NWL JUNE 2014

PROJECT ID: 8456-00-70

WITH: PROJECTID2

COUNTY: SAWYER

16

ORDER OF SHEETS

TOTAL SHEETS = 34

DESIGN DESIGNATION

A.A.D.T.	2014	= 100
A.A.D.T.	2034	= 120
D.H.V.		= 12
D.D.		= 50/50
T.		= 4%
DESIGN SPEED		= 55
ESALS		= 29,200

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

TOWN OF RADISSON, TOWNLINE ROAD

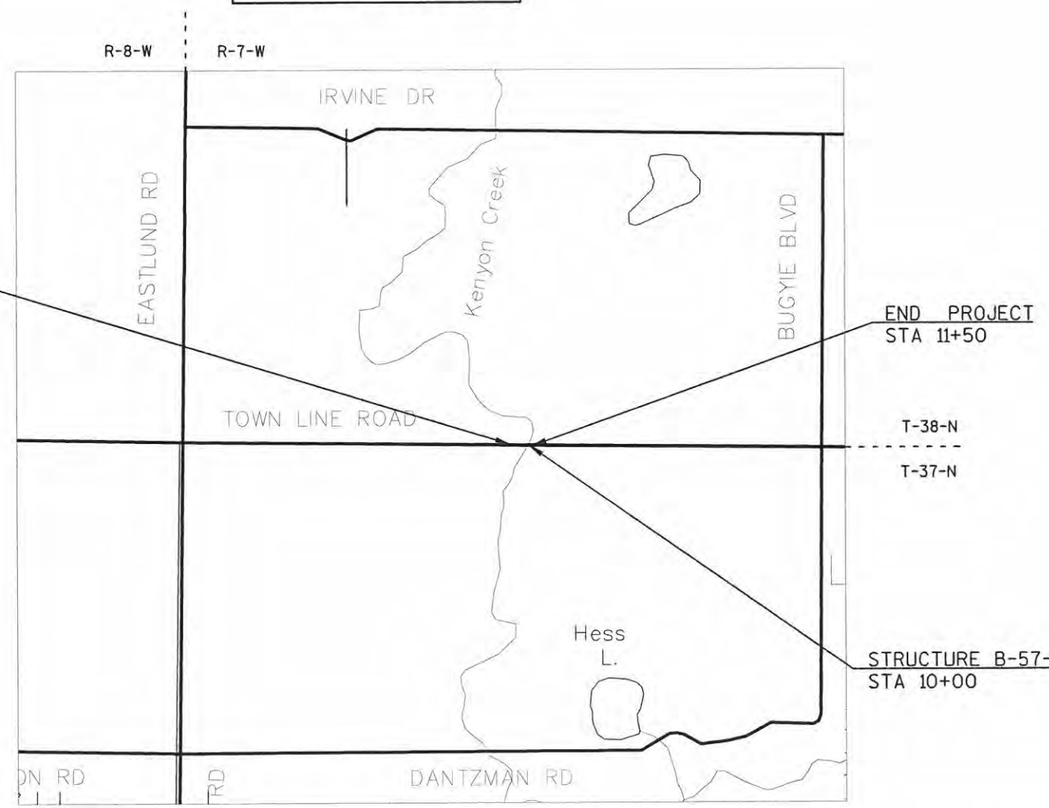
(KENYON CREEK BRIDGE B-57-0084)

LOCAL STREET

SAWYER COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8456-00-70	WISC 2014235	1

STATE PROJECT NUMBER
8456-00-70



LAYOUT
SCALE 0 .25 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.048

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, SAWYER COUNTY, NAD83 (2011), IN U.S. SURVEY COUNTY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ACCEPTED FOR COUNTY OF SAWYER

1/16/14 (Date) — HWY. COMMISSIONER (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY

(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH
Designer	SEH
Management Consultant	KNIGHT ENGINEERING
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 1/24/14 Ryan B McKune (Management Consultant Signature)

E

FILE NAME : P:\PT\S\SAWYE\123989\CIVIL 3D\010101_TI.DWG

PLOT DATE : 1/17/2014 10:55 AM PLOT BY : JUSTIN SHAVLIK PLOT NAME :

WISDOT/CADDS SHEET 10

STANDARD ABBREVIATIONS

ABU	ABUTMENT
AC	ACRE
AGG	AGGREGATE
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
ASPH	ASPHALTIC
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BF	BACK FACE
BM	BENCH MARK
BR	BRIDGE
CE	COMMERCIAL ENTRANCE
CL OR C/L OR ℄	CENTER LINE
	CENTRAL ANGLE OR DELTA
CONC	CONCRETE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CR	CREEK
CY	CUBIC YARD
C&G	CURB AND GUTTER
D	DEGREE OF CURVED
HV	DESIGN HOUR VOLUME
DISCH	DISCHARGE
DG	DITCH GRADE
DWY	DRIVEWAY
XEA	ST GRID COORDINATE
EAT	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
EOR	END POINT OF RADIUS
EL	ELEVATION
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FC	FACE OF CURB
FF	FACE TO FACE
FERT	FERTILIZE
FE	FIELD ENTRANCE
FL	FLOW LINE
FO	FIBER OPTIC
CWT	HUNDREDWEIGHT
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE ON PIN
LHF	LEFT-HAND FORWARD
L	LENGTH OF CURVE
LF	LINEAR FOOT
LC	LONG CHORD OF CURVE
LS	LUMP SUM
MH	MANHOLE
MOR	MID POINT OF RADIUS
NC	NORMAL CROWN
NO	NUMBER
OBLIT	OBLITERATE
PAVT	PAVEMENT
PE	PRIVATE ENTRANCE
PVRC	POINT OF VERTICAL REVERSE CURVE
QOR	QUARTER POINT OF RADIUS
R	RADIUS
REQ'D	REQUIRED
RES	RESIDENCE OR RESIDENTIAL
LRHF	RIGHT-HAND FORWARD
R/W	RIGHT-OF-WAY
R	RIVER
RDWY	ROADWAY
R/L OR ℞	REFERENCE LINE
SALV	SALVAGED
SAN	SANITARY SEWER
SF	SQUARE FEET
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STA	STATION
SS	STORM SEWER
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SE	SUPERELEVATION RATE
TC	TOP OF CURB
T OR TN	TOWN
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
VAR	VARIABLE
VC	VERTICAL CURVE
YNORTH	GRID COORDINATE
YD	YARD

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE APPROXIMATE USGS DATUM.

WHEN THE QUANTITY OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH TOPSOILED, FERTILIZED, AND SEEDED, AND MULCHED.

ALL CURB AND GUTTER RADII, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.

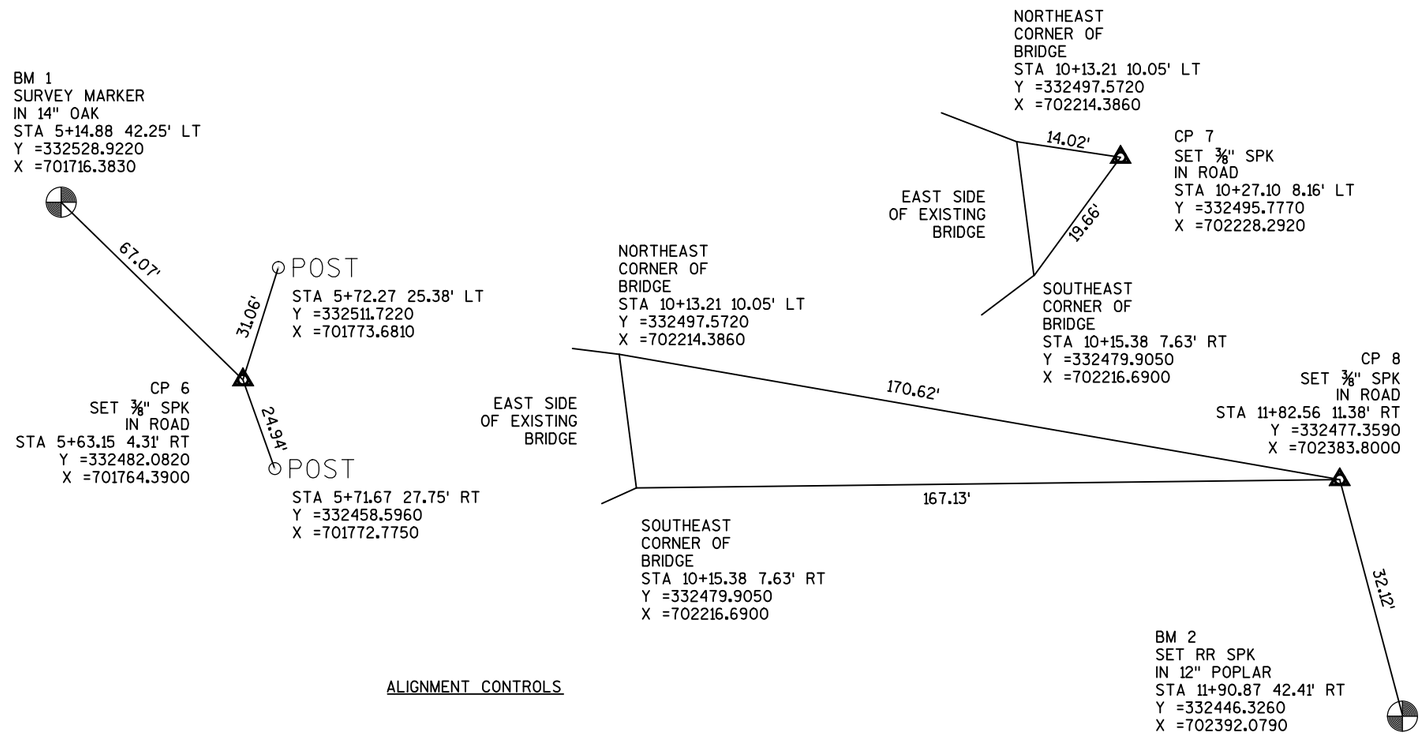
EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON OR ROCK EXCAVATION.

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL.

WISDOT MONUMENTS WILL BE SUPPLIED BY THE STATE AND INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

BEARINGS SHOWN ON THE PLAN ARE REFERENCED TO THE EXISTING ROADWAY CENTERLINE AND ARE ASSUMED.

3-INCH ASPHALTIC SURFACE CONSTRUCTED IN TWO 1.5-INCH LIFTS WITH 9.5-MM NOMINAL AGGREGATE SIZE AND PG58-28 BINDER.



ALIGNMENT CONTROLS

UTILITY CONTACTS

BEVCOMM
N3767 4TH STREET
P.O. BOX 228
WEYERHAEUSER, WI 54895
TELEPHONE: 715.353.2434
ATTENTION: STEVE ROBERTSON
EMAIL: SROBERTSON@BEVCOMM.COM

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

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

NOTE: WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

**NOT A MEMBER OF DIGGERS HOTLINE

MUNICIPALITY CONTACTS

TOWN OF RADISSON
3371 N. STATE ROAD 40
RADISSON, WI 54867
TELEPHONE: 715.945.3027
ATTENTION: PHIL QUADE
EMAIL: N/A

SAWYER COUNTY HIGHWAY DEPARTMENT
14688W CTH B
HAYWARD, WI 54843
TELEPHONE: 715.634.3789
ATTENTION: GARY GEDART
EMAIL: HIGHWAY@SAWYERCOUNTYGOV.ORG

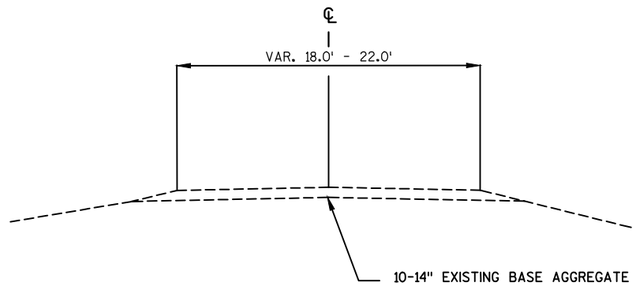
DESIGN CONTACT

SEH INC
421 FRENETTE DRIVE
CHIPPEWA FALLS, WI 54729
TELEPHONE: 715.720.6267
ATTENTION: DAN GUSTAFSON
EMAIL: DGUSTAFSON@SEHINC.COM

DNR CONTACT

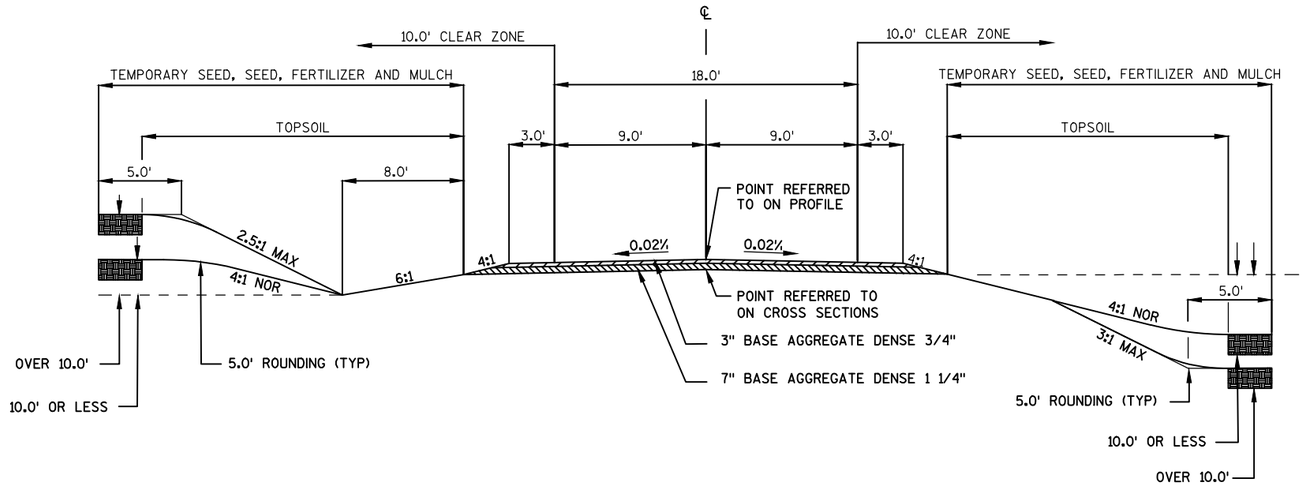
SHAWN HASELEU
DNR NORTHERN REGION
810 W. MAPLE STREET
SPOONER, WI 54801
TELEPHONE: 715.635.4228
EMAIL: SHAWN.HASELEU@WISCONSIN.GOV

PROJECT NO: 8456-00-70	HWY: TOWNLINE ROAD	COUNTY: SAWYER	GENERAL NOTES	SHEET 2	E



TYPICAL EXISTING SECTION

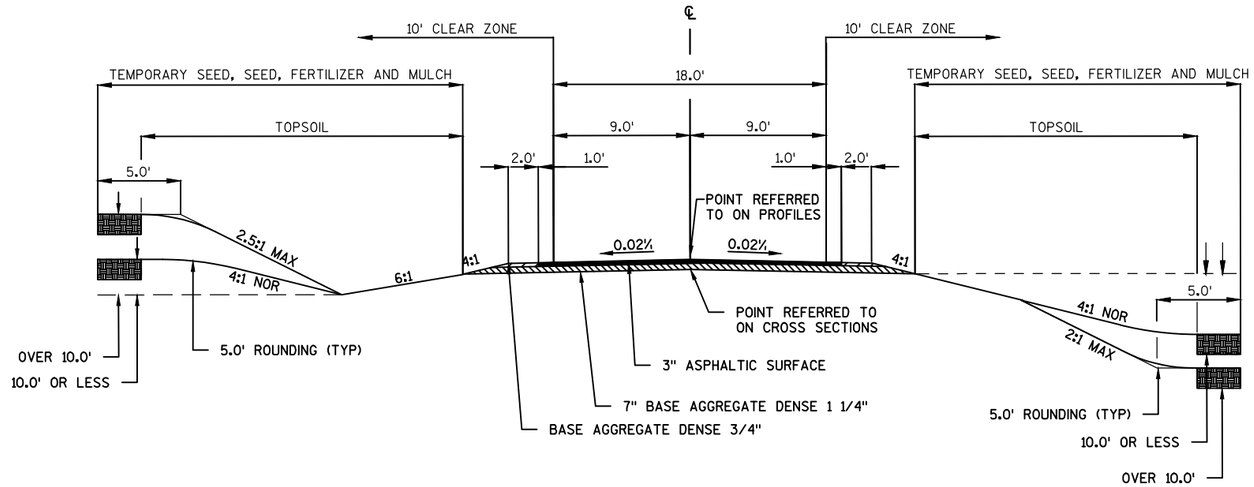
STA 8+50 TO STA 11+50



TYPICAL FINISHED SECTION

STA 8+50 TO STA 9+25
STA 10+75 TO STA 11+50

PROJECT NO: 8456-00-70	HWY: TOWNLINE ROAD	COUNTY: SAWYER	TYPICAL SECTION	SHEET 3	E



TYPICAL FINISHED SECTION

STA 9+25 TO STA 9+76.25
STA 10+23.75 TO STA 10+75

DATE 09APR14 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	8456-00-70 QUANTITY
0010	201.0105	CLEARING	STA	3.000	3.000
0020	201.0205	GRUBBING	STA	3.000	3.000
0030	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. 10+00	LS	1.000	1.000
0040	205.0100	EXCAVATION COMMON	CY	140.000	140.000
0050	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-57-84	LS	1.000	1.000
0060	208.0100	BORROW	CY	355.000	355.000
0070	210.0100	BACKFILL STRUCTURE	CY	136.000	136.000
0080	213.0100	FINISHING ROADWAY (PROJECT) 01. 8456-00-70	EACH	1.000	1.000
0090	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	90.000	90.000
0100	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	300.000	300.000
0110	455.0605	TACK COAT	GAL	6.000	6.000
0120	465.0105	ASPHALTIC SURFACE	TON	42.000	42.000
0130	502.0100	CONCRETE MASONRY BRIDGES	CY	157.000	157.000
0140	502.3200	PROTECTIVE SURFACE TREATMENT	SY	178.000	178.000
0150	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2,930.000	2,930.000
0160	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	23,240.000	23,240.000
0170	513.4060	RAILING TUBULAR TYPE M (STRUCTURE) 01. B-57-84	LS	1.000	1.000
0180	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	24.000	24.000
0190	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	320.000	320.000
0200	606.0300	RIPRAP HEAVY	CY	121.000	121.000
0210	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	60.000	60.000
0220	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	100.000	100.000
0230	619.1000	MOBILIZATION	EACH	1.000	1.000
0240	625.0100	TOPSOIL	SY	610.000	610.000
0250	627.0200	MULCHING	SY	750.000	750.000
0260	628.1504	SILT FENCE	LF	400.000	400.000
0270	628.1520	SILT FENCE MAINTENANCE	LF	400.000	400.000
0280	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0290	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	3.000	3.000
0300	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	50.000	50.000
0310	628.6005	TURBIDITY BARRIERS	SY	180.000	180.000
0320	628.7504	TEMPORARY DITCH CHECKS	LF	50.000	50.000
0330	629.0205	FERTILIZER TYPE A	CWT	1.000	1.000
0340	630.0120	SEEDING MIXTURE NO. 20	LB	25.000	25.000
0350	630.0200	SEEDING TEMPORARY	LB	25.000	25.000
0360	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	4.000	4.000
0370	637.2230	SIGNS TYPE II REFLECTIVE F	SF	12.000	12.000
0380	638.2602	REMOVING SIGNS TYPE II	EACH	6.000	6.000
0390	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	6.000	6.000
0400	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0410	643.0100	TRAFFIC CONTROL (PROJECT) 01. 8456-00-70	EACH	1.000	1.000
0420	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	205.000	205.000
0430	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	255.000	255.000
0440	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-57-84	LS	1.000	1.000
0450	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 8456-00-70	LS	1.000	1.000
0460	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	255.000	255.000
0470	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	942.000	942.000

