GRE MAR 13

PROJECT ID: 1133-03-88

WITH:

COUNTY: BROWN

ORDER OF SHEETS

TOTAL SHEETS = 136

DESIGN DESIGNATION

LOMBARDI/CTH VK

A.A.D.T. (2012)	=	28,800
A.A.D.T. (2032)	=	39,900
D.H.V.	=	2,900
D.D.	=	59/41
T.	=	5.2%
DESIGN SPEED	=	40 MPH
ESALS	=	3,285,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

DE PERE - SUAMICO

MORRIS AVENUE - MEMORIAL DRIVE

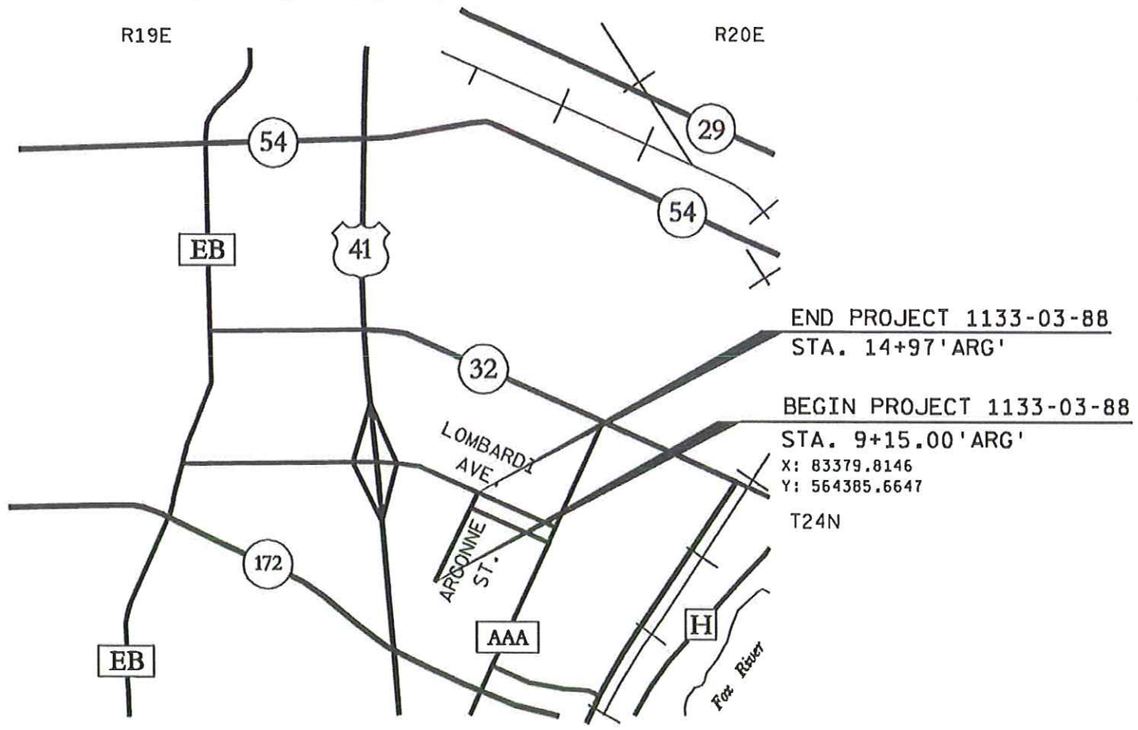
LOMBARDI AVE / ARGONNE ST INTERSECTION

LOCAL STREET

BROWN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1133-03-88	WISC 2013080	1

STATE PROJECT NUMBER
1133-03-88



LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.110 MI.

ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (1991).

-"COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), BROWN COUNTY NAD 83 (1991)."

CONNECTING WISCONSIN

ORIGINAL PLANS PREPARED BY

KL Engineering
Transportation • Municipal • Environmental • Survey/GIS

WISCONSIN
JEFFREY D. SMITH
E-36291
MADISON, WI
PROFESSIONAL ENGINEER

11/1/2012 (Date)

(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	KL ENGINEERING
Project Manager	KURT PETERS
Regional Examiner	
Regional Supervisor	CHAD DEGRAVE
C.O. Examiner	WISDOT PROJECT SERVICES

APPROVED FOR THE DEPARTMENT

DATE: 11/1/2012 Kurt T. Peters (Signature)

E

FILE NAME : G:\HNTB\HN1010002\DGN\Lombardi\Argonne Plans\plan sheets\010101_ti.dgn PLOT DATE : 11/1/2012 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 10

2

ABBREVIATIONS

ASPH	ASPHALT PAVEMENT
BAD	BASE AGGREGATE DENSE
CONC	CONCRETE
CP	CULVERT PIPE
CSW	CONCRETE SIDEWALK
EB	EASTBOUND
ECIP	EROSION CONTROL IMPLEMENTATION PLAN
HMA	HOT MIX ASPHALT
NB	NORTHBOUND
NOR	NORMAL
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
REQ'D	REQUIRED
RL	REFERENCE LINE
R/W	RIGHT-OF-WAY
SB	SOUTHBOUND
SHLD	SHOULDER
T.L.E.	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
WB	WESTBOUND

DESIGN CONTACTS

JEFF SMITH, P.E.
KL ENGINEERING, INC.
5950 SEMINOLE CENTRE COURT
SUITE 200
MADISON, WI 53711
(608) 663-1218

BRITTANY BERRY- STORM SEWER
HNTB
(414) 359-2300

MARIA DONNELLY - ARGONNE TRAFFIC SIGNALS
TEMPORARY SIGNALS
HNTB
(414) 559-4250

ANDY BLOCK - TRAFFIC CONTROL
JT ENGINEERING
(920) 606-6642

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(920) 831-9249
MOBILE: (920) 378-0444
vince.albin@twcable.com

AT&T WISCONSIN
MS. KAREN WELLS
205 S JEFFERSON ST
GREEN BAY, WI 54301
(920) 433-4226
kw9272@att.com

WISCONSIN PUBLIC SERVICE CORPORATION (ELEC.)
MR. SCOTT GAUGER
REGIONAL DESIGN SPECIALIST
2850 SOUTH ASHLAND AVENUE
PO BOX 19001
GREEN BAY, WI 54307
(920) 617-5151
MOBILE: (920) 660-0430
sjgauger@wisconsinpublicservice.com

WISCONSIN PUBLIC SERVICE CORPORATION (GAS)
MR. PHIL MAUERMANN
REGIONAL GAS ENGINEER
2850 SOUTH ASHLAND AVENUE
PO BOX 19001
GREEN BAY, WI 54307
(920) 617-5129
MOBILE: (920) 606-8448
tbluttenegger@wisconsinpublicservice.com

GREEN BAY WATER DEPT
MR. BRIAN POWELL
DISTRIBUTION ENGINEER
631 S. ADAMS STREET
GREEN BAY, WI 54305
(920) 448-3480
MOBILE: (920) 621-0468
brianpo@ci.green-bay.wi.us

CITY OF GREEN BAY - SANITARY SEWER
MS. KRISTEN ROMANOWICZ
ASSISTANT CITY ENGINEER
100 N. JEFFERSON STREET
GREEN BAY, WI 54301
(920) 448-3100
kristinro@ci.green-bay.wi.us

VILLAGE OF ASHWAUBENON - WATER AND SEWER
MR. DOUG MARTIN
DIRECTOR OF UTILITIES
2155 HOLMGREN WAY
GREEN BAY, WI 54304
(920) 492-2335
MOBILE: (920) 680-6085
dmartin@ashwaubenon.com

NET-LEC
MR. DENNIS LEFAVE
C/O MI-TECH SERVICES
1700 INDUSTRIAL DRIVE
GREEN BAY, WI 54302
MOBILE: (920) 619-9774
dlafave@mi-tech.us

ORDER OF SECTION 2 SHEETS

DNR LIAISON

JAMES DOPERALSKI
DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVENUE
P.O. BOX 10448
GREEN BAY, WI 54307-0448
(920) 662-5119
JAMES.DOPERALSKI@WISCONSIN.GOV

BROWN COUNTY HIGHWAY DEPARTMENT

PAUL FONTECCHIO
ENGINEERING MANAGER
2198 GLENDALE AVENUE
GREEN BAY, WI 54303
(920) 662-2170

GENERAL NOTES

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

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

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

ALL HOLES OR OPENING BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES SHALL BE FILLED WITH BACKFILL GRANULAR. BACKFILL GRANULAR MATERIAL IS INCIDENTAL TO THE REMOVAL ITEM.

A HISTORICALLY HIGH WATER TABLE IS LIKELY PRESENT IN THE AREA. THE CONTRACTOR CAN OBTAIN SOIL BORING INFORMATION FROM WISDOT NE REGION.

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

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS AS NEEDED. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

CONTRACTOR IS RESPONSIBLE FOR RESHAPING AND FINISHING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THEIR OPERATION OUTSIDE THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTOR'S EXPENSE.

AS-BUILT PLANS INDICATE THAT THE EXISTING CONCRETE PAVEMENT CONTAINS NO MESH OR REINFORCEMENT, HOWEVER THE CONTRACTOR IS ADVISED THAT IT MAY EXIST, AND THE REMOVAL IS INCIDENTAL TO THE REMOVING PAVEMENT ITEM.

REMOVAL ITEMS REQUIRING RESTORATION OF CONCRETE OR ASPHALT SHALL BE REMOVED TO AN EXISTING JOINT OR SAWED AS DETERMINED BY THE ENGINEER.

PLACE 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 WITHIN 5 CALENDAR DAYS AFTER PLACEMENT OF SALVAGED TOPSOIL.

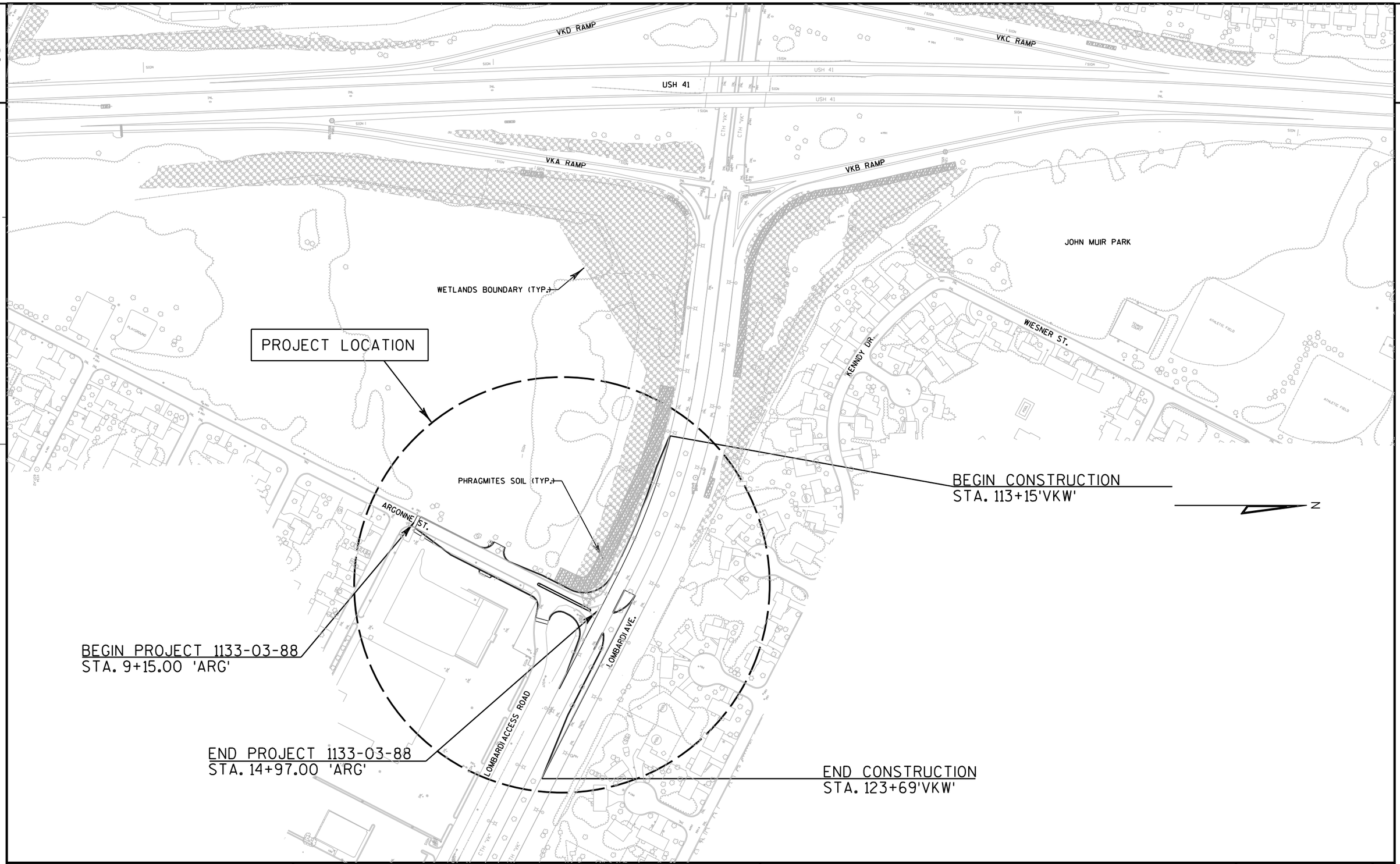
STORM SEWER PIPE ELEVATIONS, LENGTHS, AND LOCATIONS AS SHOWN ON THE PLANS MAY BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE EXACT LOCATION AND WIDTH OF DRIVEWAYS SHALL BE CONFIRMED BY THE ENGINEER IN THE FIELD.

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

RIGHT-OF-WAY LINES SHOWN ON THE CROSS SECTIONS ARE APPROXIMATE.

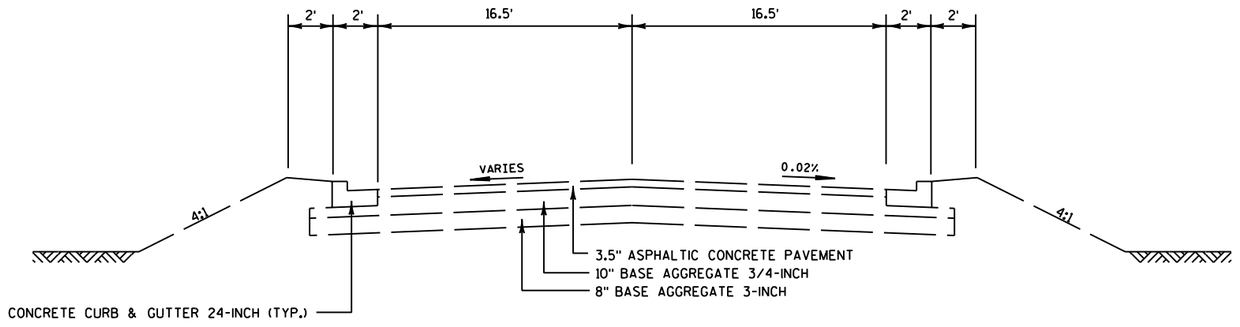
CONTRACTOR SHALL FIELD VERIFY UTILITY DEPTHS AT ALL PROPOSED CONNECTION POINTS TO THE EXISTING SYSTEM.



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	PROJECT OVERVIEW	SHEET	E

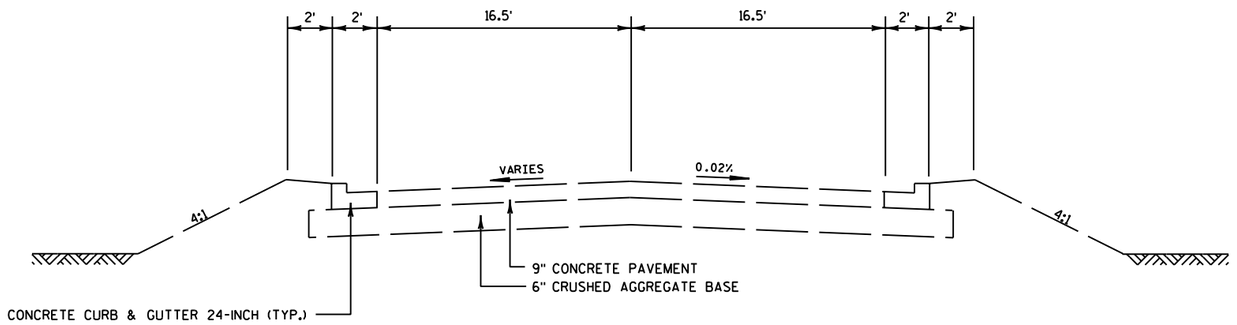
FILE NAME : G:\HNTB\HN1010002\DGN\Lombardi\Argonne Plans\plan sheets\020201_po.dgn PLOT DATE : 10/29/2012 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42



TYPICAL EXISTING SECTION FOR ARGONNE STREET

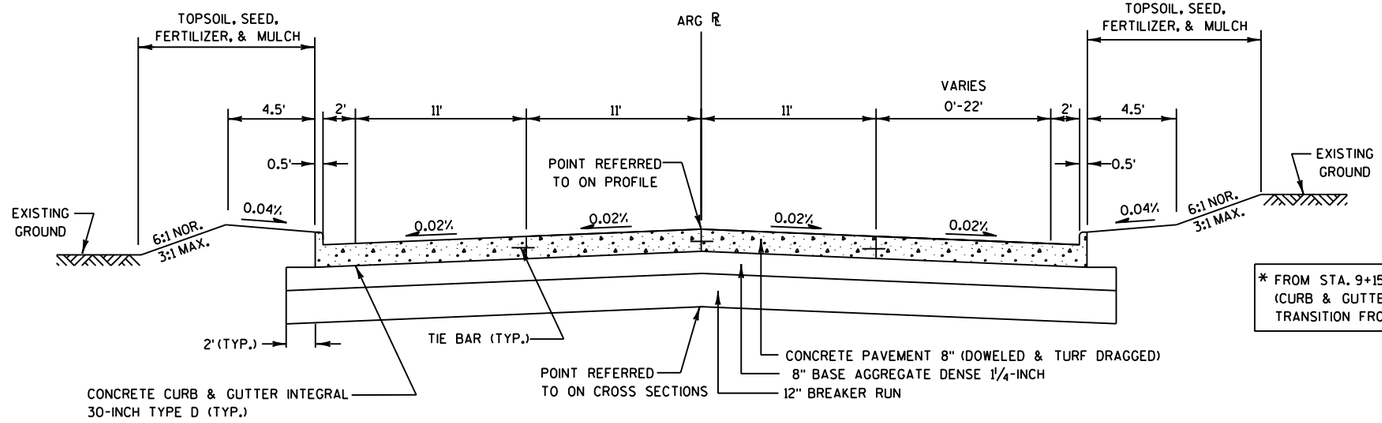
STA. 9+25'ARG' - STA. 14+35'ARG'



TYPICAL EXISTING SECTION FOR ARGONNE STREET

STA. 14+35'ARG' - STA. 14+97'ARG'

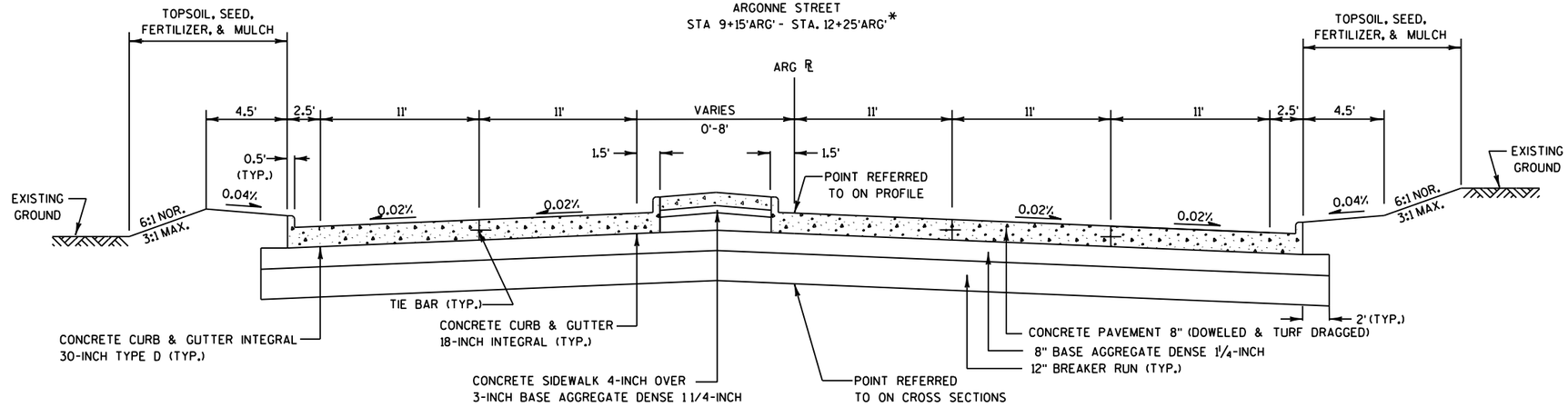
PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	TYPICAL SECTIONS	SHEET 4	E



* FROM STA. 9+15'ARG' - 9+25'ARG' REMOVE EXISTING ASPHALT PAVEMENT (CURB & GUTTER TO REMAIN). PLACE HMA PAVEMENT TYPE E-1 TO TRANSITION FROM EXISTING PAVEMENT TO NEW CONCRETE. SAWCUT REQUIRED.

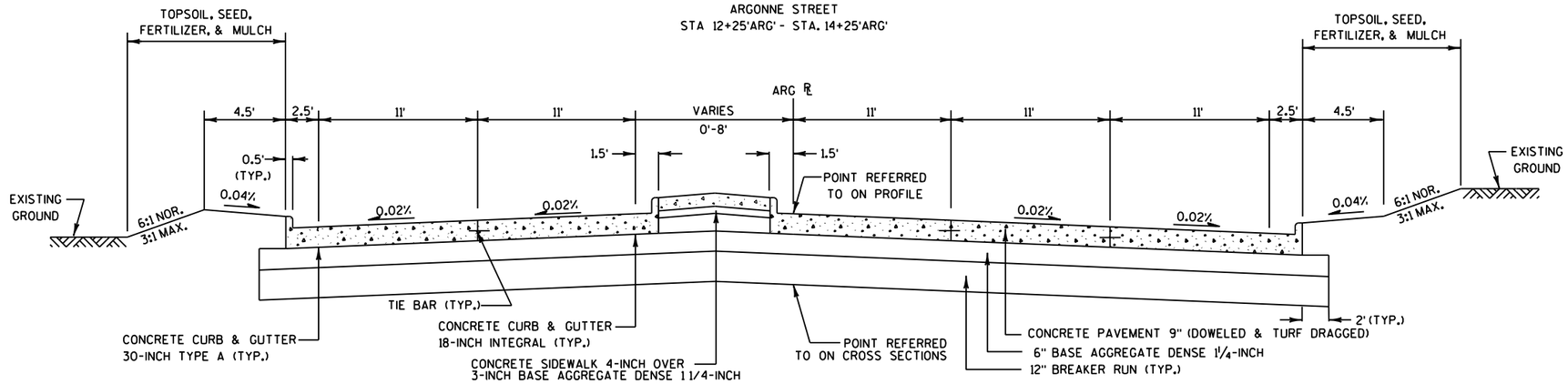
TYPICAL FINISHED SECTION

ARGONNE STREET
STA 9+15'ARG' - STA. 12+25'ARG' *



TYPICAL FINISHED SECTION

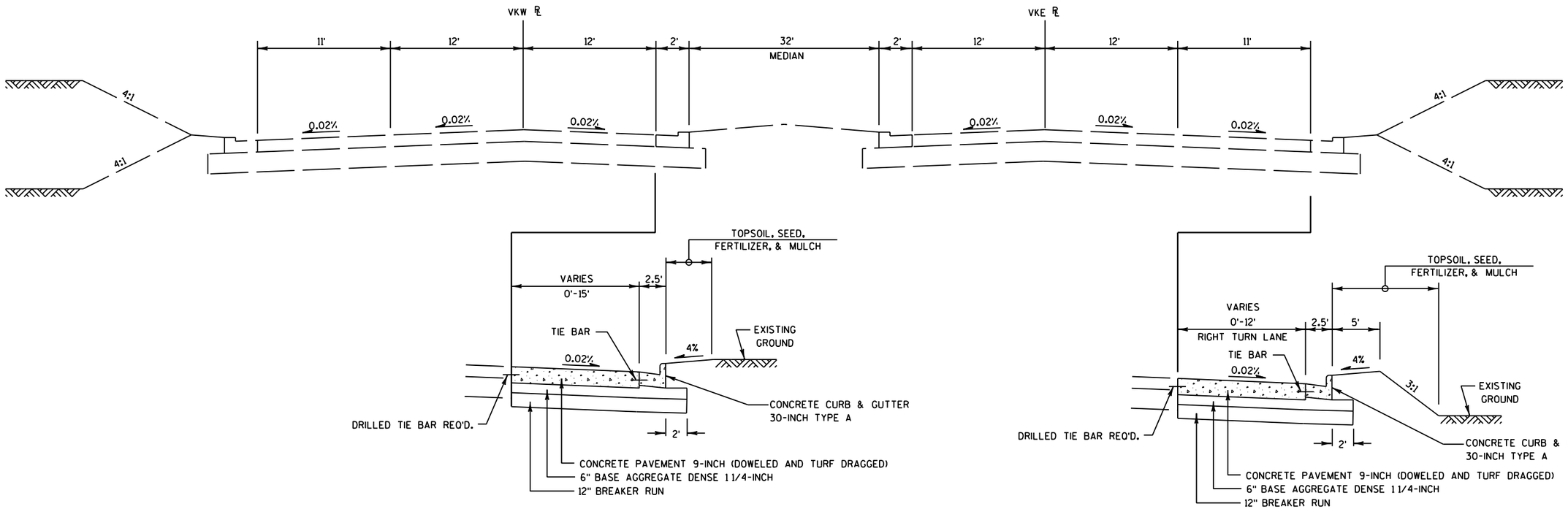
ARGONNE STREET
STA 12+25'ARG' - STA. 14+25'ARG'



TYPICAL FINISHED SECTION

ARGONNE STREET
STA 14+25'ARG' - STA. 14+97'ARG'

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	TYPICAL SECTIONS	SHEET 5	E



STA. 117+85'VKW' - STA. 123+69'VKW'

STA. 113+15'VKW' - STA. 121+20'VKW'

NOTE:

CONCRETE JOINT SEALER REQ'D. ON ALL LONGITUDINAL, TRANSVERSE AND CONSTRUCTION JOINTS.

TYPICAL FINISHED SECTION

CTH VK (LOMBARDI AVENUE)
MEDIAN STA. 113+15'VKW' - STA. 123+69'VKW'

PROJECT NO: 1133-03-78	HWY: ARGONNE STREET	COUNTY: BROWN	TYPICAL SECTIONS	SHEET 6	E

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 3.5 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.0 ACRES

LEGEND

REMOVING PAVEMENT

REMOVING ASPHALT PAVEMENT

REMOVING TREE (CLEARING AND GRUBBING)

SLOPE INTERCEPTS

SAWCUT

REMOVE CURB & GUTTER

R/W

R/W

REMOVE SURFACE DRAIN

PHRAGMITES SOIL

ASPH.

CONC.

9+00'ARG'

10+00'ARG'

11+00'ARG'

ARGONNE STREET

12+00'ARG'

13+00'ARG'

14+00'ARG'

15+00'ARG'

CTH VK / LOMBARDI AVENUE EB

R/W (DEDICATED)

UTILITY EASEMENT

REMOVE EXISTING DRIVEWAY

REMOVING INLET

REMOVING INLET

REMOVING STORM SEWER (12-INCH)

REMOVING INLET

LOMBARDI ACCESS ROAD

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	REMOVAL PLAN - ARGONNE STREET	SHEET 8	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\SHEETSPLAN\PLAN DETAILS\KL_0388_1REMOVAL_ARGONNE.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 0.30000000 = 1'-0" _XREF

2

LEGEND

REMOVING PAVEMENT

REMOVING ASPHALT PAVEMENT

REMOVING TREE (CLEARING AND GRUBBING)

SLOPE INTERCEPTS

SAWCUT

N

118+00.00

CTH VK / LOMBARDI AVENUE WB

113+00'VKW'

114+00'VKW'

115+00'VKW'

116+00'VKW'

117+00'VKW'

118+00'VKW'

PT: 117+51.40

REMOVING INLET

REMOVE PAVEMENT (TO NEAREST JOINTS)
FOR LOOP DETECTOR INSTALLATION
(SEE TRAFFIC SIGNAL PLANS)

REMOVE CURB & GUTTER

CTH VK / LOMBARDI AVENUE EB

113+00'VKE'

114+00'VKE'

115+00'VKE'

116+00'VKE'

117+00'VKE'

118+00'VKE'

REMOVE CURB & GUTTER

PHRAGMITES SOIL

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	REMOVAL PLAN - LOMBARDI AVENUE (CTH VK)	SHEET 9	E

LEGEND

REMOVING PAVEMENT

REMOVING ASPHALT PAVEMENT

REMOVING TREE (CLEARING AND GRUBBING)

SLOPE INTERCEPTS

SAWCUT

N

REMOVE PAVEMENT (TO NEAREST JOINTS)
FOR LOOP DETECTOR INSTALLATION
(SEE TRAFFIC SIGNAL PLANS)

CTH VK / LOMBARDI AVENUE WB

REMOVING INLET

REMOVING INLET

118+00'VKW' 119+00'VKW' 120+00'VKW' 121+00'VKW' 122+00'VKW' 123+00'VKW' 124+00'VKW'

REMOVE CURB & GUTTER

118+00'VKE' EP: 15+33.00 119+00'VKE' 120+00'VKE' 121+00'VKE' 122+00'VKE' 123+00'VKE'

REMOVE CURB & GUTTER

15+33

CTH VK / LOMBARDI AVENUE EB

15+00

REMOVE CURB & GUTTER

ARGONNE STREET

118+00.00

14+00

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	REMOVAL PLAN - LOMBARDI AVENUE (CTH VK)	SHEET 10	E

NOTE:

1) RADIUS DIMENSIONS ARE SHOWN TO THE EDGE OF PAVEMENT

2) WIDTH DIMENSIONS ARE SHOWN TO THE EDGE OF PAVEMENT

3) PLACE JOINTS AT 15' SPACING TYPICAL.

LEGEND

xxxx SAWCUT

I30D CONCRETE CURB & GUTTER 'XX'-INCH TYPE X (SEE S.D.D.) - "I" DESIGNATES INTEGRAL GUTTER

CMN1 CONCRETE MEDIAN SLOPED NOSE TYPE 1 (SEE S.D.D.)

POINT	STATION	OFFSET	NOTE
P1-1	10+50.00 'ARG'	33.00' RT.	TAPER POINT
P1-2	13+09.47 'ARG'	30.00' LT.	TAPER POINT
P1-3	12+08.03 'ARG'	22.00' LT.	TAPER POINT
C1-1 (PC)	11+12.03 'ARG'	22.00' LT.	32' RADIUS
C1-1 (PT)	11+44.03 'ARG'	54.11' LT.	32' RADIUS
C1-2 (PC)	11+76.03 'ARG'	54.05' LT.	32' RADIUS
C1-2 (PT)	12+08.03 'ARG'	22.00' LT.	32' RADIUS
C1-3 (PC)	13+95.17 'ARG'	30.00' LT.	90' RADIUS
C1-3 (PT)	14+85.17 'ARG'	119.07' LT.	90' RADIUS
C1-4 (PC)	13+08.16 'ARG'	33.00' RT.	32' RADIUS
C1-4 (PT)	13+38.96 'ARG'	56.33' RT.	32' RADIUS
C1-5 (PC)	13+81.25 'ARG'	73.67' RT.	32' RADIUS
C1-6 (PC)	14+24.77 'ARG'	33.00' RT.	60' RADIUS
C1-6 (PT)	14+84.32 'ARG'	85.73' RT.	60' RADIUS
C1-7 (PC)	13+10.51 'ARG'	0.00' LT.	4' RADIUS (MEDIAN)
C1-7 (PT)	13+10.51 'ARG'	8.00' LT.	4' RADIUS (MEDIAN)
C1-8 (PC)	14+71.96 'ARG'	0.00' LT.	4' RADIUS (MEDIAN)
C1-8 (PT)	14+71.96 'ARG'	8.00' LT.	4' RADIUS (MEDIAN)
P1-4	13+46.59 'ARG'	83.40' RT.	END C&G
P1-5	13+81.25 'ARG'	73.70' RT.	END C&G
P1-6	13+48.14 'ARG'	90.80' RT.	SAWCUT / MATCH EXIST.
P1-7	13+83.29 'ARG'	83.50' RT.	SAWCUT / MATCH EXIST.

ACCESS TO FUTURE DEVELOPMENT

VERIFY LOCATION OF COMMERCIAL ENTRANCE WITH SITE DEVELOPERS & ENGINEERS

BEGIN PROJECT 1133-03-88
STA. 9+15'ARG'
MATCH EXISTING

CURB CUT (FOR FUTURE SW) (SIDEWALK BY OTHERS) COORDINATE WITH SITE DEVELOPMENT CONTRACTOR FOR LOCATION AND WIDTH

SLOPE INTERCEPTS (TYP.)

DRILLED TIE BARS REQ'D.

CTH VK / LOMBARDI AVENUE EB

ARGONNE STREET

9+00'ARG' 10+00'ARG' 11+00'ARG' 12+00'ARG' 13+00'ARG' 14+00'ARG' 15+00'ARG'

HMA CONC

8" CONCRETE 9" CONCRETE

CONCRETE SIDEWALK 4-INCH

STA. 9+75'ARG', RT
RECONSTRUCT C.E.
(MATCH EXISTING)

STA. 9+35'ARG', RT
RECONSTRUCT C.E.
(MATCH EXISTING)

STA. 9+15'ARG' - 9+25'ARG'
EXISTING ASPHALT PAVEMENT TO BE REMOVED.
PLACE HMA PAVEMENT TYPE E-1 TO TRANSITION BETWEEN EXISTING ASPHALT PAVEMENT TO REMAIN AND NEW CONCRETE PAVEMENT.

R/W (DEDICATED)

UTILITY EASEMENT

REMOVE EXISTING DRIVEWAY

STA. 11+60'ARG', RT.
CONSTRUCT C.E.
(35' WIDTH)

EXISTING ASPHALT PAVEMENT TO BE REMOVED.
PLACE HMA PAVEMENT TYPE E-1 TO TRANSITION BETWEEN EXISTING ASPHALT PAVEMENT TO REMAIN AND NEW CONCRETE PAVEMENT.

LOMBARDI ACCESS ROAD

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	PLAN: PLAN DETAILS: ARGONNE STREET	SHEET 11	E

2

LEGEND

XXXX SAWCUT

30D CONCRETE CURB & GUTTER 'XX'-INCH TYPE X (SEE S.D.D.)

CMN1 CONCRETE MEDIAN SLOPED NOSE TYPE 1 (SEE S.D.D.)

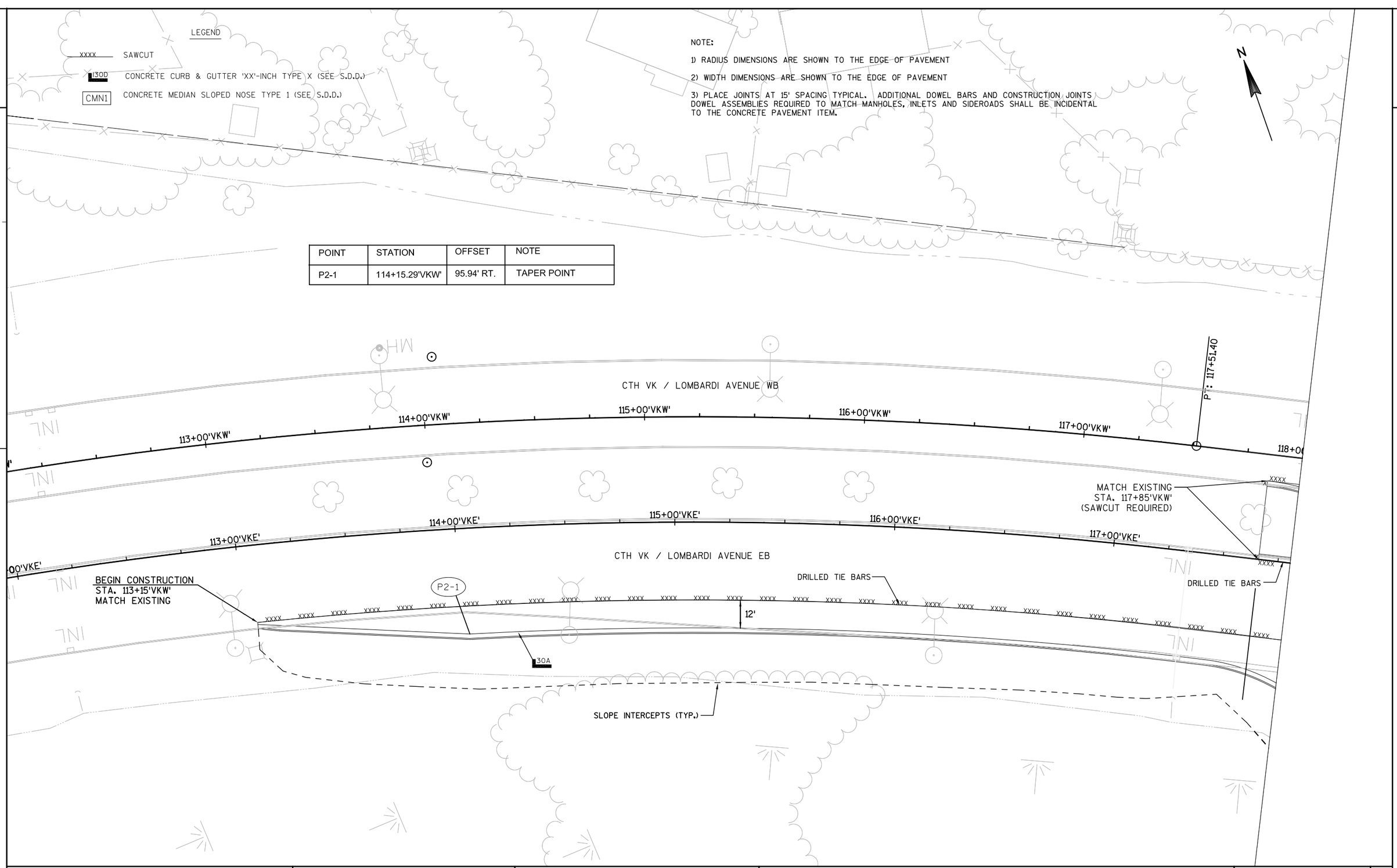
NOTE:

1) RADIUS DIMENSIONS ARE SHOWN TO THE EDGE OF PAVEMENT

2) WIDTH DIMENSIONS ARE SHOWN TO THE EDGE OF PAVEMENT

3) PLACE JOINTS AT 15' SPACING TYPICAL. ADDITIONAL DOWEL BARS AND CONSTRUCTION JOINTS DOWEL ASSEMBLIES REQUIRED TO MATCH MANHOLES, INLETS AND SIDEROADS SHALL BE INCIDENTAL TO THE CONCRETE PAVEMENT ITEM.

POINT	STATION	OFFSET	NOTE
P2-1	114+15.29'VKW'	95.94' RT.	TAPER POINT



PROJECT NO: 1133-03-88	HWY: AGRONNE STREET	COUNTY: BROWN	PLAN: PLAN DETAILS - LOMBARDI AVENUE (CTH VK)	SHEET 12	E

NOTE:

1) RADIUS DIMENSIONS ARE SHOWN TO THE EDGE OF PAVEMENT

2) WIDTH DIMENSIONS ARE SHOWN TO THE EDGE OF PAVEMENT

3) PLACE JOINTS AT 15' SPACING TYPICAL.

POINT	STATION	OFFSET	NOTE
P3-1	120+71.20 'VKW'	84.01' RT.	TAPER POINT
P3-2	121+75.54 'VKW'	27.02' RT.	TAPER POINT
C3-1 (PC)	117+85.40 'VKW'	12.00' RT.	100' RADIUS
C3-1 (PT)	118+57.79 'VKW'	42.90' RT.	100' RADIUS
C3-1 (CC)	117+85.50 'VKW'	112.00' RT.	100' RADIUS
C3-2 (CC)	118+55.62 'VKW'	44.98' RT.	3' RADIUS
C3-3 (CC)	119+23.77 'VKW'	45.00' RT.	3' RADIUS
C3-4 (PC)	119+22.17 'VKW'	42.45' RT.	100' RADIUS
C3-4 (PT)	119+75.54 'VKW'	27.02' RT.	100' RADIUS
C3-4 (CC)	119+75.54 'VKW'	127.02' RT.	100' RADIUS

LEGEND

xxxx SAWCUT

L30D CONCRETE CURB & GUTTER 'XX'-INCH TYPE X (SEE S.D.D.)

CMN1 CONCRETE MEDIAN SLOPED NOSE TYPE 1 (SEE S.D.D.)

APPROXIMATE LOCATION OF EXISTING 48" x 72" STORM SEWER (TO REMAIN)

END CONSTRUCTION
STA. 123+69'VKW'
MATCH EXISTING

CTH VK / LOMBARDI AVENUE WB

119+00'VKW' 120+00'VKW' 121+00'VKW' 122+00'VKW' 123+00'VKW' 124+00'VKW'

DRILLED TIE BARS

30A C3-1 CMN1 C3-2 C3-3 C3-4 15' 30A P3-2

118+00'VKE' EP: 15+33.00 119+00'VKE' 120+00'VKE' 121+00'VKE' 122+00'VKE' 123+00'VKE'

15+33

DRILLED TIE BARS

CMN1

MATCH EXISTING
STA. 118+75'VKW'
(SAWCUT REQUIRED)

CTH VK / LOMBARDI AVENUE EB

P3-1

12'

MATCH EXISTING
STA. 121+20 'VKW'
(SAWCUT REQUIRED)

15+00

ARGONNE STREET

SLOPE INTERCEPTS (TYP.)

LOMBARDI ACCESS ROAD

14+00

PROJECT NO: 1133-03-88	HWY: AGRONNE STREET	COUNTY: BROWN	PLAN: PLAN DETAILS - LOMBARDI AVENUE (CTH VK)	SHEET 13	E

NOTES:

1) PAVEMENT GRADES ARE SHOWN AT FLANGE LINE.

2) PAVEMENT GRADES ARE GENERALLY SHOWN AT 50' INTERVALS.

3) MATCH EXISTING ELEVATIONS AT ALL SAW CUT LOCATIONS.

4) JOINT LAYOUT DESIGN PAID FOR UNDER ITEM CONCRETE PAVEMENT JOINT LAYOUT.

5) VERIFY EXISTING EDGE OF PAVEMENT GRADES PRIOR TO BEGINNING WORK.

BEGIN PROJECT 1133-03-88
STA. 9+15'ARG'
MATCH EXISTING

CURB CUT (FOR FUTURE SW)
(SIDEWALK BY OTHERS)

ACCESS TO FUTURE DEVELOPMENT

COORDINATE WITH DEVELOPER'S ENGINEER REGARDING DETAILS PERTAINING TO COMMERCIAL ENTRANCE.

CTH VK / LOMBARDI AVENUE EB

R/W

636.86 637.01 637.17 637.32 636.94 636.56 636.98 636.96 637.09 637.48 637.61 637.76 637.80 638.18 638.25 638.44 640.18

9+00'ARG' HMA CONC. 10+00'ARG' 11+00'ARG' 12+00'ARG' 13+00'ARG' 14+00'ARG 15+00'ARG'

ARGONNE STREET

637.30 637.45 637.61 637.76 637.92 638.07 638.23 638.38 638.54 638.69 638.85

638.17 638.24 638.54 638.69 638.85

637.15 637.09 636.95 637.10 637.26 637.41 637.57 637.72 637.88 637.98 638.06 638.12 637.34 638.17 637.99 638.69

STA. 9+75'ARG', RT
RECONSTRUCT C.E.
(MATCH EXISTING)

STA. 9+35'ARG', RT
RECONSTRUCT C.E.
(MATCH EXISTING)

CURB CUT (FOR FUTURE SW)

R/W (DEDICATED)

UTILITY EASEMENT

STA. 11+60'ARG'
CONSTRUCT C.E.
(35' WIDTH)

CONC.
HMA
XXXX XXXX

LOMBARDI ACCESS ROAD

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	PAVEMENT GRADES - ARGONNE STREET	SHEET 14	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\SHEETSPLAN\PLAN DETAILS\KL_0388_5PAVE DETAILS_ARGONNE.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1" = 40'_XREF

NOTES:

1) PAVEMENT GRADES ARE SHOWN AT FLANGE LINE.

2) PAVEMENT GRADES ARE GENERALLY SHOWN AT 50' INTERVALS.

3) MATCH EXISTING ELEVATIONS AT ALL SAW CUT LOCATIONS.

4) JOINT LAYOUT DESIGN PAID FOR UNDER ITEM CONCRETE PAVEMENT JOINT LAYOUT.

5) VERIFY EXISTING EDGE OF PAVEMENT GRADES PRIOR TO BEGINNING WORK.

CTH VK / LOMBARDI AVENUE WB

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

P.T.: 117+51.40

118+00.00

CTH VK / LOMBARDI AVENUE EB

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

641.39 641.49 641.61 641.46 641.22 640.94 640.69 640.40 640.18

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	PAVEMENT GRADES - LOMBARDI AVENUE (CTH VK)	SHEET 15 E

NOTES:

1) PAVEMENT GRADES ARE SHOWN AT FLANGE LINE.

2) PAVEMENT GRADES ARE GENERALLY SHOWN AT 50' INTERVALS.

3) MATCH EXISTING ELEVATIONS AT ALL SAW CUT LOCATIONS.

4) JOINT LAYOUT DESIGN PAID FOR UNDER ITEM CONCRETE PAVEMENT JOINT LAYOUT.

5) VERIFY EXISTING EDGE OF PAVEMENT GRADES PRIOR TO BEGINNING WORK.

CTH VK / LOMBARDI AVENUE WB

118+00'VKW' 119+00'VKW' 120+00'VKW' 121+00'VKW' 122+00'VKW' 123+00'VKW' 124+00'VKW'

640.79 640.68 640.55 640.43 640.32 640.09 639.76 639.62 639.38 639.15 639.02 639.20 639.46

640.52 639.02 639.37

640.25 640.13 640.02 639.72 639.46 639.32 639.08 638.85 638.76

640.20

118+00'VKE' EP: 15+33.00 119+00'VKE' 120+00'VKE' 121+00'VKE' 122+00'VKE' 123+00'VKE'

640.30 640.04 639.76

15+33

CTH VK / LOMBARDI AVENUE EB

15+00

638.87 639.02 638.64

ARGONNE STREET

118+00.00

14+00

13_184_12 637.08

13_184_18

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	PAVEMENT GRADES - LOMBARDI AVENUE (CTH VK)	SHEET 16	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\SHEETSPLAN\PLAN DETAILS\KL_0388_6PAVE DETAILS_LOMBARDI.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 0.30000000 = 1'-0"_XREF

2

STA 10ARG+60, 29.6'LT
MH 8-FT DIAMETER - J COVER (20)

STA 10ARG+60, 22.3'LT
INLET 2X3-FT - H COVER (14)

STA 12ARG+19, 29.7'LT
MH 8-FT DIAMETER - J COVER (21)

STA 12ARG+19, 23.4'LT
INLET 2X3-FT - H COVER (12)

PROPOSED R/W

STA 14ARG+07, 31.9 LT
INLET 4-FT DIAMETER - H COVER (8)

STA 14ARG+08, 7.0'LT
INLET 4-FT DIAMETER - H COVER (7)

STA 13ARG+77, 29.1'LT (EX-5)
RECONSTRUCTING MANHOLE
RECONSTRUCT MH
SHIFT CASTING OUT OF CURBLINE
TIE PROPOSED PIPE INTO EX MH
USING COLLAR

ARGONNE RD

8+50 9+00 10+00 11+00 12+00 13+00 14+00

STA 10ARG+60, 34.7'RT
INLET 4-FT DIAMETER - H COVER (13)

STA 12ARG+20, 34.7'RT
INLET 4-FT DIAMETER - H COVER (11)

STA 13ARG+20, 37.9'RT
INLET 4-FT DIAMETER - H COVER (10)

STA 13ARG+37, 54.1'RT
INLET 4-FT DIAMETER - H-S COVER (9)

STA 14ARG+08, 0.2'RT
INLET 4-FT DIAMETER - H COVER (6)

STA 14ARG+09, 35.2'RT
INLET 4-FT DIAMETER - H COVER (5)

WISCONSIN
THOMAS J.
DOUGHERTY
E-39804-6
MILWAUKEE
WI
PROFESSIONAL ENGINEER

642 640 638 636 634 632 630 628 626 624

EXISTING SURFACE
ROPOSED SURFACE

13 14 20 9 10 11 12 21 5 6 7 8 EX-5

636.83 637.74 637.08 637.21 637.56 637.33 637.58 637.98 637.88 638.59 638.59 638.14 638.19

58' OF 12" SSPRC @ 0.50%
633.16 632.87
6' OF 12" SSPRC @ 0.67%
632.83

23' OF 12" SSPRC @ 0.43%
634.12 634.02
100' OF 12" SSPRC @ 0.50%
633.52 633.27
58' OF 15" SSPRC @ 0.50%
6' OF 15" SSPRC @ 0.67%
632.98 632.94

35' OF 12" SSPRC @ 0.51%
634.41 634.23
7' OF 12" SSPRC @ 0.57%
634.19 633.94
25' OF 15" SSPRC @ 0.52%
33' OF 15" SSPRC @ 0.61%
633.81 633.61

FIELD VERIFY INVERT
USE CONCRETE COLLARS TO
CONNECT EXISTING PIPE TO
PROPOSED MANHOLE

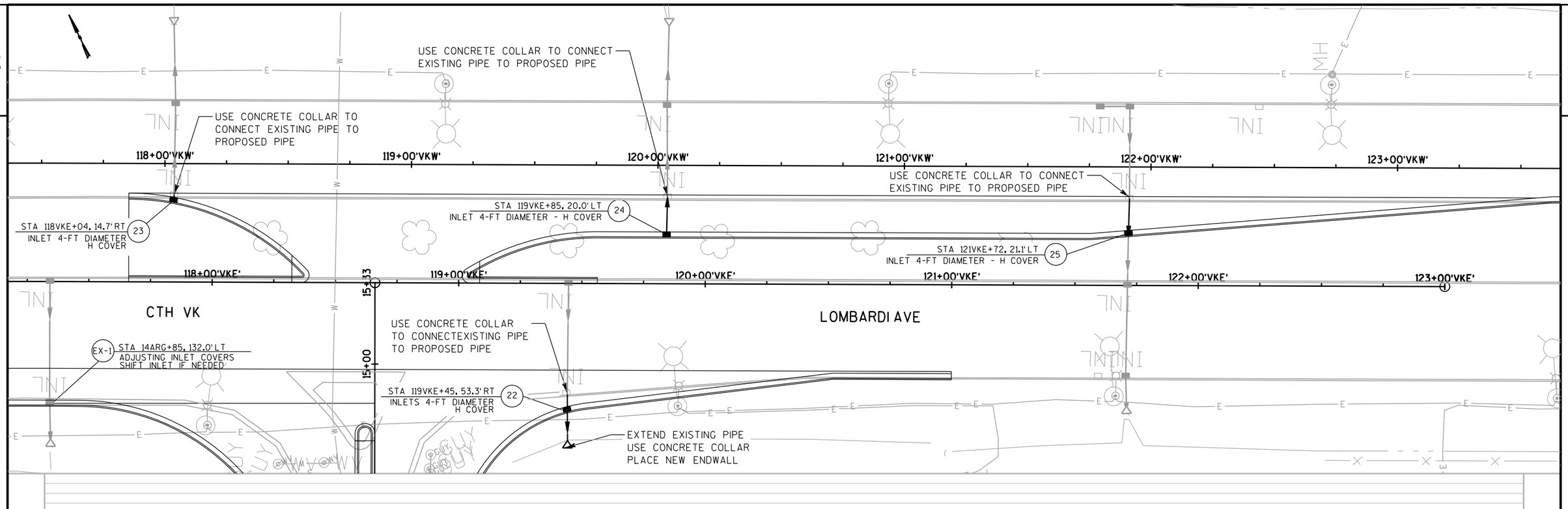
FIELD VERIFY INVERT
USE CONCRETE COLLARS TO
CONNECT EXISTING PIPE TO
PROPOSED MANHOLE

FIELD VERIFY INVERT

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	STORM SEWER	SHEET	E

FILE NAME : \\milw00\ingrproj\50142\S4-13-08\t1\cds\022501_SS.dgn PLOT DATE : 10/25/2012 PLOT BY : beberry PLOT NAME : PLOT SCALE : 40:1

2



NO PROFILES THIS SHEET

FIELD VERIFY ALL EXISTING STRUCTURES,
PIPE SIZE AND INVERTS.

PIPE SIZE AND
INVERTS IN MQ'S ARE APPROXIMATE FOR
EXISTING CONNECTIONS.

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	STORM SEWER	SHEET	E

FILE NAME : \\milw00\ingrproj\50142\S4-13-08\t1\cds\022502_SS.dgn PLOT DATE : 10/25/2012 PLOT BY : bebarry PLOT NAME : PLOT SCALE : 40:1
WISDOT/CADDS SHEET 41

2

LEGEND

- (A) INLET PROTECTION TYPE A
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- SILT FENCE

ACCESS TO FUTURE DEVELOPMENT

EROSION MAT URBAN CLASS I TYPE A (TYP.)

EROSION MAT CLASS I TYPE B

R/W

R/W

ARGONNE STREET

9+00'ARG' 10+00'ARG' 11+00'ARG' 12+00'ARG' 13+00'ARG' 14+00'ARG' 15+00'ARG'

15+00.00

CTH VK / LOMBARDI AVENUE EB

INL

INL

INL

INL

R/W (DEDICATED)

UTILITY EASEMENT

EROSION MAT URBAN CLASS I TYPE A (TYP.)

SLOPE INTERCEPTS (TYP.)

EROSION MAT CLASS I TYPE B

LOMBARDI ACCESS ROAD

W

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	EROSION CONTROL - ARGONNE STREET	SHEET	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\SHEETSPLAN\PLAN DETAILS\KL_0388_7EC_ARGONNE.DWG PLOT DATE : 10/30/2012 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 0.30000000 = 1'-0" _XREF

WISDOT/CADDS SHEET 42

2

2

LEGEND

Ⓐ INLET PROTECTION TYPE A

Ⓒ INLET PROTECTION TYPE C

Ⓓ INLET PROTECTION TYPE D

SILT FENCE

N

118+00.00

P.T.: 117+51.40

CTH VK / LOMBARDI AVENUE WB

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

Ⓐ Ⓒ

EROSION MAT URBAN CLASS I TYPE A (TYP.)

Ⓐ Ⓒ

CTH VK / LOMBARDI AVENUE EB

113+00'VKE' 114+00'VKE' 115+00'VKE' 116+00'VKE' 117+00'VKE'

Ⓐ Ⓒ

SLOPE INTERCEPTS (TYP.)

EROSION MAT CLASS I TYPE B

EROSION MAT URBAN CLASS I TYPE A (TYP.)

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	EROSION CONTROL - LOMBARDI AVENUE (CTH VK)	SHEET 20	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\SHEETSPLAN\PLAN DETAILS\KL_0388_8EC_LOMBARDI.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

LEGEND

- (A) INLET PROTECTION TYPE A
- (C) INLET PROTECTION TYPE C
- (D) INLET PROTECTION TYPE D
- SILT FENCE

CTH VK / LOMBARDI AVENUE WB

118+00'VKW' 119+00'VKW' 120+00'VKW' 121+00'VKW' 122+00'VKW' 123+00'VKW' 124+00'VKW'

EROSION MAT URBAN CLASS I TYPE A (TYP.)

119+00'VKE' 120+00'VKE' 121+00'VKE' 122+00'VKE' 123+00'VKE'

CTH VK / LOMBARDI AVENUE EB

SLOPE INTERCEPTS (TYP.)

EROSION MAT CLASS I TYPE B

EROSION MAT URBAN CLASS I TYPE A (TYP.)

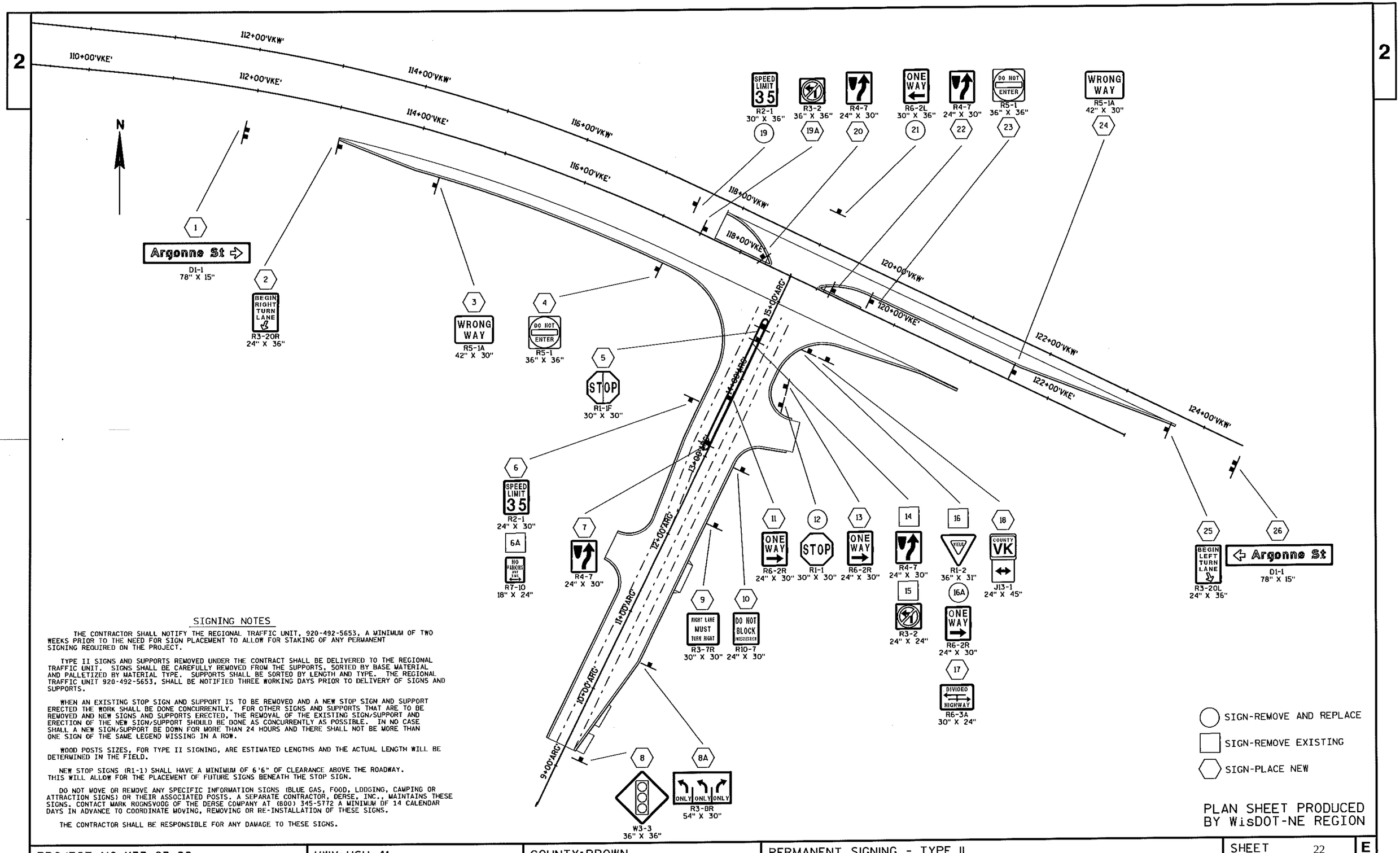
ARGONNE STREET

118+00.00 14+00 15+00 15+33

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	EROSION CONTROL - LOMBARDI AVENUE (CTH VK)	SHEET 21	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\SHEETSPLAN\PLAN DETAILS\KL_0388_8EC_LOMBARDI.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1" = 40'_XREF

2



SIGNING NOTES

THE CONTRACTOR SHALL NOTIFY THE REGIONAL TRAFFIC UNIT, 920-492-5653, A MINIMUM OF TWO WEEKS PRIOR TO THE NEED FOR SIGN PLACEMENT TO ALLOW FOR STAKING OF ANY PERMANENT SIGNING REQUIRED ON THE PROJECT.

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

DO NOT MOVE OR REMOVE ANY SPECIFIC INFORMATION SIGNS (BLUE GAS, FOOD, LODGING, CAMPING OR ATTRACTION SIGNS) OR THEIR ASSOCIATED POSTS. A SEPARATE CONTRACTOR, DERSE, INC., MAINTAINS THESE SIGNS. CONTACT MARK ROGNSVOOG OF THE DERSE COMPANY AT (800) 345-5772 A MINIMUM OF 14 CALENDAR DAYS IN ADVANCE TO COORDINATE MOVING, REMOVING OR RE-INSTALLATION OF THESE SIGNS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THESE SIGNS.

○ SIGN-REMOVE AND REPLACE

□ SIGN-REMOVE EXISTING

⬡ SIGN-PLACE NEW

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING - TYPE II	SHEET 22	E

2

2

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT: 3-3" CB TO PB; 2-3" PB TO PB; 1-2" PB TO SB
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, POLE, MONOTUBE ARM, TYPE 13 CONCRETE BASE
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 36"
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

PLANS INCLUDED WITH THIS STAMP:
PERMANENT TRAFFIC SIGNAL PLAN
AT LOMBARDI AVE. AND ARGONNE ST.

LEGEND (CONTINUED)

- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (Y) YELLOW ARROW OR FLASHING YELLOW ARROW
- (G) GREEN ARROW

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

NOTES:

1. THE LOCATION 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. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

2. LOCATE LOOP DETECTORS 21 AND 61 250' FROM NEAR RIGHT SIGNAL.

ORIGINAL PLANS PREPARED BY

HNTB WISCONSIN
11414 WEST PARK PLACE
MILWAUKEE, WI 53224
PH 353-2300

MARIA J. DONNELLY
E-37908
MILWAUKEE
WI
PROFESSIONAL ENGINEER

Oct. 31 2012 (Date) (Signature)

TRAFFIC CONTROL SIGNAL
CTH VK AND ARGONNE STREET

BROWN COUNTY

SIGNAL NO.

COUNTY CONTACT:
DESIGNED BY:
REVISED BY:

PAGE 1 OF 3

PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	TRAFFIC SIGNAL PLAN	SHEET	E

2

SEQUENCE OF OPERATION

NOT USED | ⇐ | NOT USED | NOT USED

RING 1

	HEAD NUMBERS	Ø1 R/W	Ø1 CLEAR TO **	Ø2 R/W	Ø2 CLEAR TO **	Ø3 R/W	Ø3 CLEAR TO **	Ø4 R/W	Ø4 CLEAR TO **	FLASH
Ø1										
Ø2	5,8,9,10			G	Y R					R
Ø3										
Ø4										
Ø5	6,7,11			-	- -					
Ø6	1,2,3,4			R	R R					R
Ø7										
Ø8	12,13,14,15,16			R	R R					R
OLA	6,7,11			RA	RA RA					RA
Ø4P										
Ø5P										
Ø6P										
Ø8P										

⇦ | OLA ⇨ | NOT USED | ⇑

RING 2

	HEAD NUMBERS	Ø5 R/W	Ø5 CLEAR TO **	Ø6 R/W	Ø6 CLEAR TO **	Ø7 R/W	Ø7 CLEAR TO **	Ø8 R/W	Ø8 CLEAR TO **
Ø1									
Ø2	5,8,9,10	R	R R	R	R R			R	R R
Ø3									
Ø4									
Ø5	6,7,11	GA	- -	-	- -			-	- -
Ø6	1,2,3,4	R	R R	G	Y R			R	R R
Ø7									
Ø8	12,13,14,15,16	R	R R	R	R R			G	Y R
OLA	6,7,11	-	YA RA	FY	YA RA			RA	RA RA
Ø4P									
Ø5P									
Ø6P									
Ø8P									

BARRIER

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

N

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
21	1	X			2	2			X	6X30	4
51	2		X		5	5				6X20	4
61	3	X			6	6			X	6X30	4
81	4		X		8	8		8		6X20	4
82	5		X		8	8				6X20	3
83	5		X		8	8				6X20	4

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				
2			MIN.	YES
3				
4				
5				YES
6		2	MIN.	YES
7				
8				YES

OVERLAPS

O.L. "A" =
O.L. "B" =
O.L. "C" =
O.L. "D" =

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1		
2	5 OR 6	8
3		
4		
5	2	6,8
6	2	8,5
7		
8		2,5,6

TYPE OF INTERCONNECT COMMUNICATION	
NONE	x
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
RADIO	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM #:	SS- -

TYPE OF PRE-EMPT	
NONE	x
RAILROAD	
EMERGENCY VEHICLE	
3M	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	
IN SEPARATE LIGHTING CABINET	x

TYPE OF COORDINATION	
NONE	
TBC	x
TRAFFIC RESPONSIVE	
ADAPTIVE	

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1.)
3. PROVIDE FOR HAND CONTROL OPERATION.

CTH VK AND ARGONNE STREET
BROWN COUNTY

SIGNAL NO.

CONTROLLER TYPE:

DATE

FILE NAME : \\milw00\ingrproj\50142\S4-13-08\t1\cds\024002_sp.dgn PLOT DATE : 10/25/2012 PLOT BY : Mdonnelly PLOT NAME : PLOT SCALE : 40:1
WISDOT/CADDS SHEET 42

PROJECT ID: 1133-03-88
INTERSECTION: CTH VK (LOMBARDI AVE.) AND ARGONNE ST.

SIGNAL WIRE COLOR CODING			
	BLK-BLACK	RED-RED	GRN-GREEN
	WHT-WHITE	BLU-BLUE	ORG-ORANGE

CB TO	JUMPER	# OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR									PED BUTTON	OTHER
					RED	YELLOW	GREEN	<RED	<YELLOW>	<FLASH YELLOW>	<GREEN>	D/WALK	WALK		
SB01		12	2	6	RED	ORG	GRN								
			3	6	RED/BLK	ORG/BLK	GRN/BLK								
			4	6	BLU	WHT/BLK	BLU/BLK								
SB02		7	12	8	RED	ORG	GRN								
SB03		12	1	6	RED	ORG	GRN								
			6	5				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK				
SB04		7	7	5				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK				
SB05		12	8	2	RED	ORG	GRN								
			9	2	RED/BLK	ORG/BLK	GRN/BLK								
			10	2	BLU	WHT/BLK	BLU/BLK								
SB06		7	13	8				RED	ORG		GRN				
SB07		7	14	8				RED	ORG		GRN				
SB08		12	15	8				RED	ORG		GRN				
			5	2	RED/BLK	ORG/BLK	GRN/BLK								
SB09		12	11	5				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK				
			16	8				RED	ORG		GRN				

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB01	SB1
CB01	SB02
SB02	SB03
SB03	SB04
SB04	SB05
SB05	SB06
SB06	SB07
SB07	SB08
SB08	SB09
SB09	CB01

PULL BOX BONDING	
FROM	TO
CB01	PB01
CB01	PB02
SB02	PB03
SB02	PB3A
SB03	PB04
SB04	PB05
SB05	PB06
SB05	PB07
SB07	PB08
SB07	PB09
SB09	PB10
SB09	PB11

NOTES:
1. USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
2. ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 12" LONGER THAN THE UNGROUNDED CONDUCTORS.

TRAFFIC CONTROL SIGNAL
CTH VK AND ARGONNE STREET
BROWN COUNTY

SIGNAL NO. CONTROLLER TYPE:

COUNTY CONTACT:
DESIGNED BY: HNTB CORP.
REVISED BY:

PROJECT NO: 1133-06-88	HWY: USH 41	COUNTY: BROWN	CABLE ROUTING	SHEET NO: E

FILE NAME : PLOT DATE: 10/25/2012 4:58:08 PM PLOT BY : PLOT NAME : ORG DATE : ORIGINATOR : PLOT SCALE : N/A

2

ACCESS TO FUTURE DEVELOPMENT

CTH VK / LOMBARDI AVENUE EB

15+00.00

ARGONNE STREET

9+00'ARG' 10+00'ARG' 11+00'ARG' 12+00'ARG' 13+00'ARG' 14+00'ARG' 15+00'ARG'

(DOUBLE) 2

LOMBARDI ACCESS ROAD

INL

LEGEND

1. PAVEMENT MARKING EPOXY 8-INCH (WHITE)
2. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
3. PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE)
4. PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
5. PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
6. PAVEMENT MARKING WORDS EPOXY (WHITE)
7. PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
8. PAVEMENT MARKING CURB EPOXY (YELLOW)
9. PAVEMENT MARKING EPOXY 4-INCH (DOTTED, WHITE) 3' LINE, 9' GAP
10. PAVEMENT MARKING EPOXY DIAGONAL 24-INCH (WHITE)

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	PAVEMENT MARKING - ARGONNE STREET	SHEET 26	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\SHEETSPLAN\PLAN DETAILS\KL_0388_9PM_ARGONNE.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1" = 40'_XREF

2

LEGEND

1. PAVEMENT MARKING EPOXY 8-INCH (WHITE)
2. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
3. PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE)
4. PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
5. PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
6. PAVEMENT MARKING WORDS EPOXY (WHITE)
7. PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
8. PAVEMENT MARKING CURB EPOXY (YELLOW)
9. PAVEMENT MARKING EPOXY 4-INCH (DOTTED, WHITE) 3' LINE, 9' GAP
10. PAVEMENT MARKING EPOXY DIAGONAL 24-INCH (WHITE)

N

118+00.00

HW

V846
642.56

CTH VK / LOMBARDI AVENUE WB

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

P.T.: 117+51.40

REPLACE PAVEMENT MARKINGS AFTER INSTALLING
LOOP DETECTORS (MATCH EXISTING)

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

CTH VK / LOMBARDI AVENUE EB

1
5
6
5

2

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	PAVEMENT MARKING - LOMBARDI AVENUE (CTH VK)	SHEET 27	E

2

2

LEGEND

1. PAVEMENT MARKING EPOXY 8-INCH (WHITE)
2. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
3. PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE)
4. PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
5. PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
6. PAVEMENT MARKING WORDS EPOXY (WHITE)
7. PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
8. PAVEMENT MARKING CURB EPOXY (YELLOW)
9. PAVEMENT MARKING EPOXY 4-INCH (DOTTED, WHITE) 3' LINE, 9' GAP
10. PAVEMENT MARKING EPOXY DIAGONAL 24-INCH (WHITE)

N

REPLACE PAVEMENT MARKINGS AFTER INSTALLING LOOP DETECTORS (MATCH EXISTING)

CTH VK / LOMBARDI AVENUE WB

118+00'VKW' 119+00'VKW' 120+00'VKW' 121+00'VKW' 122+00'VKW' 123+00'VKW' 124+00'VKW'

100' RADIUS

118+00'VKE' EP: 15+33.00 119+00'VKE' 120+00'VKE' 121+00'VKE' 122+00'VKE' 123+00'VKE'

CTH VK / LOMBARDI AVENUE EB

ARGONNE STREET

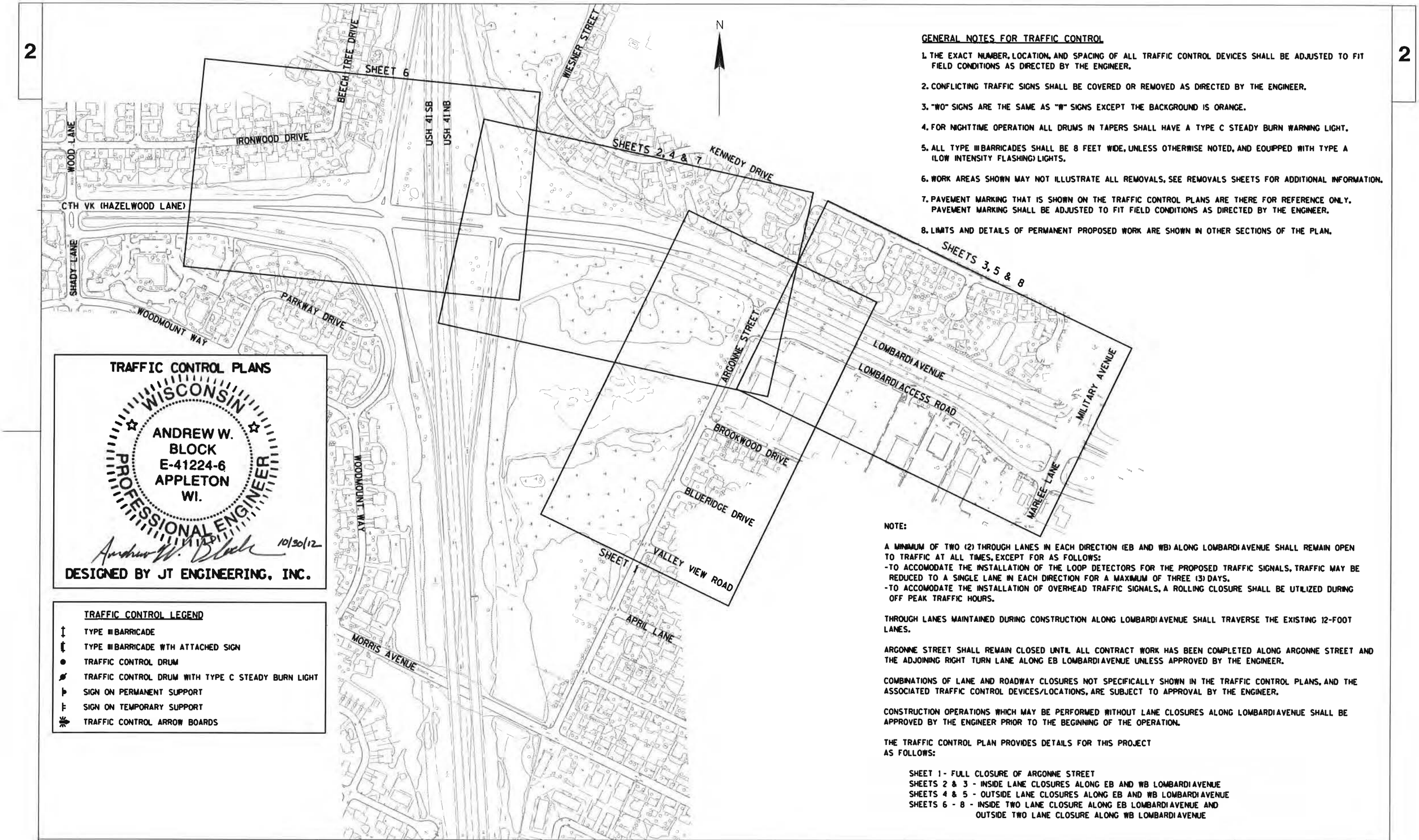
15+33

15+00

14+00

118+00.00

PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	PAVEMENT MARKING - LOMBARDI AVENUE (CTH VK)	SHEET 28	E



TRAFFIC CONTROL PLANS

WISCONSIN
ANDREW W. BLOCK
E-41224-6
APPLETON
WI.
PROFESSIONAL ENGINEER

10/30/12

DESIGNED BY JT ENGINEERING, INC.

TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL ARROW BOARDS

GENERAL NOTES FOR TRAFFIC CONTROL

1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
2. CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.
3. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
4. FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE C STEADY BURN WARNING LIGHT.
5. ALL TYPE III BARRICADES SHALL BE 8 FEET WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TYPE A (LOW INTENSITY FLASHING) LIGHTS.
6. WORK AREAS SHOWN MAY NOT ILLUSTRATE ALL REMOVALS, SEE REMOVALS SHEETS FOR ADDITIONAL INFORMATION.
7. PAVEMENT MARKING THAT IS SHOWN ON THE TRAFFIC CONTROL PLANS ARE THERE FOR REFERENCE ONLY. PAVEMENT MARKING SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
8. LIMITS AND DETAILS OF PERMANENT PROPOSED WORK ARE SHOWN IN OTHER SECTIONS OF THE PLAN.

NOTE:

A MINIMUM OF TWO (2) THROUGH LANES IN EACH DIRECTION (EB AND WB) ALONG LOMBARDI AVENUE SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES, EXCEPT FOR AS FOLLOWS:
-TO ACCOMODATE THE INSTALLATION OF THE LOOP DETECTORS FOR THE PROPOSED TRAFFIC SIGNALS, TRAFFIC MAY BE REDUCED TO A SINGLE LANE IN EACH DIRECTION FOR A MAXIMUM OF THREE (3) DAYS.
-TO ACCOMODATE THE INSTALLATION OF OVERHEAD TRAFFIC SIGNALS, A ROLLING CLOSURE SHALL BE UTILIZED DURING OFF PEAK TRAFFIC HOURS.

THROUGH LANES MAINTAINED DURING CONSTRUCTION ALONG LOMBARDI AVENUE SHALL TRAVERSE THE EXISTING 12-FOOT LANES.

ARGONNE STREET SHALL REMAIN CLOSED UNTIL ALL CONTRACT WORK HAS BEEN COMPLETED ALONG ARGONNE STREET AND THE ADJOINING RIGHT TURN LANE ALONG EB LOMBARDI AVENUE UNLESS APPROVED BY THE ENGINEER.

COMBINATIONS OF LANE AND ROADWAY CLOSURES NOT SPECIFICALLY SHOWN IN THE TRAFFIC CONTROL PLANS, AND THE ASSOCIATED TRAFFIC CONTROL DEVICES/LOCATIONS, ARE SUBJECT TO APPROVAL BY THE ENGINEER.

CONSTRUCTION OPERATIONS WHICH MAY BE PERFORMED WITHOUT LANE CLOSURES ALONG LOMBARDI AVENUE SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE BEGINNING OF THE OPERATION.

THE TRAFFIC CONTROL PLAN PROVIDES DETAILS FOR THIS PROJECT AS FOLLOWS:

SHEET 1 - FULL CLOSURE OF ARGONNE STREET
SHEETS 2 & 3 - INSIDE LANE CLOSURES ALONG EB AND WB LOMBARDI AVENUE
SHEETS 4 & 5 - OUTSIDE LANE CLOSURES ALONG EB AND WB LOMBARDI AVENUE
SHEETS 6 - 8 - INSIDE TWO LANE CLOSURE ALONG EB LOMBARDI AVENUE AND OUTSIDE TWO LANE CLOSURE ALONG WB LOMBARDI AVENUE

2

ROAD CLOSED 500 FT W20-3

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

ROAD CLOSED 1000 FT W20-3

ROAD CLOSED AHEAD W20-3

DRUM WITH TYPE C WARNING LIGHT

R11-2 48" X 30" ROAD CLOSED

TYPE III BARRICADE

DRUM

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

TYPE III BARRICADE

ROAD WORK AHEAD W20-1

ROAD WORK 500 FT W20-1

500'

12' 12' 12'

50' (TYP.)

TRAFFIC CONTROL BARRICADE TYPE III

ARGONNE STREET

8+50'ARG'

10+00'ARG'

12+00'ARG'

14+00'ARG'

15+33'ARG'

10' (TYP.)

350'

116+00'VKW'

116+00'VKE'

118+00'VKW'

118+00'VKE'

120+00'VKW'

120+00'VKE'

122+00'VKW'

122+00'VKE'

VALLEY VIEW ROAD

BLUE RIDGE DRIVE

BROOKWOOD DRIVE

LOMBARDI ACCESS ROAD

LOMBARDI AVENUE EB

LOMBARDI AVENUE WB

NOTE:

TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET WITHIN THE LOMBARDI AVENUE MEDIAN (EXCEPT THOSE REQUIRED FOR ADVANCED WARNING) SHALL BE IN PLACE IF THE PROPOSED MEDIAN WORK ALONG LOMBARDI AVENUE IS COMPLETE PRIOR TO THE COMPLETION OF ARGONNE STREET AND ALL WORK DIRECTLY ASSOCIATED WITH, OR AS DETERMINED BY THE ENGINEER.

REPLACE W20-1 "ROAD WORK 500 FT" WITH W08-6 (MOD.) "TRUCK ENTRANCE" IF CONSTRUCTION TRAFFIC IS ENTERING/ EXITING FROM ARGONNE STREET DIRECTLY ON TO LOMBARDI AVENUE.

SHEET 1

PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	TRAFFIC CONTROL: ARGONNE STREET CLOSURE	SHEET 30	E

FILE NAME : X:\Projects\Brown\11330388 Lombardi_Argonne\Design\c3d\SheetsPlan\026001_s1.dgn PLOT DATE : 10/24/2012 PLOT BY : JT ENGINEERING PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

ROAD WORK AHEAD W20-1

LEFT LANE CLOSED AHEAD W20-5

W04-2L

USH 41 NB ENTRANCE RAMP

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

DRUM WITH TYPE C WARNING LIGHT

DRUM

STA. 114+00'VKE' TO STA. 117+65'VKE'
-REMOVING PAVEMENT MARKINGS (INSIDE LANE LINE) REQD.
-TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW) REQD.

500'

106+00'VKW'
108+00'VKW'
110+00'VKW'
112+00'VKW'
114+00'VKW'
116+00'VKW'
118+00'VKW'

106+00'VKE'
108+00'VKE'
110+00'VKE'
112+00'VKE'
114+00'VKE'
116+00'VKE'
118+00'VKE'

LOMBARDI AVENUE WB

LOMBARDI AVENUE EB

25' (TYP.)

12:12

350'

400'

700'

300'

W01-6 48" X 24"

TYPE III BARRICADE

R11-2(MOD) 48" X 30"

LANE CLOSED

TYPE III BARRICADE

USH 41 NB EXIT RAMP

USH 41 NB

ROAD WORK AHEAD W20-1

15+33'ARG'

14+00'ARG'

12+00'ARG'

50' (TYP)

LOMBARDI ACCESS ROAD

ARGONNE STREET

SEE SHEET 1 FOR DETAILS OF ARGONNE STREET CLOSURE

SHEET 2

PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	TRAFFIC CONTROL: LOMBARDI AVENUE (INSIDE LANE CLOSURE)	SHEET 31	E

FILE NAME : X:\Projects\Brown\11330388 Lombardi_Argonne\Design\c3d\SheetsPlan\026002_s2.dgn PLOT DATE : 10/24/2012 PLOT BY : JT ENGINEERING PLOT NAME : PLOT SCALE : 1:100
WISDOT/CADDS SHEET 42

2

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

DRUM

TYPE III BARRICADE

DRUM WITH TYPE C WARNING LIGHT

STA. 123+69'VKW' TO 365-FT BEYOND
-REMOVING PAVEMENT MARKINGS (INSIDE LANE LINE) REQD.
-TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW) REQD.

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

MILITARY AVENUE

120+00'VKW'
122+00'VKW'
124+00'VKW'
120+00'VKE'
122+00'VKE'
123+00'VKE'

12'
12'
12'

50' (TYP)

25' (TYP.)

350'
300'
400'
700'

LOMBARDI AVENUE WB

LOMBARDI AVENUE EB

500'

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

LOMBARDI ACCESS ROAD

W01-6
48" X 24"

TYPE III BARRICADE

W04-2L

LEFT LANE CLOSED AHEAD
W20-5

ROAD WORK AHEAD
W20-1

MARLEE LANE

SHEET 3

PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	TRAFFIC CONTROL: LOMBARDI AVENUE (INSIDE LANE CLOSURE)	SHEET 32	E

2

ROAD WORK AHEAD W20-1

RIGHT LANE CLOSED AHEAD W20-5

W04-2R

USH 41 NB ENTRANCE RAMP

STA. 109+36'VKE' TO STA. 113+06'VKE'
-REMOVING PAVEMENT MARKINGS (OUTSIDE LANE LINE) REQD.
-TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) REQD.

DRUM WITH TYPE C WARNING LIGHT

DRUM

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

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

TYPE III BARRICADE

106+00'VKW'
108+00'VKW'
110+00'VKW'
112+00'VKW'
114+00'VKW'
116+00'VKW'
118+00'VKW'

106+00'VKE'
108+00'VKE'
110+00'VKE'
112+00'VKE'
114+00'VKE'
116+00'VKE'
118+00'VKE'

LOMBARDI AVENUE WB

LOMBARDI AVENUE EB

25' (TYP.)

50' (TYP)

500'

J2:12

15+33'ARG'

700'

700'

W01-6 48" X 24"

TYPE III BARRICADE

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

TYPE III BARRICADE

R11-2 48" X 30" ROAD CLOSED

TYPE III BARRICADE

USH 41 NB EXIT RAMP

USH 41 NB

RIGHT LANE CLOSED AHEAD W20-5

ROAD WORK AHEAD W20-1

SEE SHEET 1 FOR DETAILS OF ARGONNE STREET CLOSURE

14+00'ARG'

12+00'ARG'

ARGONNE STREET

LOMBARDI ACCESS ROAD

NOTE:

TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET WITHIN THE LOMBARDI AVENUE MEDIAN (EXCEPT THOSE REQUIRED FOR THE OUTSIDE LANE CLOSURE) SHALL BE IN PLACE IF THE PROPOSED MEDIAN WORK ALONG LOMBARDI AVENUE IS COMPLETE DURING THE LOMBARDI AVENUE EB OUTSIDE LANE CLOSURE, OR AS DETERMINED BY THE ENGINEER.

SHEET 4

PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	TRAFFIC CONTROL: LOMBARDI AVENUE (OUTSIDE LANE CLOSURE)	SHEET 33	E

2

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

W01-6
48" X 24"
TYPE III BARRICADE

ROAD WORK AHEAD
W20-1

RIGHT LANE CLOSED AHEAD
W20-5

W04-2R

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

25' (TYP.)

120+00'VKW'
122+00'VKW'
124+00'VKW'
120+00'VKE'
122+00'VKE'
123+00'VKE'

50' (TYP)

12'12'

350'
700'
700'
500'

LOMBARDI AVENUE WB

LOMBARDI AVENUE EB

LOMBARDI ACCESS ROAD

MILITARY AVENUE

MARLEE LANE

STA. 120+21'VKW' TO STA. 123+86'VKW'
-REMOVING PAVEMENT MARKINGS (OUTSIDE LANE LINE) REQD.
-TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) REQD.

DRUM

DRUM WITH TYPE C WARNING LIGHT

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

ROAD WORK AHEAD
W20-1

NOTE:

TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET WITHIN THE LOMBARDI AVENUE MEDIAN (EXCEPT THOSE REQUIRED FOR THE OUTSIDE LANE CLOSURE) SHALL BE IN PLACE IF THE PROPOSED MEDIAN WORK ALONG LOMBARDI AVENUE IS COMPLETE DURING THE LOMBARDI AVENUE EB OUTSIDE LANE CLOSURE, OR AS DETERMINED BY THE ENGINEER.

SHEET 5

PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	TRAFFIC CONTROL: LOMBARDI AVENUE (OUTSIDE LANE CLOSURE	SHEET 34	E

2

ROAD WORK AHEAD W20-1

LEFT LANE CLOSED AHEAD W20-5

W04-2L

W04-2L

LEFT TWO LANES CLOSED AHEAD W20-5A

ROAD WORK AHEAD W20-1

DRUM WITH TYPE C WARNING LIGHT

DRUM

LEFT TURN LANE

R3-55L(MOD) 24" X 30"

700'

700'

350'

25' (TYP.)

25' (TYP.)

W01-6 48" X 24"

TYPE III BARRICADE

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

TYPE III BARRICADE

LEFT LANE CLOSED AHEAD W20-5

W01-6 48" X 24"

TYPE III BARRICADE

USH 41 SB

USH 41 NB

USH 41

USH 41 SB EXIT RAMP

USH 41 NB ENTRANCE RAMP

LOMBARDI AVENUE WB

LOMBARDI AVENUE EB

25' (TYP.)

92+00'VKW'
94+00'VKW'
94+00'VKE'
96+00'VKW'
96+00'VKE'
98+00'VKW'
98+00'VKE'
100+00'VKW'
100+00'VKE'
102+00'VKW'
102+00'VKE'
104+00'VKW'
104+00'VKE'
106+00'VKW'
106+00'VKE'

450'
450'
225'

12'
12'

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

TYPE III BARRICADE

LEFT TWO LANES CLOSED AHEAD W20-5A

USH 41 SB ENTRANCE RAMP

USH 41 NB EXIT RAMP

SHEET 6

PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	TRAFFIC CONTROL: LOMBARDI AVENUE (TWO LANE CLOSURE)	SHEET 35	E

2

USH 41 NB ENTRANCE RAMP

W01-6
48" X 24"
TYPE III BARRICADE

DRUM

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

TYPE III BARRICADE

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

500'

106+00'VKW'
108+00'VKW'
110+00'VKW'
112+00'VKW'
114+00'VKW'
116+00'VKW'
118+00'VKW'

LOMBARDI AVENUE WB

106+00'VKE'
108+00'VKE'
110+00'VKE'
112+00'VKE'
114+00'VKE'
116+00'VKE'
118+00'VKE'

LOMBARDI AVENUE EB

25'
(TYP.)

12'

50'
(TYP.)

15+33'ARC'

W01-6
48" X 24"
TYPE III BARRICADE

W04-2L

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

DRUM WITH TYPE C
WARNING LIGHT

14+00'ARC'

LOMBARDI ACCESS
ROAD

USH 41 NB EXIT RAMP

LEFT
TWO LANES
CLOSED
AHEAD
W20-5A

ROAD
WORK
AHEAD
W20-1

SEE SHEET 1 FOR
DETAILS OF ARGONNE
STREET CLOSURE

ARGONNE STREET 12+00'ARC'

USH 41 NB

NOTE:

TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET WITHIN THE LOMBARDI AVENUE MEDIAN (EXCEPT THOSE REQUIRED FOR THE WB OUTSIDE TWO LANE CLOSURE) SHALL BE IN PLACE IF THE PROPOSED MEDIAN WORK ALONG LOMBARDI AVENUE IS COMPLETE DURING THE LOMBARDI AVENUE WB OUTSIDE TWO LANE CLOSURE, OR AS DETERMINED BY THE ENGINEER.

SHEET 7

PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	TRAFFIC CONTROL: LOMBARDI AVENUE (TWO LANE CLOSURE)	SHEET 36	E

FILE NAME : X:\Projects\Brown\11330388 Lombardi_Argonne\Design\c3d\SheetsPlan\026007_s4.dgn PLOT DATE : 10/24/2012 PLOT BY : JT ENGINEERING PLOT NAME : PLOT SCALE : 1:100

2

TYPE III BARRICADE

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

W01-6
48" X 24"
TYPE III BARRICADE

DRUM WITH TYPE C WARNING LIGHT

W04-2R

DRUM

25' (TYP.)

25' (TYP.)

LOMBARDI AVENUE WB

12' 12' 12'

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

ROAD WORK AHEAD
W20-1

RIGHT TWO LANES CLOSED AHEAD
W20-5A

W04-2R

MILITARY AVENUE

250' 700' 700'

120+00'VKW' 50' (TYP.) 122+00'VKW' 124+00'VKW'

120+00'VKE' 122+00'VKE' 123+00'VKE'

500'

LOMBARDI AVENUE EB

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

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

LOMBARDI ACCESS ROAD

DRUM

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

ROAD WORK AHEAD
W20-1

MARLEE LANE

NOTE:

TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET WITHIN THE LOMBARDI AVENUE MEDIAN (EXCEPT THOSE REQUIRED FOR THE WB OUTSIDE TWO LANE CLOSURE) SHALL BE IN PLACE IF THE PROPOSED MEDIAN WORK ALONG LOMBARDI AVENUE IS COMPLETE DURING THE LOMBARDI AVENUE WB OUTSIDE TWO LANE CLOSURE, OR AS DETERMINED BY THE ENGINEER.

SHEET 8

PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	TRAFFIC CONTROL: LOMBARDI AVENUE (TWO LANE CLOSURE)	SHEET 37	E

FILE NAME : X:\Projects\Brown\11330388 Lombardi_Argonne\Design\c3d\SheetsPlan\026008_s4.dgn PLOT DATE : 10/24/2012 PLOT BY : JT ENGINEERING PLOT NAME : PLOT SCALE : 1:100

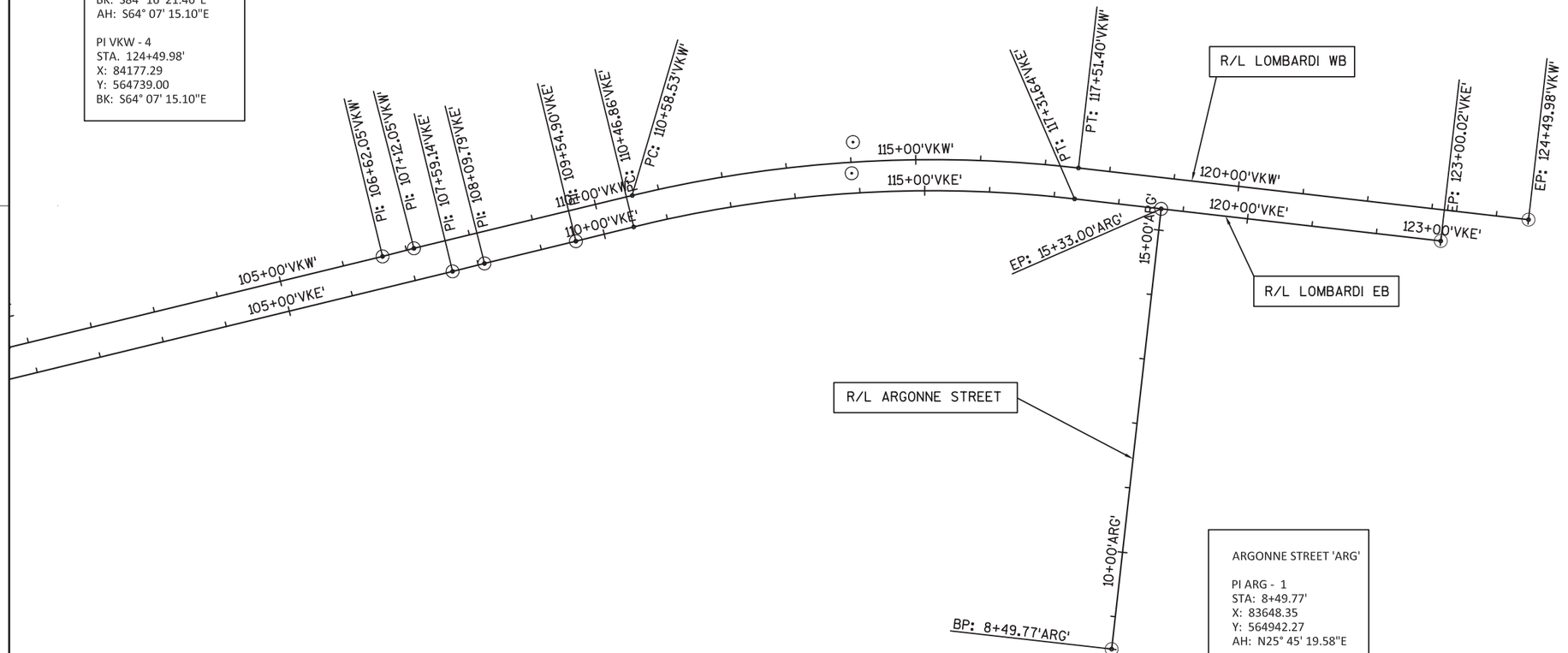
LOMBARDI AVENUE 'VKW'

PI VKW - 2
STA. 106+62.05'
X: 82490.95
Y: 565270.48
BK: S84° 20' 43.89"E
AH: S85° 06' 04.44"E

PI VKW - 3
STA. 107+12.05'
X: 82540.77
Y: 565266.21
BK: S85° 06' 04.44"E
AH: S84° 16' 21.46"E
CURVE VKW - 2

PI STA. 114+08.58'
X:83233.82
Y: 565196.70
DELTA: 20°09'07"
DEG: 2°54'30.3"
L: 692.878'
T: 350.055'
R: 1970.000'
PC STA: 110+58.53'
PT STA: 117+51.40'
BK: S84° 16' 21.46"E
AH: S64° 07' 15.10"E

PI VKW - 4
STA. 124+49.98'
X: 84177.29
Y: 564739.00
BK: S64° 07' 15.10"E



LOMBARDI AVENUE 'VKE'

PI VKE - 2
STA: 107+59.14'
X: 82585.25
Y: 565212.93
BK: S84° 20' 46.47"E
AH: S84° 42' 37.21"E

PI VKE - 3
STA. 108+09.79'
X: 82635.69
Y: 565208.26
BK: S84° 42' 37.21"E
AH: S84° 19' 57.45"E

PI VKE - 4
STA. 109+54.90'
X: 82780.09
Y: 565193.93
BK: S84° 19' 57.45"E
AH: S84° 30' 43.14"E

CURVE VKE - 2PI
STA: 113+92.91'
X: 83216.09
Y: 565152.04
DELTA: 20°23'53.9"
DEG: 2°58'43.8"
L: 684.776'
T: 346.051'
R: 1923.430'
PC STA: 110+46.86'
PT STA: 117+31.64'
BK: S84° 30' 43.14"E
AH: S64° 06' 49.09"E

PI VKE - 5
STA: 123+00.02'
X: 84038.77
Y: 564752.81
BK: S64° 06' 49.09"E

ARGONNE STREET 'ARG'

PI ARG - 1
STA: 8+49.77'
X: 83648.35
Y: 564942.27
AH: N25° 45' 19.58"E

PI ARG - 2
STA: 15+33.00'
X: 83648.35
Y: 564942.27
BK: N25° 45' 19.58"E

DATE 04JAN13 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	1133-03-88 QUANTITY
0010	201.0105	CLEARING	STA	5.000	5.000
0020	201.0205	GRUBBING	STA	5.000	5.000
0030	204.0100	REMOVING PAVEMENT	SY	1,400.000	1,400.000
0040	204.0150	REMOVING CURB & GUTTER	LF	1,880.000	1,880.000
0050	204.0190	REMOVING SURFACE DRAINS	EACH	2.000	2.000
0060	204.0220	REMOVING INLETS	EACH	5.000	5.000
0070	204.0245	REMOVING STORM SEWER (SIZE) 01. 15-INCH	LF	87.000	87.000
0080	205.0100	EXCAVATION COMMON	CY	3,923.000	3,923.000
0090	213.0100	FINISHING ROADWAY (PROJECT) 01. 1133-03-88	EACH	1.000	1.000
0100	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	3,060.000	3,060.000
0110	311.0110	BREAKER RUN	TON	5,150.000	5,150.000
0120	415.0080	CONCRETE PAVEMENT 8-INCH	SY	3,395.000	3,395.000
0130	415.0090	CONCRETE PAVEMENT 9-INCH	SY	2,540.000	2,540.000
0140	415.1090	CONCRETE PAVEMENT HES 9-INCH	SY	170.000	170.000
0150	416.0170	CONCRETE DRIVEWAY 7-INCH	SY	70.000	70.000
0160	416.0610	DRILLED TIE BARS	EACH	600.000	600.000
0170	416.0620	DRILLED DOWEL BARS	EACH	60.000	60.000
0180	455.0120	ASPHALTIC MATERIAL PG64-28	TON	1.000	1.000
0190	455.0605	TACK COAT	GAL	2.000	2.000
0200	460.1101	HMA PAVEMENT TYPE E-1	TON	16.000	16.000
0210	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	20.000	20.000
0220	520.8000	CONCRETE COLLARS FOR PIPE	EACH	9.000	9.000
0230	522.1012	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH	1.000	1.000
0240	601.0342	CONCRETE CURB & GUTTER INTEGRAL 18-INCH	LF	350.000	350.000
0250	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	1,450.000	1,450.000
0260	601.0452	CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D	LF	1,035.000	1,035.000
0270	602.0405	CONCRETE SIDEWALK 4-INCH	SF	830.000	830.000
0280	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	284.000	284.000
0290	608.0315	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	LF	122.000	122.000
0300	611.0420	RECONSTRUCTING MANHOLES	EACH	1.000	1.000
0310	611.0530	MANHOLE COVERS TYPE J	EACH	2.000	2.000
0320	611.0624	INLET COVERS TYPE H	EACH	12.000	12.000
0330	611.0639	INLET COVERS TYPE H-S	EACH	1.000	1.000
0340	611.2008	MANHOLES 8-FT DIAMETER	EACH	2.000	2.000
0350	611.3004	INLETS 4-FT DIAMETER	EACH	11.000	11.000
0360	611.3230	INLETS 2X3-FT	EACH	2.000	2.000
0370	611.8115	ADJUSTING INLET COVERS	EACH	1.000	1.000
0380	619.1000	MOBILIZATION	EACH	1.000	1.000
0390	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	204.000	204.000
0400	624.0100	WATER	MGAL	80.000	80.000
0410	625.0100	TOPSOIL	SY	3,000.000	3,000.000
0420	625.0500	SALVAGED TOPSOIL	SY	225.000	225.000
0430	627.0200	MULCHING	SY	3,225.000	3,225.000
0440	628.1504	SILT FENCE	LF	1,500.000	1,500.000
0450	628.1520	SILT FENCE MAINTENANCE	LF	800.000	800.000
0460	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0470	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	6.000	6.000
0480	628.2004	EROSION MAT CLASS I TYPE B	SY	2,200.000	2,200.000
0490	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	2,150.000	2,150.000
0500	628.7005	INLET PROTECTION TYPE A	EACH	25.000	25.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-88 QUANTITY
0510	628.7010	INLET PROTECTION TYPE B	EACH	5.000	5.000
0520	628.7015	INLET PROTECTION TYPE C	EACH	20.000	20.000
0530	628.7020	INLET PROTECTION TYPE D	EACH	5.000	5.000
0540	629.0210	FERTILIZER TYPE B	CWT	2.000	2.000
0550	630.0120	SEEDING MIXTURE NO. 20	LB	90.000	90.000
0560	630.0200	SEEDING TEMPORARY	LB	50.000	50.000
0570	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	14.000	14.000
0580	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	9.000	9.000
0590	637.0202	SIGNS REFLECTIVE TYPE II	SF	171.930	171.930
0600	637.0402	SIGNS REFLECTIVE FOLDING TYPE II	SF	5.180	5.180
0610	638.2602	REMOVING SIGNS TYPE II	EACH	6.000	6.000
0620	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	6.000	6.000
0630	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1133-03-88	EACH	1.000	1.000
0640	643.0300	TRAFFIC CONTROL DRUMS	DAY	6,607.000	6,607.000
0650	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	2,809.000	2,809.000
0660	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	2,210.000	2,210.000
0670	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	1,638.000	1,638.000
0680	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	12.000	12.000
0690	643.0900	TRAFFIC CONTROL SIGNS	DAY	3,651.000	3,651.000
0700	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	54.000	54.000
0710	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	1,050.000	1,050.000
0720	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	1,800.000	1,800.000
0730	646.0600	REMOVING PAVEMENT MARKINGS	LF	380.000	380.000
0740	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	6.000	6.000
0750	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	3.000	3.000
0760	647.0456	PAVEMENT MARKING CURB EPOXY	LF	60.000	60.000
0770	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	55.000	55.000
0780	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	4.000	4.000
0790	647.0746	PAVEMENT MARKING DIAGONAL EPOXY 24-INCH	LF	45.000	45.000
0800	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	1,480.000	1,480.000
0810	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	83.000	83.000
0820	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	2,592.000	2,592.000
0830	652.0615	CONDUIT SPECIAL 3-INCH	LF	144.000	144.000
0840	652.0800	CONDUIT LOOP DETECTOR	LF	514.000	514.000
0850	653.0135	PULL BOXES STEEL 24X36-INCH	EACH	5.000	5.000
0860	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	9.000	9.000
0870	654.0101	CONCRETE BASES TYPE 1	EACH	7.000	7.000
0880	654.0113	CONCRETE BASES TYPE 13	EACH	2.000	2.000
0890	654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	1.000	1.000
0900	655.0230	CABLE TRAFFIC SIGNAL 5-14 AWG	LF	892.000	892.000
0910	655.0260	CABLE TRAFFIC SIGNAL 12-14 AWG	LF	1,144.000	1,144.000
0920	655.0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	1,510.000	1,510.000
0930	655.0700	LOOP DETECTOR LEAD IN CABLE	LF	1,235.000	1,235.000
0940	655.0800	LOOP DETECTOR WIRE	LF	2,056.000	2,056.000
0950	657.0100	PEDESTAL BASES	EACH	7.000	7.000
0960	657.0420	TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	EACH	7.000	7.000
0970	657.1355	INSTALL POLES TYPE 12	EACH	2.000	2.000
0980	657.1540	INSTALL MONOTUBE ARMS 40-FT	EACH	1.000	1.000
0990	657.1550	INSTALL MONOTUBE ARMS 50-FT	EACH	1.000	1.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1133-03-88 QUANTITY
1000	658.0110	TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	EACH	16.000	16.000
1010	658.0215	BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	EACH	16.000	16.000
1020	658.0600	LED MODULES 12-INCH RED BALL	EACH	9.000	9.000
1030	658.0605	LED MODULES 12-INCH YELLOW BALL	EACH	9.000	9.000
1040	658.0610	LED MODULES 12-INCH GREEN BALL	EACH	9.000	9.000
1050	658.0615	LED MODULES 12-INCH RED ARROW	EACH	7.000	7.000
1060	658.0620	LED MODULES 12-INCH YELLOW ARROW	EACH	10.000	10.000
1070	658.0625	LED MODULES 12-INCH GREEN ARROW	EACH	7.000	7.000
1080	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 001. CTH VK / ARGONNE	LS	1.000	1.000
1090	690.0150	SAWING ASPHALT	LF	70.000	70.000
1100	690.0250	SAWING CONCRETE	LF	1,800.000	1,800.000
1110	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	1,639.000	1,639.000
1120	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5. 00/HR	HRS	1,200.000	1,200.000
1130	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	540.000	540.000
1140	SPV.0060	SPECIAL 452. TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1.000	1.000
1150	SPV.0060	SPECIAL 650. ADJUSTING WATER VALVE BOX	EACH	3.000	3.000
1160	SPV.0075	SPECIAL 001. STREET SWEEPING	HRS	20.000	20.000
1170	SPV.0105	SPECIAL 001. SURVEY PROJECT 1133-03-88	LS	1.000	1.000
1180	SPV.0105	SPECIAL 002. CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000	1.000
1190	SPV.0180	SPECIAL 001. CONCRETE JOINT SEALER	SY	6,105.000	6,105.000

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CLEARING AND GRUBBING

STATION - STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
12+50'ARG' - 13+50'ARG'	ARGONNE STREET, LT	1	1
118+00'VKW' - 122+00'VKW'	LOMBARDI AVENUE, MEDIAN	4	4
	TOTALS	**5**	**5**

REMOVING PAVEMENT

STATION - STATION	LOCATION	204.0100 SY	COMMENTS
113+15'VKW' - 121+20'VKW'	LOMBARDI AVENUE RT. TURN	1,230	
115+25'VKW' - 115+45'VKW'	LOMBARDI AVENUE EB	85	FOR LOOP DETECTOR INSTALLATION, SEE REMOVAL PLAN
121+65'VKW' - 121+85'VKW'	LOMBARDI AVENUE WB	85	FOR LOOP DETECTOR INSTALLATION, SEE REMOVAL PLAN
	TOTAL	**1,400**	

CONCRETE DRIVEWAY 7-INCH

STATION - STATION	LOCATION	416.0170 SY
9+26 'ARG' - 9+50 'ARG'	ARGONNE STREET	25
9+62'ARG' - 9+90'ARG'	ARGONNE STREET	15
11+44'ARG' - 11+79'ARG'	ARGONNE STREET	30
	TOTALS	**70**

BASE AGGREGATE & BREAKER RUN

STATION - STATION	LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TONS	311.0110 BREAKER RUN TONS
9+25'ARG' - 14+84'ARG'	ARGONNE STREET	1,840	2,750
14+25'ARG' - 14+84'ARG'	ARGONNE STREET	310	620
13+08'ARG' - 14+74'ARG'	ARGONNE STREET MEDIAN	20	-
113+15'VKW' - 118+85'VKW'	LOMBARDI AVENUE	340	680
118+85'VKW' - 121+20'VKW'	LOMBARDI AVENUE	120	240
117+85'VKW' - 123+68'VKW'	LOMBARDI AVENUE (LT TURN)	430	860
	TOTALS	3,060	5,150

REMOVING CURB AND GUTTER, REMOVING SURFACE DRAINS

STATION - STATION	LOCATION	204.0150 REMOVING CURB & GUTTER LF	204.0190 REMOVING SURFACE DRAINS EACH
9+25'ARG' - 14+33'ARG'	ARGONNE STREET, LT.	505	-
9+25'ARG' - 14+33'ARG'	ARGONNE STREET, RT.	600	-
117+85'VKW' - 119+75'VKW'	LOMBARDI AVENUE MEDIAN	190	-
117+85'VKW' - 123+69'VKW'	LOMBARDI AVENUE MEDIAN	585	-
14+00'ARG' - 14+00'ARG	ARGONNE STREET, LT.	-	1
14+30'ARG' - 14+30'ARG'	ARGONNE STREET, RT.	-	1
	TOTALS	**1,880**	**2**

CONCRETE PAVEMENT

STATION - STATION	LOCATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0090 CONCRETE PAVEMENT 9-INCH SY	415.1090 CONCRETE PAVEMENT HES 9-INCH SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	715.0415 INCENTIVE STRENGTH CONCRETE PAVEMENT DOL	SPV.0180.002 CONCRETE JOINT SEALER SY	COMMENTS
9+25'ARG' - 14+84'ARG'	ARGONNE STREET	3,395	-	-	-	-	1,019	3,395	
14+25'ARG' - 14+84'ARG'	ARGONNE STREET	-	642	-				642	
113+15'VKW' - 118+85'VKW'	LOMBARDI AVENUE	-	734	-	230	-	220	734	
118+85'VKW' - 121+20'VKW'	LOMBARDI AVENUE	-	210	-	95	-	63	210	
117+85'VKW' - 123+68'VKW'	LOMBARDI AVENUE (LT TURN)	-	954	-	235	-	286	954	
115+25'VKW' - 115+45'VKW'	LOMBARDI AVENUE EB	-	-	85	20	30	26	85	LOOP DETECTOR INSTALLATION
121+65'VKW' - 121+85'VKW'	LOMBARDI AVENUE WB	-	-	85	20	30	26	85	LOOP DETECTOR INSTALLATION
	TOTALS	**3,395**	**2,540**	**170**	**600**	**60**	**1,639**	**6,105**	

ALL ITEMS ON THIS SHEET ARE CATEGORY 1000 UNLESS OTHERWISE NOTED.

EARTHWORK

FROM / TO STATION	Location	205.0100* Common Excavation (1) Cut (2) (CY)	205.0100* Common Excavation (1) EBS Excavation (3) (CY)	Salvaged / Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (6) Factor 1.25	Mass Ordinate +/- (7)	Waste
9+25'ARG' - 14+75'ARG'	ARGONNE STREET	3,349	0	233	3,117	7	9	3,108	3,108
113+25'VKW' - 117+32'VKW'	LOMBARDI AVE	477	0	0	477	442	553	-76	0
119+50'VKW' - 120+75'VKW'	LOMBARDI AVE	97	0	0	97	9	11	86	86
		3,923	0	233	3,691	458	572	3,119	3,194
	TOTALS	3,923							

1) Common Excavation is the sum of the Cut and EBS Excavation columns
2) Salvaged/Unsuable Pavement Material is included in Cut
3) EBS Excavation to be backfilled with Breaker Run
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material
6) Expanded Fill. Factor = 1.25
7) The Mass Ordinate + or - Qty calculated for the Division. Positive quantity indicates an excess of material within the Division. Negative indicates a shortage of material within the Division.
8) Structure Excavation limits are assumed to be 70% of the retaining wall height. This is for informational purposes only, and will vary depending on shop drawing design.
9) Roadway Embankment = (Fill + EBS)

ALL ITEMS ON THIS SHEET ARE CATEGORY 1000 UNLESS OTHERWISE NOTED.

CONCRETE CURB & GUTTER

STATION - STATION	LOCATION	601.0342 CONCRETE CURB & GUTTER INTEGRAL 18-INCH LF	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0452 CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D LF
13+06'ARG' - 14+76'ARG'	ARGONNE STREET MEDIAN	350	-	-
9+25'ARG' - 13+47'ARG'	ARGONNE STREET, RT.	-	-	455
13+81'ARG' - 14+25'ARG'	ARGONNE STREET, RT.	-	-	72
9+25'ARG' - 11+44'ARG'	ARGONNE STREET, LT.	-	-	239
11+76'ARG' - 14+25'ARG'	ARGONNE STREET, LT.	-	-	269
113+15'VKW' - 118+50'VKW'	LOMBARDI AVENUE, RT.	-	543	-
119+18'VKW' - 121+20'VKW'	LOMBARDI AVENUE, RT.	-	237	-
117+85'VKW' - 118+59'VKW'	LOMBARDI AVENUE, MEDIAN	-	160	-
119+20'VKW' - 123+69'VKW'	LOMBARDI AVENUE, MEDIAN	-	510	-
TOTALS		**350**	**1,450**	**1,035**

CONCRETE MEDIAN SLOPED NOSE, CONCRETE SIDEWALK

STATION - STATION	LOCATION	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	602.0405 CONCRETE SIDEWALK 4-INCH SF
13+08'ARG' - 14+74'ARG	ARGONNE STREET MEDIAN	-	830
13+06'ARG' - 13+14'ARG'	ARGONNE STREET MEDIAN	50	-
14+75'ARG' - 14+69'ARG'	ARGONNE STREET MEDIAN	50	-
118+52'VKW' - 118+59'VKW'	LOMBARDI AVENUE MEDIAN	52	-
119+20'VKW' - 119+27'VKW'	LOMBARDI AVENUE MEDIAN	52	-
	TOTALS	**204**	**830**

HMA PAVEMENT

STATION - STATION	LOCATION	460.1101 HMA PAVEMENT TYPE E-1 TON	455.0120 ASPHALTIC MATERIAL PG64-28 TON	455.0605 TACK COAT GAL
9+15'ARG' - 9+25'ARG'	ARGONNE STREET	8	0.5	1
	LOMBARDI FRONTAGE ROAD	8	0.5	1
	TOTALS	**16**	**1**	**2**

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MOBILIZATIONS EROSION CONTROL

STAGE	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
ARGONNE CONSTRUCTION	1	2
LOMBARDI CONSTRUCTION	2	4
TOTALS	**3**	**6**

EROSION CONTROL

STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2004 EROSION MAT CLASS I TYPE B SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH
9+25'ARG' - 14+97'ARG	ARGONNE STREET	455	230	-	650	11	-	8	3
113+00'VKW' - 121+50'VKW'	LOMBARDI AVENUE	700	350	1,700	1,000	7	-	7	1
	SUBTOTAL	1,155	580	1,700	1,650	18	0	15	4
UNDISTRIBUTED		345	220	500	500	7	5	5	1
	TOTALS	**1,500**	**800**	**2,200**	**2,150**	**25**	**5**	**20**	**5**

3

LANDSCAPING

STATION - STATION	LOCATION	624.0100 WATER MGAL	625.0100 TOPSOIL SY	625.0500 * SALVAGED TOPSOIL (SY)	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB
9+25'ARG' - 14+97'ARG'	ARGONNE STREET	16	540	180	720	0.3	19	10
113+15'VKW' - 123+69'VKW'	LOMBARDI, RT	37	1,640	-	1,640	1	44	22
113+15'VKW' - 123+69'VKW'	LOMBARDI, MEDIAN	5	220	-	220	0.1	6	3
UNDISTRIBUTED		22	600	45	645	0.4	20	15
	TOTALS	**80**	**3,000**	**225**	**3,225**	**2**	**90**	**50**

* ESTIMATED QUANTITY OF PHRAGMITES SOIL TO BE KEPT ON PROJECT SITE.

PAVEMENT MARKING

STATION - STATION	LOCATION	646.0106 EPOXY 4-INCH YELLOW LF	646.0106 EPOXY 4-INCH 12.5 FT LINE WHITE LF	646.0106 EPOXY 4-INCH 3 FT LINE WHITE LF	646.0126 EPOXY 8-INCH WHITE LF	647.0166 ARROWS EPOXY TYPE 2 EACH	647.0356 WORDS EPOXY EACH	647.0456 EPOXY CURB YELLOW LF	647.0566 STOP LINE EPOXY 18-INCH LF	647.0606 EPOXY ISLAND NOSE YELLOW EACH	647.0746 DIAGONAL EPOXY 24-INCH WHITE LF
9+25'ARG' - 14+75'ARG'	ARGONNE STREET	800	170	-	865	6	3	30	55	2	-
113+00'VKW' - 124+00'VKW'	LOMBARDI AVENUE	-	-	80	935	-	-	30	-	2	45
	TOTALS	**800**	**170**	**80**	**1,800**	**6**	**3**	**60**	**55**	**4**	**45**
			1,050								

TRAFFIC CONTROL

CATEGORY	LOCATION	LENGTH CALENDAR DAYS	643.0300 TRAFFIC CONTROL DRUMS EACH	643.0300 TRAFFIC CONTROL DRUMS DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH	643.0800 TRAFFIC CONTROL ARROW BOARDS DAYS	643.0900 TRAFFIC CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAYS	643.1050 TRAFFIC CONTROL SIGNS PCMS DAYS
1000	ARGONNE ST	71	7	497	26	1,846	10	710	7	497	--	--	9	639	7
	LOMBARDI AVE EB	71	16	1,136	2	142	4	284	--	--	--	--	8	568	7
	LOMBARDI AVE WB	71	13	923	2	142	4	284	--	--	--	--	2	142	--
	LOMBARDI ACCESS ROAD	71	--	--	4	284	2	142	--	--	--	--	5	355	7
	BROOKWOOD DRIVE	71	--	--	--	--	--	--	--	--	--	--	2	142	--
	BLUE RIDGE DRIVE	71	--	--	--	--	--	--	--	--	--	--	2	142	--
	ARGONNE STREET CLOSURE SUBTOTAL		36	2,556	34	2,414	20	1,420	7	497	--	--	28	1,988	21
	LOMBARDI AVE EB	25	32	800	3	75	6	150	10	250	--	--	13	325	3
	LOMBARDI AVE WB	25	35	875	3	75	6	150	10	250	--	--	13	325	3
	USH 41 NB OFF RAMP	25	--	--	--	--	--	--	--	--	--	--	1	25	--
	MARLEE LANE/MILITARY AVE	25	--	--	--	--	--	--	--	--	--	--	4	100	--
	LOMBARDI AVENUE INSIDE LANE CLOSURE SUBTOTAL		67	1,675	6	150	12	300	20	500	--	--	31	775	6
	LOMBARDI AVE EB	25	43	1,075	5	125	10	250	10	250	--	--	13	325	3
	LOMBARDI AVE WB	25	26	650	3	75	6	150	10	250	--	--	11	275	3
	USH 41 NB OFF RAMP	25	--	--	--	--	--	--	--	--	--	--	2	50	--
	MARLEE LANE/MILITARY AVE	25	--	--	--	--	--	--	--	--	--	--	4	100	--
	LOMBARDI AVENUE OUTSIDE LANE CLOSURE SUBTOTAL		69	1,725	8	200	16	400	20	500	--	--	30	750	6
	LOMBARDI AVE EB	3	120	360	7	21	14	42	20	60	2	6	15	45	7
	LOMBARDI AVE WB	3	76	228	5	15	10	30	20	60	2	6	16	48	7
	USH 41 NB OFF RAMP	3	--	--	--	--	--	--	--	--	--	--	2	6	--
	USH 41 SB OFF RAMP	3	21	63	3	9	6	18	7	21	--	--	9	27	7
	MARLEE LANE/MILITARY AVE	3	--	--	--	--	--	--	--	--	--	--	4	12	--
	LOMBARDI AVENUE TWO LANE CLOSURE SUBTOTAL		217	651	15	45	30	90	47	141	4	12	46	138	21
	TOTALS			**6,607**		**2,809**		**2,210**		**1,638**		**12**		**3,651**	**54**

ALL ITEMS ON THIS SHEET ARE CATEGORY 1000 UNLESS OTHERWISE NOTED.

3

TRAFFIC CONTROL - PAVEMENT MARKINGS

CATEGORY	LOCATION	646.0600 REMOVING PAVEMENT MARKINGS LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH WHITE LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH YELLOW LF
1000	LOMBARDI AVE EB	95	--	370
	LOMBARDI AVE WB	95	--	370
	LOMBARDI AVENUE INSIDE LANE CLOSURE SUBTOTAL	190	0	740
	LOMBARDI AVE EB	95	370	--
	LOMBARDI AVE WB	95	370	--
	LOMBARDI AVENUE OUTSIDE LANE CLOSURE SUBTOTAL	190	740	0
	SUBTOTAL	380	740	740
	TOTALS	**380**	**1480**	

SAWING

STATION - STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	COMMENTS
9+25'ARG' - 9+25'ARG'	ARGONNE STREET	35	-	
13+48'ARG' - 1383'ARG'	LOMBARDI ACCESS RD.	35	-	
113+15'VKW' - 121+20'VKW'	LOMBARDI, RT TURN LANE	-	800	
117+85'VKW' - 119+75'VKW'	LOMBARDI MEDIAN	-	200	
117+85'VKW' - 123+69'VKW'	LOMBARDI MEDIAN	-	590	
115+25'VKW' - 115+45'VKW'	LOMBARDI AVENUE EB	-	105	LOOP DETECTOR INSTALL
121+65'VKW' - 121+85'VKW'	LOMBARDI AVENUE WB	-	105	LOOP DETECTOR INSTALL
	TOTALS	**70**	**1,800**	

3

ADJUSTING WATER VALVE BOX

CATEGORY	LOCATION	SPV.0060.650 EACH
1700	14+50 'ARG' - 14+60 'ARG'	3
	1700 SUBTOTAL	3
	TOTAL	**3**

3

ERECTION AND REMOVAL OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637.0202 SIGNS REFLECTIVE TYPE II S.F.	637.0402 SIGNS REFLECTIVE FOLDING TYPE II S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
1	LOMBARDI AVE / CTH VK	D1-1	78" X 15"	8.13		1	1			ARGONNE ST, SEE SIGN DETAIL SHEET
2	"	R3-20R	24" X 36"	6.00			1			
3	"	R5-1A	42" X 30"	8.75		1				
4	"	R5-1	36" X 36"	9.00			1			
5	ARGONNE ST	R1-1F	30" X 30"		5.18					MOUNT TO TRAFFIC SIGNAL
6	"	R2-1	24" X 30"	5.00		1				35 MPH
6A	"	R7-1D						1	1	
7	"	R4-7	24" X 30"	5.00		1				
8	"	W3-3	36" X 36"	9.00		1				
8A	"	R3-8R	54" X 30"	11.25		1				
9	"	R3-7R	30" X 30"	6.25		1				
10	"	R10-7	24" X 30"	5.00		1				
11	"	R6-2R	24" X 30"	5.00		1				
12	LOMBARDI ACCESS RD	R1-1	30" X 30"	5.18		1		1	1	
13	"	R6-2R	24" X 30"	5.00		1				
14	ARGONNE ST	R4-7						1	1	
15	"	R3-2								
16	"	R1-2						1	1	
16A	"	R6-2R	24" X 30"	5.00						MOUNT TO TRAFFIC SIGNAL
17	"	R6-3A	30" X 24"	5.00						MOUNT BELOW SIGN #16A ON TRAFFIC SIGNAL
18	"	J13-1	24" X 45"	7.50		1				CTH VK, SEE SIGN PLAN SHEET
19	LOMBARDI AVE / CTH VK	R2-1	30" X 36"	7.50			1	1	1	35 MPH
19A	"	R3-2	36" X 36"	9.00			1			
20	"	R4-7	24" X 30"	5.00						MOUNT TO TRAFFIC SIGNAL
21	"	R6-2L	30" X 36"	7.50			1	1	1	
22	"	R4-7	24" X 30"	5.00						MOUNT TO TRAFFIC SIGNAL
23	"	R5-1	36" X 36"	9.00			1			
24	"	R5-1A	42" X 30"	8.75		1				
25	"	R3-20L	24" X 36"	6.00			1			
26	"	D1-1	78" X 15"	8.13		1	1			ARGONNE ST, SEE SIGN DETAIL SHEET
	PROJECT TOTALS			171.93	5.18	14	9	6	6	

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

STORM SEWER STRUCTURES

CATEGORY	ROADWAY	STRUCTURE NUMBER	STATION	OFFSET	RIM ELEV	LOWEST INVERT	DEPTH	611.3004 INLETS 4-FT DIAMETER EACH	611.3230 INLETS 2X3 FT EACH	611.0624 INLET COVERS TYPE H EACH	611.0639 INLET COVERS TYPE H-S EACH	520.8000 CONCRETE COLLARS FOR PIPE EACH	611.2008 MANHOLES 8-FT DIAMETER EACH	611.0530 MANHOLE COVERS TYPE J EACH	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	COMMENTS
1000	ARGONNE	5	14ARG+09	35.2' RT	637.88	634.41	3.47	1	--	1	--	--	--	--	--	
		6	14ARG+08	0.2' RT	638.59	634.23	4.36	1	--	1	--	--	--	--	--	
		7	14ARG+08	7.0' LT	638.59	633.94	4.65	1	--	1	--	--	--	--	--	
		8	14ARG+07	31.9' LT	638.14	633.81	4.33	1	--	1	--	--	--	--	--	
		EX-5	13ARG+77	29.1' LT	638.19	FIELD VERIFY		--	--	--	--	1	--	--	--	
		9	13ARG+37	54.1' RT	637.21	634.12	3.09	1	--	--	1	--	--	--	--	
		10	13ARG+20	37.9' RT	637.56	634.02	3.54	1	--	1	--	--	--	--	--	
		11	12ARG+20	34.7' RT	637.33	633.27	4.06	1	--	1	--	--	--	--	--	
		12	12ARG+19	23.4' LT	637.58	632.98	4.60	--	1	1	--	--	--	--	--	
		13	10ARG+60	34.7' RT	636.83	633.16	3.67	1	--	1	--	--	--	--	--	
		14	10ARG+60	22.3' LT	637.08	632.87	4.21	--	1	1	--	--	--	--	--	
		20	10ARG+60	29.6' LT	637.74	FIELD VERIFY		--	--	--	--	2	1	1		
		21	12ARG+19	29.7' LT	637.98	FIELD VERIFY		--	--	--	--	2	1	1	--	
	LOMBARDI	23	118VKE+04	14.7' RT	640.62	FIELD VERIFY		1	--	1	--	1	--	--	--	
		24	119VKE+85	20.0' LT	639.33	FIELD VERIFY		1	--	1	--	1	--	--	--	
		22	119VKE+45	53.3' RT	640.12	FIELD VERIFY		1	--	1	--	1	--	--	1	
		25	121VKE+72	21.1' LT	638.58	FIELD VERIFY		--	--	--	--	1	--	--	--	
	TOTALS:							**11**	**2**	**12**	**1**	**9**	**2**	**2**	**1**	

STORM SEWER PIPES

CATEGORY	ROADWAY	FROM STR	TO STR	INVERT ELEV FT	DISCH ELEV FT	SLOPE	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	COMMENTS
1000	ARGONNE	5	6	634.41	634.23	0.51%	35	--	
		6	7	634.23	634.19	0.57%	7	--	
		7	8	633.94	633.81	0.52%	--	25	
		8	EX-5	633.81	633.61	0.61%	--	33	
		9	10	634.12	634.02	0.43%	23	--	
		10	11	634.02	633.52	0.50%	100	--	
		11	12	633.27	632.98	0.50%	--	58	
		12	21	632.98	632.94	0.67%	--	6	
		13	14	633.16	632.87	0.50%	58	--	
		14	20	632.87	632.83	0.67%	6	--	
		24	COLLAR		FIELD VERIFY		15	--	FIELD VERIFY INVERTS AND PIPE SIZE
		COLLAR	22		FIELD VERIFY		22	--	FIELD VERIFY INVERTS AND PIPE SIZE
		COLLAR	23		FIELD VERIFY		4	--	FIELD VERIFY INVERTS AND PIPE SIZE
		COLLAR	24		FIELD VERIFY		14	--	FIELD VERIFY INVERTS AND PIPE SIZE
	TOTALS:						**284**	**122**	

RECONSTRUCTING STRUCTURES

CATEGORY	ROADWAY	STRUCUTRE	STATION	OFFSET	PR-RIM	611.0420 RECONSTRUCTING MANHOLES EACH	611.8115 ADJUSTING INLET COVERS EACH
1000	ARGONNE	EX-1	14ARG+85	132.0' LT	638.34	--	1
		EX-5	12ARG+19	29.7' LT	638.19	1	--
		TOTALS				1	1

ALL ITEMS ON THIS SHEET ARE CATEGORY 1000 UNLESS OTHERWISE NOTED.

FILE NAME: I:\50142\C2-12-14\t1\cds\030201_mq_85
PLOT DATE : 10/24/2012 1:53:21 PM PLOT BY : nspitzer PLOT NAME : PLOT SCALE : 1:1

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REMOVING DRAINAGE STRUCTURES

CATEGORY	ROADWAY	STATION	OFFSET	204.0220 REMOVING INLETS EACH	204.0245.1 REMOVING STORM SEWER 12-INCH LF
1000	ARGONNE	13ARG+37	49.7' RT	1	--
		14ARG+75	0.5' RT	1	--
		14ARG+75 - 14ARG+34	57.3' RT	--	68
	LOMBARDI	117VKE+86	34.5' LT	1	--
		119VKE+46	45.7' RT - 64.7' RT	--	19
		119VKE+46	45.7' RT	1	--
		119VKE+85	35.4' LT	1	--
				5	87

ALL ITEMS ON THIS SHEET ARE CATEGORY 1000 UNLESS OTHERWISE NOTED.

FILE NAME: I:\50142\C2-12-14\t1\cds\030201_mq_85
PLOT DATE : 10/24/2012 1:53:21 PM PLOT BY : nspitzer PLOT NAME : PLOT SCALE : 1:1

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CONCRETE BASES

CATEGORY	PROJECT	ID NO.	STA	OFFSET	654.0101 CONCRETE BASE TYPE 1 EACH	654.0113 CONCRETE BASE TYPE 13 EACH
1300						
	1133-03-88					
		SB01	119VKE+65	54R	--	1
		SB02	119VKE+23	74R	1	--
		SB03	117VKE+91	66R	1	--
		SB04	117VKE+89	16L	1	--
		SB05	117VKW+83	30L	--	1
		SB06	118VKW+91	32L	1	--
		SB07	119VKW+02	32L	1	--
		SB08	119VKW+25	32L	1	--
		SB09	119VKE+21	7L	1	--
	PROJECT 1133-03-88 TOTALS:				7	2

TRAFFIC SIGNAL EQUIPMENT

CATEGORY	PROJECT	ID NO.	STA	OFFSET	657.0100 PEDESTAL BASES EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.1355 INSTALL POLES TYPE 12 EACH	657.1540 INSTALL MONOTUBE ARMS 40-FT EACH	657.1550 INSTALL MONOTUBE ARMS 50-FT EACH
1300									
	1133-03-88								
		SB01	119VKE+65	54R	--	--	1	--	1
		SB02	119VKE+23	74R	1	1	--	--	--
		SB03	117VKE+91	66R	1	1	--	--	--
		SB04	117VKE+89	16L	1	1	--	--	--
		SB05	117VKW+83	30L	--	--	1	1	--
		SB06	118VKW+91	32L	1	1	--	--	--
		SB07	119VKW+02	32L	1	1	--	--	--
		SB08	119VKW+25	32L	1	1	--	--	--
		SB09	119VKE+21	7L	1	1	--	--	--
	PROJECT 1133-03-88 TOTALS:				7	7	2	1	1

3

TRAFFIC SIGNAL CONTROLLER AND CABINET

CATEGORY	PROJECT	ID NO.	STA	OFFSET	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH	SPV.0060.452 TRAFFIC SIGNAL CONTROLLER AND CABINET EACH
1300						
	1133-03-88					
		CB01	119VKE+84	53R	1	1
	PROJECT 1133-03-88 TOTALS:				1	1

PULL BOXES

CATEGORY	PROJECT	ID NO.	STA	OFFSET	653.0135 PULL BOXES STEEL 24x36-INCH EACH	653.0140 PULL BOXES STEEL 24x42-INCH EACH
1300						
	1133-03-88					
		PB01	119VKE+72	51R	--	1
		PB02	119VKE+70	57R	--	1
		PB03	119VKE+23	70R	--	1
		PB03A	119VKE+63	71R	--	1
		PB04	117VKE+99	72R	--	1
		PB04A	115VKE+33	54R	1	--
		PB05	117VKE+96	9R	--	1
		PB06	117VKW+92	30L	1	--
		PB07	118VKW+13	30L	--	1
		PB08	119VKW+03	29L	1	--
		PB09	119VKW+78	32L	--	1
		PB09A	121VKW+74	29L	1	--
		PB10	119VKE+70	6L	--	1
		PB11	119VKE+21	5L	1	--
	PROJECT 1133-03-88 TOTALS:				5	9

ALL ITEMS ON THIS SHEET ARE CATEGORY 1300 UNLESS OTHERWISE NOTED.

LOOP DETECTORS

CATEGORY	LOCATION	LOOP NO.	HOME RUN PULL BOX	SIZE	NO. OF TURNS	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR LF	655.0700 LOOP DETECTOR LEAD IN CABLE LF	655.0800 LOOP DETECTOR WIRE LF
1300	CTH VK/ARGONNE	21	PB09A	6 'X 30'	4	SDD 9F 15-3B LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	147	340	588
		51	PB11	6 'X 20'	4	SDD 9F 15-3B LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	110	288
		61	PB04A	6 'X 30'	4	SDD 9F 15-3B LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	94	455	376
		81	PB03	6 'X 20'	4	SDD 9F 15-3B LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	67	70	268
		82	PB03A	6 'X 20'	3	SDD 9F 15-3B LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	72	130	288
		83	PB03A	6 'X 20'	4	SDD 9F 15-3B LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	62	130	248
						TOTAL	514	1235	2056

ALL ITEMS ON THIS SHEET ARE CATEGORY 1300 UNLESS OTHERWISE NOTED.

TRAFFIC SIGNAL EQUIPMENT

CATEGORY	PROJECT	SIGNAL BASE NO.	SIGNAL HEAD NO.	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH
1300	1133-03-88				
		SB01	HEAD 2	1	1
		SB01	HEAD 3	1	1
		SB01	HEAD 4	1	1
		SB02	HEAD 12	1	1
		SB03	HEAD 1	1	1
		SB03	HEAD 6	1	1
		SB04	HEAD 7	1	1
		SB05	HEAD 8	1	1
		SB05	HEAD 9	1	1
		SB05	HEAD 10	1	1
		SB06	HEAD 13	1	1
		SB07	HEAD 14	1	1
		SB08	HEAD 5	1	1
		SB08	HEAD 15	1	1
		SB09	HEAD 11	1	1
		SB09	HEAD 16	1	1
	PROJECT 1133-03-88 TOTALS:			16	16

TRAFFIC SIGNAL EQUIPMENT

CATEGORY	PROJECT	SIGNAL BASE NO.	SIGNAL HEAD NO.	658.0600 LED MODULES 12-INCH RED BALL EACH	658.0605 LED MODULES 12-INCH YELLOW BALL EACH	658.0610 LED MODULES 12-INCH GREEN BALL EACH	658.0615 LED MODULES 12-INCH RED ARROW EACH	658.0620 LED MODULES 12-INCH YELLOW ARROW EACH	658.0625 LED MODULES 12-INCH GREEN ARROW EACH
1300	1133-03-88								
		SB01	HEAD 2	1	1	1	--	--	--
		SB01	HEAD 3	1	1	1	--	--	--
		SB01	HEAD 4	1	1	1	--	--	--
		SB02	HEAD 12	1	1	1	--	--	--
		SB03	HEAD 1	1	1	1	--	--	--
		SB03	HEAD 6	--	--	--	1	2	1
		SB04	HEAD 7	--	--	--	1	2	1
		SB05	HEAD 8	1	1	1	--	--	--
		SB05	HEAD 9	1	1	1	--	--	--
		SB05	HEAD 10	1	1	1	--	--	--
		SB06	HEAD 13	--	--	--	1	1	1
		SB07	HEAD 14	--	--	--	1	1	1
		SB08	HEAD 5	1	1	1	--	--	--
		SB08	HEAD 15	--	--	--	1	1	1
		SB09	HEAD 11	--	--	--	1	2	1
		SB09	HEAD 16	--	--	--	1	1	1
	PROJECT 1133-03-88 TOTALS:			9	9	9	7	10	7

TRAFFIC SIGNAL CABLE

CATEGORY	PROJECT	FROM	TO	655.0230 CABLE TRAFFIC SIGNAL 7-14 AWG LF	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF
1300					
	1133-03-88				
		CB01	SB01	--	100
		CB01	SB02	90	--
		CB01	SB03	--	221
		CB01	SB04	302	--
		CB01	SB05	--	413
		CB01	SB06	255	--
		CB01	SB07	245	--
		CB01	SB08	--	265
		CB01	SB09	--	145
	PROJECT 1133-03-88 TOTALS:			892	1144

ELECTRIC CABLE

CATEGORY	PROJECT	FROM	TO	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
1300				
	1133-03-88			
		CB01	SB01	30
		CB01	SB02	77
		SB02	SB03	149
		SB03	SB04	111
		SB04	SB05	120
		SB05	SB06	148
		SB06	SB07	46
		SB07	SB08	36
		SB08	SB09	230
		SB09	CB01	133
	PROJECT 1133-03-88 TOTALS:			1080

PULL BOX BONDING

CATEGORY	PROJECT	FROM	TO	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
1300				
	1133-03-88			
		CB01	PB01	21
		CB01	PB02	23
		SB02	PB03	14
		SB02	PB03A	14
		SB03	PB04	74
		SB04	PB05	20
		SB05	PB06	19
		SB05	PB07	41
		SB07	PB08	17
		SB07	PB09	109
		SB09	PB11	14
		SB09	PB10	64
	PROJECT 1133-03-88 TOTALS:			430

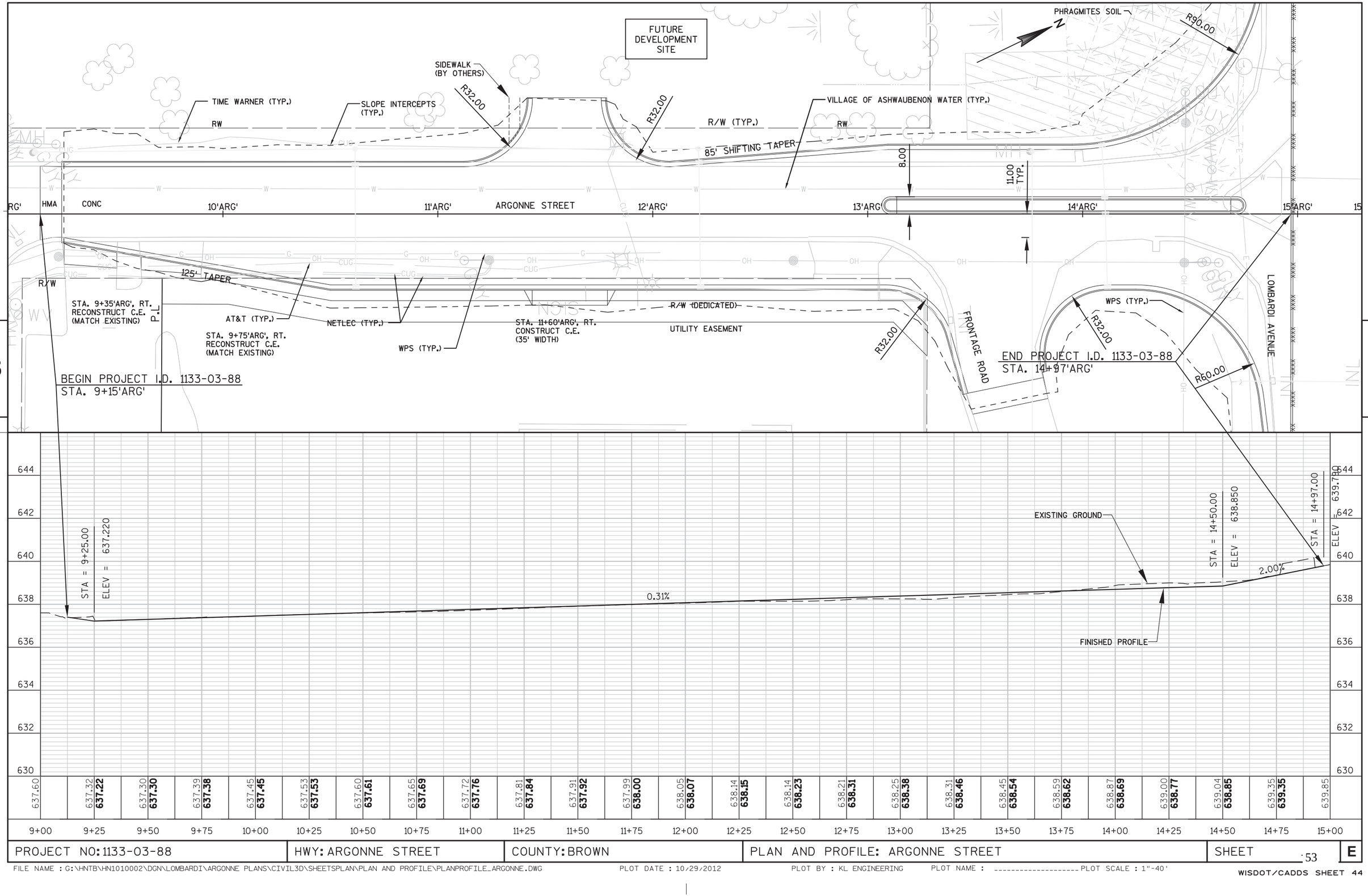
CONDUIT

CATEGORY	PROJECT	FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH LF
1300						
	1133-03-88					
		CB01	PB01	--	33	--
		PB01	SB01	9	--	--
		CB01	PB02	--	39	--
		PB02	PB03	--	100	--
		PB03	SB02	5	--	--
		PB03	PB03A	--	116	--
		PB03A	PB04	--	138	--
		PB04	PB04A	--	524	--
		PB04	SB03	10	--	--
		PB04	PB05	--	162	--
		PB05	SB04	10	--	--
		PB05	PB07	--	138	69
		PB07	PB06	--	44	--
		PB06	SB05	9	--	--
		PB07	PB08	--	186	--
		PB08	SB06	13	--	--
		PB08	SB07	23	--	--
		PB08	PB09	--	152	--
		PB09	PB09A	--	594	--
		PB09	PB10	--	150	75
		PB10	PB11	--	100	--
		PB11	SB08	4	--	--
		PB10	PB01	--	116	--
	PROJECT 1133-03-88 TOTALS:			83	2592	144

MOUNTING HARDWARE

CATEGORY	PROJECT	LOCATION	658.5069.001 SIGNAL MOUNTING HARDWARE LS
1300			
	1133-03-88		
		CTH VK/ARGONNE	1
	PROJECT 1133-03-88 TOTALS:		1

ALL ITEMS ON THIS SHEET ARE CATEGORY 1300 UNLESS OTHERWISE NOTED.



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	PLAN AND PROFILE: ARGONNE STREET	SHEET 53	E

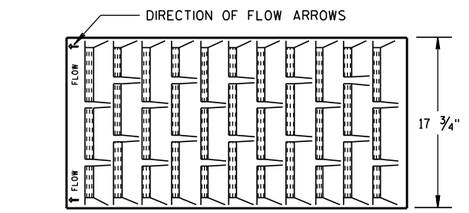
FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\SHEETSPLAN\PLAN AND PROFILE\PLANPROFILE_ARGONNE.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1"-40'

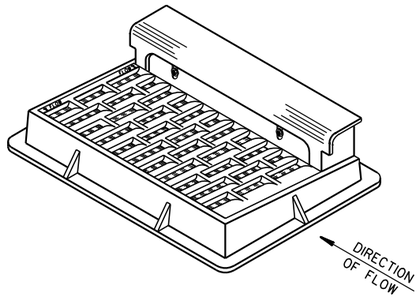
Standard Detail Drawing List

08A05-16A	INLET COVERS TYPE A, H, A-S, & H-S
08A05-17D	INLET COVER, TYPE Z MANHOLE COVERS, TYPE K, J, J-S, J-H, J-H-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09B04-09	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09C06-05	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C12-02B	CONCRETE BASE TYPE 13
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E06-04	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E08-04C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-04E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-03B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
11B02-02	CONCRETE MEDIAN NOSE
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-07	URBAN DOWELED CONCRETE PAVEMENT
13C18-01A	CONCRETE PAVEMENT JOINTING
13C18-01B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-01C	CONCRETE PAVEMENT JOINT TIES
13C18-01D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-01	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C08-15B	PAVEMENT MARKING (INTERSECTIONS)
15C08-15E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-15F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15D20-01	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D22-01	TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-01	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-01	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D29-02	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

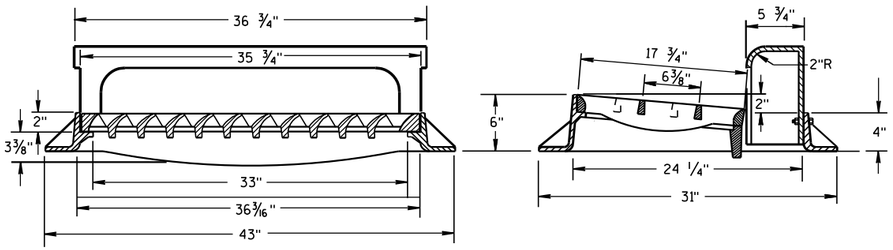
6

NOTE:
GRATE IS REVERSIBLE.





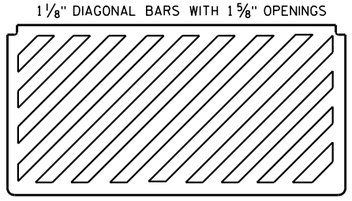
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



TYPE "H"

(APPROXIMATE WEIGHT 422 LBS.)
FRAME..... 175 LBS.
GRATE..... 138 LBS.
CURB BOX..... 109 LBS.

1 1/8" DIAGONAL BARS WITH 1 5/8" OPENINGS



SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")
(APPROXIMATE WEIGHT 172 LBS.)
GRATE..... 172 LBS.

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

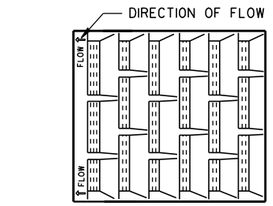
GENERAL NOTES

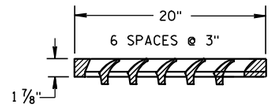
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

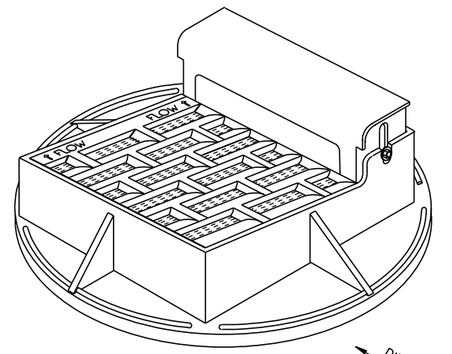
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

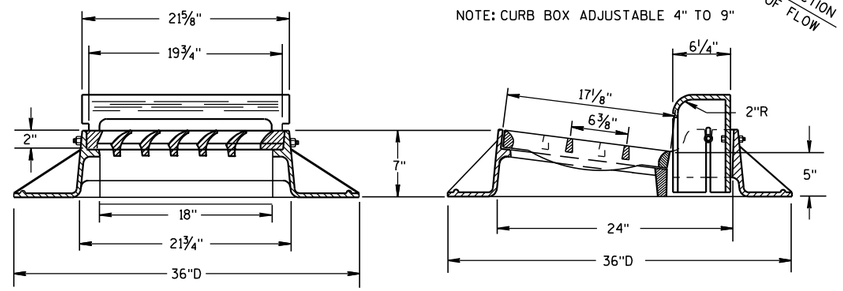






NOTE: CURB BOX ADJUSTABLE 4" TO 9"

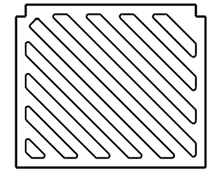
NOTE:
GRATE IS REVERSIBLE.



TYPE "A"

(APPROXIMATE WEIGHT 325 LBS.)
FRAME..... 157 LBS.
GRATE..... 84 LBS.
CURB BOX..... 84 LBS.

1" DIAGONAL BARS WITH 1 1/2" OPENINGS



SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 19 3/4" X 17" X 1 7/8"
GRATE..... 84 LBS.

(NOTED AS TYPE A-S ON DRAINAGE TABLE)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

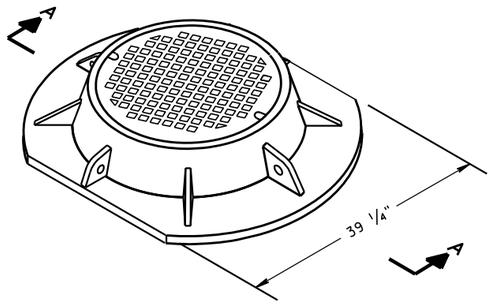
APPROVED
10/4/1999 DATE
/S/ Rory L. Rhi... CHIEF ROADWAY DEVELOI...GINEER
FHWA

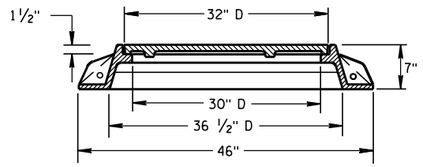
6

S.D.D. 8 A 5-16a

6

S.D.D. 8 A 5-16a



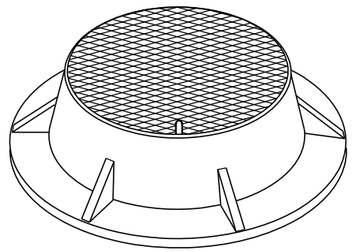


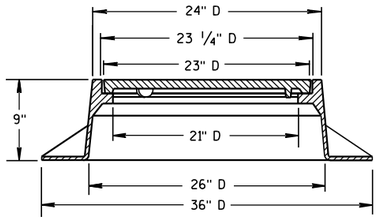
SECTION A-A

TYPE "K"

(APPROXIMATE WEIGHT 415 LBS.)

FRAME.....210 LBS.
LID.....205 LBS.

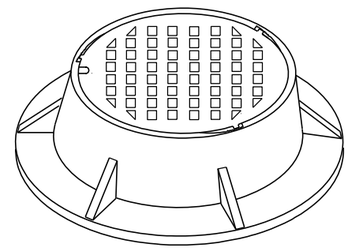


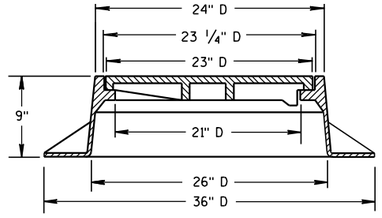


TYPE "J"

(APPROXIMATE WEIGHT 250 LBS.)

FRAME.....135 LBS.
LID.....115 LBS.





TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID

(APPROXIMATE WEIGHT 245 LBS.)

FRAME.....145 LBS.
LID.....100 LBS.

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

GENERAL NOTES

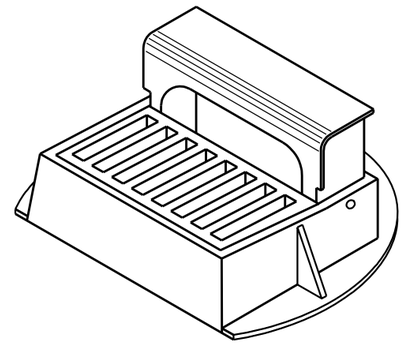
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

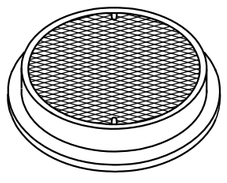
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

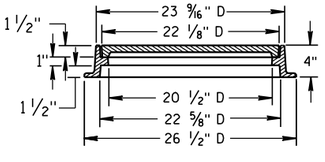
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

(1) MANUFACTURER MAY PROVIDE ADDITIONAL SEALS OR GASKETS.



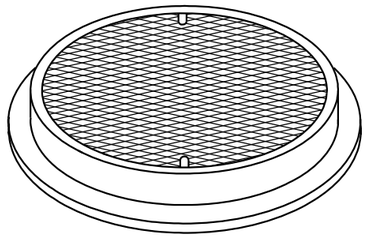


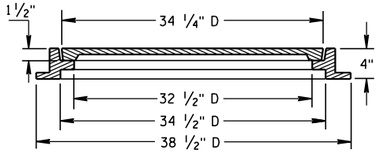


TYPE "L"

(APPROXIMATE WEIGHT 145 LBS.)

FRAME.....75*
LID.....70*

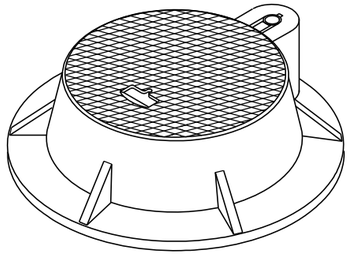


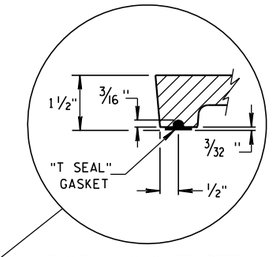


TYPE "M"

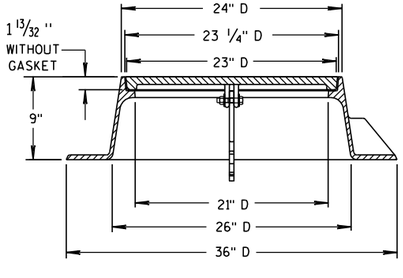
(APPROXIMATE WEIGHT 385 LBS.)

FRAME..... 125*
LID..... 260*





"T SEAL" GASKET DETAIL



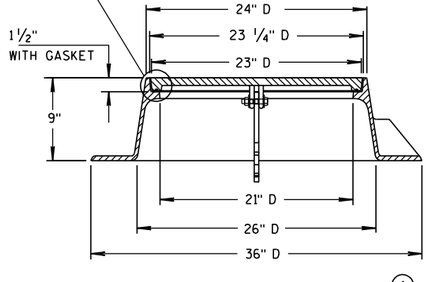
TYPE "J" HINGED

LID WITHOUT "T SEAL" GASKET

(APPROXIMATE WEIGHT 310 LBS.)

FRAME.....190 LBS.
LID.....120 LBS.

(NOTED AS TYPE J-H ON THE DRAINAGE TABLE)



TYPE "J" HINGED-SPECIAL (1)

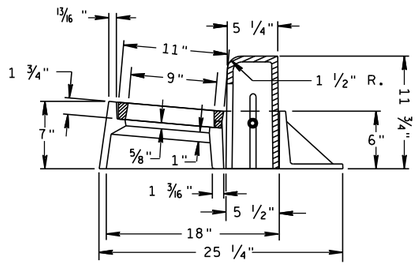
LID WITH "T SEAL" GASKET

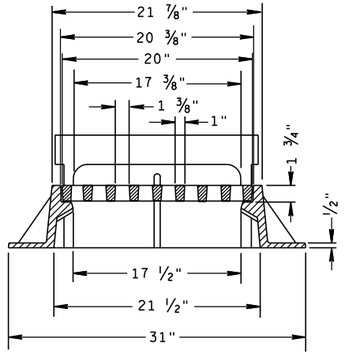
(APPROXIMATE WEIGHT 310 LBS.)

FRAME.....190 LBS.
LID.....120 LBS.

(NOTED AS TYPE J-S-H ON THE DRAINAGE TABLE)

CURB BOX ADJUSTABLE 4" TO 10"





INLET COVER TYPE "Z"

(APPROXIMATE WEIGHT 340 LBS.)

FRAME.....198 LBS.
GRATE..... 50 LBS.
CURB BOX..... 92 LBS.

INLET COVER, TYPE Z
MANHOLE COVERS, TYPE
K, J, J-S, J-H, J-H-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

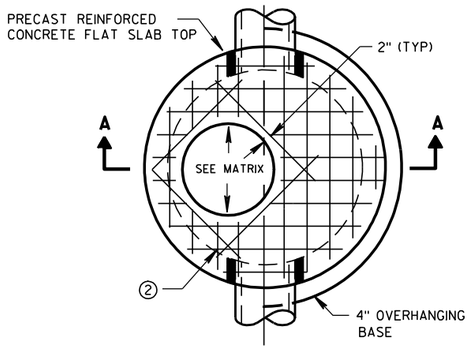
APPROVED
11/24/2005 DATE
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

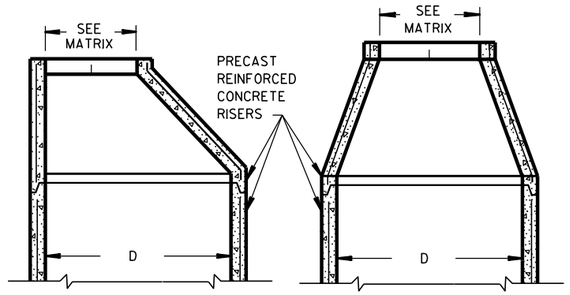
S.D.D. 8 A 5-17d

6

S.D.D. 8 A 5-17d

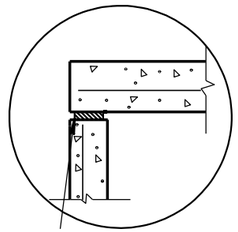


PLAN VIEW CIRCULAR OPENING

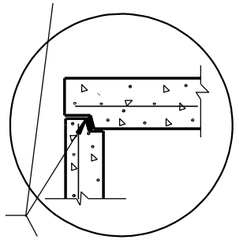


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

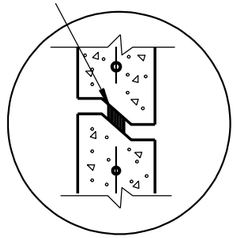


TOP WITH PLAIN END JOINT



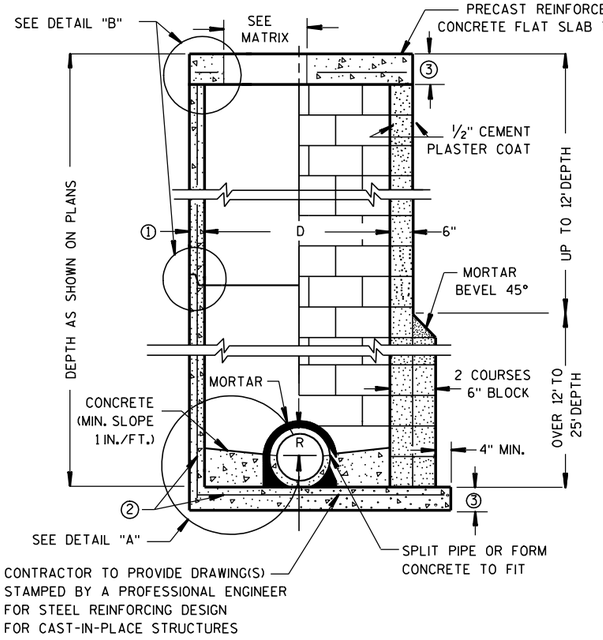
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



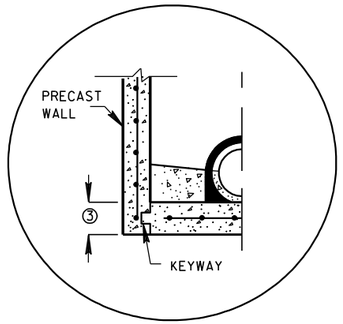
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

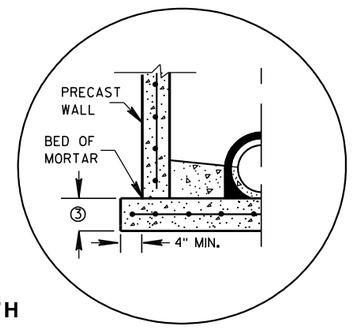


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

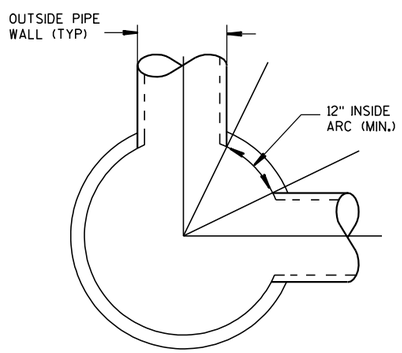


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

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 MANHOLE 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 DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE 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.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

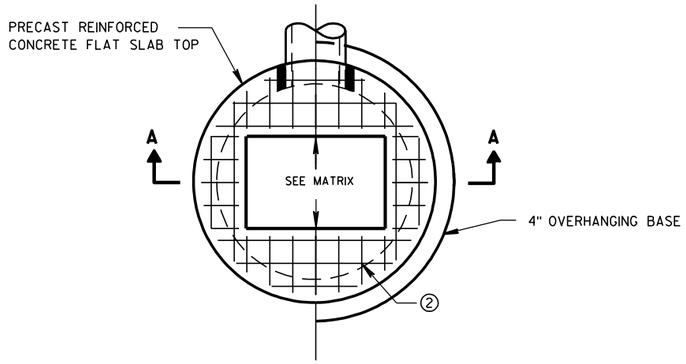
APPROVED

6/5/2012
DATE

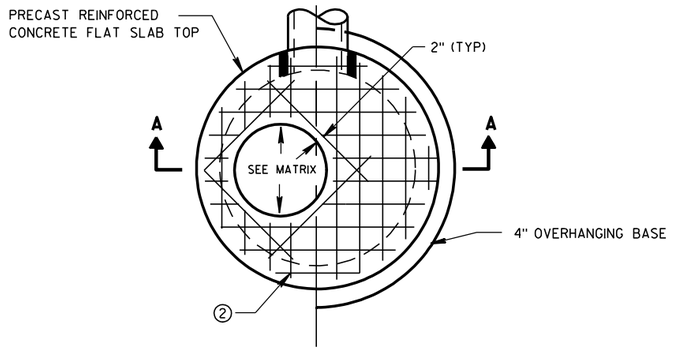
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

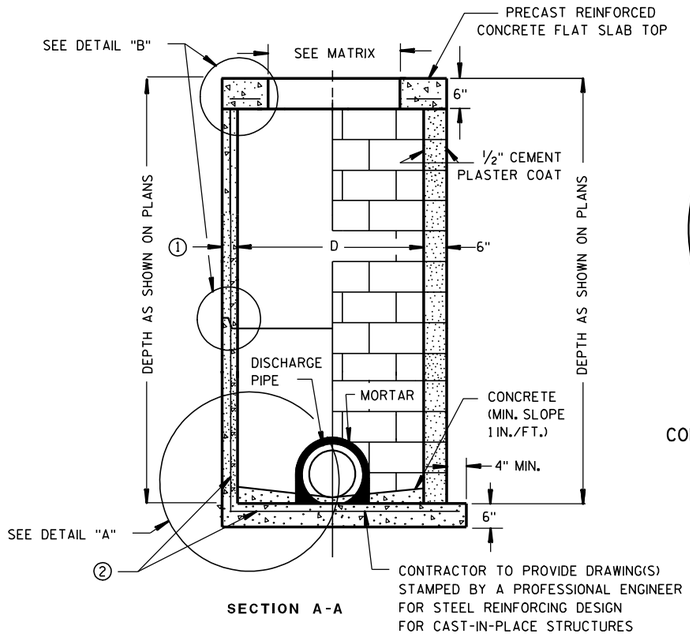
6
S.D.D. 8 B 9-1



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

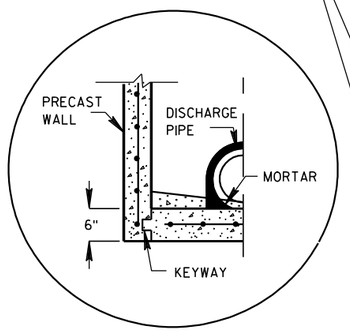


SECTION A-A

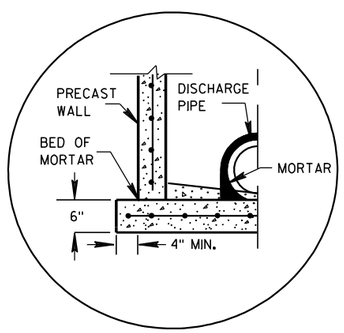
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP

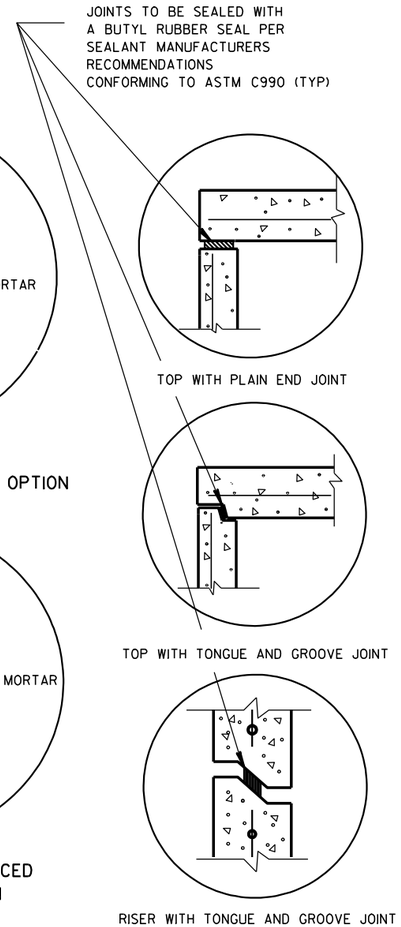


PRECAST REINFORCED
CONCRETE WITH INTEGRAL BASE OPTION



SEPERATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

GENERAL NOTES

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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.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

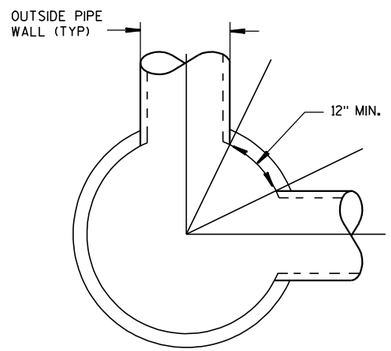
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

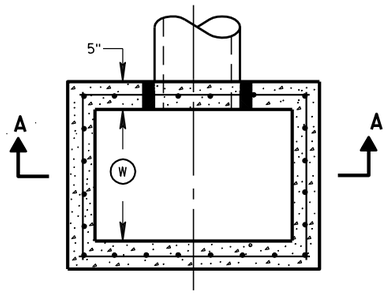
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

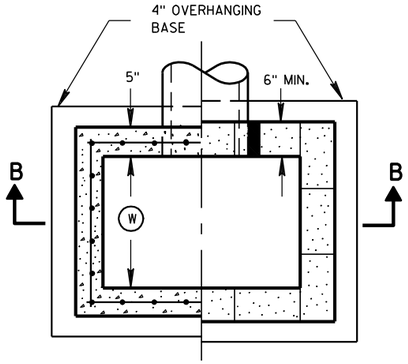
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

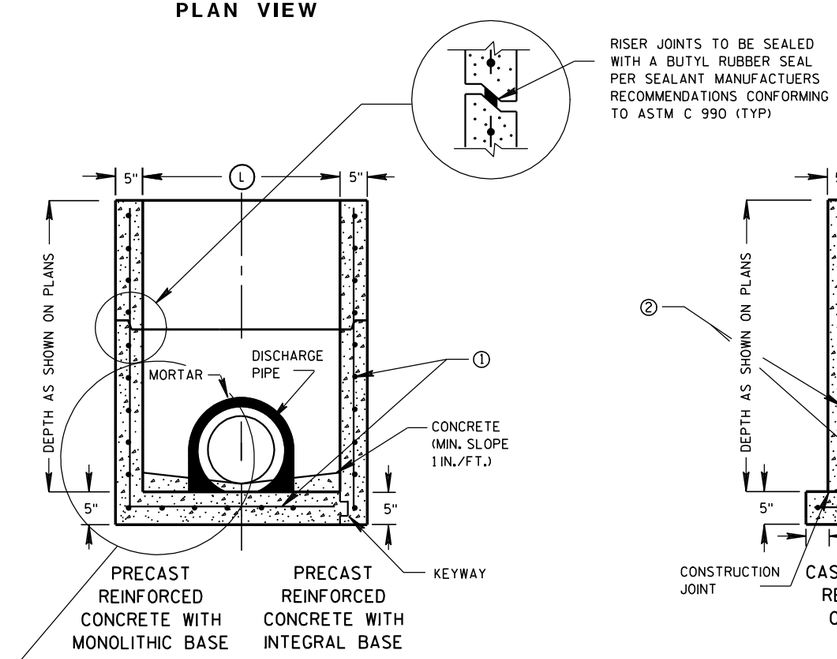
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA



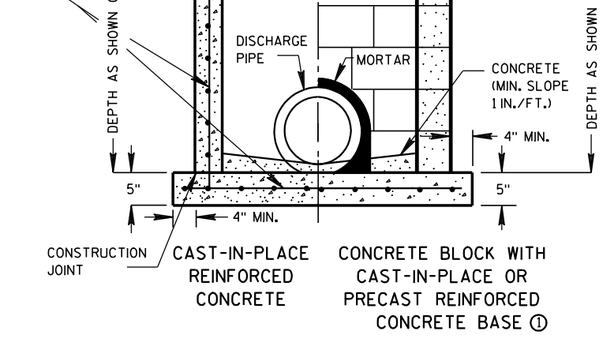
PLAN VIEW



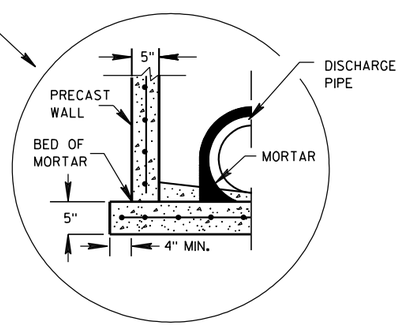
PLAN VIEW



SECTION A-A



SECTION B-B



SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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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 SEPERATE 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.

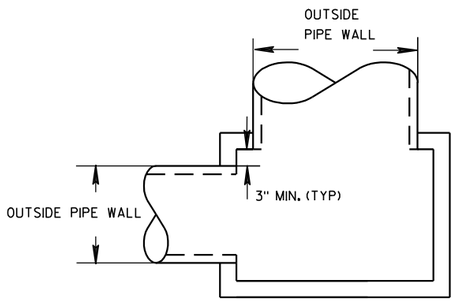
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

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

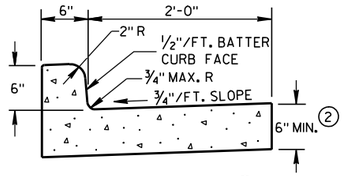


DETAIL "A"

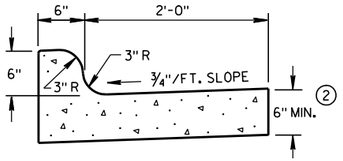
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

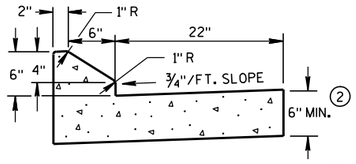
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS D 59 — ENGINEER
IT
FHWA



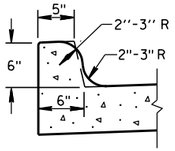
TYPES A & D (1)



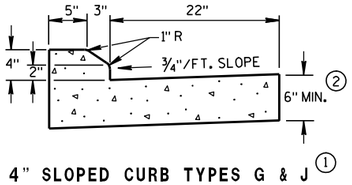
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

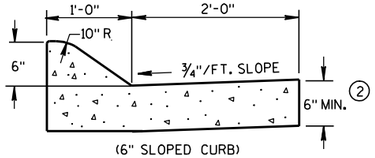


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

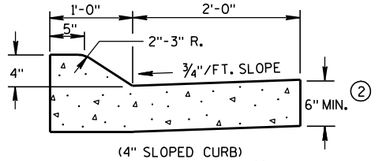


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

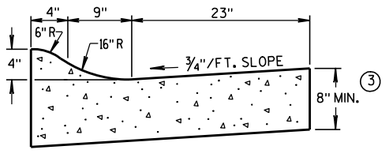


(6" SLOPED CURB)



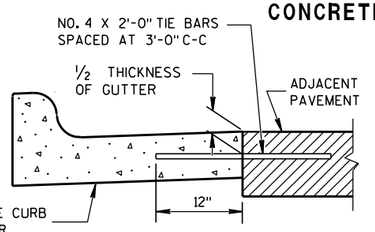
(4" SLOPED CURB)

TYPES A & D (1)

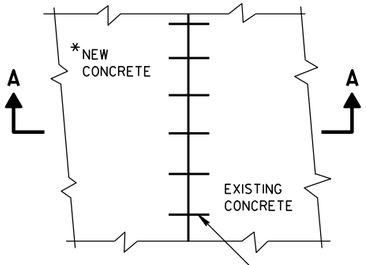


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

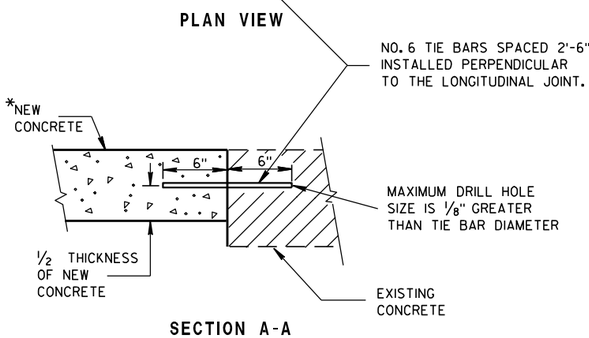


TYPICAL TIE BAR LOCATION (1)



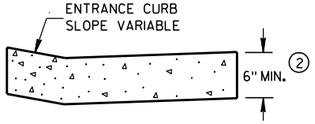
PLAN VIEW

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



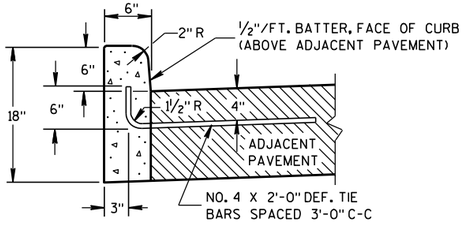
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



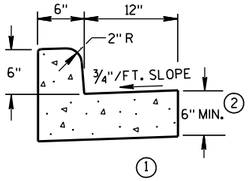
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



(1)

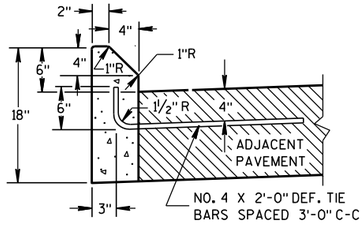
TYPES A & D



(1)

TYPES A & D

CONCRETE CURB & GUTTER 18"



(1)

TYPES G & J

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.

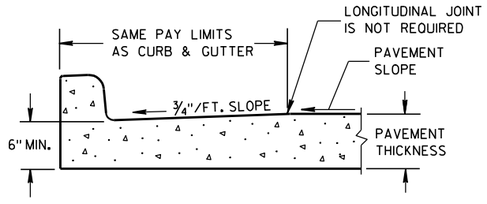
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(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.

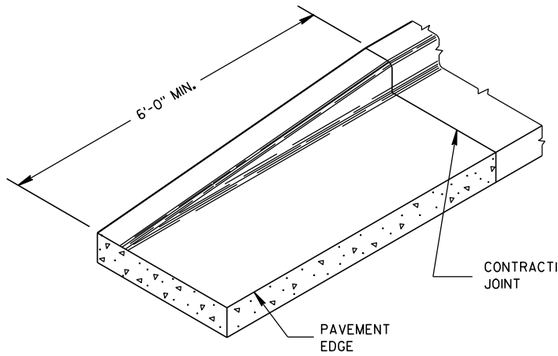
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(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

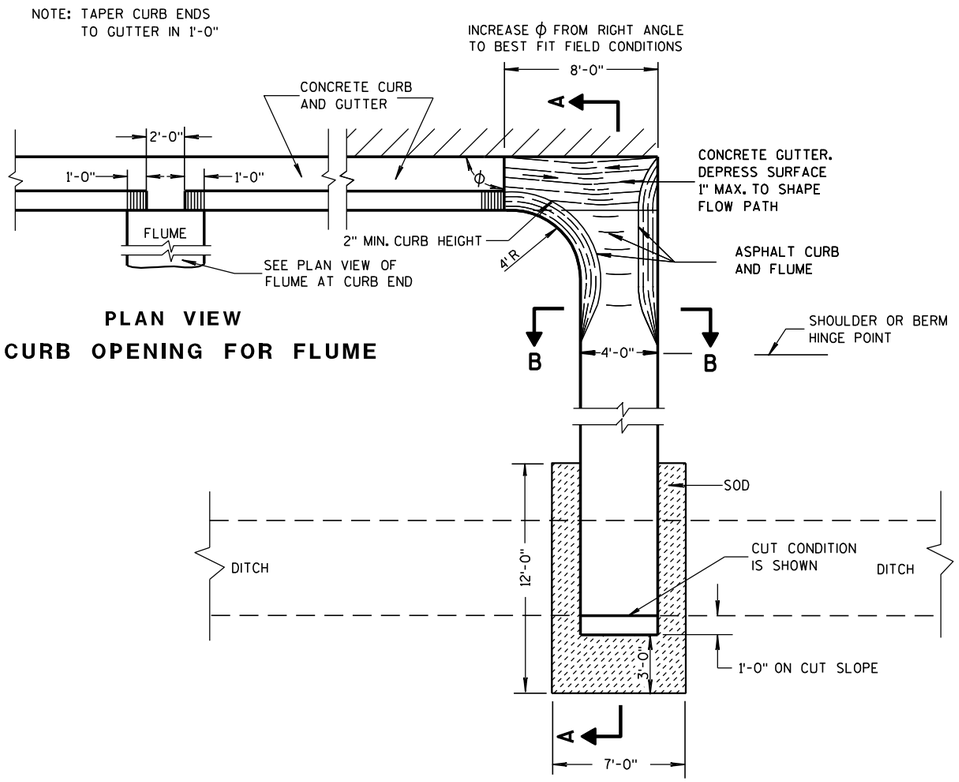
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

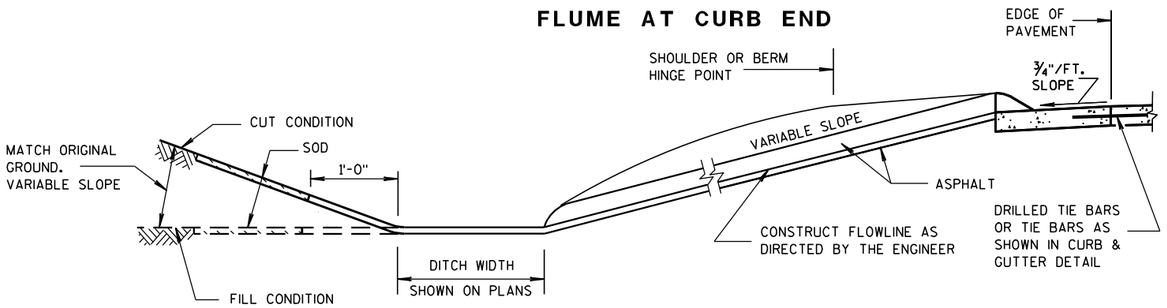
S.D.D. 8 D 1-17

ASPHALTIC FLUME

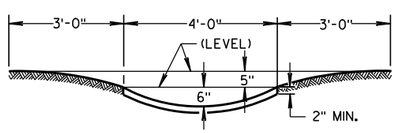


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

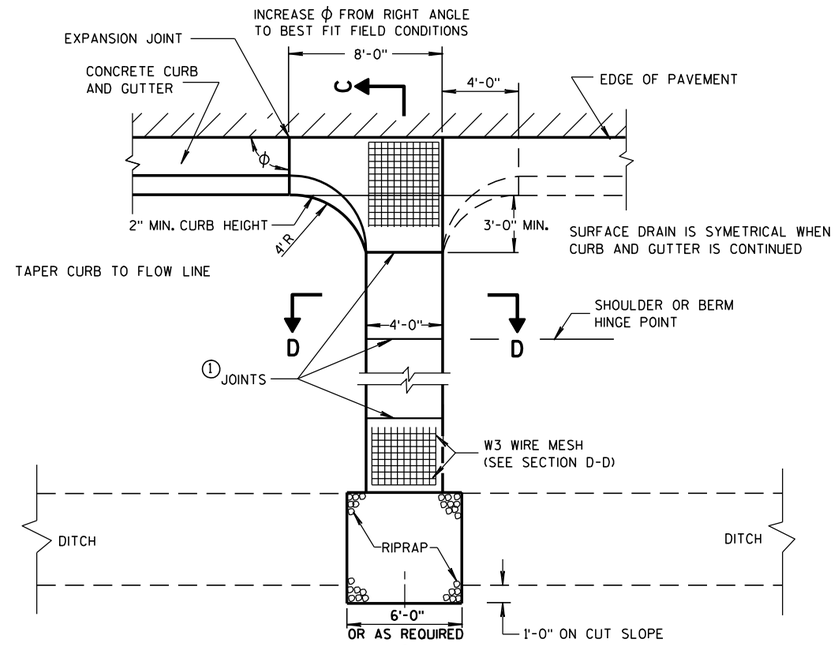
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

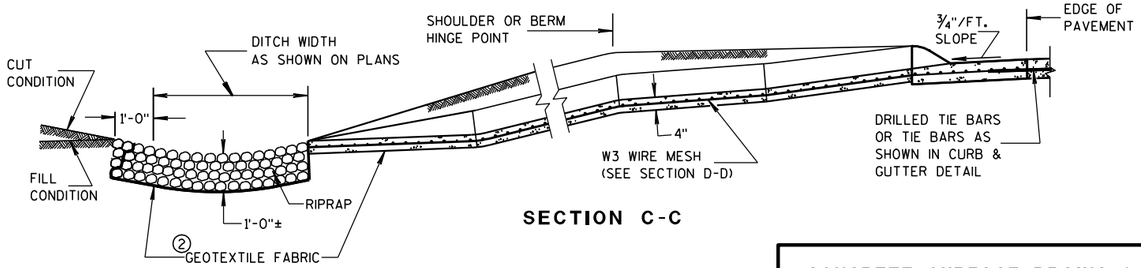
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

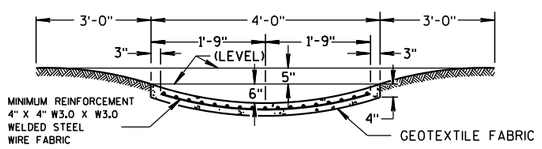
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT

FHWA

6

S.D.D. 8 D 4-5

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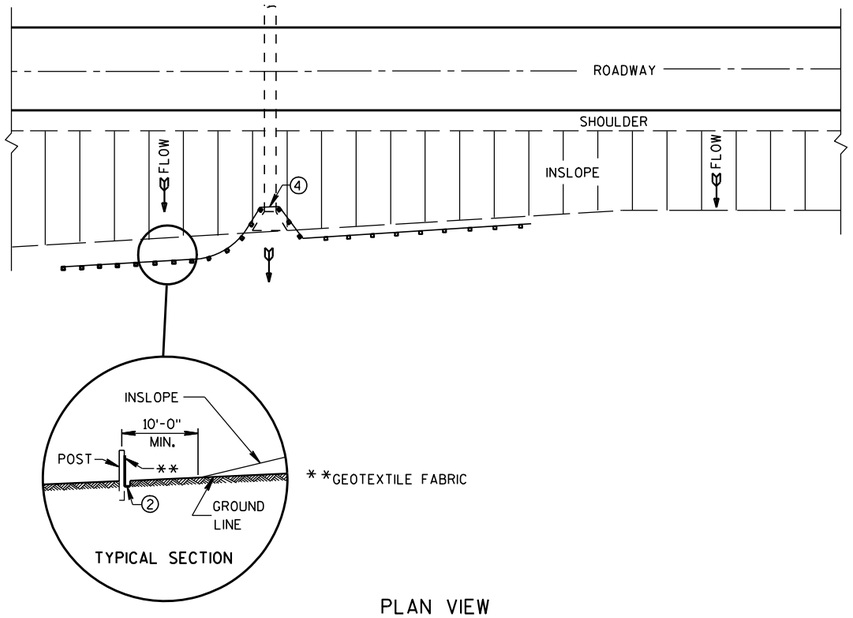
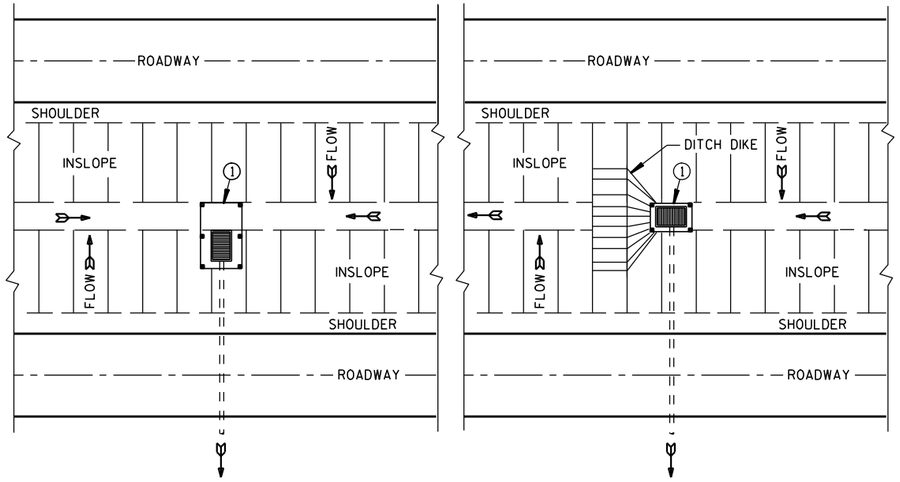
S.D.D. 8 D 4-5



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



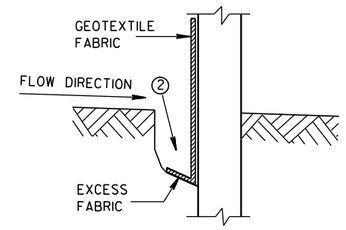
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

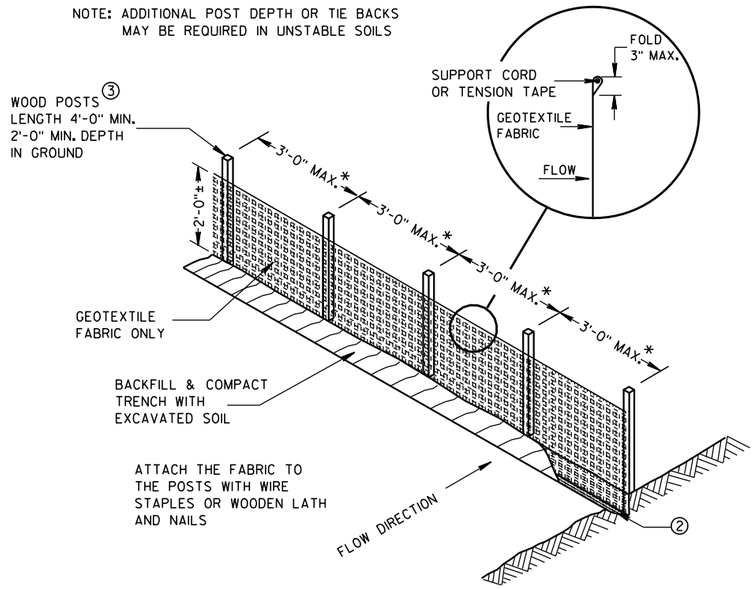
GENERAL NOTES

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

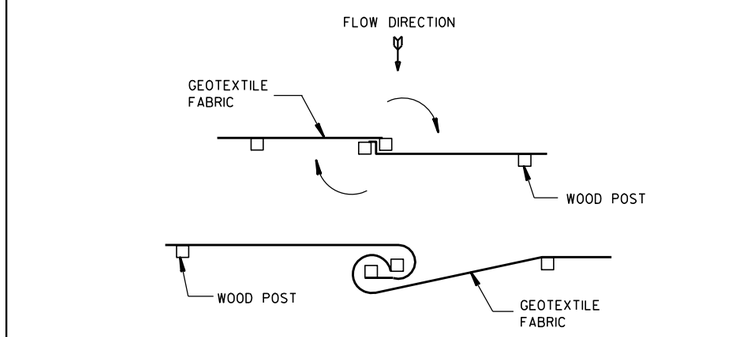
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



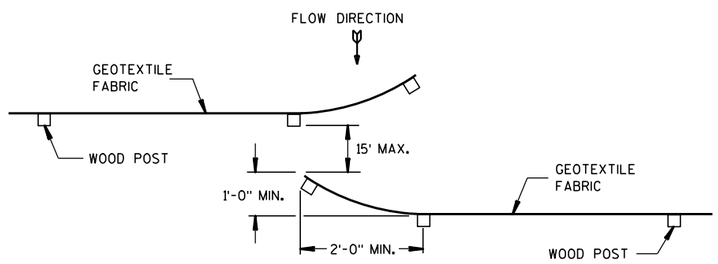
TRENCH DETAIL



SILT FENCE

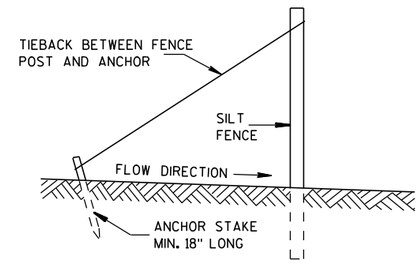


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

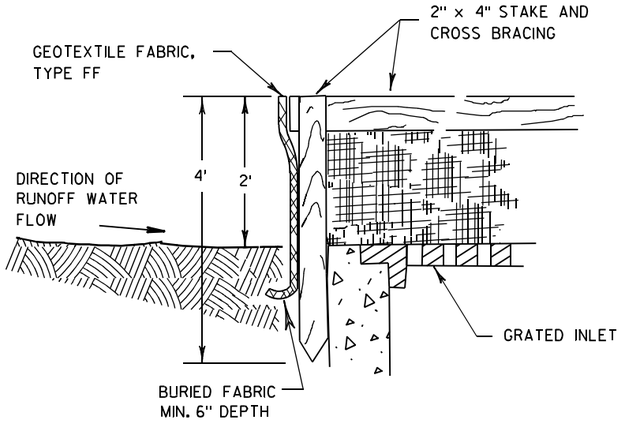
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

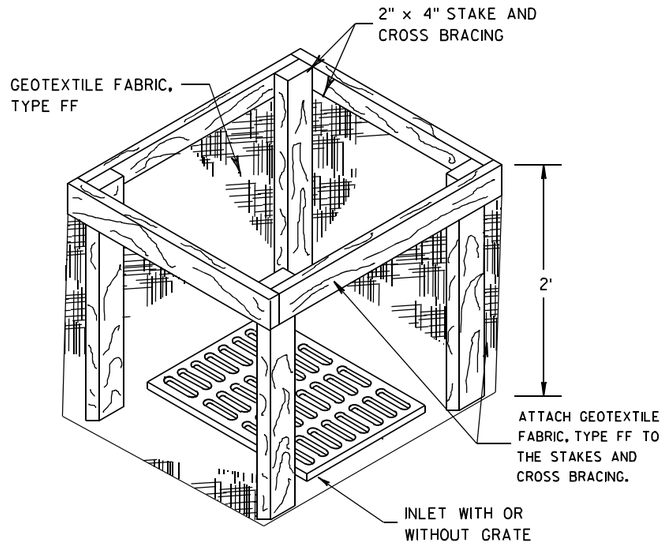
6

S.D.D. 8 E 9-6

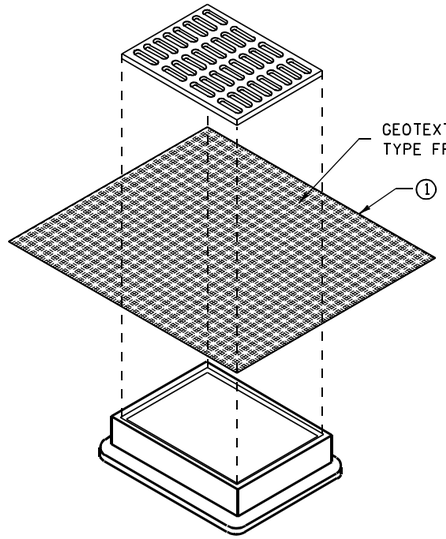
6

S.D.D. 8 E 9-6



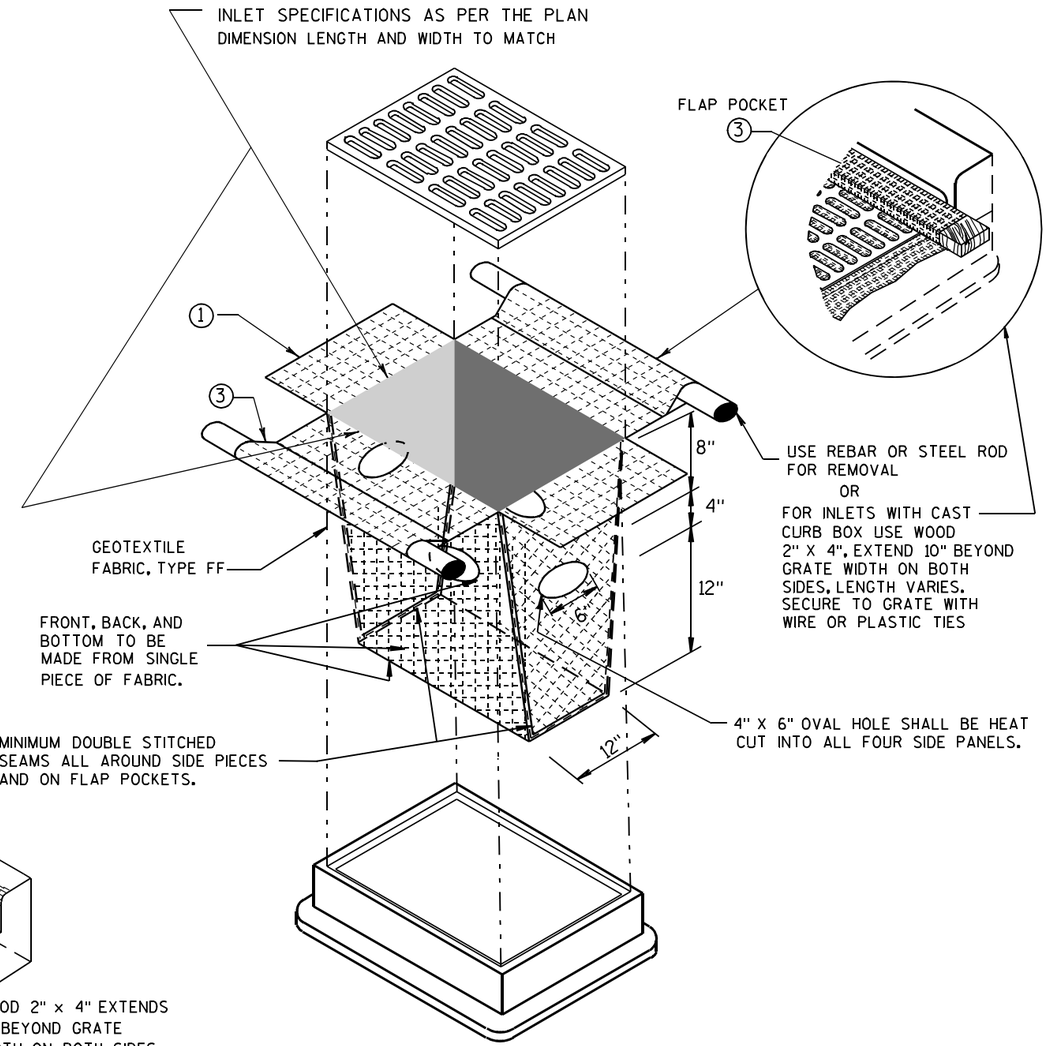


INLET PROTECTION, TYPE A



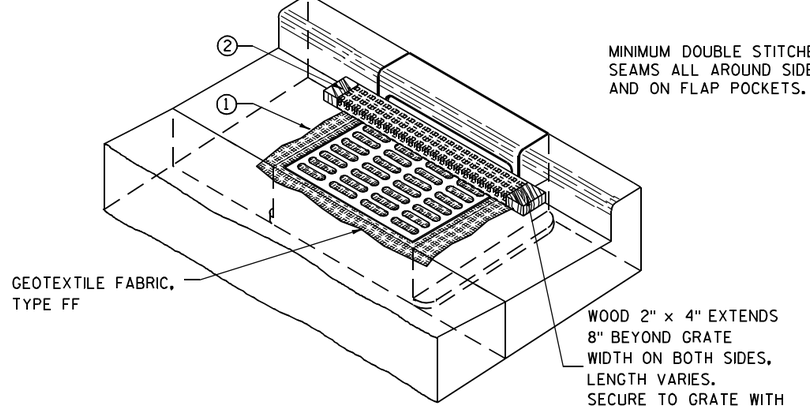
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

METAL APRON ENDWALLS

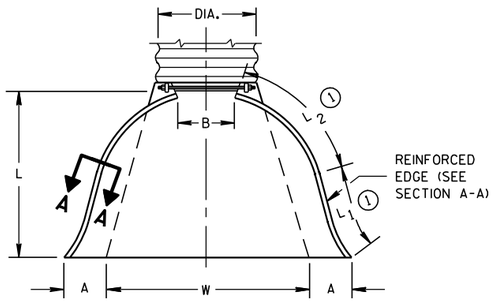
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

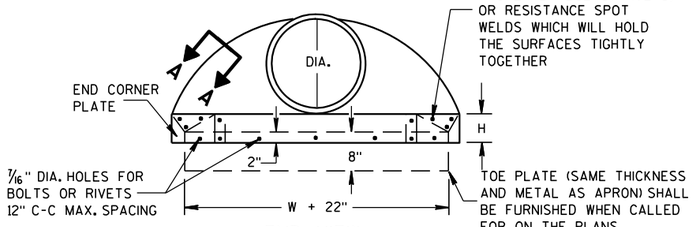
REINFORCED CONCRETE APRON ENDWALLS

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

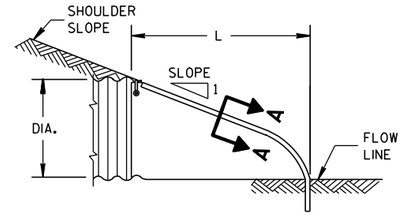
*MINIMUM
**MAXIMUM



PLAN VIEW

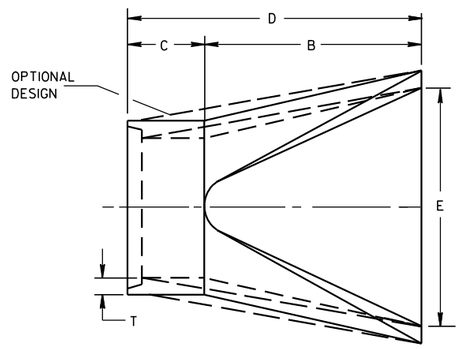


END VIEW

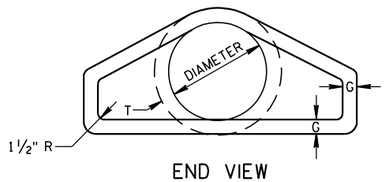


SIDE ELEVATION

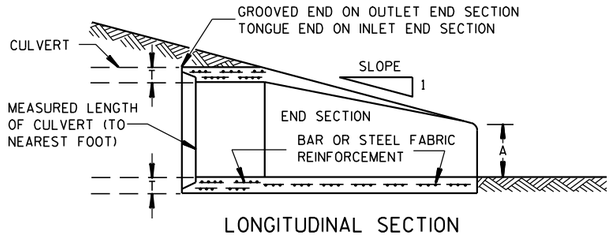
METAL ENDWALLS



PLAN

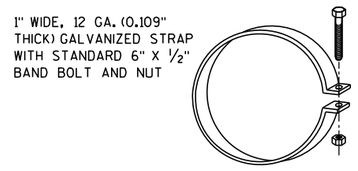


END VIEW



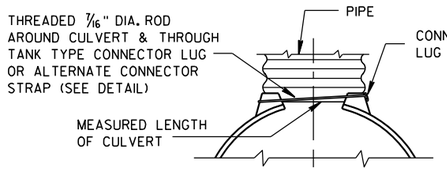
LONGITUDINAL SECTION

CONCRETE ENDWALLS

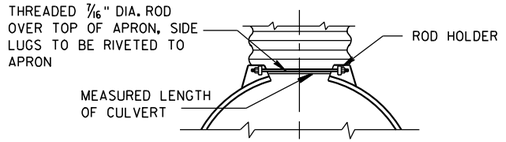


ALTERNATE FOR TYPE 1 CONNECTION

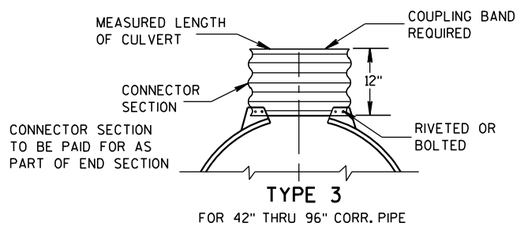
END SECTION CONNECTOR STRAP



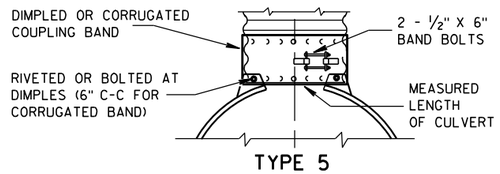
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

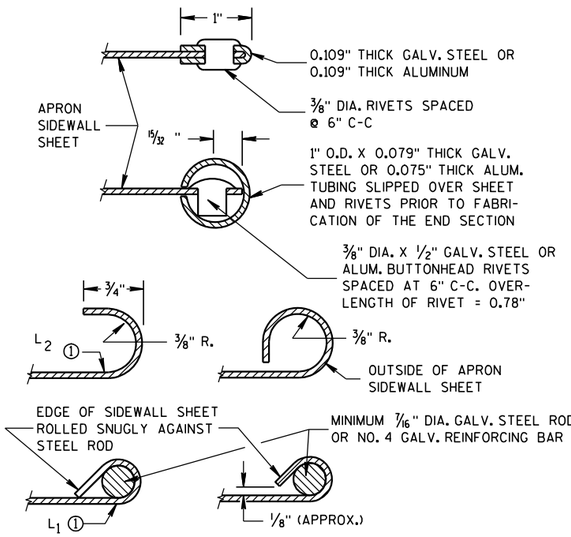
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

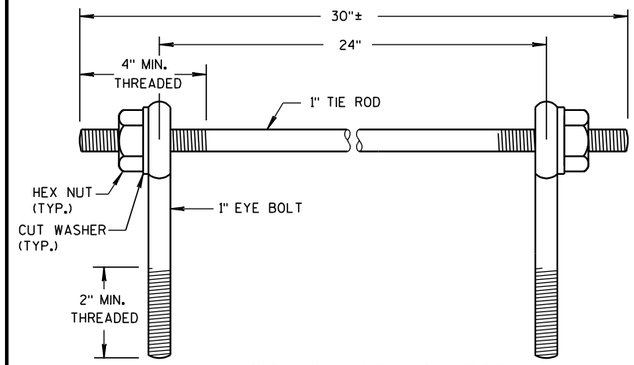
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

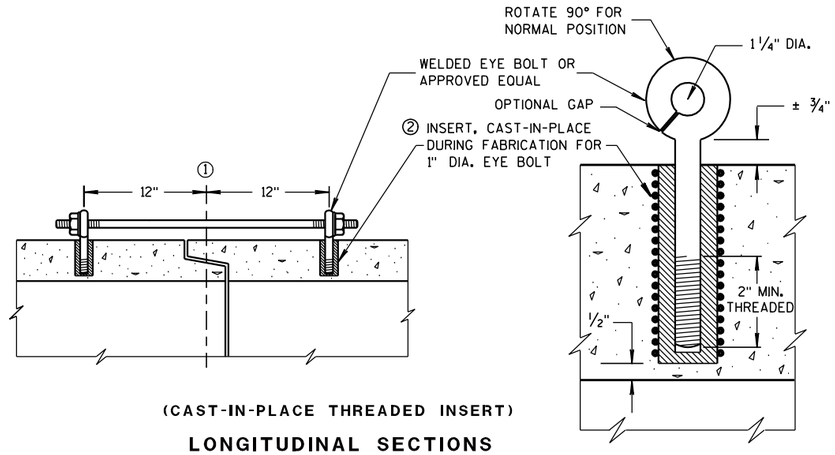
APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENGINEER
FHWA

6

S.D.D. 8 F 1-11



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.

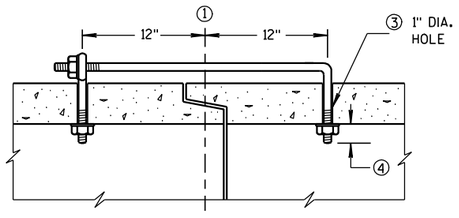
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

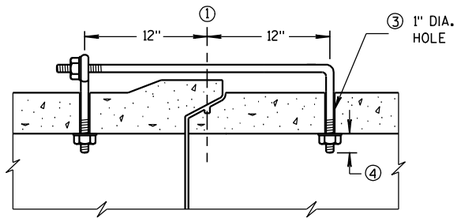
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

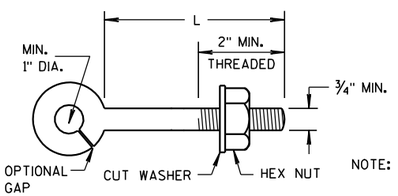


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

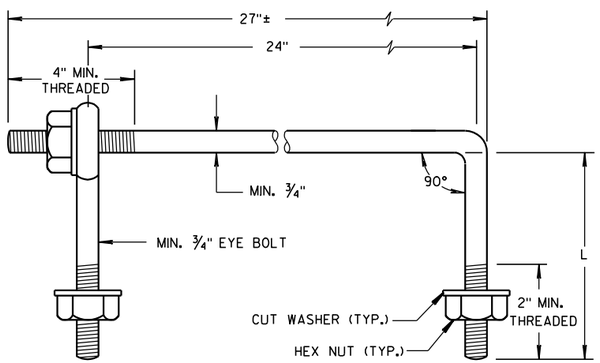
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



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

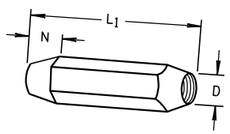
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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



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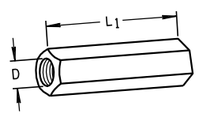
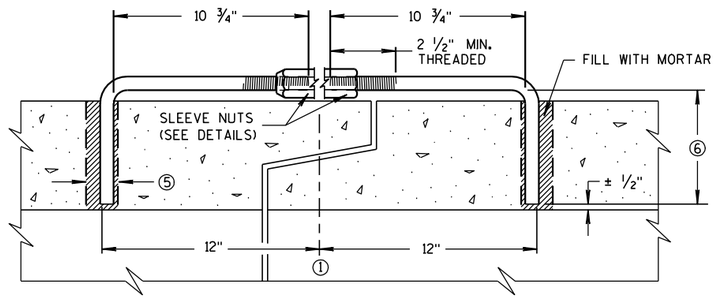


PLAIN

RIGHT AND LEFT THREADS

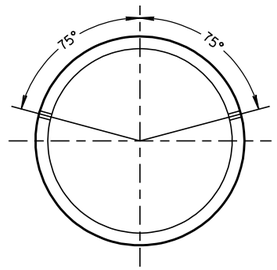
SLEEVE NUTS



LONGITUDINAL SECTION

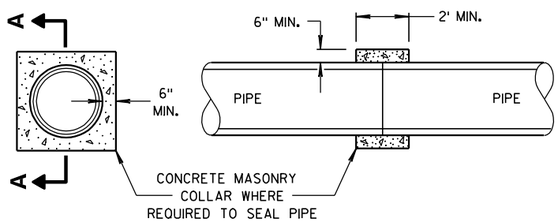
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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

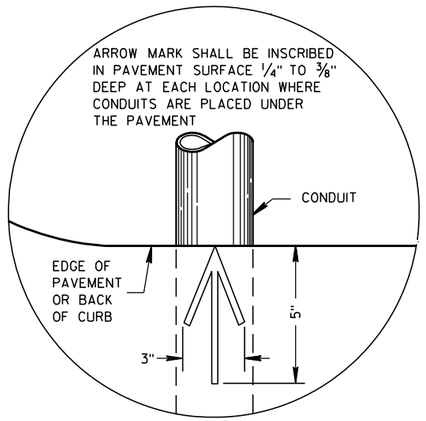
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
65
FHWA

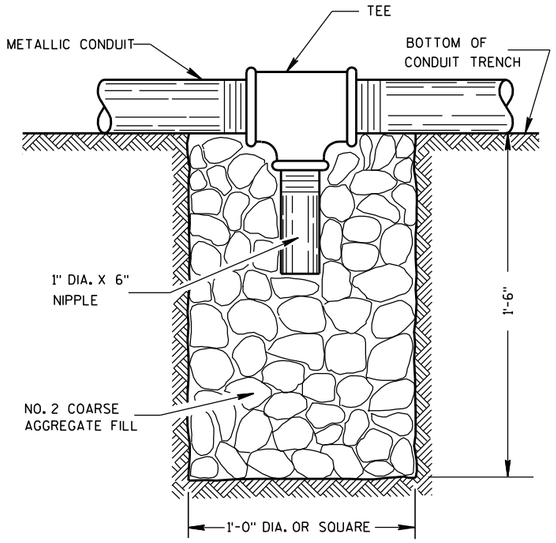
6

S.D.D. 8 F 4-7



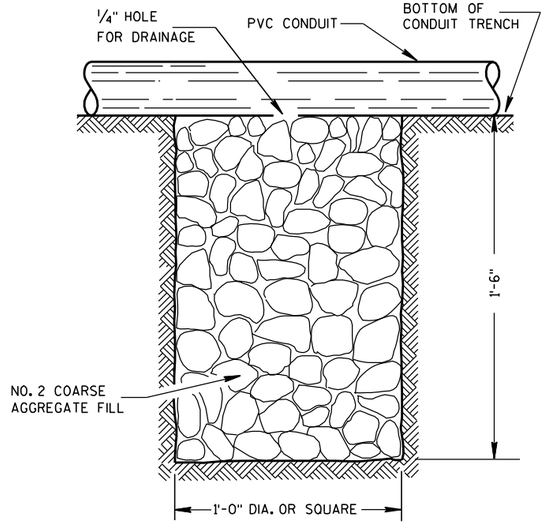
PLAN VIEW

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.

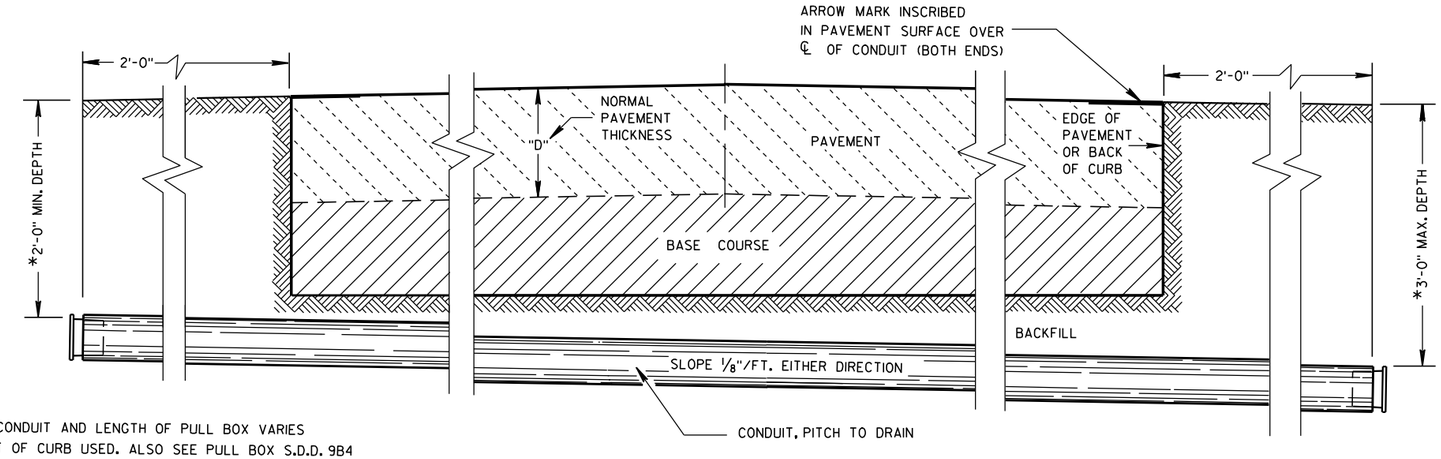
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI

FHWA

HWYS

6

S.D.D. 9 B 2-7

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.

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. THE MECHANICAL CONNECTION (INSIDE AND OUTSIDE) TO THE PULL BOX, SHALL BE TOTALLY AND PERMANENTLY SEALED WITH A SILICONE OR RUBBERIZED CAULKING COMPOUND AS APPROVED BY THE ENGINEER.

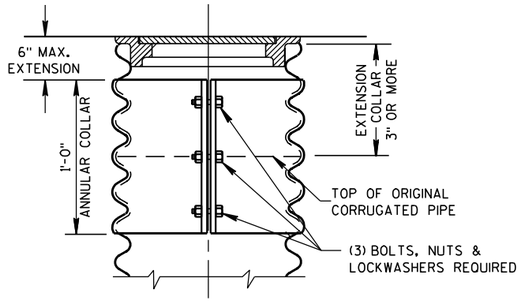
GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

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

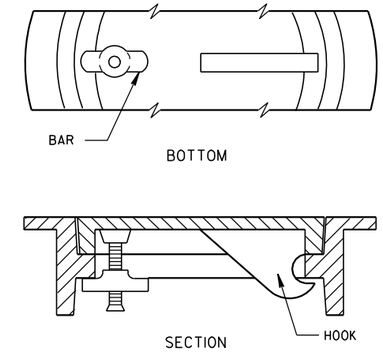
S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

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

IF PULL BOX EQUIPMENT GROUNDING IS REQUIRED USING AN EQUIPMENT GROUNDING ELECTRODE IN EACH PULL BOX, THE EQUIPMENT GROUNDING ELECTRODE SHALL BE 5/8" X 8'-0", COPPERCLAD AND BE EXOTHERMICALLY WELDED TO A #4 AWG, COPPER, STRANDED WIRE (BARE OR GREEN INSULATED). THE #4 AWG WIRE SHALL BE 4 FEET IN LENGTH, NEATLY COILED, TAPED AND AVAILABLE FOR USE WHEN REQUIRED.

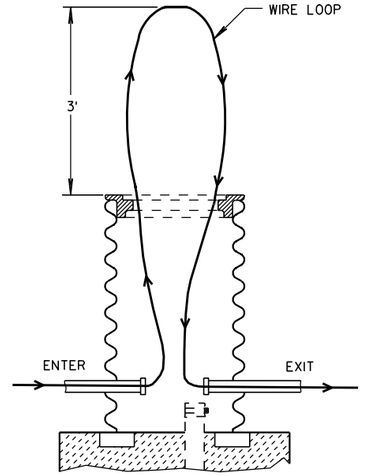


CORRUGATED PIPE EXTENDER

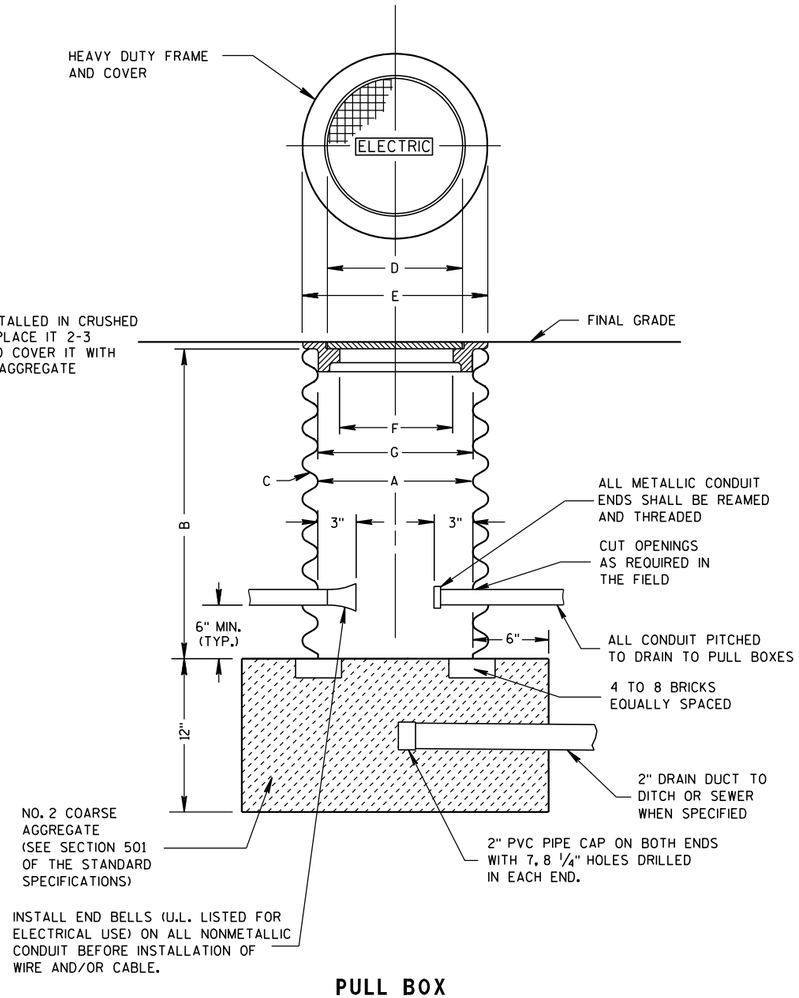


ALTERNATE COVER (LOCKING)

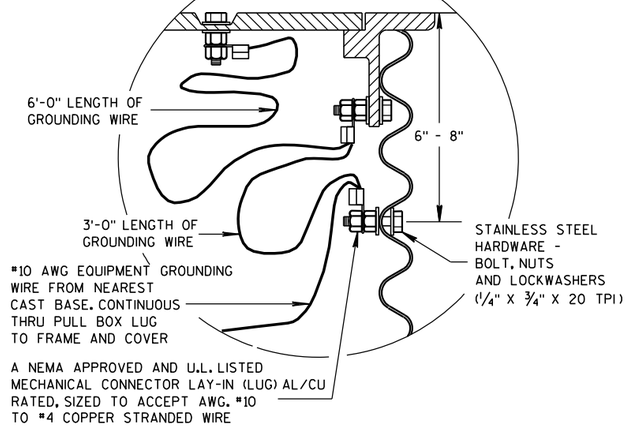
TIGHTENING BAR TYPE



MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

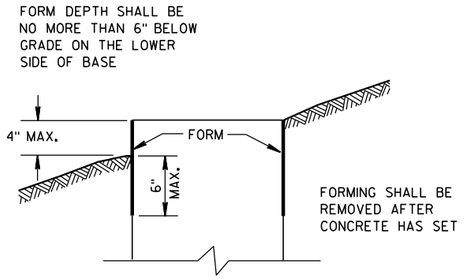
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/27/06 DATE
/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI
FHWA

6

S.D.D. 9 B 4-9



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
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 2 AND TYPE 5 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 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

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.

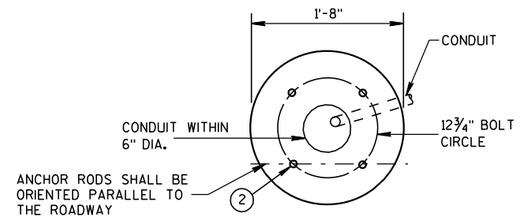
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

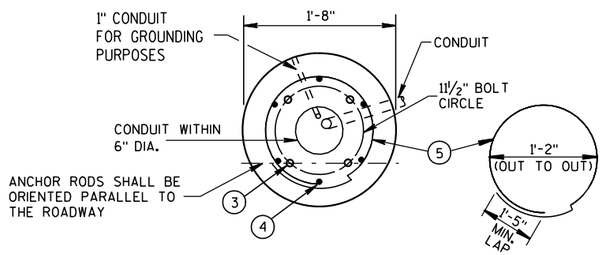
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

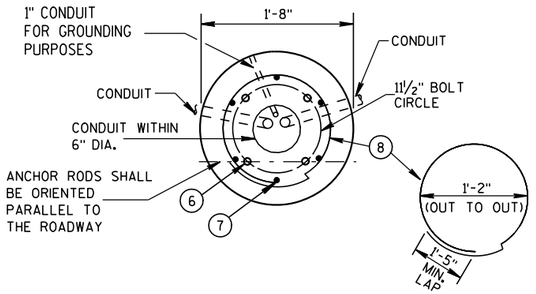
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

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

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

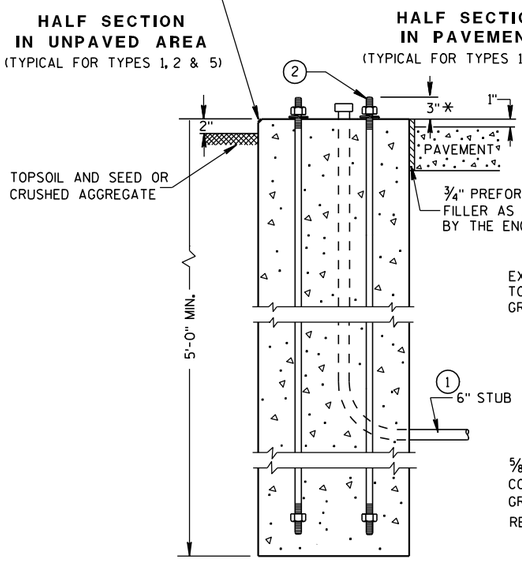






FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

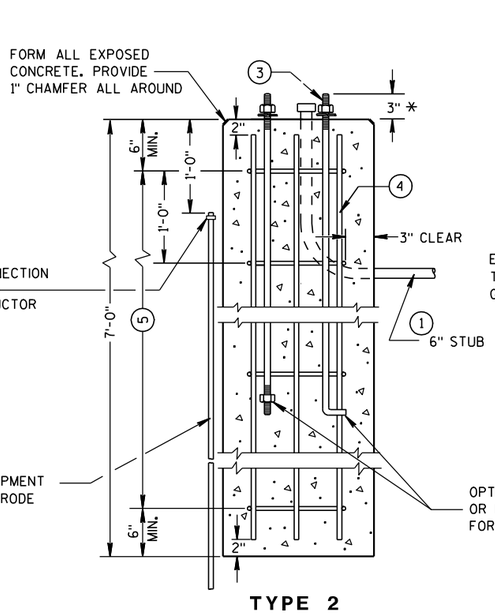
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2 & 5)



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

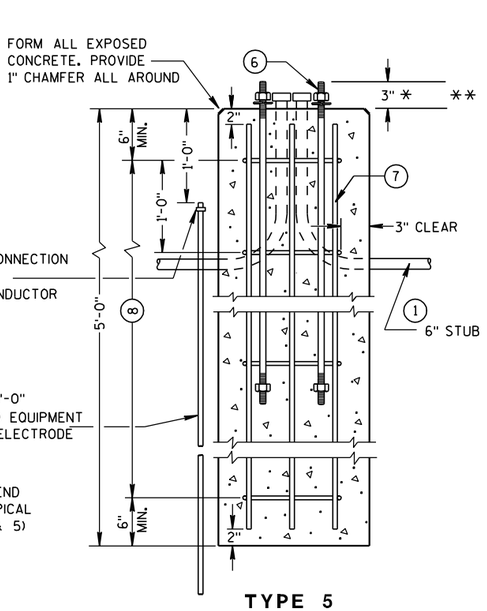
TYPE 1

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5

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

STATE OF WISCONSIN
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APPROVED
3/3/10 — DATE
/S/ Joanna L. Rush — STATE ELECTRICAL ENGI
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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, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

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 AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

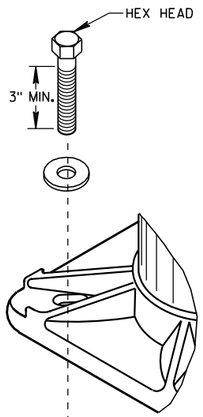
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

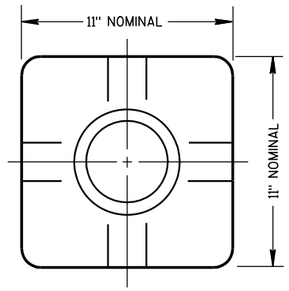
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

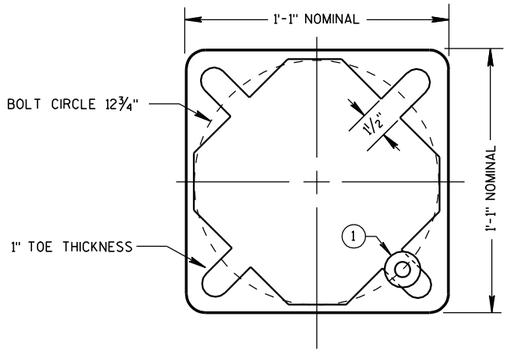
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1½", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

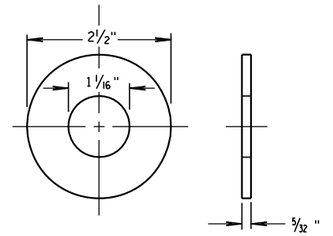




TOP VIEW
(PEDESTAL BASE)

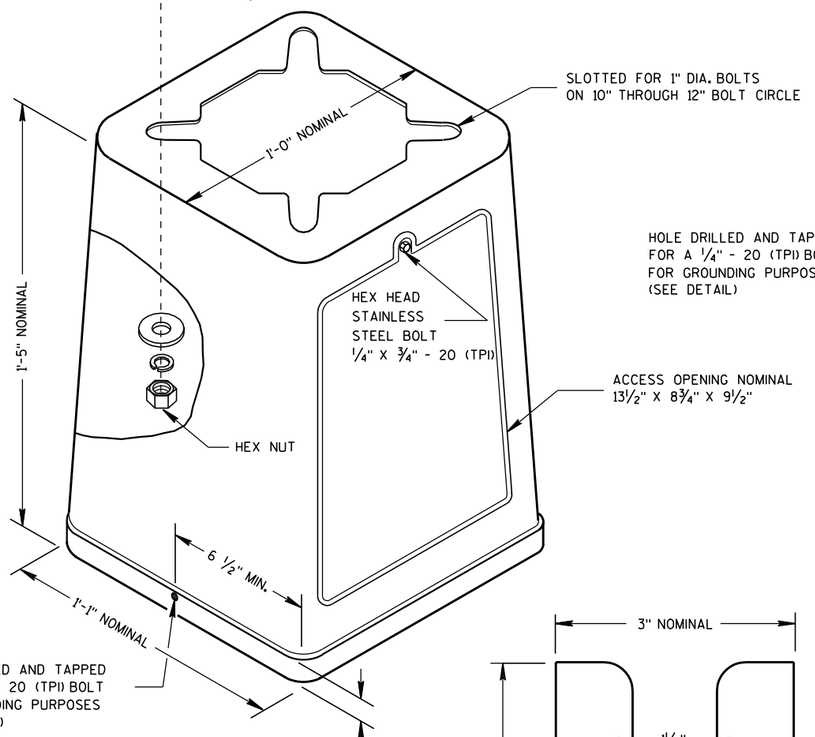


BOTTOM VIEW
(PEDESTAL BASE)

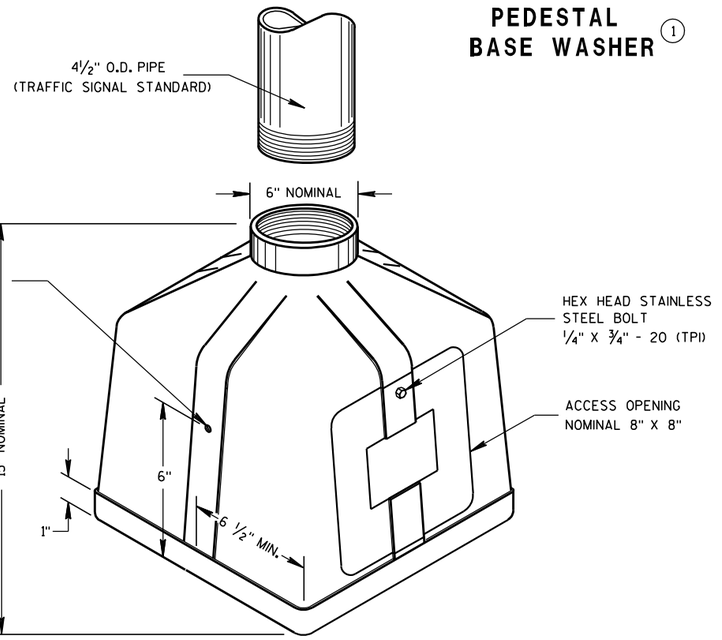


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

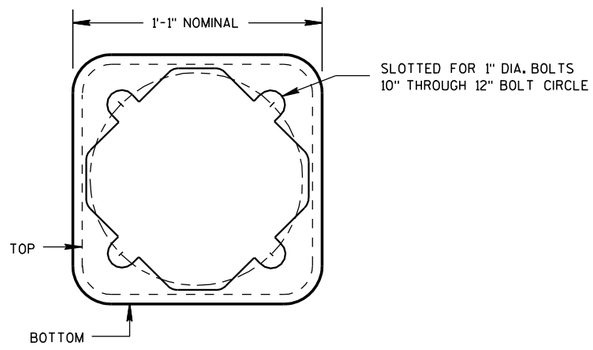


ISOMETRIC VIEW

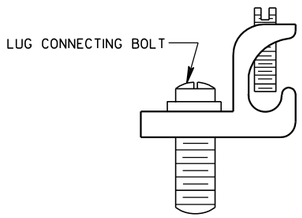


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

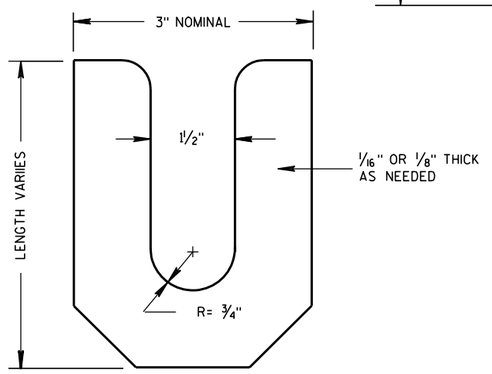


TYPICAL MECHANICAL CONNECTOR LUG

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
10/27/09 — DATE
/S/ Joanna L. Rich — STATE ELECTRICAL ENGI
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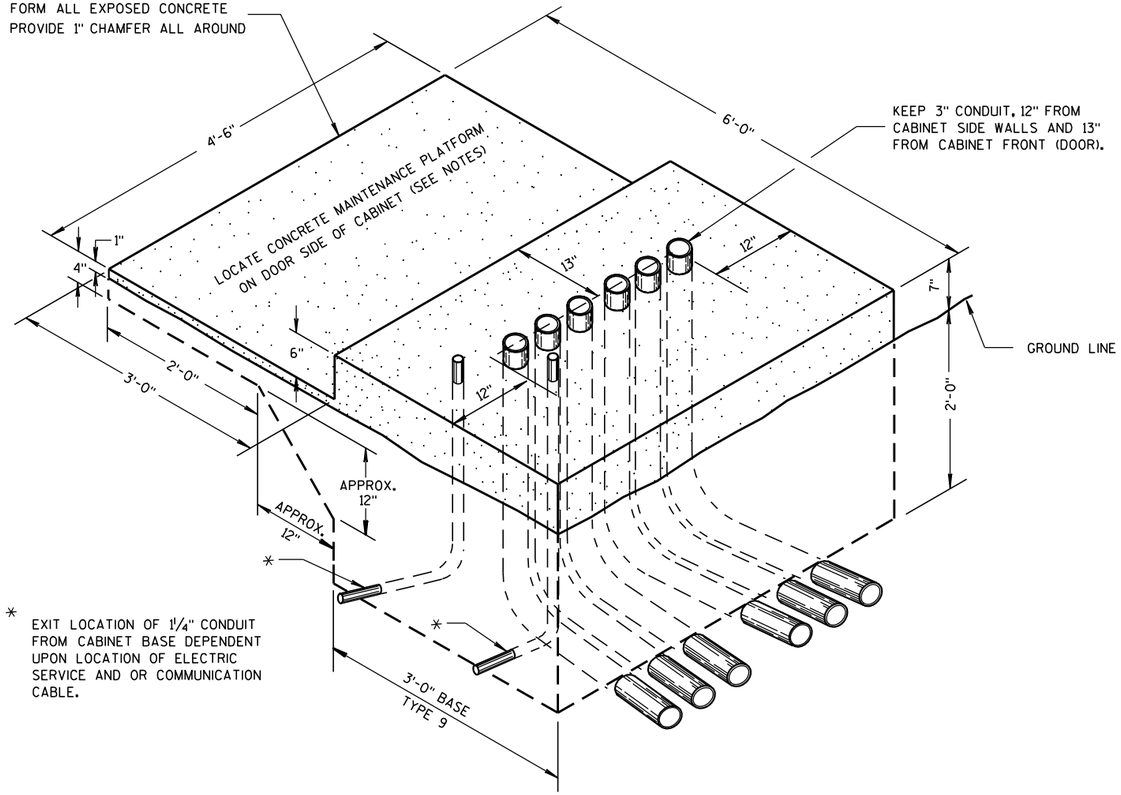
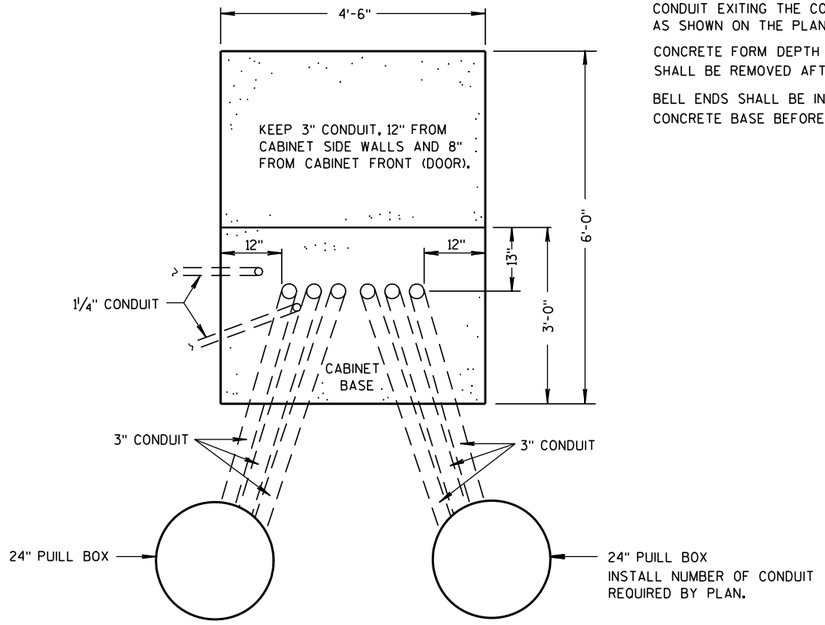


* EXIT LOCATION OF 1¼" CONDUIT FROM CABINET BASE DEPENDENT UPON LOCATION OF ELECTRIC SERVICE AND OR COMMUNICATION CABLE.

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 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

2/27/07 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI 70 HWYS

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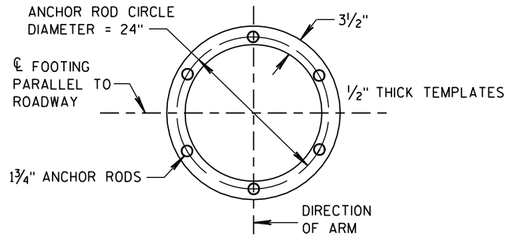
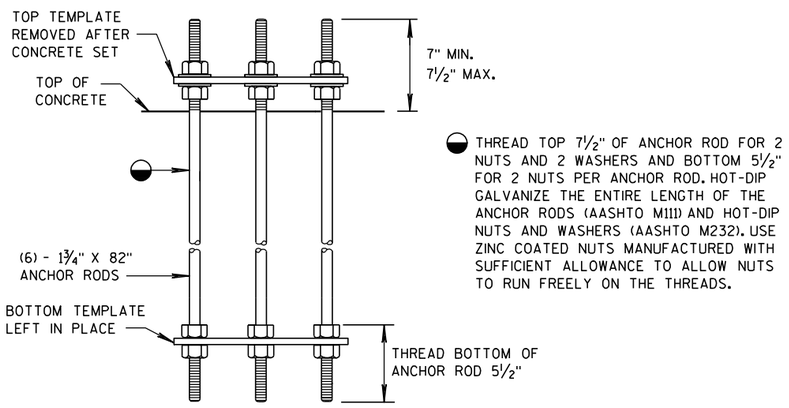
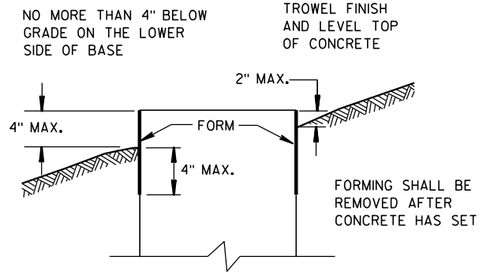


TOP AND BOTTOM TEMPLATES



◒ THREAD TOP 7½" OF ANCHOR ROD FOR 2 NUTS AND 2 WASHERS AND BOTTOM 5½" FOR 2 NUTS PER ANCHOR ROD. HOT-DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR RODS (AASHTO M111) AND HOT-DIP NUTS AND WASHERS (AASHTO M232). USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

ANCHOR BOLT ASSEMBLY DETAIL



FORMING DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY

CONCRETE BASE TYPE 13	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3-2-11 DATE	/S/ Thomas J. Cearlock STATE ELECTRICAL ENGI 71 HWYS
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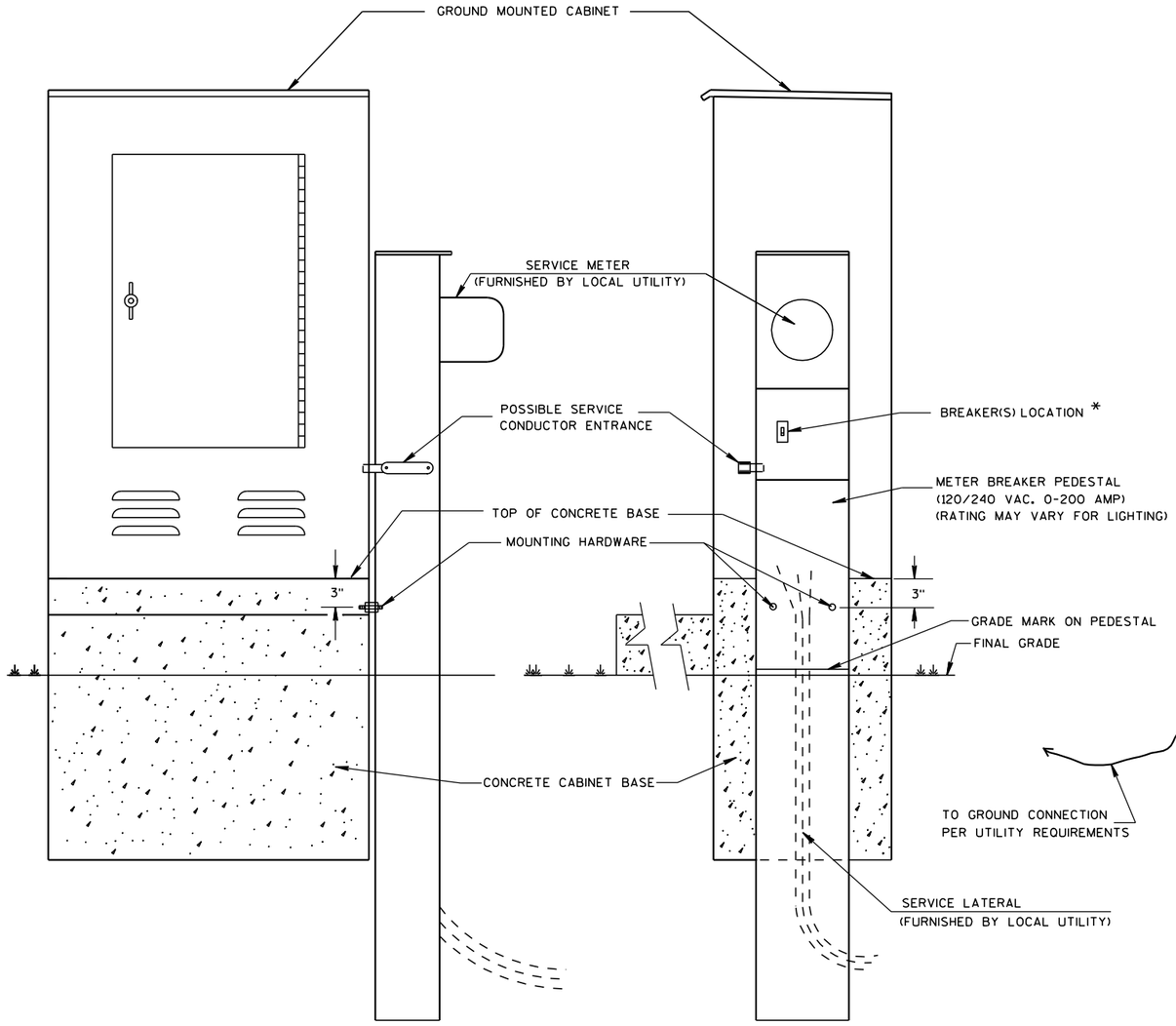

TYPICAL CABINET SERVICE INSTALLATION

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

10/27/09 DATE

/S/ Joanna L. Bush
STATE ELECTRICAL ENGI

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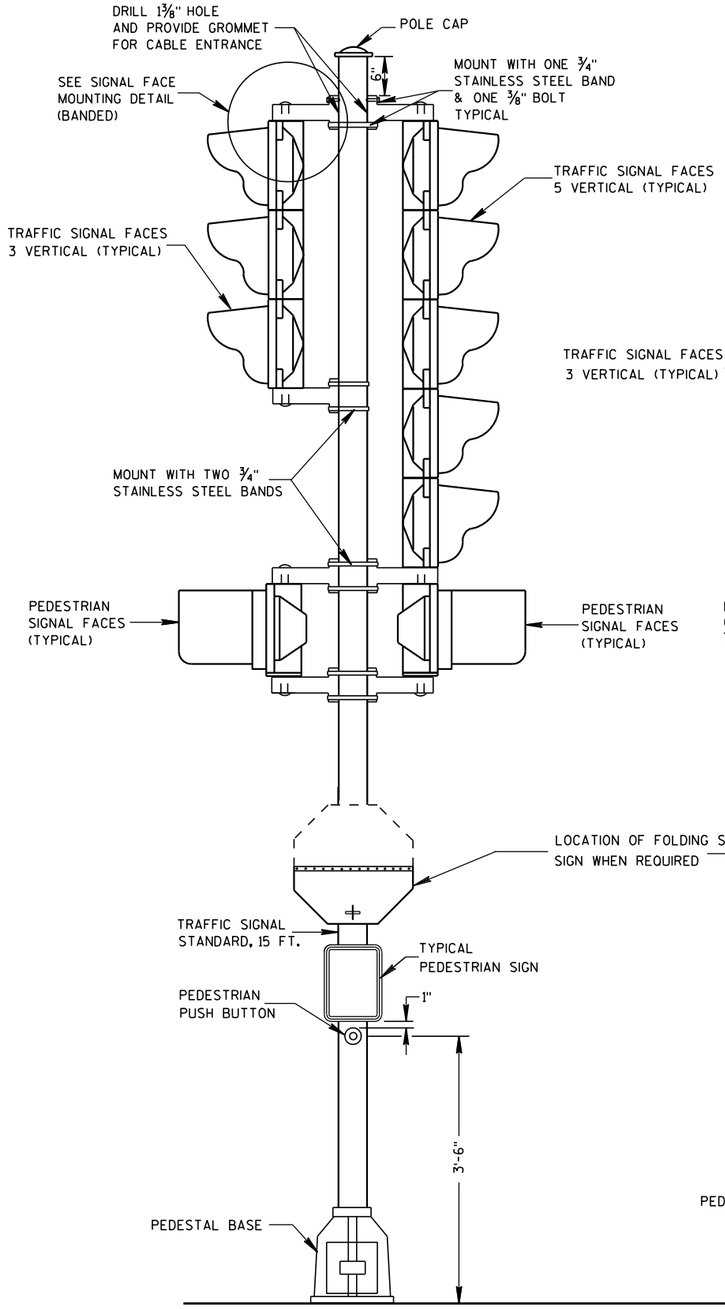
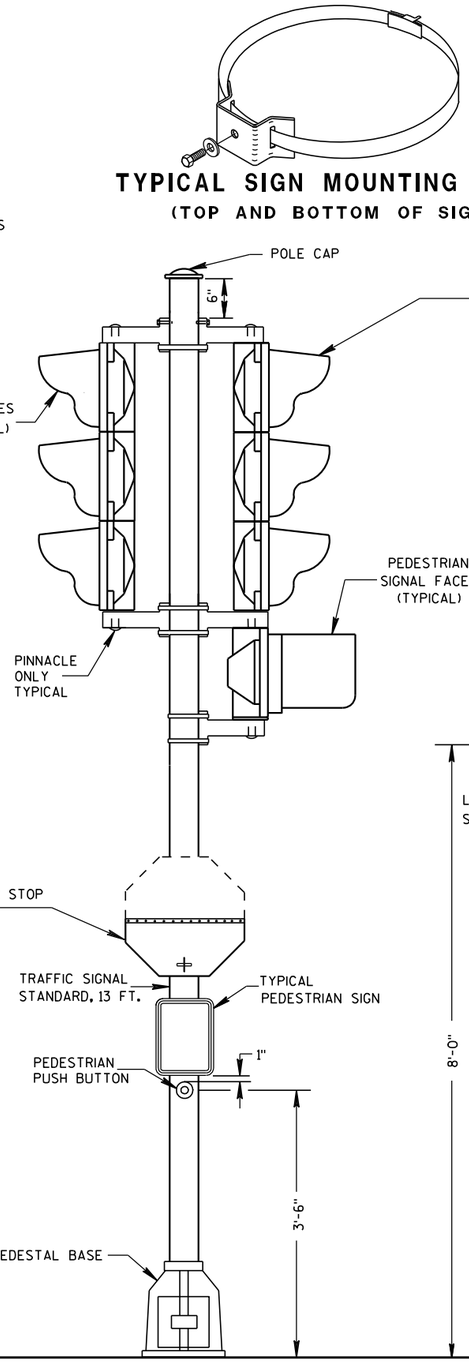
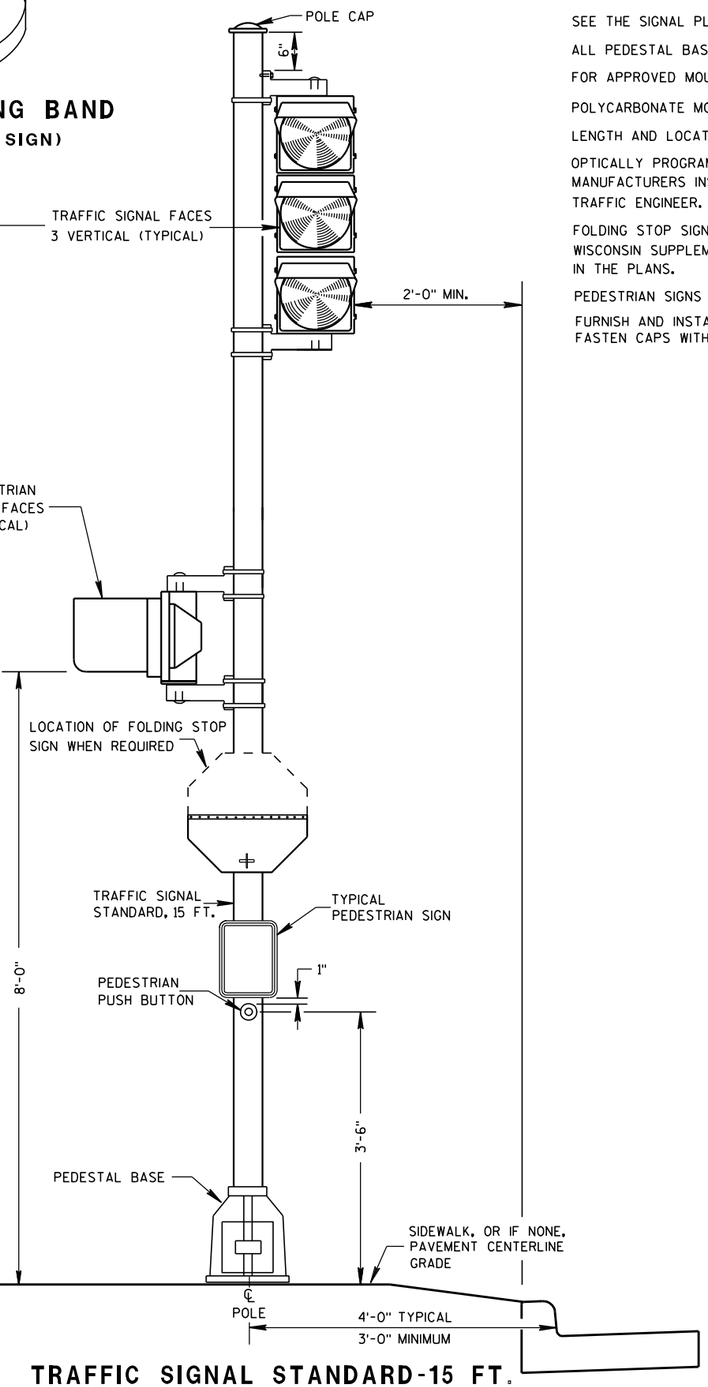


TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.



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

TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)

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.

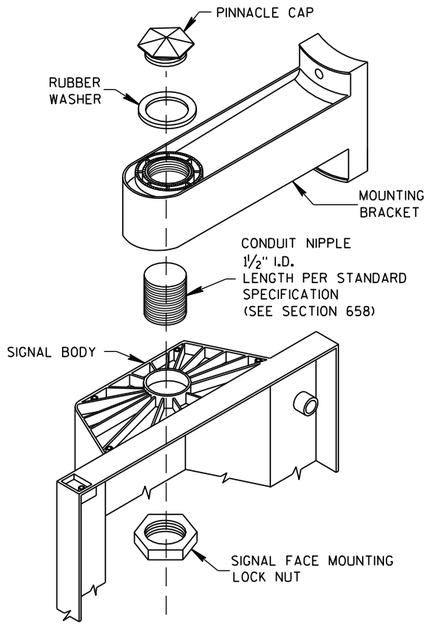
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE DISTRICT 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) 1/4" 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
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APPROVED
5/11/10 DATE
/S/ John Corbin STATE ELECTRICAL ENGI
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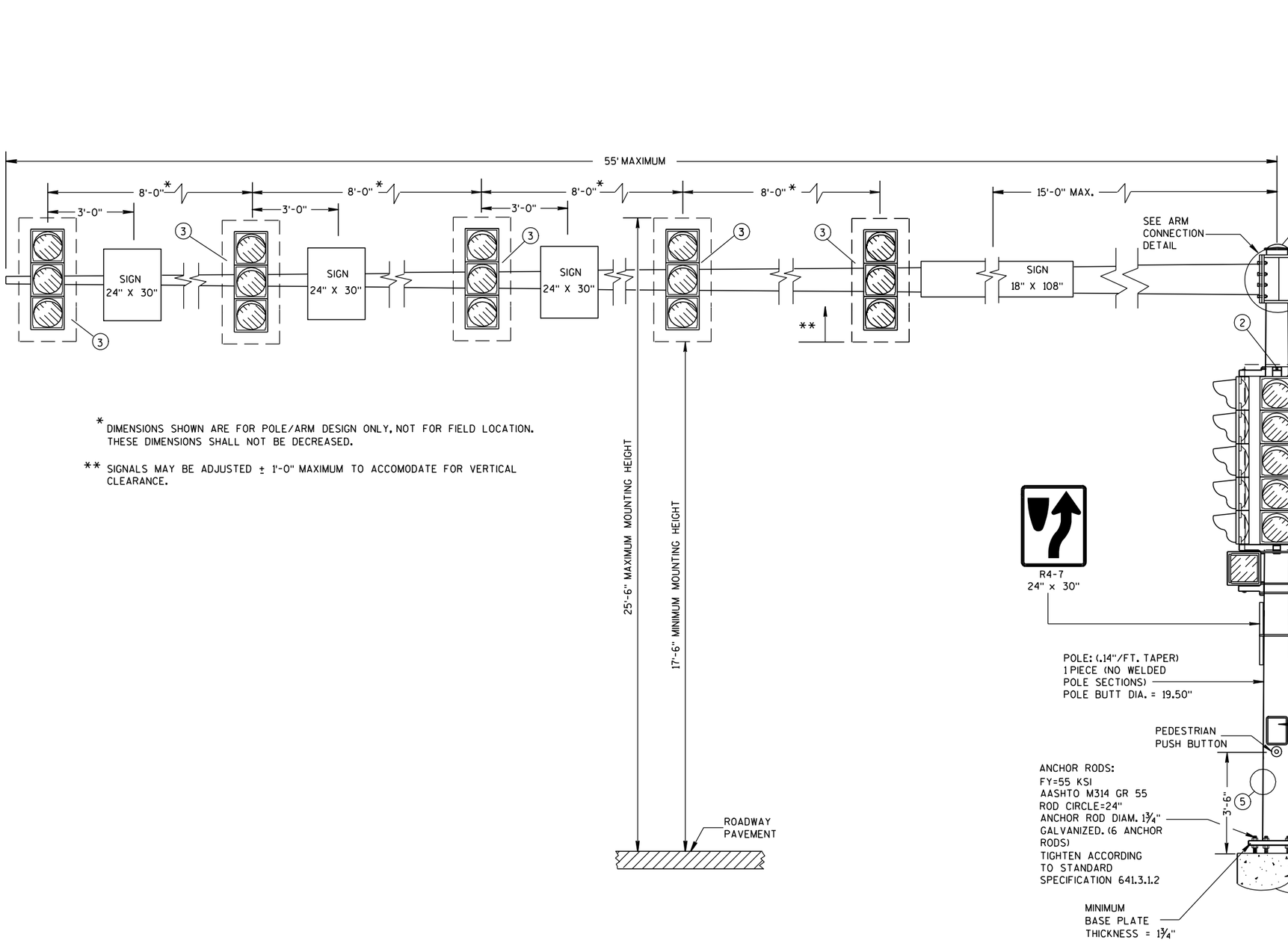
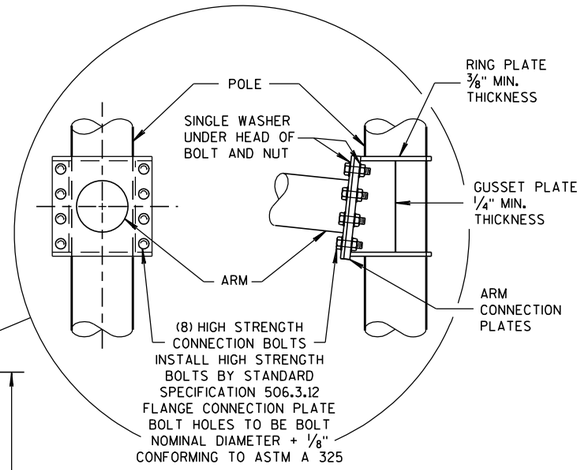
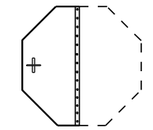


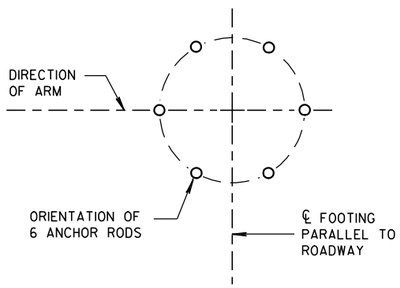
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



8 BOLT ARM CONNECTION DETAIL





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
3/2/2011 — DATE
/S/ Thomas J. Gorring — STATE ELECTRICAL ENGI
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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 LATEST AASHTO 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.

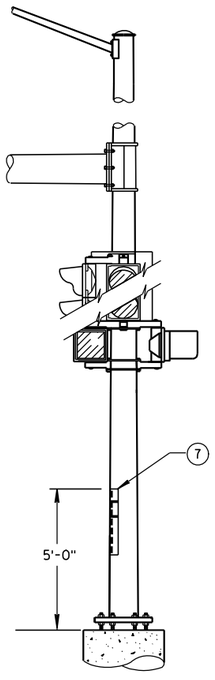
(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

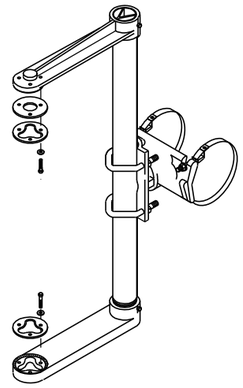
(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

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.

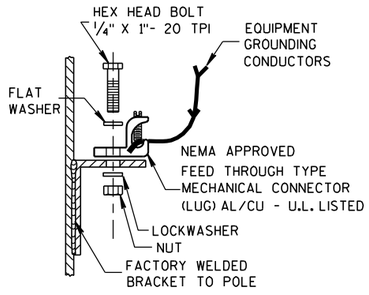


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



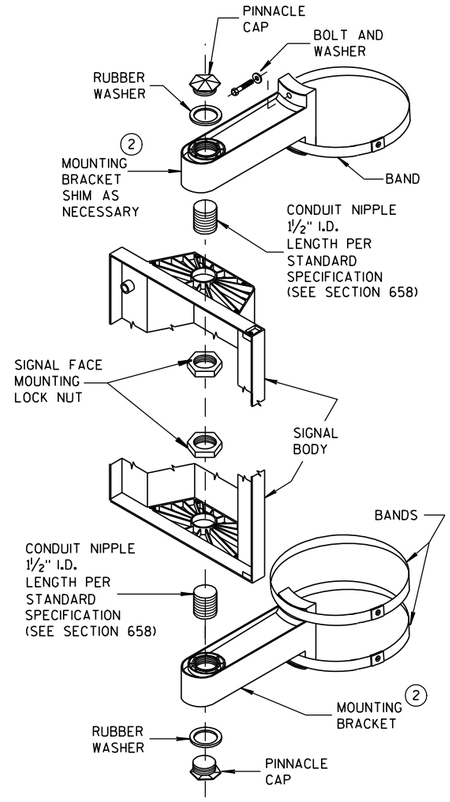
SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

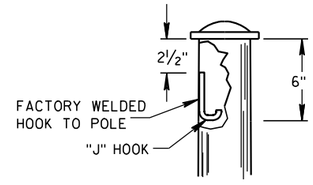


TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



SIGNAL FACE VERTICAL MOUNTING DETAIL



"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

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3/2/2011 DATE

/S/ Thomas J. Corrigan STATE ELECTRICAL ENGI

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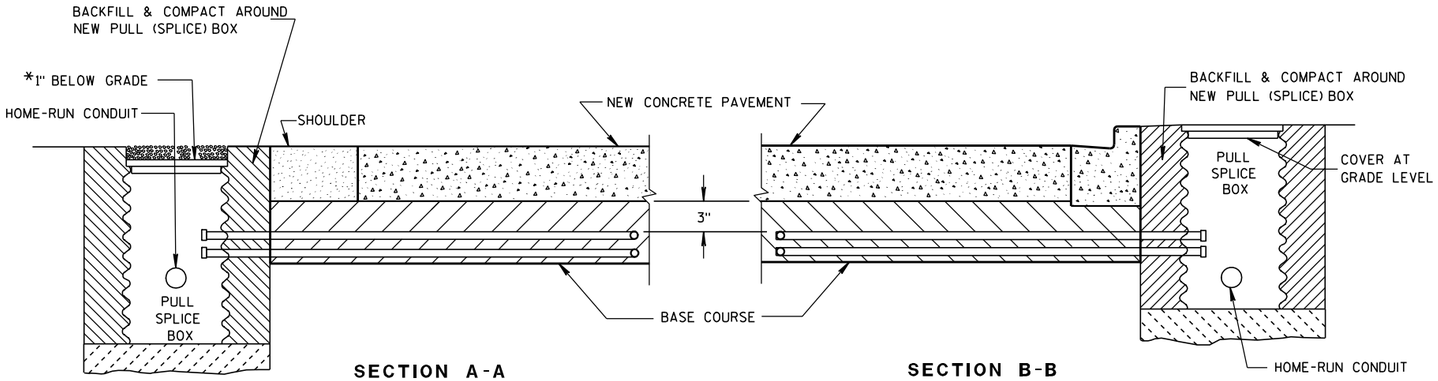


SECTION A-A
NO CURB & GUTTER

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 SUCH AS 3M TYPE 82A1 OR 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.

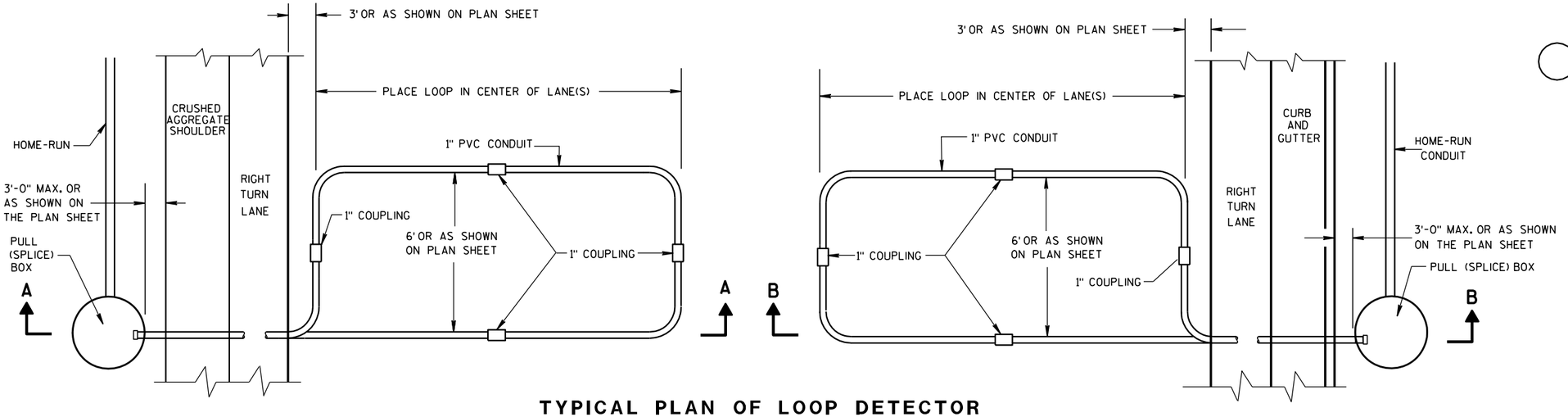
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

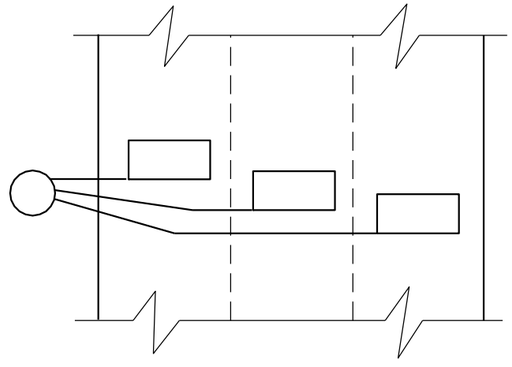
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

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
6/7/06 DATE
/S/ Balu Anantharaman
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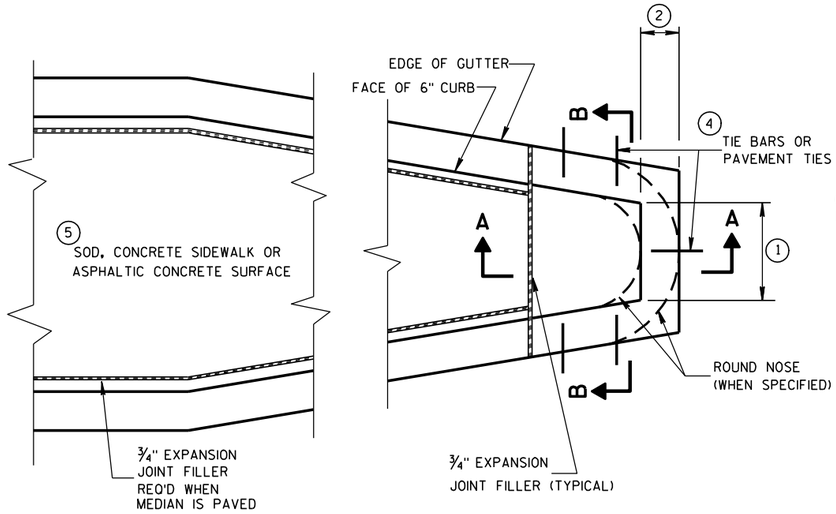
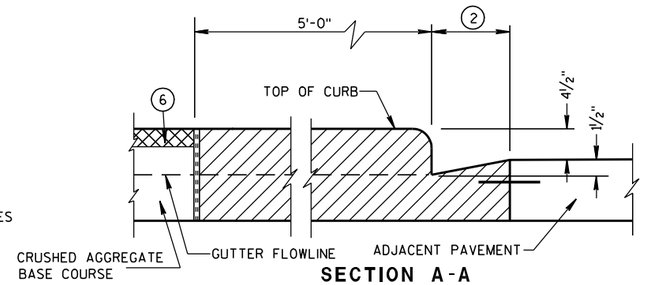
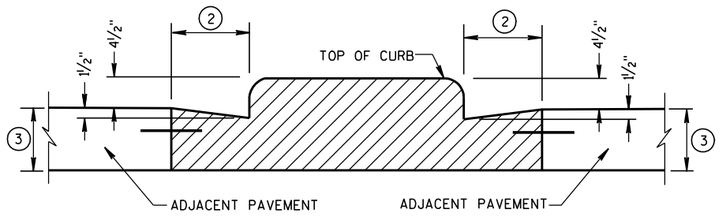




SECTION A-A



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.

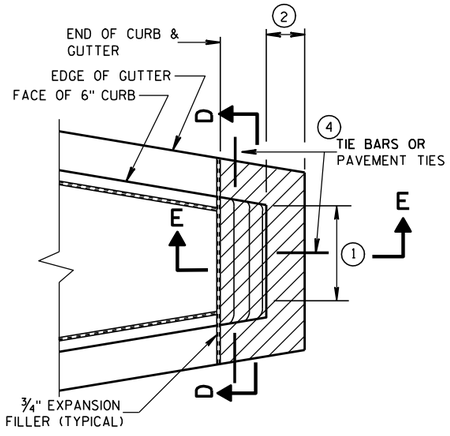
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

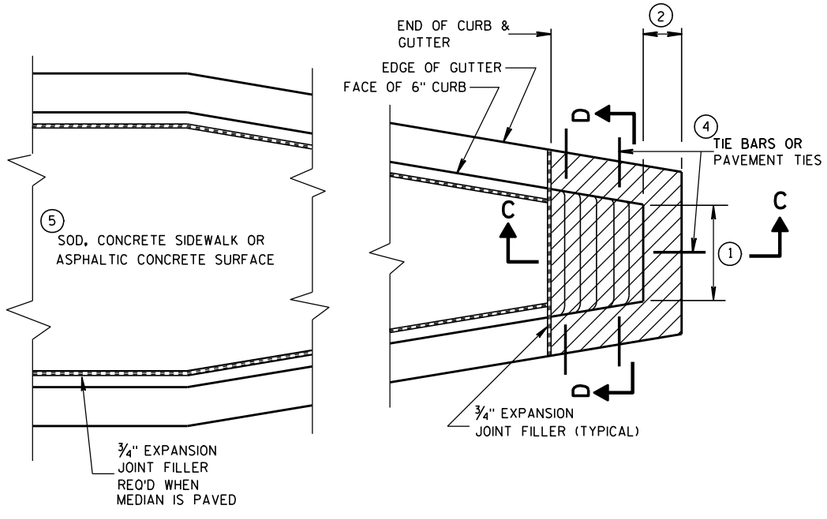
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

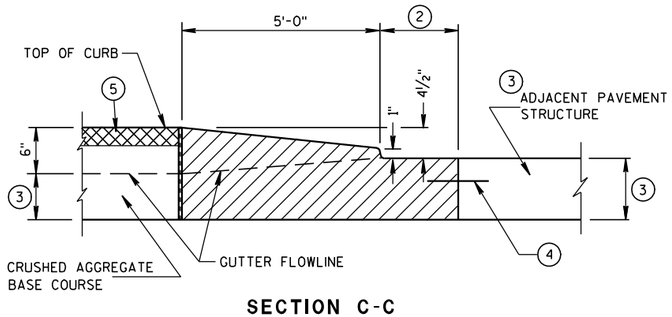
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

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.

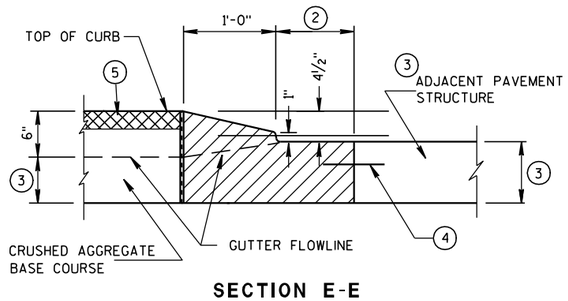
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.







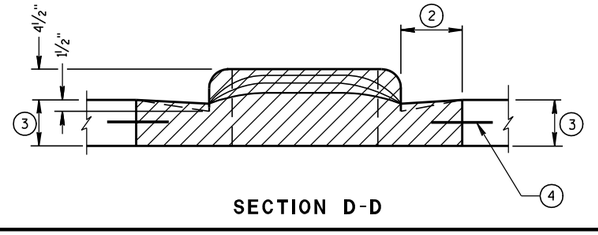
SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2

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. [illegible] ROADWAY STANDARDS DEVELOPMENT ENGINEER
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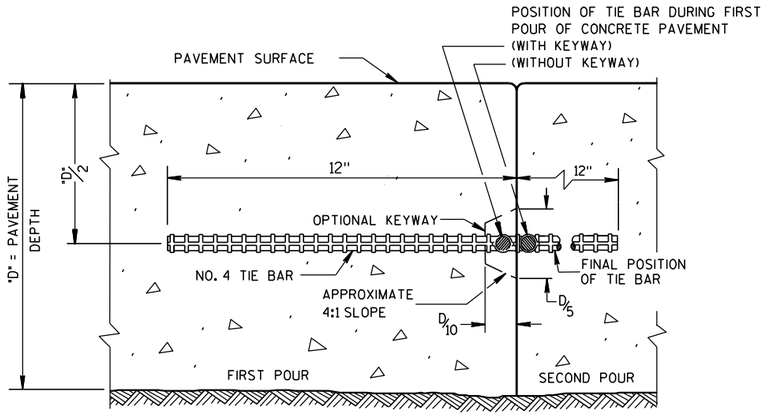
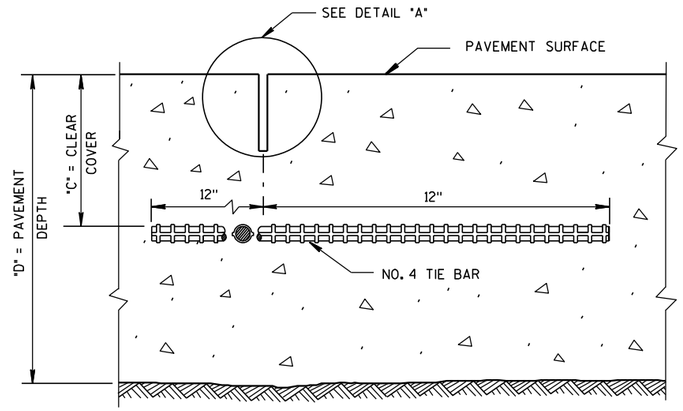


CONSTRUCTION JOINT



SAWED JOINT

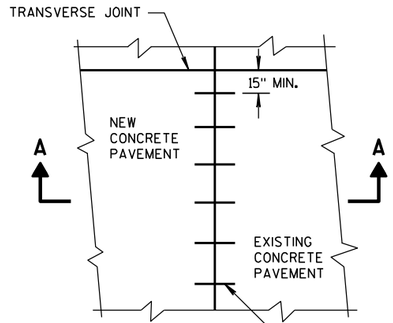
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

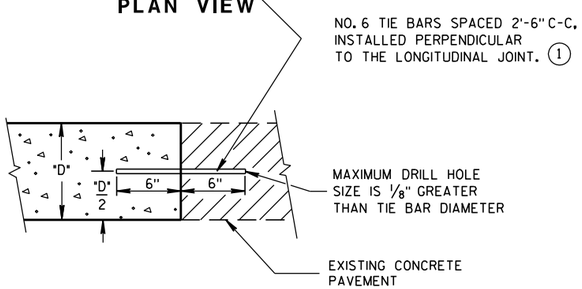
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

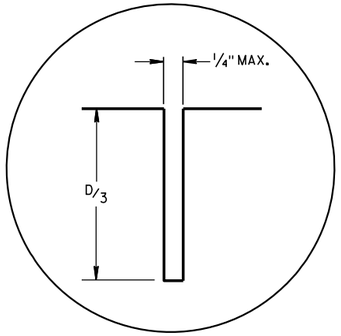
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

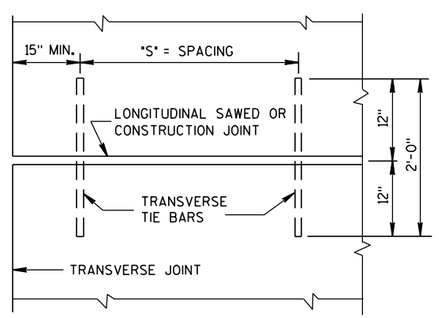


SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

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

10-5-2010
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DI ENGINEER

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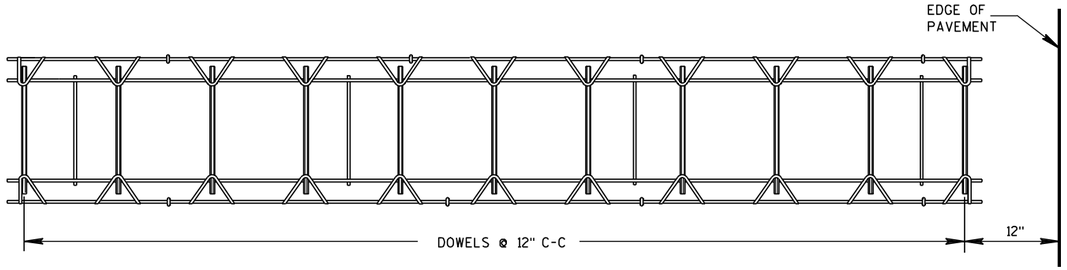
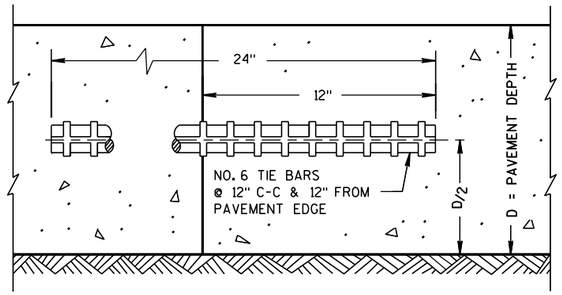


PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



TRANSVERSE CONSTRUCTION JOINT

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT 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, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.

② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

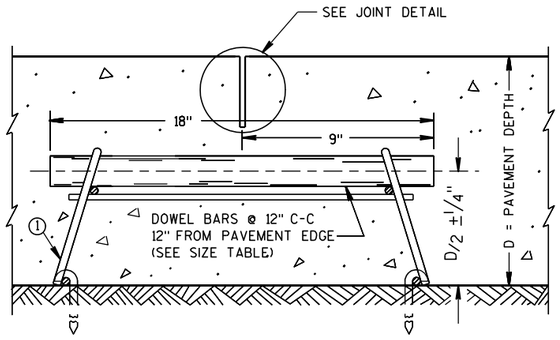
④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

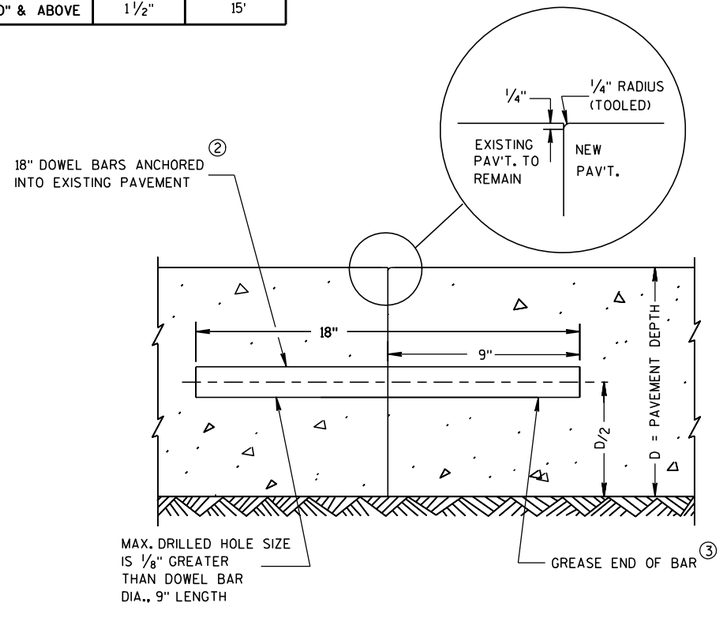
⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

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'

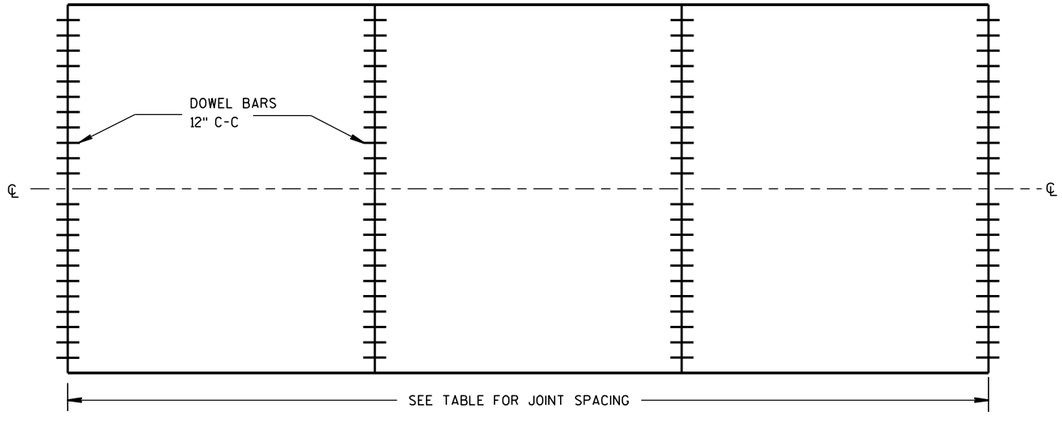


DOWELED CONTRACTION JOINT

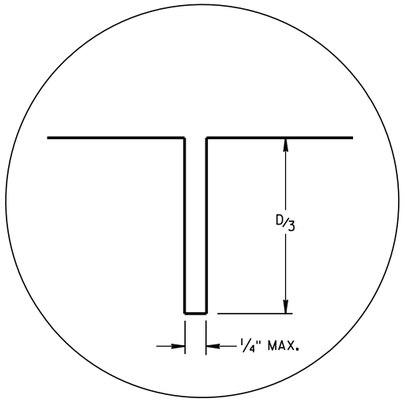


TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ DOWEL BAR DETAIL



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

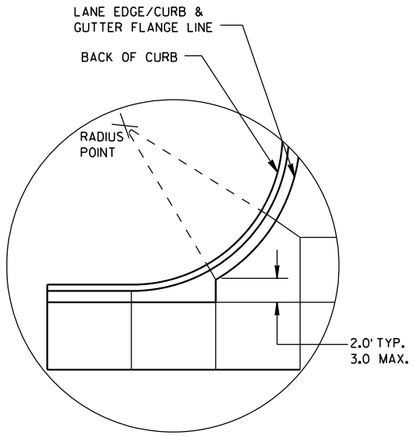
APPROVED
12/11/2009 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE
NEER
FHWA

6

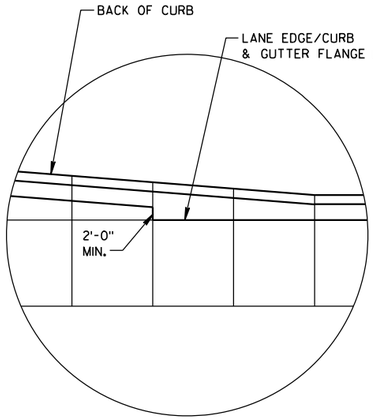
S.D.D. 13 C 13-7

6

S.D.D. 13 C 13-7



DETAIL "A"



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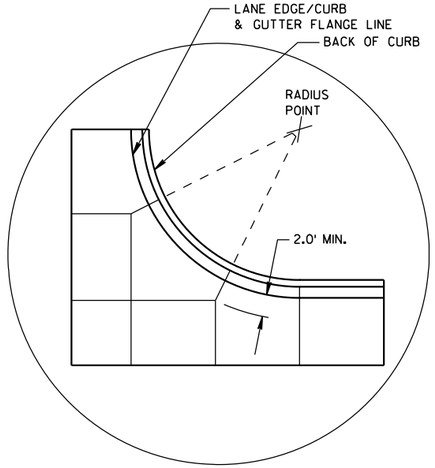

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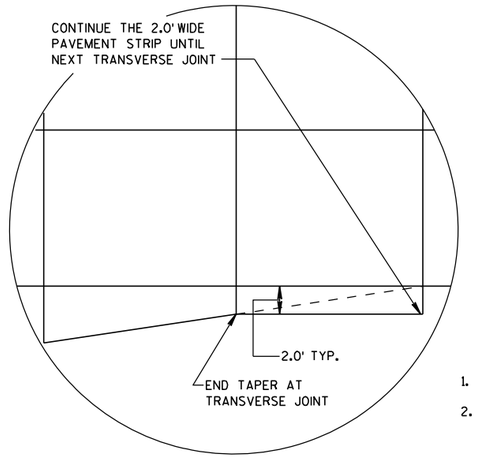


DETAIL "D"

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.

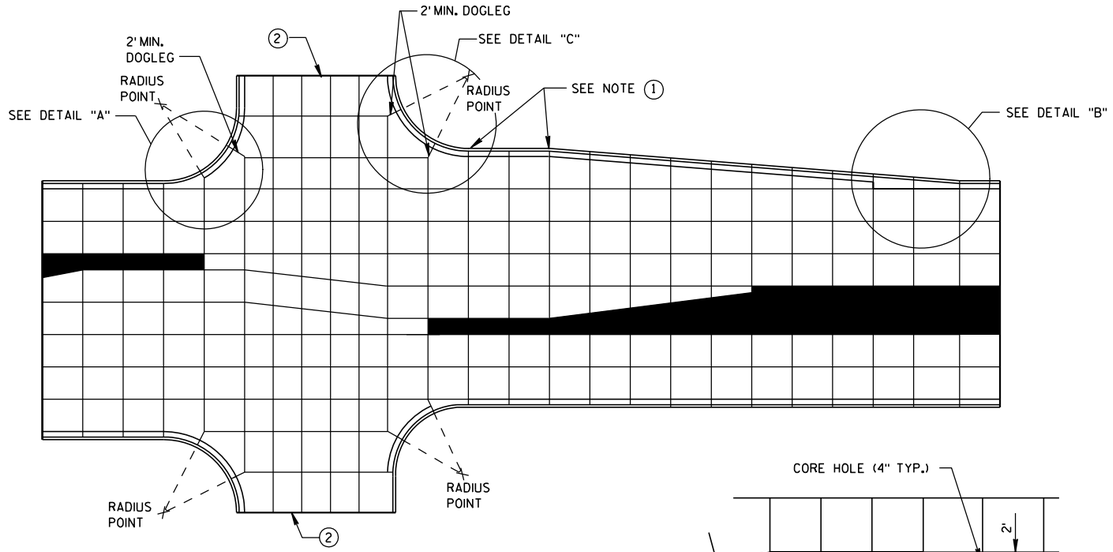
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

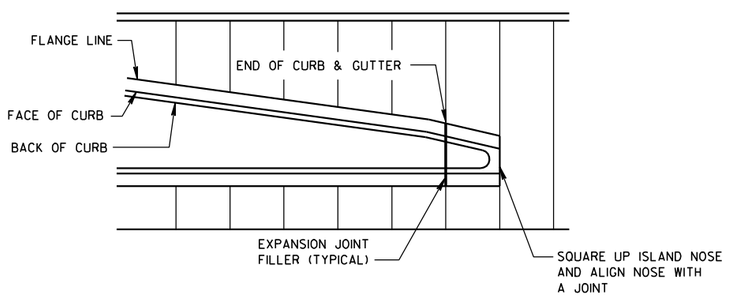
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



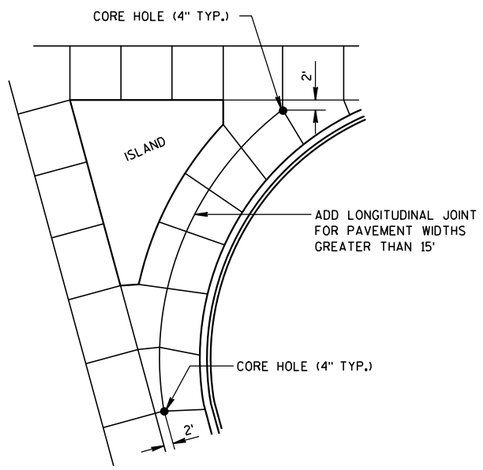
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

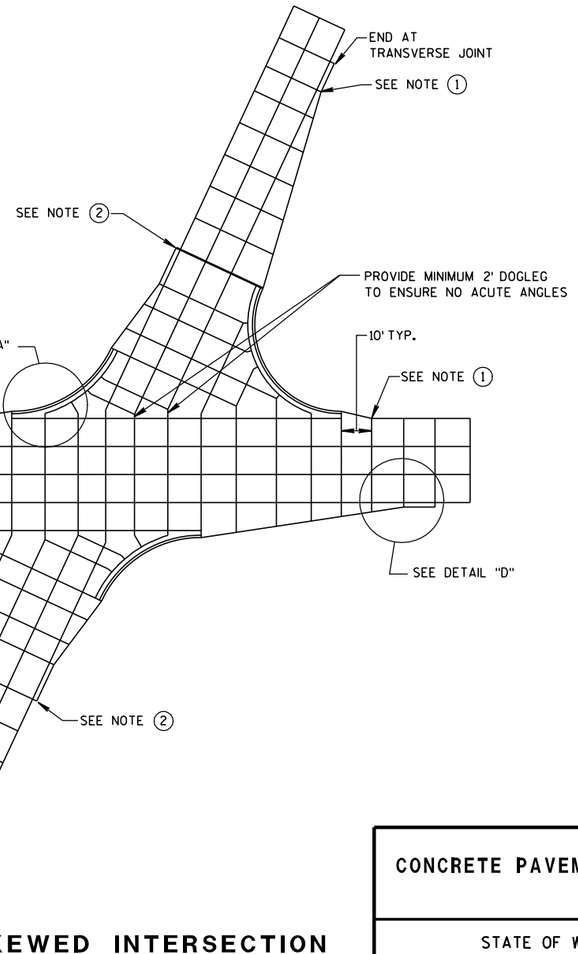
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



APPROACH TO MEDIAN



LARGE RIGHT TURN



SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 18-1a

6

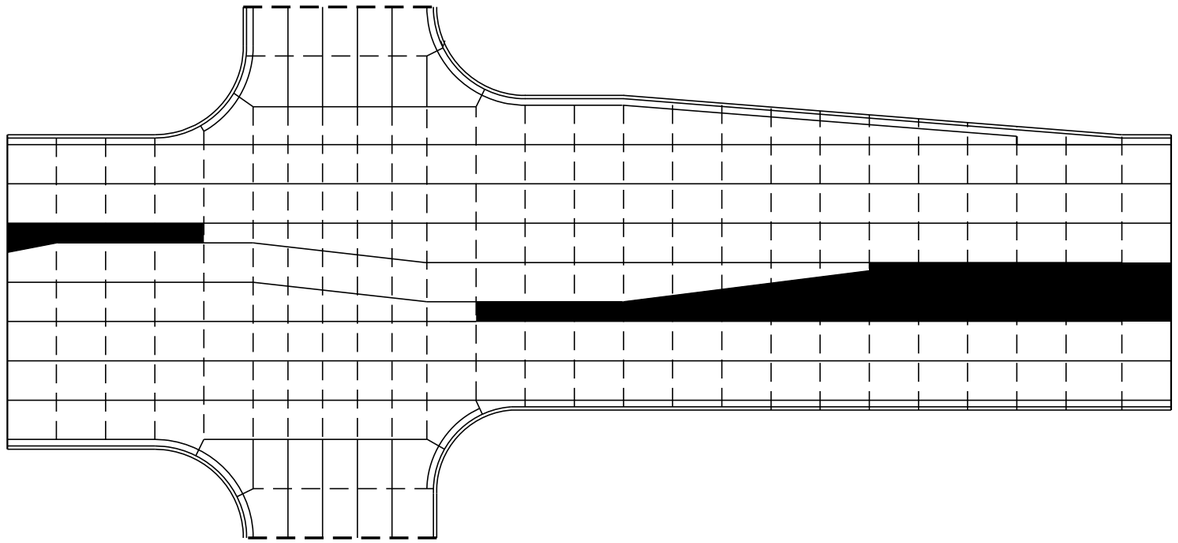
S.D.D. 13 C 18-1a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

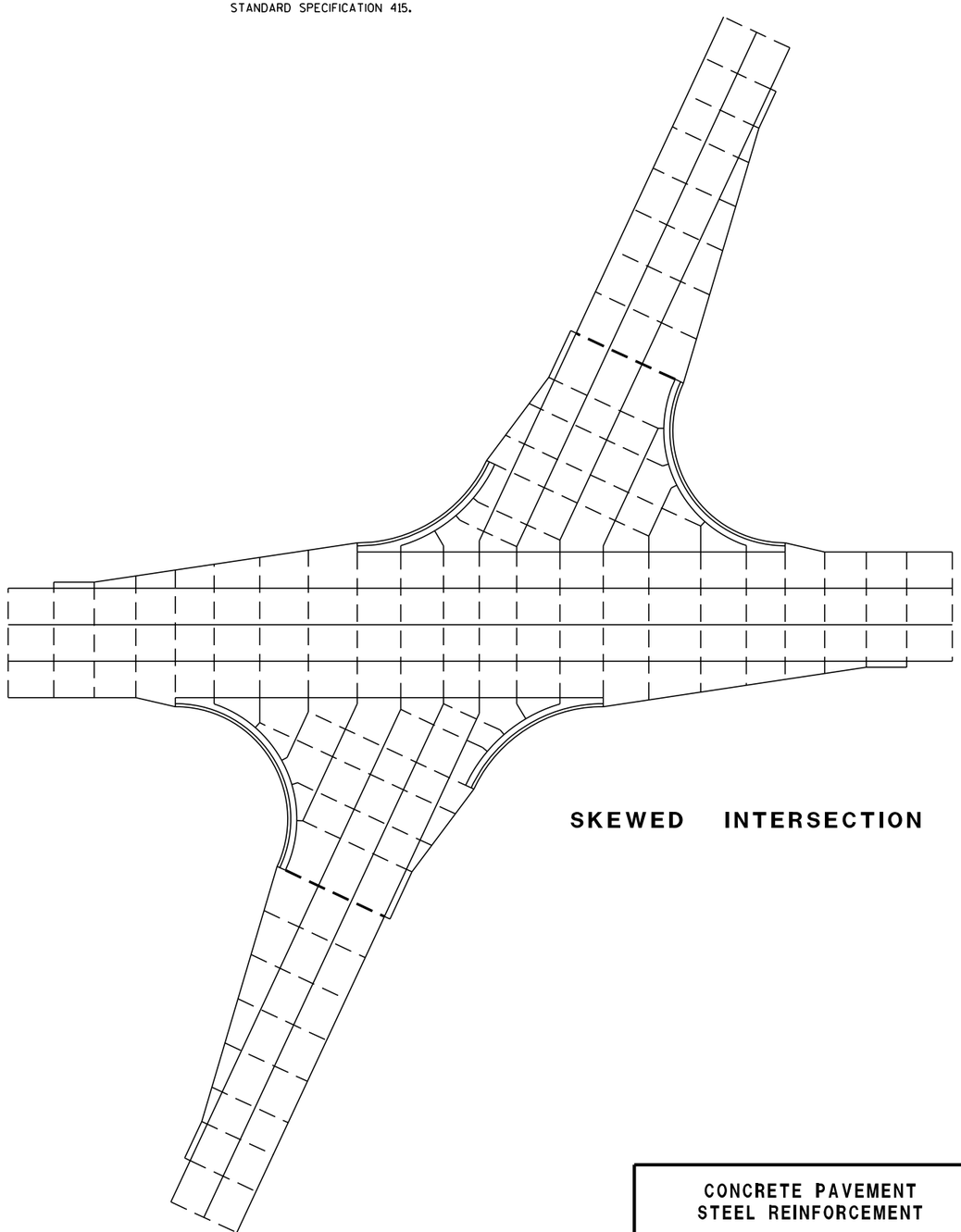
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

6

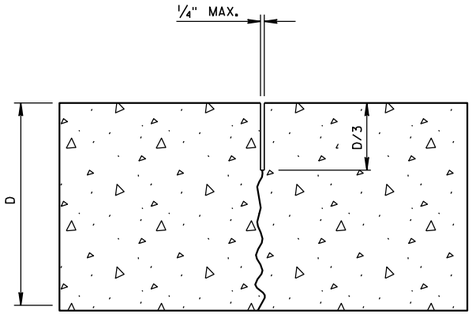
6

S.D.D. 13 C 18-1b

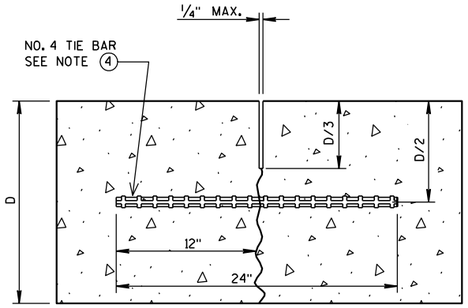
S.D.D. 13 C 18-1b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



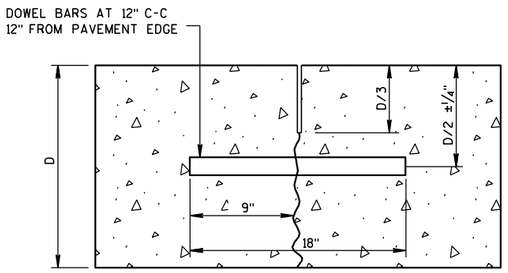
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

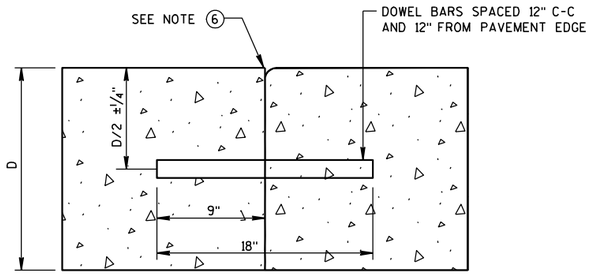
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE 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.



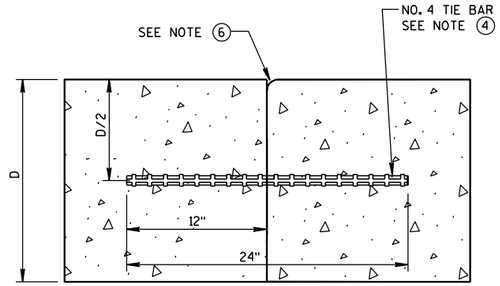
DOWELED-TRANSVERSE

CONTRACTION JOINTS

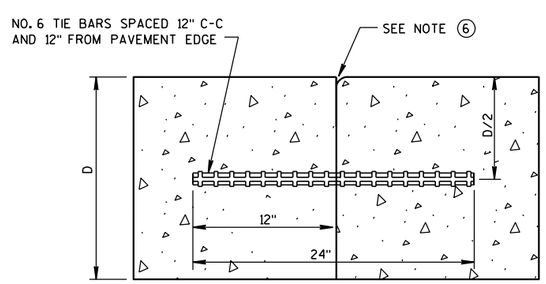
SEE NOTE (2)



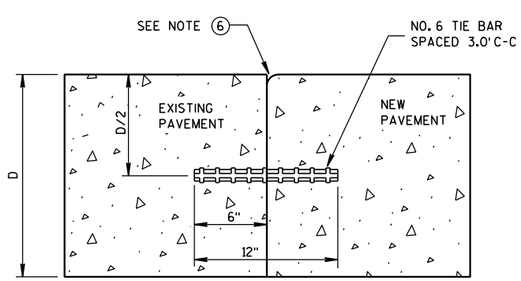
DOWELED TRANSVERSE



TIED LONGITUDINAL



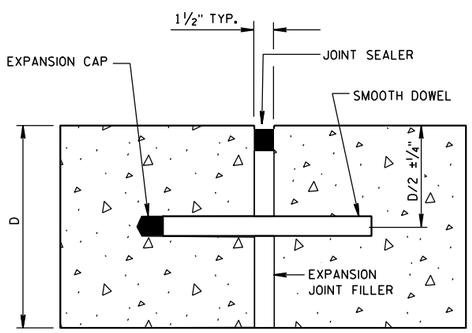
TIED TRANSVERSE
SEE NOTE (3)



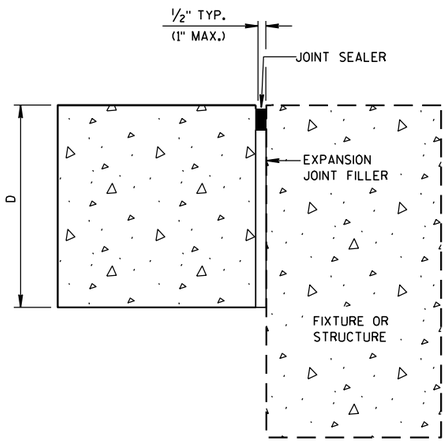
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE
SEE NOTE (1)



UNTIED-LONGITUDINAL

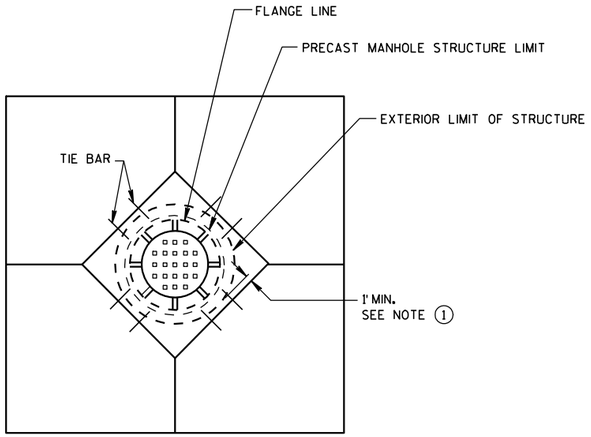
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

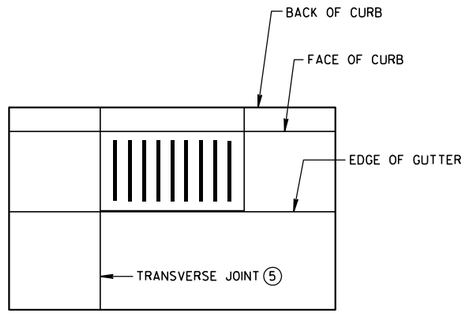
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

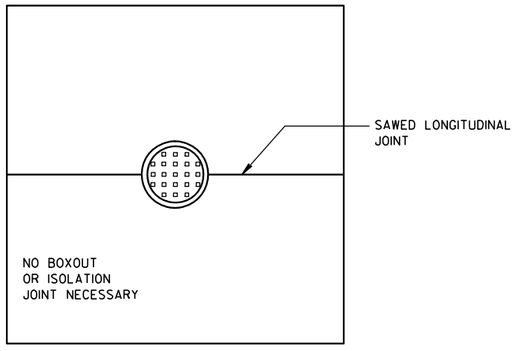
S.D.D. 13 C 18-1c



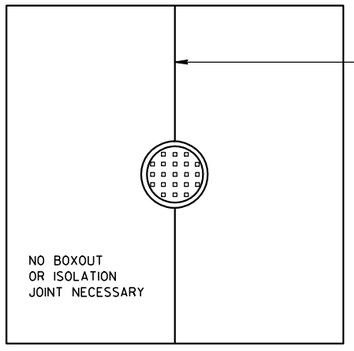
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



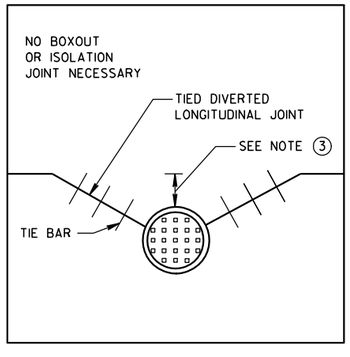
INLET WITH TRANSVERSE JOINT



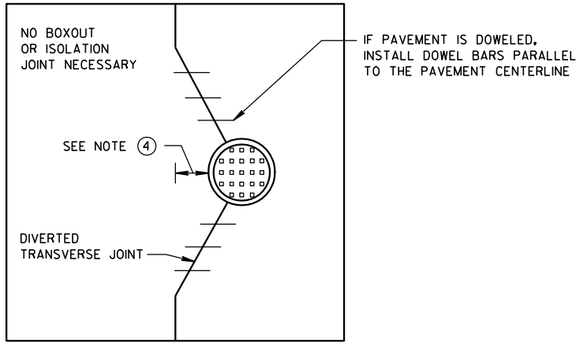
MANHOLE WITH LONGITUDINAL JOINT



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 GREATER THAN 2 FEET, DO NOT DIVERT JOINT AND SAW LONGITUDINAL JOINT AS NORMAL. IF DISTANCE IS 2 FEET OR LESS, DIVERT LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE.
4. IF DISTANCE FROM THE EDGE OF MANHOLE TO THE NEAREST TRANSVERSE JOINT IS GREATER THAN 4 FEET, REDIRECT JOINT TO INTERSECT MANHOLE. IF DISTANCE IS 4 FEET OR LESS, PLACE REBAR REINFORCEMENT AROUND MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

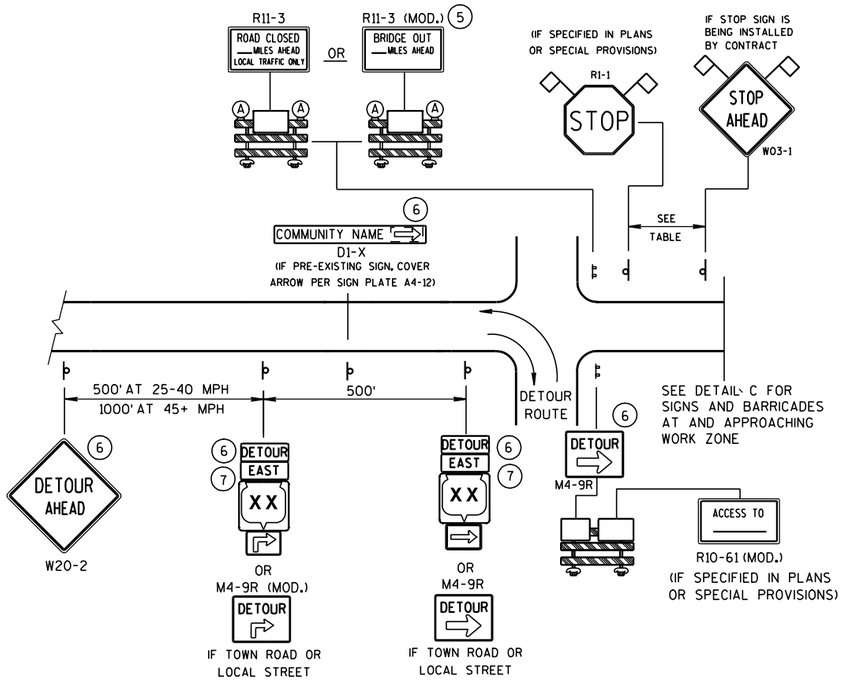
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-5-2010
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & D 83 INEER

FHWA

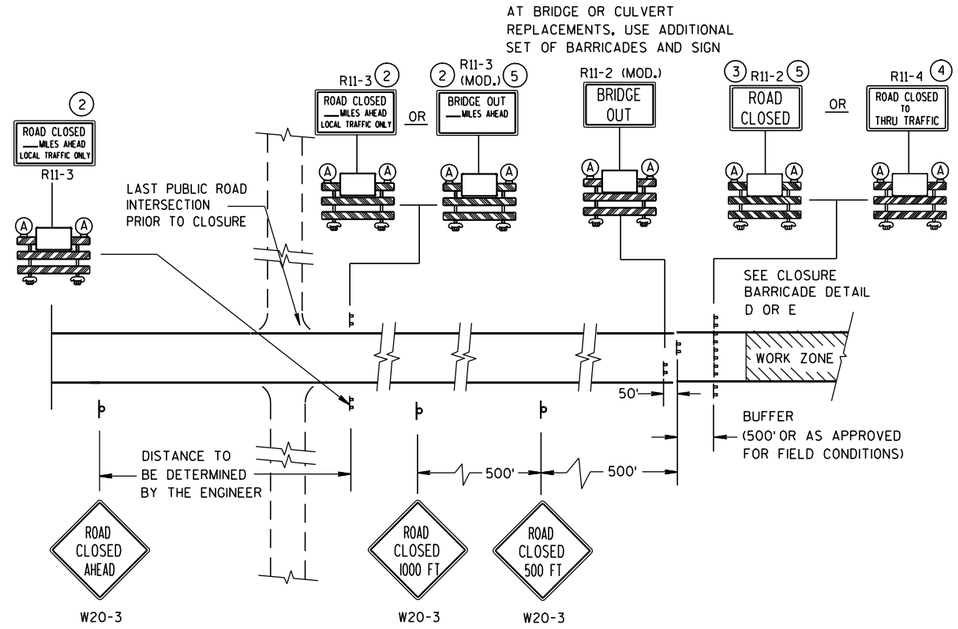
6
S.D.D. 13 C 18-1d



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

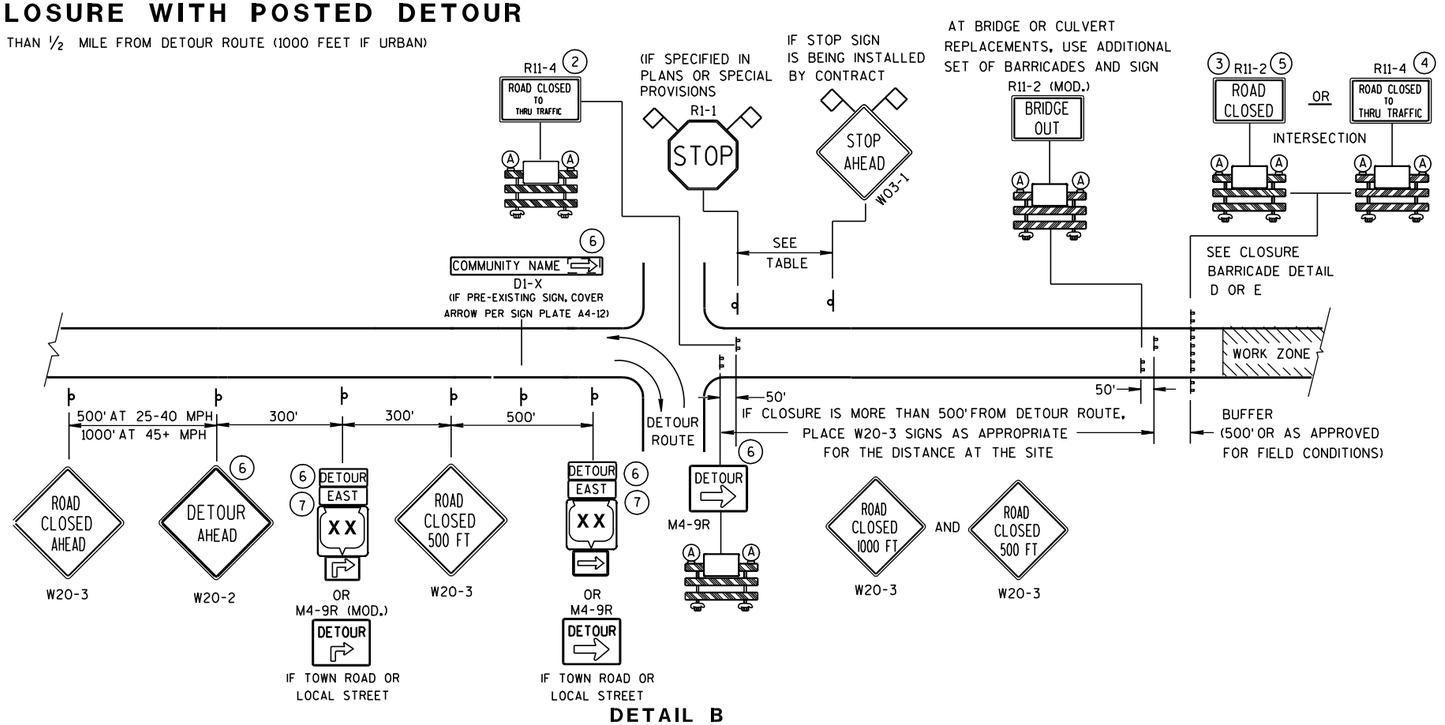


SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

DETAIL C

MAINLINE CLOSURE, NO POSTED DETOUR

SEE SDD 15C2-4b FOR GENERAL NOTES AND FOOTNOTES (1) THROUGH (7)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

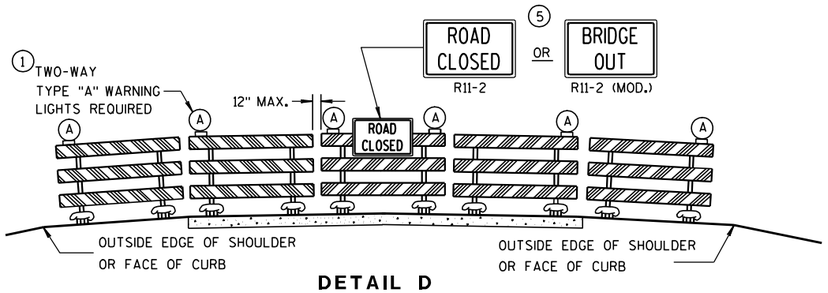
- POST MOUNTED SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1; M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

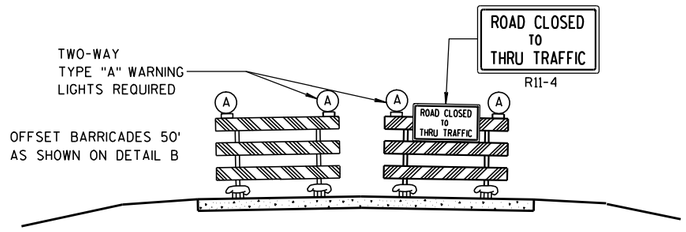
S.D.D. 15 C 2-4a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/16/03
DATE

/S/ Thomas N. N[illegible]
CHIEF SIGNS AND MAR[illegible]INEER

FHWA

6

S.D.D. 15 C 2-4b

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

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

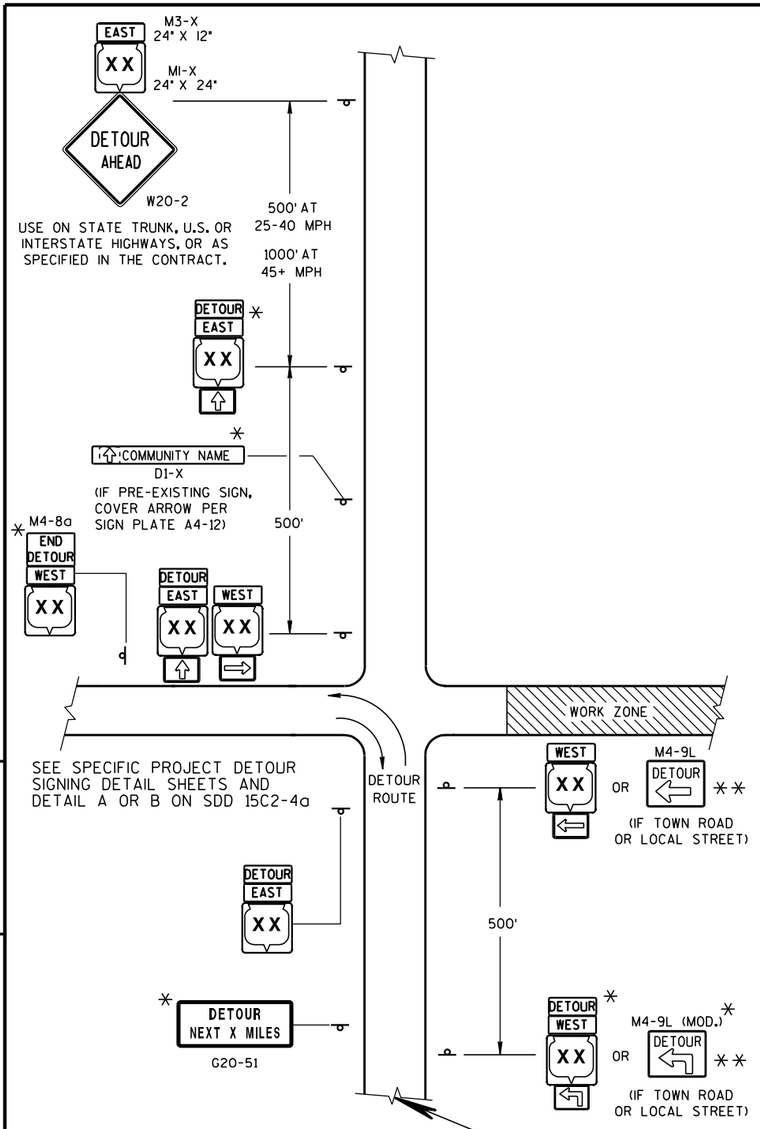
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

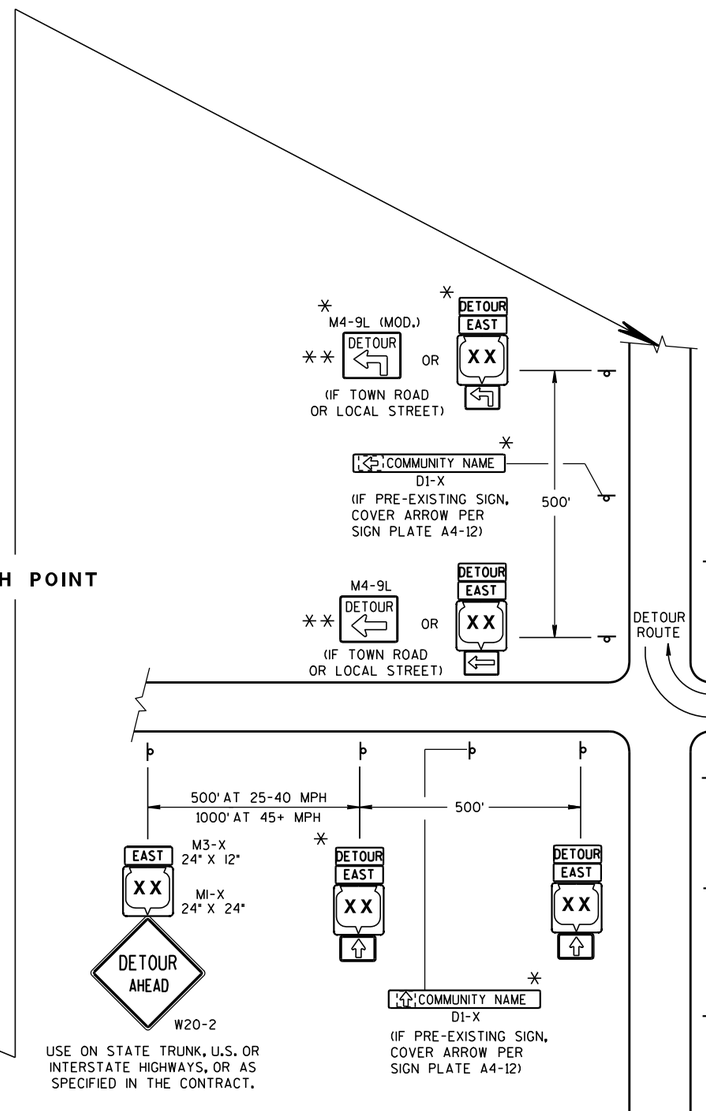
SIGN SIZES SHALL BE AS FOLLOWS:

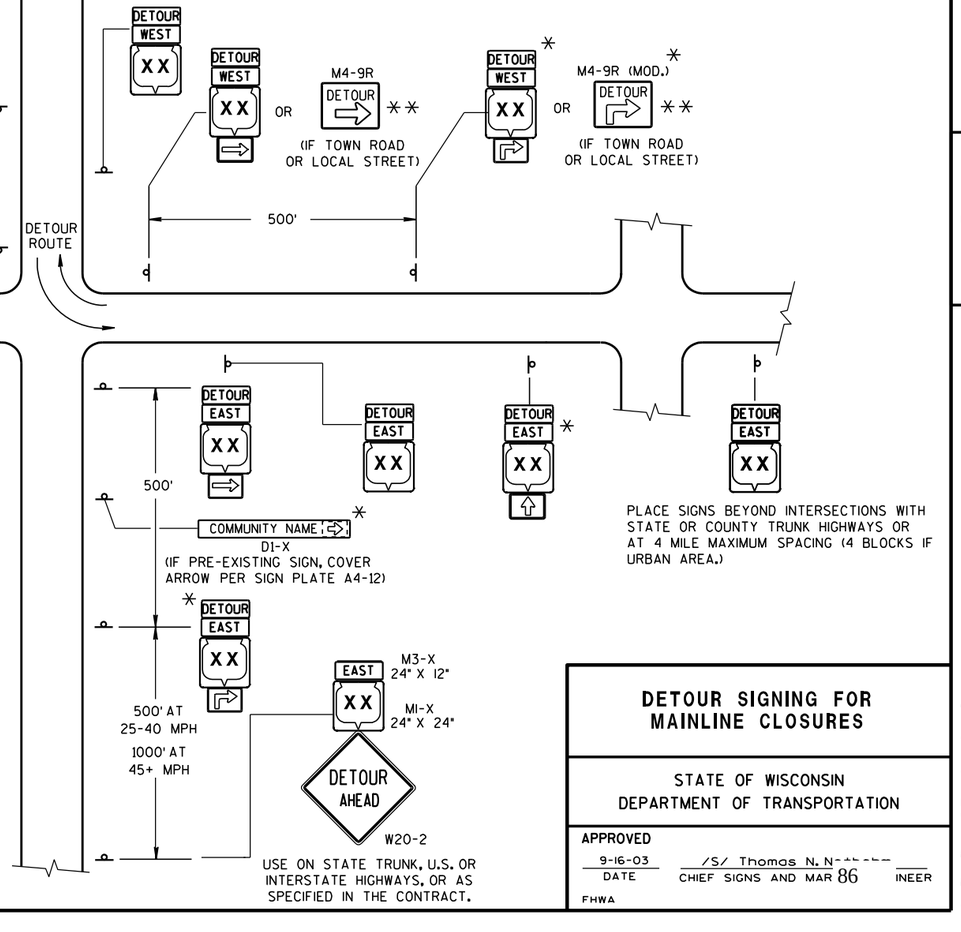
M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
M4-9 SHALL BE 30" X 24".
M4-8a SHALL BE 24" X 18".
G20-51 SHALL BE 60" X 24".
W20-2 SHALL BE 48" X 48".
D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.







LEGEND

- POST MOUNTED SIGN
- WORK ZONE
- DETOUR EAST — M4-8 / M3-X
- XX OR COUNTY XX OR XX — M1-4 / M1-5A / M1-6
- M05-1 OR M06-1 OR M06-1

DETAIL F

DETOUR SIGNING

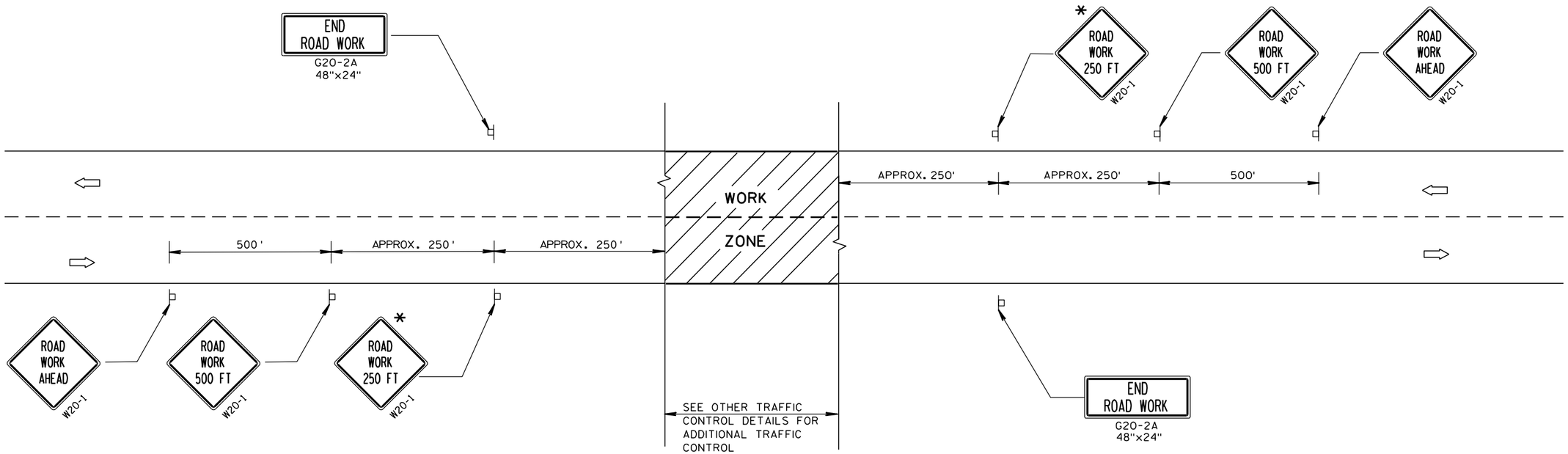
DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-16-03 DATE
/S/ Thomas N. [illegible] CHIEF SIGNS AND MAR[illegible] INEER
FHWA

6 S.D.D. 15 C 2-4c

6 S.D.D. 15 C 2-4c



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.

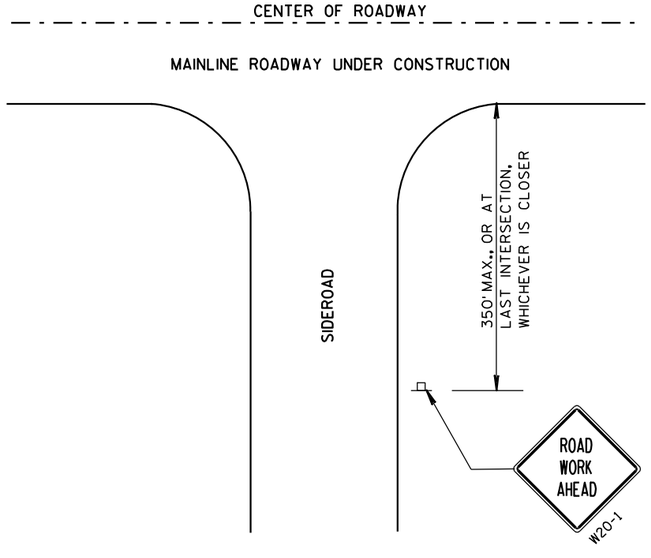
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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.

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



LEGEND

POST MOUNTED SIGN

DIRECTION OF TRAFFIC FLOW

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

5/23/00
DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKING ENGINEER

FHWA

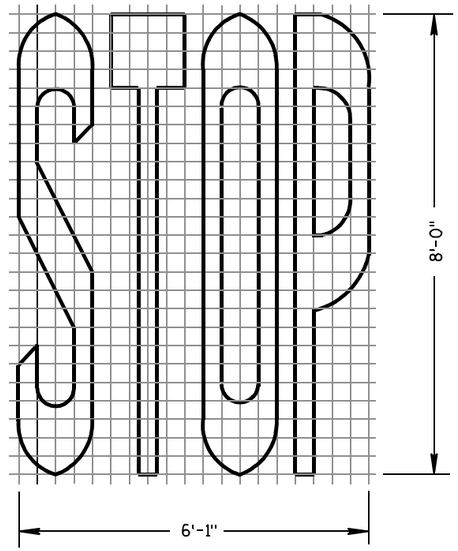
6

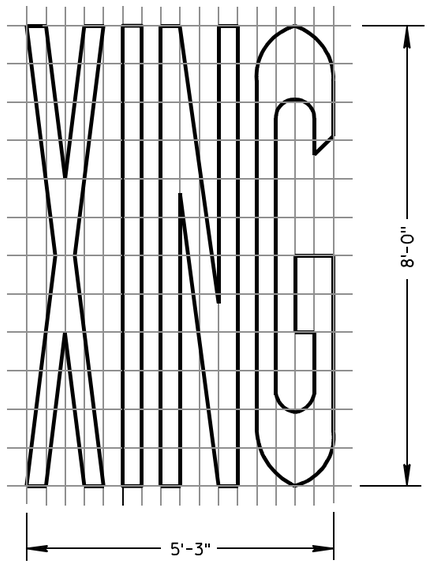
S.D.D. 15 C 5-1

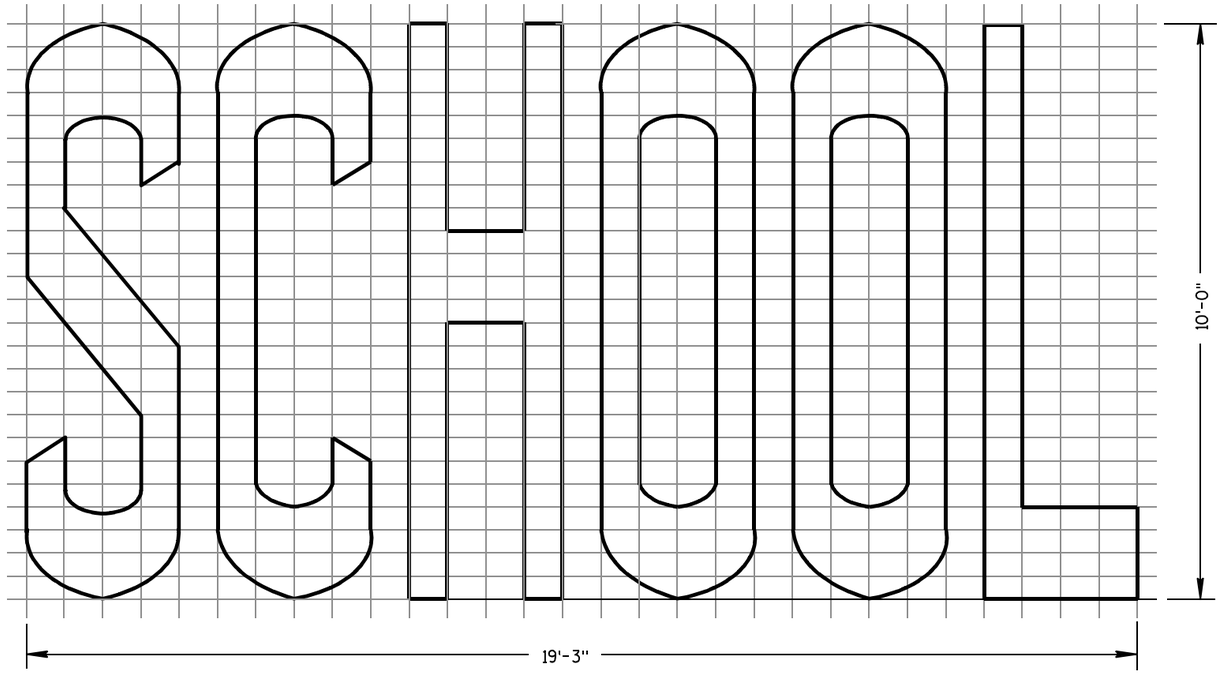
GENERAL NOTES

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.

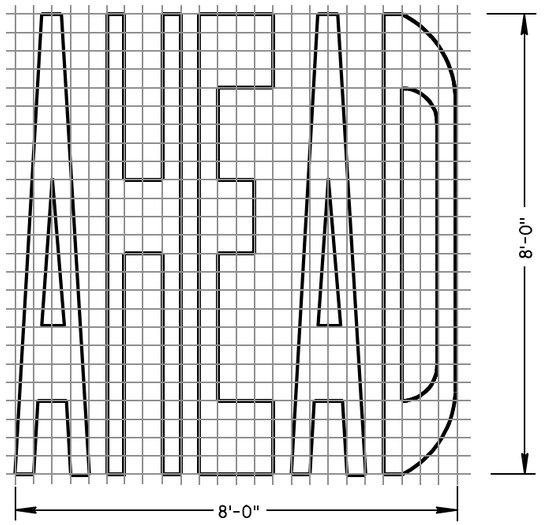
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

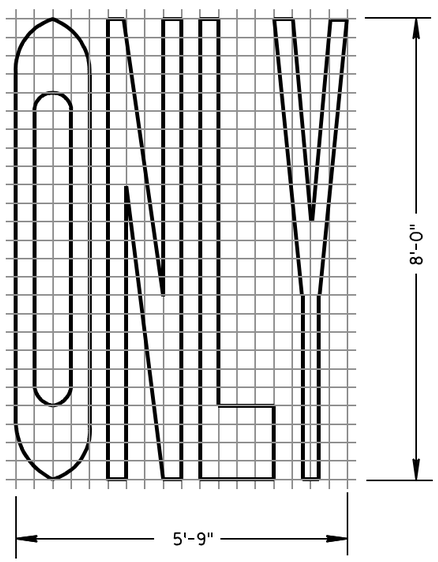


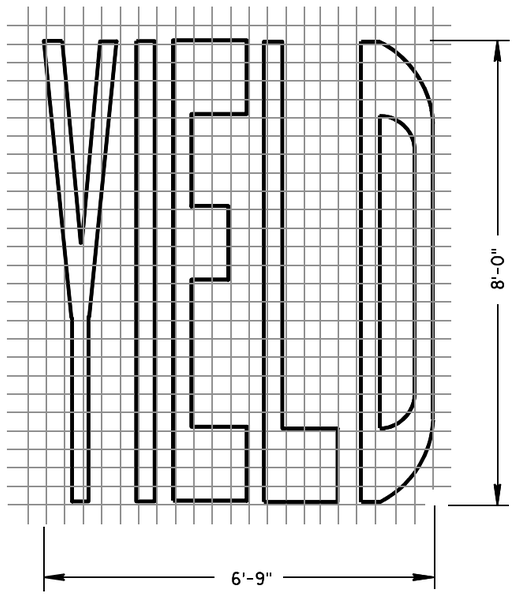


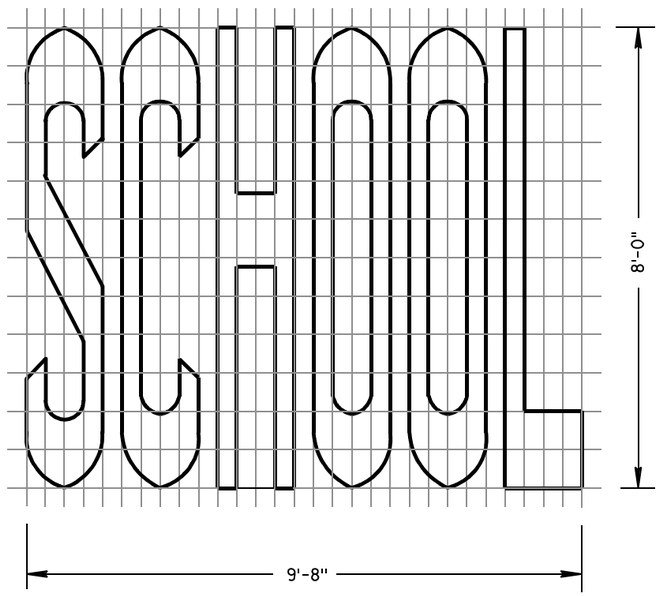


TWO-LANE









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

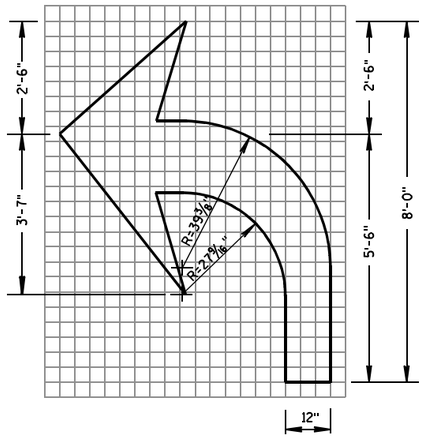
6

S.D.D. 15 C 7-12b

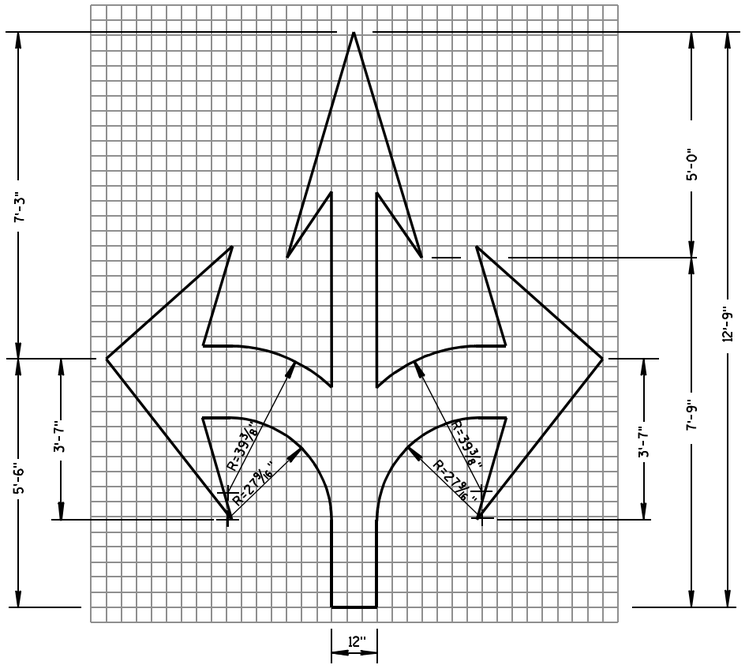
GENERAL NOTES

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.

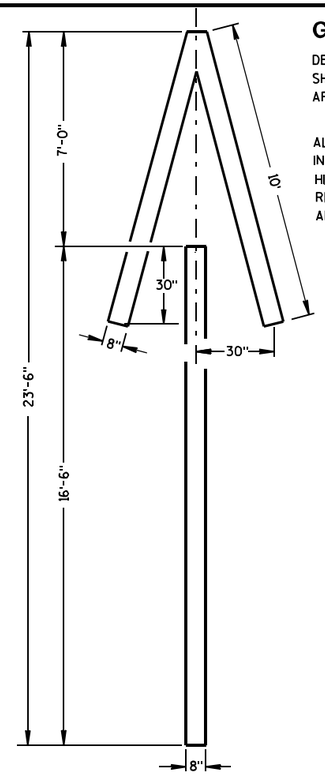
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TYPE 2



TYPE 6



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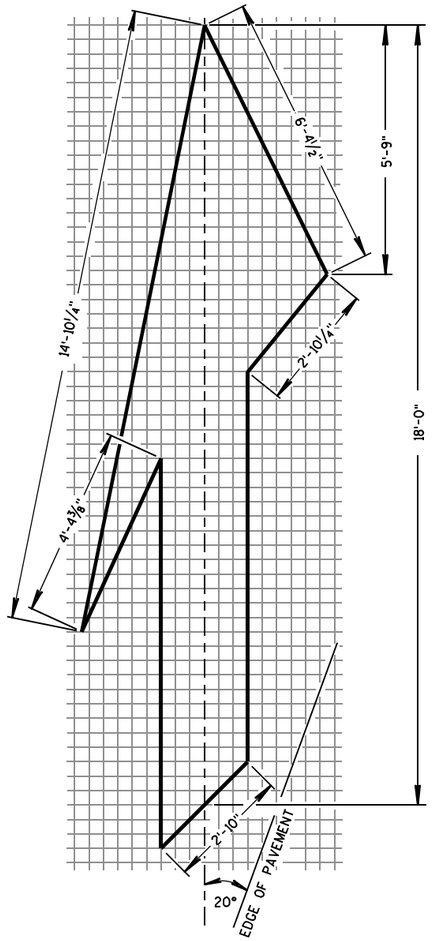
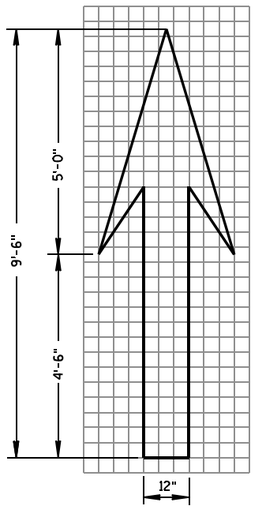
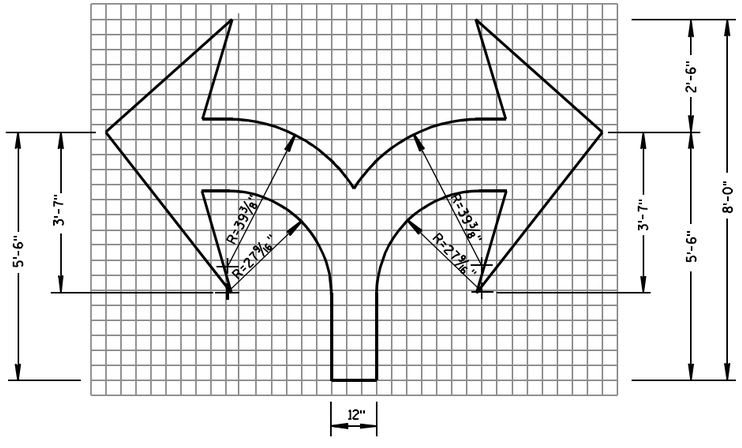


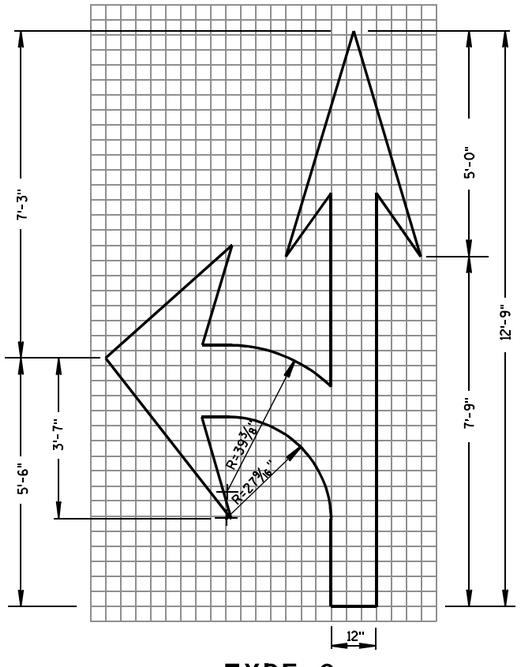
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

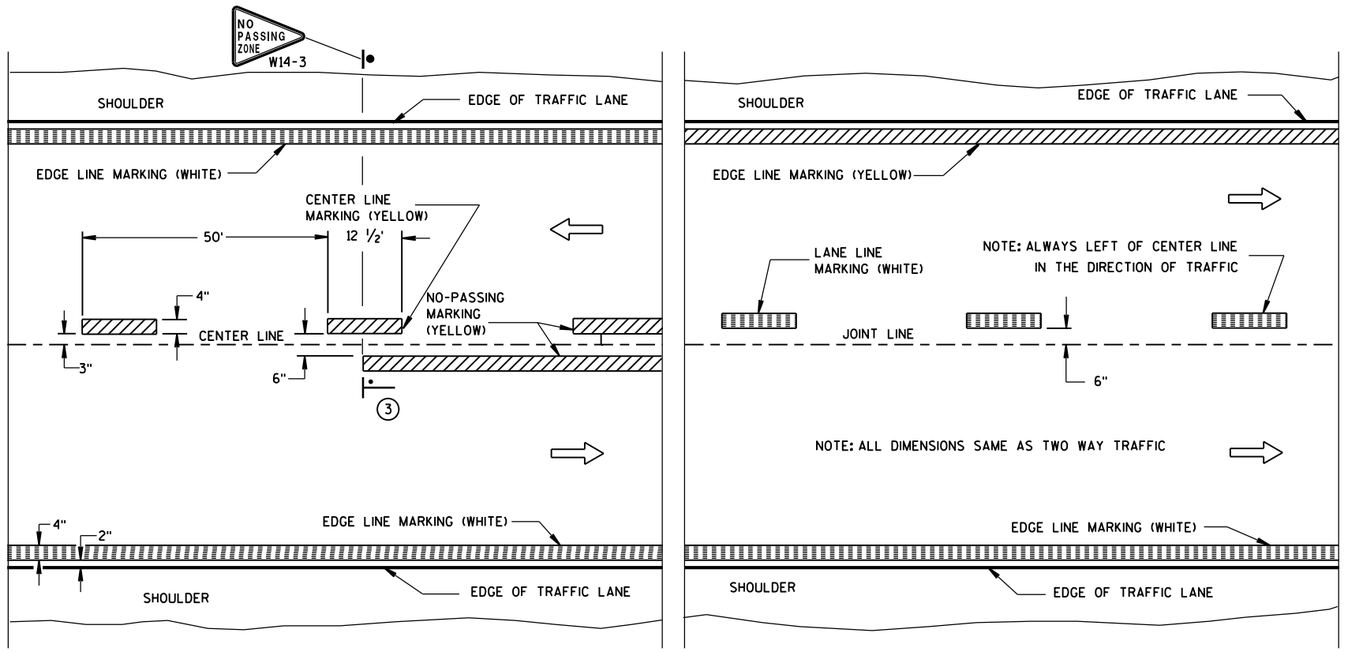
7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

FHWA

6

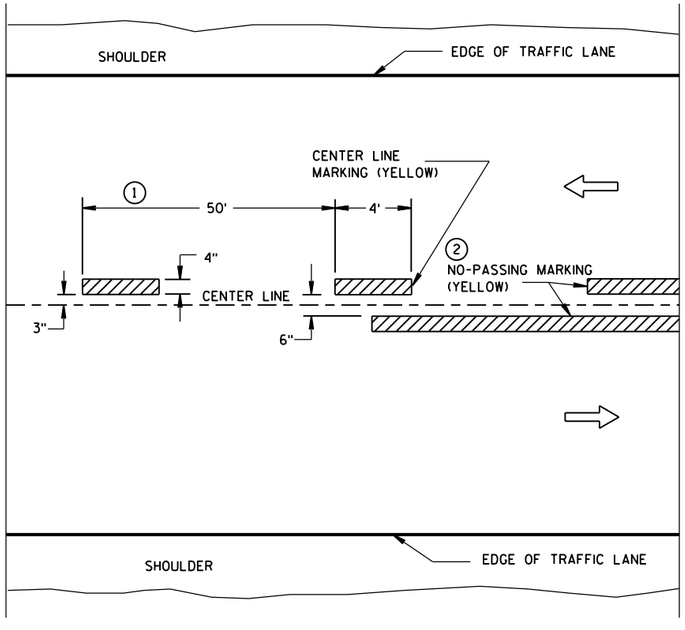
S.D.D. 15 C 7-12c



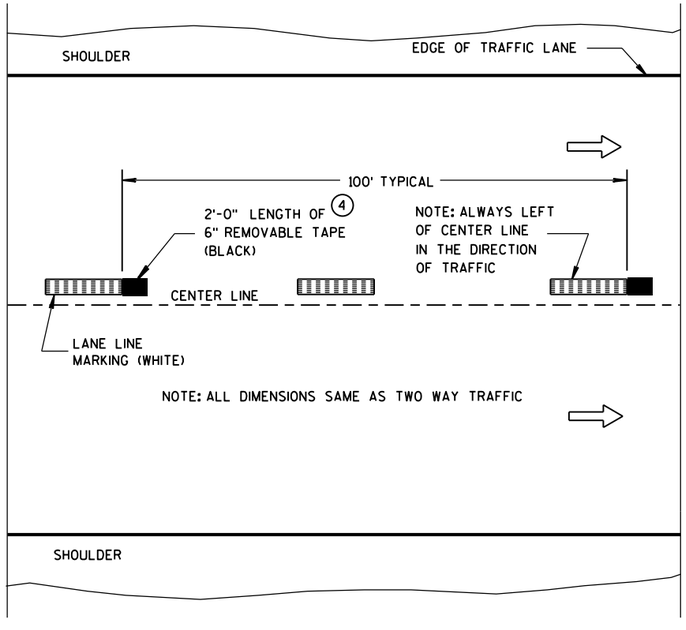
TWO WAY TRAFFIC

ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

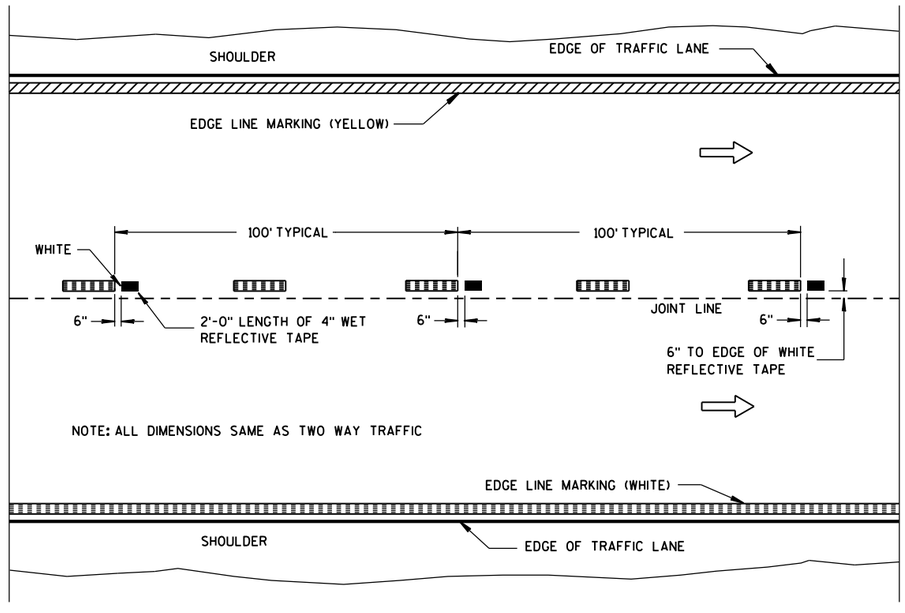
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

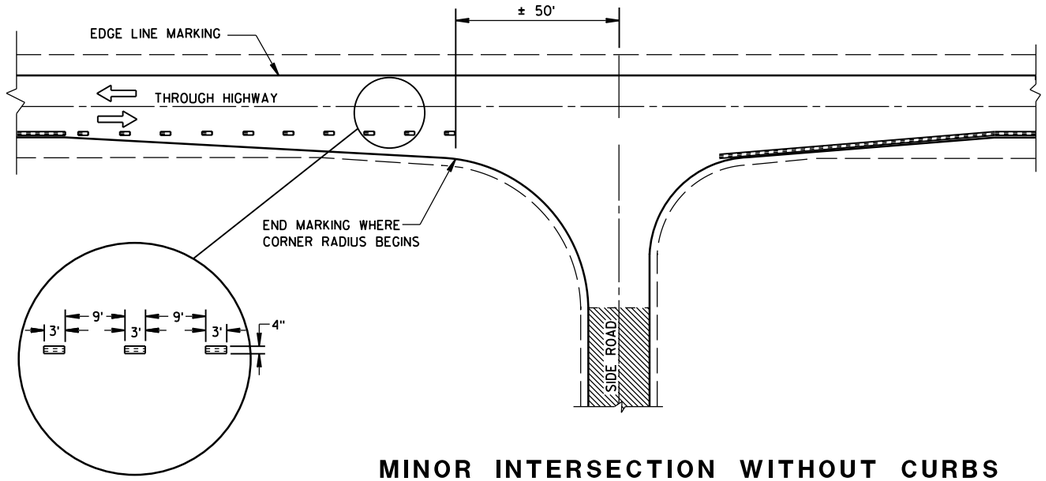
APPROVED
10-1-2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

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

6

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



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.

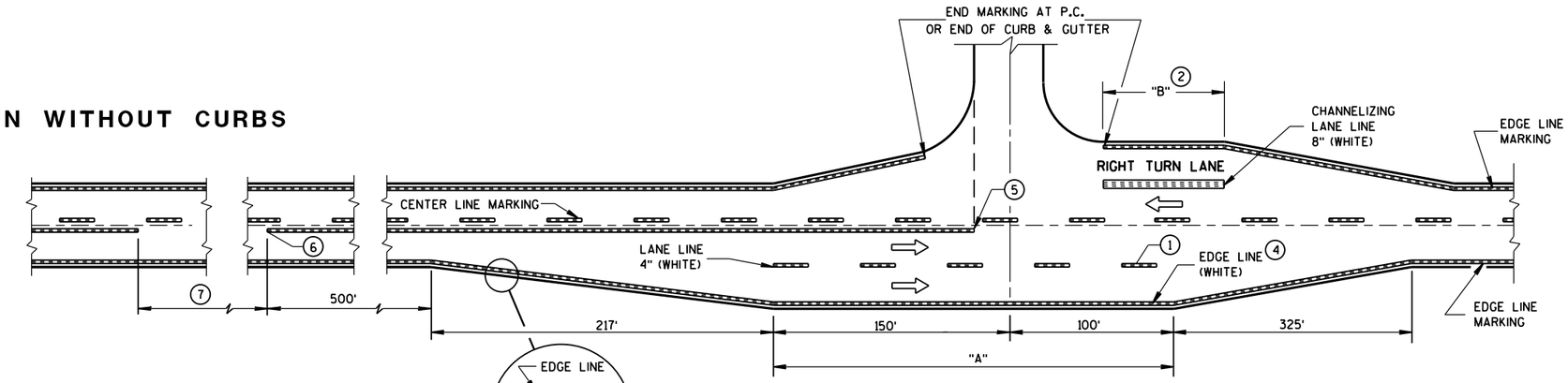
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

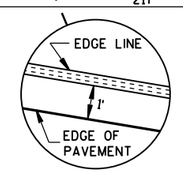
(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

(7)

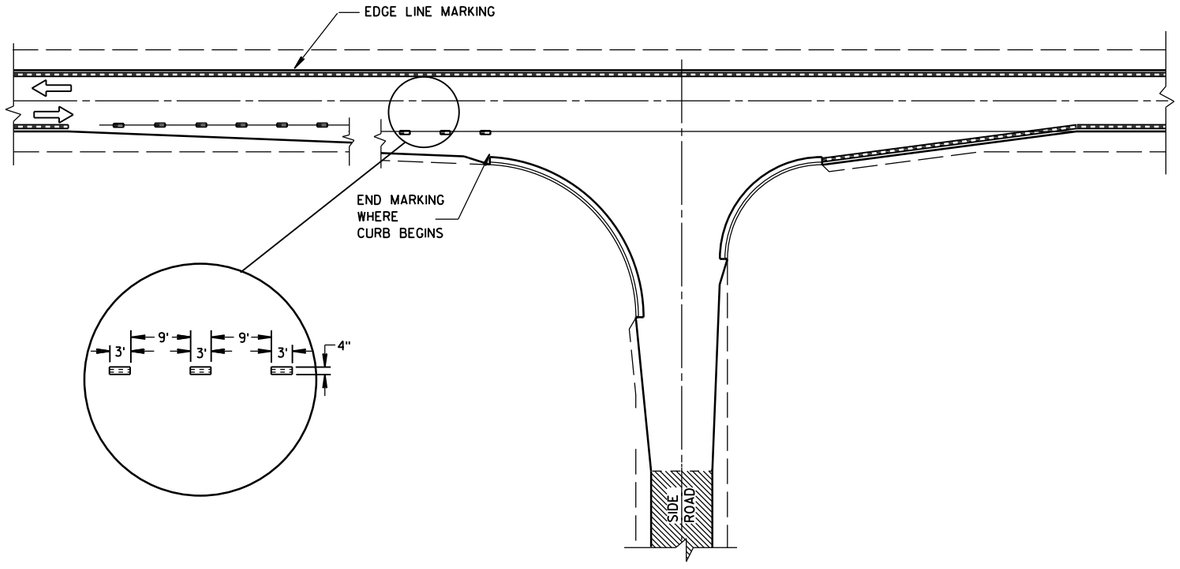
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792





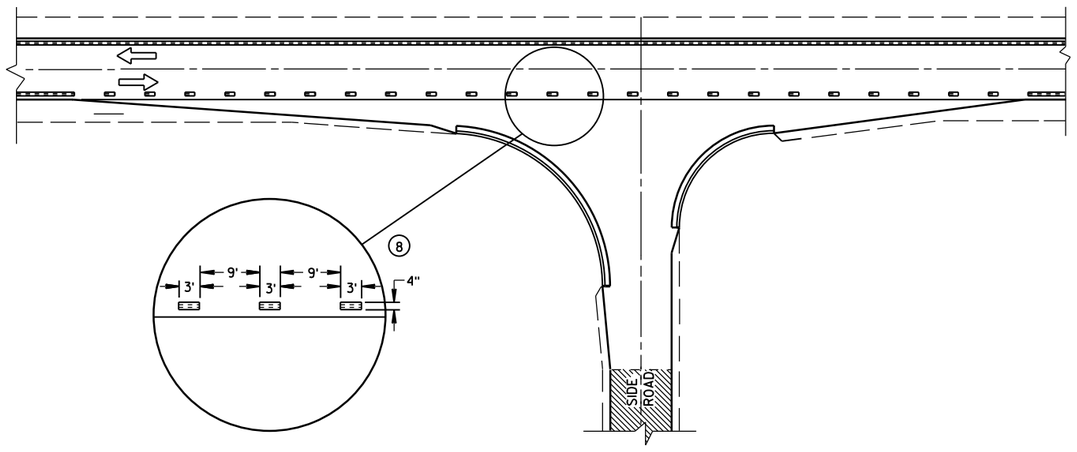
MAJOR INTERSECTIONS

(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)

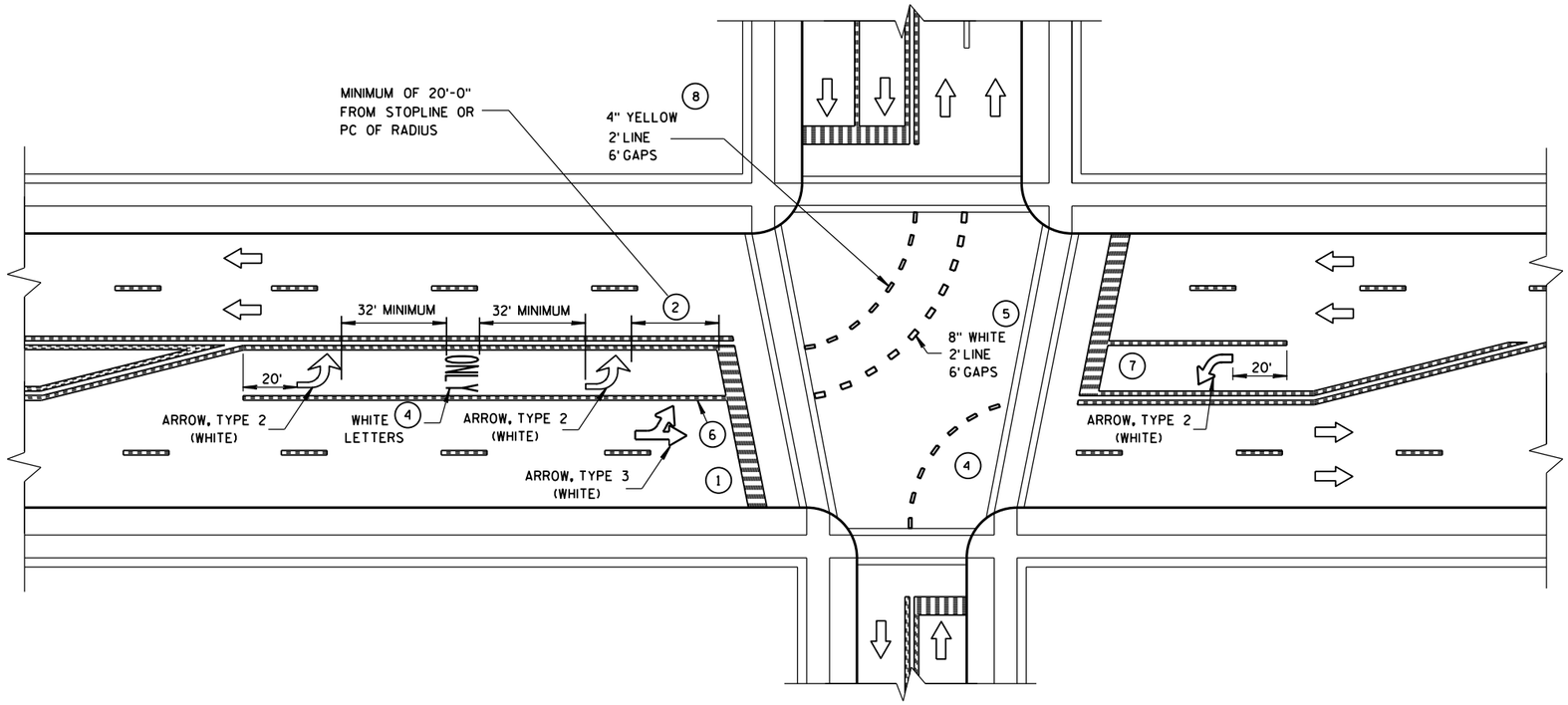
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-15b

6

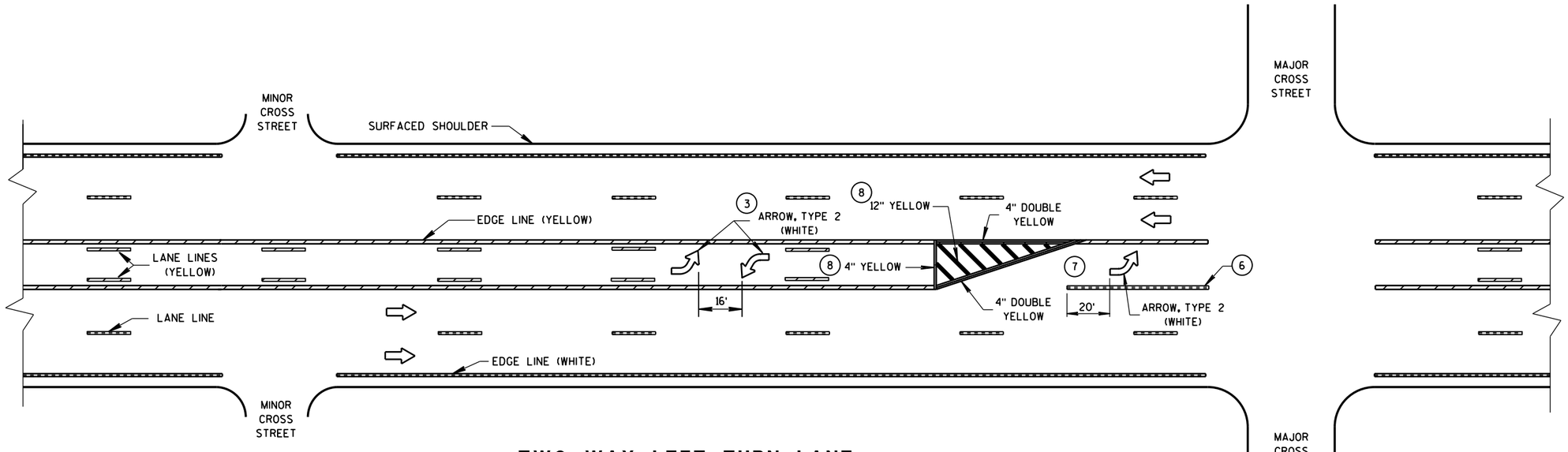
S.D.D. 15 C 8-15b



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' OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA ARROW AND ONLY PER 160' 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'.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



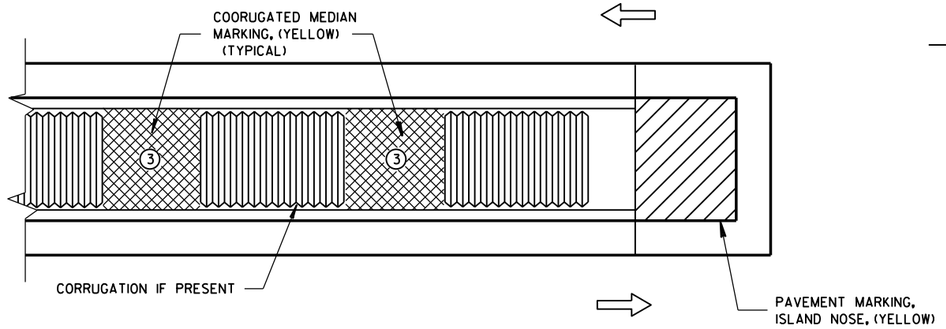
TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

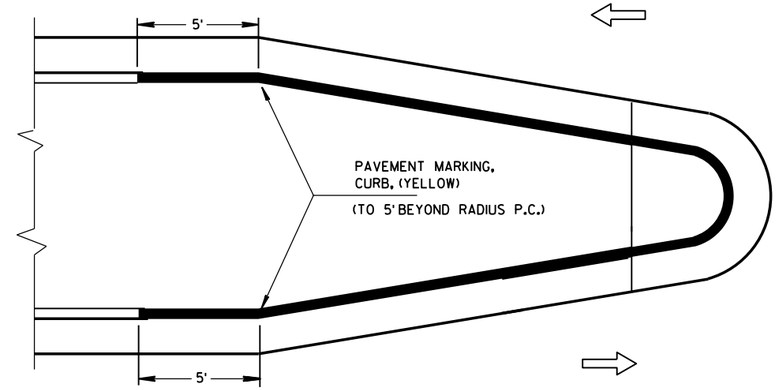
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

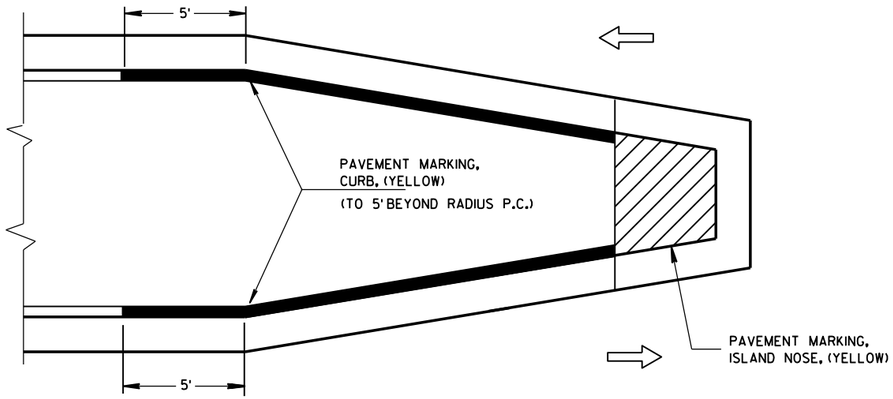
S.D.D. 15 C 8-15e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

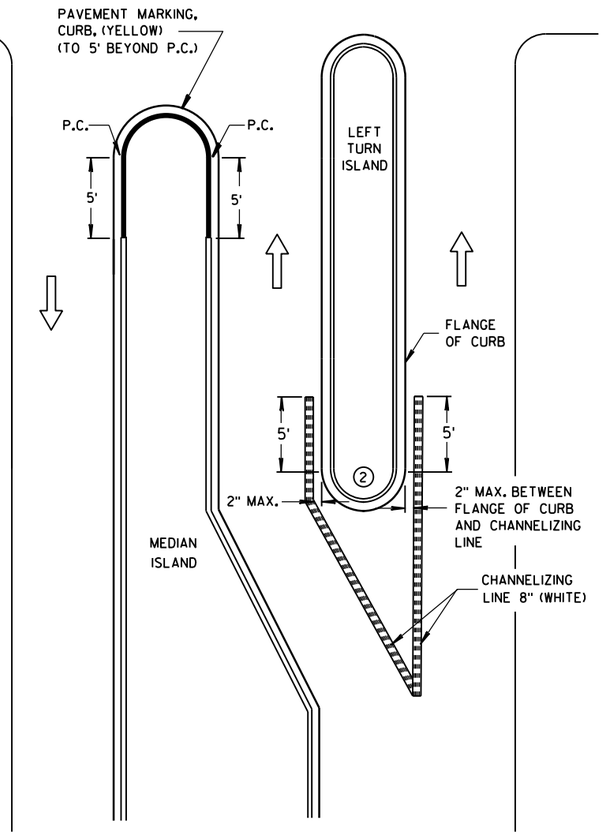


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

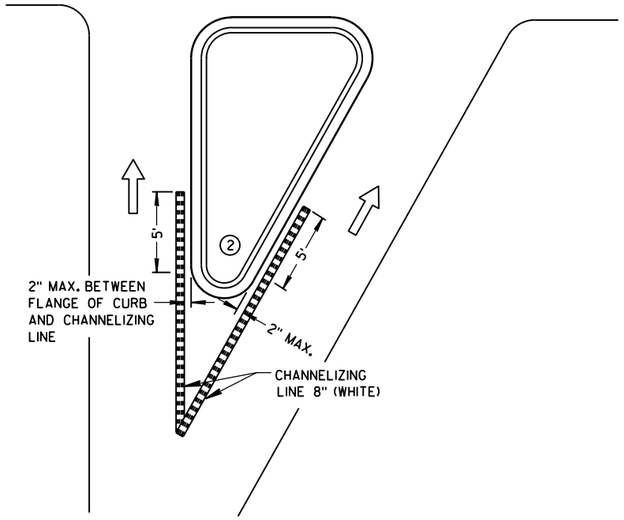
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



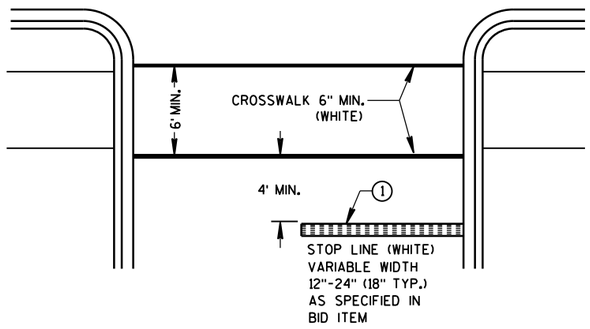
LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. STOP LINE IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
3. 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



STOP LINE AND CROSSWALK

LEGEND

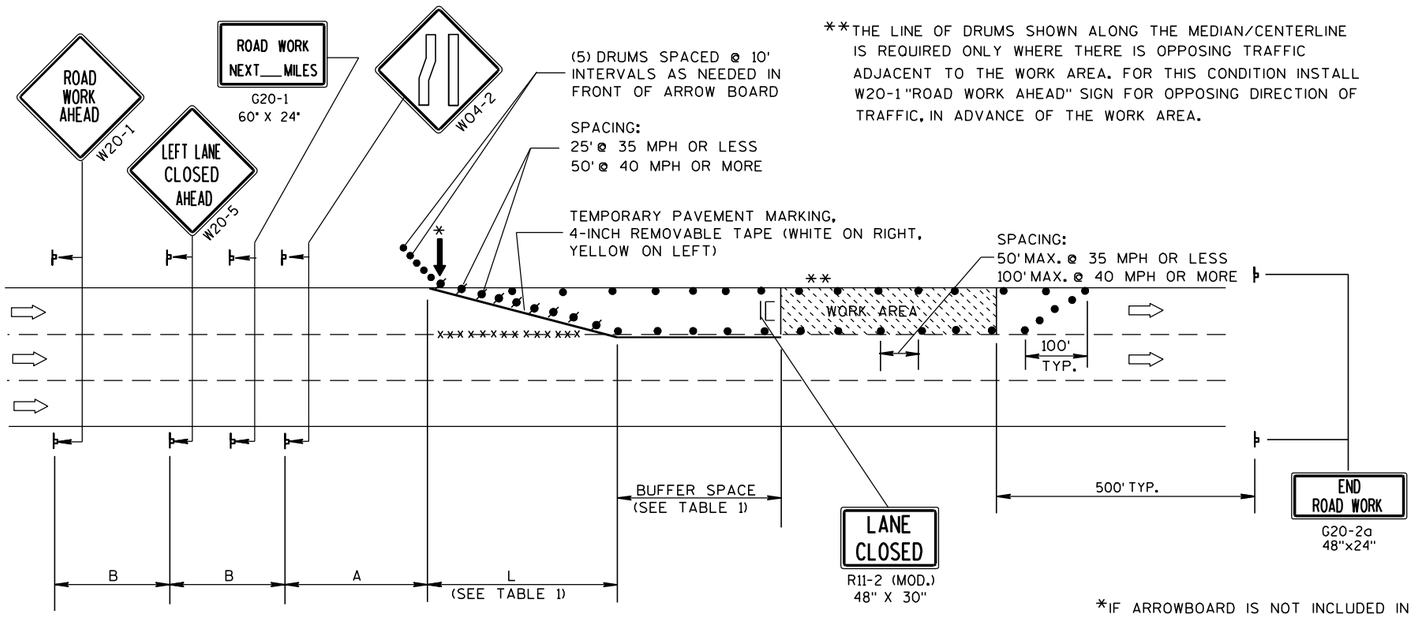
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 C 8-15f



**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"

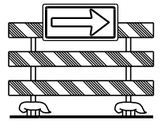


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

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

- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- POST MOUNTED SIGN
- ARROW BOARD
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS, TYPE A (FLASHING) WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC FLOW
- xxxx REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

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 7 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
5/23/00 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

6

S.D.D. 15 D 20-1

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

- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- ARROW BOARD
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS, TYPE A (FLASHING) WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC FLOW
- xxxx REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

GENERAL NOTES

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

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

THE SPACING BETWEEN 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 THE 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 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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.

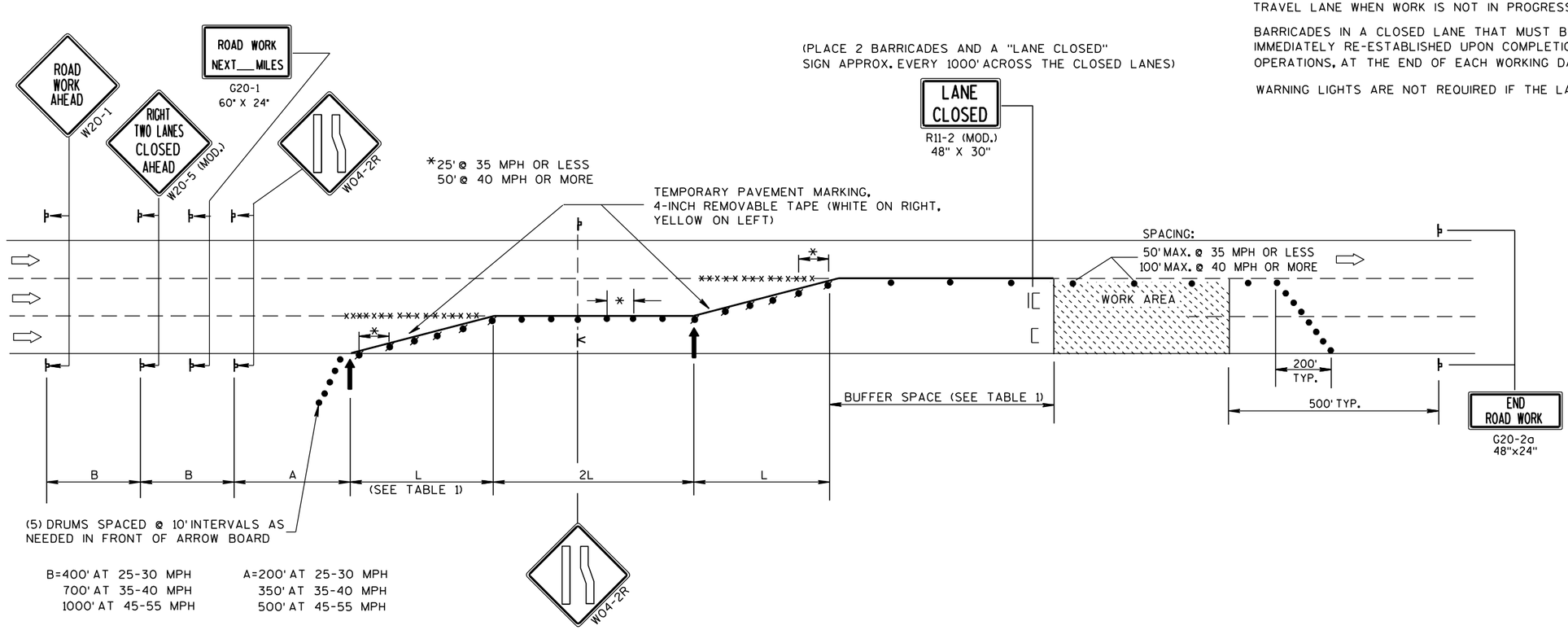
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO LOCATE THE ARROWBOARD AS SHOWN, PLACE THE ARROWBOARD IN THE LANE CLOSURE TAPER AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE TAPER.

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.



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

TRAFFIC CPNTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 DATE
/S/ Cester J. [illegible] CHIEF SIGNS AND MARI[illegible]NEER
FHWA

6

S.D.D. 15 D 22-1

SYMBOLS

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

GENERAL NOTES

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

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

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

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

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

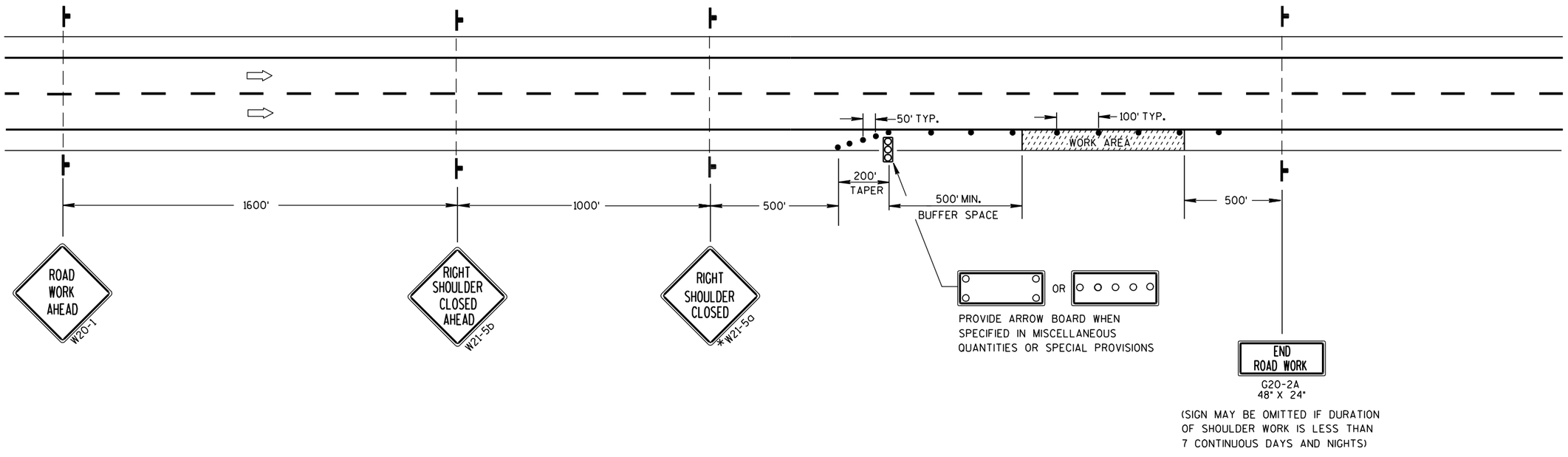
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/00
DATE

/S/ Chester J Spagg
CHIEF SIGNS AND MAR 96 INEER

FHWA

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" 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 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.

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

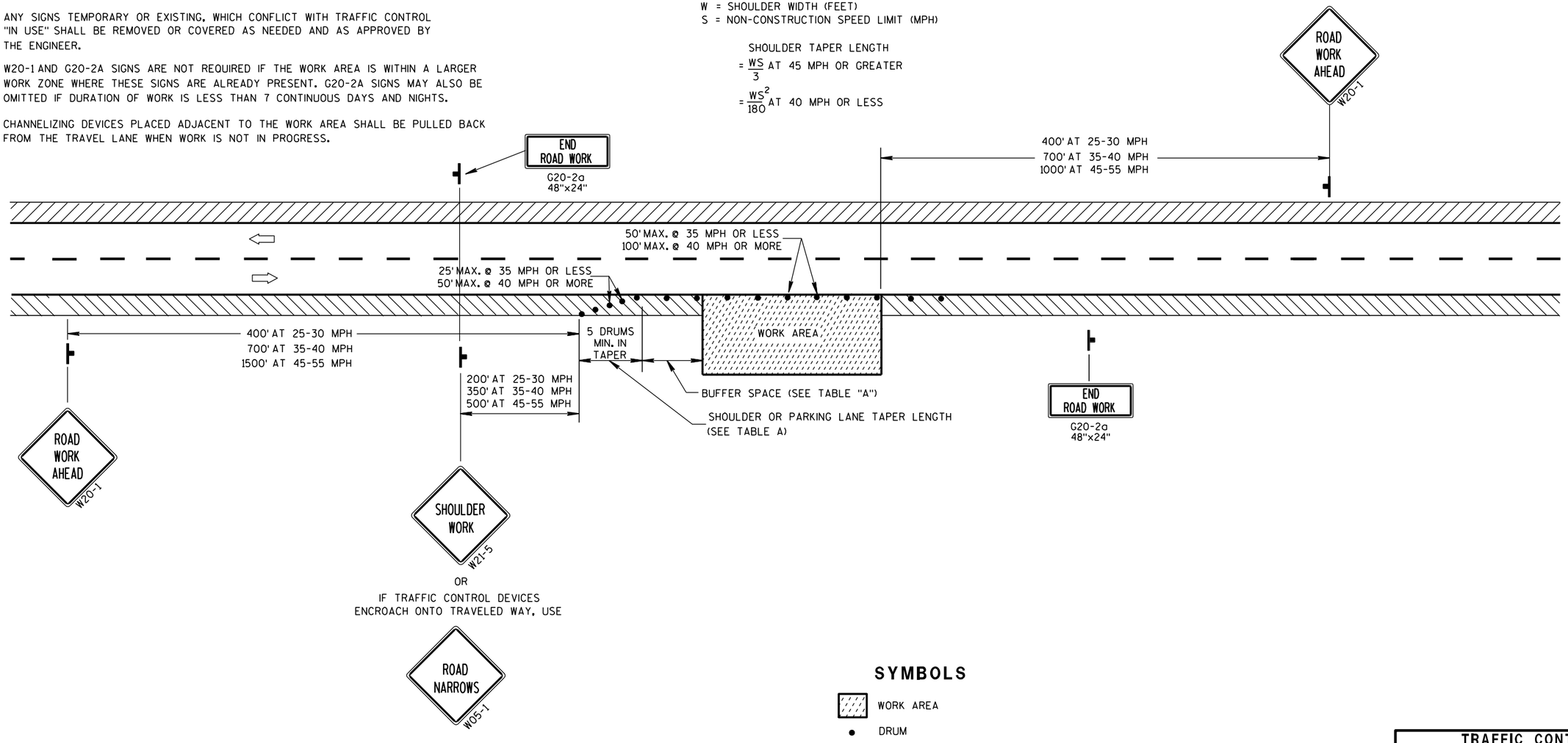
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH
$= \frac{WS}{3}$ AT 45 MPH OR GREATER
$= \frac{WS^2}{180}$ AT 40 MPH OR LESS



SYMBOLS

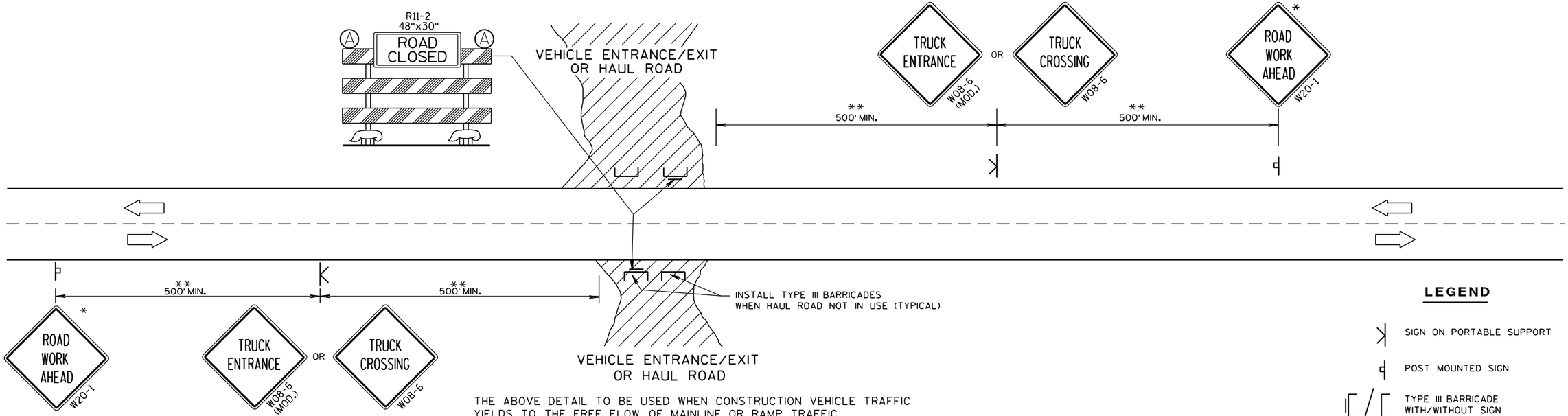
- WORK AREA
- DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 DATE
/S/ Chester J. [illegible] CHIEF SIGNS AND MARK[illegible] ENGINEER
FHWA

6
S.D.D. 15 D 28-1



THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

GENERAL NOTES

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

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE **ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES** FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500' SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350'. FOR 25-30 MPH, USE 200'. USE 1000'/1500' FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

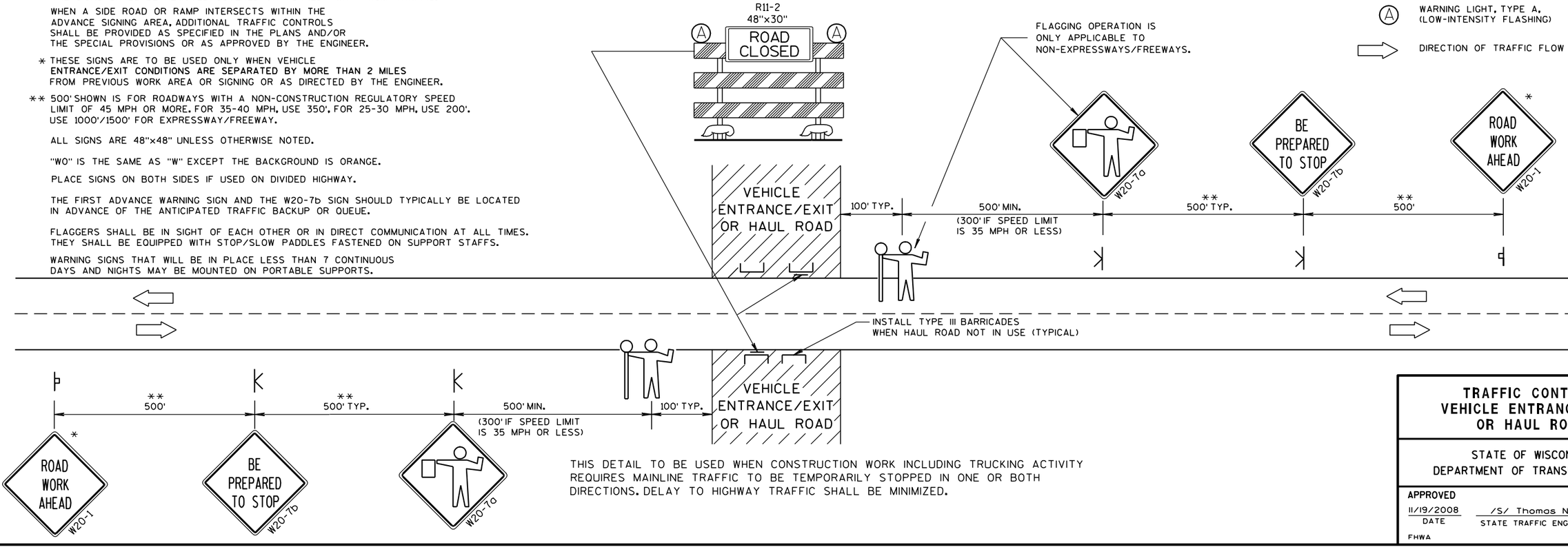
THE FIRST ADVANCE WARNING SIGN AND THE W20-7b SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS.

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

LEGEND

- SIGN ON PORTABLE SUPPORT
- POST MOUNTED SIGN
- TYPE III BARRICADE WITH/WITHOUT SIGN
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- (A) WARNING LIGHT, TYPE A, (LOW-INTENSITY FLASHING)
- DIRECTION OF TRAFFIC FLOW



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

TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/19/2008 DATE
/S/ Thomas N. N[illegible] STATE TRAFFIC ENGINEER
FHWA

98 SIGN

6

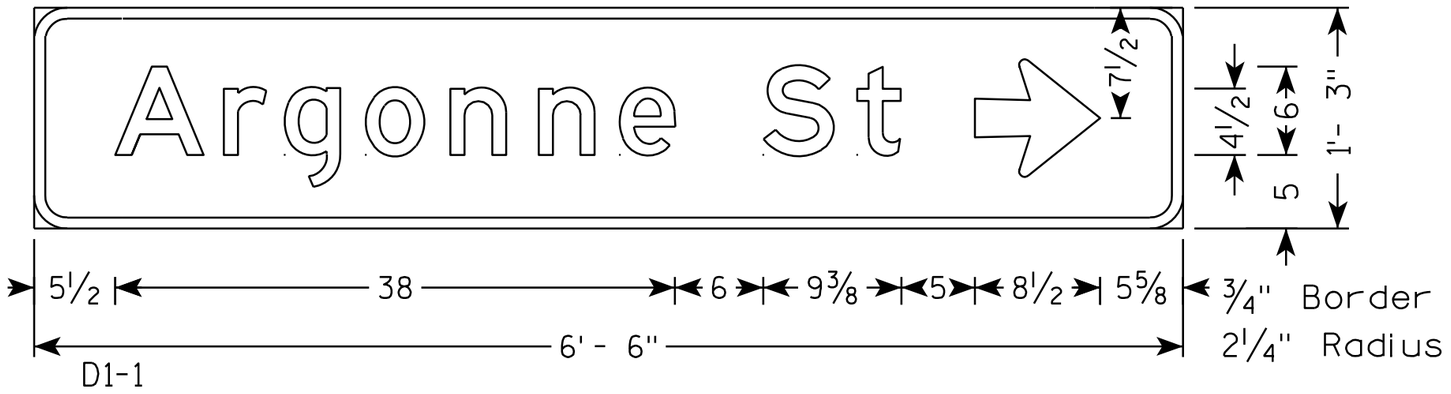
S.D.D. 15 D 29-2

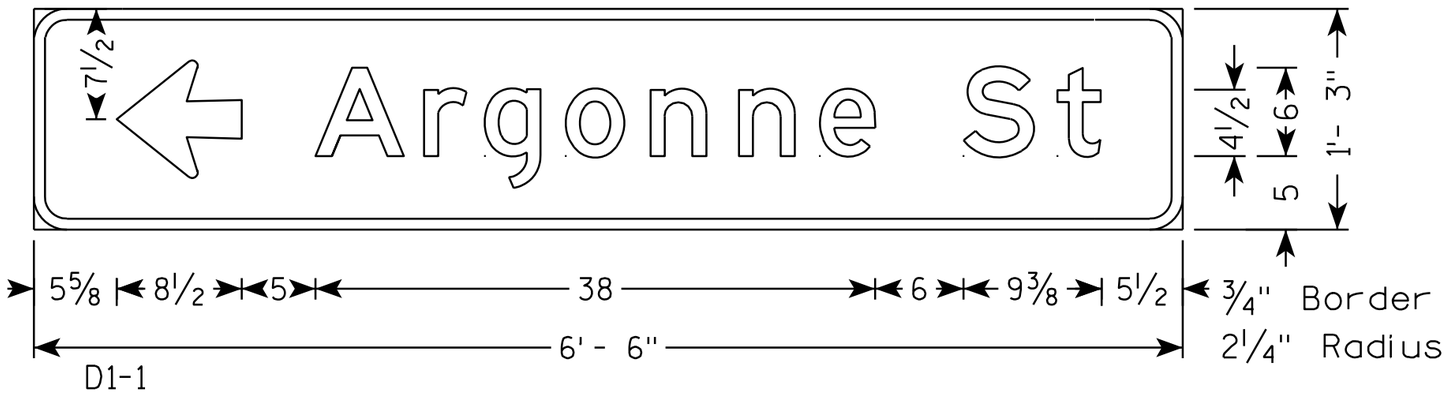
6

S.D.D. 15 D 29-2

NOTES

1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White
3. Message Series - E





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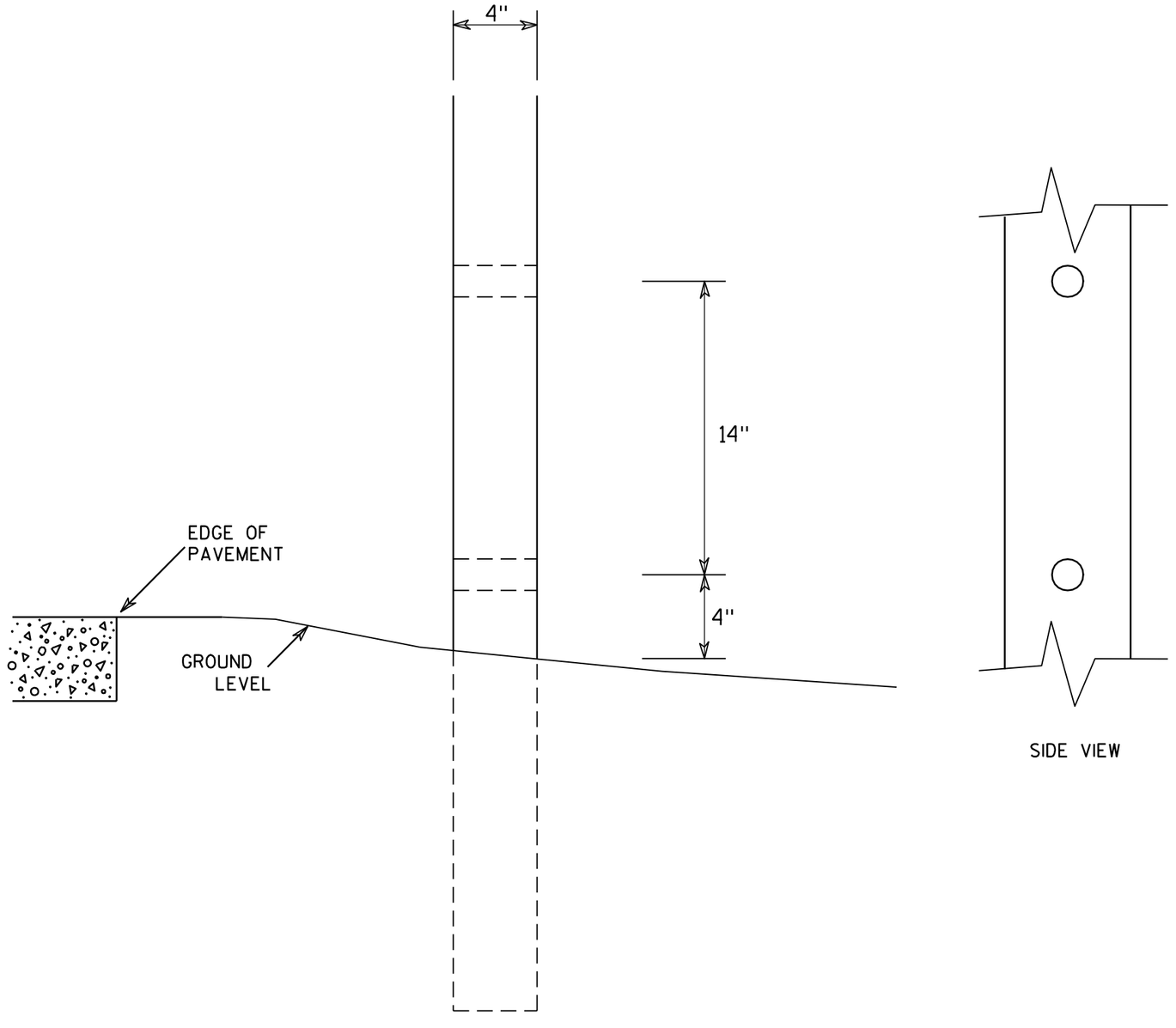
PROJECT NO: 1133-03-88	HWY: USH 41	COUNTY: BROWN	PERMANENT SIGNING	SHEET NO: 99	E



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

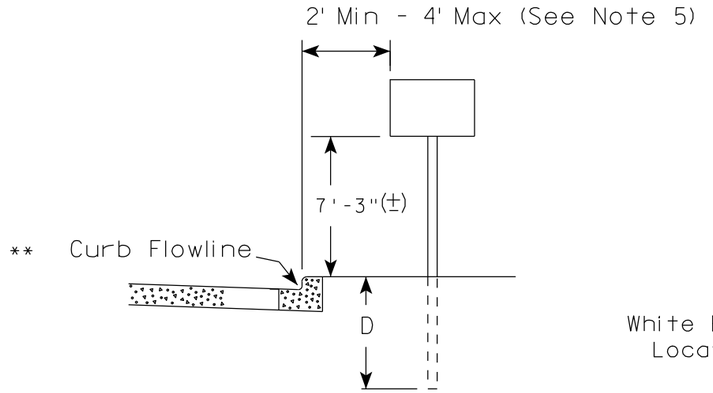
WISCONSIN DEPT OF TRANSPORTATION

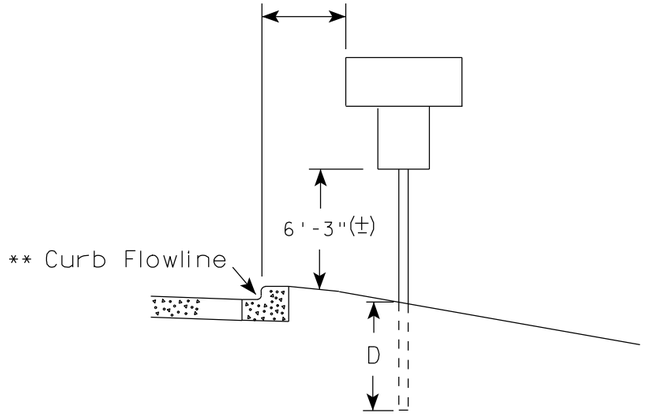
APPROVED Chester J Spang
for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

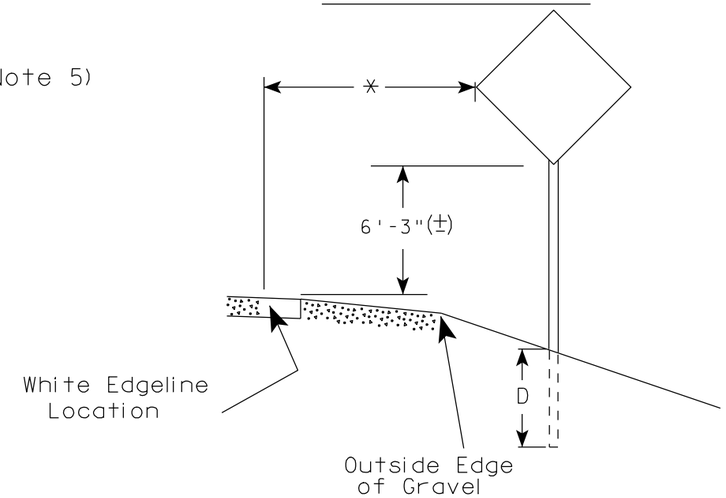
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 100	E

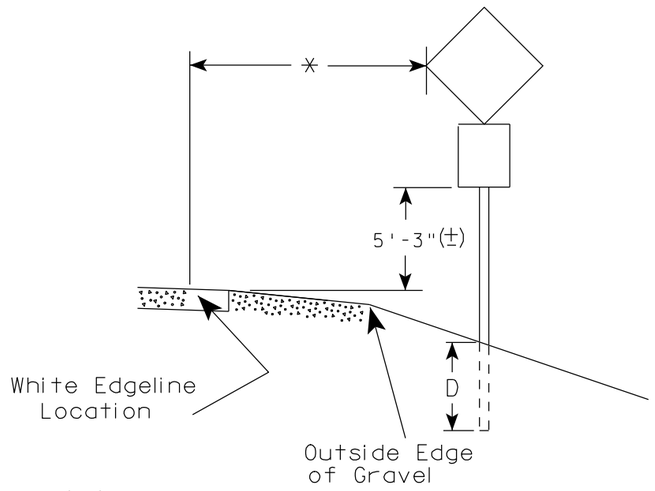
URBAN AREA





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.

GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. 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 (A4-5) 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 stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed 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), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) 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'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

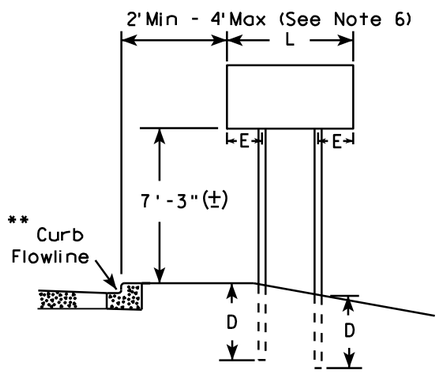
DATE 9/21/2011 PLATE NO. A4-3.16

7

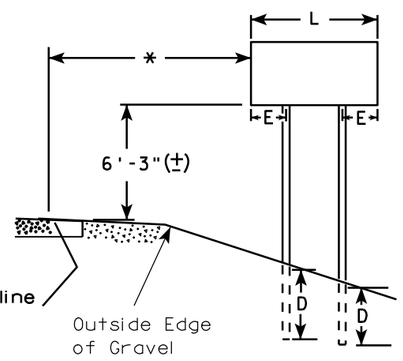
7

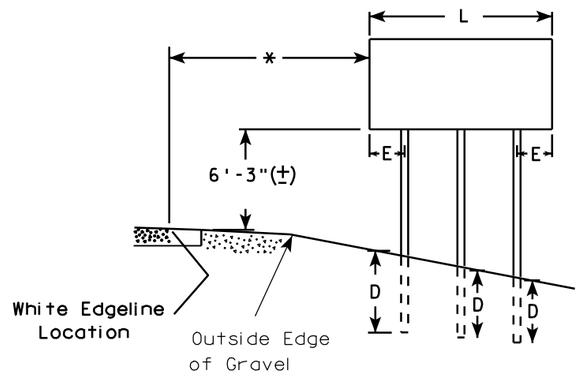
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 101	E

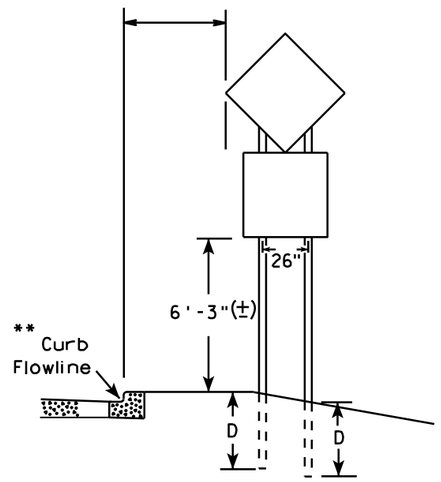
URBAN AREA



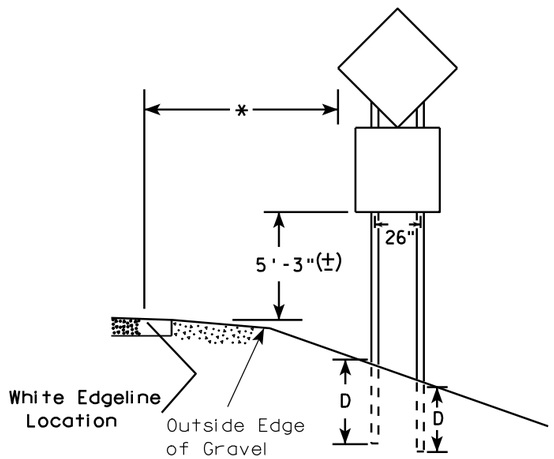
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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'

GENERAL NOTES

1. For multiple 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 (A4-5) 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 stop signs (R1-1F) 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) & End of Road Markers (W5-56 & W5-56A) 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 20 S.F. or less in area.

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

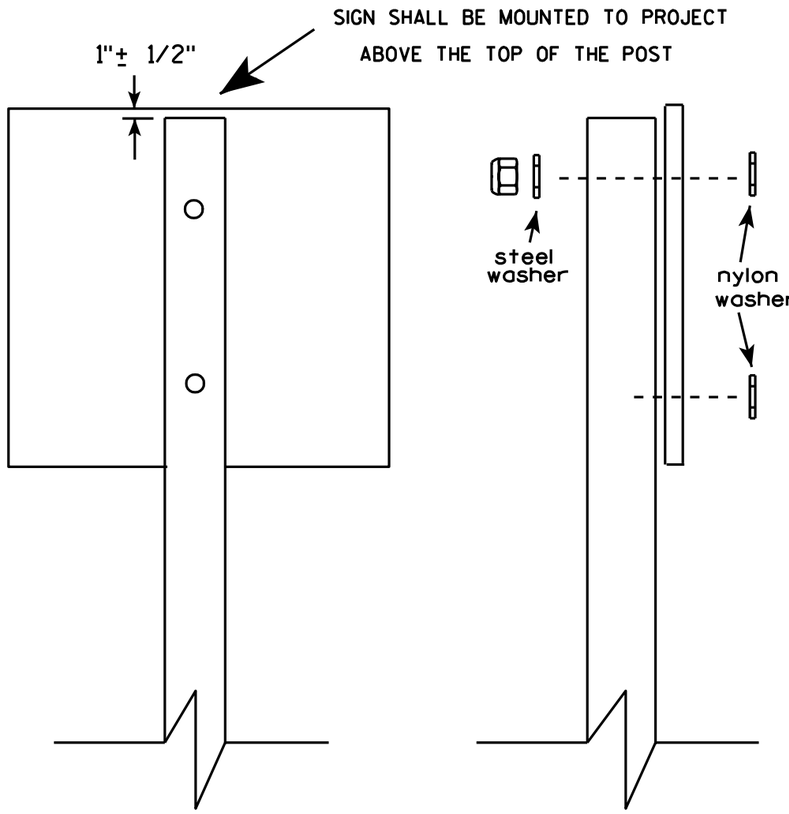
APPROVED Matthew R Rauch
for State Traffic Engineer

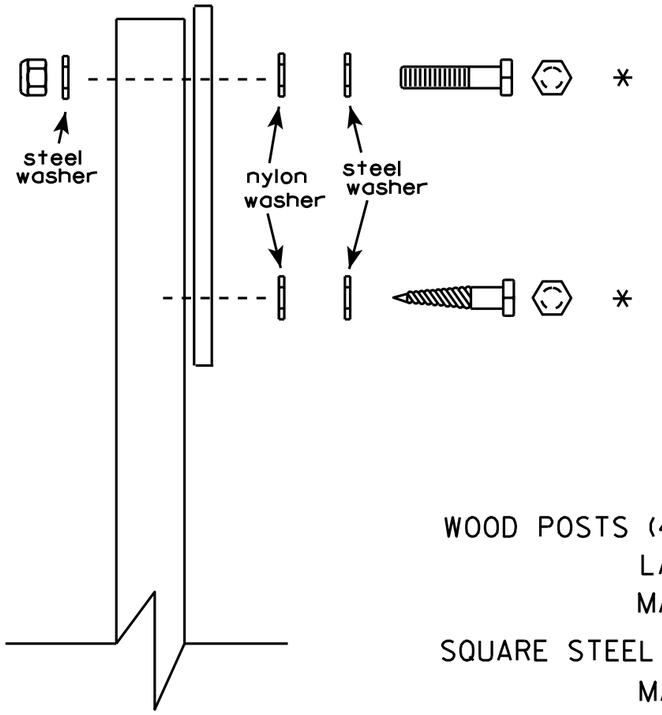
DATE 9/21/2011 PLATE NO. A4-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 102	E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\A44.DGN PLOT DATE : 21-SEP-2011 13:36 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 109.249131:1.000000
WISDOT/CADDS SHEET 42





Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

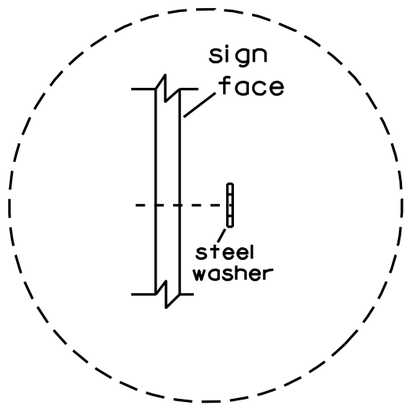
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

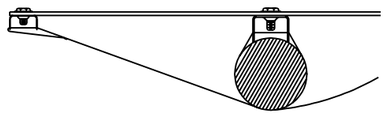
7

7

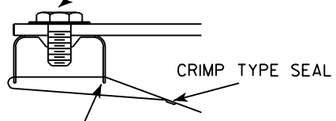
PROJECT NO:

SHEET NO: 103 E

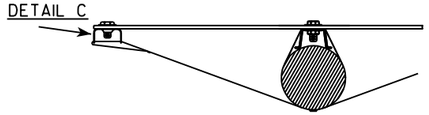
BRACE BANDING

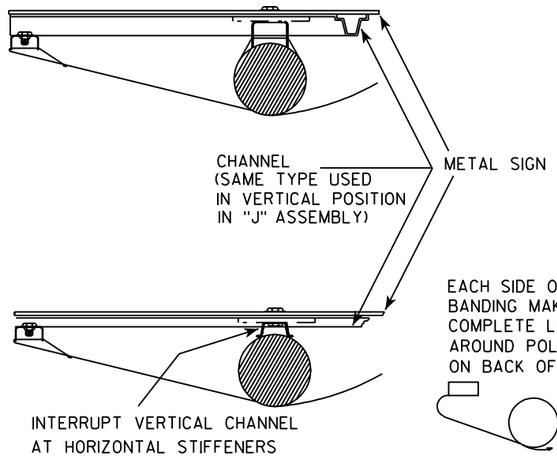


DETAIL C
CADMIUM PLATED STEEL BOLT
THROUGH BLACK BORDER



DETAIL C

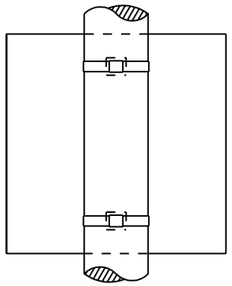


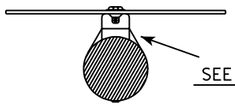


EACH SIDE OF BRACE
BANDING MAKES ONE
COMPLETE LOOP
AROUND POLE-SEAL
ON BACK OF POLE

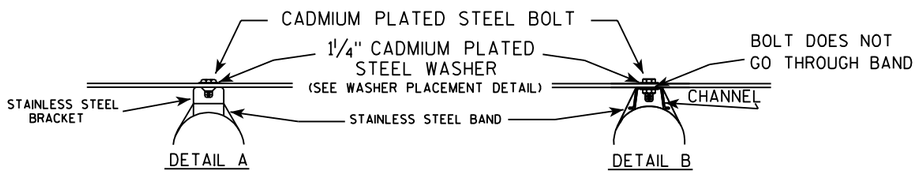
BRACKET BANDING

SINGLE SIGN





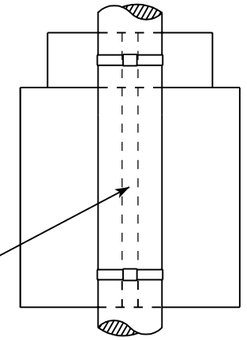
SEE DETAIL A



DETAIL A

DETAIL B

"J" ASSEMBLY

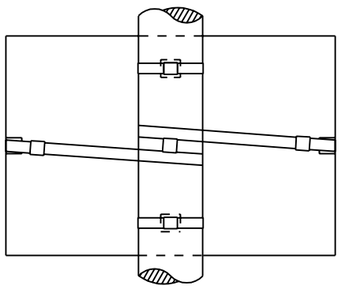


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

SEE DETAIL B

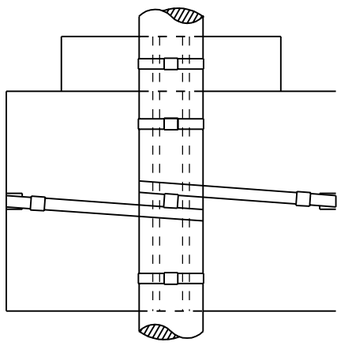
GENERAL NOTES

1. Signs 4' or greater in width shall have one brace band installed at the center of the sign.
2. Signs 3' or greater in height shall have three bracket bands installed. Signs less than 3' in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

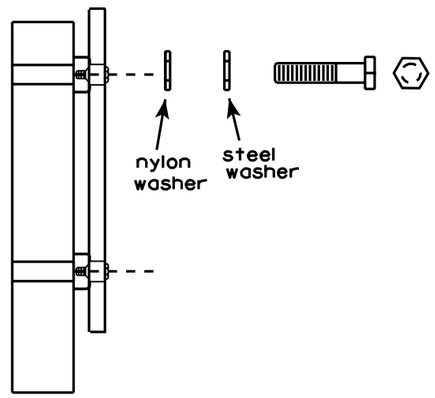


BRACE BANDING

BRACE BANDING SHALL BE TIGHTENED FIRMLY BUT NOT SO TIGHT AS TO APPRECIABLY CURVE FACE OF SIGN.



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

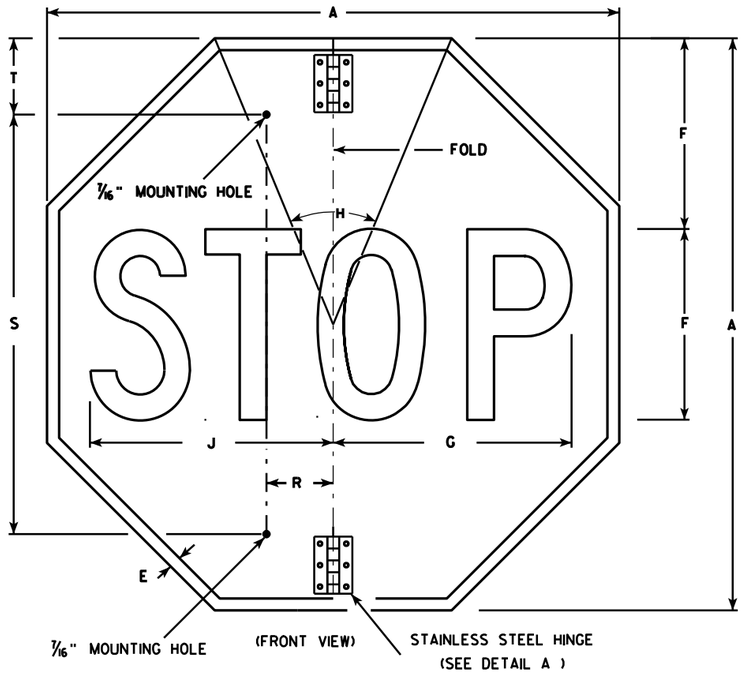
STANDARD SIGN
SIGN BANDING DETAILS

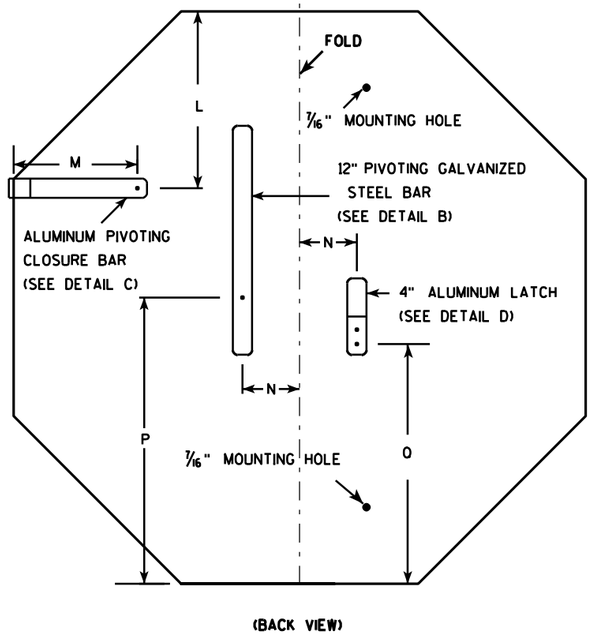
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2

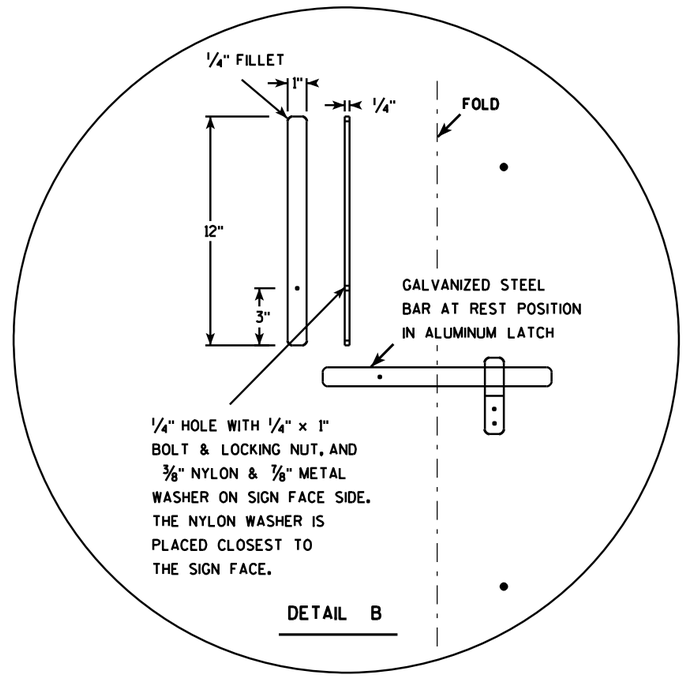
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 104	E



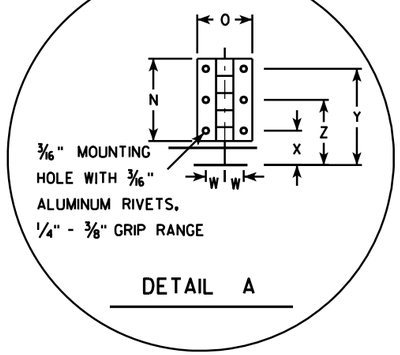


NOTES

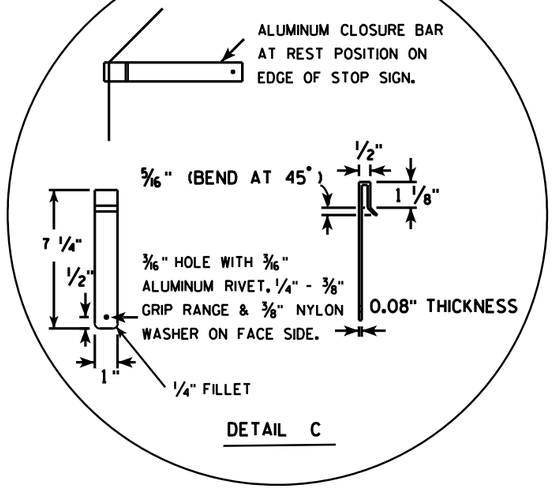
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



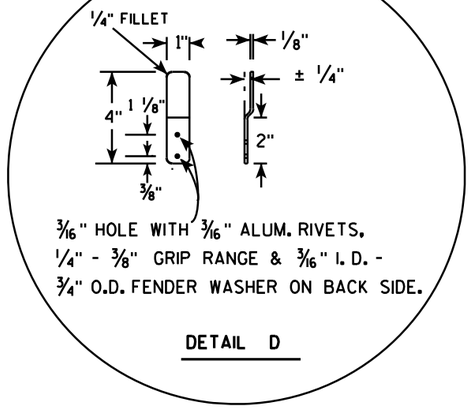
DETAIL B



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																											

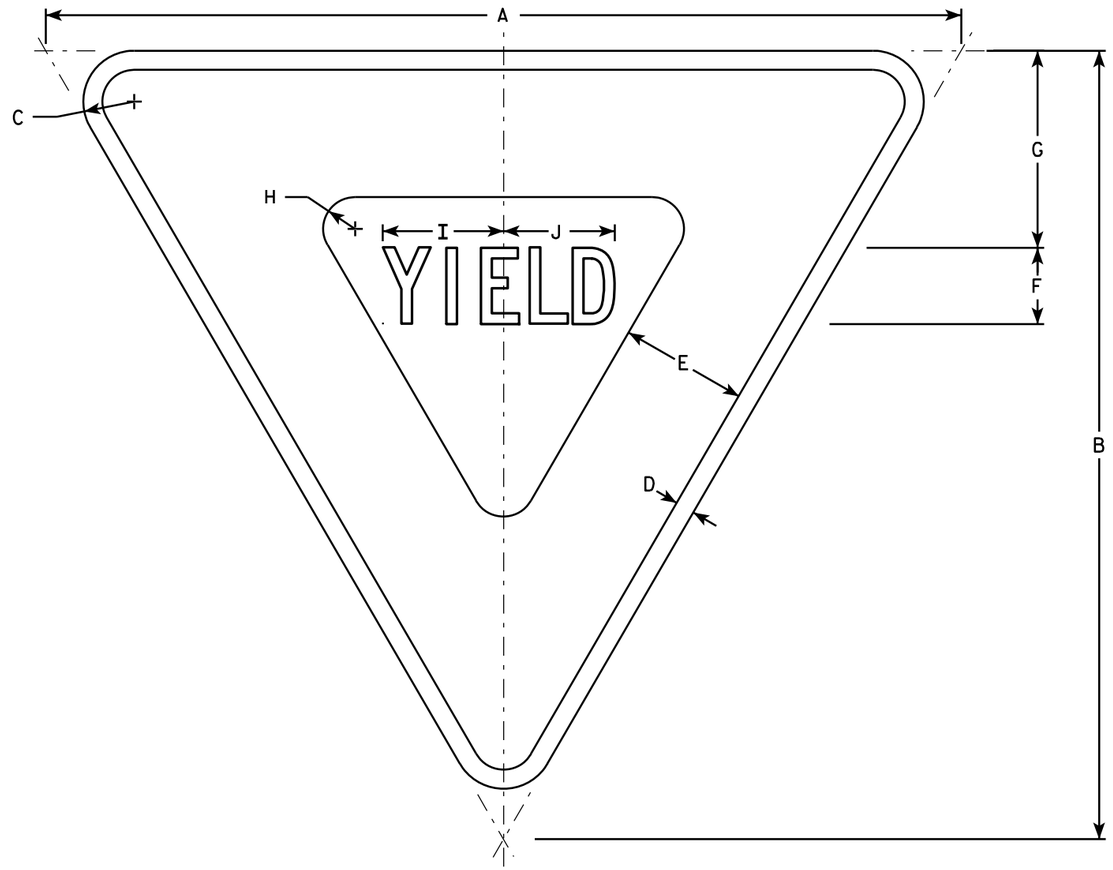
STANDARD SIGN
R1-1F

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: 105	E



R1-2

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 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. The border strip and word message are reflectorized 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	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6	24	21	1 1/2	3/8	3	2	4 3/4	7/8	3 1/4	3																	1.75
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

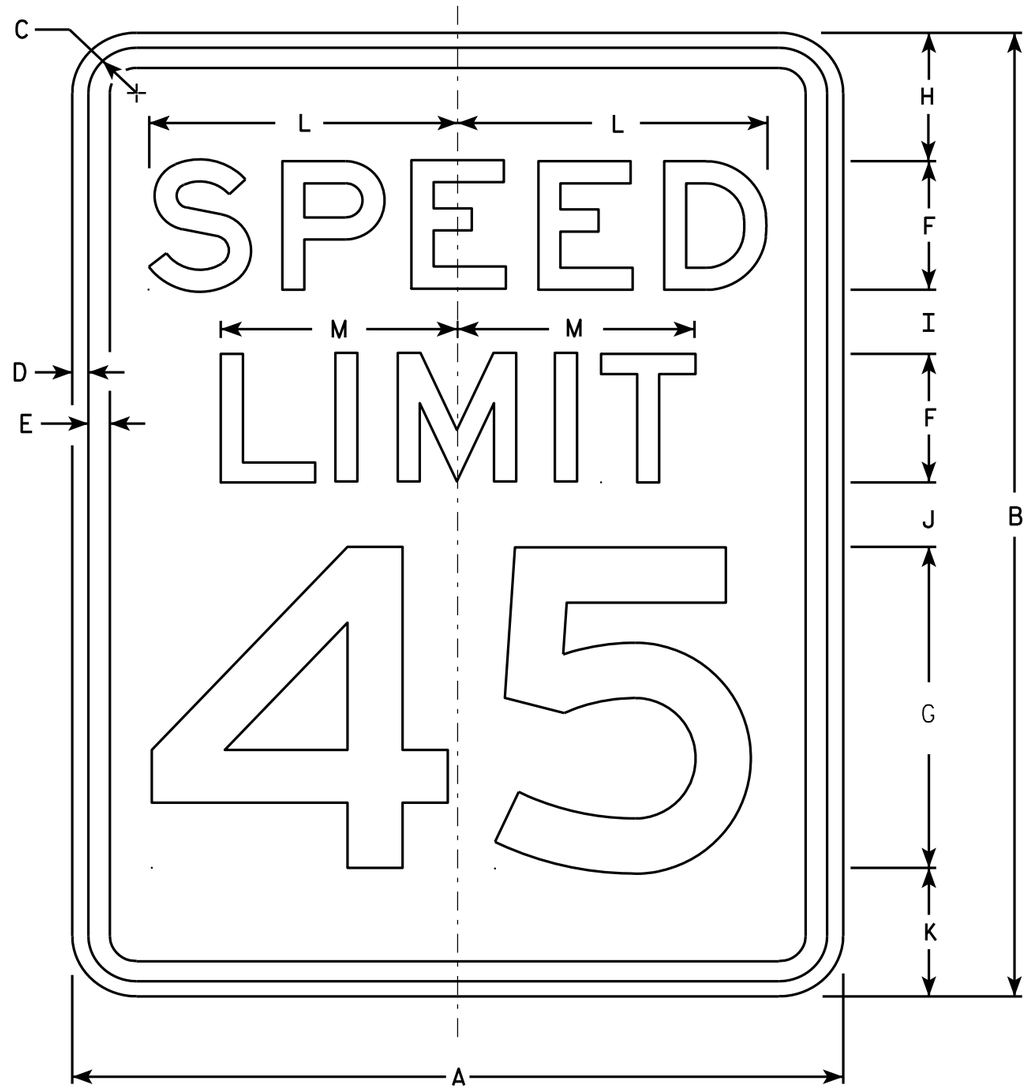
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. R1-2.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 106 | E



R2-1

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 - 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.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

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	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

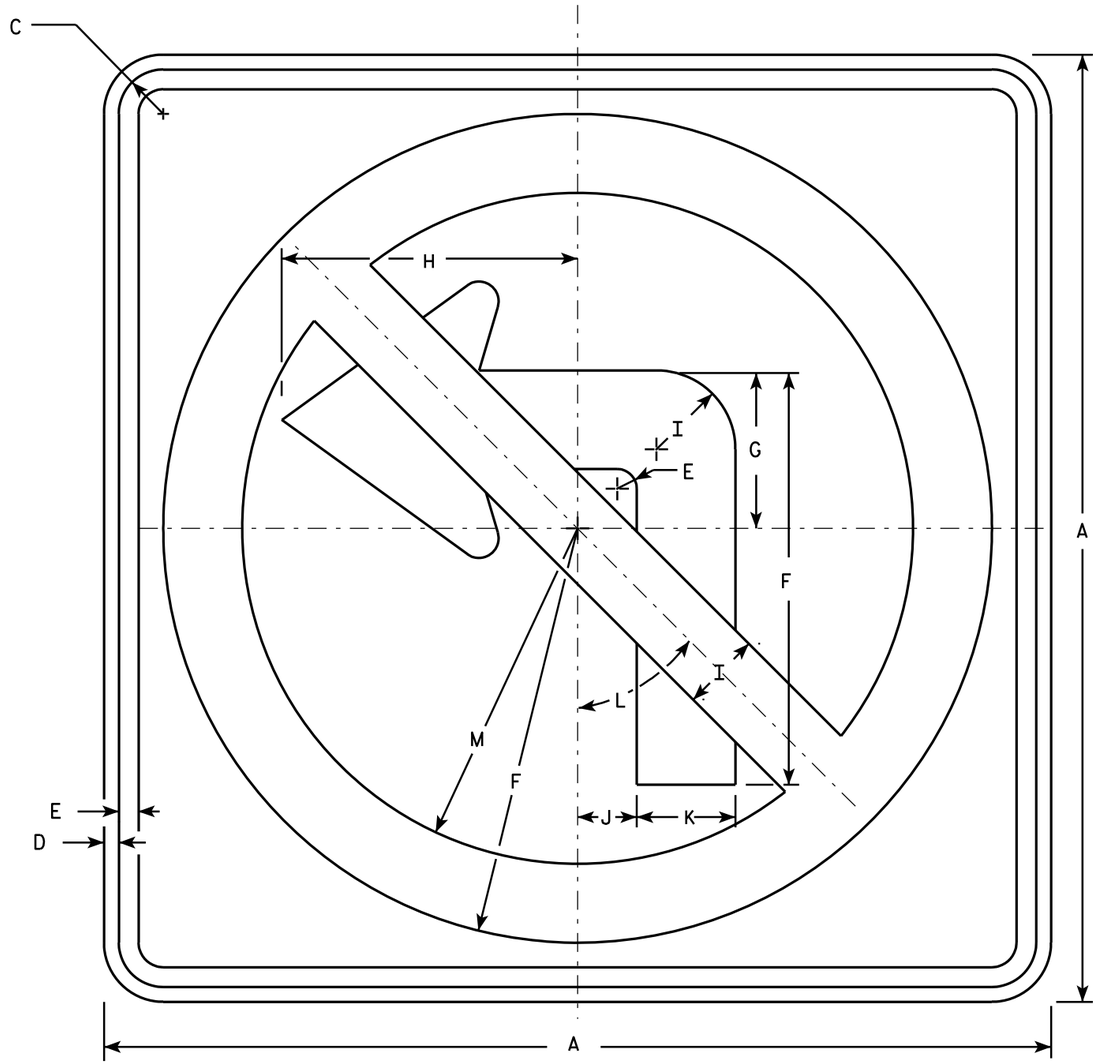
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 107 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000

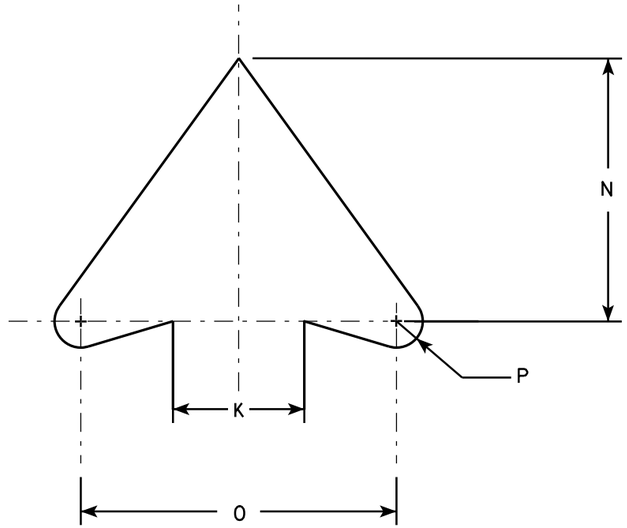
WISDOT/CADDS SHEET 42



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

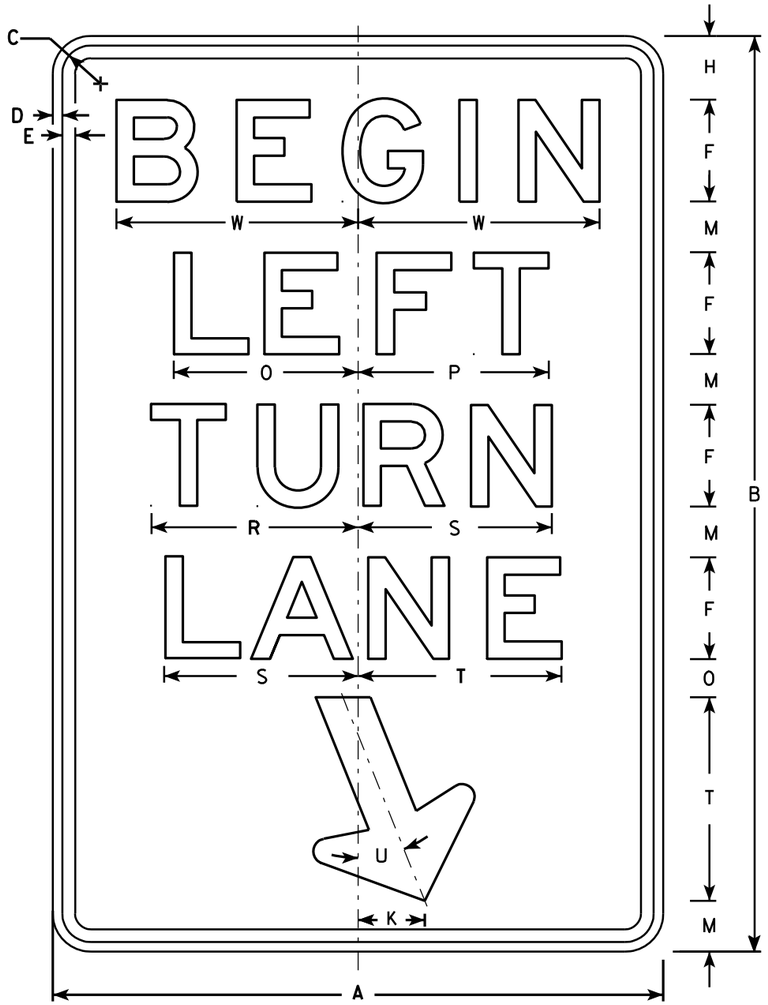
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

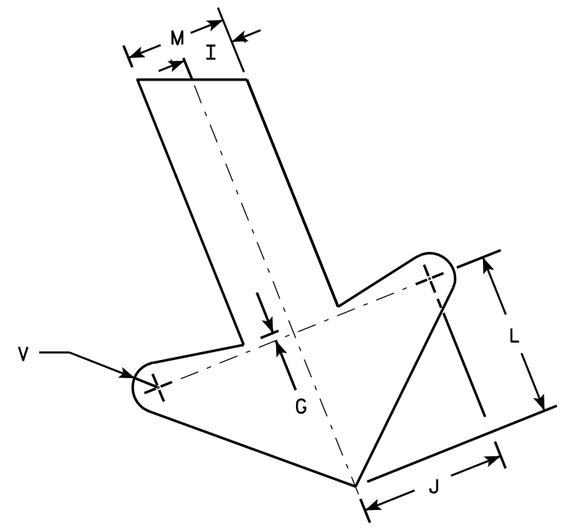
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 108 | E



R3-20L

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	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

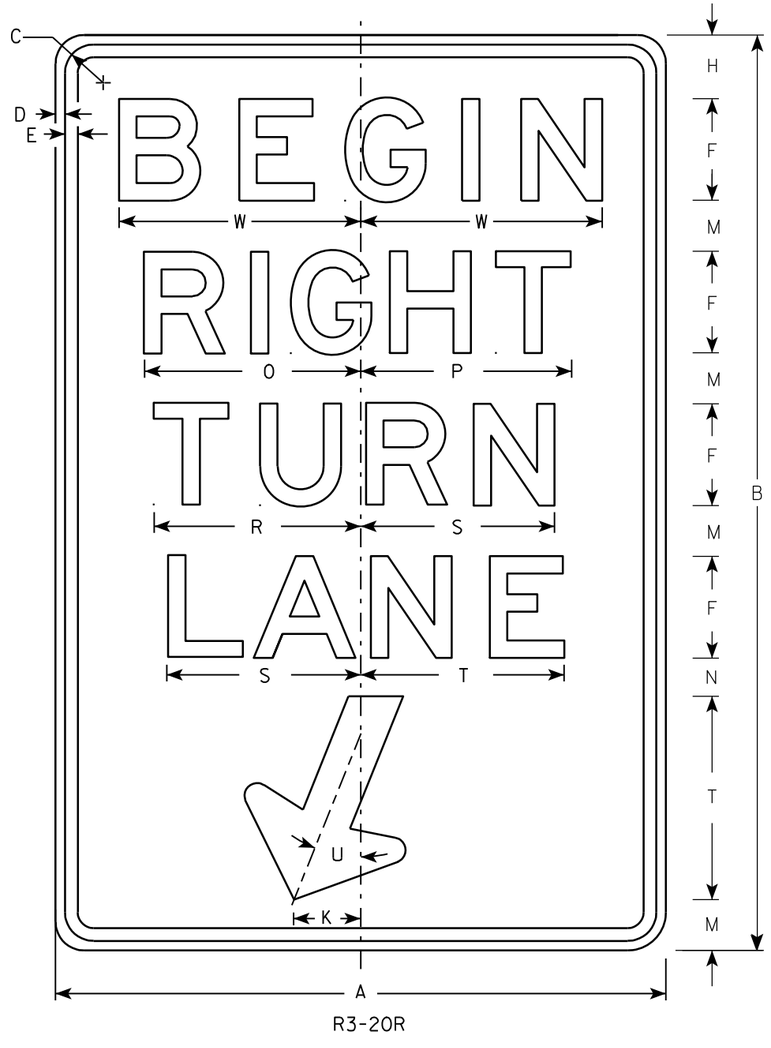
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

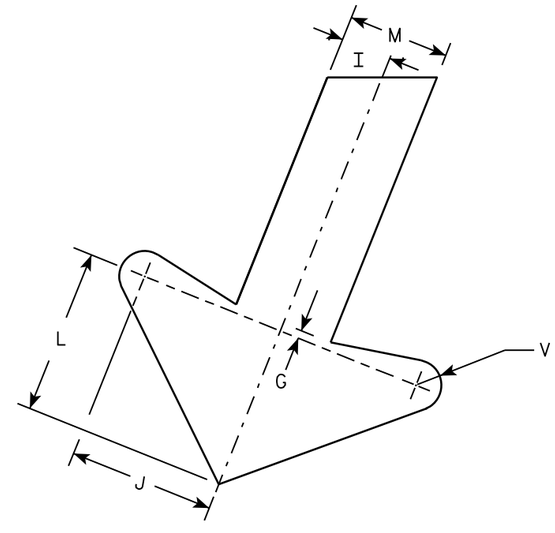
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 109 | E



R3-20R

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	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

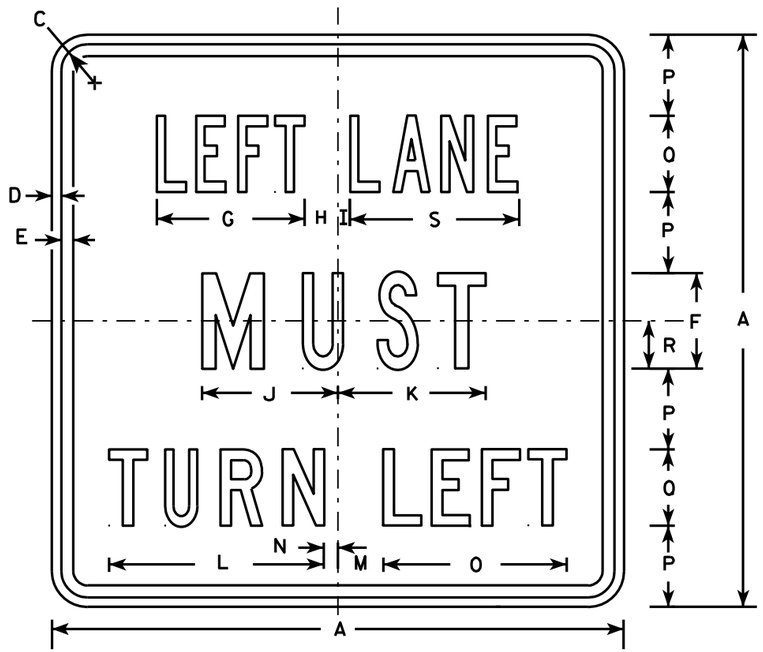
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

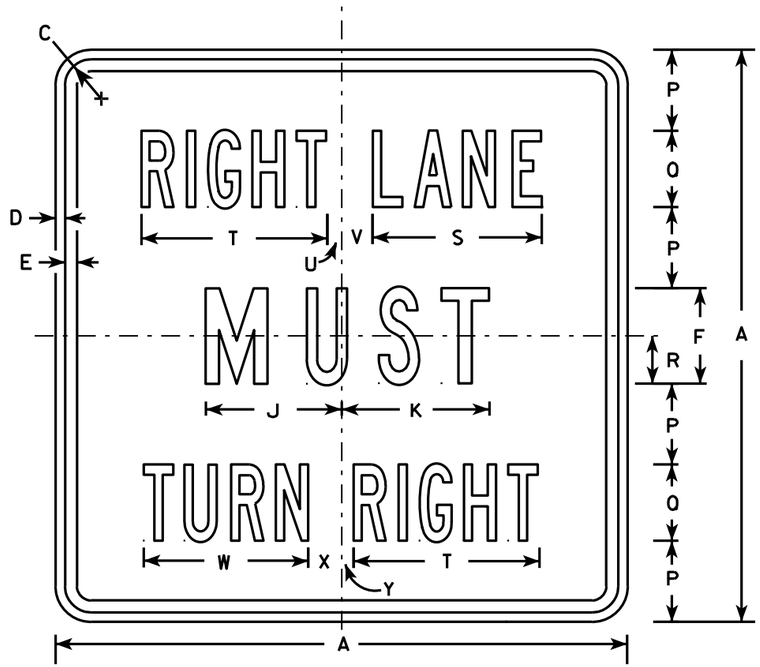
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 110 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R320R.DGN PLOT DATE : 15-OCT-2010 14:59 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

WISDOT/CADDS SHEET 42



R3-7L



R3-7R

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 - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
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		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

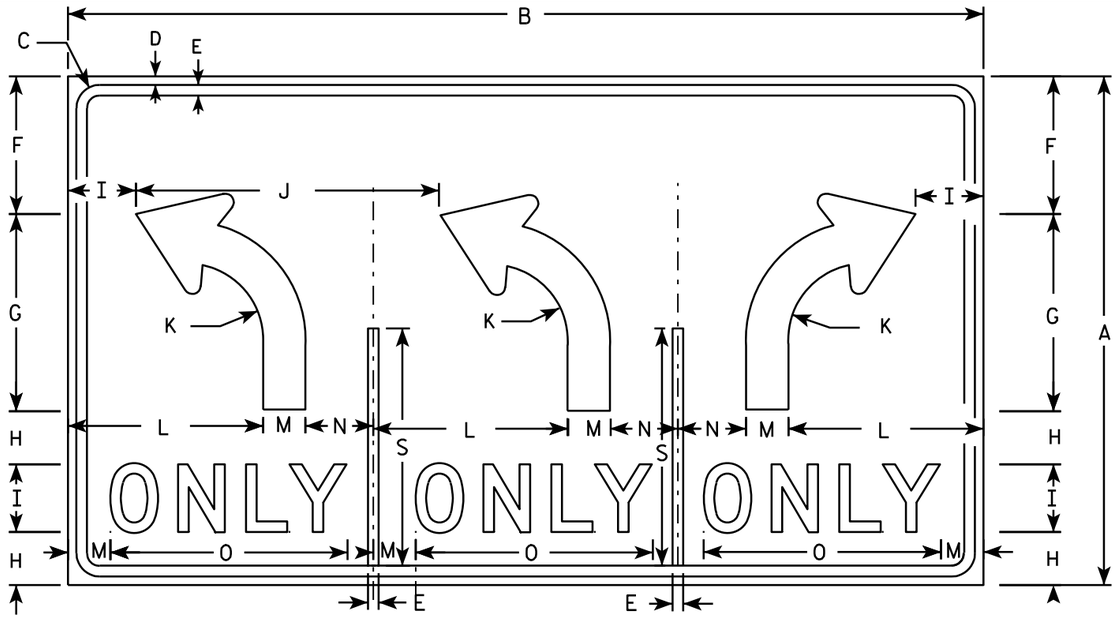
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

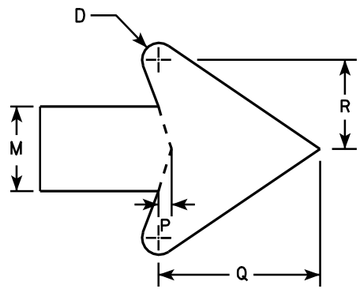
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 111 | E



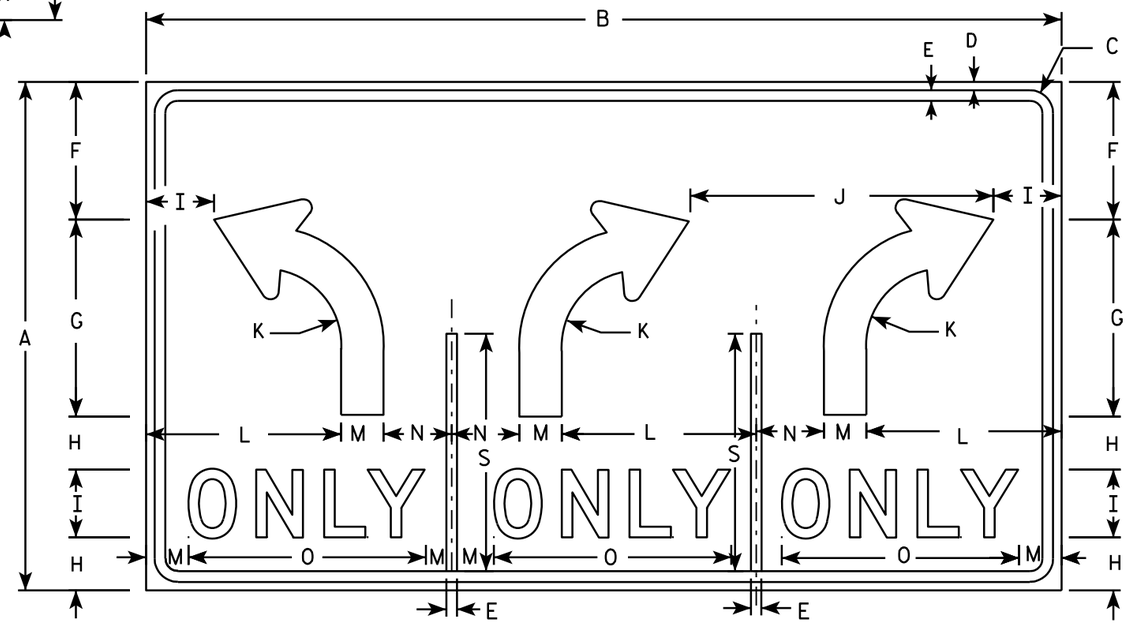
R3-8R

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.



ARROW DETAIL



R3-8S

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	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	17 7/8	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14								11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	17 7/8	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14								11.25
3																											
4	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6		7 1/4	17 1/4	3 3/4	7	20 5/8	5/8	7 1/8	4	22 3/8								28.0
5	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6		7 1/4	17 1/4	3 3/4	7	20 5/8	5/8	7 1/8	4	22 3/8								28.0

STANDARD SIGN
R3-8R & R3-8S

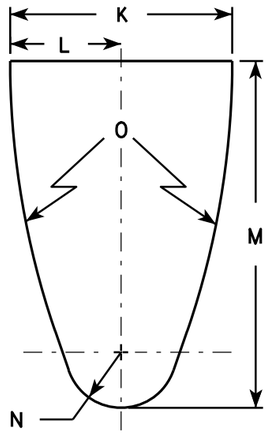
WISCONSIN DEPT OF TRANSPORTATION

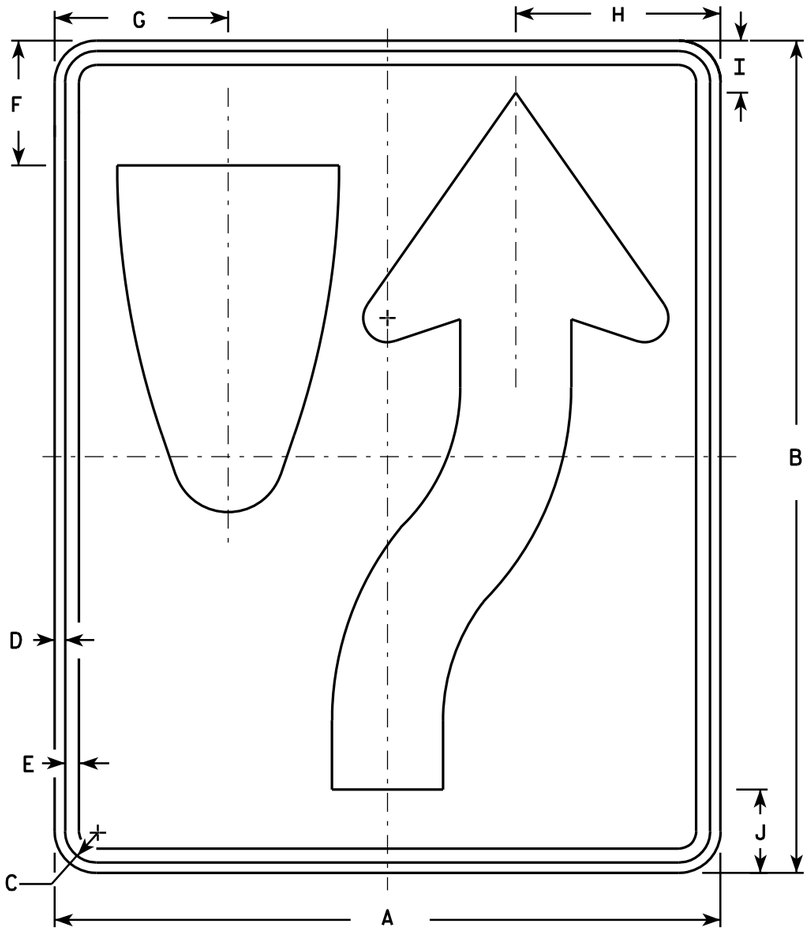
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8R.2

PROJECT NO:

SHEET NO: 112 E

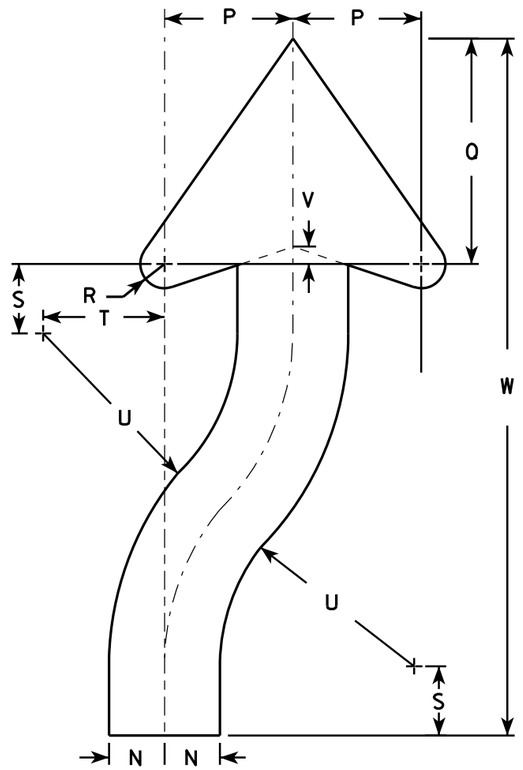




R4-7

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

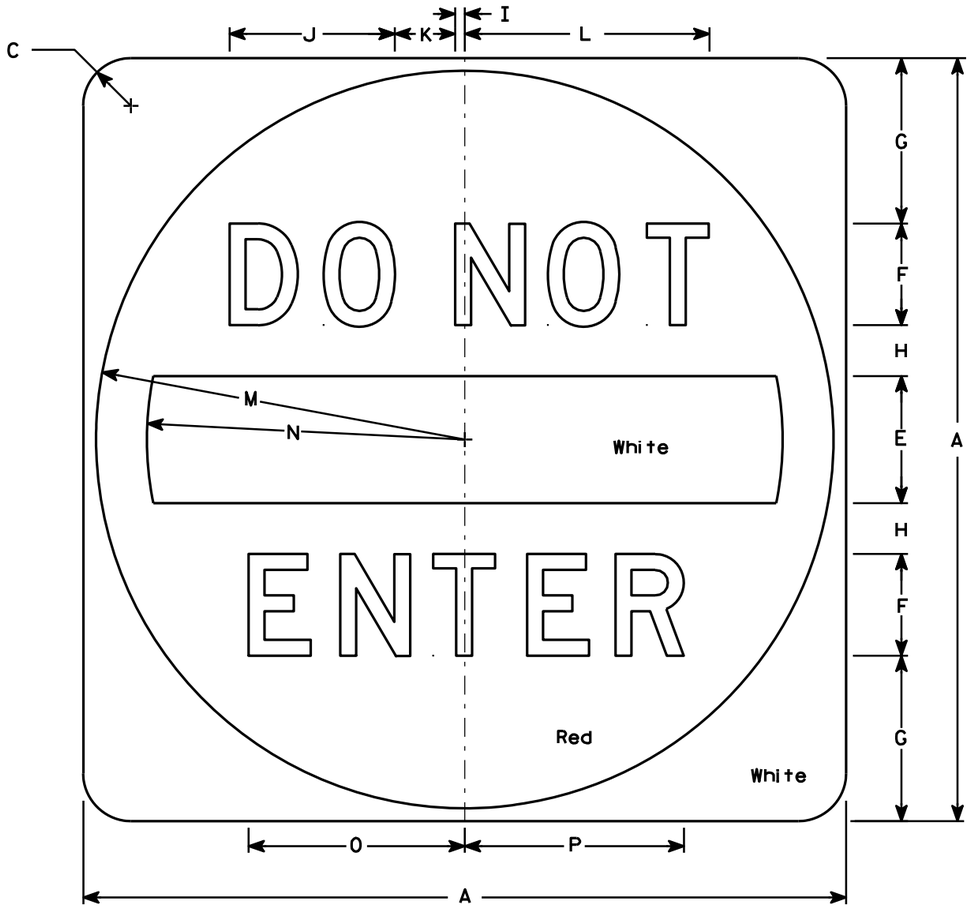
STANDARD SIGN
R4-7 & R4-8

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: 113	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors 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	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

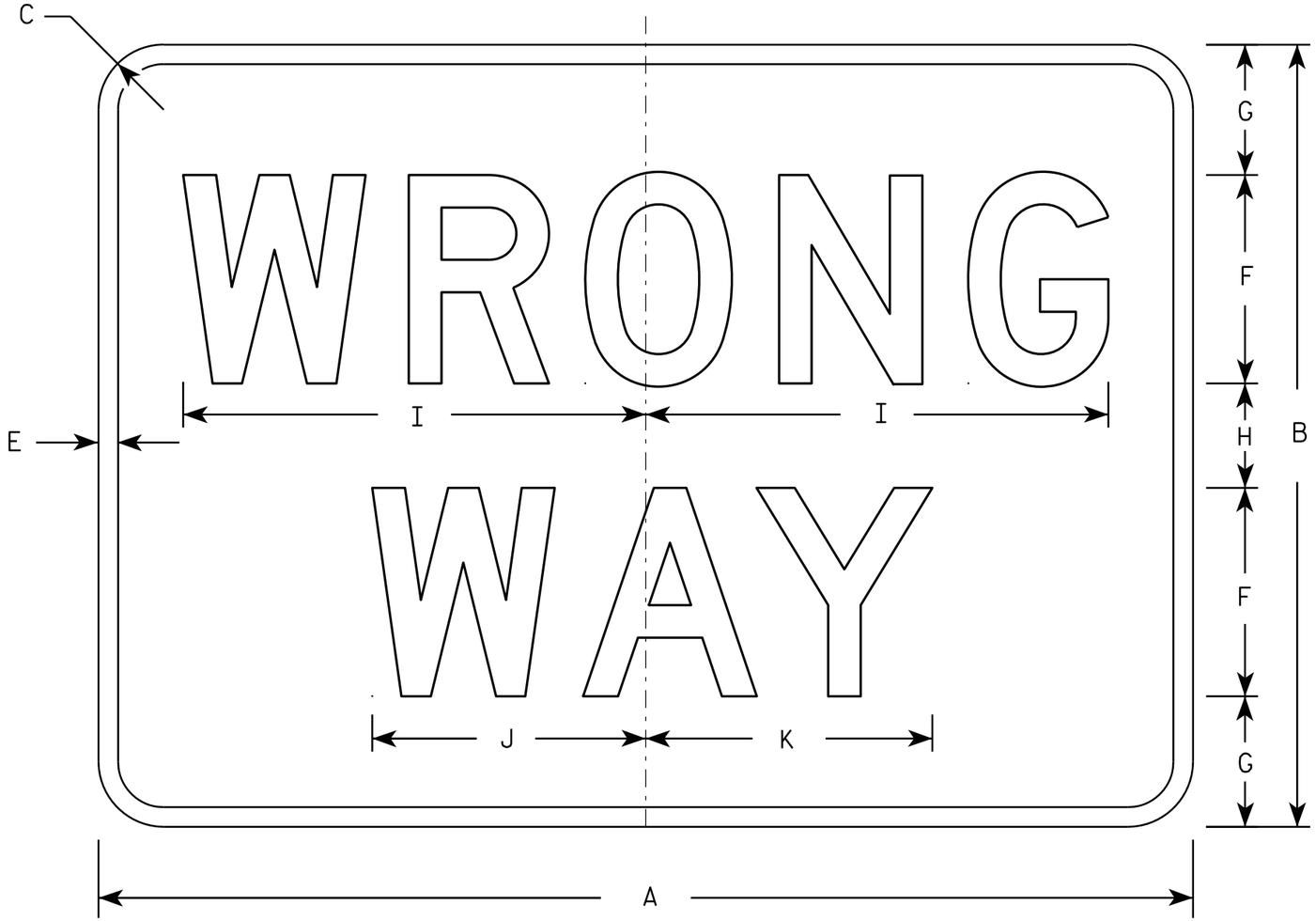
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 114 | 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

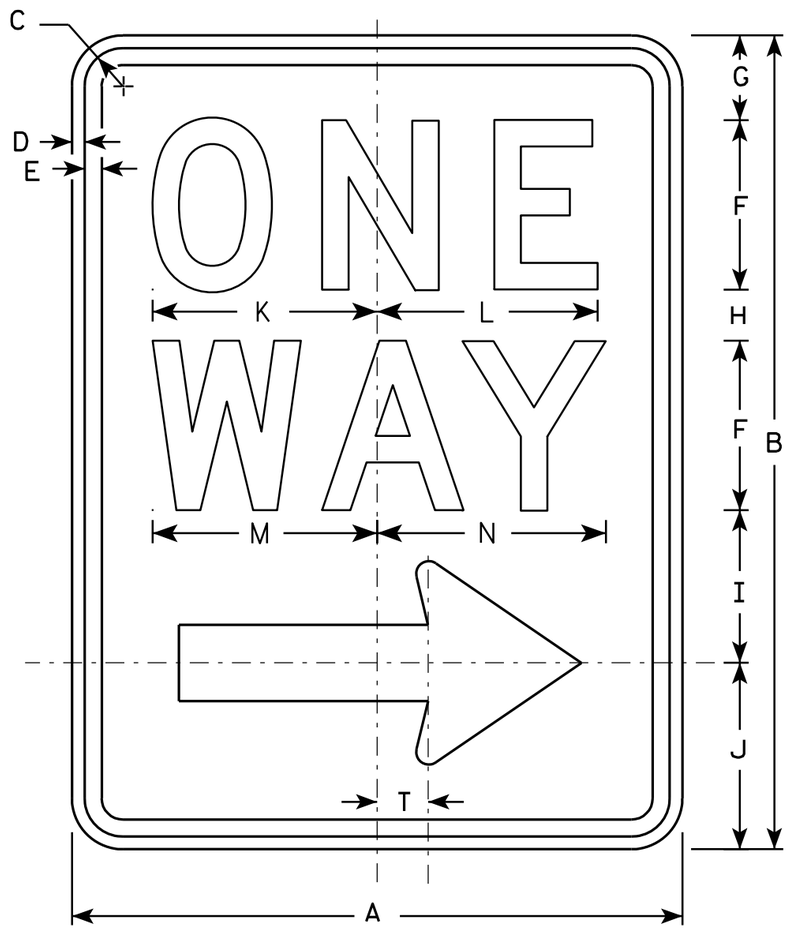
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

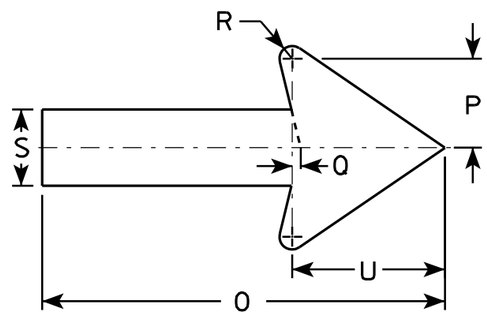
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 115 | E



R6-2R

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. R6-2L same as R6-2R except arrow points to the left.



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
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

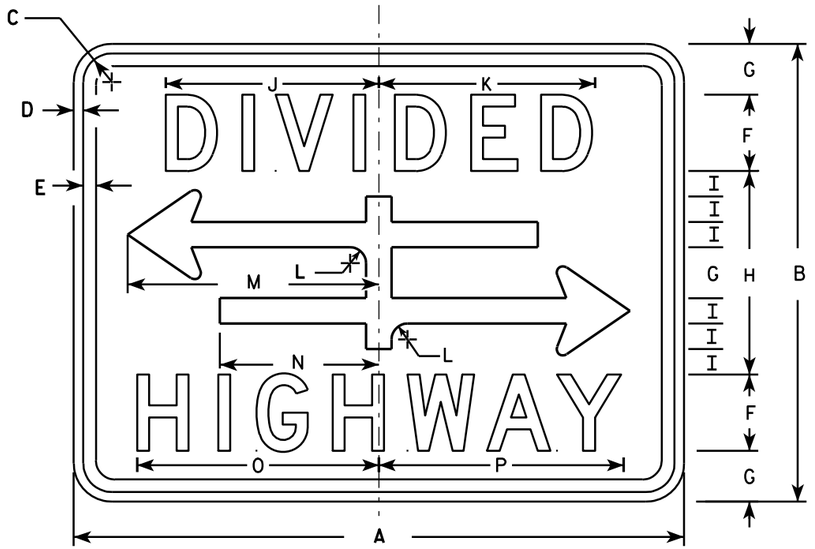
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

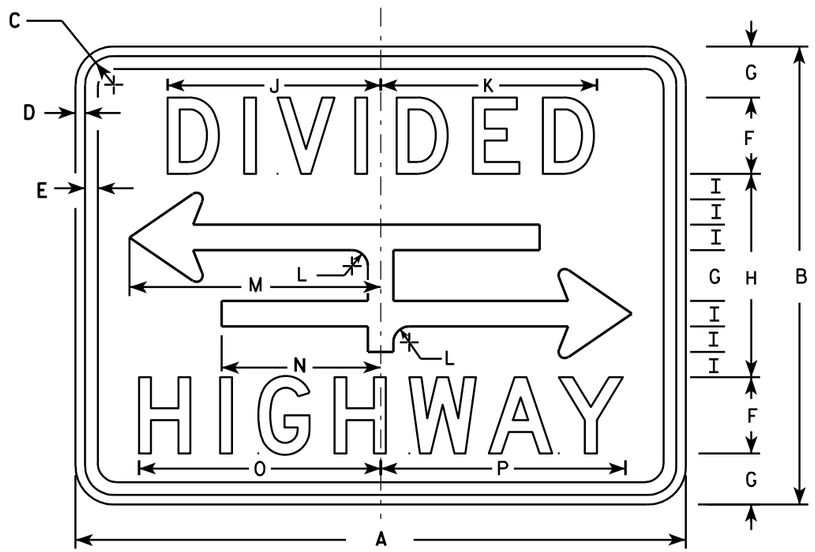
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 116	E



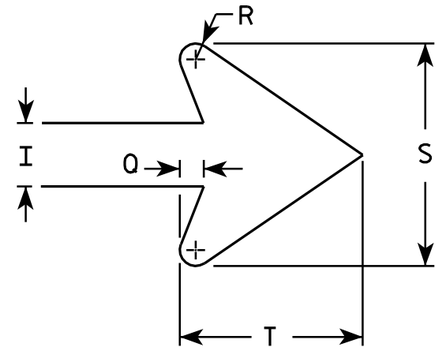
R6-3

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.



R6-3A



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	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN
R6-3 & R6-3A

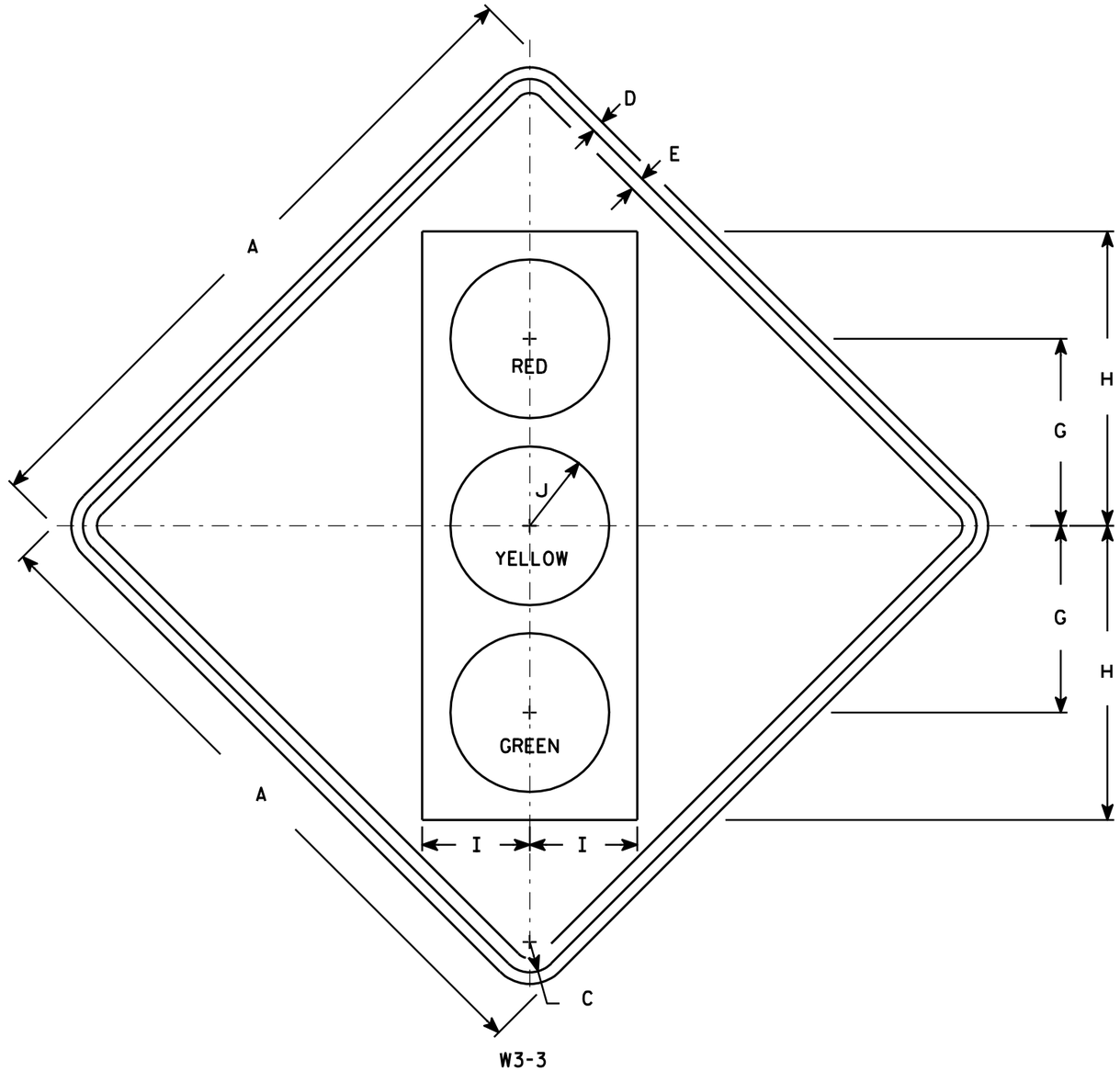
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

SHEET NO: 117 E



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: 118 | E

ARGONNE STREET

STATION	Distance	Area					Incremental Volume (Unadjusted)					Cumulative Vol (CY)					Mass Ordinate
		Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	EBS	Cut	Expanded Fill	Expanded Marsh Backfill	Reduced Marsh in Fill	Reduced EBS In Fill	
		(SF)	(SF)	(SF)	(SF)	(SF)	Note 1 (CY)	Note 2 (CY)	Note 3 (CY)	(CY)	(CY)	1.00 Note 1	1.25	1.50 Note 4	0.60 Note 5	0.80 Note 6	Note 7
9+50		102.0	10.8	0.0	0.0	0.0											
9+75	25	113.6	10.8	0.0	0.0	0.0	100	10	0	0	0	100	0	0	0	0	90
10+00	25	134.3	10.8	0.0	0.0	0.0	115	10	0	0	0	215	0	0	0	0	195
10+25	25	158.7	10.8	0.0	0.0	0.0	136	10	0	0	0	350	0	0	0	0	320
10+50	25	169.6	10.8	2.5	0.0	0.0	152	10	1	0	0	502	1	0	0	0	461
10+75	25	170.5	10.8	2.2	0.0	0.0	157	10	2	0	0	660	4	0	0	0	606
11+00	25	170.1	10.8	1.7	0.0	0.0	158	10	2	0	0	817	6	0	0	0	751
11+25	25	171.0	10.8	1.0	0.0	0.0	158	10	1	0	0	975	8	0	0	0	897
11+50	25	161.8	10.8	0.0	0.0	0.0	154	10	0	0	0	1129	9	0	0	0	1041
11+75	25	159.8	10.8	0.0	0.0	0.0	149	10	0	0	0	1278	9	0	0	0	1180
12+00	25	169.9	10.8	0.0	0.0	0.0	153	10	0	0	0	1431	9	0	0	0	1322
12+25	25	172.5	10.8	0.0	0.0	0.0	159	10	0	0	0	1589	9	0	0	0	1471
12+50	25	179.5	10.8	0.0	0.0	0.0	163	10	0	0	0	1752	9	0	0	0	1624
12+75	25	185.6	10.8	0.0	0.0	0.0	169	10	0	0	0	1921	9	0	0	0	1783
13+00	25	185.5	10.8	0.0	0.0	0.0	172	10	0	0	0	2093	9	0	0	0	1945
13+25	25	187.9	10.8	0.0	0.0	0.0	173	10	0	0	0	2266	9	0	0	0	2108
13+50	25	176.0	10.8	0.0	0.0	0.0	168	10	0	0	0	2435	9	0	0	0	2266
13+75	25	177.6	10.8	0.0	0.0	0.0	164	10	0	0	0	2598	9	0	0	0	2420
14+00	25	174.3	10.8	0.0	0.0	0.0	163	10	0	0	0	2761	9	0	0	0	2573
14+25	25	201.3	10.8	0.0	0.0	0.0	174	10	0	0	0	2935	9	0	0	0	2736
14+50	25	231.3	27.0	0.0	0.0	0.0	200	18	0	0	0	3135	9	0	0	0	2919
14+75	25	231.0	27.0	0.0	0.0	0.0	214	25	0	0	0	3349	9	0	0	0	3108
SUBTOTAL							3349	233	7	0	0						

Notes:	
1 - Cut	Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Cut or Borrow
5 - Reduced Marsh in Fill	used in Fill
6 - Reduced EBS in Fill	used in Fill
7 - Mass Ordinate	Cut or Borrow: [(Cut) - ((Fill - Expanded

9

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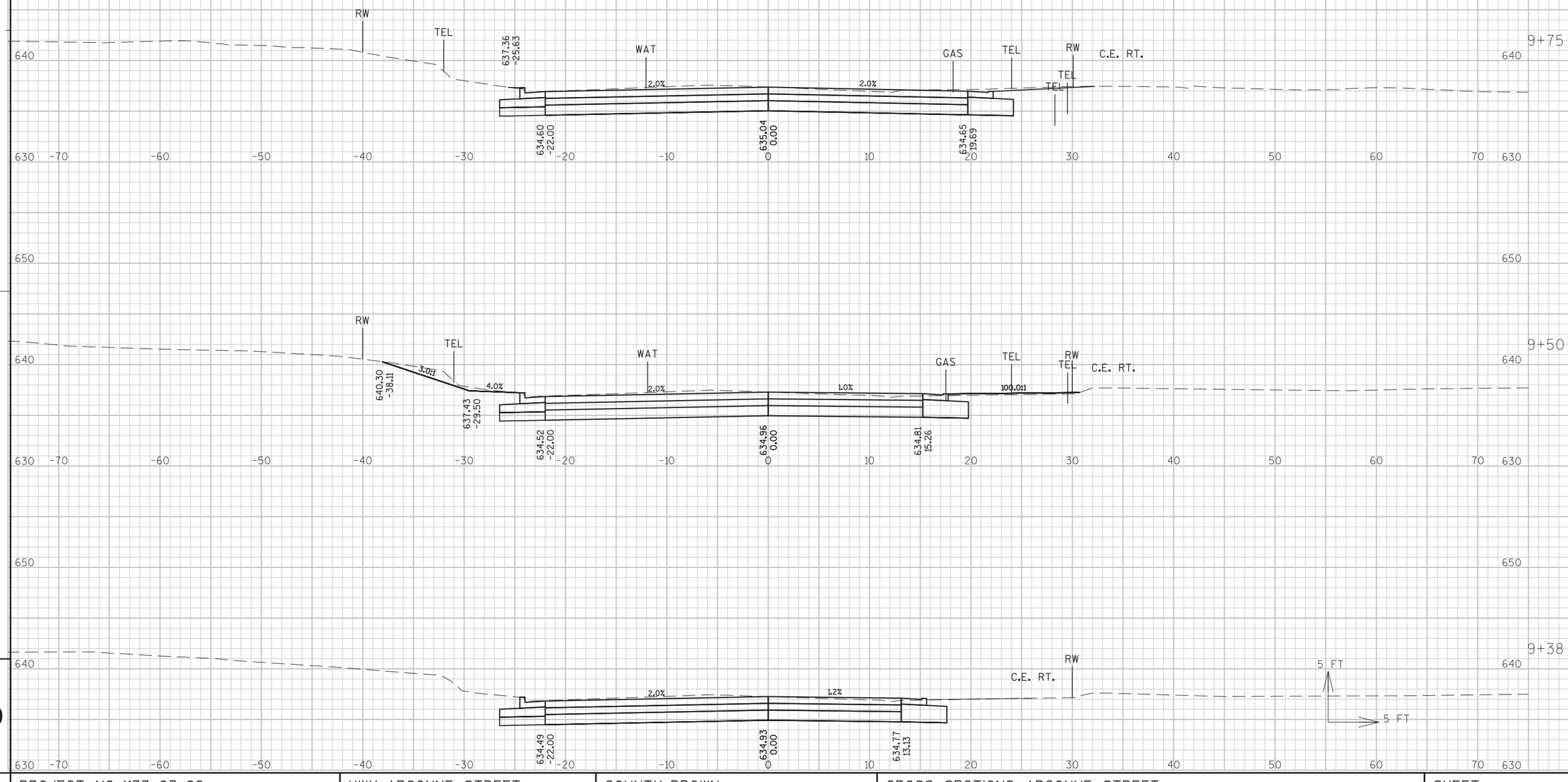
LOMBARDI AVENUE - RIGHT TURN LANE

STATION	Distance	Area: Cut (SF)	Area: Salvaged/Unusable Pavement Material (SF)	Area: Fill (SF)	Area: Marsh Exc (SF)	Area: EBS (SF)	Incremental Volume (Unadjusted): Cut Note 1 (CY)	Incremental Volume (Unadjusted): Salvaged/Unusable Pavement Material Note 2 (CY)	Incremental Volume (Unadjusted): Fill Note 3 (CY)	Incremental Volume (Unadjusted): Marsh Exc (CY)	Incremental Volume (Unadjusted): EBS (CY)	Cumulative Vol (CY): Cut 1.00 Note 1	Cumulative Vol (CY): Expanded Fill 1.25	Cumulative Vol (CY): Expanded Marsh Backfill 1.50 Note 4	Cumulative Vol (CY): Reduced Marsh in Fill 0.60 Note 5	Cumulative Vol (CY): Reduced EBS In Fill 0.80 Note 6	Mass Ordinate Note 7
113+25		13.6	0.0	12.2	0.0	0.0											
113+50	25	21.5	0.0	29.0	0.0	0.0	16	0	19	0	0	16	24	0	0	0	-8
113+75	25	23.6	0.0	47.9	0.0	0.0	21	0	36	0	0	37	68	0	0	0	-31
114+00	25	25.8	0.0	60.9	0.0	0.0	23	0	50	0	0	60	131	0	0	0	-71
114+25	25	28.8	0.0	56.9	0.0	0.0	25	0	55	0	0	85	199	0	0	0	-114
114+50	25	30.3	0.0	49.9	0.0	0.0	27	0	49	0	0	113	261	0	0	0	-149
114+75	25	35.5	0.0	44.4	0.0	0.0	30	0	44	0	0	143	316	0	0	0	-173
115+00	25	33.6	0.0	38.7	0.0	0.0	32	0	38	0	0	175	364	0	0	0	-189
115+25	25	35.0	0.0	31.3	0.0	0.0	32	0	32	0	0	207	404	0	0	0	-198
115+50	25	34.4	0.0	24.1	0.0	0.0	32	0	26	0	0	239	437	0	0	0	-198
115+75	25	35.1	0.0	19.8	0.0	0.0	32	0	20	0	0	271	462	0	0	0	-191
116+00	25	35.3	0.0	16.7	0.0	0.0	33	0	17	0	0	304	483	0	0	0	-179
116+25	25	35.5	0.0	15.4	0.0	0.0	33	0	15	0	0	337	502	0	0	0	-165
116+50	25	34.7	0.0	14.0	0.0	0.0	33	0	14	0	0	369	519	0	0	0	-150
116+75	25	36.0	0.0	9.9	0.0	0.0	33	0	11	0	0	402	532	0	0	0	-131
117+00	25	35.9	0.0	7.8	0.0	0.0	33	0	8	0	0	435	543	0	0	0	-108
117+25	25	35.7	0.0	6.7	0.0	0.0	33	0	7	0	0	468	551	0	0	0	-83
117+32	7	35.4	0.0	4.9	0.0	0.0	9	0	2	0	0	477	553	0	0	0	-76
SUBTOTAL							477	0	442	0	0						

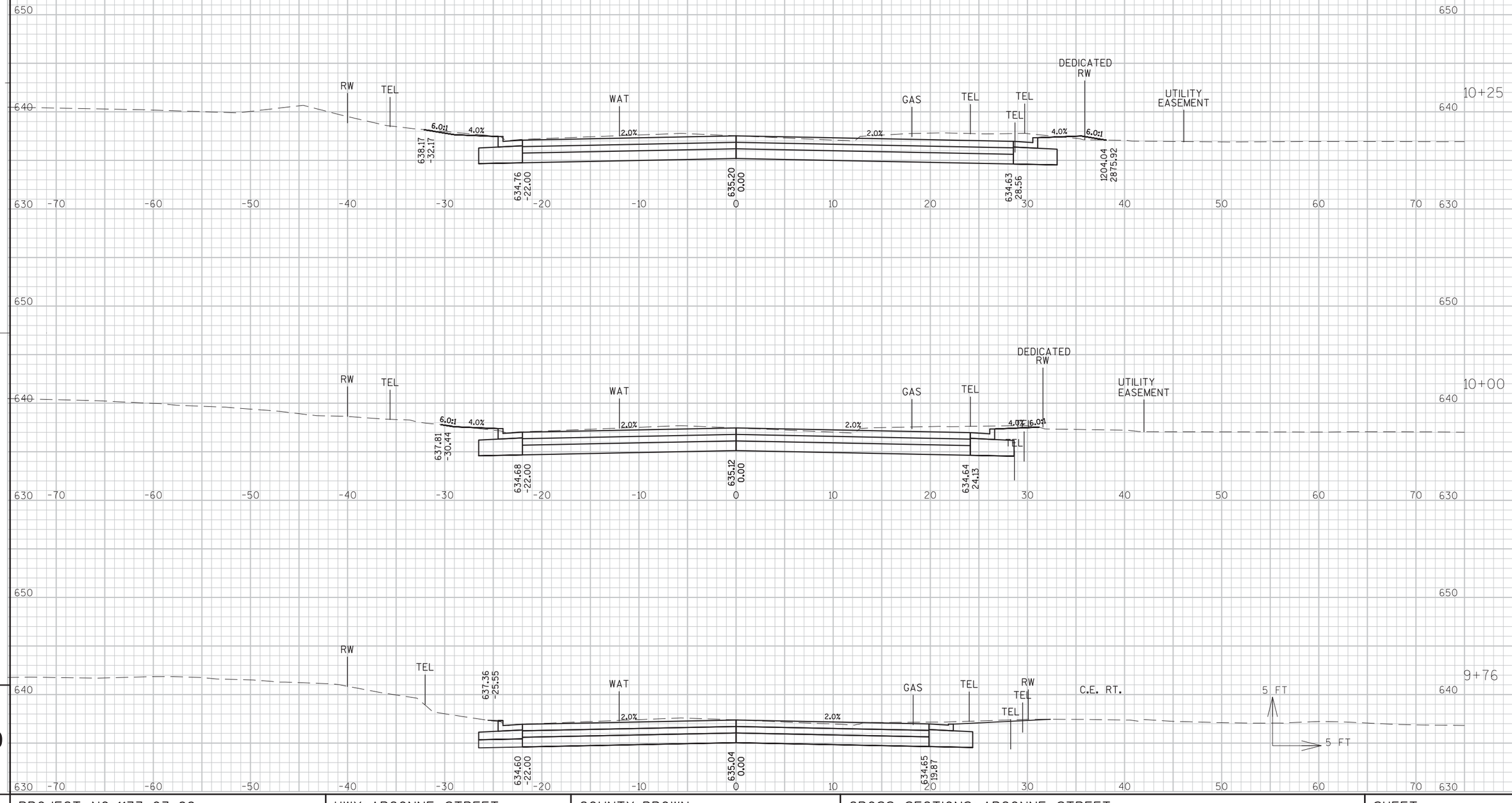
LOMBARDI AVENUE TAPER

STATION	Distance	Area: Cut (SF)	Area: Salvaged/Unusable Pavement Material (SF)	Area: Fill (SF)	Area: Marsh Exc (SF)	Area: EBS (SF)	Incremental Volume (Unadjusted): Cut Note 1 (CY)	Incremental Volume (Unadjusted): Salvaged/Unusable Pavement Material Note 2 (CY)	Incremental Volume (Unadjusted): Fill Note 3 (CY)	Incremental Volume (Unadjusted): Marsh Exc (CY)	Incremental Volume (Unadjusted): EBS (CY)	Cumulative Vol (CY): Cut 1.00 Note 1	Cumulative Vol (CY): Expanded Fill 1.25	Cumulative Vol (CY): Expanded Marsh Backfill 1.50 Note 4	Cumulative Vol (CY): Reduced Marsh in Fill 0.60 Note 5	Cumulative Vol (CY): Reduced EBS In Fill 0.80 Note 6	Mass Ordinate Note 7
119+50		43.7	0.0	0.0	0.0	0.0											
119+75	25	32.3	0.0	5.7	0.0	0.0	35	0	3	0	0	35	3	0	0	0	32
120+00	25	24.4	0.0	1.4	0.0	0.0	26	0	3	0	0	61	7	0	0	0	54
120+25	25	16.4	0.0	1.0	0.0	0.0	19	0	1	0	0	80	9	0	0	0	72
120+50	25	5.9	0.0	1.0	0.0	0.0	10	0	1	0	0	91	10	0	0	0	81
120+75	25	7.2	0.0	0.6	0.0	0.0	6	0	1	0	0	97	11	0	0	0	86
SUBTOTAL							97	0	9	0	0						

Notes:	
1 - Cut	Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Cut or Borrow
5 - Reduced Marsh in Fill	used in Fill
6 - Reduced EBS in Fill	used in Fill
7 - Mass Ordinate	Cut or Borrow: [(Cut) - ((Fill - Expanded

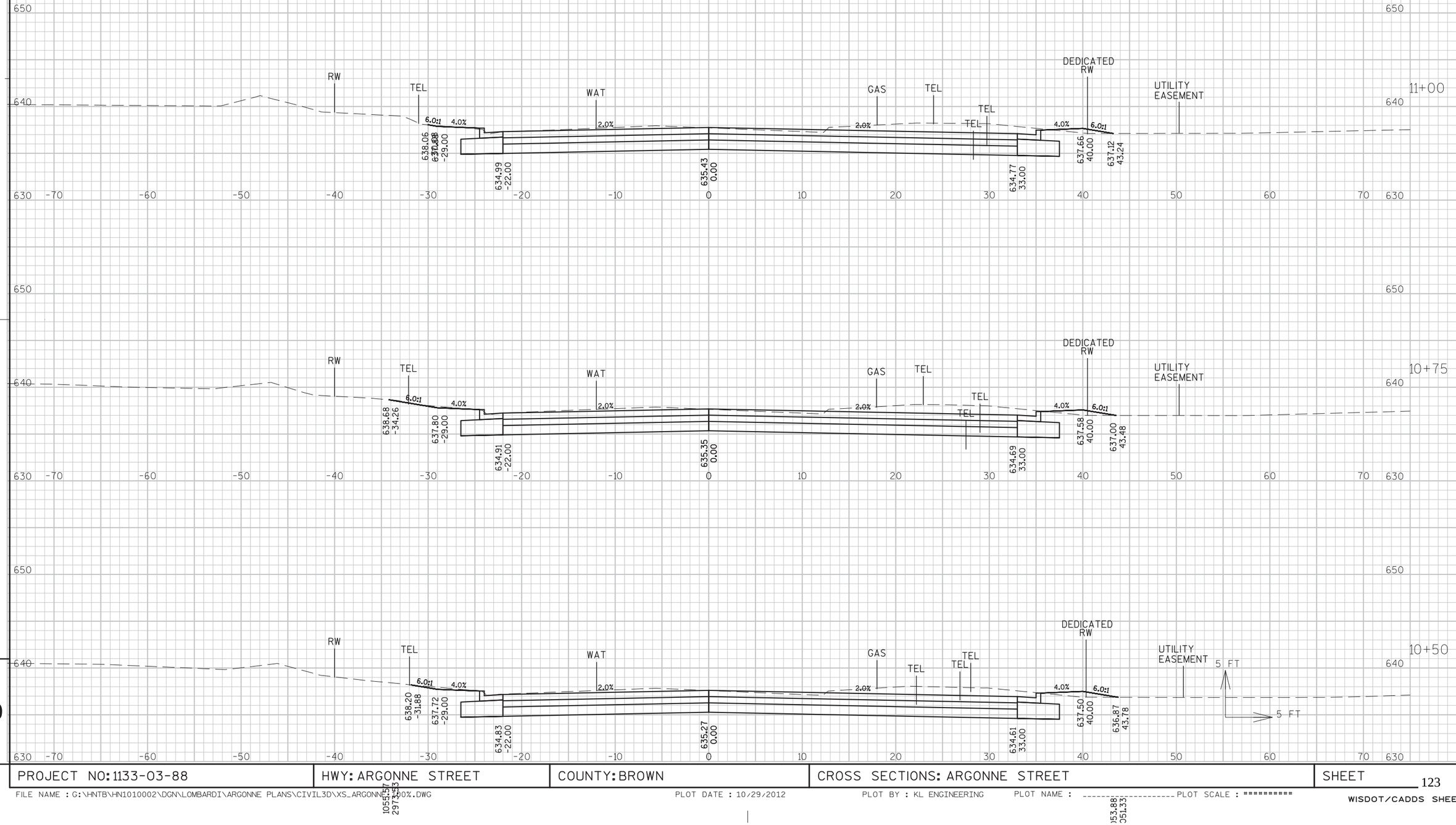


PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: ARGONNE STREET	SHEET 121	E



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: ARGONNE STREET	SHEET 122	E

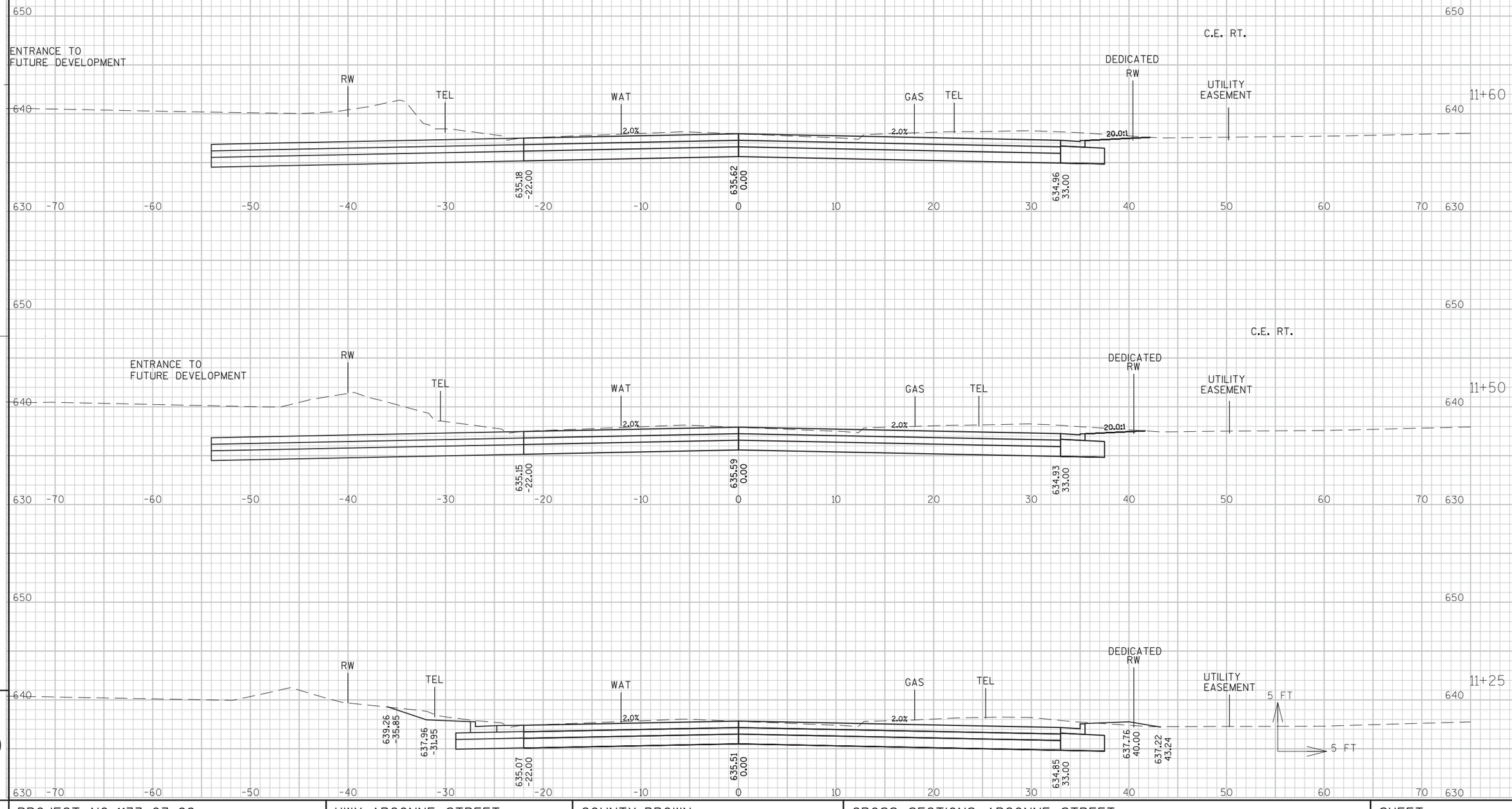
FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\XS_ARGONNE_100%.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : **********



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: ARGONNE STREET	SHEET 123	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\XS_ARGONNE_100%.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : **********

WISDOT/CADDS SHEET 49



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: ARGONNE STREET	SHEET 124	E

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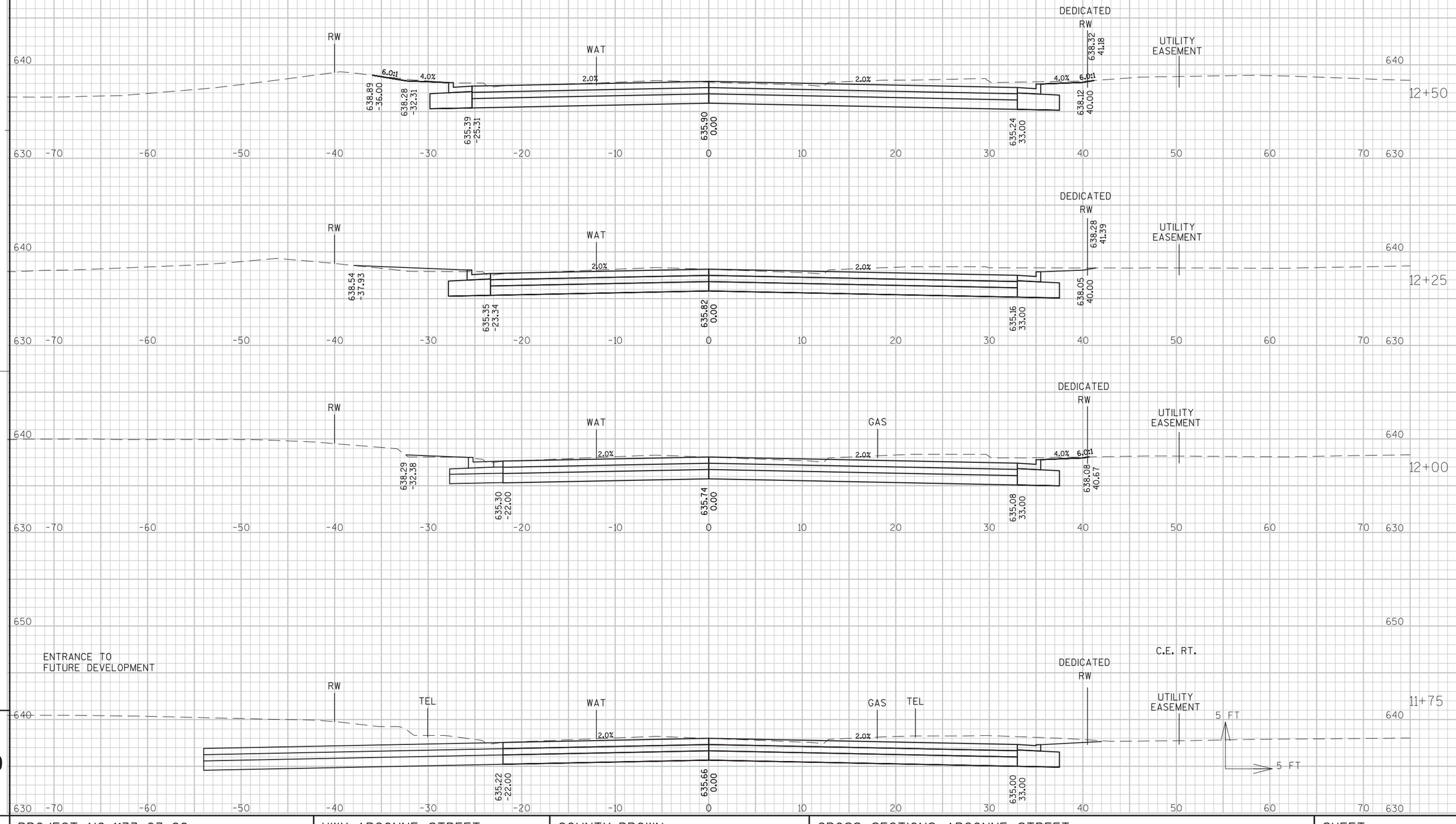

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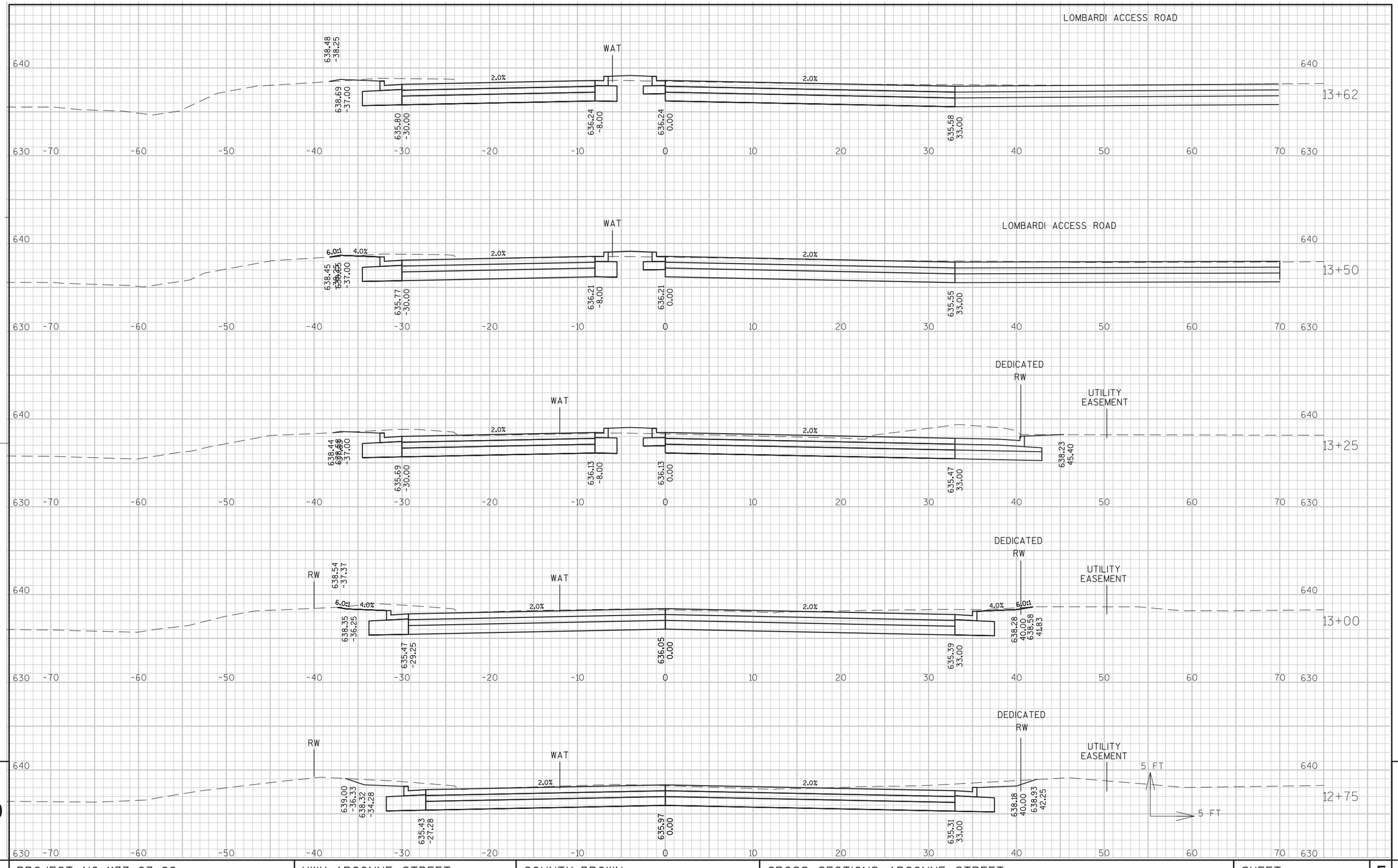
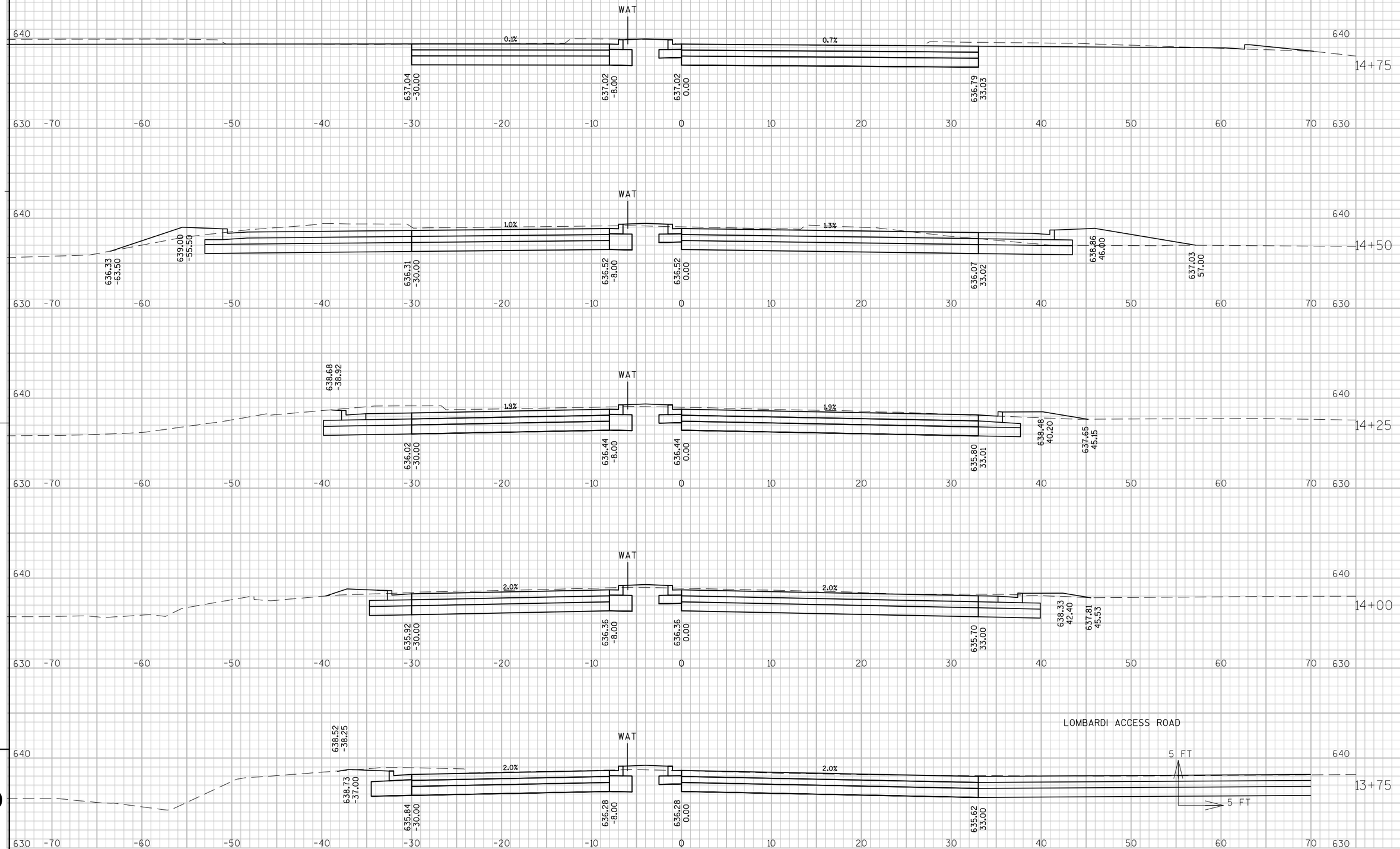
PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: ARGONNE STREET	SHEET 125	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\XS_ARGONNE_100%.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : **********



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: ARGONNE STREET	SHEET 126	E



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PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: ARGONNE STREET	SHEET 127	E

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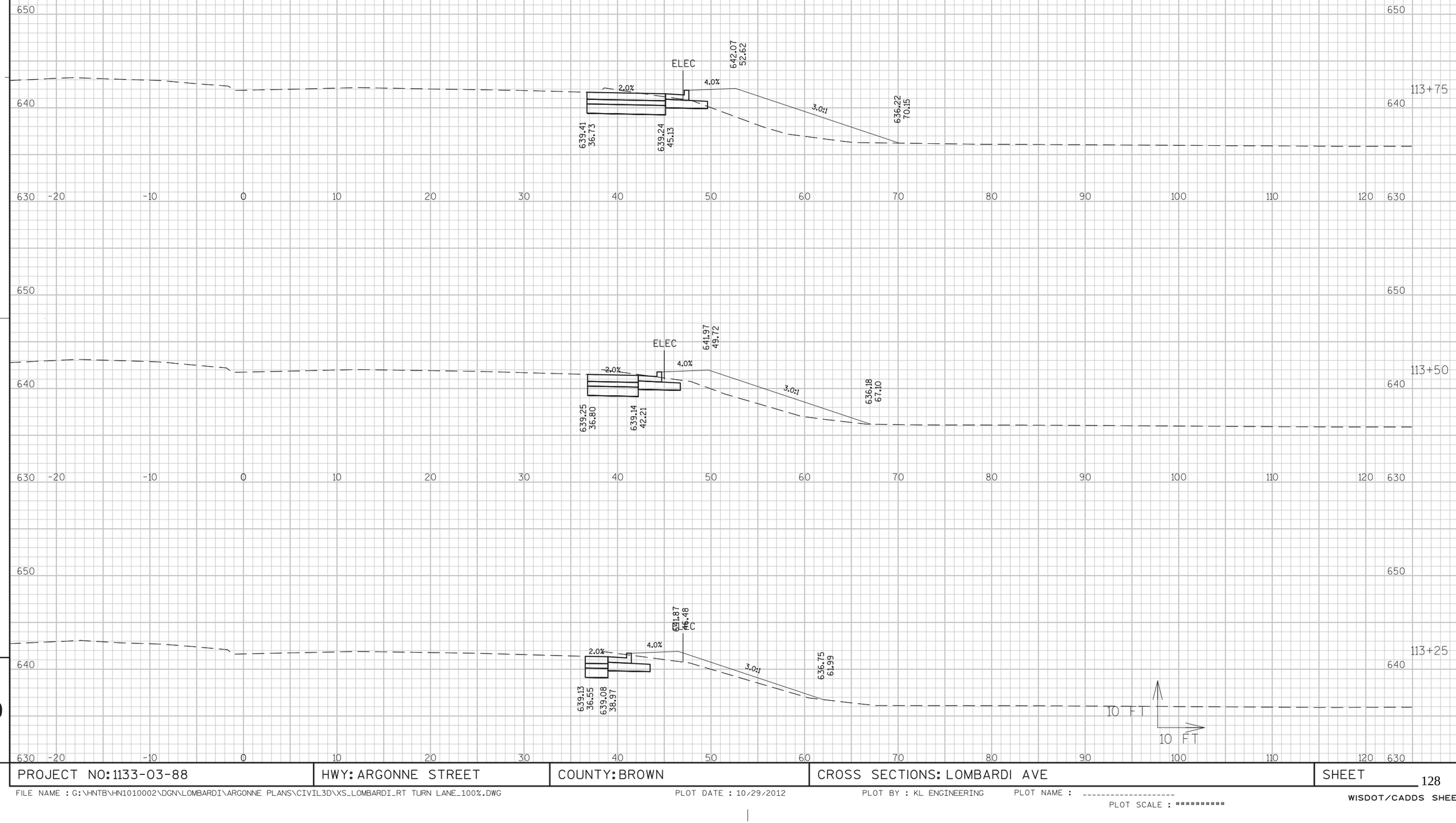
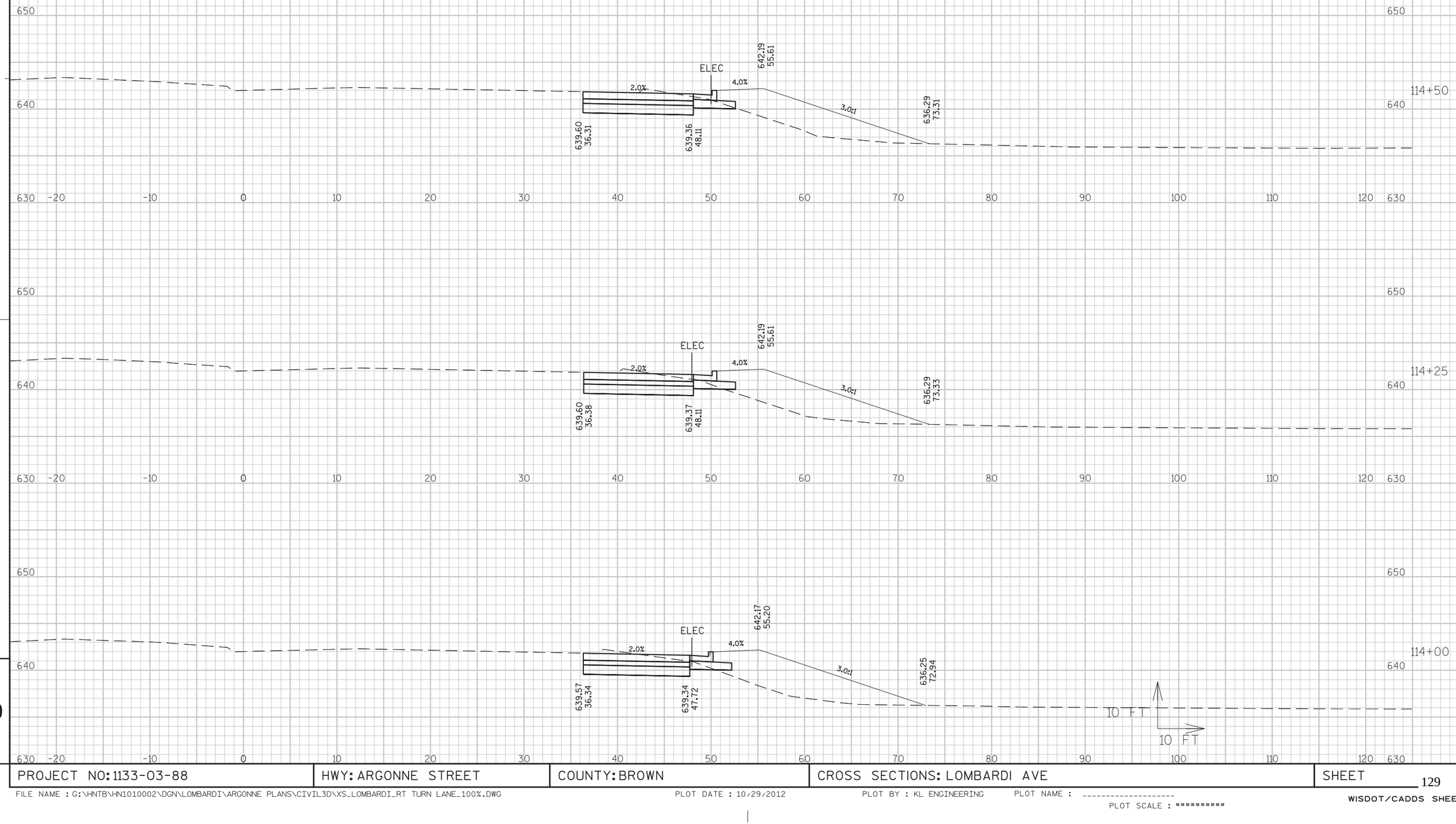
WISDOT/CADDS SHEET 49



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: LOMBARDI AVE	SHEET 128	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\XS_LOMBARDI_RT TURN LANE_100%.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : **********

WISDOT/CADDS SHEET 49



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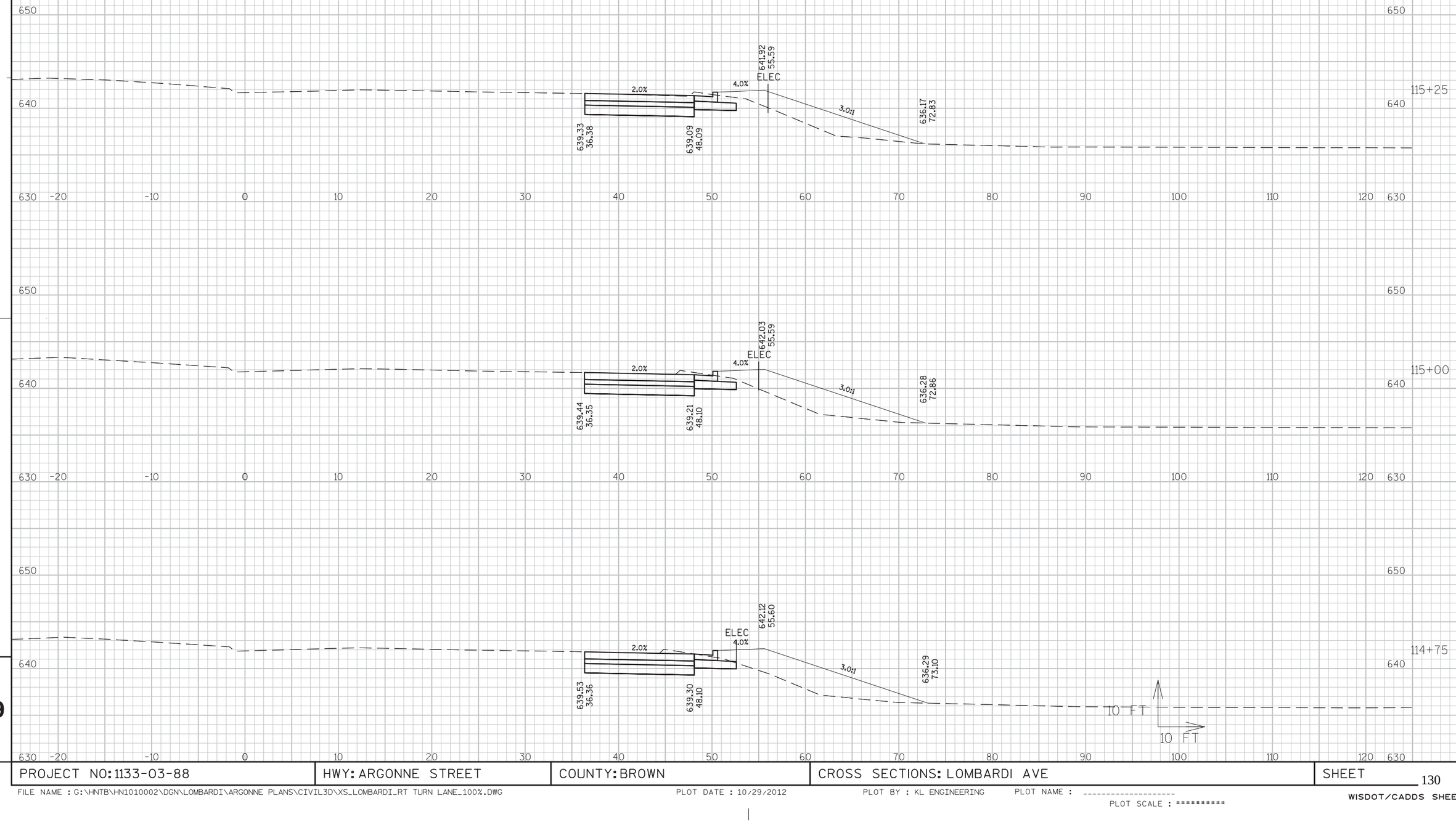
WISDOT/CADDS SHEET 49



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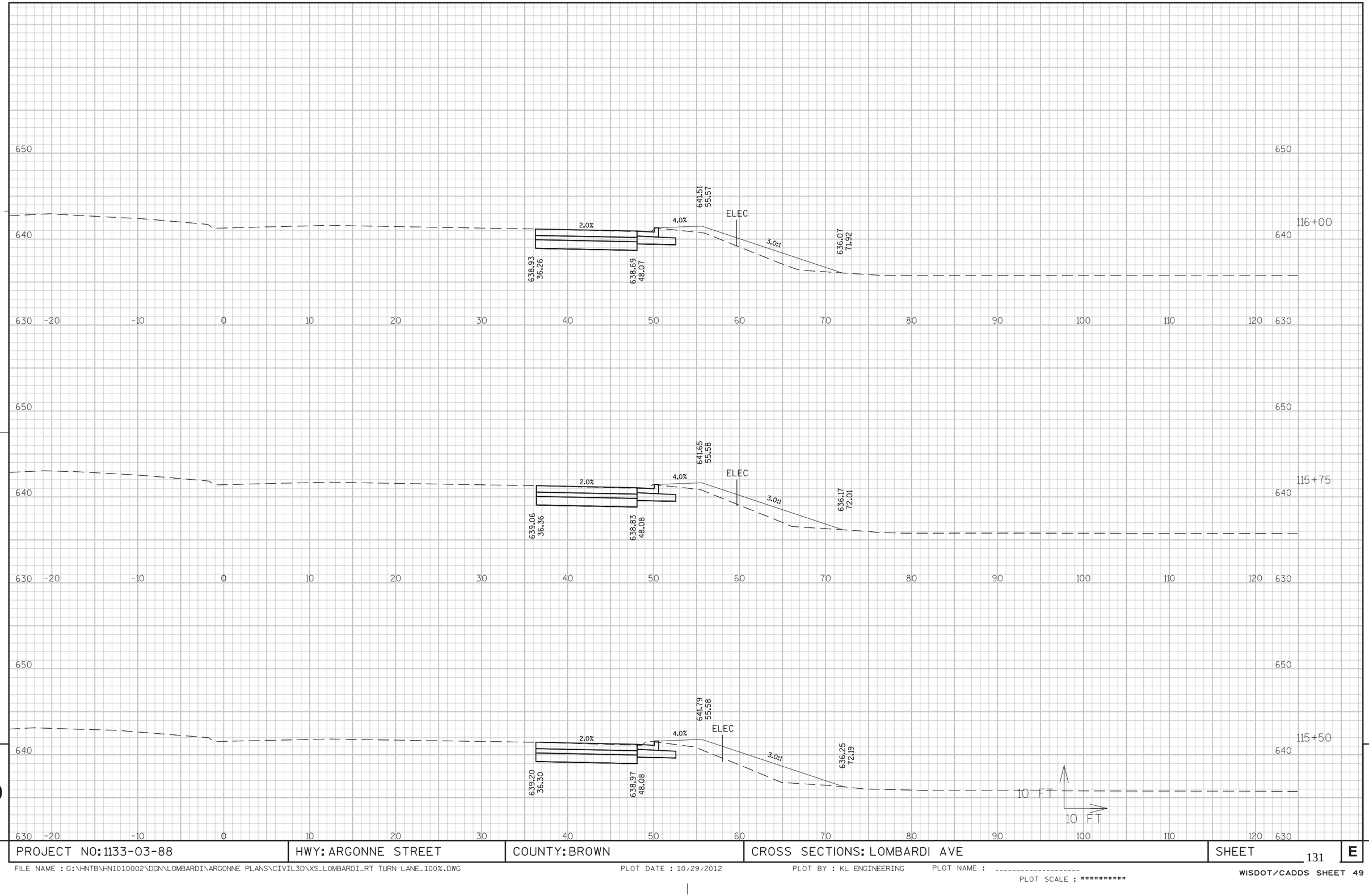
FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\XS_LOMBARDI_RT TURN LANE_100%.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : **********

WISDOT/CADDS SHEET 49



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: LOMBARDI AVE	SHEET 131	E

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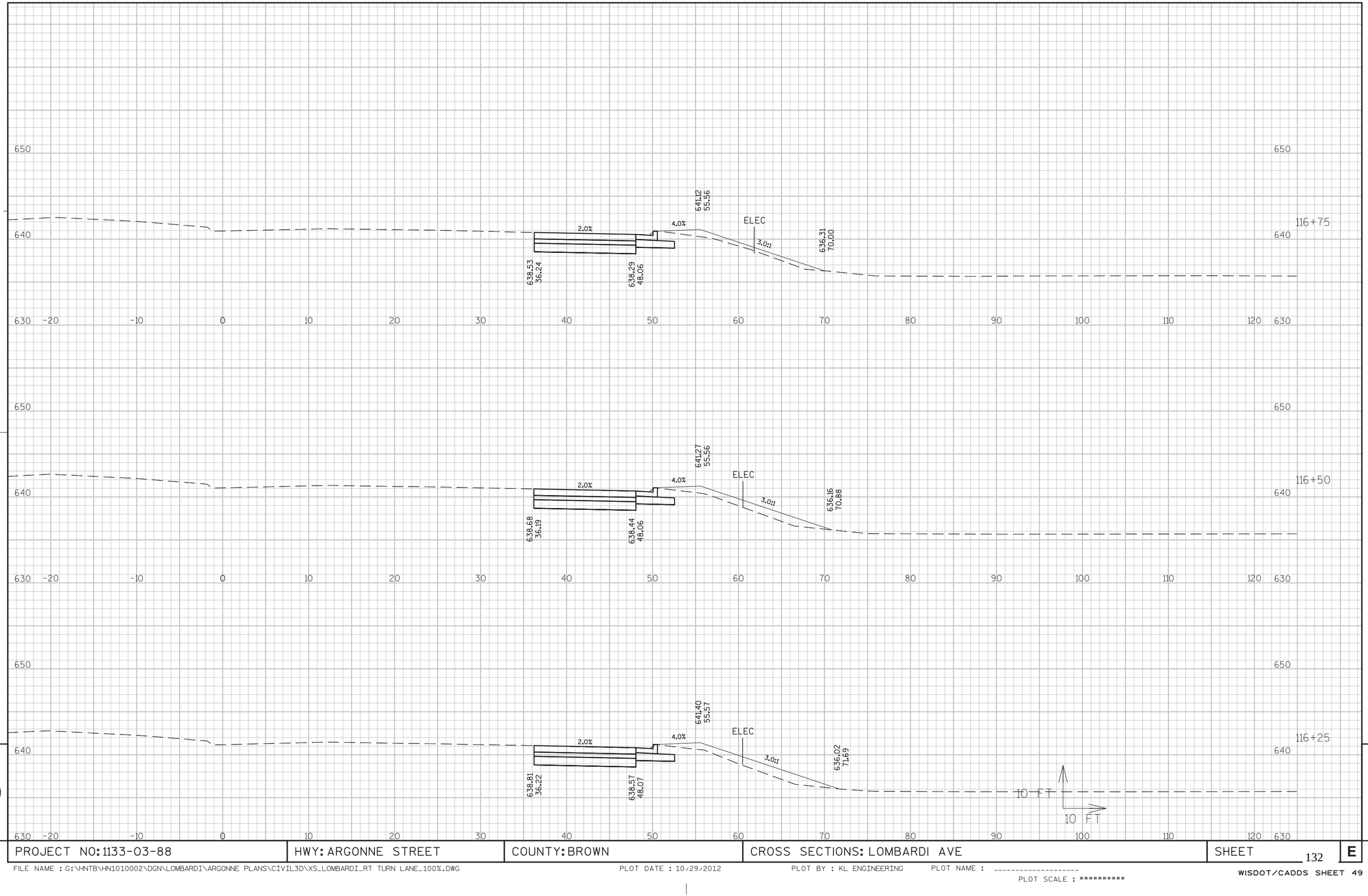
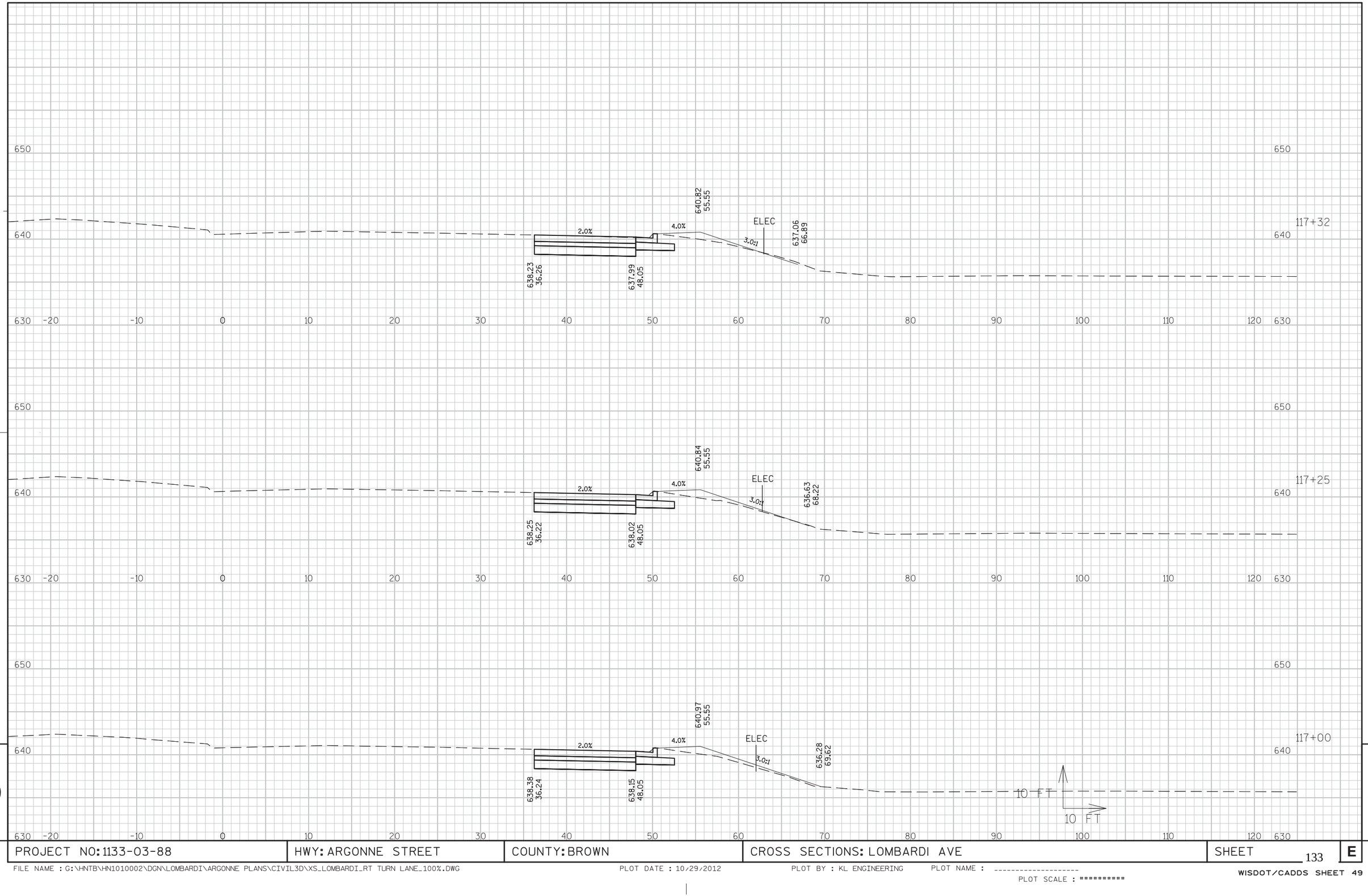
WISDOT/CADDS SHEET 49



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: LOMBARDI AVE	SHEET 132	E

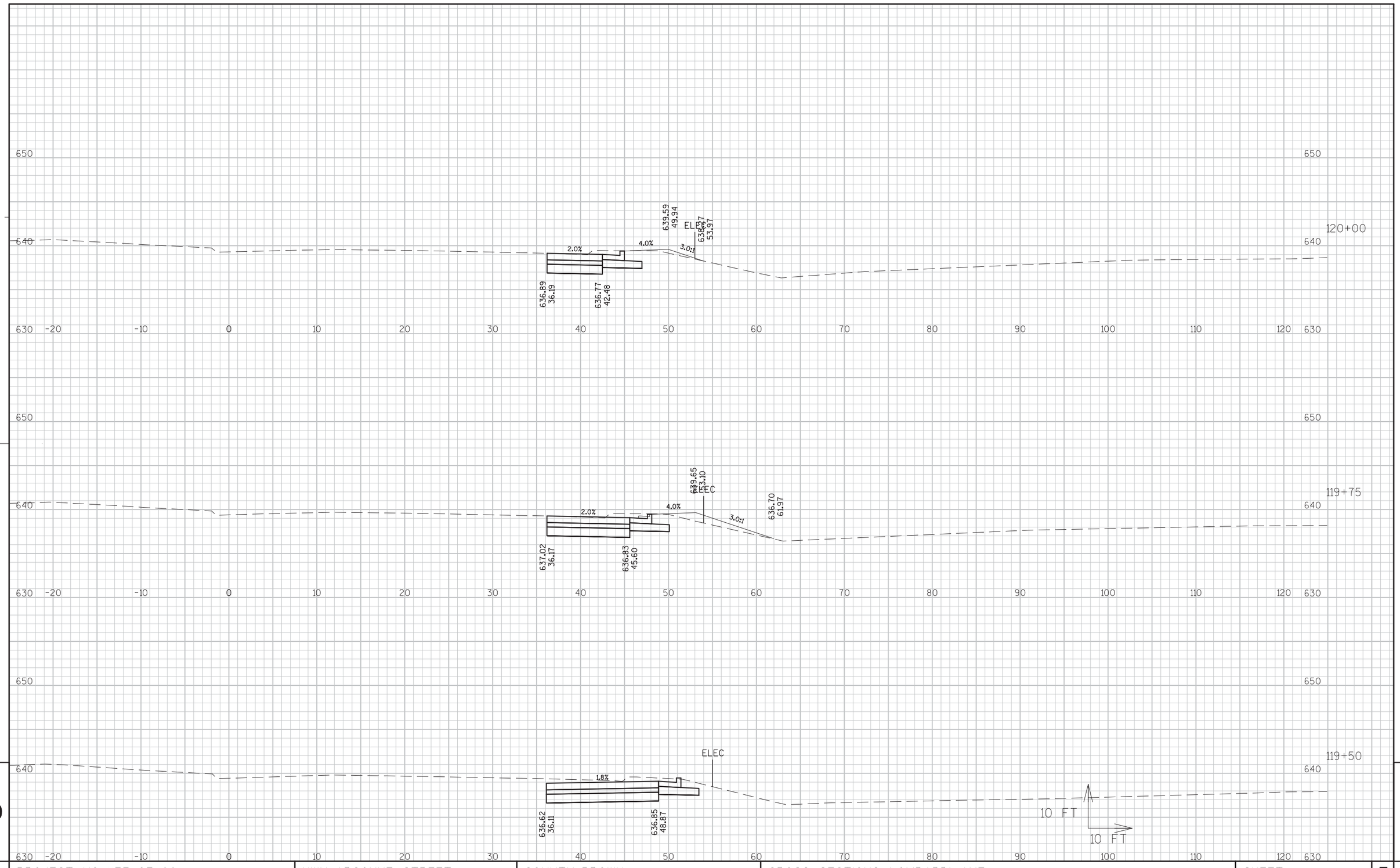
FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\XS_LOMBARDI_RT TURN LANE_100%.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : **********



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: LOMBARDI AVE	SHEET 133	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\XS_LOMBARDI_RT TURN LANE_100%.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : **********

WISDOT/CADDS SHEET 49



PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: LOMBARDI AVE	SHEET 134	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\XS_LOMBARDI_TAPER_100%.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : **********

WISDOT/CADDS SHEET 49

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PROJECT NO: 1133-03-88	HWY: ARGONNE STREET	COUNTY: BROWN	CROSS SECTIONS: LOMBARDI AVE	SHEET 135	E

FILE NAME : G:\HNTB\HN1010002\DGN\LOMBARDI\ARGONNE PLANS\CIVIL3D\XS_LOMBARDI_TAPER_100%.DWG PLOT DATE : 10/29/2012 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : **********

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