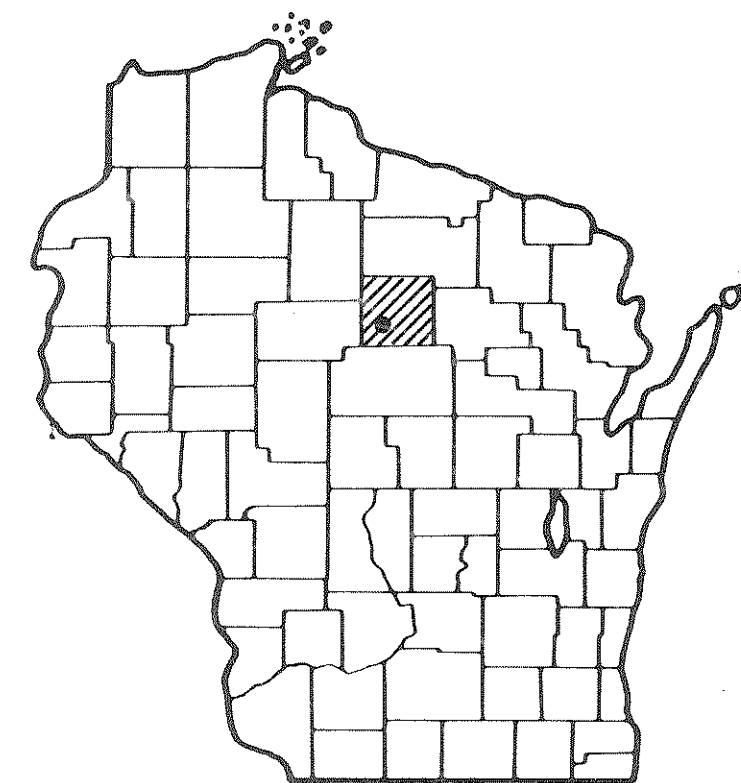


Index of Sheets

Sheet No. 1	Title
Sheet No.	Typical Sections and Details
Sheet No.	Estimate of Quantities
Sheet No.	Miscellaneous Quantities
Sheet No.	Right of Way Plat
Sheet No.	Plan and Profile
Sheet No.	Standard Detail Drawings
Sheet No.	Standard Sign Plates
Sheet No.	Structure Plans
Sheet No.	Computer Earthwork Data
Sheet No.	Cross Sections

TOTAL SHEETS



# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

### NEW WOOD RIVER BRIDGE & APPROACHES

C.T.H. "E"

LINCOLN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9411-03-70		1
9411-03-71		2

STATE PROJECT NUMBER <b>9411-03-70</b>	STATE PROJECT NUMBER <b>9411-03-71</b>
---	---

END PROJECT 9411-03-70  
STA. 22+00

PROJECT 9411-03-71  
STRUCTURE B-35-112  
STA 19+73.07 TO STA. 20+44.93  
EXCEPTION TO NET C LENGTH, PROJECT 9411-03-70

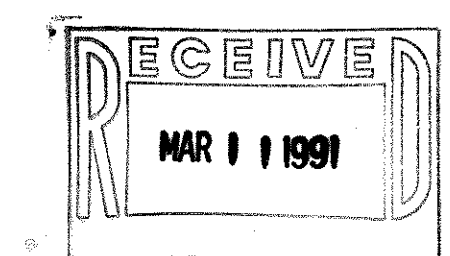
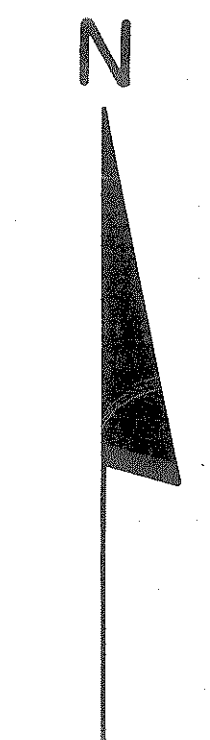
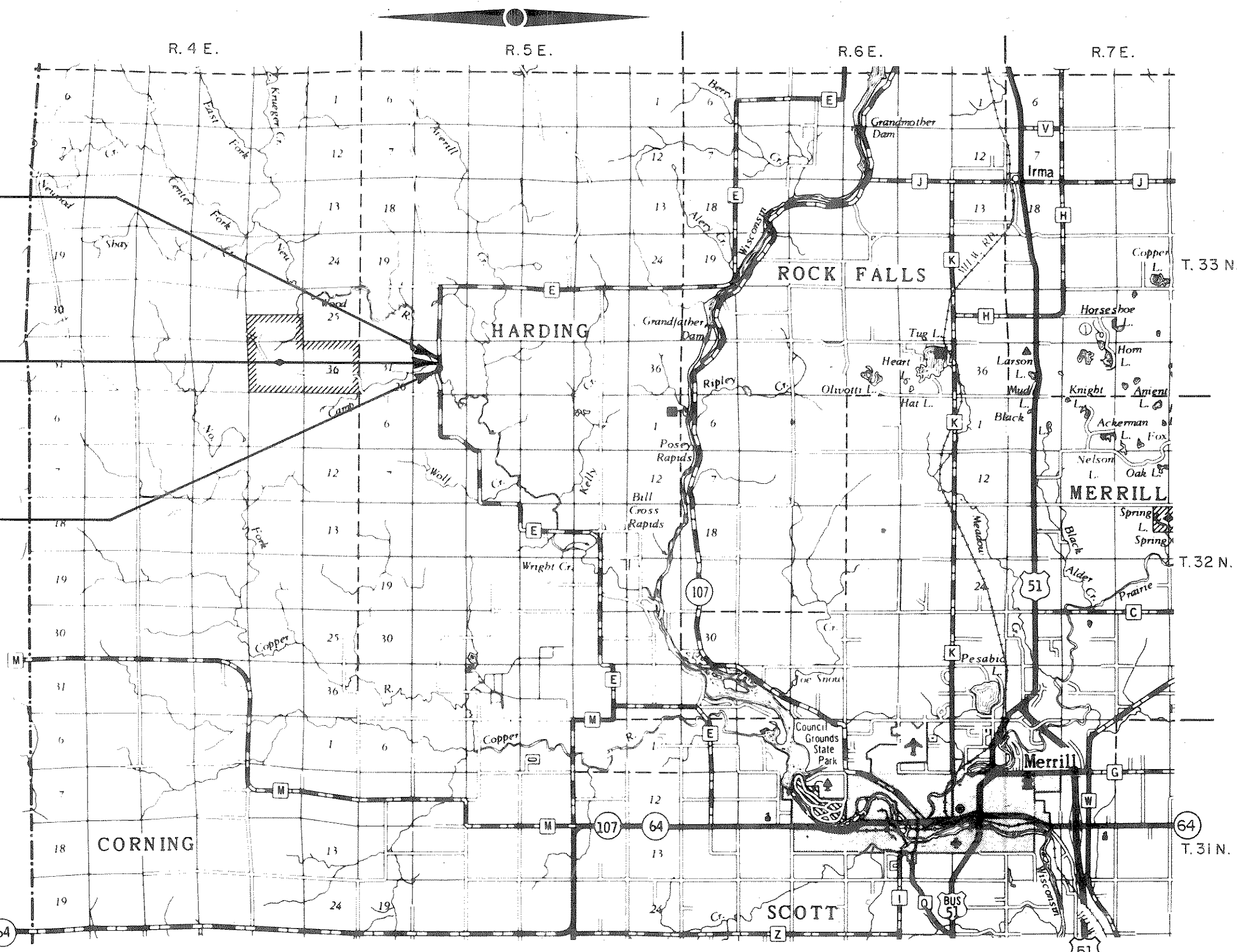
BEGIN PROJECT 9411-03-70  
STA. 14+00  
Y- 535,200 (±100')  
X- 2,028,400 (±100')

Design Designation

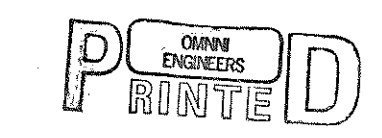
A.D.T. (1991)	=	50
A.D.T. (2011)	=	70
D.H.V. (2011)	=	10
D.	=	50-50%
T. (% OF A.D.T.)	=	6
V.	=	50 M.P.H.

Conventional Signs

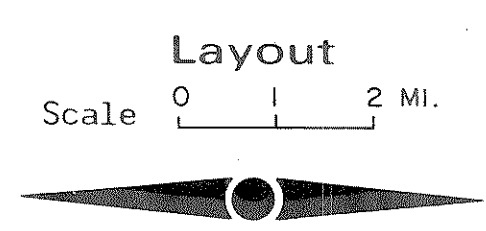
County Line	-----	Caution Symbol (Combustible fluids under pressure)	
Township or Range Line	-----	Railroads	+++++
Section Line	-----	Fence	XXXXX
Corporate or City Limits	///////	Culverts in Place	-----
Property line	-----	Culverts Required	-----
Lot Line	-----	Power Pole	-----
Existing Right of Way Line	-----	Telephone or Telegraph Pole	-----
New Right of Way Line	-----	Right of Way Markers	-----
Base or Survey Line	-----	Marsh	-----
Slope Intercept	-----	Wooded Area	-----
Existing Roadway or Private Entrance	-----	Grade Elevation	-----



*Final Plans As Received From ENGINEERS m.g. 3/11/91*



MAR 8 1991



Total Net Length of Centerline = 0.138 Mi. RURAL 9411-03-70  
= 0.014 Mi. RURAL 9411-03-71

NOTE: ALL COORDINATES ON THIS PLAN ARE SCALED FROM U.S.G.S. TOPOGRAPHIC MAP, NATZKE CAMP, WISCONSIN, FOR IDENTIFICATION ONLY. ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO U.S.G.S. DATUM - BM 1397 CHISELED "Q" IN NORTH HEADWALL - C.T.H. "E" OVER NEW WOOD RIVER (P-35-0033) - EL. 1396.590

APPROVED FOR  
LINCOLN COUNTY:

12-7-90 *[Signature]*  
Date Commissioner

ORIGINAL PLANS PREPARED BY  
**OMNI ENGINEERS**  
APPLETON, WISCONSIN

9-28-90 *[Signature]*  
Date Signature

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

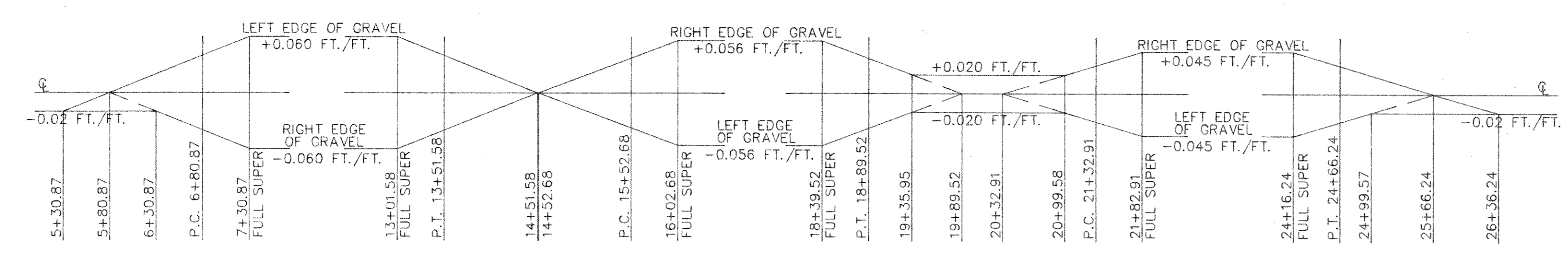
Surveyor **OMNI ENGINEERS** District Checker **G.M.I.**  
Designer **OMNI ENGINEERS** C.O. Plan Examiner  
District Supervisor **R.J.S.** C.O. Coordinator

Approved: \_\_\_\_\_  
Date \_\_\_\_\_ District Director

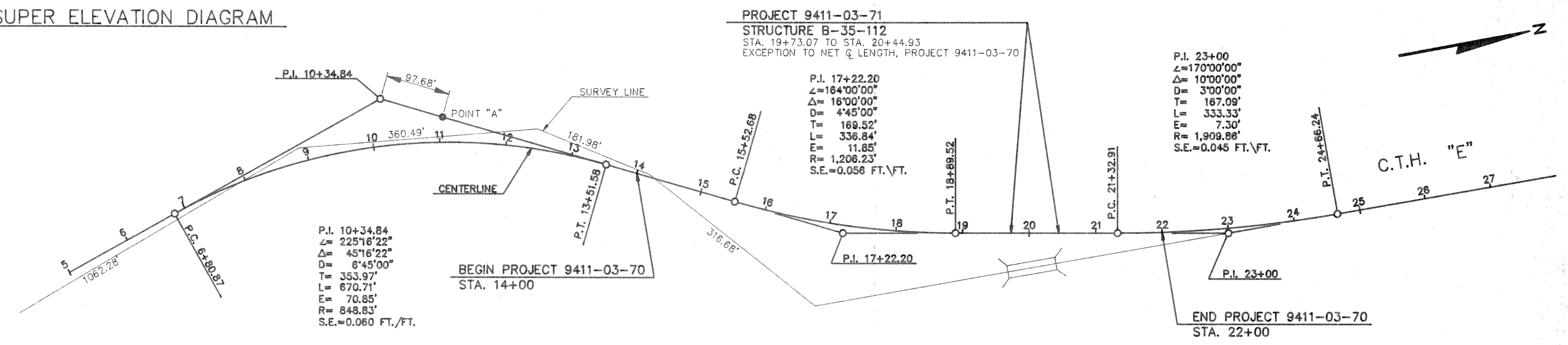
Approved: \_\_\_\_\_  
Date \_\_\_\_\_ Regional Chief Road Design Engineer

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
REGION 5 WISCONSIN DIVISION

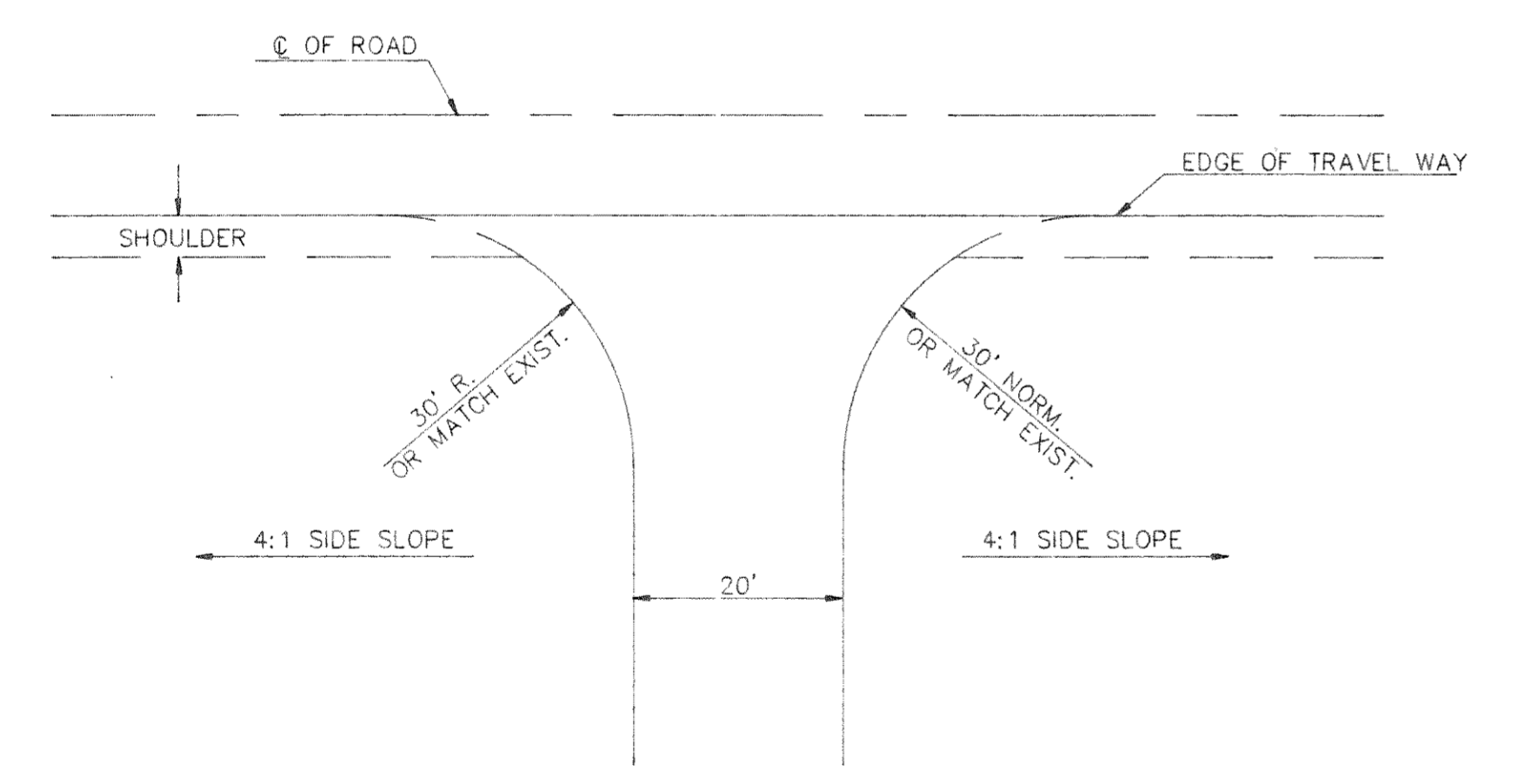
Approved: \_\_\_\_\_  
Date \_\_\_\_\_ Division Administrator



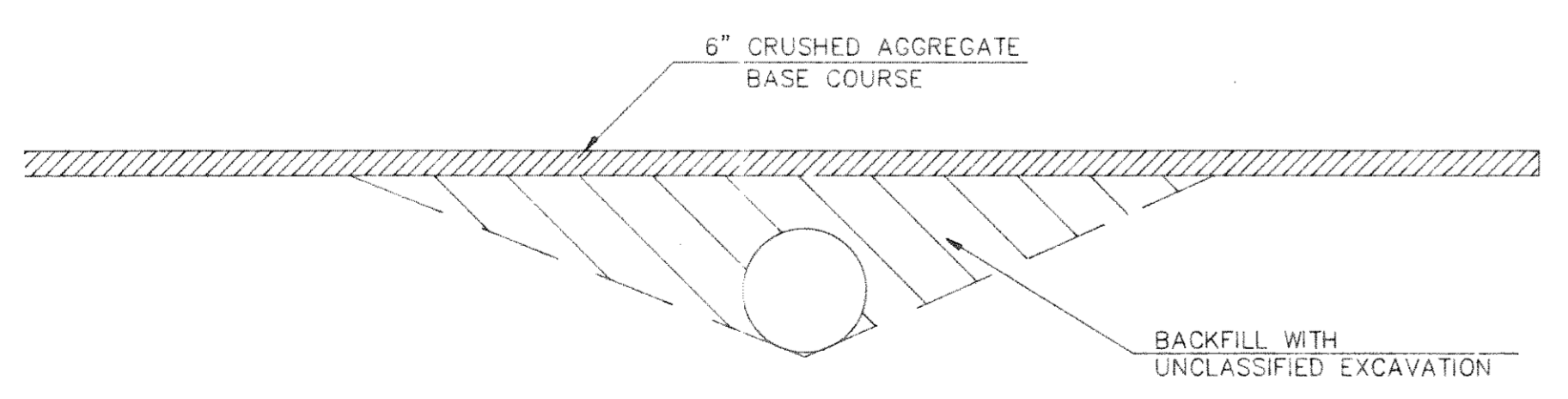
**SUPER ELEVATION DIAGRAM**



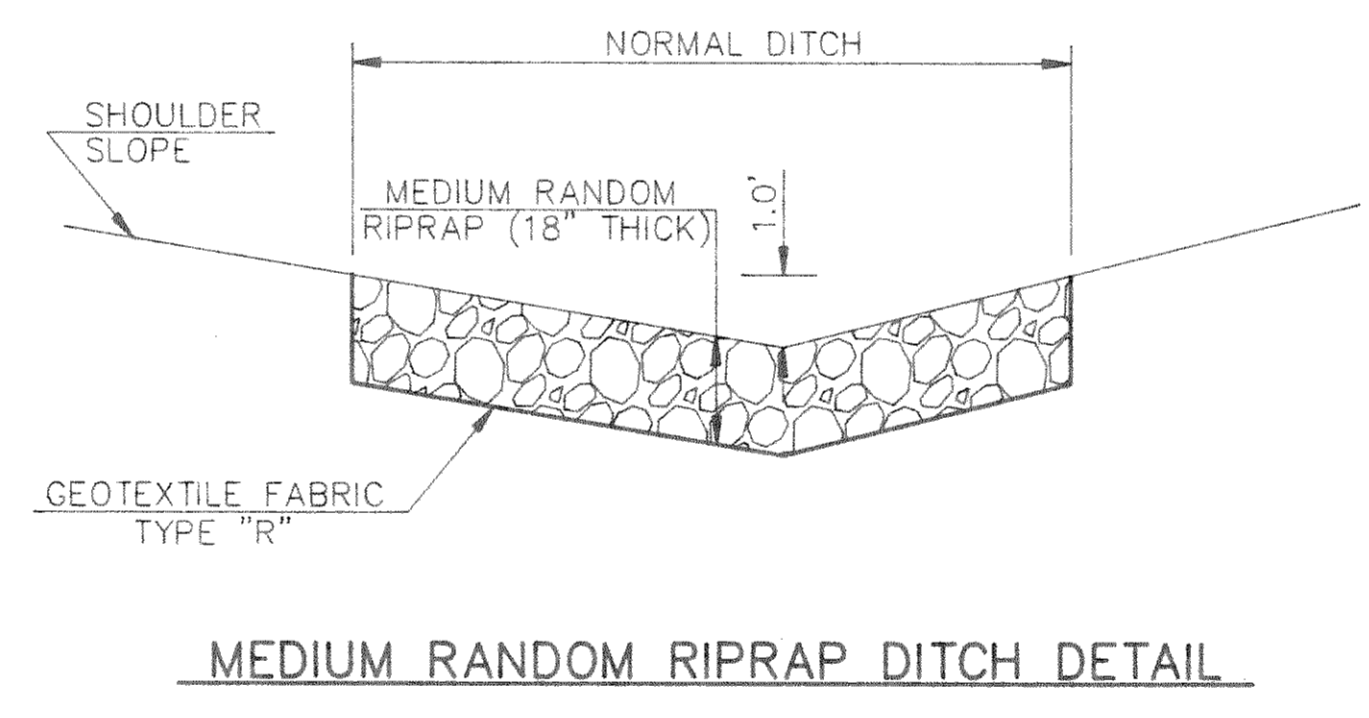
**ALIGNMENT SKETCH**



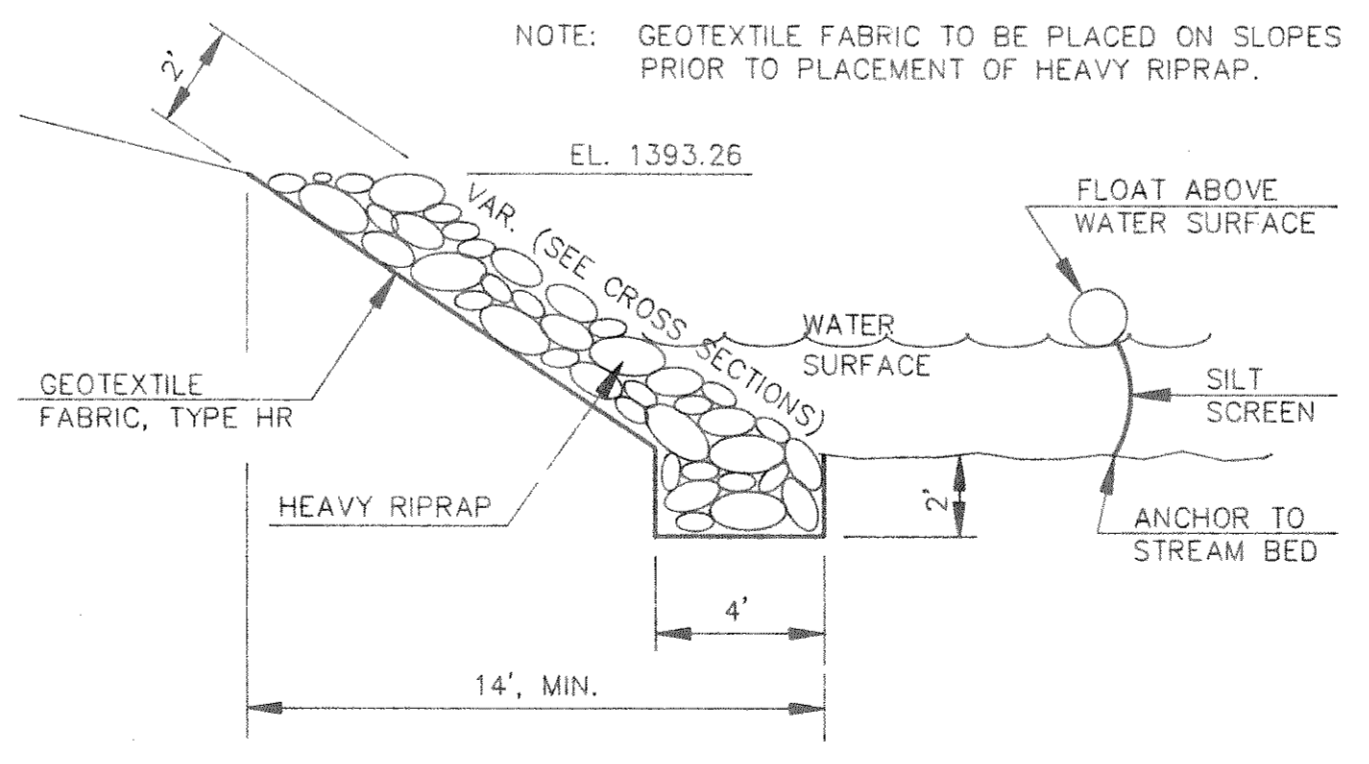
**PLAN OF FIELD ENTRANCE**



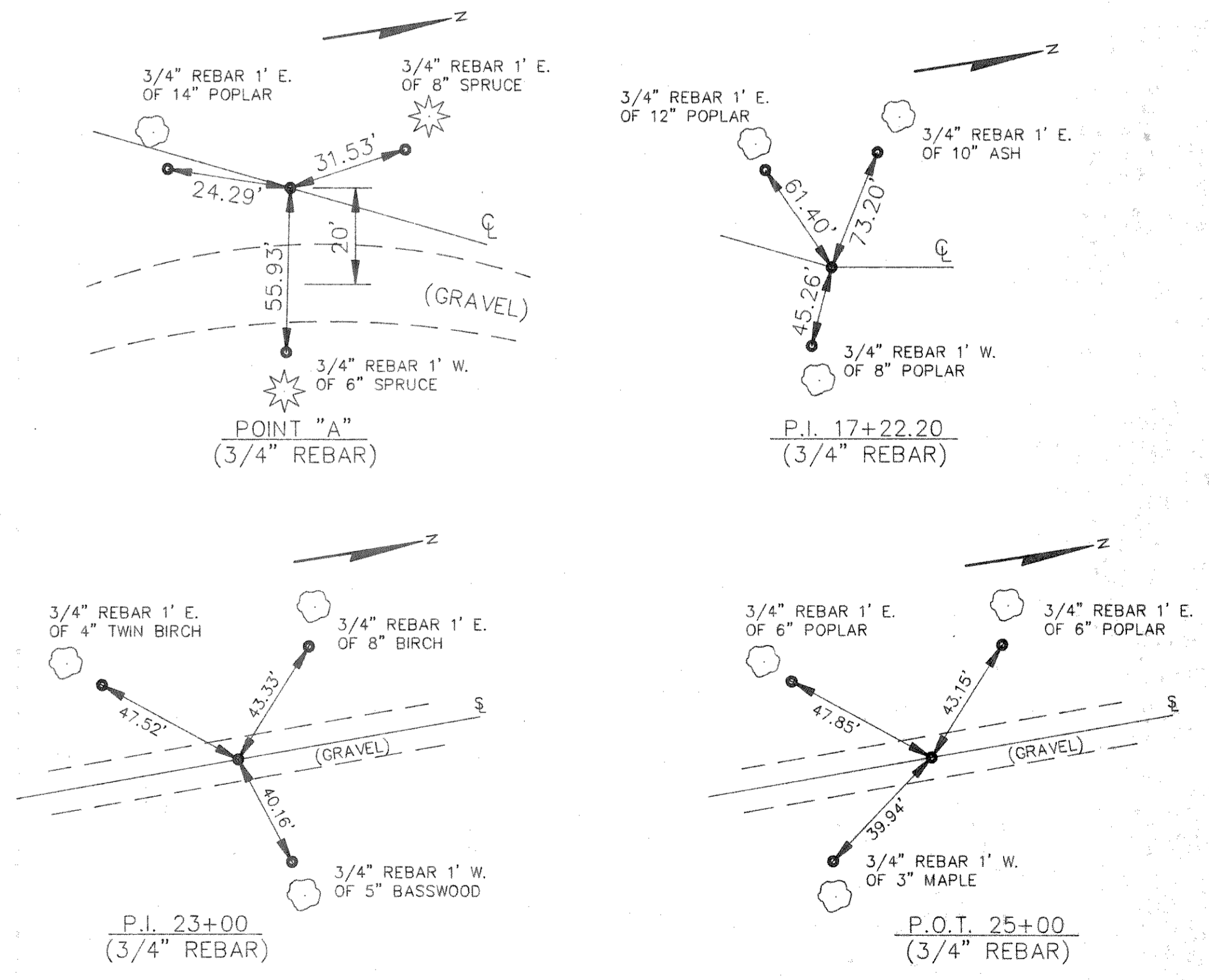
**PROFILE OF FIELD ENTRANCE**



**MEDIUM RANDOM RIPRAP DITCH DETAIL**



**DETAIL FOR HEAVY RIPRAP AND SILT SCREEN**



**ALIGNMENT TIES**

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST * REQUIRED	R/W ACRES REQ'D.			TOTAL ACRES REM.	T.L.E. ACRES	P.L.E. ACRES
				NEW	EXISTING	TOTAL			
1	4.0	WAUSAU PAPER MILLS COMPANY	FEE & P.L.E.	1.94	2.13	4.07	555.93	—	0.11
2	4.0	MARTHA G. CLAYTON, DAVID B. GOETZ, & PAUL M. GOETZ	FEE & T.L.E.	0.07	0.44	0.51	79.49	0.07	—

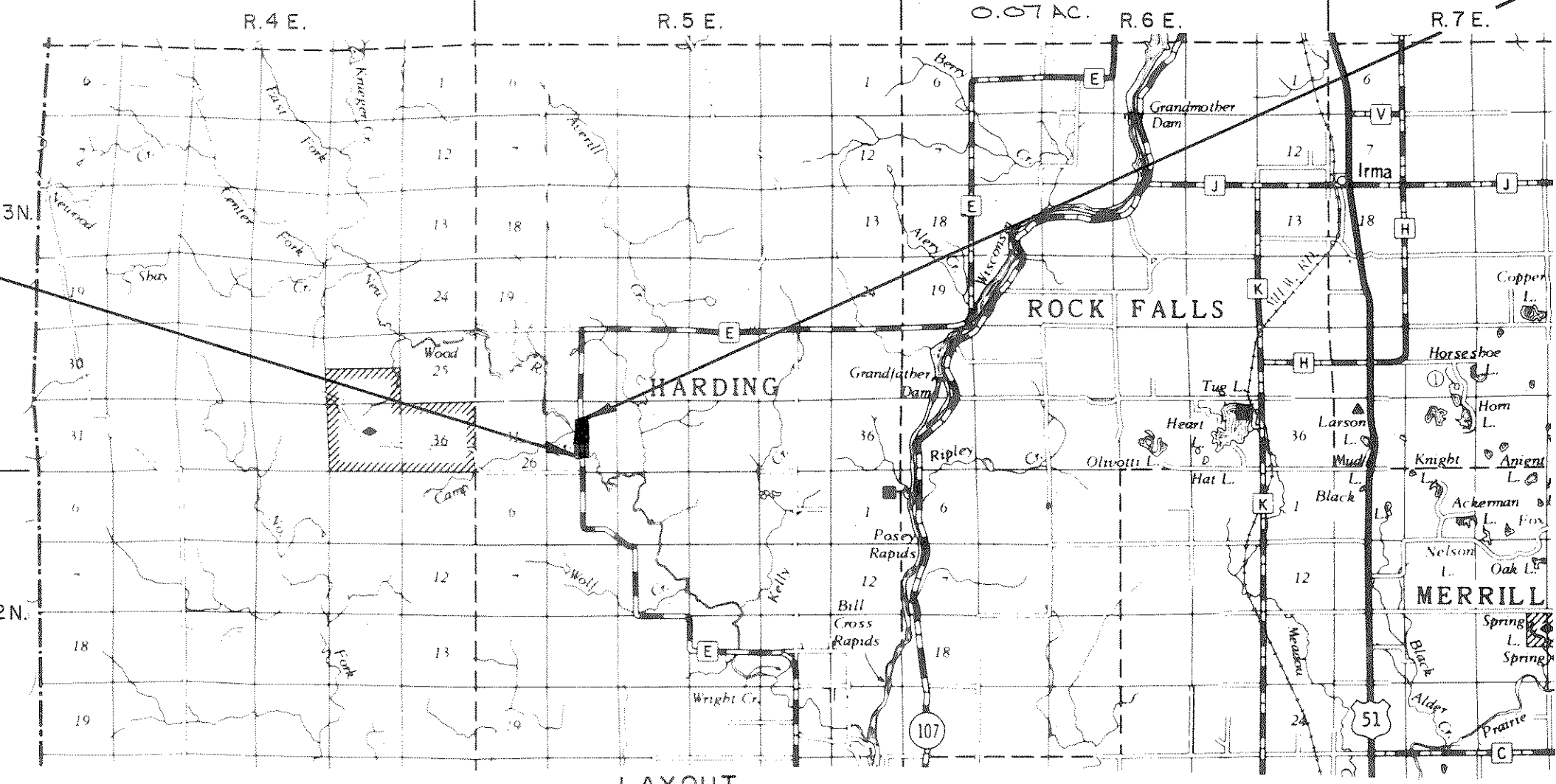
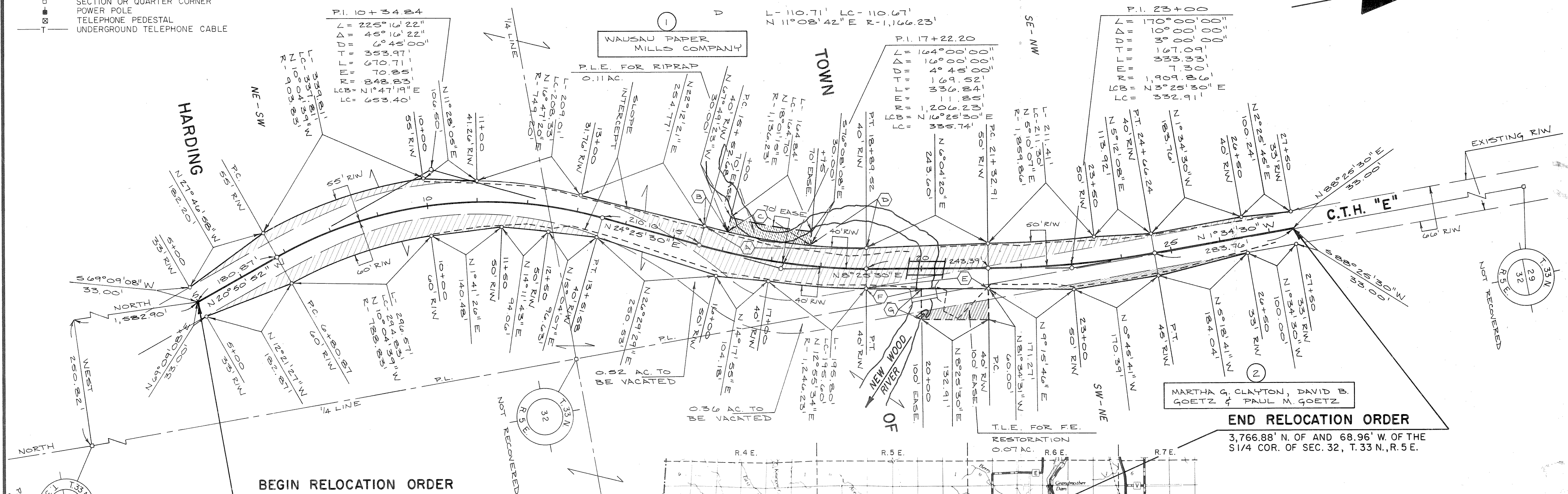
\* ACQUIRED IN THE NAME OF LINCOLN COUNTY

COURSE	DESCRIPTION	COURSE	DESCRIPTION
A	L-325.66', LC-324.61' N 16°25'30" E R-1,166.23'	E	N 8°25'30" E 243.39'
B	L-45.75', LC-45.75' N 23°18'03" E R-1,166.23'	F	N 8°25'30" E 110.48'
C	L-169.20', LC-169.05' N 18°01'15" E R-1,166.23'	G	S 81°34'30" E 60.00'
D	L-110.71', LC-110.67' N 11°08'42" E R-1,166.23'		

R/W PROJECT NUMBER	9411-03-00	SHEET NUMBER	4.0	TOTAL SHEETS	
FEDERAL PROJECT NUMBER		PLAT OF RIGHT OF WAY REQUIRED FOR NEW WOOD RIVER BRIDGE AND APPROACHES C.T.H. "E" LINCOLN COUNTY			
SCALE 0 50 100 200 FT.					

Conventional Signs and Abbreviations

- |                                |        |                            |        |                            |
|--------------------------------|--------|----------------------------|--------|----------------------------|
| --- SECTION LINE               | AC.    | ACRES                      | N      | NORTH                      |
| --- QUARTER LINE               | ETUX   | AND WIFE                   | P.C.   | POINT OF CURVATURE         |
| --- TOWNSHIP AND RANGE LINE    | Δ      | CENTRAL ANGLE              | P.I.   | POINT OF INTERSECTION      |
| --- PROPOSED OR NEW CENTERLINE | COR.   | CORNER                     | P.T.   | POINT OF TANGENCY          |
| --- EXISTING R/W LINE          | C.T.H. | COUNTY TRUNK HIGHWAY       | R      | RADIUS                     |
| --- PROPOSED OR NEW R/W LINE   | D      | DEGREE OF CURVE            | R/W    | RIGHT OF WAY               |
| --- EXISTING R/W LINE          | E      | EAST                       | SEC.   | SECTION                    |
| --- PROPERTY LINE              | L      | LENGTH OF CURVE            | S      | SOUTH                      |
| --- SLOPE INTERCEPTS           | LC     | LONG CHORD                 | STA.   | STATION                    |
| --- LIMITED EASEMENT           | LCB    | LONG CHORD BEARING         | T.L.E. | TEMPORARY LIMITED EASEMENT |
| --- R/W POINT                  | MI     | MILE                       | T      | TOWN                       |
| --- FENCE                      | P.L.E. | PERMANENT LIMITED EASEMENT | T      | TANGENT LENGTH OF CURVE    |
| --- SECTION OR QUARTER CORNER  | R.     | RANGE                      | W.     | WEST                       |



**BEGIN RELOCATION ORDER**  
1,532.90' N. OF AND 250.82' W. OF THE  
S 1/4 COR. OF SEC. 32, T. 33 N., R. 5 E.

**END RELOCATION ORDER**  
3,766.88' N. OF AND 68.96' W. OF THE  
S 1/4 COR. OF SEC. 32, T. 33 N., R. 5 E.

BEARING ORIENTATION  
RIGHT-OF-WAY PLAT BEARINGS ARE ORIENTED TO THE EAST LINE OF THE NW 1/4 OF SECTION 5, T. 32 N., R. 5 E., WITH THE BEARING ESTABLISHED AS NORTH (ASSUMED). THE DIFFERENCE BETWEEN PLAT BEARINGS REPRESENTS PLANE ANGLES IN DEGREES, MINUTES, AND SECONDS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD. OTHER INFORMATION IS PROVIDED TO SUPPLEMENT THE BASIC PERIMETER DESCRIPTION AND SHALL NOT BE CONSTRUED TO PREVAIL OVER THE PERIMETER DESCRIPTION.

AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

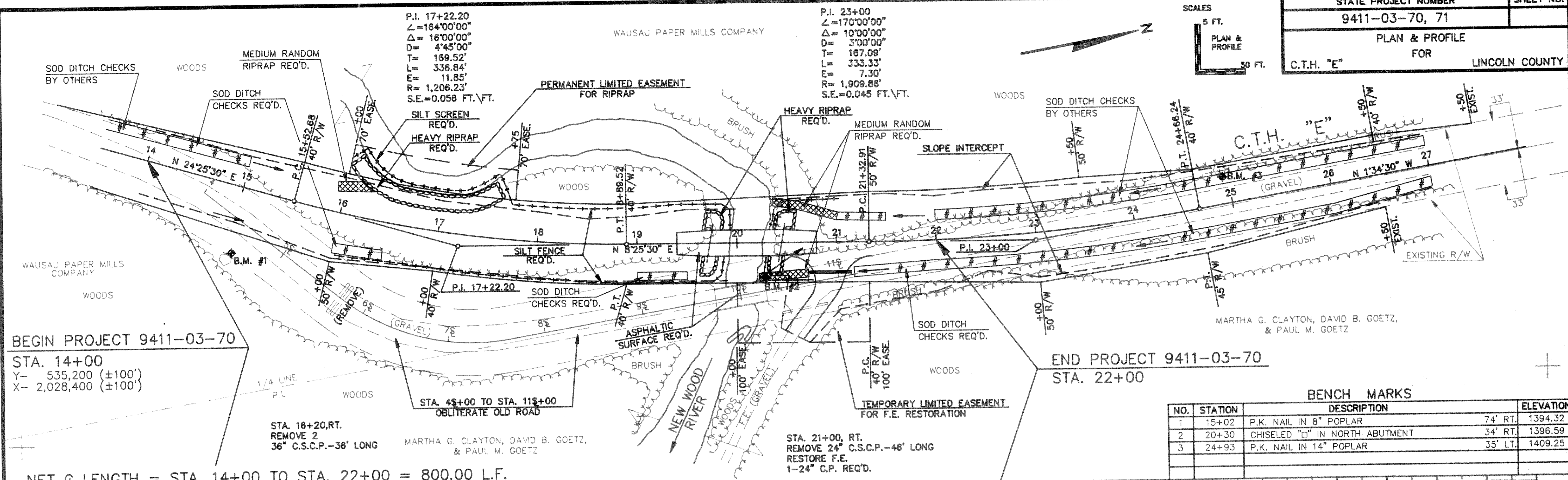
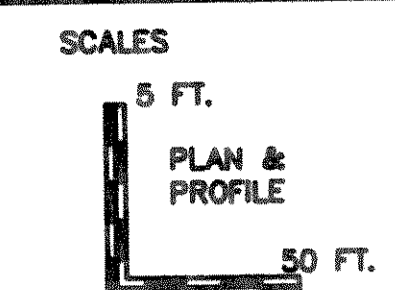
LAYOUT  
SCALE 0 1 2 MI.  
TOTAL NET LENGTH OF CENTERLINE = 0.426 MI.

APPROVED FOR LINCOLN COUNTY

*Michael Miller*  
Date 10/10/90  
County Highway Commissioner

PLAT PREPARED BY:  
**OMNI ENGINEERS**  
APPLETON, WISCONSIN

**WISCONSIN LAND SURVEYOR**  
LARRY J. MILLER  
5174 APPLETON, WI.  
*Larry J. Miller*  
Date 10/10, 1990



BEGIN PROJECT 9411-03-70  
 STA. 14+00  
 Y = 535,200 ( $\pm 100'$ )  
 X = 2,028,400 ( $\pm 100'$ )

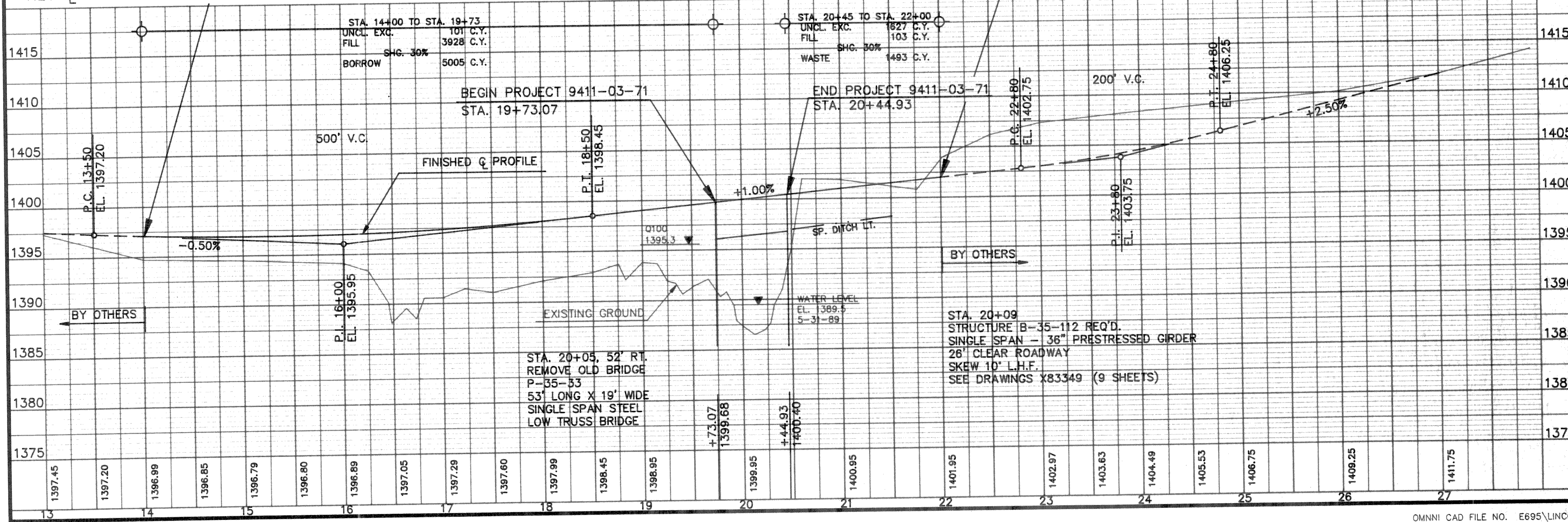
END PROJECT 9411-03-70  
 STA. 22+00

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEVATION
1	15+02	P.K. NAIL IN 8" POPLAR	74' RT. 1394.32
2	20+30	CHISELED "D" IN NORTH ABUTMENT	34' RT. 1396.59
3	24+93	P.K. NAIL IN 14" POPLAR	35' LT. 1409.25

STA. 16+20, RT. REMOVE 2  
 36" C.S.C.P. - 36' LONG  
 Martha G. Clayton, David B. Goetz, & Paul M. Goetz

STA. 21+00, RT. REMOVE 24"  
 C.S.C.P. - 46' LONG RESTORE F.E.  
 1-24" C.P. REQ'D.

NET  $Q$  LENGTH = STA. 14+00 TO STA. 22+00 = 800.00 L.F.



**GENERAL NOTES**

1. DRAWINGS SHALL NOT BE SCALED.
2. BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
3. THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP TO THE EXTENT SHOWN ON THIS SHEET.
4. ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
5. FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION: M153, TYPE I, II, OR III OR A.A.S.H.T.O. DESIGNATION: M213.
6. THE EXISTING STRUCTURE (P-35-33) IS A 53' LONG, SINGLE SPAN LOW STEEL TRUSS BRIDGE.

**DESIGN DATA**

STRUCTURE IS DESIGNED FOR FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

LIVE LOAD:  
 DESIGN RATING \_\_\_\_\_ HS20  
 INVENTORY RATING \_\_\_\_\_ HS23  
 OPERATING RATING \_\_\_\_\_ HS37  
 MAX. STANDARD PERMIT VEHICLE LOAD \_\_\_\_\_ 250 kips

ALLOWABLE DESIGN STRESSES:  
 CONCRETE MASONRY - SLAB \_\_\_\_\_  $f'c = 4,000$  psi  
 ALL OTHER \_\_\_\_\_  $f'c = 3,500$  psi

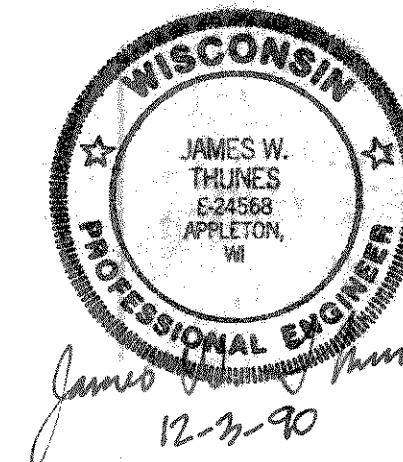
HIGH STRENGTH BAR  
 STEEL REINFORCEMENT \_\_\_\_\_  $f_y = 60,000$  psi  
 36" PRESTRESSED GIRDER  
 CONCRETE MASONRY \_\_\_\_\_  $f'c = 6,000$  psi  
 STRANDS - 1/2" DIA. WITH AN  
 ULTIMATE TENSILE STRENGTH OF 270,000 psi

TRAFFIC DATA:  
 ADT= 50 (1988)  
 ADT= 70 (2011)

HYDRAULIC DATA:  
 Q 100 \_\_\_\_\_ 2500 C.F.S.  
 VELOCITY \_\_\_\_\_ 7.1 F.P.S.  
 HIGH WATER \_\_\_\_\_ EL. 1395.3  
 WATERWAY AREA \_\_\_\_\_ 352 S.F.  
 DRAINAGE AREA \_\_\_\_\_ 53 SQ. MILES  
 ROADWAY OVERTOPPING FREQUENCY \_\_\_\_\_ N/A YEARS

FOUNDATION DATA:  
 ABUTMENTS TO BE SUPPORTED ON 10 3/4" DIA. C.I.P. CONC. PILING, ESTIMATED 20'-0" LONG AND DRIVEN TO A MINIMUM BEARING VALUE OF 35 TONS PER PILE.

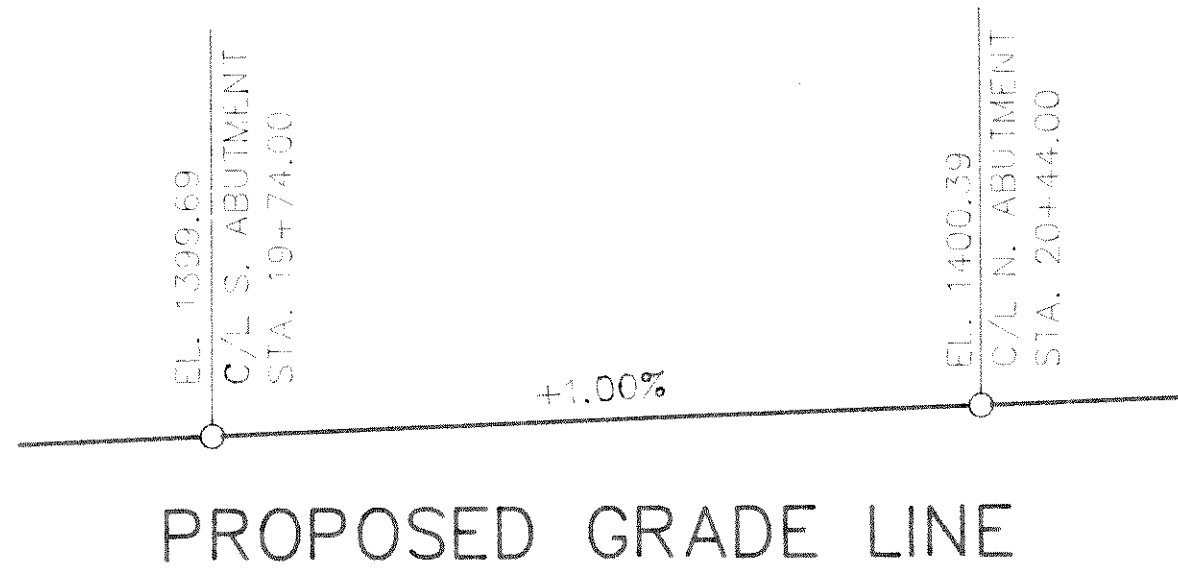
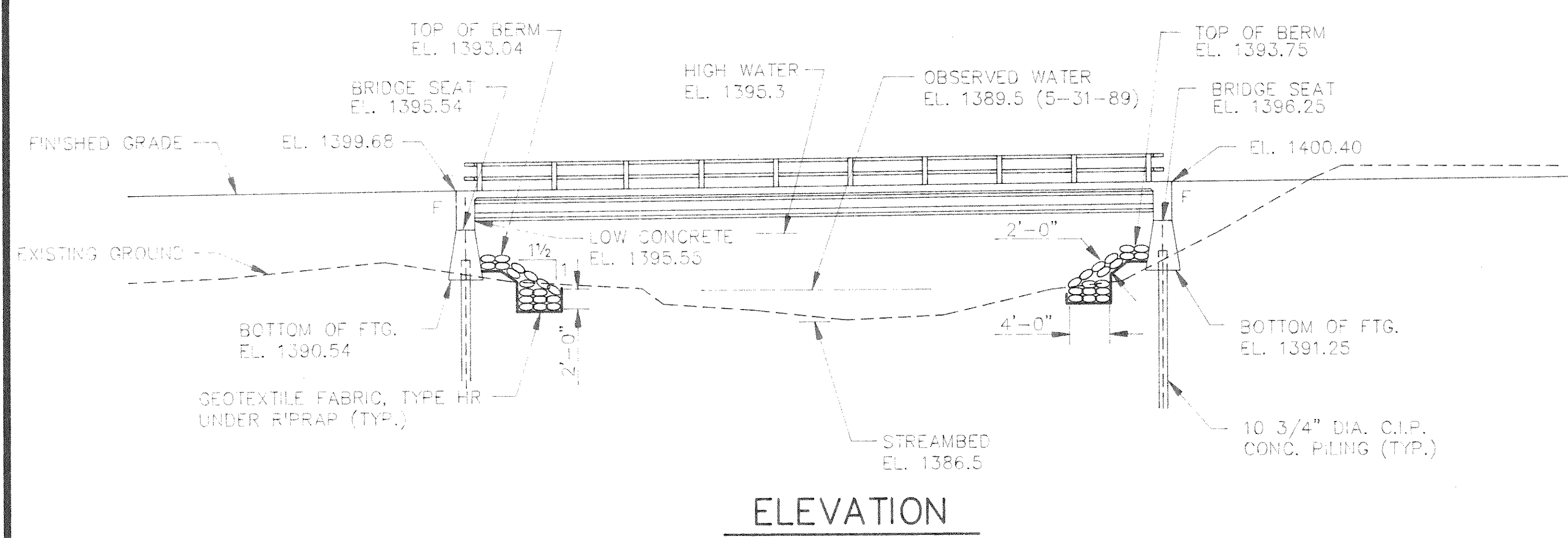
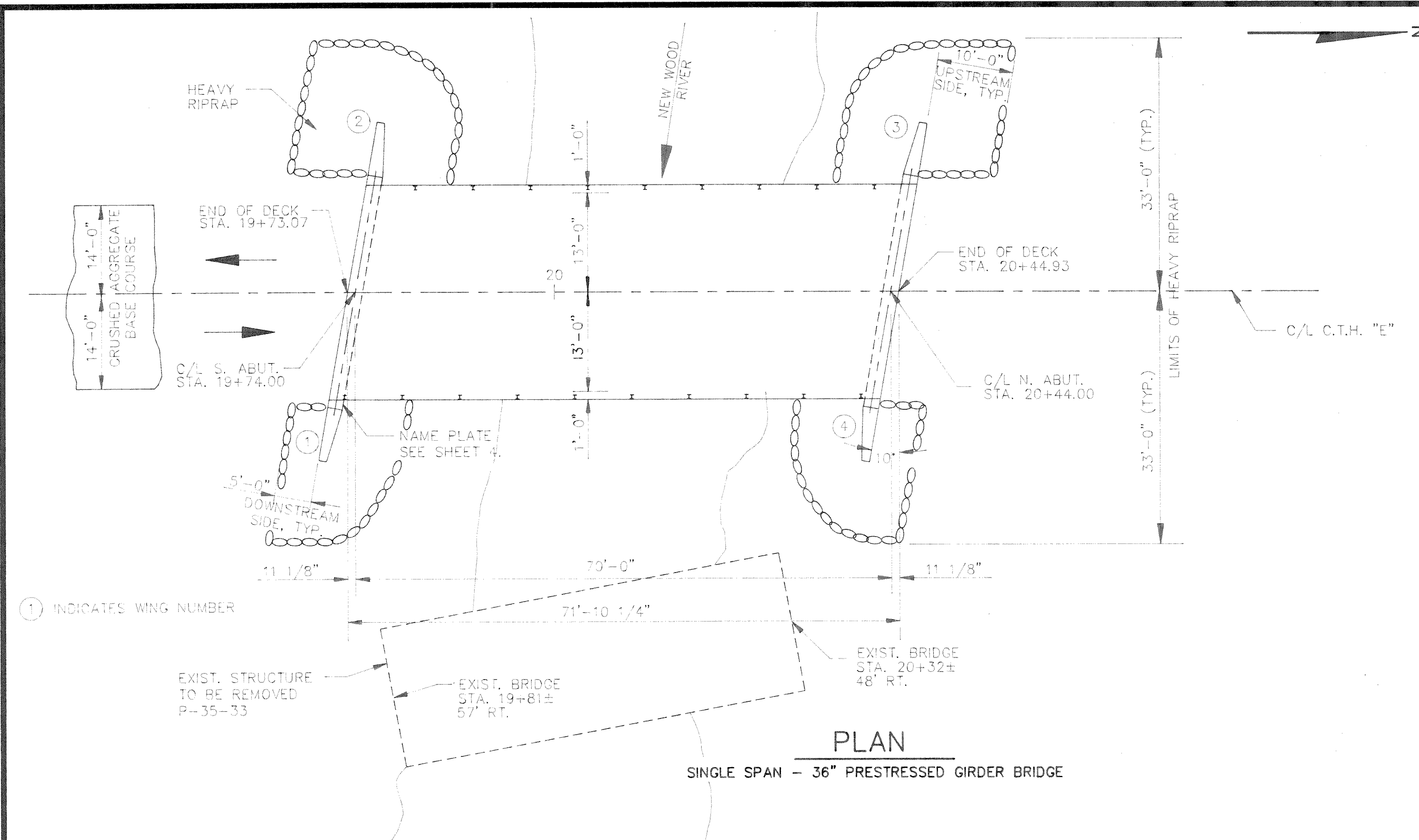
NO.	DATE	REVISION	BY
<b>OMNI ENGINEERS</b>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-35-112			
C.T.H. "E" OVER NEW WOOD RIVER			
COUNTY	LINCOLN	TOWN OF	HARDING
DESIGN SPEC.	AASHTO '89	LOAD	HS20
DESIGNED BY	OMNI	DRAWN BY	OMNI
CONST. SPEC.	1989	PLANS CK'D.	JWT
APPROVED _____		STATE BRIDGE ENGINEER _____ DATE _____	
<b>GENERAL PLAN</b>			SHEET 1 OF 9 <b>X83349</b>



BRIDGE OFFICE CONTACT: D. BABLER  
(608) 266-8486

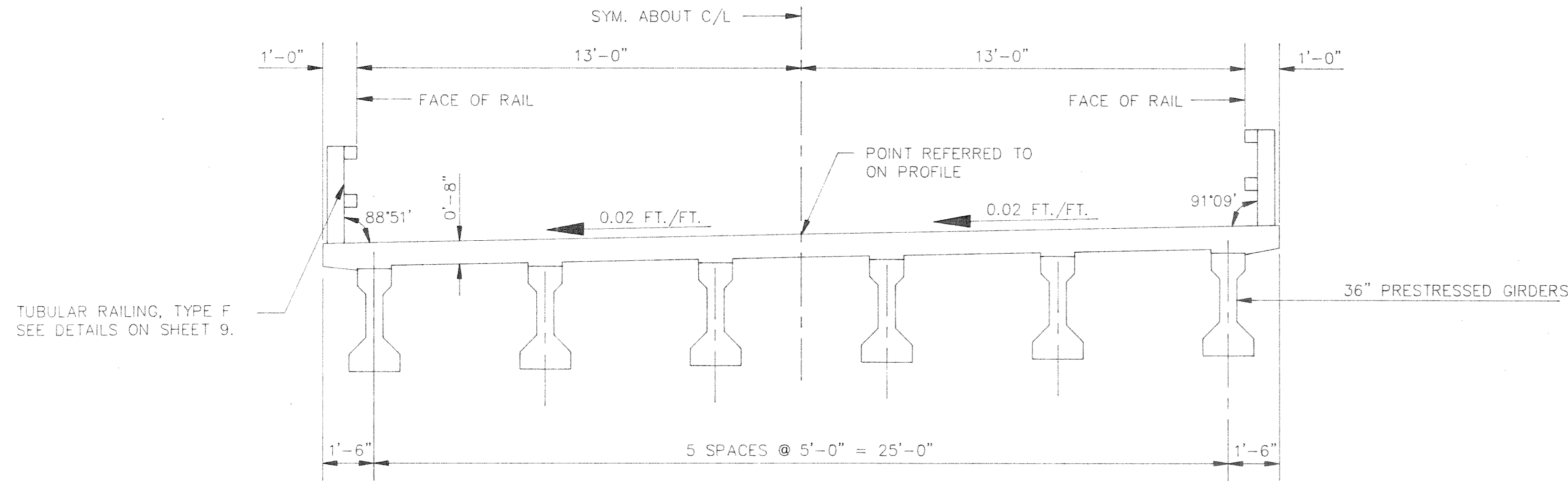
**LIST OF DRAWINGS (X83349)**

1. GENERAL PLAN
2. GENERAL PLAN
3. SUBSURFACE EXPLORATION
4. ABUTMENTS
5. ABUTMENT DETAILS
6. SUPERSTRUCTURE
7. 36" PRESTRESSED GIRDER DETAILS
8. STEEL DIAPHRAGM ALTERNATE
9. TUBULAR RAILING, TYPE F



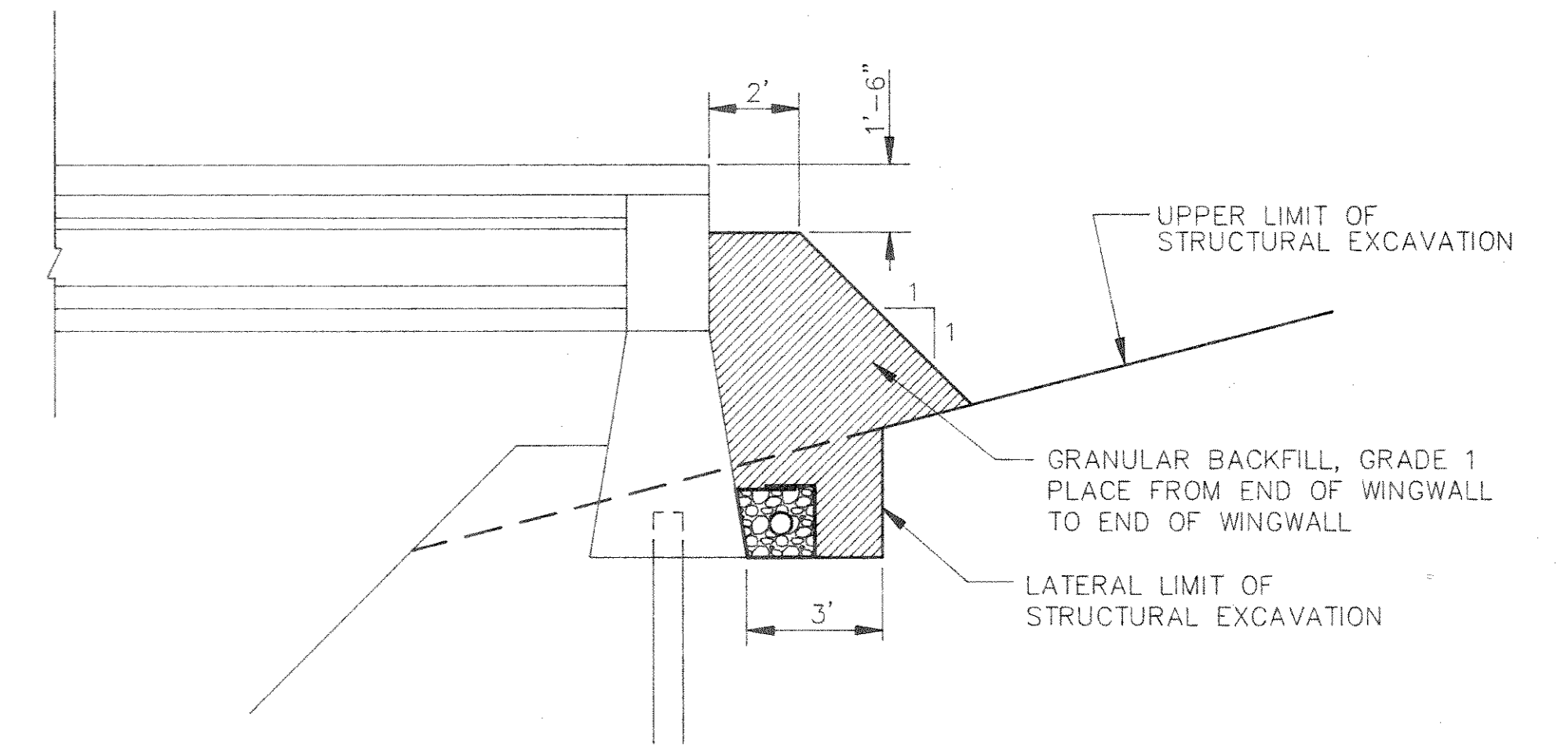
**BENCH MARKS**

NO.	STATION	DESCRIPTION	ELEVATION
2	20+30	CHISELED "□" IN NORTH ABUTMENT	34' RT. 1396.59



**CROSS SECTION THRU ROADWAY**

ALL SURFACES OF PRESTRESSED GIRDERS THAT WILL BE WITHIN THE LIMITS OF THE ABUTMENT CONCRETE DIAPHRAGM SHALL BE COATED WITH PARAFFIN WAX.

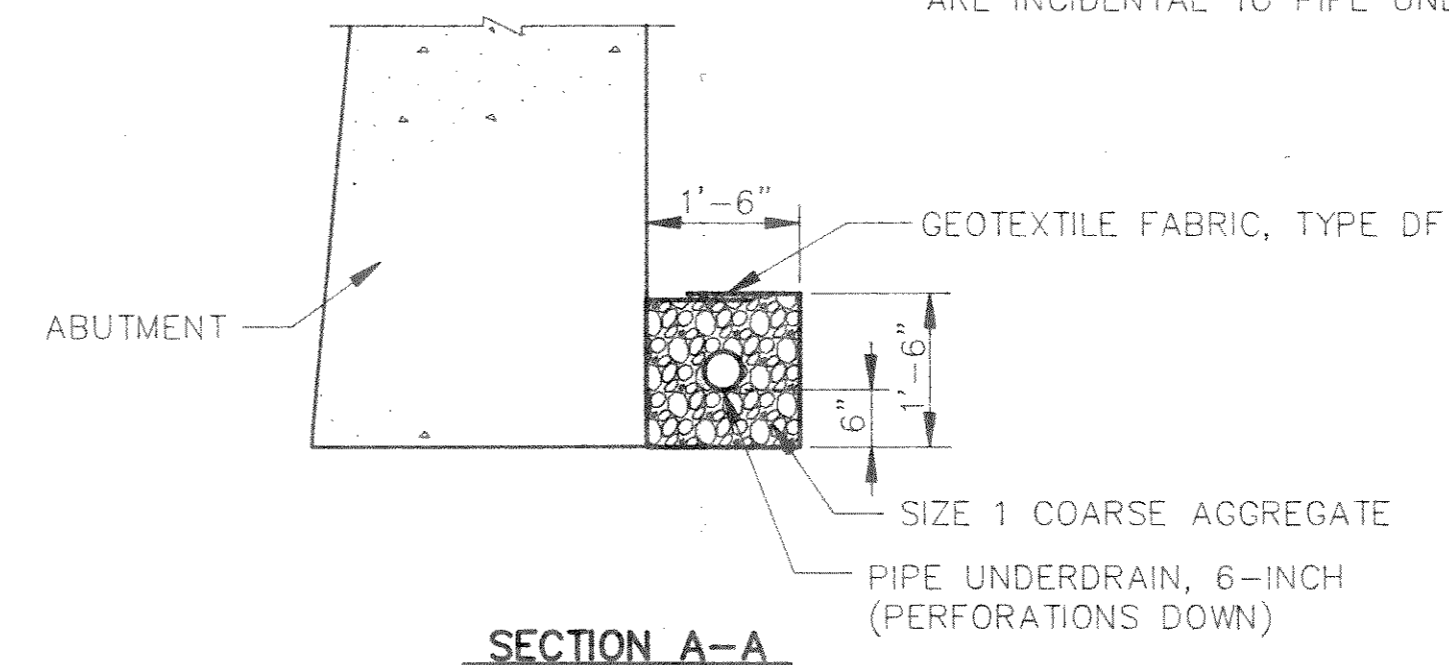
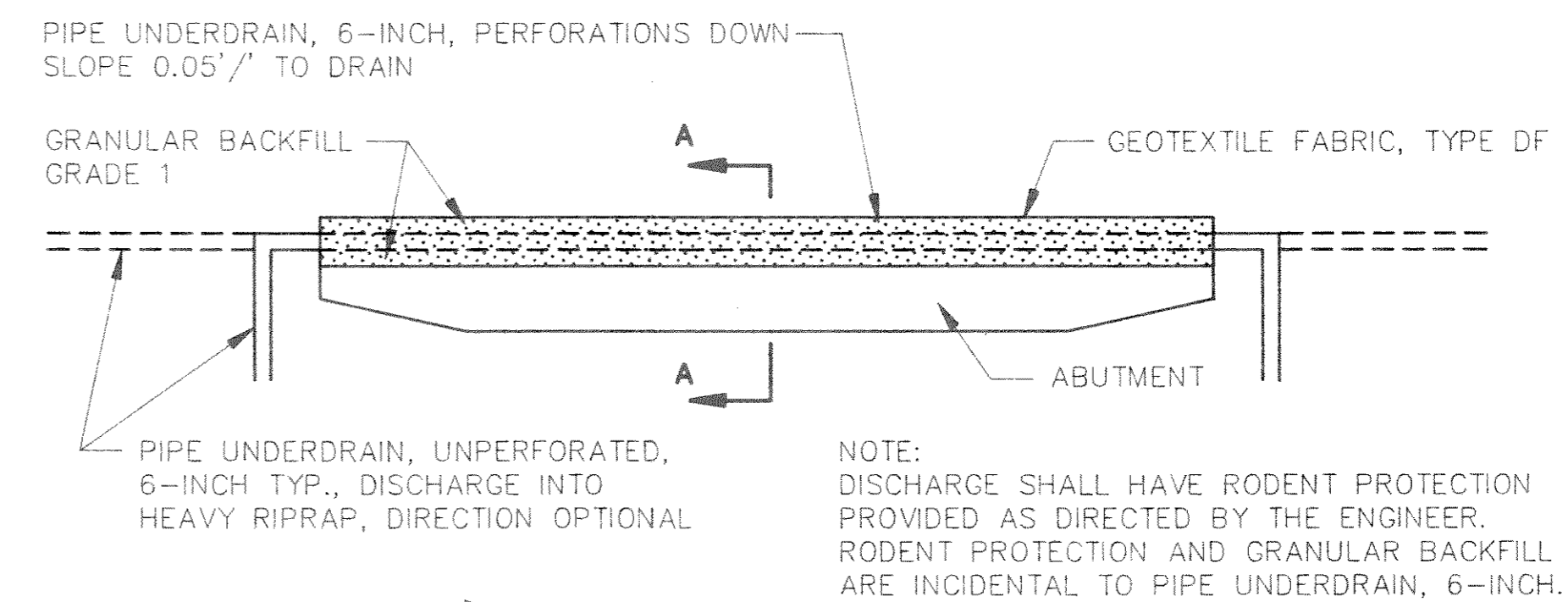


**GRANULAR BACKFILL DETAIL**

**TOTAL ESTIMATED QUANTITIES**

BID ITEMS	UNIT	SOUTH ABUT.	NORTH ABUT.	SUPER.	TOTALS
REMOVING OLD BRIDGE, STA. 20+00	L.S.	----	----	----	1
EXCAVATION FOR STRUCTURES, BRIDGES B-35-112	L.S.	----	----	----	1
GRANULAR BACKFILL	C.Y.	50	50	----	100
CONCRETE MASONRY, BRIDGES	C.Y.	23	23	65	111
PROTECTIVE SURFACE TREATMENT	GAL.	----	----	9	9
PRESTRESSED GIRDER, I TYPE, 36-INCH	L.F.	----	----	426	426
HIGH STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	1370	1370	9420	12160
COATED HIGH-STRENGTH BAR STEEL REINF., BRIDGES	LB.	----	----	1100	1100
NON-LAMINATED ELASTOMERIC BEARING PADS	EA.	6	6	----	12
*CAST-IN-PLACE CONCRETE PILING, DELIVERED AND DRIVEN, 10 3/4-INCH	L.F.	100	100	----	200
TUBULAR RAILING, TYPE F, STRUCTURE B-35-112	L.S.	----	----	----	1
HEAVY RIPRAP	C.Y.	72	72	----	144
PIPE UNDERDRAIN, 6-INCH	L.F.	45	45	----	90
PIPE UNDERDRAIN, UNPERFORATED, 6-INCH	L.F.	30	30	----	60
GEOTEXTILE FABRIC, TYPE DF	S.Y.	38	38	----	76
GEOTEXTILE FABRIC, TYPE HR	S.Y.	171	171	----	342
NON-BID ITEMS					
PREFORMED JOINT FILLER	SIZE	----	----	----	1/2" & 3/4"
POLYVINYL CHLORIDE WATERSTOP	L.F.	36	36	----	72

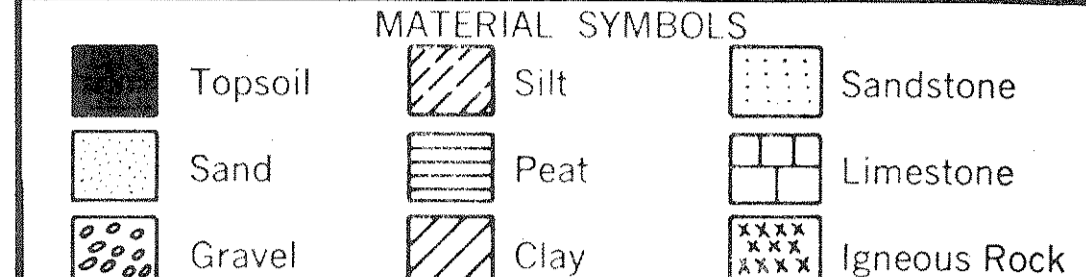
\* CAST-IN-PLACE CONCRETE PILING SHALL HAVE A MINIMUM WALL THICKNESS OF 0.3125 INCHES



**DETAIL FOR PIPE UNDERDRAIN AT ABUTMENT**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-112			
CONST. SPEC.	1989	DRAWN BY OMNI	PLANS CHECKED JWT
GENERAL PLAN			SHEET 2 OF 9
			X83349

ABBREVIATIONS  
 F — Fine M — Medium C — Coarse  
 Ws — Weathered So — Sound

MATERIAL SYMBOLS  


LEGEND OF PROBING  
 Probing No. Sta. Elevation  
 95/6=95 Blows for 6" Penetration  
 Probing taken with a 350# wt. Falling 18" on a 2" O. D. Point.  
 7 Average Blows Per Foot  
 Refusal 95, 6

LEGEND OF BORING  
 Boring No. Sta. Elev.  
 Unconfined Strength → 7.7  
 Blows Per Ft. Using 140# Wt. Falling 30"  
 Wash Sample  
 Shelby Tube — S. T.  
 Ground Water Elevation  
 No Ground Water Observed Above This Elevation  
 Sandy Gravel  
 Boulders or Cobbles  
 Sand  
 Silty Clay  
 So  
 Limestone

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.

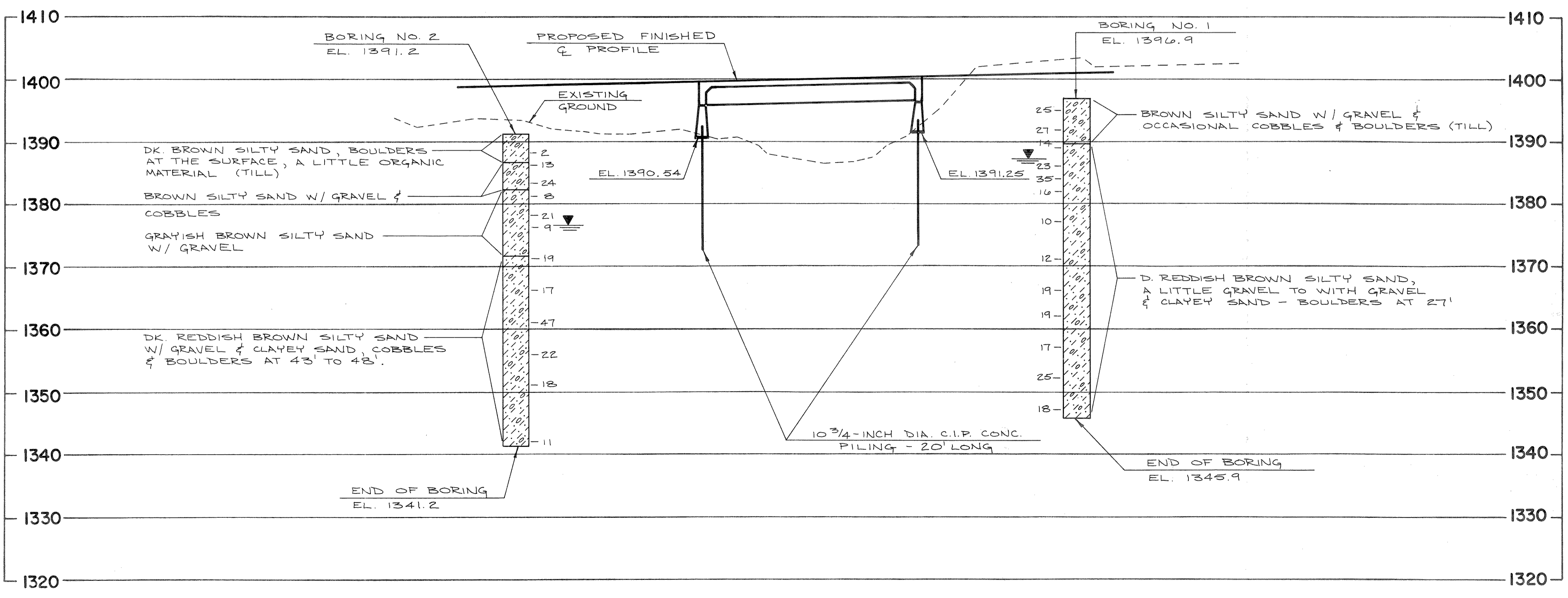
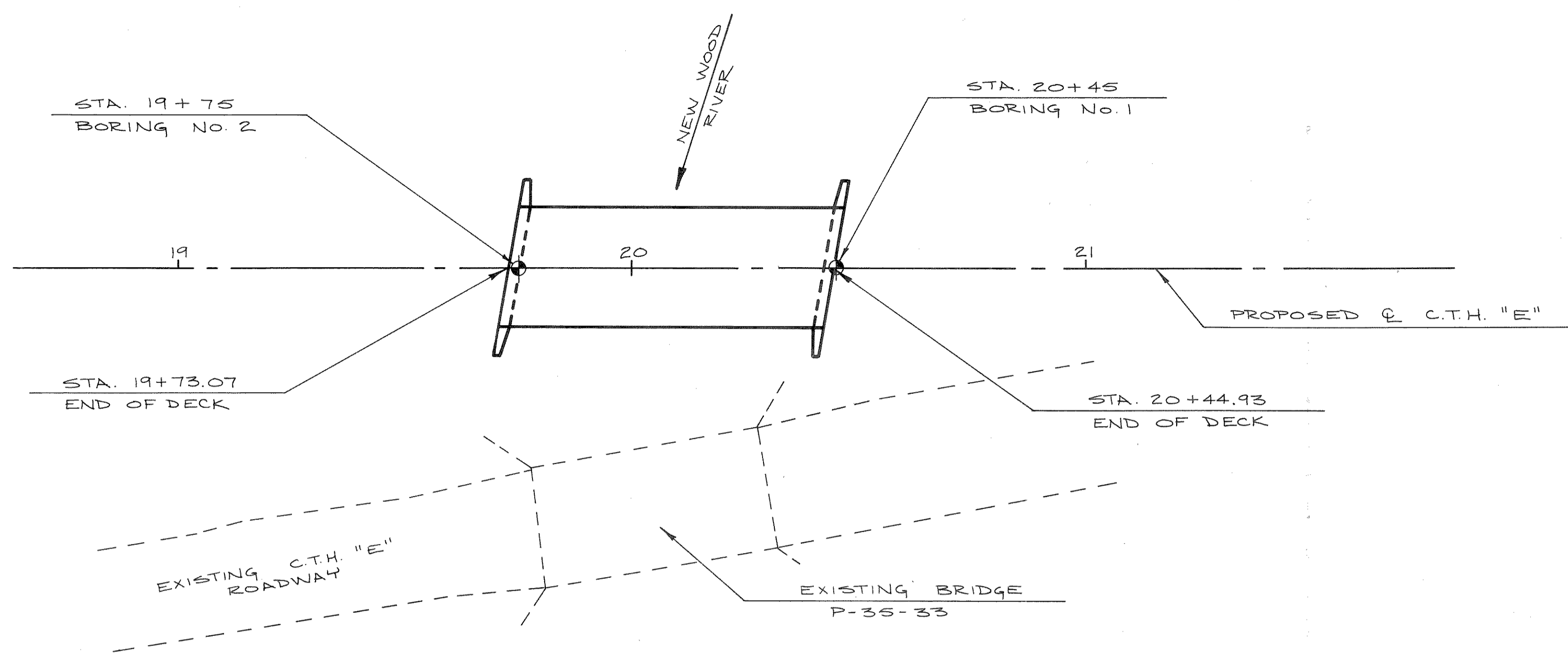
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

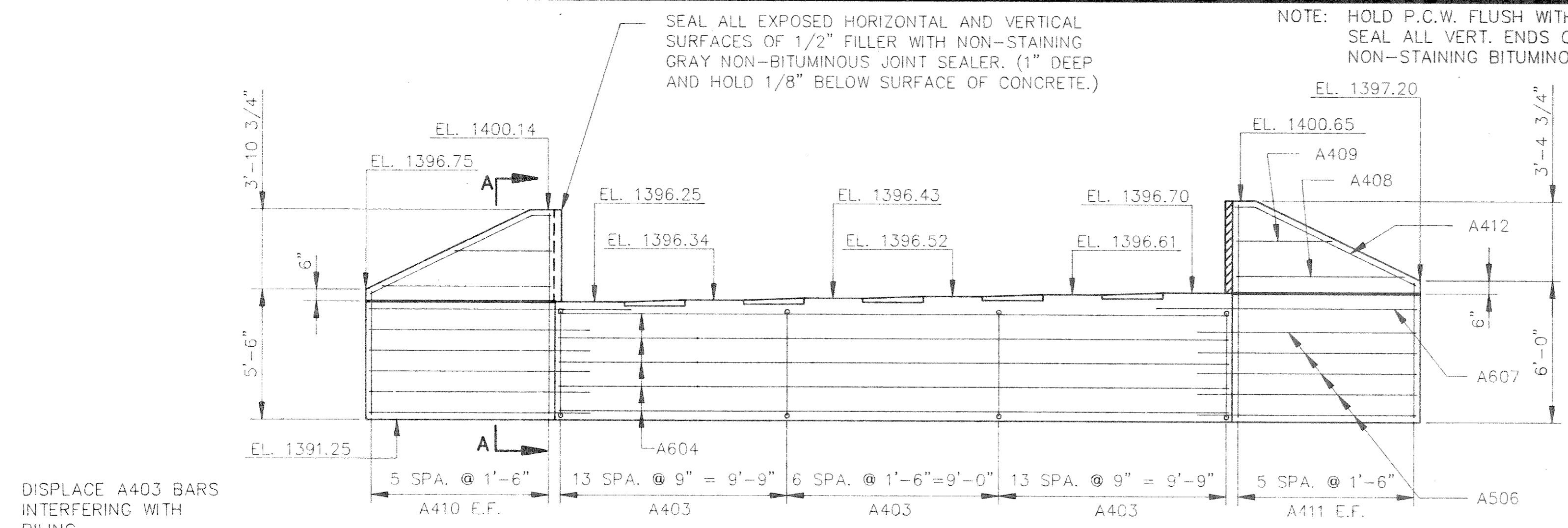
To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways 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  
 DIVISION OF HIGHWAYS  
**STRUCTURE B-35-112**  
 Const. Spec. 1989 Drawn By OMNI Plans Checked JWT

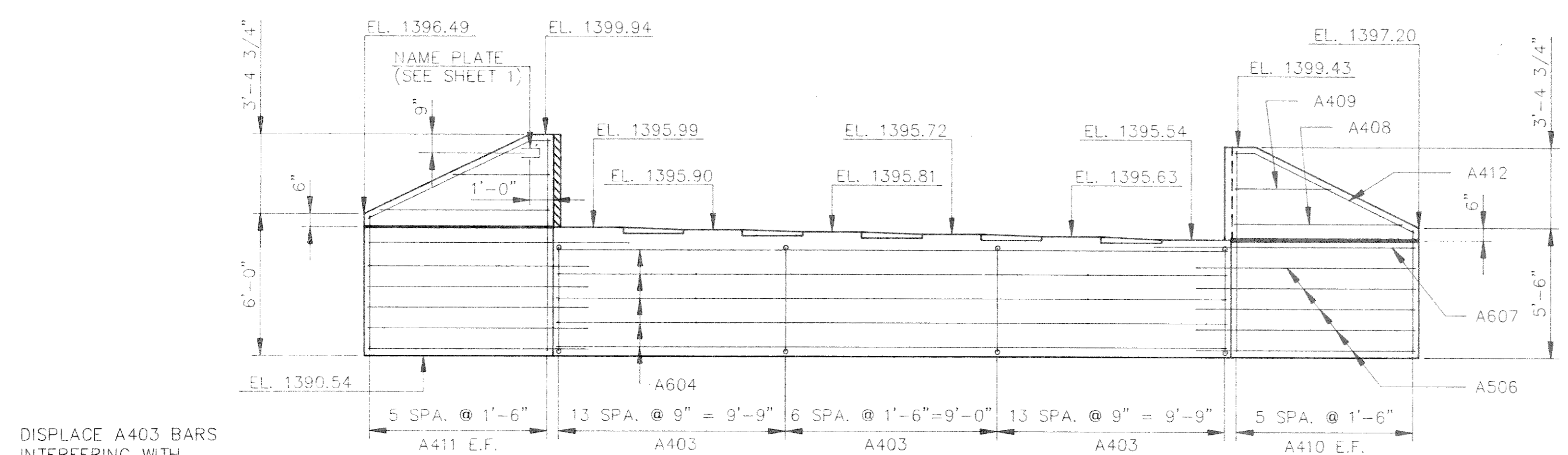
SUBSURFACE EXPLORATION SHEET 3 OF 9  
 X83349





**ELEVATION**  
NORTH ABUTMENT - LOOKING NORTH

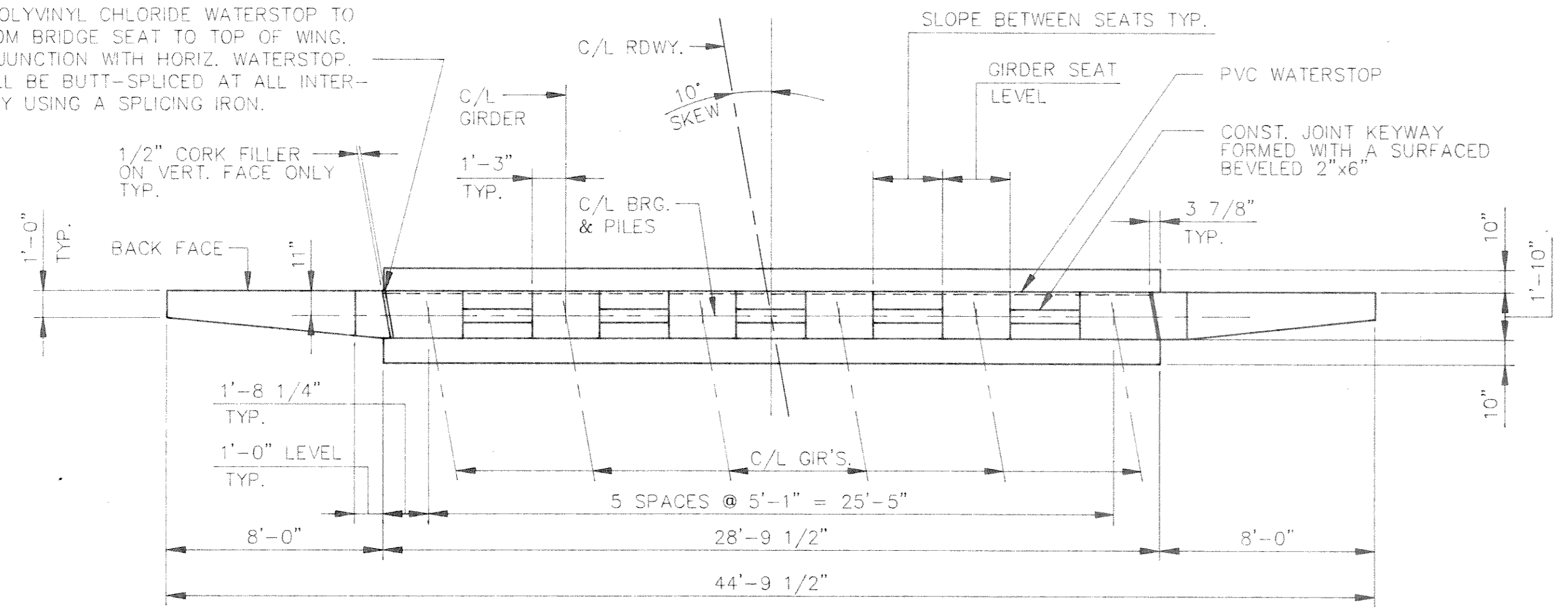
DISPLACE A403 BARS INTERFERING WITH PILING.



**ELEVATION**  
SOUTH ABUTMENT - LOOKING SOUTH

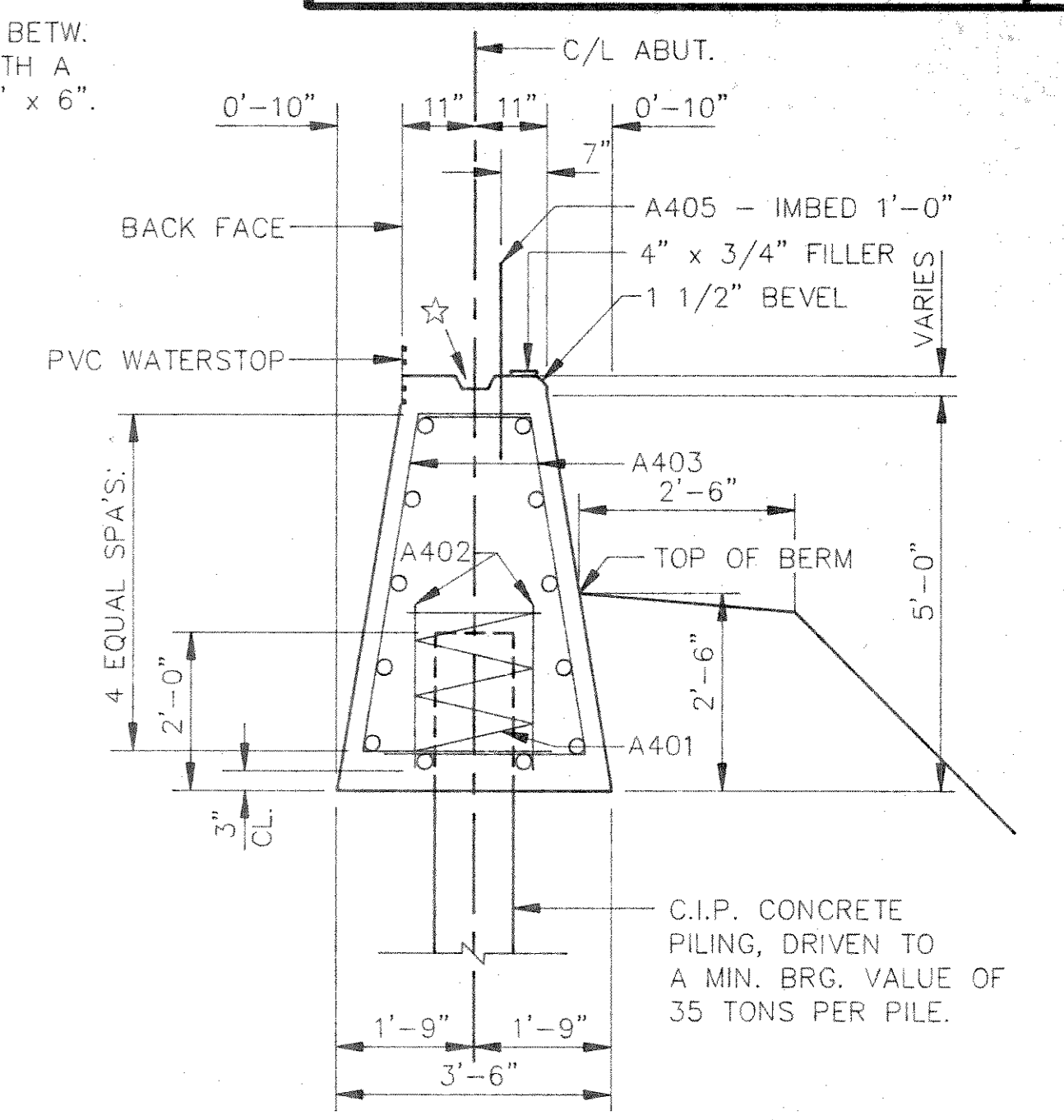
DISPLACE A403 BARS INTERFERING WITH PILING.

VERTICAL POLYVINYL CHLORIDE WATERSTOP TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. SPLICE AT JUNCTION WITH HORIZ. WATERSTOP. P.C.W. SHALL BE BUTT-SPLICED AT ALL INTERSECTIONS BY USING A SPLICING IRON.



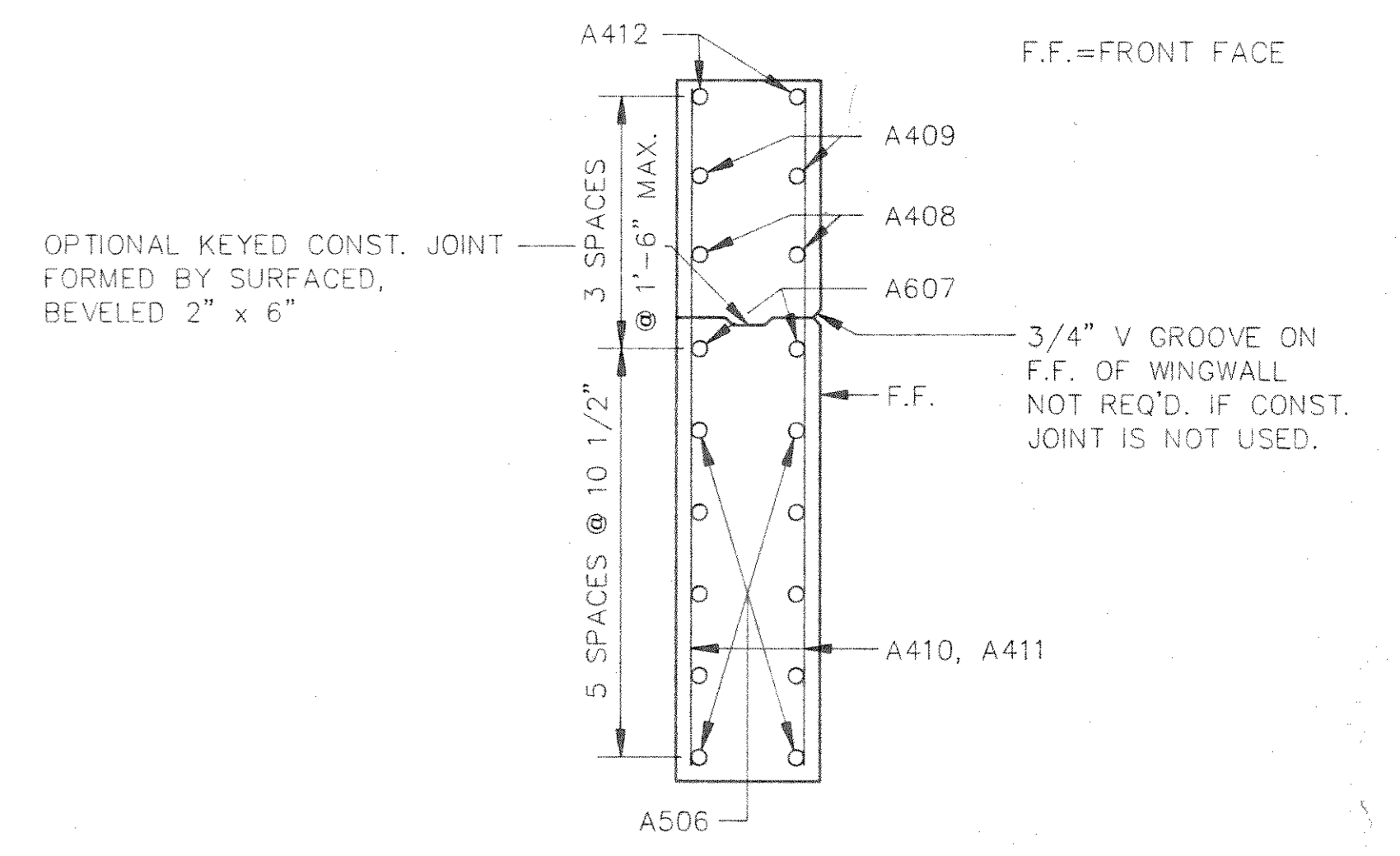
**PLAN**

★ CONST. JOINT KEYWAY BETW. GIR. SEATS FORMED WITH A SURFACED, BEVELED 2" x 6".



**SECT. THRU BODY**  
ALL HORIZ. BARS ARE A604

NOTE: A405 BARS MAY BE PLACED AFTER CONC. IS PLACED, BUT BEFORE INITIAL SET HAS OCCURRED. FILL/EXCAVATE TO BOTTOM OF FOOTING ELEVATION BEFORE DRIVING PILING.



**SECTION A-A**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-112			
CONST. SPEC.	1989	DRAWN BY	OMNNI
		PLANS CHECKED	JWT
ABUTMENTS			SHEET 4 OF 9
X83349			

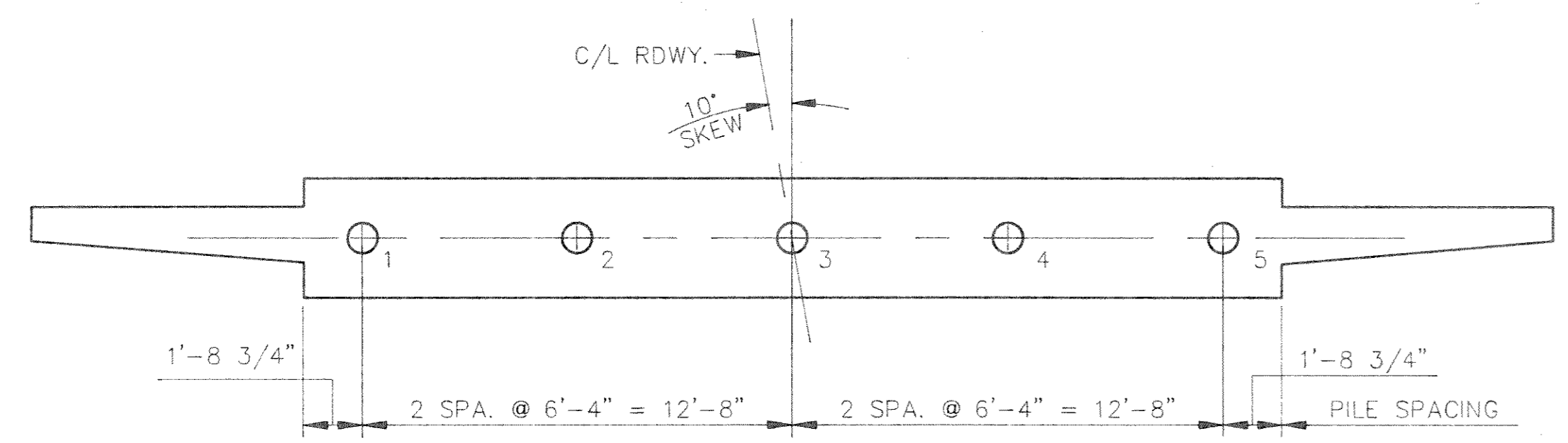


**BILL OF BARS**

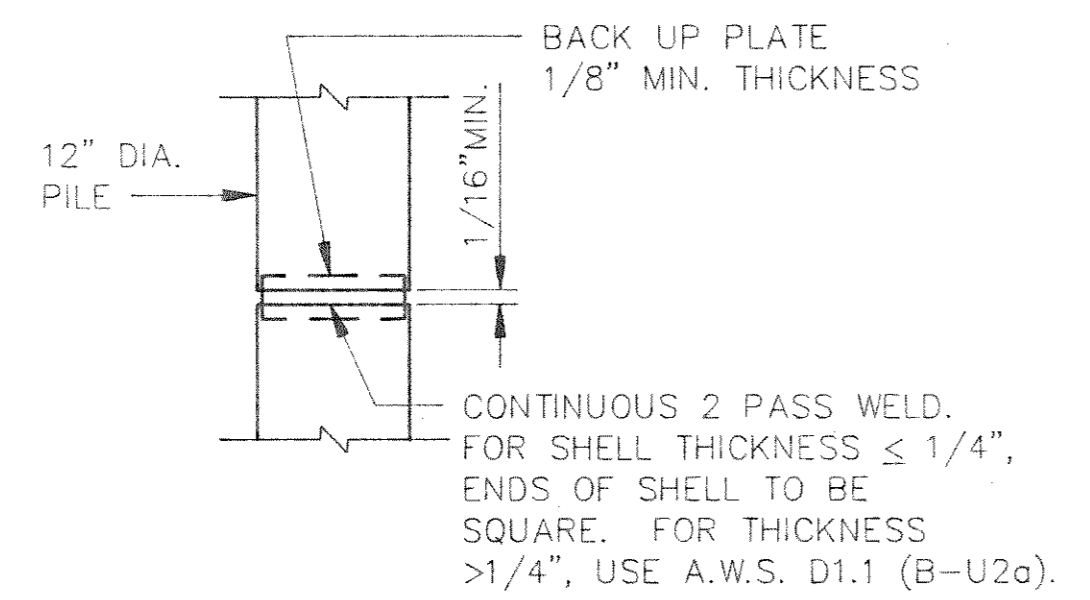
(THE NO. OF BARS SHOWN ARE FOR TWO ABUT'S.)

BAR MARK	NO. REQ'D.	LENGTH	BENT	CUT. DIAG.	LOCATION
A401	10	28-0	X		BODY - ONE PER PILE
A402	20	2-3			BODY - TWO PER PILE
A403	132	8-2	X		BODY - STIRRUPS
A604	24	28-5			BODY - HORIZ.
A405	30	2-0			BODY - DOWELS
A506	40	9-3			WINGS - HORIZ.
A607	8	11-0			WINGS - HORIZ.
A408	8	6-11			WINGS - HORIZ.
A409	8	3-10			WINGS - HORIZ.
A410	6	13-6		X	WINGS - VERT.
A411	6	14-6		X	WINGS - VERT.
A412	8	8-2	X		WINGS - HORIZ.

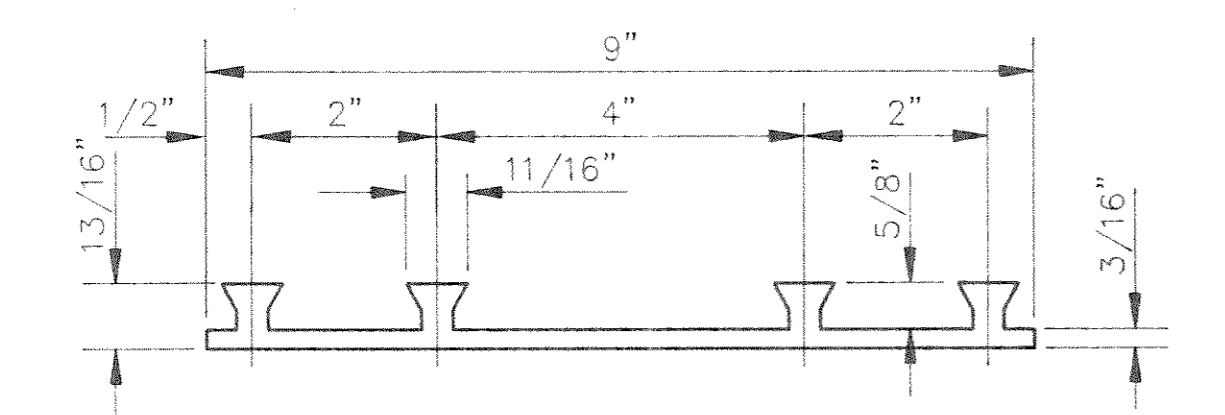
NOTE: THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. BAR DIMENSIONS ARE OUT TO OUT OF BAR.



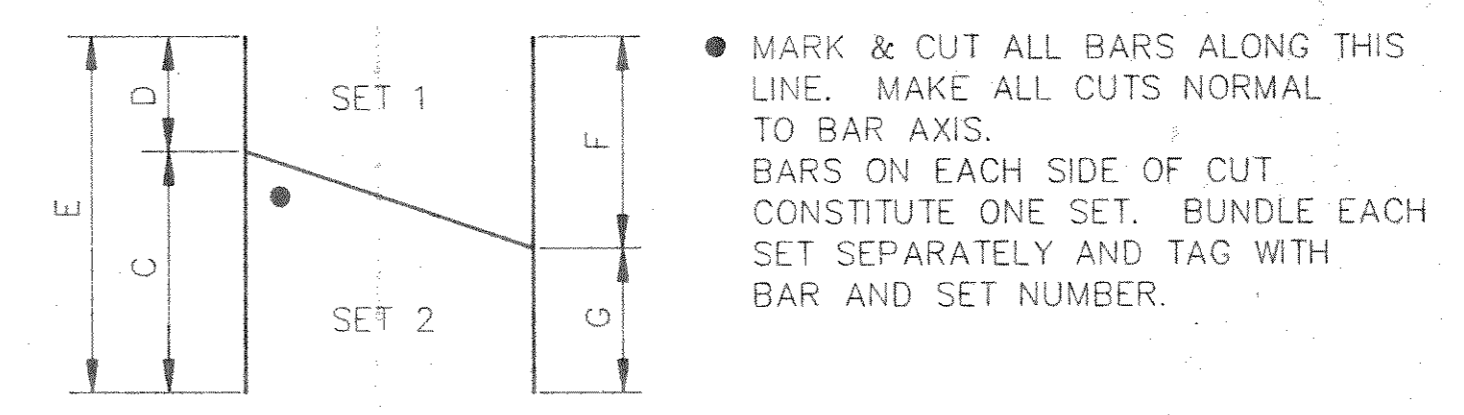
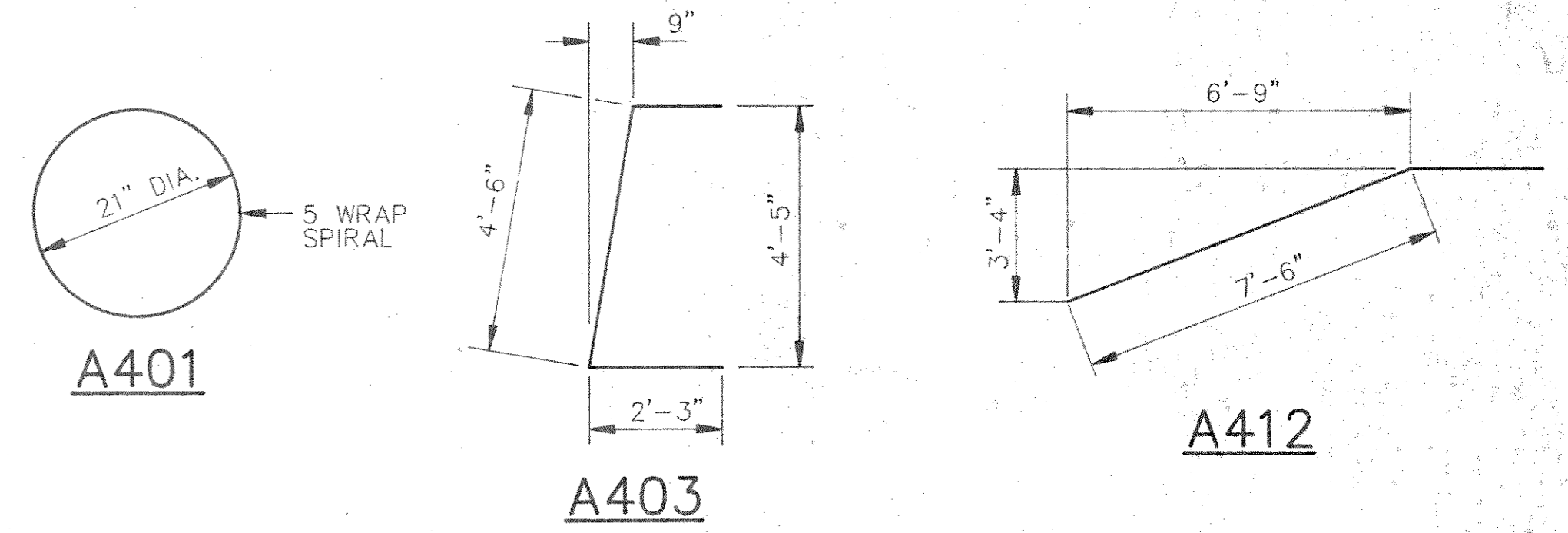
**PILE PLAN**



**PILE SPLICE DETAILS**



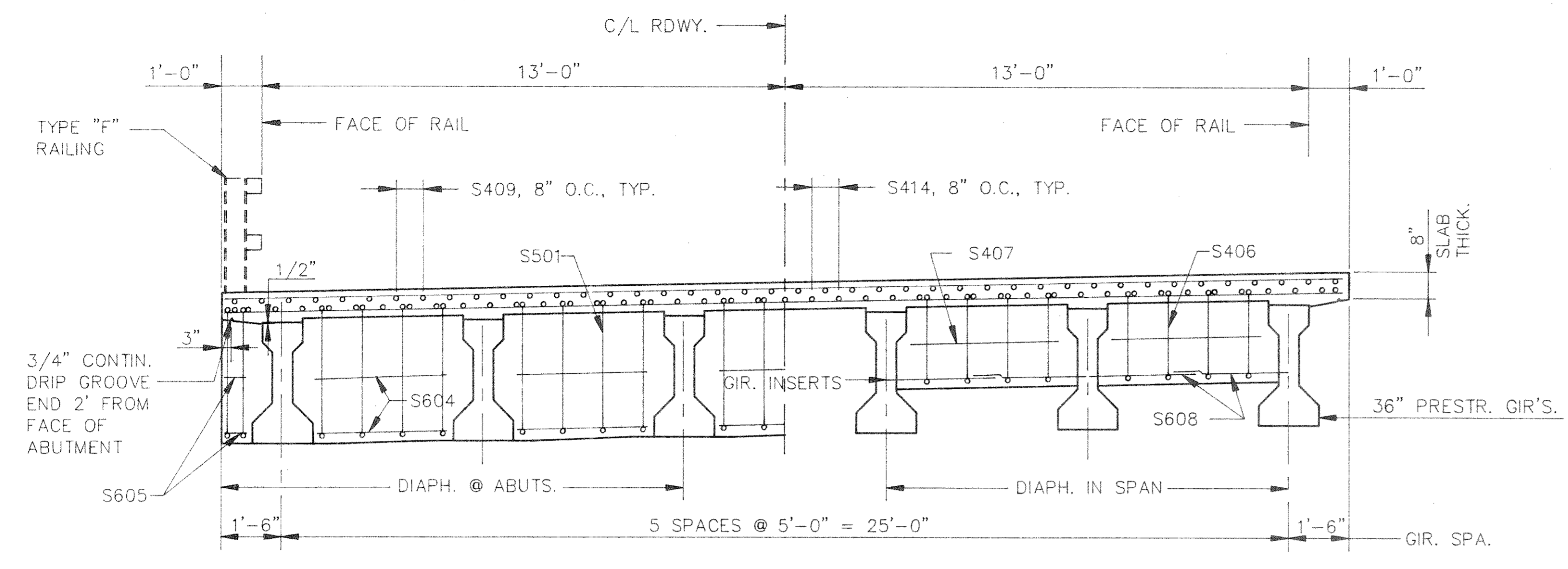
**POLYVINYL CHLORIDE WATERSTOP**



BAR MARK	SET	C	D	E	F	G	BARS/SET	SETS REQ'D.
A410	SET 1		5'-1"	13'-6"	8'-5"		6	2
	SET 2	8'-5"				5'-1"		
A411	SET 1		5'-7"	14'-6"	8'-11"		6	2
	SET 2	8'-11"				5'-7"		

**CUTTING DIAGRAM**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-112			
CONST. SPEC.	1989	DRAWN BY OMNI	PLANS CHECKED: JWT
ABUTMENT DETAILS			SHEET 5 OF 9
X83349			

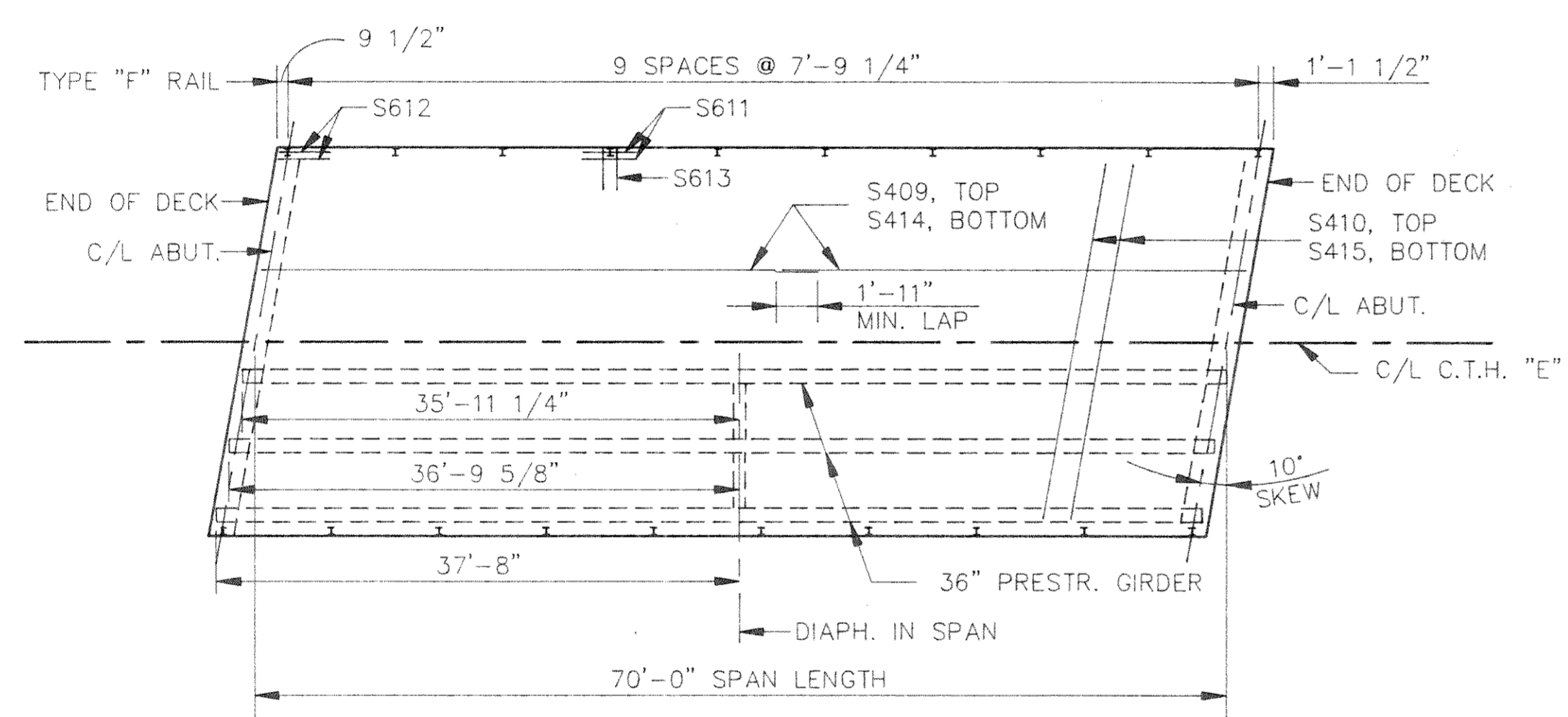


CROSS SECTION THRU ROADWAY

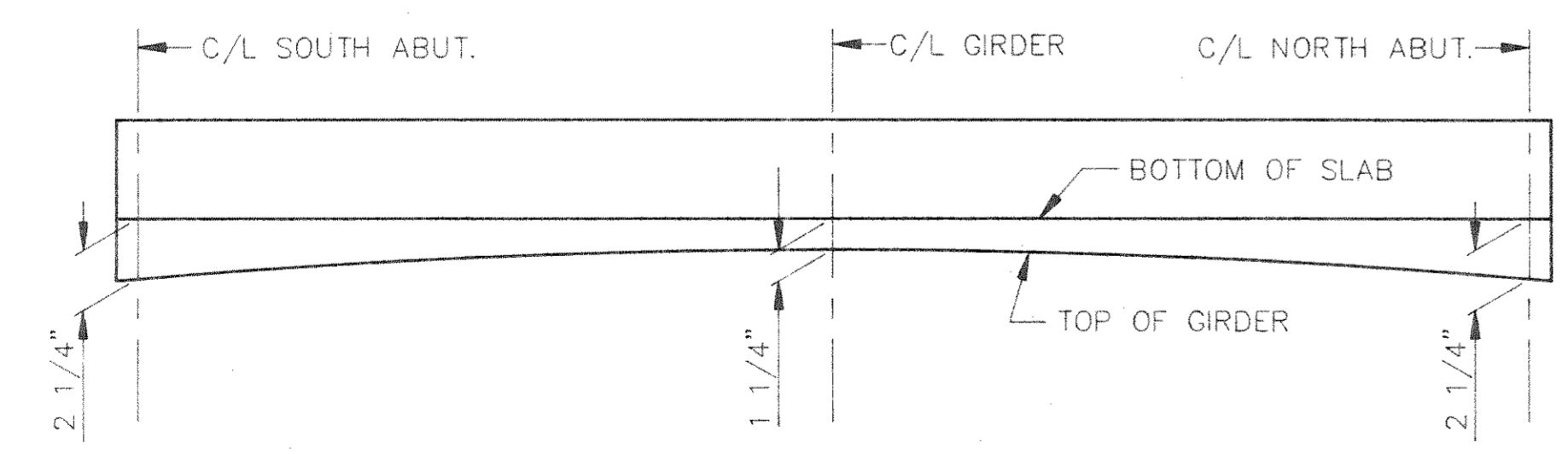
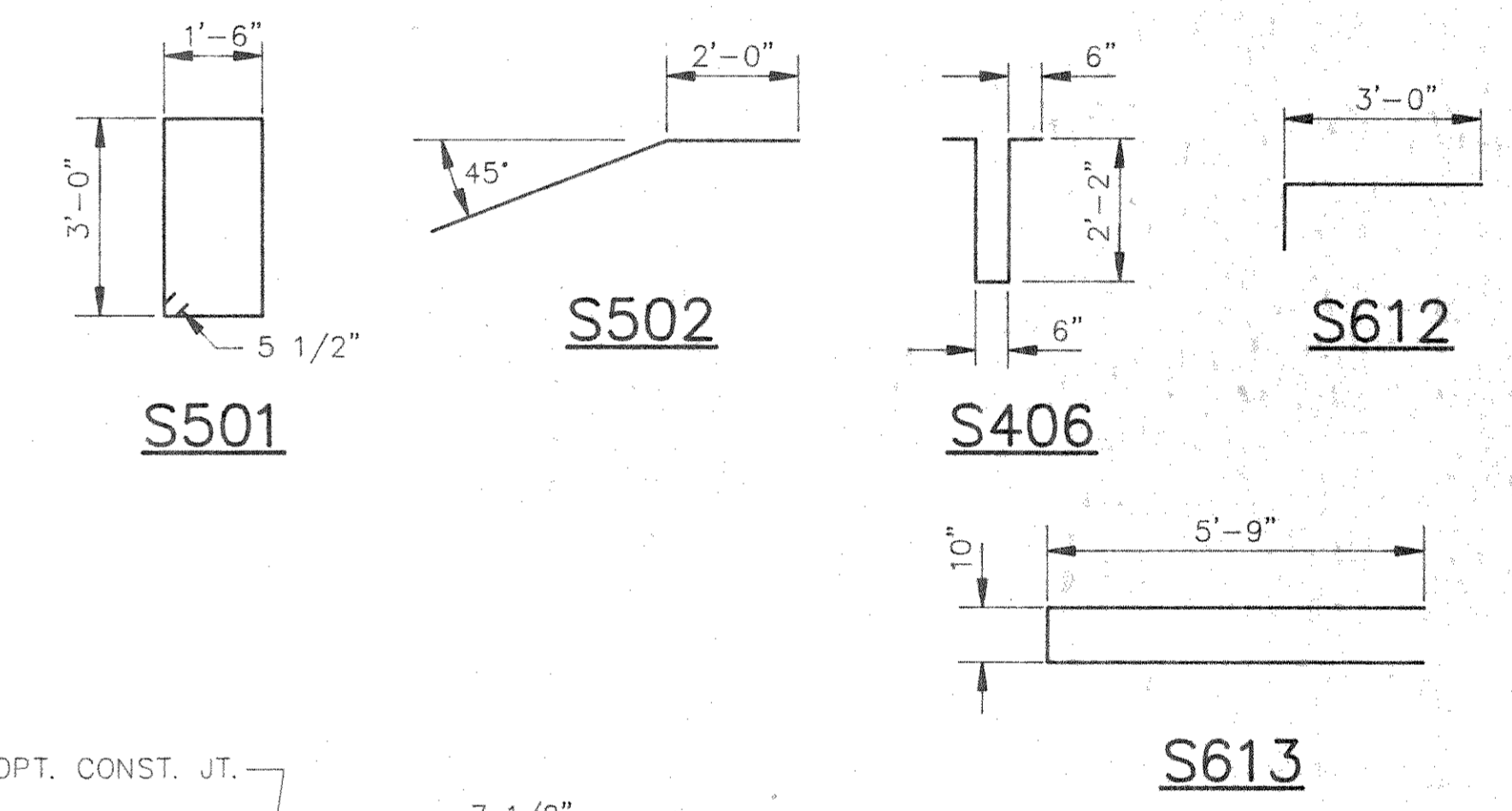
BILL OF BARS

BAR MARK	COAT	NO.	REQ'D.	LENGTH	BENT	CUT. DIAG.	LOCATION
S501	X	48	9-7		X		DIAPHRAGM @ ABUTMENTS
S502	X	44	4-0		X		DIAPHRAGM @ ABUTMENTS
S603	X	8	28-1				DIAPHRAGM @ ABUTMENTS
S604	X	20	3-2				DIAPHRAGM @ ABUTMENTS
S605	X	8	0-5				DIAPHRAGM @ ABUTMENTS
S406		20	5-6	X			DIAPHRAGM IN SPAN
S407		10	4-0				DIAPHRAGM IN SPAN
S608		20	3-9				DIA. IN SPAN, THRD ONE END 3"
S409		84	36-9				SLAB - TOP LONGITUDINAL
S410		123	28-1				SLAB - TOP TRANSVERSE
S611		32	4-0				AT INTERIOR RAIL POSTS
S612		8	4-0	X			AT END RAIL POSTS
S613		16	12-0	X			AT RAIL POSTS
S414		86	36-9				SLAB - BOTTOM LONGITUDINAL
S415		117	28-1				SLAB - BOTTOM TRANSVERSE

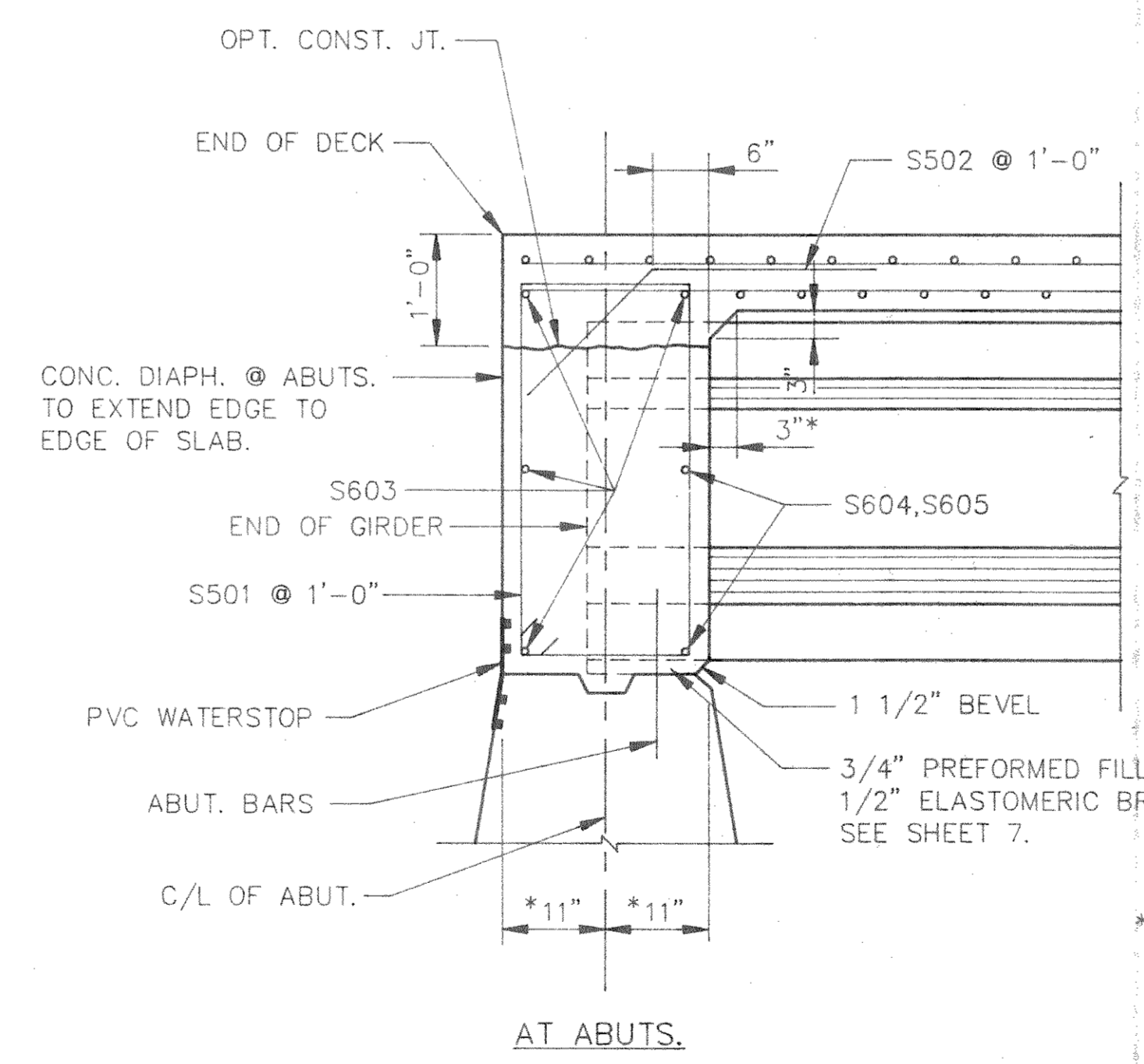
NOTE: THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



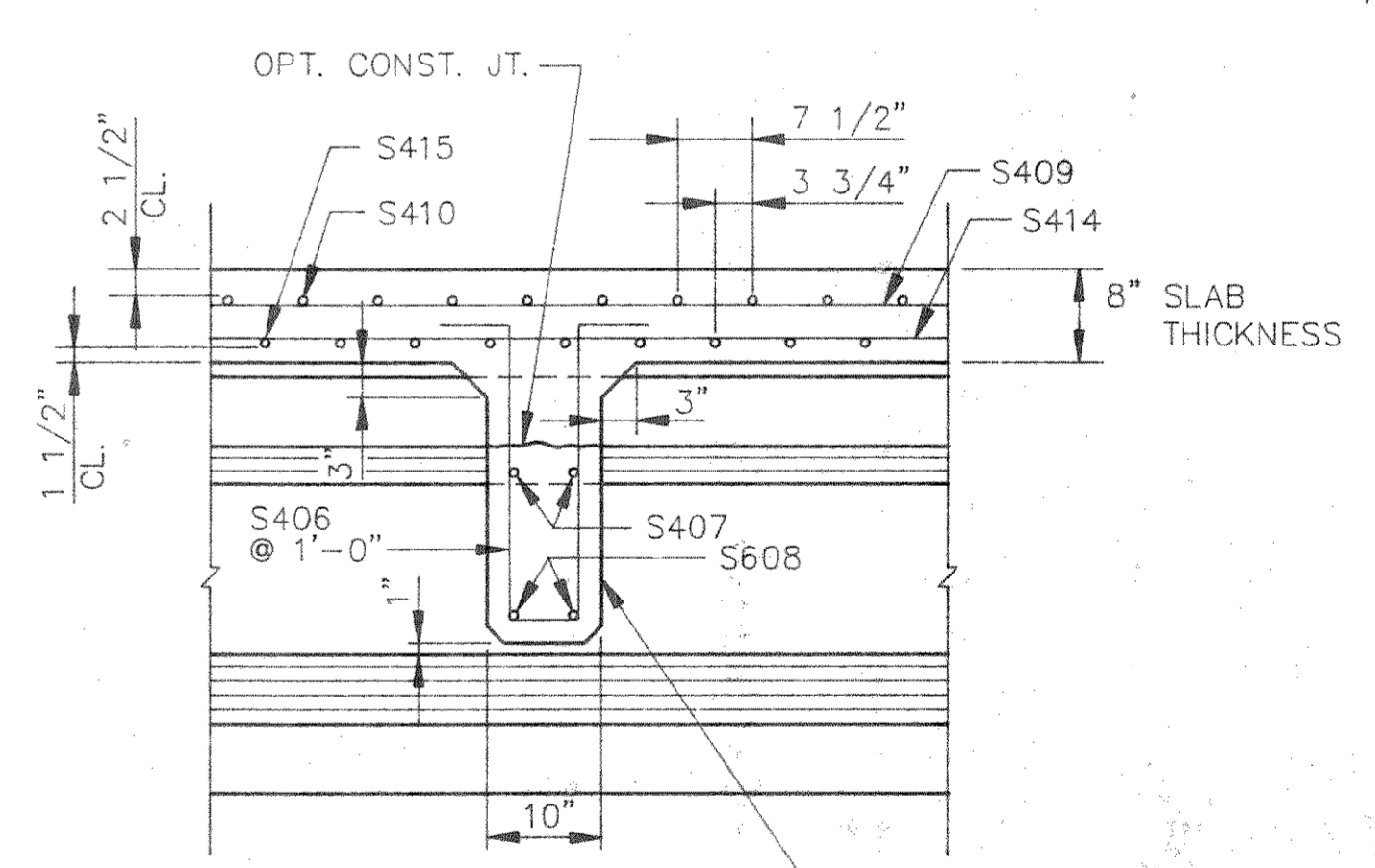
PLAN



SLAB FORMING DIAGRAM



LONGITUDINAL SECTION THRU ROADWAY



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-112			
CONST. SPEC.	1989	DRAWN BY OMNI	PLANS CHECKED JWT
SUPERSTRUCTURE			SHEET 6 OF 9
X83349			

**GIRDER NOTES**

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSLEY FOR BONDING TO THE SLAB, EXCEPT OUTSIDE 2' TO BE TROWEL FINISHED.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 1/2" DIA. - 7 WIRE STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 p.s.i. AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.

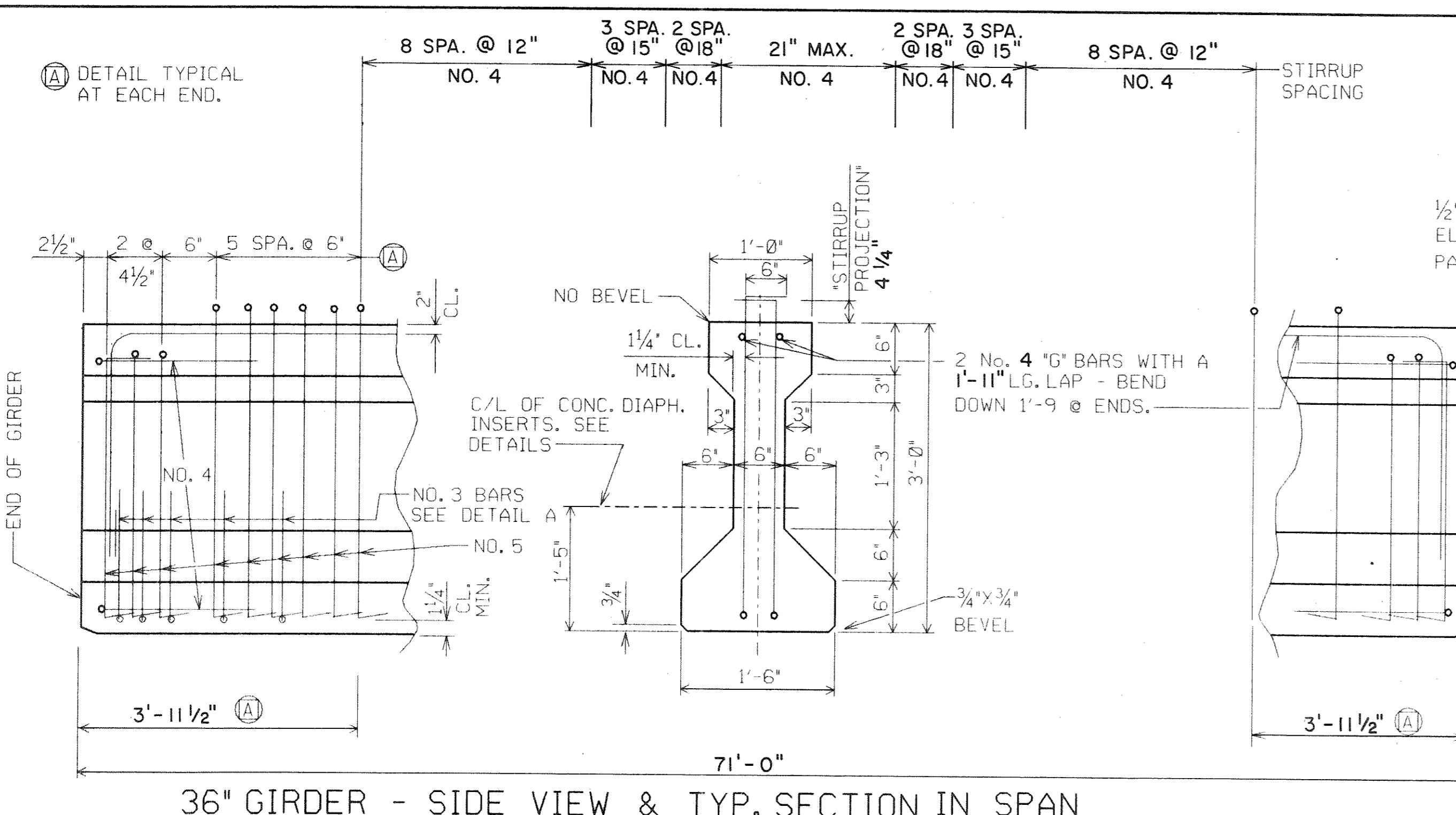
INSERTS SHALL BE PLACED ON 4' CTRS. SYMMETRICALLY ABOUT THE C/L OF DIAPHRAGMS IN SPAN.

ALL STIRRUPS SHALL BE IN PAIRS AND THE SPACING SHOWN IN 'SIDE VIEW' IS MAXIMUM. THE LOCATION SHALL BE SHOWN IN THE SHOP DRAWINGS.

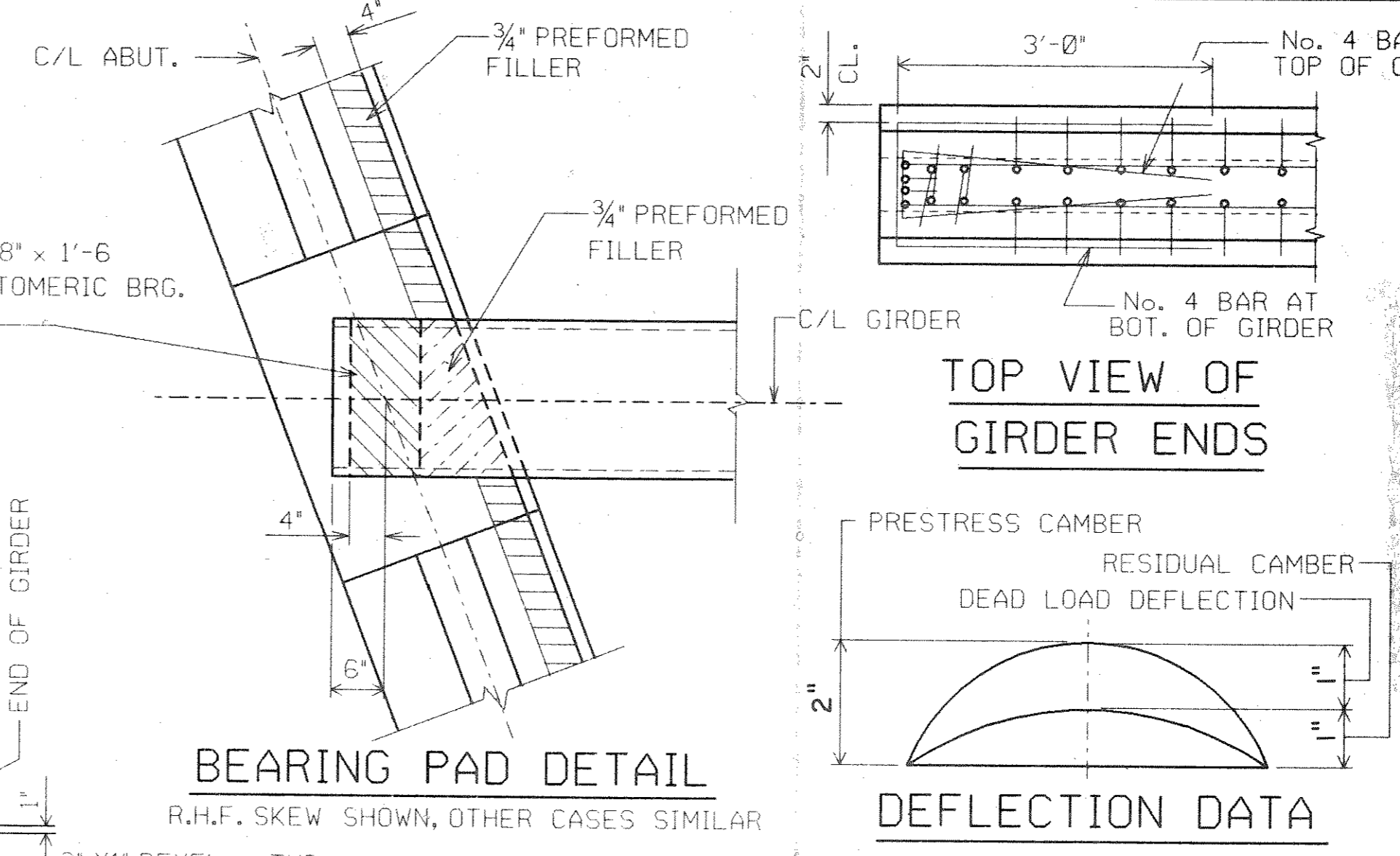
BEND EACH END OF No. 4 AND No. 5 STIRRUPS 6' AND No. 6 STIRRUPS 6 1/2'.

DATA SHOWN IN 'DEFLECTION DATA' IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES.

BARS 'G' MAY BE SPICED AT THE 1/3 POINTS OF GIRDER. USE LAP LENGTH SHOWN IN 'SECTION VIEW'.

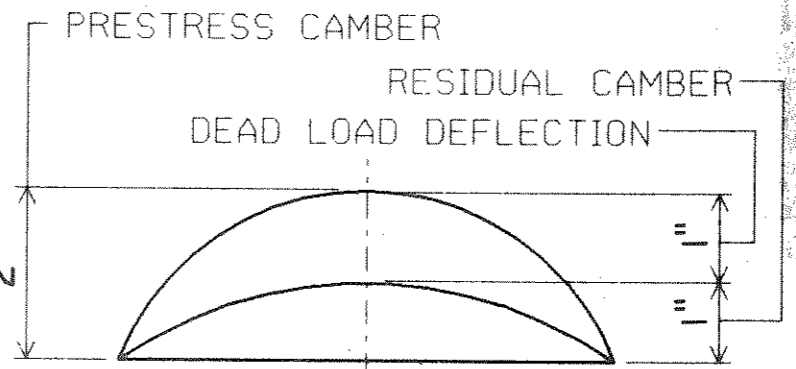


**36" GIRDER - SIDE VIEW & TYP. SECTION IN SPAN**



**BEARING PAD DETAIL**

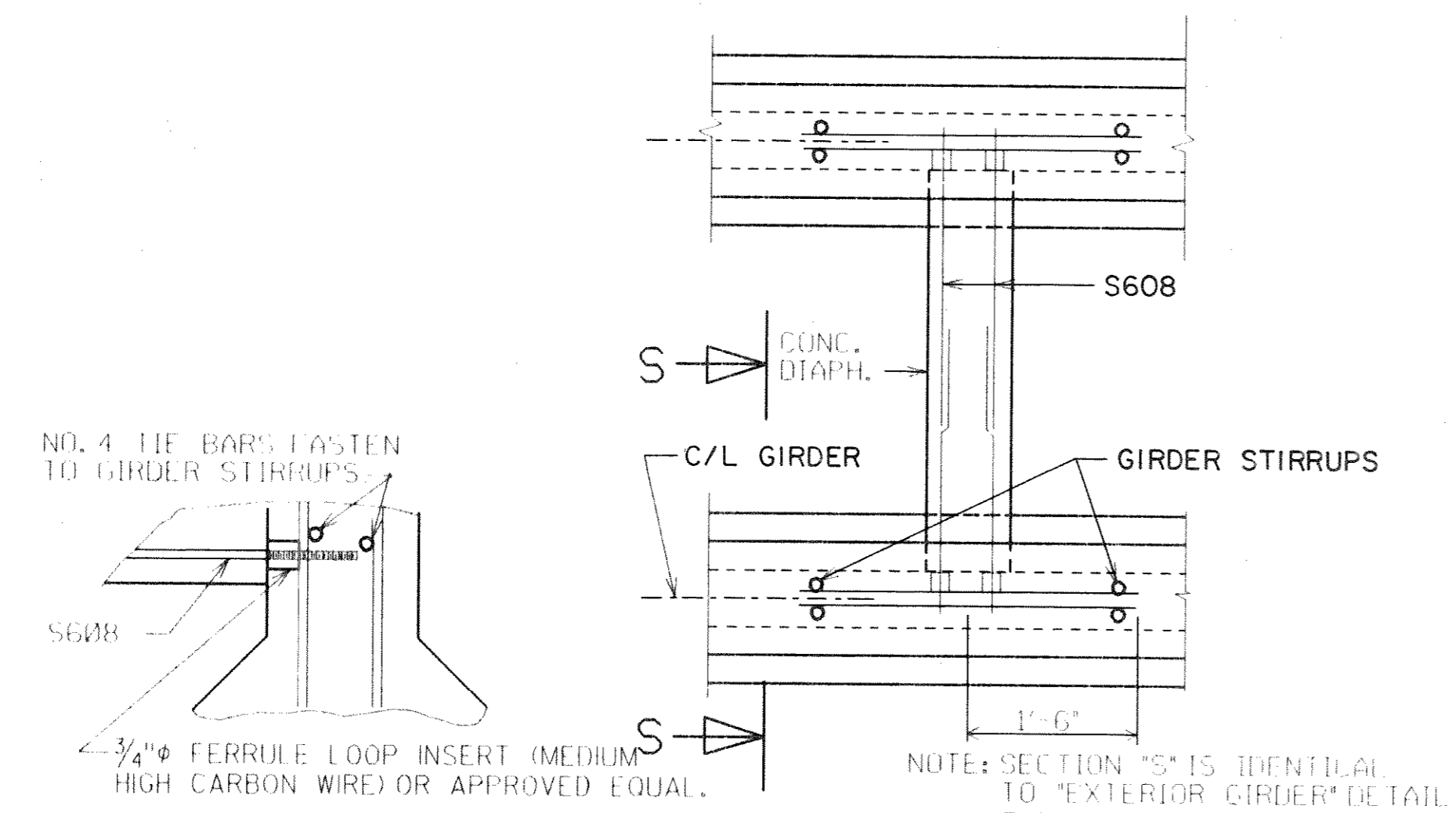
**TOP VIEW OF GIRDER ENDS**



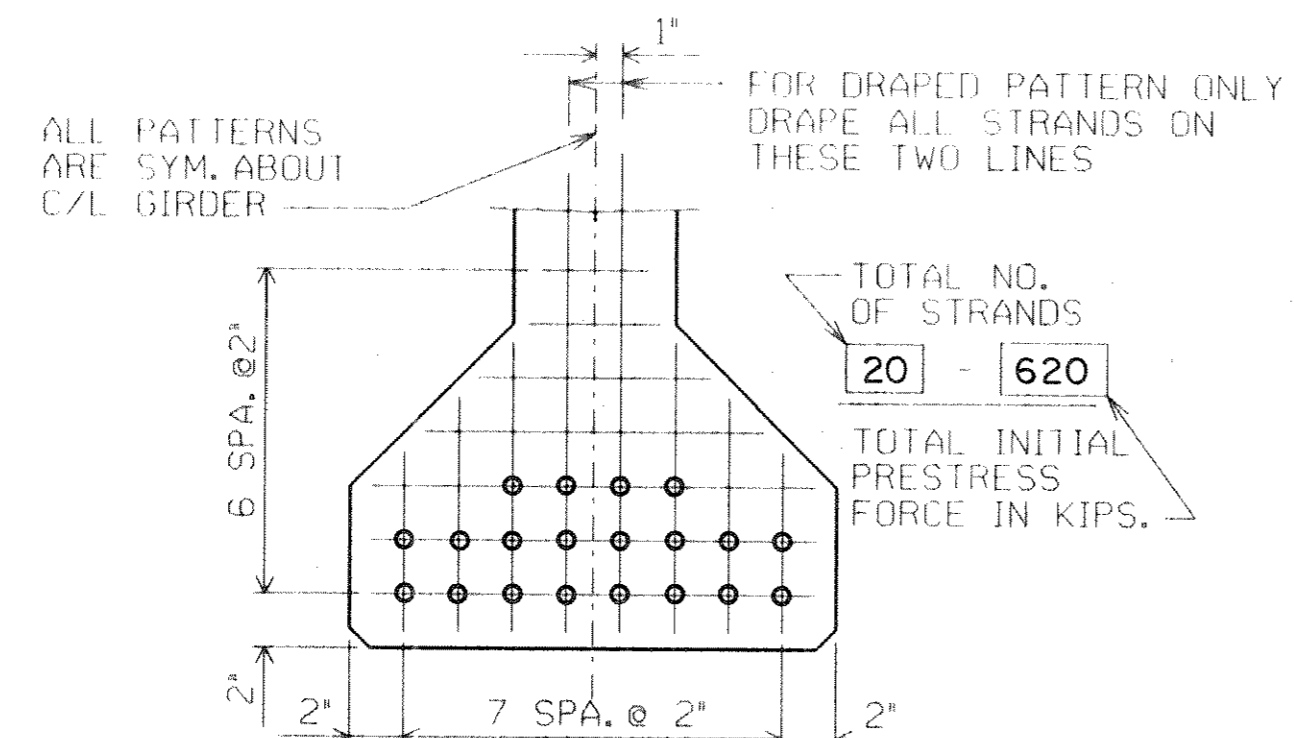
**DEFLECTION DATA**

\* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESSED FORCE = 4900 p.s.i.

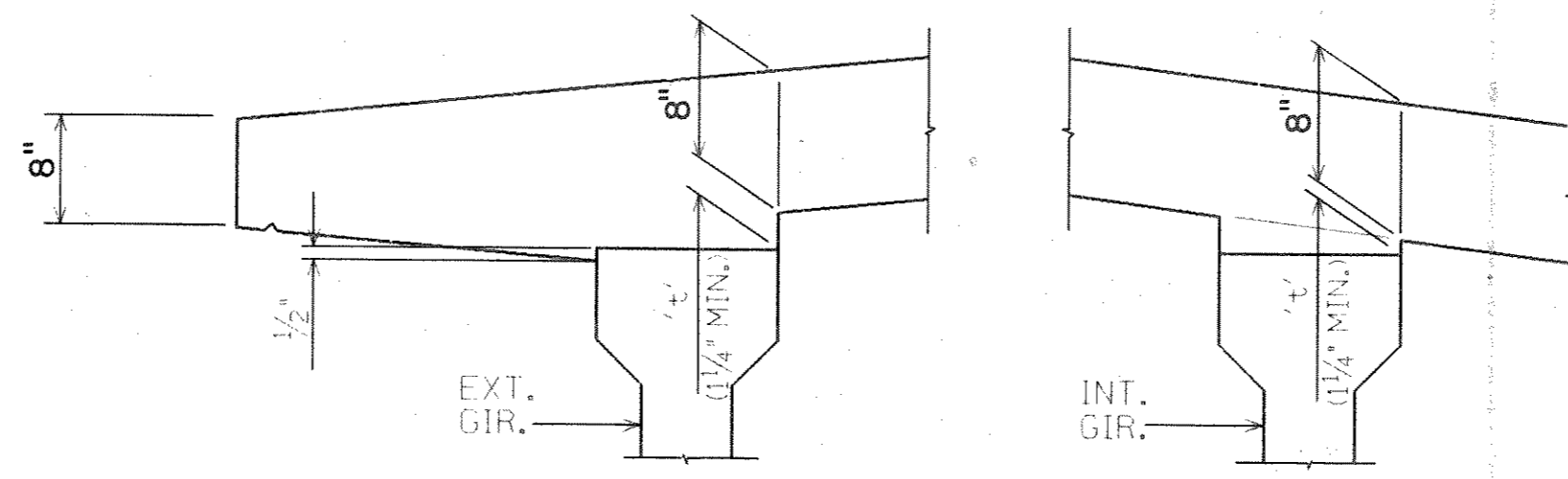
SPAN LENGTH	TYPE OF STRANDS	RATINGS	
		INVENTORY	OPERATING
70'-0"	LOW RELAXATION	HS23	HS37



**CONC. DIAPHRAGM INSERT DETAILS**

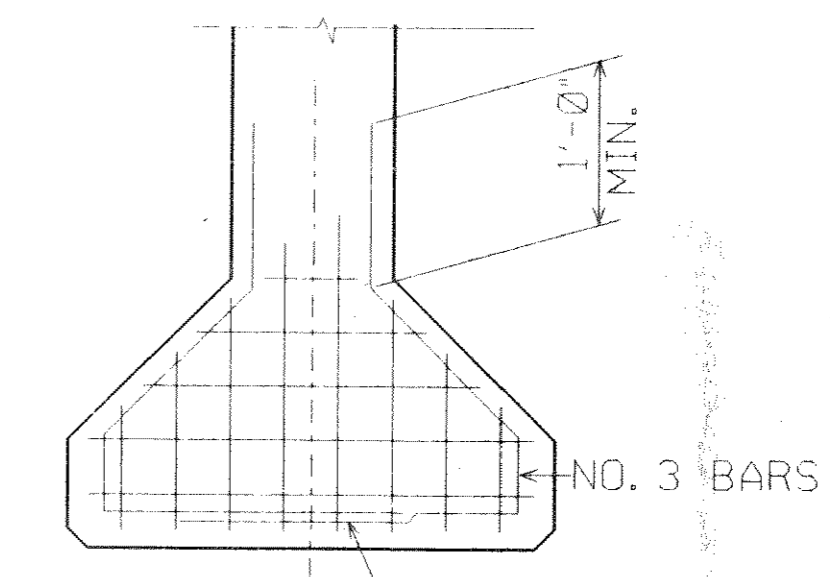


**TYP. STRAND PATTERN**



**SLAB HAUNCH DETAIL**

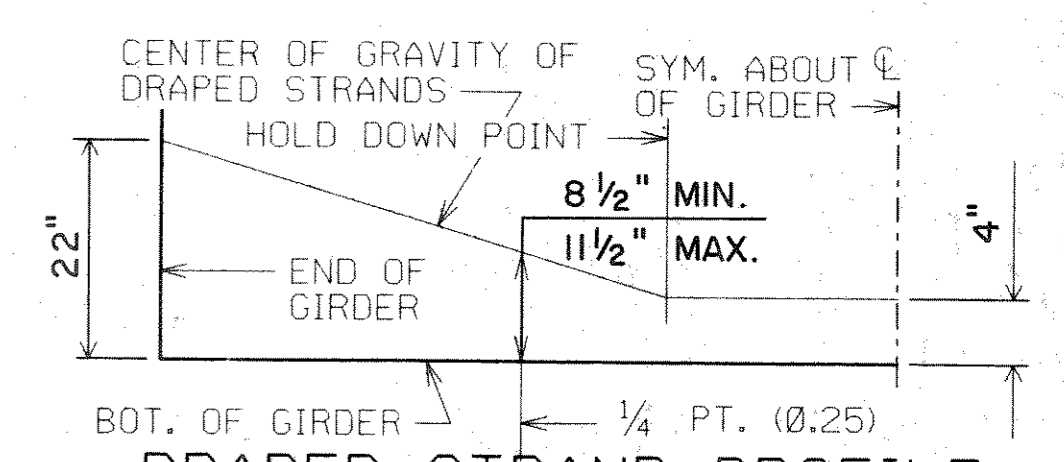
IF 1/4" MINIMUM HAUNCH THICKNESS 't' CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. MAXIMUM HAUNCH HEIGHT EQUALS 'STIRRUP PROJECTION' MINUS 2 INCHES.



**DETAIL A**

TO DETERMINE 't': ELEV. OF TOP OF GIR. AT C/L OF SUBSTRUCTURE UNITS & AT 1/4 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE  
 - TOP OF GIRDER ELEVATION  
 + DEFLECTION "E"  
 - SLAB THICKNESS  
 = HAUNCH THICKNESS "t"



**DRAPED STRAND PROFILE**

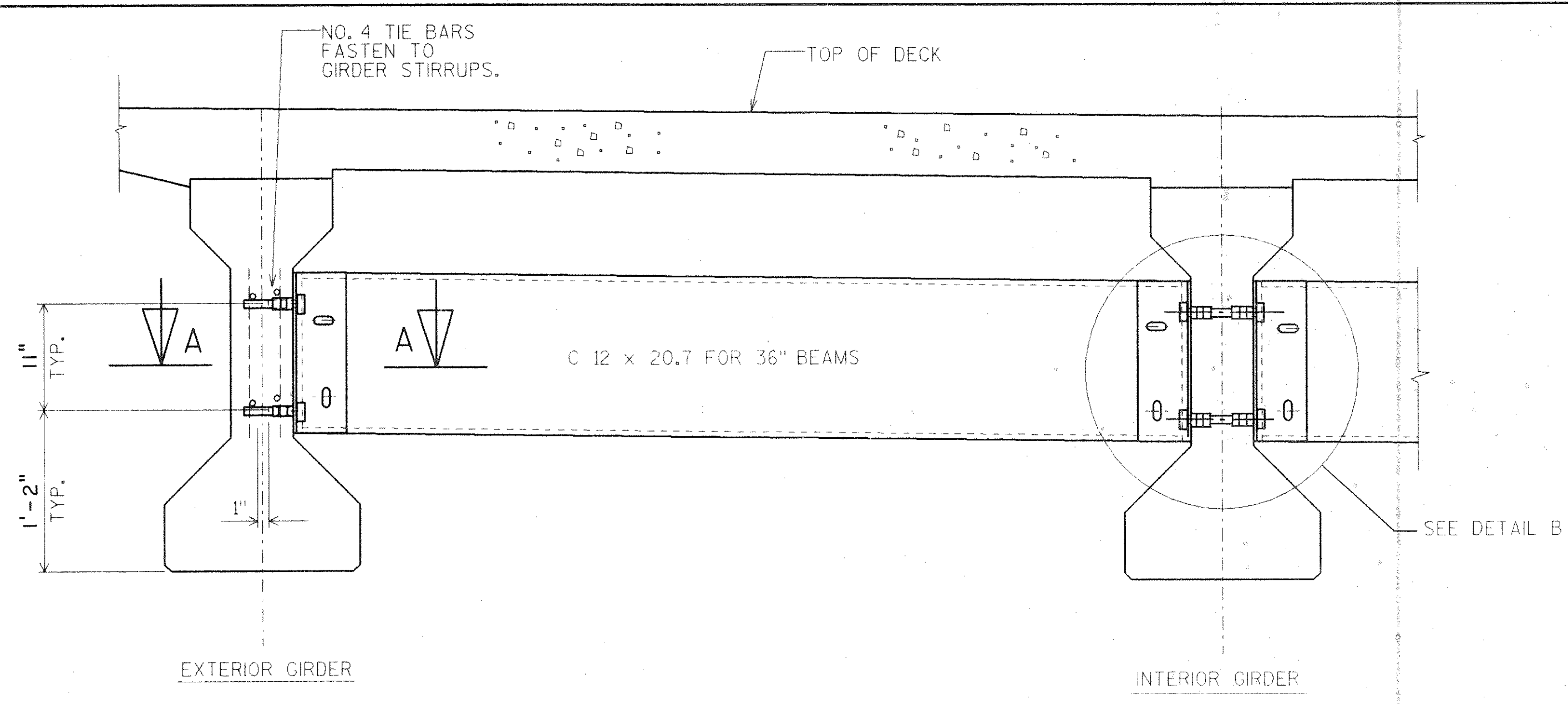
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-35-112</b>			
CONST. SPEC.	1989	DRAWN BY OMNI	PLANS CK'D. JWT
<b>36" PRESTRESSED GIRDER DETAILS</b>			<b>SHEET 7 OF 9</b>
			<b>X83349</b>

NOTES

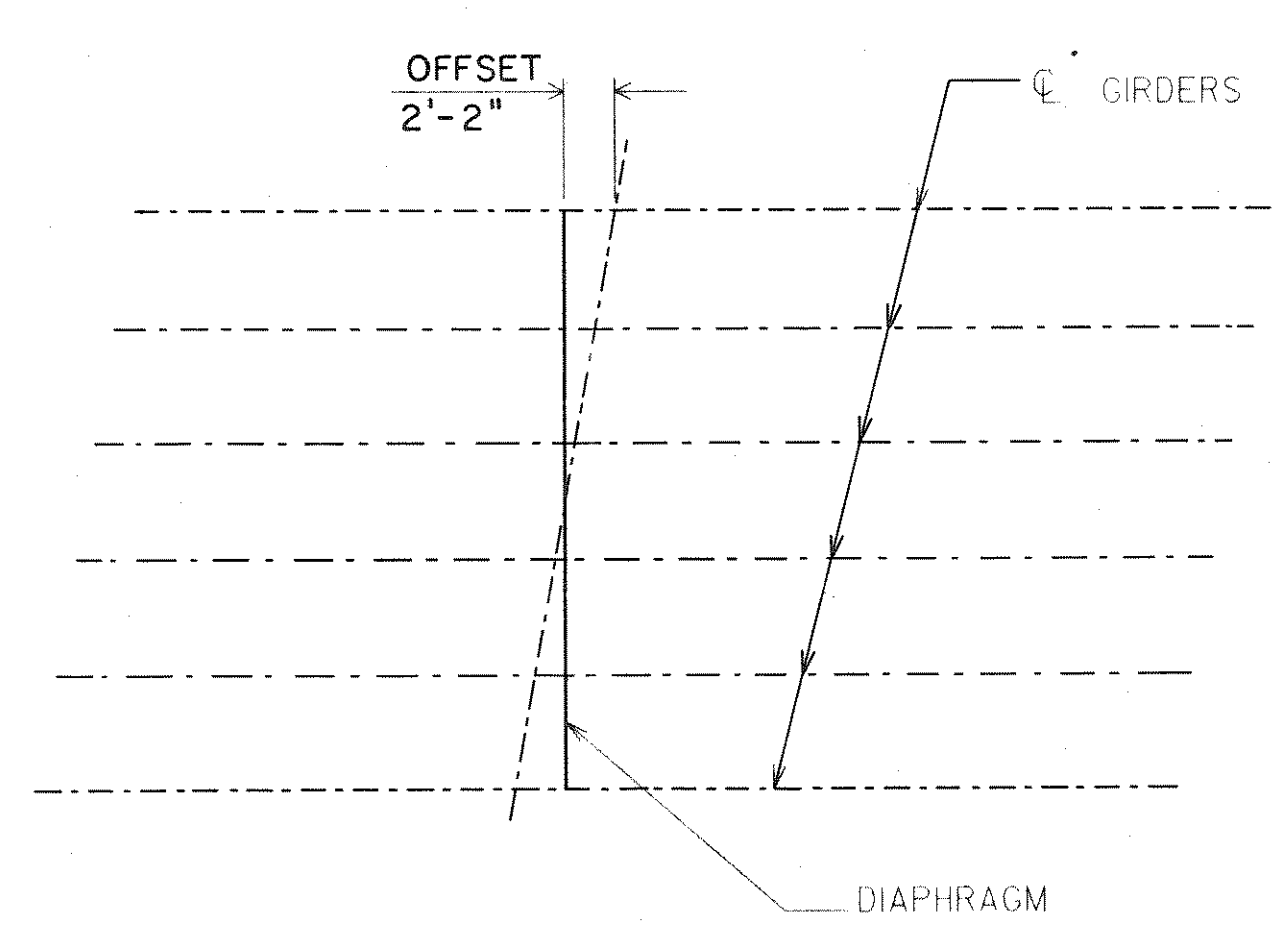
STEEL DIAPHRAGMS MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE DIAPHRAGMS. NO ADDITIONAL PAYMENT WILL BE MADE IF STEEL DIAPHRAGMS ARE USED.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

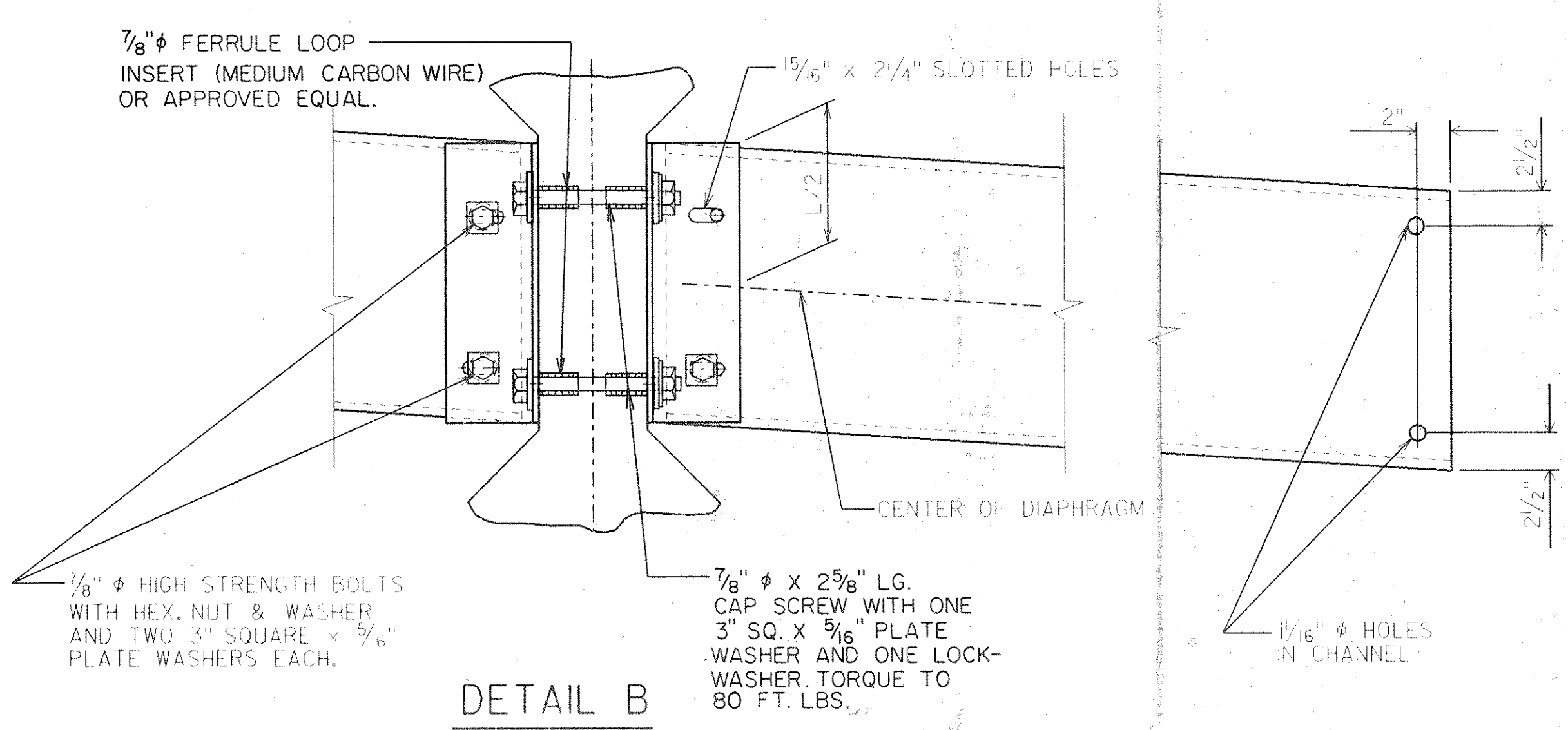
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS, SLEEVES AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



PART TRANSVERSE SECTION AT DIAPHRAGM

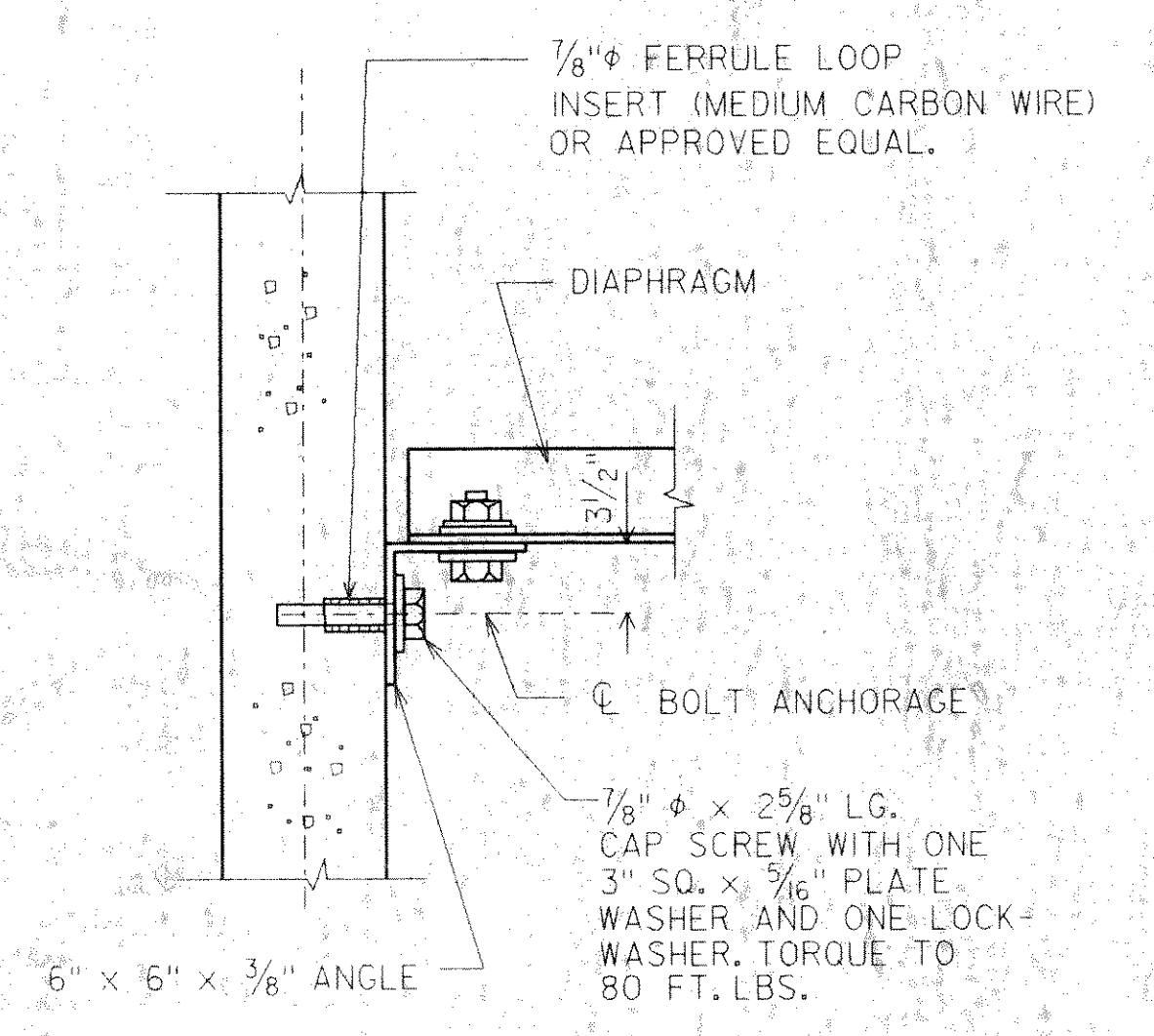


PLAN FOR SKEW ANGLES  $\leq 10^\circ$



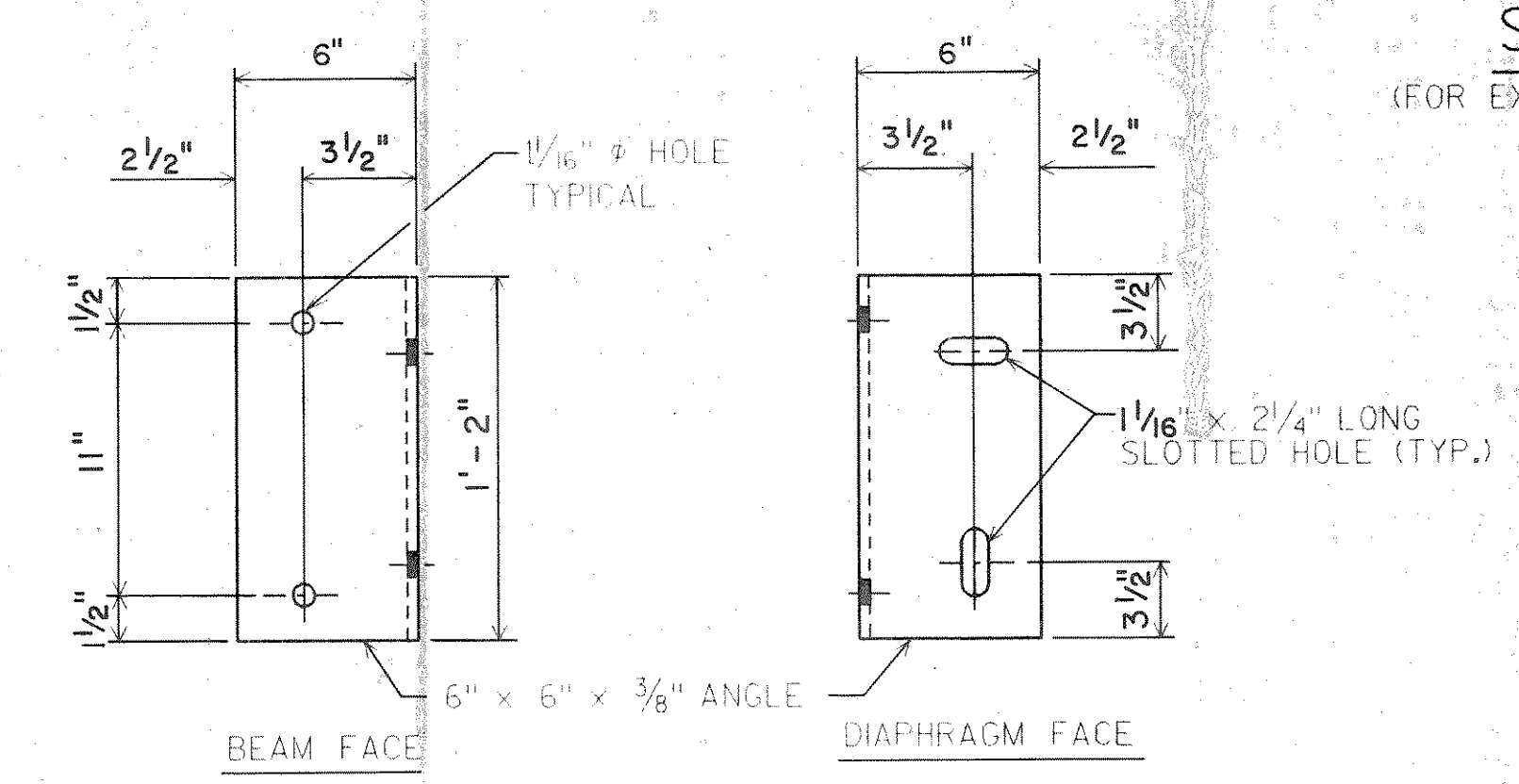
DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGM)



SECT. A-A

(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-35-112</b>			
CONST. SPEC.	1989	DRAWN BY OMNNI	PLANS CK'D. JWT
STEEL DIAPHRAGM ALTERNATE			SHEET 8 OF 9
			X83349

**LEGEND**

- ① W6x25 WITH 1 1/4" DIA. HOLES ON EACH SIDE OF POST FLANGE. FOR STUD NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1'x9 1/2'x0'-10", WITH 1 1/16"x1 1/2" SLOTTED HOLES FOR ANCHOR BARS NO. 3. WELD TO NO. 1 AS SHOWN.
- ③ A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION ANCHOR BAR 3/8" DIA. x 1'-3" LONG AT END POSTS AND 8 1/2" LONG AT ALL OTHER POST LOCATIONS. (MIN. YIELD OF 92 K.S.I. AND ELONGATION OF 14%) WITH A325 NUT AND WASHER. 4 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 3. CHAMFER TOP OF BOLTS BEFORE THREADING.
- ④ BAR 3/4" SQ. x 0'-8" LONG. WELD TO ANCHOR BAR NO. 3.
- ⑤ TS 4x4x.25 STRUCTURAL TUBING, CONFORMING TO A.S.T.M. DESIGNATION A36. ATTACH TO NO. 1 WITH STUDS NO. 6.
- ⑥ 1 1/8" DIA. x 1 1/2" LG. SHOP WELDED STUDS, WITH HEX. NUT AND 2" WASHERS. 4 PER POST REQ'D. (2 REQ'D. AT EACH LOCATION)
- ⑦ SQUARE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 3 1/2".
- ⑧ TS 3x3x.25x1'-10" LONG. PROVIDE 1/2" DIA. SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 5. PROVIDE 3/8" DIA. x 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

**GENERAL NOTES**

BID ITEM SHALL BE "TUBULAR RAILING TYPE 'F'", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN 2 OR 3 PANEL LENGTHS. POSTS BASE PLATES, NO. 2, 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 MEMBERS INCLUDING UPPER 4" OF NO. 3 SHALL BE GALVANIZED AFTER FABRICATION.

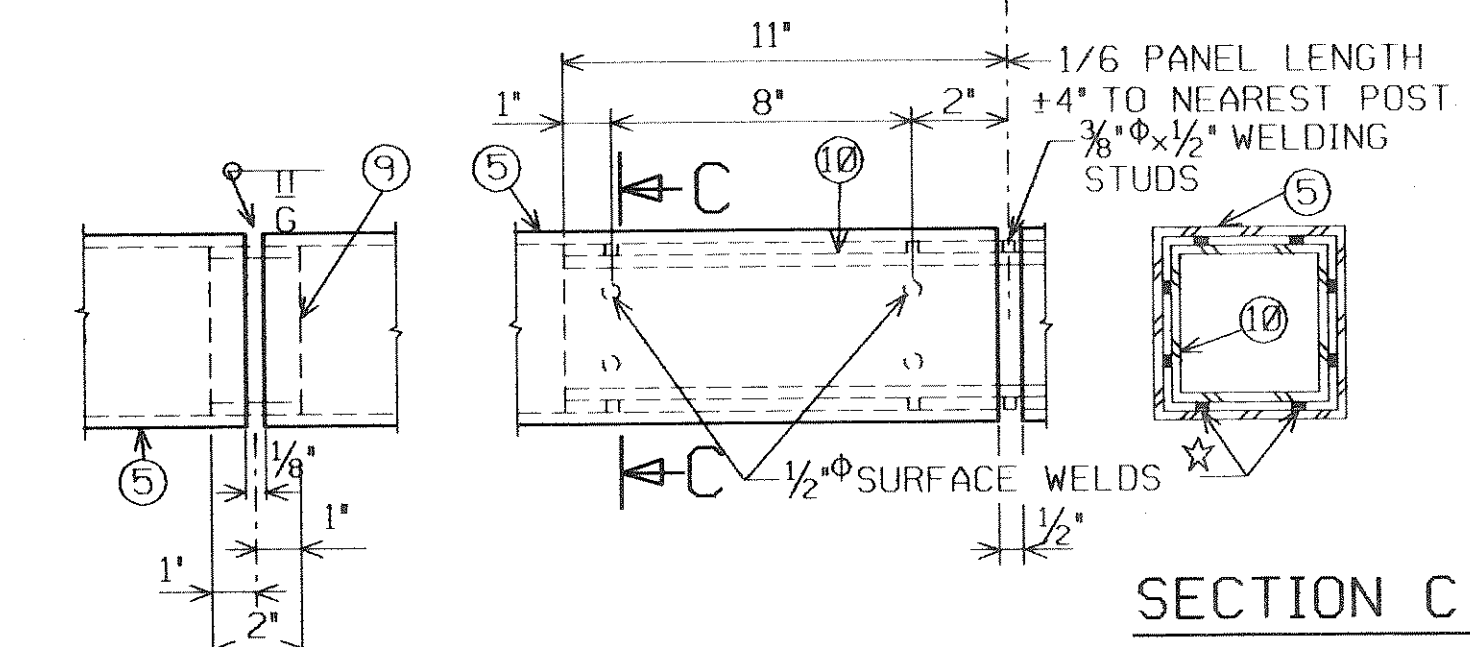
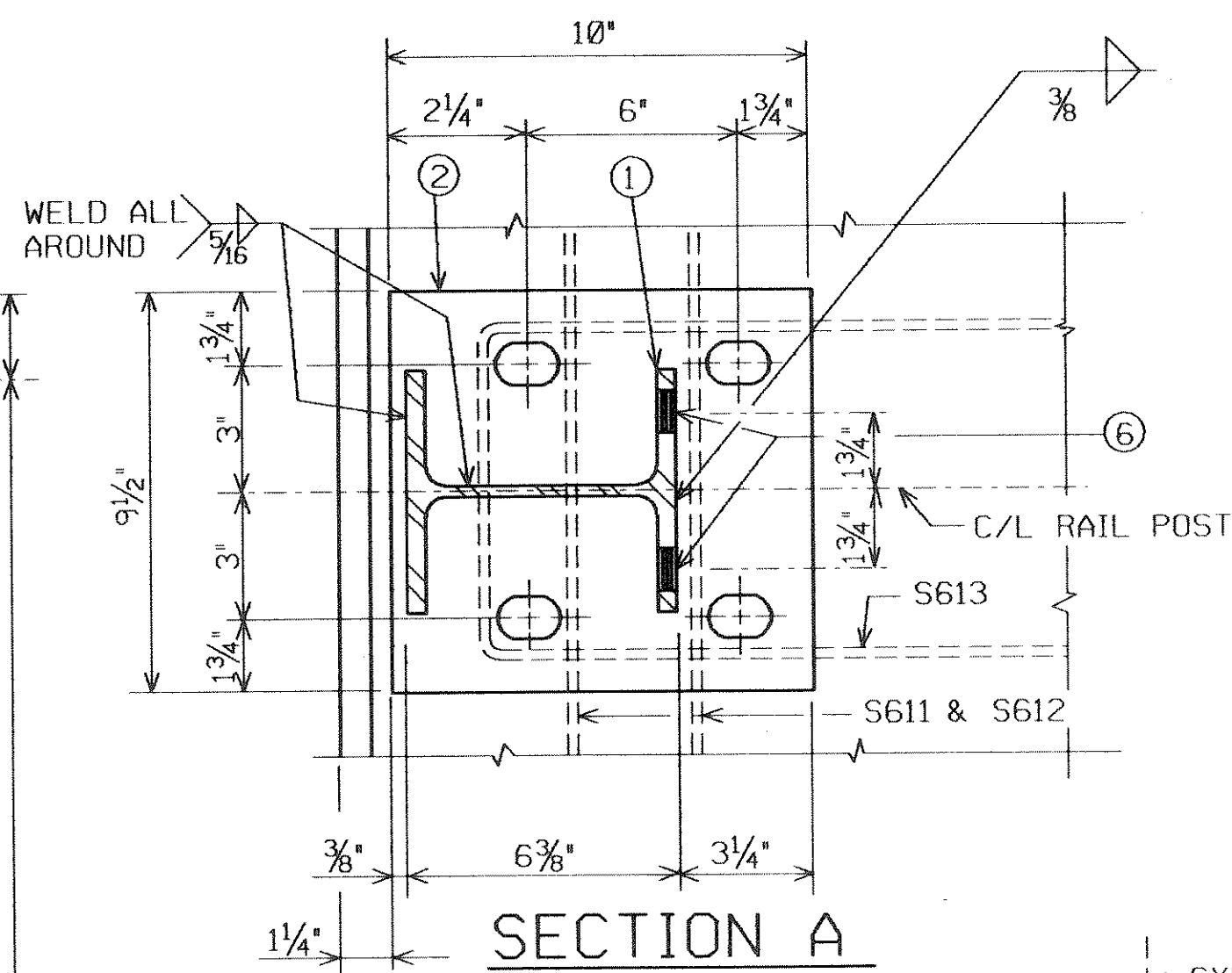
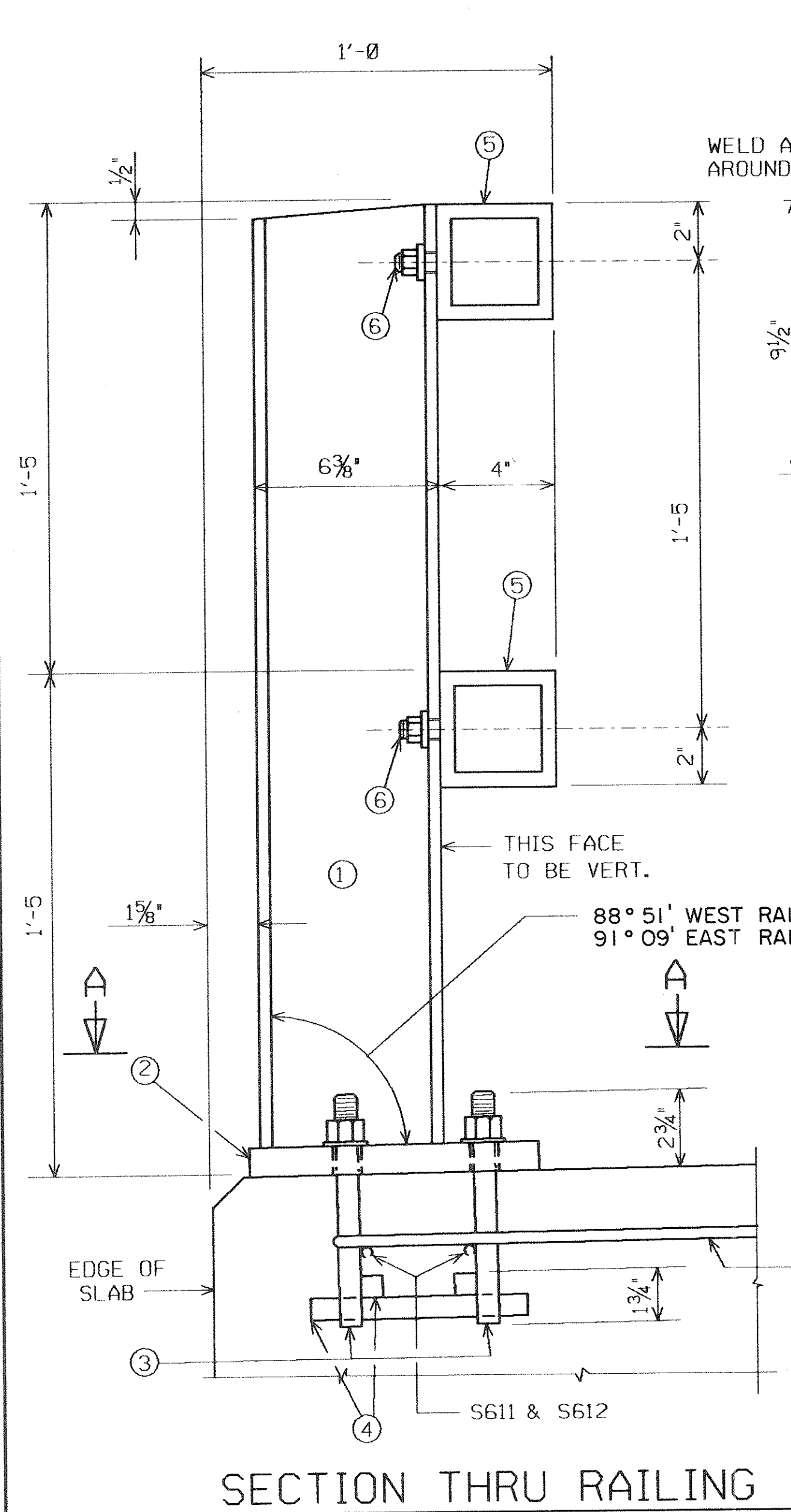
FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A36 UNLESS NOTED OTHERWISE.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

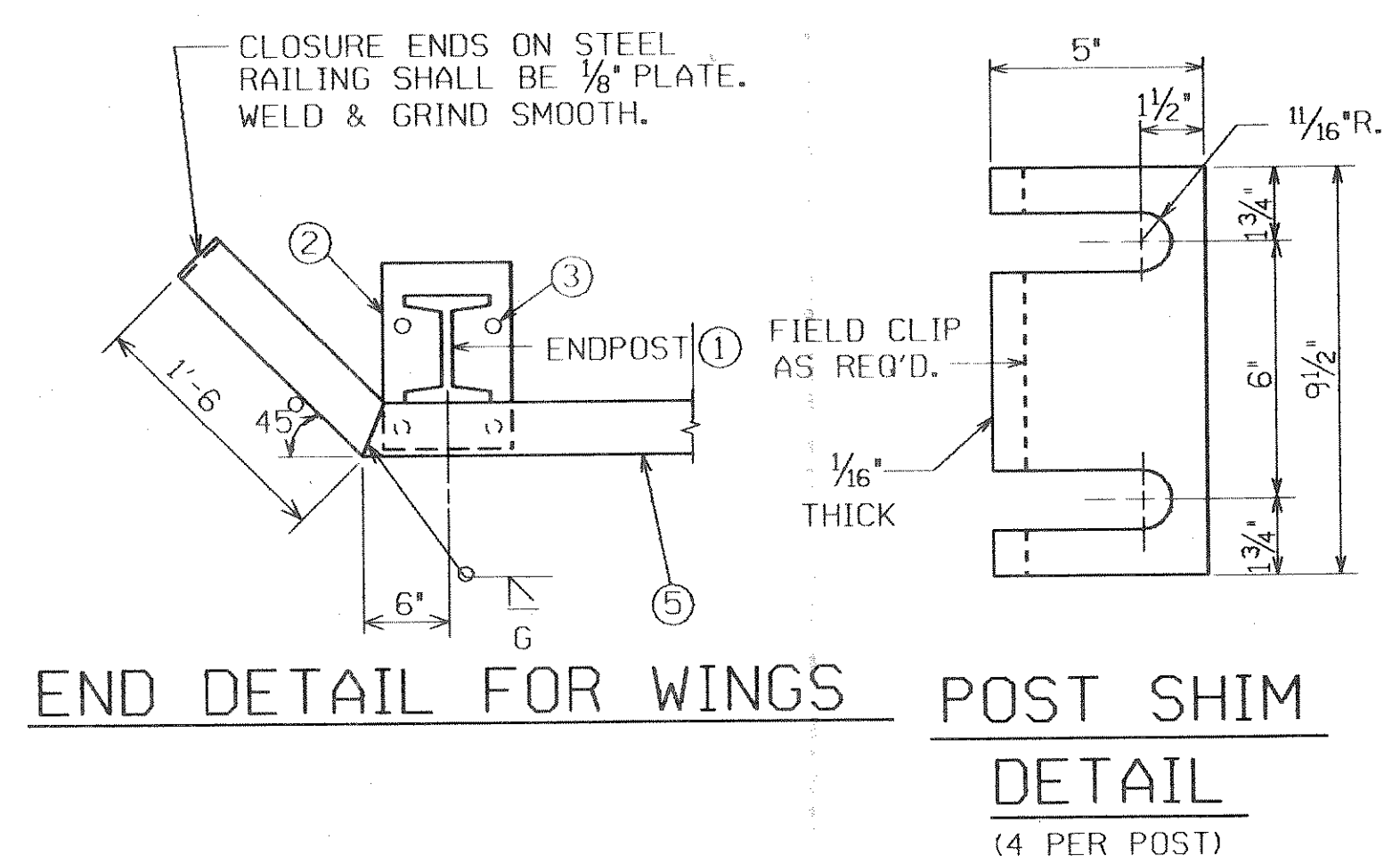
PRIOR TO GALVANIZING, ALL STEEL RAILING SHALL BE GIVEN A NO. 6 COMMERCIAL BLAST CLEANING BY S.S.P.C. SPECIFICATIONS. BLAST CLEANING IS NOT REQUIRED FOR COLD FORMED TUBING (5), EXCEPT TO REMOVE WELDING SLAG AND IMPERVIOUS SUBSTANCES. WELD WITH E70 ELECTRODES.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
<b>STRUCTURE B-35-112</b>			
CONST. SPEC.	1989	DRAWN BY OMNNI	PLANS CK'D. JWT
<b>TUBULAR RAILING TYPE 'F'</b>			SHEET 9 OF 9 X83349



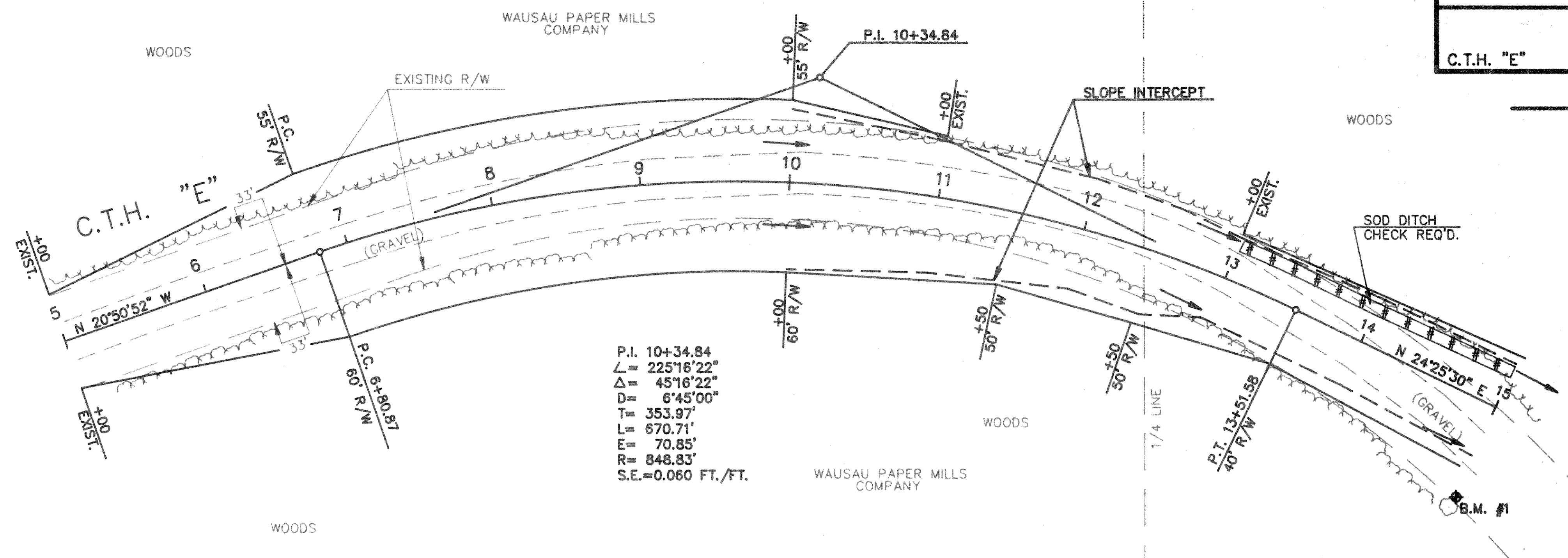
**SHOP RAIL SPLICE DETAIL**  
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

**FIELD ERECTION JOINT DETAIL**  
★ MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.



**END DETAIL FOR WINGS**

**POST SHIM DETAIL**  
(4 PER POST)



P.I. 10+34.84  
 $\Delta = 225^{\circ}16'22''$   
 $\Delta = 45^{\circ}16'22''$   
 $D = 6^{\circ}45'00''$   
 $T = 353.97'$   
 $L = 670.71'$   
 $E = 70.85'$   
 $R = 848.83'$   
 $S.E. = 0.060 \text{ FT./FT.}$

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEVATION
1	15+02	P.K. NAIL IN 8" POPLAR	74' RT. 1394.32
2	20+30	CHISELED "G" IN NORTH ABUTMENT	34' RT. 1396.59

FOR INFORMATION ONLY  
 NOT PART OF CONTRACT