3

DATE 09APR14 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	8456-00-70 QUANTITY
0480	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	1,200.000	1,200.000
0490	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	300.000	300.000

3

CLEARING & GRUBBING

STATION - STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
TOWNLINE ROAD			
8+50 - 11+50		3	3
ITEM TOTALS		3	3

ASPHALTIC PAVEMENT ITEMS

STATION - STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
TOWNLINE ROAD			
9+25 - 9+76.25	LT & RT	3	21
10+23.75 - 10+75	LT & RT	3	21
ITEM TOTALS		6	42

EXCAVATION

STATION - STATION	LOCATION	205.0100 COMMON CY	AIR FILL CY	EXPANDED FILL CY	208.0100 BORROW CY
TOWNLINE ROAD					
8+50 - 10+00	LT & RT	70	235	305	235
10+00 - 11+50	LT & RT	70	145	190	120
ITEM TOTALS		140	380	495	355

NOTES:
1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN COMMON EXCAVATION.
2) FILL DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
3) FILL WILL BE BACKFILLED WITH CUT OR BORROW.
4) POSITIVE BORROW INDICATES A SHORTAGE OF MATERIAL.
5) EXPANSION FACTOR = 1.3

RIPRAP ITEMS

STATION - STATION	LOCATION	606.0300* RIPRAP HEAVY CY	645.0120* GEOTEXTILE FABRIC TYPE HR SY
TOWNLINE ROAD			
9+35 - 9+77.5	LT	26	40
ITEM TOTALS		26	40

*ITEM LOCATED ELSEWHERE IN PLANS

FINISHING ROADWAY (8456-00-70)

STATION - STATION	213.0100 EACH
TOWNLINE ROAD	
8+50 - 11+50	1
ITEM TOTAL	1

MOBILIZATION

STATION - STATION	619.1000 EACH
TOWNLINE ROAD	
8+50 - 11+50	1
ITEM TOTAL	1

BASE AGGREGATE DENSE

STATION - STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON
TOWNLINE ROAD			
8+50 - 9+76.25	LT & RT	45	150
10+23.75 - 11+50	LT & RT	45	150
ITEM TOTALS		90	300

TOPSOIL, MULCHING AND SEEDING

STATION - STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0205 FERTILIZER TYPE A CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 TEMPORARY SEEDING LB
TOWNLINE ROAD						
8+50 - 11+50	LT & RT	610	750	1.0	25	25
ITEM TOTALS		610	750	1.0	25	25

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

EROSION CONTROL ITEMS

STATION - STATION LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.6005 TURBIDITY BARRIER SY	628.7504 TEMPORARY DITCH CHECKS LF
TOWNLINE ROAD					
8+50 - 11+50	400	400		180	
UNDISTRIBUTED			50		50
ITEM TOTALS	400	400	50	180	50

MOBILIZATIONS EROSION CONTROL

STATION - STATION	628.1905 EROSION CONTROL EACH	628.1910 EMERGENCY EROSION CONTROL EACH
TOWNLINE ROAD		
8+50 - 11+50	3	3
ITEM TOTALS	3	3

PERMANENT SIGNING

SIGN GROUP CODE	SIGN CODE	MESSAGE	TYPE II SIZE	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0612 POSTS WOOD 4X6-INCH 12-FT EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
1-1	W5-52L	CLEARANCE STRIPER	12" X 36"	3	1	1	1	REPLACE
1-2	W5-52R	CLEARANCE STRIPER	12" X 36"	3	1	1	1	REPLACE
1-3	W5-52R	CLEARANCE STRIPER	12" X 36"	3	1	1	1	REPLACE
1-4	W5-52L	CLEARANCE STRIPER	12" X 36"	3	1	1	1	REPLACE
	R12-1	WEIGHT LIMIT XX TONS	24" X 30"			1	1	REMOVE
	R12-1	WEIGHT LIMIT XX TONS	24" X 30"			1	1	REMOVE
ITEM TOTALS				12	4	6	6	

FIELD OFFICE TYPE B

STATION - STATION	642.5001 EACH
TOWNLINE ROAD	
8+50 - 11+50	1
ITEM TOTAL	1

TRAFFIC CONTROL (8456-00-70)

STATION - STATION	643.0100 EACH
TOWNLINE ROAD	
8+50 - 11+50	1
ITEM TOTAL	1

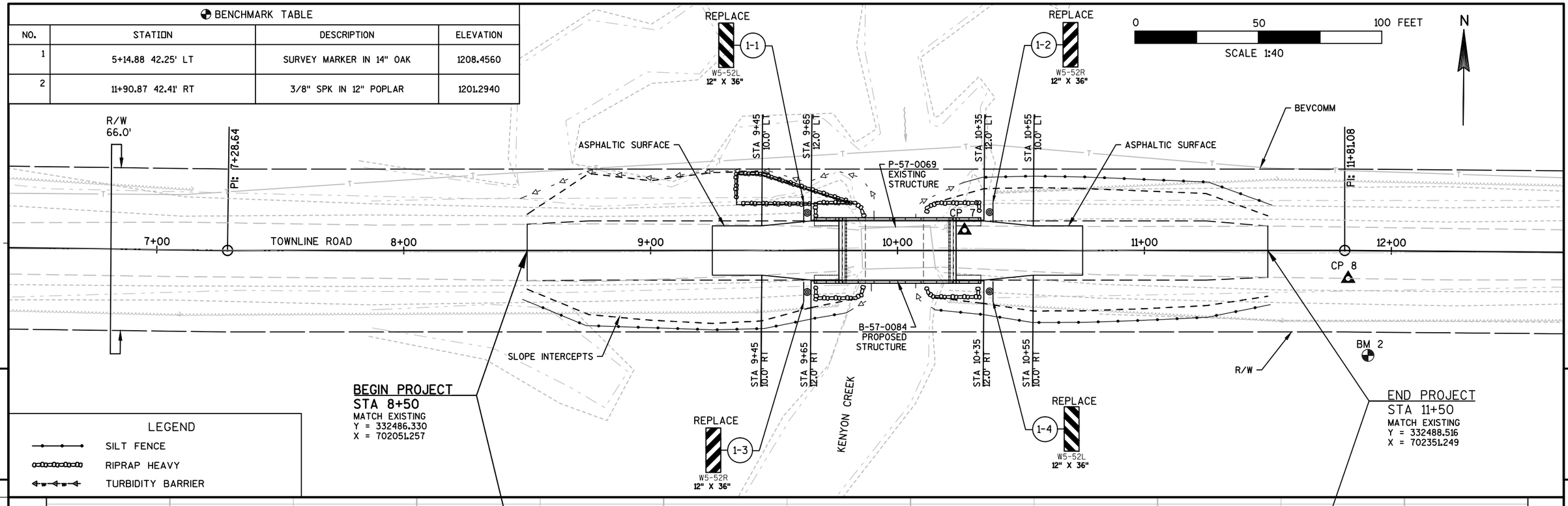
CONSTRUCTION STAKING

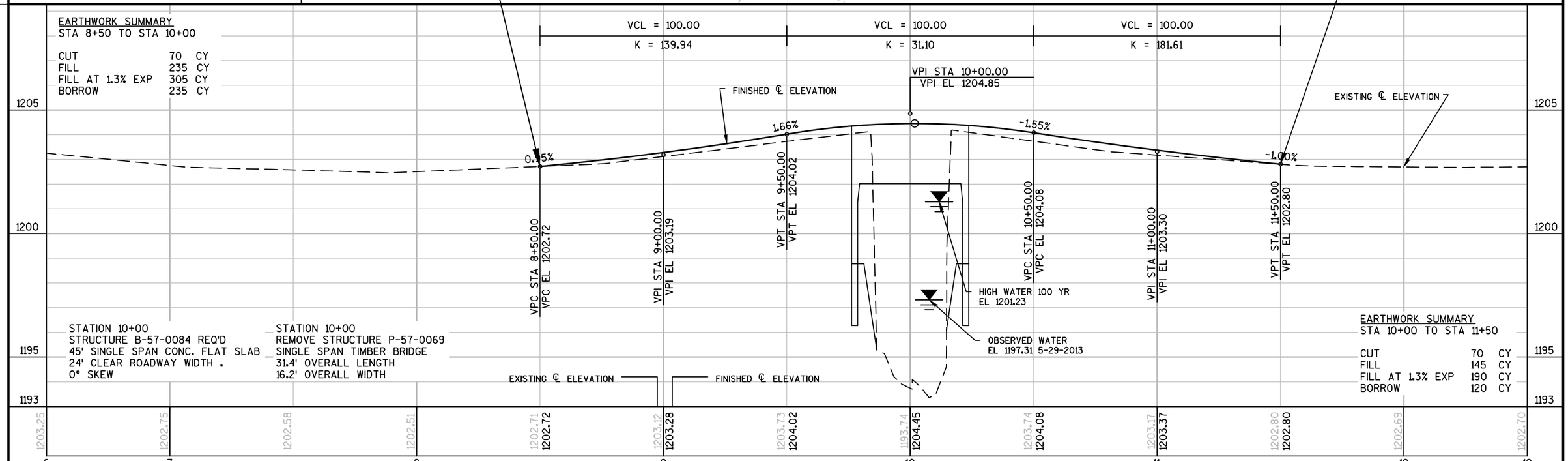
STATION - STATION	LOCATION	650.4500 SUBGRADE LF	*650.6500 STRUCTURE LAYOUT (B-57-84) LS	650.9910 SUPPLEMENTAL CONTROL (8456-00-70) LS	650.9920 SLOPE STAKES LF
TOWNLINE ROAD					
8+50 - 11+50	LT & RT	255		1	255
9+77.5 - 10+22.5	LT & RT		1		
ITEM TOTALS		255	1	1	255

*CATEGORY 0020.

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

BENCHMARK TABLE			
NO.	STATION	DESCRIPTION	ELEVATION
1	5+14.88 42.25' LT	SURVEY MARKER IN 14" OAK	1208.4560
2	11+90.87 42.41' RT	3/8" SPK IN 12" POPLAR	1201.2940

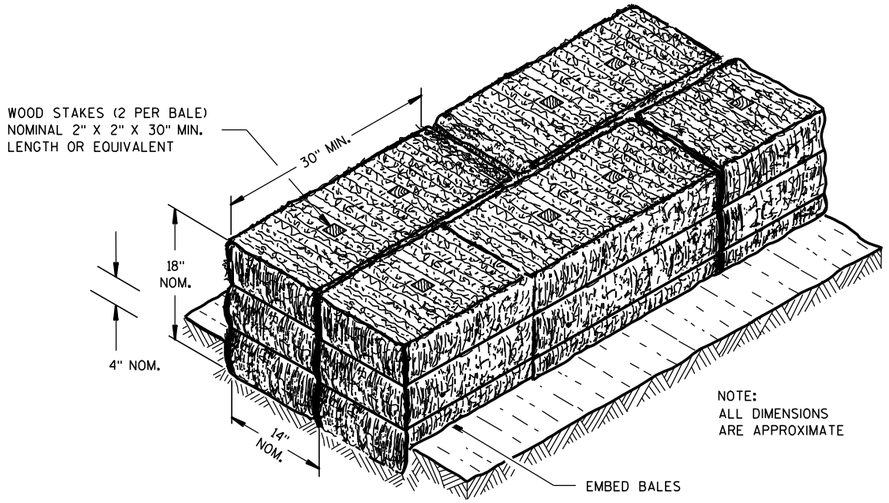




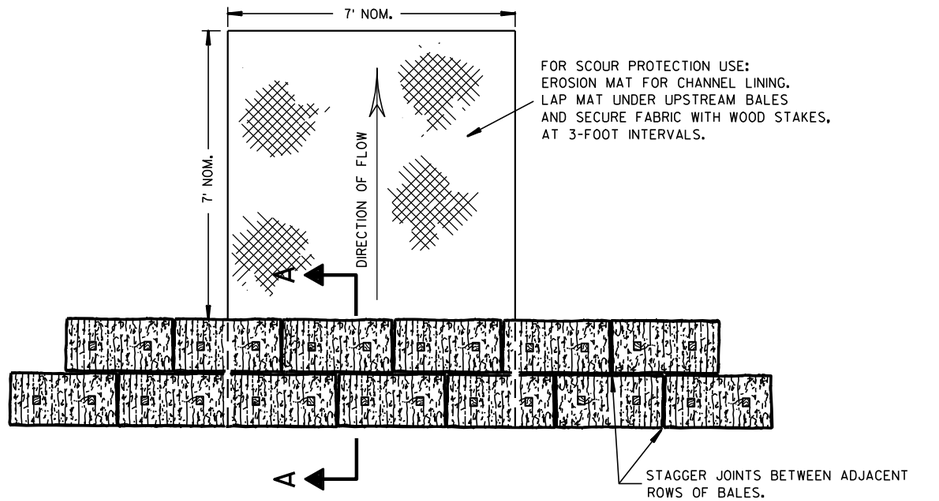
PROJECT NO: 8456-00-70	HWY: TOWNLINE ROAD	COUNTY: SAWYER	PLAN AND PROFILE: KENYON CREEK BRIDGE B-57-0084	SHEET 9	E

Standard Detail Drawing List

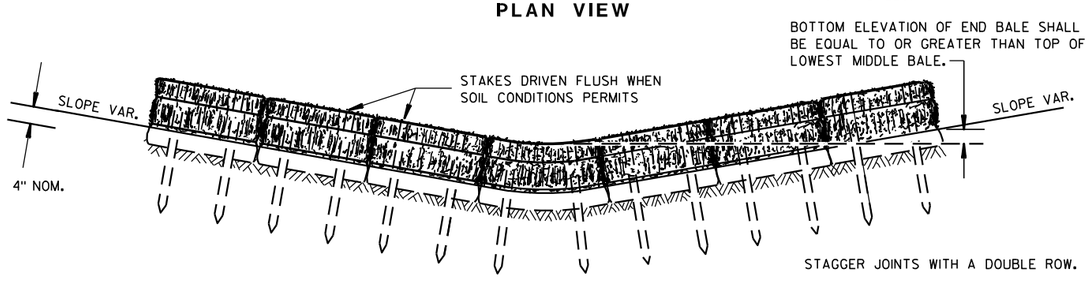
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-06	SIGNING & MARKING FOR TWO LANE BRIDGES



SECTION A-A



PLAN VIEW



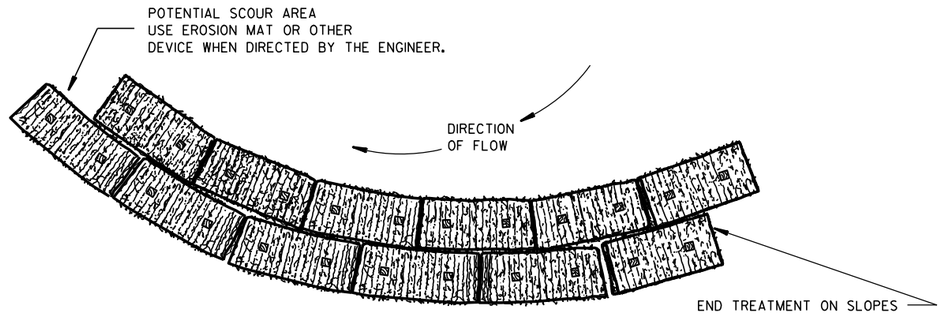
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

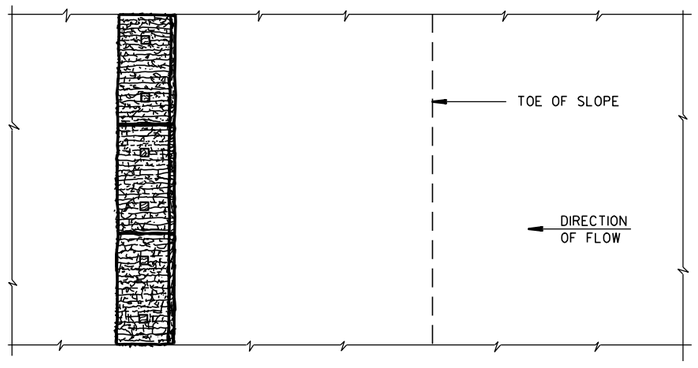
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

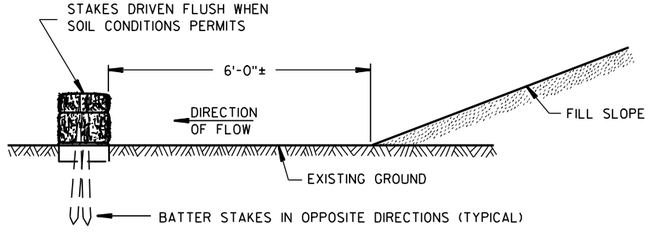


PLAN VIEW

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

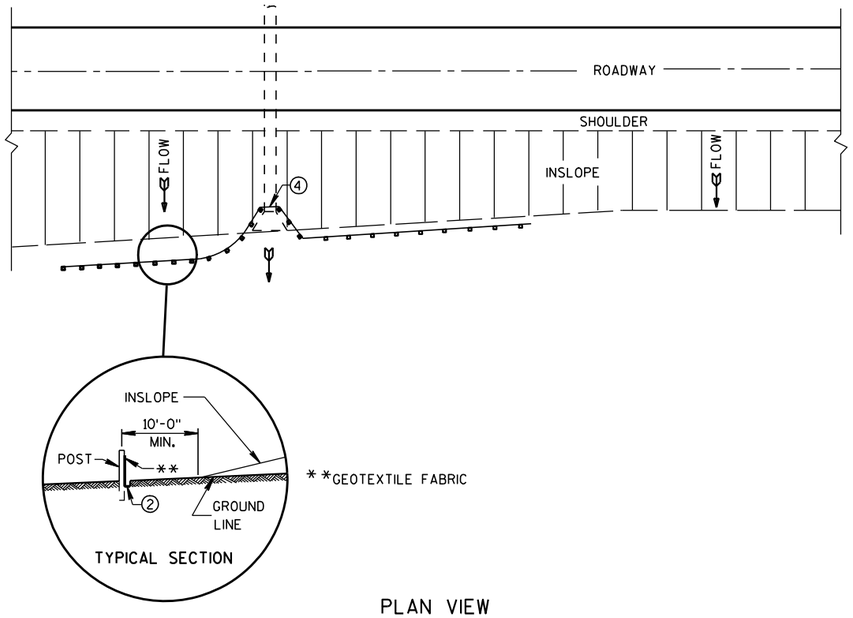
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

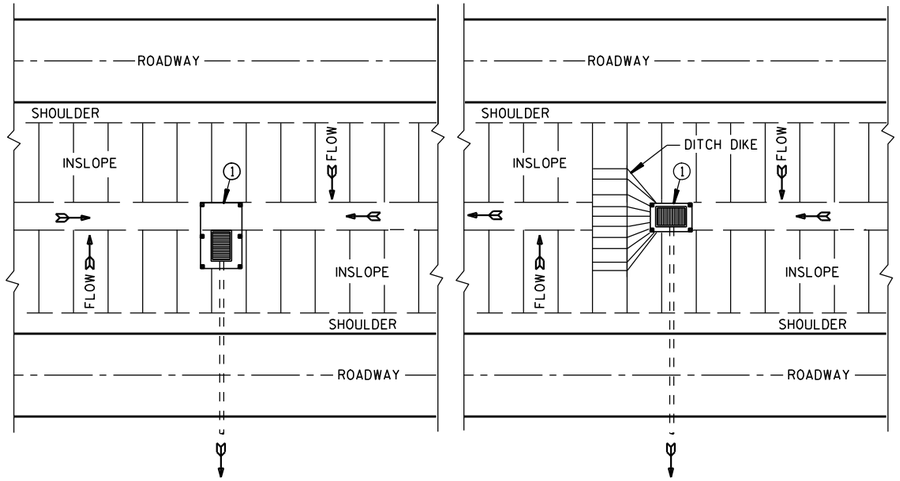
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



