NEL

MAY 2015

PROJECT ID: 4990-03-71

WITH: N/A

COUNTY: OUTAGAMIE

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 = 80

40

DESIGN DESIGNATION

A.A.D.T. (2008)	=	N/A
A.A.D.T. (2035)	=	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

LITTLE CHUTE CANAL BRIDGE

(VILLAGE OF LITTLE CHUTE)
NON-HIGHWAY
OUTAGAMIE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4990-03-71	WISC 2015297	1
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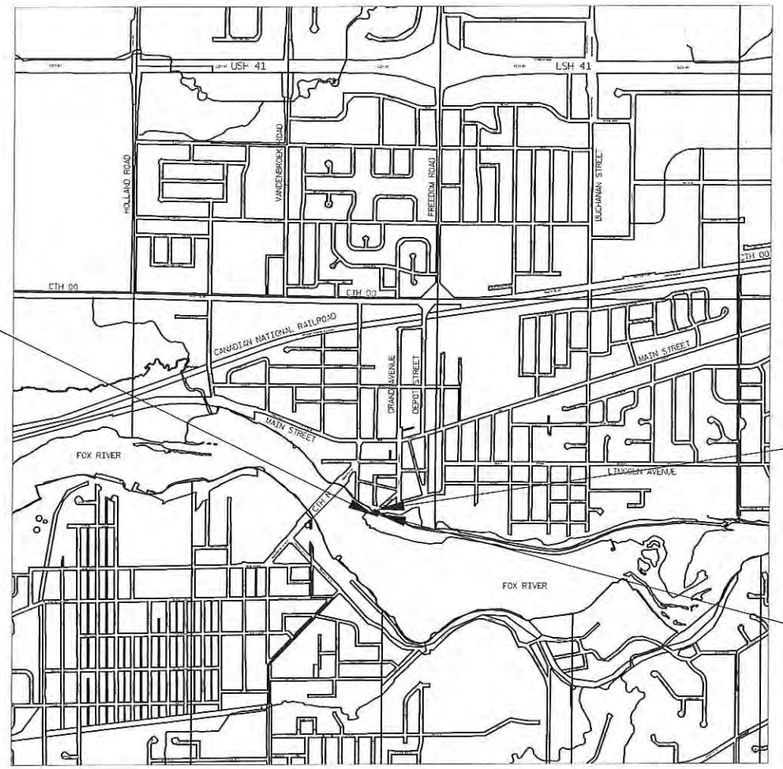
STATE PROJECT NUMBER
4990-03-71

R-18-E



BEGIN PROJECT
STA. 10+00.00
Y=567444.98
X=850837.28

T-21-N

END PROJECT
STA. 13+50.00
Y=567776.17
X=850950.47

STRUCTURE
B-44-0287

LAYOUT
SCALE 0 1/4 MI. 1/2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.066 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), OUTAGAMIE COUNTY, NAD1983 (1991)

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

ORIGINAL PLANS PREPARED BY:

exp U.S. Services Inc.
T: +1.414.221.0088 | F: +1.414.221.0537
241 North Broadway, Suite 203
Milwaukee, WI 53202
U.S.A.
www.exp.com

exp.

• BUILDINGS • EARTH & ENVIRONMENT • ENERGY •
• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

WISCONSIN
JEFFREY A. ROEMER
E-23321
MILWAUKEE, WI
PROFESSIONAL ENGINEER

01/29/2015 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	exp US Services, Inc.
Designer	exp US Services, Inc.
Management Consultant	SEH
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 3-5-2015 (Management Consultant Signature)

E

STANDARD ABBREVIATIONS:

ASPH	ASPHALT
AVE.	AVENUE
APT.	APARTMENT
BAD	BASE AGGREGATE DENSE
BLDG.	BUILDING
BM#	BENCH MARK
C&g	CURB AND GUTTER
℄	CENTERLINE
CL	CLASS
CONC	CONCRETE
CONST.	CONSTRUCTION
COR.	CORNER
CP#	CONTROL POINT
CP	CULVERT PIPE
D/W	DRIVEWAY
EX.	EXISTING
EXC	EXCAVATION
FE	FIELD OF ENTRANCE
F.L	FLOWLINE
FT	FEET
GV	GAS VALVE
HS.	HOUSE
INL.	INLET
L.F	LINEAR FOOT
N.T.S	NOT TO SCALE
P.C	POINT OF CURVE
PCC.	PORTLAND CONCRETE CEMENT
PE	PRIVATE ENTRANCE
P.I.	POINT OF INTERSECT
P.L.E	PERMANENT LIMITED EASEMENT
P.T	POINT OF TANGENCY
R	RADIUS
REQ'D	REQUIRED
REMO	REMOVE
R/W	RIGHT OF WAY
SEC	SECTION
S.F.	SQUARE FOOT
STH	STATE TRUNK HIGHWAY
T	TANGENT
TLE	TEMPORARY LIMITED EASEMENT
VPC	VERTICAL POINT OF CURVE
VPT	VERTICAL POINT OF TANGENCY
W/L	WETLAND
WV	WATER VALVE

PROJECT CONTACTS

DESIGN CONTACT
MS. JULIE HOPPE, P.E
exp US SERVICES, INC.
241 NORTH BROADWAY, SUITE 203
MILWAUKEE, WI 53202
PHONE: (414) 221-0088
EMAIL: julie.hoppe@exp.com

FOX RIVER NAVIGATIONAL SYSTEM AUTHORITY
MR. HARLAN KIESOW
1008 AUGUSTINE STREET
KAUKAUNA, WI 54130
PHONE: (920) 759-9833
EMAIL: harlan.kiesow@foxriverlocks.org

WISCONSIN DNR LIAISON
MR. MATT SCHAEVE
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
PHONE: (920) 662-5119
EMAIL: matthew.schaeve@wisconsin.gov

VILLAGE OF LITTLE CHUTE
MR. JAMES FENLON
108 W MAIN STREET
LITTLE CHUTE, WI 54140
PHONE: (920) 423-3850
EMAIL: James@littlechutewi.org

ORDER OF SECTION 2 SHEETS

GENERAL NOTES

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

COORDINATES ON THIS PLAN ARE REFERENCES TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), OUTAGAMIE COUNTY, NAD1983 (1991).

THE LOCATION OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND ALL UTILITIES IN THE VICINITY OF THE PROJECT TO LOCATE THEIR FACILITIES AT LEAST THREE DAYS PRIOR TO BEGINNING OF WORK.

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

ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE TOPSOILED, FERTILIZED, AND SEEDED AS DIRECTED BY THE ENGINEER.

LANDSCAPE ALL TOPSOILED AREAS AS SHOWN ON PLANS OR THE ENGINEER DIRECTS WITHIN 5 DAYS OF TOPSOIL PLACEMENT.

WHEN PORTIONS OF THE EXISTING ROADWAYS, DRIVEWAYS, AND SIDEWALKS ARE TO BE REMOVED TO ACCOMMODATE NEW CONSTRUCTION, THE LINE OF REMOVAL SHALL BE NEATLY DELINEATED WITH A SAW CUT THROUGH THE ASPHALTIC AND/OR CONCRETE PAVEMENT SUCH THAT REMOVAL OF THE PAVEMENT WILL BE ACCOMPLISHED WITHOUT DAMAGE TO REMAINING PORTIONS OR TO THE NEXT JOINT, AS DIRECTED BY THE ENGINEER.

EROSION CONTROL FEATURES ARE AT SUGGESTED LOCATIONS AND THE EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.

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

DISTANCES SHOWN FOR CURB AND GUTTER RADII ARE MEASURED TO THE FLANGE.

2

UTILITY CONTACT LIST

VILLAGE OF LITTLE CHUTE DPW
MR. ROY VAN GHEEM, DIRECTOR OF PUBLIC WORKS
1940 BUCHANAN STREET
LITTLE CHUTE, WI 54140
PHONE: (920) 788-7395
FAX: (920) 788-7394
EMAIL: roy@littlechutepw.org

KAUKAUNA UTILITIES - ELECTRIC
MR. LONNIE PICHLER
777 ISLAND STREET, PO BOX 1777
KAUKAUNA, WI 54130-7077
PHONE: (920) 462-0217
FAX: (920) 462-0034
EMAIL: lpichler@ku-wi.org

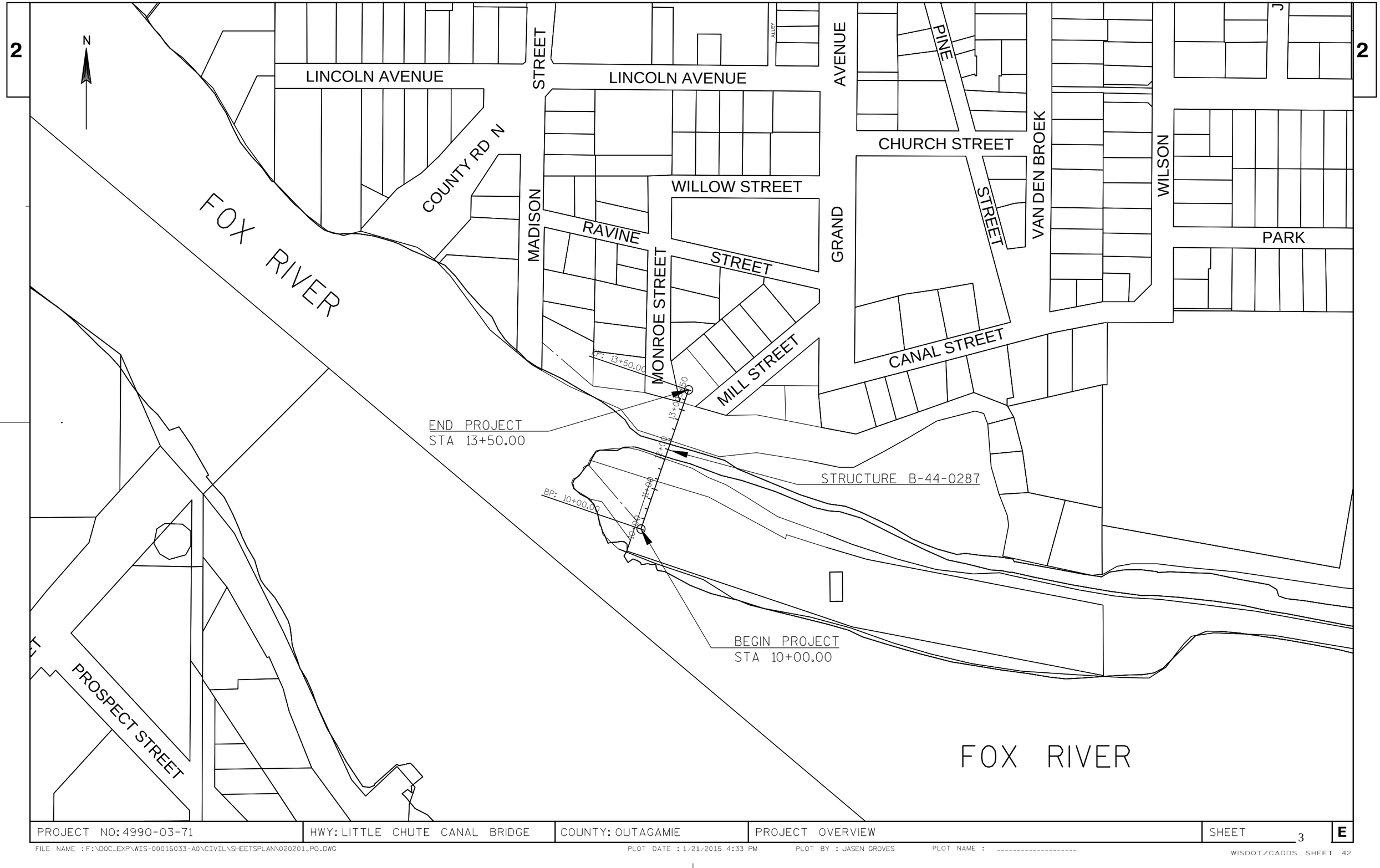
WE ENERGIES (GAS OPERATION)
MR. DAN SANDE, PROJECT MANAGER
333 W. EVERETT ST-A279
MILWAUKEE, WI 53203
PHONE:(414)221-4578
FAX:(414)221-2336
EMAIL: dan.sande@we-energies.com

HEART OF THE VALLEY METROPOLITAN SEWERAGE DISTRICT
MR. MARK SURWILLO, DISTRICT MANAGER
801 THILMANY ROAD
KAUKAUNA, WI 54130
PHONE: (920) 766-5731
FAX: (920) 766-5733
EMAIL: mark.surwillo@hvmsd.org

TIME WARNER CABLE
MR. VINCE ALBIN
3520 DESTINATION DRIVE
APPLETON, WI 54915
PHONE: (920) 831-9249
FAX: (920) 749-1154
EMAIL: vince.albin@twcable.com

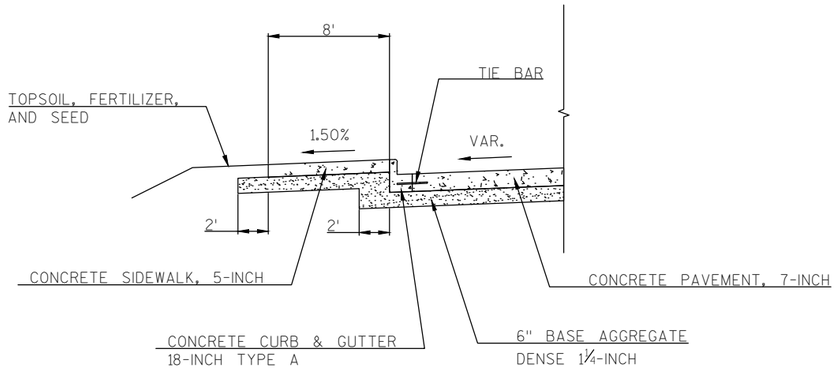
AT&T WISCONSIN
MR. PAUL KRAUTKRAMER
205 SOUTH JEFFERSON STREET
GREEN BAY, WI 54301
PHONE: (920) 433-4142
EMAIL: pk3856@att.com

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	GENERAL NOTES	SHEET 2	E

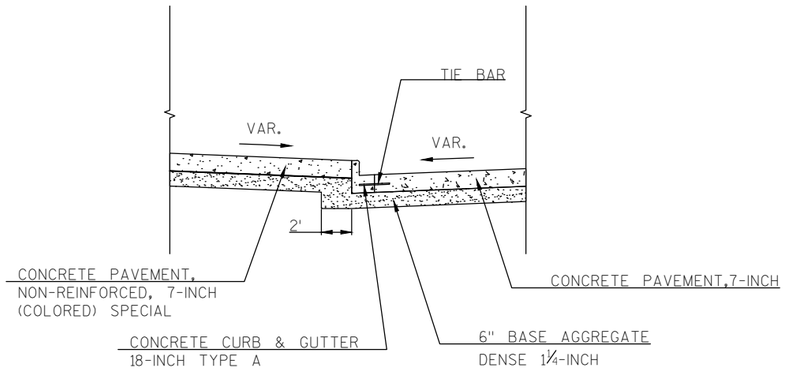


PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	PROJECT OVERVIEW	SHEET 3	E

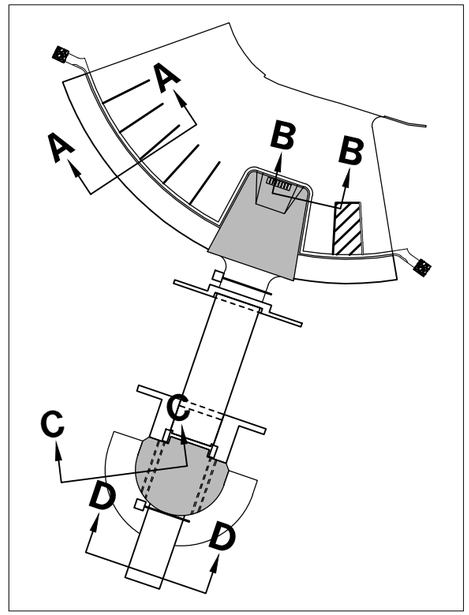
2

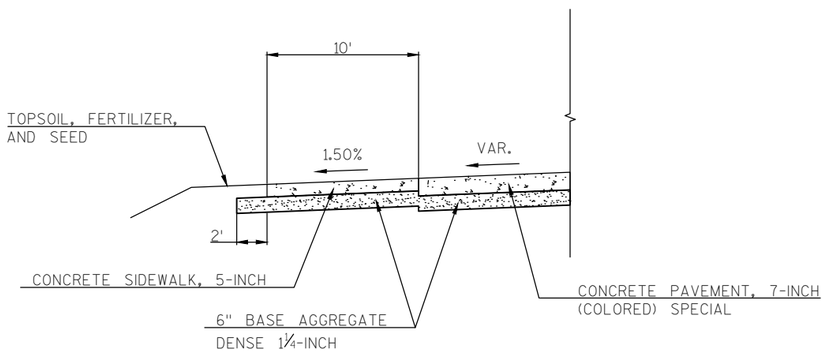


TYPICAL FINISHED SECTION - NORTH END SIDEWALK
SECTION A-A

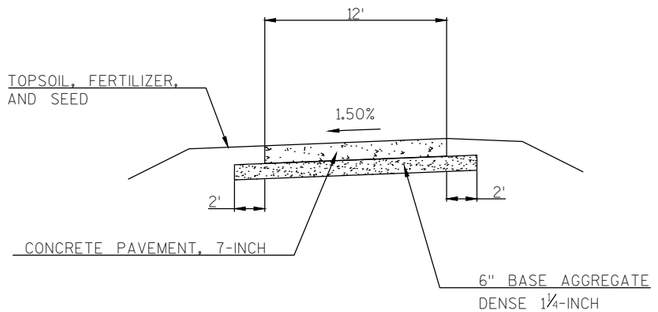


TYPICAL FINISHED SECTION - NORTH END PLAZA AREA
SECTION B-B



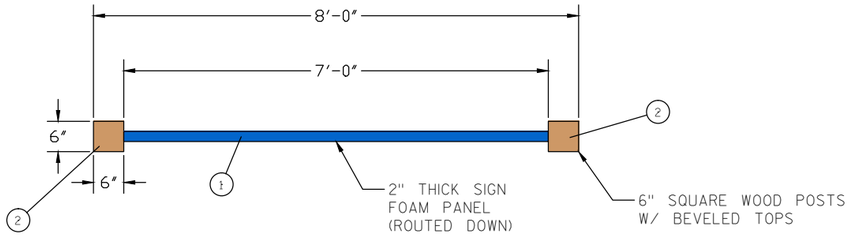


TYPICAL FINISHED SECTION - SOUTH END
LOOKOUT/REST AND PLAZA AREA
SECTION C-C



TYPICAL FINISHED SECTION - SOUTH END PATHWAY
SECTION D-D

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	TYPICAL SECTIONS - PROPOSED	SHEET 4	E

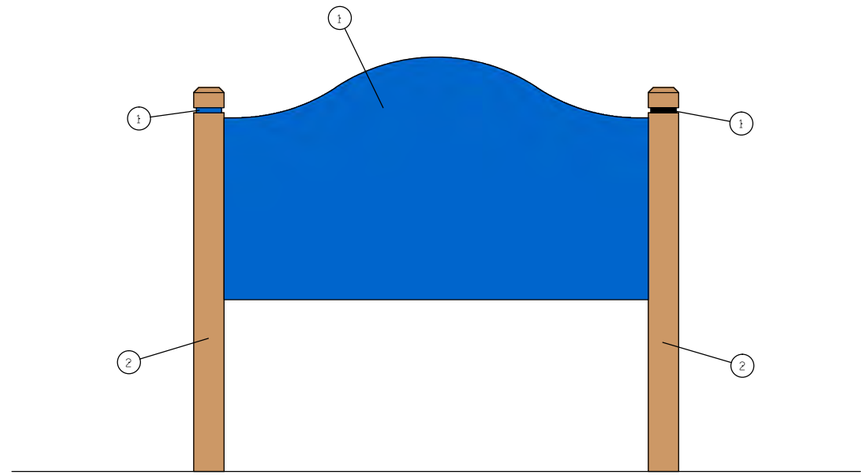


TOP VIEW

COLOR TABLE

1	SW 6959 - BLUE CHIP (PAINT)
2	MATTHEWS MP 05234 - BEIGE (PAINT)
3	ORACAL 751070 - BLACK (VINYL)
4	DIGITAL PRINT W/ LAMINATION TO MATCH IMAGE PROVIDED BY VILLAGE

FRONT VIEW



BACK VIEW

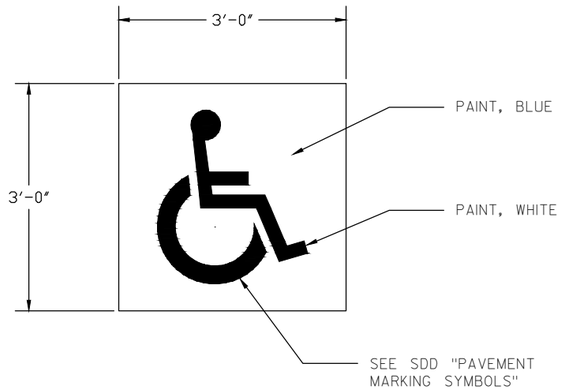
ISLAND PARK SIGN

NOT TO SCALE

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS	SHEET 5	E

90 DEGREE BASKET WEAVE
PATTERN - CONCRETE STAMPING

NOT TO SCALE
USE ON CONCRETE PAVEMENT 7-INCH (COLORED)
SPECIAL



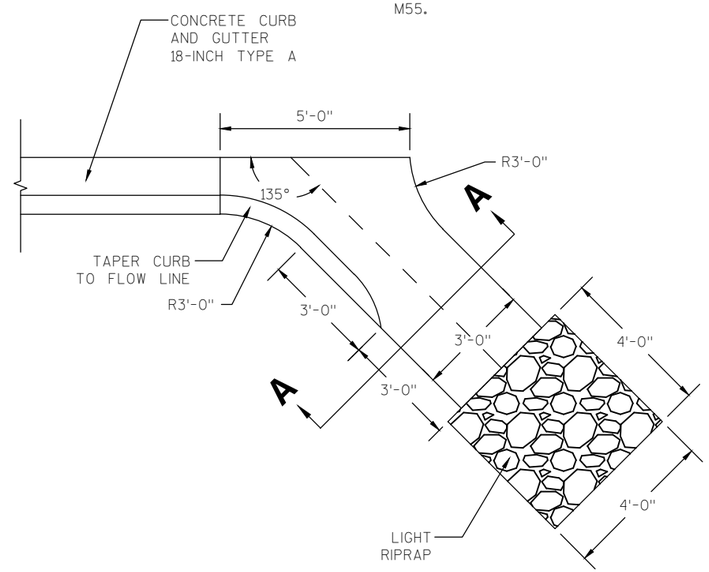
PAVEMENT MARKING - HANDICAPPED SYMBOL PAINT

NOT TO SCALE

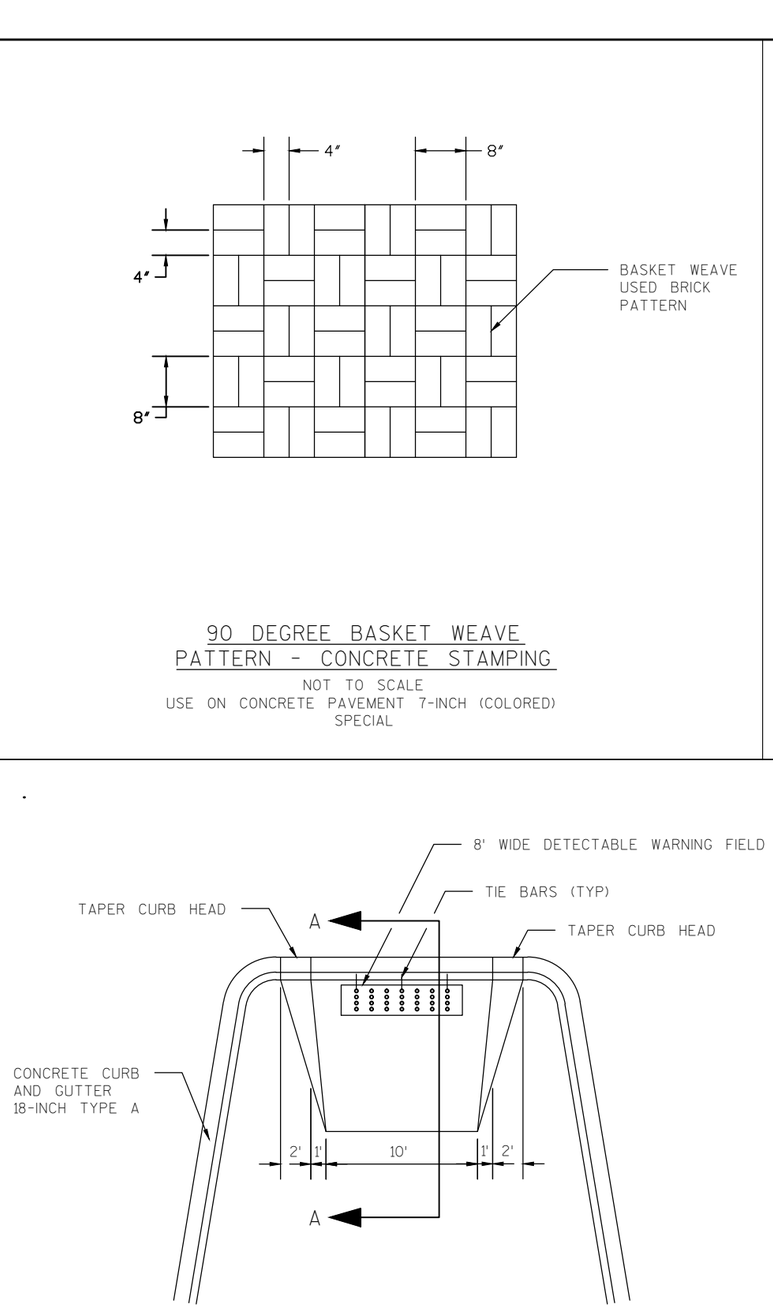
GENERAL NOTES;

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

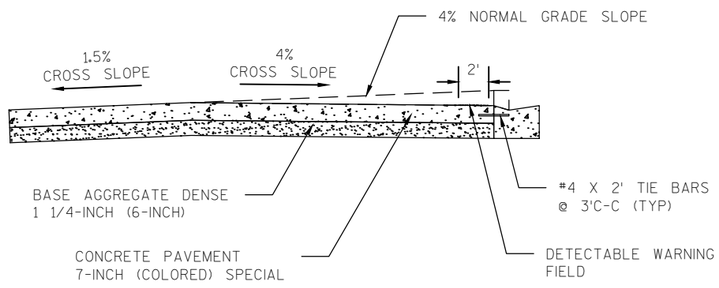
WELDED STEEL FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.



PLAN VIEW



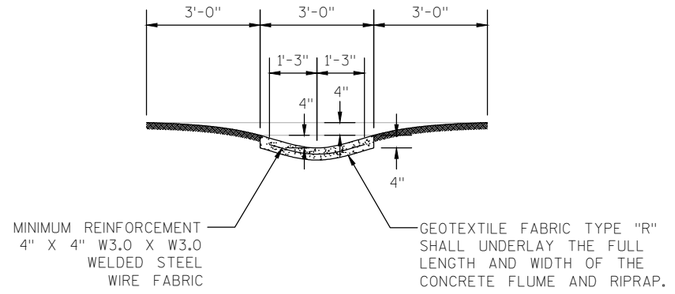
PLAN VIEW



SECTION A-A

PLAZA TRAIL ACCESS DETAIL

NOT TO SCALE



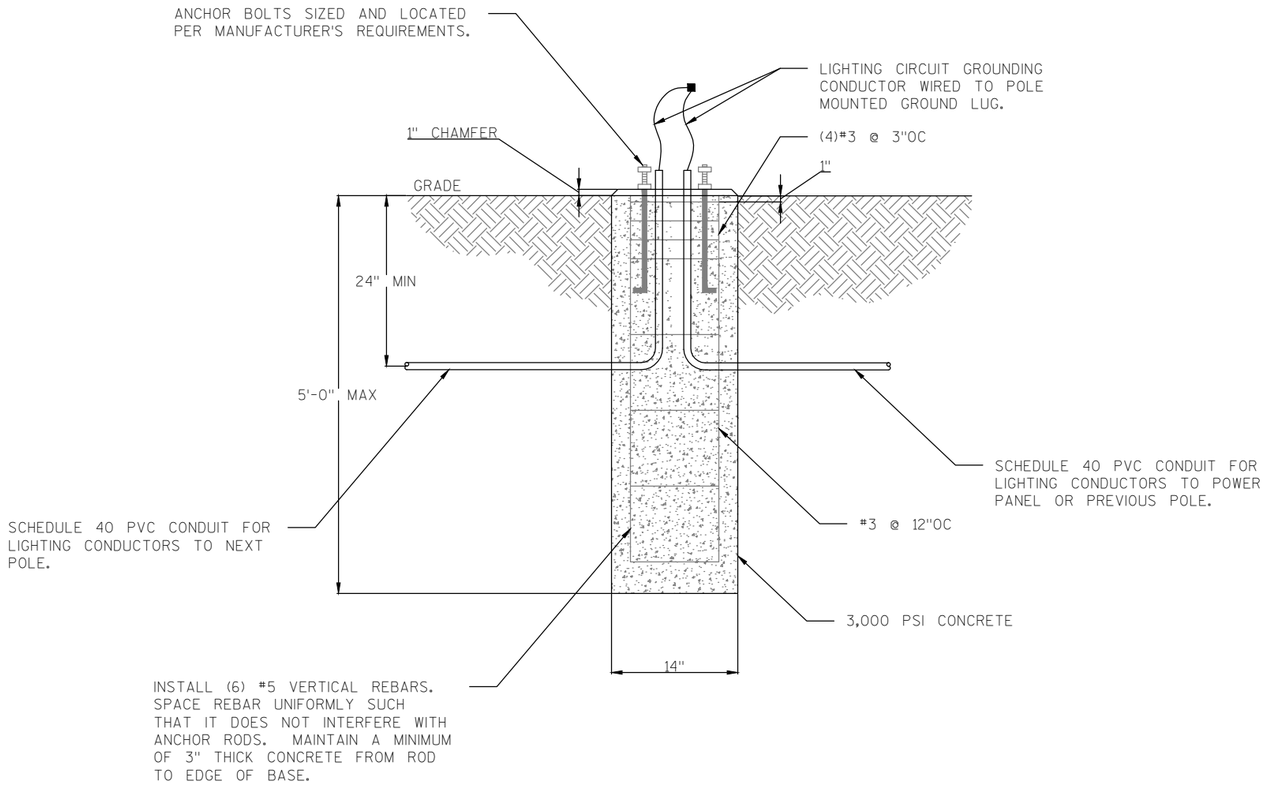
SECTION A-A

CONCRETE SURFACE DRAIN DETAIL

NOT TO SCALE

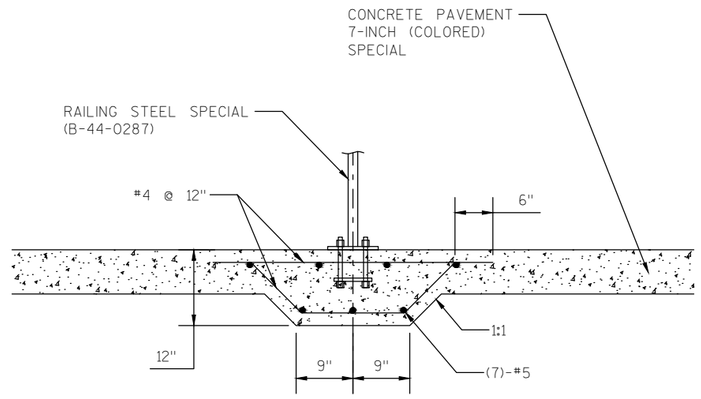
PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS	SHEET 6	E

2



14-INCH CONCRETE BASE SPECIAL DETAIL

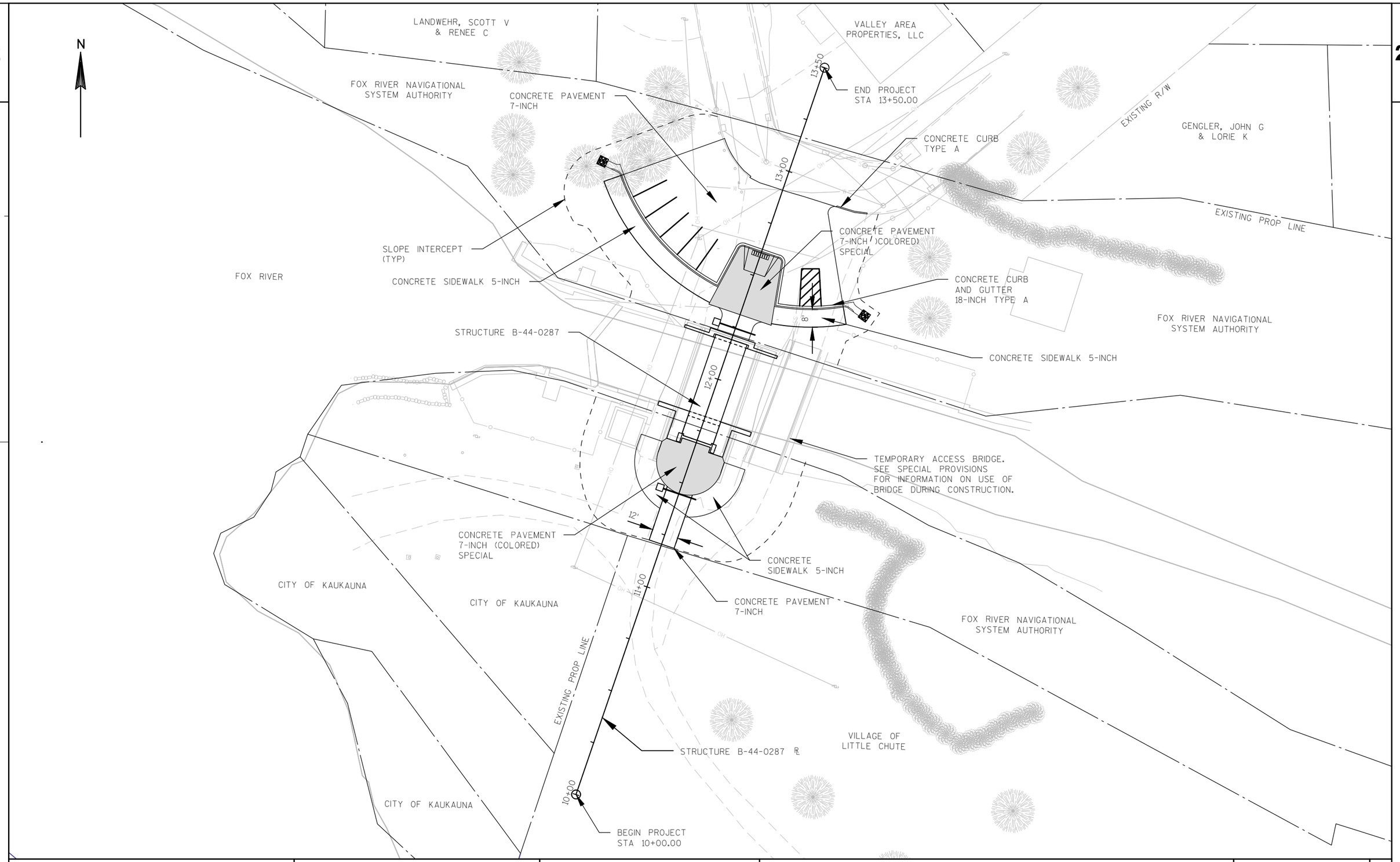
NOT TO SCALE



THICKENED CONCRETE SECTION DETAIL

NOT TO SCALE

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	CONSTRUCTION DETAILS	SHEET 7	E



PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	PAVING DETAIL OVERVIEW	SHEET 8	E

2

N

PROPOSED CONCRETE SLAB
SEE STRUCTURE PLANS FOR
MECHANICAL PIT DETAILS

STRUCTURE B-44-0287

CONCRETE DECK
SEE STRUCTURE PLANS
FOR DECK DETAILS

CONCRETE SLAB
SEE STRUCTURE PLANS FOR
MECHANICAL PIT DETAILS

+65.00
15.00'LT
EL. 698.46

+69.42
6.75'LT
EL. 698.54

+67.00
6.75'LT
EL. 698.54

+65.00
25.00'LT
EL. 698.31

+60.00
25.00'LT
EL. 698.16

+60.00
15.00'LT
EL. 698.31

+67.00
13.42'LT
EL. 698.54

+67.00
13.42'RT
EL. 698.54

+69.42
6.75'RT
EL. 698.54

+67.00
6.75'RT
EL. 698.54

+65.00
15.00'RT
EL. 698.46

+65.00
25.00'RT
EL. 698,31

+60.00
15.00'RT
EL. 698.31

+60.00
25.00'RT
EL. 698.16

10'

30'

10'

11+75

11+50

THICKENED CONCRETE SECTION
FOR RAILING INSTALLATION.
SEE CONSTRUCTION DETAILS.

1

CONCRETE SIDEWALK
5-INCH

CONCRETE PAVEMENT 7-INCH
(COLORED) SPECIAL
SEE LANDSCAPE PLANS
FOR FINISHING DETAILS

2

+44.59
19.69'LT
EL. 697.60

MANUAL
PEDESTRIAN GATE.
SEE STRUCTURE
PLANS FOR DETAILS

+46.25
6.00'LT
EL. 697.92

+46.25
6.00'RT
EL. 698.10

CONCRETE
SIDEWALK 5-INCH

THICKENED CONCRETE SECTION
FOR RAILING INSTALLATION.
SEE CONSTRUCTION DETAILS.

3

+35.73
6.00'LT
EL. 697.04

+44.59
19.69'RT
EL. 697.69

+35.73
6.00'RT
EL. 697.22

12'

11+25

CONCRETE
PAVEMENT 7-INCH

+20.58
6.00'LT
EL. 695.78

+20.58
6.00'RT
EL. 695.96

BEGIN CONSTRUCTION
STA 11+20

11+00

EXISTING PROP LINE

SLOPE INTERCEPT

SLOPE INTERCEPT

EXISTING PROP LINE

EXISTING PROP LINE

CITY OF KAUKAUNA

VILLAGE OF LITTLE CHUTE

STRUCTURE B-44-0287 ℞

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
1	11+60.00	0.00'	25.00'	Y=567596.38 X=850889.02
2	11+60.00	0.00'	15.00'	Y=567596.38 X=850889.02
3	11+60.00	0.00'	25.00'	Y=567596.38 X=850889.02

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	PAVING DETAILS - SOUTH END	SHEET 9	E

2

+04.72
32.66'LT
EL. 701.80

MATCH EXISTING
CONCRETE PAVEMENT

+90.87
10.91'LT
EL. 701.44
MATCH EXIST.

REMOVE CURB.
MATCH EXISTING
CONCRETE PAVEMENT

+89.33
52.06'LT
EL. 699.75

CONCRETE
SURFACE DRAIN

CONCRETE PAVEMENT
7-INCH

PARKING
STALL 1

PARKING
STALL 2

PARKING
STALL 3

PARKING
STALL 4

PARKING
STALL 5

PARKING
STALL 6

PARKING
STALL 7

9'

CABLES IN DUCTS
TO BE ABANDONED

+76.68
79.83'LT
EL. 697.91

+74.39
70.84'LT
EL. 698.31

+73.46
72.02'LT
EL. 698.75

+68.48
78.28'LT
EL. 698.63

+62.58
8.31'LT
EL. 699.63

+59.66
11.76'LT
EL. 699.38

+62.58
8.31'RT
EL. 699.18

+59.66
11.76'RT
EL. 698.93

PLAZA DEPRESSED
DRIVEWAY APPROACH
SEE DETAIL

+52.70
45.88'LT
EL. 698.47

+51.03
46.00'LT
EL. 698.93

+41.43
14.80'LT
EL. 698.64

+39.71
13.56'LT
EL. 699.10

+31.82
14.88'LT
EL. 698.98

+31.08
15.00'LT
EL. 698.97

+27.08
7.50'LT
EL. 698.73

+21.08
7.50'LT
EL. 698.54

+45.02
29.12'RT
EL. 698.12

+41.43
14.80'RT
EL. 698.19

+39.71
13.56'RT
EL. 698.65

+31.82
14.88'RT
EL. 698.53

+31.08
15.00'RT
EL. 698.52

+27.08
7.50'RT
EL. 698.60

+21.08
7.50'RT
EL. 698.54

HANDICAP
PARKING
STALL 1

CONCRETE
CURB & GUTTER
18-INCH TYPE A

CONCRETE
SIDEWALK 5-INCH

MANUAL
PEDESTRIAN GATE.
SEE STRUCTURE
PLANS FOR DETAILS

CONCRETE PAVEMENT
7-INCH SPECIAL
(COLORED). SEE
LANDSCAPE PLANS FOR
FINISHING DETAILS

CONCRETE PAVEMENT
7-INCH

CONCRETE PIER
SEE STRUCTURE PLANS
FOR DETAILS

STRUCTURE B-44-0287

+93.68
39.79'RT
EL. 701.06
MATCH EXIST.

+92.50
34.18'RT
EL. 701.03
MATCH EXIST.

+92.28
25.72'RT
EL. 700.97
MATCH EXIST.

+87.37
23.17'RT
EL. 700.50

CONCRETE
CURB TYPE A

+72.06
31.35'RT
EL. 699.48

CABLES IN
DUCTS

CONCRETE
CURB & GUTTER
18-INCH TYPE A

+50.90
42.67'RT
EL. 698.04

CONCRETE
SURFACE DRAIN

+49.43
51.82'RT
EL. 697.64

+49.58
43.37'RT
EL. 698.48

+35.77
31.40'RT
EL. 698.44

CONCRETE
SIDEWALK 5-INCH

+42.52
47.14'RT
EL. 698.36

13+00

12+75

12+50

12+25

30'

15'

10'

8'

18'

SI

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES
4	11+27.08	11.50'RT	4.00'	Y=567656.14 X=850921.60
5	11+27.08	11.50'LT	4.00'	Y=567663.58 X=850899.83
6	13+30.71	0.00'	100.00'	Y=567757.92 X=850944.23
7	13+30.71	0.00'	90.50'	Y=567757.92 X=850944.23
8	12+59.08	8.31'LT	3.50'	Y=567692.82 X=850913.21
9	12+59.08	8.31'RT	3.50'	Y=567687.45 X=850928.92
10	13+30.71	0.00'	90.50'	Y=567757.92 X=850944.23
11	13+30.71	0.00'	100.00'	Y=567757.92 X=850944.23
12	12+87.78	25.82'RT	3.00'	Y=567709.89 X=850955.10

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	PAVING DETAILS - NORTH END	SHEET 10	E

2

2

N

REMOVING BUILDING
(STA 11+65)

REMOVING OLD
STRUCTURE OVER WATERWAY
WITH MINIMAL DEBRIS (STA 12+00)
SEE STRUCTURAL PLANS

11+75

STRUCTURE B-44-0287 ℞

BEGIN CONSTRUCTION
STA 11+20

11+00

CITY OF KAUKAUNA

VILLAGE OF LITTLE CHUTE

LEGEND

REMOVE PAVEMENT

REMOVE ASPHALTIC SURFACE
(REMOVAL INCLUDED IN COST
OF EXCAVATION COMMON)

xxxx SAWING CONCRETE

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	REMOVALS - SOUTH END	SHEET 11	E

2

2

N

REMOVING CURB
STA 12+91 - 13+04

REMOVE TREES AS
DIRECTED BY ENGINEER

REMOVING PAVEMENT

REMOVING SIGNS TYPE II
AND REMOVING SMALL
SIGN SUPPORT

REMOVING SIGNS TYPE II
AND REMOVING SMALL
SIGN SUPPORT

REMOVING SIGNS TYPE II
AND REMOVING SMALL
SIGN SUPPORT

13+00

12+25

LEGEND

REMOVE PAVEMENT

REMOVE ASPHALTIC SURFACE
(REMOVAL INCLUDED IN COST
OF EXCAVATION COMMON)

XXXX SAWING CONCRETE

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	REMOVALS - NORTH END	SHEET 12	E

FILE NAME : F:\DOC_EXP\WIS-00016033-A0\CIVIL\SHEETSPLAN\021502_RE.DWG PLOT DATE : 1/21/2015 4:37 PM PLOT BY : JASEN GROVES PLOT NAME : ---------- PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 42

2

N

NOTE: EROSION BALES SHALL BE INSTALLED ON NORTH SIDE OF CANAL PER ENGINEERS DIRECTION

LANDWEHR, SCOTT V & RENEE C

FOX RIVER NAVIGATIONAL SYSTEM AUTHORITY

VALLEY AREA PROPERTIES, LLC

13+50

END CONSTRUCTION STA 13+05

TYPE B

TYPE C

TYPE B

TYPE B

13+00

EXISTING R/W

GENGLER, JOHN G & LORIE K

TYPE C

EXISTING PROP LINE

TOPSOIL, SEED, FERTILIZER, AND EROSION MAT (TYP)

FOX RIVER

STRUCTURE B-44-0287

FOX RIVER NAVIGATIONAL SYSTEM AUTHORITY

12+00

SILT FENCE (TYP)

SLOPE INTERCEPT (TYP)

TOPSOIL, SEED, FERTILIZER, AND EROSION MAT (TYP)

CITY OF KAUKAUNA

CITY OF KAUKAUNA

11+00

BEGIN CONSTRUCTION STA 11+20

FOX RIVER NAVIGATIONAL SYSTEM AUTHORITY

EXISTING PROP LINE

STRUCTURE B-44-0287 R

VILLAGE OF LITTLE CHUTE

10+00

CITY OF KAUKAUNA

LEGEND

- EROSION MAT URBAN CLASS I TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SLOPE INTERCEPT
- INLET PROTECTION

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	EROSION CONTROL	SHEET 13	E

2

LEGEND - SITE AMENITIES

T — PROPOSED TRASH RECEPTACLE

PROPOSED BIKE RACK

PROPOSED BENCH

TOPSOIL, FERTILIZER, AND SEED

STA 11+60
BENCH

CONCRETE PAVEMENT
7-INCH (COLORED) SPECIAL

TOOLED CONTROL
JOINTS W/ 4"
PICTURE FRAMING
(TYP)

11+75

90 DEGREE BASKET WEAVE
BRICK PAVING PATTERN STAMPING.
SEE DETAIL

STA 11+60
BENCH

2'

T

STA 11+54
TRASH
RECEPTACLE

5' (TYP)

5'

5'

11+50

2'

STA 11+44
BIKE RACK

2'

ISLAND
PARK
SIGN

11+25

11+00

CONCRETE PAVEMENT 7-INCH

N

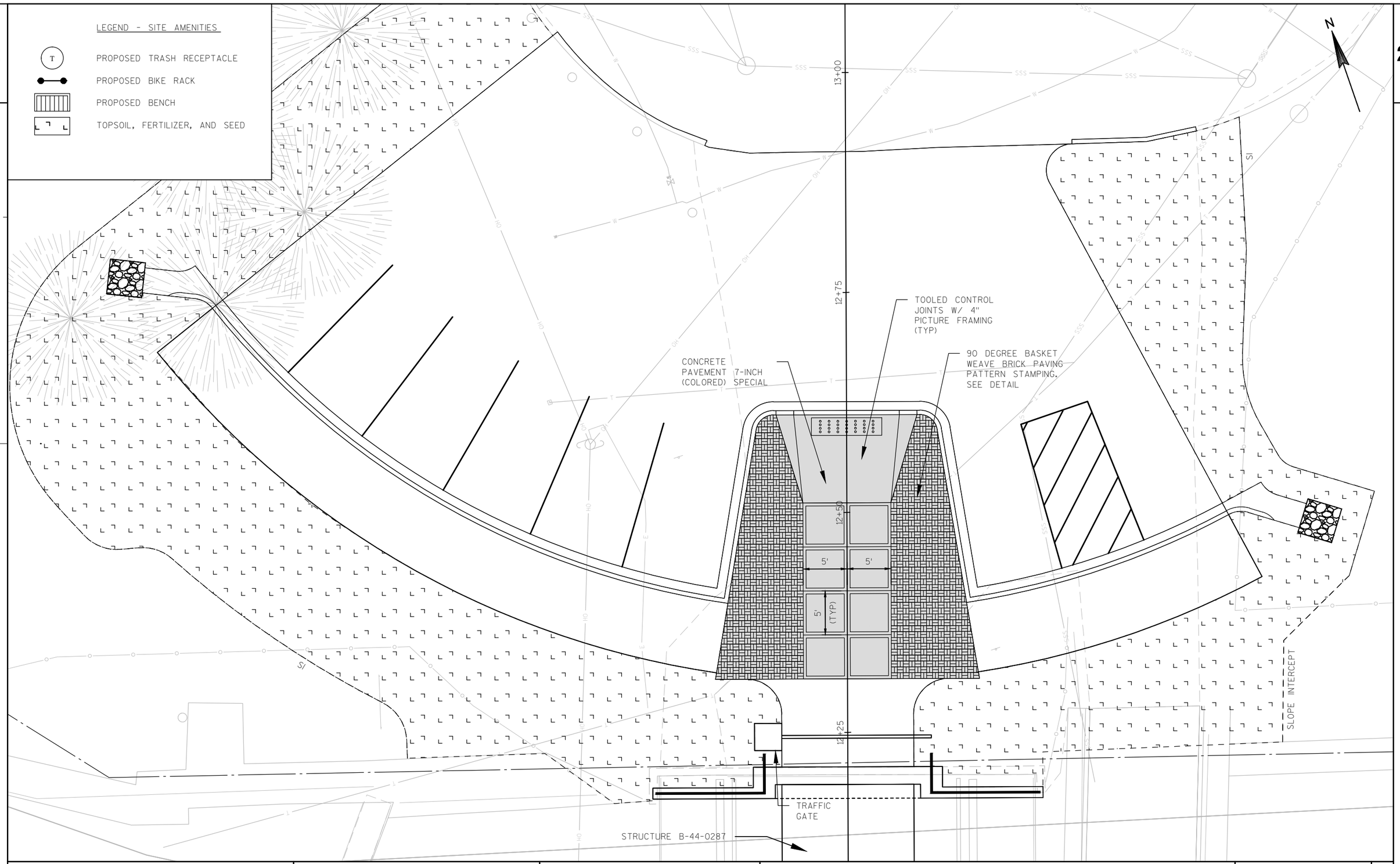
2

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	LANDSCAPING AND SITE AMENITIES - SOUTH END	SHEET 14	E

FILE NAME : F:\DOC_EXP\WIS-00016033-A0\CIVIL\SHEETSPLAN\023101_STR.DWG PLOT DATE : 1/21/2015 4:39 PM PLOT BY : JASEN GROVES PLOT NAME : ---------- PLOT SCALE : 1" = 10'_XREF

LEGEND - SITE AMENITIES

- T — PROPOSED TRASH RECEPTACLE
- PROPOSED BIKE RACK
- PROPOSED BENCH
- TOPSOIL, FERTILIZER, AND SEED



2

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	LANDSCAPING AND SITE AMENITIES - NORTH END	SHEET 15	E

2

2

N

ROUTE CIRCUIT THROUGH ELECTRICALLY HELD 20A/1P CONTACTOR. CONTROL CONTACTOR WITH PHOTO CELL TIME SWITCH

STRUT MOUNTED PANELBOARD P1 AND UTILITY METER TO BE LOCATED IN PROPOSED PLANTING BED. ADJUST PLANTING LOCATION AS NEEDED. COORDINATE EXACT LOCATION WITH VILLAGE AND UTILITY. (SHARED CONNECTION WITH BRIDGE ELECTRICAL SERVICE)

LP1
STA 11+39
15'LT

LP2
STA 11+44
20'RT

11+75

11+50

11+25

11+00

EXISTING PROP LINE

(2) 10 AWG WIRE,
(1) 10 AWG G.WIRE IN
1-INCH SCHEDULE 40

(2) 10 AWG WIRE,
(1) 10 AWG G.WIRE IN
1-INCH SCHEDULE 40

PULLBOX, STEEL
24 X 36-INCH

1-INCH SCHEDULE 40

STRUCTURE B-44-0287 ℄

EXTEND CONDUIT TO PROPERTY LINE FOR FUTURE EXTENSION OF TRAIL LIGHTING

EXISTING PROP LINE

EXISTING PROP LINE

NOTE: SEE SDD 10A5 ELECTRICAL DETAILS, GROUND MOUNT LIGHT POLES, ISOLATED NEUTRAL SYSTEM FOR WIRING DETAILS.

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	OVERHEAD LIGHTING PLAN - SOUTH END	SHEET 16	E

2

N

13+00

12+75

12+50

12+25

STRUCTURE B-44-0287 ℄

LP4
STA 12+42
48'LT

LP3
STA 12+35
30'RT

NOTE: SEE SDD 10A5-2 (ELECTRICAL DETAILS, GROUND MOUNT LIGHT POLES, ISOLATED NEUTRAL SYSTEM) FOR WIRING DETAILS.

(2) 10 AWG WIRE,
(1) 10 AWG G.WIRE IN
1-INCH SCHEDULE 40

ROUTE CIRCUIT THROUGH ELECTRICALLY HELD 20A/1P CONTACTOR. CONTROL CONTACTOR WITH PHOTO CELL TIME SWITCH.

STRUT MOUNTED PANELBOARD P2 AND UTILITY METER TO BE PLACED IN PLANTING BED. ADJUST PLANTING LAYOUT AS NEEDED. COORDINATE EXACT LOCATION WITH VILLAGE AND UTILITY.

(2) 10 AWG WIRE,
(1) 10 AWG G.WIRE IN
1-INCH SCHEDULE 40

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	OVERHEAD LIGHTING PLAN - NORTH END	SHEET 17	E

2

N

PARKING STALL 1

PARKING STALL 2

PARKING STALL 3

PARKING STALL 4

PARKING STALL 5

PARKING STALL 6

9'

18'

A

13+00

12+75

12+50

12+25

8'

HANDICAP PARKING STALL 1

PARKING STALL 7

3'

18'

B

LEGEND

A — PAVEMENT MARKING, PAINT, 4-INCH, WHITE

B — PAVEMENT MARKING, HANDICAPPED SYMBOL PAINT WHITE/BLUE (SEE DETAIL)

PROPOSED SIGN

1 — NO UNAUTHORIZED MOTORIZED VEHICLES BEYOND THIS POINT — 12"X18"

2 — RESERVED PARKING — R7-8A — 12"X18"

VAN ACCESSIBLE — R7-8V — 6"X12"

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	PAVEMENT MARKING PLAN	SHEET 18	E

FILE NAME : F:\DOC_EXP\WIS-00016033-A0\CIVIL\SHEETSPLAN\024501_PM.DWG PLOT DATE : 1/21/2015 4:42 PM PLOT BY : JASEN GROVES PLOT NAME : ---------- PLOT SCALE : 1" = 10'_XREF

WISDOT/CADDS SHEET 42

2

2

N

LANDWEHR, SCOTT V
& RENEE C

VALLEY AREA
PROPERTIES, LLC

FOX RIVER NAVIGATIONAL
SYSTEM AUTHORITY

13+50

BRIDGE
OUT
R11-2B
48" X 30"

EXISTING R/W

GENGLER, JOHN G
& LORIE K

13+00

FOX RIVER

STRUCTURE B-44-0287

FOX RIVER NAVIGATIONAL
SYSTEM AUTHORITY

12+00

REMOVING OLD
STRUCTURE (STA 12+00)

CITY OF KAUKAUNA

CITY OF KAUKAUNA

11+00

STRUCTURE B-44-0287

FOX RIVER NAVIGATIONAL
SYSTEM AUTHORITY

VILLAGE OF
LITTLE CHUTE

BRIDGE
OUT
R11-2B
48" X 30"

10+00

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- WORK AREA

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	TRAFFIC CONTROL	SHEET 19	E

FILE NAME : F:\DOC_EXP\WIS-00016033-A0\CIVIL\SHEETSPLAN\025001_TC.DWG PLOT DATE : 1/21/2015 4:43 PM PLOT BY : JASEN GROVES PLOT NAME : ---------- PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2

TP200
PK NAILS IN ASPHALT
Y=567613.4000
X=850752.3000
Z=696.660

N

STRUCTURE B-44-0287 R

T30
PK NAILS IN ASPHALT
Y=567554.3000
X=850871.3000
Z=695.218

TP100
PK NAILS IN ASPHALT
Y=567724.7000
X=850917.3000
Z=701.501

T20
PK NAILS IN ASPHALT
Y=567588.2000
X=850868.4000
Z=696.966

BP: 10+00.00

EP: 13+50.00

10+00 | 11+00 | N18° 52' 02.11"E | 12+00 | 13+00 | 13+50

350.00'

BEGIN PROJECT
STA 10+00
Y=567444.98
X=850837.28

END PROJECT
STA 13+50.00
Y=567776.17
X=850950.47

T40
PK NAILS IN ASPHALT
Y=567562.2000
X=850924.5000
Z=695.726

T10
PK NAILS IN ASPHALT
Y=567711.9000
X=850937.4000
Z=700.543

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRIDGE	COUNTY: OUTAGAMIE	ALIGNMENT DETAIL	SHEET 20	E

DATE 24MAR15 — 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	4990-03-71 QUANTITY
0010	201.0120	Clearing	ID	15.000	15.000
0020	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. P-44-0706	LS	1.000	1.000
0030	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 12+00	LS	1.000	1.000
0040	204.0100	Removing Pavement	SY	31.000	31.000
0050	204.0130	Removing Curb	LF	25.000	25.000
0060	204.0230	Removing Building (station) 01. 11+65	LS	1.000	1.000
0070	205.0100	Excavation Common	CY	440.000	440.000
0080	209.0100	Backfill Granular	CY	384.000	384.000
0090	211.0200	Prepare Foundation for Concrete Pavement (project) 01. 4990-03-71	LS	1.000	1.000
0100	213.0100	Finishing Roadway (project) 01. 4990-03-71	EACH	1.000	1.000
0110	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	320.000	320.000
0120	415.0070	Concrete Pavement 7-Inch	SY	491.000	491.000
0130	416.0610	Drilled Tie Bars	EACH	28.000	28.000
0140	416.1010	Concrete Surface Drains	CY	1.000	1.000
0150	502.0100	Concrete Masonry Bridges	CY	119.000	119.000
0160	502.5002	Masonry Anchors Type L No. 4 Bars	EACH	22.000	22.000
0170	502.5005	Masonry Anchors Type L No. 5 Bars	EACH	400.000	400.000
0180	502.6500	Protective Coating Clear	GAL	14.000	14.000
0190	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	12,850.000	12,850.000
0200	506.0605	Structural Steel HS	LB	59,550.000	59,550.000
0210	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	4.000	4.000
0220	507.0200	Treated Lumber and Timber	MBM	2.290	2.290
0230	509.1500	Concrete Surface Repair	SF	690.000	690.000
0240	513.7090	Railing Steel Special (structure) 01. B-44-0287	LS	1.000	1.000
0250	601.0105	Concrete Curb Type A	LF	24.000	24.000
0260	601.0405	Concrete Curb & Gutter 18-Inch Type A	LF	161.000	161.000
0270	602.0410	Concrete Sidewalk 5-Inch	SF	1,446.000	1,446.000
0280	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	16.000	16.000
0290	606.0100	Riprap Light	CY	2.000	2.000
0300	619.1000	Mobilization	EACH	1.000	1.000
0310	625.0100	Topsoil	SY	790.000	790.000
0320	628.1104	Erosion Bales	EACH	20.000	20.000
0330	628.1504	Silt Fence	LF	450.000	450.000
0340	628.1520	Silt Fence Maintenance	LF	450.000	450.000
0350	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0360	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0370	628.2006	Erosion Mat Urban Class I Type A	SY	980.000	980.000
0380	628.7010	Inlet Protection Type B	EACH	3.000	3.000
0390	628.7015	Inlet Protection Type C	EACH	2.000	2.000
0400	629.0210	Fertilizer Type B	CWT	0.700	0.700
0410	630.0140	Seeding Mixture No. 40	LB	16.000	16.000
0420	634.0810	Posts Tubular Steel 2x2-Inch X 10-FT	EACH	2.000	2.000
0430	637.2210	Signs Type II Reflective H	SF	3.500	3.500
0440	638.2602	Removing Signs Type II	EACH	7.000	7.000
0450	638.3000	Removing Small Sign Supports	EACH	3.000	3.000
0460	642.5001	Field Office Type B	EACH	1.000	1.000
0470	643.0100	Traffic Control (project) 01. 4990-03-71	EACH	1.000	1.000
0480	643.0420	Traffic Control Barricades Type III	DAY	4,400.000	4,400.000

3

DATE 24MAR15 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	4990-03-71 QUANTITY
0490	643.0705	Traffic Control Warning Lights Type A	DAY	5,200.000	5,200.000
0500	643.0900	Traffic Control Signs	DAY	800.000	800.000
0510	645.0130	Geotextile Fabric Type R	SY	30.000	30.000
0520	646.0103	Pavement Marking Paint 4-Inch	LF	180.000	180.000
0530	650.4500	Construction Staking Subgrade	LF	132.000	132.000
0540	650.5000	Construction Staking Base	LF	132.000	132.000
0550	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	185.000	185.000
0560	650.6500	Construction Staking Structure Layout (structure) 01. B-44-0287	LS	1.000	1.000
0570	650.8500	Construction Staking Electrical Installations (project) 01. 4990-03-71	LS	1.000	1.000
0580	650.9910	Construction Staking Supplemental Control (project) 01. 4990-03-71	LS	1.000	1.000
0590	652.0210	Conduit Rigid Nonmetallic Schedule 40 1-Inch	LF	195.000	195.000
0600	653.0135	Pull Boxes Steel 24x36-Inch	EACH	1.000	1.000
0610	655.0610	Electrical Wire Lighting 12 AWG	LF	240.000	240.000
0620	655.0615	Electrical Wire Lighting 10 AWG	LF	630.000	630.000
0630	690.0250	Sawing Concrete	LF	26.000	26.000
0640	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0650	715.0502	Incentive Strength Concrete Structures	DOL	714.000	714.000
0660	ASP.1T0A	On-the-Job Training Apprentice at $5. 00/HR	HRS	1,200.000	1,200.000
0670	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0680	SPV.0060	Special 01. Pavement Marking Handicapped Symbol	EACH	1.000	1.000
0690	SPV.0060	Special 02. Bench	EACH	2.000	2.000
0700	SPV.0060	Special 03. Trash Receptacle	EACH	1.000	1.000
0710	SPV.0060	Special 04. Bike Rack	EACH	1.000	1.000
0720	SPV.0060	Special 05. Island Park Sign	EACH	1.000	1.000
0730	SPV.0060	Special 06. Access Doors	EACH	2.000	2.000
0740	SPV.0060	Special 07. Decorative Luminaires	EACH	4.000	4.000
0750	SPV.0060	Special 08. 14-Inch Concrete Base Special	EACH	4.000	4.000
0760	SPV.0060	Special 09. Electrical Panelboard P2	EACH	1.000	1.000
0770	SPV.0060	Special 10. Access Ladders	EACH	2.000	2.000
0780	SPV.0105	Special 01. Hanger Assemblies	LS	1.000	1.000
0790	SPV.0105	Special 02. Fluid Power System	LS	1.000	1.000
0800	SPV.0105	Special 03. Machinery	LS	1.000	1.000
0810	SPV.0105	Special 04. Electrical Work	LS	1.000	1.000
0820	SPV.0105	Special 05. Concrete Pavement Joint Layout	LS	1.000	1.000
0830	SPV.0180	Special 01. Concrete Pavement 7-Inch Colored	SY	149.000	149.000

3

Division	From / To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged / Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (6)	Mass Ordinate + / - (7)	Waste	Borrow
			Cut (2)	EBS Excavation (3)				Factor 1.25			(item #208.0100)
1	11+20 to 11+75	South End	132	0	19	113	7	9	104		
			0			0	0	0	0		
			0			0	0	0	0		
			0			0	0	0	0		
Division 1 Subtotal			132	0	19	113	7	9	104	104	
2	12+21 to 13+04	North End	308	0	58	250	65	81	169		
			0			0	0	0	0		
			0			0	0	0	0		
			0			0	0	0	0		
			0			0	0	0	0		
Division 2 Subtotal			308	0	58	250	65	81	169	169	0
Grand Total			440	0	77	363	72	90	273	273	0
		Total Common Exc	440								

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Expanded Fill. Factor = 1.25

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor

7) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
UNLESS OTHERWISE NOTED, ALL ITEMS ARE CATEGORY 0010

REMOVALS

LOCATION	STATION	TO	STATION	CLEARING 201.0120 ID	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) P-44-0706 203.0210.S LS	REMOVING PAVEMENT 204.0100 SY	REMOVING CURB 204.0130 LF	REMOVING BUILDING (STATION) 11+65 204.0230 LS	*BACKFILL GRANULAR 209.0100 CY
S. END	11+20	-	11+69	--	--	--	--	--	--
S. END	11+55	-	11+75	--	--	29	--	--	--
CONTROL HOUSE	11+65	-	--	--	1	--	--	1	60
N. END	12+21	-	12+91	--	--	--	--	--	--
N. END	12+70	-	12+85	15	--	--	--	--	--
N. END	12+91	-	13+04	--	--	2	25	--	--
			TOTALS	15	1	31	25	1	60

PREPARE FOUNDATION

LOCATION	PREPARE FOUNDATION FOR CONCRETE PAVEMENT 211.0200 LS
PROJECT ID: 4990-03-71	1
TOTAL	1

MOBILIZATION

PROJECT ID	LOCATION	MOBILIZATION 619.1000 EACH
4990-03-71	STRUCT B-44-0287	1
	TOTAL	1

CONCRETE PAVEMENT AND CURB AND GUTTER

LOCATION	STATION	TO	STATION	BASE AGGREGATE DENSE 1-1/4" 305.0120 TON	CONCRETE PAVEMENT 7-INCH 415.0070 SY	CONCRETE PAVEMENT 7-INCH (COLORED) SPECIAL SPV.0180.01 SY	CONCRETE PAVEMENT JOINT LAYOUT SPV.0105.05 LS	DRILLED TIE BARS 416.0610 EACH	CONCRETE CURB AND GUTTER 18-INCH TYPE A 601.0405 LF	CONCRETE CURB TYPE A 601.0105 LF	CONCRETE SIDEWALK 5-INCH 602.0410 SF	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA 602.0515 SF	CONCRETE SURFACE DRAIN 416.1010 CY
S. END PATHWAY	11+20	--	11+47	13	34	--	--	--	--	--	--	--	--
S. END LOOKOUT AREA	11+36	--	11+65	25	--	--	--	--	--	--	606	--	--
S. END PLAZA	11+45	--	11+70	25	--	66	--	--	--	--	--	--	--
N. END PATHWAY	12+21	--	12+31	7	17	--	--	--	--	--	--	--	--
N. END PLAZA	12+31	--	12+61	31	--	83	--	--	--	--	--	16	--
N. END SIDEWALK	12+31	--	12+74	36	--	--	--	--	--	--	840	--	--
N. END	12+39	--	12+74	10	--	--	--	--	161	--	--	--	--
N. END PARKING LOT	12+49	--	--	1	--	--	--	--	--	--	--	--	0.5
N. END PARKING LOT	12+76	--	--	1	--	--	--	--	--	--	--	--	0.5
N. END PARKING LOT	12+41	--	13+04	170	440	--	1	--	--	--	--	--	--
N. END	12+91	--	13+04	1	--	--	--	28	--	24	--	--	--
			TOTALS	320	491	149	1	28	161	24	1446	16	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
UNLESS OTHERWISE NOTED, ALL ITEMS ARE CATEGORY 0010

3

EROSION CONTROL

LOCATION	STATION	TO	STATION	EROSION BALES INSTALLED 628.1104 EACH	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	EROSION MAT URBAN CLASS I TYPE A 628.2006 SY	INLET PROTECTION TYPE B 628.7010 EACH	INLET PROTECTION TYPE C 628.7015 EACH	RIPRAP LIGHT 606.0100 CY	GEOTEXTILE FABRIC TYPE R 645.0130 SY
S. END	11+20	-	11+77	--	140	140	375	--	--	--	--
N. END	12+19	-	13+13	10	205	205	415	--	--	--	--
N. END PARKING LOT	12+49	--	--	--	--	--	--	--	--	0.5	7
N. END PARKING LOT	12+77	--	--	--	--	--	--	--	--	0.5	7
N. END	13+09	-	13+20	--	--	--	--	3	2	--	--
UNDISTRIBUTED				10	105	105	190	--	--	1	16
			TOTALS	20	450	450	980	3	2	2	30

MOBILIZATION EROSION CONTROL

LOCATION	MOBILIZATION EROSION CONTROL 628.1905 EACH	MOBILIZATION EMERGENCY EROSION CONTROL 628.1910 EACH
STRUCT B-44-0287	1	2
TOTALS	1	2

3

RESTORATION

LOCATION	STATION	TO	STATION	TOPSOIL 625.0100 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO.40 630.0120 LB
S. END	11+20	-	11+77	375	0.3	8
N. END	12+20	-	13+13	415	0.4	8
			TOTALS	790	0.7	16

TRAFFIC CONTROL

LOCATION	STATION	TO	STATION	DAYS	TRAFFIC CONTROL (PROJECT) 643.0100 EACH	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAYS	TRAFFIC WARNING LIGHTS TYPE A 643.0705 DAYS	TRAFFIC CONTROL SIGNS 643.0900 DAYS
STRUCT B-44-0287	(PROJECT 4990-03-71)				1	--	--	--
S. END	10+75	-	--	320	--	960	1280	320
N. END	12+90	-	--	320	--	2560	2880	320
UNDISTRIBUTED						880	1040	160
			TOTALS		1	4400	5200	800

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
UNLESS OTHERWISE NOTED, ALL ITEMS ARE CATEGORY 0010

3

PERMANENT SIGNING

SIGN #	LOCATION	STATION	RT/LT	SIGN CODE	SIGN SIZE INCH	SIGNS TYPE II REFLECTIVE H 637.2210 SF	POSTS TUBULAR STEEL 2X2-INCH X 10-FT 634.0810 EACH	REMOVING SIGNS TYPE II 638.2602 EACH	REMOVING SMALL SIGN SUPPORTS 638.3000 EACH	REMARKS
1	N. END SIDEWALK	12+30	RT	--	12X18	1.50	1	--	--	NO UNAUTHORIZED VEHICLES
2	N. END SIDEWALK	12+32	RT	R7-8A	12X18	1.50	1	--	--	HANDICAPPED PARKING STALL
3	N. END SIDEWALK	12+32	RT	R7-8V	6X12	0.50	--	--	--	VAN ACCESSIBLE
	N. END	12+34	LT	--	--	--	--	2	1	
	N. END	12+34	RT	--	--	--	--	1	1	
	N. END	12+56	LT	--	--	--	--	4	1	
			TOTALS			3.50	2	7	3	

FIELD OFFICE

LOCATION	FIELD OFFICE TYPE B 642.5001 EACH
PROJECT: 4990-03-71	1
TOTAL	1

3

PAVEMENT MARKINGS

LOCATION	STATION	TO	STATION	PAVEMENT MARKING PAINT 4-INCH 646.0103 WHITE LF	PAVEMENT MARKING HANDICAPPED SYMBOL PAINT SPV.0060.01 WHITE/BLUE EACH
N. END	12+44	-	12+88	180	--
N. END	12+52	-	--	--	1
			TOTALS	180	1

CONSTRUCTION STAKING

				CONSTRUCTION STAKING					
LOCATION	STATION	TO	STATION	SUBGRADE 650.4500 LF	BASE 650.5000 LF	CURB GUTTER AND CURB & GUTTER 650.5500 LF	(STRUCTURE) B-44-0287 650.6500 LS	ELECTRICAL INSTALLATIONS (PROJECT) 4990-03-71 650.8500 LS	SUPPLEMENTAL CONTROL (PROJECT) 4990-03-71 650.9910 LS
STRUCT B-44-0287	--	--	--	--	--	--	1	1	1
S. END	11+20	-	11+69	49	49	--	--	--	--
N. END	12+21	-	13+04	83	83	185	--	--	--
			TOTALS	132	132	185	1	1	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
UNLESS OTHERWISE NOTED, ALL ITEMS ARE CATEGORY 0010

3

SAWCUT PAVEMENT

LOCATION	STATION	TO	STATION	DESCRIPTION	SAWING CONCRETE 690.0250 LF
N. END	12+91	-	12+93	MILL ST	26
				TOTALS	26

OVERHEAD LIGHTING - CONDUIT AND WIRING

LOCATION	LOCATION TO LOCATION	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH 652.0210 LF	ELECTRICAL WIRING LIGHTING 10 AWG 655.0615 LF	PULL BOXES STEEL 24x36-INCH 653.0135 EACH
S. END	LP1 TO LP2	35	135	--
S. END	P1 TO LP1	20	90	--
S. END	LP2 TO PROP LINE	25	0	1
N. END	P2 TO LP3	70	240	--
N. END	P2 TO LP4	45	165	--
		195	630	1

3

SITE AMENITIES

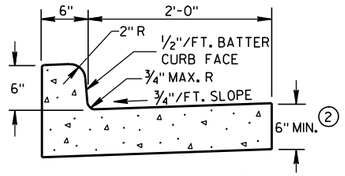
LOCATION	STATION	RT/LT	BENCH SPV.0060.02 EACH	TRASH RECEPTACLE SPV.0060.03 EACH	BIKE RACK SPV.0060.04 EACH	ISLAND PARK SIGN SPV.0060.05 EACH
S. END	11+34	RT	--	--	--	1
S. END OVERLOOK	11+44	RT	--	--	1	--
S. END OVERLOOK	11+54	LT	--	1	--	--
S. END OVERLOOK	11+60	RT	1	--	--	--
S. END OVERLOOK	11+60	LT	1	--	--	--
N. END PLAZA	12+34	LT/RT	--	--	--	--
		TOTALS	2	1	1	1

OVERHEAD LIGHTING POLES AND BASES

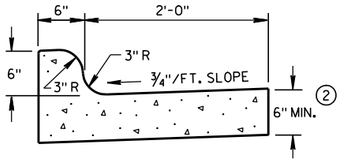
LOCATION	POLE NO.	STATION	RT/LT	ELECTRICAL WIRING LIGHTING 12 AWG 655.0610 LF	DECORATIVE LUMINAIRES SPV.0060.07 EACH	14-INCH CONCRETE BASE SPECIAL SPV.0060.08 EACH	ELECTRICAL PANELBOARD P2 SPV.0060.09 EACH
S. END	LP1	11+39	LT	60	1	1	--
S. END	LP2	11+44	RT	60	1	1	--
N. END	LP3	12+35	RT	60	1	1	--
N. END	LP4	12+42	LT	60	1	1	--
N. END	P2	12+27	LT	--	--	--	1
			TOTALS	240	4	4	1

Standard Detail Drawing List

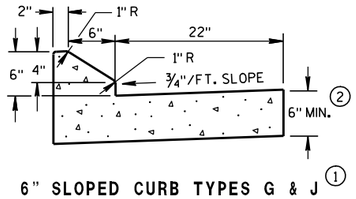
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
10A05-02	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
12A03-10	NAME PLATE (STRUCTURES)
13C01-17	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
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
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C07-12A	PAVEMENT MARKING SYMBOLS
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS



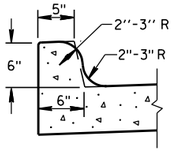
TYPES A & D (1)



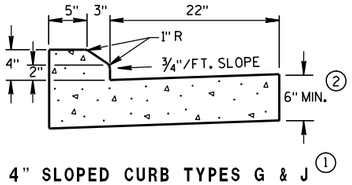
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

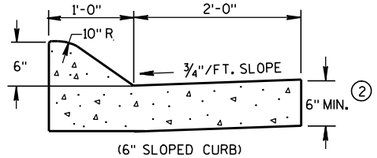


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

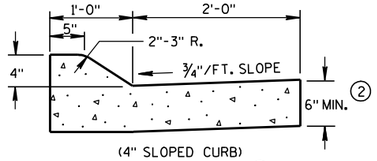


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

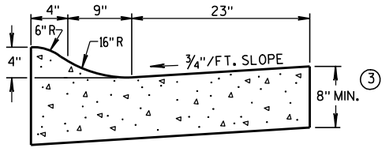


(6" SLOPED CURB)



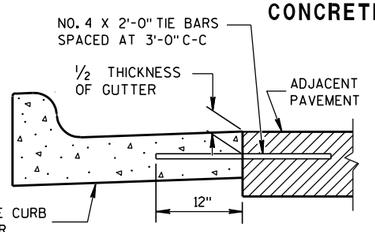
(4" SLOPED CURB)

TYPES A & D (1)

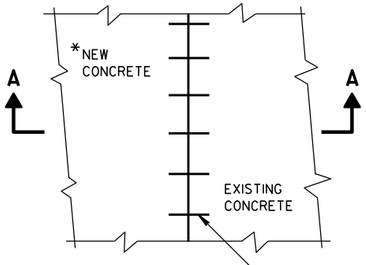


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

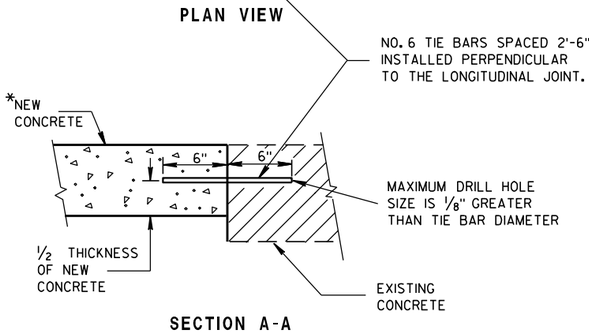


TYPICAL TIE BAR LOCATION (1)



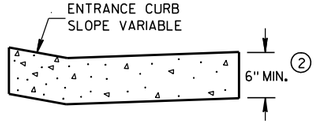
PLAN VIEW

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



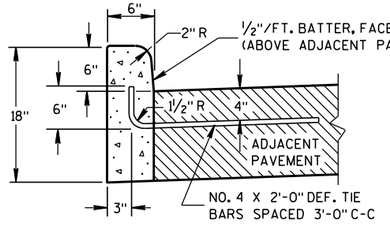
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



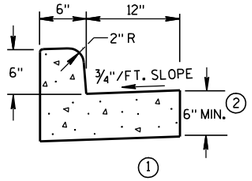
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



(1)

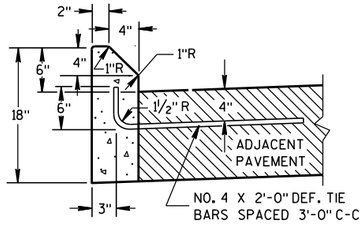
TYPES A & D



(1)

TYPES A & D

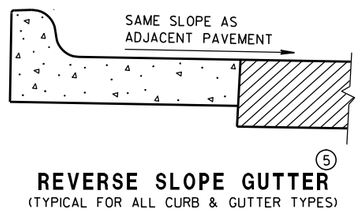
CONCRETE CURB & GUTTER 18"



(1)

TYPES G & J

CONCRETE CURB



REVERSE SLOPE GUTTER (5)

(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

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

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

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

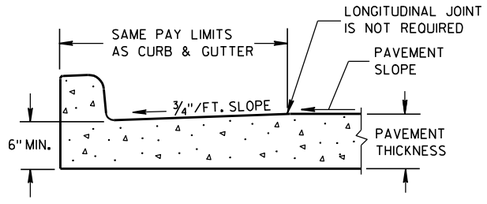
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

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

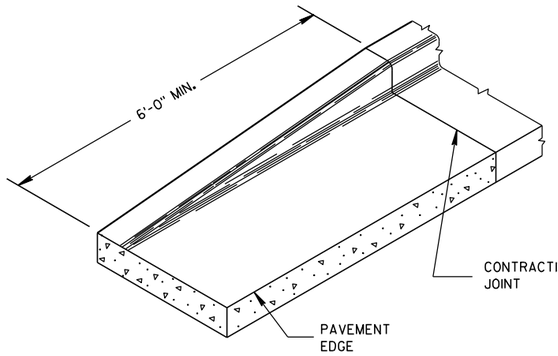
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

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



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

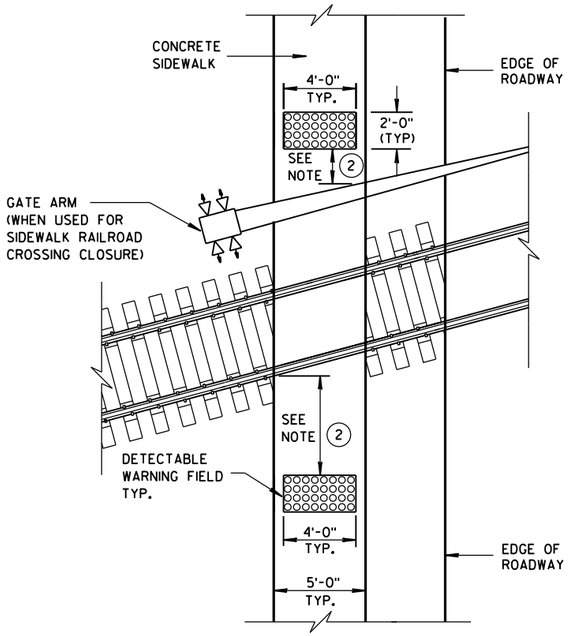
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

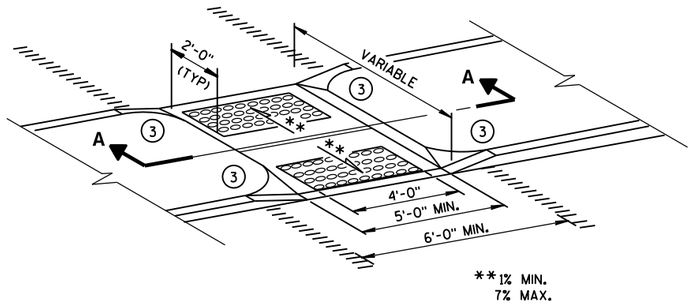
APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 D 1-17



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

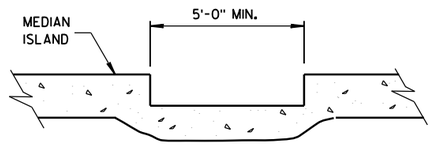
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

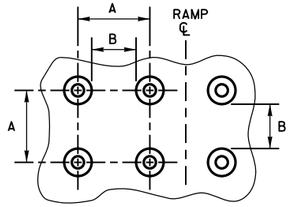
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET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



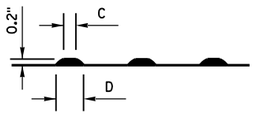
SECTION A-A



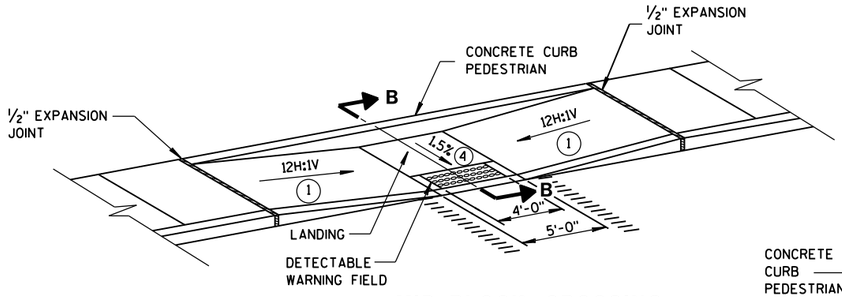
PLAN VIEW

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

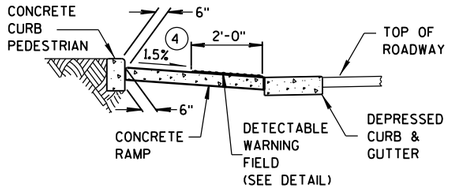
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

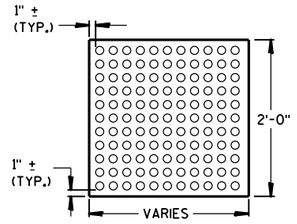


MID-BLOCK CROSSING
TYPE 7A



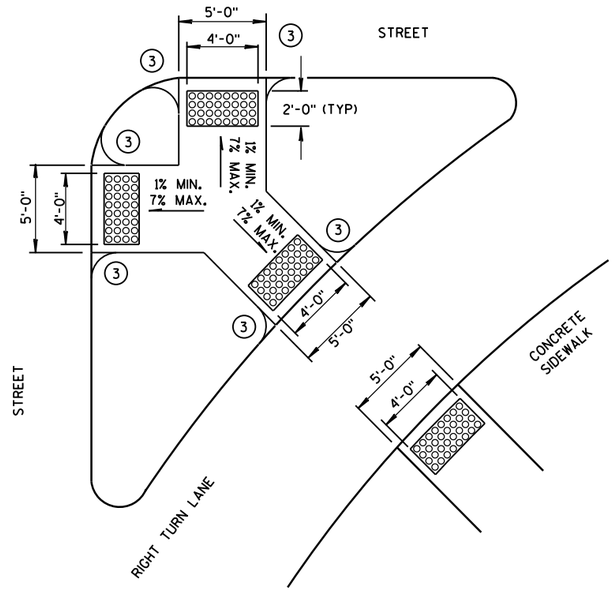
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

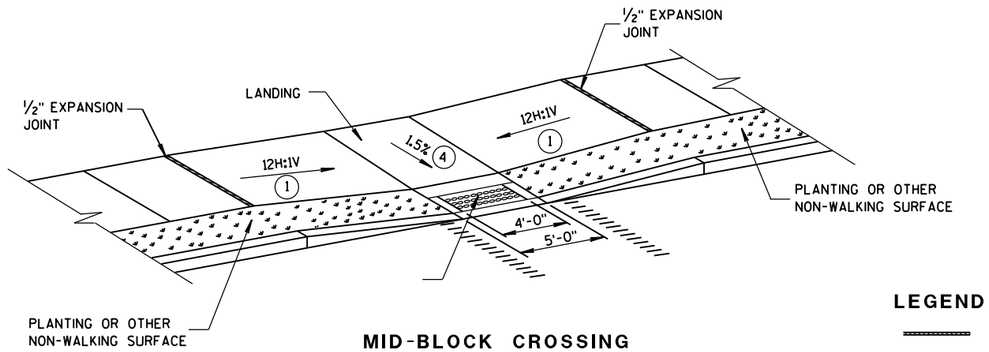


PLAN VIEW

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)

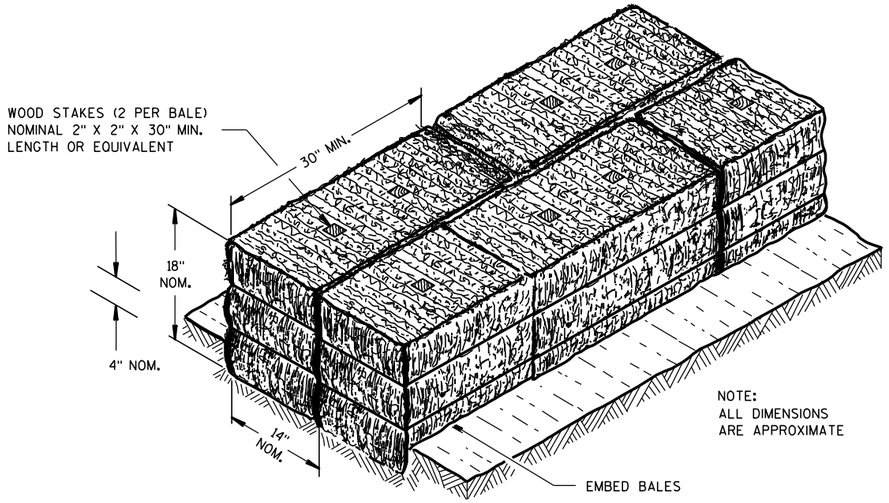
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

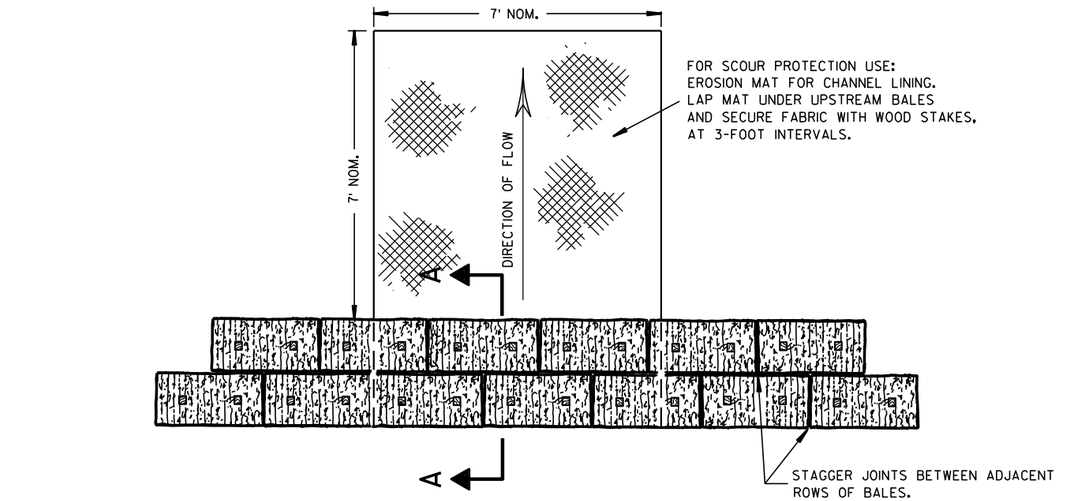
APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

6

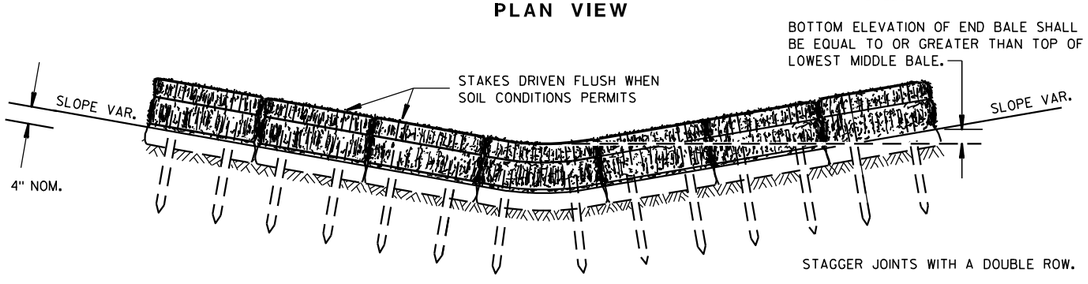
S.D.D. 8 D 5-15e



SECTION A-A



PLAN VIEW



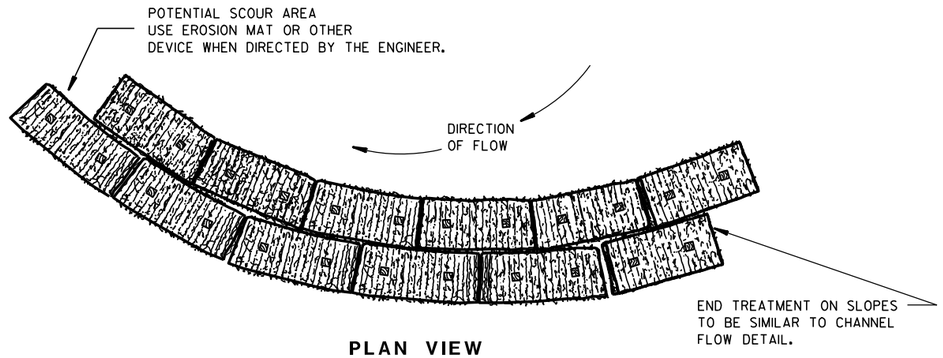
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

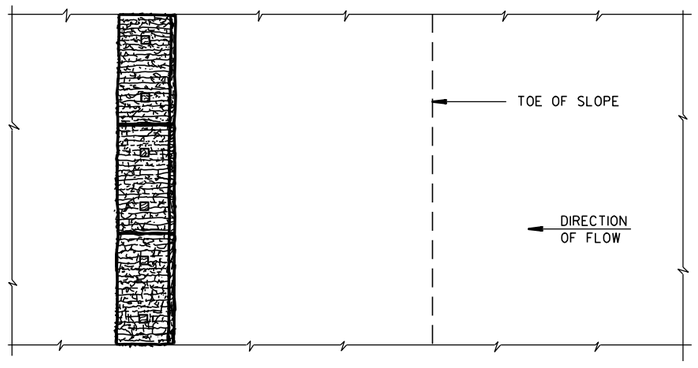
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

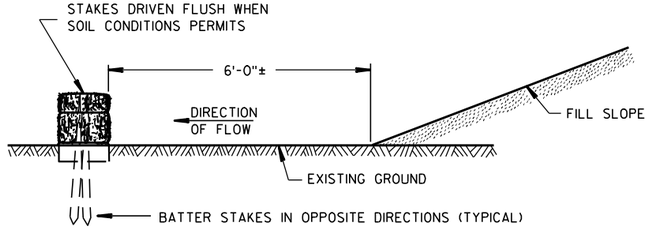


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

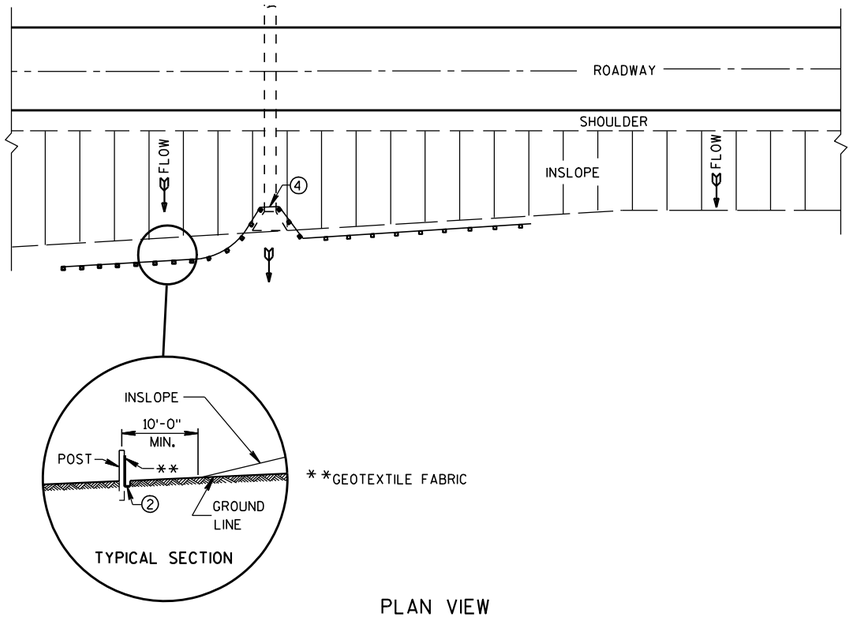
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

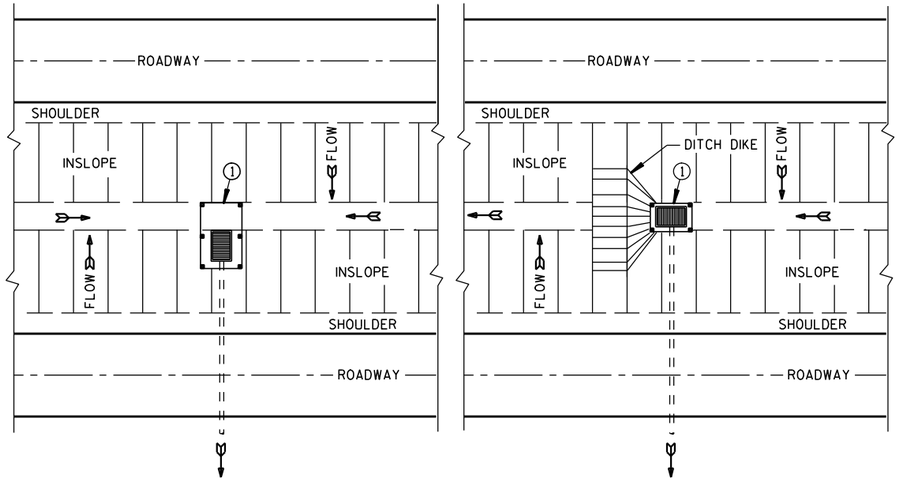
6/04/02 DATE — /S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



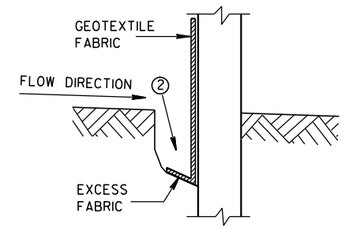
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

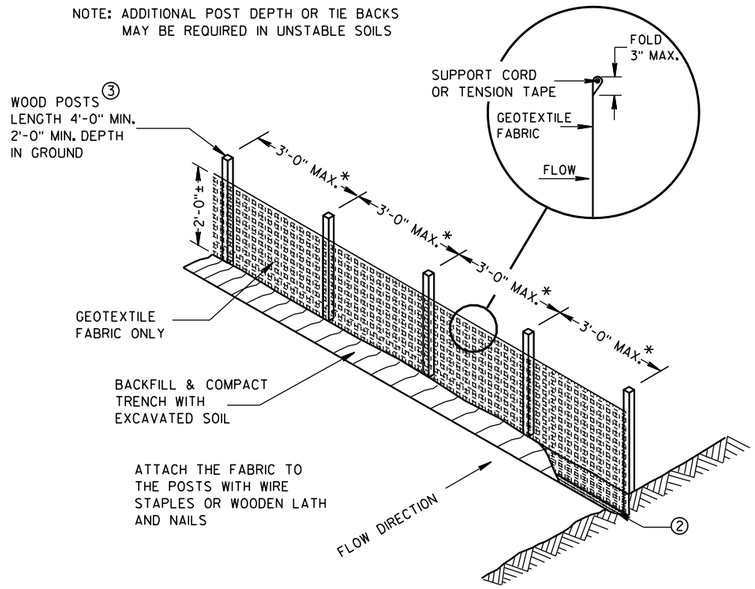
GENERAL NOTES

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

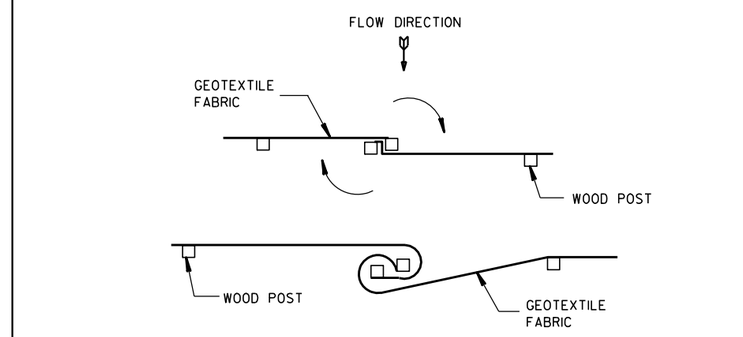
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



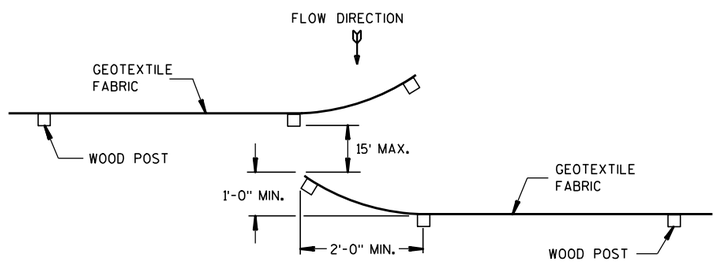
TRENCH DETAIL



SILT FENCE

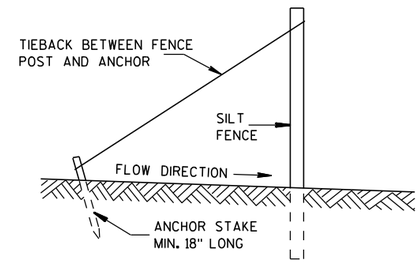


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

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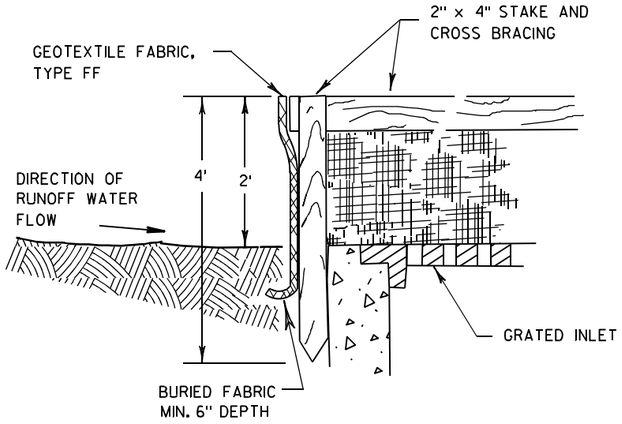
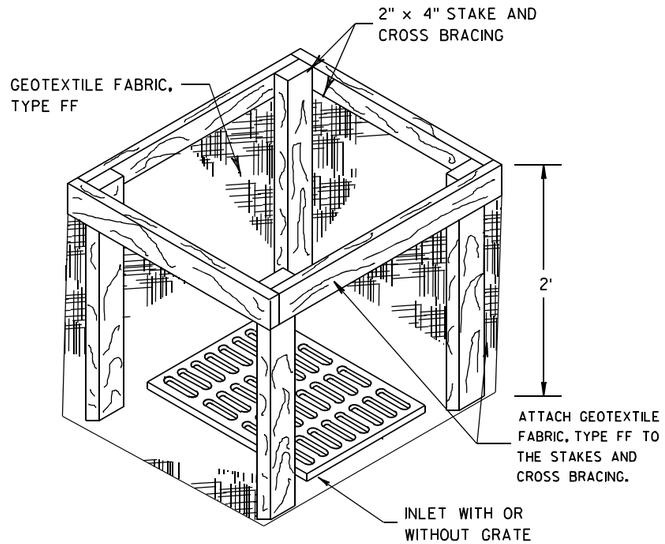
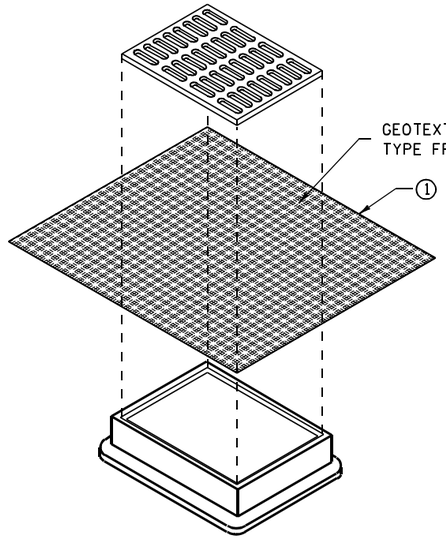
S.D.D. 8 E 9-6



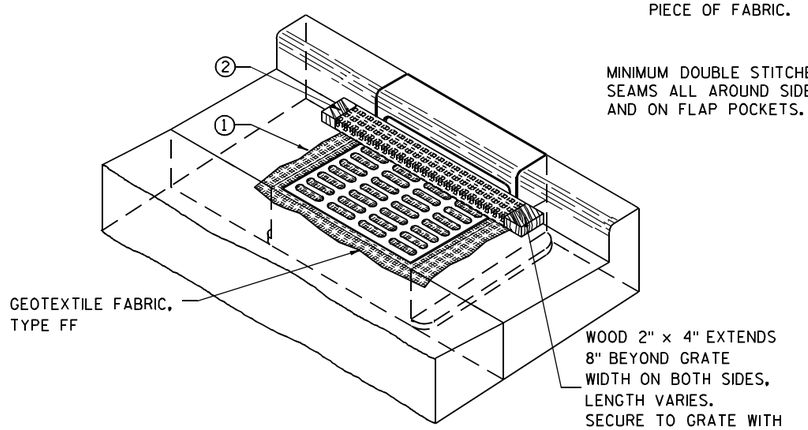


INLET PROTECTION, TYPE A

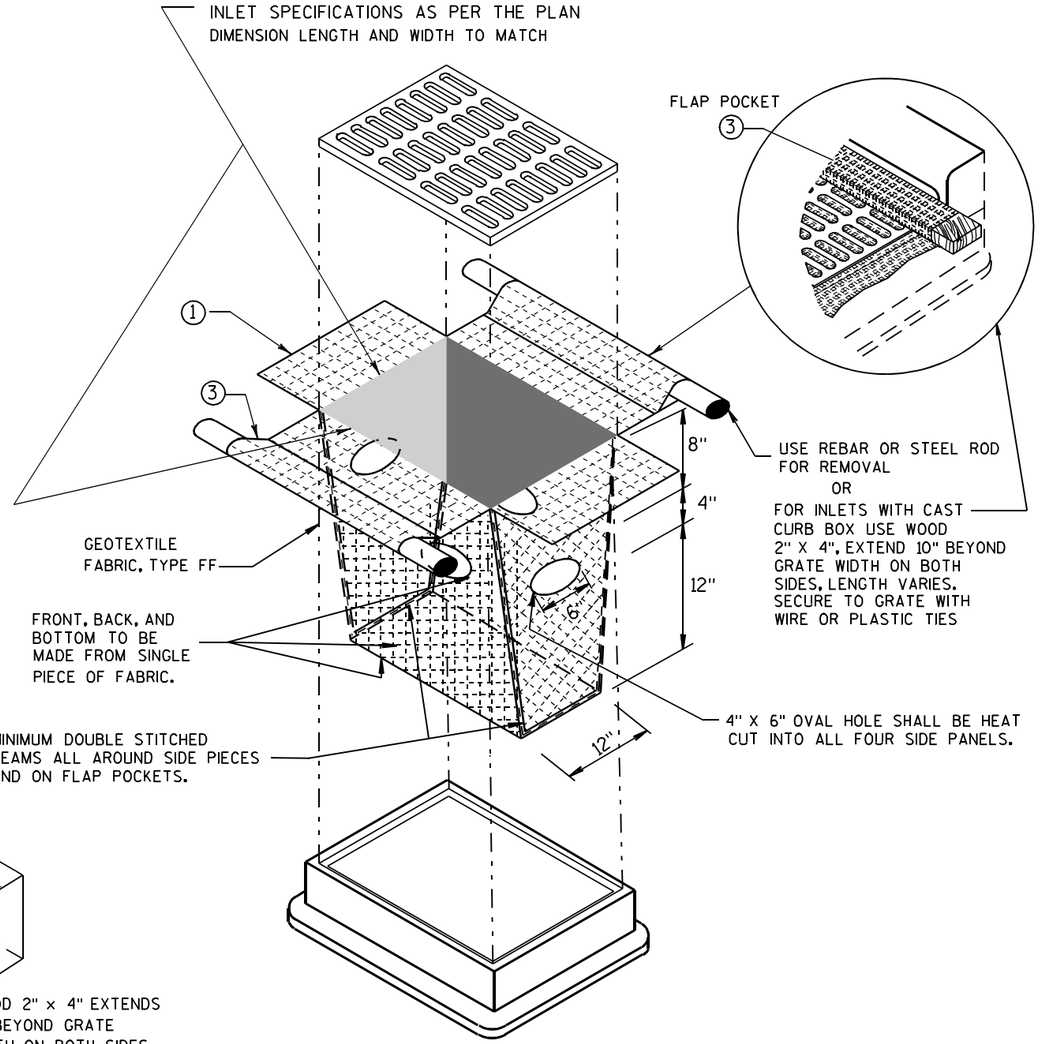


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

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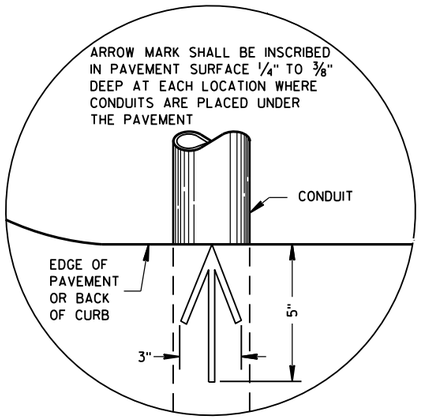
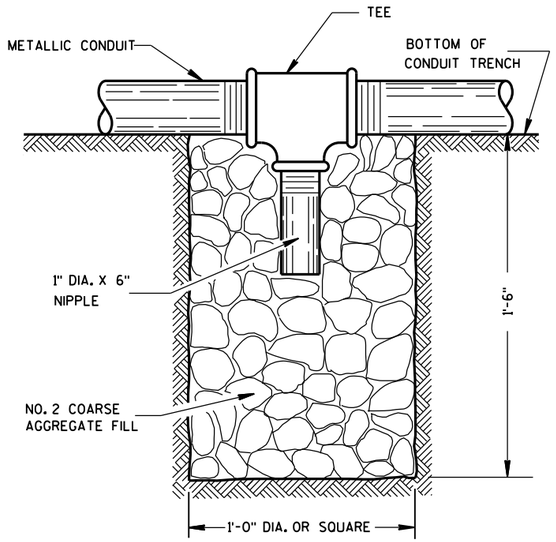
S.D.D. 8 E 10-2



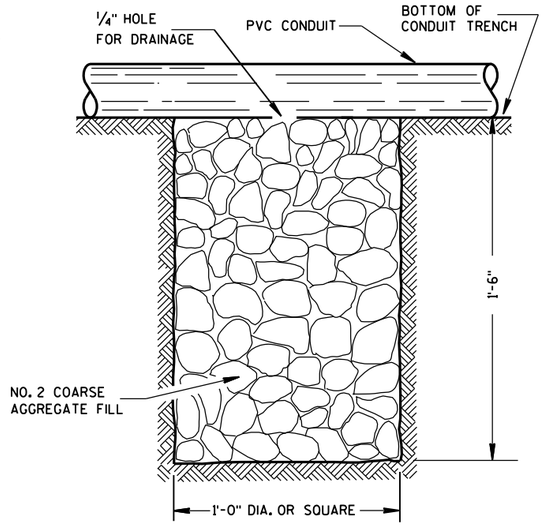
PLAN VIEW

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.

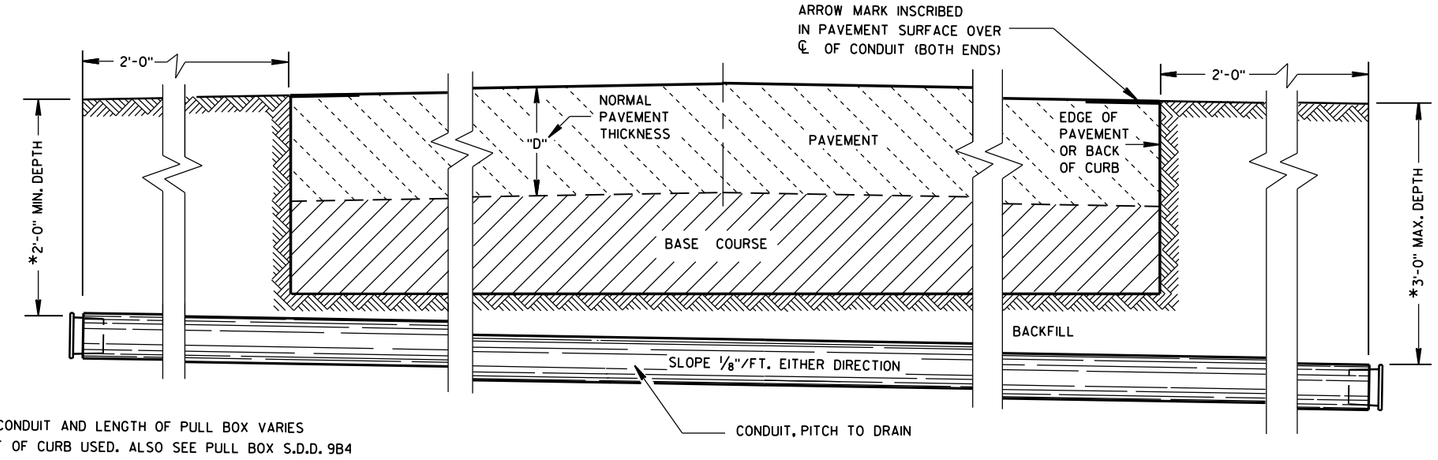
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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 UNDER PAVED HIGHWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

6

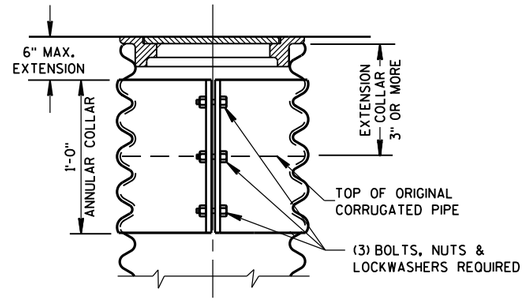
S.D.D. 9 B 2-8

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

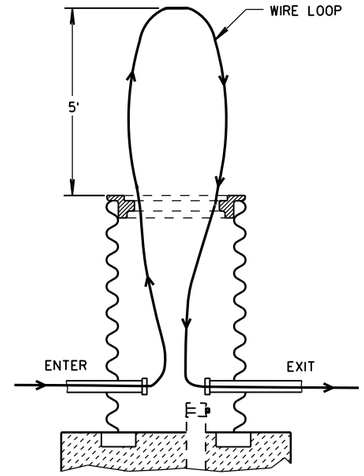
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2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

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

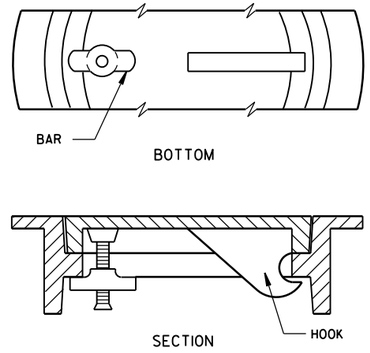
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

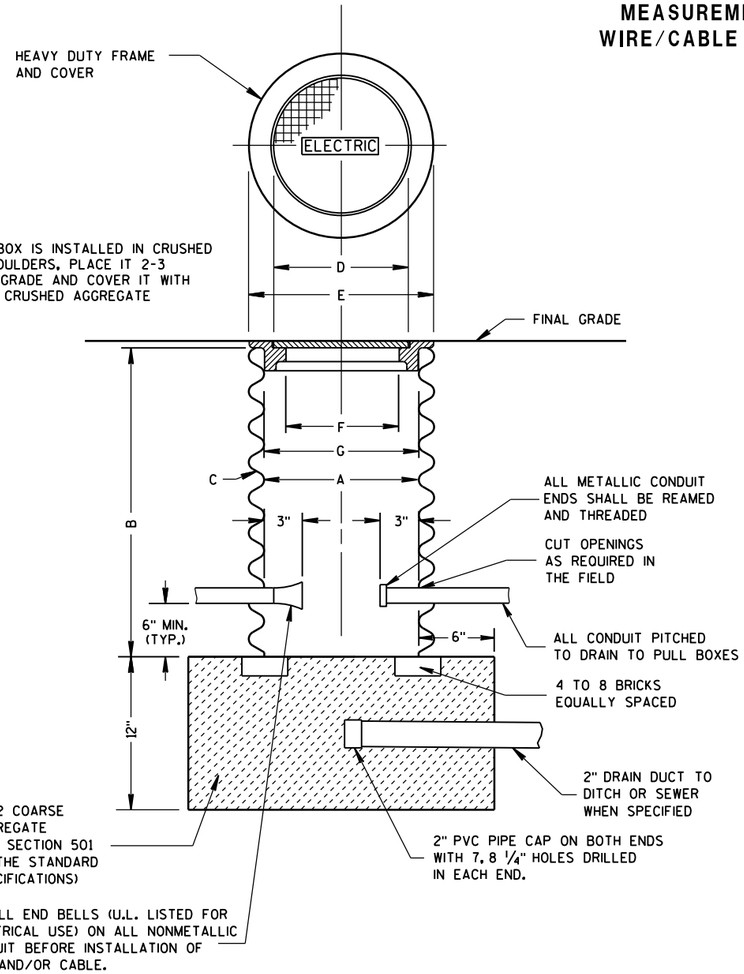


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



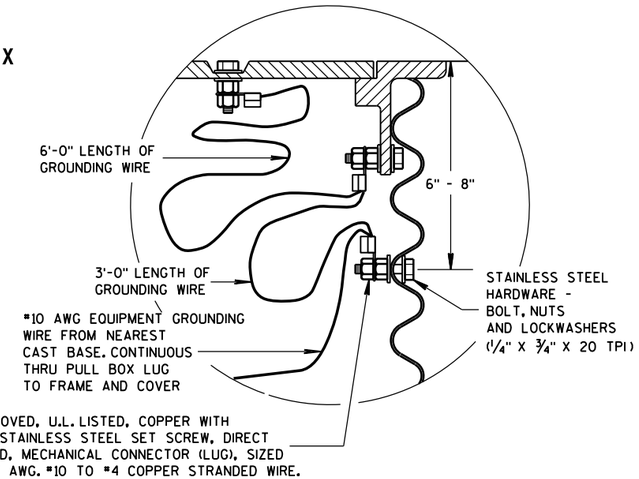
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

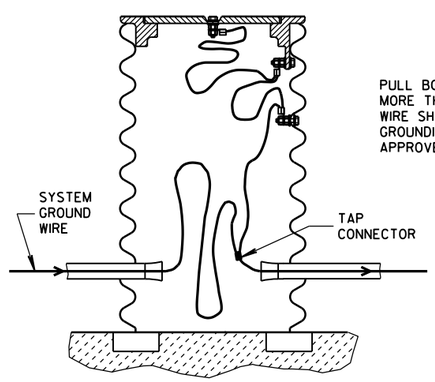


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



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

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

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

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

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

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

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

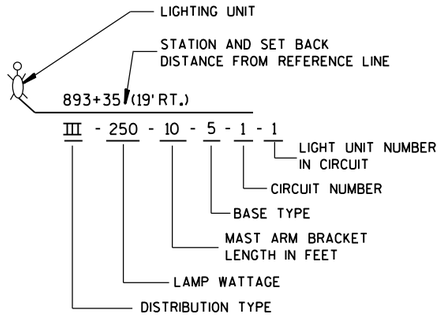
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

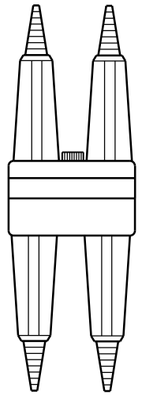
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

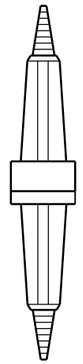
S.D.D. 9 B 4-11



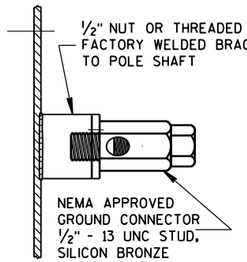
LIGHTING UNIT CODE
(TYPICAL)

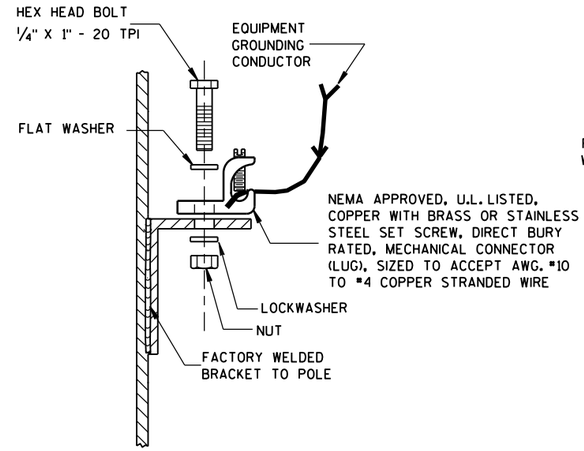


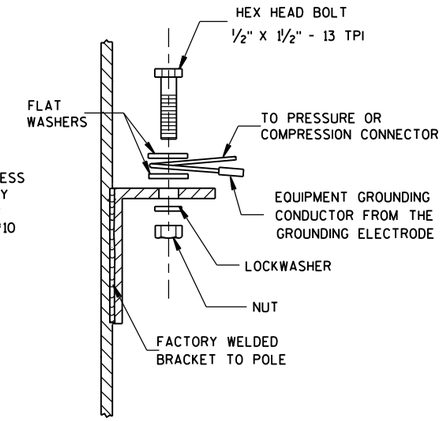
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



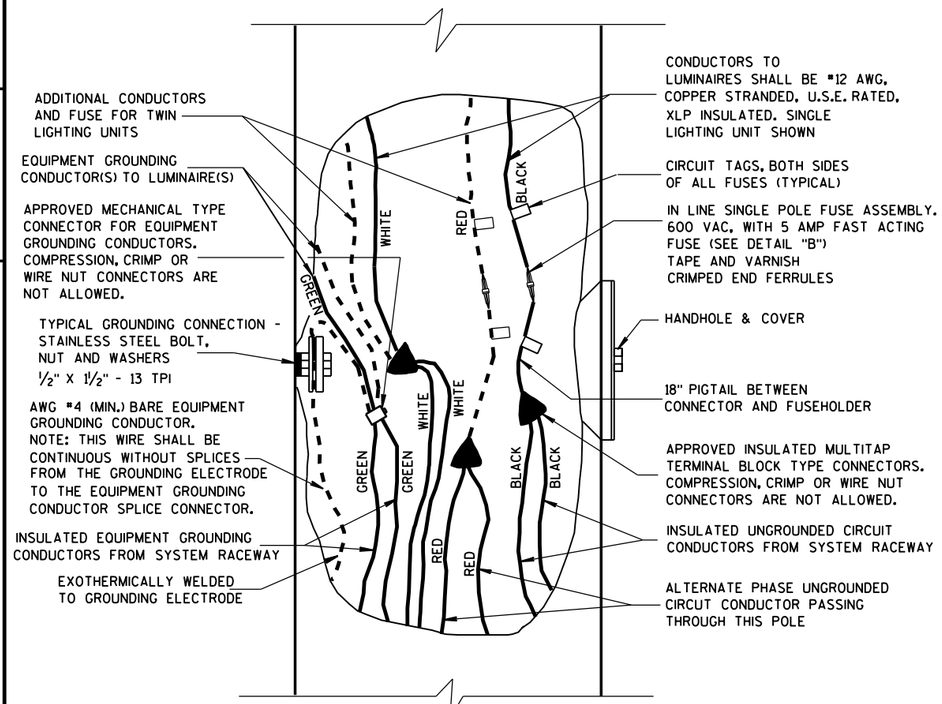
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



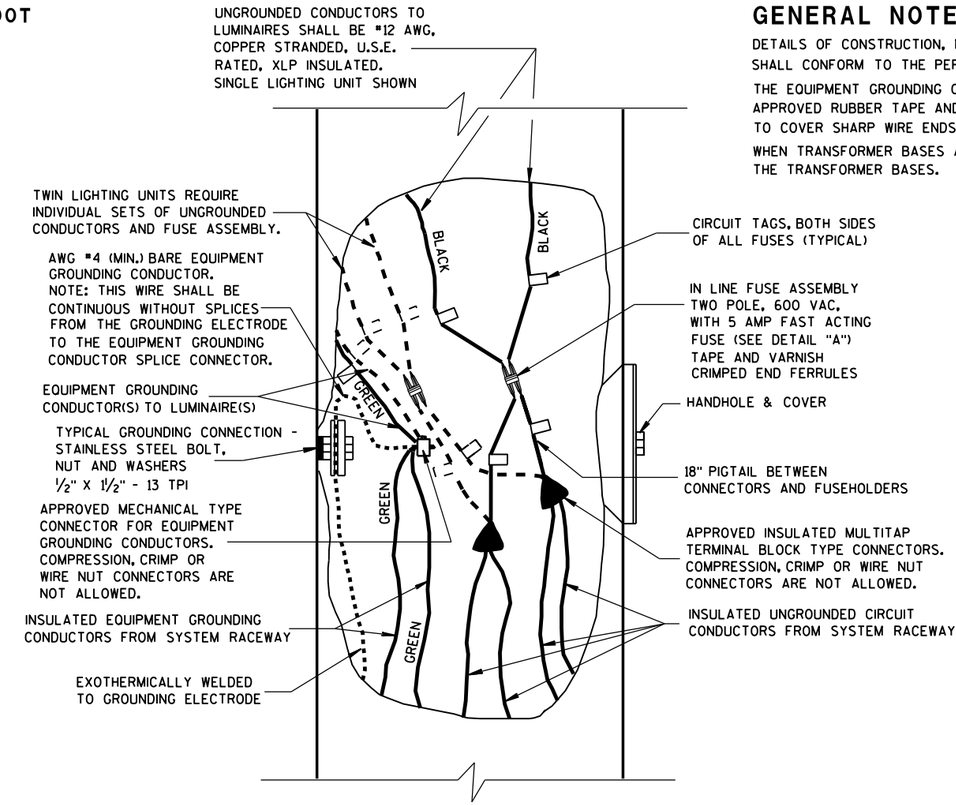




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



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

6
S.D.D. 9 E 3-5

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.

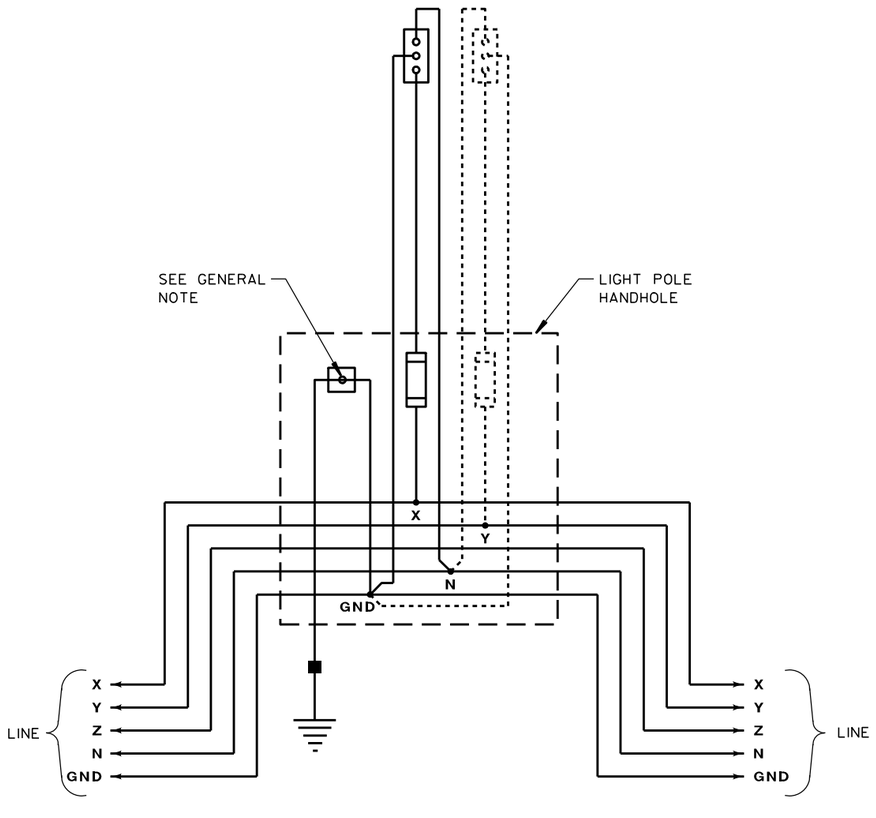
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

HANDHOLE FUSE SCHEDULES

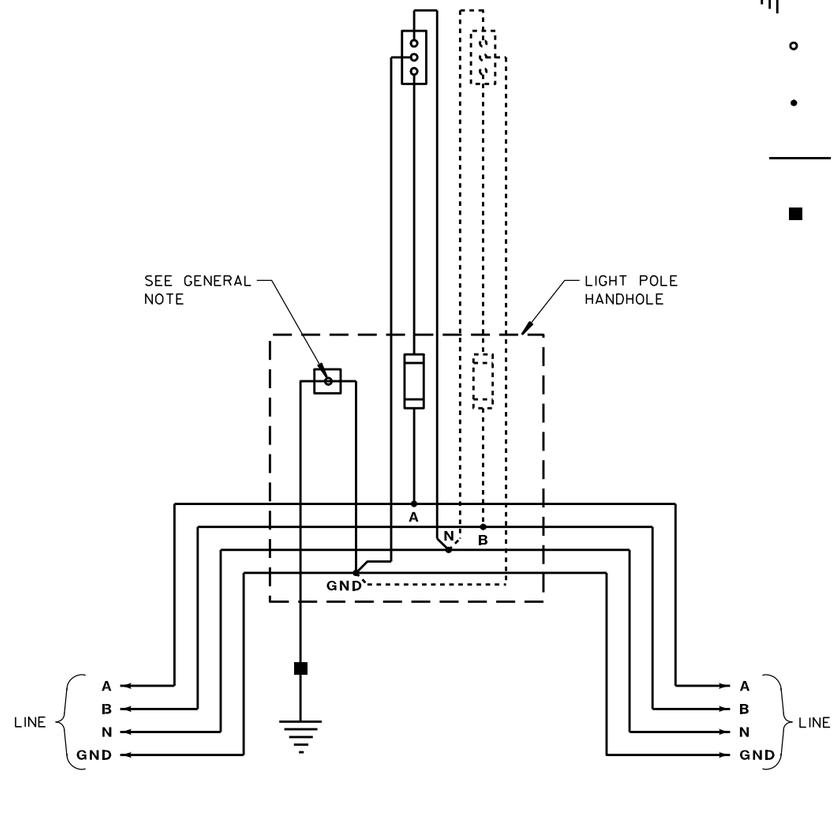
LINE VOLTAGE	BALLAST WATTAGE	
φ-GROUND	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

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
FHWA HWYS

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S.D.D. 10 A 5-2

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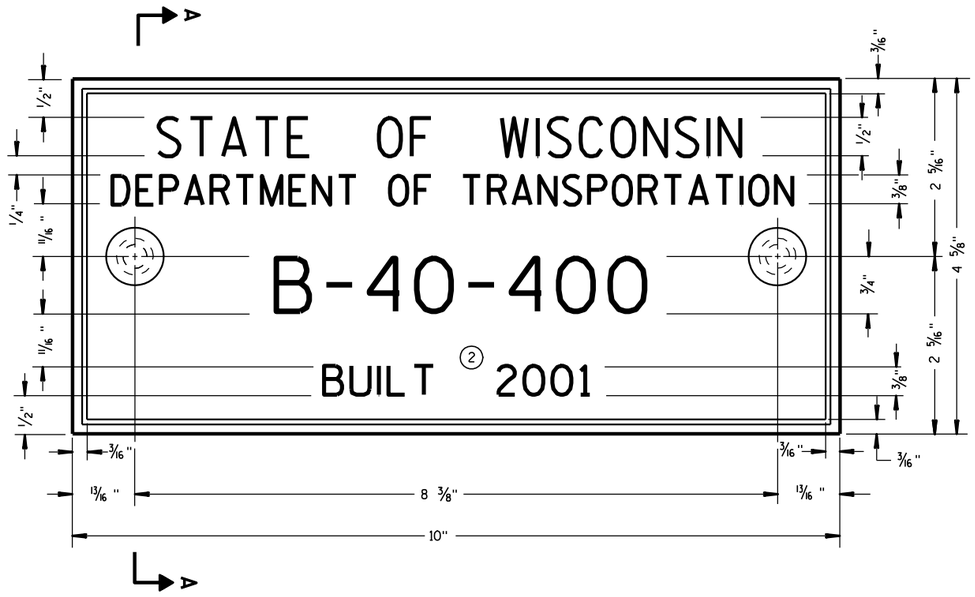
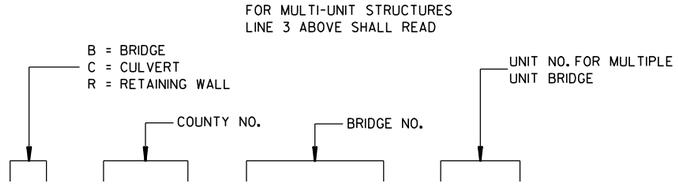
S.D.D. 10 A 5-2



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

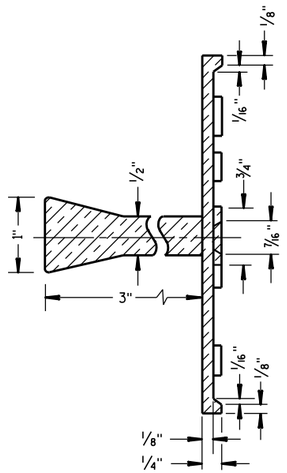
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

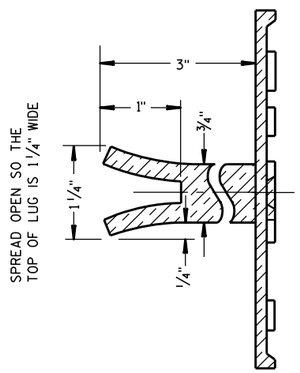
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

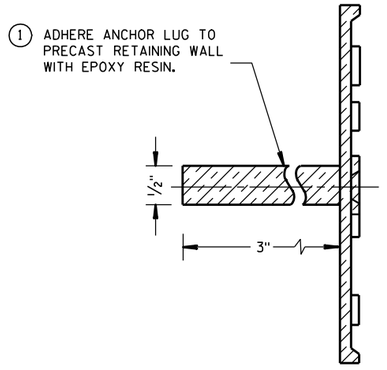
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE — /S/ Scot Beck — CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

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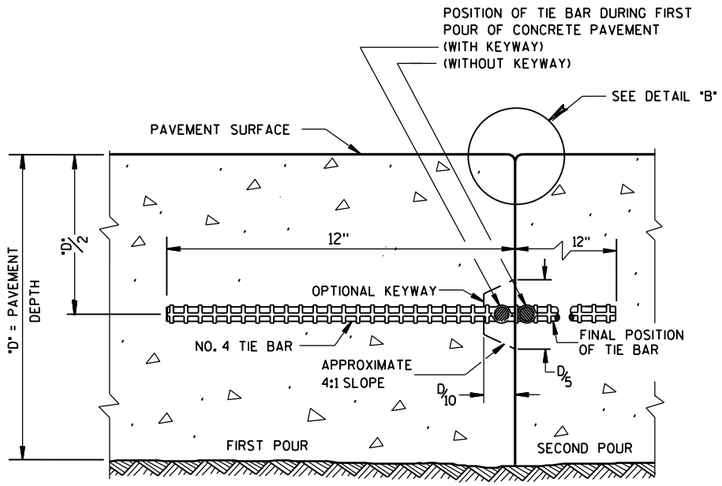
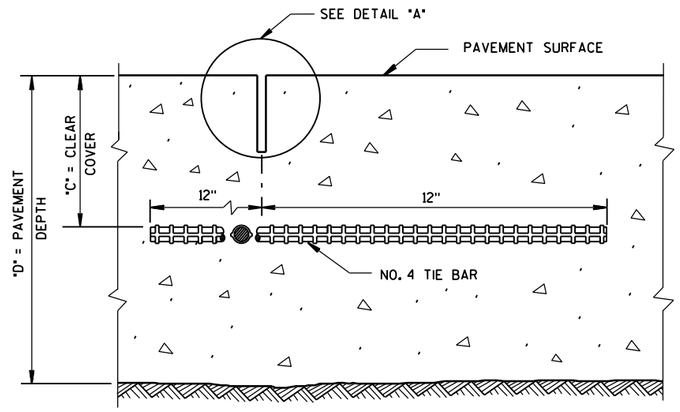
S.D.D. 12 A 3-10



CONSTRUCTION JOINT



SAWED JOINT

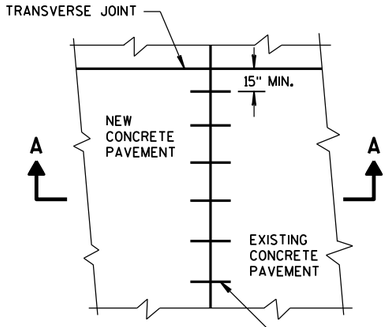
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

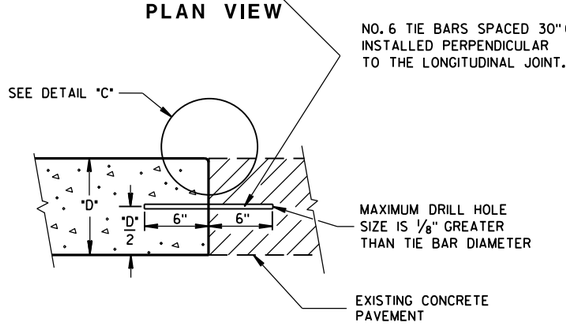
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

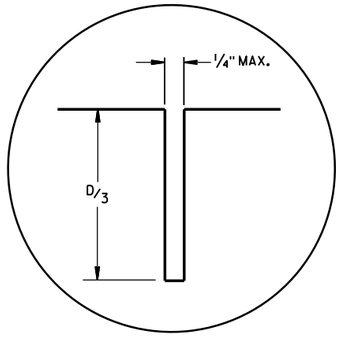


PLAN VIEW

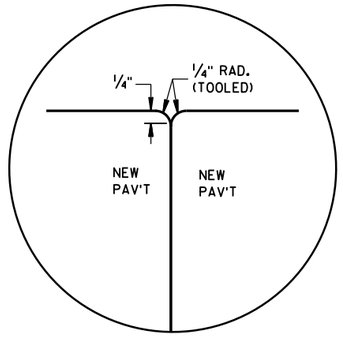


SECTION A-A

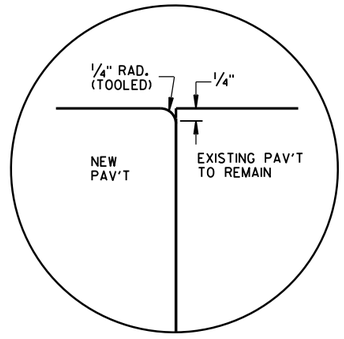
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



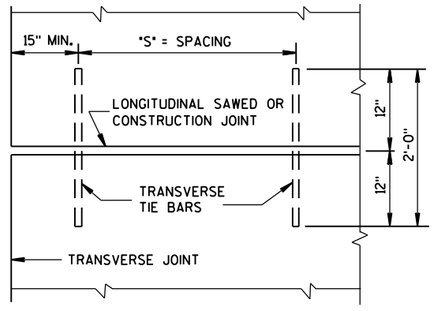
DETAIL "B"



DETAIL "C"

TIE BAR TABLE

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/2014 — DATE

/S/ Deb Bischoff — PAVEMENT POLICY & DE ... NEER

FHWA

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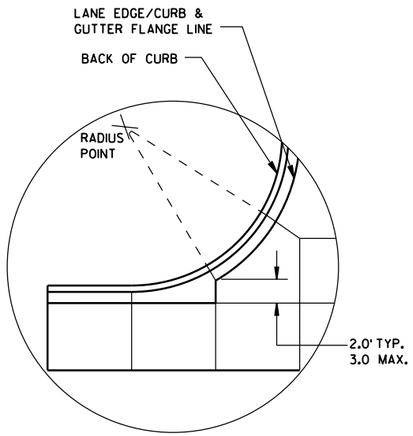
S.D.D. 13 C 1-17



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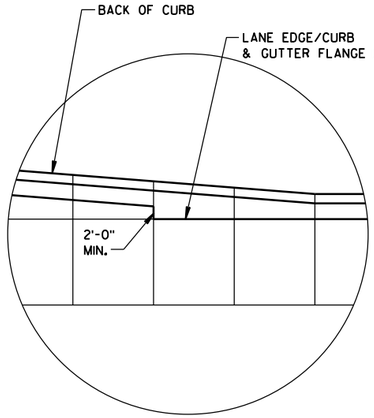
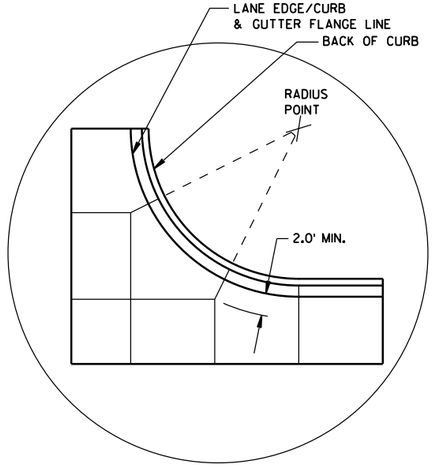
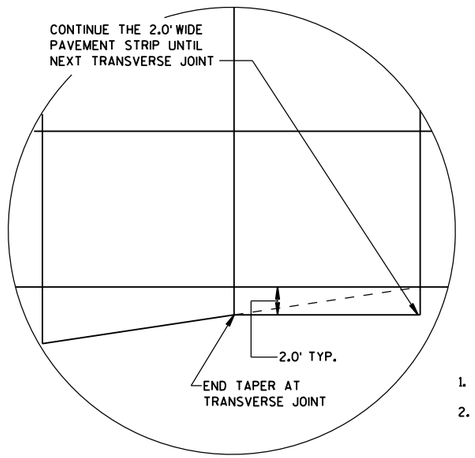


DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

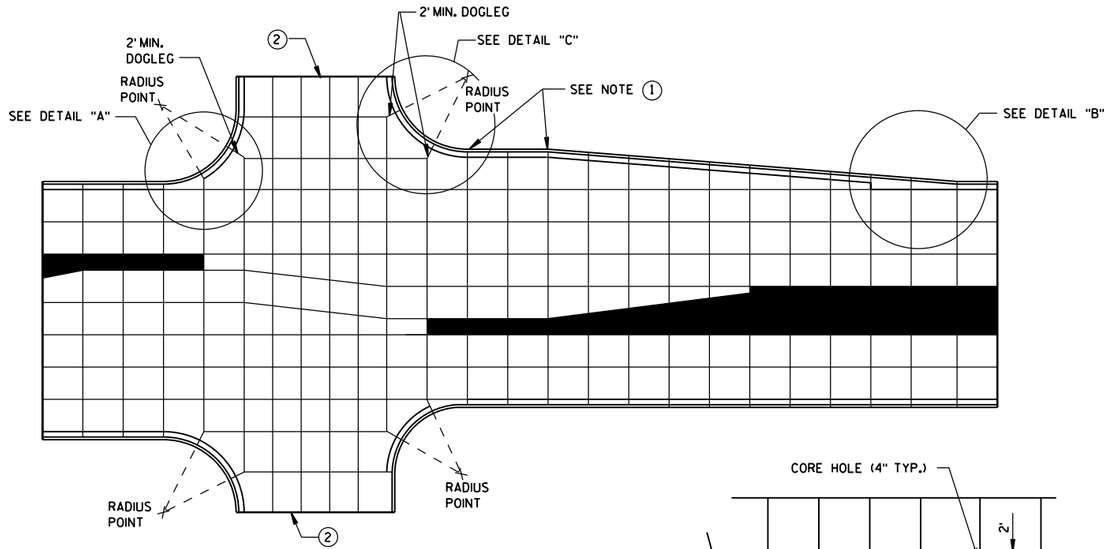
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

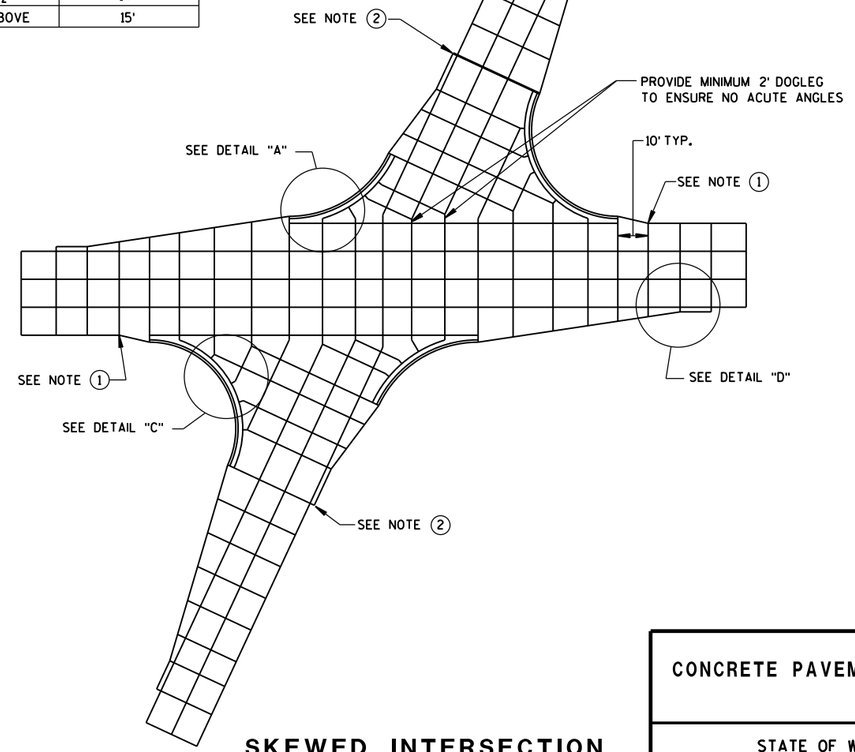
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



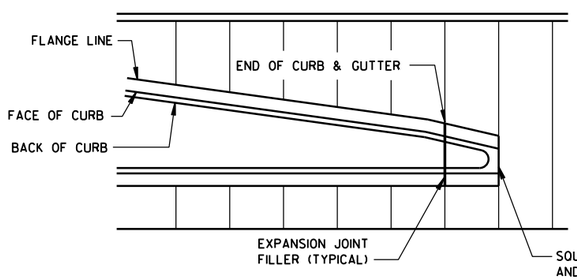
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

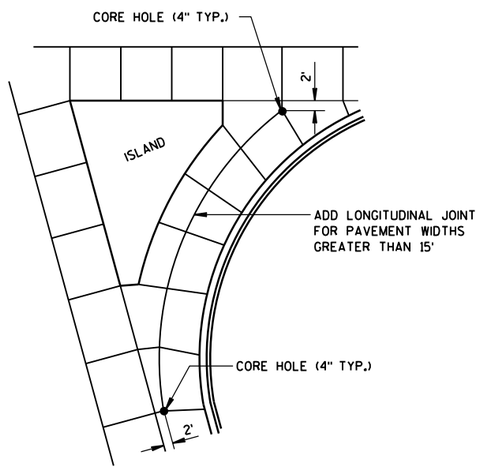
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

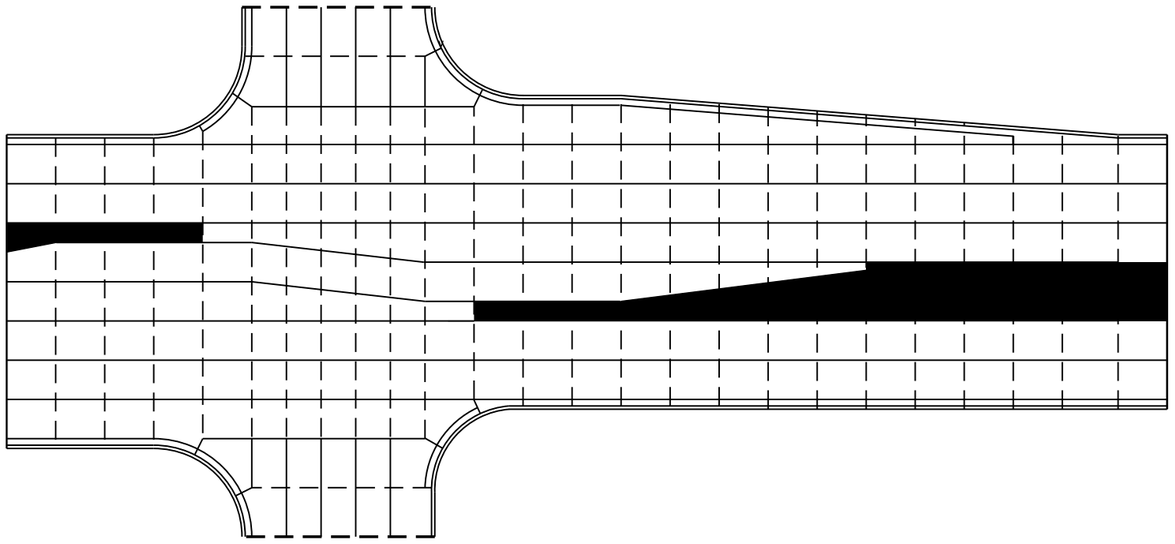
6
S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

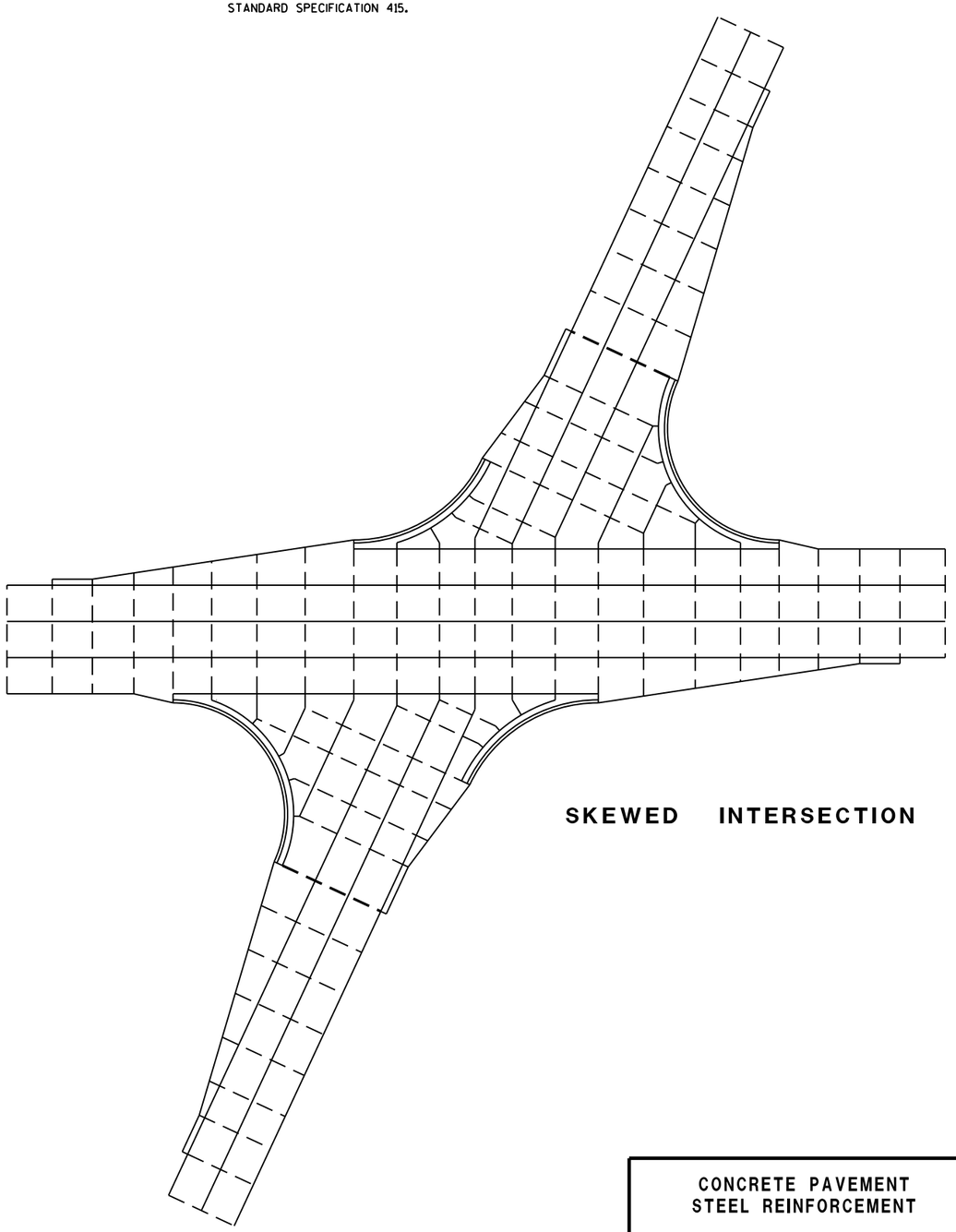
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

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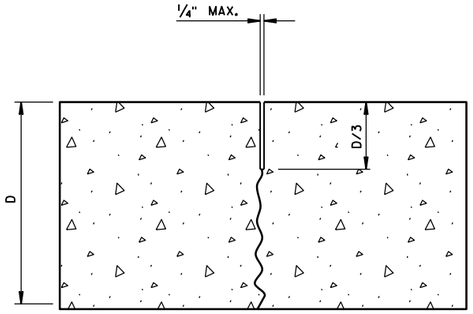
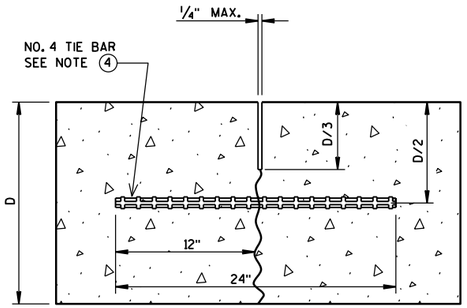
S.D.D. 13 C 18-2b



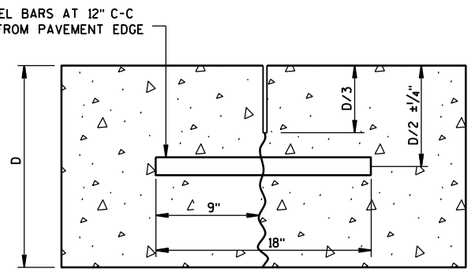
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

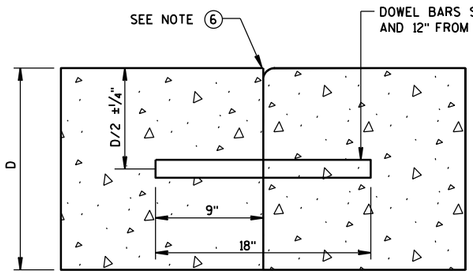
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF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



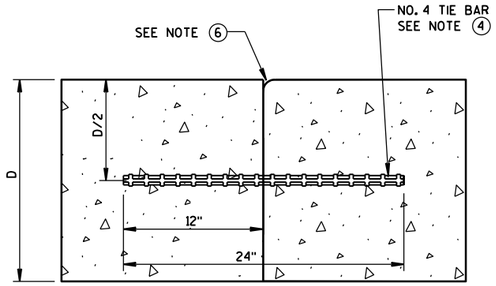
DOWELED-TRANSVERSE

CONTRACTION JOINTS

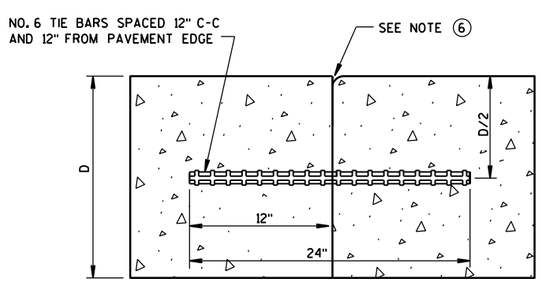
SEE NOTE (2)



DOWELED TRANSVERSE

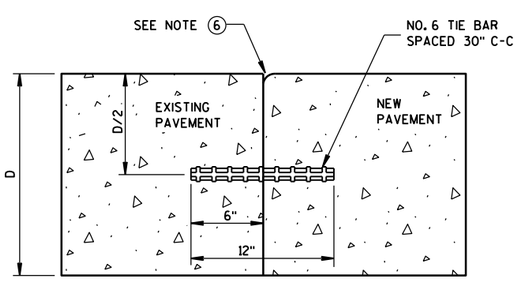


TIED LONGITUDINAL



TIED TRANSVERSE

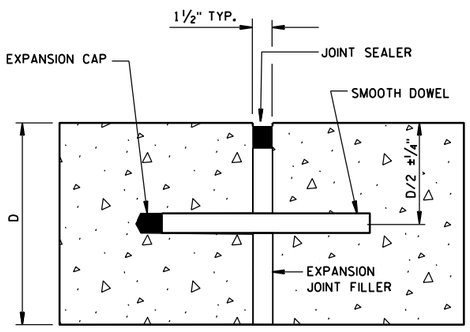
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

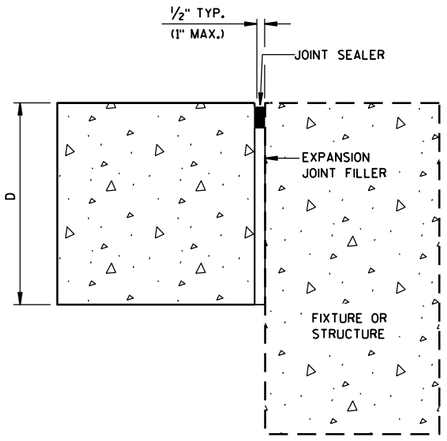
CONSTRUCTION JOINTS

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

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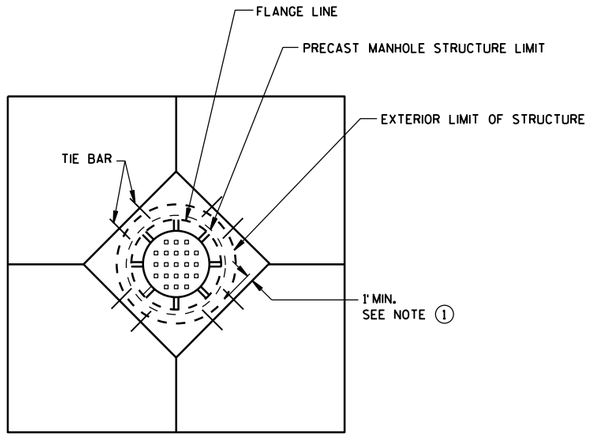
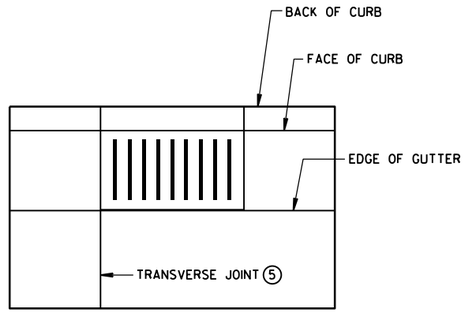
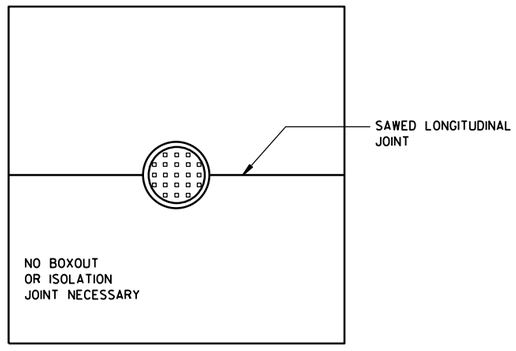
S.D.D. 13 C 18-2c



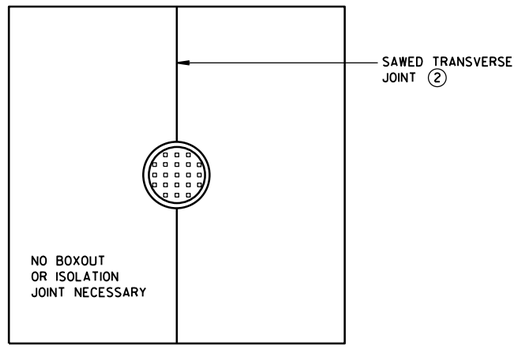
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



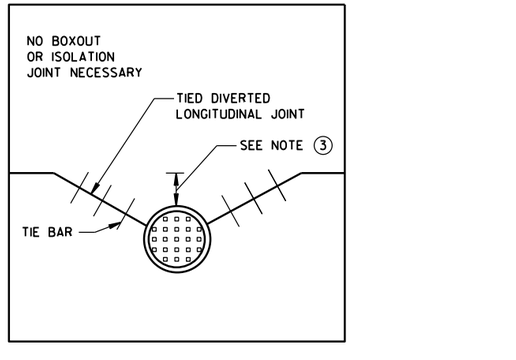
INLET WITH TRANSVERSE JOINT



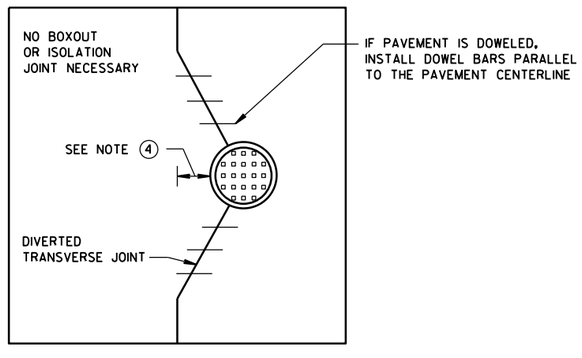
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

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

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

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

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

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

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA

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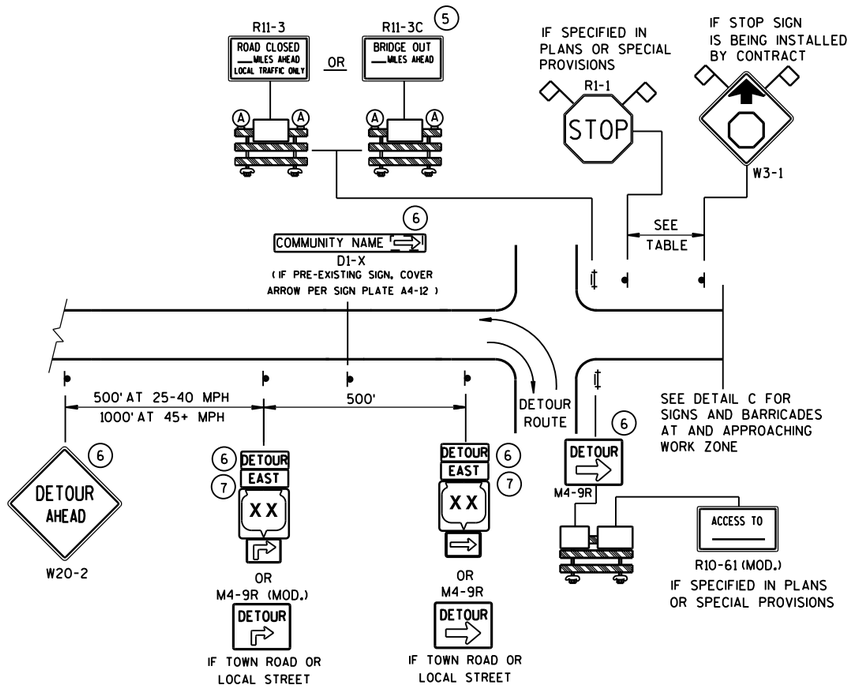
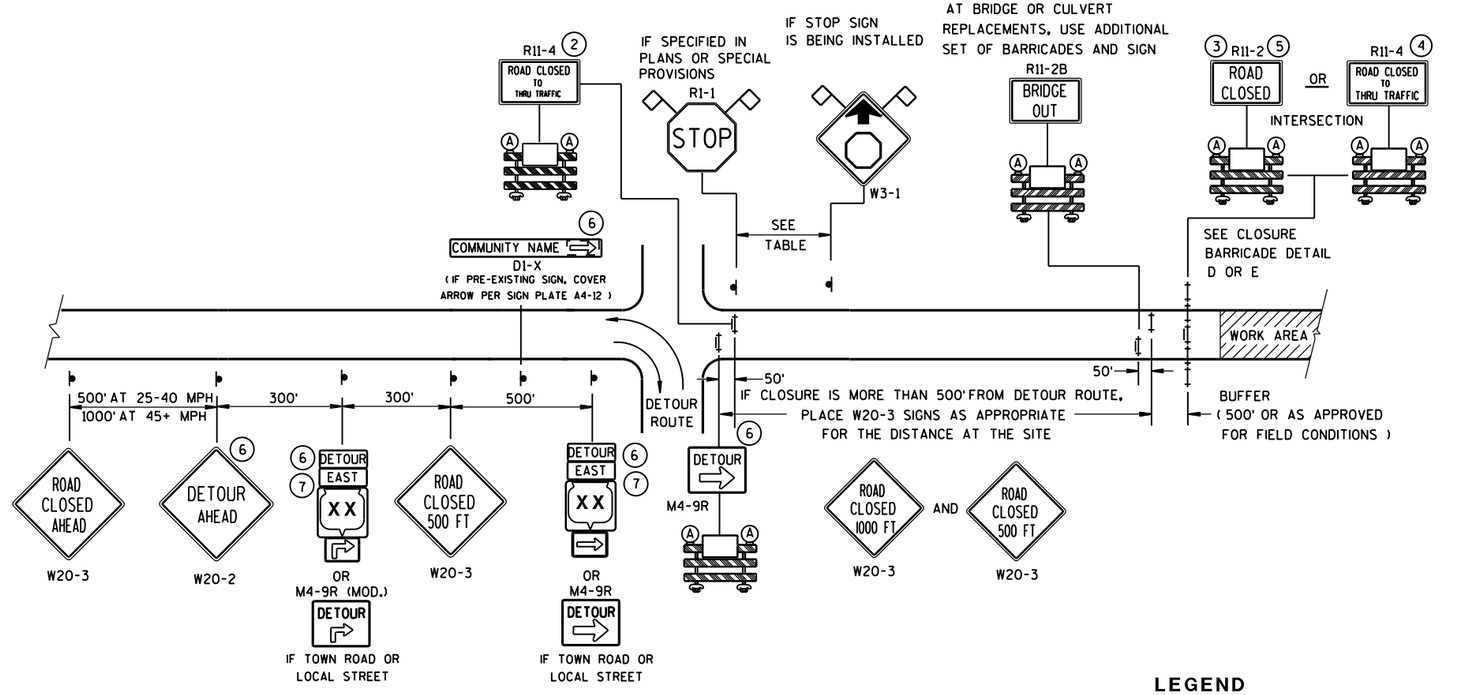
S.D.D. 13 C 18-2d



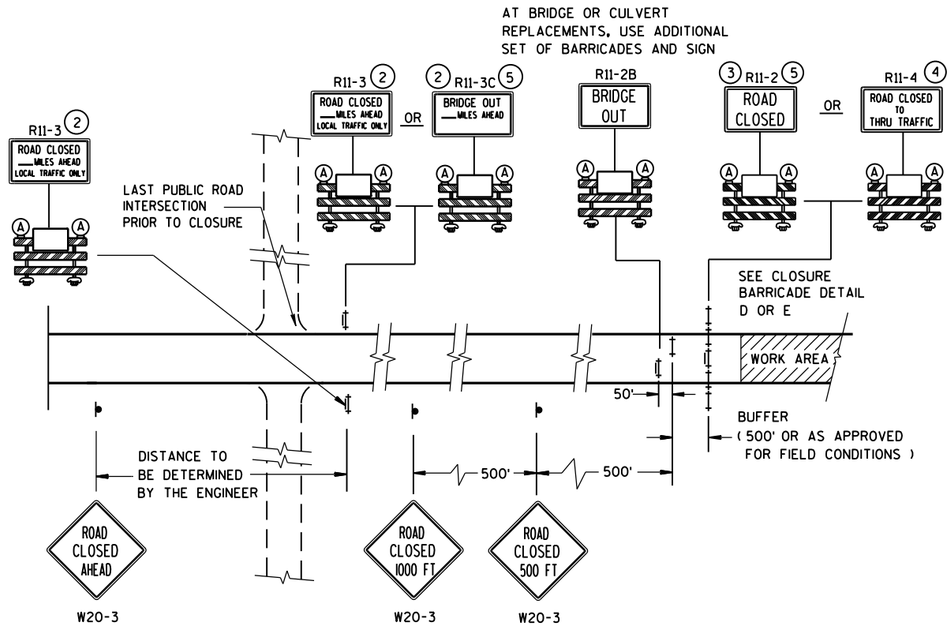
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

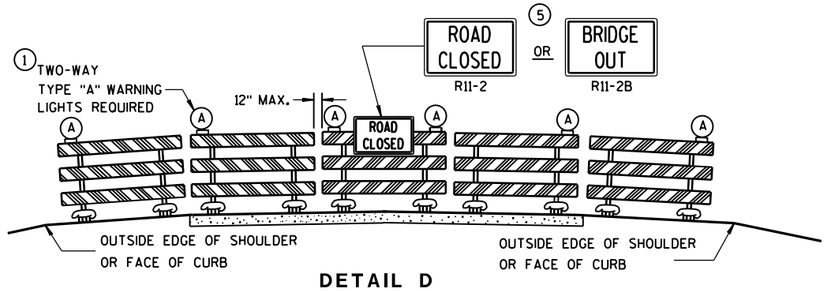
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

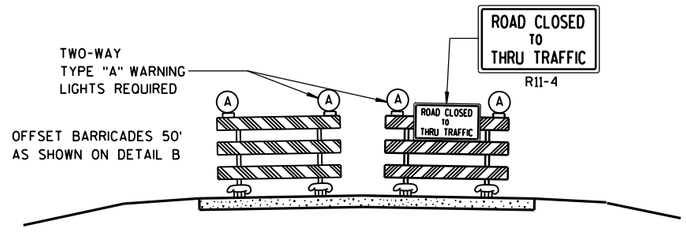
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

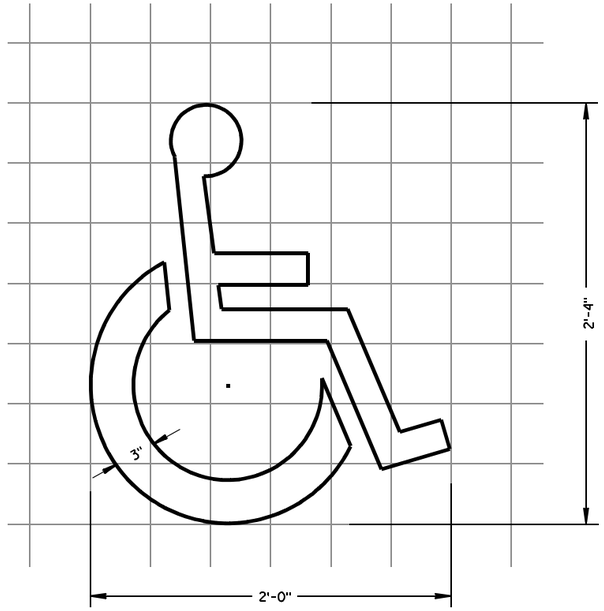
S.D.D. 15 C 2-5b

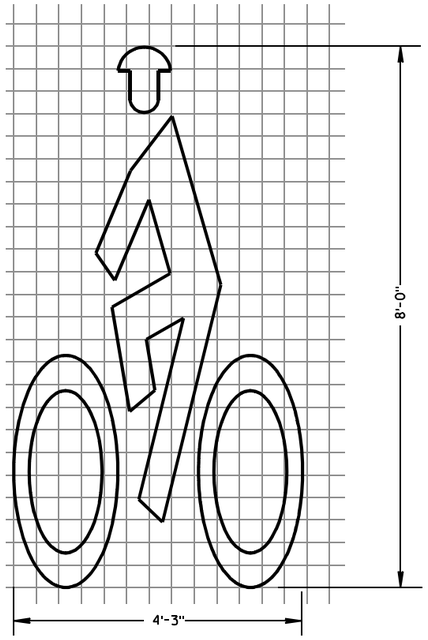
GENERAL NOTES

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

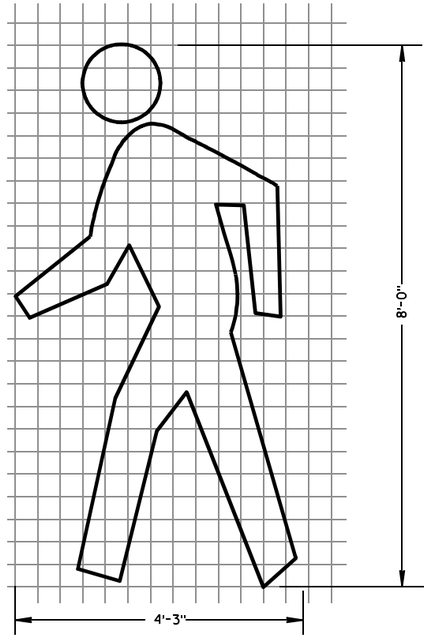
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

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

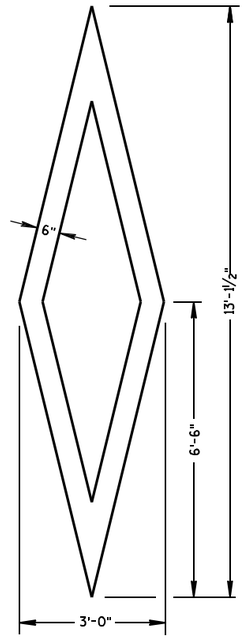




BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL LANE SYMBOL

6

6

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

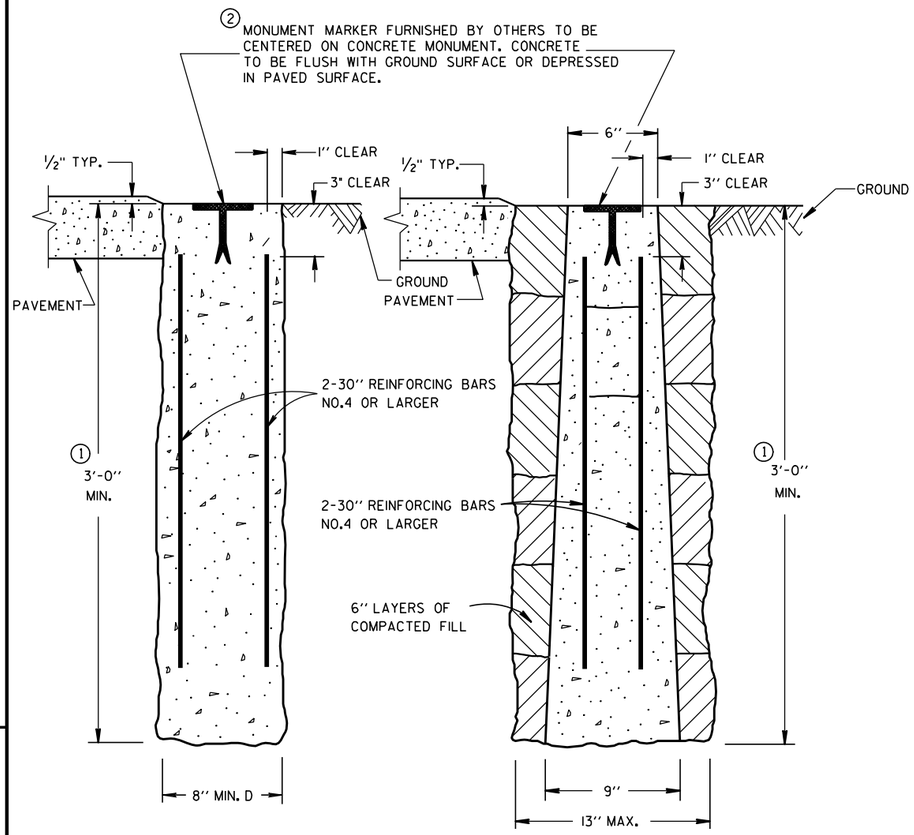
7/1/11 — DATE

/S/ Thomas N Nathan — STATE TRAFFIC ENGINEER

FHWA

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

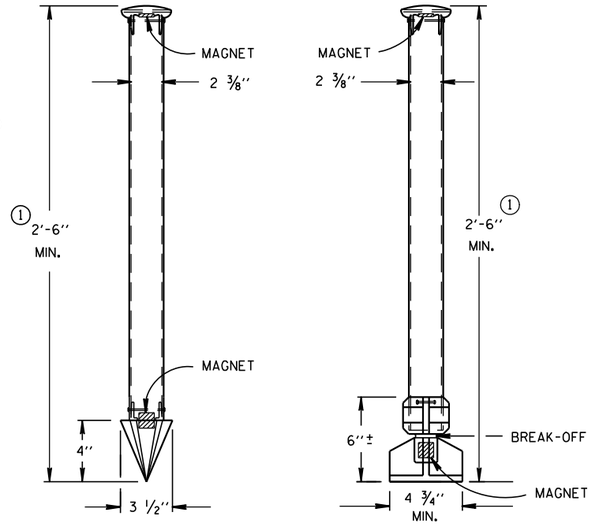
S.D.D. 15 C 7-12a



CAST-IN-PLACE PRECAST

CONCRETE MONUMENTS

TYPE A



ALUMINUM MONUMENTS

(INCLUDES MARKER)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

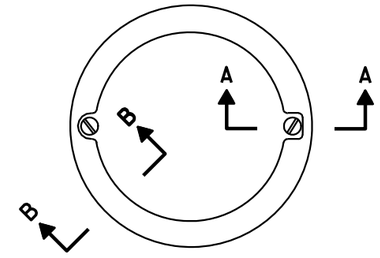
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

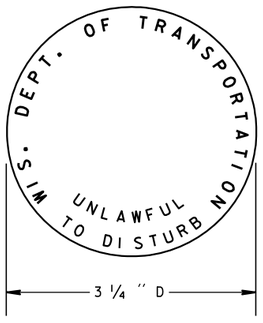
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.

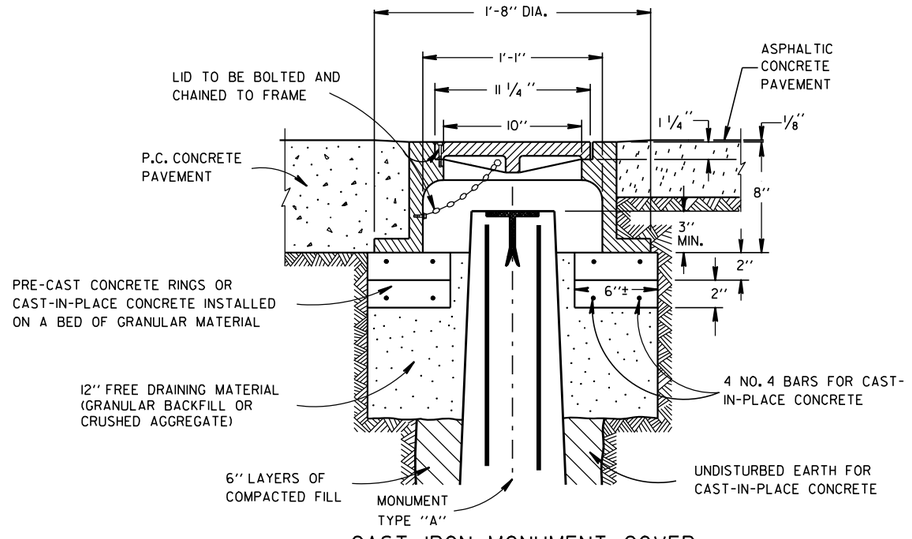


TOP VIEW



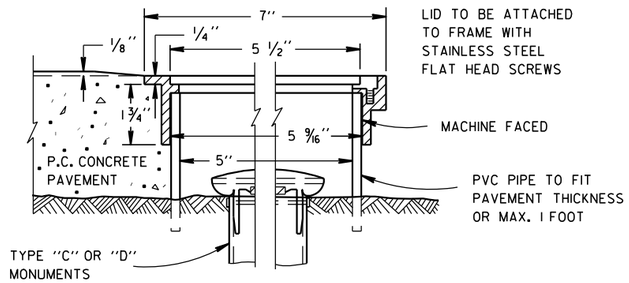
② WIS DOT MONUMENT MARKER LOGO

FOR TYPES "A", "C" & "D"



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)

(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MOUNMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/22/1999 DATE

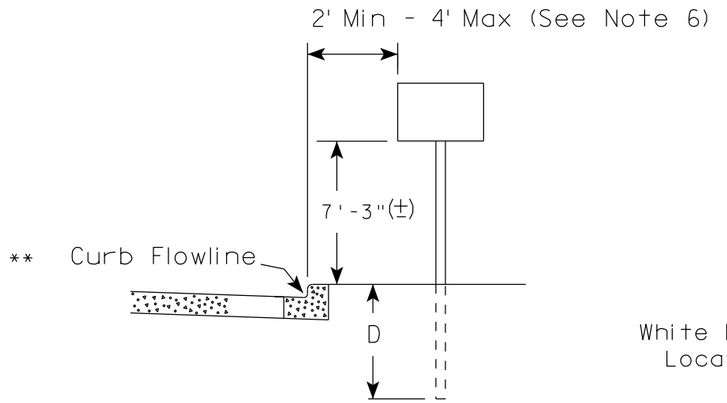
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

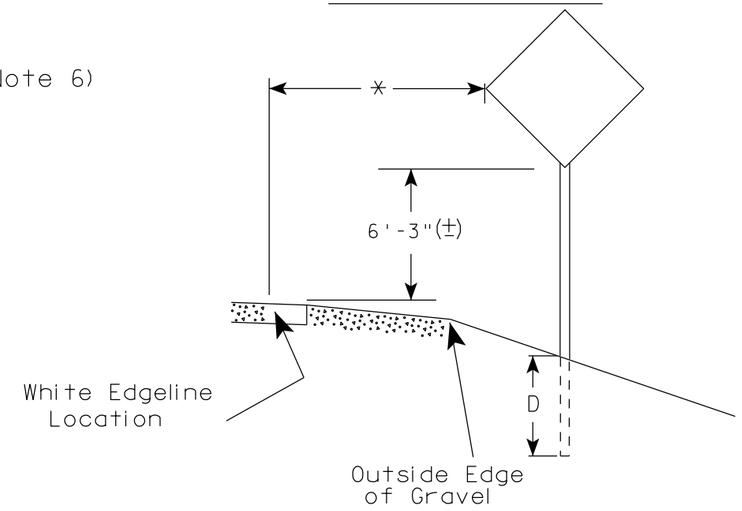
6

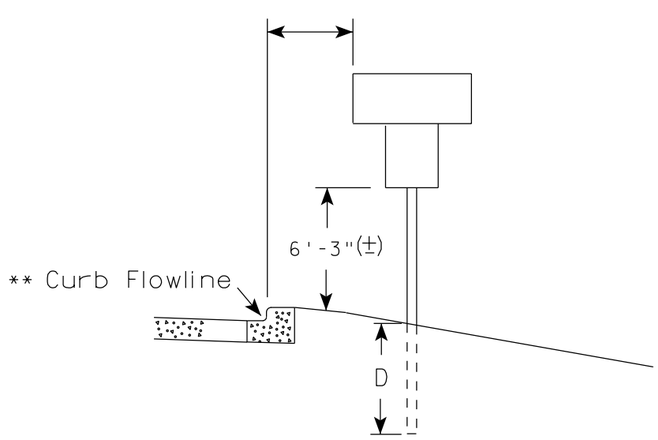
S.D.D. 16 A 1-6

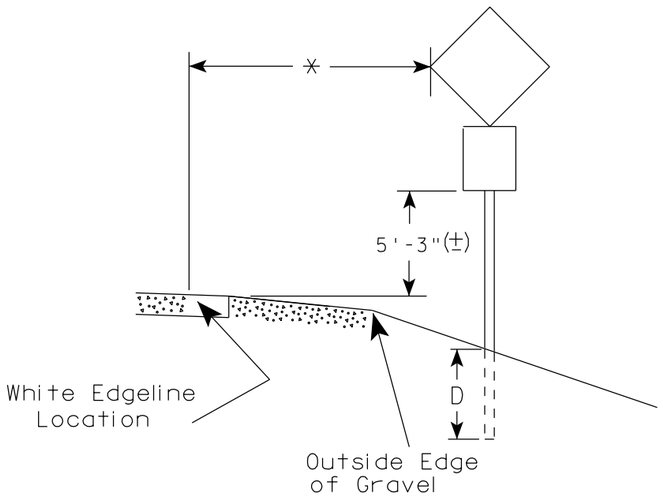
URBAN AREA



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

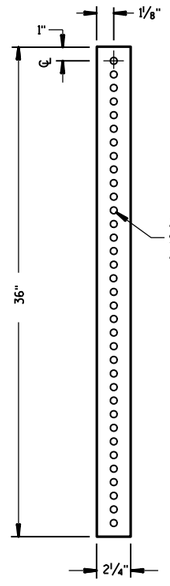
DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

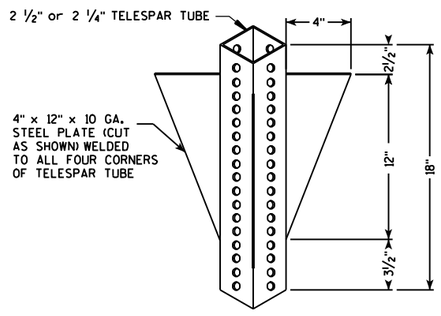
7

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

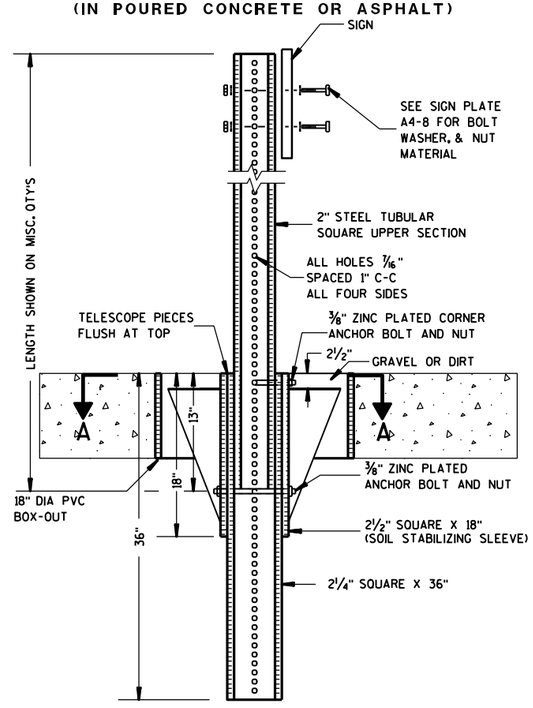
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



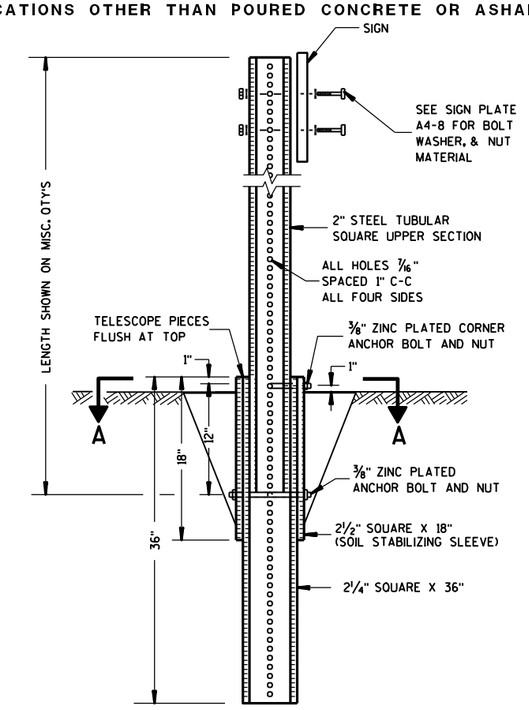
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

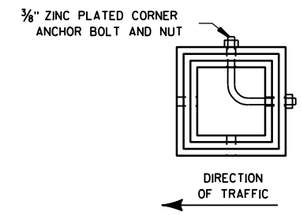


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

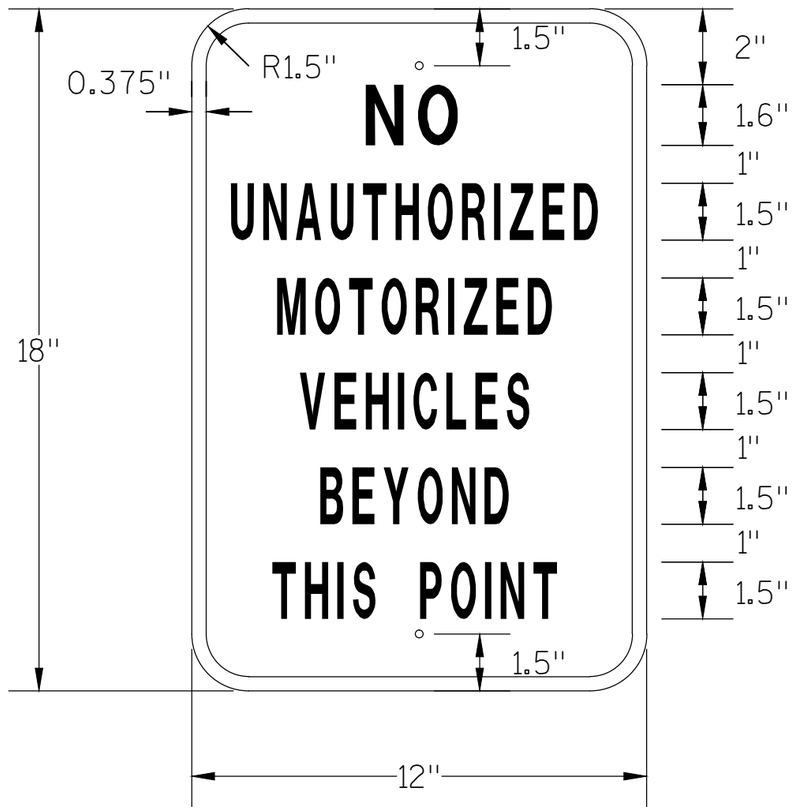
TUBULAR STEEL SIGN POST A4-9

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: 49	E

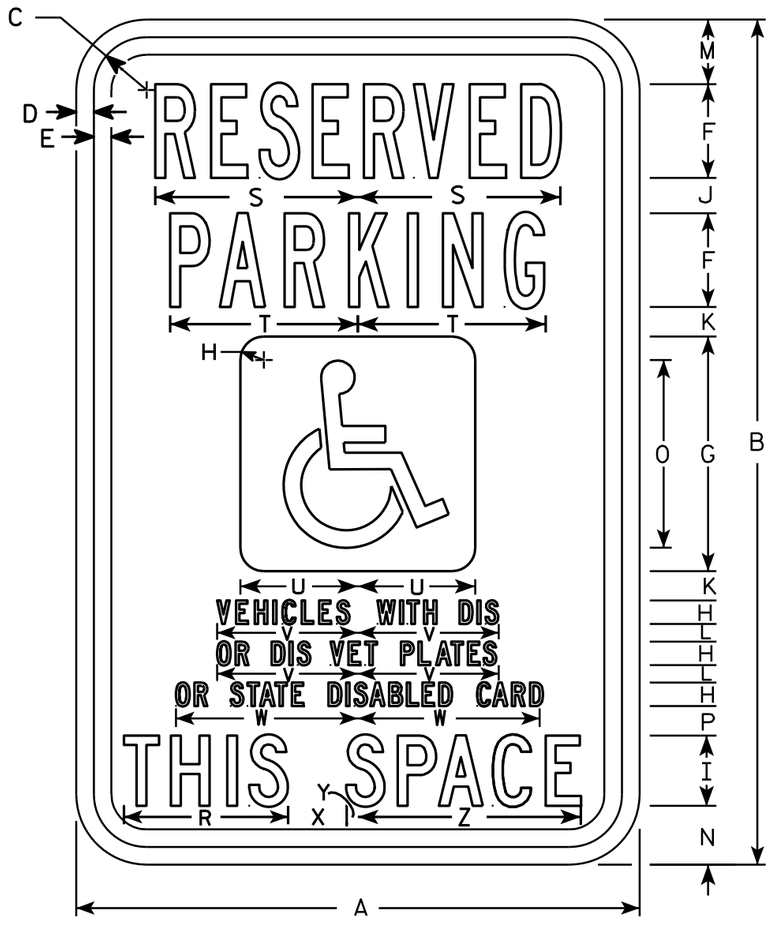


NOTES

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 and Border - White
3. Message Series - Line 1 is Series D
   Line 2, 3, 4, 5 & 6 are Series B

NON-STANDARD SIGN DETAIL

PROJECT NO: 4990-03-71	HWY: LITTLE CHUTE CANAL BRI	COUNTY: OUTAGAMIE	SIGN DETAIL	SHEET 50	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	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
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

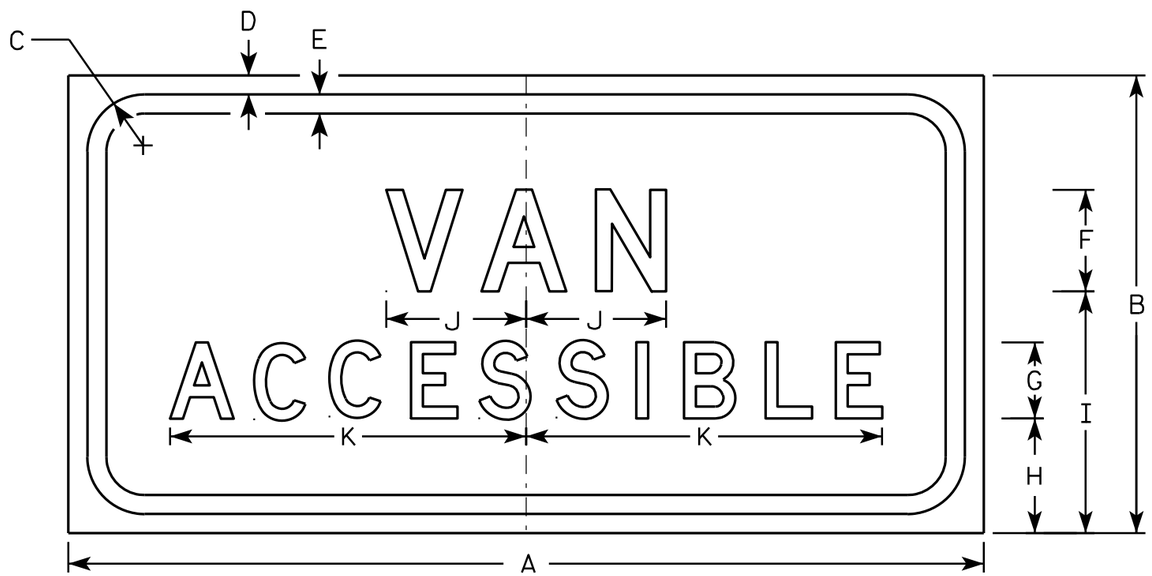
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/20/2011 PLATE NO. R7-8A.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 51 | 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: 52 | 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

EXP U.S. SERVICES, INC.

WISCONSIN
R. SHANKAR NAIR
E-26923
CHICAGO
ILLINOIS
PROFESSIONAL ENGINEER

DATE: 3/25/2015

SEAL AND SIGNATURE
APPLY TO SHEETS 1-19

GNP CONSULTING, INC.

WISCONSIN
GEORGE N. PAVLAKIS
29021-006
OVERLAND PARK
KANSAS
PROFESSIONAL ENGINEER

George N. Pavlakis

DATE: 3/25/2015

SEAL AND SIGNATURE
APPLY TO SHEETS 20-27

STATE PROJECT NUMBER

4990-03-71

DESIGN DATA

LOADS:

VEHICLE: AASHTO H-10 (20,000 LBS)
PEDESTRIAN: 90 PSF

ULTIMATE DESIGN STRESSES:

CONCRETE
SUBSTRUCTURES----- f'c = 3,500 P.S.I

BAR STEEL REINFORCEMENT
GRADE 60---------- f'y = 60,000 P.S.I

STRUCTURAL STEEL, ASTM A709
GRADE 50---------- f'y = 50,000 P.S.I

STRUCTURAL STEEL, ASTM A709
GRADE 36---------- f'y = 36,000 P.S.I

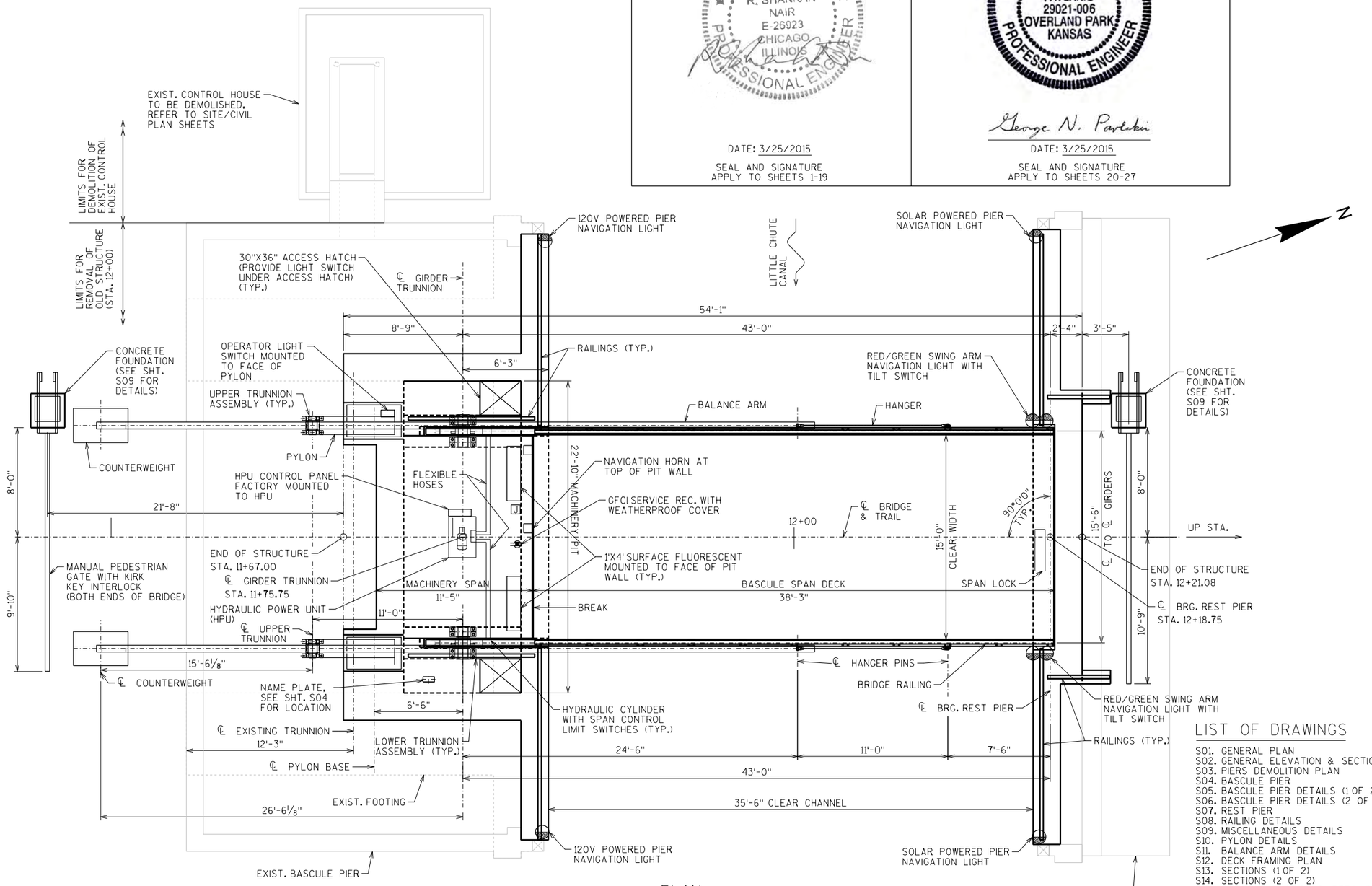
FOUNDATION

BASCULE AND REST PIERS WILL BE CAST AGAINST THE EXISTING PIER CONCRETE

BENCH MARK INFORMATION

NGS MARKER DE7574 NEAR INTERSECTION OF WASHINGTON ST. & PROSPECT ST.
COORDINATES ARE REFERENCED TO NAD83 SPC WISCONSIN CENTRAL ZONE

N. 165,507.62
E. 2,407,678.71
EL. 730.18 (NAVD88)



PLAN

(SINGLE SPAN HOLLAND STYLE LIFT BRIDGE)

NOTE

SEE SHEET S02 FOR ELEVATION & CROSS-SECTION THRU TRAIL.

LIST OF DRAWINGS

DESIGN CONTACT:
PANKAJ KUMAR, PE
(312)-616-0000

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608)-266-8489

NO.	DATE	REVISION	BY

exp U.S. Services Inc.
Chicago, IL
BUILDINGS · EARTH & ENVIRONMENT · ENERGY
INDUSTRIAL · INFRASTRUCTURE · SUSTAINABILITY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 3/25/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-44-0287

TRAIL OVER LITTLE CHUTE CANAL

COUNTY	~~TOWN/CITY/~~VILLAGE
OUTAGAMIE	LITTLE CHUTE

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	PK	DESIGN CK'D.	RSN	DRAWN BY	PK	PLANS CK'D.	RSN

GENERAL PLAN

SHEET S01
53
1 OF 27

FILENAME
SCALE

8

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\\FS-0044\AM\VAULT.D-TRANS_07\TDCWIS\0001G033-A01\STRUCTURE\CAD\01DESIGN\IA_EXP\SHEET\GP01IA001.SHT

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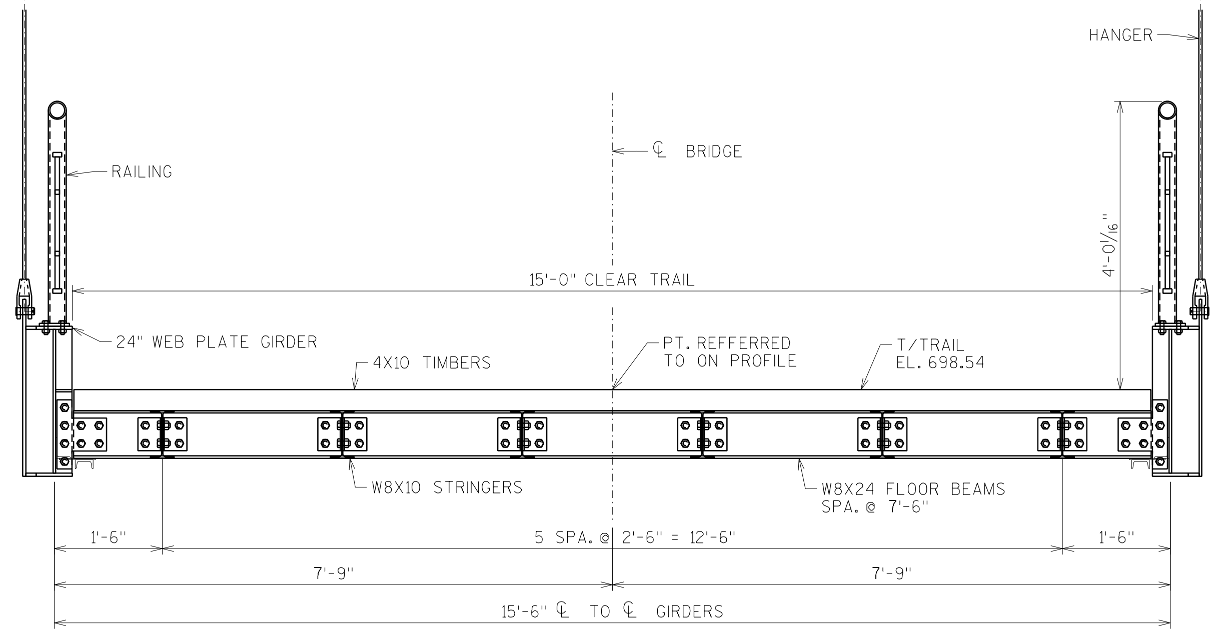
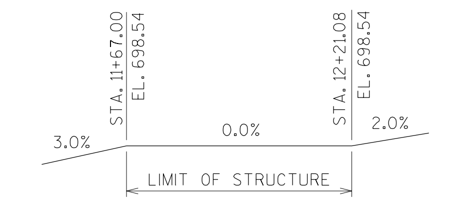
3-25-2015, 9:41:38

STATE PROJECT NUMBER

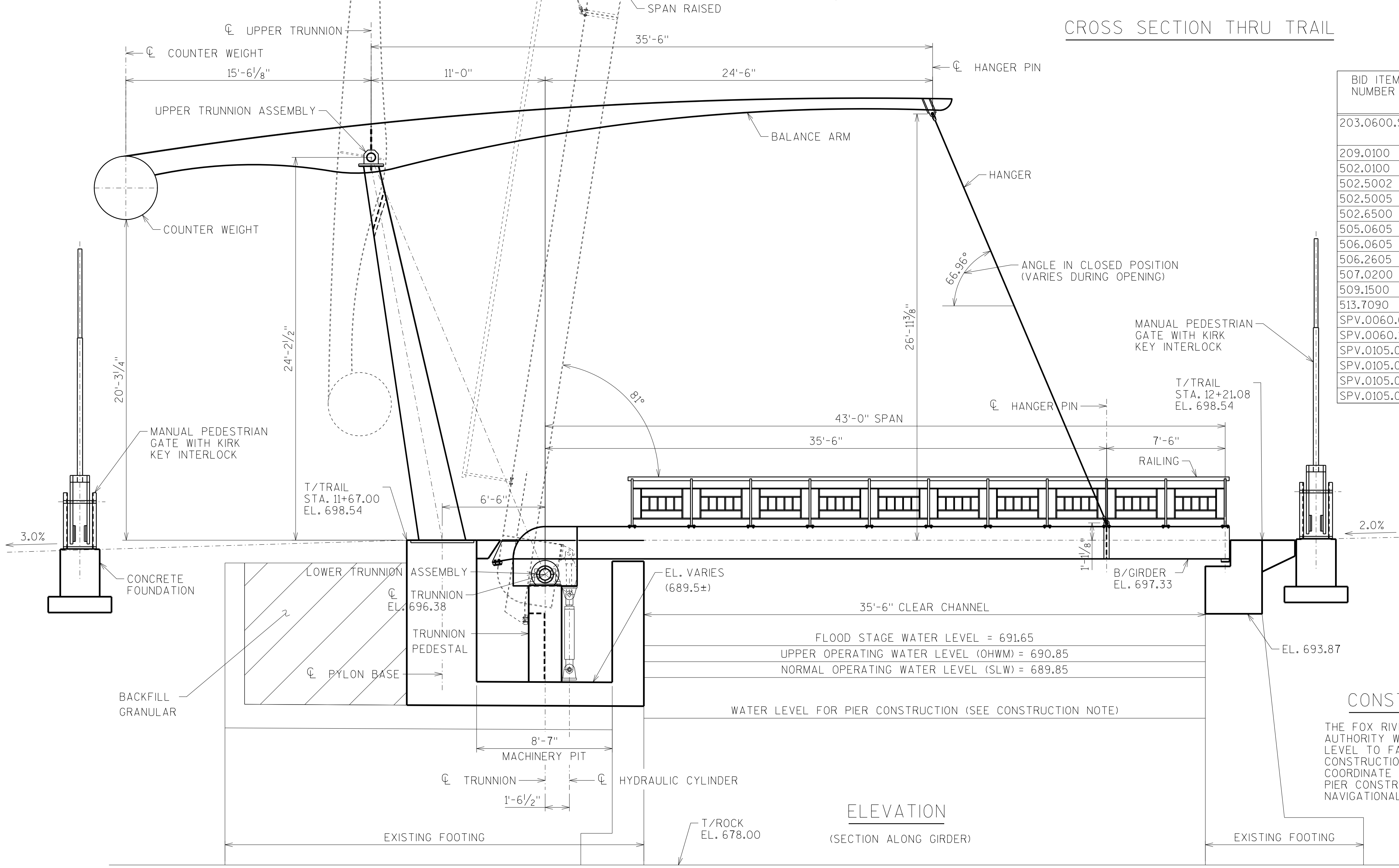
4990-03-71



CROSS SECTION THRU TRAIL



PROFILE GRADE LINE ALONG TRAIL



ELEVATION

(SECTION ALONG GIRDER)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	BASCULE PIER	REST PIER	BALANCE ARM & PYLON	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION 12+00)	L.S.	—	—	—	—	1
209.0100	BACKFILL GRANULAR	C.Y.	—	324	—	—	324
502.0100	CONCRETE MASONRY BRIDGES	C.Y.	—	99	20	—	119
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	—	22	—	—	22
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	—	304	96	—	400
502.6500	PROTECTIVE COATING CLEAR	GAL	—	11	3	—	14
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB.	—	11,600	1,250	—	12,850
506.0605	STRUCTURAL STEEL HS	LB.	13,300	—	—	46,250	59,550
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	4	—	—	—	4
507.0200	TREATED LUMBER AND TIMBER	MBM	2.29	—	—	—	2.29
509.1500	CONCRETE SURFACE REPAIR	S.F.	—	240	450	—	690
513.7090	RAILING STEEL SPECIAL (B-44-0287)	L.S.	—	—	—	—	1
SPV.0060.06	ACCESS DOORS	EACH	—	2	—	—	2
SPV.0060.10	ACCESS LADDERS	EACH	—	2	—	—	2
SPV.0105.01	HANGER ASSEMBLIES	L.S.	1	—	—	—	1
SPV.0105.02	FLUID POWER SYSTEM	L.S.	—	—	—	—	1
SPV.0105.03	MACHINERY	L.S.	—	—	—	—	1
SPV.0105.04	ELECTRICAL WORK	L.S.	—	—	—	—	1

GENERAL NOTES

1. DRAWINGS SHALL NOT BE SCALED.
2. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
3. THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
4. THIS STRUCTURE WILL REPLACE STRUCTURE P-44-0706.
5. PORTIONS OF EXISTING STRUCTURE P-44-0706 ARE TO REMAIN AND BE INCORPORATED INTO NEW WORK. DIMENSIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON THE ORIGINAL STRUCTURE PLANS, WHICH ARE AVAILABLE UPON REQUEST FROM WISDOT.
6. FIELD WELDING WILL NOT BE PERMITTED UNLESS SHOWN ON THE PLANS OR AUTHORIZED IN WRITING BY THE ENGINEER.
7. NEW STRUCTURAL STEEL SHALL BE GALVANIZED AND SHOP PAINTED WITH A TWO COAT SYSTEM. SEE SHEET S12 FOR COLOR TABLE.
8. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50, UNLESS OTHERWISE NOTED.
9. THE NOTCH TOUGHNESS REQUIREMENTS INDICATED IN THE SPECIFICATIONS SHALL APPLY TO THE COMPONENTS IDENTIFIED THEREIN AS WELL AS TO ALL PLATES IN THE BALANCE ARMS AND TOWERS.
10. FASTENERS SHALL BE AASHTO M164 TYPE 1, MECHANICALLY GALVANIZED BOLTS. BOLTS 3/4", HOLES 13/16", UNLESS OTHERWISE NOTED.
11. SEE SPECIAL PROVISION FOR STEEL COUNTERWEIGHTS.

CONSTRUCTION NOTE

THE FOX RIVER NAVIGATIONAL SYSTEM AUTHORITY WILL LOWER THE WATER LEVEL TO FACILITATE THE PIER CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THE SCHEDULE AND DURATION OF PIER CONSTRUCTION WITH THE FOX RIVER NAVIGATIONAL SYSTEM AUTHORITY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

DRAWN BY PK | PLANS CK'D. RSN

GENERAL ELEVATION & SECTION

SHEET S02

8

8

FILENAME
SCALE

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$$user$$
$$$$date_time$$$$
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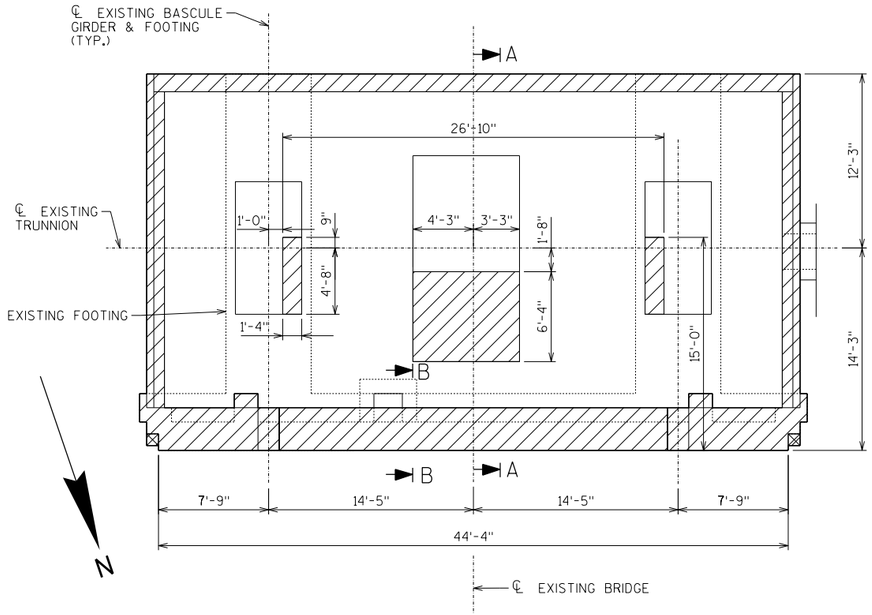
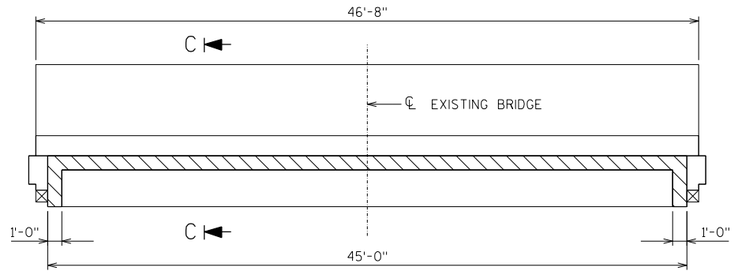
STATE PROJECT NUMBER

4990-03-71

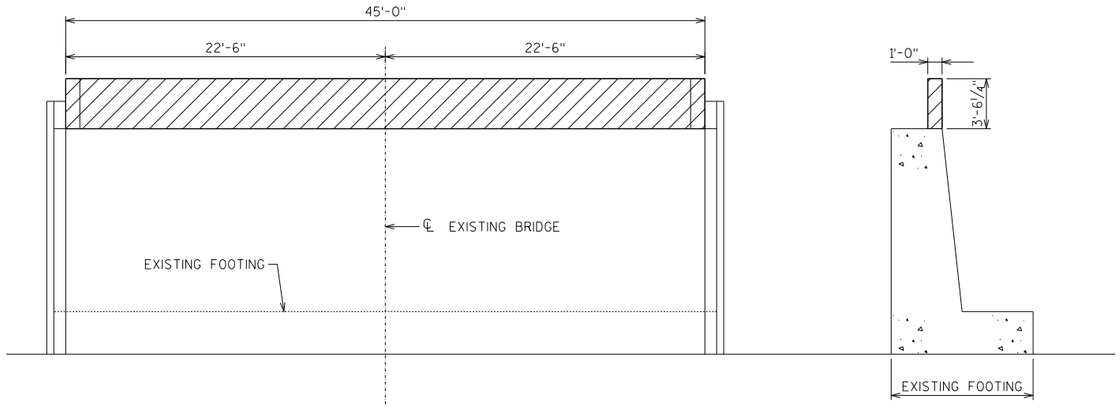


PLAN (BASCULE PIER)

(AFETR REMOVAL OF EXISTING STEEL SECTIONS & DECK ABOVE BASCULE PIT)



PLAN (REST PIER)



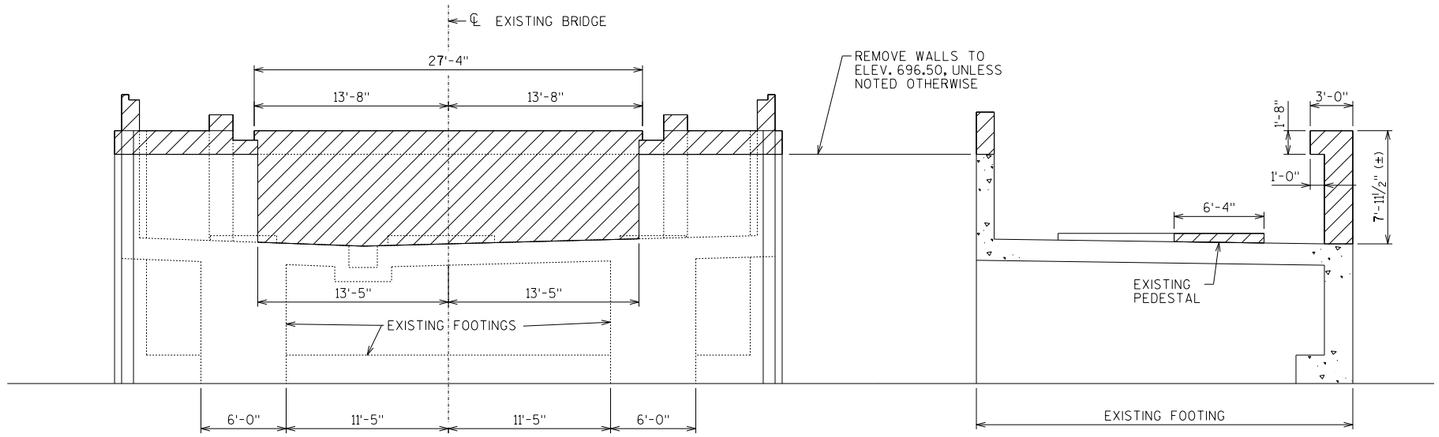
ELEVATION (REST PIER)

(LOOKING NORTH)

SECTION C-C

LEGEND

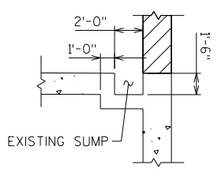
STRUCTURE TO BE REMOVED



ELEVATION (BASCULE PIER)

(LOOKING SOUTH)

SECTION A-A



SECTION B-B

NOTES

1. REMOVE ALL THE EXISTING STEEL SECTIONS, MACHINERY, TRUNNIONS & DECK ABOVE PIT WITH PRECAUTION TO AVOID ANY DAMAGE TO THE EXISTING BASCULE PIER
2. ALL THE REMOVAL SHOWN ON THIS SHEET AND ASSOCIATED EXCAVATION OF THE SOIL IS A PART OF THE BID ITEM 'REMOVING OLD STRUCTURE (STA. 12+00)'.
3. APPLY BID ITEM 509.1500 "CONCRETE SURFACE REPAIR" TO THE REMAINING EXISTING AND EXPOSED PORTION OF THE WALLS AFTER DEMOLITION. THIS INCLUDE RIVIER WALL OF BASCULE PIER AND REST PIER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

DRAWN BY PK | PLANS CK'D. RSN

PIERS DEMOLITION PLAN

SHEET S03

55

3 OF 27

FILENAME

SCALE

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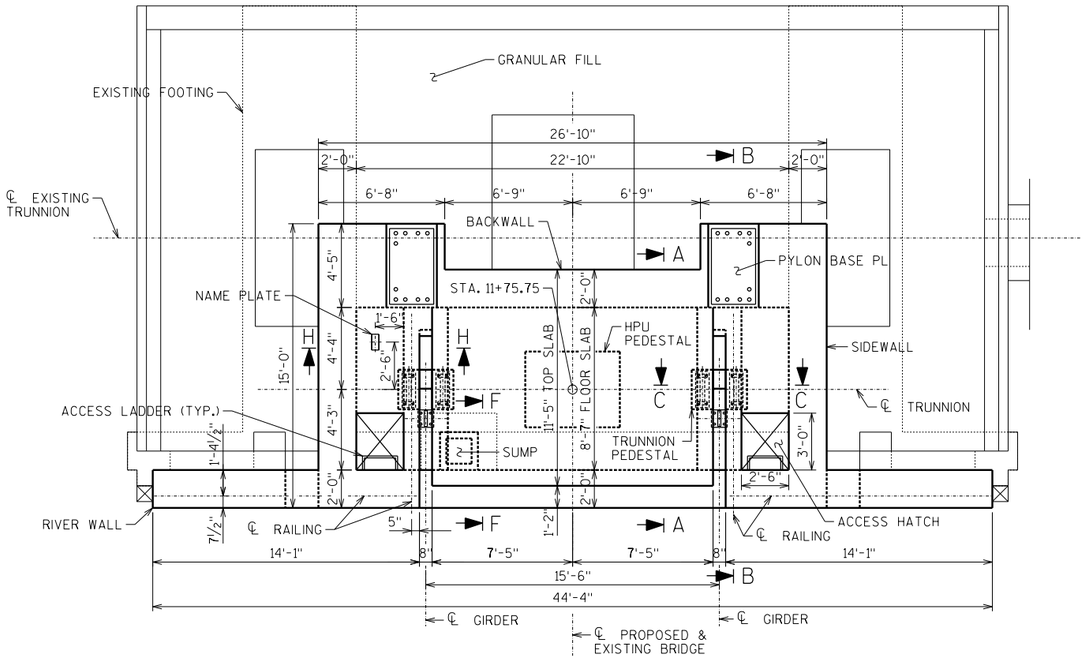
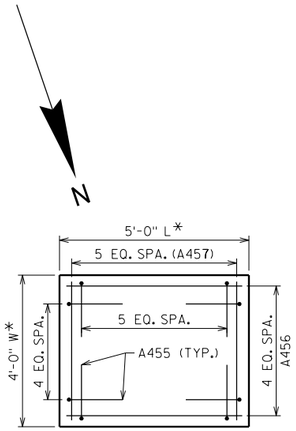
STATE PROJECT NUMBER

4990-03-71



PLAN

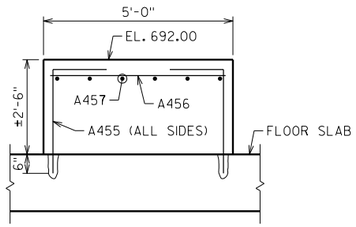
(DETAILS ARE SYM ABOUT ℄ BRIDGE EXCEPT SUMP & NAME PL)



PLAN

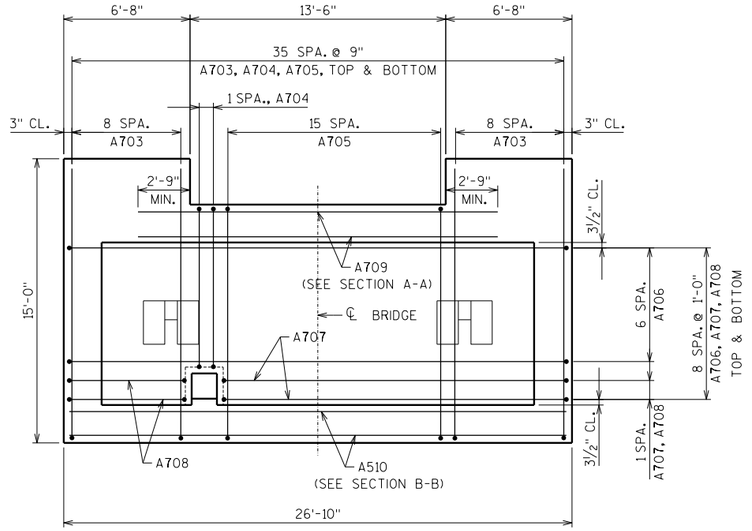
(HPU PEDESTAL)

* DIMENSIONS TO BE VERIFIED WITH EQUIPMENT SUPPLIER AND INSTALLER.



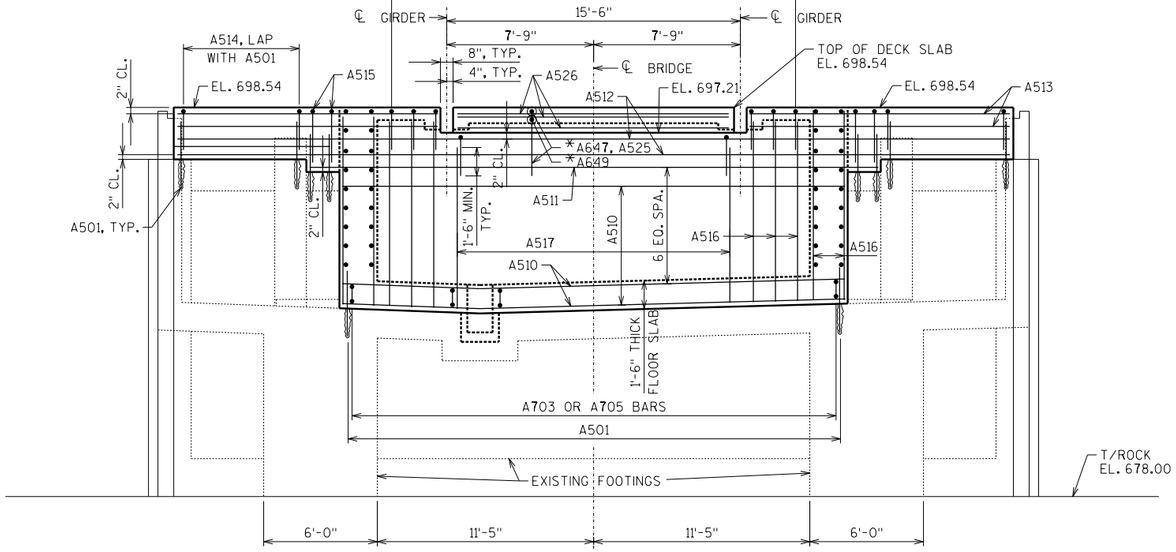
SECTION

(AT HPU PEDESTAL)



FLOOR SLAB BARS

(FLOOR SLAB REINF. DETAILS, VERT. ANCHOR BARS & BARS FROM WALLS NOT SHOWN FOR CLARITY)



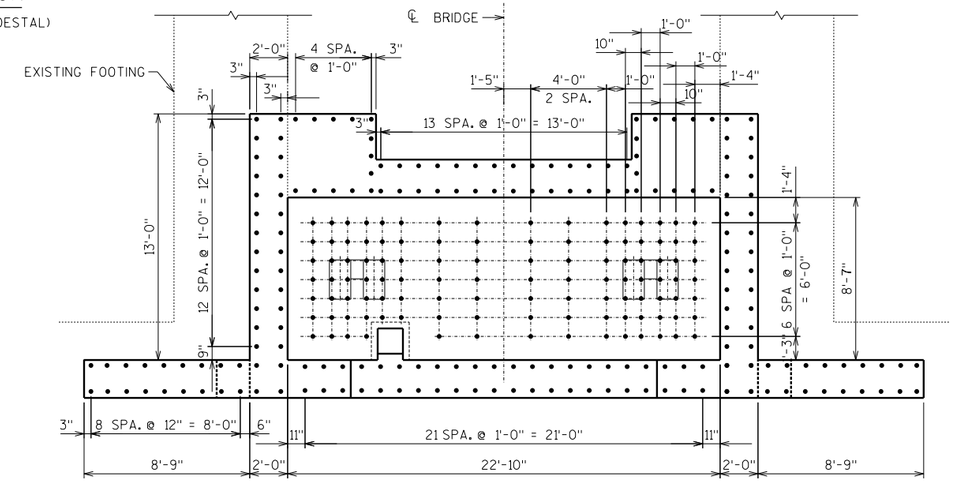
* BARS TO BE PLACED AT 6" SPA. SEE SECTION A-A, SECTION C-C AND PLAN @ TOP OF SLAB LEVEL FOR DETAILS.

ELEVATION

(LOOKING SOUTH)

(REINF. SHOWN ARE SYM ABOUT ℄ BRIDGE)

(SUMP REINF. NOT SHOWN FOR CLARITY, SEE SECTIONS F-F & G-G FOR DETAILS)



ANCHOR BARS LAYOUT

(DETAILS SHOWN ARE SYMMETRICAL ABOUT ℄ BRIDGE)

NOTES

WORK THIS SHEET WITH SHEETS S05, S06 AND S09.

ALL THE ANCHOR BARS UNDER WALLS ARE A501.
ALL THE ANCHOR BARS UNDER SLAB ARE A502.
FOR ANCHOR BAR EMBEDMENT AND DETAILS SEE SHEET S06.

KEEP NEW FLOOR SLAB THICKNESS 1'-6" EVERYWHERE AND FOLLOW THE SLOPE OF EXISTING FLOOR SLAB.

SEE SHEET S08 FOR RAILING DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

DRAWN BY PK | PLANS CK'D. RSN

BASCULE PIER

SHEET S04
56
4 OF 27

8

\\FS-0044\AM\VAULT_D-TRANS_07\TDCWIS\0001603 3-A0\STRUCT\CAD\01DESIGN\1A EXP\SHEET\P101IA001.SHT

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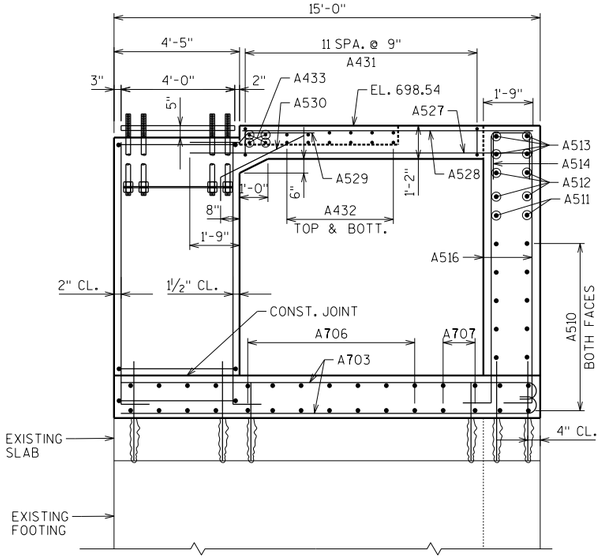
FILENAME
SCALE

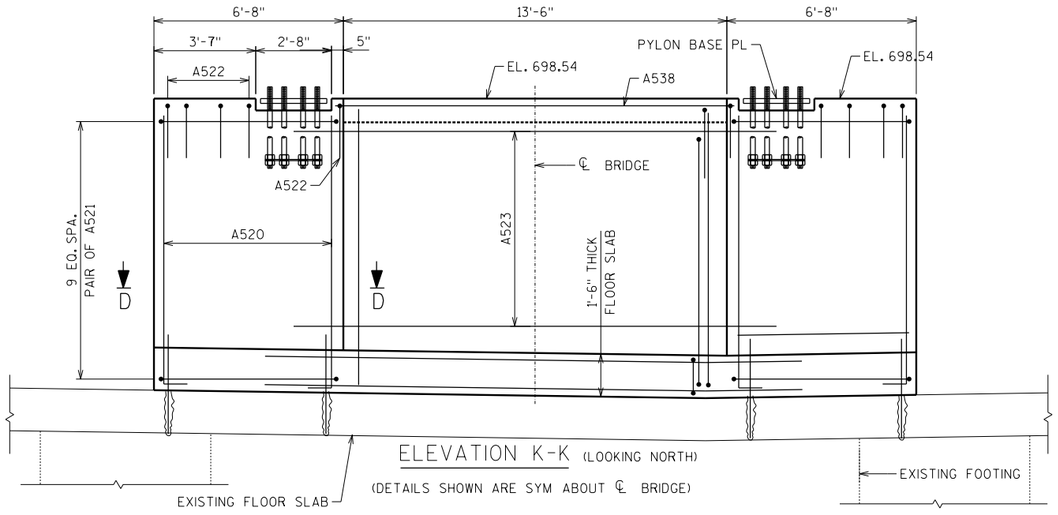
STATE PROJECT NUMBER

4990-03-71



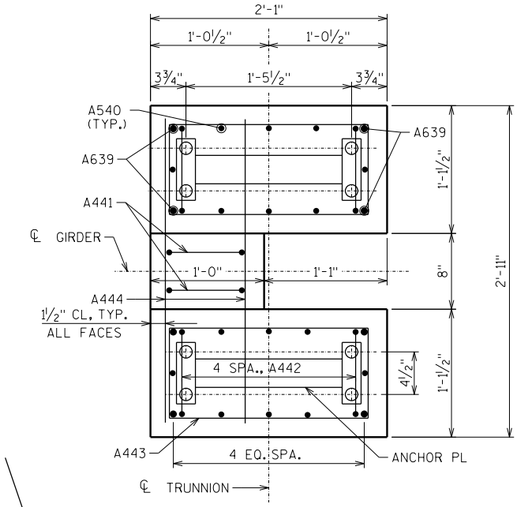
SECTION B-B

(SECTION THRU CONCRETE BEAM)



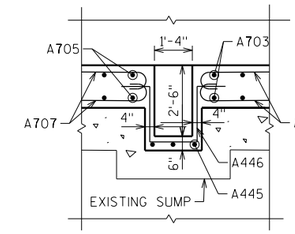
ELEVATION K-K (LOOKING NORTH)

(DETAILS SHOWN ARE SYM ABOUT ℄ BRIDGE)



SECTION E-E

(DETAILS ARE SYM ABOUT ℄ GIRDER)



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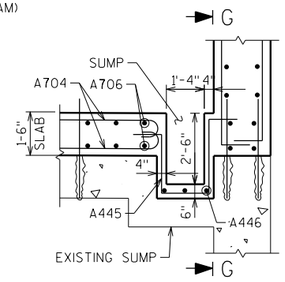

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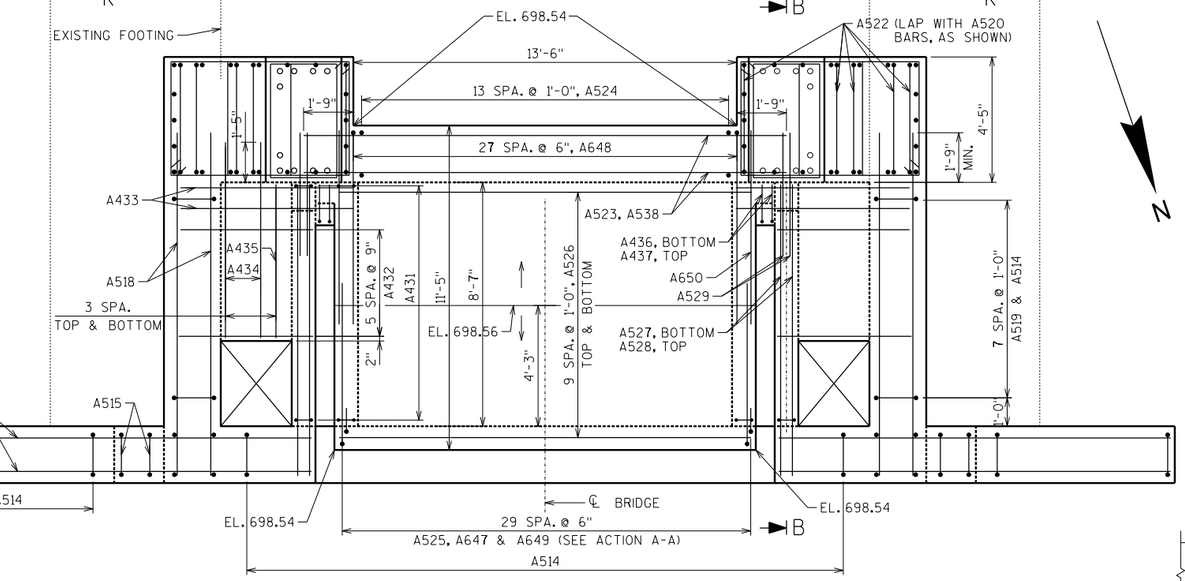
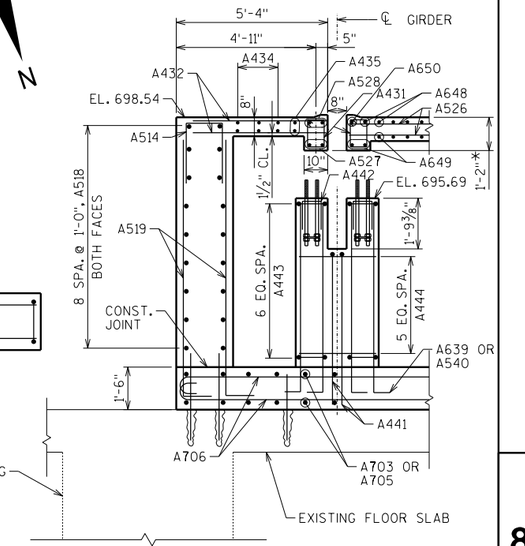


PLAN @ TOP SLAB LEVEL

(REINF. SHOWN ARE SYM ABOUT ℄ BRIDGE)



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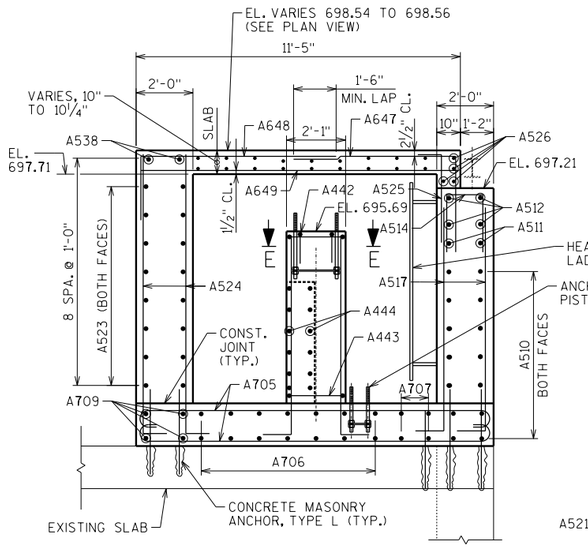
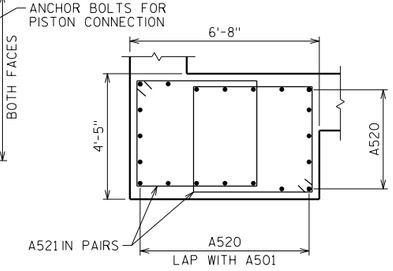


SECTION A-A



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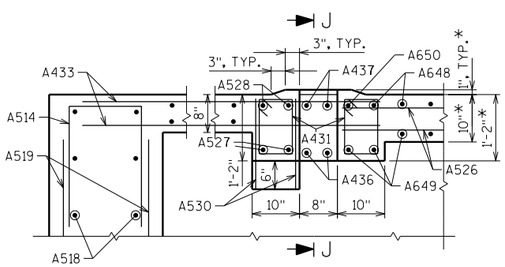
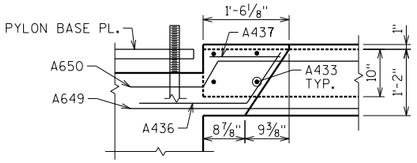


SECTION H-H

*AT LOW POINT
OF TOP SLAB



SECTION J-J

NOTES

FOR ANCHOR BOLT DETAILS SEE SHEETS S08 AND S09.

WORK THIS SHT. WITH SHEETS M01 THRU M04.

NEW FLOOR SLAB IS 1'-6" THICK & FOLLOWS EXISTING SLAB GRADE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

DRAWN BY PK | PLANS CK'D. RSN

BASCULE PIER DETAILS (1 OF 2)

SHEET S05

57

5 OF 27

8

\\FS-0044\AM\VAULT\D-TRANS_07\TDCWIS\0006033-A0\STRUCT\CAD\01DESIGN\IA_EXP\SHEET\P101IA003.SHT

..\P101IA001.DGN, ..\BD01IA001.DGN, ..\P101IA001.DGN, ..\P101IA001.DGN

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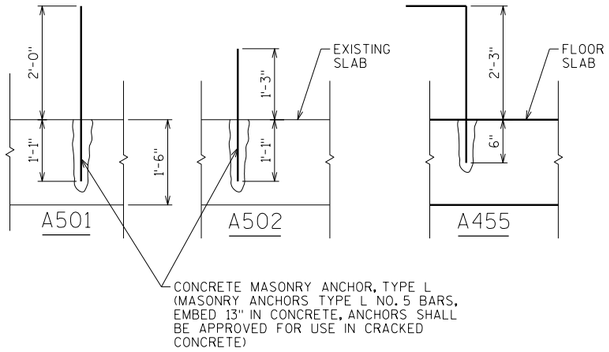
9-30-2014, 14:04:44

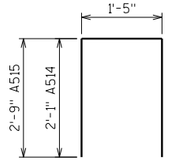
FILENAME

SCALE

STATE PROJECT NUMBER

4990-03-71





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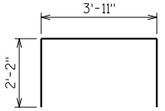

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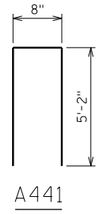

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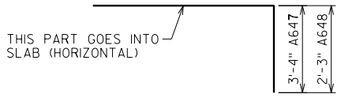

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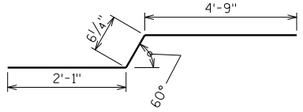

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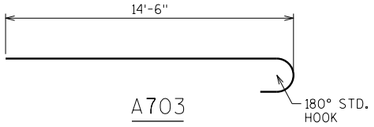

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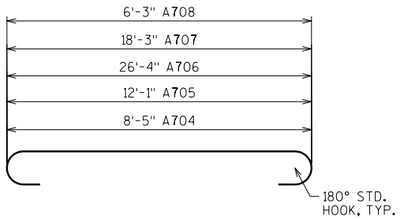

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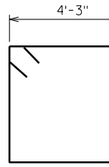

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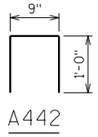

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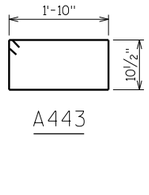

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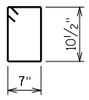

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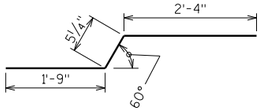

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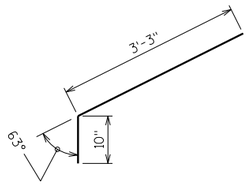

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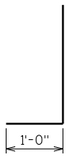

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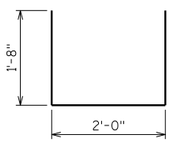

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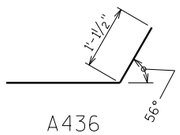

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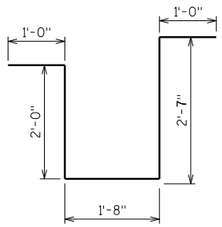

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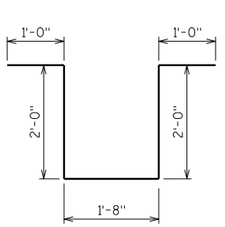

A446

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	194	3-1			ANCHOR BARS-VERT-UNDER WALLS
A502	X	110	2-4			ANCHOR BARS-VERT-UNDER SLAB
A703	X	36	15-4	X		FLOOR SLAB-TOP & BOTTAM-TRANSV.
A704	X	4	10-1	X		FLOOR SLAB-TOP & BOTTAM-TRANSV.
A705	X	32	13-9	X		FLOOR SLAB-TOP & BOTTAM-TRANSV.
A706	X	14	28-0	X		FLOOR SLAB-TOP & BOTTAM-LONG.
A707	X	4	19-11	X		FLOOR SLAB-TOP & BOTTAM-LONG.
A708	X	4	7-11	X		FLOOR SLAB-TOP & BOTTAM-LONG.
A709	X	4	19-0			FLOOR SLAB-TOP & BOTTAM-UNDER BACKWALL
A510	X	14	26-6			RIVER WALL-HORIZONTAL, BOTH FACES
A511	X	2	30-0			RIVER WALL-HORIZONTAL, BOTH FACES
A512	X	4	44-0			RIVER WALL-HORIZONTAL, BOTH FACES
A513	X	8	13-9			RIVER WALL-HORIZONTAL, BOTH FACES
A514	X	52	5-4	X		WALL-STIRRUPS-TOP
A515	X	4	6-8	X		RIVER WALL-STIRRUPS-TOP
A516	X	20	10-9	X		RIVER WALL-VERTICAL
A517	X	32	9-5	X		RIVER WALL-VERTICAL
A518	X	36	12-2			SIDE WALL-HORIZONTAL
A519	X	32	10-7	X		SIDE WALL-VERTICAL
A520	X	40	10-3	X		PYLON BASE-VERT.
A521	X	40	17-4	X		PYLON BASE-STIRRUPS
A522	X	10	8-0	X		PYLON BASE-STIRRUPS, TOP FACE
A523	X	16	17-0			BACKWALL-HORIZONTAL
A524	X	28	10-7	X		BACKWALL-VERT., BOTH FACES
A525	X	30	3-10	X		TOP SLAB & RIVER WALL JUNCTION
A526	X	22	14-6			TOP SLAB-HORIZONTAL, TOP & BOTTOM
A527	X	4	12-1			TOP SLAB-BEAM, HORIZONTAL-BOTT.
A528	X	4	10-2			TOP SLAB-BEAM, HORIZONTAL-TOP
A529	X	4	4-6	X		TOP SLAB-BEAM, HORIZONTAL DOWEL
A530	X	4	4-1	X		TOP SLAB-BEAM, HORIZONTAL DOWEL
A431	X	48	3-5	X		TOP SLAB-BEAM, STIRRUP
A432	X	24	4-7			TOP SLAB-HORIZONTAL, TOP & BOTTOM
A433	X	8	6-0			TOP SLAB-HORIZONTAL, TOP & BOTTOM
A434	X	12	6-10			TOP SLAB-HORIZONTAL, TOP & BOTTOM
A435	X	4	5-3			TOP SLAB-HORIZONTAL, TOP & BOTTOM
A436	X	4	3-2	X		TOP SLAB - STEP, BOTTOM
A437	X	4	1-2			TOP SLAB-STEP, TOP
A538	X	2	14-0			BACKWALL TOP-HORIZONTAL
A639	X	16	7-8	X		TRUNNION PEDESTAL-VERT.
A540	X	32	7-6	X		TRUNNION PEDESTAL-VERT.
A441	X	4	10-10	X		TRUNNION PEDESTAL-VERT.
A442	X	20	2-7	X		TRUNNION PEDESTAL-STIRRUP-VERT.
A443	X	28	5-11	X		TRUNNION PEDESTAL-STIRRUP
A444	X	24	2-9			TRUNNION PEDESTAL-HORIZONTAL
A445	X	3	7-11	X		SUMP
A446	X	3	7-4	X		SUMP
A647	X	30	8-10	X		TOP SLAB - HORIZONTAL, TOP
A648	X	28	8-11	X		TOP SLAB - HORIZONTAL, TOP
A649	X	30	11-1			TOP SLAB - HORIZONTAL, BOTTOM
A650	X	2	7-4	X		TOP SLAB EDGE BEAM - HORIZONTAL, TOP
A451	X	20	3-6			GATE FOUNDATION, HORIZONTAL
A452	X	32	4-1	X		GATE FOUNDATION, VERTICAL
A453	X	16	5-2	X		GATE FOUNDATION, STIRRUPS
A454	X	8	2-0			GATE FOUNDATION, TOP, HORIZONTAL
A455	X	22	4-1			ANCHOR BARS-VERT-UNDER HPU PEDESTAL
A456	X	5	4-7			HPU PEDESTAL, HORIZONTAL, TOP
A457	X	6	3-7			HPU PEDESTAL, HORIZONTAL, TOP

+ LENGTH SHOWN FOR BARS IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

DRAWN BY PK | PLANS CK'D. RSN

BASCULE PIER DETAILS (2 OF 2)

SHEET S06

58

6 OF 27

8

8

FILENAME

SCALE

\\FS-0044\AM\VAULT_D-TRANS_07\TDCWIS\0006033-A0\STRUCT\CAD\01DESIGN\IA_EXP\SHEET\P01IA004.SHT

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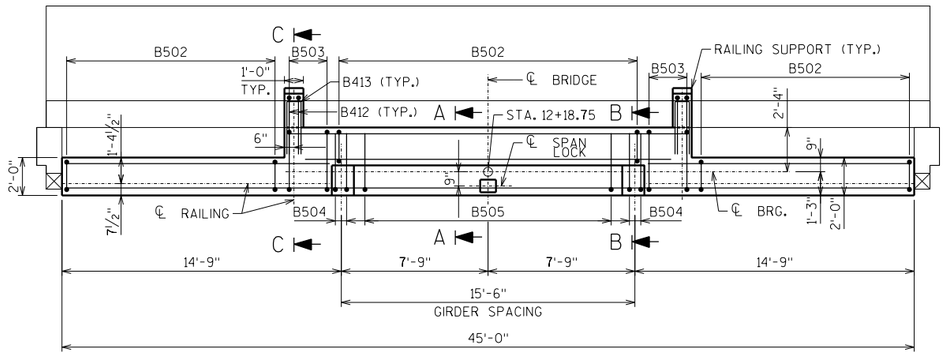
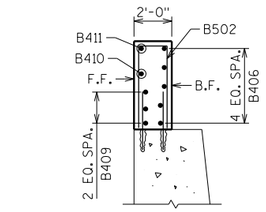
STATE PROJECT NUMBER

4990-03-71

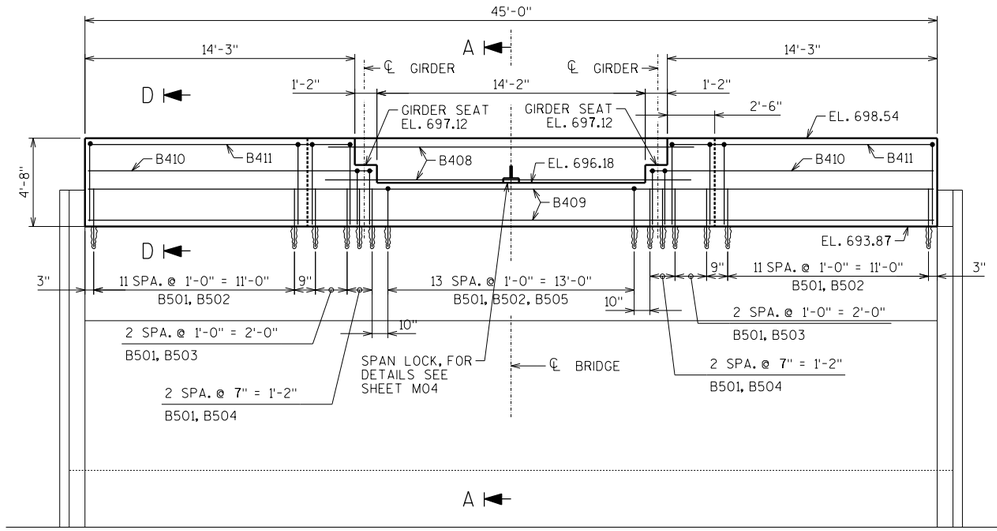


PLAN (REST PIER)

(DETAILS ARE SYM ABOUT ℄ BRIDGE)

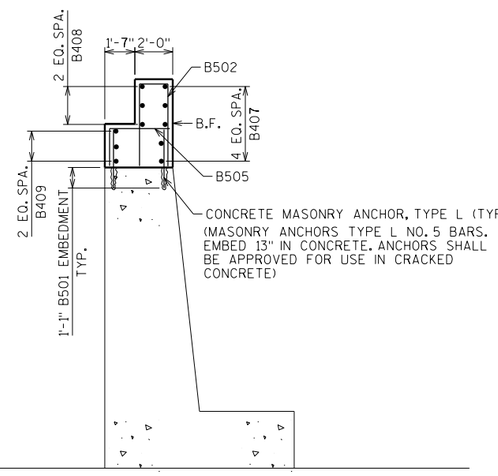


SECTION D-D

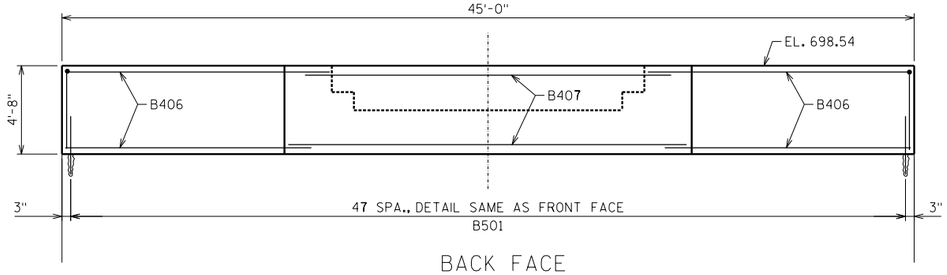


ELEVATION

(LOOKING NORTH)



SECTION A-A

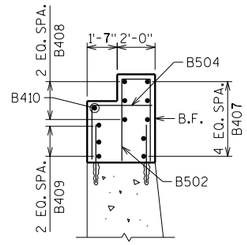


BACK FACE

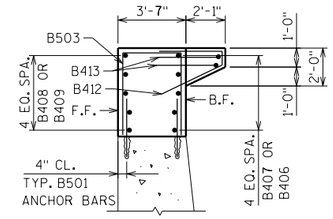
(LOOKING SOUTH)

BILL OF BARS

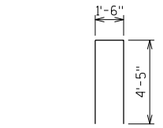
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501	X	96	3-1			ANCHOR BARS - VERT., F.F., B.F.
B502	X	42	10-1	X		STIRRUPS
B503	X	6	11-8	X		STIRRUPS
B504	X	4	6-1	X		STIRRUPS - UNDER BEAM SEAT
B505	X	14	5-1	X		STIRRUPS
B406	X	10	13-10			HORIZONTAL, B.F.
B407	X	5	21-1			HORIZONTAL, B.F.
B408	X	3	19-4			HORIZONTAL, F.F.
B409	X	3	44-6			HORIZONTAL, F.F.
B410	X	2	15-0			HORIZONTAL, F.F.
B411	X	2	13-10			HORIZONTAL, F.F.
B412	X	4	7-6	X		RAILING SUPPORT, VERTICAL
B413	X	4	7-2	X		RAILING SUPPORT, HORIZONTAL

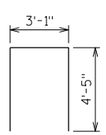


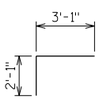
SECTION B-B

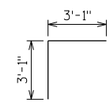


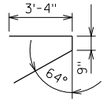
SECTION C-C

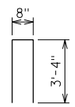












NOTES

1. BACKFILLING BEHIND THE REST PIER IS A PART OF THE ROADWAY PLANS.
2. WORK THIS SHEET WITH SHT. M04 FOR SPAN LOCK PLACEMENT AND SHEET S09 FOR SPAN LOCK ANCHOR ARRANGEMENT
3. SEE SHEET S08 FOR RAILING DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

DRAWN BY PK | PLANS CK'D. RSN

REST PIER

SHEET S07

59

7 OF 27

FILENAME

SCALE

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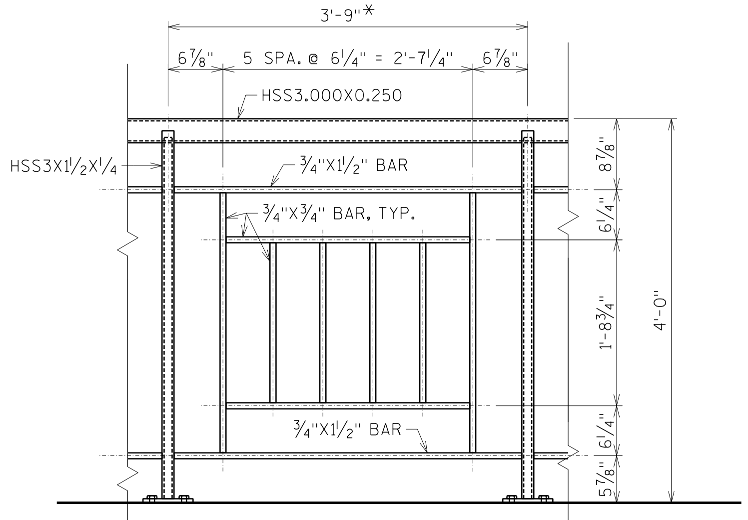
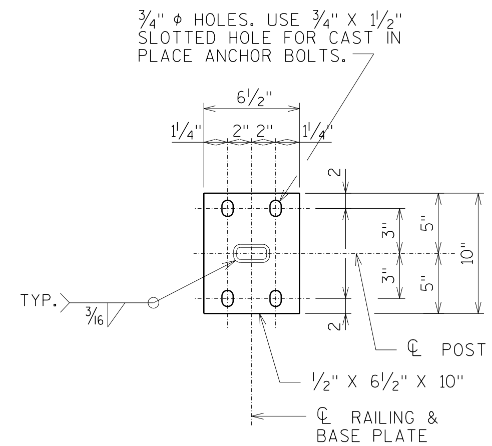
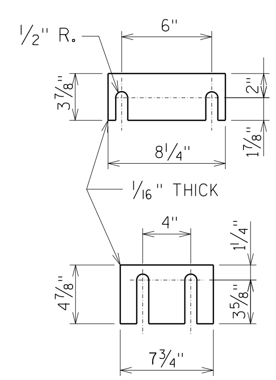


ELEVATION

*FOR LOCATIONS WHERE 3'-9" TYPICAL PANEL CAN NOT BE USED FOR ENTIRE RAILING UNIT, DETAIL END PANELS OF RAILING WITH MAXIMUM WIDTH OF 4'-3" AND ADJUST THE NUMBER OF SHORT VERTICAL BARS TO MAINTAIN SPACING SIMILAR AS THE TYPICAL PANEL.

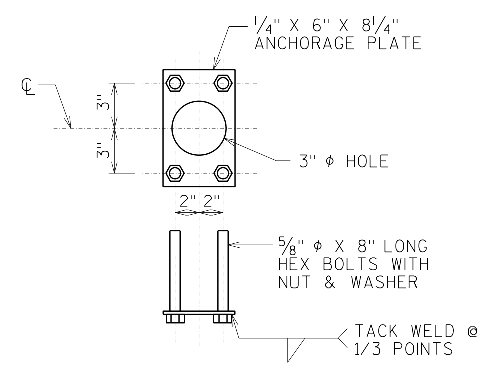


BASE PLATE



SHIM PLATE DETAILS

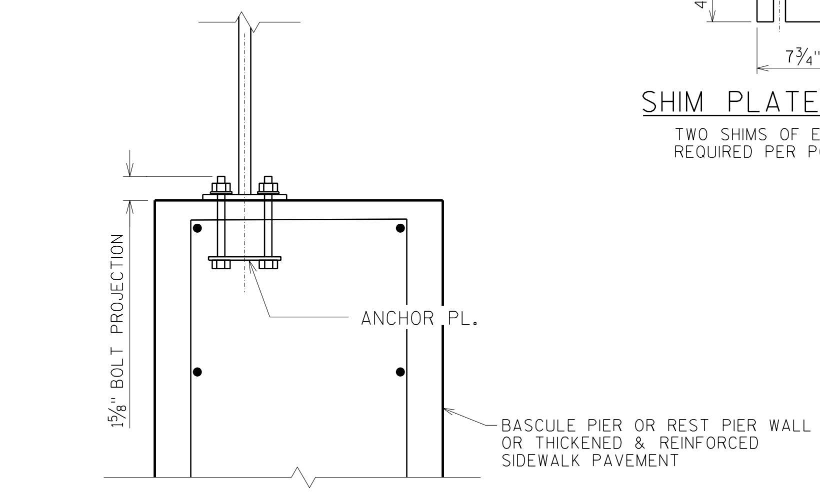
TWO SHIMS OF EACH SIZE REQUIRED PER POST



ANCHORAGE DETAIL

5/8" CAST-IN-PLACE ANCHOR BOLTS. MASONRY ANCHORS MAY BE SUBSTITUTED FOR C.I.P. ANCHOR BOLTS. ANCHORAGE PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED.

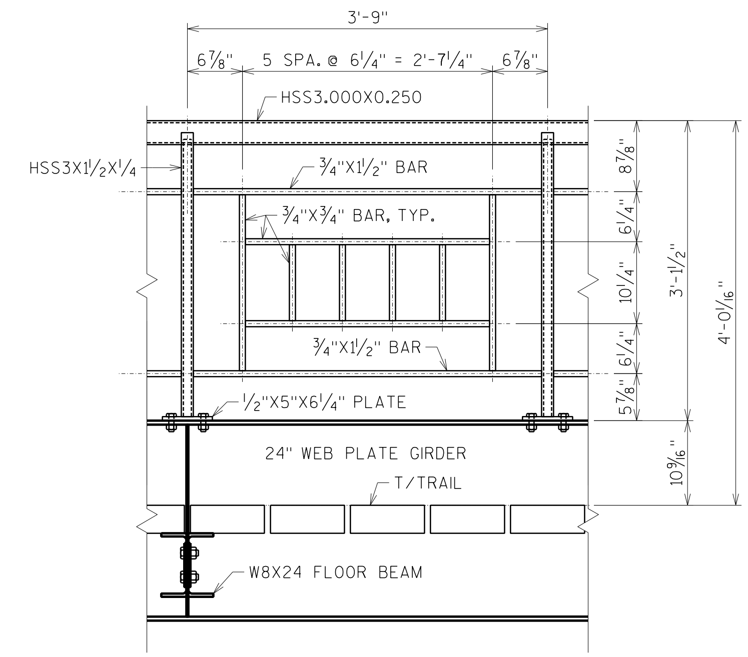
MASONRY ANCHOR TYPE S 5/8-INCH. EMBED 7" IN CONCRETE.



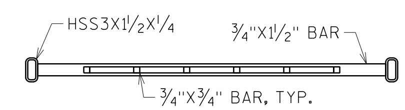
BASE DETAIL

TYPICAL RAILING

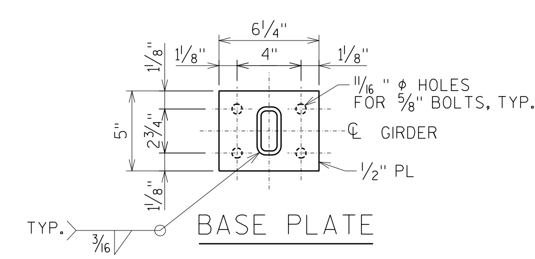
(SEE SHEETS S04 & S07 FOR RAILING LOCATIONS)



ELEVATION



SECTION



BASE PLATE

GIRDER-MOUNTED RAILING

(WORK THIS DETAIL WITH SHEET S15)

NOTES

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

RAILS AND POSTS TO BE ASTM A500, GRADE B. BASE PLATES AND SHIMS TO BE ASTM A709, GRADE 36. ALL GALVANIZED AFTER FABRICATION.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS NORMAL TO GRADE.

ALL POST SPA. ARE TAKEN HORIZ. ALONG CENTER LINE OF RAILING AT BASE OF POST.

SHIMS SHALL BE USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE VERTICAL IN TRANSVERSE DIRECTION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.

RAILING TO BE PAINTED. FEDERAL COLOR NO. 20059.

BID ITEM SHALL BE "RAILING STEEL SPECIAL B-44-0287" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING.

ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A #6 BLAST CLEANING BY SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH APPROVED TIE COAT AND TOPCOAT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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RAILING DETAILS

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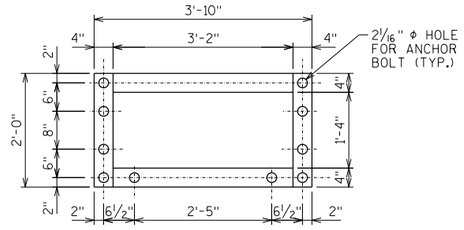
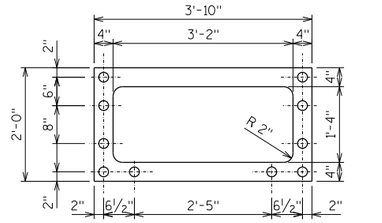
STATE PROJECT NUMBER

4990-03-71



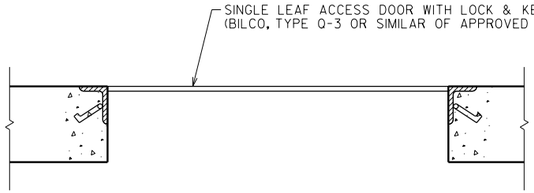
ALTERNATE TEMPLATE PLAN

(AT PYLON)



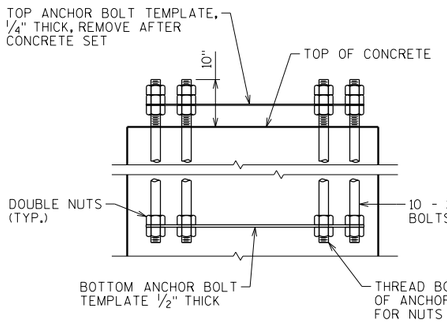
TOP & BOTT. TEMPLATE PLAN

(AT PYLON)

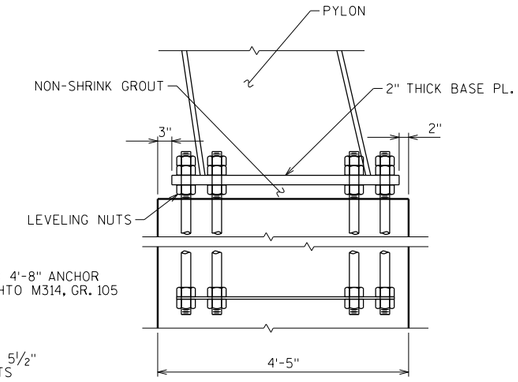


ACCESS HATCH

(2 THUS, AT BASCULE PIER)

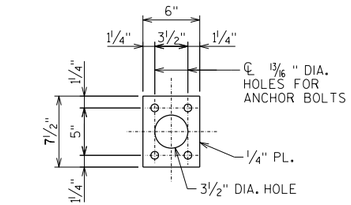


ANCHOR BOLT DETAILS FOR PYLON BASE



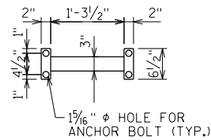
PYLON BASE CONNECTION WITH PIER

(LOOKING WEST)



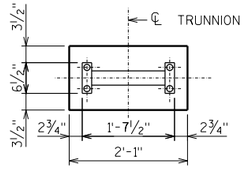
MACH. SPAN ANCHORAGE PL.

(2 REQUIRED)



TOP & BOTT. TEMPLATE PL

(AT LOWER TRUNNION)

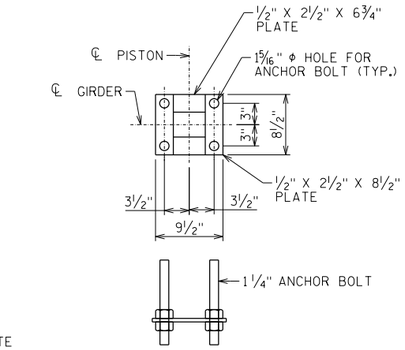


BOTT. TEMPLATE PLAN

(AT LOWER TRUNNION)

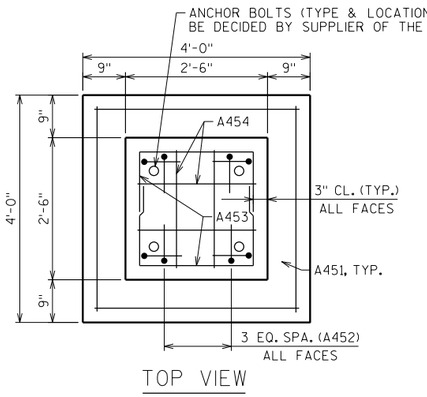
SPAN LOCK ANCHORAGE DETAIL

(AT REST PIER, 1 REQ'D)

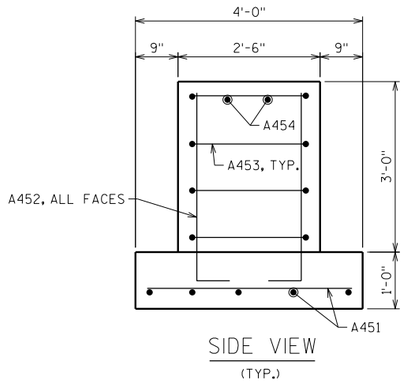


LOWER EYE BRACKET ANCHORAGE DETAIL

(1 REQ'D PER PISTON, 2 THUS)



TOP VIEW

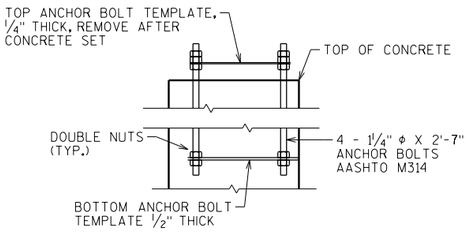


SIDE VIEW

(TYP.)

PEDESTRIAN GATE FOUNDATION

(2 THUS)



ANCHOR BOLT DETAILS FOR LOWER TRUNNION BEARINGS

NOTES

PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING TEMPLATES.

BILL OF BARS FOR GATE FOUNDATION IS SHOWN ON SHEET S06. CONCRETE & REINF. QUANTITIES FOR BOTH GATE FOUNDATIONS ARE INCLUDED IN BASCULE PIER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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MISCELLANEOUS DETAILS

SHEET S09

61

9 OF 27

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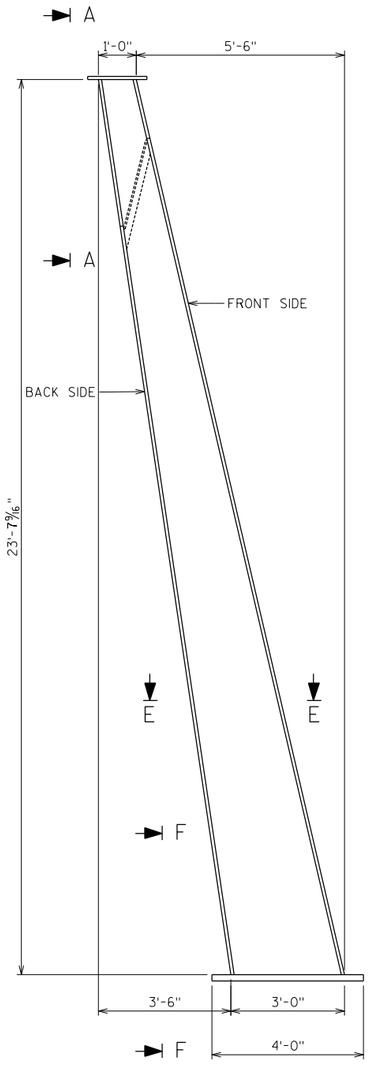
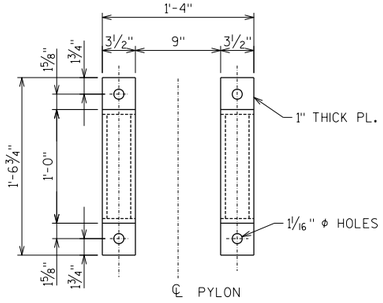
STATE PROJECT NUMBER

4990-03-71

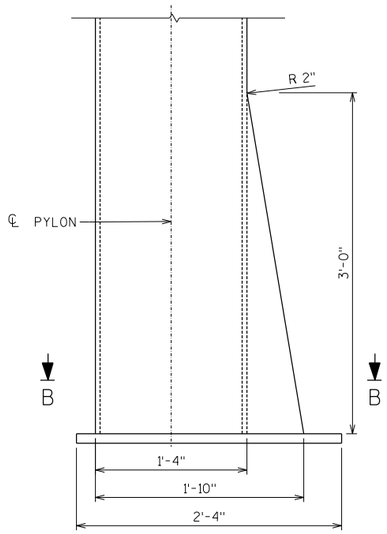


PYLON ELEVATION

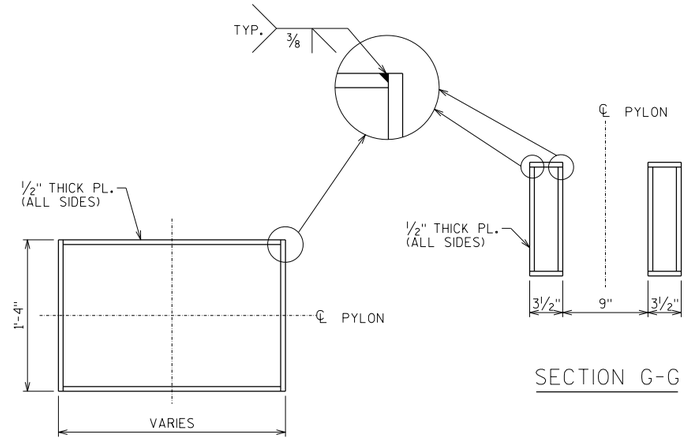
(LOOKING WEST)



SECTION D-D

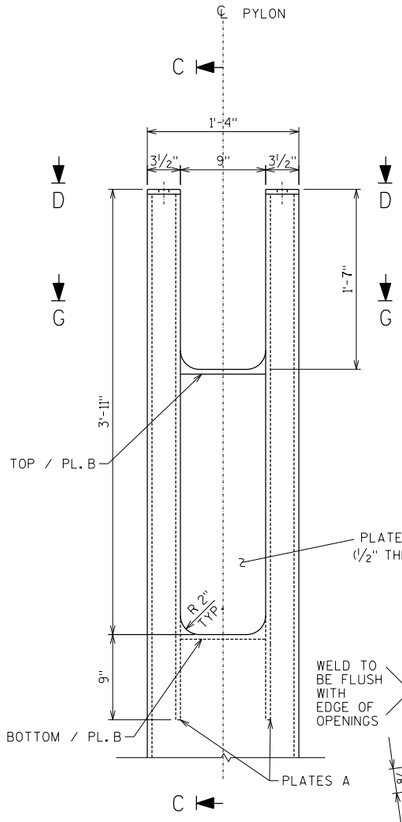


SECTION F-F

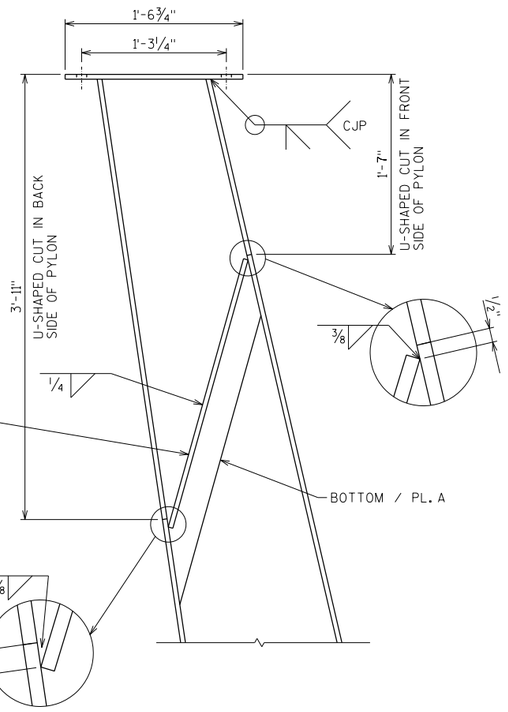


SECTION G-G

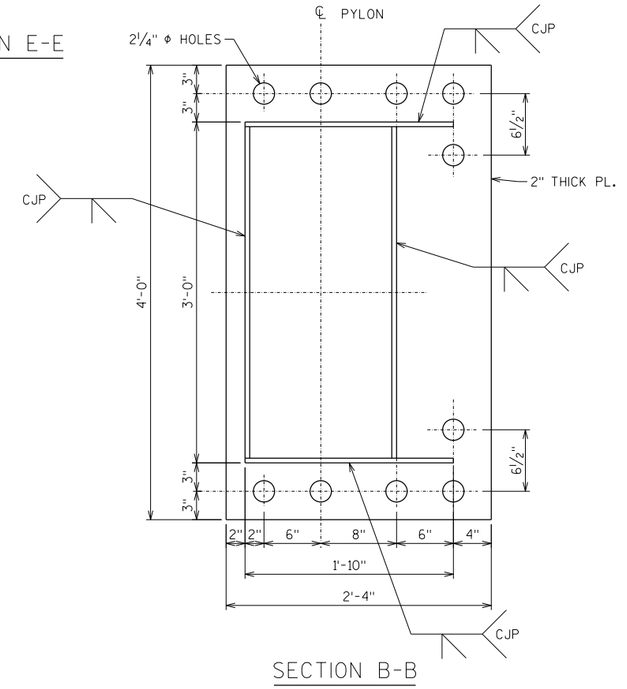
SECTION E-E



SECTION A-A



SECTION C-C



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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PYLON DETAILS

SHEET S10

62

10 OF 27

FILENAME

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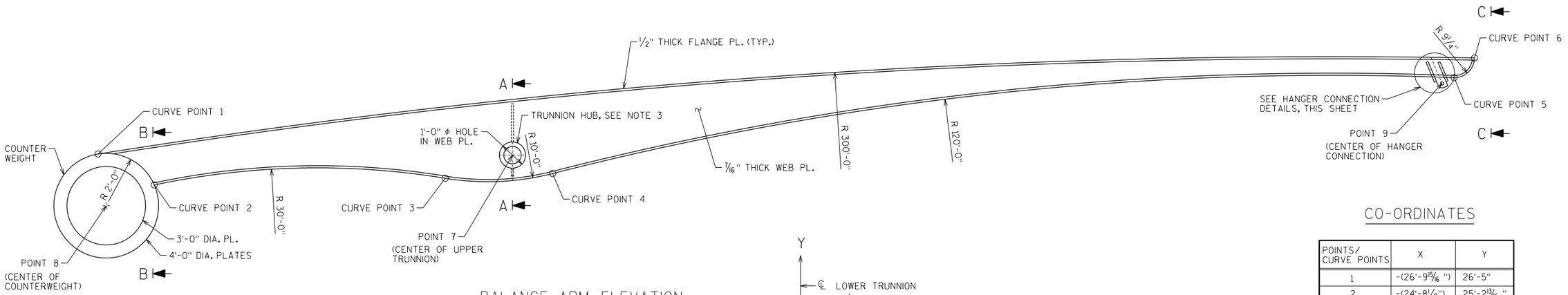
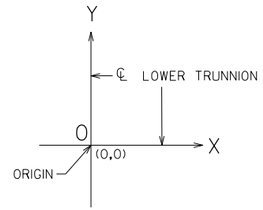
STATE PROJECT NUMBER
4990-03-71



BALANCE ARM ELEVATION

(LOOKING WEST)



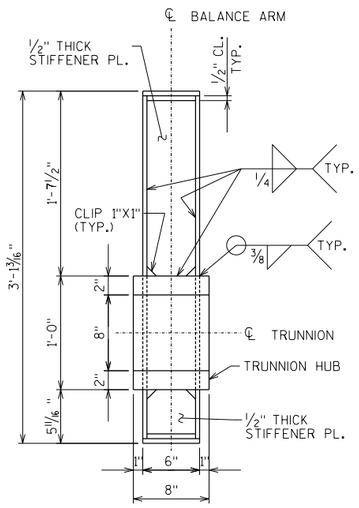
REF. CO-ORDINATE AXES

CO-ORDINATES

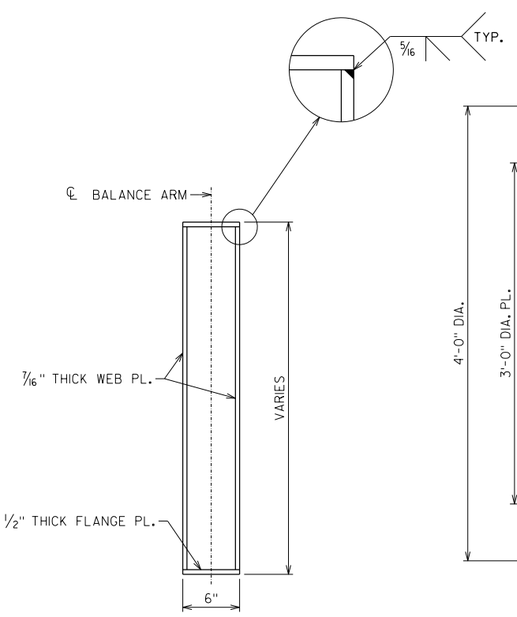
POINTS/ CURVE POINTS	X	Y
1	-(26'-9 15/16")	26'-5"
2	-(24'-8 1/8")	25'-2 13/16"
3	-(13'-6 13/16")	25'-5 7/8"
4	-(9'-5 5/8")	25'-8 1/16"
5	24'-11 1/2"	29'-4"
6	25'-8 7/8"	30'-1 1/16"
7	-(11'-0")	26'-4 1/2"
8	-(26'-6 3/16")	24'-5 5/16"
9	24'-6"	29'-1 5/16"

NOTES

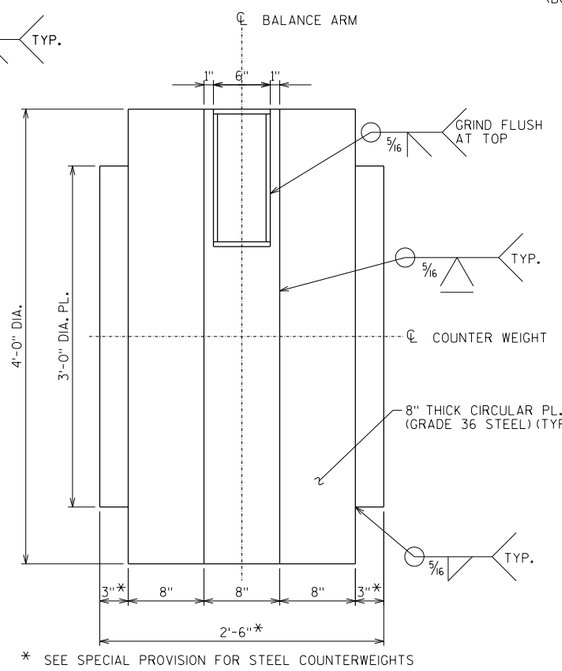
1. WORK WITH THE REF. CO-ORDINATE SYSTEM TO LAYOUT THE BALANCE ARM SECTION GEOMETRY.
2. CURVE POINTS AND RADII ARE SHOWN ON THE OUTSIDE FACE OF THE FLANGES. CURVE BETWWEN TWO CONSECUTIVE CURVE POINTS ARE CIRCULAR ARC OF THE RADIUS SHOWN BETWEEN THEM.
3. SEE UPPER TRUNNION BEARING DETAILS ON SHT. M03.
4. WORK THIS SHEET WITH SHT. S10 AND SHT. S19



SECTION A-A

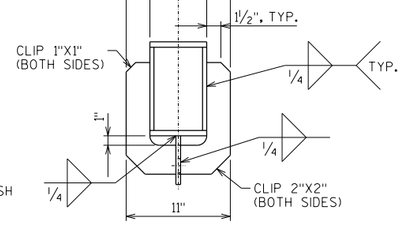


TYP. SECTION

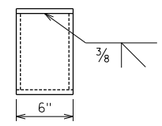


* SEE SPECIAL PROVISION FOR STEEL COUNTERWEIGHTS

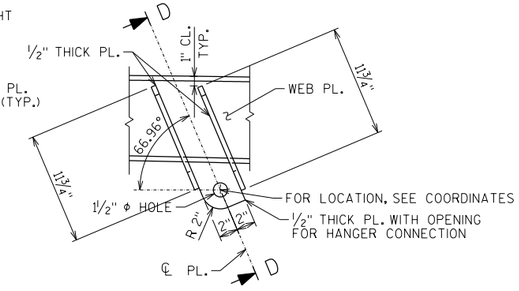
SECTION B-B



SECTION D-D



SECTION C-C



HANGER CONNECTION

(SEE SHEET S19 FOR HANGER DETAILS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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BALANCE ARM DETAILS

SHEET S11
63
11 OF 27

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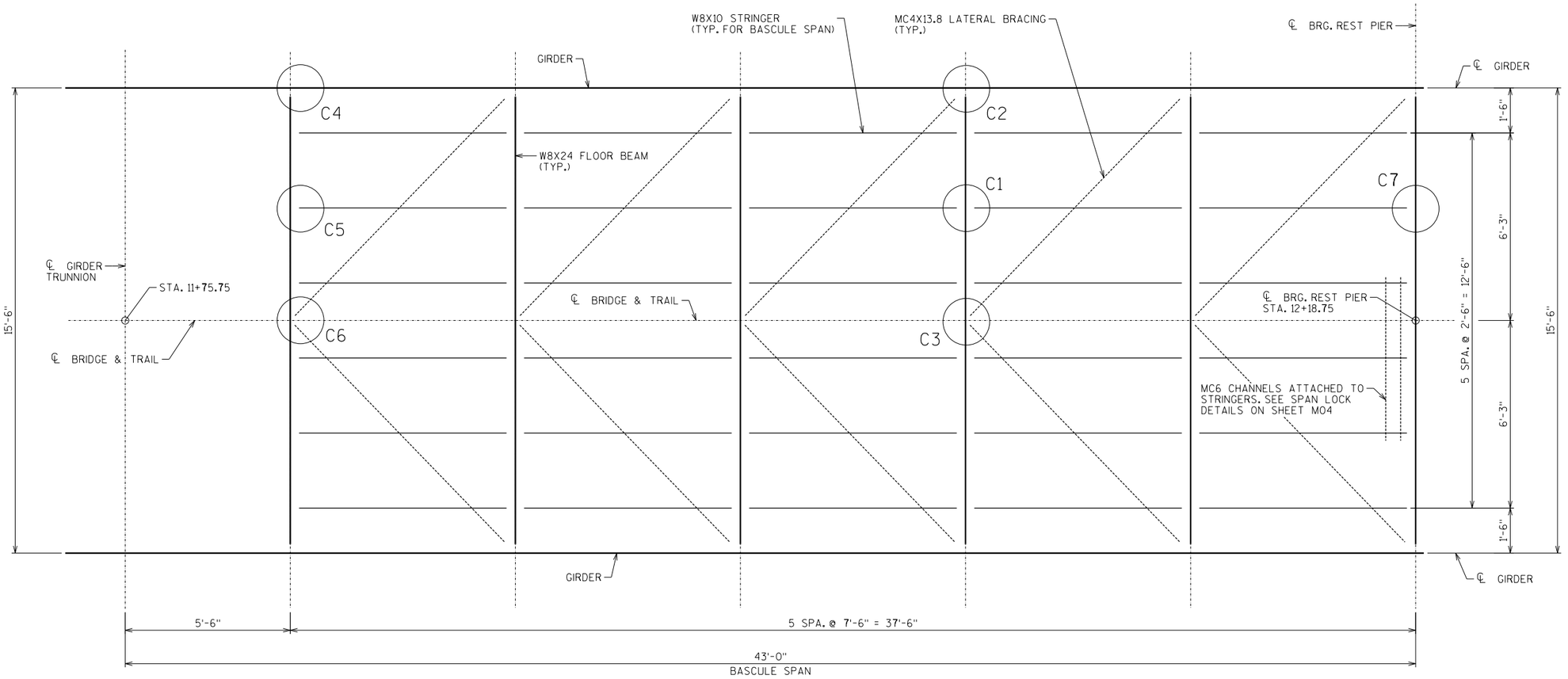

FRAMING PLAN

PAINT COLOR TABLE

(FEDERAL STD.)

ITEMS	COLOR
GIRDERS AND ALL LEAF FRAMING	#20059
PYLONS, BALANCE ARMS, COUNTERWEIGHTS & HANGERS	#26132

N

NOTES

1. FOR CONNECTION DETAILS C1 THRU C7 SEE SHEETS S16 AND S17.
2. WORK THIS SHEET WITH S15 FOR GIRDER DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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DECK FRAMING PLAN

SHEET S12

64

12 OF 27

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STATE PROJECT NUMBER

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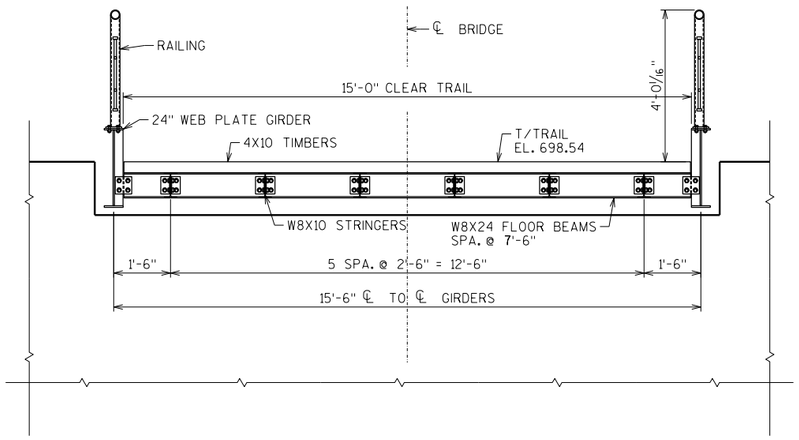
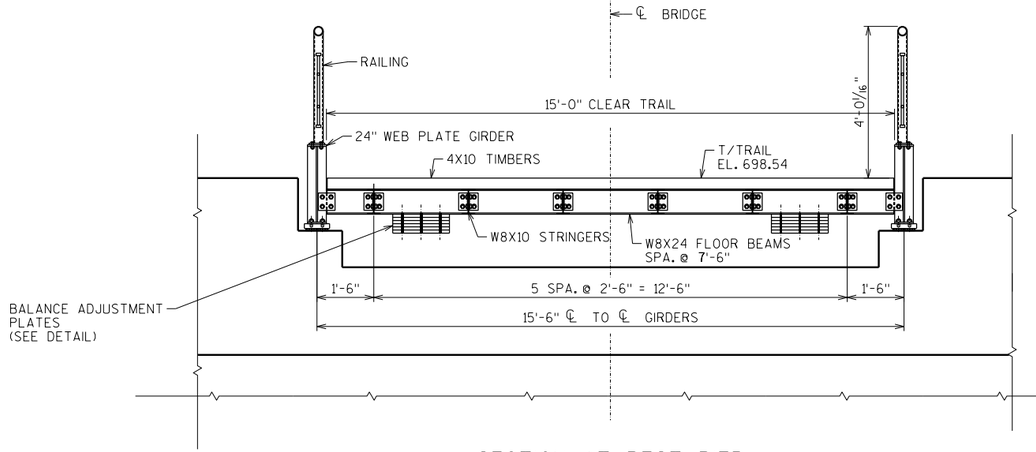
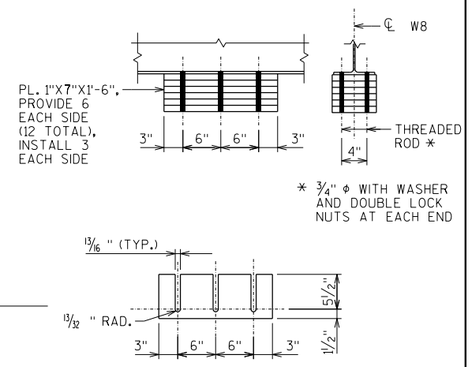


SECTION AT BASCULE PIER CHANNEL WALL

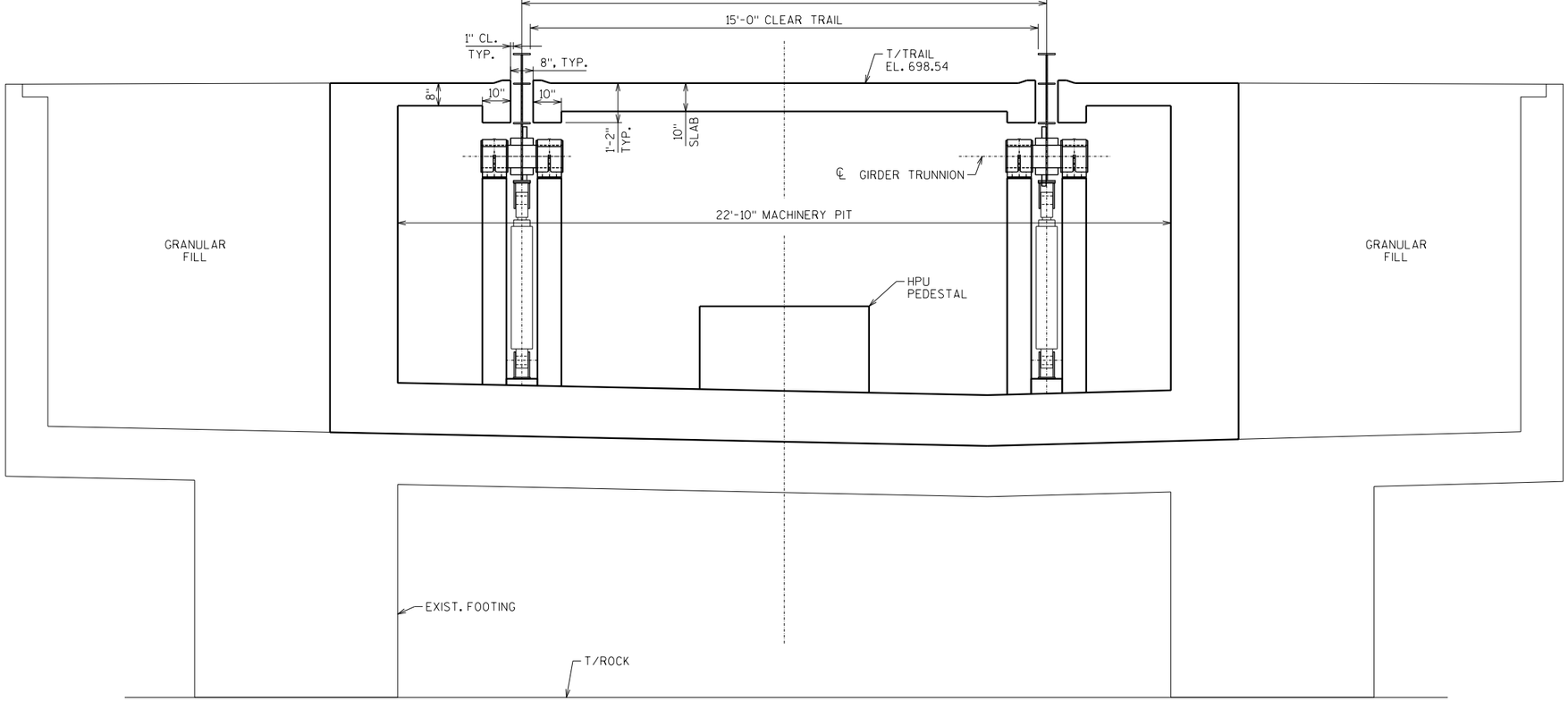


SECTION AT REST PIER

(MECHANICAL DETAILS NOT SHOWN)



BALANCE PLATE DETAILS



SECTION AT ℄ TRUNNION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

DRAWN BY PK | PLANS CK'D. RSN

SECTIONS (1 OF 2)

SHEET S13

65

13 OF 27

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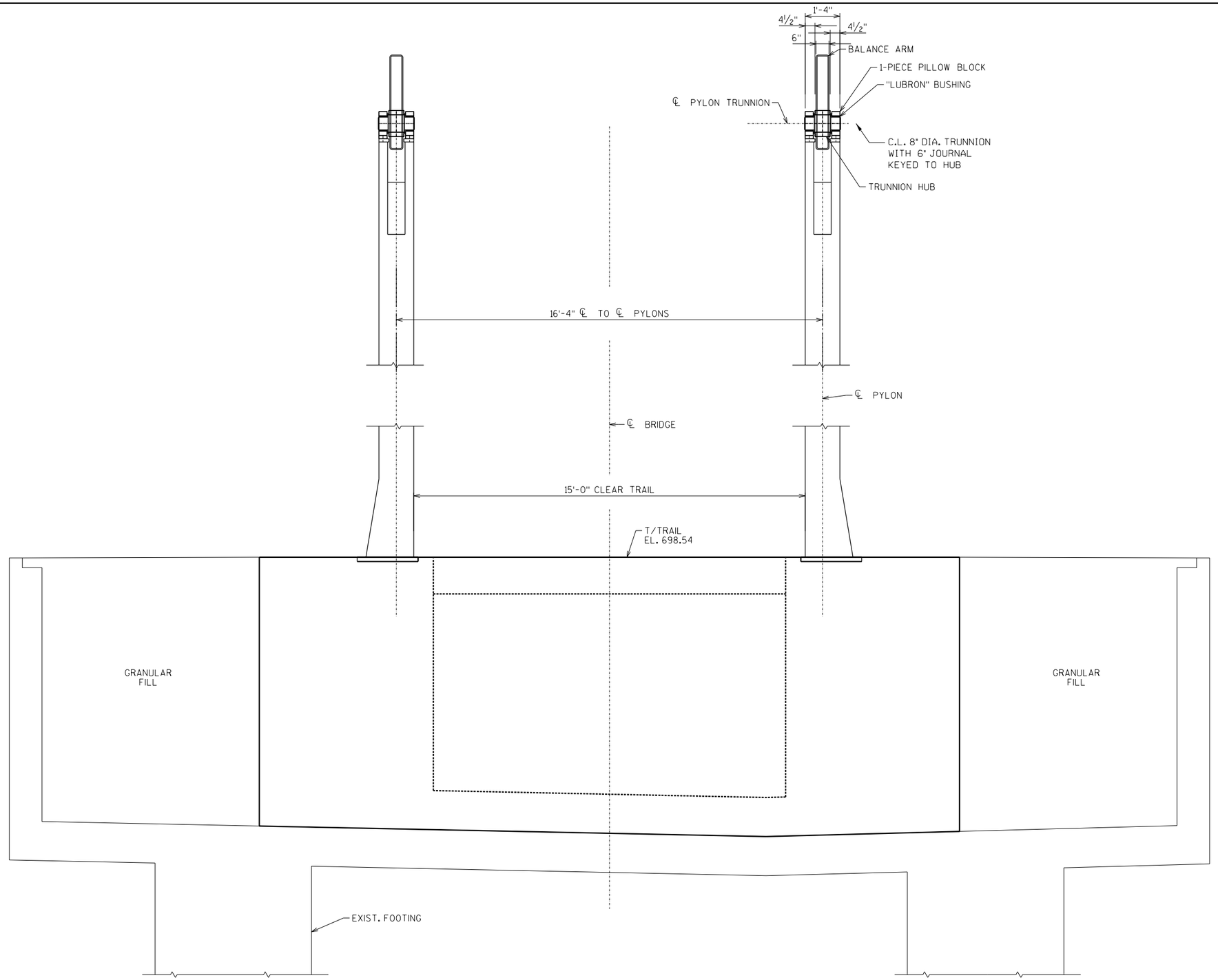
FILENAME
SCALE

STATE PROJECT NUMBER

4990-03-71



SECTION AT PYLONS

(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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SECTIONS (2 OF 2) | SHEET S14

66

14 OF 27

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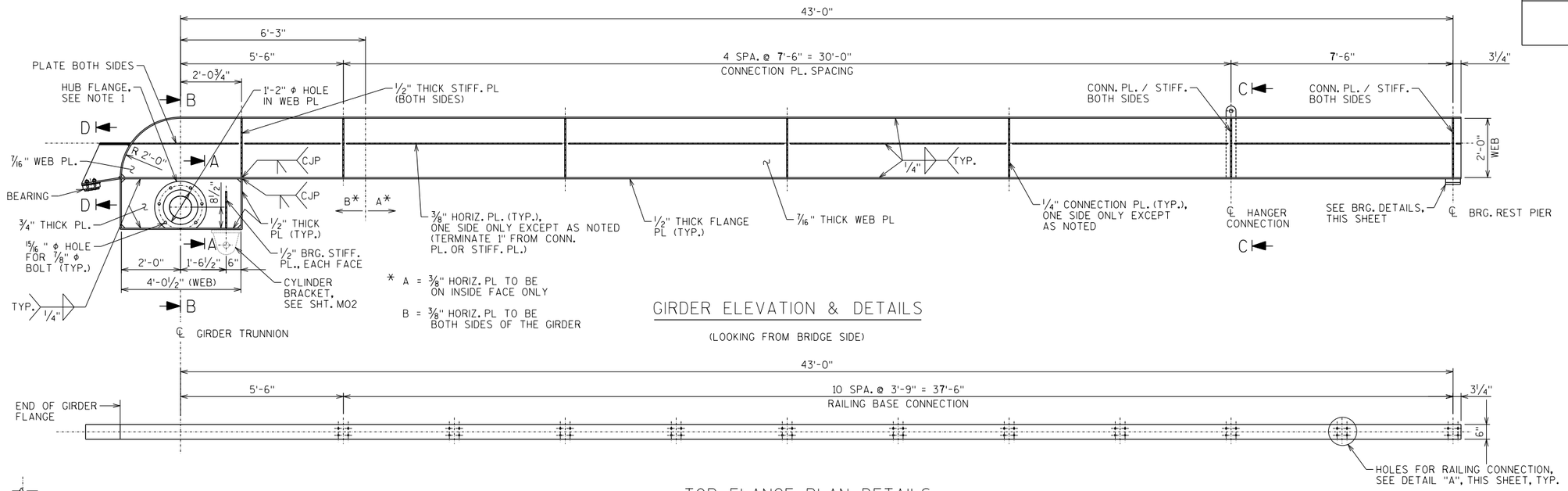
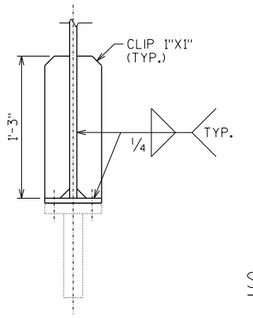


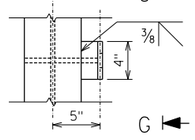
GIRDER ELEVATION & DETAILS

(LOOKING FROM BRIDGE SIDE)

TOP FLANGE PLAN DETAILS

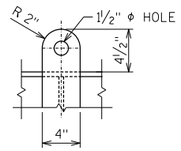


SECTION A-A

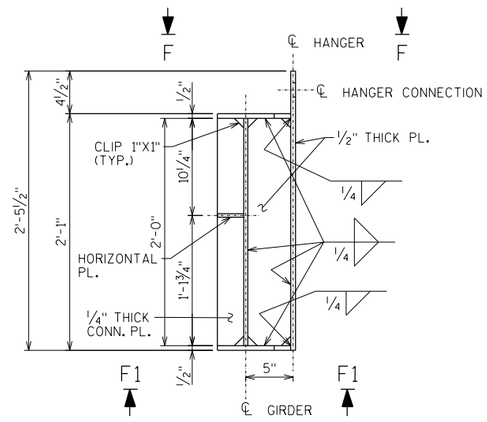


SECTION F-F

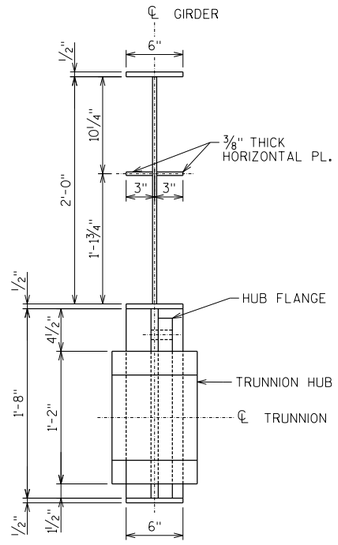
(F1-F1 SIMILAR)



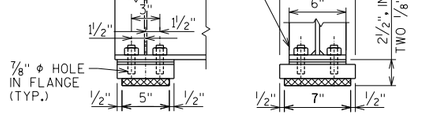
SECTION G-G



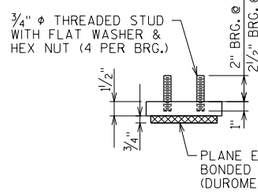
SECTION C-C

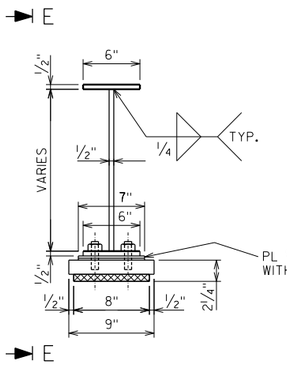


SECTION B-B



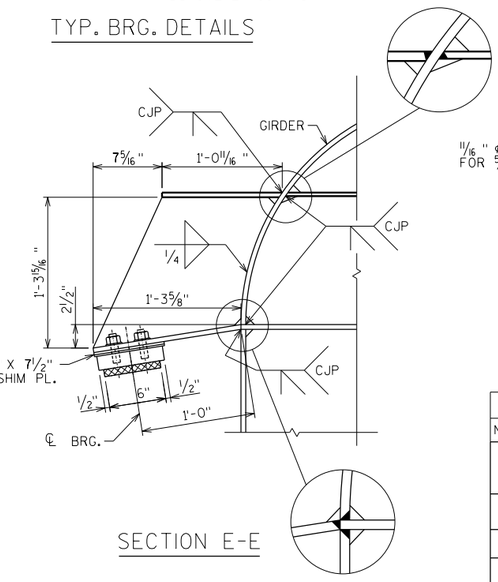
BEARING @ REST PIER



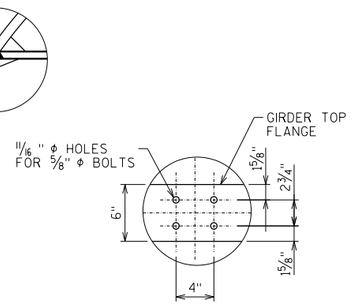


SECTION D-D

TYP. BRG. DETAILS



SECTION E-E



DETAIL "A"

NOTES

1. SEE LOWER TRUNNION BEARING & HUB DETAILS ON SHTEET M03.
2. NO CAMBER IN GIRDER WEB
3. WORK THIS SHEET WITH SHT. S12, S16 AND S17
4. ALL THE MATERIALS USED FOR BEARING SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC", EACH.
5. FOR HANGER CONNECTION & BRIDGE RAILING, SEE SHEET S19.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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GIRDER ELEVATION & DETAILS

SHEET S15

67

15 OF 27

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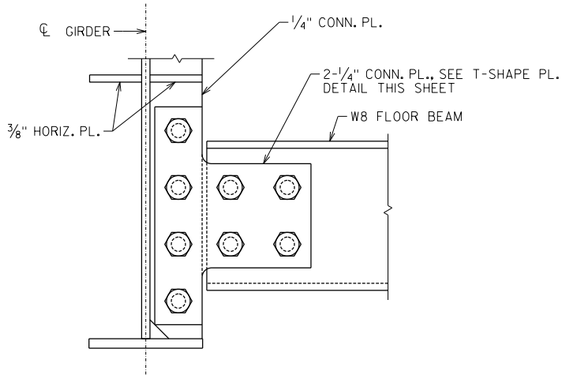
FILENAME

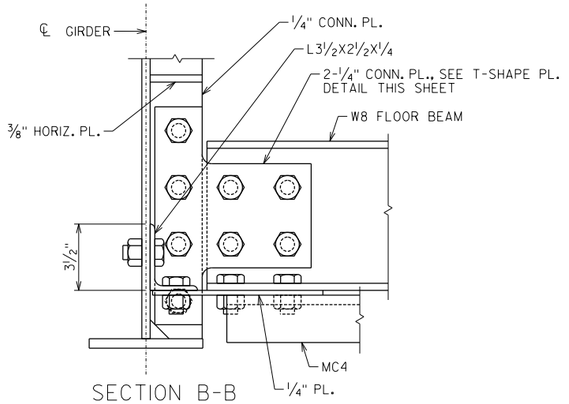
SCALE

STATE PROJECT NUMBER

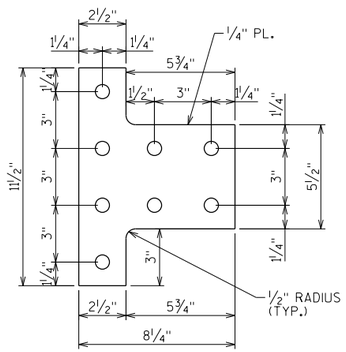
4990-03-71



SECTION G-G

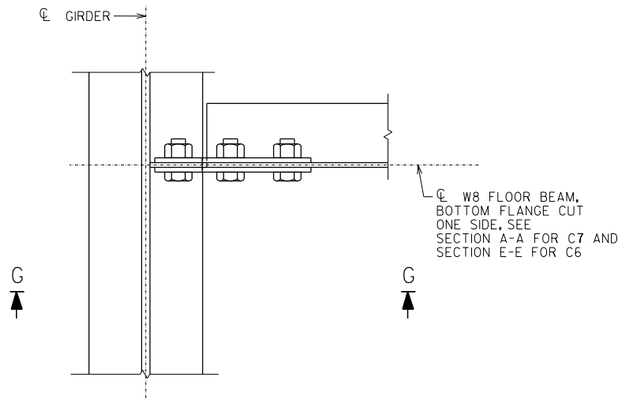


SECTION B-B



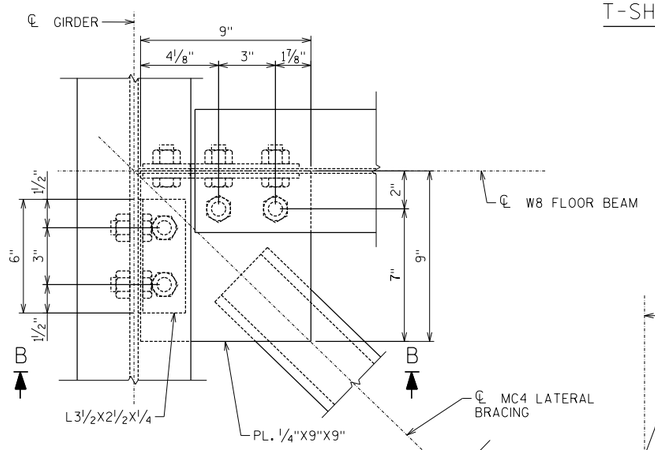
T-SHAPE PL. DETAIL

(24 REQUIRED)



CONNECTION C4

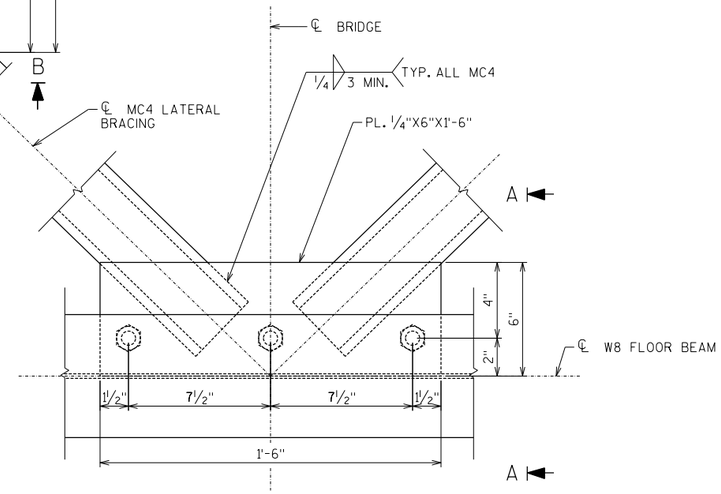
END FLOOR BEAM TO GIRDER CONN. AT BASCULE PIER



CONNECTION C2

FLOOR BEAM TO GIRDER CONN.

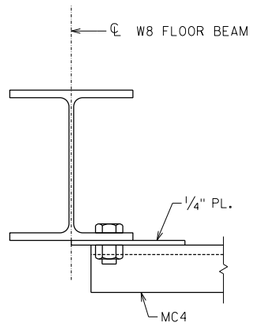
(TOP VIEW)



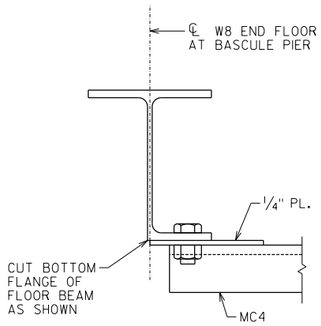
CONNECTION C3 OR C6

LATERAL BRACING TO FLOOR BEAM CONN.

(TOP VIEW)



SECTION A-A FOR C3



SECTION A-A FOR C6

NOTE

ALL THE BOLTS SHOWN ON THIS SHEET ARE 3/4" ϕ H.S. BOLTS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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STEEL DETAILS (1 OF 2)

SHEET S16

68

16 OF 27

FILENAME

SCALE

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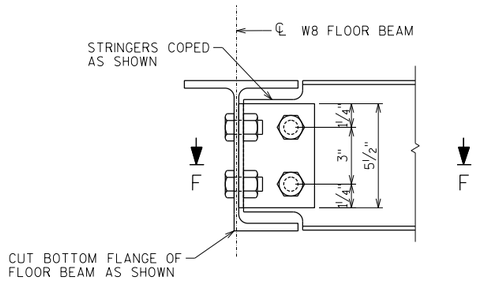
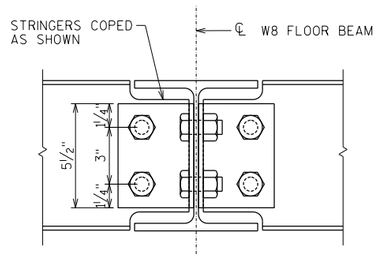
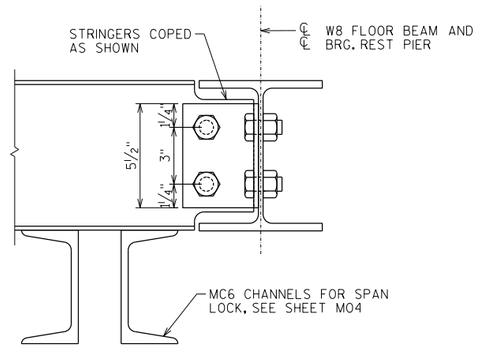


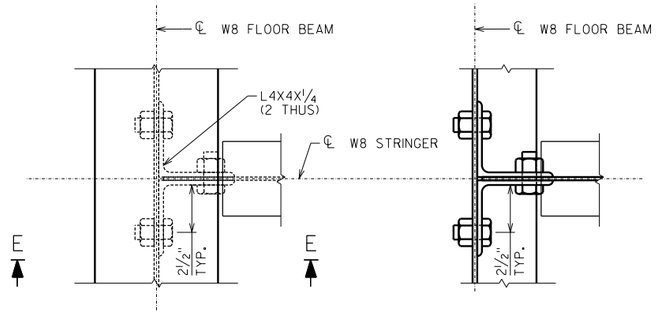
SECTION E-E



SECTION D-D



SECTION J-J

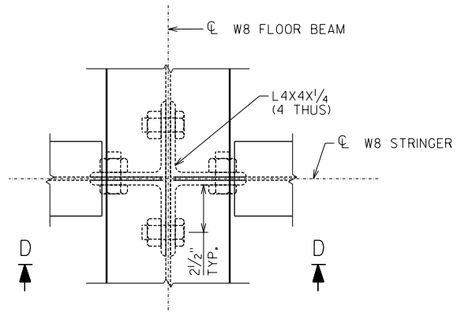


SECTION F-F

CONNECTION C5

STRINGER TO END FLOOR BEAM CONN. AT BASCULE PIER

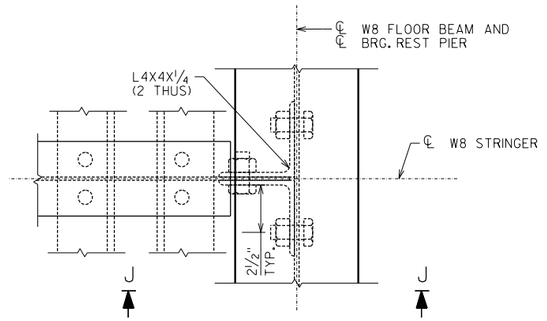
(TOP VIEW)



CONNECTION C1

STRINGER TO FLOOR BEAM CONN.

(TOP VIEW)



CONNECTION C7

STRINGER TO END FLOOR BEAM CONN. AT REST PIER

(TOP VIEW)

NOTE

ALL THE BOLTS SHOWN ON THIS SHEET ARE ¾" ϕ H.S. BOLTS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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STEEL DETAILS (2 OF 2)

SHEET S17

69

17 OF 27

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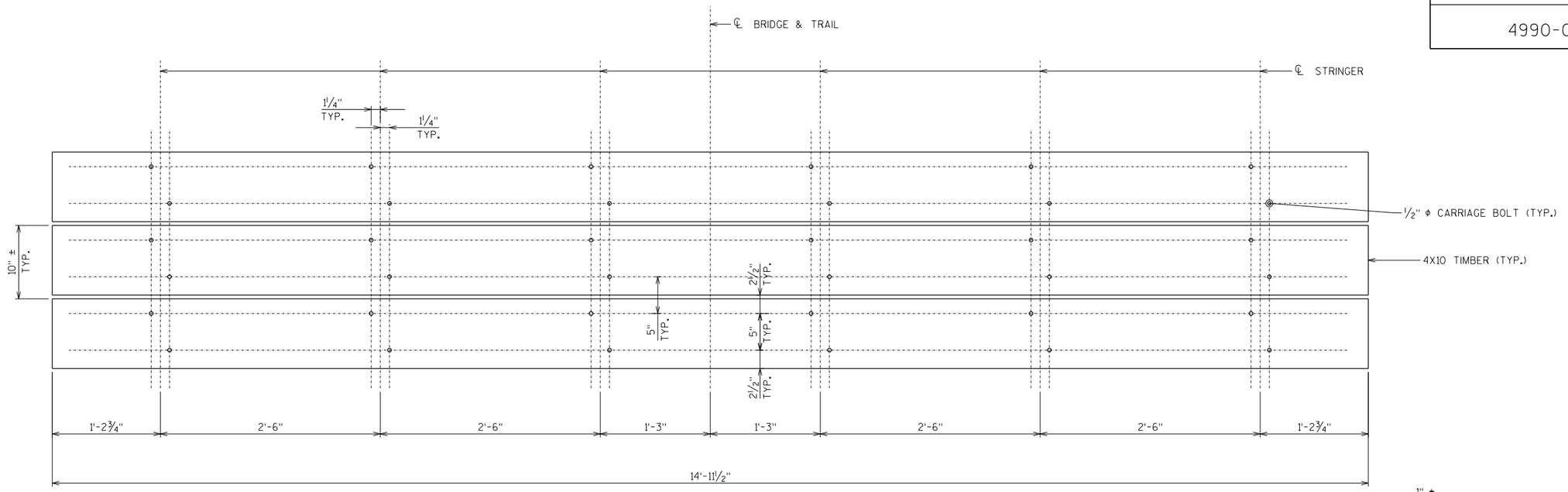
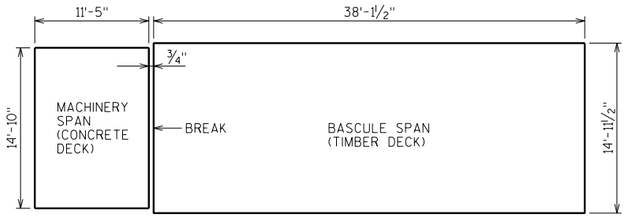


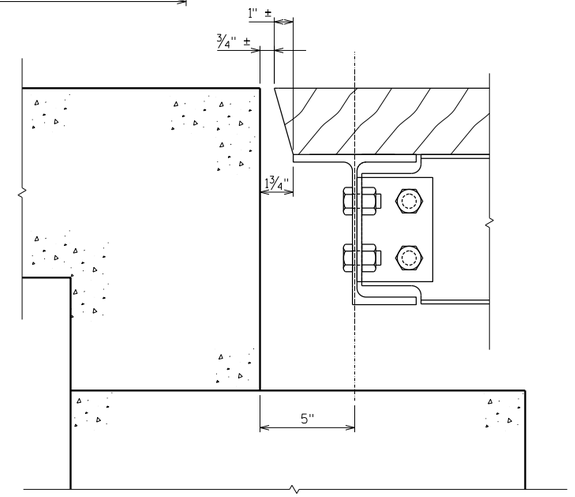


DECK LAYOUT

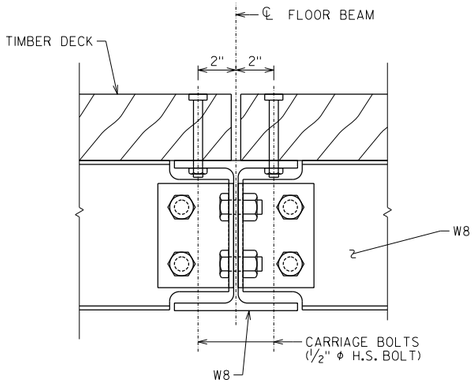
PLAN - TYP. TIMBER ATTACHMENT

NOTES

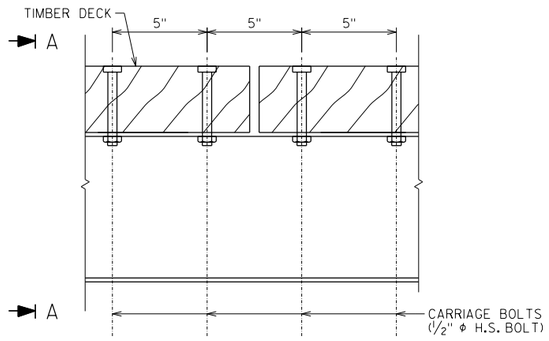
1. COST OF CARRIAGE BOLTS INCLUDED IN COST OF TIMBER DECK.
2. TIMBER PLANKS SHALL BE TREATED SOUTHERN PINE.



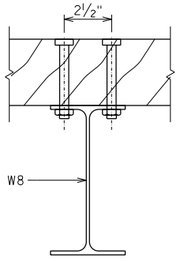
TIMBER DETAIL AT THE JUNCTION OF BASCULE SPAN & MACHINERY SPAN



TIMBER ATTACHMENT DETAIL AT FLOOR BEAM



TIMBER ATTACHMENT DETAIL AT STRINGER



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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DECK DETAILS

SHEET S18
70
18 OF 27

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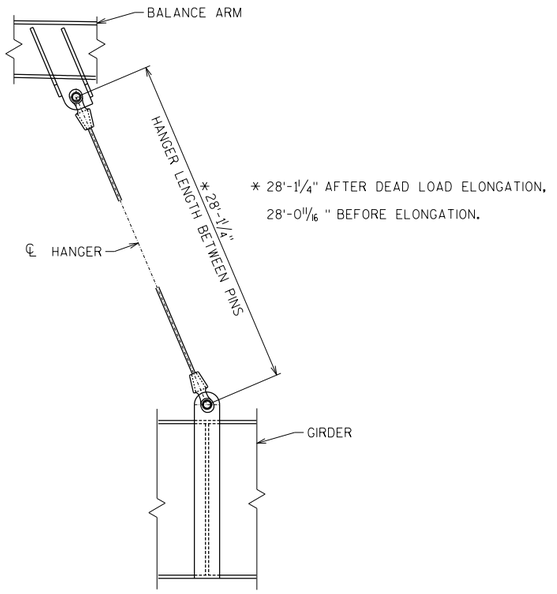
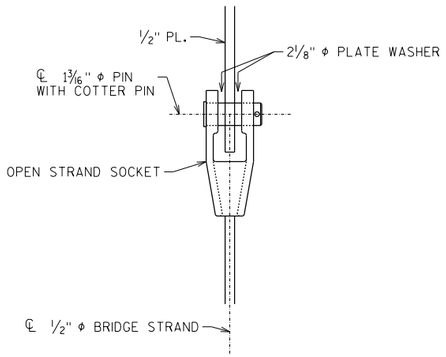
FILENAME
SCALE

STATE PROJECT NUMBER

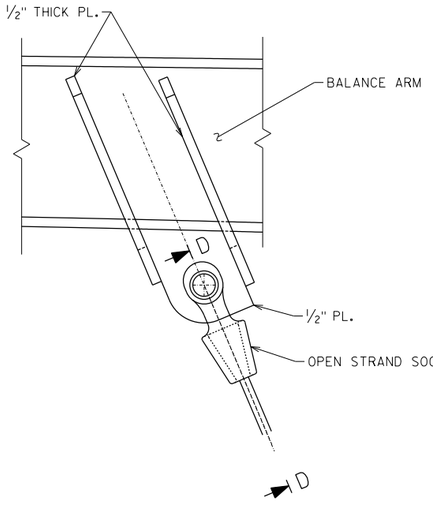
4990-03-71



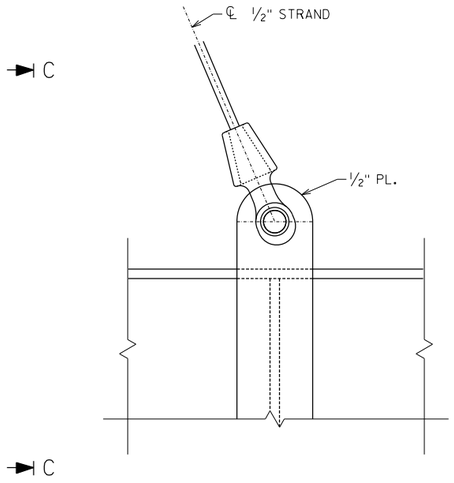
HANGER ELEVATION



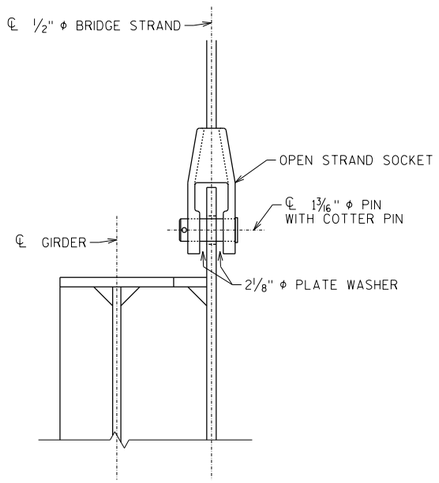
SECTION D-D



HANGER TO BALANCE ARM CONNECTION



HANGER TO GIRDER CONNECTION



SECTION C-C

NOTES

1. WORK THIS SHEET WITH SHT. S11 AND S15
2. BRIDGE STRAND SHALL BE ASTM A586 GALVANIZED STRUCTURAL STRANDS, GRADE 1, CLASS A COATING INNERS WIRES/CLASS C COATING OUTER WIRES, MINIMUM BREAKING STRENGTH 28.4 KIPS.
3. SOCKETS AND THEIR CONNECTIONS TO THE STRAND SHALL BE CAPABLE OF DEVELOPING THE SPECIFIED MINIMUM BREAKING STRENGTH OF THE STRAND.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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HANGER DETAILS

SHEET S19
71
19 OF 27

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STATE PROJECT NUMBER

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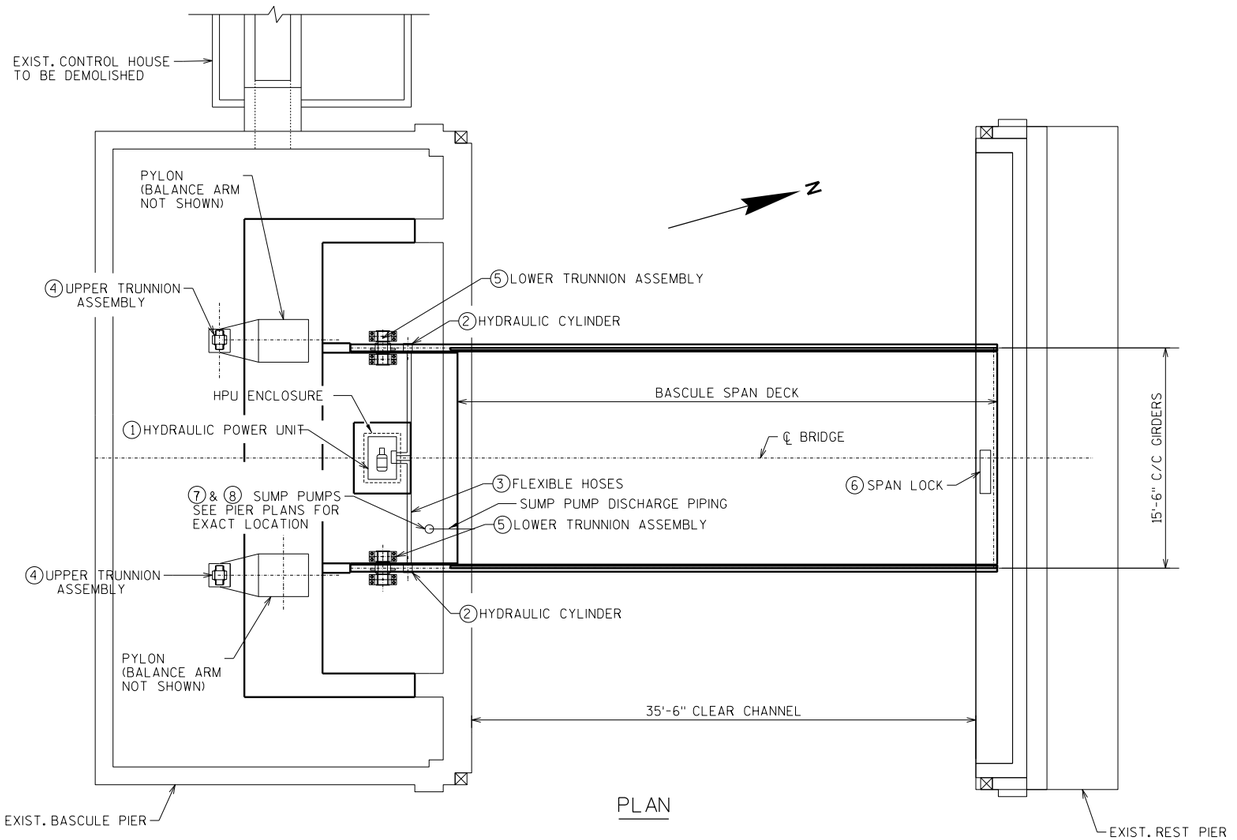
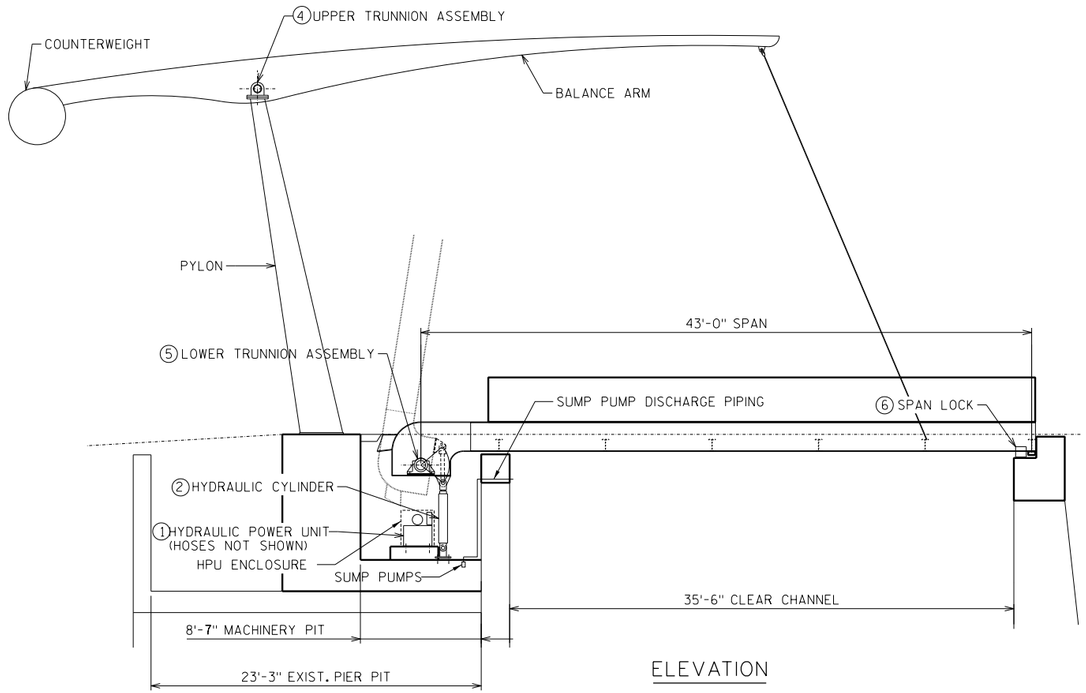


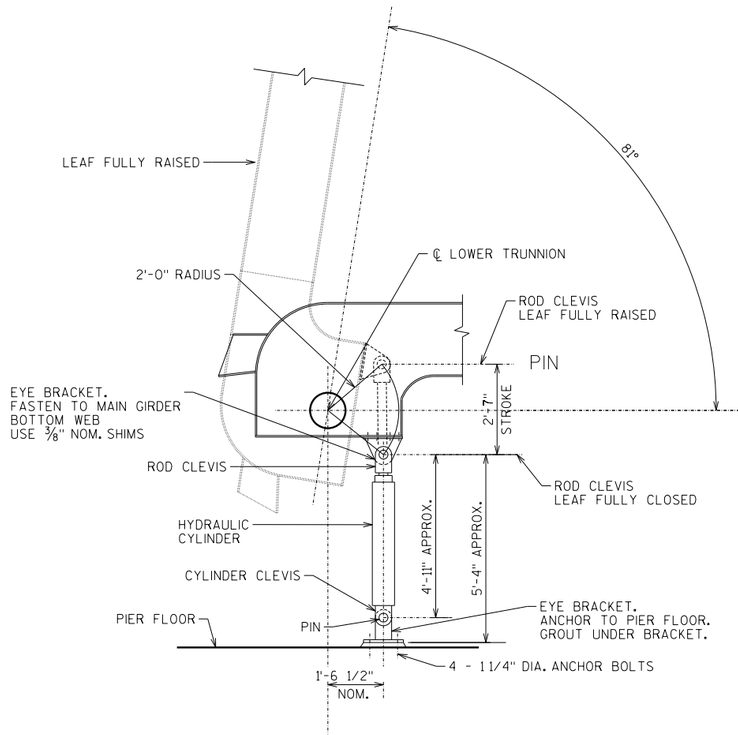
PLAN



ELEVATION

MACHINERY SCHEDULE FOR MOVABLE LEAF

ITEM NO.	DESCRIPTION	QUANTITY
1	HYDRAULIC POWER UNIT (SEE MO2 FOR DETAILS)	1
2	HYDRAULIC CYLINDER ASSEMBLY (SEE MO2 FOR ADDITIONAL DETAILS)	2
3	FLEXIBLE HOSES (SEE MO2 FOR DETAILS)	4
4	UPPER TRUNNION BEARING ASSEMBLY (SEE MO3 FOR DETAILS)	2
5	LOWER TRUNNION BEARING ASSEMBLY (SEE MO3 FOR DETAILS)	2
6	SPAN LOCK (SEE MO4 FOR DETAILS)	1
7	SUMP PUMP (PRIMARY). SEE SPECIAL PROVISIONS.	1
8	SUMP PUMP (BACKUP). SEE SPECIAL PROVISIONS.	1



HYDRAULIC CYLINDER GEOMETRY ATTACHMENT TO LEAF & PIER

SEE NOTES 4 & 5 THIS SHEET

NOTES

1. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS FOR MACHINERY
2. COORDINATE ALL MECHANICAL WORK WITH ELECTRICAL & STRUCTURAL WORK.
3. WORK SHEETS MO1 THROUGH MO4 TOGETHER.
4. CYLINDER DIMENSIONS SHOWN ARE BASED ON CATALOG DATA.
5. SUBMIT ASSEMBLY DRAWING VERIFYING CYLINDER GEOMETRY, CLEVIS & EYE BRACKET DIMENSIONS, OPERATING CLEARANCES, CYLINDER DIMENSIONS, AND REQUIRED SHIMMING THICKNESS. ADJUST CONNECTION DETAILS AS NECESSARY.
6. SEE STRUCTURAL PLANS FOR CLEVIS BRACKET TO MAIN GIRDER CONNECTION DETAILS.
7. ALL EQUIPMENT CONTAINING IRON AND/OR STEEL COMPONENTS SHALL BE USA MADE FROM USA SOURCED IRON AND STEEL.

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STRUCTURE B-44-0287

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MACHINERY LOCATION PLAN & CYLINDER GEOMETRY

SHEET MO1
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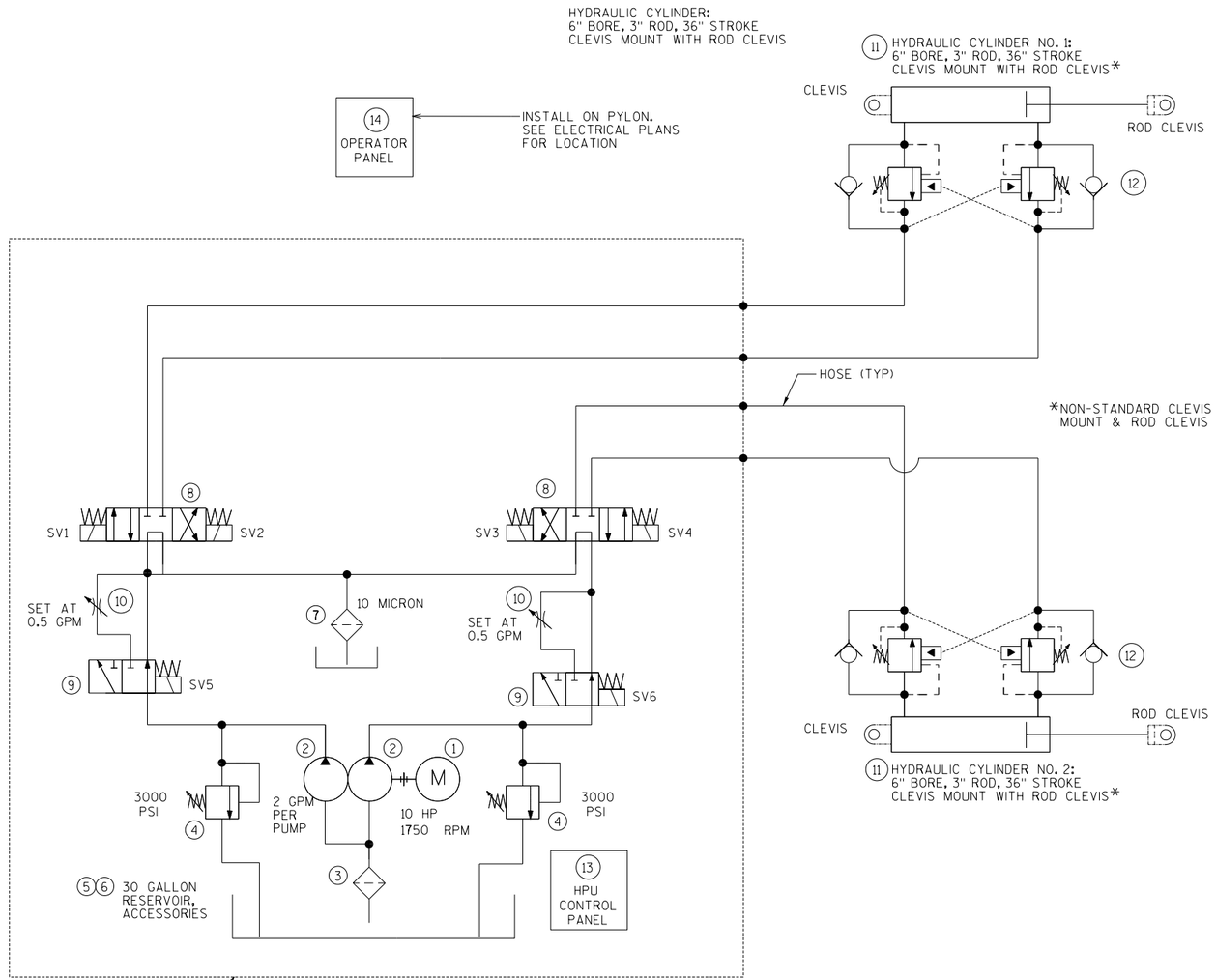


HYDRAULIC POWER UNIT (HPU)
PROVIDE ENCLOSURE

HYDRAULIC CIRCUIT

ALL COMPONENTS SHALL BE RATED 3000 PSI CONTINUOUS MINIMUM.
ALL TUBING AND FITTINGS AT HPU SHALL BE STAINLESS STEEL.
ALL FLEXIBLE HOSES BETWEEN HPU AND CYLINDERS SHALL BE
RATED 3000 PSI CONTINUOUS WITH 12,000 PSI BURST RATING.
ALL FITTING AND CONNECTIONS SHALL BE SAE STRAIGHT THREAD.

HYDRAULIC BILL OF MATERIAL

ITEM	DESCRIPTION	QUANTITY
1	AC SQUIRREL CAGE MOTOR, 10 HP, 1750 RPM, 208 VAC	1
2	FIXED DISPLACEMENT PUMP	2
3	SUCTION FILTER	1
4	RELIEF VALVE	2
5	RESERVOIR STAINLESS WITH DRIP PAN, 30 GALLON, GALVANIZED ENCLOSURE	1
6	RESERVOIR ACCESSORIES: OIL LEVEL SIGHT GAGE, LOW FLUID LEVEL SWITCH,	1
	FILLER-BREATHER, HIGH TEMP SWITCH (SET AT 180 DEGREE F.)	
7	RETURN LINE FILTER	1
8	DIRECTIONAL VALVE, 3-POSITION, 4-WAY, SOLENOID OPERATED	2
9	DIRECTIONAL VALVE, 2-POSITION, 3-WAY, SOLENOID OPERATED	2
10	MANUALLY ADJUSTABLE FLOW CONTROL VALVE, SEALED	2
11	HYDRAULIC CYLINDER, DOUBLE ACTING, 3000 PSI CONTINUOUS RATED, WITH TWO TIE ROD MOUNTED	2
	ADJUSTABLE POSITION LIMIT SWITCHES, CUSTOM CLEVIS MOUNT & CUSTOM ROD CLEVIS	
12	DUAL COUNTERBALANCE LOADHOLDING VALVE, INTERNAL PILOT, INSTALLED	2
	AT HYDRAULIC CYLINDER	
13	HPU CONTROL PANEL: SEE ELECTRICAL PLANS FOR REQUIREMENTS.	1
14	OPERATOR PANEL: SEE ELECTRICAL PLANS FOR REQUIREMENTS.	1

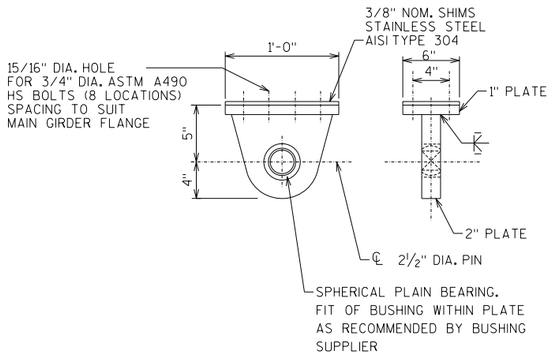
DESCRIPTION OF HYDRAULIC OPERATION

TO RAISE MOVABLE LEAF:
1. TURN CONTROL POWER ON.
2. ELECTRIC MOTOR STARTS AND HYDRAULIC FLUID RECIRCULATES TO RESERVOIR.
3. FOR FASTER WARM UP ENERGIZE SOLENOIDS SV5 AND SV6 TO CIRCULAYE FLUID AT REDUCED FLOW AT RELIEF VALVE PRESSURE.
4. TO RAISE MOVABLE LEAF AT FULL SPEEDENERGIZE SOLENOIDS SV2 AND SV4.
5. TO RAISE MOVABLE LEAF AT CREEP SPEED ENERGIZE SOLENOIDS SV5 AND SV6 SIMULTANEOUSLY WITH SOLENOIDS SV2 AND SV4.
6. AS MOVABLE LEAF APPROACHES FULL OPEN POSITION THE CONTROLS AUTOMATICALLY REDUCE SPEED TO CREEP BY ENERGIZING SOLENOIDS SV5 AND SV6 WHILE ENERGIZING SV2 AND SV4.
7. WHEN MOVABLE LEAF REACHES FULL OPEN POSITION AS INDICATED BY CYLINDER MOUNTED LIMIT SWITCHES DEENERGIZE SOLENOIDS SV2, SV4, SV5 AND SV6.
8. LEAVE CONTROL POWER ON, OR TURN OFF IF DESIRED.

TO LOWER MOVABLE LEAF:
USE SAME PROCEDURE AS FOR RAISING MOVABLE LEAF BUT ENERGIZE SOLENOIDS SV1 AND SV3 INSTEAD OF SV2 AND SV4.
TURN CONTROL POWER OFF AFTER MOVABLE LEAF IS FULLY CLOSED.

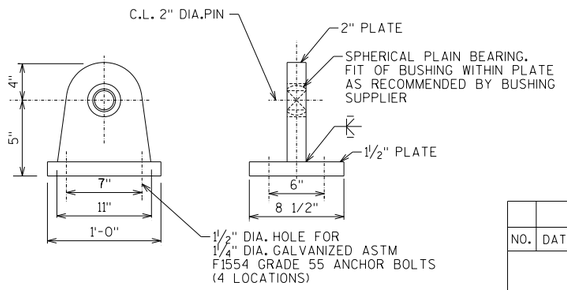
HYDRAULIC MACHINERY NOTES

1. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS FOR HYDRAULIC EQUIPMENT.
2. COORDINATE ALL HYDRAULIC WORK WITH STRUCTURAL AND ELECTRICAL WORK.
3. COORDINATE ELECTRIC MOTOR HP WITH ELECTRIC SERVICE, STARTER AND WIRING.
4. WORK SHEETS M01 THROUGH M04 TOGETHER.
5. ALL EQUIPMENT CONTAINING IRON AND/OR STEEL COMPONENTS SHALL BE USA MADE FROM USA SOURCED IRON AND STEEL.
6. BILL OF MATERIAL SHOWN IS FOR THE CONCEPT CIRCUIT AND MAY NOT BE COMPLETE. FLUID POWER SYSTEM PROVIDER SHALL SUBMIT COMPLETE PROPOSED BILL OF MATERIAL.
7. FABRICATE EYE BRACKETS FROM ASTM A709, GRADE 50 STEEL, PLATE THICKNESS AS SHOWN. PROVIDE GREASE LUBRICATED SPHERICAL BUSHINGS AT EYE BRACKETS. SUBMIT DETAILS FOR APPROVAL.
8. PINS SHALL BE HARDENED AISI 4140 STEEL WITH 140 KSI MINIMUM TENSILE STRENGTH.
9. FIT & FINISH OF PINS WITHIN BUSHINGS, CLEVIS & EYES AS RECOMMENDED BY BUSHING SUPPLIER.
10. INSTALL HYDRAULIC CYLINDERS SUCH THAT WHEN LEAF IS FULLY RAISED CYLINDER ROD IS APPROX. 4" FROM FULL STROKE AND WHEN LEAF IS FULLY CLOSED CYLINDER ROD IS APPROX. 1" FROM FULLY RETRACTED (BOTTOMED) POSITION. ADJUST LIMIT SWITCHES TO THESE POSITIONS.
11. VERIFY CYLINDER & PIN DIMENSIONS WITH CYLINDER MANUFACTURER.
12. CHAMFER ALL EYE BRACKET EXPOSED EDGES 1/8"
13. COORDINATE ROD CLEVIS AND CYLINDER CLEVIS MOUNT DIMENSIONS AND DETAILS TO BE COMPATIBLE WITH EYE BRACKET DIMENSIONS AND DETAILS.
14. CYLINDER NO. 1 SHALL HAVE FULLY CLOSED (FC) AND FULLY OPEN (FO) LIMIT SWITCHES. CYLINDER NO. 2 SHALL HAVE NEARLY CLOSED (NC) AND NEARLY OPEN (NO) LIMIT SWITCHES. SET FC TO 1" ROD STROKE, SET NC TO 4" ROD STROKE, SET NO TO 28" ROD STROKE, SET FO TO 31" ROD STROKE. SET IN SHOP BUT READJUST AFTER INSTALLATION OF CYLINDERS ON BRIDGE. PROVIDE COMPATIBLE CABLES WITH CONNECTORS.



UPPER EYE BRACKET
BOLT TO MAIN GIRDER FLANGE

NOTE: ABOVE PROCEDURE DOES NOT INCLUDE OPERATION OF WARNING GATES, SPAN LOCK, AND NAVIGATION LIGHTS. SEE ELECTRICAL PLANS SCHEMATIC FOR COMPLETE BRIDGE OPERATING PROCEDURE.



LOWER EYE BRACKET
ANCHOR TO PIER FLOOR

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STRUCTURE B-44-0287

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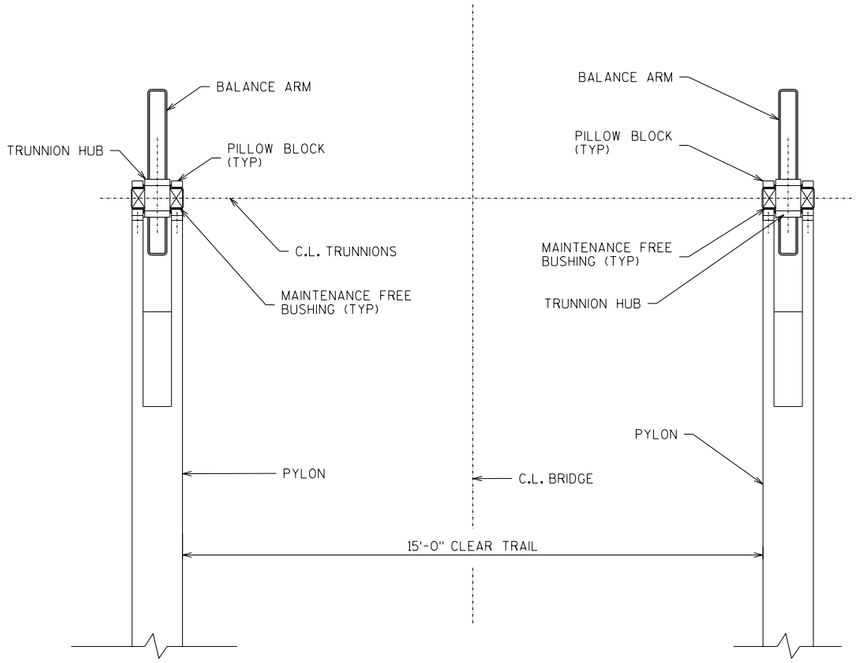
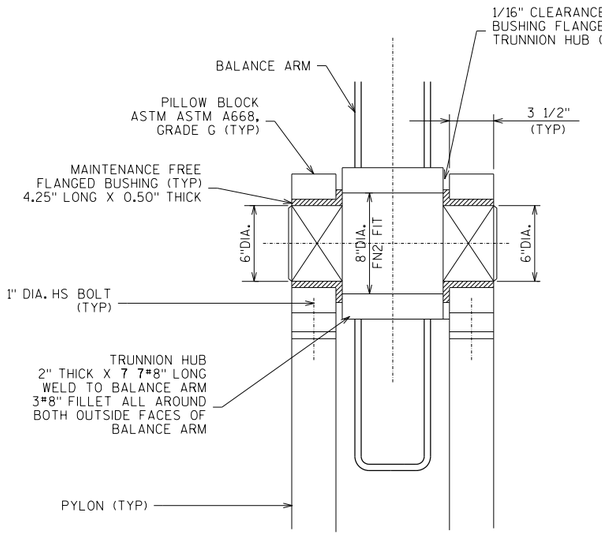
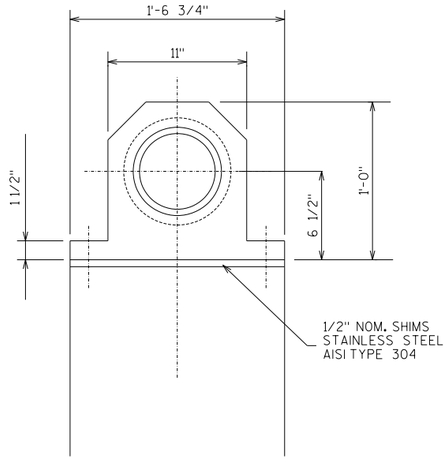
MACHINERY
HYDRAULIC CIRCUIT,
CYLINDER DETAILS

SHEET M02
73
21 OF 27

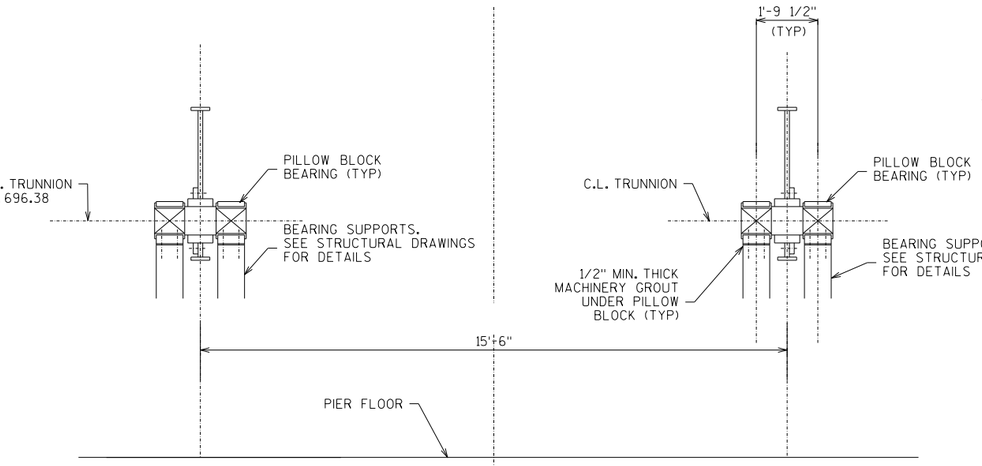


UPPER TRUNNION BEARING ASSEMBLIES

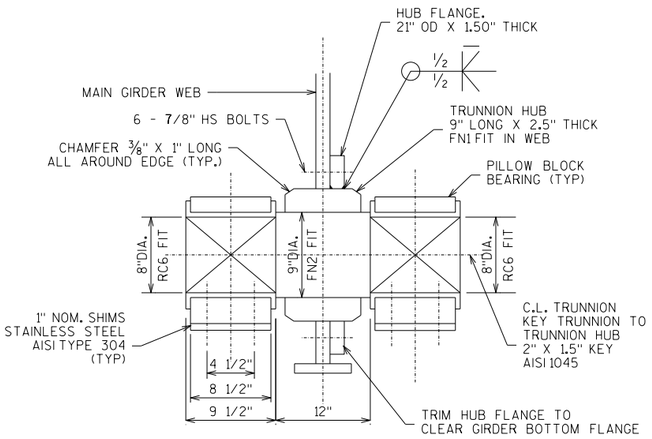


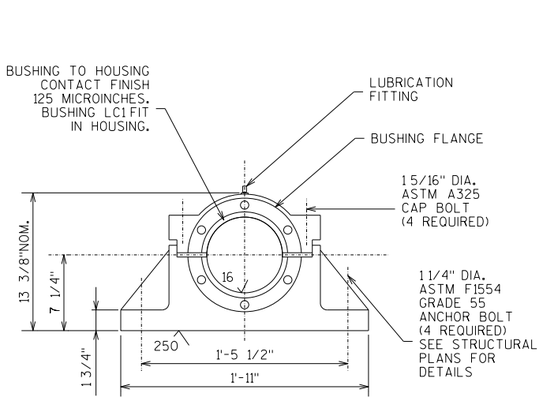


UPPER TRUNNION BEARING DETAILS



LOWER TRUNNION BEARING ASSEMBLIES





LOWER TRUNNION BEARING DETAILS

BEARING SUPPORTS NOT SHOWN

NOTES

1. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS FOR MACHINERY.
2. COORDINATE ALL MECHANICAL WORK WITH ELECTRICAL & STRUCTURAL WORK.
3. WORK SHEETS M01 THROUGH M04 TOGETHER.
4. ALL EQUIPMENT CONTAINING IRON AND/OR STEEL COMPONENTS SHALL BE USA MADE FROM USA SOURCED IRON AND STEEL.
5. DETAILS, DIMENSIONS & MATERIALS FOR LOWER TRUNNION PILLOW BLOCKS ARE PER EARLE EPB-64 PILLOW BLOCKS.
6. FIT OF UPPER TRUNNION IN MAINTENANCE FREE BUSHINGS AND FIT OF MAINTENANCE FREE BUSHINGS IN PILLOW BLOCKS SHALL BE AS RECOMMENDED BY BUSHING SUPPLIER.
7. UPPER & LOWER TRUNNIONS SHALL BE ASTM A668 CLASS G.
8. CHAMFER ALL EDGES ¼".

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MACHINERY BEARING DETAILS

SHEET M03
74
22 OF 27

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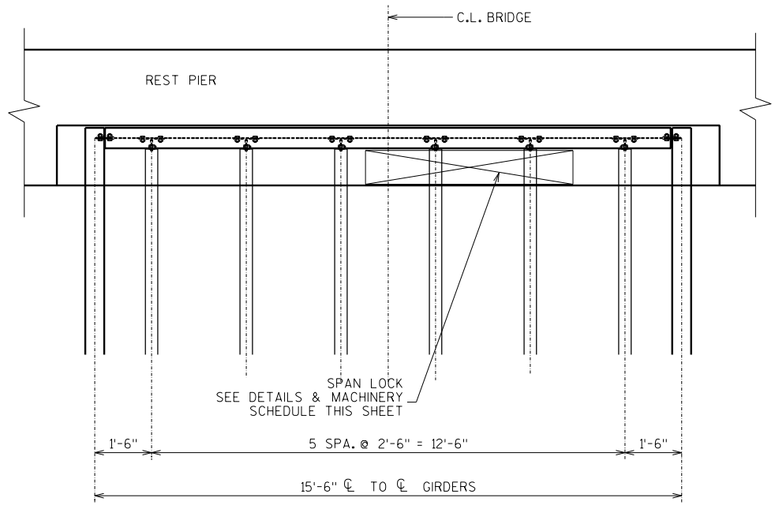
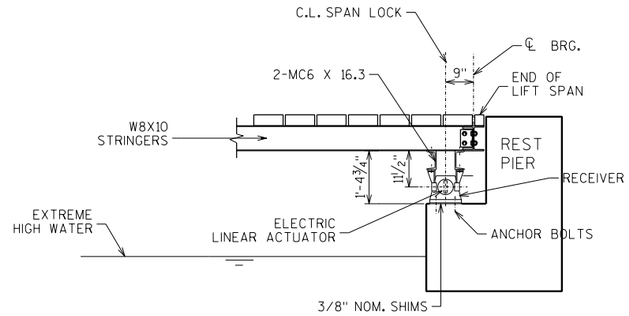
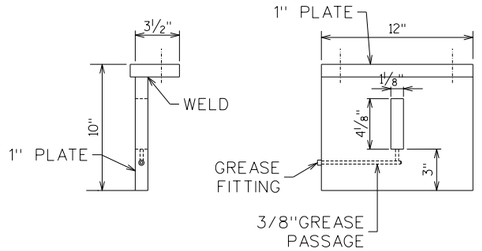


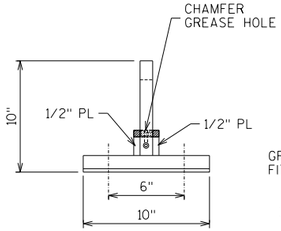
LOCATION PLAN

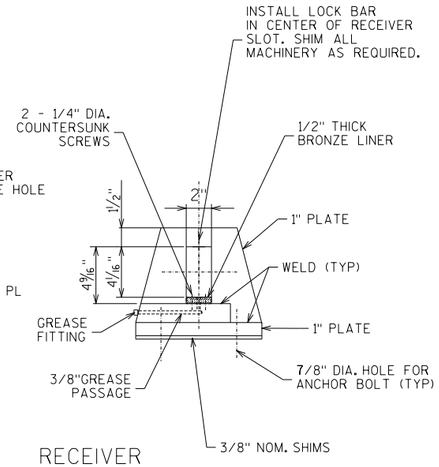


SECTION THRU REST PIER

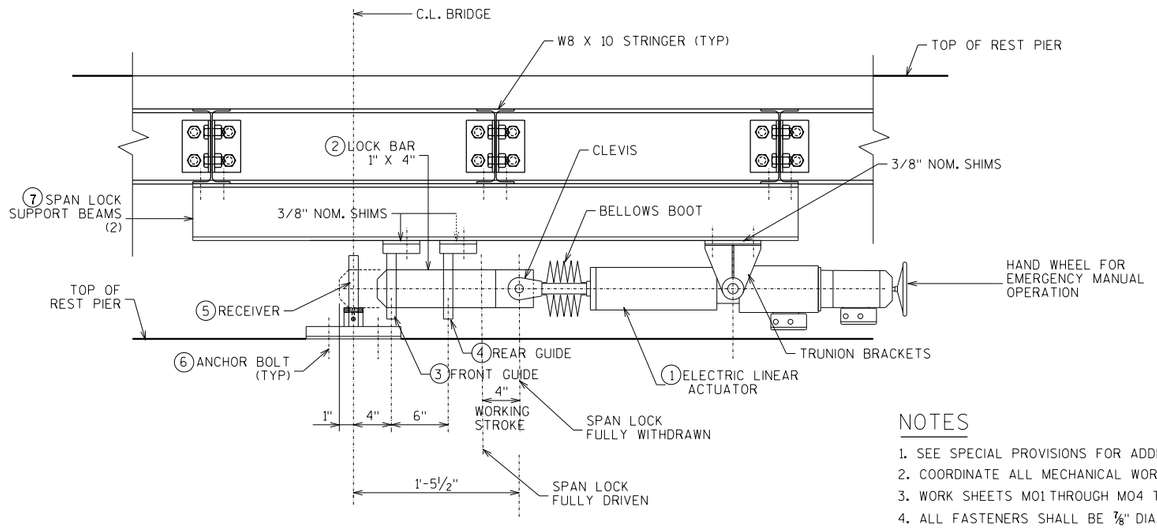


GUIDE
(2 REQUIRED)





RECEIVER



SECTION THRU LIFT SPAN
LOOKING NORTH AT REST PIER

MACHINERY SCHEDULE FOR SPAN LOCK		
ITEM NO.	DESCRIPTION (ALSO SEE NOTES)	QUANTITY
1	ELECTRIC LINEAR ACTUATOR: 208 VAC, 1100 LBS THRUST,	1
	6" STROKE, END OF STROKE LIMIT SWITCHES, HAND WHEEL,	
	ROD END CLEVIS & PIN, TRUNNION BRACKETS, BELLOWS BOOT	
2	LOCK BAR: ASTM A668 CLASS D	1
3	FRONT GUIDE (ASTM A36) AND SHIMS	1
4	REAR GUIDE (ASTM A36) AND SHIMS	1
5	RECEIVER (ASTM A36), BRONZE LINER (ASTM B22, ALLOY 911)	1
	AND SHIMS	
6	RECEIVER ANCHOR BOLTS: 3/4" DIA., GALVANIZED, F1554	4
7	SPAN LOCK SUPPORT BEAMS: MC6 X 16.3, ASTM A36	2

NOTES

1. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS FOR MACHINERY.
2. COORDINATE ALL MECHANICAL WORK WITH ELECTRICAL & STRUCTURAL WORK.
3. WORK SHEETS M01 THROUGH M04 TOGETHER.
4. ALL FASTENERS SHALL BE ⅞" DIA. ASTM A325 GALVANIZED UNLESS NOTED.
5. ALL WELDS ⅜" FILLET ALL AROUND
6. LOCK BAR SHALL HAVE 1/16" VERTICAL CLEARANCE IN RECEIVER SLOT.
7. ALL SHIMS FULL SIZE & STAINLESS STEEL AISI TYPE 304..
8. COORDINATE ACTUATOR MOTOR HP WITH ELECTRICAL WORK.
9. ACTUATOR TRUNNION BRACKET BASE BOLTS SIZE AS REQUIRED BY ACTUATOR SUPPLIER
10. INSTALL ACTUATOR SUCH THAT 4" WORKING STROKE IS CENTERED WITHIN 6" ACTUATOR STROKE.
11. ALL EQUIPMENT CONTAINING IRON AND/OR STEEL COMPONENTS SHALL BE USA MADE FROM USA SOURCED IRON AND STEEL.
12. CHAMFER ALL EXPOSED EDGES ⅛".

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MACHINERY
SPAN LOCK

SHEET M04
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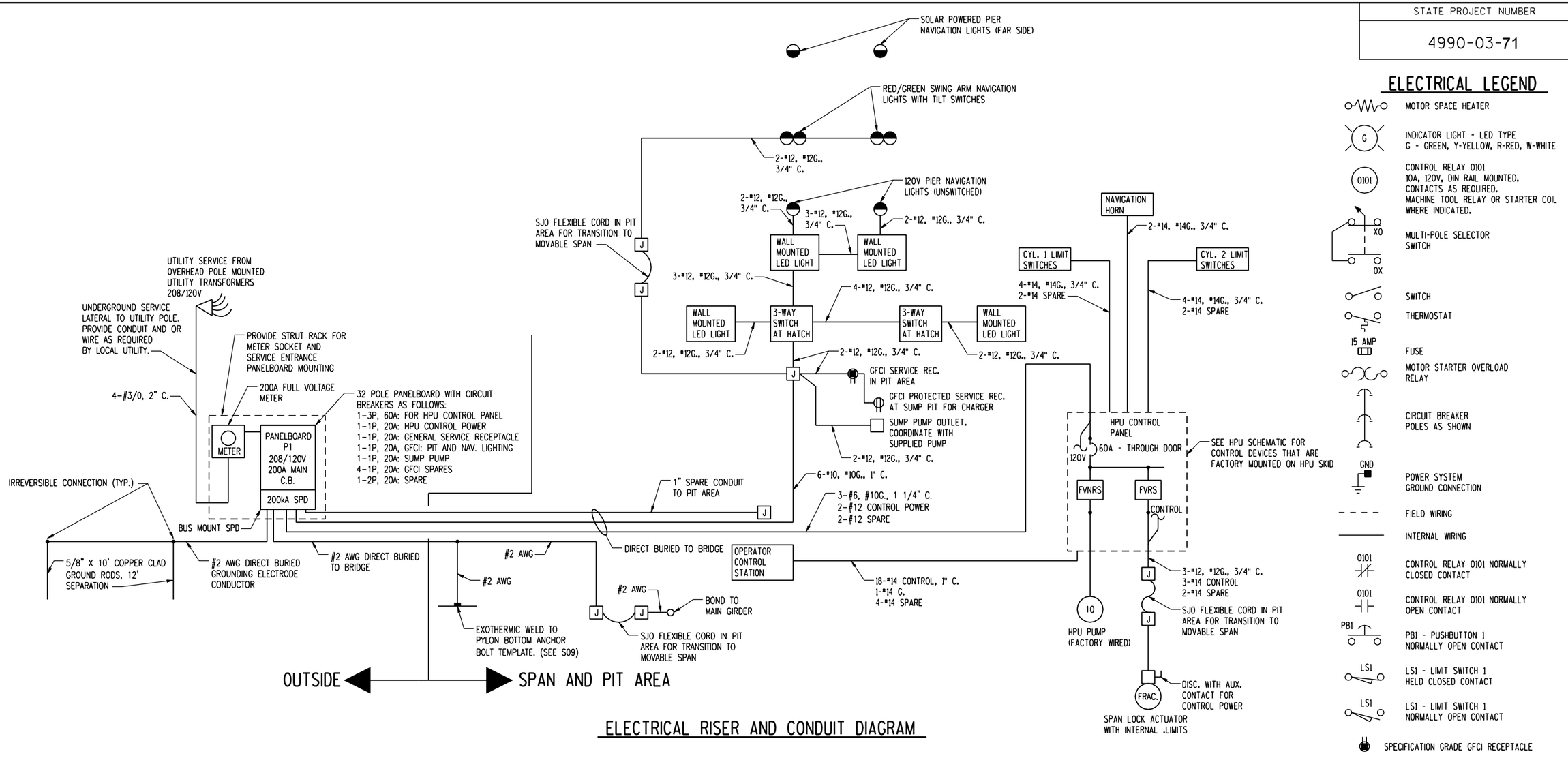

ELECTRICAL RISER AND CONDUIT DIAGRAM

ELECTRICAL LEGEND

- MOTOR SPACE HEATER
- G — INDICATOR LIGHT - LED TYPE; G - GREEN, Y-YELLOW, R-RED, W-WHITE
- 0101 — CONTROL RELAY 0101; 10A, 120V, DIN RAIL MOUNTED. CONTACTS AS REQUIRED. MACHINE TOOL RELAY OR STARTER COIL WHERE INDICATED.
- XO / OX — MULTI-POLE SELECTOR SWITCH
- SWITCH
- THERMOSTAT
- 15 AMP — FUSE
- MOTOR STARTER OVERLOAD RELAY
- CIRCUIT BREAKER POLES AS SHOWN
- GND — POWER SYSTEM GROUND CONNECTION
- FIELD WIRING
- INTERNAL WIRING
- 0101 — CONTROL RELAY 0101 NORMALLY CLOSED CONTACT
- 0101 — CONTROL RELAY 0101 NORMALLY OPEN CONTACT
- PB1 — PB1 - PUSHBUTTON 1 NORMALLY OPEN CONTACT
- LS1 — LS1 - LIMIT SWITCH 1 HELD CLOSED CONTACT
- LS1 — LS1 - LIMIT SWITCH 1 NORMALLY OPEN CONTACT
- SPECIFICATION GRADE GFCI RECEPTACLE
- SPECIFICATION GRADE RECEPTACLE
- HEAVY DUTY STAINLESS STEEL DISC. SWITCH

FVRS – FULL VOLTAGE REVERSING STARTER – UL 508 TYPE F COMBINATION MOTOR CONTROLLER
FVNRS – FULL VOLTAGE NON-REVERSING STARTER – UL 508 TYPE F COMBINATION MOTOR CONTROLLER
SPD – SURGE PROTECTION DEVICE

NOTES:

1. SEE SPECIAL PROVISIONS FOR COMPLETE REQUIREMENTS OF ELECTRICAL WORK. WORK SHEET E01 THROUGH E03 TOGETHER.
2. PROVIDE EQUIPMENT COORDINATED AND RATED FOR AVAILABLE FAULT CURRENT. SUBMIT FOR APPROVAL.
3. SEE ELECTRICAL PLAN FOR EQUIPMENT LOCATIONS.
4. COORDINATE ALL ELECTRICAL WORK WITH MECHANICAL AND STRUCTURAL CONSTRUCTION.

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ELECTRICAL RISER & CONDUIT DIAGRAM

SHEET E01
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24 OF 27

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SCALE = NO SCALE

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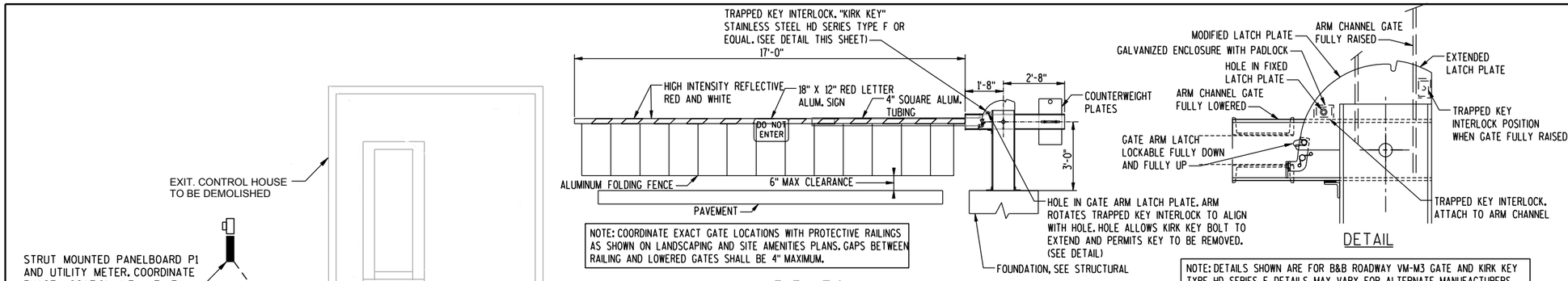
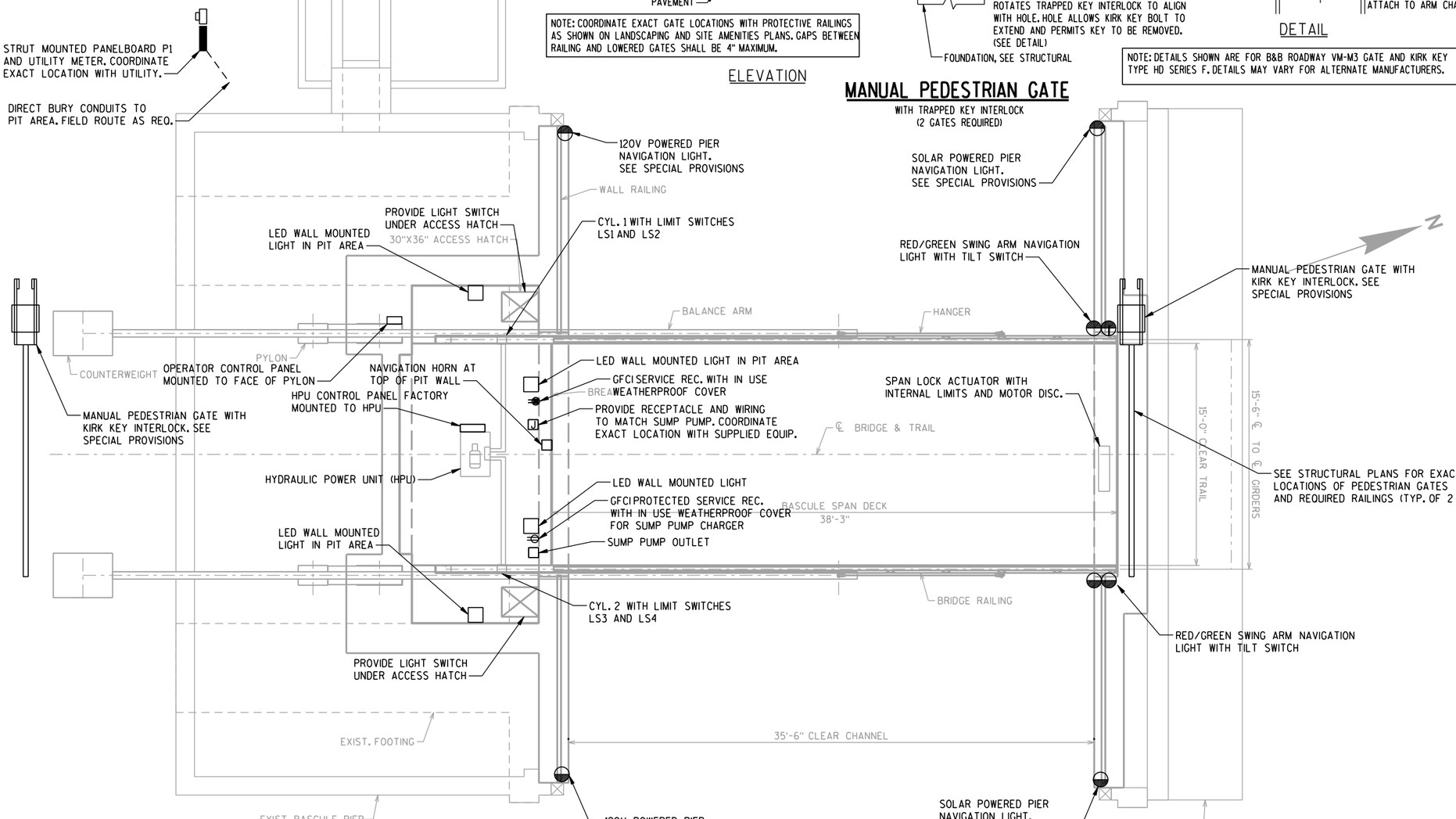


MANUAL PEDESTRIAN GATE

WITH TRAPPED KEY INTERLOCK
(2 GATES REQUIRED)



NOTES:

1. SEE ELECTRICAL RISER AND CONDUIT DIAGRAM FOR WIRE AND CONDUIT SIZES.
2. FIELD ROUTE CONDUIT ON BRIDGE AND IN PIT AREA. WHERE POSSIBLE, ROUTE CONDUIT TO CONCEAL FROM VIEW WHEN BRIDGE IS DOWN.
3. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS FOR EQUIPMENT AND ELECTRICAL WORK.
4. COORDINATE ALL ELECTRICAL WORK WITH MECHANICAL AND STRUCTURAL CONSTRUCTION.
5. WORK SHEETS E01 THROUGH E03 TOGETHER.

ELECTRICAL LOCATION PLAN

SCALE: 1/4" = 1'-0" (FULL SIZE PLOT)

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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ELECTRICAL LOCATION PLAN

SHEET E02
77
25 OF 27

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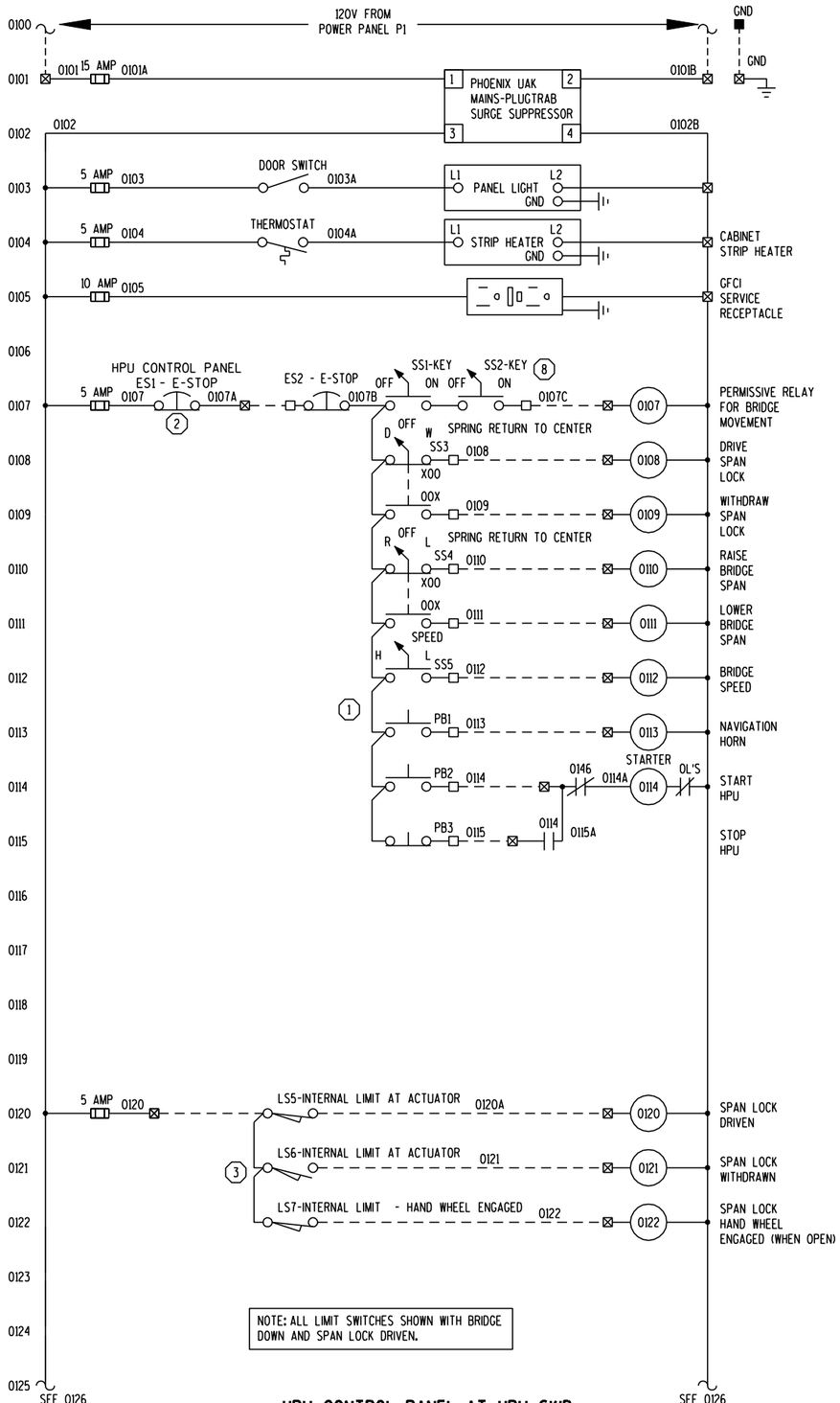
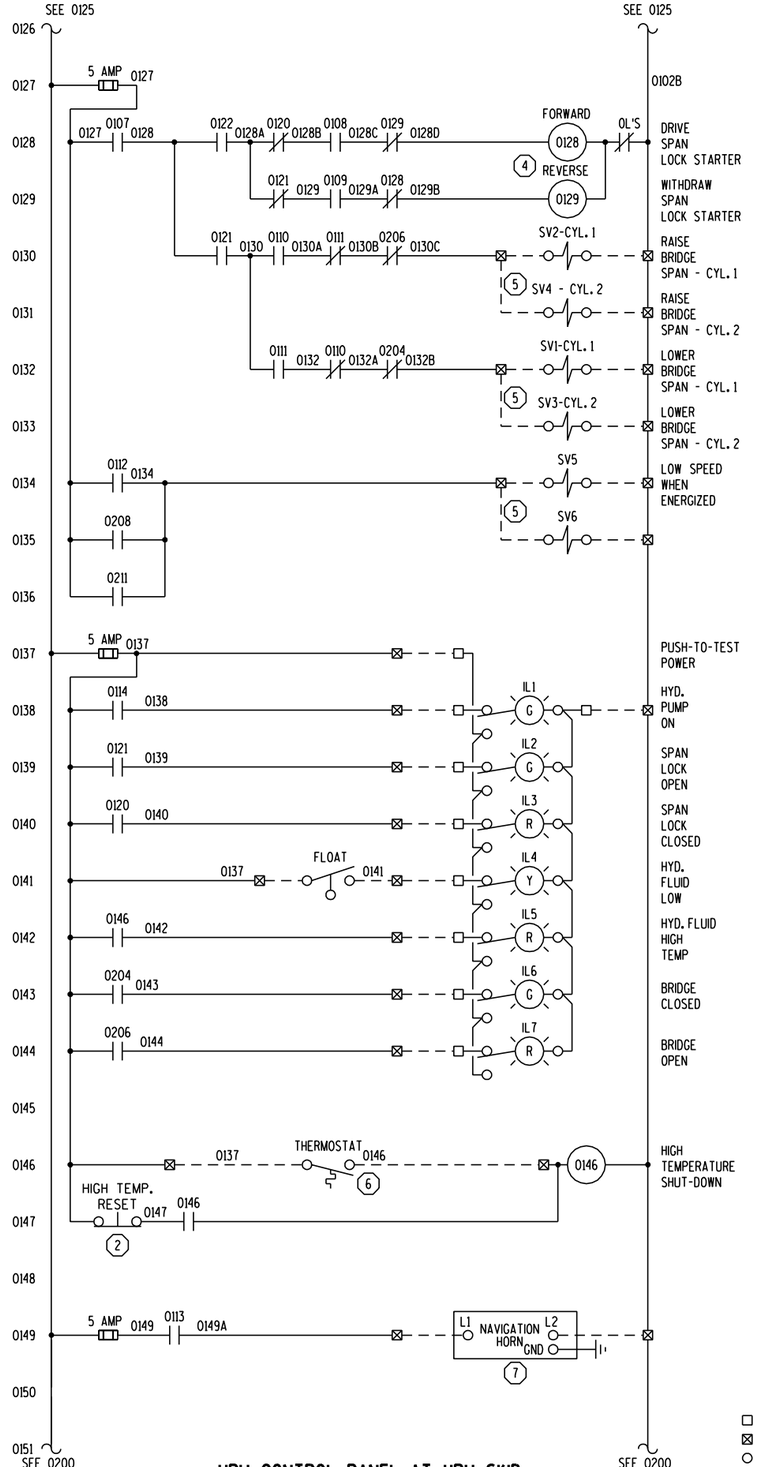
FILE= E02
SCALE = AS SHOWN

STATE PROJECT NUMBER

4990-03-71



HPU CONTROL PANEL AT HPU SKID



HPU CONTROL PANEL AT HPU SKID

ELECTRICAL PLAN NOTES - THIS SHEET

NOTE: COORDINATE WITH MECH. PLANS AND MECH. SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS. WORK SHEET E01 THROUGH E04 AND M02 TOGETHER.

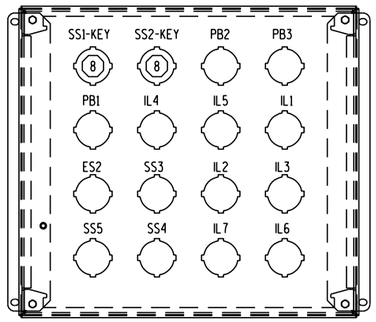
1. PILOT DEVICES LOCATED AT OPERATOR CONTROL STATION (TYP.)
2. PILOT DEVICE LOCATED ON FRONT OF HPU CONTROL PANEL.
3. INTERNAL LIMIT SWITCHES FURNISHED WITH ACTUATOR. FIELD ADJUST AS REQUIRED.
4. SPAN LOCK ACTUATOR REVERSING STARTER FURNISHED WITH HPU UNIT. COORDINATE STARTER SIZE AND OVERLOADS WITH ACTUATOR SUPPLIER.
5. SOLENOIDS MOUNTED ON HPU AND FACTORY WIRED TO HPU CONTROL PANEL.
6. FLOAT AND THERMOSTAT MOUNTED ON HPU AND FACTORY WIRED TO HPU CONTROL PANEL.
7. NAVIGATION HORN; SEE ELECTRICAL PLAN FOR LOCATION.
8. KIRK KEYS WITH AUX. CONTACTS. KEYS CAPTIVE IN THE ON POSITION. KEYS TO BE INTERLOCKED WITH MECHANICAL PEDESTRIAN GATES. EACH GATE MUST BE CLOSED TO REMOVE THE ASSOCIATED KEY. SEE SPECIAL PROVISIONS FOR COMPLETE REQUIREMENTS.

RAISE BRIDGE OPERATION:

1. LOWER MANUAL PEDESTRIAN GATES. REMOVE KIRK KEYS (LOCKING GATES DOWN) AND INSERT KEYS (SS1-KEY & SS2-KEY) AT OPERATOR CONTROL STATION. KIRK KEYS WILL ENABLE BRIDGE MOVEMENT.
2. START HYDRAULIC PUMP (PB2).
3. SOUND NAVIGATION HORN PER COAST GUARD REQUIREMENTS (PB1).
4. WITHDRAW SPAN LOCK (SS3).
5. RAISE BRIDGE SPAN (SS4).
6. SHUT- OFF HYDRAULIC PUMP (PB3).

LOWER BRIDGE OPERATION:

1. START HYDRAULIC PUMP (PB2).
2. SOUND NAVIGATION HORN PER COAST GUARD REQUIREMENTS (PB1).
3. LOWER BRIDGE SPAN (SS4).
4. WHEN BRIDGE IS CLOSED, DRIVE SPAN LOCK (SS3).
5. SHUT- OFF HYDRAULIC PUMP (PB3).
6. WITHDRAW KIRK KEYS AND RAISE PEDESTRIAN GATES.



OPERATOR STATION:

PROVIDE NEMA 4X STAINLESS STEEL ENCLOSURE WITH INNER AND OUTER DOORS (INNER PANEL SHOWN). OUTER DOOR TO HAVE HANDLE WITH LATCHES AND A PADLOCK HASP.

OPERATOR CONTROL STATION

(NO SCALE)

HP CONTROL PANEL & OPERATOR STATION:

1. CONSTRUCT PER UL508A AND NFPA 70E.
2. SUBMIT COMPLETE WIRING AND LAYOUT DIAGRAMS.
3. ENCLOSURES: NEMA 4X STAINLESS STEEL WITH LOCKING COVERS.
4. ALL FIELD WIRING TO TERMINATE ON LABELED TERMINAL BLOCKS.
5. RELAYS: 10A, PLUG-IN, WITH INDICATOR LIGHTS.
6. PILOT DEVICES: NEMA RATED, LED INDICATING LIGHTS

TERMINAL LOCATIONS

- ☐ OPERATOR CONTROL STATION AT PYLON
- ☒ HPU CONTROL PANEL AT HPU POWER UNIT
- ○ FIELD DEVICE

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STRUCTURE B-44-0287

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HPU CONTROL PANEL AND OPERATOR STATION SCHEMATIC DIAGRAM 1

SHEET E03 78

26 OF 27

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FILE= E03
SCALE = NO SCALE

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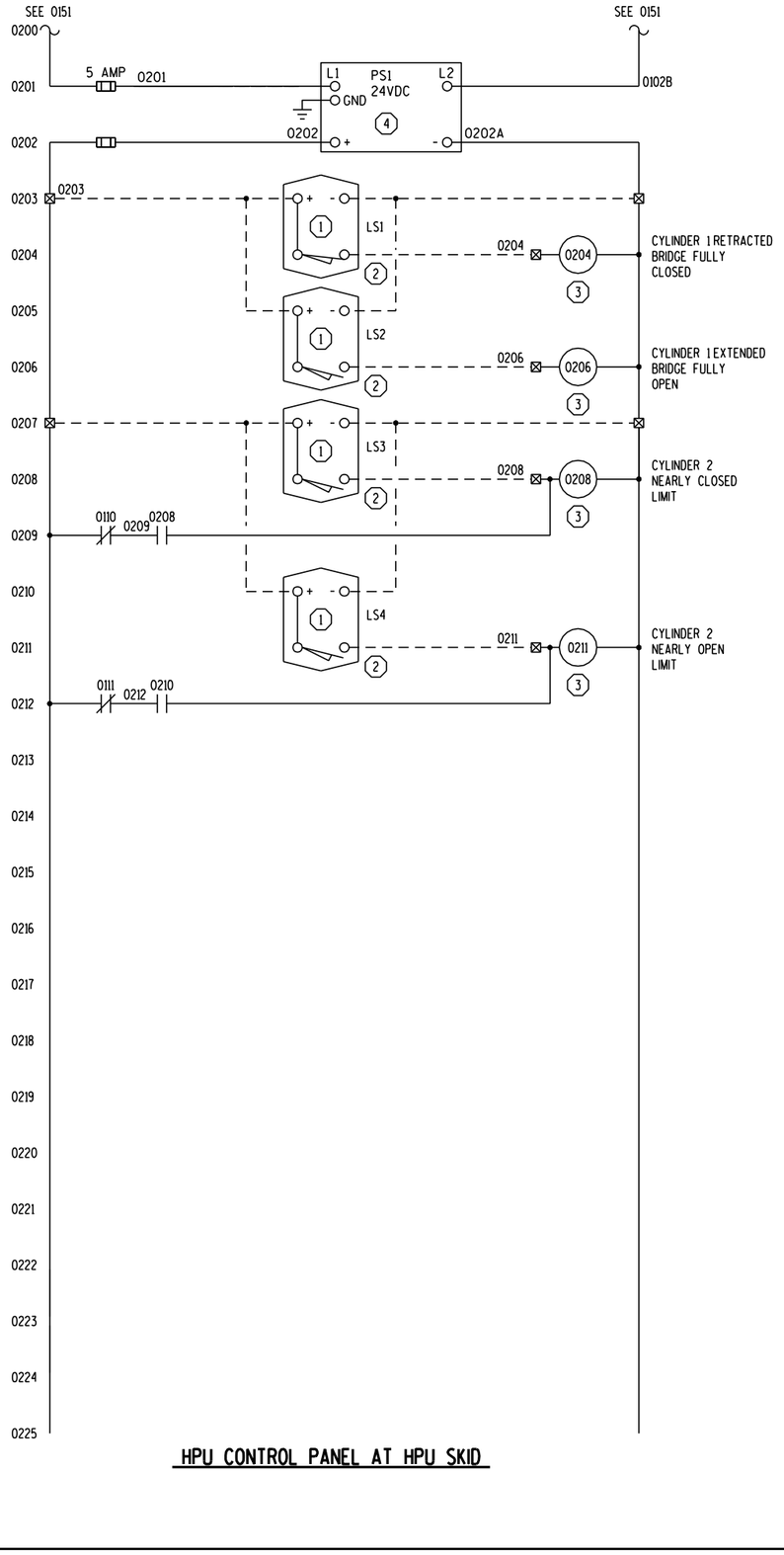

HPU CONTROL PANEL AT HPU SKID

STATE PROJECT NUMBER

4990-03-71

ELECTRICAL PLAN NOTES - THIS SHEET

NOTE: COORDINATE WITH MECH. PLANS AND MECH. SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS. WORK SHEET E01 THROUGH E04 AND M02 TOGETHER.

(1) LIMIT SWITCH FURNISHED WITH HYDRAULIC CYLINDERS. FIELD ADJUST AS REQUIRED.

(2) LIMIT SHOWN WITH BRIDGE IN DOWN POSITION.

(3) 24VDC COIL WITH 120V RATED CONTACTS.

(4) INDUSTRIAL RATED POWER SUPPLY. SIZE AS REQUIRED FOR SUPPLIED LOADS.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-44-0287

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HPU CONTROL PANEL AND OPERATOR STATION SCHEMATIC DIAGRAM 2

SHEET E04

27 OF 27

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SCALE = NO SCALE

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