

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

SOMO RIVER BRIDGE & APPROACHES

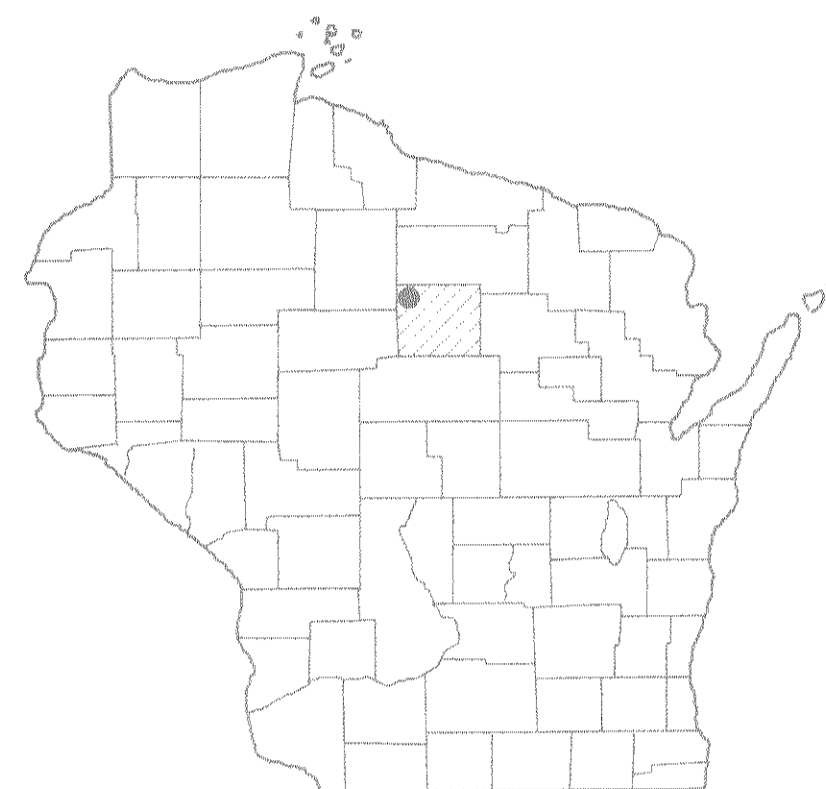
W. CIRCLE DRIVE
TOWN ROAD
LINCOLN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9863-02-70		

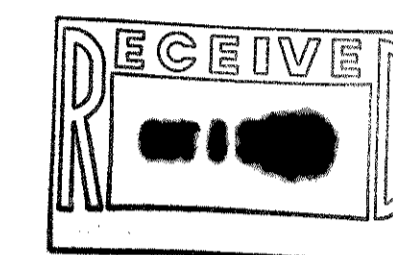
Index of Sheets

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.		Sign Plates
Sheet No.		Structure Plans
Sheet No.		Computer Earthwork Data
Sheet No.		Cross Sections

TOTAL SHEETS =



STATE PROJECT NUMBER
9863-02-70



Design Designation

A.D.T. (PRESENT)	=	0 (BRIDGE CLOSED)
A.D.T. (2010)	=	50
D.H.V. (2010)	=	5
D.	=	50/50
T.	=	8%

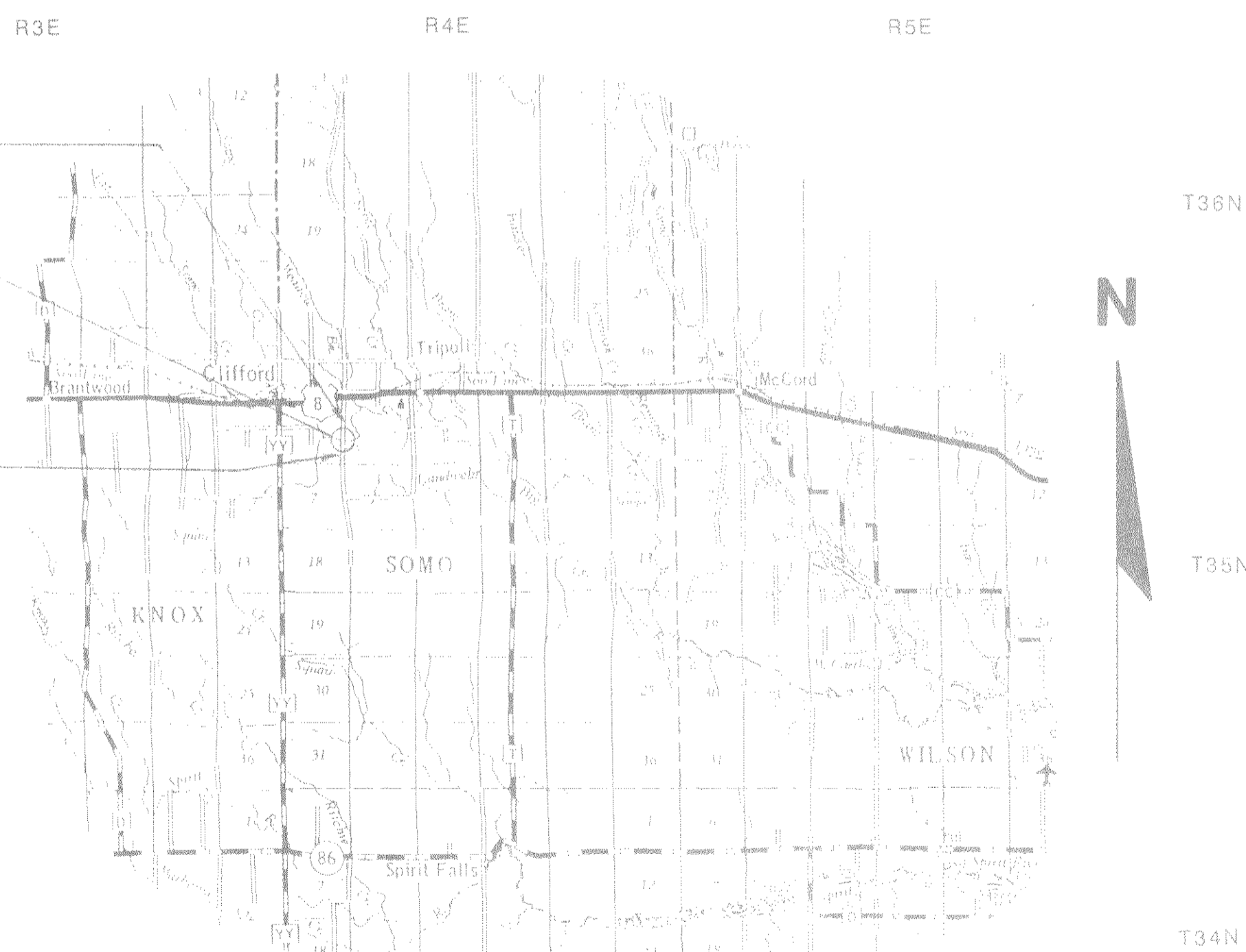
Conventional Signs

PLAN	PROFILE
Corporate Limits	Grade Line
Property Line	Original Ground
Lot Line	Marsh or Rock Profile
Limited Highway Easement	Special Ditch
Existing Right of Way	Profile Existing Travelway
New Right of Way	Grade Elevation
Slope Intercept	Culvert
Drain Tile	
Reference Line	
Culvert in Place	
Culvert Required	
Driveway / Culvert - Proposed	
Combustible Fluids	

END PROJECT STA. 13+50

STRUCTURE B-35-104

BEGIN PROJECT STA. 8+50
N 137450 (±100')
E 1994100 (±100')



Layout
SCALE 0 1 2 MILES

TOTAL NET LENGTH OF CENTERLINE = .095 MI.

*Final Plans
As Submitted to
WisDOT #7 For
Their Approval
M. J. Hoppe
10/16/09*

APPROVED FOR
LINCOLN COUNTY
HIGHWAY DEPARTMENT
BY
Date 10/16/09 *[Signature]*

ORIGINAL PLANS PREPARED BY
BECHER-HOPPE
WAUSAU, WISCONSIN

Date 10/17/09 *[Signature]*

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Surveyor BECHER-HOPPE District Checker FWB
Designer BECHER-HOPPE C.O. Checker
District Supervisor RJS C.O. Coordinator

Approved:
Date _____ District Director

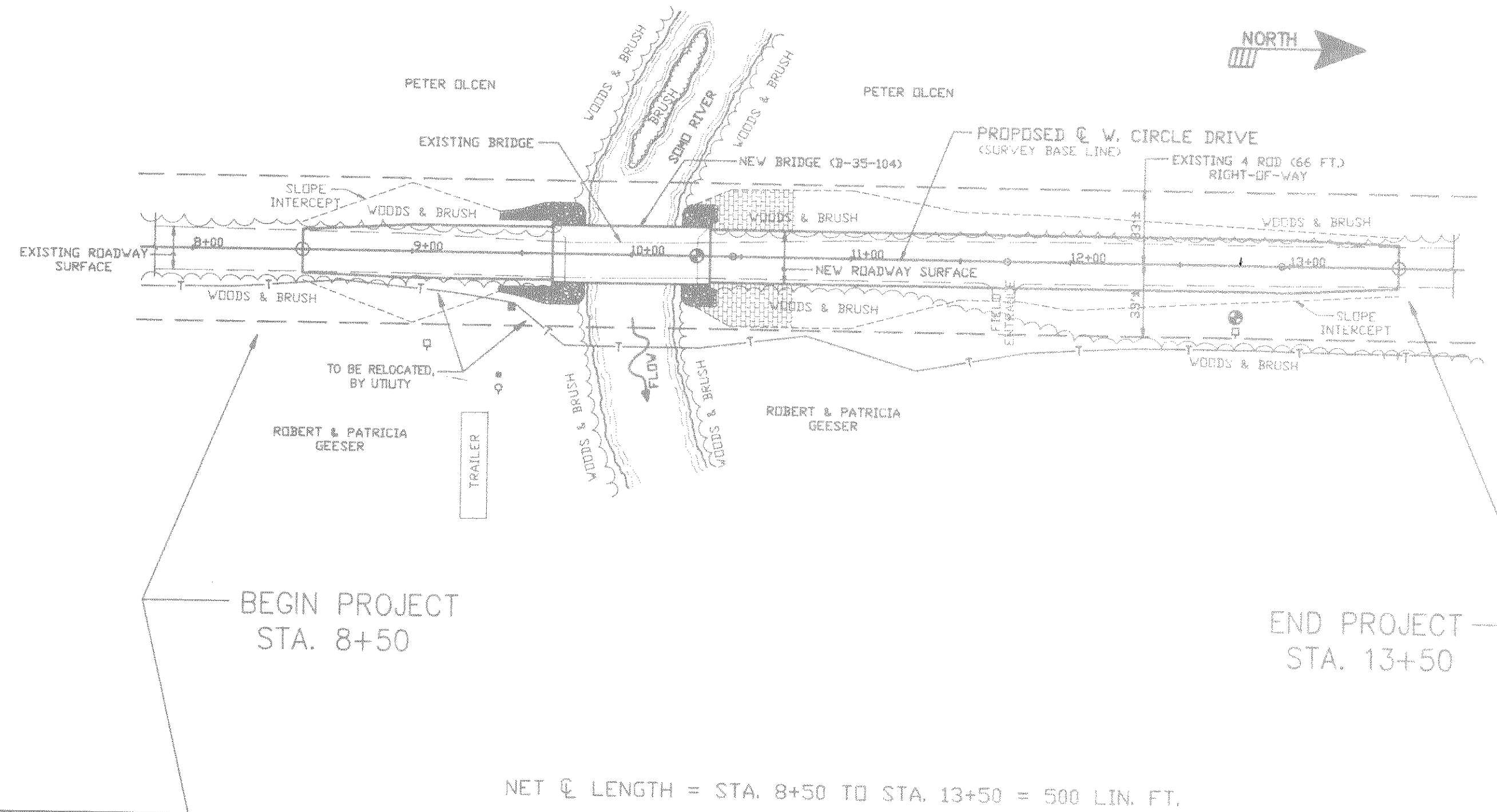
Approved:
Date _____ Regional Chief Road Design Engineer

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

Approved:
Date _____ Division Administrator

COORDINATES WERE SCALED FROM U.S.G.S. TOPOGRAPHIC MAP
BRANTWOOD, WISCONSIN QUADRANGLE FOR IDENTIFICATION ONLY.

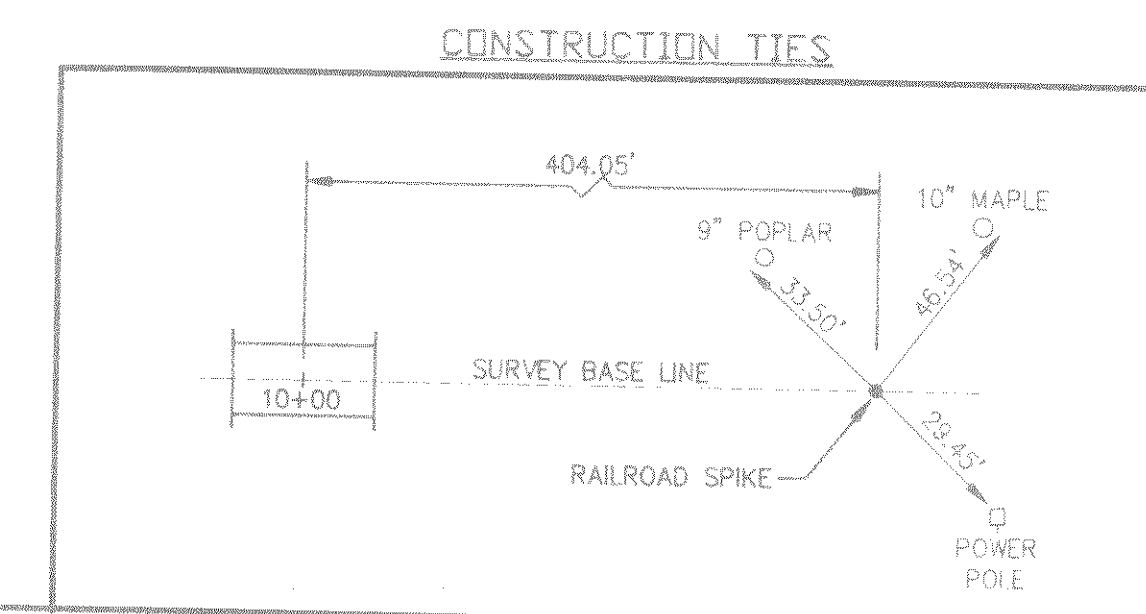
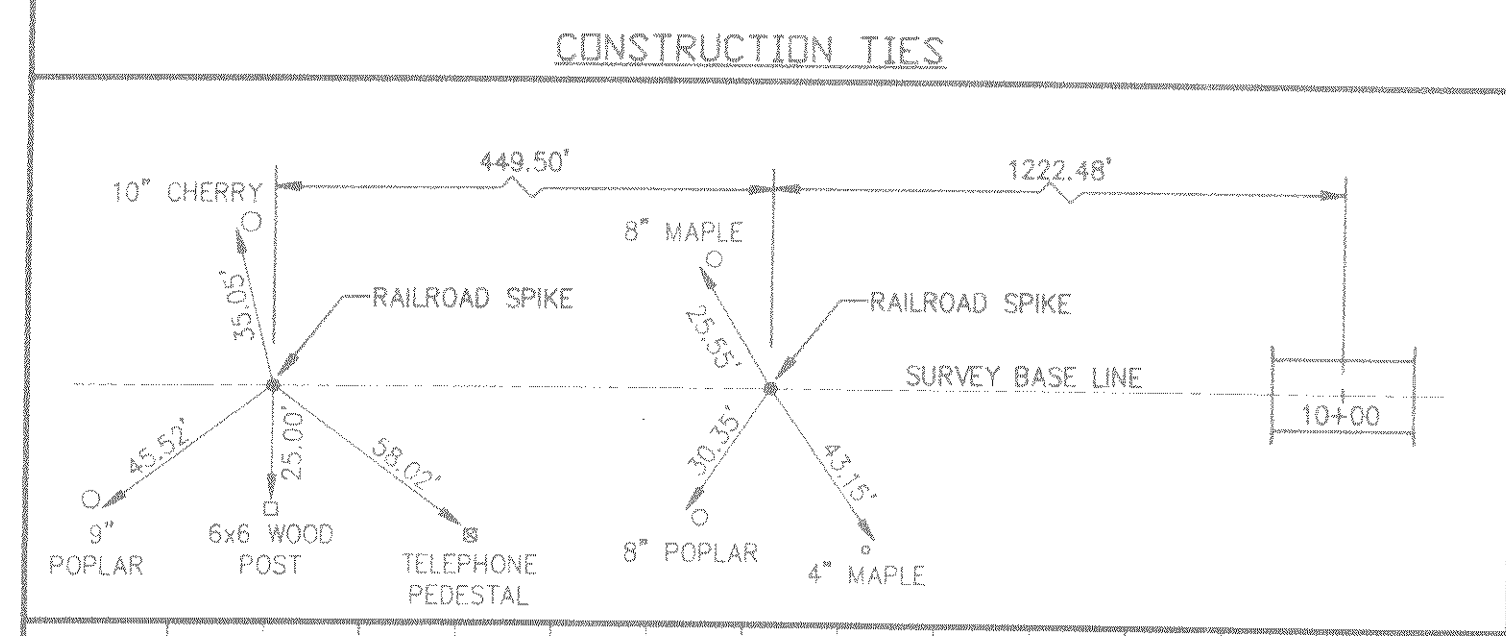
- LEGEND**
- POWER POLES, WITH OVERHEAD LINES
 - LIGHT POLES
 - ⊠ TELEPHONE PEDESTALS
 - WELLS
 - T — BURIED TELEPHONE LINES
 - ▨ HEAVY RIPRAP
 - ▨ SOD, ON FILL SLOPES STEEPER THAN 2½:1.



BENCH MARKS

STA.	DESCRIPTION	*ELEV.
12+78	P.K. NAIL IN POWER POLE, 30' RIGHT	1556.03
10+30	EXISTING BRIDGE DECK, ON BASE LINE	1554.12

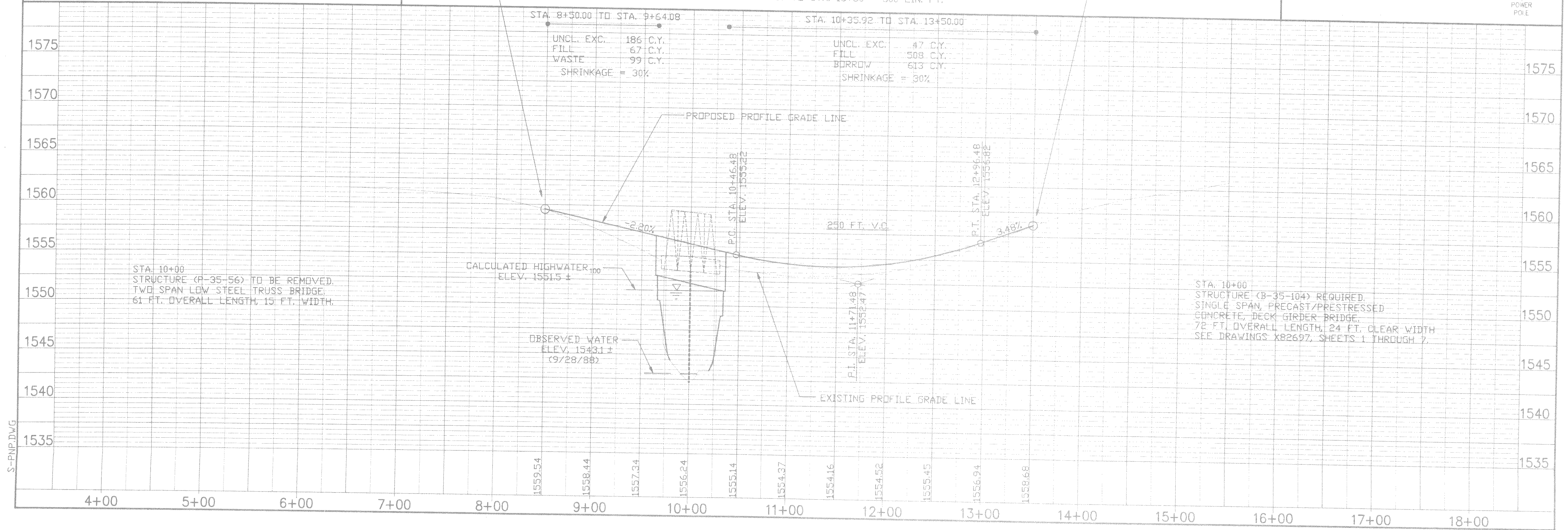
* U.S.G.S. DATUM



BEGIN PROJECT STA. 8+50

END PROJECT STA. 13+50

NET Q LENGTH = STA. 8+50 TO STA. 13+50 = 500 LIN. FT.



S:PNP.DWG

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR, UNLESS OTHERWISE SHOWN OR NOTED.
 THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.
 PILE SPLICES AT THE ABUTMENTS, IF USED, SHALL BE MADE BY A CERTIFIED WELDER.
 THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP TO THE EXTENT SHOWN ON THESE PLANS, AND AS DIRECTED BY THE ENGINEER.
 THE EXISTING GROUND LINE AND THE BASE OF UNCLASSIFIED EXCAVATION SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.
 AT ABUTMENT BACKFACES ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH GRANULAR MATERIAL.
 BACKFILL SHALL BE PLACED BEHIND BOTH ABUTMENTS SIMULTANEOUSLY AFTER THE CONCRETE DECK HAS BEEN PLACED AND CURED.
 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.
 ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
 EXISTING STRUCTURE (B-35-56) = TWO SPAN LOW STEEL TRUSS BRIDGE, 61 FEET OVERALL LENGTH, 15 FEET WIDTH.

DESIGN DATA

LIVE LOAD :
 DESIGN RATING HS20
 INVENTORY RATING** HS26
 OPERATING RATING** HS43
 STANDARD PERMIT VEHICLE RATING 250 KIPS
 FUTURE WEARING SURFACE 20 psf
 **BY LOAD FACTOR CRITERIA.

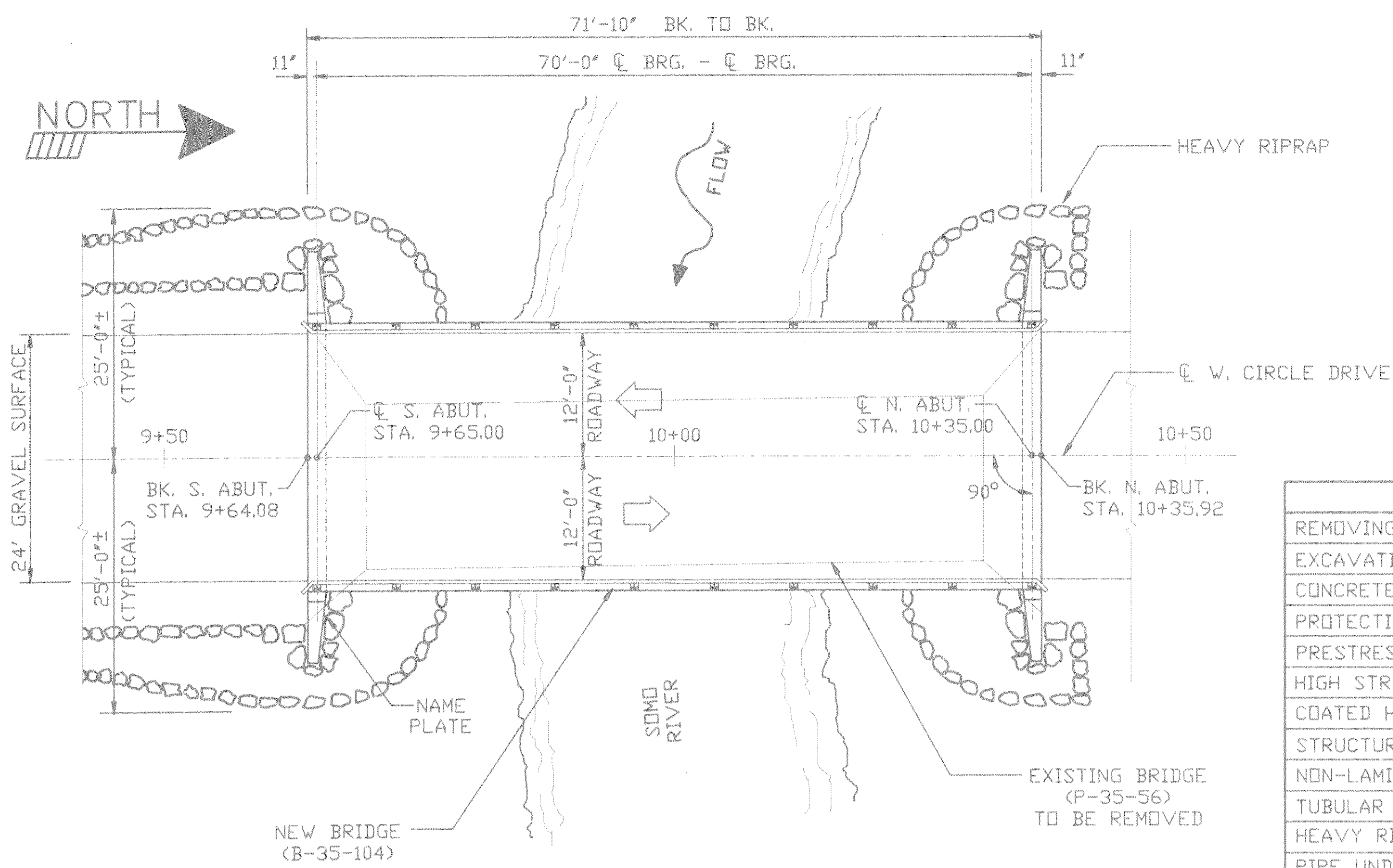
ALLOWABLE DESIGN STRESSES :
 CONCRETE MASONRY - SLAB F'c=4,000 psi
 - ALL OTHER F'c=3,500 psi

HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 Fy=60,000 psi

36" PRESTRESSED GIRDERS
 CONCRETE MASONRY F'c=6,000 psi
 1/2" DIA. PRESTRESSING STRANDS F's=270,000 psi

ESTIMATED QUANTITIES

BID ITEMS	UNIT	S.ABUT	N.ABUT	SUPER	TOTAL
REMOVING OLD BRIDGE, STA. 10+00	L.S.	---	---	---	1
EXCAVATION FOR STRUCTURES, BRIDGE B-35-104	L.S.	---	---	---	1
CONCRETE MASONRY, BRIDGES	C.Y.	16	16	54	86
PROTECTIVE SURFACE TREATMENT	GAL.	---	---	10	10
PRESTRESSED GIRDER, I TYPE, 36-INCH	L.F.	---	---	355	355
HIGH STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	L.B.	2835	2835	5900	11570
COATED HIGH STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	L.B.	---	---	5520	5520
STRUCTURAL CARBON STEEL	L.B.	---	---	685	685
NON-LAMINATED ELASTOMERIC BEARING PADS	EACH	---	---	10	10
TUBULAR RAILING, TYPE "F", STRUCTURE B-35-104	L.S.	---	---	1	1
HEAVY RIPRAP	C.Y.	76	54	---	130
PIPE UNDERDRAIN, 6-INCH	L.F.	48	48	---	96
GEOTEXTILE FABRIC, TYPE HR	S.Y.	113	76	---	189
CAST-IN-PLACE CONCRETE PILING, DELIVERED AND DRIVEN, 10 3/4 INCH	L.F.	225	225	---	450
NON-BID ITEMS					
POLYVINYL CHLORIDE WATERSTOP	L.F.	34	34	---	68
FILLER	SIZE	3/4"	3/4"	---	---



PLAN
 SINGLE SPAN PRESTRESSED GIRDER DECK SLAB BRIDGE

FOUNDATION DATA :

ABUTMENTS TO BE SUPPORTED ON 10 3/4" DIA. CAST-IN-PLACE CONCRETE PILES DRIVEN TO A MINIMUM BEARING VALUE OF 55 TONS. THE ESTIMATED LENGTH OF THESE PILES IS 45 FEET.

HYDRAULIC DATA :

DRAINAGE AREA 23.0 sq.mi.
 Q₁₀₀ 1950 cfs
 HIGH WATER₁₀₀ 1551.50 ±
 WATERWAY AREA₁₀₀ 396 sq.ft.
 VELOCITY₁₀₀ 4.92 fps
 OVERTOPPING FREQUENCY N/A

TRAFFIC DATA :

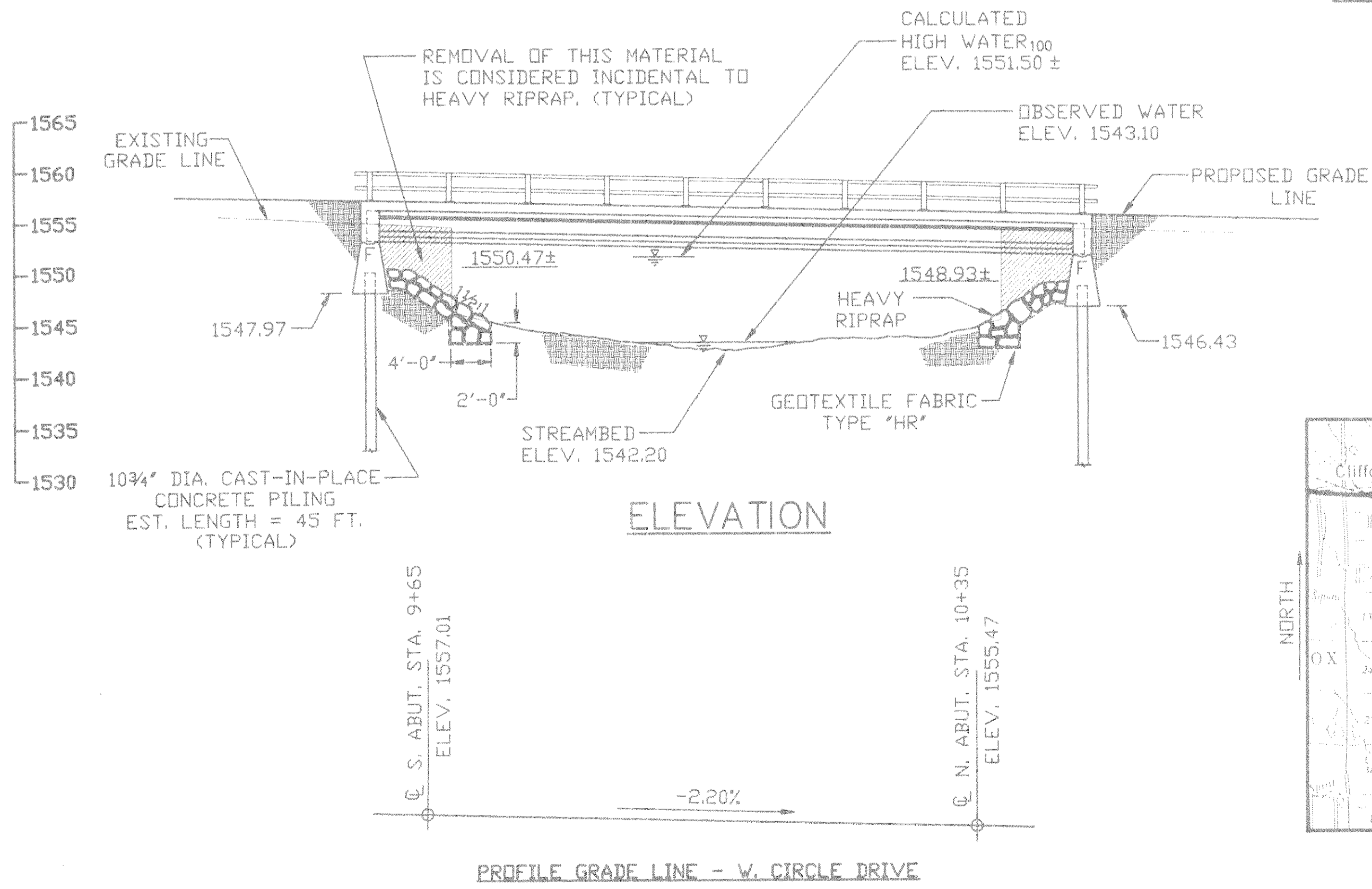
ADT (1990) 35
 ADT (2010) 50

BRIDGE OFFICE CONTACT :

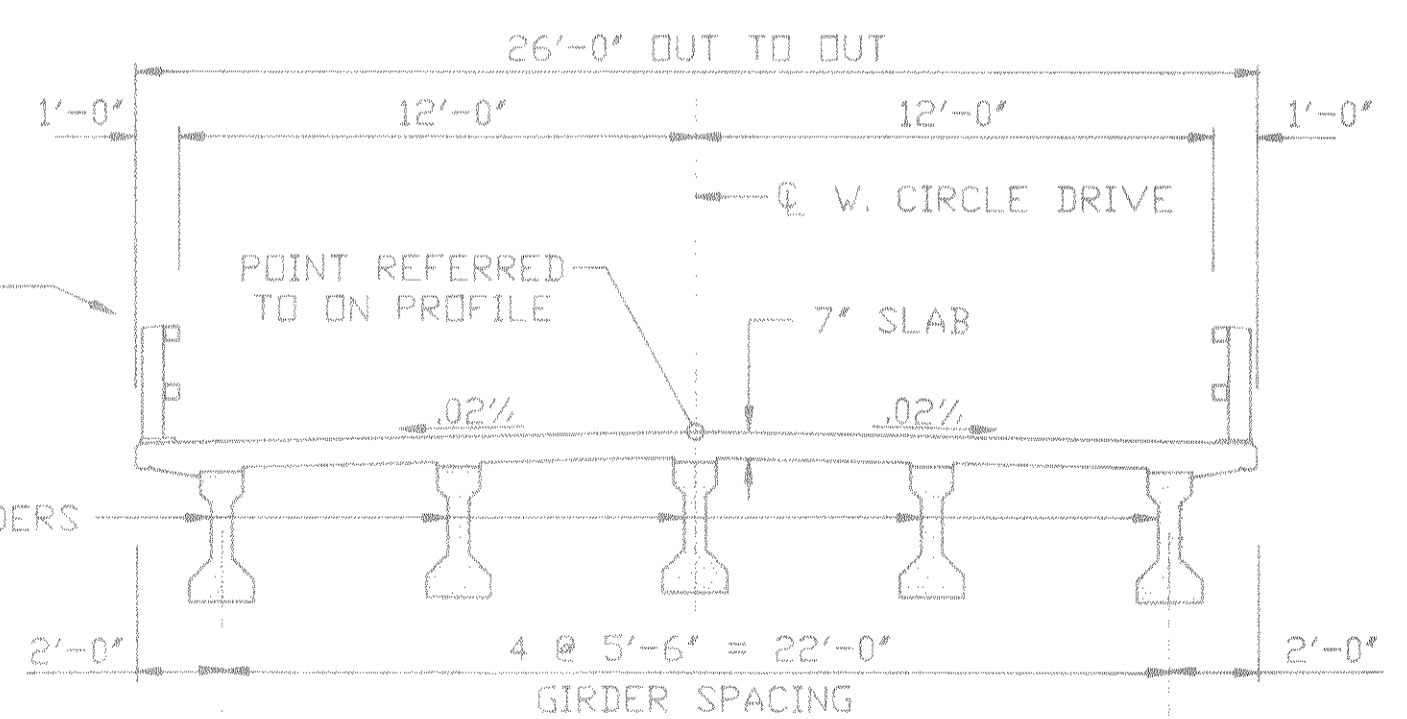
DAVE BABLER (608) 266-8486

LIST OF DRAWINGS, X82697

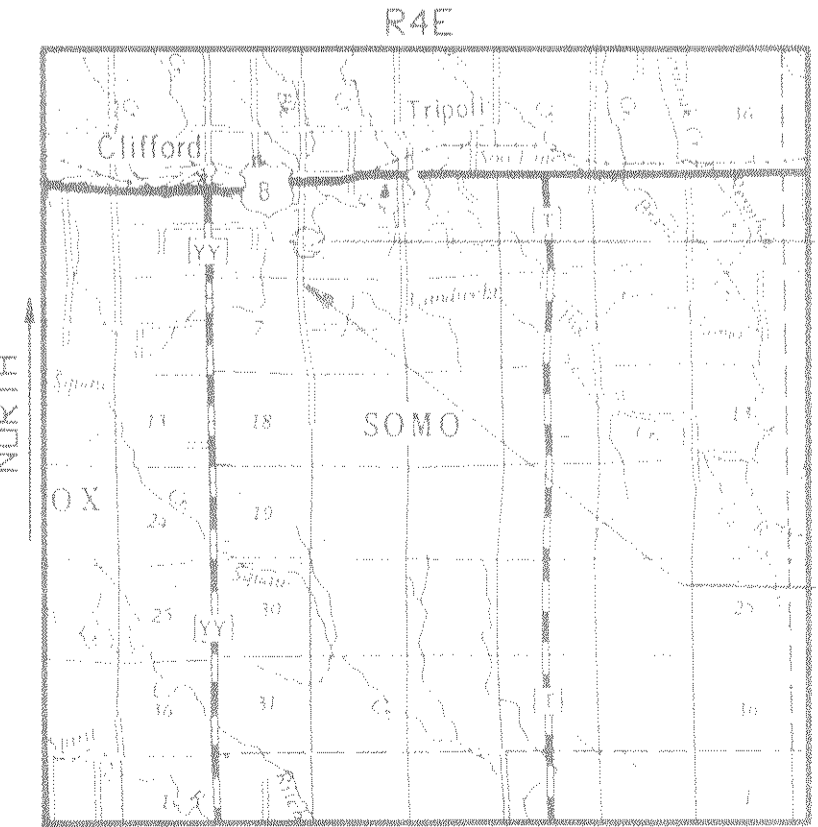
- 1.) GENERAL PLAN & ELEVATION
- 2.) SUBSURFACE EXPLORATION
- 3.) ABUTMENTS
- 4.) PRESTRESSED GIRDER DETAILS
- 5.) SUPERSTRUCTURE
- 6.) STEEL DIAPHRAGM ALTERNATE
- 7.) TUBULAR RAILING, TYPE "F"



ELEVATION
 PROFILE GRADE LINE - W. CIRCLE DRIVE



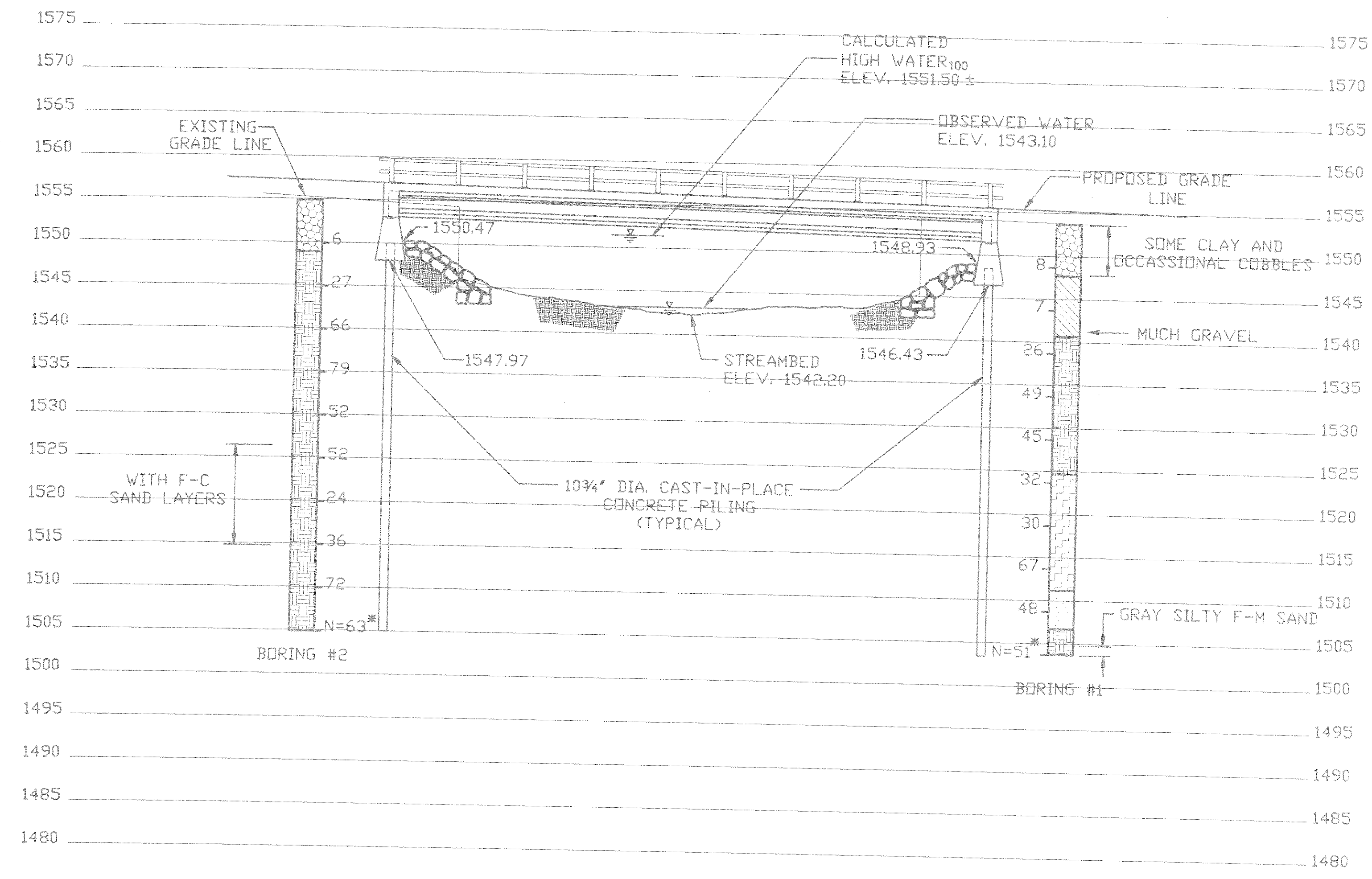
CROSS-SECTION



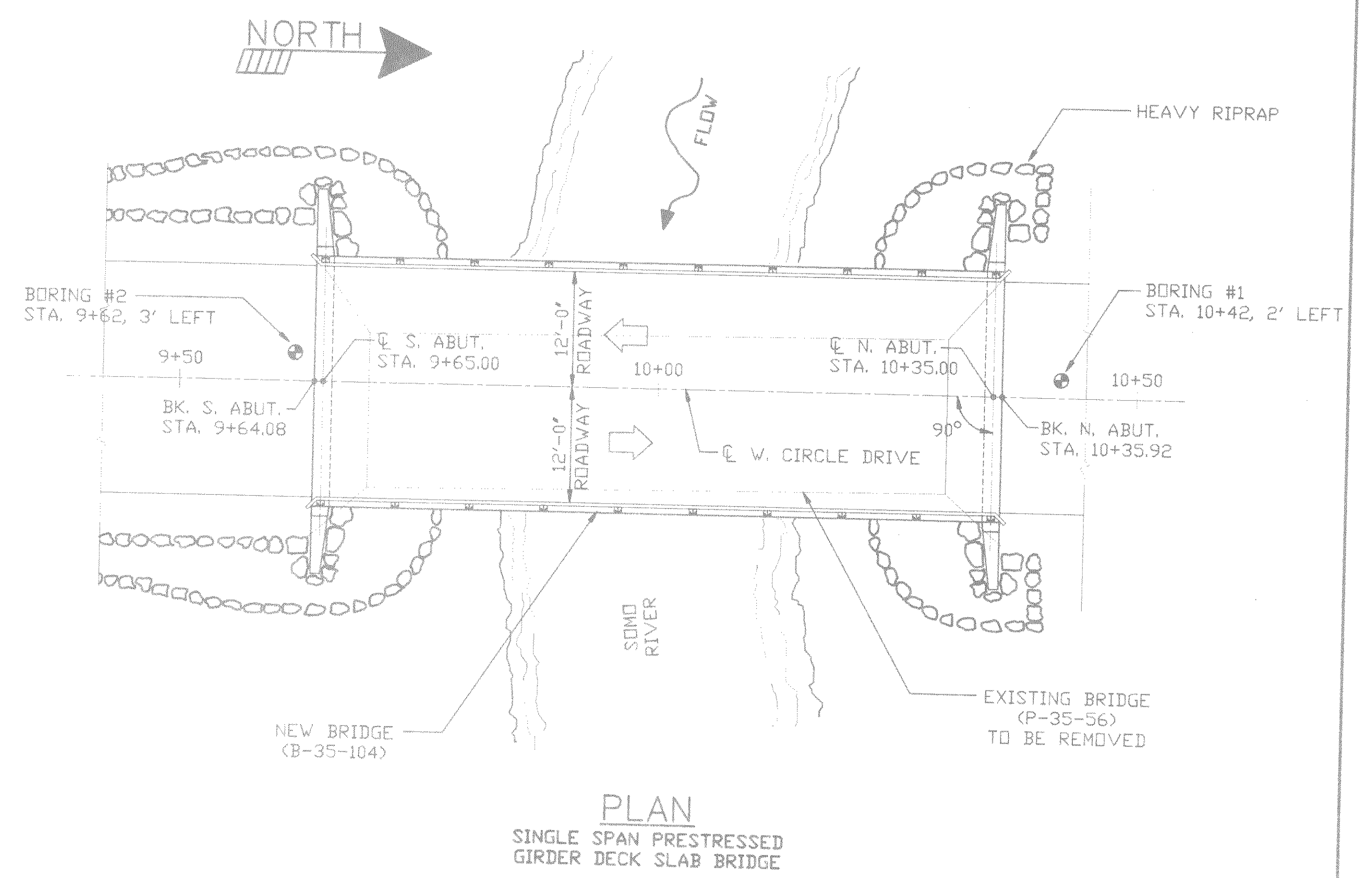
LOCATION SKETCH
 (LINCOLN COUNTY)

STA.	LOCATION	ELEV.
12+78	P.K. NAIL IN POWER POLE, 30' RIGHT	1556.03
10+30	EXISTING BRIDGE DECK, ON BASE LINE	1554.12

No.	Date	Revision	By
BECHER-HOPPE Inc. ENGINEERS, ARCHITECTS, PLANNERS 330 Fourth Street Wausau, WI. 54402			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-104 SOMO RIVER BRIDGE & APPROACHES			
Town of SOMO		LINCOLN County	
Design Spec. : AASHTO 1988	Load : HS20	Const. Spec. : 1989	
Designed By : DGK	Design Checked : DGK	Drawn By : DGK	Plans Checked :
Approved : _____ State Bridge Engineer _____ Date _____			
GENERAL PLAN & ELEVATION			SHEET 1 of 7 X82697



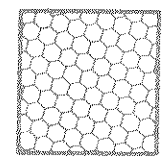
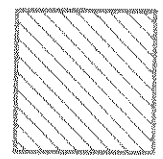
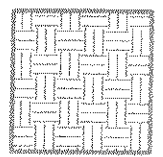
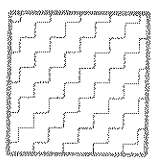
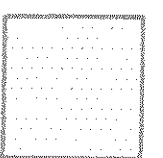
ELEVATION



PLAN
SINGLE SPAN PRESTRESSED
GIRDER DECK SLAB BRIDGE

BORINGS BY: Environmental & Foundation Drilling, Inc.
MADISON, WISCONSIN

MATERIAL DESCRIPTIONS

-  FILL - BROWN TO REDISH BROWN LAYERS OF SANDY SILT, SAND AND GRAVEL.
-  FILL - BROWN TO REDISH BROWN LAYERS OF SILTY AND CLAYEY FINE SAND, SANDY SILT AND F-M SAND.
-  REDISH BROWN SILTY F-M SAND WITH GRAVEL, SOME CLAY AND OCCASSIONAL COBBLES.
-  BROWN CLAYEY F-M SAND WITH SOME SILT AND GRAVEL.
-  BROWN TO GRAYISH BROWN SANDY SILT WITH SOME GRAVEL.

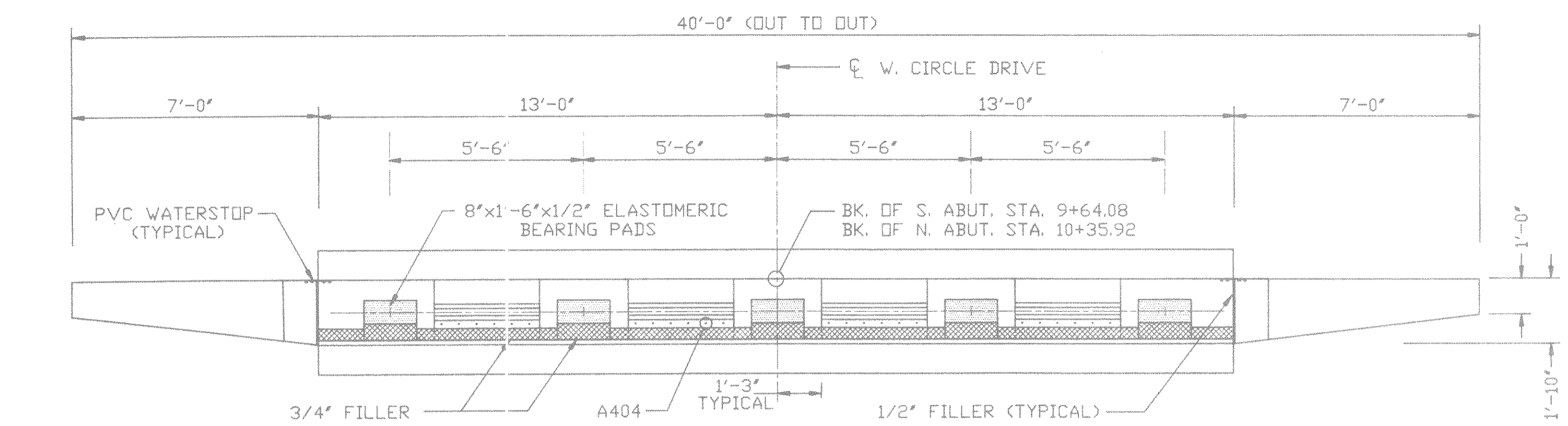
* THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. SPLIT BARREL SAMPLER WITH A 140 LB. HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UN-DISTURBED SOIL 6" BELOW A CASED HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION
DESIGN AND BIDDERS INFORMATION

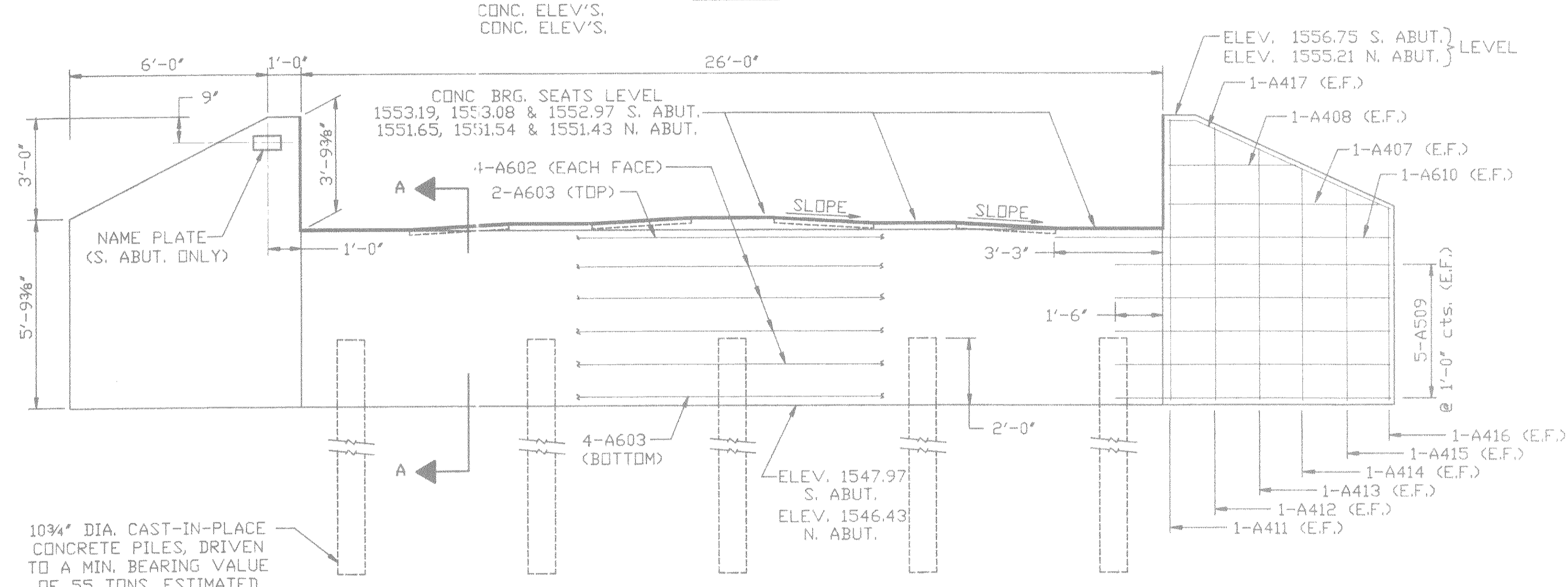
To obtain relative data concerning the character of material in and upon which the foundation might be built, borings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings is very small in relation to the entire area, the 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.

S-SOIL.DWG

No.	Date	Revision	By
BECHER-HOPPE Inc. ENGINEERS, ARCHITECTS, PLANNERS 330 Fourth Street Wausau, WI. 54402			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-104			
Const. Spec.:	WI. 1989	Drawn By:	DGK
Plans Checked:			
SUBSURFACE EXPLORATION		SHEET 2 of 7 X82697	

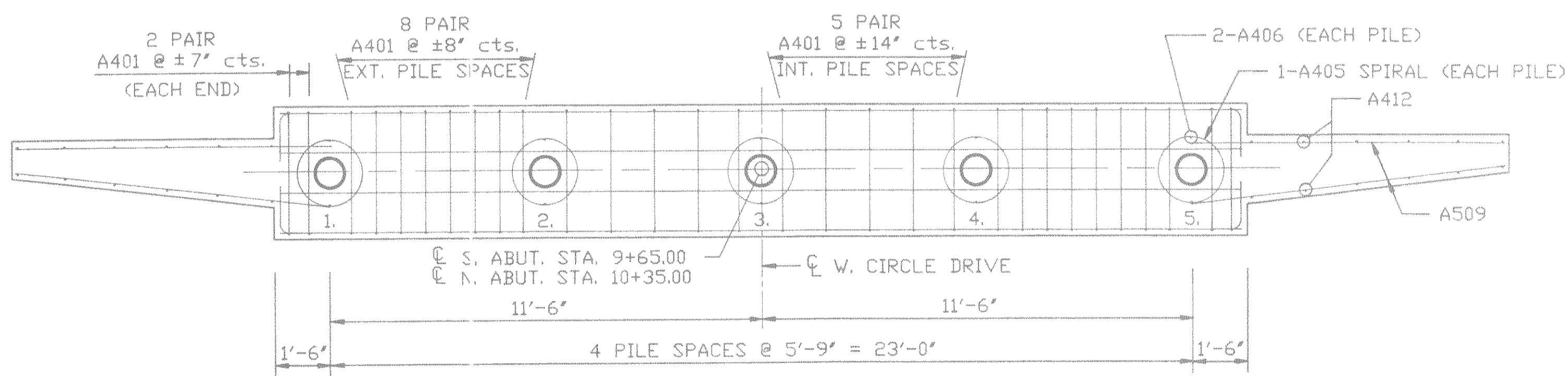


PLAN

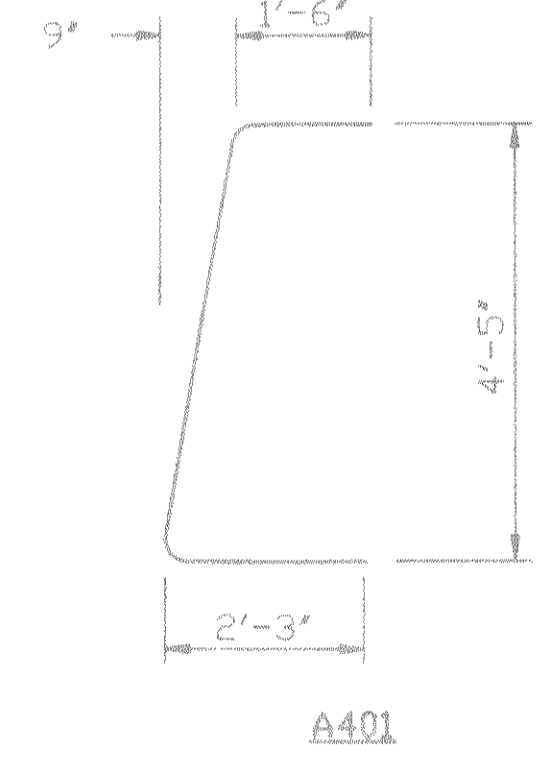
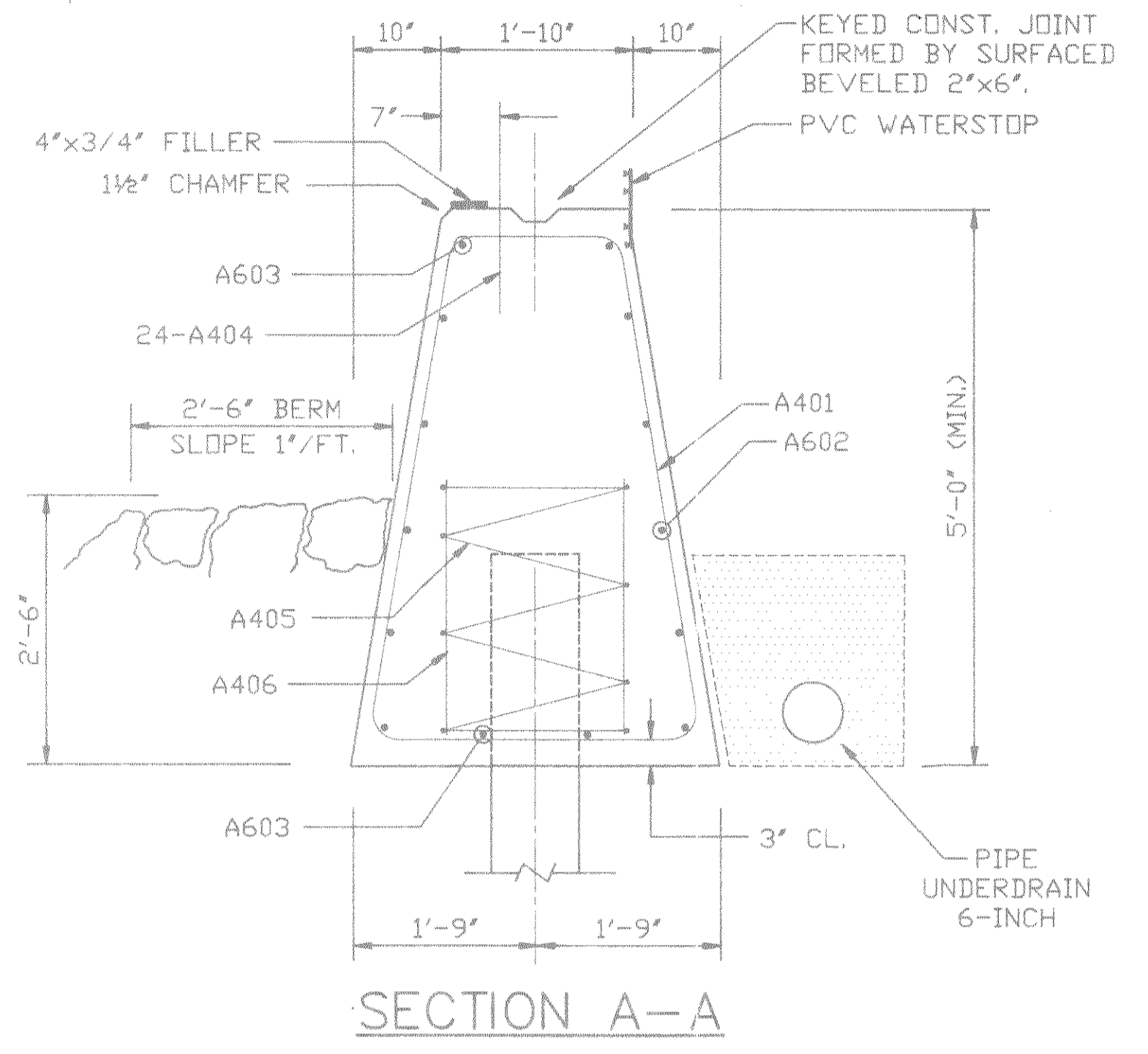
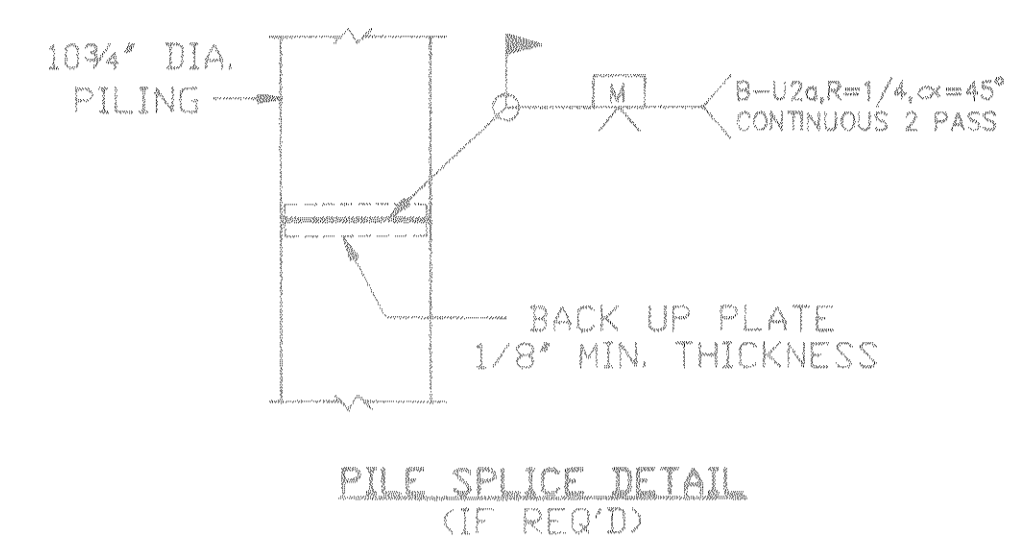
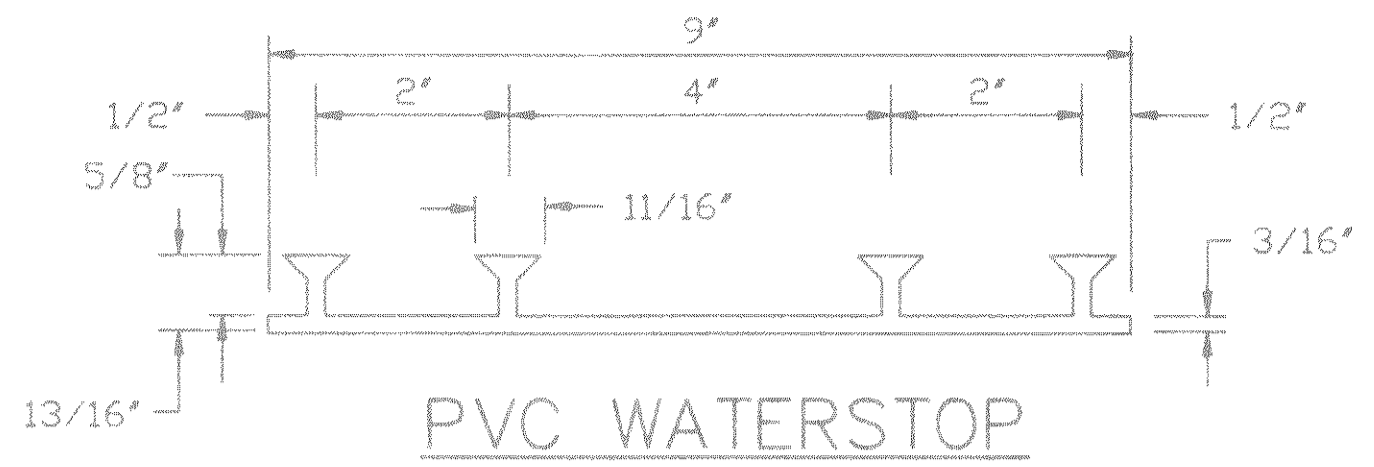


ELEVATION

(LOOKING SOUTH @ S. ABUT.)
 (LOOKING NORTH @ N. ABUT.)



PILE PLAN



NOTES

EDGES OF EXPOSED CONCRETE SHALL BE CHAMFERED 3/4", EXCEPT AS SHOWN.
 REINFORCING BARS SHALL HAVE A MINIMUM COVER OF 2", EXCEPT AS SHOWN.
 BENDS IN REINFORCING BARS NOT SPECIFICALLY DETAILED SHALL BE STANDARD HOOKS OR BENDS.
 PVC WATERSTOP IS TO BE EXTENDED HORIZONTAL BETWEEN WING WALLS, AND VERTICAL FROM TOP OF ABUTMENT BODY TO TOP OF WING WALLS. IT SHALL BE FLUSH WITH THE CONCRETE, AND BUT SPICED AT ALL INTERSECTIONS USING A HEATED SPlicing IRON.
 1/2" FILLER IS TO EXTEND AS SHOWN, SEAL ALL EXPOSED EDGES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND 1/8" BELOW SURFACE)
 ABUTMENTS ARE SYMMETRICAL ABOUT C. W. CIRCLE DRIVE.

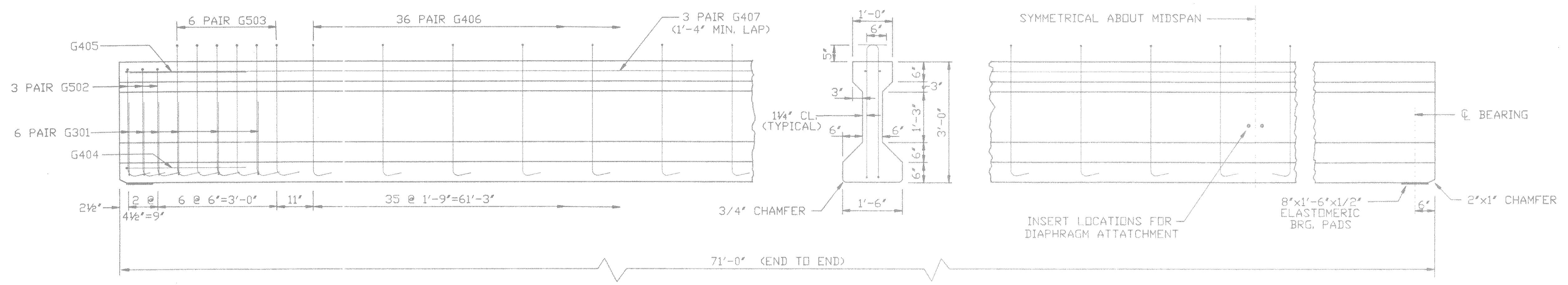
BAR LIST *

MARK	SHAPE	NO.	LENGTH	WEIGHT	LOCATION
A401	□	120	8'-1"	648	ABUTMENT BODY
A602	—	16	27'-4"	657	ABUTMENT BODY (FACES)
A603	—	12	25'-8"	463	ABUTMENT BODY (T&B)
A404	—	48	2'-0"	64	SUB/SUPER DOWELS
A405	—	10	28'-0"	187	PILE CONFINEMENT
A406	—	20	2'-3"	30	PILE CONFINEMENT
A407	—	8	6'-4"	34	WING WALLS (T. HORZ.)
A408	—	8	3'-1"	16	WING WALLS (T. HORZ.)
A509	—	40	8'-4"	348	WING WALLS (B. HORZ.)
A610	—	8	10'-1"	121	WING WALLS (HORZ. TIE)
A411	—	8	8'-6"	45	WING WALLS (VERT.)
A412	—	8	8'-2"	44	WING WALLS (VERT.)
A413	—	8	7'-6"	40	WING WALLS (VERT.)
A414	—	8	6'-10"	37	WING WALLS (VERT.)
A415	—	8	6'-2"	33	WING WALLS (VERT.)
A416	—	8	5'-6"	29	WING WALLS (VERT.)
A417	—	8	7'-4"	39	WING WALLS (TOP)
				Σ =	2835 LBS.

* BAR LIST IS FOR BOTH ABUTMENTS.

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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-104			
Const. Spec.:	WI. 1989	Drawn By:	DGK
		Plans Checked:	
ABUTMENTS			SHEET 3 of 7 X82697

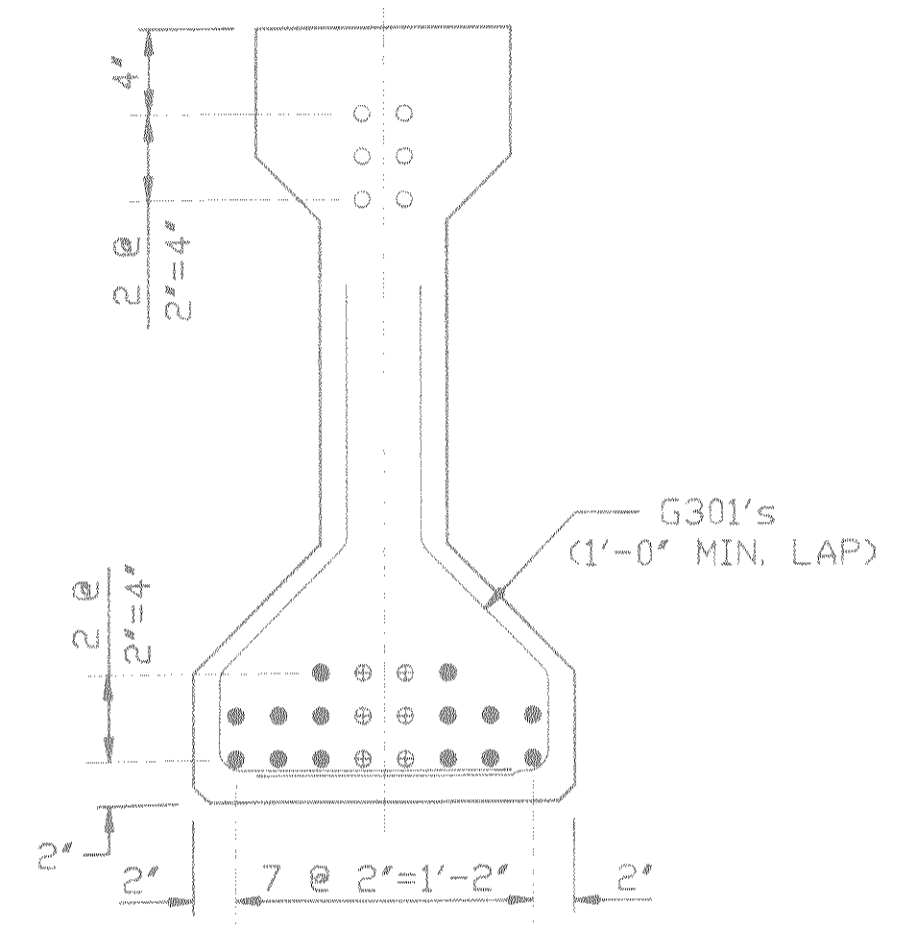
S-ABUTS.DWG



36 INCH GIRDER ELEVATION & SECTION

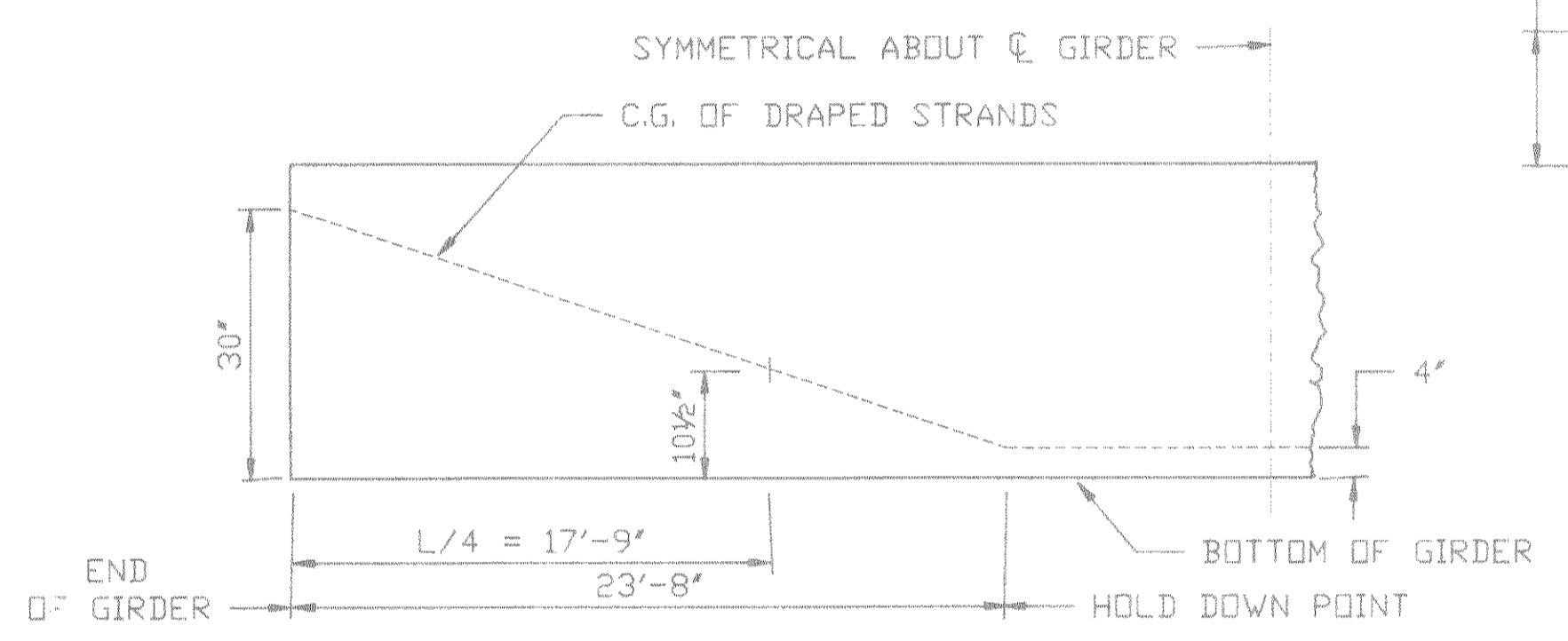
GIRDER NOTES

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 ERECTION.
 ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN. THE STIRRUP SPACING SHOWN IN 'ELEVATION' IS MAXIMUM, THE LOCATIONS USED SHALL BE SHOWN IN THE SHOP DRAWINGS.
 PRESTRESSING STRANDS SHALL BE 1/2" DIA, 7 WIRE, LOW RELAXATION STRAND WITH AN ULTIMATE TENSILE STRENGTH OF 270,000 PSI.
 EACH OF THE 20 PRESTRESSING STRANDS SHOWN SHALL BE JACKED TO AN EQUIVALENT STRESS OF 208,000 PSI FOR A TOTAL INITIAL PRESTRESS FORCE (P_{jack}) OF 637 KIPS.
 THE GIRDER CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (F_{ci}) OF 5000 PSI AT THE TIME OF PRESTRESS APPLICATION.
 DATA SHOWN IN THE 'DEFLECTION DATA' IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES...
 TO DETERMINE THE HAUNCH THICKNESS (t) SUBTRACT THE TOP OF GIRDER ELEVATION AND SLAB THICKNESS FROM AND ADD THE 'DEADLOAD DEFLECTION' TO THE DESIRED TOP OF SLAB ELEVATION.
 IF A 1/4" MINIMUM HAUNCH THICKNESS (t) CANNOT BE MAINTAINED, THE PROFILE GRADE MAY BE REVISED BY THE ENGINEER AT THE CONTRACTORS OPTION. THE PLAN SLAB THICKNESS SHALL BE HELD. THE MAXIMUM HAUNCH THICKNESS (t) SHALL BE 3'.

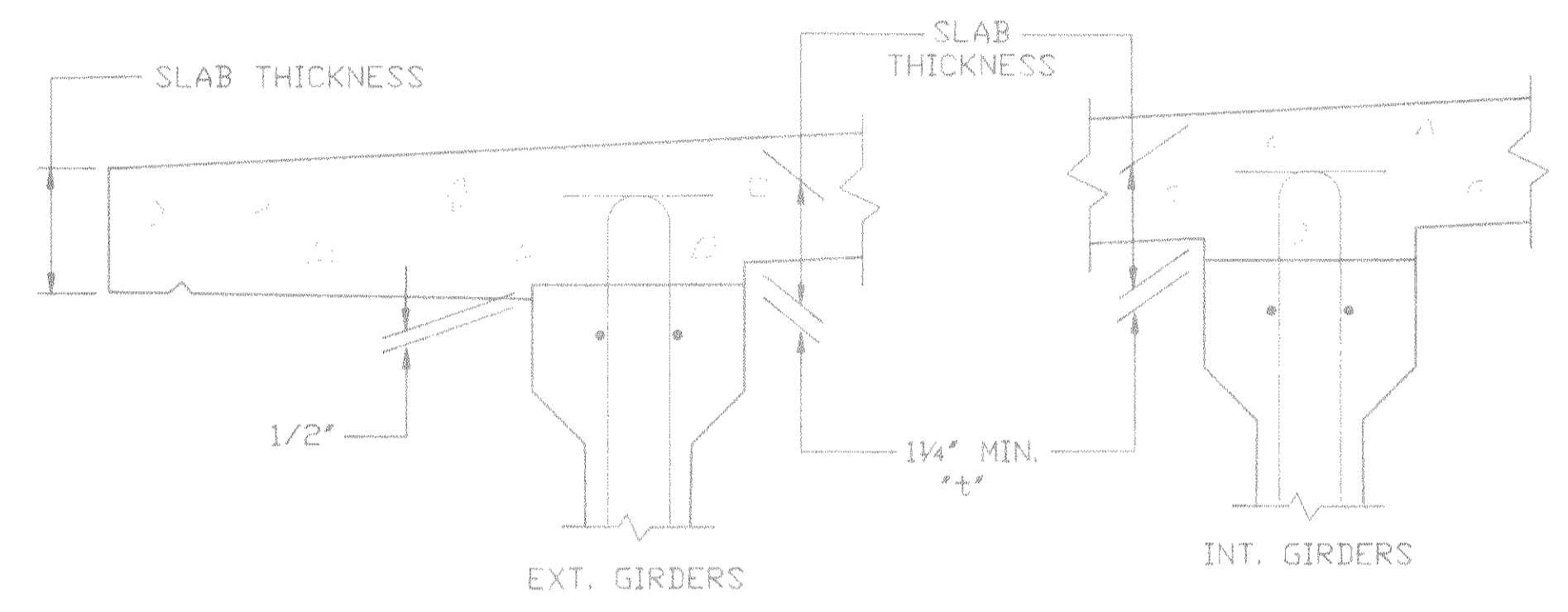


PRESTRESSING STRAND PATTERN

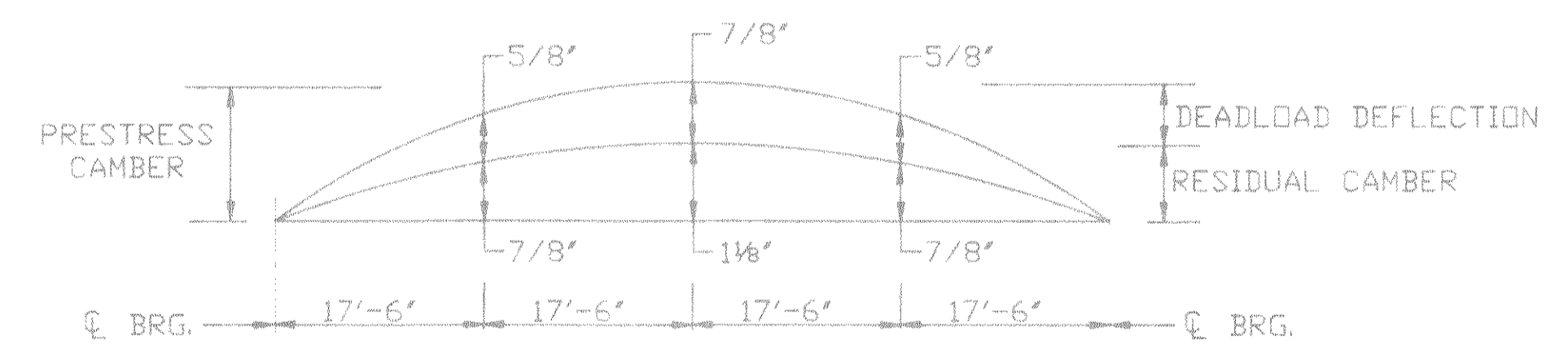
- STRAIGHT STRANDS
- DRAPED STRANDS (@ ENDS)
- DRAPED STRANDS (NEAR MIDSPAN)



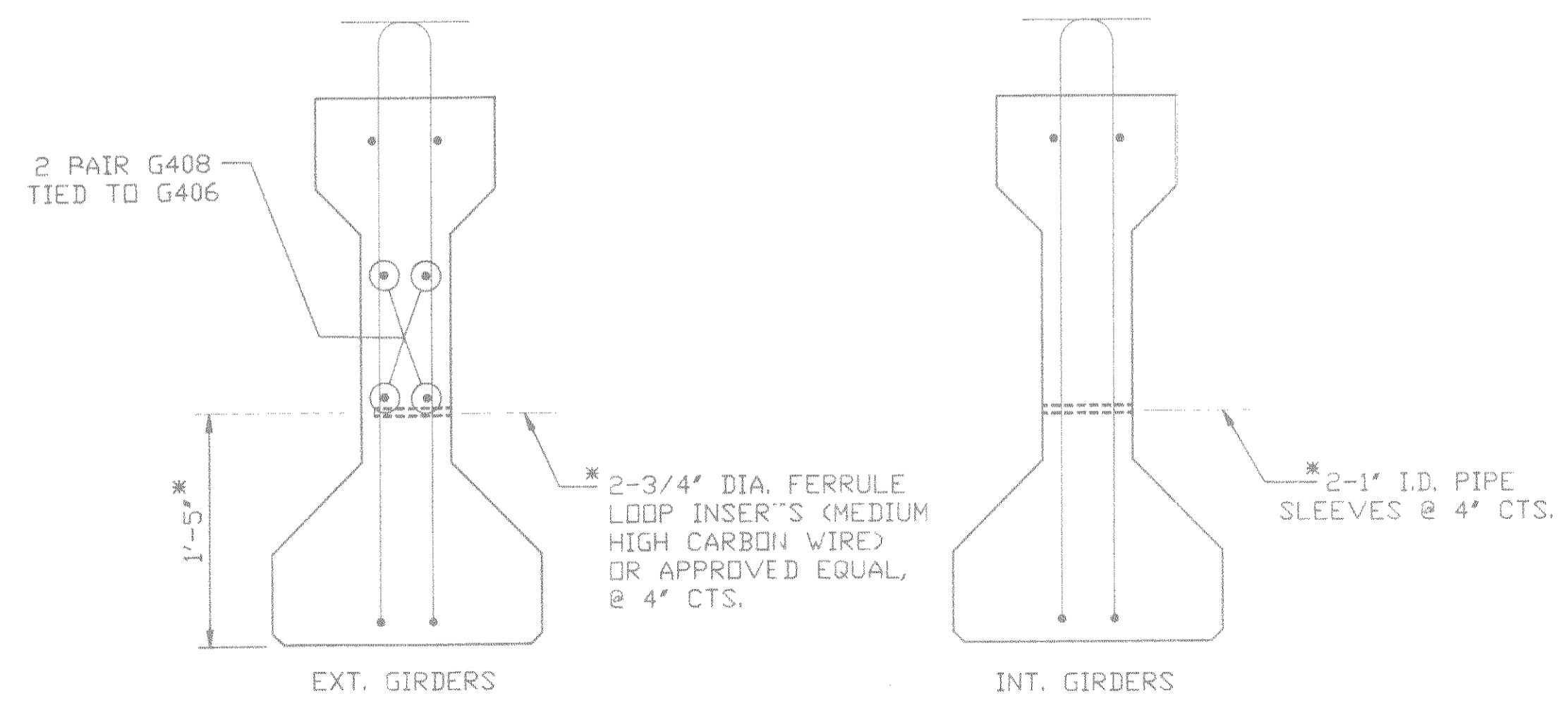
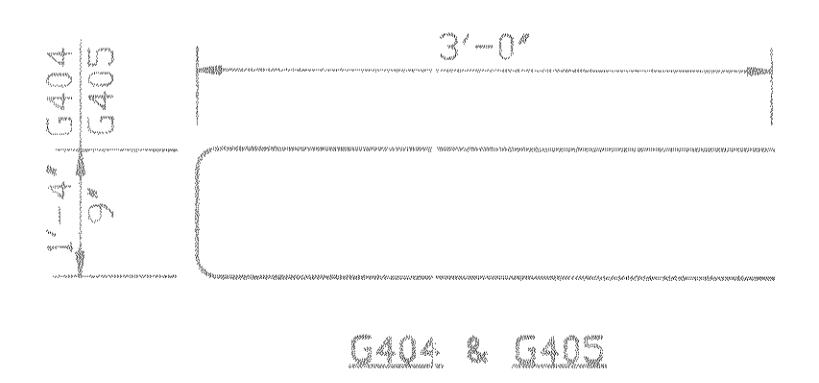
DRAPED STRAND PROFILE



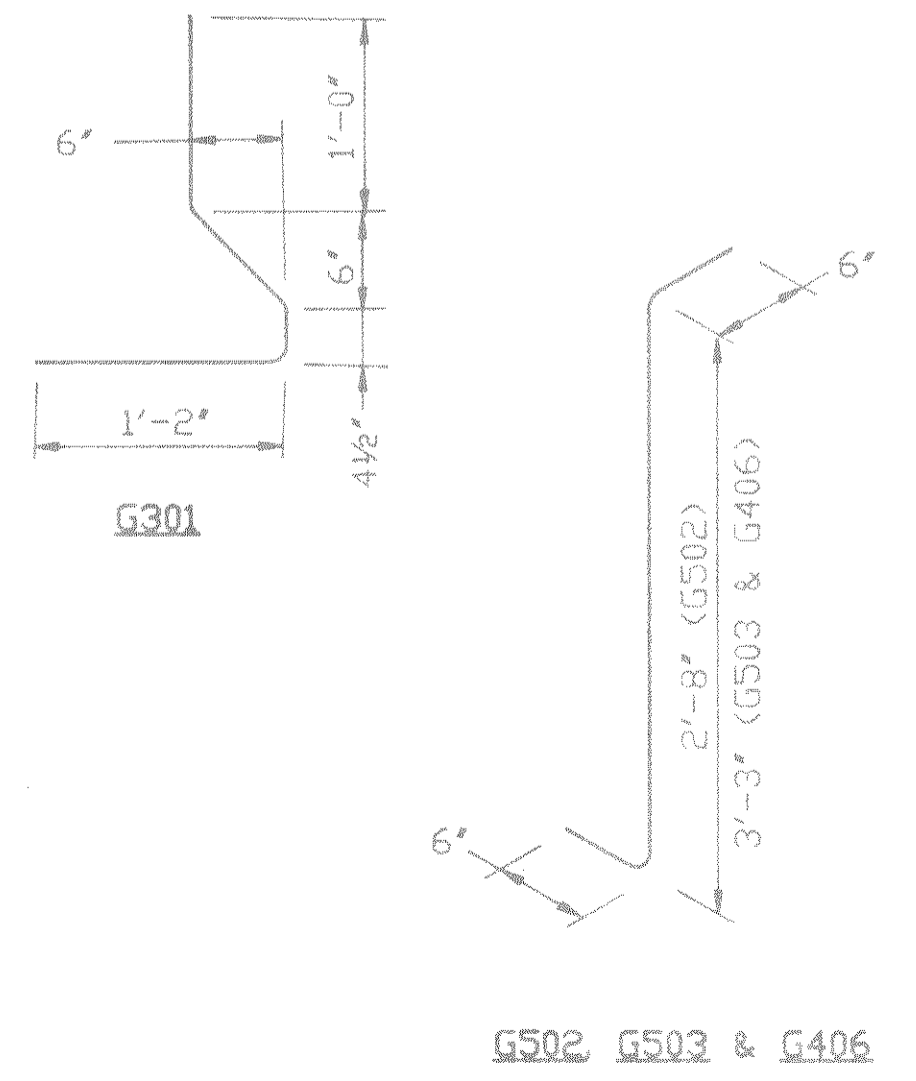
SLAB HAUNCH DETAIL



DEFLECTION DATA



DIAPHRAGM INSERT DETAILS
 * CONCRETE DIAPHRAGM ALTERNATE



G502, G503 & G406

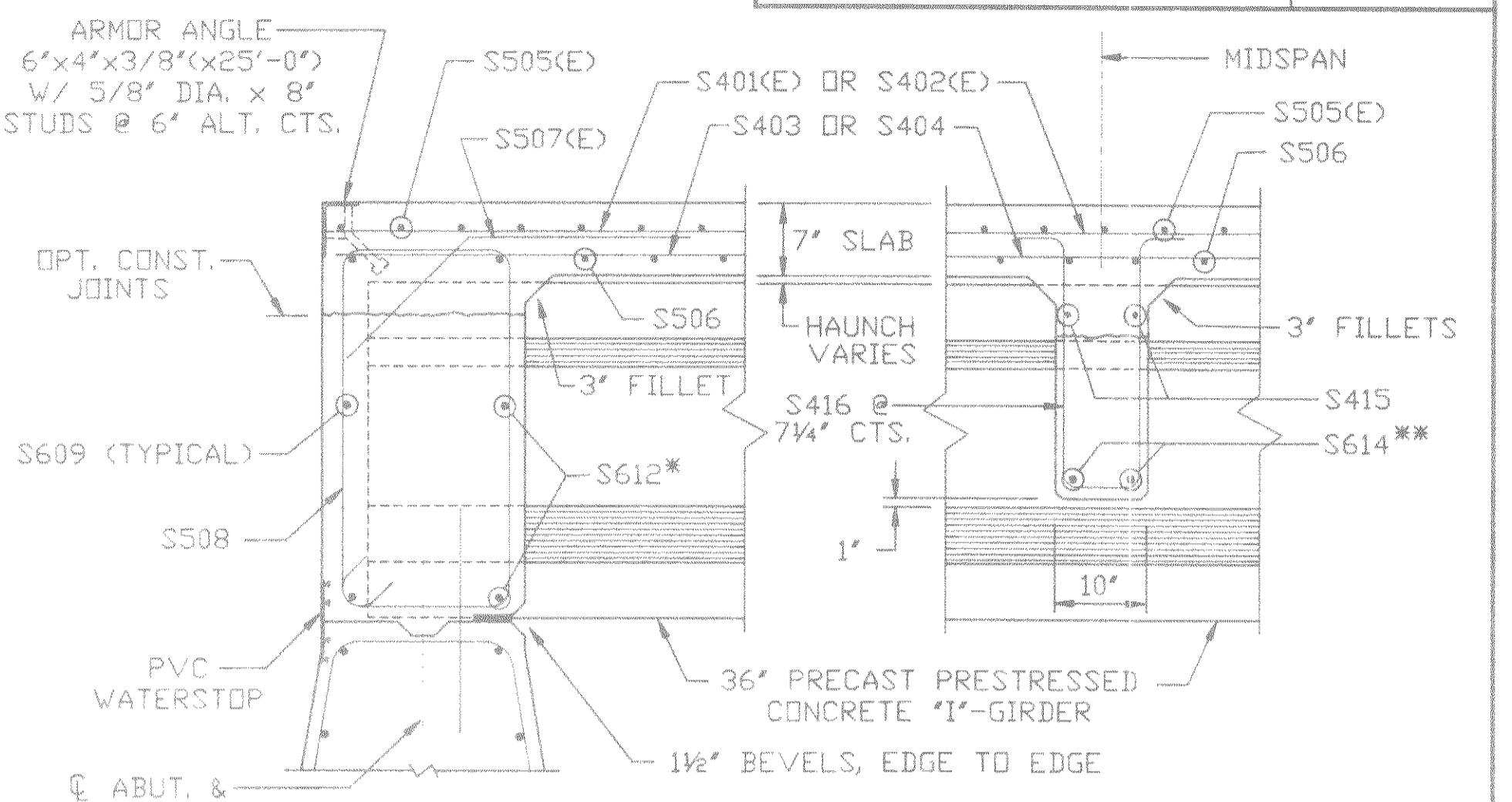
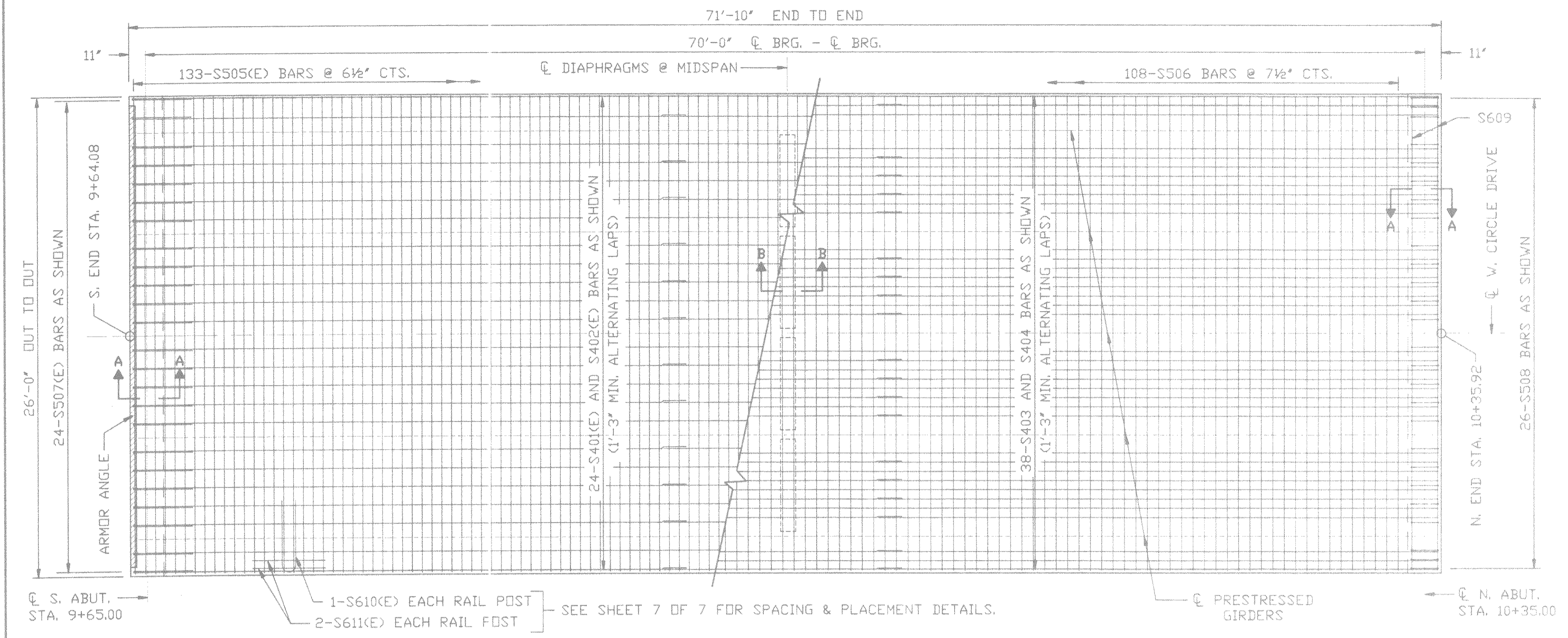
BAR LIST

MARK	SHAPE	NO.	LENGTH	WEIGHT	LOCATION
G301	└	24	3'-2"	29 LBS.	END CONFINEMENT
G502	└	12	3'-7"	45	END STIRRUPS
G503	└	24	4'-2"	104	END STIRRUPS
G404	└	2	7'-3"	10	END CONFINEMENT, BOTTOM
G405	└	2	6'-8"	9	END CONFINEMENT, TOP
G406	└	72	4'-2"	200	CENTER STIRRUPS
G407	└	6	24'-6"	98	LONGITUDINAL, TOP
G408	└	4	2'-6"	7	DIAPHRAGM INSERTS ***

*** EXTERIOR GIRDERS ONLY.

No.	Date	Revision	By
BECHER-HOPPE Inc. ENGINEERS, ARCHITECTS, PLANNERS 330 Fourth Street Wausau, WI. 54402			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-35-104			
Const. Spec.:	WI. 1989	Drawn By:	DGK
Plans Checked:			
PRESTRESSED GIRDER DETAILS		SHEET 4 of 7 X82697	

S-GIRDER.DWG

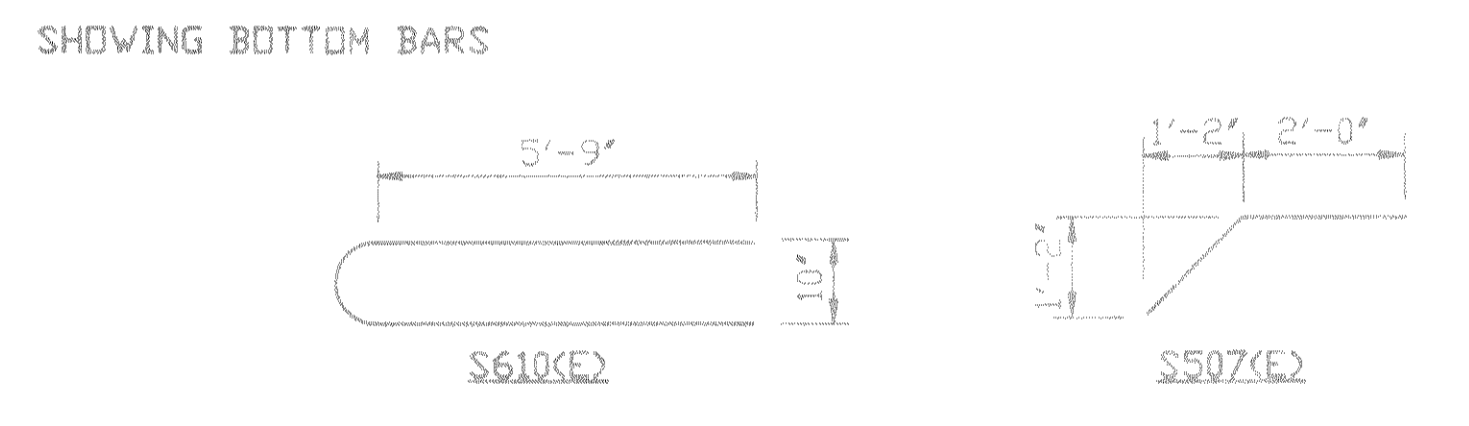


SECTION A-A
CONCRETE END DIAPHRAGMS
EDGE TO EDGE OF SLAB

SECTION B-B
INTERMEDIATE DIAPHRAGMS, CONCRETE
ALTERNATE, BETWEEN EXT. GIRDERS

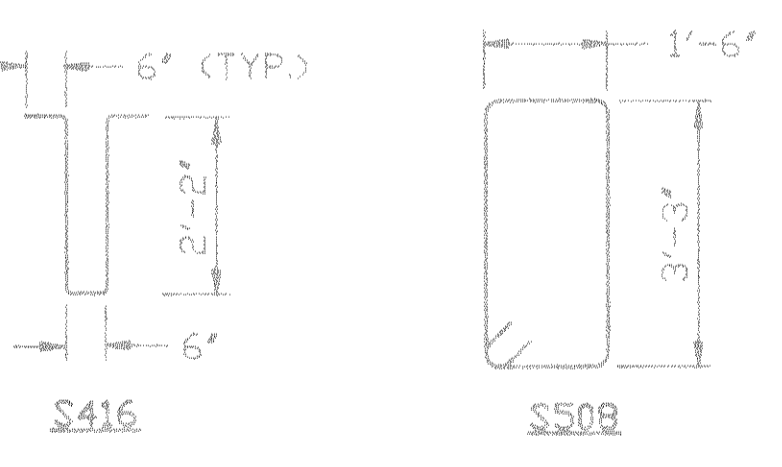
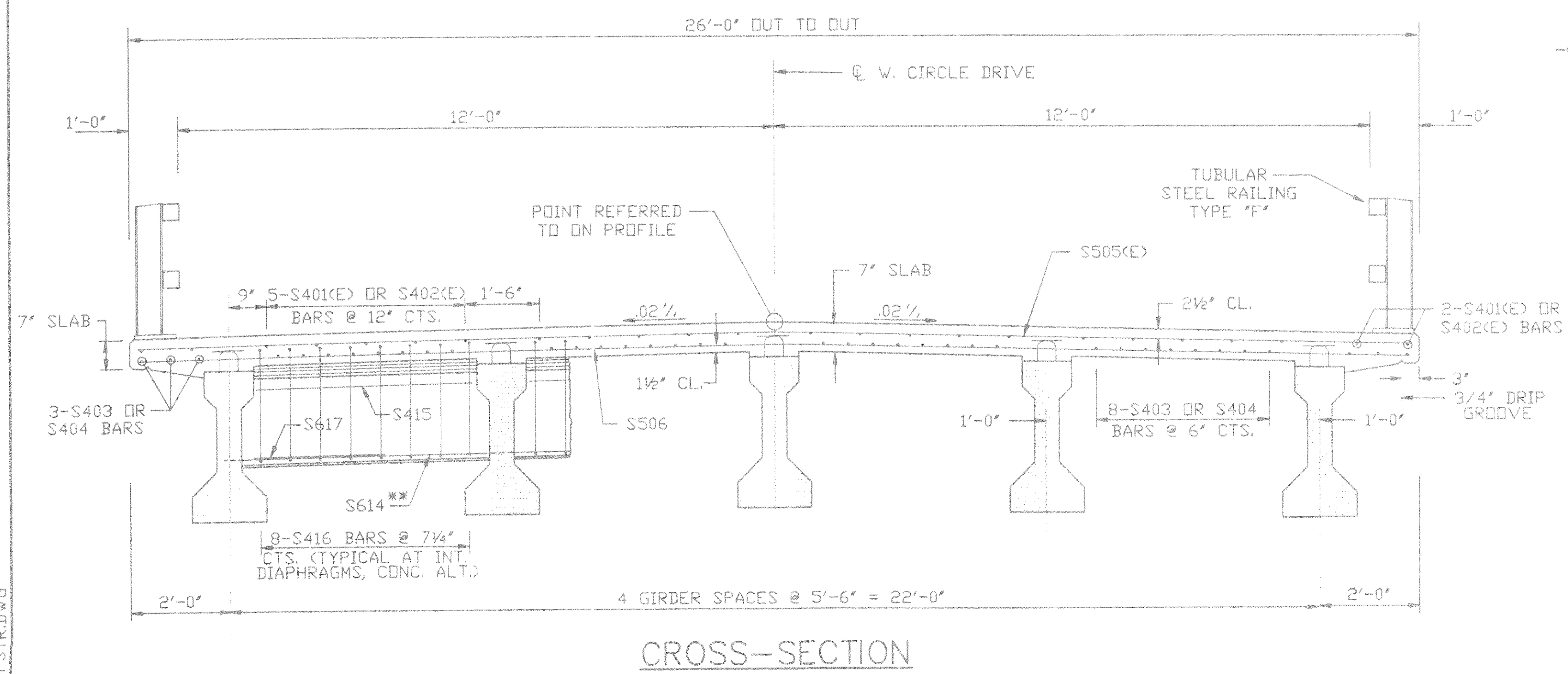
*USE S613 BARS OUTSIDE OF EXT. GIRDERS.
**PLACE S614 BARS THRU PIPE INSERTS PRIOR TO ERECTION OF FINAL EXT. GIRDER, THEN LAP (2'-7" MIN.) WITH S617 BARS THREADED INTO LOOP ANCHOR INSERTS OF EXT. GIRDERS.

SHOWING TOP BARS
PLAN
SINGLE SPAN CAST-IN-PLACE CONCRETE DECK
ON PRECAST CONCRETE GIRDERS.



BAR LIST

MARK	SHAPE	NO.	LENGTH	WEIGHT	LOCATION
S401(E)	—	24	40'-0"	641	SLAB TOP (LONG.)
S402(E)	—	24	32'-9"	525	SLAB TOP (LONG.)
S403	—	38	40'-0"	1015	SLAB BOTTOM (LONG.)
S404	—	38	32'-9"	831	SLAB BOTTOM (LONG.)
S505(E)	—	133	25'-8"	3560	SLAB TOP (TRANS.)
S506	—	108	25'-8"	2891	SLAB BOTTOM (TRANS.)
S507(E)	—	48	3'-8"	184	SLAB TOP, END TIES
S508	—	52	9'-9"	529	END DIAPHRAGM, STIRRUPS
S609	—	8	25'-8"	308	END DIAPHRAGM (HORZ.)
S610(E)	—	20	12'-3"	369	RAIL POST ANCHOR (TRANS.)
S611(E)	—	40	4'-0"	240	RAIL POST ANCHOR (LONG.)
S612	—	16	3'-8"	88	END DIAPHRAGM (INT. HORZ.)
S613	—	8	1'-5"	17	END DIAPHRAGM (EXT. HORZ.)
S614	—	2	20'-2"	61	INT. DIAPHRAGM (BOT. HORZ.)
S415	—	8	4'-3"	23	INT. DIAPHRAGM (TOP HORZ.)
S416	—	32	5'-6"	118	INT. DIAPHRAGM STIRRUPS
S617	—	4	3'-0"	18	INT. DIAPHRAGM (EXT. TIES)
					THREAD 3", ONE END.
					Σ = 5899 LBS. (PLAIN)
					Σ = 5518 LBS. (EPOXY COATED)

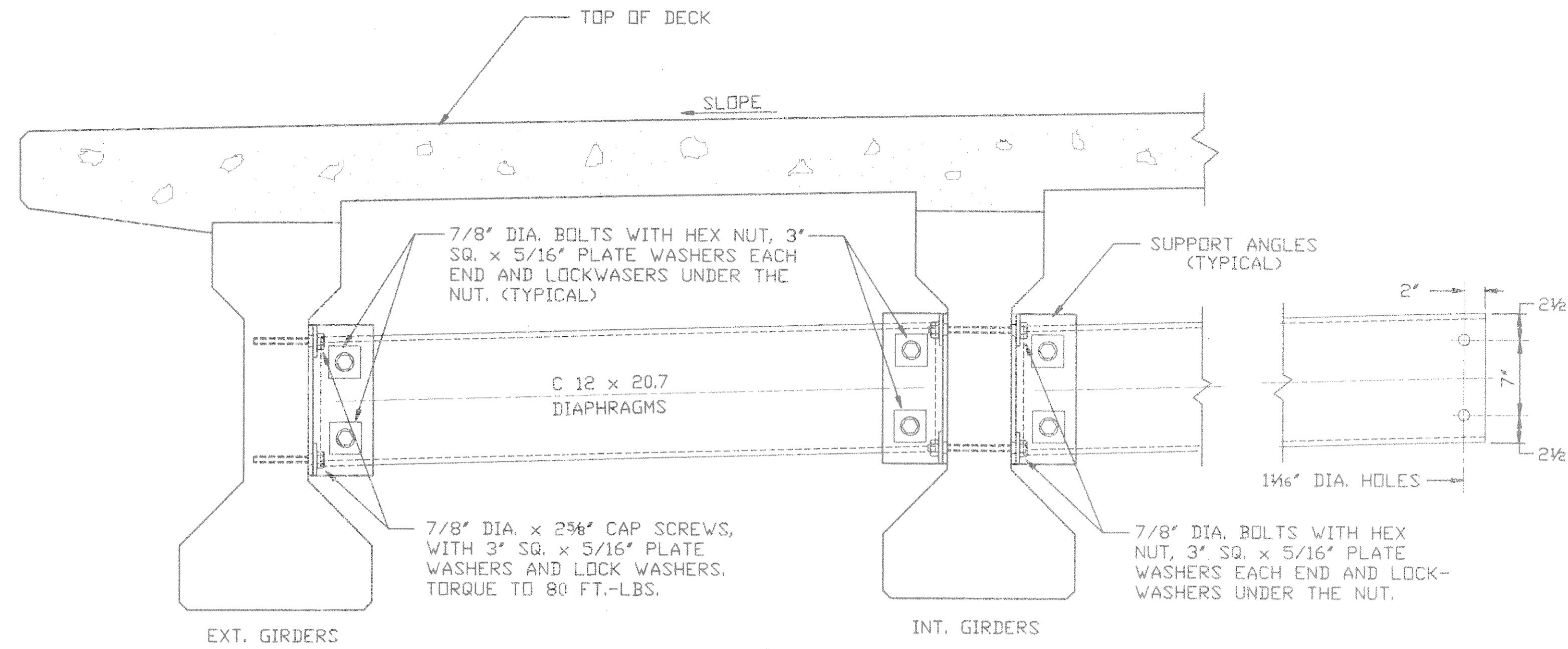


NOTES

EDGES OF EXPOSED CONCRETE SHALL BE CHAMFERED 3/4", EXCEPT AS SHOWN.
REINFORCING BARS SHALL HAVE A MINIMUM COVER OF 2", EXCEPT AS SHOWN.
BENDS IN REINFORCING BARS NOT SPECIFICALLY DETAILED SHALL BE STANDARD HOOKS AND BENDS FOR STIRRUPS.
REINFORCING BARS WITH THE DESIGNATION (E) SHALL BE EPOXY COATED. SEE SHEET NO. 7 OF 7 FOR DETAILS OF RAIL POST ANCHORAGES...
ALTERNATE TOP LONGITUDINAL BARS IN THE SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS. BOTTOM TRANSVERSE BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.
ARMOR ANGLES SHALL BE MADE FROM MATERIAL CONFORMING TO A.S.T.M. DESIGNATION A36, FABRICATED TO CONFORM WITH THE ROADWAY CROWN, SAND BLASTED AND GALVANIZED AFTER FABRICATION, AND PAID FOR AS STRUCTURAL CARBON STEEL.
ALL SURFACES OF THE PRESTRESSED GIRDERS THAT WILL BE WITHIN THE LIMITS OF THE CONCRETE END DIAPHRAGMS SHALL BE COATED WITH PARAFFIN WAX.
ALTERNATE STEEL INTERMEDIATE DIAPHRAGMS, FABRICATED AND ERECTED IN COMPLIANCE WITH SHEET 6 OF 7, MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONCRETE DIAPHRAGMS SHOWN. NO ADDITIONAL PAYMENT WILL BE MADE IF THE STEEL ALTERNATE IS USED.

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Const. Spec.:	WI. 1989	Drawn By:	DGK
Plans Checked:			
SUPER-STRUCTURE			SHEET 5 of 7 X82697

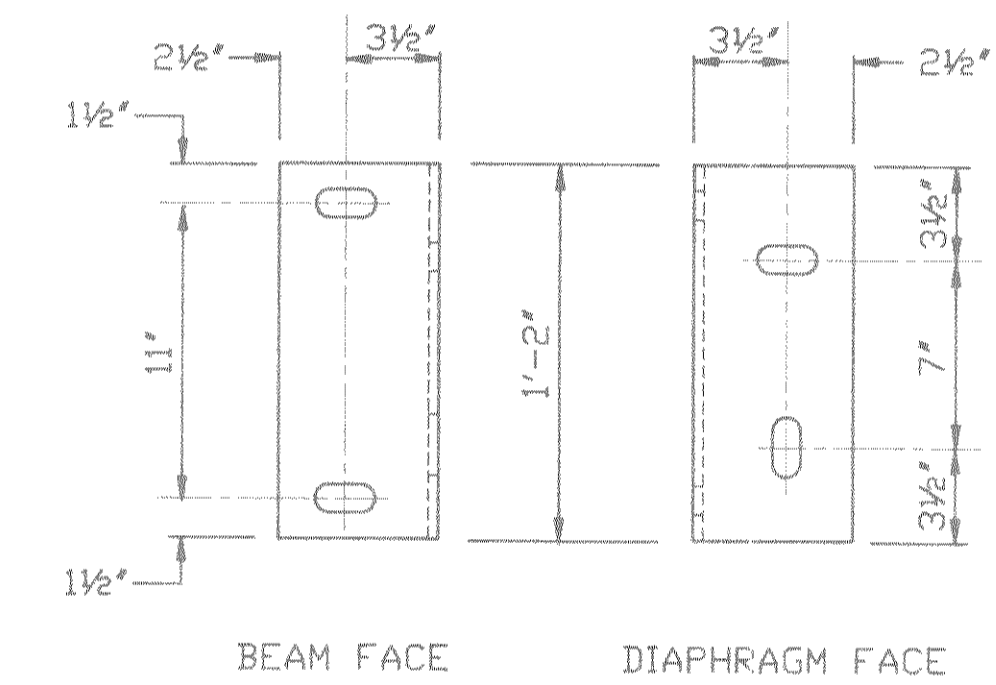
S-SUPSTR.DWG



PARTIAL TRANSVERSE SECTION AT DIAPHRAGM

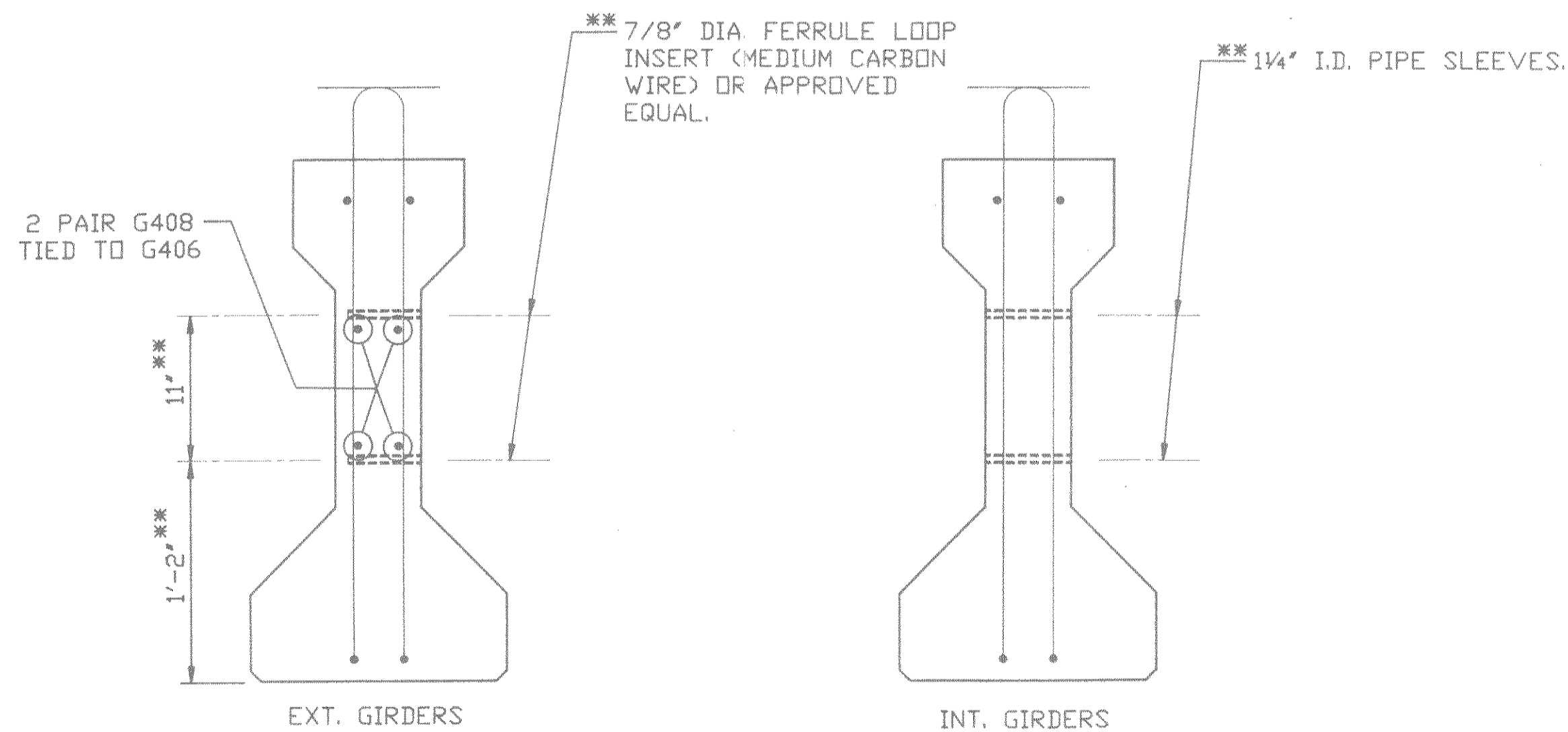
NOTES

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 OVERSIZED 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.



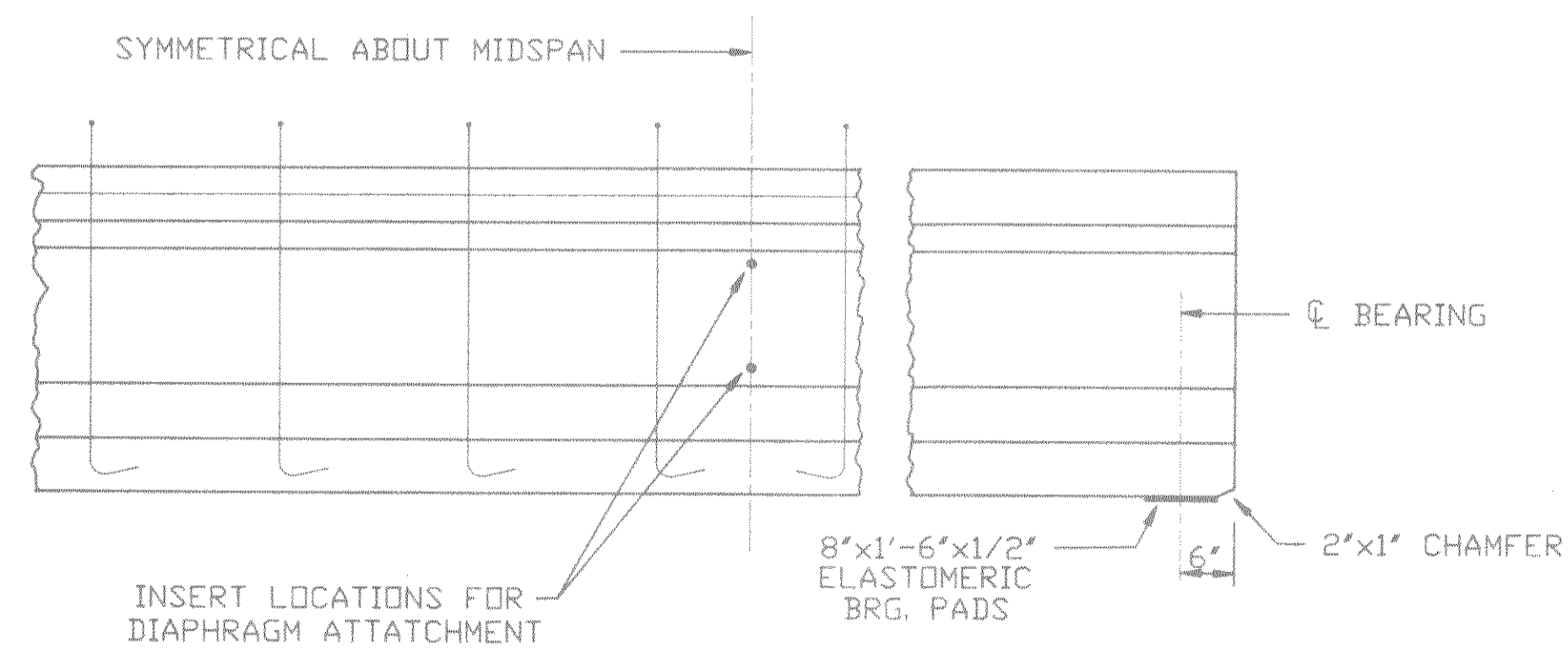
DIAPHRAGM SUPPORTS

6' x 6' x 3/8" ANGLES, WITH 1 1/4" x 2 1/4" SLOTTED HOLES.



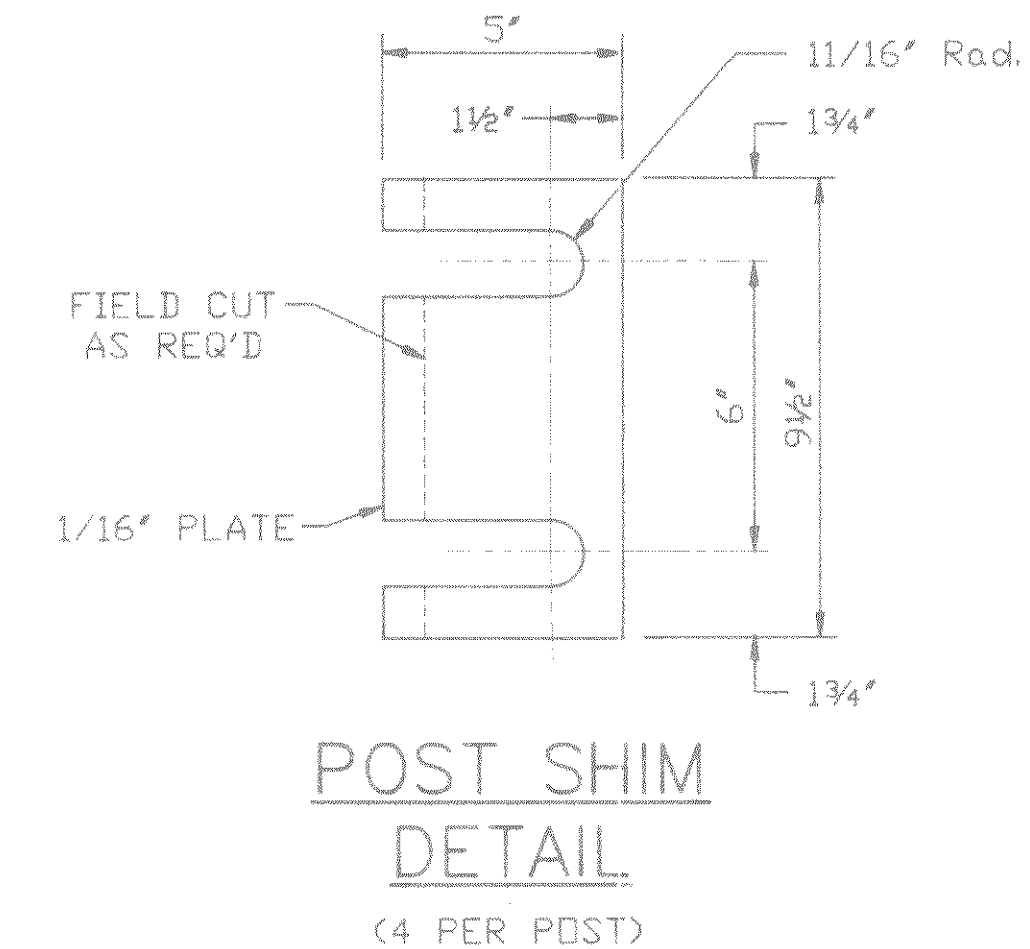
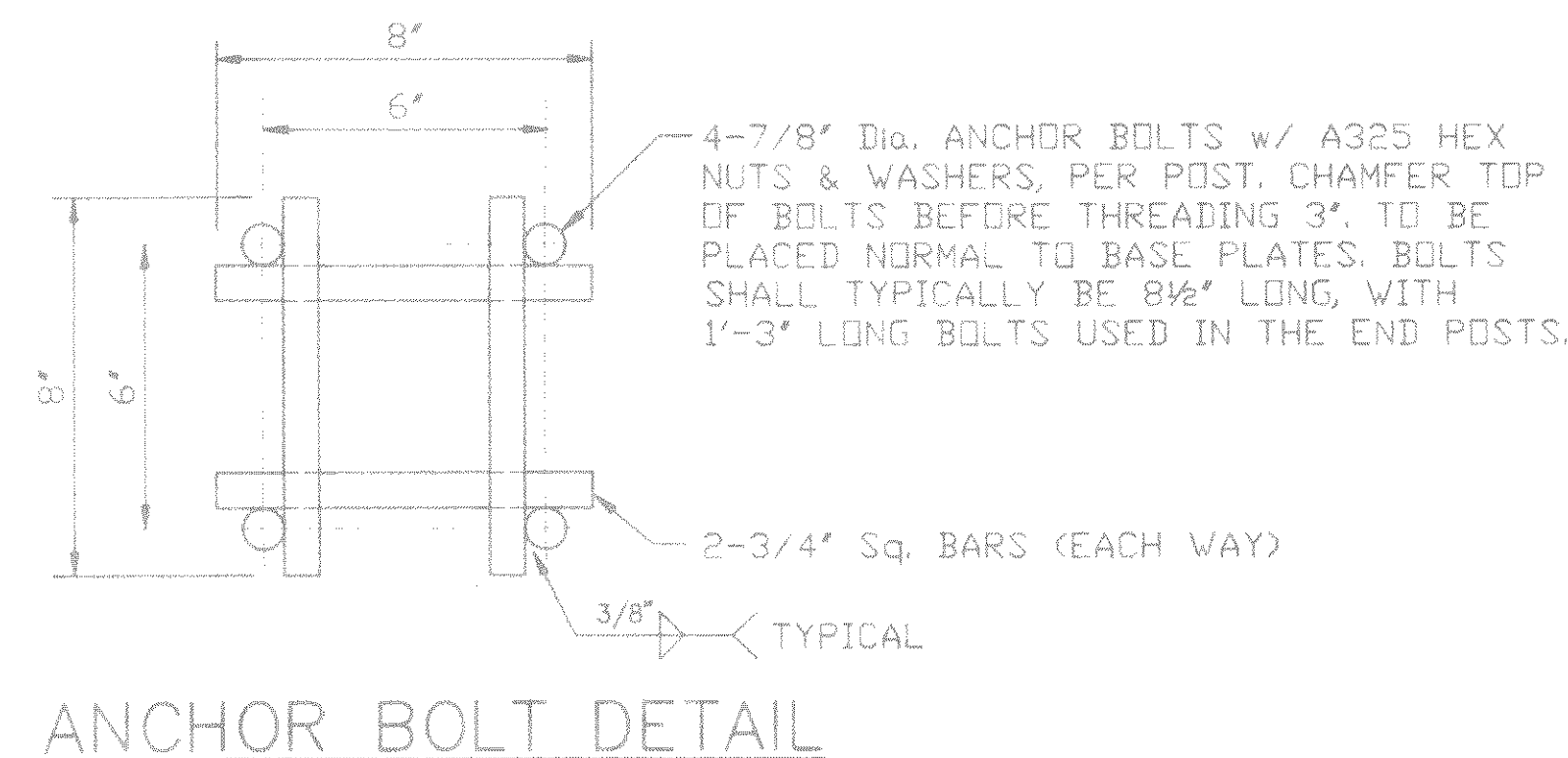
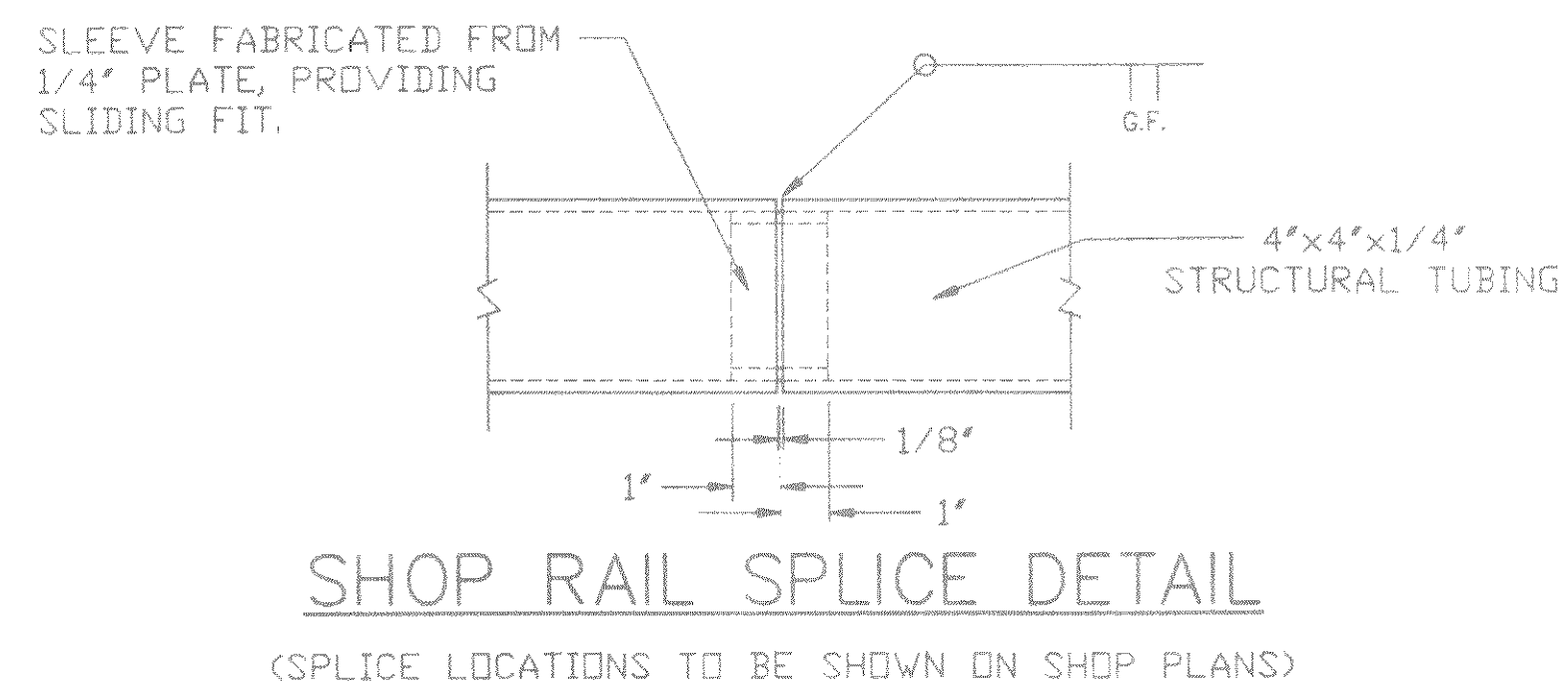
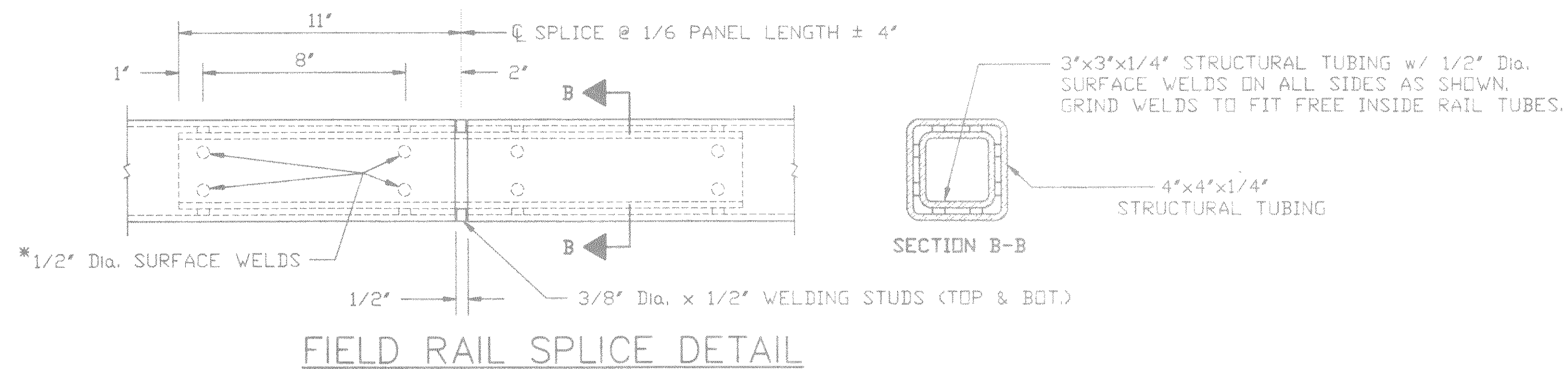
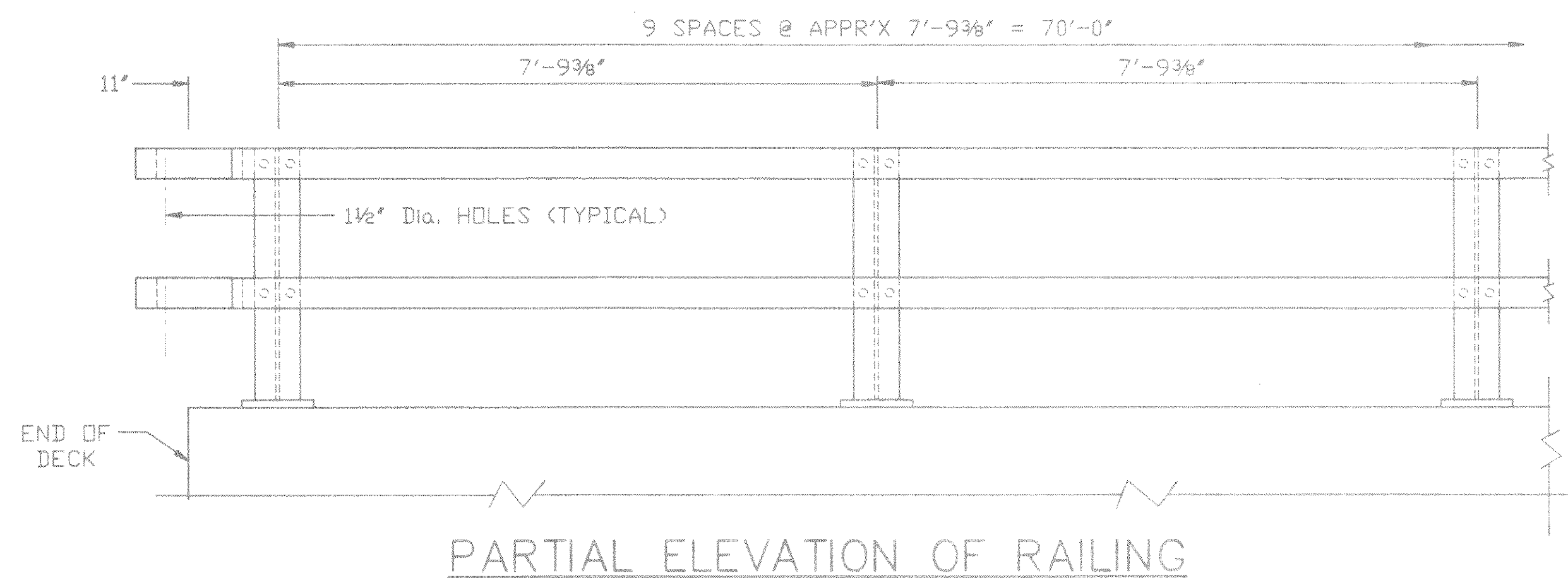
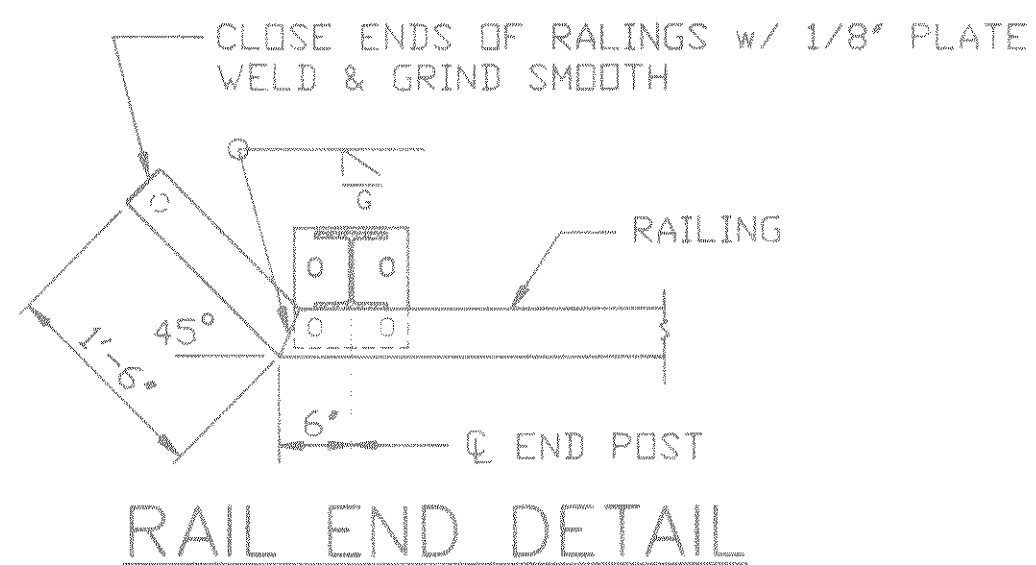
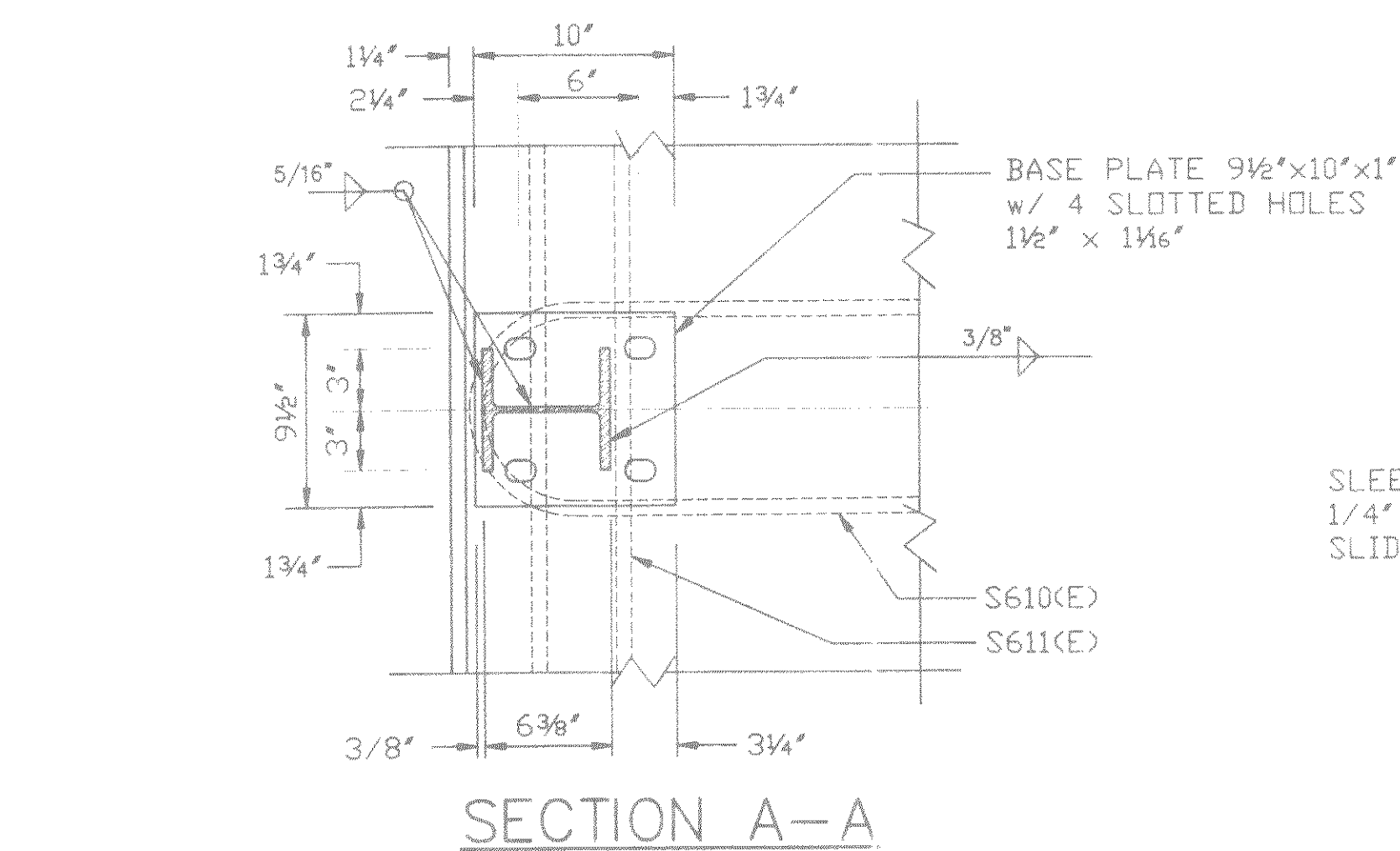
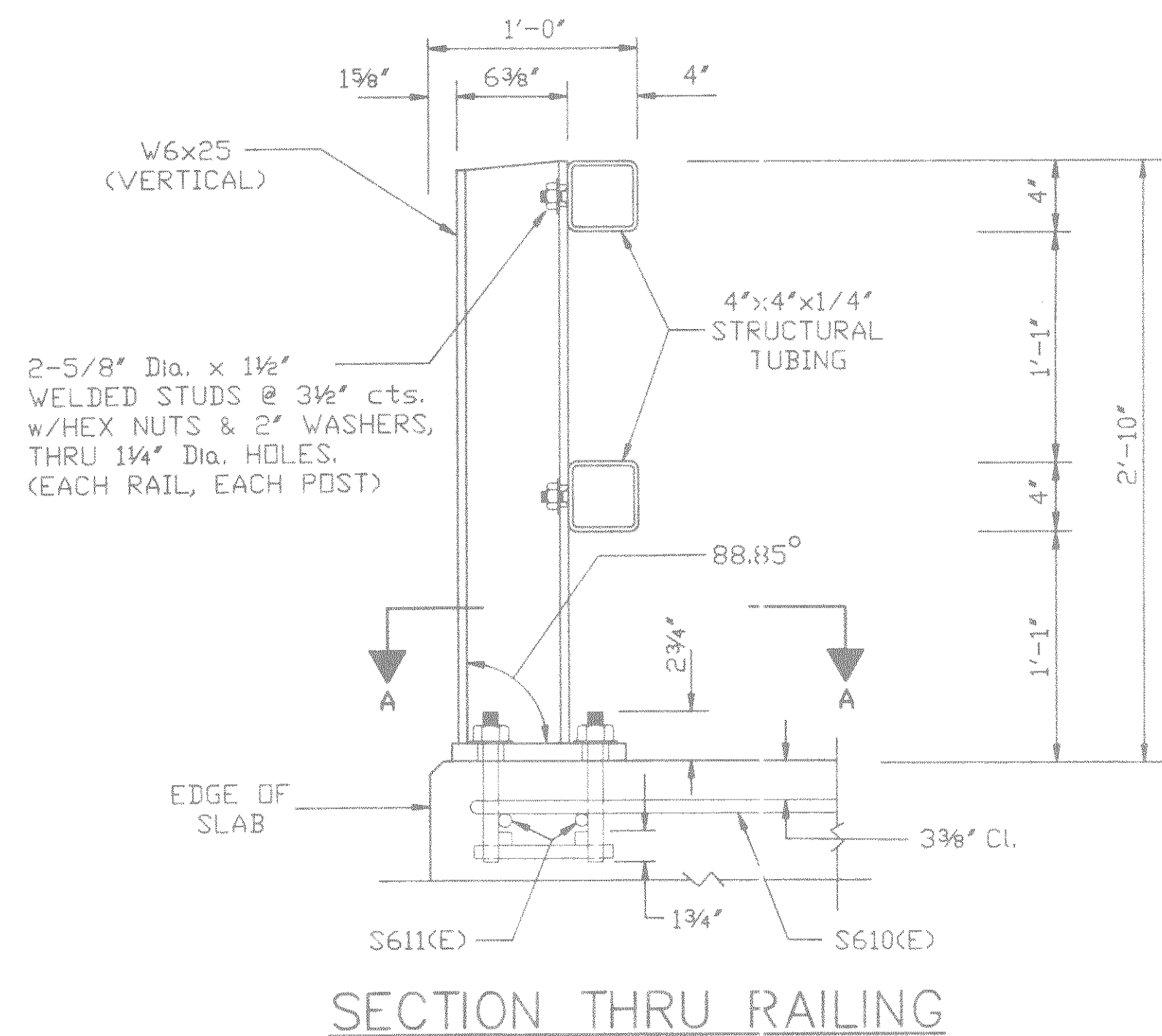
DIAPHRAGM INSERT DETAILS

** STEEL DIAPHRAGM ALTERNATE



36 INCH GIRDER ELEVATION

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STEEL DIAPHRAGM ALTERNATE		SHEET 6 of 7 X82697	



NOTES

- BID ITEM SHALL BE TUBULAR RAILING, TYPE 'F', AND INCLUDES ALL ITEMS SHOWN.
- RAILS SHALL BE MADE FROM MATERIAL CONFORMING TO A.S.T.M. DESIGNATION A500, GRADE A.
- ALL PLATES, BARS AND SHAPES SHALL BE MADE FROM MATERIAL CONFORMING TO A.S.T.M. DESIGNATION A36.
- ANCHOR BOLTS SHALL BE MADE FROM MATERIAL CONFORMING TO A.S.T.M. DESIGNATION A449, OR MATERIAL OF EQUAL YIELD STRENGTH AND ELONGATION. (MIN. YIELD OF 92 KSI, MIN. ELONGATION OF 14%)
- RAILING SHALL BE FABRICATED IN 2 OR 3 PANEL LENGTHS.
- ALL MEMBERS, INCLUDING THE UPPER 4" OF THE ANCHOR BOLTS, SHALL BE GALVANIZED AFTER FABRICATION.
- 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 EXCEPT TO REMOVE WELDING SLAG AND IMPURIOUS SUBSTANCES.
- BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP, AND ALL EDGES SHALL BE SMOOTH, STRAIGHT AND VERTICAL.
- ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- STEEL POST SHIMS SHALL BE USED UNDER POSTS WHERE REQUIRED FOR ALIGNMENT.
- FILL BOLT SLOT OPENINGS IN POST SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
- WELD WITH E70 ELECTRODES.

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Plans Checked:			
TUBULAR RAILING TYPE 'F'			SHEET 7 of 7 X82697

S-RAIL.DWG