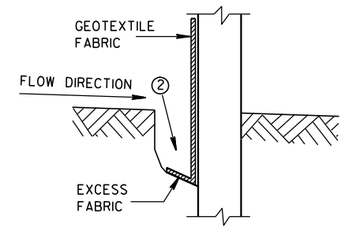
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

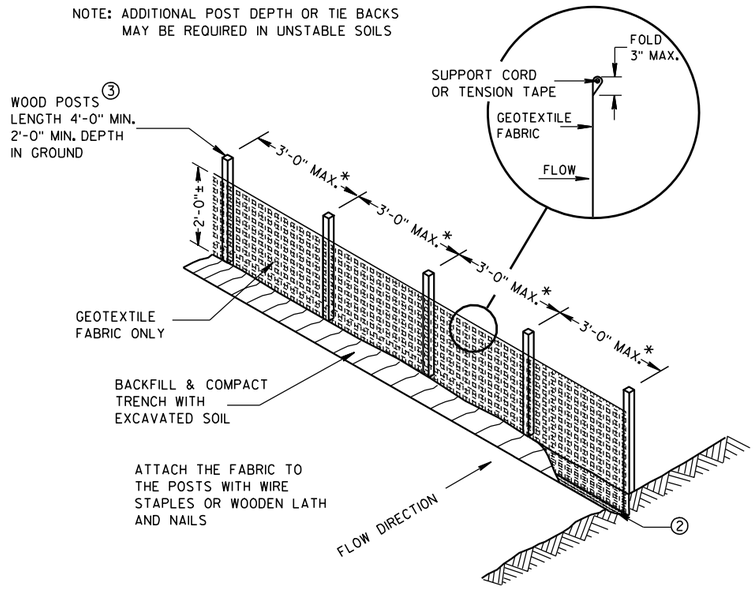
GENERAL NOTES

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

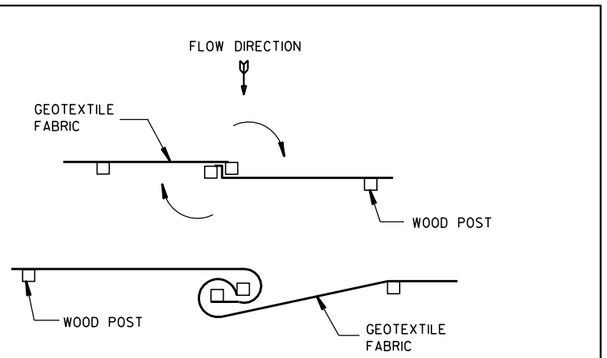
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



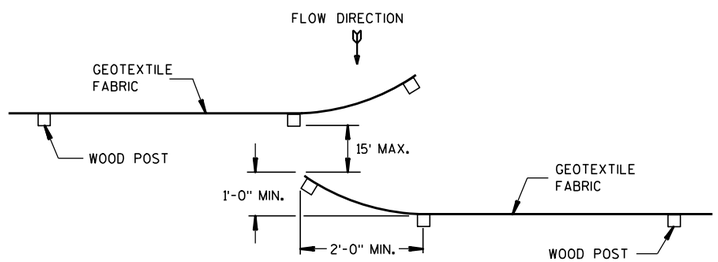
TRENCH DETAIL



SILT FENCE

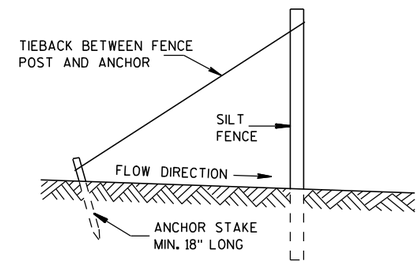


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

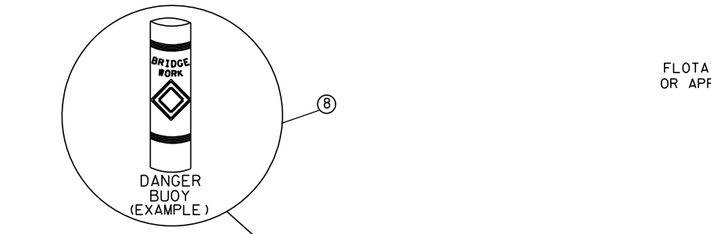
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

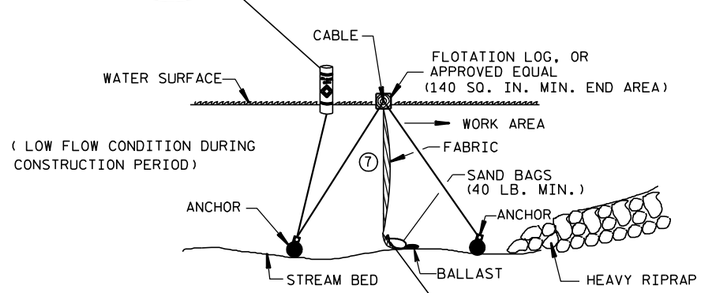
6

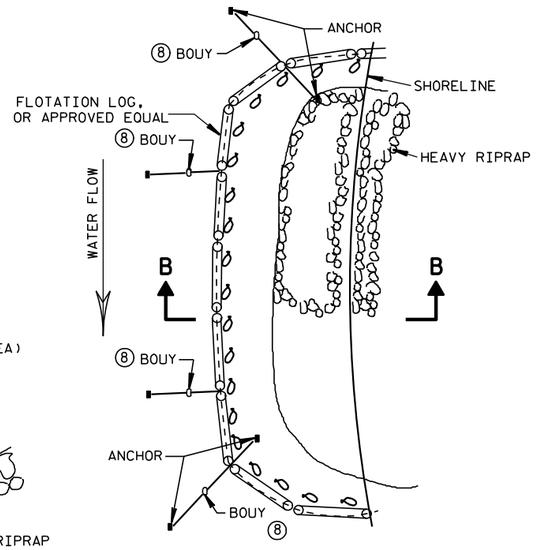
S.D.D. 8 E 9-6

6

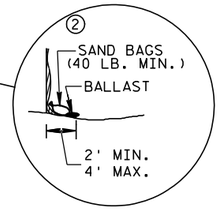
S.D.D. 8 E 9-6



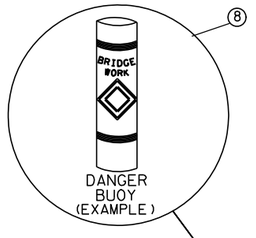


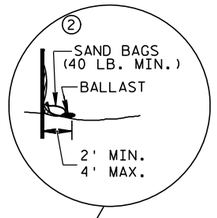


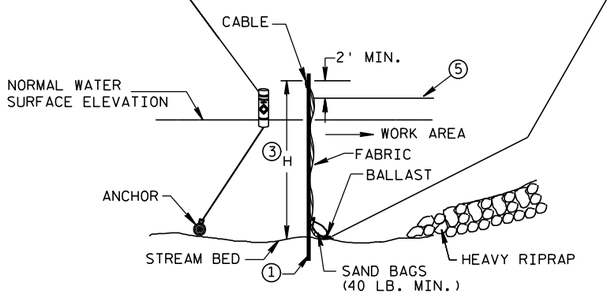
SECTION B-B



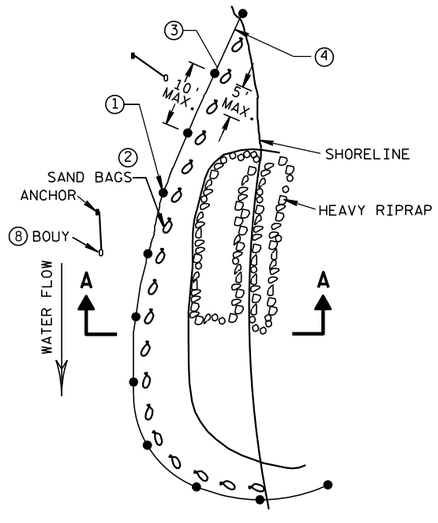
TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6







SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

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.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

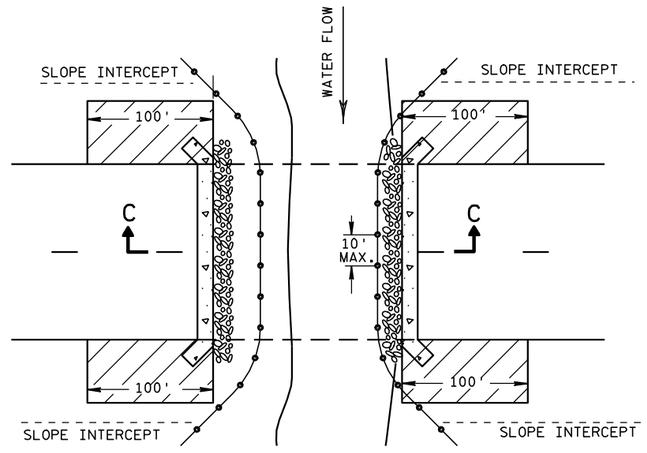
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

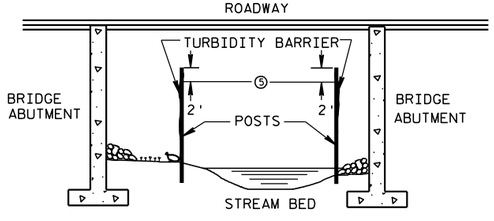
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

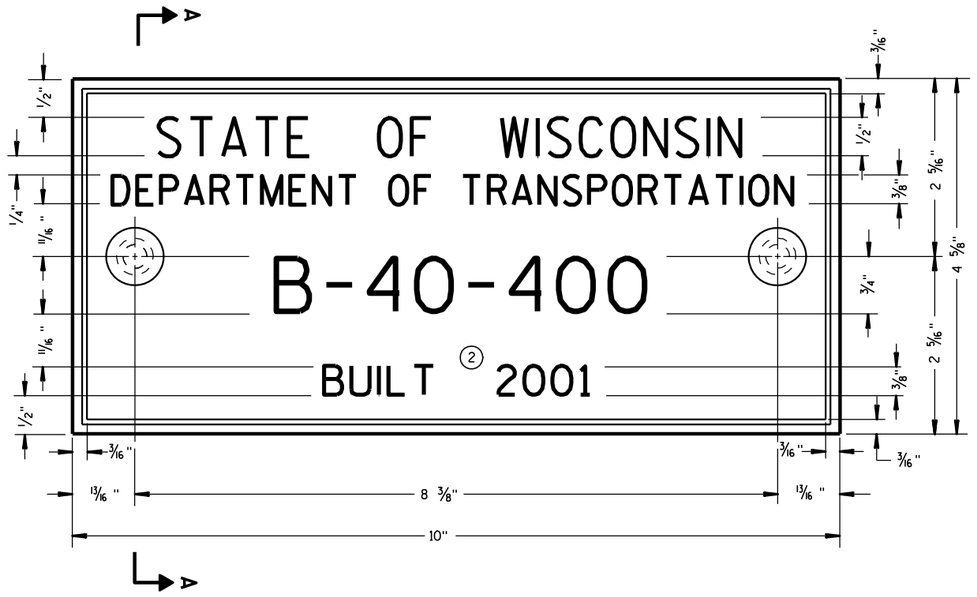
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 11-2



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

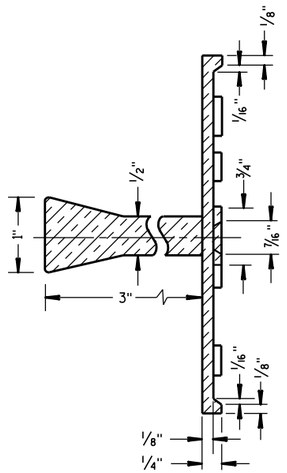
GENERAL NOTES

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.

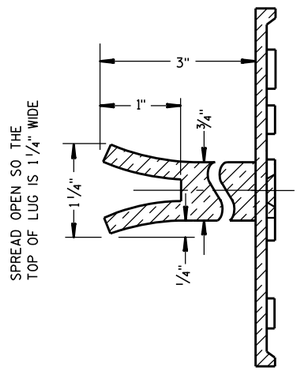
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

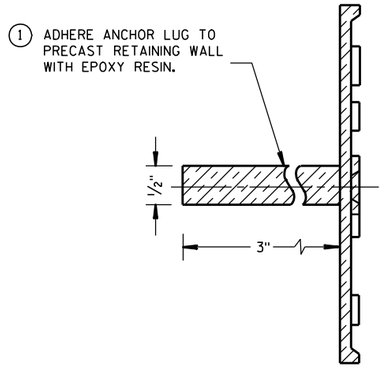
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

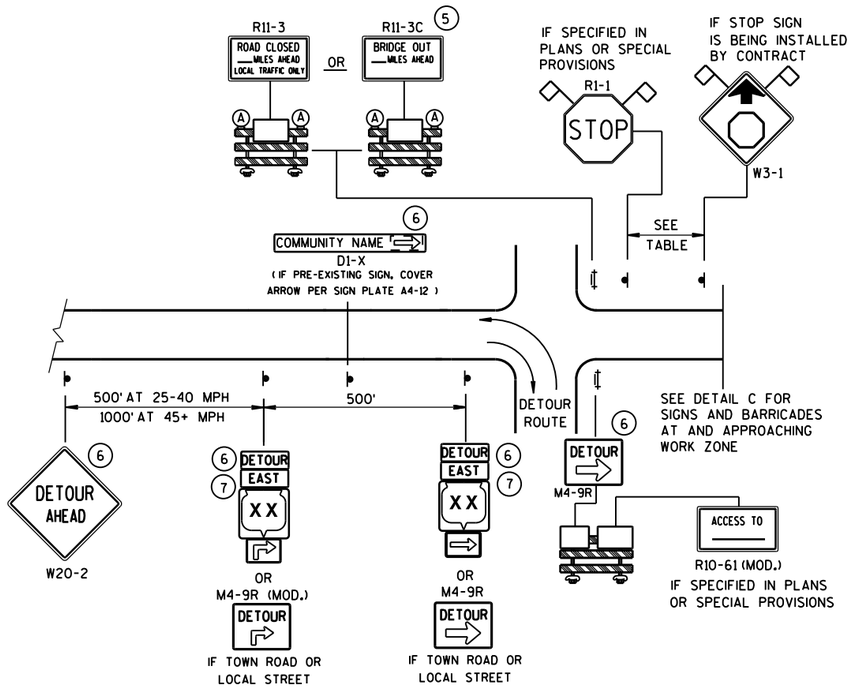
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

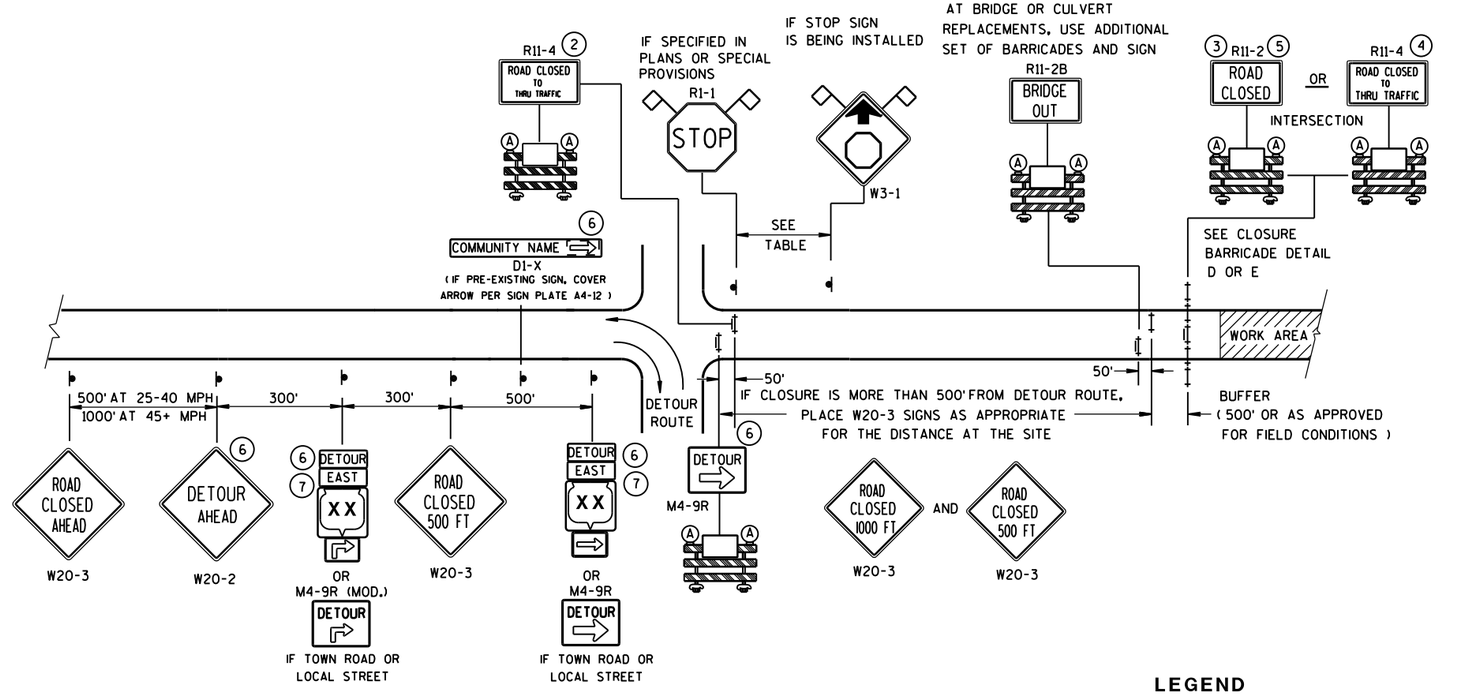
6

S.D.D. 12 A 3-10



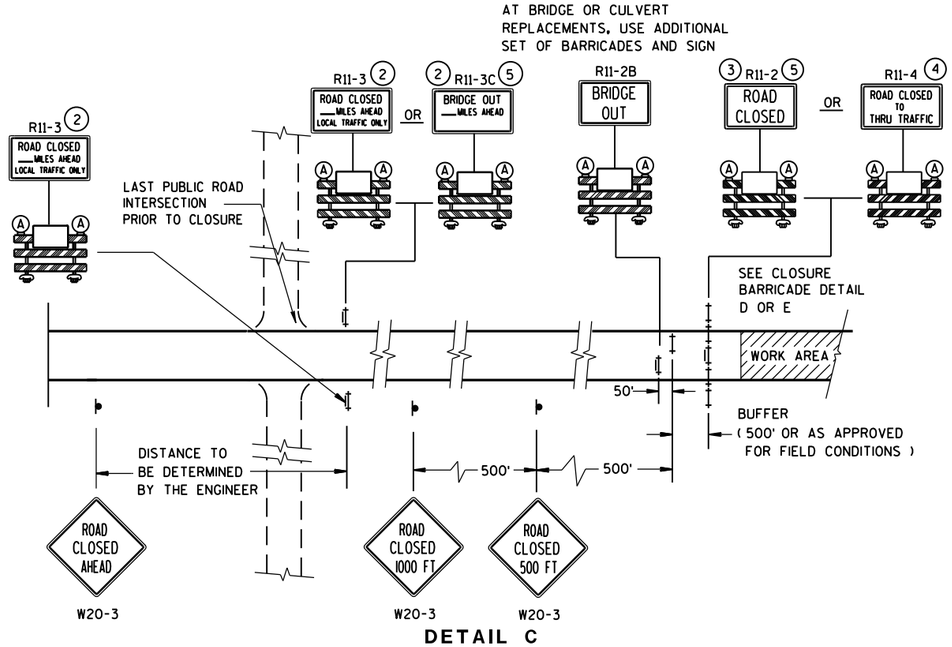
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

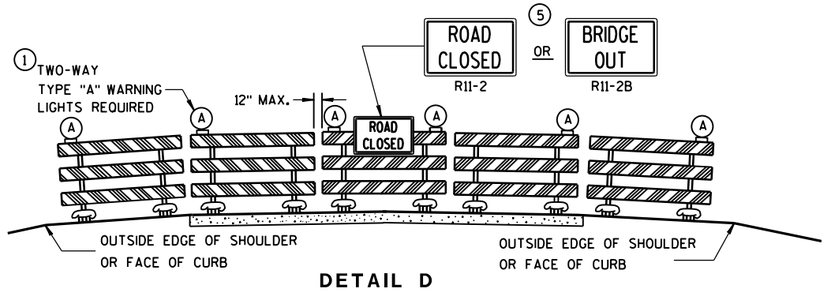
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

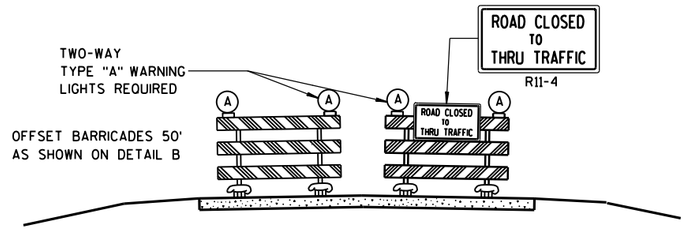
S.D.D. 15 C 2-5a



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

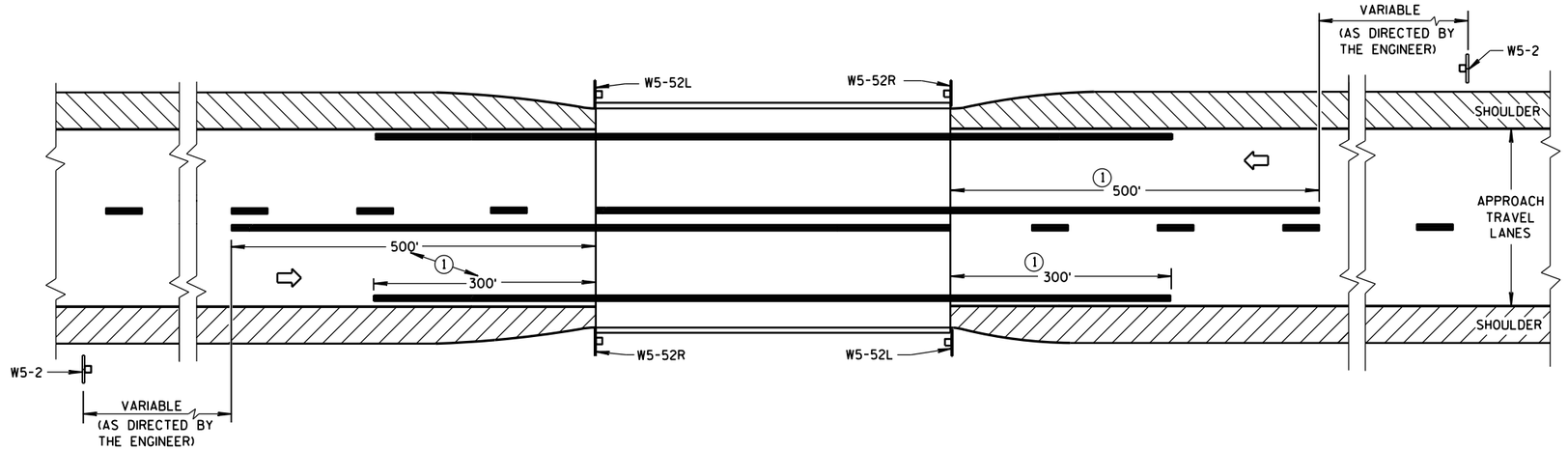
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

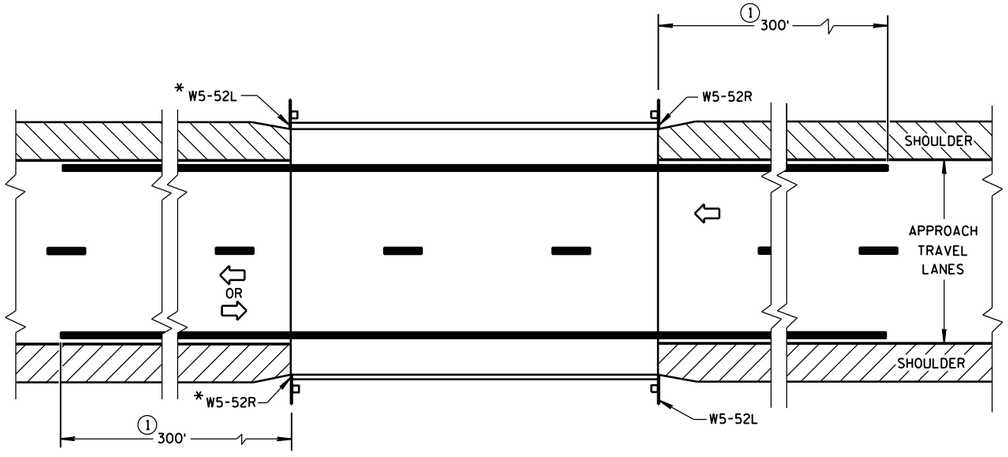
S.D.D. 15 C 2-5b



SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET



*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.

GENERAL NOTES

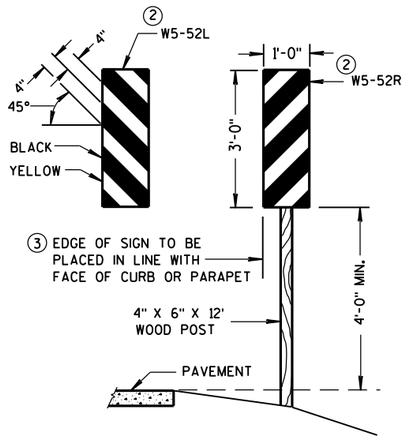
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

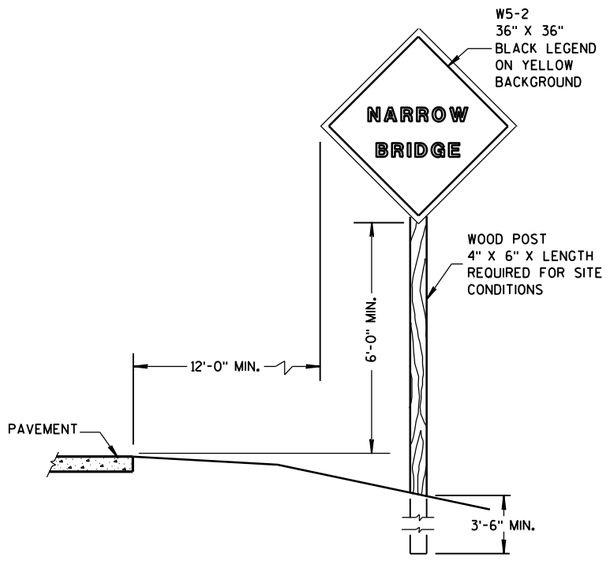
(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(2) FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.

(3) LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/4/2013 — DATE

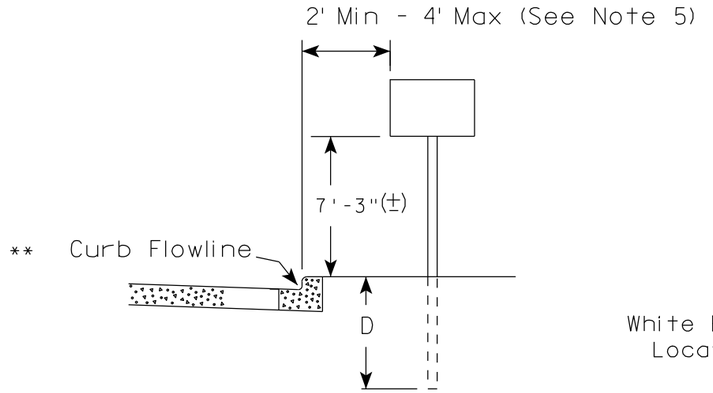
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

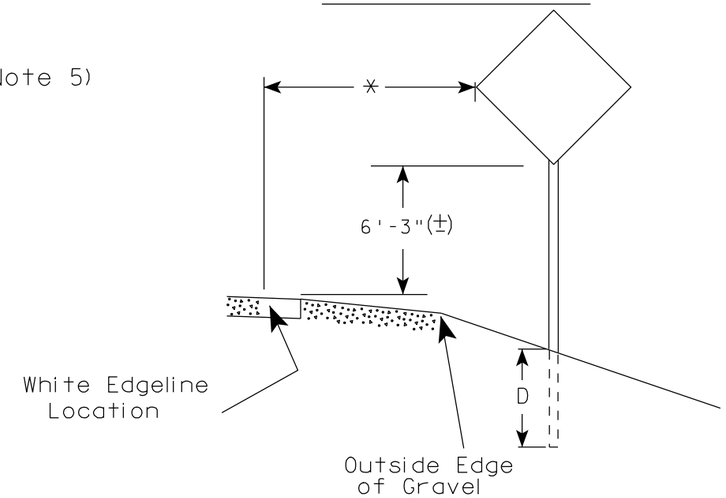
6

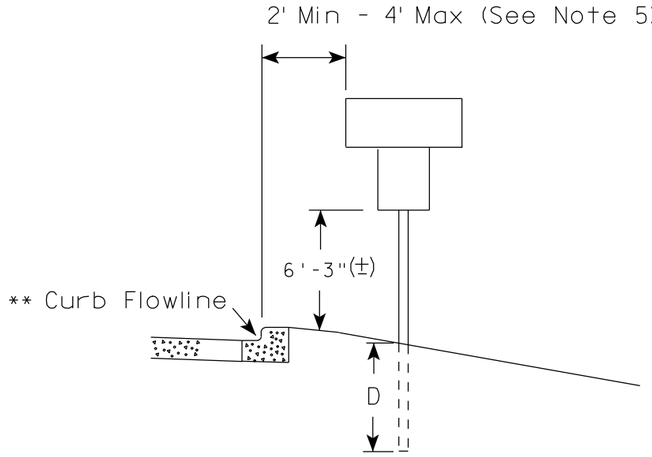
S.D.D. 15 C 6-6

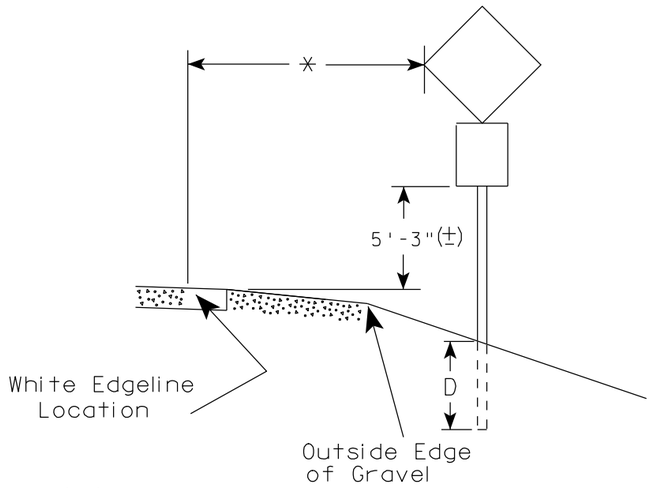
URBAN AREA



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 or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

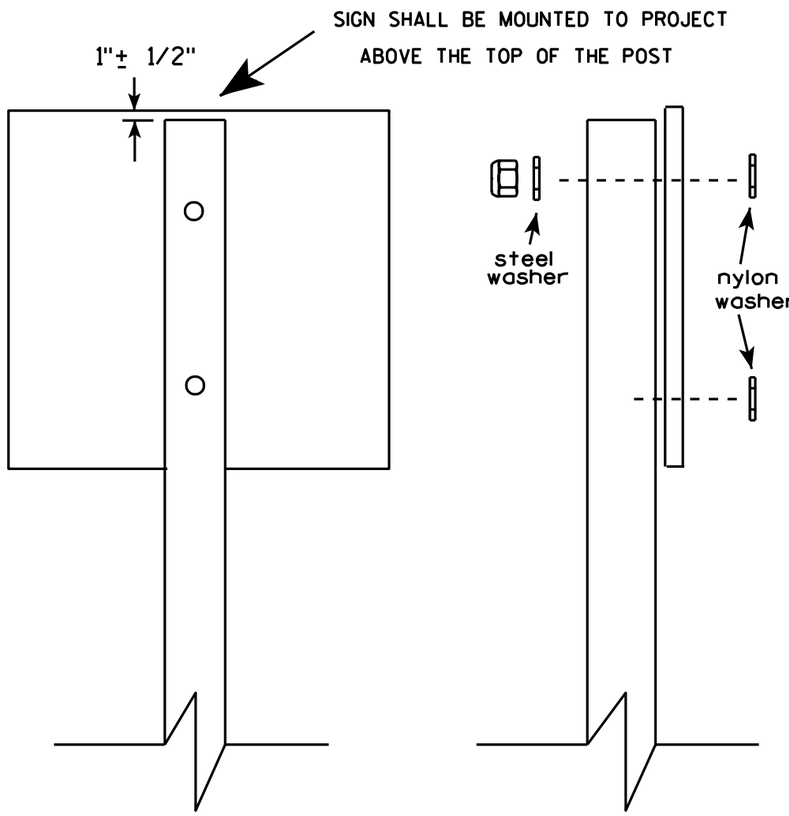
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

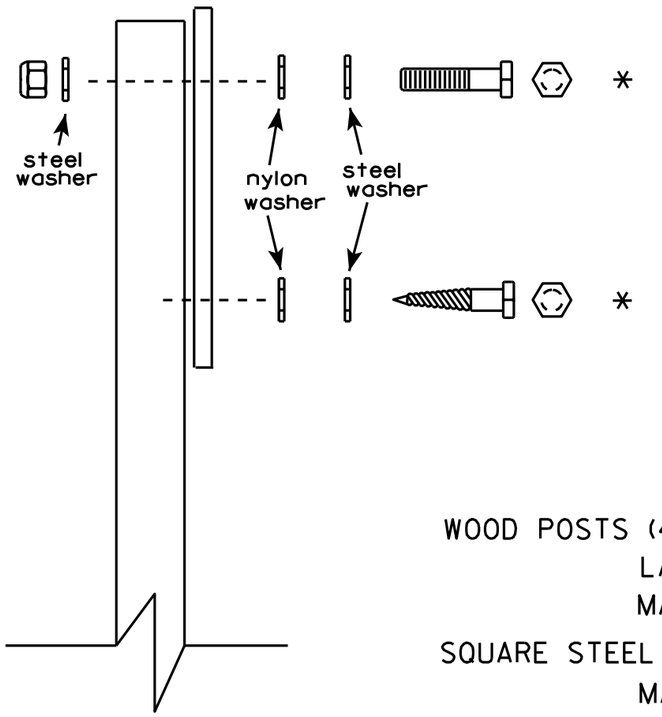
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 18	E





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

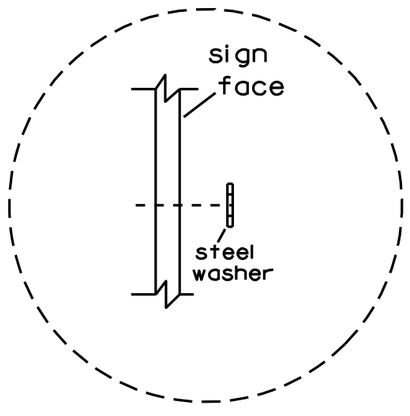
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

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



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

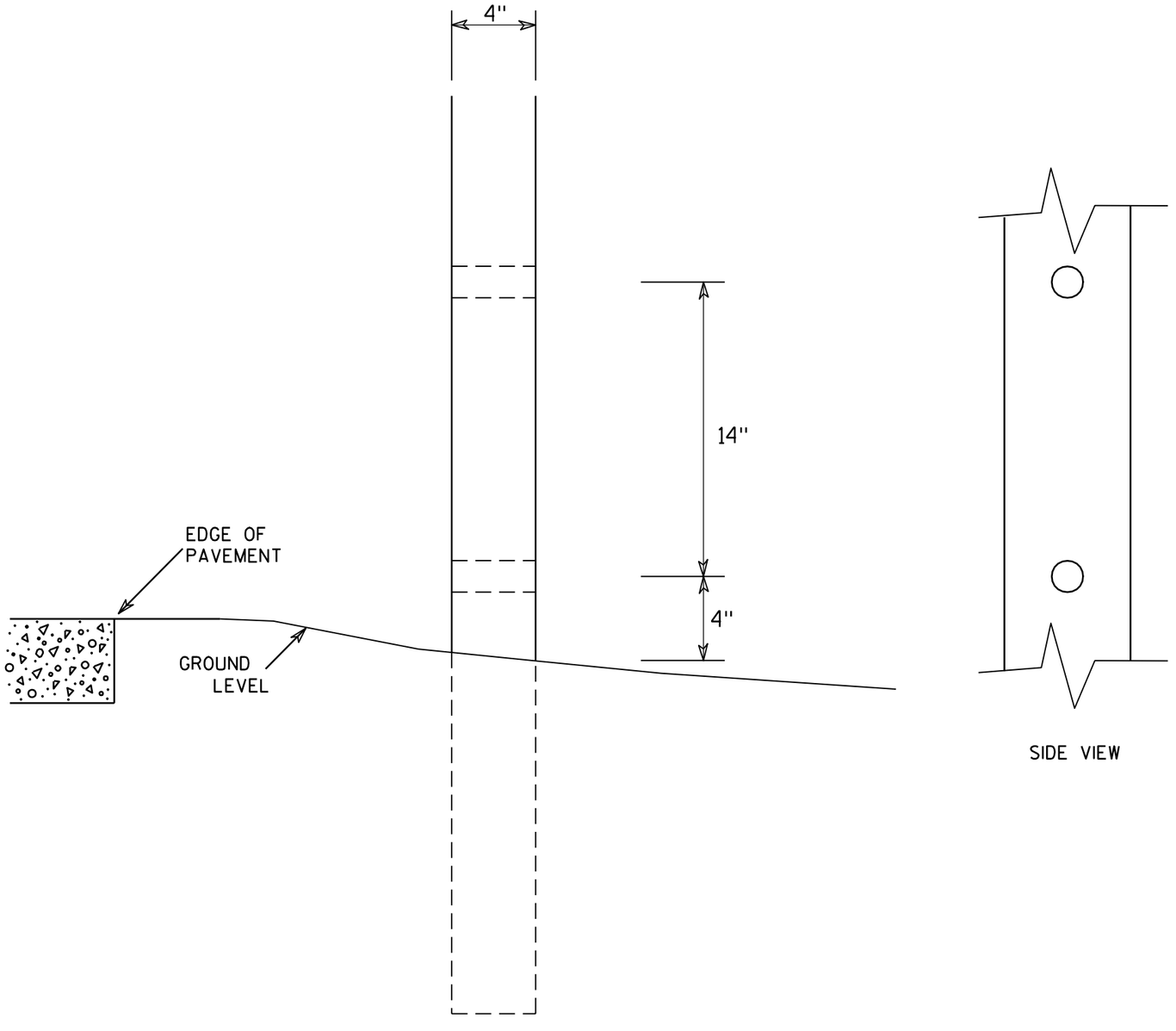
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 19 E



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

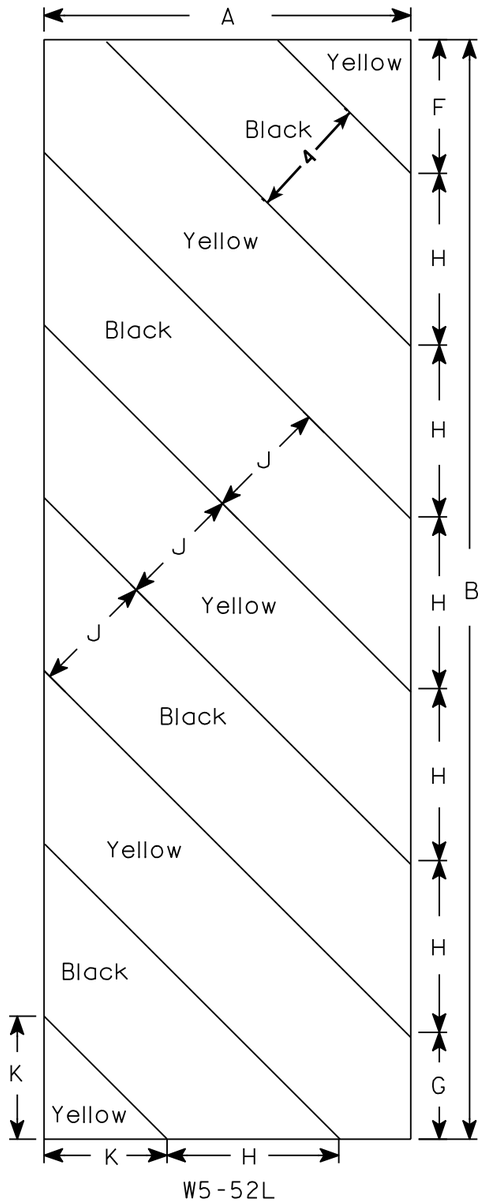
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

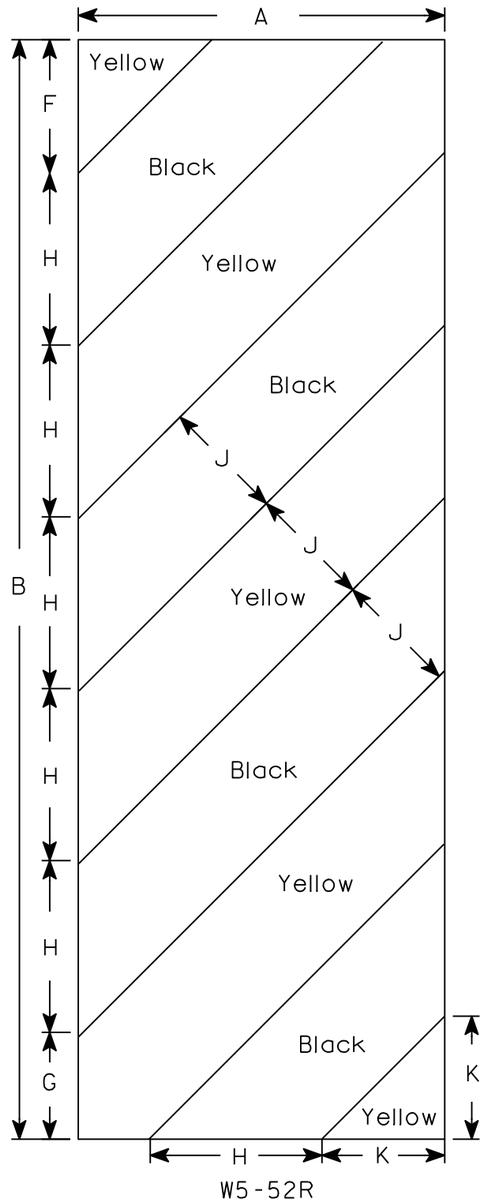
APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 20	E



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

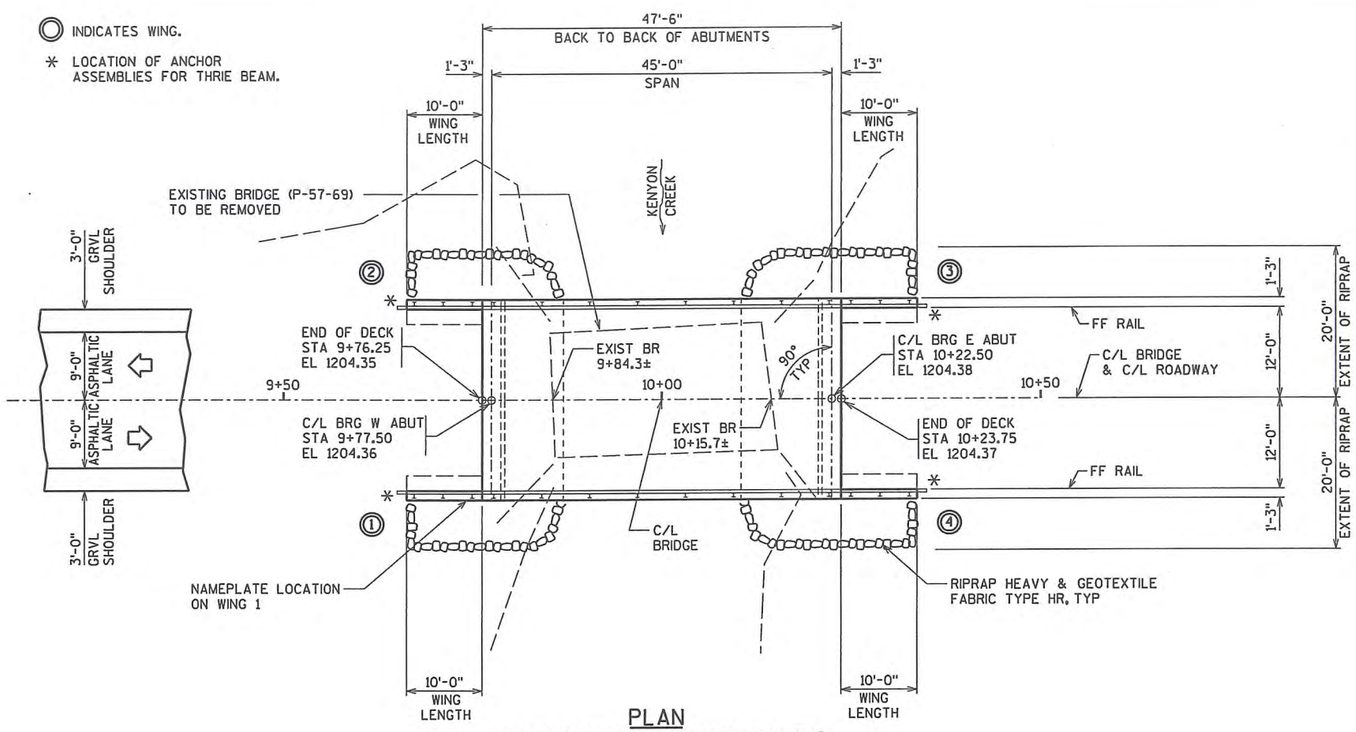
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

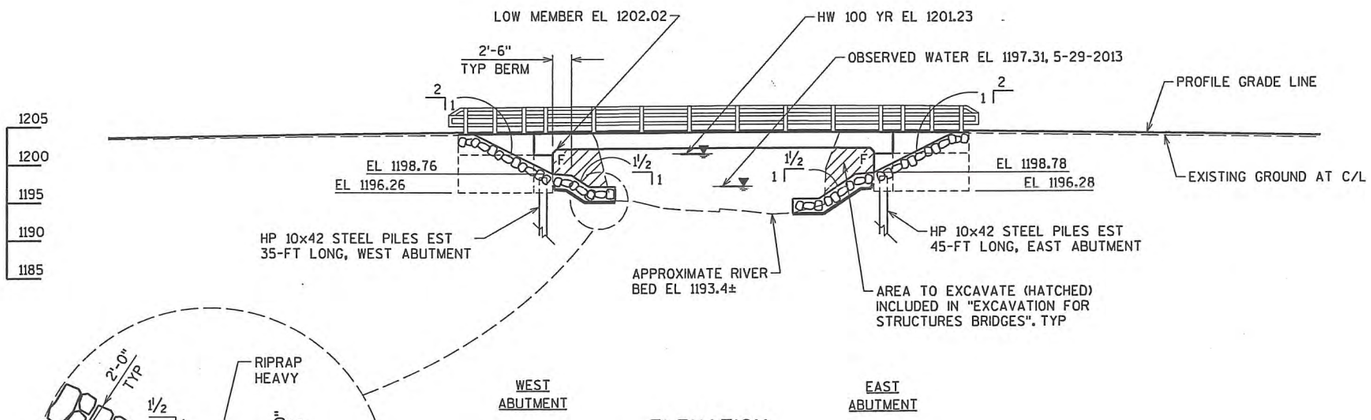
DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 21	E



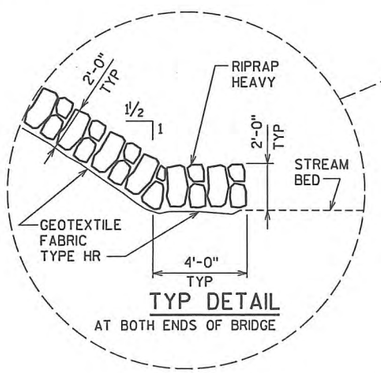
PLAN

SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB



ELEVATION

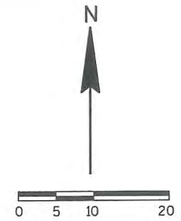
LOOKING NORTH



TYP DETAIL

AT BOTH ENDS OF BRIDGE

BENCHMARK (DATUM = NAVD 88)			
NO	STATION	DESCRIPTION	ELEV
1	5+14.88, 42.25' LT	SURVEY MARKER IN 14" OAK	1208.456
2	11+90.87, 42.41' RT.	3/8" SPK IN 12" POPLAR	1201.294



STATE PROJECT NUMBER

8456-00-70

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL93
INVENTORY RATING FACTOR: RF = 1.29
OPERATING RATING FACTOR: RF = 1.67
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF

INVENTORY AND OPERATING RATINGS DO NOT INCLUDE FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY - SLAB	f'c =	4,000 psi
- ALL OTHER (GRADE A)	f'c =	3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT AASHTO GRADE 60	fy =	60,000 psi

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10X42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 35-FT LONG AT WEST ABUT AND 45-FT LONG AT EAST ABUT.

*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

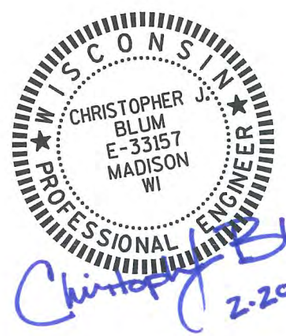
HYDRAULIC DATA

100 YEAR FREQUENCY		
Q_{100}	1075	CFS
Q_{100} THRU BRIDGE	1075	CFS
VELOCITY	5.04	FPS
HIGH WATER EL	1201.23	FT
WATERWAY AREA	213	SQ FT
DRAINAGE AREA	20.80	SQ MI
2 YEAR FREQUENCY		
Q_2	363	CFS
HIGH WATER EL	1199.16	FT
SCOUR CODE	8	

TRAFFIC DATA

ADT (2014)	=	100
ADT (2034)	=	120
DHV	=	12
D	=	50 %
T	=	10 %
DESIGN SPEED	=	55 MPH

LIST OF DRAWINGS



SEH CONTACT: CHRIS BLUM, PE, 608.620.6192
WISDOT BRIDGE OFFICE CONTACT: BILL DREHER, PE, 608.266.8489

NO.	DATE	REVISION	BY

SEH
SHORT ELLIOTT HENDRICKSON INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/21/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-57-84

TOWNLINE ROAD OVER KENYON CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
SAWYER	RADISSON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CJB	CJB	DLF	CJB

GENERAL PLAN

SHEET 1 OF 7

22

8

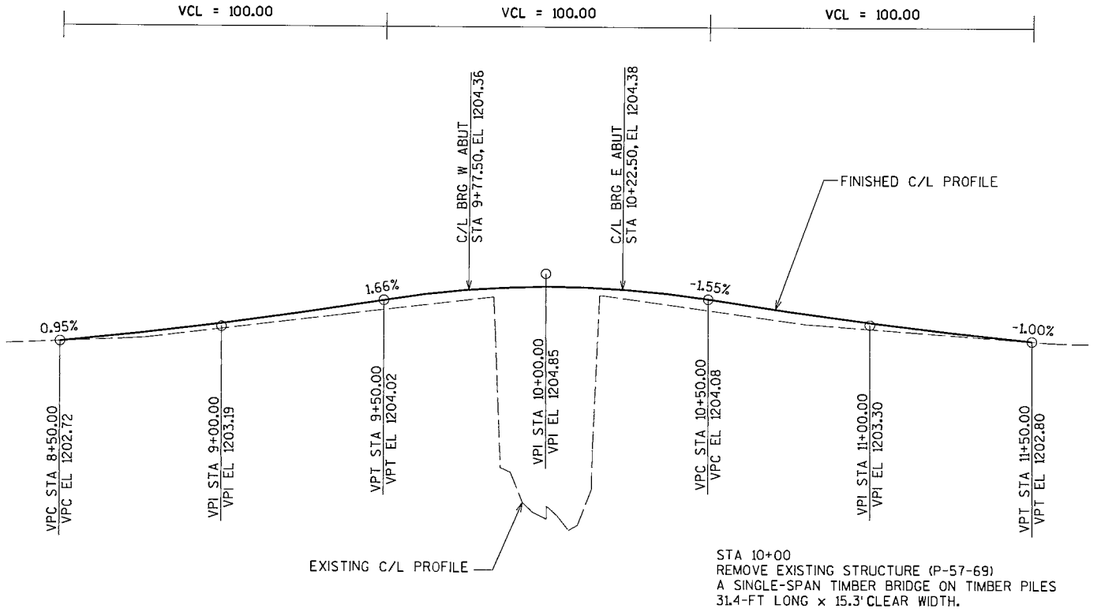
8

PLOT DATE: 2/20/2014 PLOT TIME: 9:07:33 AM

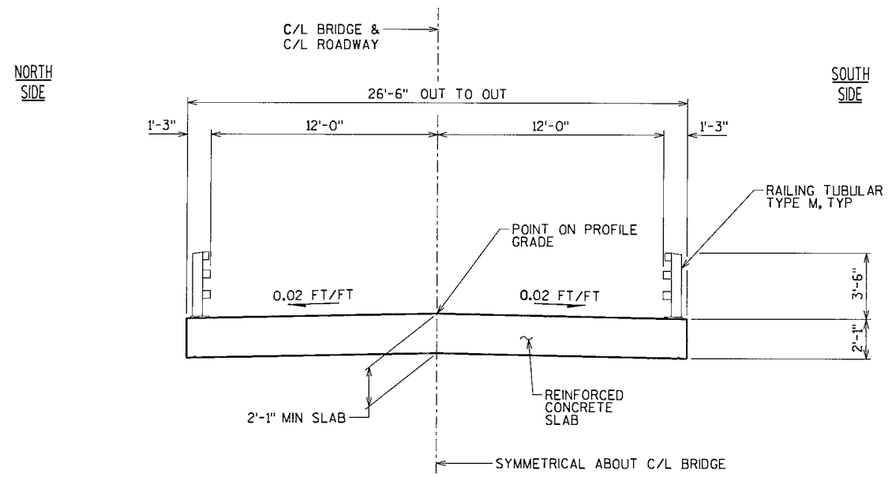
FILE NAME : S:\PT\S\Sawyer\123989\5-final-dsgn\51-drawings\20-Struct\bridge\b57084gl.dgn

PLOT DATE: 11/21/2013 PLOT TIME: 8:55:05 AM

STATE PROJECT NUMBER
8456-00-70



PROFILE GRADE LINE



CROSS SECTION THRU BRIDGE
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES - B-57-84

BID ITEM NUMBER	BID ITEMS	UNIT	WEST ABUT	EAST ABUT	SUPER	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 10+00	LS	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-57-84	LS	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	68	68	-	136
502.0100	CONCRETE MASONRY BRIDGES	CY	28	28	101	157
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	178	178
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	1,465	1,465	-	2,930
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,465	1,465	20,310	23,240
513.4060	RAILING TUBULAR TYPE M B-57-84	LS	-	-	1	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	12	-	24
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	140	180	-	320
606.0300	RIPRAP HEAVY	CY	45	50	-	95
(1) 612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	30	30	-	60
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	50	50	-	100
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	75	90	-	165
	NON-BID ITEMS					
	FILLER	SIZE	——	——	——	1/2 & 3/4

(1) INCLUDES REINFORCED CONCRETE APRON ENDWALL AND RODENT SHIELD PER SDD REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

SEE ROADWAY PLANS FOR EXISTING UTILITY LOCATIONS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENTS DETAILS.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

AT ABUTMENTS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL UNLESS OTHERWISE NOTED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION :M153 TYPE 1, 2, OR 3 OR AASHTO DESIGNATION :M213.

COAT WITH "PROTECTIVE SURFACE TREATMENT" PER THE STANDARD SPECIFICATIONS AND THE SUPERSTRUCTURE DETAILS SHEET.

FOR EXISTING STRUCTURE SEE PROFILE GRADE LINE THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-57-84

DRAWN BY DLF | PLANS CK'D. CJB

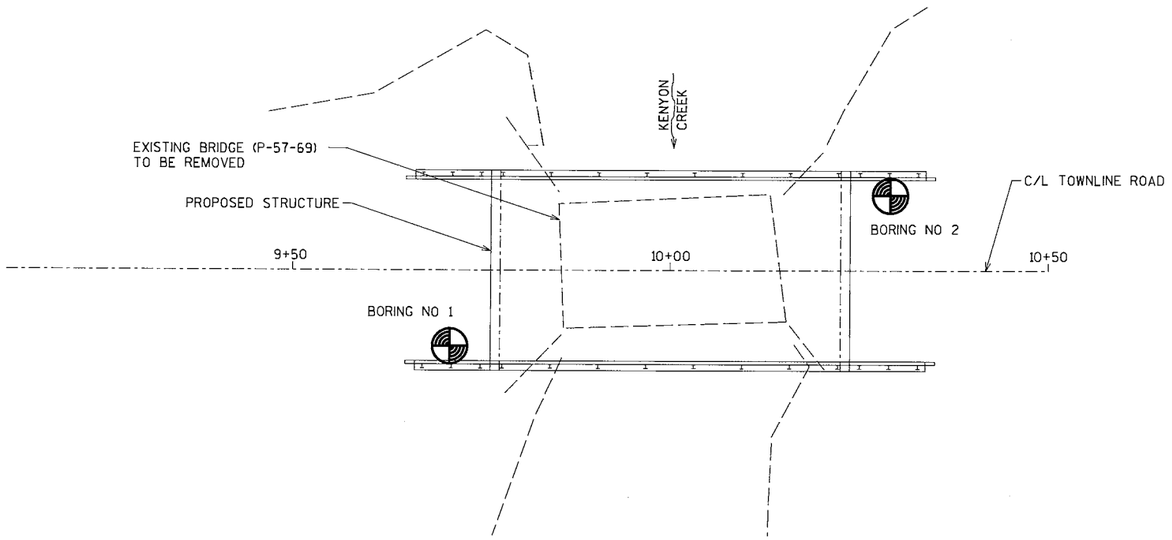
CROSS SECTION AND QUANTITIES

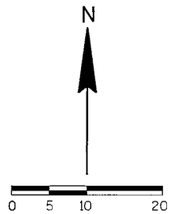
SHEET 2 OF 7
23

FILE NAME : S:\PTS\Sawyer\123989\5-final-dsgn\51-drawings\20-Struct\bridge\b57084g2.dgn

8

8





SOIL BORINGS PERFORMED BY:

MIDWEST ENGINEERING SERVICES, INC
12839 30TH AVE, SUITE A
CHIPPEWA FALLS, WI. 54729
PH: 715.738.2770 FAX: 715.738.2771

REPORT BY:
JEFFERY A MANNINEN
BRANCH MANAGER

STATE PROJECT NUMBER

8456-00-70

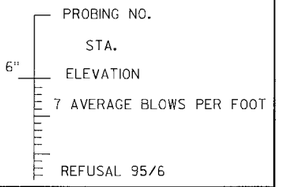
ABBREVIATIONS

F— FINE M— MEDIUM C— COARSE
WS— WEATHERED SO— SOUND

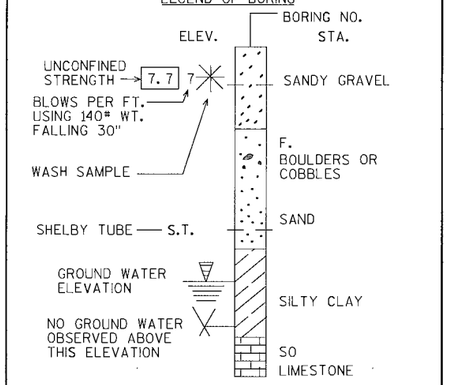
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



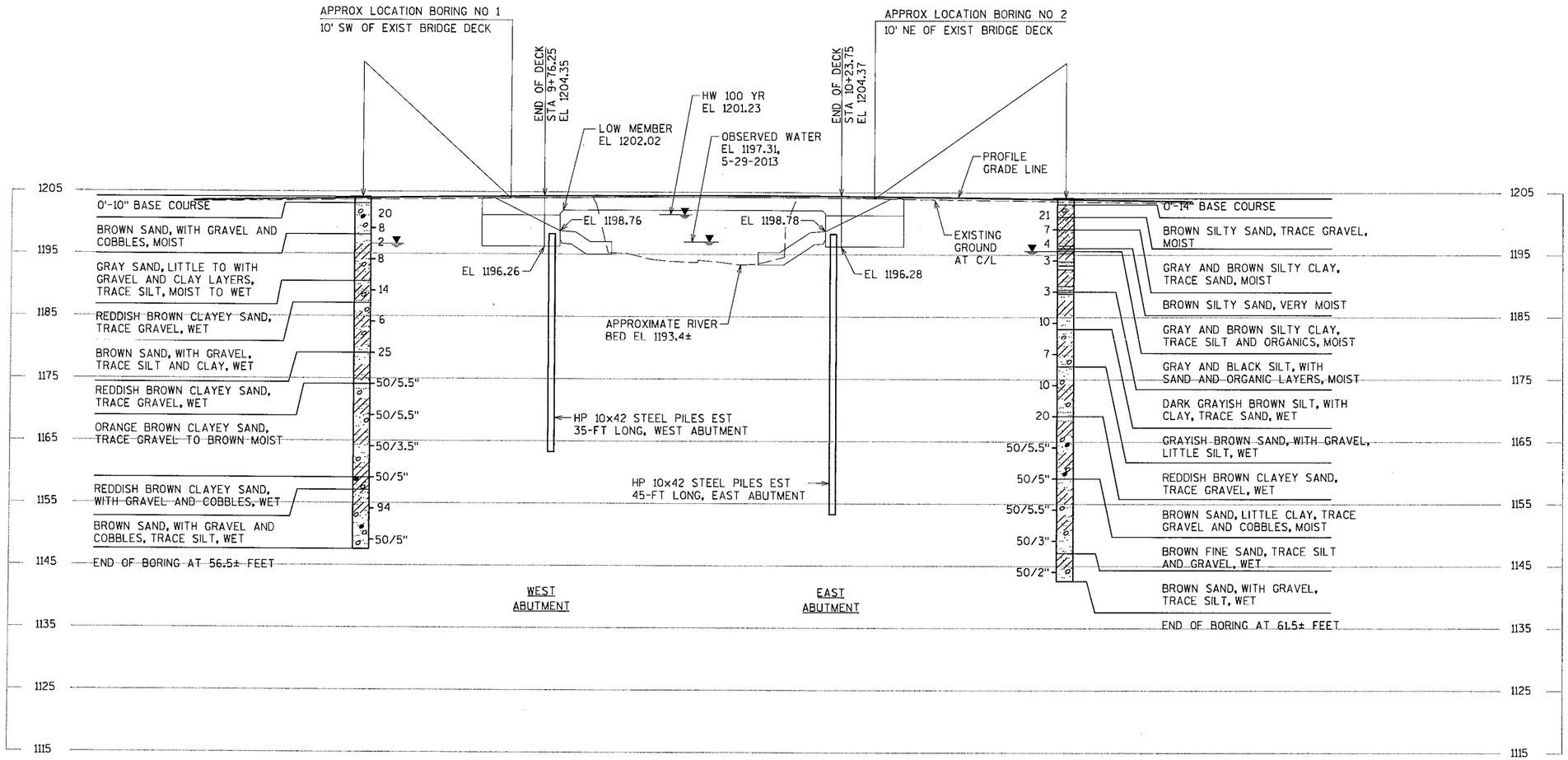
LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-57-84

DRAWN BY DLF | PLANS CK'D. CJB

SUBSURFACE EXPLORATION

SHEET 3 OF 7
24

PLOT DATE: 11/21/2013
PLOT TIME: 8:55:40 AM
FILE NAME : S:\PT\S\Sawya\239891\5-final-dsgn\51-drawings\20-Struct\bridge\b570840.dgn

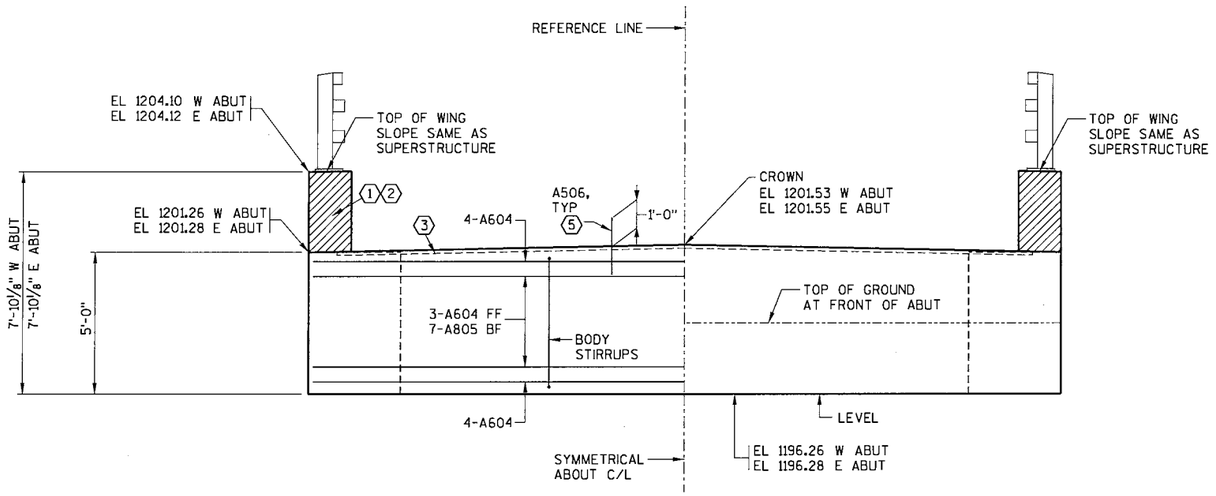
8

8

PLOT TIME: 9:50:33 AM
PLOT DATE: 2/20/2014
FILE NAME : S:\PT\S\Sawyer\23989\05-final-dsgn\51-drawings\20-Struct\bridge\b57084al.dgn

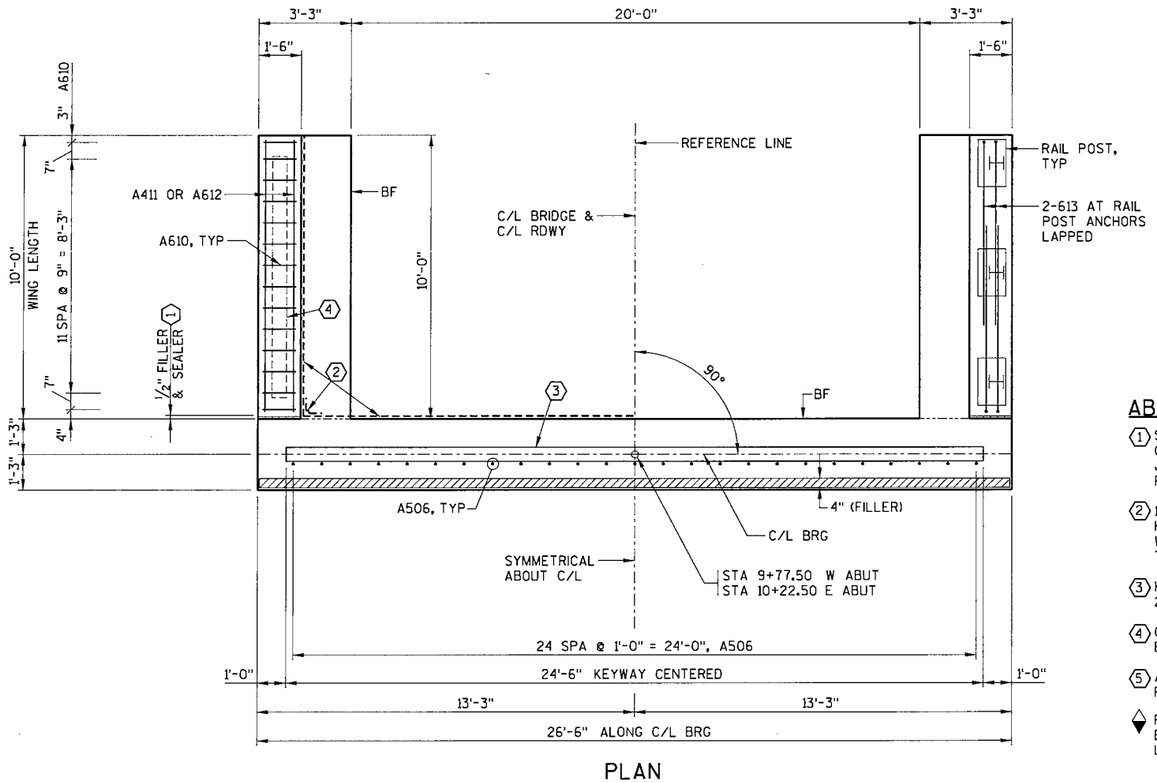
STATE PROJECT NUMBER

8456-00-70

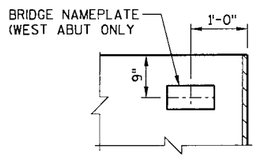


FRONT ELEVATION

(PILES NOT SHOWN FOR CLARITY)

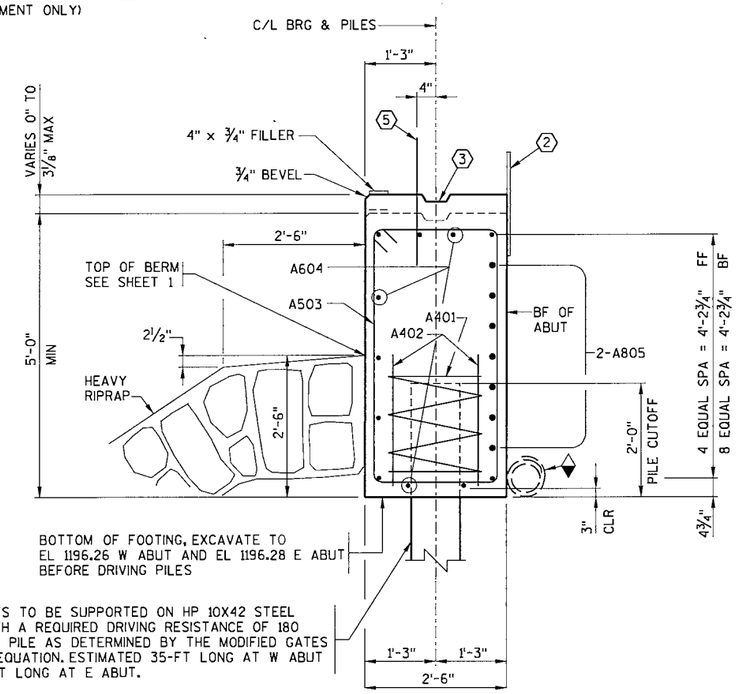


PLAN



NAMEPLATE LOCATION DETAIL

(ON WING 1 WEST ABUTMENT ONLY)



TYPICAL SECTION THRU BODY

ALL HORIZ BARS TO BE A604 UNLESS OTHERWISE SHOWN OF NOTED

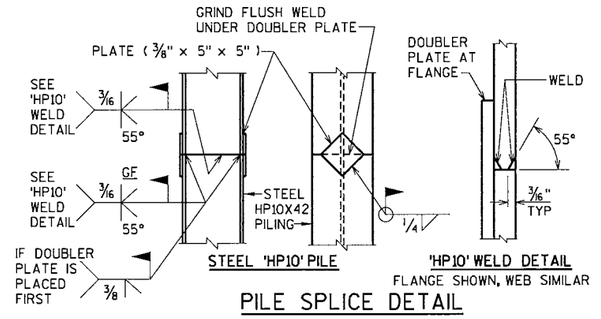
W ABUT = WEST ABUTMENT
E ABUT = EAST ABUTMENT

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE

ABUTMENT NOTES

1. SEAL ALL EXPOSED HORIZ. AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE). FILLER INCLUDED IN WING LENGTH.
2. 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ & VERT JOINTS ON BACKFACE. VERTICAL WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.
3. KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 6".
4. OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 6" WITH MEMBRANE ON BACKFACE.
5. A506 BARS MAY BE PLACED AFTER CONC HAS BEEN POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

◆ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN BEHIND ABUTMENT BODY AND WINGS. PIPE UNDERDRAIN UNPERFORATED TO BE PLACED OUTSIDE WINGS.



STEEL 'HP10' PILE

'HP10' WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-57-84

DRAWN BY DLF | PLANS CK'D. CJB

WEST AND EAST ABUTMENT DETAILS

SHEET 4 OF 7

25

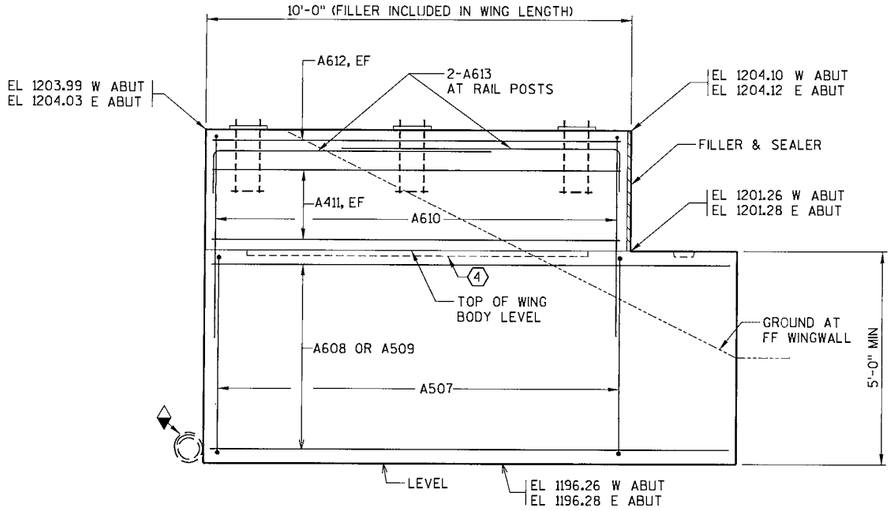
8

8

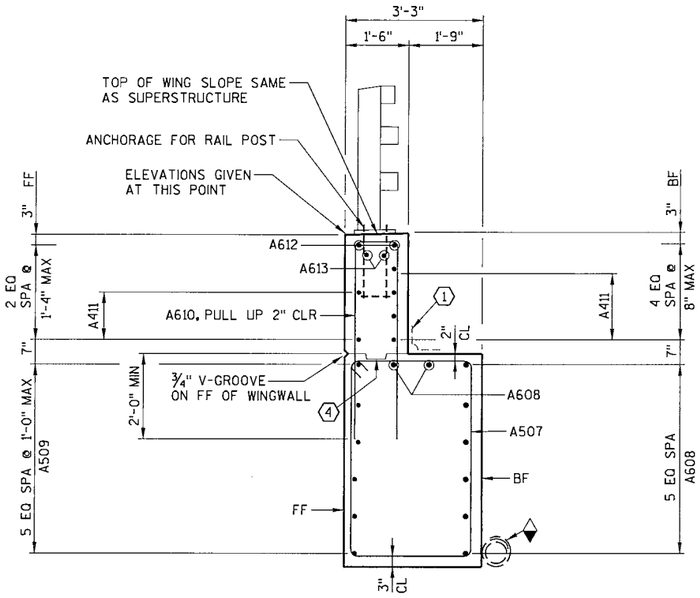
PLOT DATE: 11/21/2013 PLOT TIME: 8:56:11 AM
FILE NAME : S:\PTS\Sawyer\123989\5-final-dsgn\51-drawings\20-Struct\bridge\b5708402.dgn

STATE PROJECT NUMBER

8456-00-70



TYP WING ELEVATION



TYP SECTION THRU WINGWALLS

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

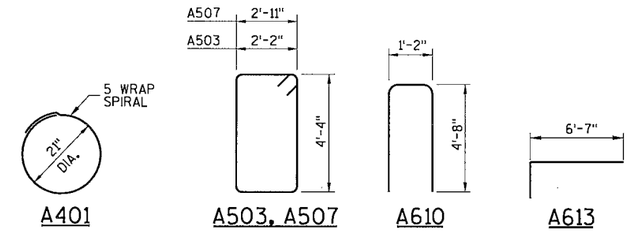
BILL OF BARS — BOTH ABUTMENTS

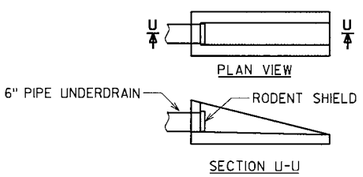
BAR MARK	COAT	NO. * REQ'D.	LENGTH (FT-IN)	BAR. SERIES	BENT	LOCATION
A401		8	28 - 0		X	BODY AT PILES
A402		16	2 - 3			BODY AT PILES
A503		64	13 - 7		X	BODY STIRRUPS
A604		22	26 - 2			BODY HORIZ
A805		14	26 - 2			BODY HORIZ BF
A506	X	50	2 - 0			BODY DOWELS
A507	X	40	15 - 1		X	WING STIRRUPS
A608	X	32	12 - 2			WING HORIZ BF
A509	X	24	12 - 2			WING HORIZ FF
A610	X	56	10 - 2		X	WING VERT
A411	X	24	9 - 7			WING HORIZ EF
A612	X	8	9 - 7			WING HORIZ EF TOP
A613	X	16	7 - 7		X	WING AT RAIL POST

* NO. REQ'D. IS FOR 2 ABUTMENTS. DIVIDE BY 2 FOR EACH ABUTMENT.

ABUTMENT NOTES

SEE ABUTMENT NOTES ON SHEET 4 (1 4 ◆).

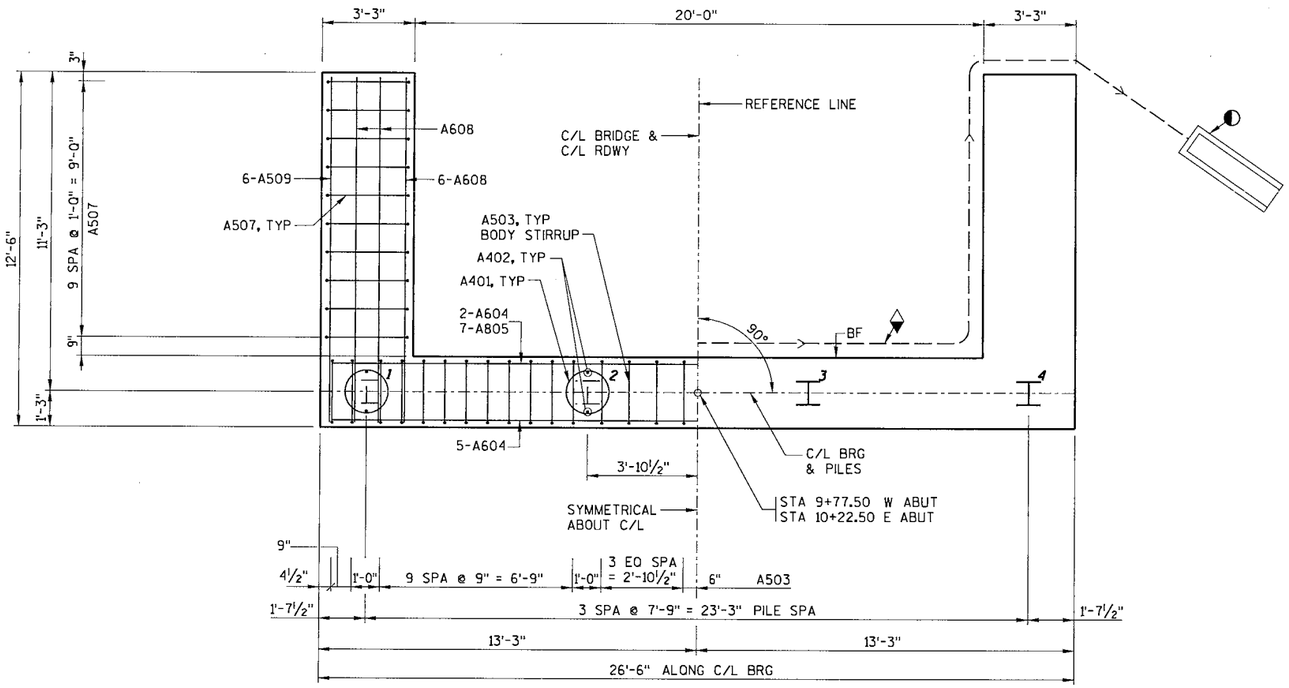




NOTE:
SEE S.D.D.8F6: REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN.

◐ CONCRETE APRON ENDWALL FOR UNDERDRAIN

ATTACH RODENT SHIELD PER SDD REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN. COST OF CONCRETE APRON ENDWALL AND RODENT SHIELD INCIDENTAL TO "PIPE UNDERDRAIN UNPERFORATED".



FOOTING LAYOUT

W ABUT = WEST ABUTMENT
E ABUT = EAST ABUTMENT

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-57-84

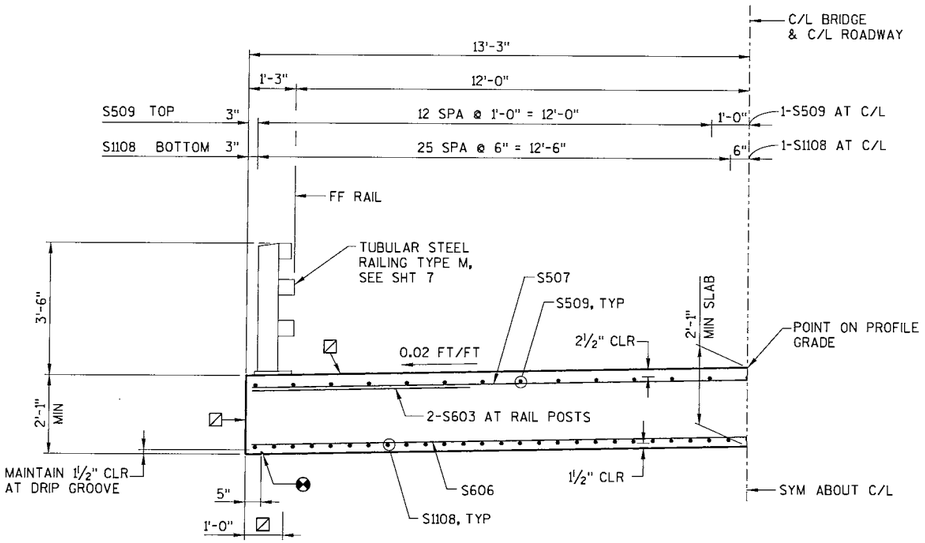
DRAWN BY DLF | PLANS CK'D. CJB

WEST AND EAST ABUTMENT DETAILS

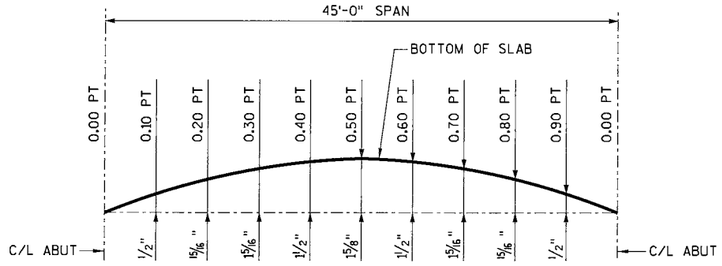
SHEET 5 OF 7
26

8

8



HALF TRANSVERSE SECTION



CAMBER DIAGRAM

CAMBER SPAN AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE VERTICAL ROADWAY PROFILE OR ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION ONLY EQUALS APPROXIMATELY 1/3 OF CAMBER VALUES SHOWN.

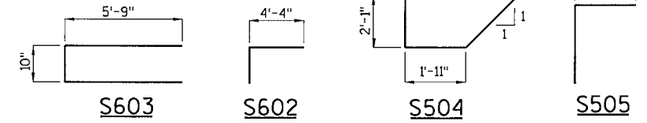
STATE PROJECT NUMBER
8456-00-70

NOTE: THE FIRST ONE OR TWO DIGITS OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

BILL OF BARS SUPERSTRUCTURE

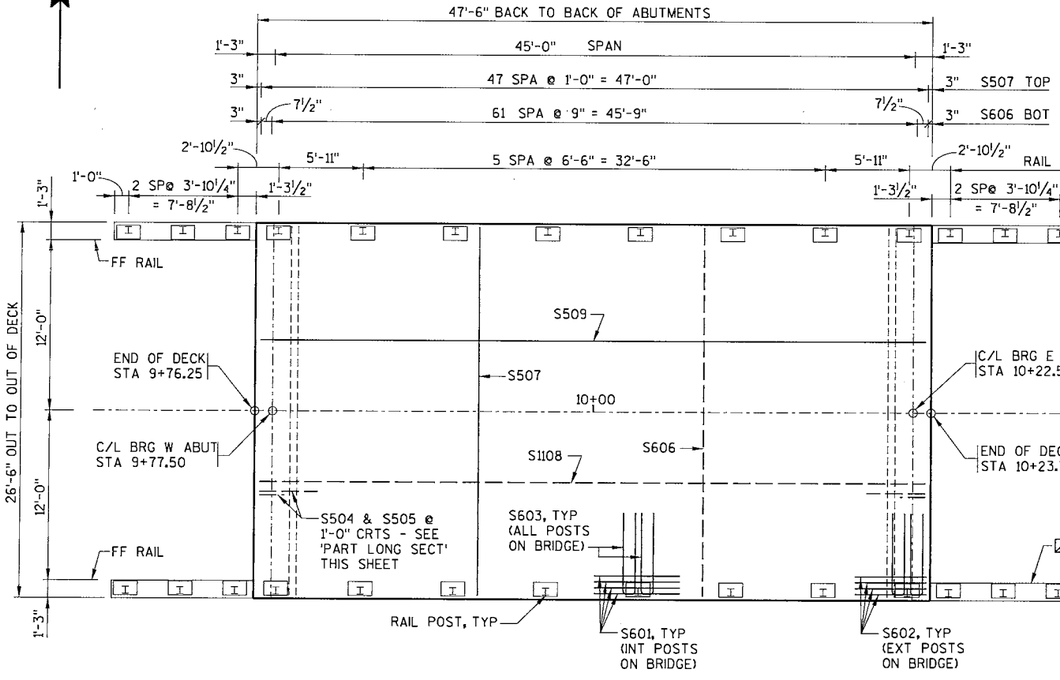
BAR MARK	COAT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
S601	X	48	6 - 0			RAIL POST
S602	X	16	6 - 0		X	RAIL POST
S603	X	32	12 - 0		X	RAIL POST
S504	X	54	6 - 6		X	END OF DECK
S505	X	54	3 - 6		X	END OF DECK
S606	X	68	26 - 2			BOT TRANS
S507	X	48	26 - 2			TOP TRANS
S1108	X	53	47 - 2			BOT LONG
S509	X	27	47 - 2			TOP LONG



FINAL TOP OF DECK ELEVATIONS

	WEST ABUT	.1	.2	.3	.4	.5	.6	.7	.8	.9	EAST ABUT
NORTH EDGE OF DECK	1204.10	1204.13	1204.15	1204.17	1204.18	1204.19	1204.19	1204.18	1204.17	1204.15	1204.12
C/L	1204.36	1204.39	1204.41	1204.43	1204.44	1204.45	1204.45	1204.44	1204.43	1204.41	1204.38
SOUTH EDGE OF DECK	1204.10	1204.13	1204.15	1204.17	1204.18	1204.19	1204.19	1204.18	1204.17	1204.15	1204.12

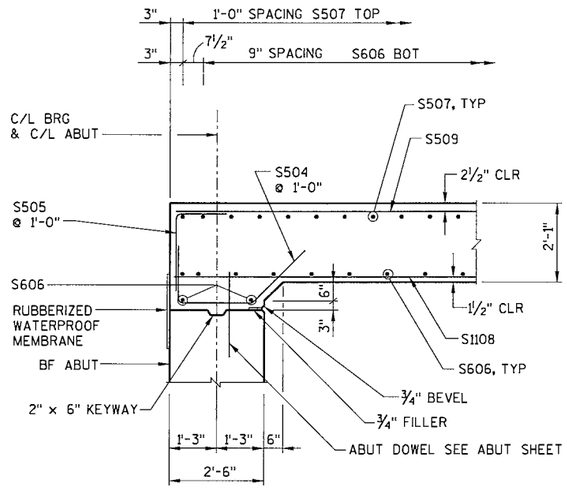
N



DECK PLAN

——— INDICATES TOP BAR STEEL REINFORCEMENT

— — — INDICATES BOTTOM BAR STEEL REINFORCEMENT



AT ABUTMENTS

PARTIAL LONGITUDINAL SECTION

SUPERSTRUCTURE NOTES:

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

TRANSVERSE BARS SHALL BE PLACED PLACED PARALLEL TO THE C/L OF SUBSTRUCTURE UNITS.

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED ON CONTINUOUS BAR CHAIRS APPROXIMATELY 4'-0" CENTERS.

⊖ ¾" V-GROOVE, EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENTS.

☐ COAT WITH "PROTECTIVE SURFACE TREATMENT" PER THE STANDARD SPECIFICATIONS.

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-57-84

DRAWN BY DLF | PLANS CK'D. CJB

SUPERSTRUCTURE DETAILS

SHEET 6 OF 7
27

8

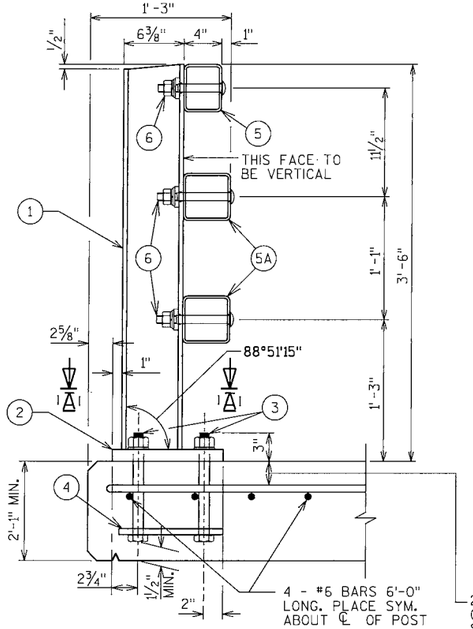
8

PLOT TIME: 8:56:27 AM
PLOT DATE: 11/21/2013
FILE NAME : S:\PT\S\Sawye\123989\5-final-dsgn\5l-drawings\20-Struct\bridge\b57084s.dgn

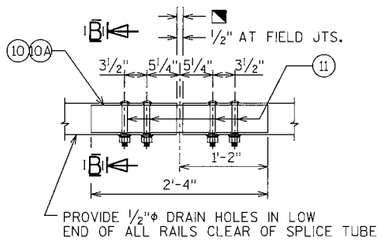
PLOT DATE: 2/20/2014 PLOT TIME: 9:41:28 AM
FILE NAME : S:\PT\S\Sawyer\123989\5-final-dsgn\5i-drawings\20-Struct\bridge\b57084mil.dgn

STATE PROJECT NUMBER

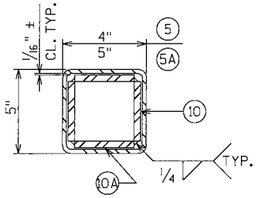
8456-00-70



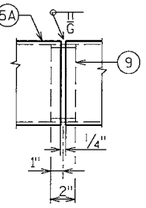
SECTION THRU RAILING ON DECK



FIELD ERECTION JOINT DETAIL

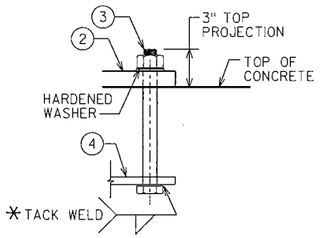


SECTION B-B

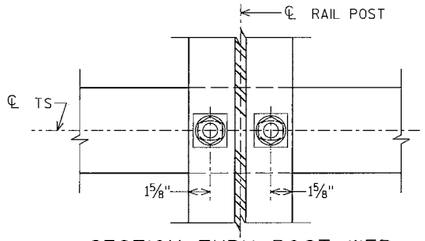


SHOP RAIL SPLICE DETAIL

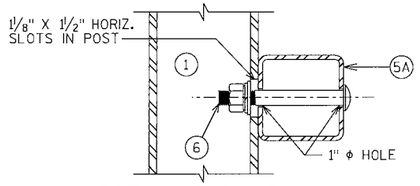
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



ANCHOR BOLTS



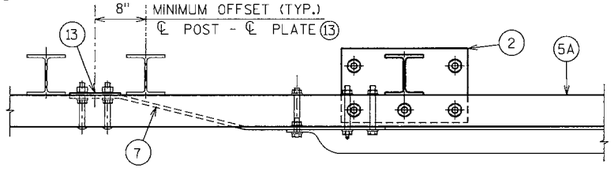
SECTION THRU POST WEB



SECTION THRU RAIL

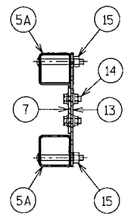
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION C-C

LEGEND

(1) W6 x 25 WITH 1 1/8" X 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

(2) PLATE 1 1/4" x 11 3/4" x 1'-8" WITH 1 5/16" X 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

(3) ASTM A449 - 1 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)

(4) 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3

(5) TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(5A) TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(6) 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1 5/8" X 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

(7) 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" X 1 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

(8) 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

(9) SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".

(10) 3/8" X 3 5/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

(10A) 3/8" X 2 5/8" X 2'-4" PLATE USED IN NO. 5A. 3/8" X 3 5/8" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

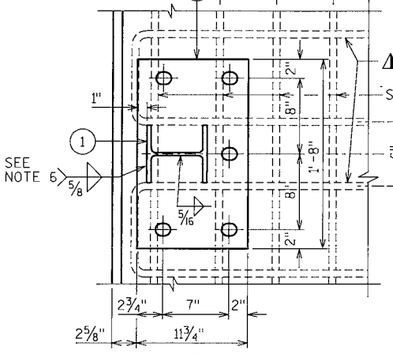
(11) 7/8" ϕ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/16" X 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 5/16" X 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

(12) 7/8" DIA. X 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

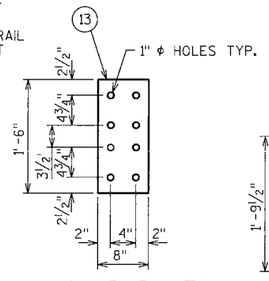
(13) 3/8" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

(14) 7/8" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

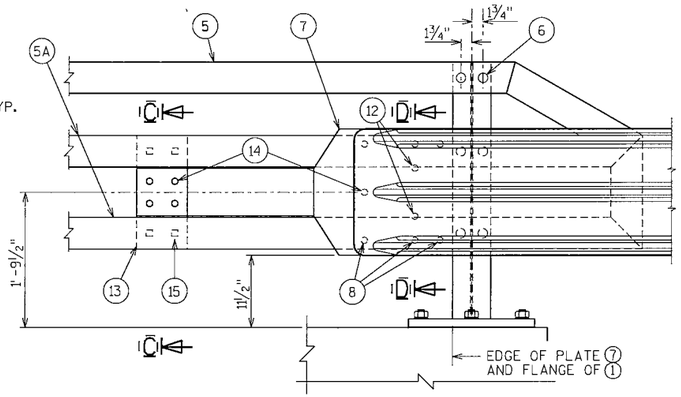
(15) 1" ϕ HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.



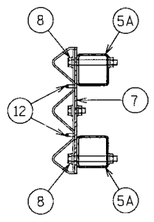
SECTION A-A



ANCHOR PLATE
AT BEAM GUARD ATTACHMENT



DETAIL AT END POST
THRIE BEAM RAIL ATTACHMENT



SECTION D-D

GENERAL NOTES

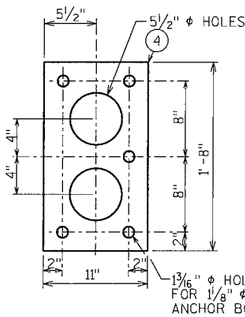
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-57-84" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. 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.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION, PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.
10. WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
12. PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.

▲ TIE TO TOP MAT OF STEEL.

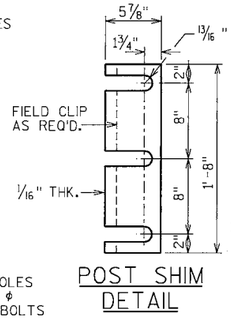
✳ FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTIBILITY.

◥ RDWY. OPENING OR 2 1/2" MIN. FOR STRIP SEAL EXP. JOINT & 1/2" OPENING FOR A1 ABUTMENT.

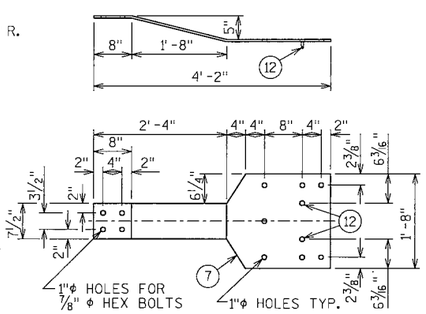
SEE SHEET 6 FOR RAIL POST SPACING



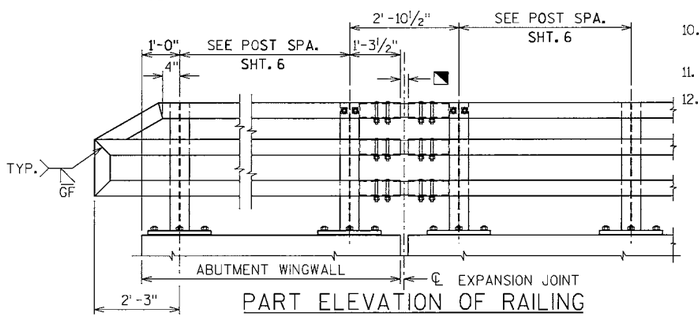
ANCHOR PLATE
AT RAIL TO DECK CONNECTION



POST SHIM DETAIL



BACK-UP PLATE DETAIL
AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-57-84

DRAWN BY DLF | PLANS CK'D. CJB

TUBULAR STEEL RAILING TYPE M

SHEET 7 OF 7

28

RAILM

Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
		Cut	Fill	Cut Note 1	Fill Note 2	Cut 1.00 Note 1	Expanded Fill 1.30 Note 3	Mass Ordinate Note 4
08+25	0	0	0	0	0	0	0	0
08+50	25	21	0	10	0	10	0	10
08+75	25	17	51	18	23	27	30	-3
09+00	25	15	51	15	47	42	91	-49
09+25	25	13	65	13	54	55	161	-106
09+45	20	12	63	9	47	64	223	-159
10+00	55	0	0	12	64	77	306	-229
10+55	55	8	41	8	70	85	398	-312
10+75	20	6	34	5	28	90	434	-343
11+00	25	11	22	8	26	98	467	-369
11+25	25	18	12	13	16	112	488	-376
11+50	25	23	0	19	5	131	495	-364
11+75	25	0	0	11	0	141	495	-353

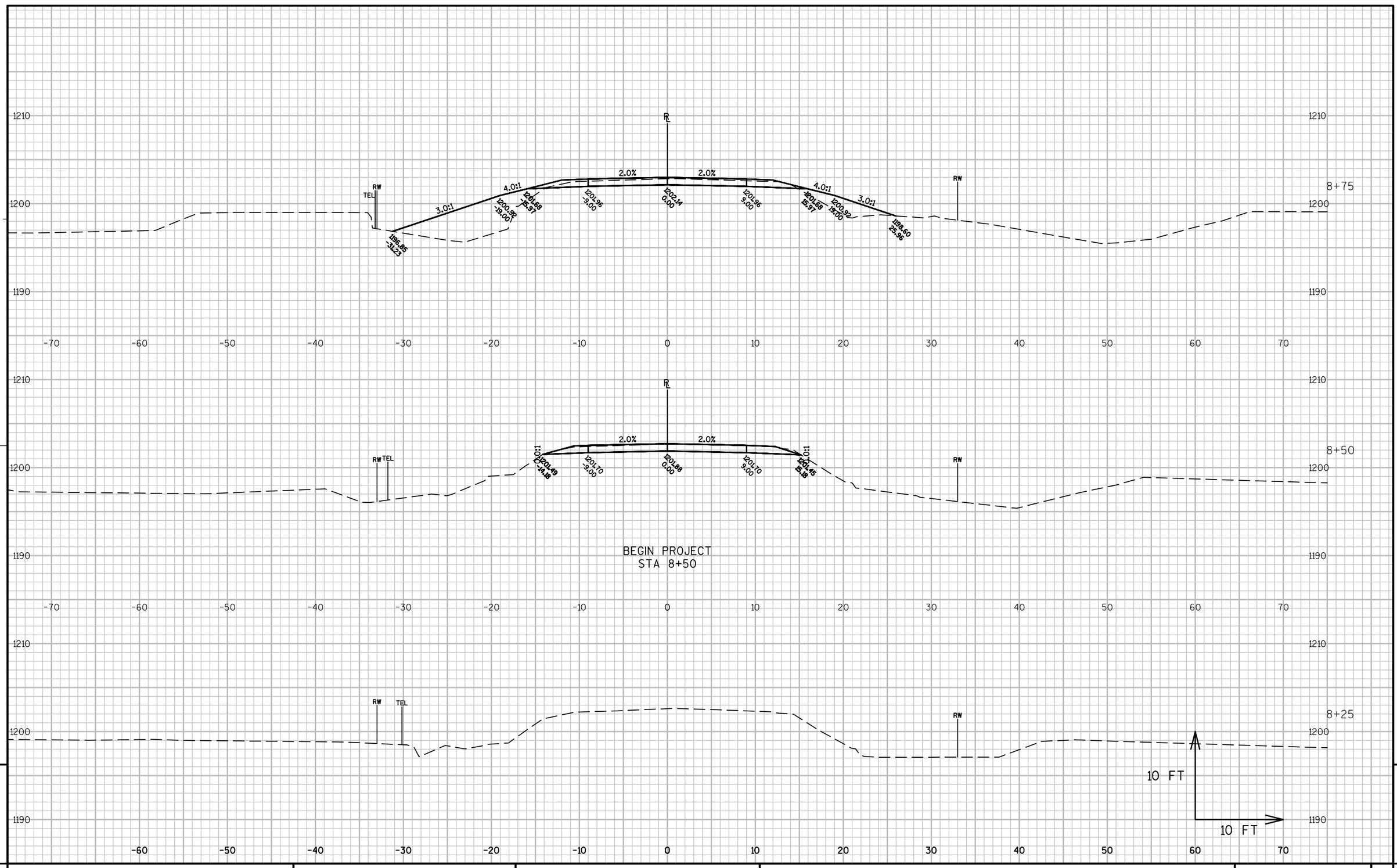
Notes:
1) Salvaged/Unsuable Pavement Material is included in Cut.
2) Does not include Unusable Pavement Excavation volume.
3) Will be backfilled with Cut or Borrow.
4) Plus quantity indicates an excess of material. Minus indicates a shortage of material.

9

9

PROJECT NO: 8456-00-70 | HWY: TOWNLINE ROAD | COUNTY: SAWYER | EARTHWORK TABULATIONS | SHEET | E

FILE NAME : P:\PT\S\SAWYE\123989\CIVIL 3D\090101_EW.DWG PLOT DATE : 1/21/2014 9:10 AM PLOT BY : JUSTIN SHAVLIK PLOT NAME : PLOT SCALE : 1 IN:2 FT

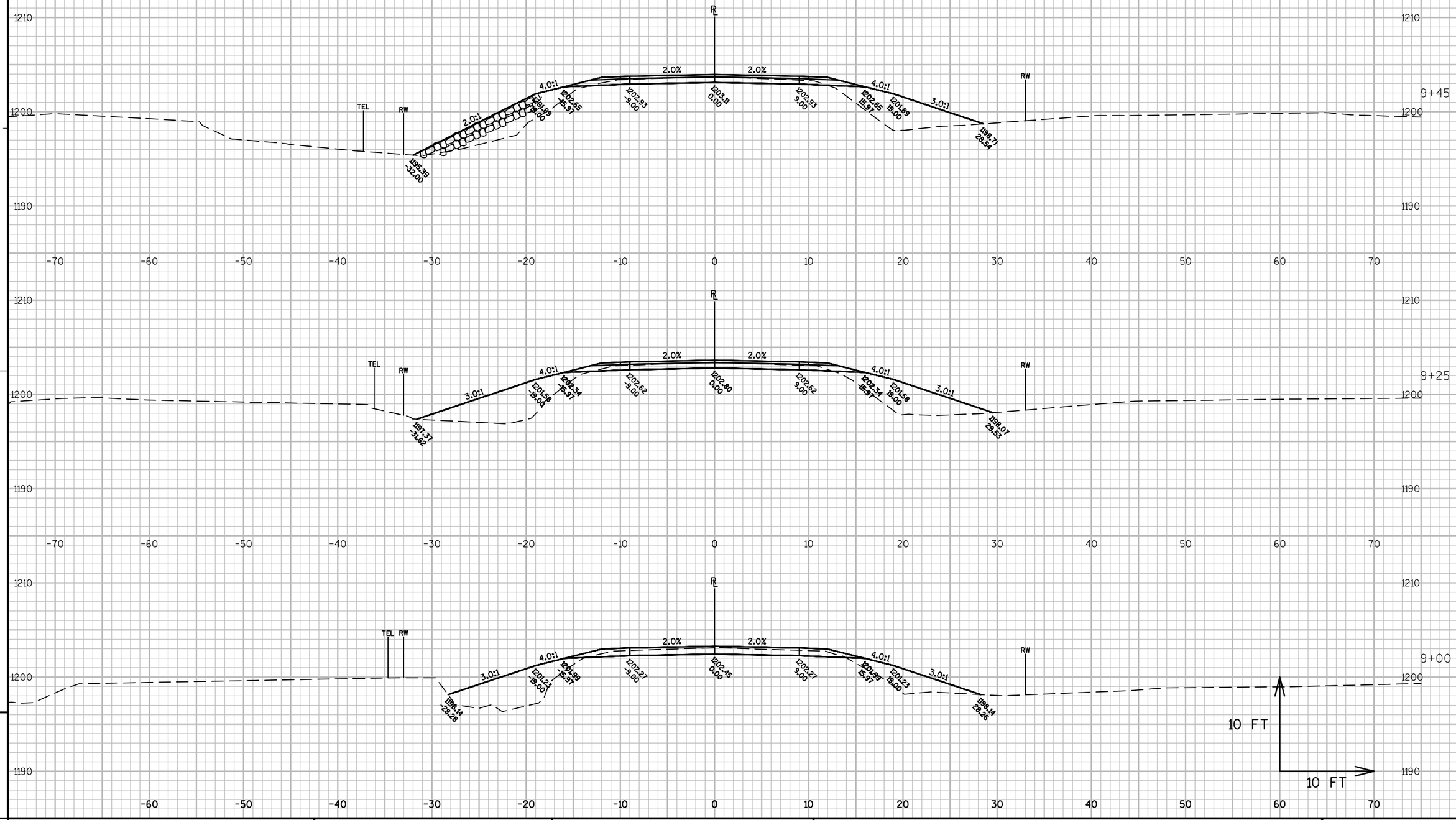


PROJECT NO: 8456-00-70	HWY: TOWNLINE ROAD	COUNTY: SAWYER	CROSS SECTIONS:	SHEET 30	E

FILE NAME : P:\PT\S\SAWYE\123989\CIVIL 3D\CORRIDOR.DWG PLOT DATE : 3/31/2014 10:38 AM PLOT BY : JUSTIN SHAVLIK PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

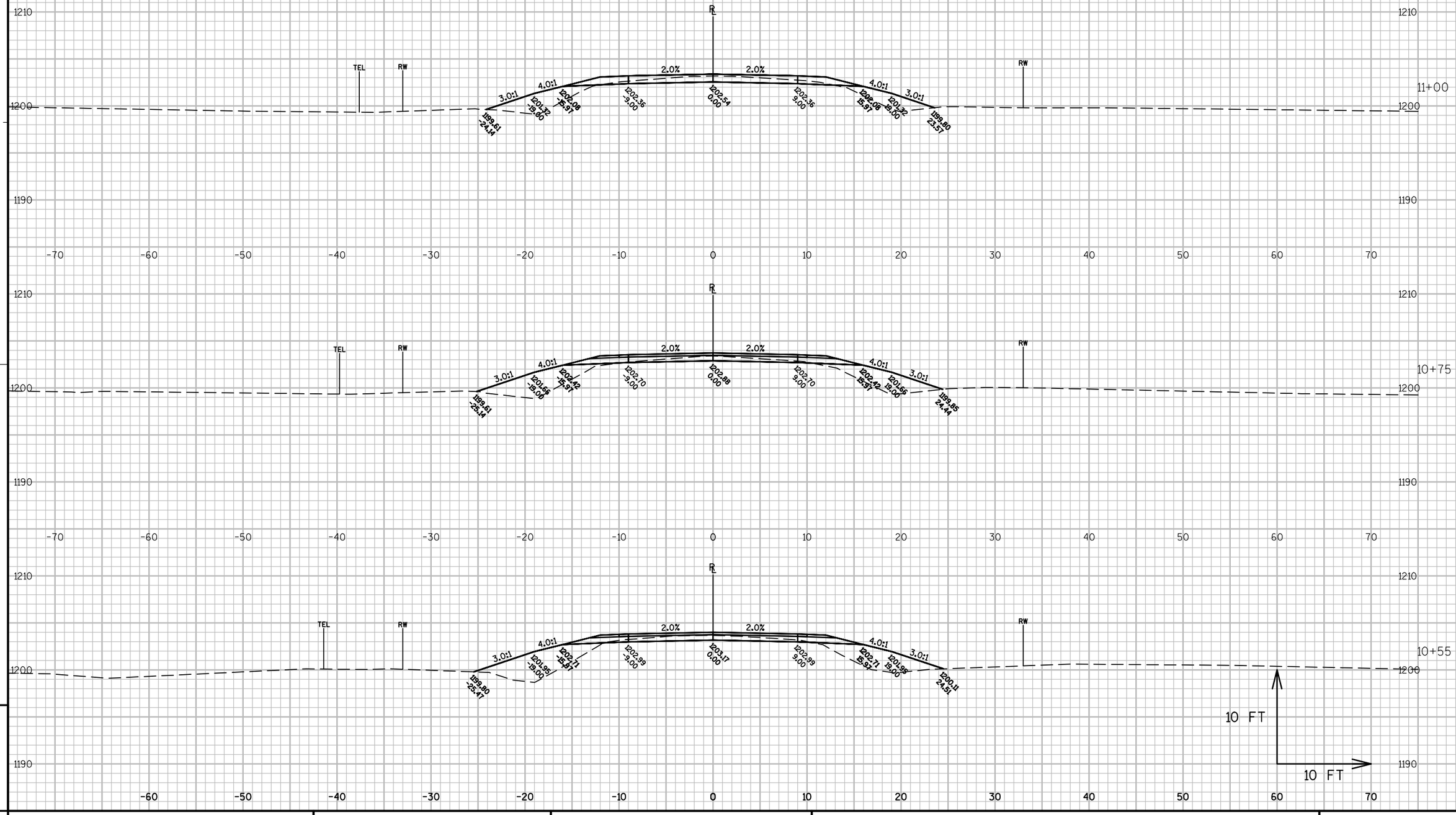
STRUCTURE B-57-0084
STA 10+00



PROJECT NO: 8456-00-70	HWY: TOWNLINE ROAD	COUNTY: SAWYER	CROSS SECTIONS:	SHEET 31	E

FILE NAME : P:\PT\S\SAWYE\123989\CIVIL 3D\CORRIDOR.DWG PLOT DATE : 3/31/2014 10:38 AM PLOT BY : JUSTIN SHAVLIK PLOT NAME : PLOT SCALE : 1 IN:10 FT

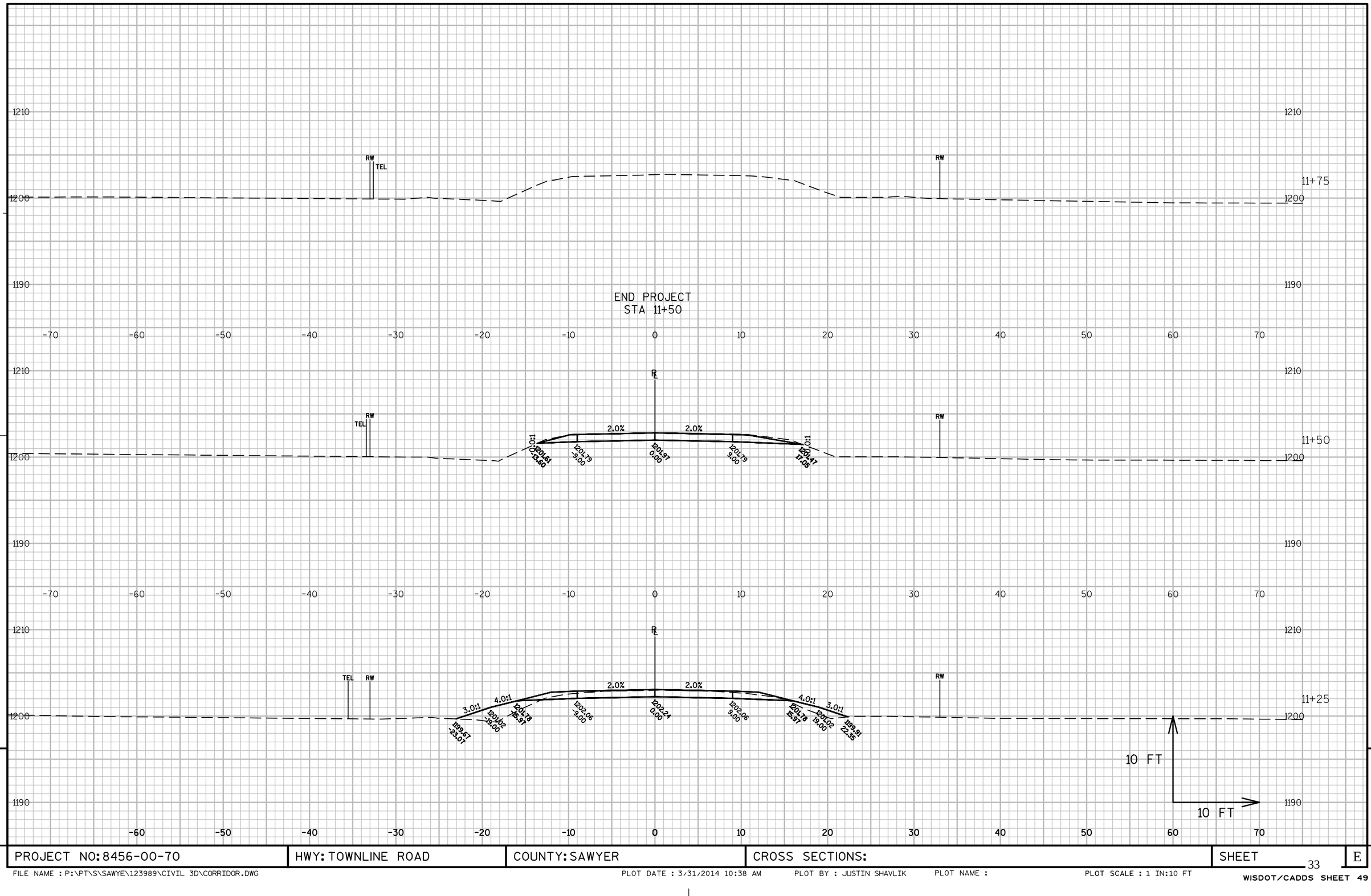
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8456-00-70	HWY: TOWNLINE ROAD	COUNTY: SAWYER	CROSS SECTIONS:	SHEET 32	E



PROJECT NO: 8456-00-70	HWY: TOWNLINE ROAD	COUNTY: SAWYER	CROSS SECTIONS:	SHEET 33	E

FILE NAME : P:\PT\S\SAWYE\123989\CIVIL 3D\CORRIDOR.DWG PLOT DATE : 3/31/2014 10:38 AM PLOT BY : JUSTIN SHAVLIK PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov