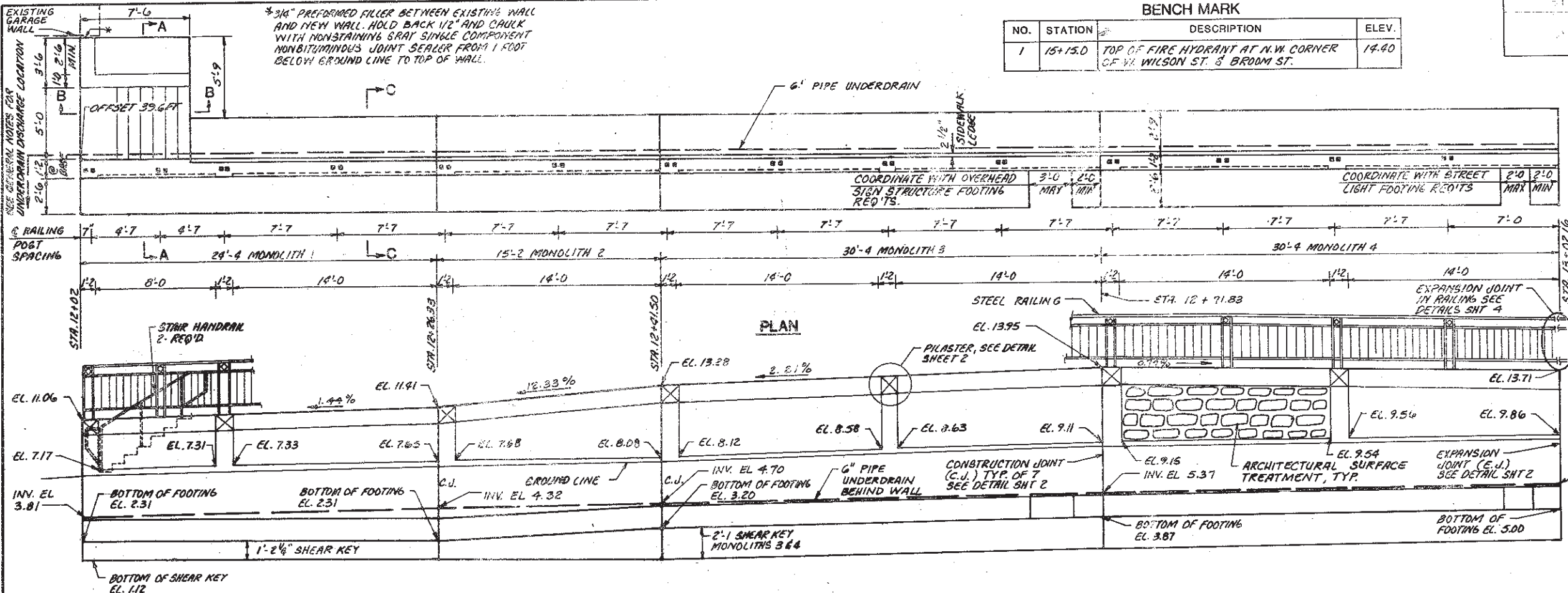
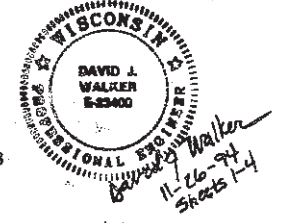


BENCH MARK

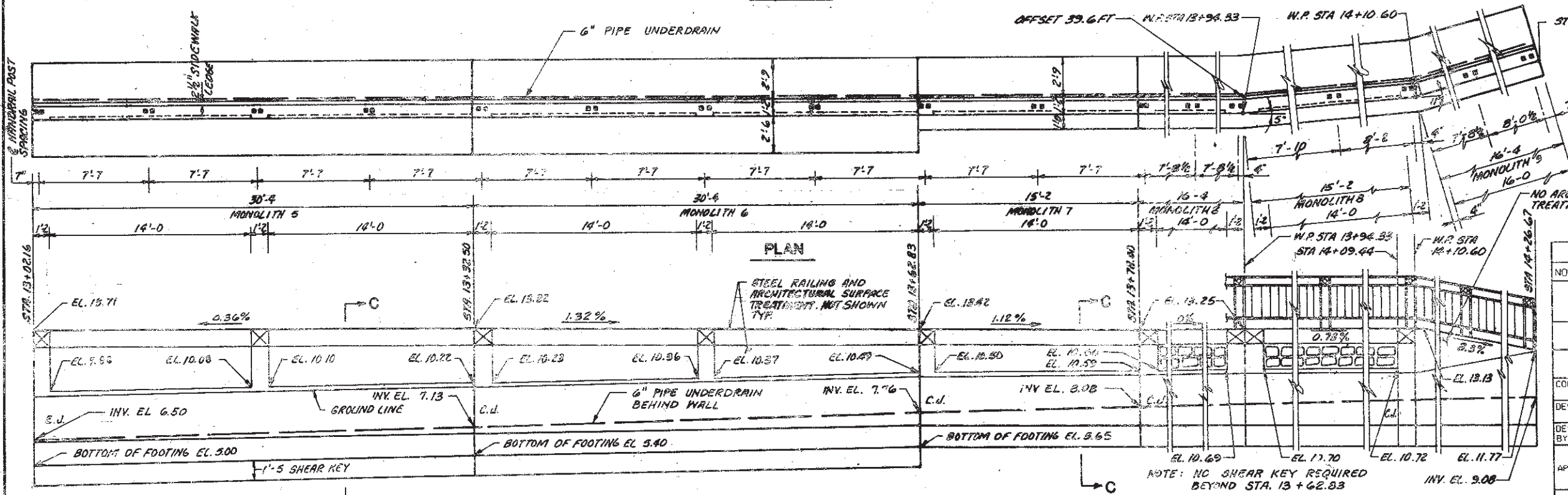
NO.	STATION	DESCRIPTION	ELEV.
1	15+15.0	TOP OF FIRE HYDRANT AT N.W. CORNER OF W. WILSON ST. & BROOM ST.	14.40

GENERAL NOTES

- BACKFILL THE FRONT FACE OF WALLS BEFORE THE BACKFACE.
 - ALL SPACES EXCAVATED BUT NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH GRANULAR BACKFILL. GRANULAR BACKFILL SHALL BE INCLUDED IN COST FOR "EXCAVATION FOR STRUCTURES, RETAINING WALLS".
 - ALL REINFORCING SHALL HAVE A MINIMUM OF 2" CLEAR COVER UNLESS SHOWN OTHERWISE.
 - POUR SHEAR KEY AGAINST UNDISTURBED SOIL.
 - THE SURFACE TREATMENT AND FINISH SHALL ACCURATELY DUPLICATE "RECTANGULAR CUT STONE" PANEL WITH WEATHERED LIMESTONE COLORATION. THE STONES SHALL VARY FROM 14" TO 52" WITH A RELIEF OF 3." SEE SPECIAL PROVISIONS.
 - 6" PIPE UNDERDRAIN SHALL SLOPE AT 1/4" FT MIN. FROM NORTH END OF WALL TO SOUTH END. UNDERDRAIN SHALL DISCHARGE INTO SB-20 AT STA. 11+99.01
 - W.P. = WORKING POINT
 - OFFSET REFERS TO DISTANCE FROM N.B. REFERENCE LINE TO BACK FACE OF WALL.
- DESIGN DATA**
 F_c = 3500 PSI
 F_y = 60,000 PSI
 F_{max} = 2500 PSF



ELEVATION



ELEVATION

LIST OF DRAWINGS

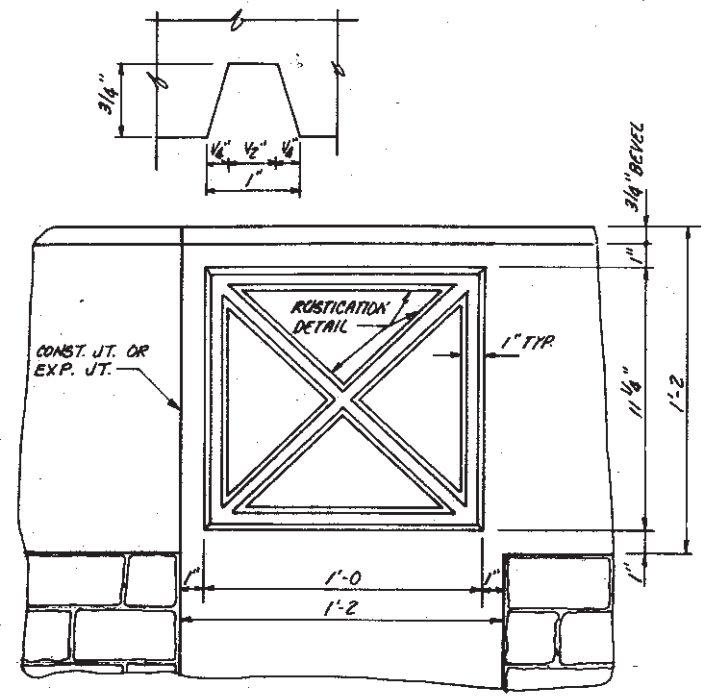
1. GENERAL PLAN AND ELEVATIONS
2. MISCELLANEOUS DETAILS, SECTIONS AND QUANTITIES
3. REINFORCING LAYOUT AND DETAILS
4. RAILING DETAILS
5. SUBSURFACE EXPLORATION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE RW-13-29			
BROOM STREET			
COUNTY	DANE	TOWN/CITY/VILLAGE	MADISON
DESIGN SPEC.	AASHTO 1992	LOAD	CONST. WISC. SPEC. 1988
DESIGNED BY	DJW	DESIGN CK'D.	DDR
DRAWN BY	RCJ	PLANS CK'D.	DJW
APPROVED	[Signature]		08-26-95
	STATE BRIDGE ENGINEER		DATE
GENERAL PLAN & ELEVATIONS			SHEET 1 of 4

BRIDGE OFFICE CONTACT:
 DAVID COYSON: 266-8983
 GERRY ANDERSON

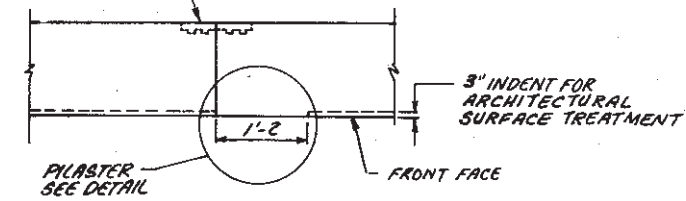
TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	TOTAL
EXCAVATION FOR STRUCTURES, RETAINING WALLS, RW-13-29	L.S.	1
CONCRETE MASONRY, RETAINING WALLS	C.Y.	146
HIGH STRENGTH BAR STEEL REINFORCEMENT, RETAINING WALLS	L.B.	12,920
STEEL RAILING STRUCTURE RW-13-29	L.S.	1
PIPE UNDERDRAIN 6 INCH	L.F.	230
ARCHITECTURAL SURFACE TREATMENT	S.F.	495
TEMPORARY STEEL SHEET PILING RW-13-29	L.F.	240
NON BID ITEMS		
POLYVINYL CHLORIDE WATERSTOP	L.F.	60
FILLER	SIZE	1/2", 3/4"



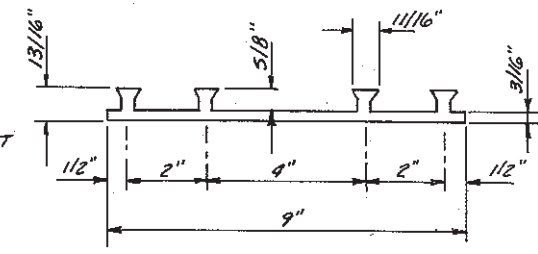
PLASTER DETAIL

POLYVINYL CHLORIDE WATERSTOP (FLUSH WITH FACE OF CONCRETE)
 NOTE: HORIZ. REINF. SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS



VERTICAL CONSTRUCTION JOINT (C.J.)

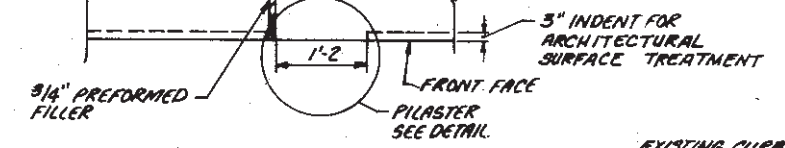
NOTE: POLYVINYL CHLORIDE WATERSTOP (P.C.W) TO EXTEND OVER ENTIRE HEIGHT OF WALL



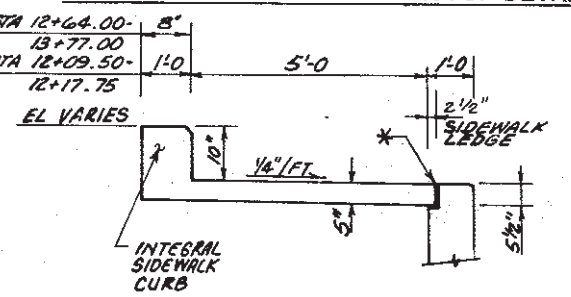
POLYVINYL CHLORIDE WATERSTOP DETAIL

NOTE: HORIZ. REINF. SHALL TERMINATE ON EACH SIDE OF EXP. JOINT

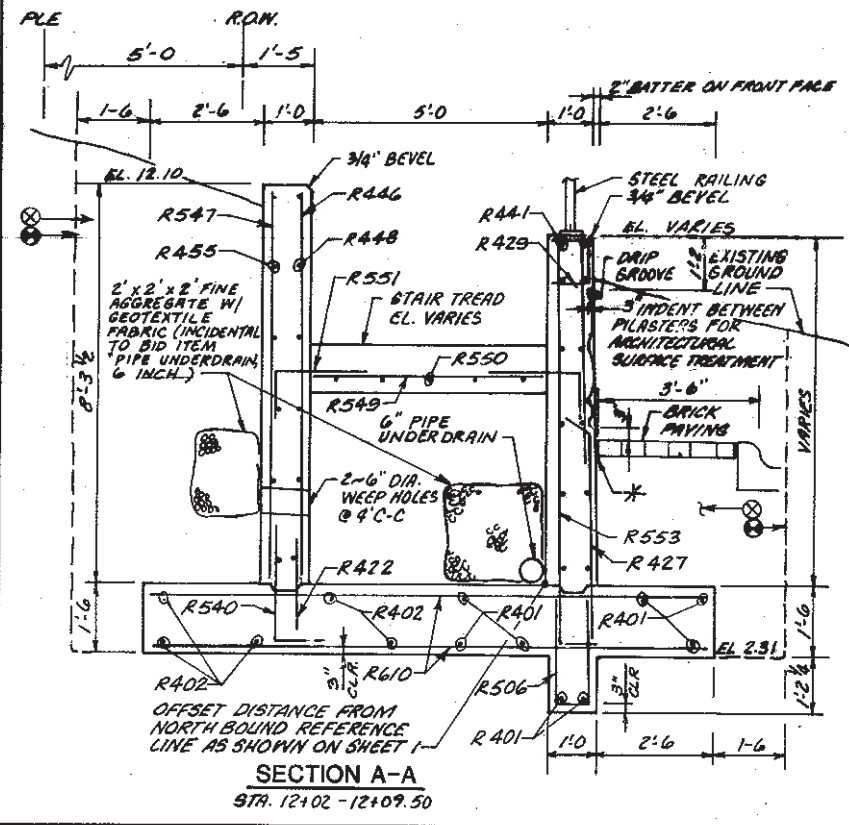
NOTE: FILL WITH NONSTAINING GRAY SINGLE COMPONENT NON BITUMINOUS JOINT SEALER FROM 1'-0" BELOW GROUND LINE TO TOP OF WALL SEALER TO EXTEND 1" INTO WALL FROM FACE OF CONCRETE.



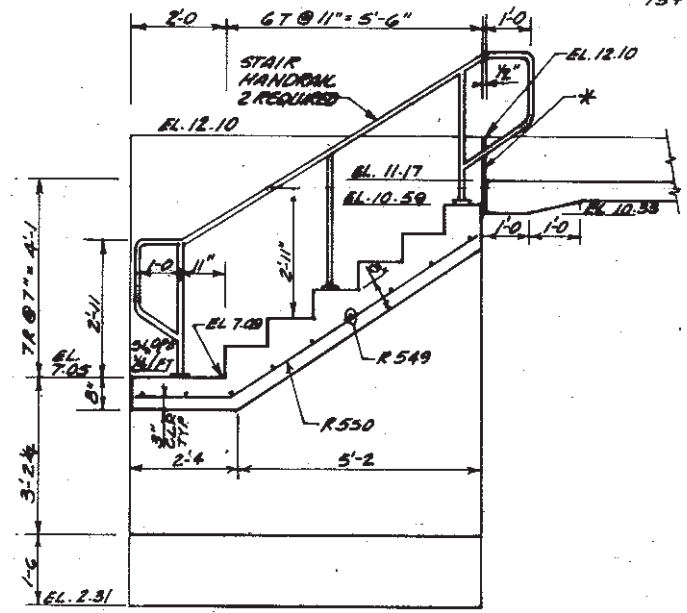
VERTICAL EXPANSION JOINT (E.J.)



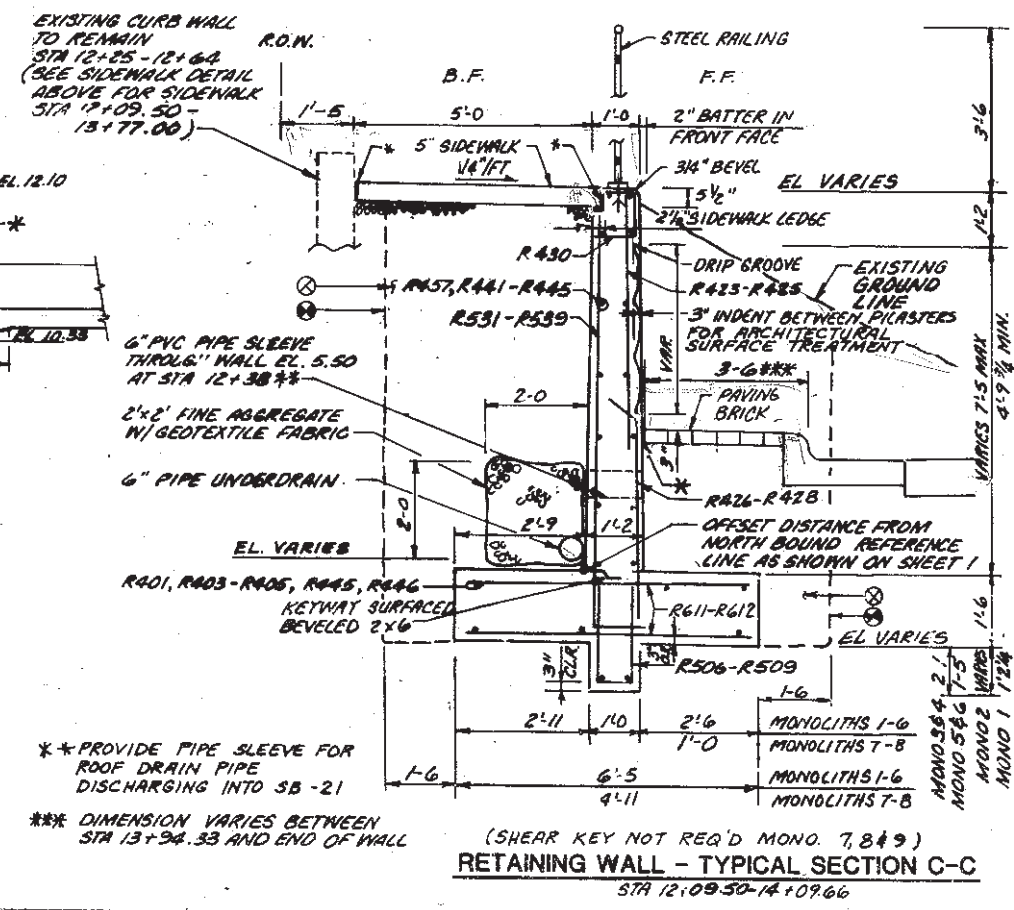
SPECIAL SIDEWALK DETAIL



SECTION A-A
 STA. 12+02 - 12+09.50



SECTION B-B



RETAINING WALL - TYPICAL SECTION C-C
 STA 12+09.50 - 14+09.66

- LEGEND**
- B.F. BACK FACE
 - F.F. FRONT FACE
 - ⊗ GRANULAR BACKFILL (INCLUDED IN BID ITEM EXCAVATION FOR STRUCTURES)
 - ⊙ LIMITS OF EXCAVATION.
 - * 1/2" PREFORMED FILLER HOLD DOWN 12" AND CAULK WITH NON STAINING GRAY SINGLE COMPONENT NON-BITUMINOUS JOINT SEALER.

NO.	DATE	REVISION	BY

STRAND ASSOCIATES CONSULTING ENGINEERS
 Madison, Wisconsin 53715

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

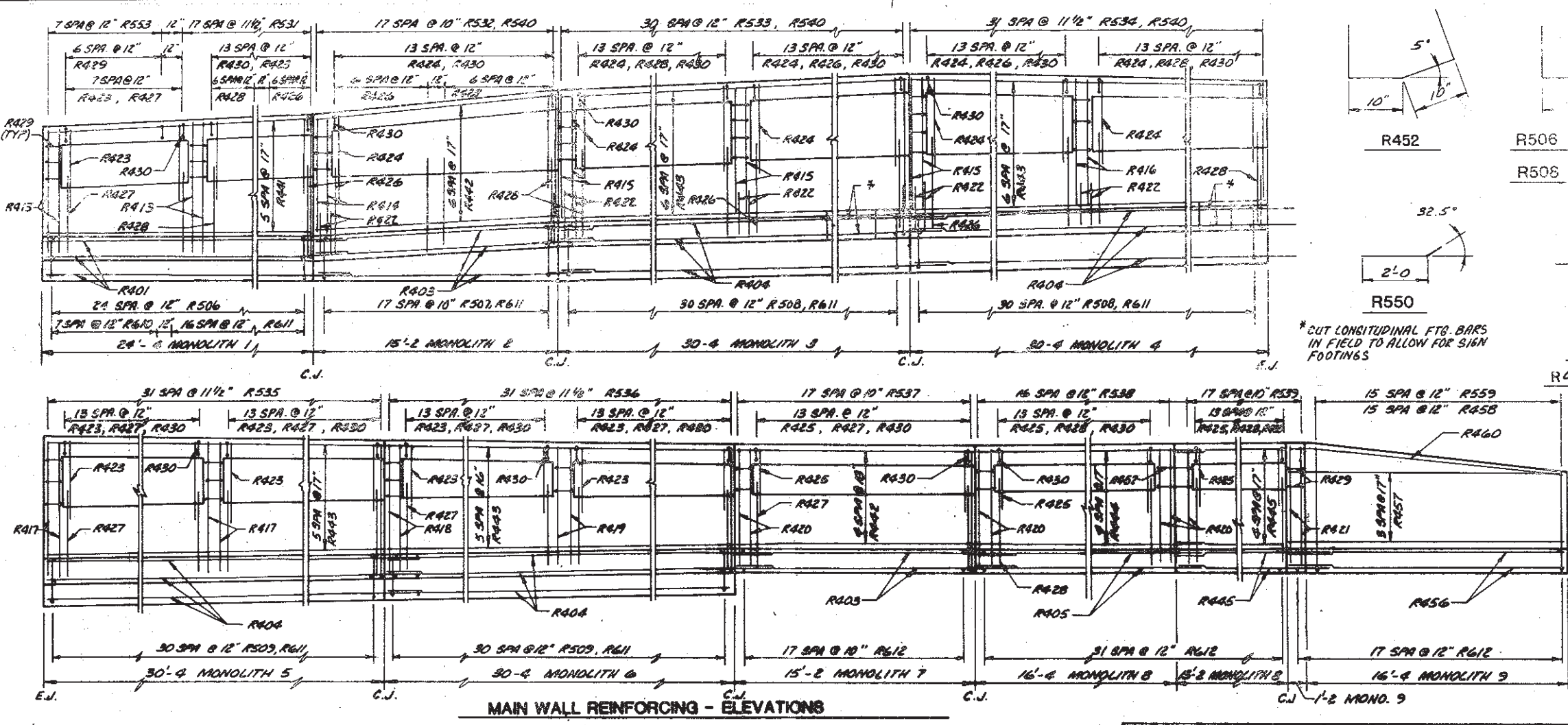
STRUCTURE RW-13-29

CONTR. WISC. 1989
 SPE. 1989

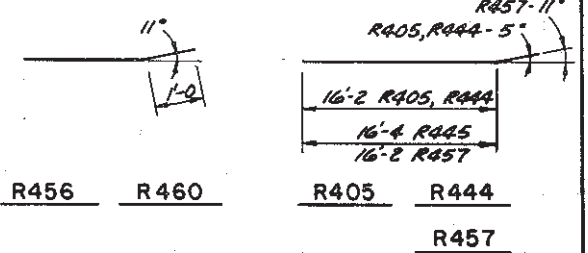
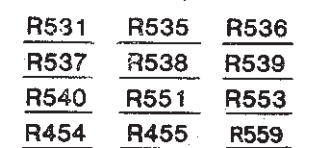
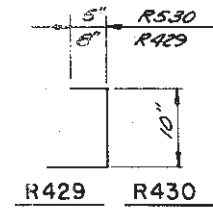
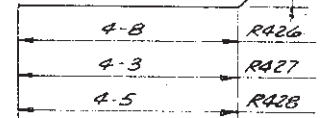
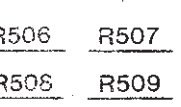
DRAWN RCJ
 PLANS CHECKED DJW

MISCELLANEOUS DETAILS, SECTIONS AND QUANTITIES

SHEET 2 of 4



* CUT LONGITUDINAL FTG. BARS IN FIELD TO ALLOW FOR SIGN FOOTINGS



BILL OF BARS

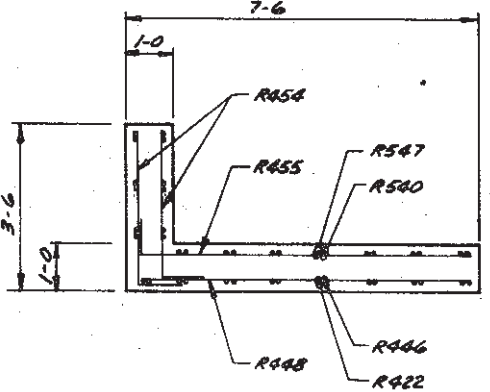
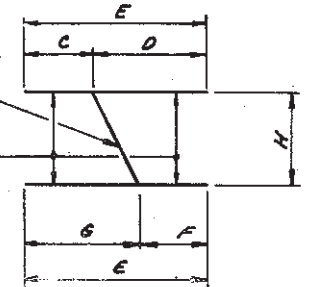
12,920 LBS.

MARK	NUMBER REQ'D	LENGTH	BENT	CUTTING DIAGRAM	LOCATION
R401	5	26'-0"			MONO 1 - FTG - LONG. T & B
R402	5	7'-0"			MONO 1 - FTG - LONG. T & B
R403	14	17'-2"			MONO 2 & 7 - FTG - LONG. T & B
R404	32	32'-4"			MONO 3 - 6 - FTG - LONG. T & B
R405	6	18'-2"	X		MONO B - FTG - LONG. T & B
R506	25	5'-3"	X		MONO 1 - FTG - SHEAR KEY
R507	9	12'-4"	X	X	MONO 2 - FTG - SHEAR KEY
R508	62	7'-1"	X		MONO 3 & 6 - FTG - SHEAR KEY
R509	62	5'-9"	X		MONO 5 & 6 - FTG - SHEAR KEY
R610	16	11'-9"			MONO 1 - FTG - TRANSV. T & B
R611	318	6'-0"			MONO 1 - 6 - FTG - TRANSV. T & B
R612	136	4'-6"			MONO 7 - 9 - FTG - TRANSV. T & B
R413	4	8'-3"			MONO 1 - PILASTER - VERT. FF
R414	2	7'-4"			MONO 2 - PILASTER - VERT. FF
R415	6	8'-4"			MONO 3 & 6 - PILASTER - VERT. FF
R416	2	7'-8"			MONO 4 - PILASTER - VERT. FF
R417	4	8'-1"			MONO 5 - PILASTER - VERT. FF
R418	2	7'-9"			MONO 6 - PILASTER - VERT. FF
R419	2	7'-5"			MONO 6 - PILASTER - VERT. FF
R420	7	7'-1"			MONO 7 & 8 - PILASTER - VERT. FF
R421	2	6'-10"			MONO 8 - PILASTER - VERT. FF
R422	21	2'-0"			MONO 1, 2 - 4 - DWELS FF
R423	78	5'-2"			MONO 1, 5 & 6 - STEM - VERT. FF
R424	70	6'-6"			MONO 2 - 4 - STEM - VERT. FF
R425	42	4'-2"			MONO 7 & 8 - STEM - VERT. FF
R426	42	5'-3"	X		MONO 1 - 4 - STEM - VERT. FF
R427	78	5'-3"	X		MONO 1, 5 - 7 - STEM - VERT. FF
R428	70	5'-5"	X		MONO 1 - 4 - 8 - STEM - VERT. FF
R429	15	2'-0"	X		MONO 1 - 8 - STEM
R460	2	17'-0"	X		MONO 9 - STEM - HORIZ. TOP

MARK	NUMBER REQ'D	LENGTH	BENT	CUTTING DIAGRAM	LOCATION
R490	183	2'-9"	X		MONO 1 - 8 - STEM TOP
R551	13	17'-0"	X	X	MONO 1 - STEM - VERT. BF
R552	9	16'-6"	X	X	MONO 2 - STEM - VERT. BF
R553	31	7'-9"			MONO 3 - STEM - VERT. BF
R534	16	14'-0"	X		MONO 4 - STEM - VERT. BF
R535	16	16'-4"	X	X	MONO 5 - STEM - VERT. BF
R536	16	15'-4"	X	X	MONO 6 - STEM - VERT. BF
R537	9	16'-6"	X	X	MONO 7 - STEM - VERT. BF
R538	17	7'-2"	X		MONO 8 - STEM - VERT. BF
R539	18	7'-1"	X		MONO 8 - STEM - VERT. BF
R540	30	5'-9"	X		MONO 1, 2 - 4 - STEM - DWELS BF
R441	12	28'-0"			MONO 1 - STEM - HORIZ. FF & BF
R442	24	14'-10"			MONO 2 & 7 - STEM - HORIZ. FF & BF
R443	52	30'-0"			MONO 3 - 6 - STEM - HORIZ. FF & BF
R444	10	18'-2"	X		MONO 8 - STEM - HORIZ. FF & BF
R445	16	15'-0"			MONO 5 - STEM - HORIZ. FF & BF
R446	11	8'-1"			MONO 1 - STEM - VERT. FF
R547	10	8'-1"			MONO 1 - STEM - VERT. BF
R448	6	7'-2"			MONO 1 - STEM - HORIZ. FF
R549	9	4'-8"			MONO 1 - STAIRS - TRANSV.
R550	5	8'-0"	X		MONO 1 - STAIRS - LONG.
R551	18	2'-2"	X		MONO 1 - STAIRS - DWELS
R452	2	2'-10"	X		MONO 8 - PILASTER - HORIZ. FF
R553	8	9'-0"	X		MONO 1 - STEM - VERT. BF
R454	12	5'-10"	X		MONO 1 - STEM - HORIZ. FF & BF
R455	6	7'-10"	X		MONO 1 - STEM - HORIZ. BF
R456	4	33'-7"	X	X	MONO 9 - FTG - LONG. T & B
R457	8	17'-2"	X		MONO 9 - STEM - HORIZ. FF & BF
R458	8	12'-3"	X	X	MONO 9 - STEM - VERT. FF
R559	8	14'-3"	X	X	MONO 9 - STEM - VERT. BF

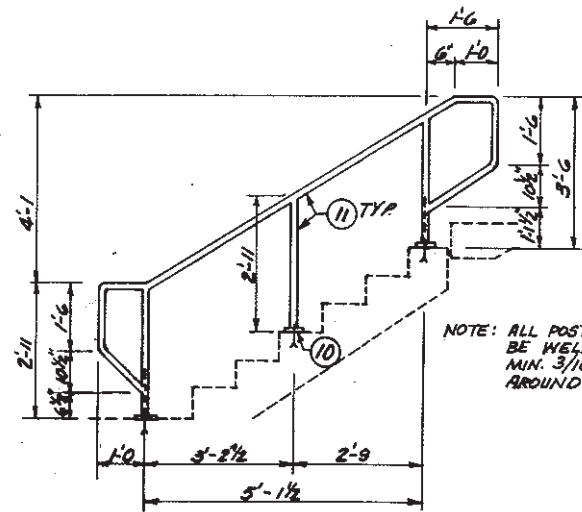
MARK	C	D	E	F	G	H	SETS REQ'D
R507	SET 1	5'-3"	12'-4"	6'-3"	6'-1"	9	1
R507	SET 2	7'-1"	12'-4"	6'-3"	6'-1"	9	1
R681	SET 1	8'-4"	17'-0"	8'-6"	8'-6"	9	1
R681	SET 2	8'-8"	17'-0"	8'-6"	8'-6"	9	1
R682	SET 1	6'-9"	14'-6"	7'-3"	7'-3"	9	1
R682	SET 2	7'-9"	14'-6"	7'-3"	7'-3"	9	1
R534	SET 1	6'-4"	14'-0"	7'-0"	7'-0"	16	1
R534	SET 2	7'-8"	14'-0"	7'-0"	7'-0"	16	1
R585	SET 1	8'-0"	16'-4"	8'-2"	8'-2"	16	1
R585	SET 2	8'-4"	16'-4"	8'-2"	8'-2"	16	1
R536	SET 1	7'-4"	15'-4"	7'-8"	7'-8"	16	1
R536	SET 2	8'-0"	15'-4"	7'-8"	7'-8"	16	1
R587	SET 1	7'-2"	16'-6"	7'-3"	7'-3"	9	1
R587	SET 2	7'-4"	16'-6"	7'-3"	7'-3"	9	1
R486	SET 1	16'-5"	33'-7"	16'-5"	17'-2"	4	1
R486	SET 2	17'-2"	33'-7"	16'-5"	17'-2"	4	1
R458	SET 1	5'-6"	12'-3"	6'-2"	6'-1"	8	1
R458	SET 2	6'-9"	12'-3"	6'-2"	6'-1"	8	1
R559	SET 1	6'-6"	14'-3"	7'-1"	7'-1"	8	1
R559	SET 2	7'-9"	14'-3"	7'-2"	7'-2"	8	1

MARK & CUT ALL BARS ALONG THIS LINE. MAKE ALL CUTS NORMAL TO BAR AXIS. H IS THE NUMBER OF BARS IN A SET PRIOR TO CUTTING.



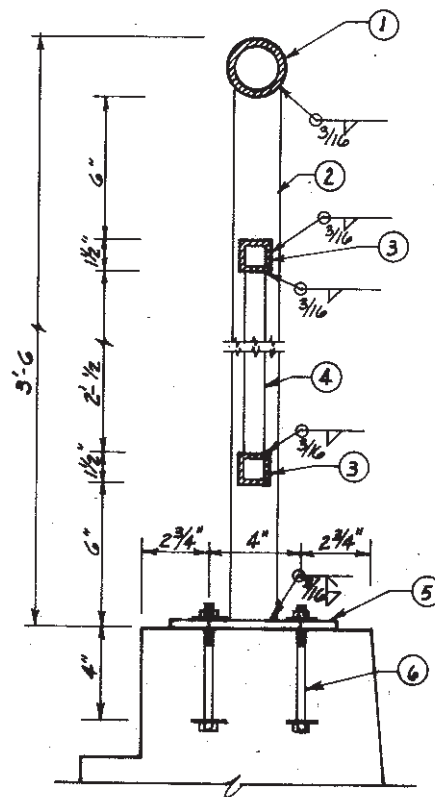
BACKWALL REINFORCING - PLAN

DATE	REVISION	BY
<p>STRAND ASSOCIATES CONSULTING ENGINEERS Madison, Wisconsin 53715</p>		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS		
STRUCTURE RW-13-29		
WISC. 1989	RCJ	DJW
REINFORCING LAYOUT AND DETAILS		SHEET 3 OF 4

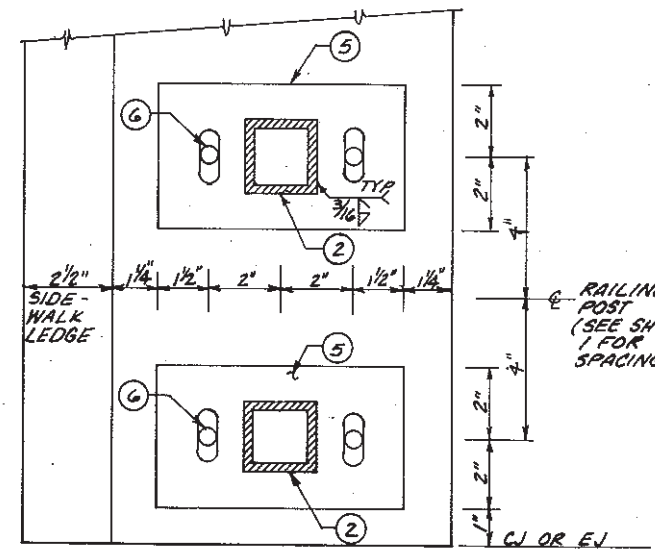


NOTE: ALL POSTS AND RAILS SHALL BE WELDED TOGETHER WITH MIN. 3/16" FILLET WELDS ALL AROUND, TYPICAL

STAIR HANDRAIL
2 REQ'D



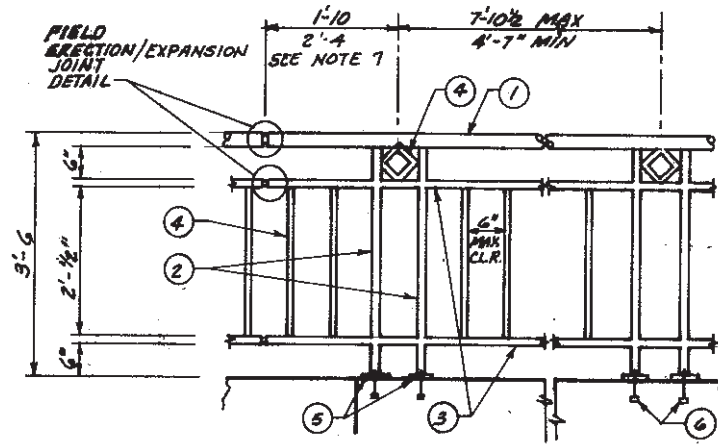
SECTION THRU RAILING



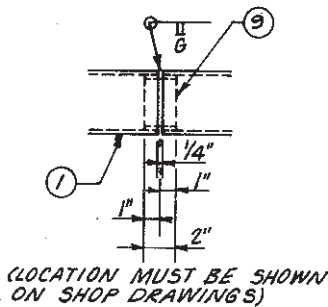
RAILING BASE PLATE

LEGEND

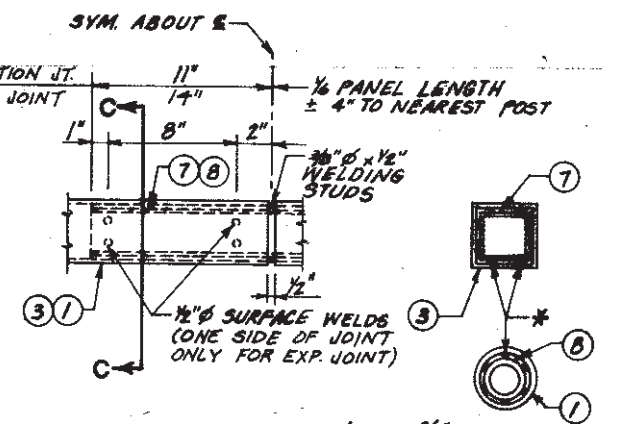
1. 2 1/2" DIA STEEL PIPE CONFORMING TO SECTION 506 OF THE STANDARD SPECIFICATIONS.
2. TS 2" x 2" x .188" STRUCTURAL TUBING CONFORMING TO ASTM DESIGNATION A 501 OR A 500 GRADE B. CUT BOTTOM OF POST TO MATCH SLOPE OF TOP OF WALL. HOLD 1/16" ABOVE BASE PLATE TO ALLOW POST AND BASE PLATE TO BE WELDED TOGETHER. PLACE POST VERTICAL AND CENTERED ON BASE PLATE.
3. TS 1 1/2" x 1 1/2" x .188" STRUCTURAL TUBING CONFORMING TO ASTM DESIGNATION A 501 OR A 500 GRADE B.
4. TS 1" x 1" x .125" STRUCTURAL TUBING CONFORMING TO ASTM DESIGNATION A 501 OR A 500 GRADE B.
5. BASE PLATE 1/2" x 4" x 7" CONFORMING TO ASTM DESIGNATION A 709 GRADE 36 WITH 1/16" x 1 1/2" SLOTTED HOLES FOR HEX BOLTS NO. 6. WELD TO NO. 2 AS SHOWN.
6. 5/8" DIA. STAINLESS STEEL HEX BOLTS WITH NUT AND WASHER CONFORMING TO ASTM DESIGNATION A 304. 2 REQ'D PER POST. PLACE NORMAL TO PLATE NO. 5. EMBED 4 INCHES. CHAMFER TOP OF BOLTS BEFORE THREADING.
7. SQUARE SLEEVE FABRICATED FROM 1/2" COLD DRAWN STEEL ALLOY SQUARE CONFORMING TO ASTM A 331 x (2'-4" AT EXPANSION JOINT) AND (1'-10" AT FIELD JOINTS) LONG. PROVIDE 1/2" DIA SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 3. PROVIDE 3/8" DIA x 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
8. 1 1/2" DIA STEEL PIPE CONFORMING TO SECTION 506 OF THE STANDARD SPECIFICATIONS x (2'-4" AT EXPANSION JOINT) AND (1'-10" AT FIELD JOINTS) LONG. PROVIDE 1/2" DIA SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 1. PROVIDE 3/8" DIA x 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
9. 2" DIA. PIPE SLEEVE CONFORMING TO SECTION 506 OF THE STANDARD SPECIFICATIONS. PROVIDE "SLIDING FIT."
10. 1/2" x 4 1/2" DIA. BASE FLANGE WITH 3- 5/8" DIA S.S. EXP. ANCHORS.
11. 1 1/2" DIA STEEL PIPE CONFORMING TO SECTION 506 OF THE STANDARD SPECIFICATIONS.



ELEVATION



SHOP RAIL SPLICE DETAIL



FIELD ERECTION/EXPANSION JOINT DETAIL

GENERAL NOTES

BID ITEM SHALL BE "STEEL RAILING, STRUCTURE RW-13-29" WHICH INCLUDES ALL ITEMS SHOWN, INCLUDING PAINTING

RAILING SHALL BE FABRICATED IN 2 OR 3 PANEL LENGTHS (SEE SHEET 1 OF 5 FOR HANDRAIL LAYOUT AND POST SPACING)

POST BASE PLATES NO. 5 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.

ALL MATERIALS EXCEPT ANCHOR BOLTS NO. 6, SHALL BE PAINTED AFTER FABRICATION.

* MIN 3/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE RW-13-29			
CONST. SPEC.	WISC. 1989	DRAWN BY	JCK
		PLANS CHECKED	DJW
RAILING DETAILS			SHEET 4 OF 4