WKE

July 2014

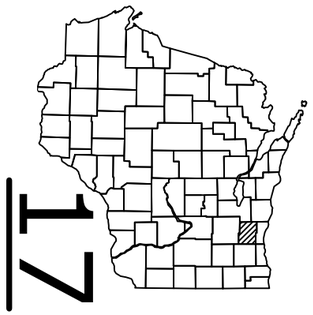
PROJECT ID: 2707-03-71

COUNTY: WASHINGTON

ORDER OF SHEETS

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

TOTAL SHEETS = 116



N

DESIGN DESIGNATION

A.A.D.T.	N/A	=	N/A
A.A.D.T.	N/A	=	N/A
D.H.V.		=	N/A
D.D.		=	N/A
T.		=	N/A
DESIGN SPEED		=	N/A
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

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

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

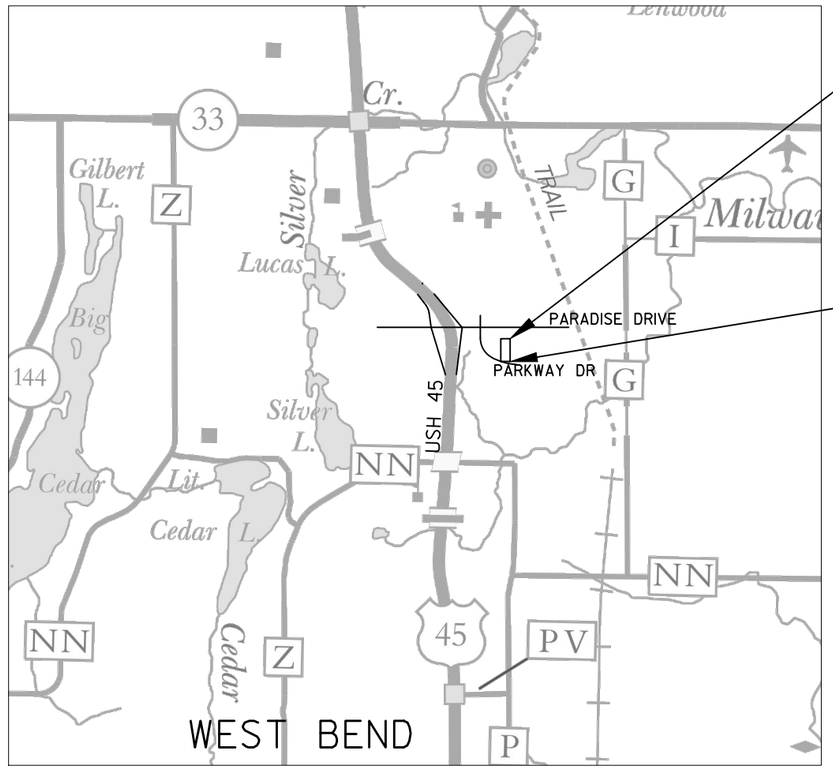
USH 45 TO WEST BEND

PARADISE DR. PARK & RIDE LOT 66-55

NON-HIGHWAY
WASHINGTON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2707-03-71		

STATE PROJECT NUMBER
2707-03-71



END PROJECT
STA. 3+90.64

BEGIN PROJECT
STA. 0+40.88
X=361,486.88
Y=174,203.03

LAYOUT
SCALE 0 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, WASHINGTON COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (2007)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	M. VILLACA
Project Manager	H. SACKMAN
Regional Examiner	
Regional Supervisor	R. SHAHIN

APPROVED FOR THE DEPARTMENT
DATE: 5/1/14 Martin E. Villaca (Signature)

E

OTHER CONTACTS

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WEST BEND, WI 53090
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Heather.Sackman@dot.wi.gov

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CITY OF WEST BEND
1115 SOUTH MAIN STREET
WEST BEND, WI 53095
PHONE: (262) 335-5130
cityeng@ci-west-bend.wi.us

MR. JAMES RETZLAFF
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DNR TRANSPORTATION LIAISON
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MOBILE: (414) 507-4946
FAX: (414) 263-8483
Kristina.Betzold@wi.gov

GENERAL NOTES

NOTIFY DIGGER'S HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK.
THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE LOCATIONS OF EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
ALL DISTURBED LANDSCAPE AREAS RESULTING FROM CONTRACTOR OPERATIONS SHALL BE RESTORED IMMEDIATELY.

CURB AND GUTTER RADII ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED. PLAN GRADES, AND OFFSETS ARE TO THE FLANGE UNLESS OTHERWISE NOTED.

STANDARD ABBREVIATIONS

AEW	APRON ENDWALL	MH	MANHOLE
AGG	AGGREGATE	MAX	MAXIMUM
BAD	BASE AGGREGATE DENSE	MIN	MINIMUM
BM	BENCHMARK	M/L	MAINLINE
C&G	CURB & GUTTER	MON	MONUMENT
CE	COMMERCIAL ENTRANCE	NC	NORMAL CROWN
CL	CENTER LINE	NOR	NORMAL
CONC	CONCRETE	PAVT	PAVEMENT
COR	CORNER	PE	PRIVATE ENTRANCE
CPCS	CULVERT PIPE CORRUGATED STEEL	PLE	PERMANENT LIMITED EASEMENT
CPRC	CULVERT PIPE REINFORCED CONCRETE	PP	POWER POLE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	R	RADIUS OF CURVE
		REQD	REQUIRED
DISCH	DISCHARGE	RHF	RIGHT HAND FORWARD
EBS	EXCAVATION BELOW SUBGRADE	R/L	REFERENCE LINE
EX	EXISTING	RT	RIGHT
FE	FIELD ENTRANCE	R/W	RIGHT OF WAY
HMA	HOT MIX ASPHALTIC	SALV	SALVAGED
INV	INVERT	SE	SUPER ELEVATION
LHF	LEFT HAND FORWARD	SI	SLOPE INTERCEPT
LT	LEFT	TLE	TEMPORARY LIMITED EASEMENT

HMA PAVEMENT GRADATION TABLE

HMA PAVEMENT TYPE E-1		
	Upper Layer: 1.75"	12.5 mm
	Lower layer: 1.75"	12.5 mm
ASPHALTIC MATERIAL		
	PG-58-28	

UTILITY CONTACTS

CITY OF WEST BEND
MR. SCOTT TUTAS
512 MUNICIPAL DRIVE
WEST BEND, WI 53095
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wbsewer@ci.west-bend.wi.us

CITY OF WEST BEND - WATER
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512 MUNICIPAL DRIVE
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wbwu@ci.west-bend.wi.us

WE ENERGIES - ELECTRIC
SEND ALL CORRESPONDENCE TO:
MR. LATROY BRUMFIELD
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
FAX: (414) 221-2336
latroy.brumfield@we-energies.com

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eric.perea@dot.wi.gov

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AT&T WISCONSIN
MR. JOEL OSTRENGA
AT&T WISCONSIN
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WAUKESHA, WI 53188
PHONE: (262) 408-1496
jo4761@att.com

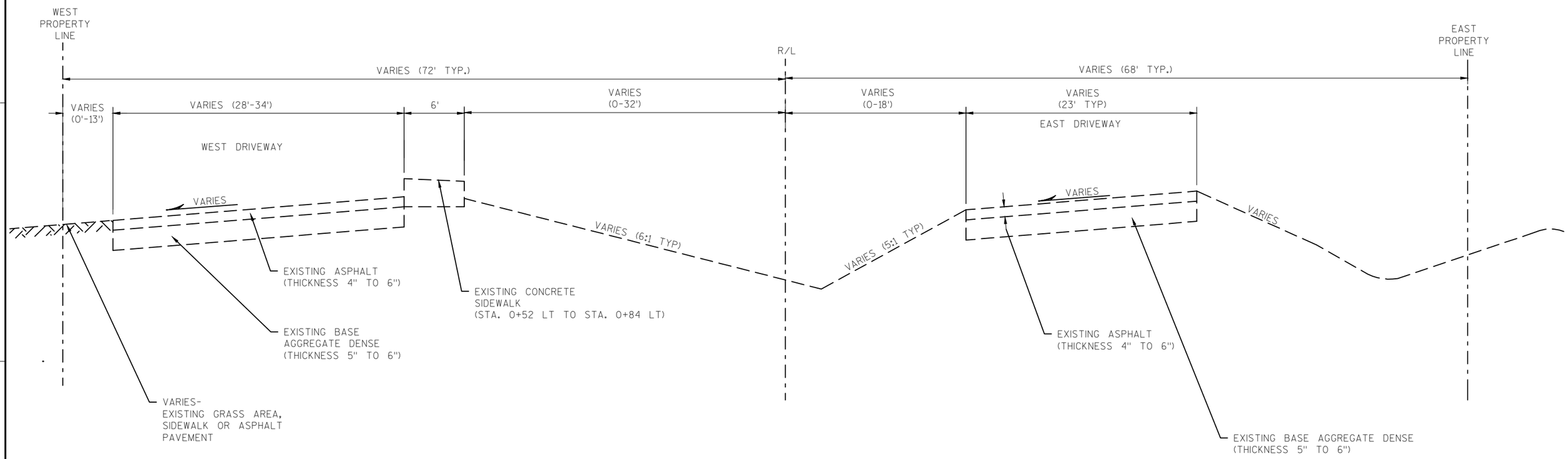
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

2

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	PROJECT OVERVIEW	SHEET 3 E

FILE NAME : N:\PDS\C3D\CAD\27070301\020201_PO.DWG PLOT DATE : 2/3/2014 2:59 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : ---------- PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

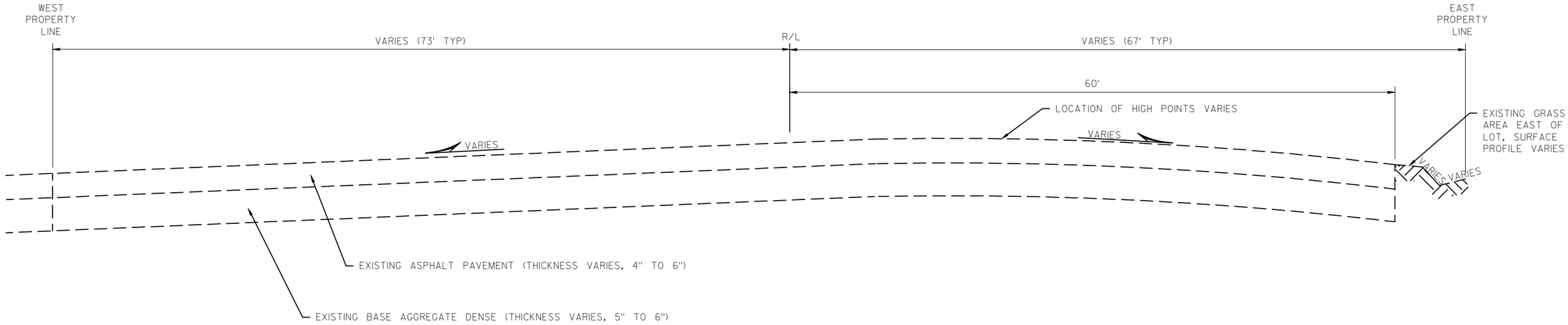


EXISTING TYPICAL SECTION

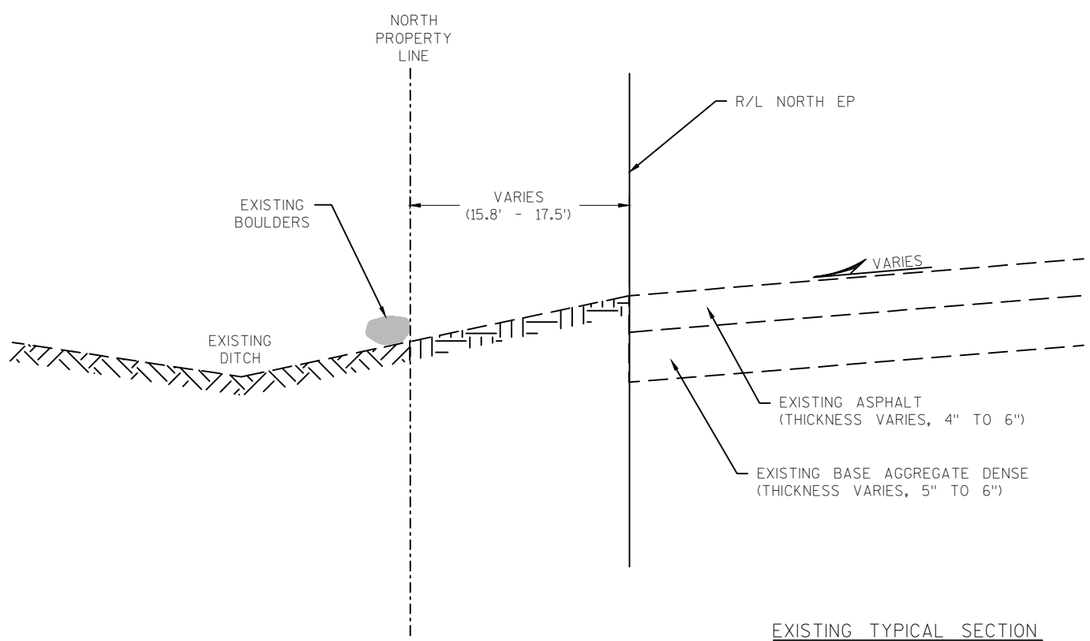
R/L, STA. 0+40 TO STA. 0+85

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	TYPICAL SECTION - EXISTING	SHEET 4	E

FILE NAME : N:\PDS\C3D\CAD\27070301\020300_TS.DWG PLOT DATE : 11/20/2013 12:50 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : ---------- PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

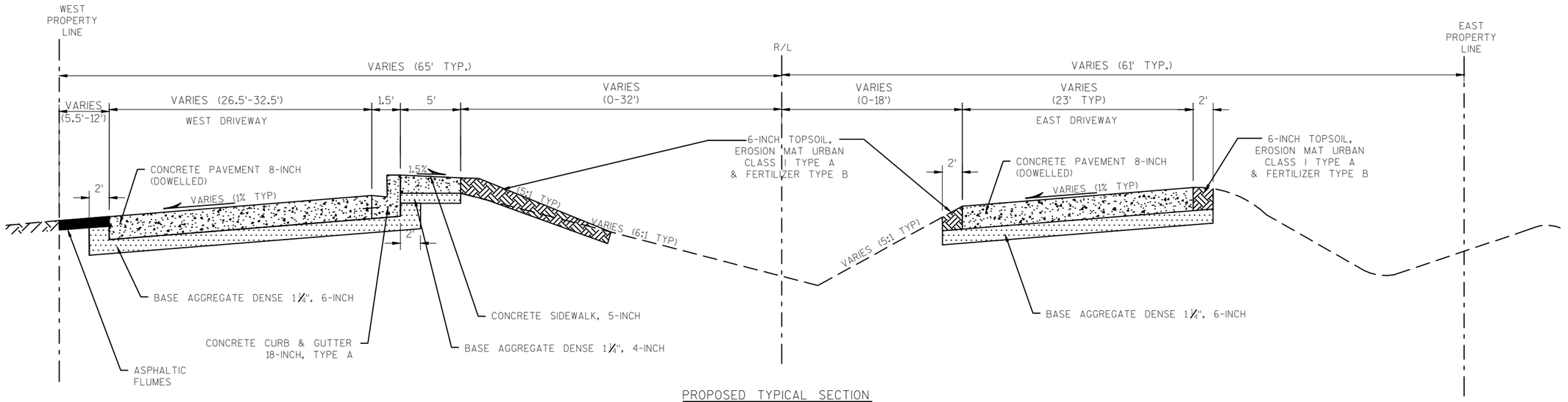


EXISTING TYPICAL SECTION
R/L, STA. 0+85 TO STA. 3+75



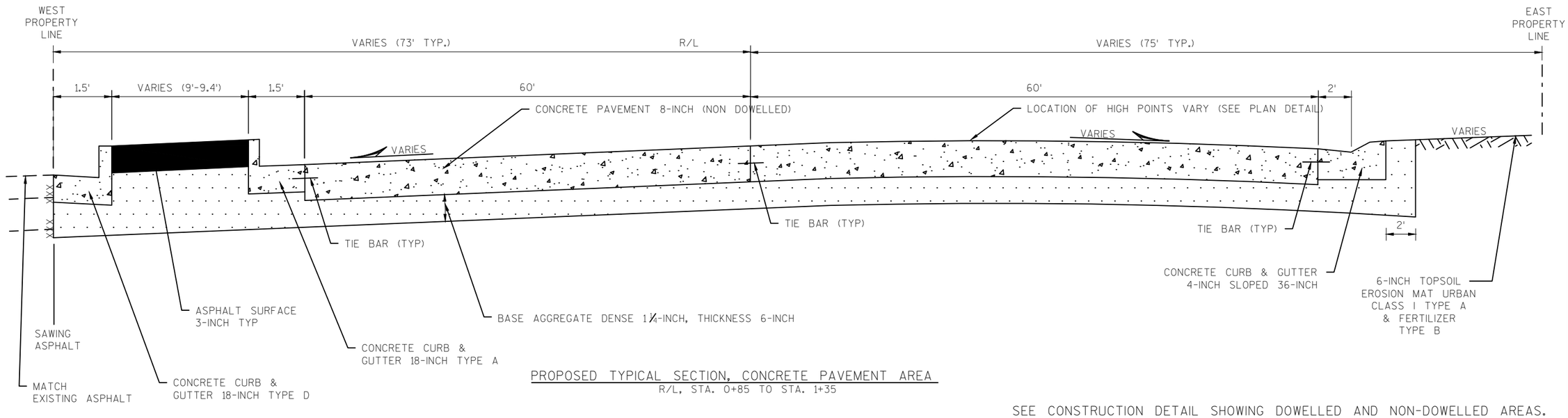
EXISTING TYPICAL SECTION
LOOKING EAST ALONG DRAINAGE SWALE
R/L NORTH EP, STA. 1+00 TO STA. 2+40

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	TYPICAL SECTION - EXISTING	SHEET 5	E



PROPOSED TYPICAL SECTION

R/L, STA. 0+40 TO STA. 0+85

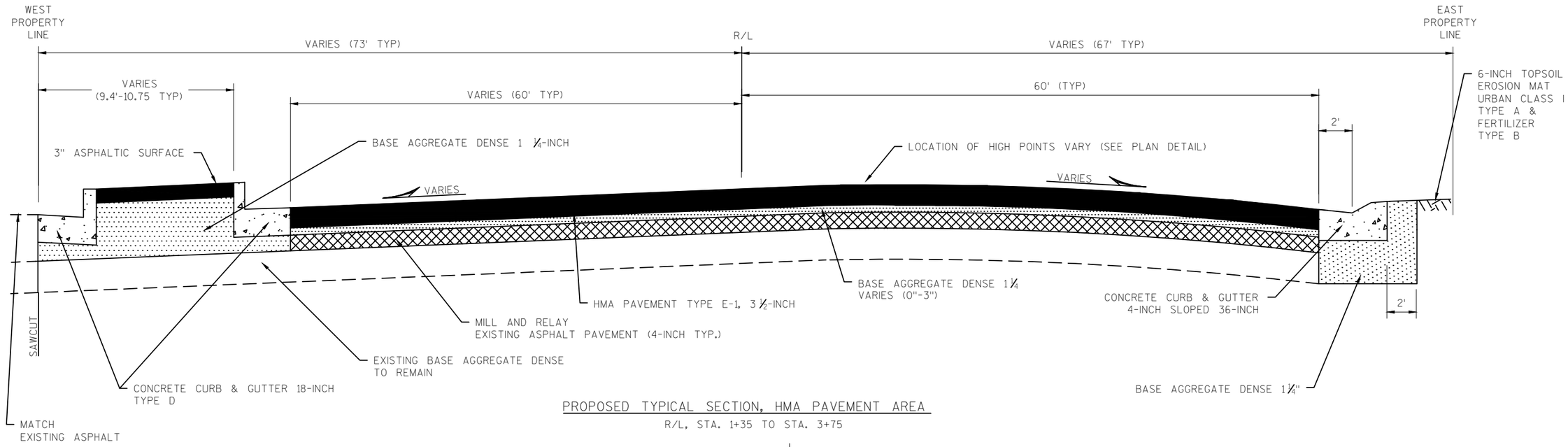


PROPOSED TYPICAL SECTION, CONCRETE PAVEMENT AREA

R/L, STA. 0+85 TO STA. 1+35

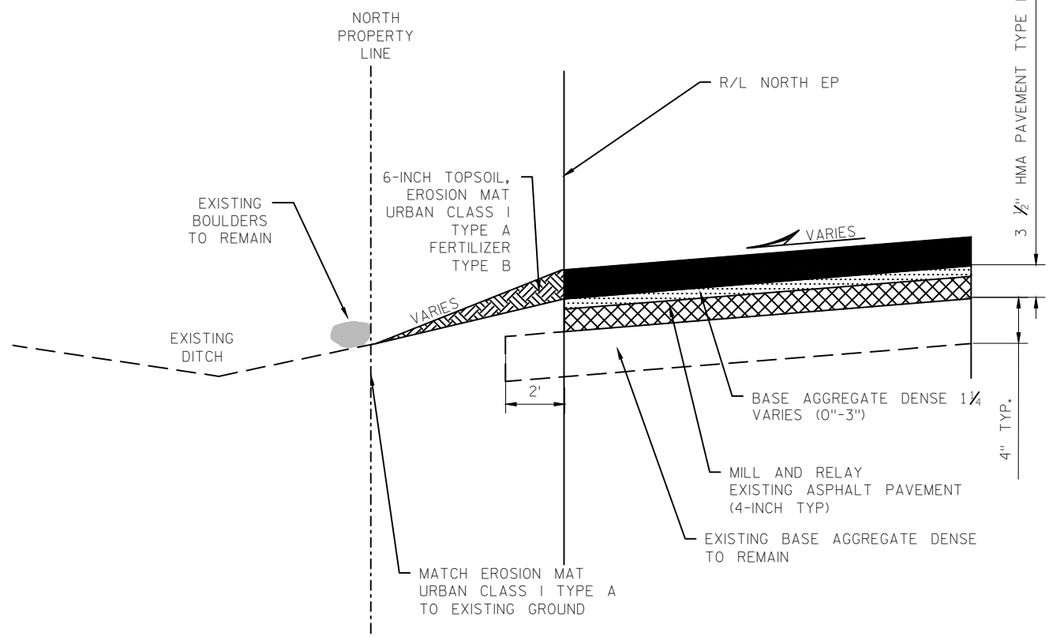
SEE CONSTRUCTION DETAIL SHOWING DOWELLED AND NON-DOWELLED AREAS.

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	PLAN: TYPICAL SECTION - PROPOSED	SHEET 6	E



PROPOSED TYPICAL SECTION, HMA PAVEMENT AREA

R/L, STA. 1+35 TO STA. 3+75

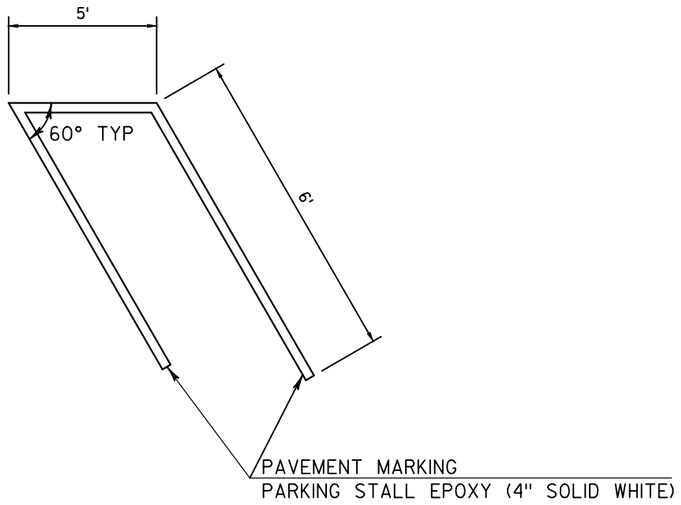


PROPOSED TYPICAL SECTION

LOOKING EAST ALONG DRAINAGE SWALE

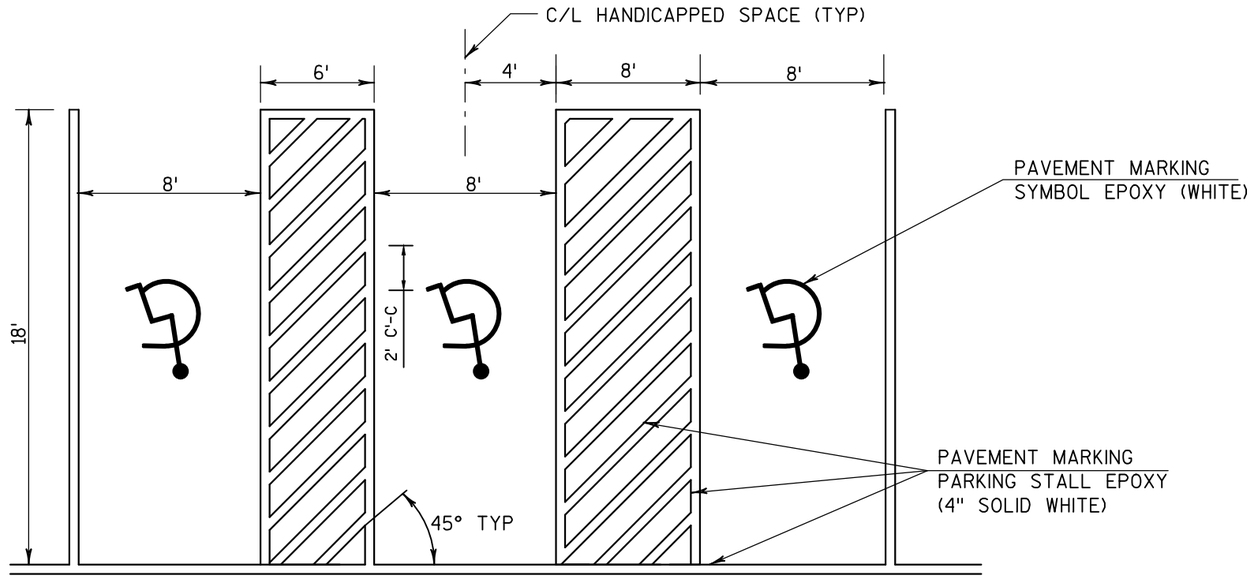
R/L NORTH EP, STA. 1+00 TO STA. 2+40

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	TYPICAL SECTION - PROPOSED	SHEET 7	E



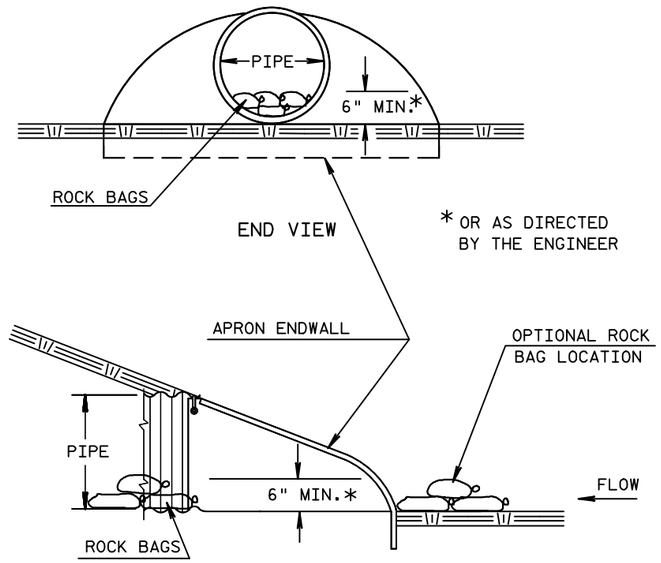
MOTOR CYCLE PAVEMENT MARKING STALL DETAIL

PARADISE DRIVE PARK & RIDE



HANDICAP PAVEMENT MARKING DETAIL

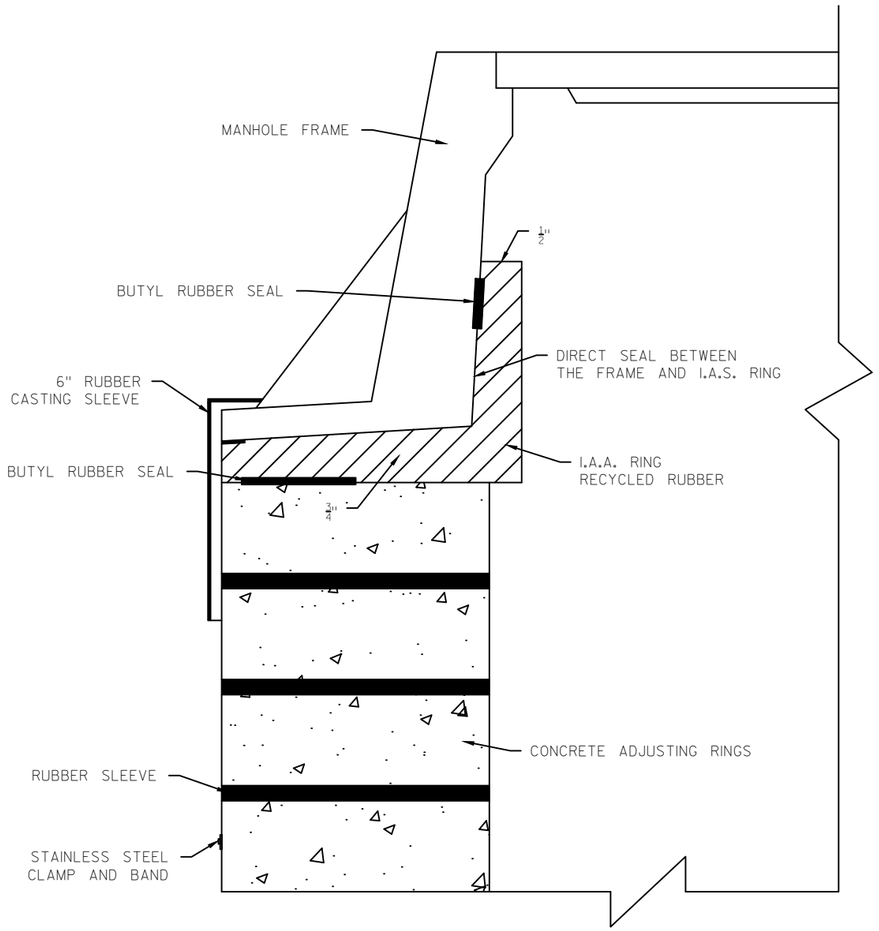
PARADISE DRIVE PARK & RIDE



CULVERT PIPE DITCH CHECK

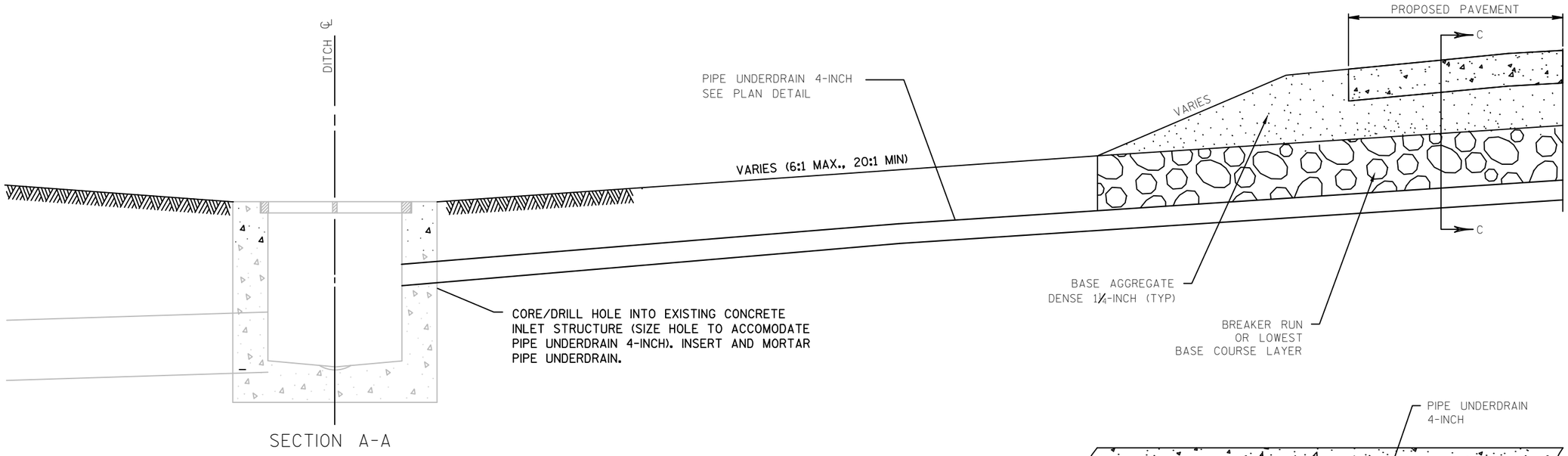
(INSTALL ON INLET END ONLY)

2

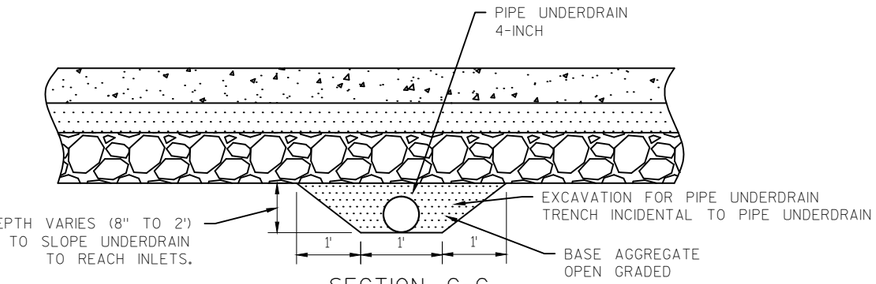


INTERNAL/EXTERNAL SANITARY MANHOLE SEALS AND
ADJUSTING SANITARY SEWER MANHOLE COVERS SPECIAL

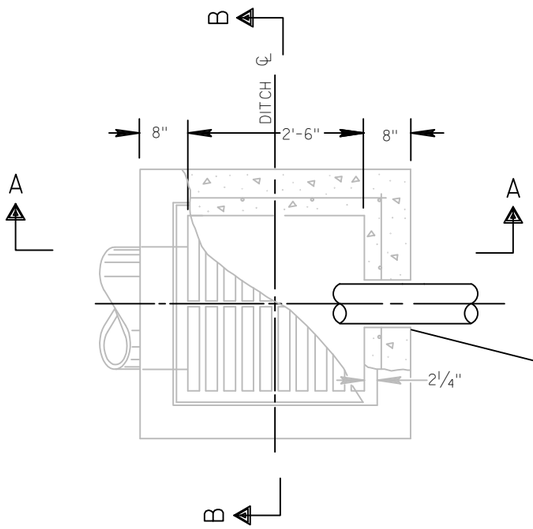
STA. 2+90, 67' LT



SECTION A-A

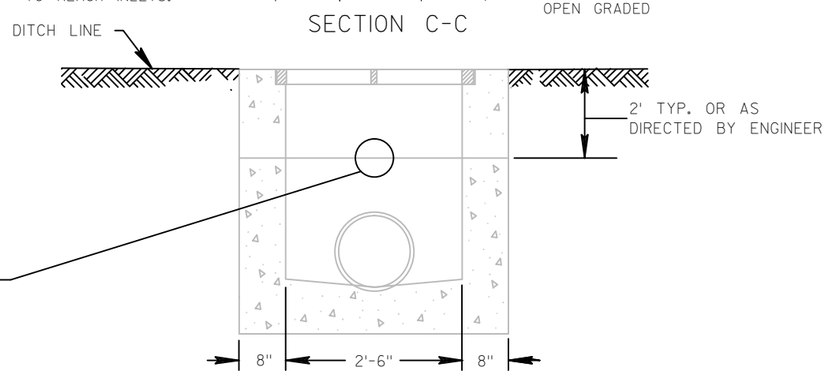


SECTION C-C



PLAN VIEW
EXISTING INLET (TYP.)

CORE/DRILL HOLE INTO EXISTING CONCRETE INLET STRUCTURE (SIZE HOLE TO ACCOMODATE PIPE UNDERDRAIN 4-INCH). INSERT AND MORTAR PIPE UNDERDRAIN.



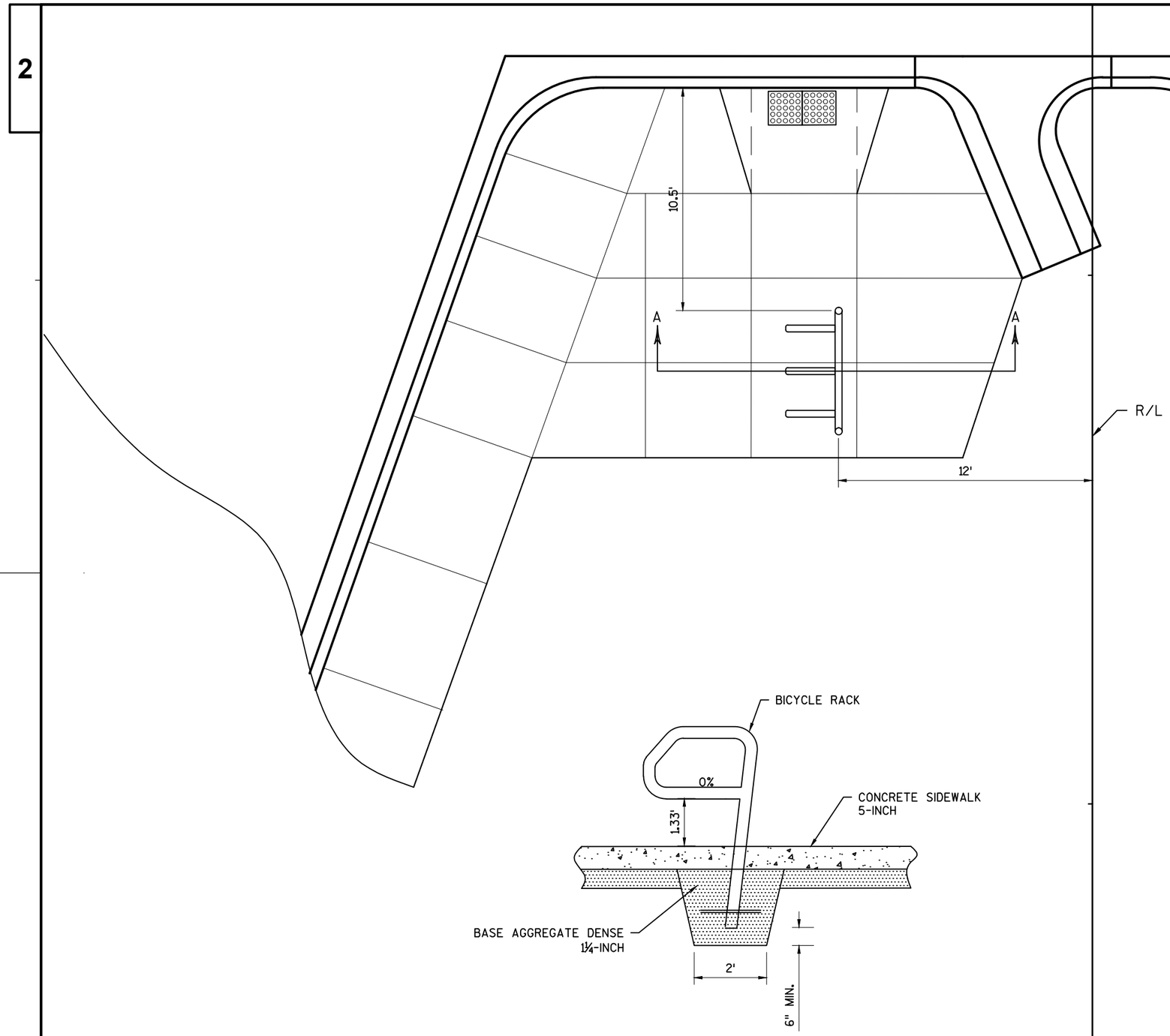
SECTION B-B

CONNECTING PIPE UNDERDRAIN 4-INCH TO EXISTING INLET

(SEE PLAN DETAIL FOR LOCATIONS)
NOT TO SCALE

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	CONSTRUCTION DETAIL	SHEET 11	E

2

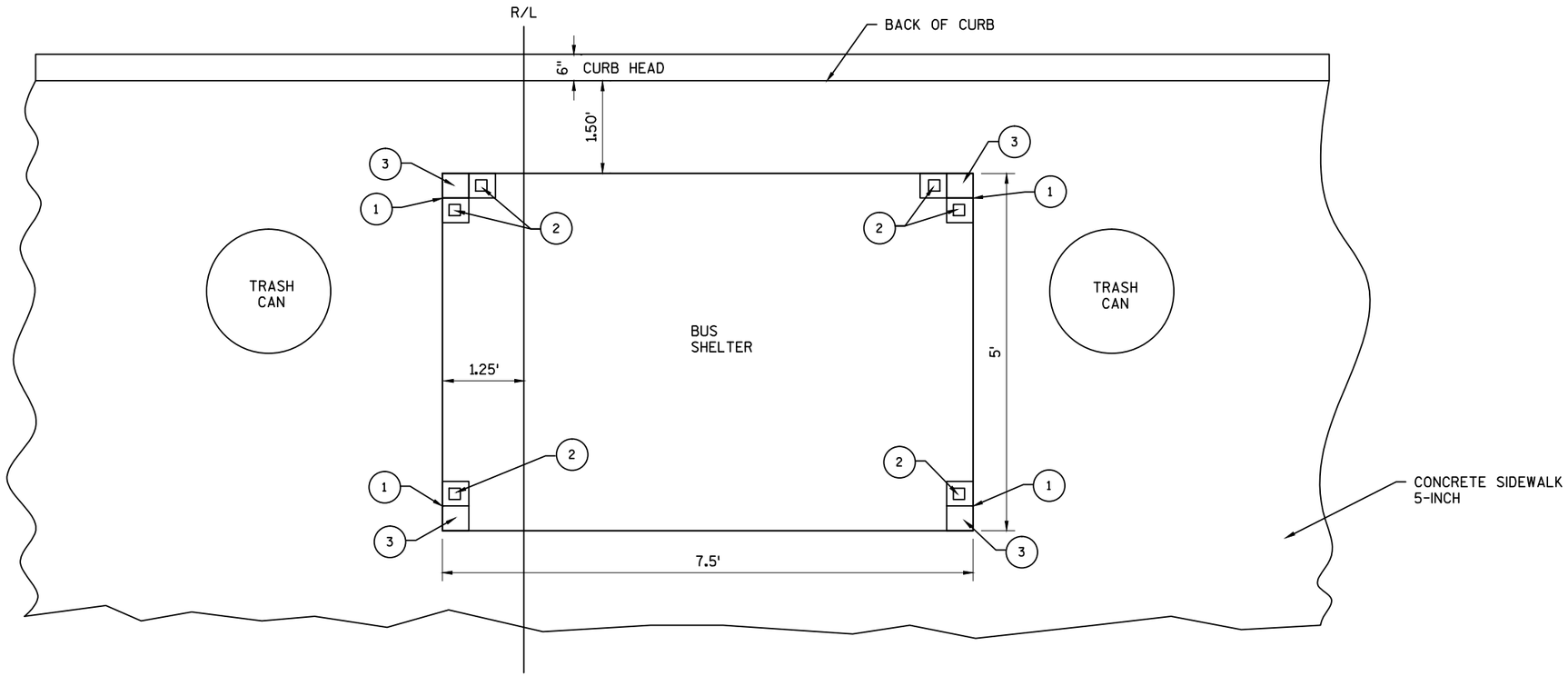


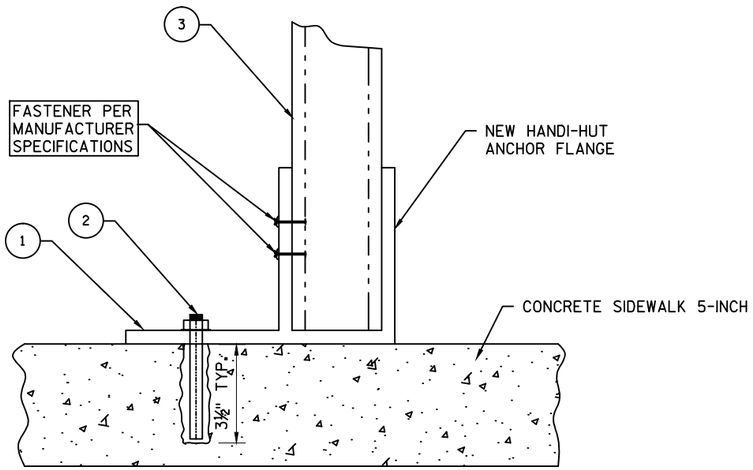
SECTION A-A

SALVAGING BICYCLE RACK

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	CONSTRUCTION DETAIL	SHEET 12	E

FILE NAME : N:\PDS\C3D\CAD\27070301\021005_CD.DWG PLOT DATE : 3/27/2014 12:42 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 0.185919





MANUFACTURER:
HANDI-HUT INC.
3 GRUNWALD STREET
CLIFTON, NJ 07013
1-800-603-6635

LEGEND

1. NEW HANDI-HUT ANCHOR FLANGE
2. NEW HANDI-HUT ANCHOR BOLT, STAINLESS STEEL
3. EXISTING BUS SHELTER SUPPORT

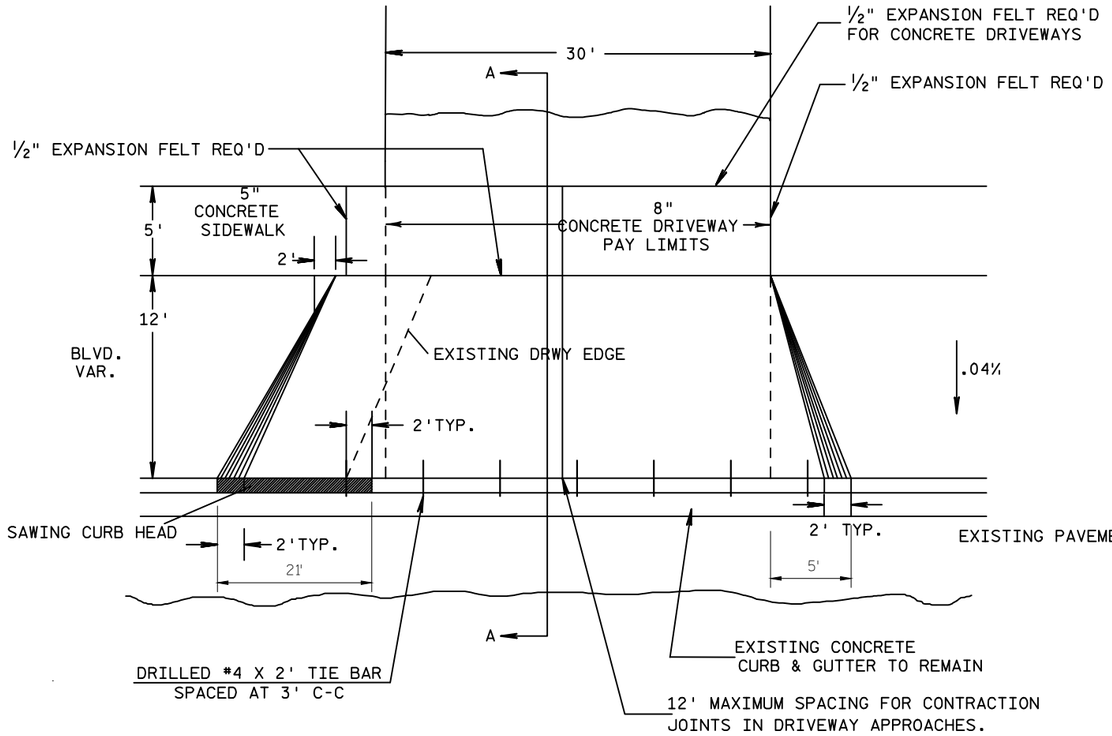
NOTES:

REPLACEMENT OF EXISTING ANCHOR FLANGES AND RE-INSTALLATION OF SALVAGED BUS SHELTER SHALL BE IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.

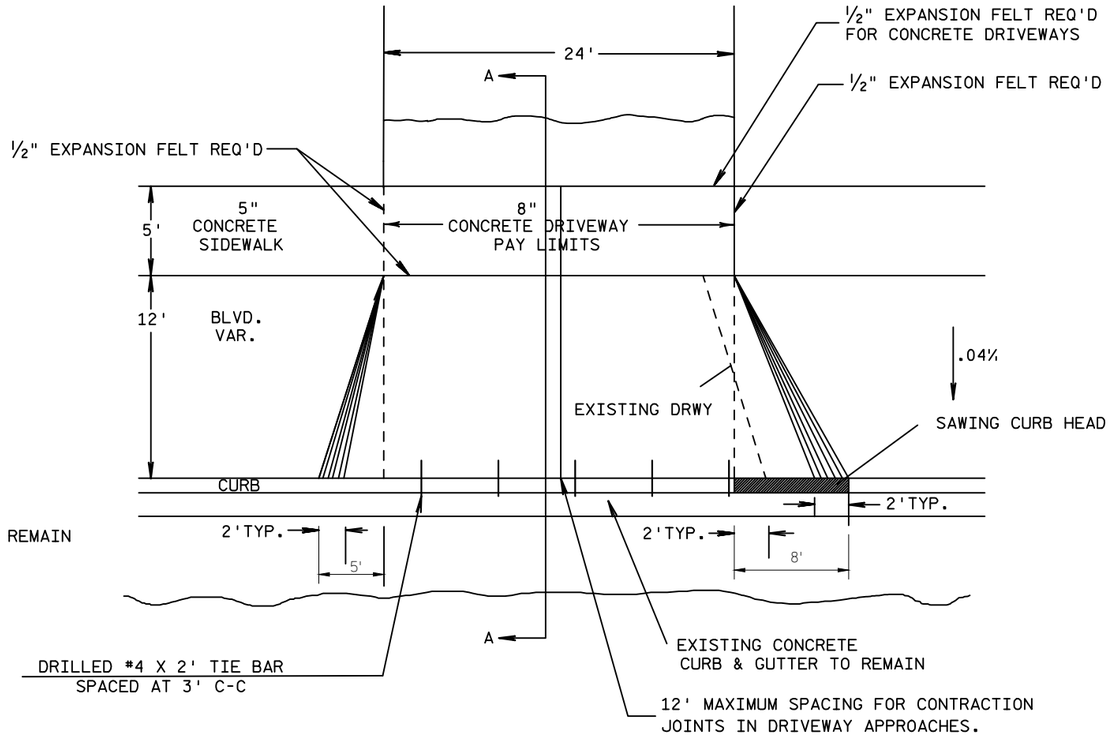
TRASH CANS TO BE REMOVED & REPLACED BY OTHERS.

SALVAGING BUS SHELTER

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	CONSTRUCTION DETAIL	SHEET 13	E

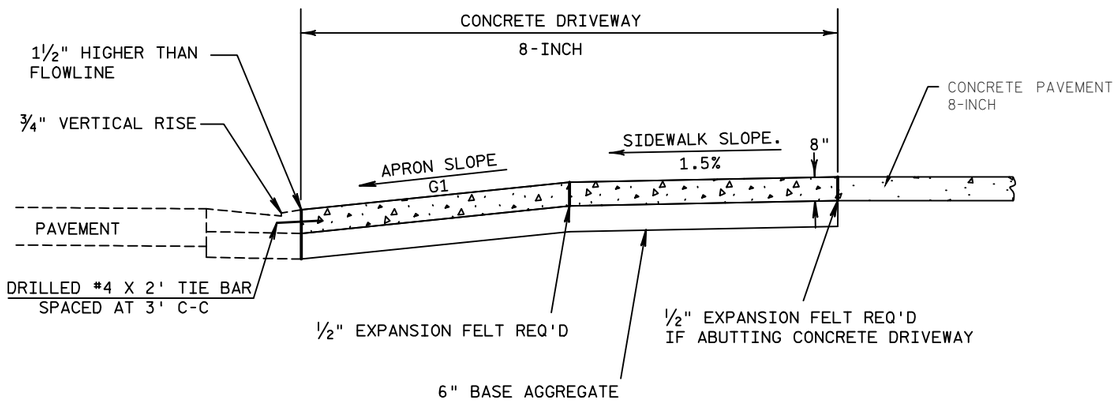


DRIVEWAY ENTRANCE
0+60, 50' LT

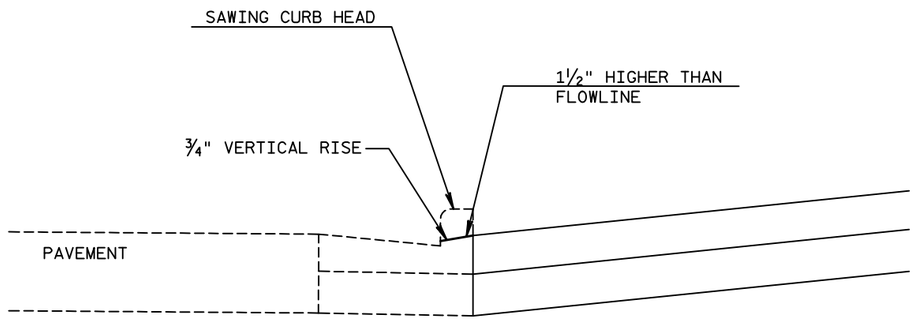


DRIVEWAY ENTRANCE
0+25, 30' RT

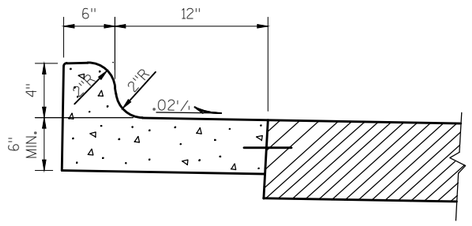
NOTE: SEE PLAN DETAIL SHEET FOR STATION OFFSETS FOR DRIVEWAYS



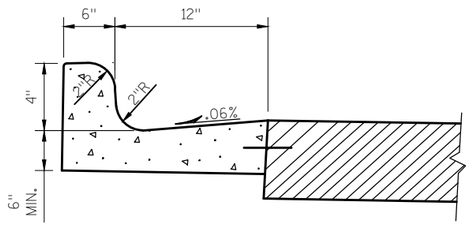
SECTION A-A



SAWING CURB HEAD



CONCRETE 4-INCH CURB & GUTTER 18-INCH
(BUS SHELTER ISLAND)



CONCRETE 4-INCH CURB & GUTTER 18-INCH
(BIKE RACK AREA)

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.

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.

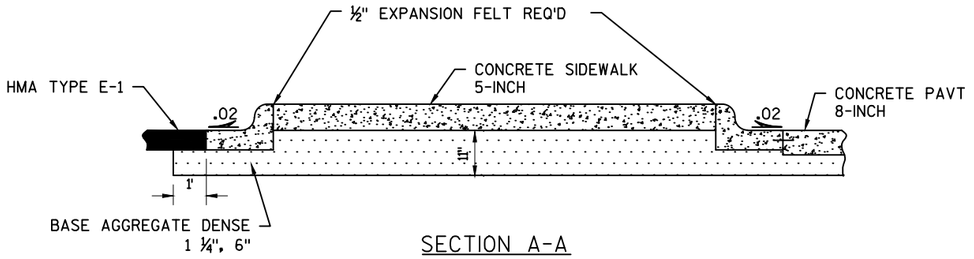
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER IF ADJACENT TO CONCRETE PAVEMENT, INCIDENTAL TO CONCRETE CURB & GUTTER.

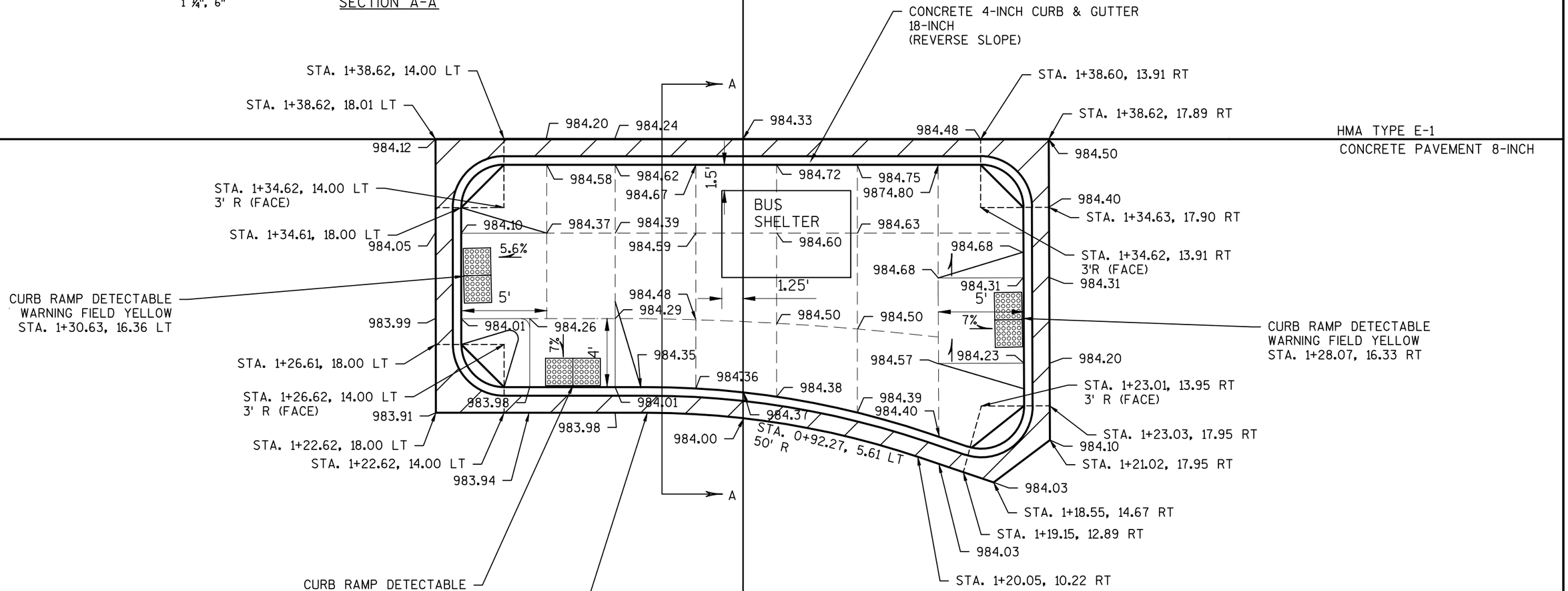
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

2



SECTION A-A



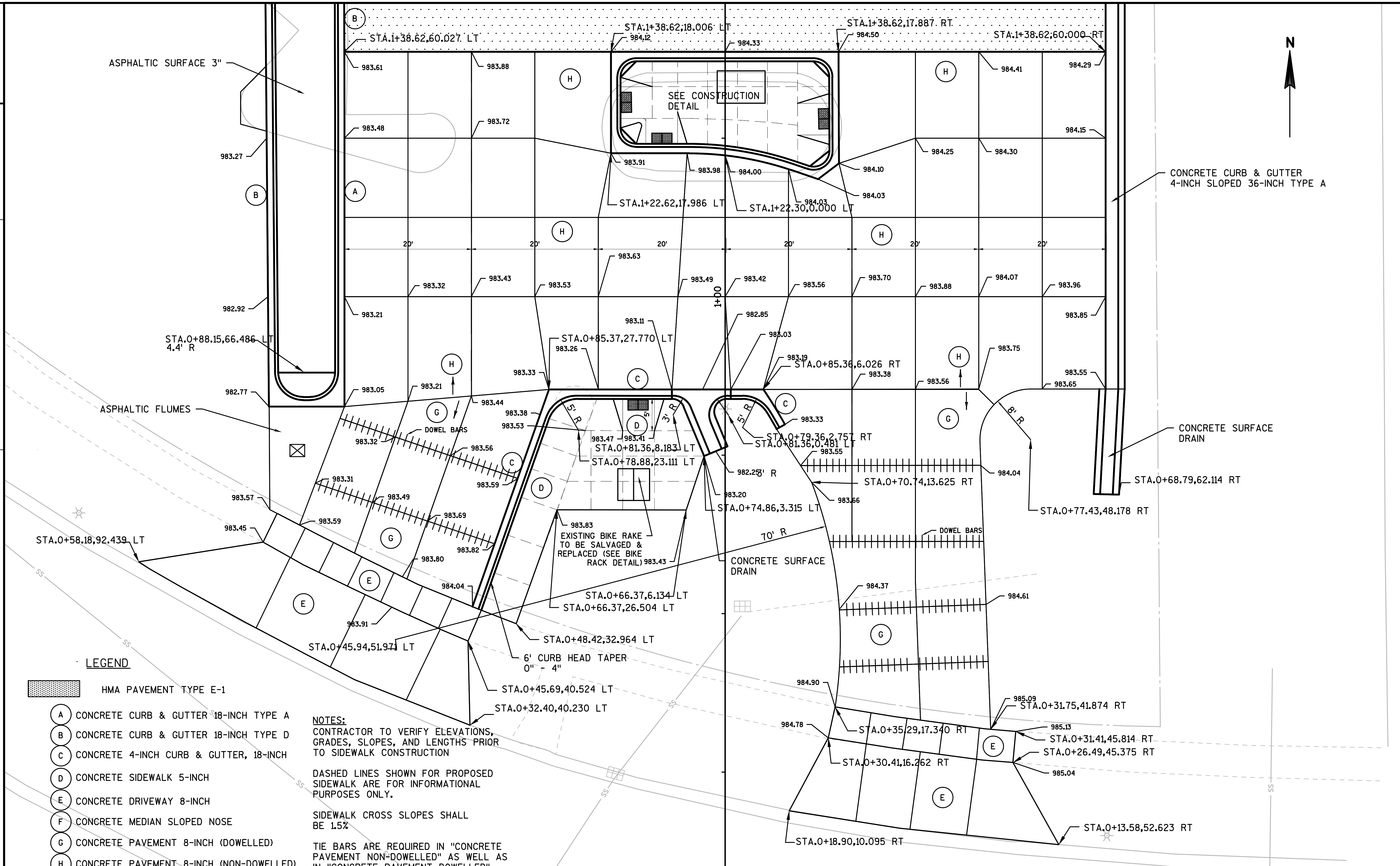
NOTES: CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, AND LENGTHS PRIOR TO SIDEWALK AND CURB & GUTTER CONSTRUCTION

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATIONAL PURPOSES ONLY.

SIDEWALK CROSS SLOPES SHALL BE 1.5%

CONSTRUCTION DETAIL - BUS STOP ISLAND

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	CONSTRUCTION DETAIL	SHEET 16	E



LEGEND

HMA PAVEMENT TYPE E-1

- (A) CONCRETE CURB & GUTTER 18-INCH TYPE A
- (B) CONCRETE CURB & GUTTER 18-INCH TYPE D
- (C) CONCRETE 4-INCH CURB & GUTTER, 18-INCH
- (D) CONCRETE SIDEWALK 5-INCH
- (E) CONCRETE DRIVEWAY 8-INCH
- (F) CONCRETE MEDIAN SLOPED NOSE
- (G) CONCRETE PAVEMENT 8-INCH (DOWELLED)
- (H) CONCRETE PAVEMENT 8-INCH (NON-DOWELLED)

NOTES:

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, AND LENGTHS PRIOR TO SIDEWALK CONSTRUCTION

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATIONAL PURPOSES ONLY.

SIDEWALK CROSS SLOPES SHALL BE 1.5%

TIE BARS ARE REQUIRED IN "CONCRETE PAVEMENT NON-DOWELLED" AS WELL AS IN "CONCRETE PAVEMENT DOWELLED"

PROJECT NO:2707-03-71	HWY:USH 45 P&R LOT 66-55	COUNTY:WASHINGTON	CONSTRUCTION DETAIL	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\27070301\021006_CD.DWG PLOT DATE : 5/1/2014 9:54 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 0.070929 WISDOT/CADDS SHEET 42

PARADISE
THEATER
PARKING LOT

WEST BEND TIRE

PARKWAY DRIVE

N

SAWING CURB HEAD

SAWING CONCRETE

REMOVING
CURB & GUTTER

EXCAVATION COMMON

PROPERTY LINE

PROPERTY LINE

BP: 0+00.00

PI: 1+60.06

PI: 3+38.38

EP: 4+39.19

0+00 1+00 2+00 3+00 4+00 4+39

CUT CROSS IN CURB
EL=983.21

BERNTSEN
MON W/PK
EL=984.68

SAWING CURB HEAD

PROPERTY LINE

CUT CROSS IN CURB
EL=986.17

EXISTING BUS SHELTER AND BIKE RACK
TO BE REMOVED AND SALVAGED.
(SEE SPECIAL PROVISIONS)

TRASH CANS TO BE REMOVED
STORED, AND REPLACED BY
OTHERS.

LEGEND

XXX	SAWING ASPHALT
YYY	SAWING CONCRETE
	REMOVING PAVEMENT
	EXCAVATION COMMON
	REMOVING CONCRETE SIDEWALK
	MILL & RELAY
X	TREE OR SHRUB REMOVAL: CLEARING, GRUBBING

PROJECT NO:2707-03-71	HWY:USH 45 P&R LOT 66-55	COUNTY:WASHINGTON	REMOVAL PLAN	SHEET 18	E

FILE NAME : N:\PDS\C3D\CAD\27070301\021150_RM.DWG PLOT DATE : 4/15/2014 11:54 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

PARADISE
THEATER
PARKING LOT

WEST BEND TIRE

BP: 0+00.00

N

ASPHALTIC FLUMES

CUT CROSS IN CURB
EL=983.21

ASPHALTIC
SURFACE

ADJUST MANHOLE
(CITY OF WEST BEND
SANITARY)

R/L NORTH EP

SPECIAL SAWING
CONCRETE CURB

STA. 0+89.17, 66.0' LT

STA. 3+67.88, 67.1' LT

SI

CONCRETE SURFACE DRAINS

PROPERTY
LINE

BP: 0+00.00

PI: 1+60.06

PI: 3+38.38

EP: 4+39.19

0+00 1+00 2+00 3+00 4+00 4+39

SEE CONSTRUCTION
DETAIL FOR DRIVEWAY
AND BIKE RACK AREA

BERNTSEN
MON W/PK
EL=984.68

R/L

CONCRETE SURFACE DRAINS

EXISTING 12" RCCP
TO REMAIN

PARKWAY DR.

CONCRETE SURFACE
DRAINS

SEE CONSTRUCTION
DETAIL FOR BUS STOP
ISLAND

SI

CONCRETE CURB & GUTTER
4-INCH SLOPED 36-INCH TYPE A

CONCRETE CURB & GUTTER
4-INCH SLOPED 36-INCH TYPE D

PIPE UNDERDRAIN
4-INCH

CUT CROSS IN CURB
EL=986.17

EP: 3+40.22

LEGEND

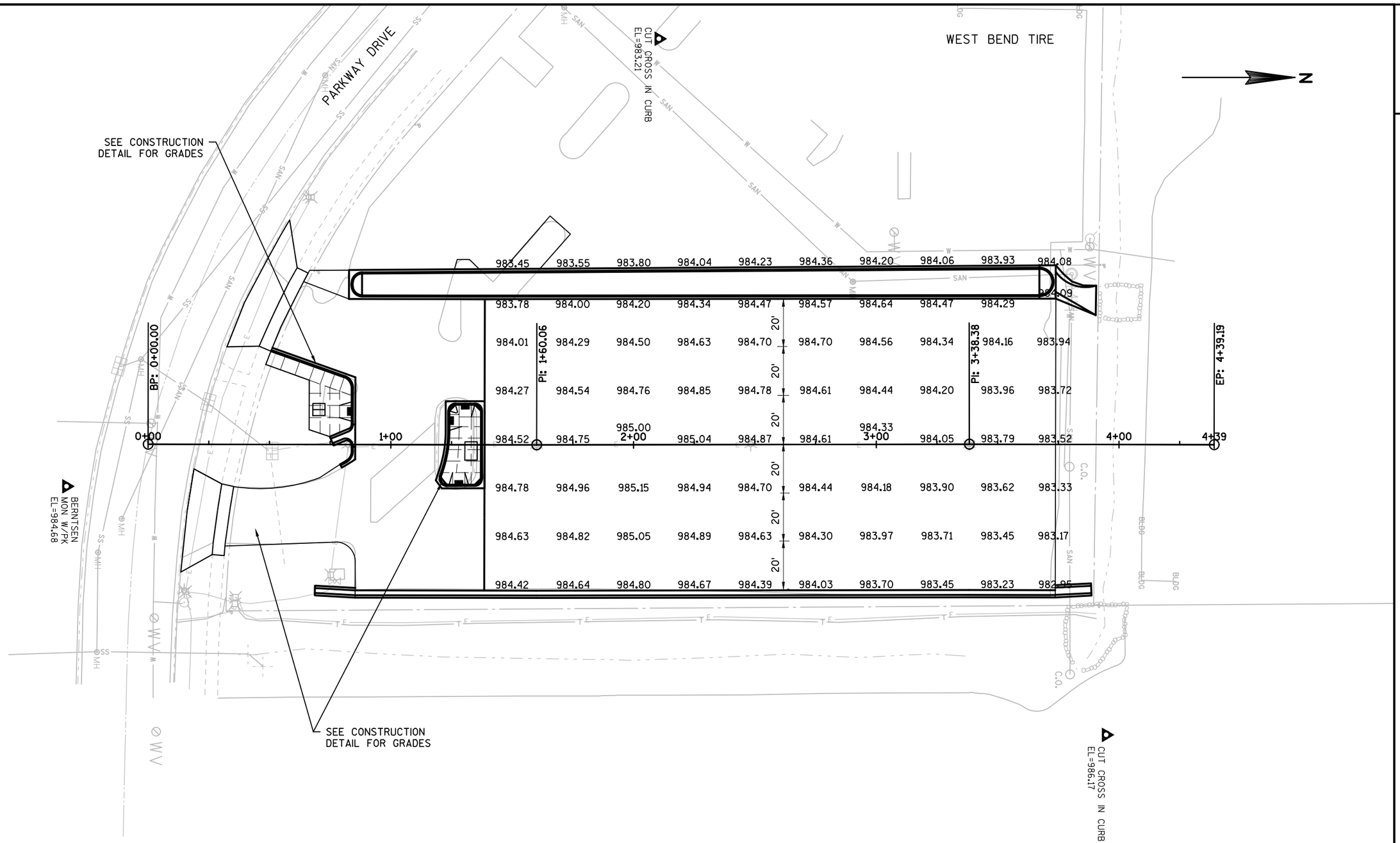
- CONCRETE PAVEMENT 8-INCH
- HMA PAVEMENT TYPE E-1
- (A) CONCRETE CURB & GUTTER 18-INCH TYPE A
- (B) CONCRETE CURB & GUTTER 18-INCH TYPE D
- (C) CONCRETE 4-INCH CURB & GUTTER, 18-INCH
- (D) CONCRETE SIDEWALK 5-INCH
- (E) CONCRETE DRIVEWAY 8-INCH
- (F) CONCRETE MEDIAN SLOPED NOSE

PROJECT NO:2707-03-71	HWY:USH 45 P&R LOT 66-55	COUNTY:WASHINGTON	PLAN DETAIL	SHEET 19	E

FILE NAME : N:\PDS\C3D\CAD\27070301\021201_PD.DWG PLOT DATE : 4/17/2014 3:35 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2



PROJECT NO:2707-03-71	HWY:USH 45 P&R LOT 66-55	COUNTY:WASHINGTON	GRADES	SHEET 20	E

2

EXISTING WETLANDS

INLET PROTECTION TYPE D

INLET PROTECTION TYPE C

PARADISE THEATER PARKING LOT

PARKWAY DRIVE

CUT CROSS IN CURB EL=983.21

WEST BEND TIRE

N

BP: 0+00.00

0+00

PLACE PLATE OVER SANITARY MANHOLE TO PREVENT ENTRY OF SOILS OR MATERIALS IF COVER CANNOT BE INSTALLED IMMEDIATELY AFTER ADJUSTMENT.

SHELL SOUTH AND PARADISE AUTO WASH

INLET PROTECTION TYPE A (AT PROPOSED INLET)

ROCK BAGS

SSPRC CLASS III 12-INCH

PROPERTY LINE

SI

LANDSCAPED AREA/DRAINAGE SWALE

BP: 0+00.00

ROCK BAGS

INLET PROTECTION TYPE D

0+00

1+00

PI: 1+60.06

2+00

3+00

PI: 3+38.38

RIPRAP LIGHT

DRAINAGE SWALE

4+00

4+39

EP: 4+39.19

R/L

PROPERTY LINE

2+00

INLET PROTECTION TYPE A

BERNTSEN MON W/PK EL=984.68

DRAINAGE SWALE

CULVERT PIPE DITCH CHECK

SILT FENCE

SI

PROPERTY LINE

DRAINAGE SWALE/MENARDS

ROCK BAGS

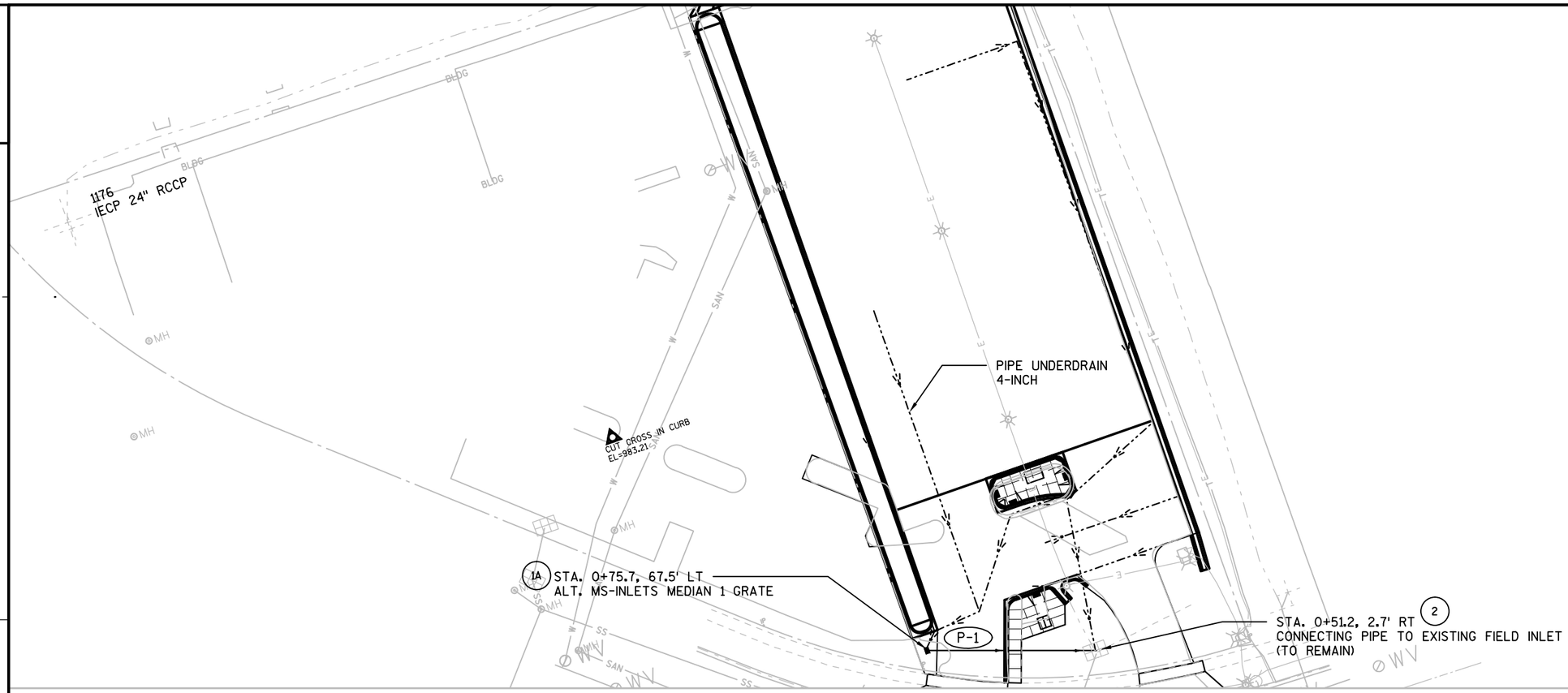
LIGHT RIPRAP

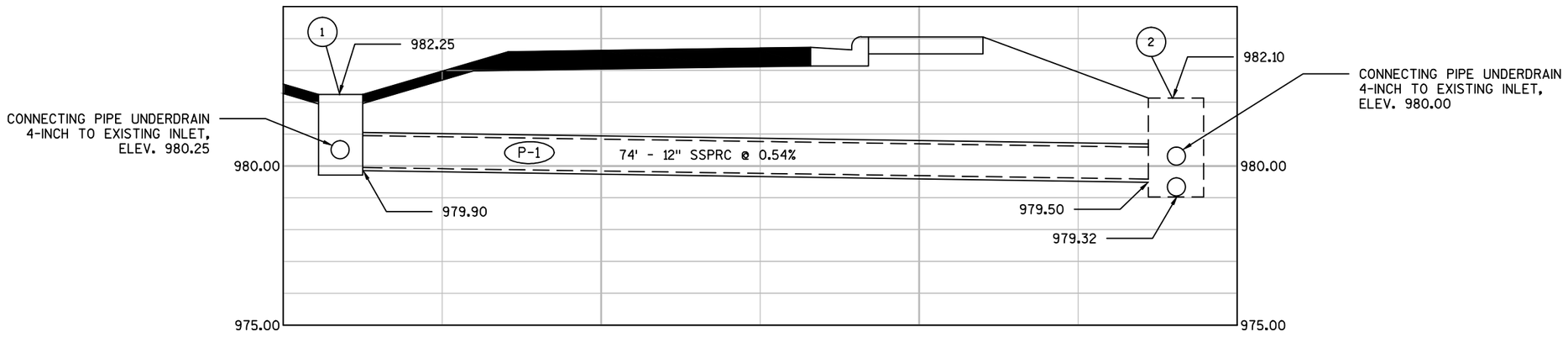
MENARDS

PROJECT NO:2707-03-01	HWY:USH 45 P&R LOT 66-55	COUNTY:WASHINGTON	EROSION CONTROL	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\27070301\022001_EC.DWG PLOT DATE : 3/26/2014 10:53 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

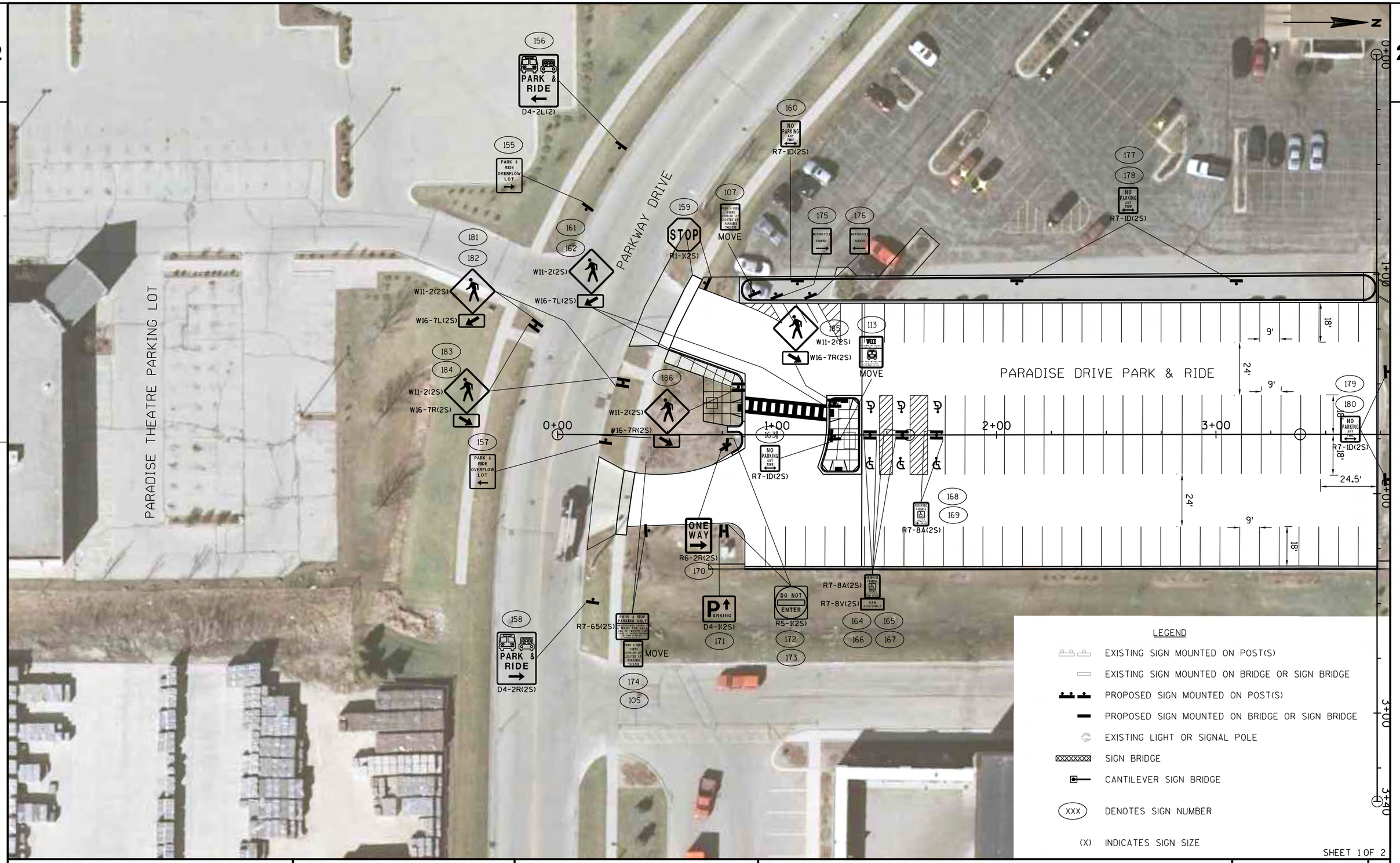




PROJECT NO:2707-07-71	HWY:USH 45 P&R LOT 66-55	COUNTY:WASHINGTON	STORM SEWER	SHEET 22	E

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	PERMANENT SIGNING - REMOVALS	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\27070301\023201_ps.dgn PLOT DATE : 26-MAR-2014 08:42 PLOT BY : MSCKVW PLOT NAME : PLOT SCALE : 40:1

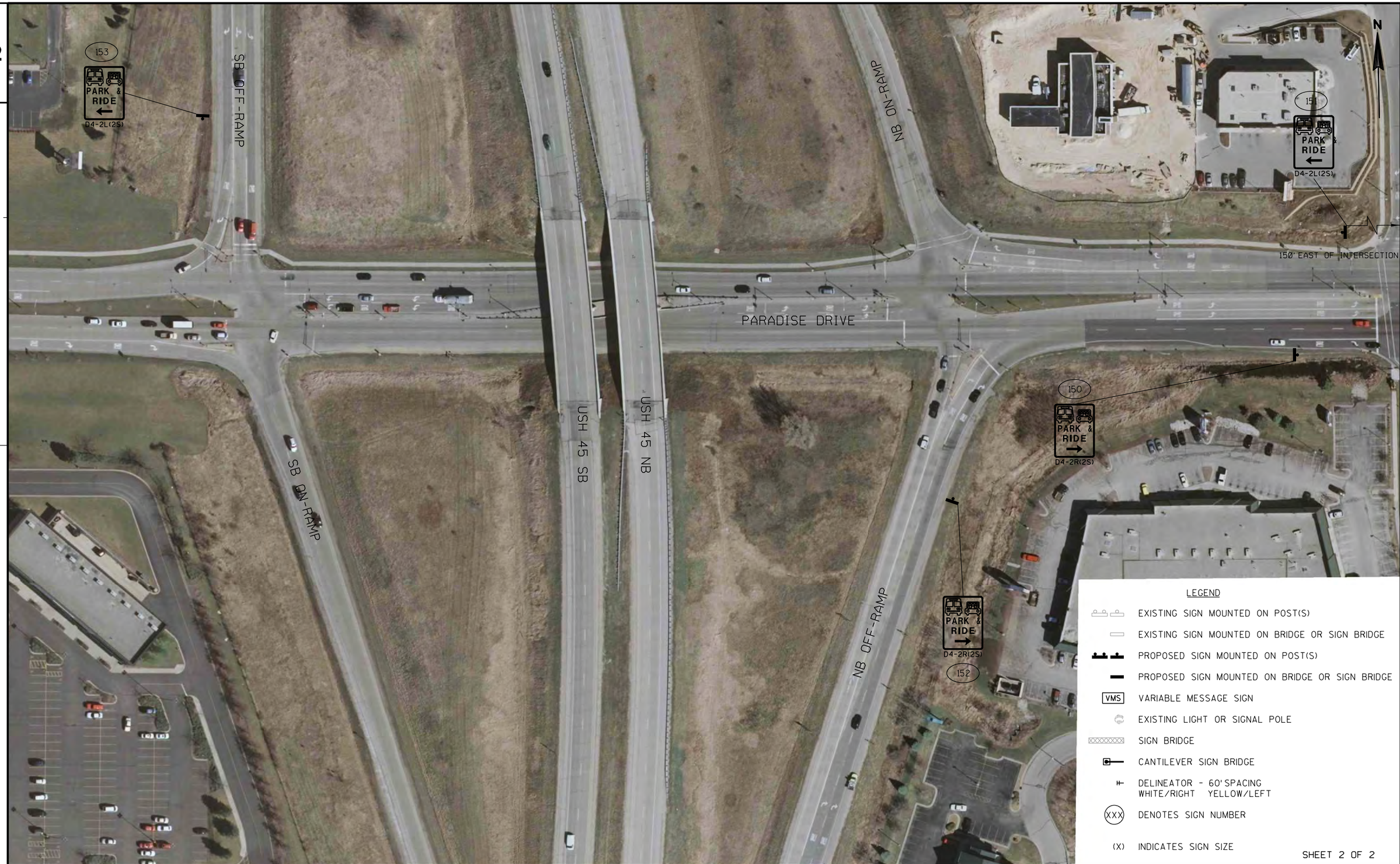


LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

SHEET 1 OF 2

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	PERMANENT SIGNING - PROPOSED	SHEET	E



SHEET 2 OF 2

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASINGTON	PERMANENT SIGNING - PROPOSED	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\27070301\023203_ps.dgn PLOT DATE : 26-MAR-2014 08:42 PLOT BY : MSCKVW PLOT NAME : PLOT SCALE : 100:1

2

N

DMV Service Center
NEXT RIGHT
TYPE I SIGN
ESTR

302
Park & Ride
EXIT 68
D4-3
INSTALL TYPE I SIGN
ON STEEL POSTS

EXIT 68
Paradise Dr ↗
ESTR

800'

W DECORAH RD

18TH AVE

USH 45

PARADISE DR

CTH NN

800'

USH 45

DMV Service Center
NEXT RIGHT
TYPE I SIGN
ESTR

Park & Ride
EXIT 68
301
D4-3
INSTALL TYPE I SIGN
ON STEEL POSTS

EXIT 68
Paradise Dr ↗
ESTR

PARK & RIDE LOT

2

SHEET 1 OF 1

PROJECT NO: 2707-03-71	HWY: USH 45	COUNTY: WASHINGTON	PERMANENT SIGNING - TYPE I SIGNS	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\27070301\023204_ps.dgn PLOT DATE : 26-MAR-2014 08:42 PLOT BY : MSCKVW PLOT NAME : PLOT SCALE : 800:1

2

N

PARKWAY DR

0+80, CL
APD1
REMOVE LUMINAIRE ONLY

1+60, CL
BPD2
REMOVE LUMINAIRE ONLY

2+50, CL
APD3
REMOVE LUMINAIRE ONLY

3+40, CL
BPD4
REMOVE LUMINAIRE ONLY

0+00 1+00 2+00 3+00 4+00 4+39

4 #10 AWG

4 #10 AWG

4 #10 AWG

4 #8 AWG

BPD1
REMOVE LUMINAIRE ONLY

APD2
REMOVE LUMINAIRE ONLY

BPD3
REMOVE LUMINAIRE ONLY

APD4
REMOVE LUMINAIRE ONLY

HL-66-PD
STA. 0+75, 50' RT

1+00

2+00

3+00

C.O.

C.O.

C.O.

LEGEND

⊠	DISTRIBUTION CENTER
- - - -	CONDUIT - 2" UNLESS OTHERWISE SHOWN
⊸	LIGHT POLE, ARM MOUNTED LUMINAIRE
⇒	CONDUIT STUBOUT
ⓟ	PULLBOX 24" x 42"
◐	PULLBOX 24" x 36"
CL	CENTER LINE

BOLDED REPRESENTS ITEMS TO BE REMOVED

SHEET 1 OF 1

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 2/14 DATE

PROJECT NO: 2707-03-71	HWY: USH 45	COUNTY: WASHINGTON	LIGHTING REMOVAL PLAN	SHEET 27	E

2

N

PARKWAY DR

0+00

1+00

2+00

3+00

4+00

4+39

0+80, CL
LED-C-5-6-APD1

1+60, CL
LED-C-5-6-BPD2

2+50, CL
LED-C-5-6-APD3

3+40, CL
LED-C-5-6-BPD4

LED-C-5-6-BPD1

4 #10 AWG

LED-C-5-6-APD2

4 #10 AWG

LED-C-5-6-BPD3

4 #10 AWG

4 #8 AWG

HL-66-PD
STA. 0+75, 50' RT

LED-C-5-6-APD4

C.C.

2+00

3+00

3+40

LEGEND

⊠	DISTRIBUTION CENTER
- - - -	CONDUIT - 2" UNLESS OTHERWISE SHOWN
●—	LIGHT POLE, ARM MOUNTED LUMINAIRE
⇉	CONDUIT STUBOUT
ⓟ	PULLBOX 24" x 42"
◐	PULLBOX 24" x 36"
CL	CENTER LINE

NOTE: INSTALL NEW LUMINAIRES ON EXISTING POLES.

STATION — OFFSET

100+00.00, (100.00RT)

LED C A(T) 4 ANSI

- CIRCUIT, SOURCE, POLE #
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 2/14 DATE

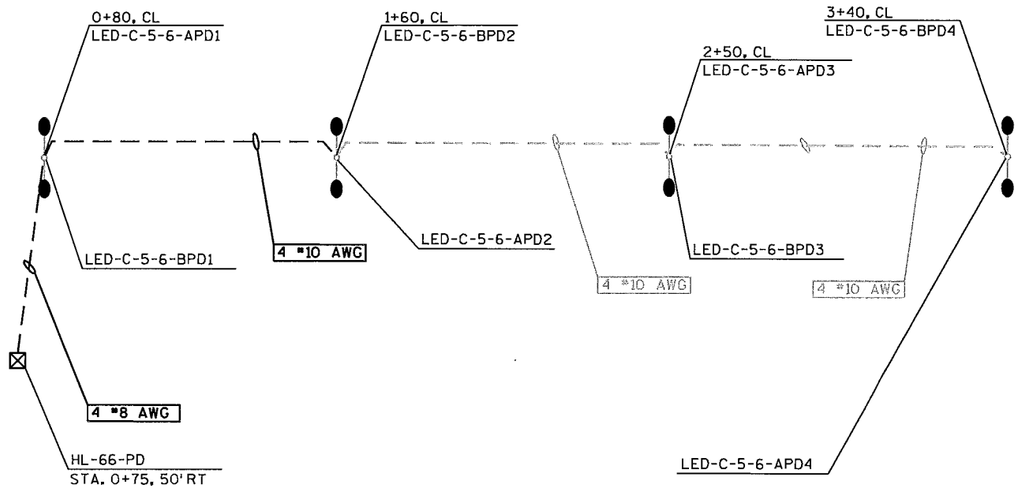
SHEET 1 OF 2

PROJECT NO: 2707-03-71	HWY: USH 45	COUNTY: WASHINGTON	LIGHTING PLAN	SHEET 28 E

N

2

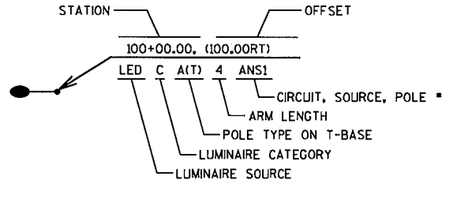
PARKWAY DR



PARKWAY DR

LEGEND

- ⊠ DISTRIBUTION CENTER
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- CL CENTER LINE

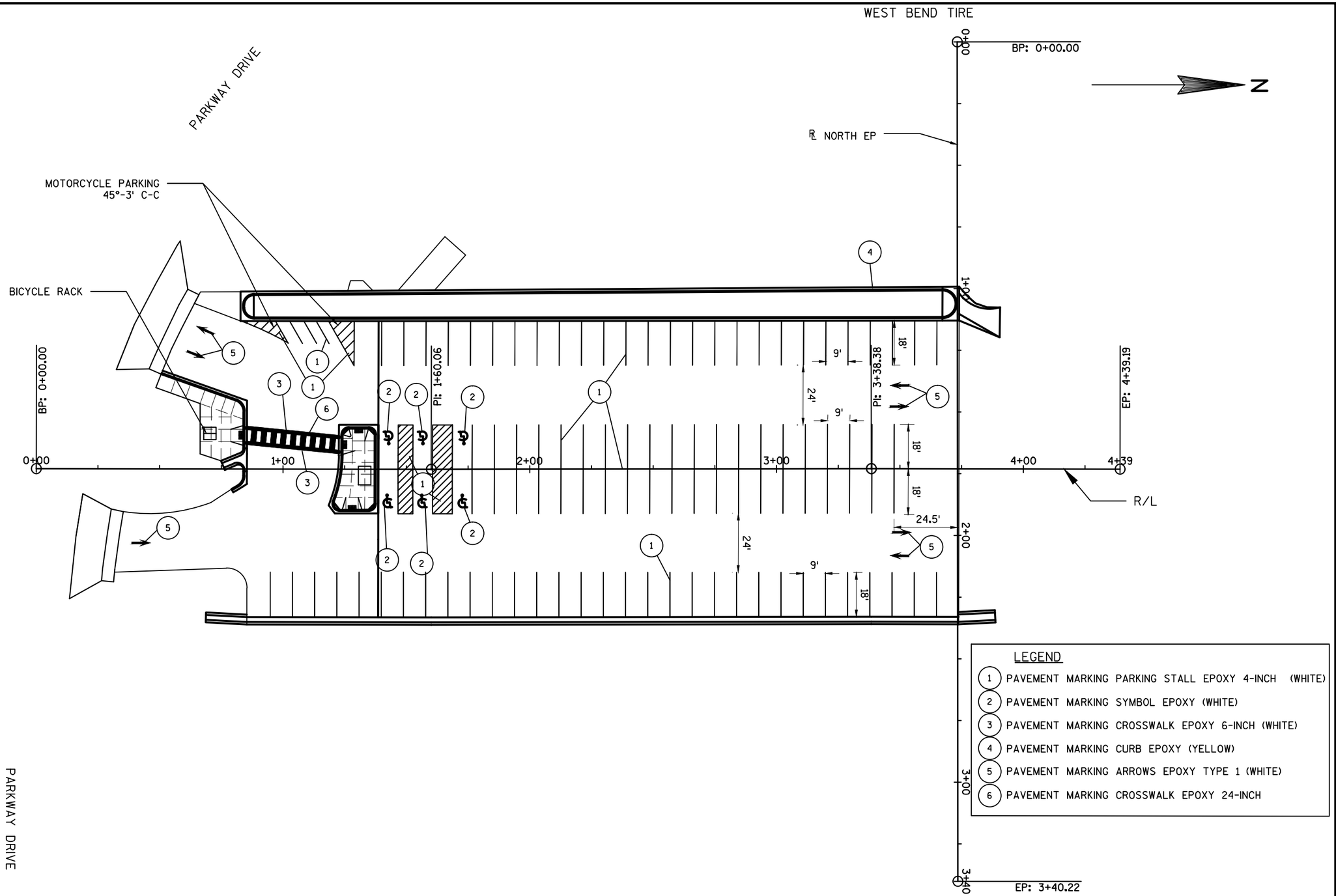


LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 2/14 DATE

SHEET 2 OF 2

PROJECT NO: 2707-03-71	HWY: USH 45	COUNTY: WASHINGTON	LIGHTING PLAN - SCHEMATIC	SHEET 29 E

PARADISE THEATER
PARKING LOT



LEGEND

1. PAVEMENT MARKING PARKING STALL EPOXY 4-INCH (WHITE)
2. PAVEMENT MARKING SYMBOL EPOXY (WHITE)
3. PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE)
4. PAVEMENT MARKING CURB EPOXY (YELLOW)
5. PAVEMENT MARKING ARROWS EPOXY TYPE 1 (WHITE)
6. PAVEMENT MARKING CROSSWALK EPOXY 24-INCH

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	PAVEMENT MARKING	SHEET 30	E

2

PROJECT NO: 2707-03-71	HWY: USH 45	COUNTY: WASHINGTON	TRAFFIC CONTROL	SHEET	E

FILE NAME : N:\PDS\C3D\CAD\27070301\025001_TC.DWG PLOT DATE : 2/4/2014 3:44 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:100 FT

FIXED MESSAGE SIGNS (DETAILS SHEETS)

GENERAL NOTES:

1. ALL SIGNS TO HAVE FLUORESCENT REFLECTIVE SHEETING - REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.

2. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.

3. ALL SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4"x6"). THE NUMBER OF POSTS REQUIRED FOR EACH LAYOUT IS SHOWN.

4. SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS."

5. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE FLUORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637.
6. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
   12" CAPS SHALL BE SERIES "D"
   6" CAPS SHALL BE SERIES "C"

7. BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.

8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

9. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643 & 637.

10. SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

(X) = SIGN NUMBER

FOR PLAN SHEETS

LEGEND: FIXED MESSAGE SIGNS

⊤	EXISTING GUIDE SIGN TO BE COVERED
▬	FIXED MESSAGE SIGN(S) ON WOOD POST SUPPORTS
(XX)	FIXED MESSAGE SIGN NUMBER
(A1)	CONTRACTOR SHALL COVER AS DIRECTED BY THE ENGINEER ALL ROUTE MARKINGS PERTAINING TO THE PROJECT. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.
CMS	CHANGEABLE MESSAGE SIGN

NOTES: FIXED MESSAGE SIGNS

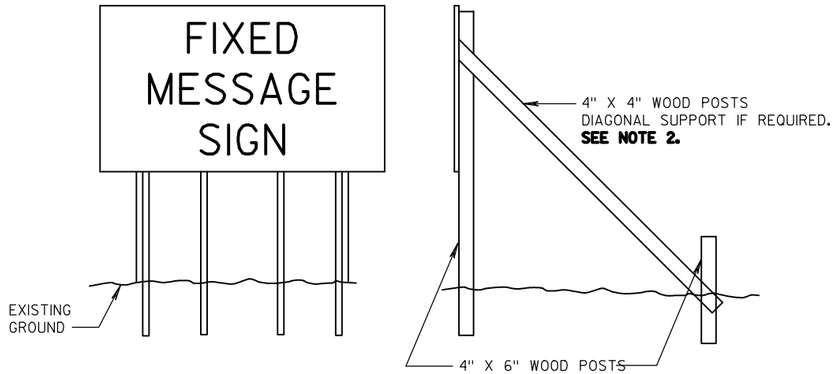
1. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.

2. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.

3. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.

4. COVER DETOUR SIGNING WHEN NOT IN USE. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.

5. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.



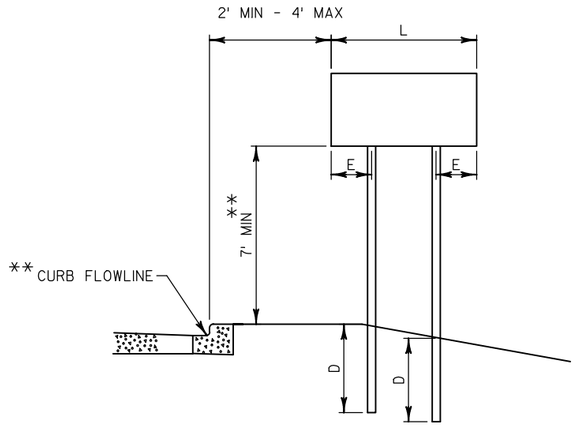
FRONT VIEW SIDE VIEW

NOTES

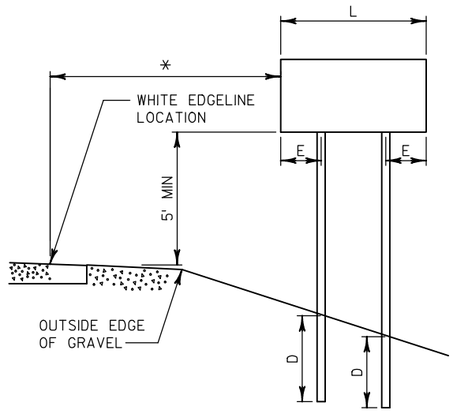
1. SEE TRAFFIC CONTROL SHEETS FOR SIGN LOCATIONS.
2. TWO DIAGONAL SUPPORTS TO BE INCLUDED FOR EACH SIGN OVER 12' LONG AND HIGHER THAN 8'. DIAGONAL SUPPORTS TO BE AFFIXED TO THE OUTSIDE SUPPORTS AND TO BE INCIDENTAL TO THE "TRAFFIC CONTROL FIXED MESSAGE SIGN" ITEM. IF DIAGONAL SUPPORTS ARE USED, SIGN TO BE SHIELDED BEHIND CONCRETE BARRIER OR PLACED OUTSIDE THE CLEAR ZONE.
3. SEE TABLES BELOW FOR REQUIRED NUMBER OF POSTS.

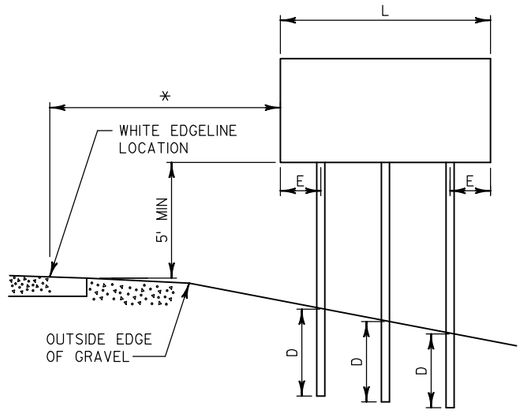
* 6' FROM EDGE OF A PAVED SHOULDER OR 12' FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) OR 2' FROM OUTSIDE EDGE OF GRAVEL, WHICHEVER IS GREATER UNLESS DIRECTED BY PROJECT ENGINEER. SEE NOTE 2 FOR OFFSET REQUIREMENTS WHERE DIAGONAL SUPPORTS ARE USED.

** 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. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5' MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.



URBAN AREA





RURAL AREA

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
GREATER THAN 48" LESS THAN 60"	12"
60" TO 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
GREATER THAN 120" LESS THAN 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" AND GREATER	12"

POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

NOTE TO DESIGNERS: SHOW POSTS ON FMS SIGN DETAILS.

POST MOUNTING DETAIL FOR TRAFFIC CONTROL FIXED MESSAGE SIGNS

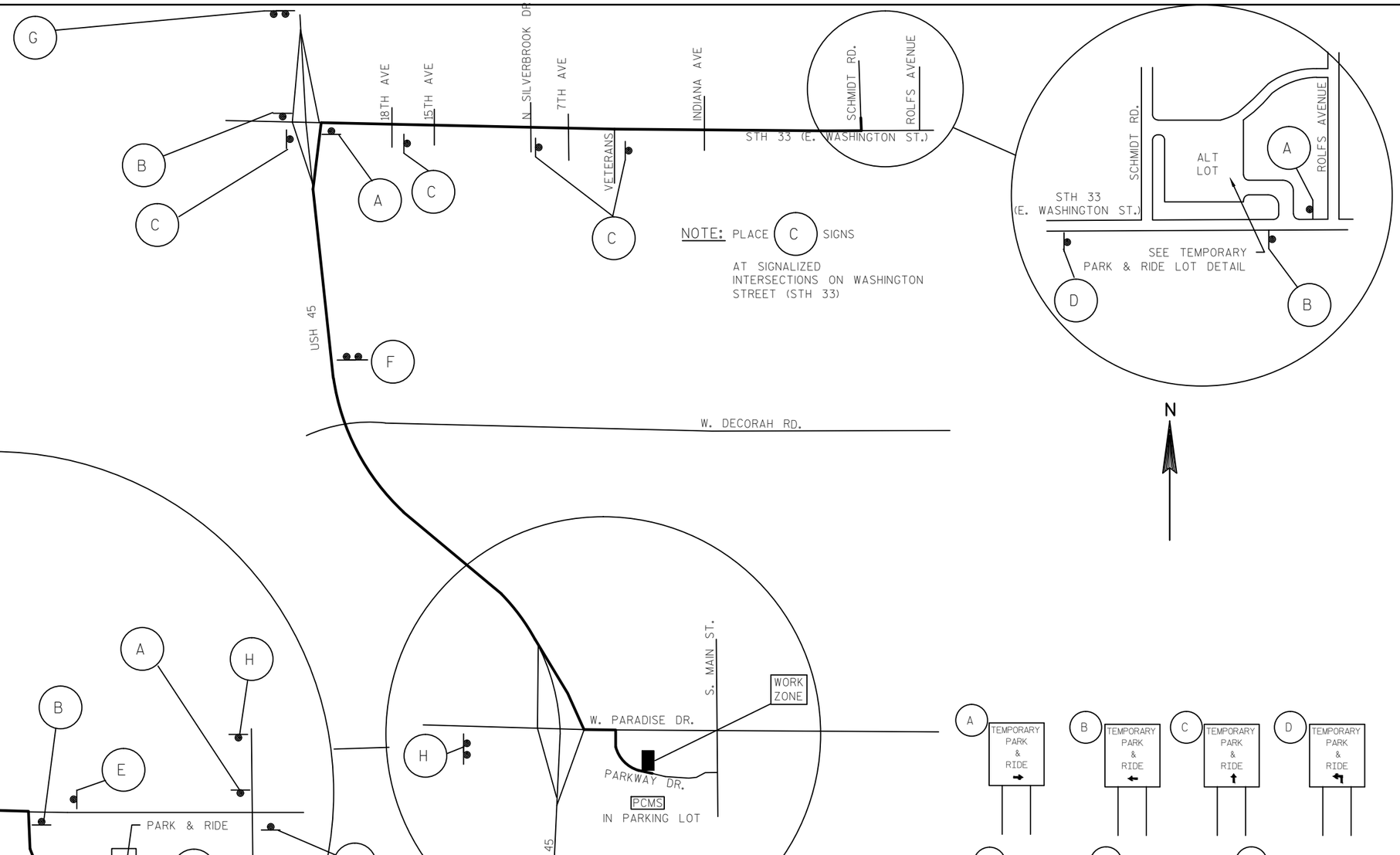
PCMS

PHASE 1

LOT TO CLOSE
XXXX XX
(MONTH) (DAY)

PHASE 2

TEMP LOT FOLLOW DETOUR



A — TEMPORARY PARK & RIDE →

B — TEMPORARY PARK & RIDE ←

C — TEMPORARY PARK & RIDE ↑

D — TEMPORARY PARK & RIDE ↰

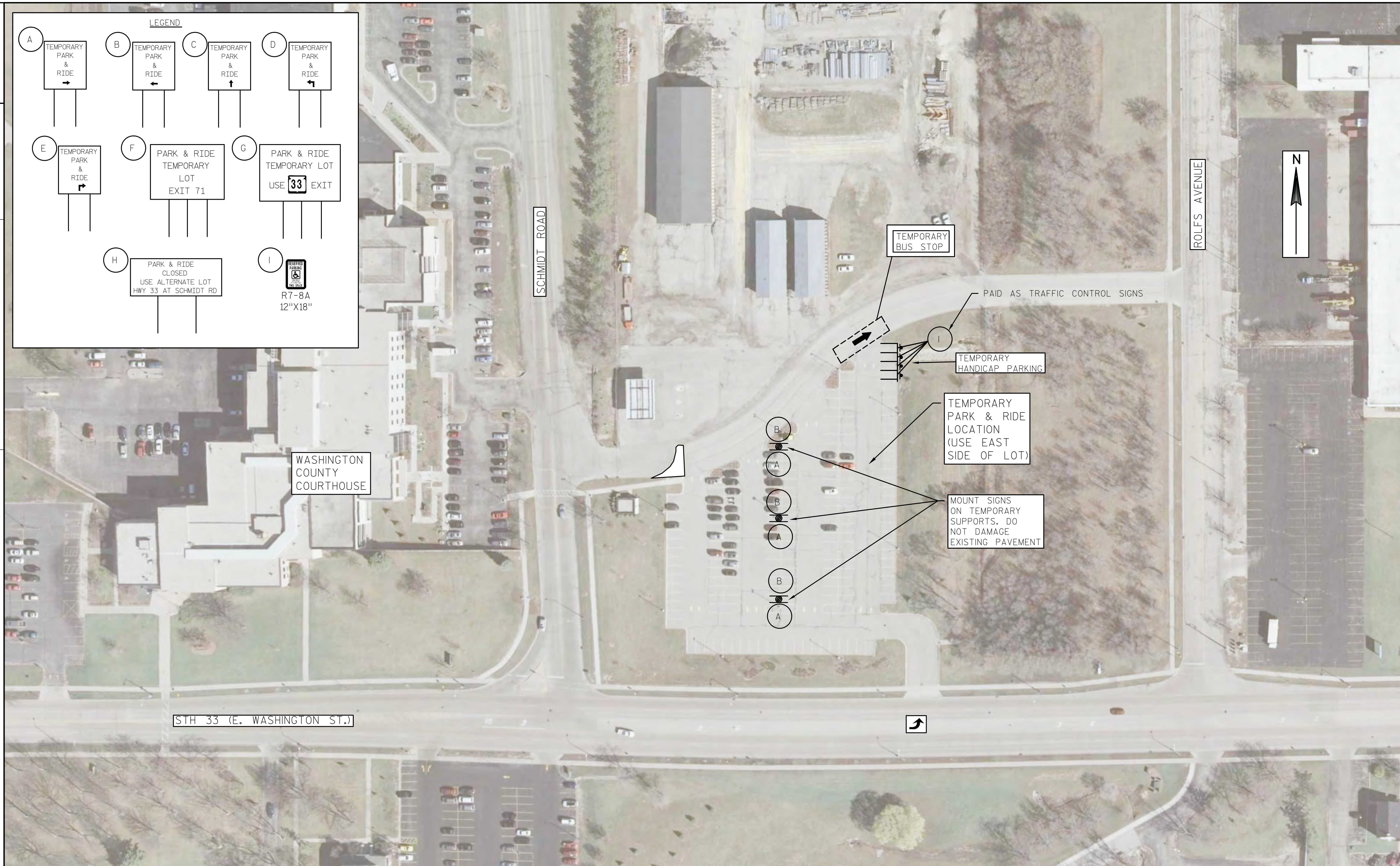
E — TEMPORARY PARK & RIDE ↱

F — PARK & RIDE TEMPORARY LOT EXIT 71

G — PARK & RIDE TEMPORARY LOT USE 33 EXIT

H — PARK & RIDE CLOSED USE ALTERNATE LOT HWY 33 AT SCHMIDT RD

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	DETOUR	SHEET 34	E


LEGEND
A
TEMPORARY PARK & RIDE
B
TEMPORARY PARK & RIDE
C
TEMPORARY PARK & RIDE
D
TEMPORARY PARK & RIDE
E
TEMPORARY PARK & RIDE
F
PARK & RIDE TEMPORARY LOT EXIT 71
G
PARK & RIDE TEMPORARY LOT USE 33 EXIT
H
PARK & RIDE CLOSED USE ALTERNATE LOT HWY 33 AT SCHMIDT RD
I
R7-8A 12"X18"
SCHMIDT ROAD
ROLFS AVENUE
N
TEMPORARY BUS STOP
PAID AS TRAFFIC CONTROL SIGNS
TEMPORARY HANDICAP PARKING
TEMPORARY PARK & RIDE LOCATION (USE EAST SIDE OF LOT)
MOUNT SIGNS ON TEMPORARY SUPPORTS. DO NOT DAMAGE EXISTING PAVEMENT
WASHINGTON COUNTY COURTHOUSE
STH 33 (E. WASHINGTON ST.)

PROJECT NO: 2707-03-71	HWY: USH 45 P&R LOT 66-55	COUNTY: WASHINGTON	TEMPORARY P&R LOT DETAIL (STH 33 & SCHMIDT RD)	SHEET 35	E

FILE NAME : N:\PDS\C3D\CAD\27070301\027002_DT.DWG PLOT DATE : 3/27/2014 1:01 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N=174535.542
E=361312.322
BP: 0+00.00

N

END PROJECT ID: 2707-03-71
STA. 3+90.64

CUT CROSS IN CURB
EL=983.21
N=174372.360
E=361319.302

BP: 0+00.00
N=174162.214
E=361486.734

PI: 1+60.06
N=174322.273
E=361486.734

PI: 3+38.38
N=174500.590
E=361486.160

EP: 4+39.19
N=174601.404
E=361486.160

N89° 51' 41.46"E

90°8'19"

R/L

N0° 00' 00.00"E

N0° 11' 03.64"W

N0° 00' 00.00"E

R/L STA. 3+73.75 =
R/L NORTH EP STA. 1+73.84

BERNTSEN
MON W/PK
EL=984.38
N=174128.627
E=361504.079

BEGIN PROJECT ID: 2707-03-71
STA. 0+40.88

R/L NORTH EP

CUT CROSS IN CURB
EL=986.17
N=174557.136
E=361605.756

N=174536.364
E=361652.538
EP: 3+40.22

PROJECT NO:2707-03-71	HWY:USH 45 P&R LOT 66-55	COUNTY:WASHINGTON	ALIGNMENT	SHEET 36	E

DATE 24APR14 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	2707-03-71 QUANTITY
0010	201.0105	CLEARING	STA	4.000	4.000
0020	201.0205	GRUBBING	STA	4.000	4.000
0030	204.0100	REMOVING PAVEMENT	SY	176.000	176.000
0040	204.0150	REMOVING CURB & GUTTER	LF	265.000	265.000
0050	204.0155	REMOVING CONCRETE SIDEWALK	SY	62.000	62.000
0060	205.0100	EXCAVATION COMMON **P**	CY	722.000	722.000
0070	213.0100	FINISHING ROADWAY (PROJECT) 01. 2707-03-71	EACH	1.000	1.000
0080	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	1,107.000	1,107.000
0090	310.0110	BASE AGGREGATE OPEN GRADED	TON	195.000	195.000
0100	311.0110	BREAKER RUN	TON	300.000	300.000
0110	330.0100	MILL AND RELAY	SY	3,139.000	3,139.000
0120	415.0080	CONCRETE PAVEMENT 8-INCH 01. DOWELLED	SY	247.000	247.000
0130	415.0080	CONCRETE PAVEMENT 8-INCH 02. NON-DOWELLED	SY	647.000	647.000
0140	416.0180	CONCRETE DRIVEWAY 8-INCH	SY	153.000	153.000
0150	416.0610	DRILLED TIE BARS	EACH	30.000	30.000
0160	416.1010	CONCRETE SURFACE DRAINS	CY	9.000	9.000
0170	455.0105	ASPHALTIC MATERIAL PG58-28	TON	43.000	43.000
0180	455.0605	TACK COAT	GAL	79.000	79.000
0190	460.1101	HMA PAVEMENT TYPE E-1	TON	705.000	705.000
0200	465.0105	ASPHALTIC SURFACE	TON	61.000	61.000
0210	465.0315	ASPHALTIC FLUMES	SY	17.000	17.000
0220	601.0405	CONCRETE CURB & GUTTER 18-INCH TYPE A	LF	57.000	57.000
0230	601.0407	CONCRETE CURB & GUTTER 18-INCH TYPE D	LF	556.000	556.000
0240	601.0551	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE A	LF	53.000	53.000
0250	601.0553	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D	LF	236.000	236.000
0260	602.0410	CONCRETE SIDEWALK 5-INCH	SF	1,010.000	1,010.000
0270	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	32.000	32.000
0280	606.0100	RIPRAP LIGHT	CY	2.000	2.000
0290	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	74.000	74.000
0300	611.0642	INLET COVERS TYPE MS	EACH	1.000	1.000
0310	611.3901	INLETS MEDIAN 1 GRATE	EACH	1.000	1.000
0320	612.0104	PIPE UNDERDRAIN 4-INCH	LF	1,000.000	1,000.000
0330	619.1000	MOBILIZATION	EACH	1.000	1.000
0340	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	53.000	53.000
0350	625.0100	TOPSOIL	SY	557.000	557.000
0360	628.1504	SILT FENCE	LF	350.000	350.000
0370	628.1520	SILT FENCE MAINTENANCE	LF	150.000	150.000
0380	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0390	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0400	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	557.000	557.000
0410	628.7005	INLET PROTECTION TYPE A	EACH	2.000	2.000
0420	628.7015	INLET PROTECTION TYPE C	EACH	1.000	1.000
0430	628.7020	INLET PROTECTION TYPE D	EACH	4.000	4.000
0440	628.7570	ROCK BAGS	EACH	245.000	245.000
0450	629.0210	FERTILIZER TYPE B	CWT	35.000	35.000
0460	630.0130	SEEDING MIXTURE NO. 30	LB	10.000	10.000
0470	630.0200	SEEDING TEMPORARY	LB	5.000	5.000
0480	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	18.000	18.000
0490	634.0816	POSTS TUBULAR STEEL 2X2-INCH X 16-FT	EACH	12.000	12.000

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DATE 24APR14 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	2707-03-71 QUANTITY
0500	635.0200	SIGN SUPPORTS STRUCTURAL STEEL HS	LB	1,200.000	1,200.000
0510	636.0100	SIGN SUPPORTS CONCRETE MASONRY **P**	CY	2.400	2.400
0520	636.0500	SIGN SUPPORTS STEEL REINFORCEMENT	LB	136.000	136.000
0530	637.1220	SIGNS TYPE I REFLECTIVE SH **P**	SF	180.000	180.000
0540	637.2210	SIGNS TYPE II REFLECTIVE H	SF	141.180	141.180
0550	637.2230	SIGNS TYPE II REFLECTIVE F	SF	66.000	66.000
0560	638.2102	MOVING SIGNS TYPE II	EACH	3.000	3.000
0570	638.2602	REMOVING SIGNS TYPE II	EACH	15.000	15.000
0580	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	13.000	13.000
0590	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0600	643.0300	TRAFFIC CONTROL DRUMS	DAY	1,200.000	1,200.000
0610	643.0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	150.000	150.000
0620	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	360.000	360.000
0630	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	720.000	720.000
0640	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	340.000	340.000
0650	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	8.000	8.000
0660	643.0900	TRAFFIC CONTROL SIGNS	DAY	904.000	904.000
0670	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	2.000	2.000
0680	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	824.000	824.000
0690	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	20.000	20.000
0700	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 2707-03-71	EACH	1.000	1.000
0710	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	6.000	6.000
0720	647.0156	PAVEMENT MARKING ARROWS EPOXY TYPE 1	EACH	7.000	7.000
0730	647.0256	PAVEMENT MARKING SYMBOLS EPOXY	EACH	6.000	6.000
0740	647.0456	PAVEMENT MARKING CURB EPOXY	LF	292.000	292.000
0750	647.0656	PAVEMENT MARKING PARKING STALL EPOXY	LF	2,584.000	2,584.000
0760	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	76.000	76.000
0770	647.0796	PAVEMENT MARKING CROSSWALK EPOXY 24-INCH	LF	54.000	54.000
0780	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	2.000	2.000
0790	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	1,079.000	1,079.000
0800	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	400.000	400.000
0810	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 2707-03-71	LS	1.000	1.000
0820	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	125.000	125.000
0830	655.0615	ELECTRICAL WIRE LIGHTING 10 AWG	LF	340.000	340.000
0840	655.0620	ELECTRICAL WIRE LIGHTING 8 AWG	LF	240.000	240.000
0850	659.1125	LUMINAIRES UTILITY LED C	EACH	8.000	8.000
0860	690.0150	SAWING ASPHALT	LF	340.000	340.000
0870	690.0250	SAWING CONCRETE	LF	134.000	134.000
0880	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	894.000	894.000
0890	SPV.0045	SPECIAL 01. TEMPORARY SIDEWALK	DAY	80.000	80.000
0900	SPV.0060	SPECIAL 01. ADJUSTING SANITARY SEWER MANHOLE COVERS	EACH	1.000	1.000
0910	SPV.0060	SPECIAL 02. INTERNAL/EXTERNAL SANITARY MANHOLE SEALS	EACH	1.000	1.000
0920	SPV.0060	SPECIAL 03. CONNECTING PIPE UNDERDRAIN 4-INCH TO EXISTING INLET	EACH	2.000	2.000
0930	SPV.0060	SPECIAL 04. CONSTRUCTION STAKING CURB RAMP LAYOUT	EACH	4.000	4.000
0940	SPV.0060	SPECIAL 05. REMOVING LUMINAIRES	EACH	8.000	8.000

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DATE 24APR14 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	2707-03-71 QUANTITY
0950	SPV.0060	SPECIAL 06. LAMP DISPOSAL HIGH INTENSITY DISCHARGE	EACH	8.000	8.000
0960	SPV.0090	SPECIAL 01. SAWING CURB HEAD	LF	29.000	29.000
0970	SPV.0090	SPECIAL 02. CONCRETE CURB & GUTTER 18-INCH	LF	177.000	177.000
0980	SPV.0090	SPECIAL 03. REMOVING ELECTRICAL WIRES FROM CONDUIT	LF	135.000	135.000
0990	SPV.0090	SPECIAL 04. FENCE SAFETY MODIFIED	LF	350.000	350.000
1000	SPV.0105	SPECIAL 01. SALVAGING BUS SHELTER	LS	1.000	1.000
1010	SPV.0105	SPECIAL 02. SALVAGING BICYCLE RACK	LS	1.000	1.000
1020	SPV.0105	SPECIAL 03. LIGHTING SYSTEM SURVEY	LS	1.000	1.000
1030	SPV.0180	SPECIAL 01. CONSTRUCTION STAKING PARKING LOTS SUBGRADE	SY	894.000	894.000
1040	SPV.0180	SPECIAL 02. CONSTRUCTION STAKING PARKING LOTS BASE	SY	4,033.000	4,033.000
1050	SPV.0180	SPECIAL 03. CONSTRUCTION STAKING PARKING LOTS CONCRETE PAVEMENT, DRIVEWAYS & SIDEWALK	SY	1,159.000	1,159.000

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STATION	TO	STATION	LOCATION	CLEARING 201.0105 STA	GRUBBING 201.0205 STA	REMARKS
0+85	-	4+00	RT	4	4	SEE REMOVAL PLANS
			TOTAL 0010	4	4	

REMOVING CONCRETE SIDEWALK 204.0155

STATION	LOCATION	SY	REMARKS
0+30	45 RT	3	SEE REMOVAL PLANS
0+46	36' LT	4	SEE REMOVAL PLANS
0+62	68' LT	5	SEE REMOVAL PLANS
1+30	0' LT	50	SEE REMOVAL PLANS
	TOTAL 0010	62	

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REMOVING PAVEMENT 204.0100

STATION	TO	STATION	LOCATION	SY	REMARKS
		0+25	30' RT	55	EAST DRIVEWAY
		0+50	55' LT	63	WEST DRIVEWAY
0+90	-	1+18	0' LT	58	BUS PAD
			TOTAL 0010	176	

EXCAVATION COMMON 205.0100

STATION	TO	STATION	LOCATION	CY	REMARKS
0+25	-	1+38	LT & RT	372	CONCRETE PAVEMENT
		0+25	30' RT	28	EAST DRIVEWAY
		0+50	60' LT	36	WEST DRIVEWAY
0+25	-	1+38	LT & RT	47	SIDEWALK
0+80	-	3+75	LT	178	CURB & GUTTER WEST/ISLAND
0+80	-	3+75	RT	61	CURB & GUTTER EAST
			TOTAL 0010	722	

REMOVING CURB & GUTTER 204.0150

STATION	TO	STATION	LOCATION	LF	REMARKS
1+20	-	1+35	0' RT	90	BUS SHELTER ISLAND
1+20	-	1+70	70' LT	175	WEST ISLAND
			TOTAL 0010	265	

FINISHING ROADWAY (PROJECT) 213.0100

LOCATION	EACH
PROJECT LIMITS	1
TOTAL 0010	1

STATION	TO	STATION	LOCATION	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	BREAKER RUN 311.0110 TON	REMARKS
0+25	-	1+38	LT & RT	298	--	CONCRETE PAVEMENT
0+25	-	1+38	LT & RT	51	--	DRIVEWAYS
1+38	-	3+74	LT & RT	353	--	ASPHALT PAVEMENT PREP
0+82	-	3+74	LT & RT	167	--	CURB & GUTTER
0+25	-	1+38	LT & RT	41	--	SIDEWALK
0+82	-	3+72	66' LT	102	--	ASPHALT SURFACE
		UNDISTRIBUTED		95	300	
			TOTAL 0010	1107	300	

STATION	TO	STATION	LOCATION	MILL AND RELAY 330.0100 SY
1+38	-	3+74	LT & RT	3139
			TOTAL 0010	3139

STATION	TO	STATION	LOCATION	CONCRETE PAVEMENT 8-INCH (DOWELLED) 415.0080.01 SY	CONCRETE PAVEMENT 8-INCH (NON-DOWELLED) 415.0080.02 SY	INCENTIVE STRENGTH CONCRETE PAVEMENT 715.0415 DOL
0+45	-	0+85	60' LT	95	--	95
0+32	-	0+85	30' RT	152	--	152
0+85	-	1+38	LT & RT	--	647	647
			TOTAL 0010	247	647	894

STATION	LOCATION	CONCRETE SURFACE DRAINS 416.1010 CY
0+85	4' LT	1
3+80	65' LT	4
3+80	60' RT	2
0+79	60' RT	2
	TOTAL 0010	9

STATION	LOCATION	CONCRETE DRIVEWAY 8-INCH 416.0180 SY	DRILLED TIE BARS 416.0610 EACH
0+25	30' RT	66	13
0+50	60' LT	87	17
	TOTAL 0010	153	30

STATION	TO	STATION	LOCATION	ASPHALTIC MATERIAL PG58-28 455.0105 TON	TACK COAT 455.0605 GAL	HMA PAVEMENT TYPE E-1 460.1101 TON	ASPHALTIC SURFACE 465.0105 TON	REMARKS
1+38	-	3+74	LT & RT	43	79	705	--	MAINLINE
0+82	-	3+72	66' LT	--	--	--	55	CURB ISLAND
1+25	-	1+75	75' LT	--	--	--	6	WEST PARKING LOT PATCHING
			TOTAL 0010	43	79	705	61	

STATION	LOCATION	ASPHALTIC FLUMES 465.0315 SY	REMARKS
0+73	67' LT	17	AROUND INLET 1
	TOTAL 0010	17	

STATION	TO	STATION	LOCATION	CONCRETE SIDEWALK 5-INCH 602.0410 SF	CURB RAMP DETECTABLE WARNING FIELD YELLOW 602.0505 SF	REMARKS
0+48	-	0+83	20' LT	550	8	BICYCLE PAD
1+20	-	1+38	0' LT	460	24	BUS ISLAND
			TOTAL 0010	1010	32	

STATION	TO	STATION	LOCATION	CONCRETE CURB & GUTTER 18-INCH TYPE A 601.0405 LF	CONCRETE CURB & GUTTER 18-INCH TYPE D 601.0407 LF	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE A 601.0551 LF	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D 601.0553 LF	CONCRETE 4-INCH CURB AND GUTTER 18-INCH SPV.0090.02 LF	REMARKS
0+50	-	0+83	25' LT	--	--	--	--	70	BICYCLE PAD
0+81	-	1+38	60' LT	57	--	--	--	--	WEST ISLAND
1+38	-	3+74	60' LT	--	236	--	--	--	WEST ISLAND
0+85	-	1+38	60' RT	--	--	53	--	--	EAST EDGE
1+38	-	3+74	60' RT	--	--	--	236	--	EAST EDGE
0+82	-	3+74	72' LT	--	320	--	--	--	WEST ISLAND
1+20	-	1+38	0' LT	--	--	--	--	107	BUS ISLAND
			TOTAL 0010	57	556	53	236	177	

STATION	TO	STATION	LOCATION	RIPRAP LIGHT 606.0100 CY	GEOTEXTILE FABRIC TYPE HR 645.0120 SY
		0+72	1' LT	1	3
		0+67	60' RT	1	3
			TOTAL 0010	2	6

LOCATION	BASE AGGREGATE OPEN GRADED 310.0110 TON	PIPE UNDERDRAIN 4-INCH 612.0104 LF	REMARKS
WEST CURB	33	175	FLOWS TO SW INLET
WEST AISLE	26	139	"
LATERAL FROM BUS STOP ISLAND	18	86	"
	--	--	
EAST CURB	58	300	FLOWS TO MIDDLE INLET
LATERAL NEAR STA. 0+85	18	87	"
LATERAL NEAR STA. 1+03	12	62	"
LATERAL NEAR STA. 3+16	11	51	"
	--	--	
UNDISTRIBUTED	19	100	
TOTAL 0010	195	1000	

PIPE	FROM	TO	INVERT ELEVATION	DISCHARGE ELEVATION	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH 608.0312 LF	REMARKS
P-1	1	2	979.90	979.50	74	CONNECT TO EXISTING INLET 2
				TOTAL 0010	74	

STATION	LOCATION	CONNECTING PIPE UNDERDRAIN 4-INCH TO EXISTING INLET SPV.0060.03 EACH	REMARKS
0+51	2.7' RT	1	CONNECT TO (EXISTING) INLET 2
0+76	67' LT	1	CONNECT TO INLET 1
	TOTAL 0010	2	

STUCTURE	STATION	LOCATION	GRATE ELEVATION	DEPTH (FT)	INLET COVERS TYPE MS 611.0642 EACH	INLETS MEDIAN 1 GRATE 611.3901 EACH
1	0+76	67.5' LT	982.25	2.35	1	1
		TOTAL 0010			1	1

LOCATION	MOBILIZATION 619.1000 EACH
PROJECT 2707-03-71	1
TOTAL 0010	1

STATION	LOCATION	CONCRETE MEDIAN SLOPED NOSE 620.0300 SF	REMARKS
1+25	14' LT	13	BUS ISLAND
1+35	14' LT	13	BUS ISLAND
1+22	15' RT	13	BUS ISLAND
1+35	15' RT	14	BUS ISLAND
TOTAL 0010		53	

STATION	TO	STATION	LOCATION	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF
0+75	-	3+90	65' RT	315	100
			UNDISTRIBUTED	35	50
			TOTAL 0010	350	150

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STATION	TO	STATION	LOCATION	TOPSOIL 625.0100 SY	EROSION MAT URBAN CLASS I TYPE A 628.2006 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 30 630.0130 LB	SEEDING TEMPORARY 630.0200 LB
0+25	-	0+85	0' LT	34	34	2.1	0.6	--
3+85	-	3+95	LT - RT	134	134	8.4	2.4	--
0+35	-	3+85	65' RT	389	389	24.5	7.0	--
			UNDISTRIBUTED	--	--	--	--	5
			TOTAL 0010	557	557	35.0	10.0	5

LOCATION	MOBILIZATIONS EROSION CONTROL 628.1905 EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL 628.1910 EACH
PROJECT	2	2
TOTAL 0010	2	2

LOCATION	FIELD OFFICE TYPE B 642.5001 EACH
PROJECT	1
TOTAL 0010	1

STATION	LOCATION	INLET PROTECTION TYPE A 628.7005 EACH	INLET PROTECTION TYPE C 628.7015 EACH	INLET PROTECTION TYPE D 628.7020 EACH
0+50	4' RT	1	--	--
0+76	27.5' LT	1	--	--
PARKWAY DRIVE		--	1	4
	TOTAL 0010	2	1	4

STATION	TO	STATION	LOCATION	ROCK BAGS 628.7570 EACH
		0+50	4' RT	40
		0+84	87' LT	10
3+10	-	3+85	62' RT	75
3+85	-	3+85	60' LT - 60' RT	120
			TOTAL 0010	245

LOCATION	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH
USH 45 NORTHBOUND OFF RAMP	1
USH 45 SOUTHBOUND OFF RAMP	1
TOTAL 0010	2

LOCATION	TRAFFIC CONTROL DETOUR (PROJECT) 643.2000 EACH
PROJECT	1
TOTAL 0010	1

STATION	TO	STATION	LOCATION	FENCE SAFETY MODIFIED SPV.0090.04 LF
0+50	-	3+90	75' LT	350
			TOTAL 0010	350

LOCATION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE II 643.0410 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715 DAY	TRAFFIC CONTROL ARROW BOARDS 643.0800 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL SIGNS FIXED MESSAGE 643.1000 SF	TRAFFIC CONTROL SIGNS PCMS 643.1050 DAY	REMARKS
PARKING LOT	1000	150	360	720	300	--	840	824	20	LOT
USH 45	200	--	--	--	40	8	64	--	--	TYPE 1 SIGNS
TOTAL 0010	1200	150	360	720	340	8	904	824	20	

STATION	LOCATION	PAVEMENT MARKING ARROWS EPOXY TYPE 1 647.0156 EACH	REMARKS
0+44	35' RT	1	EAST DRIVEWAY
0+67	42' LT	1	WEST DRIVEWAY
0+70	55' LT	1	WEST DRIVEWAY
3+50	30' RT	2	P & R LOT
3+50	30' LT	2	P & R LOT
	TOTAL 0010	7	

STATION	TO	STATION	LOCATION	PAVEMENT MARKING SYMBOLS EPOXY 647.0256 EACH	REMARKS
1+38	-	1+75	PARK & RIDE LOT	6	MIDDLE ROW HANDICAP
			TOTAL 0010	6	

PAVEMENT MARKING CURB EPOXY
647.0456

STATION	TO	STATION	LOCATION	LF	REMARKS
0+81	-	3+74	60' LT	292	YELLOW
			TOTAL 0010	292	

CONSTRUCTION STAKING
STORM SEWER
650.4000

STATION	LOCATION	EACH	REMARKS
0+76	67.5' LT	1	INLET 1
2+90	67' LT	1	FOR ADJUSTING EXISTING SANITARY MH
	TOTAL 0010	2	

PAVEMENT MARKING
PARKING STALL EPOXY
647.0656

LOCATION	LF	REMARKS
PARK & RIDE LOT	2045	CAR STALLS
PARK & RIDE LOT	424	HANDICAP ZONE
PARK & RIDE LOT	115	MOTOR CYCLES
TOTAL 0010	2584	

CONSTRUCTION STAKING CURB
GUTTER AND CURB & GUTTER
650.5500

STATION	TO	STATION	LOCATION	LF	REMARKS
0+50	-	3+75	LT & RT	1079	PROJECT LIMITS
			TOTAL 0010	1079	

PAVEMENT MARKING
CROSSWALK EPOXY 6-INCH
647.0766

STATION	LOCATION	LF
1+00	12' LT	76
	TOTAL 0010	76

CONSTRUCTION STAKING
RESURFACING REFERENCE
650.8000

STATION	TO	STATION	LOCATION	LF
0+00	-	4+00	PARK & RIDE	400
			TOTAL 0010	400

PAVEMENT MARKING CROSSWALK
EPOXY 24-INCH
647.0796

STATION	TO	STATION	LOCATION	LF	REMARKS
0+85	-	1+25	12' LT	54	CROSSWALK
			TOTAL 0010	54	

CONSTRUCTION STAKING SUPPLEMENTAL
CONTROL (PROJECT)
650.9910

LOCATION	LS
PROJECT	1
TOTAL 0010	1

SYSTEM	LOCATION	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH 652.0225 LF	REMARKS
HL-66-PD	LIGHTING CONTROL CABINET HL-66-PD TO EXISTING LIGHTING POLE APD1/BPD1	50	INTERCEPT EXISTING CONDUIT
HL-66-PD	EXISTING LIGHTING POLE APD1/BPD1 TO EXISTING LIGHTING POLE APB2/BPD2	75	INTERCEPT EXISTING CONDUIT
	TOTAL 0010	125	

SYSTEM	NETWORK	LOCATION	DISTANCE	ELECTRICAL WIRE LIGHTING 10 AWG 655.0615 LF	ELECTRICAL WIRE LIGHTING 8 AWG 655.0620 LF
HL-66-PD	A/B/N/G	LIGHTING CONTROL CABINET HL-66-PD TO EXISTING LIGHTING POLE APD1/BPD1	50	--	240
HL-66-PD	A/B/N/G	EXISTING LIGHTING POLE APD1/BPD1 TO EXISTING LIGHTING POLE APB2/BPD2	75	340	--
		TOTAL 0010		340	240

SYSTEM	STATION	LOCATION	ITEM	BOLT PROJECTION	LUMINAIRES UTILITY LED C 659.1125 EACH
HL-66-PD	00+80	CL	APD1/BPD1	3-INCH	2
HL-66-PD	01+60	CL	APD2/BPD2	3-INCH	2
HL-66-PD	02+50	CL	APD3/BPD3	3-INCH	2
HL-66-PD	03+40	CL	APD4/BPD4	3-INCH	2
			TOTAL 0010		8

SYSTEM	LOCATION	LIGHTING SYSTEM SURVEY CHECK SPV.0105.03 LS
HL-66-PD	USH 45 - PARKWAY DRIVE PARK & RIDE	1
	TOTAL 0010	1

SYSTEM	ITEM	LOCATION	REMOVING LUMINAIRES SPV.0060.05 EACH	LAMP DISPOSAL H.I.D. SPV.0060.06 EACH	REMOVING ELECTRICAL WIRES FROM CONDUIT SPV.0090.03 LF
HL-66-PD	APD1/BPD1	00+80, C/L	2	2	--
HL-66-PD	APD2/BPD2	01+60, C/L	2	2	--
HL-66-PD	APD3/BPD3	02+50, C/L	2	2	--
HL-66-PD	APD4/BPD4	03+40, C/L	2	2	--
HL-66-PD	ELECTRICAL WIRE	00+75, 50' RIGHT - 0+80, C/L	--	--	55
HL-66-PD	ELECTRICAL WIRE	00+80, C/L - 01+60, C/L	--	--	80
		TOTAL 0010	8	8	135

3

STATION	TO	STATION	LOCATION	SAWING ASPHALT 690.0150 LF	SAWING CONCRETE 690.0250 LF	REMARKS
0+80	-	3+80	66' LT	340	--	
		0+30	45' RT	--	5	
		0+32	16' RT	--	5	
		0+47	39' LT	--	5	
		0+64	72' LT	--	5	
		0+10	31' RT	--	50	EAST DRIVEWAY C & G
		0+40	66' LT	--	64	WEST DRIVEWAY C & G
			TOTAL 0010	340	134	

STATION	LOCATION	TEMPORARY SIDEWALK SPV.0045.01 DAY	REMARKS
0+54	55' LT	40	WEST DRIVEWAY
0+30	30' RT	40	EAST DRIVEWAY
	TOTAL 0010	80	

STATION	LOCATION	ADJUSTING SANITARY SEWER MANHOLE COVERS SPV.0060.01 EACH	INTERNAL/EXTERNAL SANITARY MANHOLE SEALS SPV.0060.02 EACH	REMARKS
2+90	67' LT	1	1	EXISTING SANITARY MANHOLE
	TOTAL 0010	1	1	

STATION	TO	STATION	LOCATION	CONSTRUCTION STAKING CURB RAMP LAYOUT SPV.0060.04 EACH
0+75	-	1+38	LT & RT	4
			TOTAL 0010	4

STATION	LOCATION	SAWING CURB HEAD SPV.0090.01 LF	REMARKS
0+15	50' RT	8	EAST DRIVEWAY
0+50	80' LT	21	WEST DRIVEWAY
	TOTAL 0010	29	

LOCATION	CONSTRUCTION STAKING PARKING LOTS SUBGRADE SPV.0180.01 SY	CONSTRUCTION STAKING PARKING LOTS BASE SPV.0180.02 SY	CONSTRUCTION STAKING PARKING LOTS CONCRETE PAVEMENT, DRIVEWAYS & SIDEWALK SPV.0180.03 SY	REMARKS
R/L	894	894	894	CONCRETE PAVEMENT
R/L	--	3139	--	HMA PAVEMENT
R/L	--	--	112	SIDEWALK
R/L	--	--	66	DRIVEWAY
R/L	--	--	87	DRIVEWAY
TOTAL 0010	894	4033	1159	

STATION	LOCATION	SALVAGING BUS SHELTER SPV.0105.01 LS
1+33	3' RT	1
	TOTAL 0010	1

STATION	LOCATION	SALVAGING BICYCLE RACK SPV.0105.02 LS
0+70	14' LT	1
	TOTAL 0010	1

3

REMOVALS

CATEGORY CODE 1000

SIGN NO.	SIGN CODE	SIGN MESSAGE	**638.2602** REMOVING SIGNS TYPE II [EA]	**638.3000** REMOVING SMALL SIGN SUPPORTS (EA)	**638.2102** MOVING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
100	D4-1	--	1	1	--	--	--
101	D4-2	--	1	1	--	--	--
102	D4-2	--	1	1	--	--	--
103	D4-1	--	1	1	--	--	--
104	--	PARK & RIDE USERS OVERFLOW LOT LOCATED AT PARADISE THEATRE	1	1	--	--	--
105	--	PARK & RIDE USERS OVERFLOW LOT LOCATED AT PARADISE THEATRE	--	1	1	174	SEE PERMANENT SIGNING SHEET FOR PROPOSED LOCATION
106	--	PARK & RIDE USERS PARKING LIMITED TO WHITE PAINTED STALLS ONLY	1	1	--	--	--
107	--	PARK & RIDE USERS OVERFLOW LOT LOCATED AT PARADISE THEATRE	--	--	1	--	SEE PERMANENT SIGNING SHEET FOR PROPOSED LOCATION
108	--	NO LOITERING	1	--	--	--	--
109	R1-1	--	1	1	--	--	--
110	R6-2	--	1	1	--	--	--
111	--	PARK & RIDE USERS PARKING LIMITED TO WHITE PAINTED STALLS ONLY	1	1	--	--	--
112	R5-1	--	1	1	--	--	--
113	--	WCCE BUS SIGN	--	--	1	163	SEE PERMANENT SIGNING SHEET FOR PROPOSED LOCATION
114	R7-8	--	1	1	--	--	--
115	R7-8	--	1	--	--	--	--
116	R7-8	--	1	1	--	--	--
117	R7-8	--	1	--	--	--	--
TOTALS			15	13	3	--	--

3

SHEET 1 OF 1

TYPE I & II PERMANENT SIGNING

CATEGORY CODE 1000

SIGN NO.	SIGN CODE	SIGN MESSAGE	TYPE II SIGN SIZE W x H [IN.] x [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II REFLECTIVE F [SF]	634.0616 WOOD POSTS 4"x 6"X16' [EA]	634.0816 POSTS TUBULAR STEEL 2"x 2"x16' [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
107	--	--	-- x --	--	--	--	1	--	SIGN 107 MOVED FROM EXISTING LOCATION
150	D4-2R(2S)	--	30 x 36	7.50	--	1	--	--	INSTALL ON PARADISE DR. WB, SEE SHEET 2
151	D4-2R(2S)	--	30 x 36	7.50	--	1	--	--	INSTALL ON PARADISE DR. EB, SEE SHEET 2
152	D4-2R(2S)	--	30 x 36	7.50	--	1	--	--	INSTALL ON USH 45 NB OFF-RAMP, SEE SHEET 2
153	D4-2L(2S)	--	30 x 36	7.50	--	1	--	--	INSTALL ON USH 45 SB OFF-RAMP, SEE SHEET 2
154	--	NOT USED	-- x --	--	--	--	--	--	--
155	--	PARK & RIDE OVERFLOW LOT, RIGHT ARROW	42 x 42	12.25	--	1	--	--	--
156	D4-2L(2S)	--	30 x 36	7.50	--	1	--	--	--
157	--	PARK & RIDE OVERFLOW LOT, LEFT ARROW	42 x 42	12.25	--	1	--	--	--
158	D4-2R(2S)	--	30 x 36	7.50	--	1	--	--	--
159	R1-1(2M)	--	30 x 30	5.18	--	1	--	--	--
160	R7-1D(2S)	--	18 x 24	3.00	--	--	1	--	--
161	W11-2(2S)	--	30 x 30	--	6.25	1	--	186	--
	W16-7L(2S)	--	24 x 12	--	2.00	--	--	--	--
162	W11-2(2S)	--	30 x 30	--	6.25	1	--	185	--
	W16-7L(2S)	--	24 x 12	--	2.00	--	--	--	--
163	R7-1D(2S)	--	18 x 24	3.00	--	--	1	113	--
164	R7-8A(2S)	--	12 x 18	1.50	--	--	1	165	--
	R7-8V(2S)	--	12 x 6	0.50	--	--	--	--	--
165	R7-8A(2S)	--	12 x 18	1.50	--	--	--	164	--
	R7-8V(2S)	--	12 x 6	0.50	--	--	--	--	--
166	R7-8A(2S)	--	12 x 18	1.50	--	--	1	167	--
	R7-8V(2S)	--	12 x 6	0.50	--	--	--	--	--
167	R7-8A(2S)	--	12 x 18	1.50	--	--	--	166	--
	R7-8V(2S)	--	12 x 6	0.50	--	--	--	--	--
168	R7-8A(2S)	--	12 x 18	1.50	--	--	1	169	--
169	R7-8A(2S)	--	12 x 18	1.50	--	--	--	168	--
170	R6-2R(2S)	--	24 x 30	5.00	--	1	--	173	--
171	D4-1(2S)	--	30 x 24	5.00	--	1	--	172	--
172	R5-1(2S)	--	30 x 30	6.25	--	--	--	171	--
173	R5-1(2S)	--	30 x 30	6.25	--	--	--	170	--
174	R7-65(3)	--	30 x 24	5.00	--	1	--	105	--
175	--	MOTORCYCLE PARKING	30 x 24	5.00	--	--	1	--	--
176	--	MOTORCYCLE PARKING	30 x 24	5.00	--	--	1	--	--
177	R7-1D(2S)	--	18 x 24	3.00	--	--	1	--	--
178	R7-1D(2S)	--	18 x 24	3.00	--	--	1	--	--
179	R7-1D(2S)	--	18 x 24	3.00	--	--	1	--	--
180	R7-1D(2S)	--	18 x 24	3.00	--	--	1	--	--
181	W11-2(2S)	--	30 x 30	--	6.25	1	--	--	--
	W16-7L(2S)	--	24 x 12	--	2.00	--	--	--	--

CONTINUED ON NEXT SHEET

TYPE I & II PERMANENT SIGNING

CATEGORY CODE 1000

SIGN NO.	SIGN CODE	SIGN MESSAGE	TYPE II SIGN SIZE W x H [IN.] x [IN.]	**637.2210** SIGNS TYPE II REFLECTIVE H [SF]	**637.2230** SIGNS TYPE II REFLECTIVE F [SF]	**634.0616** WOOD POSTS 4"x 6"X16' [EA]	**634.0816** POSTS TUBULAR STEEL 2"x 2"x16' [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS NEW SIGN LOCATION
182	W11-2(2S)	--	30 x 30	--	6.25	1	--	--	--
	W16-7L(2S)	--	24 x 12	--	2.00	--	--	--	--
183	W11-2(2S)	--	30 x 30	--	6.25	1	--	--	--
	W16-7R(2S)	--	24 x 12	--	2.00	--	--	--	--
184	W11-2(2S)	--	30 x 30	--	6.25	1	--	--	--
	W16-7R(2S)	--	24 x 12	--	2.00	--	--	--	--
185	W11-2(2S)	--	30 x 30	--	6.25	--	--	162	--
	W16-7R(2S)	--	24 x 12	--	2.00	--	--	--	--
186	W11-2(2S)	--	30 x 30	--	6.25	--	--	161	--
	W16-7R(2S)	--	24 x 12	--	2.00	--	--	--	--
TOTALS				141.18	66.00	18	12	--	--

TYPE I&II PERMANENT SIGNING -

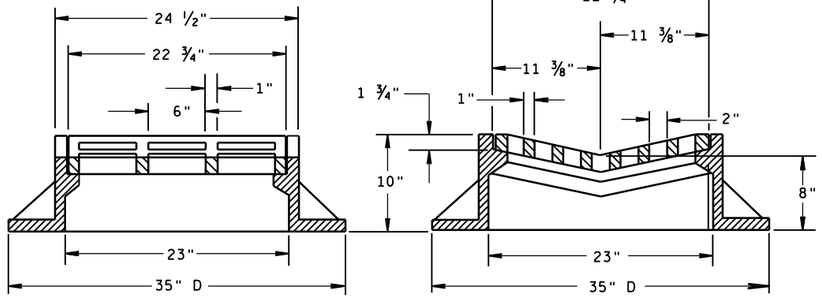
2707-03-71 USH 45 PARK AND RIDE

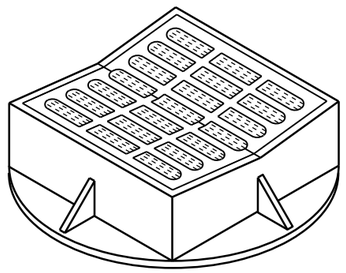
SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] X H [FT.]	**637.1220** SIGNS TYPE I REFLECTIVE SH [SF]	STEEL POST TYPE	**636.0100** SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	**636.0500** SIGN SUPPORTS STEEL REINF. [LBS]	**635.0200** SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
301	D4-3 (2)	CAR AND BUS SYMBOL PARK AND RIDE EXIT 68		12 X 7.5	90.00	A	1.2	68	600	TBD IN FIELD	TBD IN FIELD	17.5' MIN 30' MAX	9
302	D4-3 (2)	CAR AND BUS SYMBOL PARK AND RIDE EXIT 68		12 X 7.5	90.00	A	1.2	68	600	TBD IN FIELD	TBD IN FIELD	17.5 MIN 30' MAX	9
TOTALS					180.00		2.4	136	1200				

PROJECT NO: 2707-03-71	HWY: USH 45 PARK & RIDE LOT	COUNTY: WASHINGTON	PERMANENT SIGNING QUANTITIES	SHEET:	E

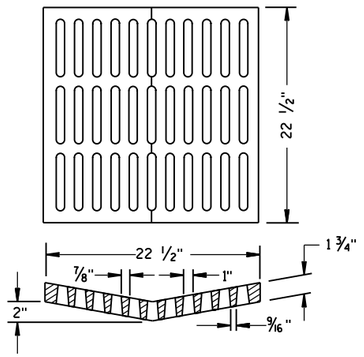
Standard Detail Drawing List

08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-07	CONDUIT
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
10A01-02	ELECTRICAL HANDHOLE WIRING
10A02-02	IDENTIFICATION PLAQUES LIGHT POLES
10A05-02	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
11B02-02	CONCRETE MEDIAN NOSE
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C04-16	URBAN NON-DOWELED CONCRETE PAVEMENT
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12C	PAVEMENT MARKING ARROWS
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



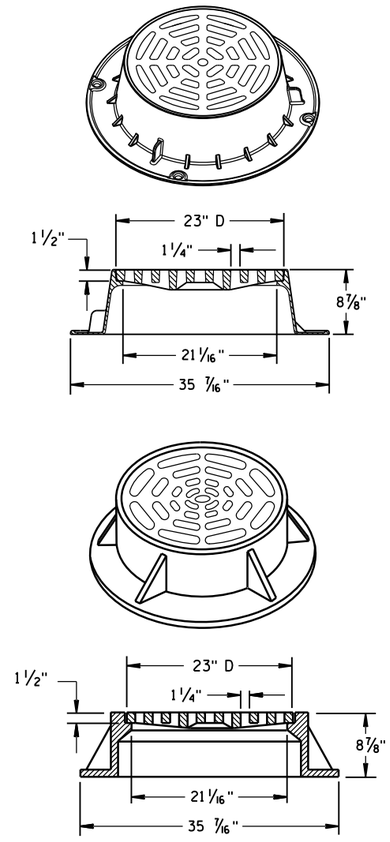


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

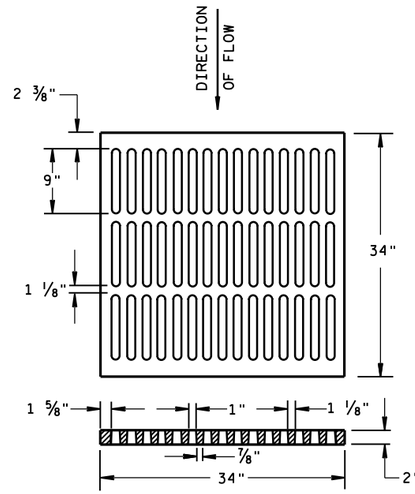
NOTE: EITHER CASTING IS ACCEPTABLE

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.

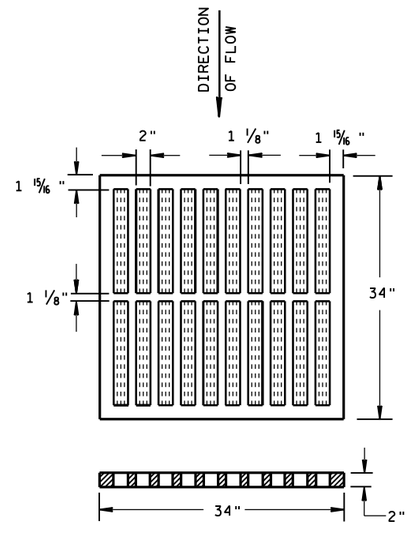
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



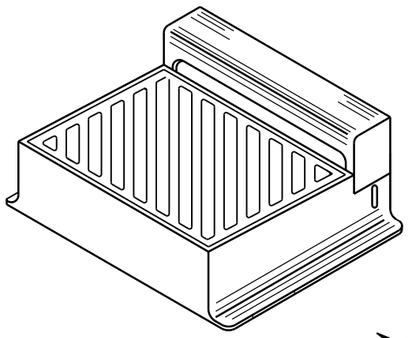
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

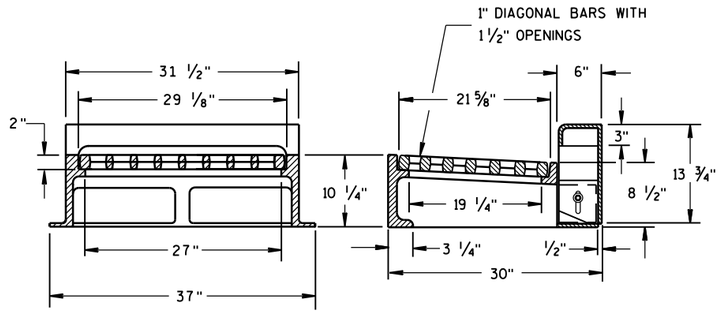


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

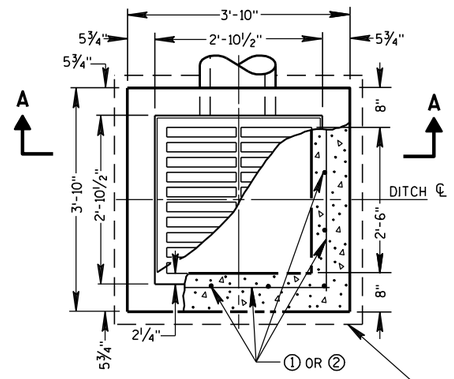
INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

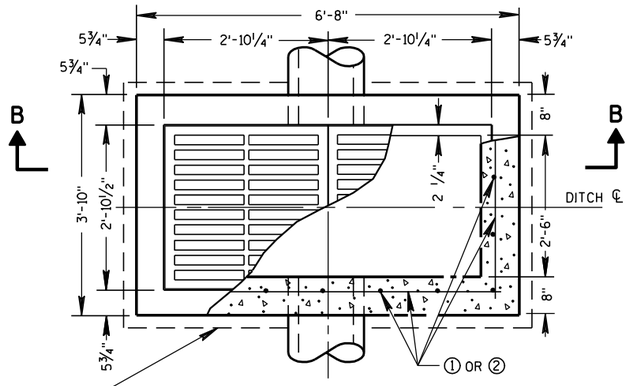
APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

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

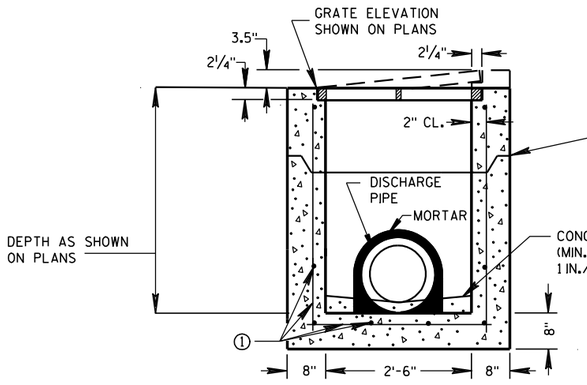


PLAN VIEW

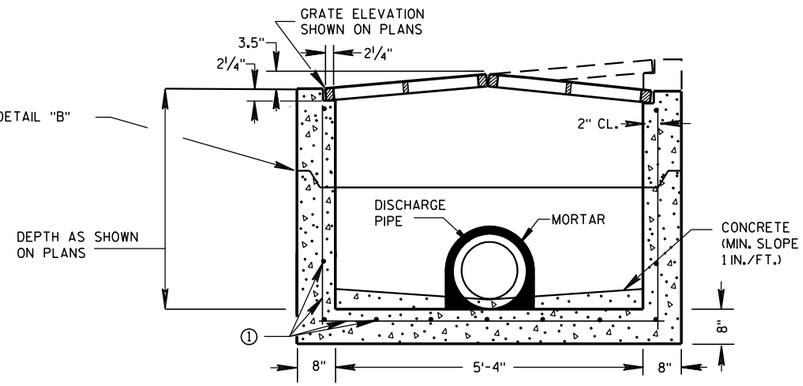


PLAN VIEW

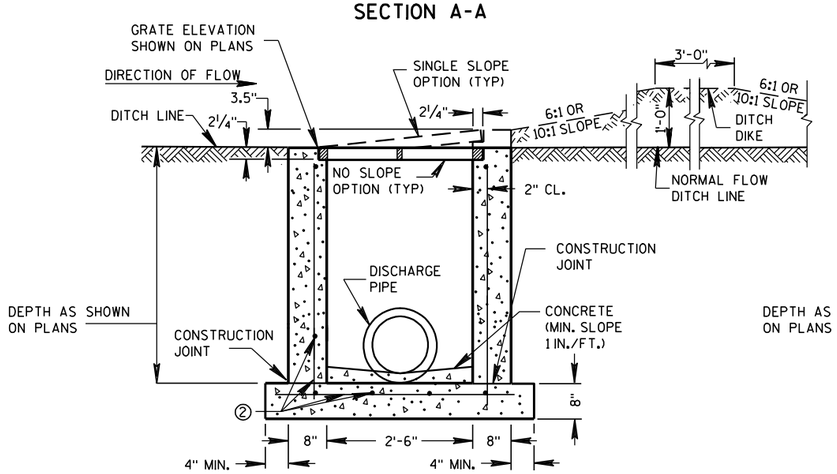
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



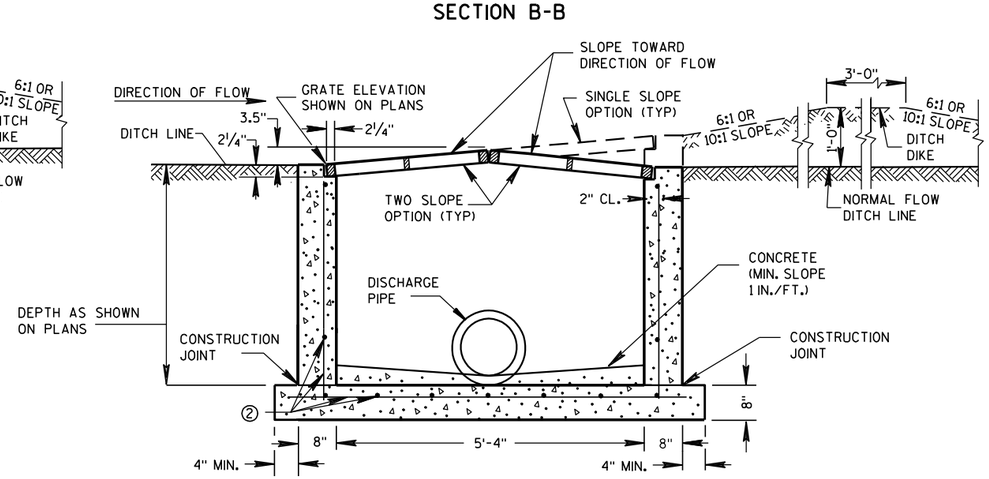
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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.

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

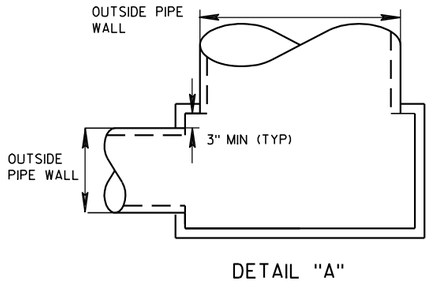
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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.

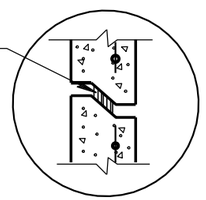
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

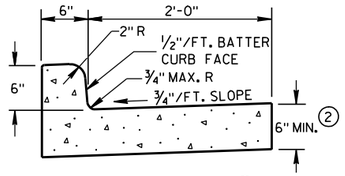
APPROVED

6/5/2012
DATE

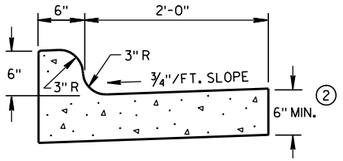
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

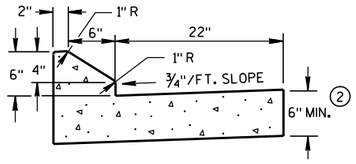
6
S.D.D. 8 C 8-1



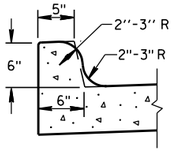
TYPES A & D (1)



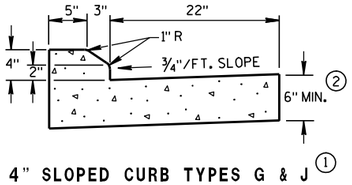
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

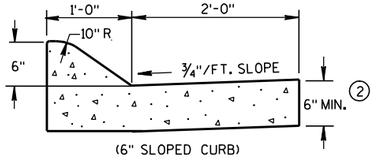


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

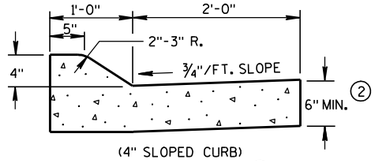


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

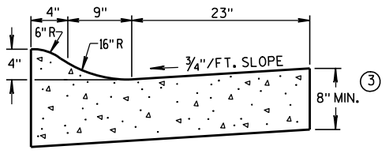


(6" SLOPED CURB)



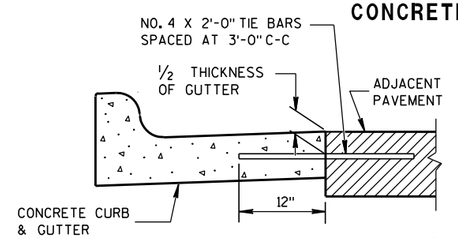
(4" SLOPED CURB)

TYPES A & D (1)

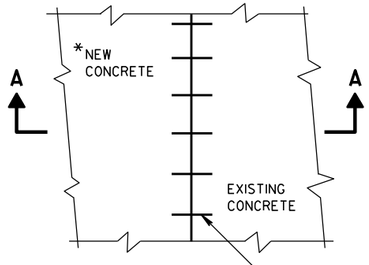


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

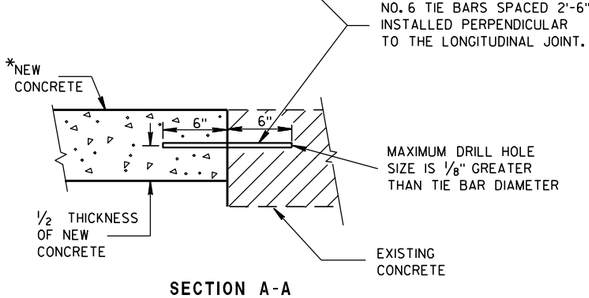


TYPICAL TIE BAR LOCATION (1)



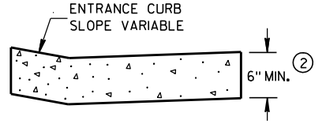
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW

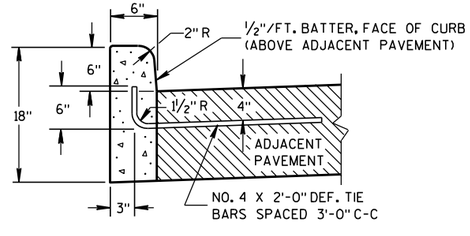


SECTION A-A

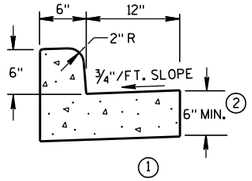
TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

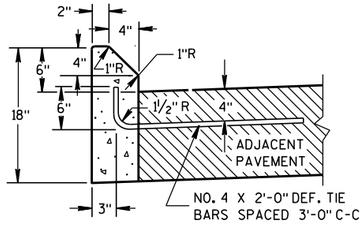


(1)
TYPES A & D



(1)
TYPES A & D

CONCRETE CURB & GUTTER 18"



(1)
TYPES G & J

CONCRETE CURB

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.

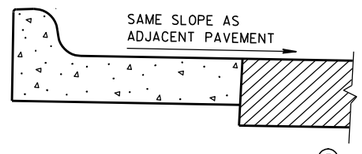
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(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.

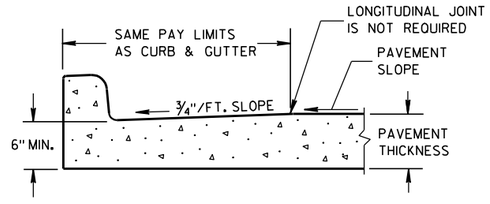
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

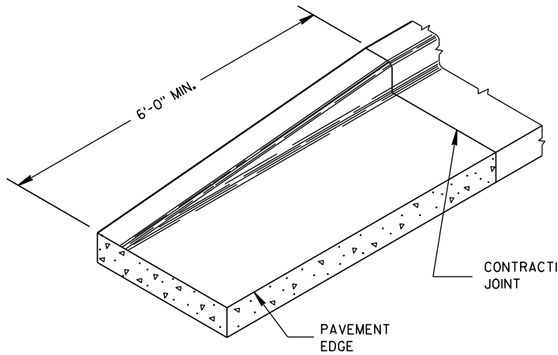
(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



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



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

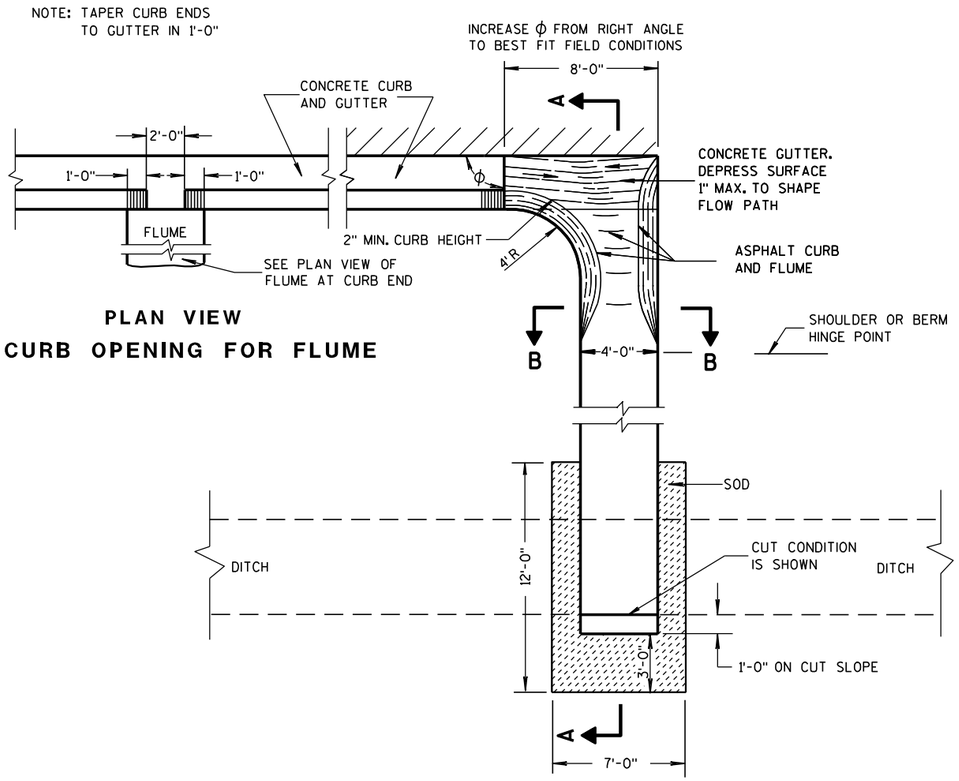
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
57
FHWA

6

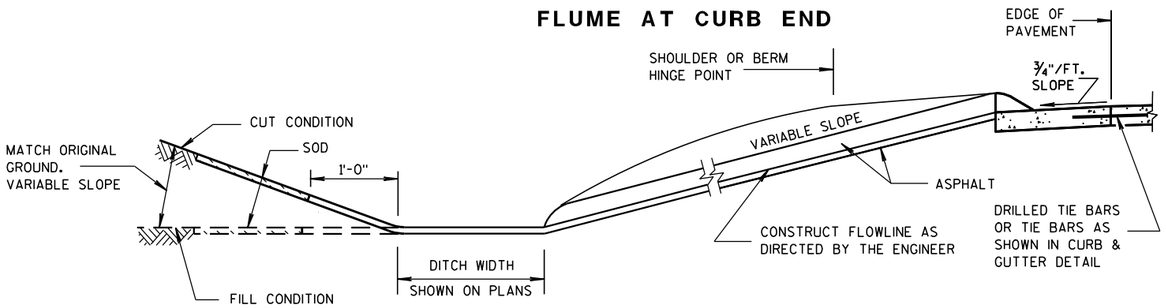
S.D.D. 8 D 1-17

ASPHALTIC FLUME

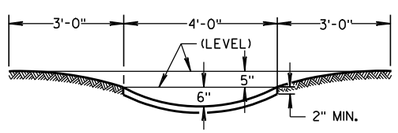


PLAN VIEW
CURB OPENING FOR FLUME

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.

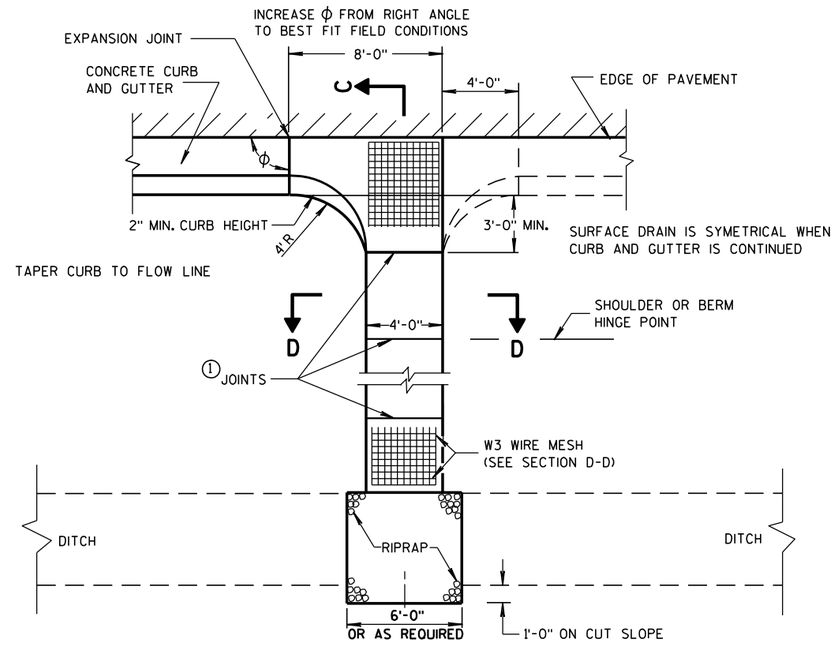
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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.

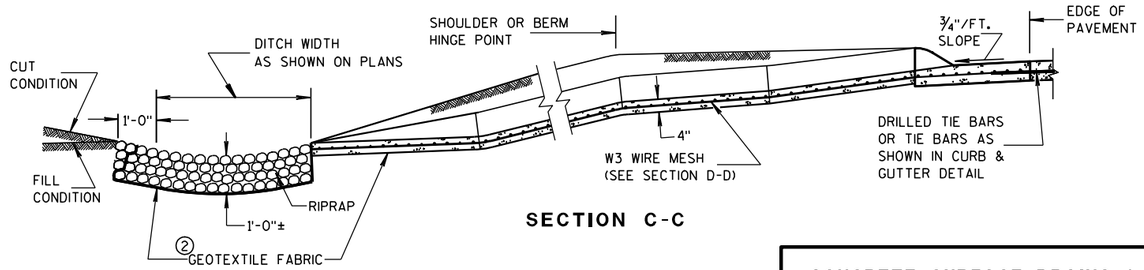
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

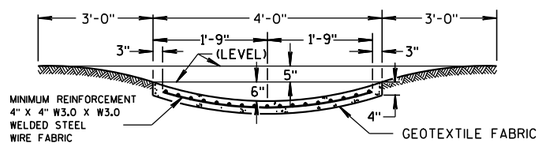
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

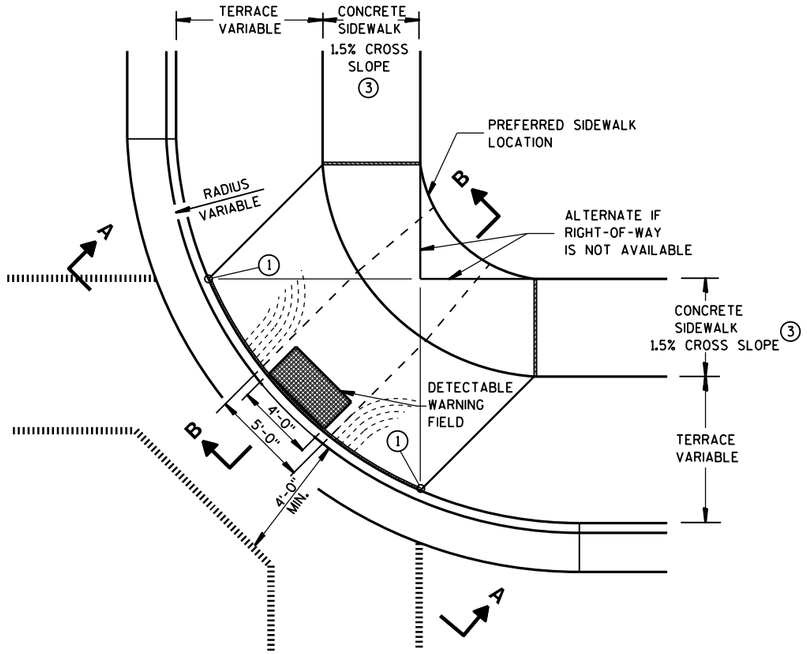
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
58
MENT
FHWA

6

S.D.D. 8 D 4-5

6

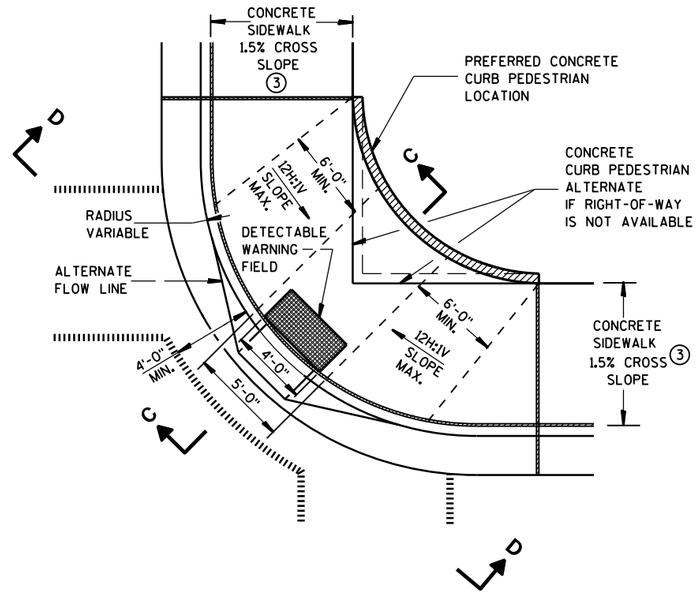
S.D.D. 8 D 4-5



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

GENERAL NOTES

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

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

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

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

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

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

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

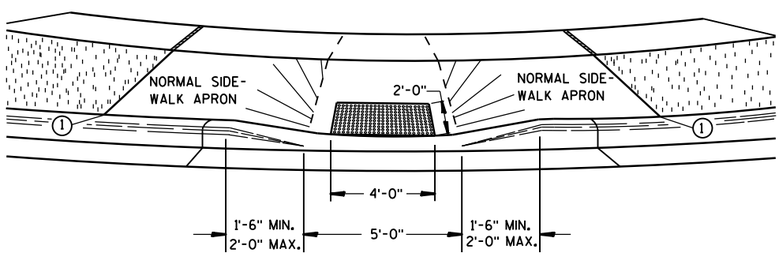
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

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

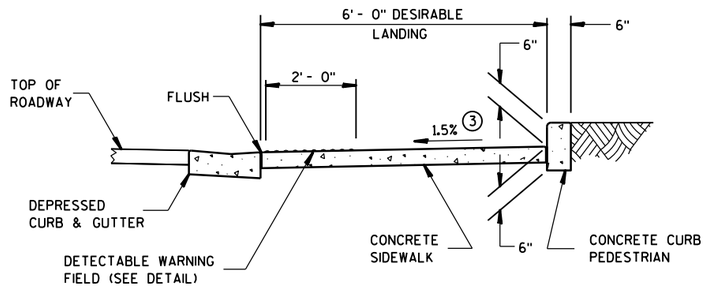
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

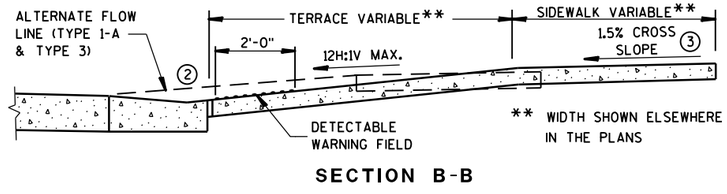
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



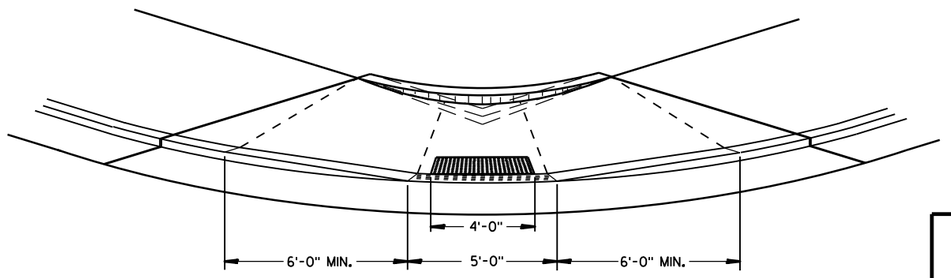
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

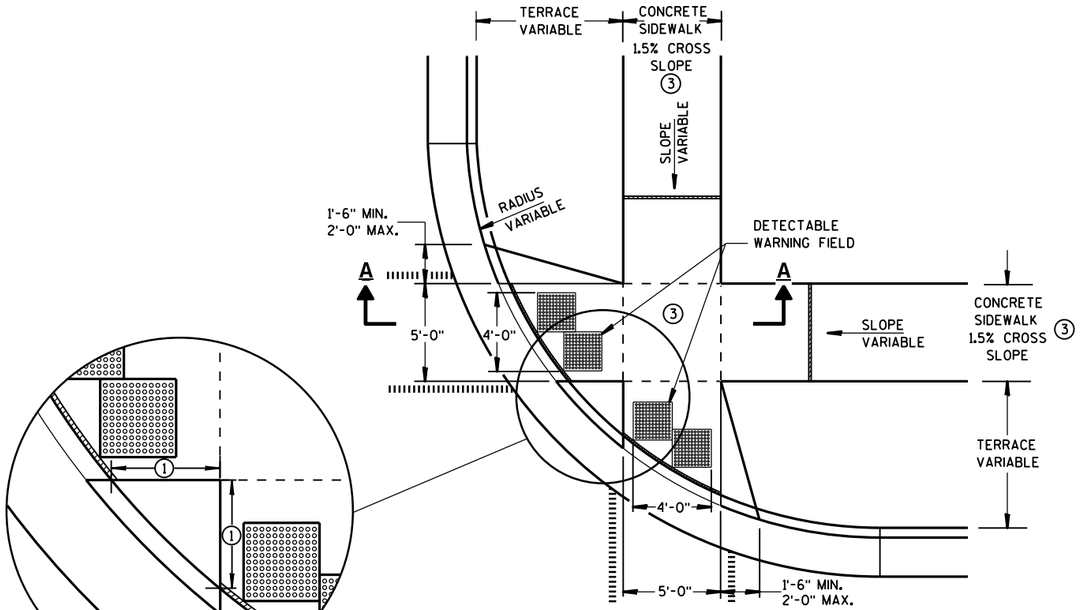
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

6

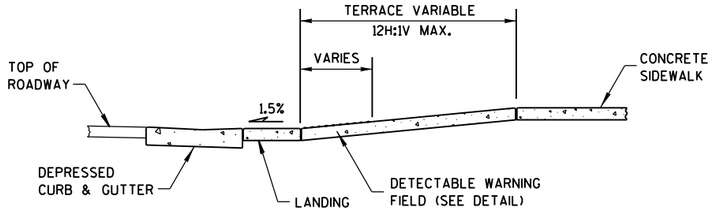
S.D.D. 8 D 5-15a



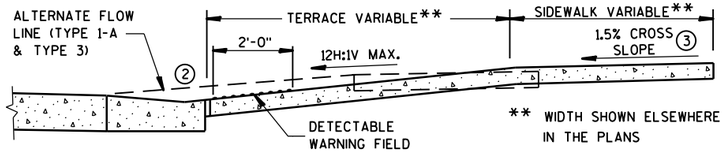
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

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

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

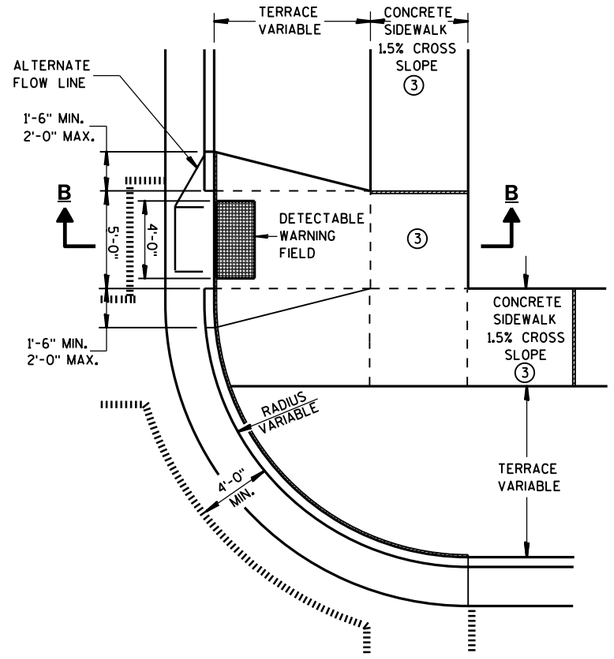
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

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

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

LEGEND

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



PLAN VIEW

TYPE 3 RAMP

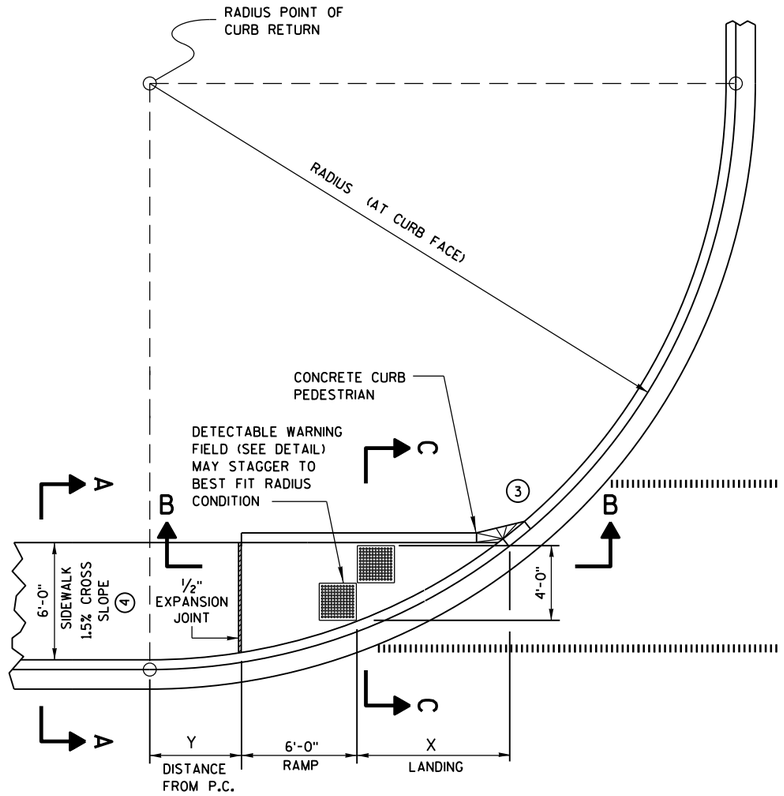
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

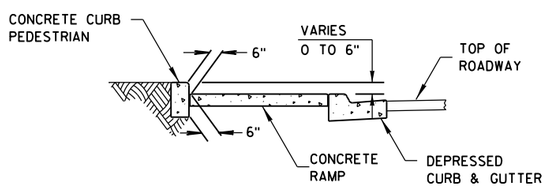
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

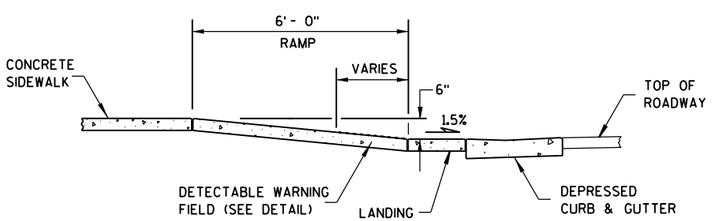
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



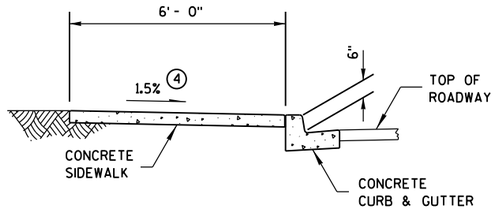
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

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

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

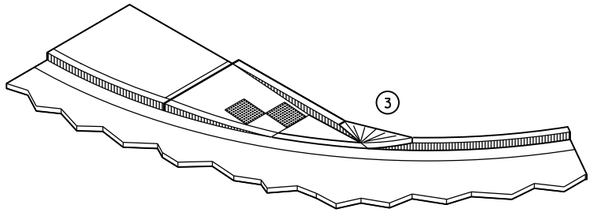
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

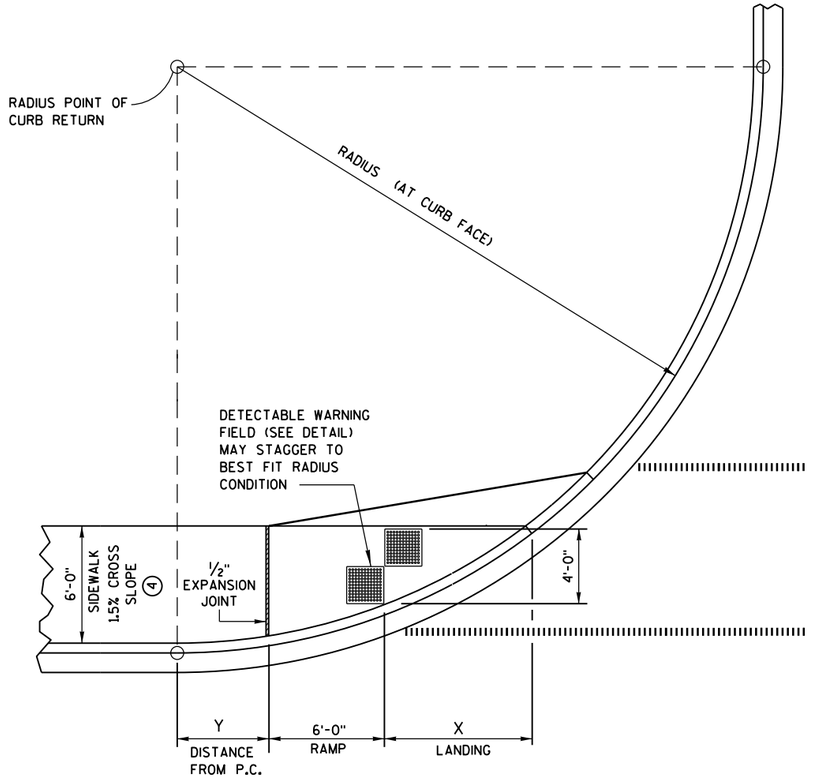
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

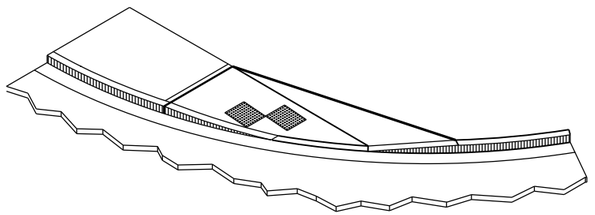
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



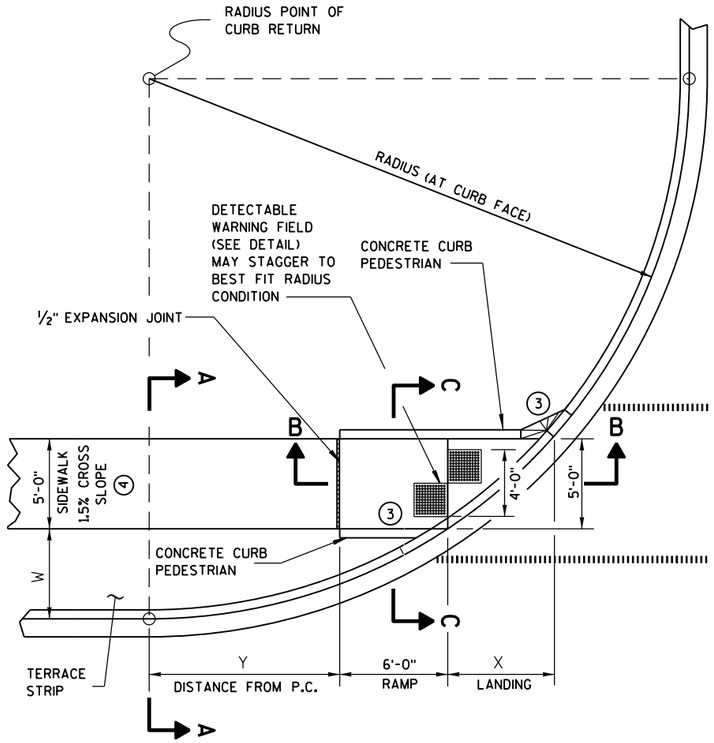
ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

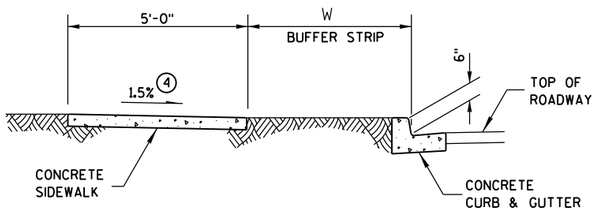
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

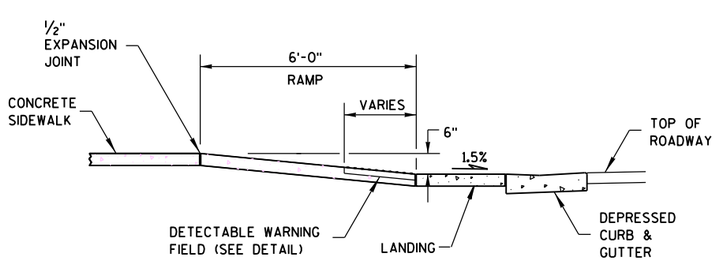
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR



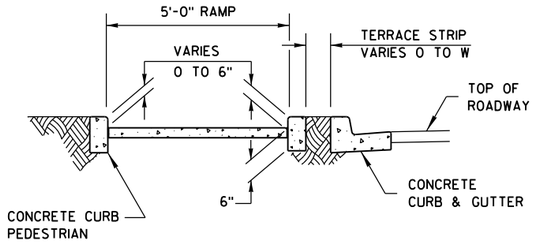
CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



SECTION B-B FOR TYPE 4B



SECTION C-C FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

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

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

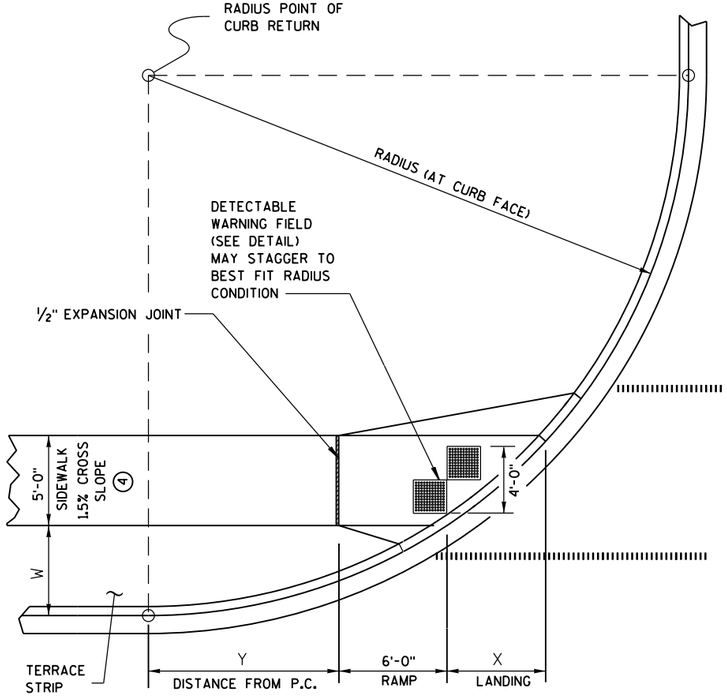
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

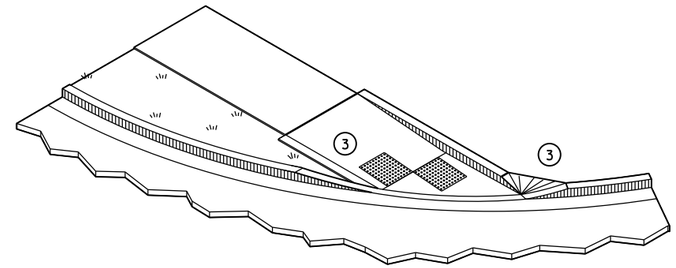
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

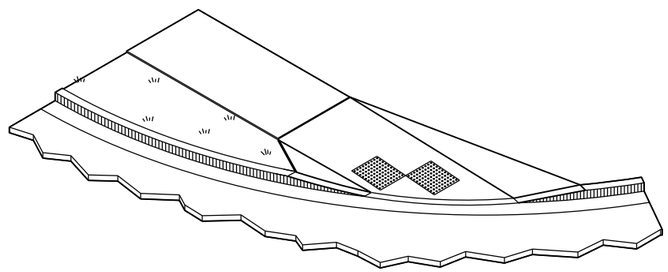
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



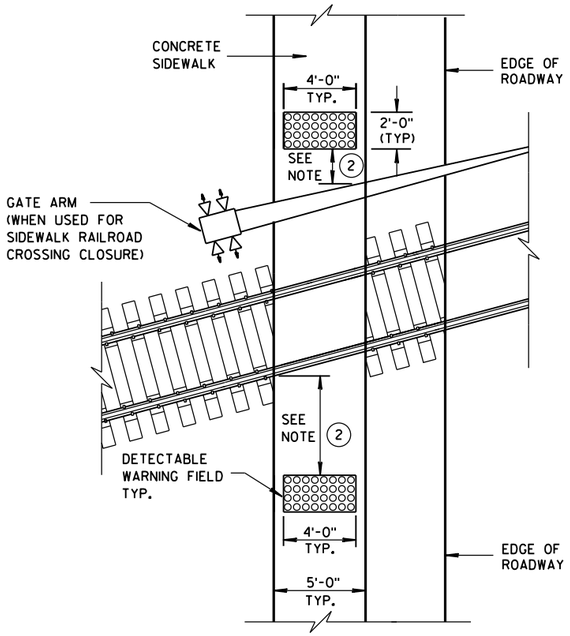
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

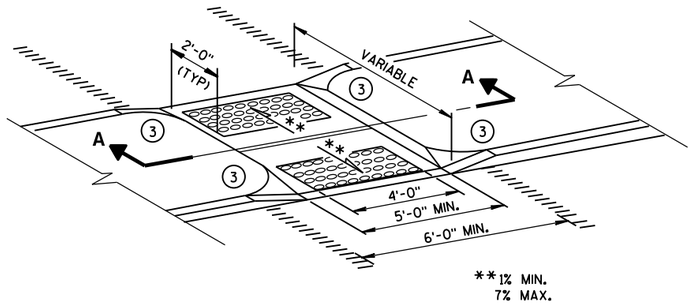
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

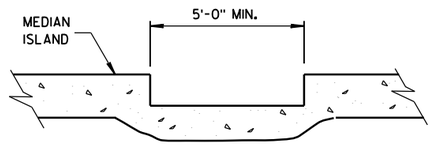
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

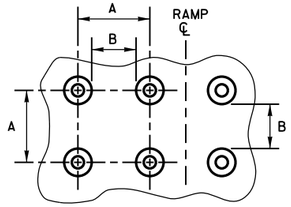
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET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

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

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



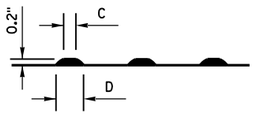
SECTION A-A



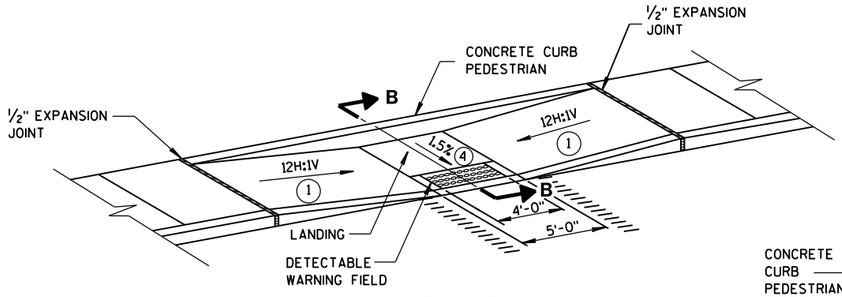
PLAN VIEW

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

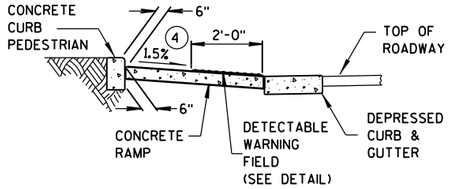
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

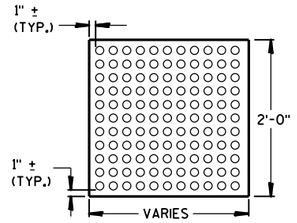


MID-BLOCK CROSSING
TYPE 7A



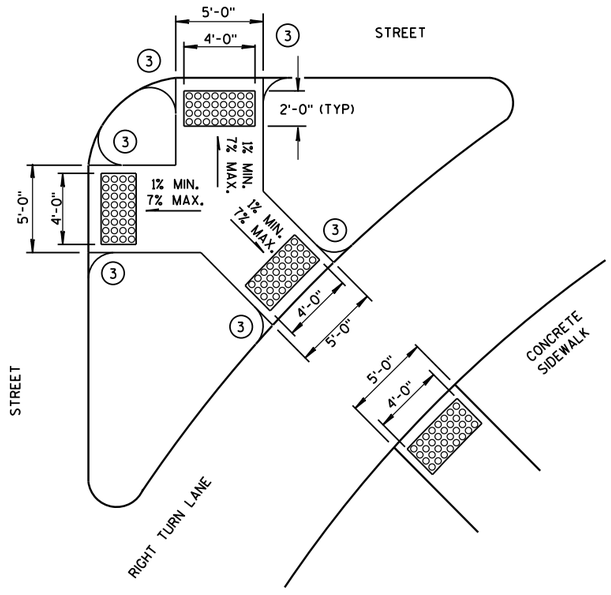
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

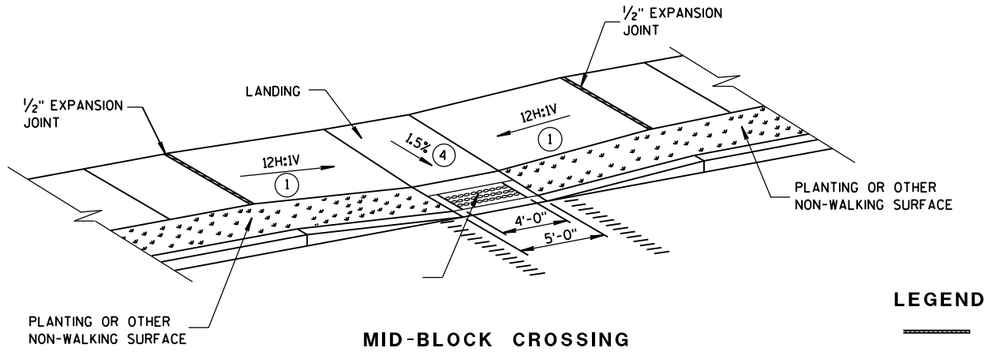


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

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

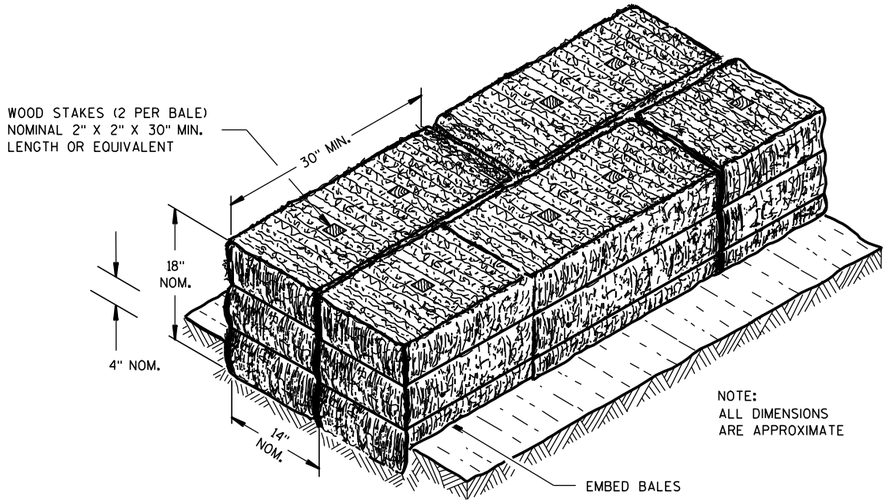
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

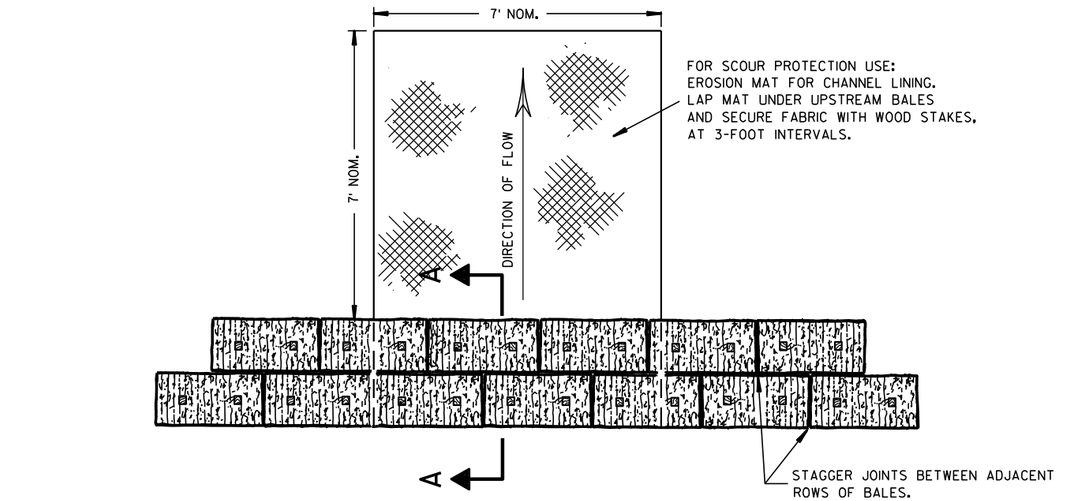
APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

6

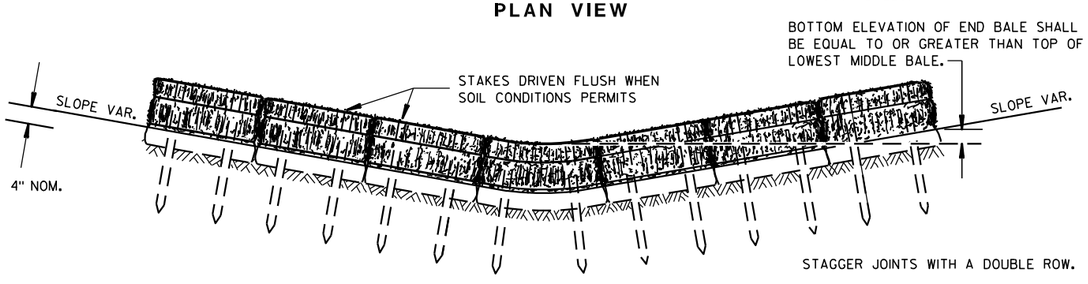
S.D.D. 8 D 5-15e



SECTION A-A



PLAN VIEW



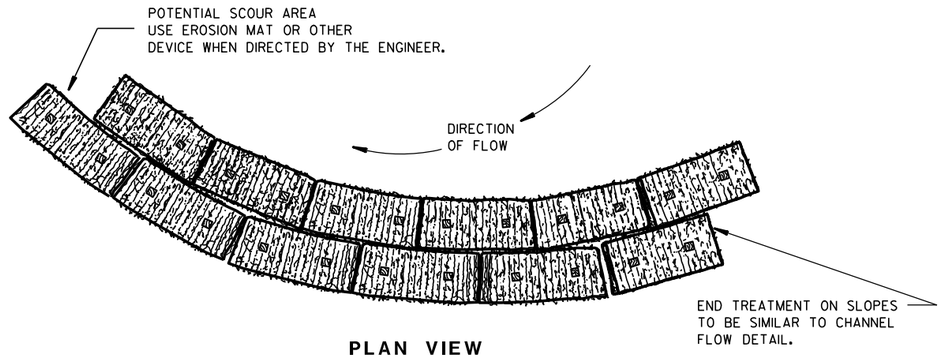
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

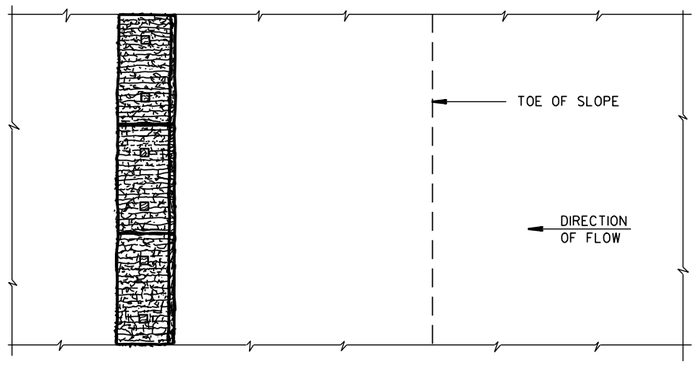
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

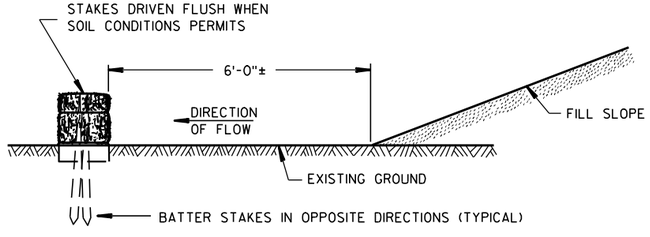


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

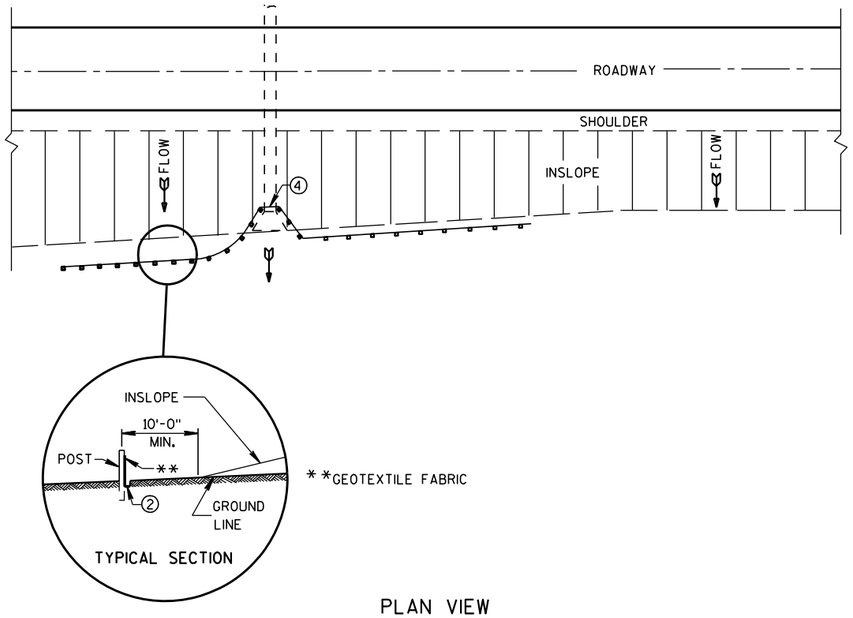
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

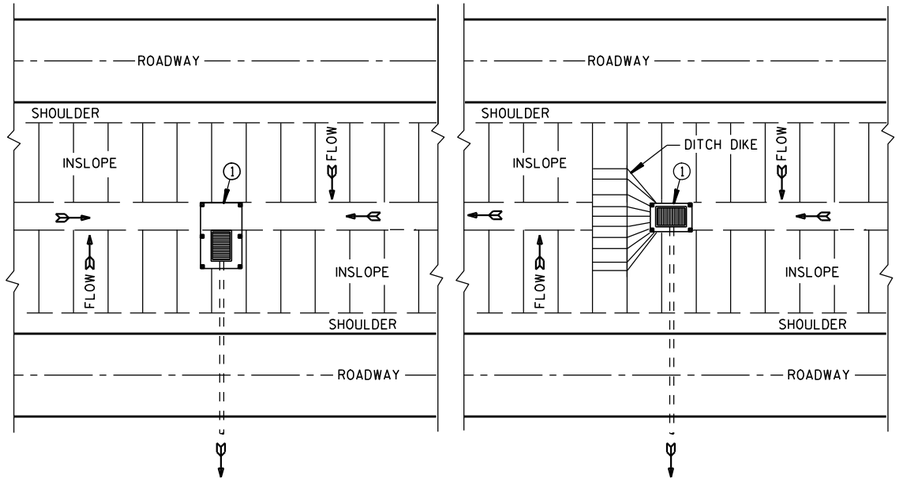
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



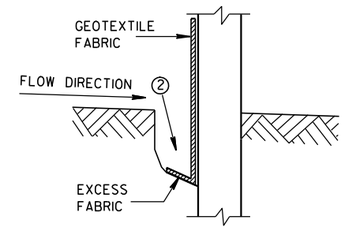
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

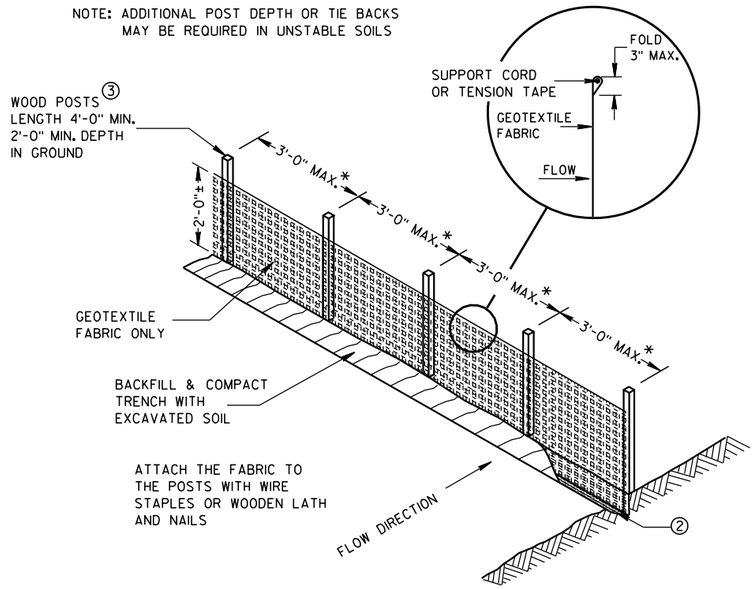
GENERAL NOTES

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

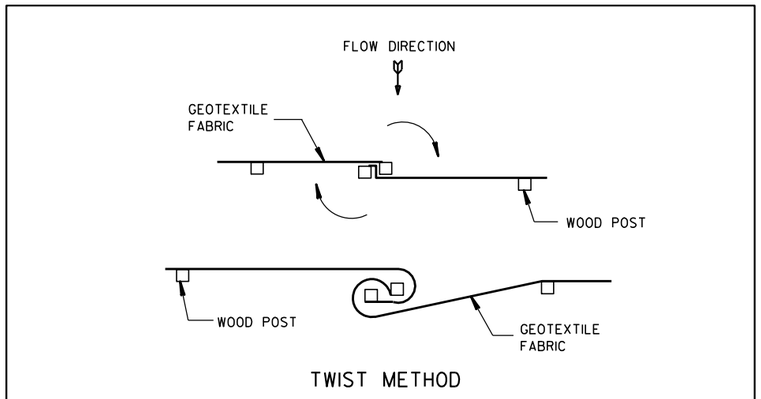
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



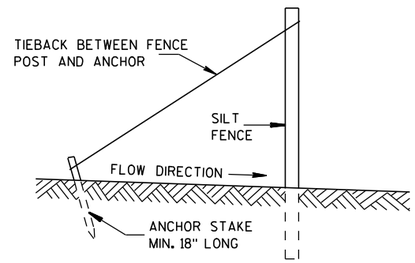
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

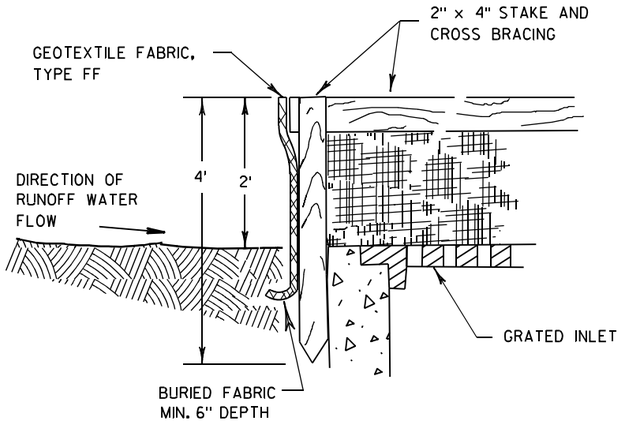
SILT FENCE

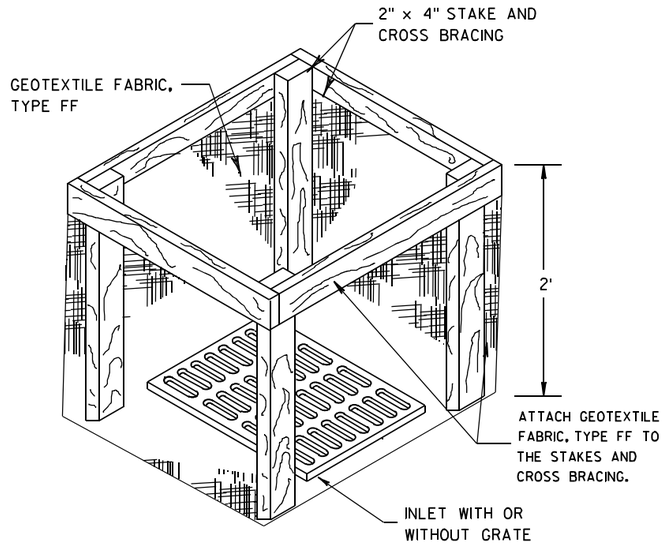
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

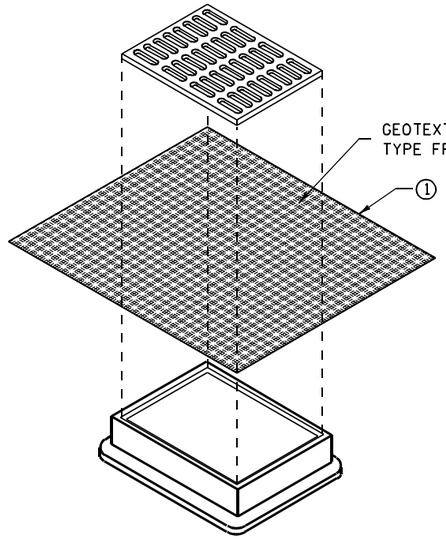
FHWA

6
S.D.D. 8 E 9-6



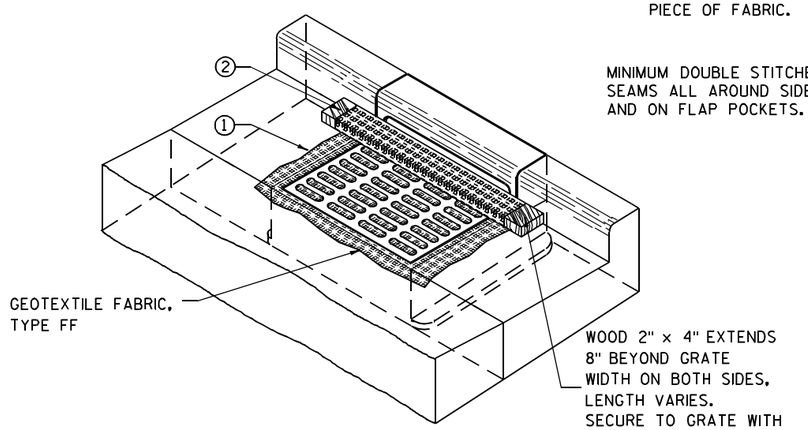


INLET PROTECTION, TYPE A

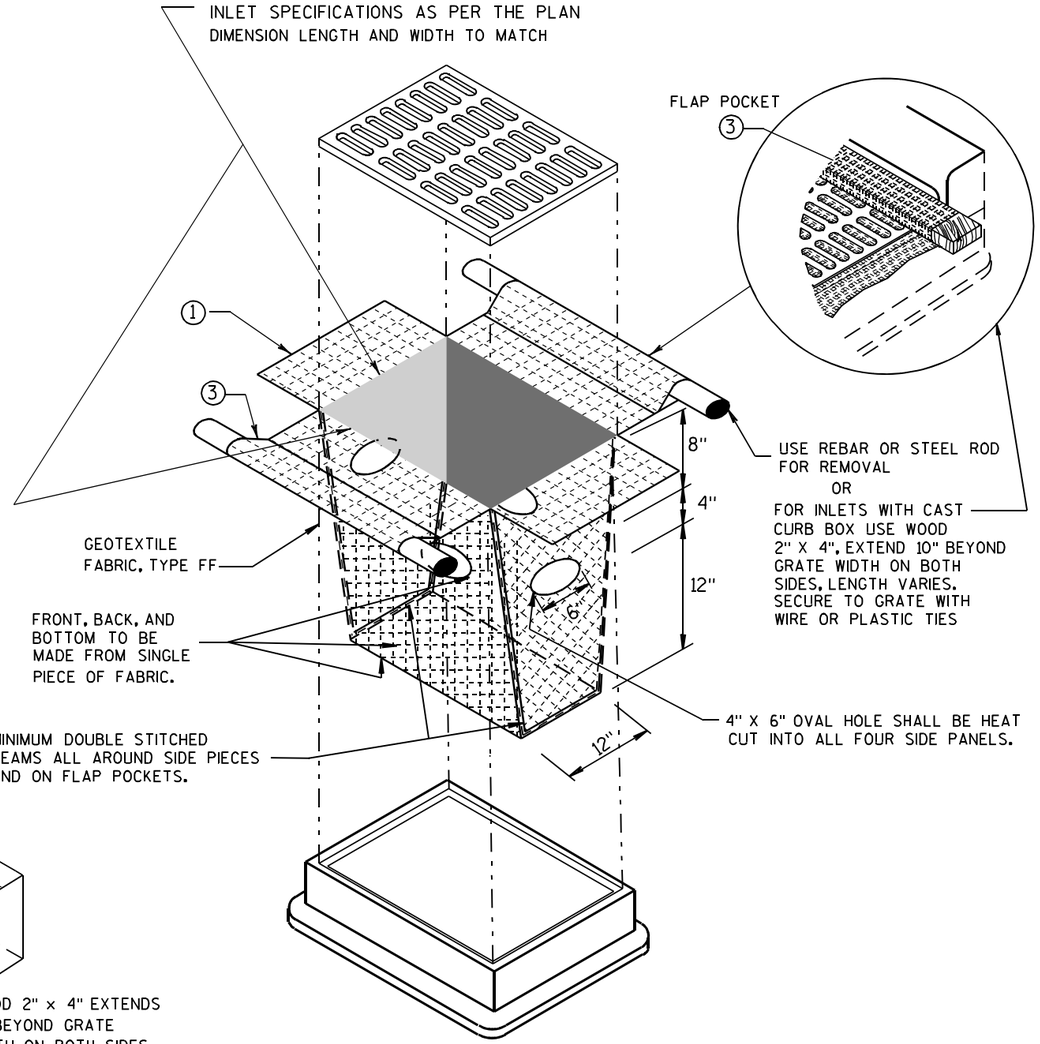


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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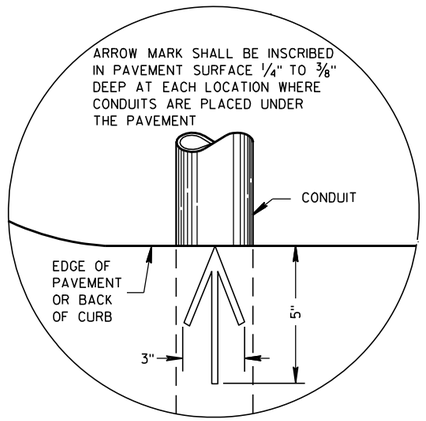
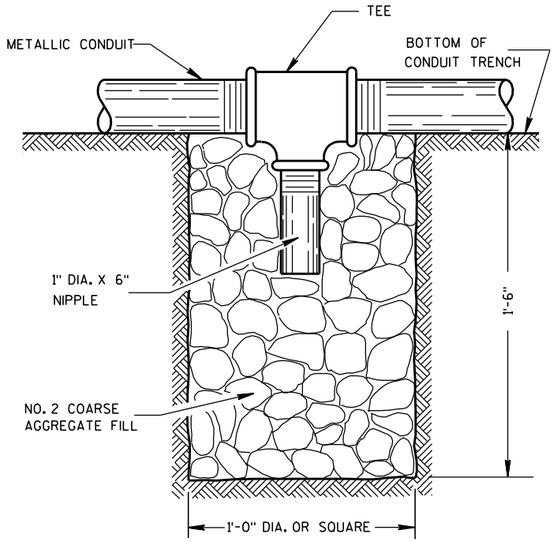
S.D.D. 8 E 10-2



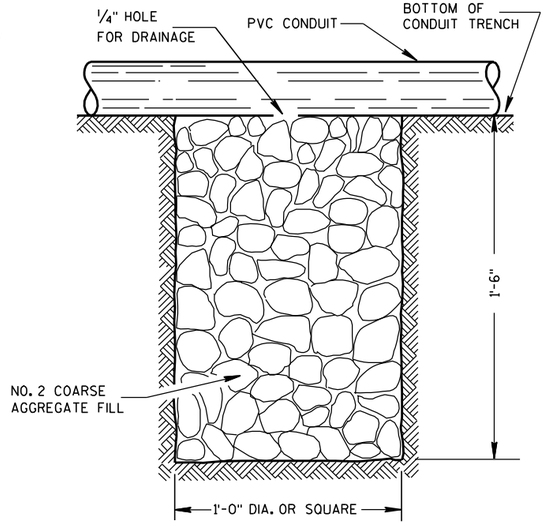
PLAN VIEW

ARROW MARK



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

DRAIN SUMP FOR METALLIC CONDUIT



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

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

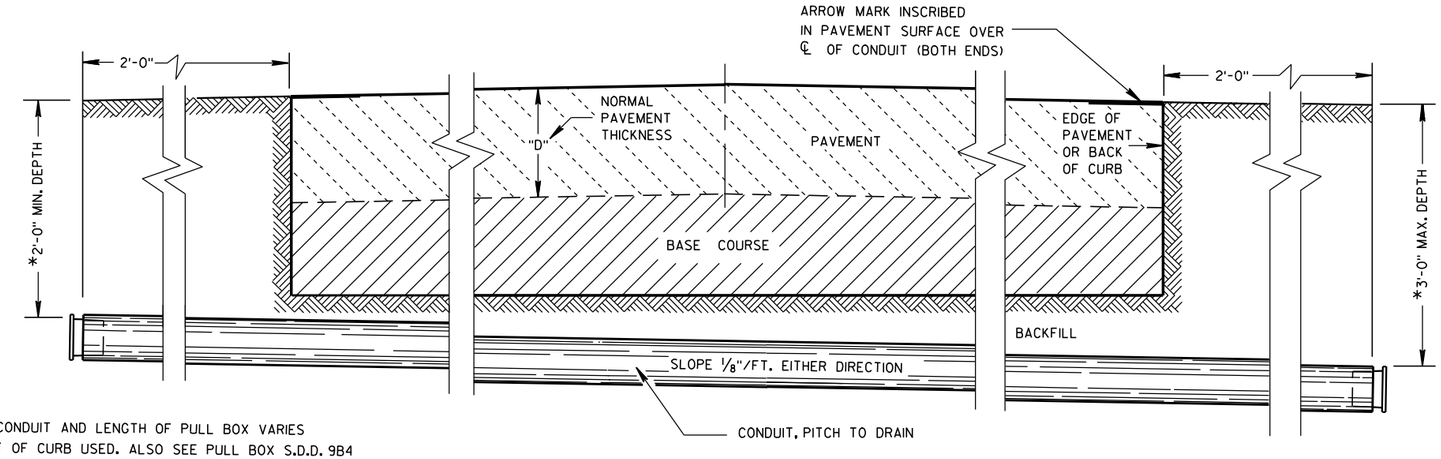
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

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

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



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI

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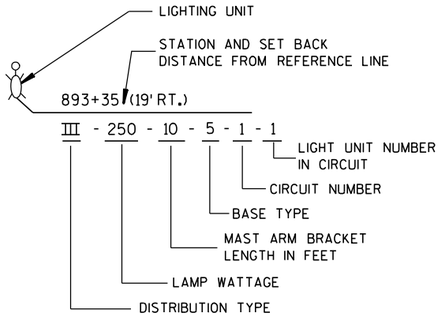
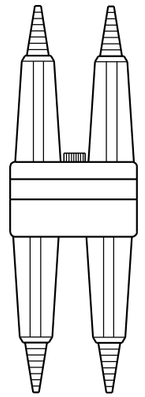
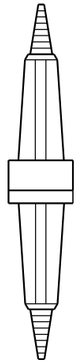


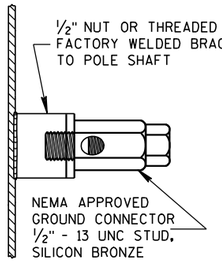
LIGHTING UNIT CODE
(TYPICAL)

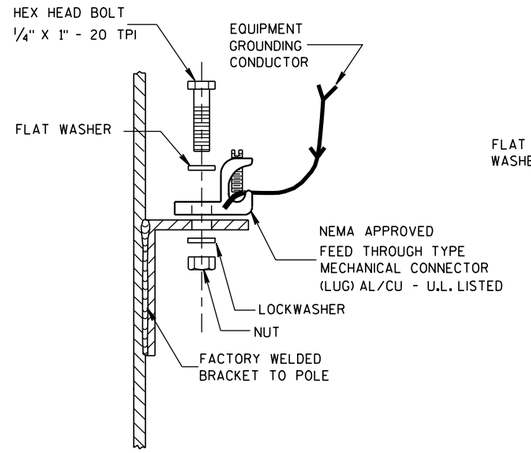


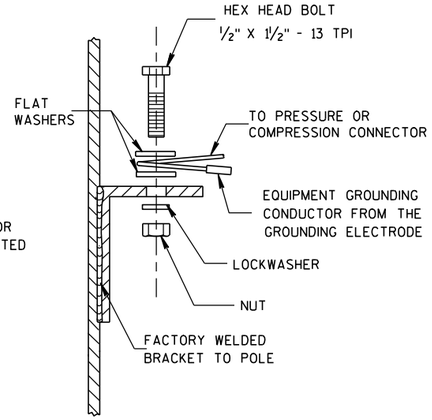
DETAIL "A"
BREAKAWAY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



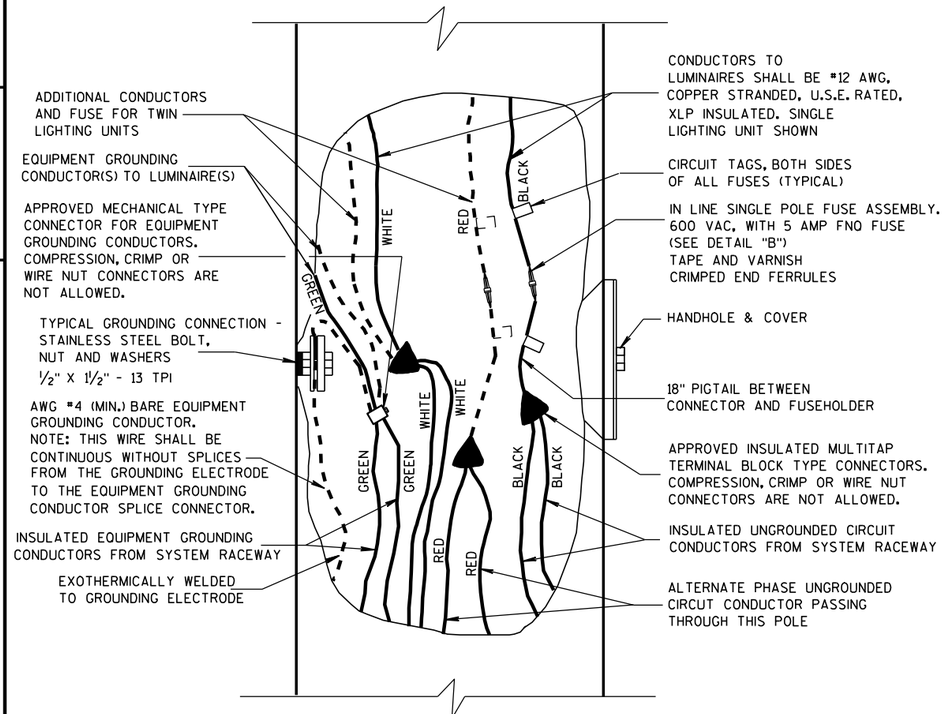
DETAIL "B"
BREAKAWAY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



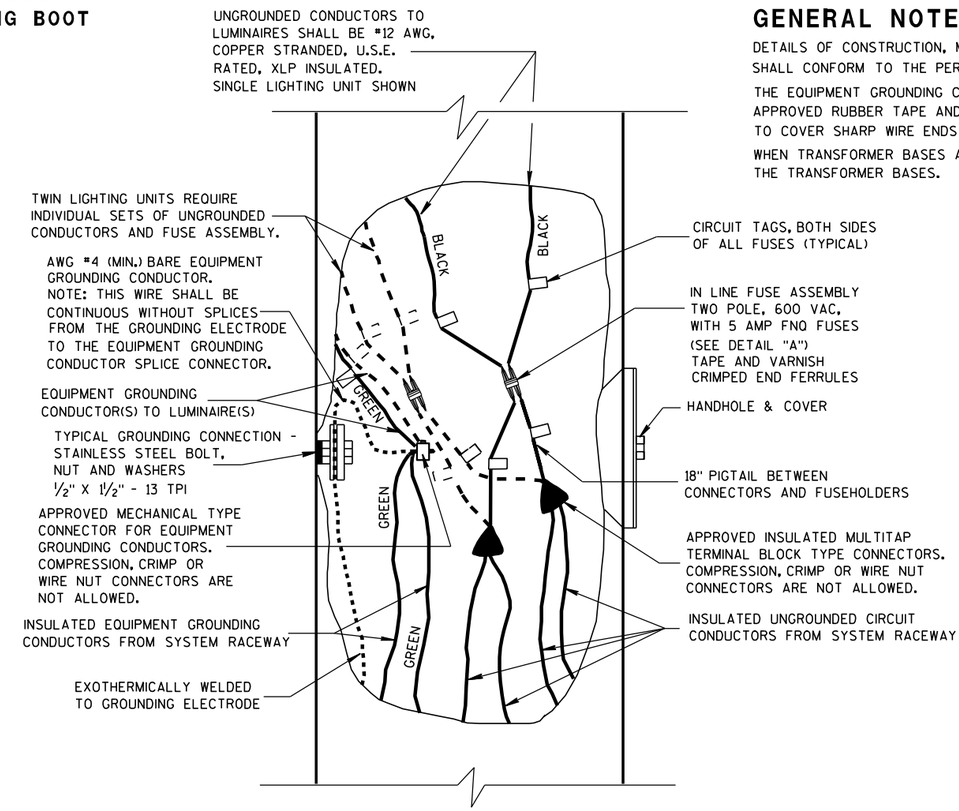




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 — DATE

/S/ Thomas J. Gosnine — STATE ELECTRICAL ENGI

HWYS

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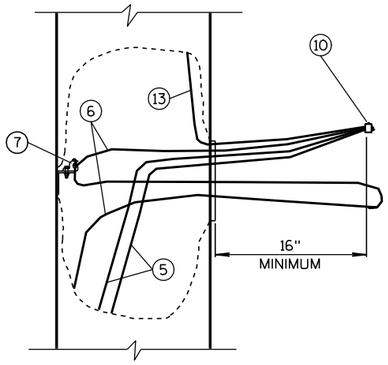
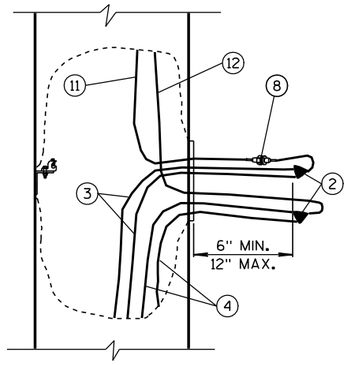
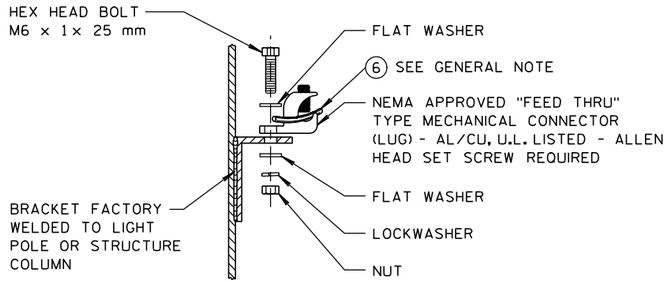


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



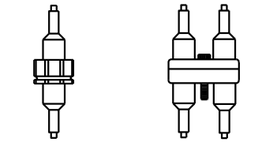
HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUNDED LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUNDED POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



FUSE ASSEMBLIES

GENERAL NOTES

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

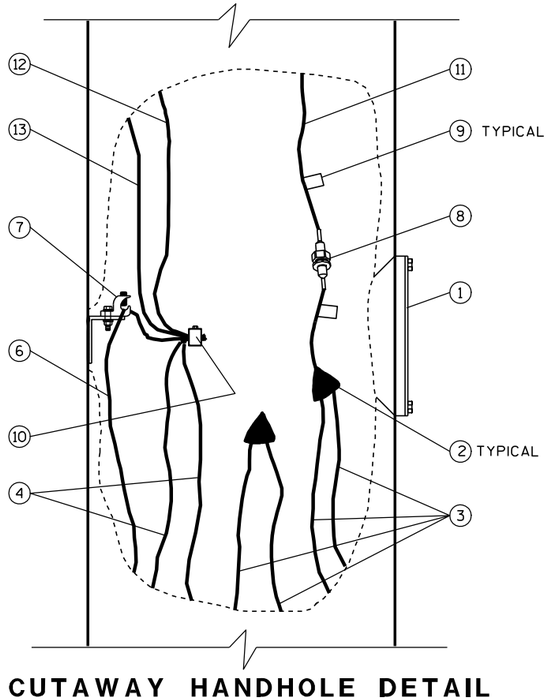
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

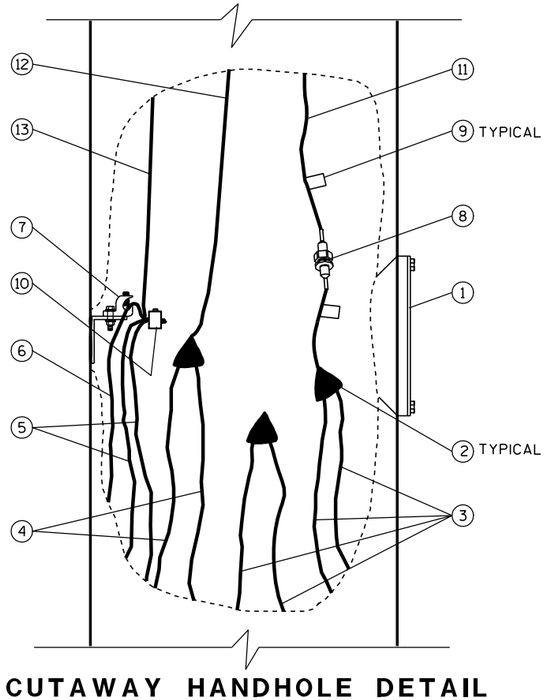
THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

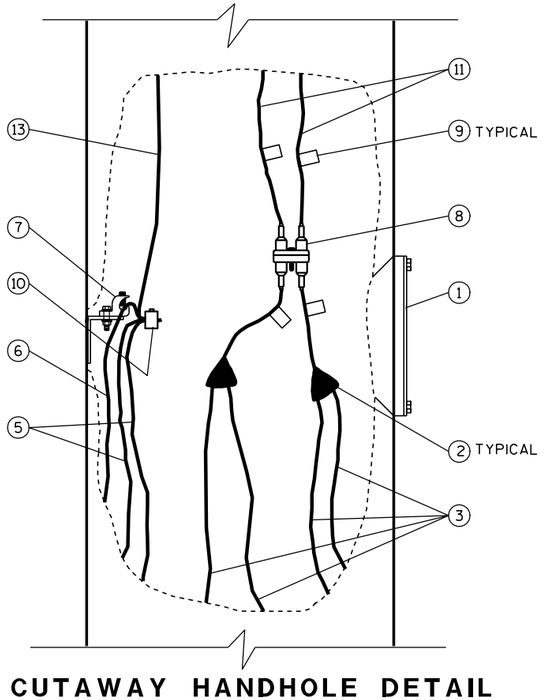
CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



CUTAWAY HANDHOLE DETAIL
GROUNDED NEUTRAL SYSTEMS
1-φ



CUTAWAY HANDHOLE DETAIL
ISOLATED NEUTRAL SYSTEMS
1-φ SHOWN; 3-φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL
PHASE-TO-PHASE SYSTEMS
1-φ SHOWN; 3-φ DELTA SIMILAR
(SEE GENERAL NOTE)

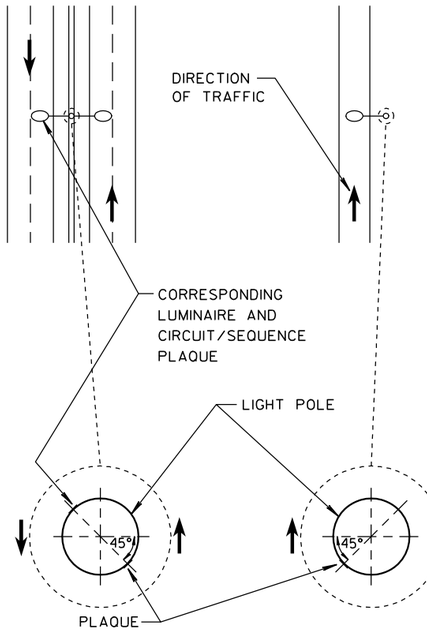
NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

1. HANDHOLE AND COVER
2. INSULATED SPLICE
3. UNGROUNDED LINE WIRE
4. GROUNDED LINE WIRE
5. SYSTEM GROUNDING LINE WIRE
6. GROUNDING ELECTRODE CONDUCTOR
7. HANDHOLE GROUNDING LUG
8. FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
9. CIRCUIT TAG (SEE GENERAL NOTE)
10. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
11. UNGROUNDED POLE WIRE
12. GROUNDED POLE WIRE
13. EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin STATE ELECTRICAL ENGI
HWYS
FHWA



MEDIAN POLE **SINGLE ARM POLE**

LOCATION OF LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND PAID SEPARATELY.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETRORFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

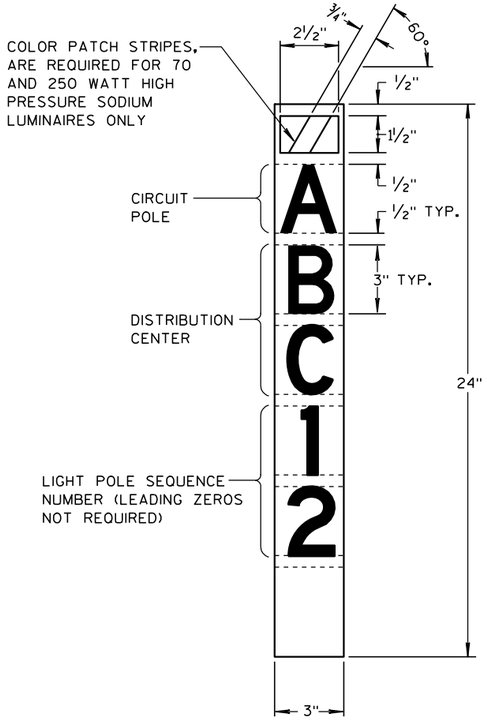
COLOR PATCHES - VARIOUS COLORS, SELF-ADHESIVE VINYL SHEETING

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM POLES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

COLOR PATCH CODE FOR HPS LUMINAIRES

1000 WATT - NO PATCH
400 WATT - ORANGE
310 WATT - BLUE
250 WATT - ORANGE WITH WHITE STRIPE
200 WATT - RED
150 WATT - GREEN
100 WATT - BROWN
70 WATT - BROWN WITH WHITE STRIPE



LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

IDENTIFICATION PLAQUES LIGHT POLES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 — DATE
/S/ John Corbin — STATE ELECTRICAL ENGI 70 — HWYS
FHWA

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

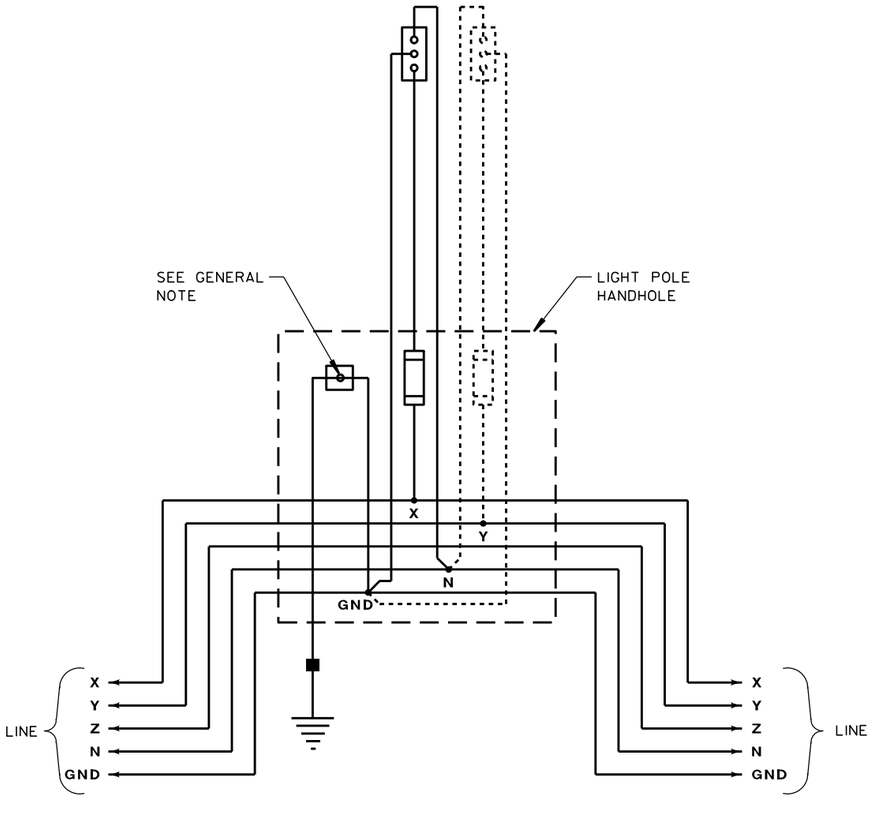
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

HANDHOLE FUSE SCHEDULES

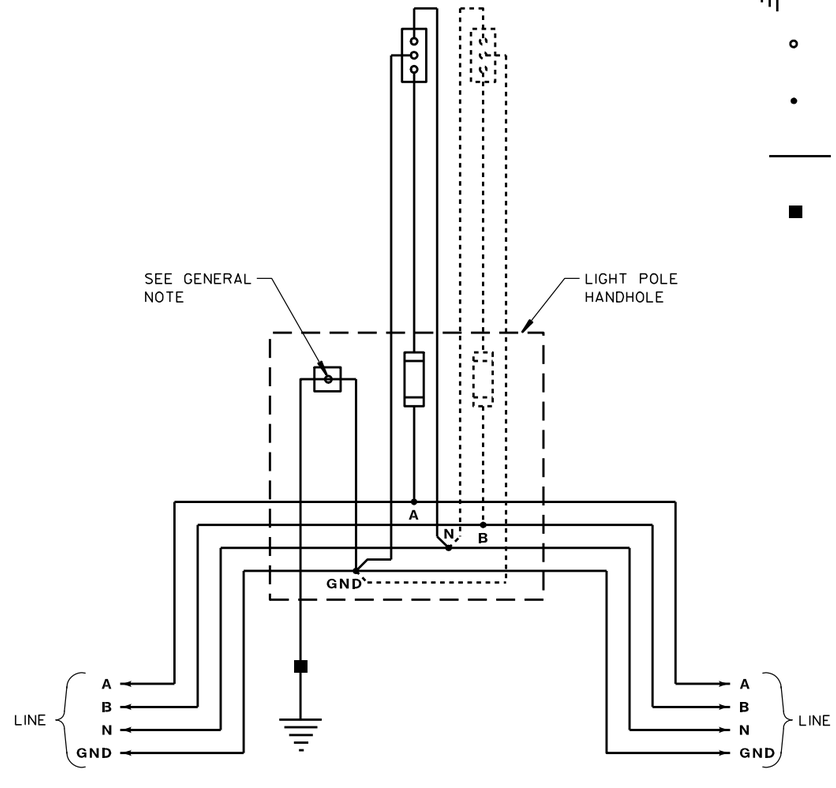
LINE VOLTAGE	BALLAST WATTAGE	
φ-GROUND	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
φ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	TWO-POLE (2P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
3-φ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
1-φ 120/240VAC OR 240/480VAC 3 WIRE

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin
STATE ELECTRICAL ENGI
HWYS
FHWA

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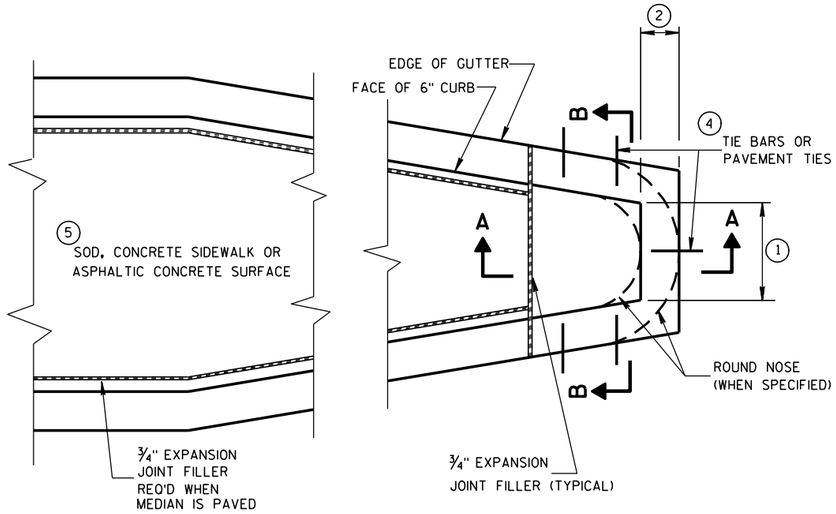
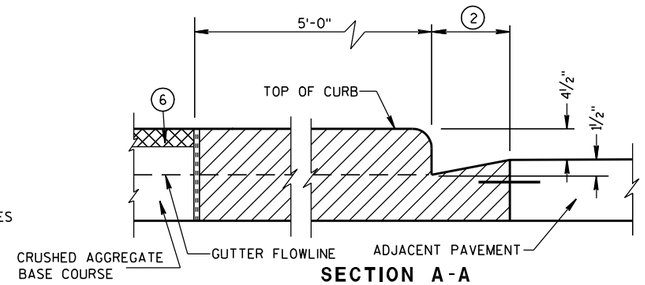
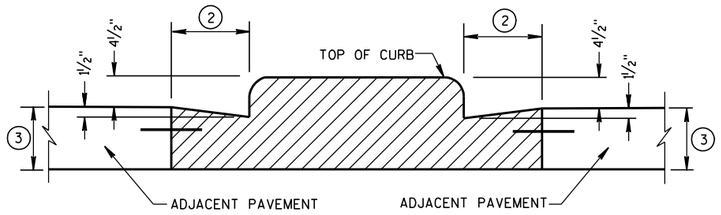




SECTION A-A



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.

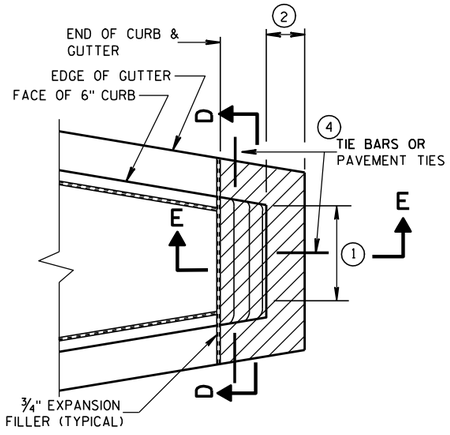
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

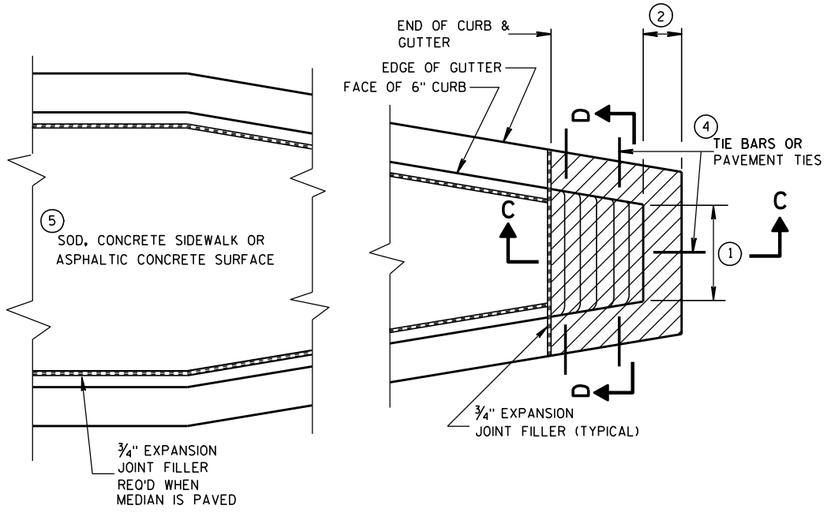
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

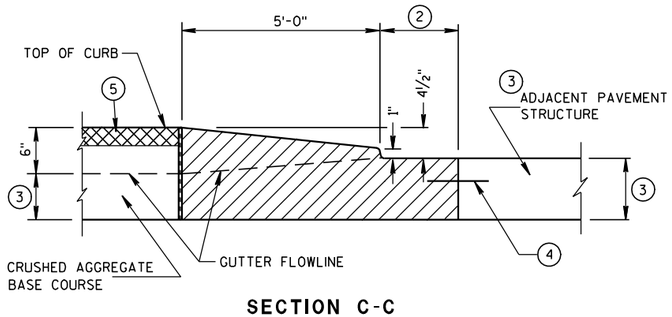
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

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.

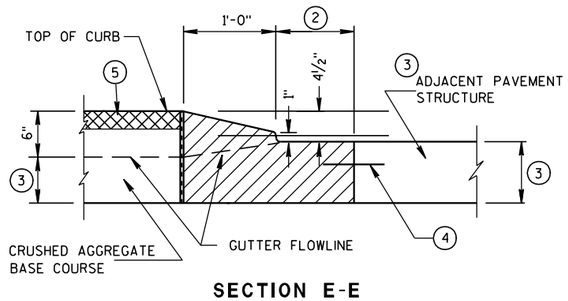
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.







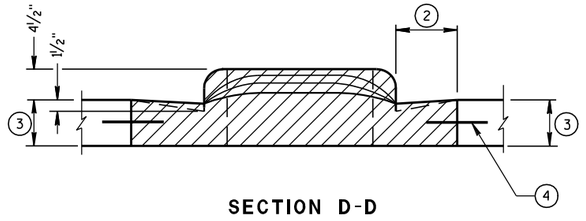
SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 1

CONCRETE MEDIAN SLOPED NOSE TYPE 2



SECTION D-D

CONCRETE MEDIAN NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/8/2006 DATE FHWA	/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER 172
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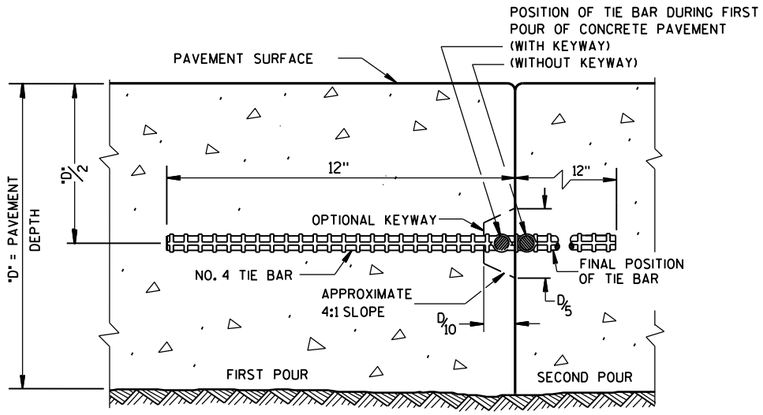
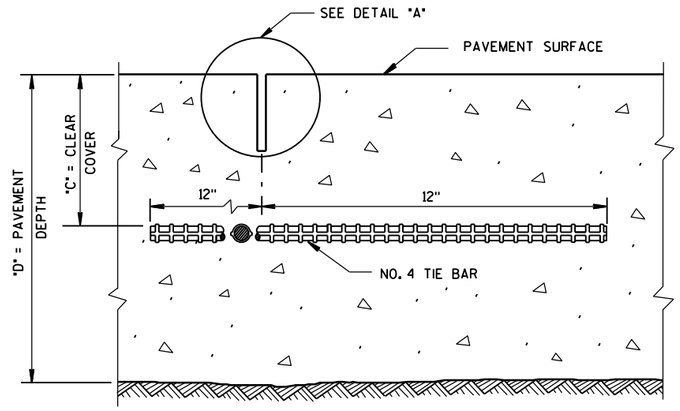


CONSTRUCTION JOINT



SAWED JOINT

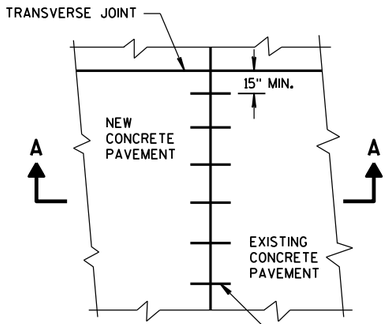
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

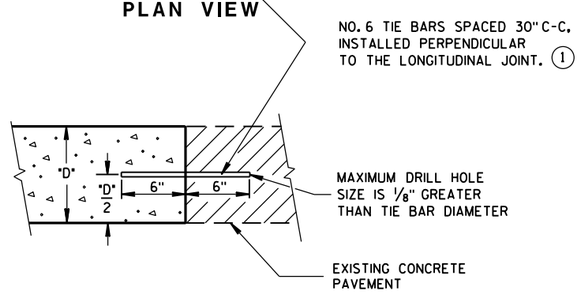
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

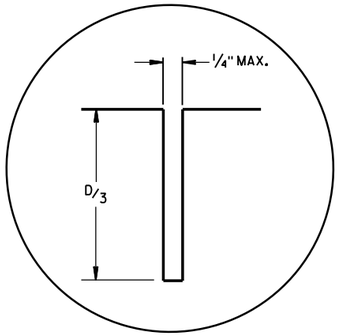


PLAN VIEW



SECTION A-A

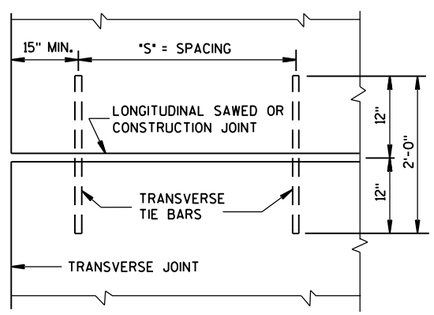
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER

FHWA

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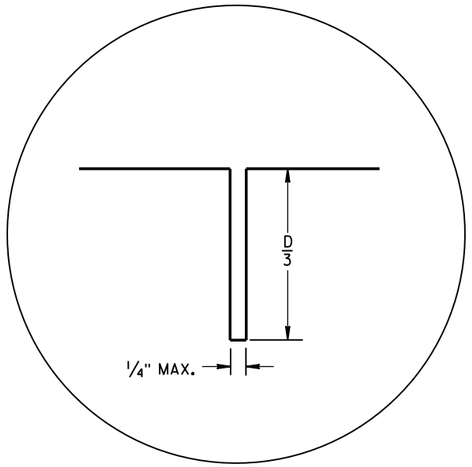
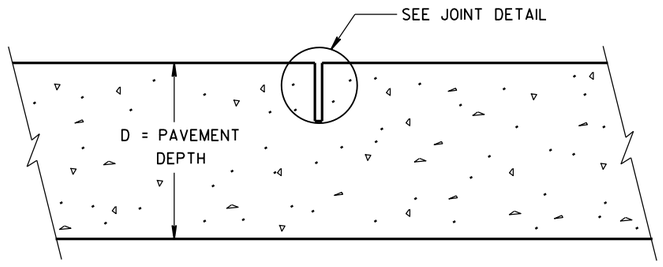


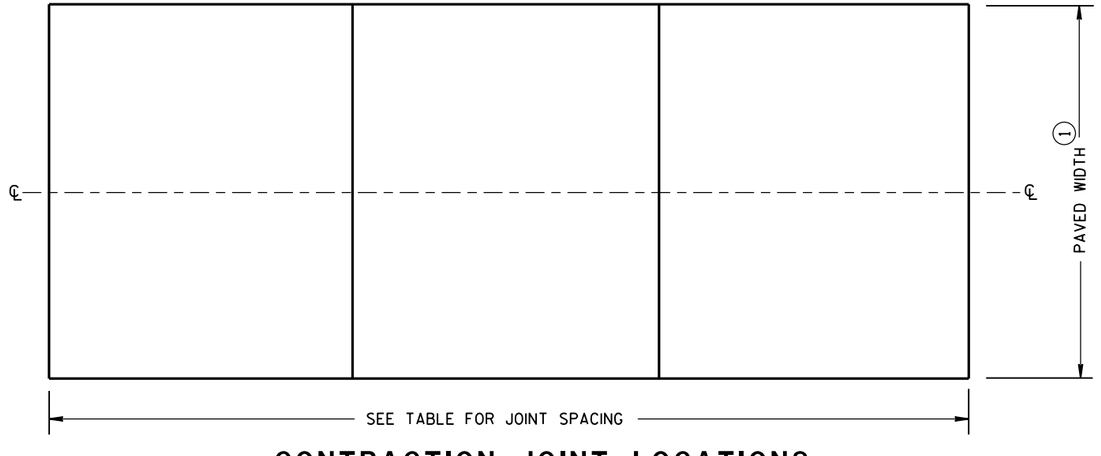
JOINT DETAIL



CONTRACTION JOINT

PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE.

LOCATE AND ORIENT CONTRACTION JOINTS THROUGH INTERSECTIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

CONSTRUCTION JOINTS

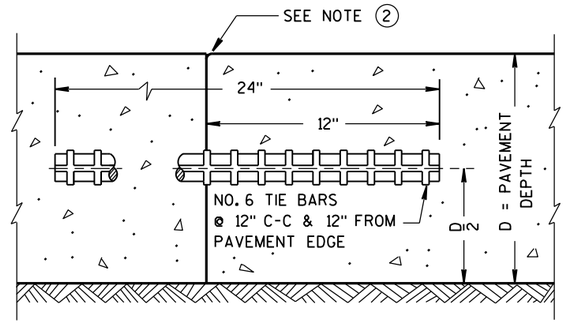
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

FORM OR SAW CONSTRUCTION JOINTS.

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

(1) REFER TO TYPICAL CROSS SECTIONS FOR PAVED WIDTH AND LOCATION OF LONGITUDINAL JOINTS.

(2) PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.



TIED TRANSVERSE CONSTRUCTION JOINT

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S.D.D. 13 C 4-16

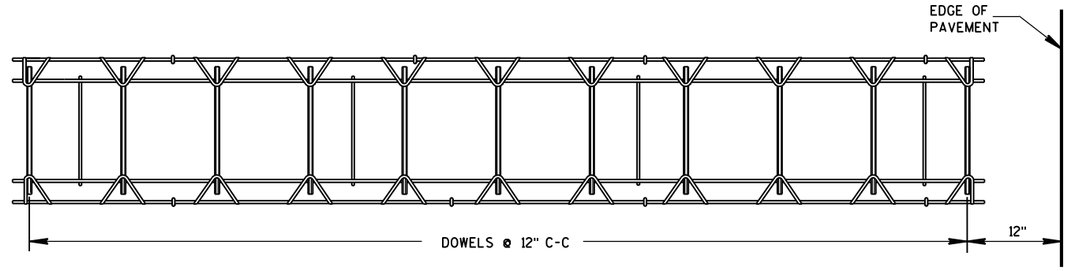
URBAN NON-DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/3/2013 DATE — /S/ Deb Bischoff PAVEMENT POLICY & DE — IEER

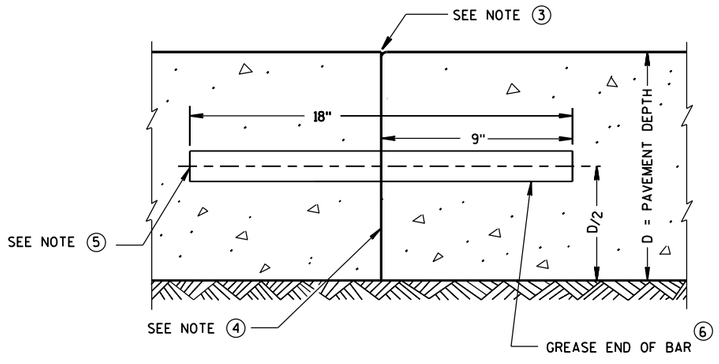
FHWA



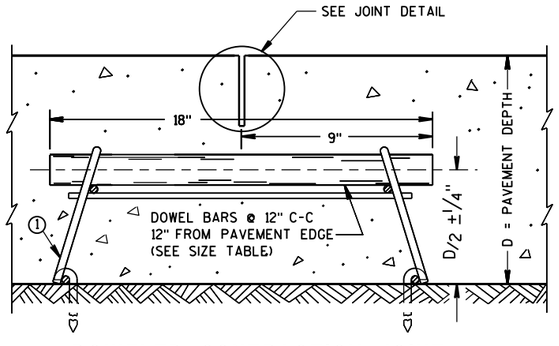
PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



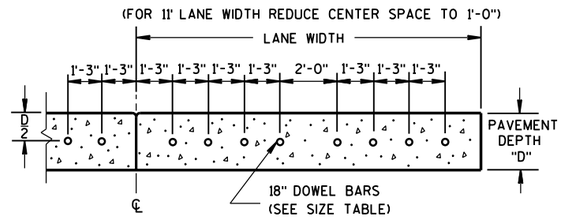
TRANSVERSE CONSTRUCTION JOINT



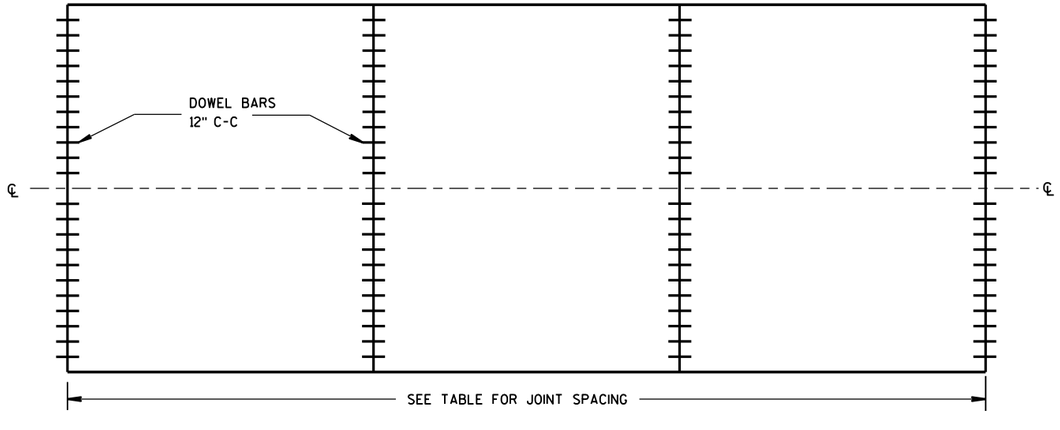
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① **OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.**

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

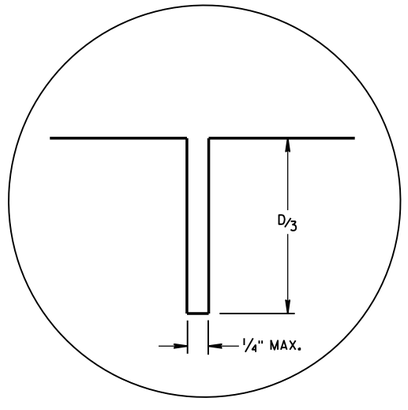
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER
FHWA

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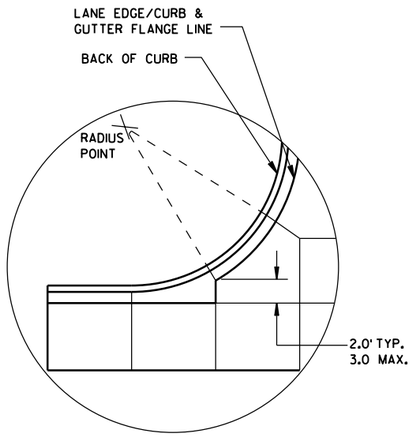
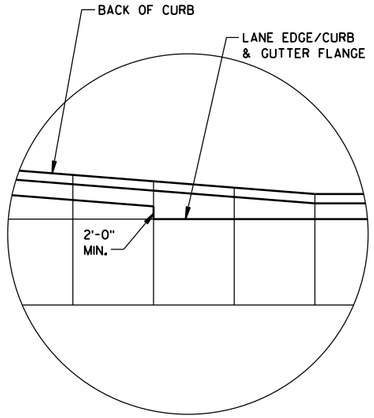
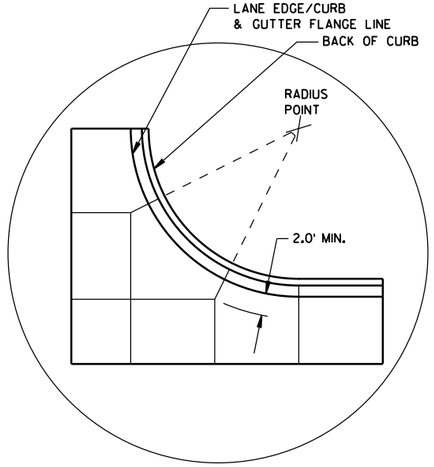


DETAIL "A"



DETAIL "B"



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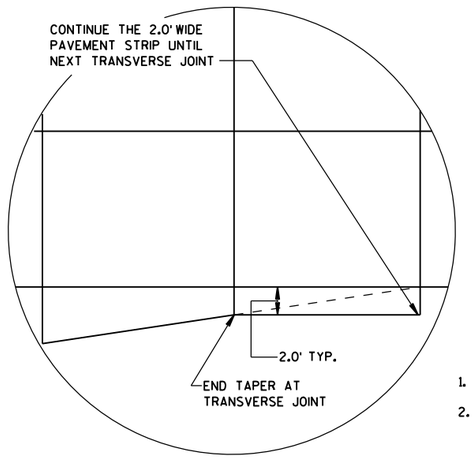


DETAIL "D"

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.

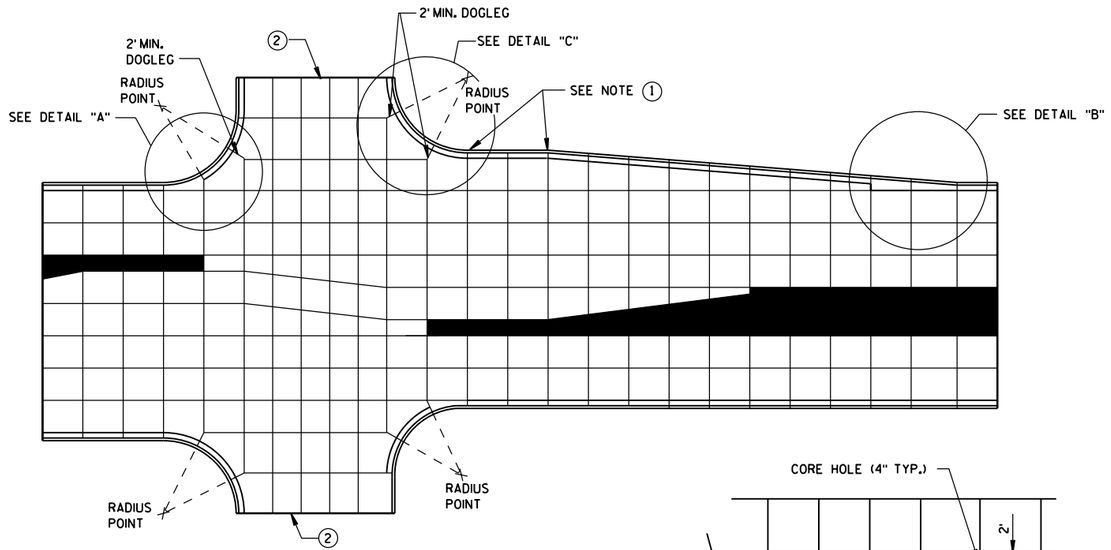
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

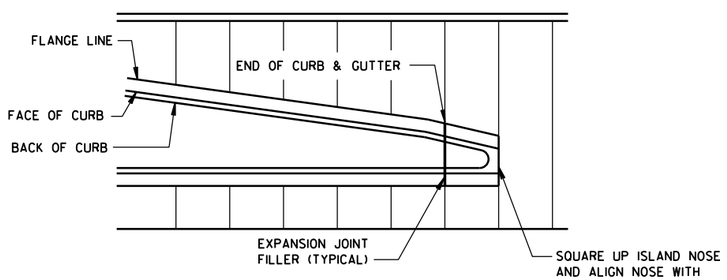


STANDARD INTERSECTION

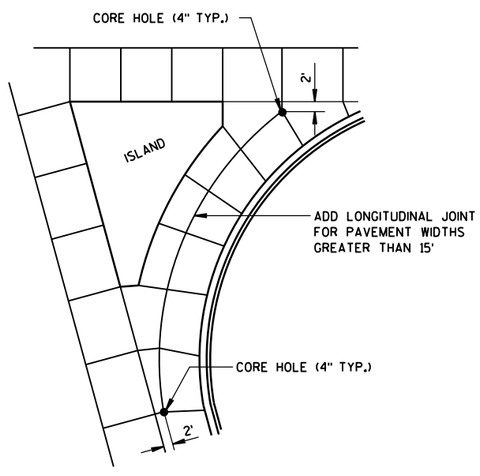
PAVEMENT DEPTH AND JOINT SPACING TABLE

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

SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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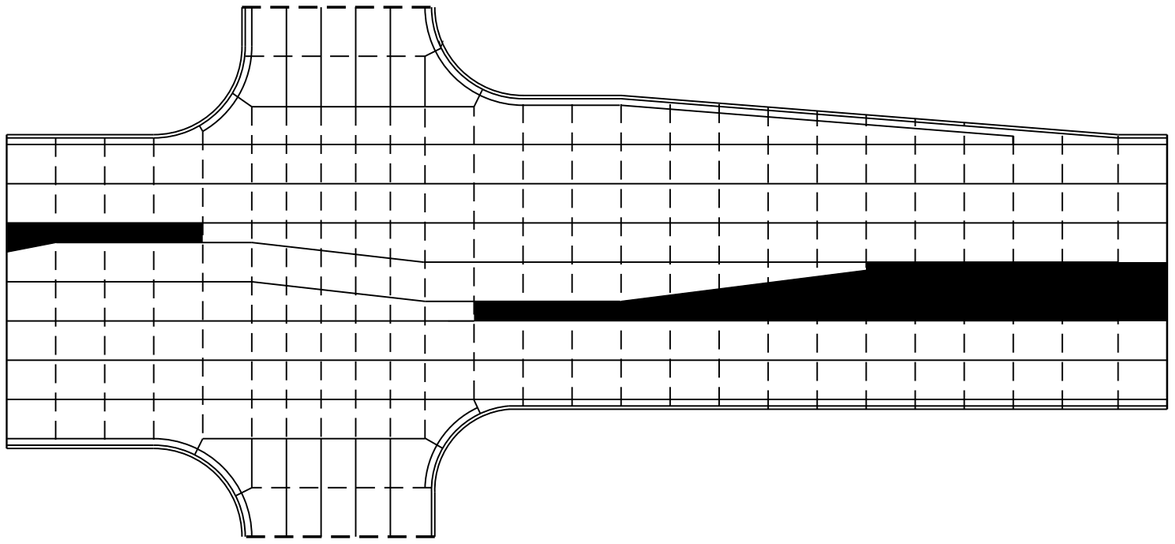
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

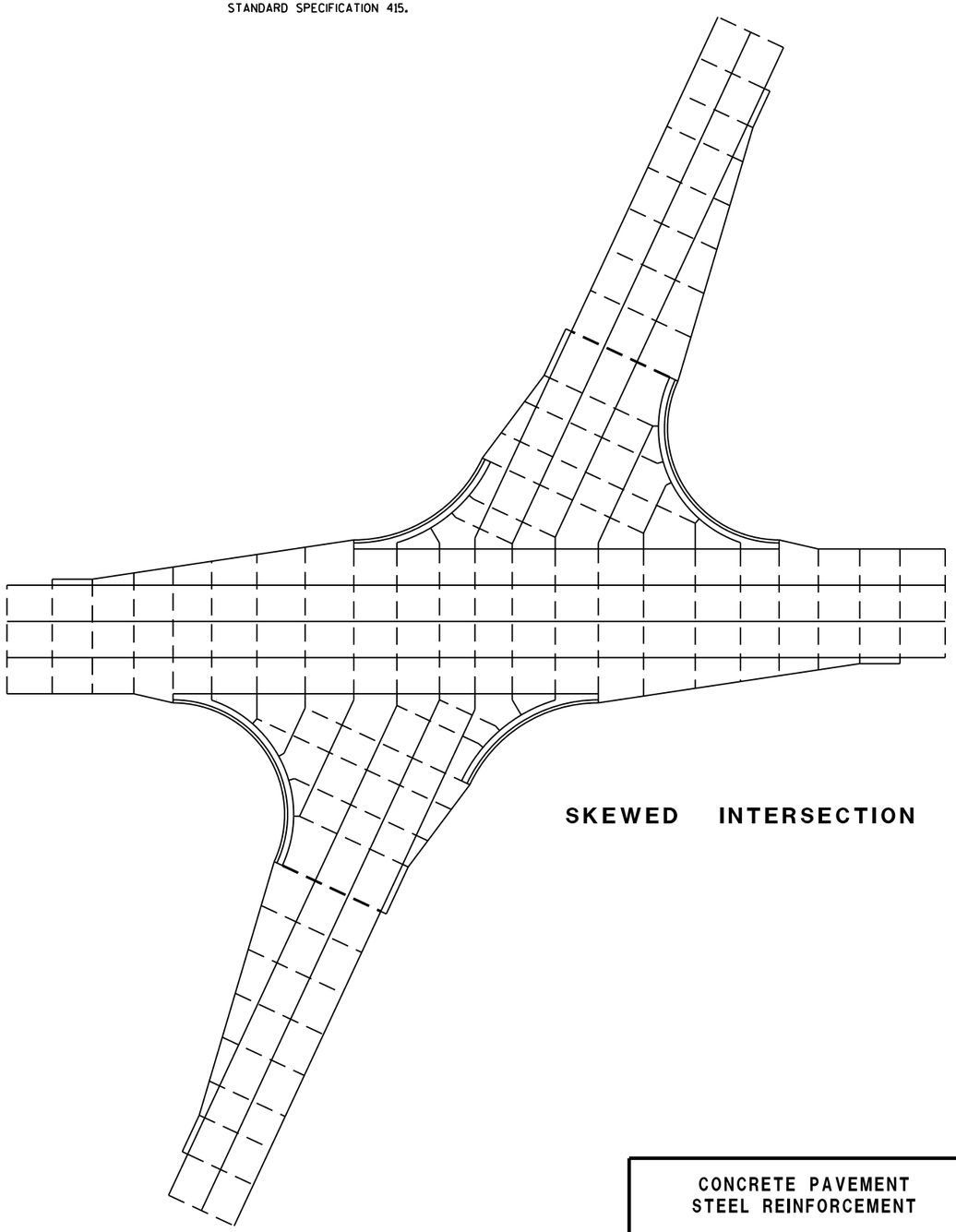
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 13 C 18-2b

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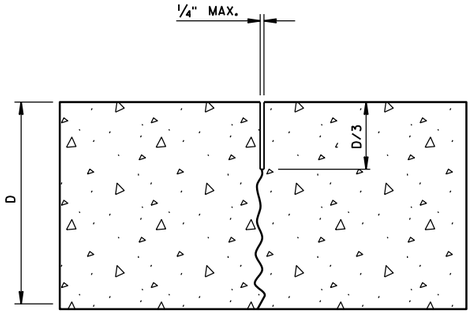
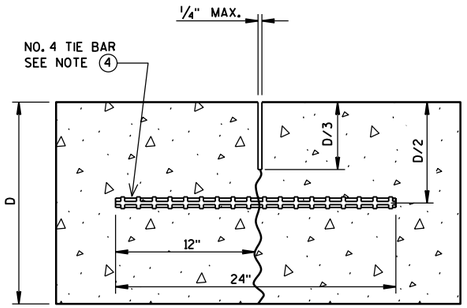
S.D.D. 13 C 18-2b



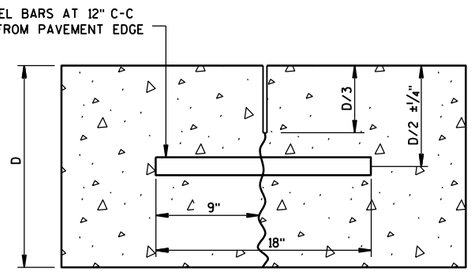
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

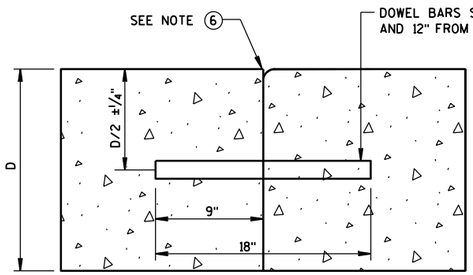
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



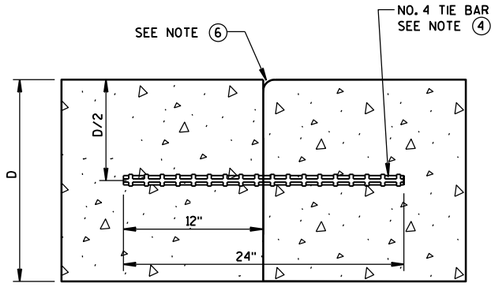
DOWELED-TRANSVERSE

CONTRACTION JOINTS

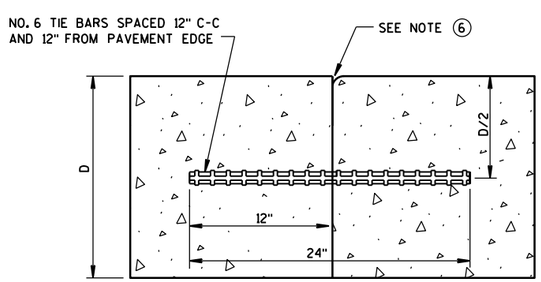
SEE NOTE (2)



DOWELED TRANSVERSE

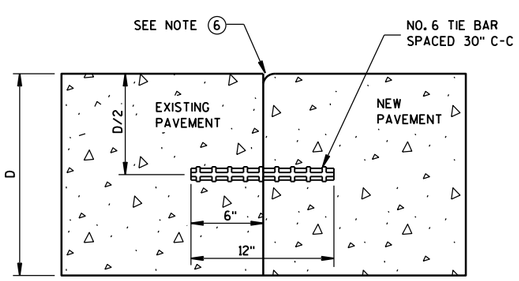


TIED LONGITUDINAL



TIED TRANSVERSE

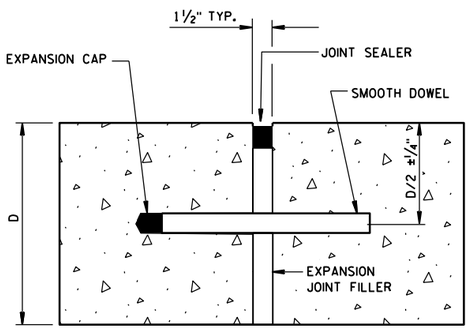
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

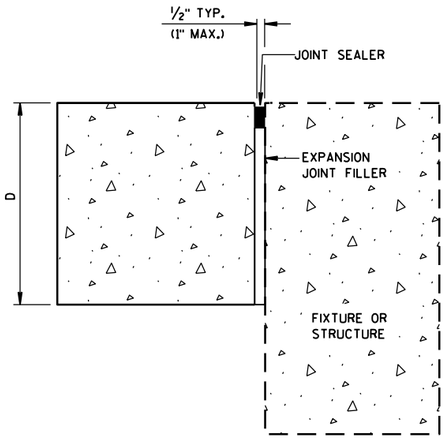
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

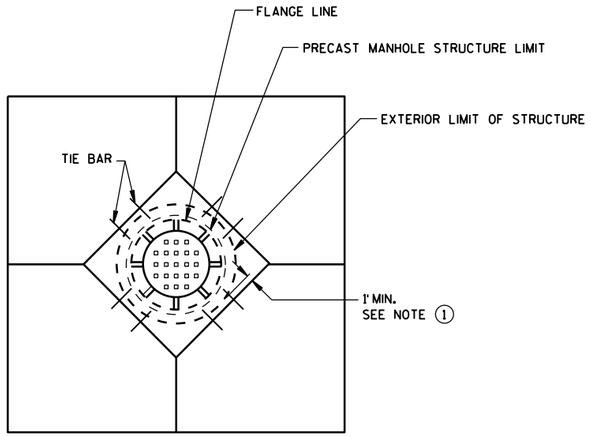
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

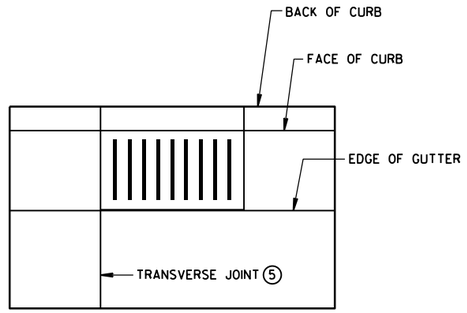
S.D.D. 13 C 18-2c

6

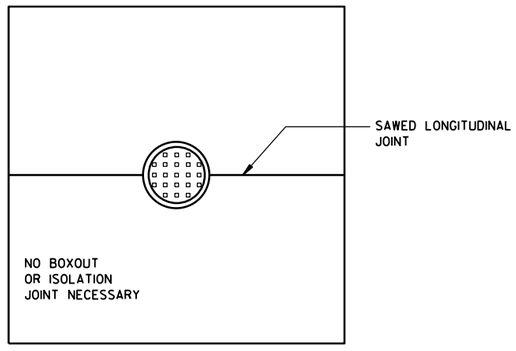
S.D.D. 13 C 18-2c



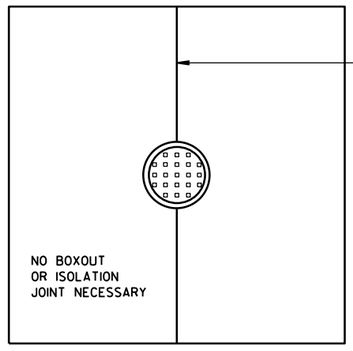
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



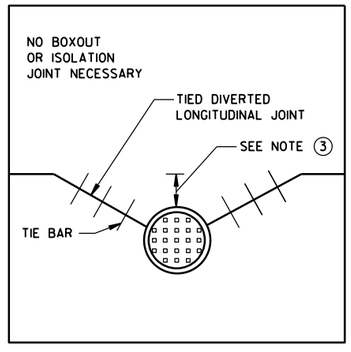
INLET WITH TRANSVERSE JOINT



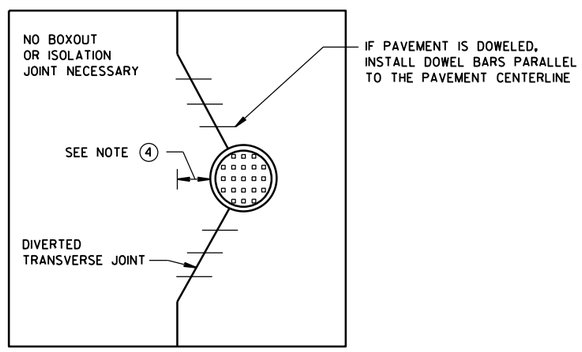
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

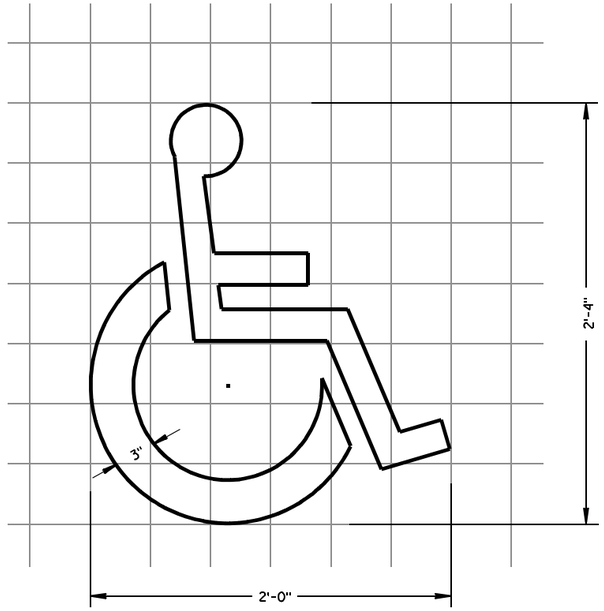
APPROVED
5-3-2013 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE
NEER
FHWA

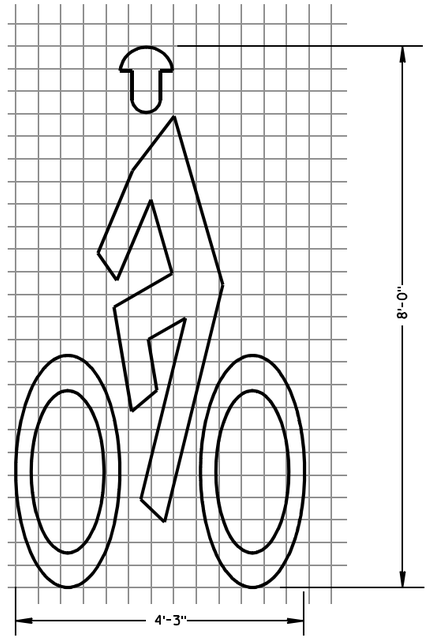
GENERAL NOTES

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

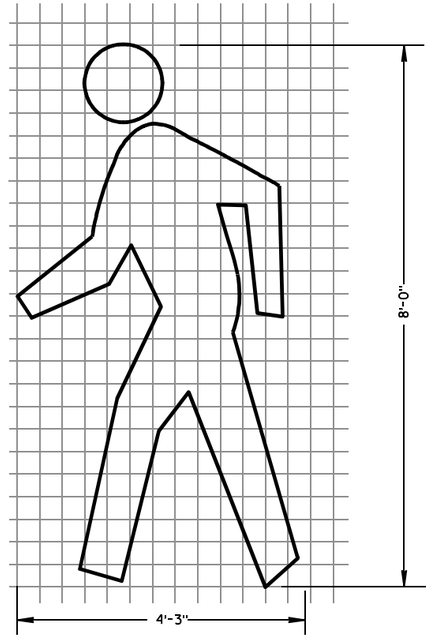
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

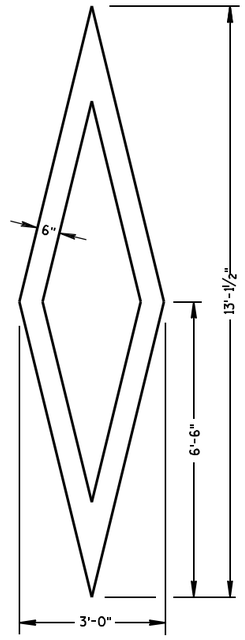




BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL LANE SYMBOL

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 DATE

/S/ Thomas N Nathan STATE TRAFFIC ENGINEER

FHWA

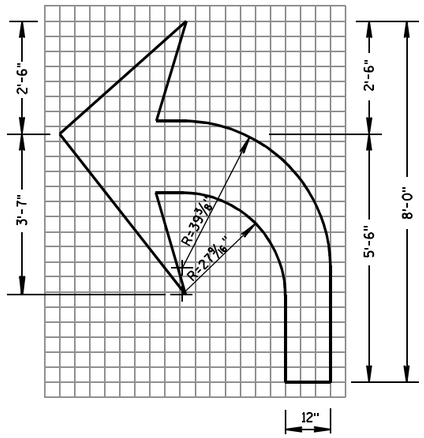
6

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

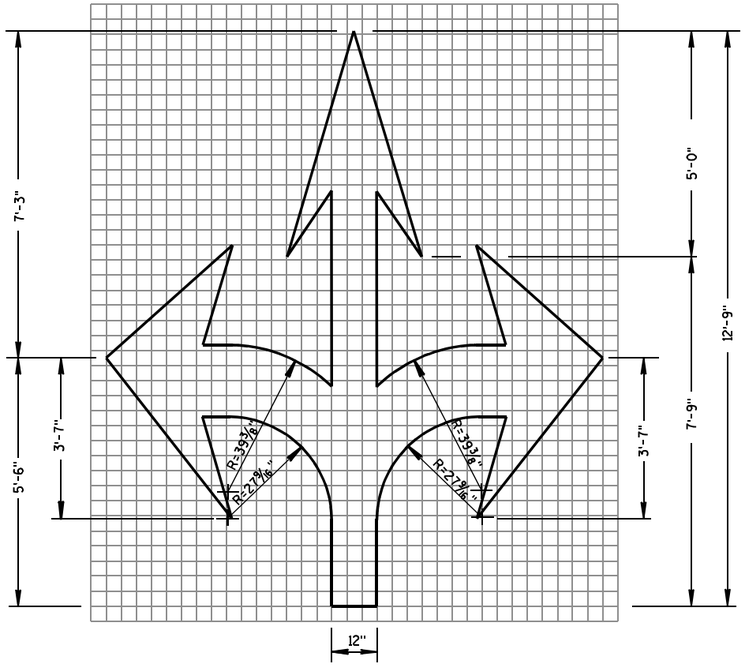
GENERAL NOTES

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

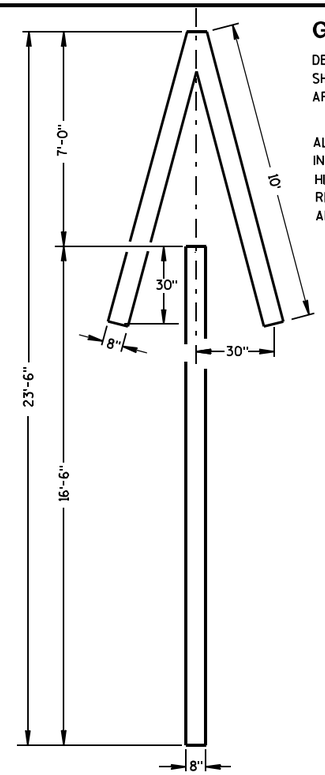
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



TYPE 2



TYPE 6



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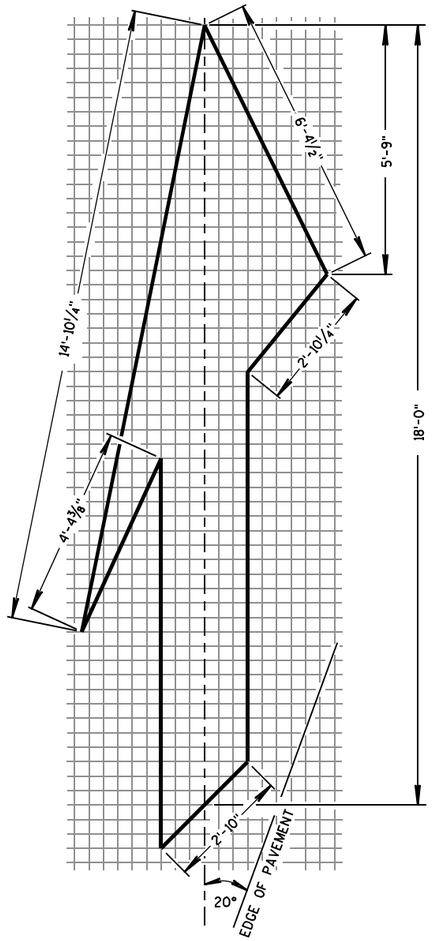
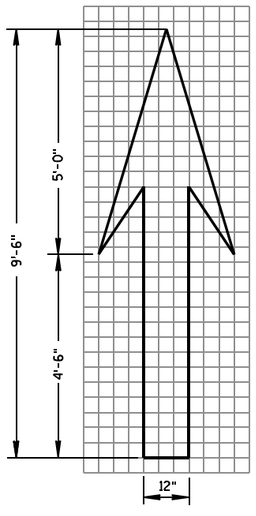
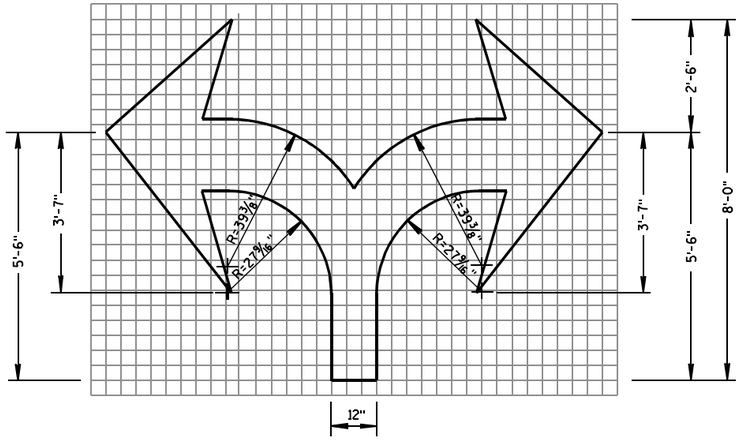


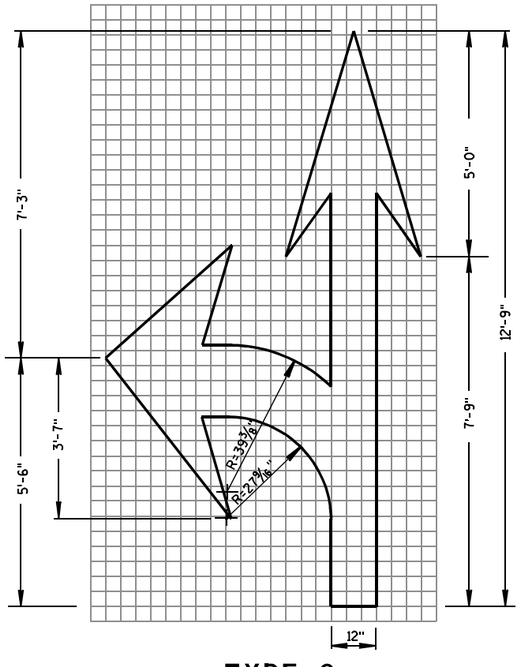
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

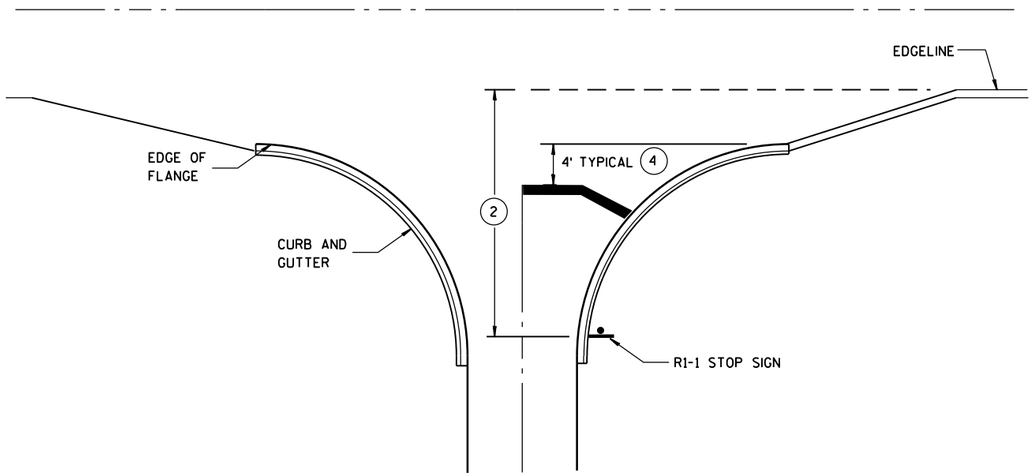
7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

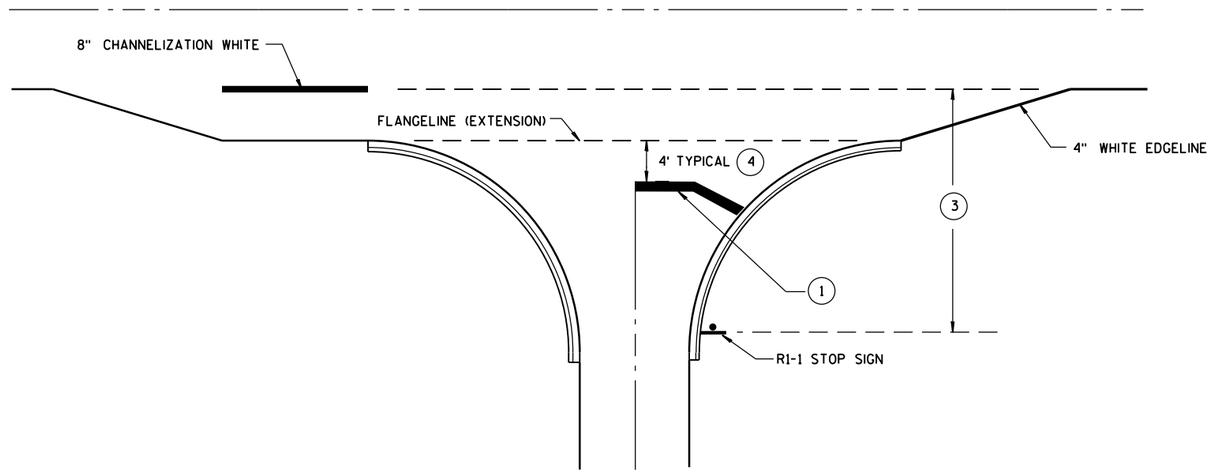
FHWA

6

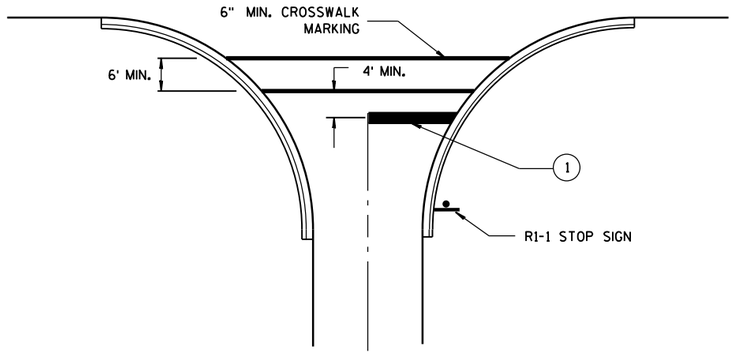
S.D.D. 15 C 7-12c



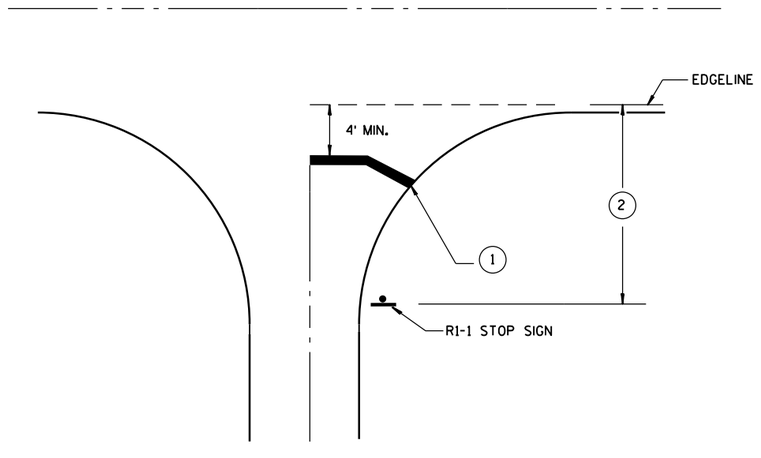
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

S.D.D. 15 C 33-1

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

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.

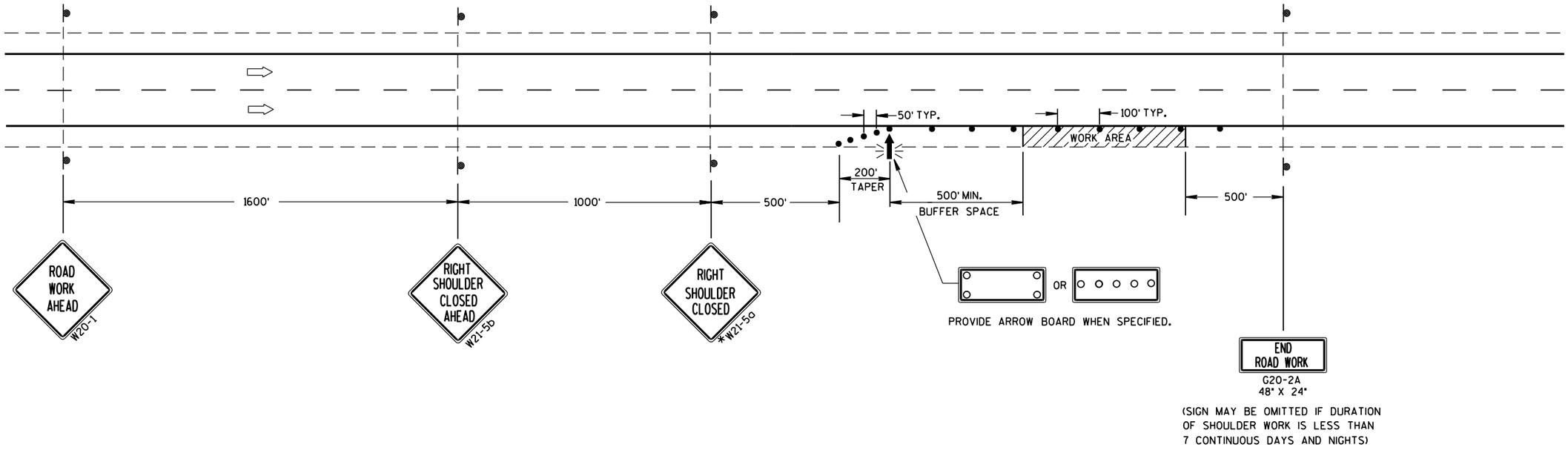
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 D 27-2

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.

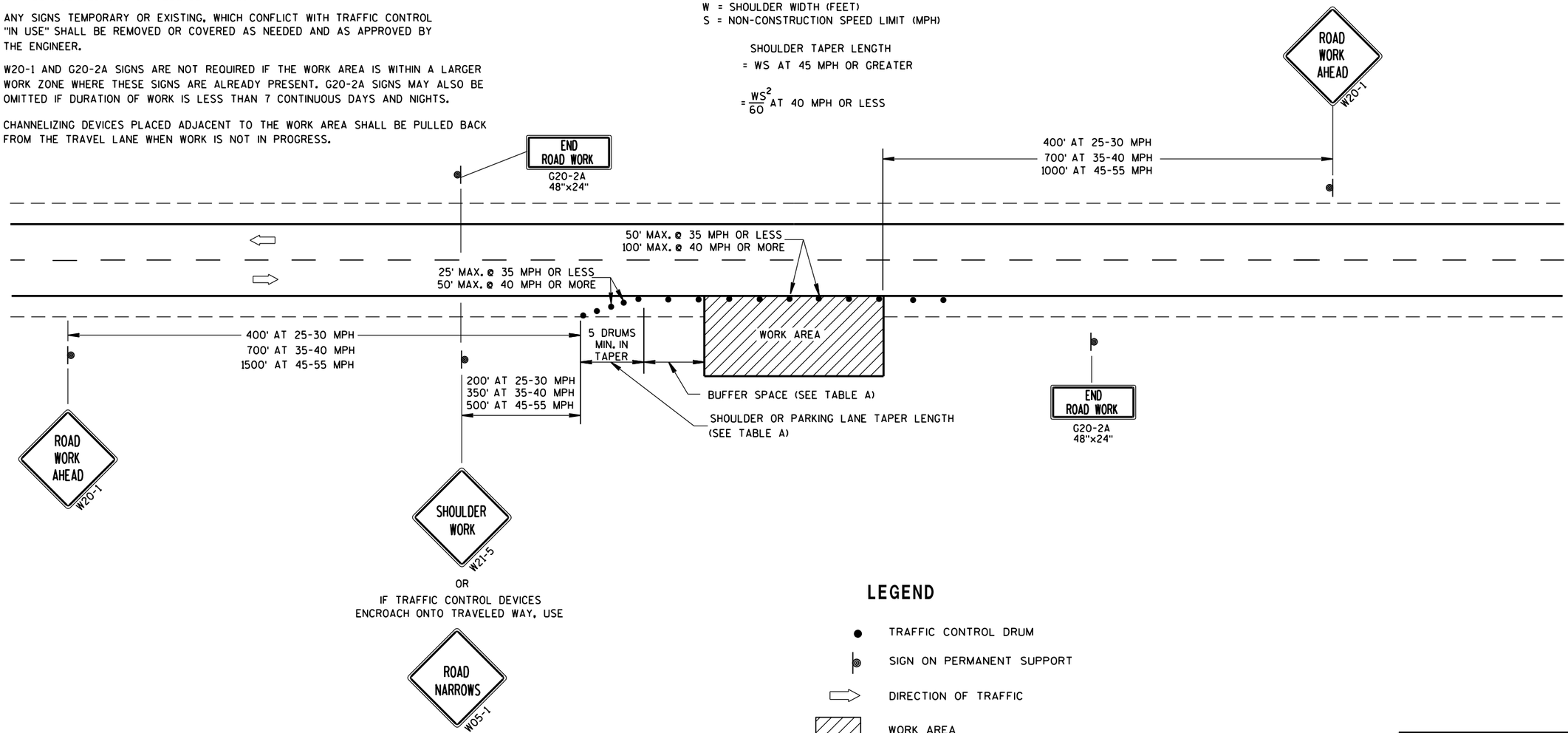
TABLE A

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
= WS AT 45 MPH OR GREATER

$= \frac{WS^2}{60}$ AT 40 MPH OR LESS



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

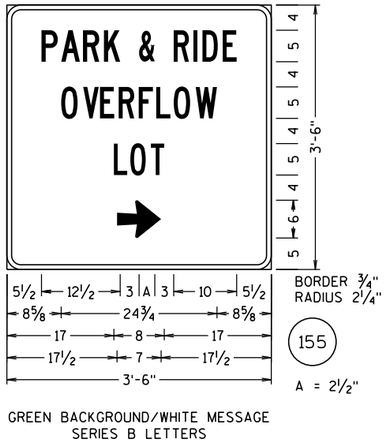
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

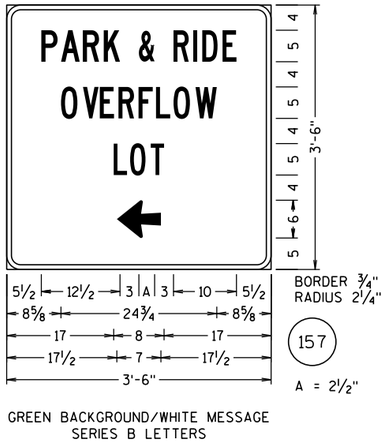
FHWA

6

S.D.D. 15 D 28-2



GREEN BACKGROUND/WHITE MESSAGE
SERIES B LETTERS



GREEN BACKGROUND/WHITE MESSAGE
SERIES B LETTERS

GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"

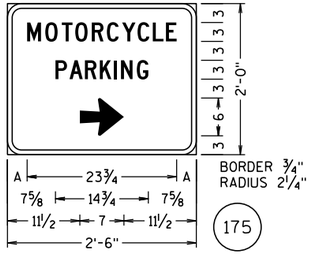
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

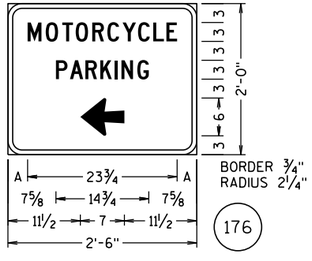
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.



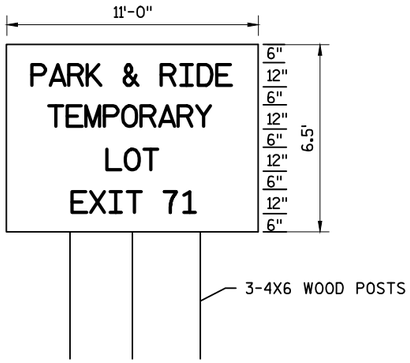
WHITE BACKGROUND/
BLACK MESSAGE
SERIES B LETTERS



WHITE BACKGROUND/
BLACK MESSAGE
SERIES B LETTERS

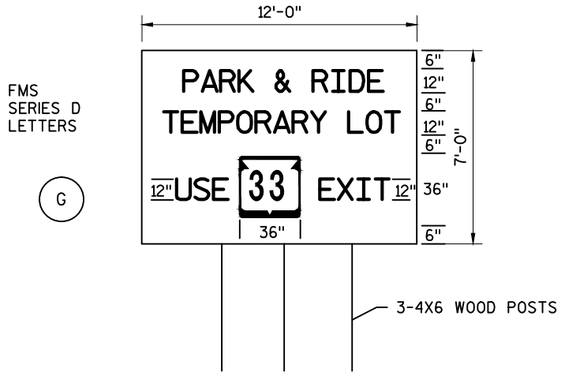
F

FMS
12" SERIES
D
LETTERS



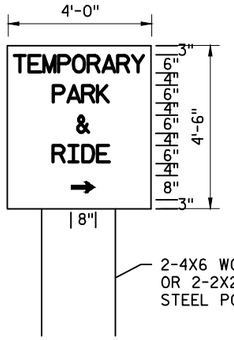
G

FMS
SERIES D
LETTERS



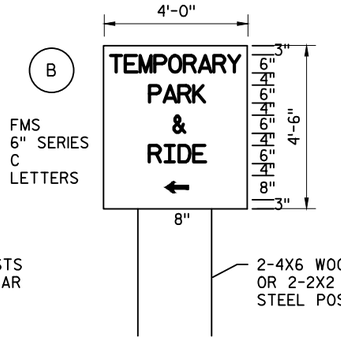
A

FMS
6" SERIES
C
LETTERS



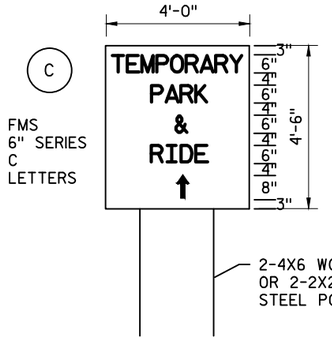
B

FMS
6" SERIES
C
LETTERS



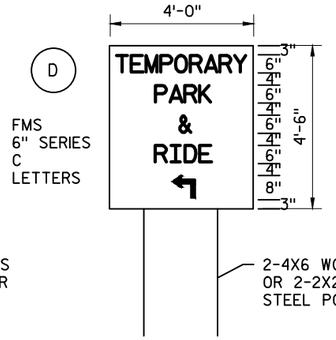
C

FMS
6" SERIES
C
LETTERS



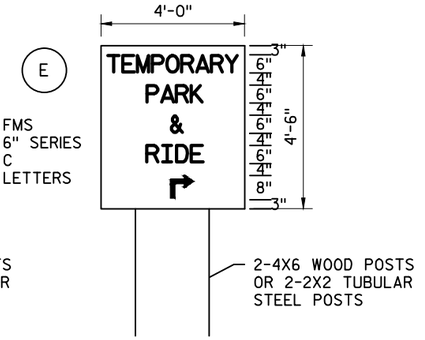
D

FMS
6" SERIES
C
LETTERS



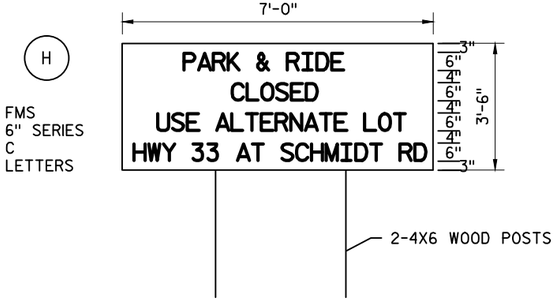
E

FMS
6" SERIES
C
LETTERS



H

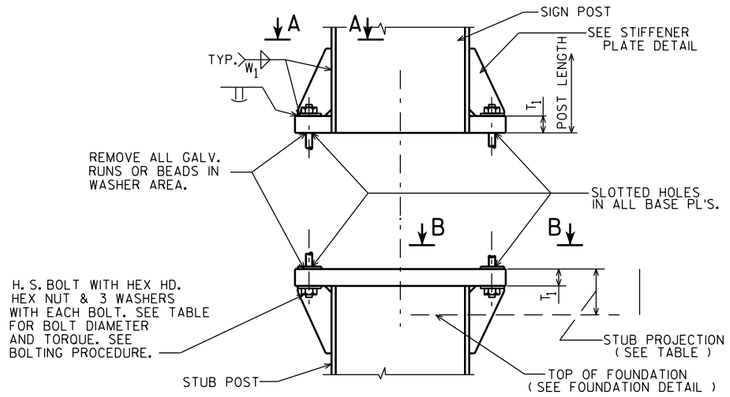
FMS
6" SERIES
C
LETTERS



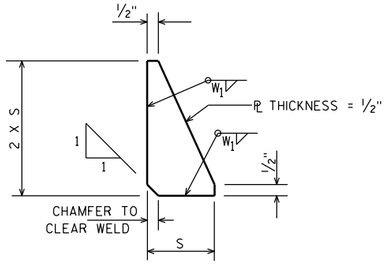
7

7

PROJECT NO:2707-03-71	HWY:USH 45 P&R LOT 66-55	COUNTY:WASHINGTON	FIXED MESSAGE SIGN DETAIL	SCALE: 0 1/2" 1"	SHEET 86	E

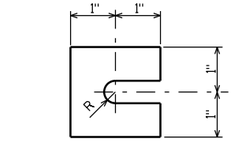


SIGN POST AND STUB POST ELEVATION



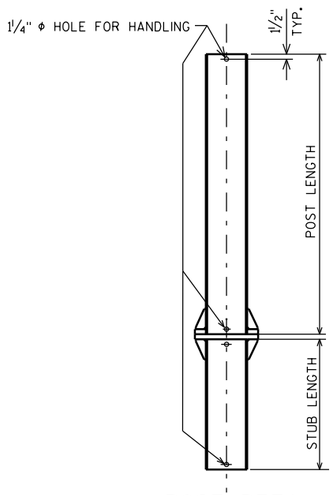
STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)

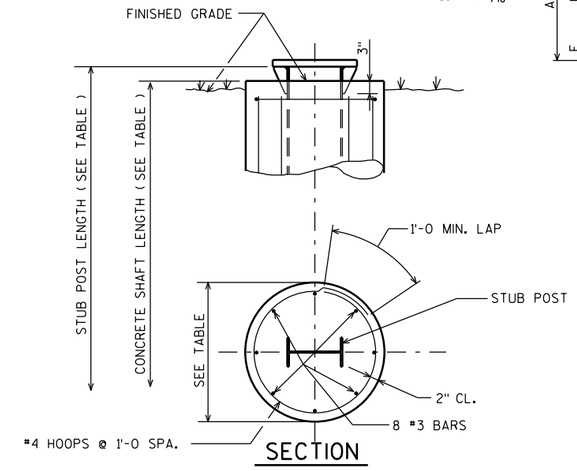


FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

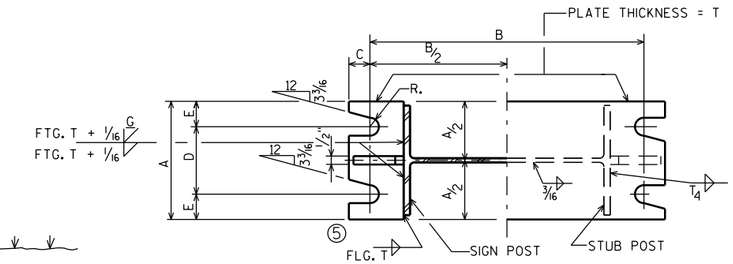
SHIM DETAIL



POST DETAIL

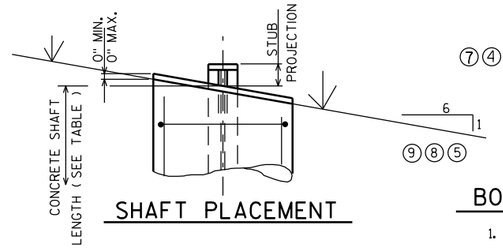


SECTION



SECTION A-A

SECTION B-B



SHAFT PLACEMENT

DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

GROUP LOADS	PERCENT OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD & WIND	140
3. DEAD, ICE & ½ WIND[4]	140 [4]25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50.
(9) THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
H.S. BOLTS, WASHERS & NUTS SHALL BE A325 GALVANIZED WHEN POSTS, POST STUBS AND ATTACHMENTS ARE A709 GRADE 50 AND GALVANIZED.

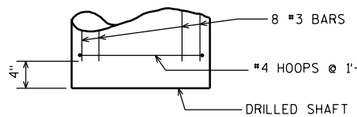
BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

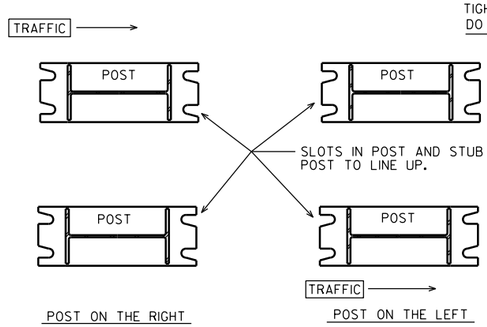
NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

QUANTITIES FOR 1 FOOTING	CONC. MASONRY C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
(7) E	1.0	62

REINF. TYPE	#3	#4
A	8 @ 4'-5	5 @ 6'-3
B	8 @ 6'-5	7 @ 6'-3
C	8 @ 6'-11	7 @ 6'-3
D	8 @ 7'-5	8 @ 6'-3
(7) E	8 @ 7'-11	9 @ 6'-3



FOUNDATION DETAIL



POST SLOT ORIENTATION (7)

TYPE	POST SIZE	BOLT SIZE & TORQUE	A	B	C	D	E	T1	T4	W1	R	S	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	(2) K
(4) A	W10"X12.0 #/FT.	¾" Φ @ 75#-FT.	5¼"	1'-0⅜"	⅞"	3½"	⅞"	1"	3/16"	5/16"	13/32"	2⅛"	3'-6	3"	2'-0 Φ	5'-0	76.0# (4)
(4) B	W12"X16.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1¼"	¼"	5/16"	15/32"	3"	5'-6	3"	2'-0 Φ	7'-0	146.5# (4)
C	W12"X19.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1½"	5/16"	5/16"	15/32"	3"	6'-0	3"	2'-0 Φ	7'-6	182.1#
D	W12"X22.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1½"	⅜"	5/16"	15/32"	3"	6'-6	3"	2'-0 Φ	8'-0	210.5#
(3) E	W12"X26.0 #/FT.	1" Φ @ 90#-FT.	7"	1'-4¼"	1¼"	4"	1½"	1½"	⅜"	5/16"	11/32"	3"	7'-0	3"	2'-0 Φ	8'-6	293.0# (3)

BASE CONNECTION DATA TABLE — FOUNDATION DATA

(1) (6) (1)

STRUCTURAL CARBON STEEL PAY WTS. (1 POST) = K+ (POST LENGTH X POST WT.)
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION
APPROVED Matthew R Rauch for State Traffic Engineer
DATE 2/06/14 PLATE NO. A3-1.14

NO.	DATE	REVISION
(10)	1-21-14	LUBRICATION OF BASE BOLTS
(9)	4-26-11	REMOVE NON-GALVANIZED
(8)	10-30-96	NOT GALVANIZED/GALVANIZED
(7)	10-30-92	QUANT., A588 EXCEPT., ADD SLOT VIEW
(6)	8-24-87	BASE CONN. WELD
(5)	10-13-81	BASE CONN. WELD & FUSE PL WASHERS
(4)	10-19-79	POST A & B, A572 GR. 50, & K
(2)	11-28-78	"K" (3) 4-23-79 TYPE "E"
(1)	5-4-78	T1 , T2 & W1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

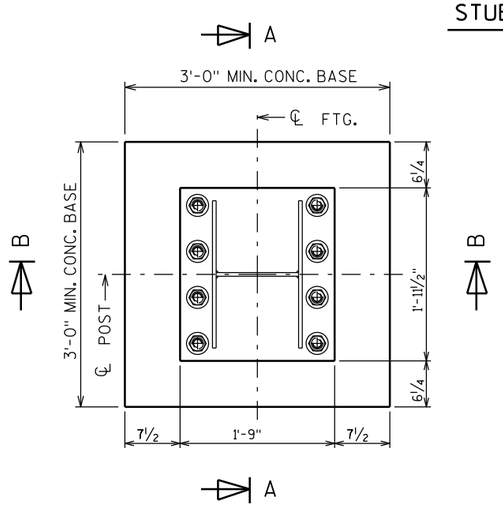
CONST. SPEC.	DRAWN BY	PLANS CK'D.
2011	JPH	

FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS

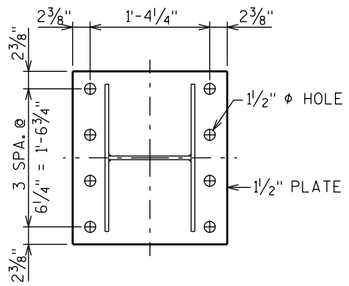
SHEET 87

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

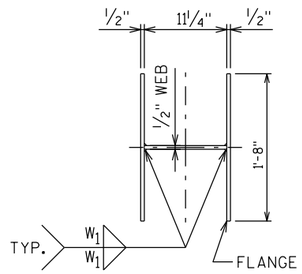
STUB AND MASONRY ANCHOR DETAILS



STUB SECTION



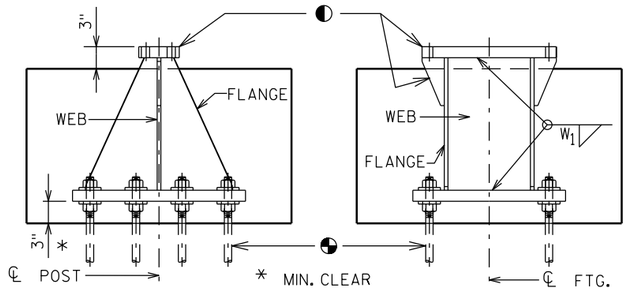
BASE PLATE



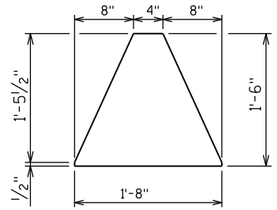
STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

◒ MASONRY ANCHORS TYPE S 1¼-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.



SECTION A SECTION B



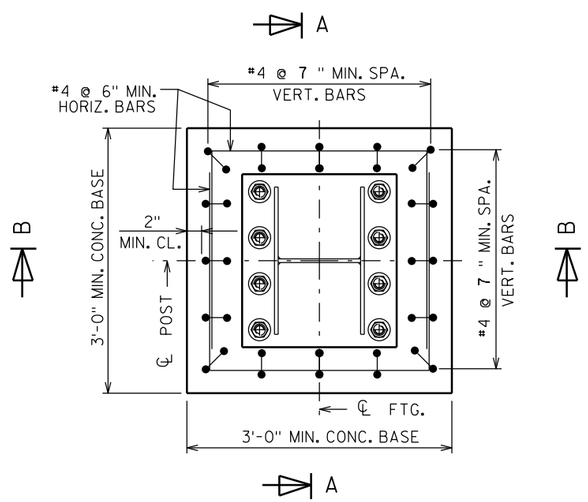
FLANGE

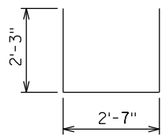
GENERAL NOTES

1. Quantities per Base:
   - REINFORCING BAR STEEL = 62 LBS
   - CONCRETE = 0.6 C.Y.
   - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

CONCRETE BASE AND REINFORCING STEEL DETAILS

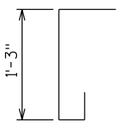
CONCRETE BASE SECTION





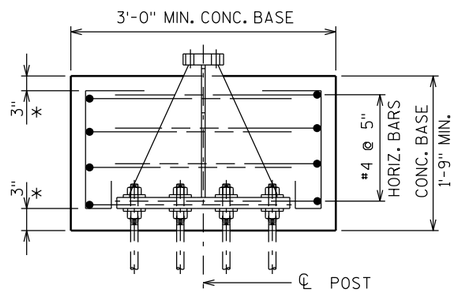
HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH



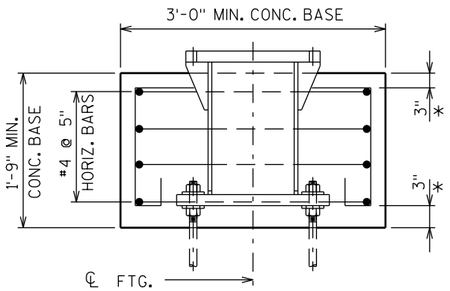
VERTICAL BARS

16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED



SECTION A

* MIN. CLEAR



SECTION B

ALTERNATE BREAK-AWAY BASE ON ROCK
A3-1M

WISCONSIN DEPT OF TRANSPORTATION

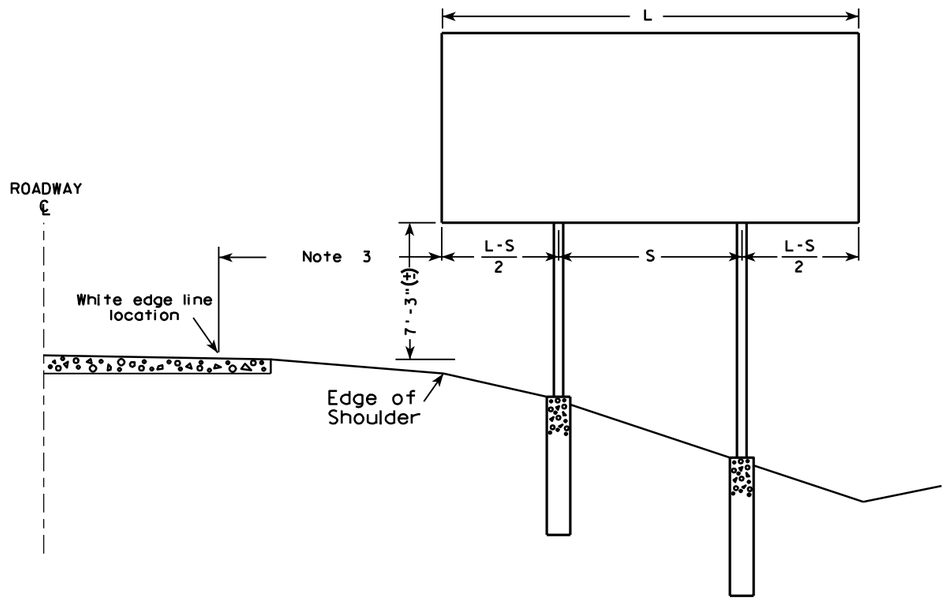
APPROVED Matthew R Rauch
for State Traffic Engineer

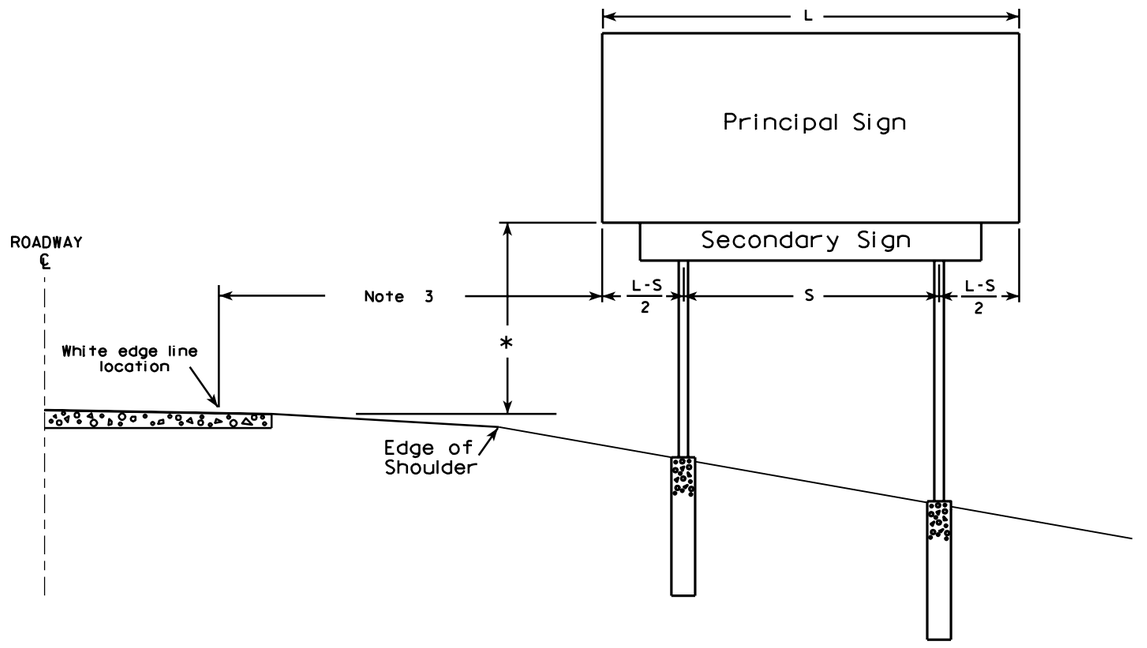
DATE 2/06/2014 PLATE A3-1M.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A31M.DGN PLOT DATE : 10-MAR-2014 15:16 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.556674:1.000000

WISDOT/CADDS SHEET 42





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

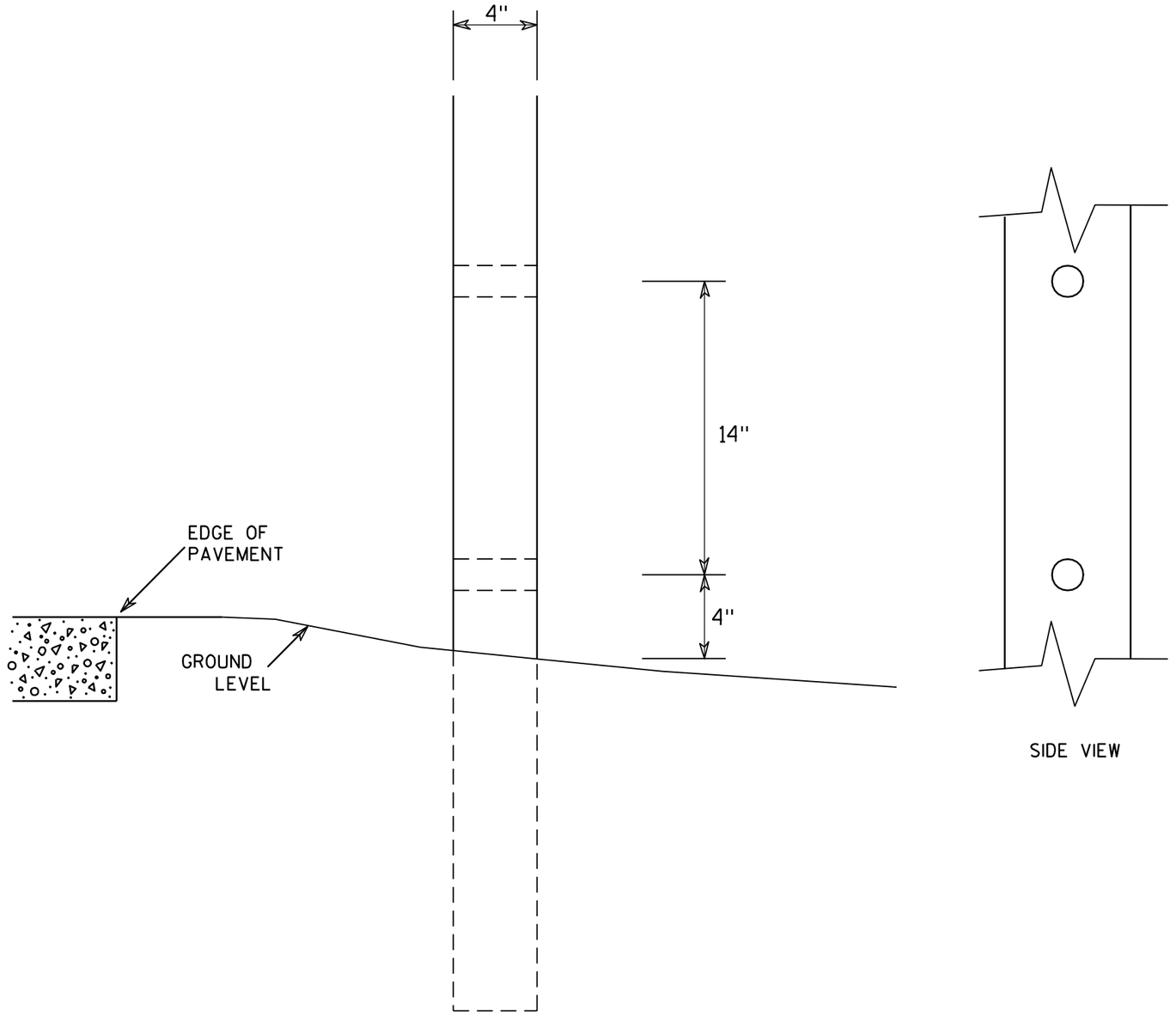
TYPICAL INSTALLATION
OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9

PROJECT NO:				SHEET NO: 89	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

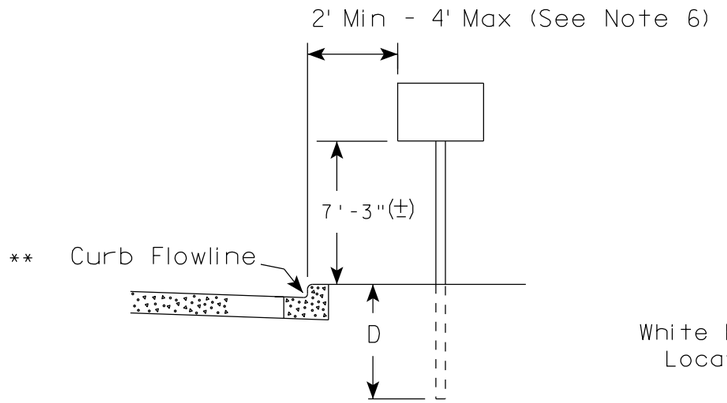
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

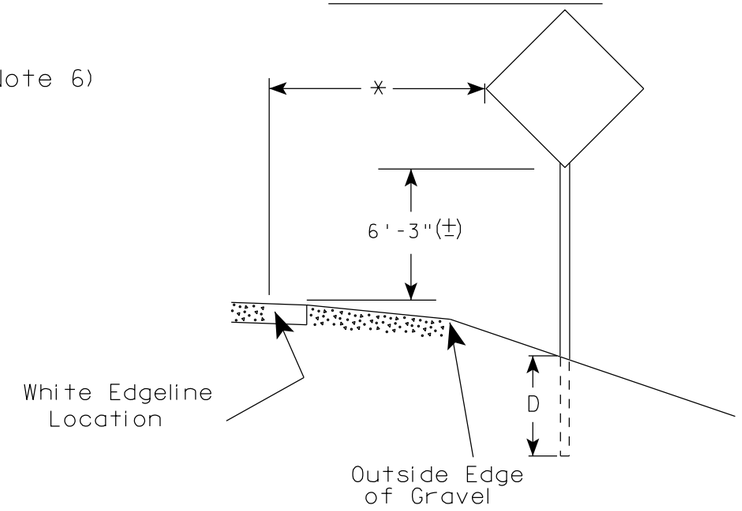
DATE 3/27/97 PLATE NO. A4-11.2

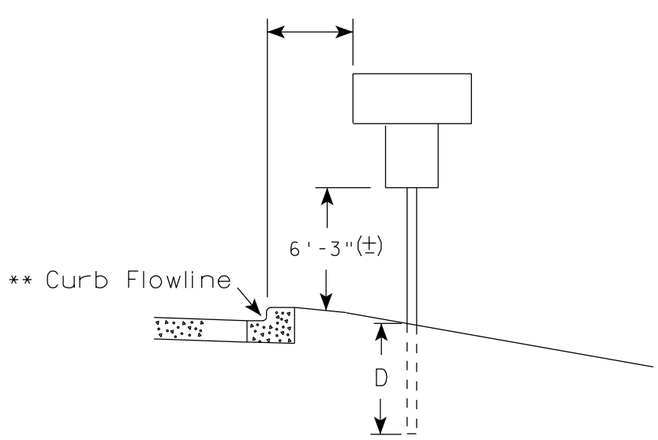
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 90	E

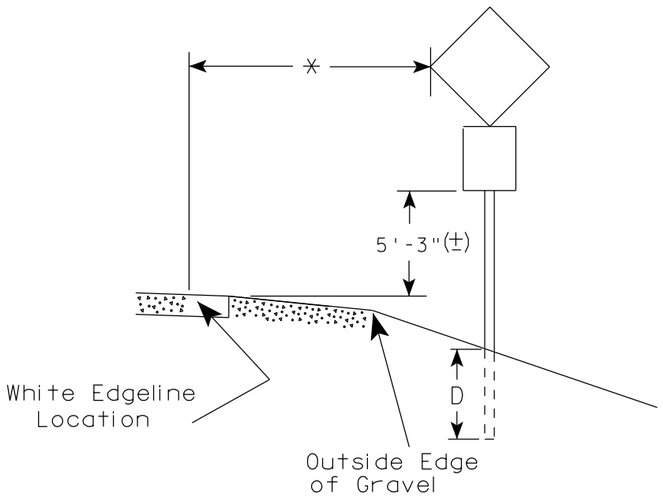
URBAN AREA



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, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (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), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod 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

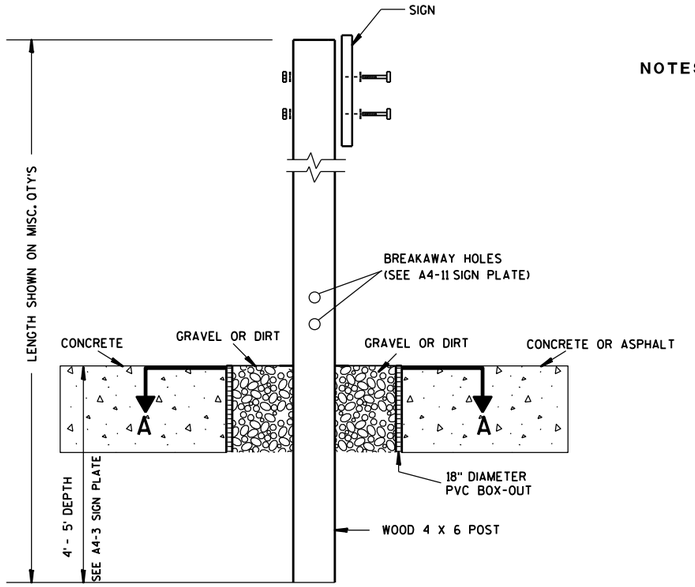
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

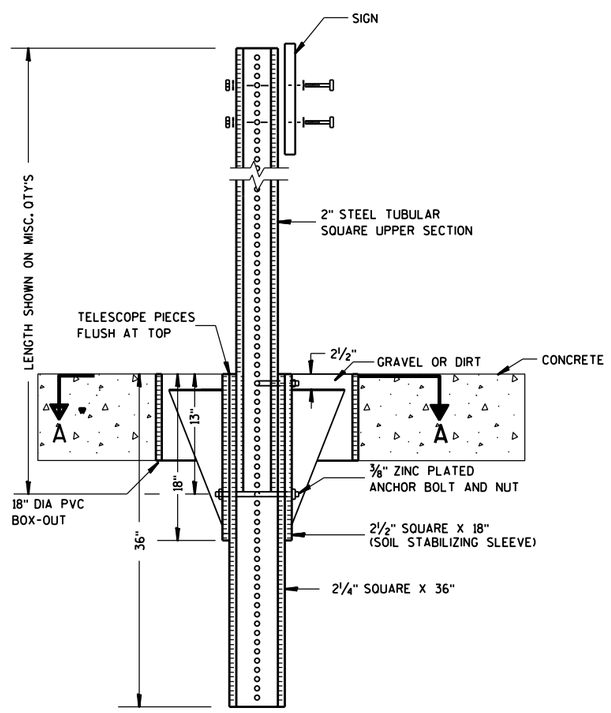
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A43.DGN PLOT DATE : 30-SEP-2013 13:25 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 99.237937:1.000000 WISDOT/CADDS SHEET 42



ELEVATION VIEW

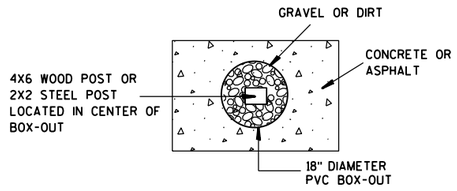
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

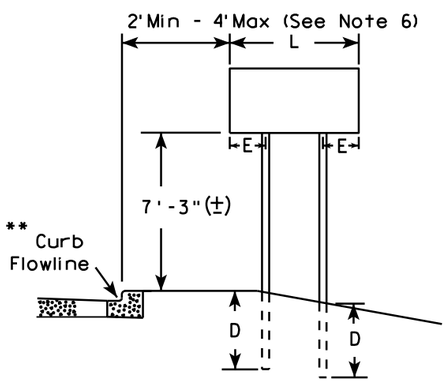
APPROVED Matthew R Rauch
for State Traffic Engineer

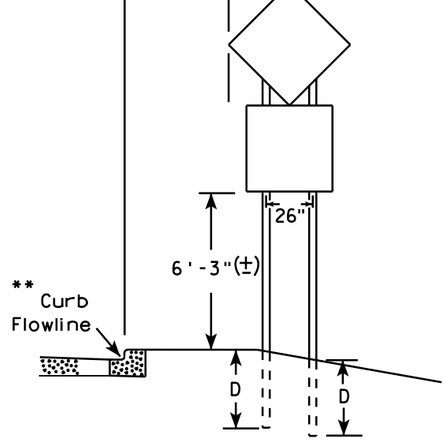
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

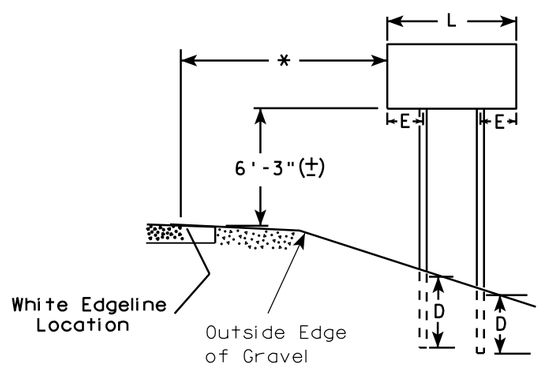
URBAN AREA

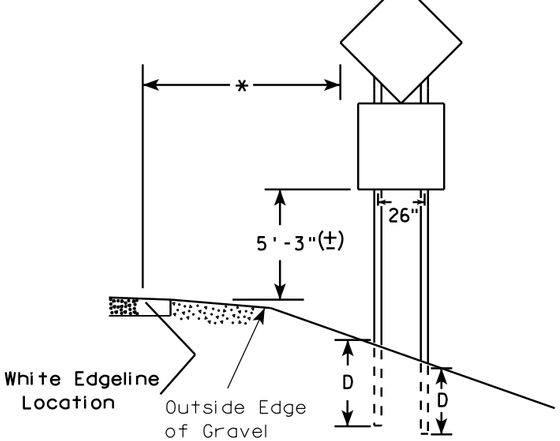




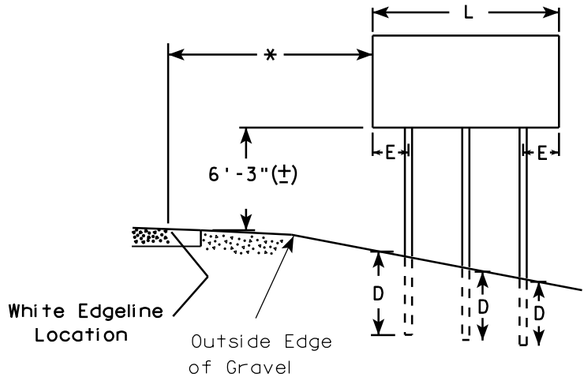
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (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.

***

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

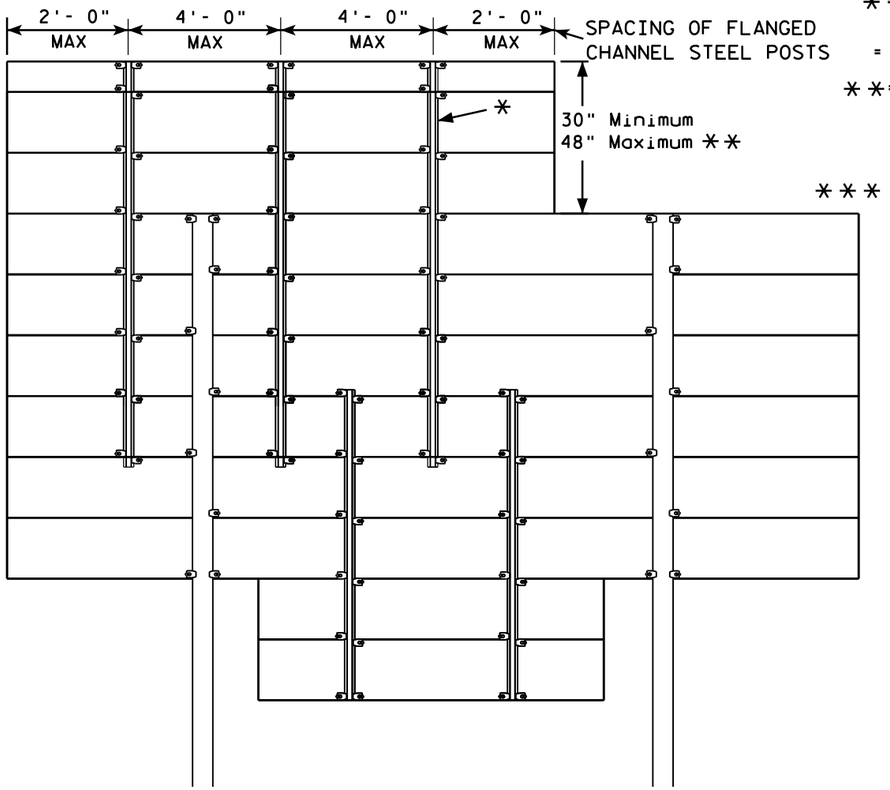
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-4 12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 30-SEP-2013 13:27 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000 WISDOT/CADDS SHEET 42

GROUND MOUNTED SIGN

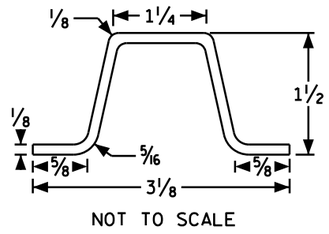


*=2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

**=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

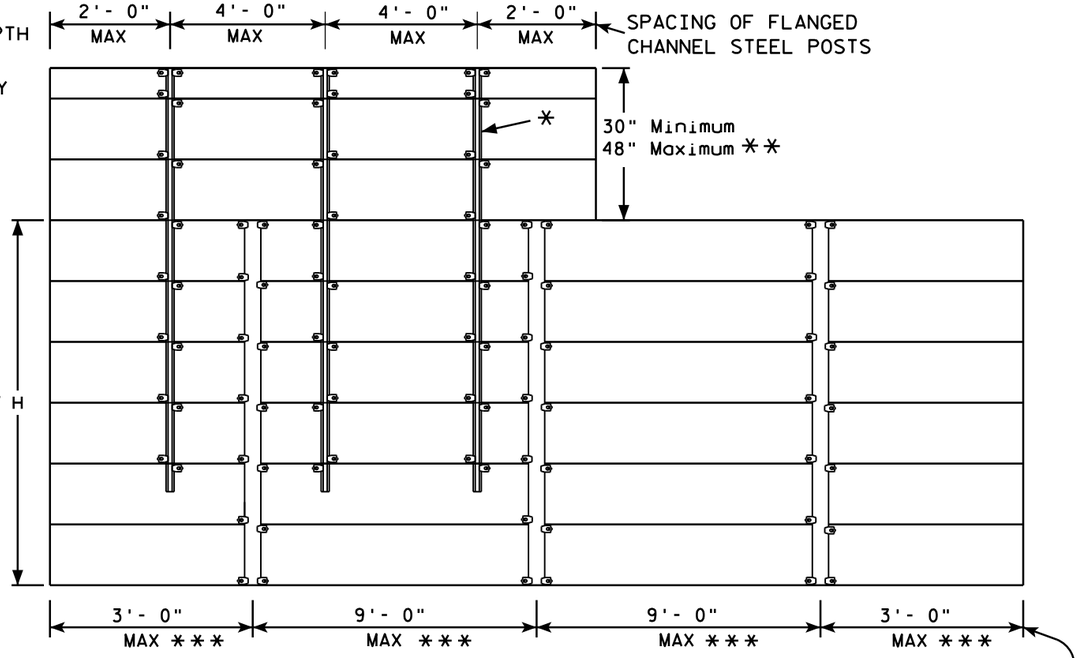
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

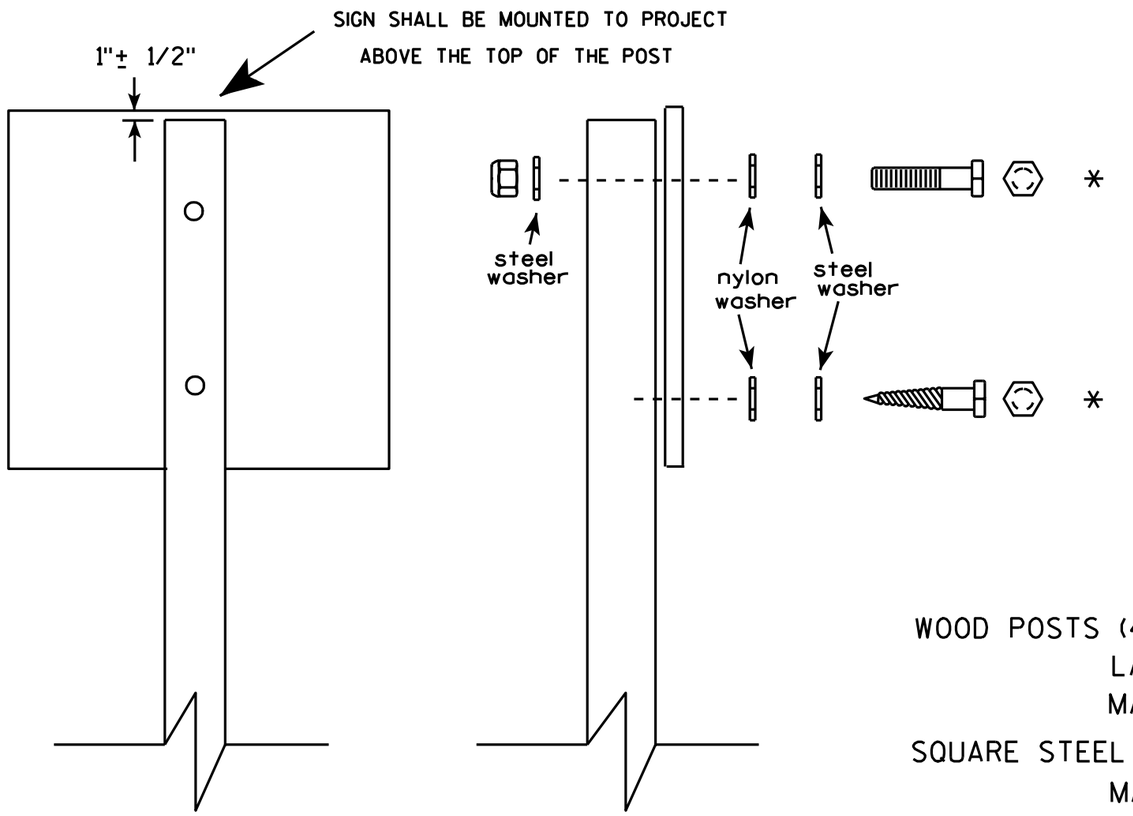
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 94 A4-6.12

PROJECT NO: | SHEET NO: E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

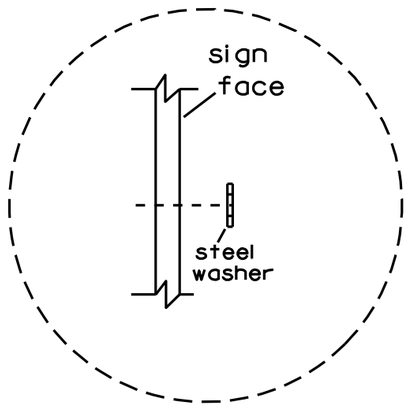
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

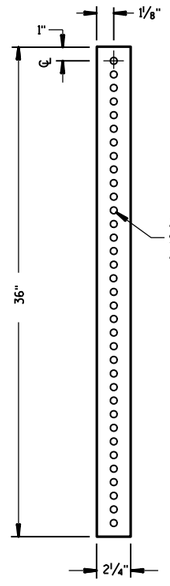
7

PROJECT NO:

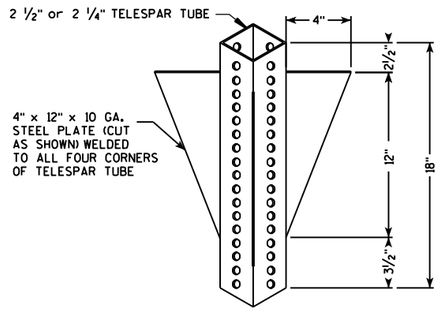
SHEET NO: 95 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

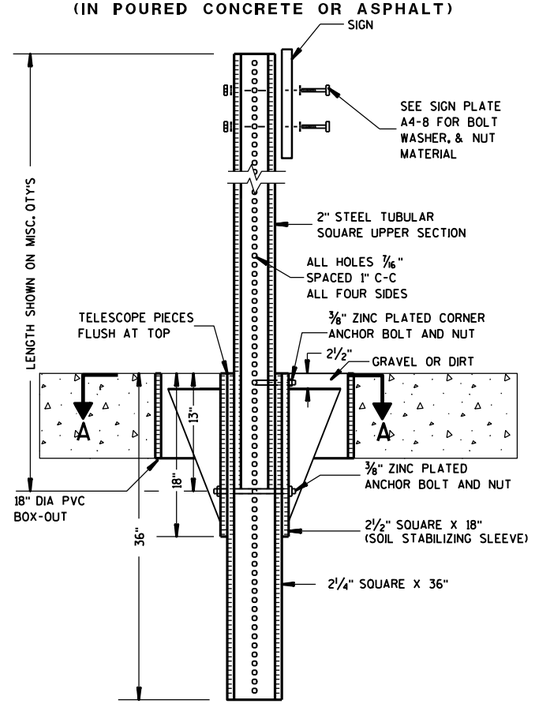
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



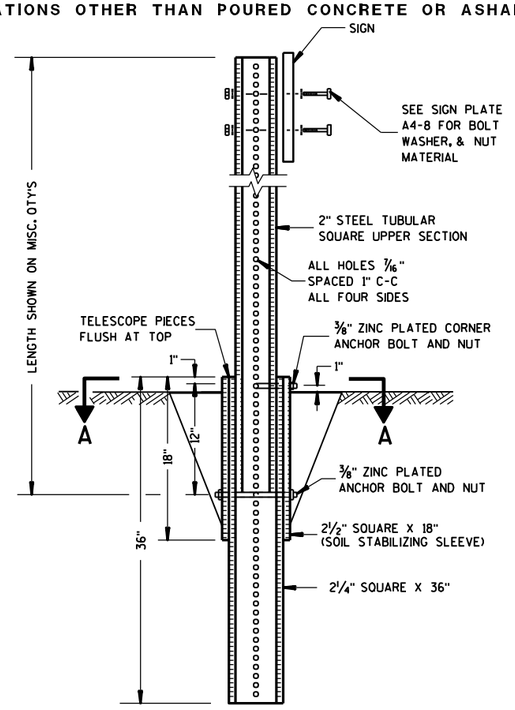
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

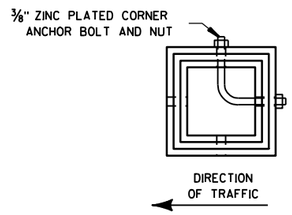


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

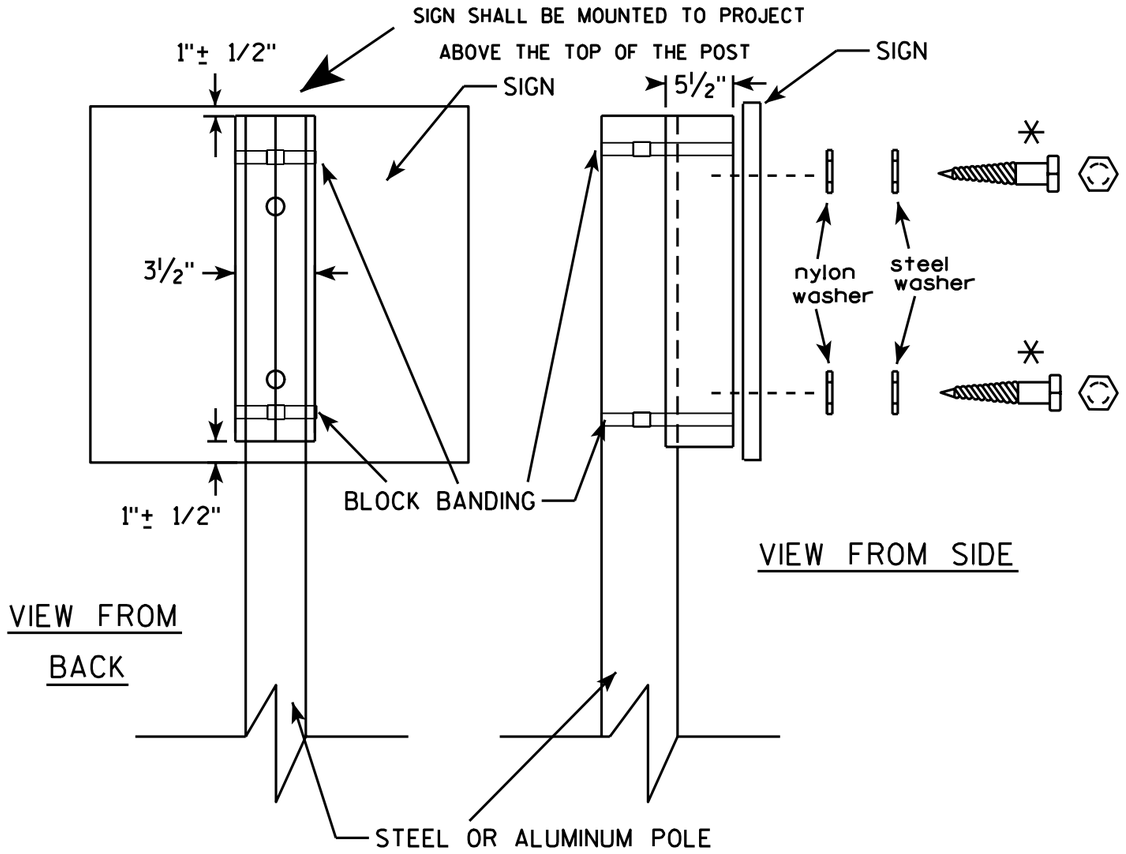
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

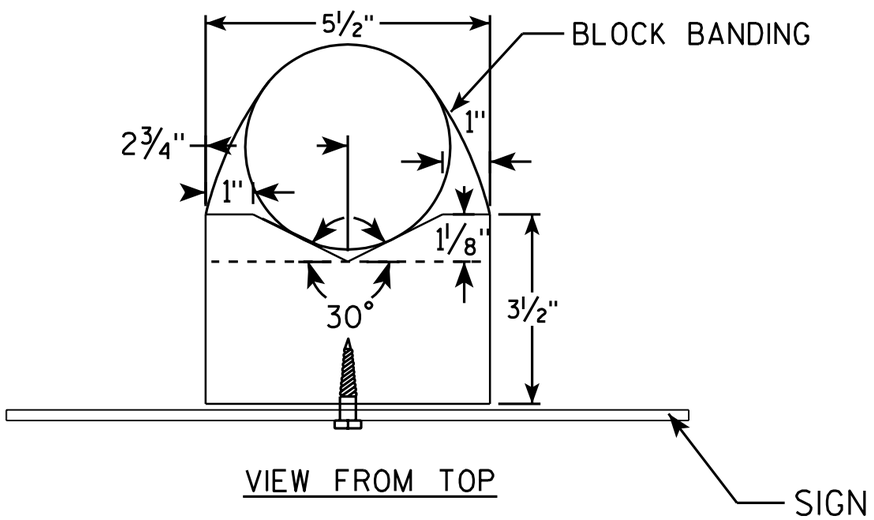
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 96	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

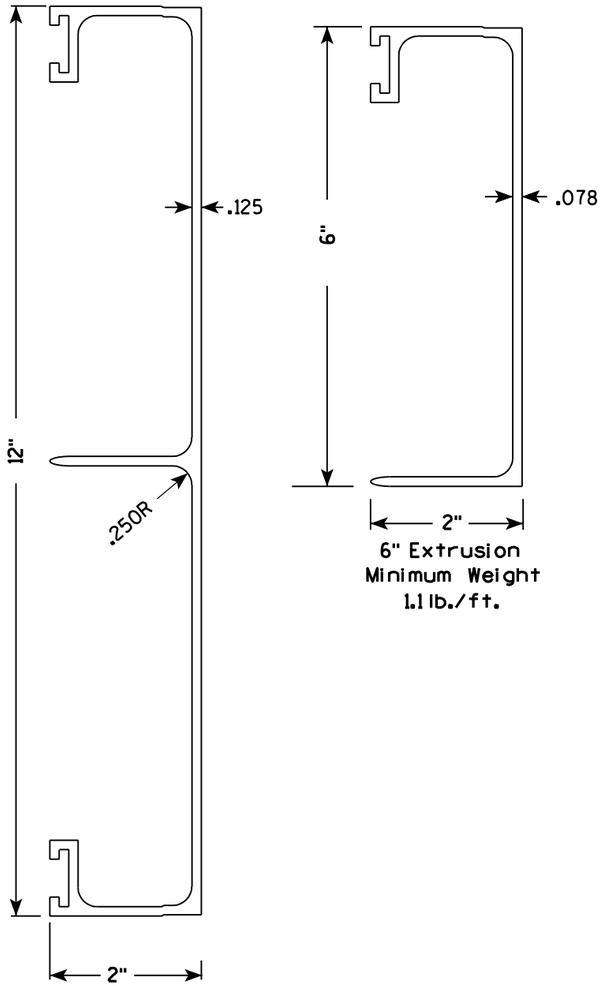
DATE 7/12/07 PLATE NO. A5-10.1

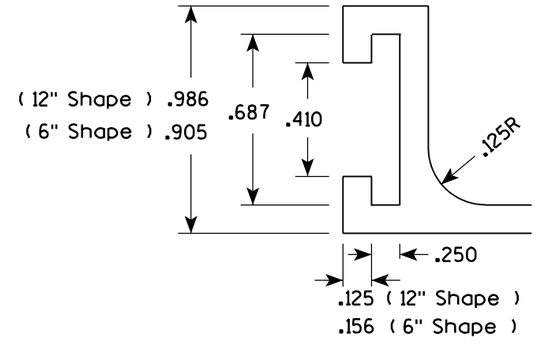
PROJECT NO:

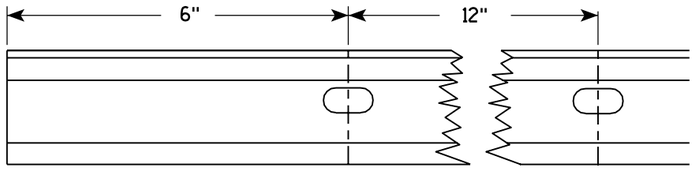
SHEET NO: 97 E

FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph
WISDOT/CADDS SHEET 42

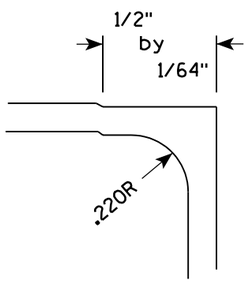
Extruded Shape







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

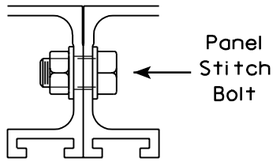


Hardware

STITCH BOLT, WASHER & NUT

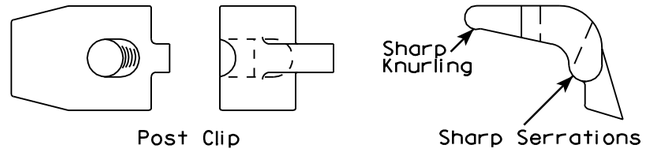
The hardware includes:

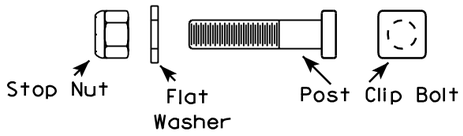
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spagg
for State Traffic Engineer

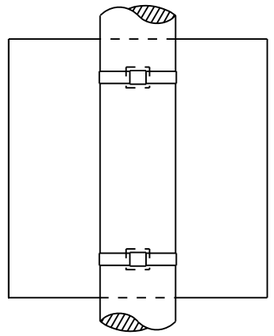
DATE 11/18/99 PLATE NO. A5-2.9

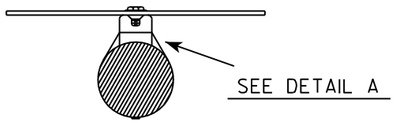
PROJECT NO:

SHEET NO: 98 E

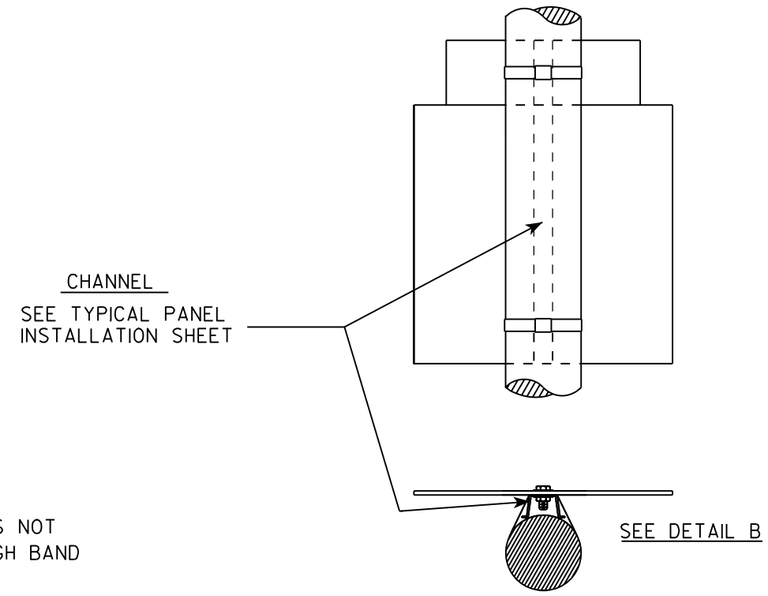
BANDING

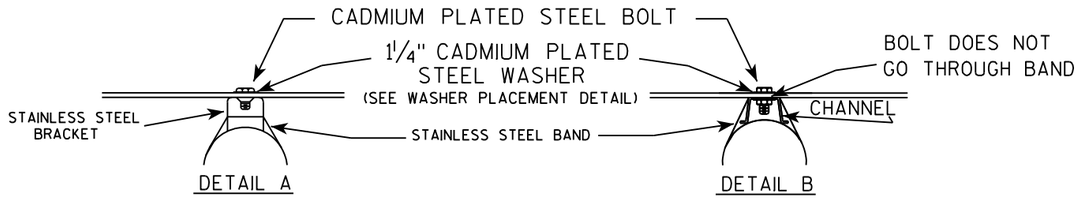
SINGLE SIGN



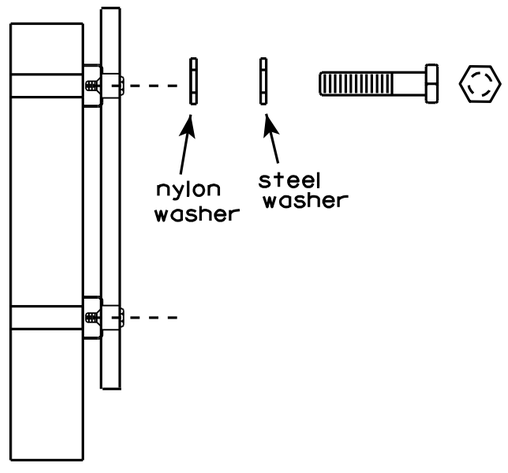


"J" ASSEMBLY





WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.

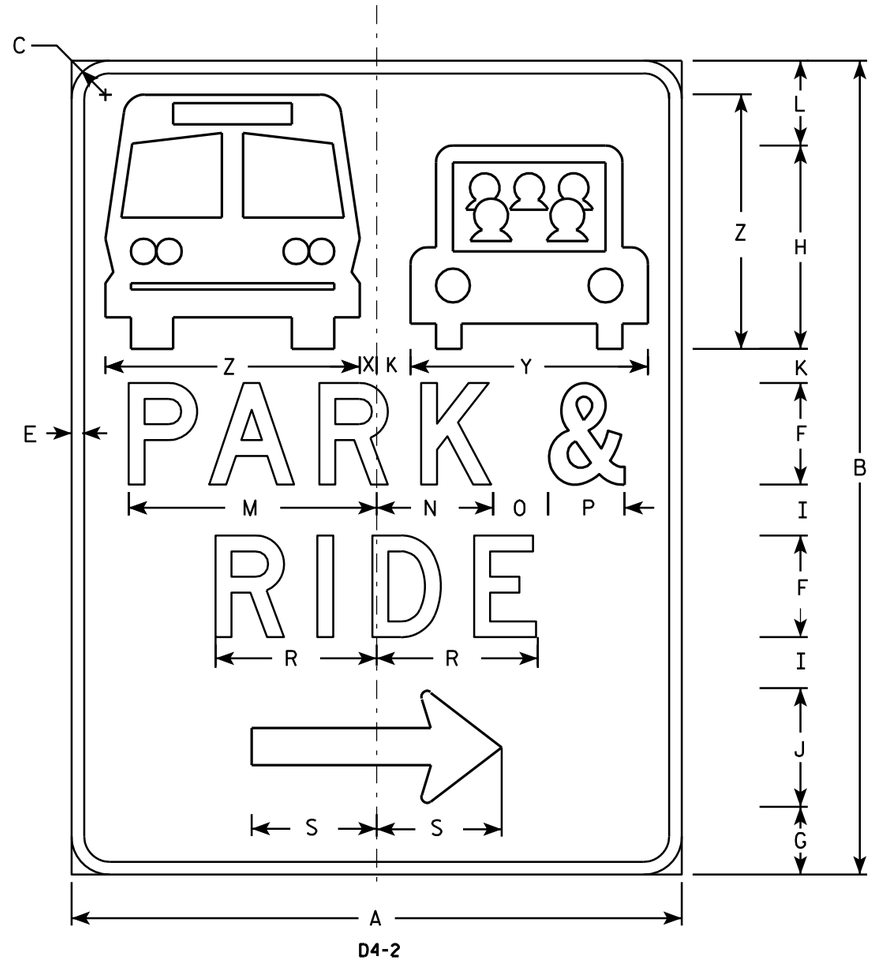
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

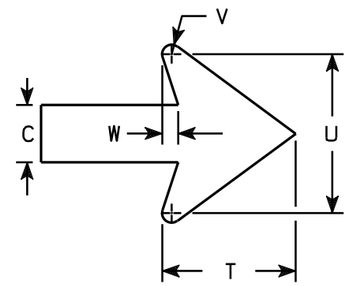
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 99	E



D4-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
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. The D4-2L is the same as a D4-2R except the arrow is reversed.
6. The D4-2 sign may have either symbol or both symbols at the same time.



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	30	1 1/8		1/2	4	1 5/8	7 1/2	1 1/2	4 5/8	1 3/8	3 7/8	9 3/4	4	2 3/4	3		6 3/8	4 7/8	3 1/2	4 1/8	1/4	3/8	5/8	9 3/8	10	5.0
2	30	36	1 3/8		5/8	5	2	9	1 5/8	5 1/2	1 5/8	4 5/8	12 1/4	5 1/8	3 3/8	3 3/4		8	6 1/8	4 3/8	5 1/4	3/8	1/2	7/8	11 3/4	12 1/2	7.50
3	36	48	2 1/4		3/4	6	4	12	3	7	2	5	14 5/8	6 7/8	3 1/4	4 1/2		9 1/2	7 1/2	5 1/4	6 1/4	3/8	5/8	1	14	15	12.0
4																											
5																											

STANDARD SIGN
D4-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/10 PLATE NO. D4-2.5

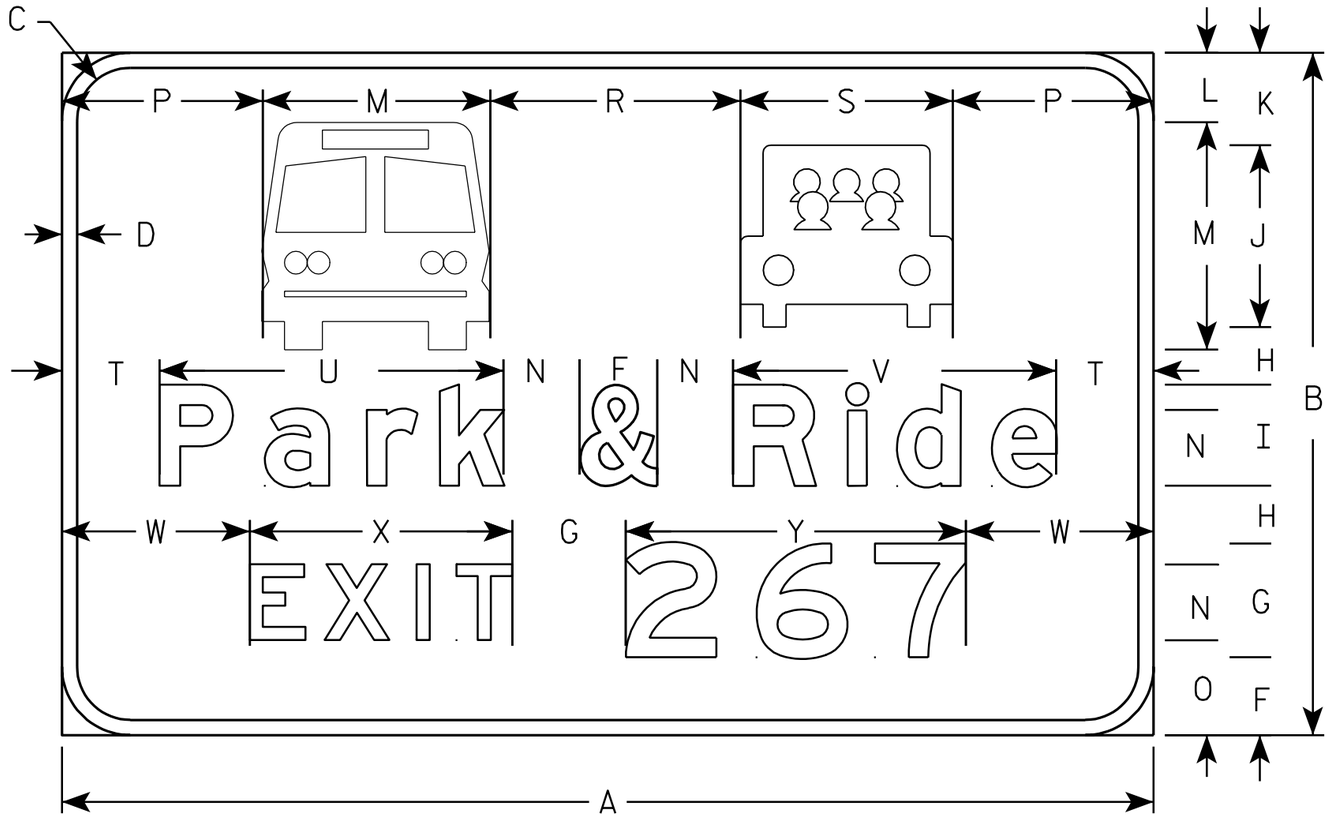
PROJECT NO: | SHEET NO: 100 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\D42.dgn PLOT DATE : 10-FEB-2011 14:21 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7

7



D4-3

NOTES

1. Sign is Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White
3. Message Series - Series E Modified.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	
2	3600 mm X 2250 mm
3	
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	144	90	9	2		10 1/4	15	7 5/8	13 5/16	24	12 3/16	9 1/8	30	10	12 1/2	26 1/2		33	28	12 7/8	45 3/8	42 5/8	24 3/4	34 5/8	44 7/8		90.0	8.1
3																												
4																												
5																												

STANDARD SIGN
D4-3

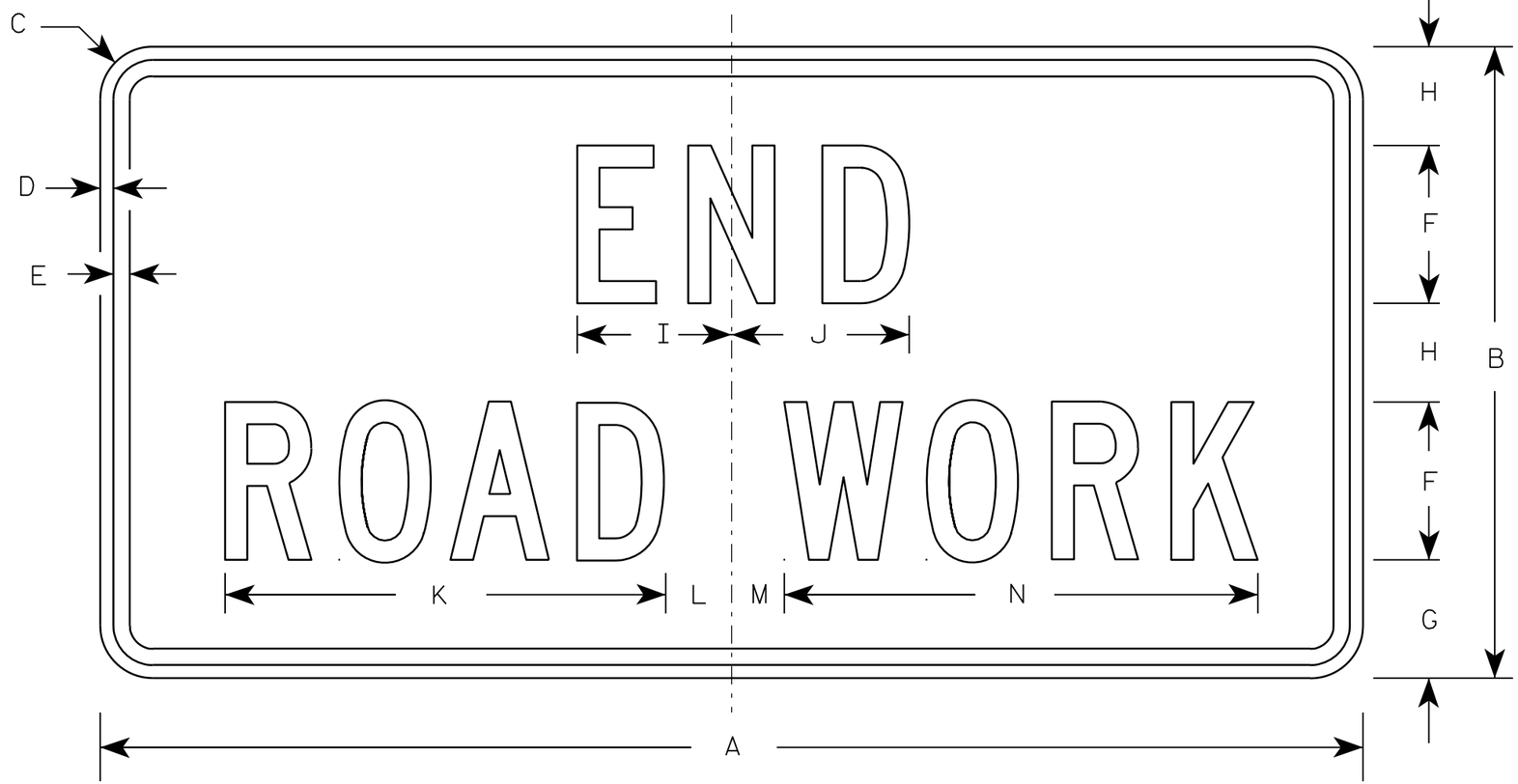
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/5/08 PLATE NO. D4-3.2

PROJECT NO:

SHEET NO: 101 E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

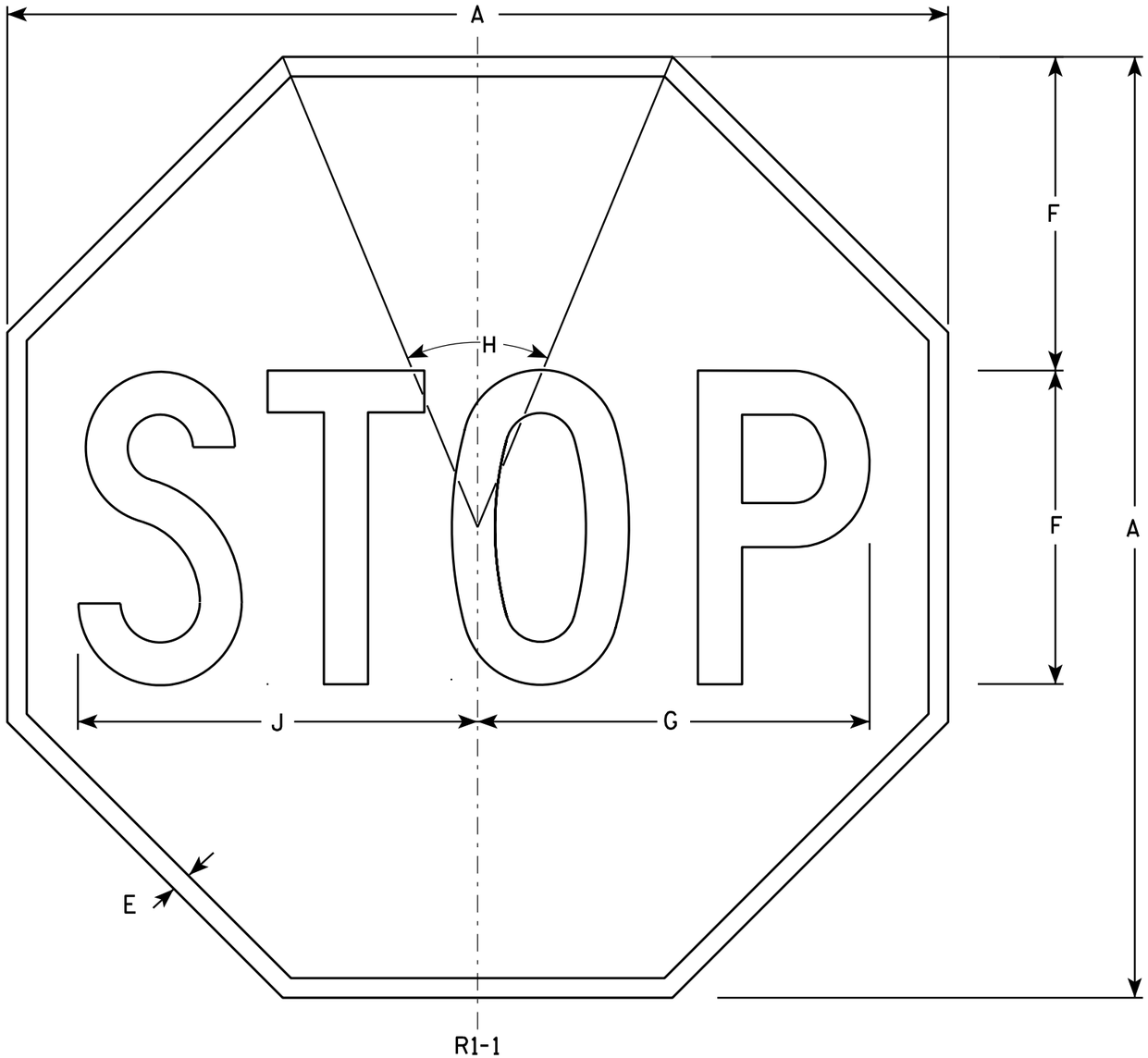
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

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



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

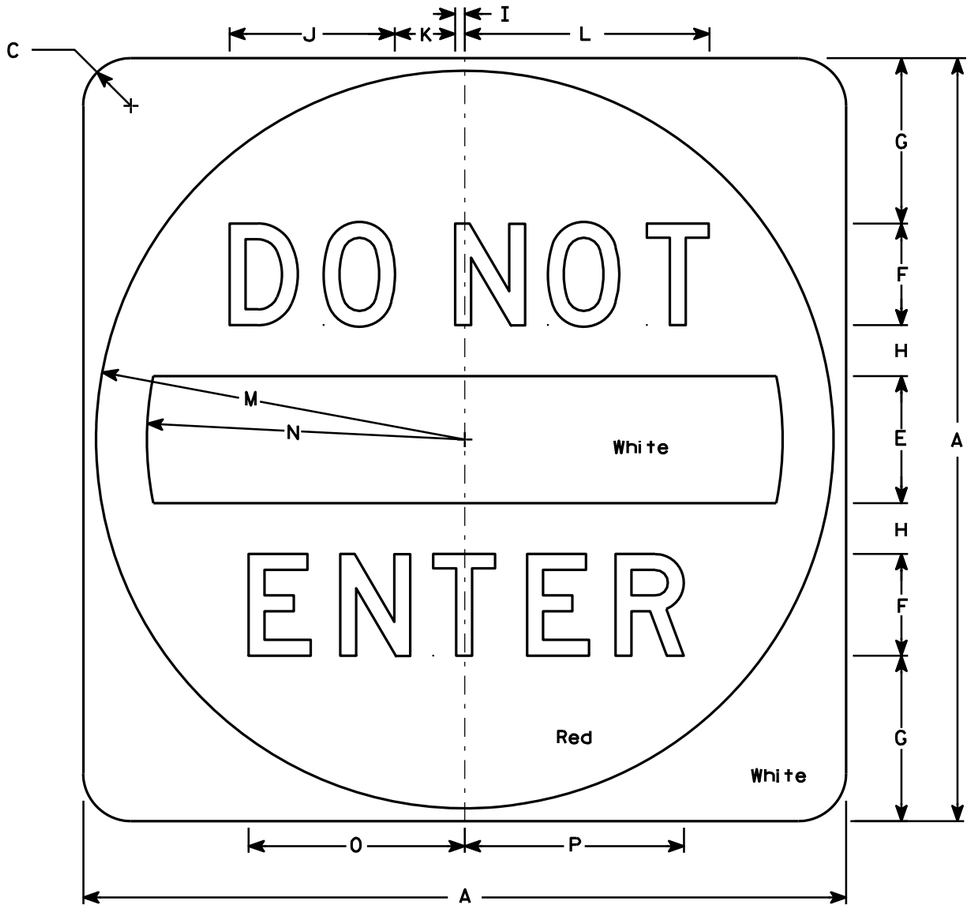
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 103	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

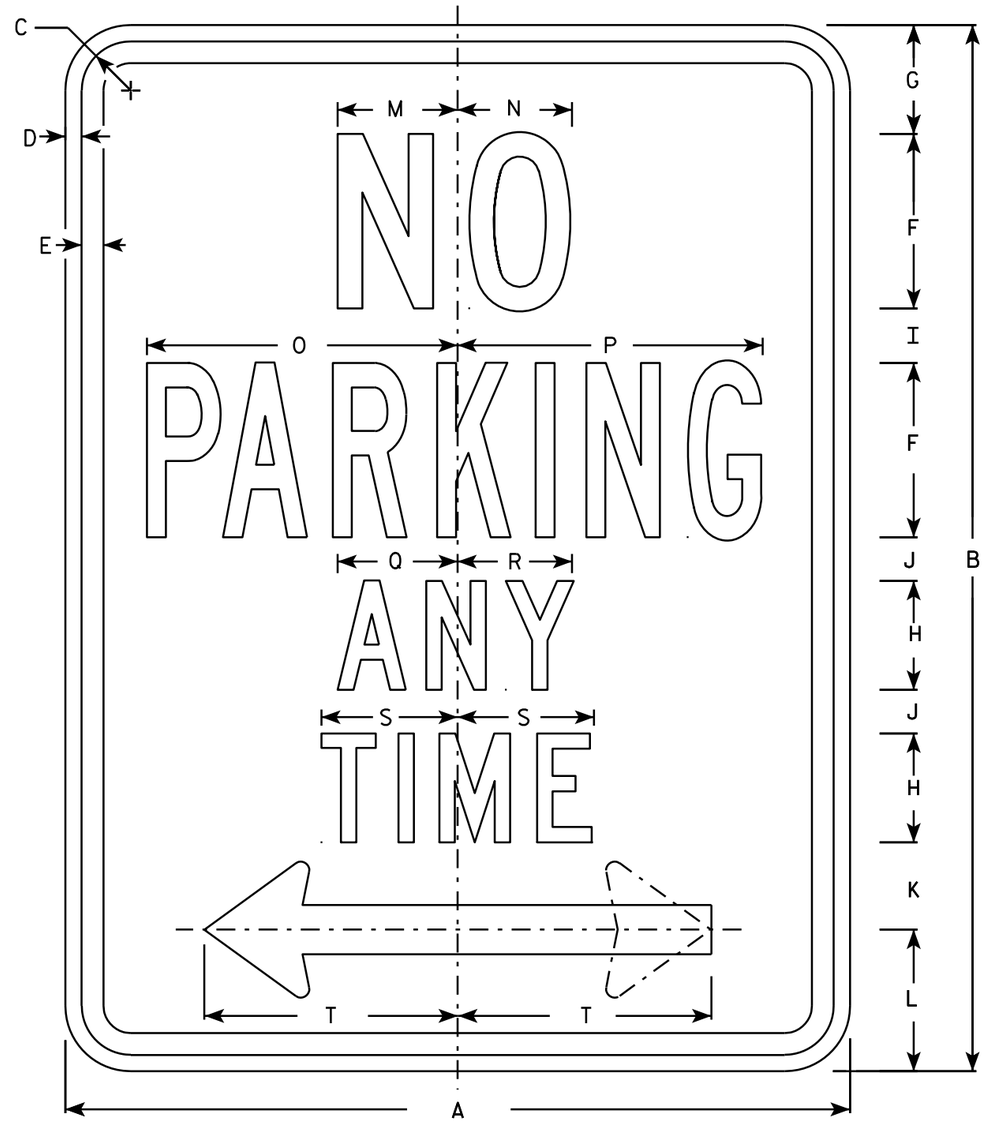
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

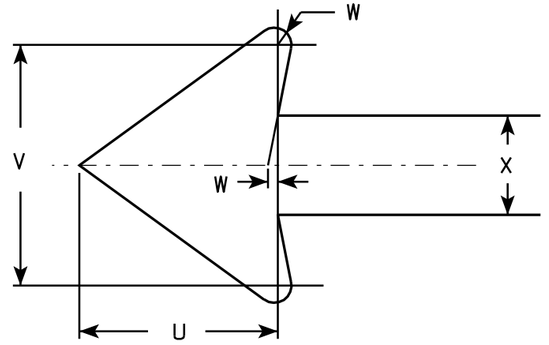
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 104 | E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

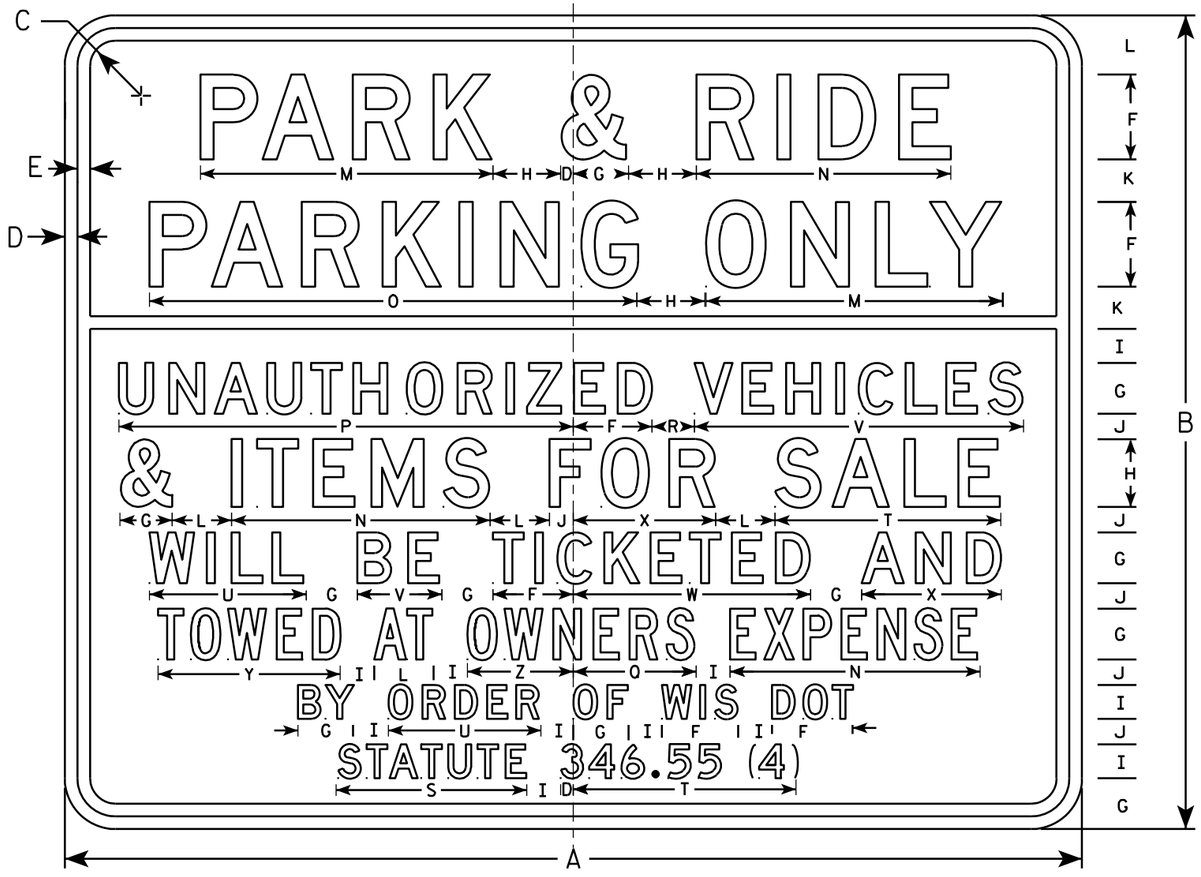
STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 105	E



R7-65

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 except Line 6 is Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3	30	24	1 1/8	3/8	3/8	2 1/2	1 1/2	2	1	3/4	1 1/4	1 3/4	8 5/8	7 1/2	14 3/8	13 3/8	3 5/8	1 1/4	5 3/4	6 5/8	4 5/8	9 3/4	7	4 1/8	5 3/8	3 1/8	5.0
4																											
5																											

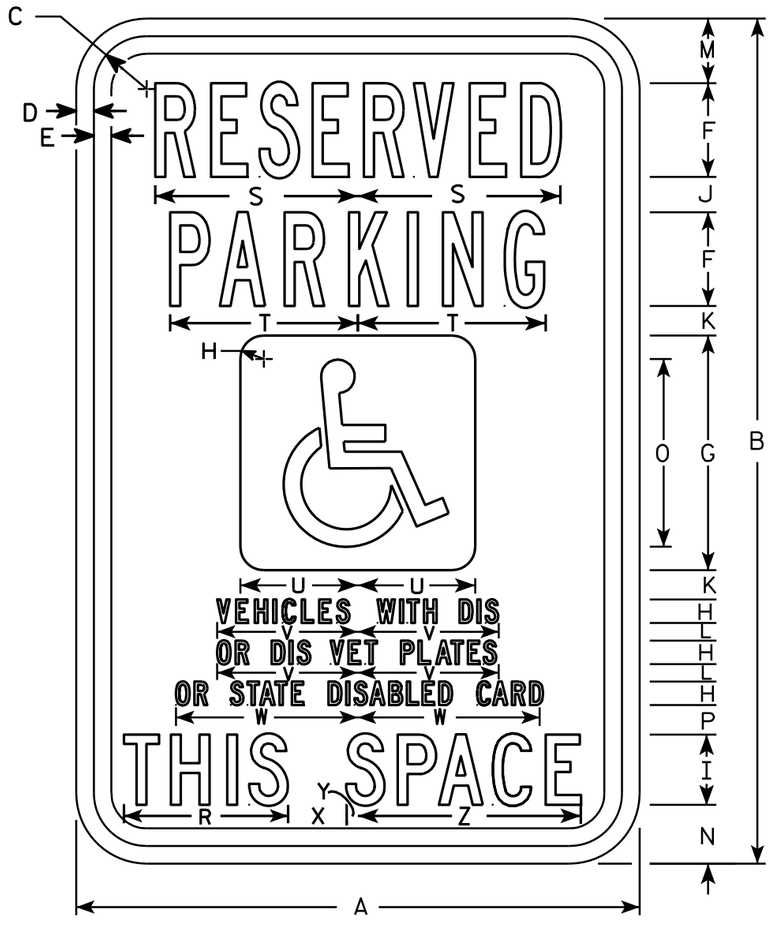
STANDARD SIGN
R7-65

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-65.3

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



R7-8A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Sign is white Type H Reflective; paraplegic background is blue.
   Message - Legend and border are green; paraplegic symbol is white
3. Message Series - Lines 1 & 2 are Series B
   Lines 3, 4, 5 & 6 are Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	18	1 1/8	3/8	3/8	2	5	1/2	1 1/2	3/4	5/8	3/8	1 3/8	1 1/4	4	5/8		3 1/2	4 3/8	4	2 1/2	3	3 7/8	1 1/4	1/4	4 3/4	1.5
2M	18	24	1 1/8	3/8	1/2	3	6	3/4	2	7/8	5/8	1/2	1 7/8	2	5	3/4		4 5/8	6 1/2	5 3/8	3	4 1/2	5 7/8	1 1/2	1/4	6 3/8	3.0
3	18	24	1 1/8	3/8	1/2	3	6	3/4	2	7/8	5/8	1/2	1 7/8	2	5	3/4		4 5/8	6 1/2	5 3/8	3	4 1/2	5 7/8	1 1/2	1/4	6 3/8	3.0
4																											
5																											

STANDARD SIGN
R7-8A

WISCONSIN DEPT OF TRANSPORTATION

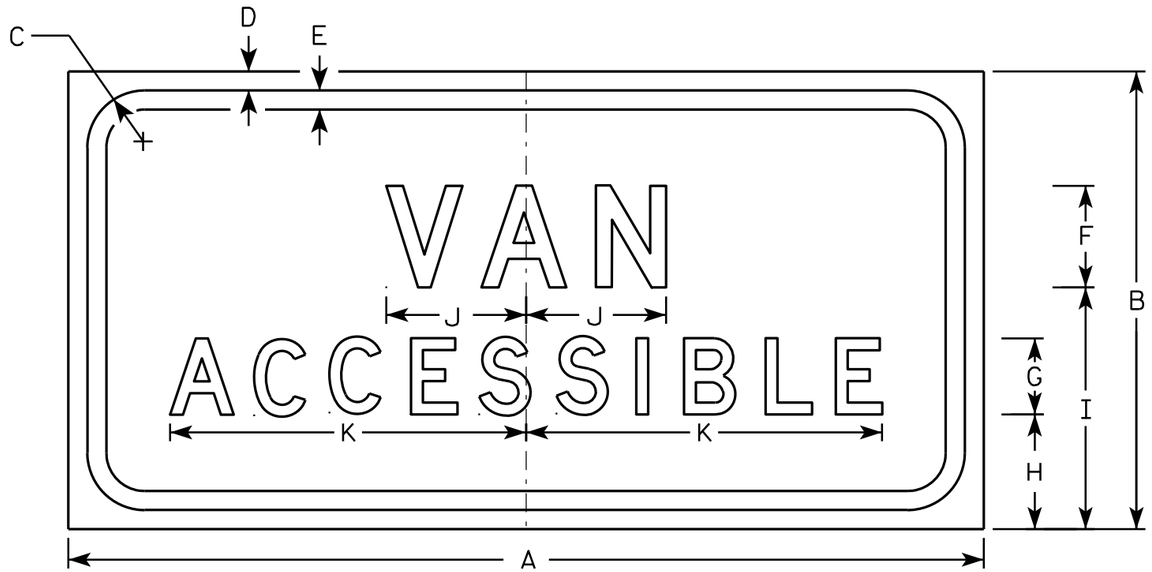
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/25/2011 PLATE NO. R7-8A.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 107 | 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 - White
   Message - Green - Type H Reflective
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.



R7-8V

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	6	1 1/8	3/8	3/8	1 1/2	1	1 5/8	3 1/2	2	4 1/4																0.50
2M	18	9	1 1/8	3/8	3/8	2	1 1/2	2 1/4	4 3/4	2 3/4	7																0.75
3	18	9	1 1/8	3/8	3/8	2	1 1/2	2 1/4	4 3/4	2 3/4	7																0.75
4																											
5																											

STANDARD SIGN
R7-8V

WISCONSIN DEPT OF TRANSPORTATION

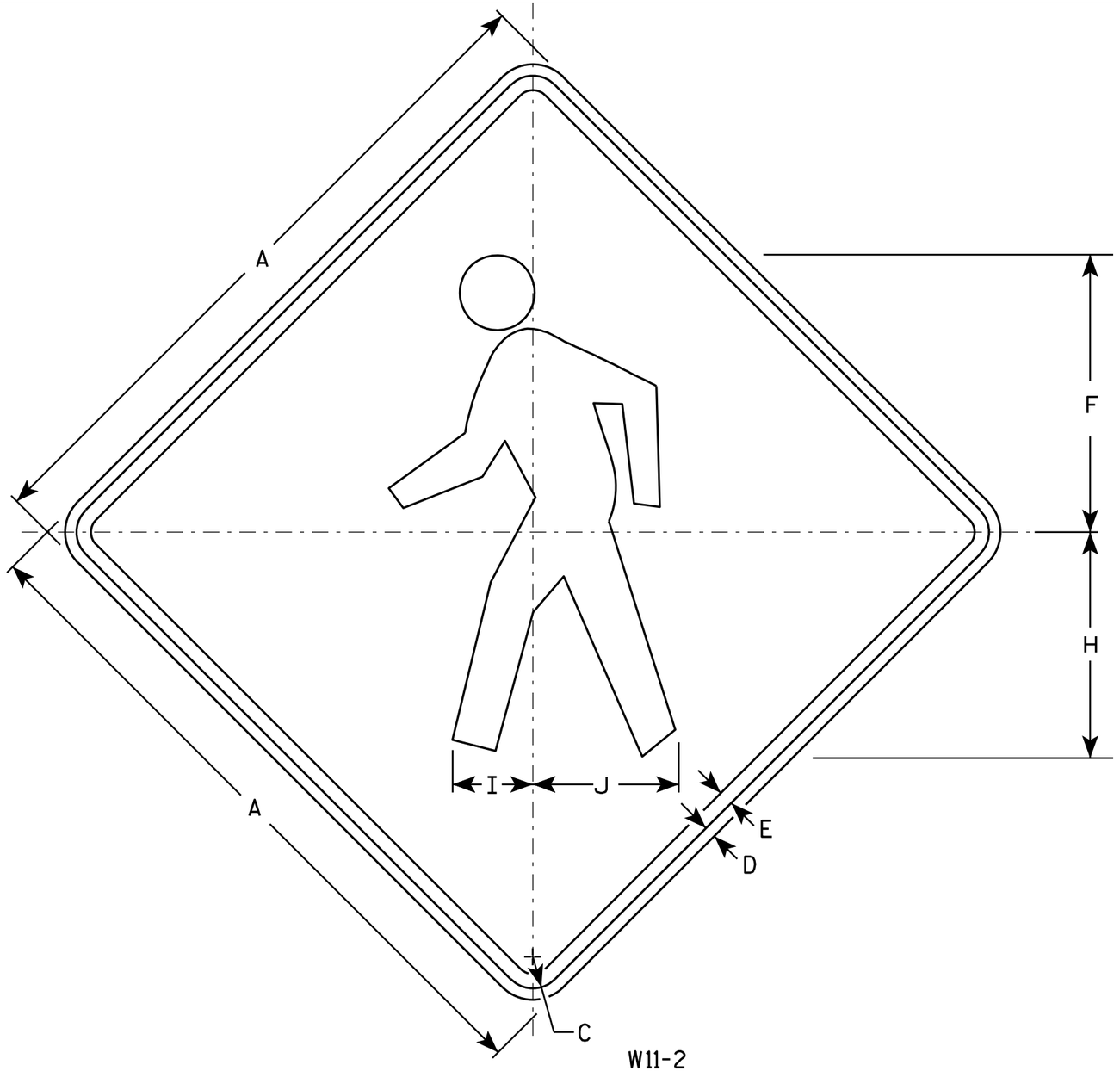
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-8V.5

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

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R78V.DGN PLOT DATE : 31-MAR-2011 11:13 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 2.979520:1.000000

WISDOT/CADDS SHEET 42



W11-2

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

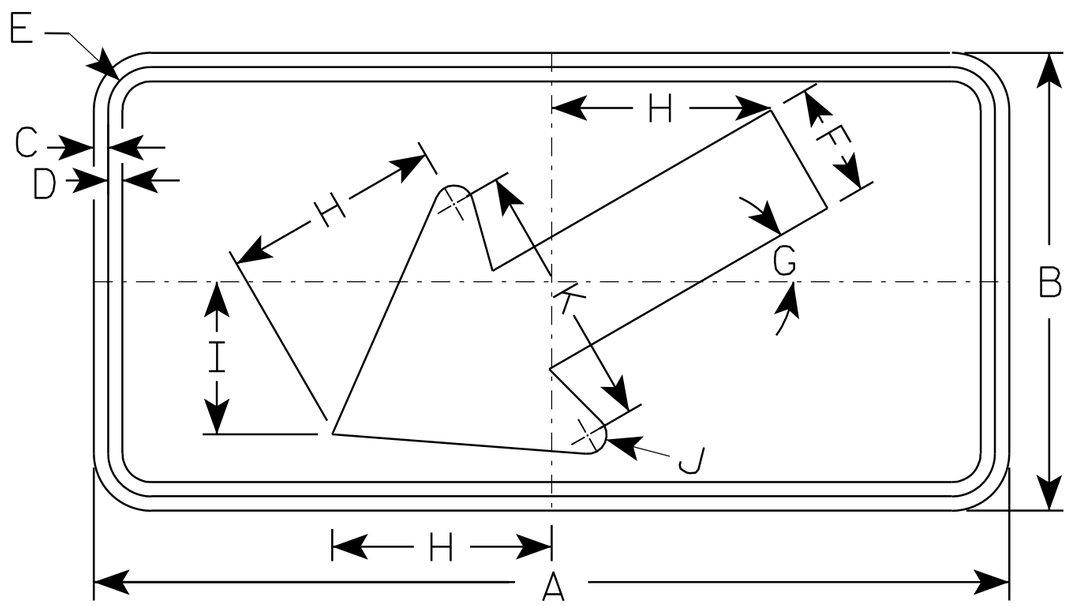
STANDARD SIGN
W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W11-2.7

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



W16-7L

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W16-7R is the same as W16-L except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4																											8
5																											8

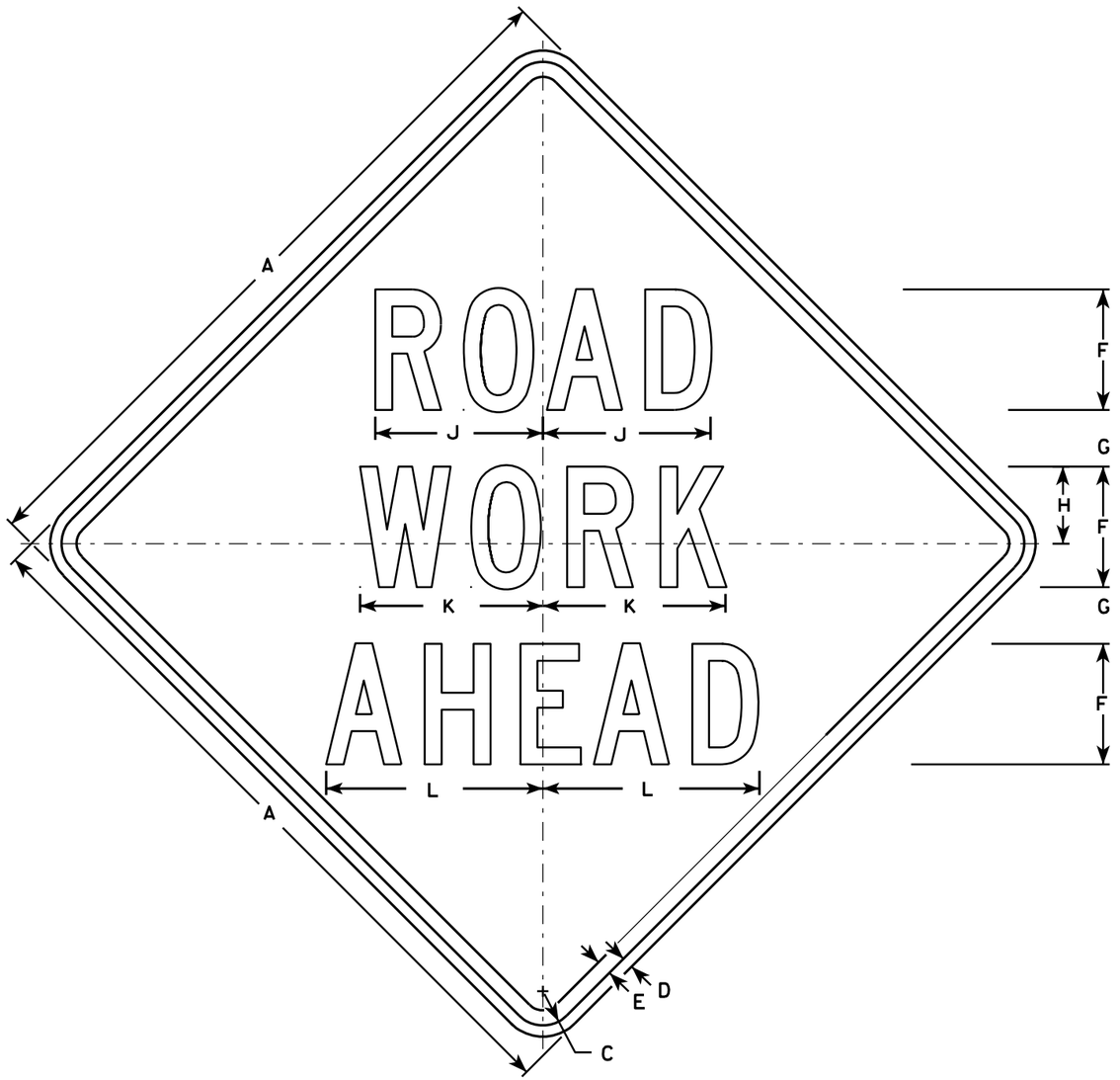
STANDARD SIGN
W16-7

WISCONSIN DEPT OF TRANSPORTATION

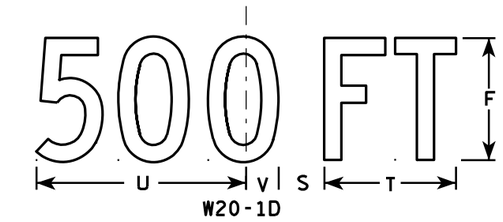
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. W16-7.5

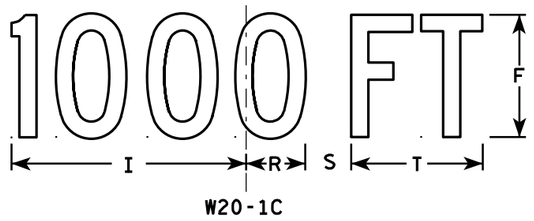
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 110	E



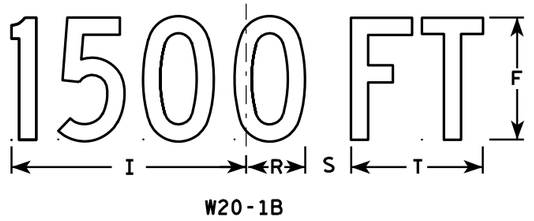
W20-1A



W20-1D

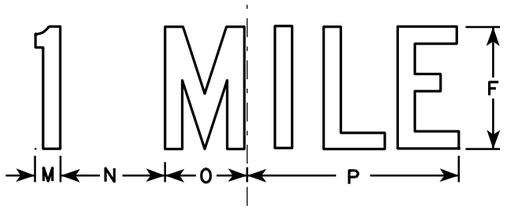


W20-1C



W20-1B

W20-1G



W20-1F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

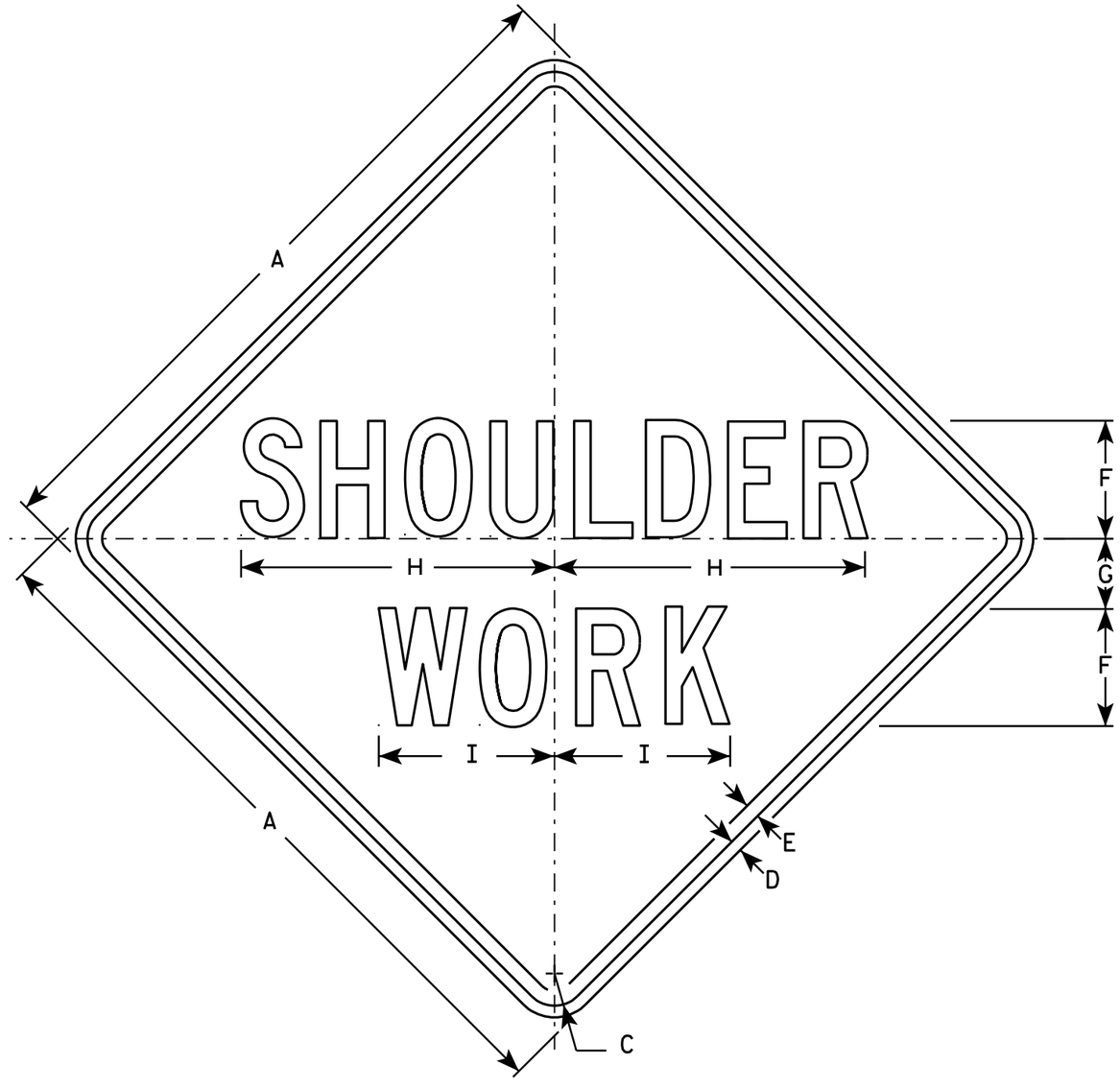
SHEET NO: 111 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42

7

7



W21-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

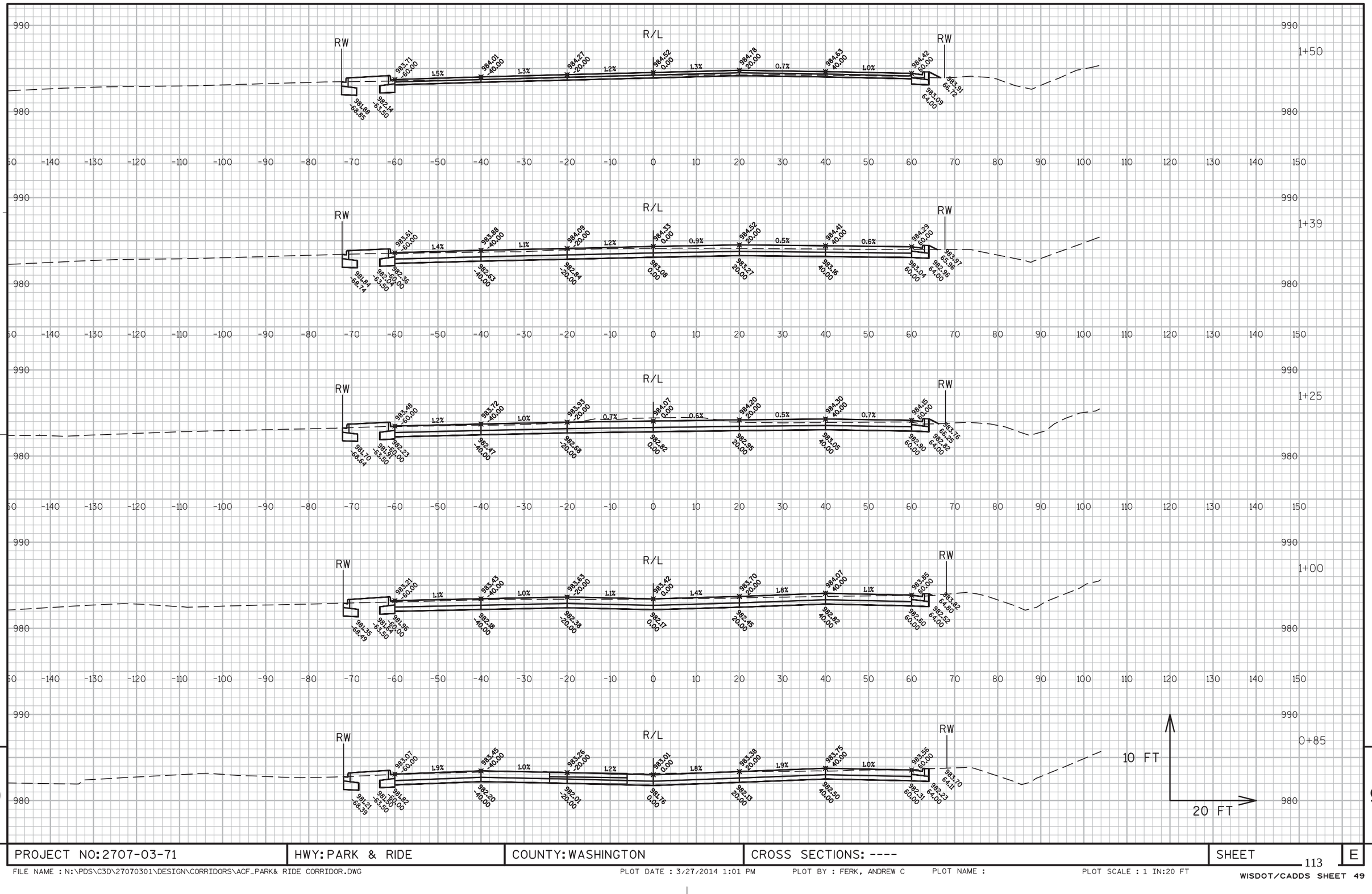
STANDARD SIGN
W21-5

WISCONSIN DEPT OF TRANSPORTATION

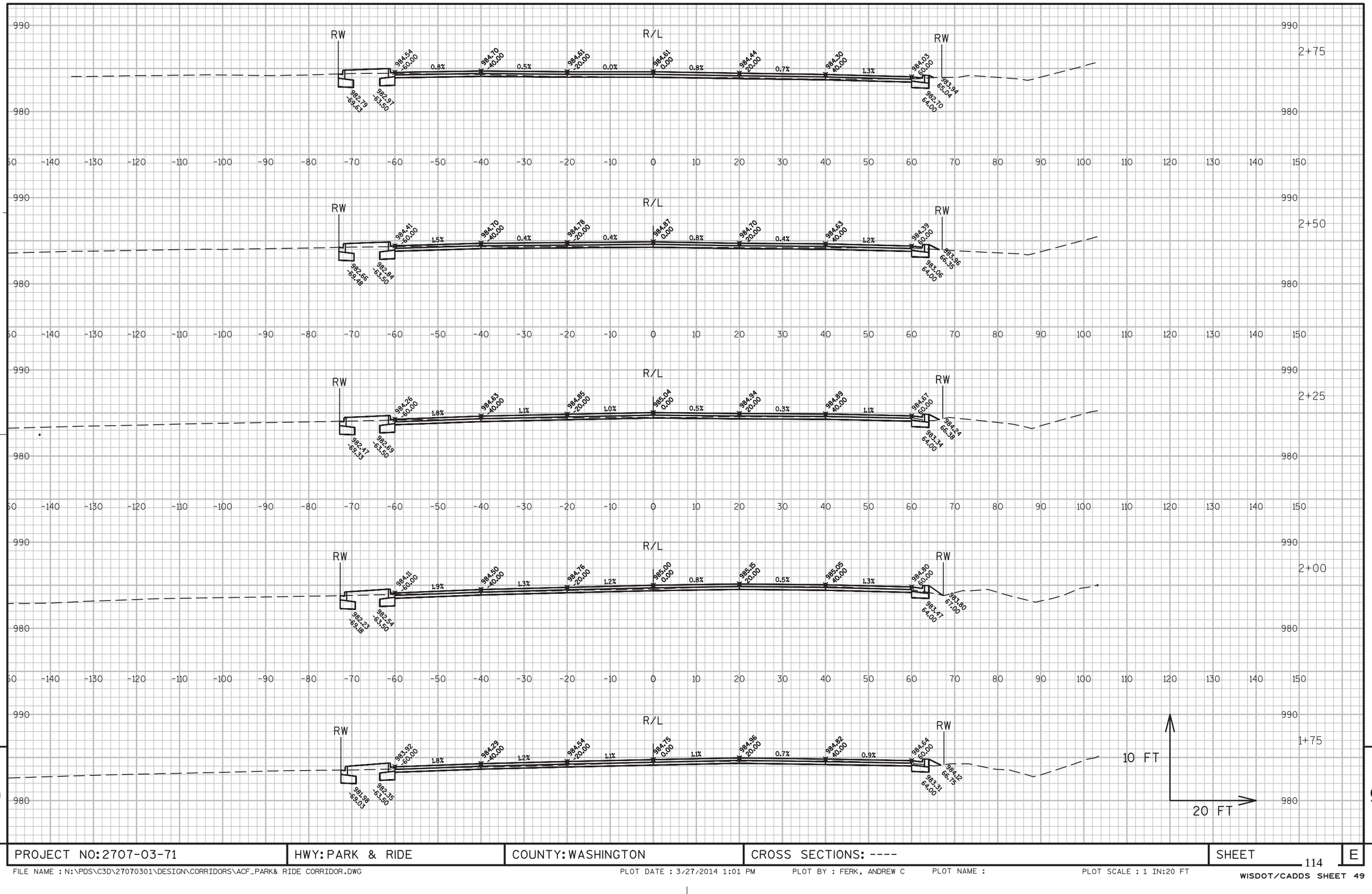
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 112	E

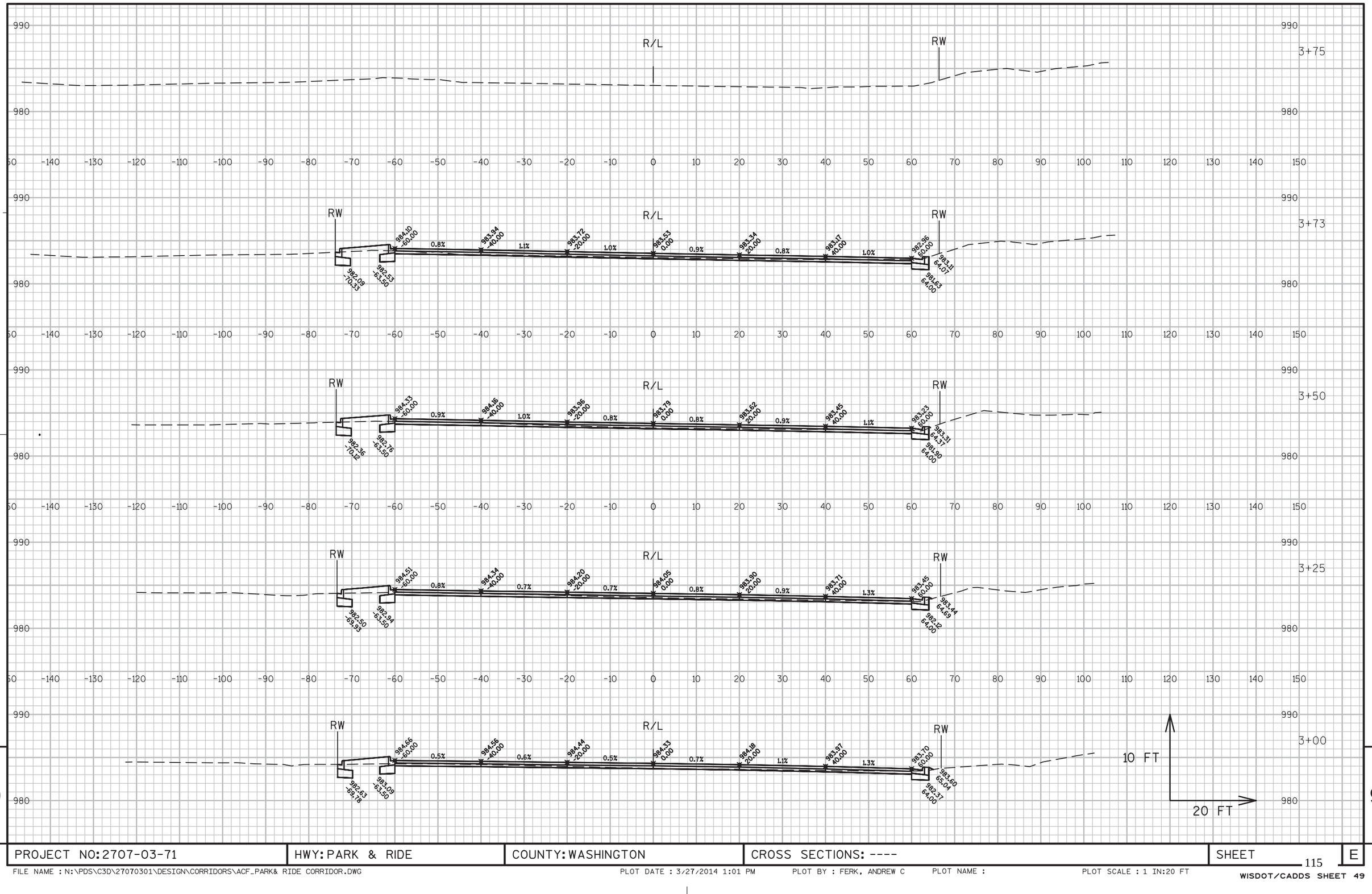


PROJECT NO: 2707-03-71	HWY: PARK & RIDE	COUNTY: WASHINGTON	CROSS SECTIONS: ----	SHEET	E



PROJECT NO: 2707-03-71	HWY: PARK & RIDE	COUNTY: WASHINGTON	CROSS SECTIONS: ----	SHEET	E

FILE NAME : N:\PDS\C3D\27070301\DESIGN\CORRIDORS\ACF_PARK& RIDE CORRIDOR.DWG PLOT DATE : 3/27/2014 1:01 PM PLOT BY : FERK, ANDREW C PLOT NAME : PLOT SCALE : 1 IN:20 FT



PROJECT NO: 2707-03-71	HWY: PARK & RIDE	COUNTY: WASHINGTON	CROSS SECTIONS: ----	SHEET E

FILE NAME : N:\PDS\C3D\27070301\DESIGN\CORRIDORS\ACF_PARK& RIDE CORRIDOR.DWG PLOT DATE : 3/27/2014 1:01 PM PLOT BY : FERK, ANDREW C PLOT NAME : PLOT SCALE : 1 IN:20 FT

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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