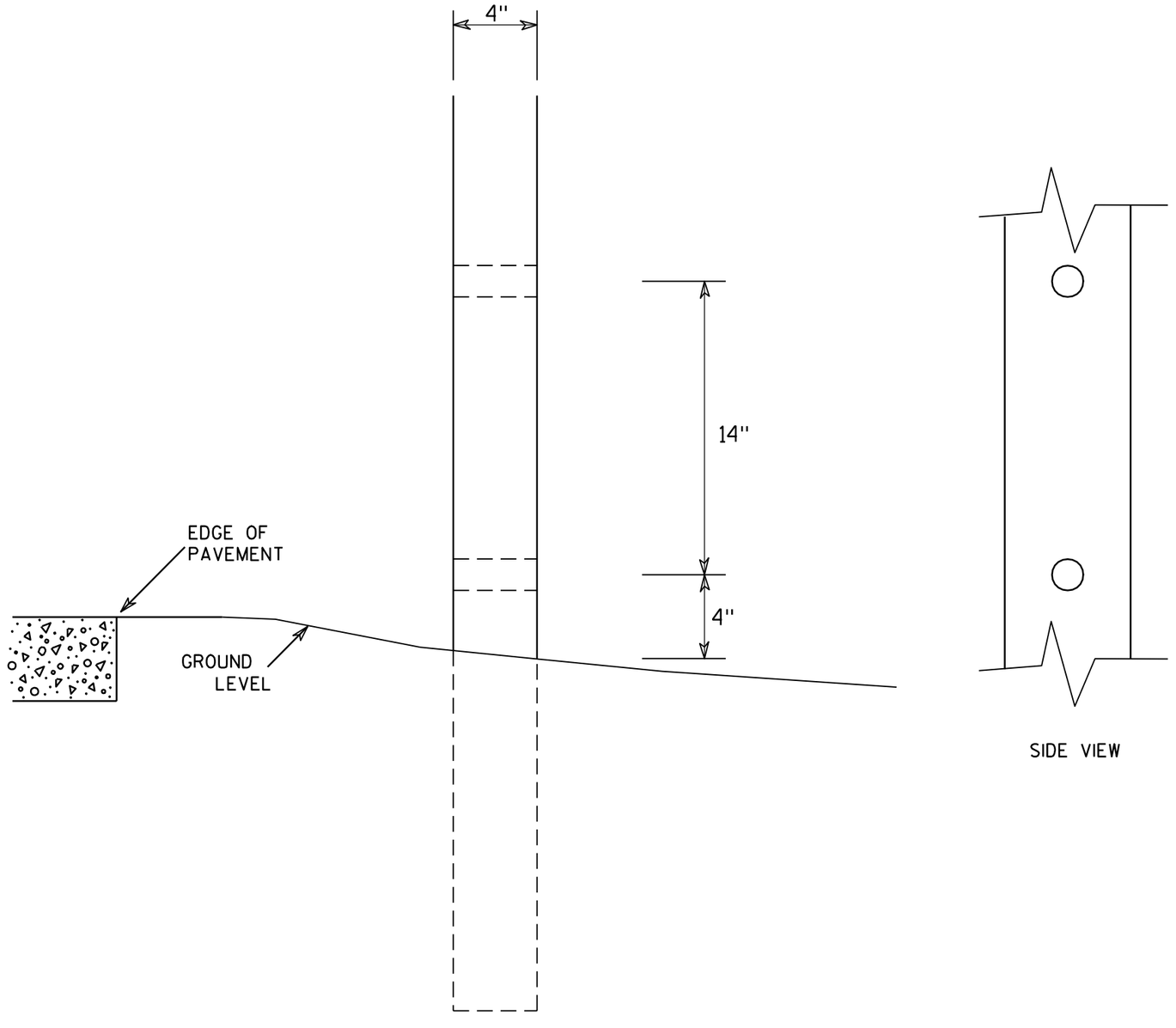
TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible] ENGINEER
FHWA

6

S.D.D. 15 D 30-1



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

4 X 6 WOOD POST MODIFICATIONS

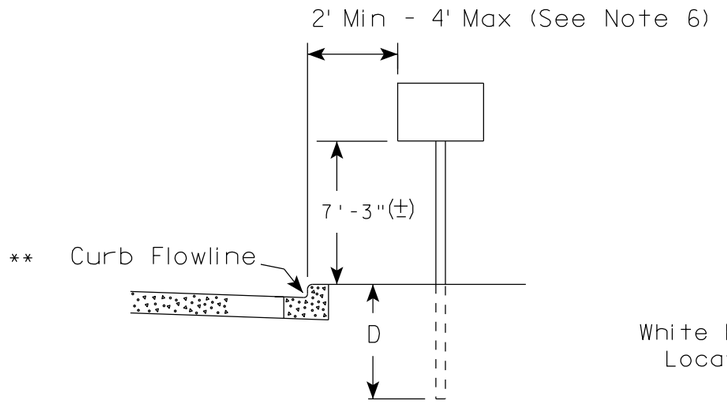
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

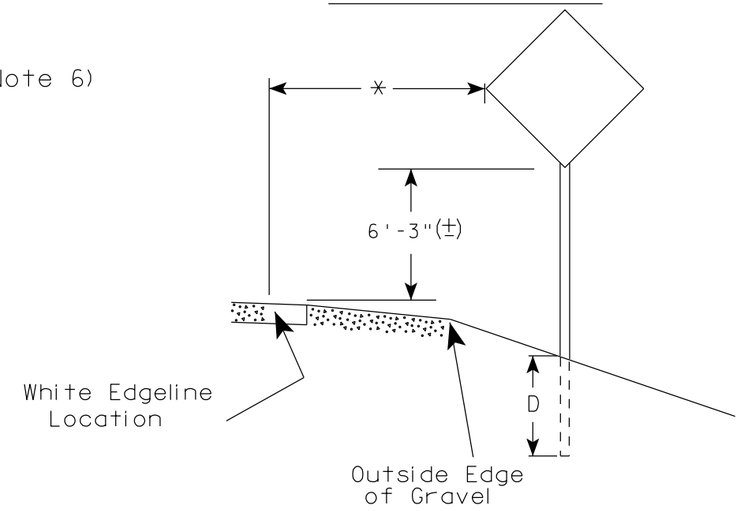
DATE 3/27/97 PLATE NO. A4-11.2

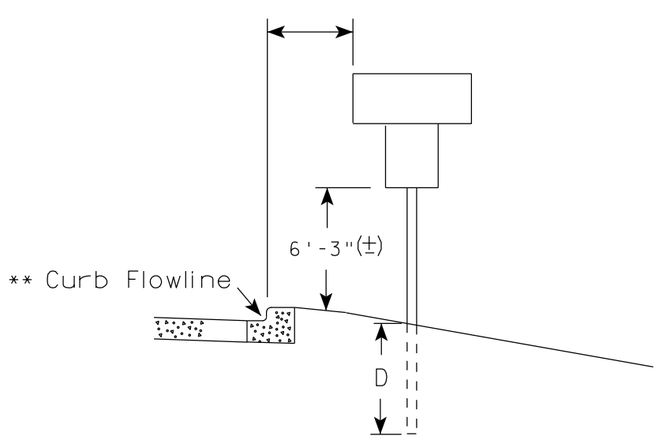
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 135	E

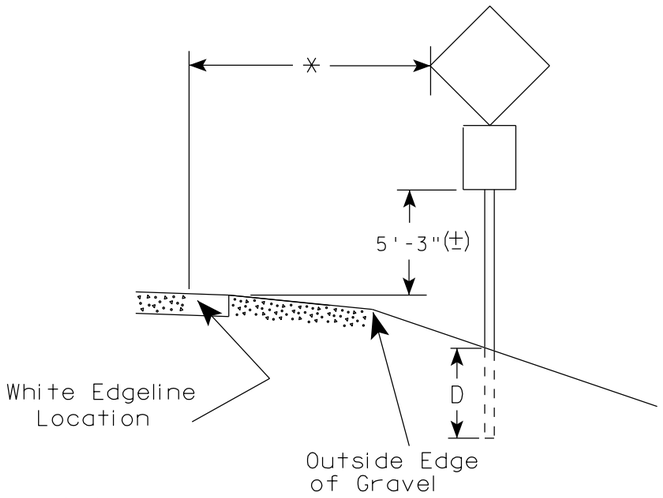
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

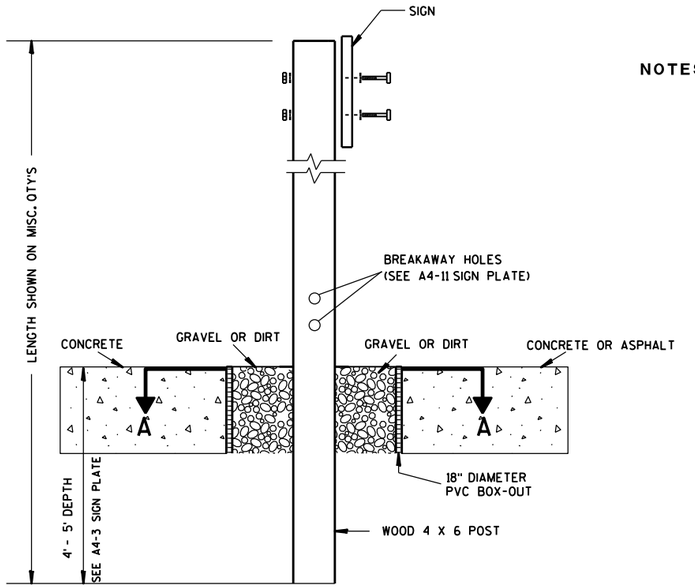
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

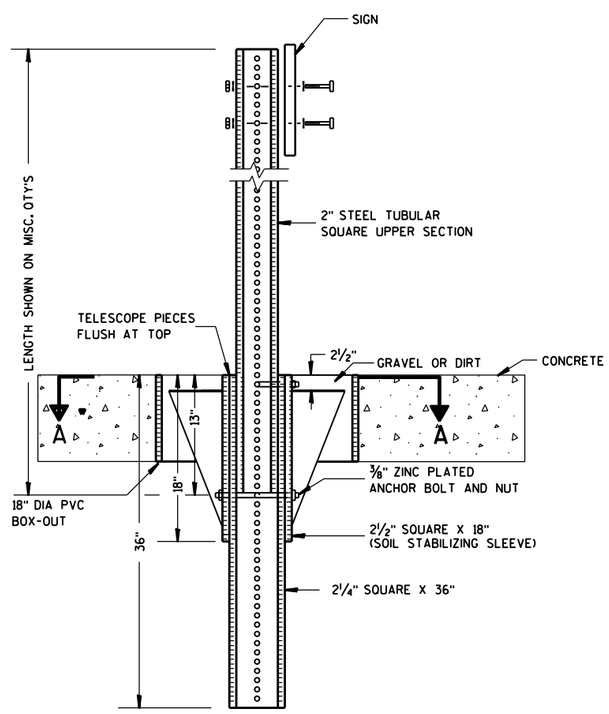
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

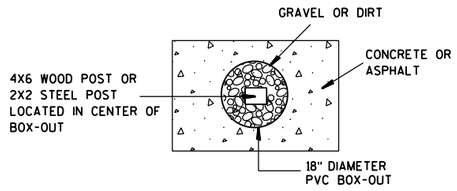
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

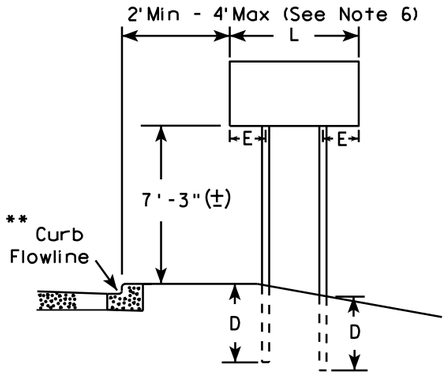
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

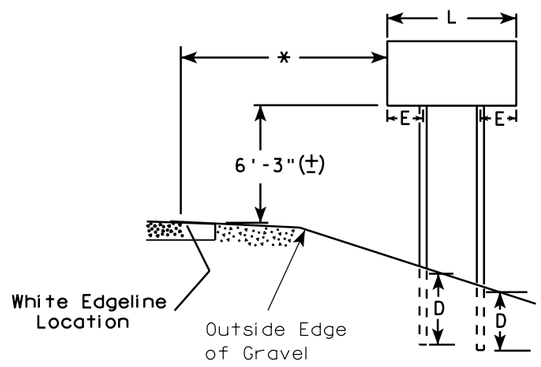
DATE 1/27/14 PLATE NO. A4-3B.1

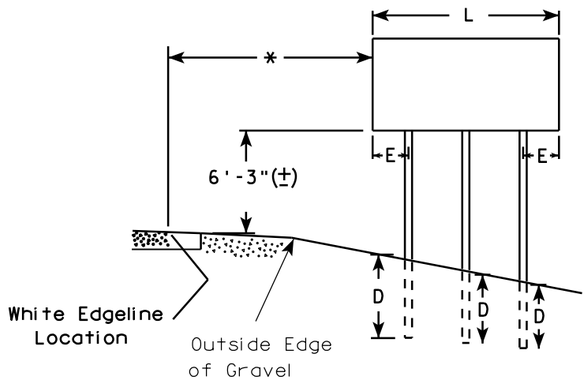
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

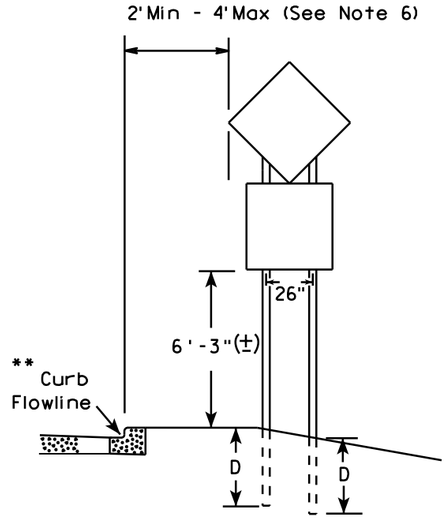
URBAN AREA



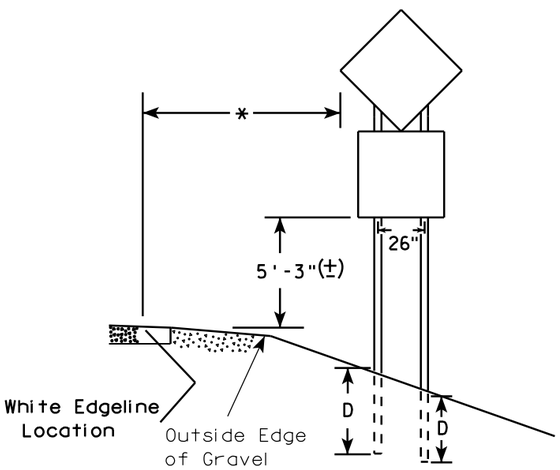
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width or less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

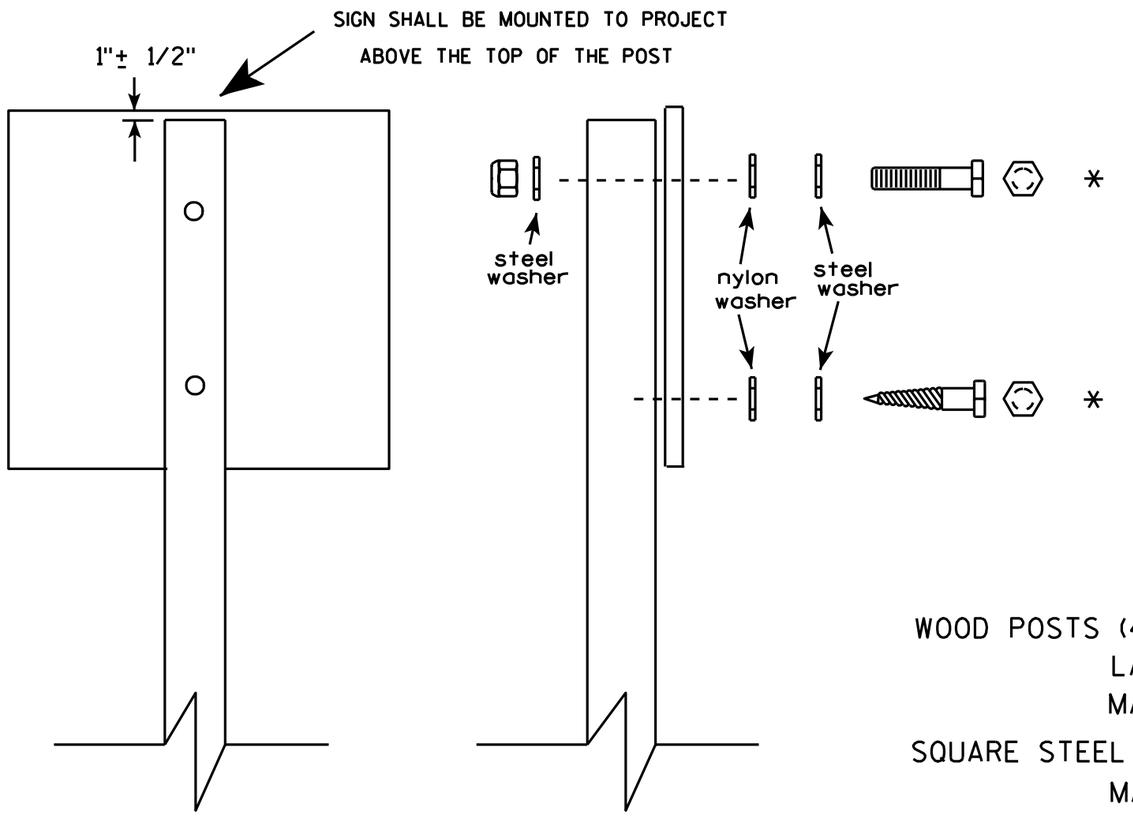
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-4 13

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

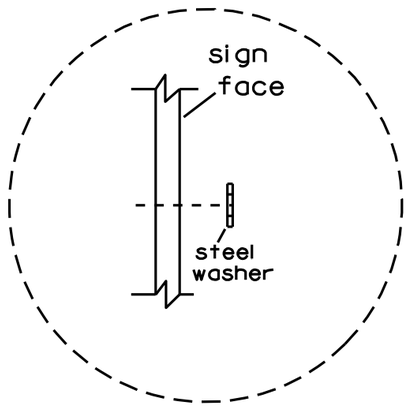
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

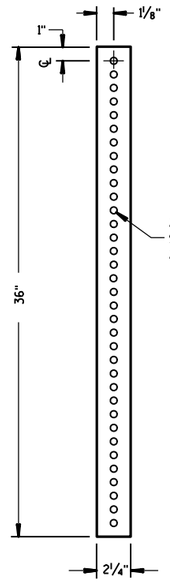
7

PROJECT NO:

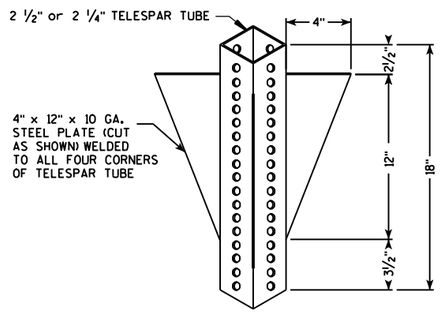
SHEET NO: 139 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

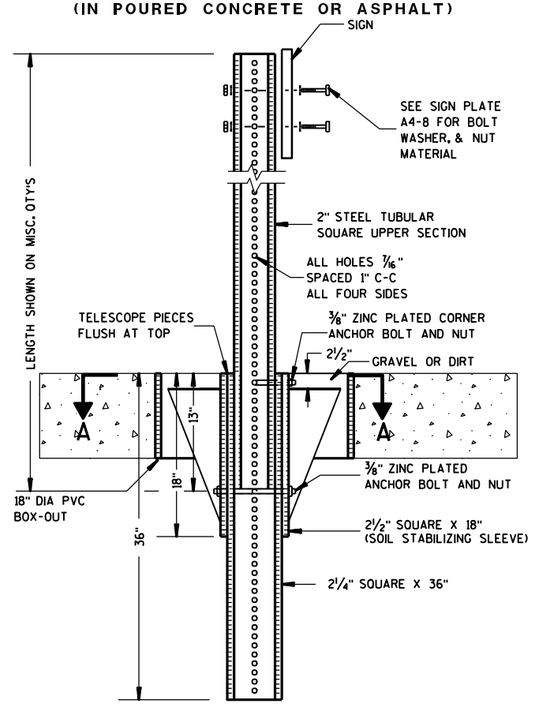
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



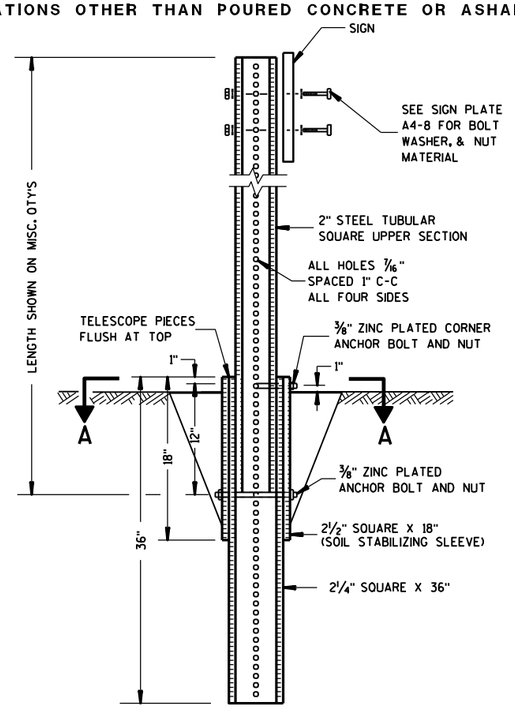
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

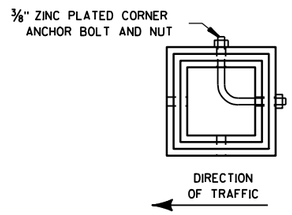


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

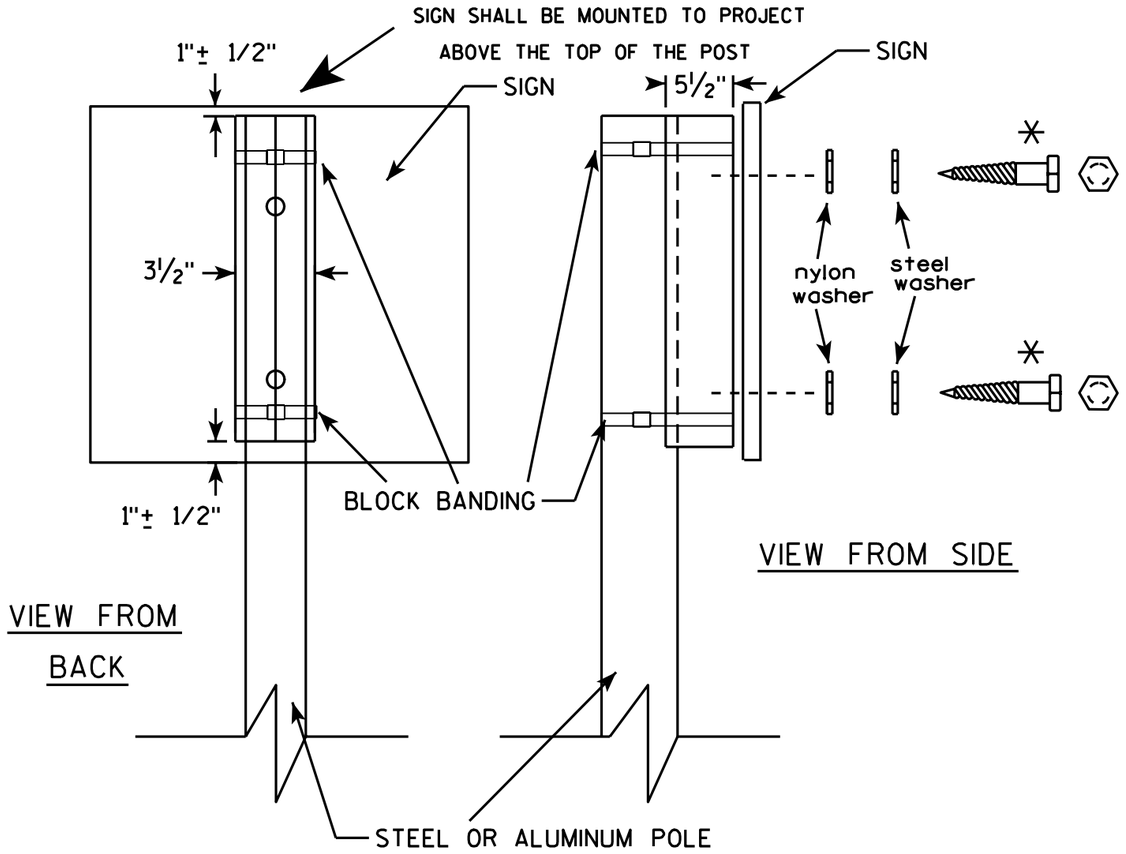
TUBULAR STEEL SIGN POST A4-9

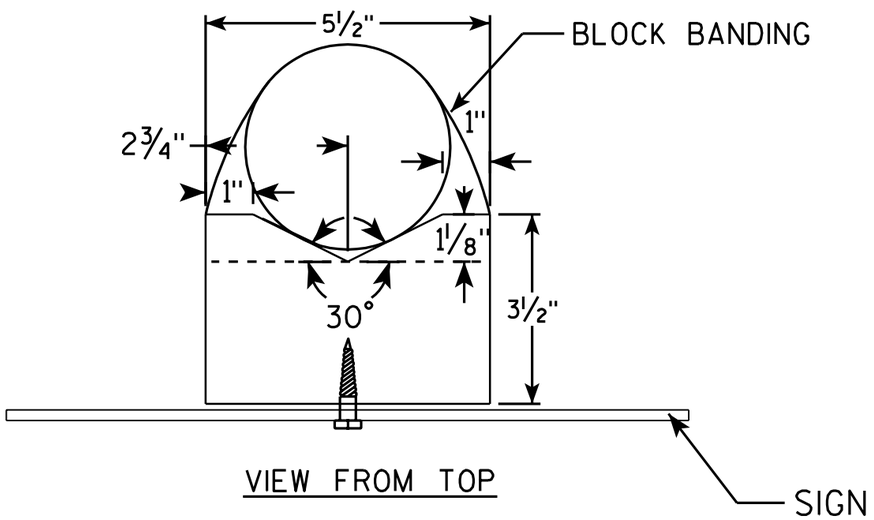
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 140	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

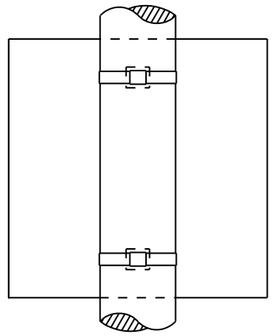
DATE 7/12/07 PLATE NO. A5-10.1

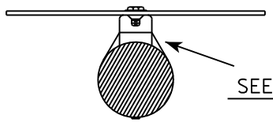
PROJECT NO:

SHEET NO: 141 E

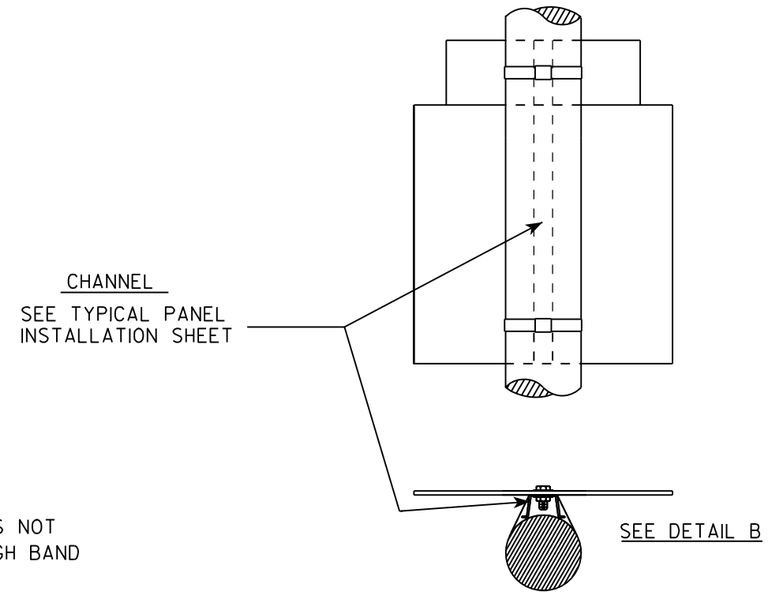
BANDING

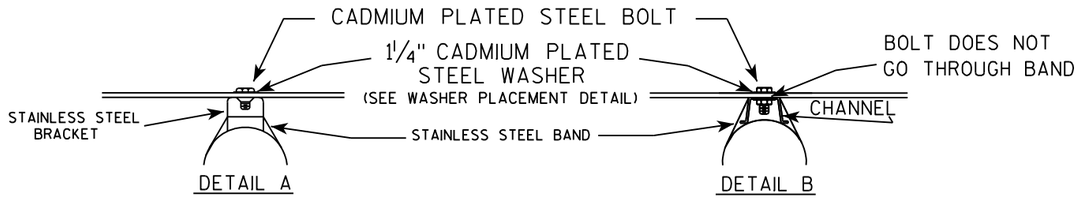
SINGLE SIGN



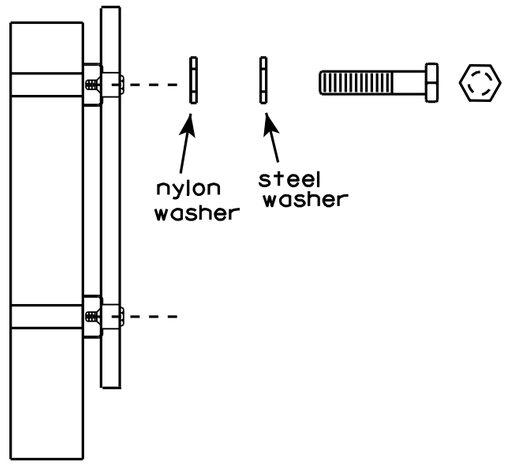


"J" ASSEMBLY





WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

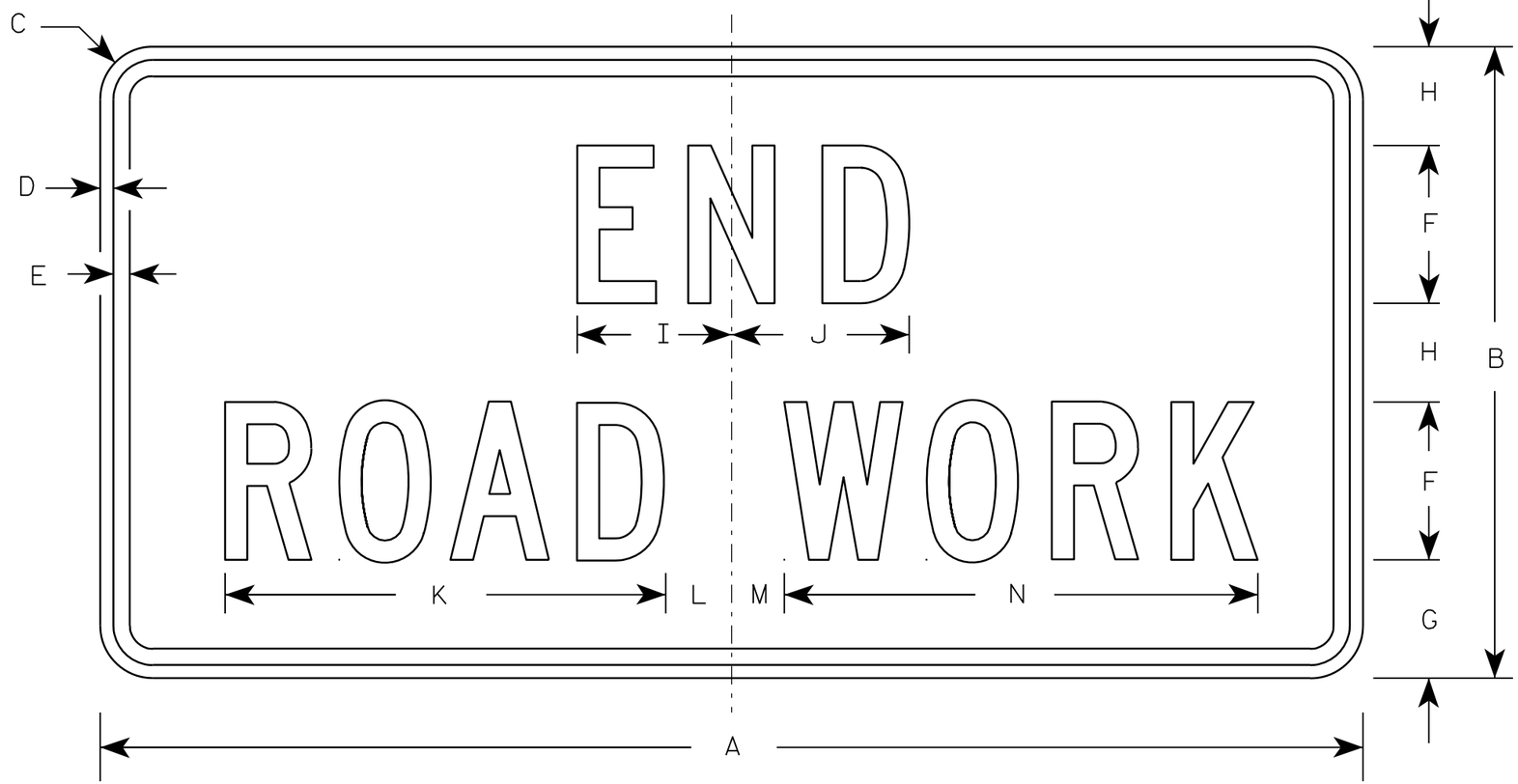
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 142	E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

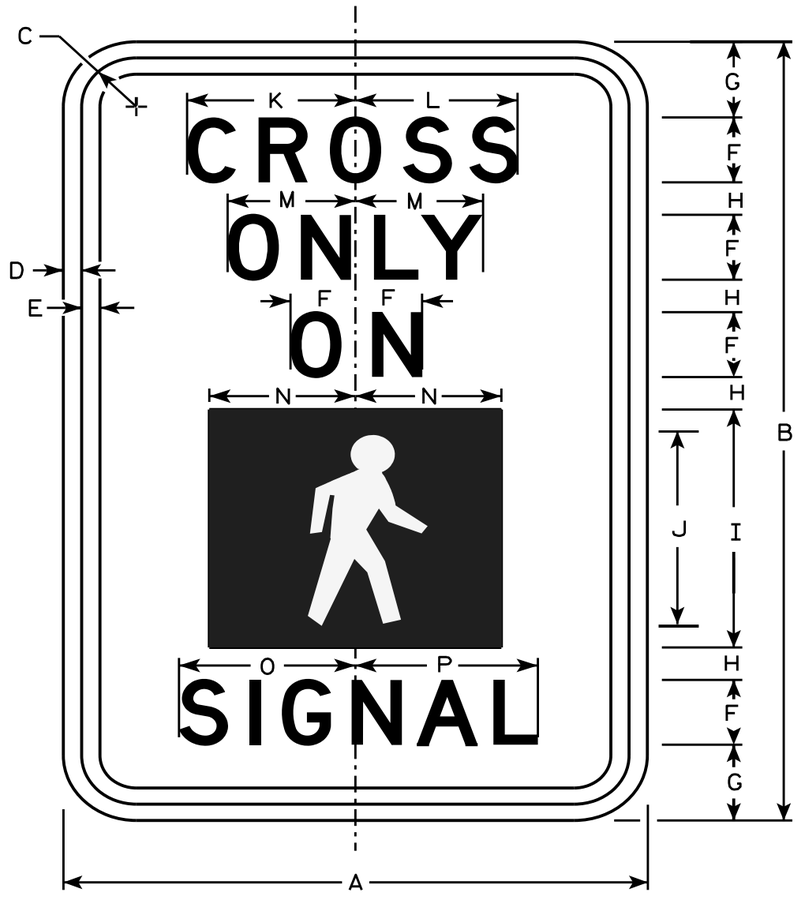
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 143	E



R10-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
   Symbol - White on Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	9	12	¾	⅜	⅜	1	1 ⅛	½	3 ⅝	3	2 ⅝	2 ½	2	2 ¼	2 ¾	2 ⅞											.75
2M	9	12	¾	⅜	⅜	1	1 ⅛	½	3 ⅝	3	2 ⅝	2 ½	2	2 ¼	2 ¾	2 ⅞											.75
3																											
4																											
5																											

STANDARD SIGN
R10-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 10/7/2013 PLATE NO. R10-2.5

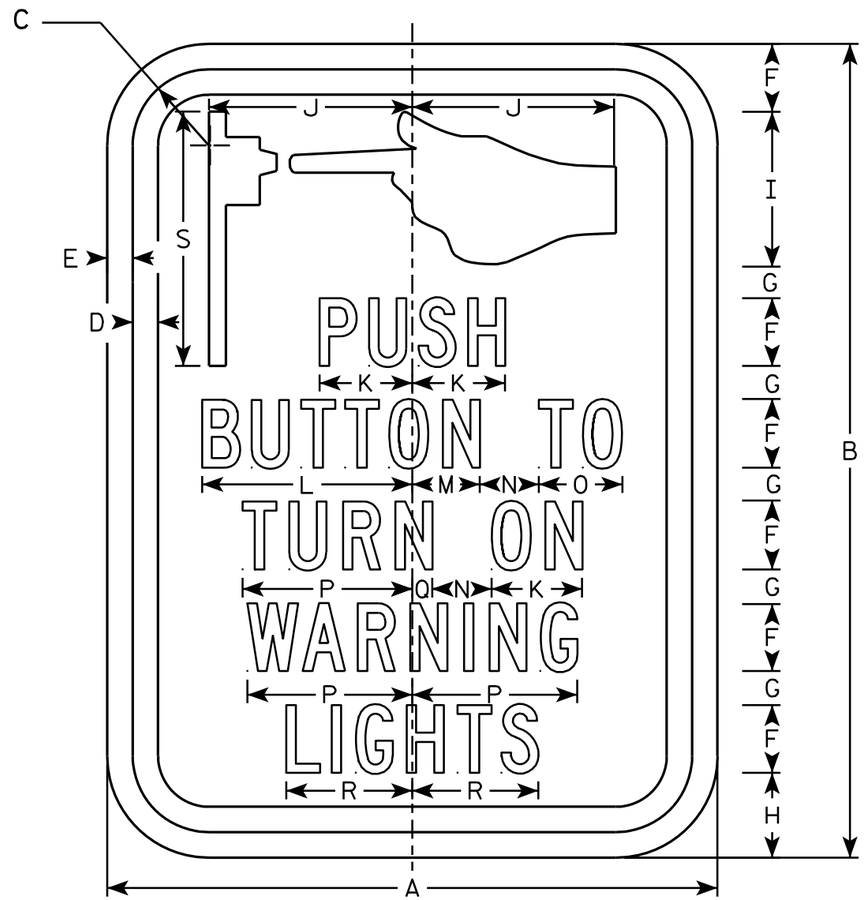
PROJECT NO: | SHEET NO. 144 | E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$

WISDOT/CADDS SHEET 42

7

7



R10-25

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Size (1) comes as a decal only.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	6	9	1 1/8	3/8	3/8	3/4	3/8	1	1 3/4	2	7/8	2 1/8	5/8	5/8	7/8	1 5/8	1/4	1 1/4	2 7/8								.38
2S	9	12	1 1/8	3/8	3/8	1	1/2	1 1/4	2 1/4	3	1 3/8	3 1/8	1	7/8	1 1/4	2 1/2	1/4	1 7/8	3 3/4								.75
2M	9	12	1 1/8	3/8	3/8	1	1/2	1 1/4	2 1/4	3	1 3/8	3 1/8	1	7/8	1 1/4	2 1/2	1/4	1 7/8	3 3/4								.75
3																											
4																											
5																											

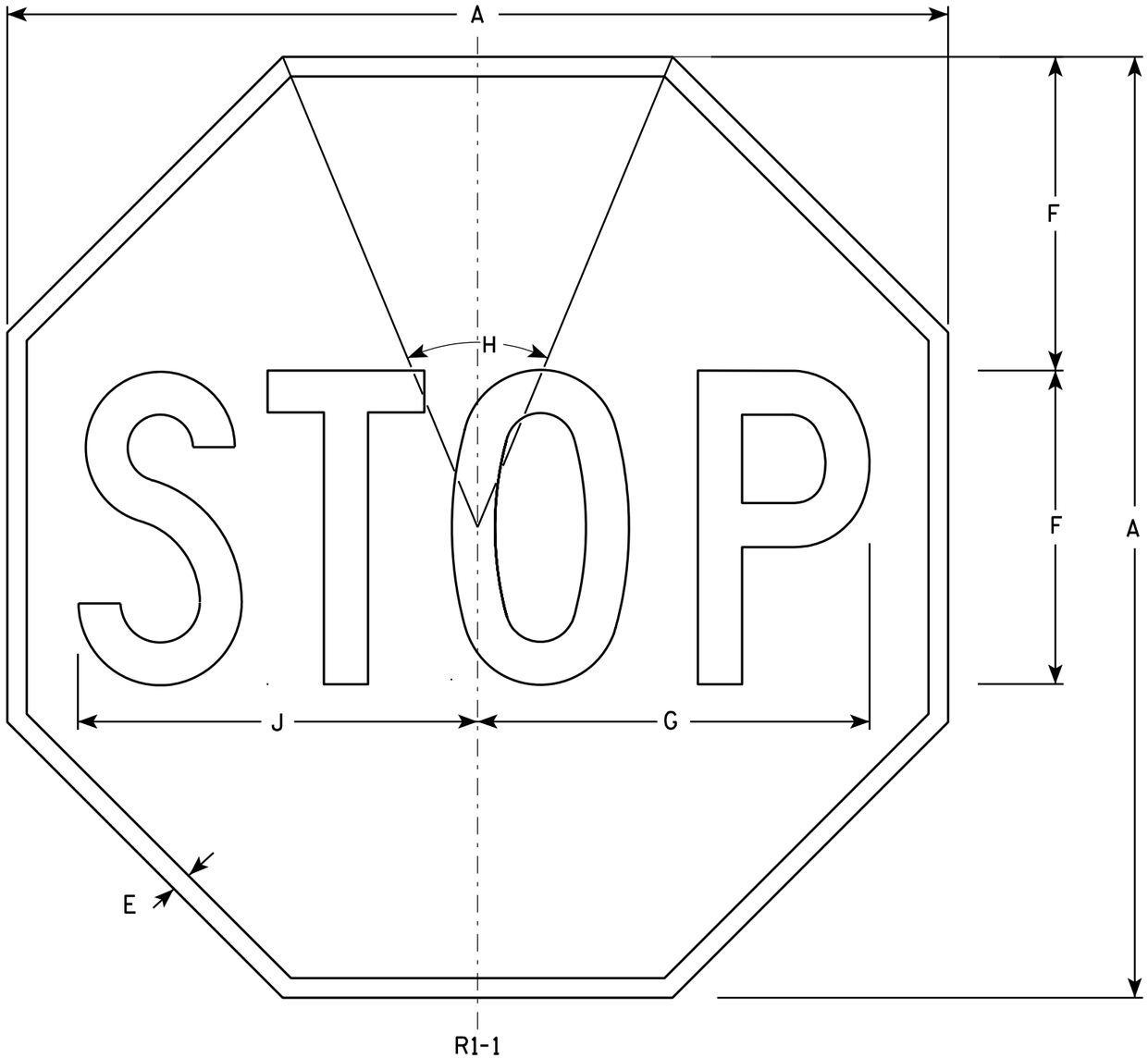
STANDARD SIGN
R10-25

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/8/10 PLATE NO. R10-25.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 145	E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

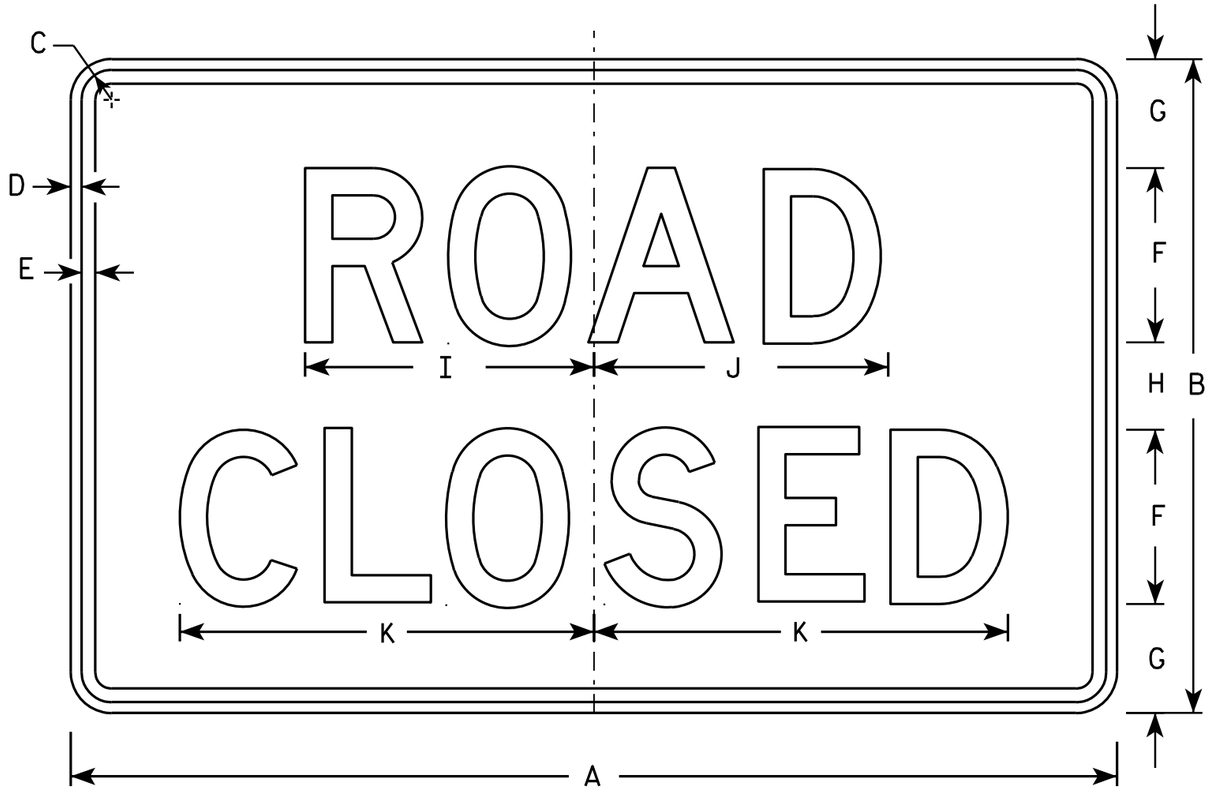
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

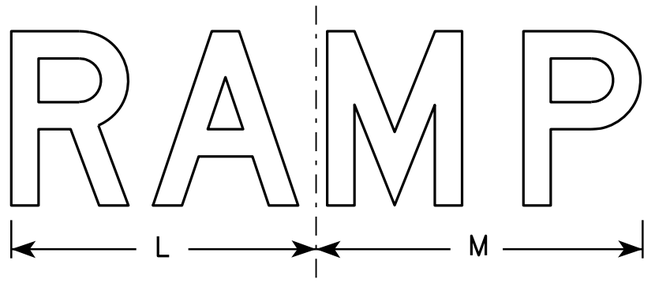
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 146	E



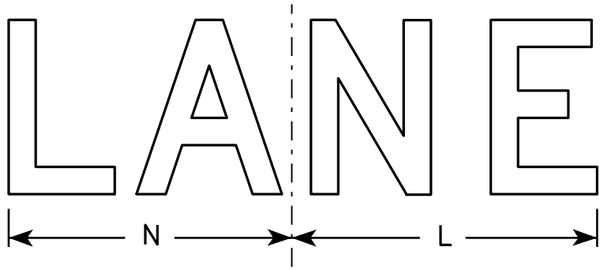
R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

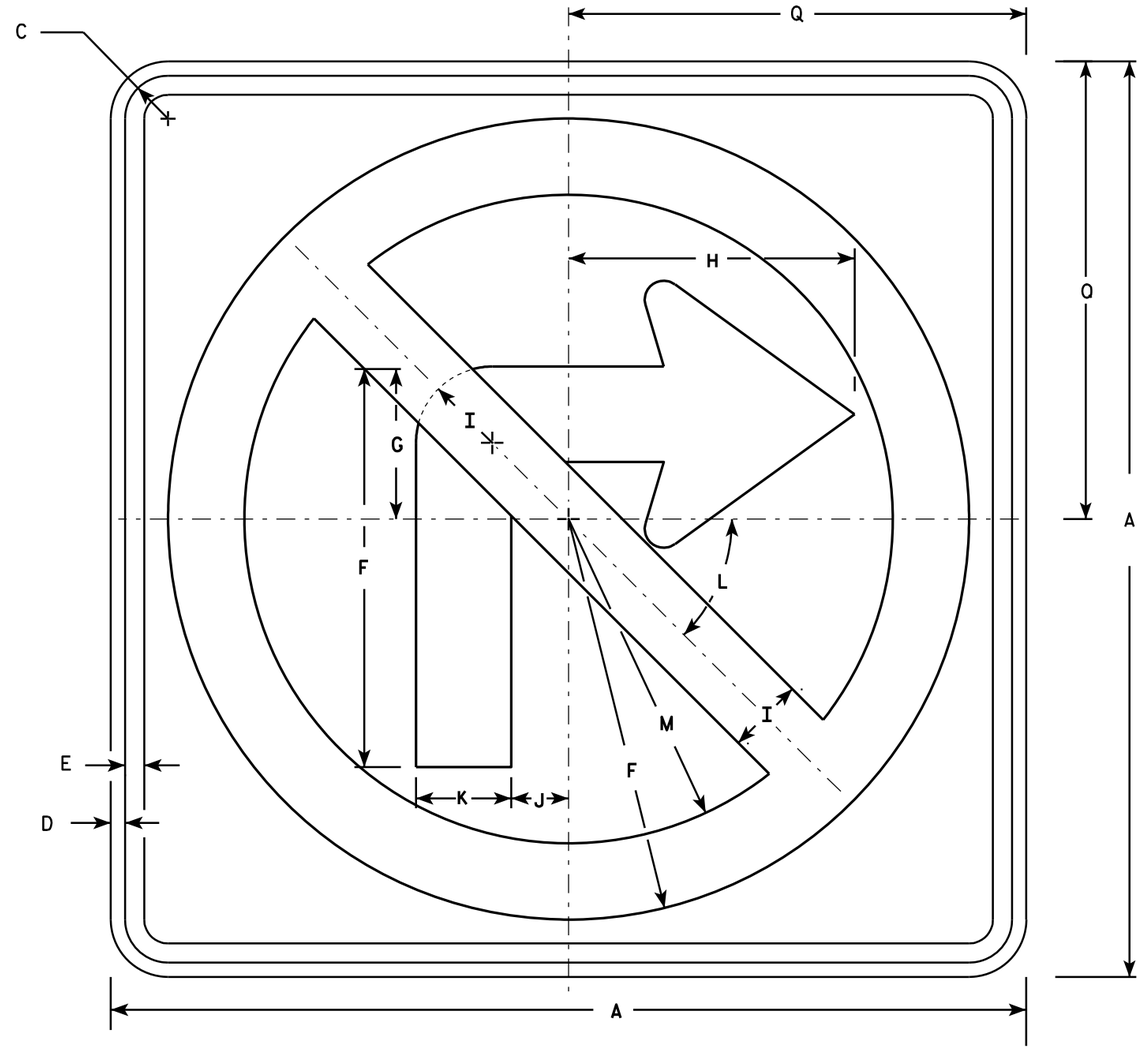
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

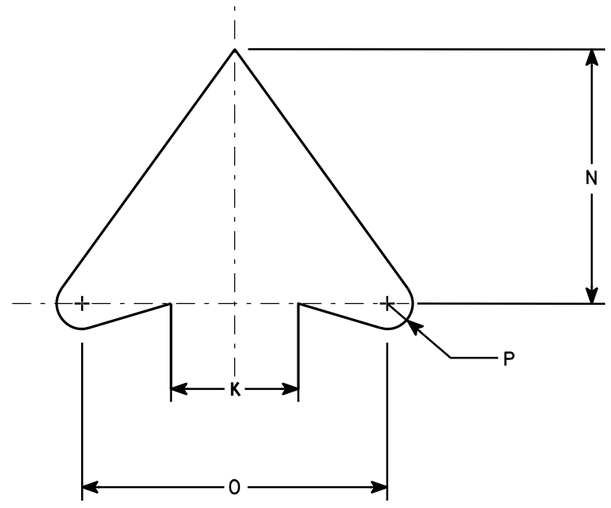
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 147	E



R3-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

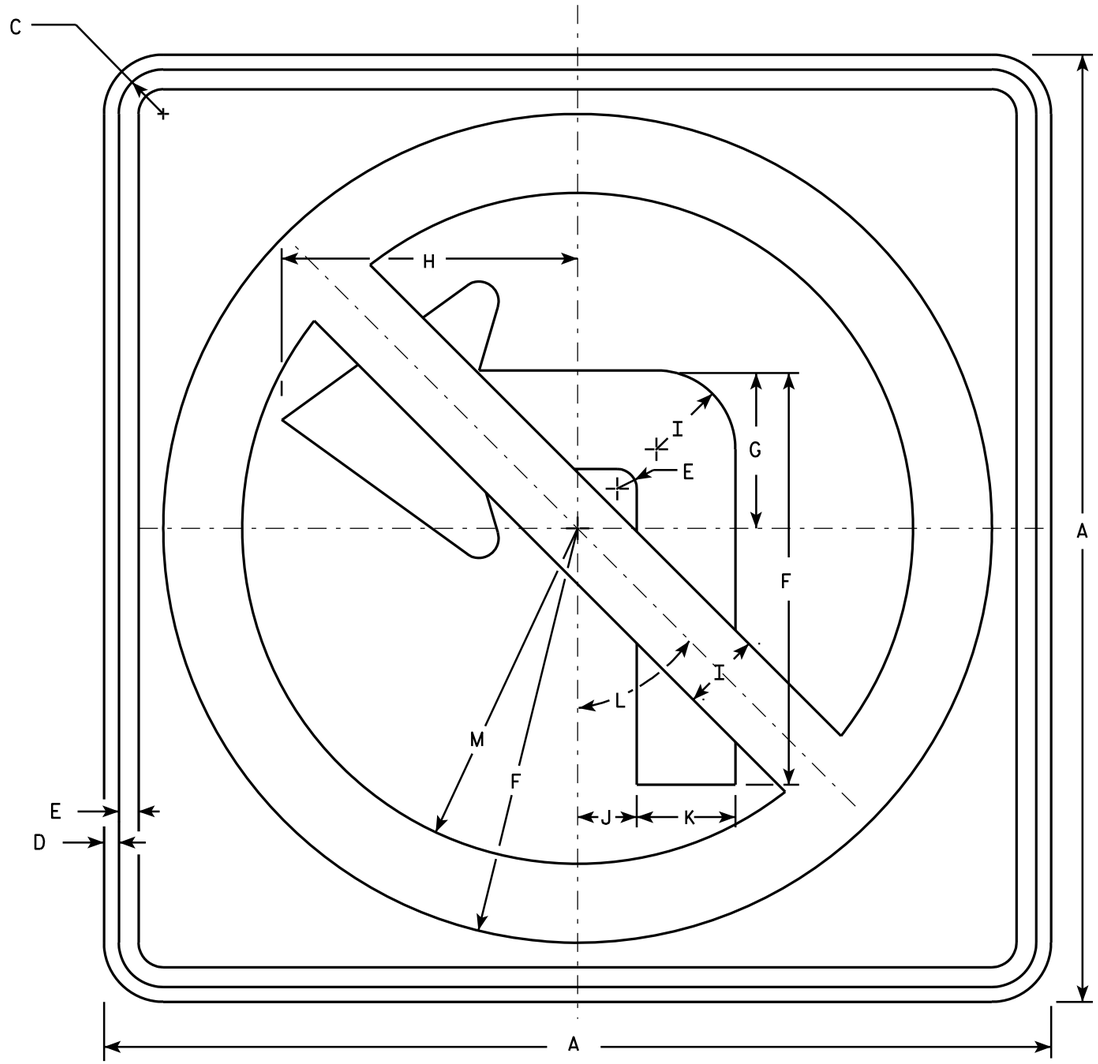
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

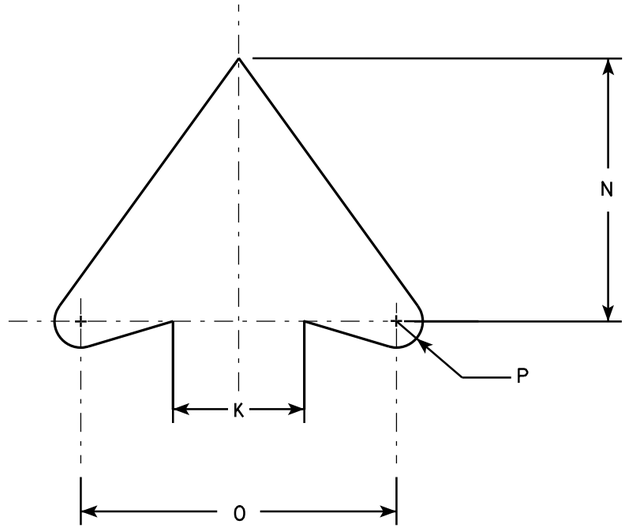
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 148	E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

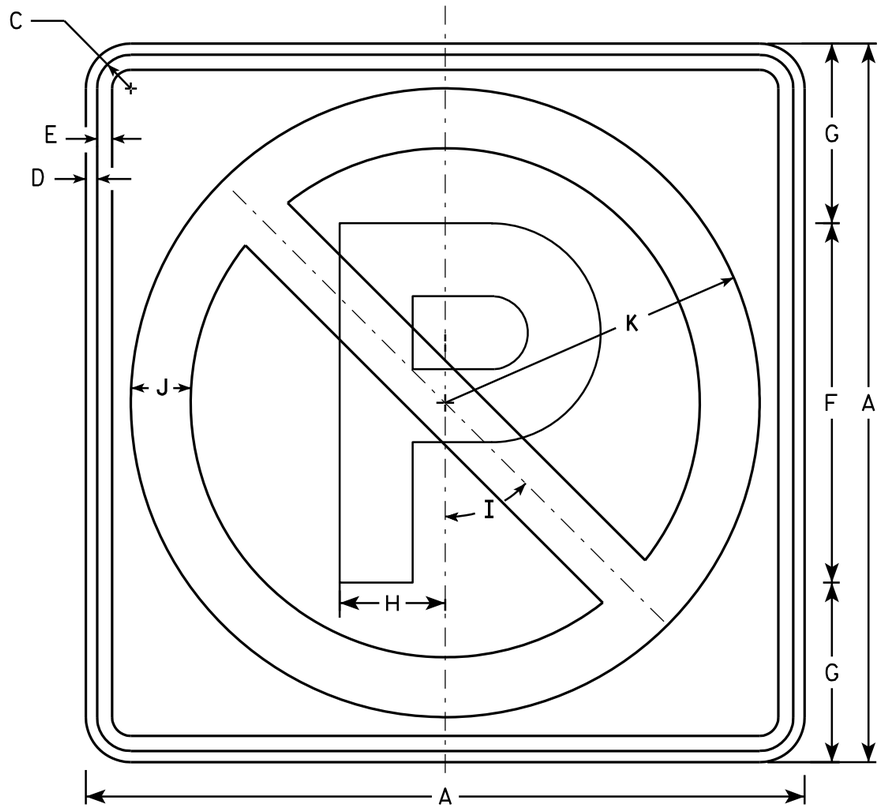
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 149 | E



R3-8A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Letter P are non reflective black, the circle with diagonal bar is reflective red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2	12	6	3 1/2	45°	2	10 1/2																4.0
2M	24		1 1/8	3/8	1/2	12	6	3 1/2	45°	2	10 1/2																4.0
3																											
4																											
5																											

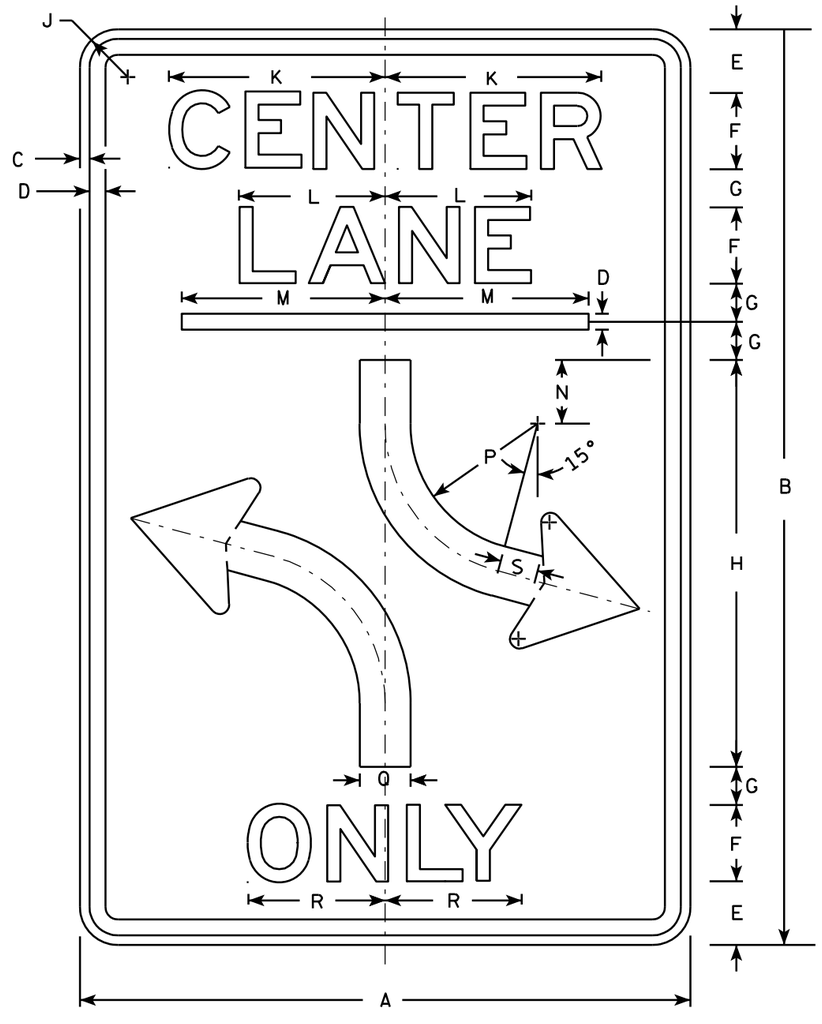
STANDARD SIGN
R3-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/01/12 PLATE NO. R3-8A.1

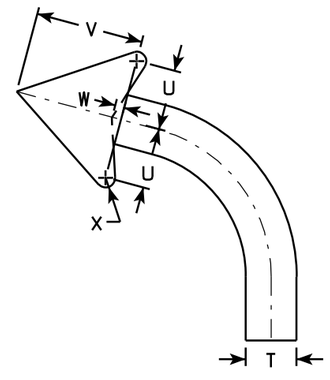
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 150 | E



R3-9B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	3/8	1/2	2 1/2	3	1 1/2	16		1 1/2	8 1/2	5 3/4	8	2 1/2		6	2	5 1/8	1 1/2		2 3/8	4 3/8	3/8				6.0
2M	24	36	3/8	1/2	2 1/2	3	1 1/2	16		1 1/2	8 1/2	5 3/4	8	2 1/2		6	2	5 1/8	1 1/2		2 3/8	4 3/8	3/8				6.0
3	36	48	5/8	7/8	3 1/2	5	1 1/2	20		2 1/4	14 1/8	9 1/2	12	3		4	3	9 7/8	2		3 1/2	6 1/8	1/2				12.0
4																											
5																											

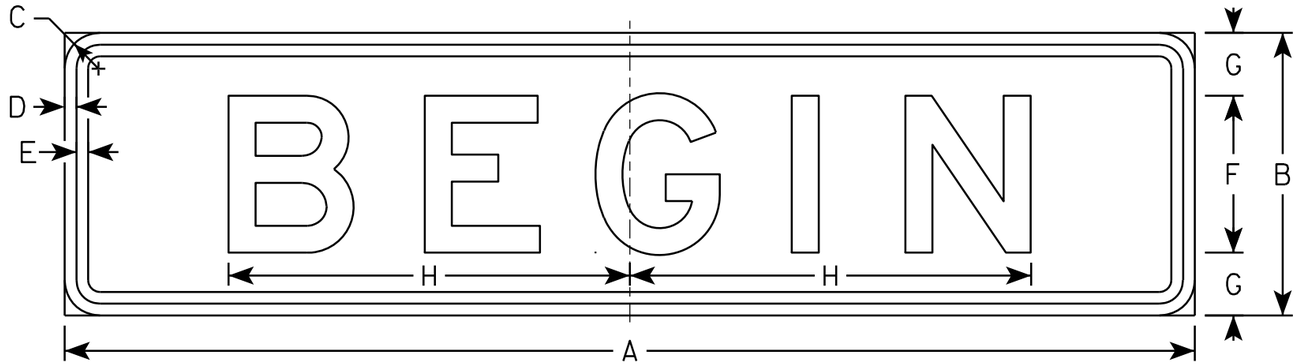
STANDARD SIGN
R3-9B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-9B.5

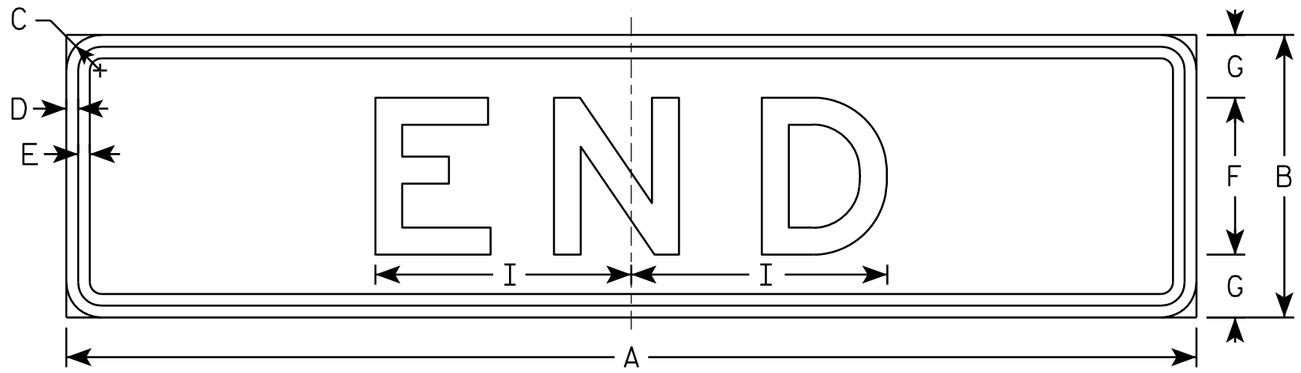
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 151	E



R3-9C

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R3-9D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	6	1 1/8	3/8	3/8	3	1 1/2	7 3/4	4 7/8																		1.0
2M	24	6	1 1/8	3/8	3/8	3	1 1/2	7 3/4	4 7/8																		1.0
3	36	9	1 1/8	3/8	3/8	5	2	12 3/4	8 1/8																		1.86
4																											
5																											

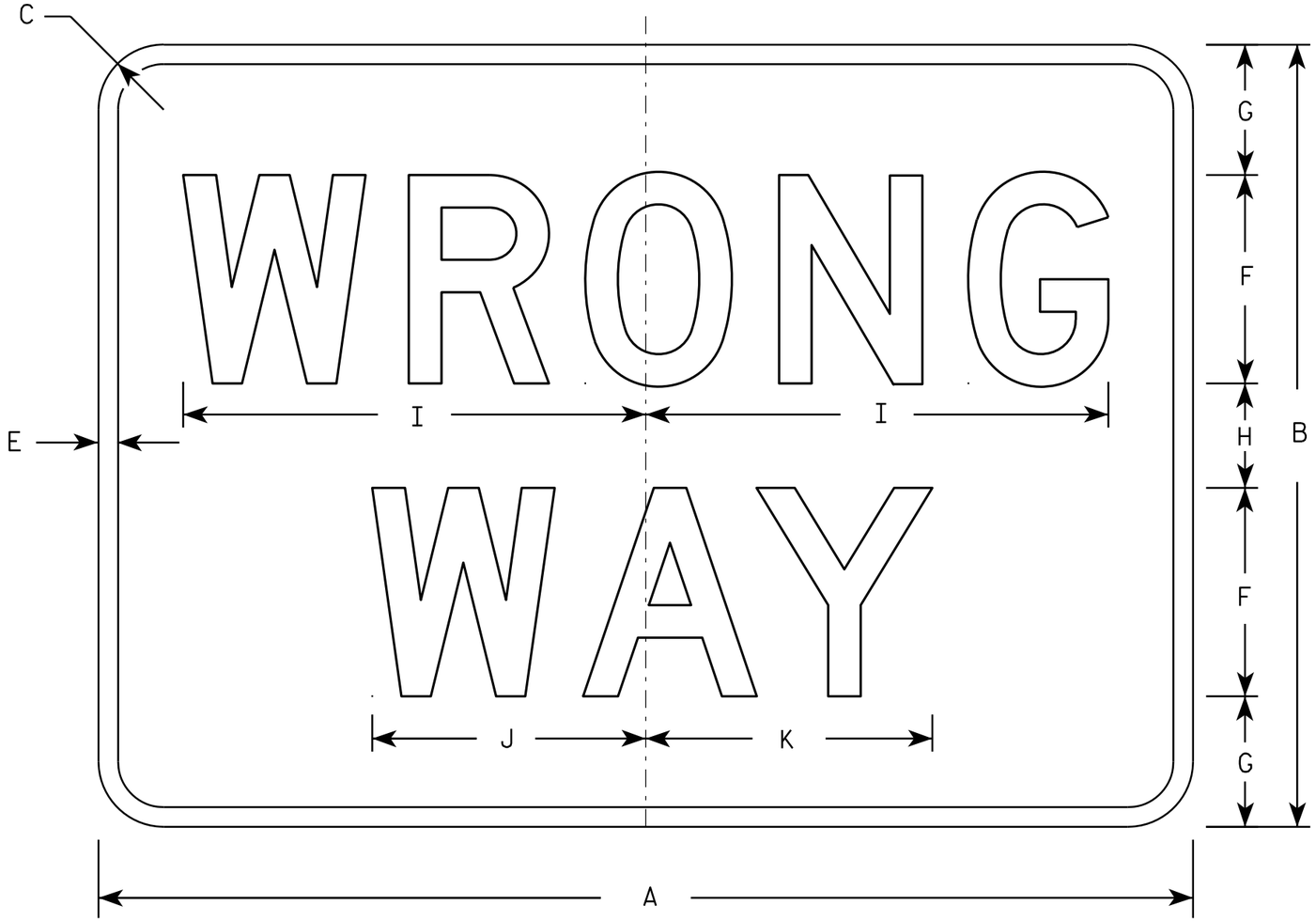
STANDARD SIGN
R3-9C & R3-9D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-9C.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 152	E



R5-1A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

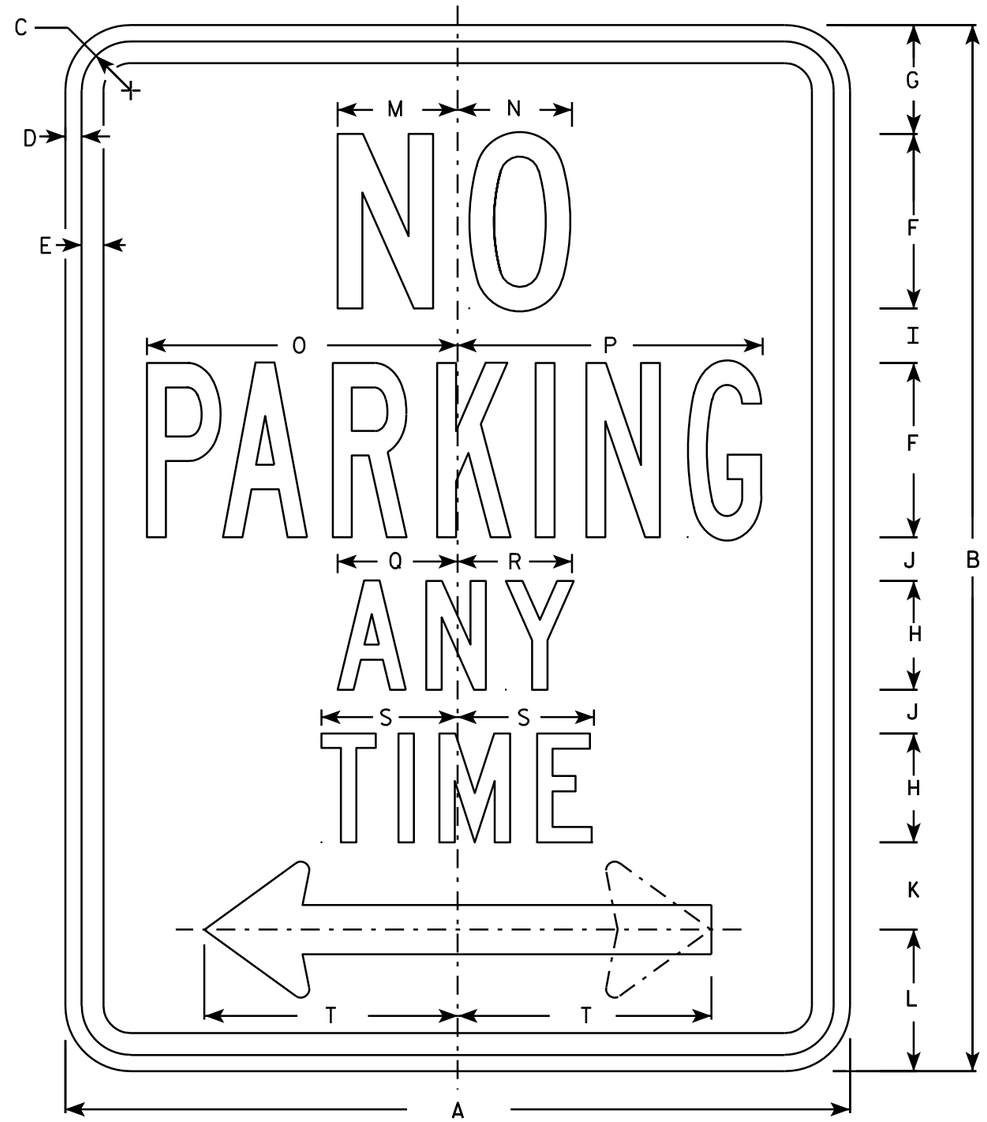
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

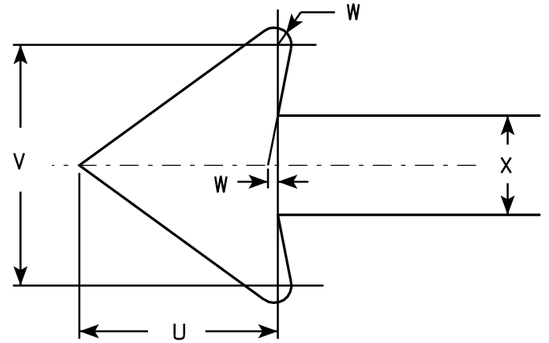
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 153	E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

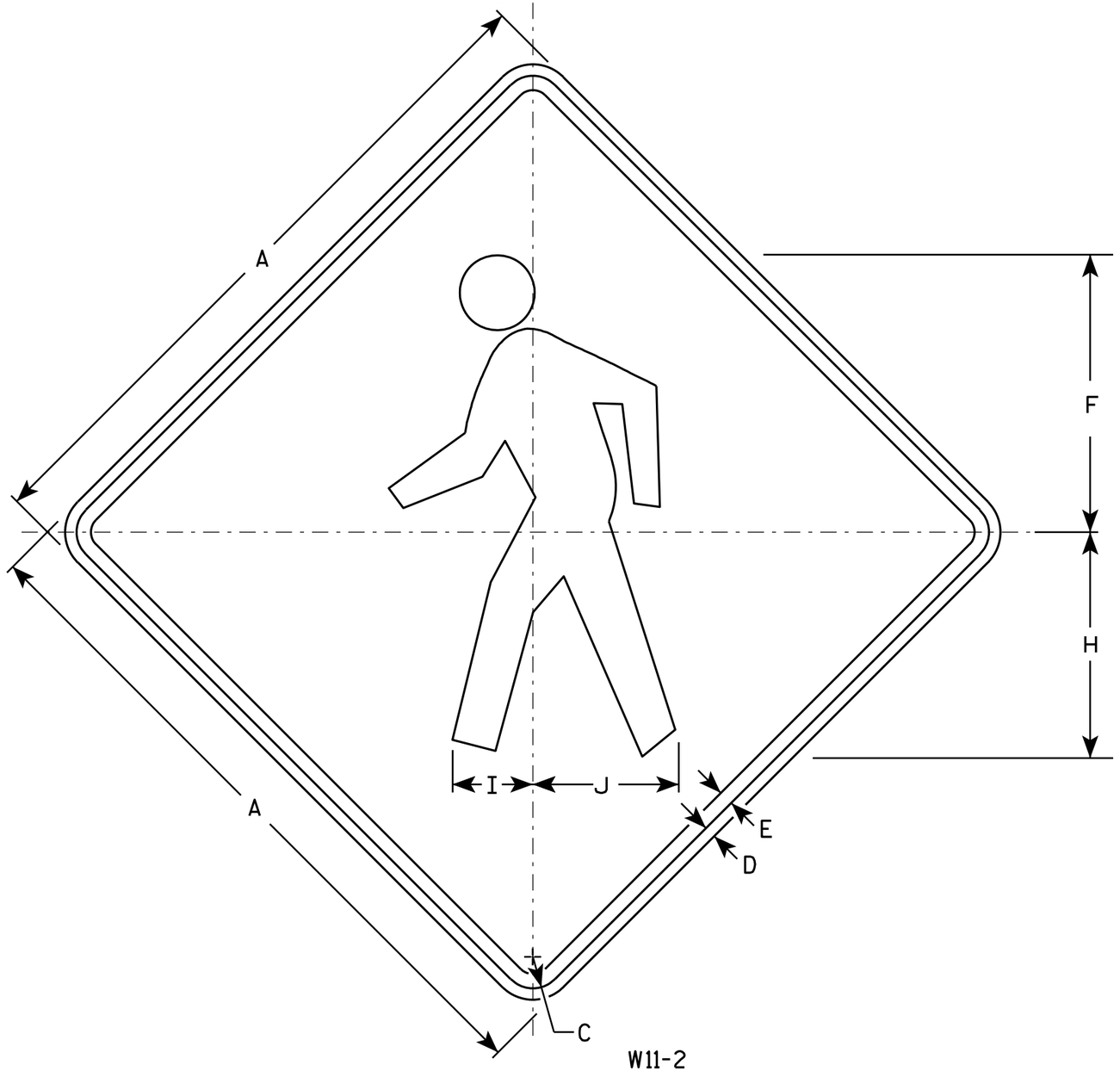
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 154 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R71.DGN PLOT DATE : 31-MAR-2011 09:20 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.476110:1.000000

WISDOT/CADDS SHEET 42



W11-2

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

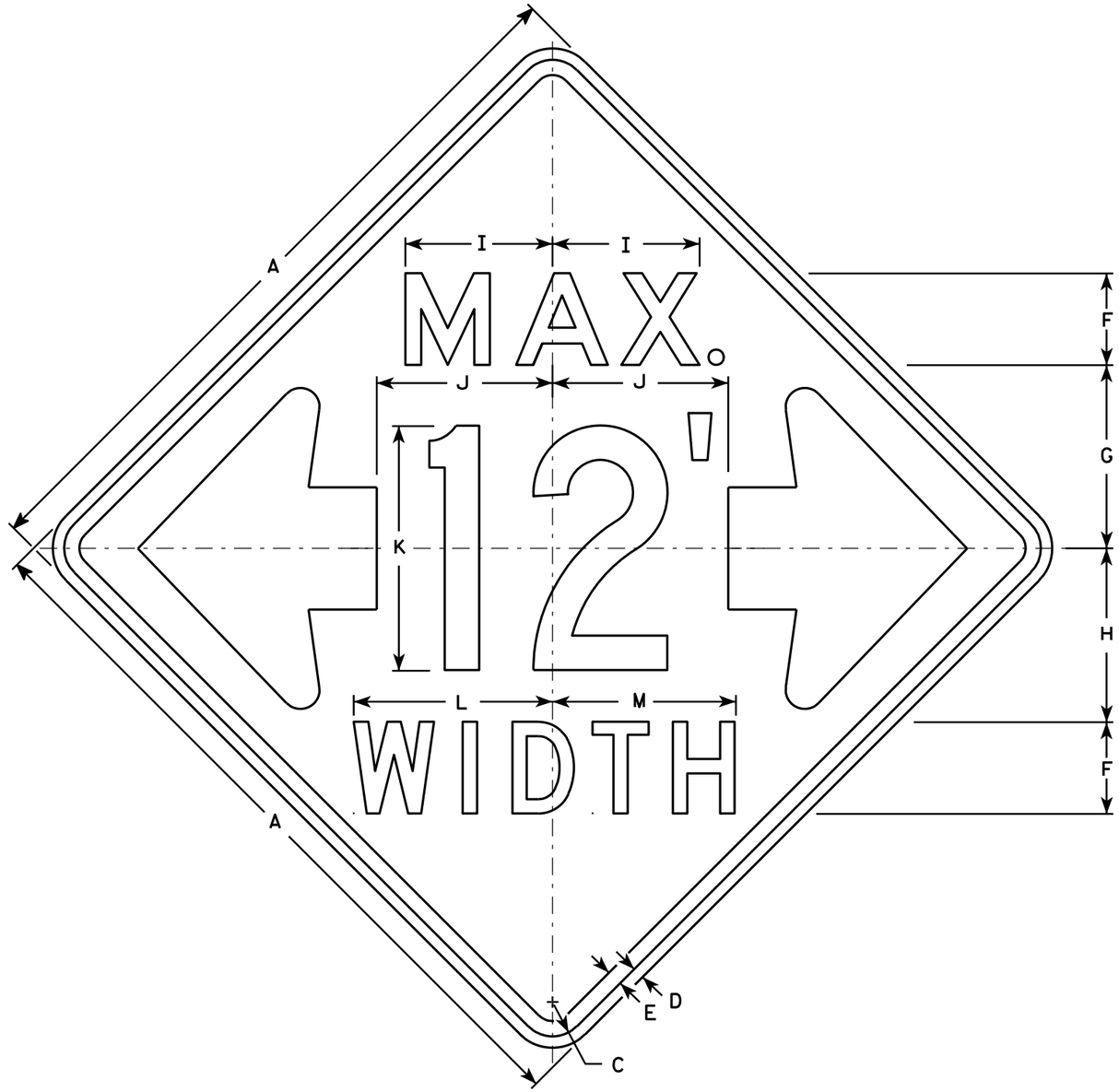
STANDARD SIGN
W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W11-2.7

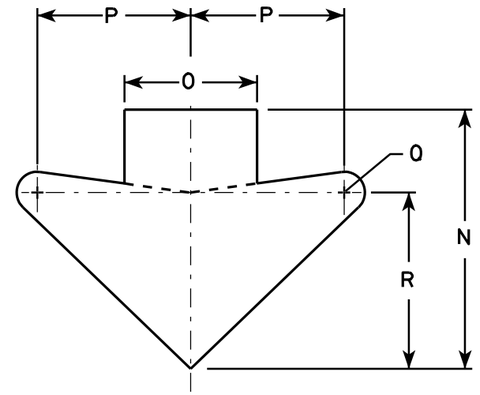
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 155	E



W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

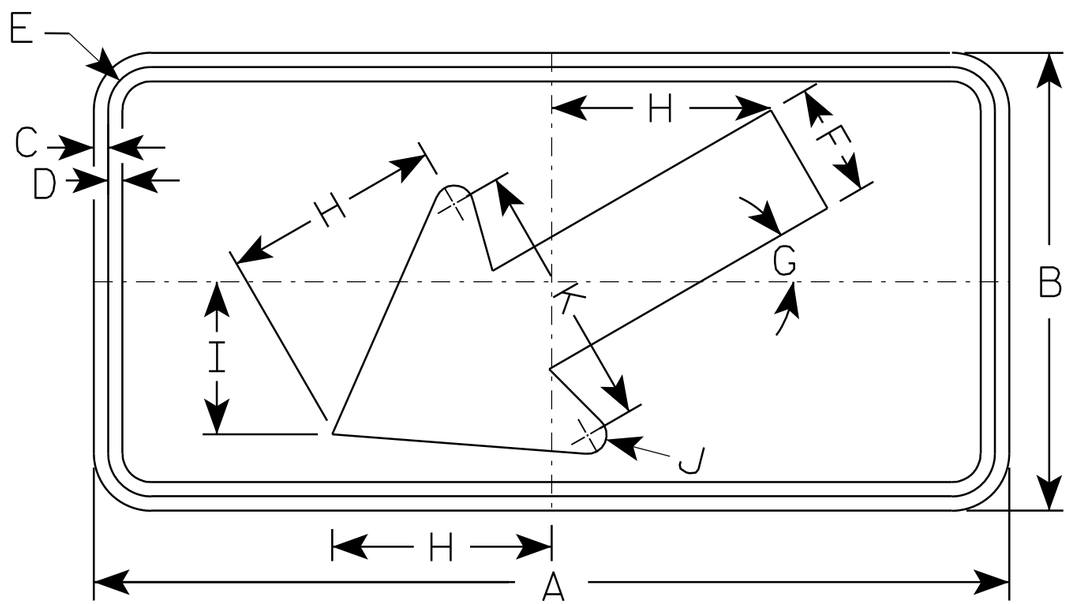
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 156 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42



W16-7L

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W16-7R is the same as W16-L except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4																											8
5																											8

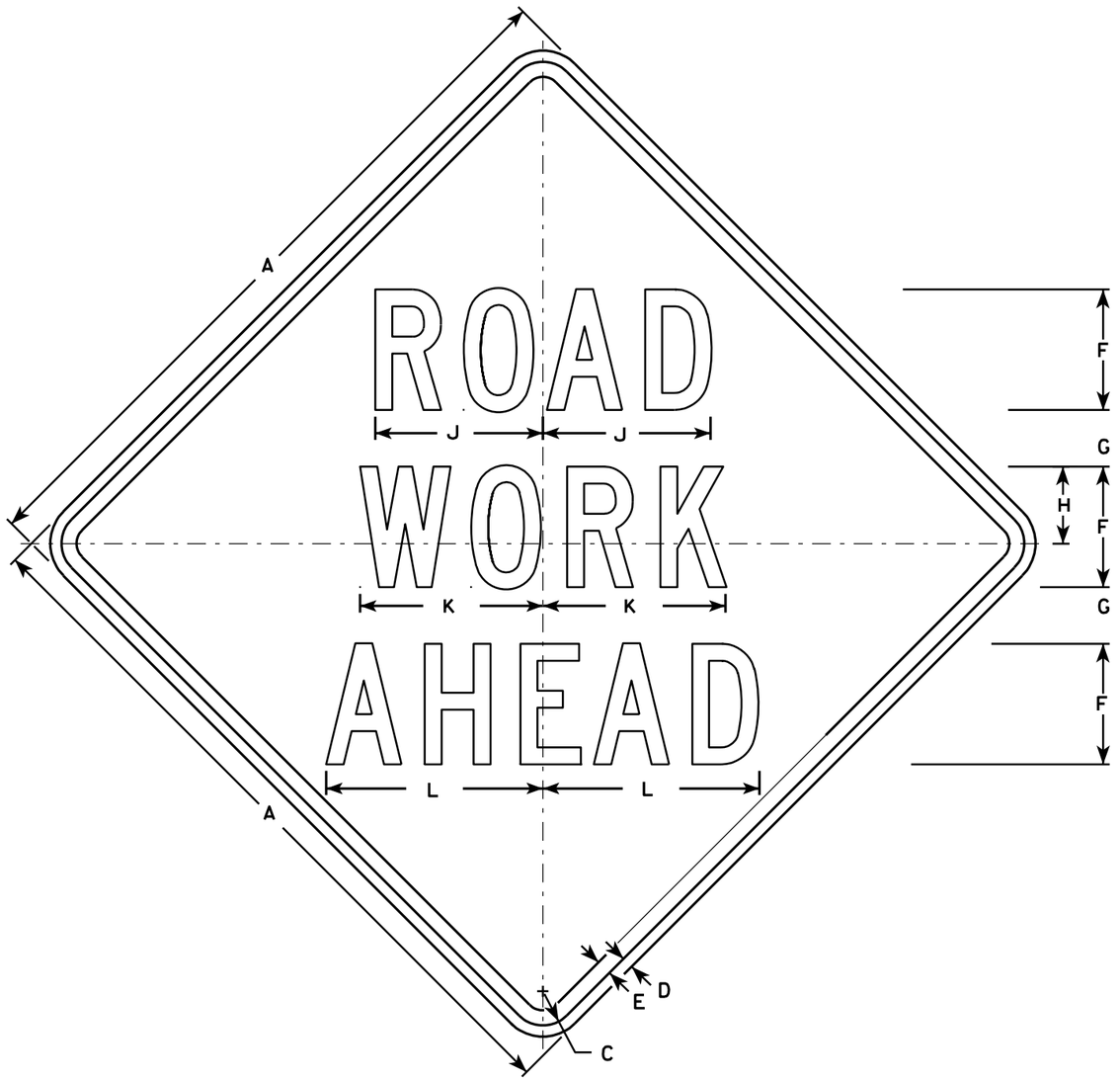
STANDARD SIGN
W16-7

WISCONSIN DEPT OF TRANSPORTATION

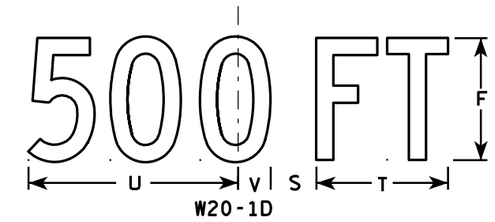
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. W16-7.5

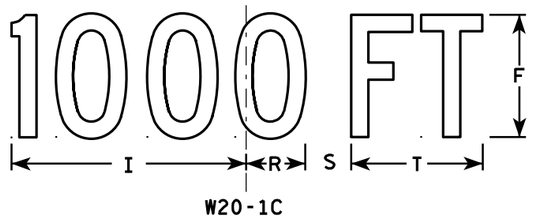
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 157	E



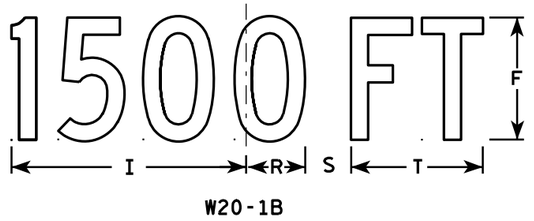
W20-1A



W20-1D

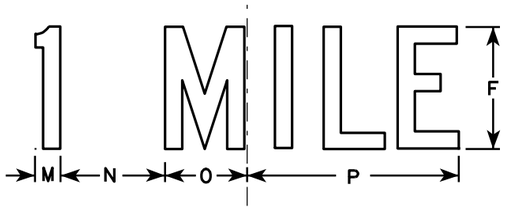


W20-1C



W20-1B

W20-1G



W20-1F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

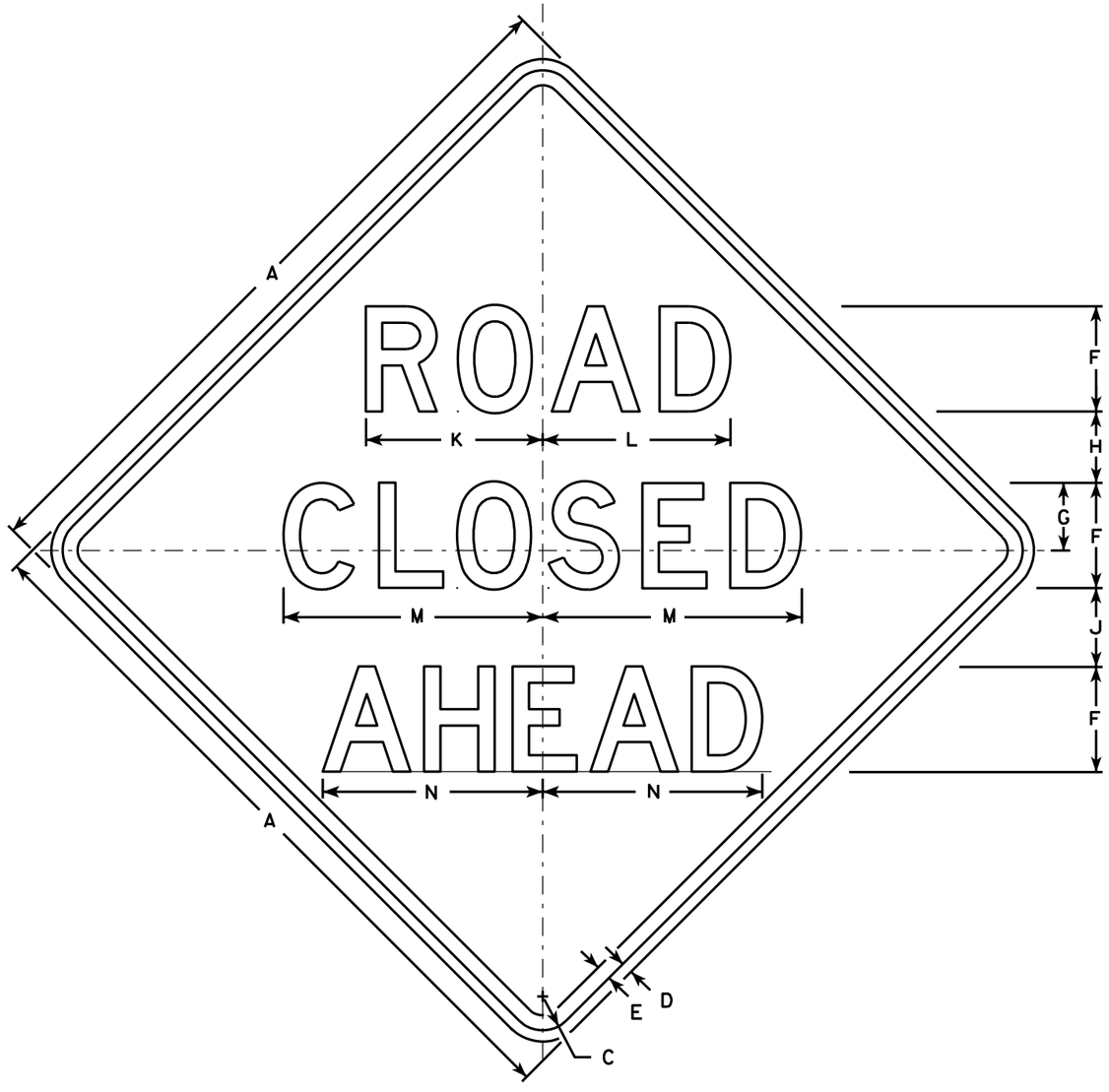
SHEET NO: 158 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

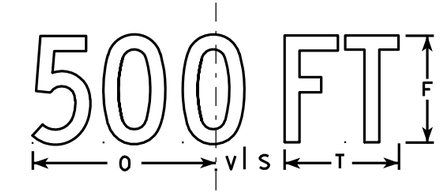
WISDOT/CADDS SHEET 42

7

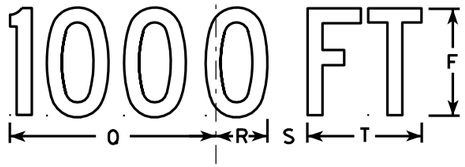
7



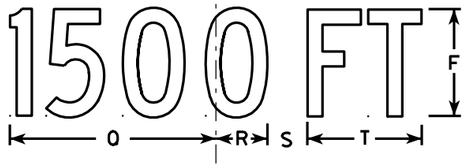
W20-3A



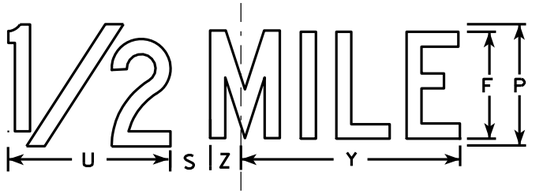
W20-3D



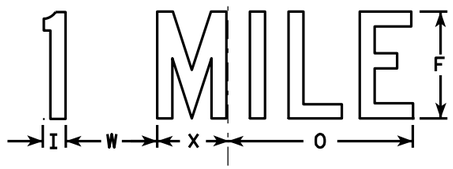
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

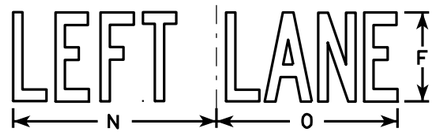
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 159 | E

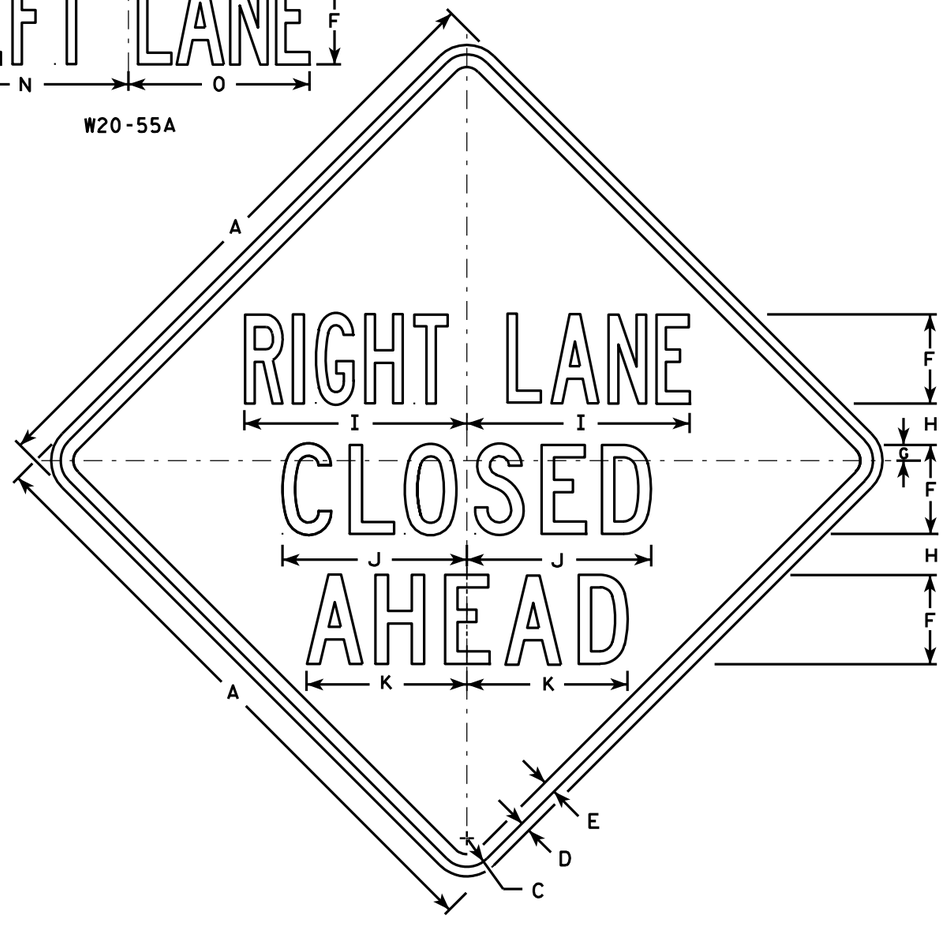
7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42

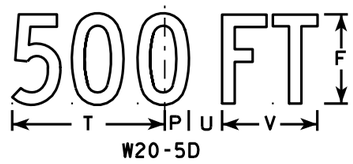
W20-56A



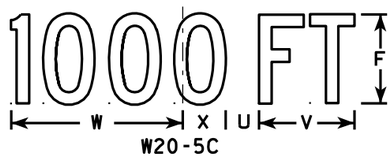
W20-55A



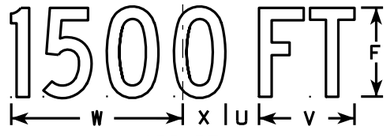
W20-5A



W20-5D



W20-5C



W20-5B

W20-5G

W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

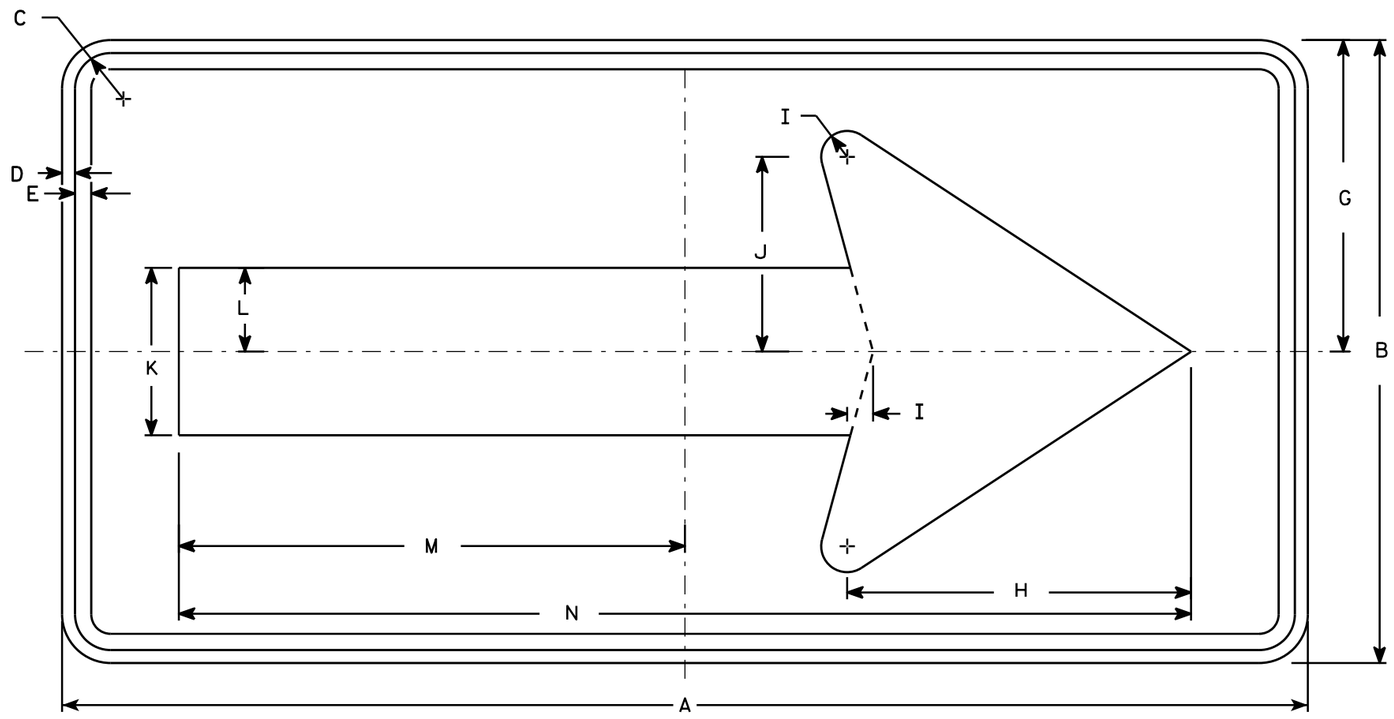
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 160 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W01-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

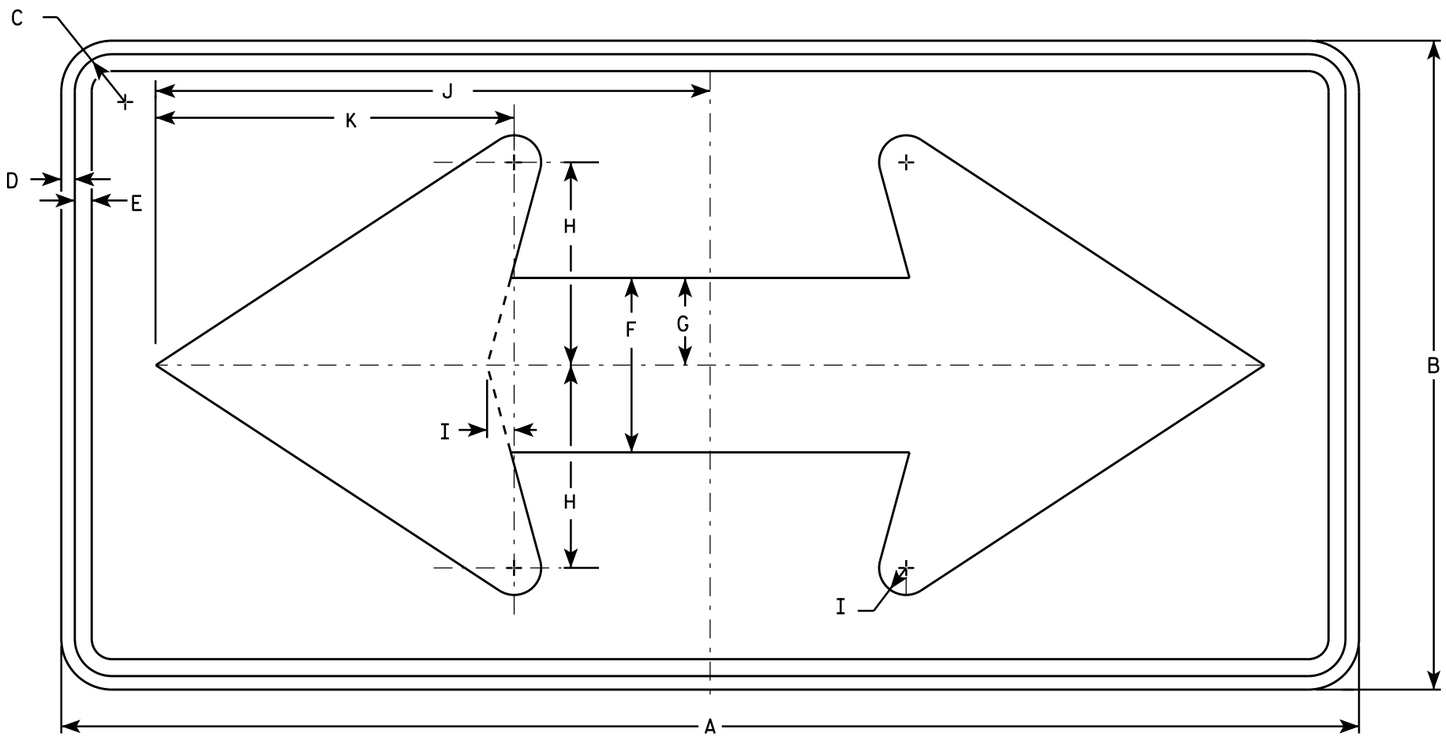
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42



W01-7

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5

STANDARD SIGN
W01-7

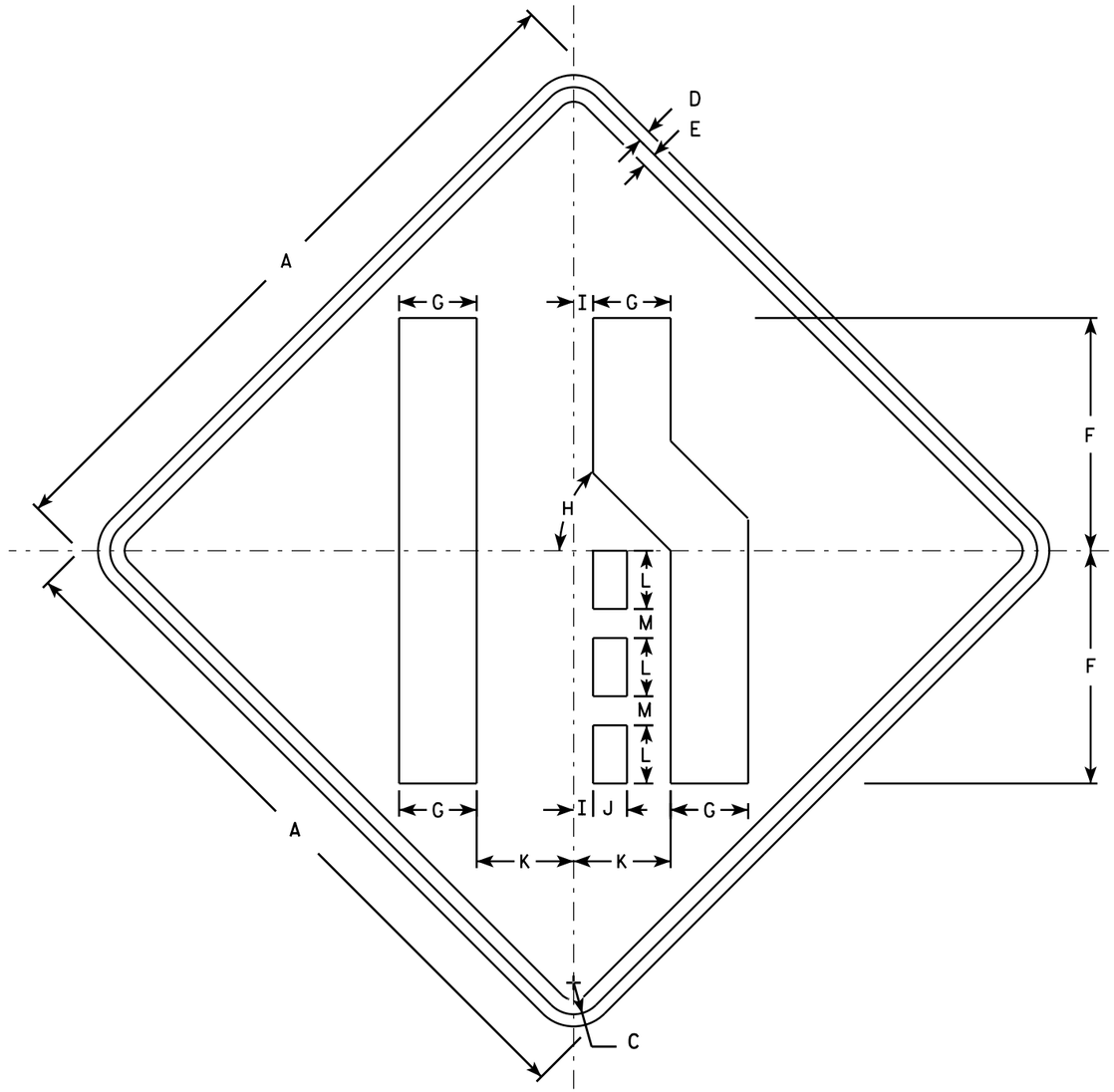
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE 1162 W01-7.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W017.DGN PLOT DATE : 20-NOV-2013 10:35 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.604022:1.000000
WISDOT/CADDS SHEET 42



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

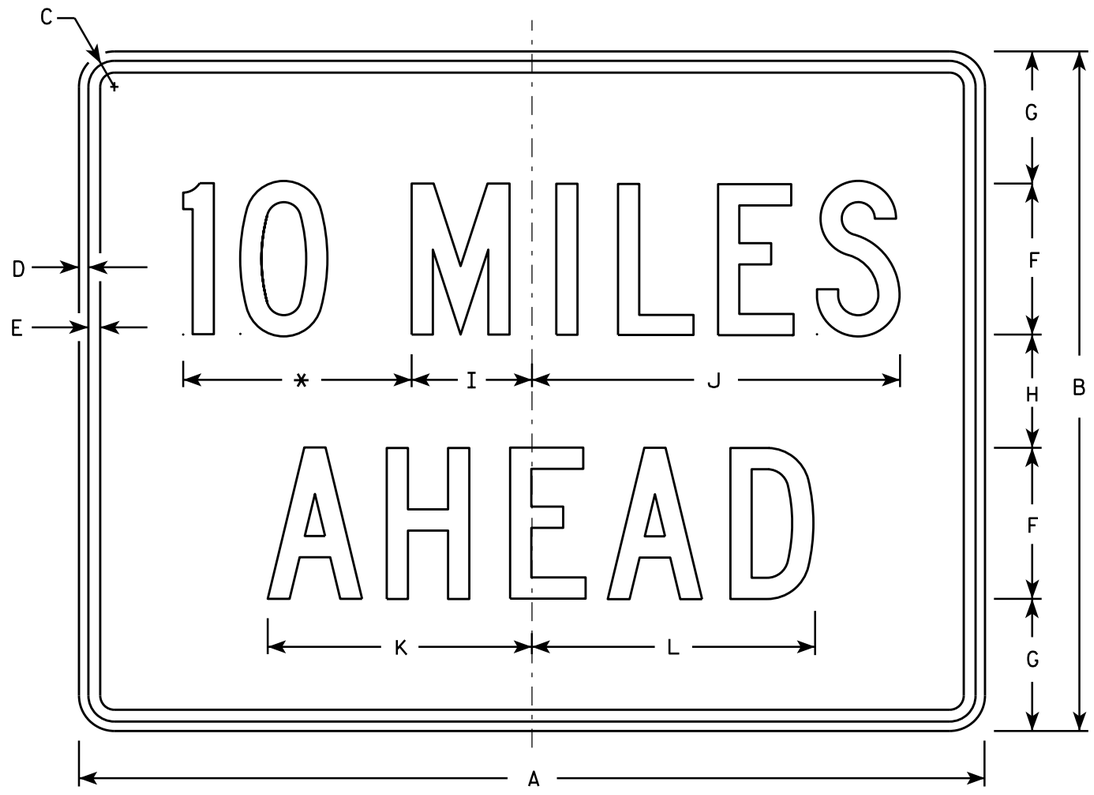
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

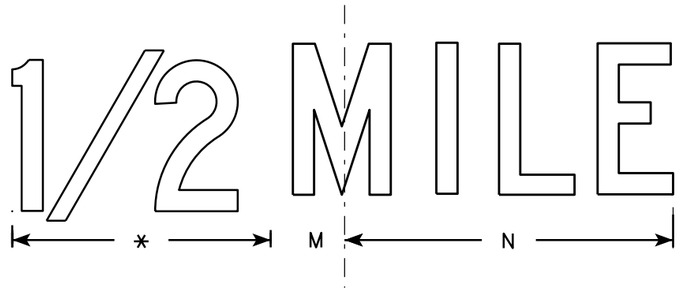
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 163 W04-2.1

PROJECT NO: | SHEET NO: E



W057-52



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0

STANDARD SIGN
W057-52

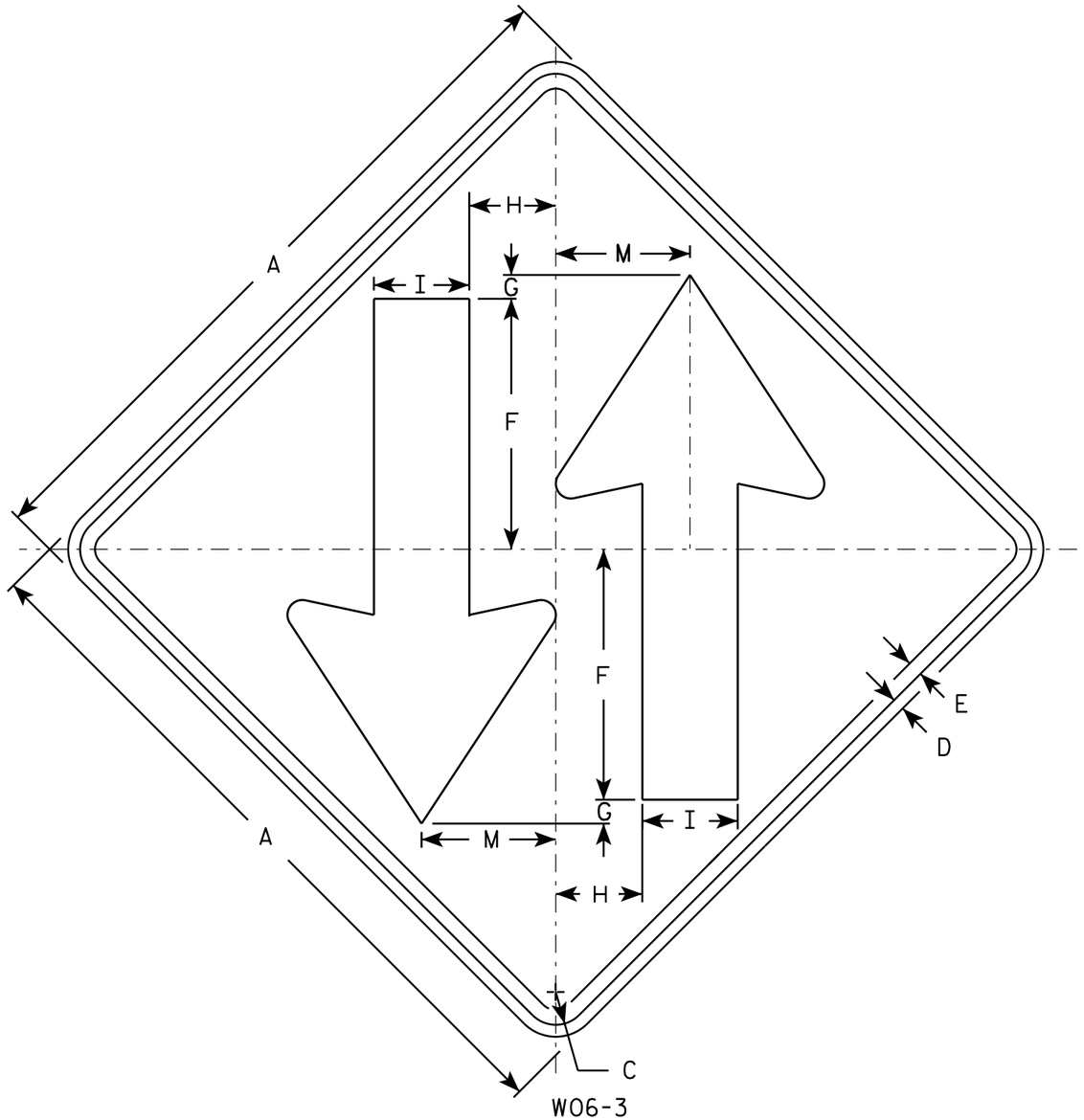
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W057-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

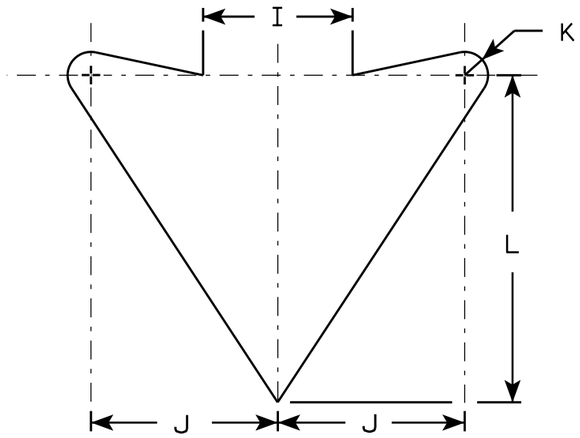
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W05752.DGN PLOT DATE : 28-FEB-2014 11:42 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 8.026599:1.000000 WISDOT/CADDS SHEET 42



W06-3

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
2S	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
2M	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
3	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
4	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
5	48		2 1/4	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0

STANDARD SIGN
W06-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 165 W06-3.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

EAU

MARCH 2015

PROJECT ID: 7600-02-70
WITH: 7220-01-71, 7600-02-71

COUNTY: DUNN

ORDER OF SHEETS

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

TOTAL SHEETS = 98

36

N

DESIGN DESIGNATION

A.A.D.T. 2015	=	11,800
A.A.D.T. 2035	=	14,600
D.H.V.	=	1,767
D.D.	=	59/41
T.	=	7.4%
DESIGN SPEED	=	50 MPH
ESALS	=	N/A

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

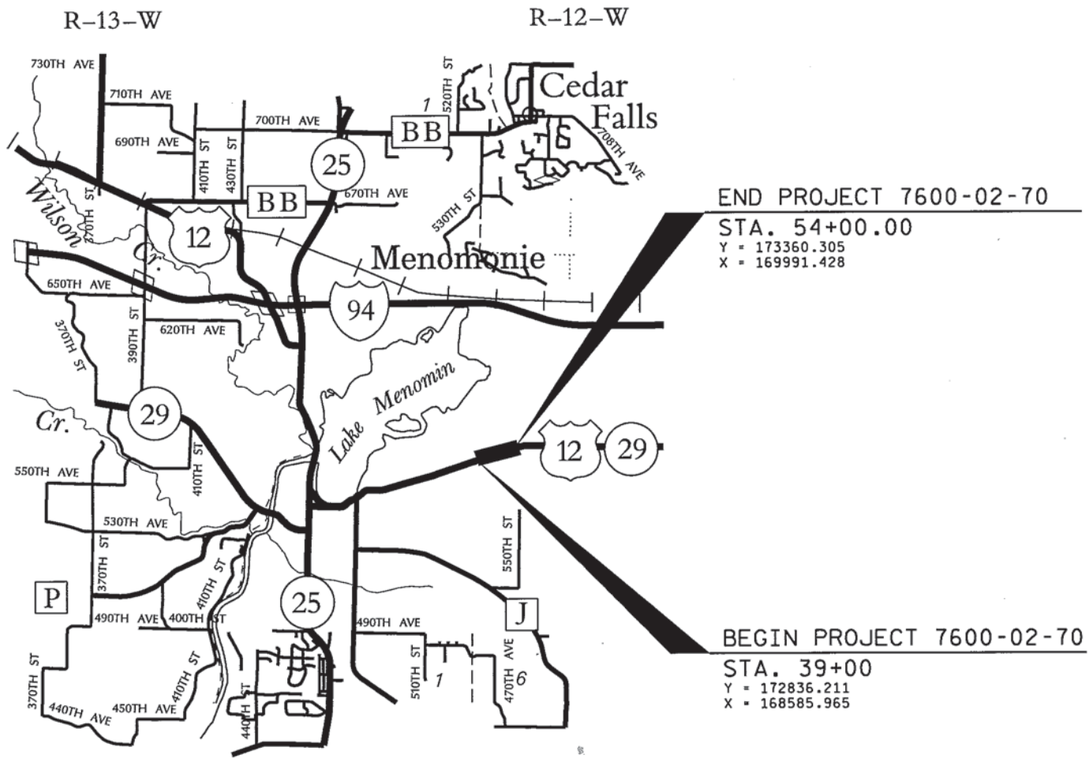
PLAN OF PROPOSED IMPROVEMENT

CITY OF MENOMONIE, STOUT ROAD

RED CEDAR STREET INTERSECTION
USH 12
DUNN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7600-02-70	———	—

STATE PROJECT NUMBER
7600-02-70



END PROJECT 7600-02-70
STA. 54+00.00
Y = 173360.305
X = 169991.428

BEGIN PROJECT 7600-02-70
STA. 39+00
Y = 172836.211
X = 168585.965

LAYOUT
SCALE 0 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.28 MI.

Horizontal coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Dunn County, NAD 83 (1991).

Vertical information shown on this plan is referrenced to NGVD 29.

ACCEPTED FOR
CITY OF MENOMONIE
22 Oct 14 (SIGNATURE)
DATE:

ORIGINAL PLANS PREPARED BY
KL Engineering
[A] Better Experience

WISCONSIN
MIKE D. SCARMON
E-37613
EVANSVILLE, WI
PROFESSIONAL ENGINEER

10-15-2014 (SIGNATURE)
(DATE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Surveyor	KL ENGINEERING, INC.
Designer	KL ENGINEERING, INC.
Project Manager	TARA WEISS
Regional Examiner	DANIEL OJIBWAY
Regional Supervisor	TIM MASON
C.O. Examiner	JANE ENGELBRETSEN

APPROVED FOR THE DEPARTMENT
DATE: 10/20/14 (Signature)

E

DIGGERS HOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

24-7 TELCOM INC.
GARY WAYNE
E4528 CTH C
DOWNSVILLE, WI 54735
715-231-200 (OFFICE)
715-308-1915 (MOBILE)

CITY OF MENOMONIE – WATER/SANITARY
SEWER/STREET LIGHTS/TRAFFIC SIGNALS
RANDY EIDE, DIRECTOR OF PUBLIC WORKS
800 WILSON AVENUE
MENOMONIE, WI 54751
715-232-2207 (OFFICE)
715-308-0664 (MOBILE)

CHARTER COMMUNICATIONS
TOM HAAS
2304 SOUTH MAIN STREET
RICE LAKE, WI 54868
715-719-0564 (OFFICE)
715-370-1601 (MOBILE)

AT&T WISCONSIN
RICK PODOLAK
AT&T WI DESIGN ENGINEERING
304 S. DEWEY STREET
EAU CLAIRE, WI 54701
715-839-5565 (OFFICE)
715-410-0656 (MOBILE)

XCEL ENERGY – ELECTRICITY
MIKE JOHNSEN
320 HELLER ROAD
MENOMONIE, WI 54751
715-232-7415 (OFFICE)
715-577-7428 (MOBILE)

XCEL ENERGY – GAS/PETROLEUM
MIKE JOHNSEN
320 HELLER ROAD
MENOMONIE, WI 54751
715-232-7415 (OFFICE)
715-577-7428 (MOBILE)

DNR AREA LIAISON

CHRIS WILLGER
DEPARTMENT OF NATURAL RESOURCES
1300 W. CLAIRMONT STREET
EAU CLAIRE, WI 54702
(715) 839-1609
CHRISTOPHERJ.WILLGER@WISCONSIN.GOV

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
STORM SEWER & EROSION CONTROL
SIGNING
TRAFFIC SIGNALS
PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT
CONTROL POINTS

DESIGN CONTACTS

CONSULTANT DESIGNER
BRAD CUNNINGHAM, P.E.
KL ENGINEERING, INC.
5950 SEMINOLE CENTRE COURT, SUITE 200
MADISON, WI 53711
(608) 663-1218
BCUNNINGHAM@KLENGINEERING.COM

CONSULTANT PROJECT MANAGER
MIKE SCARMON, P.E.
KL ENGINEERING, INC.
5950 SEMINOLE CENTRE COURT, SUITE 200
MADISON, WI 53711
(608) 663-1218
MSCARMON@KLENGINEERING.COM

ABBREVIATIONS

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

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO NGVD 29

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WCCS DUNN CO WITH NAD 83 (1991) ADJUSTMENTS

CONTACT THE UTILITIES AND DIGGERS HOTLINE TO LOCATE AND FIELD VERIFY UTILITIES PRIOR TO THE START OF WORK. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTACT ANY LOCAL, MUNICIPAL OR OTHER UTILITY THAT IS NOT A MEMBER OF DIGGERS HOTLINE SEPARATELY.

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

RIGHT OF WAY LINES SHOWN ARE APPROXIMATE.

PROTECT INLETS WITH PROPER INLET PROTECTION AT LOCATIONS EXHIBITING RISK OF BEING IMPACTED BY CONSTRUCTION OPERATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTORS EXPENSE.

PLACE EXCAVATED MATERIAL AND TOPSOIL FROM GRADED AREAS AS DESIGNATED BY THE ENGINEER. AFTER GRADING HAS BEEN COMPLETED SEED, MULCH AND FERTILIZE 5 DAYS AFTER PLACEMENT OF TOPSOIL.

CURB AND GUTTER GRADES AND LAYOUT DATA ARE GIVEN TO THE FLANGE OF THE CURB.

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.

INLET OFFSETS ARE GIVEN TO THE CENTER OF THE STRUCTURE.

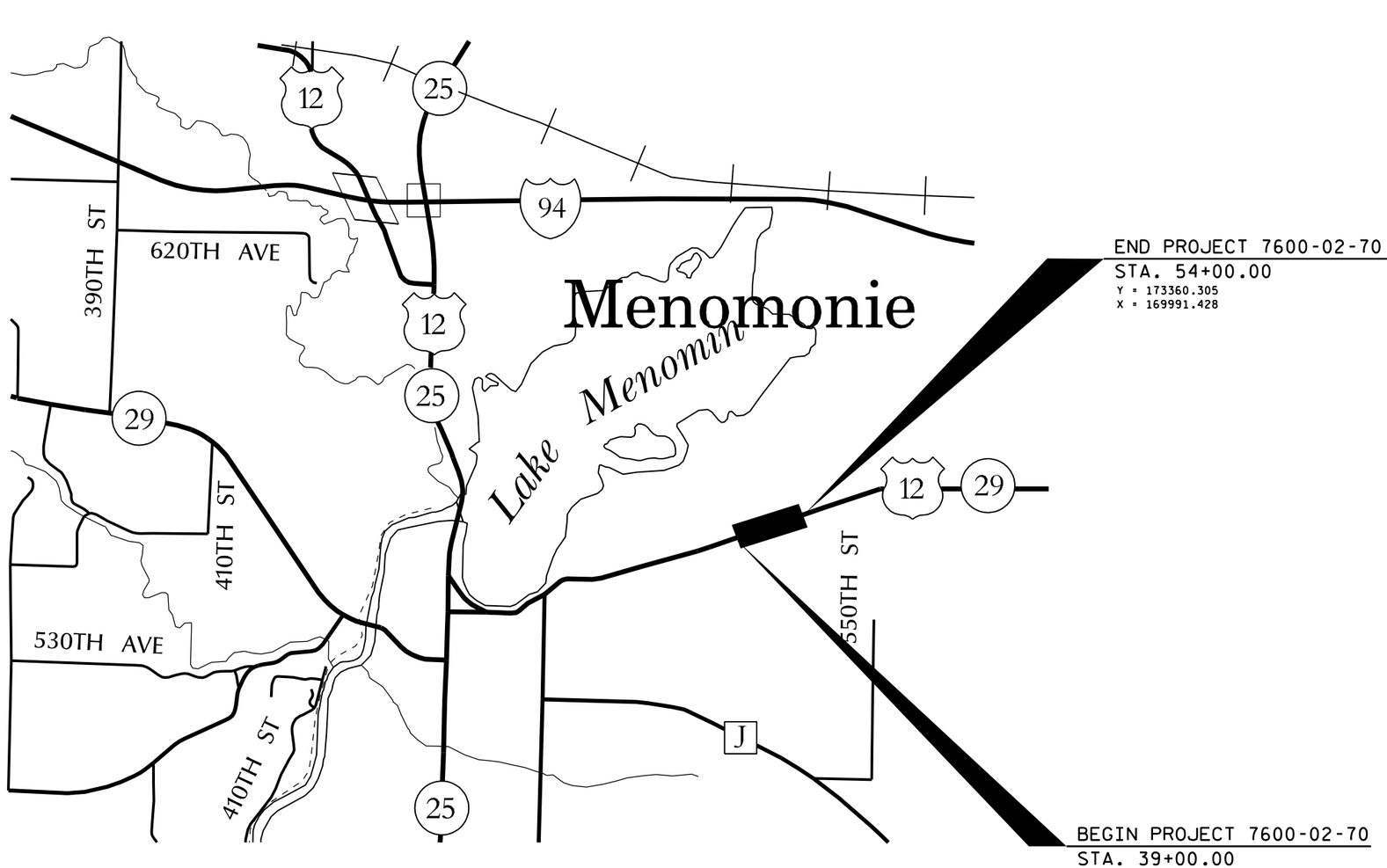
TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

SIGNS IN CONFLICT WITH TRAFFIC CONTROL “IN USE” SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM “TRAFFIC CONTROL COVERING SIGNS TYPE 1 OR TYPE 2.

SIDEWALK AND CURB & GUTTER REPLACEMENT SHOULD BE THE NEAREST JOINT. LIMITS ARE APPROXIMATE AND ARE TO BE VERIFIED IN THE FIELD BY THE ENGINEER. MATCH EXISTING SIDEWALK WIDTH.

RED CEDAR STREET PAVEMENT STRUCTURE SHALL BE THE SAME AS THE MAINLINE.

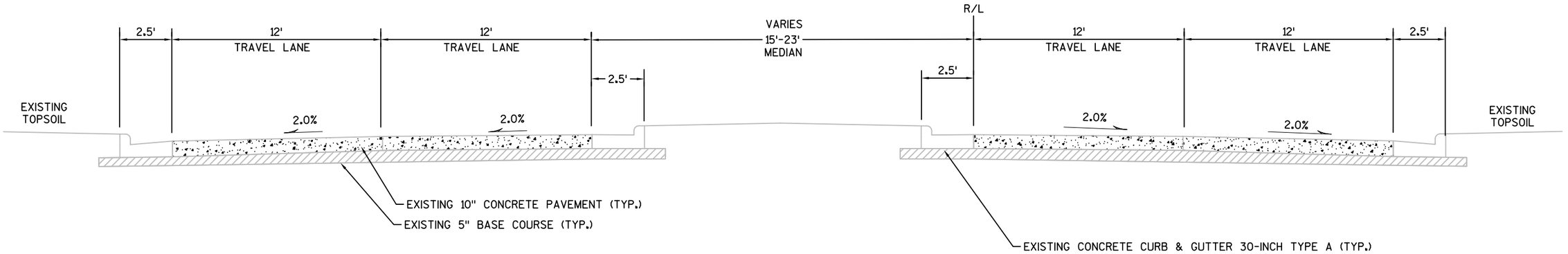
2



NET LENGTH OF ROADWAY = 0.284 MI.

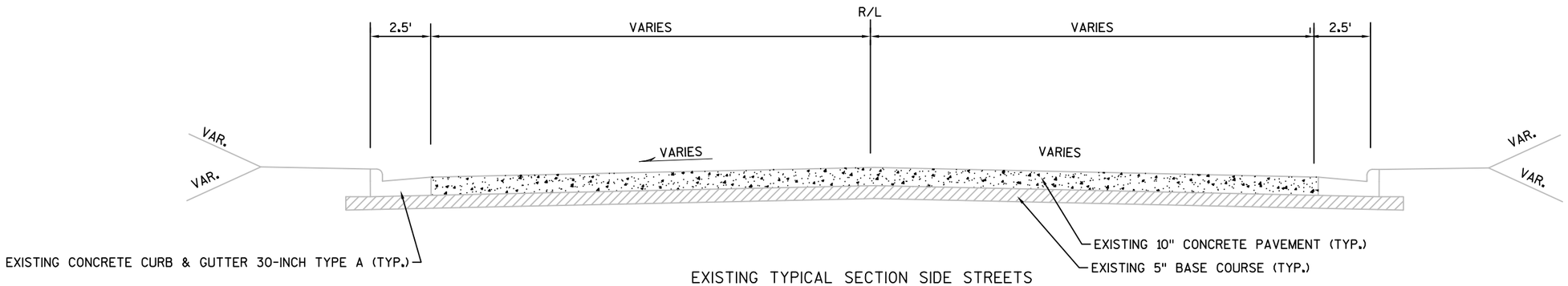
PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	PROJECT OVERVIEW	SHEET 4	E

2



EXISTING TYPICAL SECTION

USH 12/STH 29

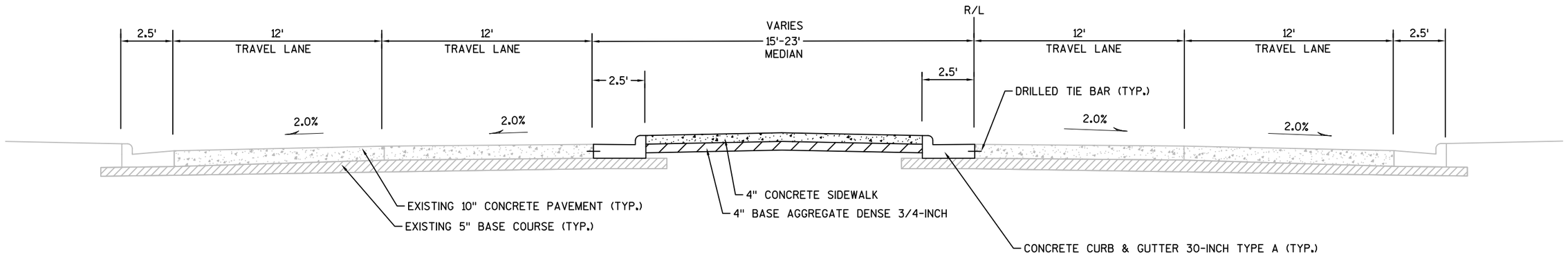


EXISTING TYPICAL SECTION SIDE STREETS

RED CEDAR ST.

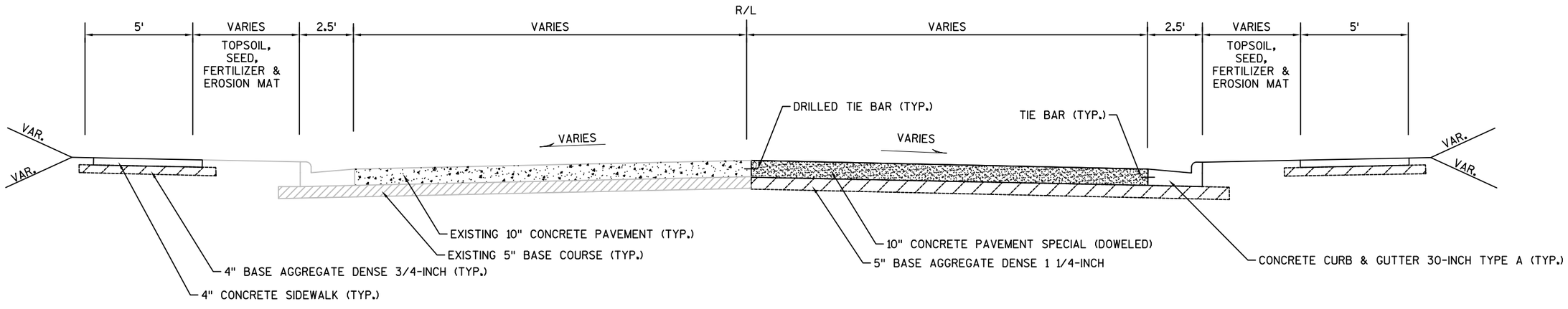
PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	TYPICAL SECTIONS	SHEET 5 - E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TYPICAL SECTIONS\RED CEDAR\0203PLOTS.DWG PLOT DATE : 3/11/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- 1"=5'



PROPOSED TYPICAL SECTION

USH 12/STH 29



PROPOSED TYPICAL SECTION SIDE STREETS

RED CEDAR ST.

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	TYPICAL SECTIONS	SHEET 6	E

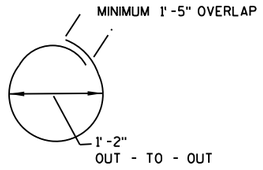
SPREAD FOOTING DIMENSIONS
STEEL AND CONCRETE QUANTITIES ARE APPROXIMATE

TYPE OF BASE	IF D =	THEN L=	401 HOOPS LBS.	402 VERTICAL BARS LBS.	403 HORIZ BARS LBS.	TOTAL LBS. STEEL	CONCR YDS.
TYPE 1	2'	5' 0"	8	7	36	51	1.9

401 HOOP

402 VERTICAL "D" - 4"

403 HORIZONTAL "L" - 6"



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

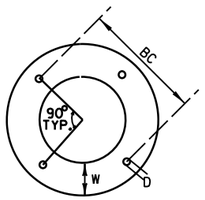
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL PER SECTION 5.17.6.3, AASHTO 2001 4TH EDITION STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS.

WELDING OF THE ANCHOR RODS TO THE CAGE OR TEMPLATE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

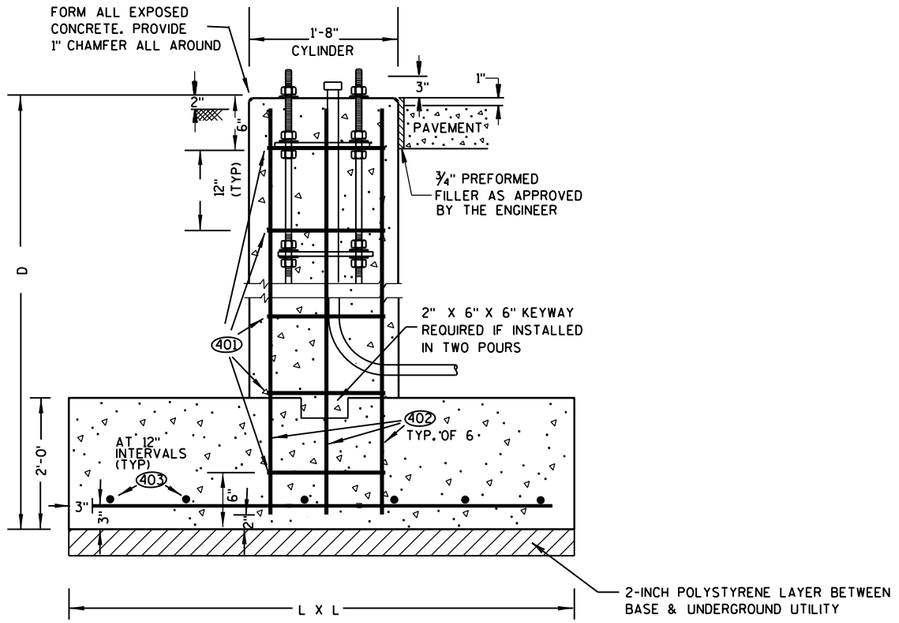
CONDUIT SHOWN FOR ILLUSTRATION ONLY AND VARIES BY "D"

ANCHOR ROD PATTERN SHALL BE PARALLEL TO THE ROADWAY

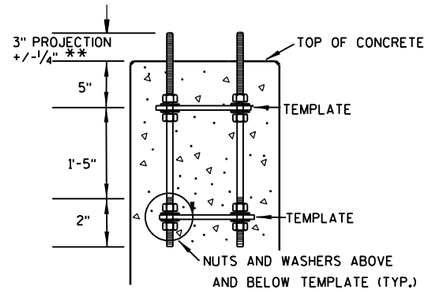


	TYPE 1
THICKNESS OF PLATE	1/2"
BOLT CIRCLE "BC"	12.75"
WIDTH "W"	3" +/-
HOLE DIAMETER "D"	1.125"
ANCHOR ROD	1" X 2'-3"

ANCHOR ROD TEMPLATE



CONCRETE BASE TYPE 1 WITH SPREAD FOOTING



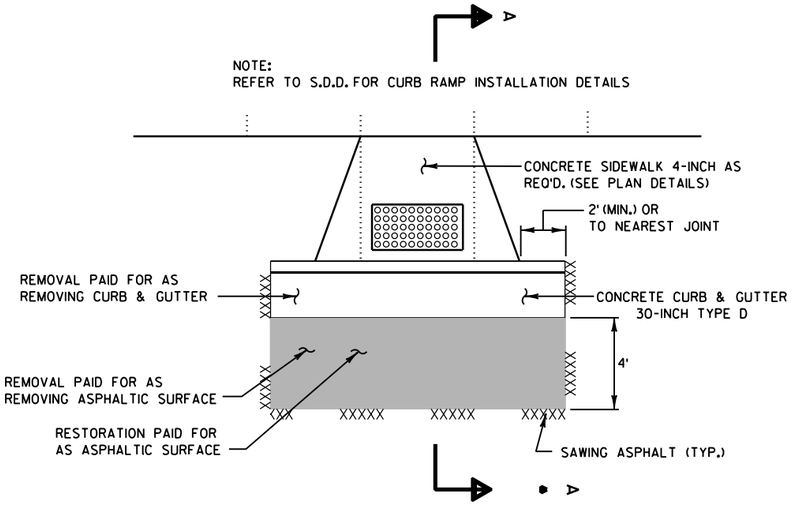
ANCHOR ROD ASSEMBLY

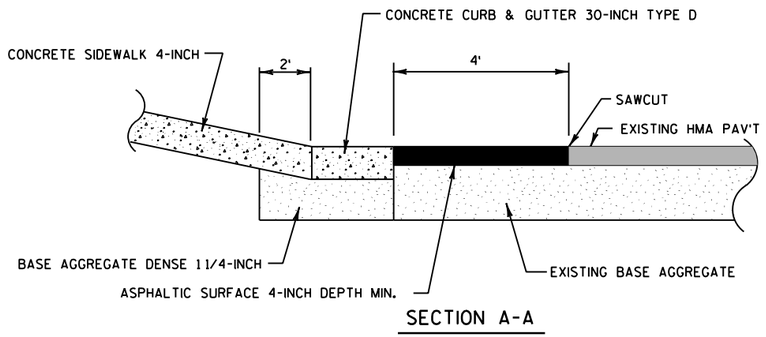
ANCHOR ROD SHALL BE ASTM A449/AASHTO M314-90 GR55 THREADED 12-INCH AT TOP; 4-INCH AT BOTTOM, HOT-DIP GAVANIZED TO ASTM A153, GR C

REQUIRED:

2 TEMPLATES
4 ANCHOR RODS
16 FLAT WASHERS HOT-DIP GALVANIZED
16 HEAVY DUTY HEX NUTS* HOT-DIP GALVANIZED

*CHASE THREADS FOR HOT-DIP GALVANIZED ANCHOR RODS
** FAILURE TO MEET TOLERANCE CONDEMNS THE BASE

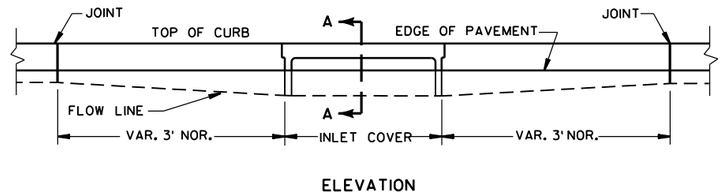




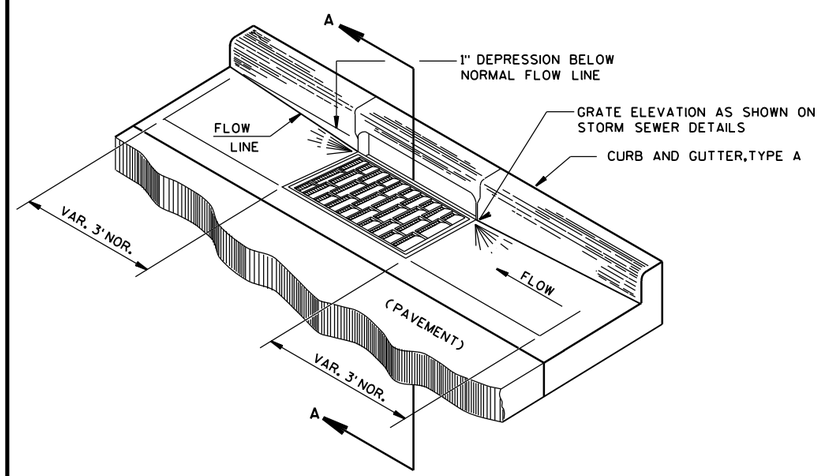
SECTION A-A

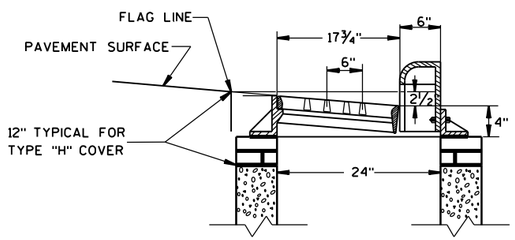
CURB RAMP INSTALLATION DETAIL

NO SCALE
(SEE PLAN DETAIL SHEETS FOR LOCATIONS)



ELEVATION





SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS

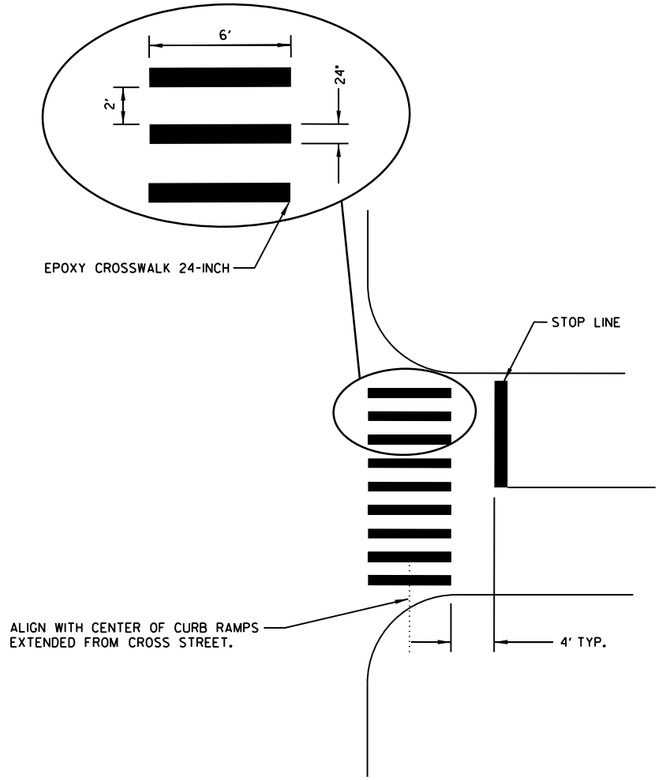
(2' X 3' INLET SHOWN)

CROSSWALKS

CROSSWALKS HAVE 24 INCH WIDE 6 FOOT LONG CROSSBARS PLACED IN LINE WITH THE TRAFFIC FLOW.

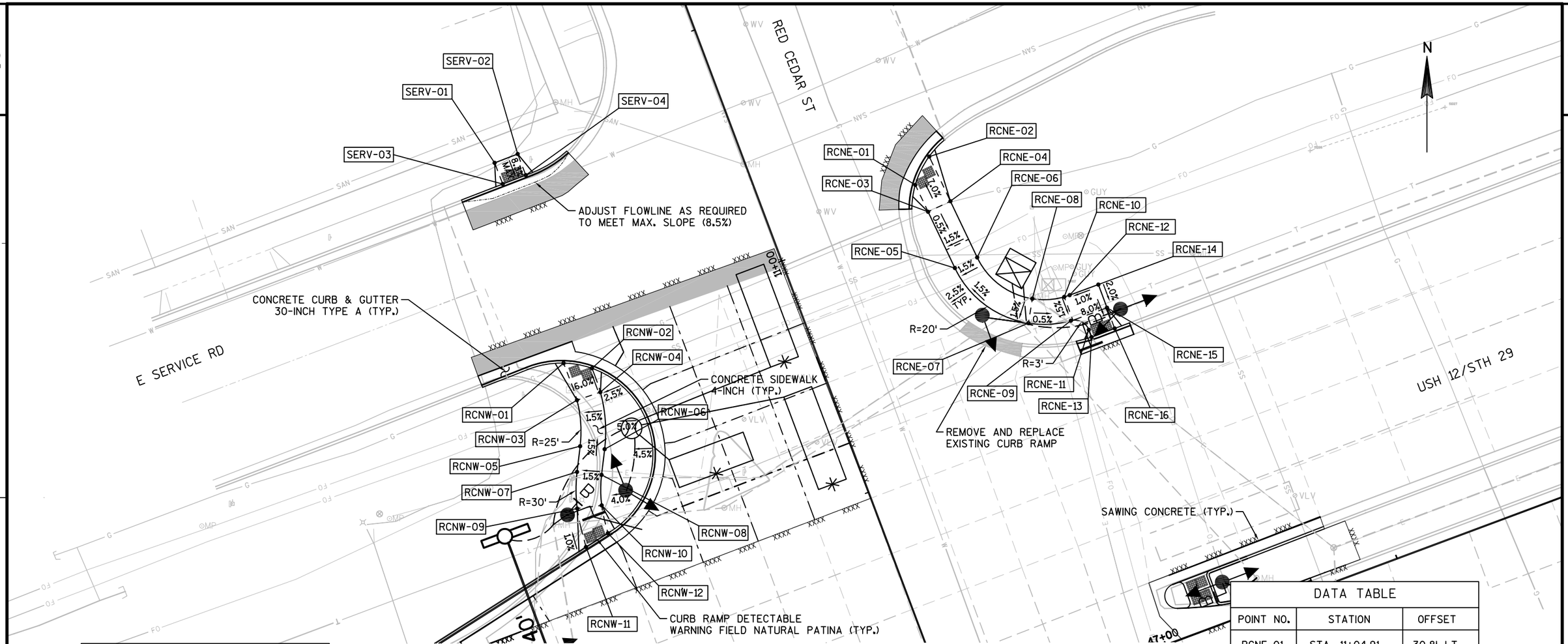
THE SPACING OR GAP BETWEEN THE CROSSBARS IS 24 INCHES

THE CROSSBARS SHOULD BE PLACED IN A MANNER THAT MINIMIZES CONTACT WITH VEHICLES TIRES.



CROSS WALK & STOP LINES DETAIL

SEE PAVEMENT MARKING PLANS FOR LOCATIONS



DATA TABLE		
POINT NO.	STATION	OFFSET
RCNW-01	STA. 10+96.22	48.6' RT
RCNW-02	STA. 10+93.21	43.6' RT
RCNW-03	STA. 10+88.23	48.7' RT
RCNW-04	STA. 10+88.08	43.7' RT
RCNW-05	STA. 10+79.27	51.4' RT
RCNW-06	STA. 10+76.97	47.0' RT
RCNW-07	STA. 10+74.62	53.8' RT
RCNW-08	STA. 10+72.32	49.4' RT
RCNW-09	STA. 10+67.68	56.4' RT
RCNW-10	STA. 10+66.53	51.5' RT
RCNW-11	STA. 10+59.76	57.5' RT
RCNW-12	STA. 10+60.81	52.3' RT

DATA TABLE		
POINT NO.	STATION	OFFSET
SERV-01	STA. 11+39.07	47.4' RT
SERV-02	STA. 11+39.11	42.4' RT
SERV-03	STA. 11+34.43	47.4' RT
SERV-04	STA. 11+34.63	42.4' RT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2) MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

DATA TABLE		
POINT NO.	STATION	OFFSET
RCNE-01	STA. 11+04.91	30.8' LT
RCNE-02	STA. 11+09.29	35.4' LT
RCNE-03	STA. 10+98.90	31.3' LT
RCNE-04	STA. 10+99.32	36.2' LT
RCNE-05	STA. 10+86.33	32.3' LT
RCNE-06	STA. 10+86.75	37.3' LT
RCNE-07	STA. 10+70.65	42.3' LT
RCNE-08	STA. 10+74.99	44.8' LT
RCNE-09	STA. 10+68.03	51.0' LT
RCNE-10	STA. 10+73.07	51.0' LT
RCNE-11	STA. 10+65.09	53.3' LT
RCNE-12	STA. 10+73.02	52.2' LT
RCNE-13	STA. 10+63.49	53.3' LT
RCNE-14	STA. 10+72.98	58.3' LT
RCNE-15	STA. 10+67.98	58.3' LT
RCNE-16	STA. 10+63.49	58.3' LT

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - RED CEDAR - NORTH	SHEET 9	E

DATA TABLE		
POINT NO.	STATION	OFFSET
MEDW-01	STA. 45+94.47	20.7' LT
MEDW-02	STA. 46+01.59	18.9' LT
MEDW-03	STA. 45+95.28	19.7' LT
MEDW-04	STA. 46+00.29	17.9' LT
MEDW-05	STA. 45+95.33	14.8' LT
MEDW-06	STA. 46+00.33	14.8' LT
MEDW-07	STA. 45+94.33	13.8' LT
MEDW-08	STA. 46+01.33	13.8' LT

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

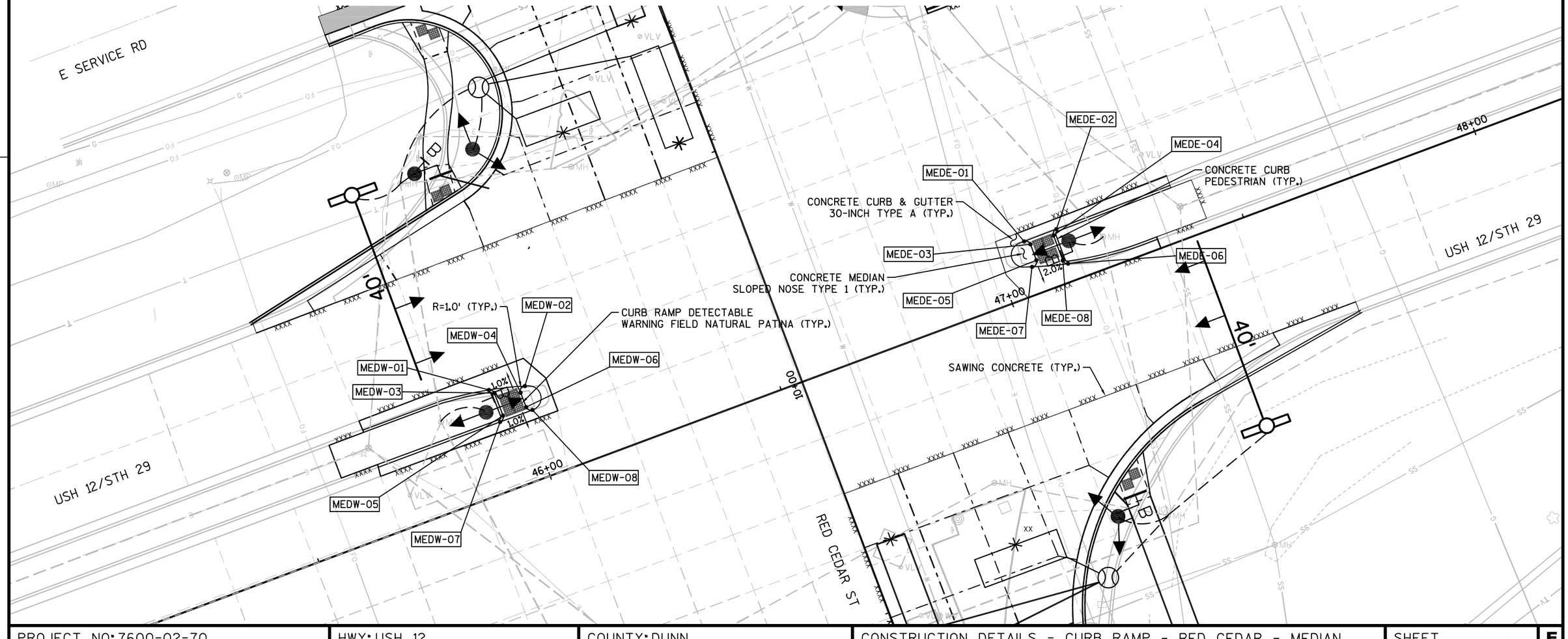
2)MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

N

DATA TABLE		
POINT NO.	STATION	OFFSET
MEDE-01	STA. 47+06.64	11.0' LT
MEDE-02	STA. 47+13.64	11.0' LT
MEDE-03	STA. 47+07.64	10.0' LT
MEDE-04	STA. 47+12.64	10.0' LT
MEDE-05	STA. 47+07.64	6.5' LT
MEDE-06	STA. 47+12.64	4.6' LT
MEDE-07	STA. 47+06.34	5.6' LT
MEDE-08	STA. 47+13.43	3.7' LT



PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - RED CEDAR - MEDIAN	SHEET 10	E

DATA TABLE		
POINT NO.	STATION	OFFSET
RCSW-01	STA. 9+59.63	58.6' RT
RCSW-02	STA. 9+57.98	53.8' RT
RCSW-03	STA. 9+50.66	59.5' RT
RCSW-04	STA. 9+50.19	54.5' RT
RCSW-05	STA. 9+35.69	60.9' RT
RCSW-06	STA. 9+35.26	55.9' RT
RCSW-07	STA. 9+12.19	49.0' RT
RCSW-08	STA. 9+16.71	46.8' RT
RCSW-09	STA. 8+95.28	40.1' RT
RCSW-10	STA. 8+95.21	35.1' RT
RCSW-11	STA. 8+93.11	40.2' RT
RCSW-12	STA. 8+93.04	35.2' RT
RCSW-13	STA. 8+88.11	40.2' RT
RCSW-14	STA. 8+88.04	35.2' RT
RCSW-15	STA. 8+79.12	40.4' RT
RCSW-16	STA. 8+82.27	35.3' RT

NOTES:

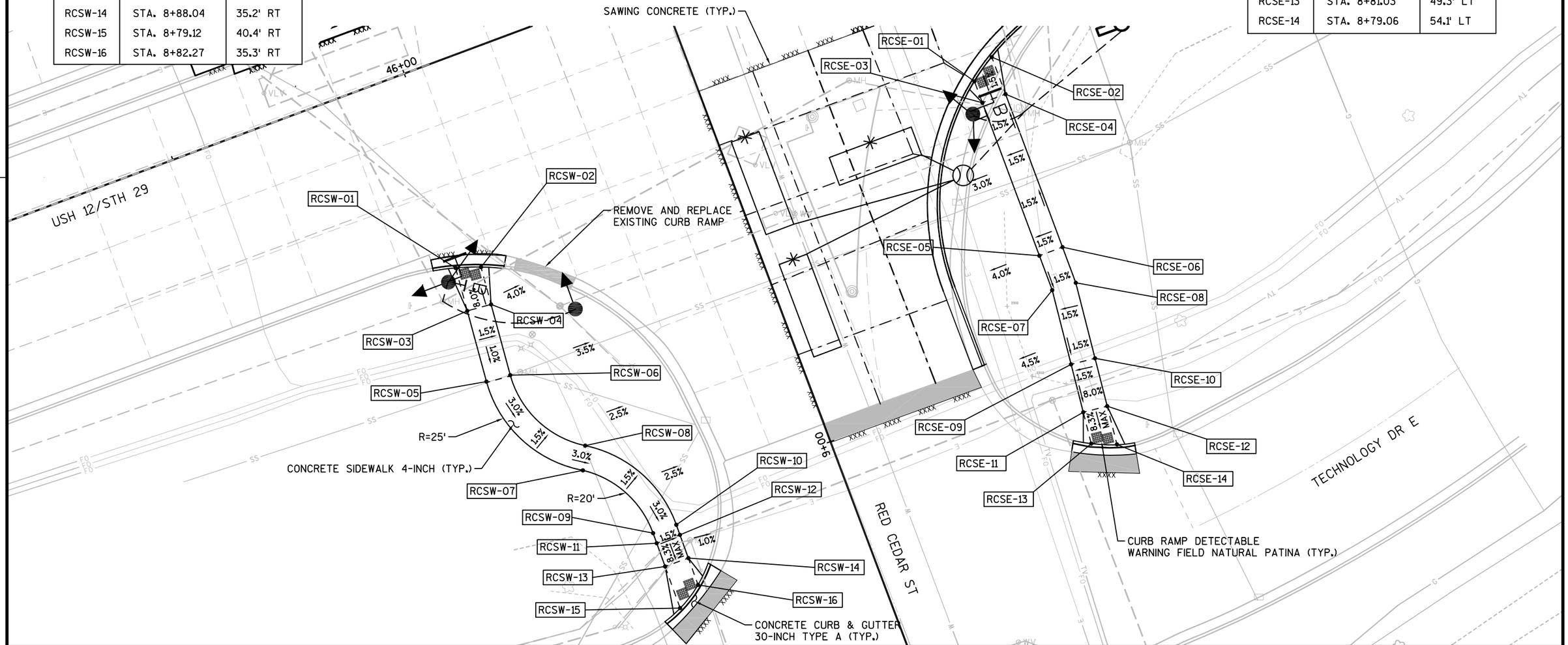
1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

2)MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

DATA TABLE		
POINT NO.	STATION	OFFSET
RCSE-01	STA. 9+58.05	53.0' LT
RCSE-02	STA. 9+61.41	58.0' LT
RCSE-03	STA. 9+53.43	52.9' LT
RCSE-04	STA. 9+53.41	57.9' LT
RCSE-05	STA. 9+20.36	52.8' LT
RCSE-06	STA. 9+20.35	57.8' LT
RCSE-07	STA. 9+12.93	52.8' LT
RCSE-08	STA. 9+12.64	57.8' LT
RCSE-09	STA. 8+97.50	51.1' LT
RCSE-10	STA. 8+96.95	56.1' LT
RCSE-11	STA. 8+87.56	50.0' LT
RCSE-12	STA. 8+87.01	55.0' LT
RCSE-13	STA. 8+81.03	49.3' LT
RCSE-14	STA. 8+79.06	54.1' LT



PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - RED CEDAR - SOUTH	SHEET 11	E

2

RED CEDAR STREET

SERVICE ROAD

E. SERVICE ROAD

W. TECHNOLOGY DRIVE

E. TECHNOLOGY DRIVE

USH 12/STH 29

CONCRETE MEDIAN
SLOPED NOSE TYPE 1

SEE CURB RAMP INTERSECTION DETAIL (TYP.)

CSW 4"

30A

30D

11+00

10+00

9+00

8+00

50+00

49+00

48+00

47+00

46+00

45+00

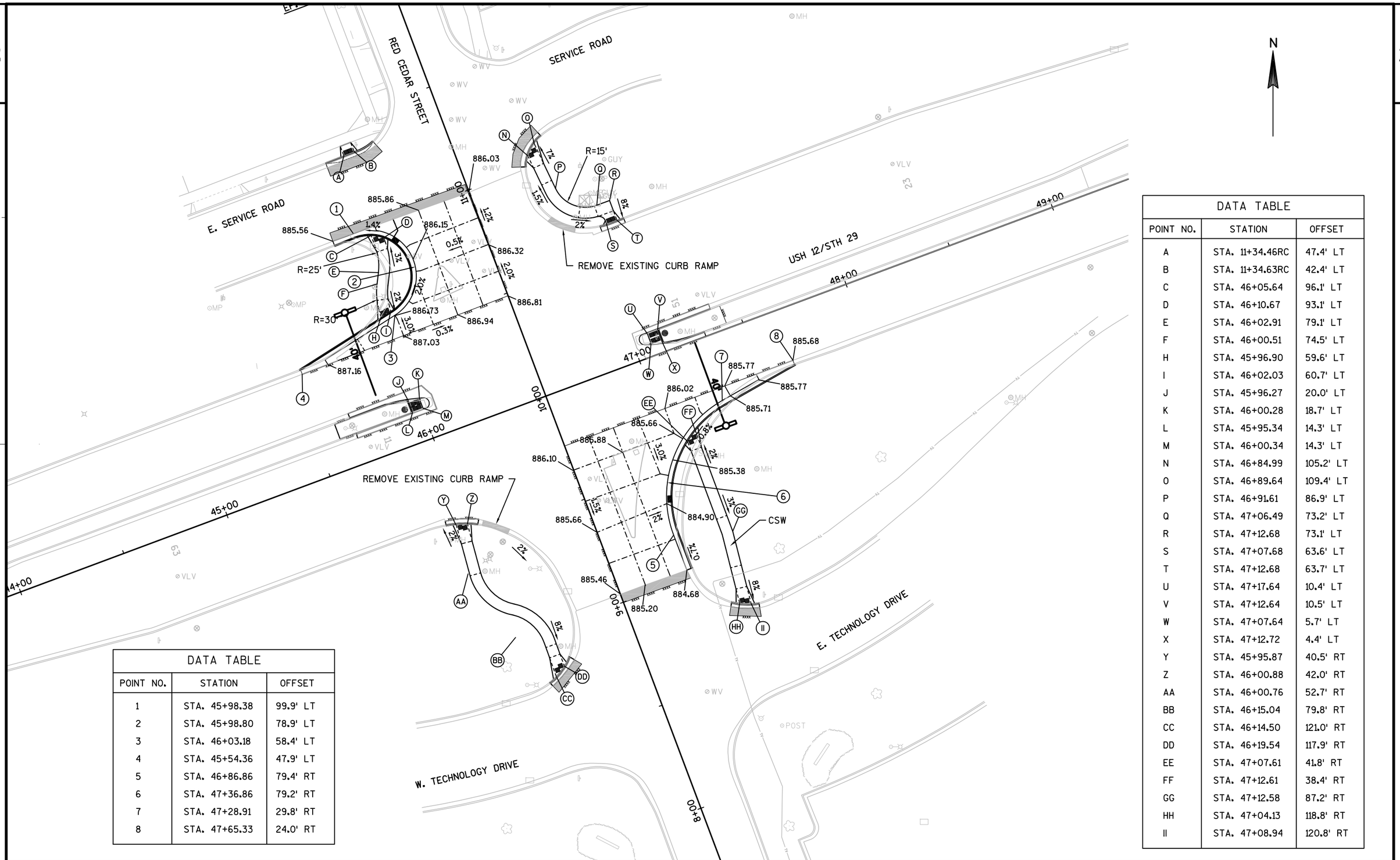
44+00

N

LEGEND

	CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
	PROPOSED INLET
30A	CONCRETE CURB & GUTTER 30-INCH TYPE A (SEE S.D.D.)
2	CURB RAMP TYPE 'X' (SEE S.D.D.)
CSW	CONCRETE SIDEWALK

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	PLAN: PLAN DETAIL	SHEET 12	E



DATA TABLE		
POINT NO.	STATION	OFFSET
A	STA. 11+34.46RC	47.4' LT
B	STA. 11+34.63RC	42.4' LT
C	STA. 46+05.64	96.1' LT
D	STA. 46+10.67	93.1' LT
E	STA. 46+02.91	79.1' LT
F	STA. 46+00.51	74.5' LT
H	STA. 45+96.90	59.6' LT
I	STA. 46+02.03	60.7' LT
J	STA. 45+96.27	20.0' LT
K	STA. 46+00.28	18.7' LT
L	STA. 45+95.34	14.3' LT
M	STA. 46+00.34	14.3' LT
N	STA. 46+84.99	105.2' LT
O	STA. 46+89.64	109.4' LT
P	STA. 46+91.61	86.9' LT
Q	STA. 47+06.49	73.2' LT
R	STA. 47+12.68	73.1' LT
S	STA. 47+07.68	63.6' LT
T	STA. 47+12.68	63.7' LT
U	STA. 47+17.64	10.4' LT
V	STA. 47+12.64	10.5' LT
W	STA. 47+07.64	5.7' LT
X	STA. 47+12.72	4.4' LT
Y	STA. 45+95.87	40.5' RT
Z	STA. 46+00.88	42.0' RT
AA	STA. 46+00.76	52.7' RT
BB	STA. 46+15.04	79.8' RT
CC	STA. 46+14.50	121.0' RT
DD	STA. 46+19.54	117.9' RT
EE	STA. 47+07.61	41.8' RT
FF	STA. 47+12.61	38.4' RT
GG	STA. 47+12.58	87.2' RT
HH	STA. 47+04.13	118.8' RT
II	STA. 47+08.94	120.8' RT

DATA TABLE		
POINT NO.	STATION	OFFSET
1	STA. 45+98.38	99.9' LT
2	STA. 45+98.80	78.9' LT
3	STA. 46+03.18	58.4' LT
4	STA. 45+54.36	47.9' LT
5	STA. 46+86.86	79.4' RT
6	STA. 47+36.86	79.2' RT
7	STA. 47+28.91	29.8' RT
8	STA. 47+65.33	24.0' RT

PROJECT NO: 7600-02-70 | HWY: USH 12 | COUNTY: DUNN | PLAN: PLAN DETAIL | SHEET 13 | E

NOTE:

EXISTING ELEVATIONS, PIPE SIZES AND STRUCTURE DEPTHS SHALL BE VERIFIED IN THE FIELD.

ALL INLETS TO BE FIELD POURED

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

1.0 STA. 46+14, 90.7' LT
INLET 2X3-FT TYPE H
8 LF 12" W/CONC. COLLAR

2.0 STA. 46+91, 63.3' RT
INLET 2X3-FT TYPE H
8 LF 12" W/CONC. COLLAR

SERVICE ROAD

CHARTER (TYP.)

AT&T (TYP.)

XCEL - GAS (TYP.)

24-7 TELCOM (TYP.)

CITY OF MENOMONIE-WATER (TYP.)

RED CEDAR STREET

TECHNOLOGY DRIVE

USH 12/STH 25

USH 12/STH 29

44+00 45+00 46+00 47+00 48+00 49+00 50+00

11+00 10+00 9+00

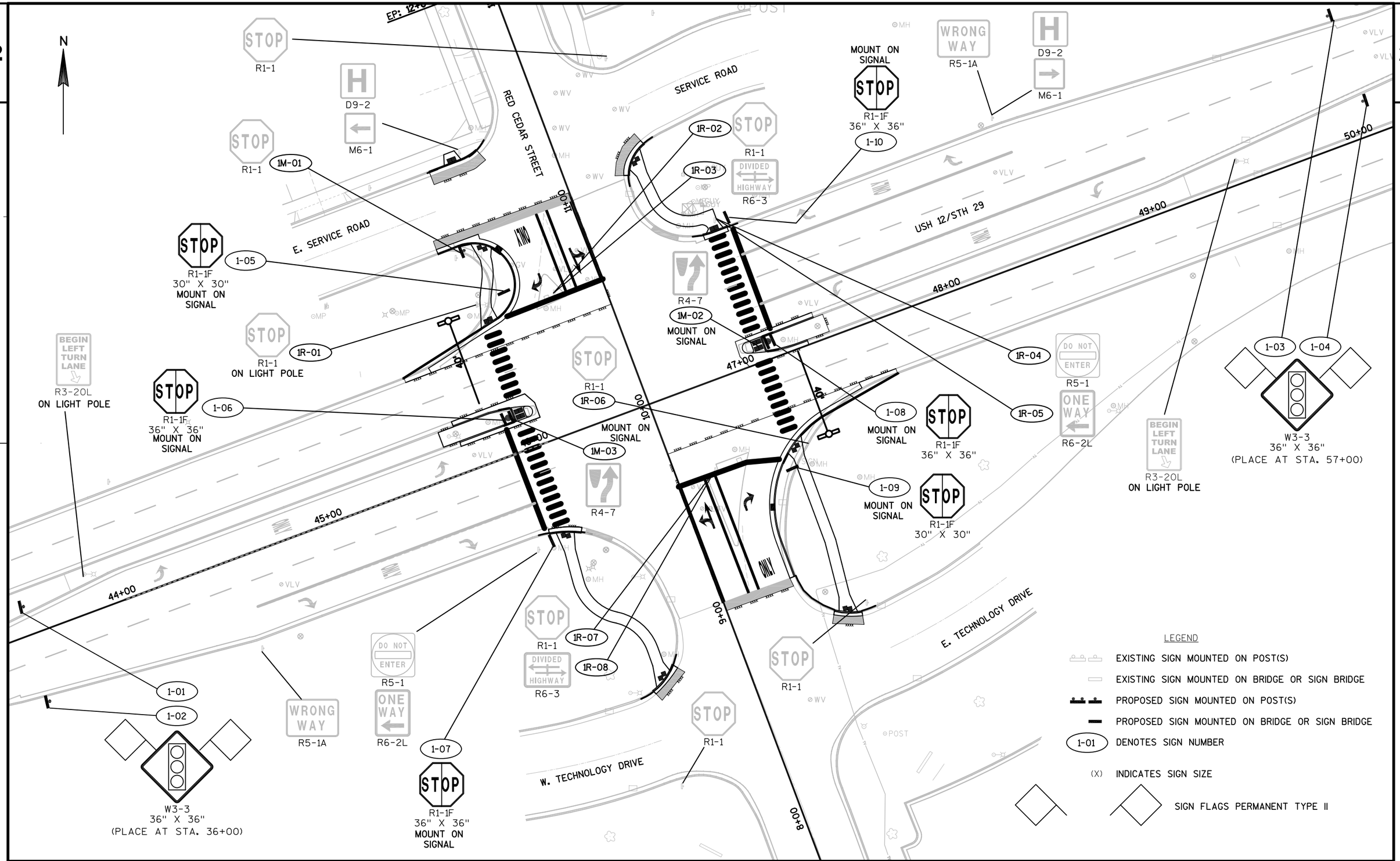
LEGEND

C INLET PROTECTION TYPE C (SEE S.D.D.)

REMOVING INLETS

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	PLAN: STORM SEWER & EROSION CONTROL	SHEET 14	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\STORM SEWER\RED CEDAR\022501_SSRDWG DATE : 12/11/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 0.30000000 = 1'-0" _XREF



PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	PERMANENT SIGNING	SHEET 15	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\SIGNING\RED CEDAR\023201_PS.DWGPLOT DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1" = 40'_XREF

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"

CONSTRUCTION NOTES:

1) LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.

2) THE CONTRACTOR SHALL HAVE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM.

3) THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.

4) EXISTING CONDUIT AND PULL BOXES TO REMAIN AND BE USED WITH THE PROPOSED SIGNALS. EXCEPTION WITH EXISTING PULLBOXES WITHIN PAVEMENT REPLACEMENT LIMITS. REMOVE EXISTING PULLBOXES AND CONNECT TO EXISTING CONDUITS.

5) EXISTING CITY OF MENOMONIE LIGHTING SHOWN, NO MODIFICATIONS PLANNED.

6) INSTALL INTERCONNECT CABLE IN EXISTING CONDUIT FROM CB1 TO SIGNAL CABINET AT 21ST STREET. LEAVE 50' COILED IN NEAREST PULLBOX.

7) INSTALL PUSH BUTTONS PARALLEL TO CROSSWALK.

8) CONNECTING CONDUIT TO EXISTING PULLBOXES SHALL BE CONSIDERED INCIDENTAL TO THE ADJUSTING PULLBOX ITEM.

EP: 12+04.30

RED CEDAR ST.
SPEED LIMIT = 25 MPH

E. SERVICE ROAD

USH 12/STH 29
SPEED LIMIT = 45 MPH

MATCH LINE STA 43+50

MATCH LINE STA 49+50

44+00 45+00 46+00 47+00 48+00 49+00

10+00 9+00

CB1 PB1 SB1 SB2 SB3 SB4 SB5 SB6 SB7 SB8 SB9 SB10 SB11 PB2 PB3 PB4 PB5 PB6 PB7 PB8

CONCRETE BASE TYPE 1
SPREAD FOOTING (SEE DETAIL)

6X20 4 TURNS
6X30 3 TURNS
2-6X20 4 TURNS
2-6X20 3 TURNS
6X20 3 TURNS ONLY

TECH. PARK DR. WEST

TECH. PARK DR. EAST

LEGEND

- SIGNAL HEAD NUMBER
- PEDESTRIAN COUNTDOWN TIMER 16-INCH
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R R RED ARROW
- Y Y YELLOW ARROW
- G G GREEN ARROW
- PB4 CONNECT CONDUIT TO EXISTING PULLBOX

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

TRAFFIC CONTROL SIGNAL
USH 12/STH 29 & RED CEDAR STREET
CITY OF MENOMONIE
DUNN COUNTY

DESIGNED BY: KL ENGINEERING

PAGE 1 OF 4

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	TRAFFIC SIGNAL PLAN	SHEET 16 E

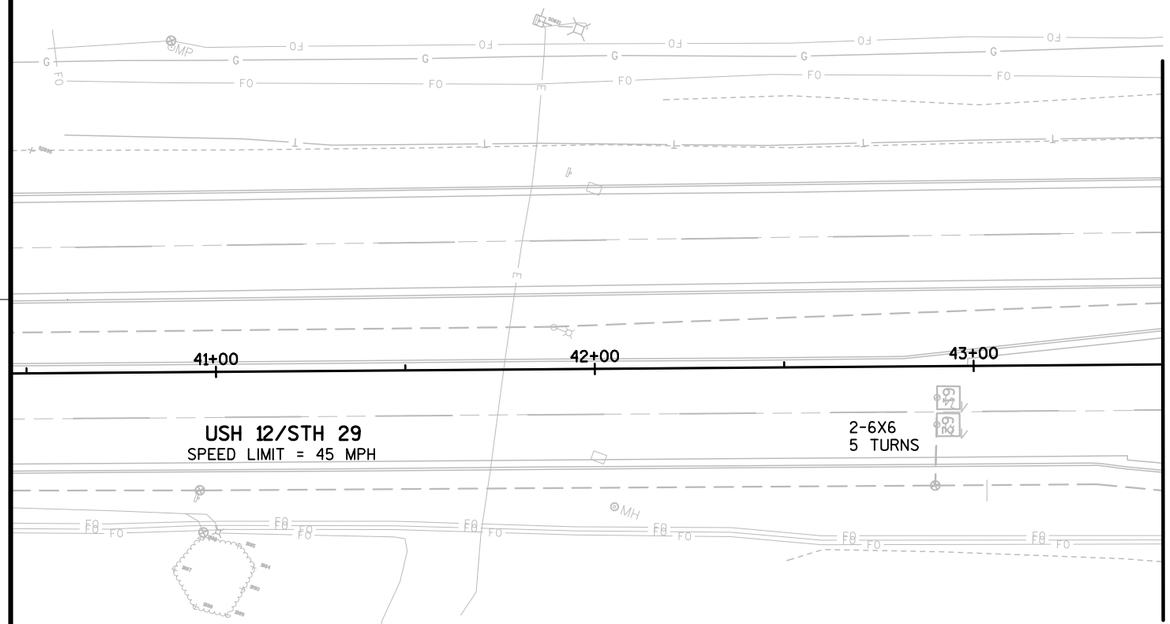
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN DETAILS\RED CEDAR\024001_SIGNAL DETAIL.DWG 12/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1:40_XREF

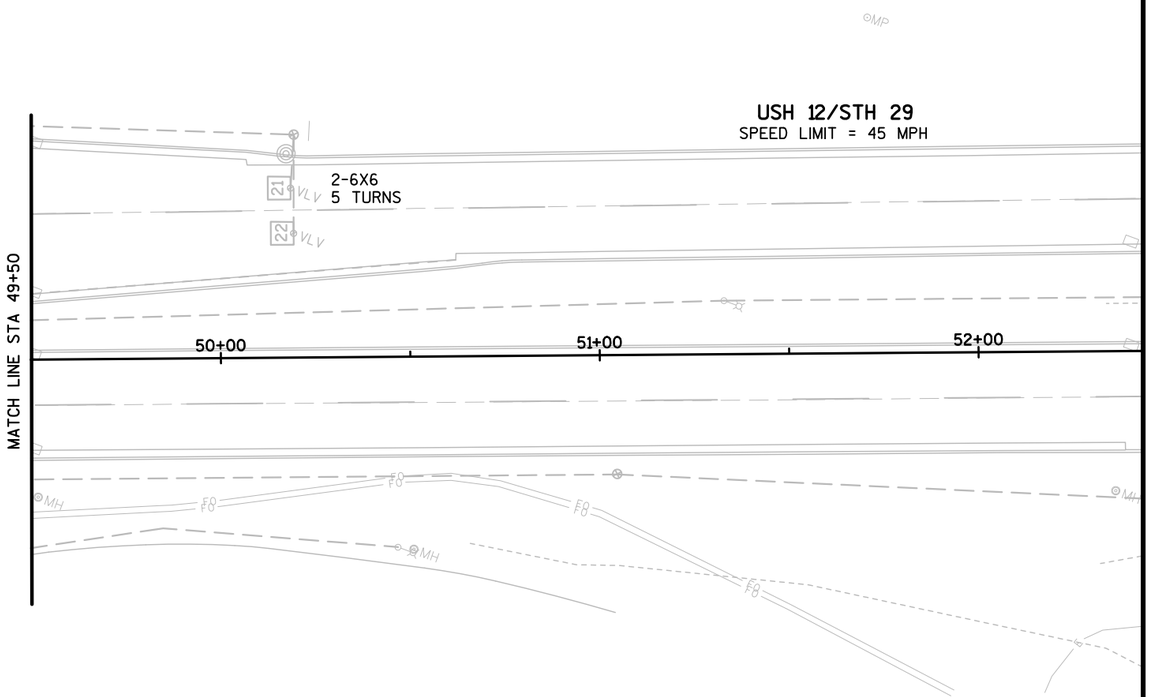
WISDOT/CADDS SHEET 42

2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- PEDESTRIAN HEAD WITH PUSH BUTTON
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"





LEGEND

- SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- Y YELLOW ARROW
- AG G GREEN ARROW
- PEDESTRIAN COUNTDOWN TIMER 16-INCH

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

TRAFFIC CONTROL SIGNAL
USH 12/STH 29 & RED CEDAR STREET
CITY OF MENOMONIE
DUNN COUNTY

DESIGNED BY: KL ENGINEERING

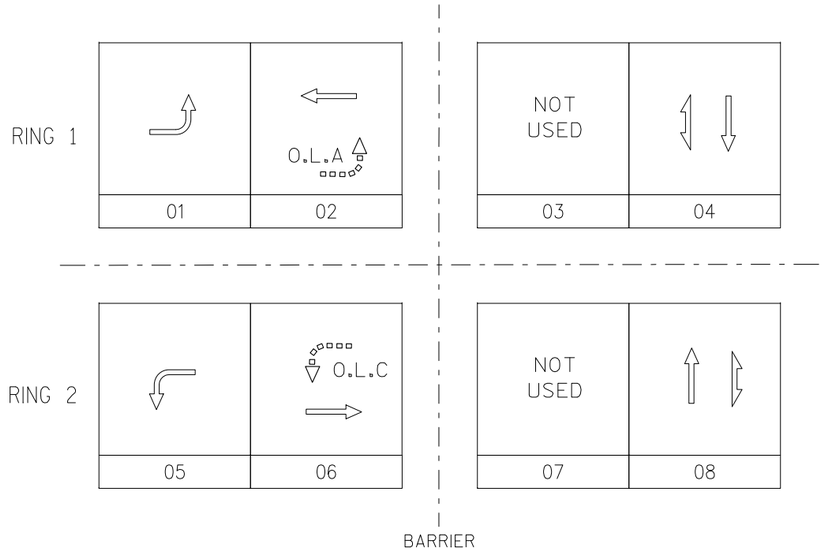
PAGE 2 OF 4

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	TRAFFIC SIGNAL PLAN	SHEET 17	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN DETAILS\RED CEDAR\024001_SIGCOREDETAIL.DWG 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 0.30000000 = 1'-0" _XREF

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
01	4-6	
02	7-9	R
03		
04	16-18	R
05	10-12	
06	1-3	R
07		
08	13-15	R
02 PED		
04 PED	21-22	
06 PED		
08 PED	19-20	
OLA	4-6	R
OLB		
OLC	10-12	R
OLD		



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				X
2	X	6	MIN.	X
3				
4		8		X
5				X
6	X	2	MIN.	X
7				
8		4		X

SPECIAL OVERLAPS

	PROTECTED	PERMISSIVE
O.L. "A"	1	2
O.L. "B"	--	--
O.L. "C"	5	6
O.L. "D"	--	--

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	X
CLOSED LOOP	
TWISTED PAIR*	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	

TYPE OF COORDINATION	
NONE	X
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S- ____
SIGNAL SYSTEM #:	SS- ?? - ??

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	
IN SEPARATE LIGHTING CABINET	X

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
DETECTOR #(S)	11	21	23	41	43	51	61	63
PHASE CALLED	1	2	2	4	4	5	6	6
PHASE EXTENDED	1	2	2	4	4	5	6	6
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH								
LOOP FUNCTION								

19	17	23	21	27	25	31	29	DETECTOR INPUT
81	83							DETECTOR #(S)
8	8							PHASE CALLED
8	8							PHASE EXTENDED
								DISCONNECT TIME
								CALLING DELAY
								EXTENSION STRETCH
								LOOP FUNCTION

DETECTOR INPUT	4	2	8	6	12	10	16	14
DETECTOR #(S)		22		42			62	
PHASE CALLED		2		4			6	
PHASE EXTENDED		2		4			6	
DISCONNECT TIME								
CALLING DELAY								
EXTENSION STRETCH								
LOOP FUNCTION								

20	18	24	22	28	26	32	30	DETECTOR INPUT
82								DETECTOR #(S)
8								PHASE CALLED
8								PHASE EXTENDED
								DISCONNECT PHASE
								CALLING DELAY
								EXTENSION STRETCH
								LOOP FUNCTION

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE DETECTOR	A	B	C	D
MOVEMENT	FY / FY	FY / FY	NOT	NOT
PHASE	2+5	6+1	USED	USED

USH 12/STH 29 & RED CEDAR STREET
CITY OF MENOMONIE
DUNN COUNTY

SHEET 3 OF 4

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	TRAFFIC SIGNAL PLAN	SHEET 18	E

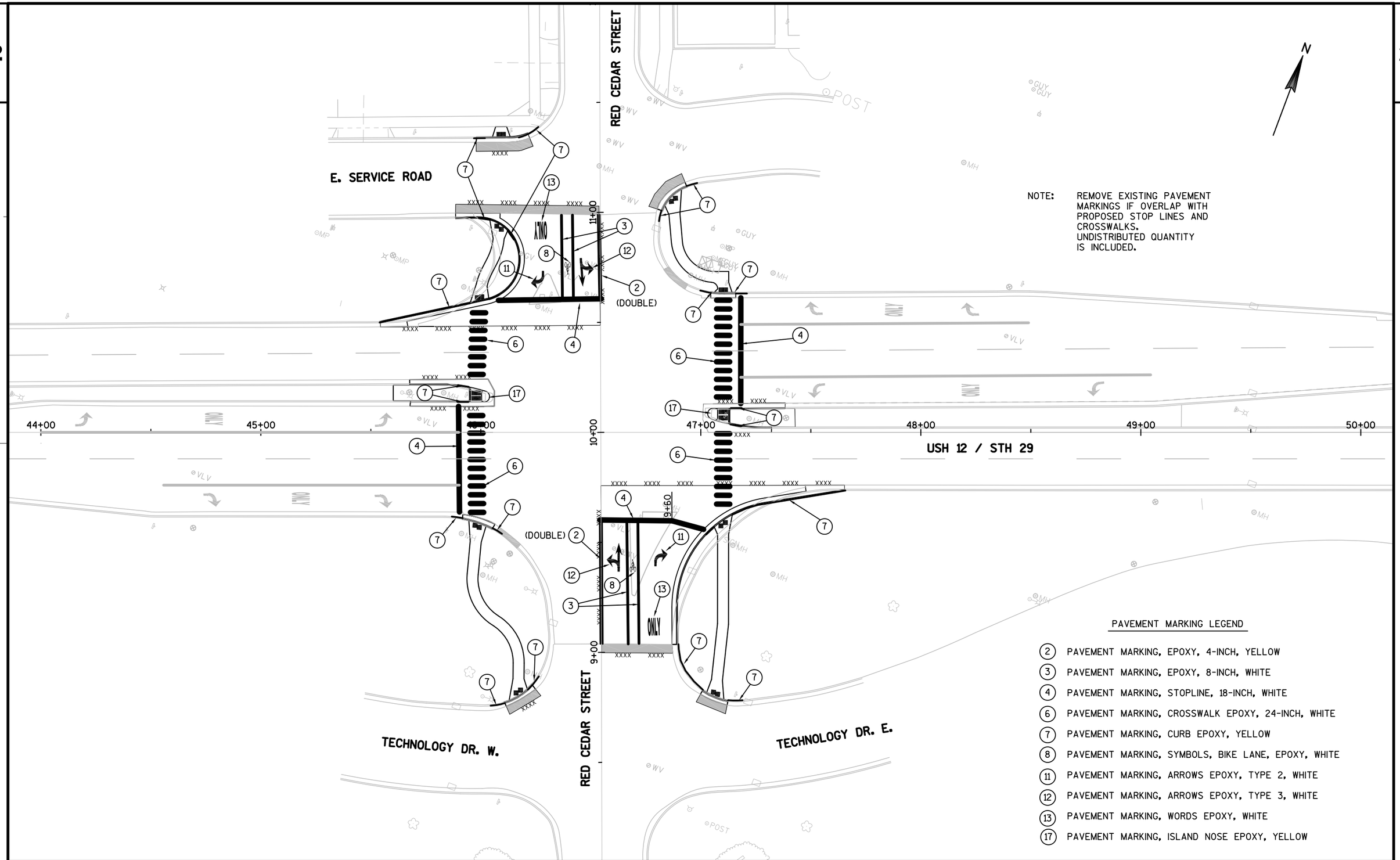
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN DETAILS\RED CEDAR\024001_SIGNALDETAILS.DWG 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1:100_XREF

USH 12/STH 29 & RED CEDAR ST NO. 14 CABLE					
CABLE RUN	CABLE	HEAD NUMBER	MOVEMENT	LENS	CONDUCTOR COLOR
CABINET TO SB-1	12/C	6	WB	R	R
				Y	O
				G	G
		7	EB LT	←R	R/BLK
				←Y	O/BLK
				←FY	BLK/WHT
				←G	G/BLK
		19	NB PED	W	BLU
				DW	BLK
				BUTTON	WHT/BLK
CABINET TO SB-2	12/C	5	EB LT	←R	R
				←Y	O
				←FY	BLU
				←G	G
		10	WB LT	←R	R/BLK
				←Y	O/BLK
				←FY	BLU/BLK
				←G	G/BLK
CABINET TO SB-3	5/C	2	EB	R	R
				Y	O
				G	G
		3	EB	R	R
				Y	O
				G	G
CABINET TO SB-4	12/C	13	NB	R	R
				Y	O
				G	G
		18	SB PED	R	R/BLK
				Y	O/BLK
				G	G/BLK
		20	SB PED	W	BLU
				DW	BLK
				BUTTON	WHT/BLK
CABINET TO SB-5	5/C	2	SB	R	R
				Y	O
				G	G

USH 12/STH 29 & RED CEDAR ST NO. 14 CABLE					
CABINET TO SB-6	12/C	1	EB	R	R
				Y	O
				G	G
		12	WB LT	←R	R/BLK
				←Y	O/BLK
				←FY	BLK/WHT
				←G	G/BLK
		21	SB PED	W	BLU
				DW	BLK
				BUTTON	WHT/BLK
CABINET TO SB-7	12/C	4	EB LT	←R	R
				←Y	O
				←FY	BLU
				←G	G
		11	WB LT	←R	R/BLK
				←Y	O/BLK
				←FY	BLU/BLK
				←G	G/BLK
CABINET TO SB-8	5/C	8	WB	R	R
				Y	O
				G	G
		9	WB	R	R
				Y	O
				G	G
CABINET TO SB-9	5/C	22	NB PED	W	R
				DW	O
				BUTTON	G
CABINET TO SB-10	12/C	15	NB	R	R
				Y	O
				G	G
		16	SB	R	R/BLK
				Y	O/BLK
				G	G/BLK
CABINET TO SB-11	5/C	2	SB	R	R
				Y	O
				G	G

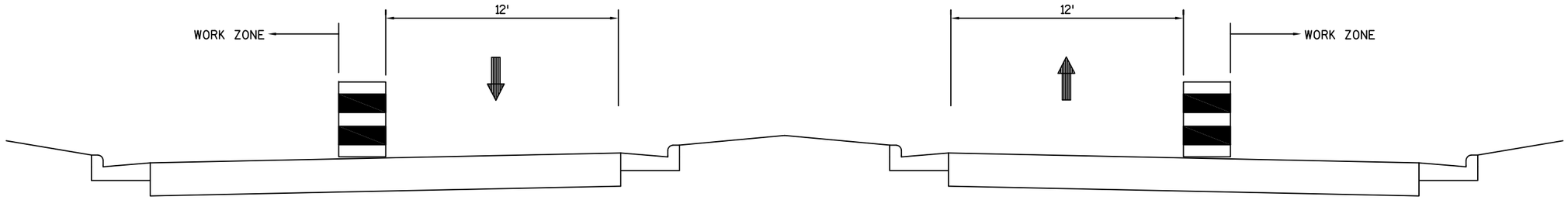
TRAFFIC CONTROL SIGNALS
USH 12/STH 29 & RED CEDAR STREET
CITY OF MENOMONIE
DUNN COUNTY

2



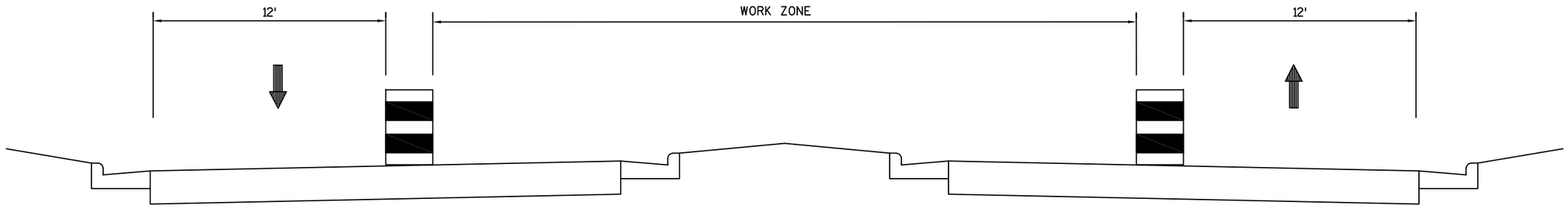
PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	PAVEMENT MARKING	SHEET 20	E

2



STAGE ONE TYPICAL SECTION

USH 12



STAGE TWO TYPICAL SECTION

USH 12

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL TYPICAL SECTION	SHEET 21	E

2

2

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

N

Red Cedar St

COVER SIGN

ROAD WORK AHEAD
W20-1

EP: 12+04.30

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

EAST SERVICE ROAD

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

US 12/STH 29

BP: 39+00.00

R3-2
24" X 24"

25'
(TYP.)

MATCH LINE STA. 45+50

39+00 40+00 41+00 42+00 43+00 44+00 45+00

USH 12

50' (TYP.)

400' 400' 200'

540' LANE DROP TAPER
(45 MPH)

ROAD WORK AHEAD
W20-1

RIGHT LANE CLOSED AHEAD
W20-5

W04-2R

TECHNOLOGY DRIVE

ROAD WORK AHEAD
W20-1

R3-1
24" X 24"

LANE CLOSED
R11-2(MOD)
48" X 30"

BP: 7+46.78

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1	SHEET 22	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\RED CEDAR\02600PLOT.DWG PLOT DATE : 10/10/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1"=100'_XREF

2

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

ROAD CLOSED 500 FT W20-3

RED CEDAR STREET

ROAD CLOSED R11-2 48" X 30"

R3-1 24" X 24"

LANE CLOSED R11-2(MOD) 48" X 30"

EP: 12+04.30

500'

12+04

540' LANE DROP TAPER (45 MPH)

W04-2R

500'

1000'

RIGHT LANE CLOSED AHEAD W20-5

1000'

ROAD WORK AHEAD W20-1

EP: 54+05.96

25' (TYP.)

50' (TYP.)

MATCH LINE STA. 45+50

45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+06

US 12/STH 29

TECHNOLOGY DRIVE

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

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

ROAD CLOSED R11-2 48" X 30"

R3-2 24" X 24"

ROAD WORK AHEAD W20-1

Red Cedar St

COVER SIGN

BP: 7+46.78

8+00

RED CEDAR STREET

500'

ROAD CLOSED 500 FT W20-3

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 1	SHEET 23	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\RED CEDAR\02600TCL01.DWG PLOT DATE : 10/10/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1"=100'_XREF

WISDOT/CADDS SHEET 42

2

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

N

Red Cedar St
COVER SIGN

ROAD WORK AHEAD
W20-1

EP: 12+04.30

EAST SERVICE ROAD

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

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

US 12/STH 29

BP: 39+00.00

R3-2
24" X 24"

25' (TYP.)

MATCH LINE STA. 45+50

39+00 40+00 41+00 42+00 43+00 44+00 45+00

50' (TYP.)

400' 400' 200'

540' LANE DROP TAPER
(45 MPH)

ROAD WORK AHEAD
W20-1

LEFT LANE CLOSED AHEAD
W20-5

W04-2L

TECHNOLOGY DRIVE

R3-1
24" X 24"

LANE CLOSED
R11-2(MOD)
48" X 30"
BP: 7+46.78

ROAD WORK AHEAD
W20-1

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 2	SHEET 24	E

2

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

ROAD CLOSED 500 FT W20-3

RED CEDAR STREET

ROAD CLOSED R11-2 48" X 30"

R3-1 24" X 24"

LANE CLOSED R11-2(MOD) 48" X 30"

EP: 12+04.30

500'

12+00

11+00

25' (TYP.)

540' LANE DROP TAPER (45 MPH)

W04-2L

500'

LEFT LANE CLOSED AHEAD W20-5

1000'

ROAD WORK AHEAD W20-1

1000'

EP: 54+05.96

MATCH LINE STA. 45+50

45+50

48+00

49+00

50+00

51+00

52+00

53+00

58+06

50' (TYP.)

US 12/STH 29

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

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

10+00

9+00

8+00

7+47

TECHNOLOGY DRIVE

ROAD CLOSED R11-2 48" X 30"

ROAD WORK AHEAD W20-1

R3-2 24" X 24"

Red Cedar St COVER SIGN

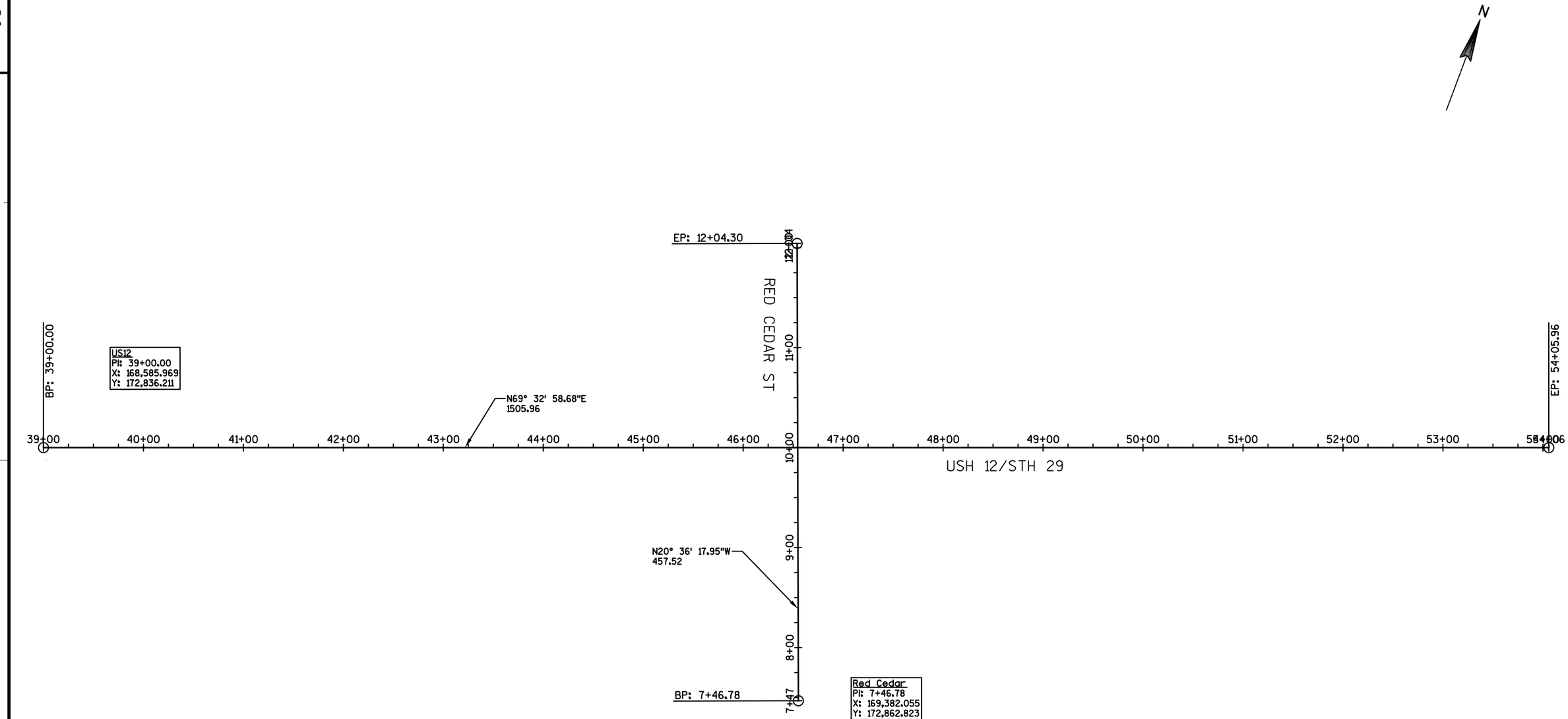
BP: 7+46.78

500'

ROAD CLOSED 500 FT W20-3

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL - STAGE 2	SHEET 25	E

2

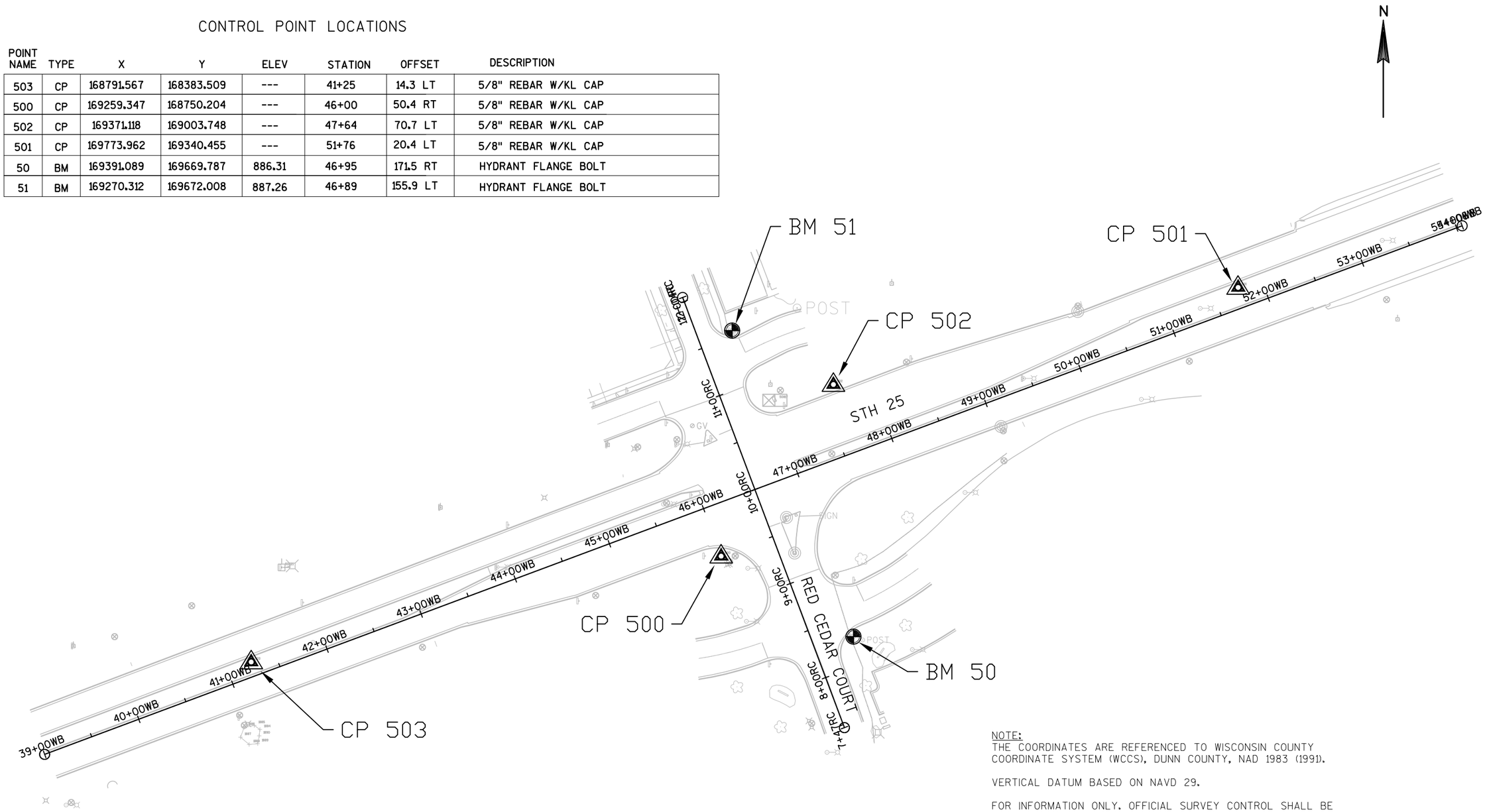


PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	ALIGNMENT DIAGRAM	SHEET 26	E

2

CONTROL POINT LOCATIONS

POINT NAME	TYPE	X	Y	ELEV	STATION	OFFSET	DESCRIPTION
503	CP	168791.567	168383.509	---	41+25	14.3 LT	5/8" REBAR W/KL CAP
500	CP	169259.347	168750.204	---	46+00	50.4 RT	5/8" REBAR W/KL CAP
502	CP	169371.118	169003.748	---	47+64	70.7 LT	5/8" REBAR W/KL CAP
501	CP	169773.962	169340.455	---	51+76	20.4 LT	5/8" REBAR W/KL CAP
50	BM	169391.089	169669.787	886.31	46+95	171.5 RT	HYDRANT FLANGE BOLT
51	BM	169270.312	169672.008	887.26	46+89	155.9 LT	HYDRANT FLANGE BOLT



NOTE:
THE COORDINATES ARE REFERENCED TO WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DUNN COUNTY, NAD 1983 (1991).

VERTICAL DATUM BASED ON NAVD 29.

FOR INFORMATION ONLY. OFFICIAL SURVEY CONTROL SHALL BE OBTAINED FROM WISDOT PRIOR TO CONSTRUCTION.

PROJECT NO: 7600-02-70	HWY: USH 12	COUNTY: DUNN	CONTROL POINT DETAIL	SHEET 27 - E

DATE 30DEC14 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	7600-02-70 QUANTITY
0010	204.0100	Removing Pavement	SY	688.000	688.000
0040	204.0110	Removing Asphaltic Surface	SY	70.000	70.000
0050	204.0150	Removing Curb & Gutter	LF	404.000	404.000
0060	204.0155	Removing Concrete Sidewalk	SY	61.000	61.000
0090	204.0220	Removing Inlets	EACH	2.000	2.000
0100	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	10.000	10.000
0110	205.0100	Excavation Common	CY	458.000	458.000
0130	213.0100	Finishing Roadway (project) 02. 7600-02-70	EACH	1.000	1.000
0150	305.0110	Base Aggregate Dense 3/4-Inch	TON	49.000	49.000
0160	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	219.000	219.000
0200	416.0610	Drilled Tie Bars	EACH	18.000	18.000
0210	416.0620	Drilled Dowel Bars	EACH	36.000	36.000
0260	465.0105	Asphaltic Surface	TON	7.000	7.000
0290	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0300	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	342.000	342.000
0310	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	62.000	62.000
0320	601.0600	Concrete Curb Pedestrian	LF	24.000	24.000
0330	602.0405	Concrete Sidewalk 4-Inch	SF	1,970.000	1,970.000
0340	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	104.000	104.000
0380	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	16.000	16.000
0400	611.0624	Inlet Covers Type H	EACH	2.000	2.000
0420	611.3230	Inlets 2x3-Ft	EACH	2.000	2.000
0510	619.1000	Mobilization	EACH	0.090	0.090
0520	620.0300	Concrete Median Sloped Nose	SF	36.000	36.000
0530	624.0100	Water	MGAL	5.000	5.000
0540	625.0100	Topsoil	SY	1,197.000	1,197.000
0550	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0560	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0570	628.2006	Erosion Mat Urban Class I Type A	SY	1,197.000	1,197.000
0580	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0590	628.7015	Inlet Protection Type C	EACH	4.000	4.000
0600	629.0210	Fertilizer Type B	CWT	0.800	0.800
0610	630.0140	Seeding Mixture No. 40	LB	22.000	22.000
0620	630.0200	Seeding Temporary	LB	32.000	32.000
0630	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	1.000	1.000
0640	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	4.000	4.000
0680	637.2215	Signs Type II Reflective H Folding	SF	40.200	40.200
0690	637.2230	Signs Type II Reflective F	SF	36.000	36.000
0700	638.2102	Moving Signs Type II	EACH	3.000	3.000
0710	638.2602	Removing Signs Type II	EACH	8.000	8.000
0720	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0750	643.0200	Traffic Control Surveillance and Maintenance (project) 02. 7660-02-70	DAY	33.000	33.000
0770	643.0300	Traffic Control Drums	DAY	3,441.000	3,441.000
0780	643.0420	Traffic Control Barricades Type III	DAY	678.000	678.000
0810	643.0705	Traffic Control Warning Lights Type A	DAY	150.000	150.000
0820	643.0715	Traffic Control Warning Lights Type C	DAY	660.000	660.000
0840	643.0900	Traffic Control Signs	DAY	726.000	726.000
0850	643.0920	Traffic Control Covering Signs Type II	EACH	2.000	2.000
0860	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0890	646.0106	Pavement Marking Epoxy 4-Inch	LF	190.000	190.000

3

DATE 30DEC14 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	7600-02-70 QUANTITY
0900	646.0126	Pavement Marking Epoxy 8-Inch	LF	190.000	190.000
0910	646.0600	Removing Pavement Markings	LF	75.000	75.000
0930	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	2.000	2.000
0940	647.0176	Pavement Marking Arrows Epoxy Type 3	EACH	2.000	2.000
0960	647.0306	Pavement Marking Symbols Bike Lane Epoxy	EACH	2.000	2.000
0980	647.0356	Pavement Marking Words Epoxy	EACH	2.000	2.000
0990	647.0456	Pavement Marking Curb Epoxy	LF	230.000	230.000
1010	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	190.000	190.000
1020	647.0606	Pavement Marking Island Nose Epoxy	EACH	2.000	2.000
1040	647.0796	Pavement Marking Crosswalk Epoxy 24-Inch	LF	250.000	250.000
1060	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	2,160.000	2,160.000
1080	650.4000	Construction Staking Storm Sewer	EACH	2.000	2.000
1090	650.5500	Construction Staking Curb Gutter And Curb & Gutter	LF	428.000	428.000
1100	650.7000	Construction Staking Concrete Pavement	LF	110.000	110.000
1120	650.8500	Construction Staking Electrical Installations (Project) 01. 7600-02-70	LS	1.000	1.000
1140	650.9910	Construction Staking Supplemental Control (Project) 02. 7660-02-70	LS	1.000	1.000
1160	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	171.000	171.000
1170	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	100.000	100.000
1180	652.0800	Conduit Loop Detector	LF	604.000	604.000
1200	653.0140	Pull Boxes Steel 24x42-Inch	EACH	2.000	2.000
1210	653.0900	Adjusting Pull Boxes	EACH	10.000	10.000
1220	653.0905	Removing Pull Boxes	EACH	7.000	7.000
1230	654.0101	Concrete Bases Type 1	EACH	8.000	8.000
1240	654.0113	Concrete Bases Type 13	EACH	2.000	2.000
1250	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000
1260	655.0230	Cable Traffic Signal 5-14 Awg	LF	1,313.000	1,313.000
1270	655.0240	Cable Traffic Signal 7-14 Awg	LF	108.000	108.000
1280	655.0260	Cable Traffic Signal 12-14 Awg	LF	920.000	920.000
1290	655.0410	Communication Cable Installed In Conduit	LF	1,800.000	1,800.000
1300	655.0515	Electrical Wire Traffic Signals 10 Awg	LF	878.000	878.000
1320	655.0700	Loop Detector Lead In Cable	LF	3,540.000	3,540.000
1330	655.0800	Loop Detector Wire	LF	3,966.000	3,966.000
1340	655.0900	Traffic Signal Evp Detector Cable	LF	440.000	440.000
1350	656.0200	Electrical Service Meter Breaker Pedestal (Location) 01. Cb1	LS	1.000	1.000
1360	657.0100	Pedestal Bases	EACH	9.000	9.000
1380	657.0420	Traffic Signal Standards Aluminum 13-Ft	EACH	5.000	5.000
1390	657.0425	Traffic Signal Standards Aluminum 15-Ft	EACH	4.000	4.000
1400	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	12.000	12.000
1410	658.0115	Traffic Signal Face 4-12 Inch Vertical	EACH	6.000	6.000
1420	658.0215	Backplates Signal Face 3 Section 12-Inch	EACH	12.000	12.000
1430	658.0220	Backplates Signal Face 4 Section 12-Inch	EACH	6.000	6.000
1440	658.0416	Pedestrian Signal Face 16-Inch	EACH	4.000	4.000
1450	658.0500	Pedestrian Push Buttons	EACH	6.000	6.000
1460	658.0600	Led Modules 12-Inch Red Ball	EACH	12.000	12.000
1470	658.0605	Led Modules 12-Inch Yellow Ball	EACH	12.000	12.000
1480	658.0610	Led Modules 12-Inch Green Ball	EACH	12.000	12.000
1490	658.0615	Led Modules 12-Inch Red Arrow	EACH	6.000	6.000

3

DATE 30DEC14 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	7600-02-70 QUANTITY
1500	658.0620	Led Modules 12-Inch Yellow Arrow	EACH	12.000	12.000
1510	658.0625	Led Modules 12-Inch Green Arrow	EACH	6.000	6.000
1520	658.0635	Led Modules Pedestrian Countdown Timer 16-Inch	EACH	4.000	4.000
1530	658.5069	Signal Mounting Hardware (Location) 01. Ush 12/Sth 29 & Red Cedar Street	LS	1.000	1.000
1540	690.0150	Sawing Asphalt	LF	220.000	220.000
1550	690.0250	Sawing Concrete	LF	600.000	600.000
1560	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
1720	SPV.0060	Special 14. Concrete Bases Type 1 With Spread Footing	EACH	1.000	1.000
1790	SPV.0060	Special 21. Furnish And Install Poles Type 12	EACH	2.000	2.000
1800	SPV.0060	Special 22. Furnish And Install Monotube Arms 40-Ft	EACH	2.000	2.000
1840	SPV.0090	Special 04. Concrete Curb And Gutter Cure And Seal Treatment	LF	428.000	428.000
1910	SPV.0105	Special 06. Furnish And Install Traffic Signal Cabinet (Ush 12 & Red Cedar St)	LS	1.000	1.000
2010	SPV.0105	Special 16. Project Concrete Crack Mitigation And Repair Special 7600-02-70	LS	1.000	1.000
2030	SPV.0165	Special 01. Concrete Sidewalk Cure And Seal Treatment	SF	1,970.000	1,970.000
2060	SPV.0180	Special 02. Concrete Pavement 10-Inch Special	SY	607.000	607.000

STAGING NOTE: STAGED QUANTITIES ARE BASED ON THE TRAFFIC CONTROL PLANS SHOWN. CHANGES IN PROJECT STAGING WILL AFFECT STAGED QUANTITIES.

3

REMOVING PAVEMENT

LOCATION	STATION	-	STATION	LT/RT	204.0100 REMOVING PAVEMENT (SY)	204.0110 REMOVING ASPHALTIC SURFACE (SY)
CATEGORY 0010						
RED CEDAR -NB	9+04	-	9+75	RT	385	--
RED CEDAR -SB	10+49	-	10+99	LT	303	--
RED CEDAR -SB	8+72	-	8+83	LT	--	6
RED CEDAR -NB	8+72	-	8+81	RT	--	6
RED CEDAR -NB	9+00	-	9+04	RT	--	14
RED CEDAR -SB	10+99	-	11+03	LT	--	28
RED CEDAR -NB	11+01	-	11+18	RT	--	9
RED CEDAR -SB	11+28	-	11+32	LT	--	7
			PROJECT TOTALS		**688**	**70**

REMOVING CONCRETE SIDEWALK

LOCATION	204.0155 REMOVING CONCRETE SIDEWALK (SY)
CATEGORY 0010	
USH 12 - WEST MEDIAN	29
USH 12 - EAST MEDIAN	32
PROJECT TOTALS	**61**

EXCAVATION COMMON

LOCATION	STATION	-	STATION	LT / RT	205.0100 (CY)
CATEGORY 0010					
RED CEDAR - NB	9+04	-	9+75	RT	256
RED CEDAR - SB	10+48	-	11+00	LT	202
			PROJECT TOTALS		**458**

REMOVING CURB & GUTTER

LOCATION	STATION	-	STATION	LT/RT	204.0150 REMOVING CURB & GUTTER (LF)
CATEGORY 0010					
RED CEDAR - NB	8+72	-	8+81	RT	13
RED CEDAR - SB	8+72	-	8+83	LT	16
RED CEDAR - NB	9+04	-	9+75	RT	117
USH 12 - WB	45+91	-	46+06	RT	15
USH 12 - EAST MEDIAN	47+01	-	47+32	LT	55
USH 12 - WEST MEDIAN	45+85	-	46+07	LT	44
RED CEDAR - SB	10+48	-	11+00	LT	100
USH 12 - EB	47+04	-	47+16	LT	11
RED CEDAR - NB	11+00	-	11+14	RT	18
RED CEDAR - SB	11+32	-	11+35	LT	15
			PROJECT TOTALS		**404**

AGGREGATE ITEMS

LOCATION	STA	-	STA	LT / RT	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)	624.0100 WATER (MGAL)
CATEGORY 0010							
USH 12 - WEST MEDIAN	--	-	--	--	7	--	--
USH 12 - EAST MEDIAN	--	-	--	--	7	--	--
RED CEDAR - SE QUAD	--	-	--	--	10	--	--
RED CEDAR - SW QUAD	--	-	--	--	11	--	--
RED CEDAR - NE QUAD	--	-	--	--	8	--	--
RED CEDAR - NW QUAD	--	-	--	--	6	--	--
RED CEDAR - NB	8+72	-	8+82	RT	--	3	--
RED CEDAR - SB	8+72	-	8+85	LT	--	3	--
RED CEDAR - NB	9+00	-	9+75	RT	--	113	--
RED CEDAR - NB	10+61	-	10+64	RT	--	1	--
RED CEDAR - SB	10+49	-	11+03	LT	--	91	--
RED CEDAR -NB	11+00	-	11+17	RT	--	4	--
RED CEDAR -SB	11+28	-	11+35	LT	--	4	--
UNDISTRIBUTED					--	--	5
			PROJECT TOTALS		**49**	**219**	**5**

CONCRETE PAVEMENT ITEMS

LOCATION	STATION	-	STATION	LT / RT	SPV.0180.02 CONCRETE PAVEMENT 10-INCH SPECIAL (SY)	416.0610 DRILLED TIE BARS (EACH)	416.0620 DRILLED DOWEL BARS (EACH)
CATEGORY 0010							
RED CEDAR - NB	09+03	-	09+76	RT	351	10	20
RED CEDAR - SB	10+49	-	10+99	LT	256	8	16
PROJECT TOTALS					**607**	**18**	**36**

CONCRETE CURB & GUTTER ITEMS

LOCATION	STATION	TO	STATION	LT/RT	601.0409 CONCRETE CURB AND GUTTER 30-INCH TYPE A (LF)	601.0411 CONCRETE CURB AND GUTTER 30-INCH TYPE D (LF)	601.0600 CONCRETE CURB PEDESTRIAN (LF)	SPV.0090.04 CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT (LF)	620.0300 CONCRETE MEDIAN SLOPED NOSE (SF)
CATEGORY 0010									
RED CEDAR - NB	8+72	-	8+81	RT	--	13	--	13	--
RED CEDAR - SB	8+72	-	8+83	LT	--	16	--	16	--
RED CEDAR - NB	9+04	-	9+75	RT	117	--	--	117	--
USH 12 - WB	45+91	-	46+06	RT	15	--	--	15	--
USH 12 - EAST MEDIAN	47+01	-	47+32	LT	55	--	12	67	21
USH 12 - WEST MEDIAN	45+85	-	46+07	LT	44	--	12	56	15
RED CEDAR - SB	10+48	-	11+00	LT	100	--	--	100	--
USH 12 - EB	47+04	-	47+16	LT	11	--	--	11	--
RED CEDAR - NB	11+00	-	11+14	RT	--	18	--	18	--
RED CEDAR - SB	11+32	-	11+35	LT	--	15	--	15	--
PROJECT TOTALS					**342**	**62**	**24**	**428**	**36**

3

ASPHALT ITEMS

LOCATION	STATION	-	STATION	LT / RT	465.0105 ASPHALTIC SURFACE (TON)
CATEGORY 0010					
RED CEDAR -SB	8+72	-	8+83	LT	1
RED CEDAR -NB	8+72	-	8+81	RT	1
RED CEDAR -NB	9+00	-	9+04	RT	1
RED CEDAR -SB	10+99	-	11+03	LT	3
RED CEDAR -NB	11+01	-	11+18	RT	1
RED CEDAR -SB	11+28	-	11+32	LT	1
PROJECT TOTALS					**7**

CONCRETE SIDEWALK ITEMS

LOCATION	602.0405 CONCRETE SIDEWALK 4-INCH (SF)	SPV.0165.01 CONCRETE SIDEWALK CURE AND SEAL TREATMENT (SF)	602.0515 DETECTABLE WARNING FIELD NATURAL PATINA (SF)
CATEGORY 0010			
USH 12 - WEST MEDIAN	265	265	16
USH 12 - EAST MEDIAN	287	287	16
RED CEDAR - SE QUAD	424	424	16
RED CEDAR - SW QUAD	455	455	16
RED CEDAR - NE QUAD	305	305	16
RED CEDAR - NW QUAD	234	234	24
PROJECT TOTALS	**1,970**	**1,970**	**104**

LANDSCAPING ITEMS

LOCATION	625.0100 TOPSOIL (SY)	628.2006 EROSION MAT URBAN CLASS I TYPE A (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0140 SEEDING MIXTURE NO. 40 (LB)	630.0200 SEEDING TEMPORARY (LB)
CATEGORY 0010					
RED CEDAR - SE QUAD	525	525	0.3	9	14
RED CEDAR - SW QUAD	311	311	0.2	6	8
RED CEDAR - NE QUAD	133	133	0.1	2	4
RED CEDAR - NW QUAD	228	228	0.1	4	6
PROJECT TOTALS	1,197	1,197	0.8	22	32

STORM SEWER ITEMS

STRUCTURE NO.	STATION	OFFSET	204.0220 REMOVING INLETS (EACH)	204.0245 REMOVING STORM SEWER (12") (LF)	520.8000 CONCRETE COLLARS FOR PIPE (EACH)	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH (LF)	611.0624 INLETS COVERS TYPE H (EACH)	611.3230 INLETS 2x3-FT (EACH)
CATEGORY 0010								
--	09+36	41.0' RT	1	--	--	--	--	--
--	10+90	48.0' LT	1	10	--	--	--	--
1.0	46+14	90.7' LT	--	--	1	8	1	1
2.0	46+91	63.3' RT	--	--	1	8	1	1
PROJECT TOTALS			**2**	**10**	**2**	**16**	**2**	**2**

3

INLET PROTECTION

LOCATION	STATION	OFFSET	628.7005 TYPE A (EACH)	628.7015 TYPE C (EACH)
CATEGORY 0010				
RED CEDAR - NORTH	10+90	38.1' LT	1	2
RED CEDAR - SOUTH	9+37	34.6' RT	1	2
		PROJECT TOTALS	**2**	**4**

ADJUSTING PULL BOXES

LOCATION	STATION	OFFSET	LT/RT	653.0900 ADJUSTING PULL BOXES (EA)	653.0905 REMOVING PULL BOXES (EA)
CATEGORY 0010					
PB1	10+71'RC'	41.1'	RT	1	--
PB2	10+06'RC'	67.5'	RT	1	--
PB3	9+49'RC'	59.9'	RT	1	--
PB4	9+54'RC'	63.5'	LT	1	--
PB5	10+18'RC'	71.4'	LT	1	--
PB6	10+66'RC'	62.1'	LT	1	--
	*UNDISTRIBUTED			4	7
			PROJECT TOTALS	**10**	**7**

* UNDISTRIBUTED QUANTITIES OF ADJUSTING ALL EXISTING LIGHTING PULL BOXES TO GRADE
* UNDISTRIBUTED QUANTITIES OF REMOVING ALL EXISTING PULL BOXES WITHIN PAVEMENT

PULLBOXES

LOCATION / PULL BOX NUMBER	STATION	OFFSET	L/R	653.0140 PULL BOXES STEEL 24X42-INCH (EA)
CATEGORY 0010				
PB7	9+41'RC'	44.1'	RT	1
PB8	10+79'RC'	40.4'	LT	1
			PROJECT TOTALS	**2**

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 (EACH)	628.1910 EMERGENCY (EACH)
STAGE 1	3	1
STAGE 2	3	1
PROJECT TOTALS	**6**	**2**

TEMPORARY PAVEMENT MARKINGS

WORK TO BE COMPLETED DURING STAGE	STATION TO STATION	LOCATION	649.0400 REMOVABLE TAPE 4-INCH WHITE (LF)	4-INCH YELLOW (LF)
CATEGORY 0010				
STAGE 1	37+00 - 57+00	INTERSECTION	1,080	--
		STAGE 1 SUBTOTAL	1,080	
STAGE 2	37+00 - 57+00	INTERSECTION	1,080	--
		STAGE 2 SUBTOTAL	1,080	
		PROJECT TOTALS	**2,160**	

PAVEMENT MARKING

BEGIN STA - END STA	LOCATION	646.0106 EPOXY 4-INCH (YELLOW) (LF)	646.0126 EPOXY 8-INCH (WHITE) (LF)	646.0600 REMOVING PAVEMENT MARKINGS (LF)	647.0166 ARROWS EPOXY TYPE 2 (EACH)	647.0176 ARROWS EPOXY TYPE 3 (EACH)	647.0356 WORDS EPOXY (EACH)	647.0306 SYMBOLS BIKE LANE EPOXY (EACH)	647.0456 CURB EPOXY (LF)	647.0566 STOP LINE EPOXY 18-INCH (LF)	647.0606 ISLAND NOSE EPOXY (EACH)	647.0796 CROSSWALK EPOXY 24-INCH (LF)
CATEGORY 0010												
PROJECT START - END												
45+50 - 47+75	INTERSECTION	190	190	--	2	2	2	2	230	190	2	250
	UNDISTRIBUTED	--	--	75	--	--	--	--	--	--	--	--
	PROJECT TOTALS	**190**	**190**	**75**	**2**	**2**	**2**	**2**	**230**	**190**	**2**	**250**

TRAFFIC CONTROL DEVICES

WORK TO BE COMPLETED DURING STAGE	LOCATION	STATION - STATION	LT/RT	DAYS IN PHASE	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (DAYS)	643.1050 SIGNS PCMS (NO.)	(DAYS)	643.0300 DRUMS (NO.)	(DAYS)	643.0420 BARRICADES TYPE III (NO.)	(DAYS)	643.0705 WARNING LIGHTS TYPE A (NO.)	(DAYS)	643.0715 WARNING LIGHTS TYPE C (NO.)	(DAYS)	643.0900 TRAFFIC CONTROL SIGNS (NO.)	(DAYS)	643.0920 COVERING SIGNS TYPE II (EACH)
CATEGORY 0010																		
STAGE 1	RED CEDAR	37+00 - 57+00	LT/RT	18	18	1	14	102	1,836	21	378	0	0	20	360	22	396	1
		STAGE 1 SUBTOTAL			18	1	14	102	1,836	21	378	0	0	20	360	22	396	1
STAGE 2	MEDIANS	-- - --		15	15	1	14	107	1,605	20	300	10	150	20	300	22	330	1
		STAGE 2 SUBTOTAL			15	1	14	107	1,605	20	300	10	150	20	300	22	330	1
		PROJECT TOTALS			**33**	**28**		**3,441**		**678**		**150**		**660**		**726**		**2**

3

PERMANENT SIGNING TYPE II

SIGN #	SIGN CODE	SIGN SIZE	SIGN SIZE IN	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	634.0614 POSTS WOOD 4X6-INCH 14 FT (EACH)	634.0616 POSTS WOOD 4X6-INCH 16 FT (EACH)	638.2102 MOVING SIGNS TYPE II (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	SIGN MOUNTED ON SAME POST AS	REMARKS
CATEGORY 0010												
1-01	W3-3	2S	36X36	--	9.00	--	1	--	--	--	--	SIGNAL AHEAD
1-02	W3-3	2S	36X36	--	9.00	--	1	--	--	--	--	SIGNAL AHEAD
1-03	W3-3	2S	36X36	--	9.00	--	1	--	--	--	--	SIGNAL AHEAD
1-04	W3-3	2S	36X36	--	9.00	--	1	--	--	--	--	SIGNAL AHEAD
1-05	R1-1F	2S	30X30	5.18	--	--	--	--	--	--	--	STOP SIGN (FOLDING)
1-06	R1-1F	2S	36X36	7.46	--	--	--	--	--	--	ON SIGNAL	STOP SIGN (FOLDING)
1-07	R1-1F	2S	36X36	7.46	--	--	--	--	--	--	ON SIGNAL	STOP SIGN (FOLDING)
1-08	R1-1F	2S	36X36	7.46	--	--	--	--	--	--	ON SIGNAL	STOP SIGN (FOLDING)
1-09	R1-1F	2S	30X30	5.18	--	--	--	--	--	--	ON SIGNAL	STOP SIGN (FOLDING)
1-10	R1-1F	2S	36X36	7.46	--	--	--	--	--	--	ON SIGNAL	STOP SIGN (FOLDING)
1M-01	--	--	--	--	--	1	--	1	--	1	--	
1M-02	--	--	--	--	--	--	--	1	--	1	ON SIGNAL	
1M-03	--	--	--	--	--	--	--	1	--	1	ON SIGNAL	
1R-01	--	--	--	--	--	--	--	--	1	--	--	
1R-02	--	--	--	--	--	--	--	--	1	1	--	
1R-03	--	--	--	--	--	--	--	--	1	--	1R-02	
1R-04	--	--	--	--	--	--	--	--	1	1	--	
1R-05	--	--	--	--	--	--	--	--	1	--	1R-04	
1R-06	--	--	--	--	--	--	--	--	1	1	--	
1R-07	--	--	--	--	--	--	--	--	1	1	--	
1R-08			--	--	--	--	--	--	1	--	1R-07	
		PROJECT TOTALS		**40.2**	**36.0**	**1**	**4**	**3**	**8**	**7**		

CONSTRUCTION STAKING

STATION - STATION	DESCRIPTION	650.4000 STORM SEWER (EACH)	650.5500 CURB GUTTER AND CURB & GUTTER (LF)	650.7000 CONCRETE PAVEMENT (LF)	650.8500.01 ELECTRICAL INSTALLATIONS (LS)	650.9910.02 SUPPLEMENTAL CONTROL (LS)
CATEGORY 0010						
PROJECT	USH 12	2	428	110	1	1
	PROJECT TOTALS	**2**	**428**	**110**	**1**	**1**

TRAFFIC SIGNAL CONDUIT

LOCATION	FROM - TO	652.0225 CONDUIT RIGID NONMETALLIC NONMETALLIC SCHEDULE 40 2-INCH (LF)	652.0235 CONDUIT RIGID NONMETALLIC NONMETALLIC SCHEDULE 40 3-INCH (LF)
CATEGORY 0010			
	CB1 - PB1	--	15
	CB1 - PB1	--	15
	PB1 - SB1	20	--
	PB2 - SB2	7	--
	PB3 - SB3	30	--
	PB3 - SB4	15	--
	PB3 - PB7	18	--
	PB3 - PB4	--	20
	PB4 - SB5	25	--
	PB4 - SB6	7	--
	PB5 - SB7	10	--
	PB6 - SB8	10	--
	PB6 - SB9	7	--
	PB6 - PB8	--	30
	PB6 - PB1	--	20
	PB8 - SB10	15	--
	EXPB - SB11	7	--
	PROJECT TOTALS	**171**	**100**

TRAFFIC SIGNAL CONTROL CABINETS & SIGNAL MOUNTING HARDWARE

LOCATION	STATION	OFFSET	L/R	654.0217 CONCRETE CONTROL CABINET BASES CABINET BASES TYPE 9 SPECIAL (EA)	SPV.0105.06 FURNISH AND INSTALL TRAFFIC SIGNAL CABINET (LOCATION) (LS)	656.0200.01 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) (LS)	658.5069.01 SIGNAL MOUNTING HARDWARE (LOCATION) (LS)
CATEGORY 0010							
CB1	46+94	78'	LT	1	1	1	1
	PROJECT TOTALS			1	1	1	1

TRAFFIC SIGNAL LOOP DETECTORS

LOCATION / LOOP NO.	*STATION	OFFSET	L/R	SIZE FT X FT	NO. OF TURNS	INSTALLATION METHOD	652.0800 CONDUIT LOOP DETECTOR (LF)	655.0800 LOOP DETECTOR WIRE (LF)	655.0700 LOOP DETECTOR LEAD IN CABLE (LF)
CATEGORY 0010									
11	EXISTING			6 X 30	3	INSTALL WIRE AND LEAD IN CABLE INTO EXISTING LOOP	--	261	180
21	EXISTING			6 X 6	5	INSTALL WIRE AND LEAD IN CABLE INTO EXISTING LOOP	--	195	340
22	EXISTING			6 X 6	5	INSTALL WIRE AND LEAD IN CABLE INTO EXISTING LOOP	--	195	340
23	EXISTING			6 X 20	4	INSTALL WIRE AND LEAD IN CABLE INTO EXISTING LOOP	--	268	165
42	10+81'RC'	6.7'	LT	6 X 20	4	SDD: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	122	488	185
43	10+64'RC'	27.5'	LT	6 X 16	4	SDD: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	122	488	185
44	10+54'RC'	6.3'	LT	6 X 20	4	SDD: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	288	185
51	EXISTING			6 X 30	3	INSTALL WIRE AND LEAD IN CABLE INTO EXISTING LOOP	--	261	95
61	EXISTING			6 X 6	5	INSTALL WIRE AND LEAD IN CABLE INTO EXISTING LOOP	--	195	510
62	EXISTING			6 X 6	5	INSTALL WIRE AND LEAD IN CABLE INTO EXISTING LOOP	--	195	510
63	EXISTING			6 X 20	4	INSTALL WIRE AND LEAD IN CABLE INTO EXISTING LOOP	--	268	410
81	9+64'RC'	5.6'	RT	6 X 20	3	SDD: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	112	336	145
82	9+37'RC'	5.9'	RT	6 X 20	3	SDD: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	112	336	145
83	9+54'RC'	28.9'	RT	6 X 16	3	SDD: LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	64	192	145
						PROJECT TOTALS	**604**	**3966**	**3540**

* LOCATION IS TO THE FRONT CENTER OF DETECTOR LOOP. FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD BASED EXISTING PAVEMENT JOINT LOCATIONS.

3

TRAFFIC SIGNAL HEADS

LOCATION / BASE NUMBER	HEAD NO.	658.0110 TRAFFIC SIGNAL FACE 3 -12 INCH VERTICAL (EA)	658.0115 TRAFFIC SIGNAL FACE 4 -12 INCH VERTICAL (EA)	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH (EA)	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH (EA)	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH (EA)	658.0600 LED MODULES 12-INCH RED BALL (EA)	658.0605 LED MODULES 12-INCH YELLOW BALL (EA)	658.0610 LED MODULES 12-INCH GREEN BALL (EA)	658.0615 LED MODULES 12-INCH RED ARROW (EA)	658.0620 LED MODULES 12-INCH YELLOW ARROW (EA)	658.0625 LED MODULES 12-INCH GREEN ARROW (EA)	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH (EA)	658.0500 PEDESTRIAN PUSH BUTTON (EA)
CATEGORY 0010														
SB1	6	--	1	--	--	1	--	--	--	1	2	1	--	--
	7	1	--	--	1	--	1	1	1	--	--	--	--	--
	19	--	--	1	--	--	--	--	--	--	--	--	1	1
SB2	5	--	1	--	--	1	--	--	--	1	2	1	--	--
	10	--	1	--	--	1	--	--	--	1	2	1	--	--
	PED	--	--	--	--	--	--	--	--	--	--	--	--	1
SB3	2	1	--	--	1	--	1	1	1	--	--	--	--	--
	3	1	--	--	1	--	1	1	1	--	--	--	--	--
SB4	13	1	--	--	1	--	1	1	1	--	--	--	--	--
	18	1	--	--	1	--	1	1	1	--	--	--	--	--
	20	--	--	1	--	--	--	--	--	--	--	--	1	1
SB5	17	1	--	--	1	--	1	1	1	--	--	--	--	--
SB6	1	1	--	--	1	--	1	1	1	--	--	--	--	--
	12	--	1	--	--	1	--	--	--	1	2	1	--	--
	21	--	--	1	--	--	--	--	--	--	--	--	1	1
SB7	4	--	1	--	--	1	--	--	--	1	2	1	--	--
	11	--	1	--	--	1	--	--	--	1	2	1	--	--
	PED	--	--	--	--	--	--	--	--	--	--	--	--	1
SB8	8	1	--	--	1	--	1	1	1	--	--	--	--	--
	9	1	--	--	1	--	1	1	1	--	--	--	--	--
SB9	22	--	--	1	--	--	--	--	--	--	--	--	1	1
SB10	15	1	--	--	1	--	1	1	1	--	--	--	--	--
	16	1	--	--	1	--	1	1	1	--	--	--	--	--
SB11	14	1	--	--	1	--	1	1	1	--	--	--	--	--
PROJECT TOTALS		**12**	**6**	**4**	**12**	**6**	**12**	**12**	**12**	**6**	**12**	**6**	**4**	**6**

TRAFFIC SIGNAL STRUCTURES

LOCATION / BASE NUMBER	657.0100 PEDESTAL BASES (EA)	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINIUM 13-FT (EA)	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINIUM 15-FT (EA)
CATEGORY 0010			
SB1	1	--	1
SB2	1	--	1
SB4	1	1	--
SB5	1	1	--
SB6	1	--	1
SB7	1	--	1
SB9	1	1	--
SB10	1	1	--
SB11	1	1	--
PROJECT TOTALS	9	5	4

TRAFFIC SIGNAL MONOTUBE STRUCTURES

BASE NUMBER	SPV.0060.21 FURNISH AND INSTALL POLES TYPE 12 (EA)	SPV.0060.22 FURNISH AND INSTALL MONOTUBE ARMS 40-FT (EA)
CATEGORY 0010		
SB3	1	1
SB8	1	1
PROJECT TOTALS	2	2

TRAFFIC SIGNAL BASES

BASE NUMBER	STATION	OFFSET	L/R	654.0101 CONCRETE BASES TYPE 1 (EA)	SPV.0060.14 CONCRETE BASES TYPE 1 WITH SPREAD FOOTING (EA)	654.0113 CONCRETE BASES TYPE 13 (EA)
CATEGORY 0010						
SB1	10+67'RC'	60.9'	RT	1	--	--
SB2	10+08'RC'	60.8'	RT	--	1	--
SB3	9+59'RC'	85.0'	RT	--	--	1
SB4	9+52'RC'	50.5'	RT	1	--	--
SB5	9+43'RC'	38.8'	LT	1	--	--
SB6	9+57'RC'	61.0'	LT	1	--	--
SB7	10+17'RC'	62.0'	LT	1	--	--
SB8	10+68'RC'	72.1'	LT	--	--	1
SB9	10+67'RC'	58.6'	LT	1	--	--
SB10	10+68'RC'	45.9'	LT	1	--	--
SB11	10+75'RC'	34.3'	RT	1	--	--
			PROJECT TOTALS	**8**	**1**	**2**

3

TRAFFIC SIGNAL CABLE AND WIRE - BELOW GROUND

LOCATION	FROM	-	TO	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG (LF)
CATEGORY 0010				
	CB1	-	SB1	35
	SB1	-	SB2	65
	SB2	-	SB3	65
	SB3	-	SB4	65
	SB4	-	SB5	90
	SB5	-	SB6	45
	SB6	-	SB7	65
	SB7	-	SB8	65
	SB8	-	SB9	30
	SB9	-	SB10	30
	SB10	-	SB11	75
	SB11	-	CB1	30
	PB1	-	SB1	24
	PB2	-	SB2	20
	PB3	-	SB3	45
	PB7	-	SB4	20
	PB4	-	SB5	20
	PB5	-	SB7	20
	PB6	-	SB8	29
	PB8	-	SB10	40
	PROJECT TOTALS			**878**

TRAFFIC SIGNAL CABLE AND WIRE - ABOVE GROUND

LOCATION	SIGNAL BASE	SIGNAL HEAD	* 655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG (LF)	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG (LF)
CATEGORY 0010				
	SB1	6	--	18
		7	17	--
		19	14	--
	SB2	5	--	18
		10	--	18
	SB3	2	53	--
		3	65	--
	SB4	13	17	--
		18	17	--
		20	14	--
	SB5	17	17	--
	SB6	1	17	--
		12	--	18
		21	14	--
	SB7	4	--	18
		11	--	18
	SB8	8	53	--
		9	65	--
	SB9	22	14	--
	SB10	15	17	--
		16	17	--
	SB11	14	17	--
		PROJECT TOTALS	428	108

* ADDITIONAL QUANTITY FOUND ELSEWHERE IN PLANSET

3

TRAFFIC SIGNAL CABLE AND WIRE - BELOW GROUND

LOCATION	FROM	-	TO	* 655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG (LF)	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG (LF)	** 655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE (LF)	*** 655.0410 COMMUNICATION CABLE INSTALLED IN CONDUIT (LF)
CATEGORY 0010							
	CB1	-	SB1	--	75	--	--
	CB1	-	SB2	--	125	--	--
	CB1	-	SB3	215	--	250	--
	CB1	-	SB4	--	205	--	--
	CB1	-	SB5	315	--	--	--
	CB1	-	SB6	--	210	--	--
	CB1	-	SB7	--	125	--	--
	CB1	-	SB8	170	--	190	--
	CB1	-	SB9	160	--	--	--
	CB1	-	SB10	--	180	--	--
	CB1	-	SB11	25	--	--	--
21ST STREET TO RED CEDAR STREET				--	--	--	1800
	PROJECT TOTALS			**885**	**920**	**440**	**1800**

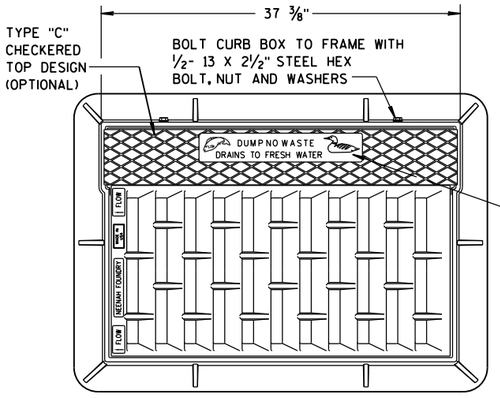
* ADDITIONAL QUANTITY FOUND ELSEWHERE IN PLANSET
** QUANTITY INCLUDES CABLE FROM SIGNAL CABINET + TO POLE BASE + POLE HEIGHT + ARM LENGTH - TO BE LEFT COILED IN THE NEAREST PULLBOX
*** QUANTITY INCLUDES CABLE TO BE INSTALLED IN EXISTING CONDUIT CONNECTING SIGNAL AT 21ST STREET TO RED CEDAR STREET. LEAVE CABLE COILED IN PULL BOXES NEAREST TO SIGNAL CABINI

SAWING

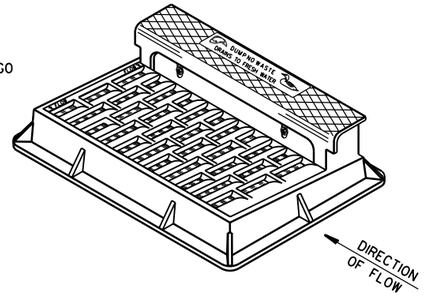
LOCATION	STATION	-	STATION	LT / RT	690.0150 SAWING ASPHALT (LF)	690.0250 SAWING CONCRETE (LF)
CATEGORY 0100						
RED CEDAR - NB	8+72	-	8+81	RT	25	--
RED CEDAR - SB	8+72	-	8+83	LT	23	--
RED CEDAR - NB	9+00	-	9+75	RT	41	184
RED CEDAR - SB	10+48	-	11+03	LT	74	154
RED CEDAR - NB	11+00	-	11+14	RT	31	--
RED CEDAR - SB	11+32	-	11+35	LT	26	--
USH 12 - EAST MEDIAN	47+01	-	47+32	LT	--	116
USH 12 - WEST MEDIAN	45+85	-	46+07	LT	--	110
USH 12 - WB	45+91	-	46+06	RT	--	19
USH 12 - EB	47+04	-	47+16	LT	--	17
			PROJECT TOTALS		**220**	**600**

Standard Detail Drawing List

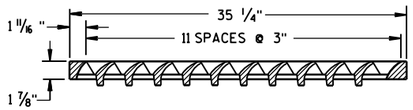
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C12-05B	CONCRETE BASE TYPE 13
09C13-02	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E08-06C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-06E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
11B02-02	CONCRETE MEDIAN NOSE
13C01-17	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C29-03C	URBAN BICYCLE LANE MARKING
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

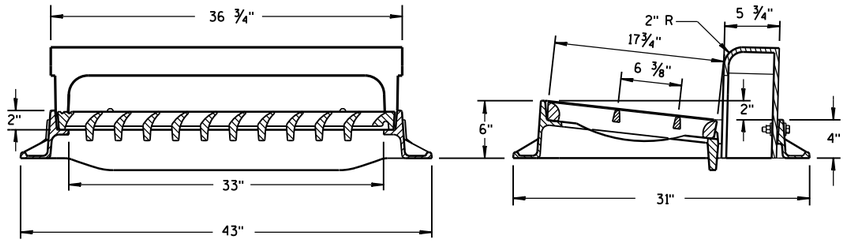


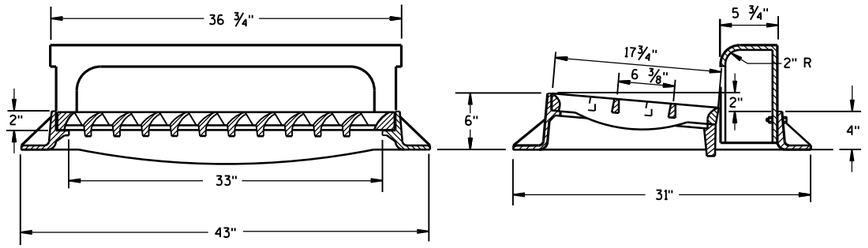
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

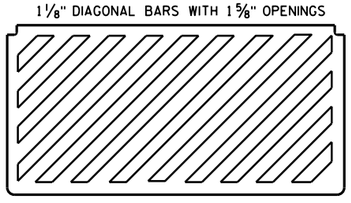






TYPE "H"

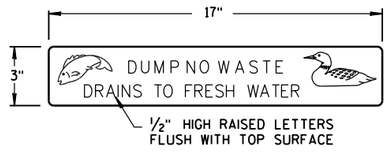
NOTE: EITHER CASTING IS ACCEPTABLE



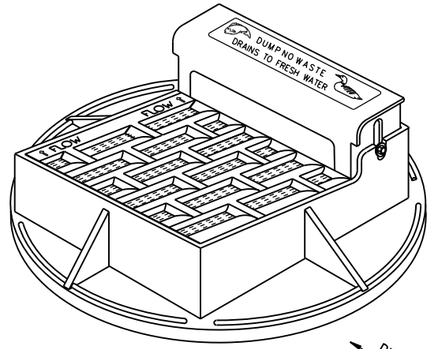
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

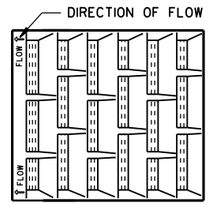
NOTE:
GRATE IS REVERSIBLE.

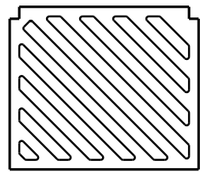
GENERAL NOTES

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

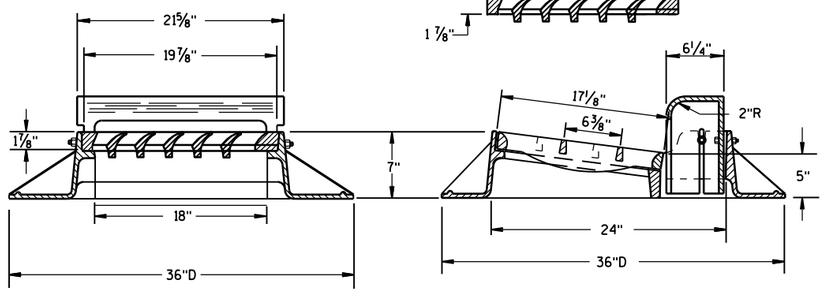




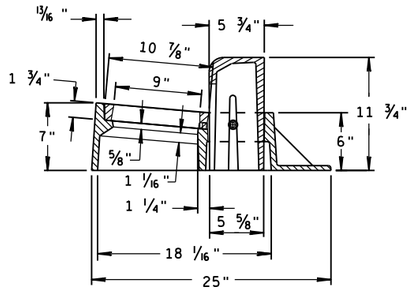
SPECIAL GRATE FOR TYPE "A" COVER

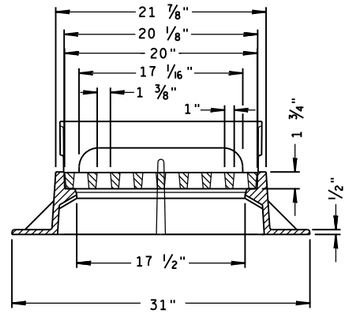
(MEASURES 19 3/4" X 17" X 1 7/8")

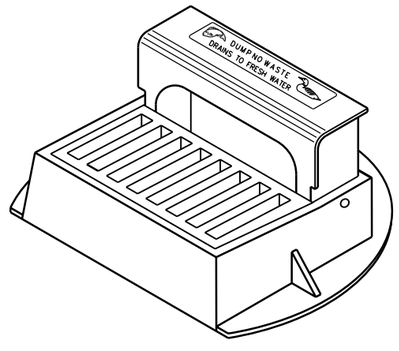
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

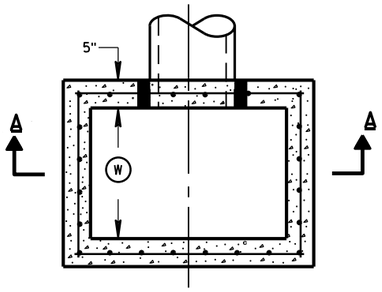
INLET COVERS
TYPE A, H, A-S, H-S & Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

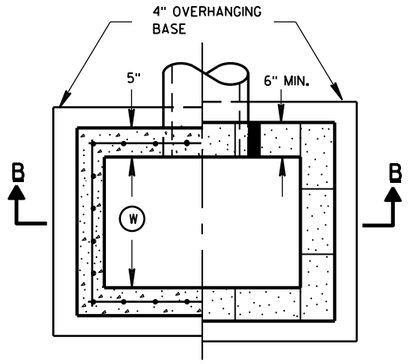
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

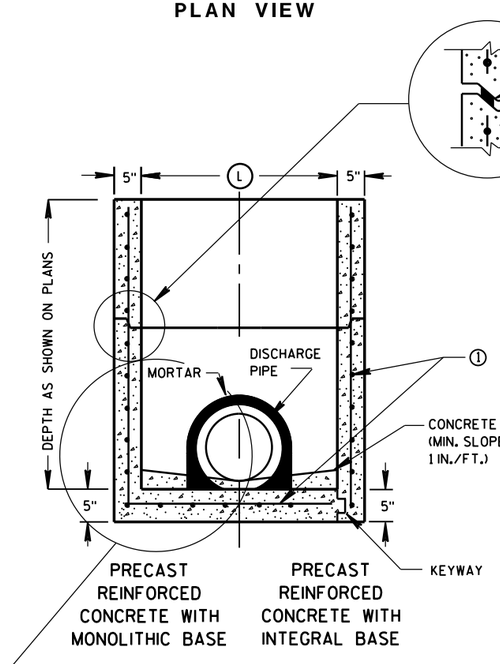
S.D.D. 8 A 5-19a



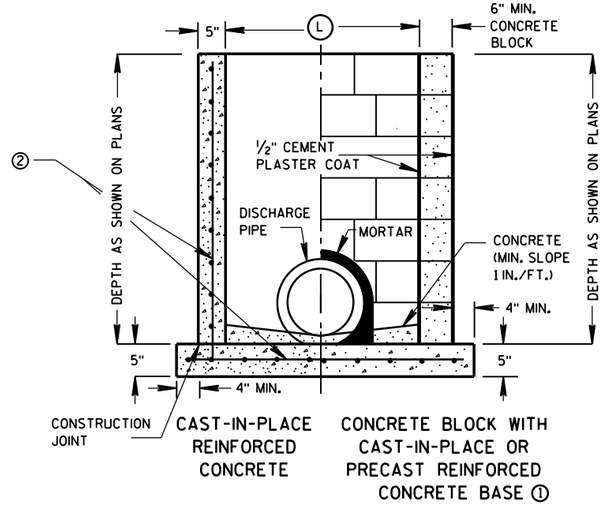
PLAN VIEW



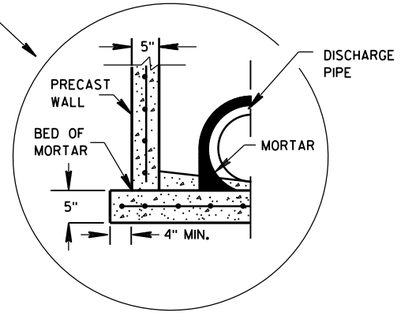
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

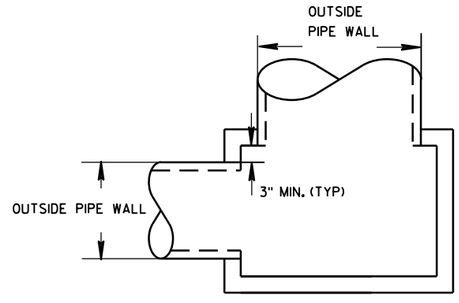
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

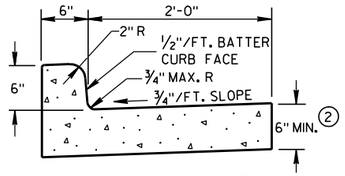
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
FHWA

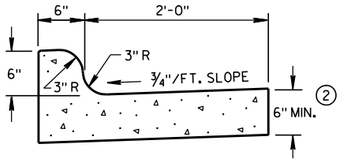
/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

6
S.D.D. 8 C 7-1

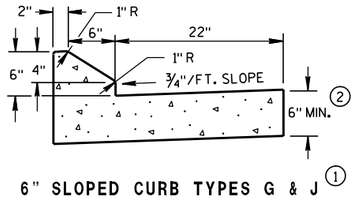
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT



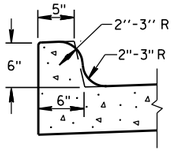
TYPES A & D (1)



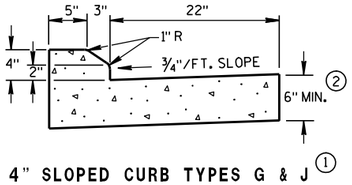
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

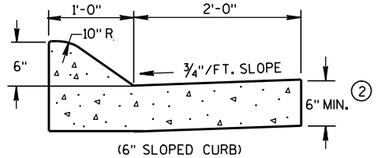


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

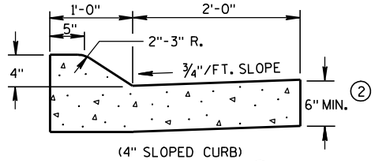


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

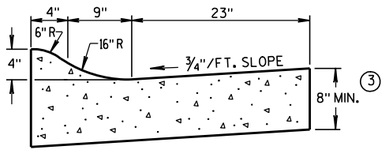


(6" SLOPED CURB)



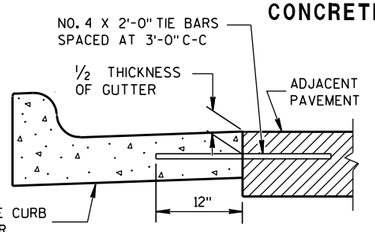
(4" SLOPED CURB)

TYPES A & D (1)

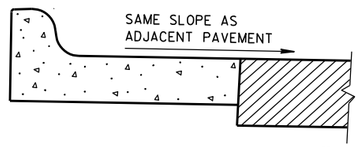


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

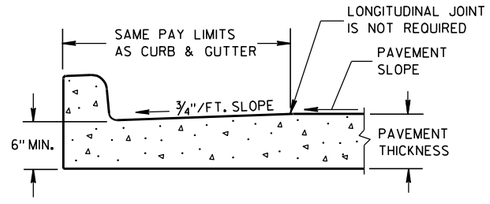
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

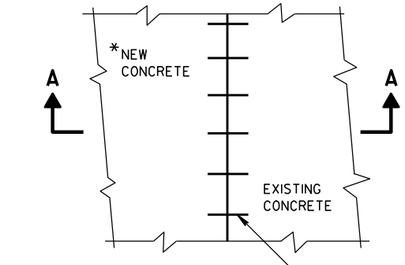
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

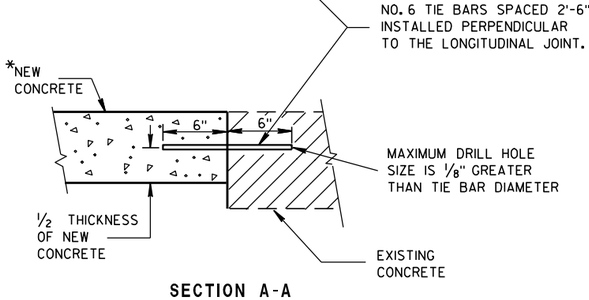


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



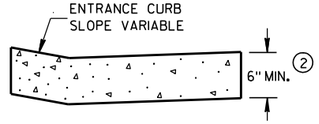
PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

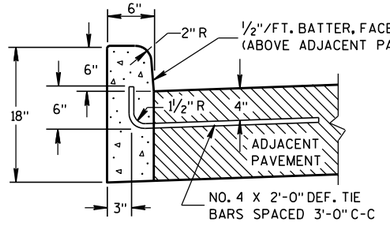


SECTION A-A

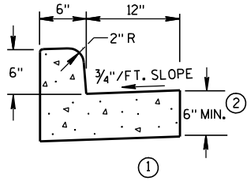
TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

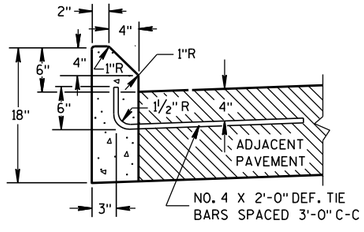


(1) TYPES A & D

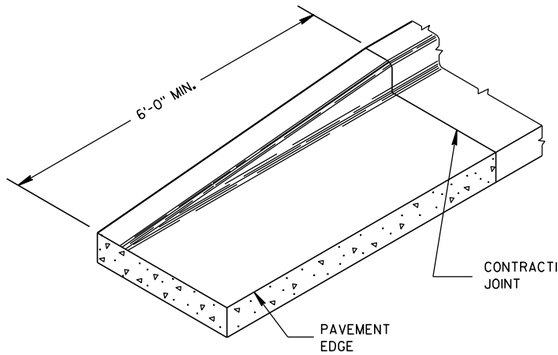


(1) TYPES A & D

CONCRETE CURB & GUTTER 18"



(1) TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

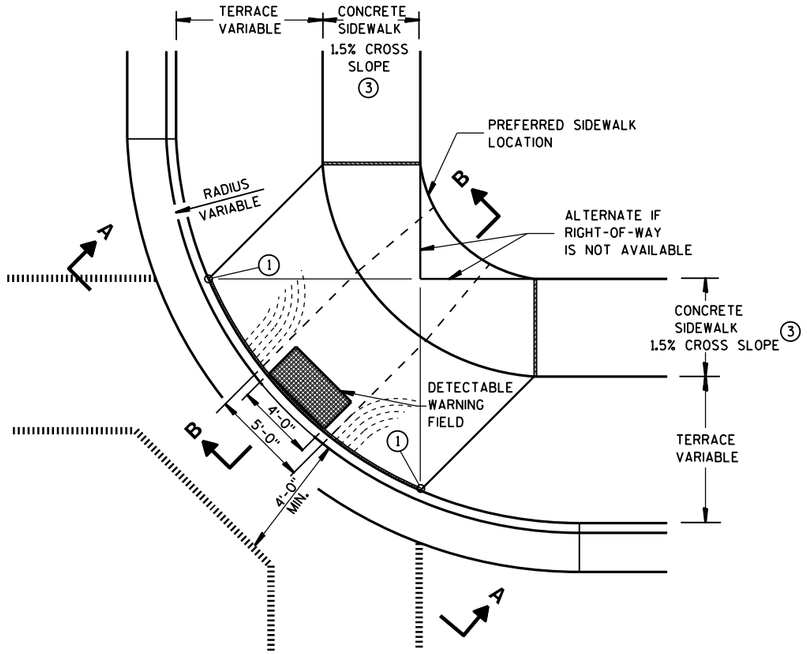
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA

6

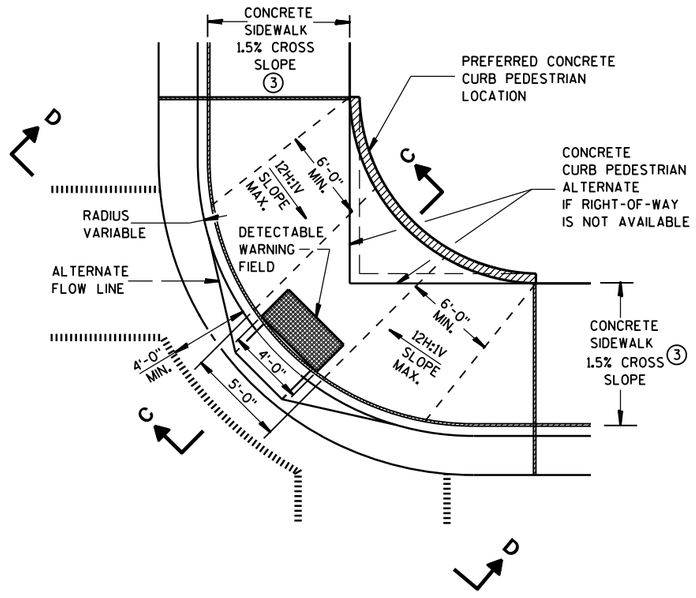
S.D.D. 8 D 1-17



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

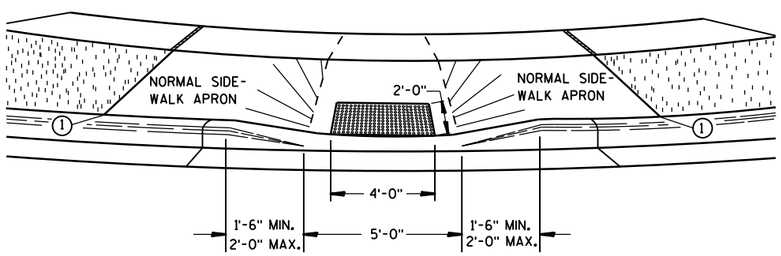
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

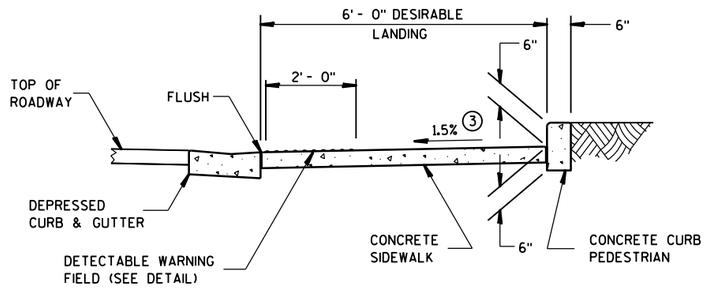
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

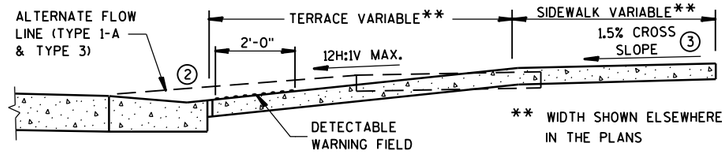
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



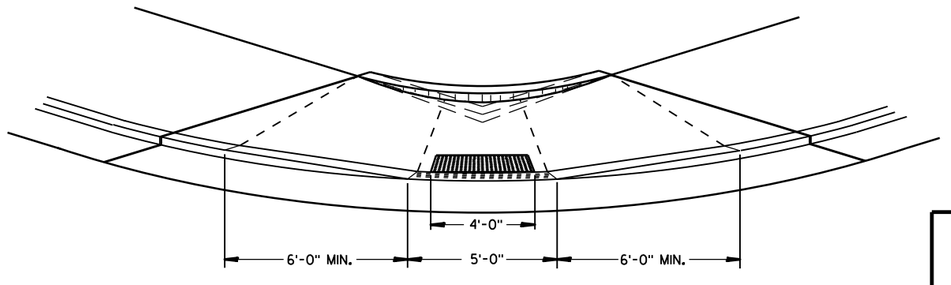
VIEW A-A



SECTION C-C



SECTION B-B



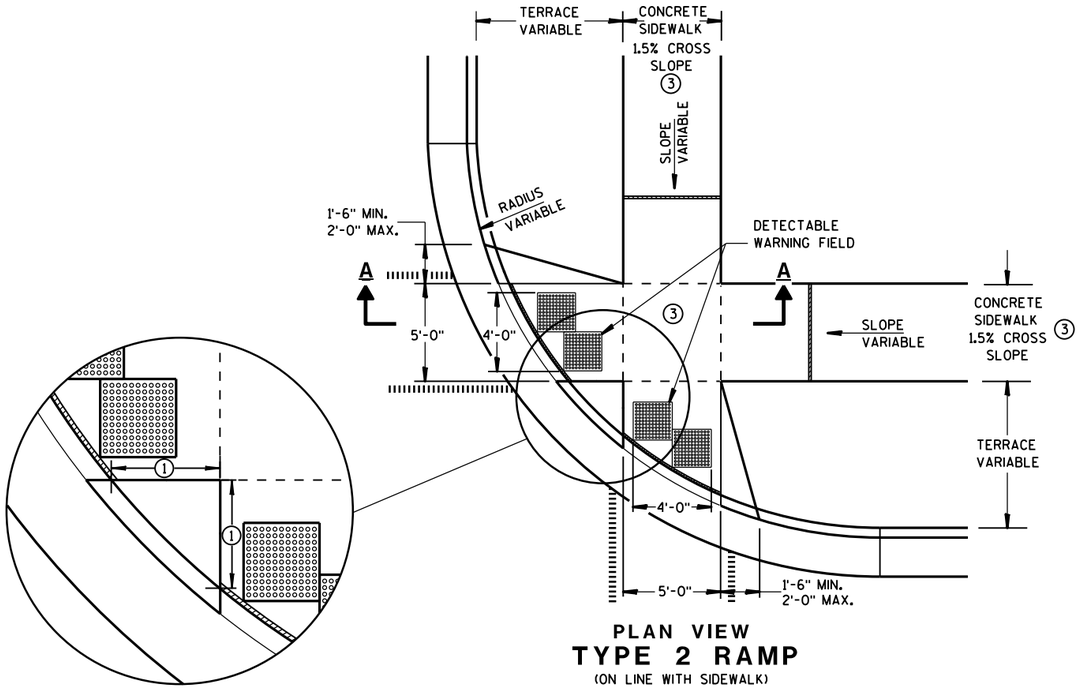
VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

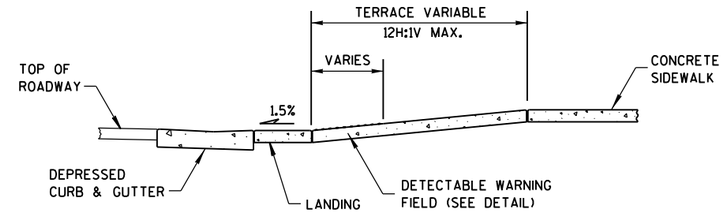
S.D.D. 8 D 5-15a



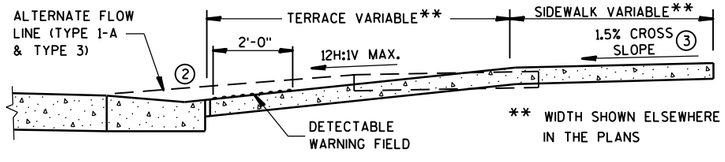
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

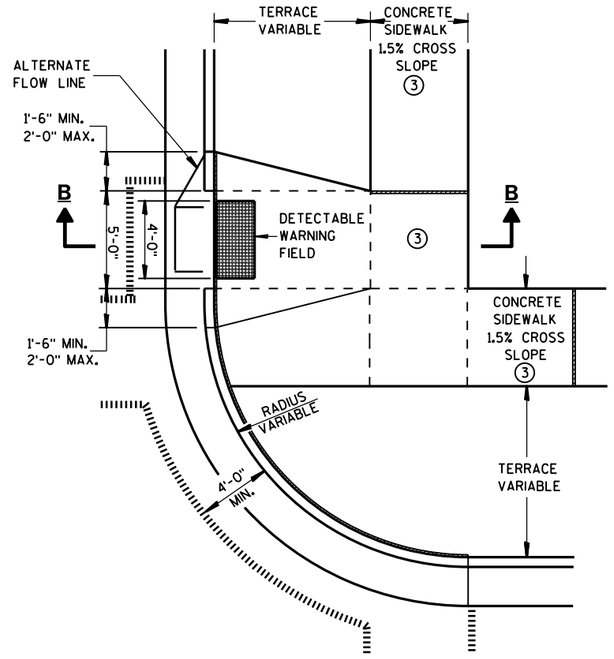
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

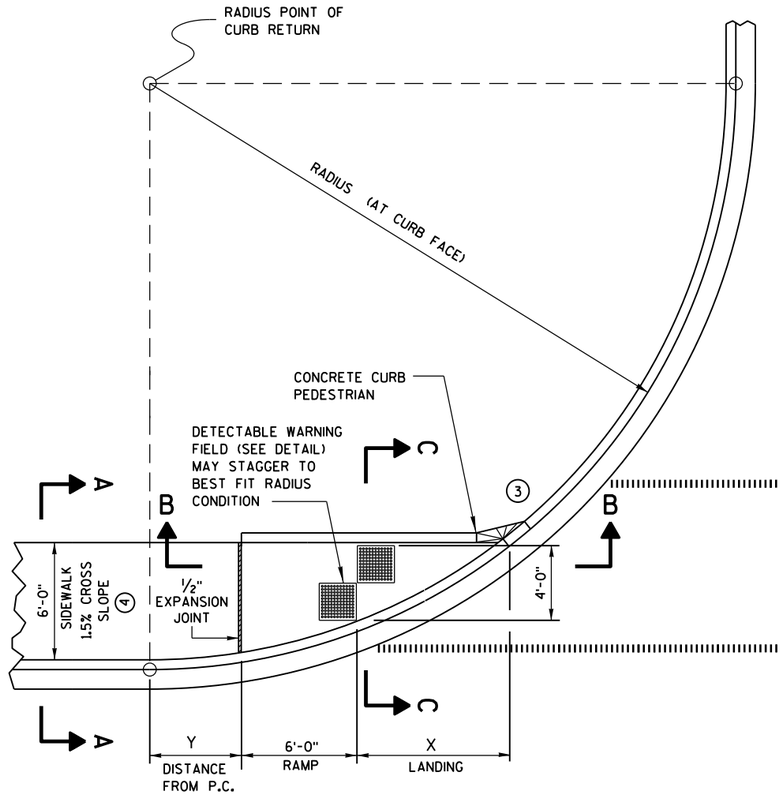
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

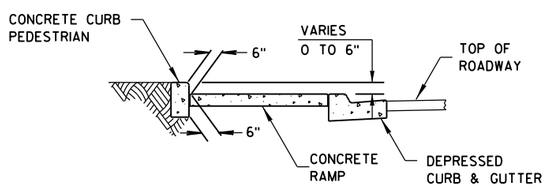
S.D.D. 8 D 5-15b

6

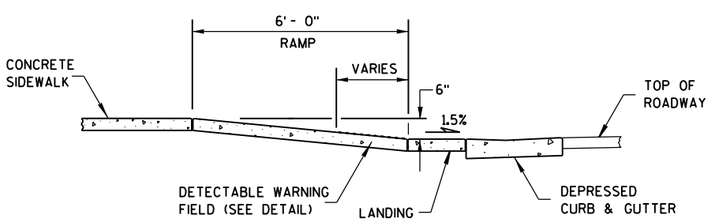
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



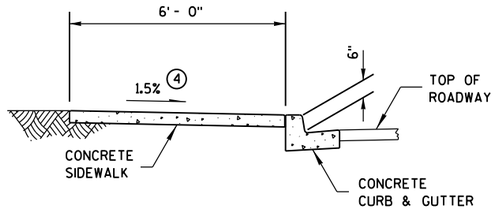
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

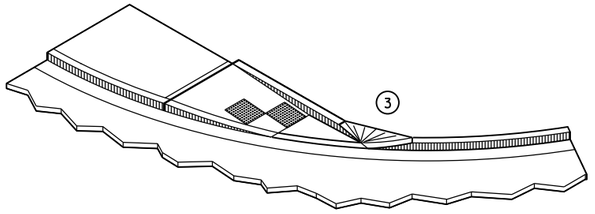
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

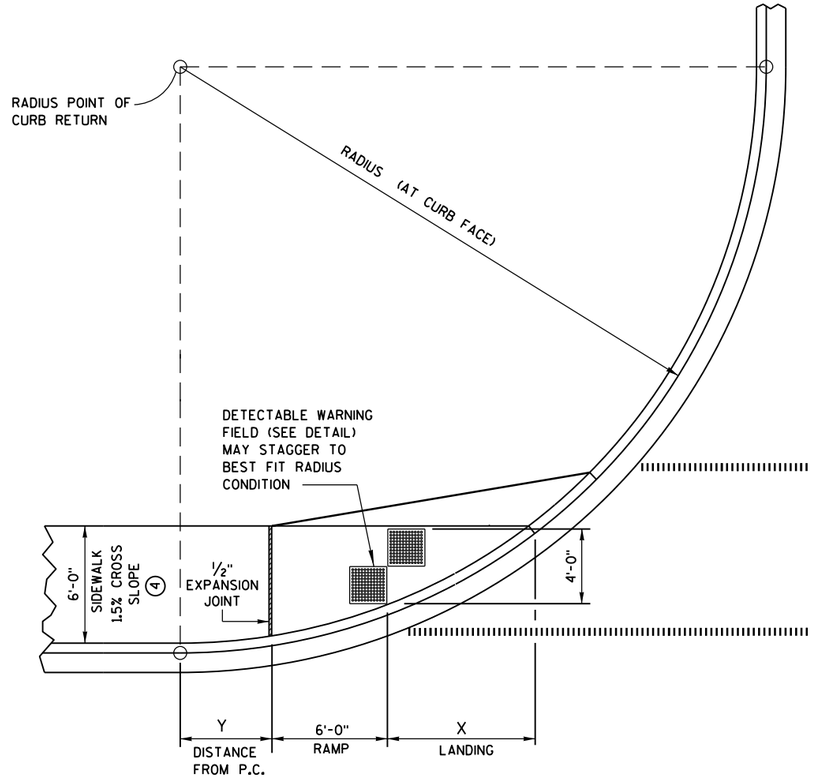
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

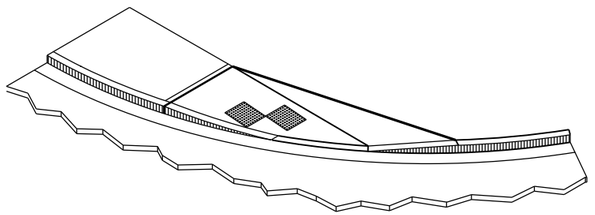
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

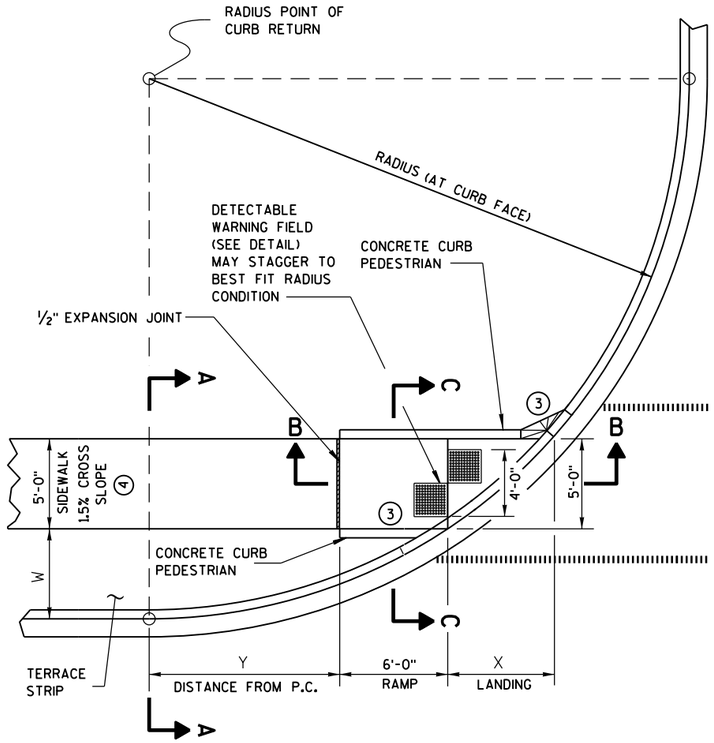
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

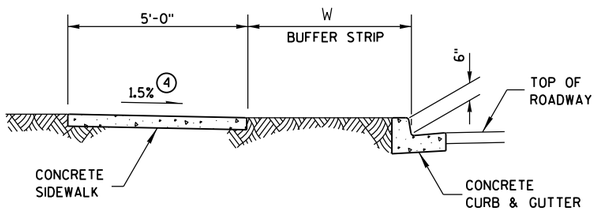
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

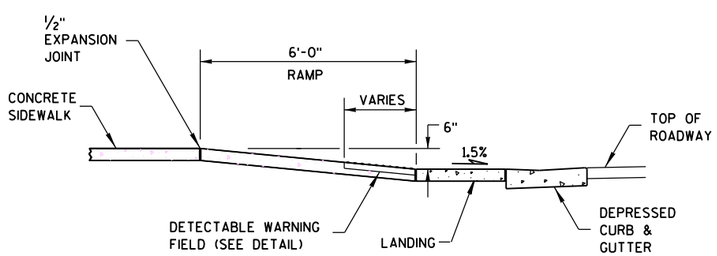
S.D.D. 8 D 5-15c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



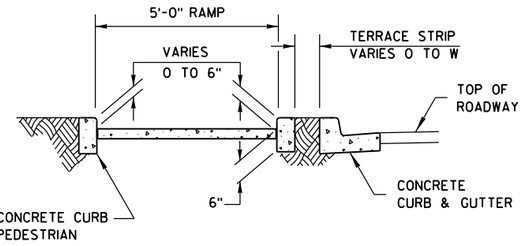
SECTION B-B FOR TYPE 4B

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B

GENERAL NOTES

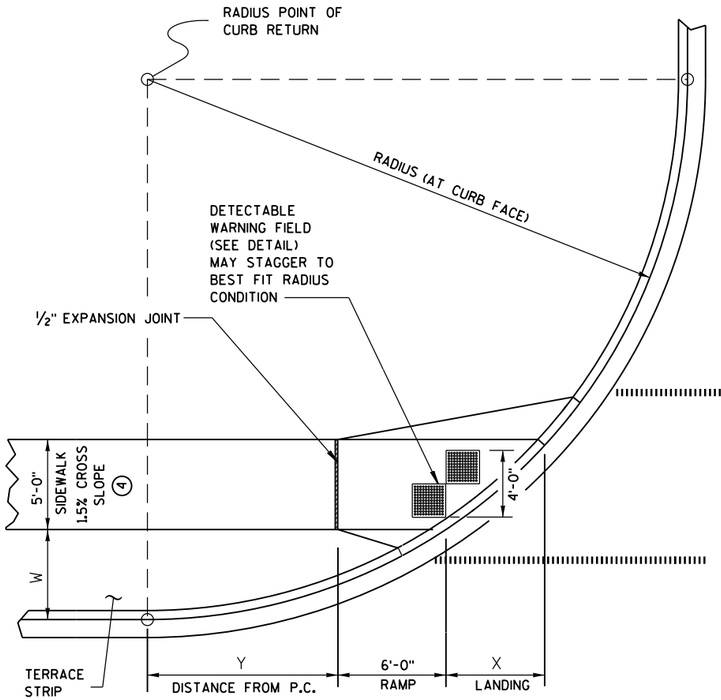
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

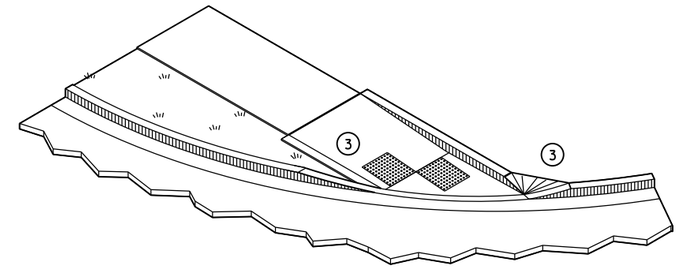
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

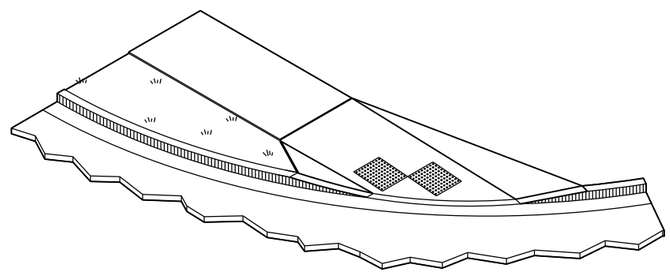
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



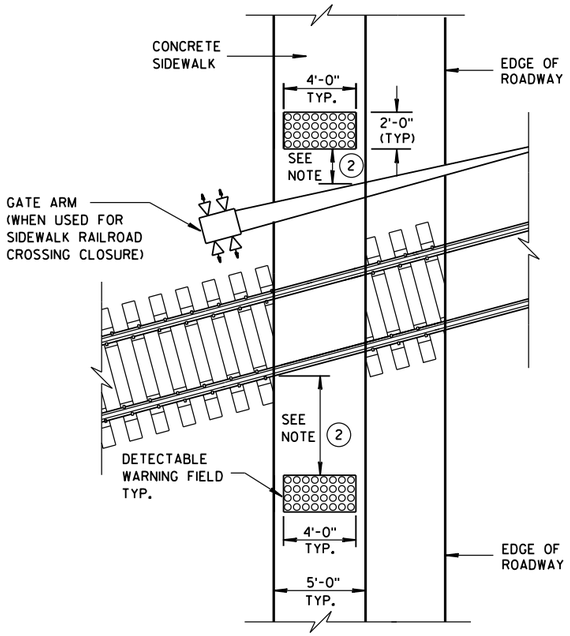
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

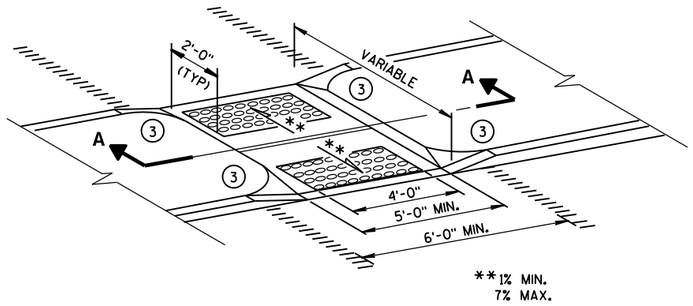
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

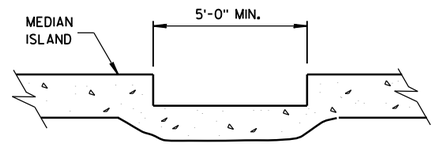
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

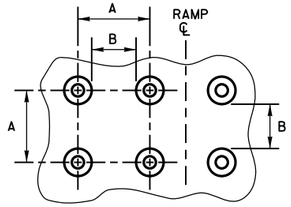
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



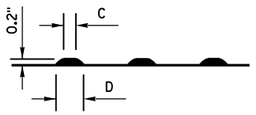
SECTION A-A



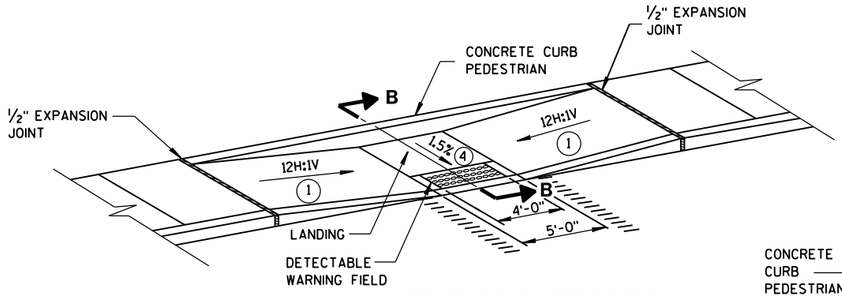
PLAN VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

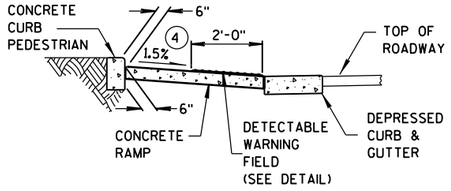
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

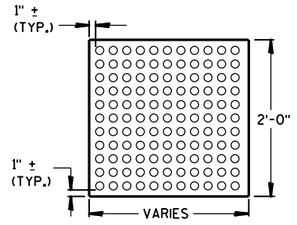


MID-BLOCK CROSSING
TYPE 7A



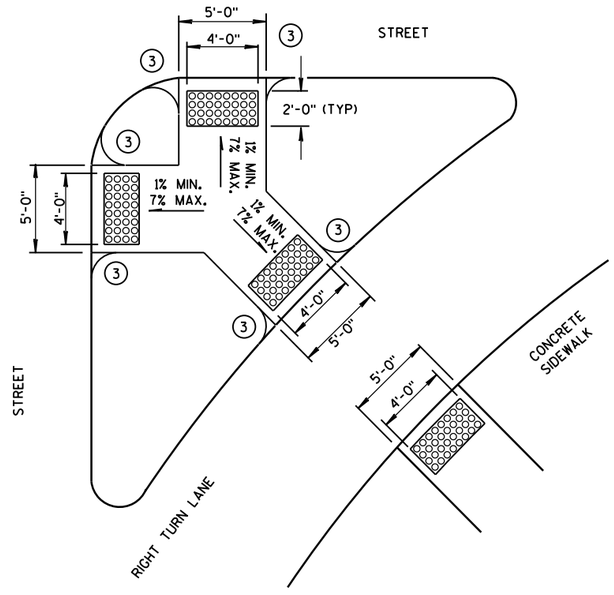
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

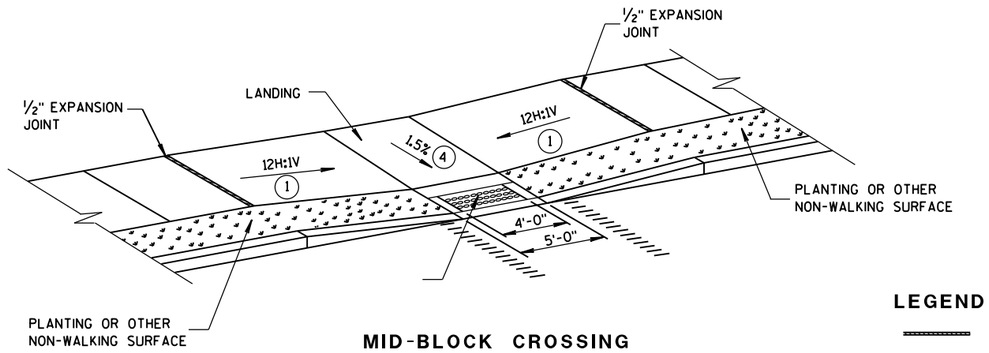


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

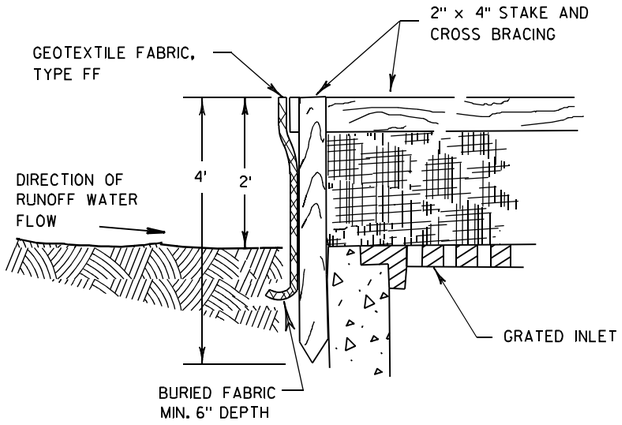
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

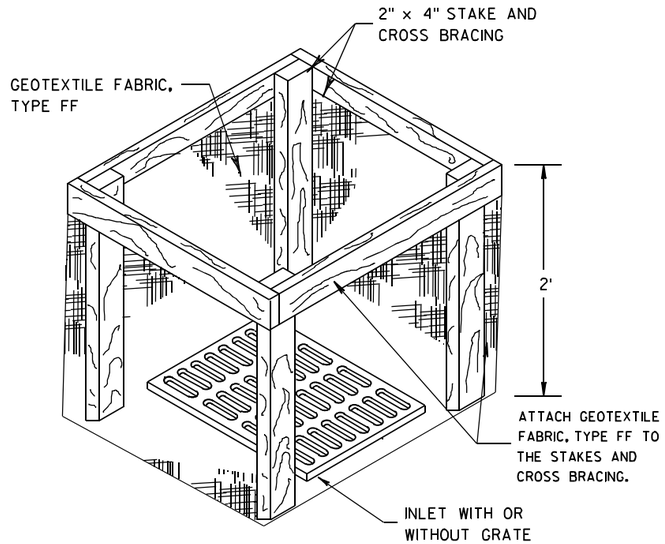
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

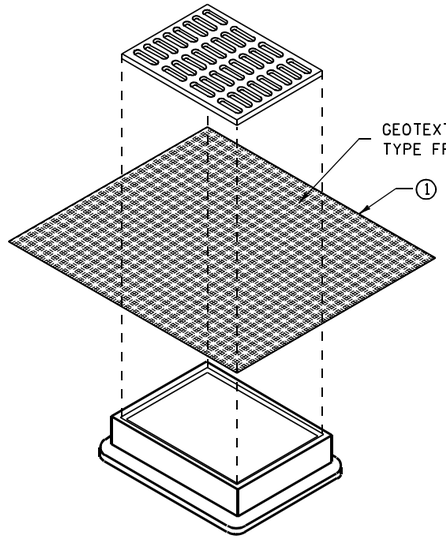
6

S.D.D. 8 D 5-15e



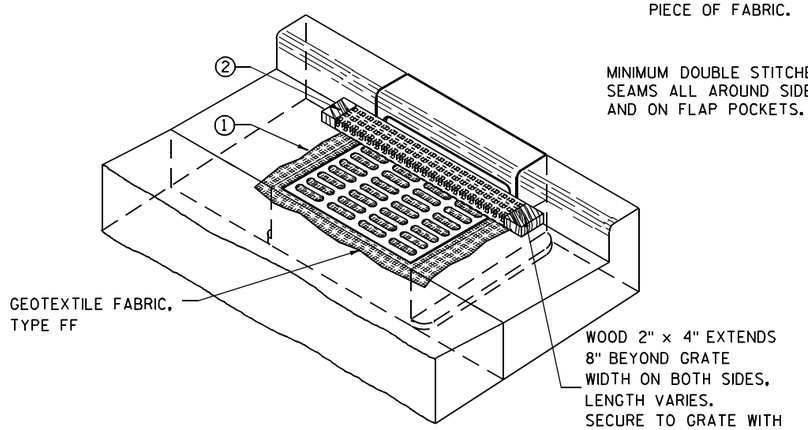


INLET PROTECTION, TYPE A

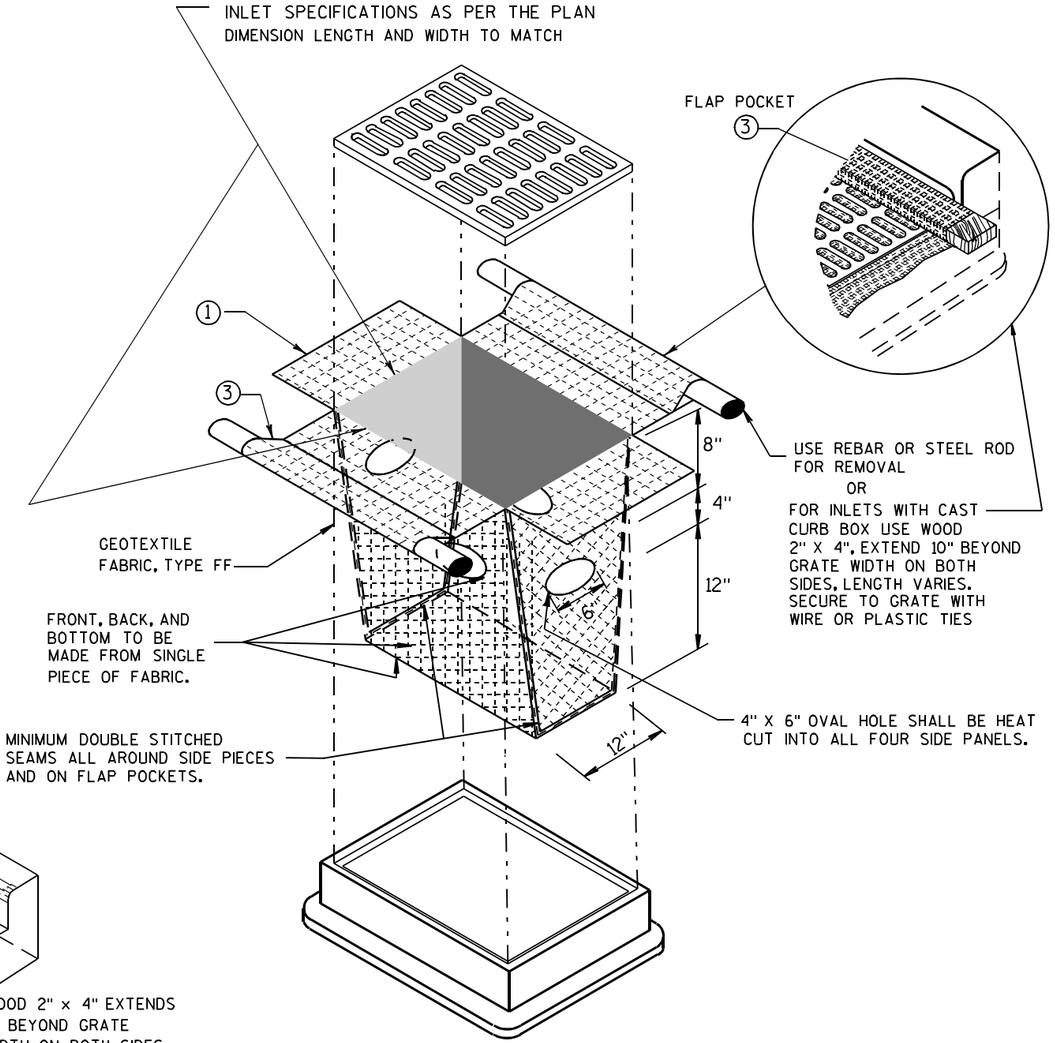


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

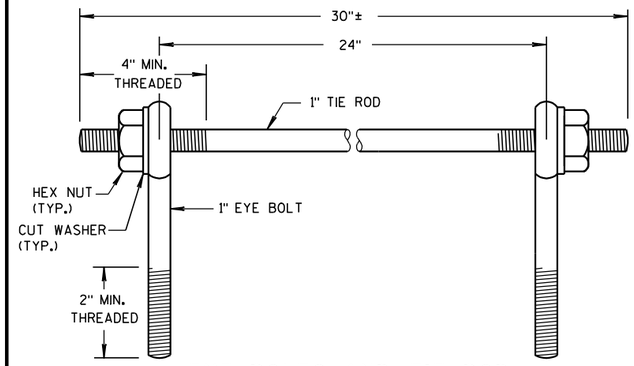
APPROVED

10/16/02
DATE

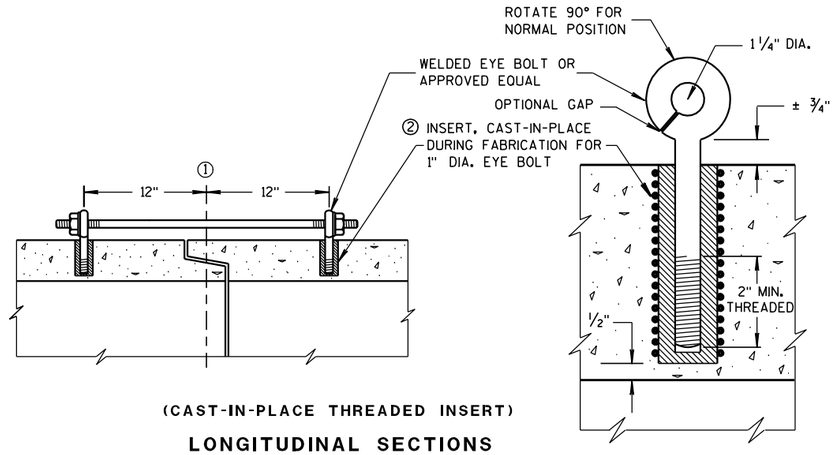
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6
S.D.D. 8 E 10-2



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

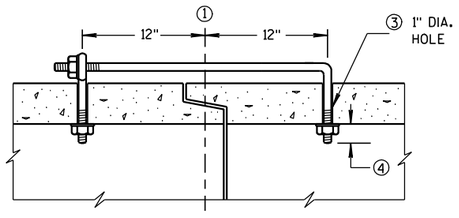
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

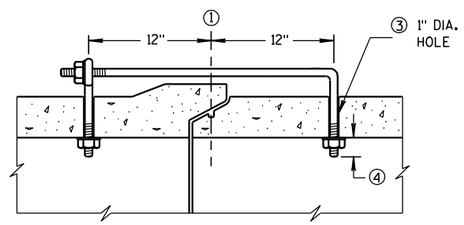
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

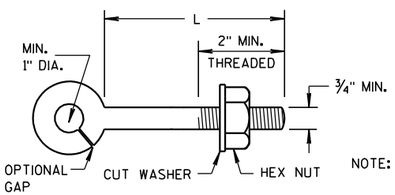


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

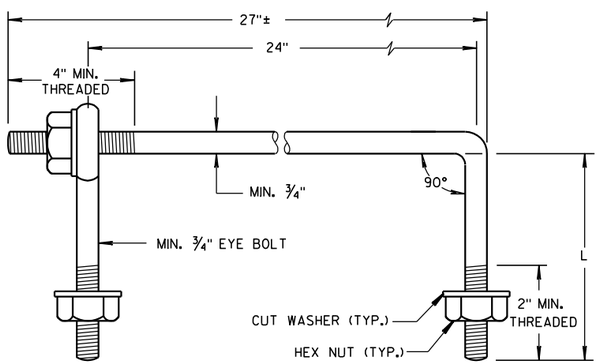
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

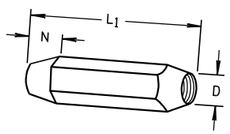
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

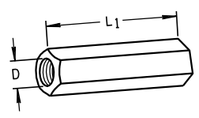
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



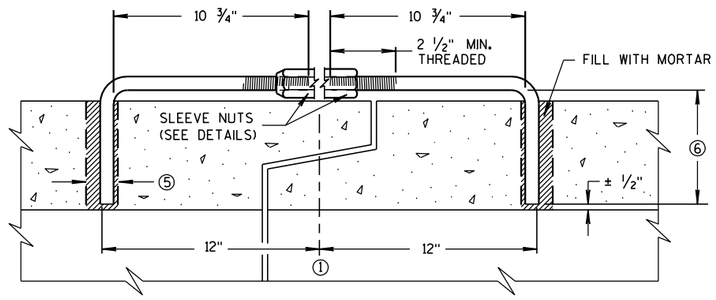
TAPERED



PLAIN

RIGHT AND LEFT THREADS

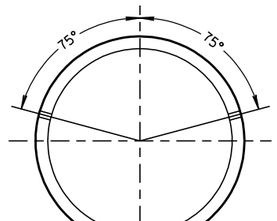
SLEEVE NUTS



LONGITUDINAL SECTION

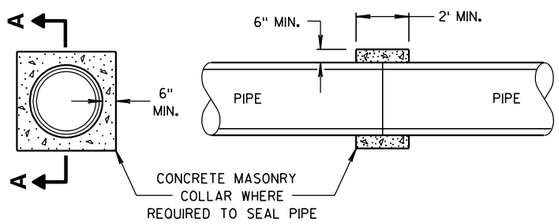
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

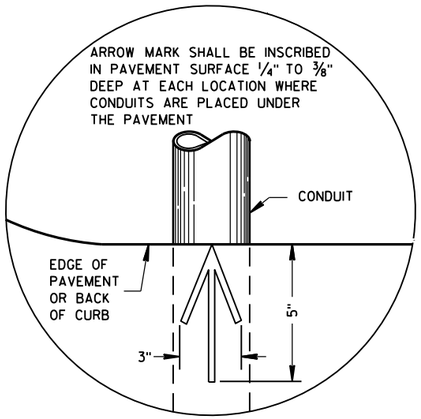
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
48
FHWA

6

S.D.D. 8 F 4-7

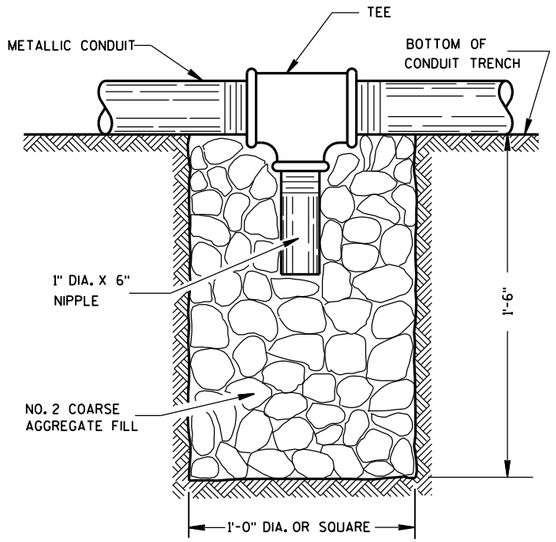
6

S.D.D. 8 F 4-7



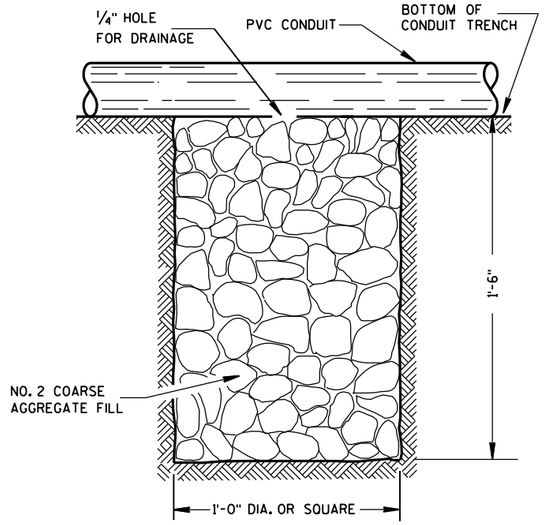
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

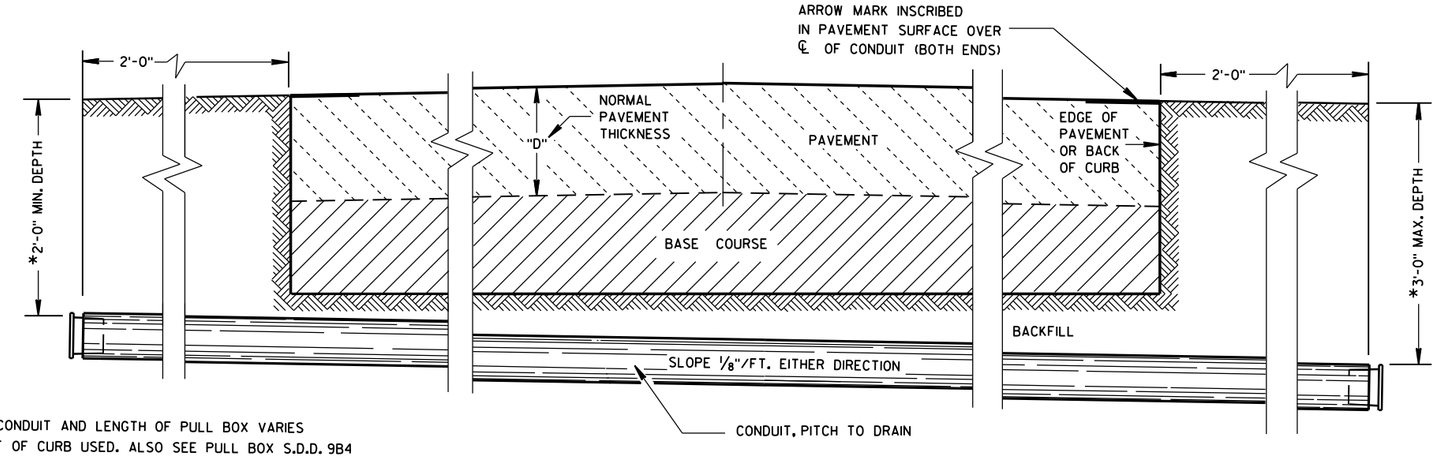
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT UNDER PAVED HIGHWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

6

S.D.D. 9 B 2-8

6

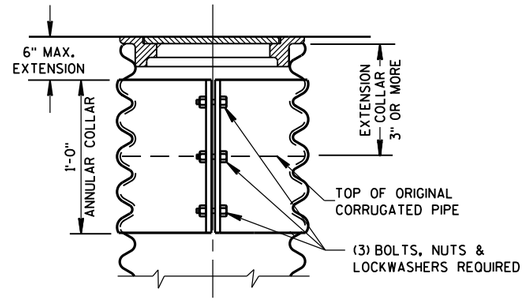
S.D.D. 9 B 2-8

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

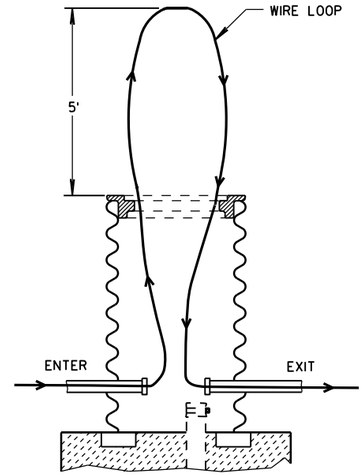
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

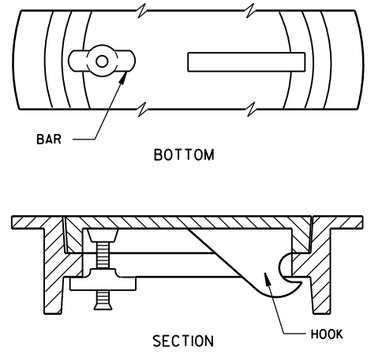
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

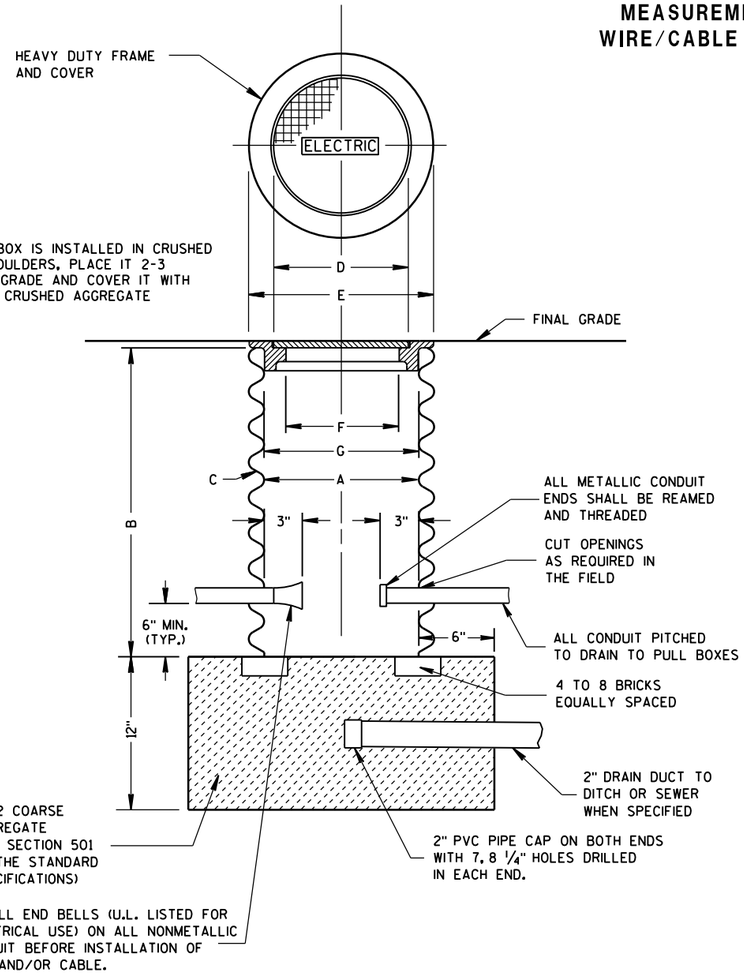


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



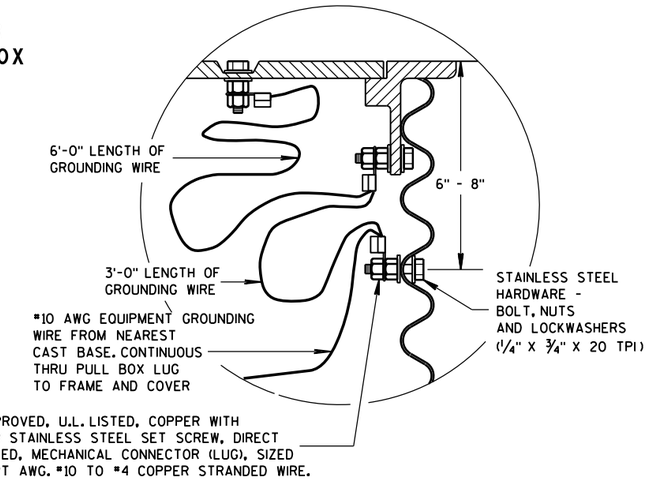
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

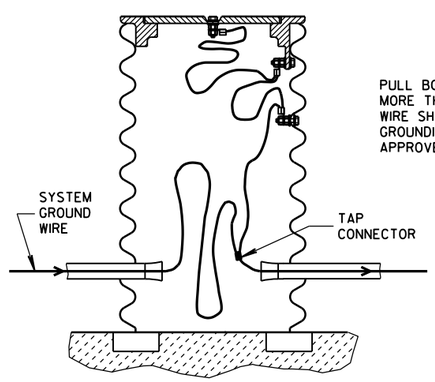


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

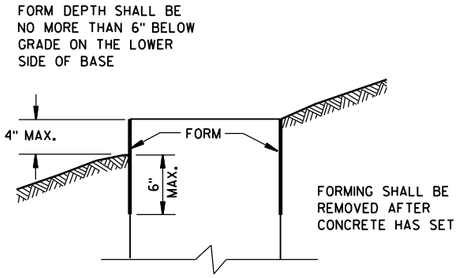
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

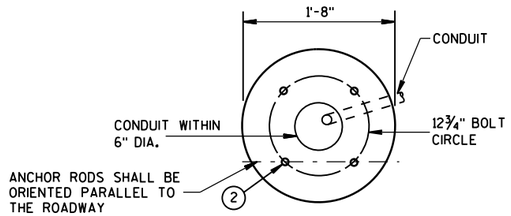
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

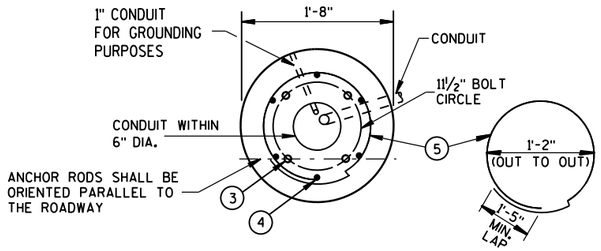
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

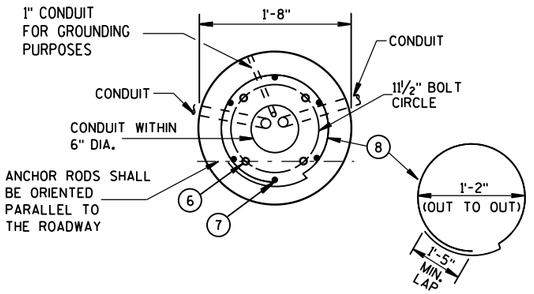
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

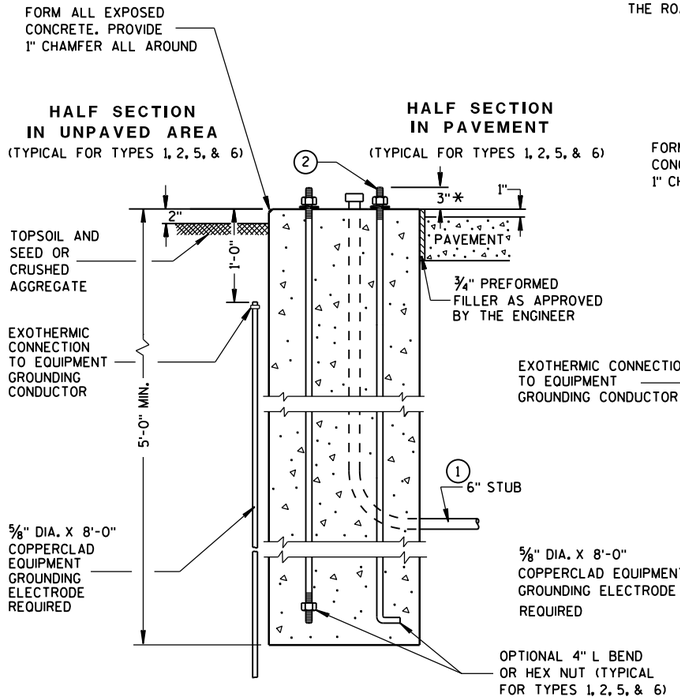


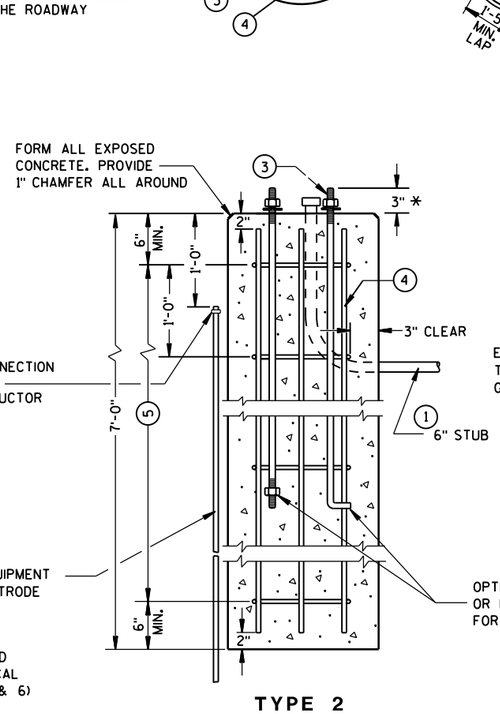




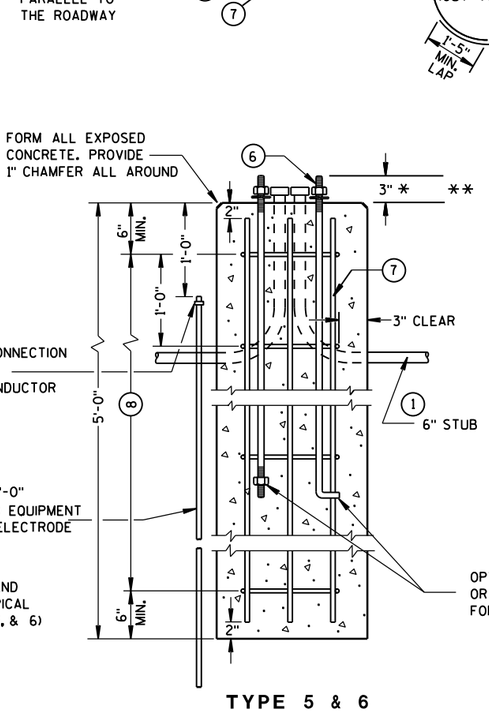
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)

HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)





TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 2-7

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

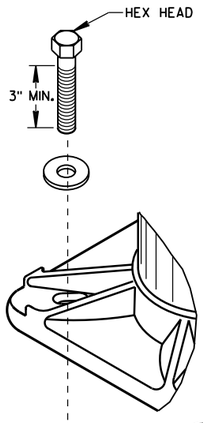
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

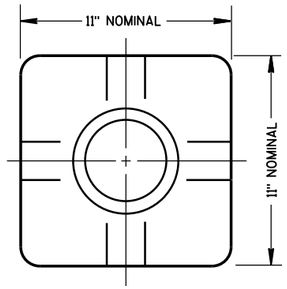
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

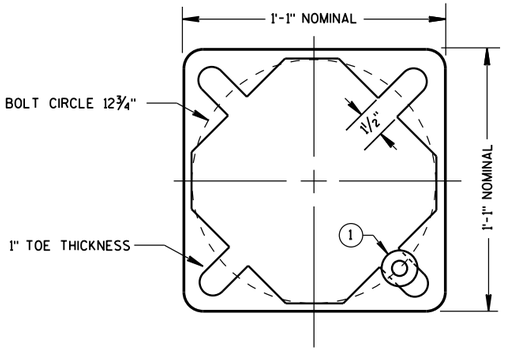
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

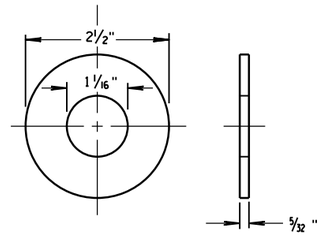




TOP VIEW
(PEDESTAL BASE)

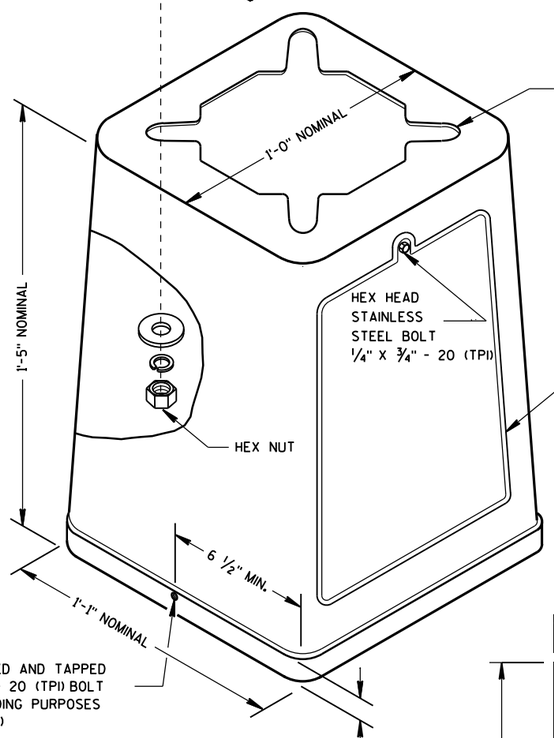


BOTTOM VIEW
(PEDESTAL BASE)

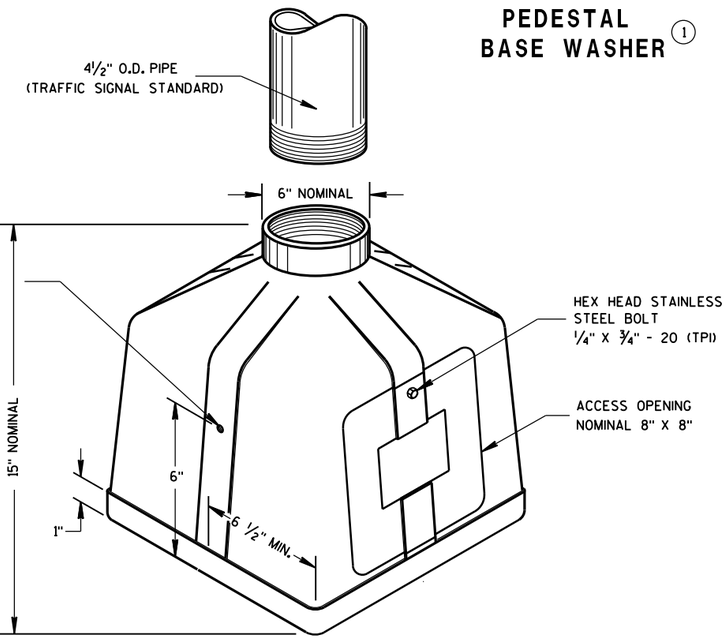


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

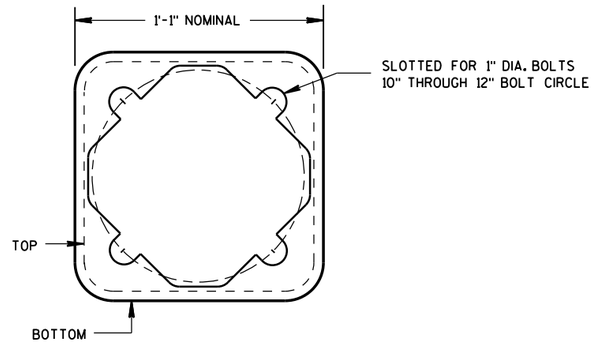


ISOMETRIC VIEW

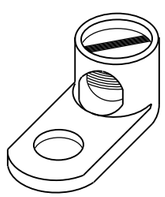


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

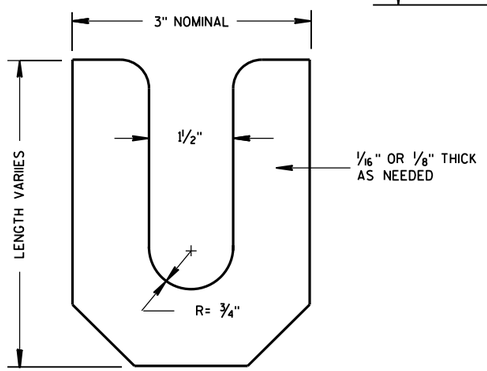


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

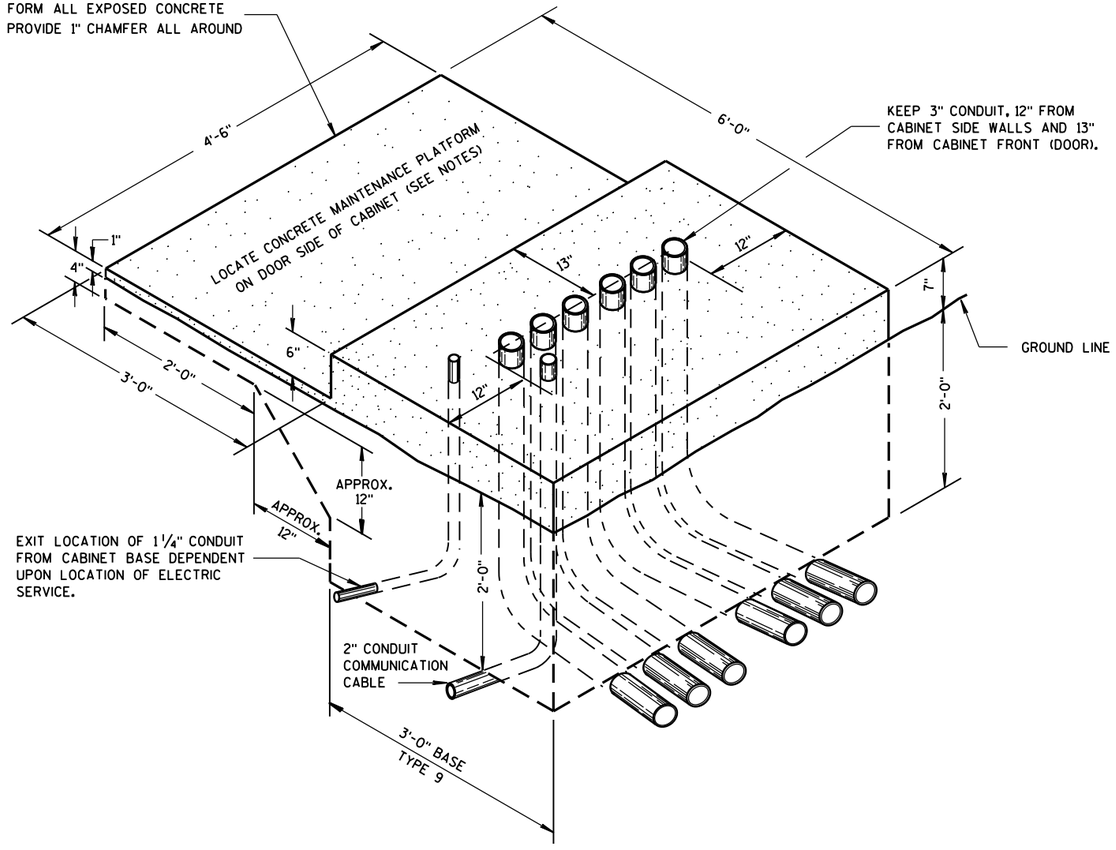
TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

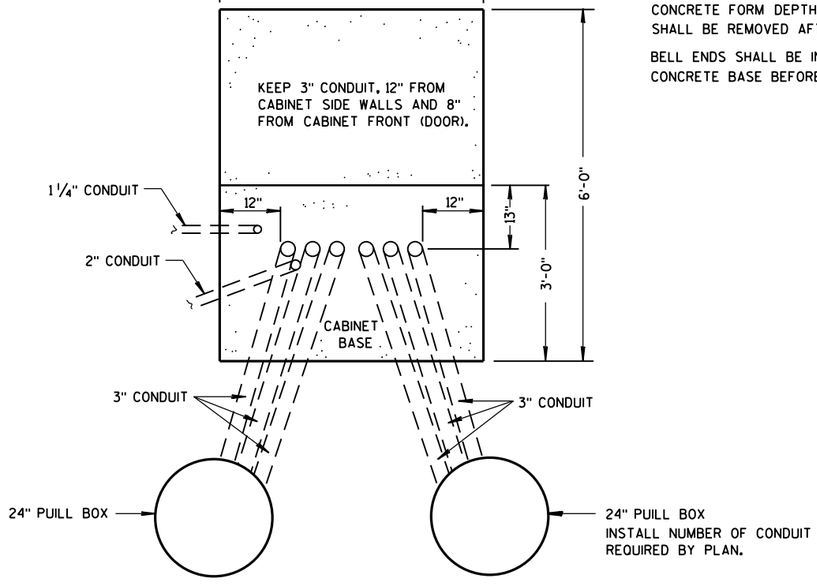
S.D.D. 9 C 3-4



ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

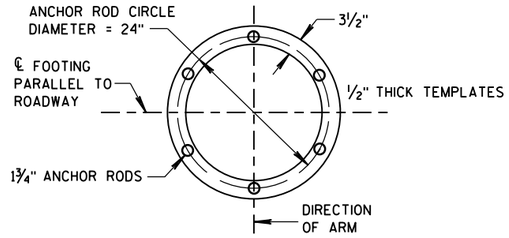
BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

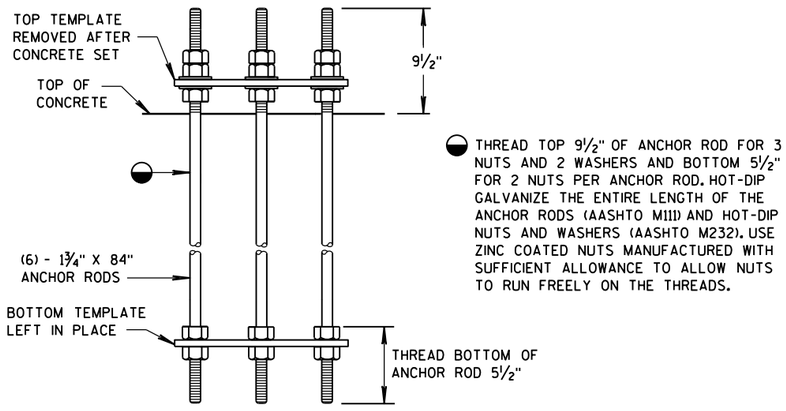
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL 53
FHWA

6
S.D.D. 9 C 6-7

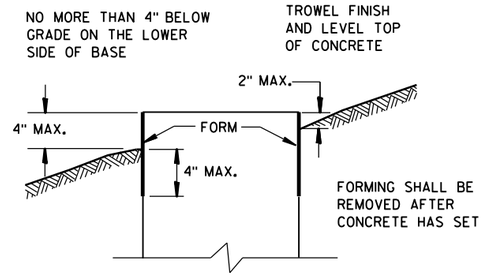


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



FORMING DETAIL

6

CONCRETE BASE TYPE 13

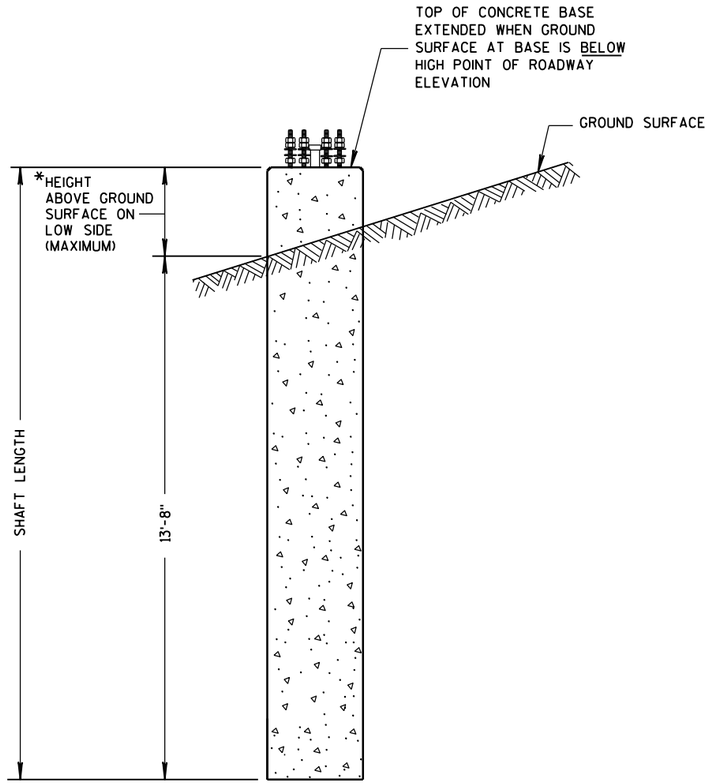
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

S.D.D. 9 C 12-5b

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

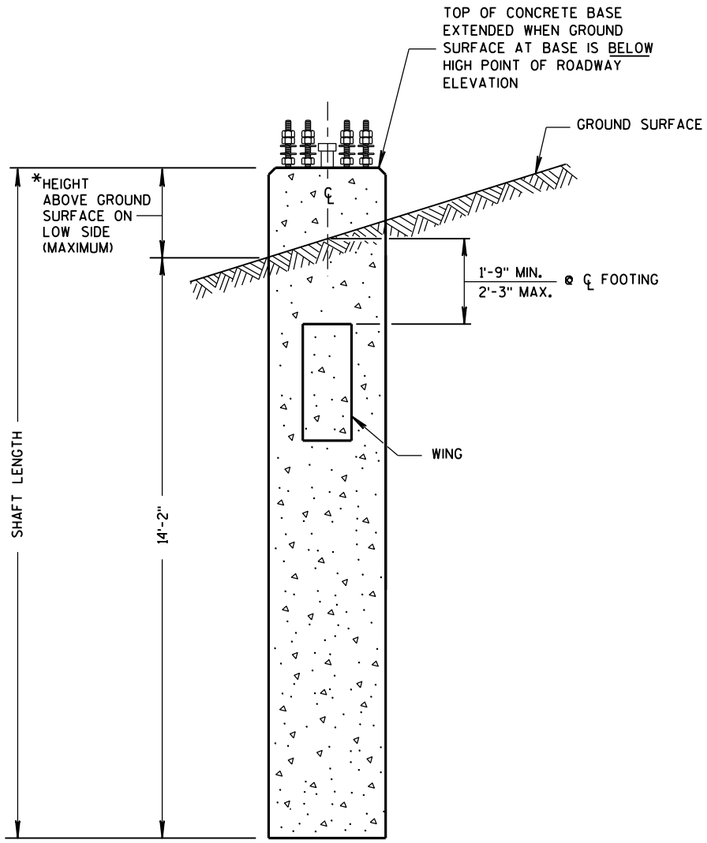
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 1'-6"	1'-10"	15'-6"	15'-1"	17	2.8	83	136
>1'-6" TO 2'-0"	2'-4"	16'-0"	15'-7"	17	2.9	83	141



CONCRETE BASE TYPE 10 (EXTENDED)

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF H.S. BAR STEEL
>0" TO 6"	10"	15'-0"	14'-7"	16	6.5	447
>6" TO 1'-0"	1'-4"	15'-6"	15'-1"	16	6.6	454
>1'-0" TO 1'-6"	1'-10"	16'-0"	15'-7"	17	6.8	469
>1'-6" TO 2'-0"	2'-4"	16'-6"	16'-1"	17	7.0	476



CONCRETE BASE TYPE 13 (EXTENDED)

CONCRETE BASE
TYPE 10 & TYPE 13 EXTENSION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

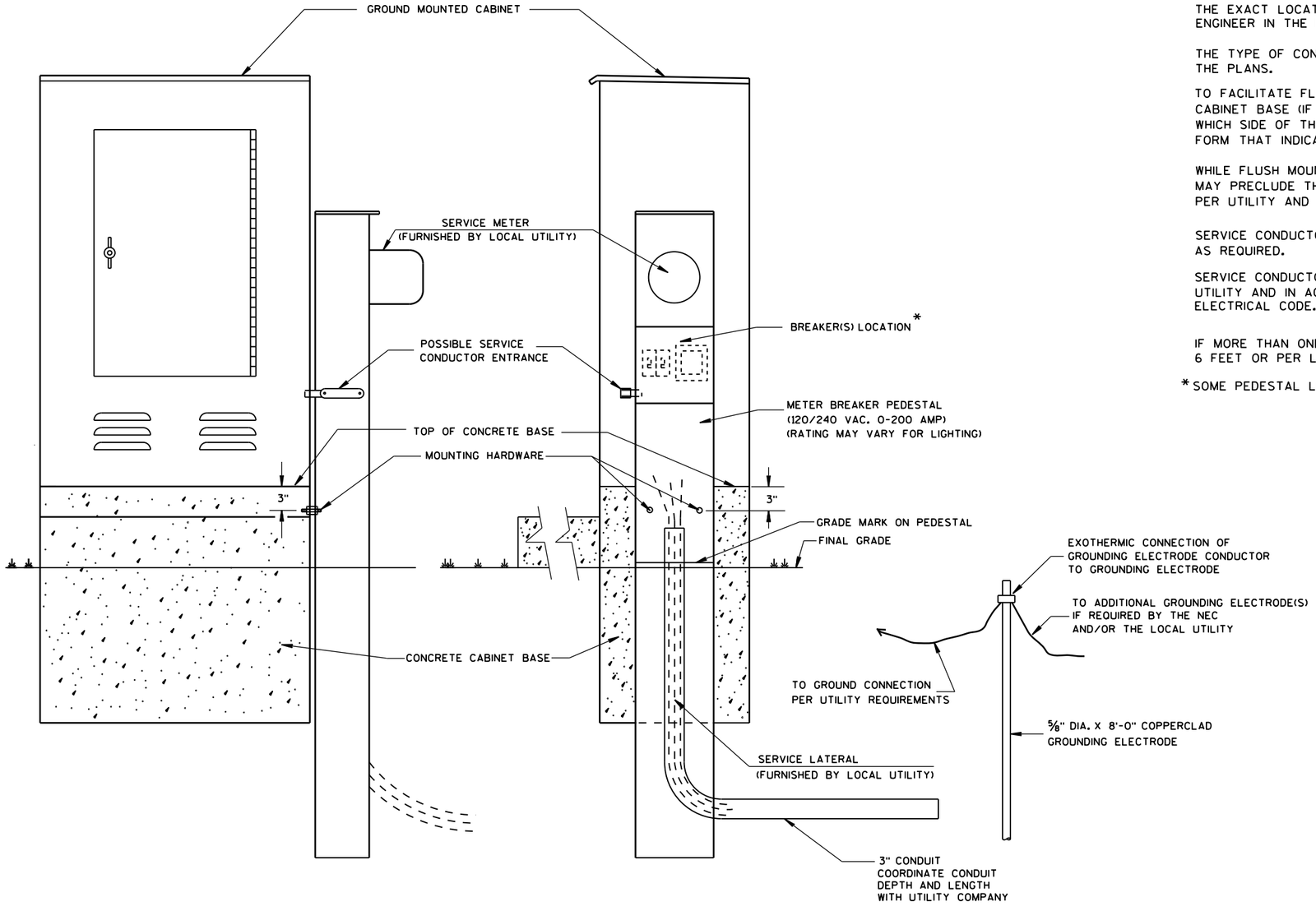
APPROVED
11-26-2013 DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 13-2

6

S.D.D. 9 C 13-2



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

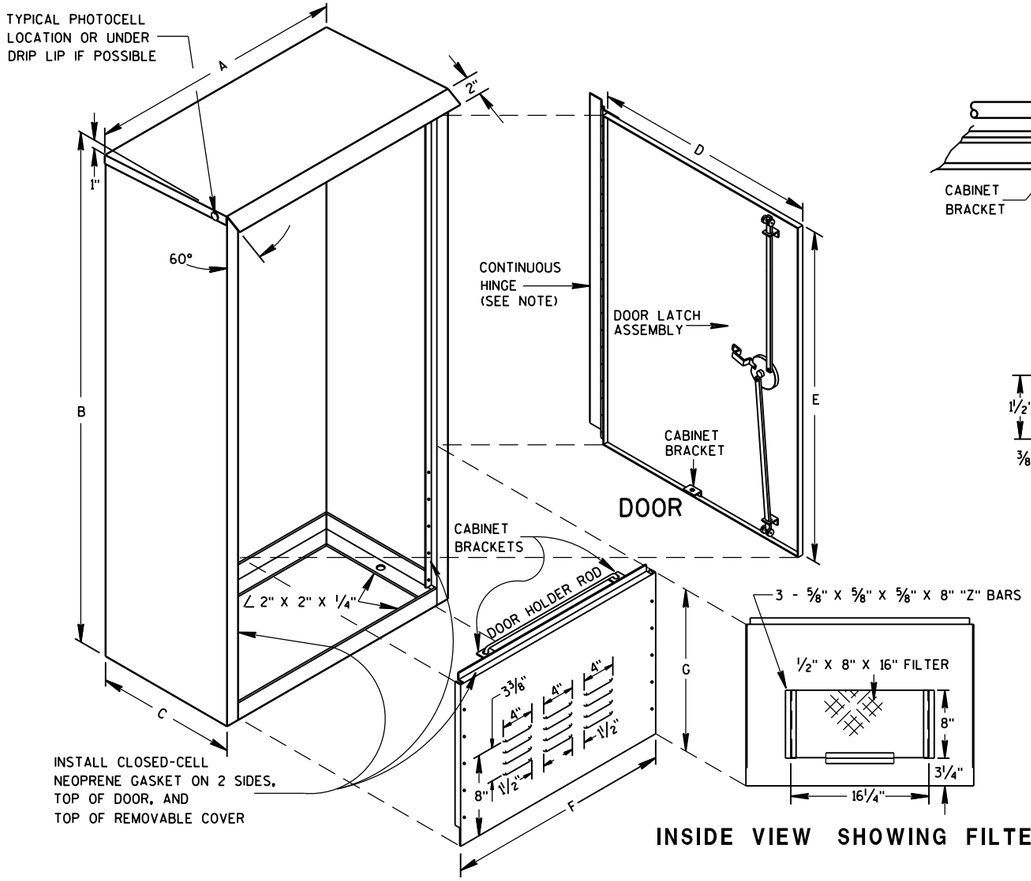
*SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

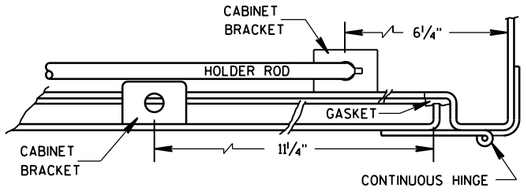
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 D 1-5

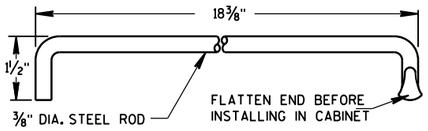


REMOVABLE COVER

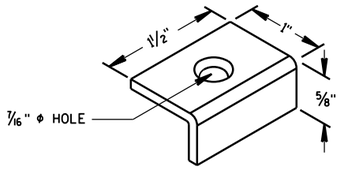
INSIDE VIEW SHOWING FILTER



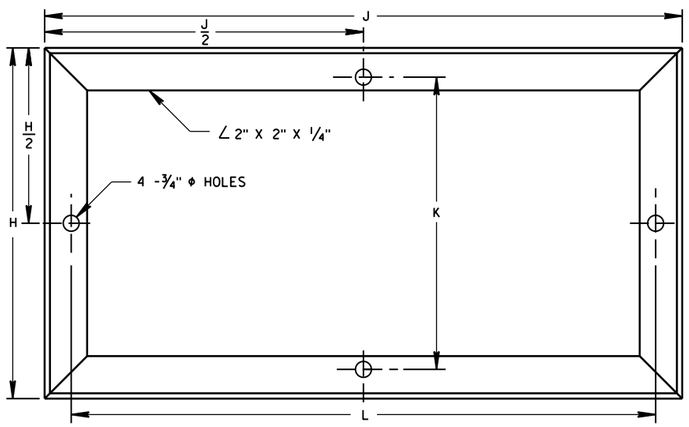
HINGE & DOOR HOLDER



HOLDER ROD



CABINET BRACKET



MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2

GENERAL NOTES

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

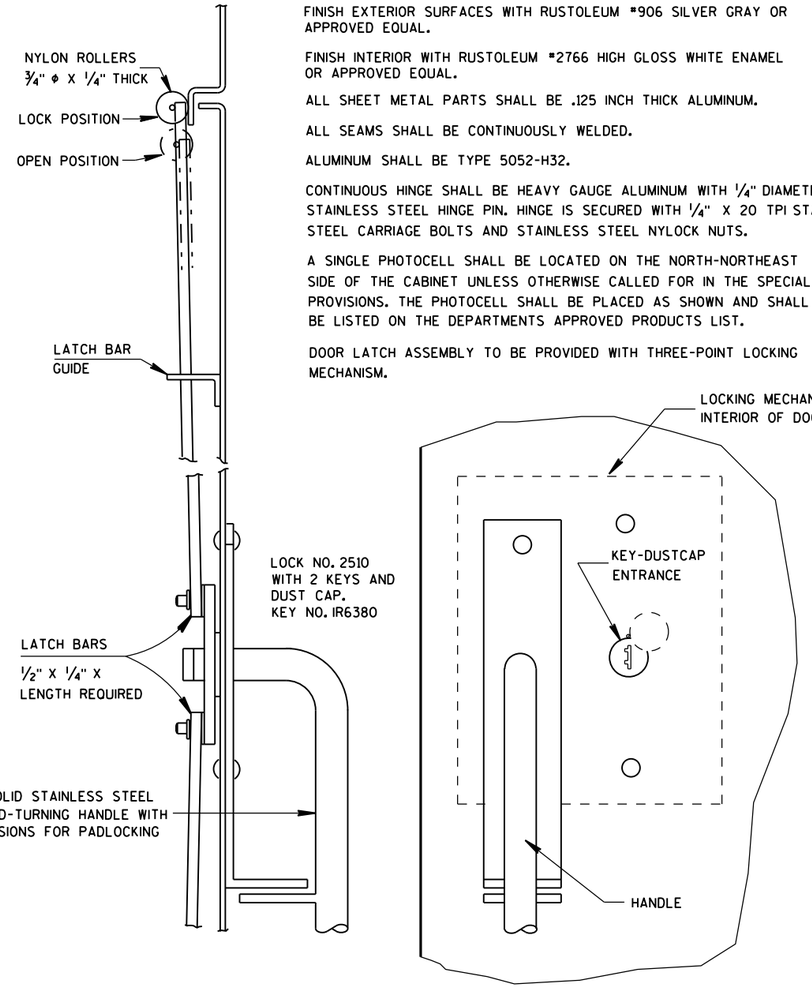
ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST.

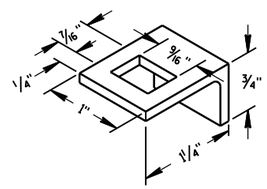
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.



SIDE VIEW

FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

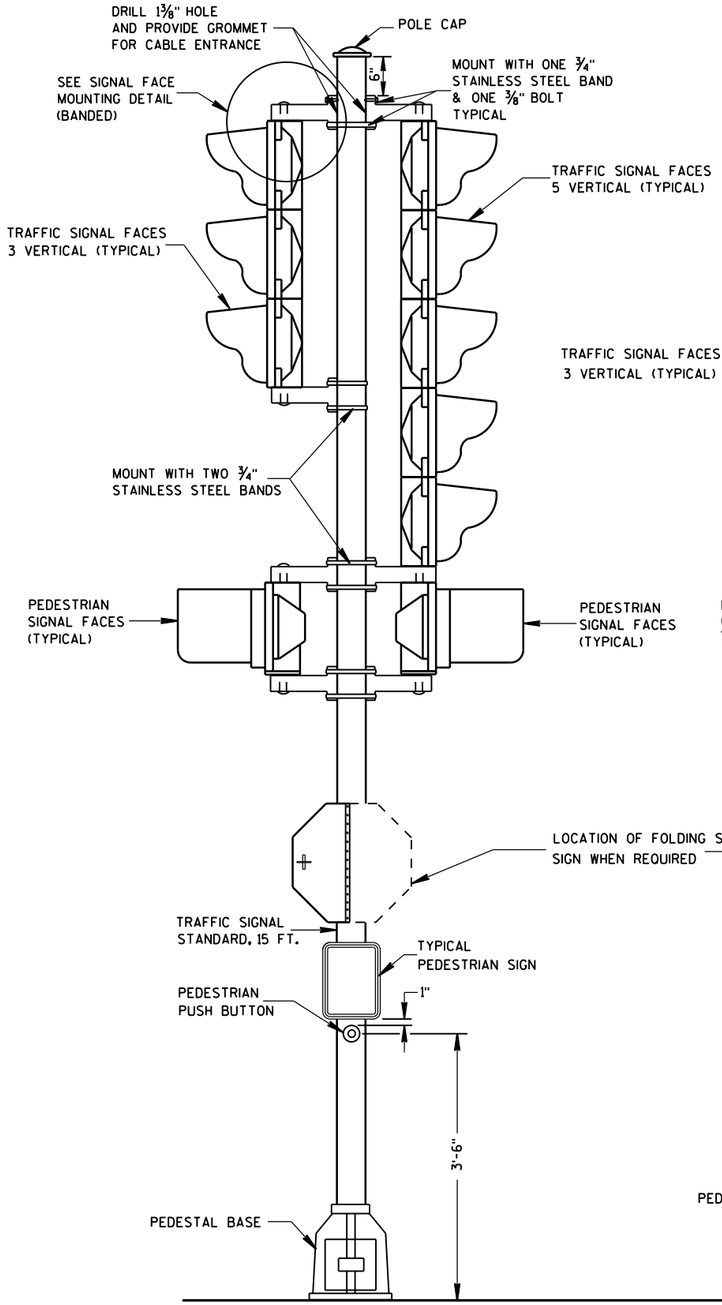
SIGNAL CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

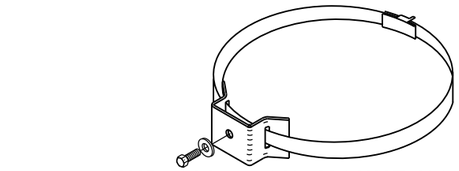
APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

6
S.D.D. 9 D 2-3

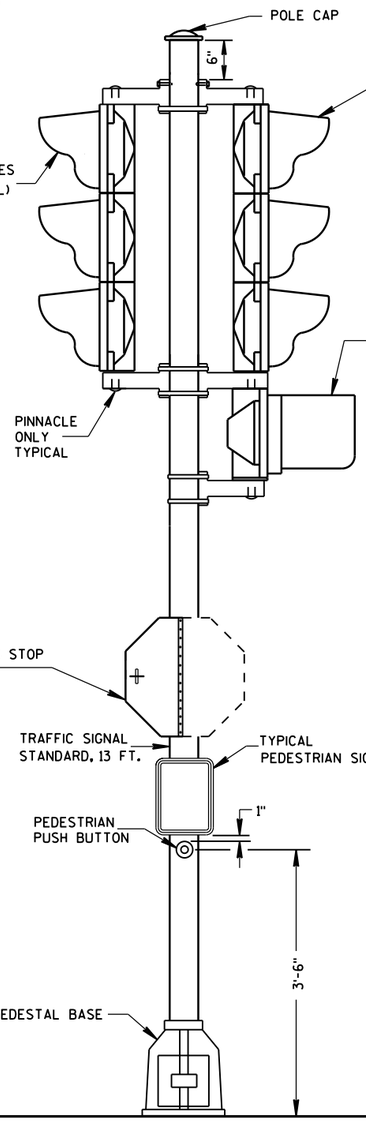


TRAFFIC SIGNAL STANDARD-15 FT.

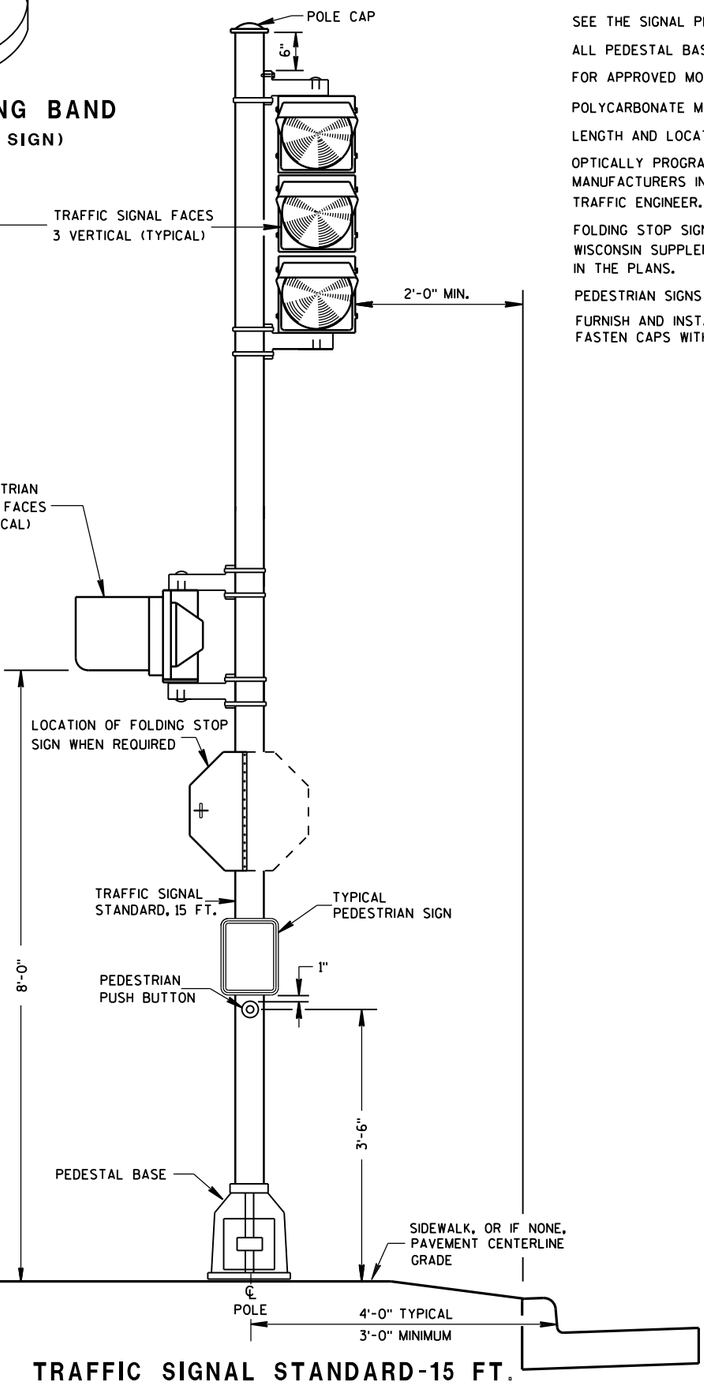


TYPICAL SIGN MOUNTING BAND

(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-13 FT.



TRAFFIC SIGNAL STANDARD-15 FT.

3M MOUNTING (TYPICAL)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

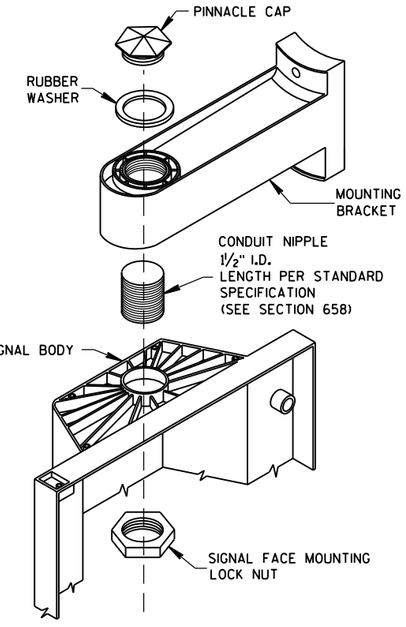
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



SIGNAL FACE MOUNTING DETAIL

(BANDED)

TRAFFIC SIGNAL STANDARD
POLY BRACKET MOUNTINGS
(TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

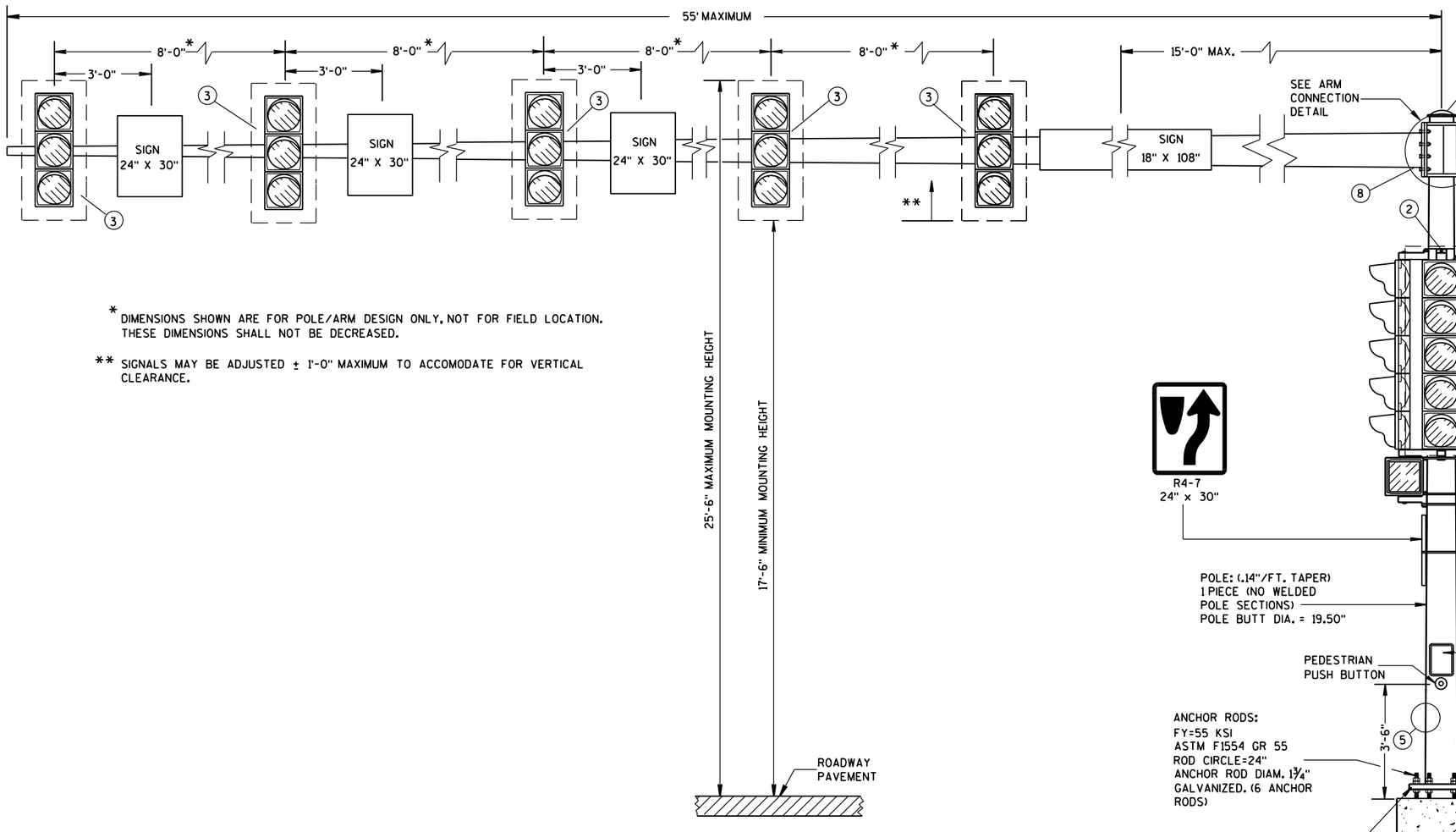
APPROVED
2/28/2013
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

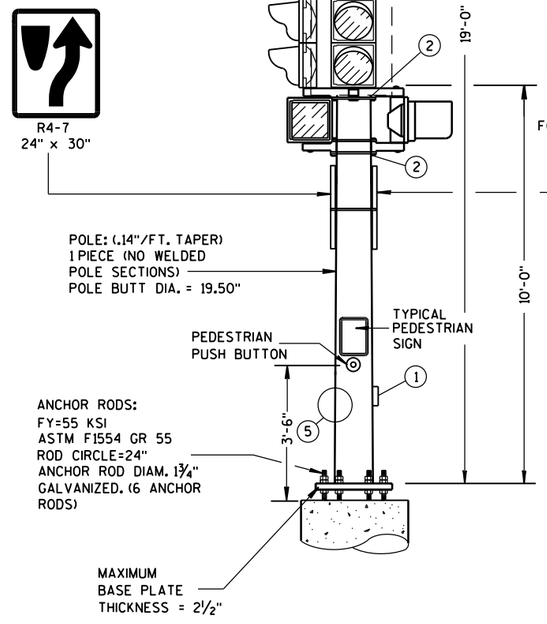
6

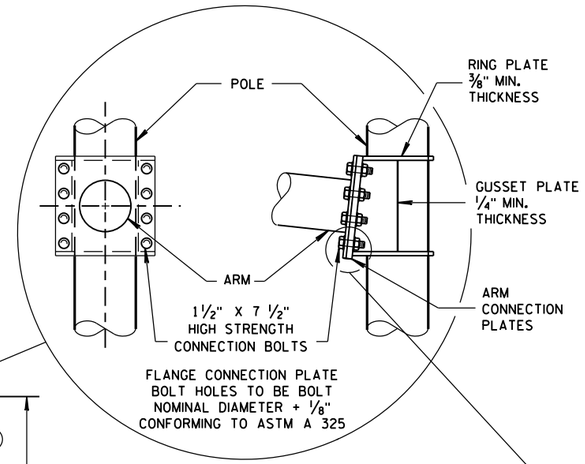
S.D.D. 9 E 6-5



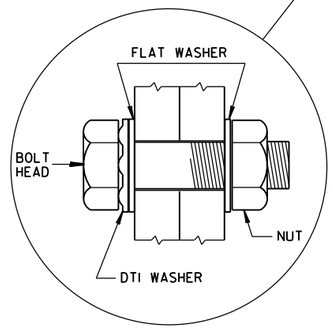
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

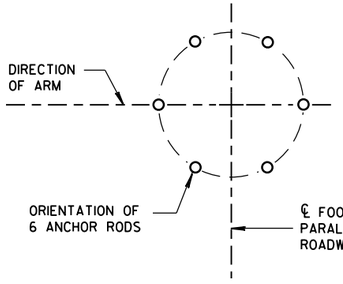




8 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

TYPE 12 POLE 35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 E 8-6c

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO 2013 6TH EDITION AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).

(3) SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

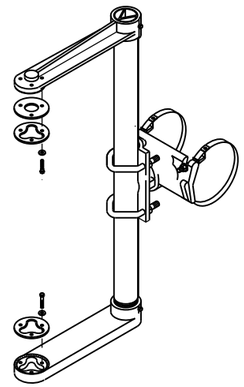
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

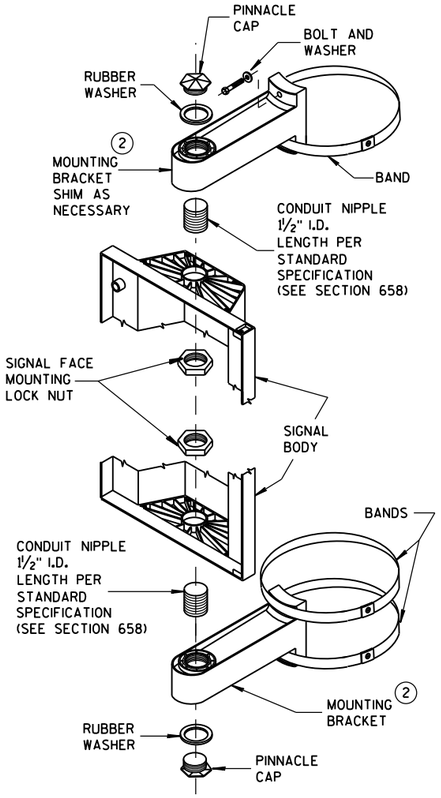
MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

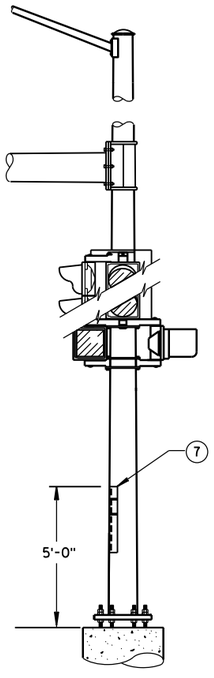


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

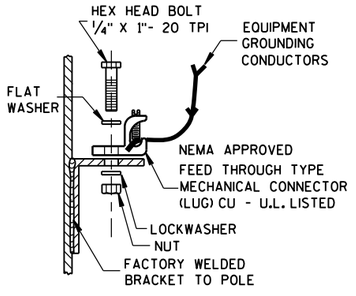
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE VERTICAL MOUNTING DETAIL

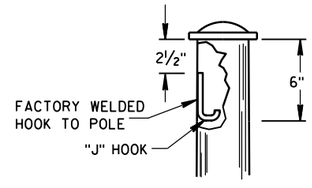


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

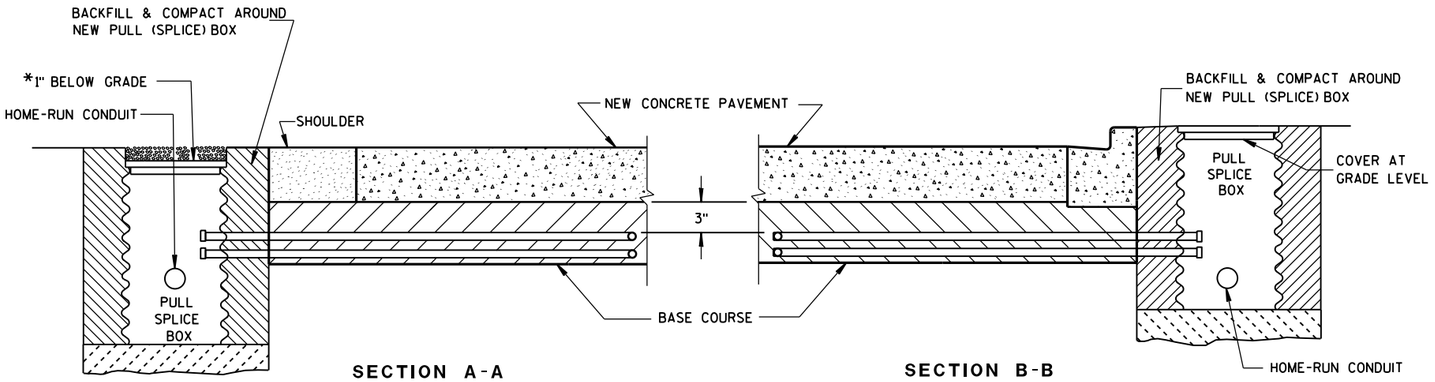
Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

6

S.D.D. 9 E 8-6e



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

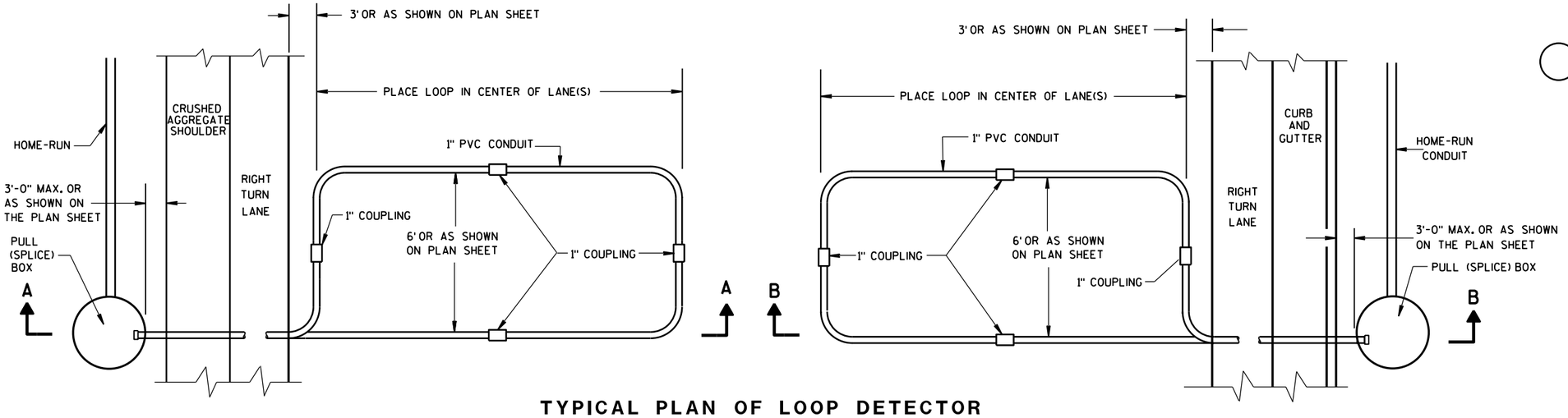
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

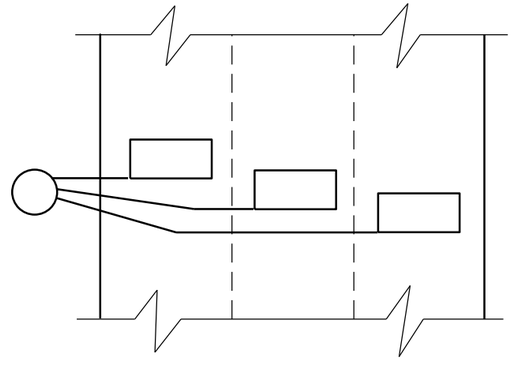
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.

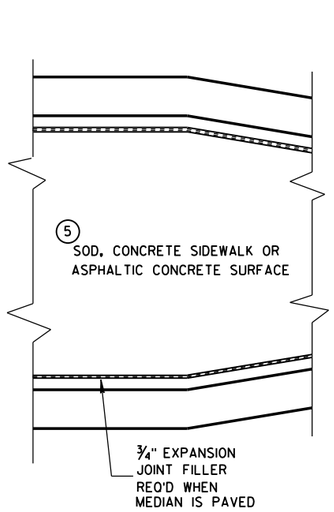


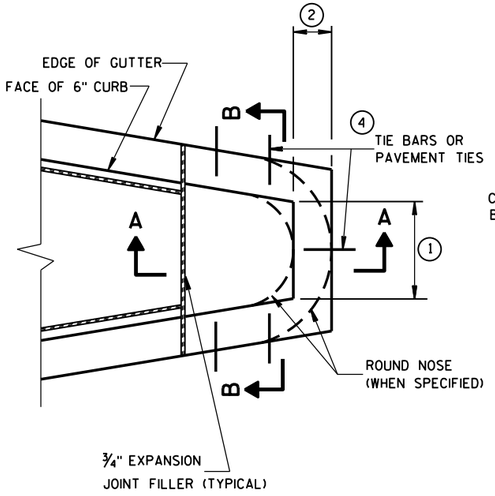
TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX

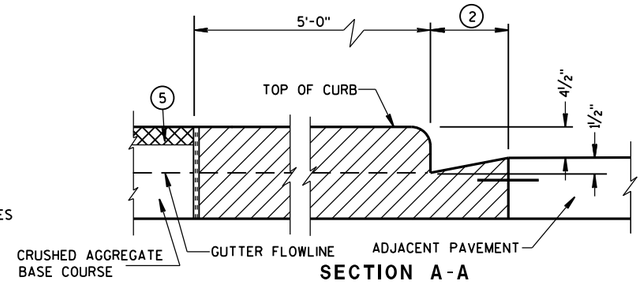


MULTI-LANE INSTALLATION

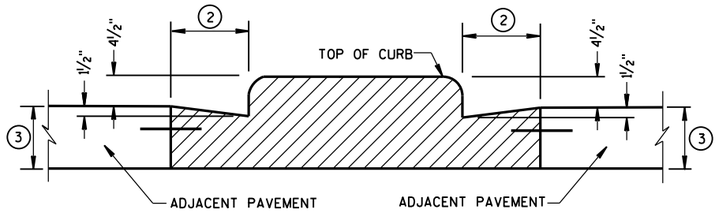
LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED Sept. 2014 — DATE /S/ Ahmet Demirbilek — STATE ELECTRICAL FHWA







SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

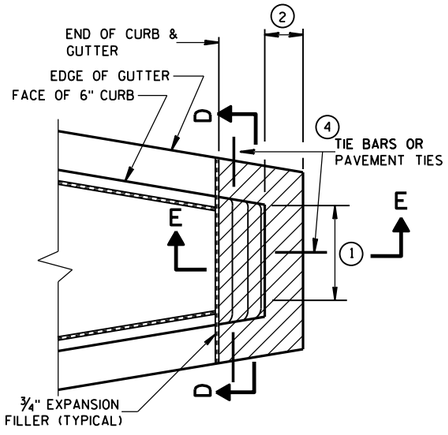
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

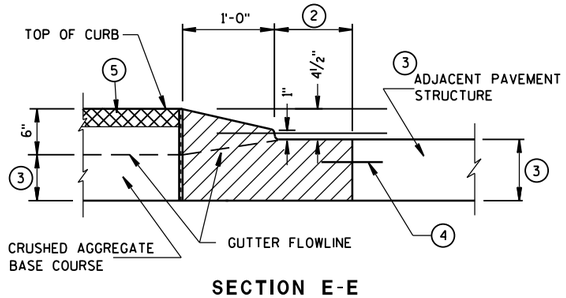
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

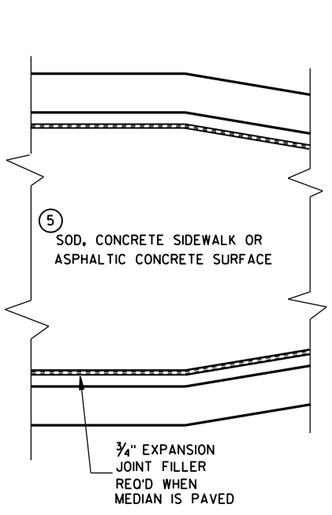
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

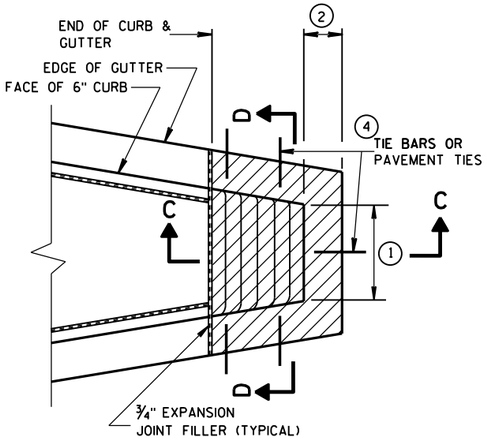


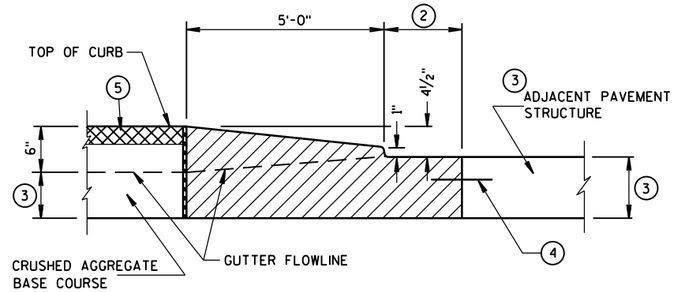


SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2

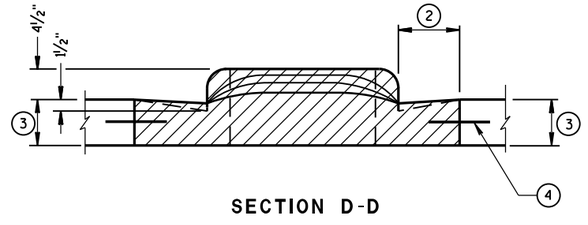






SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

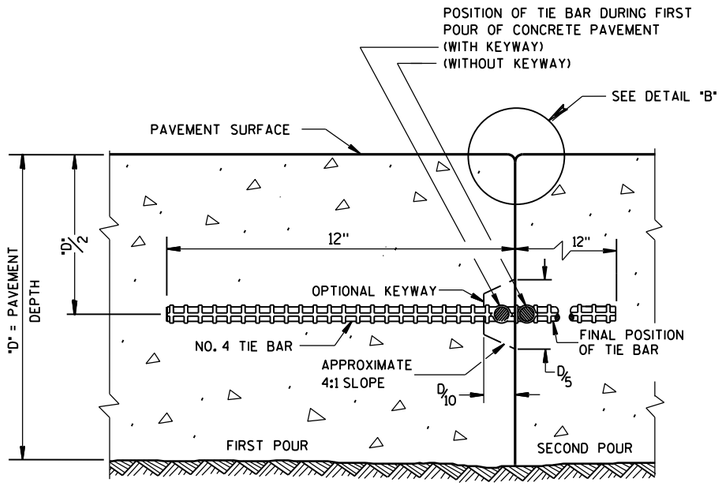
CONCRETE MEDIAN NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/8/2006 DATE FHWA	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

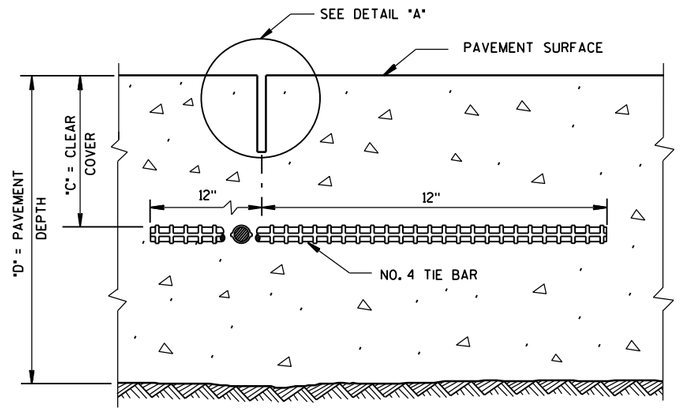
S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2



CONSTRUCTION JOINT



SAWED JOINT

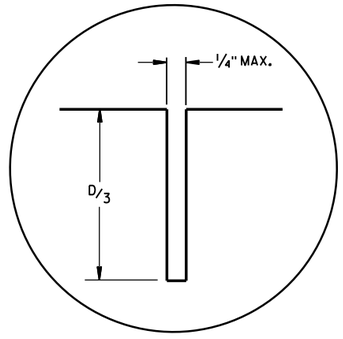
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

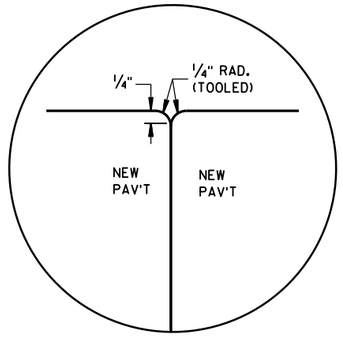
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

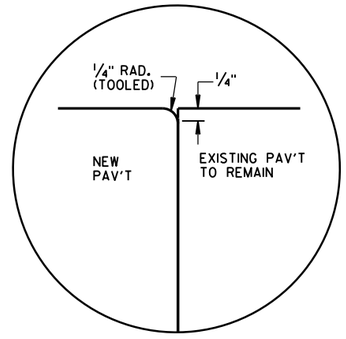
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



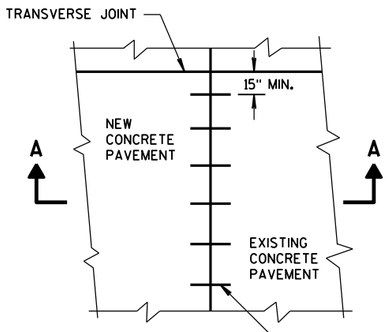
DETAIL "A"



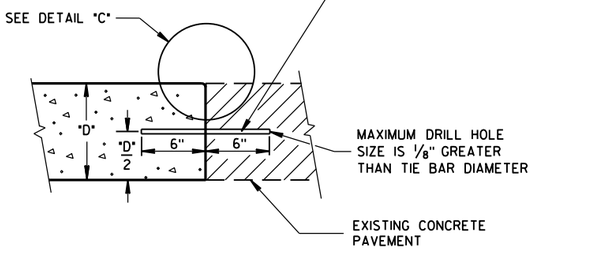
DETAIL "B"



DETAIL "C"



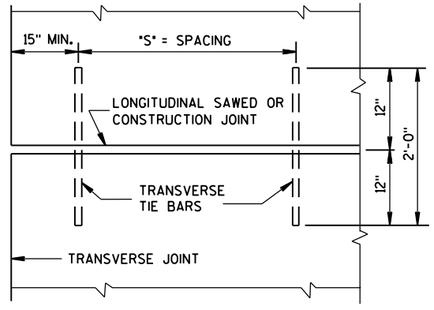
PLAN VIEW



SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

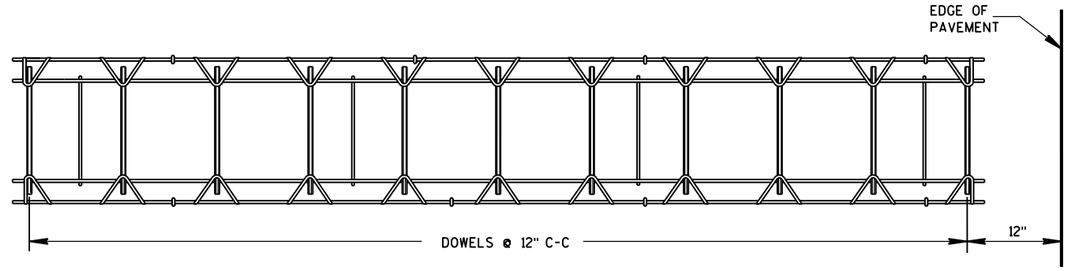
9/2014 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ...NEER

FHWA

6

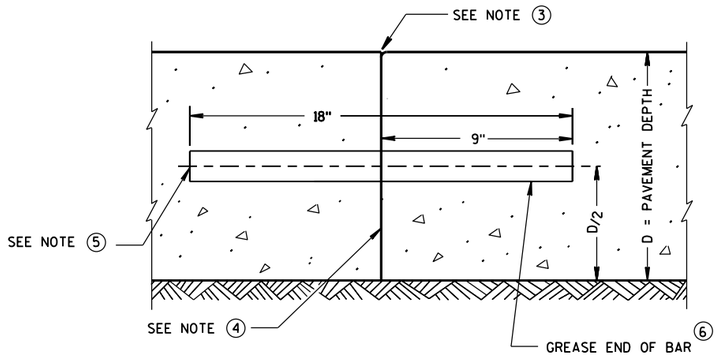
S.D.D. 13 C 1-17



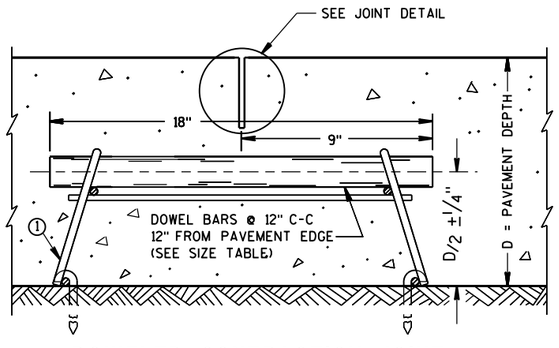
PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



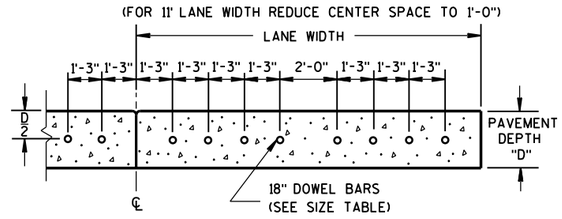
TRANSVERSE CONSTRUCTION JOINT



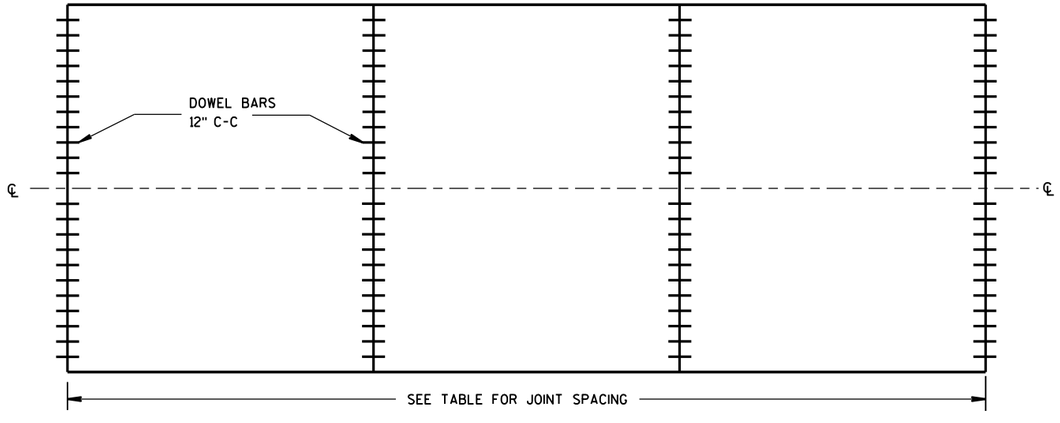
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① **OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.**

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

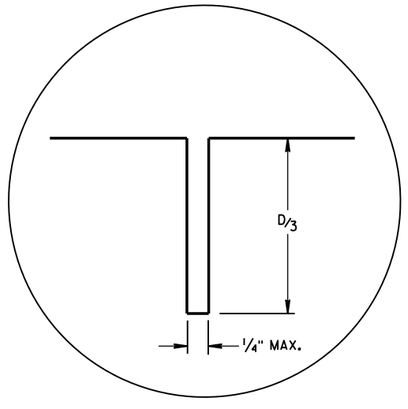
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

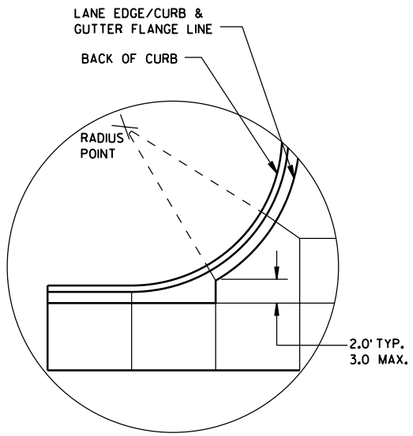
URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

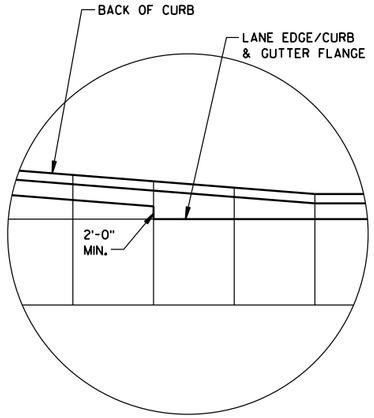
APPROVED
5/3/2013 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER
FHWA

6

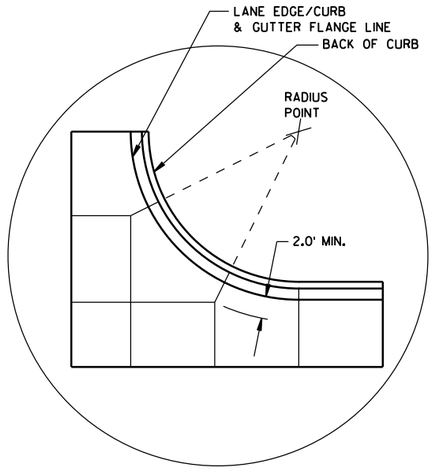
S.D.D. 13 C 13-8



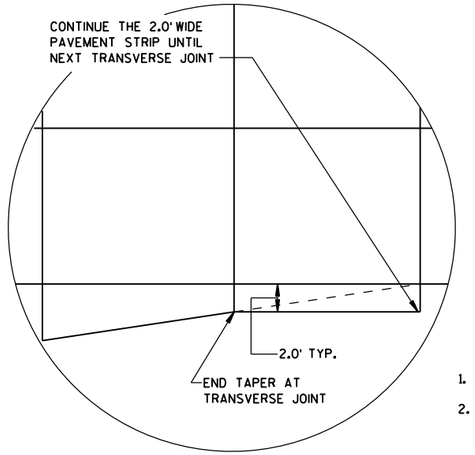
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

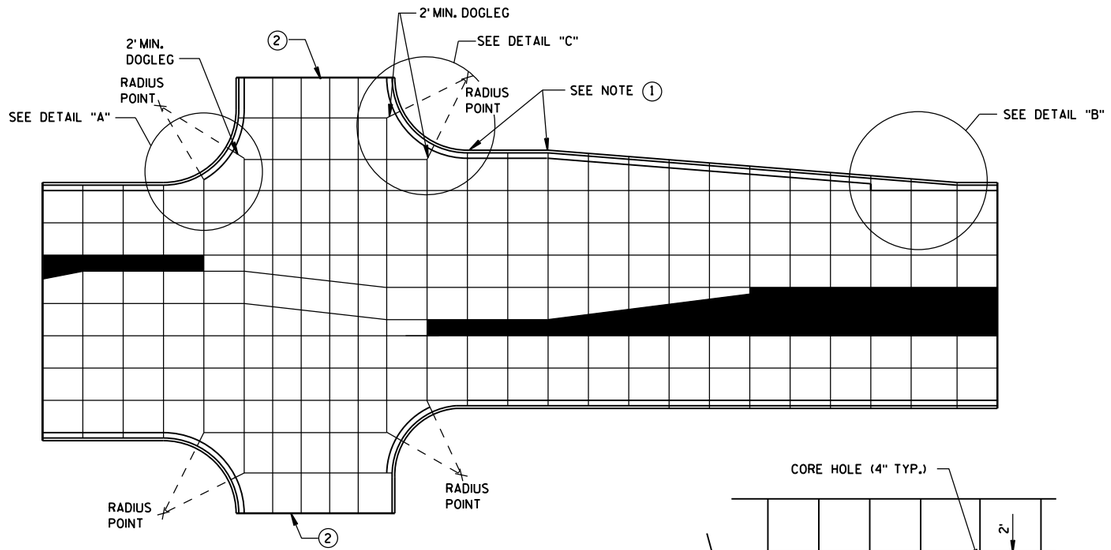
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.

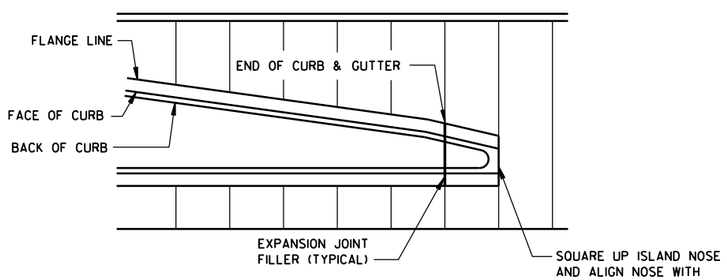


STANDARD INTERSECTION

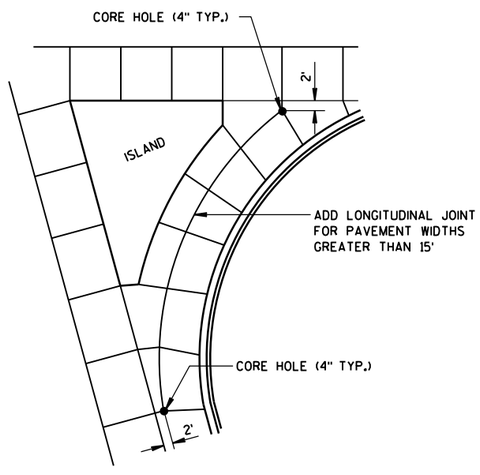
PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'

SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

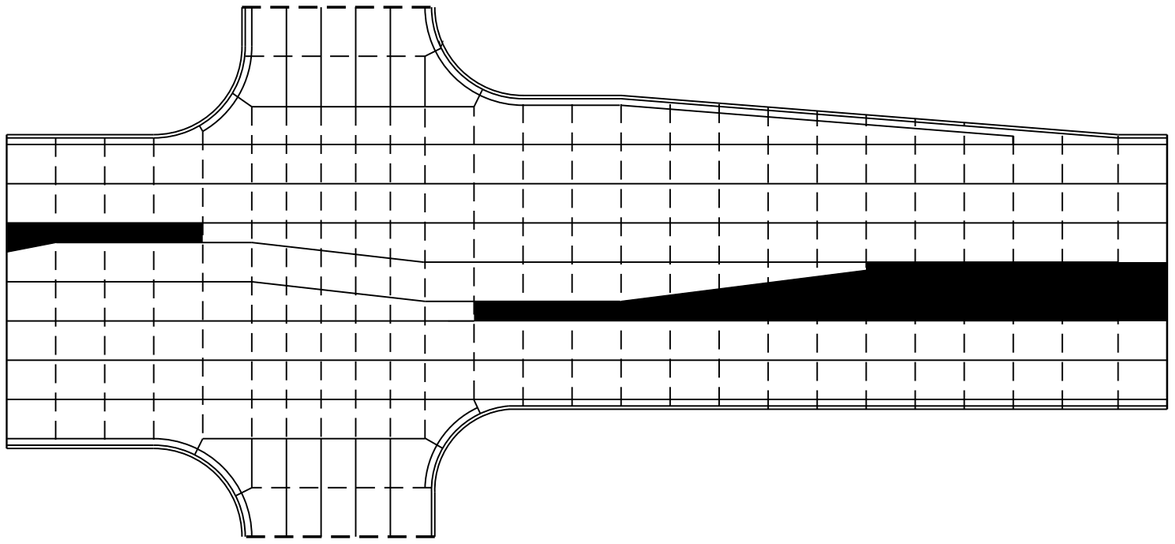
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

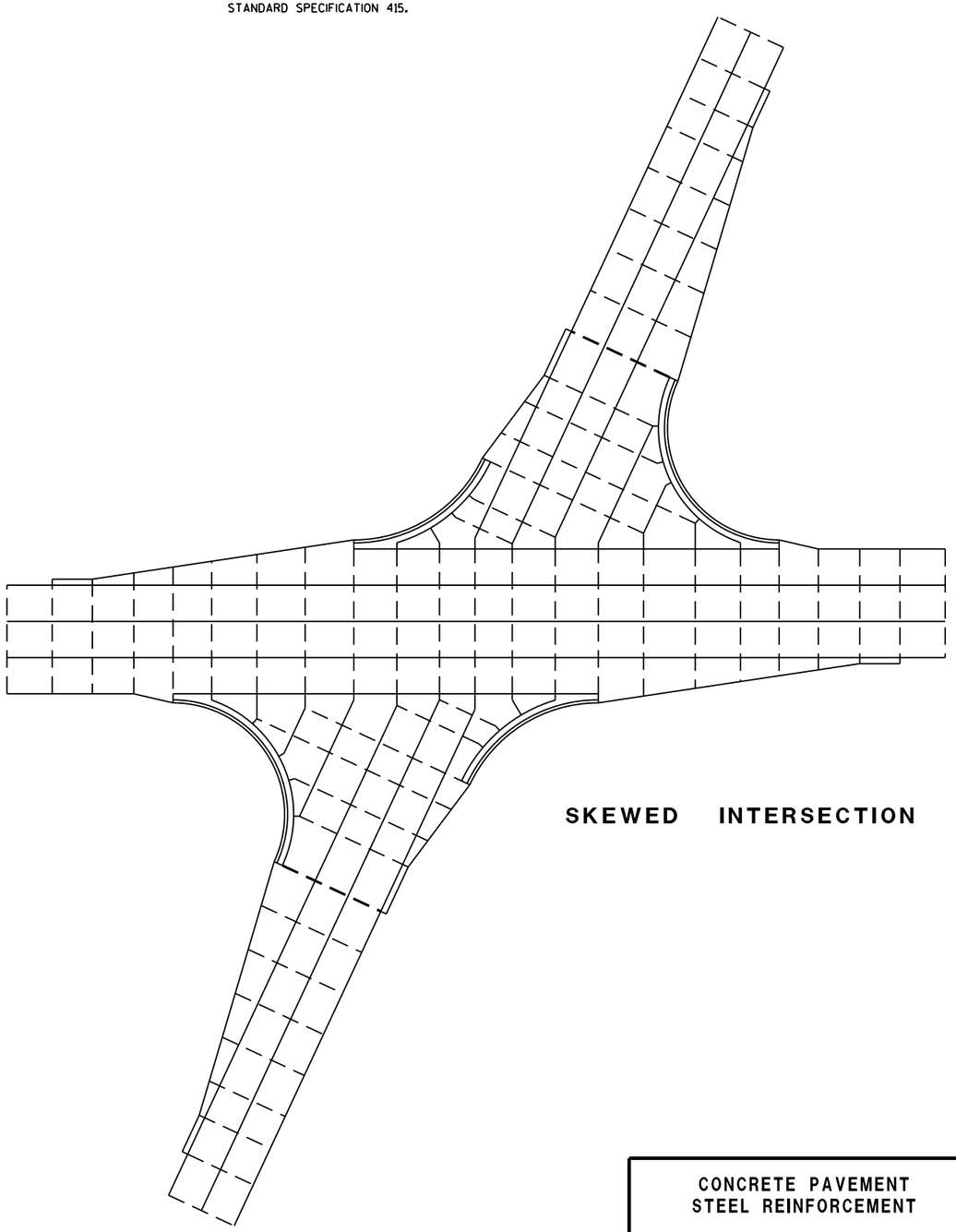
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

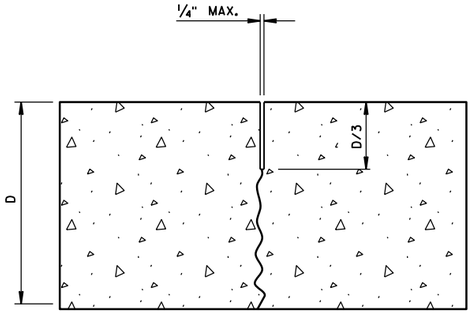
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

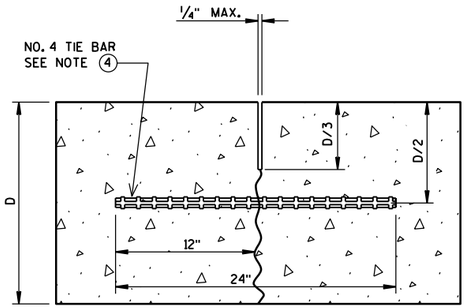
S.D.D. 13 C 18-2b

6

S.D.D. 13 C 18-2b



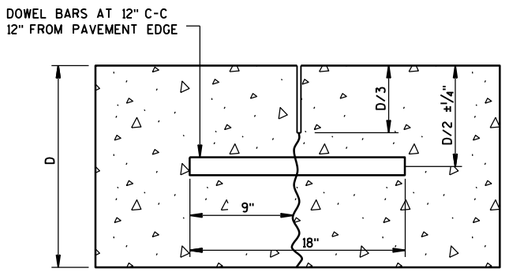
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

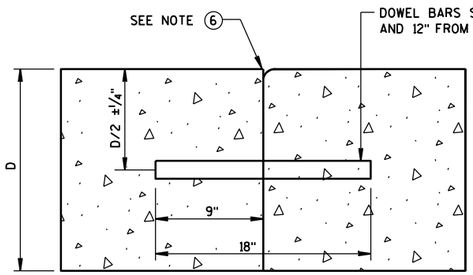
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



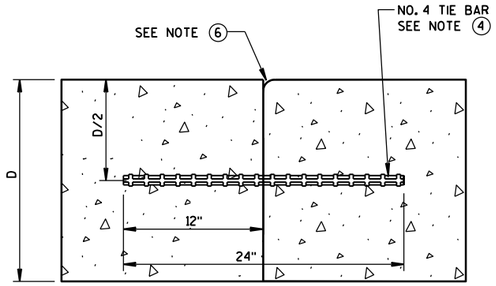
DOWELED-TRANSVERSE

CONTRACTION JOINTS

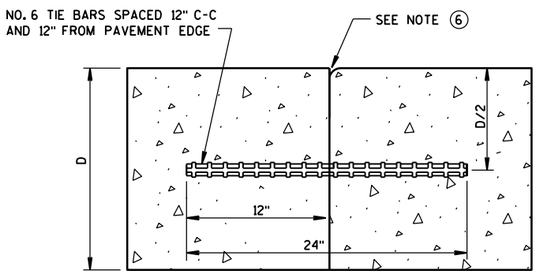
SEE NOTE (2)



DOWELED TRANSVERSE

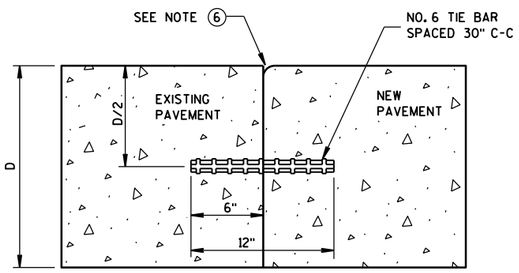


TIED LONGITUDINAL



TIED TRANSVERSE

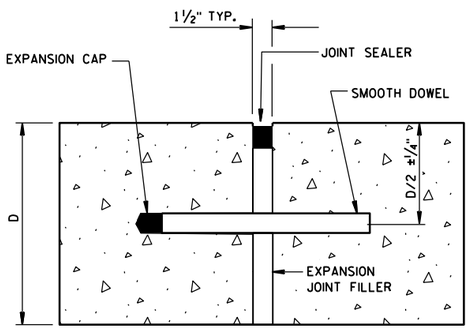
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

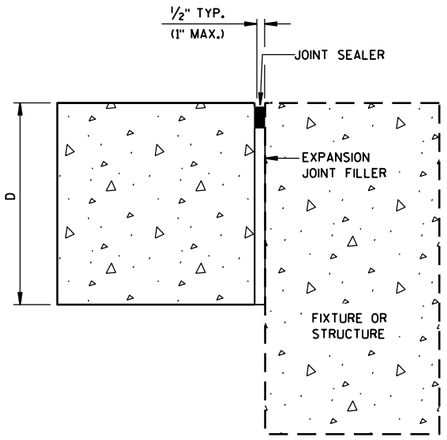
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

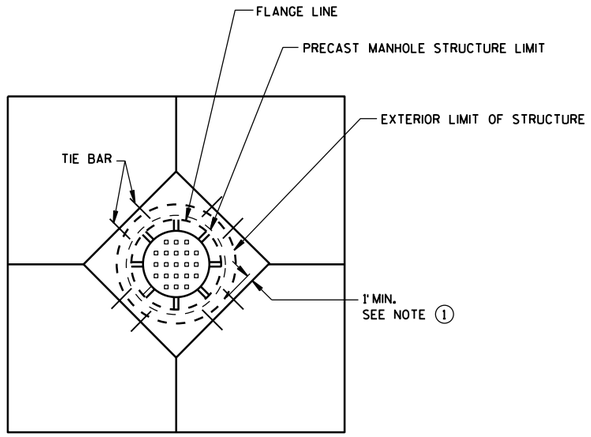
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

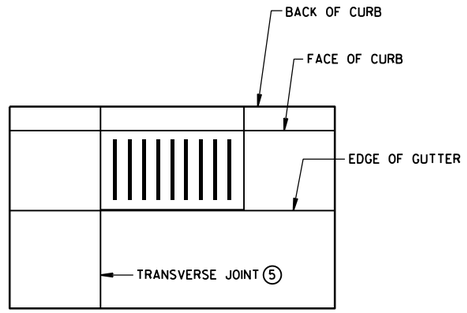
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

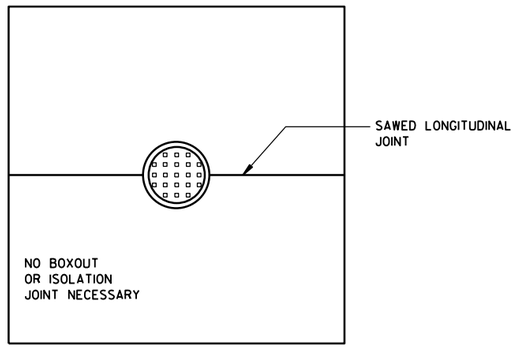
S.D.D. 13 C 18-2c



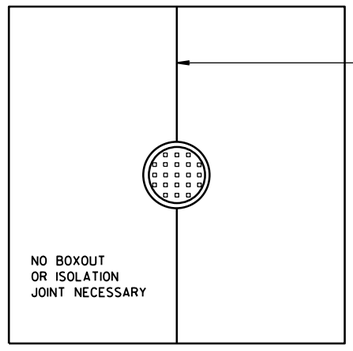
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



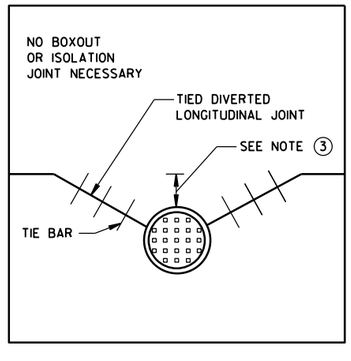
INLET WITH TRANSVERSE JOINT



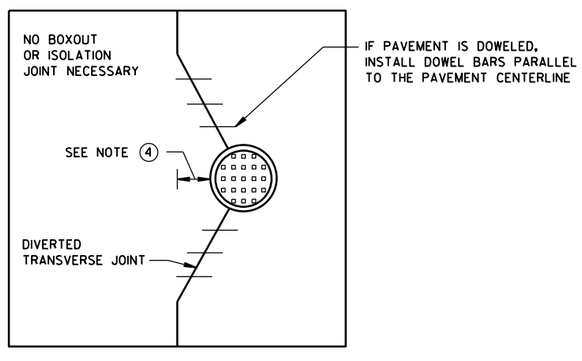
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

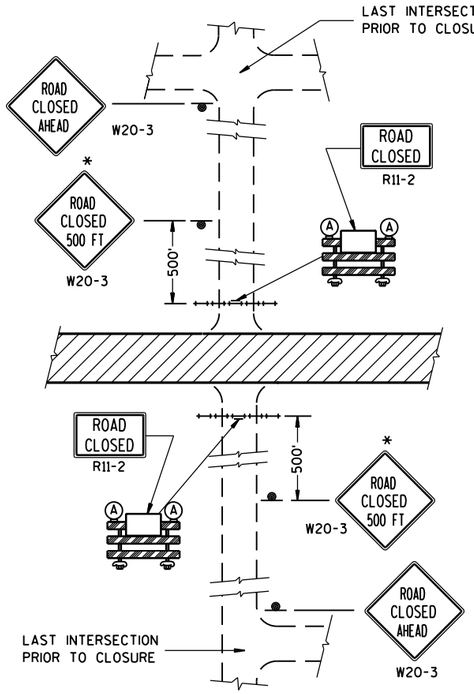
APPROVED

5-3-2013	/S/ Deb Bischoff	
DATE	PAVEMENT POLICY & DE	NEER

FHWA

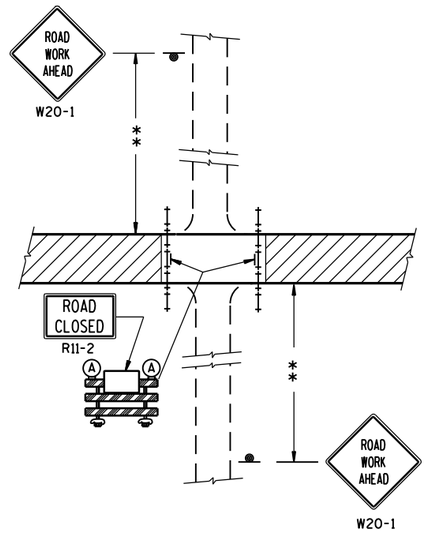
6

S.D.D. 13 C 18-2d



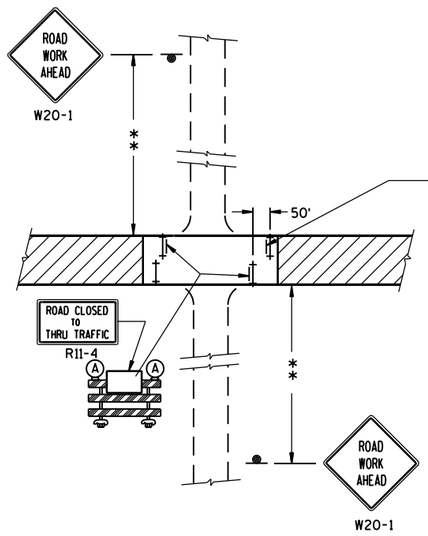
DETAIL 1

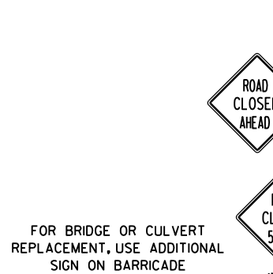
(NO ACCESS TO PROJECT)



DETAIL 2

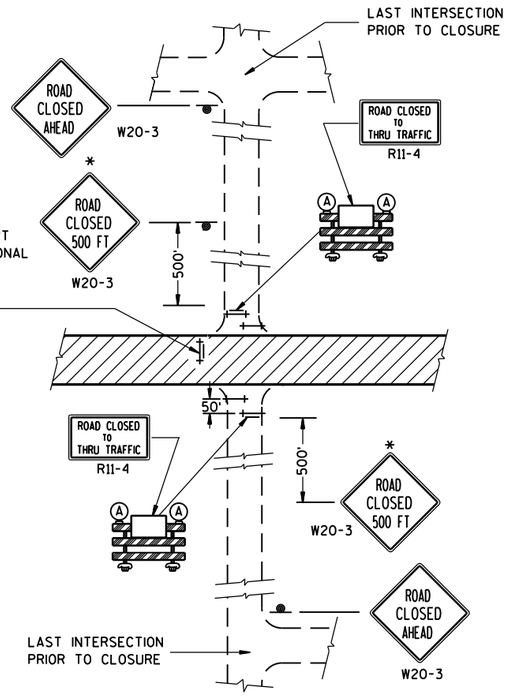
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).





DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

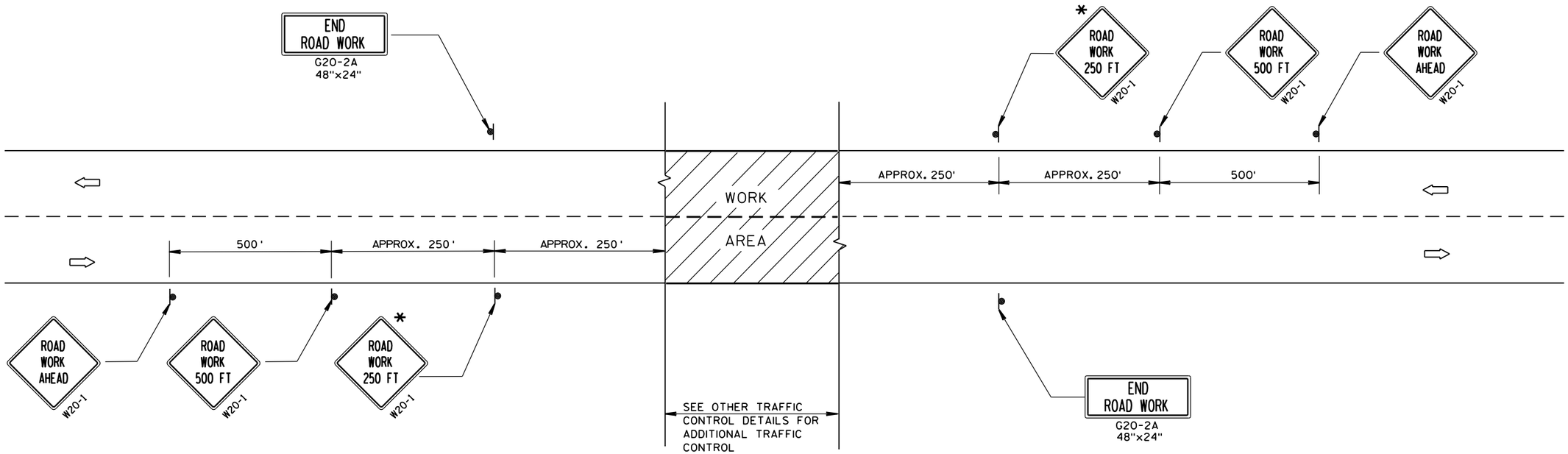
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

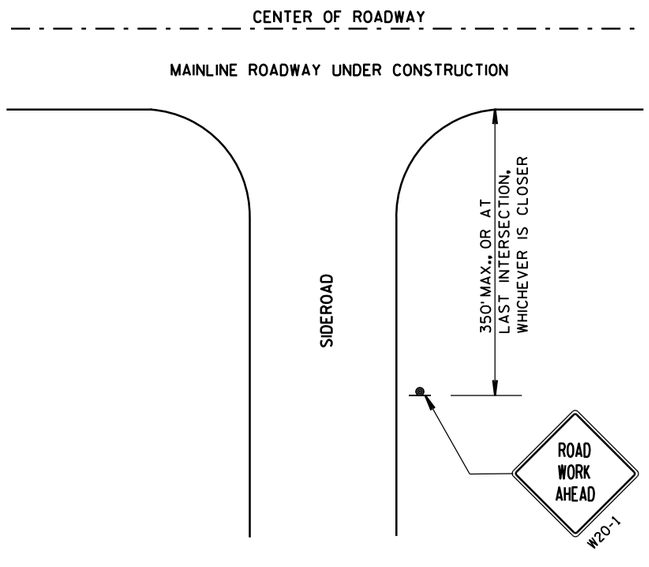
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

SIGN

6

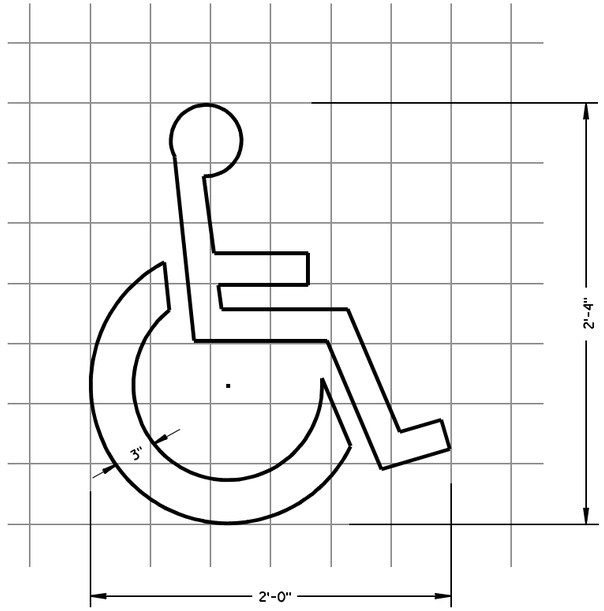
S.D.D. 15 C 5-2

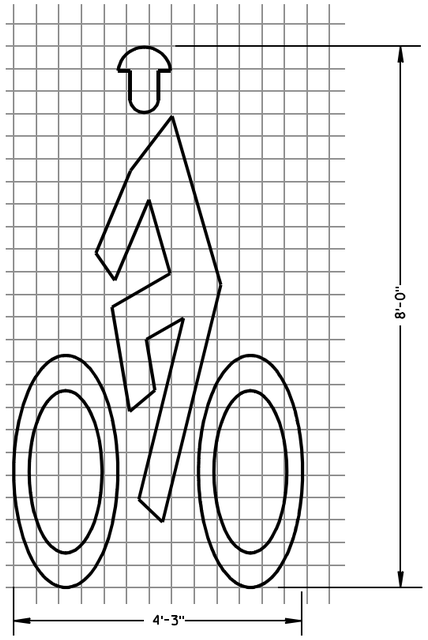
GENERAL NOTES

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

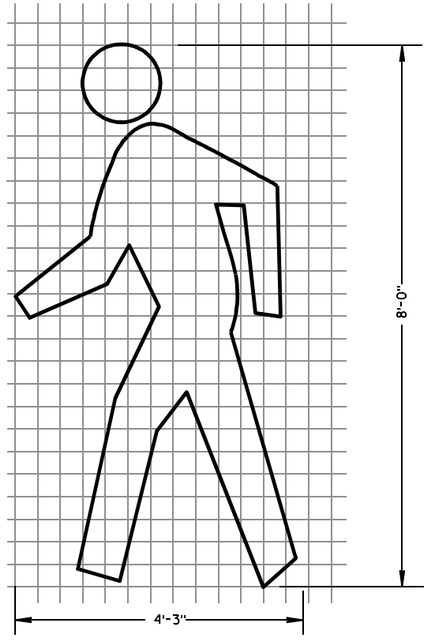
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

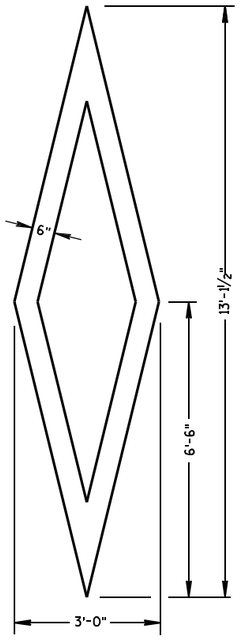




BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL LANE SYMBOL

6

6

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N Nathan — STATE TRAFFIC ENGINEER

FHWA

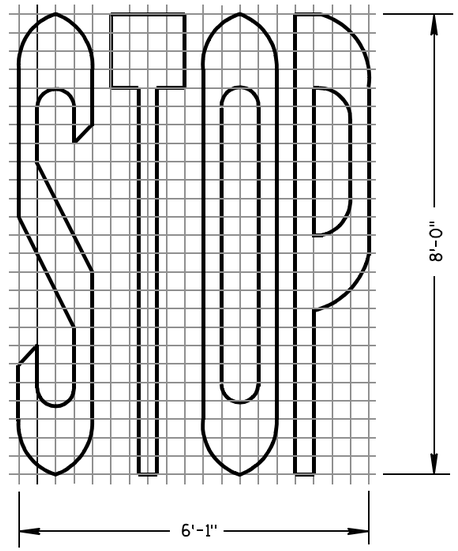
S.D.D. 15 C 7-12a

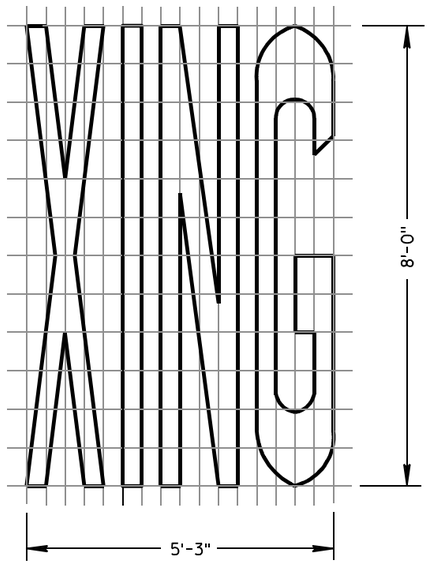
S.D.D. 15 C 7-12a

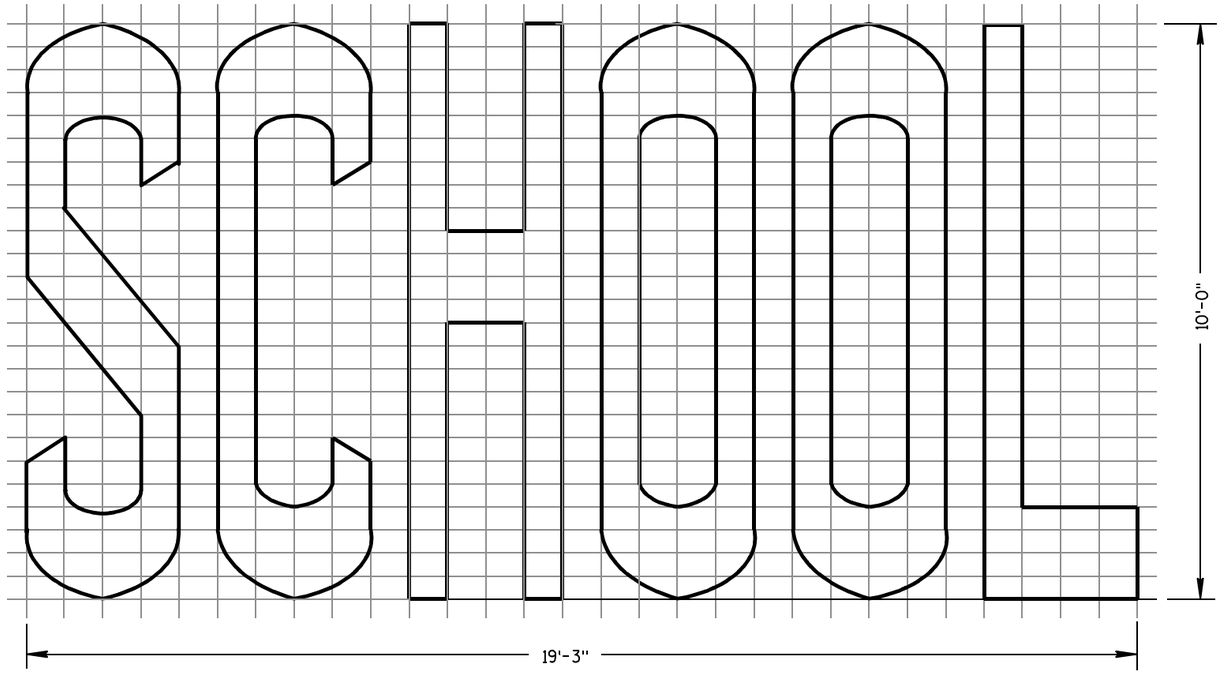
GENERAL NOTES

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

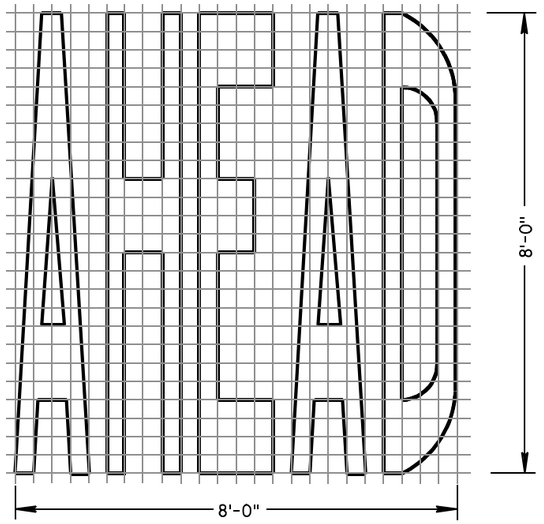
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

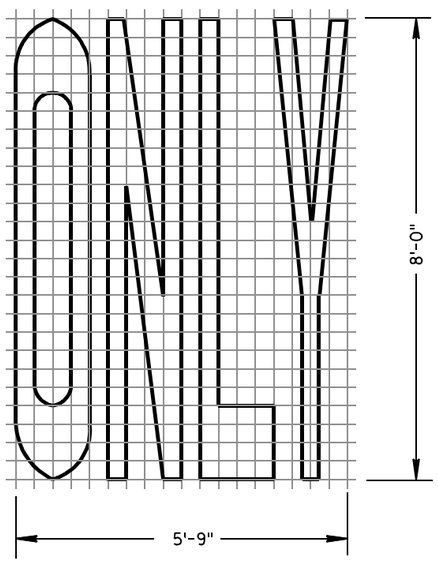


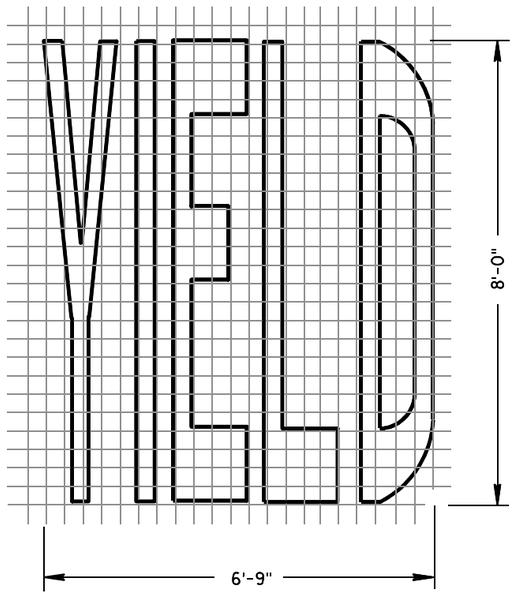


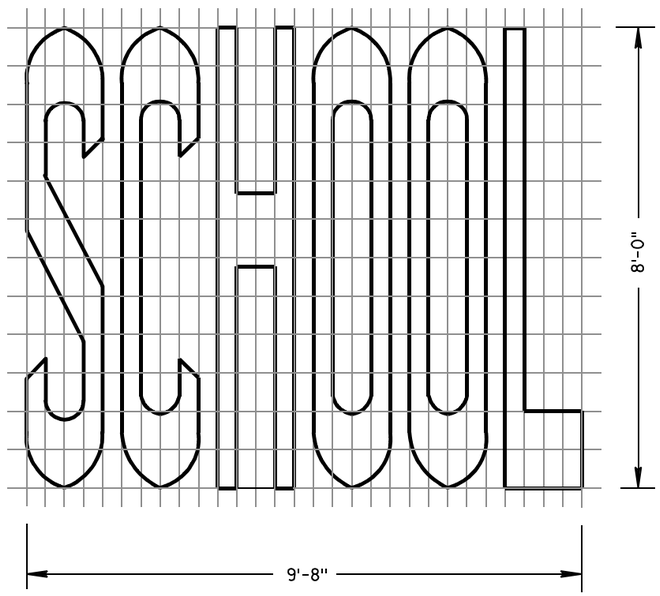


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER — IGN

FHWA

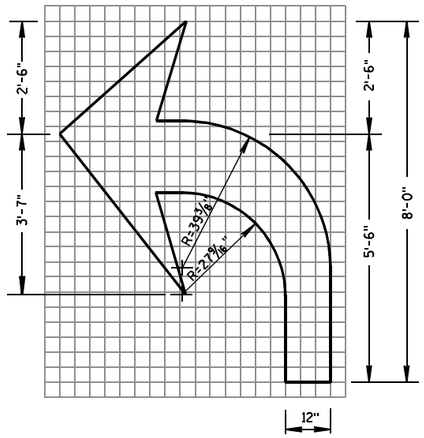
6

S.D.D. 15 C 7-12b

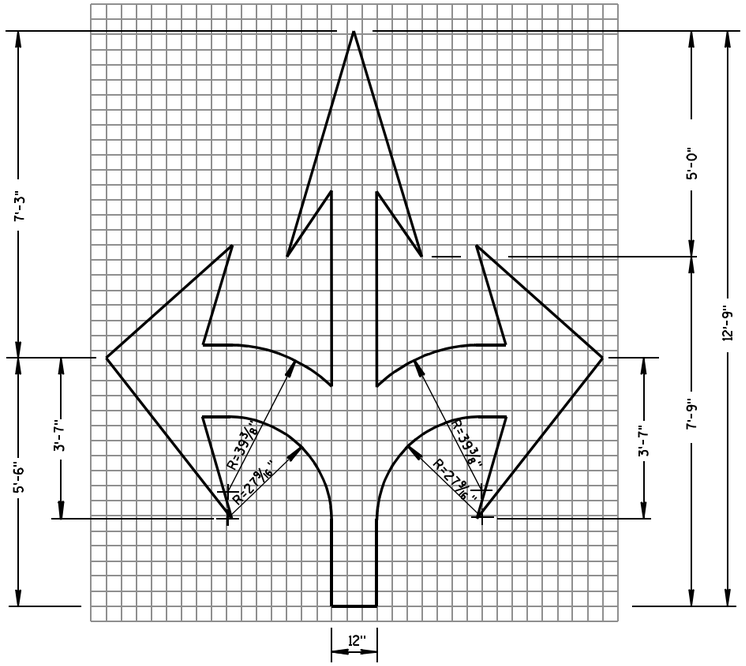
GENERAL NOTES

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

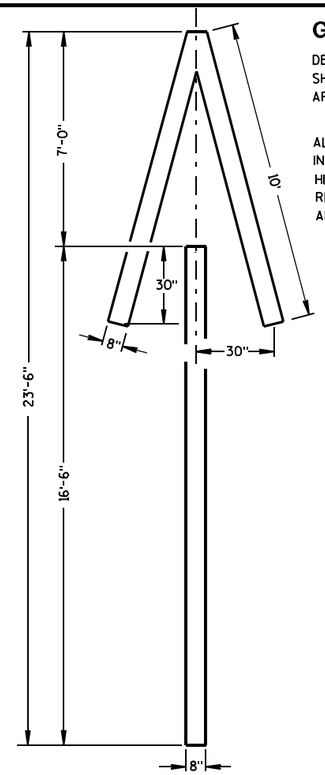
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



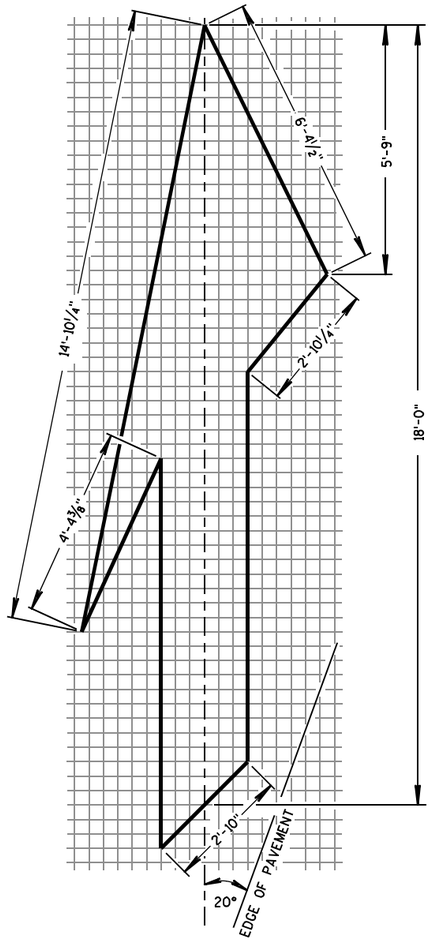
TYPE 2



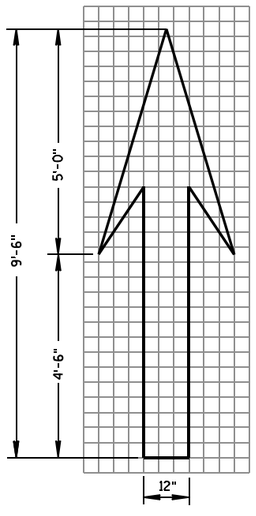
TYPE 6



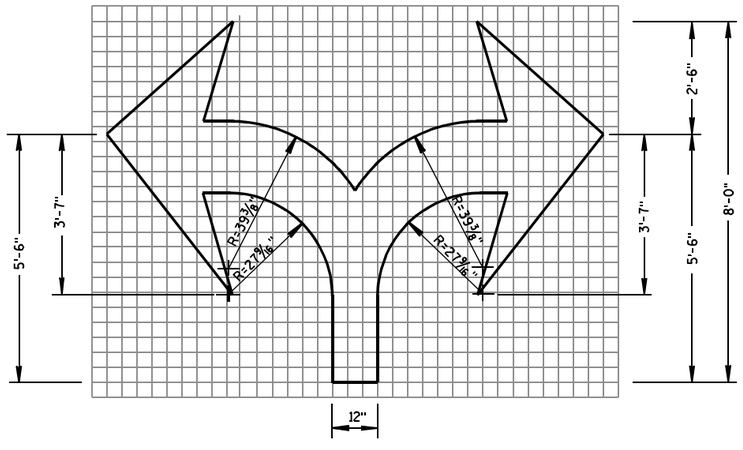
TYPE 4



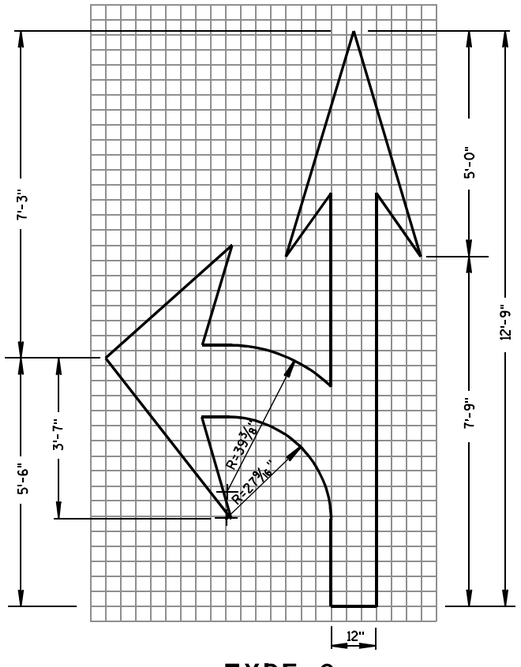
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

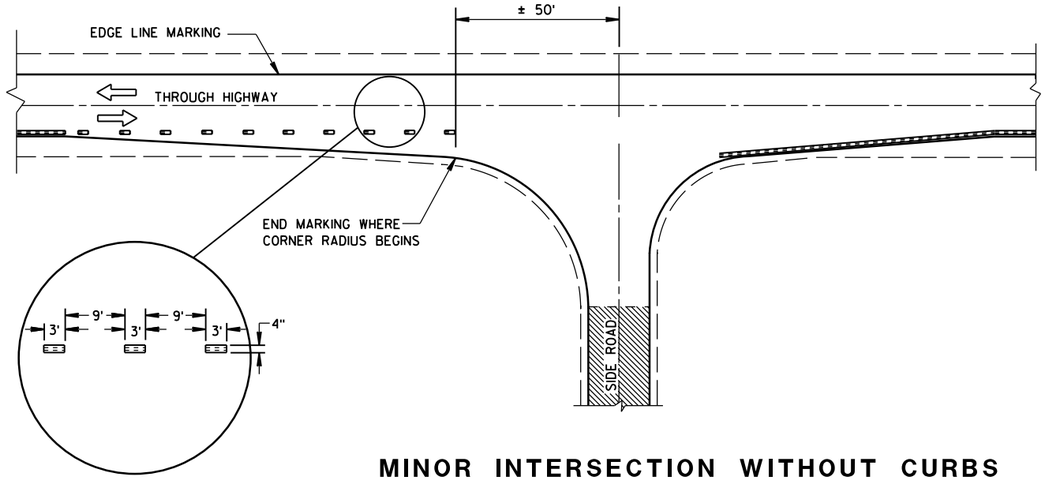
FHWA

6

S.D.D. 15 C 7-12c

6

S.D.D. 15 C 7-12c



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

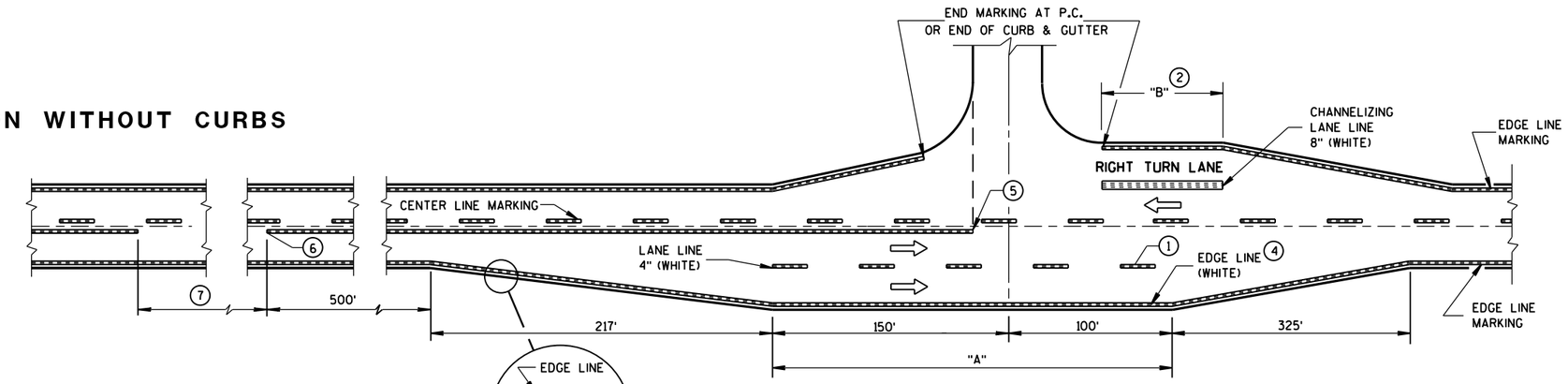
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

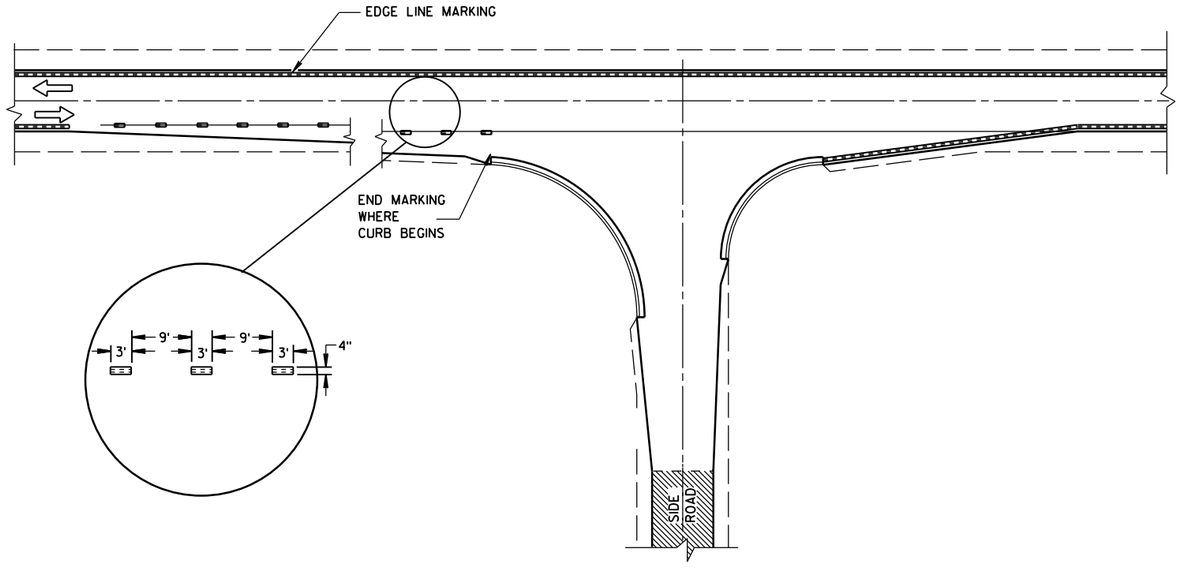
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



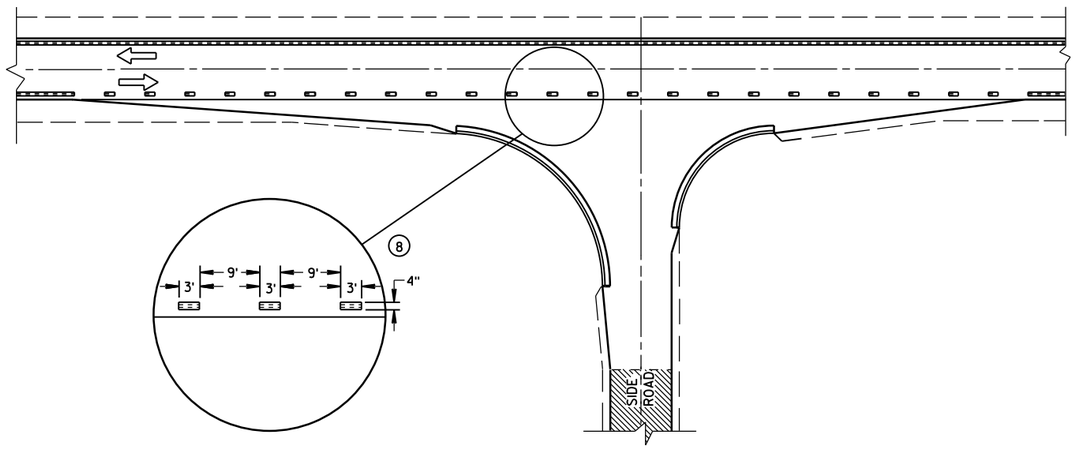
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

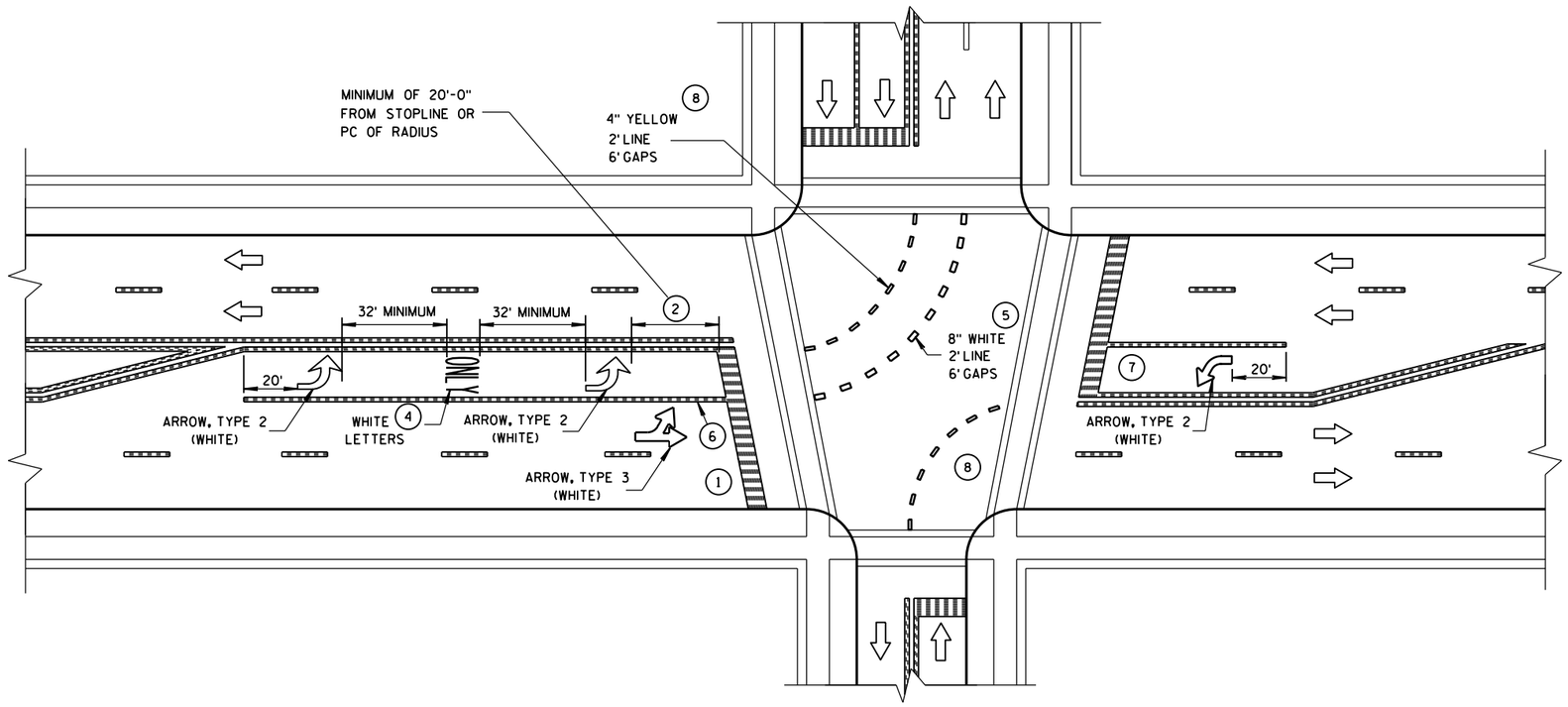
(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

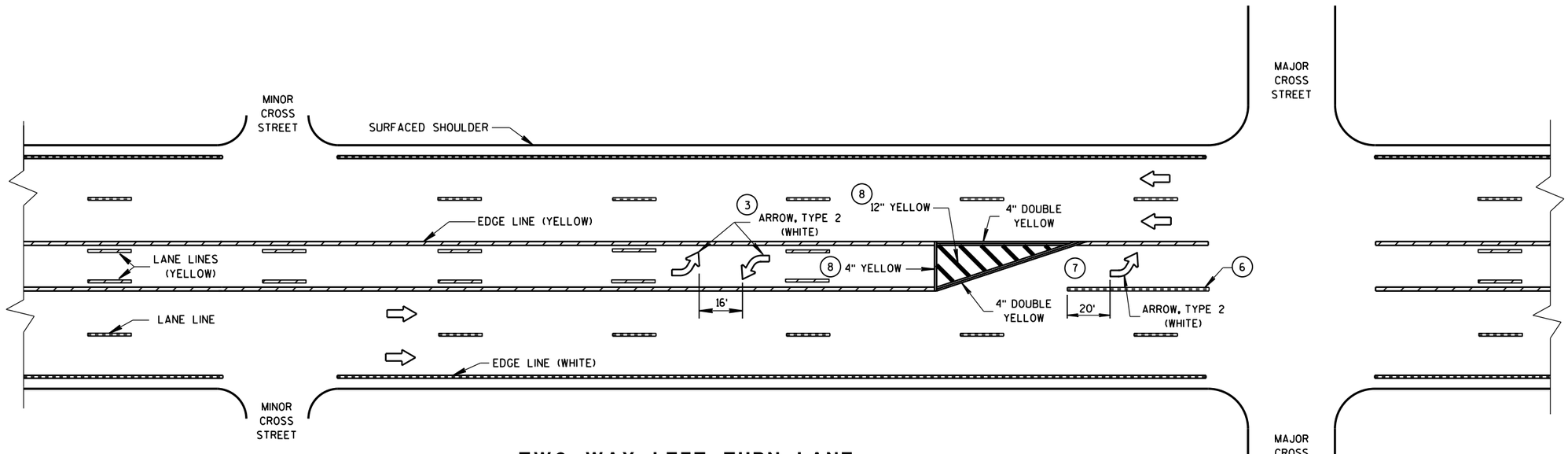
S.D.D. 15 C 8-16b



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

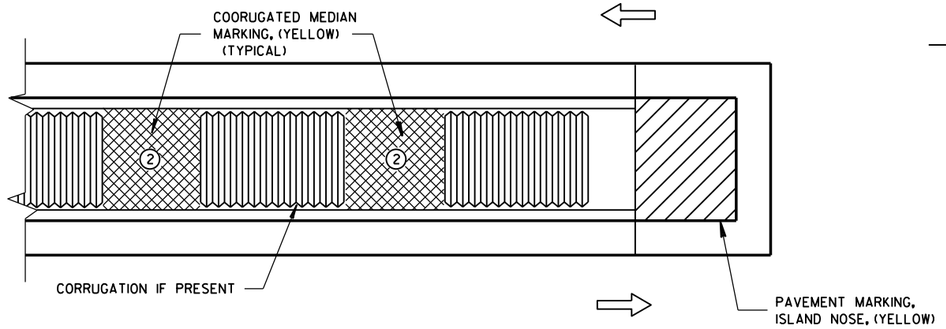
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

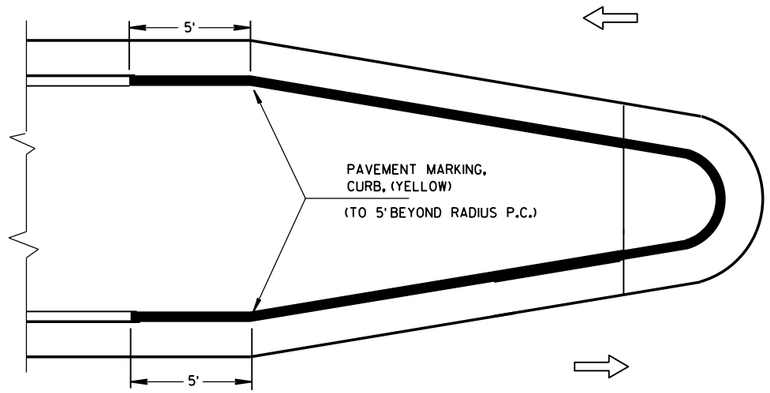
S.D.D. 15 C 8-16e

6

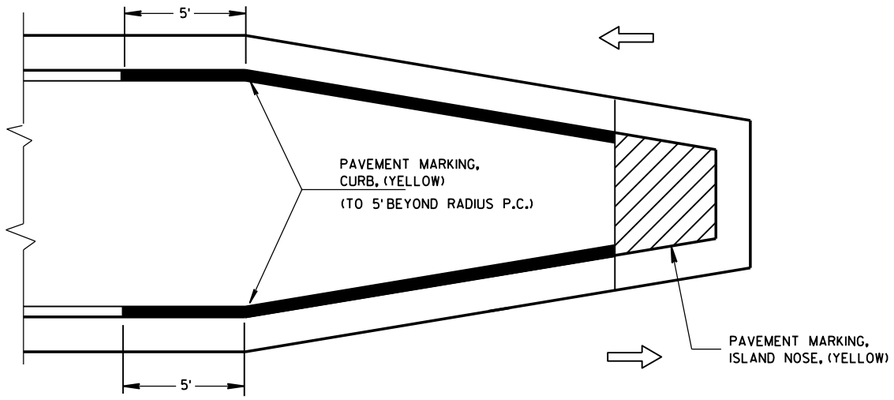
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

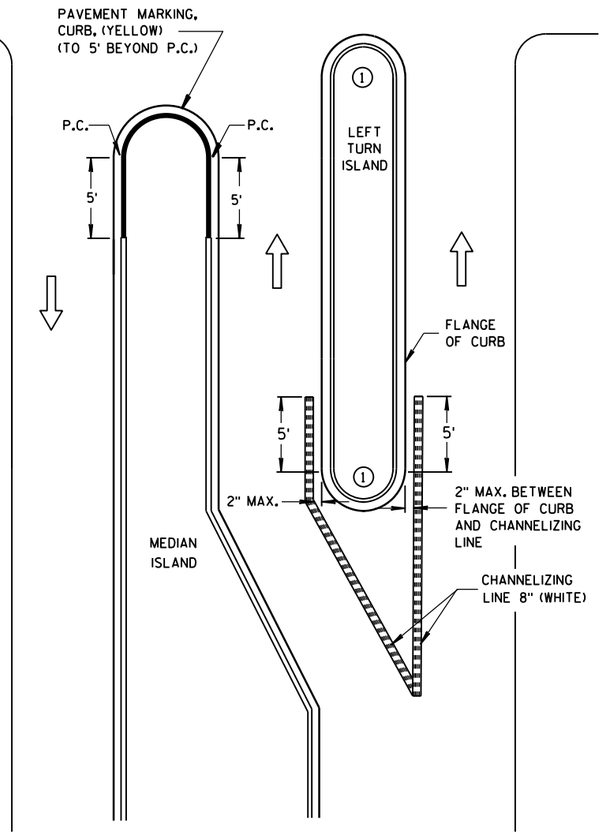


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

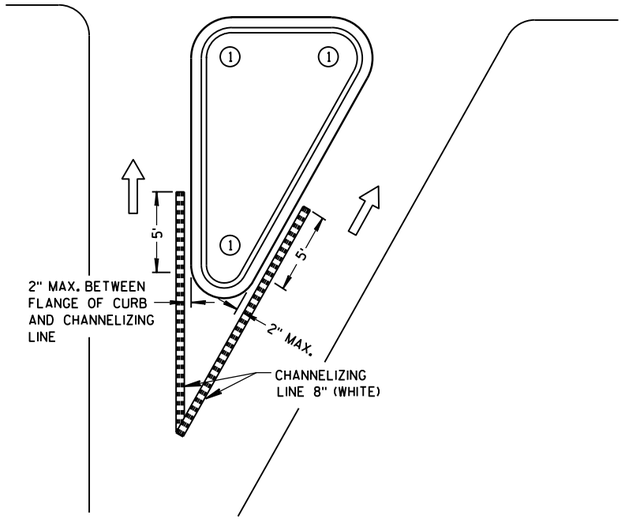


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

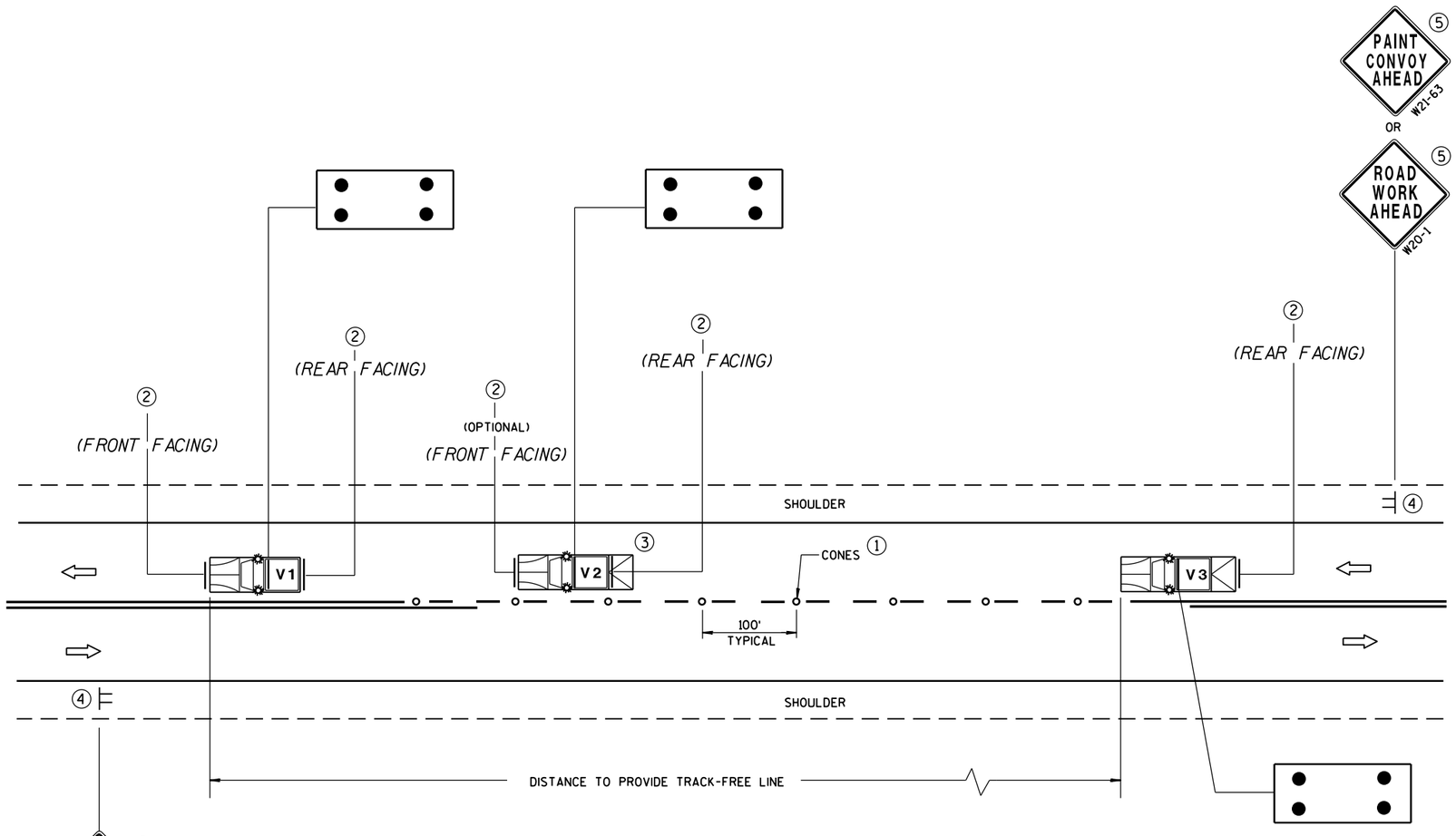
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 C 8-16f

6

S.D.D. 15 C 8-16f



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

- **V1** LEAD VEHICLE
- **V2** SHADOW VEHICLE
- **V3** TRAIL VEHICLE WITH TMA
- **TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (CAUTION)

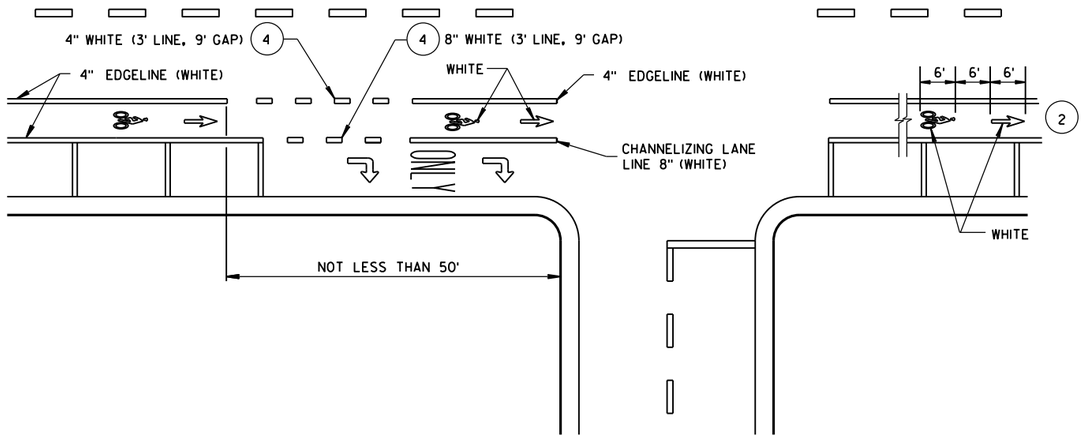
MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/3/2013 DATE FHWA	/S/ Travis Feltes STATE TRAFFIC E

6

S.D.D. 15 C 19-2a

6

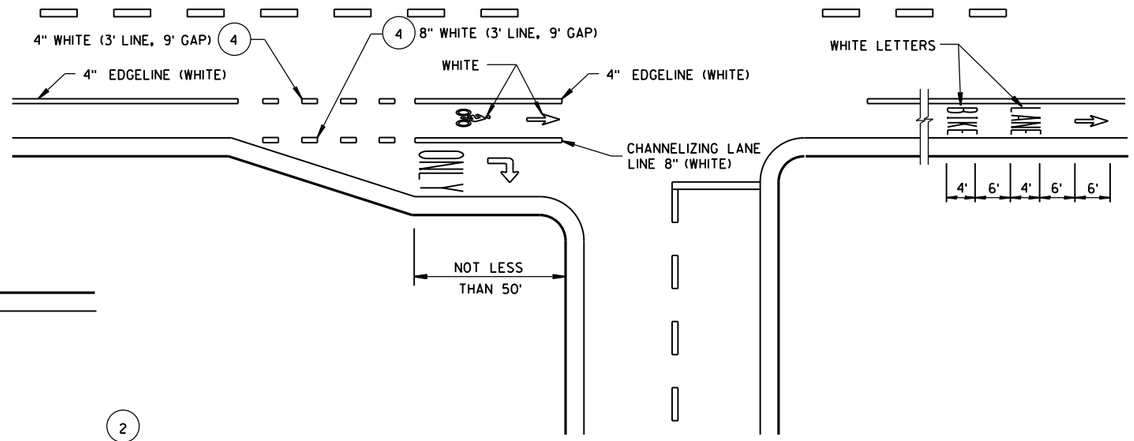
S.D.D. 15 C 19-2a



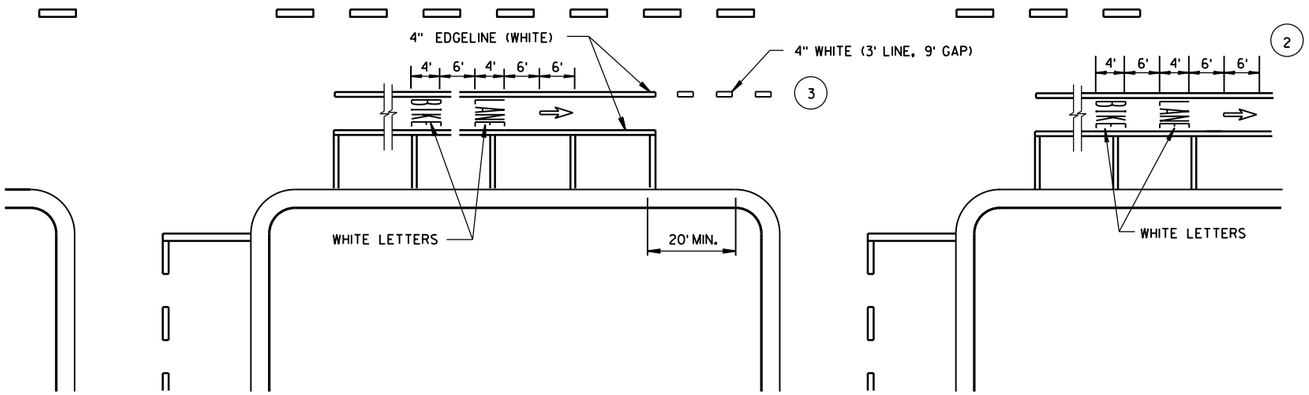
DESIGNATED BICYCLE LANE

GENERAL NOTES

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. THE SERIES OF PAVEMENT MARKING SYMBOLS SHALL BE REPEATED AFTER INTERSECTIONS AND SPACED A MAXIMUM OF 250'. NO PAVEMENT MARKING WILL TAKE PLACE IN THE CROSSWALK.
3. DOTTED LINES SHOULD BE USED 50' TO 200' IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
4. WHEN SPECIFIED IN THE CONTRACT.



DESIGNATED BICYCLE LANE
NO PARKING, RIGHT TURN LANE



DESIGNATED BICYCLE LANE
WITH PARKING, NO RIGHT TURN LANE

URBAN BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC EN

FHWA

6

S.D.D. 15 C 29-3c

6

S.D.D. 15 C 29-3c

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"x60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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) CLEARANCE TO EXISTING SIGNS.

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 OR AS APPROVED BY THE ENGINEER.

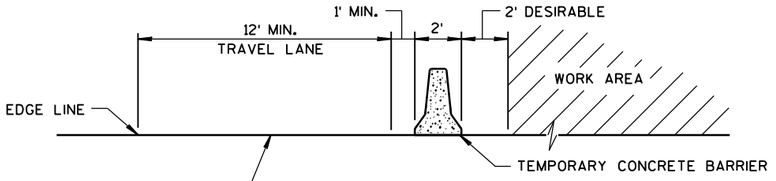
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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.

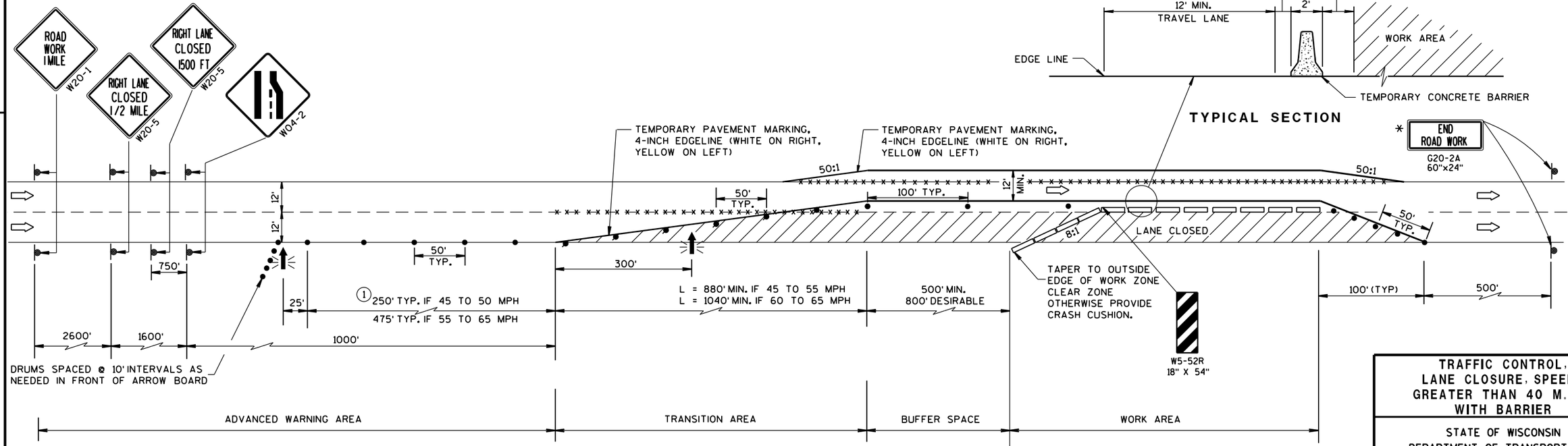
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE 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.



TYPICAL SECTION



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

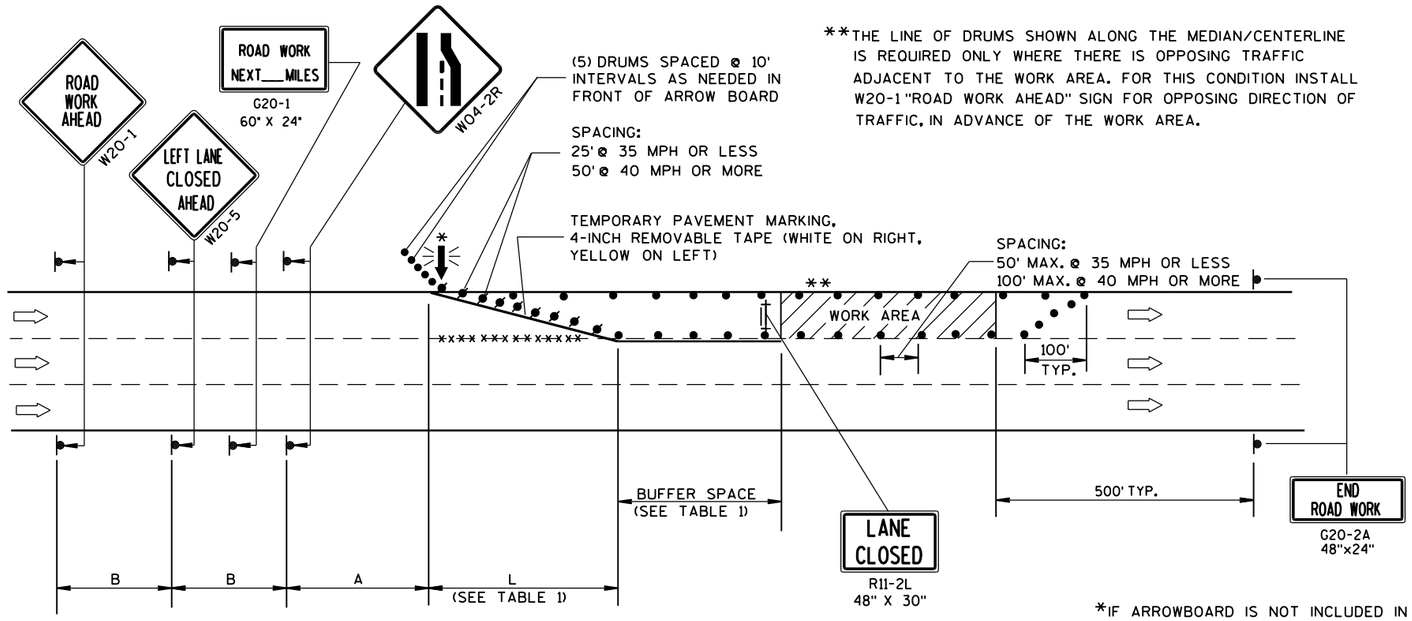
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER — SIGN
FHWA

6

S.D.D. 15 D 3-2

6

S.D.D. 15 D 3-2



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

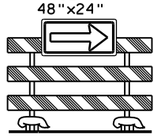


TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

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

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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.

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 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

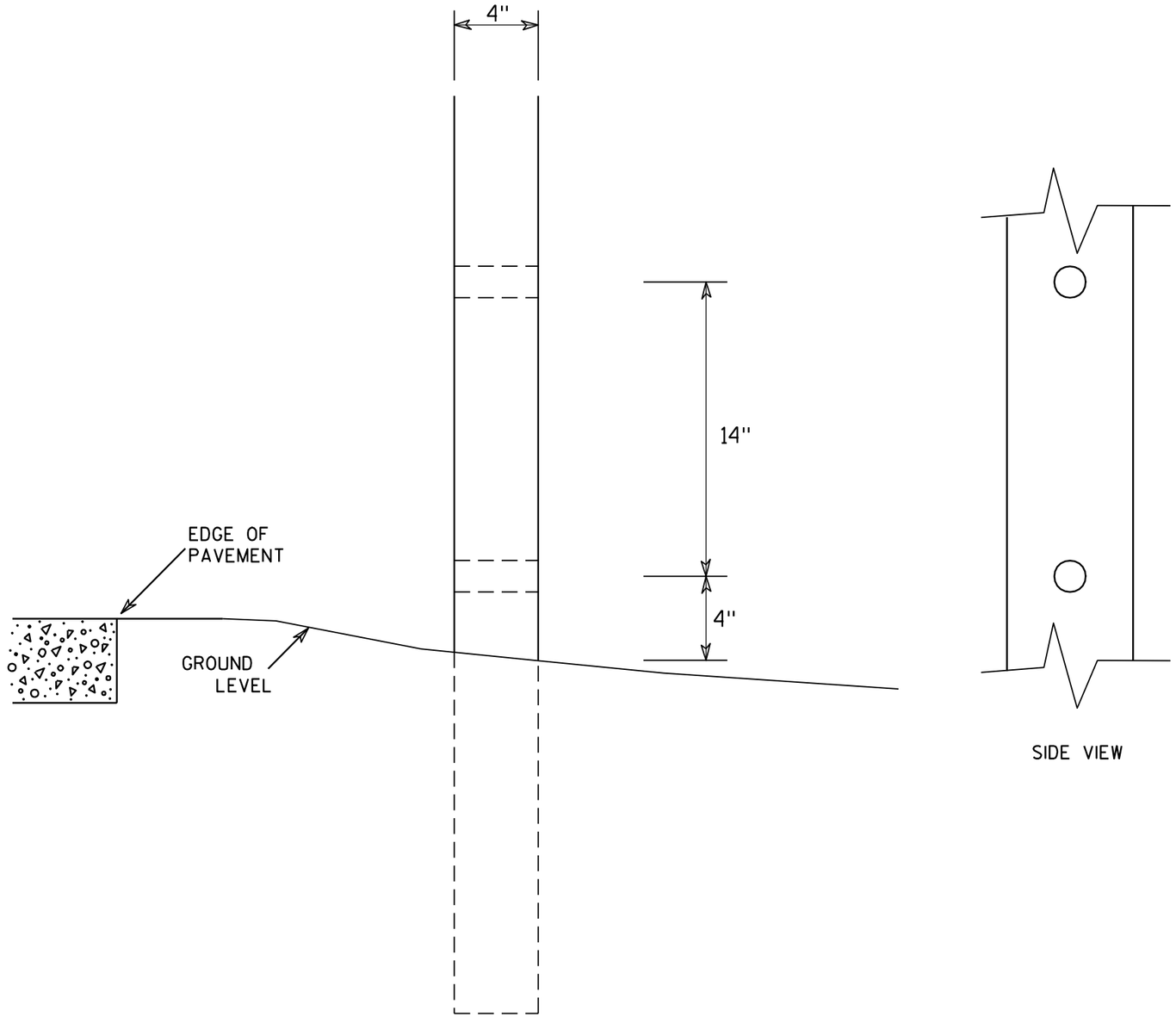
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 D 20-2

6

S.D.D. 15 D 20-2



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

4 X 6 WOOD POST MODIFICATIONS

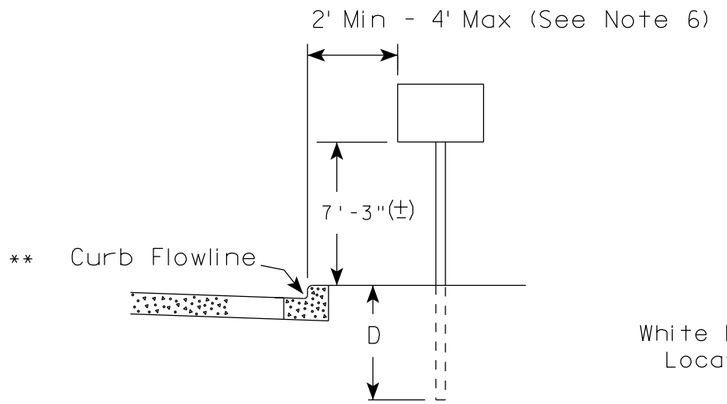
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

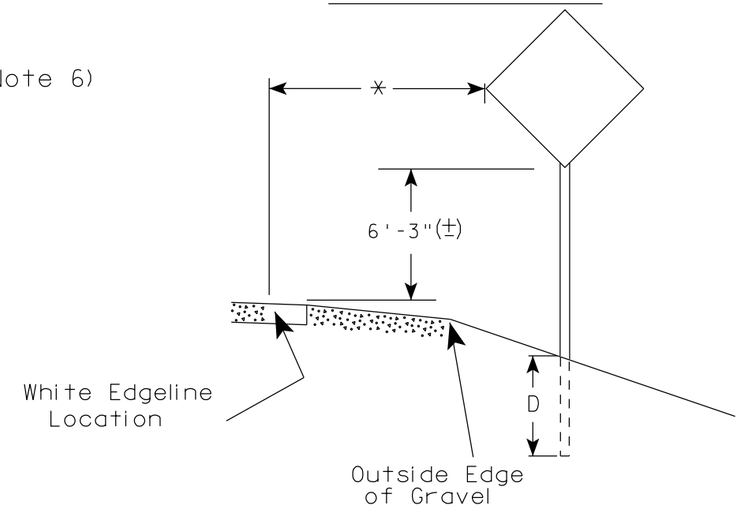
DATE 3/27/97 PLATE NO. A4-11.2

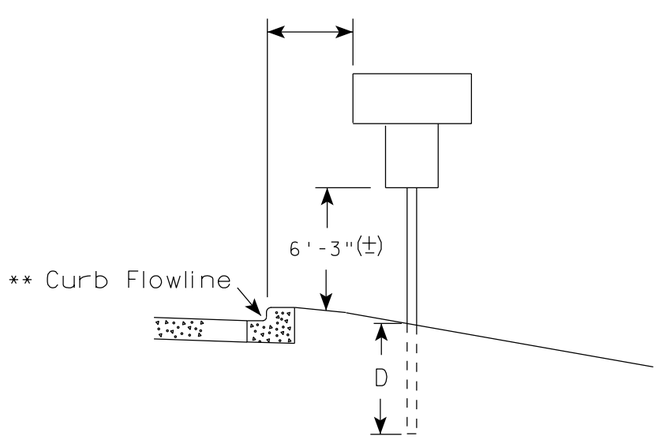
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 81	E

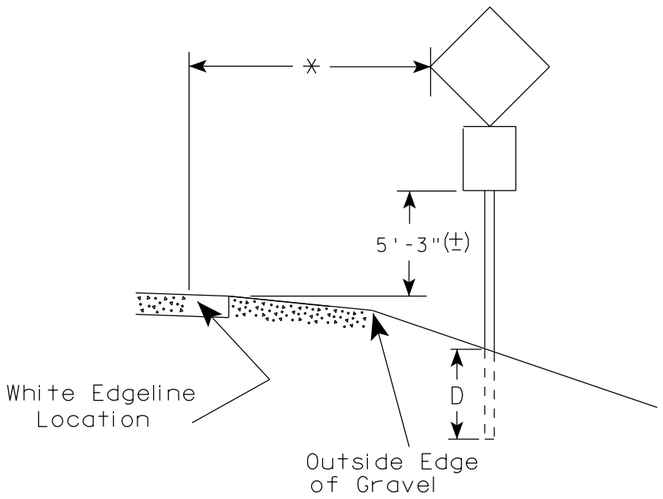
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

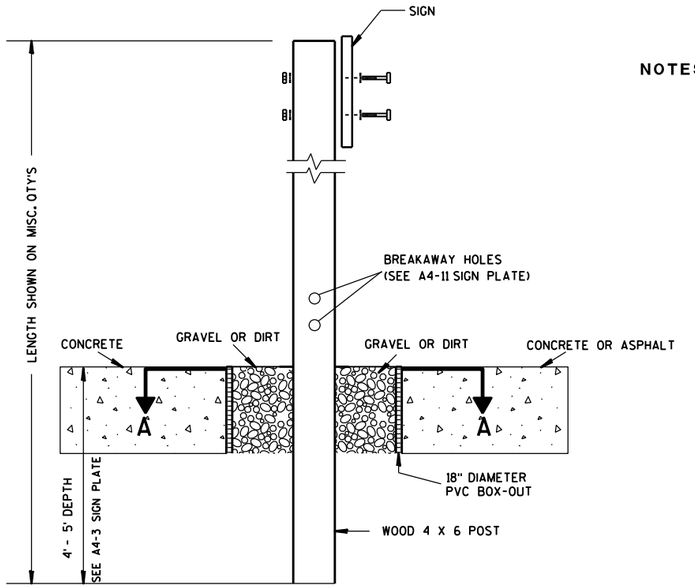
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

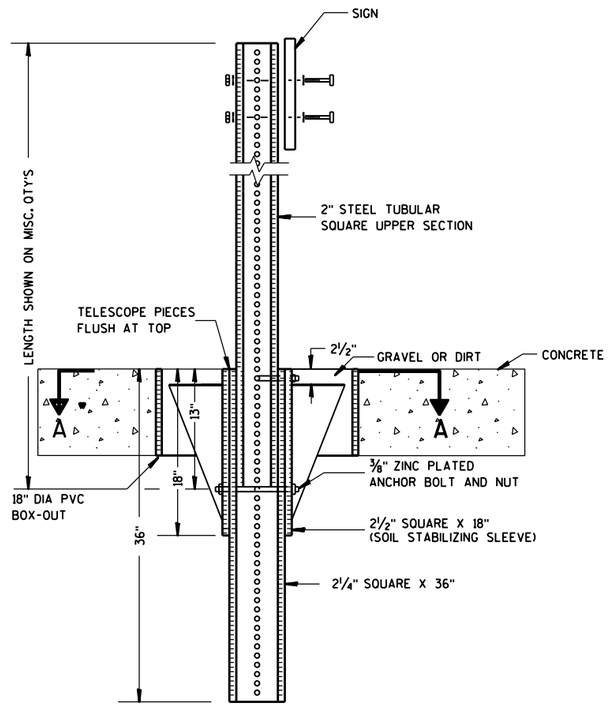
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

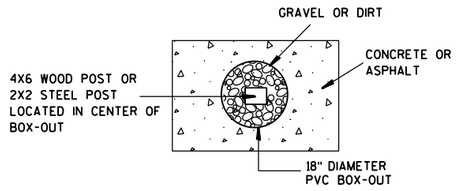
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

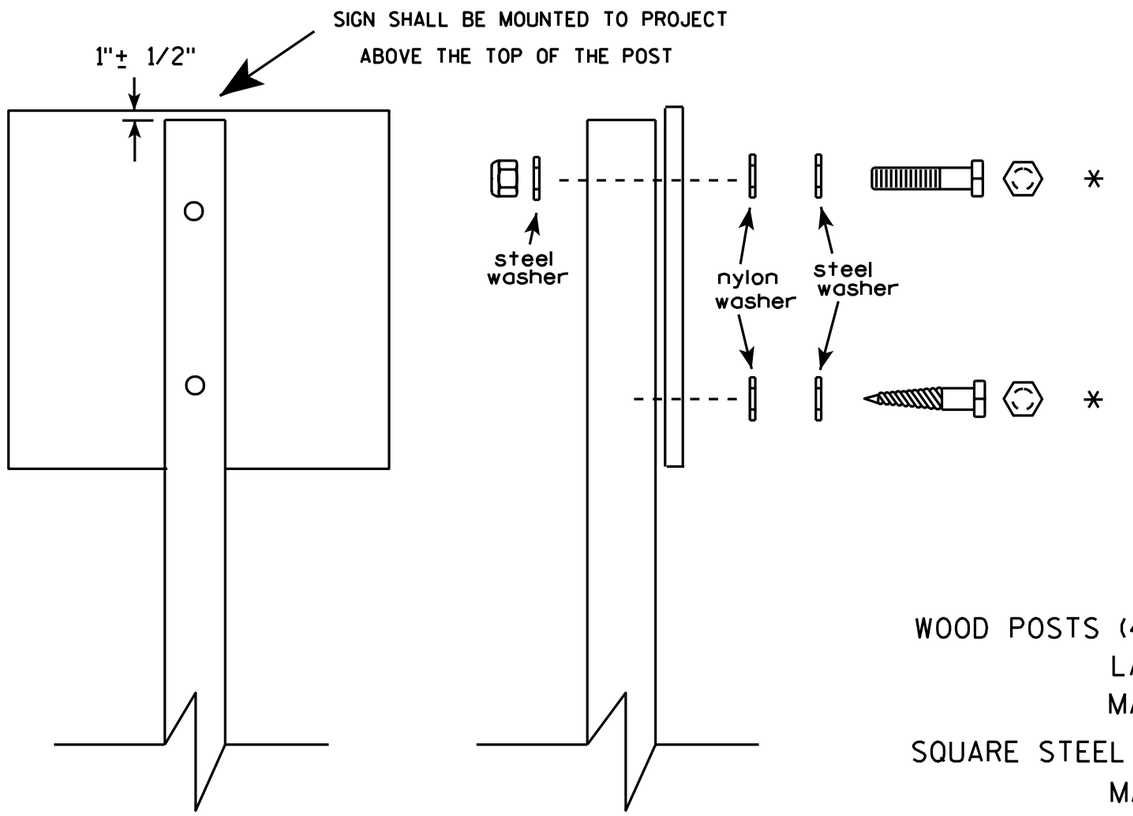
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

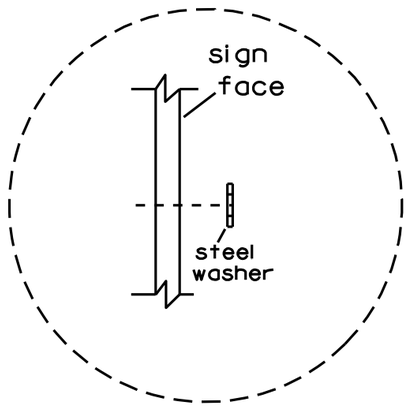
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

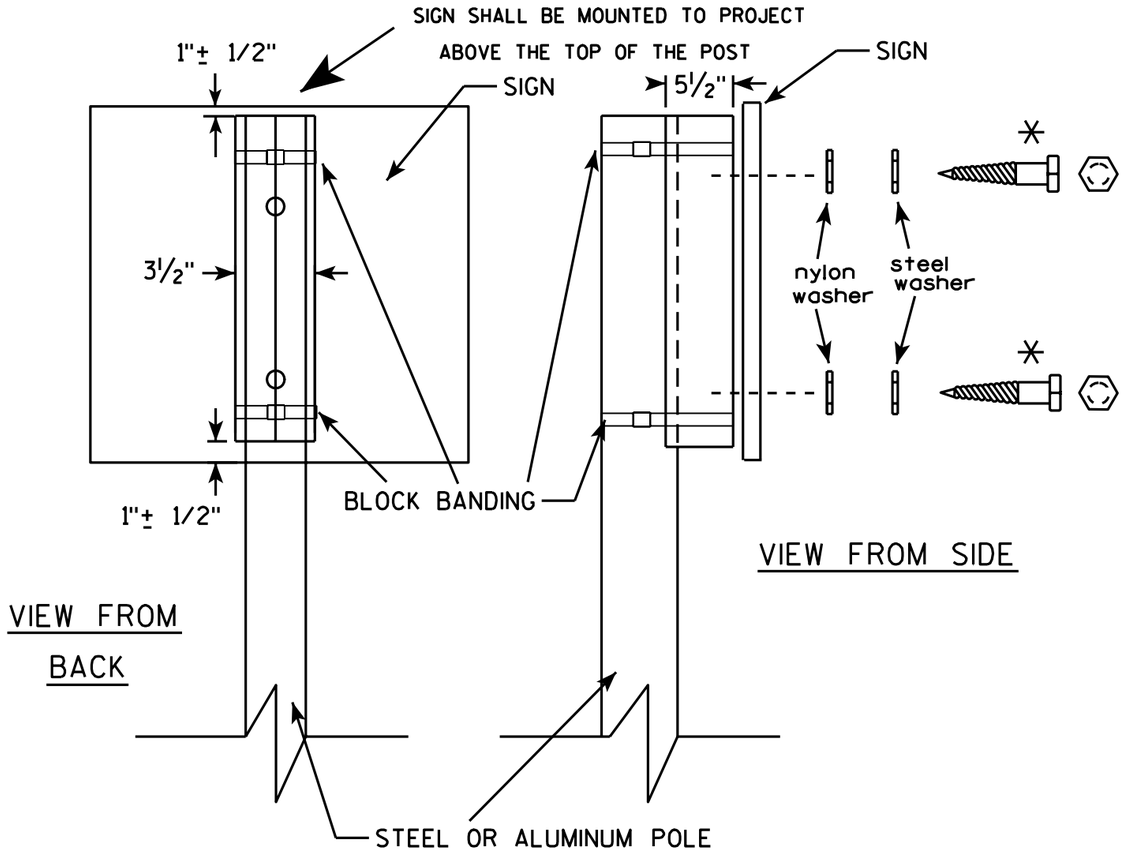
DATE 3/23/10 PLATE NO. A4-8.7

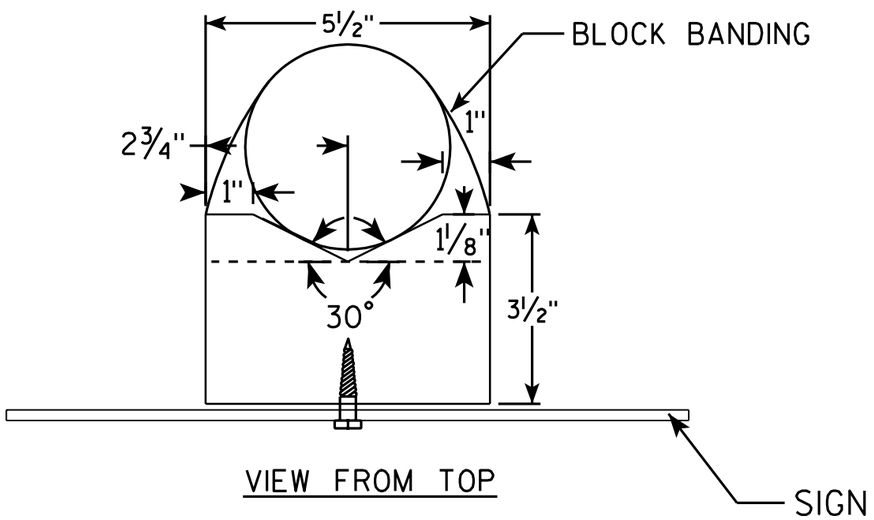
7

7

PROJECT NO:

SHEET NO: 84 E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

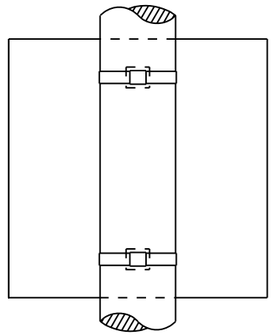
APPROVED Matthew R Rauch
for State Traffic Engineer

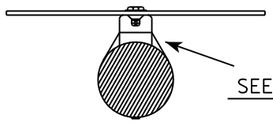
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:				SHEET NO: 85	E

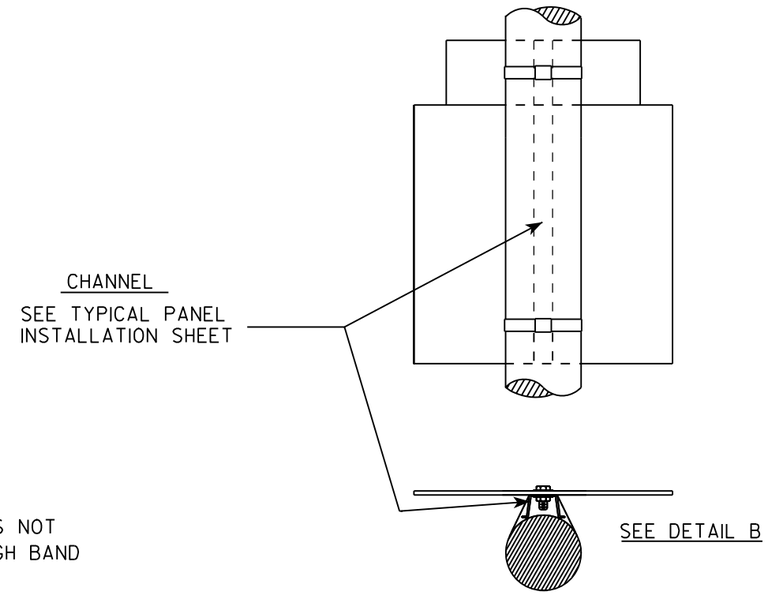
BANDING

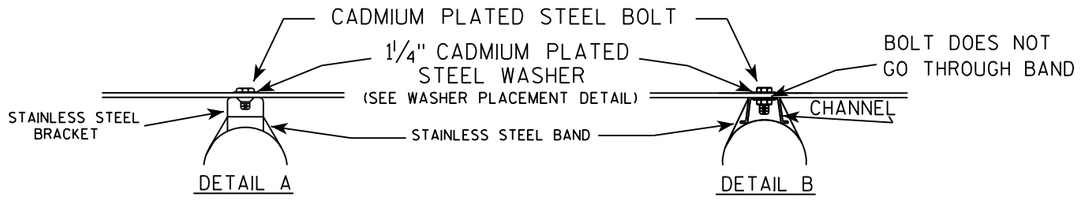
SINGLE SIGN



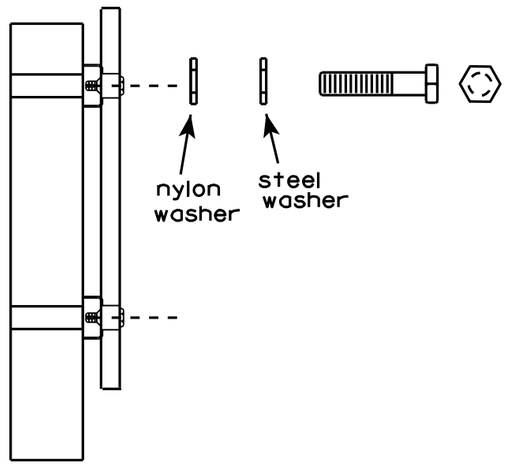


"J" ASSEMBLY





WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

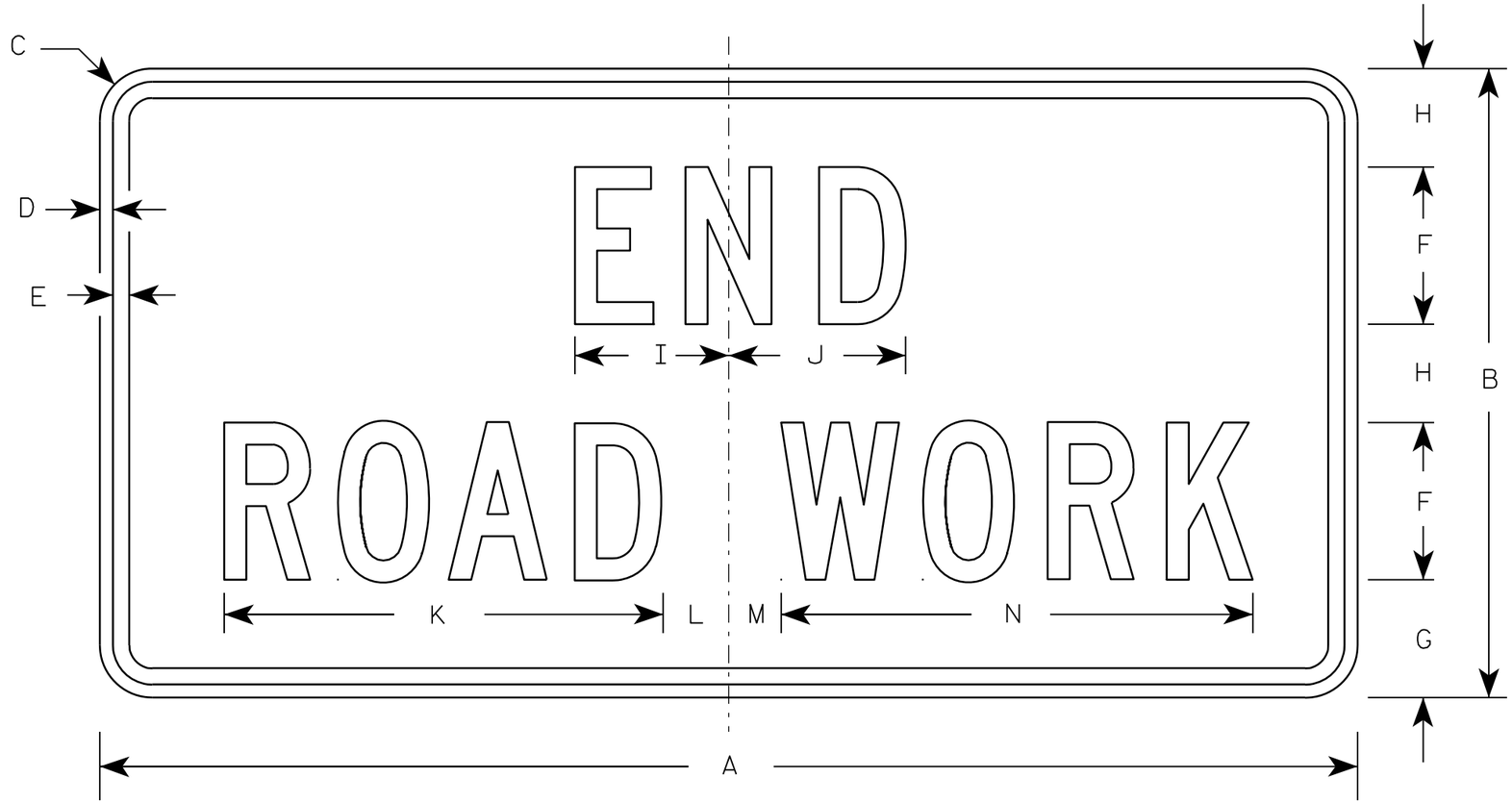
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 86	E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

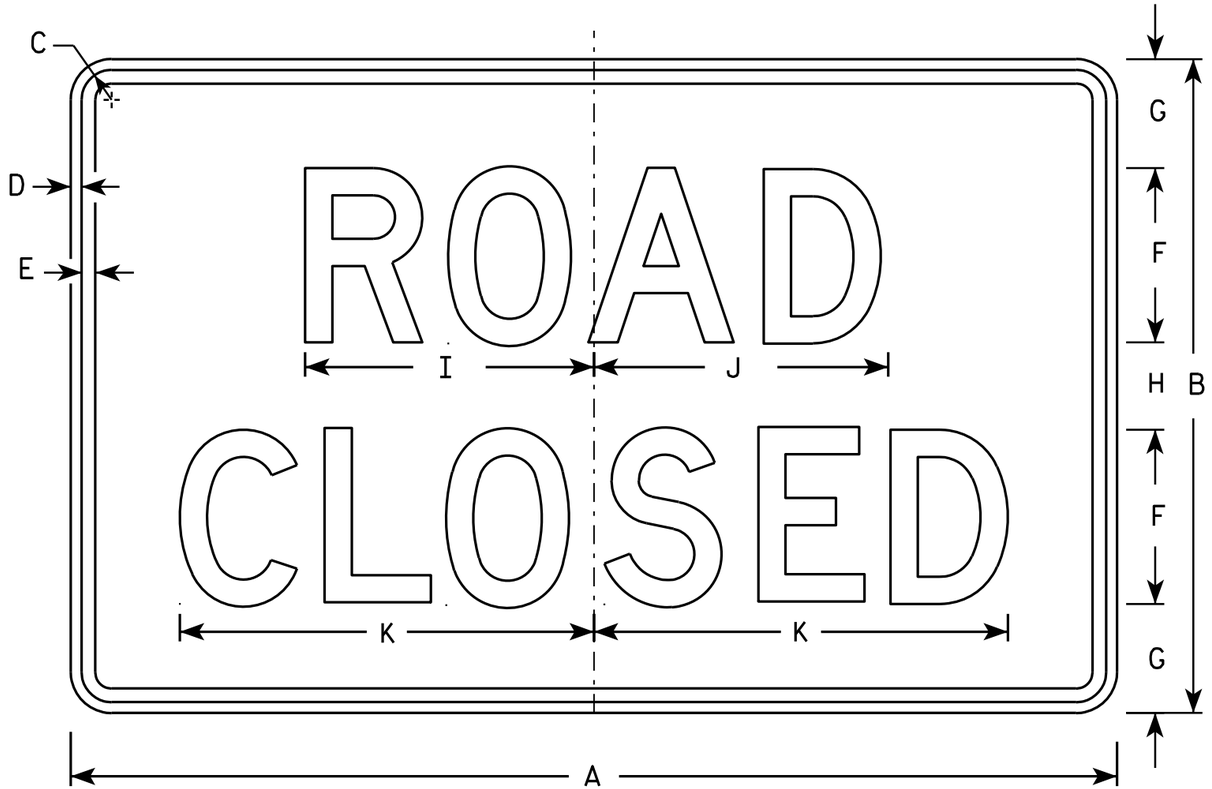
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

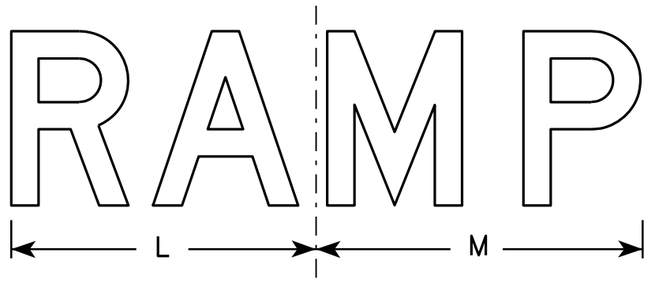
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 87	E



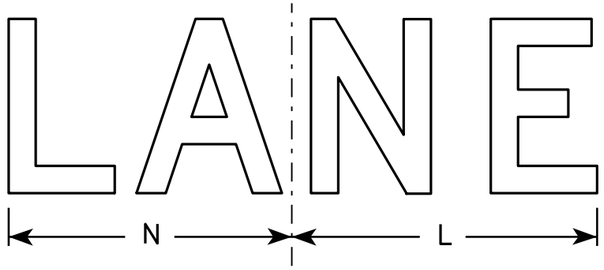
R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

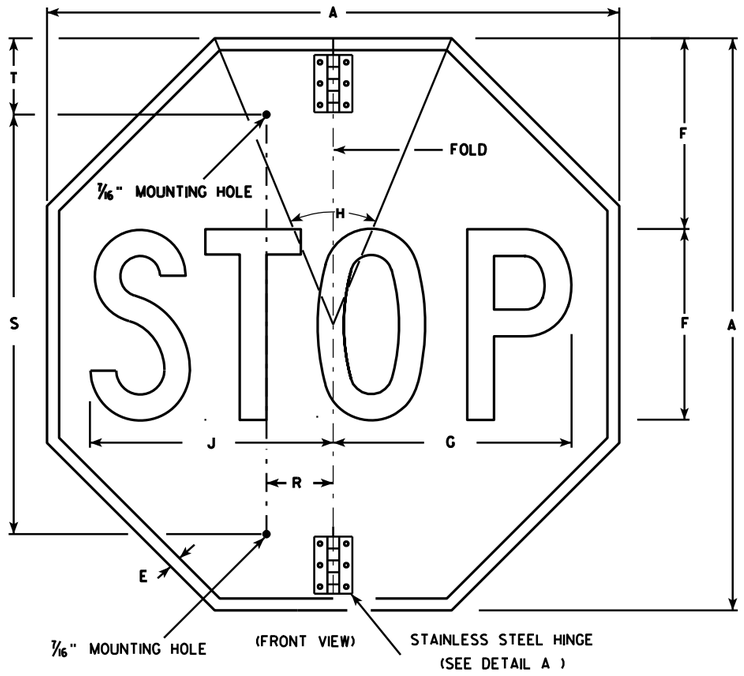
STANDARD SIGN
R11-2

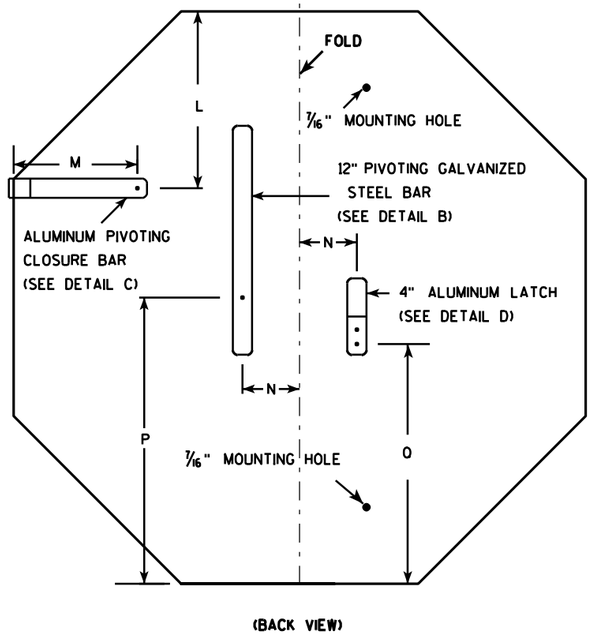
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

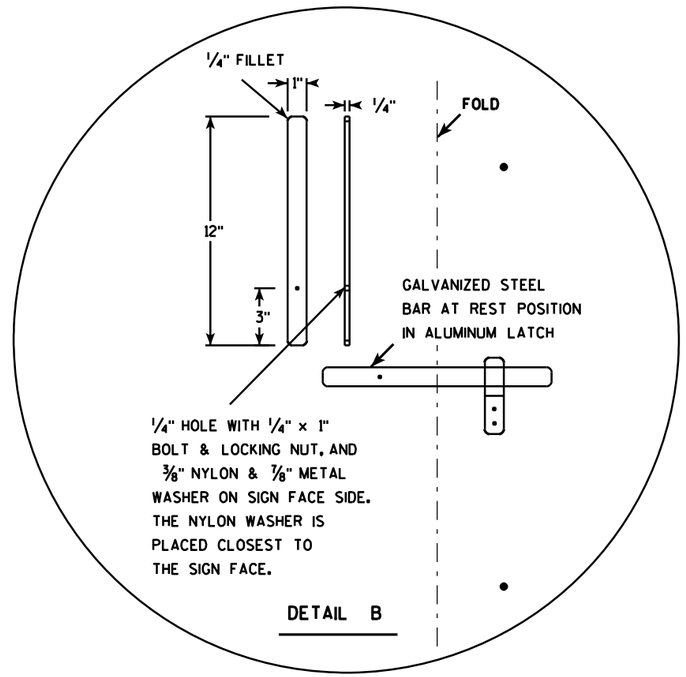
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 88	E



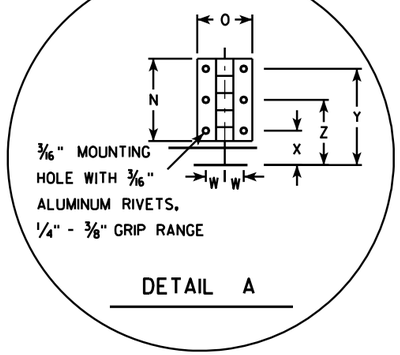


NOTES

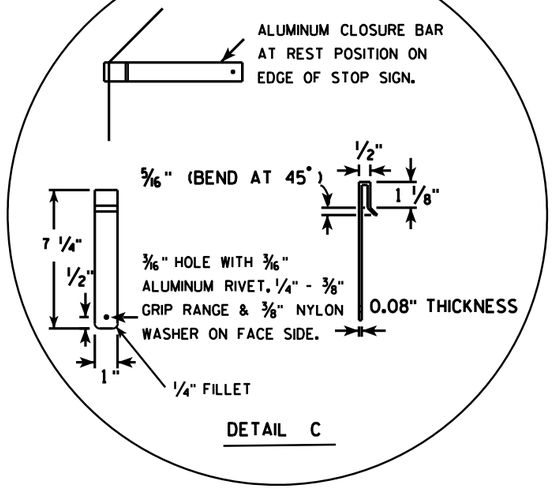
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



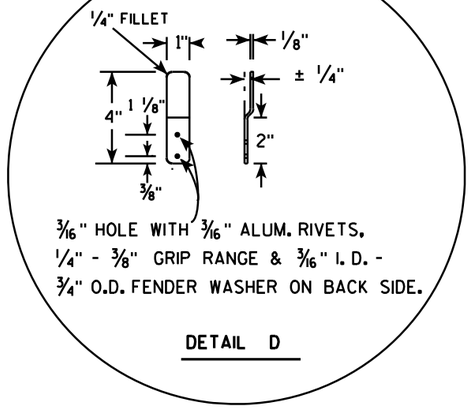
DETAIL B



DETAIL A



DETAIL C



DETAIL D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

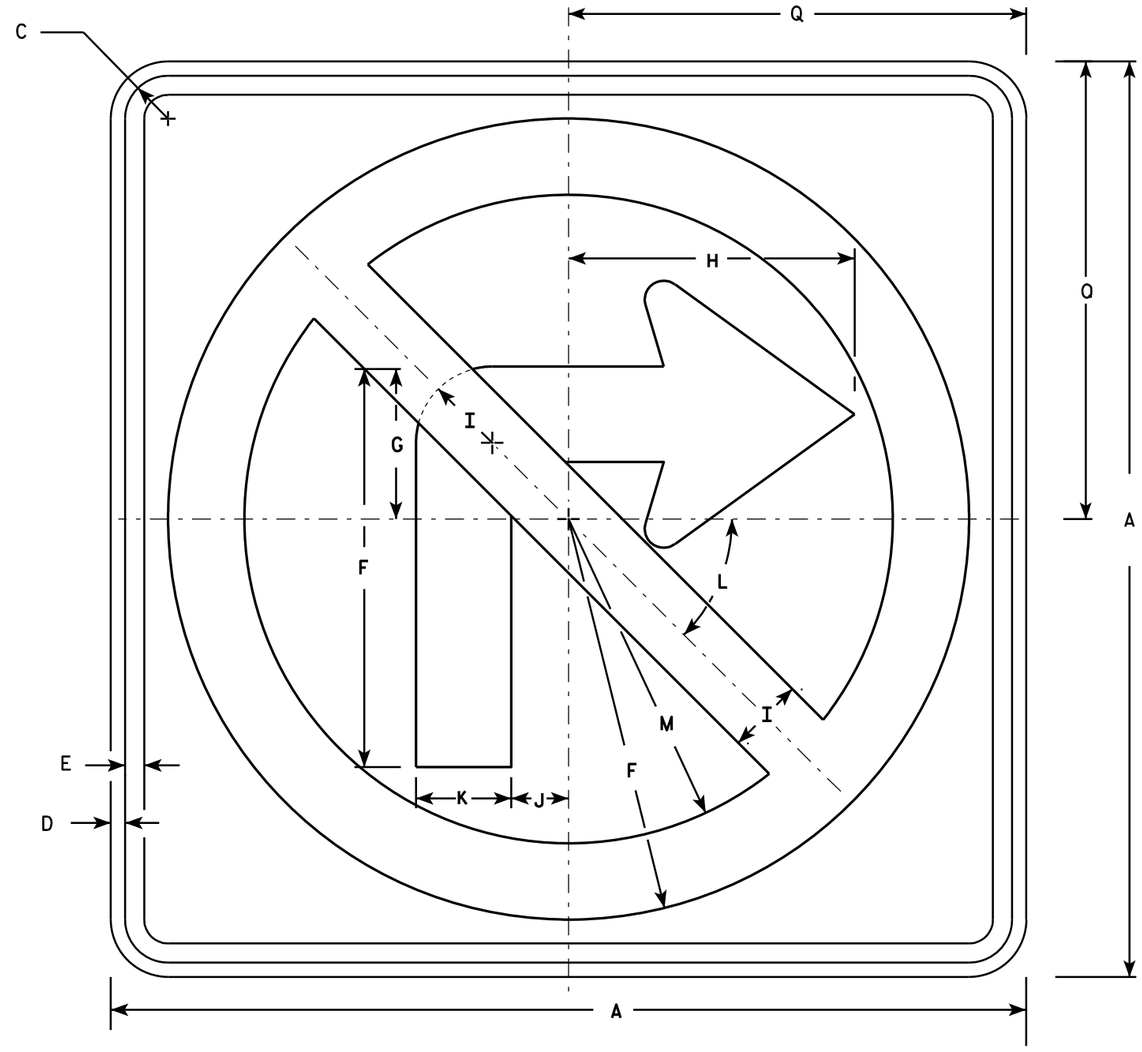
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 89 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R11F.DGN PLOT DATE : 02-DEC-2010 15:26 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 7.945391:1.000000

WISDOT/CADDS SHEET 42

7

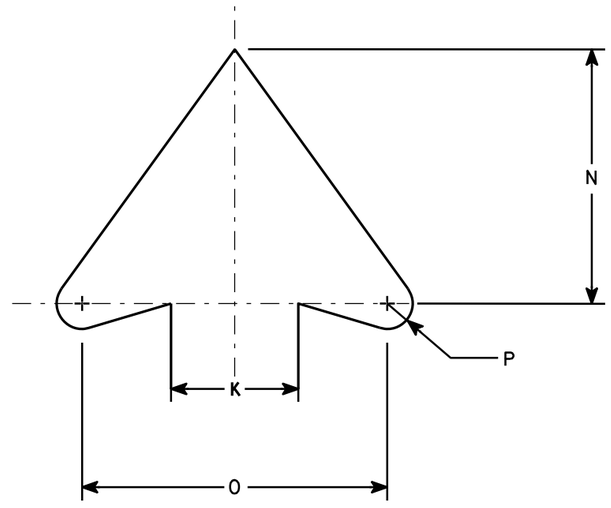
7



R3-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

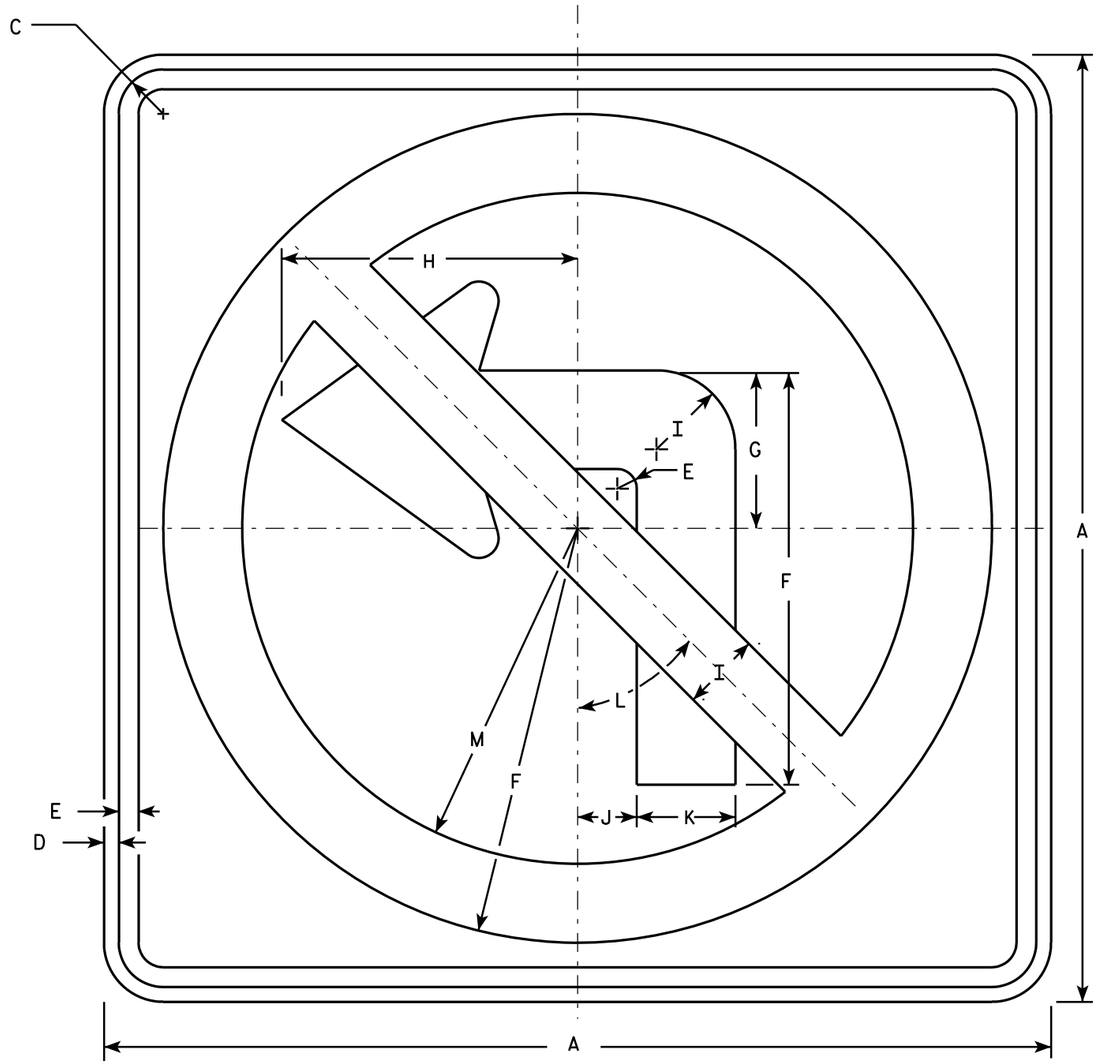
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

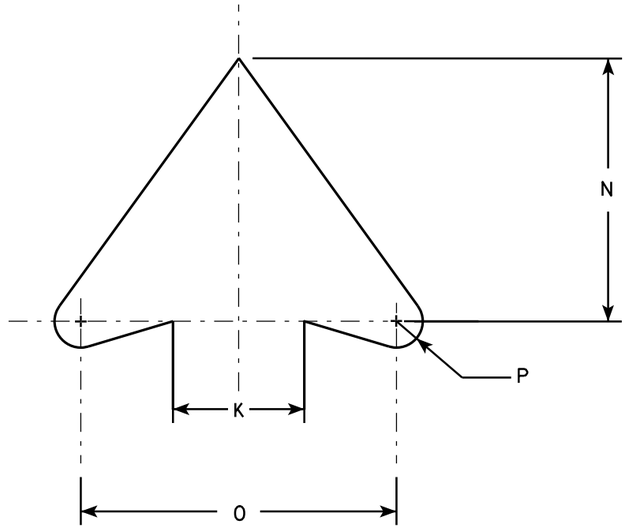
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 90	E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

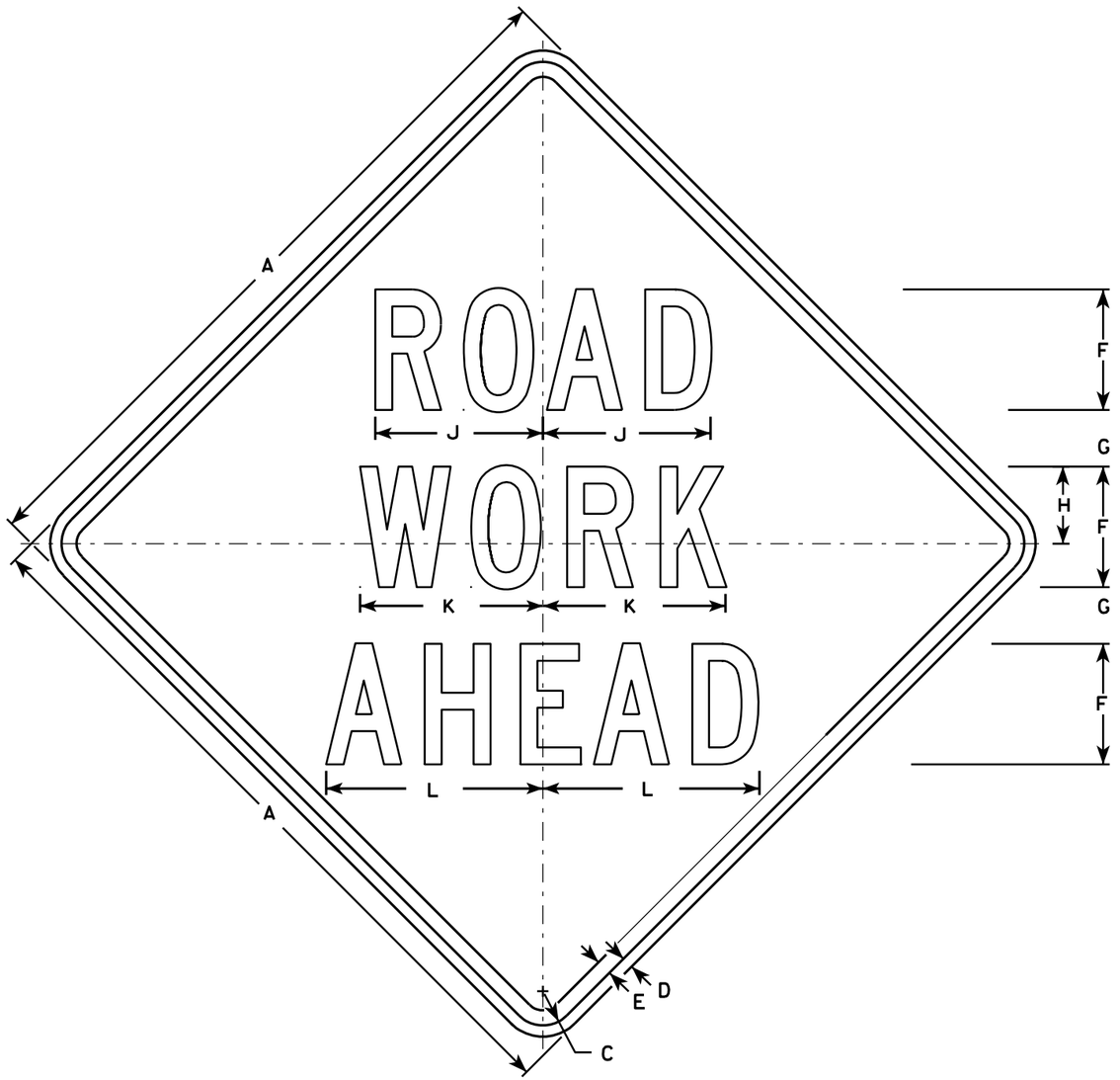
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

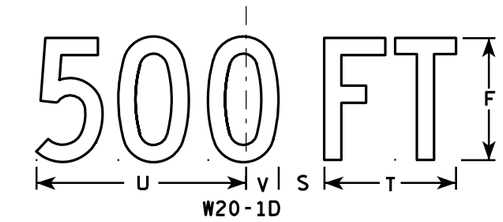
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

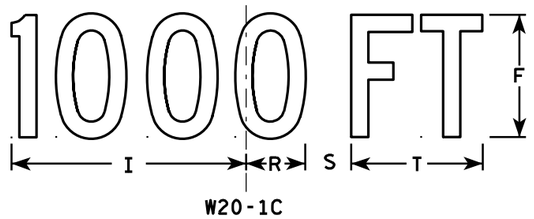
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 91 | E



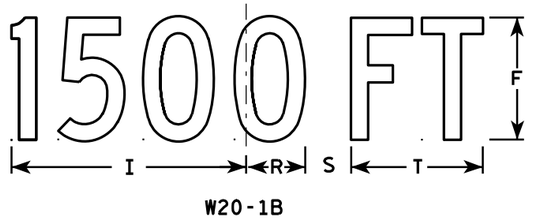
W20-1A



W20-1D

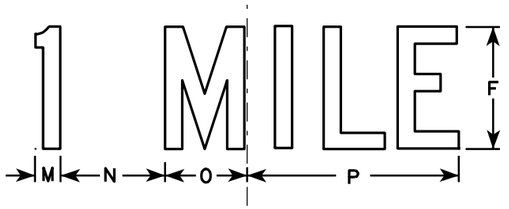


W20-1C



W20-1B

W20-1G



W20-1F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew L Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

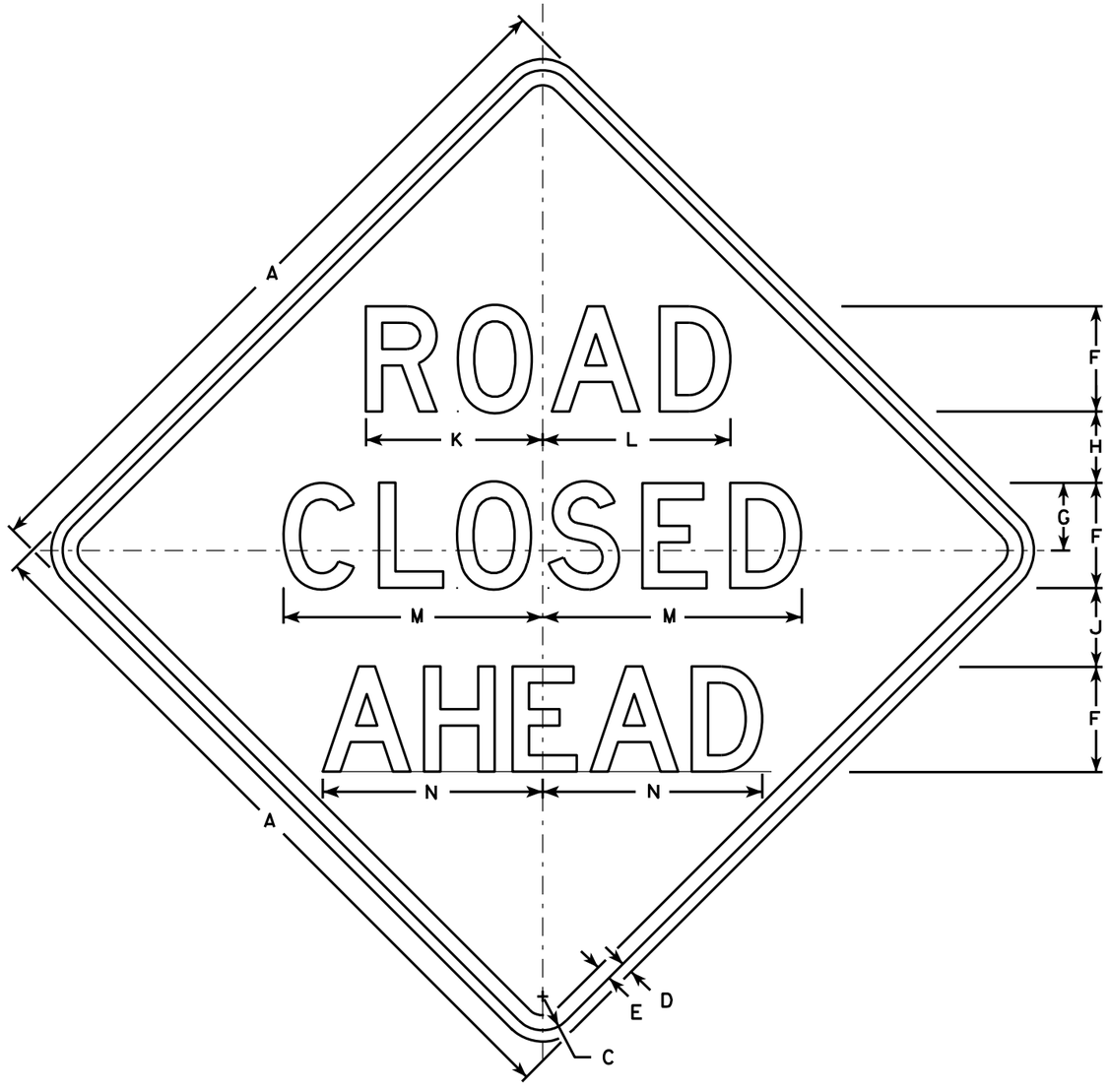
SHEET NO: 92 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

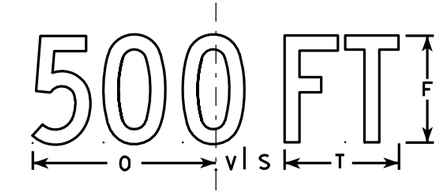
WISDOT/CADDS SHEET 42

7

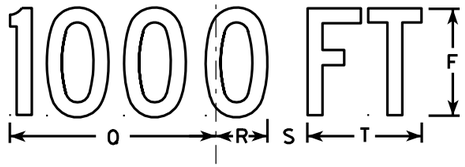
7



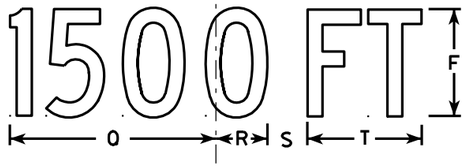
W20-3A



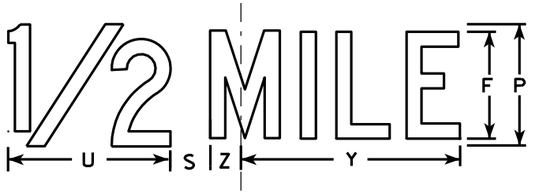
W20-3D



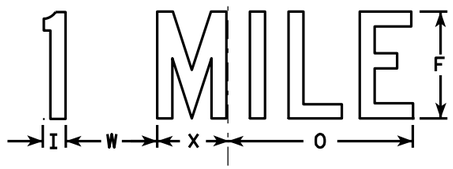
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

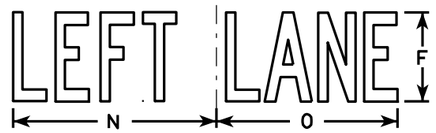
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

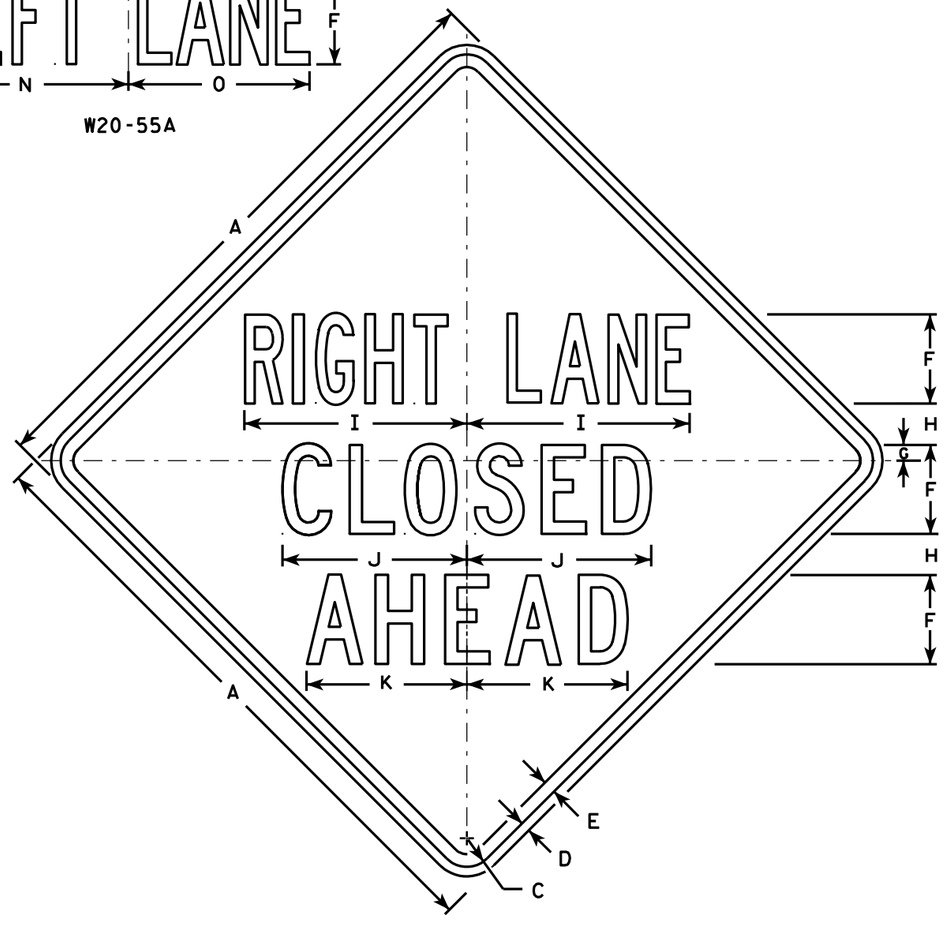
APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 93 | E

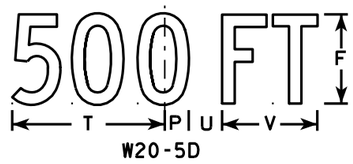
W20-56A



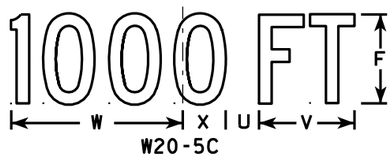
W20-55A



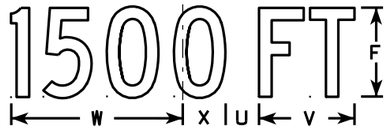
W20-5A



W20-5D



W20-5C



W20-5B

W20-5G

W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

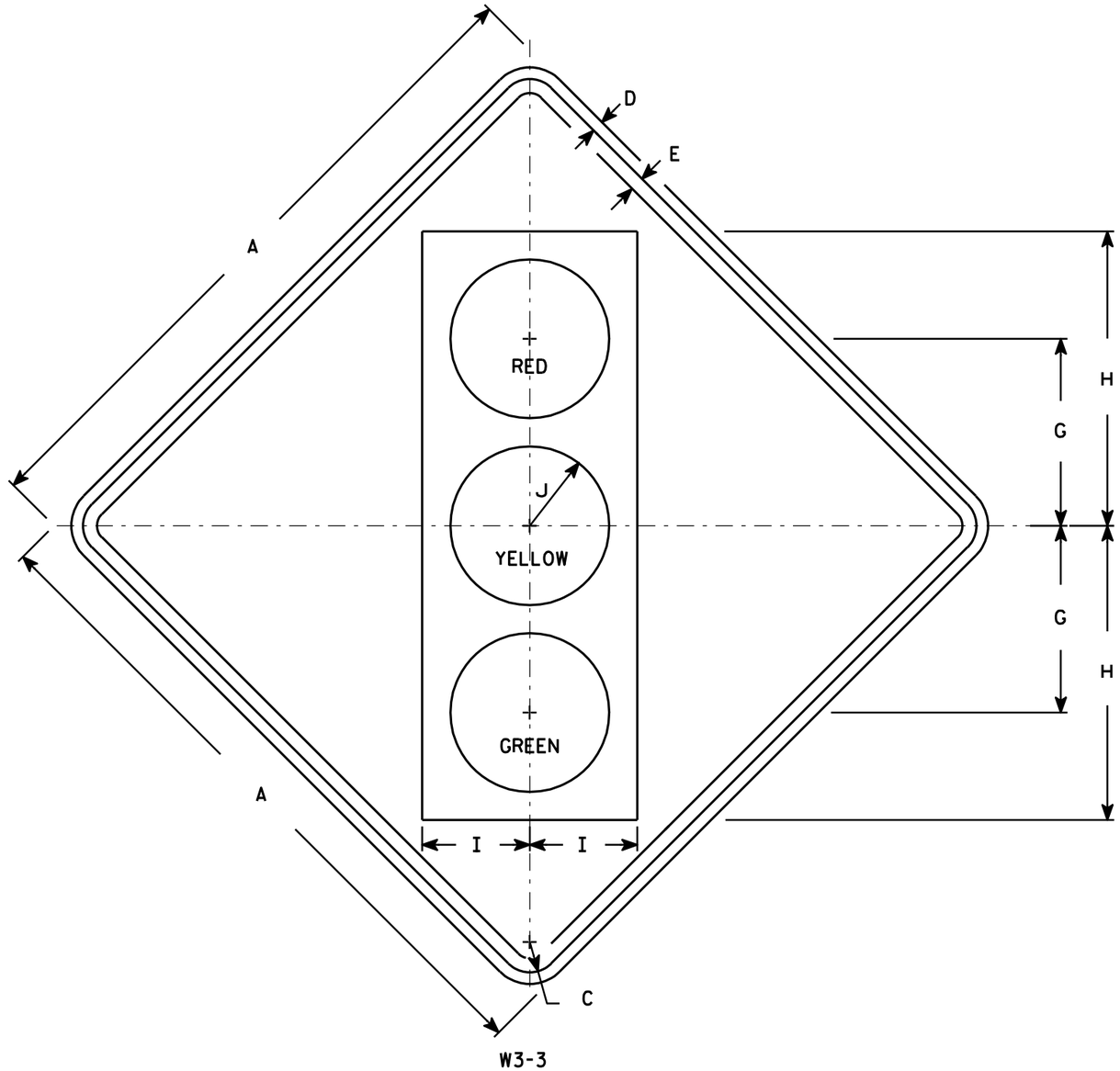
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 94 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W3-3

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

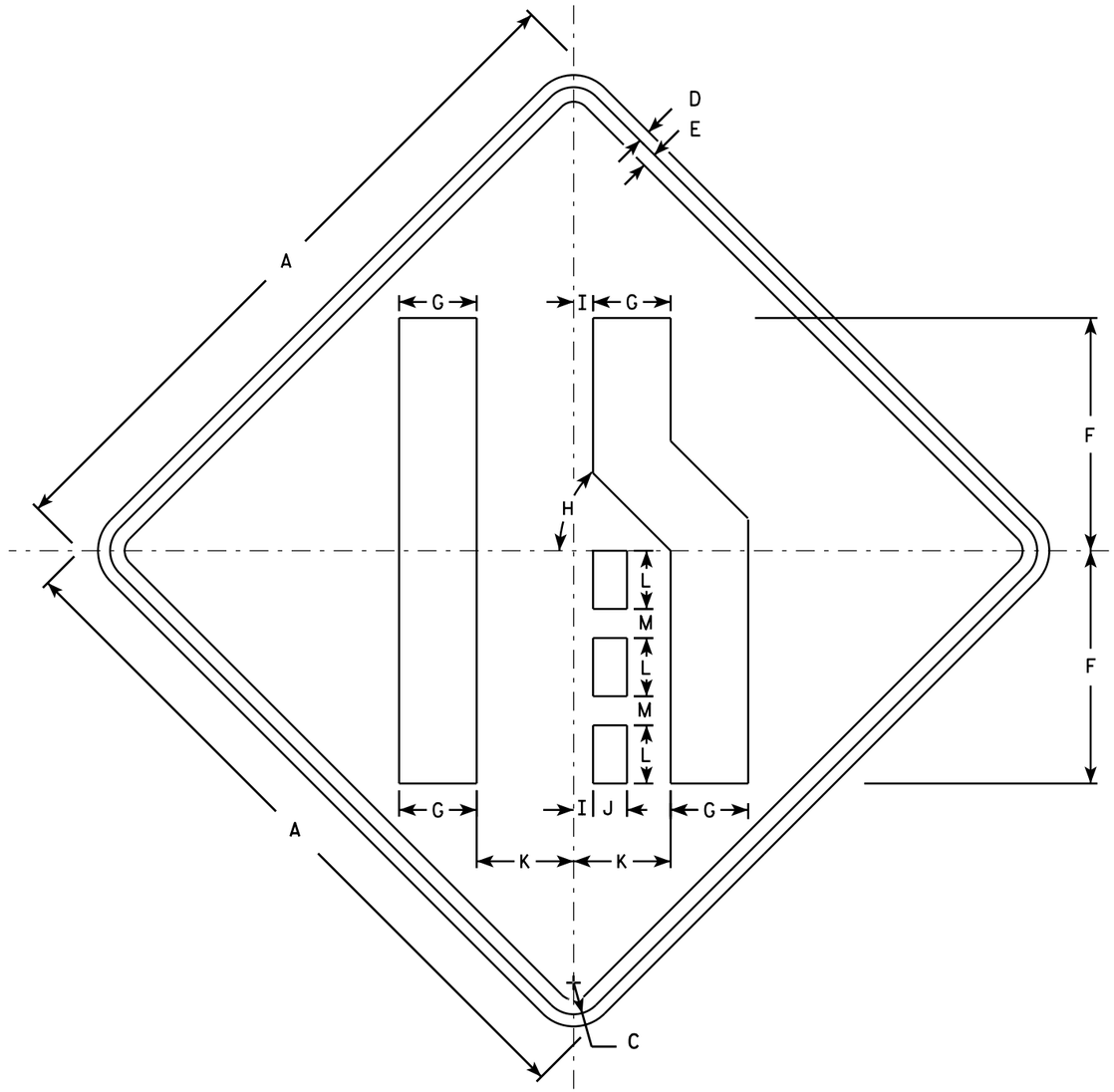
STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 95 | E



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 96 W04-2.1

PROJECT NO: | SHEET NO: E

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

EAU MARCH 2015

PROJECT ID: 7600-02-71
WITH: 7220-01-71, 7600-02-70

COUNTY: DUNN

ORDER OF SHEETS

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

TOTAL SHEETS = 152

36

DESIGN DESIGNATION

A.A.D.T. 2015	=	21,700
A.A.D.T. 2035	=	25,100
D.H.V.	=	2,810
D.D.	=	59/41
T.	=	11.9%
DESIGN SPEED	=	35 MPH
ESALS	=	N/A

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CITY OF MENOMONIE, BROADWAY STREET

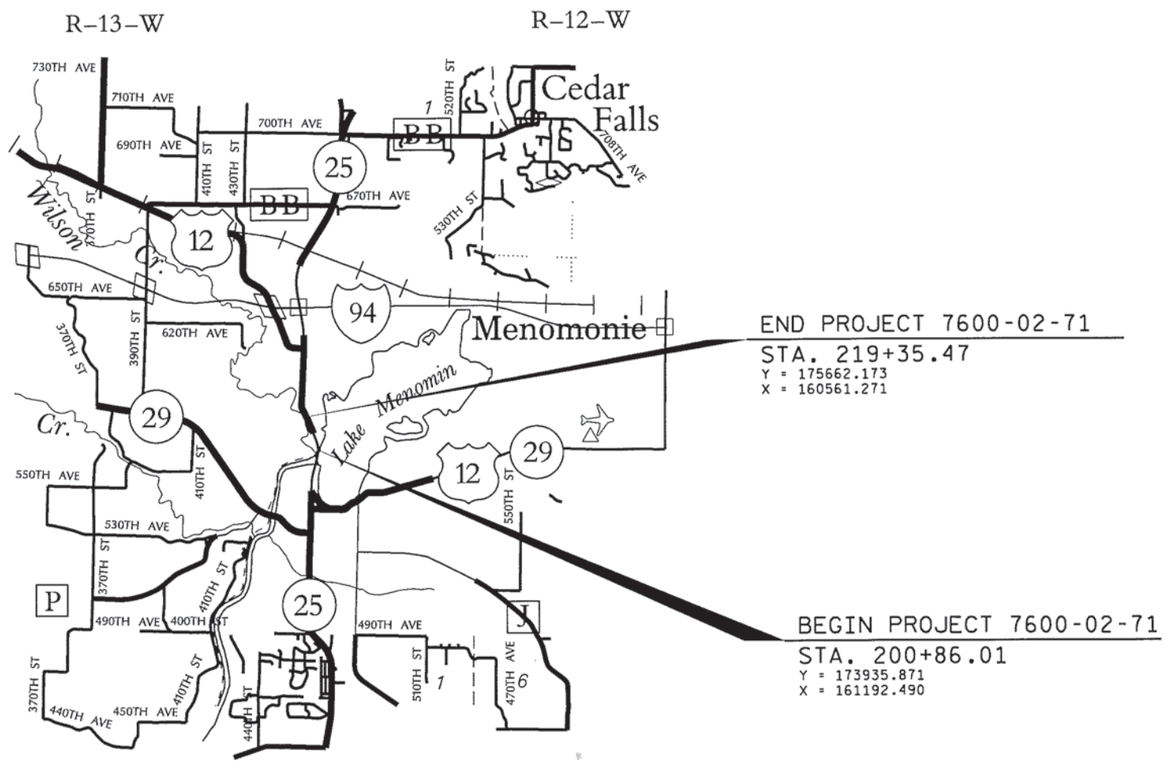
TAINTER STREET TO WOLSKE BAY ROAD

USH 12

DUNN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7600-02-71	WISC 2015151	1

STATE PROJECT NUMBER
7600-02-71



LAYOUT
SCALE 0 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.350 MI.

END PROJECT 7600-02-71
STA. 219+35.47
Y = 175662.173
X = 160561.271

BEGIN PROJECT 7600-02-71
STA. 200+86.01
Y = 173935.871
X = 161192.490

Horizontal coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Dunn County, NAD 83 (1991).

Vertical information shown on this plan is referenced to NGVD 29.

ACCEPTED FOR CITY OF MENOMONIE
22 Oct 14 (SIGNATURE)
DATE:

ORIGINAL PLANS PREPARED BY
KL Engineering
[A] Better Experience

WISCONSIN
MIKE D. SCARMON
E-37613
EVANSVILLE, WI
PROFESSIONAL ENGINEER

10-15-2014 (SIGNATURE)
(DATE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Surveyor	CEDAR CORPORATION
Designer	KL ENGINEERING, INC.
Project Manager	TARA WEISS
Regional Examiner	DANIEL OJIBWAY
Regional Supervisor	TIM MASON
C.O. Examiner	JANE ENGELBRETSEN

APPROVED FOR THE DEPARTMENT
DATE: 10/20/14 (Signature)

E

DIGGERS HOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

24-7 TELCOM INC.
GARY WAYNE
E4528 CTH C
DOWNSVILLE, WI 54735
715-231-200 (OFFICE)
715-308-1915 (MOBILE)

CITY OF MENOMONIE – WATER/SANITARY SEWER/STREET LIGHTS/TRAFFIC SIGNALS
RANDY EIDE, DIRECTOR OF PUBLIC WORKS
800 WILSON AVENUE
MENOMONIE, WI 54751
715-232-2207 (OFFICE)
715-308-0664 (MOBILE)

CHARTER COMMUNICATIONS
TOM HAAS
2304 SOUTH MAIN STREET
RICE LAKE, WI 54868
715-719-0564 (OFFICE)
715-370-1601 (MOBILE)

AT&T WISCONSIN
RICK PODOLAK
AT&T WI DESIGN ENGINEERING
304 S. DEWEY STREET
EAU CLAIRE, WI 54701
715-839-5565 (OFFICE)
715-410-0656 (MOBILE)

XCEL ENERGY – ELECTRICITY
MIKE JOHNSEN
320 HELLER ROAD
MENOMONIE, WI 54751
715-232-7415 (OFFICE)
715-577-7428 (MOBILE)

XCEL ENERGY – GAS/PETROLEUM
MIKE JOHNSEN
320 HELLER ROAD
MENOMONIE, WI 54751
715-232-7415 (OFFICE)
715-577-7428 (MOBILE)

XCEL ENERGY – TRANSMISSION
BRUCE ZEMKE
414 NICOLLET MALL, MP8-B
MINNEAPOLIS, MN 55401
612-330-7815 (OFFICE)
651-214-2620 (MOBILE)

DNR AREA LIAISON

CHRIS WILLGER
DEPARTMENT OF NATURAL RESOURCES
1300 W. CLAIRMONT STREET
EAU CLAIRE, WI 54702
(715) 839-1609
CHRISTOPHERJ.WILLGER@WISCONSIN.GOV

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
STORM SEWER & EROSION CONTROL
SIGNING
PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT
CONTROL POINTS

DESIGN CONTACTS

CONSULTANT DESIGNER
BRAD CUNNINGHAM, P.E.
KL ENGINEERING, INC.
5950 SEMINOLE CENTRE COURT, SUITE 200
MADISON, WI 53711
(608) 663-1218
BCUNNINGHAM@KLENGINEERING.COM

CONSULTANT PROJECT MANAGER
MIKE SCARMON, P.E.
KL ENGINEERING, INC.
5950 SEMINOLE CENTRE COURT, SUITE 200
MADISON, WI 53711
(608) 663-1218
MSCARMON@KLENGINEERING.COM

ABBREVIATIONS

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

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO NGVD 29 ADJUSTED TO NAVD 88.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WCCS DUNN CO WITH NAD 83 ADJUSTMENTS.

CONTACT THE UTILITIES AND DIGGERS HOTLINE TO LOCATE AND FIELD VERIFY UTILITIES PRIOR TO THE START OF WORK. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTACT ANY LOCAL, MUNICIPAL OR OTHER UTILITY THAT IS NOT A MEMBER OF DIGGERS HOTLINE SEPARATELY.

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

RIGHT OF WAY LINES SHOWN ARE APPROXIMATE.

PROTECT INLETS WITH PROPER INLET PROTECTION AT LOCATIONS EXHIBITING RISK OF BEING IMPACTED BY CONSTRUCTION OPERATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTORS EXPENSE.

PLACE SALVAGED TOPSOIL IN ALL GRADED AREAS AS DESIGNATED BY THE ENGINEER IMMEDIATELY AFTER GRADING HAS BEEN COMPLETED. SEED, MULCH AND FERTILIZE OR SOD AND FERTILIZE ALL AREAS 5 DAYS AFTER PLACEMENT OF SALVAGED TOPSOIL.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS, FLOODWAY OR FLOODPLAIN OF ANY WATERWAY.

CURB AND GUTTER GRADES AND LAYOUT DATA ARE GIVEN TO THE FLANGE OF THE CURB.

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.

INLET OFFSETS ARE GIVEN TO THE CENTER OF THE STRUCTURE.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

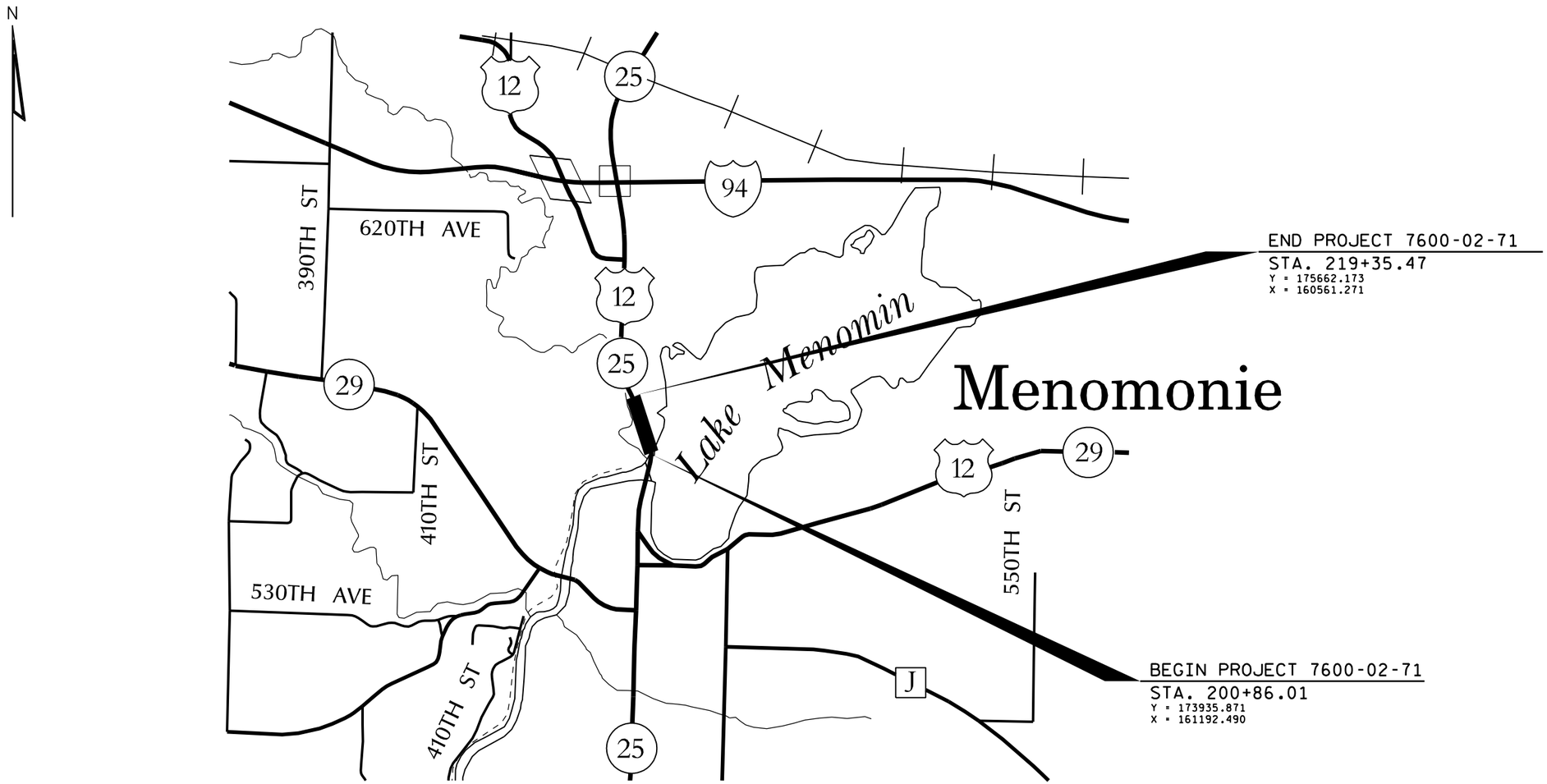
SIGNS IN CONFLICT WITH TRAFFIC CONTROL “IN USE” SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM “TRAFFIC CONTROL COVERING SIGNS TYPE 1 OR TYPE 2.

SIDEWALK AND CURB & GUTTER REPLACEMENT SHOULD BE THE NEAREST JOINT. LIMITS ARE APPROXIMATE AND ARE TO BE VERIFIED IN THE FIELD BY THE ENGINEER. MATCH EXISTING SIDEWALK WIDTH.

REFER TO TRAFFIC CONTROL PLANS FOR LOCATIONS WITH BARRIER PINNED TO THE TEMPORARY PAVEMENT. PINNING OF BARRIER SHALL BE CONSIDERED INCIDENTAL TO THE CONCRETE BARRIER TEMPORARY BID ITEM.

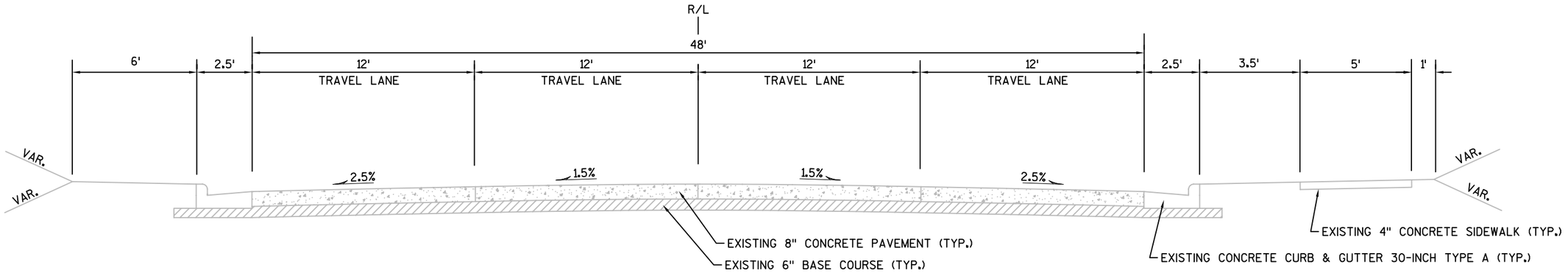
IDENTIFY EXISTING TRAFFIC SIGNAL DETECTOR LOOP LOCATIONS IN AREAS WITH CONCRETE PAVEMENT REPAIRS/REPLACEMENT. REPLACE ALL LOOPS DAMAGED BY CONSTRUCTION ACTIVITIES IN-KIND WITH EXISTING CONDITIONS.

2



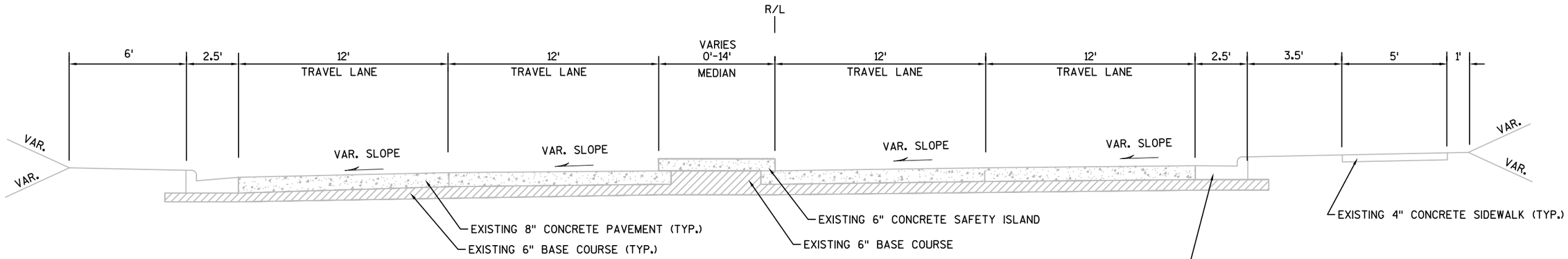
NET LENGTH OF ROADWAY = 0.350 MI.

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PROJECT OVERVIEW	SHEET 4	E



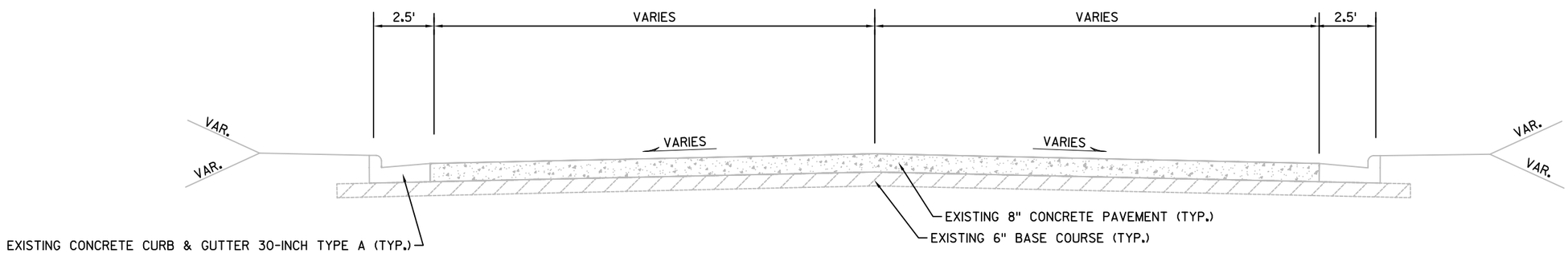
EXISTING TYPICAL SECTION

STA. 210+33 - STA. 219+35



EXISTING TYPICAL SECTION

STA. 200+86 - STA. 210+33

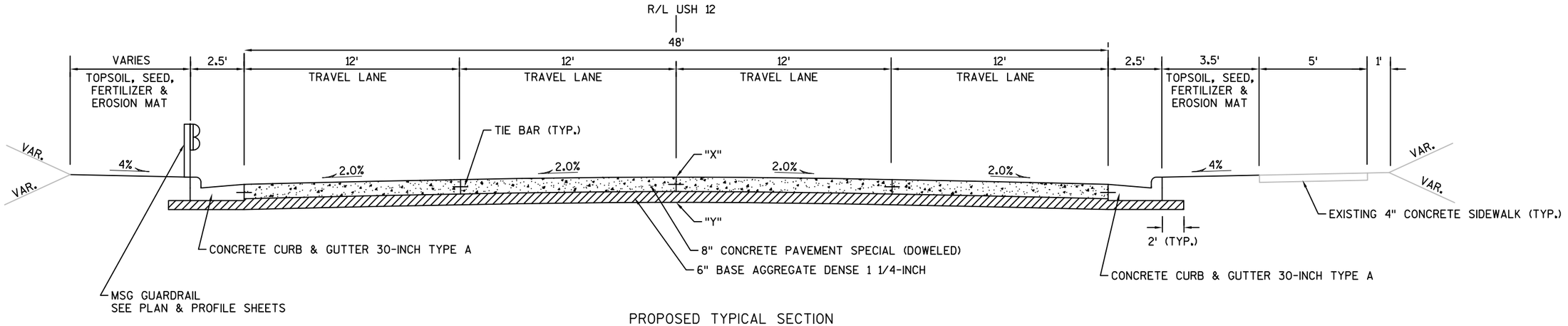


EXISTING TYPICAL SECTION SIDE STREETS

TAINTER ST.
WOLSKE BAY RD.
MEADOW RD.

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	TYPICAL SECTIONS - EXISTING	SHEET 5	E

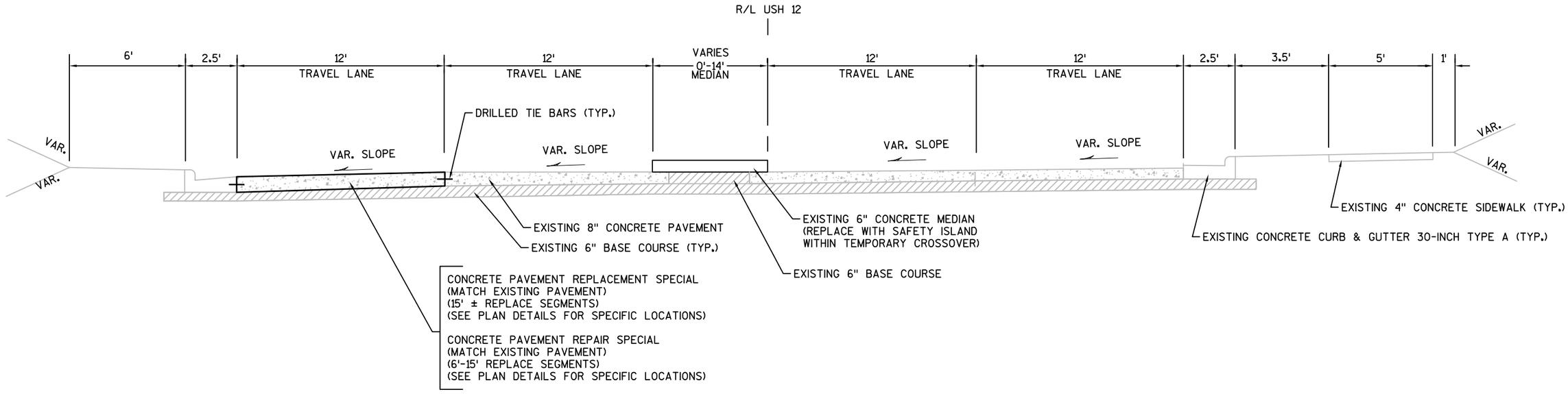
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TYPICAL SECTIONS\NORTH BROADWAY TYPICAL SECTIONS.DWG PLOT DATE : 8/2/2013 PLOT BY : KL ENGINEERING PLOT NAME : ---------- 1"=5'



PROPOSED TYPICAL SECTION

STA. 208+85 LT / 210+33 RT - STA. 219+35

"X" = POINT REFERRED TO ON PROFILE
"Y" = POINT REFERRED TO ON CROSS SECTIONS



PROPOSED TYPICAL SECTION

STA. 200+86 - STA. 208+85 LT / 210+33 RT

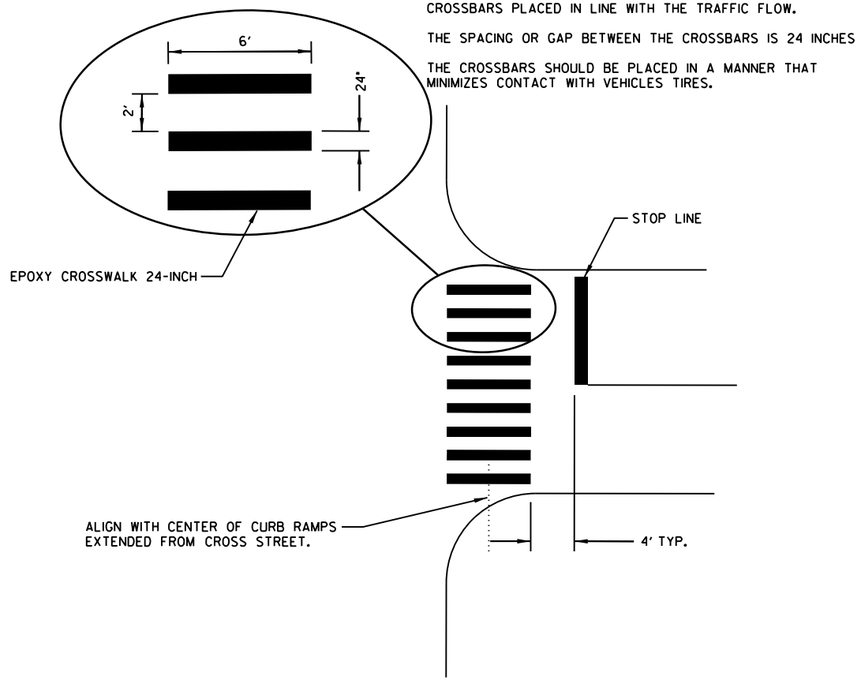
PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	TYPICAL SECTIONS - FINISHED	SHEET 6	E

CROSSWALKS

CROSSWALKS HAVE 24 INCH WIDE 6 FOOT LONG CROSSBARS PLACED IN LINE WITH THE TRAFFIC FLOW.

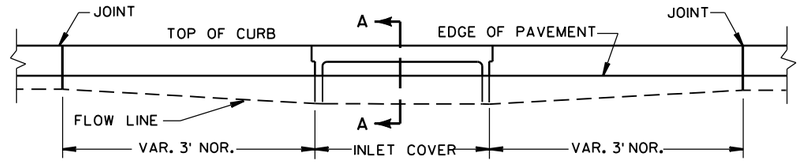
THE SPACING OR GAP BETWEEN THE CROSSBARS IS 24 INCHES

THE CROSSBARS SHOULD BE PLACED IN A MANNER THAT MINIMIZES CONTACT WITH VEHICLES TIRES.

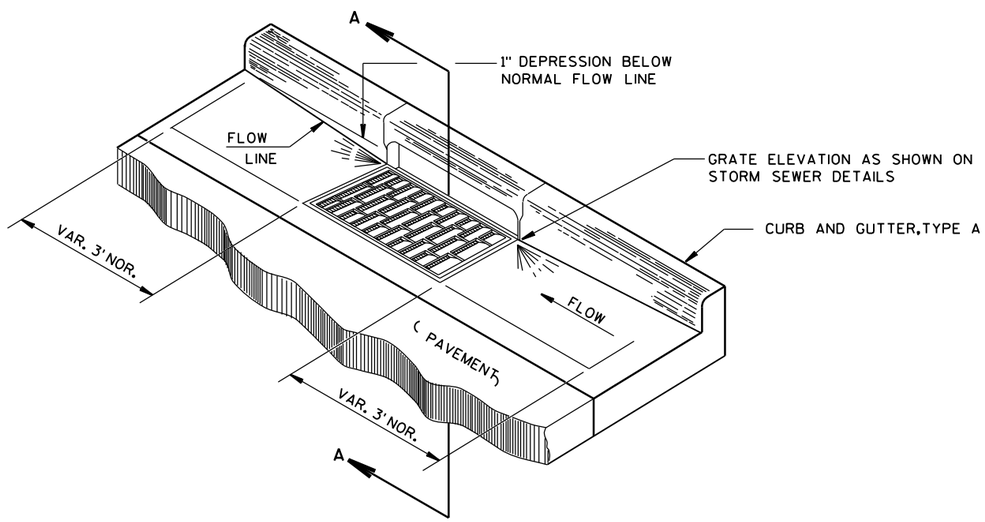


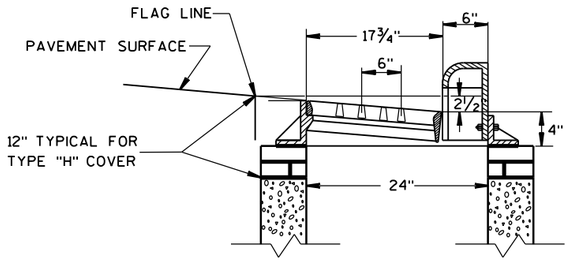
CROSS WALK & STOP LINES DETAIL

SEE PAVEMENT MARKING PLANS FOR LOCATIONS



ELEVATION

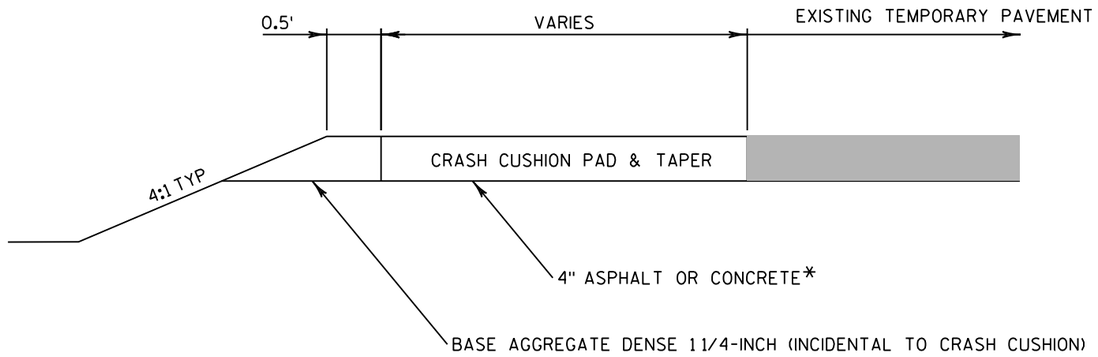




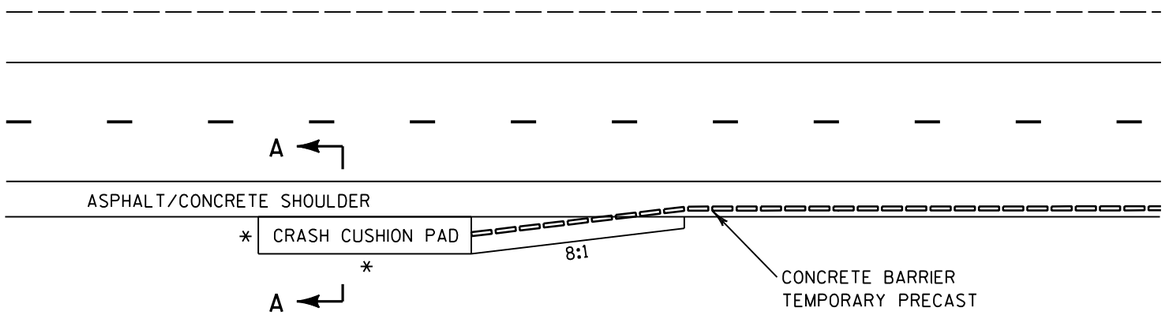
SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS

(2' X 3' INLET SHOWN)



SECTION A-A



* CRASH CUSHION PAD DIMENSIONS
AS SPECIFIED BY MANUFACTURER.
(INCIDENTAL TO TEMPORARY CRASH CUSHION)

TEMPORARY CRASH CUSHION PAD DETAIL

2

N

NOTES:

1) THIS DETAIL SUPPLEMENTS STANDARD DETAIL DRAWINGS CURB RAMPS TYPES 1 AND 1A, CURB RAMPS 2 AND 3, AND CURB RAMPS TYPES 5, 6, 7A, 7B AND 8.

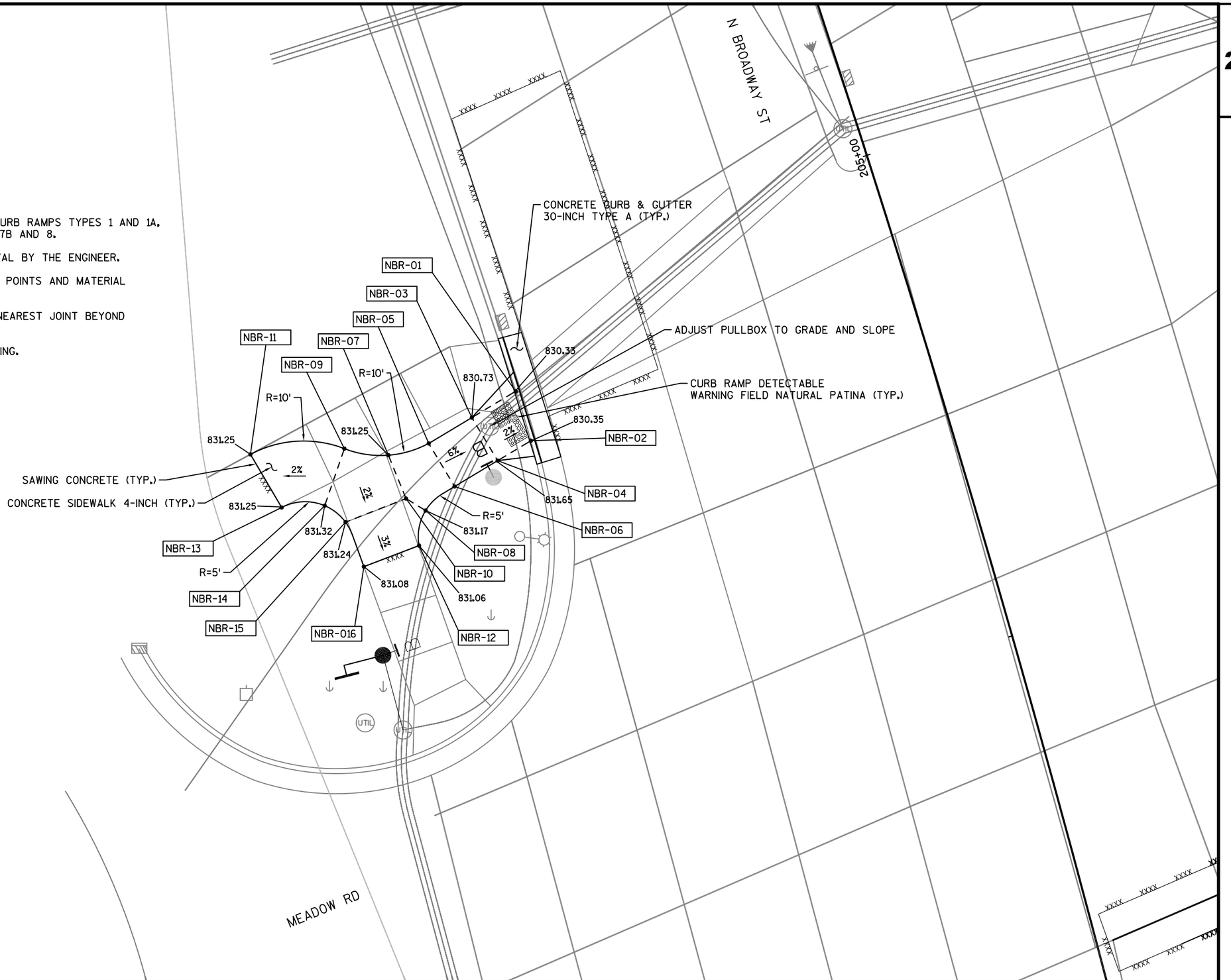
2)MODIFY SLOPES TO MATCH SITE CONDITIONS WITH APPROVAL BY THE ENGINEER.

3) REFER TO PLAN DETAIL SHEETS FOR ADDITIONAL LAYOUT POINTS AND MATERIAL INFORMATION.

4) REMOVE/REPLACE CURB AND GUTTER AND SIDEWALK TO NEAREST JOINT BEYOND STAKING DATA LOCATIONS.

5) GRADES SHOWN ARE APPROXIMATE. SLOPES ARE GOVERNING.

DATA TABLE		
POINT NO.	STATION	OFFSET
NBR-01	STA. 204+87.92	40.5' LT
NBR-02	STA. 204+82.64	40.5' LT
NBR-03	STA. 204+86.72	45.4' LT
NBR-04	STA. 204+81.72	44.2' LT
NBR-05	STA. 204+85.49	50.2' LT
NBR-06	STA. 204+80.49	49.0' LT
NBR-07	STA. 204+85.56	54.4' LT
NBR-08	STA. 204+78.99	52.5' LT
NBR-09	STA. 204+87.56	58.4' LT
NBR-10	STA. 204+80.76	54.0' LT
NBR-11	STA. 204+89.88	67.5' LT
NBR-12	STA. 204+75.73	54.1' LT
NBR-13	STA. 204+83.67	66.0' LT
NBR-14	STA. 204+82.52	61.9' LT
NBR-15	STA. 204+80.26	60.4' LT
NBR-16	STA. 204+75.30	60.0' LT



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CONSTRUCTION DETAILS - CURB RAMP - NW QUAD MEADOW RD.	SHEET 9	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN DETAILS\NORTH BROADWAY\7600071 CURB RAMP 3 DET14.DWG PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1" = 10'_XREF

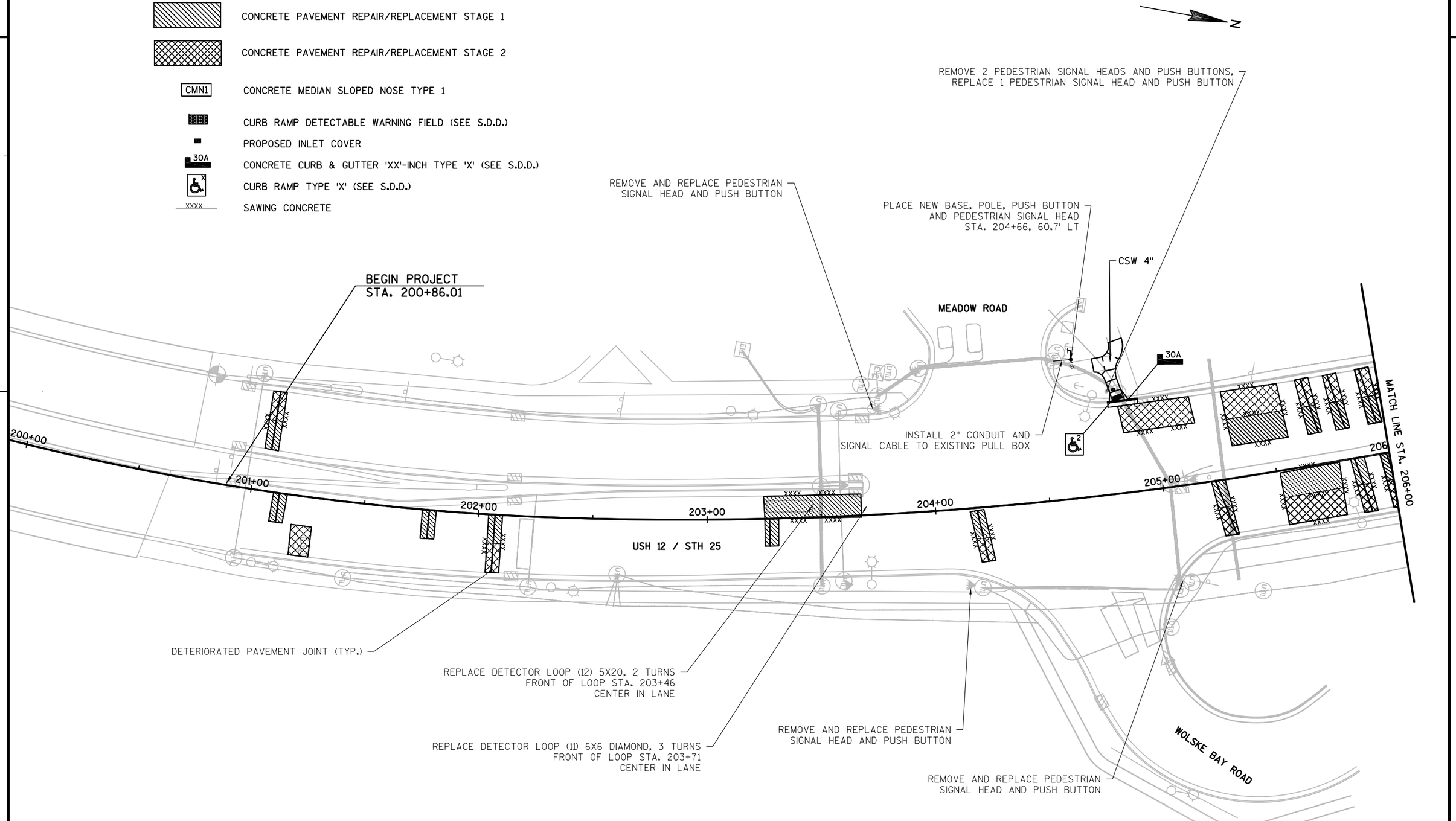
WISDOT/CADDS SHEET 42

2

LEGEND

- CONCRETE PAVEMENT REPAIR/REPLACEMENT STAGE 1
- CONCRETE PAVEMENT REPAIR/REPLACEMENT STAGE 2
- CMN1 — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET COVER
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- X — CURB RAMP TYPE 'X' (SEE S.D.D.)
- XXXX — SAWING CONCRETE

NOTE: REPLACE ALL EXISTING PEDESTRIAN SIGNALS & PUSH BUTTONS IN THE SAME ORIENTATION EXCEPT FOR THE NEW BASE AT STA 204+66



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN DETAILS	SHEET 10	E

2

LEGEND

- CONCRETE PAVEMENT REPAIR/REPLACEMENT STAGE 1
- CONCRETE PAVEMENT REPAIR/REPLACEMENT STAGE 2
- CMN1 — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET COVER
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- CURB RAMP TYPE 'X' (SEE S.D.D.)
- XXXX — SAWING CONCRETE
- CONCRETE PAVEMENT 8-INCH

N

REPLACE DETECTOR LOOP (21) 6X24, 3 TURNS
FRONT OF LOOP STA. 206+45
CENTER IN LANE

CONCRETE PAVEMENT REPAIR/REPLACEMENT ← 88+ → CONCRETE PAVEMENT REPLACEMENT

DRIVEWAY CUT CURB HEAD AT EAT (SEE S.D.D.) STA 211+42 TO 212+17 LT

30A

MATCH LINE STA. 206+00

MATCH LINE STA. 212+00

+00 207+00 208+00 209+00 210+00 211+00 212

CMN1

USH 12 / STH 25

VARIES

+78

+33

833.63 833.82 834.18 834.75 834.99 835.49 836.35 837.12 837.99 838.86 839.74 840.61 841.48
833.82 834.04 834.41 835.73 836.58 837.35 838.23 839.10 839.97 840.84 841.71
835.97 837.60 838.47 839.34 840.21 841.08 841.96
834.01 834.25 834.66 835.23 836.83 838.59 839.44 840.30 841.15 842.00
837.74 838.39 839.22 840.06 840.91 841.76
837.56 837.23 838.09 838.95 839.80 840.66 841.52

12'

DETERIORATED PAVEMENT JOINT (TYP.)

REPLACE CONCRETE SAFETY ISLAND WITHIN CROSSOVER AREA
PROVIDE SLOPED NOSE & SIGN BOX-OUT. SEE S.D.D. FOR SLOPED
NOSE DETAILS - INCIDENTAL TO CONCRETE SAFETY ISLAND MATERIAL.

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN DETAILS	SHEET 11	E

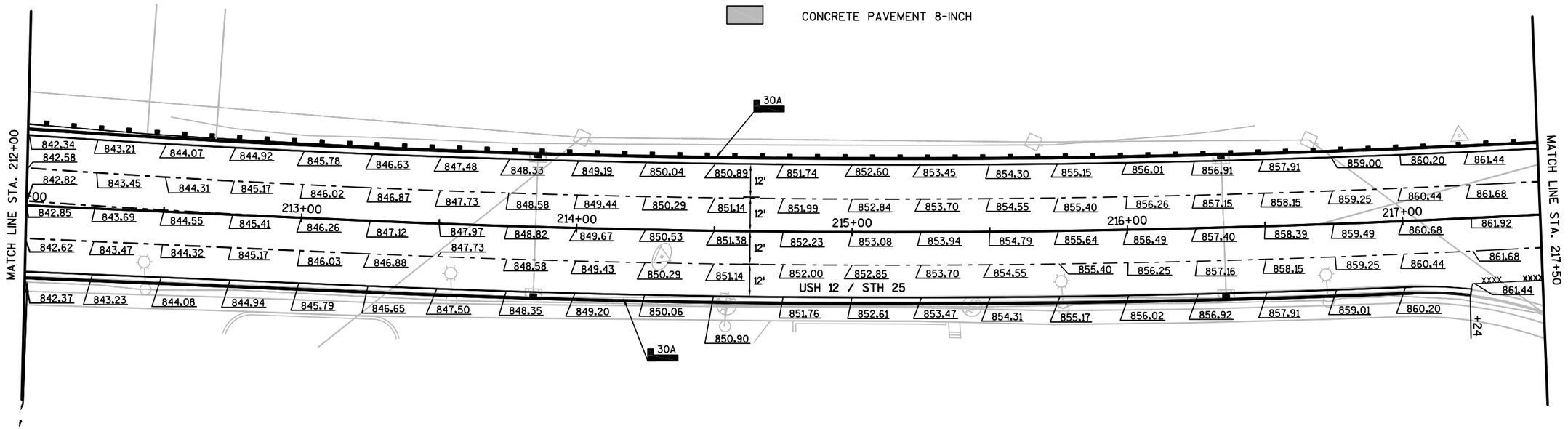
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN DETAILS\NORTH BROADWAY\021200TPD.DWG PLOT DATE : 12/12/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 0.30000000 = 1'-0" _XREF

2

LEGEND

- CONCRETE PAVEMENT REPAIR/REPLACEMENT STAGE 1
- CONCRETE PAVEMENT REPAIR/REPLACEMENT STAGE 2
- CMN1 — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET COVER
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- X — CURB RAMP TYPE 'X' (SEE S.D.D.)
- XXXX — SAWING CONCRETE
- CONCRETE PAVEMENT 8-INCH

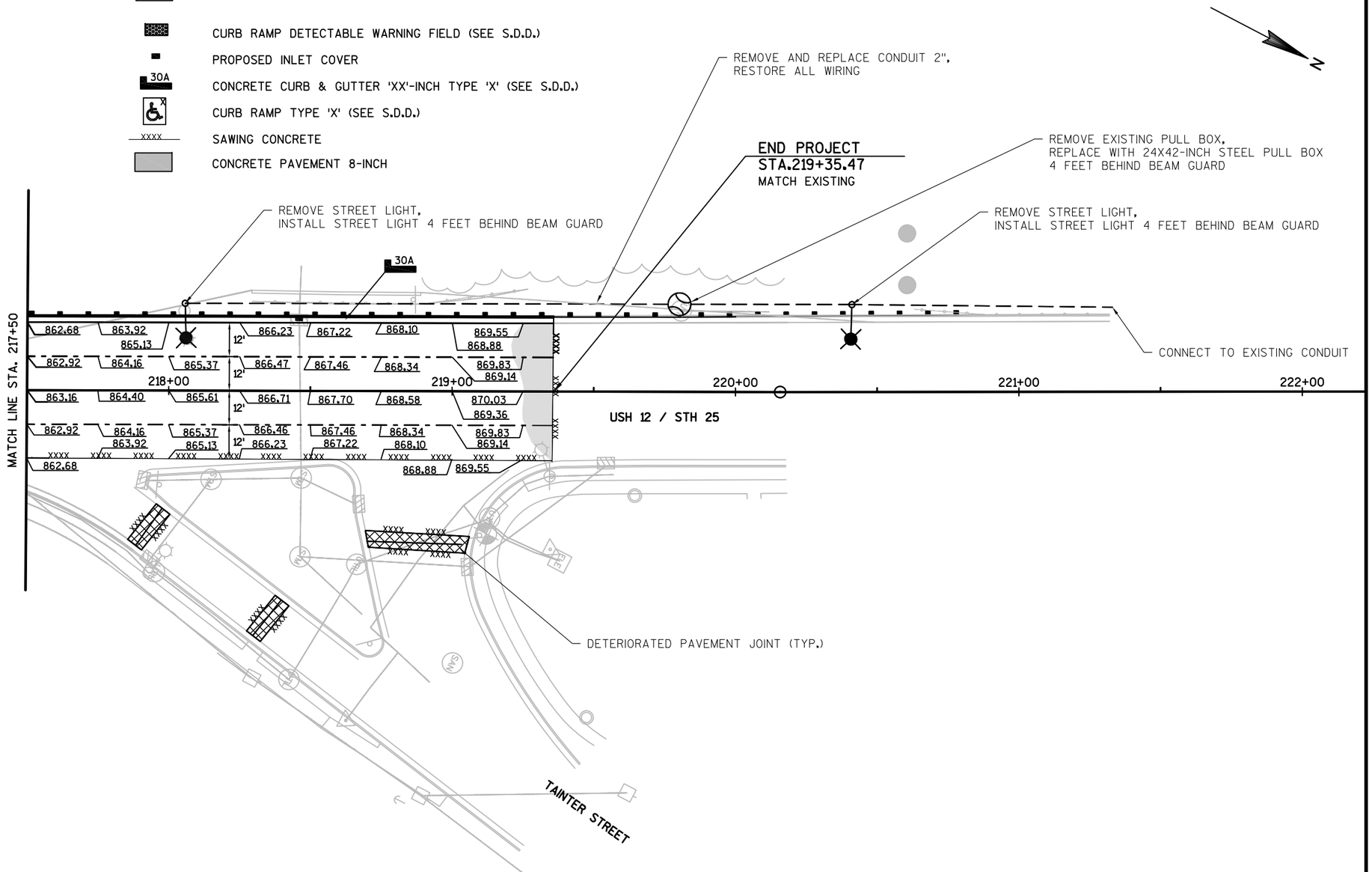
N



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN DETAILS	SHEET 12	E

LEGEND

- CONCRETE PAVEMENT REPAIR/REPLACEMENT STAGE 1
- CONCRETE PAVEMENT REPAIR/REPLACEMENT STAGE 2
- CMN1 — CONCRETE MEDIAN SLOPED NOSE TYPE 1
- CURB RAMP DETECTABLE WARNING FIELD (SEE S.D.D.)
- PROPOSED INLET COVER
- 30A — CONCRETE CURB & GUTTER 'XX'-INCH TYPE 'X' (SEE S.D.D.)
- CURB RAMP TYPE 'X' (SEE S.D.D.)
- XXXX — SAWING CONCRETE
- CONCRETE PAVEMENT 8-INCH



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN DETAILS	SHEET 13	E

LEGEND

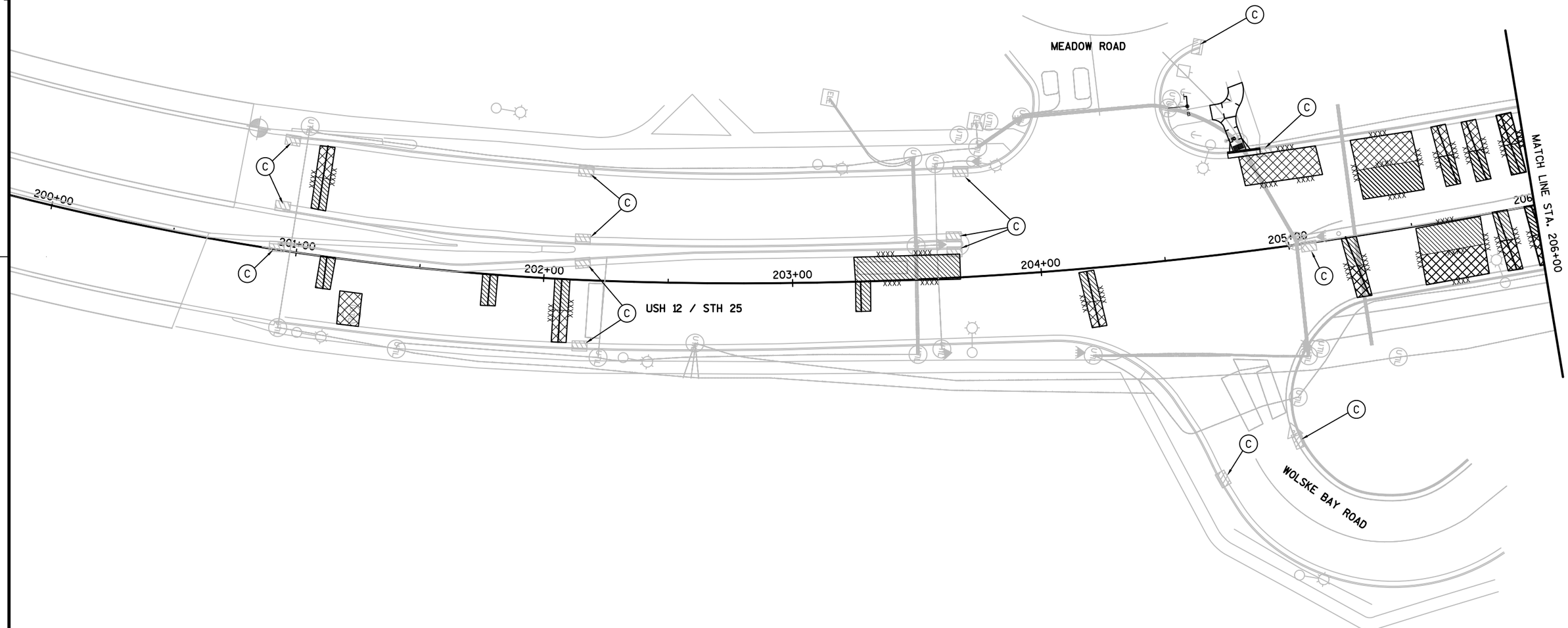
(A) INLET PROTECTION TYPE A (SEE S.D.D.)

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

NOTE:

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

N



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	STORM SEWER & EROSION CONTROL PLAN	SHEET 14	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\STORM SEWER\NORTH BROADWAY\0225_01_SS.DWG PLOT DATE : 10/31/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 0.30000000 = 1'-0" _XREF

LEGEND

(A) INLET PROTECTION TYPE A (SEE S.D.D.)

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

[X] REMOVE EXISTING INLET CASTING

[Y] TEMPORARY INLET CASTING - FLUSH WITH ASPHALTIC SURFACE TEMPORARY

NOTE:

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

N

[X] STA. 209+37, 37' LT
[Y] INLET COVER TYPE H — 1.0

[X] STA. 211+37, 38.5' LT
[Y] INLET COVER TYPE H — 2.0

[X] STA. 211+33, 25' RT
INLET COVER TYPE H — 3.0

MATCH LINE STA. 206+00

206+00

207+00

208+00

209+00

210+00

211+00

212

MATCH LINE STA. 212+00

USH 12 / STH 25

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	STORM SEWER & EROSION CONTROL PLAN	SHEET 15	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\STORM SEWER\NORTH BROADWAY\0225_01_SS.DWG PLOT DATE : 12/12/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 0.30000000 = 1'-0" XREF

WISDOT/CADDS SHEET 42

2

2

LEGEND

(A) INLET PROTECTION TYPE A (SEE S.D.D.)

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

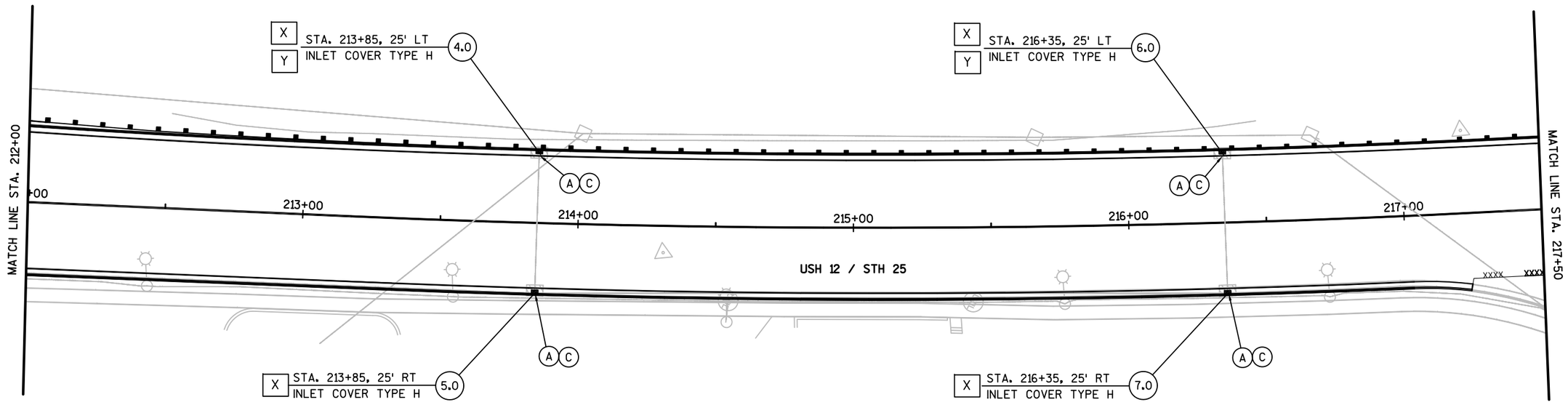
[X] REMOVE EXISTING INLET CASTING

[Y] TEMPORARY INLET CASTING - FLUSH WITH ASPHALTIC SURFACE TEMPORARY

NOTE:

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

N



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	STORM SEWER & EROSION CONTROL PLAN	SHEET 16	E

LEGEND

(A) INLET PROTECTION TYPE A (SEE S.D.D.)

(C) INLET PROTECTION TYPE C (SEE S.D.D.)

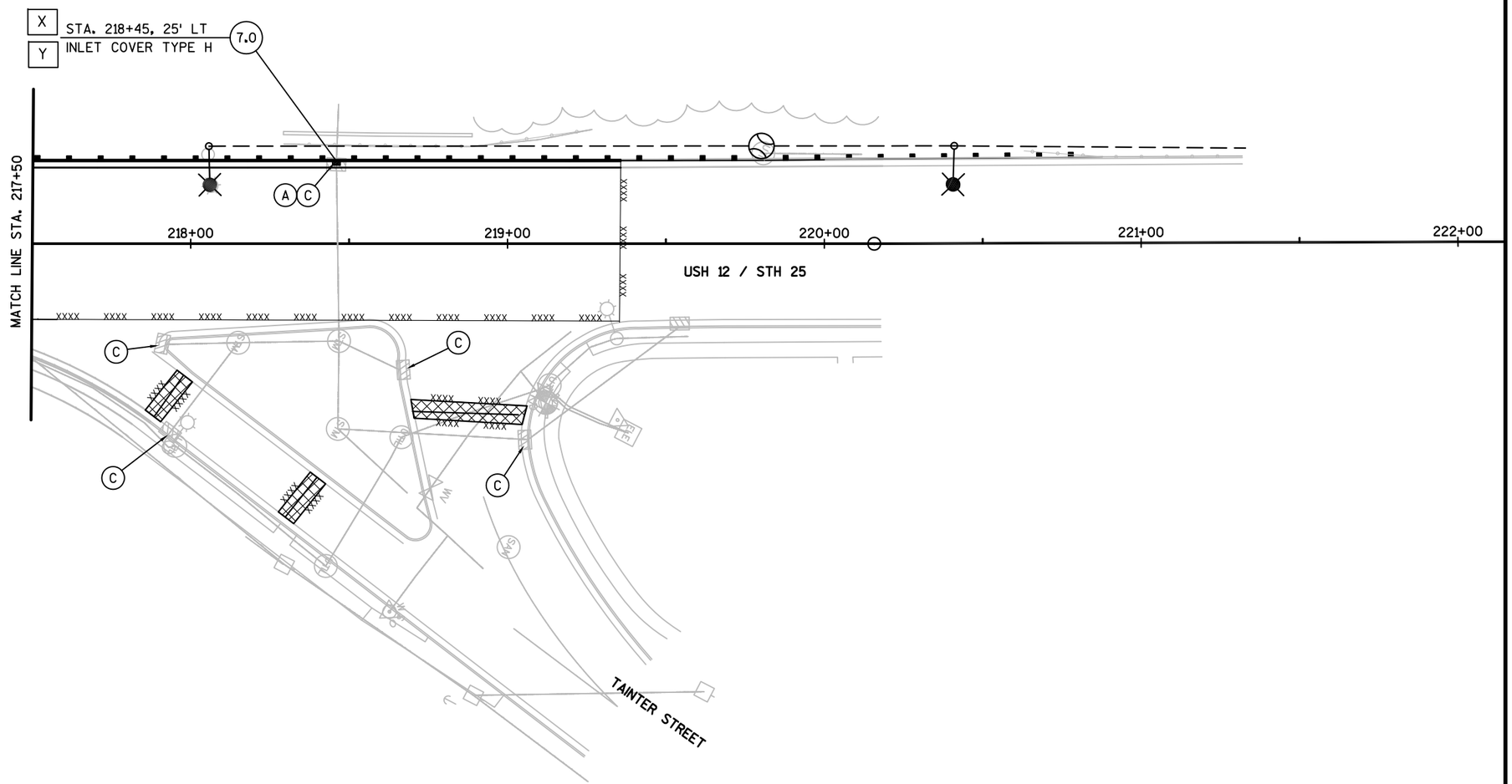
[X] REMOVE EXISTING INLET CASTING

[Y] TEMPORARY INLET CASTING - FLUSH WITH ASPHALTIC SURFACE TEMPORARY

NOTE:

USE STATION AND OFFSET AS REFERENCE ONLY. FIELD ADJUST LOCATION RELATIVE TO THE CURB LINE AND EXISTING CONDITIONS.

N



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	STORM SEWER & EROSION CONTROL PLAN	SHEET 17	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\STORM SEWER\NORTH BROADWAY\0225010SSDWG PLOT DATE : 12/12/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 0.30000000 = 1'-0" _XREF

WISDOT/CADDS SHEET 42

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

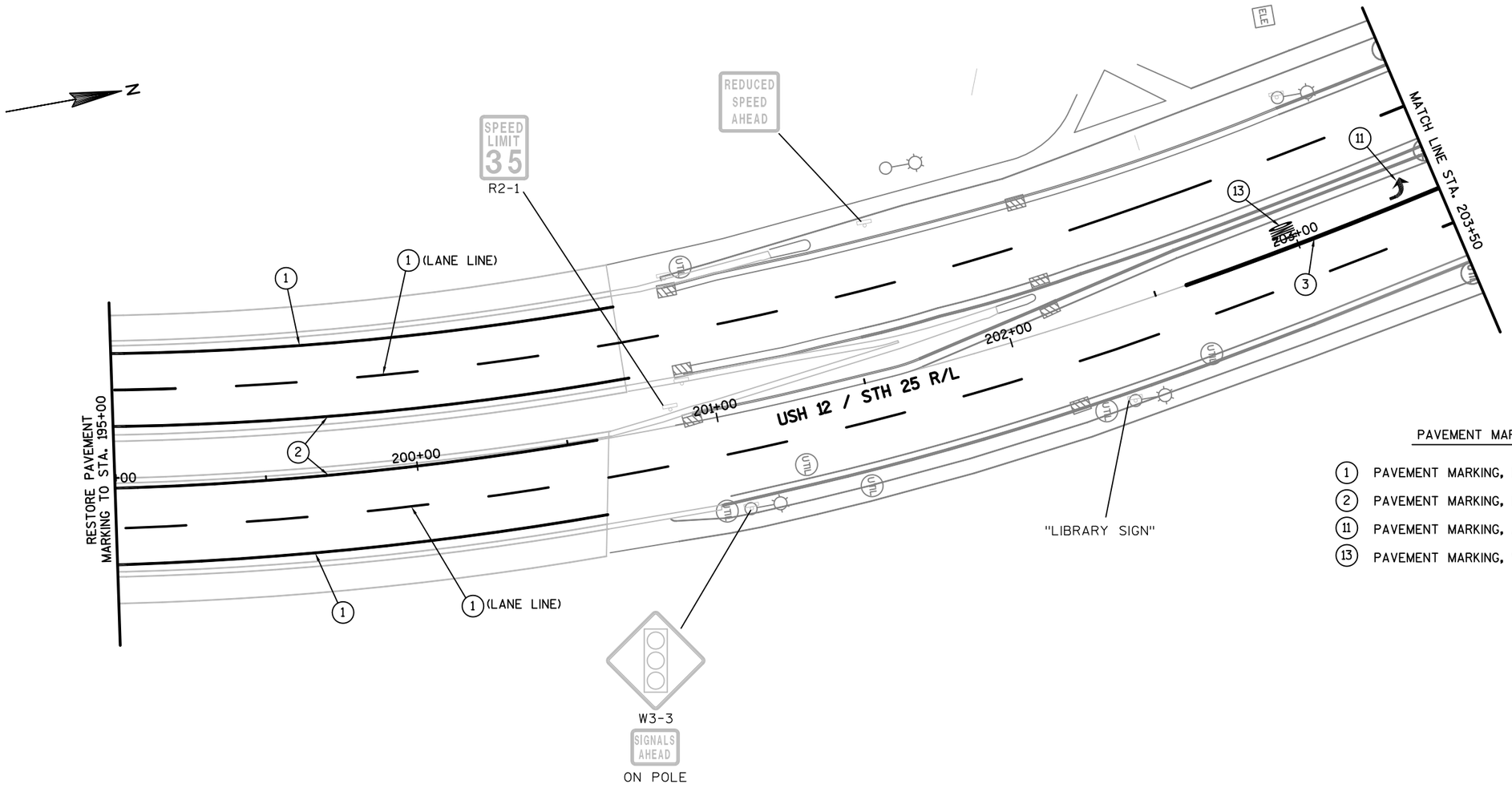
EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

1-01 DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE



PAVEMENT MARKING LEGEND

1 PAVEMENT MARKING, EPOXY, 4-INCH, WHITE

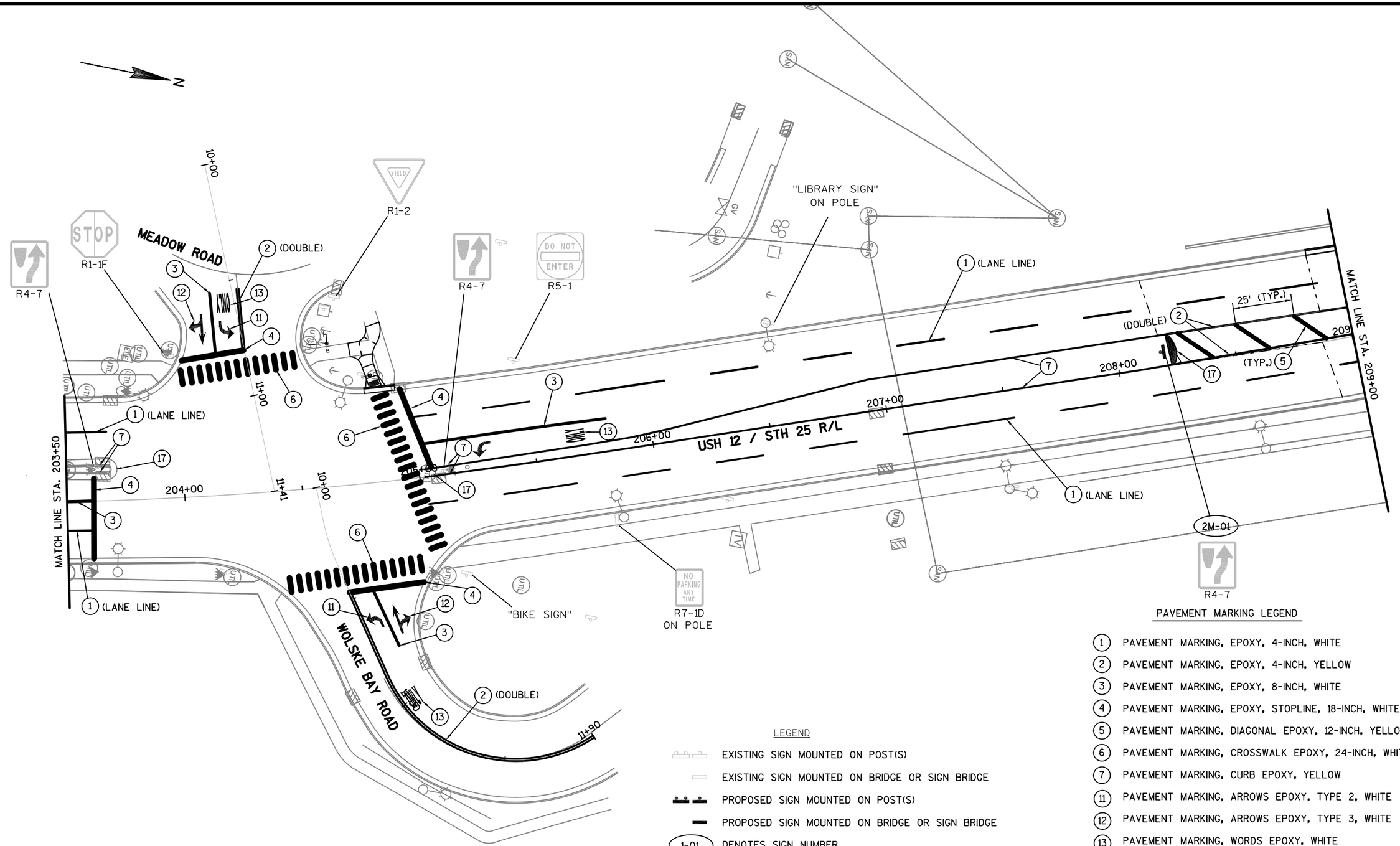
2 PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW

11 PAVEMENT MARKING, ARROWS EPOXY, TYPE 2, WHITE

13 PAVEMENT MARKING, WORDS EPOXY, WHITE

NOTE: GRAYSHADE REPRESENTS EXISTING.

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PAVEMENT MARKING AND PERMANENT SIGNING	SHEET 18	E



LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- 1-01 DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING, EPOXY, 4-INCH, WHITE
2. PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW
3. PAVEMENT MARKING, EPOXY, 8-INCH, WHITE
4. PAVEMENT MARKING, EPOXY, STOPLINE, 18-INCH, WHITE
5. PAVEMENT MARKING, DIAGONAL EPOXY, 12-INCH, YELLOW
6. PAVEMENT MARKING, CROSSWALK EPOXY, 24-INCH, WHITE
7. PAVEMENT MARKING, CURB EPOXY, YELLOW
11. PAVEMENT MARKING, ARROWS EPOXY, TYPE 2, WHITE
12. PAVEMENT MARKING, ARROWS EPOXY, TYPE 3, WHITE
13. PAVEMENT MARKING, WORDS EPOXY, WHITE
17. PAVEMENT MARKING, ISLAND NOSE EPOXY, YELLOW

NOTE: GRAYSHADE REPRESENTS EXISTING.

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PAVEMENT MARKING AND PERMANENT SIGNING	SHEET 19	E

PAVEMENT MARKING LEGEND

(1) PAVEMENT MARKING, EPOXY, 4-INCH, WHITE

(2) PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW

(5) PAVEMENT MARKING, DIAGONAL EPOXY, 12-INCH, YELLOW

NOTE: GRAYSHADE REPRESENTS EXISTING.

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

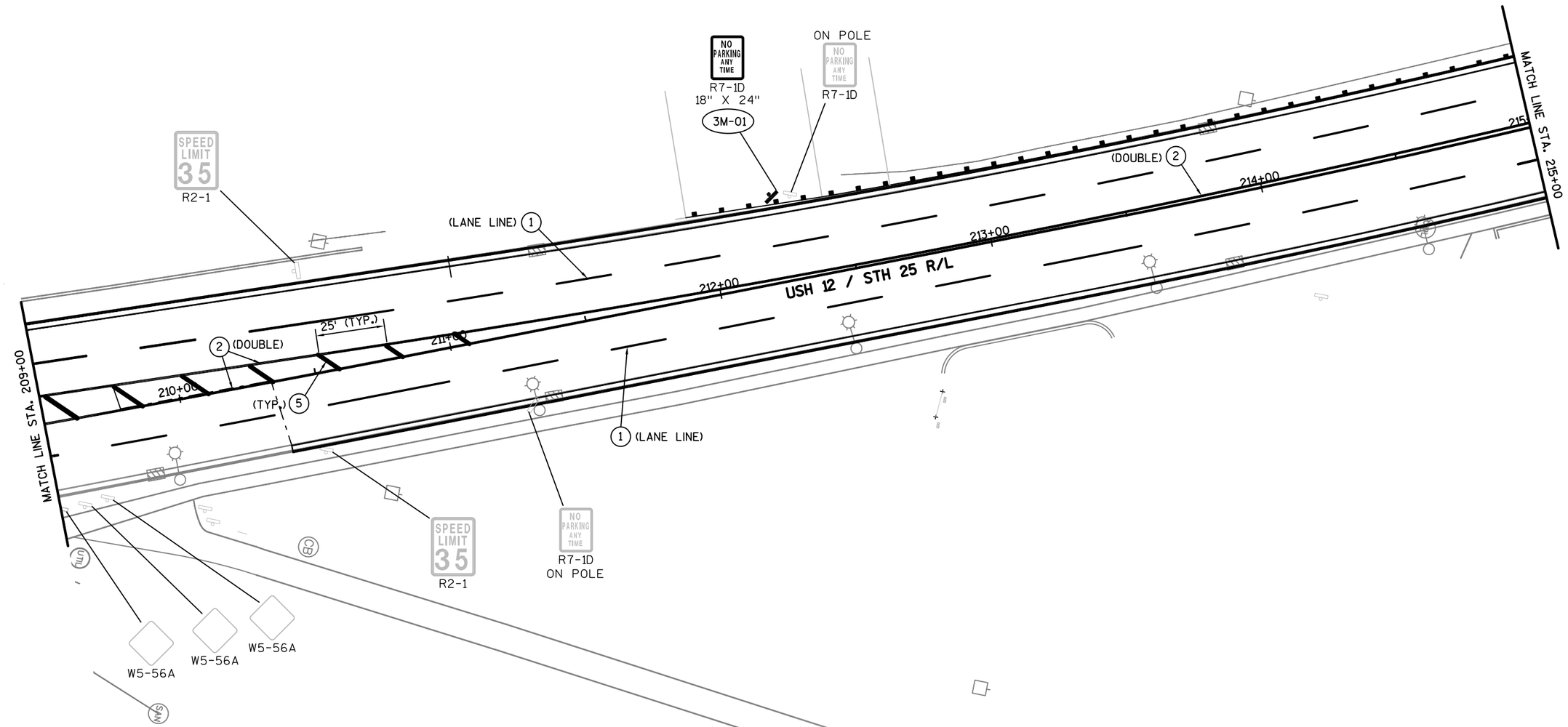
PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

1-01 DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

N



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PAVEMENT MARKING AND PERMANENT SIGNING	SHEET 20	E

2

2

PAVEMENT MARKING LEGEND

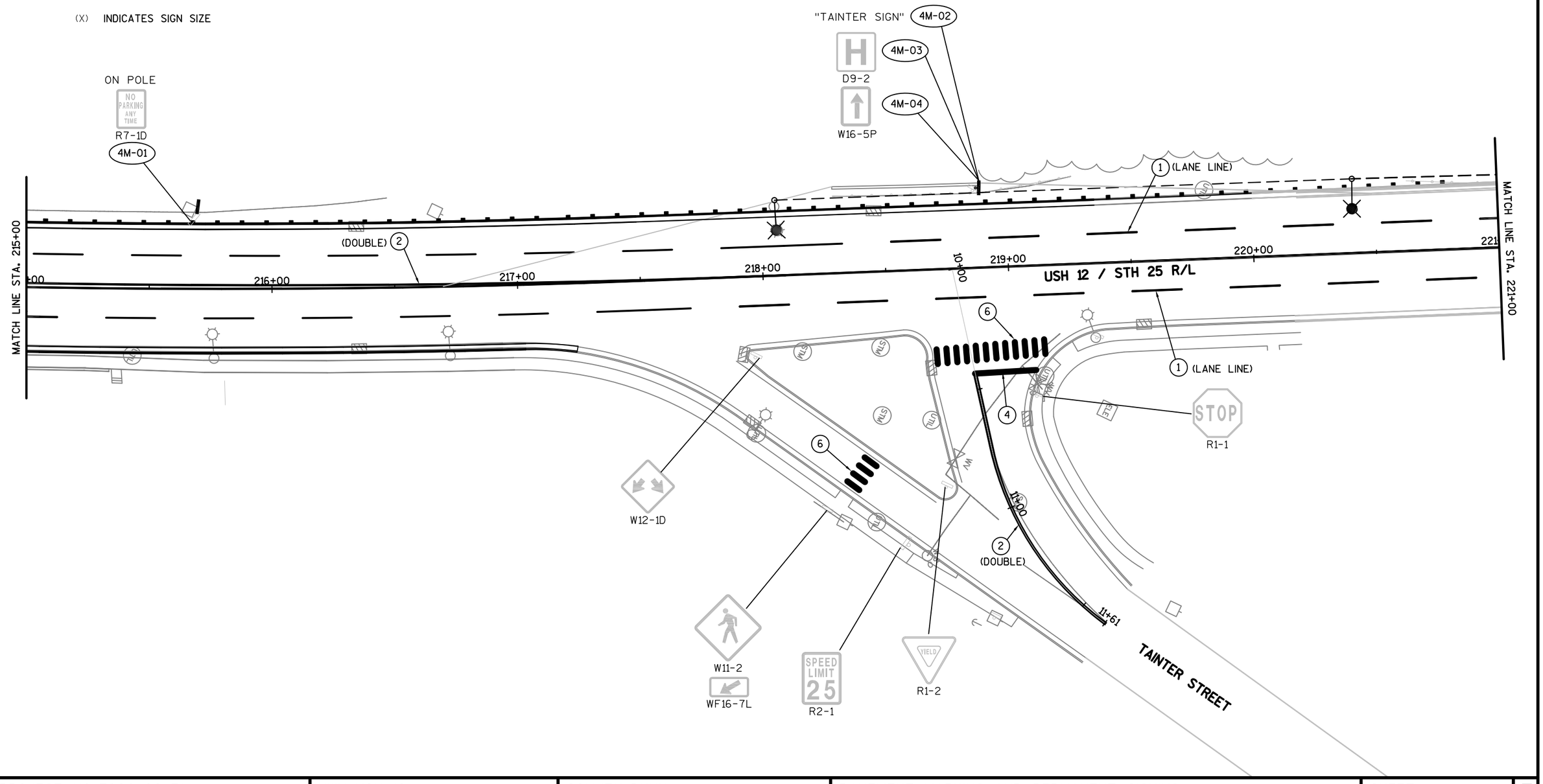
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- 1-01 DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

(1) PAVEMENT MARKING, EPOXY, 4-INCH, WHITE
(2) PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW
(4) PAVEMENT MARKING, EPOXY, STOPLINE, 18-INCH, WHITE
(6) PAVEMENT MARKING, CROSSWALK EPOXY, 24-INCH, WHITE

NOTE: GRAYSHADE REPRESENTS EXISTING.

N



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PAVEMENT MARKING AND PERMANENT SIGNING	SHEET 21	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\MARKING\NORTH BROADWAY\024501_PMLDWG DATE : 10/30/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 0.30000000 = 1'-0" _XREF

WISDOT/CADDS SHEET 42

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

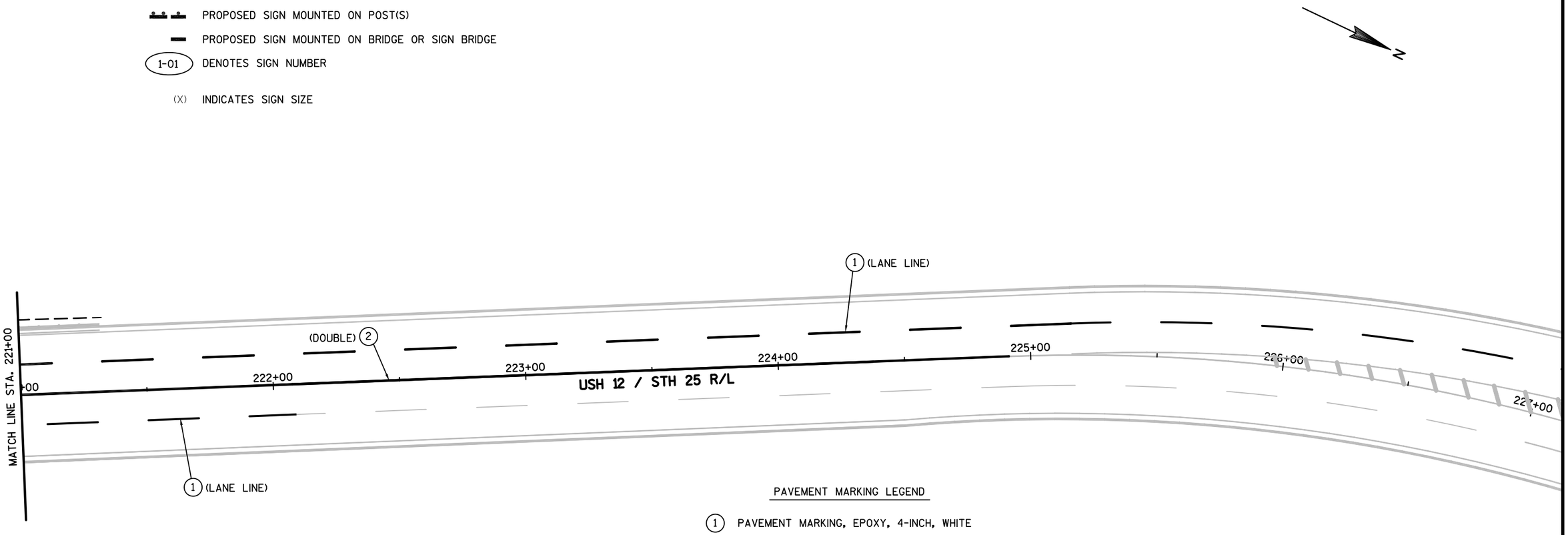
EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

1-01 DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

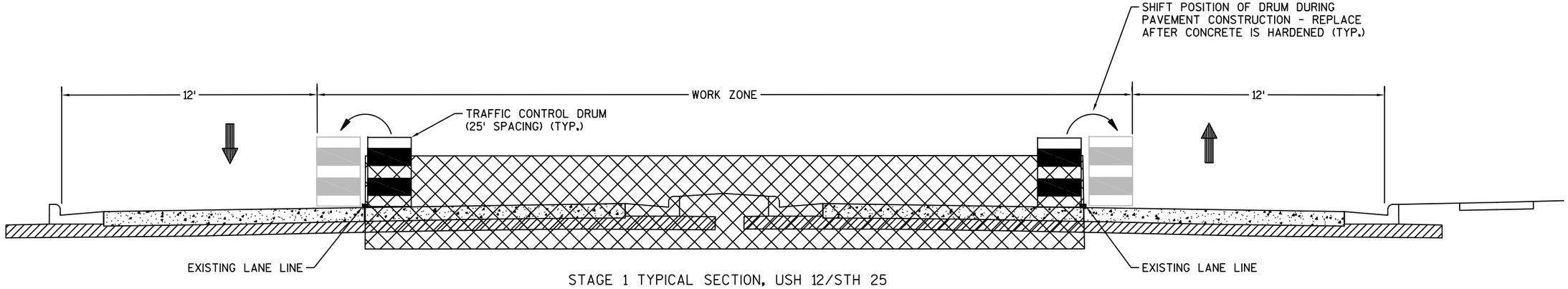


PAVEMENT MARKING LEGEND

1 PAVEMENT MARKING, EPOXY, 4-INCH, WHITE

2 PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW

NOTE: GRAYSHADE REPRESENTS EXISTING.

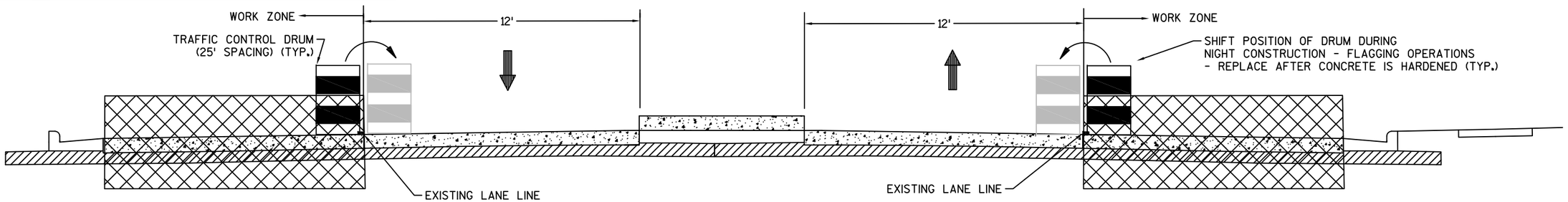


STAGE 1 TYPICAL SECTION, USH 12/STH 25

STA. 198+00 - STA. 210+50

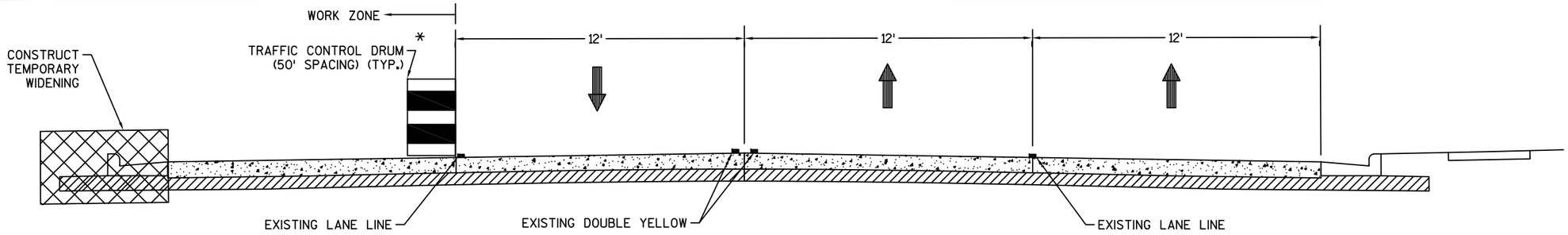
STAGE 5 TYPICAL SECTION, USH 12/STH 25

STA. 205+50 - STA. 210+50



STAGE 2 TYPICAL SECTION, USH 12/STH 25

STA. 198+00 - STA. 210+00

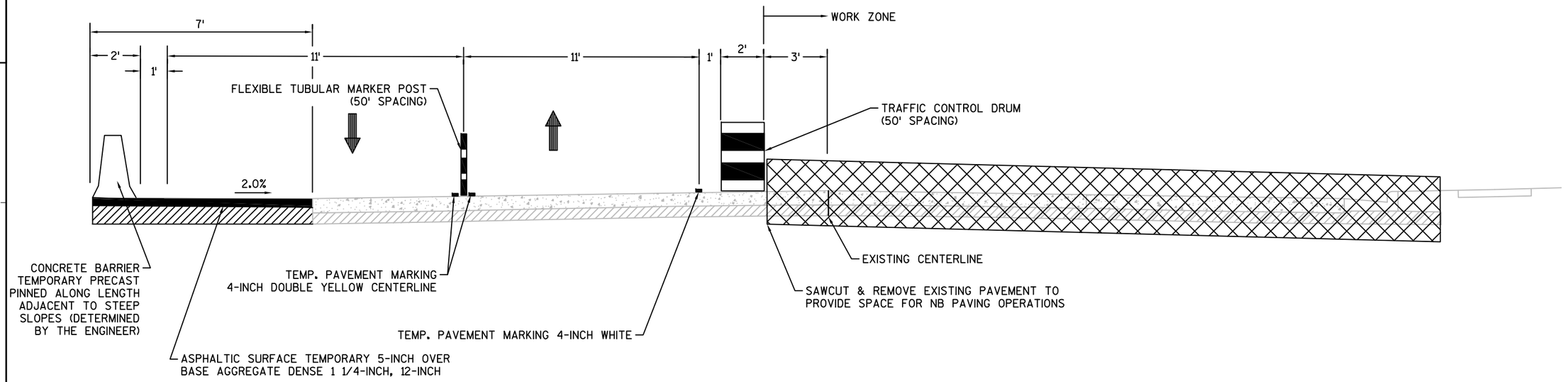


STAGE 2 TYPICAL SECTION, USH 12/STH 25

STA. 210+00 - STA. 222+00

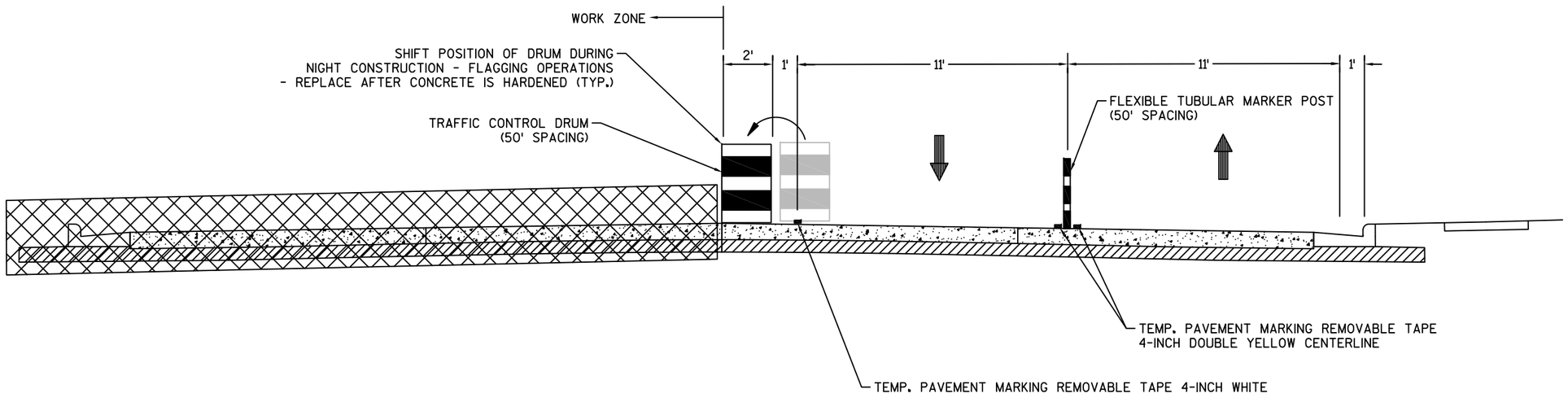
* SEE TRAFFIC CONTROL PLANS FOR NOTES ABOUT CONCRETE BARRIER TEMPORARY PRECAST

PROJECT NO: 7220-01-71	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL	SHEET 23 - E



STAGE 3 TYPICAL SECTION, USH 12/STH 25

STA. 210+75 - STA. 222+00



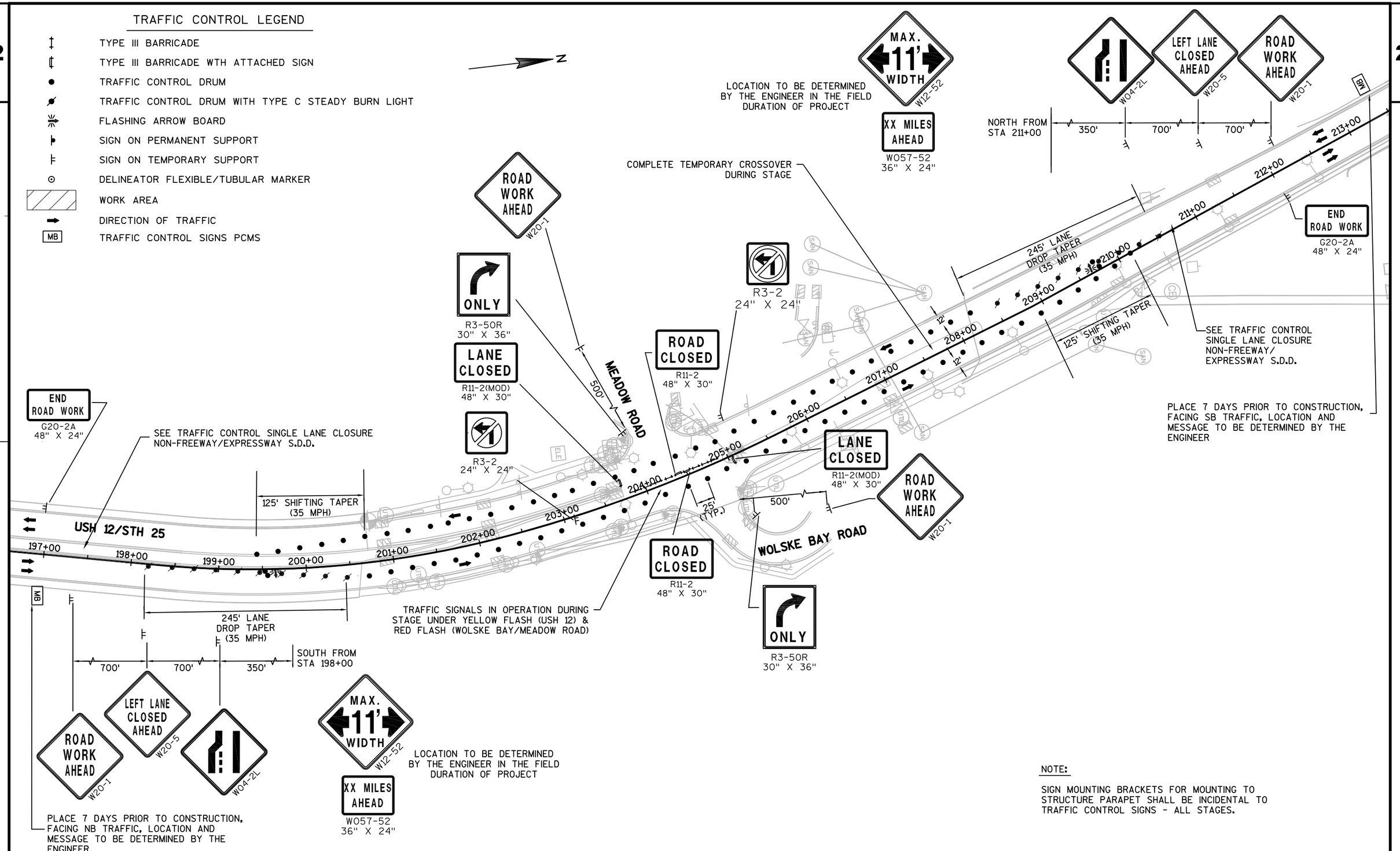
STAGE 4 TYPICAL SECTION, USH 12/STH 25

STA. 208+00 - STA. 222+00

PROJECT NO: 7220-01-71	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL	SHEET 24	E

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- MB TRAFFIC CONTROL SIGNS PCMS



NOTE:

SIGN MOUNTING BRACKETS FOR MOUNTING TO STRUCTURE PARAPET SHALL BE INCIDENTAL TO TRAFFIC CONTROL SIGNS - ALL STAGES.

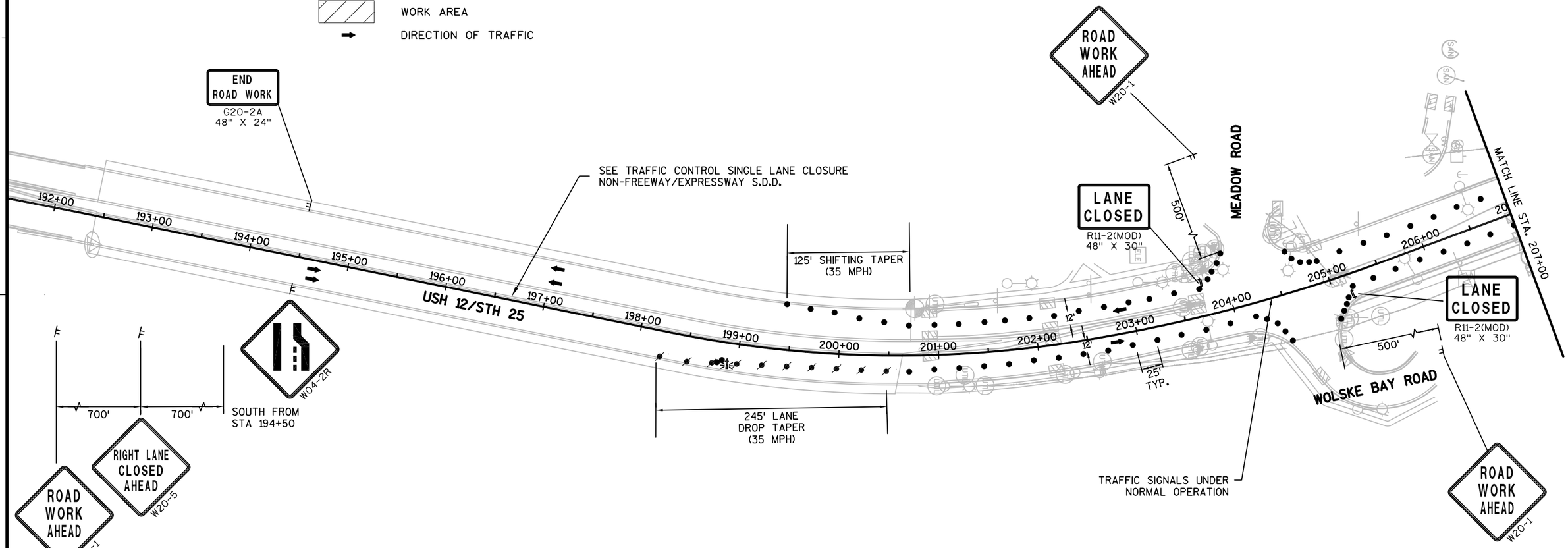
PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN: TRAFFIC CONTROL - STAGE 1	SHEET 25	E

2

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC

N



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN: TRAFFIC CONTROL - STAGE 2	SHEET 26	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\NORTH BROADWAY\D260TCSE.DWG LAST SAVED: 7/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1" = 100'_XREF

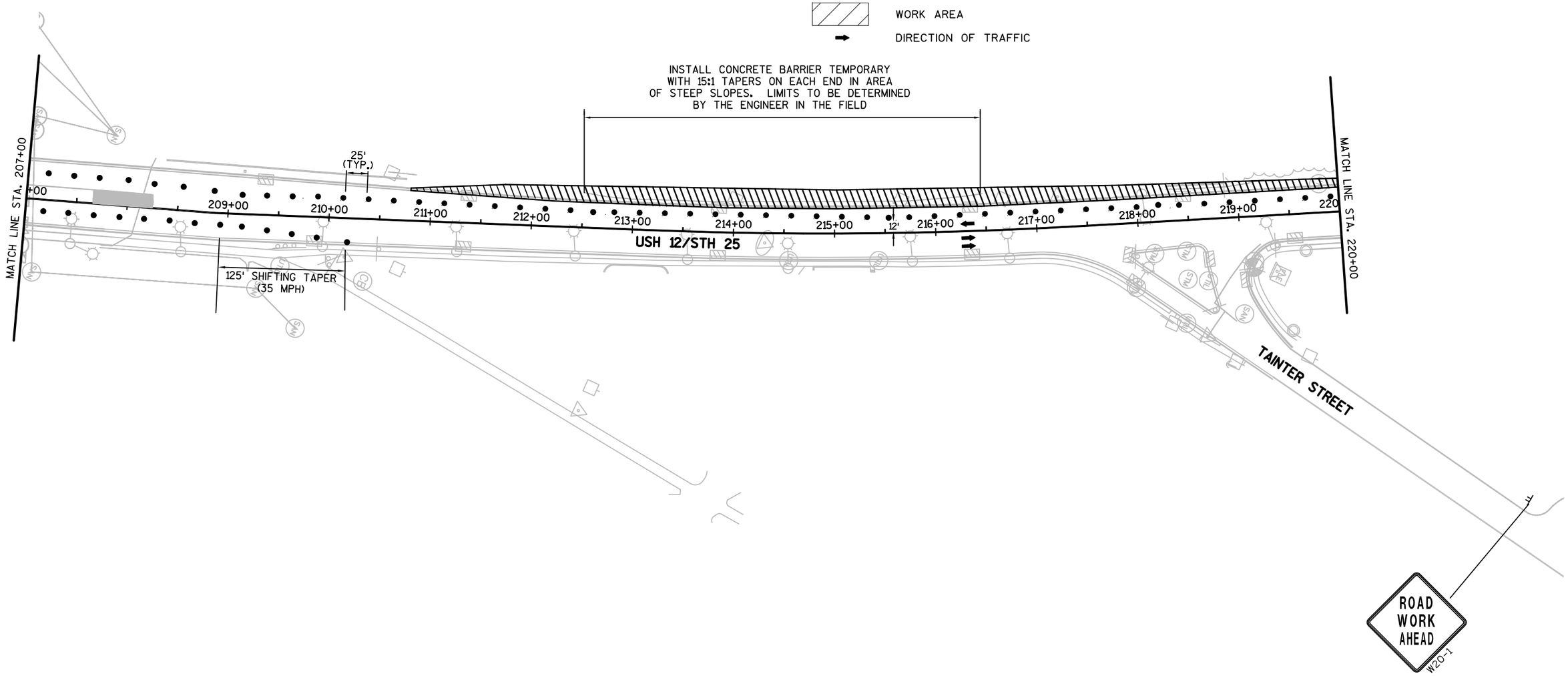
WISDOT/CADDS SHEET 42

2

2

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN: TRAFFIC CONTROL - STAGE 2	SHEET 27	E

2

N

W04-2R

RIGHT LANE CLOSED AHEAD
W20-5

ROAD WORK AHEAD
W20-1

700'

700'

350'

245' LANE DROP TAPER (35 MPH)

25'

MATCH LINE STA. 220+00

220+00

221+00

222+00

223+00

224+00

225+00

226+00

227+00

228+00

229+00

230+00

231+00

232+00

232+21

USH 12/STH 25

SEE TRAFFIC CONTROL SINGLE LANE CLOSURE NON-FREEWAY/EXPRESSWAY S.D.D.

LANE CLOSED
R11-2(MOD)
48" X 30"

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

BIRCH AVENUE

TAINTER STREET

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — TRAFFIC CONTROL SIGNS PCMS

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN: TRAFFIC CONTROL - STAGE 2	SHEET 28	E

2

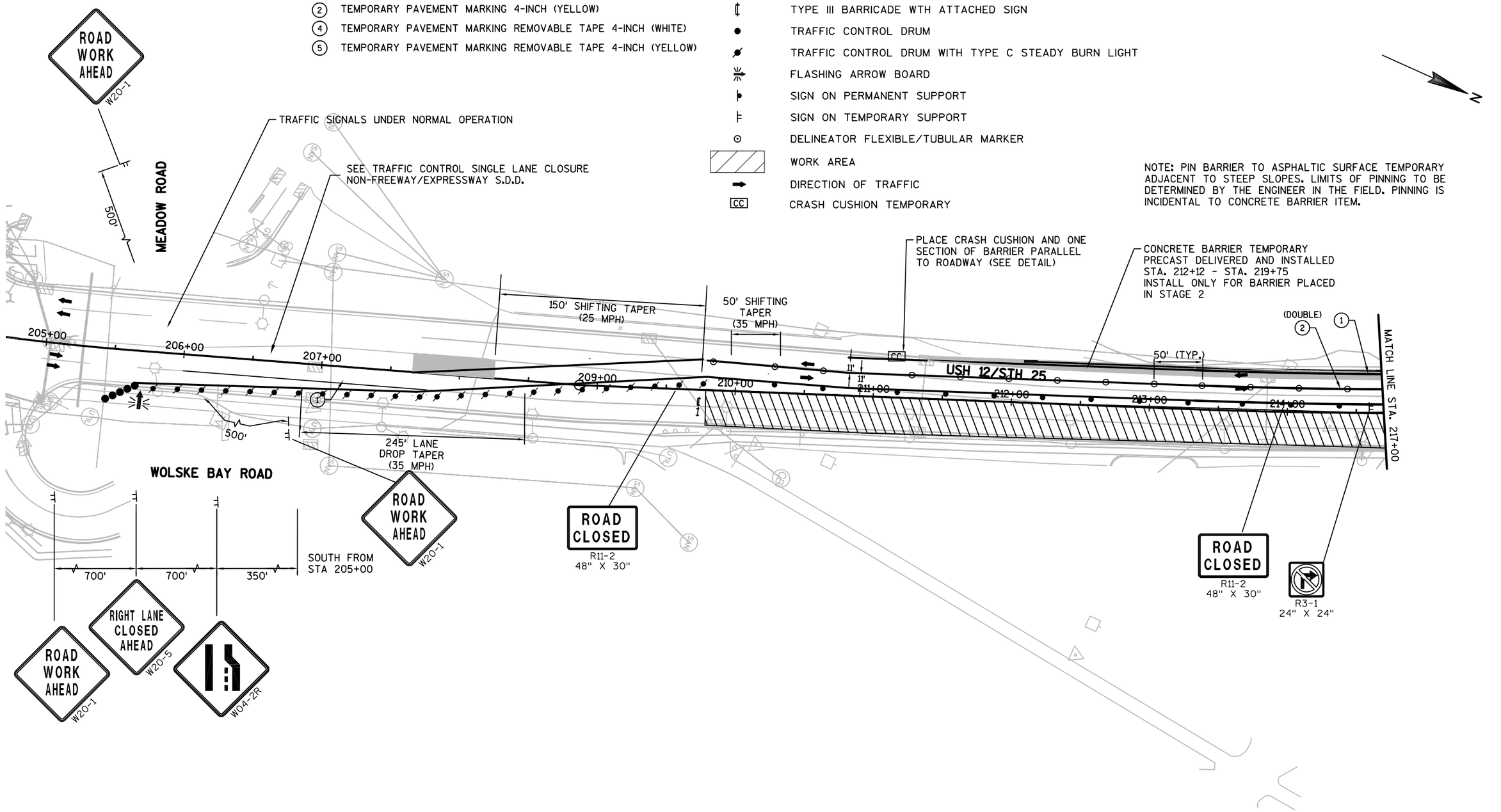
PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
4. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION TEMPORARY

NOTE: PIN BARRIER TO ASPHALTIC SURFACE TEMPORARY ADJACENT TO STEEP SLOPES. LIMITS OF PINNING TO BE DETERMINED BY THE ENGINEER IN THE FIELD. PINNING IS INCIDENTAL TO CONCRETE BARRIER ITEM.



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN: TRAFFIC CONTROL - STAGE 3	SHEET 29	E

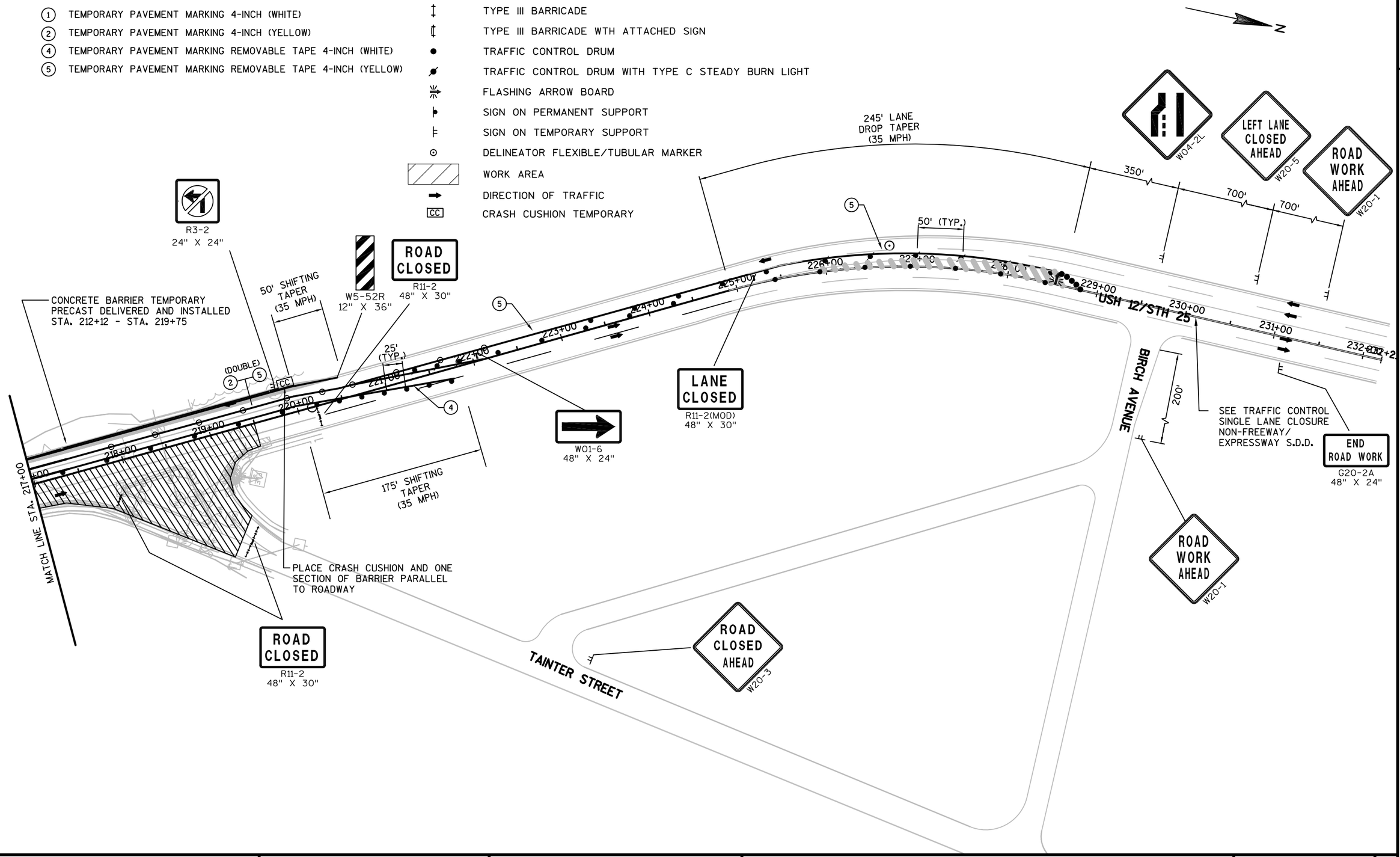
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\NORTH BROADWAY\D260TC01.DGN PLOT DATE : 5/1/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 0.014240

PAVEMENT MARKING LEGEND

(1) TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
(2) TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
(4) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
(5) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION TEMPORARY

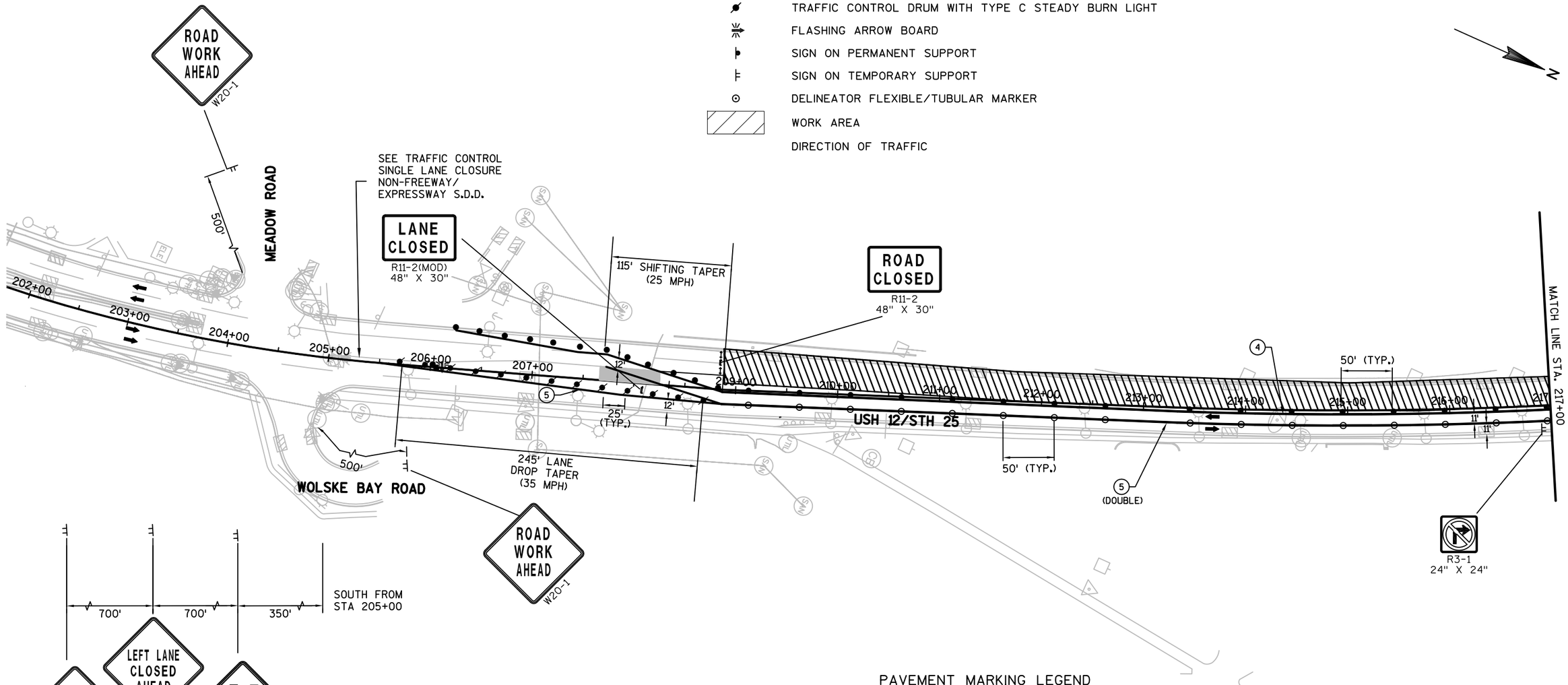


PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN: TRAFFIC CONTROL - STAGE 3	SHEET 30	E

2

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC



PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
4. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN: TRAFFIC CONTROL - STAGE 4	SHEET 31	E

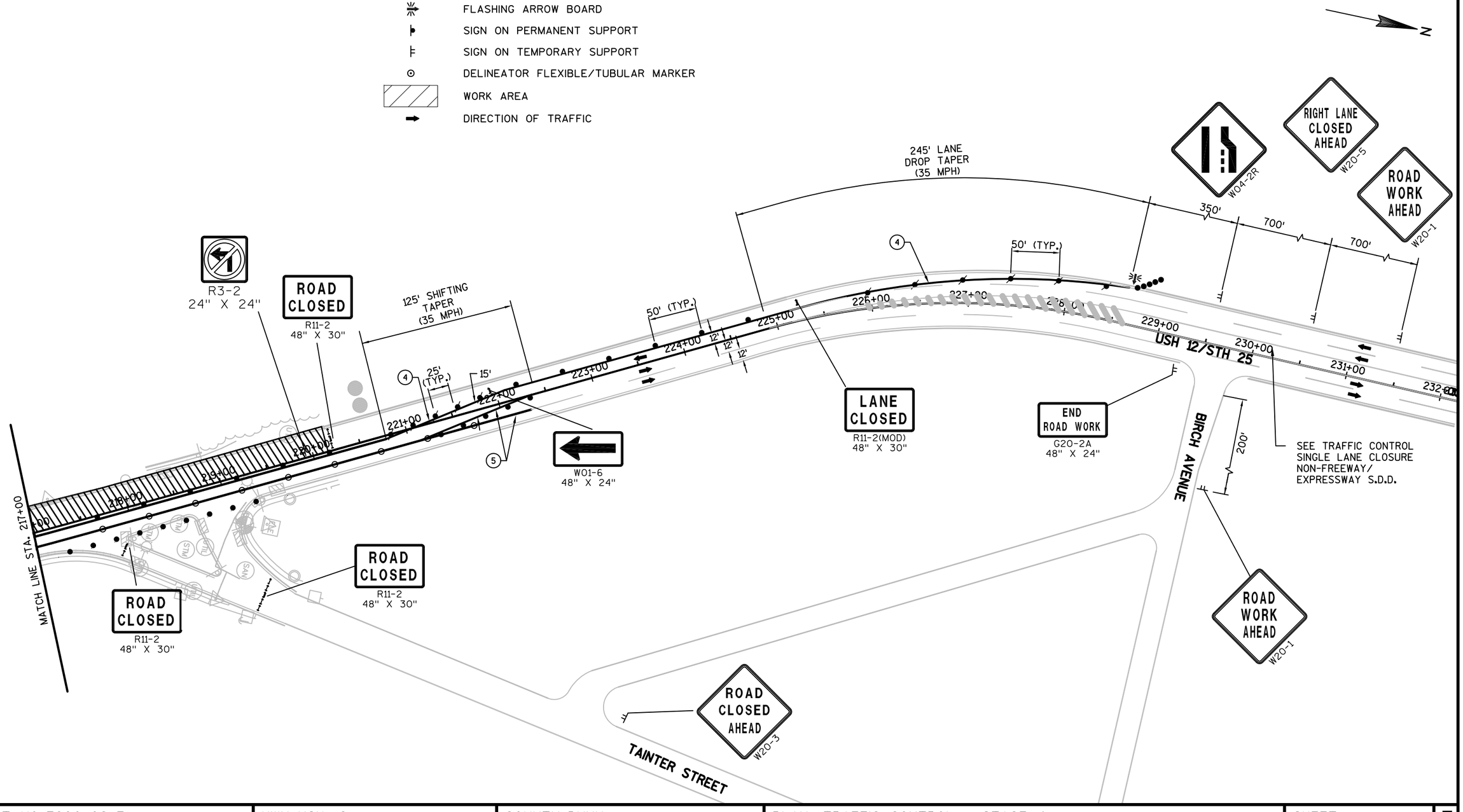
2

PAVEMENT MARKING LEGEND

1. TEMPORARY PAVEMENT MARKING 4-INCH (WHITE)
2. TEMPORARY PAVEMENT MARKING 4-INCH (YELLOW)
4. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
5. TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC

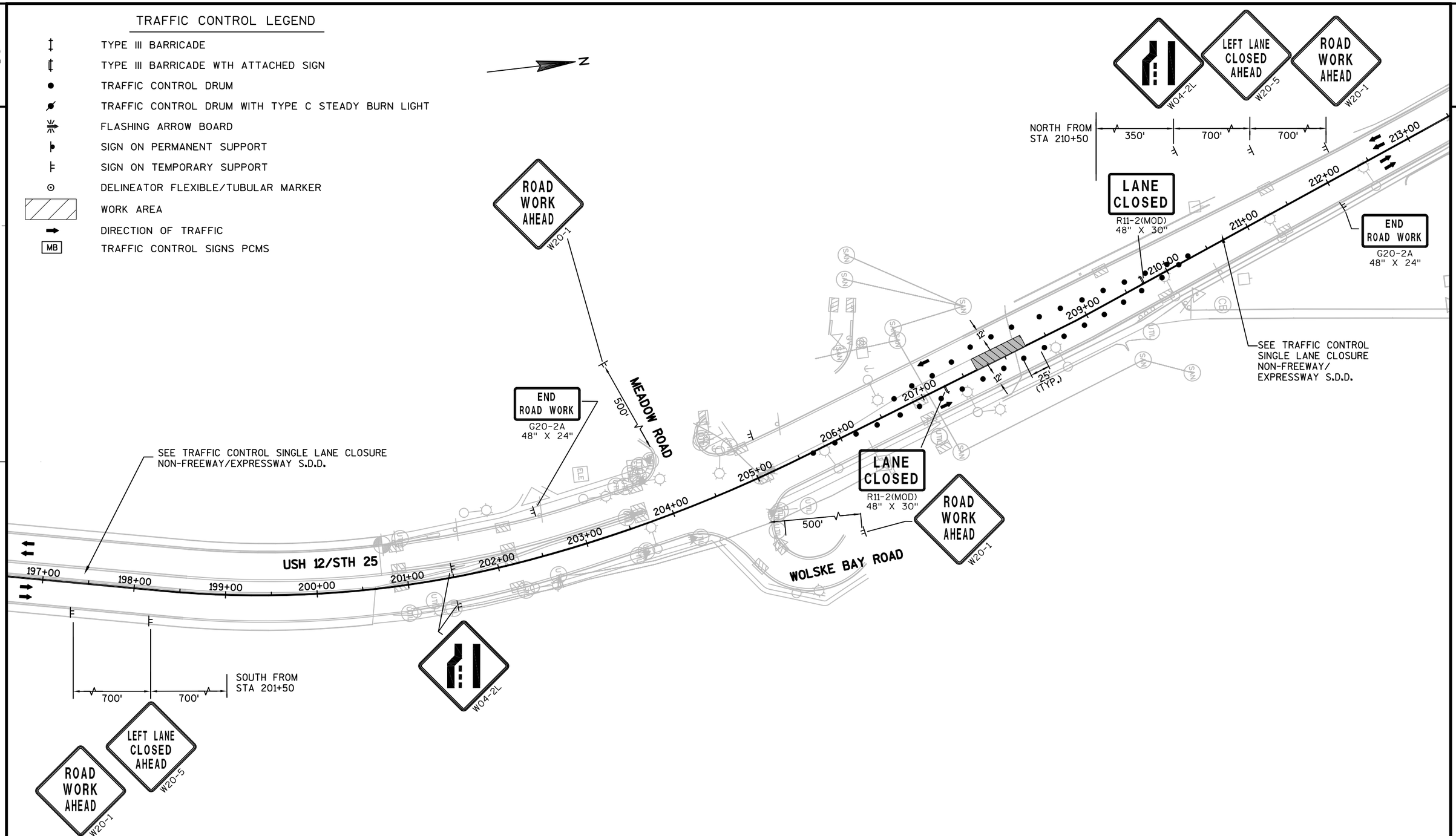


PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN: TRAFFIC CONTROL - STAGE 4	SHEET 32	E

2

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- WORK AREA
- DIRECTION OF TRAFFIC
- MB TRAFFIC CONTROL SIGNS PCMS



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN: TRAFFIC CONTROL - STAGE 5	SHEET 33	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\TRAFFIC CONTROL\NORTH BROADWAY\D2600_TCP_STG2.DWG 12/2/2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 0.12000000 = 1'-0" 1_XREF

NOTES:

1. RELOCATED IH-94 ALTERNATE ROUTE AND SIGNING SHALL BE IN PLACE 1-WEEK PRIOR TO STARTING WORK ON USH 12/STH 25.
2. ALL ALTERNATE ROUTE SIGNS TO BE PAID FOR AS TRAFFIC CONTROL DETOUR SIGNS.
3. THIS ALTERNATE ROUTE PLAN IS IN PLACE FOR ONLY THE DURATION OF PROJECTS 7600-02-71.

LEGEND

COVERING SIGNS TYPE II

ORIGINAL ALTERNATE IH-94 ROUTE (TYP.)

RELOCATED ALTERNATE IH-94 ROUTE (TYP.)

SEE BLOW-UP DETAIL

Wilson

Knapp

Menomonie

Lake Menomin

UP

ALTERNATE M4-1 24" X 12"
INTERSTATE 94 M1-1 24" X 24"
NORTH 128 SOUTH 128

WEST M3-4 24" X 12"
INTERSTATE 94 M1-1 24" X 24"
SOUTH 25 WEST 29

EAST M3-2 24" X 12"
INTERSTATE 94 M1-1 24" X 24"
WEST 12 EAST 29 EAST 12

NORTH 25 TO INTERSTATE 94 EAST 29

NORTH 25 EAST 29 TO INTERSTATE 94 SOUTH 25

M4-1 24" X 12" / M1-1 24" X 24"

A — M4-1 24" X 12" / M1-1 24" X 24"
B — M6-1 21" X 21"
C — M6-1 21" X 21"
D — M5-1L 21" X 21"
E — M5-1R 21" X 21"
F — M6-1A 21" X 21"

SHEET 1 OF 4

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL - 1-94 ALTERNATE ROUTE SIGNING	SHEET E

FILE NAME : G:\WDOTCO\12029 (2012-2014 design work orders)\Work Order 001 (STH 25)\DGN\Sheets\South Broadway\027001_dt.dgn PLOT DATE : 10/31/2014 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

NOTES:

1. DO NOT REMOVE OR UNCOVER SIGNS SHOWN UNTIL PROJECT 7600-02-71 IS COMPLETED AND OPEN TO TRAFFIC.

2. UNDISTRIBUTED QUANTITY OF COVERING SIGNS SPECIAL ARE INCLUDED IN THE CONTRACT. COVER ADDITIONAL HIGHWAY ROUTE SIGNS ONLY AS DIRECTED BY THE ENGINEER.

LEGEND

COVERING SIGNS TYPE II

Wilson

Knapp

Menomonie

Lake Menomin

SEE BLOW-UP DETAIL SHEET 4 OF 4

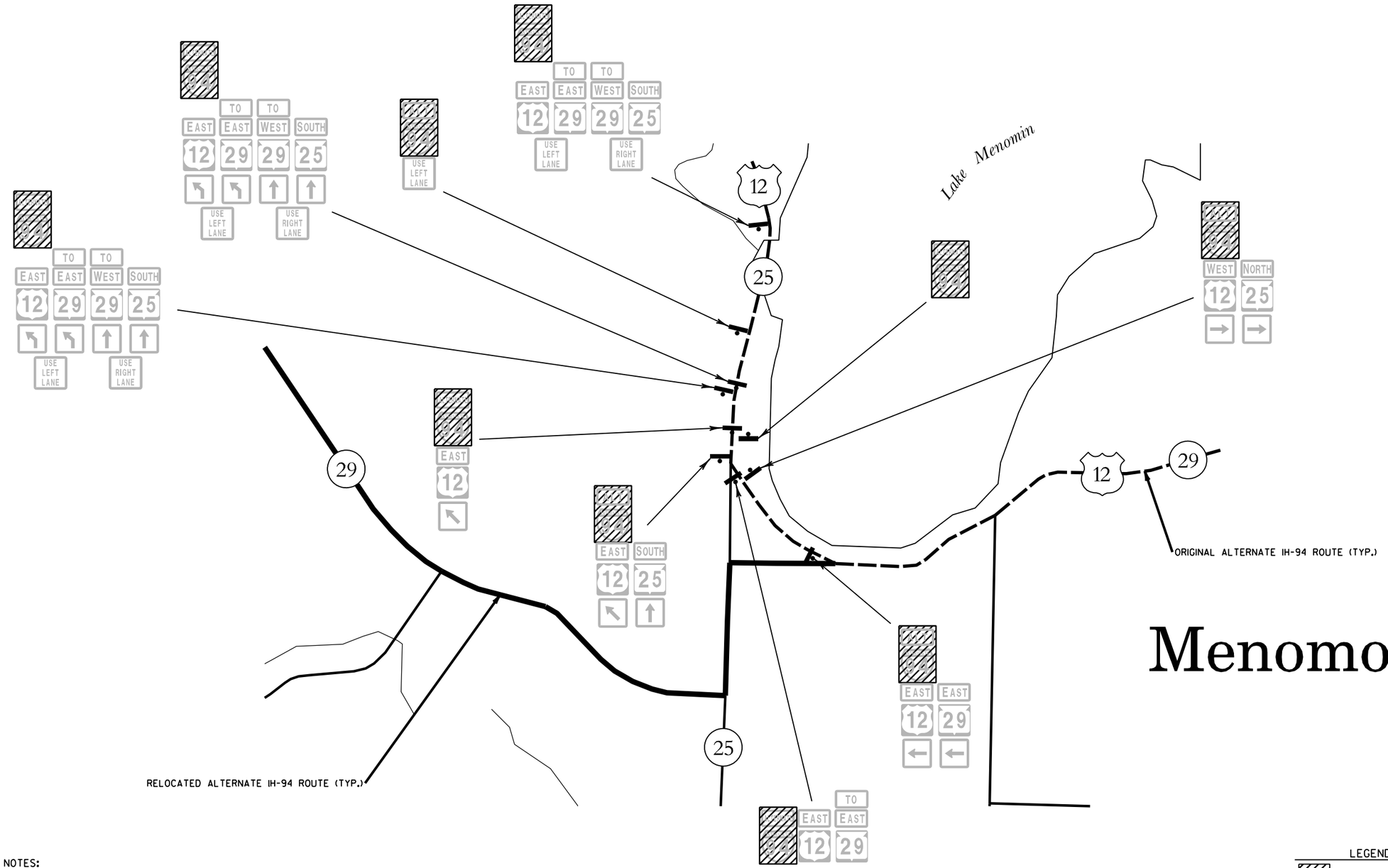
SEE BLOW-UP DETAIL SHEET 3 OF 4

ORIGINAL ALTERNATE IH-94 ROUTE (TYP.)

RELOCATED ALTERNATE IH-94 ROUTE (TYP.)

SHEET 2 OF 4

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL - 1-94 ALTERNATE ROUTE SIGNING	SHEET 35 E



Menomonie

NOTES:

1. DO NOT REMOVE OR UNCOVER SIGNS SHOWN UNTIL PROJECT 7600-02-71 IS COMPLETED AND OPEN TO TRAFFIC.

2. UNDISTRIBUTED QUANTITY OF COVERING SIGNS SPECIAL ARE INCLUDED IN THE CONTRACT. COVER ADDITIONAL HIGHWAY ROUTE SIGNS ONLY AS DIRECTED BY THE ENGINEER.

LEGEND

COVERING SIGNS TYPE II

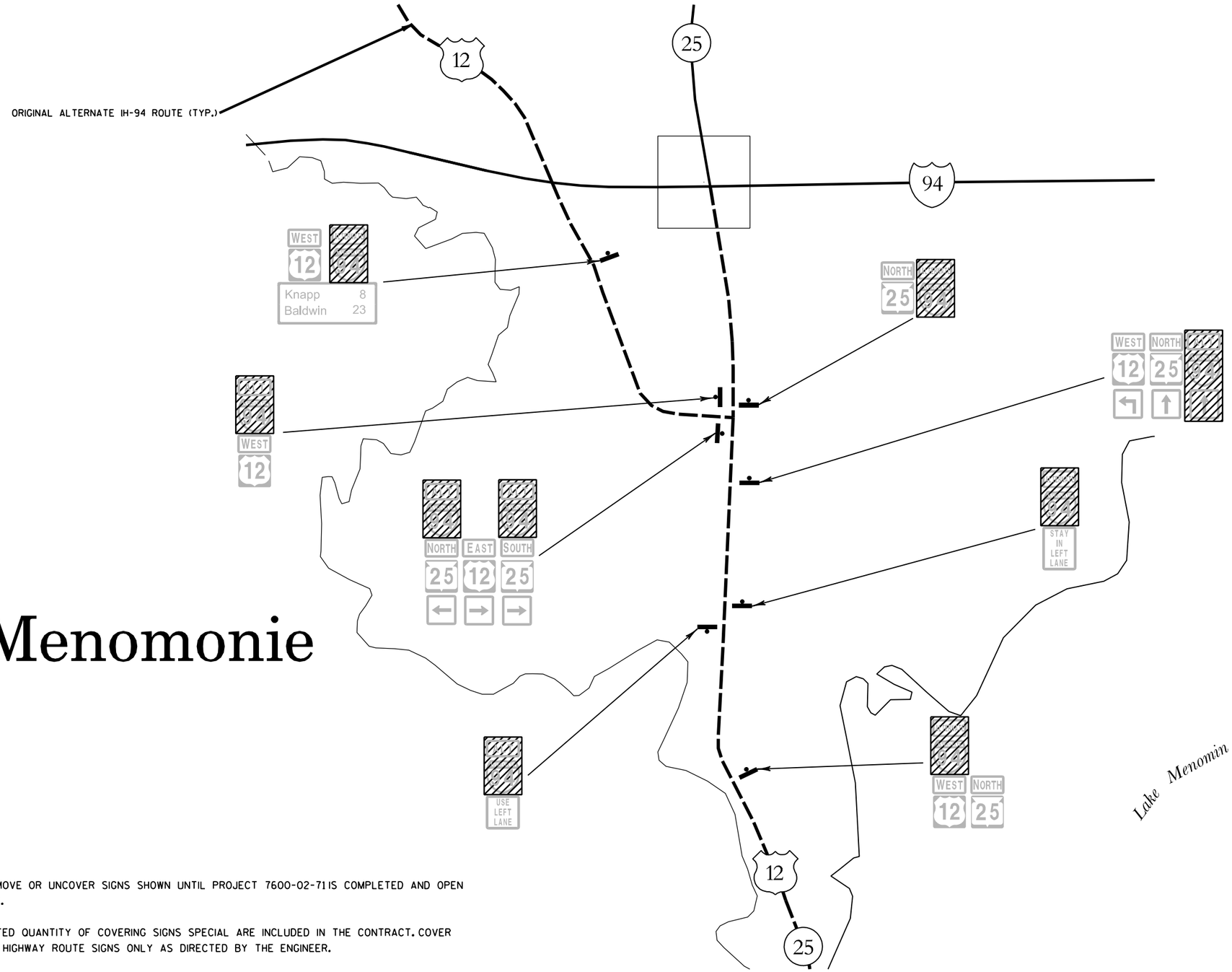
SHEET 3 OF 4

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL - 1-94 ALTERNATE ROUTE SIGNING	SHEET E

FILE NAME : G:\WDOTCO\12029 (2012-2014 design work orders)\Work Order 001 (STH 25)\DGN\Sheets\South Broadway\027001_dt.dgn PLOT DATE : 10/31/2014 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

2



Menomonie

NOTES:

1. DO NOT REMOVE OR UNCOVER SIGNS SHOWN UNTIL PROJECT 7600-02-71 IS COMPLETED AND OPEN TO TRAFFIC.

2. UNDISTRIBUTED QUANTITY OF COVERING SIGNS SPECIAL ARE INCLUDED IN THE CONTRACT. COVER ADDITIONAL HIGHWAY ROUTE SIGNS ONLY AS DIRECTED BY THE ENGINEER.

LEGEND

COVERING SIGNS TYPE II

SHEET 4 OF 4

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	TRAFFIC CONTROL - 1-94 ALTERNATE ROUTE SIGNING	SHEET 37	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 design work orders)\Work Order 001 (STH 25)\DGN\Sheets\South Broadway\027001_dt.dgn PLOT DATE : 10/31/2014 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

2

N

USH 12/STH 25

BP: 177+07.46

N2° 06' 19.88"E
617.67

PC: 183+25.13

PT: 186+64.01

N11° 45' 21.15"E
560.45

177+07
178+00
179+00
180+00
181+00
182+00
183+00
184+00
185+00
186+00
187+00
188+00
189+00
190+00
191+00
192

MATCH LINE STA. 192+00

STH 25 NB
PI: 177+07.46
X: 160,863.637
Y: 171,587.395

STH 25 NB
PI STA = 184+94.97
Y = 172374.373
X = 160892.570
DELTA = 9°39'01"
D = 2°50'52"
T = 169.84
L = 338.88
R = 2012.00
PC STA = 183+25.13
PT STA = 186+64.01

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	ALIGNMENT DIAGRAM	SHEET 38	E

2

N

MATCH LINE STA. 192+00

PI: 192+24.46

193+00

194+00

195+00

USH 12/STH 25

196+00

197+00

198+00

PC: 198+31.54

199+00

200+00

201+00

202+00

203+00

204+00

205+00

206+00

MATCH LINE STA. 207+00

N12° 00' 25.43"E
607.08

BEGIN PROJECT
STA. 200+86

PCC: 202+36.29

Meadow Hill
PI: 10+00.00
X: 161,008.691
Y: 174,227.026

N19° 50' 52.12"W
327.19

BP: 10+00.00

EP: 11+41.46

PT: 205+59.89

10+00

MEADOW RD

11+00

Wolske Bay
PI: 10+00.00
X: 161,133.763
Y: 174,299.949

N66° 46' 00.70"E
141.46

BP: 10+00.00

PC: 10+14.60

PT: 10+34.13

PC: 10+85.94

EP: 11+89.58

N67° 05' 56.26"E
14.60

N54° 47' 00.31"E
51.81

11+00

11+90

WOLSKE BAY RD

STH 25 NB
PI STA = 200+36.07
Y = 173883.202
X = 161210.203
DELTA = 20°20'33"
D = 5°01'33"
T = 204.53
L = 404.75
R = 1140.00
PC STA = 198+31.54
PT STA = 202+36.29

STH 25 NB
PI STA = 203+98.64
Y = 174246.202
X = 161157.018
DELTA = 11°30'45"
D = 3°33'27"
T = 162.35
L = 323.60
R = 1610.53
PC STA = 202+36.29
PT STA = 205+59.89

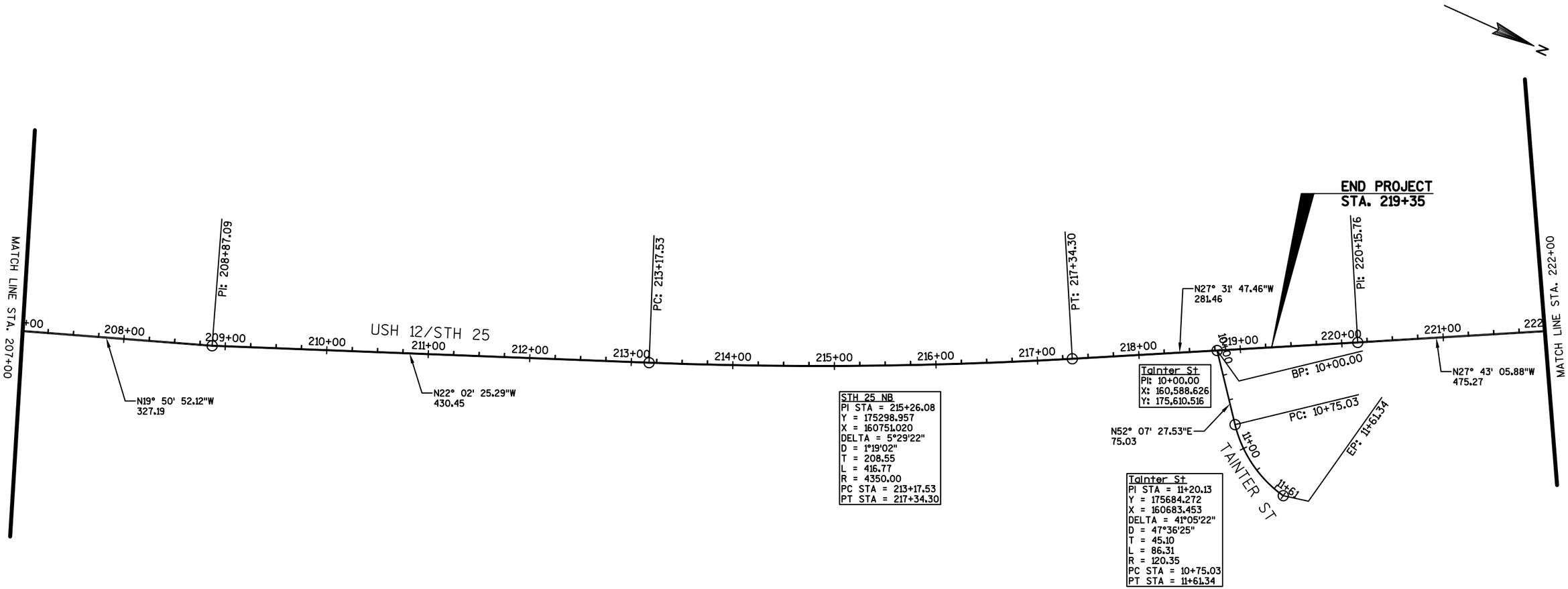
Wolske Bay
PI STA = 10+24.40
Y = 174309.445
X = 161156.243
DELTA = 12°18'56"
D = 63°03'43"
T = 9.80
L = 19.53
R = 90.86
PC STA = 10+14.60
PT STA = 10+34.13

Wolske Bay
PI STA = 11+56.41
Y = 174385.611
X = 161264.148
DELTA = 99°26'36"
D = 95°57'21"
T = 70.46
L = 103.63
R = 59.71
PC STA = 10+85.94
PT STA = 11+89.58

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	ALIGNMENT DIAGRAM	SHEET 39	E

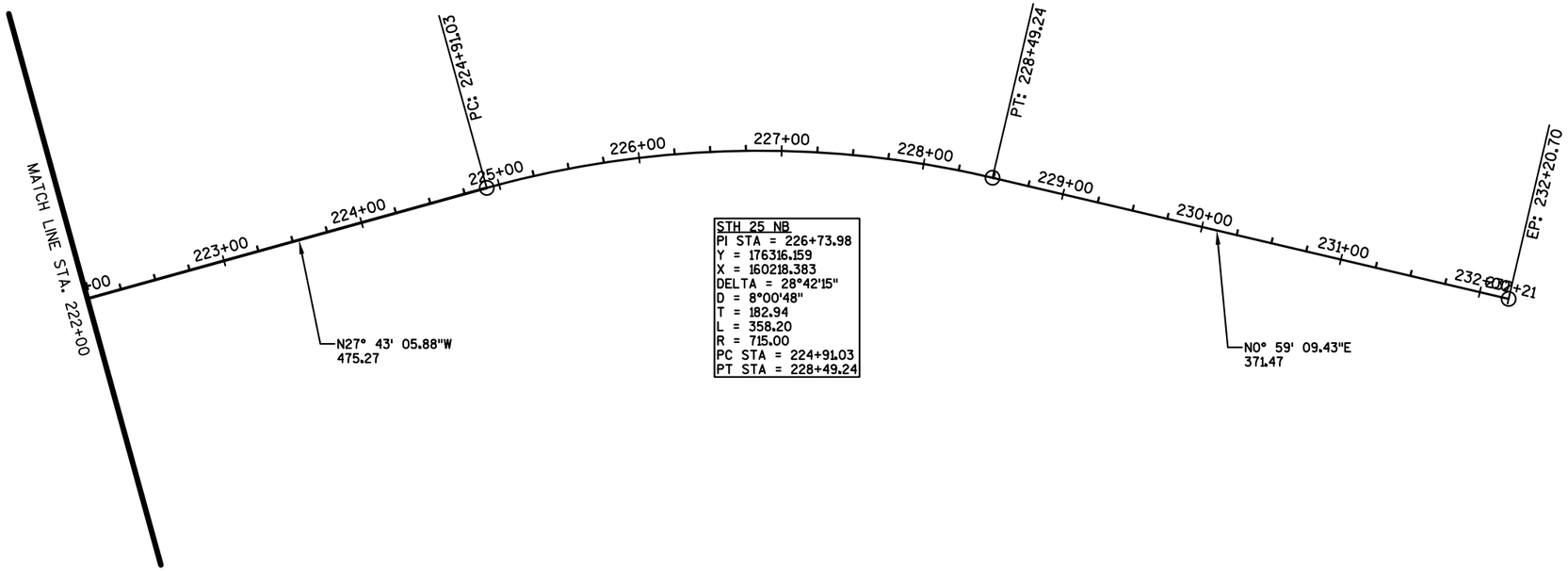
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\ALIGNMENT DIAGRAMS\NORTH BROADWAY 002 ALIGNMENT DIAGRAMS.DWG 10/30/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:100_XREF

2



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	ALIGNMENT DIAGRAM	SHEET 40	E

2

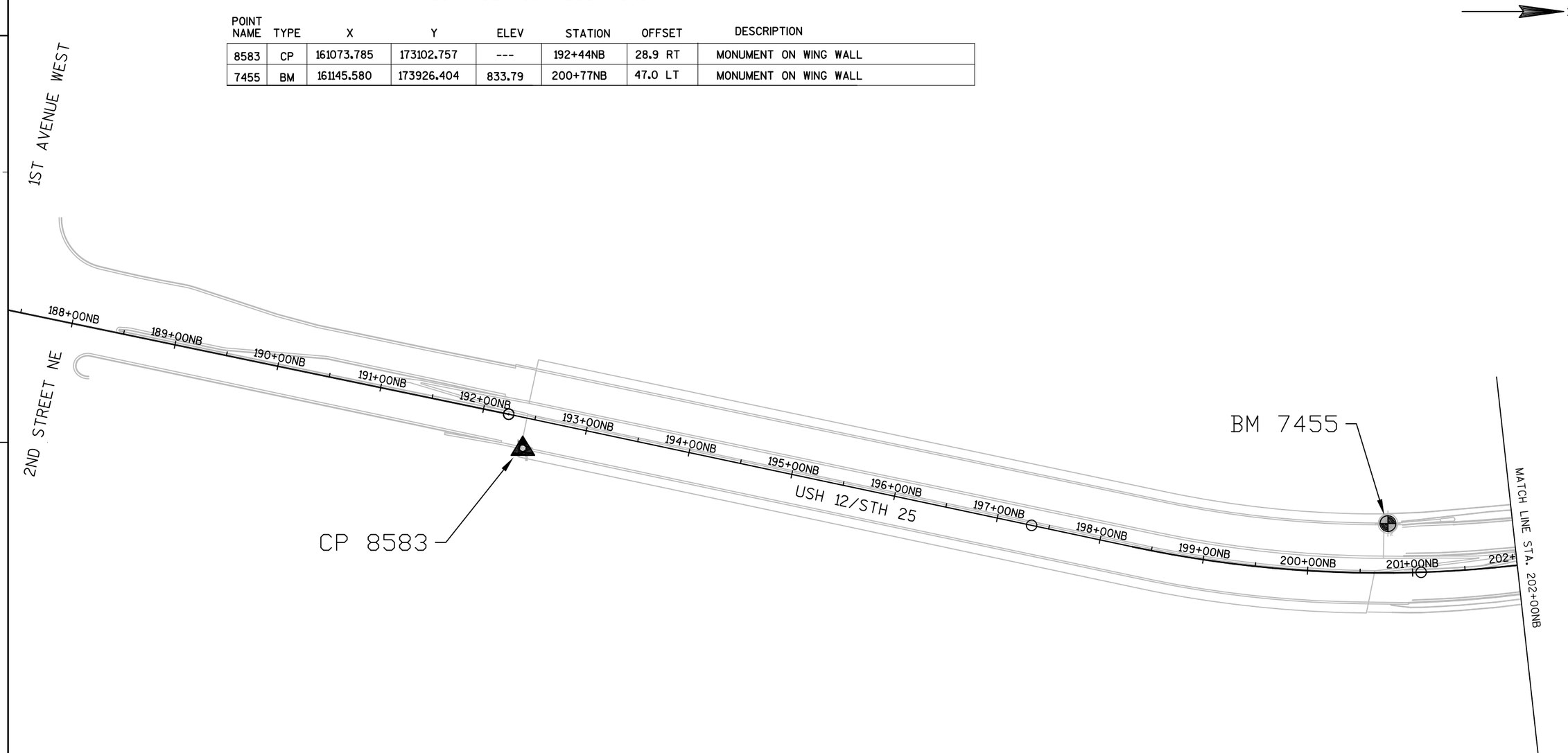


PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	ALIGNMENT DIAGRAM	SHEET 41	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\ALIGNMENT DIAGRAMS\NORTH BROADWAY 12029 ALIGN 01.DWG 10/30/2014 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:100_XREF

CONTROL POINT LOCATIONS

POINT NAME	TYPE	X	Y	ELEV	STATION	OFFSET	DESCRIPTION
8583	CP	161073.785	173102.757	---	192+44NB	28.9 RT	MONUMENT ON WING WALL
7455	BM	161145.580	173926.404	833.79	200+77NB	47.0 LT	MONUMENT ON WING WALL



NOTE:
THE COORDINATES ARE REFERENCED TO WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DUNN COUNTY, NAD 1983 (1991).

VERTICAL DATUM BASED ON NAVD 29.

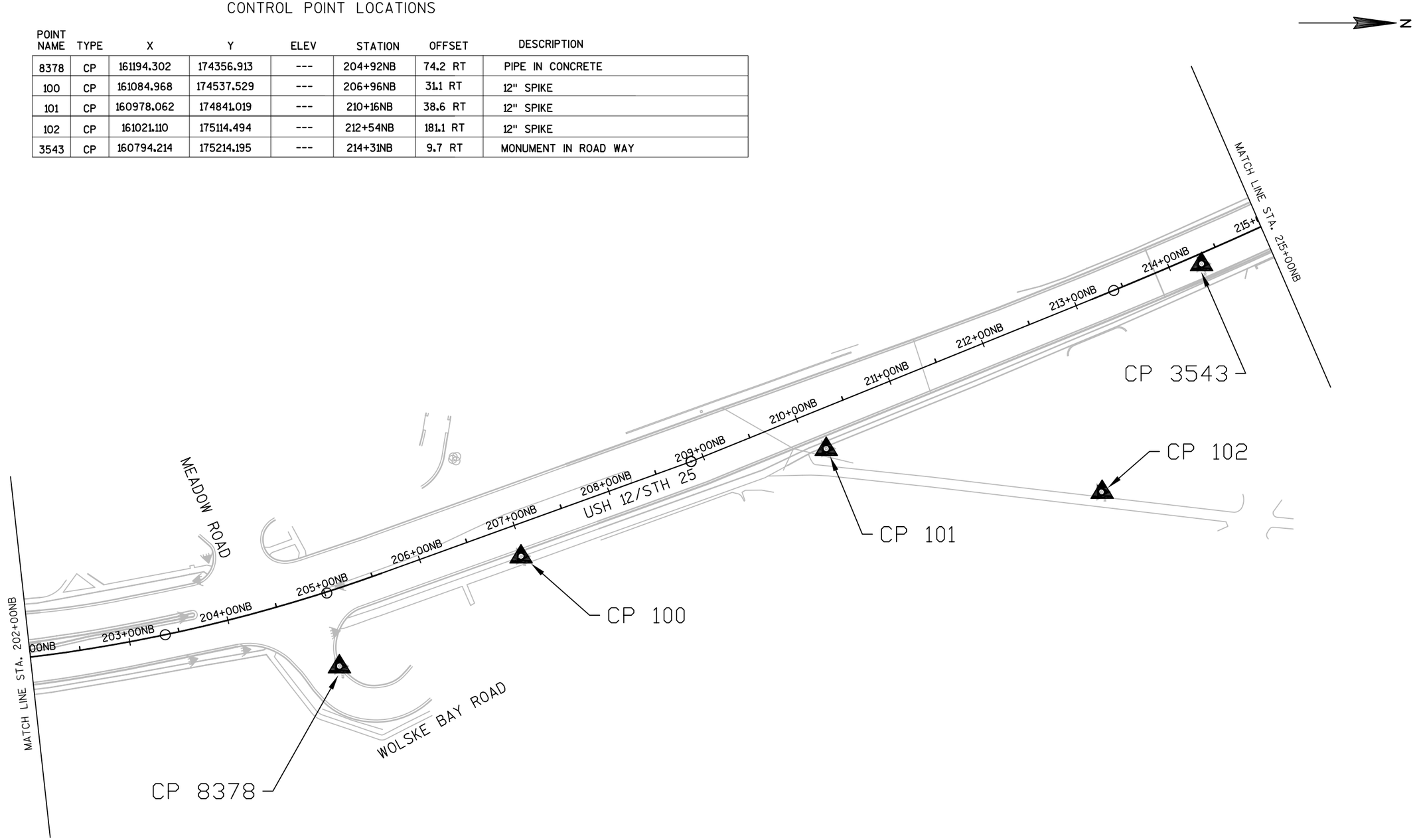
FOR INFORMATION ONLY. OFFICIAL SURVEY CONTROL SHALL BE OBTAINED FROM WISDOT PRIOR TO CONSTRUCTION.

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CONTROL POINT DETAIL	SHEET 42 E

2

CONTROL POINT LOCATIONS

POINT NAME	TYPE	X	Y	ELEV	STATION	OFFSET	DESCRIPTION
8378	CP	161194.302	174356.913	---	204+92NB	74.2 RT	PIPE IN CONCRETE
100	CP	161084.968	174537.529	---	206+96NB	31.1 RT	12" SPIKE
101	CP	160978.062	174841.019	---	210+16NB	38.6 RT	12" SPIKE
102	CP	161021.110	175114.494	---	212+54NB	181.1 RT	12" SPIKE
3543	CP	160794.214	175214.195	---	214+31NB	9.7 RT	MONUMENT IN ROAD WAY

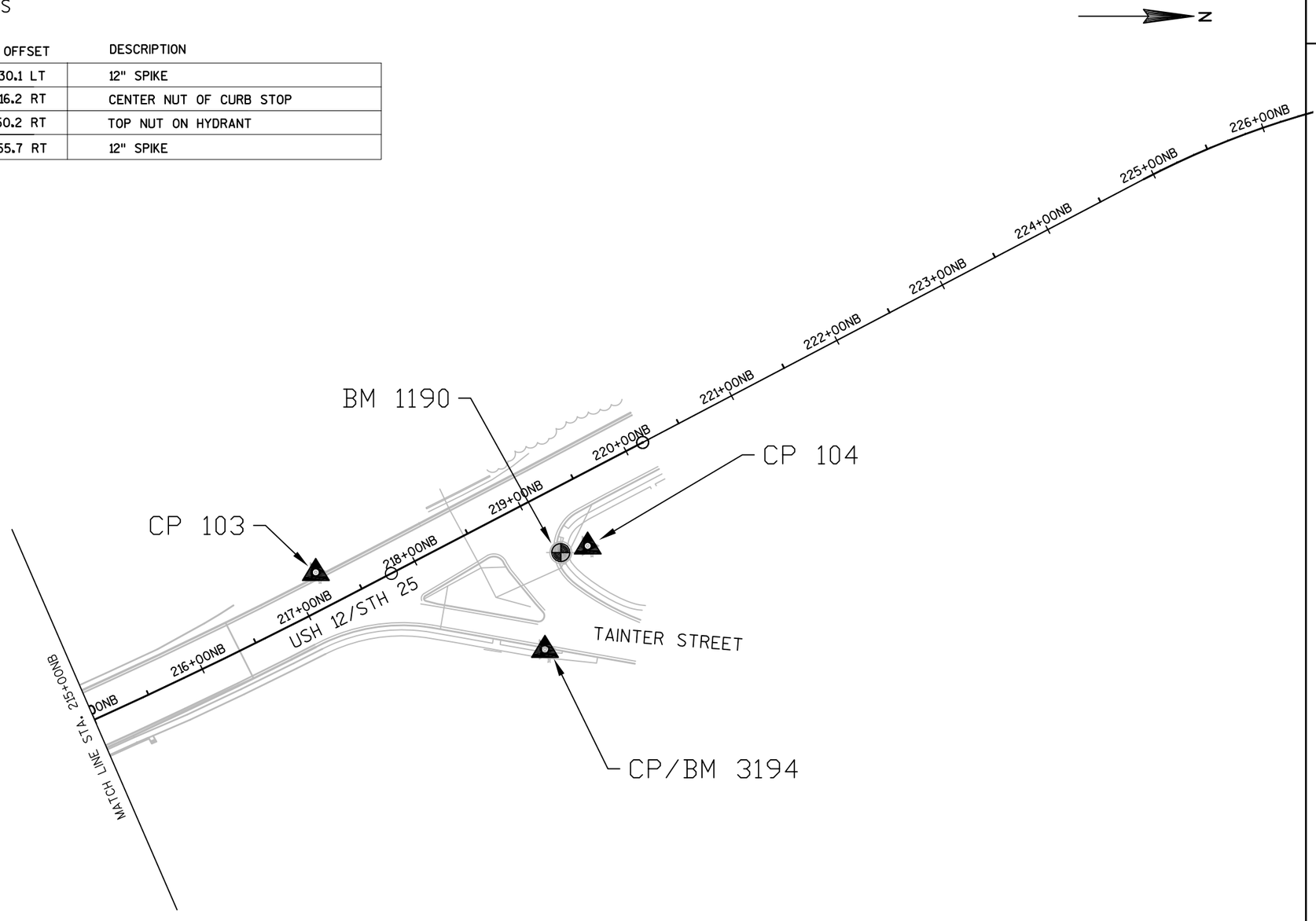


PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CONTROL POINT DETAIL	SHEET 43 E

2

CONTROL POINT LOCATIONS

POINT NAME	TYPE	X	Y	ELEV	STATION	OFFSET	DESCRIPTION
103	CP	160633.565	175459.090	---	217+22NB	30.1 LT	12" SPIKE
3194	CP/BM	160698.306	175651.493	868.85	218+63NB	116.2 RT	CENTER NUT OF CURB STOP
1190	BM	160616.965	175664.761	871.78	219+12NB	50.2 RT	TOP NUT ON HYDRANT
104	CP	160611.355	175687.357	---	219+35NB	55.7 RT	12" SPIKE



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CONTROL POINT DETAIL	SHEET 44 - E

DATE 30DEC14 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	7600-02-71 QUANTITY
0010	204.0100	Removing Pavement	SY	5,500.000	5,500.000
0060	204.0155	Removing Concrete Sidewalk	SY	24.000	24.000
0070	204.0165	Removing Guardrail	LF	525.000	525.000
0080	204.0195	Removing Concrete Bases	EACH	2.000	2.000
0110	205.0100	Excavation Common	CY	2,960.000	2,960.000
0140	213.0100	Finishing Roadway (project) 03. 7600-02-71	EACH	1.000	1.000
0150	305.0110	Base Aggregate Dense 3/4-Inch	TON	5.000	5.000
0160	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,180.000	2,180.000
0170	312.0110	Select Crushed Material	TON	240.000	240.000
0200	416.0610	Drilled Tie Bars	EACH	196.000	196.000
0210	416.0620	Drilled Dowel Bars	EACH	1,006.000	1,006.000
0280	465.0125	Asphaltic Surface Temporary	TON	185.000	185.000
0300	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	1,705.000	1,705.000
0330	602.0405	Concrete Sidewalk 4-Inch	SF	22.000	22.000
0340	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	8.000	8.000
0350	602.2400	Concrete Safety Islands	SF	995.000	995.000
0360	603.8000	Concrete Barrier Temporary Precast Delivered	LF	750.000	750.000
0370	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,000.000	1,000.000
0400	611.0624	Inlet Covers Type H	EACH	8.000	8.000
0460	614.0396	Guardrail Mow Strip Asphalt	SY	380.000	380.000
0470	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0480	614.2300	Mgs Guardrail 3	LF	850.000	850.000
0490	614.2610	Mgs Guardrail Terminal EAT	EACH	1.000	1.000
0510	619.1000	Mobilization	EACH	0.310	0.310
0530	624.0100	Water	MGAL	44.000	44.000
0540	625.0100	Topsoil	SY	1,700.000	1,700.000
0550	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0560	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0570	628.2006	Erosion Mat Urban Class I Type A	SY	1,700.000	1,700.000
0580	628.7005	Inlet Protection Type A	EACH	8.000	8.000
0590	628.7015	Inlet Protection Type C	EACH	30.000	30.000
0600	629.0210	Fertilizer Type B	CWT	1.000	1.000
0610	630.0140	Seeding Mixture No. 40	LB	31.000	31.000
0620	630.0200	Seeding Temporary	LB	46.000	46.000
0630	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	3.000	3.000
0640	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	1.000	1.000
0700	638.2102	Moving Signs Type II	EACH	6.000	6.000
0720	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0760	643.0200	Traffic Control Surveillance and Maintenance (project) 03. 7660-02-71	DAY	47.000	47.000
0770	643.0300	Traffic Control Drums	DAY	7,863.000	7,863.000
0780	643.0420	Traffic Control Barricades Type III	DAY	942.000	942.000
0790	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	61.000	61.000
0800	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	61.000	61.000
0810	643.0705	Traffic Control Warning Lights Type A	DAY	972.000	972.000
0820	643.0715	Traffic Control Warning Lights Type C	DAY	1,966.000	1,966.000
0830	643.0800	Traffic Control Arrow Boards	DAY	144.000	144.000
0840	643.0900	Traffic Control Signs	DAY	1,508.000	1,508.000
0850	643.0920	Traffic Control Covering Signs Type II	EACH	32.000	32.000

3

DATE 30DEC14 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	7600-02-71 QUANTITY
0860	643.1050	Traffic Control Signs PCMS	DAY	12.000	12.000
0870	643.2000	Traffic Control Detour (project) 03. 7600-02-71	EACH	1.000	1.000
0880	643.3000	Traffic Control Detour Signs	DAY	6,450.000	6,450.000
0890	646.0106	Pavement Marking Epoxy 4-Inch	LF	9,005.000	9,005.000
0900	646.0126	Pavement Marking Epoxy 8-Inch	LF	230.000	230.000
0930	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	4.000	4.000
0940	647.0176	Pavement Marking Arrows Epoxy Type 3	EACH	2.000	2.000
0980	647.0356	Pavement Marking Words Epoxy	EACH	4.000	4.000
0990	647.0456	Pavement Marking Curb Epoxy	LF	660.000	660.000
1010	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	150.000	150.000
1020	647.0606	Pavement Marking Island Nose Epoxy	EACH	3.000	3.000
1030	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	155.000	155.000
1040	647.0796	Pavement Marking Crosswalk Epoxy 24-Inch	LF	372.000	372.000
1050	649.0100	Temporary Pavement Marking 4-Inch	LF	3,950.000	3,950.000
1060	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	9,410.000	9,410.000
1100	650.7000	Construction Staking Concrete Pavement	LF	1,945.000	1,945.000
1150	650.9910	Construction Staking Supplemental Control (Project) 03. 7660-02-71	LS	1.000	1.000
1160	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	410.000	410.000
1180	652.0800	Conduit Loop Detector	LF	140.000	140.000
1200	653.0140	Pull Boxes Steel 24x42-Inch	EACH	2.000	2.000
1210	653.0900	Adjusting Pull Boxes	EACH	1.000	1.000
1220	653.0905	Removing Pull Boxes	EACH	2.000	2.000
1230	654.0101	Concrete Bases Type 1	EACH	1.000	1.000
1260	655.0230	Cable Traffic Signal 5-14 Awg	LF	330.000	330.000
1310	655.0630	Electrical Wire Lighting 4 Awg	LF	3,600.000	3,600.000
1330	655.0800	Loop Detector Wire	LF	368.000	368.000
1360	657.0100	Pedestal Bases	EACH	1.000	1.000
1370	657.0415	Traffic Signal Standards Aluminum 11-Ft	EACH	1.000	1.000
1440	658.0416	Pedestrian Signal Face 16-Inch	EACH	6.000	6.000
1450	658.0500	Pedestrian Push Buttons	EACH	6.000	6.000
1520	658.0635	Led Modules Pedestrian Countdown Timer 16-Inch	EACH	6.000	6.000
1550	690.0250	Sawing Concrete	LF	4,664.000	4,664.000
1560	715.0415	Incentive Strength Concrete Pavement	DOL	1,860.000	1,860.000
1670	SPV.0060	Special 09. Remove Street Light	EACH	2.000	2.000
1680	SPV.0060	Special 10. Install Salvaged Street Light And Concrete Base	EACH	2.000	2.000
1690	SPV.0060	Special 11. Remove Pedestrian Signal Head	EACH	6.000	6.000
1700	SPV.0060	Special 12. Remove Pedestrian Push Button	EACH	6.000	6.000
1770	SPV.0060	Special 19. Remove Inlet Casting	EACH	8.000	8.000
1780	SPV.0060	Special 20. Temporary Inlet Casting	EACH	5.000	5.000
1840	SPV.0090	Special 04. Concrete Curb And Gutter Cure And Seal Treatment	LF	1,705.000	1,705.000
2020	SPV.0105	Special 17. Project Concrete Crack Mitigation And Repair Special 7600-02-71	LS	1.000	1.000
2030	SPV.0165	Special 01. Concrete Sidewalk Cure And Seal Treatment	SF	22.000	22.000
2050	SPV.0180	Special 01. Concrete Pavement 8-Inch Special	SY	5,352.000	5,352.000

3

DATE 30DEC14 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	7600-02-71 QUANTITY
2070	SPV.0180	Special 03. Concrete Pavement Repair Special	SY	388.000	388.000
2080	SPV.0180	Special 04. Concrete Pavement Replacement Special	SY	455.000	455.000

3

3

REMOVING PAVEMENT

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	STATION	-	STATION	LT/RT	204.0100 REMOVING PAVEMENT (SY)
0010	STAGE 1	USH 12 / STH 25 NB					110
					STAGE 1 SUBTOTAL		110
	STAGE 2	USH 12 / STH 25 NB					22
					STAGE 2 SUBTOTAL		22
	STAGE 3	USH 12 / STH 25 NB	210+40	-	219+35	RT	2,382
					STAGE 3 SUBTOTAL		2,382
	STAGE 4	USH 12 / STH 25 SB	208+88	-	219+35	LT	2,970
					STAGE 4 SUBTOTAL		2,970
					PROJECT TOTALS		**5,500**

STAGING NOTE: STAGED QUANTITIES ARE BASED ON THE TRAFFIC CONTROL PLANS SHOWN. CHANGES IN PROJECT STAGING WILL AFFECT STAGED QUANTITIES.

REMOVING CONCRETE SIDEWALK

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	STATION	-	STATION	LT/RT	204.0155 REMOVING CONCRETE SIDEWALK (SY)
0010	STAGE 3	USH 12 / STH 25	204+75	-	204+95	LT	24
					STAGE 3 SUBTOTAL		24
					PROJECT TOTALS		**24**

3

EXCAVATION SUMMARY

DIVISION	FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON(1) (CY) CUT(2)	EBS EXCAVATION (3)
1	210+80 - 220+60	USH 12 - STAGE 1 TEMPORARY WIDENING	416	0
		DIVISION 1 SUBTOTAL	416	0
2	208+88 - 219+35.17	USH 12 - STAGE 3 & 4 PAVEMENT REPLACEMENT	2,423	121
		DIVISION 2 SUBTOTAL	2,423	121
		SUBTOTALS	2,839	121
	PROJECT TOTAL			**2,960**

NOTE 1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100.
NOTE 2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
NOTE 3) EBS ESTIMATED AT 5% IN RECONSTRUCTION AREAS.
NOTE 4) AVAILABLE MATERIAL = NONE, ASSUMED ALL MATERIAL WILL NOT BE SALVAGED FOR FILL.
NOTE 5) BASE AGGREGATE DENSE PLACED FOR TEMPORARY WIDENING ASSUMED TO REMAIN IN PLACE - NO BORROW FILL INCLUDED WITH PROJECT.

AGGREGATE ITEMS

CATEGORY	LOCATION	STA - STA	LT / RT	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)	312.0110 SELECT CRUSHED MATERIAL (TON)	624.0100 WATER (MGAL)
0010	USH 12 / MEADOW RD SIDEWALK	204+75 - 204+95	LT	5	--	--	--
	USH 12 / STH 25 NB	210+40 - 219+35	RT	--	795	--	16
	USH 12 / STH 25 SB	208+88 - 219+35	LT	--	990	--	20
	USH 12 STH 25 MEDIAN	207+65 - 208+25	-	--	60	--	1
	TEMPORARY WIDENING	211+40 - 220+40	LT	--	335	--	7
	UNDISTRIBUTED (EBS)			--	--	240	--
		PROJECT TOTALS		**5**	**2,180**	**240**	**44**

CONCRETE PAVEMENT ITEMS

WORK TO BE COMPLETED DURING STAGE	LOCATION	STATION	-	STATION	LT / RT	SPV.0180.01 CONCRETE PAVEMENT 8-INCH SPECIAL (SY)	*416.0610 DRILLED TIE BARS (EACH)	*416.0620 DRILLED DOWEL BARS (EACH)
STAGE 3	USH 12 / STH 25 NB	210+40	-	219+35	RT	2,382	16	32
				STAGE 3 SUBTOTAL		2,382	16	32
STAGE 4	USH 12 / STH 25 SB	208+88	-	219+35	LT	2,970	18	36
				STAGE 4 SUBTOTAL		2,970	18	36
				PROJECT TOTALS		**5,352**	**34**	**68**

* ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLAN SET

CONCRETE PAVEMENT REPLACEMENTS AND REPAIRS

WORK TO BE COMPLETED DURING STAGE	BEGIN STATION	END STATION	LOCATION	*416.0610 DRILLED TIE BARS (EACH)	*416.0620 DRILLED DOWEL BARS (EACH)	690.0250 SAWING CONCRETE (LF)	SPV.0180.03 CONCRETE PAVEMENT REPAIR SPECIAL (SY)	SPV.0180.04 CONCRETE PAVEMENT REPLACEMENT SPECIAL (SY)
STAGE 1								
	201+03	201+09	SB	-	16	36	8	-
	201+09	201+15	NB	-	16	36	8	-
	201+75	201+81	NB	-	16	36	8	-
	202+04	202+10	NB	-	16	36	8	-
	203+25	203+31	NB	-	16	36	8	-
	203+25	203+68	NB	32	16	106	-	48
	204+15	204+21	NB	-	16	36	8	-
	205+21	205+27	NB	-	16	36	8	-
	205+32	205+57	SB	9	16	73	-	34
	205+51	205+77	NB	9	16	76	-	35
	205+66	205+72	SB	-	16	36	8	-
	205+78	205+84	SB	-	16	36	8	-
	205+83	205+89	NB	-	16	36	8	-
	205+93	205+99	SB	-	16	36	8	-
	205+95	206+01	NB	-	16	36	8	-
	206+07	206+13	SB	-	16	36	8	-
	206+12	206+18	NB	-	16	36	8	-
	206+30	206+36	NB	-	16	36	8	-
	206+42	206+48	SB	-	16	36	8	-
	206+74	206+80	SB	-	16	36	8	-
	206+80	207+01	NB	8	16	66	-	28
	206+90	206+96	SB	-	16	36	8	-
	207+34	207+79	SB	17	16	114	-	60
	207+73	207+79	NB	-	16	36	8	-
	208+60	208+66	NB	-	16	36	8	-
	STAGE 1 TOTAL			75	400	1,155	160	205
STAGE 2								
	201+03	201+09	SB	-	16	30	8	-
	201+20	201+29	NB	-	16	42	12	-
	202+04	202+10	NB	-	16	30	8	-
	204+15	204+21	NB	-	16	30	8	-
	204+85	205+17	SB	24	16	88	-	43
	205+21	205+27	NB	-	16	30	8	-
	205+32	205+57	SB	9	16	49	-	34
	205+51	205+77	NB	9	16	50	-	35
	205+66	205+72	SB	-	16	30	8	-
	205+78	205+84	SB	-	16	30	8	-
	205+83	205+89	NB	-	16	30	8	-
	205+93	205+99	SB	-	16	30	8	-
	205+95	206+01	NB	-	16	30	8	-
	206+07	206+13	SB	-	16	30	8	-
	206+12	206+18	NB	-	16	30	8	-
	206+42	206+48	SB	-	16	30	8	-
	206+74	206+80	SB	-	16	30	8	-
	206+80	207+01	NB	8	16	45	-	28
	206+90	206+96	SB	-	16	30	8	-
	207+34	207+79	SB	17	16	69	-	60
	207+73	207+79	NB	-	16	30	8	-
	208+60	208+66	NB	-	16	30	8	-
			TAINTER ST	-	32	60	16	-
			TAINTER ST	-	32	60	16	-
			TAINTER ST	-	32	60	16	-
	208+88	219+00	C&G REMOVAL	-	-	1012	-	-
	STAGE 2 TOTAL			67	448	2,015	188	200
STAGE 3								
	208+88	219+00	CENTERLINE	-	-	1040	-	-
	STAGE 3 TOTAL			-	-	1,040	-	-
STAGE 4								
	208+88	219+00	LIMITS	-	-	24	-	-
	STAGE 4 TOTAL			-	-	24	-	-
			SUBTOTAL	142	848	4,234	348	405
			UNDISTRIBUTED	20	90	430	40	50
	PROJECT TOTALS			**162**	**938**	**4,664**	**388**	**455**

* ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLAN SET

HMA PAVEMENT ITEMS

LOCATION	STATION - STATION	LOCATION	465.0125 ASPHALTIC SURFACE TEMPORARY (TON)
CATEGORY 0010			
TEMPORARY CROSSOVER	207+65 - 208+25	USH 12 / STH 25 MEDIAN	25
TEMPORARY WIDENING	211+40 - 220+40	USH 12 / STH 25 SB	160
		PROJECT TOTAL	**185**

CONCRETE CURB & GUTTER

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	STATION TO STATION	O/S	601.0409 30-INCH TYPE A (LF)	SPV.0090.04 CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT (LF)	602.2400 CONCRETE SAFETY ISLANDS (SF)
0010	STAGE 3	USH 12/STH 25	210+36 - 217+24	RT	655	655	-
			STAGE 3 SUBTOTAL		655	655	0
	STAGE 4	USH 12/STH 25	208+86 - 219+36	LT	1,050	1,050	-
			STAGE 4 SUBTOTAL		1,050	1,050	0
	STAGE 5	USH 12/STH 25	207+50 - 208+25	MEDIAN	-	-	995
			STAGE 5 SUBTOTAL		0	0	995
			PROJECT TOTALS		**1,705**	**1,705**	**995**

CONCRETE SIDEWALK ITEMS

CATEGORY	WORK TO BE COMPLETED DURING STAGE	LOCATION	STATION - STATION	LT / RT	602.0405 CONCRETE SIDEWALK 4-INCH (SF)	SPV.0165.01 CONCRETE SIDEWALK CURE AND SEAL TREATMENT (SF)	602.0515 DETECTABLE WARNING FIELD NATURAL PATINA (SF)
0010	STAGE 3	USH 12 / STH 25	204+75 - 204+95	LT	22	22	8
			STAGE 3 SUBTOTAL		22	22	8
			PROJECT TOTALS		**22**	**22**	**8**

STORM SEWER ITEMS

CATEGORY	ID NUMBER	STATION	OFFSET	LT/RT	611.0624 INLET COVERS TYPE H (EACH)	SPV.0060.19 REMOVE INLET CASTING (EACH)	SPV.0060.20 TEMPORARY INLET CASTING (EACH)	628.7005 INLET PROTECTION TYPE A (EACH)	628.7015 INLET PROTECTION TYPE C (EACH)
0010	-	200+91	0'	RT	--	--	--	--	1
	-	200+91	16'	LT	--	--	--	--	1
	-	200+91	46'	LT	--	--	--	--	1
	-	202+15	25'	RT	--	--	--	--	1
	-	202+15	7.5'	LT	--	--	--	--	1
	-	202+15	17'	LT	--	--	--	--	1
	-	202+15	44'	LT	--	--	--	--	1
	-	203+65	9'	LT	--	--	--	--	1
	-	203+65	18'	LT	--	--	--	--	1
	-	203+65	45'	LT	--	--	--	--	1
	-	204+62	90'	RT	--	--	--	--	1
	-	204+93	78'	RT	--	--	--	--	1
	-	205+07	0'	RT	--	--	--	--	1
	-	204+73	83'	LT	--	--	--	--	1
	-	204+96	38'	LT	--	--	--	--	1
	-	206+95	24'	RT	--	--	--	--	1
	-	206+95	0'	RT	--	--	--	--	1
	1.0	209+37	37'	LT	1	1	1	1	1
	-	209+85	24'	RT	--	--	--	--	1
	2.0	211+37	38.5'	LT	1	1	1	1	1
	3.0	211+33	25'	RT	1	1	--	1	1
	4.0	213+85	25'	LT	1	1	1	1	1
	5.0	213+85	25'	RT	1	1	--	1	1
	6.0	216+35	25'	LT	1	1	1	1	1
	7.0	216+35	25'	RT	1	1	--	1	1
	8.0	218+45	25'	LT	1	1	1	1	1
	-	217+90	31'	RT	--	--	--	--	1
	-	217+94	59'	RT	--	--	--	--	1
	-	218+68	40'	RT	--	--	--	--	1
	-	219+04	62'	RT	--	--	--	--	1
	PROJECT TOTALS				**8**	**8**	**5**	**8**	**30**

GUARDRAIL ITEMS

STATION - STATION	LOCATION	204.0165 REMOVING GUARDRAIL (LF)	614.2300 MGS GUARDRAIL 3 (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)	614.0396 GUARDRAIL MOW STRIP ASPHALT (SY)
212+50 - 216+50	LT	400	--	--	--
217+95 - 218+95	LT	100	--	--	--
220+67 - 220+92	LT	25	--	--	--
212+42 - 220+92	LT	--	850	--	380
211+92 - 212+42	LT	--	--	1	--
PROJECT TOTALS		**525**	**850**	**1**	**380**

LANDSCAPING ITEMS

CATEGORY	LOCATION	625.0100 TOPSOIL (SY)	628.2006 EROSION MAT URBAN CLASS I TYPE A (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0140 SEEDING MIXTURE NO. 40 (LB)	630.0200 SEEDING TEMPORARY (LB)
0010	USH 12 / STH 25 NB	622	622	0.4	11	17
	USH 12 / STH 25 SB	929	929	0.6	17	25
	CURB RAMP REPAIRS	78	78	0.0	1	2
	UNDISTRIBUTED	70	70	0.0	1	2
	PROJECT TOTAL	**1,700**	**1,700**	**1**	**31**	**46**

CONCRETE BARRIER TEMPORARY ITEMS

STATION - STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED (LF)	* 603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED (LF)	614.0905 CRASH CUSHION TEMPORARY (EACH)
212+35 - 219+85	LT	750	1,000	2
	PROJECT TOTALS	**750**	**1,000**	**2**

* INCLUDES PINNING TO TEMPORARY PAVEMENT

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)
STAGE 1	1	--
STAGE 2	1	--
STAGE 3	3	1
STAGE 4	3	1
PROJECT TOTALS	**8**	**2**

3

PERMANENT SIGNING TYPE II

CATEGORY	SIGN #	SIGN CODE	SIGN SIZE	SIGN SIZE IN	634.0614 POSTS WOOD 4X6-IN 14 FT (EACH)	634.0616 POSTS WOOD 4X6-IN 16 FT (EACH)	638.2102 MOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	SIGN MOUNTED ON SAME POST AS	REMARKS
0010	2M-01	R4-7	2M	24X30	1	--	1	1	--	KEEP RIGHT
	3M-01	R7-1D	2M	24X30	1	--	1	1	--	NO PARKING ANY TIME (DOUBLE ARROW)
	4M-01	R7-1D	2M	24X30	1	--	1	1	--	NO PARKING ANY TIME (DOUBLE ARROW)
	4M-02	CUSTOM			--	1	1	1	--	"TAINTER"
	4M-03	D9-2	2M	24X24	--	--	1	--	7M-02	HOSPITAL
	4M-04	W16-5P	2M	18X24	--	--	1	--	7M-02	"AHEAD"
				PROJECT TOTALS	**3**	**1**	**6**	**4**		

TRAFFIC CONTROL - DETOUR SIGNS

CATEGORY	LOCATION	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II (LF)	DAYS IN PHASE	DETOUR SIGNS (EACH)	643.3000 TRAFFIC CONTROL DETOUR SIGNS (DAY)	643.2000 TRAFFIC CONTROL DETOUR (EACH)
0010	I-94 ALTERNATE ROUTES	32	75	86	6,450	1
	PROJECT TOTALS	**32**			**6,450**	**1**

TRAFFIC SIGNAL LOOP DETECTORS

LOCATION / LOOP NO.	STATION	SIZE FT X FT	NO. OF TURNS	652.0800 CONDUIT LOOP DETECTOR LF	655.0800 LOOP DETECTOR WIRE LF
11	203+71	6 X 6	3	26	78
12	203+46	5 X 20	2	52	104
21	206+45	6 X 24	3	62	186
		SUBTOTALS		140	368
		PROJECT TOTALS		**140**	**368**

PAVEMENT MARKING

BEGIN STA - END STA	LOCATION	646.0106 EPOXY 4-INCH (WHITE) (LF)	646.0106 EPOXY 4-INCH (YELLOW) (LF)	646.0126 EPOXY 8-INCH (WHITE) (LF)	647.0166 ARROWS EPOXY TYPE 2 (EACH)	647.0176 ARROWS EPOXY TYPE 3 (EACH)	647.0356 WORDS EPOXY (EACH)	647.0456 CURB EPOXY (YELLOW) (LF)	647.0566 STOP LINE EPOXY 18-INCH (LF)	647.0606 ISLAND NOSE EPOXY (EACH)	647.0726 DIAGONAL EPOXY 12-INCH (YELLOW) (LF)	647.0796 CROSSWALK EPOXY 24-INCH (LF)
PROJECT START - END												
195+00 - 203+60	NB	850	560	100	1	-	1	5	34	1	-	-
204+80 - 225+00	NB	575	2,125	-	-	-	-	330	-	2	155	54
195+00 - 203+60	SB	840	570	-	-	-	-	5	-	-	-	-
204+80 - 229+00	SB	800	2,125	80	1	-	1	320	36	-	-	54
	SUBTOTALS	8,445		180	2	0	2	660	70	3	155	108
TAINTER STREET												
10+00 - 11+62	RT / LT	-	240	-	-	-	-	-	25	-	-	96
	SUBTOTALS	240		0	0	0	0	0	25	0	0	96
MEADOW HILL ROAD												
10+00 - 11+41	RT / LT	-	50	25	1	1	1	-	25	-	-	78
	SUBTOTALS	50		25	1	1	1	0	25	0	0	78
WOLSKE BAY ROAD												
10+00 - 11+90	RT / LT	-	270	25	1	1	1	-	30	-	-	90
	SUBTOTALS	270		25	1	1	1	0	30	0	0	90
	PROJECT TOTALS	**9,005**		**230**	**4**	**2**	**4**	**660**	**150**	**3**	**155**	**372**

TEMPORARY PAVEMENT MARKINGS

WORK TO BE COMPLETED DURING STAGE	STATION TO STATION	LOCATION	649.0100 TEMPORARY PAVEMENT MARKING 4-INCH WHITE (LF)	649.0100 TEMPORARY PAVEMENT MARKING 4-INCH YELLOW (LF)	649.0400 REMOVABLE TAPE 4-INCH WHITE (LF)	649.0400 REMOVABLE TAPE 4-INCH YELLOW (LF)
STAGE 1	197+00 - 211+00	STH 25	--	--	--	--
	STAGE 1 SUBTOTAL		0		0	
STAGE 2	198+00 - 225+00	STH 25	--	--	--	--
	STAGE 3 SUBTOTAL		0		0	
STAGE 3	205+00 - 229+00	STH 25	1,950	2,000	650	2,160
	STAGE 3 SUBTOTAL		3,950		2,810	
STAGE 4	205+00 - 207+00	STH 25	--	--	2,550	4,050
	STAGE 4 SUBTOTAL		0		6,600	
STAGE 5	205+00 - 211+00	STH 25	--	--	--	--
	STAGE 5 SUBTOTAL		0		0	
	PROJECT TOTALS		**3,950**		**9,410**	

3

TRAFFIC CONTROL DEVICES

WORK TO BE COMPLETED DURING STAGE	LOCATION	STATION - STATION	LT/RT	DAYS IN PHASE	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (DAYS)	643.1050 SIGNS PCMS (NO.)	643.1050 SIGNS PCMS (DAYS)	643.0300 DRUMS (NO.)	643.0300 DRUMS (DAYS)	643.0420 BARRICADES TYPE III (NO.)	643.0420 BARRICADES TYPE III (DAYS)	643.0705 WARNING LIGHTS TYPE A (NO.)	643.0705 WARNING LIGHTS TYPE A (DAYS)	643.0715 WARNING LIGHTS TYPE C (NO.)	643.0715 WARNING LIGHTS TYPE C (DAYS)	643.0800 ARROW BOARDS (NO.)	643.0800 ARROW BOARDS (DAYS)	643.0900 TRAFFIC CONTROL SIGNS (NO.)	643.0900 TRAFFIC CONTROL SIGNS (DAYS)	643.0500 FLEXIBLE TUBULAR MARKER POSTS (EACH)	643.0600 FLEXIBLE TUBULAR MARKER BASES (EACH)
STAGE 1	STH 25	197+00 - 212+00	LT/RT	6	6	2	12	142	852	11	66	4	24	30	180	2	12	16	96	--	--
	STAGE 1 SUBTOTAL				6	2	12	142	852	11	66	4	24	30	180	2	12	16	96	0	0
STAGE 2	STH 25	198+00 - 225+00	LT/RT	10	10	--	--	209	2,090	3	30	4	40	30	300	2	20	20	200	--	--
	STAGE 2 SUBTOTAL				10	0	0	209	2,090	3	30	4	40	30	300	2	20	20	200	0	0
STAGE 3	STH 25	205+00 - 229+00	LT/RT	28	28	0	0	102	2,856	14	392	16	448	29	812	2	56	25	700	36	36
	STAGE 3 SUBTOTAL				28	0	0	102	2,856	14	392	16	448	29	812	2	56	25	700	36	36
STAGE 4	STH 25	205+00 - 229+00	LT/RT	28	28	0	0	70	1,960	16	448	16	448	23	644	2	56	17	476	25	25
	STAGE 4 SUBTOTAL				0	0	0	70	1,960	16	448	16	448	23	644	2	56	17	476	25	25
STAGE 5	STH 25	205+00 - 211+00	LT/RT	3	3	0	0	35	105	2	6	4	12	10	30	0	0	12	36	--	--
	STAGE 5 SUBTOTAL				3	0	0	35	105	2	6	4	12	10	30	0	0	12	36	0	0
	PROJECT TOTALS				**47**	**12**		**7,863**		**942**		**972**		**1,966**		**144**		**1,508**		**61**	**61**

CONSTRUCTION STAKING

STATION	-	STATION	DESCRIPTION	650.7000 CONCRETE PAVEMENT (LF)	650.9910.03 SUPPLEMENTAL CONTROL (LS)
PROJECT			USH 12 / STH 25	1945	1
			PROJECT TOTALS	**1945**	**1**

LIGHTING

CATEGORY	PROJECT	204.0195 REMOVE CONCRETE BASES (EA)	* 652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	653.0140 PULL BOXES STEEL 24X42-INCH (EA)	653.0905 REMOVING PULL BOXES (EA)	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	SPV.0060.09 REMOVE STREET LIGHT (EA)	SPV.0060.10 INSTALL SALVAGED STREET LIGHT AND CONCRETE BASE (EA)
0010	NORTH BROADWAY	2	400	2	2	3600	2	2
	PROJECT TOTALS	2	400	2	2	3600	2	2

* ADDITIONAL QUANTITIES FOUND ELSEWHERE IN PLAN SET

TRAFFIC SIGNALS

CATEGORY	PROJECT	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	653.0900 ADJUSTING PULL BOXES (EA)	654.0101 CONCRETE BASES TYPE 1 (EA)	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG LF	657.0100 PEDESTAL BASES (EA)	657.0415 TRAFFIC SIGNAL STANDARDS ALUMINUM 11-FT (EA)	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH (EA)	658.0500 PEDESTRIAN PUSH BUTTONS (EA)	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH (EA)	SPV.0060.11 REMOVE PEDESTRIAN SIGNAL HEAD (EA)	SPV.0060.12 REMOVE PEDESTRIAN PUSH BUTTON (EA)
0020	NORTH BROADWAY	10	1	1	330	1	1	6	6	6	6	6
	CATEGORY 0020 TOTALS	10	1	1	330	1	1	6	6	6	6	6
	PROJECT TOTALS	10	1	1	330	1	1	6	6	6	6	6

CITY OF MENOMONIE - SANITARY (TYP.)

CITY OF MENOMONIE - STORM SEWER (TYP.)

XCEL ENERGY - OVERHEAD ELECTRIC (TYP.)

SAWCUT (TYP.)

MATCH LINE STA. 212+00

USH 12/STH 25

USH 12/STH 25 R/L

PI: 208+87.09

CONCRETE REPAIR/
REPLACEMENT (TYP.)
SEE PLAN DETAILS

AT&T WI - TELEPHONE (TYP.)

CITY OF MENOMONIE -
STREET LIGHTS (TYP.)

STA. 208+85 LT - STA. 210+33 RT
END CONCRETE PAVEMENT REPAIRS
BEGIN PAVEMENT REPLACEMENT

STA. 208+85 (SB)
BEGIN PAVEMENT REPLACEMENT
MATCH EXISTING
SAWCUT REQ'D.

VPC STA 209+05.00
VPC EL 834.14

VCL = 100.00
K = 37.29

VPT STA 210+05.00
VPT EL 836.21

VPI STA 209+55.00
VPI EL 834.500

STA = 208+85.00
ELEV = 833.990

0.73%

3.41%

EXISTING R/L GRADE

PROPOSED R/L GRADE

EXISTING

PROPOSED

840

830

832.21	832.92	833.78	834.07 **834.10**	836.06 **836.04**	839.56 **839.44**	842.88 **842.85**
206+00	207+00	208+00	209+00	210+00	211+00	212+00

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN AND PROFILE: USH 12 (NORTH BROADWAY)	SHEET 54 E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN AND PROFILE\NORTH BROADWAY PROFILE.DWG PLOT DATE : 10/3/2013 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 44

STA. 211+92 - STA. 212+42 LT
MSG GUARDRAIL TERMINAL EAT REQ'D.
(SEE S.D.D.)

STA. 212+42 - STA. 220+92 LT
MSG GUARDRAIL 3 REQ'D.
(SEE S.D.D.)

N

XCEL ENERGY - OVERHEAD
ELECTRIC (TYP.)

STA. 212+51 LT - STA. 216+48 LT
REMOVING GUARDRAIL

PC: 213+17.53

PT: 217+34.30

MATCH LINE STA. 212+00

MATCH LINE STA. 218+00

213 214 215 216 217

USH 12/STH 25

USH 12/STH 25 R/L

TAINTER STREET

CITY OF MENOMONIE- STREET LIGHTS (TYP.)

CITY OF MENOMONIE - STORM SEWER (TYP.)

PROPOSED R/L GRADE

EXISTING R/L GRADE

3.41%

SAME POINT

EXISTING R/L GRADE

4.96%

PROPOSED R/L GRADE

VPC STA 216+00.00
VPC EL 856.49

VPI STA 216+50.00
VPI EL 858.200

VPT STA 217+00.00
VPT EL 860.68

VCL = 100.00

K = 64.52

EXISTING PROPOSED

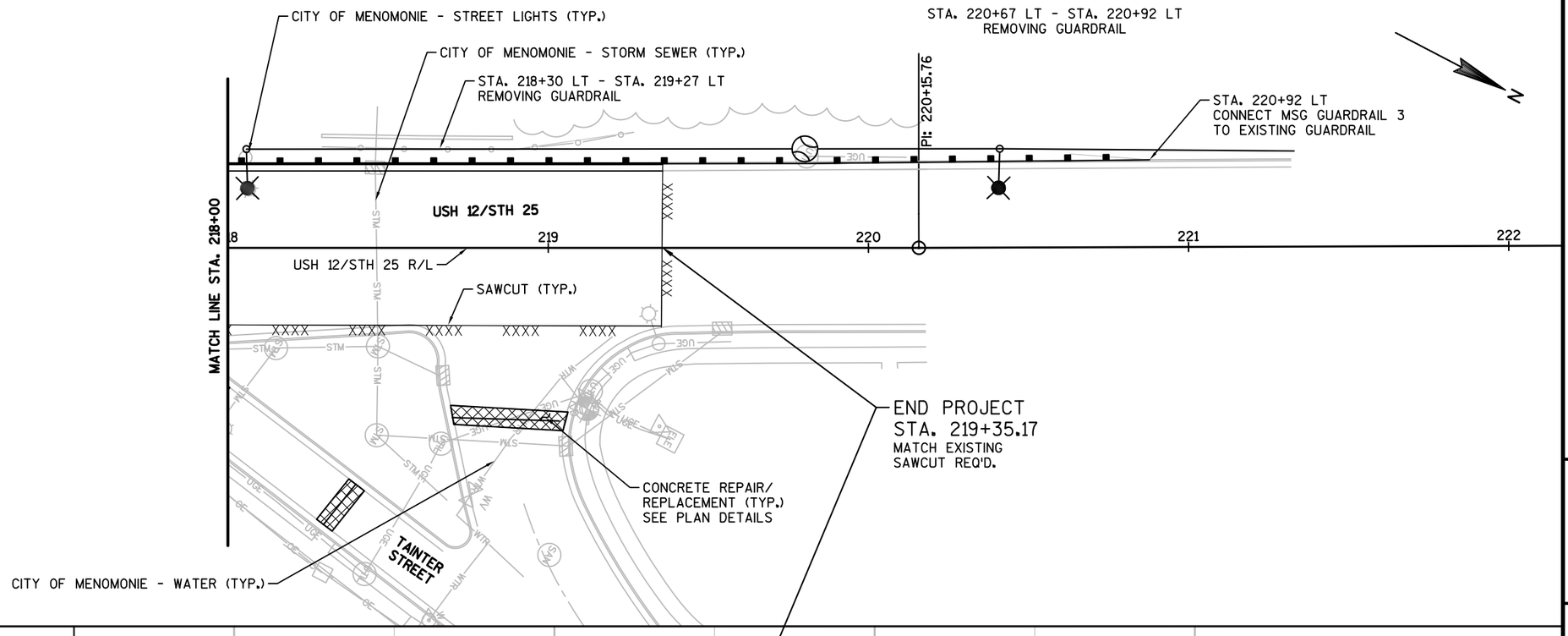
842.88	846.33	849.64	853.04	856.48	860.71	865.65
842.85	**846.26**	**849.67**	**853.08**	**856.49**	**860.68**	**865.61**

212+00 213+00 214+00 215+00 215+50 216+00 217+00 218+00

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN AND PROFILE: USH 12 (NORTH BROADWAY)	SHEET 55 E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\PLAN AND PROFILE\NORTH BROADWAY PROFILE.DWG PLOT DATE : 10/25/2013 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 44

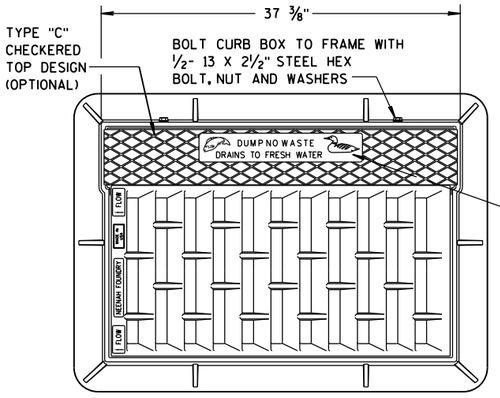


PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	PLAN AND PROFILE: USH 12 (NORTH BROADWAY)	SHEET 56 E

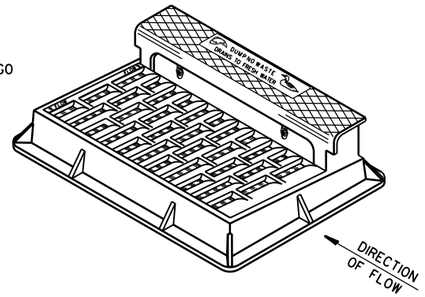
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
11B02-02	CONCRETE MEDIAN NOSE
13C01-17	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-11A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B28-03	GUARDRAIL MOW STRIP
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C18-03	MEDIAN ISLAND MARKING
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

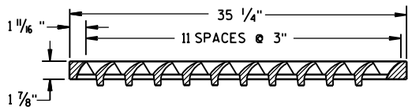
6

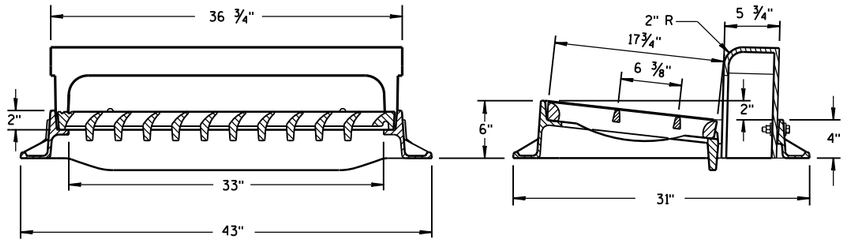


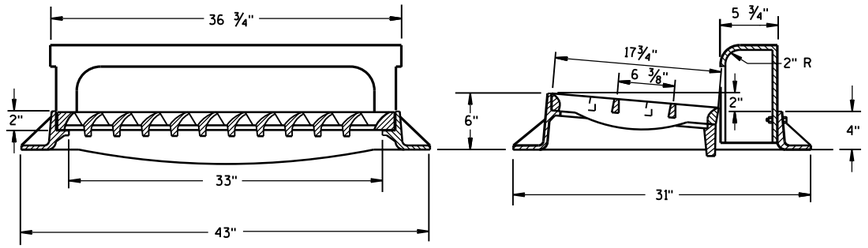
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

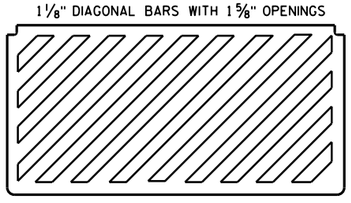






TYPE "H"

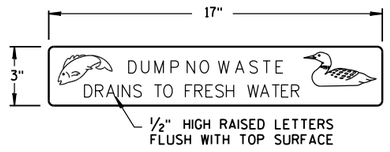
NOTE: EITHER CASTING IS ACCEPTABLE



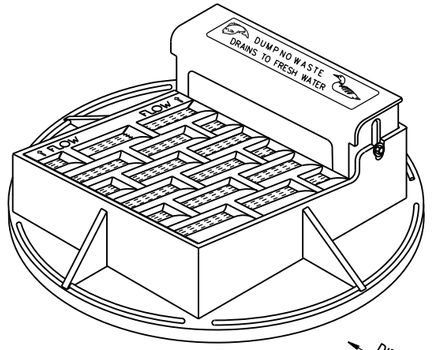
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

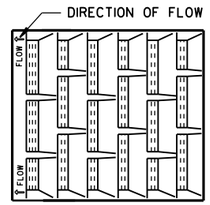
NOTE:
GRATE IS REVERSIBLE.

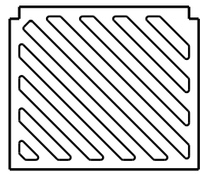
GENERAL NOTES

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

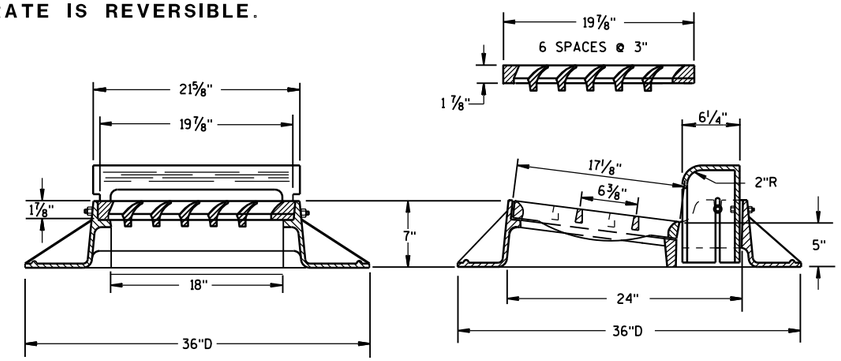




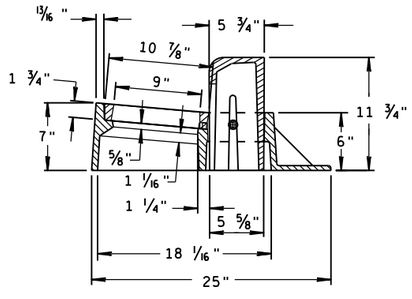
SPECIAL GRATE FOR TYPE "A" COVER

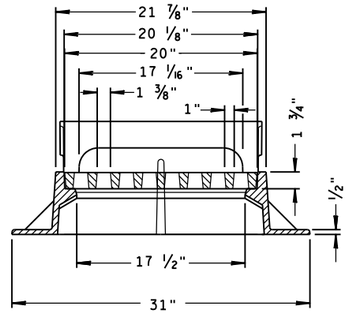
(MEASURES 19 3/4" X 17" X 1 7/8")

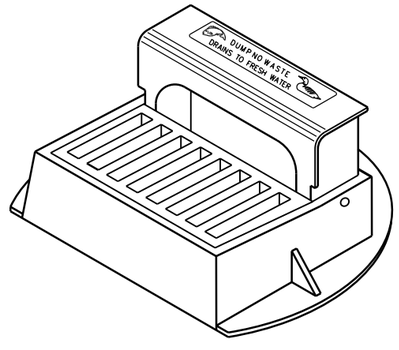
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

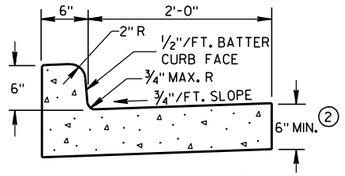
INLET COVERS
TYPE A, H, A-S, H-S & Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

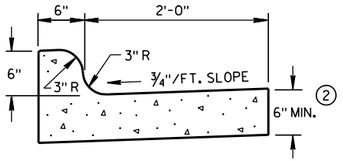
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

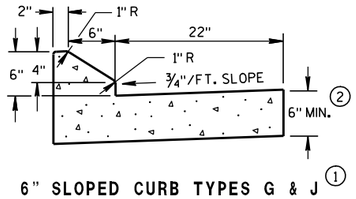
S.D.D. 8 A 5-19a



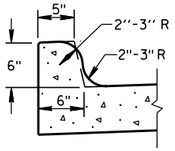
TYPES A & D (1)



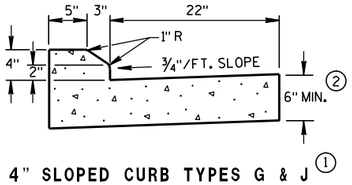
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

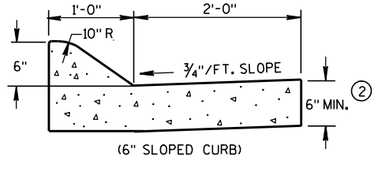


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

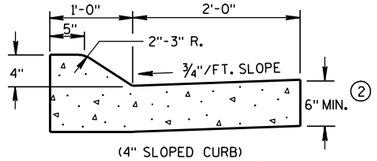


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

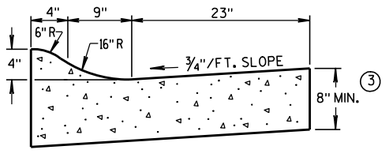


(6" SLOPED CURB)



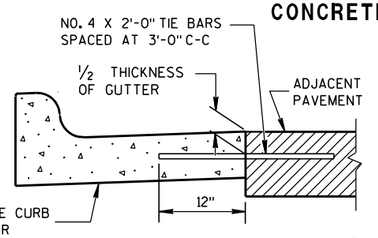
(4" SLOPED CURB)

TYPES A & D (1)

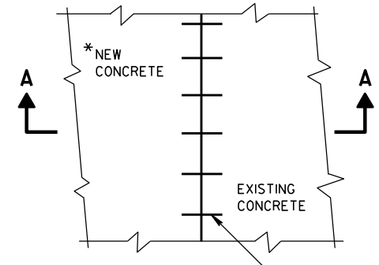


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

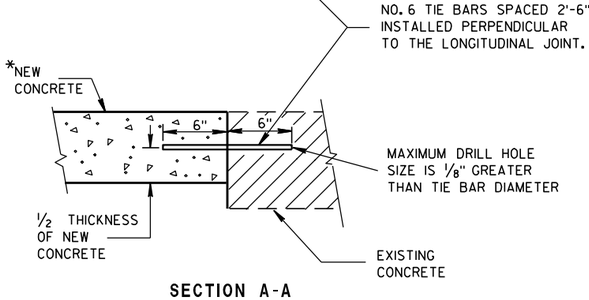


TYPICAL TIE BAR LOCATION (1)



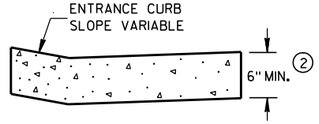
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW



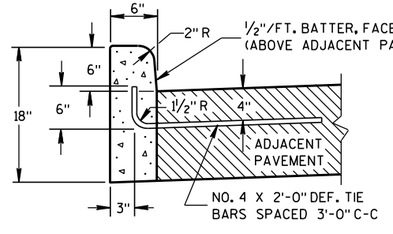
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



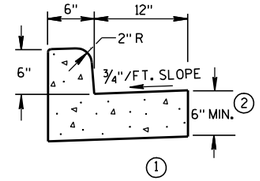
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



(1)

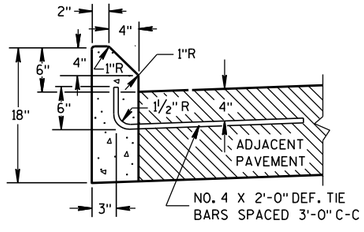
TYPES A & D



(1)

TYPES A & D

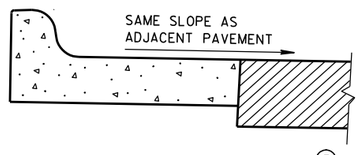
CONCRETE CURB & GUTTER 18"



(1)

TYPES G & J

CONCRETE CURB



(5)

REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

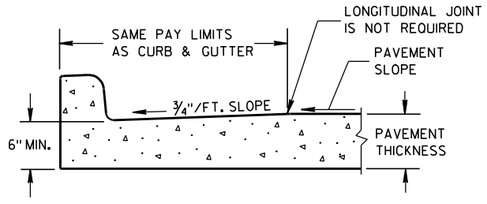
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

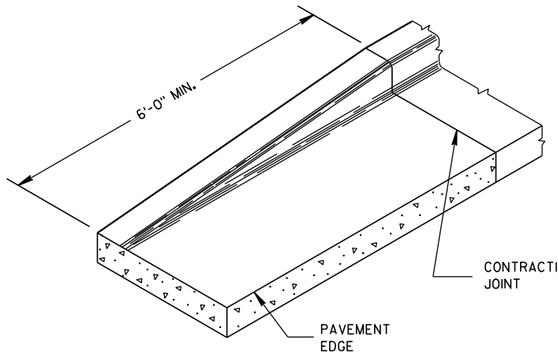
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08 DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

59

ENT

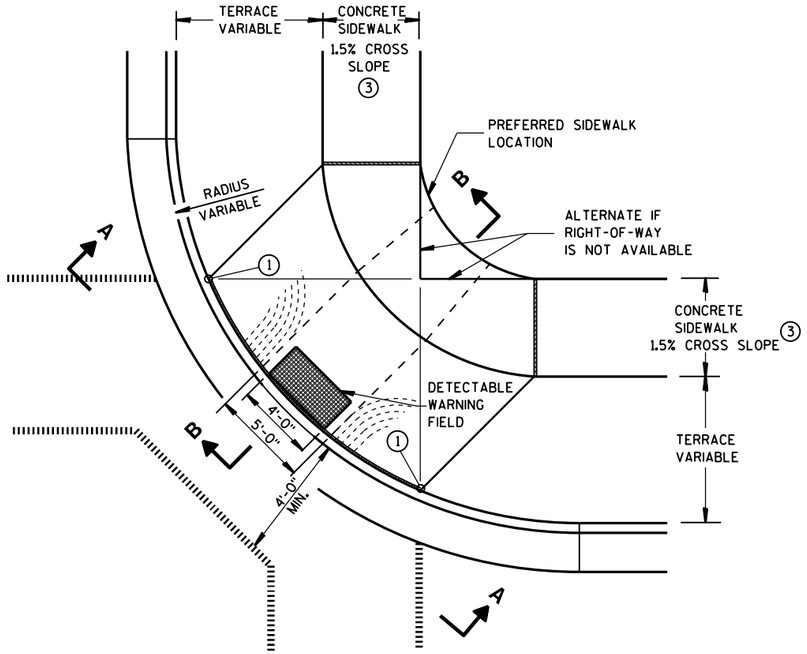
FHWA

6

S.D.D. 8 D 1-17

6

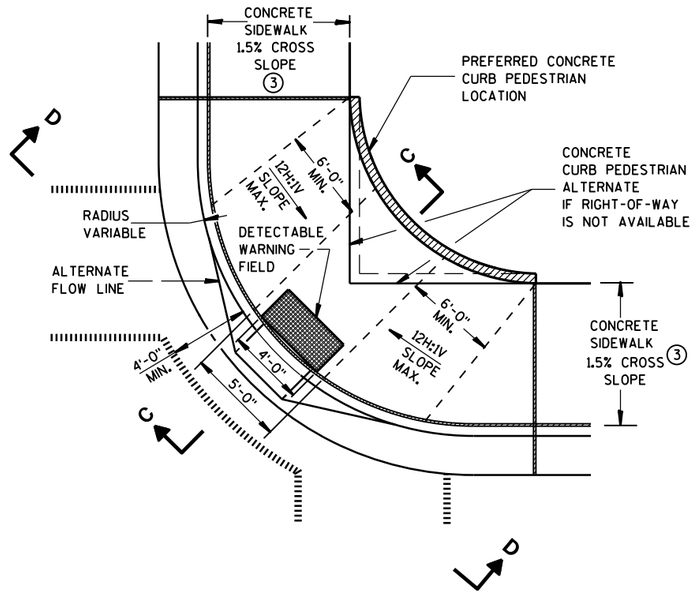
S.D.D. 8 D 1-17



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

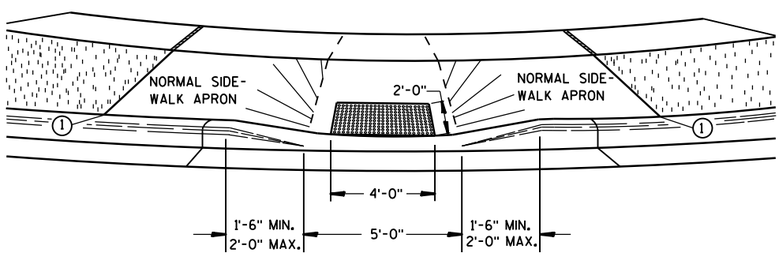
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

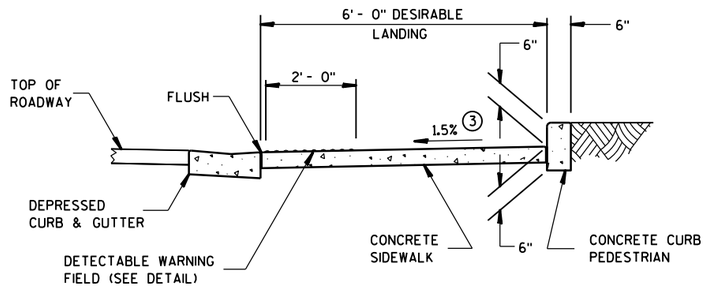
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

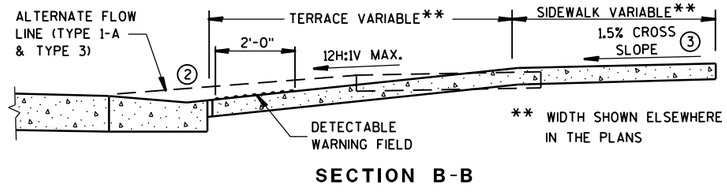
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



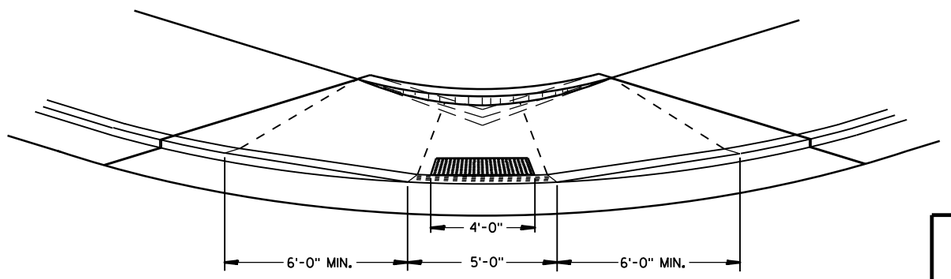
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

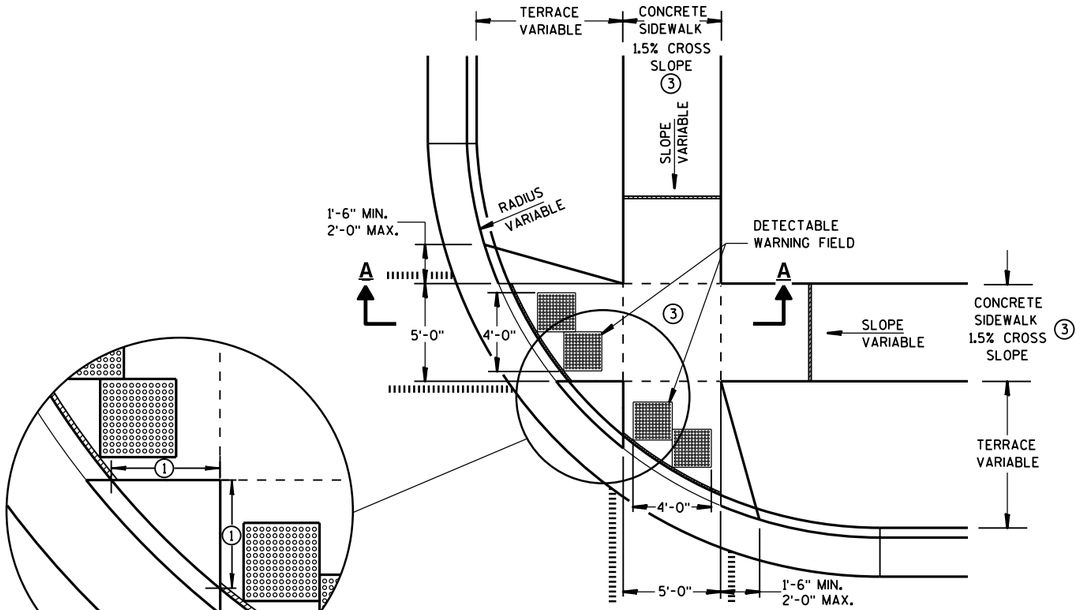
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

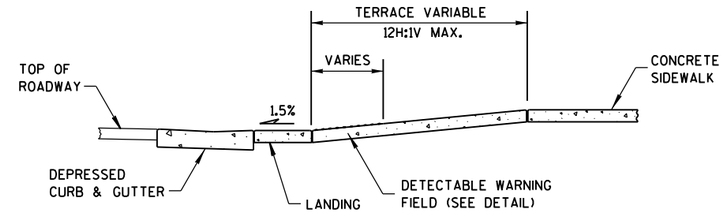
S.D.D. 8 D 5-15a

6

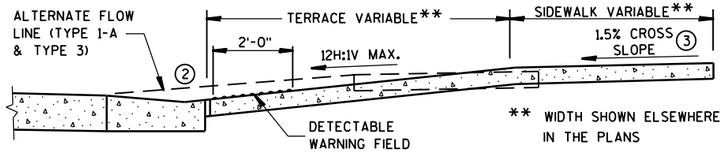
S.D.D. 8 D 5-15a



PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

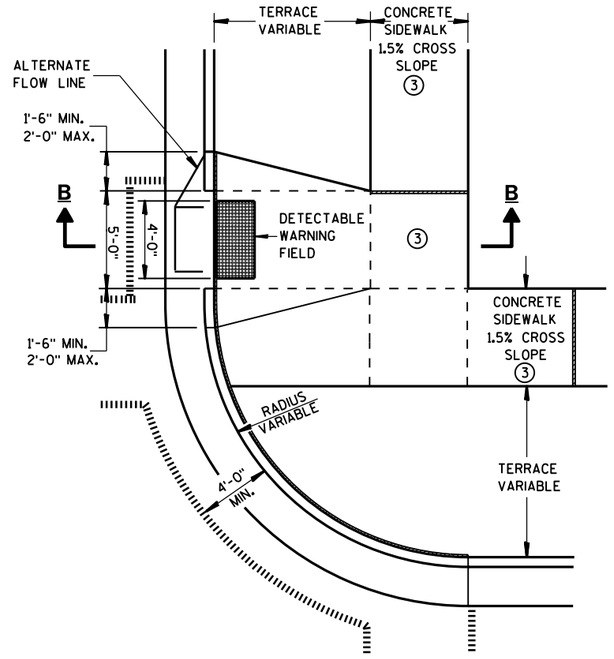
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



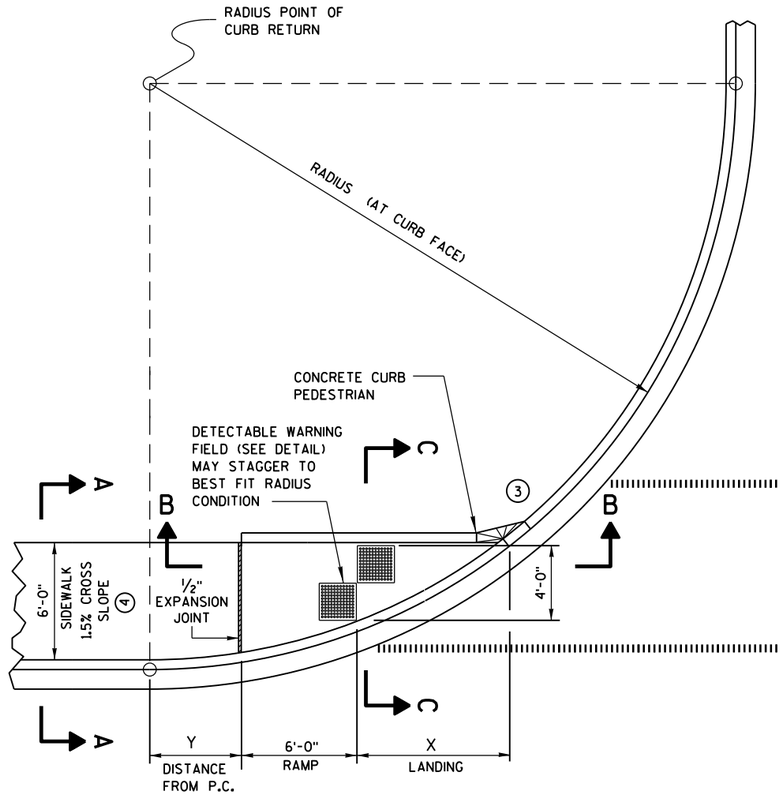
PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

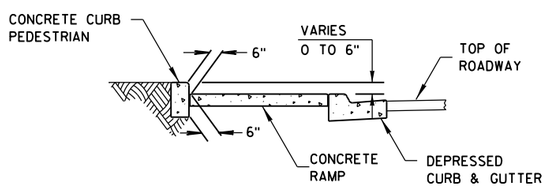
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

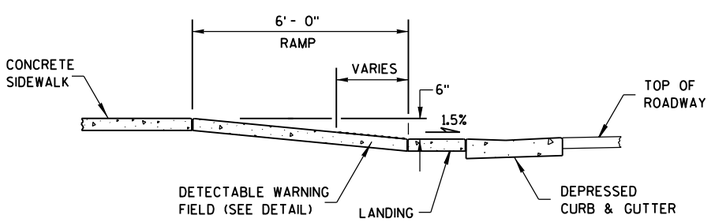
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



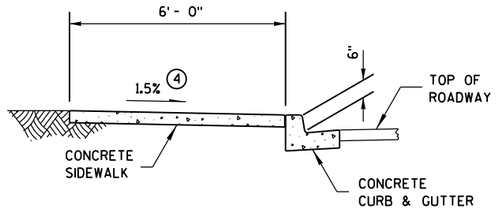
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

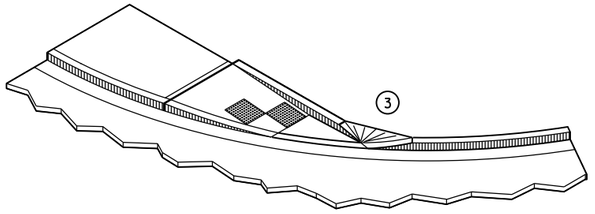
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

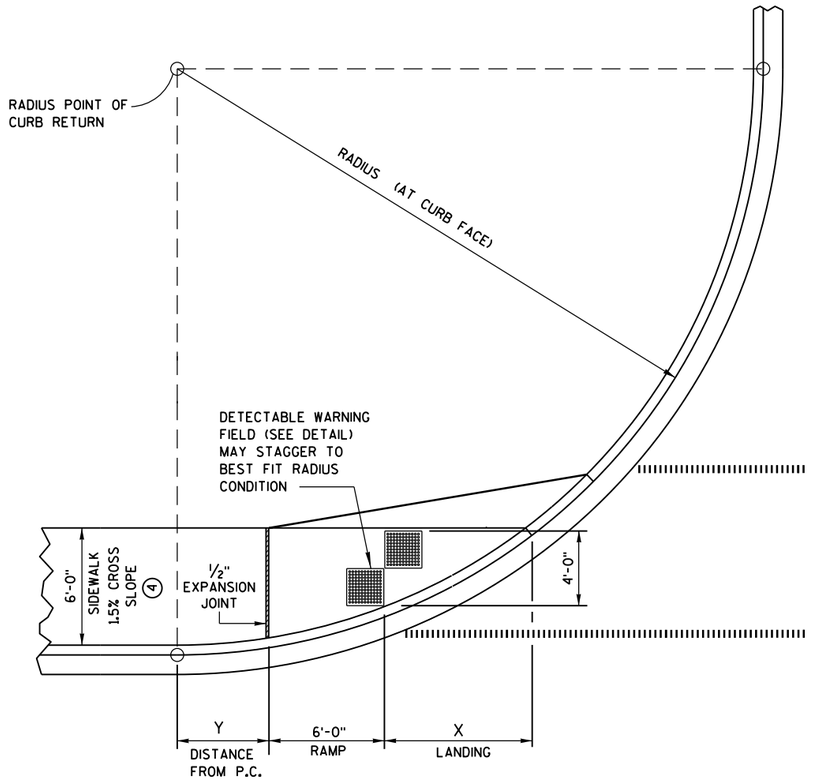
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

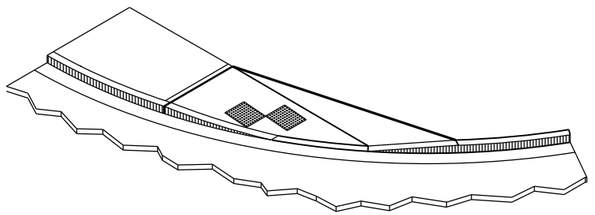
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

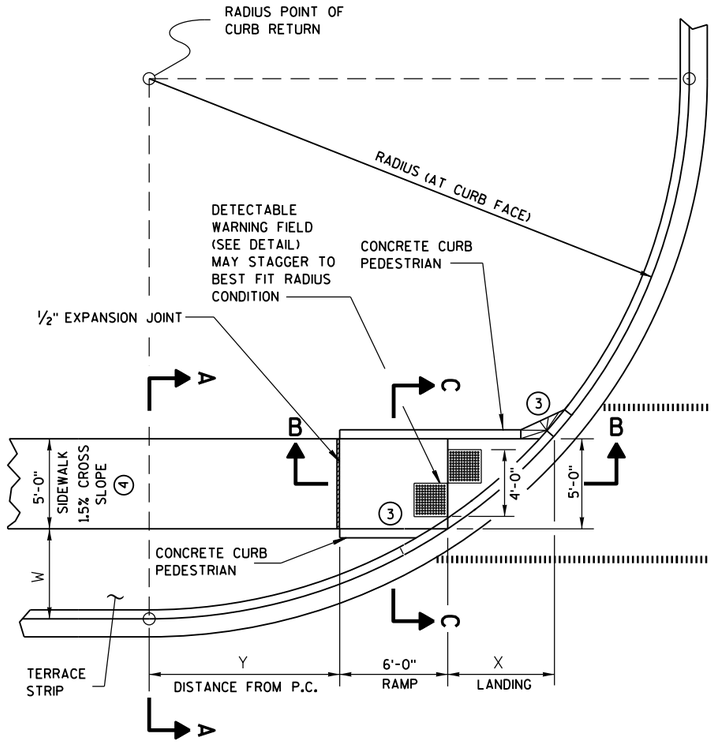
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

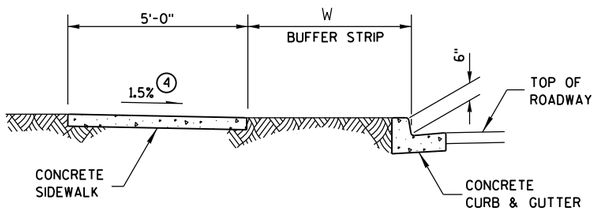
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

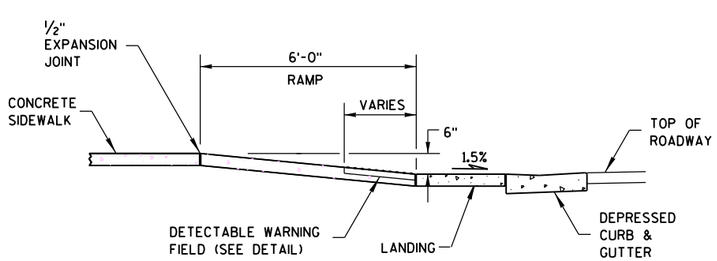
S.D.D. 8 D 5-15c



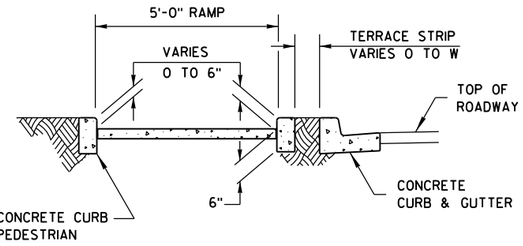
CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



SECTION B-B FOR TYPE 4B



SECTION C-C FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

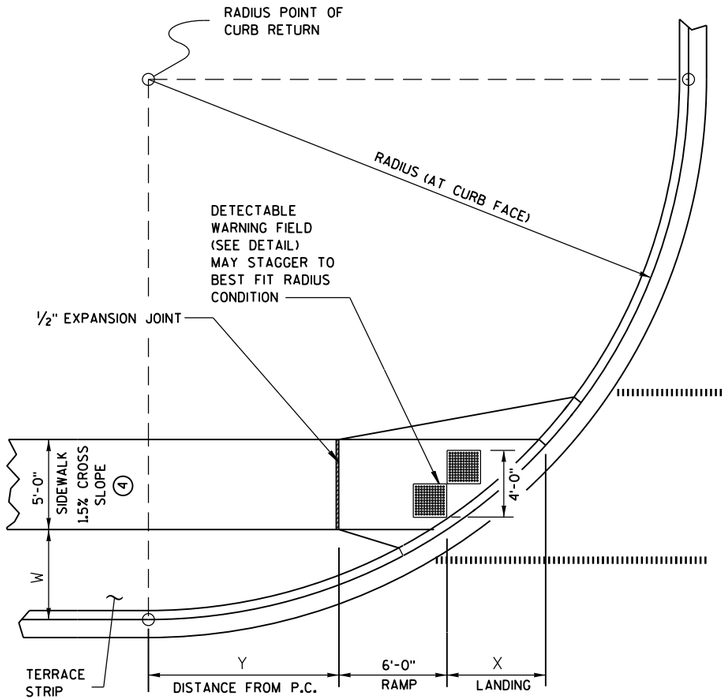
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

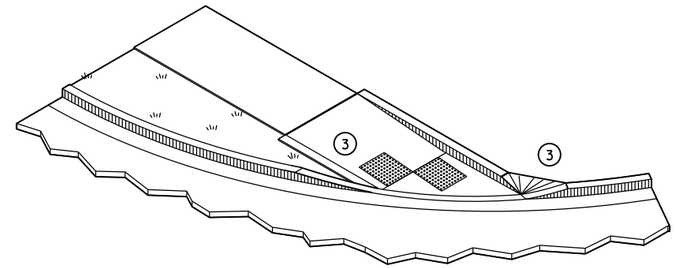
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

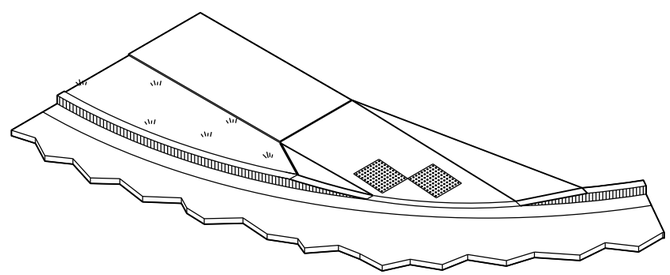
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



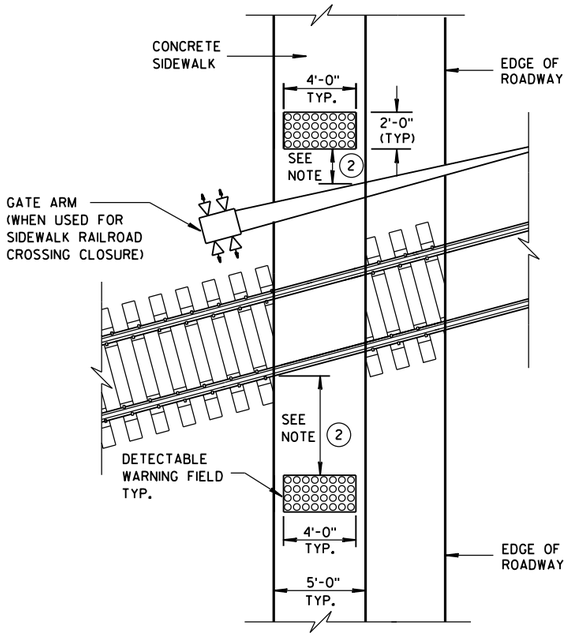
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

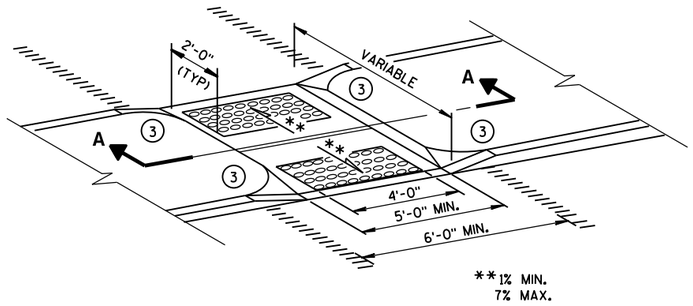
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

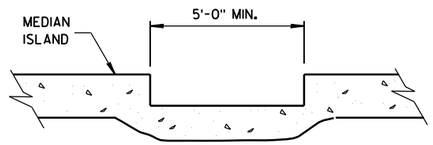
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

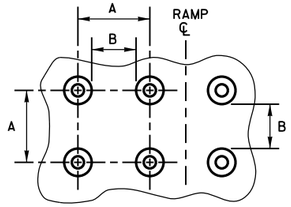
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



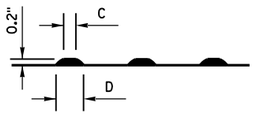
SECTION A-A



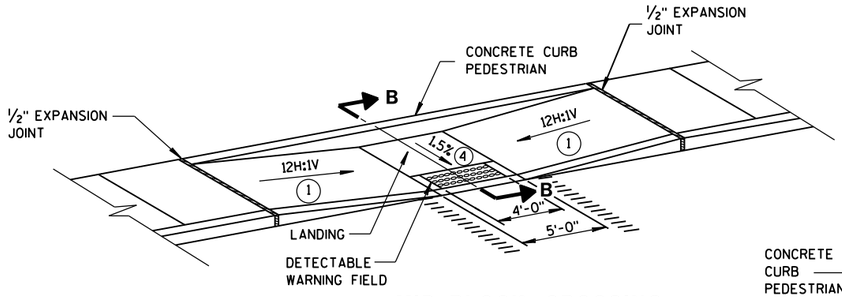
PLAN VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

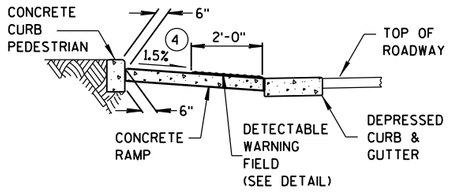
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

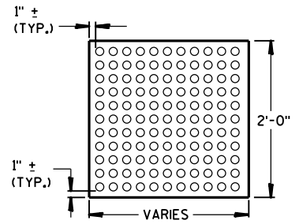


MID-BLOCK CROSSING
TYPE 7A



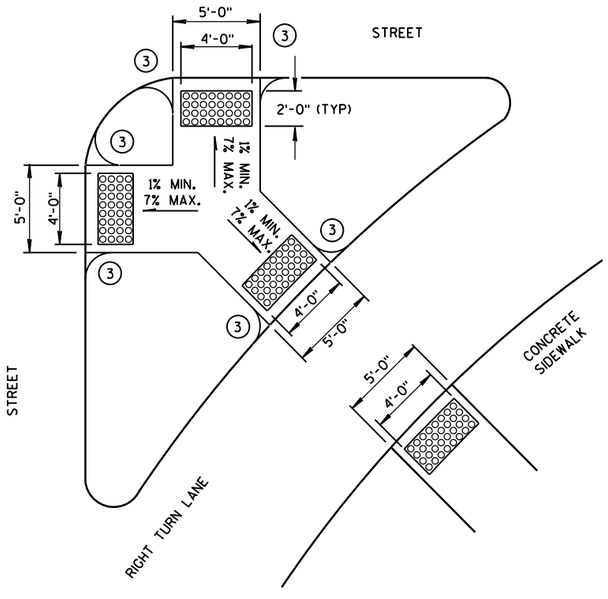
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

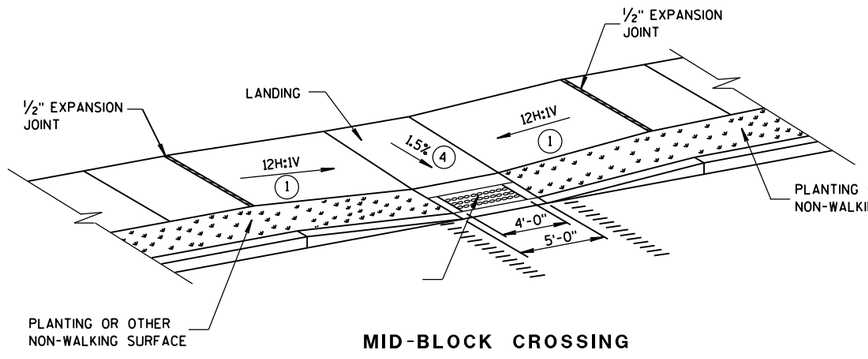


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

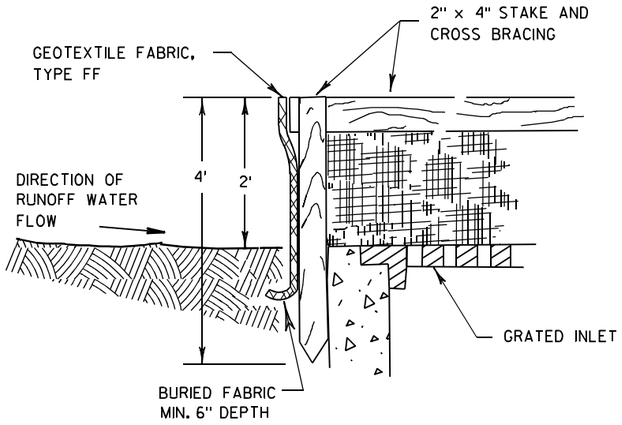
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

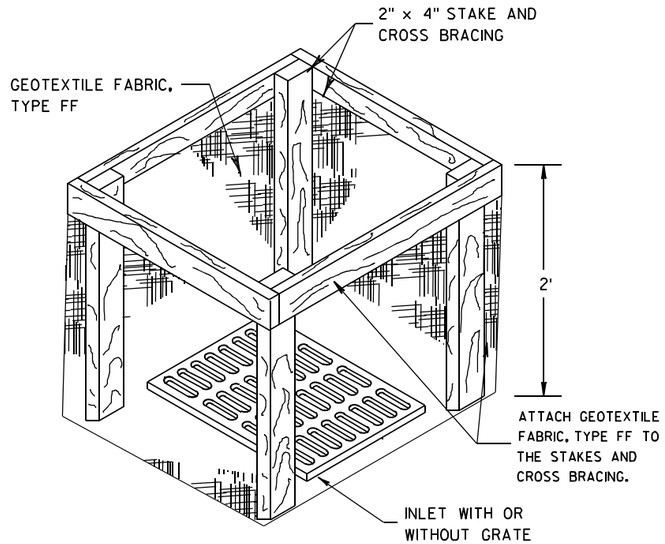
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

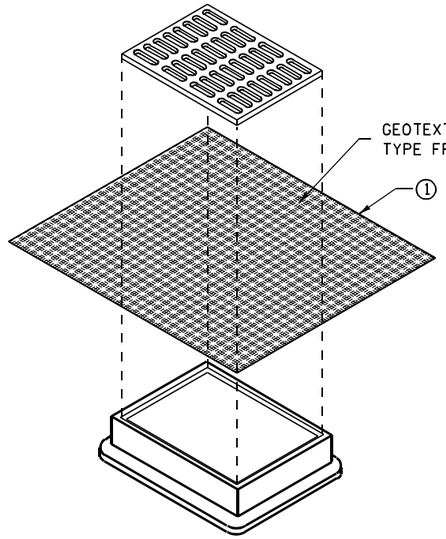
6

S.D.D. 8 D 5-15e



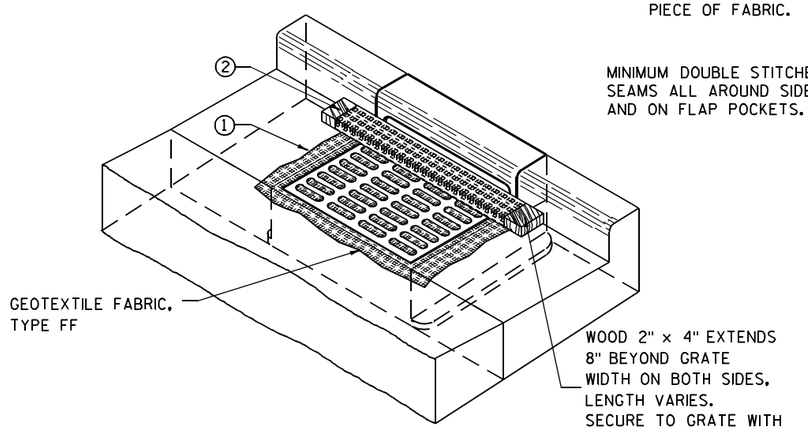


INLET PROTECTION, TYPE A

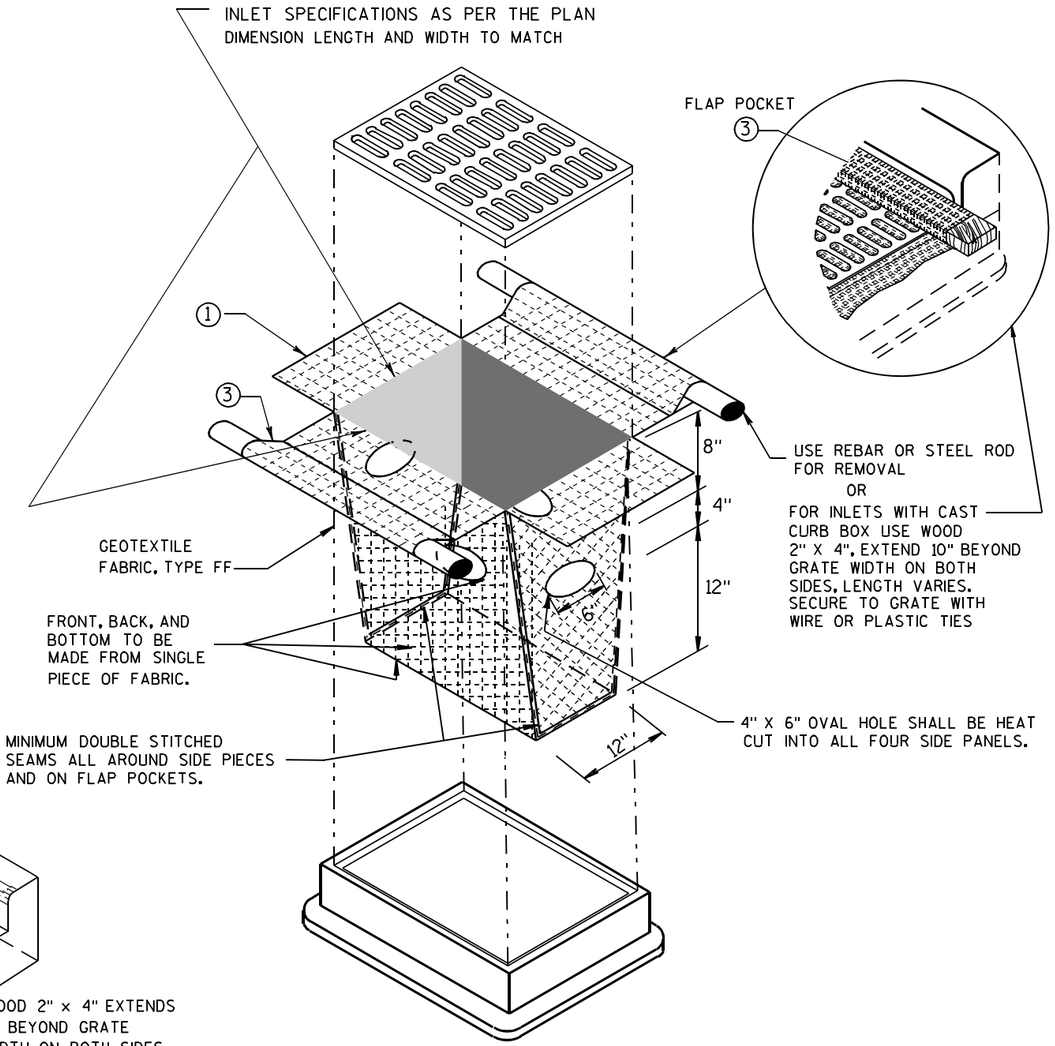


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

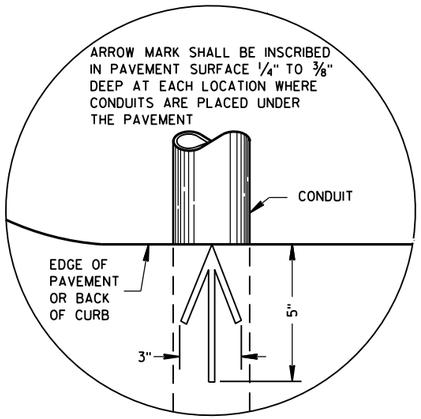
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

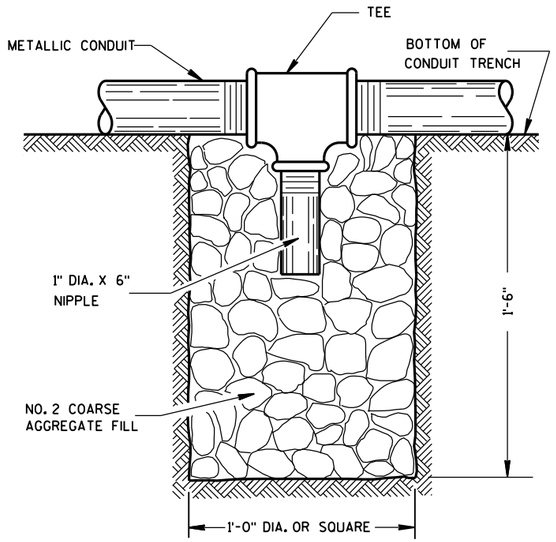
APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2



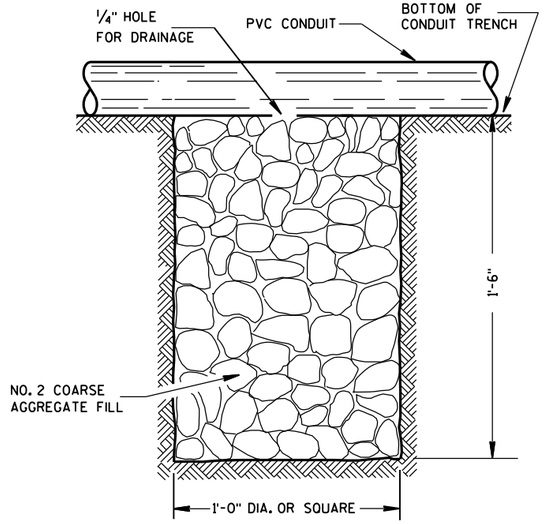
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

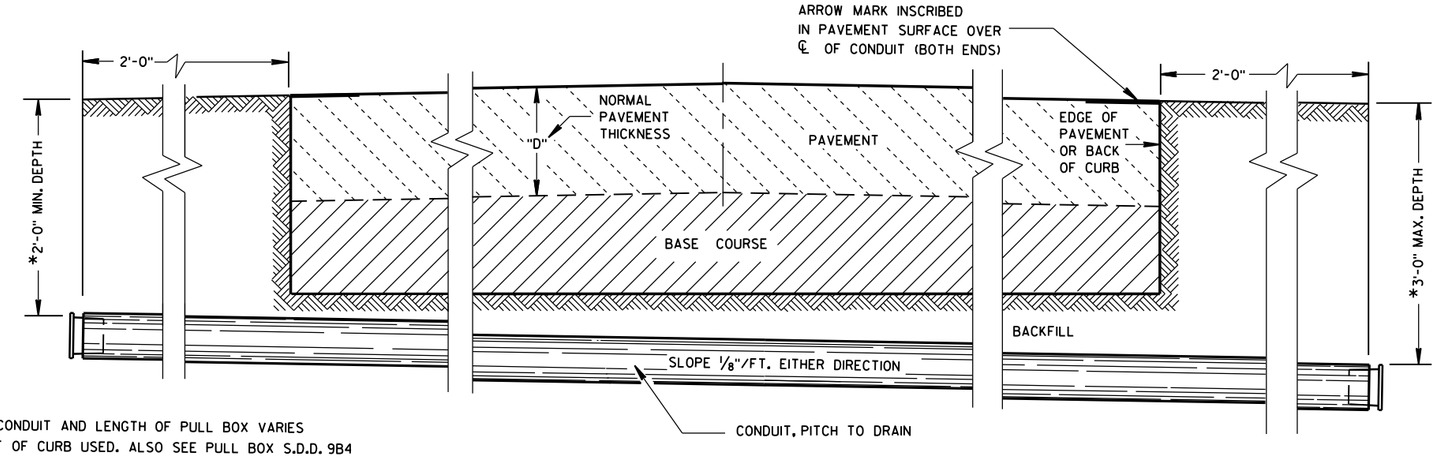
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT UNDER PAVED HIGHWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

6

S.D.D. 9 B 2-8

6

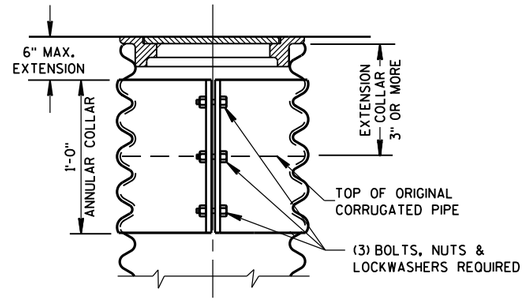
S.D.D. 9 B 2-8

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

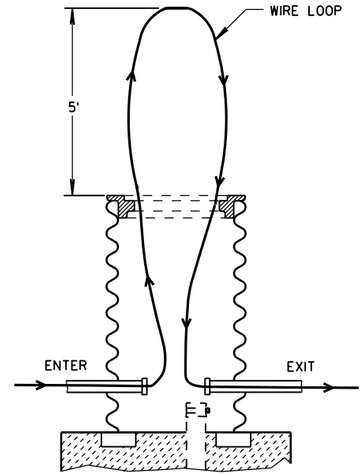
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

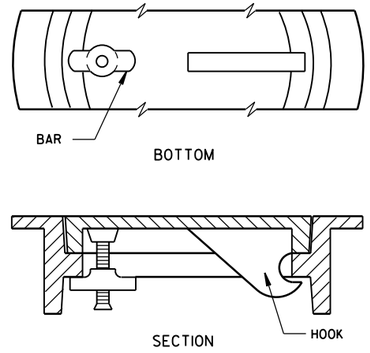
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

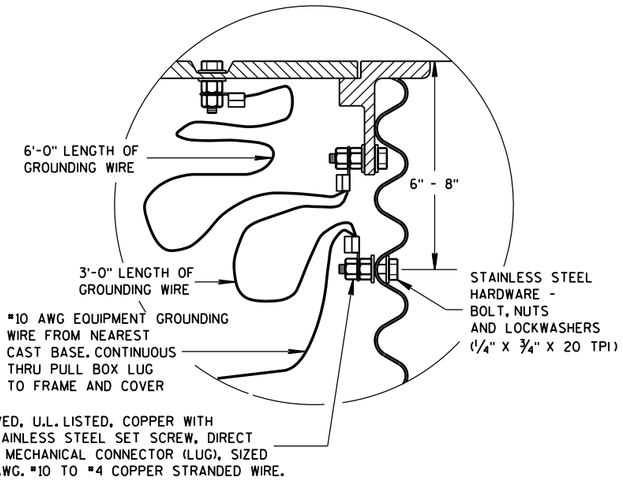


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

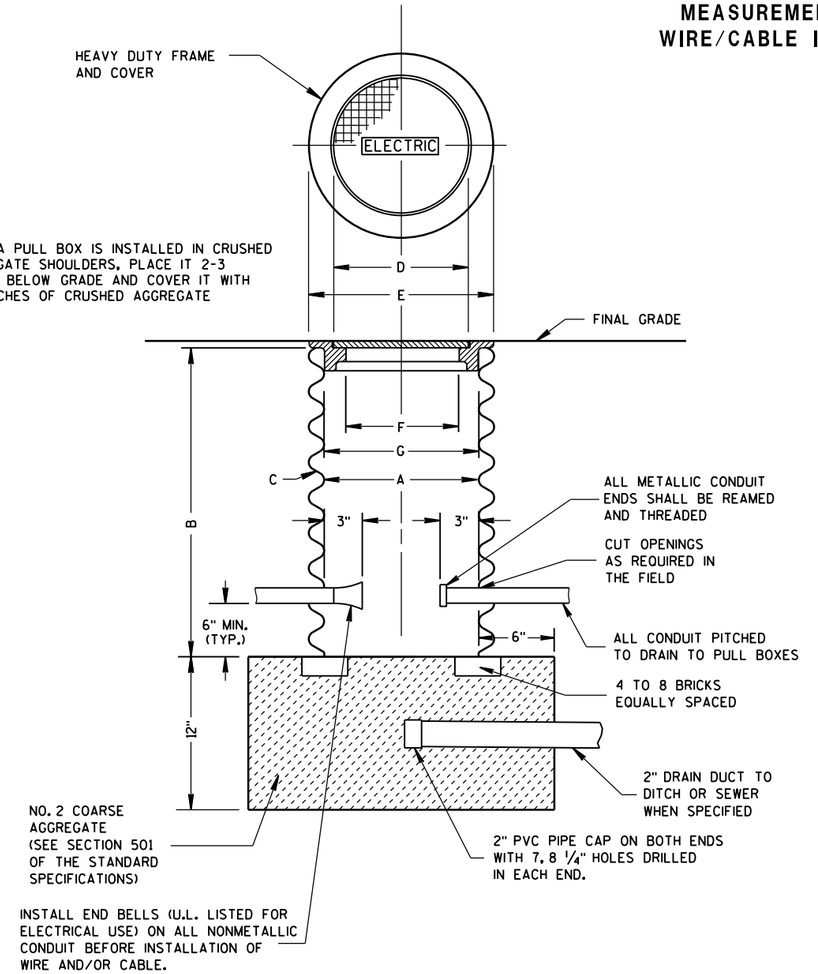


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

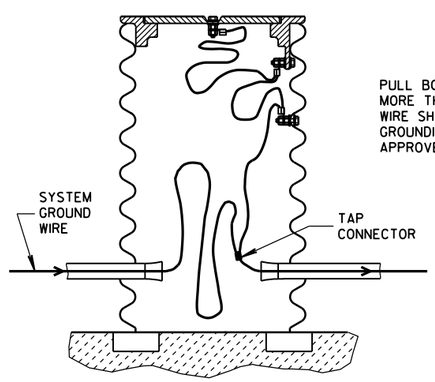
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

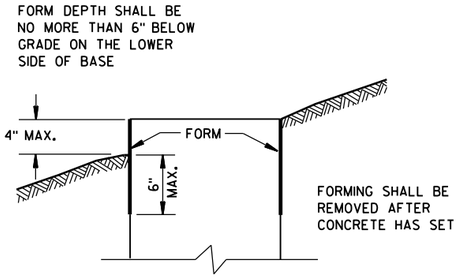
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 B 4-11



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

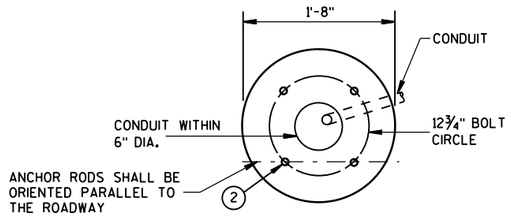
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

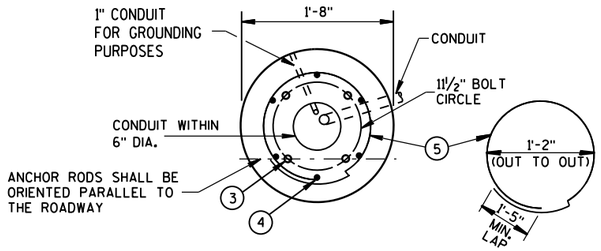
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

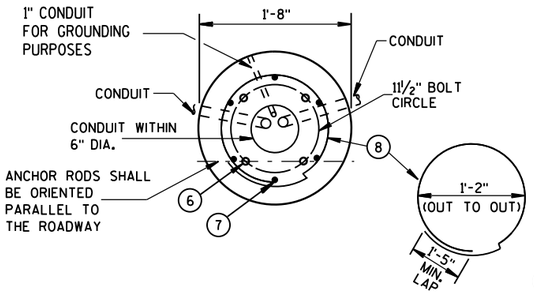
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

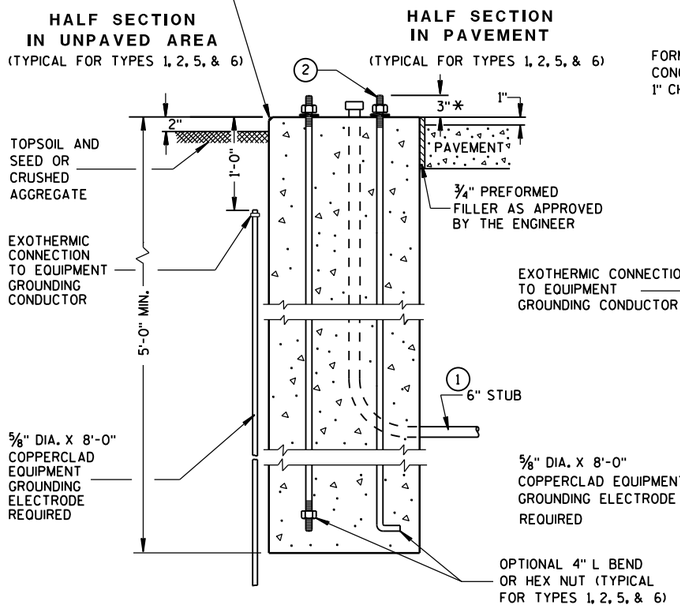






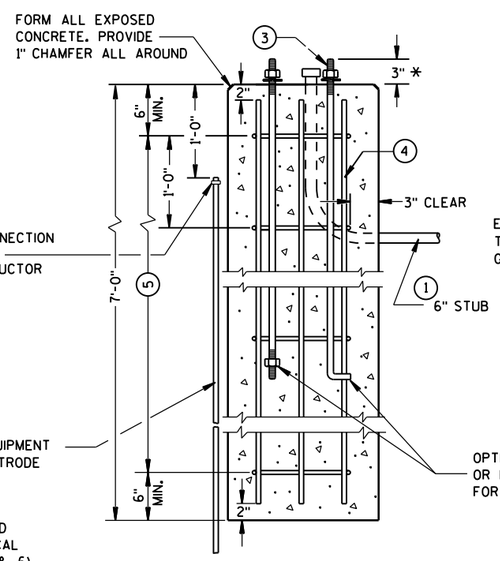
HALF SECTION IN UNPAVED AREA

(TYPICAL FOR TYPES 1, 2, 5, & 6)

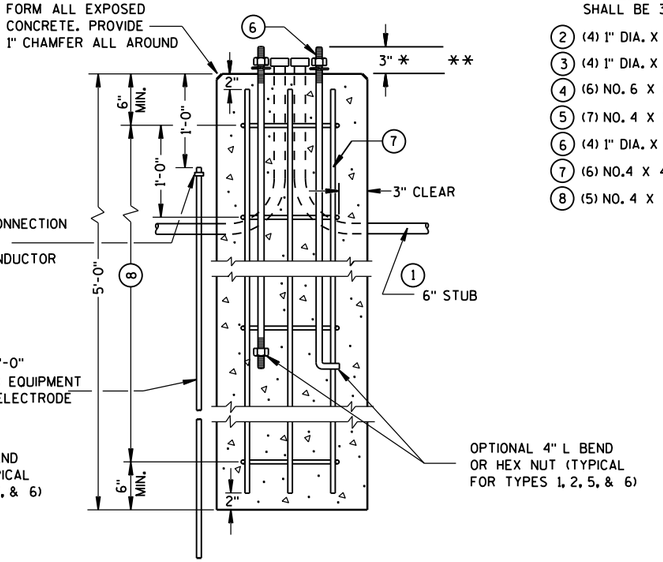


HALF SECTION IN PAVEMENT

(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 2-7

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

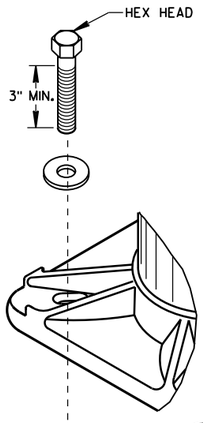
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

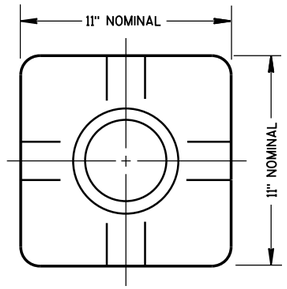
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

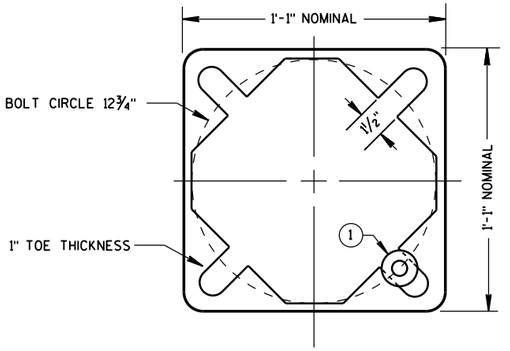
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

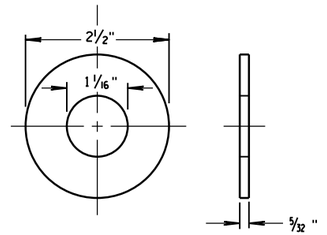




TOP VIEW
(PEDESTAL BASE)

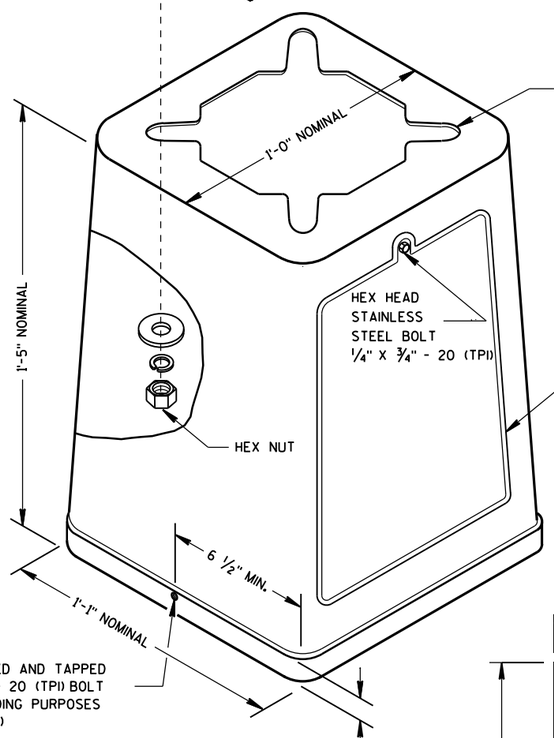


BOTTOM VIEW
(PEDESTAL BASE)

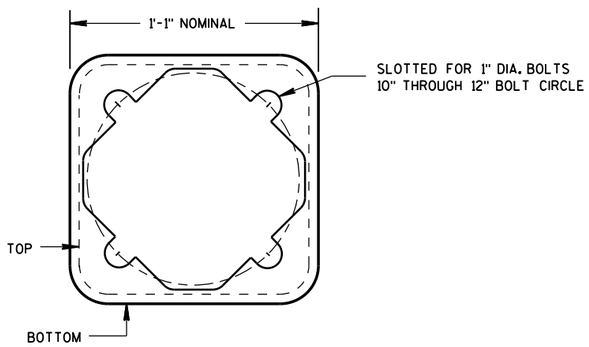


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

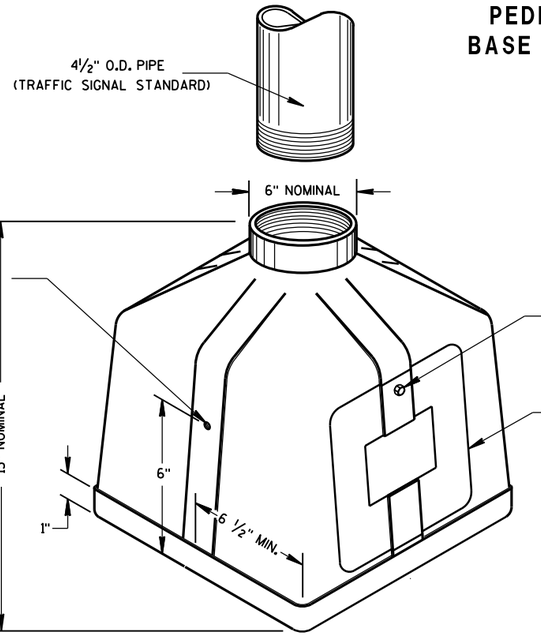
PEDESTAL BASE WASHER (1)



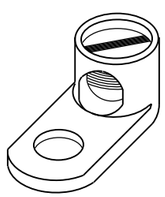
ISOMETRIC VIEW



BOTTOM VIEW
(TRANSFORMER BASE)

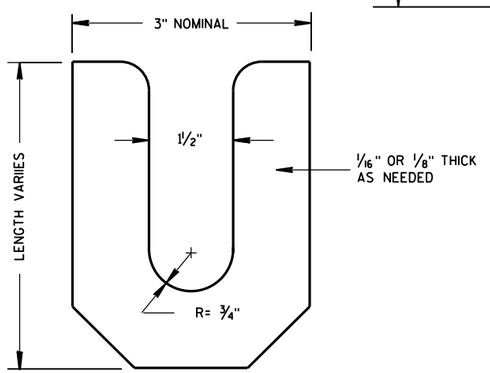


ISOMETRIC VIEW
PEDESTAL BASE



TYPICAL MECHANICAL CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



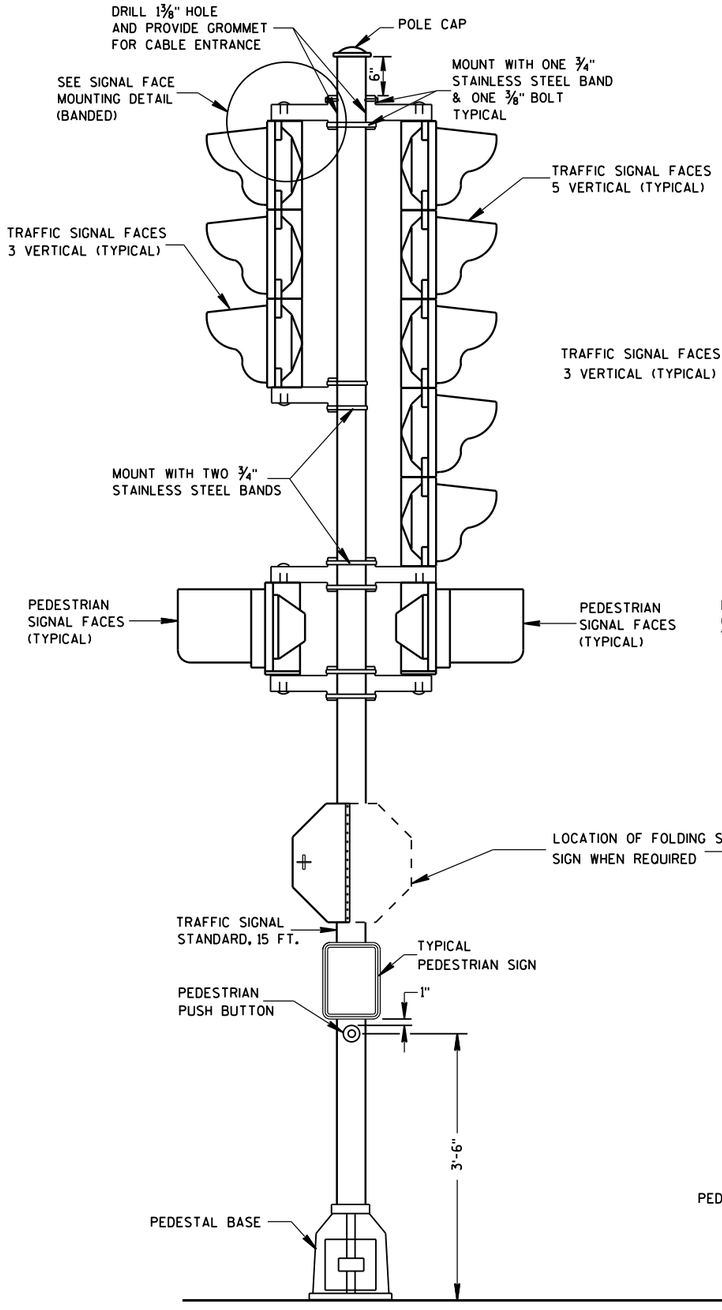
LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

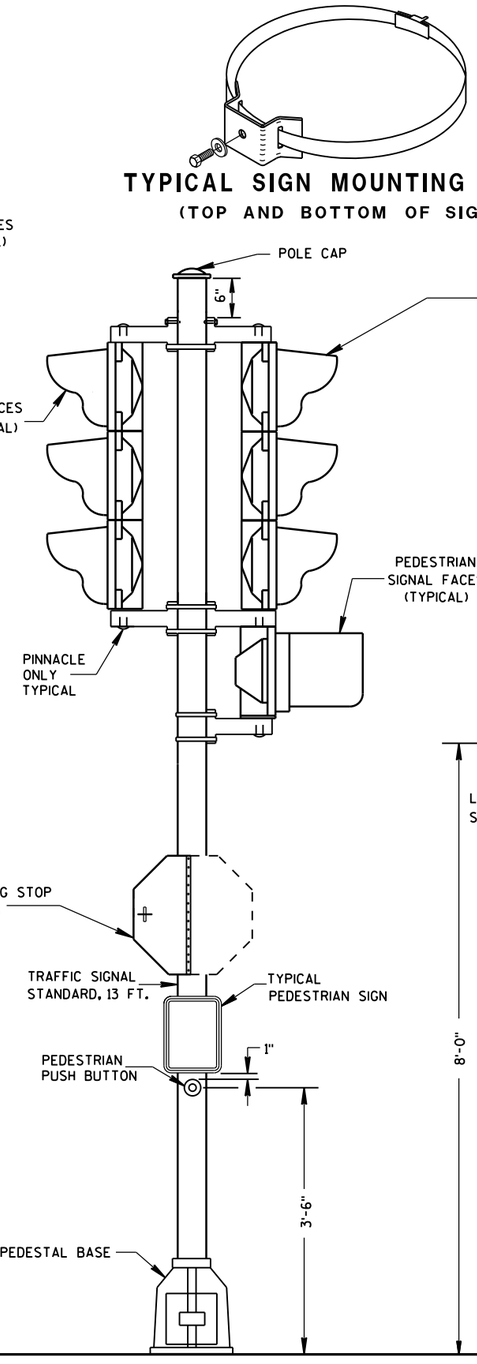
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 C 3-4

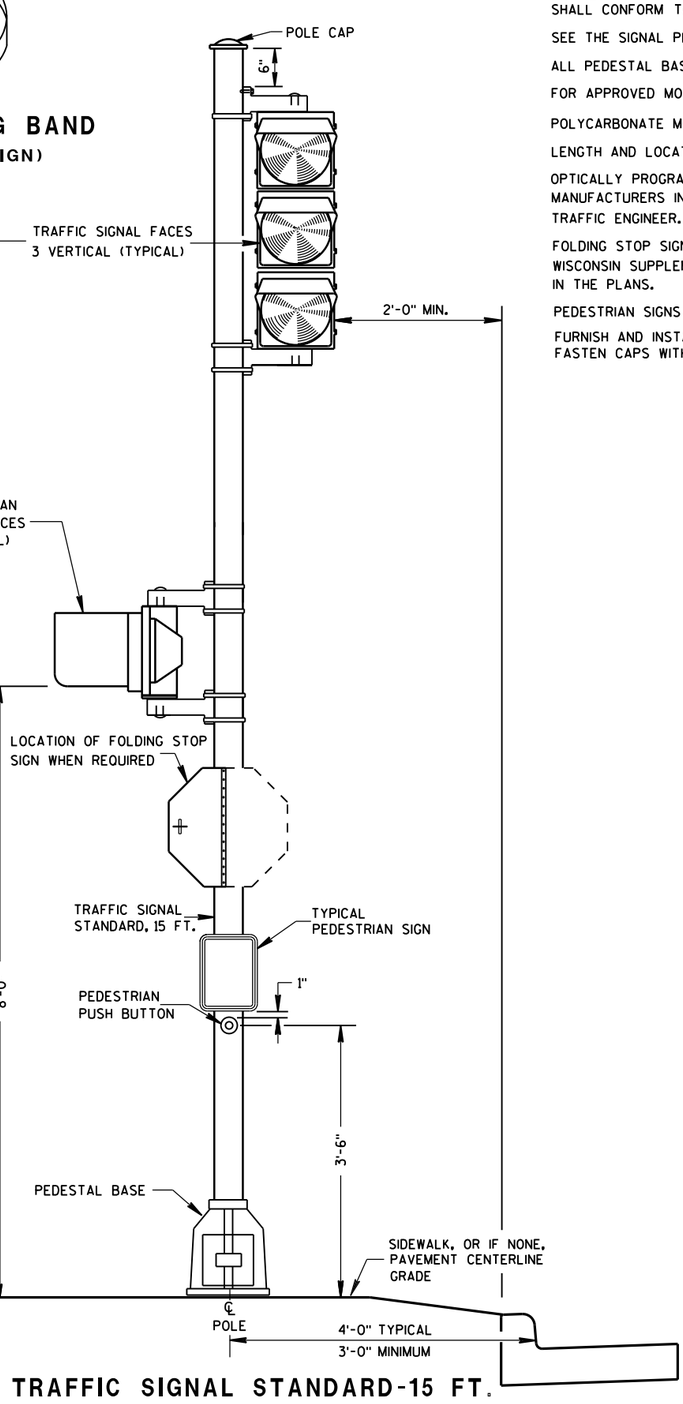


TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.

TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-15 FT.
3M MOUNTING (TYPICAL)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

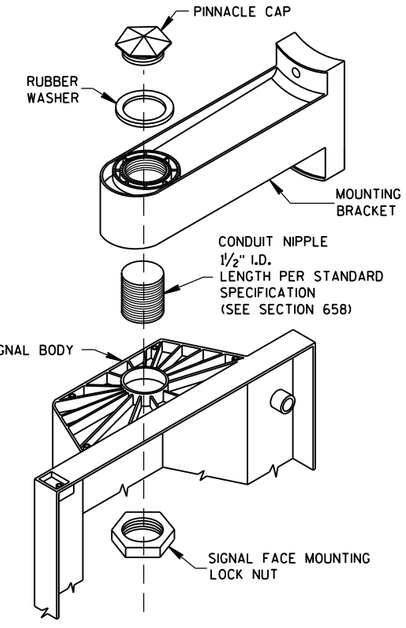
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

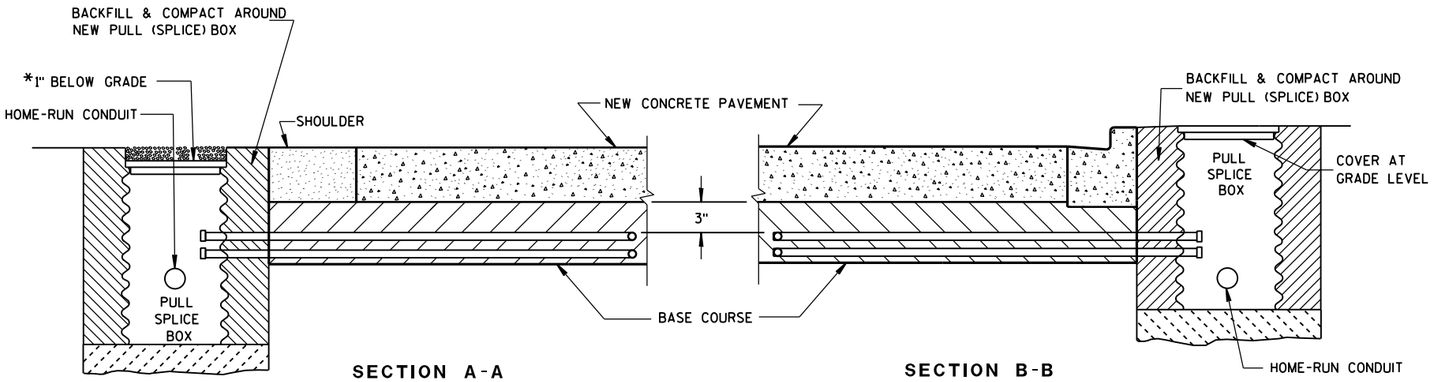


SIGNAL FACE MOUNTING DETAIL
(BANDED)

TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
2/28/2013 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA	

6

S.D.D. 9 E 6-5



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

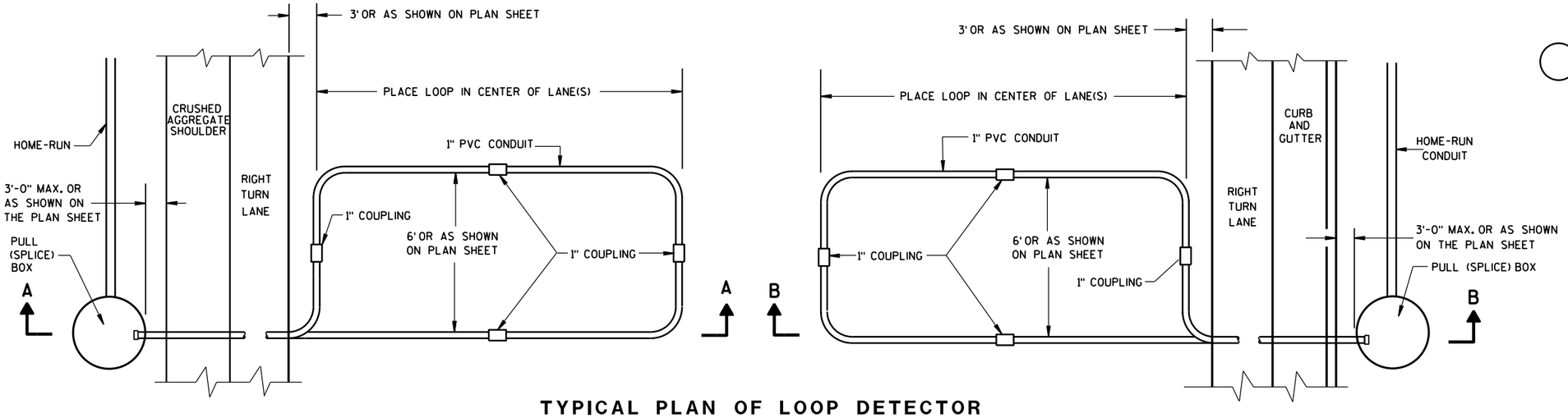
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

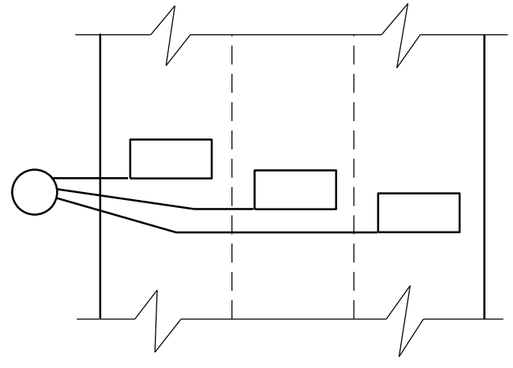
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.

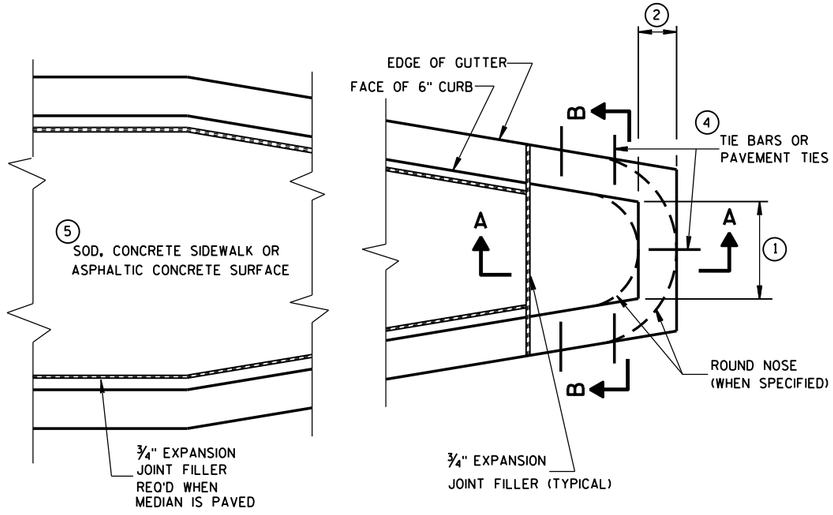


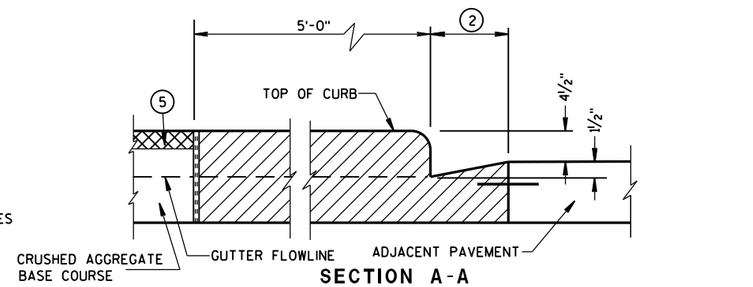
TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED Sept. 2014 — DATE /S/ Ahmet Demirbilek — STATE ELECTRICAL FHWA





CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

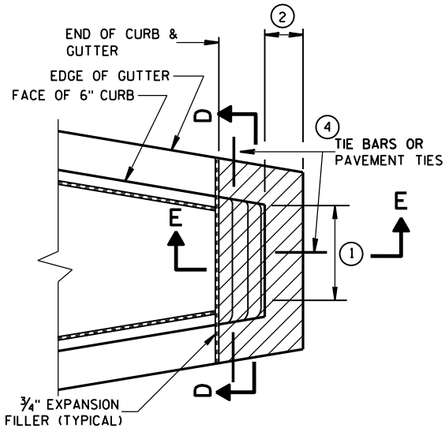
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

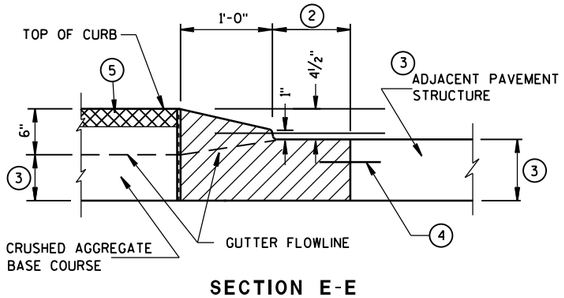
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

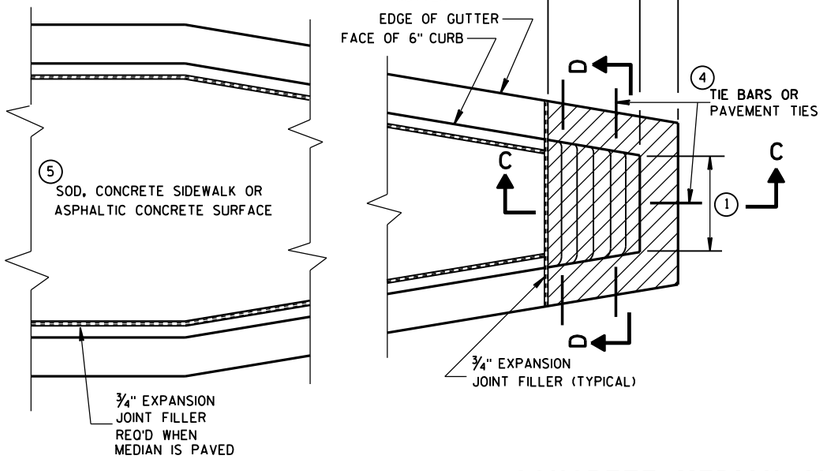
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

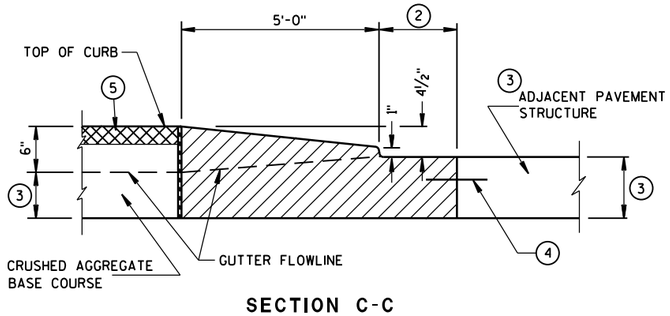




SECTION E-E

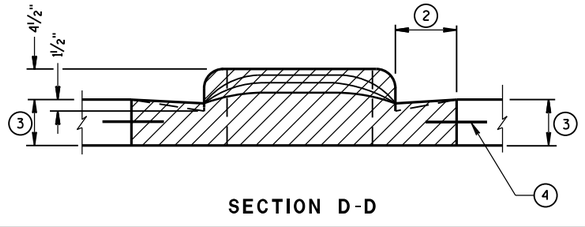
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

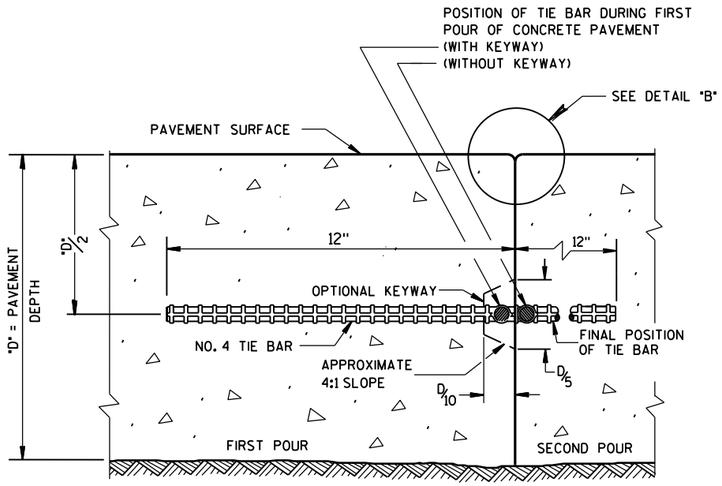
APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

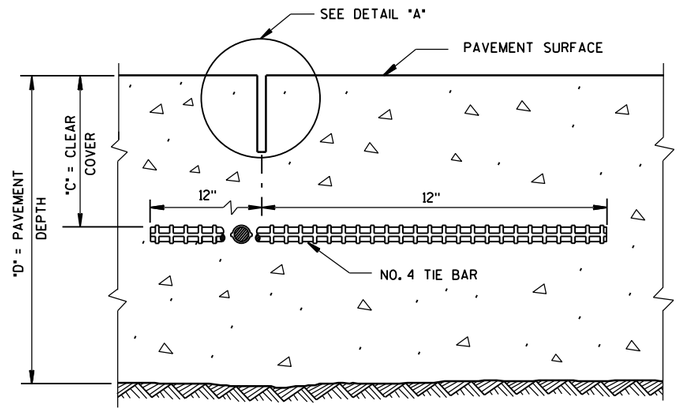
S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2



CONSTRUCTION JOINT



SAWED JOINT

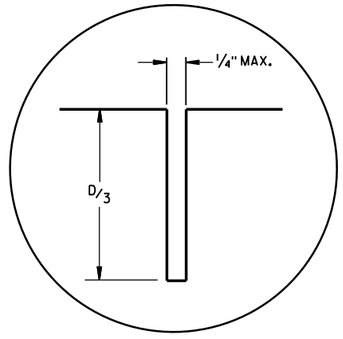
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

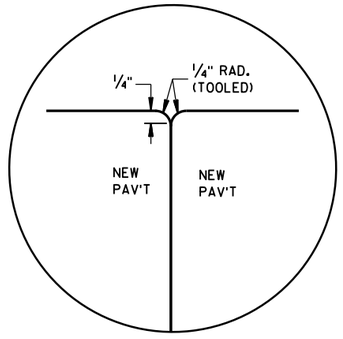
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

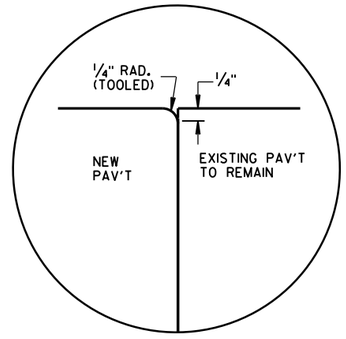
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



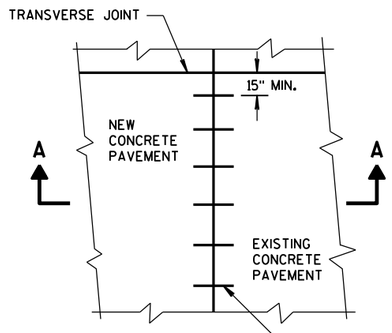
DETAIL "A"



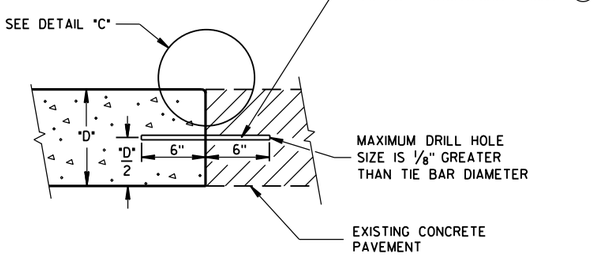
DETAIL "B"



DETAIL "C"



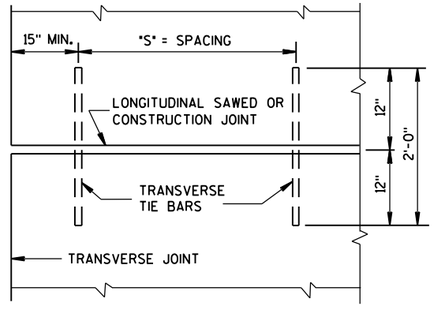
PLAN VIEW



SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/2014 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ...NEER

FHWA

6

S.D.D. 13 C 1-17

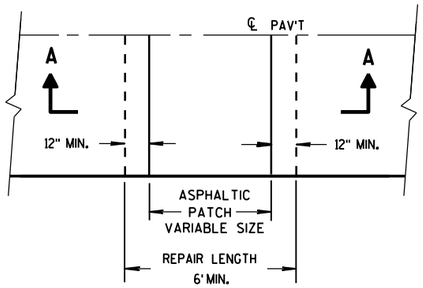
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

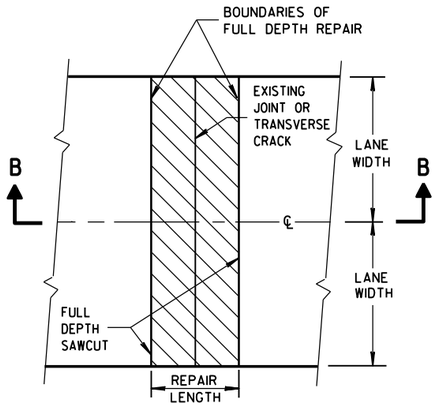
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

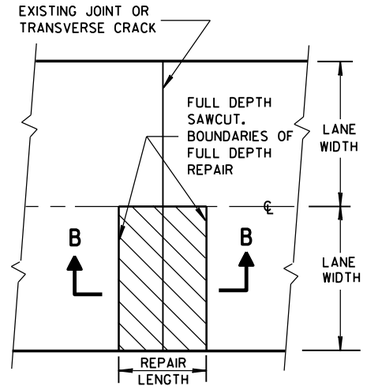
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



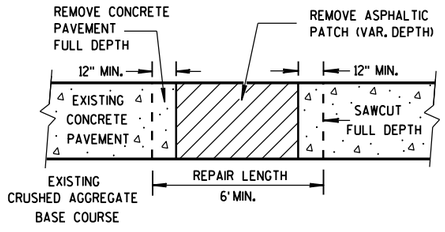
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

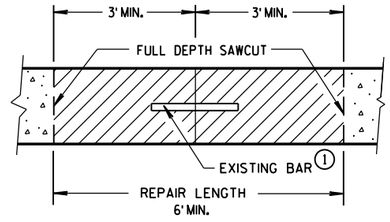
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

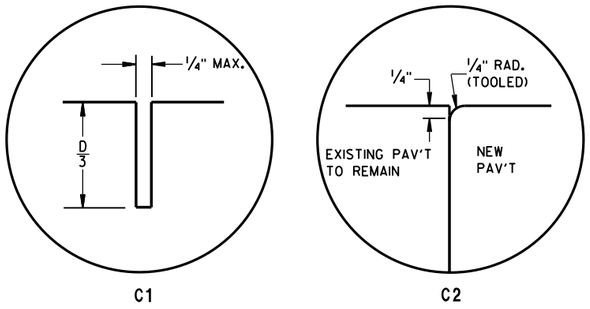
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 13 C 9-11a

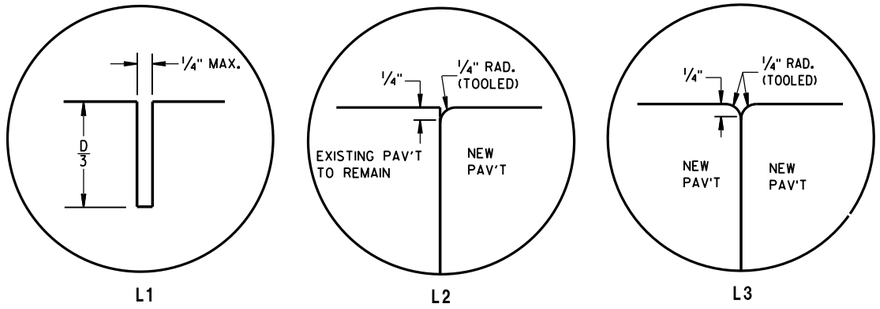


C1 C2

TRANSVERSE JOINTS

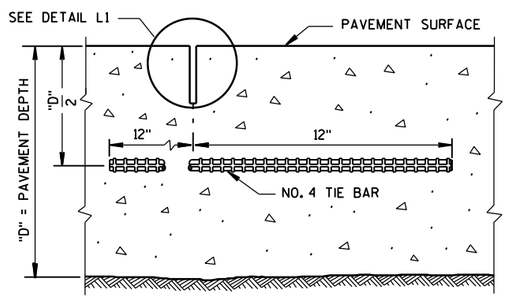
TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



L1 L2 L3

LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

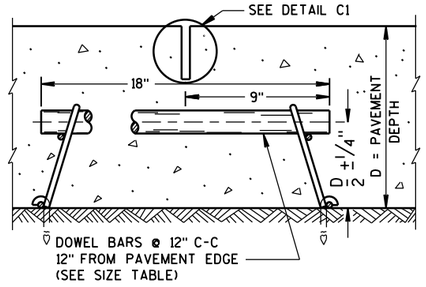
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

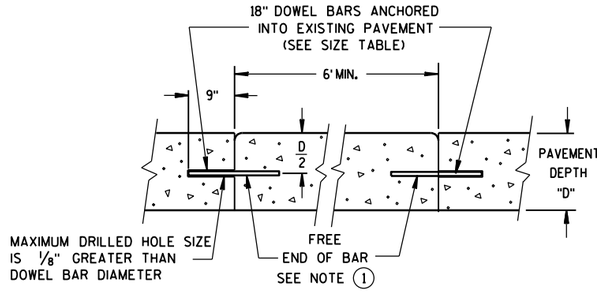
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

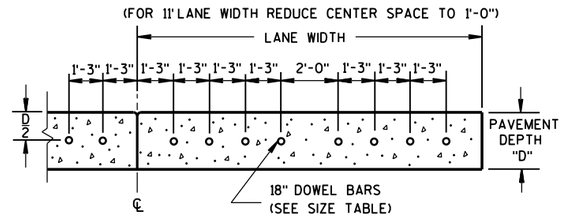


SECTION F-F

CONTRACTION JOINT



SECTION D-D

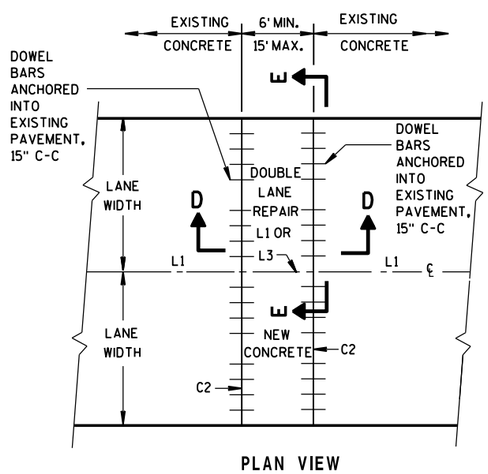


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

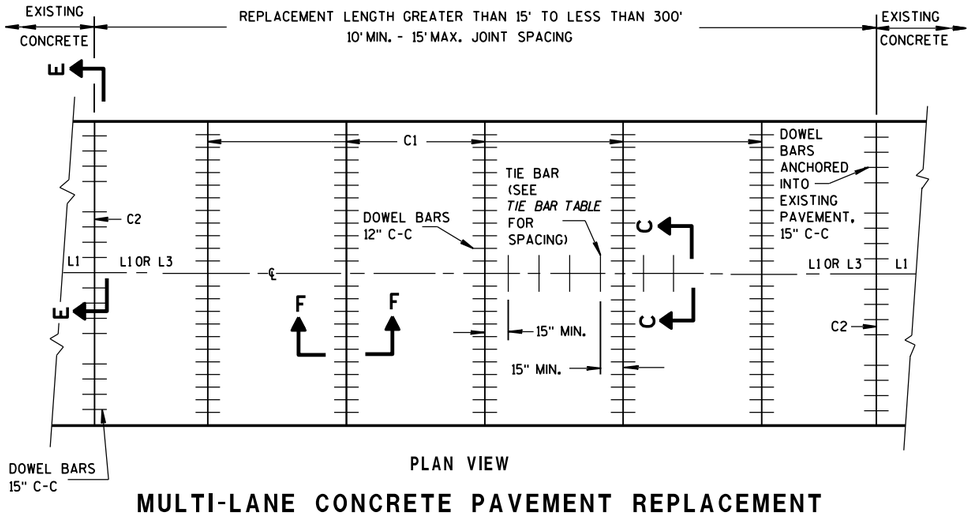
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8",8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

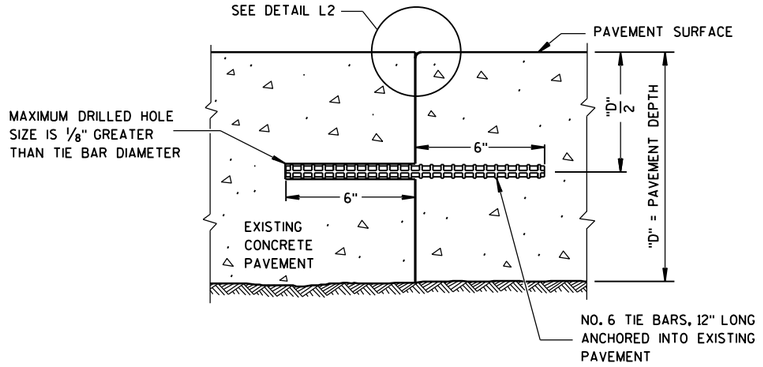
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 75

6

S.D.D. 13 C 9-11b

6

S.D.D. 13 C 9-11b



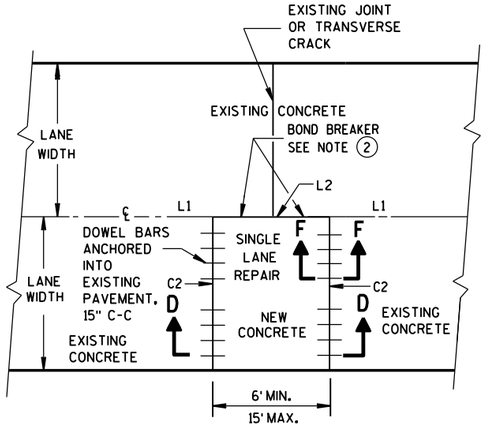
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

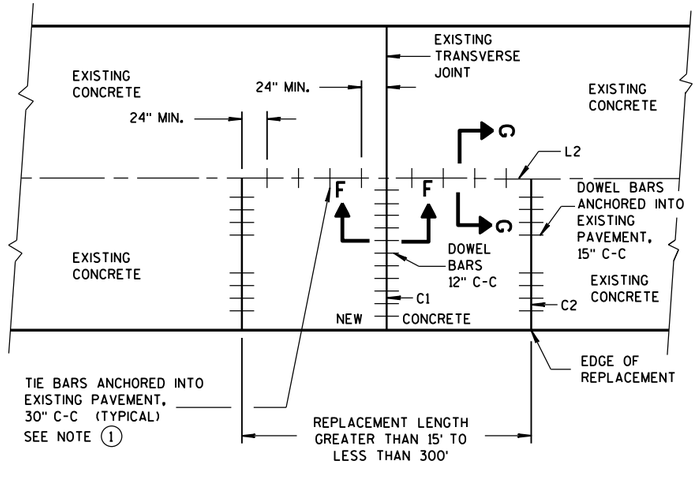
(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-2013
DATE

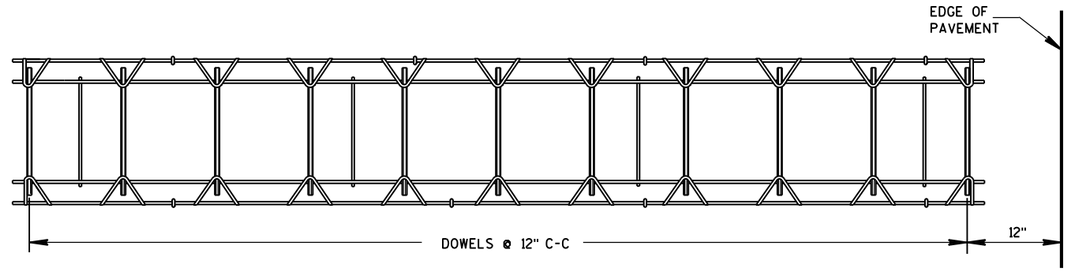
/S/ Deb Bischoff
PAVEMENT POLICY & DE

IEER

FHWA

6

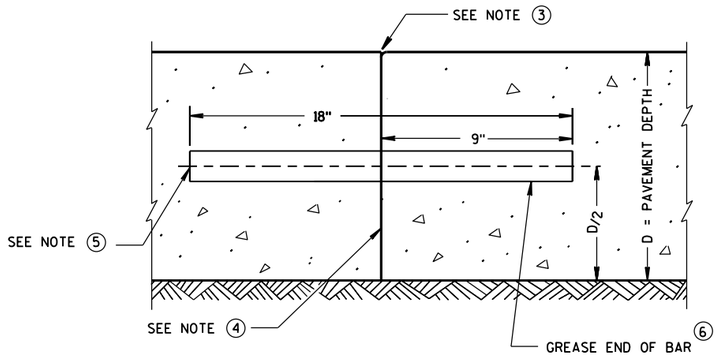
S.D.D. 13 C 9-11c



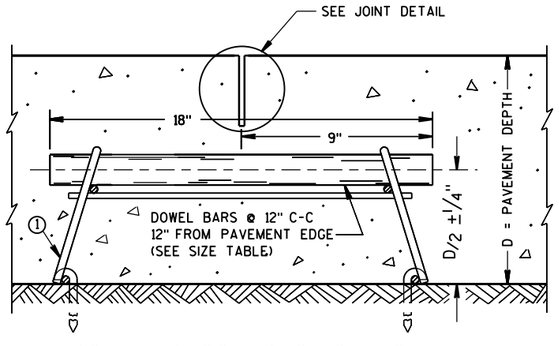
PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



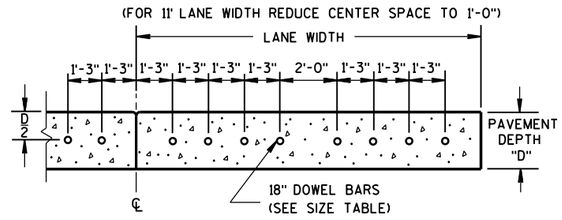
TRANSVERSE CONSTRUCTION JOINT



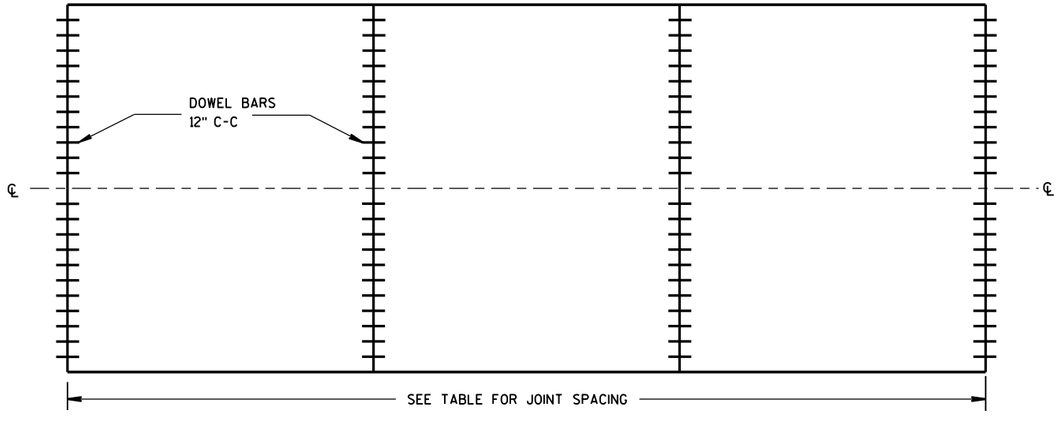
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① **OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.**

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

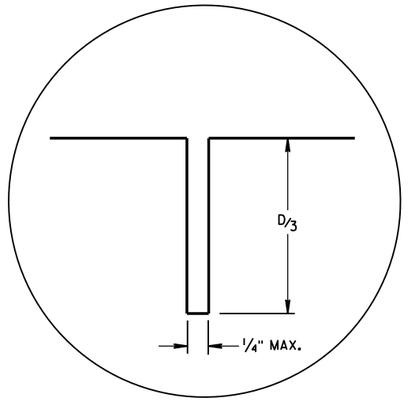
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



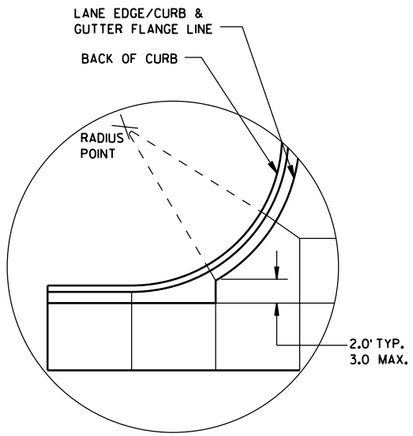
JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

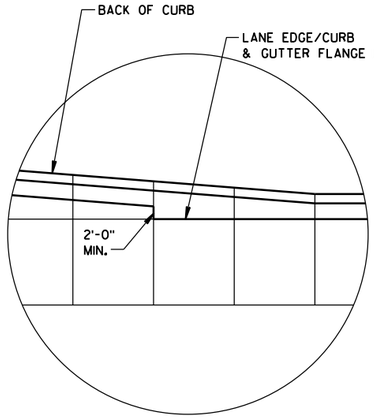
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER
FHWA

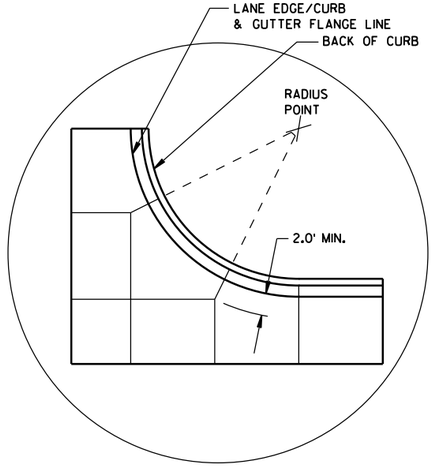
6
S.D.D. 13 C 13-8



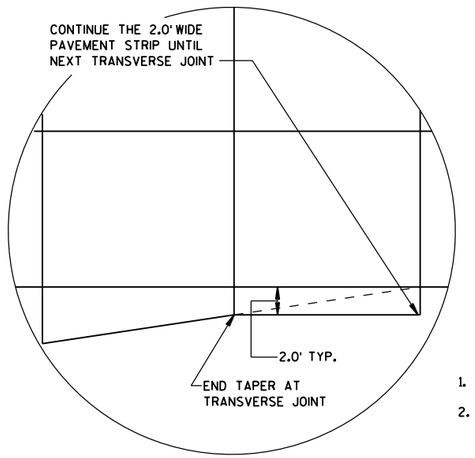
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

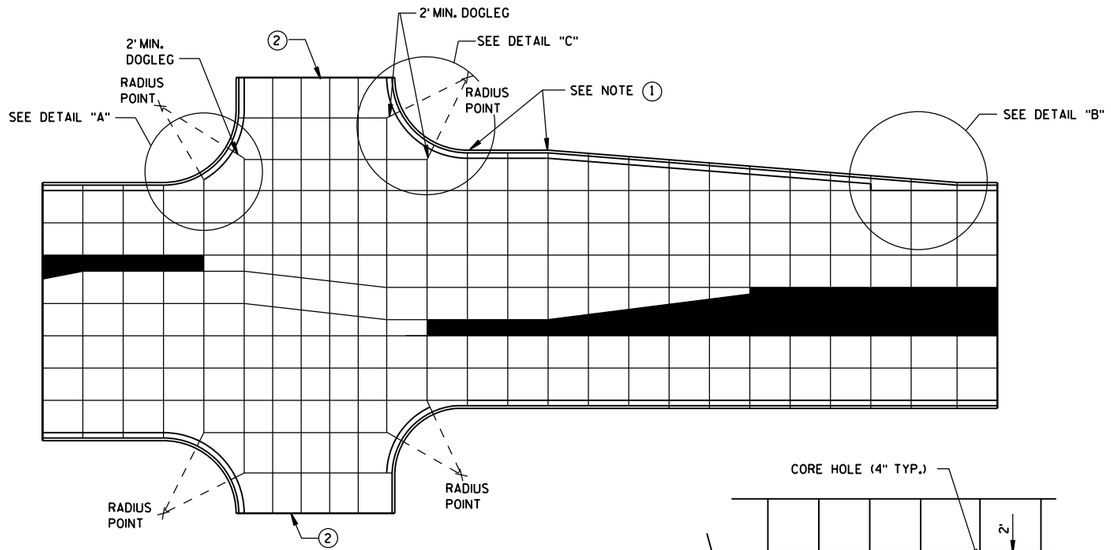
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.

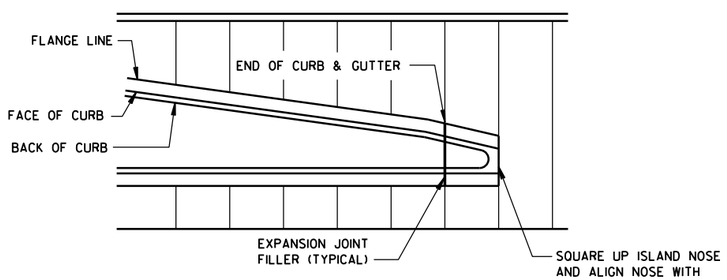


STANDARD INTERSECTION

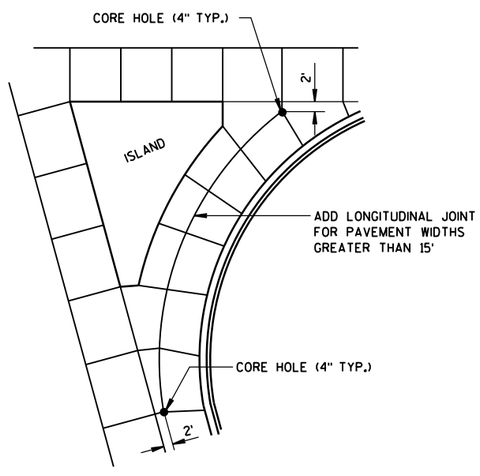
PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'

SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

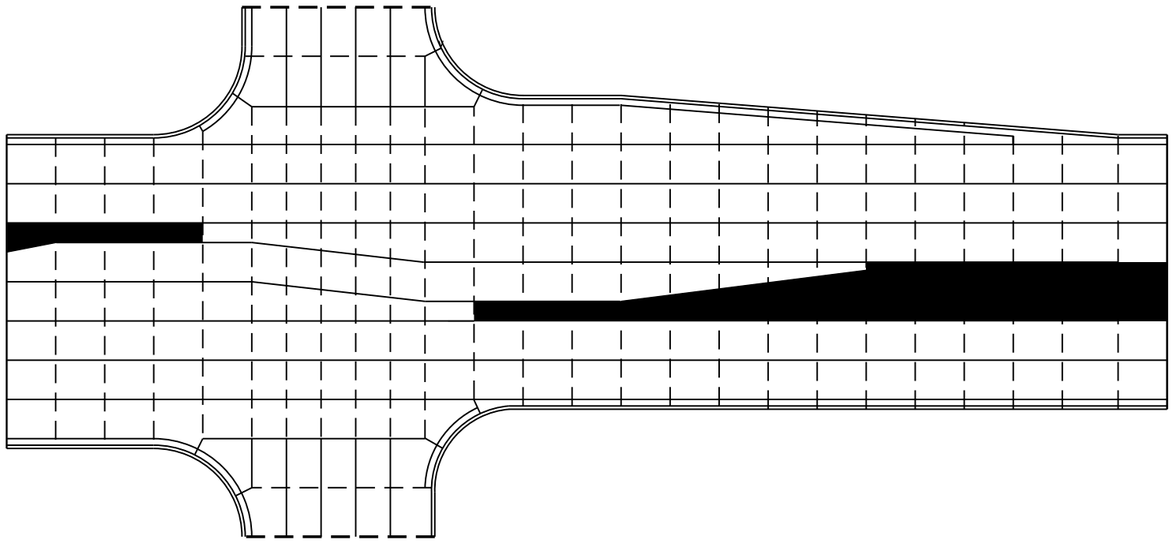
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

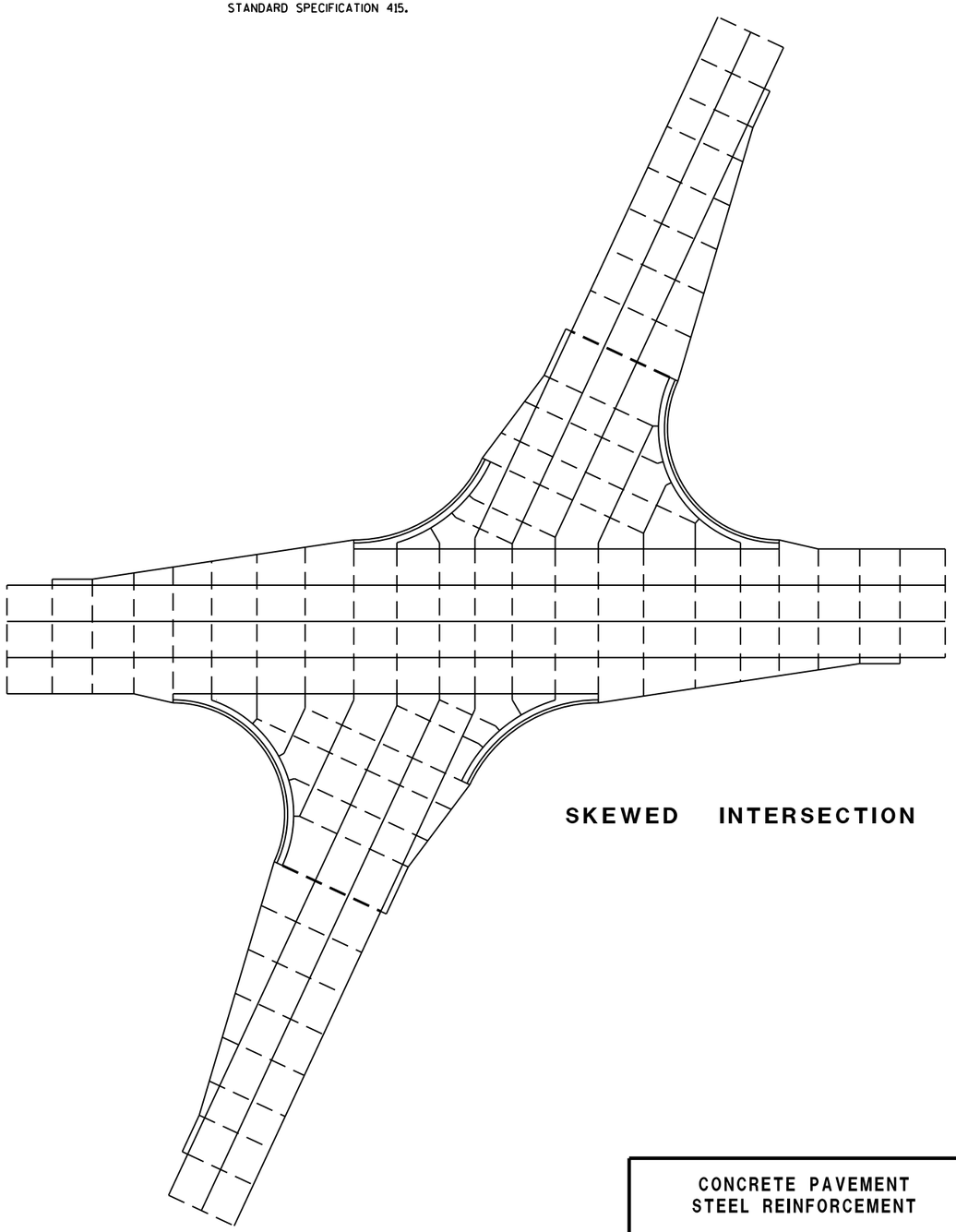
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

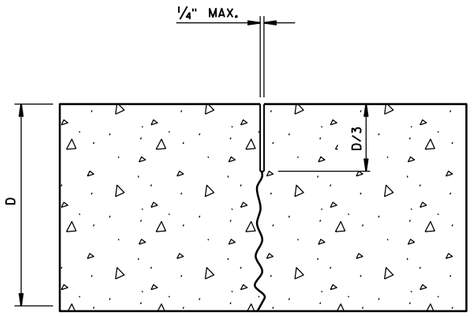
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

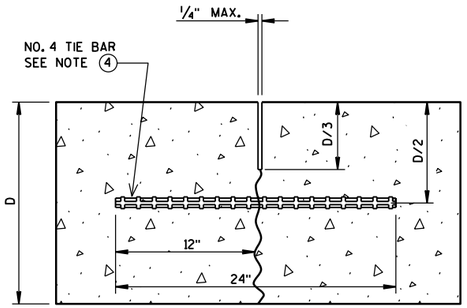
S.D.D. 13 C 18-2b

6

S.D.D. 13 C 18-2b



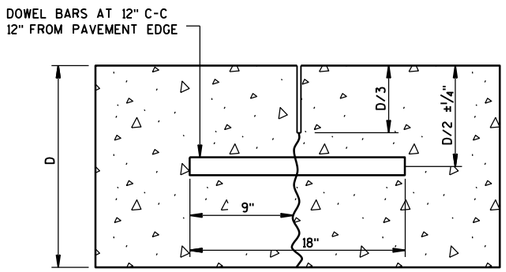
UNDOWELED-TRANSVERSE



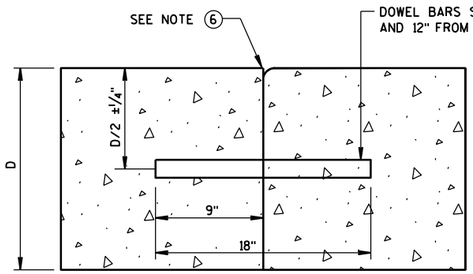
TIED LONGITUDINAL

GENERAL NOTES

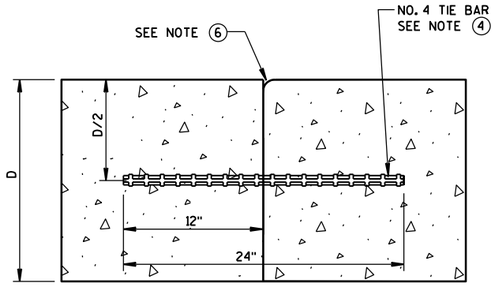
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



DOWELED-TRANSVERSE



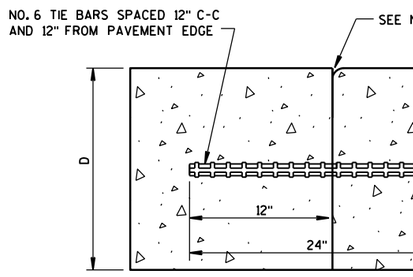
DOWELED TRANSVERSE



TIED LONGITUDINAL

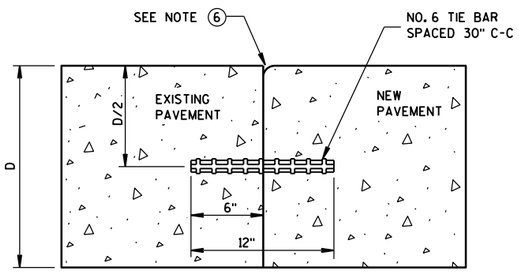
CONTRACTION JOINTS

SEE NOTE (2)



TIED TRANSVERSE

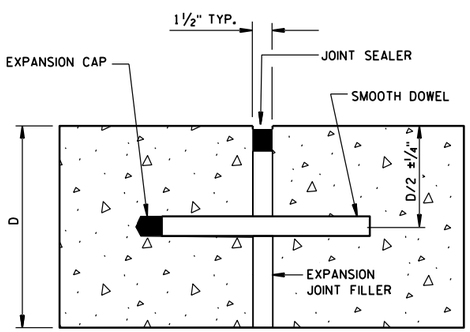
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

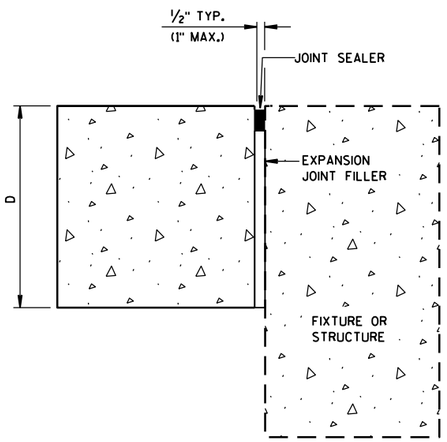
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

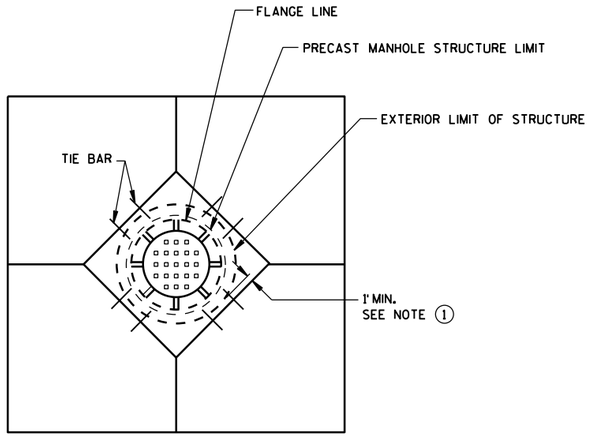
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

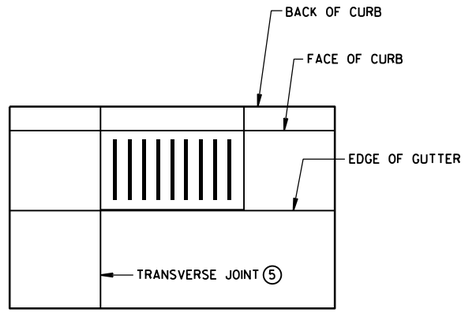
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

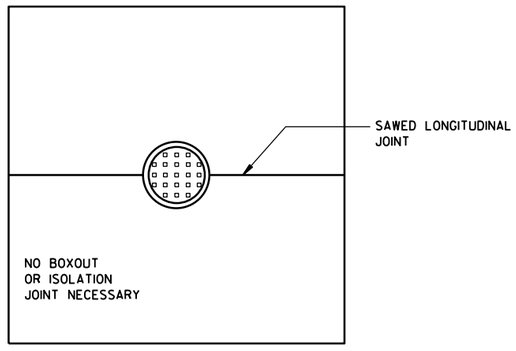
S.D.D. 13 C 18-2c



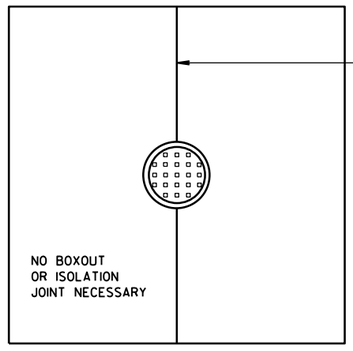
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



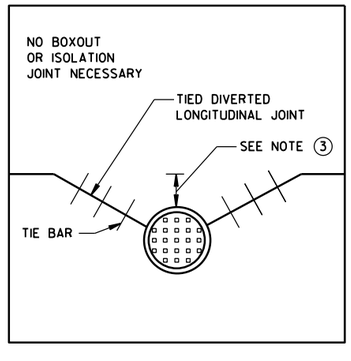
INLET WITH TRANSVERSE JOINT



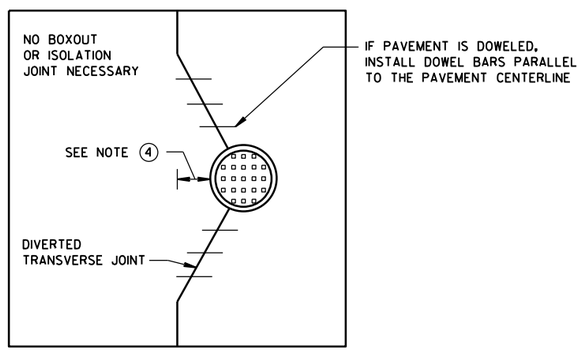
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

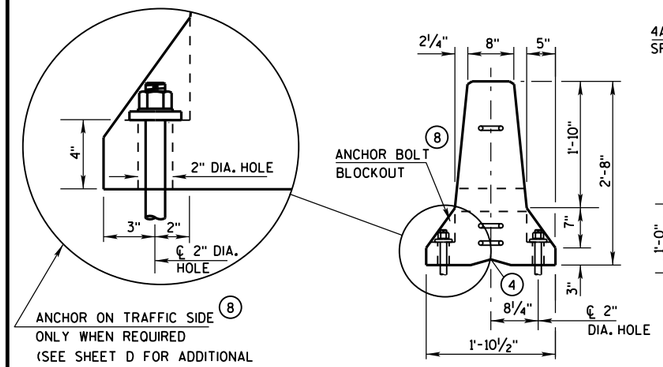
/S/ Deb Bischoff
PAVEMENT POLICY & DE

NEER

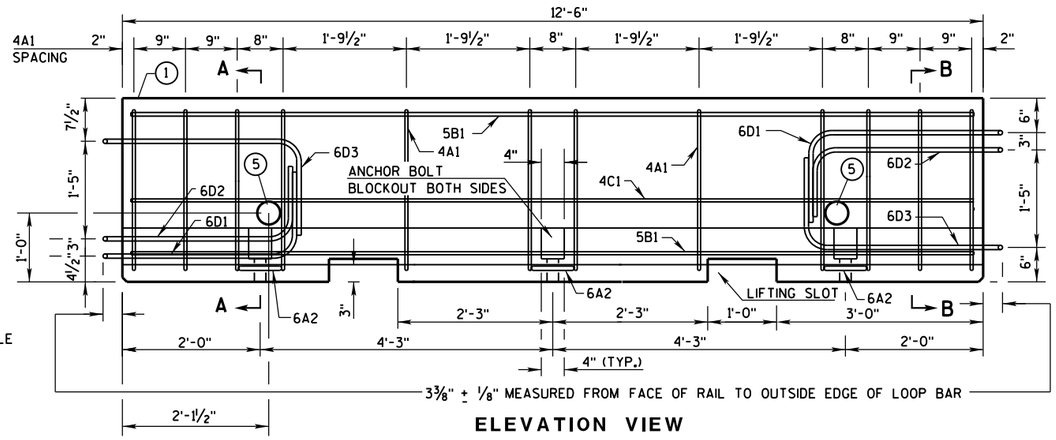
FHWA

6

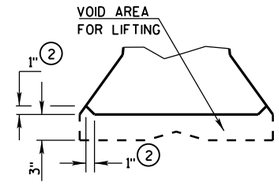
S.D.D. 13 C 18-2d



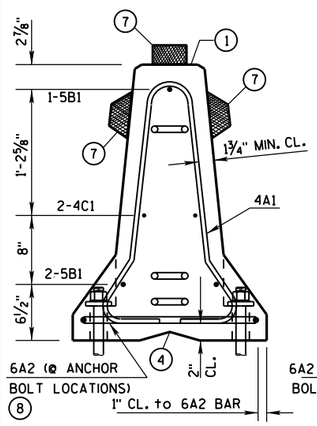
END VIEW



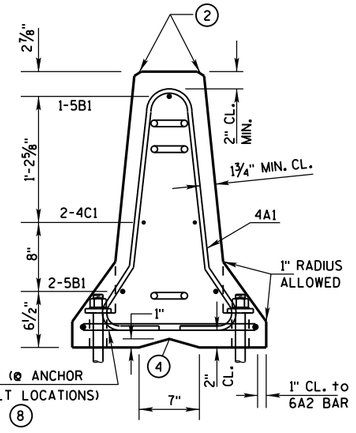
ELEVATION VIEW



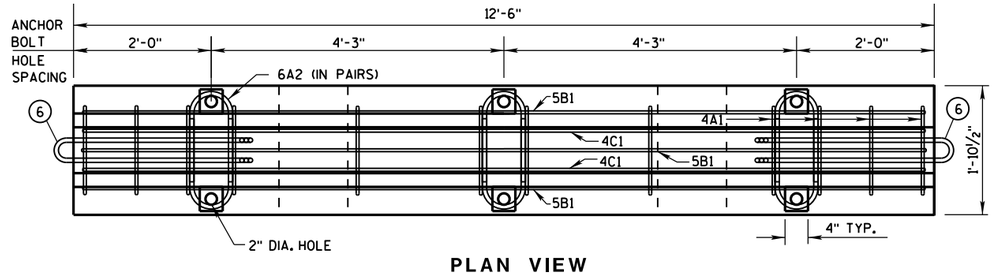
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

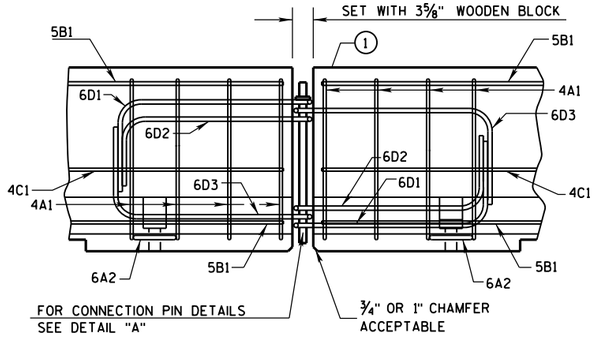


SECTION B-B
(STIRRUP PLACEMENT)

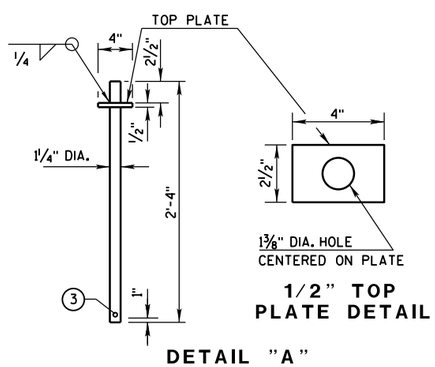


PLAN VIEW

DETAILS OF BARRIER SECTION

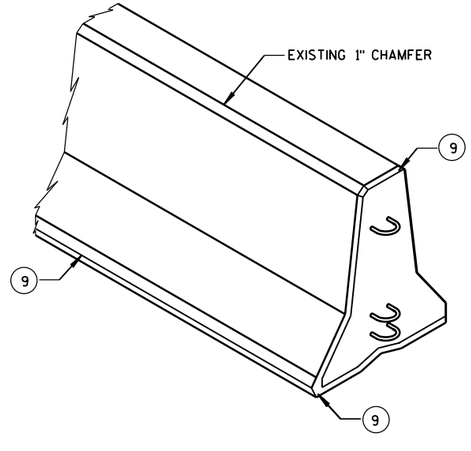


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

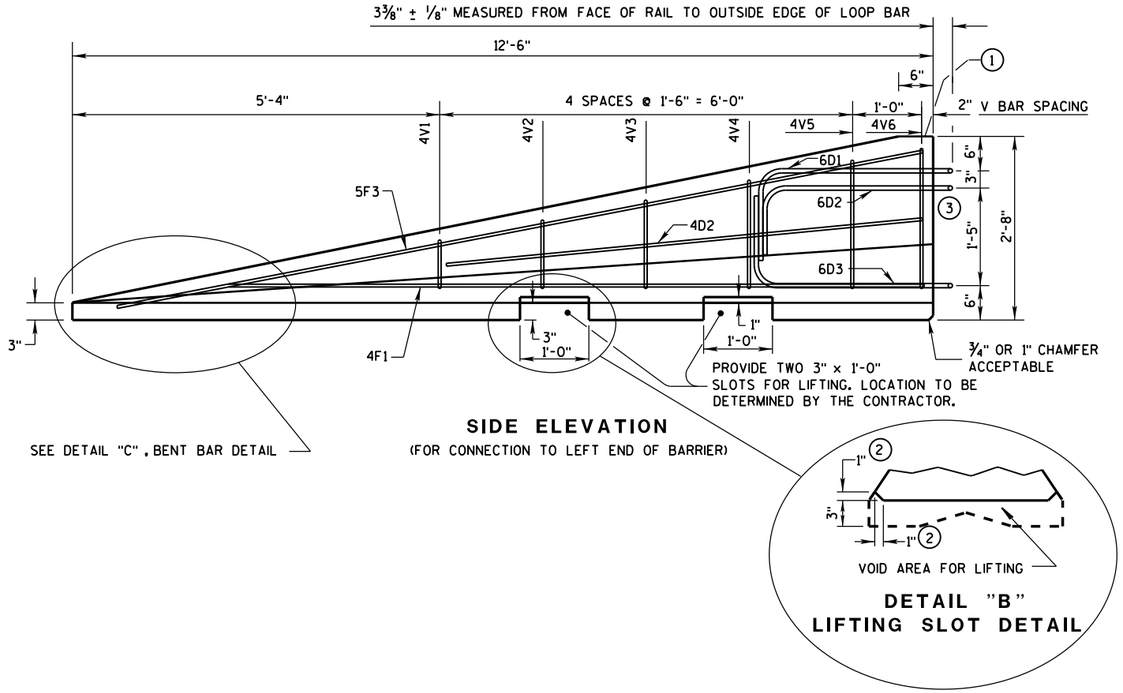
(9) 1" CHAMFER OPTIONAL.

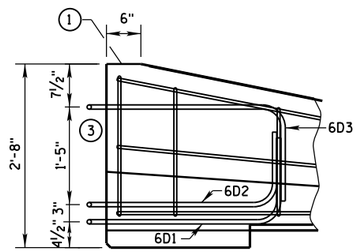
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

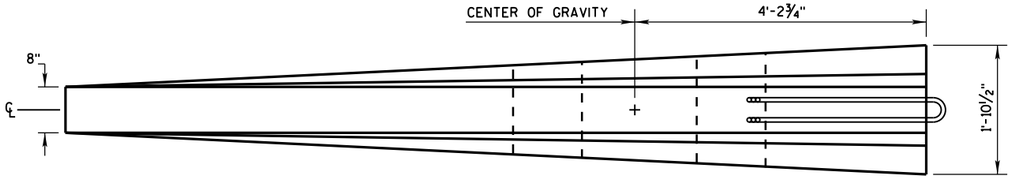
S.D.D. 14 B 7-14a

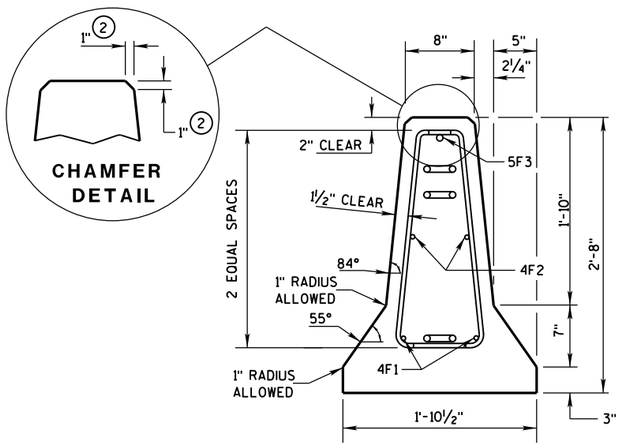


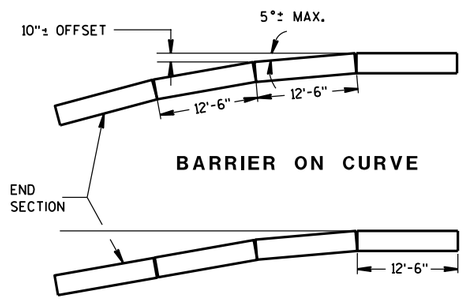


GENERAL NOTES

1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.







POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

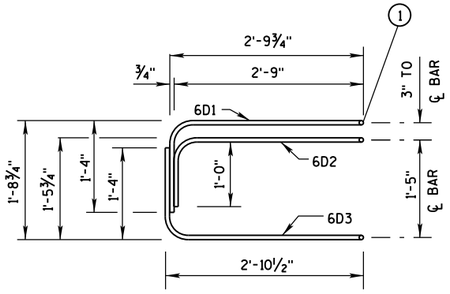
6

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

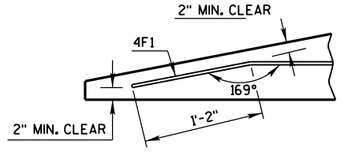
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

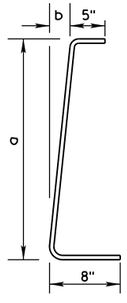
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

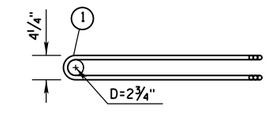
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION BILL OF MATERIALS

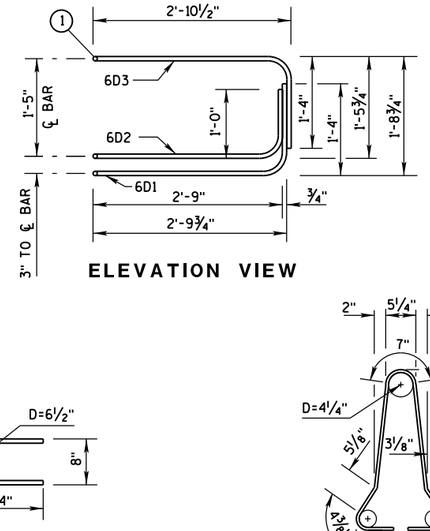
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

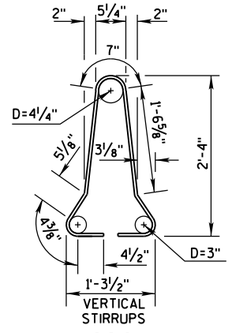


PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)

6A2



ELEVATION VIEW



4A1

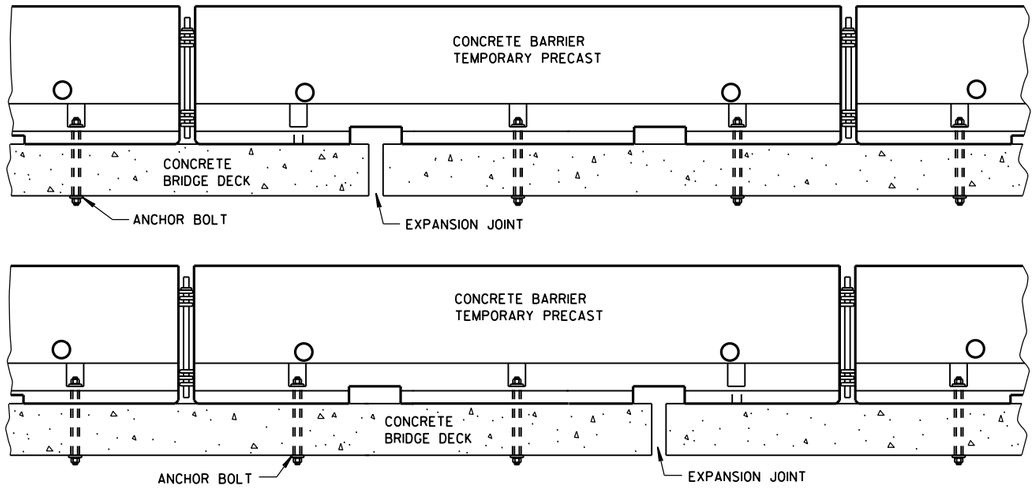
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

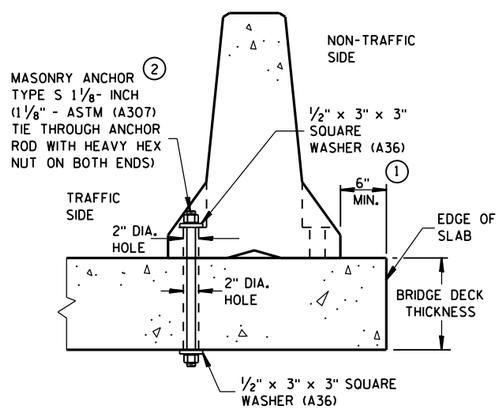
6

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



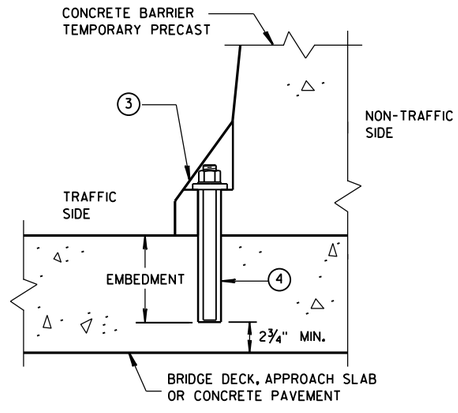
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

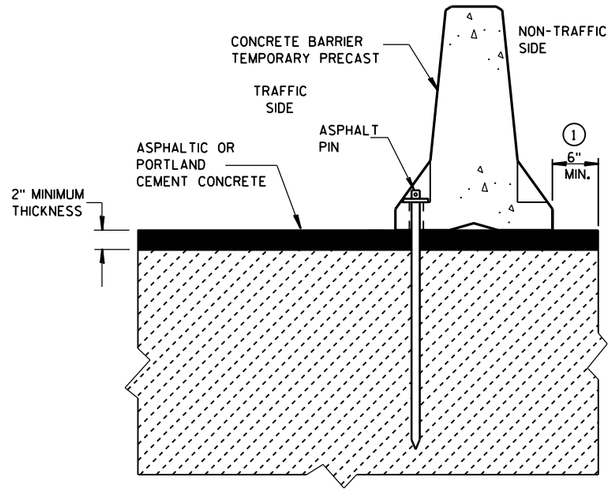
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

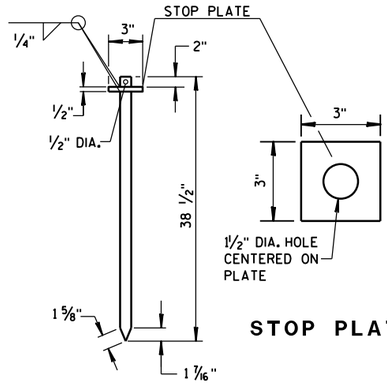
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

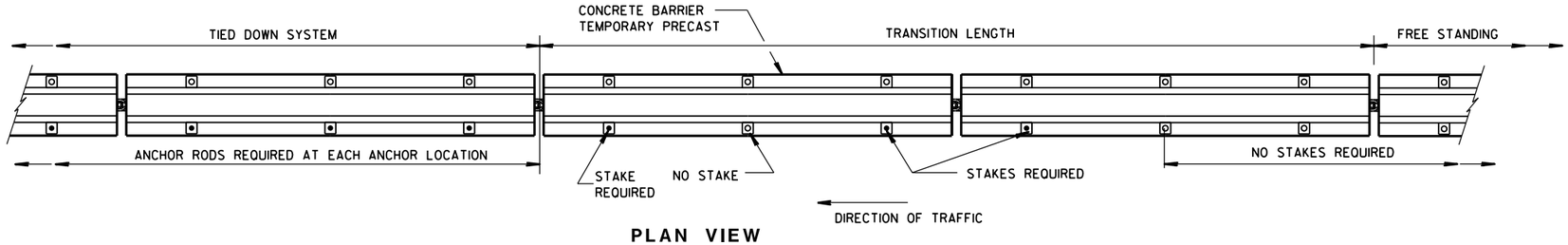
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

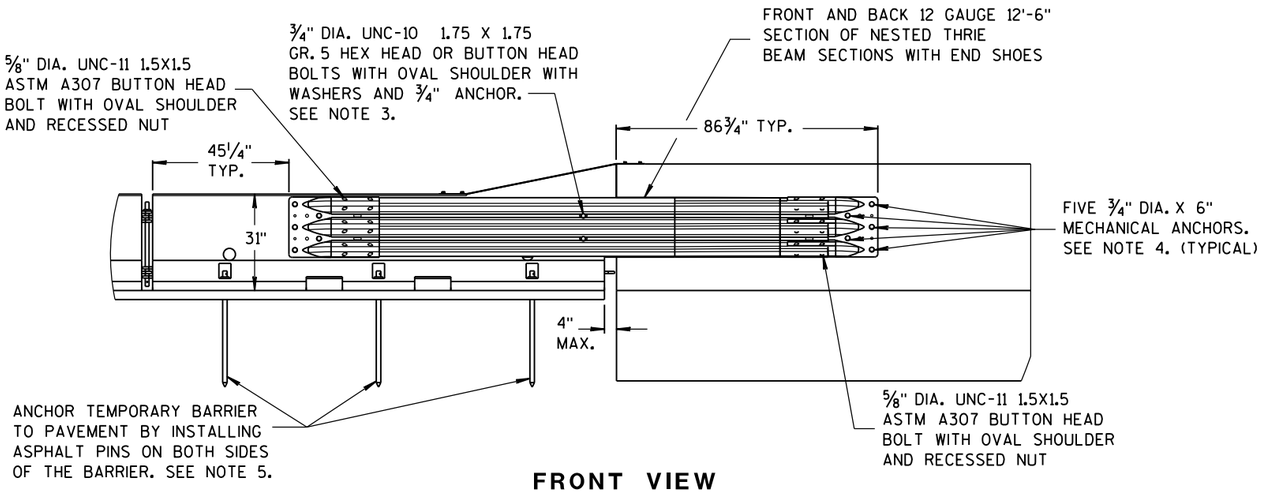
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

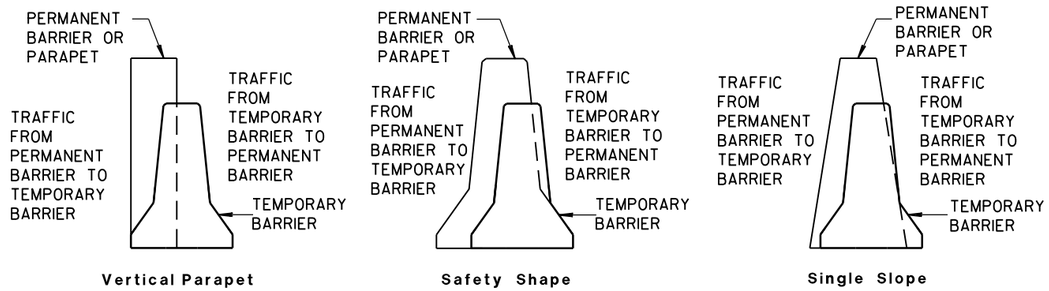
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-14d



FRONT VIEW



TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

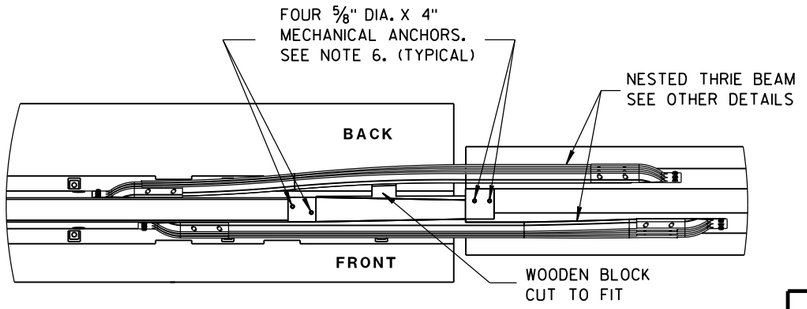
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

BACK VIEW

FRONT VIEW



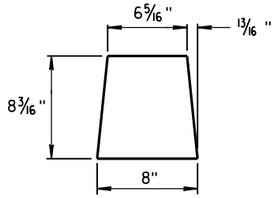
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

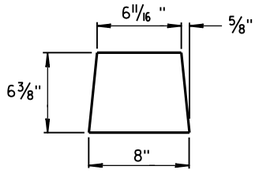
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

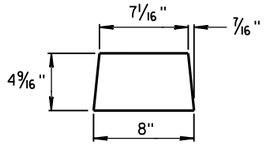
6
S.D.D. 14 B 7-14e



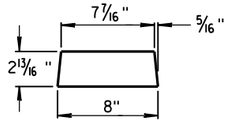
GUSSET 1



GUSSET 2

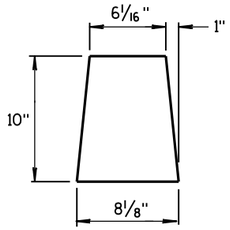


GUSSET 3

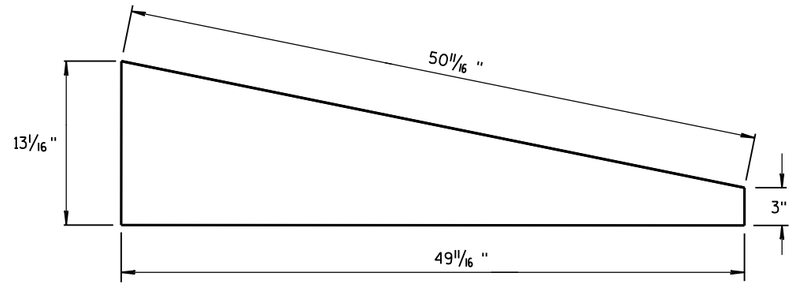


GUSSET 4

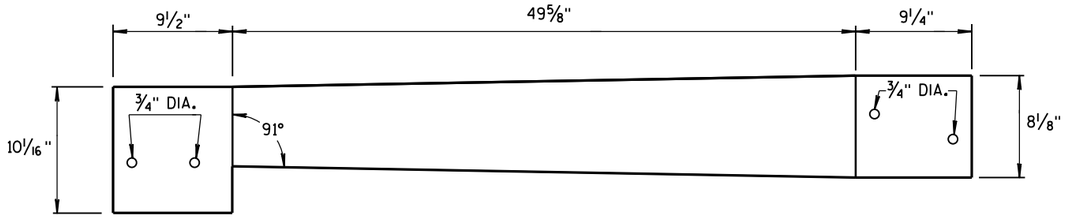
GUSSETS

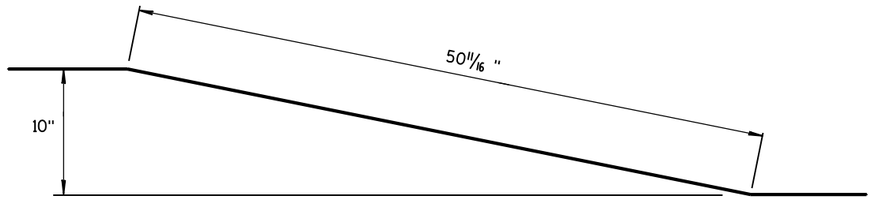


END PLATE



SIDE PLATE

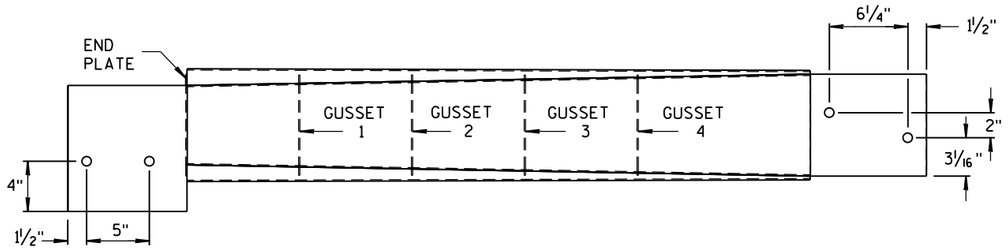


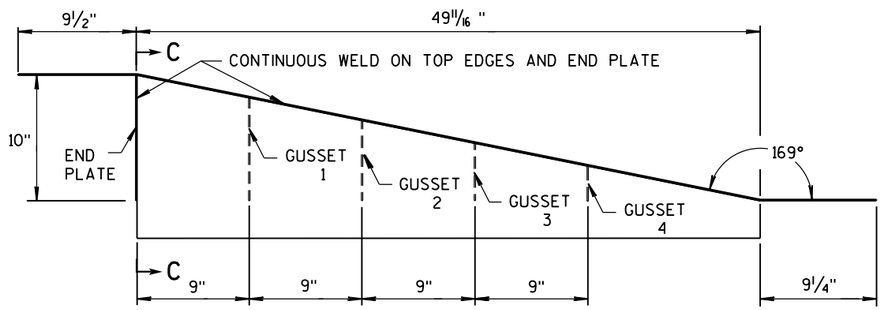


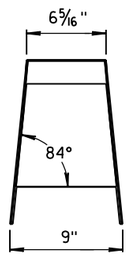
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

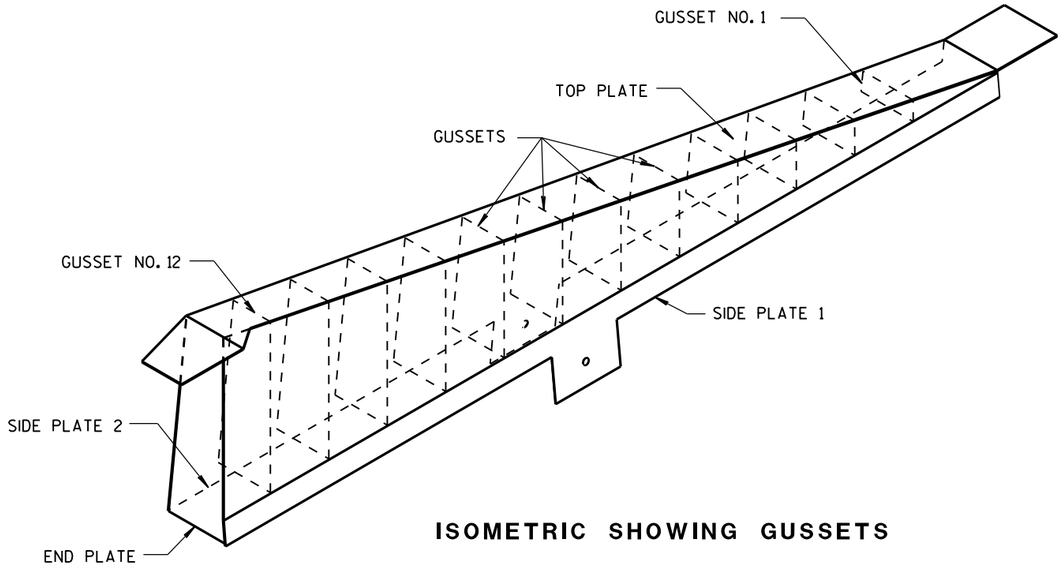
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

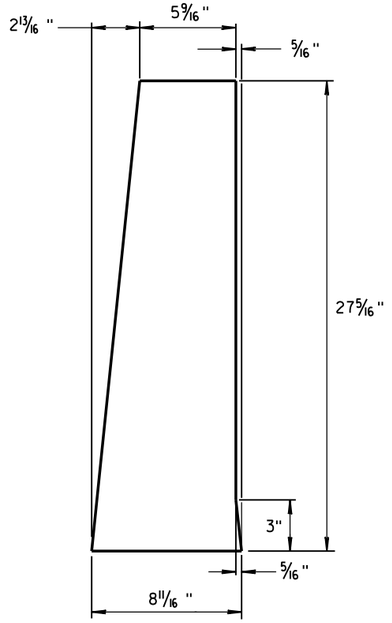
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14f

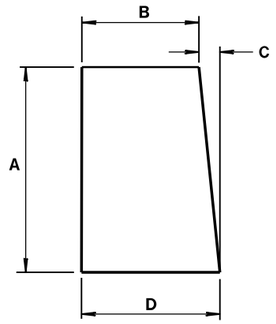


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



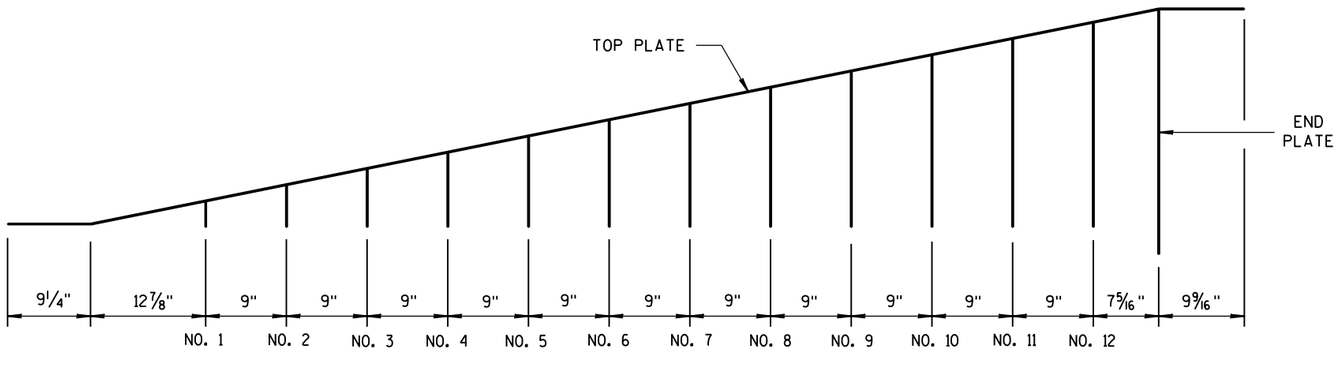
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

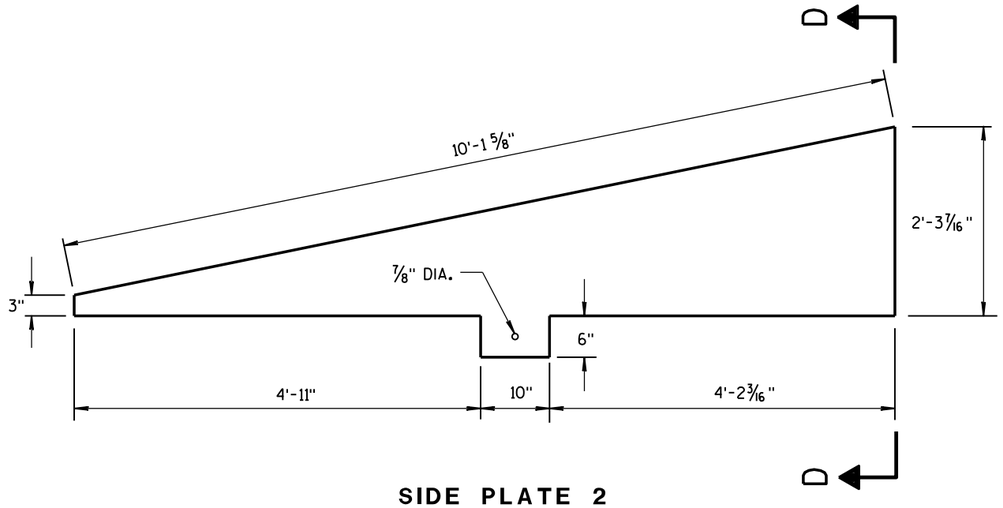
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

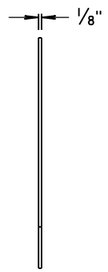
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

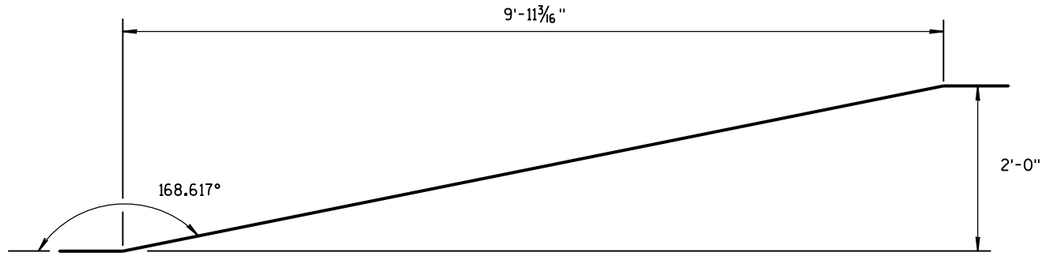
S.D.D. 14 B 7-14g



SIDE PLATE 2

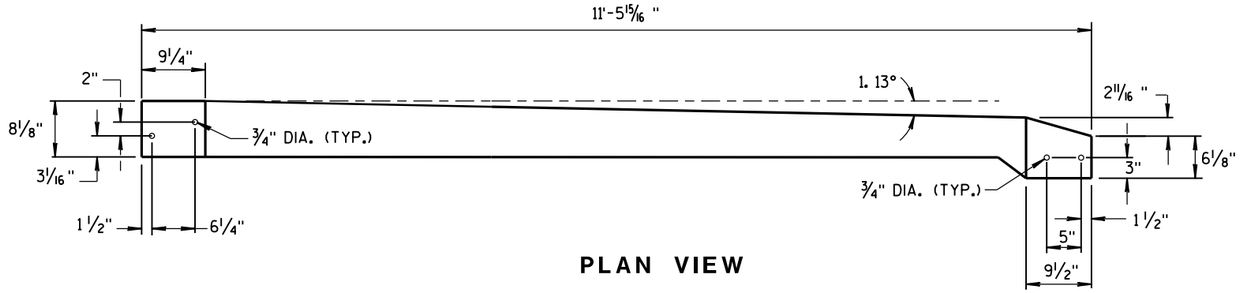


END VIEW



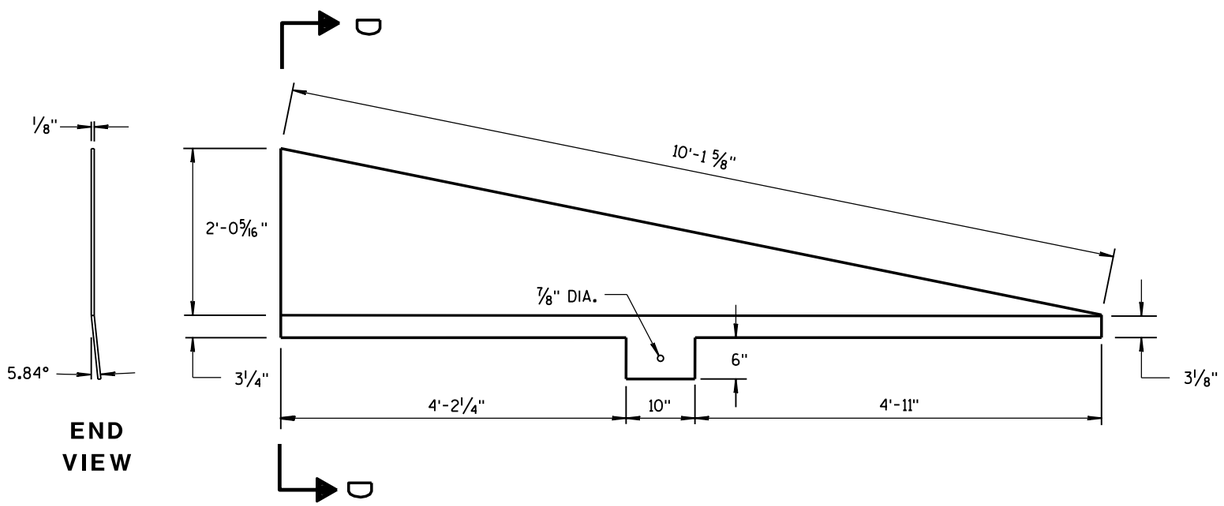
SIDE VIEW

TOP PLATE



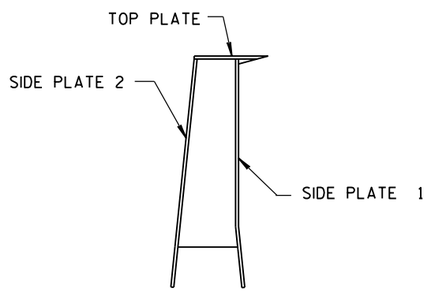
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

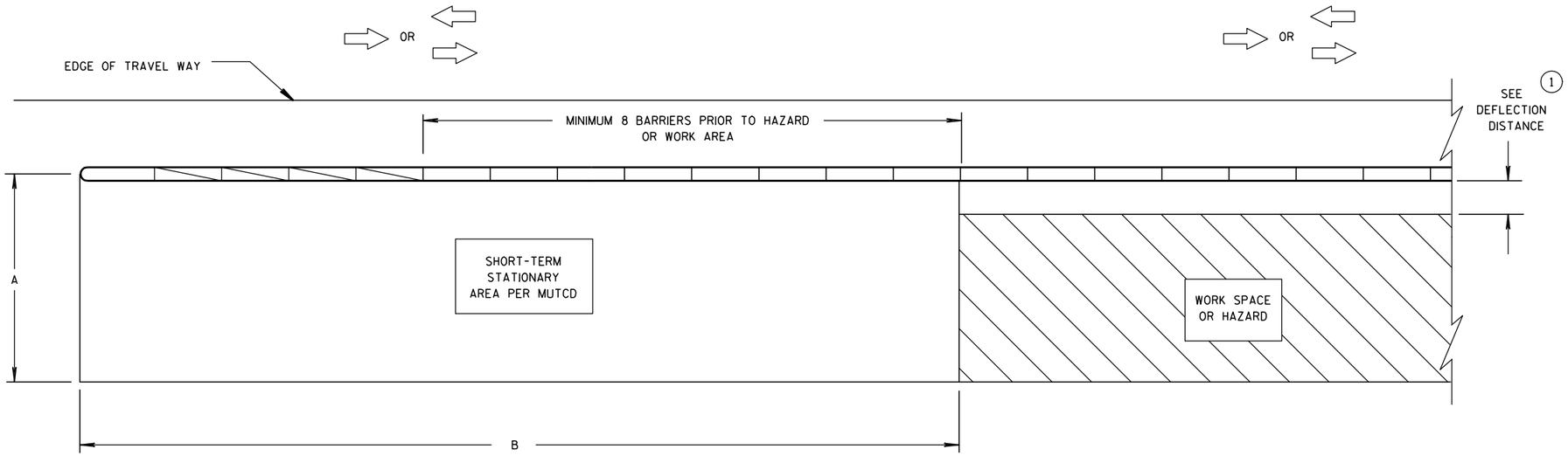
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

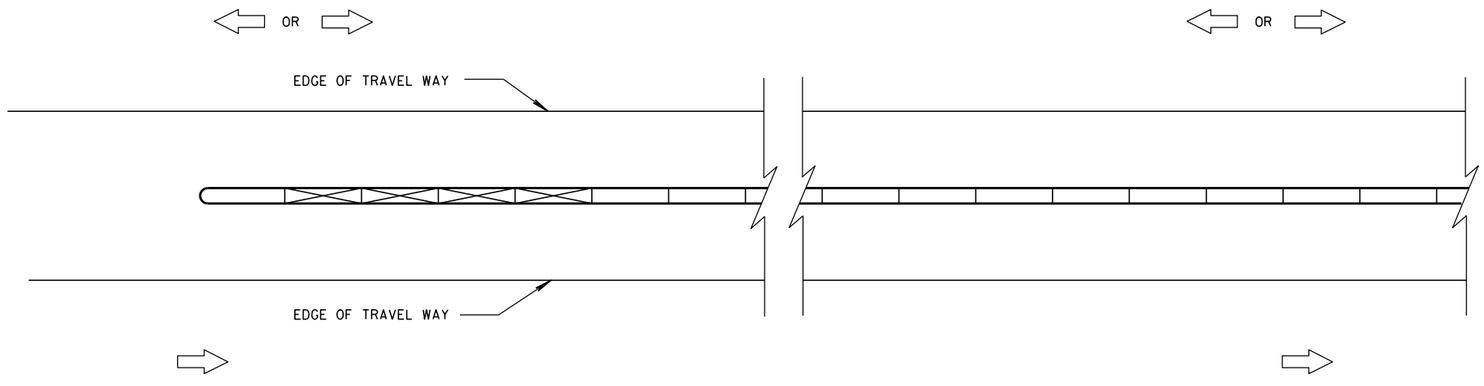
S.D.D. 14 B 7-14h

6

S.D.D. 14 B 7-14h



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

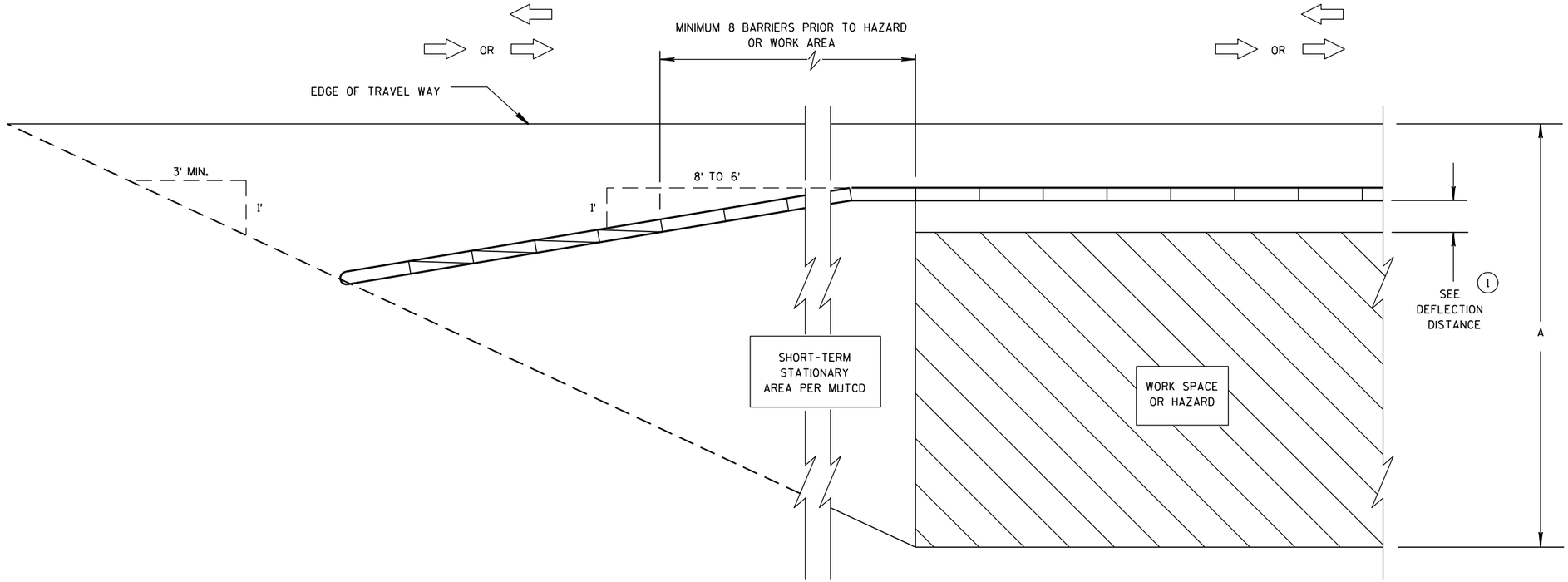
(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

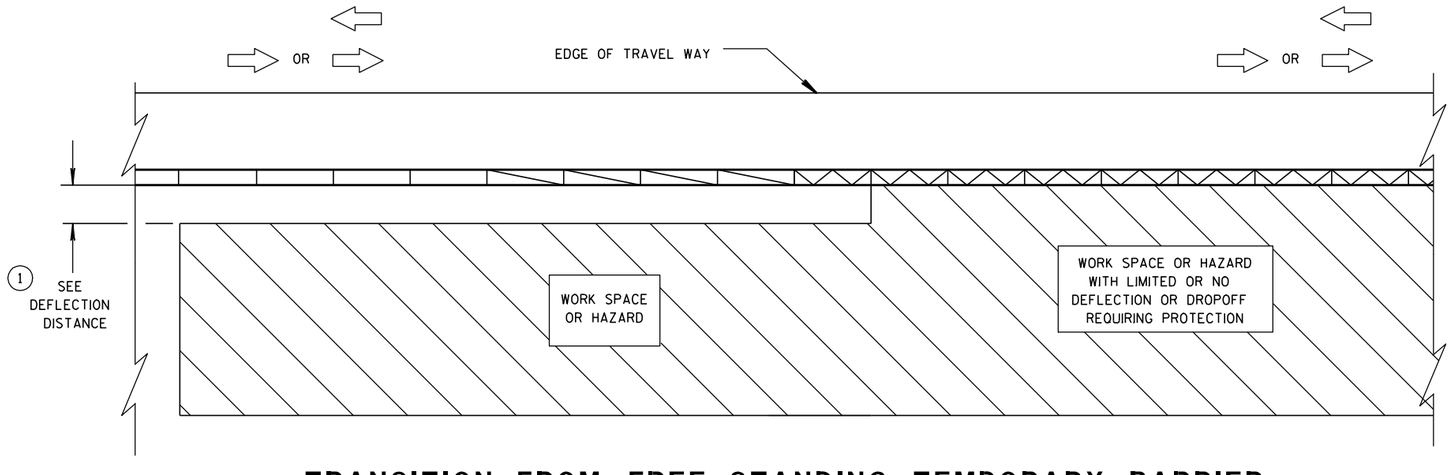
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 8-1a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

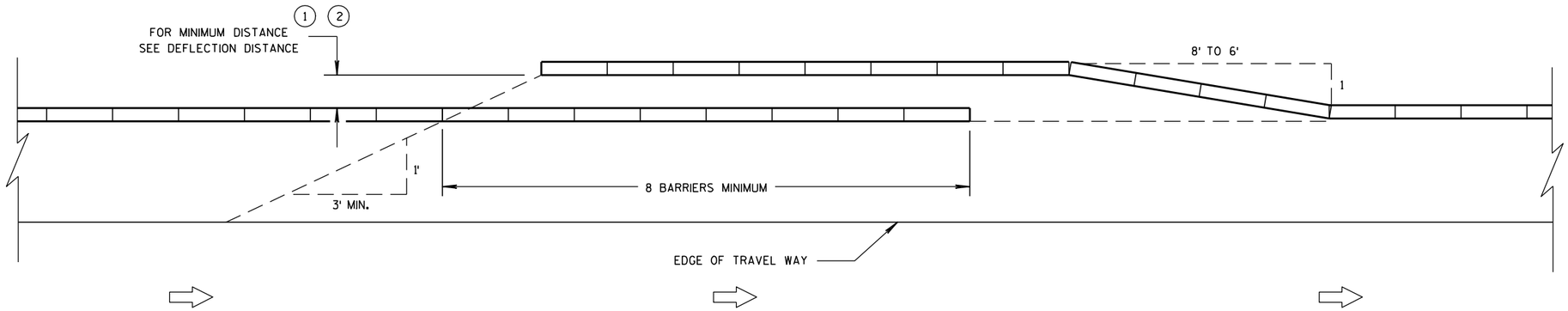
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

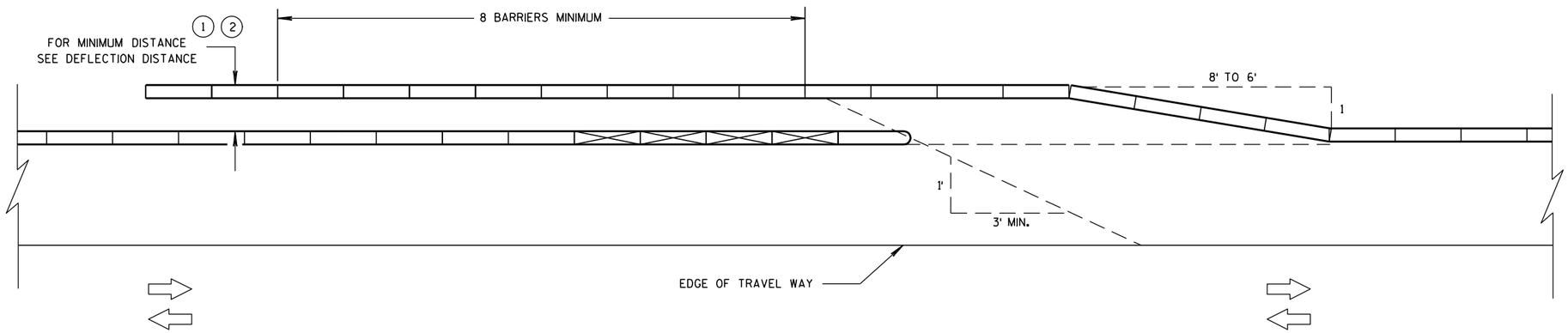
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

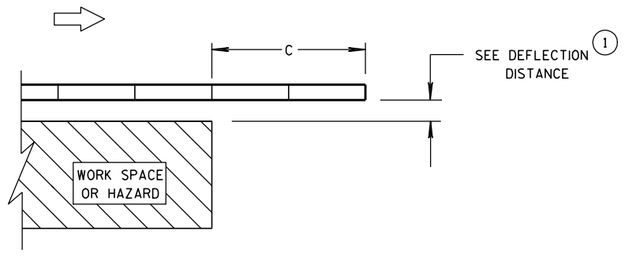
S.D.D. 14 B 8-1b



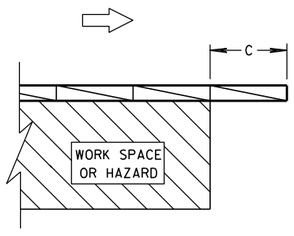
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

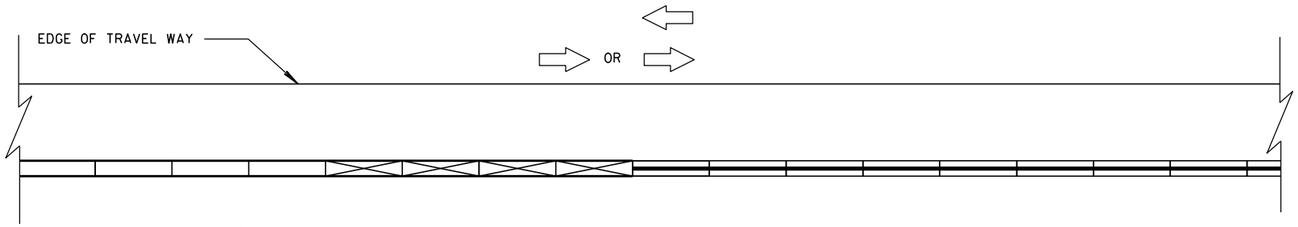
LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

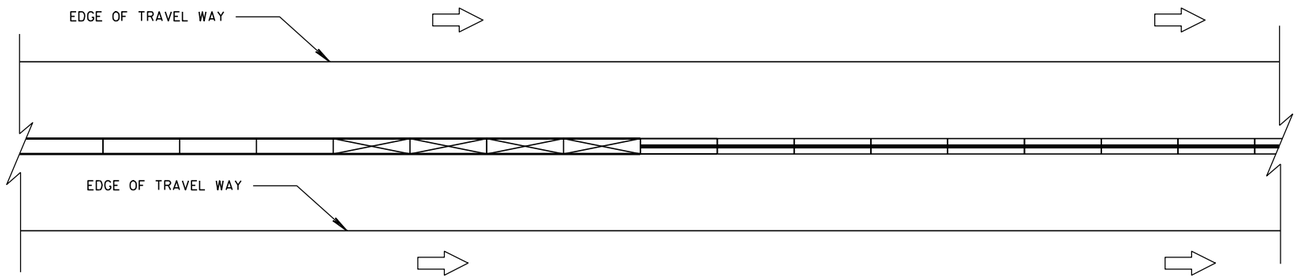
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 8-1c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

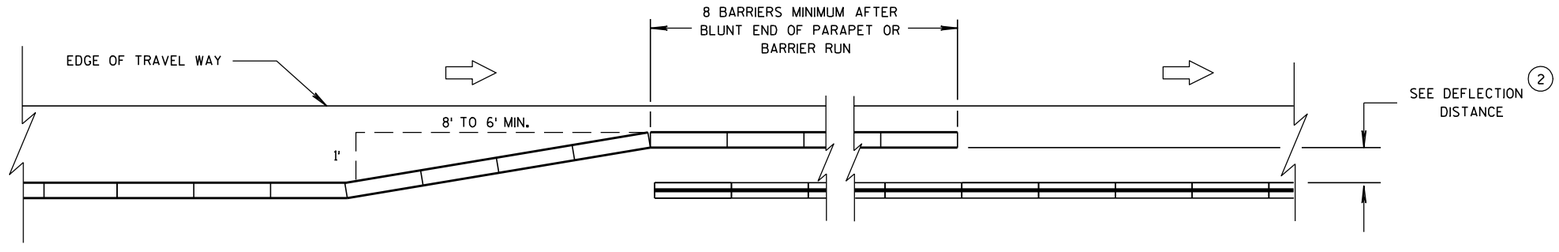
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

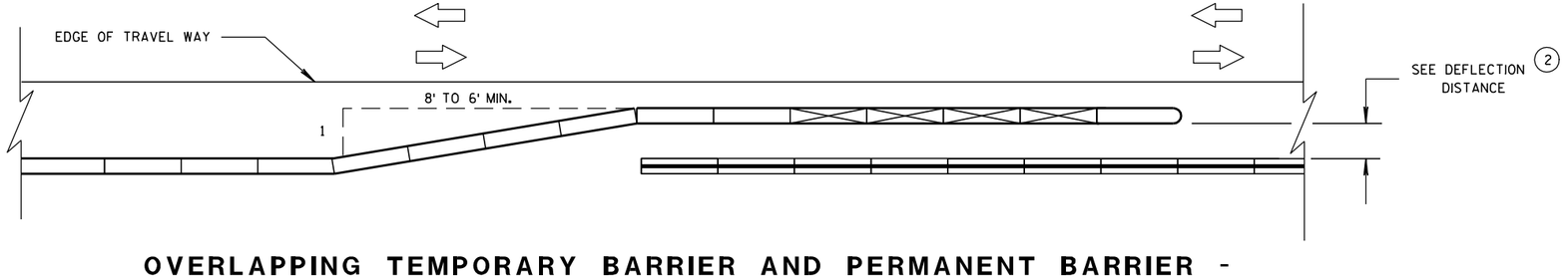
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6
S.D.D. 14 B 8-1d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

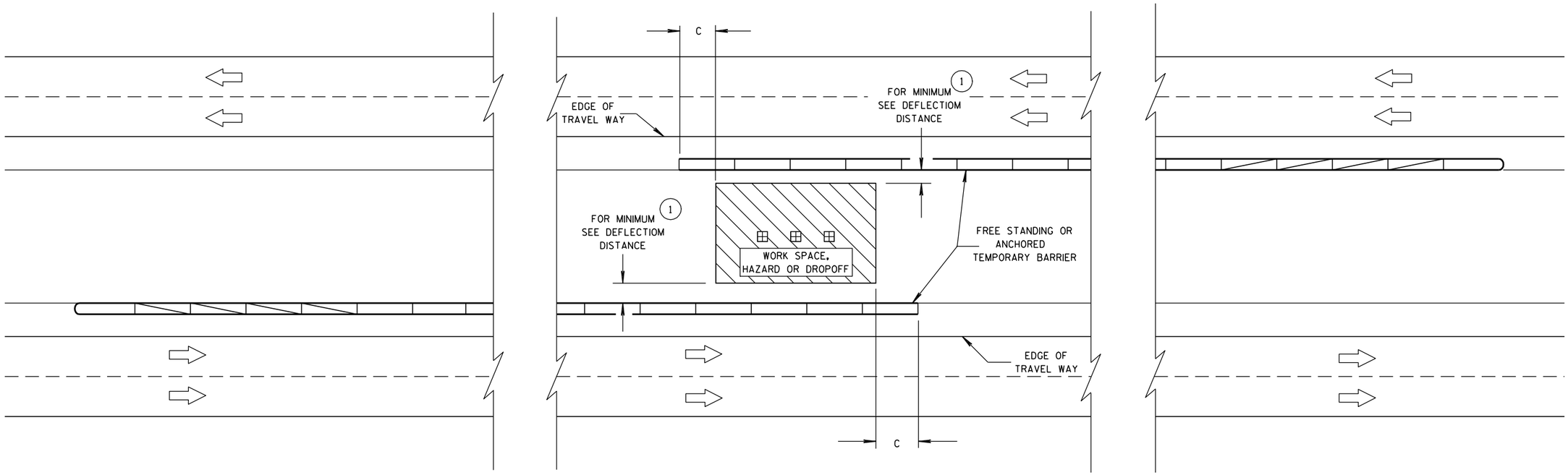
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER

94

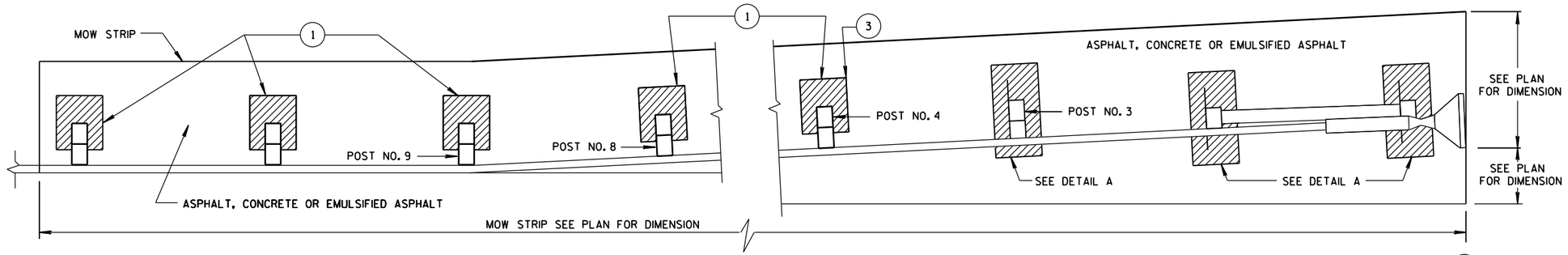
FHWA

6

S.D.D. 14 B 8-1e

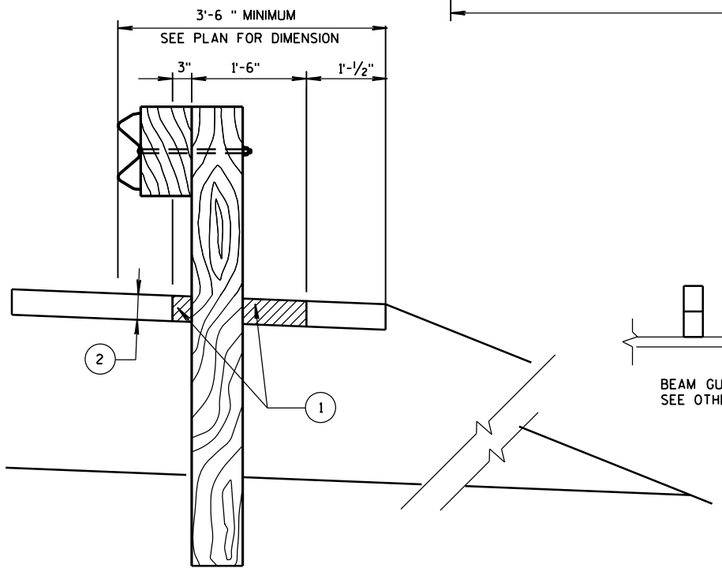
6

S.D.D. 14 B 8-1e

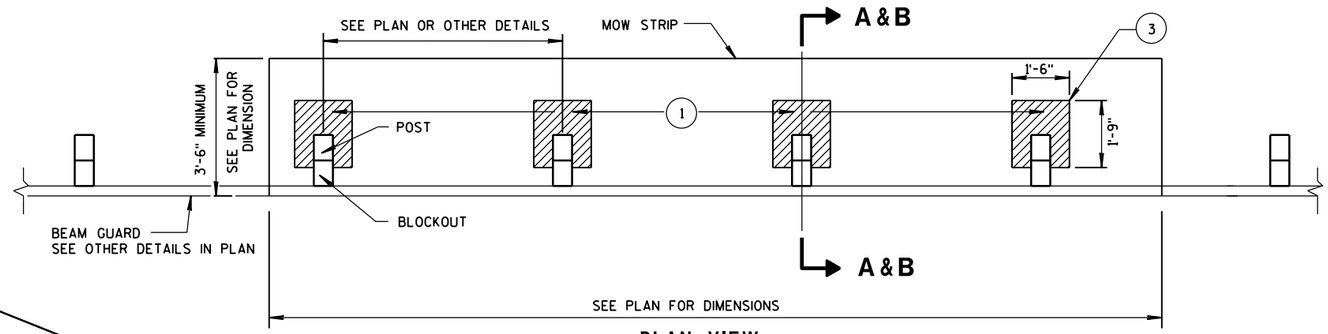


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

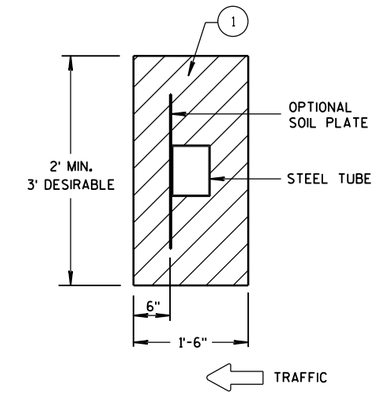


SECTION A-A

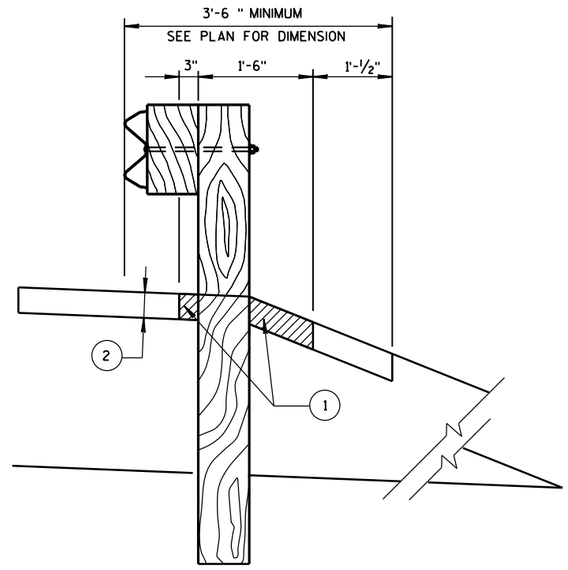


PLAN VIEW

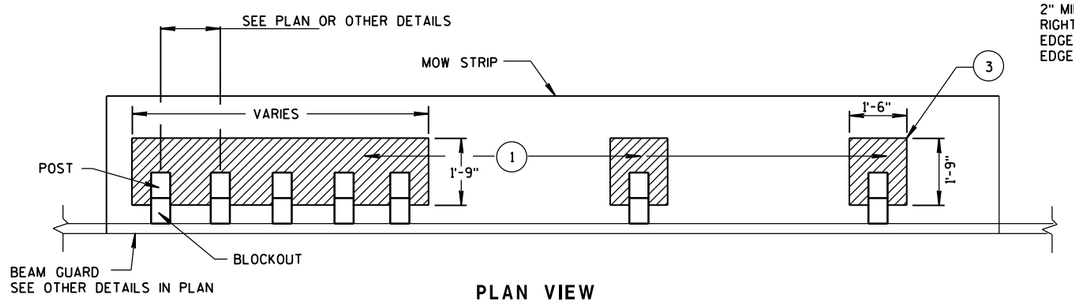
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



DETAIL A

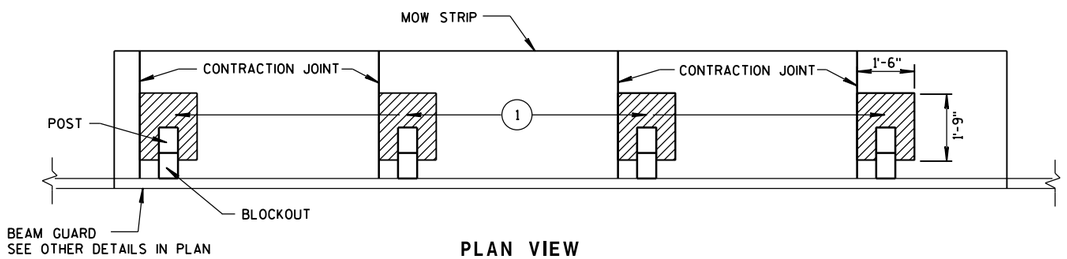


SECTION B-B



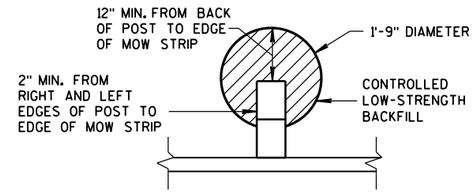
PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP



ALTERNATIVE HMA
MOW STRIP DESIGN

(1) CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

(2) DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS

(3) FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS.)

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA
D 95
NT

6

S.D.D. 14 B 28-3

6

S.D.D. 14 B 28-3

GENERAL NOTES

1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

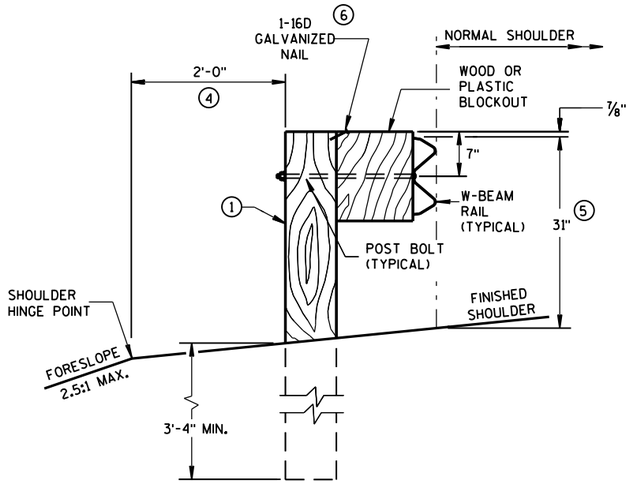
2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

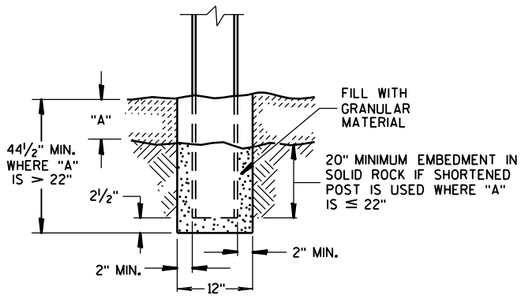
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

6. WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



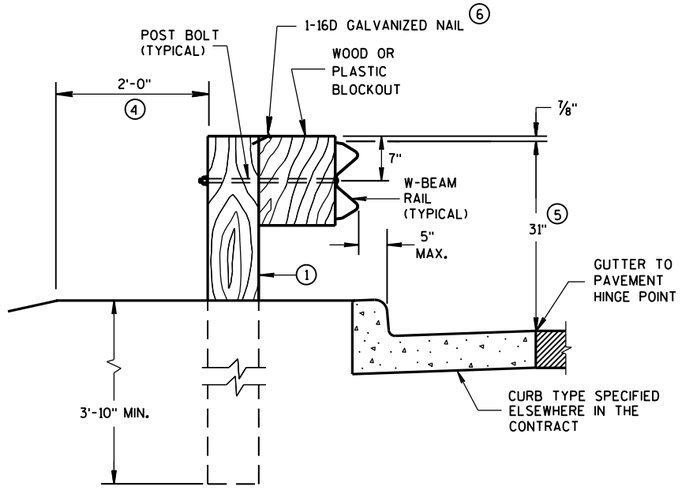
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



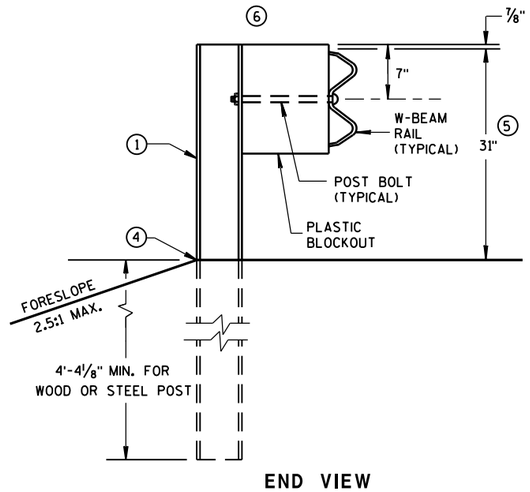
END VIEW

SETTING STEEL OR WOOD POST IN ROCK 3



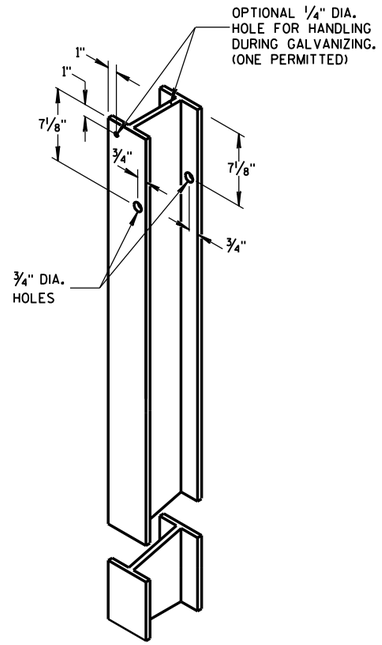
END VIEW

LOCATED ALONG A CURBED ROADWAY

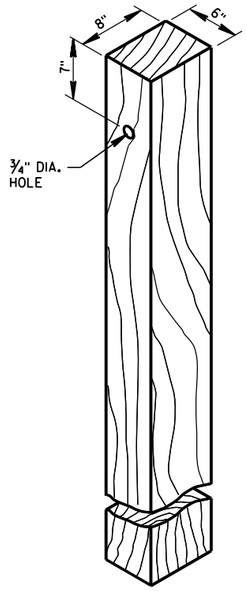


END VIEW

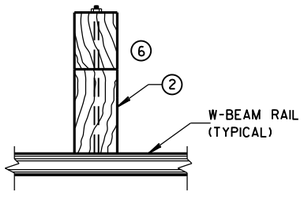
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



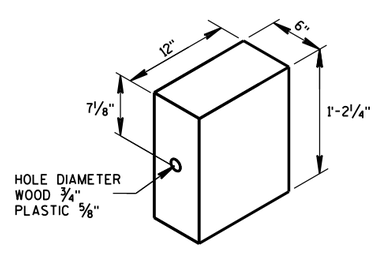
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) 1



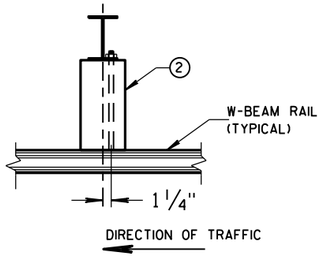
WOOD POST
(6" X 8") NOMINAL 1



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT 2

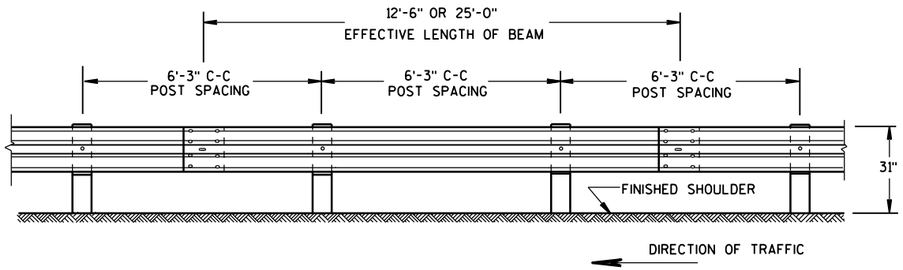


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

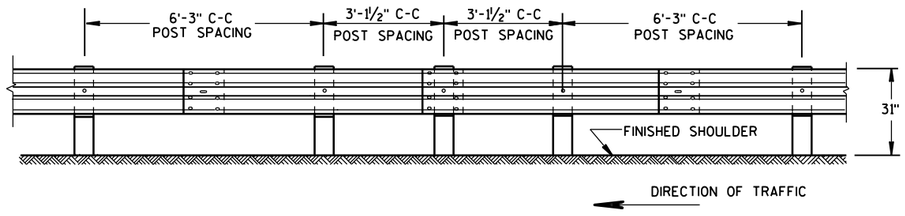
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 42-3a



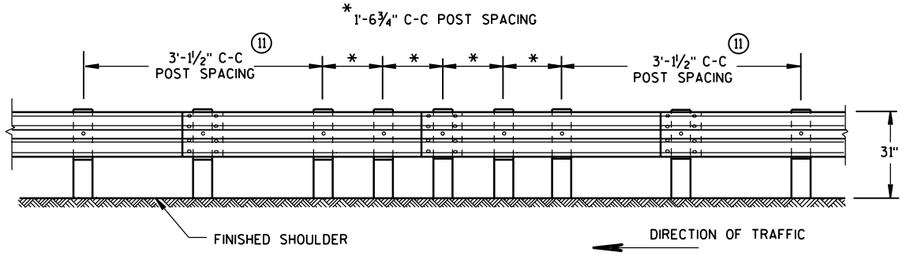
FRONT VIEW

POST SPACING STANDARD INSTALLATION



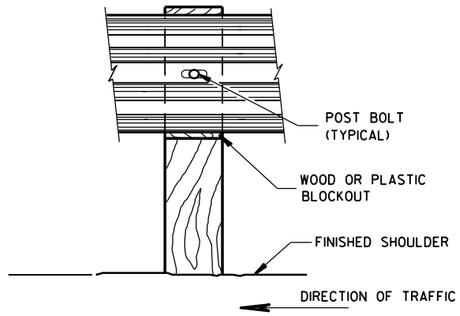
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

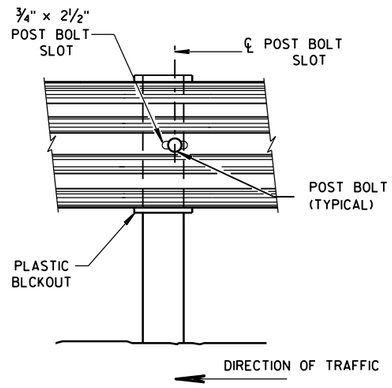


FRONT VIEW

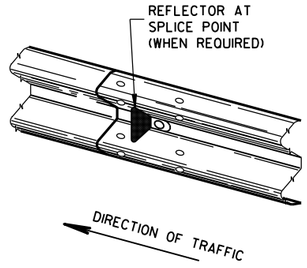
QUARTER POST SPACING (QS)

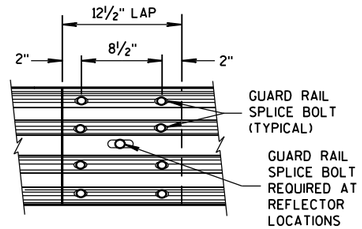


FRONT VIEW AT WOOD POST



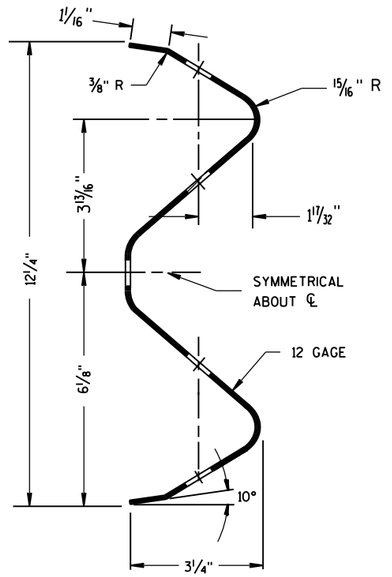
FRONT VIEW AT STEEL POST



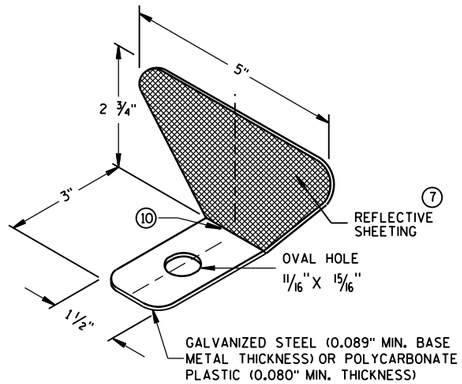


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧

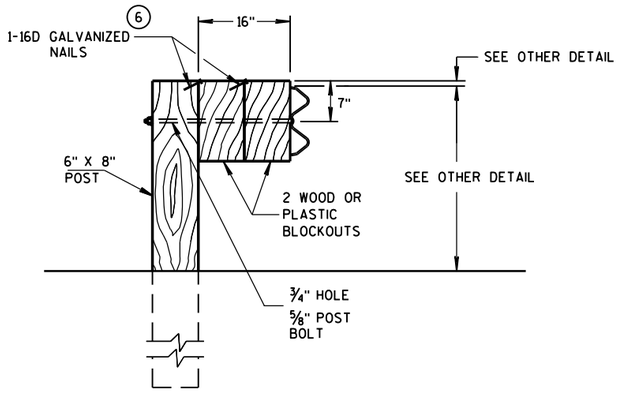
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 ⑩	

ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

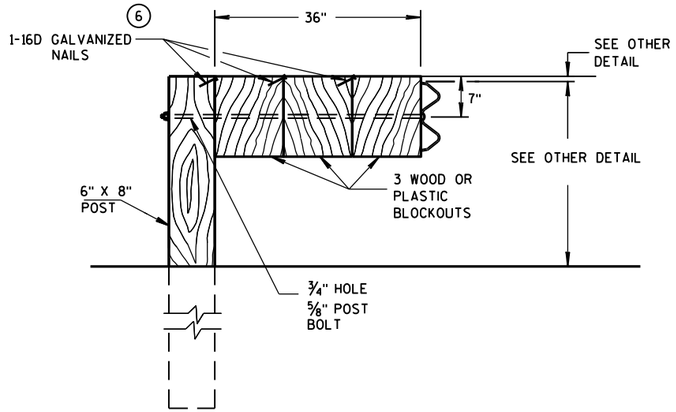
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

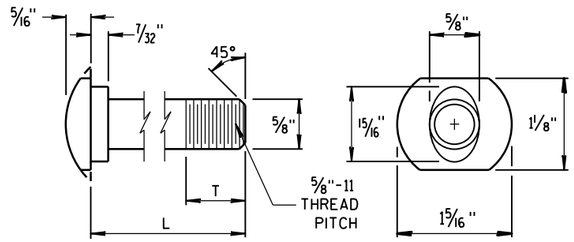


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

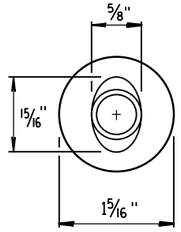
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

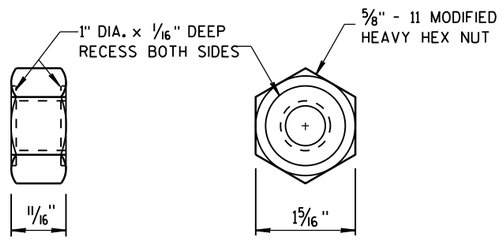


POST BOLT TABLE

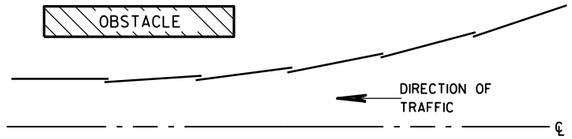
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

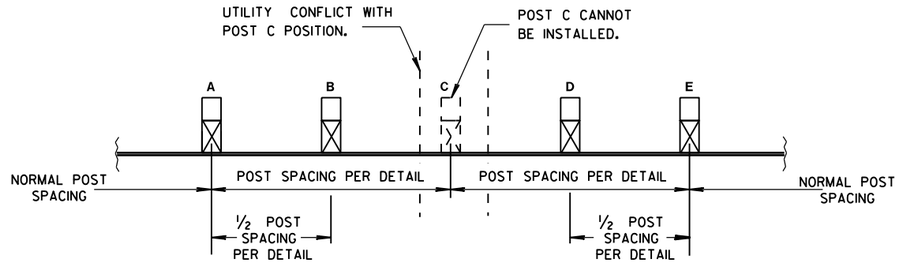


POST BOLT AND RECESS NUT

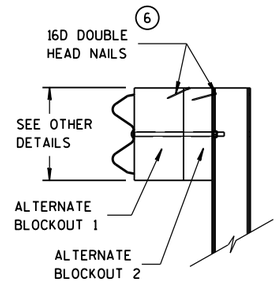


PLAN VIEW

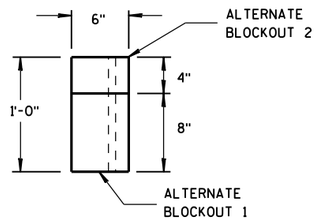
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 42-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, 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) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

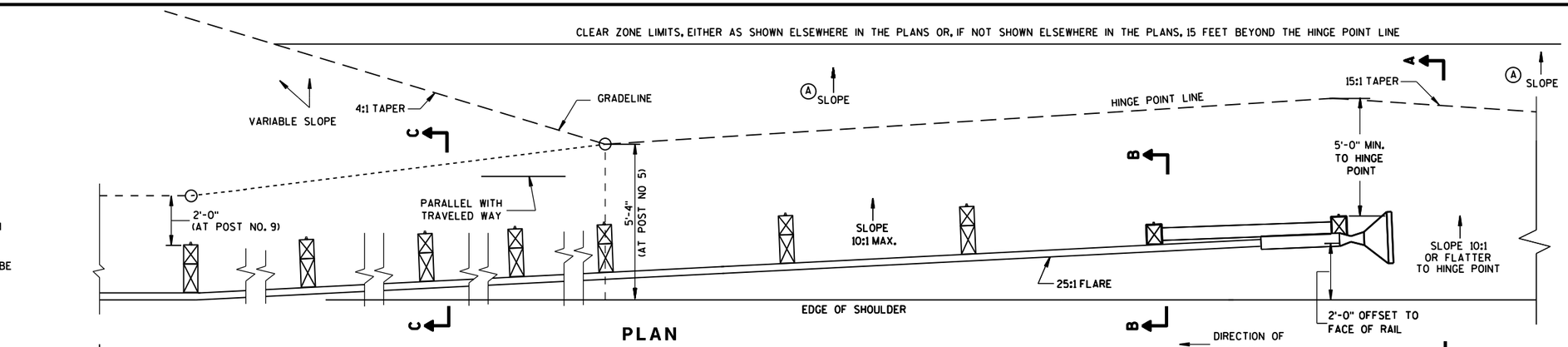
SEE SDD 14B42 FOR MORE INFORMATION.

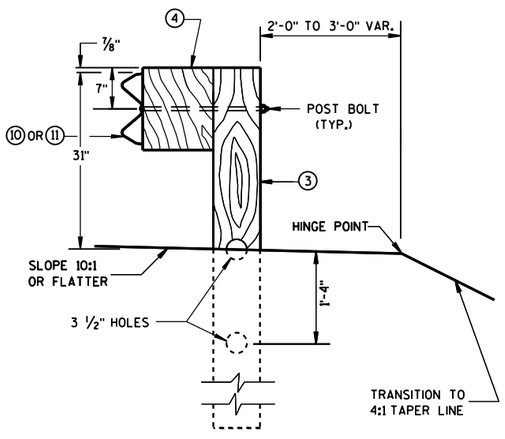
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

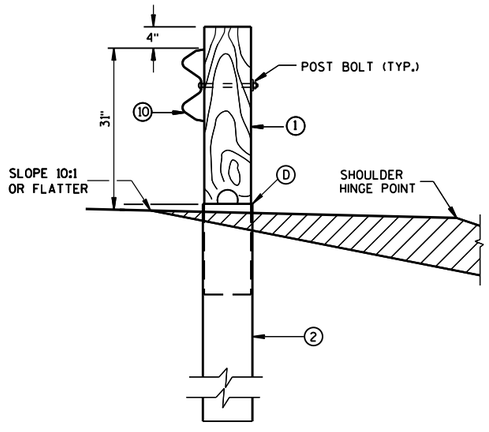
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

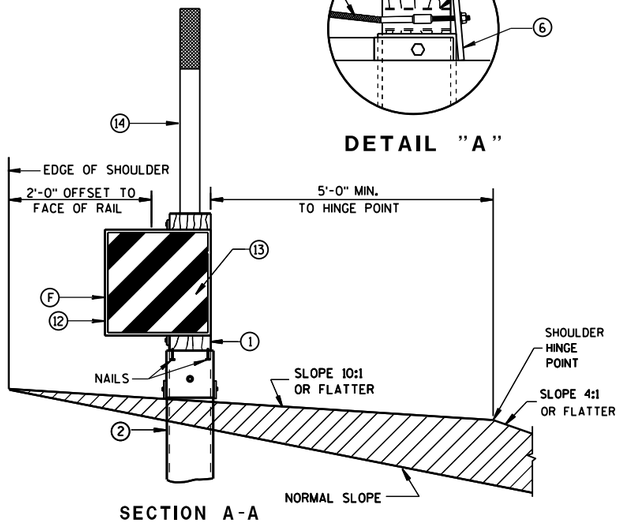




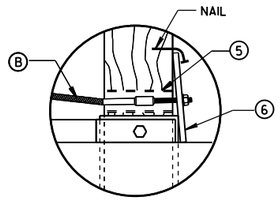
SECTION C-C
TYPICAL AT POST NOS. 3-9



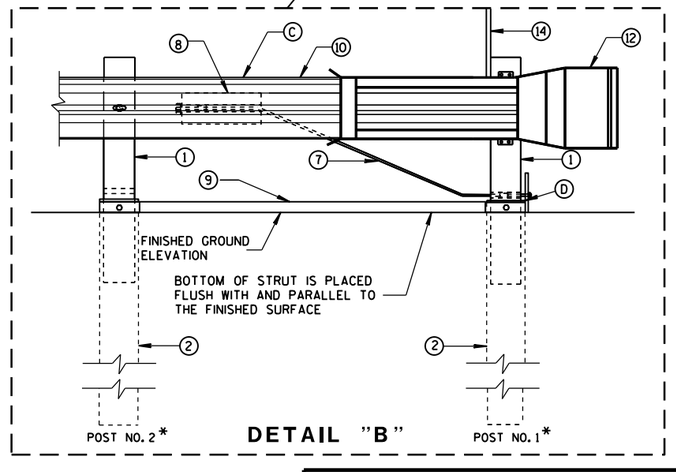
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



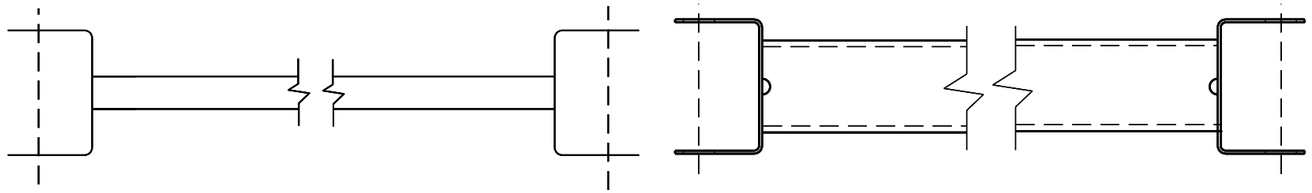
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 99

S.D.D. 14 B 44-2a

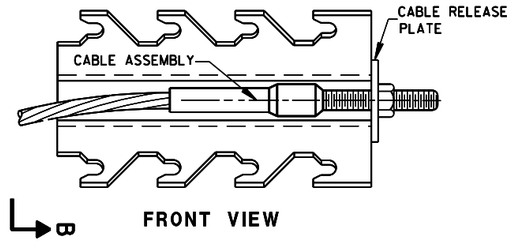
6



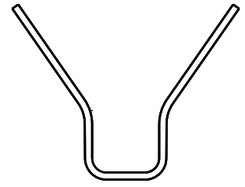
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

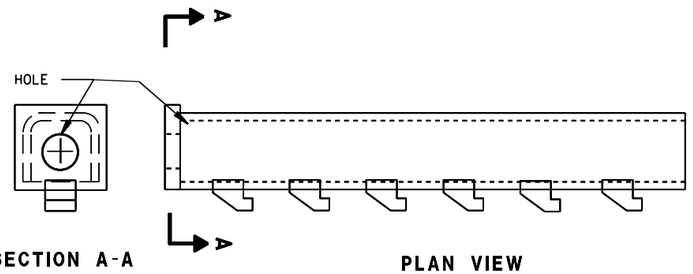
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



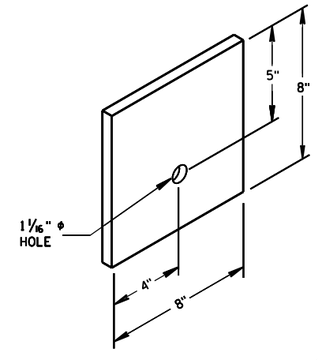
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



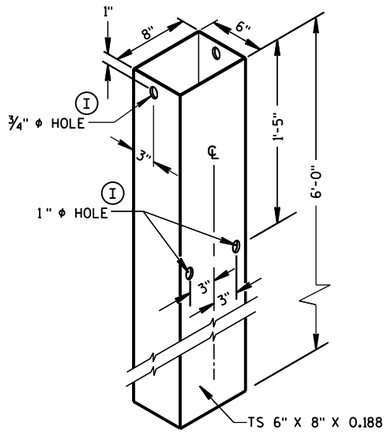
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

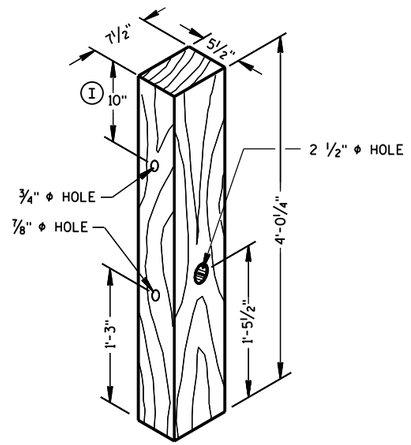
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 44-2b

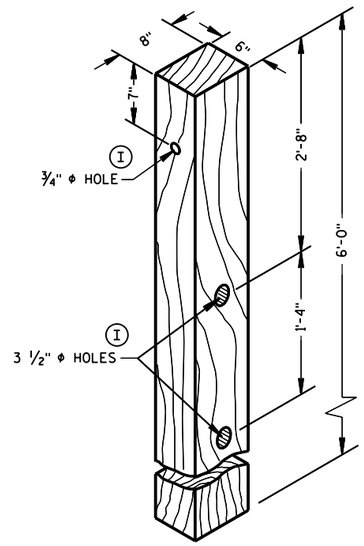


FOUNDATION TUBE (2)



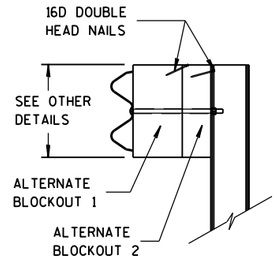
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

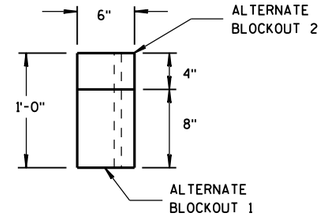


POSTS NUMBER 3-9

WOOD CRT POST (3)

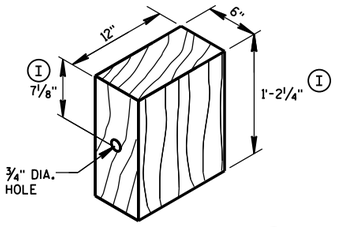


SIDE VIEW



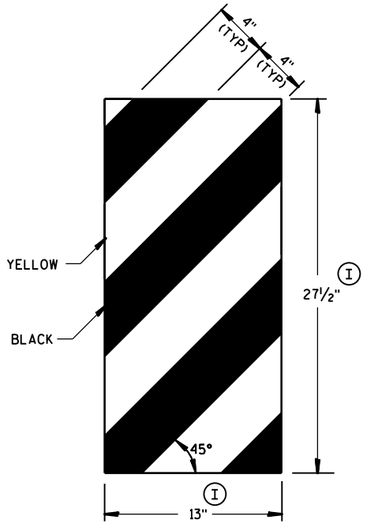
TOP VIEW

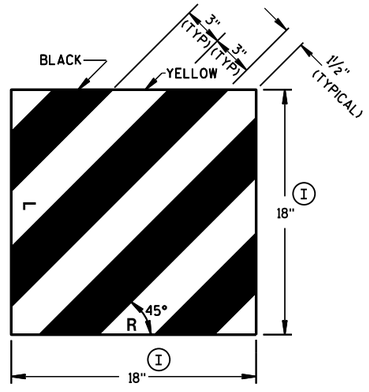
ALTERNATE WOOD BLOCKOUT DETAIL



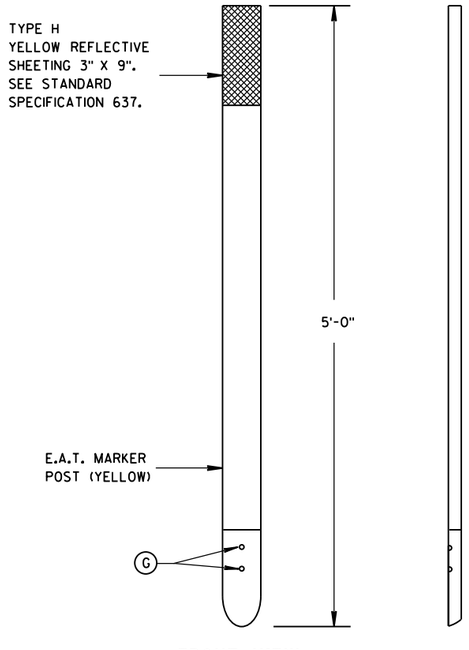
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





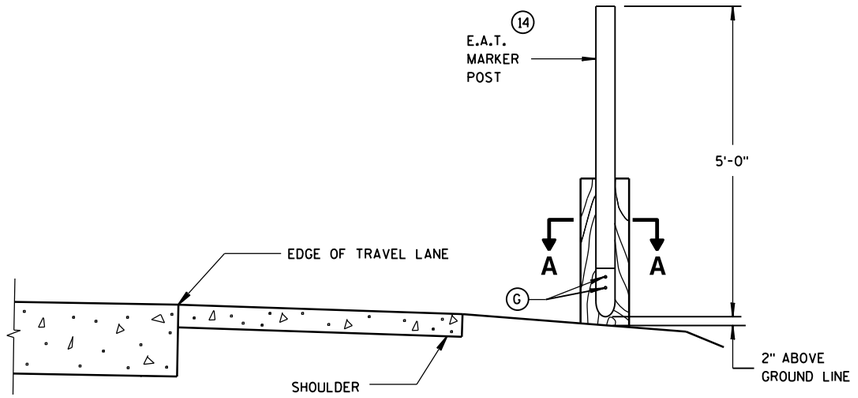
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

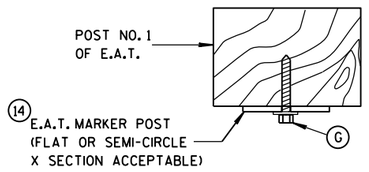
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

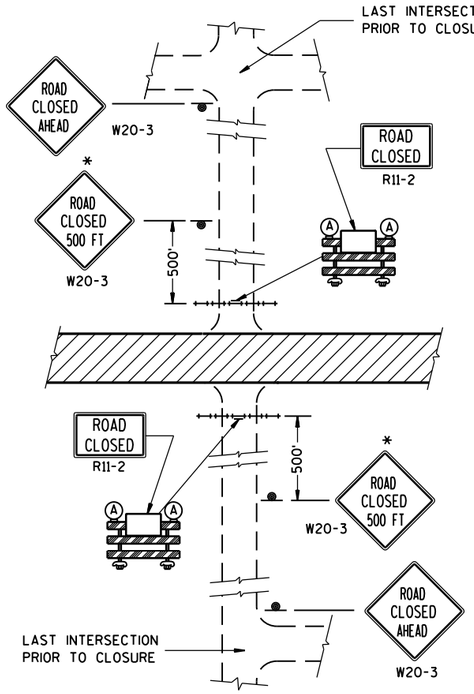
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

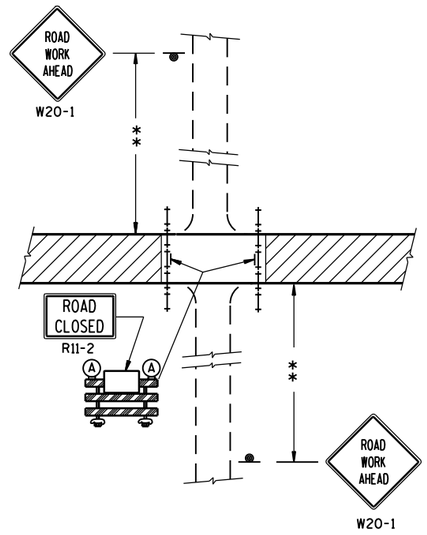
6

S.D.D. 14 B 44-2c



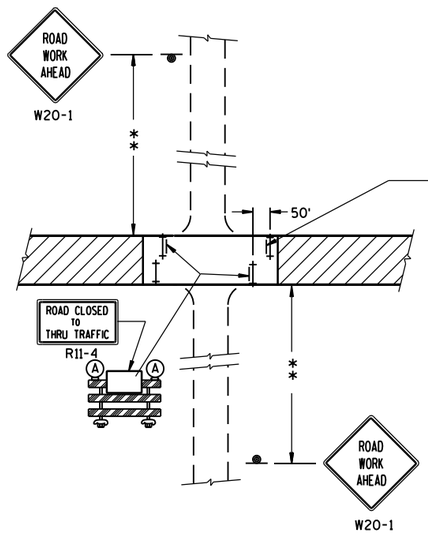
DETAIL 1

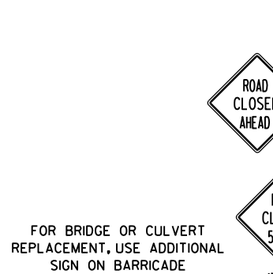
(NO ACCESS TO PROJECT)



DETAIL 2

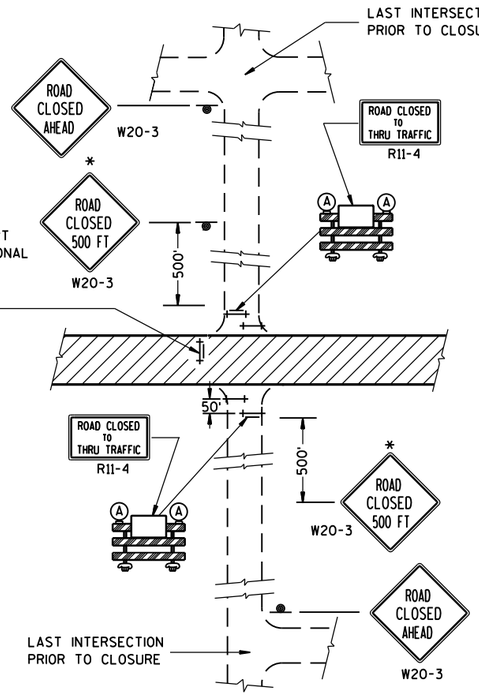
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).





DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

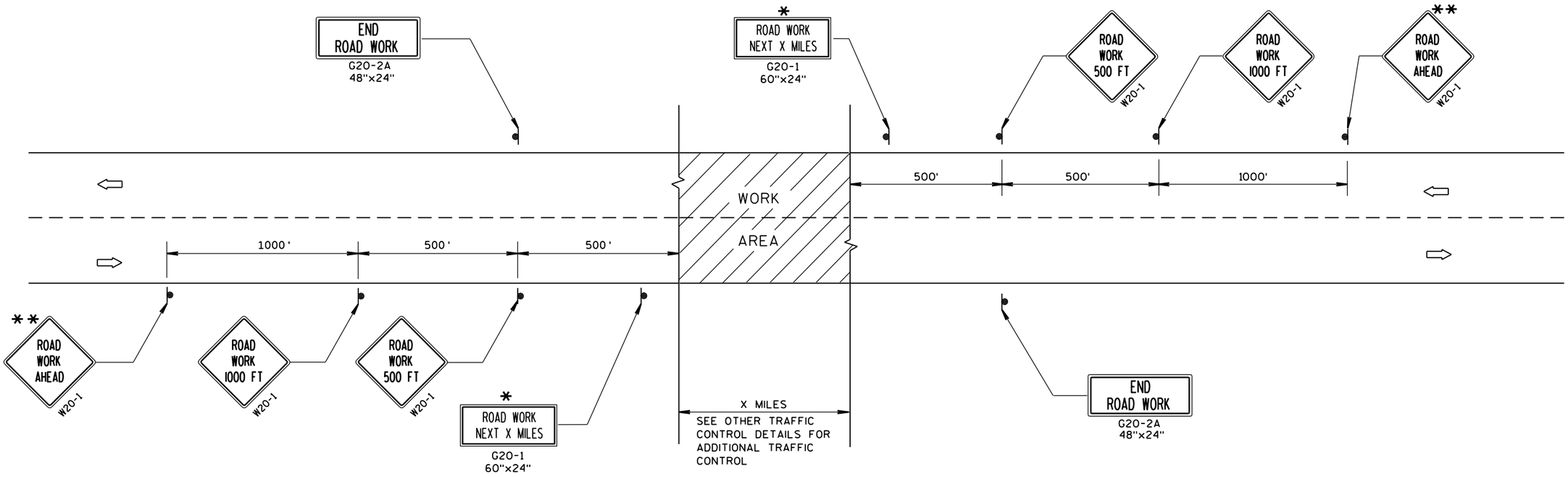
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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.

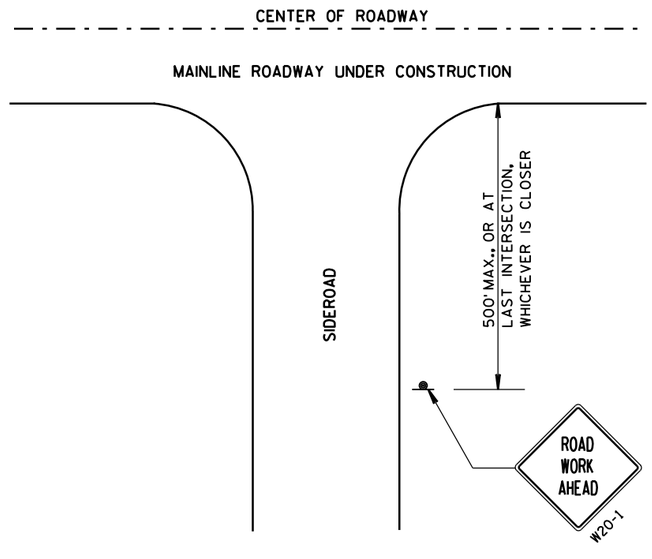
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

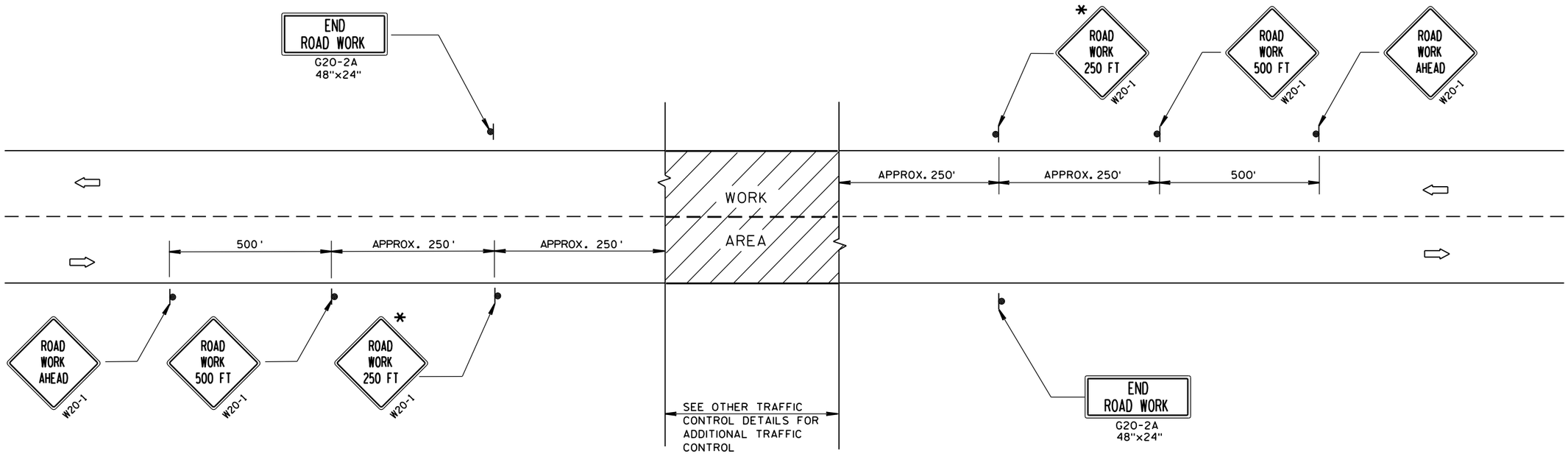
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

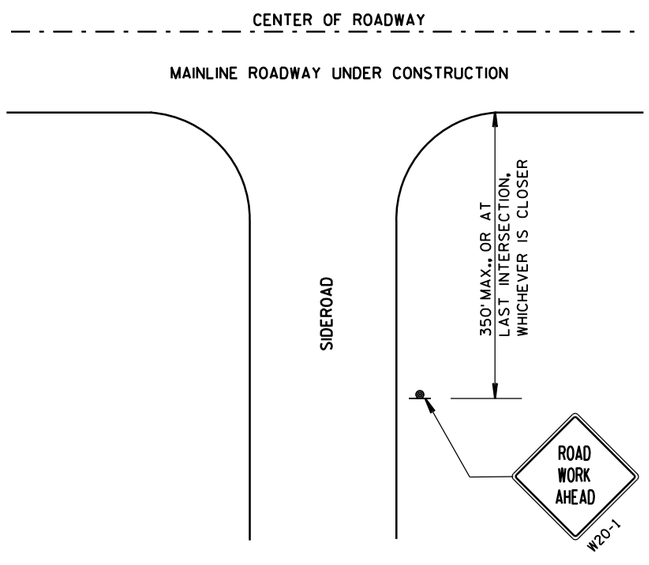
SIGN

6

S.D.D. 15 C 4-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE — /S/ Travis Feltes STATE TRAFFIC ENGINEER — SIGN

FHWA

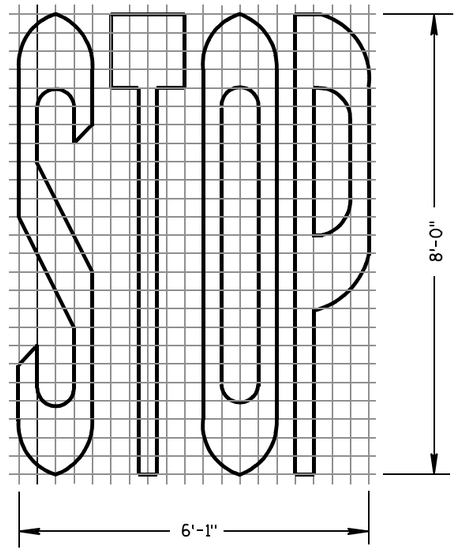
6

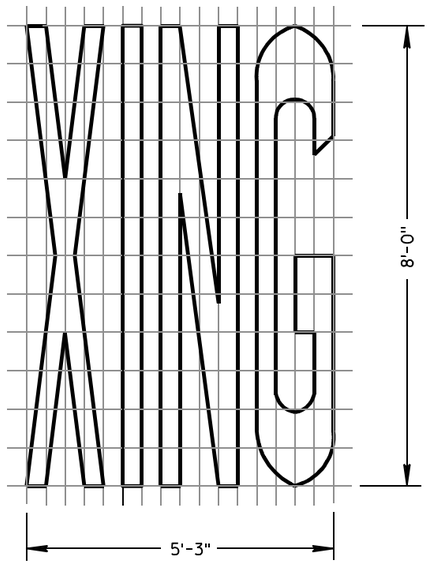
S.D.D. 15 C 5-2

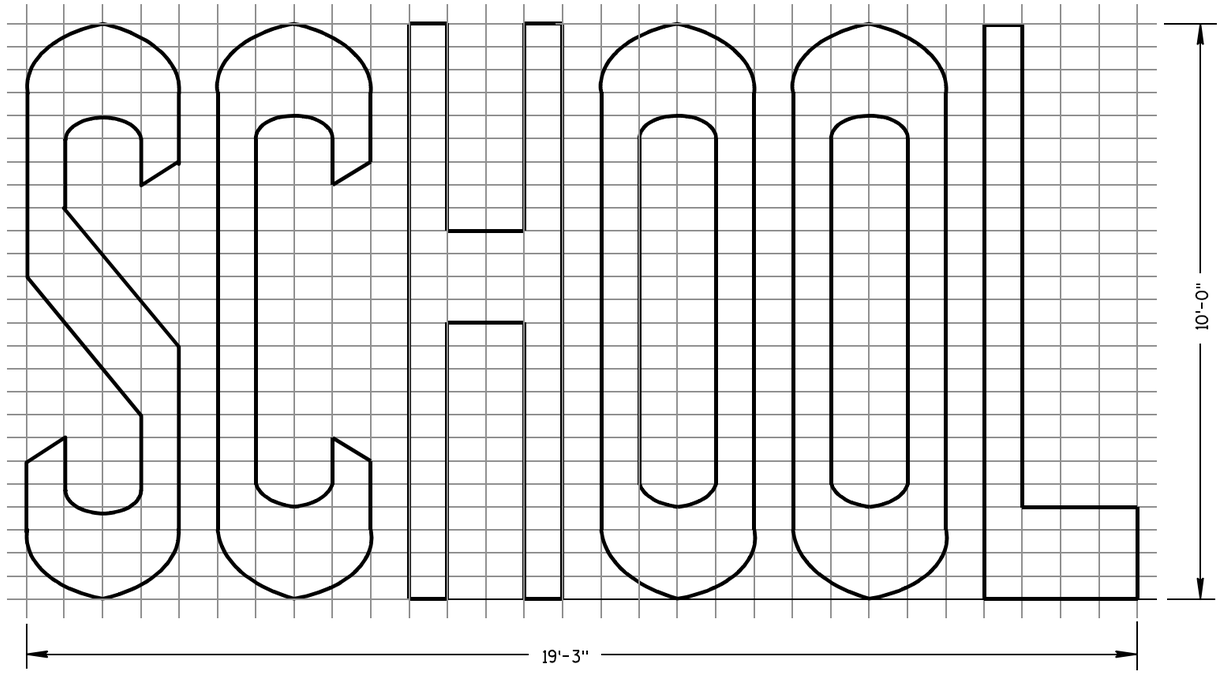
GENERAL NOTES

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

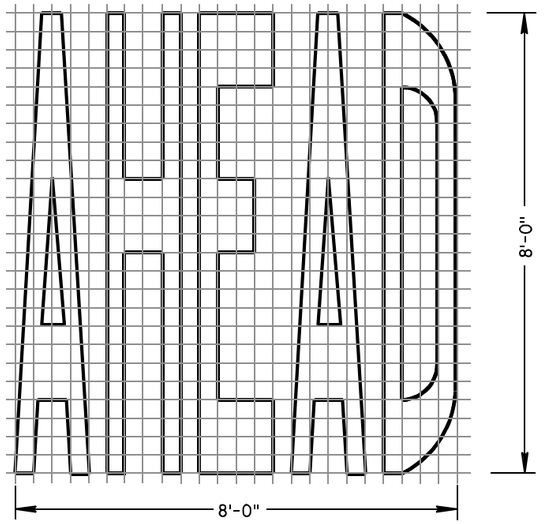
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

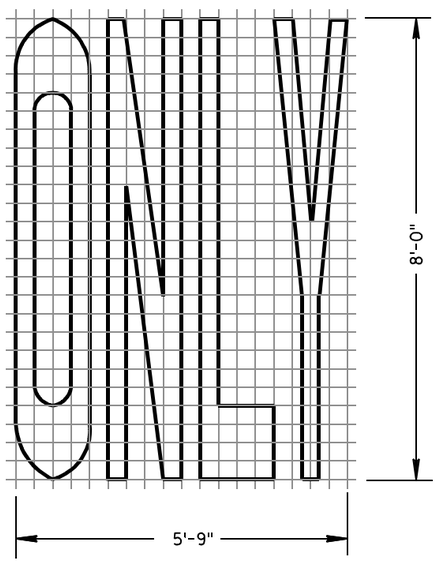


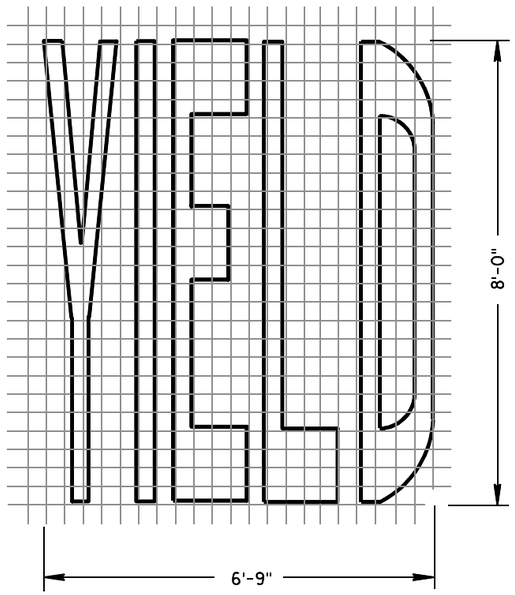


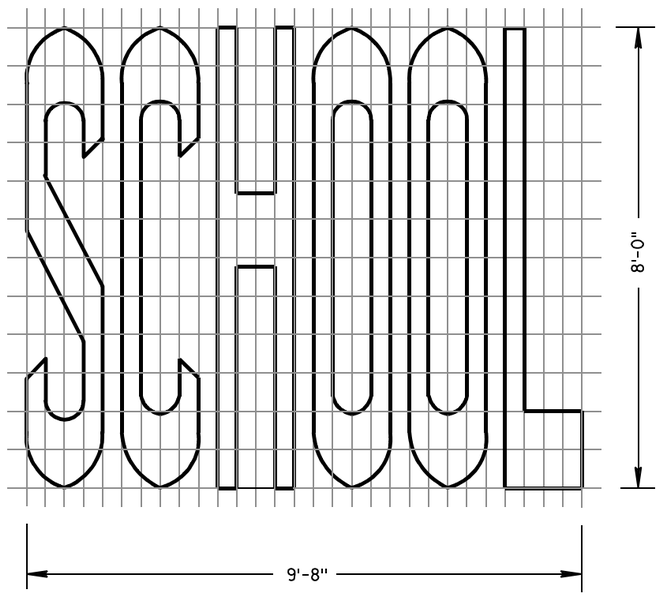


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER

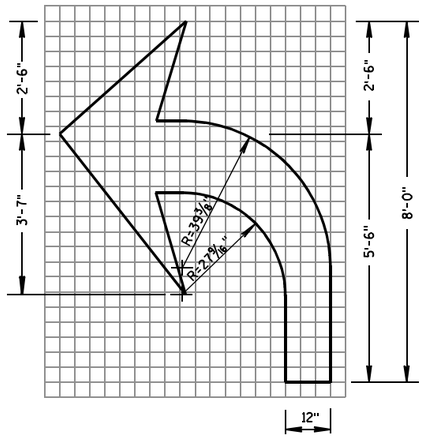
FHWA

6

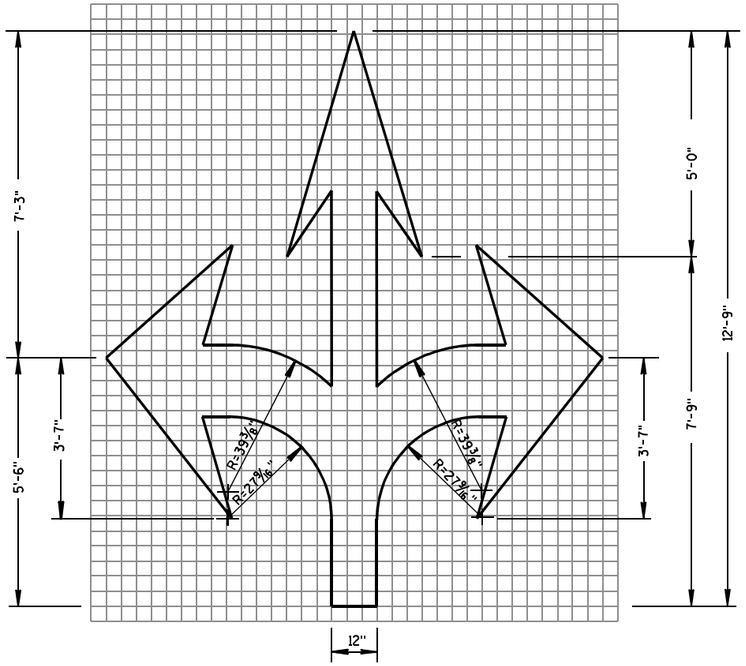
S.D.D. 15 C 7-12b

6

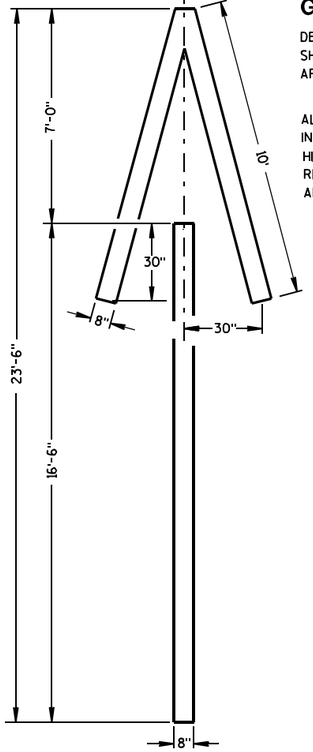
S.D.D. 15 C 7-12b



TYPE 2



TYPE 6

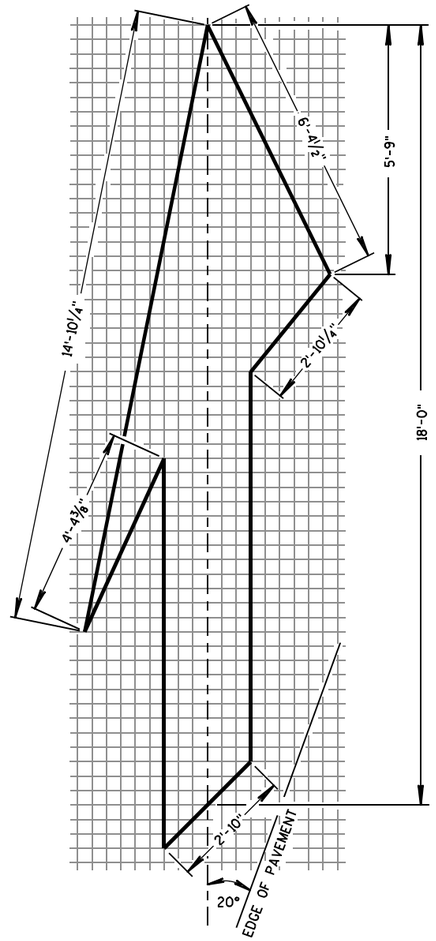


TYPE 4

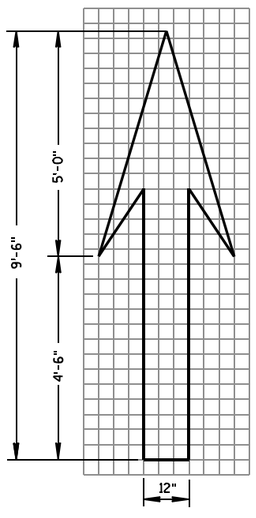
GENERAL NOTES

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

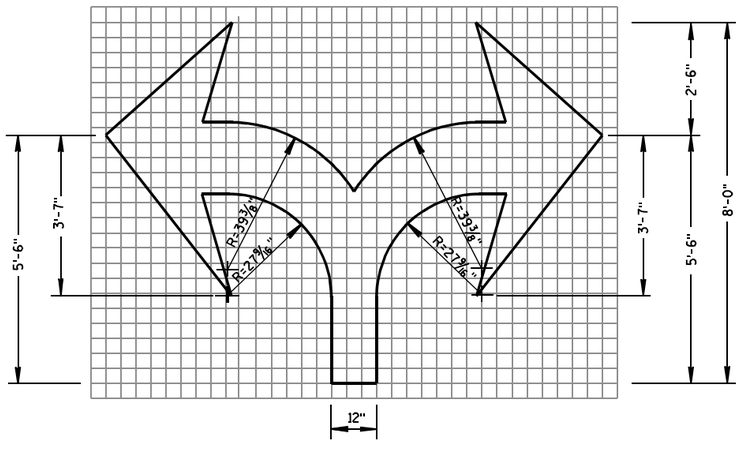
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



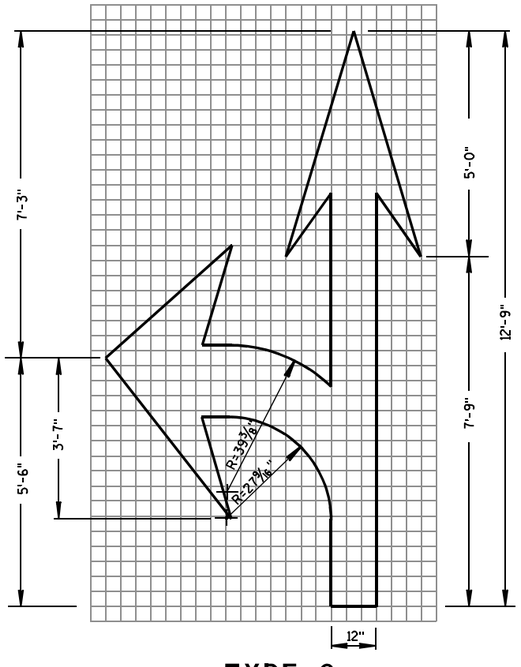
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

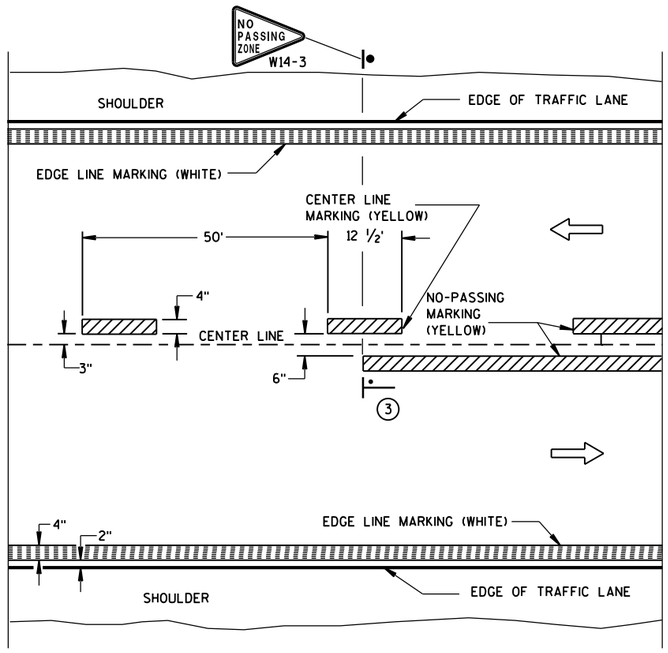
PAVEMENT MARKING ARROWS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/1/11 DATE	/S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER
FHWA	

6

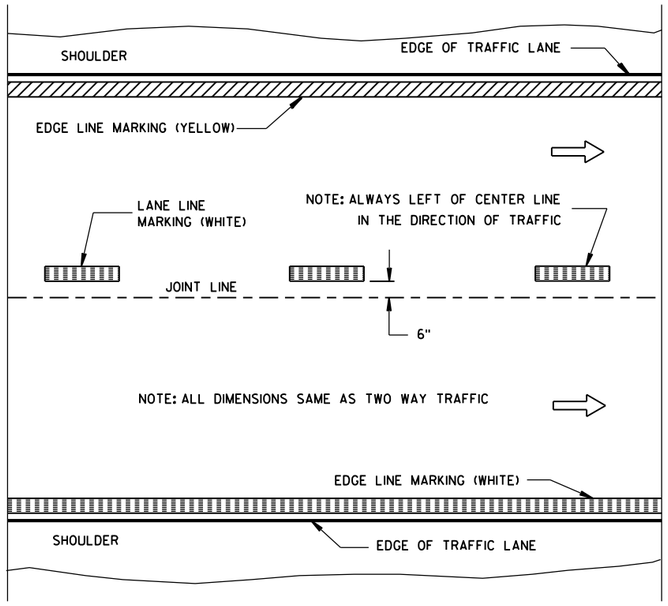
S.D.D. 15 C 7-12c

6

S.D.D. 15 C 7-12c

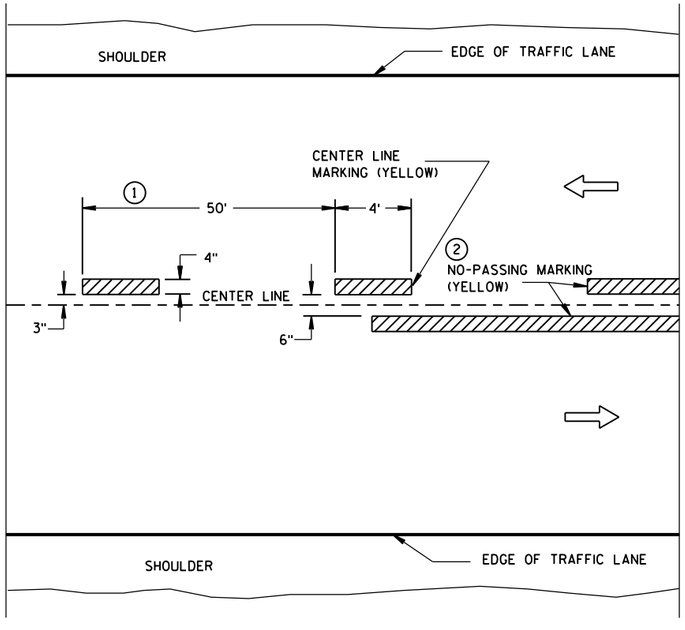


TWO WAY TRAFFIC

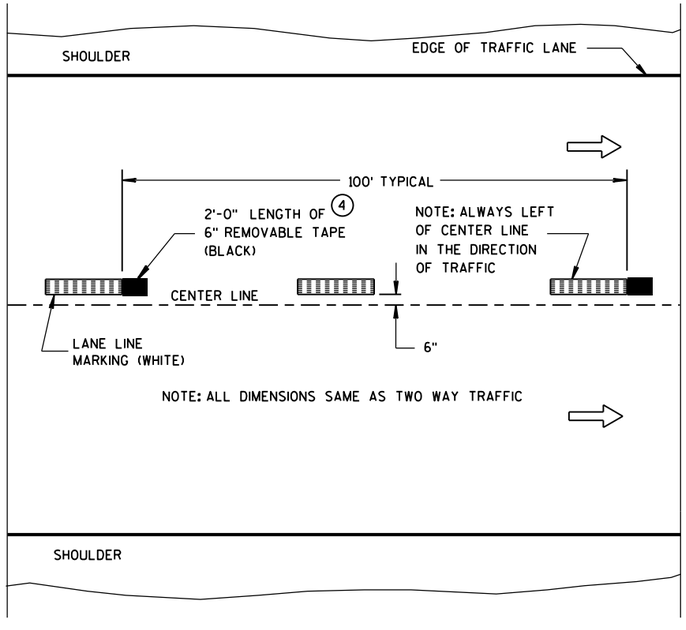


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

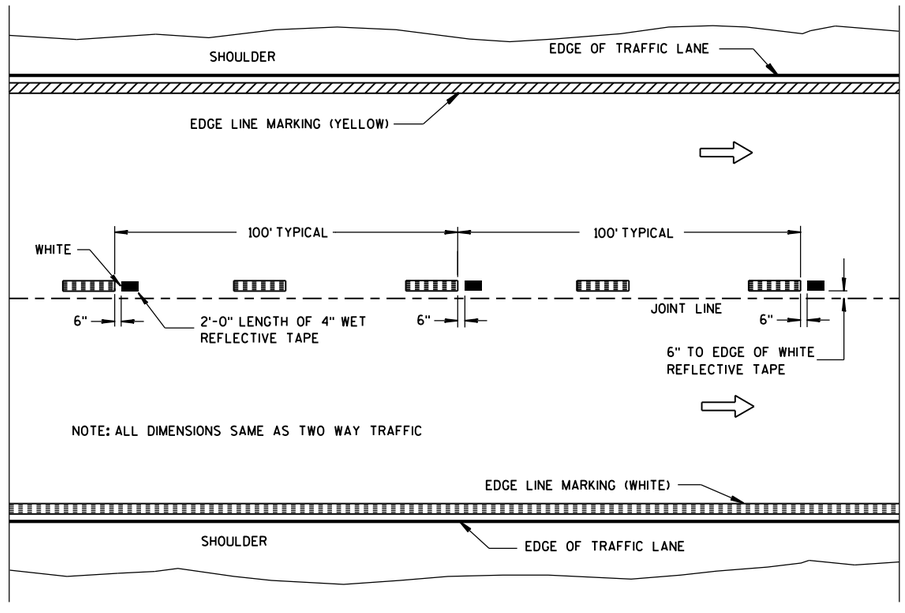
GENERAL NOTES

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

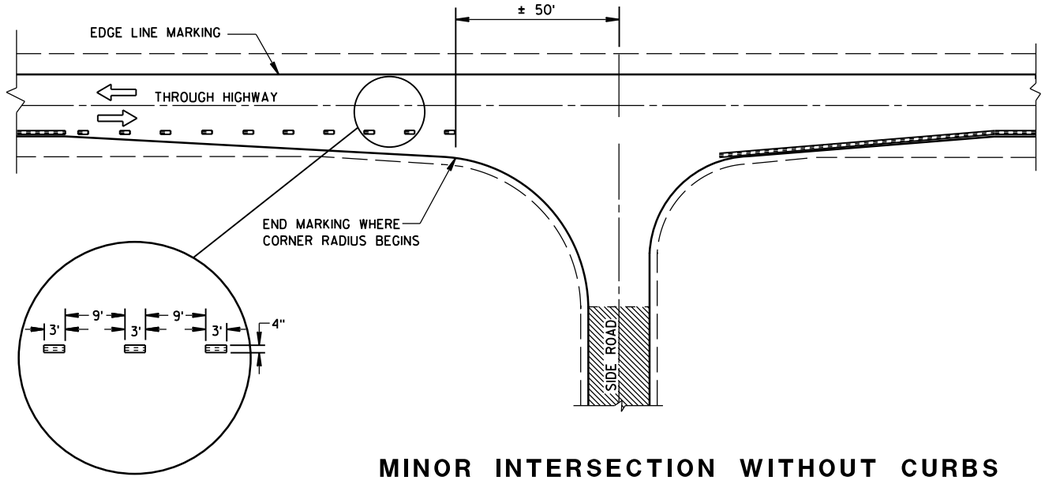
APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

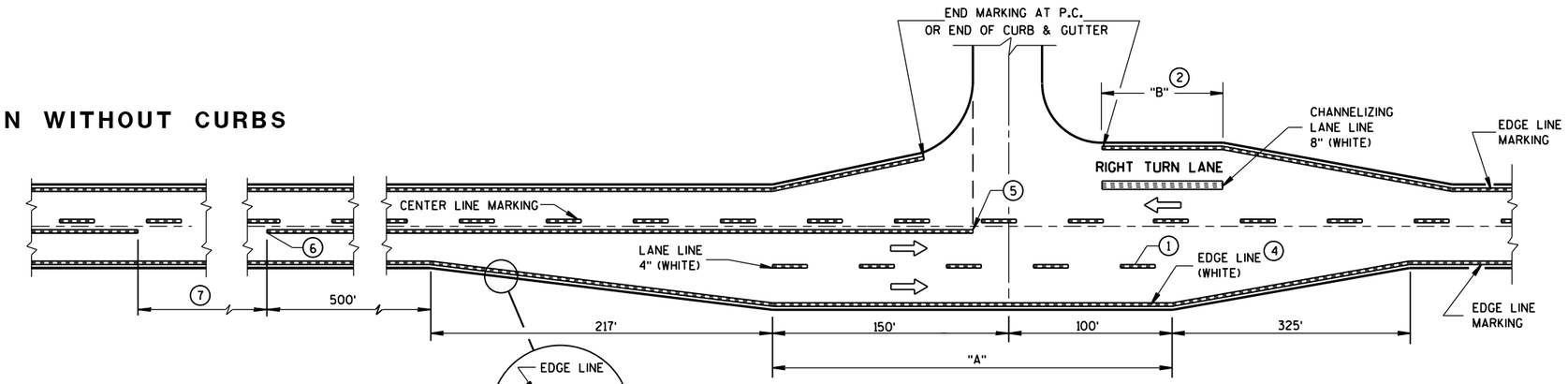
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

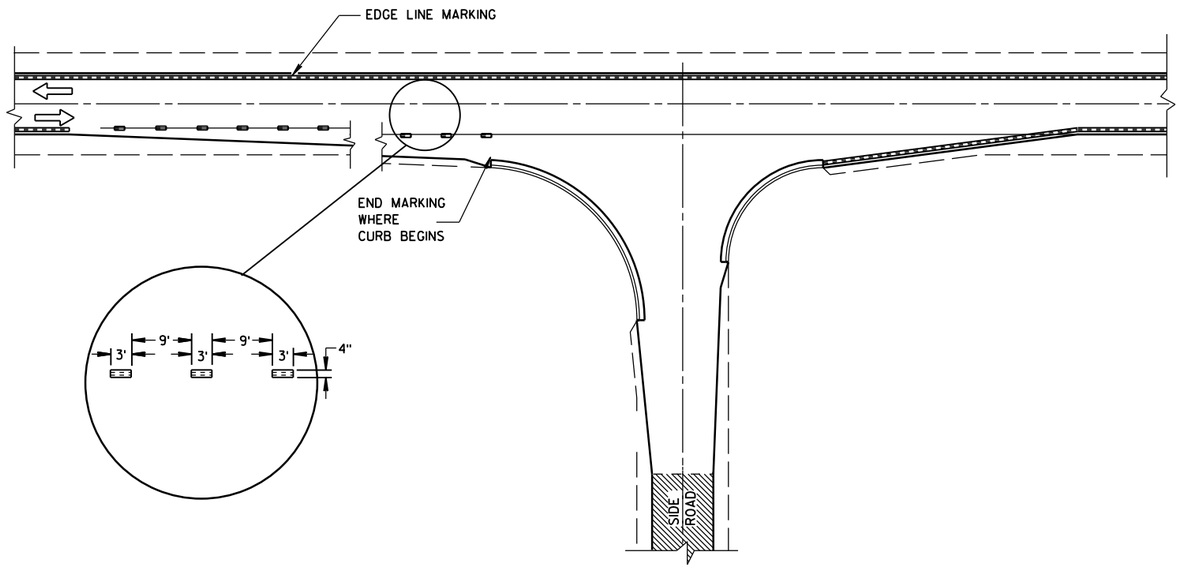
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



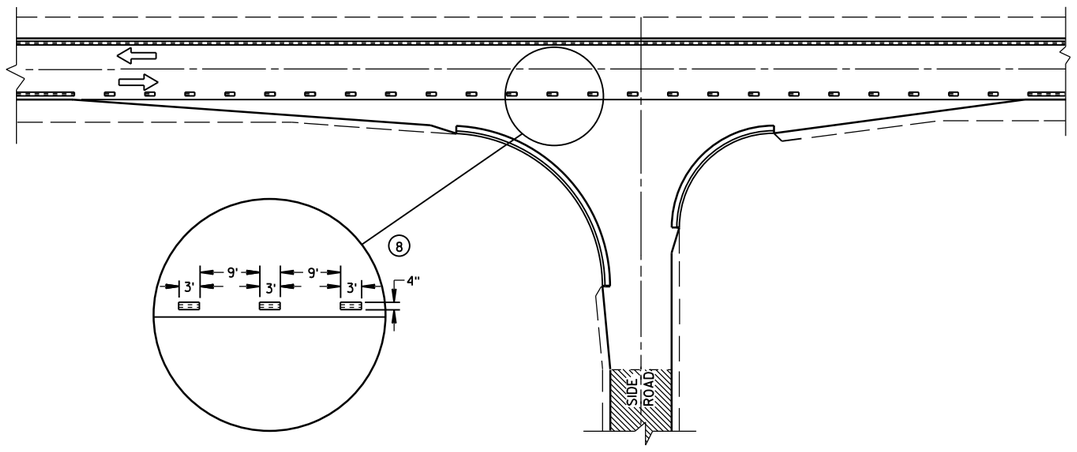
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

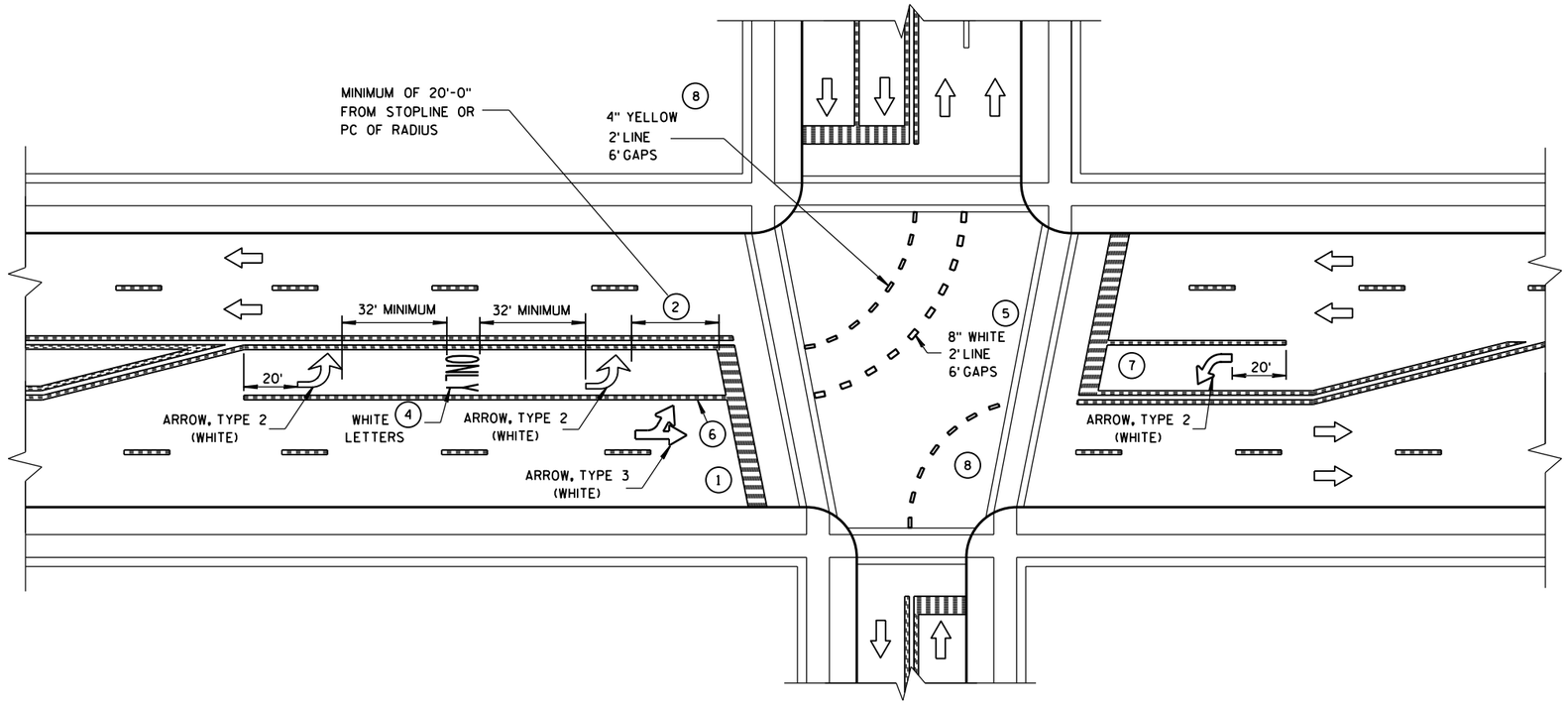
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 108

6

S.D.D. 15 C 8-16b

6

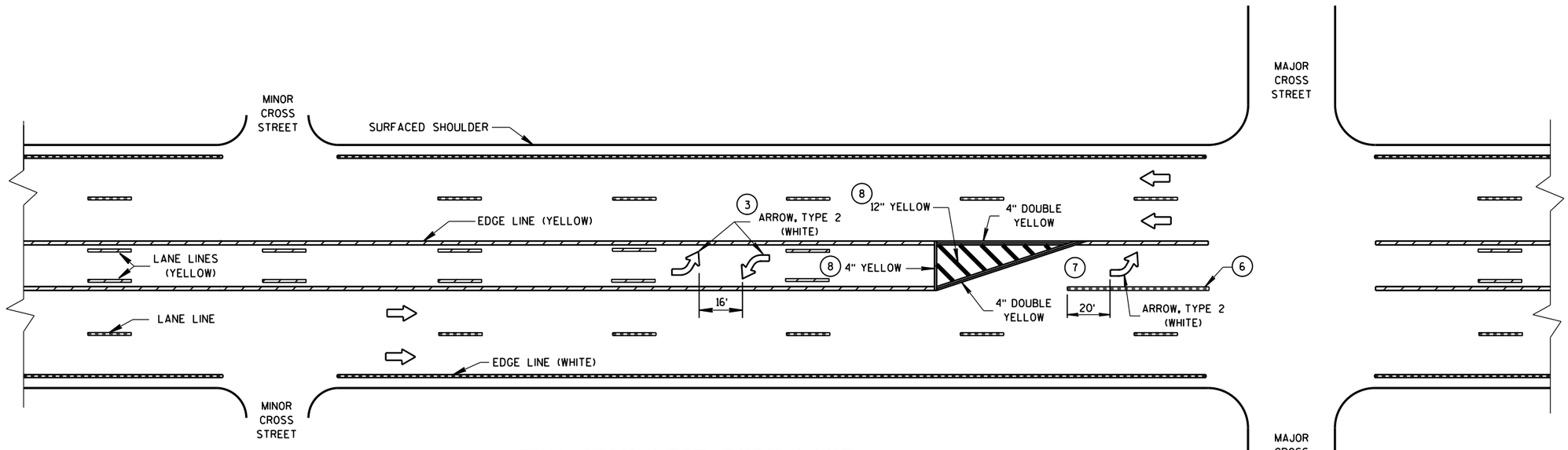
S.D.D. 15 C 8-16b



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

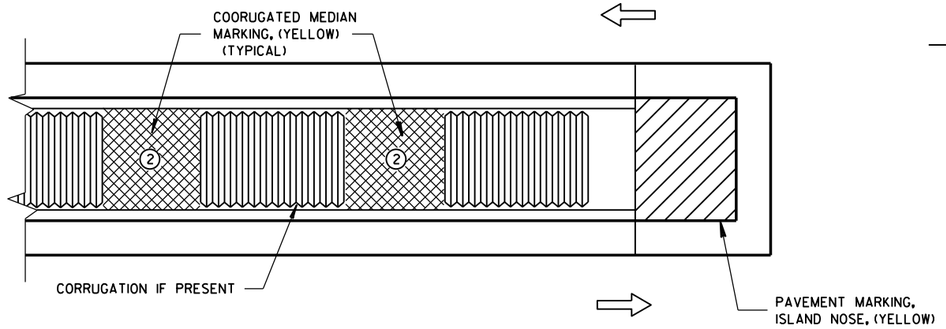
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

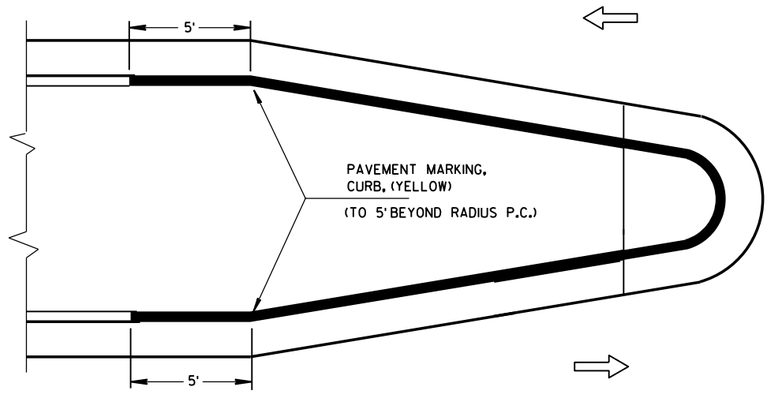
S.D.D. 15 C 8-16e

6

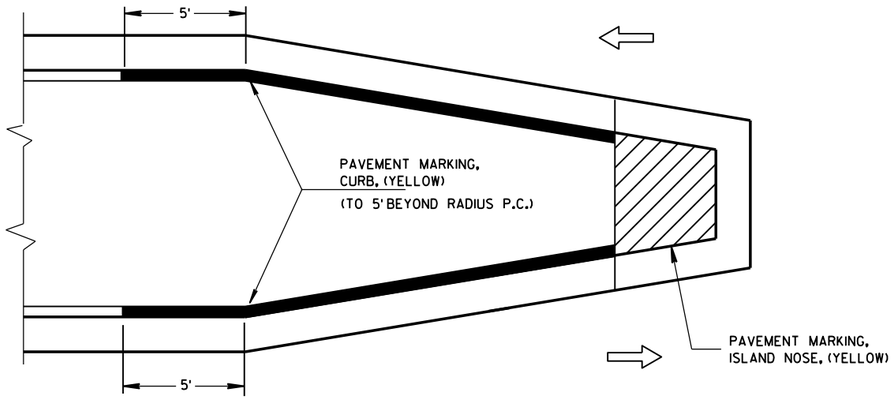
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

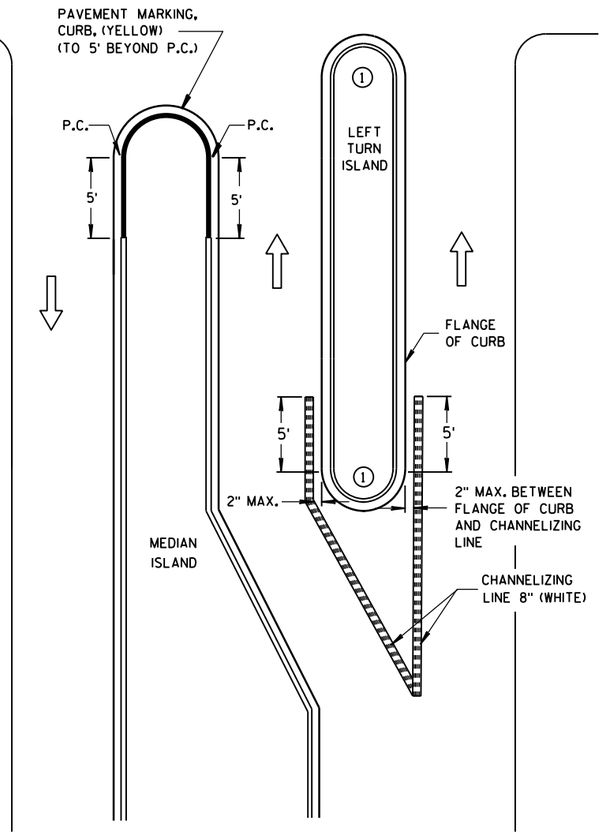


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

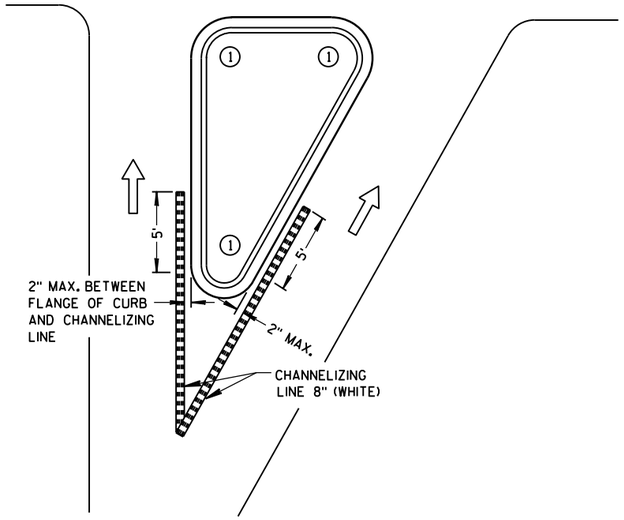


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

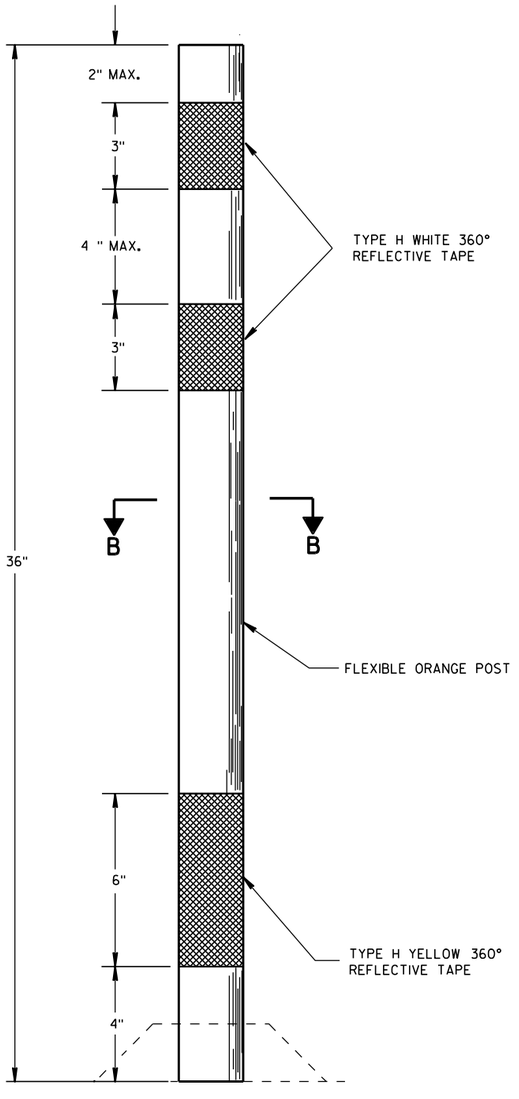
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

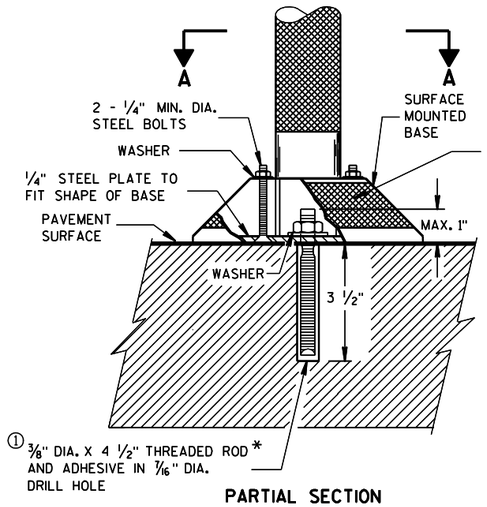
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

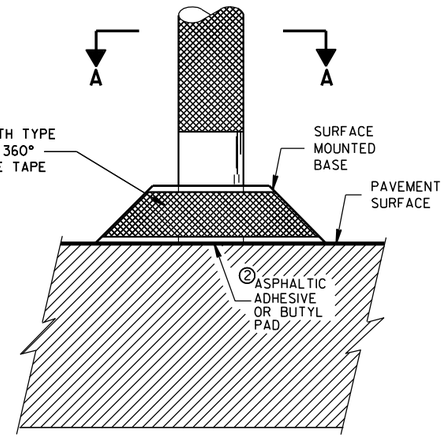
S.D.D. 15 C 8-16f



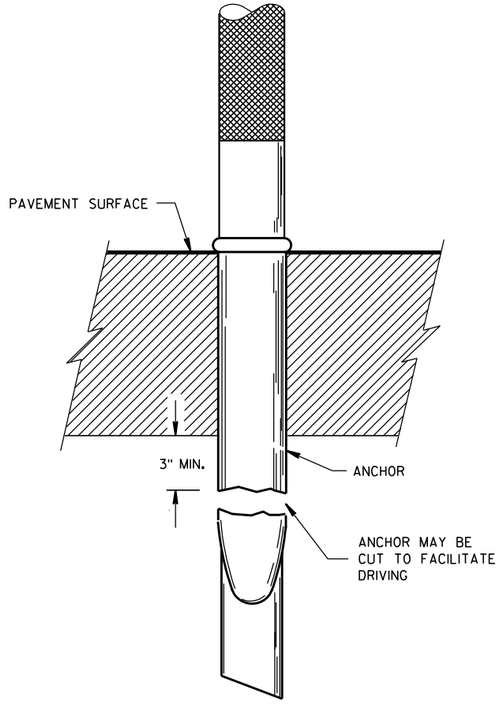
FLEXIBLE TUBULAR MARKER POST

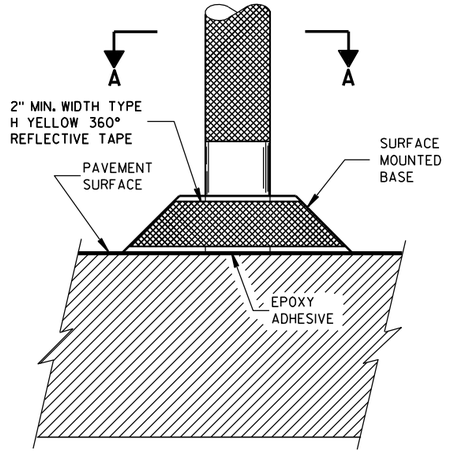


PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT





POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

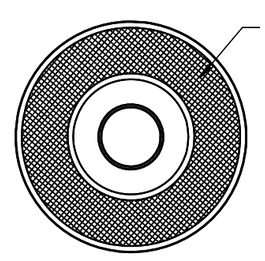
GENERAL NOTES

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.

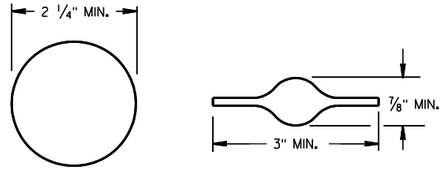
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

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



SECTION A-A

SURFACE MOUNTED BASE



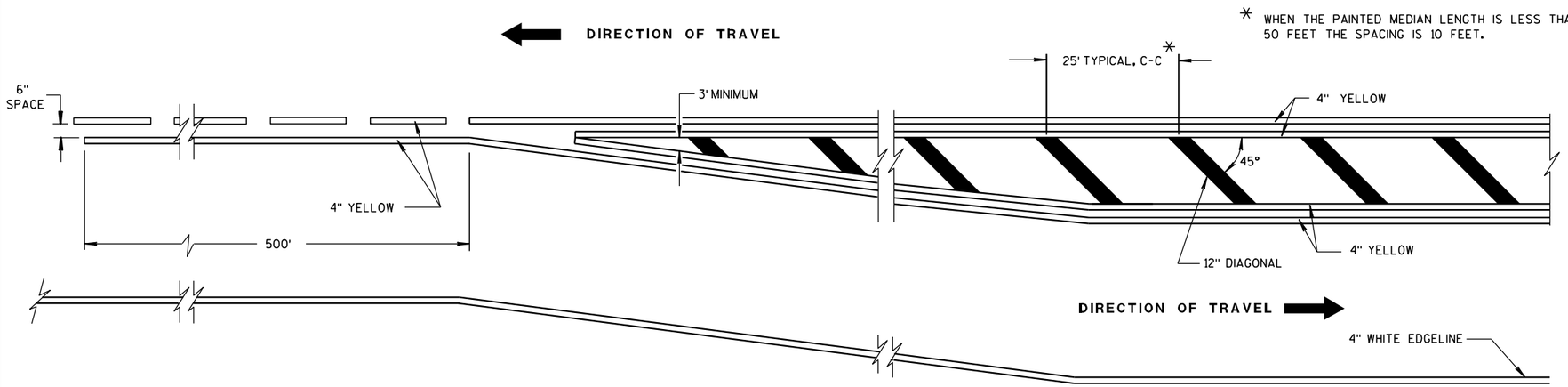
SECTION B-B

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

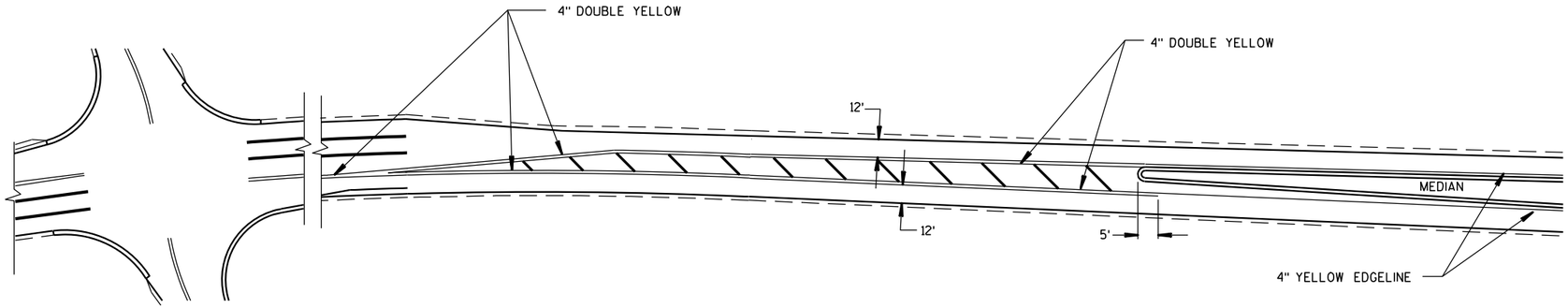
S.D.D. 15 C 11-5



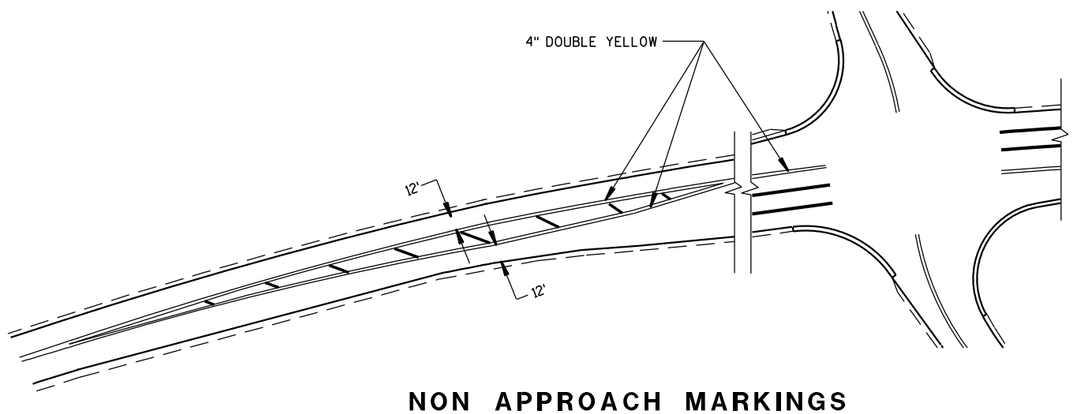
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

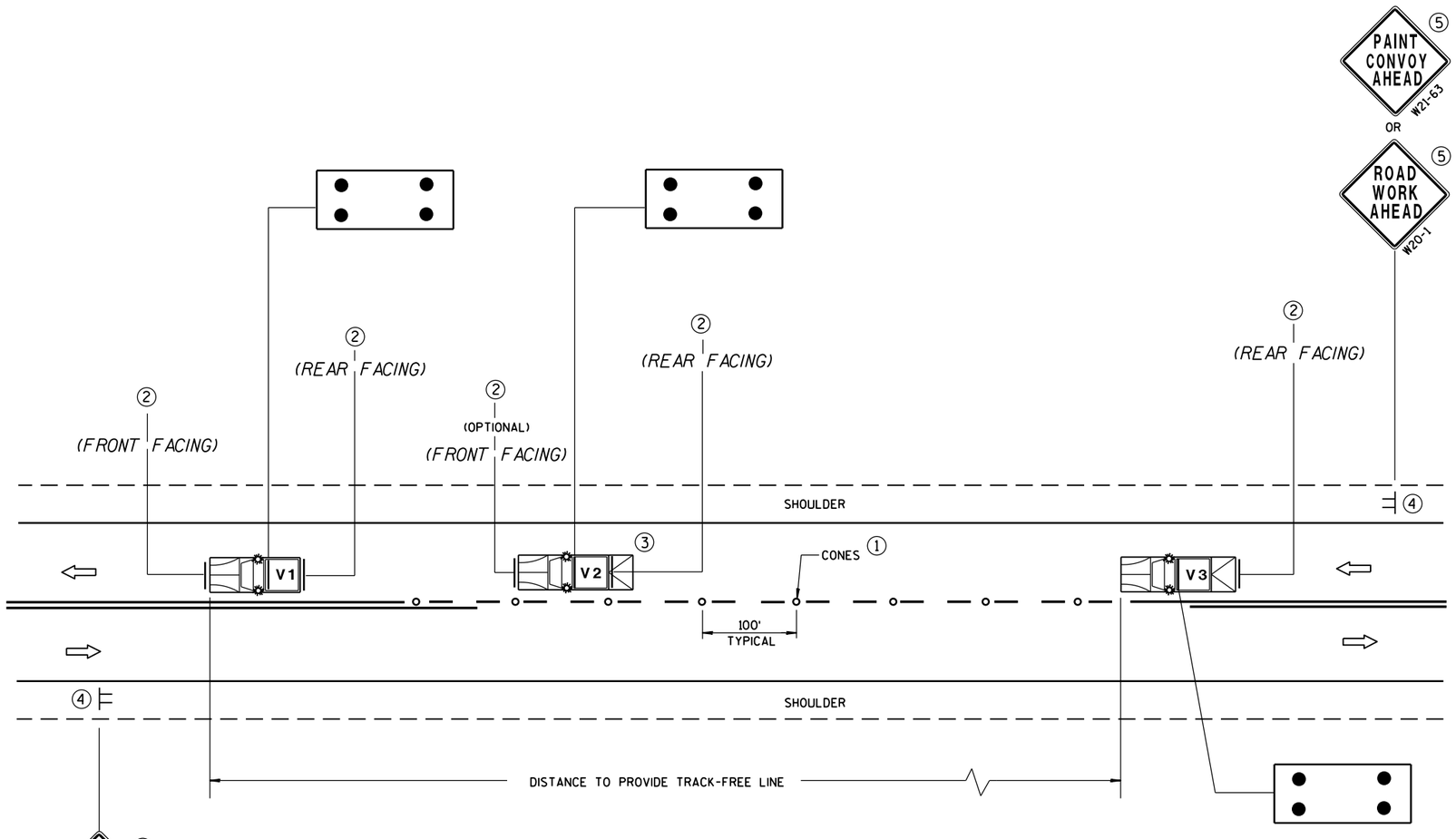
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER
FHWA	

6

S.D.D. 15 C 18-3

6

S.D.D. 15 C 18-3



GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

- **V1** LEAD VEHICLE
- **V2** SHADOW VEHICLE
- **V3** TRAIL VEHICLE WITH TMA
- **TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
5/3/2013 DATE	/S/ Travis Feltes STATE TRAFFIC E
FHWA	

6

S.D.D. 15 C 19-2a

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"x60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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) CLEARANCE TO EXISTING SIGNS.

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 OR AS APPROVED BY THE ENGINEER.

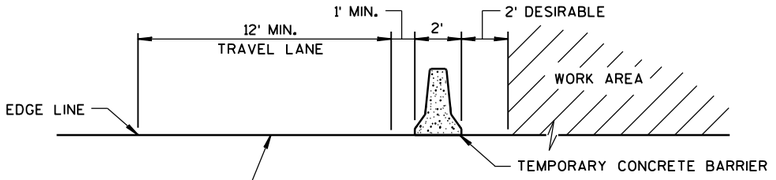
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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.

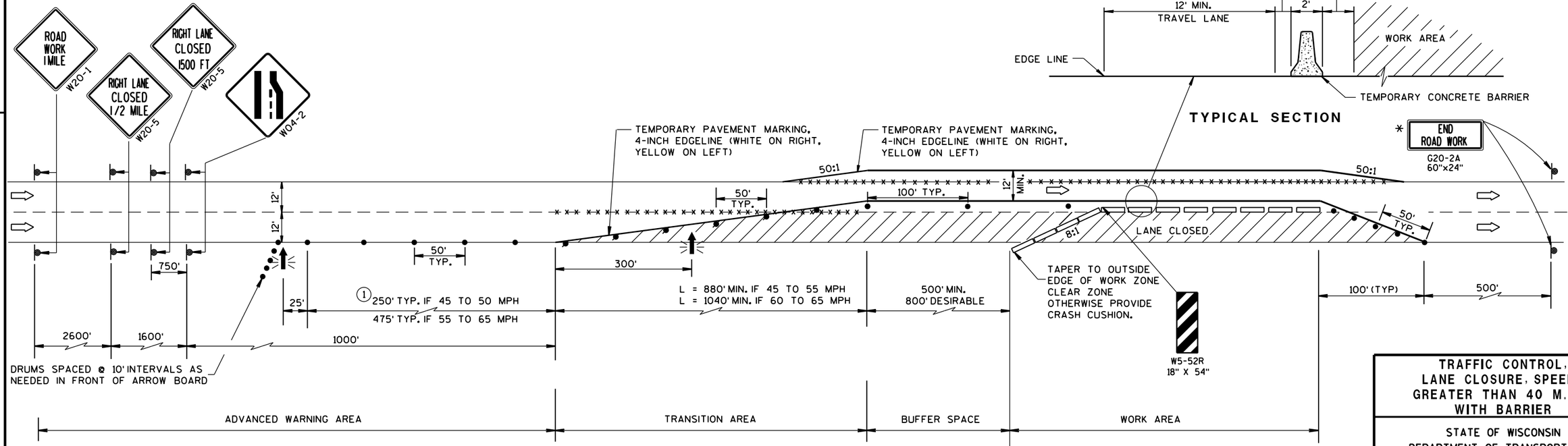
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE 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.



TYPICAL SECTION



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

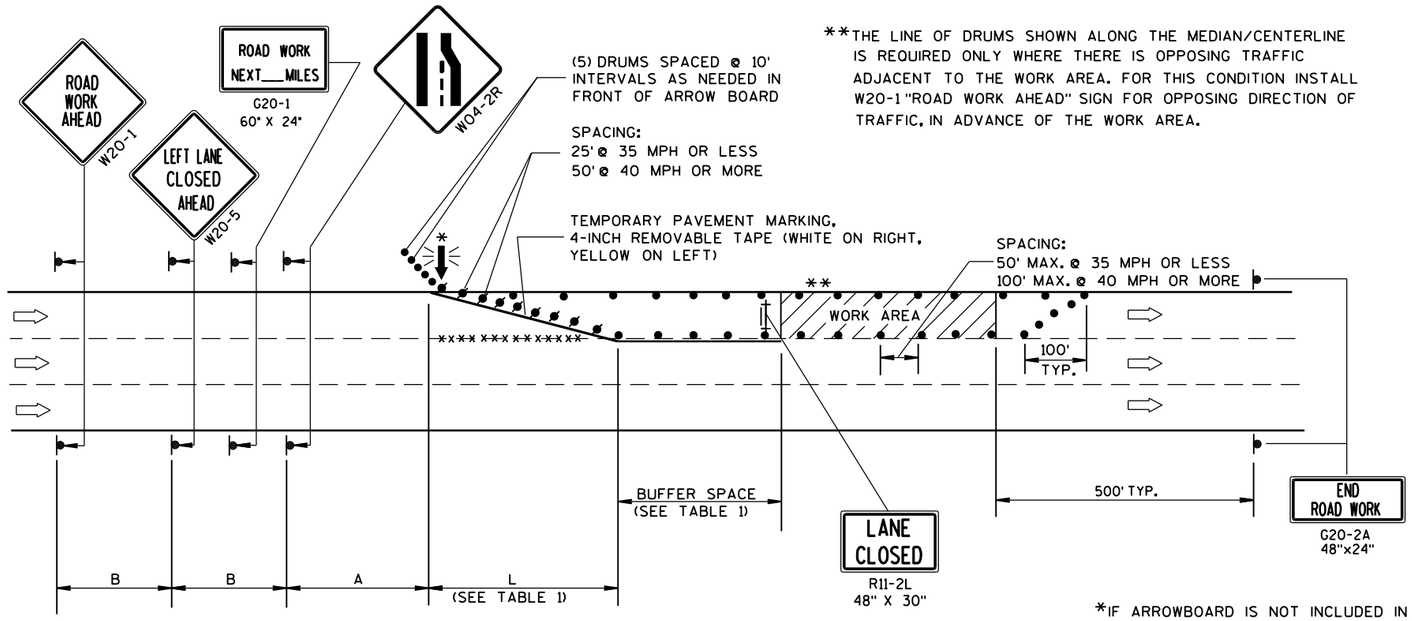
APPROVED
8/2013 (DATE) /S/ Travis Feltes (STATE TRAFFIC ENGINEER) (SIGN)
FHWA

6

S.D.D. 15 D 3-2

6

S.D.D. 15 D 3-2



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

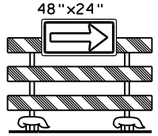


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

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

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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.

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 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

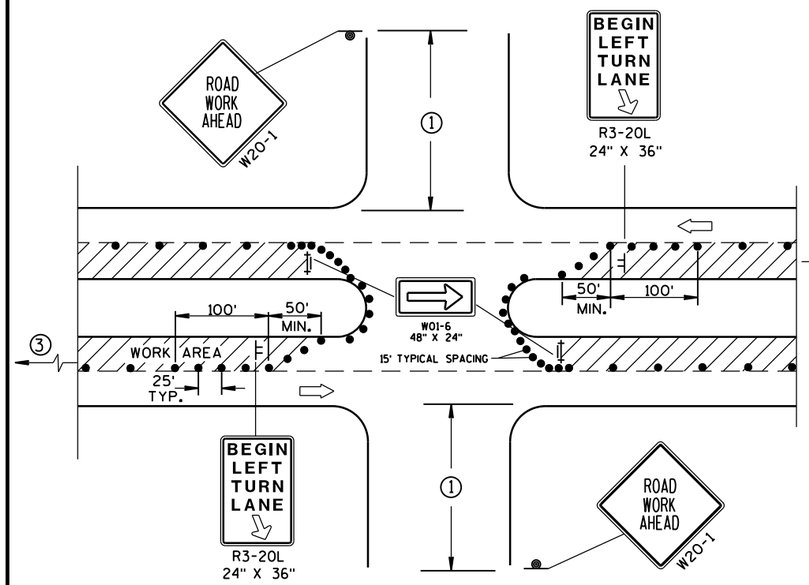
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

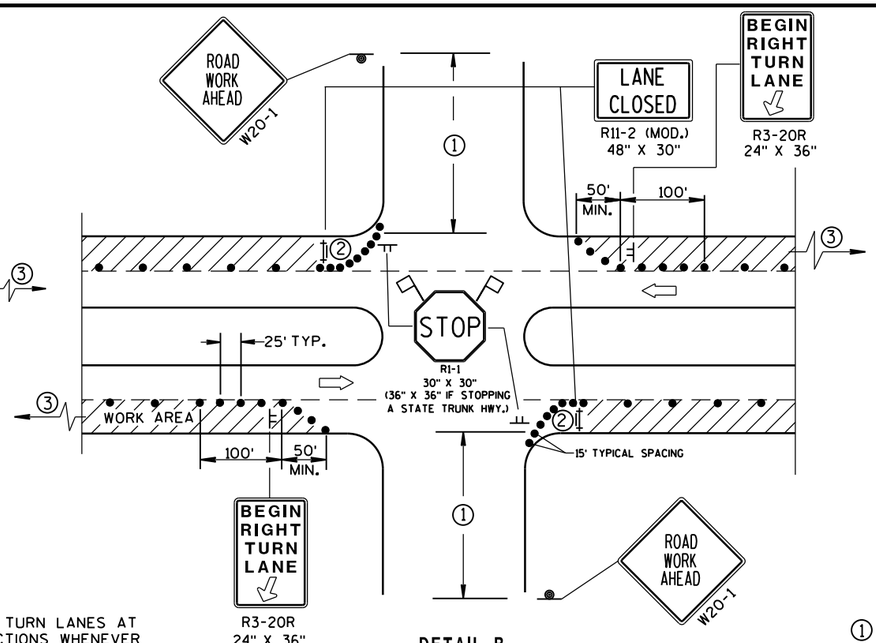
S.D.D. 15 D 20-2



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

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 SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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, OR THAT WILL BE PLACED IN A CLOSED LANE, 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.

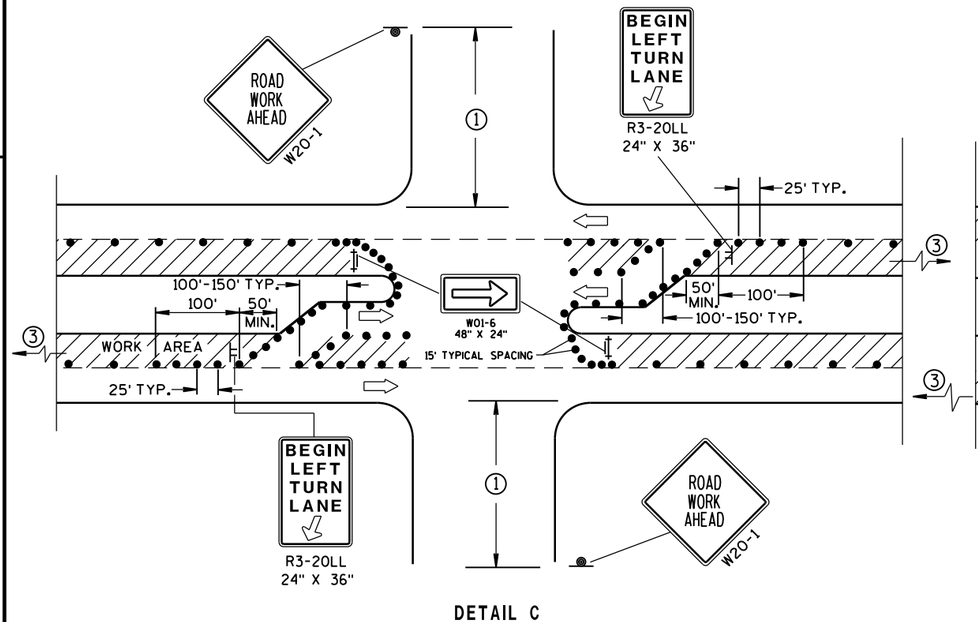
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

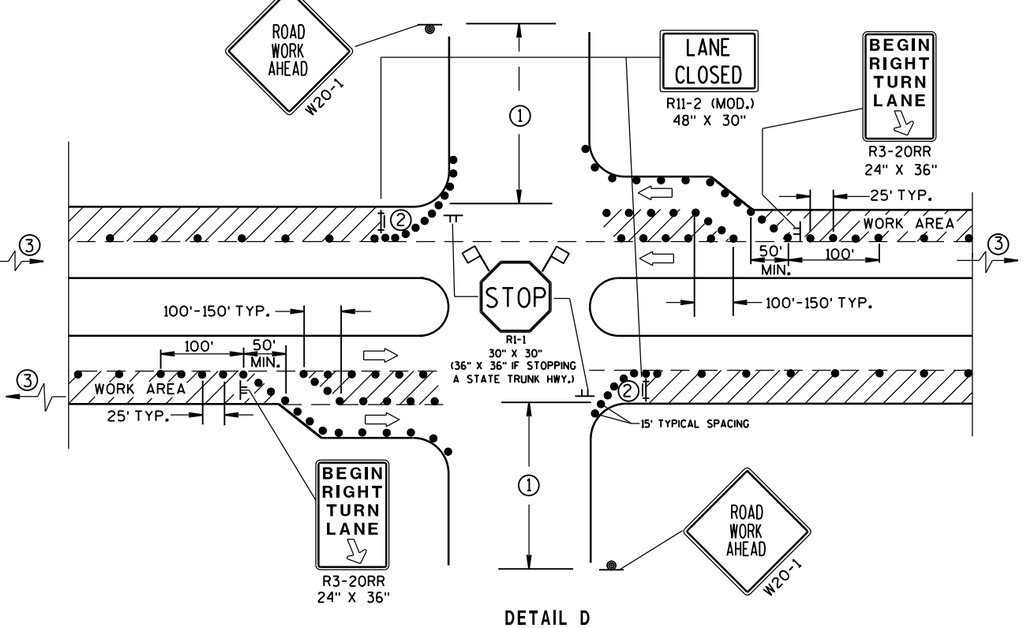
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

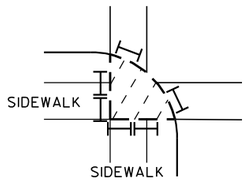
DESIGN

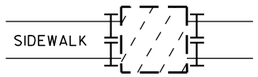
FHWA

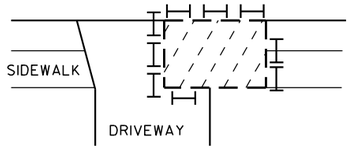
6

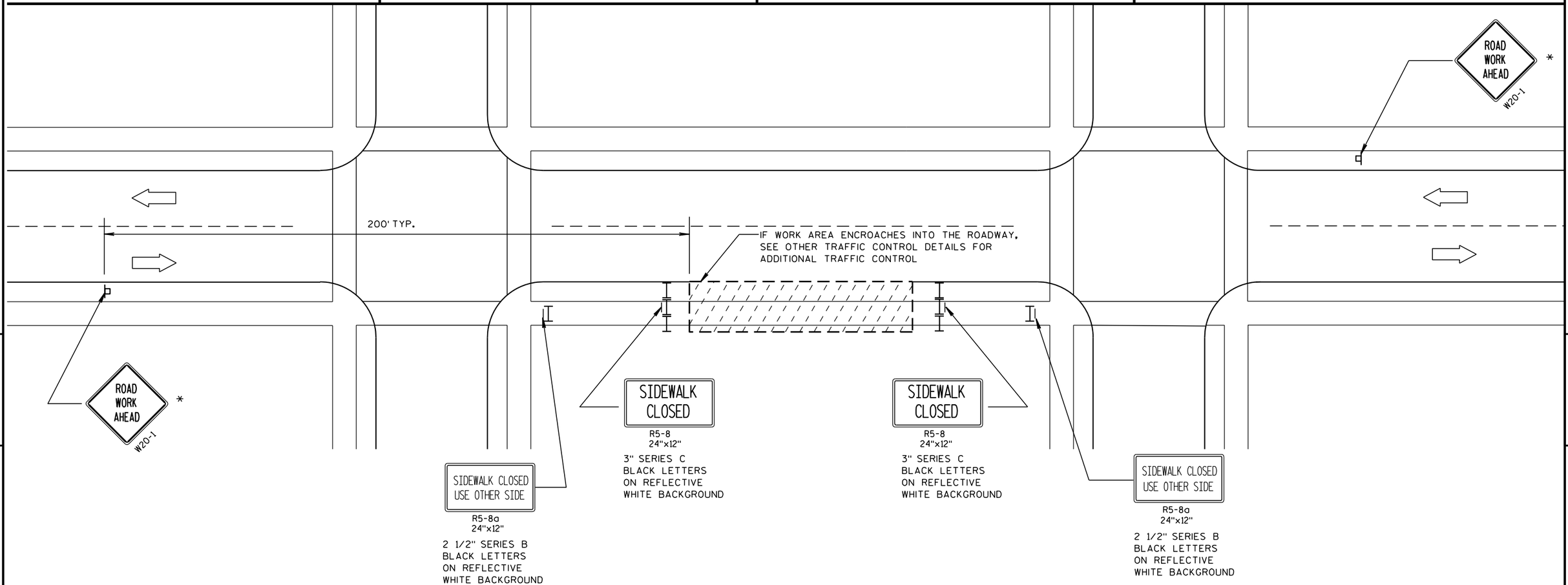
S.D.D. 15 D 21-2

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

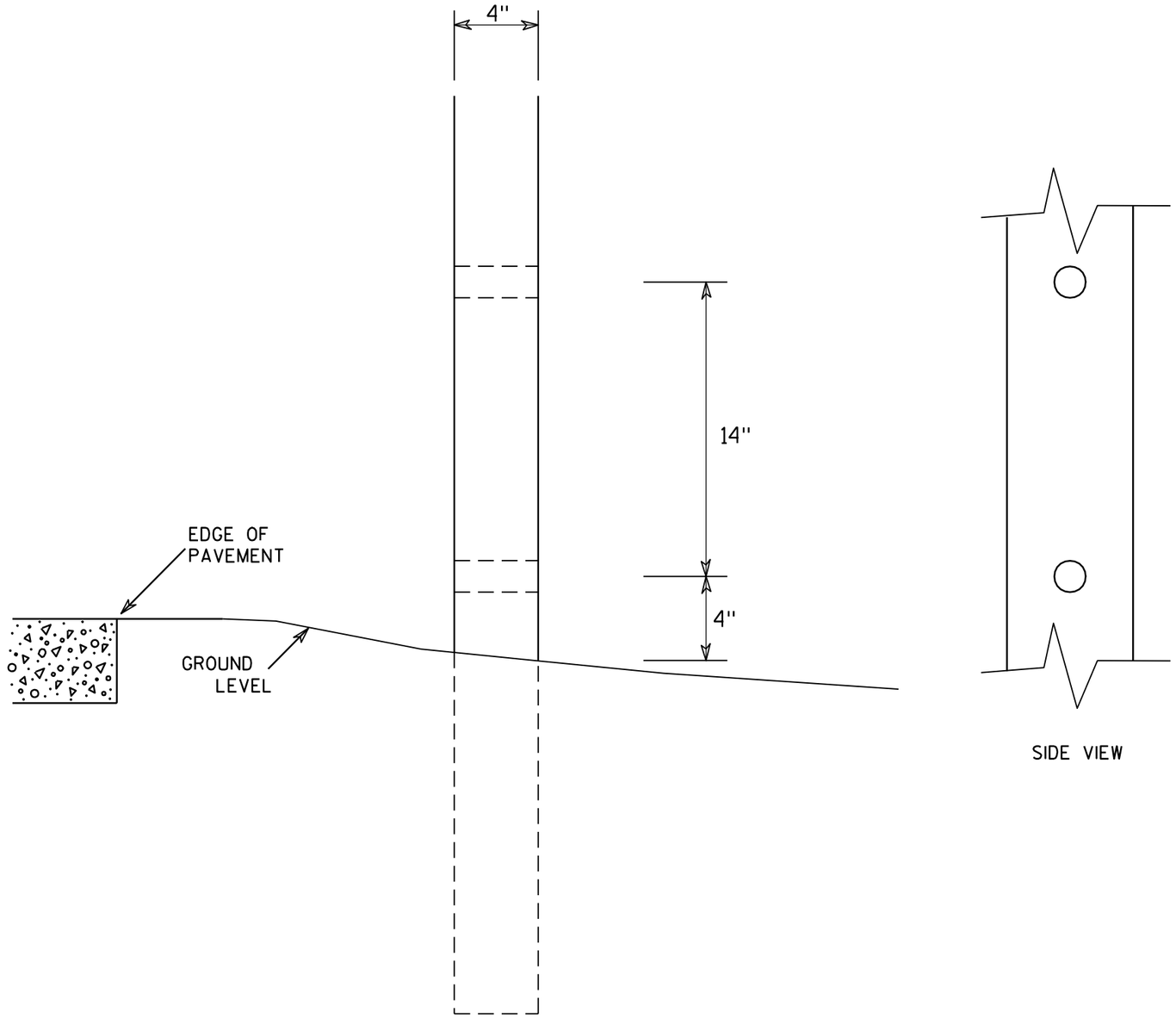
5/23/2000 DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible] ENGINEER

FHWA

6

S.D.D. 15 D 30-1



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

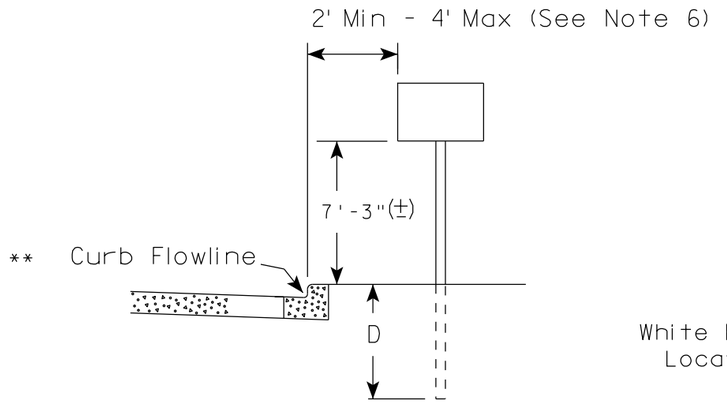
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

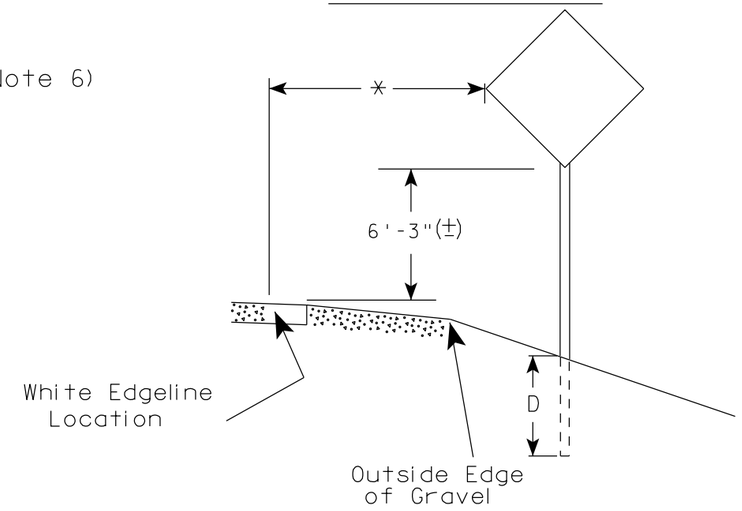
DATE 3/27/97 PLATE NO. A4-11.2

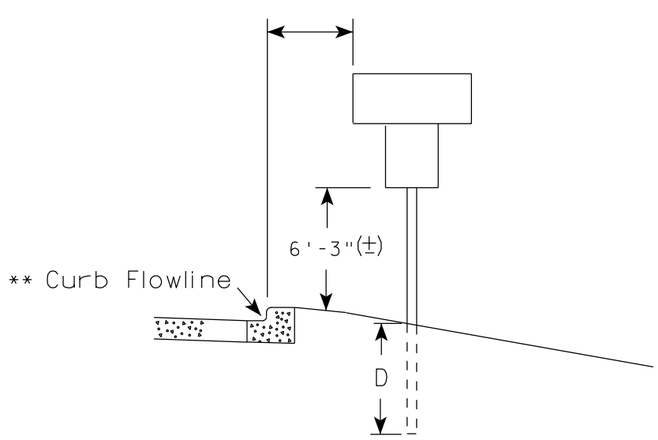
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 118	E

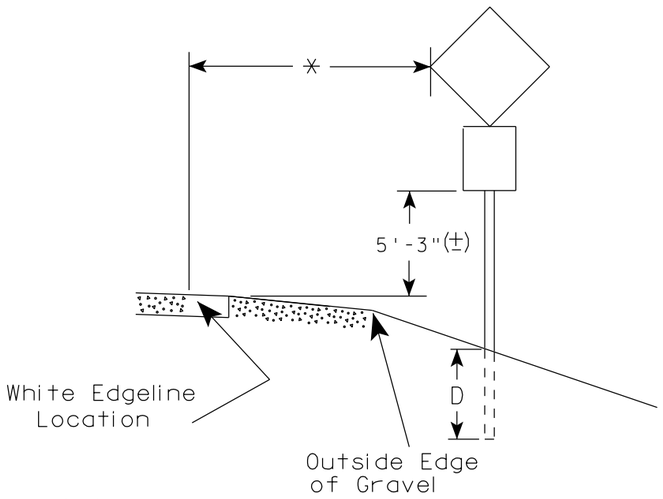
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

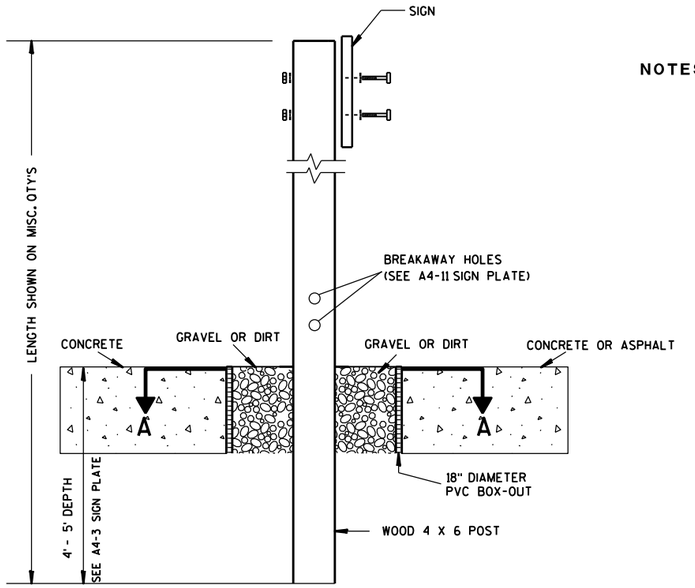
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

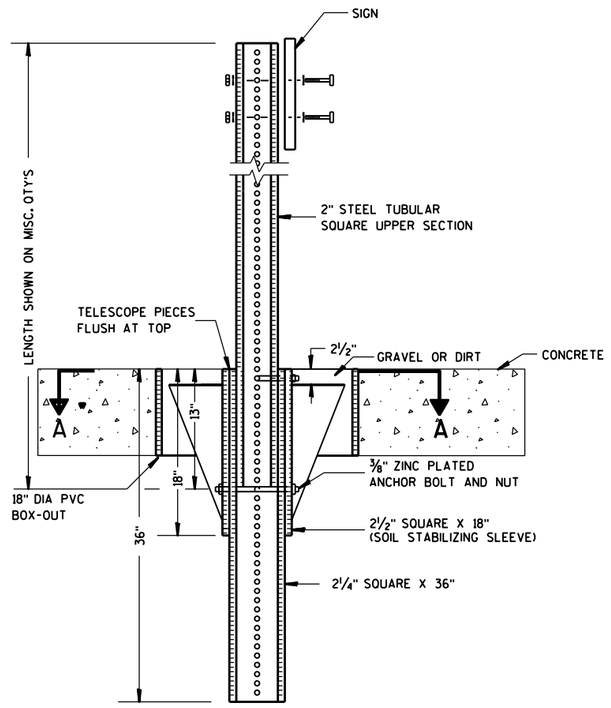
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

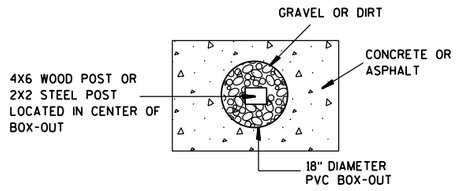
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

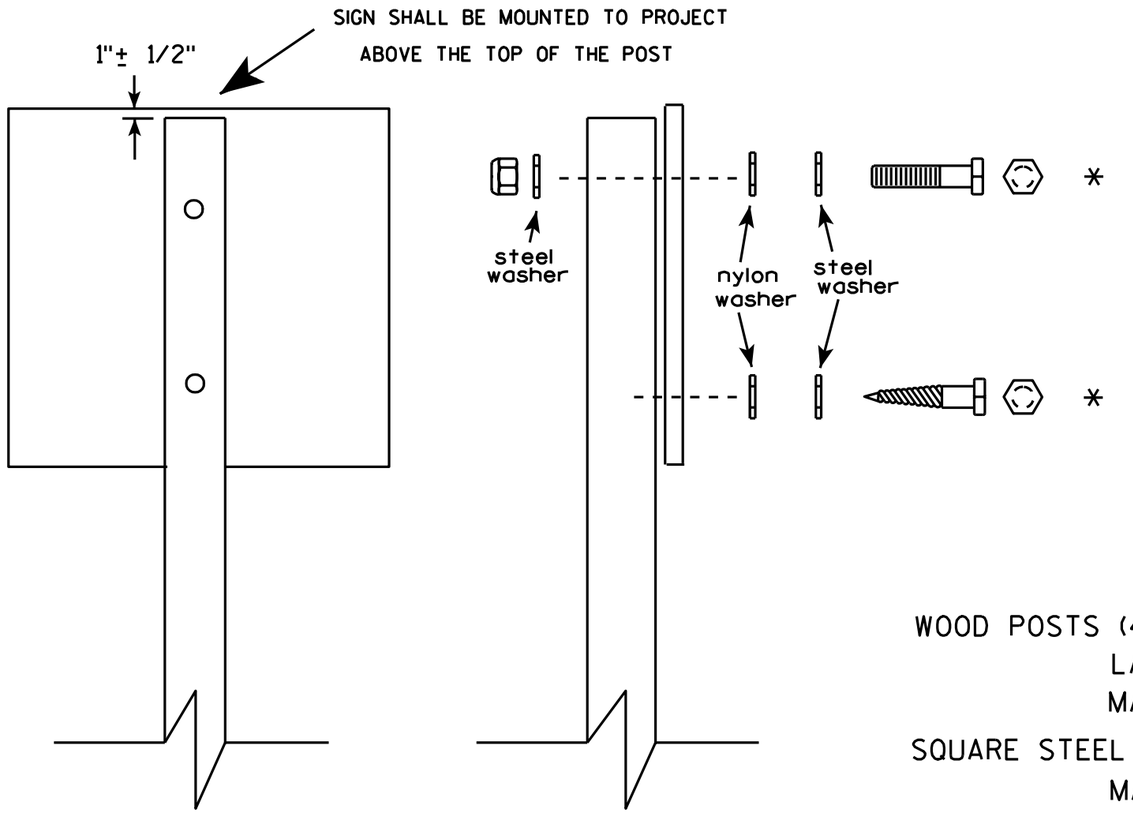
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

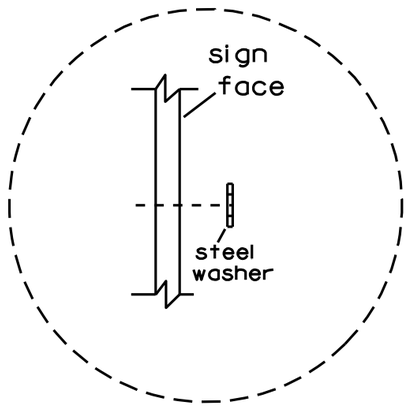
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

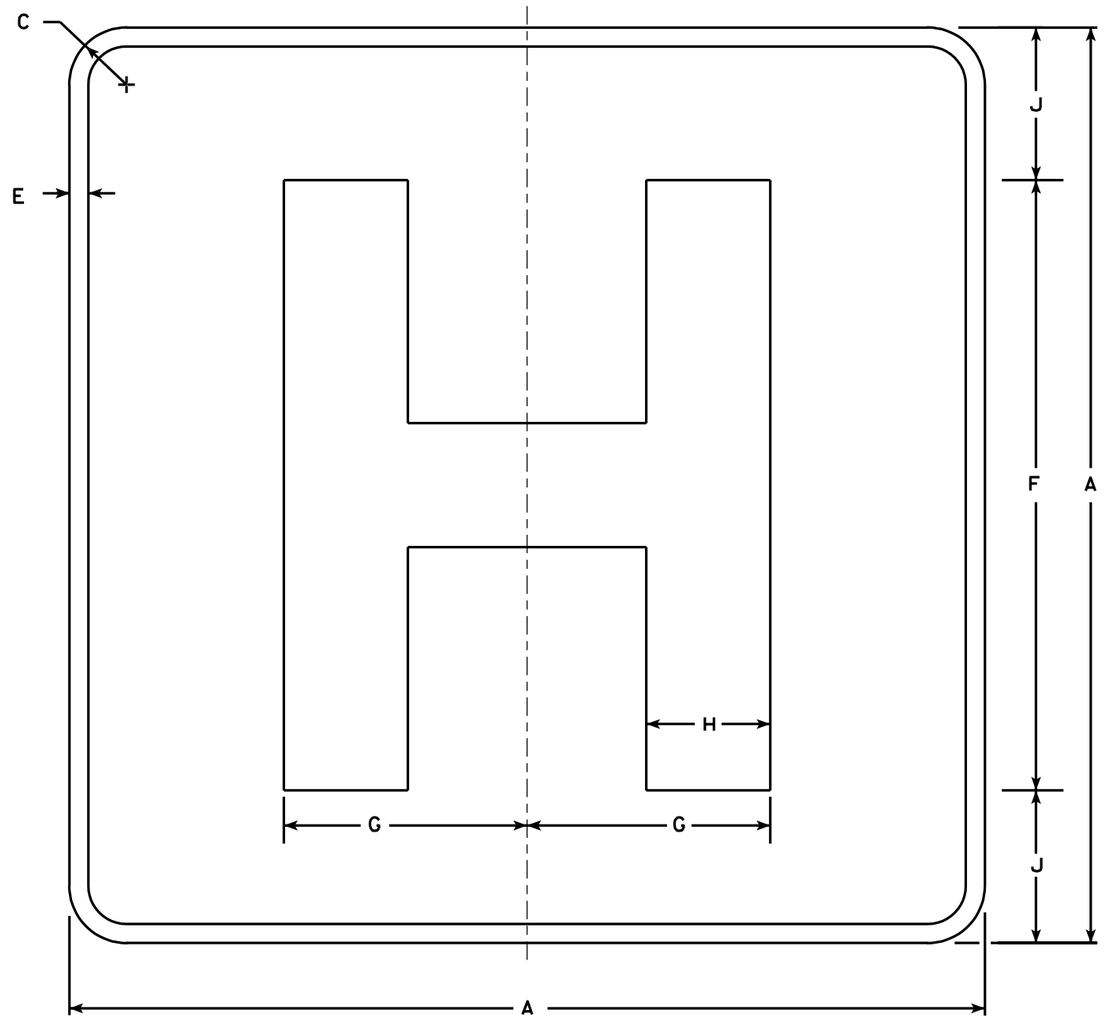
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 121 E



D9-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Blue
   Message - White - Type H Reflective
3. Message Series - E Modified
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	450 mmX 450 mm
2	600 mmX 600 mm
3	900 mmX 900 mm
4	X
5	X

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18		1 1/8		1/2	12	4 3/4	2 3/8		3																	4.0
2	24		1 1/2		1/2	16	6 3/8	3 1/4		4																	4.0
3	36		2 1/4		3/4	24	9 1/2	4 7/8		6																	9.0
4																											
5																											

STANDARD SIGN
D9-2

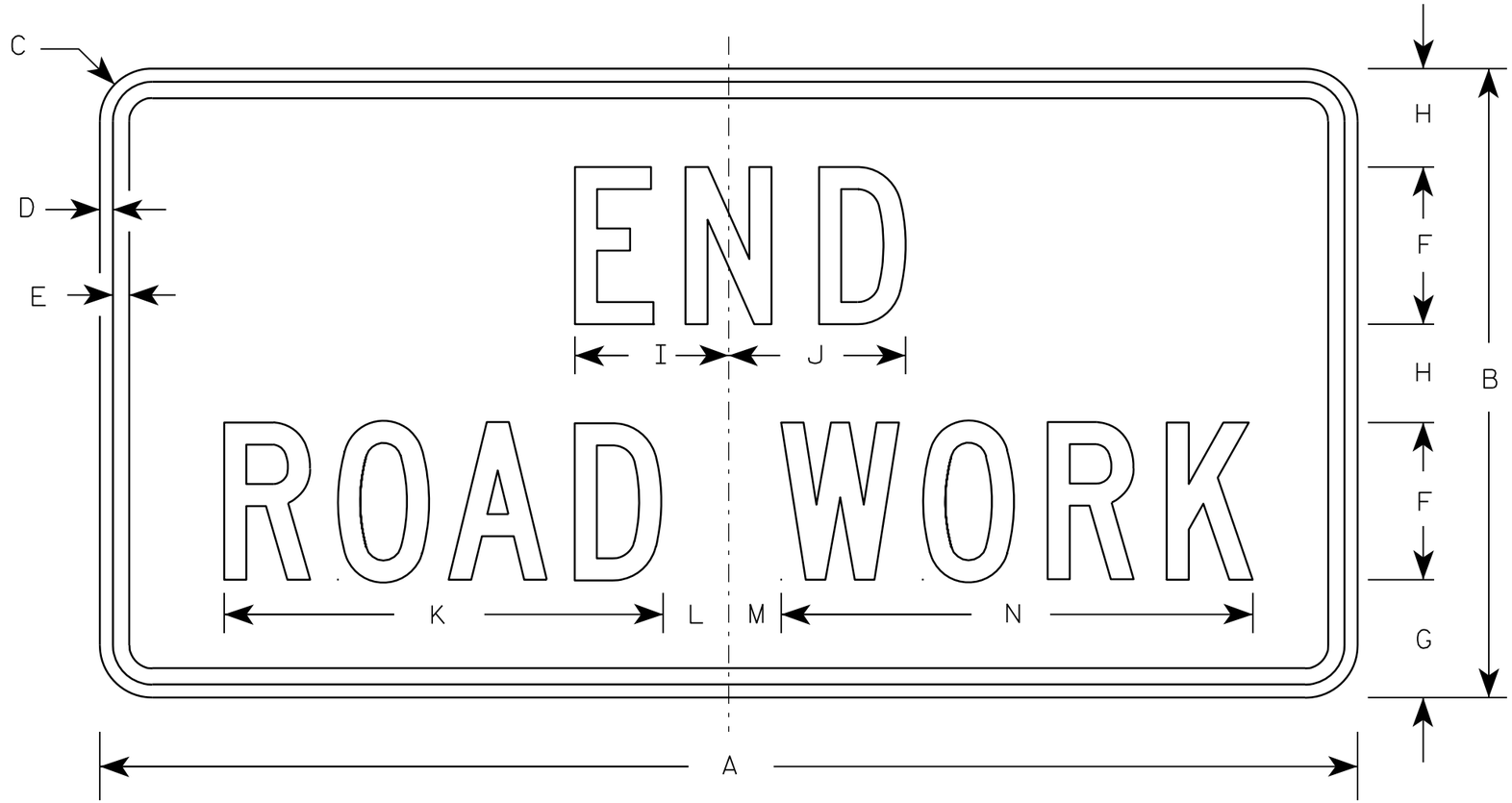
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spong
for State Traffic Engineer

DATE 1/15/02 PLATE NO. D9-2.4

PROJECT NO:

SHEET NO: 122 E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

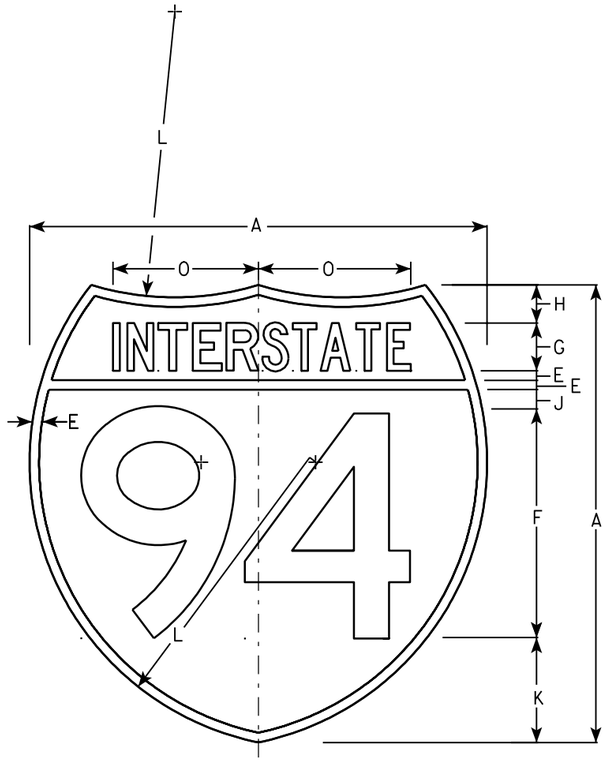
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

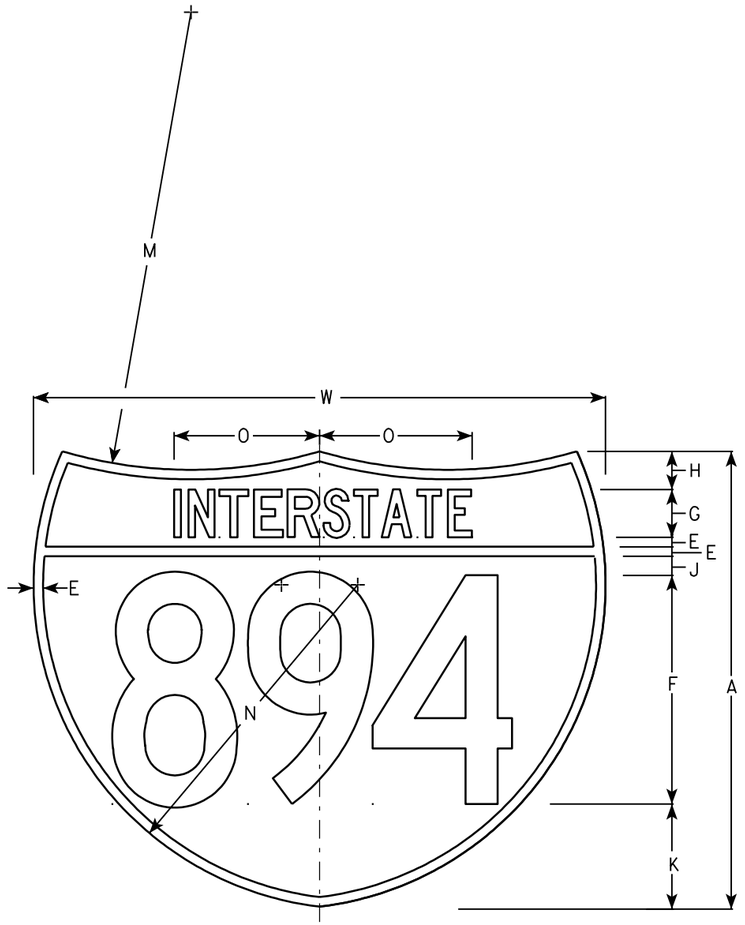
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 123	E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

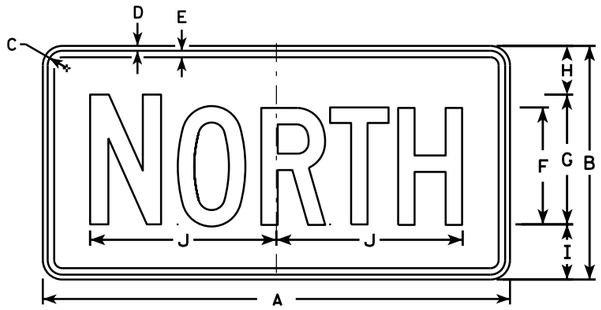
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

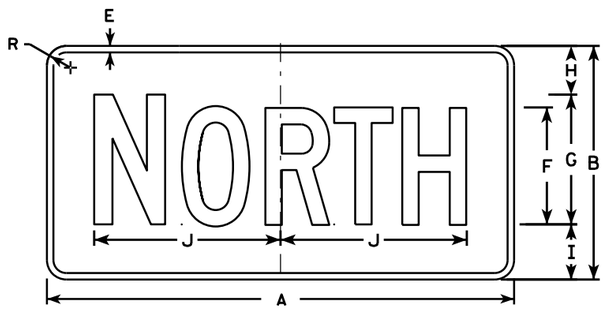
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 124	E

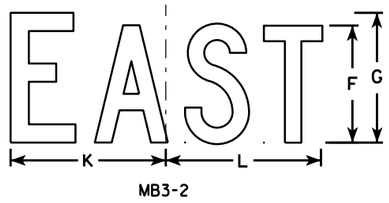


M3-1
MK3-1
MM3-1
MN3-1

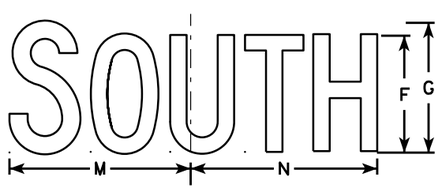


MB3-1

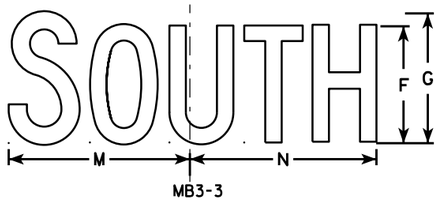
M3-2
MK3-2
MM3-2
MN3-2



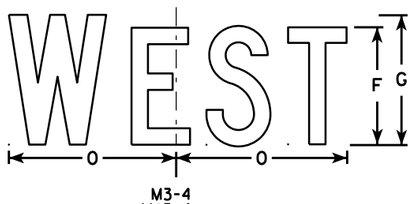
MB3-2



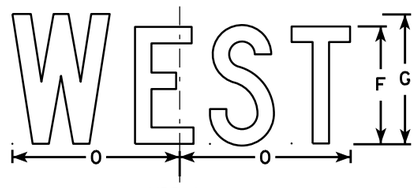
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



M3-4
MK3-4
MM3-4
MN3-4



MB3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

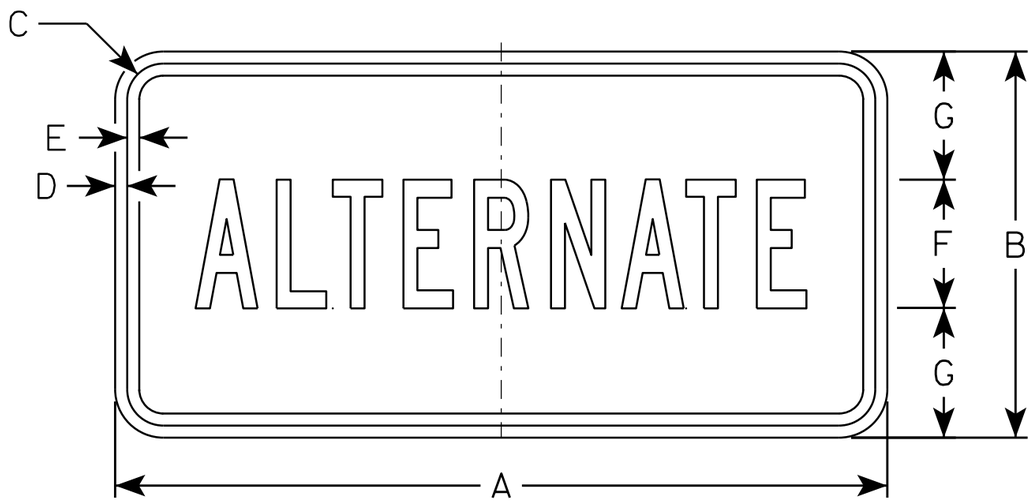
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

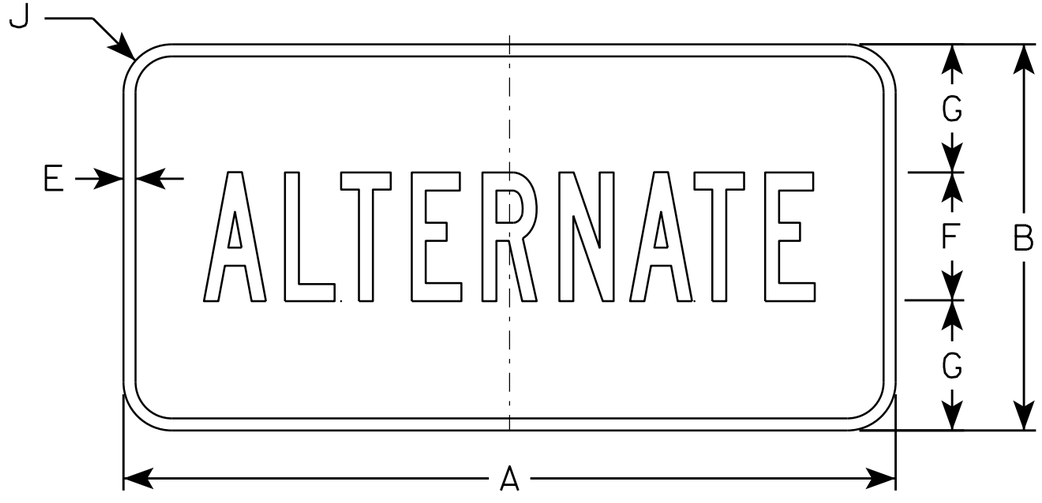
DATE 6/30/14 PLATE NO M3-1.13

PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E

7



M4-1
M04-1



MB4-1

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:
   Background - See Note 5
   Message - See note 5
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-1 Background - White
   Message - Black

   MB4-1 Background - Blue
   Message - White

   M04-1 Background - Orange - Type F
   Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	4	4	9 3/4	9 1/2	1 1/2																	2.00
3	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5
4	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5
5	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5

STANDARD SIGN
M4-1

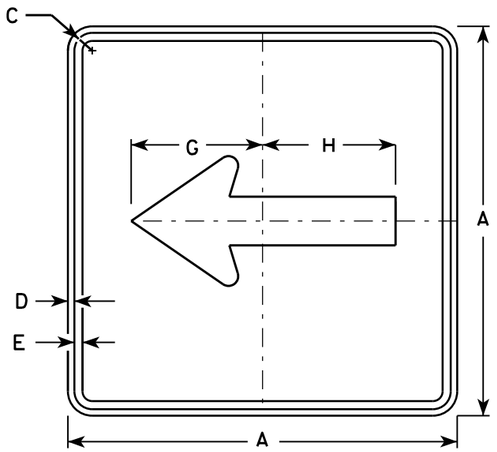
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

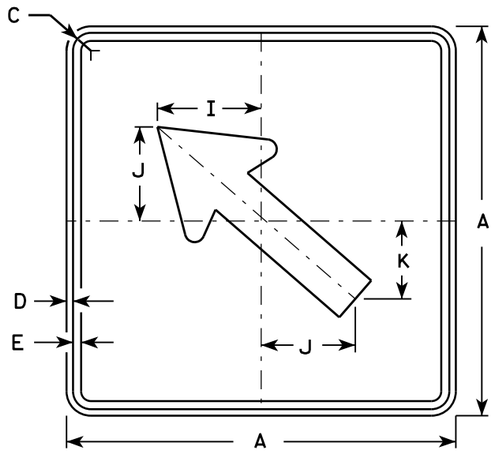
DATE 6/30/14 PLATE 14-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M41.DGN PLOT DATE : 30-JUN-2014 15:38 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.708937:1.000000 WISDOT/CADDS SHEET 42



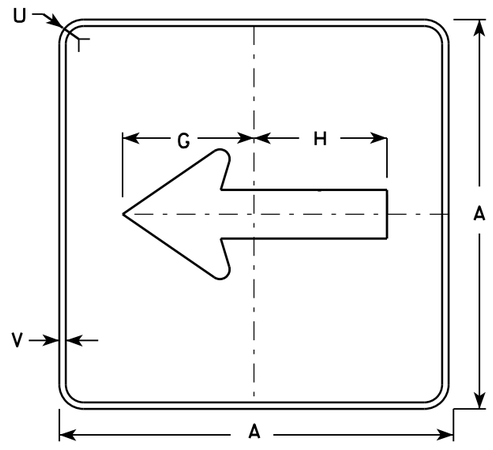
M6-1
MK6-1
MM6-1
MN6-1
MO6-1
MP6-1
MR6-1



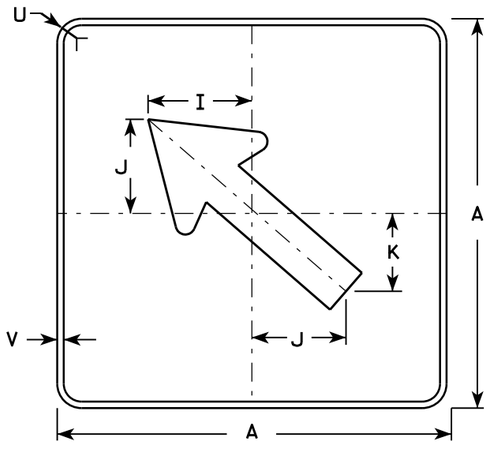
M6-2
MK6-2
MM6-2
MN6-2
MO6-2
MP6-2
MR6-2

NOTES

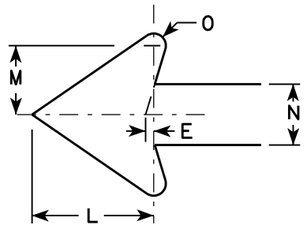
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MG6-1 and MG6-2 Background - Green
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1



MB6-2



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

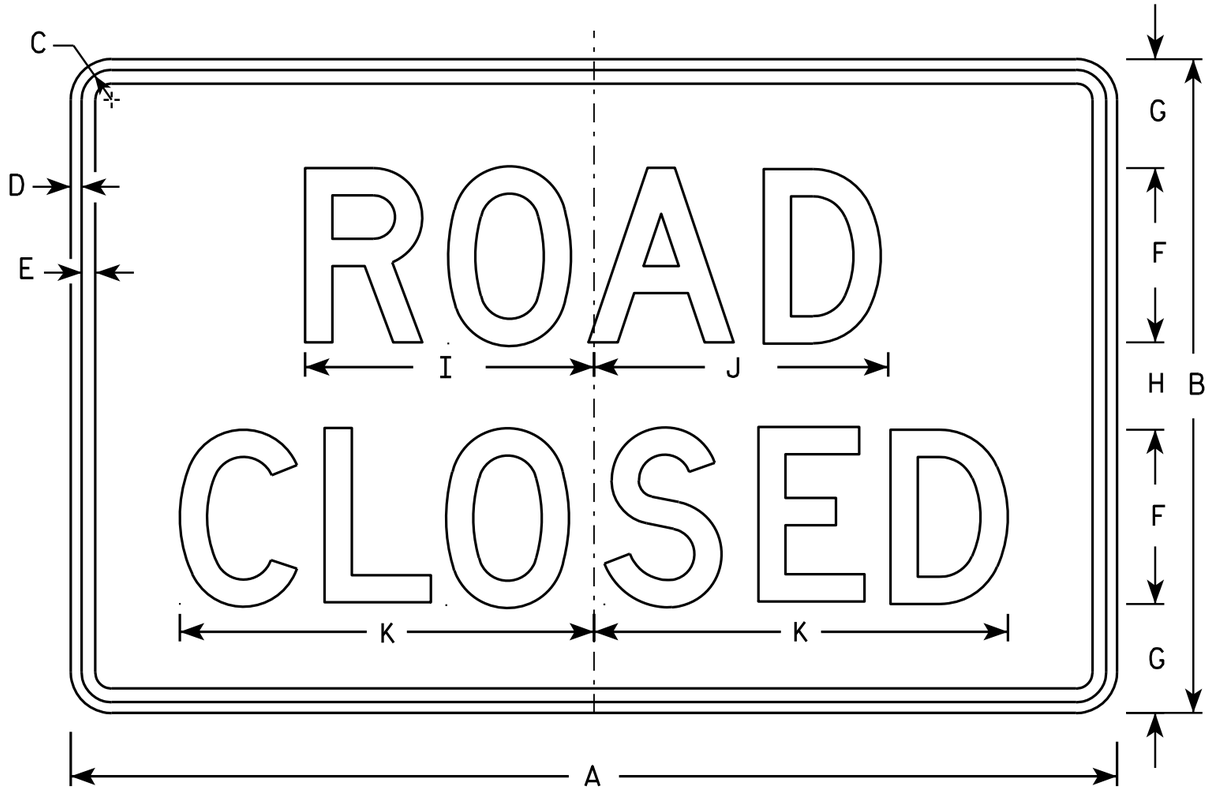
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/03/14 PLATE M6-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

7

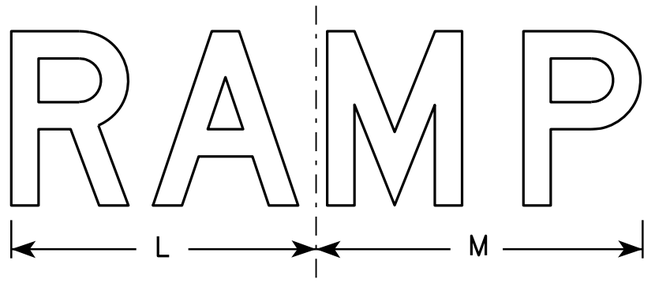
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 03-JUL-2014 14:28 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000
WISDOT/CADDS SHEET 42



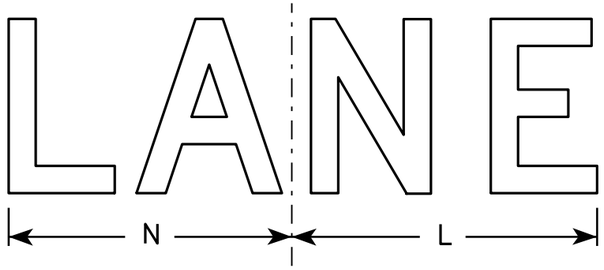
R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

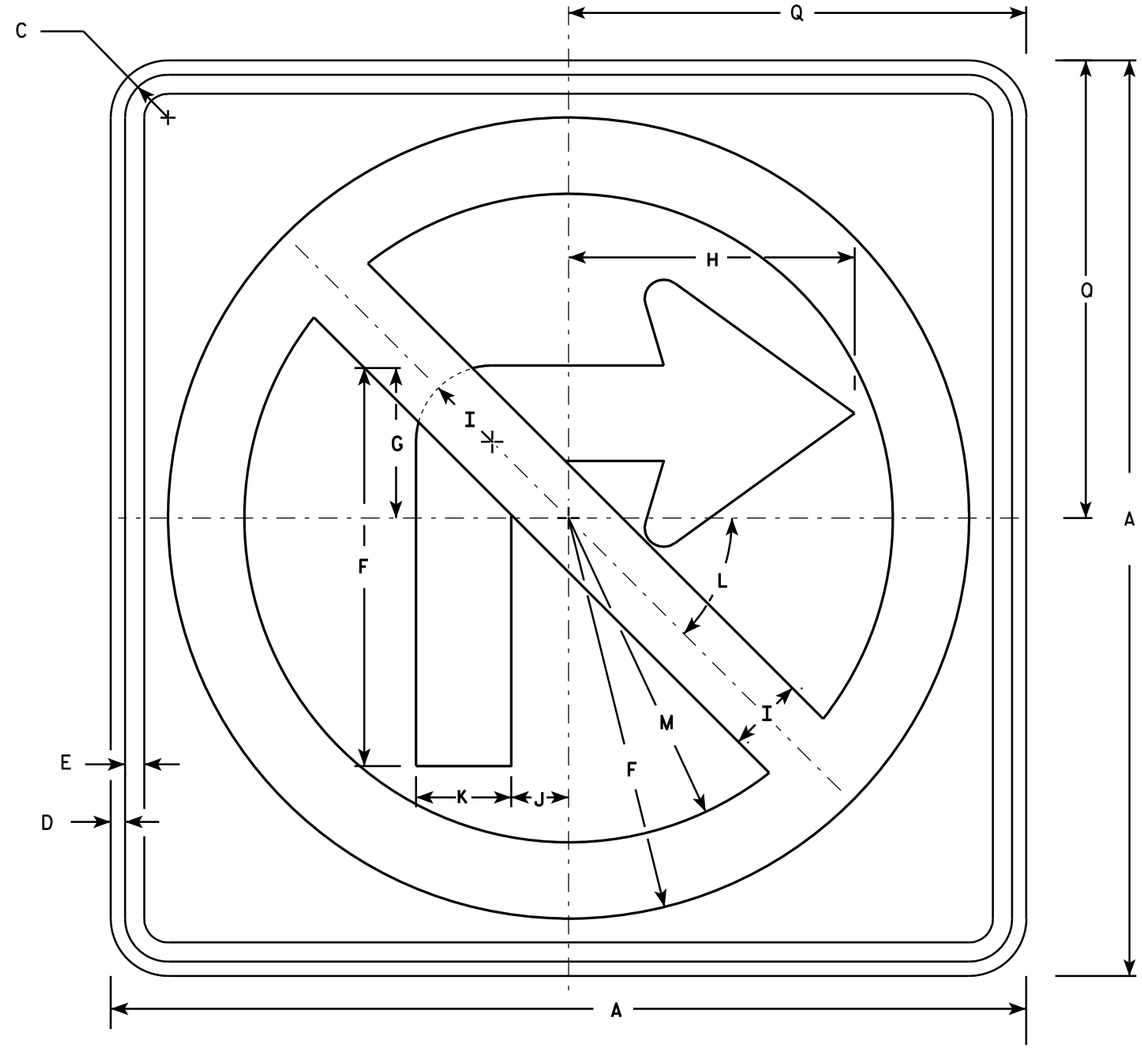
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 128	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112.DGN PLOT DATE : 01-APR-2011 14:25 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.952219:1.000000

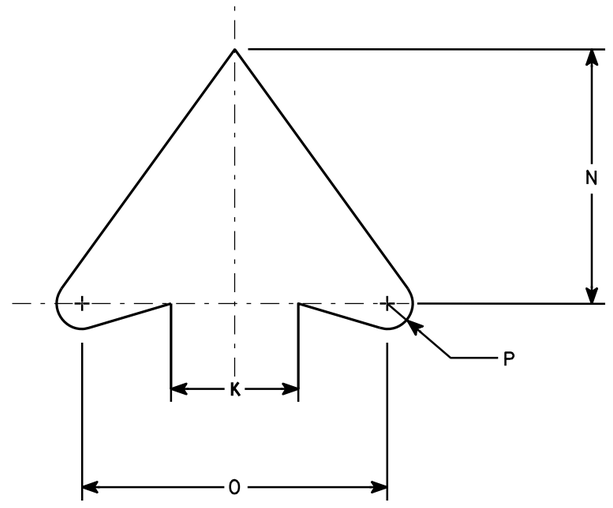
WISDOT/CADDS SHEET 42



R3-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

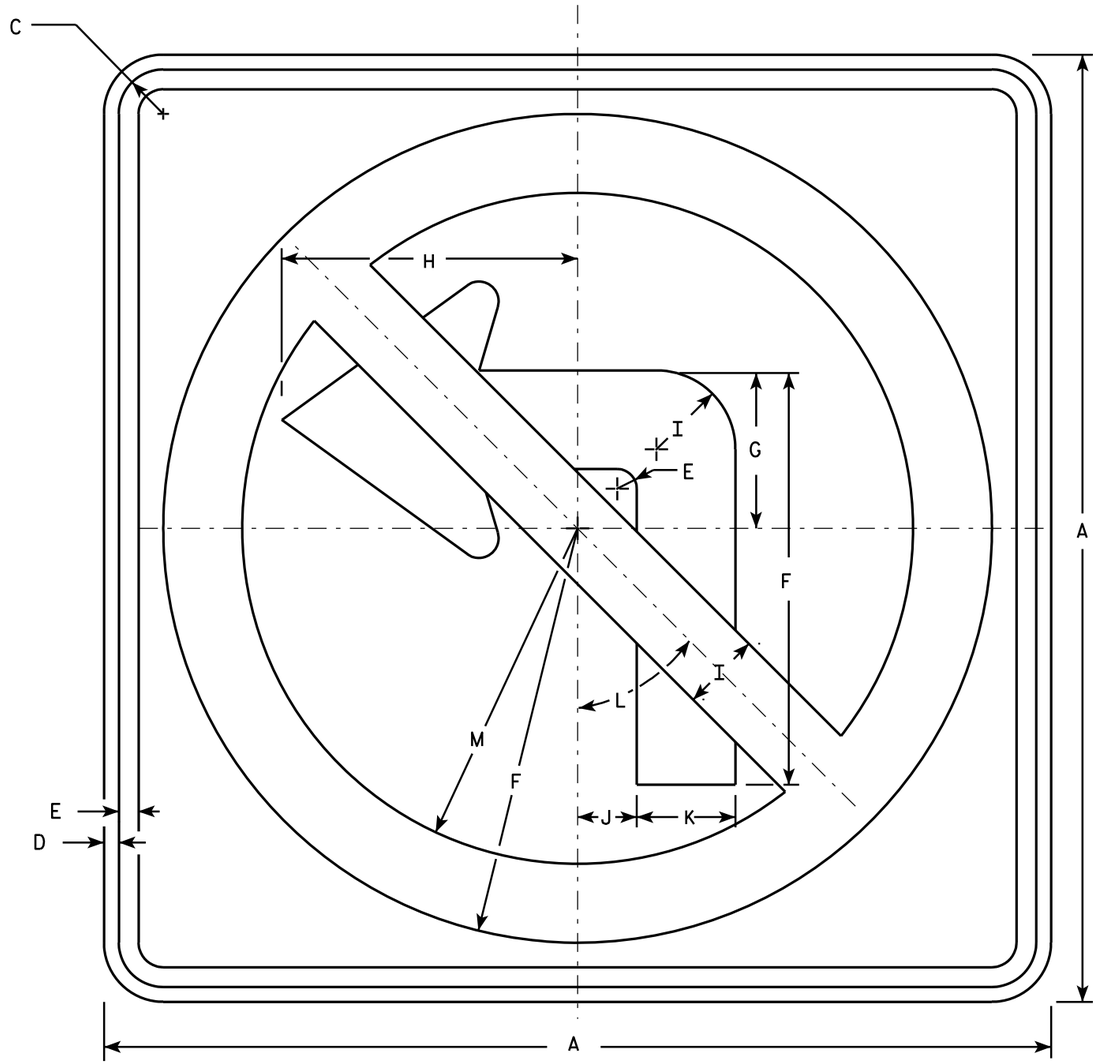
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

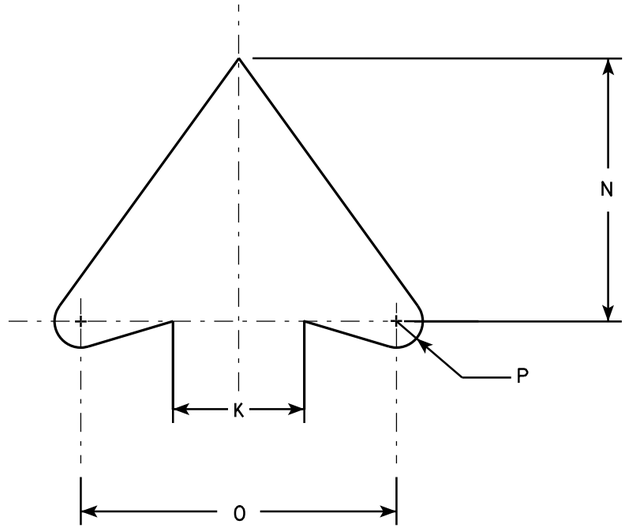
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 129	E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

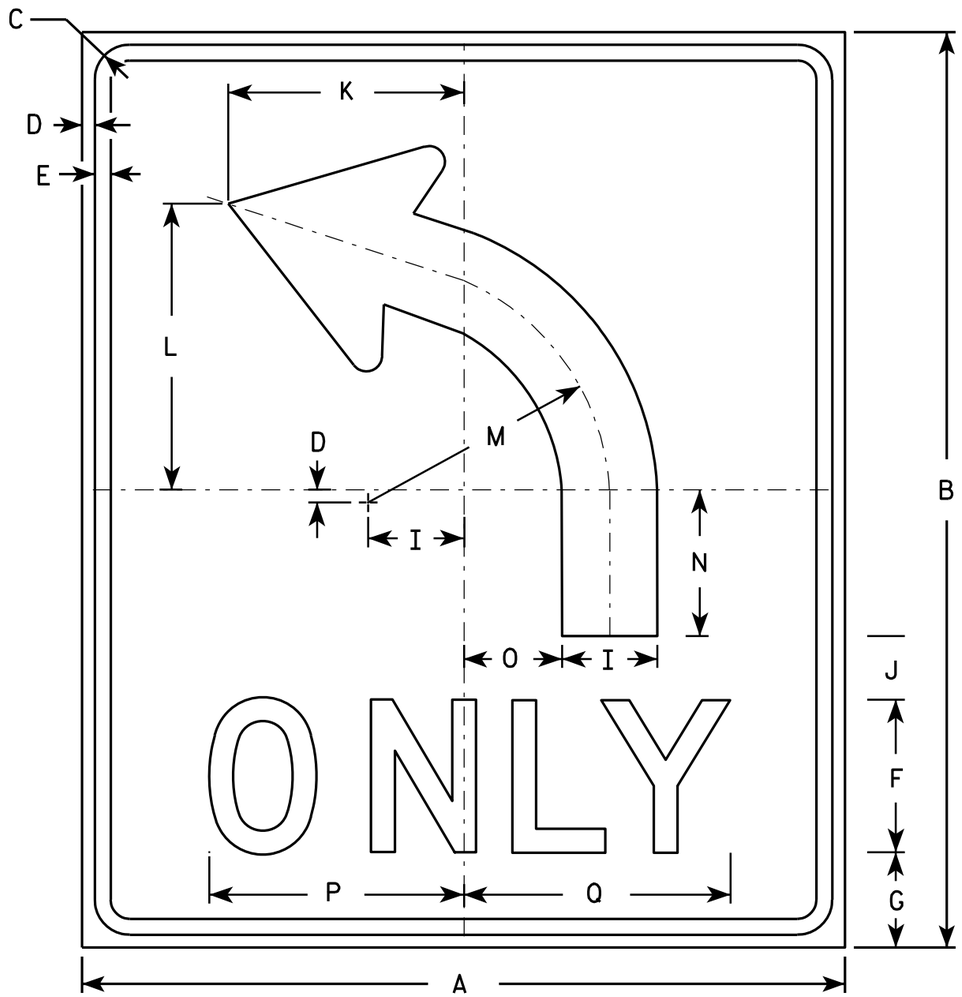
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

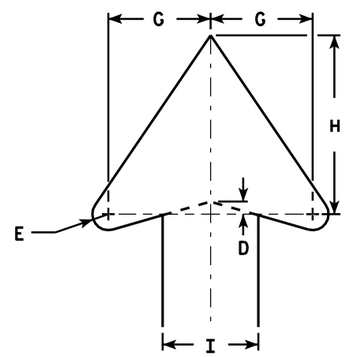
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 130 | E



R3-50L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R3-50R is the same as R3-50L except curved portion of arrow points right.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	6	4	7	3 3/4	2 1/2	9 1/4	11 1/4	9 1/2	5 3/4	3 7/8	10	10 1/2										7.5
2M	30	36	1 3/8	1/2	5/8	6	4	7	3 3/4	2 1/2	9 1/4	11 1/4	9 1/2	5 3/4	3 7/8	10	10 1/2										7.5
3																											
4																											
5																											

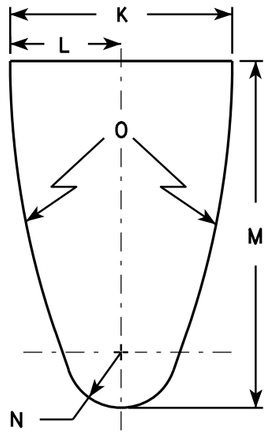
STANDARD SIGN
R3-50

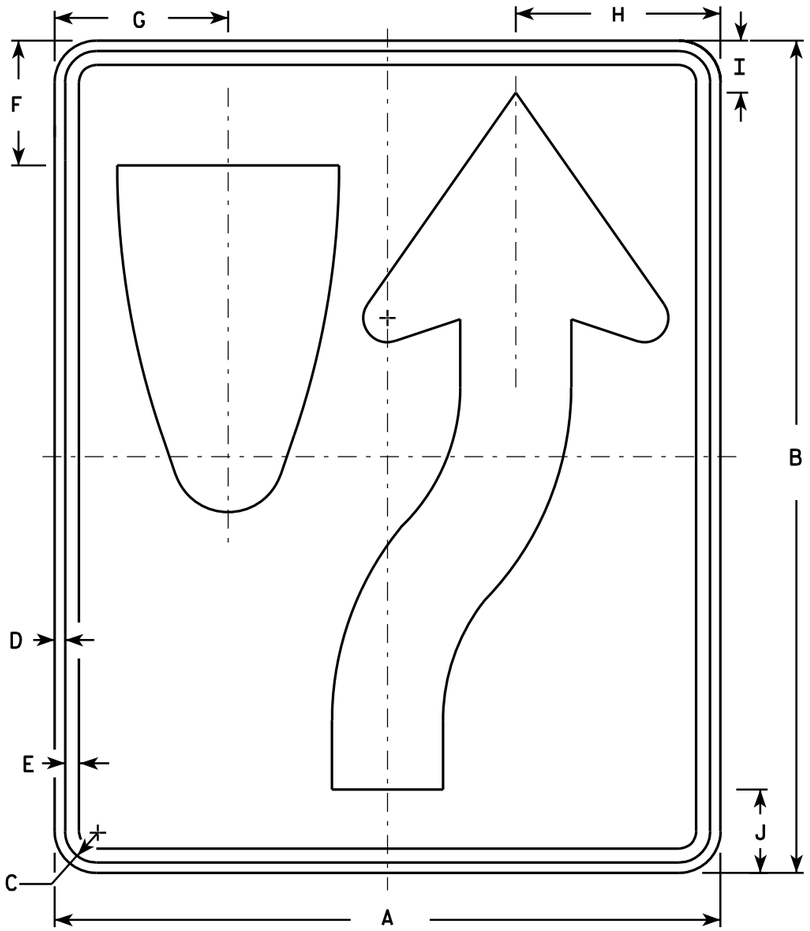
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-50.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 131 | E

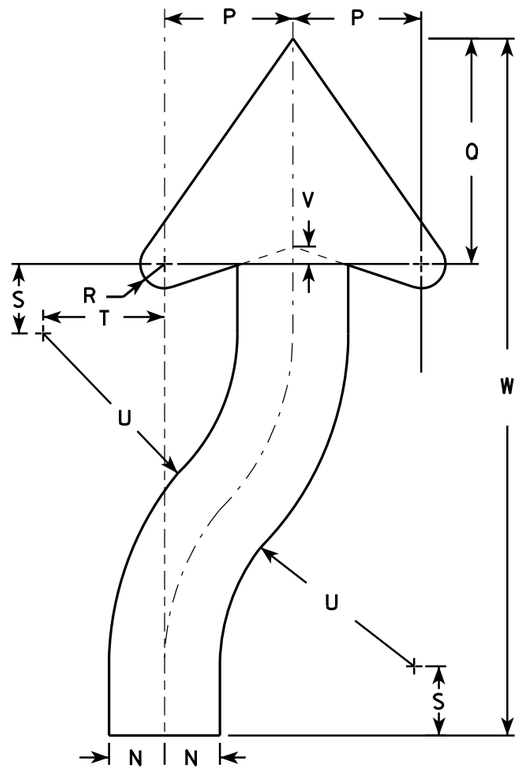




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

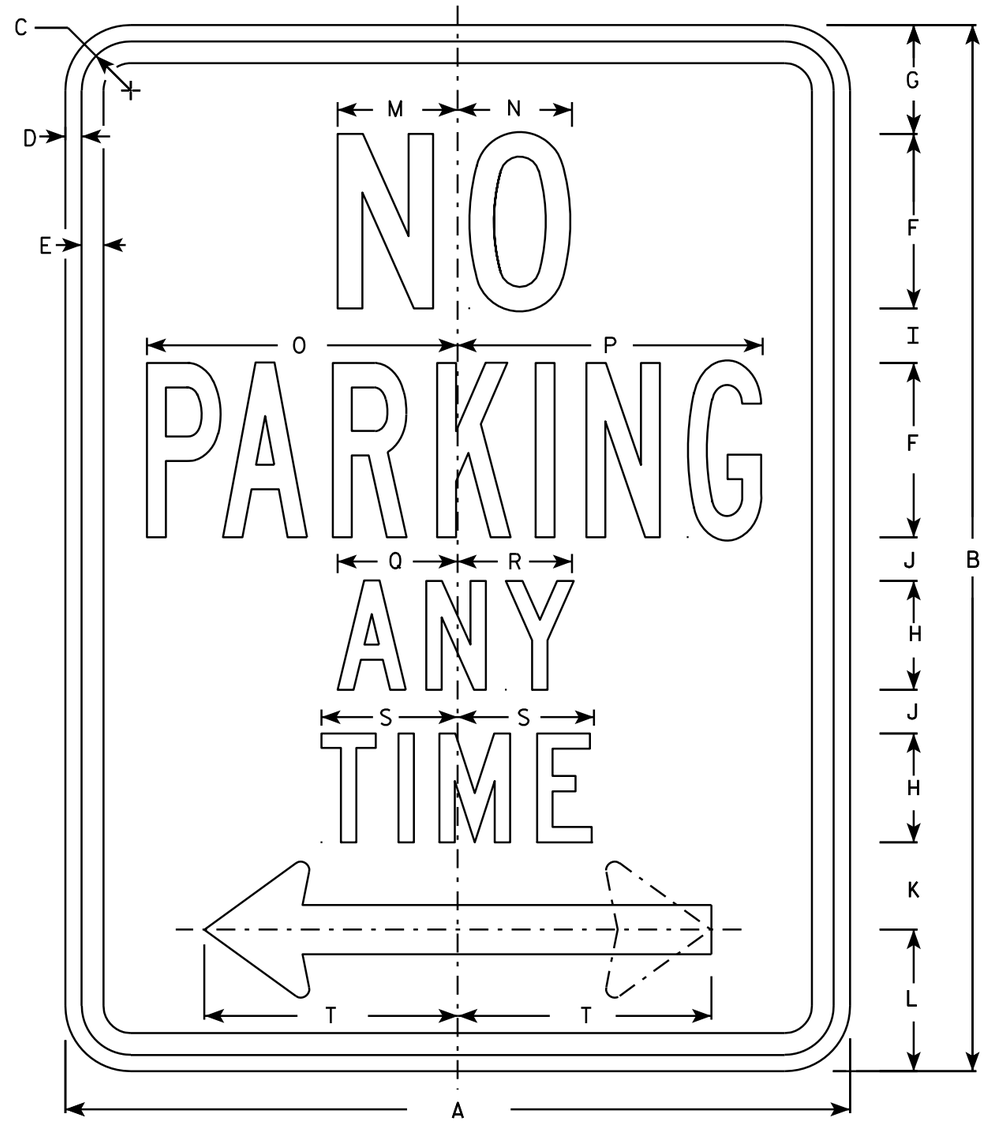
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

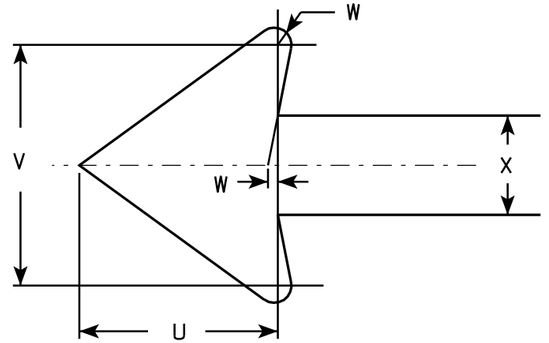
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 132	E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

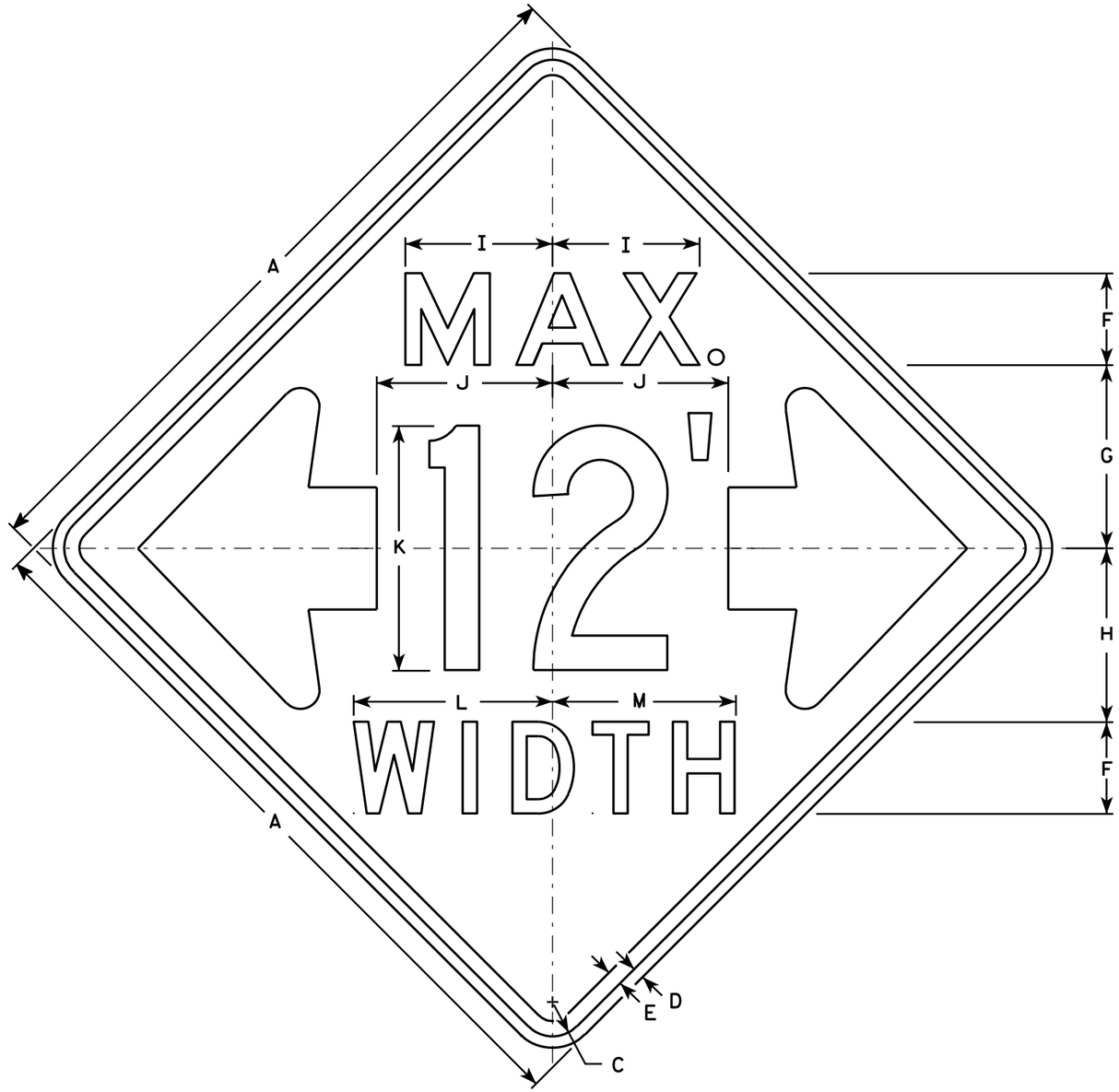
STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

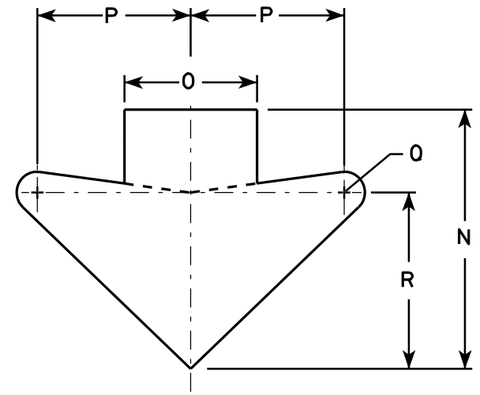
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 133 | E



W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

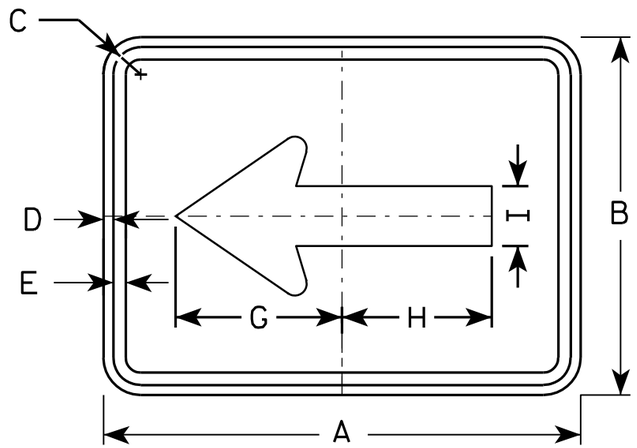
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 134	E

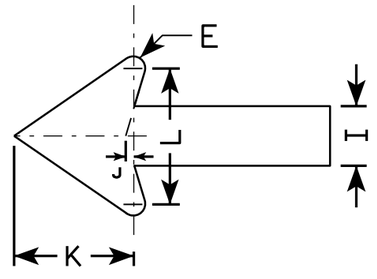
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42



W16-5pL

NOTES

1. Sign is Type II - Type F - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW-GREEN
   Message - BLACK
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W16-5PR is the same as W16-5PL except the arrow is reversed along the vertical centerline.
5. THIS IS TO BE USED UNDER SCHOOL WARNING ASSEMBLIES



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	18	1 3/8	1/2	5/8		8 3/8	7 1/2	3	3/8	6	6 7/8															3.0
2M	24	18	1 3/8	1/2	5/8		8 3/8	7 1/2	3	3/8	6	6 7/8															3.0
3																											
4																											
5																											

STANDARD SIGN

W16-5P

WISCONSIN DEPT OF TRANSPORTATION

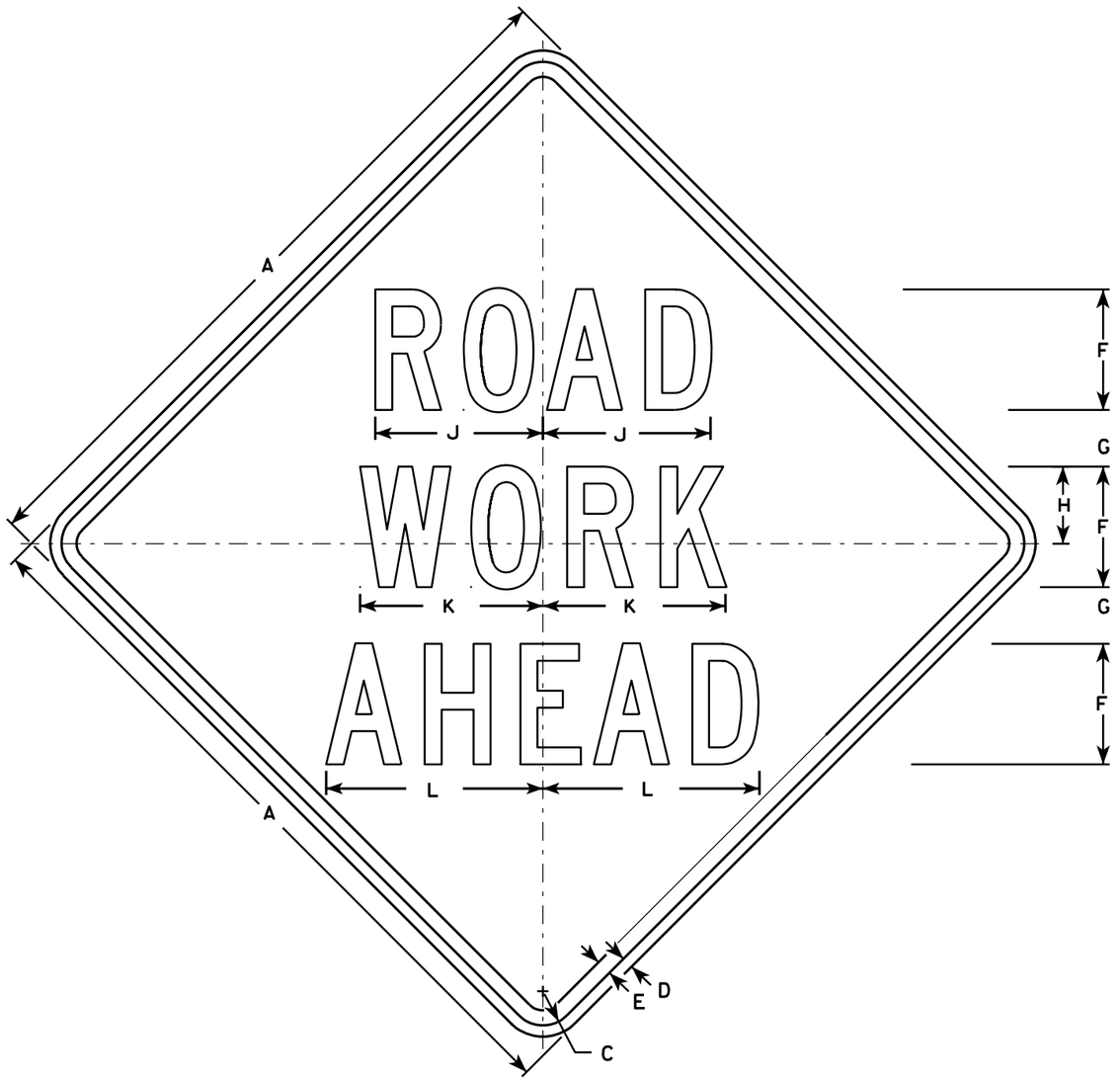
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/11/13 PLATE NO. W16-5P.1

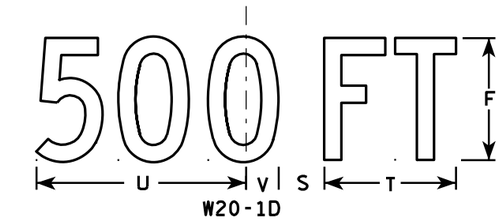
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 135 | E

7

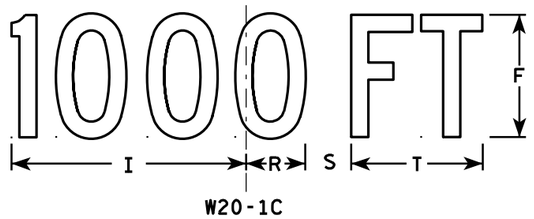
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W165P.DGN PLOT DATE : 12-MAR-2013 10:41 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 7.621474:1.000000
WISDOT/CADDS SHEET 42



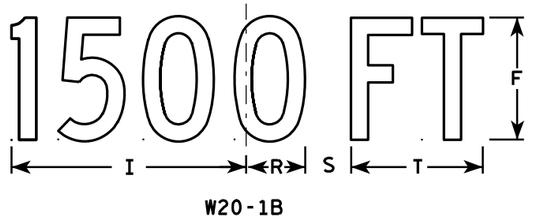
W20-1A



W20-1D

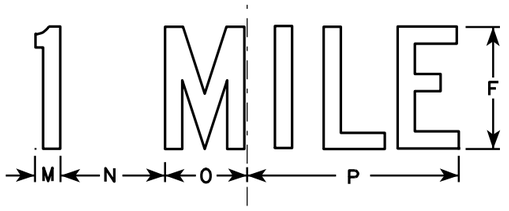


W20-1C



W20-1B

W20-1G



W20-1F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

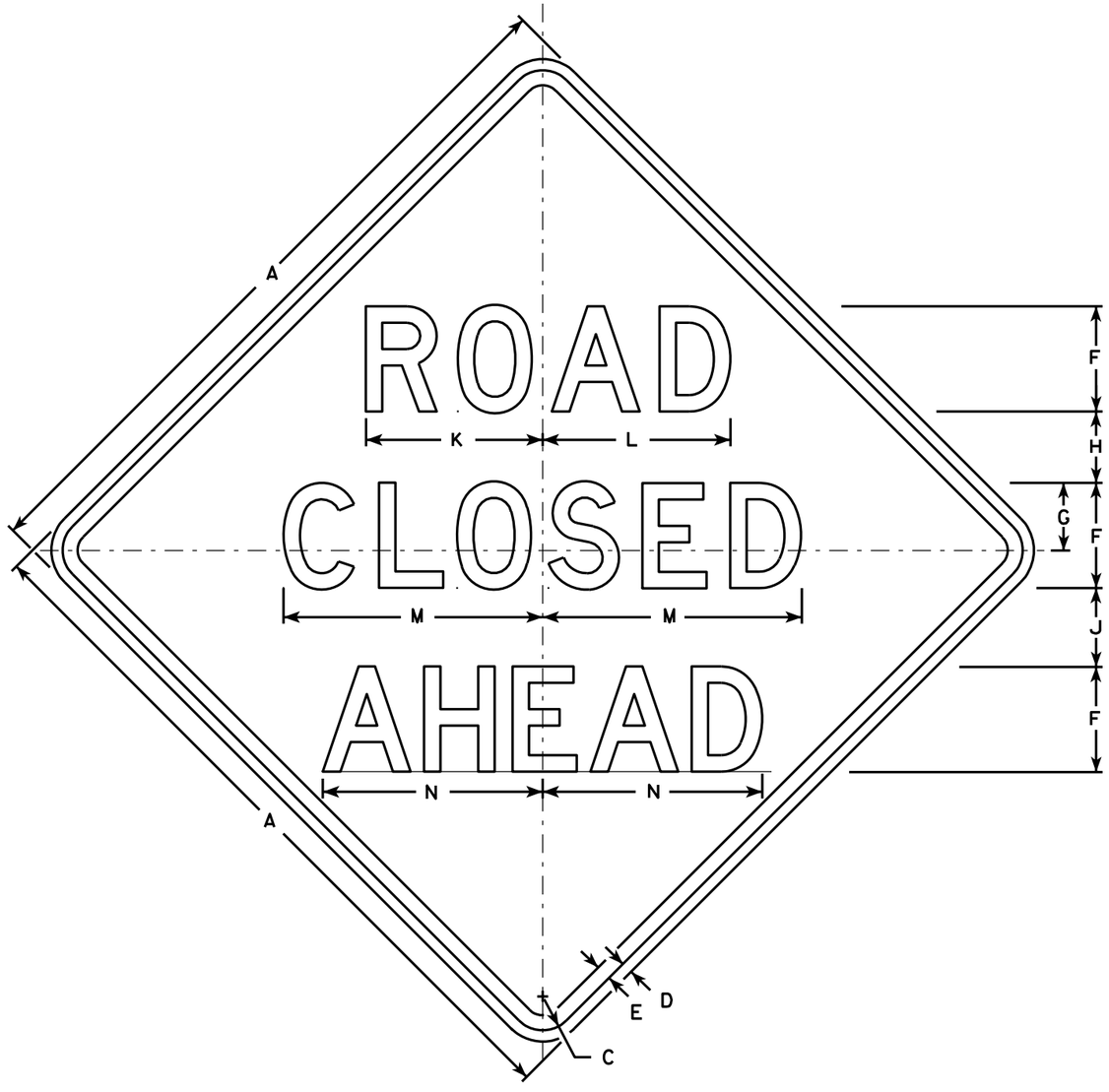
SHEET NO: 136 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

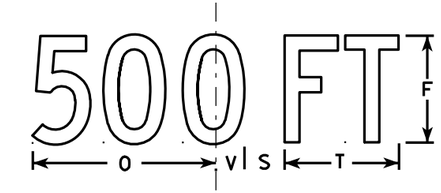
WISDOT/CADDS SHEET 42

7

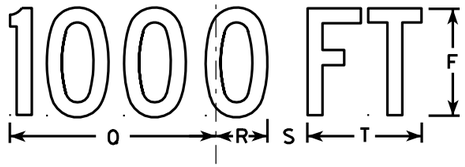
7



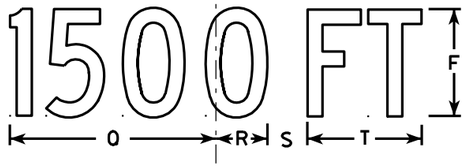
W20-3A



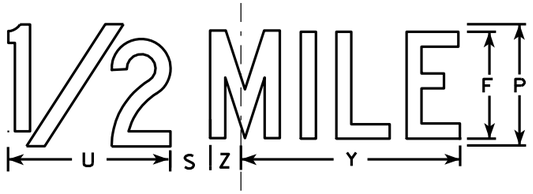
W20-3D



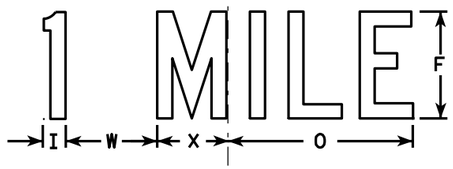
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

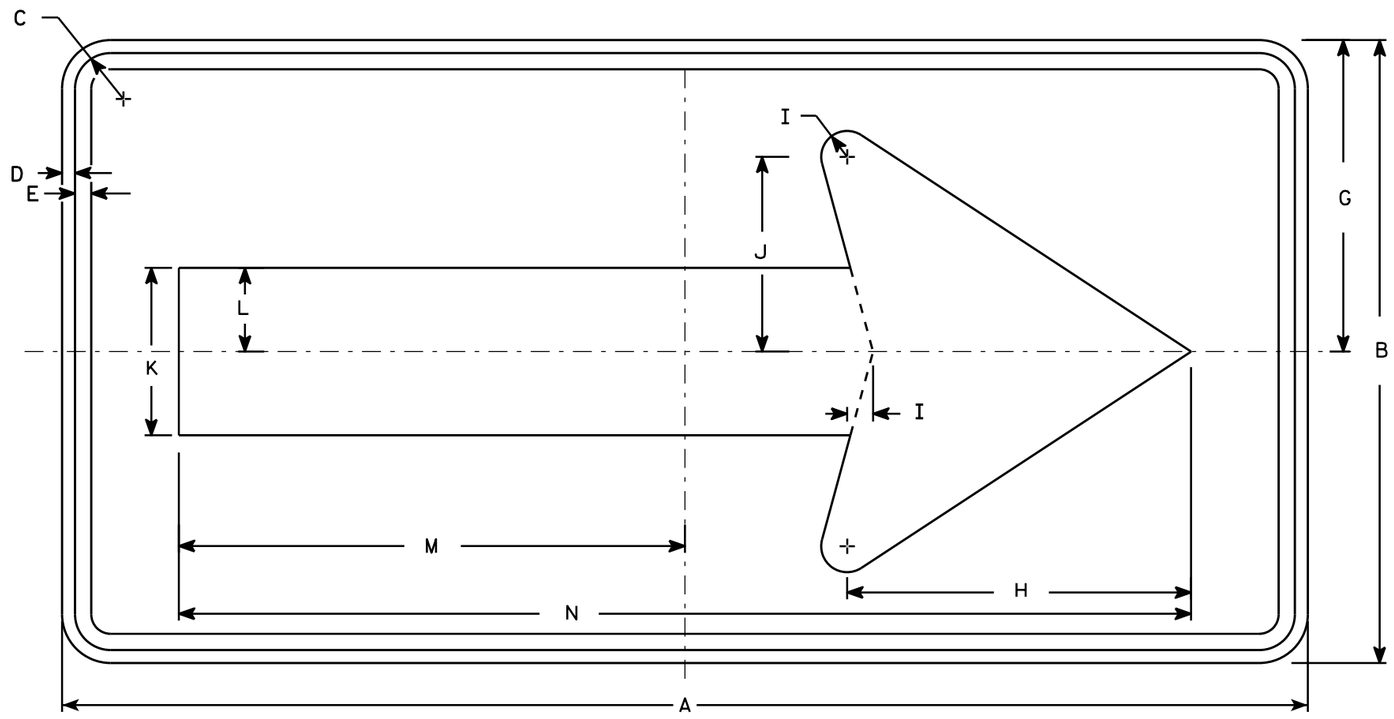
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 137 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



W01-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

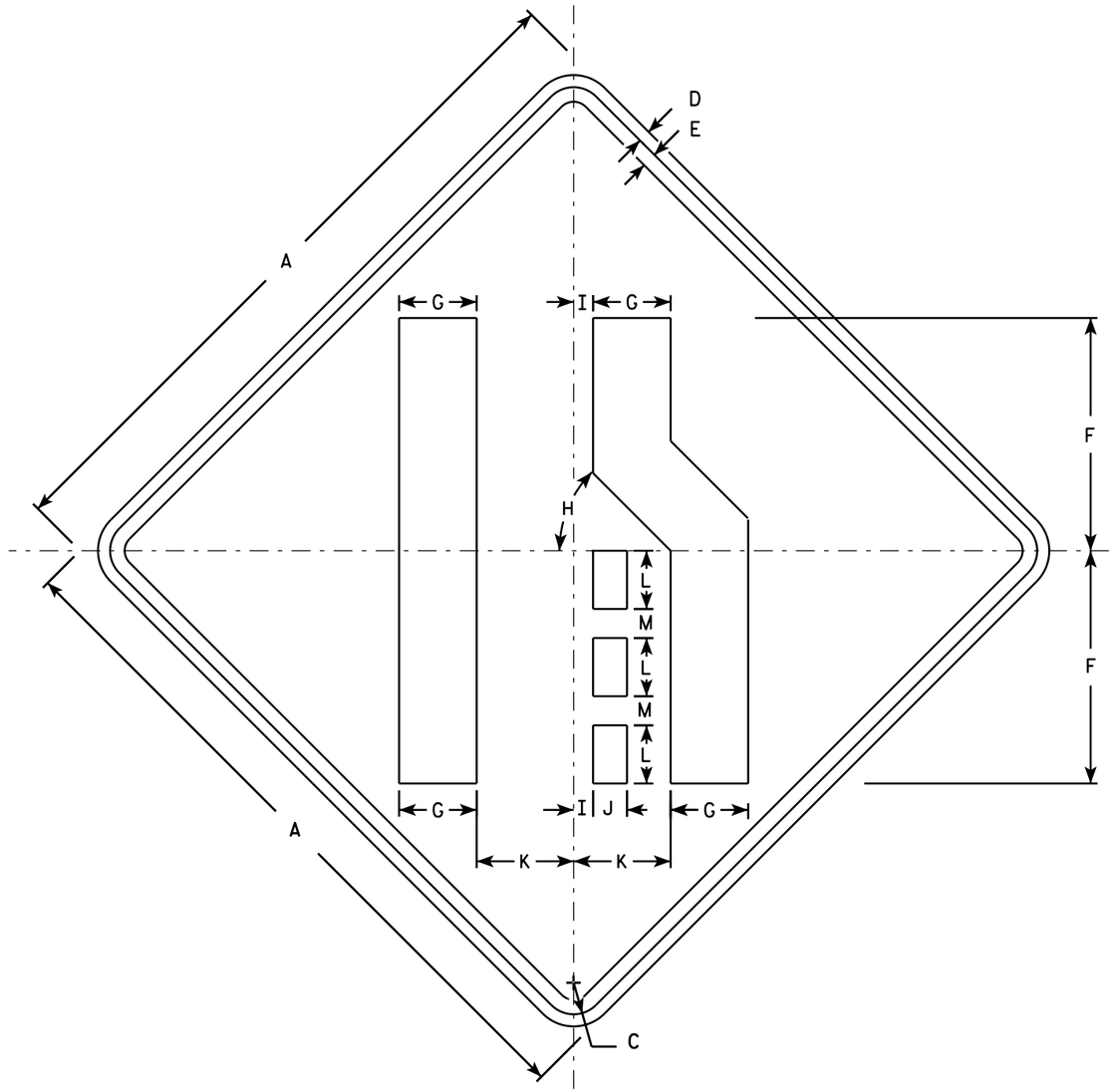
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

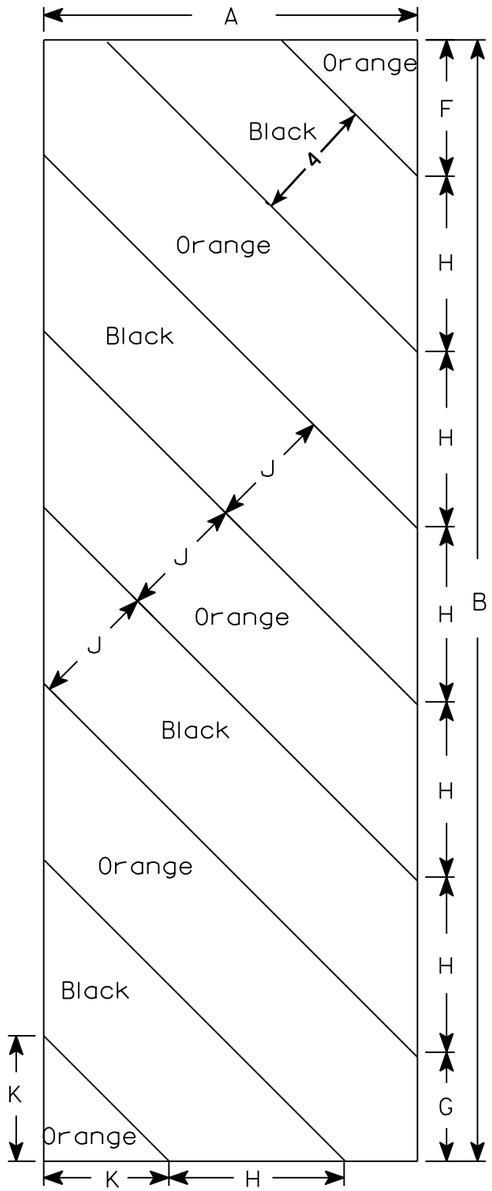
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

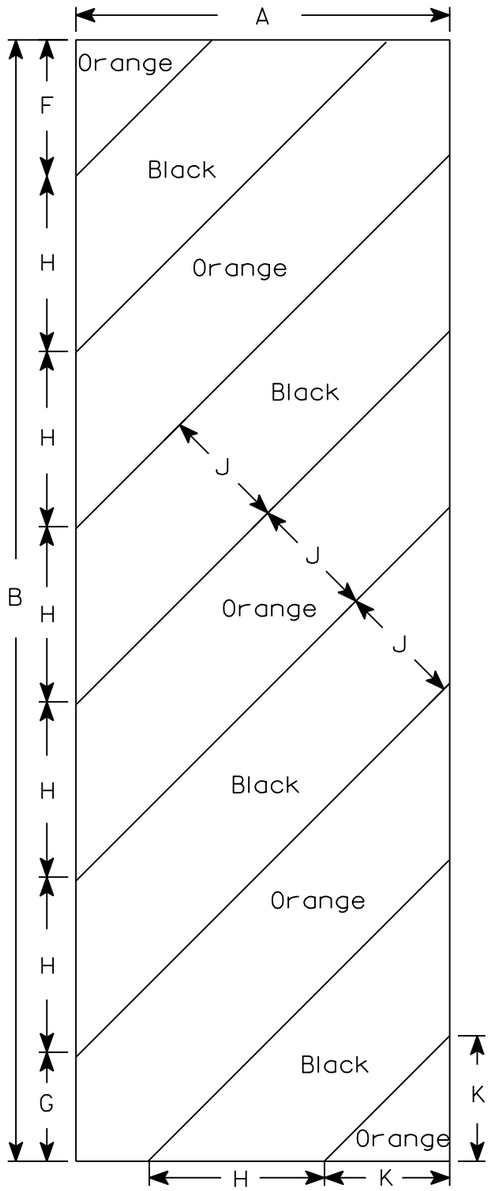
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 139 W04-2.1

PROJECT NO: | SHEET NO: E



W05-52L



W05-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

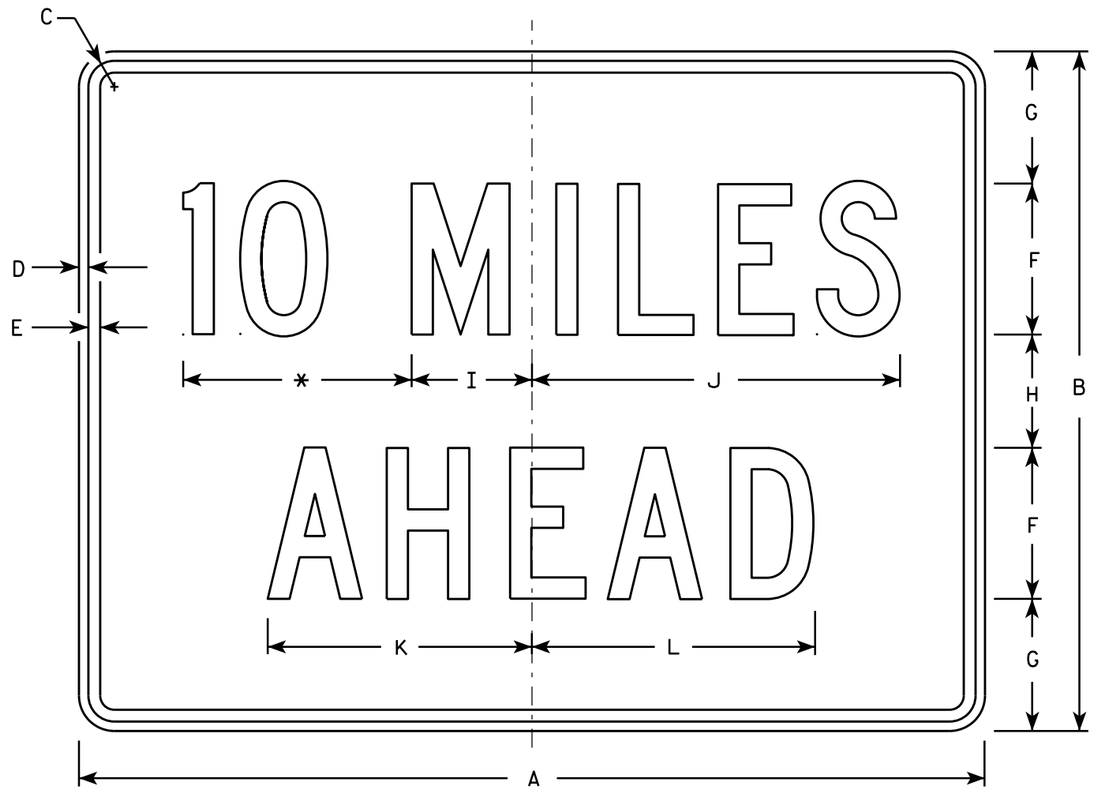
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

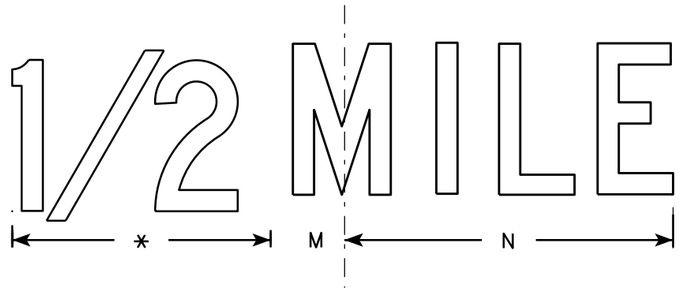
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE No. W05-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W057-52



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0

STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W057-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W05752.DGN PLOT DATE : 28-FEB-2014 11:42 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 8.026599:1.000000 WISDOT/CADDS SHEET 42

DIVISION 1: USH 12 - STAGE 2 TEMPORARY WIDENING

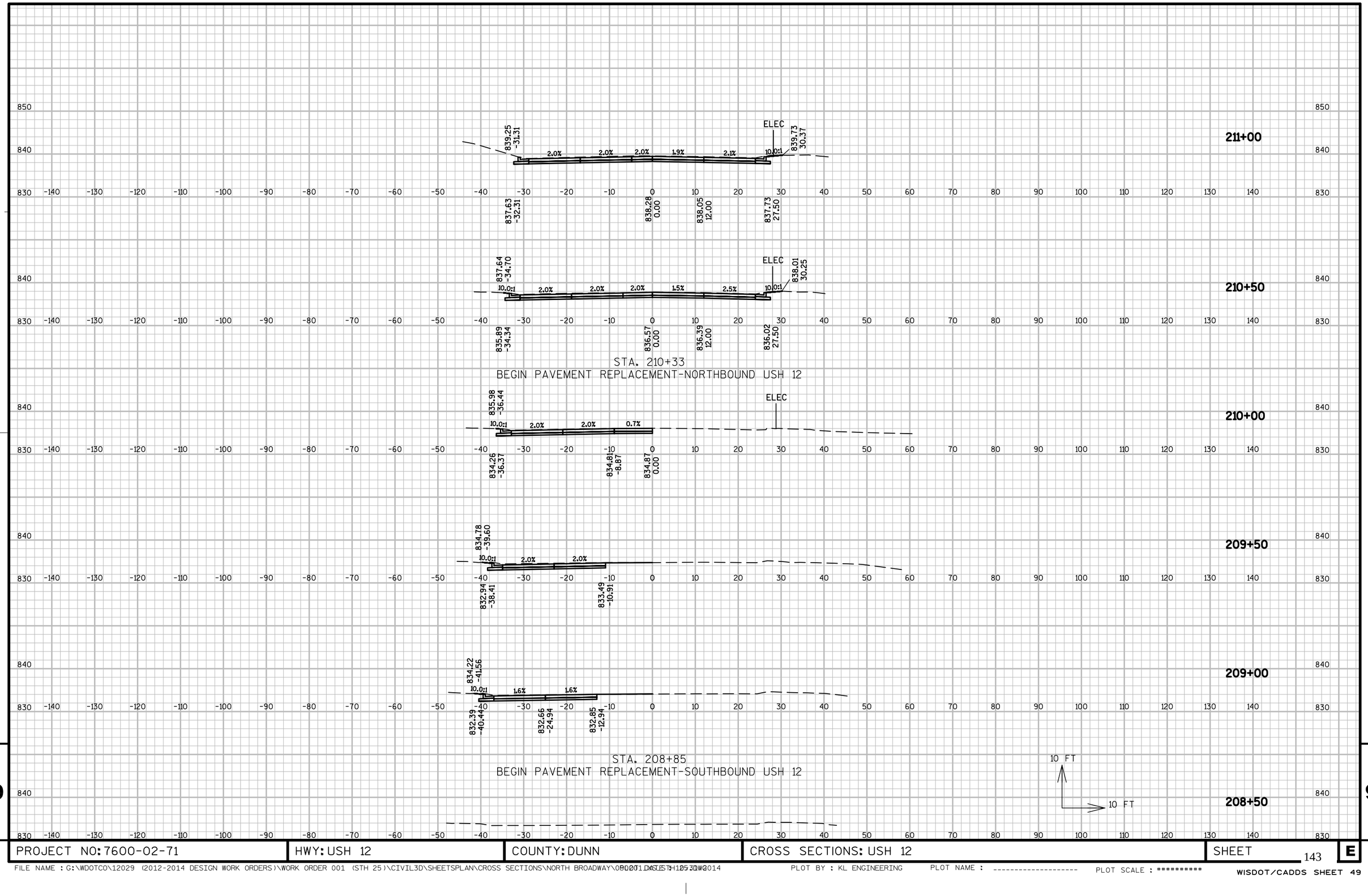
STATION	Distance	Area			Incremental Volume (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Expanded Fill	
		(SF)	(SF)	(SF)	Note 1 (CY)	Note 2 (CY)	Note 3 (CY)	1.00 Note 1	1.25	Note 4
211+00		6.47	0.00	0.00						
211+50	50	6.44	0.00	0.00	12	0	0	12	0	12
212+00	50	11.15	0.00	0.00	16	0	0	28	0	28
212+50	50	12.47	0.00	0.00	22	0	0	50	0	50
213+00	50	13.56	0.00	0.00	24	0	0	74	0	74
213+50	50	11.21	0.00	0.00	23	0	0	97	0	97
214+00	50	12.46	0.00	0.00	22	0	0	119	0	119
214+50	50	12.09	0.00	0.00	23	0	0	142	0	142
215+00	50	12.57	0.00	0.00	23	0	0	165	0	165
215+50	50	11.34	0.00	0.00	22	0	0	187	0	187
216+00	50	11.72	0.00	0.00	21	0	0	208	0	208
216+50	50	14.61	0.00	0.00	24	0	0	233	0	233
217+00	50	17.64	0.00	0.00	30	0	0	262	0	262
217+50	50	14.69	0.00	0.00	30	0	0	292	0	292
218+00	50	13.61	0.00	0.00	26	0	0	319	0	319
218+50	50	11.78	0.00	0.00	24	0	0	342	0	342
219+00	50	11.42	0.00	0.00	21	0	0	314	0	363
219+50	50	11.65	0.00	0.00	21	0	0	335	0	385
220+00	50	10.81	0.00	0.00	21	0	0	356	0	406
220+50	50	0.00	0.00	0.00	10	0	0	366	0	416
					416	0	0			

Notes:
1 - Cut: Cut includes salvaged/unusable pavement material
2 - Salvaged/unusable pavement material: This includes the existing curb and gutter
3 - Fill: Does not include unusable pavement material volume
4 - Mass Ordinate: [(Cut) - (Fill * Fill Factor)]

DIVISION 2: USH 12 - STAGE 3 & 4 PAVEMENT REPLACEMENT

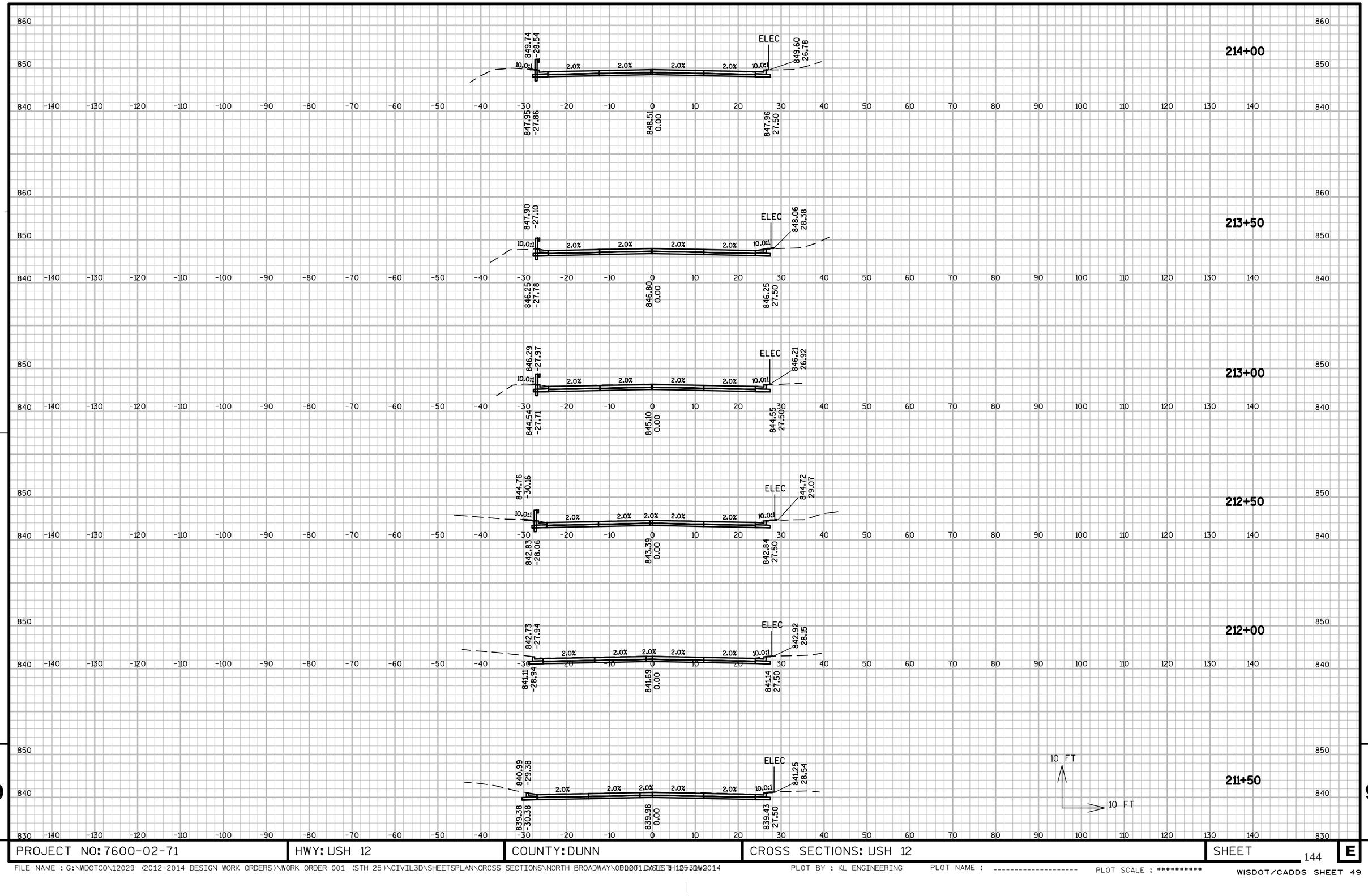
STATION	Distance	Area			Incremental Volume (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Expanded Fill	
		(SF)	(SF)	(SF)	Note 1 (CY)	Note 2 (CY)	Note 3 (CY)	1.00 Note 1	1.25	Note 4
209+00		35.58	0.00	0						
209+50	50	38.31	0.00	0	68	0	0	68	0	68
210+00	50	46.39	0.00	0	78	0	0	147	0	147
210+50	50	81.46	0.00	0	118	0	0	265	0	265
211+00	50	81.22	0.00	0	151	0	0	416	0	416
211+50	50	74.66	0.00	0	144	0	0	560	0	560
212+00	50	72.58	0.00	0	136	0	0	697	0	697
212+50	50	69.69	0.00	0	132	0	0	828	0	828
213+00	50	68.64	0.00	0	128	0	0	956	0	956
213+50	50	66.38	0.00	0	125	0	0	1081	0	1081
214+00	50	65.44	0.00	0	122	0	0	1203	0	1203
214+50	50	70.21	0.00	0	126	0	0	1329	0	1329
215+00	50	65.15	0.00	0	125	0	0	1454	0	1454
215+50	50	63.37	0.00	0	119	0	0	1573	0	1573
216+00	50	65.59	0.00	0	119	0	0	1693	0	1693
216+50	50	68.38	0.00	0	124	0	0	1817	0	1817
217+00	50	72.9	0.00	0	131	0	0	1948	0	1948
217+50	50	65.71	0.00	0	128	0	0	2076	0	2076
218+00	50	66.25	0.00	0	122	0	0	2198	0	2198
218+50	50	59.46	0.00	0	116	0	0	2315	0	2315
219+00	50	58.19	0.00	0	109	0	0	2423	0	2423
					2,423	0	0			

Notes:
1 - Cut: Cut includes salvaged/unusable pavement material
2 - Salvaged/unusable pavement material: This includes the existing base course and concrete pavement
3 - Fill: Does not include unusable pavement material volume
4 - Mass Ordinate: [(Cut) - (Fill * Fill Factor)]



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CROSS SECTIONS: USH 12	SHEET 143	E

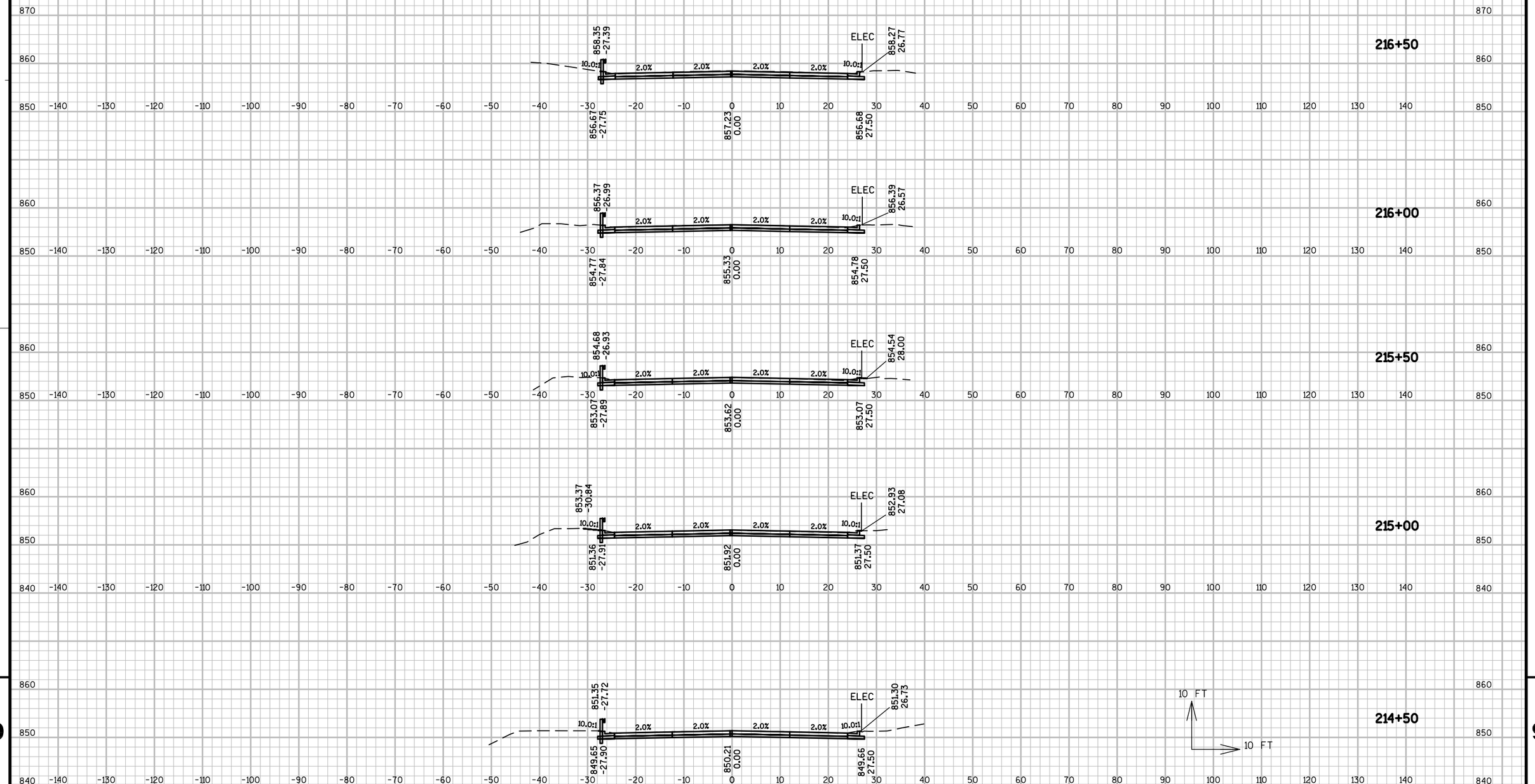
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\CROSS SECTIONS\NORTH BROADWAY\0B0201_DXSTH125_2014.DWG PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : ********** WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CROSS SECTIONS: USH 12	SHEET 144	E

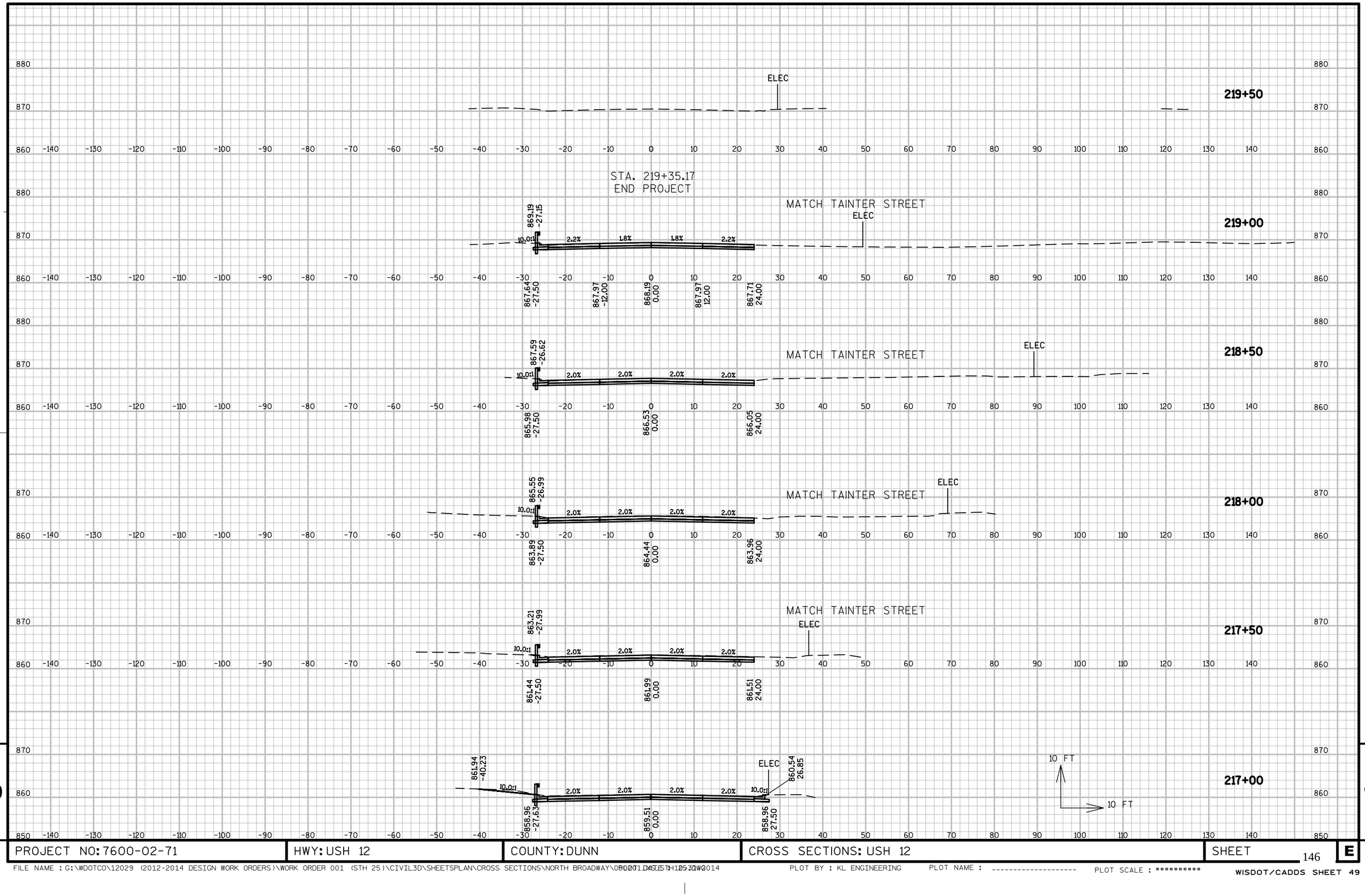


9

9

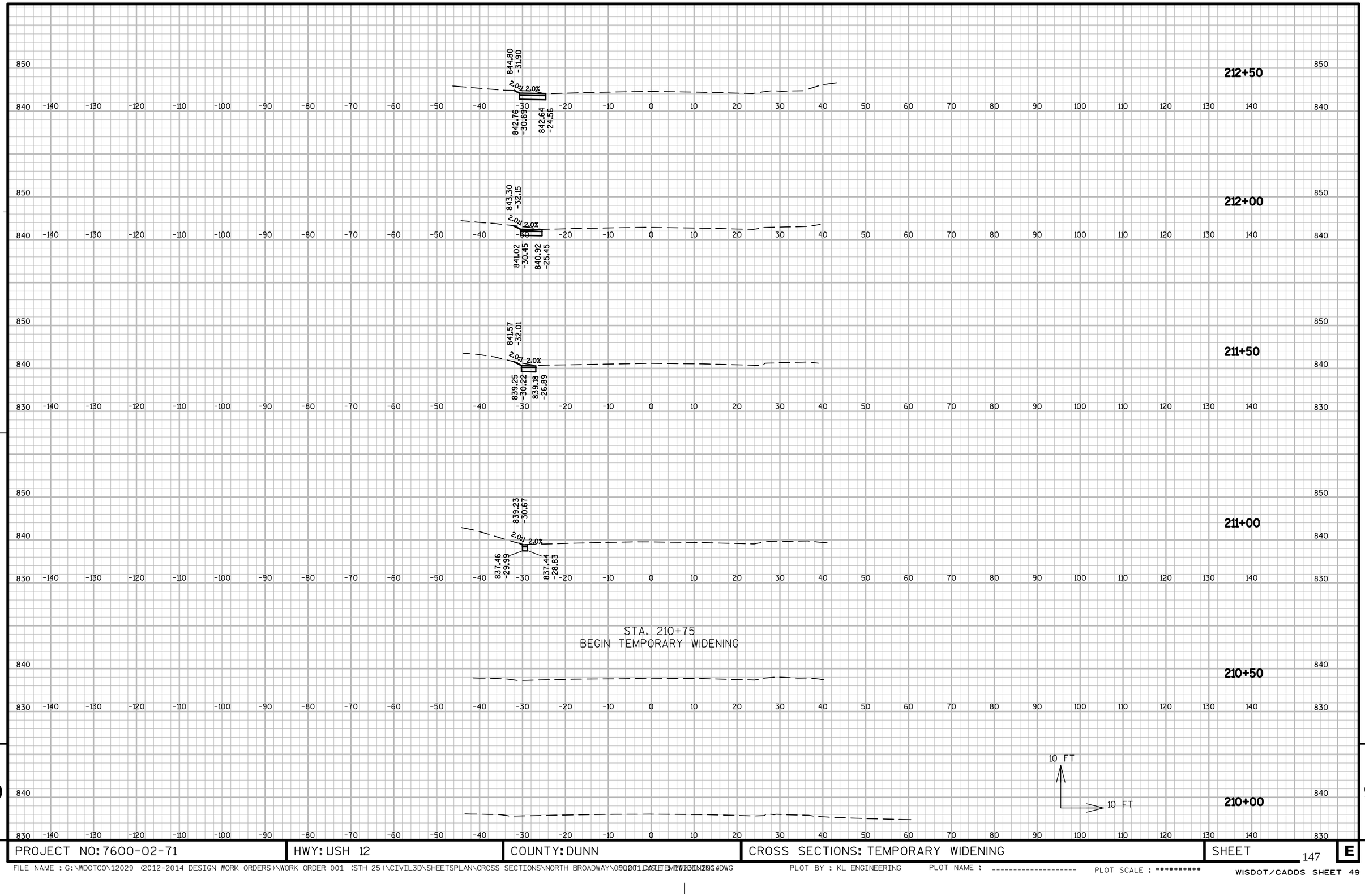
PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CROSS SECTIONS: USH 12	SHEET 145	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\CROSS SECTIONS\NORTH BROADWAY\0P0201_DXSTH12532DWG2014 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : ********** WISDOT/CADDS SHEET 49



PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CROSS SECTIONS: USH 12	SHEET 146 E

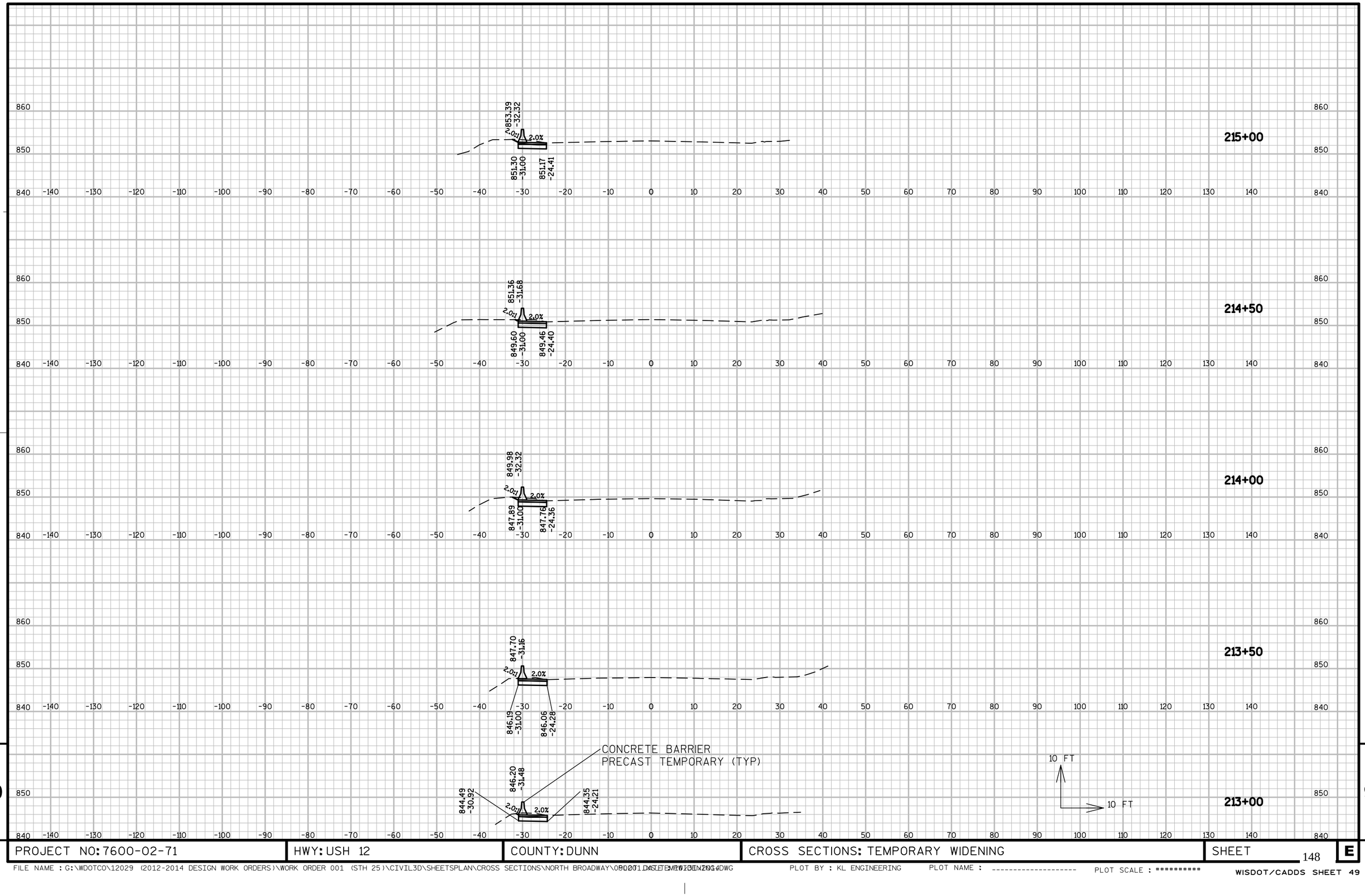
FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\CROSS SECTIONS\NORTH BROADWAY\P0201_DXSTH125_2014.DWG PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : ********** WISDOT/CADDS SHEET 49



9

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CROSS SECTIONS: TEMPORARY WIDENING	SHEET 147	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\CROSS SECTIONS\NORTH BROADWAY\0120201_DXSTEMPWIDENING.DWG PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : ********** WISDOT/CADDS SHEET 49

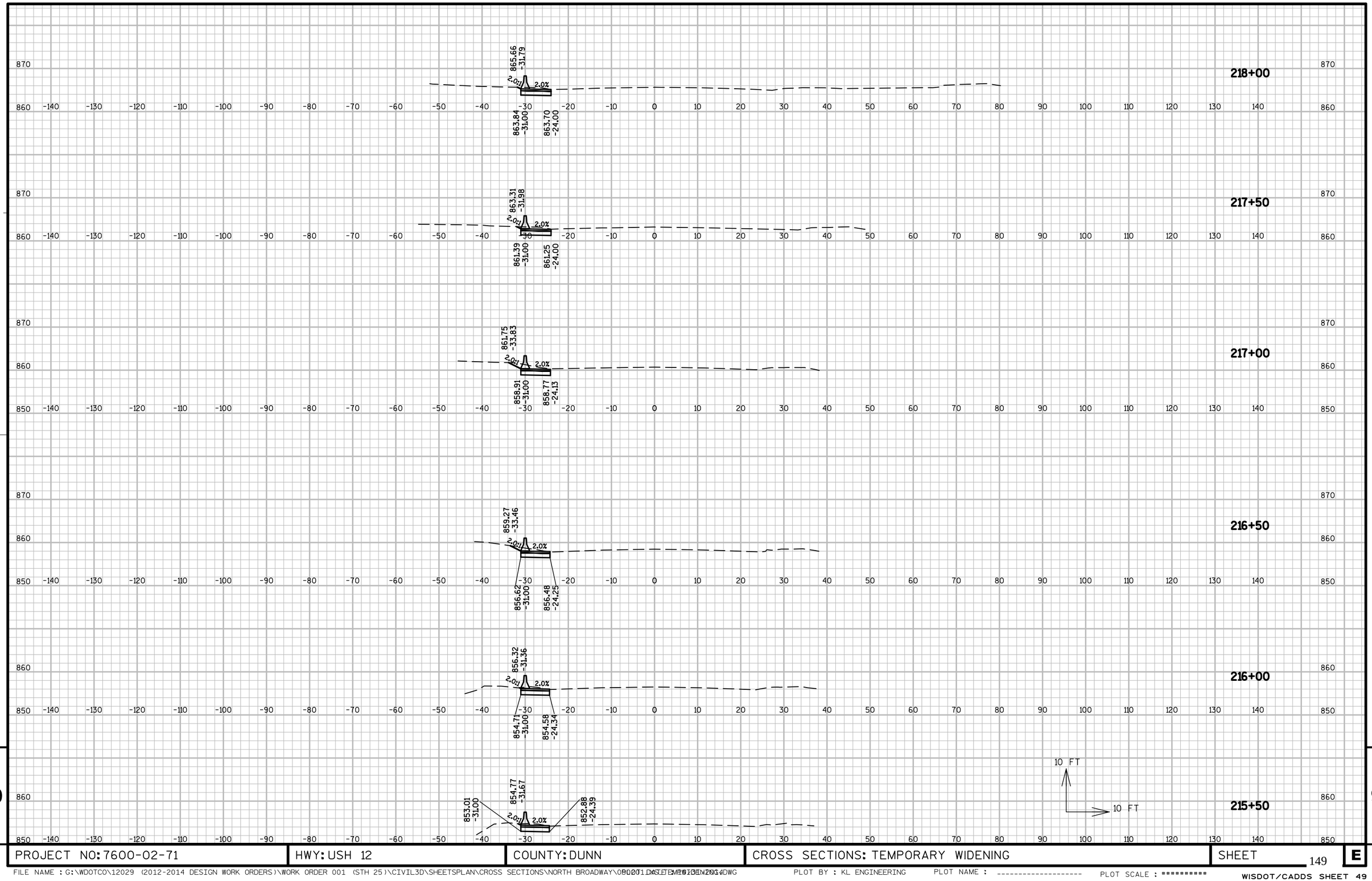


9

9

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CROSS SECTIONS: TEMPORARY WIDENING	SHEET 148	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\CROSS SECTIONS\NORTH BROADWAY\0120101XSTEMPWIDENING.DWG PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : ********** WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CROSS SECTIONS: TEMPORARY WIDENING	SHEET 149	E

STA. 220+25
END TEMPORARY WIDENING

221+00

220+50

220+00

219+50

219+00

218+50

2.0%

869.62 -31.00

869.48 -24.00

870.67 -31.85

868.82 -31.00

868.68 -24.00

869.36 -31.68

867.59 -31.00

867.45 -24.00

867.80 -31.88

865.93 -31.00

865.79 -24.00

10 FT

10 FT

9

9

PROJECT NO: 7600-02-71	HWY: USH 12	COUNTY: DUNN	CROSS SECTIONS: TEMPORARY WIDENING	SHEET 150	E

FILE NAME : G:\WDOTCO\12029 (2012-2014 DESIGN WORK ORDERS)\WORK ORDER 001 (STH 25)\CIVIL3D\SHEETSPLAN\CROSS SECTIONS\NORTH BROADWAY\0P0201_DXSTEMPWIDENING.DWG PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : ********** WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov