

NEW YORK STATE THRUWAY AUTHORITY

ALBANY DIVISION  
PLANS FOR THE  
REPLACEMENT OF THE  
HELDERBERG AVENUE BRIDGE OVER THE THRUWAY  
AT M.P. 155.54

64 SHEETS

TAA # 98-10BR  
D212490  
B.I.N. 5513660

TYPE OF CONSTRUCTION:

COMPLETE BRIDGE REPLACEMENT AND APPROACH RECONSTRUCTION

STANDARD SHEETS:

203-1, 203-2RI, 203-4RI, 203-5RI, 603-1, 606-3R4, 606-7R2,  
607-10, 609-3, 611-1RI, 619-1RI, 619-3R3, 619-4R2, 645-7, 645-8RI,  
645-14R2.

ALL WORK CONTEMPLATED UNDER THIS CONTRACT IS TO BE COVERED BY  
AND IN CONFORMITY WITH THE NEW YORK STATE DEPARTMENT OF  
TRANSPORTATION STANDARD SPECIFICATIONS ADOPTED JANUARY 2, 1990  
INCLUDING CURRENT ADDITIONS AND MODIFICATIONS, EXCEPT AS MODIFIED  
ON THESE PLANS AND IN THE PROPOSAL.

BRIDGE MAINTENANCE GUIDELINES

UPON COMPLETION OF THIS PROJECT, THE BRIDGE STRUCTURES REPAIRED,  
REHABILITATED OR RECONSTRUCTED HEREUNDER SHALL BE MAINTAINED IN  
ACCORDANCE WITH THE CURRENT AASHTO MANUAL FOR BRIDGE MAINTENANCE,  
AND THE NEW YORK STATE THRUWAY AUTHORITY MAINTENANCE DIRECTIVES:  
MD 98-3, 'COMPREHENSIVE' BRIDGE MANAGEMENT PROGRAM AND MD 95-5,  
BRIDGE INSPECTION PROGRAM

SPECIAL MAINTENANCE REQUIREMENTS: NONE

NOTES:

**WARNING:** IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR  
ANY PERSON UNLESS ACTING UNDER THE DIRECTION OF A LICENSED  
PROFESSIONAL ENGINEER, TO ALTER AN ITEM ON THESE PLANS IN ANY  
WAY. IF ALTERATIONS TO THESE PLANS ARE REQUIRED, THE ALTERATIONS  
SHALL BE MADE IN ACCORDANCE WITH ARTICLE 145 - SUBSECTION 7209  
OF THE NEW YORK STATE EDUCATION LAW.

CHANGES MADE, IF ANY, TO THESE PLANS AND RELATED CONTRACT  
DOCUMENTS SINCE COMPLETION BY THE CONSULTING ENGINEER MAY BE  
DETERMINED BY COMPARISON WITH SUCH PRELIMINARY PLANS AND RELATED  
DOCUMENTS FILED AT THE THRUWAY DESIGN OFFICE OR THOSE FILED AT  
THE OFFICE OF THE CONSULTING ENGINEER.

SIGNATURES HEREON HAVE BEEN AFFIXED BY PERSONS ACTING IN  
THEIR OFFICIAL CAPACITY AS INDICATED.

MAINTENANCE JURISDICTION

100% SCHENECTADY COUNTY

APPROACH GUIDE RAILING, APPROACH PAVEMENT, APPROACH SLAB  
AND SHOULDERS, WEARING COURSE AND BRIDGE FENCING.

100% AUTHORITY

ALL OTHER BRIDGE ELEMENTS NOT LISTED ABOVE.

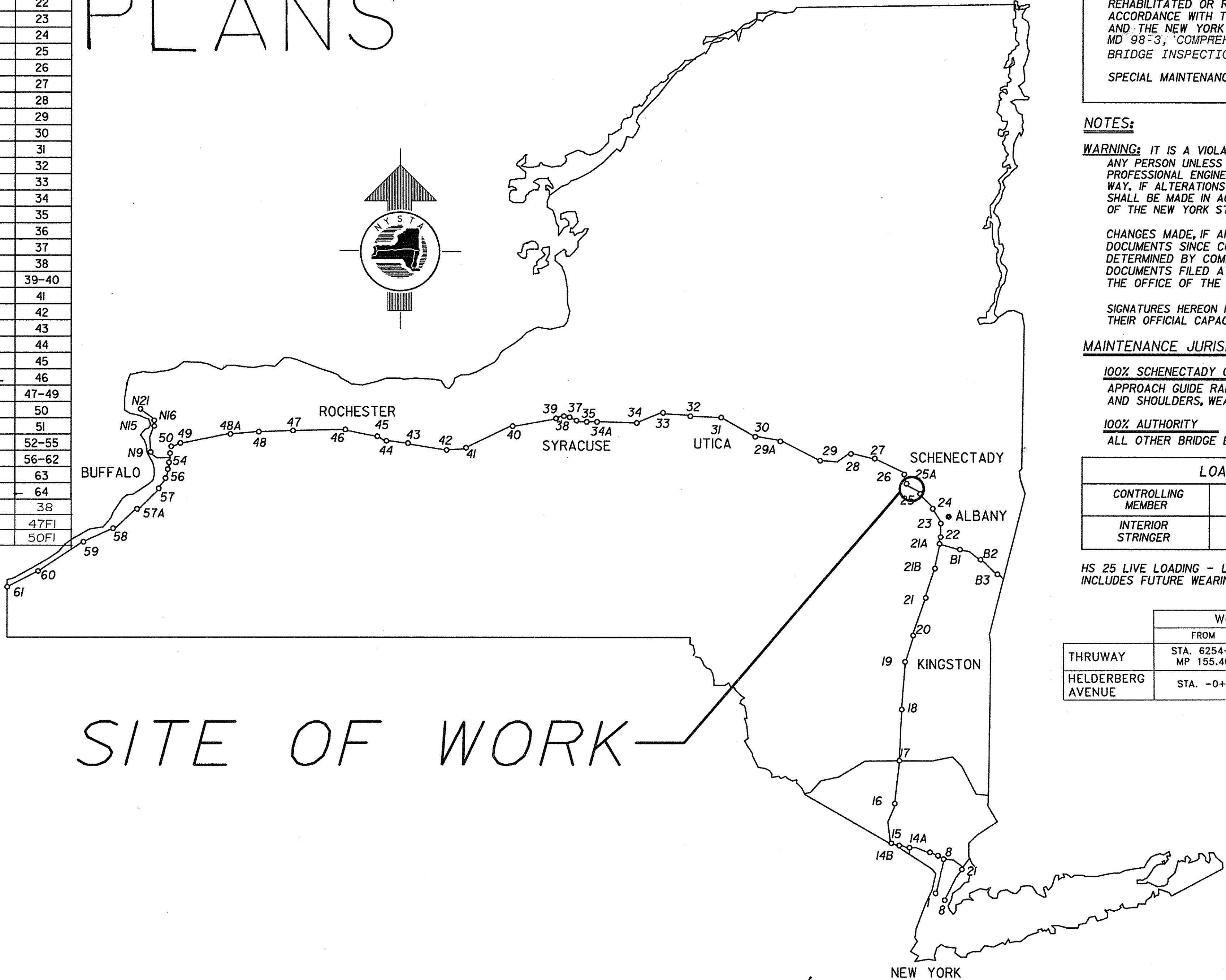
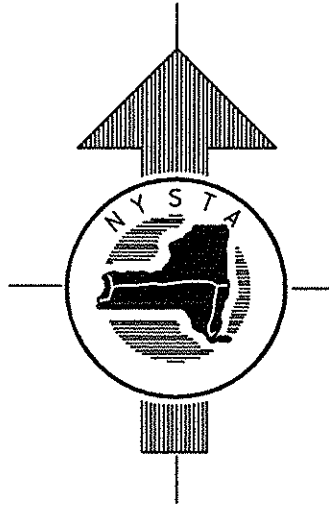
LOAD RATING TABLE

CONTROLLING MEMBER	INVENTORY LOAD RATING	OPERATING LOAD RATING
INTERIOR STRINGER	HS 27 (49 TONS)	HS 45 (82 TONS)

HS 25 LIVE LOADING - LOAD FACTOR ANALYSIS.  
INCLUDES FUTURE WEARING COURSE OF 25 P.S.F.

	WORK LIMIT		CONTRACT LIMIT	
	FROM	TO	FROM	TO
THRUWAY	STA. 6254+70 MP 155.40±	STA. 6260+80 MP 155.60±	STA. 6197+92 MP 154.40±	STA. 6318+42 MP 156.68±
HELDERBERG AVENUE	STA. -0+36	STA. 14+56	STA. -24+10	STA. 38+90

RECORD  
PLANS



SITE OF WORK

DWG. NO.	TITLE OF DRAWING	SHT. NO.
	TITLE SHEET	1
EQ-1	ESTIMATE OF QUANTITIES	2
LA-1	LEGEND AND ABBREVIATIONS	3
ST-1 TO ST-2	GENERAL NOTES	4-5
TS-1 TO TS-3	TYPICAL SECTIONS	6-8
BT-1	BASELINE TIES	9
MT-1	MISCELLANEOUS TABLES	10
MD-1	MISCELLANEOUS DETAILS	11
EC-1	EROSION CONTROL DETAILS	12
EC-2	EROSION CONTROL PLAN	13
ES-1 TO ES-2	EARTHWORK SUMMARY SHEETS	14-15
PL-1	50' SCALE HIGHWAY PLAN	16
PR-1 TO PR-2	50' SCALE PROFILES	17-18
ST-3	EXISTING PLAN AND ELEVATION	19
ST-4	PROPOSED PLAN AND ELEVATION	20
ST-5	EXISTING TYPICAL SECTIONS	21
ST-6	PROPOSED TYPICAL SECTIONS	22
ST-7	PROFILES	23
ST-8	CONSTRUCTION SIGNING	24
ST-9	SUBSTRUCTURE REMOVAL AND EXCAVATION PLAN	25
ST-10	SUBSTRUCTURE BACKFILL PLAN AND SECTIONS	26
ST-11	MISCELLANEOUS EARTHWORK SECTIONS AND DETAILS	27
ST-12	EXISTING SUBSTRUCTURE REMOVAL DETAILS	28
ST-13	PROPOSED SOUTH ABUTMENT PLAN, ELEVATION AND PILE LAYOUT	29
ST-14	PROPOSED NORTH ABUTMENT PLAN, ELEVATION AND PILE LAYOUT	30
ST-15	SOUTH ABUTMENT REINFORCEMENT AND ABUTMENT SECTIONS	31
ST-16	NORTH ABUTMENT REINFORCEMENT	32
ST-17	PIER PLAN AND ELEVATIONS	33
ST-18	PIER DETAILS	34
ST-19	STEEL FRAMING PLAN AND GIRDER ELEVATIONS	35
ST-20	STEEL DETAILS	36
ST-21	GIRDER SPLICES	37
ST-22	CIRCULAR ELASTOMERIC BEARING DETAILS	38
ST-23 TO ST-24	SUPERSTRUCTURE TABLES AND DETAILS	39-40
ST-25	DECK SLAB PLAN	41
ST-26	TRANSVERSE SECTION	42
ST-27	APPROACH SLAB PLAN AND SECTIONS	43
ST-28	MISCELLANEOUS DETAILS	44
ST-29	BRIDGE RAIL AND GUIDE RAIL PLAN	45
ST-30	SOLID PIER TO THREE BEAM TRANSITION TO W-BEAM MEDIAN GUIDE RAIL	46
ST-31 TO ST-33	STEEL BRIDGE RAILING - TWO RAIL (3)	47-49
ST-34	PROTECTIVE SCREENING	50
ST-35	BAR BENDING DIAGRAMS	51
ST-36 TO ST-39	BAR LIST	52-55
MPT-1 TO MPT-7	TRAFFIC MAINTENANCE PROCEDURES	56-62
SPM-1	SIGN AND PAVEMENT MARKING PLANS	63
STD-1	SIGN TEXT DATA SHEET	64
ST-22A2	MULTI-ROTATIONAL BEARING DETAILS	38
ST-31	STEEL BRIDGE RAILING - TWO RAIL - SHEET 1 OF 3	47F1
ST-34	PEDESTRIAN FENCING DETAILS	50F1

CONTRACTOR'S NAME: BETTE AND CRING, L.L.C.  
AWARD DATE: NOVEMBER 18, 1998  
COMPLETION DATE: DECEMBER 15, 1999  
FINAL ACCEPTANCE DATE: FEBRUARY 23, 2000  
INSPECTION FIRM'S NAME: WILBUR SMITH ASSOC.  
RESIDENT ENG./EIC: KENNETH KORONA  
FINAL COST TOTAL: 1,534,799.51

FISCAL SHARE	COST(S)
1	1,532,234.61
2	2,564.90

INSPECTION FIRM CONSULTANT STAMP: Anoshah Jannesar, PE 61014, WILBUR SMITH Associates

RECOMMENDED BY: Duane L. Rodder 2/23/98  
DIRECTOR, OFFICE OF FACILITIES DESIGN  
DATE  
RECOMMENDED BY: [Signature] 2/23/98  
DIRECTOR, OFFICE OF TRAFFIC ENGINEERING  
DATE  
RECOMMENDED BY: [Signature] 2/23/98  
OFFICE OF CONTRACTS AND CONSTRUCTION MANAGEMENT  
DATE  
APPROVED BY: [Signature] 2/23/98  
CHIEF ENGINEER  
DATE

PREPARED BY:  
CONSULTANT LOGO:  
THE SEAR-BROWN GROUP  
SIGNATURE:  
CONSULTANT STAMP:  
TAA 98-10BR



F:\98106 EQ-1.DWG  
CHECKED BY: XX  
DRAFTED BY: M.H.  
DESIGNED BY: XX  
IN CHARGE OF: XX

REVISIONS

28/64

ESTIMATE OF QUANTITIES				
ITEM	DESCRIPTION	UNIT	ESTIMATE	FINAL
201.0601	CLEARING & GRUBBING	LS	NEC	100%
202.1201	REMOVE EXISTING SUPERSTRUCTURE	LS	NEC	100%
202.19	REMOVAL OF SUBSTRUCTURES	CY	130.0	134.95
203.02	UNCLASSIFIED EXCAVATION & DISP	CY	3400.0	3349.19
203.03	EMBANKMENT IN PLACE	CY	5600.0	5395.69
203.07	SELECT GRANULAR FILL	CY	25.0	19.93
203.18	CLEANING CLOSED DRAINAGE SYSTEMS	LF	320.0	320.0
203.19	CLEAN DRAIN, STRUCT. & MANHOLE	EA	3.0	3.0
203.21	SELECT STRUCTURE FILL	CY	270.0	356.63
206.01	STRUCTURE EXCAVATION	CY	310.0	456.86
206.02	TRENCH AND CULVERT EXCAVATION	CY	10.0	7.64
209.05	HAY/STRAWBALE	LF	1500.0	1061.0
209.08	SILT FENCE	LF	1300.0	1203.0
17304.0696	SUBBASE CRSE (OPTIONAL TYPE) W/ RECYCLED CONC/BITUM MAT OPTION	CY	1500.0	1429.20
18403.1001	ASPHALT TREATED PERMEABLE BASE COURSE	T	625.0	615.89
403.11	ASPHALT CONCRETE - TYPE 1 BASE	T	750.0	754.77
403.13	ASPHALT CONCRETE-TYPE 3 BINDER	T	350.0	303.77
403.1701	ASPH CONC - TYPE 6F TOP COURSE (HIGH FRICTION)MARSHALL DESIGN	T	340.0	754.23
403.21	ASPHALT CONCRETE, T & L COURSE	T	320.0	229.15
407.0101	TACK COAT	GAL	200.0	250.0
08502.5014	SAW CUT ASPH PAVT, CONC PAVT, & ASPH OVERLAY ON CONC PAVT	LF	130.0	81.50
551.1001	STEEL BEARING PILES (HP 10X42)	LF	4470.0	4332.0
551.1201	SPLICES FOR STL BEARING PILES (HP 10X42)	EA	64.0	43.0
551.13	FURN. EQUIP FOR DRIVING PILES	LS	NEC	100%
551.14	DYNAMIC PILE TESTING	EA	6.0	3.0
552.04	TEMP STEEL SHEET PILING	SF	3050.0	2790.0
552.05	SAFE OPERATE SHEET PILING (MIN. BID-80 CENTS)	SF	290.0	0.0
555.0104	FOOTING CONC CLASS A (NO CONC CLASS SUBSTIT PERMITTED)	CY	114.0	111.94
555.0105	CONCRETE FOR STRUCTURES -CL A	CY	224.0	219.06
25555.0466	HI PERF. CONC. FOR STRUC CL HP (ST SLAB W/ INT WEAR SUR BFR)	SF	6700.0	6700.0

ESTIMATE OF QUANTITIES				
ITEM	DESCRIPTION	UNIT	ESTIMATE	FINAL
25555.0468	HP CONC FOR STRUCT. CLASS HP (STR APP SLAB W/INT WEAR SURF)	SF	1100.0	1100.0
16555.6603	TRANSVERSE SAWCUT GROOVING OF STRUCTURAL SLAB SURFACE	SF	6330.0	6330.0
556.03	STUD SHEAR CONNEX. FOR BRIDGES	EA	2448.0	2448.0
25556.99	GALV. BAR REINFORCEMENT FOR STRUCTURES	LB	104054.0	104054.0
25559.1696	PROT. SEAL OF STRUC. CONCRETE	SF	10600.0	10824.29
564.0501	STRUCTURAL STEEL - TYPE 1	LS	NEC	100%
565.1706	TYPE M.R. FIXED BEARING (301 TO 350 KIP)	EA	4.0	4.0
25568.50	STEEL BRIDGE RAIL, 2 RAIL	LF	441.0	441.0
580.04	REMOVAL OF CONC APPROACH SLAB	SF	780.0	0.0
603.6005	REINFORCED CONCRETE PIPE, CLASS III, 24 INCH DIAMETER	LF	24.0	22.5
603.7303	REINF. CONC. PIPE END SECTIONS 24 INCH DIAMETER	EA	1.0	1.0
25603.9825	EXTENSION CONNECTION TO EXISTING DRAINAGE SYSTEM	EA	1.0	1.0
605.0901	UNDERDRAIN FILTER TYPE 1	CY	60.0	57.90
606.10	BOX BEAM GUIDE RAILING	LF	2110.0	1915.0
606.11	BOX BEAM GUIDE RAILING (SHOP CURVED)	LF	144.0	108.0
606.1402	BOX BEAM GUIDE RAILING END ASSEMBLY TYPE II	EA	6.0	6.0
25606.3008	REMOVE AND DISPOSE CONCRETE BARRIER	LF	280.0	280.0
606.62	REMOVING & STORING CORRUGATED BEAM GUIDE RAILING	LF	2273.0	2222.0
606.73	REMOVE & DISPOSE CORRUGATED BEAM MED. BARRIER	LF	90.0	90.0
606.74	REMOVING & DISPOSING BOX BEAM GUIDE RAILING	LF	272.0	252.0
606.75	REMOVING AND DISPOSING BOX BEAM MEDIAN BARRIER	LF	180.0	180.0
606.77	REMOVE & DISPOS ANCHOR UNIT / CORR BEAM GD RAIL & MED. BARR	EA	6.0	4.0
606.78	REMOVING AND DISPOSING BOX BEAM G.R. END ASSEMBLY	EA	2.0	2.0
16606.80	TRANS.-BR. RAILING OR CONC. BARR. TO BOX BEAM G. R.	LF	120.0	120.0
25606.8650	TRANSITON SOLID PIER TO CORR. BEAM OR THRIE BEAM G. R.	LF	95.0	95.0
25607.0611	PROTECTIVE SCREENING-BRIDGES	LF	425.0	371.33
607.3002	OP CHN-LNK FEN, TYP I,W/ TOP RAIL 6' HIGH	LF	240.0	246.0
08607.96	REMOVE & DISP OF EXIST FENCE	LF	240.0	240.0
609.0201	STONE CURB - GRANITE (TYPE A)	LF	48.0	48.0
609.0302	STONE CURB - BRIDGE (TYPE F1)	LF	428.0	428.0
900.9810	(A) MODIFY STEEL BRIDGE RAILING BASE PLATE	EA	46.0	46.0
901.9810	(A) LIGHTING FOR NIGHTTIME STEEL REMOVAL AND ERECTION OF GIRDERS	LS	NEC	100%
902.9810	(A) RADAR DETECTOR ACTIVATOR	EA	2.00	2.00
903.9810	(A) MISC. COLD MILLING OF BITUM. CONCRETE	SY	1100.0	1088.0
904.9810	(A) "WATCH FOR PEDESTRIANS" SIGN	EA	2.0	2.0
905.9810	(A) DELETE H.P. CONCRETE INFORMATIONAL TESTING	LS	NEC	100%
906.9810	(A) RECONSTRUCT C.B. IN THRUWAY MEDIAN	LS	NEC	100%

ESTIMATE OF QUANTITIES				
ITEM	DESCRIPTION	UNIT	ESTIMATE	FINAL
25610.0203	EST. CROWN VETCH	A	1.25	1.40
612.0201	FUR. AND PLACE. JUTE MESH OR OTHER EROSION CONTR.MATERIALS	SY	6050.0	6220.1
613.0101	TOPSOIL	CY	505.0	560.8
619.01	BASIC MAINTENANCE & PROTECTION OF TRAFFIC	LS	NEC	100%
15619.0201	CONSTRUCTION SIGNS	LS	NEC	100%
619.0303	FLASHING ARROW BOARDS	LS	NEC	100%
619.0413	TYPE III CONSTRUCT. BARRICADES	LF	48.0	32.0
619.0502	LIGHTING FOR CONSTRUCTION BARRICADES	LF	48.0	32.0
10619.0599	LIGHTING FOR TEMP CONC BARRIER	LF	1780.0	1290.0
619.13	TEMPORARY TRAFFIC SIGNALS	LS	NEC	100%
619.1502	SHORT-TERM PAVEMENT MARKINGS	LF	4800.0	3105.0
25619.1701	TEMPORARY CONCRETE BARRIER	LF	3680.0	3600.0
25619.1704	CONCRETE BARRIER MARKER	EA	88.0	94.0
25619.1906	YELLOW REMOVABLE REFLECT. PAVEMENT STRIPES	LF	3700.0	3830.0
620.04	STONE FILLING (MEDIUM)	CY	27.0	35.28
620.09	CONCRETE BLOCK PAVING	SY	260.0	251.0
18633.06	CLEAN. EXIST. PAVE. AND/OR SHOULDERS	SY	3650.0	3503.0
18633.07	CLEAN. AND FILL. JTS AND CRACK	LS	NEC	100%
634.01	SURVEY AND STAKEOUT	LS	NEC	100%
25637.060102	ENGINEER'S OFFICE - TYPE B	MOS	12.0	9.0
640.0102	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES	LF	3000.0	3059.0
640.0202	YELLOW PAINT REFLECTORIZED PAVEMENT STRIPES	LF	3800.0	3400.0
645.2020	TRAFFIC SIGN 30IN OCTAGONAL	EA	2.0	2.0
25645.4002	'YOUR TOLLS AT WORK' SIGN	EA	2.0	2.0
647.10	RELOCATING SIGNS SIZE A (0-10 SF)	EA	11.0	8.0
25660.1105	INSTALL T.C.I. OF N.Y. INC. CONDUITS ON STRUCTURE	FLS	NEC	1800.0
25660.1106	INSTALL T.C.I. OF N.Y. INC. CONDUITS OFF STRUCTURE	FLS	NEC	600.0
25697.01	INTERIM PAYMENTS	D-C	0.0	0.0
25699.0011	ASPHALT PRICE ADJUSTMENT (PAYMENT)	D-C	1200.0	0.0
25699.0012	ASPHALT PRICE ADJUSTMENT (CREDIT)	D-C	0.0	0.0
25699.04	MOBILIZATION (NON-FED AID)	LS	NEC	100%
907.9810	(A) CORR. BEAM MALL BARRIER	LF	175.0	175.0
908.9810	(A) ASPHALT PAVING HANDWORK	TON	45.0	45.0
909.9810	(F-A) GRADE ABUT. SLOPES RAISE C.B. INSTALL DRAINAGE PIPE	LS	NEC	100%

NOTES

1. FOR THE PURPOSE OF PROGRESS PAYMENTS, THE TOTAL WEIGHT OF STRUCTURAL STEEL, ITEM 564.0501, IS 190,000 LBS.

AS BUILT REVISIONS  
BIN 5513660

2-00	ADDED NEW ITEM NUMBERS	KFK	2
3-99	AMENDMENT #2 ADDED	KFK	1
DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING AND MAINTENANCE 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING ESTIMATE OF QUANTITIES			
CONTRACT NUMBER: TAA 98-10BR		DATE: 9/98	
DRAWING NUMBER: EQ-1			





LEGEND

NO REVISIONS

FEATURE	SYMBOL	
	PROPOSED	EXISTING
1. ROADS		
ROADS		
SIDEWALK		
CURB		
SHOULDER		
2. ROUTE MARKERS		
INTERSTATE		
U.S.		
STATE		
COUNTY		
TOWN		
3. TYPICAL SECTIONS		
ORIGINAL GROUND		
ROCK		
4. BARRIERS		
BARRICADE		
BOX BEAM OR W BEAM GUIDE RAIL		
RETAINING WALL		
FENCE		
GUIDE POSTS		
STONE FENCE		
BARRELS		
WALL		
CABLE GUIDE RAIL		
5. DRAINAGE FACILITIES		
CULVERTS		
CATCH BASIN		
GUTTER		
END SECTION		
HEADWALL		
MANHOLE		

FEATURE	SYMBOL	
	PROPOSED	EXISTING
6. WATER LOCATIONS		
STREAM		
LAKE OR POND		
DRY POND OR DRY LAKE		
SPRING		
MARSH, FRESH		
MARSH, SALT		
RIPRAP		
SWALE		
DITCH		
7. SURVEYING DATA		
SPOT ELEVATION		X 102.3
WATER ELEVATION		W.E. 102.3
BENCH MARK		BM 12
BASLINE POINT		
PERMANENT SURVEY MARKER		
NORTH ARROW (TRUE)		
BASLINE		
CENTERLINE		
8. BUILDING AND SPECIAL SITES		
BUILDING IN GENERAL		
BUILDING TO BE DEMOLISHED		
FOUNDATION		
TANK		TANK
PLANTER		P
MAILBOX		MB
9. SIGNS AND BILLBOARDS		
SIGNS, GROUND MOUNTED		
SIGNS, OVERHEAD		
DELINEATORS		
PROPOSED SIGN LOCATION & TEXT		
EXISTING SIGN RELOCATION		
SIGN REMOVAL		
10. TOPOGRAPHY		
CONTOURS		
ROCK OUTCROP		

FEATURE	SYMBOL	
	PROPOSED	EXISTING
11. BOUNDARIES		
NATIONAL		CANADA USA
STATE		NEW YORK PENNSYLVANIA
COUNTY		WAYNE MONROE
TOWN		TOWN OF WILTON TOWN OF PARIS
CITY OR INC. VILLAGE		CITY OF ALBANY CITY OF TROY
PROPERTY LINE		
R.O.W. LINE		
ACCESS LINE		
ACQUISITION INFO		
12. TREES AND BRUSH		
WOODED AREA		
BRUSH		
TREES, DECIDUOUS		
TREES, CONIFEROUS		
STUMP		
HEDGE		
13. UTILITIES - ABOVE GROUND		
ELECTRIC		
UTILITY POLE		
TRAFFIC SIGNAL		
FIRE HYDRANT		
PULL BOX STREET LIGHTS		
PULL BOX TRAFFIC SIGNAL		
STREET LIGHT		
STREET LIGHT UTILITY POLE		
STEEL SIGNAL POLE		
CONTROLLER		
DEADMAN		
LOCATION UTILITY MARKER/POST		
TELEPHONE		
CABLE T.V.		
14. CUT AND FILL LIMITS		
TOP OF CUT		
BOTTOM OF FILL		



FEATURE	SYMBOL	
	PROPOSED	EXISTING
15. UTILITIES - BELOW GROUND		
ELECTRIC		
GAS		
TELEPHONE		
WATER MAIN		
WATER VALVE		
SEWER, SANITARY		
SEWER, STORM		
MANHOLE		
UTILITY VALVE		
SIGNAL CONDUIT		
BURIED CABLE MARKER		
BURIED GAS MAIN		
16. RAILROADS		
SMALL SCALE TRACK		
LARGE SCALE TRACK		
METER PIT		

ABBREVIATIONS	
A.A.T. AL. A.H. A.O.B.E. APPROX. ASPH. AVE. AZ. BC BCM BLDG. BLVD. BM BR. BRK. CAL. C.B. CI/CIP C.L. C.L.L. CMP CMPA COMM. CONC. CS CSP CSPA D.C. DEC. D.H. DIA. DI/DIP DOM. DR. DS DWG. DWY. EASTING EA. E.J. ELEV. EQ. EXIST. FND. FP. FR. FT GM GRAV. GV H H.E. HW H.H. HP HSD HSE. HT. HYD. ID INC. INV. K L L.F. L.L.GALV. LP LS L.T. M MAC. MAX. MH MB MI. MIN. MM MO. NM N NC N/F N.I.C. NO. N.T.S. NYGS NYT O.C. OD OE OHS OT P PAV/T PB PCC PE	ABANDON AT TAP ALLEY AHEAD AS ORDERED BY ENGINEER APPROXIMATELY ASPHALT AVENUE AZMUTH BOTTOM OF CURB BURIED CABLE MARKER BUILDING BOULEVARD BENCH MARK BRIDGE BRICK CALIPER CATCH BASIN CAST IRON PIPE CHAIN LINK (FENCE) CONTRACT LIMIT LINE CORRUGATED METAL PIPE CORRUGATED METAL PIPE ARCH COMMERCIAL CONCRETE CURVE TO SPIRAL CORRUGATED STEEL PIPE CORRUGATED STEEL PIPE ARCH DEGREE OF CURVE DECEASED DRILL HOLE DRAINAGE DUCTILE IRON PIPE DOMESTIC DRIVE DRAINAGE STRUCTURE DRAWING DRIVEWAY EASTING EACH EXPANSION JOINT ELEVATION EQUAL OR EQUIVALENT EXISTING FOUNDATION FIRE POLE FRAME FEET GAS MARKER GRAVEL GAS VALVE HORIZONTAL HORIZONTAL ELLIPTICAL HEADWALL HANDHOLE HIGH POINT HEADLIGHT STOPPING DISTANCE HOUSE HEIGHT HYDRANT INSIDE DIAMETER INCREASE INVERT DISTANCE FROM TS TO PC ALONG TANGENT LENGTH (OF CURVE) LINEAR FEET LEAD LINED GALVANIZED PIPE LOW POINT/LIGHT POLE LENGTH OF SPIRAL LEFT LONG TANGENT MAP NUMBER MACADAM MAXIMUM MANHOLE MAILBOX MILES MINIMUM MILE MARKER MIDDLE ORDINATE NIAGARA MOHAWK POWER CORPORATION NORTHING NORMAL CROWN NOW OR FORMERLY NOT IN CONTRACT NUMBER NOT TO SCALE NEW YORK GEODETIC SURVEY NEW YORK TELEPHONE ON CENTER OUTSIDE DIAMETER OVERHEAD ELECTRIC OVERHEAD SIGN OVERHEAD TELEPHONE PARCEL NUMBER SPIRAL "THROW" (TANGENT TO PC) PAVEMENT PULLBOX POINT OF COMPOUND CURVATURE POINT OF CURVATURE PERMANENT EASEMENT
P1 POL P.P. PRC PT PVC P.V.C. PVI PVT R RC RCP RCCP RCSP RD REC. RED. ROW ROW w/a ROW w/o RR RT. RTE. RW SC SDR. SIT SP S.P. SSD STA ST ST. STL. SW T TC TE TEL. T.G. TGL TS TYP. USC & GS V VC VCP VT/VTP W WD WP W.I. WR. WV	POINT OF INTERSECTION POINT ON LINE POWER POLE POINT OF REVERSE CURVATURE POINT OF TANGENCY POINT OF VERTICAL CURVATURE POLY VINYLE CHLORIDE POINT OF VERTICAL INTERSECTION POINT OF VERTICAL TANGENCY RADIUS REMOVE ADVERSE CROWN REINFORCED CONCRETE PIPE REINFORCED CONCRETE CULVERT PIPE REINFORCED CONCRETE STORM PIPE ROAD RECORD REDUCER RIGHT OF WAY RIGHT OF WAY WITH ACCESS RIGHT OF WAY WITHOUT ACCESS RAILROAD RIGHT ROUTE RETAINING WALL SPIRAL TO CURVE STANDARD DIMENSION RATIO INTERSECTION OF SPIRAL TANGENTS SEIZMIC POINT STEEL POST STOPPING SIGHT DISTANCE STATION SPIRAL TO TANGENT STREET SHORT TANGENT STEEL SIDEWALK TANGENT TOP OF CURB TEMPORARY EASEMENT TELEPHONE TOP OF GRATE THEORETICAL GRADE LIMIT TANGENT TO SPIRAL UNDERGROUND TYPICAL UNITED STATES COAST & GEODETIC SURVEY VERTICAL VERTICAL CURVE VITRIFIED CLAY PIPE VITRIFIED TILE PIPE WALL WOOD WOOD POST WROUGHT IRON WRAPPED WATER VALVE

NO REVISIONS

BIN 5513660

DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING			
LEGEND AND ABBREVIATIONS			



CONTRACT NUMBER:  
**TAA 98-10BR**  
DATE:  
**1/98**  
DRAWING NUMBER:  
**LA-1**

THE SEAR-BROWN GROUP

USER: CHRIS FAULKNER  
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JWJ

CHECKED BY:

KAR

DRAFTED BY:

CDP

DESIGNED BY:

PJB

IN CHARGE OF:



T.R.B.

CHECKED BY:

V.L.G.

DRAFTED BY:

R.J.M.

DESIGNED BY:

J.R.N.

IN CHARGE OF:

## GENERAL NOTES

- DESIGN SPECIFICATIONS:** CURRENT NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES WITH ALL INTERIM SPECIFICATIONS AND MODIFICATIONS AND 1981 NEW YORK STATE STEEL CONSTRUCTION MANUAL, INCLUDING CURRENT ADDITIONS AND MODIFICATIONS, EXCEPT AS MODIFIED BY THE NEW YORK STATE THRUWAY AUTHORITY THRUWAY STRUCTURES DESIGN MANUAL - SECOND EDITION.
- LIVE LOAD:** HS-25. THE LOAD RATINGS ARE IN ACCORDANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR HIGHWAY BRIDGE DESIGN - LIVE LOAD CRITERIA.
- CONCRETE DATA:** THE MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 3,000 PSI- "NORMAL" AND 5000 PSI- "HP" AT 28 DAYS.
- REINFORCING DATA:** BAR REINFORCEMENT SHALL BE ASTM A615 GRADE 60, MEETING THE REQUIREMENTS OF MATERIAL SPECIFICATION 709-01.
- RECORD PLANS:** RECORD PLANS COVERING PREVIOUS WORK WILL BE AVAILABLE FOR REVIEW BY PROSPECTIVE BIDDERS AT THE AUTHORITY HEADQUARTERS IN ALBANY PRIOR TO THE LETTING DATE; REFER TO CONTRACT(S) MT 53-3. ADDITIONAL MAINTENANCE REPAIRS HAVE BEEN PERFORMED ON THE BRIDGE. IN ADDITION TO PAINTING, OVERLAYING THE DECK AND OTHER MINOR MAINTENANCE REPAIRS, THE SUPERSTRUCTURE HAS BEEN RAISED 3 1/2" AT THE CENTER PIER AND 2" AT THE OTHER PIERS.
- SUBSURFACE EXPLORATIONS HAVE BEEN MADE FOR THIS PROJECT AT LOCATIONS INDICATED ON THE EXISTING PLAN. BORING LOGS AND OTHER SUBSURFACE INFORMATION MADE AVAILABLE FOR THE INSPECTION OF BIDDERS WERE OBTAINED WITH REASONABLE CARE AND RECORDED IN GOOD FAITH BY THE AUTHORITY.
  - \* DEMOLITION AND REMOVAL OF STRUCTURES
  - \* SUPERSTRUCTURE ERECTION
  - \* LATERAL STABILITY OF GIRDERS AND TEMPORARY SUPPORTS OF ANY CANTILEVERED SLABS DURING ANY STAGE OF CONSTRUCTION.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT NO SPOIL AREA FOR SURPLUS MATERIALS IS AVAILABLE FOR THIS CONTRACT WITHIN THE AUTHORITY'S RIGHT-OF-WAY. THEREFORE, ALL MATERIAL TO BE REMOVED FROM THE JOB SITE SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE AUTHORITY'S PROPERTY. ALL COSTS ASSOCIATED WITH THE SPOIL AREA AND REMOVAL OF SPOIL MATERIAL SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT.
- THE CONTRACTOR SHALL HAVE AN ENGINEER LICENSED IN THE STATE OF NEW YORK PREPARE AND STAMP A SET OF PLANS AND ALL CALCULATIONS FOR THE FOLLOWING WORK:
  - \* **TIMBER LAGGING WORK**PLANS AND CALCULATIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL AS DESCRIBED IN THE SHOP DRAWING SUBMITTAL PROCEDURE INCLUDED IN THE CONTRACT DOCUMENTS. AT LEAST TWO WORKING DAYS PER DRAWING, WITH A MINIMUM OF TEN WORKING DAYS MUST BE ALLOWED FOR EACH SET OF DRAWINGS SUBMITTED FOR THE AUTHORITY'S REVIEW. NO WORK MAY BEGIN UNTIL THE RESPECTIVE SUBMITTALS ARE APPROVED. ALL COSTS FOR PREPARING THESE PLANS AND CALCULATIONS SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT.
- WHEN PLACING NEW CONCRETE, ALL CONCRETE-TO-CONCRETE SURFACES SHALL RECEIVE AN APPLICATION OF EPOXY BONDING COMPOUND CONFORMING TO MATERIAL SPECIFICATION 721-03. IF ONE OF THESE SURFACES IS ORIGINAL CONCRETE, THE SURFACE SHALL ALSO BE SANDBLASTED TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH APPLYING THIS EPOXY BONDING COMPOUND SHALL BE INCLUDED IN THE CONCRETE ITEMS. IN CASES WHERE THE EPOXY BONDING COMPOUND WOULD CURE PRIOR TO PLACING THE FRESH CONCRETE (AS DETERMINED BY THE E.J.C.), A MORTAR GROUT SHALL BE USED IN ITS PLACE.
- ALL METAL REINFORCING BAR CHAIRS AND SUPPORTS SHALL HAVE PLASTIC SHOES.

## REMOVAL, EXCAVATION AND BACKFILL NOTES

- ALL EXCAVATIONS TO BE PLATED SHALL UTILIZE A MINIMUM ONE-INCH THICK PLATE. ALSO, THE EDGE OF THE PLATE FACING ONCOMING TRAFFIC SHALL BE BEVELED. THE PLATE SHALL BE SECURELY FASTENED DOWN TO THE SATISFACTION OF THE ENGINEER AND SHALL BE STRUCTURALLY CAPABLE OF CARRYING ALL IMPOSED LOADS.
- DURING REMOVAL OPERATIONS, THE CONTRACTOR SHALL NOT DROP WASTE CONCRETE, DEBRIS OR OTHER MATERIAL TO ROADWAYS BELOW THE BRIDGE EXCEPT WHERE THE PLANS OR SPECIFICATIONS SPECIFICALLY PERMIT THE DROPPING OF MATERIAL. PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE USED TO CATCH THE MATERIAL. IF THE ENGINEER DETERMINES THAT ADEQUATE PROTECTIVE DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED. IF MATERIAL FALLS ON THE AREA BELOW AND ADJACENT TO THE BRIDGE, IT SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR ON A REGULAR BASIS.
- THE COST OF FURNISHING, INSTALLING, MAINTAINING, REMOVING AND DISPOSING OF ALL PLATFORMS, NETS, SCREENS AND OTHER PROTECTIVE DEVICES SHALL BE INCLUDED IN THE UNIT BID PRICES OF THE APPROPRIATE ITEMS IN THE CONTRACT.
- EXCAVATION BELOW THE PROPOSED BOTTOM OF THE NEW FOOTING ELEVATION WILL NOT BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER. BACKFILL OF UNAUTHORIZED EXCAVATIONS BELOW OR BEYOND PAYMENT LINES WILL BE AT THE CONTRACTOR'S EXPENSE. BACKFILL MATERIAL WILL BE FOOTING CONCRETE, CLASS A, ITEM 555.0104, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- CARE SHALL BE EXERCISED IN EXCAVATING THE LAST FOOT OF MATERIAL TO AVOID DISTURBING OR SOFTENING THE MATERIAL BELOW THE BOTTOM OF THE FOOTING ELEVATION. THE EXCAVATION SHALL BE PROGRESSED CONTINUOUSLY TO COMPLETION, THE FOOTING PLACED, FORMS REMOVED AND BACKFILL MATERIAL PLACED AND COMPACTED WITHOUT DELAY.
- CARE SHALL BE TAKEN TO RETAIN NATURAL GROWTH AND PREVENT DAMAGE TO TREES WITHIN AND OUTSIDE THE LIMITS OF CONSTRUCTION, AND NOT SCHEDULED FOR REMOVAL. ANY DAMAGE CAUSED TO THIS NATURAL GROWTH SHALL BE RESTORED AT THE EXPENSE OF THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
- DEWATERING MAY BE REQUIRED FOR THE INSTALLATION OF NEW DRAINAGE FACILITIES AND THE CLEANING OF EXISTING DRAINAGE FACILITIES. THE COST OF DEWATERING IS TO BE INCLUDED IN THE VARIOUS DRAINAGE ITEMS. THE CONTRACTOR MUST OBTAIN THE REQUIRED PERMITS FROM THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION IF HE/SHE ELECTS TO USE WELL POINTS.
- HIGHWAY EMBANKMENT MATERIAL (HIGHWAY ESTIMATE), SELECT STRUCTURE FILL, ITEM 203.21, AND/OR UNDERDRAIN FILTER MATERIAL, ITEM 605.0901 SHALL BE PLACED SIMULTANEOUSLY, IN CONTACT, ON BOTH SIDES OF THE VERTICAL PAYMENT LINE. SHEETING OR OTHER MEANS SHALL NOT BE USED TO SEPARATE THE MATERIALS.

## SUBSTRUCTURE NOTES

- ALL EXPOSED EDGES OF CONCRETE ARE TO BE CHAMFERED ONE INCH UNLESS OTHERWISE NOTED.
- PENETRATING SEALER FOR CONCRETE, ITEM 25559.1696, SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES OF THE SUBSTRUCTURE, EXCEPT FOR THE BOTTOM SURFACE OF PIERCAPS.

## FOUNDATION NOTES

- IF ANY PORTIONS OF THE ABANDONED EXISTING SUBSTRUCTURES ARE WITHIN A THREE FOOT LATERAL LIMIT OF THE PROPOSED INTRAGAL ABUTMENTS, THEY SHALL BE COMPLETELY REMOVED IN THIS AREA. THE PORTION OF THE ABANDONED EXISTING SUBSTRUCTURES WHICH ARE BEYOND THIS LATERAL LIMIT SHALL BE REMOVED TO A DEPTH OF TWO FEET LOWER THAN THE PROPOSED ROADWAY SUBGRADE OR ONE FOOT BELOW THE FINISHED GROUND LINE. BACKFILL OF THESE EXCAVATIONS SHALL BE WITH AN APPROPRIATE BACKFILL MATERIAL.
- THE PILES AT EACH INTEGRAL ABUTMENT SHALL BE INSERTED IN PREAUGERED 20 INCH DIAMETER HOLES THAT EXTEND EIGHT FEET BELOW THE BOTTOM OF EACH ABUTMENT STEM. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO KEEP EACH OF THESE HOLES OPEN DURING THE INSTALLATION OF THE PILES SO THAT CUSHION SAND CAN BE PLACED LOOSELY AROUND EACH PILE FOR THE FULL DEPTH OF THE PREAUGERED HOLE. THE COST OF AUGERING THESE HOLES, CASING, AND CUSHION SAND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PILE ITEM.
- THE USE OF MECHANICAL PILE SPLICES SHALL NOT BE ALLOWED ON THIS STRUCTURE.

## SUPERSTRUCTURE NOTES

- THE CONTRACTOR SHALL NOTE THE FOLLOWING EQUIVALENCY OF THE EXISTING STRUCTURAL STEEL DESIGNATIONS TO THE DESIGNATIONS DESCRIBED IN THE 1996 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES (16TH EDITION):

ALL UPDATED SPECIFICATIONS REFERENCED TO THE NEW STEEL DESIGNATIONS BY AASHTO AND ASTM SHALL APPLY TO THE NEW STRUCTURAL STEEL USED ON THIS PROJECT.

OLD ASTM GRADE	NEW ASTM A709 GRADE	OLD AASHTO GRADE	NEW AASHTO M270 GRADE	MIN. YIELD (KSI)	MIN. T.S. (KSI)
A36	36	M183	36	36	58
A572	50	M223	50	50	65
A588	50W	M222	50W	50	70
A852	70W	M313	70W	70	90
A514	100	M244	100	100	110
				90	100
A514	100W	M244	100W	100	110
				90	100

- STRUCTURAL STEEL:** STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50W, UNLESS OTHERWISE NOTED.
- SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED IN ACCORDANCE WITH THE NEW YORK STATE STEEL CONSTRUCTION MANUAL, EXCEPT AS MODIFIED BY THE SHOP DRAWING SUBMITTAL PROCEDURE INCLUDED IN THE CONTRACT DOCUMENTS, FOR THE FOLLOWING:
  - \* STRUCTURAL STEEL
  - \* BEARINGS
  - \* BRIDGE RAILINGS
- ALL DECK FORMS USED SHALL BE EITHER REMOVABLE FORMS OR STAY-IN-PLACE FORMS.
- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND ADVISE THE AUTHORITY OF THE TYPE, SIZE AND WEIGHT OF ALL VEHICLES HE/SHE INTENDS TO USE ON THE STRUCTURE(S) DURING CONSTRUCTION BASED ON THE CONDITION OF THE EXISTING STRUCTURE(S). THIS DETERMINATION SHALL BE MADE BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK EMPLOYED AND PAID BY THE CONTRACTOR.

THE DETERMINATION BY THIS PROFESSIONAL ENGINEER IS TO BE SUBMITTED TO THE AUTHORITY 14 DAYS PRIOR TO THE USE OF ANY VEHICLES ON THE STRUCTURE(S) WITH ALL RESTRICTIONS ENUMERATED BY HIM/HER BEING STRICTLY ADHERED TO.

IN THE EVENT THAT THE CONTRACTOR/SUBCONTRACTOR FAILS TO COMPLY WITH THE INSTRUCTIONS OF THE PROFESSIONAL ENGINEER FOR THE USE OF ANY VEHICLES, THE WORK WILL BE IMMEDIATELY SUSPENDED UNTIL CORRECTIVE PROCEDURES SATISFACTORY TO THE PROFESSIONAL ENGINEER AND THE AUTHORITY ARE EMPLOYED.

COSTS OF ALL DAMAGE, DIRECT OR INDIRECT, SHALL BE BORNE AND SUSTAINED BY THE CONTRACTOR.

- CLEANING OF WEATHERING STRUCTURAL STEEL:**

### A. IN THE FABRICATION SHOP

THE OUTSIDE SURFACE OF THE WEATHERING STEEL FASCIA GIRDERS, INCLUDING THE BOTTOM OF THE BOTTOM FLANGE, SHALL BE COMMERCIALY BLAST CLEANED TO A FINISH OF SSPC-SP6 IN ORDER TO REMOVE ALL DIRT, GREASE, PAINT, MILL SCALE OR OTHER FOREIGN MATERIAL PRIOR TO SHIPPING.

THE PURPOSE OF THIS SURFACE PREPARATION IS TO PRODUCE SURFACES WHICH WILL WEATHER UNIFORMLY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE STRUCTURAL STEEL ITEM.

### B. IN THE FIELD

THE OUTSIDE SURFACE OF THE FASCIA GIRDERS SHALL BE CLEANED SO THAT ALL DIRT, GREASE, PAINT OR OTHER FOREIGN MATERIAL IS REMOVED AT THE COMPLETION OF THE BRIDGE CONSTRUCTION. THE PURPOSE OF THE CLEANING IS TO RETURN THE FASCIA SURFACES TO THE CONDITION IN WHICH THEY LEFT THE FABRICATION SHOP. THE COST FOR THIS WORK SHALL BE INCLUDED UNDER THE VARIOUS ITEMS OF THE CONTRACT.

- ALL DECK OVERHANG FORM SUPPORTS SHALL BE PROTECTED TO PREVENT DAMAGE TO THE PAINTED AND/OR BARE STEEL SURFACES.

# REVISIONS

## WORK TO BE DONE

REMOVE EXISTING SUPERSTRUCTURE, PARTIAL REMOVAL OF EXISTING SUBSTRUCTURES, REMOVE EXISTING GUIDERAILS AND CONCRETE BARRIERS. CONSTRUCT NEW STEEL GIRDER SUPERSTRUCTURE, MONOLITHIC CONCRETE DECK, CONCRETE PIER AND CONCRETE INTEGRAL ABUTMENTS IN TWO STAGES.

## AS BUILT REVISIONS

BIN 5513660

DATE	DESCRIPTION	BY	SYM.
10/1/98	GENERAL NOTE #2	ADDER PER. ADENIUM#2	△

### REVISIONS

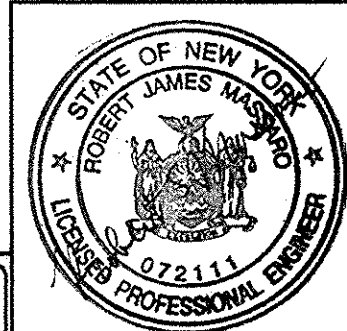
NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT HELDERBERG AVENUE  
BRIDGE REPLACEMENT

LOCATION OF PROJECT  
M.P. 155.54

TITLE OF DRAWING

## GENERAL NOTES



CONTRACT NUMBER:

TAA 98-10BR

DATE:

6/98

DRAWING NUMBER:

ST-1

THE SEAR-BROWN GROUP



THIS SHEET IS BLANK

J.R.N. \_\_\_\_\_ IN CHARGE OF: J.R.N. \_\_\_\_\_ DESIGNED BY: R.J.M. \_\_\_\_\_ DRAFTED BY: V.L.G. \_\_\_\_\_ CHECKED BY: T.R.B. \_\_\_\_\_

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.

REVISIONS

NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209	
TITLE OF PROJECT	HELDERBERG AVENUE BRIDGE REPLACEMENT
LOCATION OF PROJECT	M.P. 155.54
TITLE OF DRAWING	

GENERAL NOTES



CONTRACT NUMBER:	TAA 98-10BR
DATE:	6/98
DRAWING NUMBER:	ST-2



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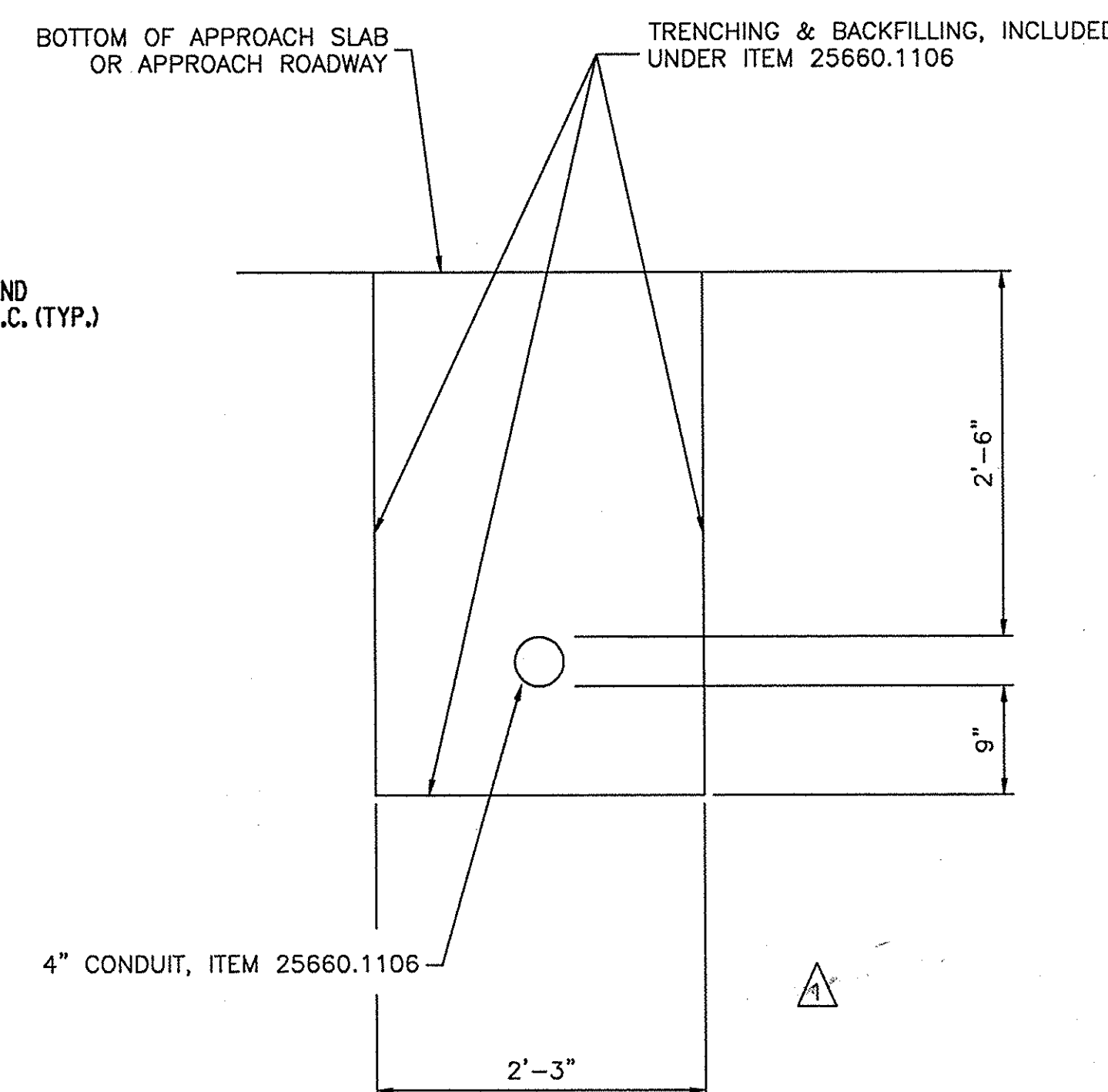
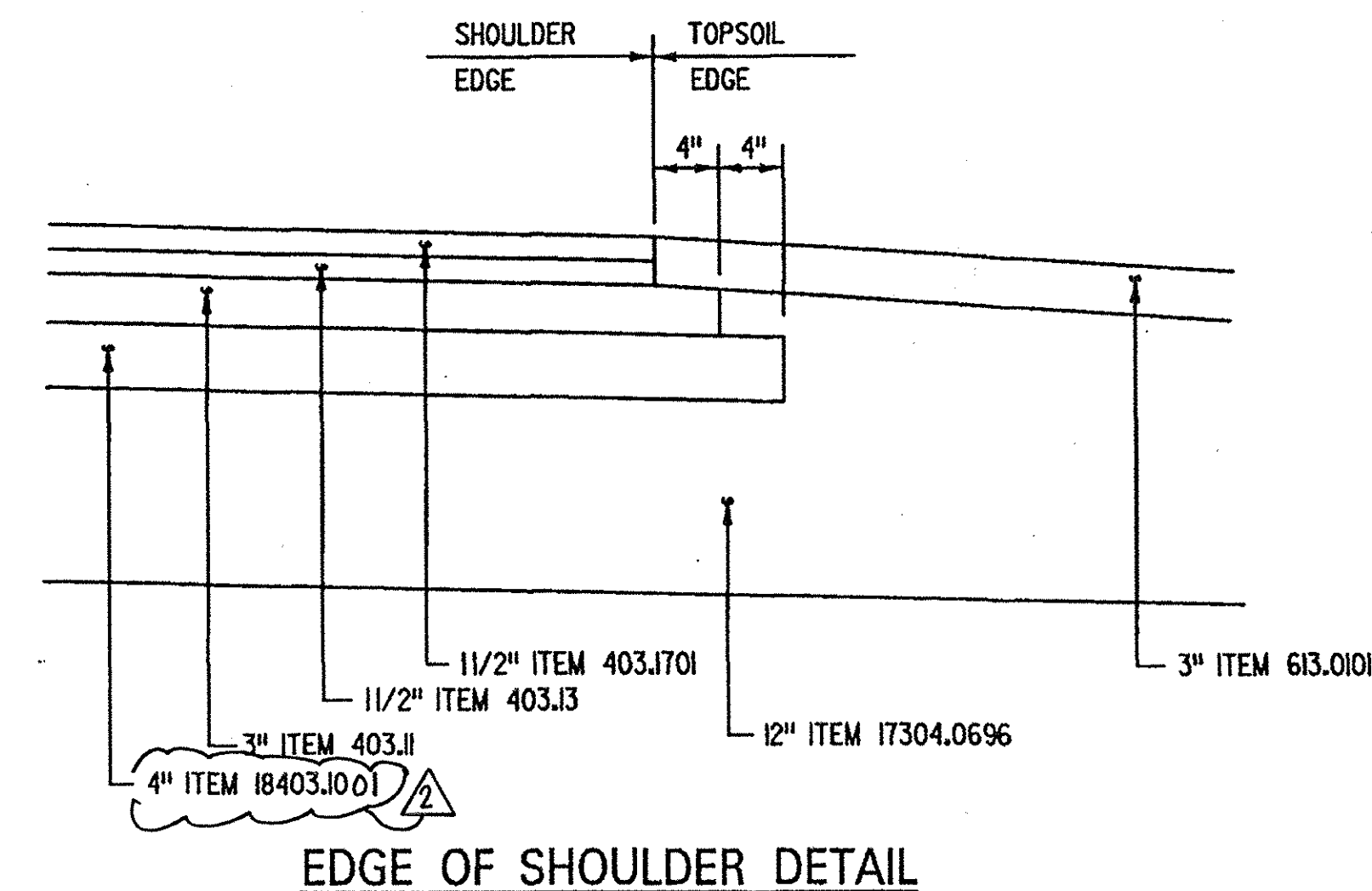
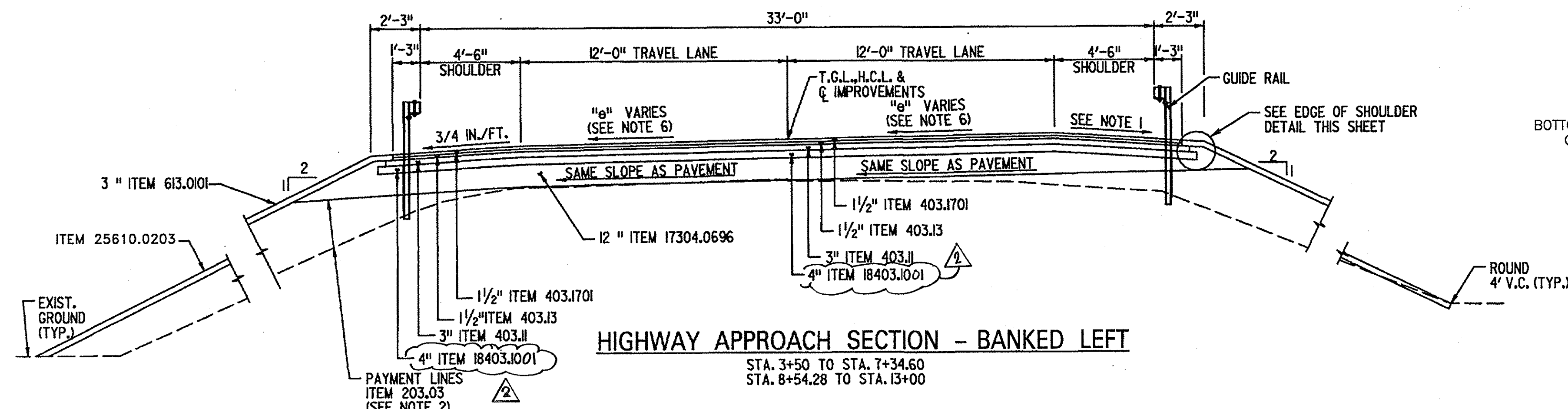
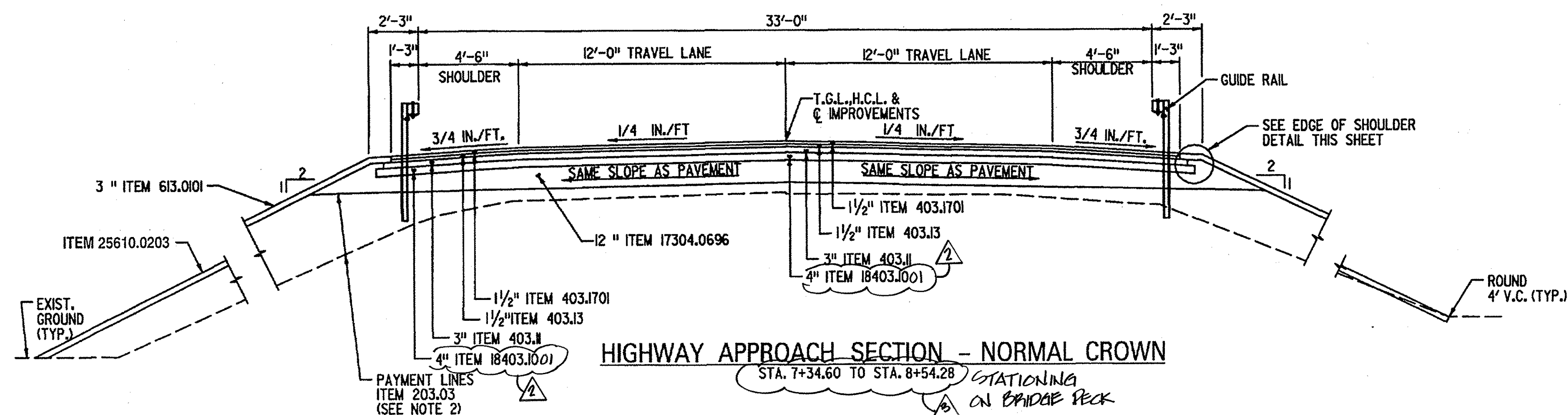
DRAWN BY:

CDF

DESIGNED BY:

PJB

IN CHARGE OF:



## NOTES:

1. THE CROSS SLOPE OF THE SHOULDER VARIES FROM 1/4"/FT. TO 3/4"/FT. AWAY FROM THE TRAVEL LANE. THE MAXIMUM ROLLOVER BETWEEN THE TRAVEL LANE AND THE SHOULDER SHALL BE 0.08 FT./FT.
2. ANY ORGANIC MATERIAL AND TOPSOIL SHALL BE STRIPPED FROM THE EXISTING EMBANKMENT PRIOR TO PLACING NEW FILL. WHERE REQUIRED BENCHING SHALL BE PERFORMED AS PER N.Y.S.D.O.T. STANDARD SHEET 203-2RI.
3. PRIOR TO PLACING TACK COAT, THE CONTRACTOR SHALL CLEAN AND SEAL JOINTS & CRACKS IN THE EXISTING PAVEMENT, TO BE PAID FOR UNDER ITEM 18633.07 AND CLEAN THE EXISTING PAVEMENT, TO BE PAID FOR UNDER ITEM 18633.06.
4. TRAVEL LANE WIDTH VARIES FROM 11'-0" AT STA. 3+00 TO 12'-0" AT STA. 3+50 AND FROM 12'-0" AT STA. 13+00 TO 11'-0" AT STA. 13+50.
5. WHERE THE EXISTING PAVEMENT IS ENCOUNTERED WITHIN 2 FEET OF THE NEW SUBBASE COURSE, THE FULL DEPTH OF THE PAVEMENT SHALL BE THOROUGHLY BROKEN UP, SCARIFIED OR REMOVED. IF NOT REMOVED, THE MAXIMUM PARTICLE DIMENSION SHALL NOT EXCEED 4". PAYMENT TO BE MADE UNDER ITEM 203.02 - UNCLASSIFIED EXCAVATION AND DISPOSAL.
6. SEE PROFILES FOR BANKING.

ITEM NO.	DESCRIPTION	UNITS
203.02	UNCLASSIFIED EXCAVATION & DISPOSAL	C.Y.
203.03	EMBANKMENT IN PLACE	C.Y.
17304.0696	SUBBASE COURSE (OPTIONAL TYPE) W/ RECYCLED CONC/BITUM. MATERIAL OPTION	C.Y.
18403.1001	ASPHALT TREATED PERMEABLE BASE COURSE	TON
403.11	ASPHALT CONCRETE - TYPE 1 BASE COURSE	TON
403.13	ASPHALT CONCRETE - TYPE 3 BINDER COURSE	TON
403.1701	ASPHALT CONCRETE - TYPE 6F TOP COURSE (HIGH FRICTION) MARSHALL DESIGN	TON
403.21	ASPHALT CONCRETE - TRUING AND LEVELING COURSE	TON
407.01	TACK COAT	GAL.
25610.0203	ESTABLISH CROWN VETCH	ACRE
613.0101	TOPSOIL	C.Y.
18633.06	CLEAN EXIST PAVT AND/OR SHOULDERS	S.Y.
18633.07	CLEAN & FILL JOINTS AND CRACKS	L.S.

## AS BUILT REVISIONS

DATE	DESCRIPTION	BY	SYM.
5/99	NOTE BRIDGE CORRECT ITEM #18403.1001	KFK	3
4/99	ADD BURIED CONDUIT DETAIL	J. MAURO	1

## REVISIONS

NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209
TITLE OF PROJECT: HELDERBERG AVENUE BRIDGE REPLACEMENT
LOCATION OF PROJECT: M.P. 155.54
TITLE OF DRAWING: TYPICAL SECTIONS

CONTRACT NUMBER: TAA 98-10BR
DATE: 1/98
DRAWING NUMBER: TS-1



THE SEAR-BROWN GROUP



USER: KEN RAPELLO  
PROJECT: 1467202 \ CIVIL \ TS2.DGN  
DATE: 11/11/98  
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REVISIONS

7/1  
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JWJ

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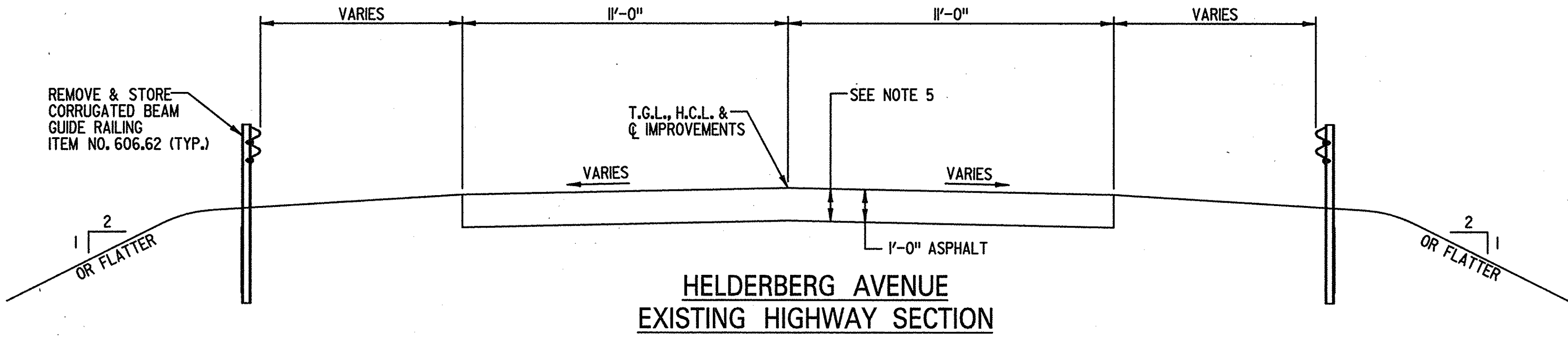
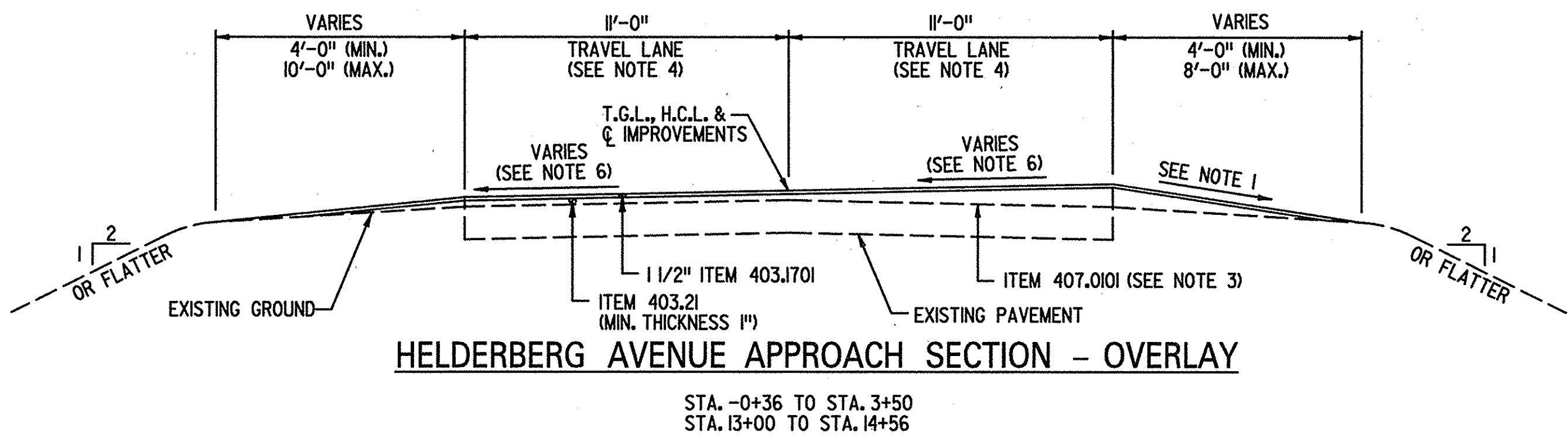
PJB

IN CHARGE OF:

CHECKED BY:

DRAFTED BY:

DESIGNED BY:



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403.13	ASPHALT CONCRETE - TYPE 3 BINDER COURSE	TON
403.1701	ASPHALT CONCRETE - TYPE 6F TOP COURSE (HIGH FRICTION) MARSHALL DESIGN	TON
403.21	ASPHALT CONCRETE - TRUING AND LEVELING COURSE	TON
407.01	TACK COAT	GAL.
25610.0203	ESTABLISH CROWN VETCH	ACRE
613.0101	TOPSOIL	C.Y.
18633.06	CLEAN EXIST PAV'T AND/OR SHOULDERS	S.Y.
18633.07	CLEAN & FILL JOINTS AND CRACKS	L.S.

AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
4/99	CORRECT ITEM 18403.1001	KFK	

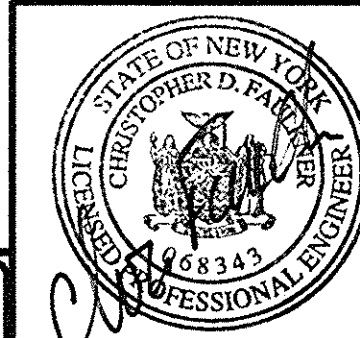


NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT: HELDERBERG AVENUE BRIDGE REPLACEMENT

LOCATION OF PROJECT: M.P. 155.54

TITLE OF DRAWING: TYPICAL SECTIONS



CONTRACT NUMBER: TAA 98-10BR

DATE: 1/98

DRAWING NUMBER: TS-2

THE SEAR-BROWN GROUP



USERNAME: KEN RAPELLO  
FILENAME: F:\JOBS \ 1467202 \ CIVIL \ TS3.DGN  
PLOTTER: HPGL  
PLOT FILE: S0050.PLT OR I:\IHP.PLT  
PLOTTER: HPGL  
PLOT DATE: 11/11/98  
PLOT TIME: 11:11:11

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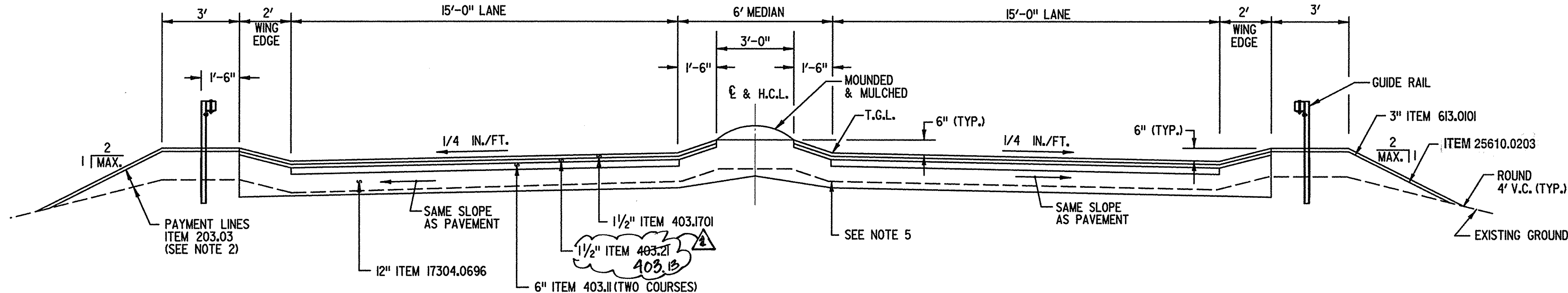
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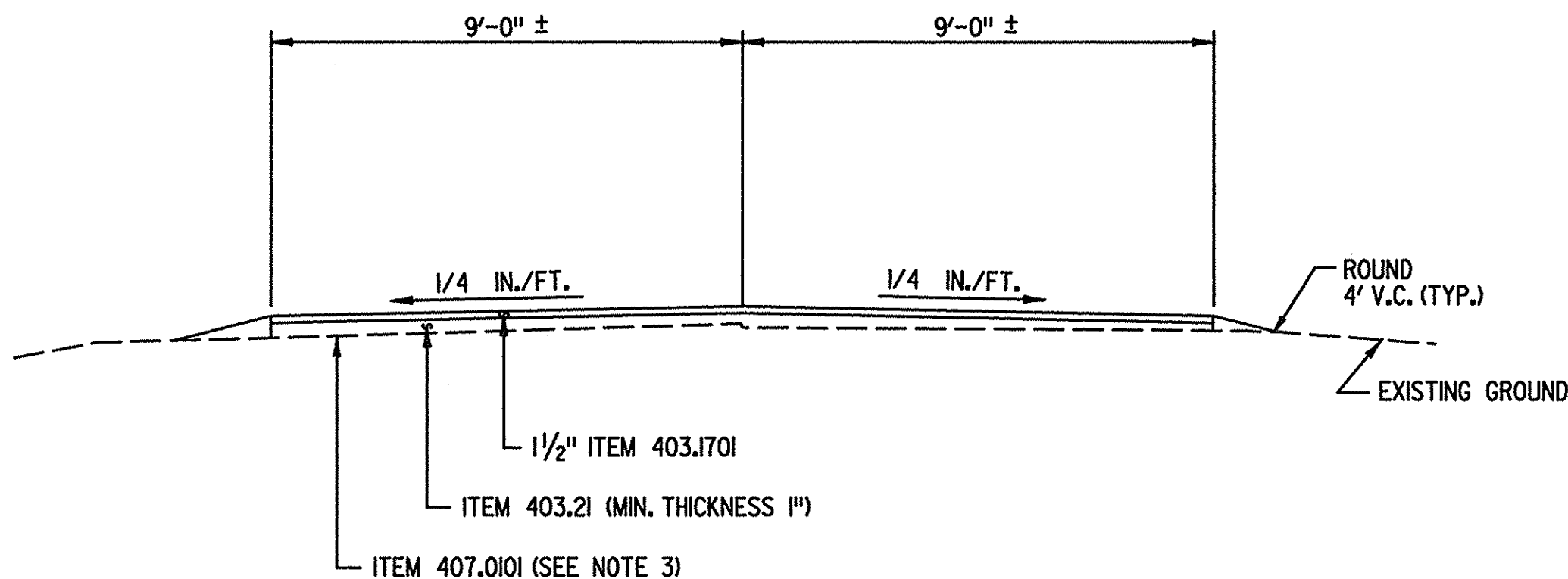
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REVISIONS.

8/1  
64



TYPICAL SECTION - NETHERLANDS BLVD.  
STA. NB 10+12 TO STA. NB 11+25



TYPICAL OVERLAY SECTION - OLD CHURCH ROAD  
STA. CR 10+00 TO STA. CR 15+85  
STA. CR 18+14 TO STA. CR 23+01

NOTES:

1. THE CROSS SLOPE OF THE SHOULDER VARIES FROM 1/4"/FT. TO 3/4"/FT. AWAY FROM THE TRAVEL LANE, THE MAXIMUM ROLLOVER BETWEEN THE TRAVEL LANE AND THE SHOULDER SHALL BE 0.08 FT./FT.
2. ANY ORGANIC MATERIAL AND TOPSOIL SHALL BE STRIPPED FROM THE EXISTING EMBANKMENT PRIOR TO PLACING NEW FILL. WHERE REQUIRED BENCHING SHALL BE PERFORMED AS PER N.Y.S.D.O.T. STANDARD SHEET 203-2RI.
3. PRIOR TO PLACING TACK COAT, THE CONTRACTOR SHALL CLEAN AND SEAL JOINTS & CRACKS IN THE EXISTING PAVEMENT, TO BE PAID FOR UNDER ITEM 18633.07 AND CLEAN THE EXISTING PAVEMENT, TO BE PAID FOR UNDER ITEM 18633.06.
4. TRAVEL LANE WIDTH VARIES FROM 11'-0" AT STA. 3+00 TO 12'-0" AT STA. 3+50 AND FROM 12'-0" AT STA. 13+00 TO 11'-0" AT STA. 13+50.
5. WHERE THE EXISTING PAVEMENT IS ENCOUNTERED WITHIN 2 FEET OF THE NEW SUBBASE COURSE, THE FULL DEPTH OF THE PAVEMENT SHALL BE THOROUGHLY BROKEN UP, SCARIFIED OR REMOVED. IF NOT REMOVED, THE MAXIMUM PARTICLE DIMENSION SHALL NOT EXCEED 4". PAYMENT TO BE MADE UNDER ITEM 203.02 - UNCLASSIFIED EXCAVATION AND DISPOSAL.

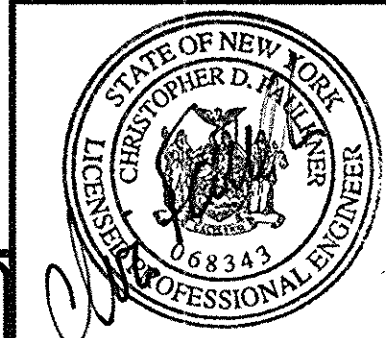
ITEM NO.	DESCRIPTION	UNITS
203.02	UNCLASSIFIED EXCAVATION & DISPOSAL	C.Y.
203.03	EMBANKMENT IN PLACE	C.Y.
17304.0696	SUBBASE COURSE (OPTIONAL TYPE) W/ RECYCLED CONC/BITUM. MATERIAL OPTION	C.Y.
18403.1001	ASPHALT TREATED PERMEABLE BASE COURSE	TON
403.11	ASPHALT CONCRETE - TYPE 1 BASE COURSE	TON
403.13	ASPHALT CONCRETE - TYPE 3 BINDER COURSE	TON
403.1701	ASPHALT CONCRETE - TYPE 6F TOP COURSE (HIGH FRICTION) MARSHALL DESIGN	TON
403.21	ASPHALT CONCRETE - TRUING AND LEVELING COURSE	TON
407.01	TACK COAT	GAL.
25610.0203	ESTABLISH CROWN VETCH	ACRE
613.0101	TOPSOIL	C.Y.
18633.06	CLEAN EXIST PAV'T AND/OR SHOULDERS	S.Y.
18633.07	CLEAN & FILL JOINTS AND CRACKS	L.S.

AS BUILT REVISIONS.  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
1/99	CORRECT ITEM 18403.1001	KFK	
1/99	CHANGE 403.21 TO 403.13	KFK	



REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING TYPICAL SECTIONS			



CONTRACT NUMBER: TAA 98-10BR
DATE: 1/98
DRAWING NUMBER: TS-3

THE SEAR-BROWN GROUP



USER: KEN RAPELLO  
FILE: JTA \ JOBS \ 1467202 \ CIVIL \ BT100N  
PLOT: PLOT 1  
DATE: 1/15/98  
TIME: 10:00

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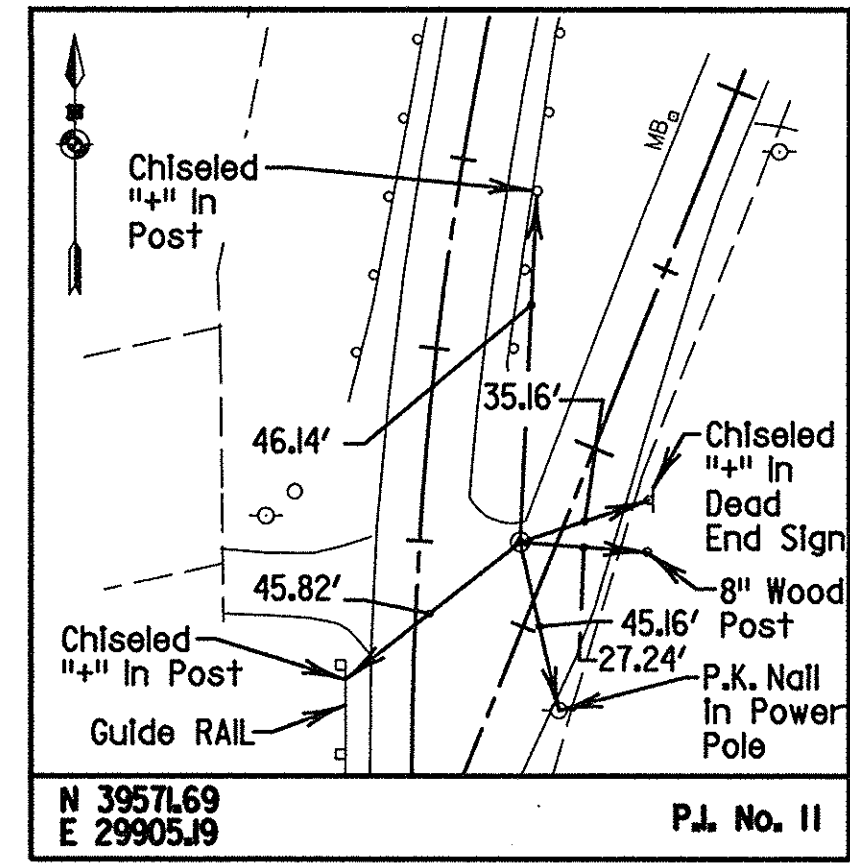
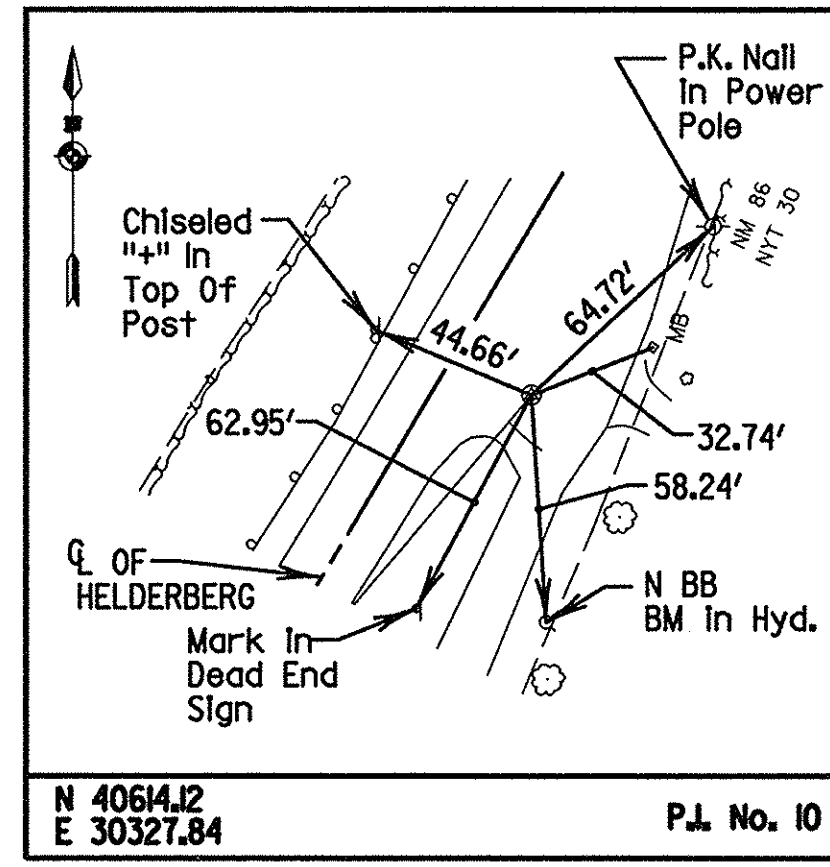
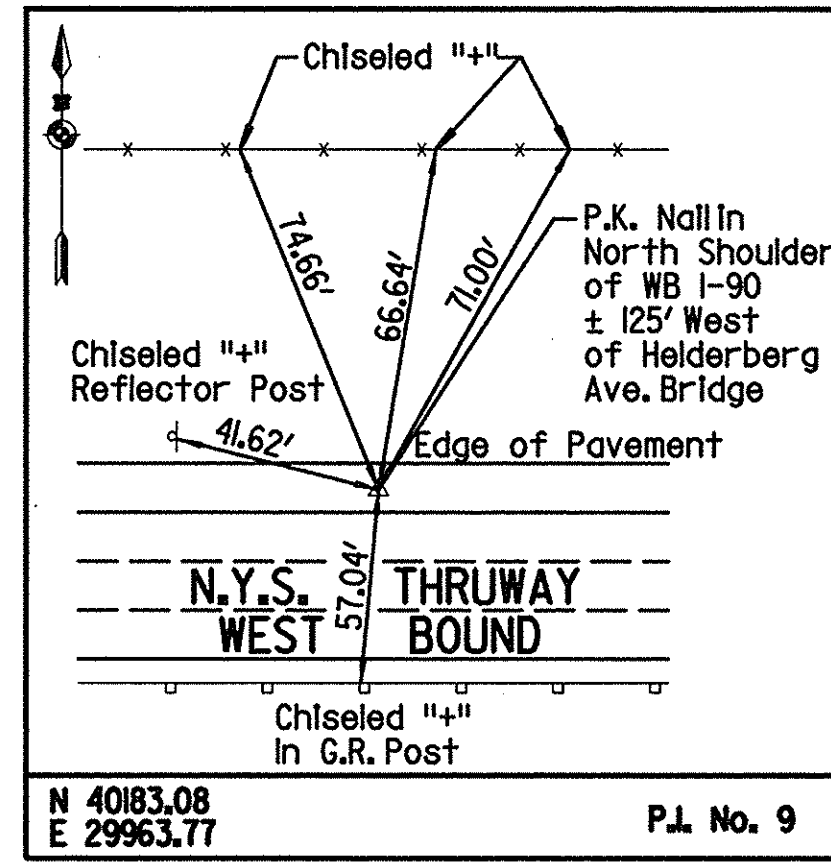
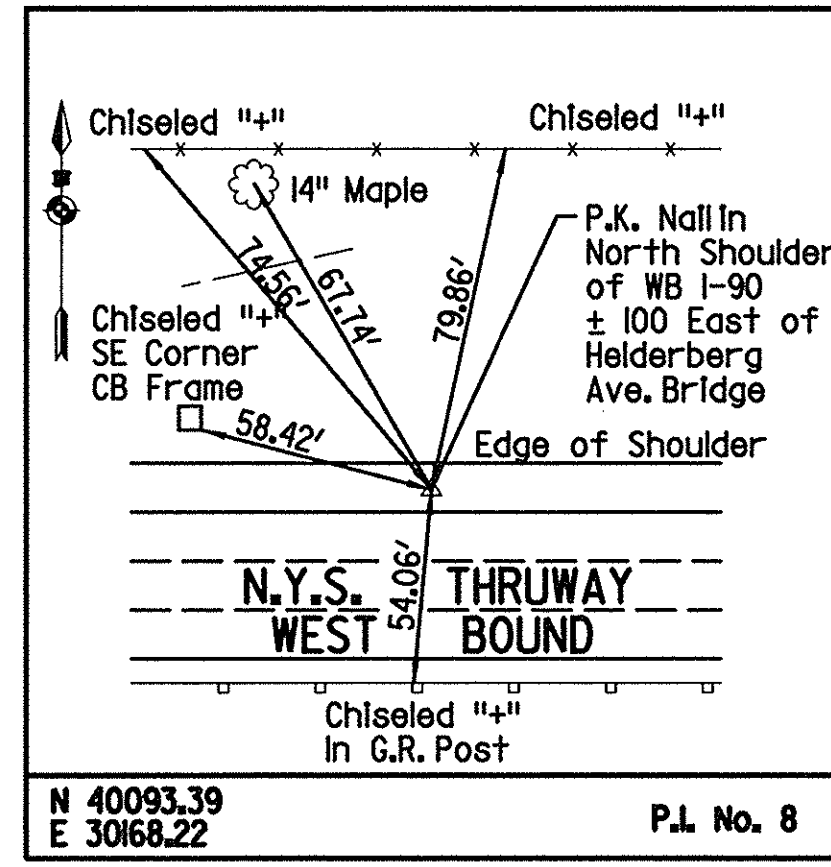
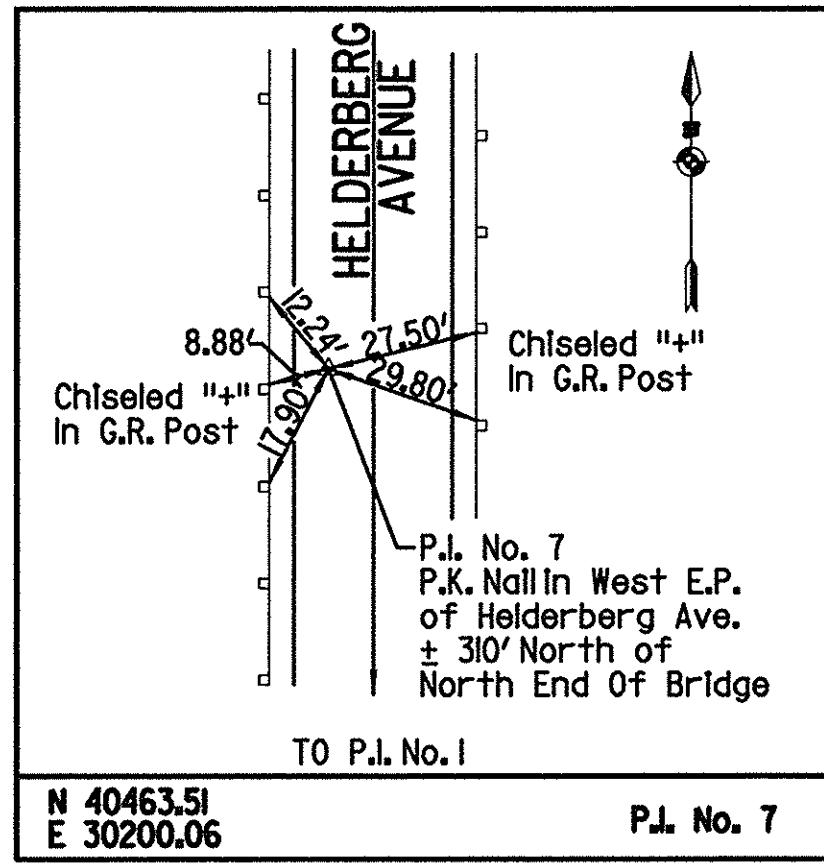
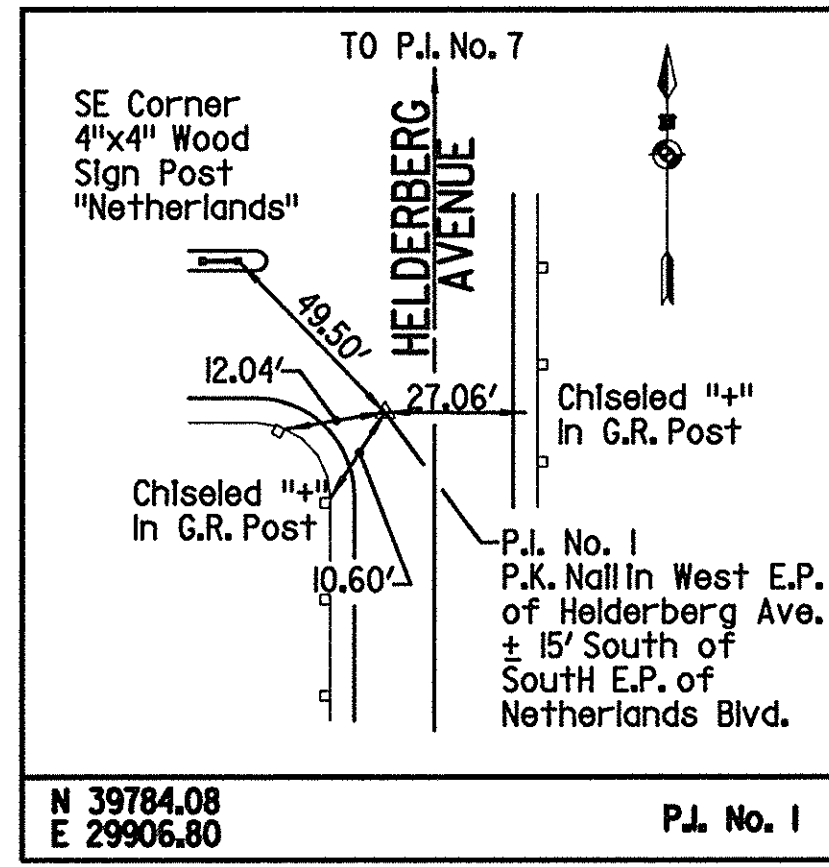
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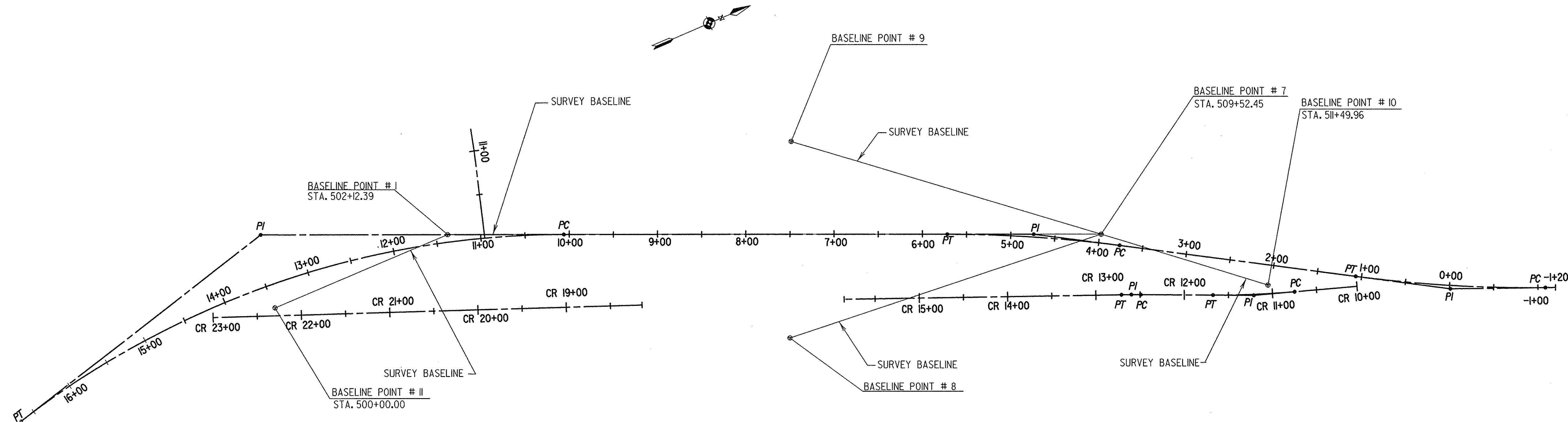
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IN CHARGE OF:



NO REVISIONS



USERNAME: JEFF JOHNS  
 OFFICE: ?  
 FILENAME: FA\_JOBS \ 1457202 \ CIVIL \ MT100N  
 PLOT FILE: SGCFLB  
 DATE: 11/17/98  
 PLOT FILE: SGCFLB  
 DATE: 11/17/98

JWJ

CHECKED BY:

KAR

DRAFTED BY:

CDF

DESIGNED BY:

PJB

IN CHARGE OF:

TABLE OF HORIZONTAL ALIGNMENT

POINT	STATION	CURVE DATA	COORDINATE		SURVEY BASELINE		
			NORTH	EAST	STATION	OFFSET	
HELDERBERG AVENUE							
POC PI	-0+36.00 -0+00.73	RADIUS=1500.00' DEGREE=3°-49'-11" DELTA=8°-12'-51" LENGTH=215.05' TANGENT=107.71'	40834.98 40801.72	30425.32 30413.36	513+81.42 513+48.33	68.56 LT* 56.16 LT*	
CURVE 1							
PT PC PI	1+06.60 3+76.38 4+74.27		RADIUS=1500.00' DEGREE=3°-49'-11" DELTA=7°-28'-04" LENGTH=195.51' TANGENT=97.89'	40709.23 40477.53 40393.46	30358.17 30219.98 30169.83	512+42.09 509+76.02 508+76.12	38.40 LT* 6.19 RT 0.08 RT
CURVE 2							
PT PC PI	5+71.89 10+06.18 13+49.65	RADIUS=1000.00' DEGREE=5°-43'-47" DELTA=37°-54'-44" LENGTH=661.69' TANGENT=343.47'		40303.58 39904.84 39589.50	30131.04 29958.93 29822.81	507+78.23 503+43.93 500+17.18	0.07 RT 0.02 RT 82.51 LT
CURVE 3							
POC	14+56.00			39466.22	29877.95	498+94.32	26.44 LT**

OLD CHURCH ROAD

POB PC PI	CR 10+00.00 CR 10+74.90 CR 11+21.17	RADIUS=1000.00' DEGREE=5°-43'-46" DELTA=5°-17'-52" LENGTH=92.46' TANGENT=46.27'	40709.83	30370.31	512+50.41	29.54 LT*
			40638.75	30346.70	511+80.93	1.55 LT*
CURVE 1			40594.84	30332.12	511+38.02	15.74 RT*
PT PC PI	CR 11+67.37 CR 12+49.17 CR 12+60.11	RADIUS=1000.00' DEGREE=5°-43'-46" DELTA=1°-15'-13" LENGTH=21.88' TANGENT=10.94'	40552.47	30313.55	510+93.70	29.01 RT
			40477.54	30280.70	510+15.33	52.47 RT
CURVE 2			40467.52	30276.31	510+04.85	55.61 RT
PT POL POL POE	CR 12+71.06 CR 15+85.63 CR 18+14.00 CR 23+27.29		40457.41	30272.14	509+94.44	58.98 RT
			40166.60	30152.18	506+60.83	73.75 RT
			39954.39	30067.50	504+32.44	80.08 LT
			39477.76	29877.30	499+05.86	27.18 LT**

NETHERLANDS BOULEVARD

POB PC PI	10+00.00 10+88.59 11+75.31	RADIUS=786.57' DEGREE=7°-17'-03" DELTA=6°-43'-06" LENGTH=92.23' TANGENT=86.73'	39821.07	29927.14	502+54.42	4.03 RT
			39846.07	29842.15	502+43.70	83.91 LT
CURVE 1			39870.55	29758.95	502+33.21	170.00 LT
POC	11+25.00		39855.54	29806.99	502+38.47	119.95 LT

\* BASELINE STATIONING BASED ON EXTENDING  
BASELINE BEYOND POINT 511+14.96 AT AN  
AZIMUTH OF N 40°-18'-49.86" E.

\*\* BASELINE STATIONING BASED ON EXTENDING  
BASELINE BEYOND POINT 500+00.00 AT AN  
AZIMUTH OF S 0°-25'-53.43" W.

TABLE OF BASELINE POINTS

POINT	BASLINE STATION	NORTH	EAST	ELEVATION
1	502+12.39	39784.08	29906.80	359.59
7	509+52.45	40463.51	30200.06	353.34
8	—	40093.39	30168.22	342.92
9	—	40183.08	29963.77	342.07
10	511+49.96	40614.12	30327.84	344.16
11	500+00.00	39571.69	29905.19	349.69

GUIDE RAIL REMOVAL TABLE

STATION FROM TO		LOCATION	606.62	606.77
1+75	6+99	RT.	524 L.F.	1 EA.
2+95	6+99	LT.	429	1
9+09	NB 12+97	RT.	441	X 1
9+09	13+05	LT.	406	1
NB 12+97	13+05	RT.	473	X 1
TOTALS			2273 L.F.	4 X EA.
606.62 REMOVING AND STORING CORRUGATED BEAM GUIDE RAILING				
606.77 REMOVING AND DISPOSAL OF ANCHOR UNIT FOR CORRUGATED BEAM GUIDE RAIL OR MEDIAN BARRIER				

NOTE: THE CONTRACTOR SHALL CONTACT THE SCHENECTADY COUNTY  
DEPARTMENT OF ENGINEERING AND PUBLIC WORKS  
(PHONE #356-5340) TO MAKE ARRANGEMENTS FOR THE STORAGE  
OF THE CORRUGATED BEAM GUIDE RAIL.

UTILITY DISPOSITION TABLE

POLE #	LOCATION	OFFSET	DISPOSITION
NM 85 NYT 29	-0+20	20' LT.	TO REMAIN
NM 86 NYT 30	0+42	41' LT.	TO REMAIN
NM 87 NYT 31	2+86	62' LT.	TO REMAIN
NM 88 NYT 32	4+36	83' LT.	TO REMAIN
NM 88 1/2 NYT 32-5	4+75	87' LT.	TO REMAIN
NM 77	4+98	99' LT.	TO REMAIN
NM 89 NYT 33	6+22	92' LT.	TO REMAIN
NM 92 NYT 36	10+08	101' LT.	TO REMAIN
NM 92 1/2 NYT 36-5	11+24	96' LT.	TO REMAIN
NM 93 NYT 37	12+35	81' LT.	TO REMAIN
NM 95 1/2	13+46	40' RT.	TO REMAIN
NM 34 NYT 38	13+94	38' LT.	TO REMAIN

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10/21/98  
64

TABLE OF GUIDE RAIL N.I.C.

STATION STA. TO STA.	ITEM	ITEM	ITEM	ITEM
1+64 TO 6+63 RT.	427 L.F.	72 L.F.	1 EA.	1 EA.
2+72 TO 6+63 LT.	391			1 EA.
9+42 TO 13+14 LT.	372			1
9+42 TO NB 13+00 RT.	326	72		1
NB 13+00 TO 13+10 RT.	306.378	122	X	X 2
TOTALS	1966 1822 L.F.	144 288 L.F.	2 EA.	6 EA.
ITEM 606.10 - BOX BEAM GUIDE RAILING ITEM 606.11 - BOX BEAM GUIDE RAILING - SHOP CURVED ITEM 606.1401 - BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE I N.I.C. ITEM 606.1402 - BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE II				

AS BUILT REVISIONS  
BIN 5513660



DATE	DESCRIPTION	BY	SYM.
7/99	AS BUILT OF ITEM 606.77	KFK	△
8/99	CORRECT TABLE	KFK	△

REVISIONS

NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT HELDERBERG AVENUE  
BRIDGE REPLACEMENT

LOCATION OF PROJECT  
M.P. 155.54

TITLE OF DRAWING

MISCELLANEOUS TABLES



CONTRACT NUMBER:  
TAA 98-10BR  
DATE:  
1/98  
DRAWING NUMBER:  
MT-1

THE SEAR-BROWN GROUP





JWJ

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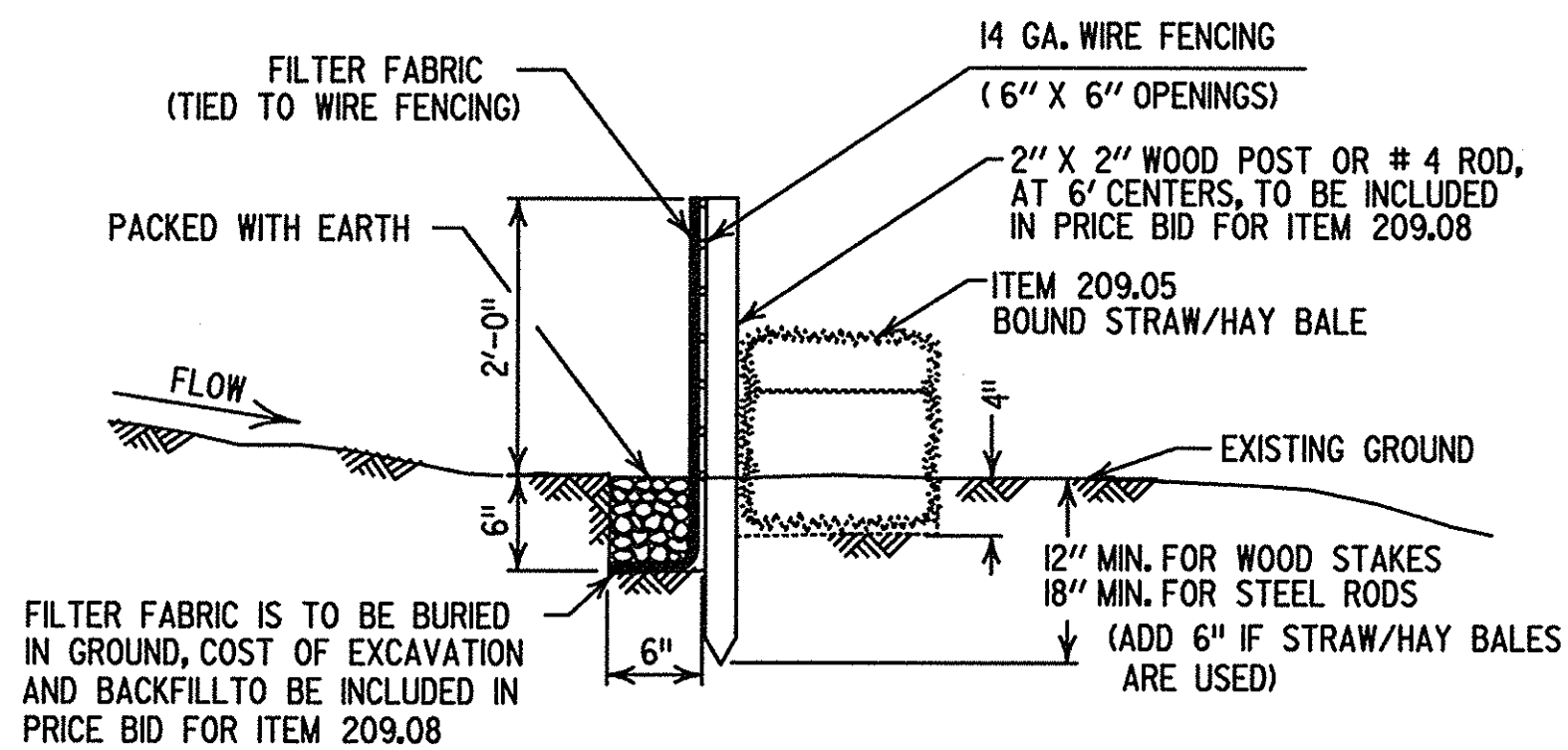
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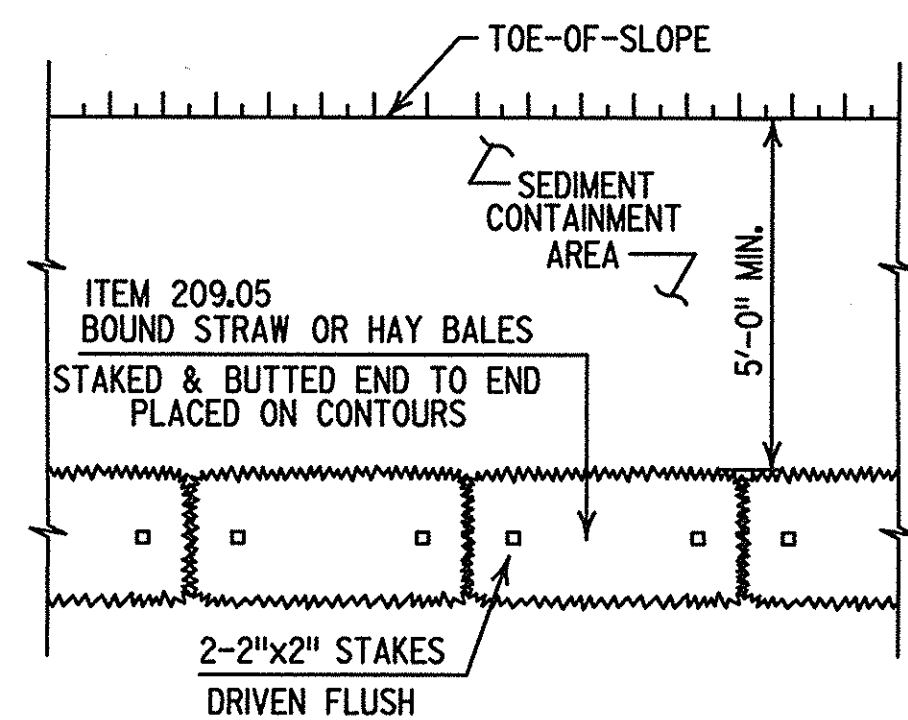
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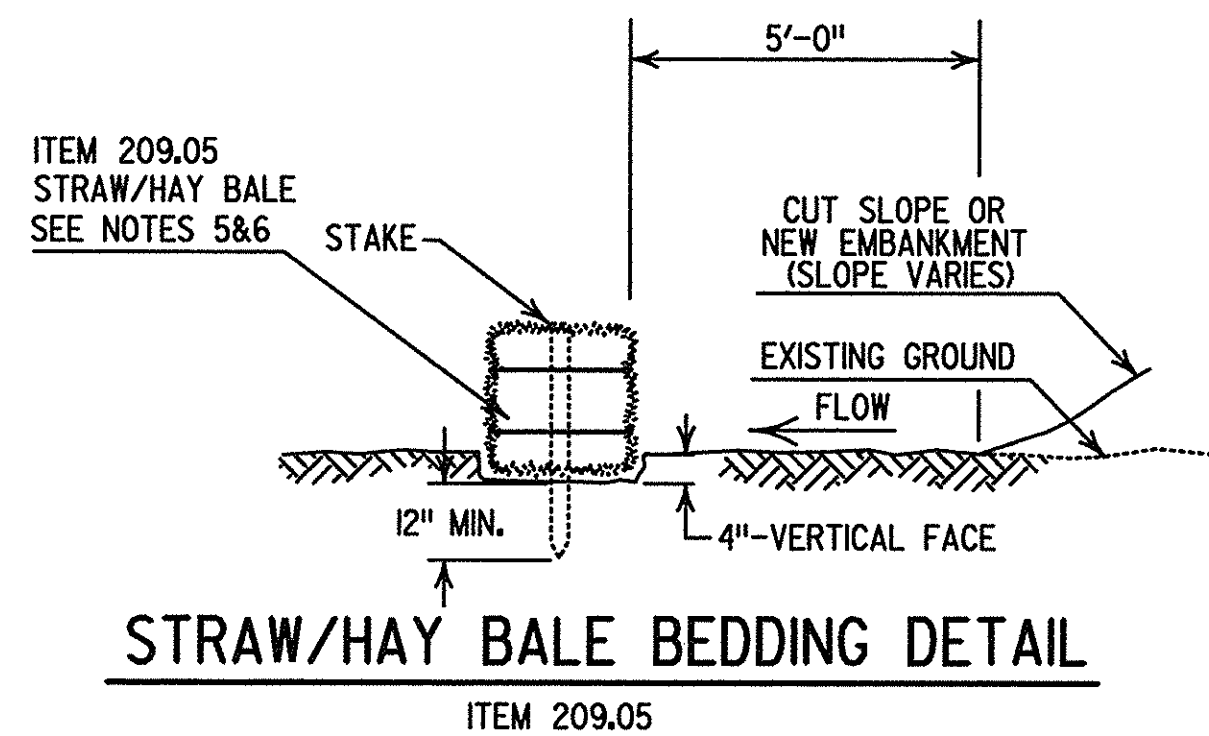


### TOE OF SLOPE POLLUTION CONTROL FOR SLOPES OF 25% OR GREATER

ITEM 209.08 - SILT FENCE

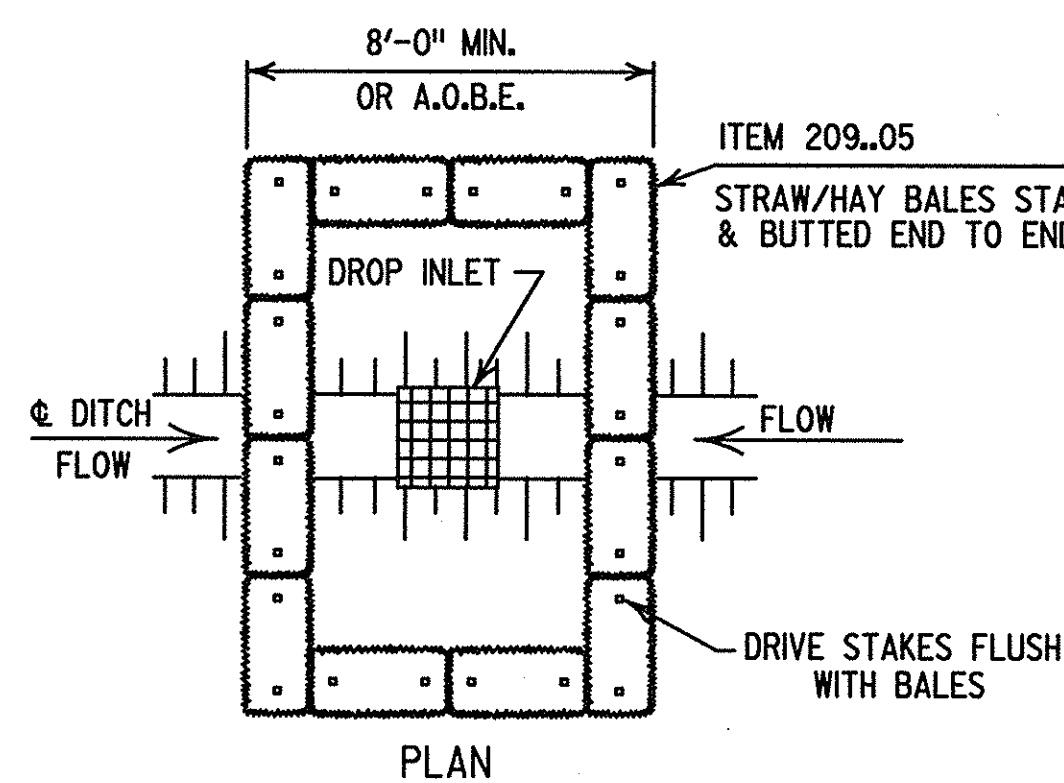


### TOE OF SLOPE POLLUTION CONTROL SLOPES LESS THAN 25%

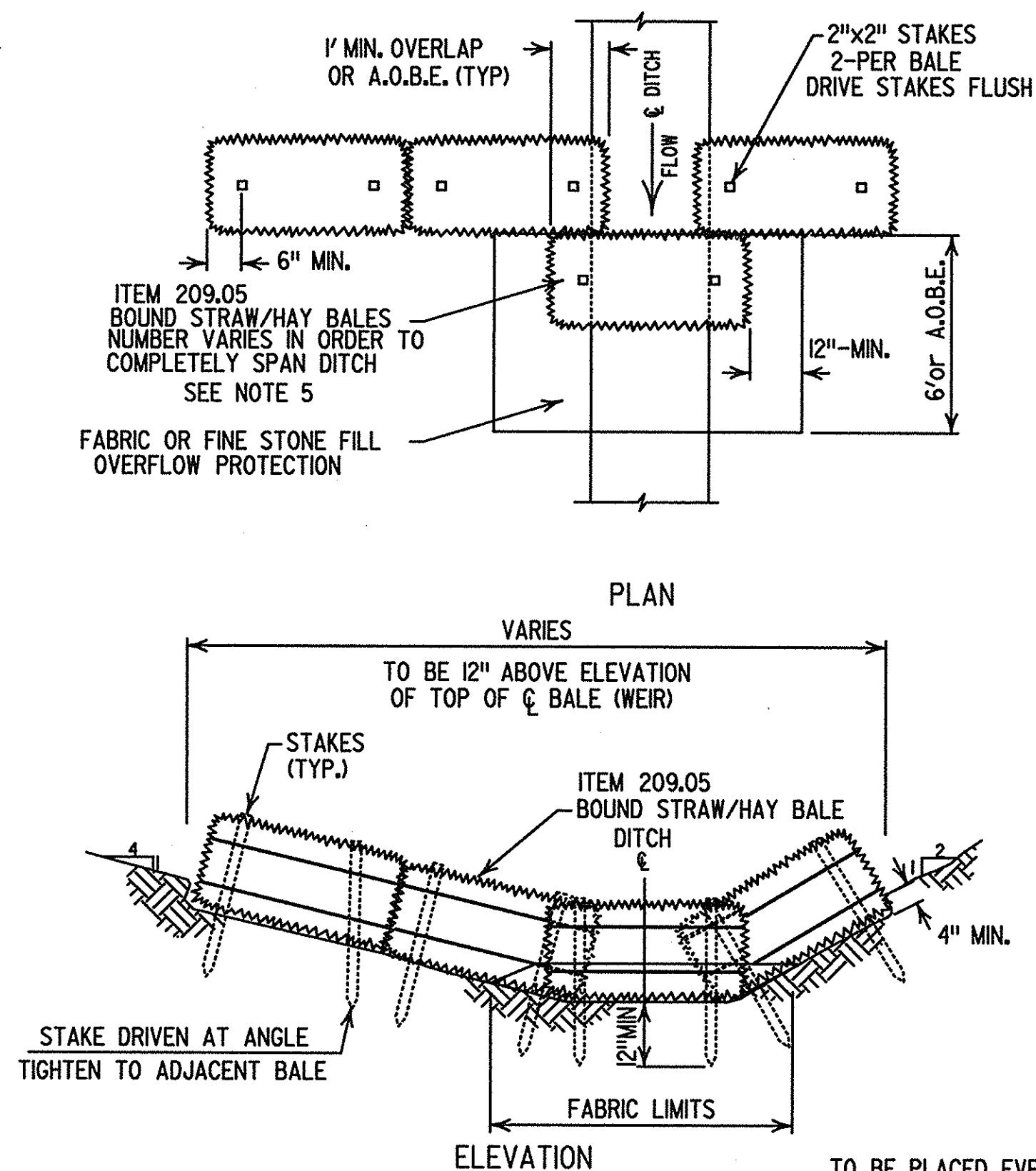


### STRAW/HAY BALE BEDDING DETAIL

ITEM 209.05



### DRAINAGE INLET PROTECTION



### DITCH POLLUTION CONTROL

### NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE APPLICABLE DEPARTMENT OF ENVIRONMENTAL CONSERVATION WATER QUALITY CERTIFICATION AND/OR FRESHWATER WETLANDS PERMITS.
2. DURING CONSTRUCTION, NO WET OR FRESH CONCRETE OR LEACHATE SHALL BE ALLOWED TO ESCAPE INTO THE WATERS OF NEW YORK STATE, NOR SHALL WASHINGS FROM CONCRETE TRUCKS, MIXERS, OR OTHER DEVICES BE ALLOWED TO ENTER ANY WETLAND OR WATERS.
3. ANY DEBRIS OR EXCESS MATERIALS FROM CONSTRUCTION OF THIS PROJECT SHALL BE IMMEDIATELY AND COMPLETELY REMOVED FROM THE BED AND BANKS OF ALL WATER AREAS TO AN APPROPRIATE UPLAND AREA FOR DISPOSAL.
4. THE SEQUENCE OF OPERATIONS SHOULD ALLOW FOR REGRADING AS CLOSE AS POSSIBLE TO FINAL GRADE. EVERY EFFORT SHALL BE MADE TO PROVIDE ESTABLISHMENT OF FINAL TURF IMMEDIATELY AFTER FINAL GRADING SO AS NOT TO LEAVE DISTURBED AREAS EXPOSED TO HARD RAIN OR DRY/WINDY CONDITIONS.  
  
IF CONSTRUCTION ACTIVITIES ARE DISCONTINUED IN AREAS OF SOIL DISTURBANCE PRIOR TO FINAL GRADING, THE TEMPORARY GRADING SHALL ALSO BE SEEDED AND MULCHED A.O.B.E. WITH A TEMPORARY COVER USING A QUICK GROWING SPECIES (RYEGRASS, ITALIAN RYEGRASS, OR CEREAL GRASSES) SUITABLE TO THE AREA. THIS WORK IS TO BE PAID FOR UNDER ITEM 610.0203, ESTABLISHING TURF.
5. STRAW/HAY BALES SHALL BE EMBEDDED IN THE SOIL. THEY SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS THROUGH THE BALES SO THAT THE ENDS TIGHTLY ABUT THE ADJACENT BALES, AS SHOWN ON APPROPRIATE DETAILS. COST OF STAKES/REBARS IS INCLUDED IN BID PRICE FOR STRAW/HAY BALES.

## NO REVISIONS

6. FOR STRAW/HAY BALE USE THE DRAINAGE AREA SHALL BE NO MORE THAN 1/4 ACRE PER 100' OF DIKE USE AND SLOPES LESS THAN 25%.
7. TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL DEVICES SHALL BE CLEANED BI-WEEKLY, AS A MINIMUM, AFTER ANY STORM AND AS ORDERED BY THE E.I.C.. INSPECTION AOF ALL DEVICES SHALL BE MADE DAILY AND DEFICIENCIES CORRECTED THAT DAY.
8. ALL CONTROLS SHALL BE PLACED PRIOR TO STARTING EARTHWORK OPERATIONS AND SHALL REMAIN IN PLACE UNTIL THE NEW SLOPES ARE STABILIZED WITH SEEDING AND/OR SLOPE PROTECTION A.O.B.E..
9. THE COST OF INSTALLING, CLEANING AND REMOVING TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL DEVICES SHALL BE PAID FOR UNDER THE ITEMS SHOWN.
10. FILTER FABRIC SHALL SATISFY THE REQUIREMENTS OF SECTION 207-2 OF THE STANDARD SPECIFICATIONS.
11. WHERE SILT FENCE IS USED IN AREAS OF CONCENTRATED FLOW, THE ENGINEER IN CHARGE MAY CALL FOR BACKING THE FENCE WITH STRAW/HAY BALES, ITEM 209.05 AS SHOWN IN THE DETAILS.
12. AN APPROVED GEOTEXTILE OR FILTER FENCE MAY BE SUBSTITUTED AT NO ADDITIONAL COST TO THE NY.S.T.A. GEOTEXTILE SHALL SATISFY THE REQUIREMENTS OF SECTION 207.02 OF THE STANDARD SPECIFICATIONS. SILT FENCE, ITEM 209.08 WILL ONLY BE PAID FOR IN LOCATIONS SHOWN IN PLANS AND/OR TABLES.
13. STRAW/HAY BALES HAVE A USEFUL DESIGN EXPECTANCY OF 3 MONTHS, AT WHICH TIME THEY WILL BE REPLACED, OR A.O.B.E.. PAYMENT SHALL BE INCLUDED IN BID PRICE FOR ITEM 209.05.
14. OTHER EROSION CONTROL MEASURES MAY BE REQUIRED, A.O.B.E., IN ADDITION TO SCHEMES SHOWN ON THIS SHEET. PAYMENT FOR ADDITIONAL DEVICES SHALL BE MADE UNDER RESPECTIVE ITEMS AT NO ADDITIONAL COST TO THE THRUWAY.

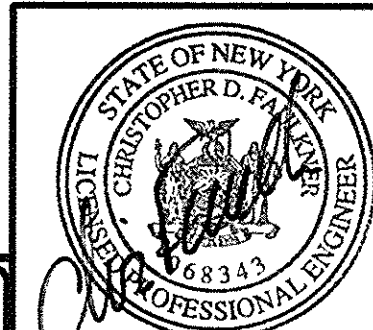
### GENERAL NOTES

THE CONTRACTOR'S ATTENTION IS DRAWN TO THE FACT THAT THE SOIL EROSION AND WATER POLLUTION CONTROL DEVICES AS SHOWN ON THE CONTRACT PLANS ARE MINIMUM REQUIREMENTS. THE ENGINEER IN CHARGE MAY REQUIRE ADDITIONAL MEASURES (OR DELETION OF MEASURES) AFTER CONSULTATION WITH THE REGIONAL STORMWATER ENGINEER.

THE CONTRACTOR SHALL BE AWARE THAT TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL IS IMPORTANT FOR PROTECTION OF SOIL AND WATER RESOURCES AND SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 209-TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL. PAYMENT SHALL BE MADE UNDER BID PRICE FOR ITEMS NOTED ON PLANS

### NO AS BUILT REVISIONS BIN 5513660

DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING EROSION CONTROL DETAILS			



CONTRACT NUMBER:  
**TAA 98-10BR**  
DATE:  
**1/98**  
DRAWING NUMBER:  
**EC-1**

THE SEAR-BROWN GROUP



EC-2

THE **SEAR-BROWN** GROUP





USERNAME: CHRIS FALLNER  
 PLOTTER: HP-GL/DTJ 5000  
 FILENAME: F:\JOBS\167202\CIVIL\ES2.DGN  
 FONT FILE: SBCFLB  
 PLOT6 FILE: SBC600.PLT OR I:\IHP.PLT  
 PLOTTING OFFICE ?  
 DATE  
 TIME

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DESIGNED BY:

IN CHARGE OF:

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SUBDIVISION No.	LOCATION (Station to Station)	SUITABLE EXCAVATION						UNSUITABLE EXCAVATION					TOTAL EXCAVATION	EMBANKMENT				AVAILABLE FOR EMBANKMENT (203.01 ONLY) Te fe + Cr Fr
		Cr	Ce	Cp	Cb	Cg	Te	Co	Ca	Cs	Cx	Tu	Ct	Fb	Fs	F	Ft	
1	HELDERBERG AVENUE																	
	STA. 3+50 TO STA. 7+10.85	0	255	0	1105	0	1360	0	150	375	0	525	1885	1105	375	1240	2720	0
	STA. 7+10.85 TO STA. 8+94.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	430	430	0
	STA. 8+94.85 TO STA. 13+00	0	135	0	775	0	910	0	165	185	0	350	1260	775	185	1425	2385	0
2	NETHERLANDS BLVD.																	
	STA. NB 10+12 TO STA. NB 11+25	0	155	0	0	0	155	0	70	15	0	85	240	0	15	45	60	0
	TOTALS	0	545	0	1880	0	2425	0	385	575	0	960	3385	1880	575	3140	5595	0

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.

REVISIONS

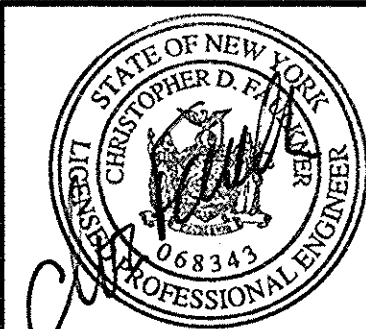
NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT HELDERBERG AVENUE  
BRIDGE REPLACEMENT

LOCATION OF PROJECT  
M.P. 155.54

TITLE OF DRAWING

EARTHWORK SUMMARY SHEET

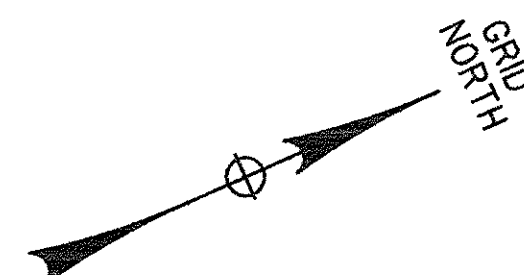


CONTRACT NUMBER:  
TAA 98-10BR

DATE:  
1/98

DRAWING NUMBER:  
ES-2

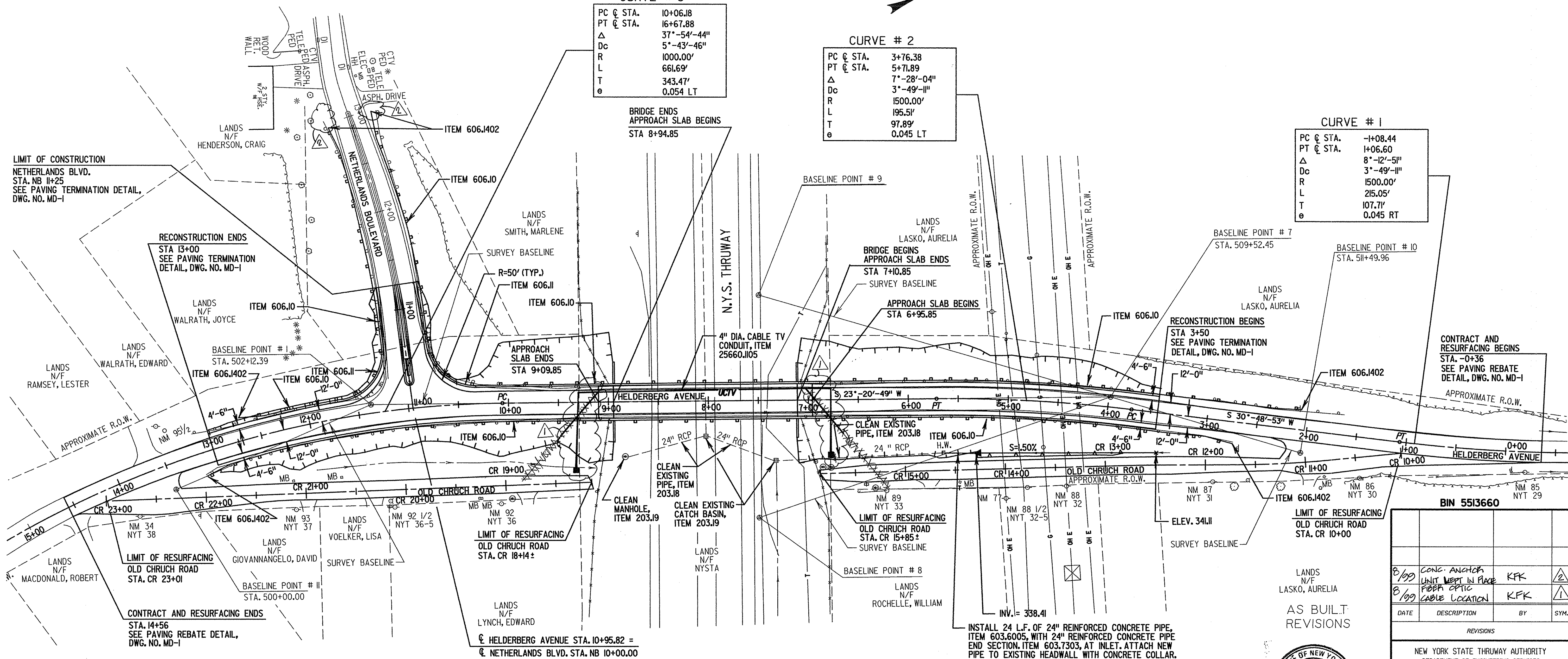
THE SEAR-BROWN GROUP



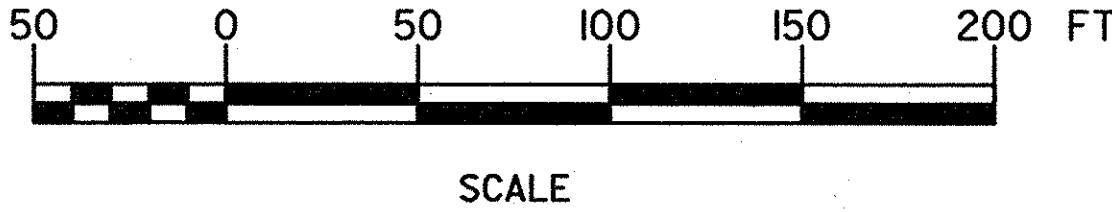
CURVE # 3	
PC @ STA.	10+06.18
PT @ STA.	16+67.88
Δ	37°-54'-44"
DC	5°-43'-46"
R	1000.00'
L	661.69'
T	343.47'
e	0.054 LT

CURVE # 2	
PC @ STA.	3+76.38
PT @ STA.	5+71.89
Δ	7°-28'-04"
Dc	3°-49'-11"
R	1500.00'
L	195.51'
T	97.89'
e	0.045 LT

CURVE # 1	
PC @ STA.	-1+08.44
PT @ STA.	1+06.60
$\Delta$	8°-12'-51"
Dc	3°-49'-11"
R	1500.00'
L	215.05'
T	107.71'
e	0.045 RT




- NOTES:**
1. SHOULD UTILITIES BE ENCOUNTERED DURING CONSTRUCTION WHICH MAY INTERFERE WITH THE WORK AND WHICH PROVISIONS ARE NOT PROVIDED ON THE PLAN, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF THEIR EXISTENCE AND EXTENT OF CONFLICT WITH THE WORK. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNING AGENCY TO MODIFY ITS FACILITY IN ORDER TO ALLOW THE WORK TO PROGRESS.
  2. SPECIAL CARE SHALL BE TAKEN TO AVOID ANY DAMAGE TO EXISTING UTILITIES. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE NEW YORK STATE THRUWAY AUTHORITY.
  3. THE CONTRACTOR SHALL INSTALL JUTE MESH, ITEM 612.0201, ALONG ALL NEWLY TOPSOILED AND SEEDS EMBANKMENT SLOPES.

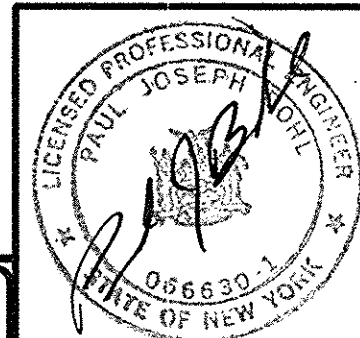


BIN 5513660			NTT 29
8/99	CONC. ANCHOR UNIT WEPT IN PLACE	KFK	2
8/99	FIBER OPTIC CABLE LOCATION	KFK	1
DATE	DESCRIPTION	BY	SYM.

REVISONS	
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209	
TITLE OF PROJECT	HELDERBERG AVENUE BRIDGE REPLACEMENT
LOCATION OF PROJECT	M.P. 155.54
TITLE OF DRAWING  50' SCALE PLAN	

	CONTRACT NUMBER:
	<b>TAA 98-10BR</b>
	DATE:
	<b>1/98</b>
	DRAWING NUMBER:
	<b>PL-I</b>

**THE SEAR-BROWN GROUP**





USERNAME: JEFF JOHNS  
OFFICE: ?  
FILENAME: F:\JOBS \ 1467202 \ CIVIL \ PROFILE.DGN  
FONT FILE: SDC16E  
PLOT FILE: SDC600.PLT OR INTDPLT  
DATE: 1/98  
TIME: 11:00

JWJ

KAR

CDP

PJB

IN CHARGE OF:

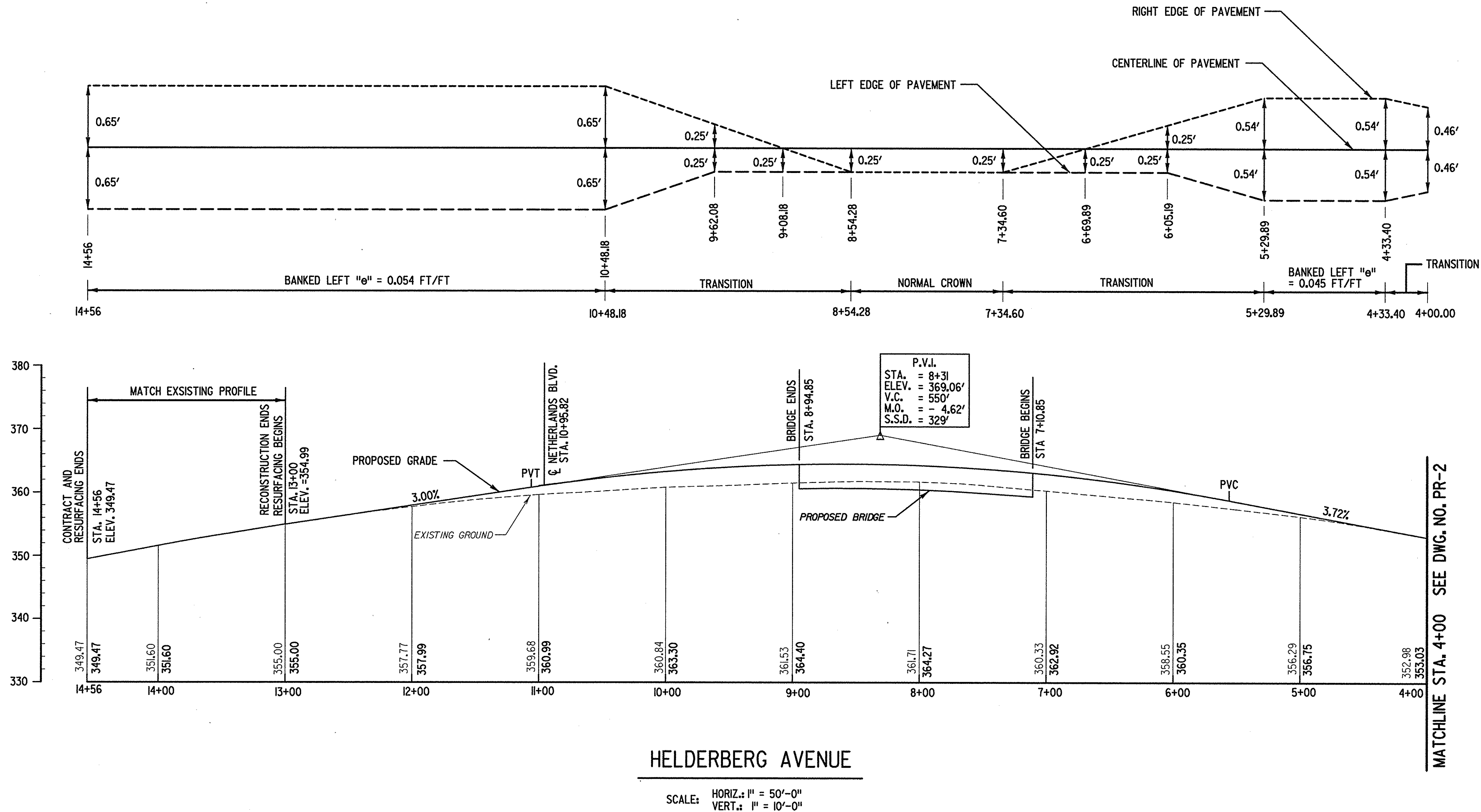
DESIGNED BY:

DRAFTED BY:

CHECKED BY:

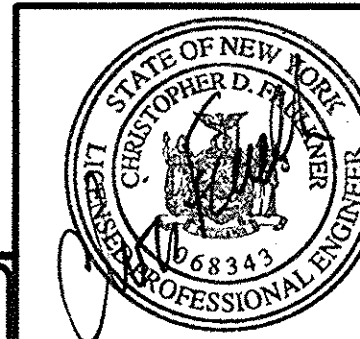
NO REVISIONS.

17  
64



NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING 50' SCALE PROFILE			



CONTRACT NUMBER:  
**TAA 98-10BR**

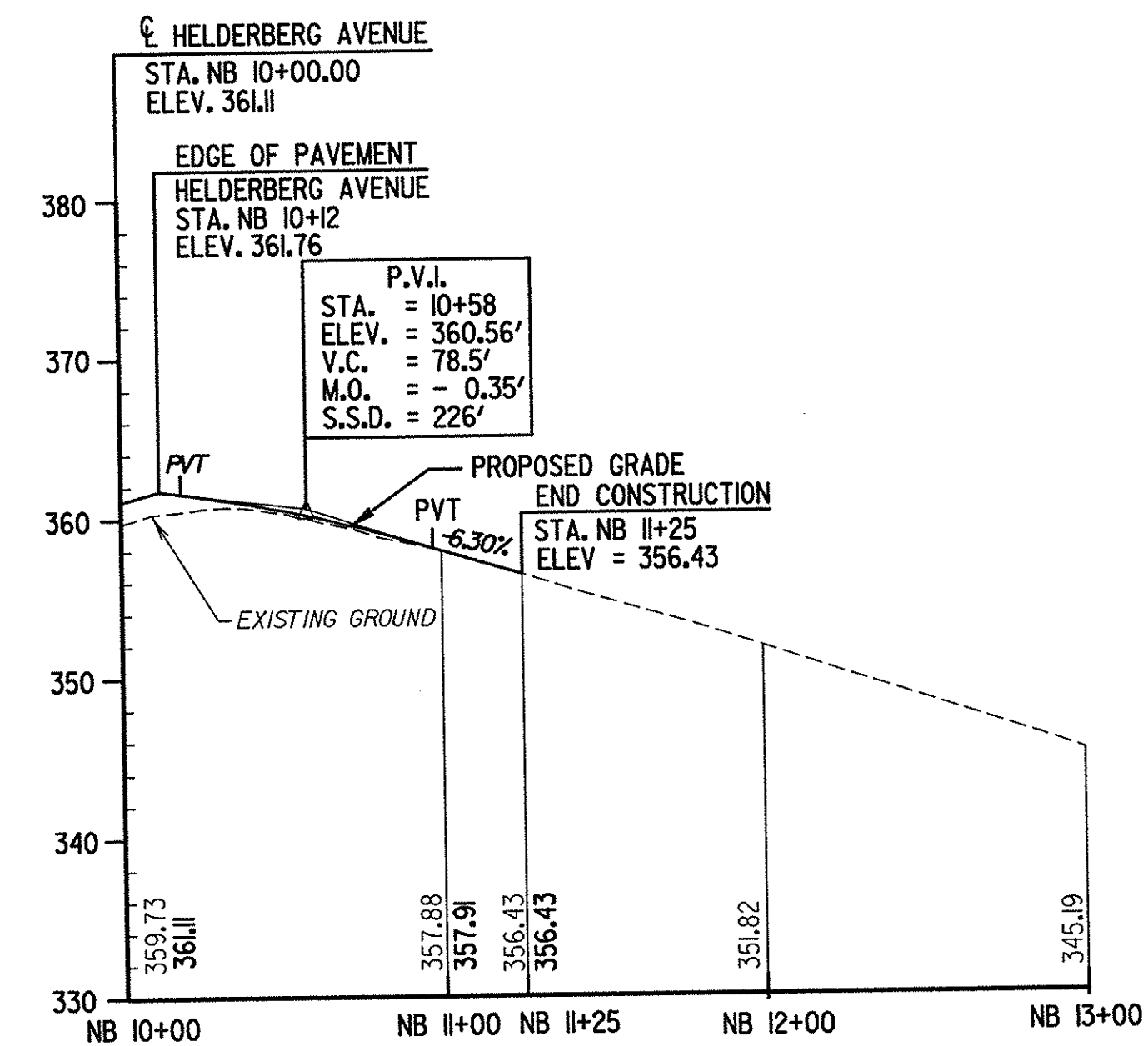
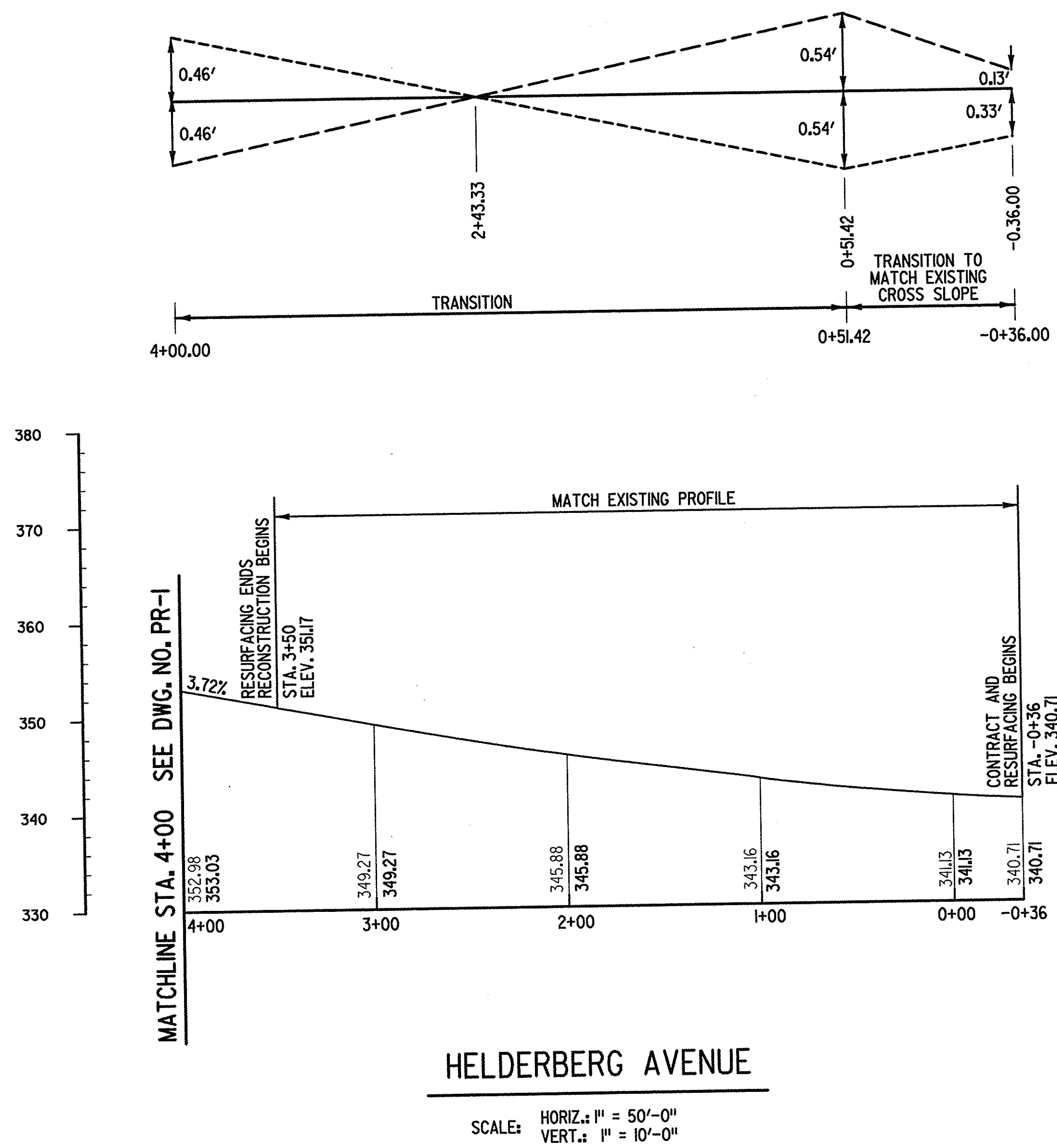
DATE:  
**1/98**

DRAWING NUMBER:  
**PR-1**

THE SEAR-BROWN GROUP

USERNAME: JEFF JOHNS  
FILENAME: F:\JOBS\1467202\CIVIL\PROFILE.DGN  
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PLOT FILE: 506550.PLT OR INTUP.PLT  
OFFER: ?  
USER:  
DATE:  
TIME:

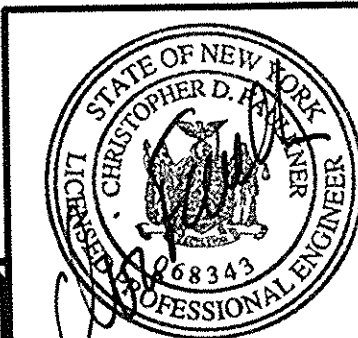
IN CHARGE OF: PJB  
DESIGNED BY: CDF  
DRAFTED BY: KAR  
CHECKED BY: JWW



NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING 50' SCALE PROFILE			
CONTRACT NUMBER: TAA 98-10BR			
DATE: 1/98			
DRAWING NUMBER: PR-2			

THE SEAR-BROWN GROUP







LEGEND

- GUIDE RAIL
- SIGN
- UTILITY POLE
- DROP INLET
- STORM SEWER MANHOLE
- FENCE
- DECIDUOUS TREE/BUSH

NOTES

- SEE DRAWING NO. ST-29 FOR PARTIAL PLAN AND DETAILS OF STONE GUTTERS.
- IF ACCESS IS REQUIRED DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE GATES AT NO ADDITIONAL COST TO THE AUTHORITY.

AS BUILT REVISIONS  
BIN 5513660

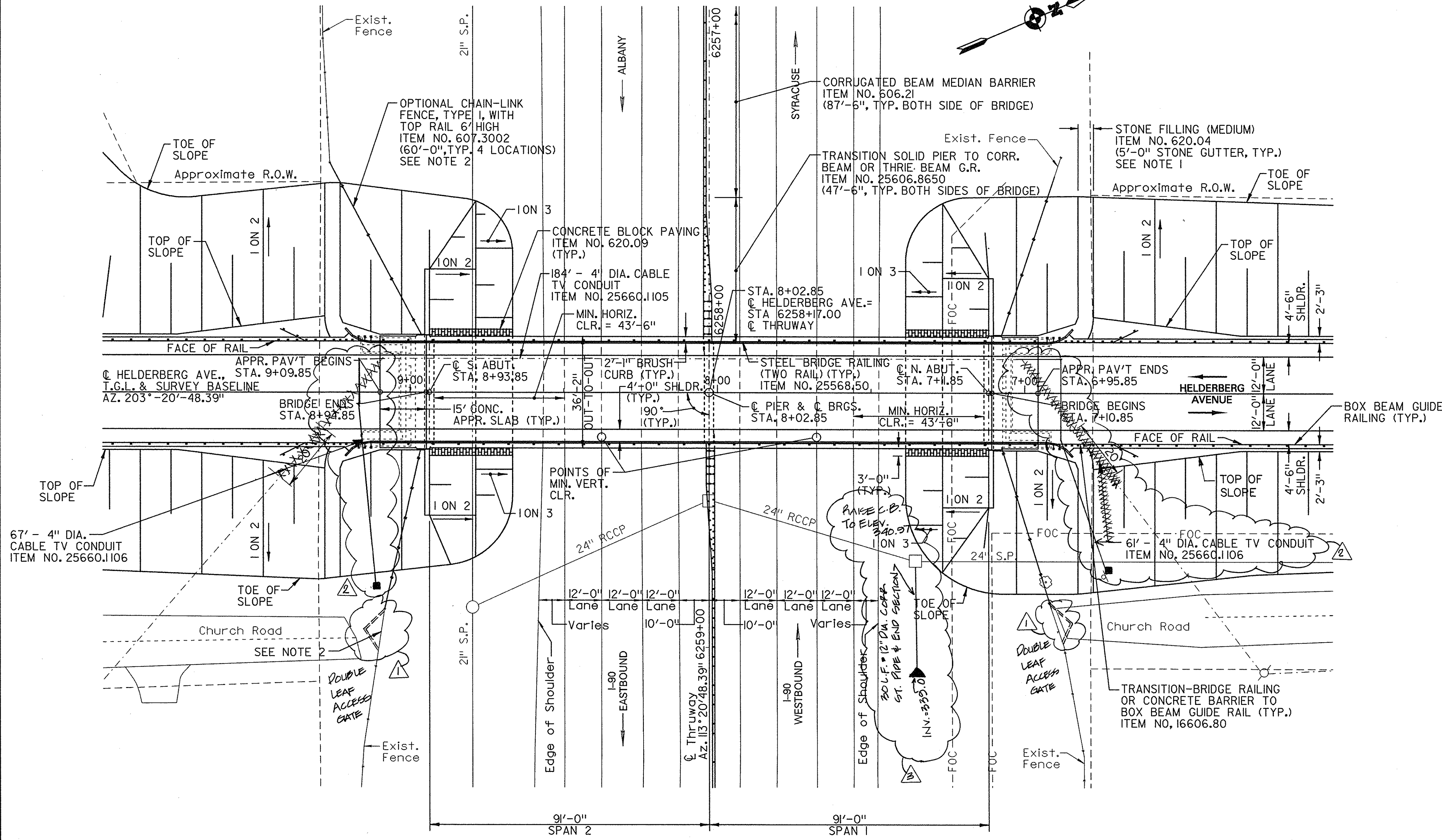
DATE	DESCRIPTION	BY	SYM.
12/99	FORCE ACCOUNT ITEM 909.2810	KFK	3
8/99	FIBER OPTIC CABLE LOCATION	KFK	2
4/99	FENCE GATES	KFK	1

REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING PROPOSED PLAN & ELEVATION			

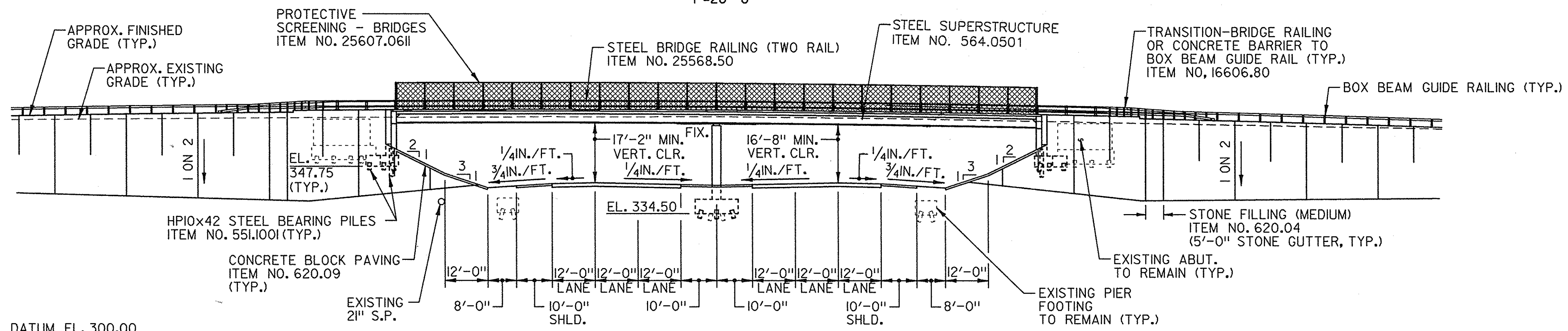
CONTRACT NUMBER: TAA 98-10BR	DATE: 6/98	DRAWING NUMBER: ST-4

THE SEAR-BROWN GROUP

T.R.B.  
CHECKED BY  
R.J.M.  
DRAFTED BY  
R.J.M.  
DESIGNED BY  
J.R.N.  
IN CHARGE OF



1 PLAN  
1"=20'-0"



2 ELEVATION  
1"=20'-0"



T.R.B.

CHECKED BY:

R.J.M.

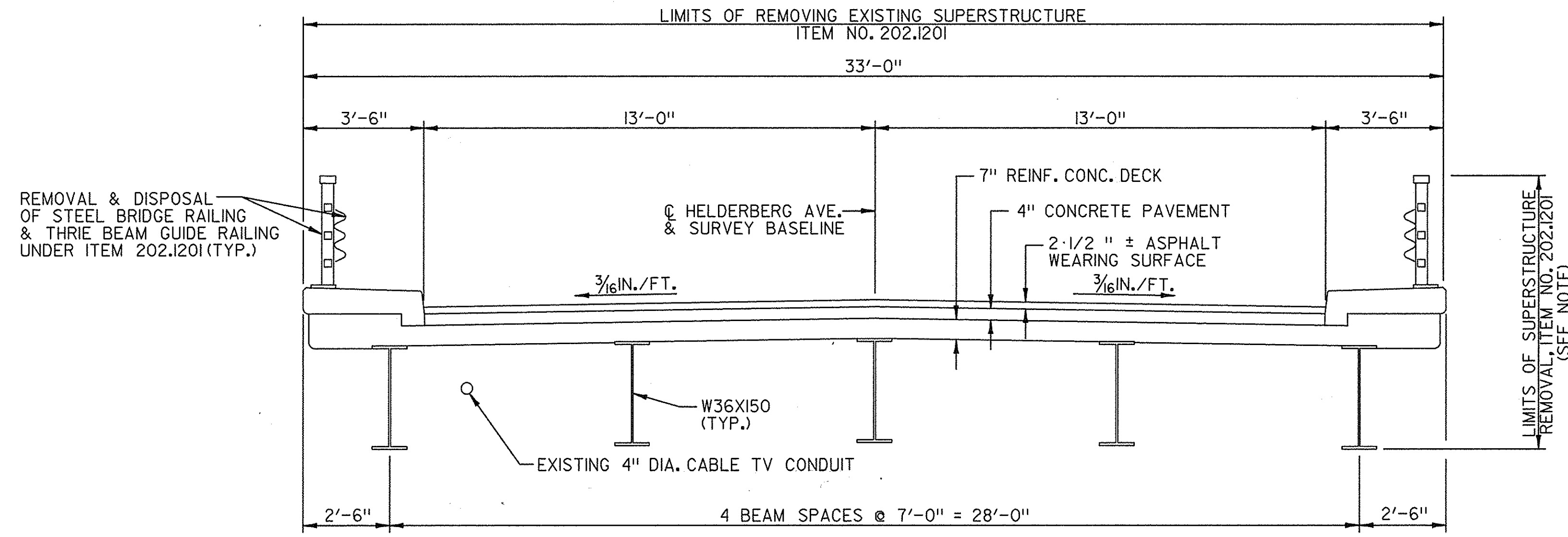
DRAFTED BY:

R.J.M.

DESIGNED BY:

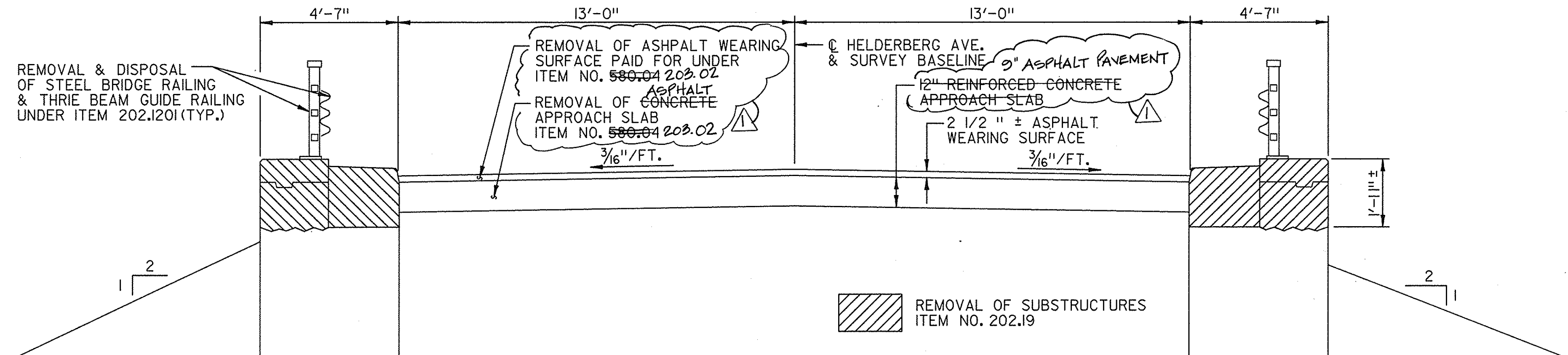
J.R.N.

IN CHARGE OF:

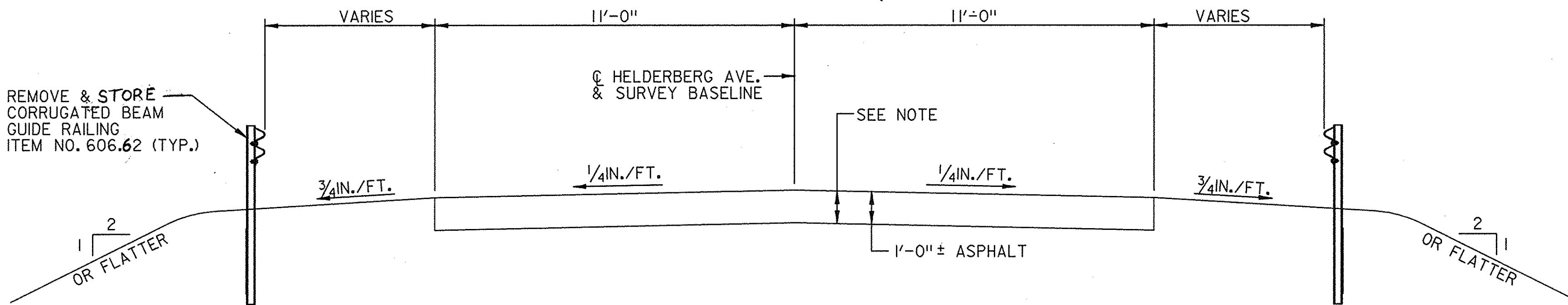


**1 SECTION**  
EXISTING TRANSVERSE SECTION  
3/8" = 1'-0"

**NOTE**  
REMOVAL OF BEARINGS SHALL BE INCLUDED IN THE PRICE  
BID FOR ITEM NO. 202.1201, REMOVING EXISTING SUPERSTRUCTURE



**2 SECTION**  
EXISTING APPROACH SLAB SECTION  
3/8" = 1'-0"



**3 SECTION**  
EXISTING HIGHWAY APPROACH SECTION  
3/8" = 1'-0"

**NOTE**  
WHERE THE EXISTING PAVEMENT IS ENCOUNTERED WITHIN 2 FEET OF  
THE NEW SUBBASE COURSE, IT SHALL BE THOROUGHLY BROKEN UP OR  
SCARIFIED. PAYMENT TO BE MADE UNDER ITEM 203.02 - UNCLASSIFIED  
EXCAVATION AND DISPOSAL, SEE NOTE 5, DRAWING NO. TS-1

AS BUILT REVISIONS  
BIN 5513660

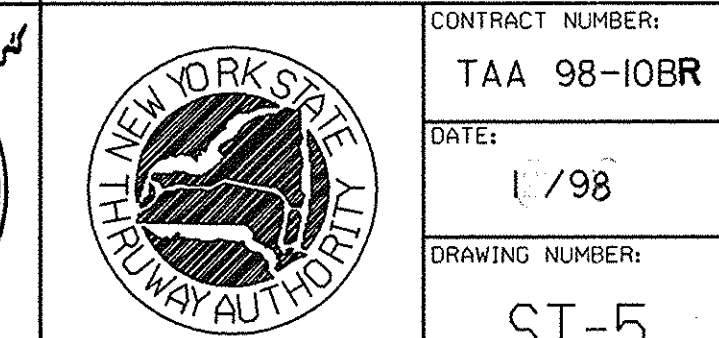
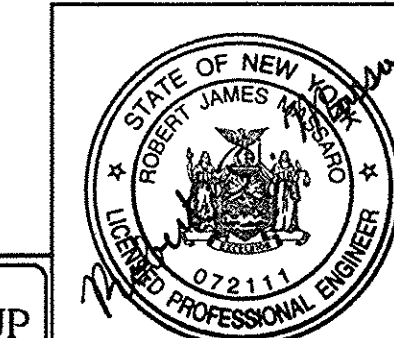
DATE	DESCRIPTION	BY	SYM.
10/99	ASPHALT APPR. SLAB	KFK	△

NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT HELDERBERG AVENUE  
BRIDGE REPLACEMENT

LOCATION OF PROJECT  
M.P. 155.54

TITLE OF DRAWING  
EXISTING TYPICAL SECTIONS

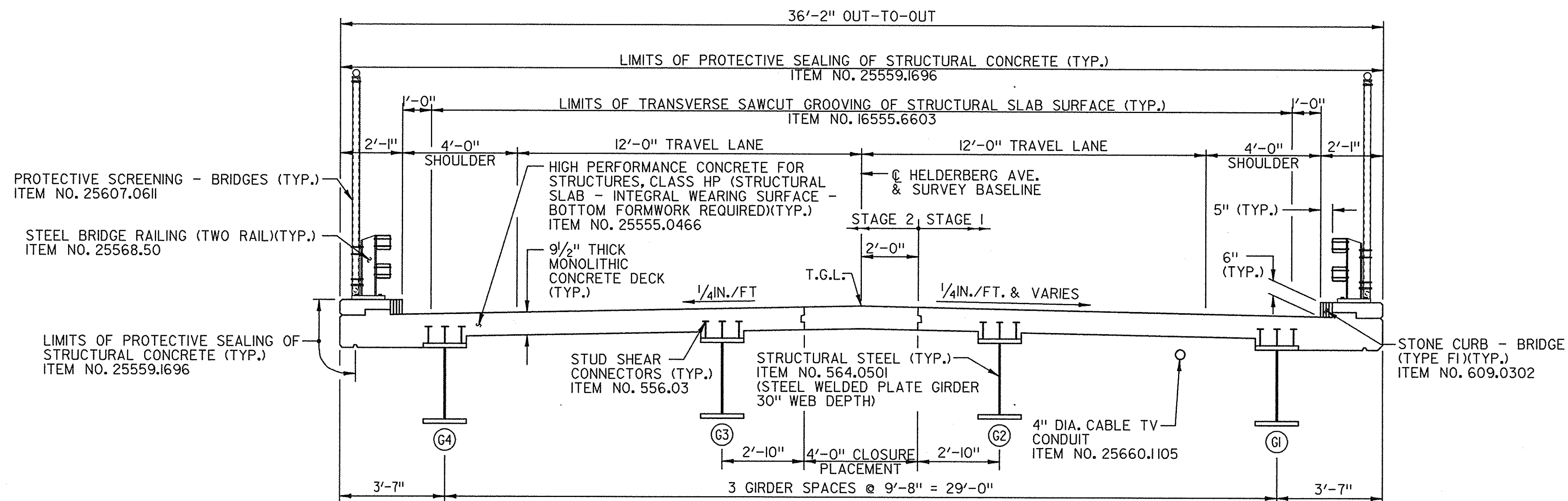


THE SEAR-BROWN GROUP

CONTRACT NUMBER:  
TAA 98-10BR

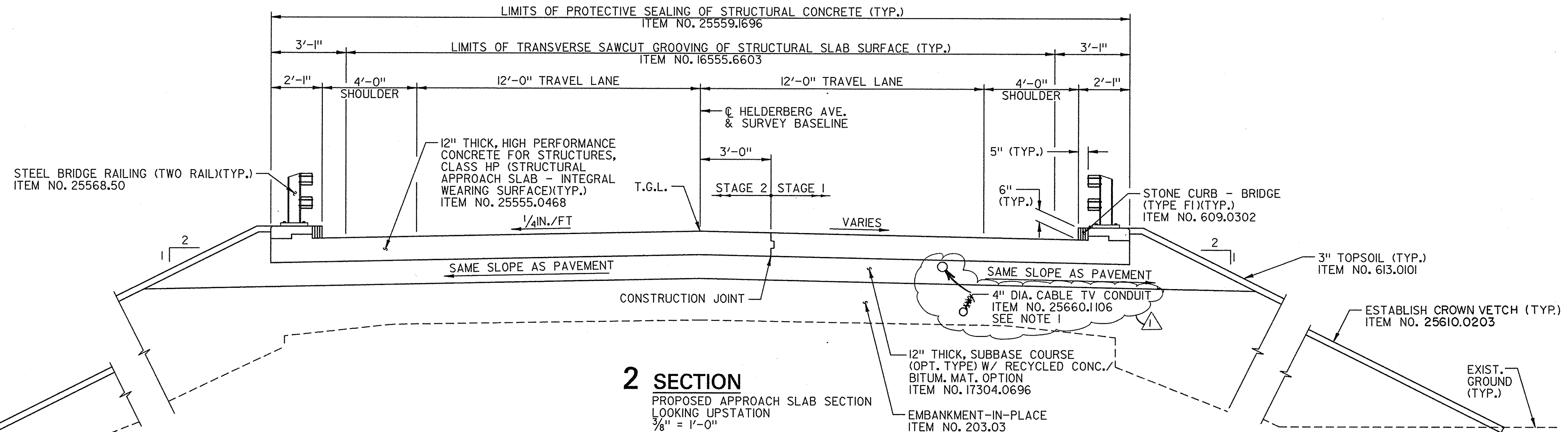
DATE:  
1/98

DRAWING NUMBER:  
ST-5



**1 SECTION**  
PROPOSED TRANSVERSE SECTION  
LOOKING UPSTATION  
3/8" = 1'-0"

NOTE:  
1. SEE DETAIL FOR BURIED CONDUIT ON DRAWING TS-1

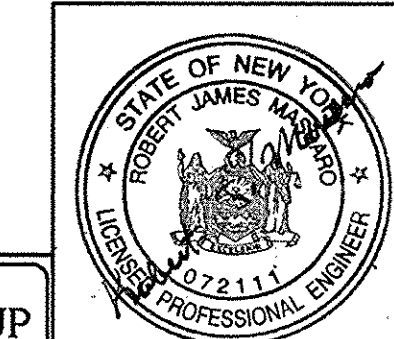


**2 SECTION**  
PROPOSED APPROACH SLAB SECTION  
LOOKING UPSTATION  
3/8" = 1'-0"

AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
7/99	ASPHALT BASE COURSE	KFK	2
7/99	CONDUIT IN SUBBASE	KFK	1

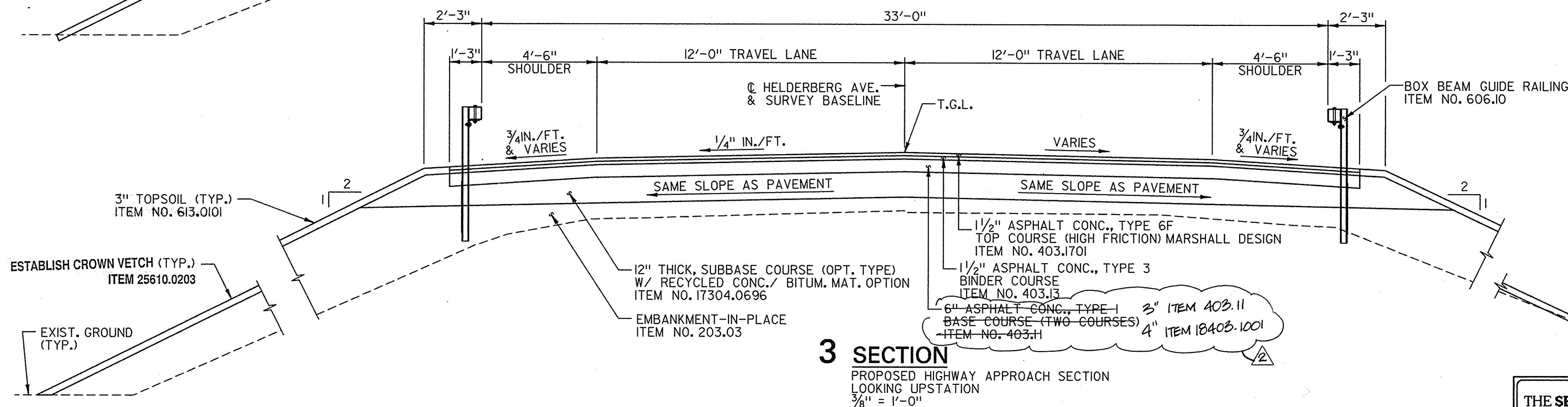
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING PROPOSED TYPICAL SECTIONS			



CONTRACT NUMBER: TAA 98-10BR
DATE: 6/98
DRAWING NUMBER: ST-6

THE SEAR-BROWN GROUP

**3 SECTION**  
PROPOSED HIGHWAY APPROACH SECTION  
LOOKING UPSTATION  
3/8" = 1'-0"



T.R.B.

CHECKED BY:

R.J.M.

DRAFTED BY:

R.J.M.

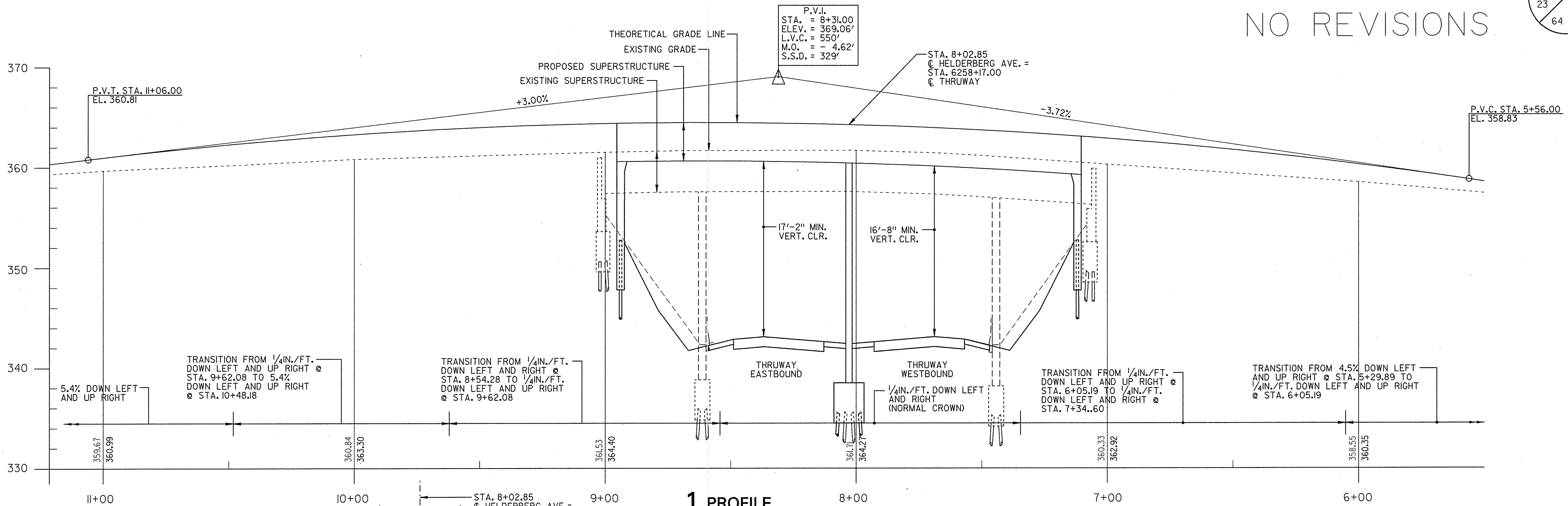
DESIGNED BY:

J.R.N.

IN CHARGE OF:

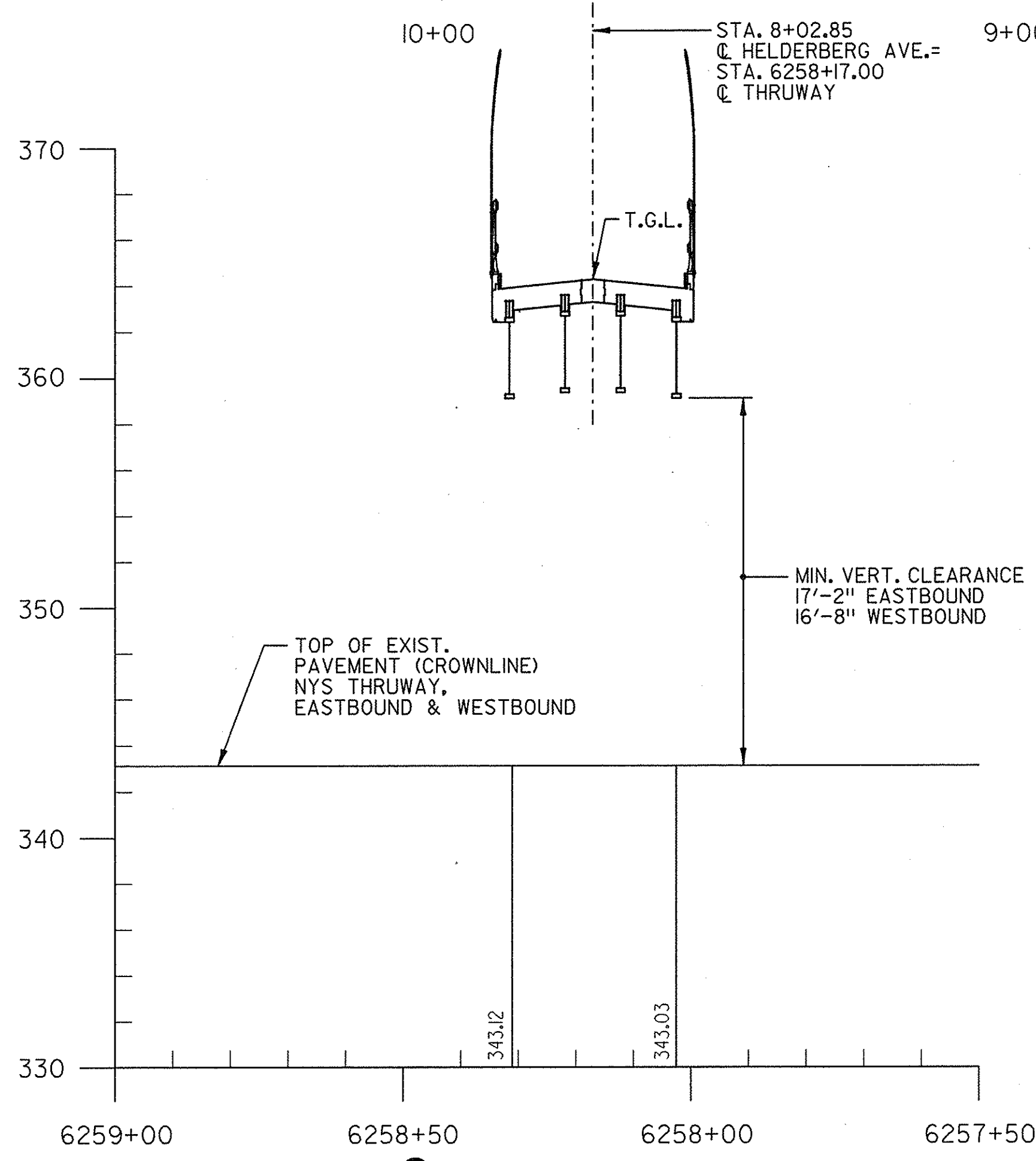


T.R.B.  
CHECKED BY:  
R.J.M.  
DRAFTED BY:  
R.J.M.  
DESIGNED BY:  
J.R.N.  
IN CHARGE OF:



1 PROFILE  
HELDERBERG AVE.  
HORIZONTAL: 1"=20'-0"  
VERTICAL: 1"=5'-0"

TOP OF ROCK ELEVATIONS	
BORING NO. 9 = EL. 283.40	
BORING NO. 10 = EL. 277.90	
BORING NO. 11 = EL. 272.50	
FOR BORING LOCATIONS SEE DWG. NO. ST-4	



2 PROFILE  
THRUWAY  
HORIZONTAL: 1"=20'-0"  
VERTICAL: 1"=5'-0"

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING PROFILES			

THE SEAR-BROWN GROUP

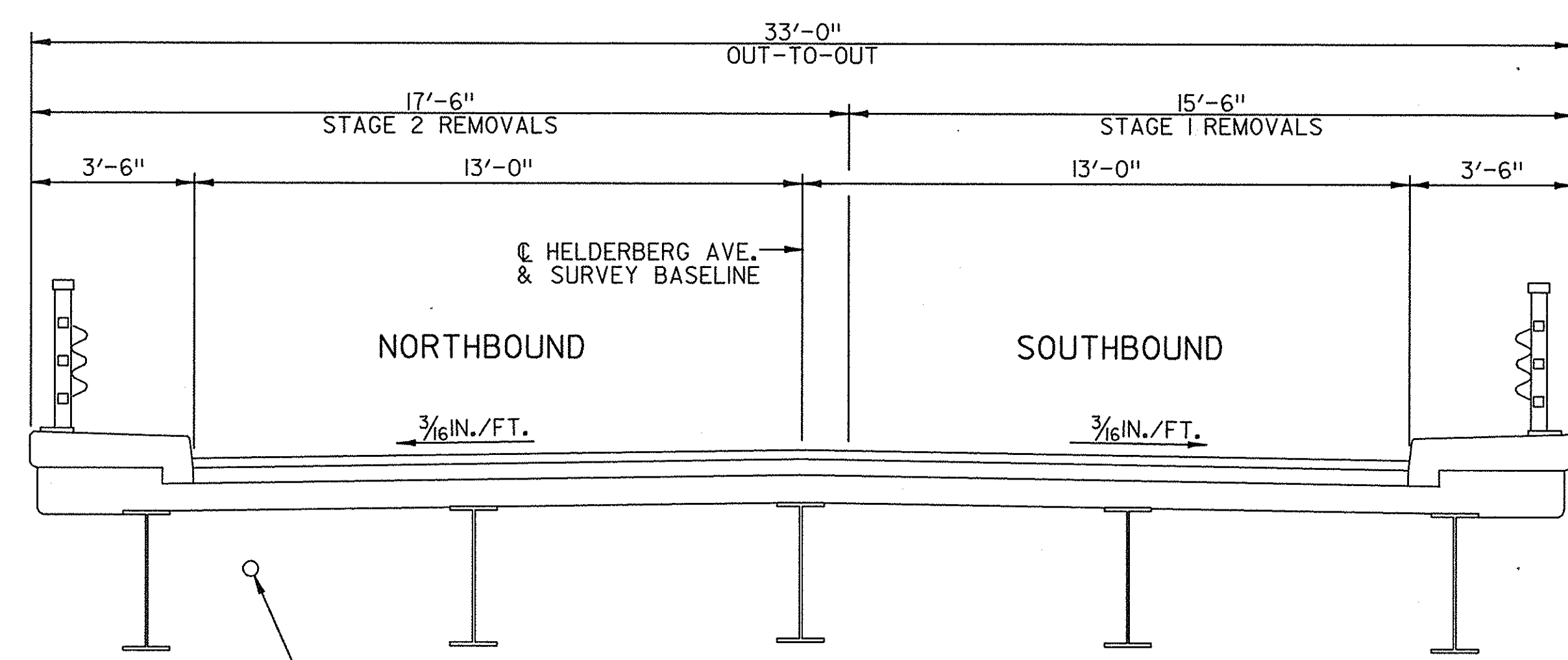


CONTRACT NUMBER: TAA 98-10BR
DATE: 1/98
DRAWING NUMBER: ST-7

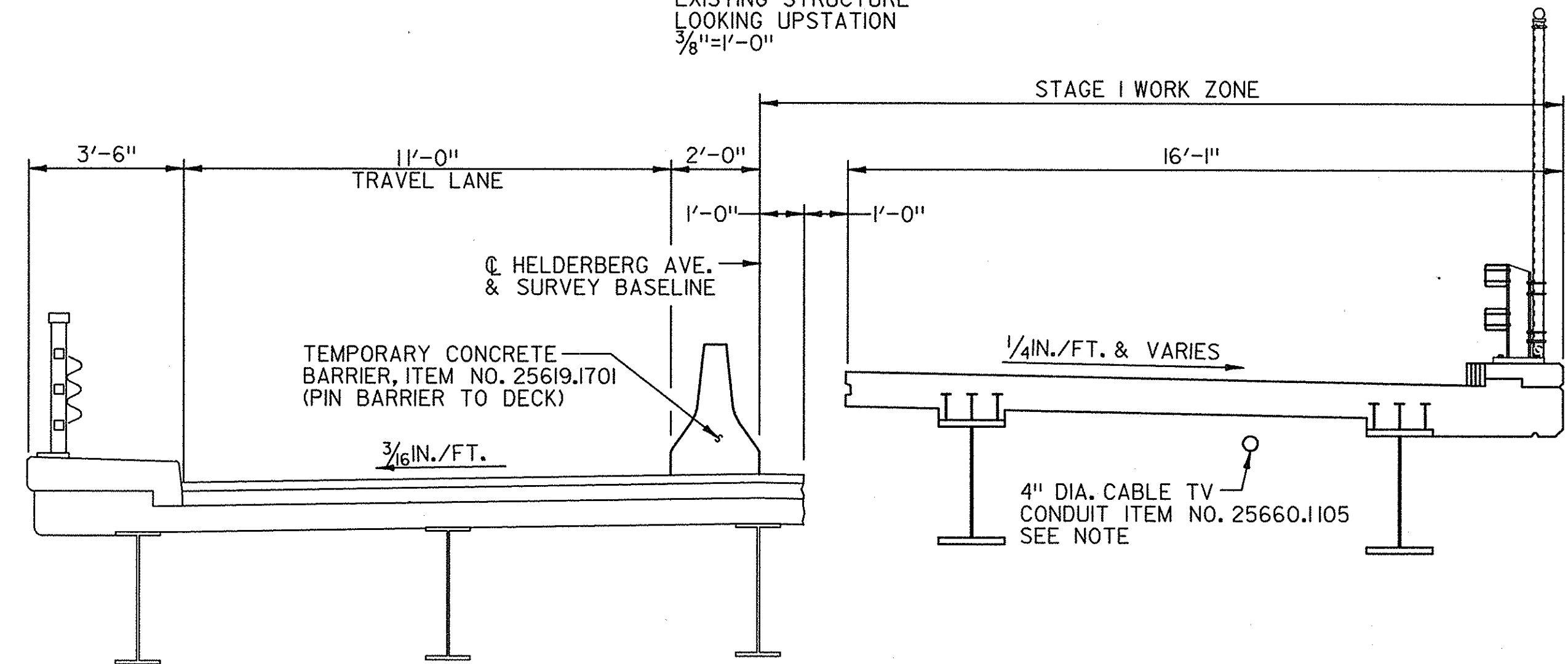
NO REVISIONS

# STAGED CONSTRUCTION SEQUENCE

1. MOVE TRAFFIC TO EAST SIDE OF BRIDGE.
2. REMOVE WEST SIDE OF SUPERSTRUCTURE TO LIMITS SHOWN ON I/ST-8.
3. EXCAVATE FOR STAGE I NEW SUBSTRUCTURES, REMOVING EXISTING SUBSTRUCTURES AS REQUIRED.
4. CONSTRUCT STAGE I NEW SUBSTRUCTURES
5. INSTALL LAGGING BETWEEN NEW AND EXISTING ABUTMENTS AND BACKFILL.
6. CONSTRUCT STAGE I STRUCTURE AND APPROACH SLABS AND MOVE TRAFFIC ONTO IT.
7. REMOVE REMAINDER OF EXISTING SUPERSTRUCTURE.
8. EXCAVATE FOR STAGE 2 NEW SUBSTRUCTURES, REMOVING EXISTING SUBSTRUCTURES AS REQUIRED.
9. CONSTRUCT STAGE 2 NEW SUBSTRUCTURES.
10. CONSTRUCT STAGE 2 STRUCTURE AND APPROACH SLABS.
11. INSTALL DIAPHRAGMS BETWEEN STAGES, TIE REINFORCEMENT BETWEEN STAGES, INSTALL DECK CLOSURE PLACEMENT.



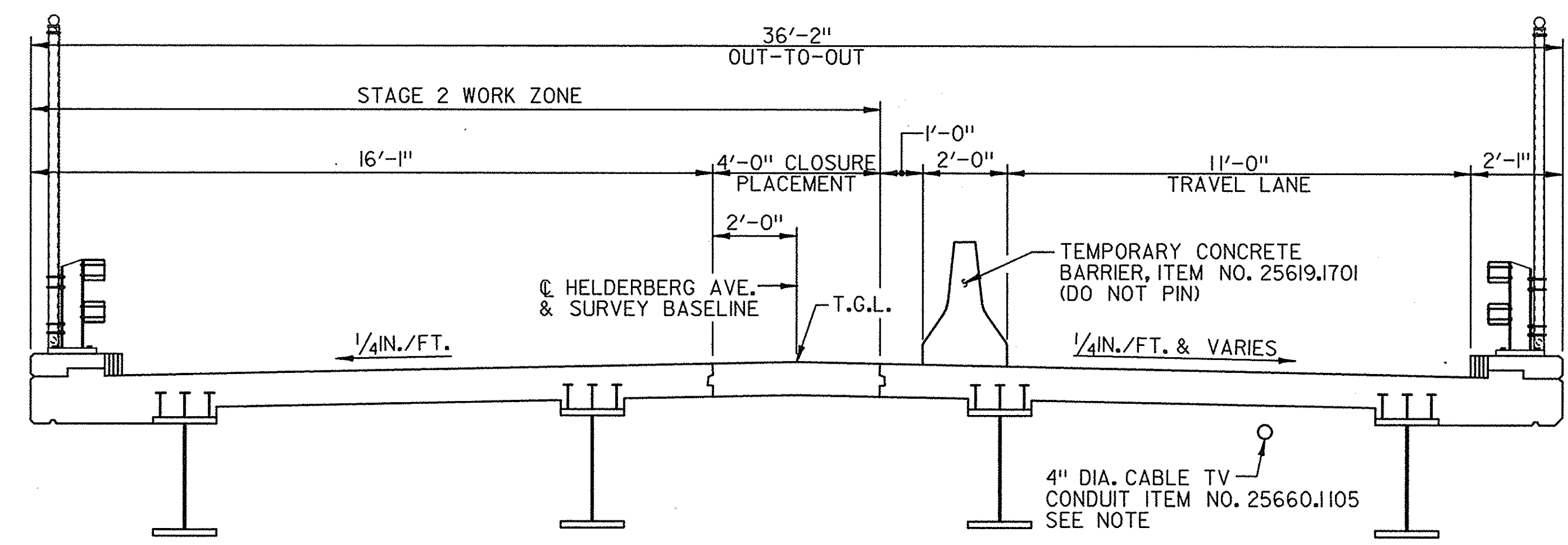
**1 SECTION**  
EXISTING STRUCTURE  
LOOKING UPSTATION  
3/8"=1'-0"



**STAGE 1**  
TRAFFIC ON EXISTING  
STRUCTURE

**2 SECTION**  
STAGE 1 CONSTRUCTION  
LOOKING UPSTATION  
3/8"=1'-0"

**STAGE 1**  
CONSTRUCTION OF  
NEW STRUCTURE



**STAGE 2**  
CONSTRUCTION OF  
NEW STRUCTURE

**3 SECTION**  
STAGE 2 CONSTRUCTION  
LOOKING UPSTATION  
3/8"=1'-0"

**STAGE 2**  
TRAFFIC ON  
NEW STRUCTURE

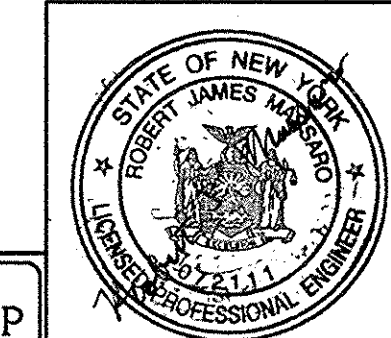
## NOTE

FOR UTILITY SUPPORT DETAILS,  
SEE DRAWING NO. ST-26

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.

REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING CONSTRUCTION STAGING			



CONTRACT NUMBER: TAA 98-10BR
DATE: 6/98
DRAWING NUMBER: ST-8

THE SEAR-BROWN GROUP

T.R.B.  
CHECKED BY:  
R.J.M.  
DRAFTED BY:  
R.J.M.  
DESIGNED BY:  
J.P.N.  
IN CHARGE OF:



## NOTES:

1. THE DIMENSIONS AND ELEVATIONS SHOWN FOR THE EXISTING STRUCTURE ARE BASED ON A COMBINATION OF INFORMATION CONTAINED IN RECORD PLANS AND FIELD SURVEY INFORMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THIS INFORMATION AS NEEDED.
2. IN STAGE 1 AT THE EXISTING ABUTMENTS, CONCRETE SHALL BE REMOVED TO A LIMIT OF 1 FOOT BEYOND THE STAGE LINE OR A.O.B.E.
3. SEE DRAWING NO. ST-11 FOR SECTION D-D.
4. SEE DRAWING NO. ST-11 FOR THE TEMPORARY STEEL SHEET PILING AND TIMBER LAGGING DETAILS.
5. SEE DRAWING NO. ST-10 FOR THE SUBSTRUCTURE BACKFILL PLAN.
6. SEE DRAWING NO. ST-12 FOR THE EXISTING SUBSTRUCTURE DIMENSIONS AND REMOVAL DETAILS.

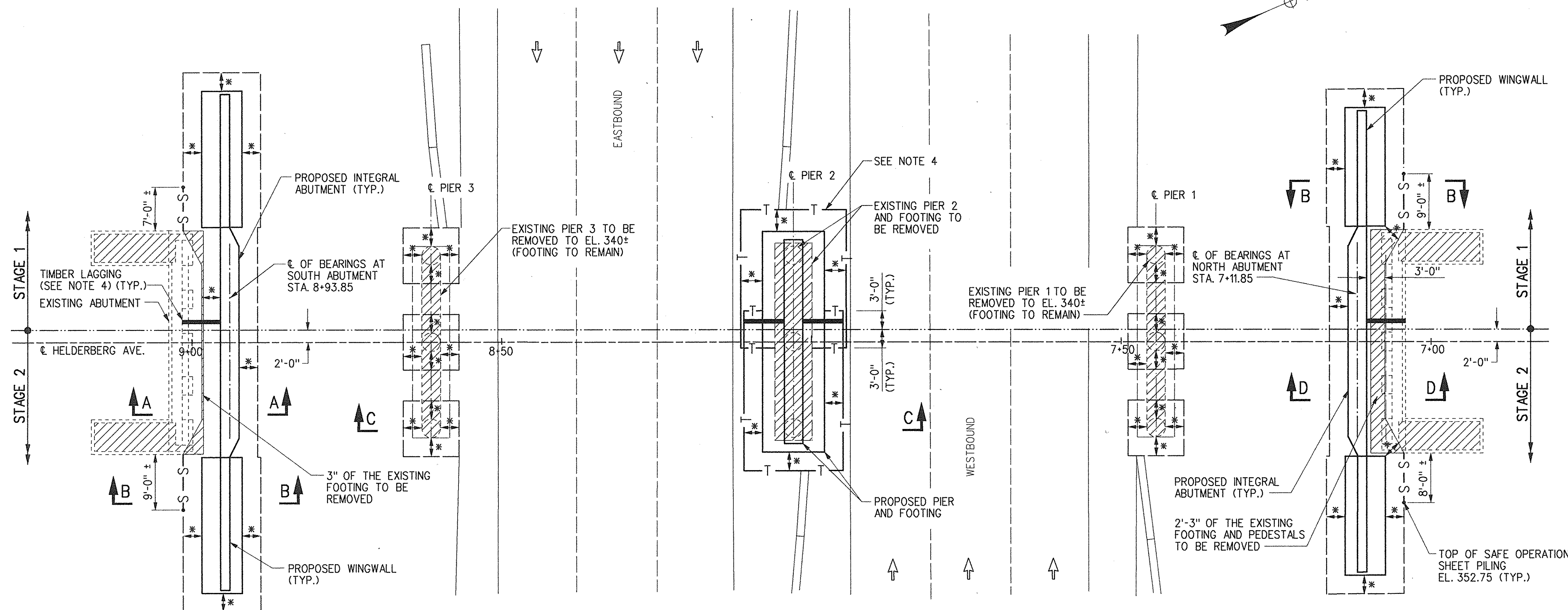
LEGEND	
	ITEM 202.19 - REMOVAL OF SUBSTRUCTURES
	ITEM 552.04 - TEMPORARY STEEL SHEET PILING
	ITEM 552.05 - SAFE OPERATION SHEET PILING
	LIMIT OF ITEM 206.02 - STRUCTURE EXCAVATION
*	3'-0"

CHECKED BY: WZY

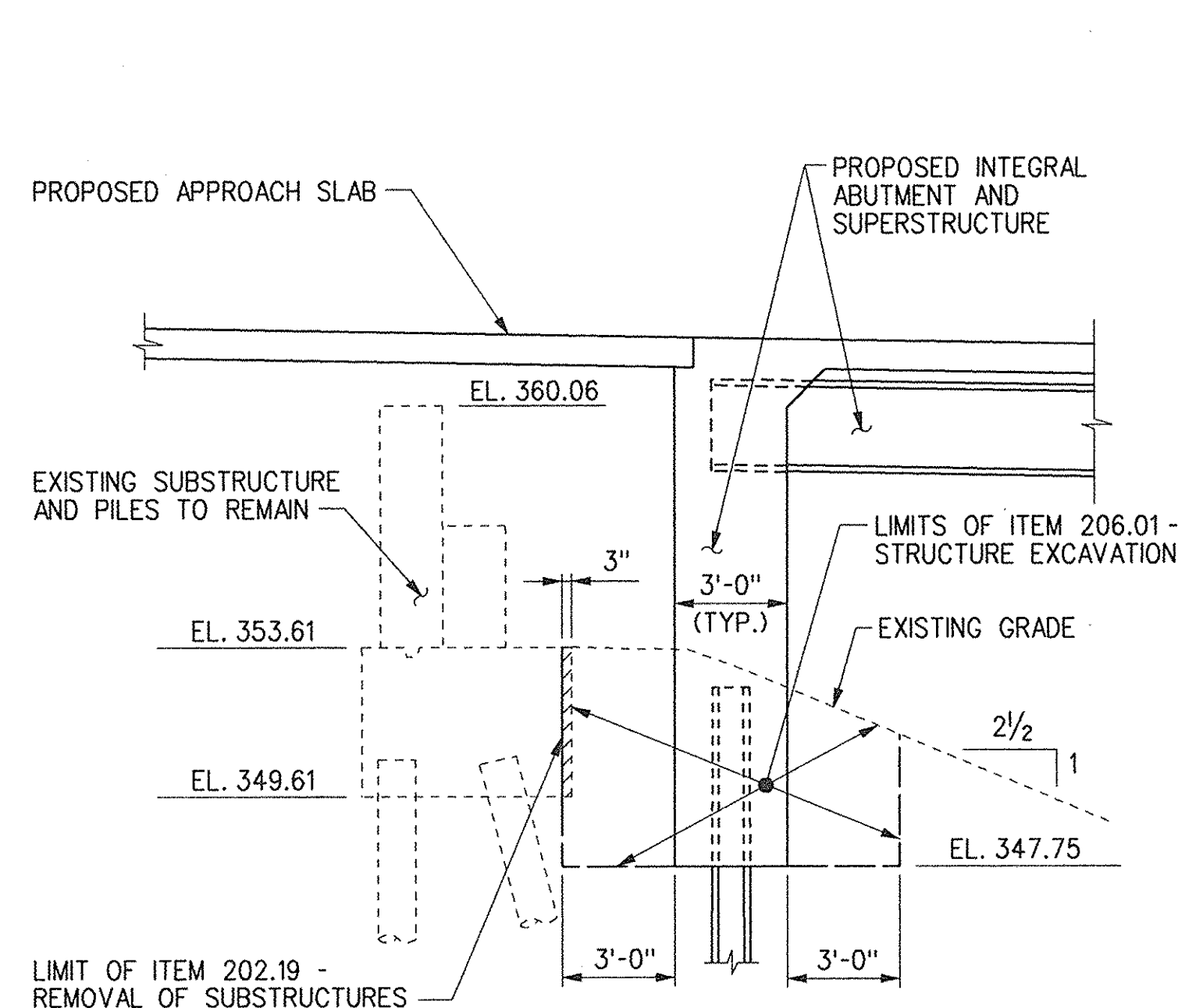
DRAFTED BY: WJH

DESIGNED BY: JUS

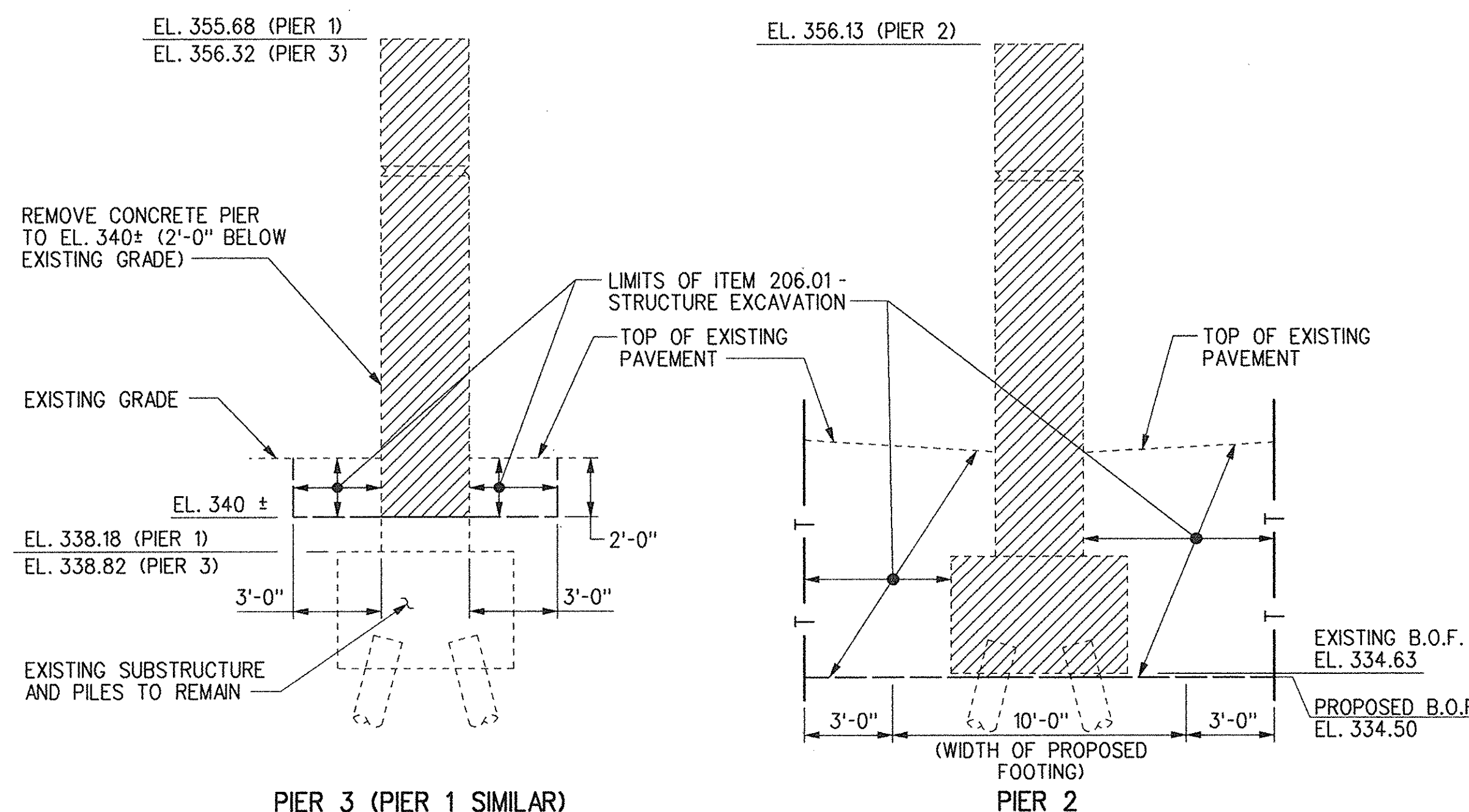
IN CHARGE OF: WZY



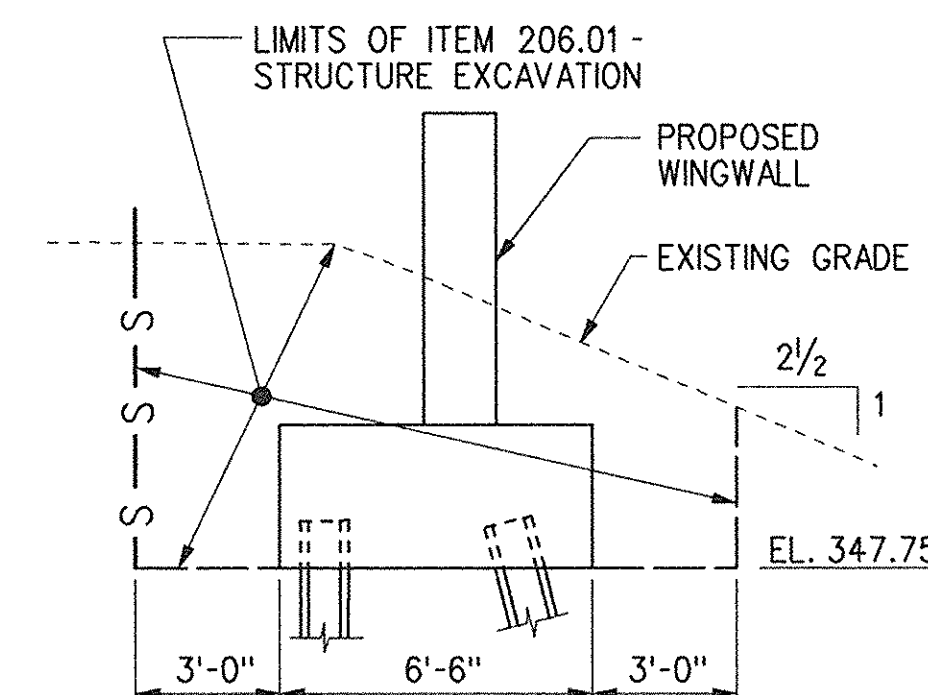
REMOVAL AND EXCAVATION PLAN  
SCALE: 1"=10'-0"



SECTION A-A  
SCALE: 1/4"=1'-0"



SECTION C-C  
SCALE: 1/4"=1'-0"



SECTION B-B  
SCALE: 1/4"=1'-0"

NO AS BUILT REVISIONS  
B.I.N. 5513660

DATE	DESCRIPTION	BY	SYM.

REVISIONS

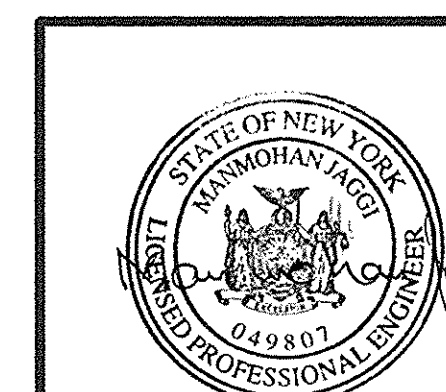
NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT HELDERBERG AVENUE  
BRIDGE REPLACEMENT

LOCATION OF PROJECT  
M.P. 155.54

TITLE OF DRAWING  
SUBSTRUCTURE REMOVAL  
AND EXCAVATION PLAN  
AND SECTIONS

CONTRACT NUMBER:  
TAA 98-10BR  
DATE:  
1/98  
DRAWING NUMBER:  
ST-9



M.J. ENGINEERING AND  
LAND SURVEYING, P.C.  
1533 CRESCENT ROAD CLIFTON PARK, NY 12045

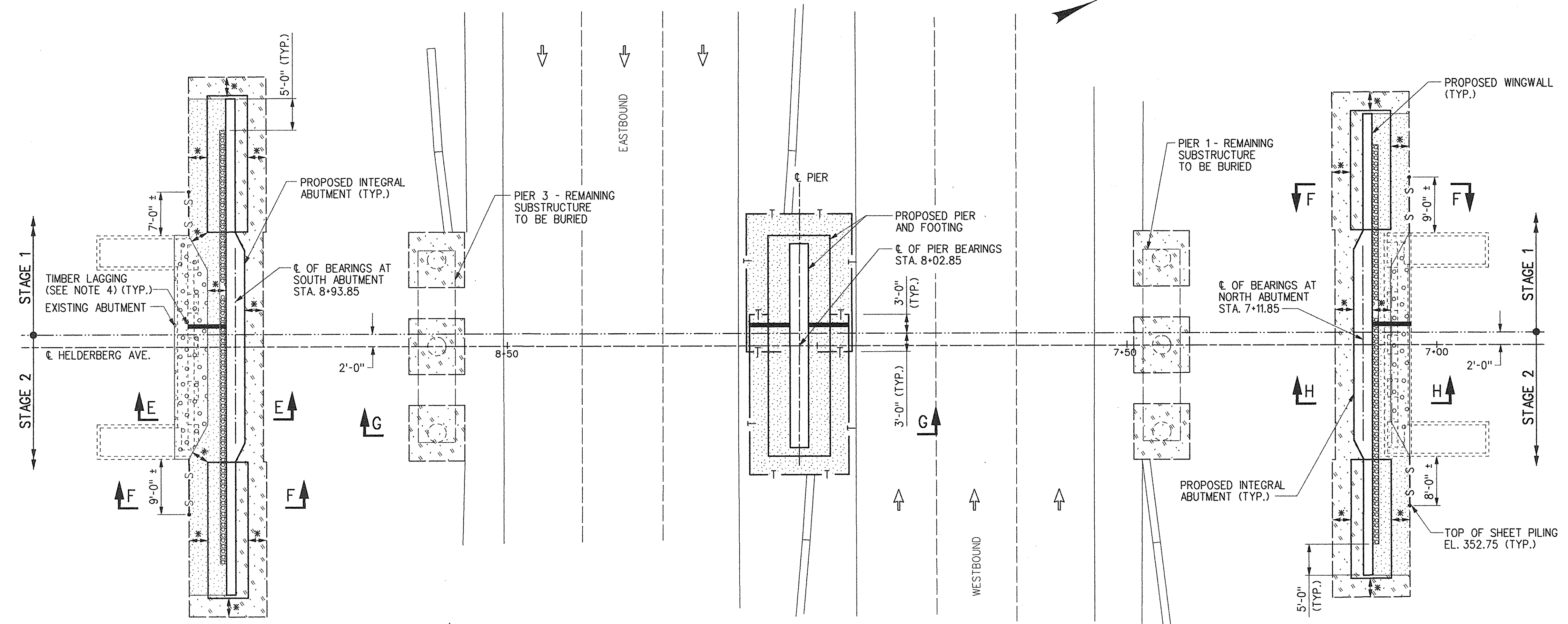


NO REVISIONS

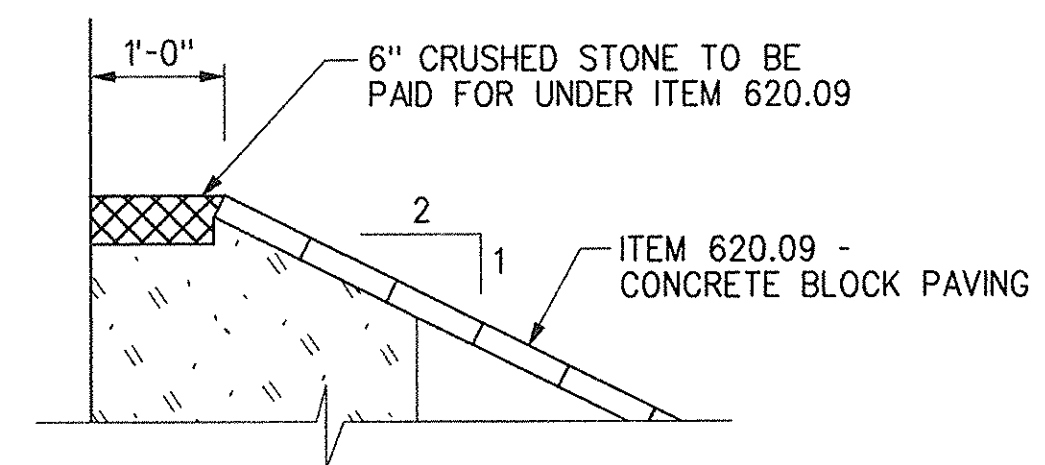
NOTES:

1. THE DIMENSIONS AND ELEVATIONS SHOWN FOR THE EXISTING STRUCTURE ARE BASED ON A COMBINATION OF INFORMATION CONTAINED IN RECORD PLANS AND FIELD SURVEY INFORMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THIS INFORMATION AS NEEDED.
2. CRUSHED STONE SHALL BE PLACED IN FRONT OF THE PROPOSED ABUTMENT AS SHOWN IN DETAIL A ON THIS DRAWING. THE LIMIT OF PLACEMENT SHALL BE THE SAME AS THAT FOR THE CONCRETE BLOCK PAVERS SHOWN ON DRAWING NO. ST-2.
3. SEE DRAWING NO. ST-9 FOR THE SUBSTRUCTURE REMOVAL AND EXCAVATION PLAN AND SECTIONS.
4. SEE DRAWING NO. ST-11 FOR SECTION H-H.
5. SEE DRAWING NO. ST-12 FOR THE EXISTING SUBSTRUCTURE DIMENSIONS AND REMOVAL DETAILS.
6. SEE DRAWING NOS. ST-17 AND ST-18 FOR THE PROPOSED PIER PLAN AND DETAILS.
7. IN SECTION G-G, THE PILE CUT-OFF ELEVATION IS 334.50.

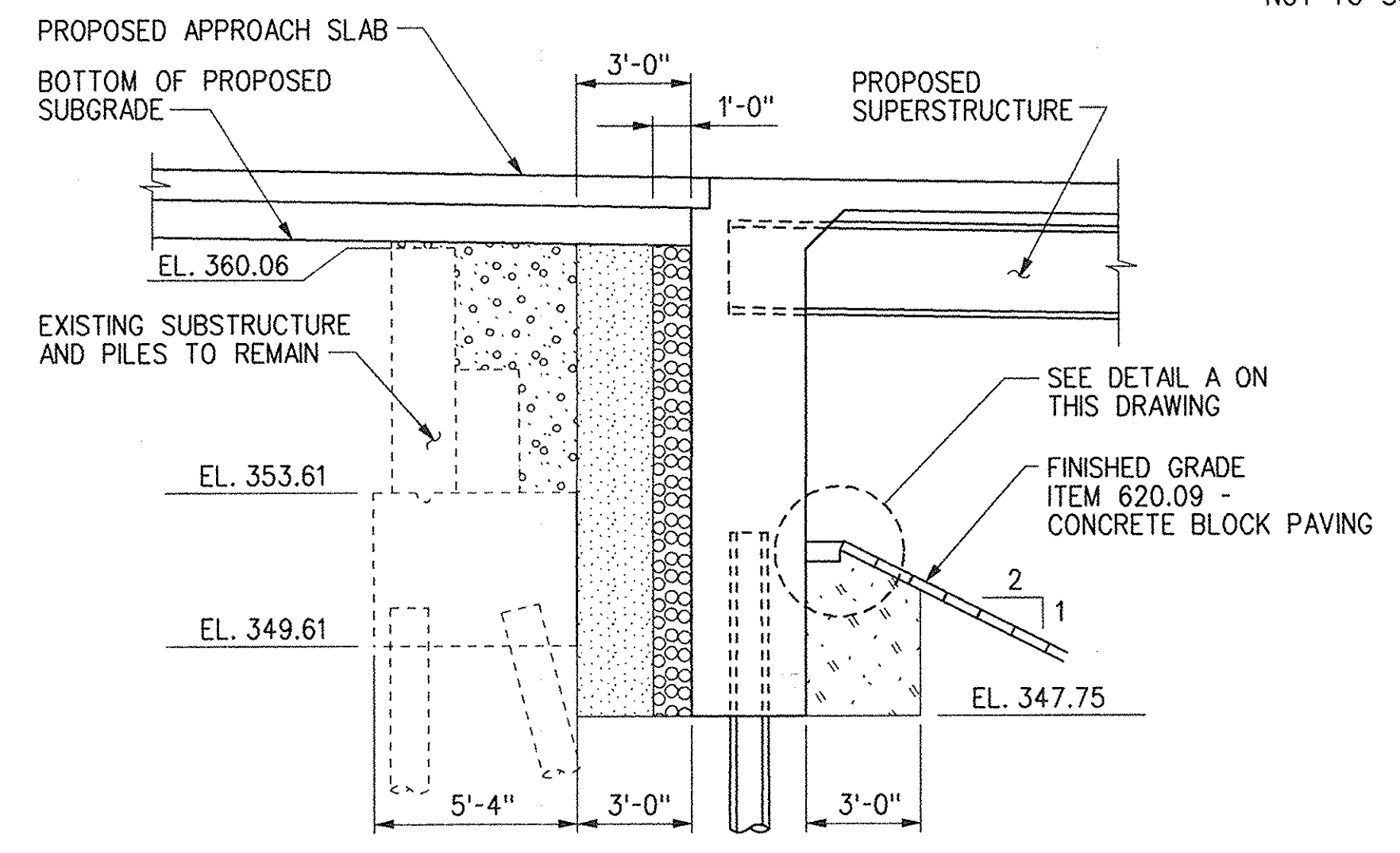
IN CHARGE OF: WZY  
DESIGNED BY: JUS  
CHECKED BY: WJH  
DRAFTED BY: WZY



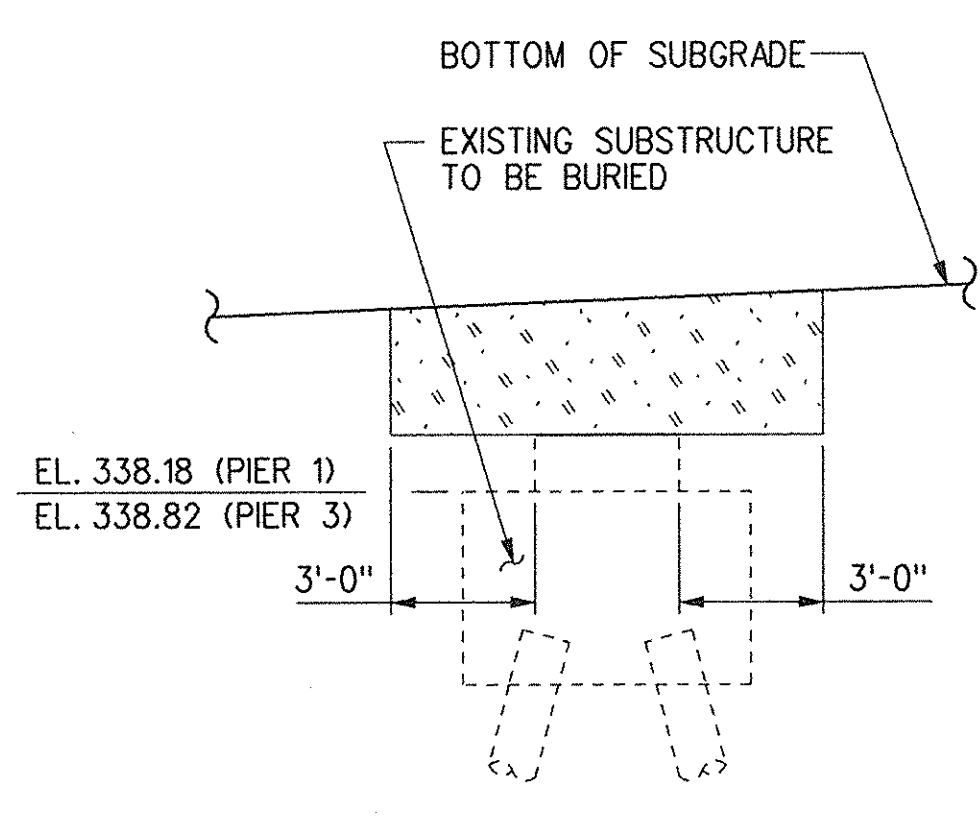
BACKFILL PLAN  
SCALE: 1"=10'-0"



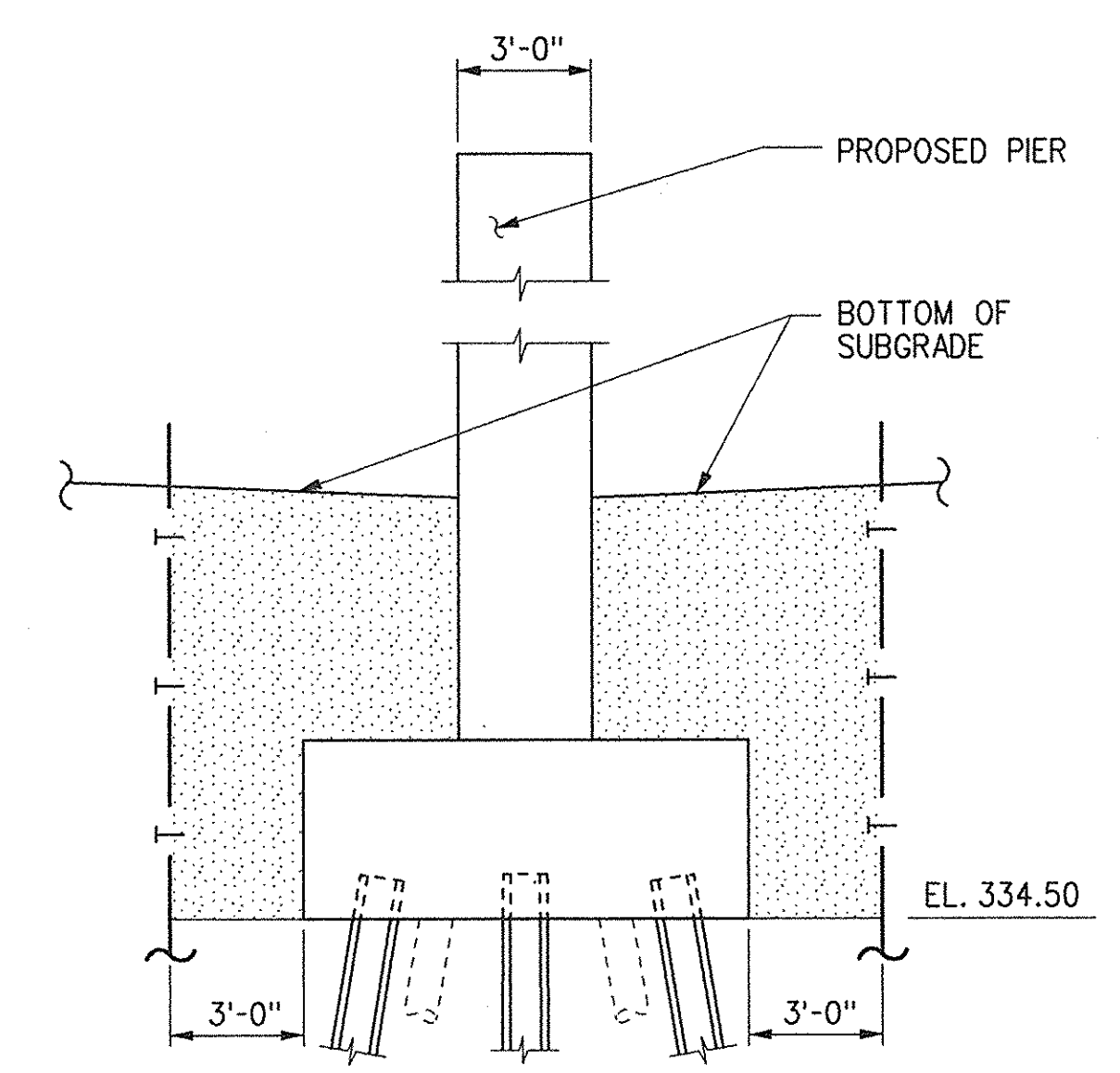
DETAIL A  
NOT TO SCALE



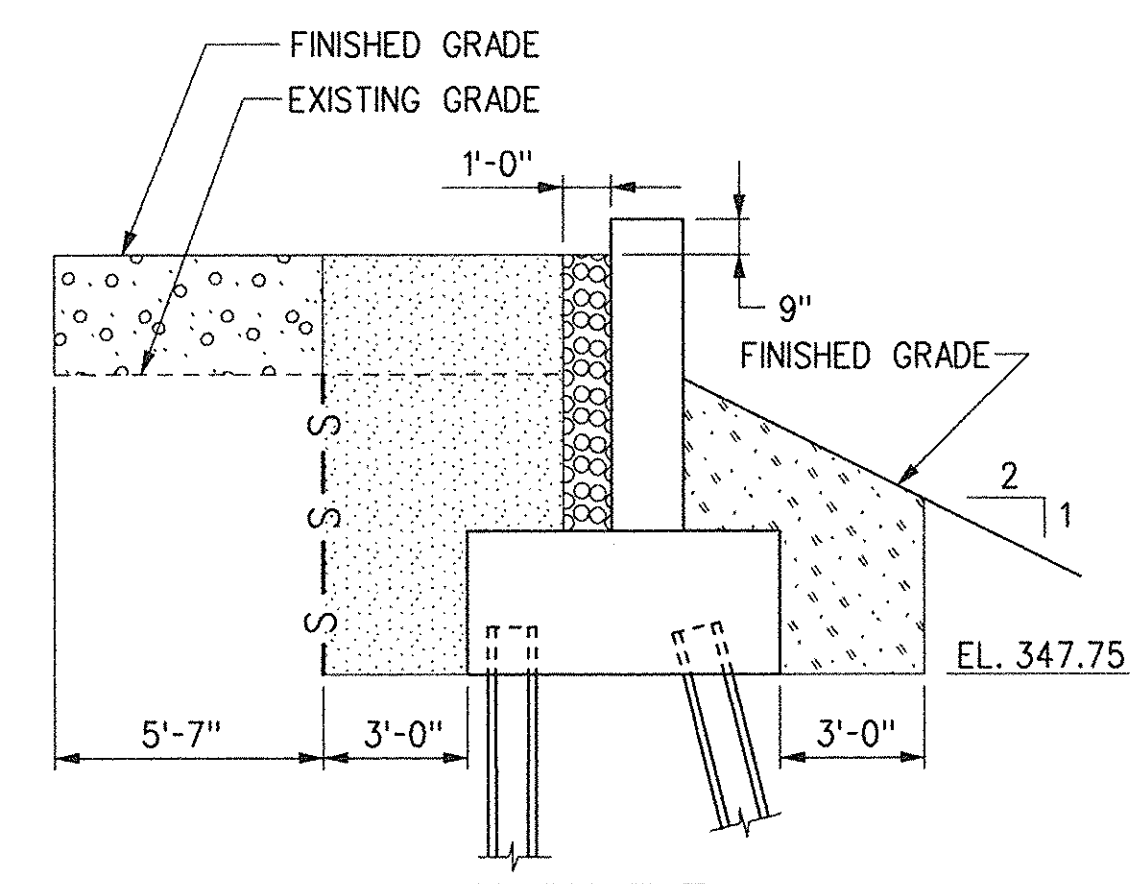
SECTION E-E  
SCALE: 1/4"=1'-0"



PIER 3 (PIER 1 SIMILAR)



SECTION G-G  
SCALE: 1/4"=1'-0"



SECTION F-F  
SCALE: 1/4"=1'-0"

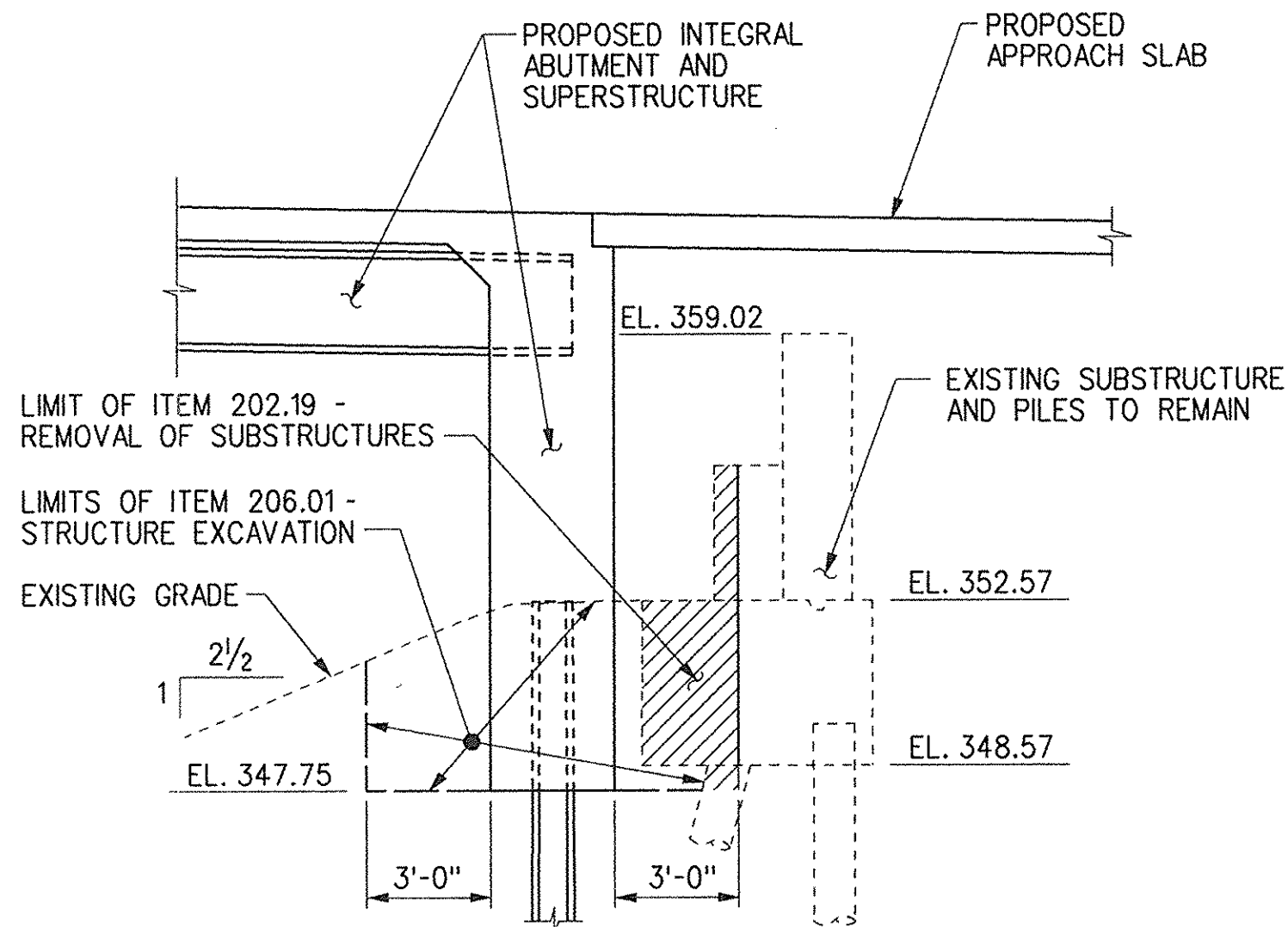
LEGEND	
	ITEM 203.03 - EMBANKMENT IN PLACE
	ITEM 203.21 - SELECT STRUCTURAL FILL
	LIMIT OF ITEM 206.01 - STRUCTURE EXCAVATION
	BACKFILL WITH SUITABLE EXCAVATED MATERIAL AS PROVIDED FOR UNDER ITEM 206.01 - STRUCTURE EXCAVATION
	-T- ITEM 552.04 - TEMPORARY STEEL SHEET PILING
	-S- ITEM 552.05 - SAFE OPERATION SHEET PILING
	ITEM 605.0901 - UNDERDRAIN FILTER, TYPE 1
	* 3'-0"

NO AS BUILT REVISIONS  
B.I.N. 5513660

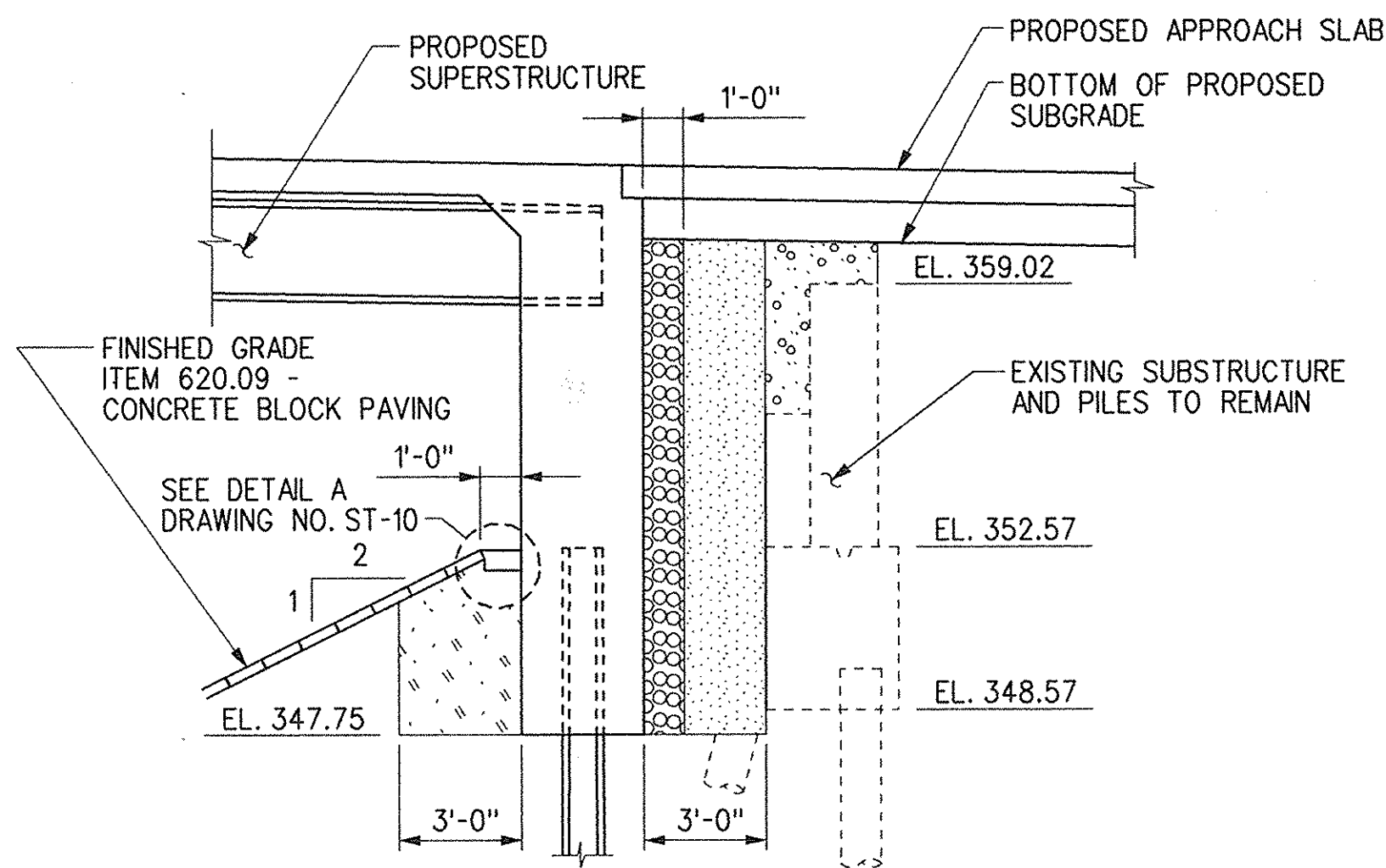
DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING SUBSTRUCTURE BACKFILL PLAN AND SECTIONS			
CONTRACT NUMBER: TAA 98-10BR		DATE: 1/98	
DRAWING NUMBER: ST-10			

M.J. ENGINEERING AND  
LAND SURVEYING, P.C.  
1533 CRESCENT ROAD CLIFTON PARK, NY 12045





SECTION D-D  
SCALE: 1/4"=1'-0"



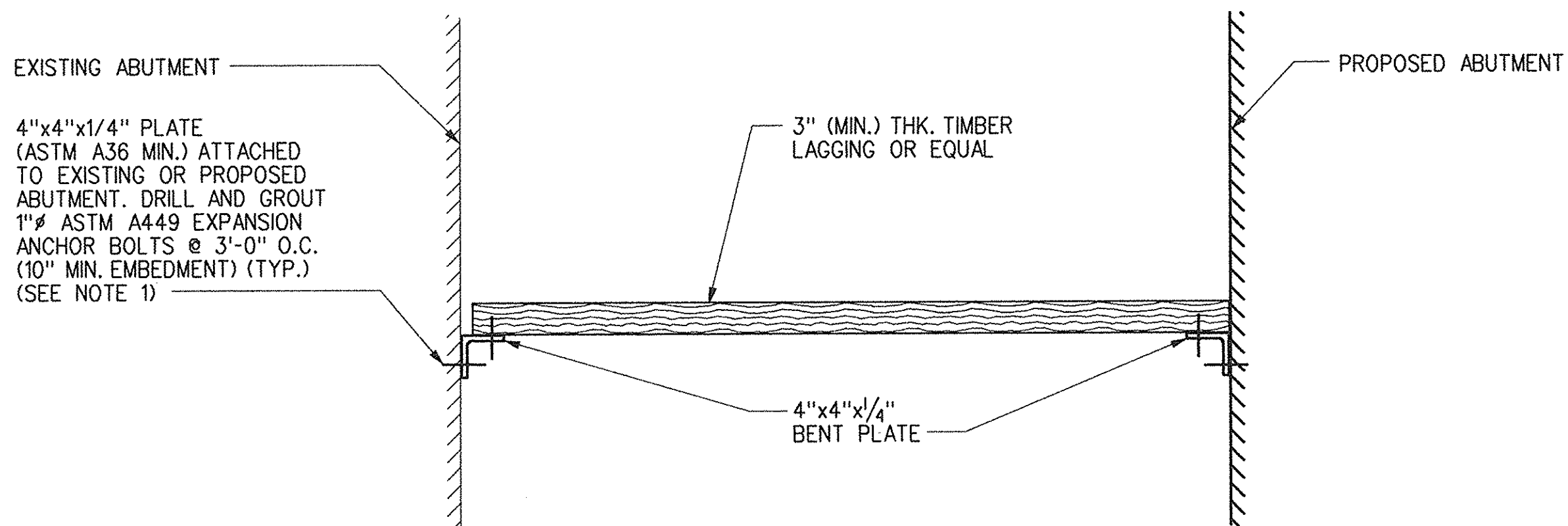
SECTION H-H  
SCALE: 1/4"=1'-0"

NOTES:

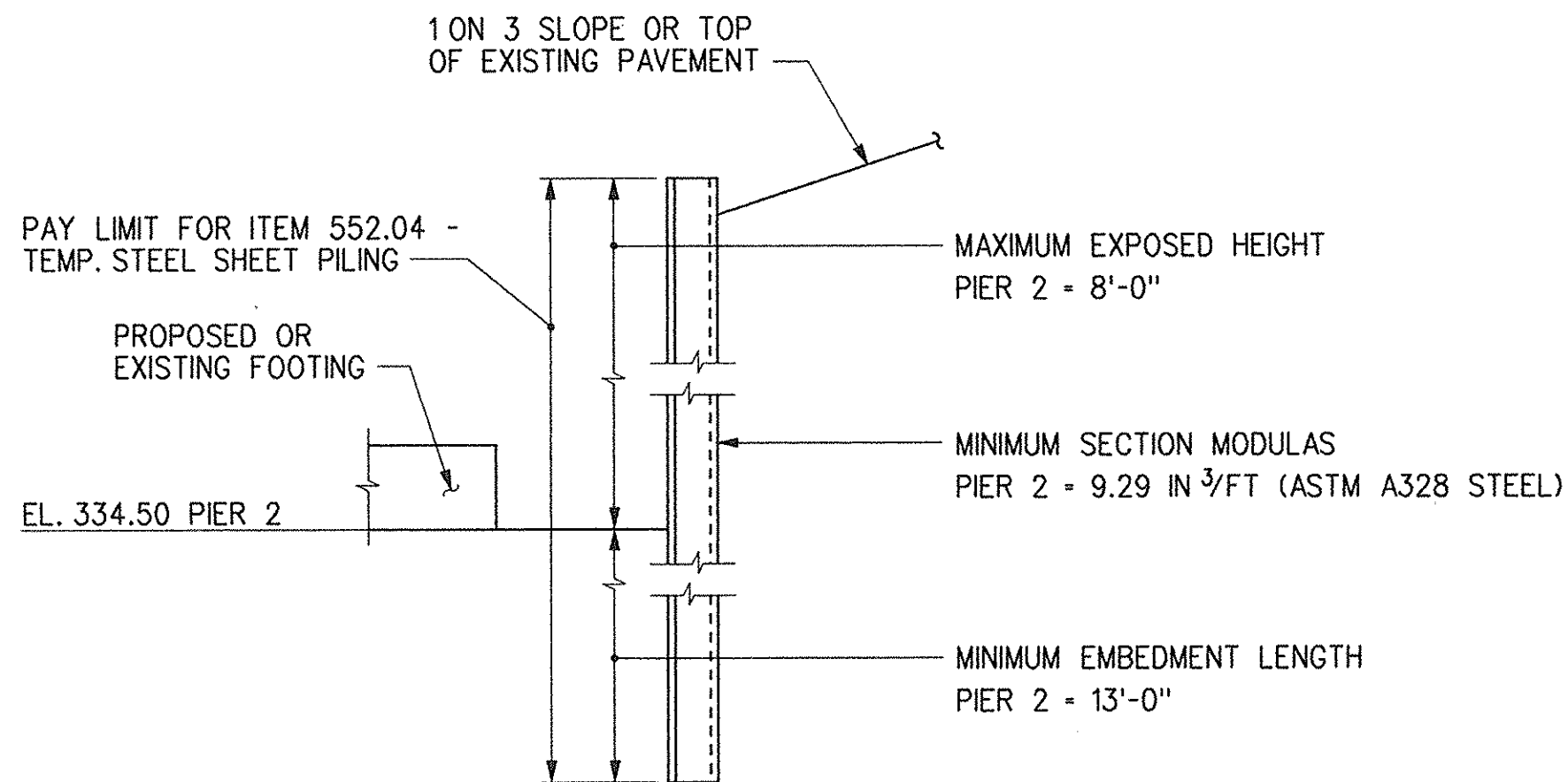
1. THE COST OF THE TIMBER LAGGING, 4"x4"x1/4" STEEL BENT PLATE, ANCHOR BOLTS AND DRILLING AND GROUTING OF ANCHOR BOLTS SHALL BE PAID FOR UNDER ITEM 206.01 - STRUCTURE EXCAVATION.
2. A UNIFORM 2 FOOT DEEP, LIVE LOAD SURCHARGE HAS BEEN ASSUMED FOR THE DESIGN OF THE TEMPORARY STEEL SHEET PILING.
3. COLD-FORMED STEEL SHEET PILING SHALL NOT BE USED.
4. SEE DRAWING NO. ST-9 FOR THE SUBSTRUCTURE REMOVAL AND EXCAVATION PLAN AND FOR THE LOCATION OF SECTION D-D.
5. SEE DRAWING NO. ST-10 FOR THE SUBSTRUCTURE BACKFILL PLAN AND SECTIONS AND FOR LOCATION OF SECTION H-H.

6. ADDED AMENDMENT 2, NOTE 6

LEGEND	
	ITEM 202.19 - REMOVAL OF SUBSTRUCTURES
- T -	ITEM 552.04 - TEMPORARY STEEL SHEET PILING
- S -	ITEM 552.05 - SAFE OPERATION SHEET PILING
- - -	LIMIT OF ITEM 206.02 - STRUCTURE EXCAVATION
*	3'-0"



TIMBER LAGGING DETAIL  
NOT TO SCALE



TEMPORARY STEEL SHEET PILING DETAIL  
NOT TO SCALE

AS BUILT REVISIONS  
B.I.N. 5513660

DATE	DESCRIPTION	BY	SYM.
2/92	ADD NOTE #6	KFK	

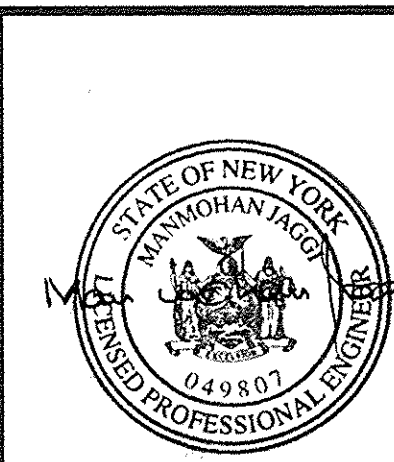
REVISIONS

NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT HELDERBERG AVENUE  
LOCATION OF PROJECT BRIDGE REPLACEMENT  
M.P. 155.54

TITLE OF DRAWING  
MISCELLANEOUS EARTHWORK  
SECTIONS AND DETAILS

CONTRACT NUMBER: TAA 98-10BR	DATE: 1/98
DRAWING NUMBER: ST - 11	



M.J. ENGINEERING AND  
LAND SURVEYING, P.C.  
1533 CRESCENT ROAD CLIFTON PARK, NY 12045

WZY

CHECKED BY:

FJC

DRAFTED BY:

JUS

DESIGNED BY:

WZY

IN CHARGE OF:

## LEGEND:

 - Indicates Portions of the Existing Substructure to be removed under Item 202.19.

To maintain the stability of the existing abutment stem the removals shall be limited to what is shown on this plan and the connections with the existing wingwalls shall be left in place (Typ.)

Limit Of Substructure Removal (North Abutment) Item No. 202.19

Limit Of Substructure Removal (South Abutment) Item No. 202.19

## NOTES:

- For the following see:
 

a) General Notes	ST-1 & ST-2
b) Existing Plan & Elev.	ST-3
c) Excavation Plan & Sections	ST-9

2. ADD AMENDMENT 2, NOTE 2



AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
0/99	CORRECT 90° ABUT. & STA.	KFK	3
2/99	TOP OF FTG. ELEV.	KFK	2
4/99	ADD NOTE #2	KFK	1

## REVISIONS

NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT: HELDERBERG AVENUE BRIDGE REPLACEMENT

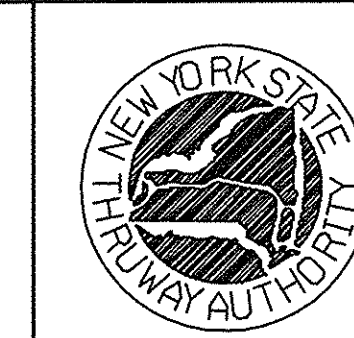
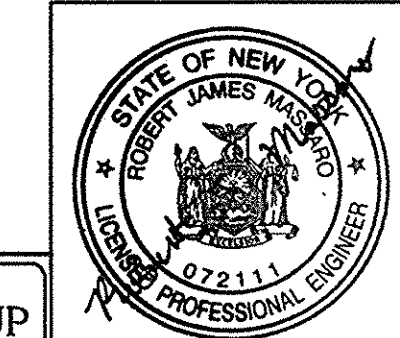
LOCATION OF PROJECT: M.P. 155.54

TITLE OF DRAWING: EXISTING SUBSTRUCTURE REMOVAL DETAILS

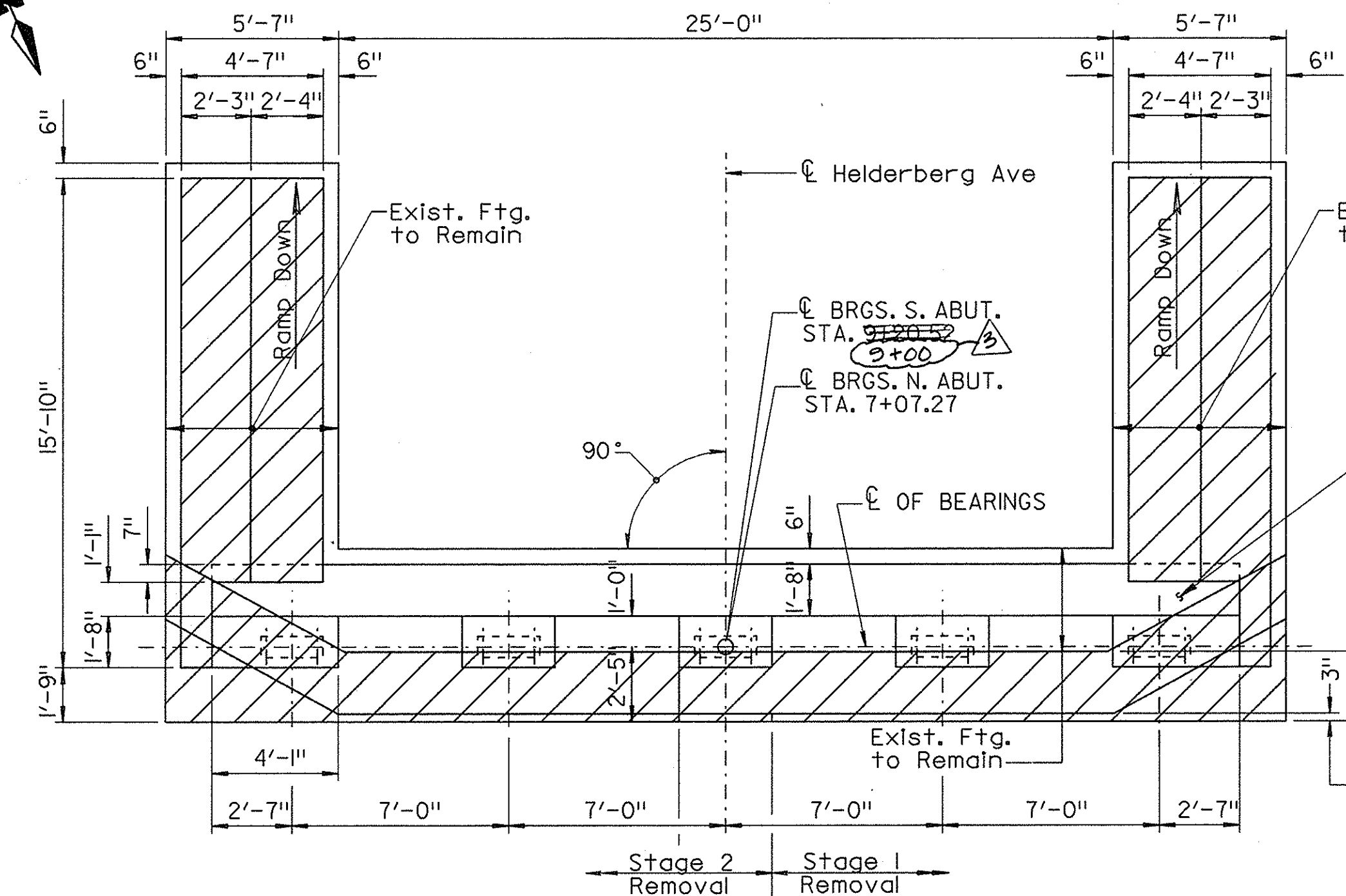
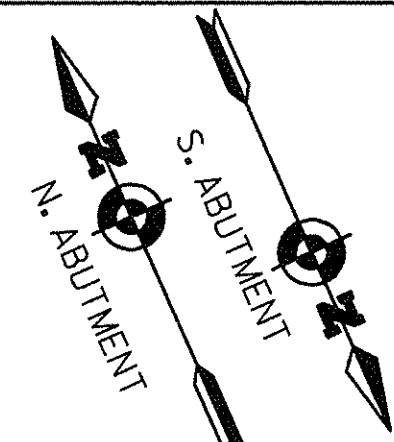
CONTRACT NUMBER: TAA 98-10BR

DATE: 1/98

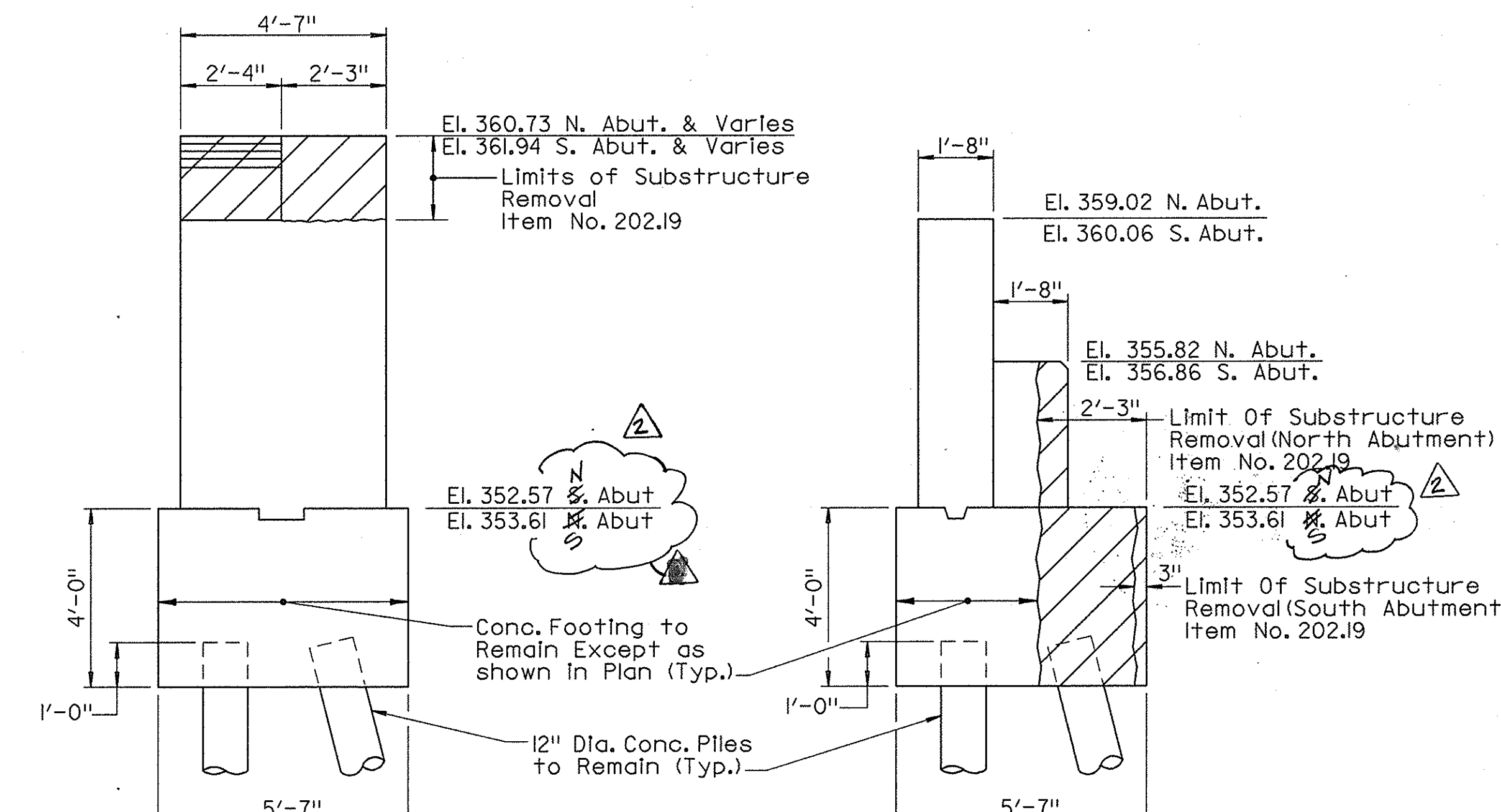
DRAWING NUMBER: ST-12



THE SEAR-BROWN GROUP

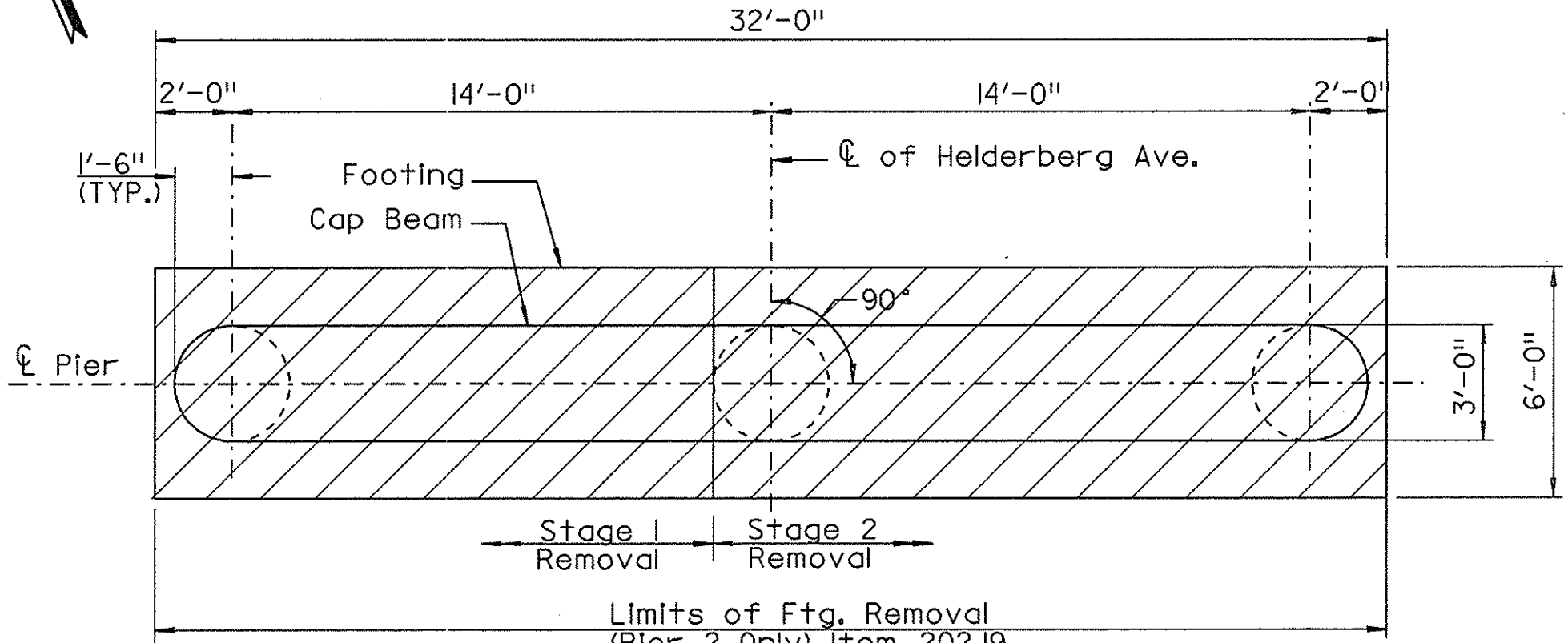


4 EXISTING ABUTMENT PLAN  
1/4"=1'-0"

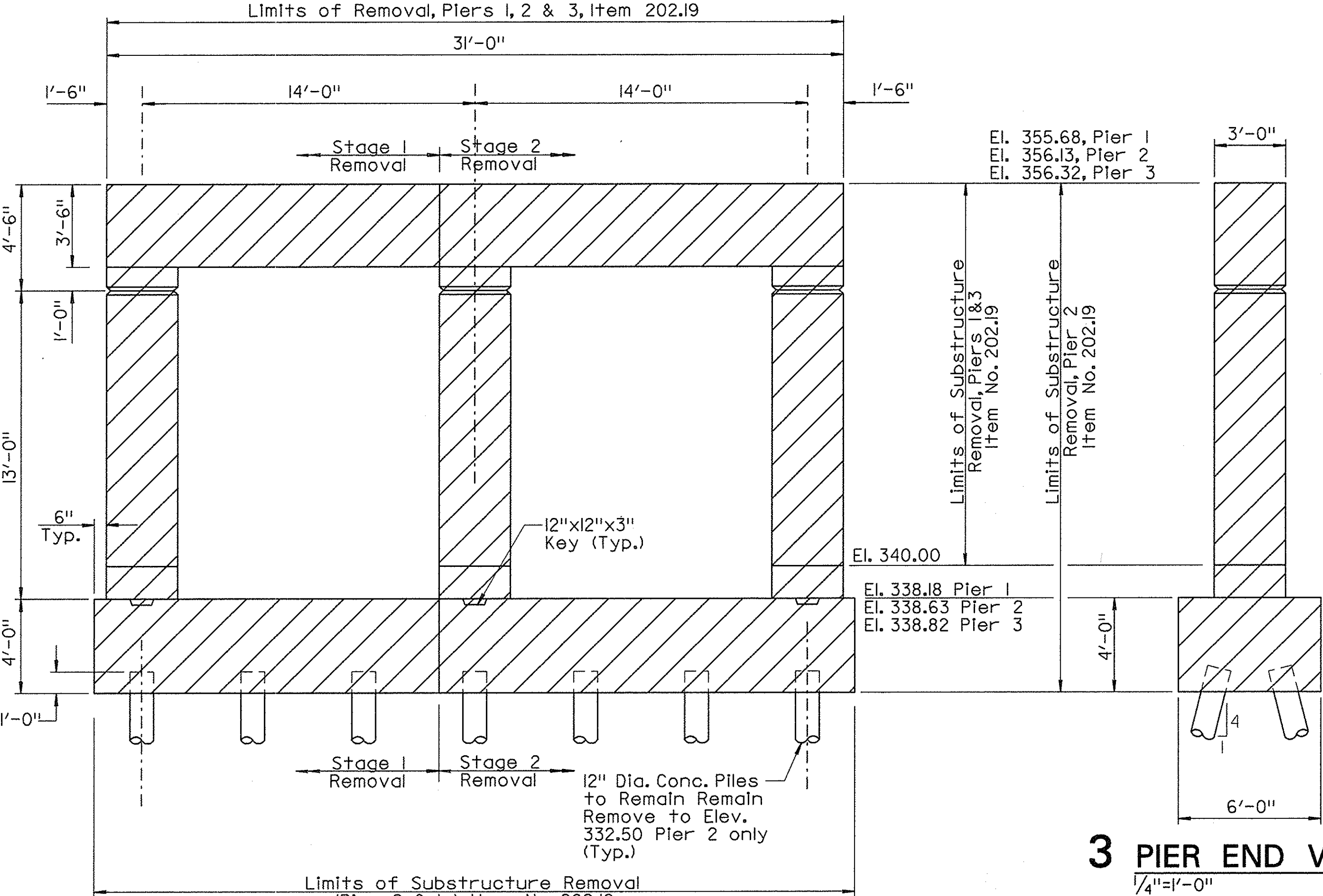


5 WINGWALL SECTION  
3/8"=1'-0"

6 ABUTMENT SECTION  
3/8"=1'-0"



1 EXISTING PIER PLAN  
1/4"=1'-0"



2 EXISTING PIER ELEVATION  
1/4"=1'-0"

3 PIER END VIEW  
1/4"=1'-0"

T.R.B.

CHECKED BY:

R.J.M.

DRAFTED BY:

R.J.M.

DESIGNED BY:

J.R.N.

IN CHARGE OF:



- NOTES**
1. FOR SECTIONS, SEE DRAWING NO. ST-15,  
FOR REINFORCEMENT, SEE DRAWING NO. ST-15.  
FOR PILE DETAILS AND NOTES, SEE DRAWING NO. ST-16
  2. ALL VERTICAL CONSTRUCTION AND EXPANSION JOINTS  
SHALL HAVE WATERSTOPS.
  3. (⊕) INDICATES PLACEMENT NUMBER.
  4. ALL CONCRETE EXPOSED ABOVE FINISHED GRADE  
SHALL RECEIVE PROTECTIVE SEALING FOR CONCRETE,  
ITEM NO. 25559.1696
  5. COST OF CLOSED CELL FOAM TO BE INCLUDED  
IN COST OF ITEM NOS. 555.0104 AND 555.0105

ITEM KEY	
ITEM NO.	DESCRIPTION
555.0104	FOOTING CONCRETE, CLASS A
555.0105	CONCRETE FOR STRUCTURES, CLASS A

CONCRETE PLACEMENT TABLE		
NO.*	ITEM NO. 555.0104	ITEM NO. 555.0105
1	—	22.2
2	15.7	—
3	—	10.7
4	—	27.5
5	15.7	—
6	—	10.5
ALL QUANTITIES ARE IN CUBIC YARDS		
*NUMBERS ARE FOR REFERENCE ONLY AND DO NOT INDICATE A SEQUENCE OF CONCRETE PLACEMENT		

LEGEND	
	STEEL BEARING PILE, ITEM NO. 551.001
	STEEL BEARING PILE, ITEM NO. 551.001 WITH DYNAMIC PILE TESTING, ITEM NO. 551.14
	STEEL BEARING PILE, BATTERED AT 6 ON 1 ITEM NO. 551.001

AS BUILT REVISIONS  
BIN 5513660



REVISIONS			
DATE	DESCRIPTION	BY	SYM.
7/99	DELETE PILE TESTING AT #2	KFK	△
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING PROPOSED SOUTH ABUTMENT PLAN, ELEVATION & PILE LAYOUT			
CONTRACT NUMBER: TAA 98-10BR		DATE: 7/98	
DRAWING NUMBER: ST-13			



THE SEAR-BROWN GROUP

T.R.B.

CHECKED BY:

R.J.M.

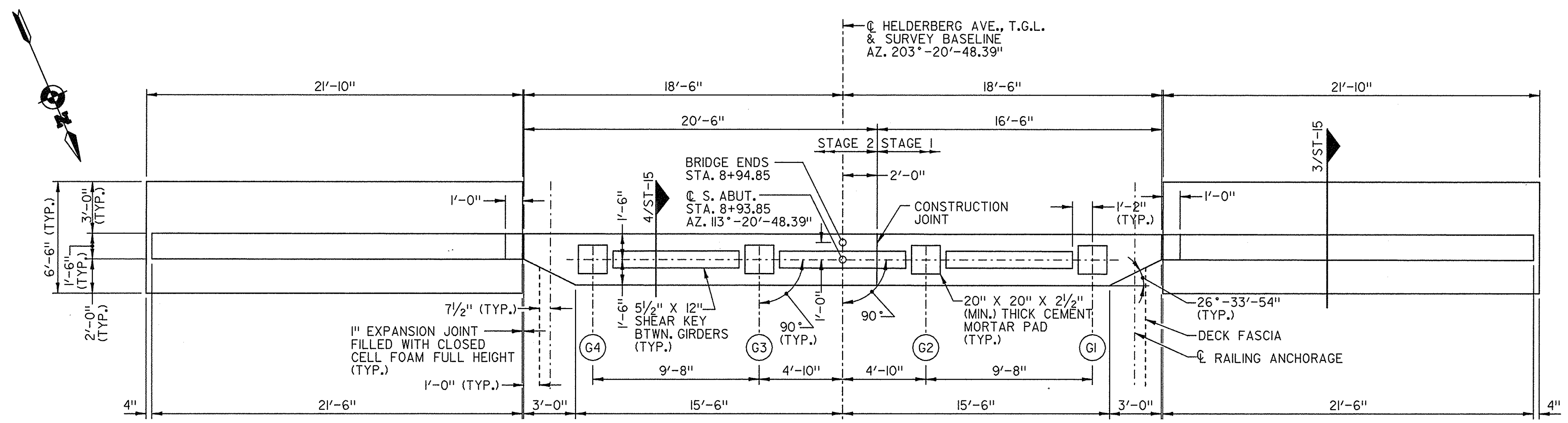
DRAFTED BY:

R.J.M.

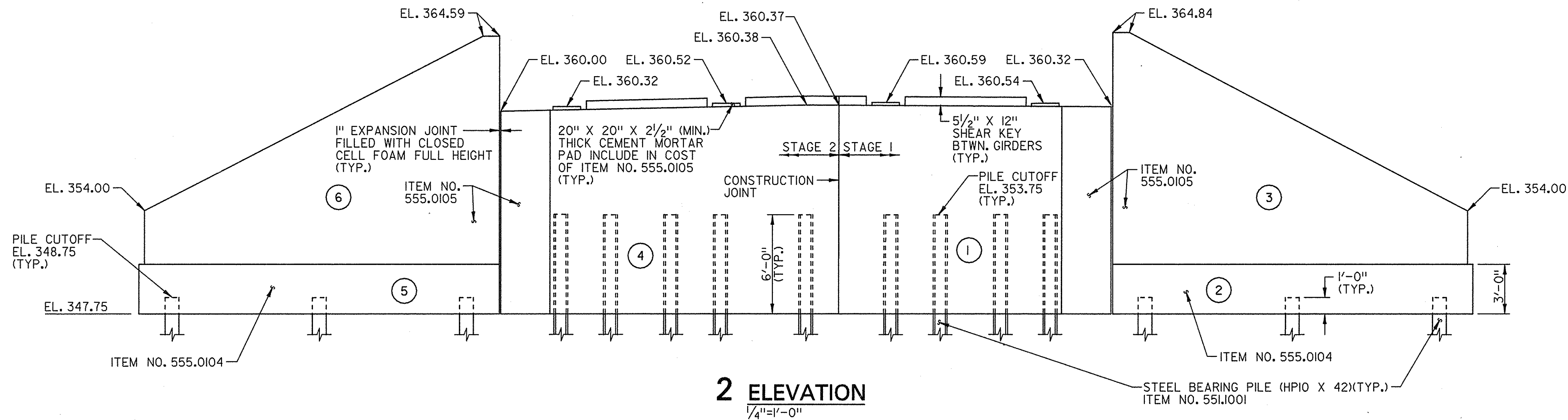
DESIGNED BY:

J.R.N.

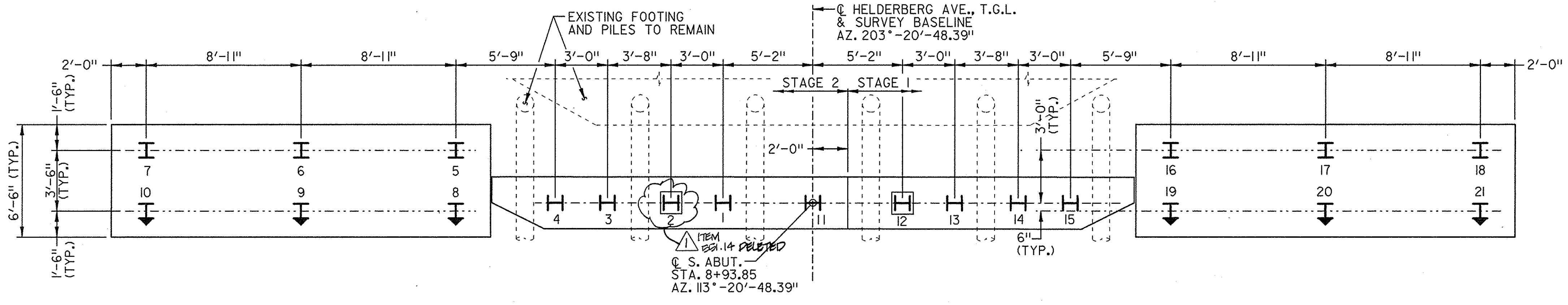
IN CHARGE OF:



1 PLAN  
1/4"=1'-0"



2 ELEVATION  
1/4"=1'-0"



3 PLAN  
PILE LAYOUT  
1/4"=1'-0"

- NOTES**
- 1. FOR SECTIONS, SEE DRAWING NO. ST-15.  
FOR REINFORCEMENT, SEE DRAWING NO. ST-16.  
FOR PILE DETAILS AND NOTES, SEE DRAWING NO. ST-16
  - 2. ALL VERTICAL CONSTRUCTION AND EXPANSION JOINTS SHALL HAVE WATERSTOPS.
  - 3. (⊕) INDICATES PLACEMENT NUMBER.
  - 4. ALL CONCRETE EXPOSED ABOVE FINISHED GRADE SHALL RECEIVE PROTECTIVE SEALING FOR CONCRETE, ITEM NO. 25559.1696
  - 5. COST OF CLOSED CELL FOAM TO BE INCLUDED IN COST OF ITEM NO. 555.0104 AND 555.0105

ITEM KEY	
ITEM NO.	DESCRIPTION
555.0104	FOOTING CONCRETE, CLASS A
555.0105	CONCRETE FOR STRUCTURES, CLASS A

CONCRETE PLACEMENT TABLE		
NO.*	ITEM NO. 555.0104	ITEM NO. 555.0105
1	—	19.7
2	13.8	—
3	—	8.6
4	—	24.7
5	13.8	—
6	—	8.5
ALL QUANTITIES ARE IN CUBIC YARDS		
*NUMBERS ARE FOR REFERENCE ONLY AND DO NOT INDICATE A SEQUENCE OF CONCRETE PLACEMENT		

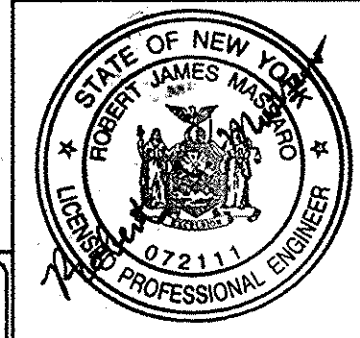
LEGEND	
	STEEL BEARING PILE, ITEM NO. 551.001
	STEEL BEARING PILE, ITEM NO. 551.001 WITH DYNAMIC PILE TESTING, ITEM NO. 551.14
	STEEL BEARING PILE, BATTERED AT 6 ON 1 ITEM NO. 551.001

AS BUILT REVISIONS  
BIN 5513660

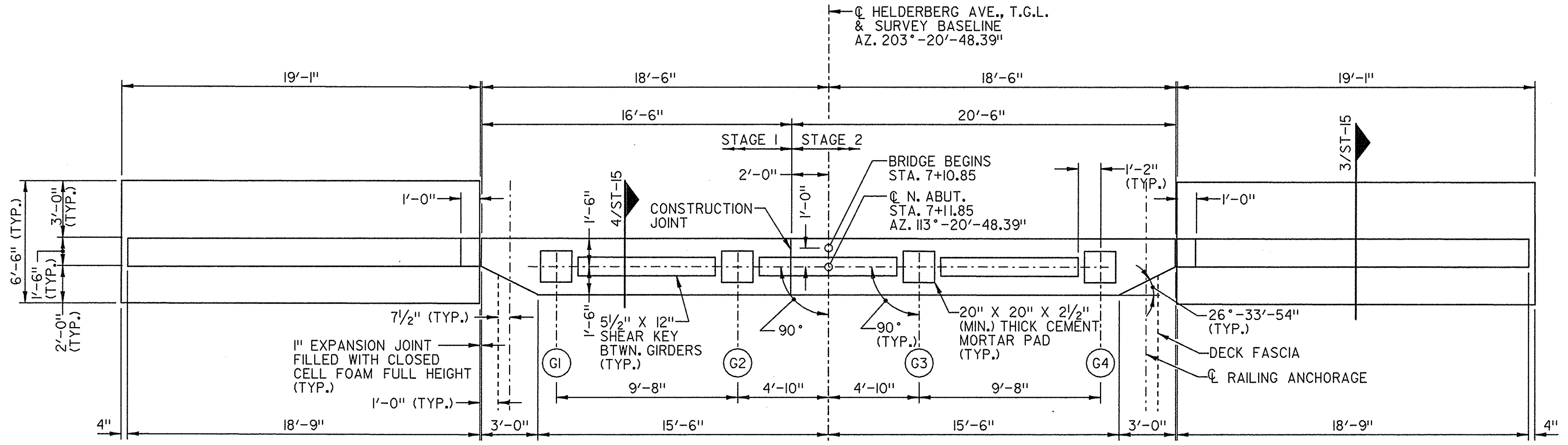
DATE	DESCRIPTION	BY	SYM.
9/99	PILE LOCATIONS AT WINGWALL	KFK	⚠
7/99	DELETE PILE TESTING AT #2	KFK	⚠

REVISIONS	
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209	
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT	
LOCATION OF PROJECT M.P. 155.54	
TITLE OF DRAWING PROPOSED NORTH ABUTMENT PLAN, ELEVATION & PILE LAYOUT	

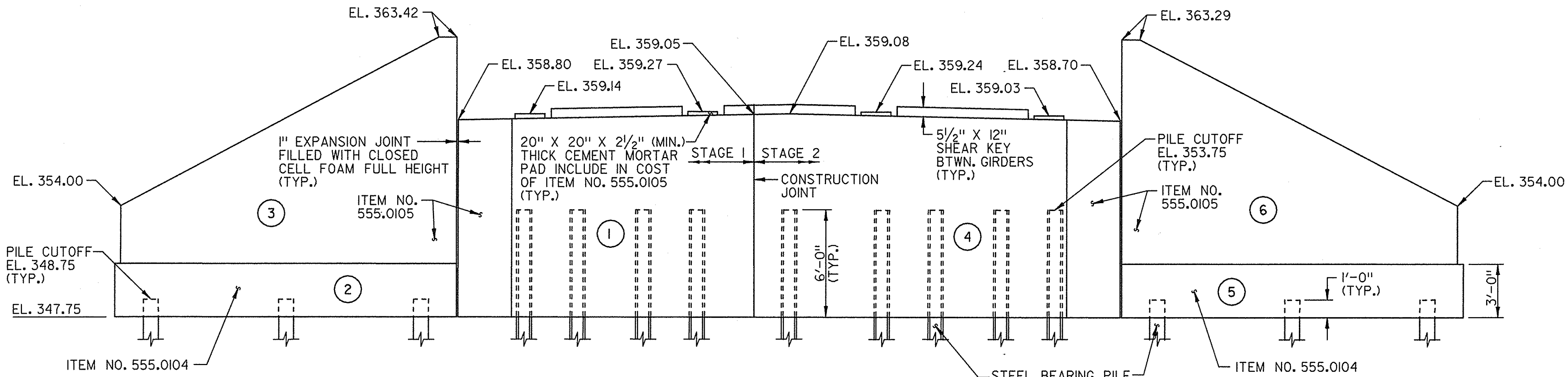
CONTRACT NUMBER: TAA 98-10BR	DATE: 1/98
DRAWING NUMBER: ST-14	



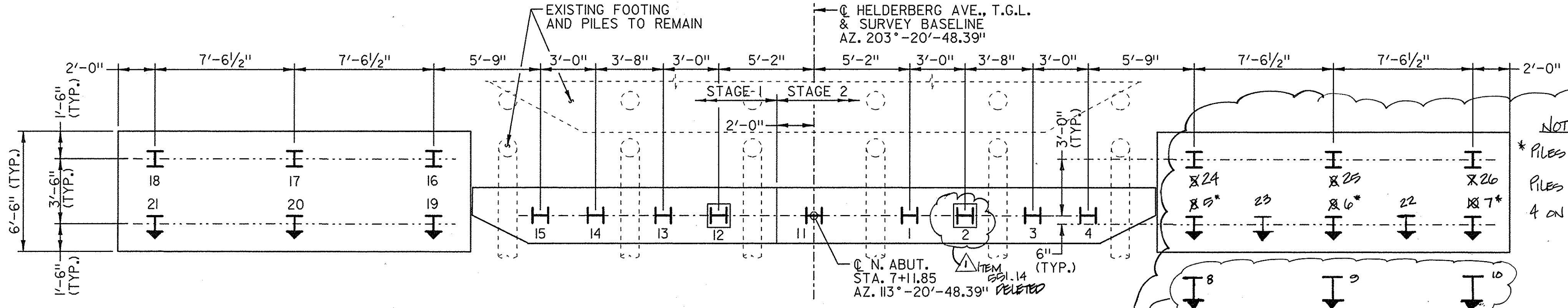
THE SEAR-BROWN GROUP



1 PLAN  
1/4"=1'-0"



2 ELEVATION  
1/4"=1'-0"



3 PLAN  
PILE LAYOUT  
1/4"=1'-0"

**NOTE:**  
\* PILES 6, 6, & 7 WERE DRIVEN STRAIGHT  
PILES 22 & 23 WERE DRIVEN WITH A  
4 ON 1 BATTER IN PLACE OF 6 ON 1 (ORIGINAL)

THESE PILES WERE DRIVEN IN THE WRONG LOCATIONS. THEY WERE CUT OFF AT SUBGRADE LEVEL AND LEFT IN PLACE.

T.R.B.  
CHECKED BY:  
R.J.M.  
DRAFTED BY:  
R.J.M.  
DESIGNED BY:  
J.R.N.  
IN CHARGE OF:



T.R.B.

CHECKED BY:

R.J.M.

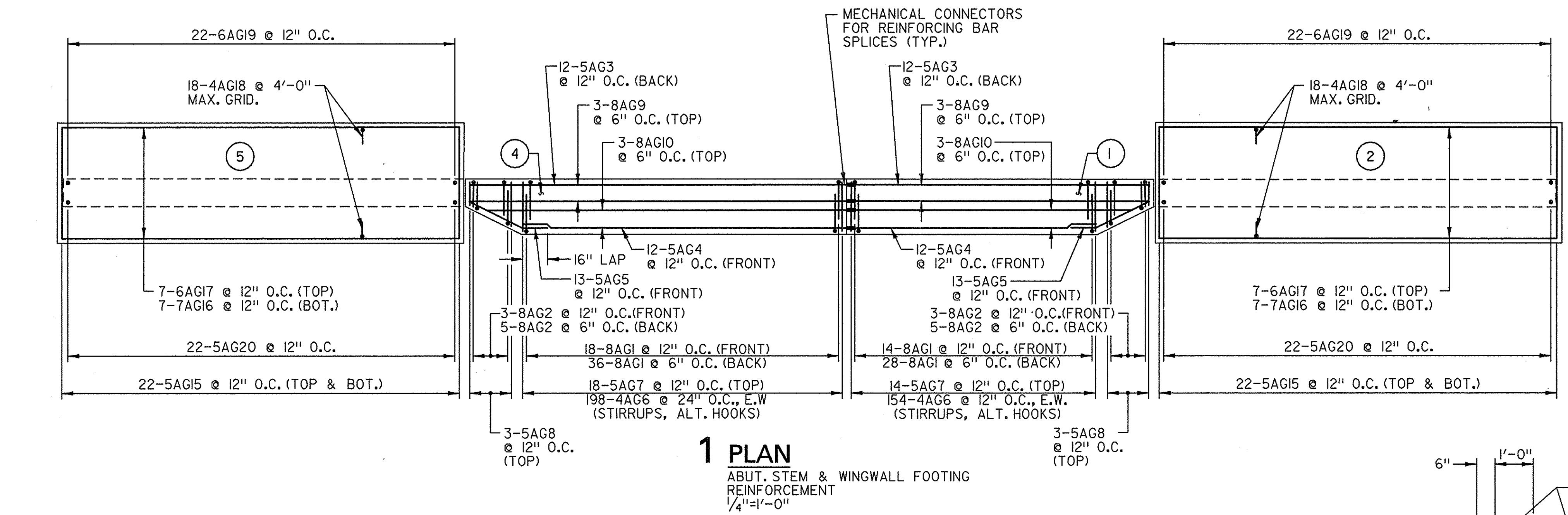
DRAFTED BY:

R.J.M.

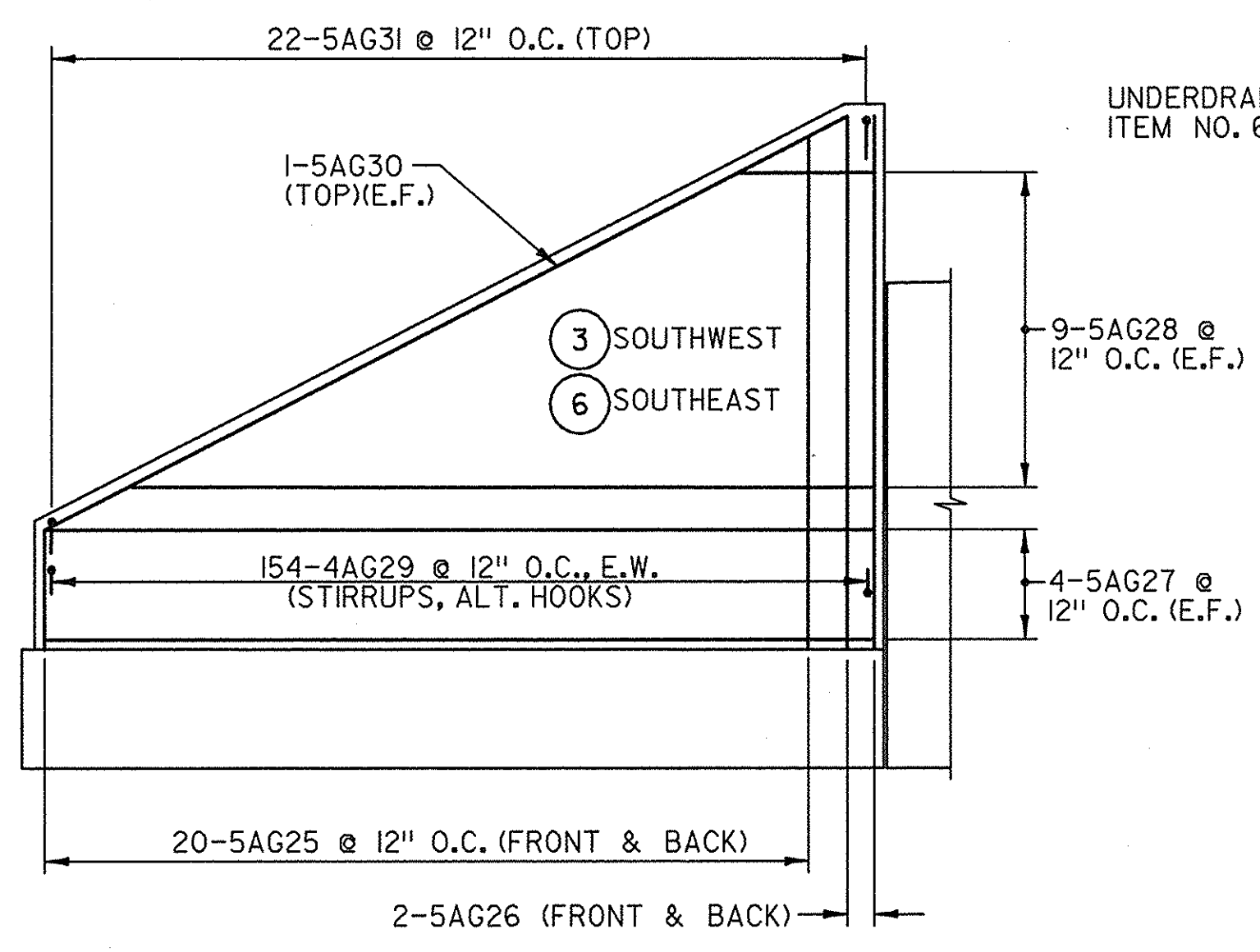
DESIGNED BY:

J.R.N.

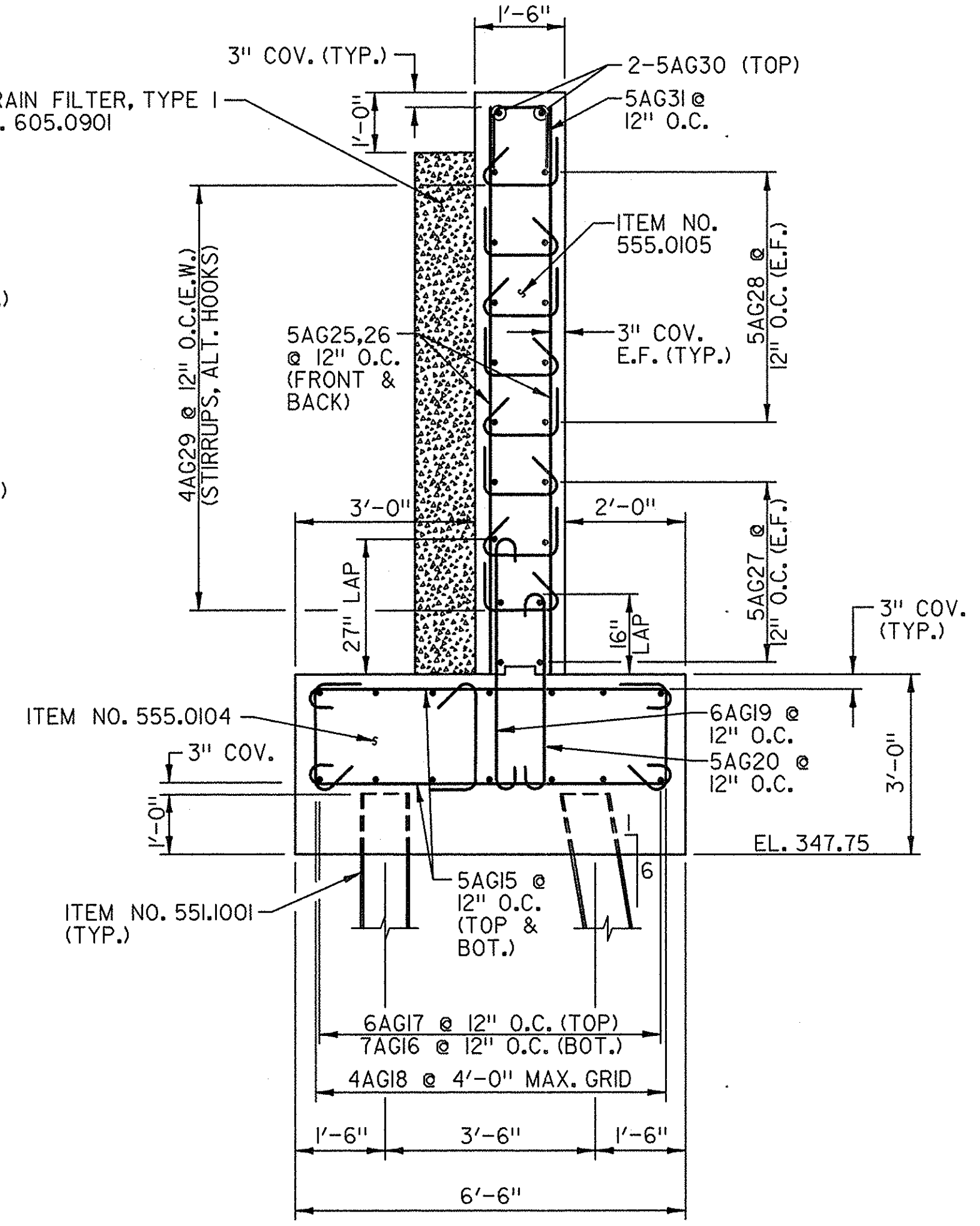
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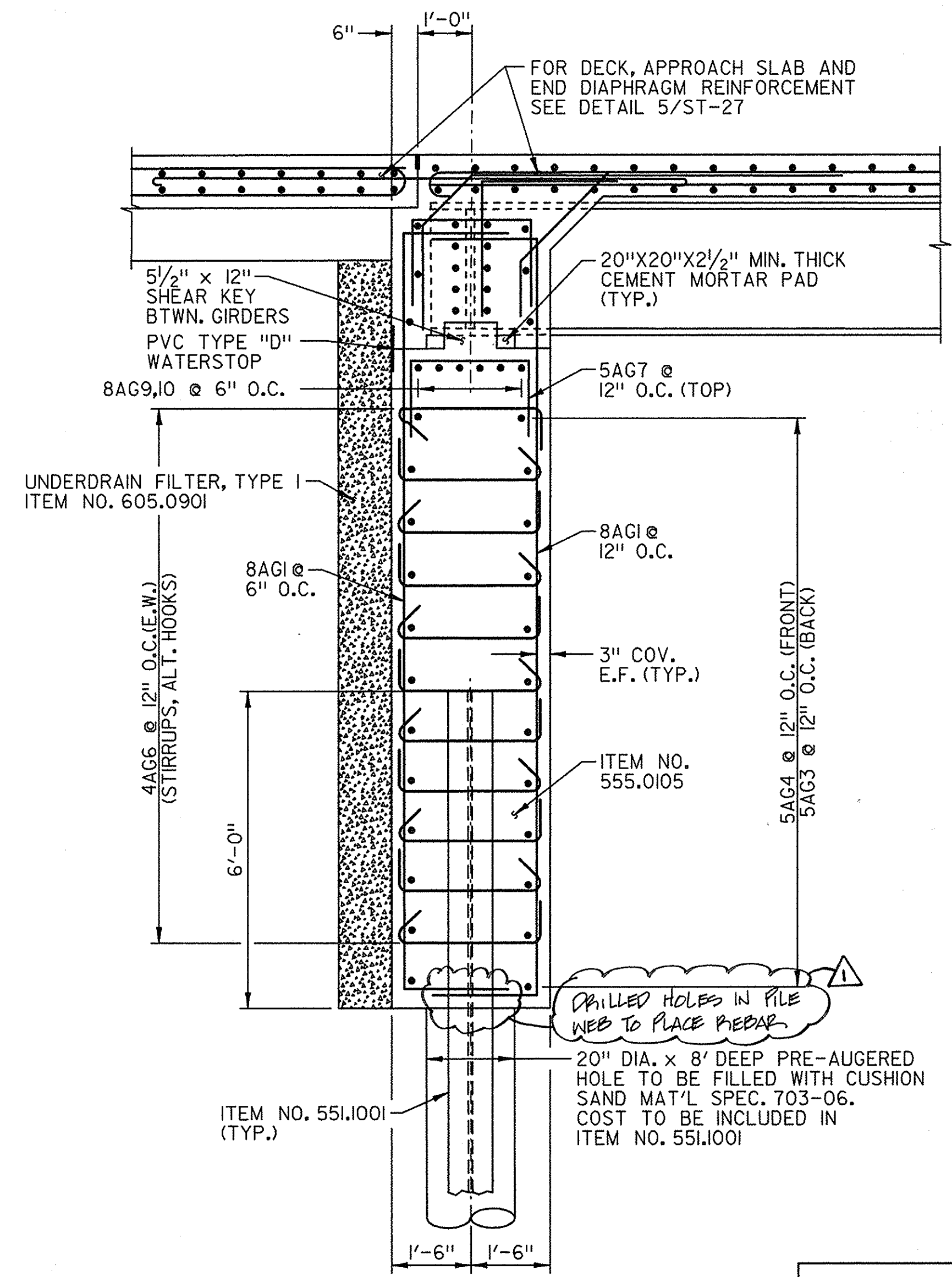
**1 PLAN**  
ABUT. STEM & WINGWALL FOOTING  
REINFORCEMENT  
1/4"=1'-0"



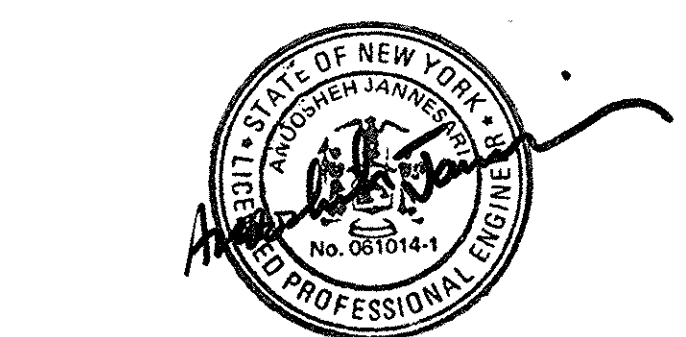
**2 ELEVATION**  
SOUTHEAST WINGWALL  
REINFORCEMENT  
SOUTHWEST WINGWALL  
IS SIMILAR  
1/4"=1'-0"



**3 SECTION**  
WINGWALL  
1/2"=1'-0"



**4 SECTION**  
ABUTMENT  
1/2"=1'-0"



AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
8/99	LOCATE PEBAR THROUGH FILE WEB	KFK	△

REVISIONS	
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209	
TITLE OF PROJECT	HELDERBERG AVENUE BRIDGE REPLACEMENT
LOCATION OF PROJECT	M.P. 155.54
TITLE OF DRAWING	SOUTH ABUTMENT REINFORCEMENT AND ABUTMENT SECTIONS



CONTRACT NUMBER:	TAA 98-10BR
DATE:	1/98
DRAWING NUMBER:	ST-15

THE SEAR-BROWN GROUP

PILE NOTES REVISIONS

1. THE HPIOX42 PILES SHOWN ARE DESIGNED TO SUPPORT A MAXIMUM ALLOWABLE LOAD OF 56 TONS PER PILE AND SHALL BE DRIVEN TO ACHIEVE AN ULTIMATE PILE RESISTANCE OF 112 TONS PER PILE. THESE PILES HAVE AN ESTIMATED LENGTH AS FOLLOWS:

80 FEET - SOUTH ABUTMENT  
60 FEET - PIER  
70 FEET - NORTH ABUTMENT

2. IT IS POSSIBLE THAT DIFFICULT DRIVING OF PILES MAY BE ENCOUNTERED AND IT MAY BE NECESSARY TO UTILIZE MECHANICAL EQUIPMENT FOR REMOVING VERY COMPACT MATERIAL OR BOULDERS FROM THE LOCATION OF PILES. THIS MAY BE ACCOMPLISHED BY VARIOUS TYPES OF EARTH AUGERS, SPUDS, WELL DRILLING EQUIPMENT, OR OTHER DEVICES TO PERMIT PILES TO BE DRIVEN TO THE MINIMUM DEPTH SHOWN ON THE PLANS WITHOUT DISTORTION. SPUDDING OR PREAUGERING WHERE REQUIRED SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE PROVISIONS OF 551-3.01C.

3. IF ANY OBSTRUCTIONS TO PILE DRIVING ARE ENCOUNTERED TEN (10) FEET OR LESS FROM THE BOTTOM OF THE FOOTING, THE CONTRACTOR SHALL, IF SO ORDERED BY THE ENGINEER, PULL THE PARTIALLY DRIVEN PILE OR PILES AND REMOVE THE OBSTRUCTION, BACKFILLING THE HOLE WITH APPROVED SUITABLE MATERIAL WHICH SHALL BE THOROUGHLY COMPACTED TO THE SATISFACTION OF THE ENGINEER. HOWEVER, NO PARTIALLY DRIVEN PILE SHALL BE REMOVED UNTIL THE ENGINEER IS SATISFIED THAT THE CONTRACTOR HAS MADE EVERY EFFORT TO DRIVE THE PILE THROUGH THE OBSTRUCTION. PAYMENT FOR THE EXCAVATION WILL BE MADE AT THE UNIT PRICE BID FOR THE STRUCTURE EXCAVATION ITEM AND FOR THE TEMPORARY SHEETING UNDER ITEM 552.04 WHEN SHEETING IS USED. NO OTHER EXTRA PAYMENT WILL BE MADE FOR THIS WORK.

4. THE CONTRACTOR SHALL PERFORM SIX DYNAMIC LOAD TESTS ON PILES INDICATED ON THE CONTRACT PLANS. ADDITIONAL DYNAMIC LOAD TESTS MAY BE NECESSARY, IF ORDERED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH EQUIPMENT AND PERSONNEL FOR THESE TESTS AS STATED IN THE SPECIAL NOTES IN THE CONTRACT PROPOSAL. THE RESULTS OF THESE TESTS SHALL BE FORWARDED, IMMEDIATELY, TO THE ENGINEER AND THE CHIEF ENGINEER. THE DRIVING CRITERIA FOR THE PILES SHALL BE BASED ON THE RESULTS OF THESE TESTS. THE COST OF THE DYNAMIC LOAD TESTS SHALL BE INCLUDED IN ITEM NO. 551.14, DYNAMIC PILE TESTING.

5. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE EXISTING SUBSTRUCTURES WHICH ARE PILE SUPPORTED AND MAY INTERFERE WITH THE INSTALLATION OF THE PROPOSED PILES. IF THERE ARE PILE INTERFERENCES, THE CONTRACTOR SHALL BE REQUIRED TO EITHER EXTRACT THE EXISTING PILES OR RELOCATE THE PROPOSED PILE. THE CHIEF ENGINEER WILL DETERMINE IF EXTRACTION OR RELOCATION IS REQUIRED.

6. UPON COMPLETION OF PILE DRIVING, ALL PILES THAT ARE NOT DRIVEN TO MINIMUM PILE LENGTH SHALL BE REDRIVEN TO INSURE FIRM CONTACT WITH THE ROCK OR BOULDER SURFACE. THE ENGINEER MAY DIRECT, AT HIS/HER DISCRETION, THAT A PILE BE REDRIVEN MORE THAN ONE TIME IF HE/SHE DETERMINES THAT A PILE HAS HEAVED OR MOVED Laterally, THEREFORE, UNSEATING THE PILE.

AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
9/99	CORRECT BEARING PLACING	KFK	△

REVISIONS

NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT HELDERBERG AVENUE  
BRIDGE REPLACEMENT

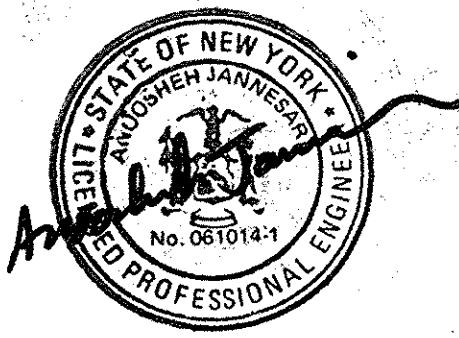
LOCATION OF PROJECT M.P. 155.54

TITLE OF DRAWING NORTH ABUTMENT  
REINFORCEMENT

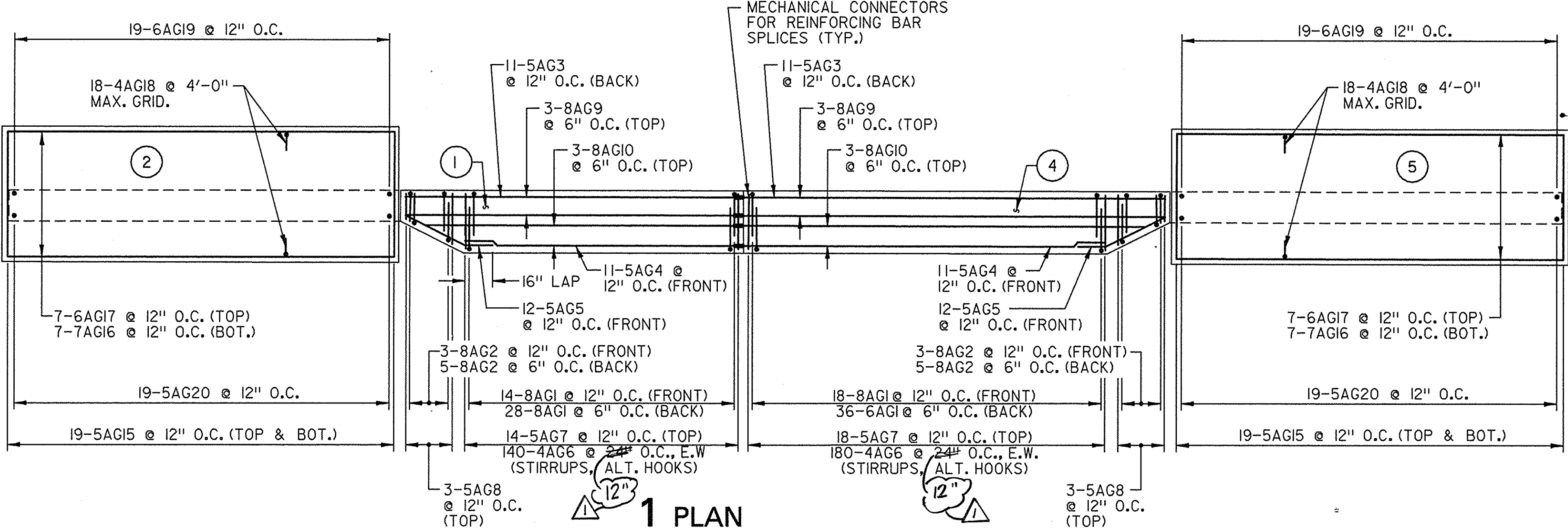
CONTRACT NUMBER:  
TAA 98-10BR

DATE:  
1/98

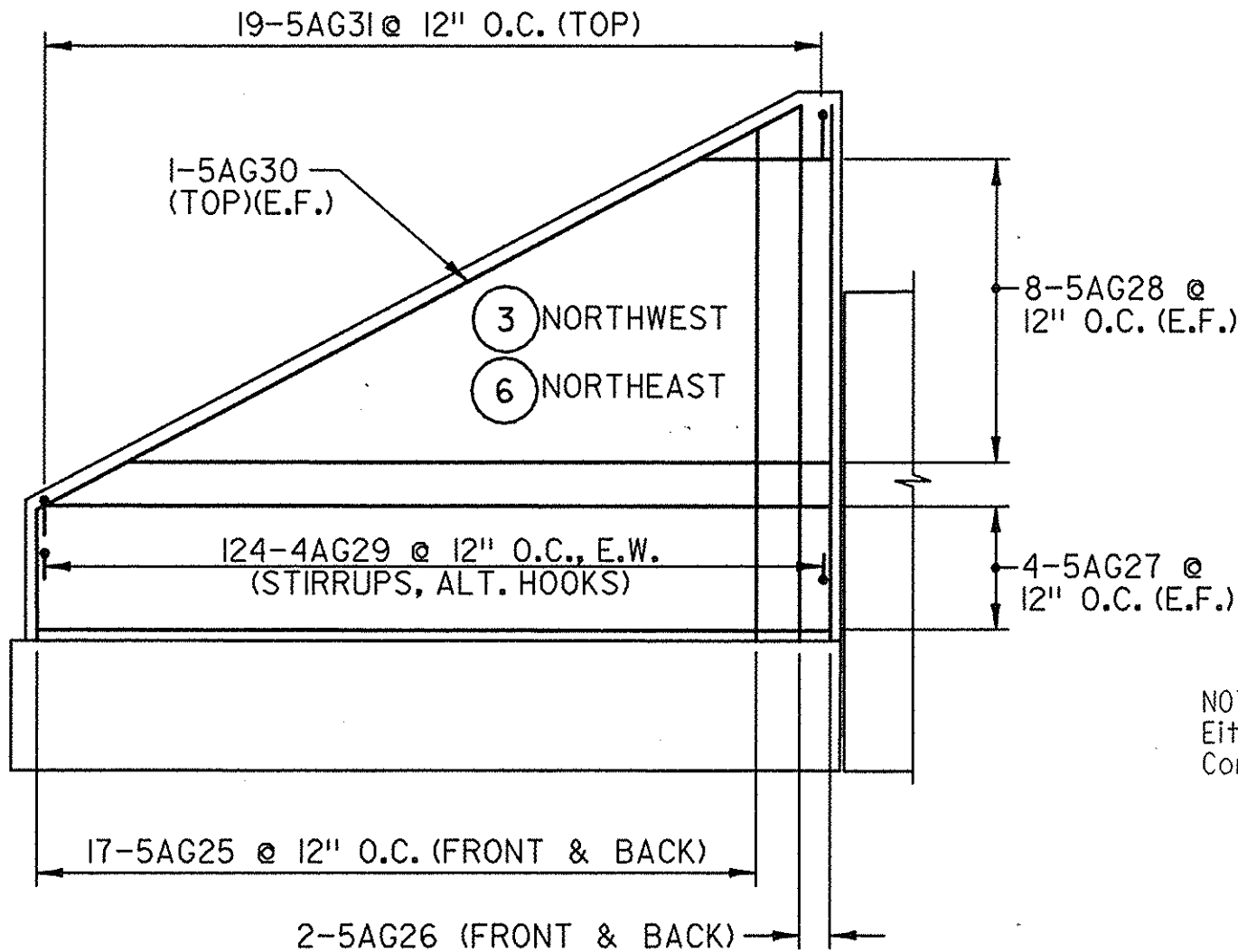
DRAWING NUMBER:  
ST-16



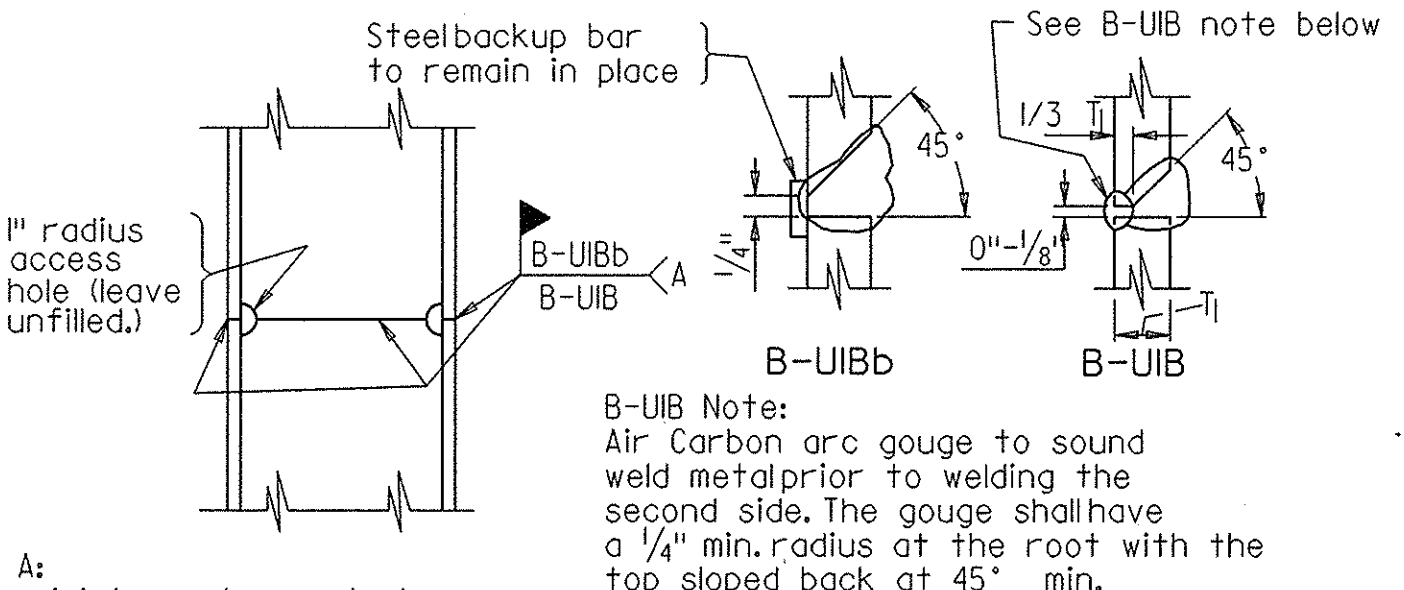
THE SEAR-BROWN GROUP



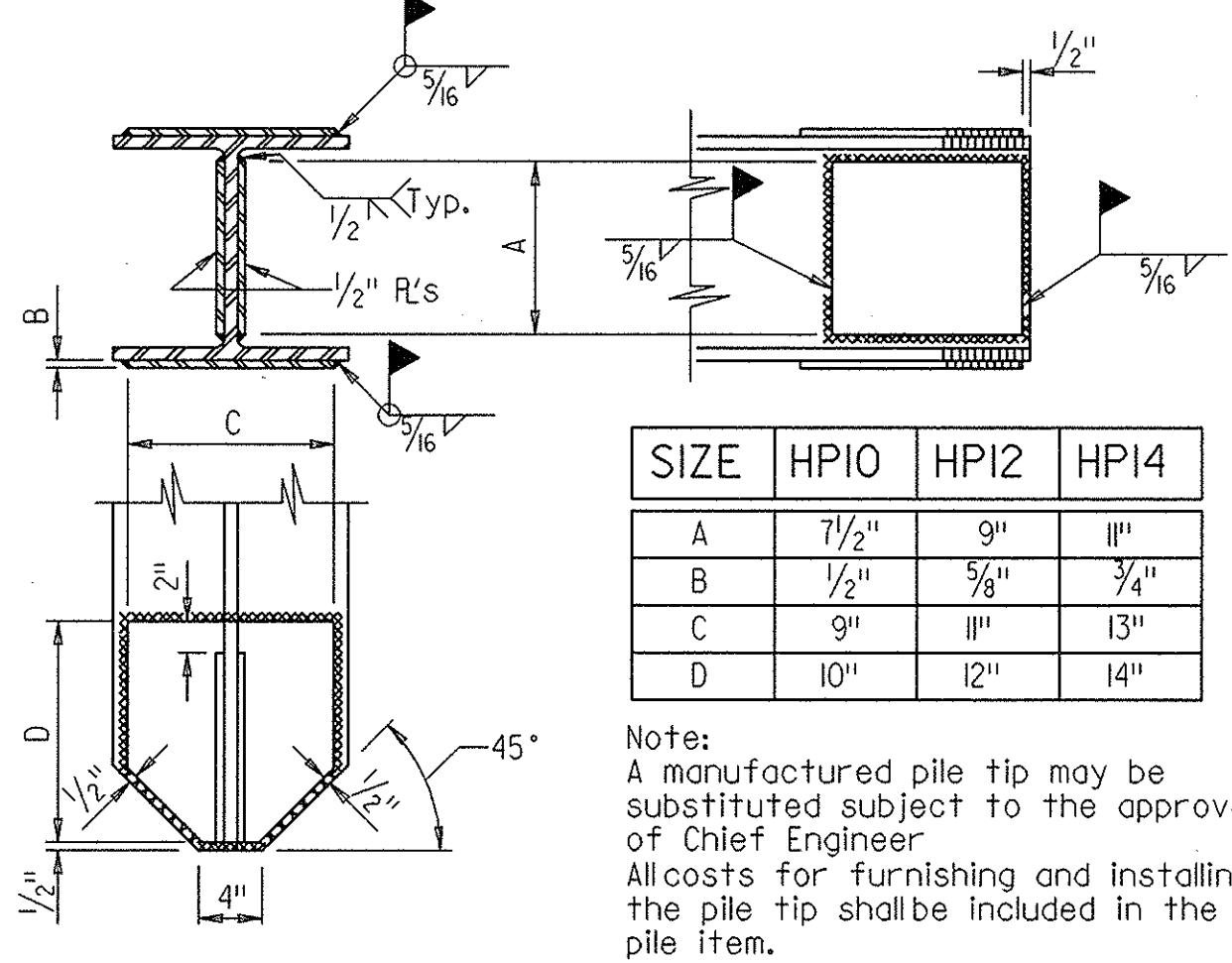
1 PLAN  
ABUT. STEM & WINGWALL FOOTING  
REINFORCEMENT  
1/4"=1'-0"



2 ELEVATION  
NORTHWEST WINGWALL  
REINFORCEMENT  
NORTHEAST WINGWALL  
IS SIMILAR  
1/4"=1'-0"



3 DETAIL  
SPLICE FOR STEEL  
BEARING PILE  
N.T.S.



4 DETAIL  
REINFORCED BEARING  
PILE TIP  
N.T.S.

SIZE	HPI0	HPI2	HPI4
A	7 1/2"	9"	11"
B	1/2"	5/8"	3/4"
C	9"	11"	13"
D	10"	12"	14"

Note:  
A manufactured pile tip may be substituted subject to the approval of Chief Engineer.  
All costs for furnishing and installing the pile tip shall be included in the pile item.



# REVISIONS

## NOTES:

1. PEDESTAL ELEVATIONS MAY VARY DEPENDING ON ACTUAL BEARING THAT IS SUPPLIED. THE MINIMUM PEDESTAL HEIGHT IS 6". NO CHANGE IN TOP OF PIER STEM ELEVATION IS ALLOWED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
2. PRIOR TO POURING THE PEDESTALS, THE TOPS OF THE PIER STEM SHOULD BE ROUGHED TO A MINIMUM DEPTH OF 1/4" IN THE AREAS BENEATH THE PEDESTALS.
3. SEE DRAWING NO. ST-2 FOR SUBSTRUCTURE NOTES.
4. SEE DRAWING NOS. ST-9, ST-10 AND ST-11 FOR EARTHWORK DETAILS.
5. SEE DRAWING NO. ST-18 FOR PILE LAYOUT.
6. SEE DRAWING NO. ST-18 FOR FOOTING AND PIER REINFORCEMENT DETAILS.
7. SEE DRAWING NO. ST-28 FOR CONSTRUCTION JOINT AND KEYWAY DETAILS.

PEDESTAL	"X"
G1	1
G2	2
G3	2
G4	1

CONCRETE TABLE		
POUR NO.	ITEM 555.0104	ITEM 555.0105
①	23.45	
②		31.44
③		0.55
④	29.38	
⑤		44.46
⑥		0.55
TOTAL	52.83	77.00

AS BUILT REVISIONS  
B.I.N. 5513660

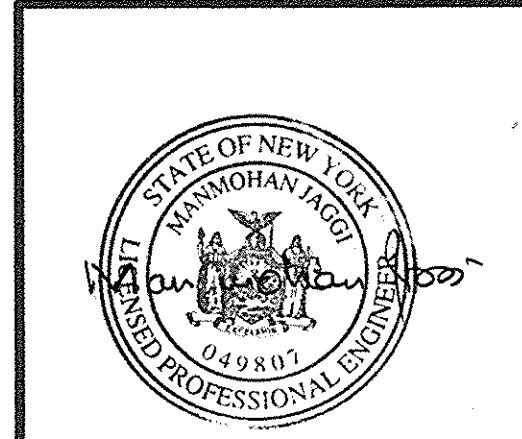
DATE	DESCRIPTION	BY	SYM.
9/99	AS BUILT ELEV. FROM BRIDGE HT. AMENDMENT #2 EVD.	KPK	△
2/99		KPK	△

REVISIONS  
NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

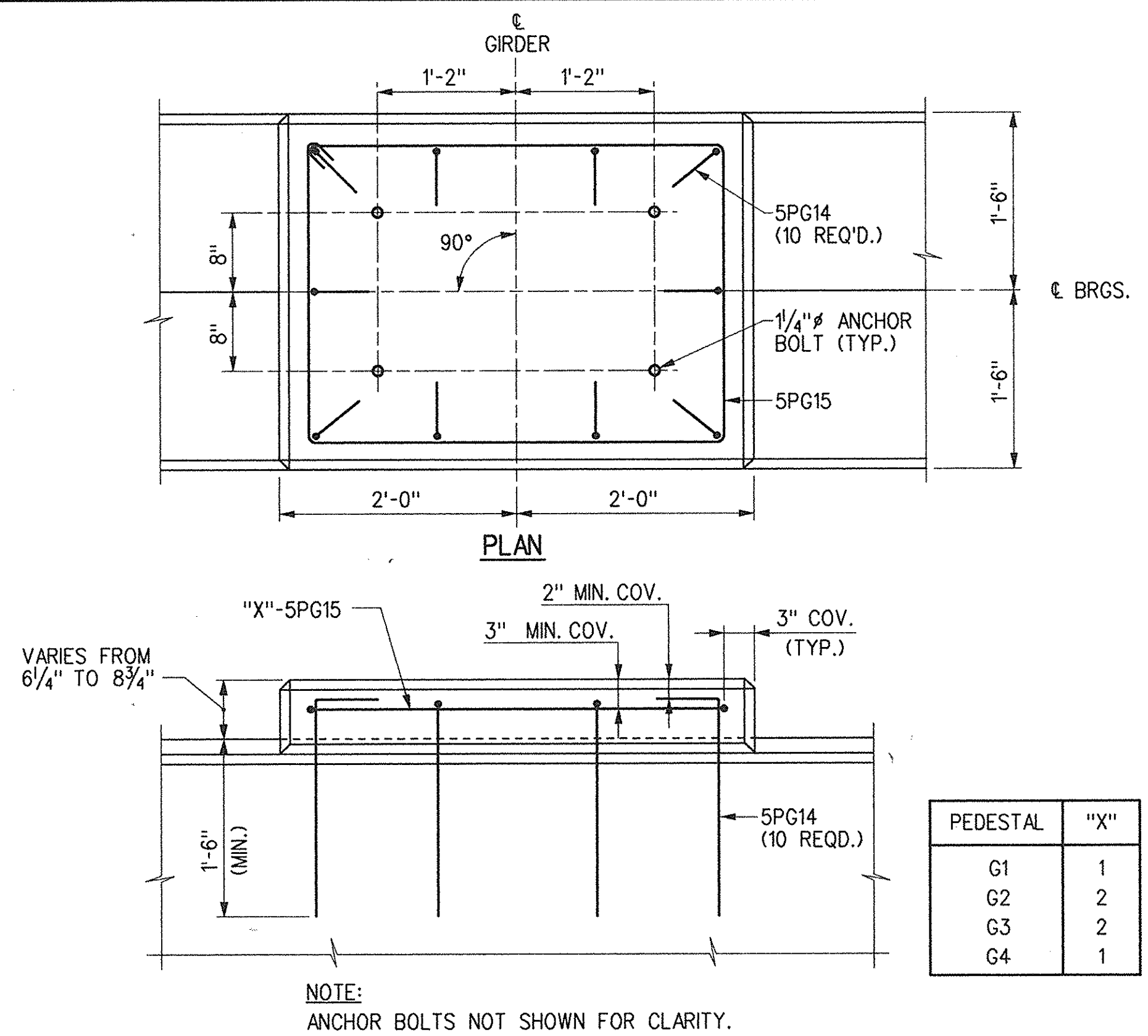
TITLE OF PROJECT: HELDERBERG AVENUE  
BRIDGE REPLACEMENT  
LOCATION OF PROJECT: M.P. 155.54

TITLE OF DRAWING: PIER PLAN AND ELEVATIONS

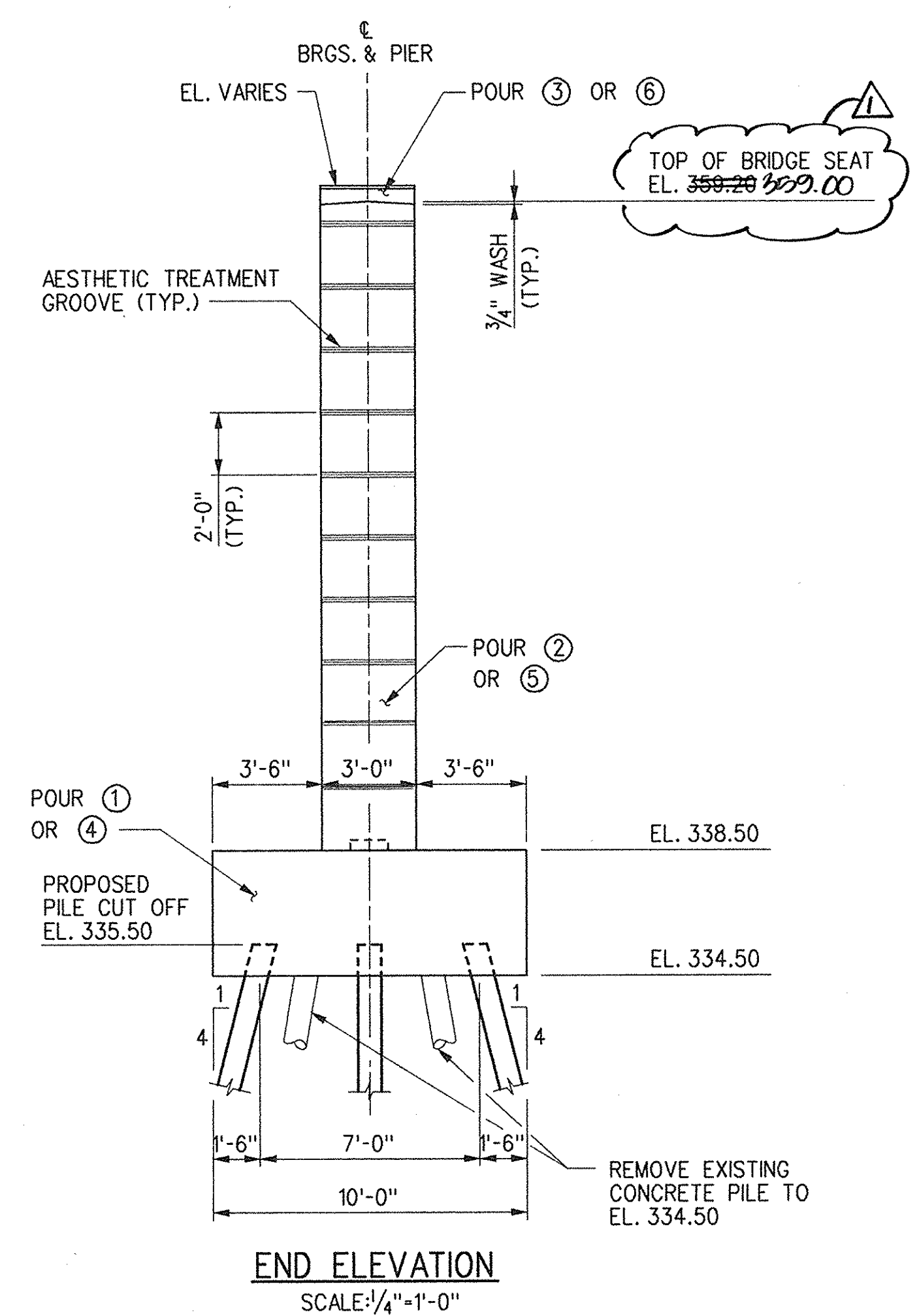
CONTRACT NUMBER: TAA 98-10BR  
DATE: 1/98  
DRAWING NUMBER: ST - 17



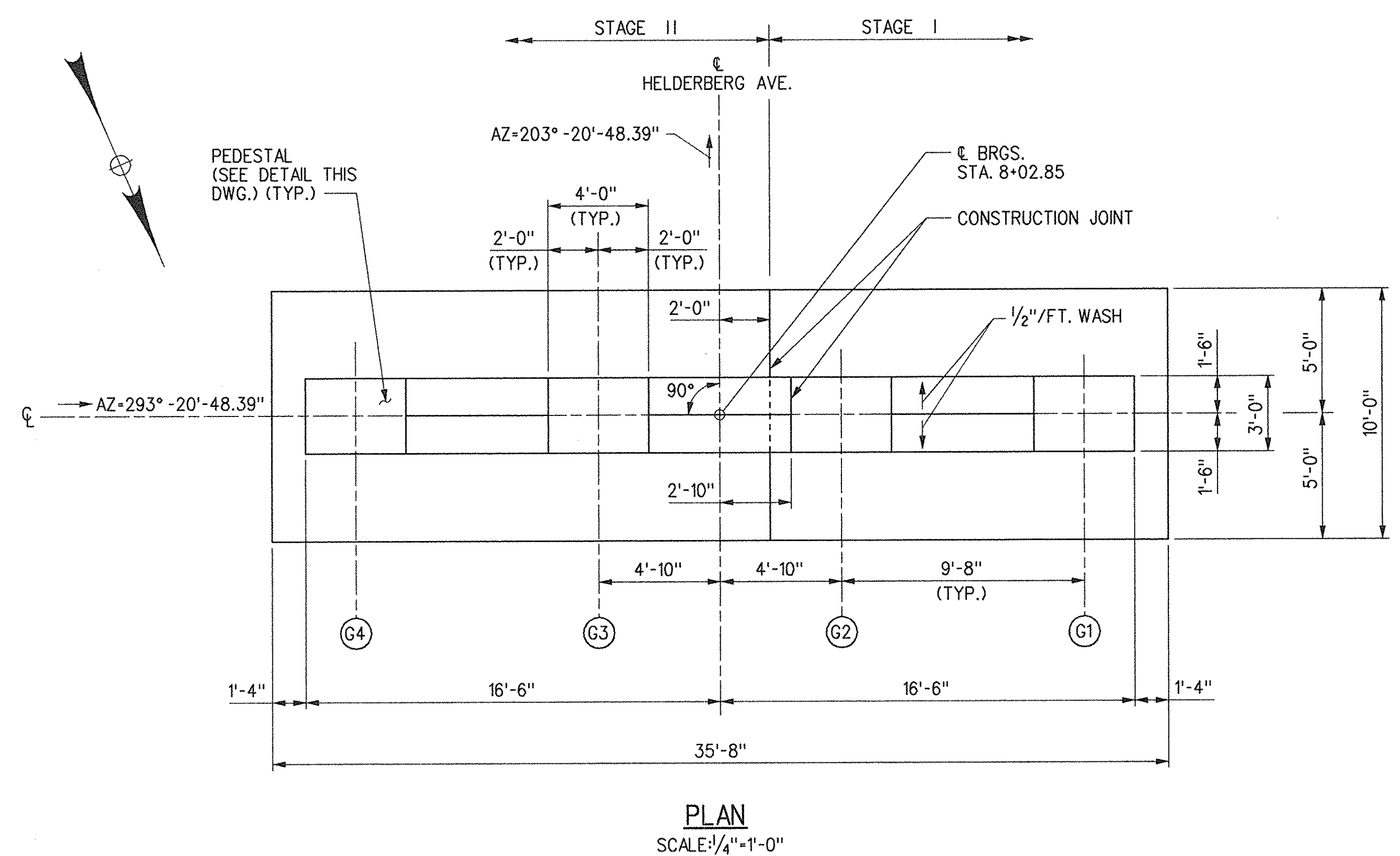
M.J. ENGINEERING AND LAND SURVEYING, P.C.  
1533 CRESCENT ROAD CLIFTON PARK, NY 12065



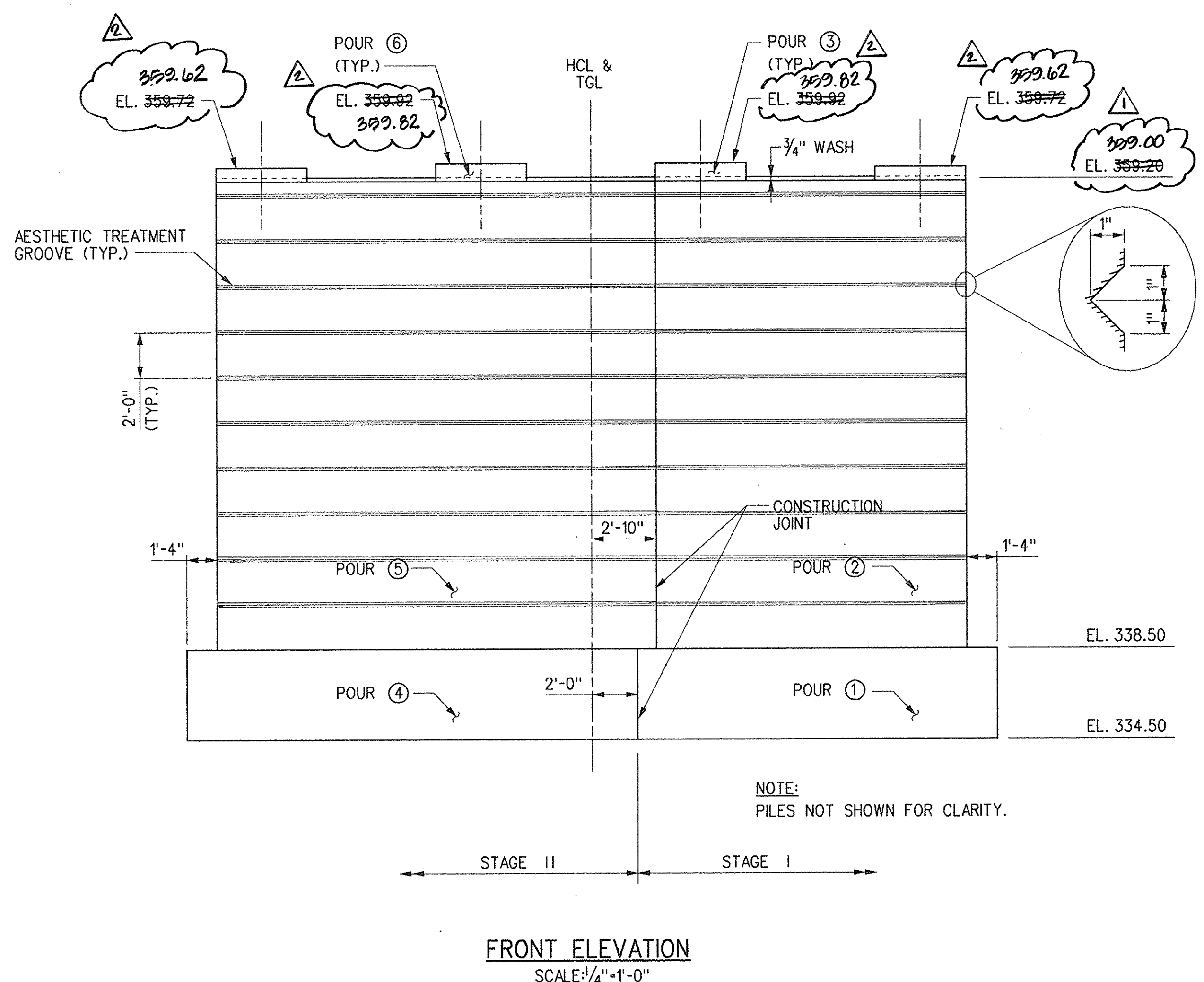
PEDESTAL DETAILS  
(SEE NOTES 1 & 2)  
SCALE: 1"=1'-0"



END ELEVATION  
SCALE: 1/4"=1'-0"



PLAN  
SCALE: 1/4"=1'-0"



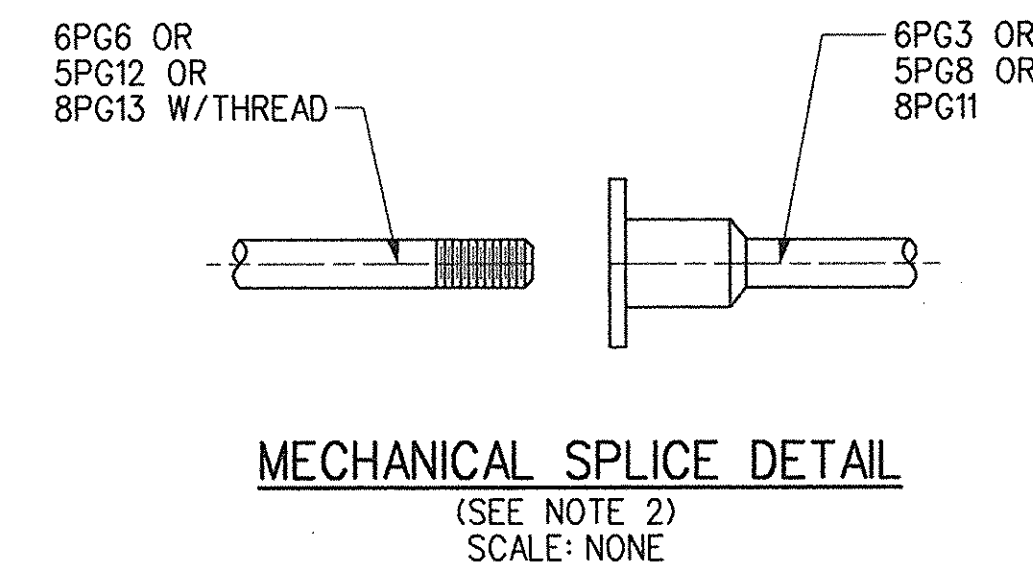
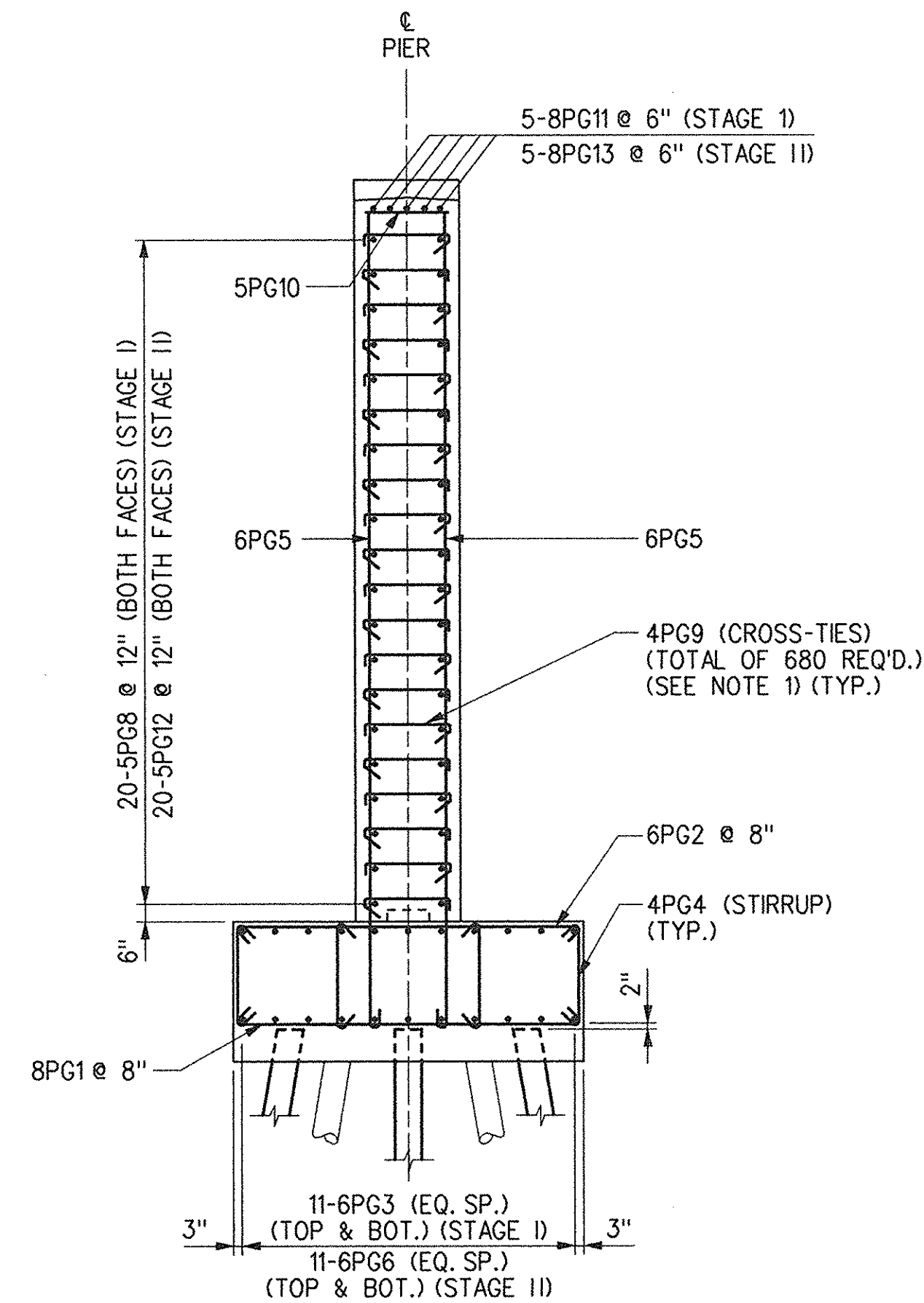
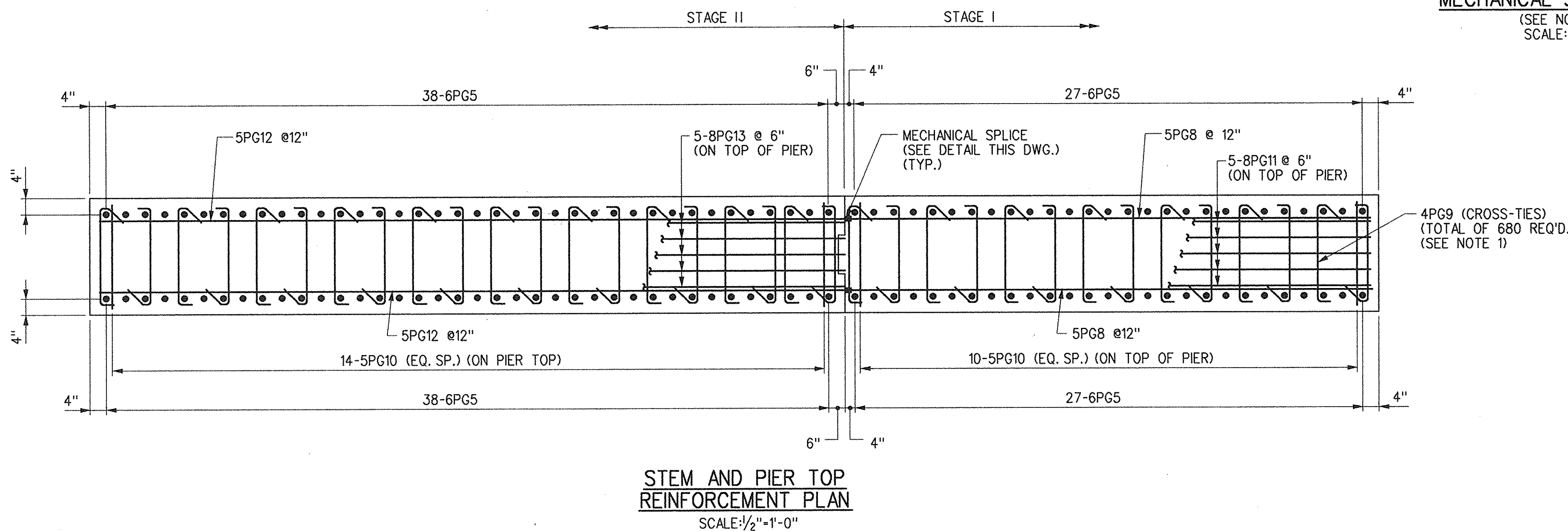
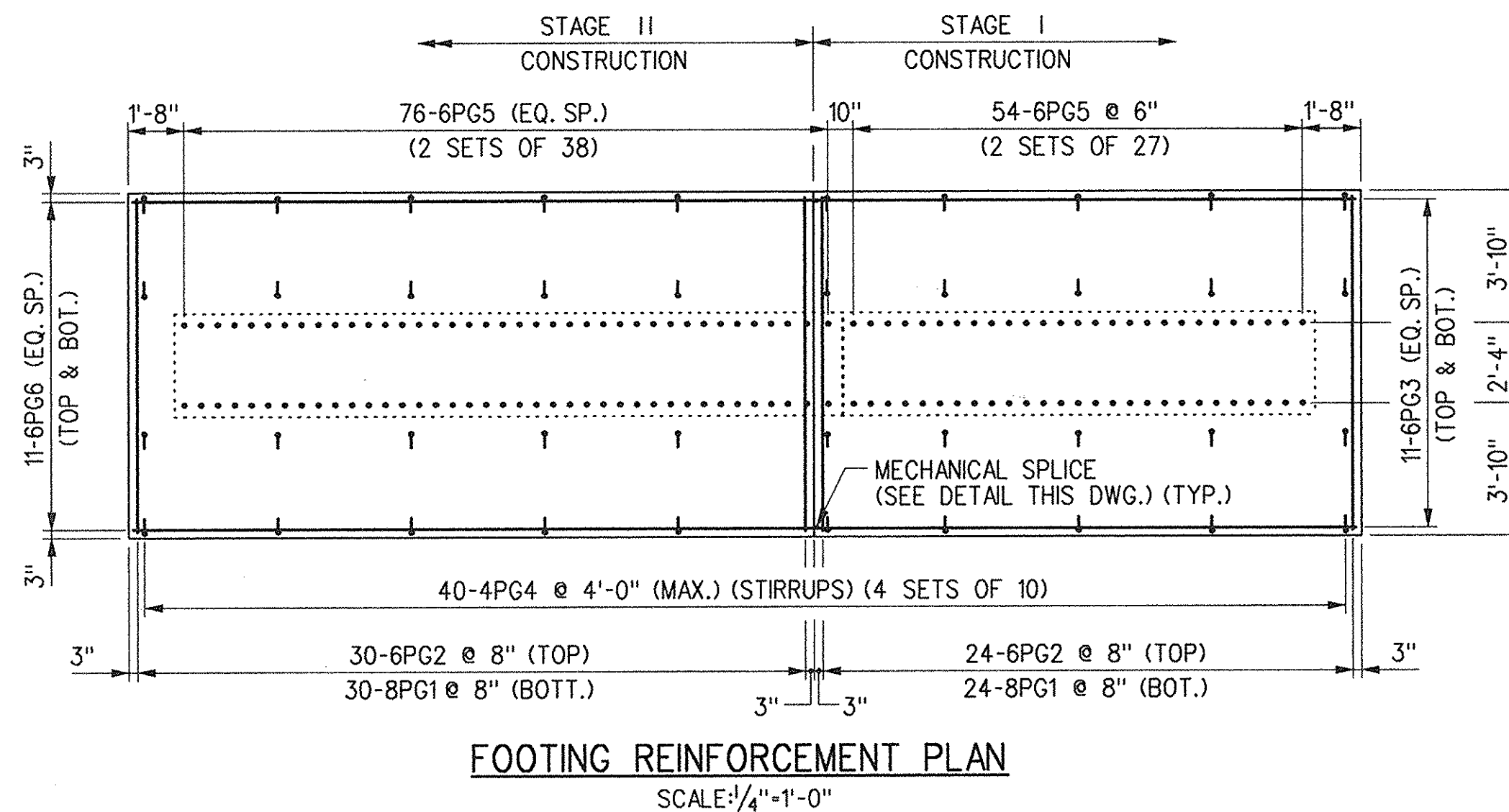
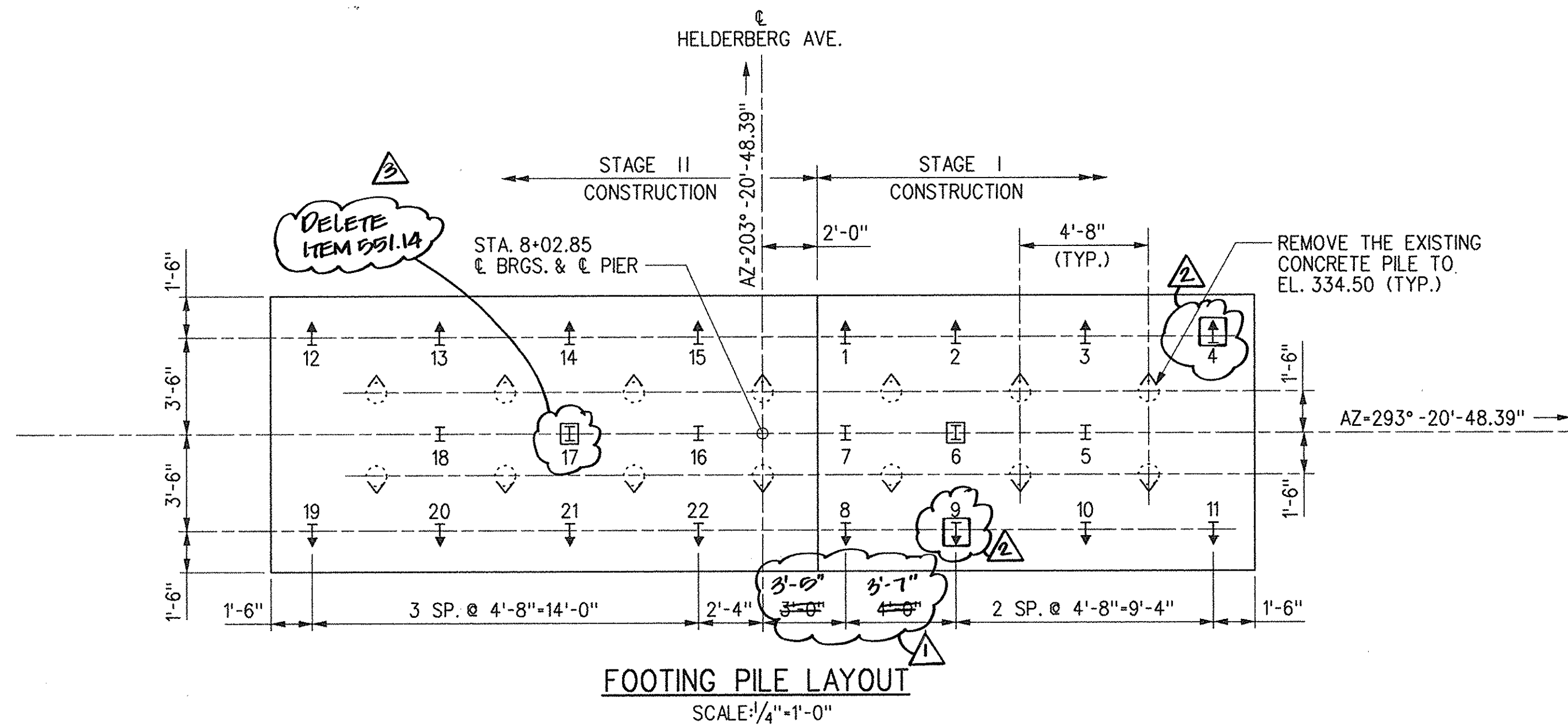
FRONT ELEVATION  
SCALE: 1/4"=1'-0"

CHECKED BY: JJS

DRAFTED BY: FJC

DESIGNED BY: WZY

IN CHARGE OF: WZY



## NOTES:

- THE NO. 4 CROSS-TIES CONNECTING THE FRONT AND REAR MATS OF REINFORCEMENT IN THE PIER WALL SHALL BE SPACED AT 1'-0", EACH WAY. THE CROSS-TIES SHALL HAVE A 135° HOOK ON ONE END AND A 90° HOOK ON THE OTHER END. THE CROSS-TIES SHALL BE PLACED SUCH THAT A 135° HOOK IS NEXT TO A 90° HOOK.
- MECHANICAL SPLICES SHALL MEET THE REQUIREMENTS OF SECTION 709-10 OF THE NYSDOT STANDARD SPECIFICATIONS AND SHALL BE PAID FOR UNDER ITEM 25556.99 - GALVANIZED BAR REINFORCEMENT FOR STRUCTURES.
- SEE DRAWING NOS. ST-35, ST-36, ST-37, ST-38 AND ST-39 FOR BAR LIST.

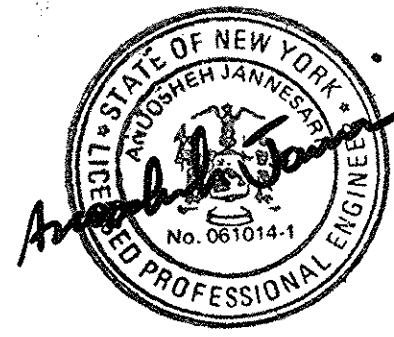
## PILE NOTES:

- THE STEEL PILES SHOWN ARE DESIGNED TO SUPPORT A MAXIMUM ALLOWABLE LOAD OF 56 TONS PER PILE AND SHALL BE DRIVEN TO ACHIEVE AN ULTIMATE PILE RESISTANCE OF 112 TONS PER PILE.
- THE ESTIMATED PILE LENGTH IS 60 FEET.
- THE PILE CUT-OFF ELEVATION IS 335.50.
- SEE DRAWING NO. ST-16 FOR PILE SPLICE AND PILE TIP REINFORCEMENT DETAILS.
- SEE DRAWING NO. ST-2 FOR ADDITIONAL PILE NOTES.
- REPAIR TO ROADWAY DAMAGED BY THE CONTRACTOR'S PILE DRIVING OPERATIONS SHALL BE PAID FOR UNDER APPROPRIATE PILE ITEMS.

## PILE LEGEND

I	ITEM 551.1001 - STEEL BEARING PILES (HP 10x42)
↓	ITEM 551.1001 - STEEL BEARING PILES (HP 10x42) (4 ON 1 BATTER)
Ⓜ	ITEM 551.14 - DYNAMIC PILE TESTING

## AS BUILT REVISIONS B.I.N. 5513660



DATE	DESCRIPTION	BY	SYM.
1/99	DELETE PILE #17	KFK	Ⓜ
8/99	DYNAMIC TEST	KFK	Ⓜ
9/99	ADDITIONAL DYNAMIC PILE LOAD TESTS	KFK	Ⓜ
9/99	CHANGE TO SPICE 1/16" DIA.	KFK	Ⓜ

REVISIONS	
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209	
TITLE OF PROJECT: HELDERBERG AVENUE BRIDGE REPLACEMENT	
LOCATION OF PROJECT: M.P. 155.54	
TITLE OF DRAWING: PIER DETAILS	
CONTRACT NUMBER: TAA 98-10BR	DATE: 1/98
DRAWING NUMBER: ST - 18	



**M.J. ENGINEERING AND LAND SURVEYING, P.C.**  
1533 CRESCENT ROAD, CLIFTON PARK, NY 12045



T.R.B.

CHECKED BY:

V.L.G.

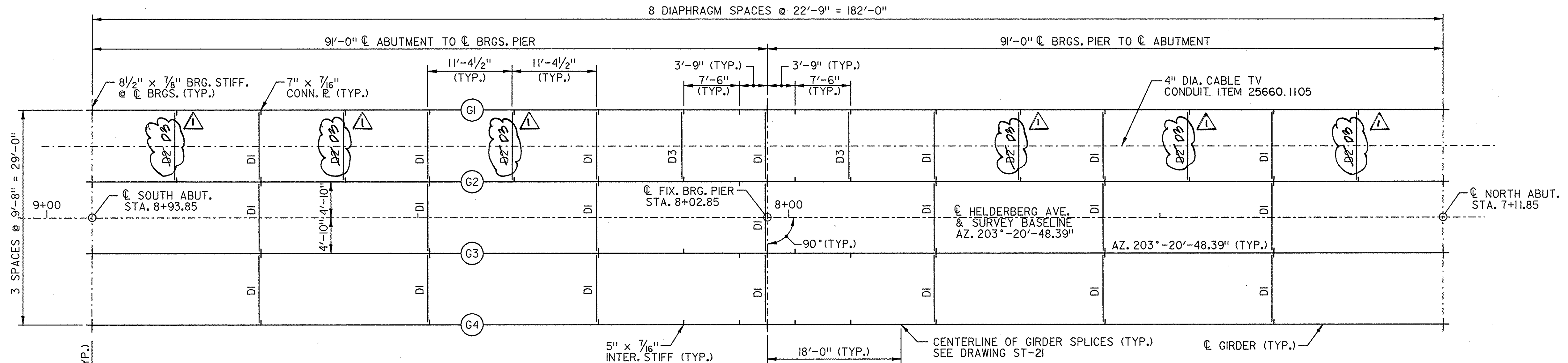
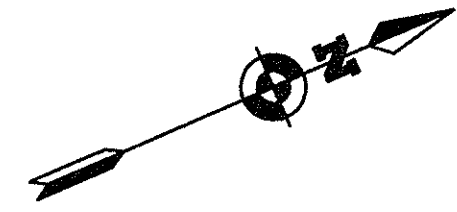
DRAFTED BY:

R.J.M.

DESIGNED BY:

J.R.N.

IN CHARGE OF:



**1 FRAMING PLAN**  
1/8"=1'-0"

## NOTES

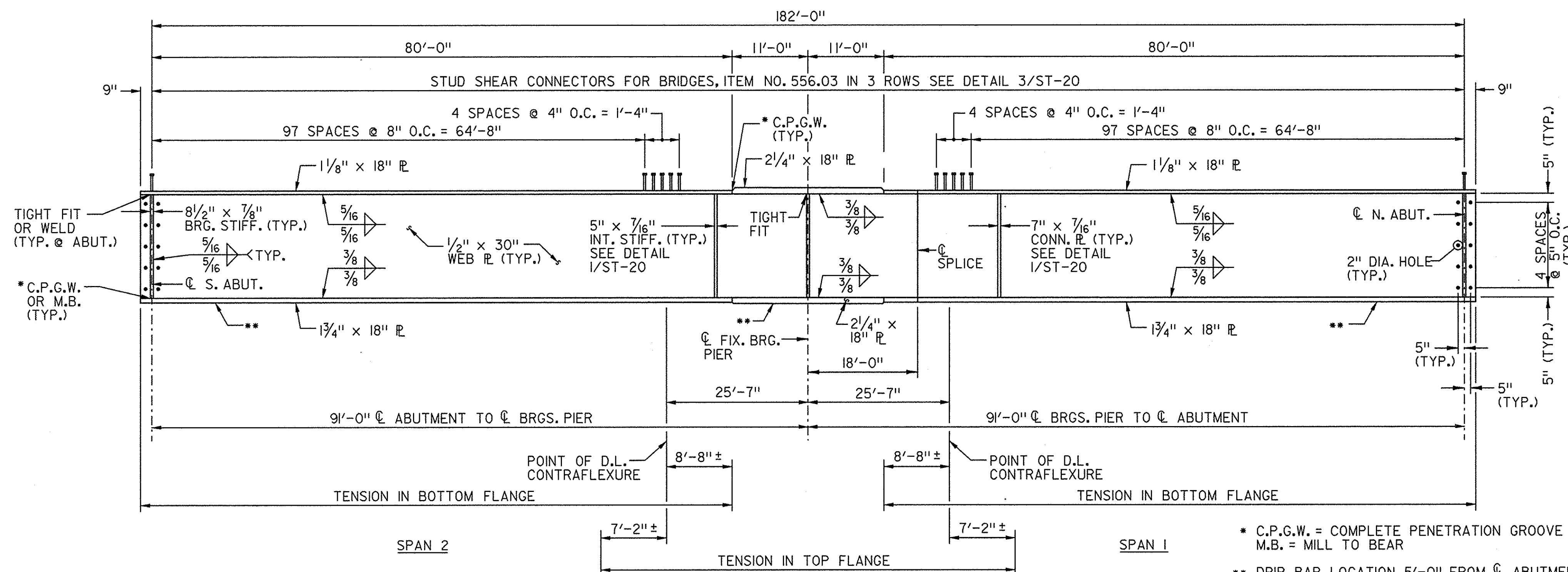
ALL STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50W, UNLESS OTHERWISE NOTED.

FOR GIRDER CAMBER TABLES, SEE DRAWING NO. ST-24.  
FOR SLAB HAUNCH TABLES, SEE DRAWING NO. ST-23.  
FOR GIRDER SECTIONS, SEE DRAWING NO. ST-20.  
FOR DETAIL OF FLANGE THICKNESS TRANSITION, SEE DRAWING NO. ST-20.  
FOR DIAPHRAGM DETAILS, SEE DRAWING NO. ST-26.  
FOR DESIGN LOAD TABLE, SEE DRAWING NO. ST-23.  
FOR MOMENT AND SHEAR TABLES, SEE DRAWING NO. ST-24.  
FOR GIRDER SPLICE DETAILS, SEE DRAWING NO. ST-21.

NO WELDING SHALL BE ALLOWED WITHIN THE TENSION ZONES SHOWN UNLESS SPECIFICALLY NOTED. THE ATTACHMENT OF FORMING DEVICES OR OTHER CONSTRUCTION AIDS BY WELDING WITHIN THE TENSION AREAS SHOWN IS PROHIBITED.

THE STEEL GIRDERS MUST BE Laterally SUPPORTED AT THE ABUTMENTS DURING DECK AND END DIAPHRAGM POURS.

A.S. BUILT REVISIONS  
BIN 5513660



**2 GIRDER ELEVATION**  
ITEM 564.0501 FABRICATION  
BY OTHERS.  
N. T. S.

\* C.P.G.W. = COMPLETE PENETRATION GROOVE WELD  
M.B. = MILL TO BEAR

\*\* DRIP BAR LOCATION 5'-0" FROM C. ABUTMENT OR C. BRG. PIER.  
SEE DETAIL 5/ST-20. GIRDERS G1 AND G4 ONLY.



THE SEAR-BROWN GROUP

DATE	DESCRIPTION	BY	SYM.
9/09	UTILITY SUPPORT CHANGE	KFK	
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING STEEL FRAMING PLAN & GIRDER ELEVATION			
CONTRACT NUMBER: TAA 98-10BR			
DATE: 1/98			
DRAWING NUMBER: ST-19			

T.R.B.

CHECKED BY:

V.L.G.

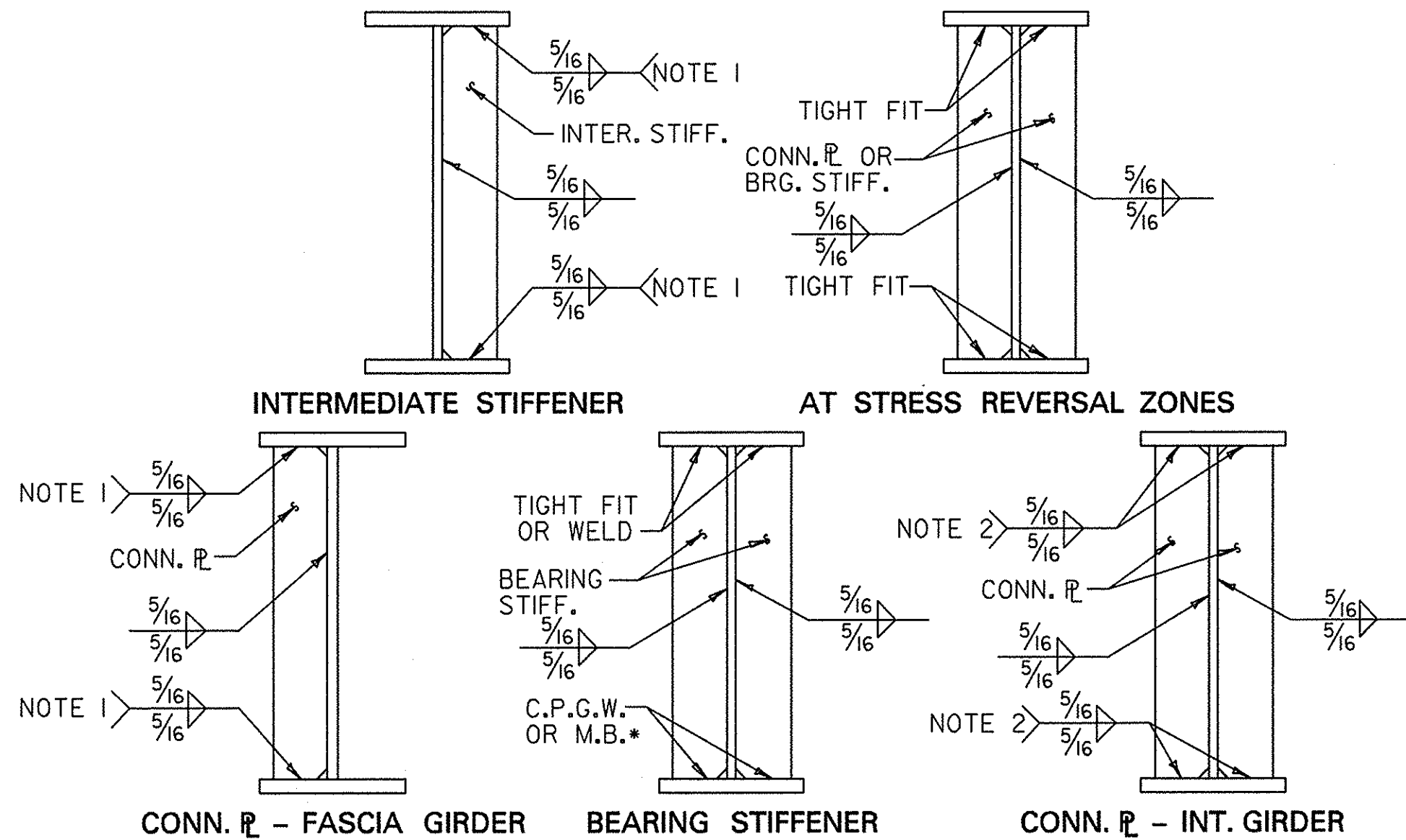
DRAFTED BY:

R.J.M.

DESIGNED BY:

J.R.N.

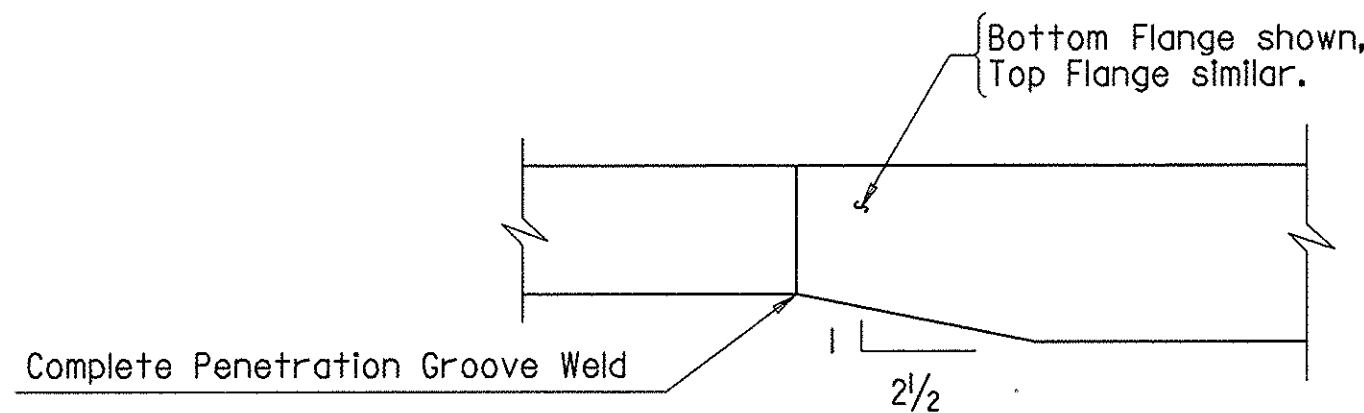
IN CHARGE OF:



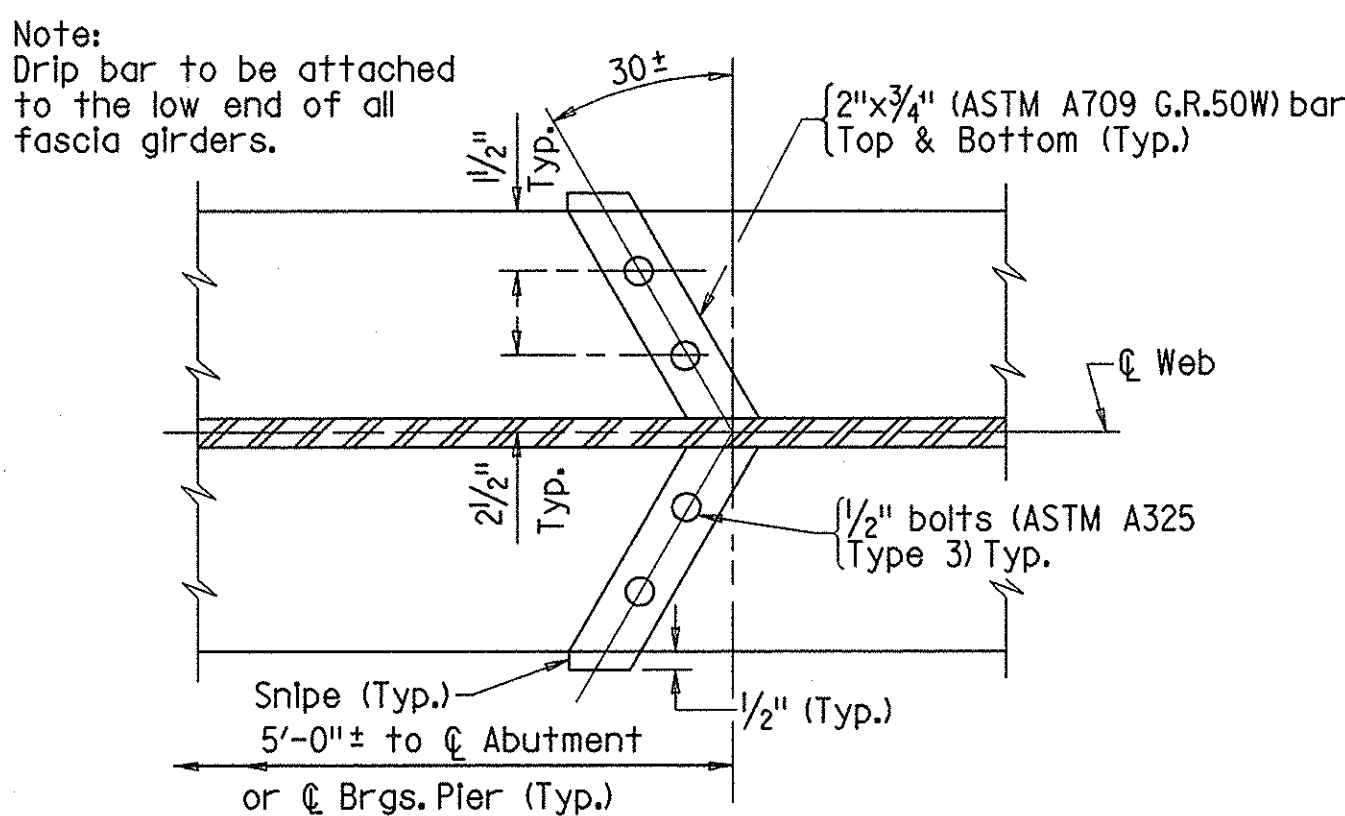
1 GIRDER SECTIONS  
N.T.S.

NOTES

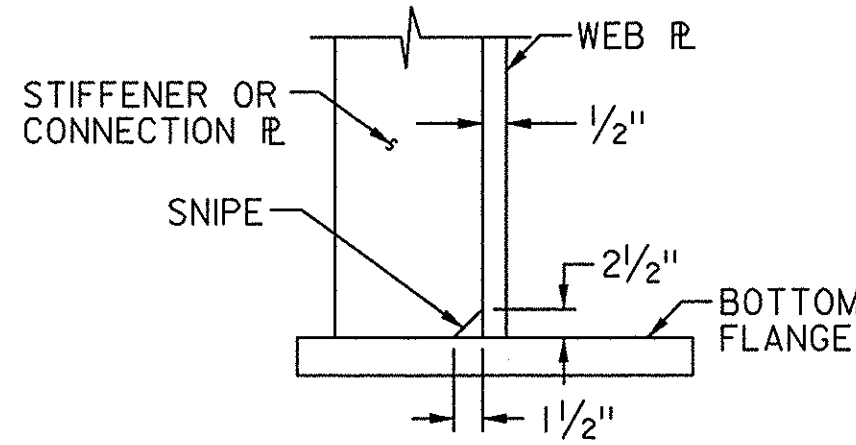
1. NO WELDING OF STIFFENERS OR CONNECTION PLATES TO TENSION FLANGES. PLATES SHALL BE "TIGHT FIT".
2. INTERMEDIATE STIFFENERS AND CONNECTION PLATES USED IN PAIRS MAY BE PLACED PAINT TIGHT AGAINST BOTH FLANGES AND NOT WELDED TO EITHER FLANGE. AS AN ALTERNATE, STIFFENERS AND CONNECTION PLATES MAY BE CUT  $\frac{1}{8}$  INCH SHORT AND THEN PLACED PAINT TIGHT AGAINST THE TENSION FLANGE AND WELDED TO THE COMPRESSION FLANGE. THE WELD SIZE AT THE COMPRESSION FLANGE SHALL BE INCREASED BY THE AMOUNT OF THE GAP AS DESCRIBED IN ARTICLE 100.1 OF THE NYS DOT STEEL CONSTRUCTION MANUAL. FITTED STIFFENERS AND CONNECTION PLATES SHALL NOT BE DRIVEN IN PLACE WITH SUFFICIENT FORCE TO DISTORT THE FLANGE, WEB, STIFFENER OR CONNECTION PLATES.
3. ALL STIFFENERS AND CONNECTION PLATES SHALL BE CLIPPED. SEE DETAIL 2/ST-20



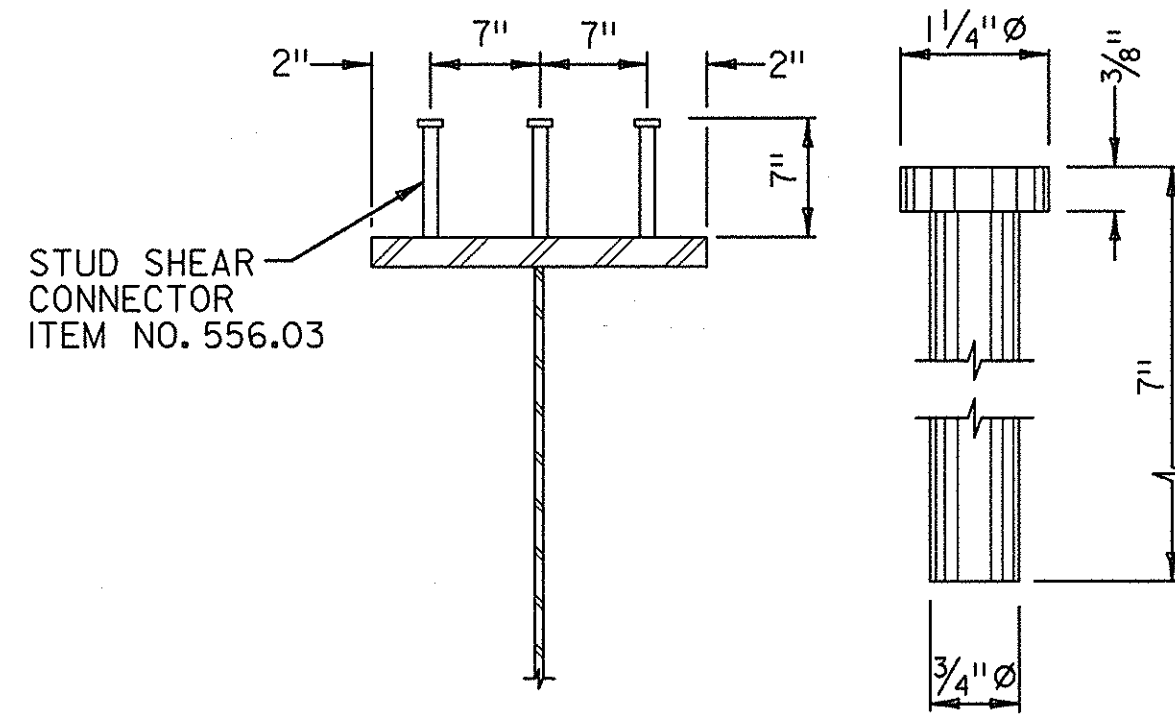
4 DETAIL  
FLANGE THICKNESS TAPER  
N.T.S.



5 DETAIL  
DRIP BAR (GIRDERS G1 AND G4 ONLY)  
N.T.S.



2 DETAIL  
CLIPPED STIFFENER OR  
CONNECTION PLATE  
N.T.S.



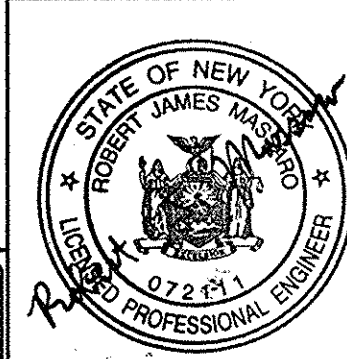
3 DETAIL  
STUD SHEAR CONNECTOR  
PLACEMENT  
(N.T.S.)

NQ AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.

REVISIONS

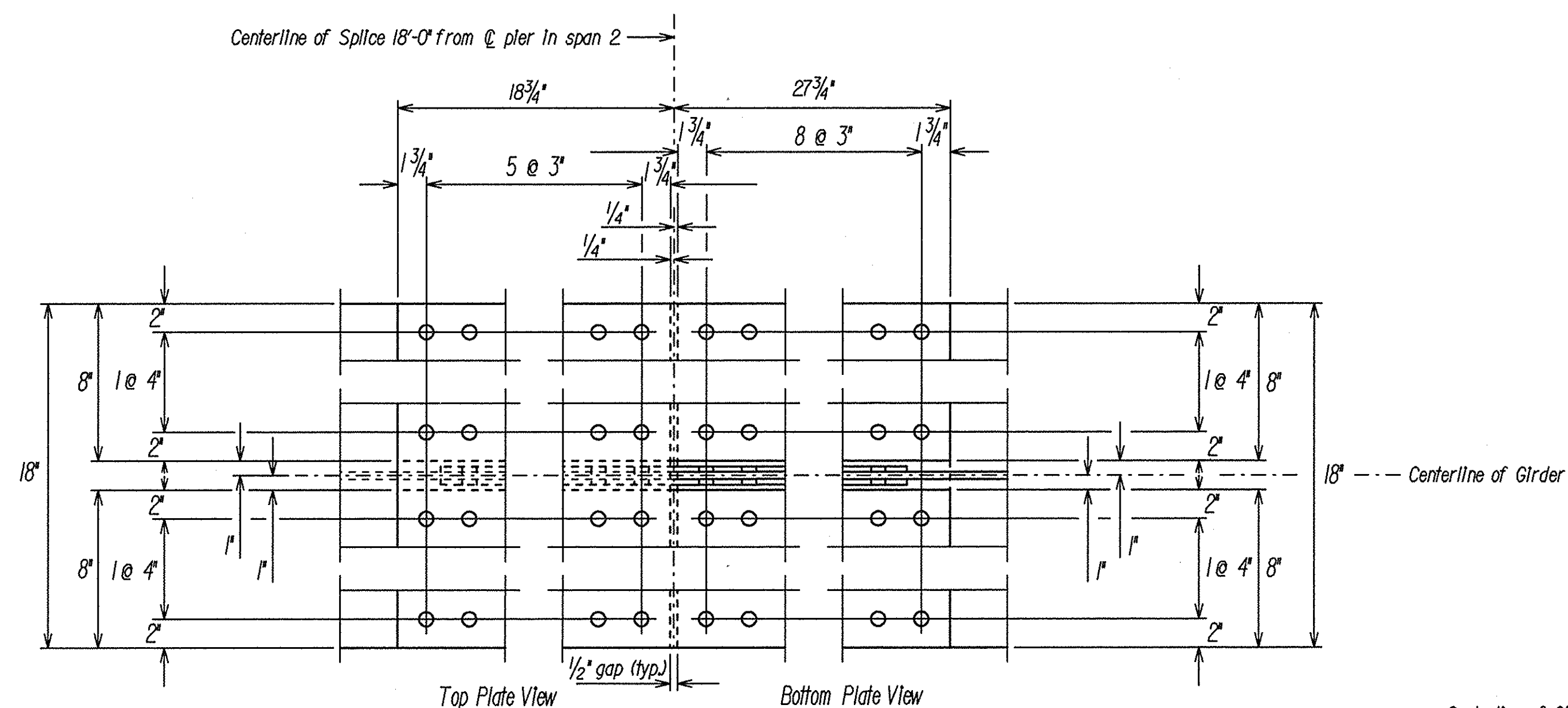
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING STEEL DETAILS			



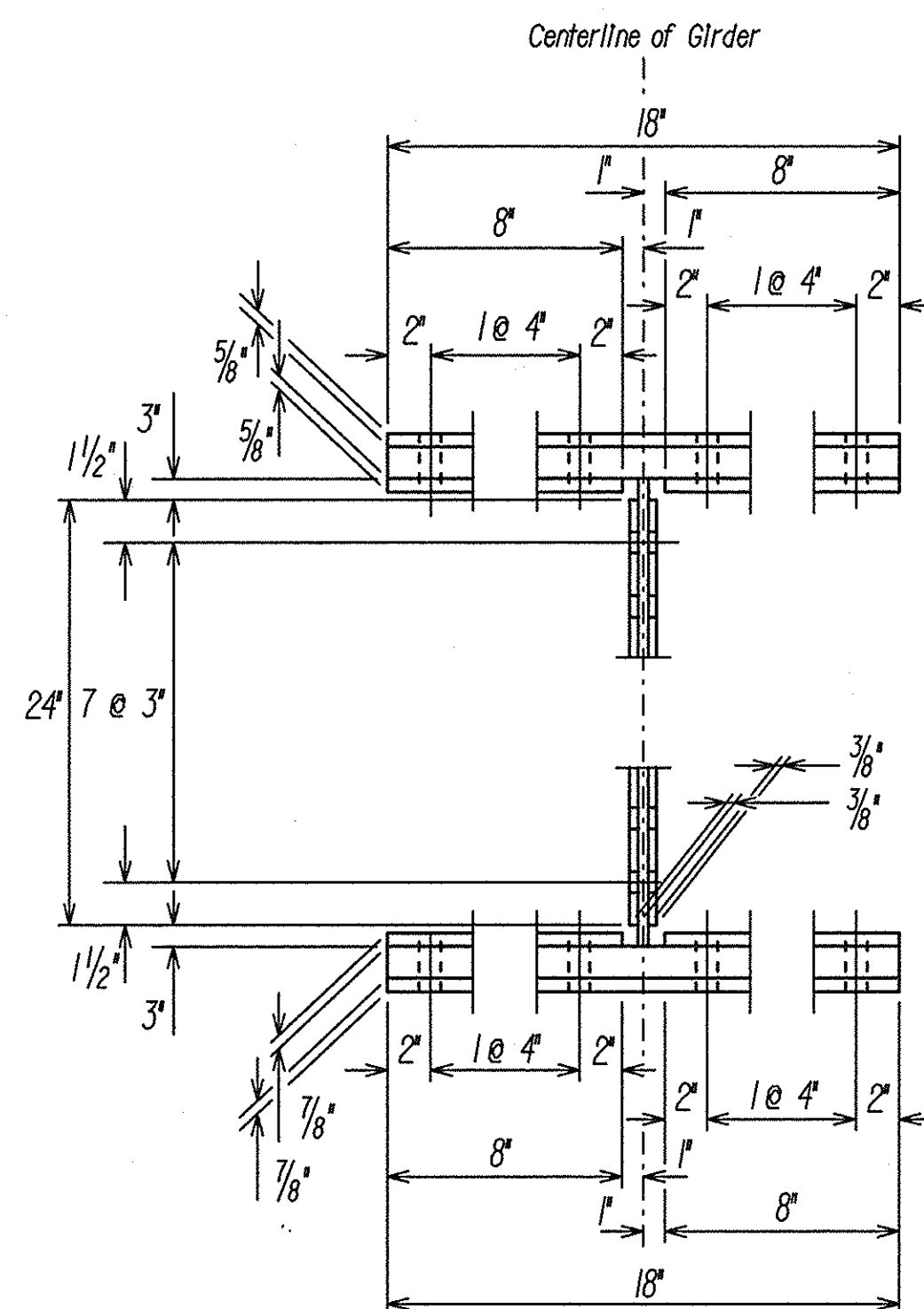
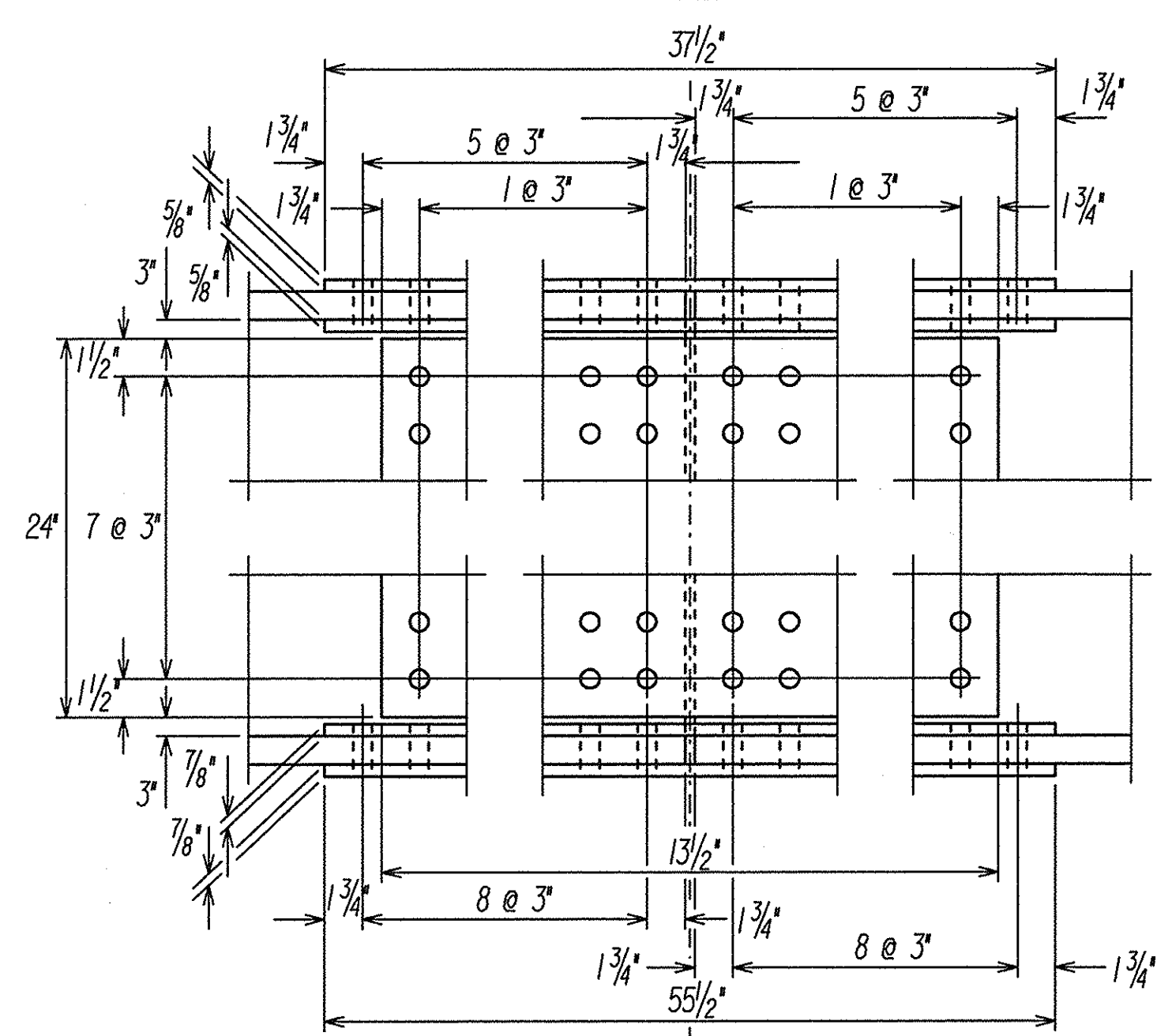
CONTRACT NUMBER: TAA 98-10BR
DATE: 1/98
DRAWING NUMBER: ST-20

THE SEAR-BROWN GROUP





PLAN  
N.T.S.



# GENERAL NOTES:

- Payment : Installation of the girder splice shall be paid for under Item Number ~~25564.519810~~ **564.0901**
- Contact ("faying") Surfaces of Bolted Parts: AASHTO Class B - Blast cleaned to SP10 under Item Number ~~564.519810~~ **564.0901**. Cleaned surfaces shall remain free of any paint, dirt, oil, grease or any other substance that would reduce the frictional capacity (Class B) of the bolted splice connection.

# SPLICE PLATE NOTES:

- Grade: AASHTO M270 Grade 50W (ASTM A588)
- Bolt Hole Type: Standard for high strength bolted connections - 15/16" for 7/8" A325 fasteners.

# BOLT, NUT AND WASHER NOTES:

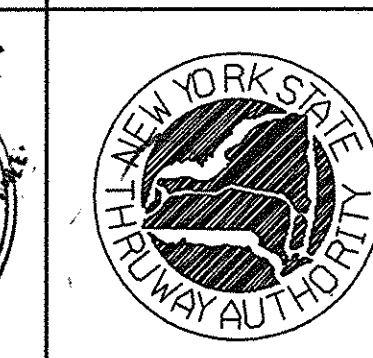
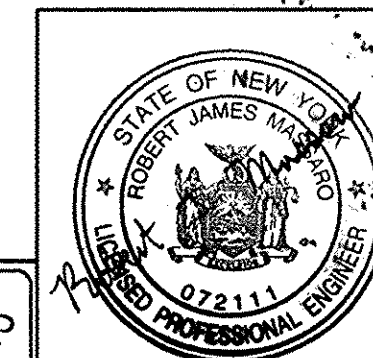
- Bolt Size & Grade: 7/8 inch diameter AASHTO M164 (ASTM A325 Type III) high strength with applicable ASTM manufacturer markings.
- Bolt Lengths: The length of the bolts shall be such that the point of the bolt will be flush with or outside the face of the nut when completely installed. Sufficient thread must be provided to prevent the nut from encountering the thread run-out.
- Washers: Assembly shall include F436 hardened washers under the bolt head and/or nut, whichever is turned for tightening.
- Bolt Orientation: Stem Vertical Installation - Bolt head shall be up. Stem Horizontal Installation - Bolt head shall be on the side from which the under roadway traffic or stream flow directly under the splice is coming from. On fascia girders, heads must be out.

# AS BUILT REVISIONS BIN 5513660

DATE	DESCRIPTION	BY	SYM.
10/99	CORRECT ITEM NUMBER	KFK	

# REVISIONS

NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT
LOCATION OF PROJECT M.P. 155.54
TITLE OF DRAWING GIRDER SPLICES



CONTRACT NUMBER: TAA 98-10BR
DATE: 12/98
DRAWING NUMBER: ST-21

THE SEAR-BROWN GROUP





# REVISIONS

## NOTES:

- ANCHOR BOLTS, WASHERS AND NUTS SHALL MEET THE REQUIREMENTS OF 723-60. THEY SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF MATERIAL SPECIFICATIONS 719-01. "GALVANIZED COATING AND REPAIR METHODS". THEIR COST(INCLUDING GALVANIZING) SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARING ITEM. ANY ADJUSTMENTS IN ELEVATION NECESSARY TO ACCOMODATE THE ACTUAL BEARING THAT IS SUPPLIED SHALL BE MADE BY CHANGING THE TOP OF THE PEDESTAL ELEVATIONS. THE MINIMUM PEDESTAL HEIGHT ALLOWED WILL BE 6". NO CHANGE IN BRIDGE SEAT ELEVATION WILL BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE C.E.E.S. IN LIEU OF CHANGING PEDESTAL ELEVATIONS THE CONTRACTOR MAY ELECT ONE OF THE FOLLOWING AT NO ADDITIONAL COST TO THE THRUWAY AUTHORITY:
  - USE A SHIM PLATE UNDER THE MASONRY PLATE. THE SIZE AND MATERIAL OF THE SHIM PLATE SHALL BE THE SAME AS THAT OF THE MASONRY PLATE. ONLY ONE SHIM PLATE SHALL BE PERMITTED AND MINIMUM THICKNESS SHALL BE 1/2".
  - INCREASE THE THICKNESS OF THE MASONRY PLATE.
- THE HARDNESS (SHORE "A" DUROMETER) OF THE ELASTOMER MATERIAL SHALL BE  $50 \pm 10$ .
- CONCRETE SURFACES UNDER THE BEARING SHALL CONFORM TO SECTION 565-3.02, "CONCRETE BEARING SURFACE PREPARATION" OF THE NEW YORK STATE STANDARD SPECIFICATIONS, CONSTRUCTION & MATERIALS.
- THE COST OF FURNISHING THE ANCHOR BOLTS SHALL BE INCLUDED IN THE BEARING ITEM.
- STEEL FOR THE BEARINGS SHALL BE AASHTO M270 GR50 UNLESS OTHERWISE NOTED.
- THE TEMPERATURE OF THE STEEL ADJACENT TO THE ELASTOMER SHALL NOT EXCEED 200°F. TEMPERATURE SHALL BE CONTROLLED BY WELDING PROCEDURES AND TEMPERATURE INDICATING CRAYONS OR OTHER DEVICES APPROVED BY THE THRUWAY AUTHORITY ENGINEER.
- THE BEARING PAD LOCATED BETWEEN THE MASONRY PLATE AND THE CONCRETE SURFACE SHALL BE SUPPLIED WITH THE BEARING DEVICE AND HAVE THE SAME FOOTPRINT SIZE AS THE MASONRY PLATE. THE BEARING PAD MATERIAL SHALL CONFORM TO N.Y.S. STANDARD SPEC. 728-01 OR 728-02.
- THE COST OF INSTALLING THE ANCHOR BOLTS SHALL BE INCLUDED IN THE BEARING INSTALLATION ITEM.
- THE SOLE PLATE, MASONRY PLATE, AND EXTERNAL LOAD PLATES (TOP & BOTTOM) SHALL BE SHOP METALIZED OR GALVANIZED (MANUFACTURER'S PREFERENCE). THE EXTERNAL LOAD PLATES SHALL BE BONDED TO THE ELASTOMERIC MATERIAL DURING VULCANIZATION. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE BEARING ITEM.
- ELASTOMERIC BEARINGS AND ALL RELATED MATERIALS SHALL BE PAID FOR UNDER ITEM 565.2006 - TYPE E.B. BEARING (301-350 KIPS).
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE THRUWAY AUTHORITY FOR APPROVAL AND SHALL INCLUDE ALL WELDING AND BONDING PROCEDURES.
- DESIGN CRITERIA:
  - CONCRETE PRESSURE = 800 PSI MAXIMUM.
  - HORIZONTAL CAPACITY OF BEARING CONNECTIONS SHALL BE A MINIMUM OF 19% OF THE VERTICAL DESIGN LOAD.
  - MINIMUM VERTICAL DESIGN LOAD = 333 KIPS.

## AS BUILT REVISIONS

BIN 5513660

DATE	DESCRIPTION	BY	SYM.
2/19/99	SUPPERCEDED BY DWG. ST-22A2	KFK	△

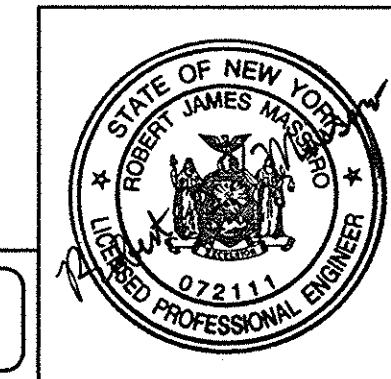
REVISIONS	
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209	
TITLE OF PROJECT	HELDERBERG AVENUE BRIDGE REPLACEMENT
LOCATION OF PROJECT	M.P. 155.54
TITLE OF DRAWING	CIRCULAR ELASTOMERIC BEARING DETAILS

CONTRACT NUMBER:	TAA 98-10BR
DATE:	1/98
DRAWING NUMBER:	ST-22

NOTE:  
DWG. ST-22 IS DELETED  
AND SUBSTITUTED  
WITH ST-22A2



THE SEAR-BROWN GROUP



T.R.B.

CHECKED BY:

V.L.G.

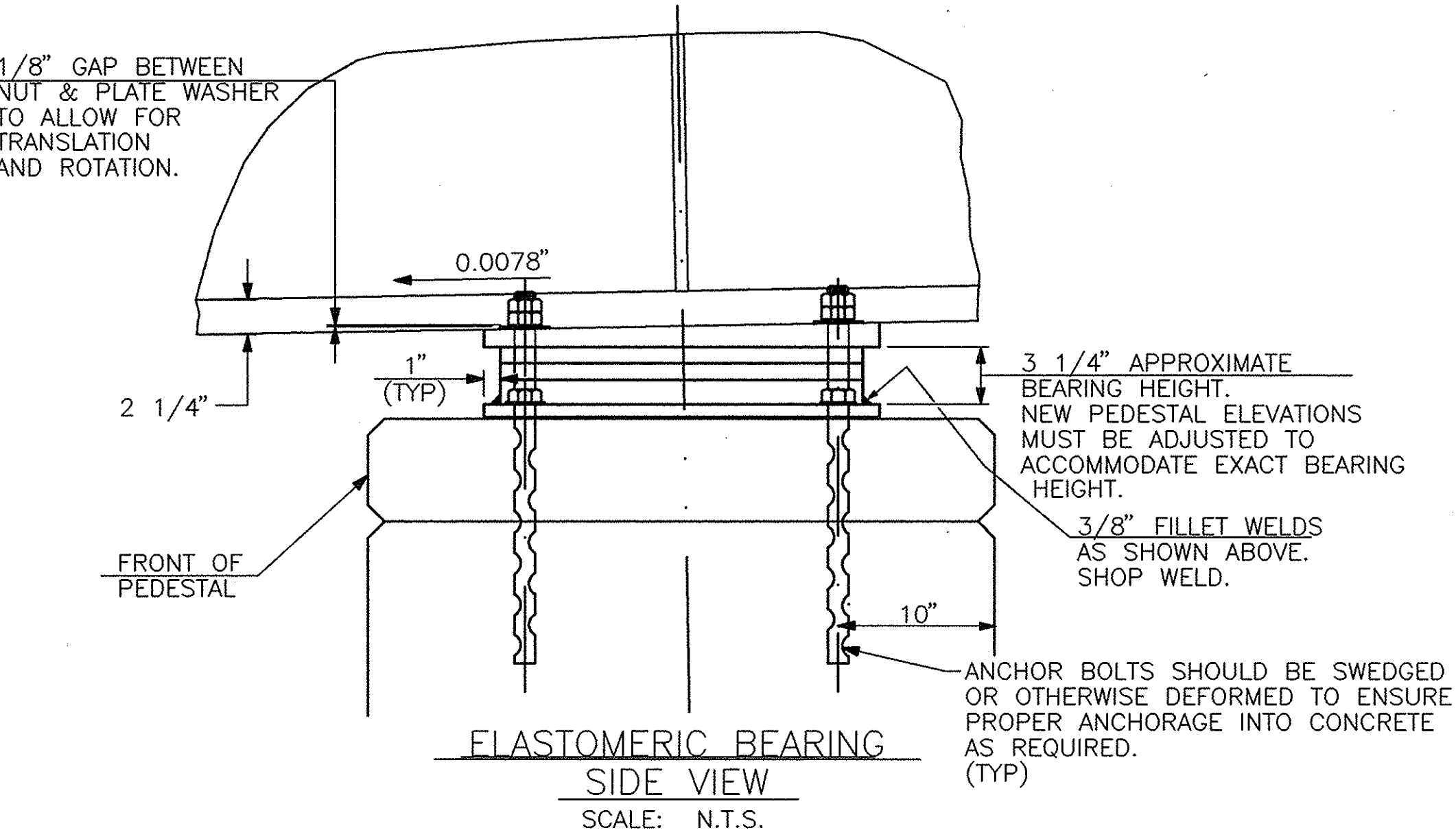
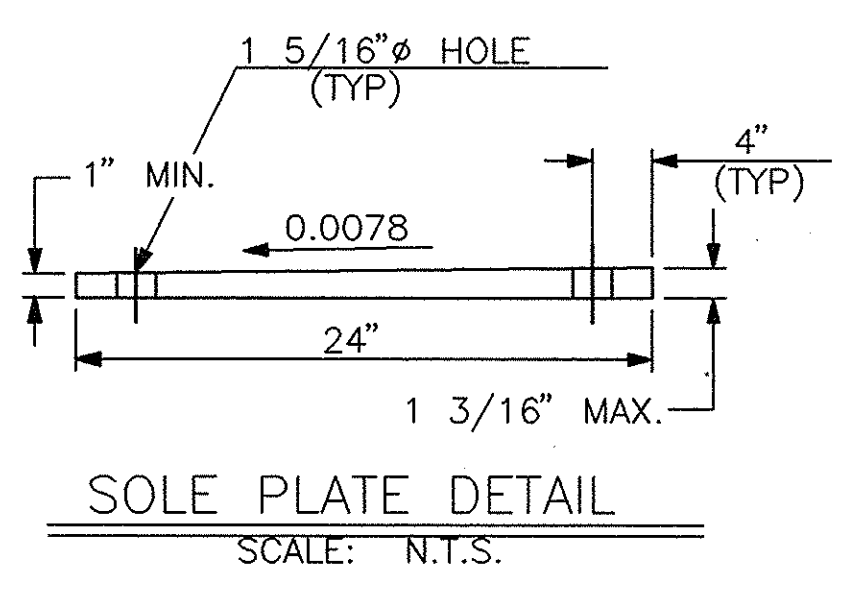
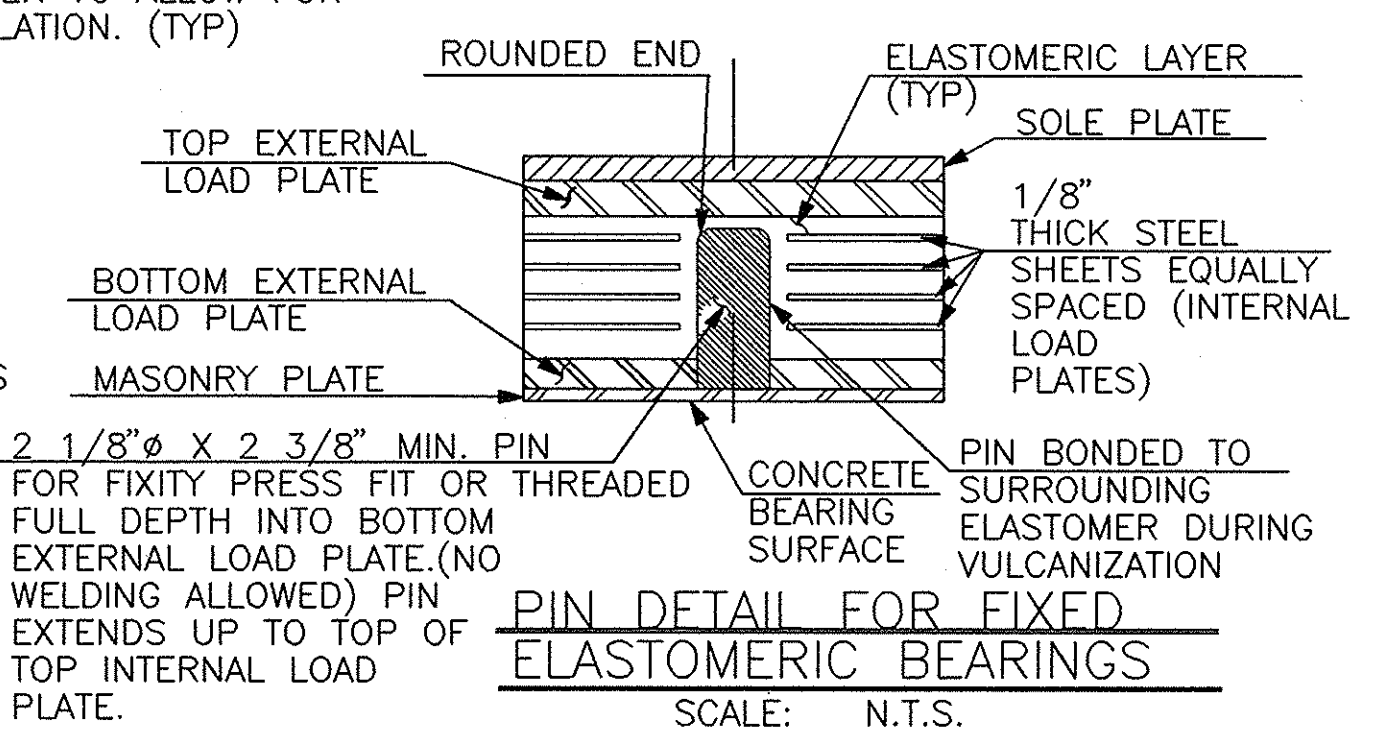
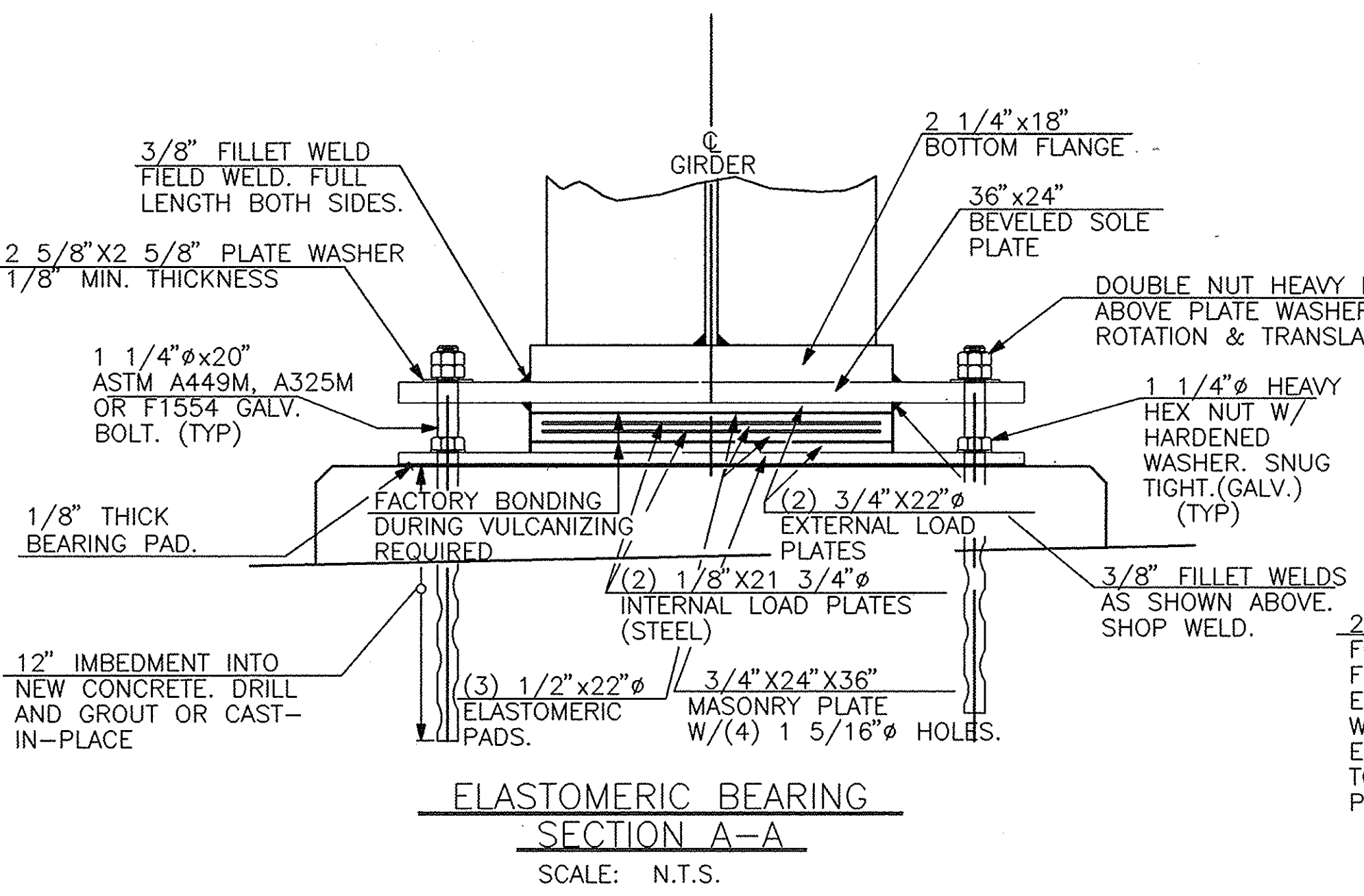
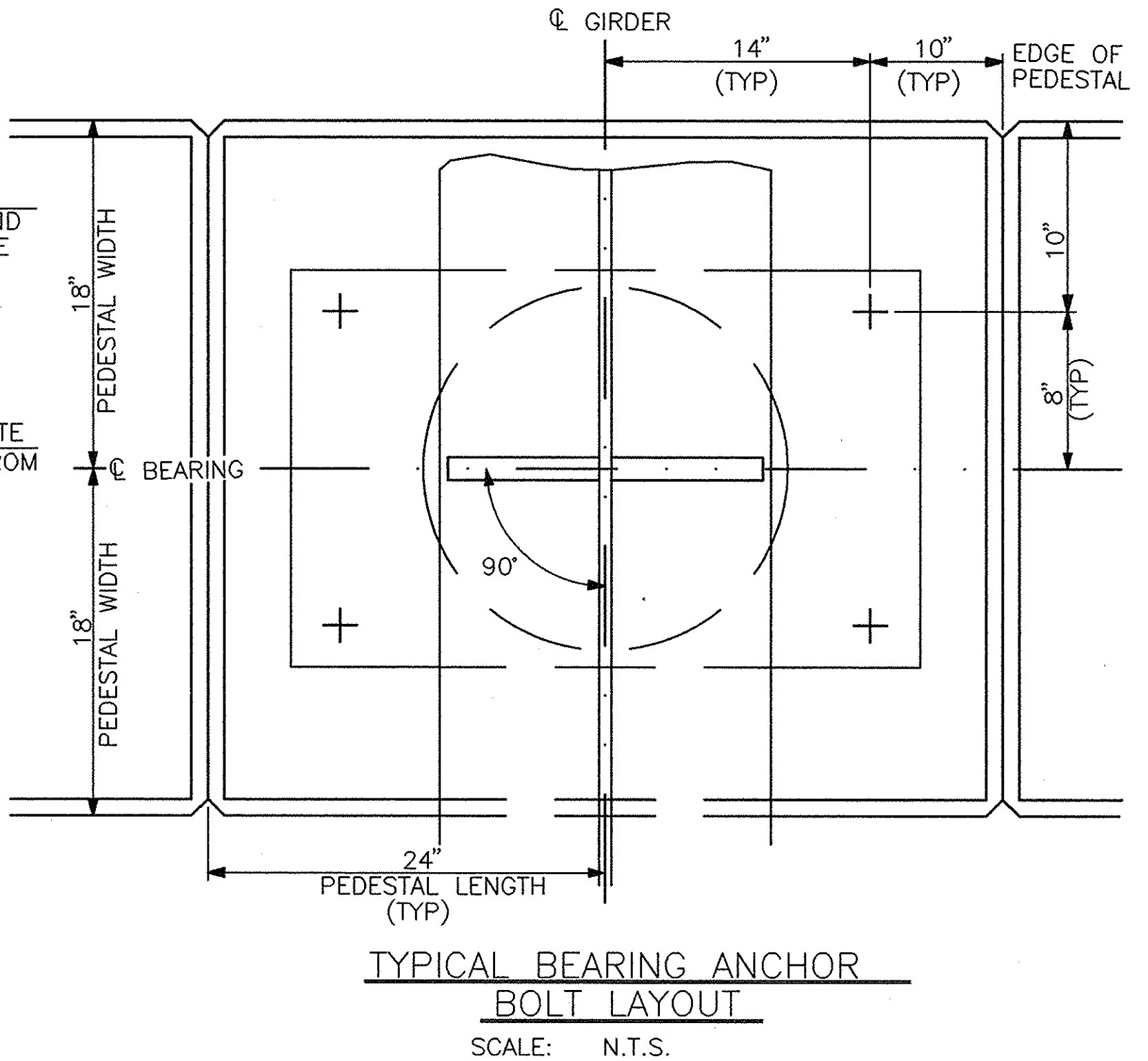
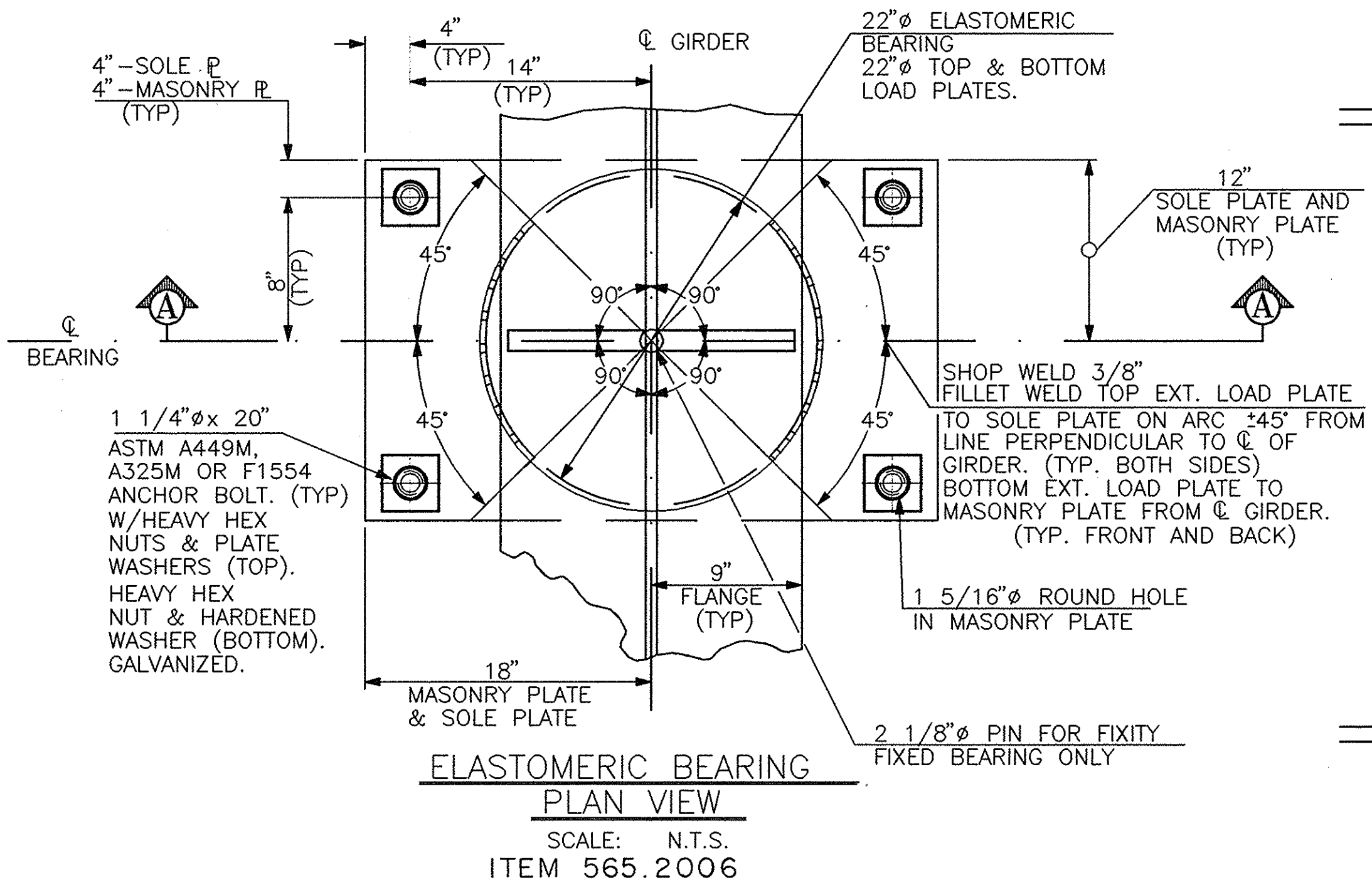
DRAFTED BY:

R.J.M.

DESIGNED BY:

J.R.N.

IN CHARGE OF:



T.R.B.

CHECKED BY:

V.L.G.

DRAFTED BY:

R.J.M.

DESIGNED BY:

J.R.N.

IN CHARGE OF:

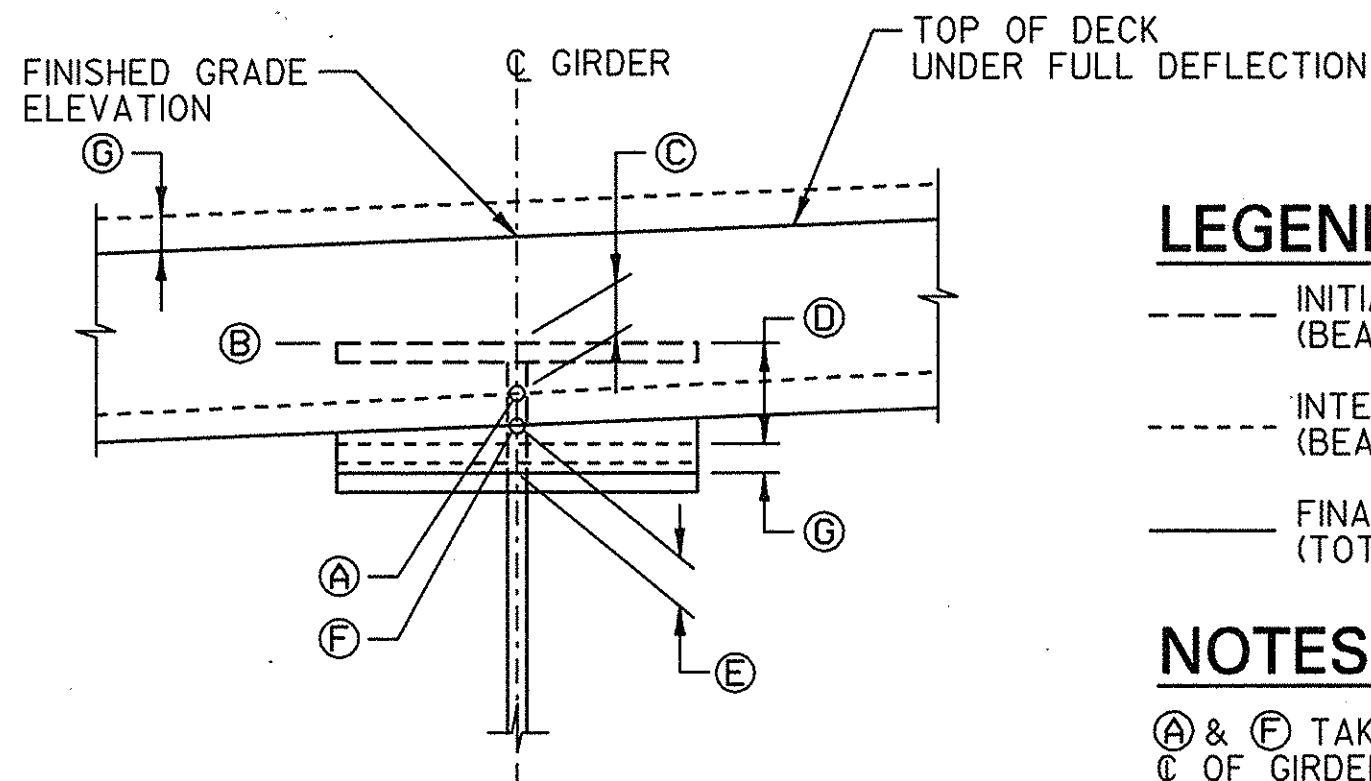
HAUNCH TABLE		© SOUTH ABUTMENT	Ø.9L <sub>2</sub>	Ø.8L <sub>2</sub>	Ø.7L <sub>2</sub>	Ø.6L <sub>2</sub>	Ø.5L <sub>2</sub>	Ø.4L <sub>2</sub>	Ø.3L <sub>2</sub>	Ø.2L <sub>2</sub>	Ø.1L <sub>2</sub>	© PIER	Ø.9L <sub>1</sub>	Ø.8L <sub>1</sub>	Ø.7L <sub>1</sub>	Ø.6L <sub>1</sub>	Ø.5L <sub>1</sub>	Ø.4L <sub>1</sub>	Ø.3L <sub>1</sub>	Ø.2L <sub>1</sub>	Ø.1L <sub>1</sub>	© NORTH ABUTMENT
GIRDER 1	(A) REQ'D BOT. OF SLAB ELEV. AFTER DECK POUR	363.553	363.547	363.528	363.497	363.450	363.423	363.400	363.364	363.316	363.258	363.197	363.130	363.060	362.980	362.887	362.783	362.664	362.531	362.405	362.287	362.156
	(B) TOP OF STEEL ELEV. (FIELD MEASURE PRIOR TO DECK POUR).	363.28	363.36	363.41	363.43	363.39	363.34	363.28	363.19	363.10	363.11	363.02	362.99	362.92	362.83	362.78	362.70	362.60	362.45	362.29	362.11	361.90
	(C) = (A) - (B) (FT.)	0.273	0.187	0.118	0.067	0.060	0.083	0.120	0.174	0.216	0.148	0.177	0.140	0.140	0.150	0.107	0.083	0.064	0.081	0.115	0.177	0.256
	(D) CONC. NON-COMPOSITE D.L. DEFL. (FT.)	0.000	0.060	0.111	0.144	0.157	0.148	0.121	0.083	0.042	0.012	0.000	0.012	0.042	0.083	0.121	0.148	0.157	0.144	0.111	0.060	0.000
	(E) DEPTH OF HAUNCH REQ'D = (C) + (D) (FT.)	0.27	0.25	0.23	0.21	0.22	0.23	0.24	0.26	0.26	0.16	0.18	0.15	0.18	0.23	0.23	0.23	0.22	0.23	0.23	0.24	0.26
	(F) REQUIRED BOTTOM OF SLAB ELEV. AFTER S.D.L. APPLICATION	363.553	363.534	363.505	363.466	363.416	363.390	363.372	363.343	363.304	363.255	363.197	363.127	363.048	362.959	362.859	362.750	362.630	362.500	362.382	362.274	362.156
	(G) DECK SURFACE CAMBER (A) - (F) (FT.) ABOVE PROPOSED GRADE (S.D.L. DEFL.)	0.000	0.013	0.023	0.031	0.034	0.033	0.028	0.021	0.012	0.003	0.000	0.003	0.012	0.021	0.028	0.033	0.034	0.031	0.023	0.013	0.000
GIRDER 2	(A) REQ'D BOT. OF SLAB ELEV. AFTER DECK POUR	363.607	363.635	363.650	363.652	363.640	363.625	363.601	363.566	363.518	363.460	363.398	363.332	363.262	363.181	363.089	362.984	362.865	362.733	362.592	362.446	362.287
	(B) TOP OF STEEL ELEV. (FIELD MEASURE PRIOR TO DECK POUR).	363.33	363.42	363.51	363.55	363.55	363.52	363.47	363.40	363.31	363.32	363.24	363.20	363.13	363.03	362.97	362.88	362.77	362.62	362.45	362.26	362.04
	(C) = (A) - (B) (FT.)	0.277	0.215	0.140	0.102	0.090	0.105	0.131	0.166	0.208	0.140	0.158	0.132	0.132	0.151	0.119	0.104	0.095	0.113	0.142	0.186	0.247
	(D) CONC. NON-COMPOSITE D.L. DEFL. (FT.)	0.000	0.060	0.111	0.144	0.157	0.148	0.121	0.083	0.042	0.012	0.000	0.012	0.042	0.083	0.121	0.148	0.157	0.144	0.111	0.060	0.000
	(E) DEPTH OF HAUNCH REQ'D = (C) + (D) (FT.)	0.28	0.28	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.15	0.16	0.15	0.17	0.23	0.24	0.25	0.25	0.26	0.25	0.25	0.25
	(F) REQUIRED BOTTOM OF SLAB ELEV. AFTER S.D.L. APPLICATION	363.607	363.622	363.627	363.621	363.606	363.592	363.573	363.545	363.506	363.457	363.398	363.329	363.250	363.160	363.061	362.951	362.831	362.702	362.569	362.433	362.287
	(G) DECK SURFACE CAMBER (A) - (F) (FT.) ABOVE PROPOSED GRADE (S.D.L. DEFL.)	0.000	0.013	0.023	0.031	0.034	0.033	0.028	0.021	0.012	0.003	0.000	0.003	0.012	0.021	0.028	0.033	0.034	0.031	0.023	0.013	0.000
GIRDER 3	(A) REQ'D BOT. OF SLAB ELEV. AFTER DECK POUR	363.533	363.578	363.610	363.629	363.634	363.625	363.601	363.566	363.518	363.460	363.398	363.332	363.262	363.181	363.089	362.984	362.865	362.733	362.585	362.425	362.251
	(B) TOP OF STEEL ELEV. (FIELD MEASURE PRIOR TO DECK POUR).	363.27	363.40	363.49	363.55	363.57	363.54	363.48	363.40	363.31	363.31	363.23	363.17	363.08	363.01	362.97	362.90	362.80	362.66	362.48	362.26	362.02
	(C) = (A) - (B) (FT.)	0.26	0.178	0.12	0.079	0.064	0.085	0.121	0.166	0.208	0.150	0.168	0.162	0.182	0.171	0.119	0.084	0.065	0.073	0.105	0.165	0.231
	(D) CONC. NON-COMPOSITE D.L. DEFL. (FT.)	0.000	0.060	0.111	0.144	0.157	0.148	0.121	0.083	0.042	0.012	0.000	0.012	0.042	0.083	0.121	0.148	0.157	0.144	0.111	0.060	0.000
	(E) DEPTH OF HAUNCH REQ'D = (C) + (D) (FT.)	0.26	0.24	0.23	0.22	0.22	0.23	0.24	0.25	0.25	0.16	0.17	0.17	0.22	0.25	0.24	0.23	0.22	0.22	0.22	0.23	0.23
	(F) REQUIRED BOTTOM OF SLAB ELEV. AFTER S.D.L. APPLICATION	363.533	363.565	363.587	363.598	363.600	363.592	363.573	363.545	363.506	363.457	363.398	363.329	363.250	363.160	363.061	362.951	362.831	362.702	362.562	362.412	362.251
	(G) DECK SURFACE CAMBER (A) - (F) (FT.) ABOVE PROPOSED GRADE (S.D.L. DEFL.)	0.000	0.013	0.023	0.031	0.034	0.033	0.028	0.021	0.012	0.003	0.000	0.003	0.012	0.021	0.028	0.033	0.034	0.031	0.023	0.013	0.000
GIRDER 4	(A) REQ'D BOT. OF SLAB ELEV. AFTER DECK POUR	363.331	363.376	363.408	363.428	363.433	363.423	363.400	363.364	363.316	363.258	363.197	363.130	363.060	362.980	362.887	362.783	362.664	362.531	362.383	362.223	362.050
	(B) TOP OF STEEL ELEV. (FIELD MEASURE PRIOR TO DECK POUR).	363.09	363.20	363.27	363.33	363.36	363.34	363.30	363.24	363.14	363.14	363.04	362.96	362.85	362.80	362.77	362.70	362.61	362.46	362.28	362.05	361.80
	(C) = (A) - (B) (FT.)	0.241	0.176	0.138	0.098	0.073	0.083	0.100	0.124	0.176	0.118	0.157	0.170	0.210	0.180	0.117	0.083	0.054	0.071	0.103	0.173	0.25
	(D) CONC. NON-COMPOSITE D.L. DEFL. (FT.)	0.000	0.060	0.111	0.144	0.157	0.148	0.121	0.083	0.042	0.012	0.000	0.012	0.042	0.083	0.121	0.148	0.157	0.144	0.111	0.060	0.000
	(E) DEPTH OF HAUNCH REQ'D = (C) + (D) (FT.)	0.24	0.24	0.25	0.24	0.23	0.23	0.22	0.21	0.22	0.13	0.16	0.18	0.25	0.26	0.24	0.23	0.21	0.21	0.21	0.23	0.25
	(F) REQUIRED BOTTOM OF SLAB ELEV. AFTER S.D.L. APPLICATION	363.331	363.363	363.385	363.397	363.399	363.390	363.372	363.343	363.304	363.255	363.197	363.127	363.048	362.959	362.859	362.750	362.630	362.500	362.360	362.210	362.050
	(G) DECK SURFACE CAMBER (A) - (F) (FT.) ABOVE PROPOSED GRADE (S.D.L. DEFL.)	0.000	0.013	0.023	0.031	0.034	0.033	0.028	0.021	0.012	0.003	0.000	0.003	0.012	0.021	0.028	0.033	0.034	0.031	0.023	0.013	0.000

AS BUILT REVISIONS  
BIN 5513660

DESIGN LOAD TABLE / GIRDER		
D.L.	UNIT	LOAD (KIP/FT.)
	SLAB	1.148
	HAUNCH	0.056
	S.I.P. FORMS	0.033
	GIRDER	0.239
	DIAPHRAGMS	0.030
	TOTAL	1.506
S.D.L.	FUTURE BARR.	0.250
	FUTURE W.S.	0.200
	TOTAL	0.450
LIVE LOAD = HS25-92		

DESIGN ASSUMPTIONS

1. THE DESIGN LOADS, MOMENTS AND SHEARS GIVEN ARE FOR THE INTERIOR GIRDER. BOTH THE INTERIOR AND EXTERIOR GIRDERS HAVE BEEN DESIGNED USING THESE LOADS
2. THE CLOSURE POUR HAS BEEN TREATED AS D.L. NOT S.D.L.
3. ALL OF THE GIRDERS HAVE THE SAME D.L. AND S.D.L. CAMBERS.



LEGEND

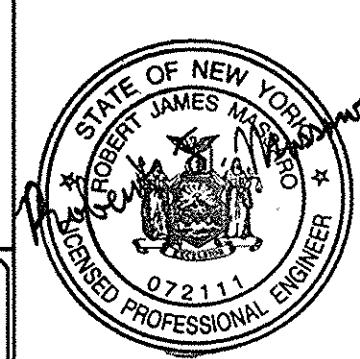
- INITIAL POSITION (BEAM D.L. ONLY)
- INTERMEDIATE POSITION (BEAM D.L. + DECK D.L.)
- FINAL POSITION (TOTAL D.L. + S.D.L.)

NOTES:

(A) & (F) TAKEN AT © OF GIRDER.



2-00	CORRECT TABLE ERROR	K.K.	
DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING SUPERSTRUCTURE TABLES AND DETAIL			
CONTRACT NUMBER: TAA 98-10BR			
DATE: 1/98			
DRAWING NUMBER: ST-23			



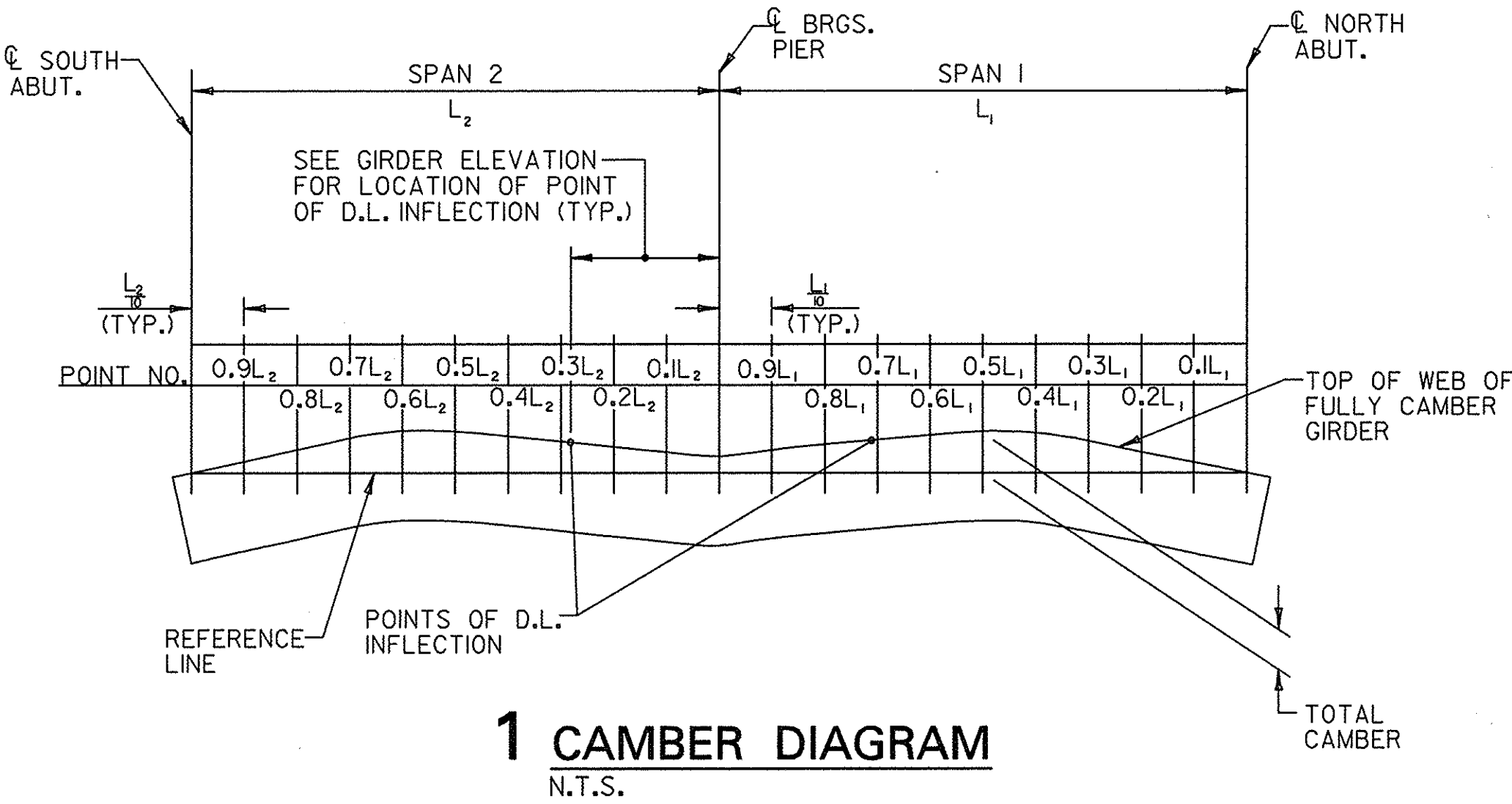
THE SEAR-BROWN GROUP



CAMBER TABLE		CL SOUTH ABUTMENT	Ø.9L <sub>2</sub>	Ø.8L <sub>2</sub>	Ø.7L <sub>2</sub>	Ø.6L <sub>2</sub>	Ø.5L <sub>2</sub>	Ø.4L <sub>2</sub>	Ø.3L <sub>2</sub>	Ø.2L <sub>2</sub>	Ø.1L <sub>2</sub>	CL PIER	Ø.9L <sub>1</sub>	Ø.8L <sub>1</sub>	Ø.7L <sub>1</sub>	Ø.6L <sub>1</sub>	Ø.5L <sub>1</sub>	Ø.4L <sub>1</sub>	Ø.3L <sub>1</sub>	Ø.2L <sub>1</sub>	Ø.1L <sub>1</sub>	CL NORTH ABUTMENT
GIRDER 1	STEEL D.L.	0.000	0.013	0.023	0.030	0.033	0.031	0.026	0.018	0.009	0.003	0.000	0.003	0.009	0.018	0.026	0.031	0.033	0.030	0.023	0.013	0.000
	CONC. D.L.	0.000	0.060	0.111	0.144	0.157	0.148	0.121	0.083	0.042	0.012	0.000	0.012	0.042	0.083	0.121	0.148	0.157	0.144	0.111	0.060	0.000
	S.D.L.	0.000	0.013	0.023	0.031	0.034	0.033	0.028	0.021	0.012	0.003	0.000	0.003	0.012	0.021	0.028	0.033	0.034	0.031	0.023	0.013	0.000
	VERTICAL CURVE	0.000	0.051	0.092	0.122	0.143	0.187	0.238	0.279	0.310	0.331	0.342	0.343	0.333	0.314	0.284	0.244	0.194	0.134	0.086	0.048	0.000
	TOTAL ① + ② + ③ + ④	0.000	0.137	0.249	0.327	0.367	0.399	0.413	0.401	0.373	0.349	0.342	0.361	0.396	0.436	0.459	0.456	0.418	0.339	0.243	0.134	0.000
GIRDER 2	STEEL D.L.	0.000	0.013	0.023	0.030	0.033	0.031	0.026	0.018	0.009	0.003	0.000	0.003	0.009	0.018	0.026	0.031	0.033	0.030	0.023	0.013	0.000
	CONC. D.L.	0.000	0.060	0.111	0.144	0.157	0.148	0.121	0.083	0.042	0.012	0.000	0.012	0.042	0.083	0.121	0.148	0.157	0.144	0.111	0.060	0.000
	S.D.L.	0.000	0.013	0.023	0.031	0.034	0.033	0.028	0.021	0.012	0.003	0.000	0.003	0.012	0.021	0.028	0.033	0.034	0.031	0.023	0.013	0.000
	VERTICAL CURVE	0.000	0.081	0.152	0.213	0.263	0.315	0.363	0.400	0.427	0.444	0.451	0.448	0.435	0.411	0.378	0.334	0.281	0.217	0.150	0.080	0.000
	TOTAL ① + ② + ③ + ④	0.000	0.167	0.309	0.418	0.487	0.527	0.538	0.522	0.490	0.462	0.451	0.466	0.498	0.533	0.553	0.546	0.505	0.422	0.307	0.166	0.000
GIRDERS 3 & 4	STEEL D.L.	0.000	0.013	0.023	0.030	0.033	0.031	0.026	0.018	0.009	0.003	0.000	0.003	0.009	0.018	0.026	0.031	0.033	0.030	0.023	0.013	0.000
	CONC. D.L.	0.000	0.060	0.111	0.144	0.157	0.148	0.121	0.083	0.042	0.012	0.000	0.012	0.042	0.083	0.121	0.148	0.157	0.144	0.111	0.060	0.000
	S.D.L.	0.000	0.013	0.023	0.031	0.034	0.033	0.028	0.021	0.012	0.003	0.000	0.003	0.012	0.021	0.028	0.033	0.034	0.031	0.023	0.013	0.000
	VERTICAL CURVE	0.000	0.096	0.182	0.258	0.324	0.379	0.425	0.460	0.486	0.501	0.506	0.501	0.486	0.460	0.425	0.379	0.324	0.258	0.182	0.096	0.000
	TOTAL ① + ② + ③ + ④	0.000	0.182	0.339	0.463	0.548	0.591	0.600	0.582	0.549	0.519	0.506	0.519	0.549	0.582	0.600	0.591	0.548	0.463	0.339	0.182	0.000

MOMENT AND SHEAR TABLE			CL SOUTH ABUTMENT											CL PIER											CL NORTH ABUTMENT
				Ø.9L <sub>2</sub>	Ø.8L <sub>2</sub>	Ø.7L <sub>2</sub>	Ø.6L <sub>2</sub>	Ø.5L <sub>2</sub>	Ø.4L <sub>2</sub>	Ø.3L <sub>2</sub>	Ø.2L <sub>2</sub>	Ø.1L <sub>2</sub>	Ø.9L <sub>1</sub>		Ø.8L <sub>1</sub>	Ø.7L <sub>1</sub>	Ø.6L <sub>1</sub>	Ø.5L <sub>1</sub>	Ø.4L <sub>1</sub>	Ø.3L <sub>1</sub>	Ø.2L <sub>1</sub>	Ø.1L <sub>1</sub>			
GIRDERS 1-4	D.L.	MOMENT	0.0	385.8	647.4	784.8	798.0	687.0	451.7	92.2	-391.4	-999.5	-1737.5	-999.5	-391.4	92.2	451.7	687.0	798.0	784.8	647.4	385.8	0.0		
		SHEAR	49.2	35.6	21.9	8.3	-5.4	-19.0	-32.7	-46.3	-60.0	-73.8	-88.4	88.4	73.8	60.0	46.3	32.7	19.0	5.4	-8.3	-21.9	-35.6	-49.2	
	S.D.L.	MOMENT	0.0	125.3	213.4	264.2	277.8	254.0	193.1	94.8	-40.7	-213.5	-423.5	-213.5	-40.7	94.8	193.1	254.0	277.8	264.2	213.4	125.3	0.0		
		SHEAR	15.8	11.7	7.6	3.5	-0.6	-4.7	-8.7	-12.8	-16.9	-21.0	-25.1	25.1	21.0	16.9	12.8	8.7	4.7	0.6	-3.5	-7.6	-11.7	-15.8	
	L.L.(+)	MOMENT	0.0	676.3	1148.9	1425.0	1557.0	1542.7	1401.6	1116.7	705.5	209.6	0.0	209.6	705.5	1116.7	1401.6	1542.7	1557.0	1425.0	1148.9	676.3	0.0		
		SHEAR	95.8	74.3	63.1	52.2	41.6	31.4	21.7	13.3	6.2	2.2	0.0	90.9	83.8	75.2	65.6	55.3	44.7	33.7	22.6	14.2	8.7	8.3	
	L.L.(-)	MOMENT	0.0	-68.0	-135.9	-203.9	-271.8	-339.8	-407.7	-475.7	-543.6	-611.6	-1092.5	-611.6	-543.6	-475.7	-407.7	-339.8	-271.8	-203.9	-135.9	-68.0	0.0		
		SHEAR	-8.3	-8.7	-14.2	-22.6	-33.7	-44.7	-55.3	-65.6	-75.2	-83.8	-90.9	0.0	-2.2	-6.2	-13.3	-21.7	-31.4	-41.6	-52.2	-63.1	-74.3	-95.8	
LIVE LOAD MOMENTS & SHEARS INCLUDE IMPACT: MOMENTS ARE EXPRESSED AS FOOT KIPS: SHEARS ARE EXPRESSED AS KIPS. *																									

\* FOR DESIGN ASSUMPTIONS, SEE NOTES ON DRAWING NO. ST-23



CAMBER NOTES

1. THE CAMBER LABELED "VERTICAL CURVE" IN THE TABLE IS THE CAMBER REQUIRED TO FOLLOW THE VERTICAL CURVE.
2. THE CAMBER LABELED "STEEL D.L." IN THE TABLE IS THE CAMBER REQUIRED TO OFFSET THE DEFLECTION DUE TO THE DEAD LOAD WEIGHT OF THE GIRDER AS FABRICATED.
3. THE CAMBER LABELED "CONCRETE D.L." IN THE TABLE IS THE CAMBER REQUIRED TO OFFSET THE DEFLECTION DUE TO THE DEAD LOAD WEIGHT OF THE CONCRETE SLAB.
4. THE CAMBER LABELED "SUPERIMPOSED D.L." IN THE TABLE IS THE CAMBER REQUIRED TO OFFSET THE DEFLECTION DUE TO THE WEIGHT OF THE CURB, SIDEWALK, RAILING OR BARRIER, WEARING SURFACE, AND FUTURE WEARING SURFACE.
5. THE TOTAL CAMBER IS THE SUM OF VERTICAL CURVE, STEEL DEAD LOAD, CONCRETE DEAD LOAD AND SUPERIMPOSED DEAD LOAD. ALL CAMBER OFFSETS ARE MEASURED VERTICALLY TO THE TOP OF THE WEB, FROM A STRAIGHT REFERENCE LINE DRAWN FROM THE INTERSECTION OF THE TOP OF THE WEB AND CENTERLINE OF THE ABUTMENT AT ONE END OF THE GIRDER, TO THE CORRESPONDING POINT AT THE OTHER END OF THE GIRDER.
6. POSITIVE NUMBERS IN THE TABLE ARE ABOVE THE STRAIGHT REFERENCE LINE.
7. NEGATIVE NUMBERS IN THE TABLE ARE BELOW THE STRAIGHT REFERENCE LINE.
8. THE CAMBER OFFSETS ARE TABULATED IN DECIMALS OF A FOOT, AND ROUNDED TO THE NEAREST ONE THOUSAND OF A FOOT.

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.

REVISIONS			

NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209	CONTRACT NUMBER: TAA 98-10BR
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT	DATE: 1/98
LOCATION OF PROJECT M.P. 155.54	DRAWING NUMBER: ST-24
TITLE OF DRAWING SUPERSTRUCTURE TABLES AND DETAIL	



THE SEAR-BROWN GROUP

T.R.B.

CHECKED BY:

V.L.G.

DRAFTED BY:

R.J.M.

DESIGNED BY:

J.R.N.

IN CHARGE OF:

# REVISIONS

41#1  
64

T.R.B.

CHECKED BY:

V.L.G.

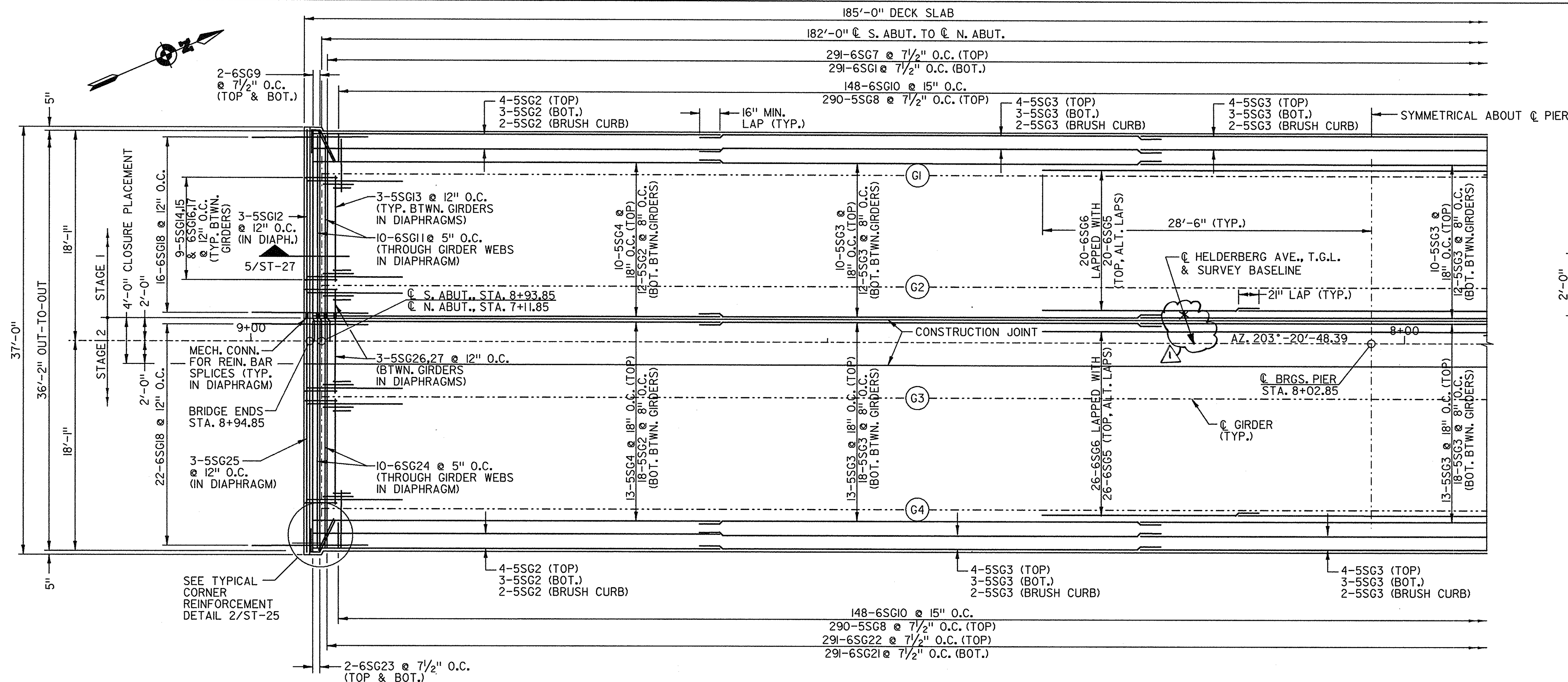
DRAFTED BY:

R.J.M.

DESIGNED BY:

J.P.N.

IN CHARGE OF:

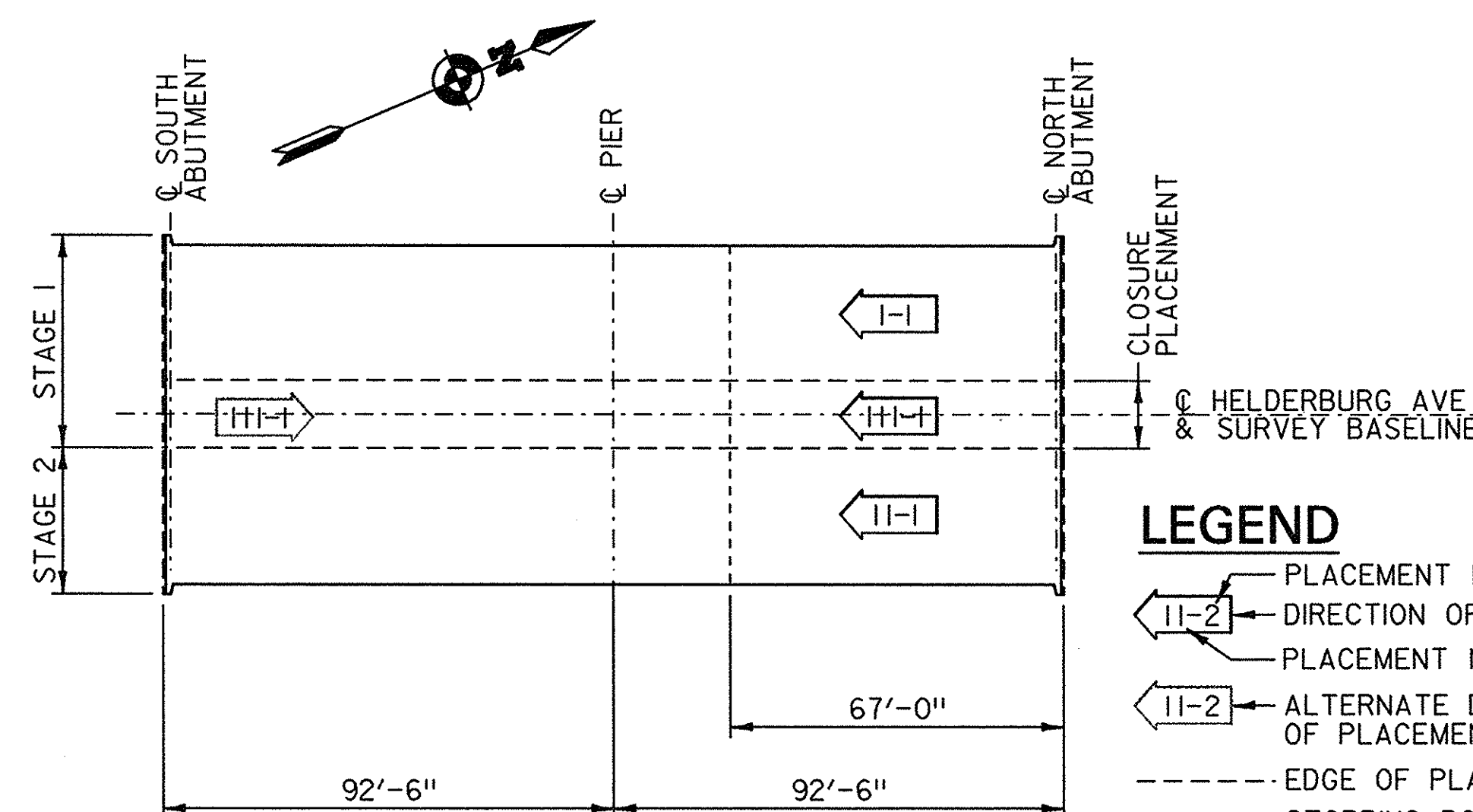


1 PLAN  
3/16"=1'-0"

## DECK SLAB PLACEMENT NOTES

- THE CONCRETE DECK SLAB FOR THIS STRUCTURE MAY BE PLACED ACCORDING TO THE PLACEMENT SEQUENCE SHOWN. THE CONTRACTOR MAY, AT HIS OPTION, SUBMIT AN ALTERNATE PLAN TO THE ENGINEER, FOR REVIEW AND CONSIDERATION BY THE AUTHORITY. NO RELATED WORK, INCLUDING THE INSTALLATION OF FORMS, MAY BE PROGRESSSED BY THE CONTRACTOR UNTIL THE WRITTEN APPROVAL OF THE ALTERNATE PLAN IS RECEIVED FROM THE AUTHORITY. THE AUTHORITY WILL REPLY WITHIN TEN (10) WORKING DAYS AFTER RECEIPT OF THE CONTRACTOR'S PLAN. THE AUTHORITY WILL NOT APPROVE PLANS WHICH INCREASE THE PROBABILITY OF DEFLECTION CRACKING.
- CONCRETE PLACEMENT AND FINISHING OPERATIONS SHALL BE PERFORMED AS RAPIDLY AS POSSIBLE. THE ENGINEER MAY ORDER THE CONTRACTOR TO STOP HIS POUR OPERATIONS AT ANY TIME IF, IN THE ENGINEER'S OPINION, CONCRETE PLACED HAS STARTED TO SET, OR IS ABOUT TO SET, AND FURTHER PLACEMENT OF CONCRETE WILL CAUSE DEFLECTION CRACKING.
- IN THE EVENT THE CONTRACTOR'S DECK PLACEMENT OPERATION IS STOPPED PRIOR TO COMPLETION, WHETHER BY HIS OWN DECISION OR BY ORDER OF THE ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FINISHED DECK GRADE WHICH MATCHES THE PLANNED PROFILE. ANY SUBSEQUENT REVISIONS TO DECK FORMS MADE NECESSARY BY SUCH ACTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
- CONSTRUCTION JOINTS SHOULD BE PLACED PARALLEL TO THE SKEW ANGLE. DECK CONCRETE SHALL BE PLACED SO THAT THE LEADING EDGE PARALLELS THE SKEW. FINISHING MACHINE(S) SHALL BE OPERATED AS CLOSE TO THE SKEW ANGLE AS PRACTICABLE FOR SKEW ANGLES BETWEEN 0 DEGREES AND 35 DEGREES. WHEN THE SKEW ANGLE IS GREATER THAN 35 DEGREES THE FINISHING MACHINE(S) SHALL BE OPERATED AT A MAXIMUM OF 35 DEGREES.
- ALL AREAS SHOWN ON THE PLANS AS "POUR 1" MUST BE PLACED DURING THE INITIAL CONTINUOUS WORK PERIOD. SUBSEQUENT POURS WILL NOT BE PERMITTED UNTIL 72 HOURS AFTER THE START OF THE PREVIOUS PLACEMENT.
- LONGITUDINAL CONSTRUCTION JOINTS WILL NOT BE PERMITTED UNLESS DETAILED ON THE PLANS.

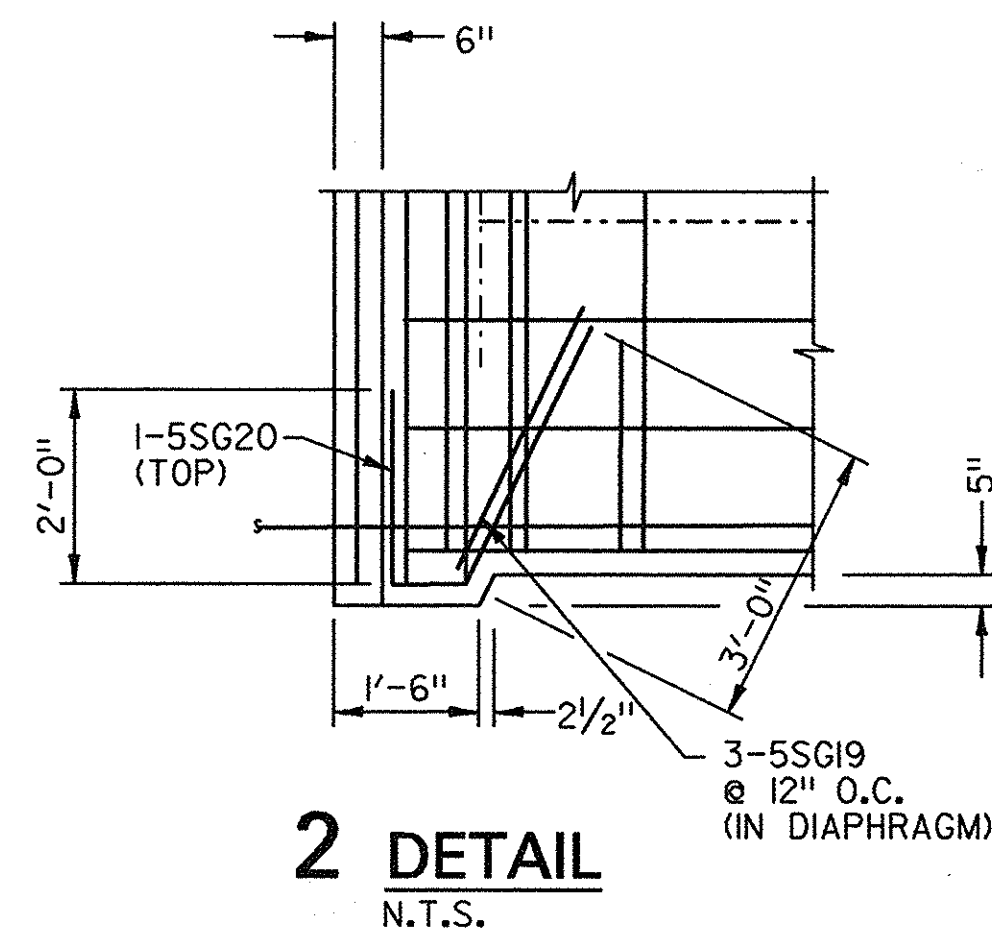
- A DETAILED WRITTEN PLAN OF THE PROPOSED PLACEMENT PLAN MUST BE SUBMITTED AND HAVE AUTHORITY APPROVAL BEFORE INSTALLATION OF FORMS. THIS PLAN SHALL:
  - CLEARLY STATE HOW THE CONCRETE WILL BE PLACED USING THE EQUIPMENT, PERSONNEL, AND ANY OTHER REQUIRED RESOURCES.
  - INCLUDE THE QUANTITY, TYPE AND RELEVANT FEATURES OF EQUIPMENT USED IN THIS WORK THAT WILL AFFECT THE RATE OF PLACEMENT.
  - INCLUDE CONTINGENCIES FOR CHANGES IN WEATHER, EQUIPMENT BREAKDOWNS, BATCH PLANT DELAYS, OR ANY OTHER FACTORS THAT COULD DELAY OR STOP THIS WORK.
  - STATE HOW PLACEMENT OPERATIONS WILL BE STOPPED IF REQUIRED, AND HOW THE END OF CONCRETE (TEMPORARY BULKHEAD) WILL BE FINISHED.
  - STATE AN ANTICIPATED RATE OF CONCRETE VOLUME PLACED PER HOUR.
- THE AUTHORITY WILL NOT APPROVE ANY PLAN, NOR WILL IT ALLOW ANY METHOD THAT INCREASES THE PROPABILITY OF DEFLECTION CRACKING. THE ENGINEER MAY ORDER THE PLACEMENT OPERATIONS STOPPED IF THE APPROVED PLAN IS NOT FOLLOWED IN ANY WAY.
- 4 HOURS IS THE TIME LIMIT FOR START TO FINISH OF A CONTINUOUS PLACEMENT.
- A MINIMUM CONCRETE PLACEMENT RATE OF 30 CY/HR/FINISHING MACHINE SHALL BE MAINTAINED THROUGHOUT THE PLACEMENT OPERATION.



2 PLACEMENT SEQUENCE  
N.T.S.

## LEGEND

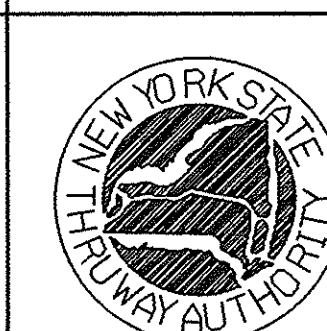
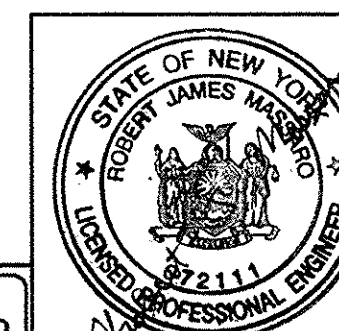
- 11-2 PLACEMENT NUMBER
- 11-2 DIRECTION OF PLACEMENT
- 11-2 PLACEMENT NUMBER
- 11-2 ALTERNATE DIRECTION OF PLACEMENT
- EDGE OF PLACEMENT
- STOPPING POINT



AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
6/99	CORRECT & APPROVE	KPK	

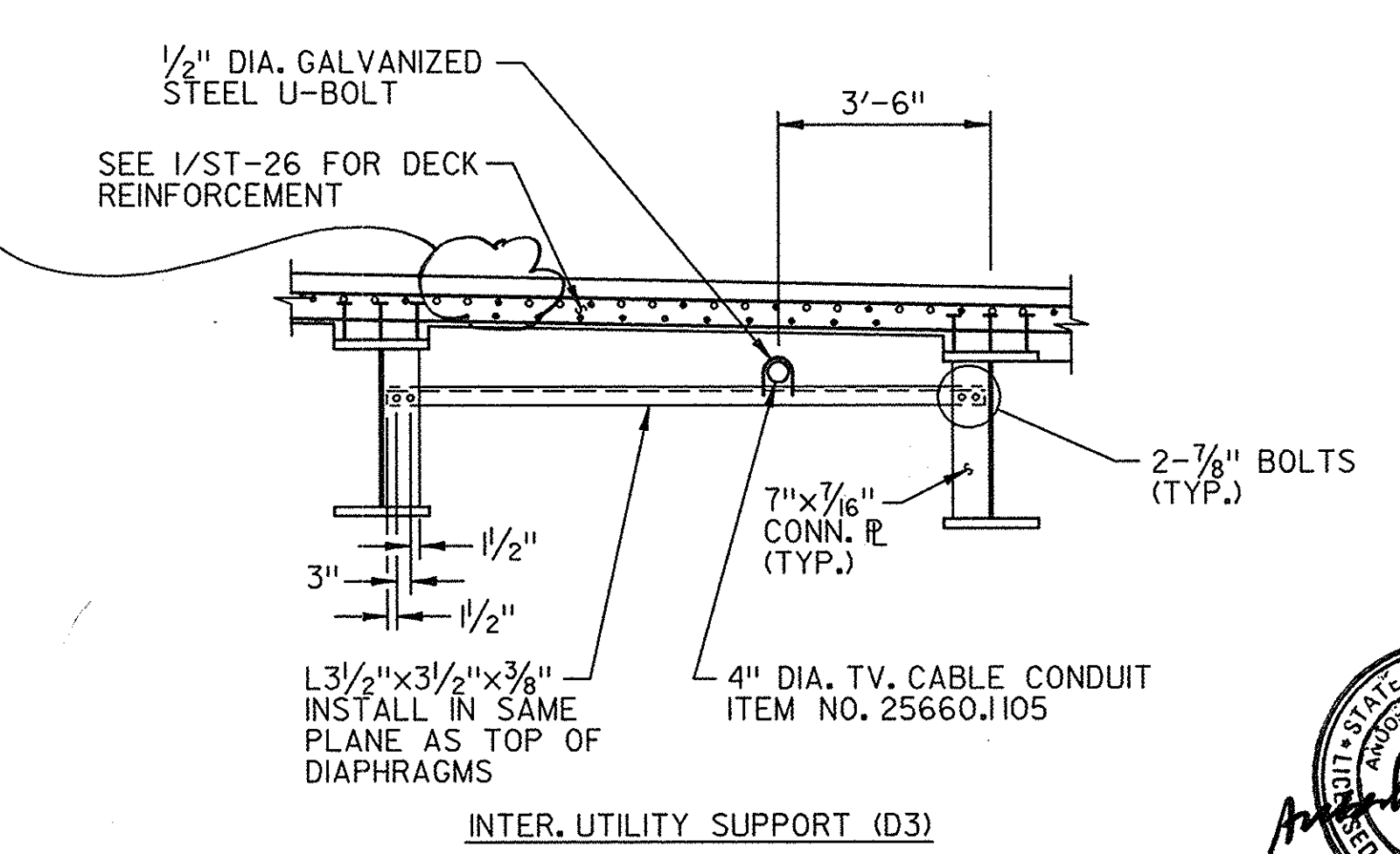
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING DECK SLAB PLAN			




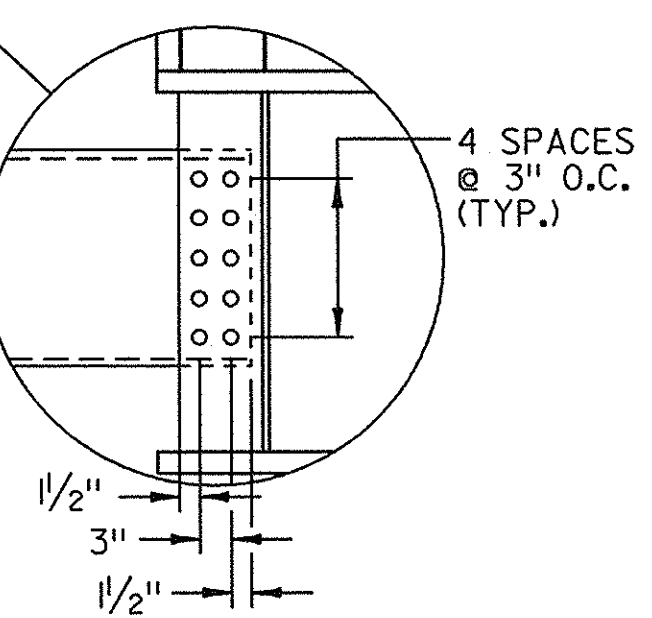
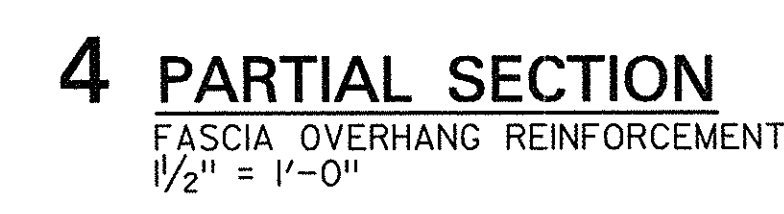
CONTRACT NUMBER: TAA 98-10BR
DATE: 6/98
DRAWING NUMBER: ST-25

THE SEAR-BROWN GROUP





8/99	UTILITY SUPPORT CHANGE	KPK	2
2/99	AMENDMENT #1	KPK	1
DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT		HELDERBERG AVENUE BRIDGE REPLACEMENT	
LOCATION OF PROJECT		M.P. 155.54	
TITLE OF DRAWING			
TRANSVERSE SECTION			
		CONTRACT NUMBER:	
		TAA 98-10BR	
		DATE:	
		6/98	
		DRAWING NUMBER:	
		ST-26	



1. WAIT A MINIMUM OF 72 HOURS AFTER COMPLETION OF THE SECOND STAGE DECK BEFORE INSTALLING THE CLOSURE PLACEMENT BETWEEN STAGES.
2. FORMWORK FOR THE SECOND STAGE DECK PLACEMENTS SHALL BE SUPPORTED ONLY FROM THE SECOND STAGE STRINGERS, NOT FROM THE FIRST STAGE STRINGER IMMEDIATELY ADJACENT.
3. IMMEDIATELY PRIOR TO INSTALLING CLOSURE PLACEMENT, COAT BOTH EXISTING CONCRETE SURFACES WITH MATERIAL SPECIFICATION 705-22 PORTLAND CEMENT MORTAR BONDING GROUT. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE.
4. THE DIAPHRAGMS IN THE BAY BELOW THE CLOSURE PLACEMENT BETWEEN STAGES SHALL NOT BE INSTALLED OR, ALTERNATELY, THEY MAY BE INSTALLED BUT CONNECTED AT ONE END ONLY, FOR A PERIOD OF AT LEAST 48 HOURS AFTER THE SECOND STAGE DECK IS COMPLETED. THESE DIAPHRAGMS SHALL BE COMPLETELY INSTALLED PRIOR TO THE START OF THE CLOSURE PLACEMENT BETWEEN STAGES.
5. THE TRANSVERSE REINFORCEMENT BARS OF STAGE 2 SHALL NOT BE TIED TO ANY REINFORCEMENT BARS IN THE CLOSURE PLACEMENT BETWEEN STAGES UNTIL AT LEAST 72 HOURS AFTER THE SECOND STAGE DECK HAS BEEN COMPLETED.

**THE SEAR-BROWN GROUP**

IN CHARGE OF: J.R.N. DESIGNED BY: R.J.M. DRAFTED BY: V.L.G. CHECKED BY: T.R.B.

T.R.B.

CHECKED BY:

V.L.G.

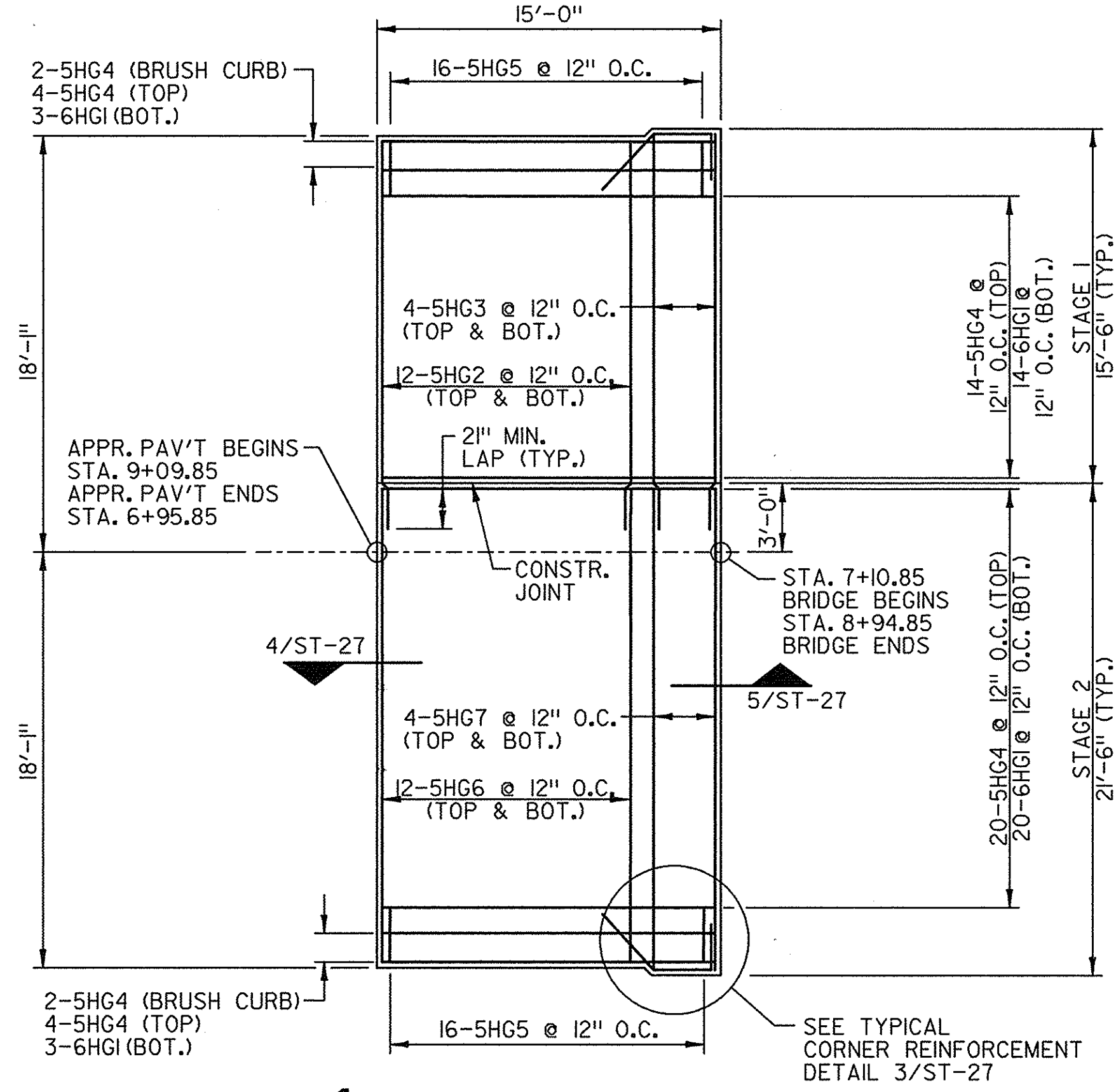
DRAFTED BY:

R.J.M.

DESIGNED BY:

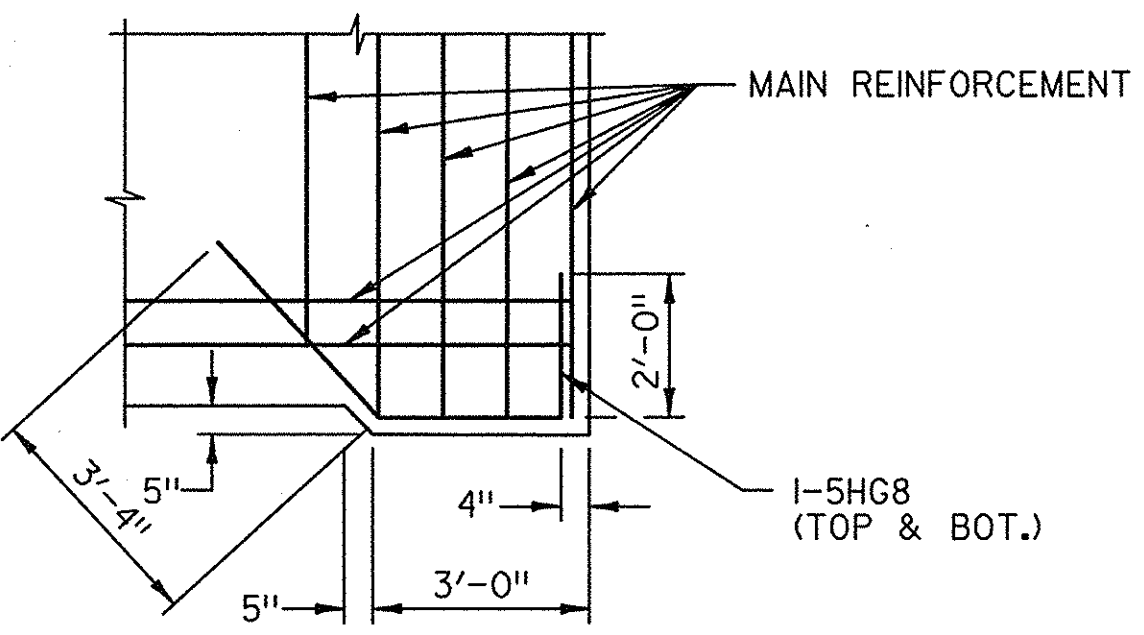
J.R.N.

IN CHARGE OF:



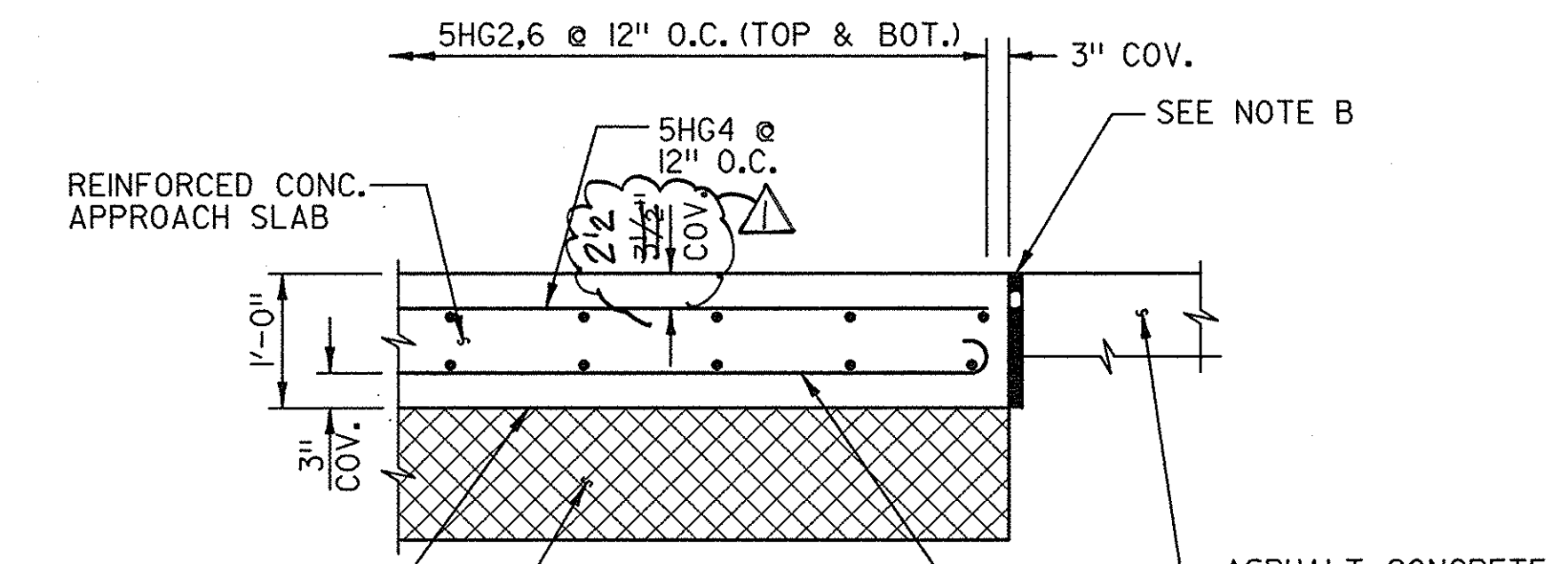
# 1 PLAN

SOUTH APPROACH SLAB REINFORCEMENT  
NORTH IS SIMILAR  
3/16" = 1'-0"



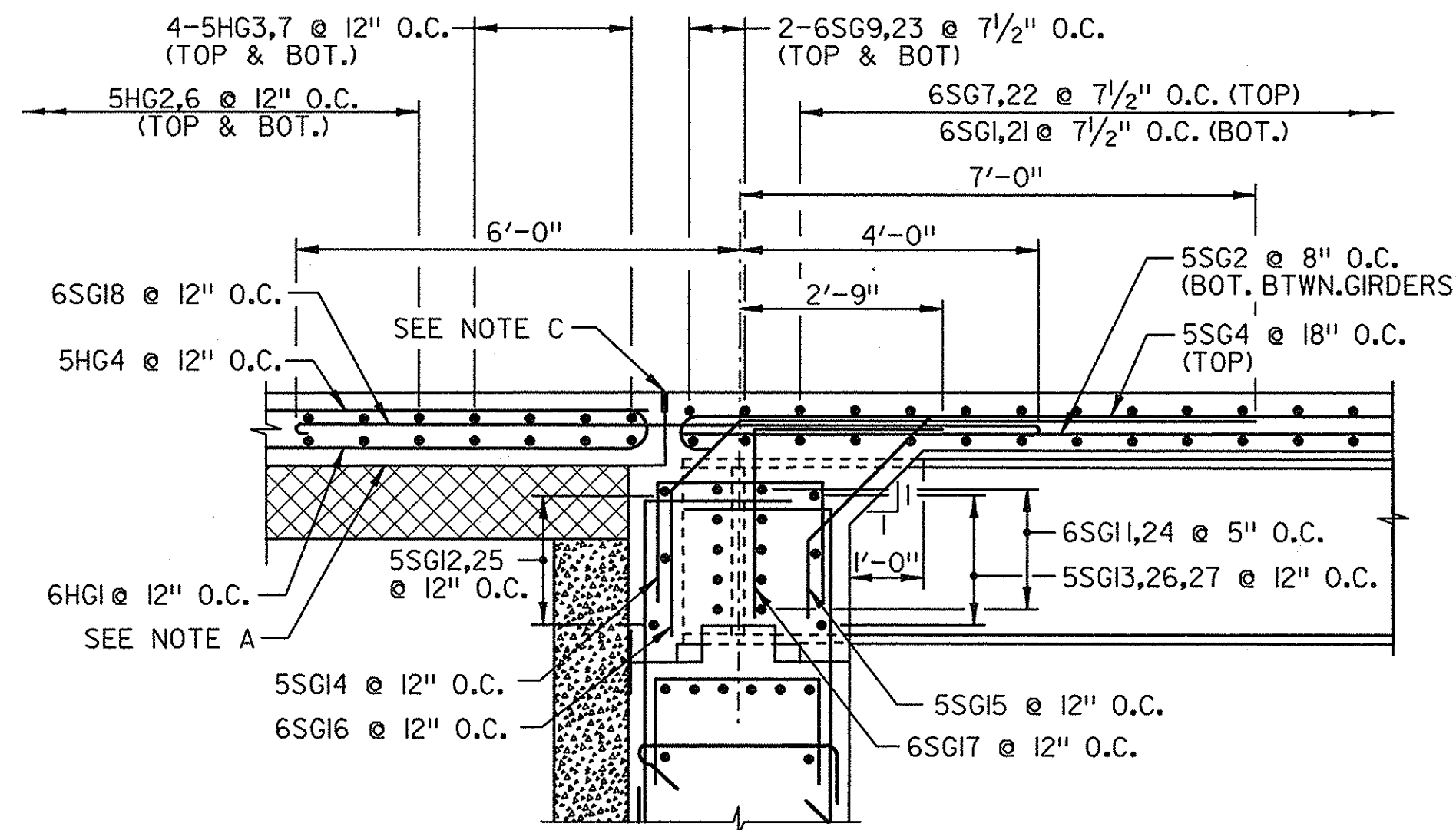
# 3 DETAIL

N.T.S.



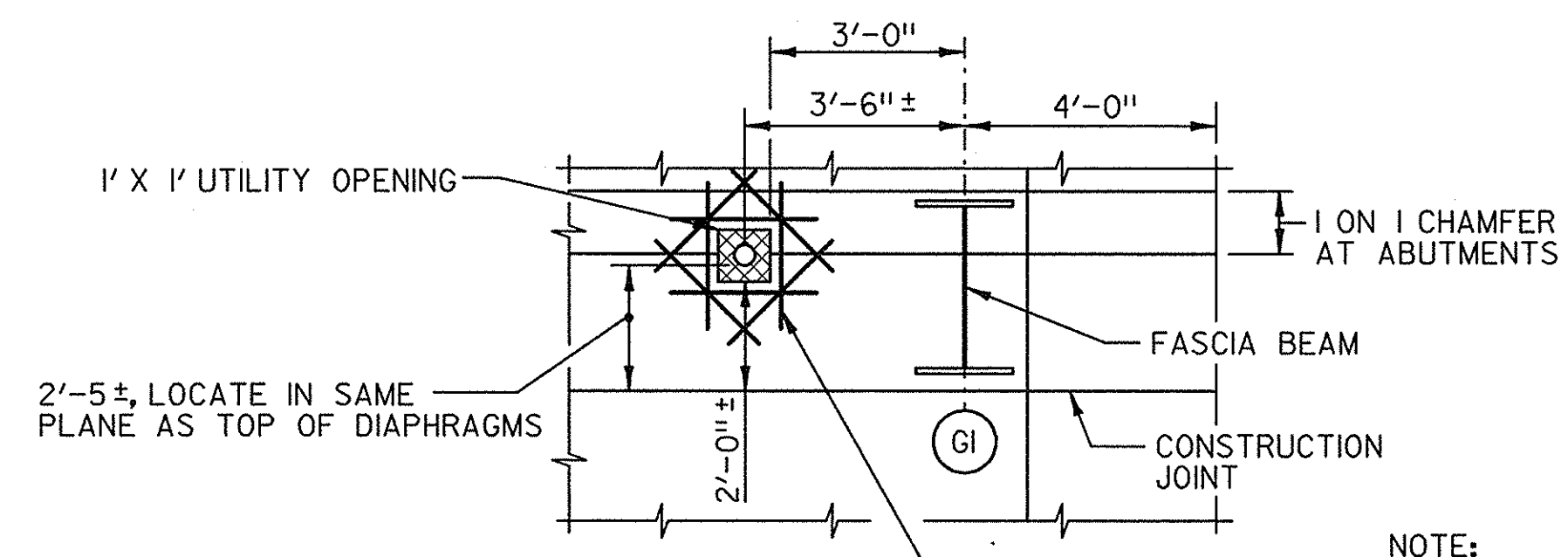
# 4 SECTION

N.T.S.



# 5 SECTION

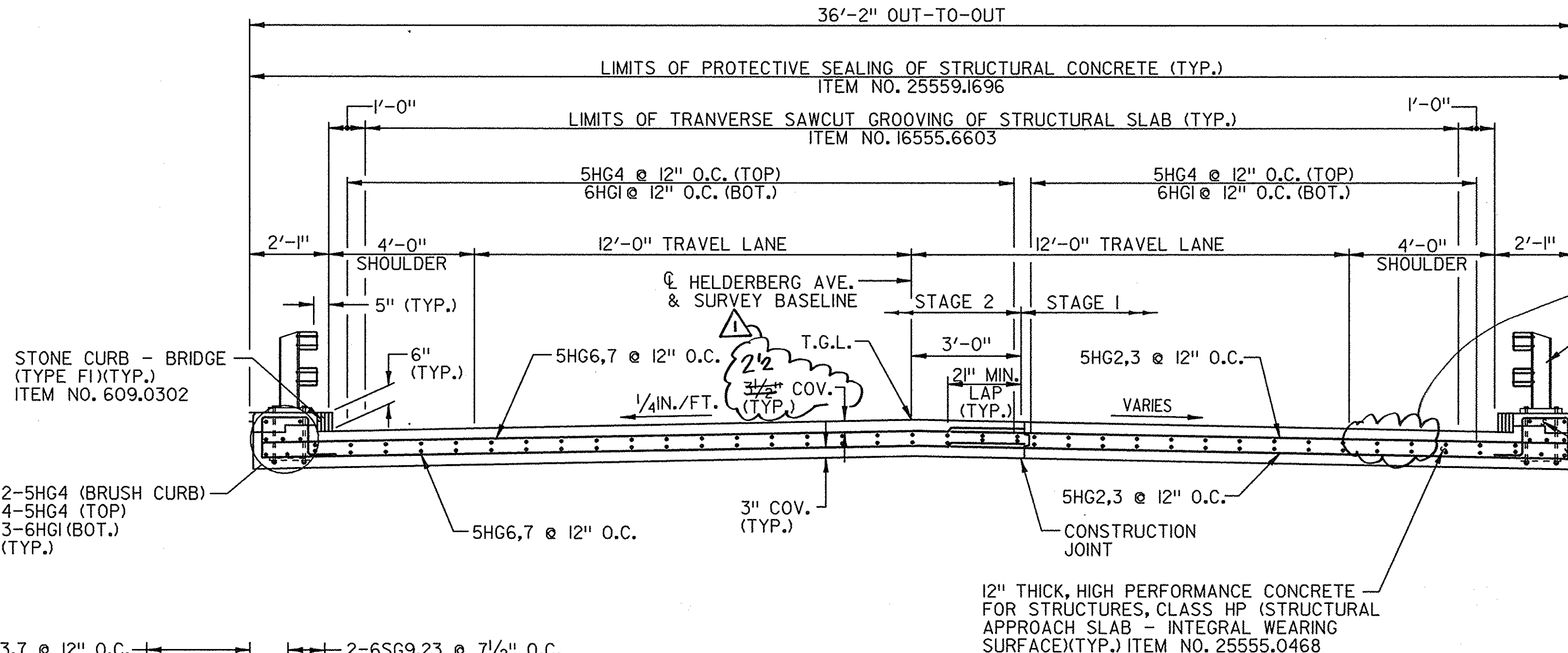
1/2" = 1'-0"



# 6 SECTION

N.T.S.

ESTIMATED APPROACH SLAB QUANTITIES BY STAGE					
	ITEM 555.0105	ITEM 25555.0468	ITEM 16555.6603	ITEM 25556.99	ITEM 25559.1696
STAGE 1	0.8	460	340	2,726	460
STAGE 2	0.8	640	500	3,444	640



# 2 APPROACH SLAB SECTION

LOOKING UPSTATION  
3/8" = 1'-0"

# APPROACH SLAB NOTES

- UNHINDERED LONGITUDINAL MOVEMENT OF THE APPROACH SLAB IS ACHIEVED BY MATCHING THE SURFACE OF THE SUBBASE COURSE TO THE ROADWAY GRADE AND CROSS SLOPE. POLYETHYLENE CURING COVERS (WHITE OPAQUE) IN ACCORDANCE WITH MATERIAL SPECIFICATION 711-04 SHALL BE PLACED ON TOP OF THE FINISHED SUBBASE COURSE FOR THE FULL WIDTH OF THE ROADWAY. THE CURING COVERS THICKNESS SHALL BE FOUR MILS. LAPS SHALL BE 2 FEET MINIMUM. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROACH SLAB ITEM.
- SAW CUT RECESS JOINT AT THE END OF AN APPROACH SLAB: CLEAN THE RECESS WITH HIGH PRESSURE AIR AND INSTALL THE CLOSED-CELL FOAM AND FILL THE TOP OF THE RECESS WITH COLD APPLIED SEALER, FEDERAL MATERIAL SPECIFICATION SS-S-00195B - ELASTOMERIC POLYMER TYPE, TWO-COMPONENT COLD APPLIED. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROACH SLAB ITEM.
- AT THE COLD FORMED JOINT BETWEEN THE APPROACH SLAB AND THE DECK A 1/4" WIDE X 1 1/2" DEEP SAWCUT SHALL BE MADE DIRECTLY OVER THE JOINT. THIS SAWCUT WILL BE THE FULL WIDTH OF THE APPROACH SLAB. SEAL THE SAWCUT WITH HOT POURED JOINT SEALER AS PER FED. SPEC. SS-S-001401. THE COST IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROACH SLAB ITEM.

REVERSE TOP REBAR MAT SO LONGITUDINAL BARS ARE ON TOP OF TRANSVERSE BARS.

STEEL BRIDGE RAILING (TWO RAIL)(TYP.) ITEM NO. 25568.50

ITEM NO. 555.0105 (TYP.)

5HG5 @ 12" O.C.

CONSTRUCTION JOINT

VARIES

5HG2,3 @ 12" O.C.

3'-0" MIN. LAP (TYP.)

T.G.L.

1/4 IN./FT. (TYP.)

5HG6,7 @ 12" O.C.

6" (TYP.)

4'-0" SHOULDER

2'-11" SHOULDER

1'-0" LIMITS OF TRANSVERSE SAWCUT GROOVING OF STRUCTURAL SLAB (TYP.)

ITEM NO. 16555.6603

LIMITS OF PROTECTIVE SEALING OF STRUCTURAL CONCRETE (TYP.)

ITEM NO. 25559.1696

36'-2" OUT-TO-OUT

12" THICK, HIGH PERFORMANCE CONCRETE FOR STRUCTURES, CLASS HP (STRUCTURAL APPROACH SLAB - INTEGRAL WEARING SURFACE)(TYP.) ITEM NO. 25555.0468

CONSTRUCTION JOINT

5HG2,3 @ 12" O.C.

3'-0" MIN. LAP (TYP.)

T.G.L.

1/4 IN./FT. (TYP.)

5HG6,7 @ 12" O.C.

6" (TYP.)

4'-0" SHOULDER

2'-11" SHOULDER

1'-0" LIMITS OF TRANSVERSE SAWCUT GROOVING OF STRUCTURAL SLAB (TYP.)

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4'-0" SHOULDER

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3'-0" MIN. LAP (TYP.)

T.G.L.

1/4 IN./FT. (TYP.)

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T.G.L.

1/4 IN./FT. (TYP.)

5HG6,7 @ 12" O.C.

6" (TYP.)

4'-0" SHOULDER

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LIMITS OF PROTECTIVE SEALING OF STRUCTURAL CONCRETE (TYP.)

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CONSTRUCTION JOINT

5HG2,3 @ 12" O.C.

3'-0" MIN. LAP (TYP.)

T.G.L.

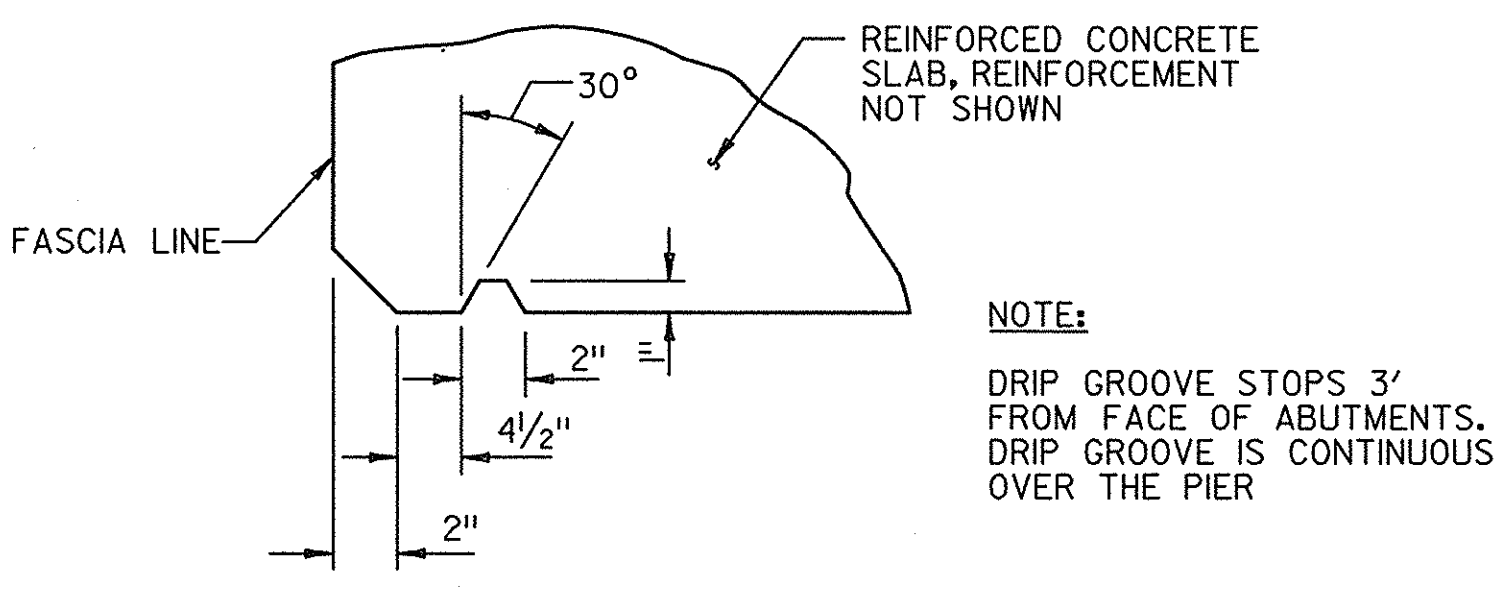
1/4 IN./FT. (TYP.)

5HG6,7 @ 12" O.C.

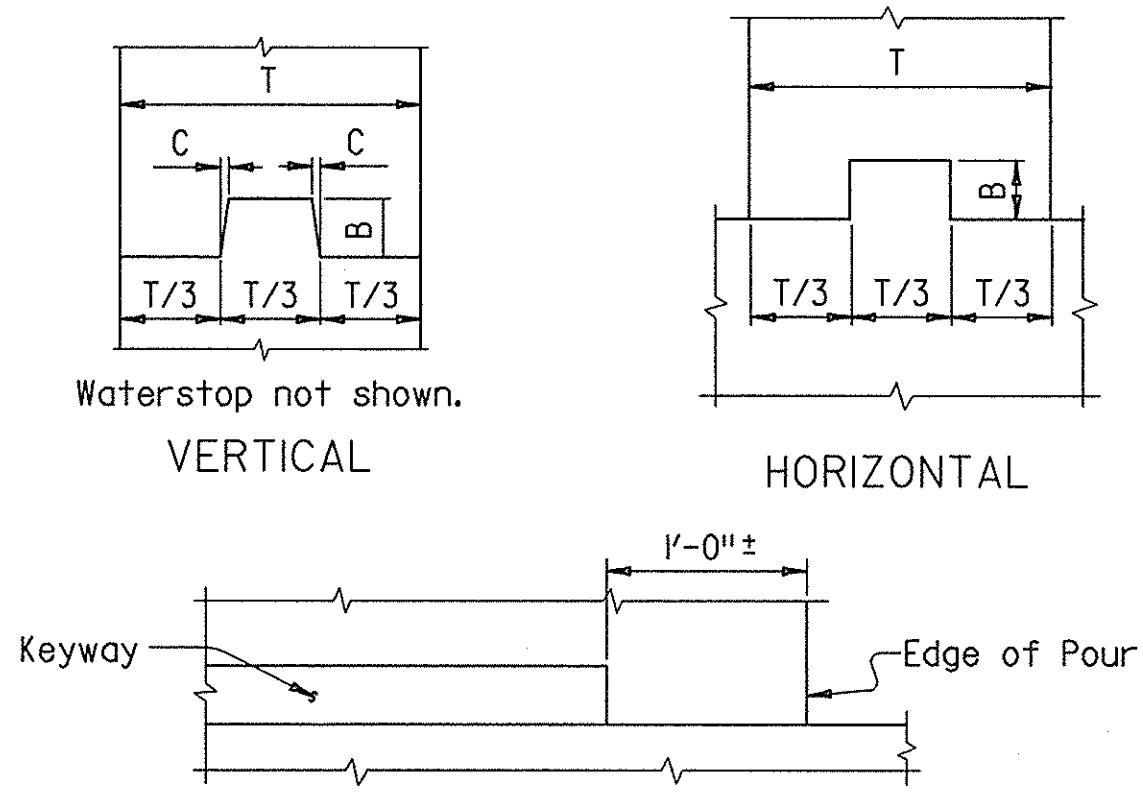
6" (TYP.)

4'-0" SHOULDER

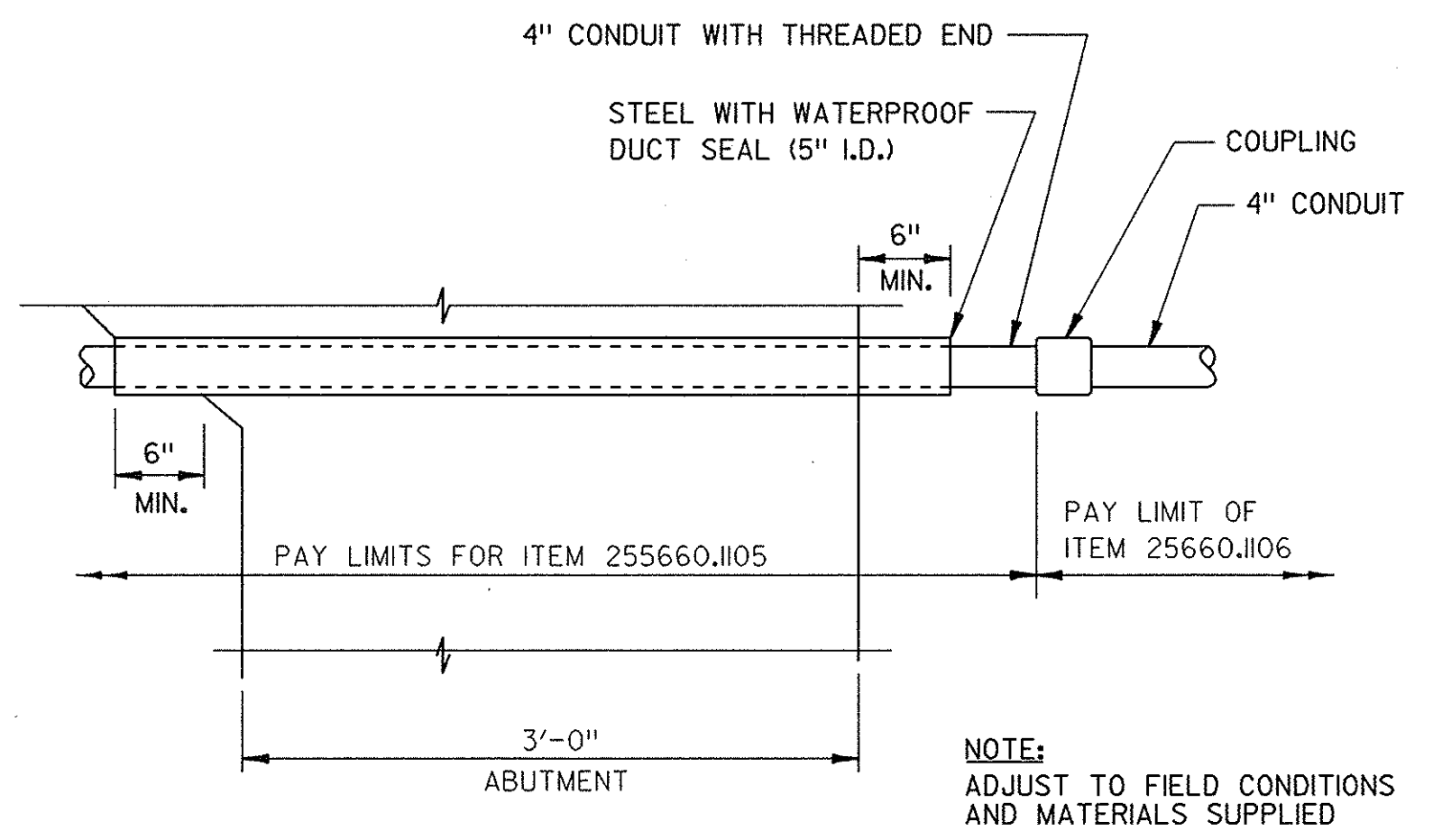




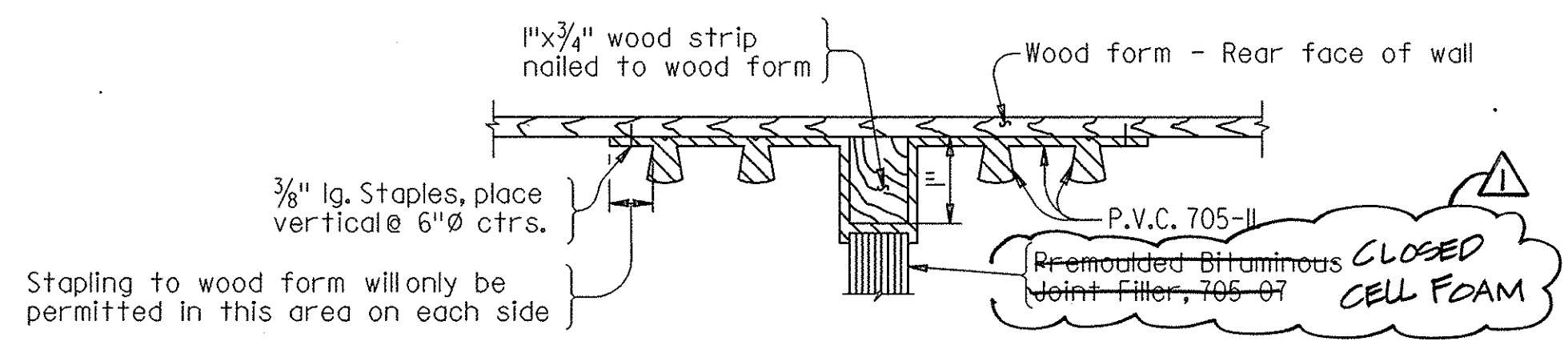
1 DETAIL  
DRIP GROOVE  
(N.T.S.)



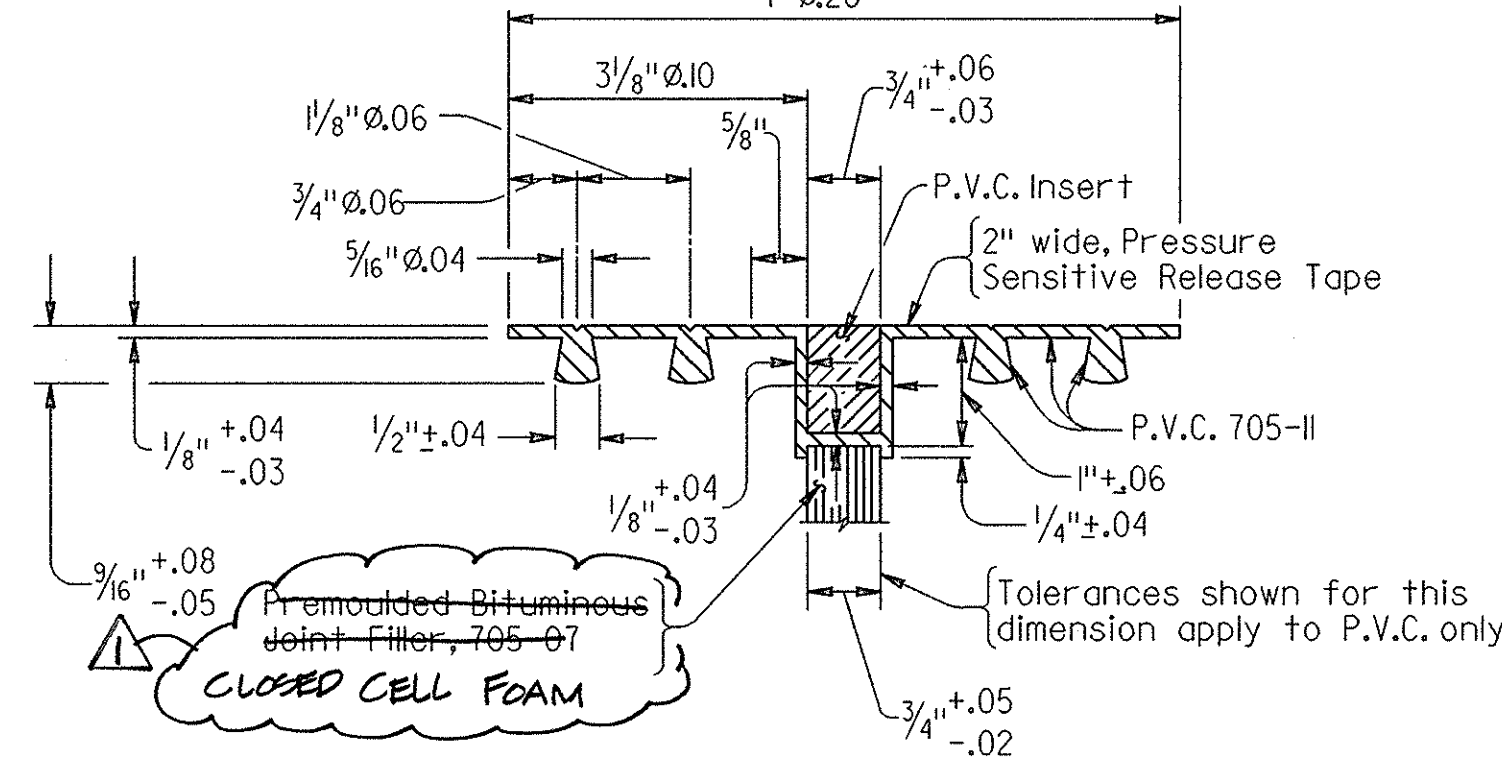
CONSTRUCTION AND CONTRACTION JOINTS		
C	B	T/3
1/4"	1 1/2"	to 6"
1/2"	3 1/2"	6" to 10"
3/4"	5 1/2"	over 10"



7 DETAIL  
UTILITY SLEEVE AT ABUTMENTS  
(N.T.S.)



STAGE ONE - PRIOR TO POURING CONCRETE



STAGE TWO - AFTER FORMS HAVE BEEN REMOVED

**P.V.C. INSERT**

Insert shall be Closed Cell Polyvinyl (SP) Grade VE-45 as per ASTM D1667 or Closed Cell Rubber Grade RE-45, Class E, as per ASTM D1056.

PVC Insert shall be light gray in color.

The material shall be sampled the same time as the Type "E" Waterstop.

Insert and Pressure Sensitive-Release Tape shall be installed in the field prior to placing the backfill.

**TYPE "E" WATERSTOP**

Waterstops shall conform to the requirements of Section 705-11 of the Specifications.

Holes must not be made in waterstop for any purpose except as required for stapling to forms.

Type E Waterstop shall be light gray in color.

Waterstop shall be shipped in straight sections having a minimum length of 10'-0" unless shorter lengths are required.

Waterstops shall conform to the requirements of Specification Subsection 705-11.

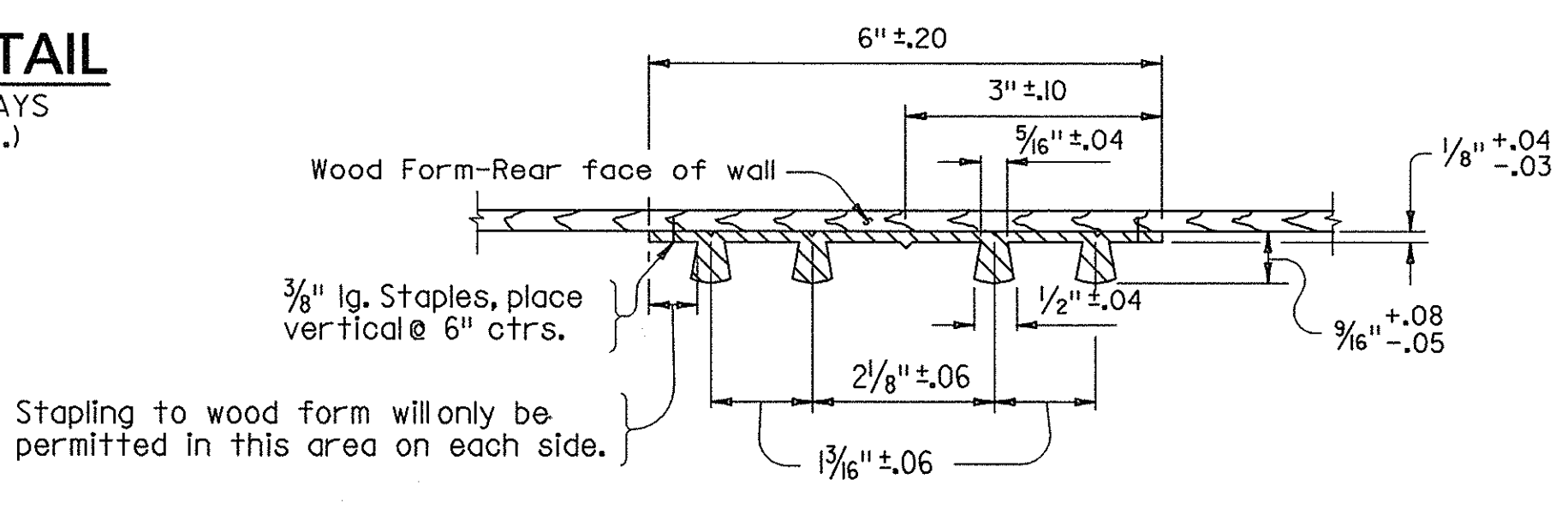
The cost of furnishing and placing waterstops shall be included in the unit prices bid for the concrete items.

To facilitate shipping and handling of PVC Waterstops, field butt splices will be permitted on straight runs at points approved by the Engineer.

Field butt splices shall be heat-welded as approved by the Engineer.

Tolerances shown are in inches.

3 DETAIL  
TYPE E WATERSTOP  
N.T.S.



2 DETAIL  
KEYWAYS  
(N.T.S.)

**TYPE "D" WATERSTOPS**

Waterstops shall conform to the requirements of Section 705-11 of the Specifications.

Holes must not be made in waterstops for any purpose except as required for stapling to forms.

Type "D" Waterstop shall be light gray in color.

The cost of furnishing and placing waterstops shall be included in the price bid for the concrete items.

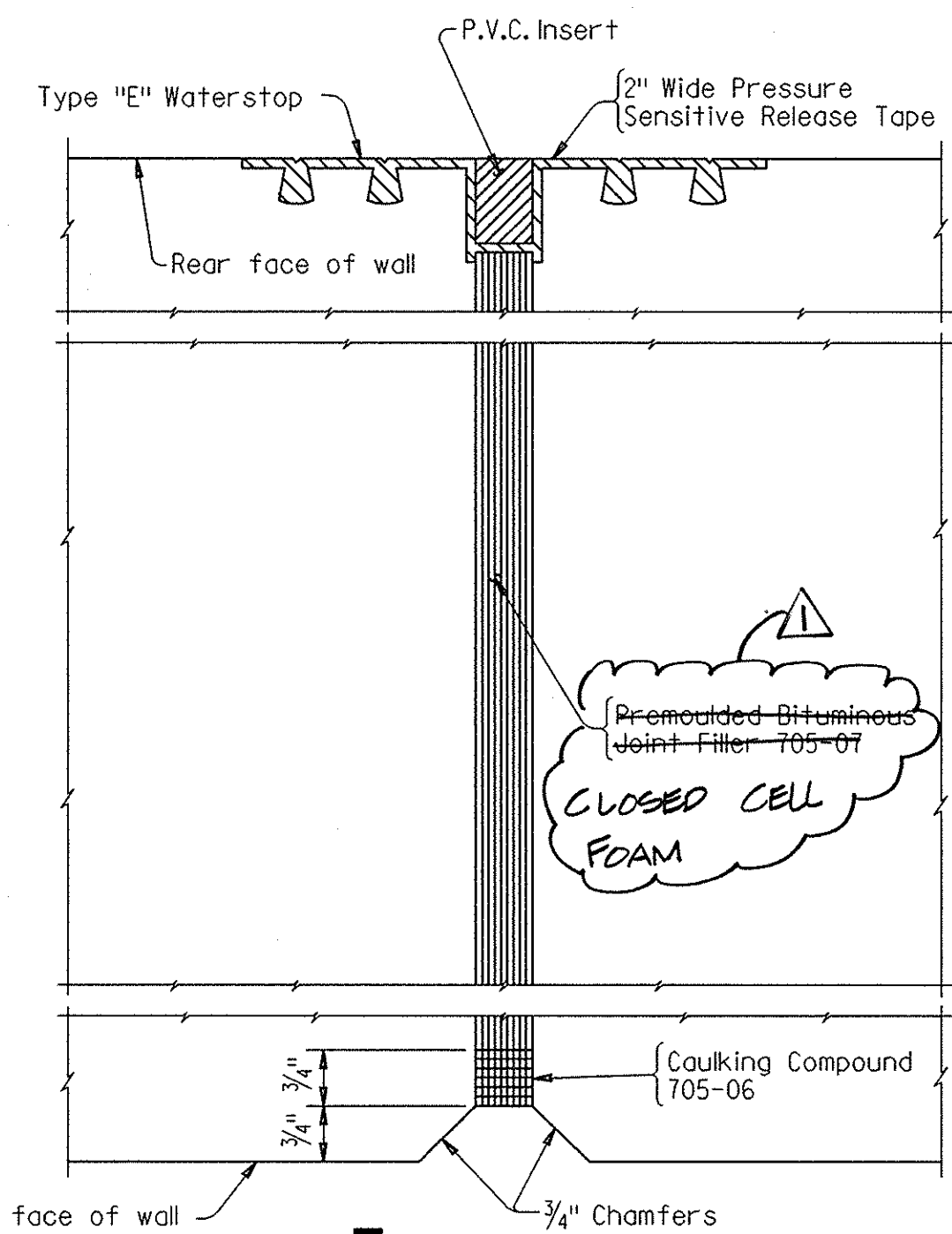
**NOTE:**

To facilitate shipping and handling of P.V.C. Waterstops, field butt splices will be permitted on straight runs at points approved by the Engineer.

Field butt splices shall be heat-welded as approved by the Engineer.

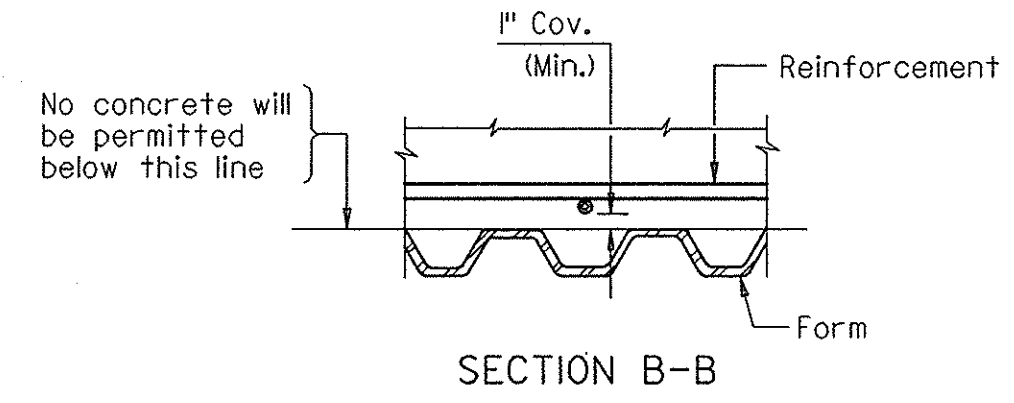
Waterstop shall be shipped in straight sections having a minimum length of 10'-0" unless shorter lengths are required.

Tolerances shown are in inches.

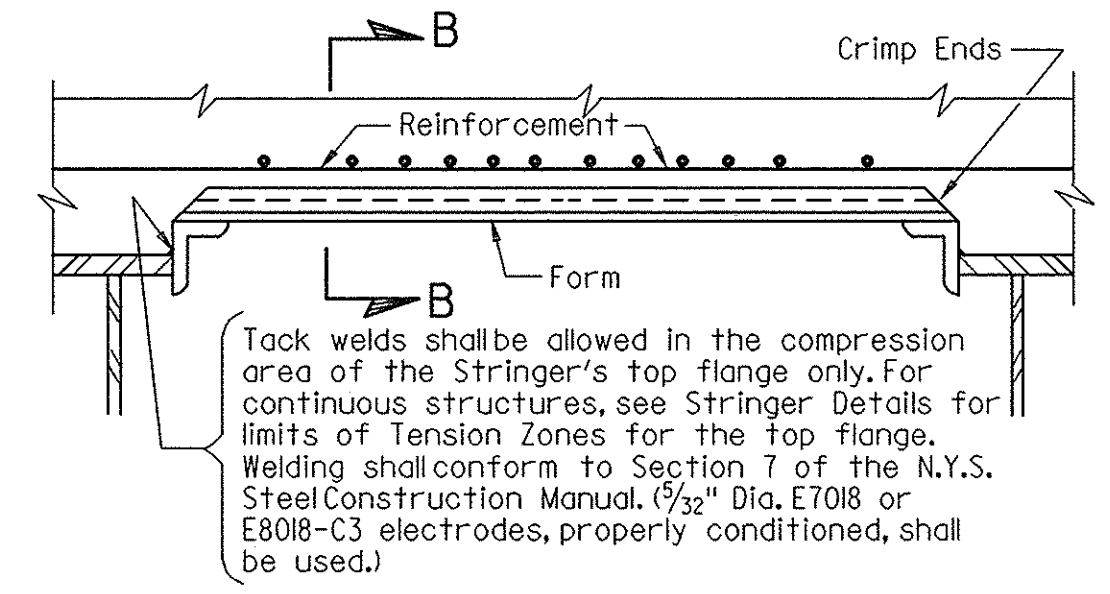


5 DETAIL  
TYPICAL EXPANSION JOINT  
N.T.S.

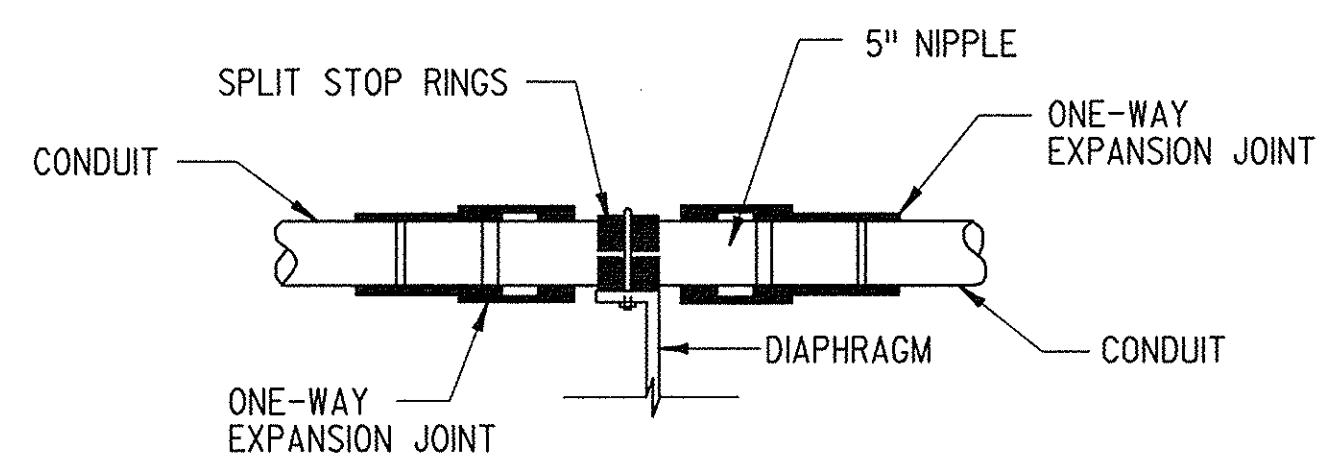
4 DETAIL  
TYPE D WATERSTOP  
(N.T.S.)



SECTION B-B



6 DETAIL  
PERMANENT CORRUGATED METAL FORMS  
N.T.S.



8 DETAIL  
TWO-WAY EXPANSION JOINT  
(N.T.S.)

AS BUILT REVISIONS.  
BIN 5513660



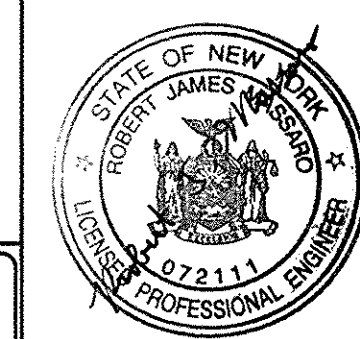
DATE	DESCRIPTION	BY	SYM.
3/99	JOINT FILLER CHANGE	KFK	

NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT: HELDERBERG AVENUE BRIDGE REPLACEMENT

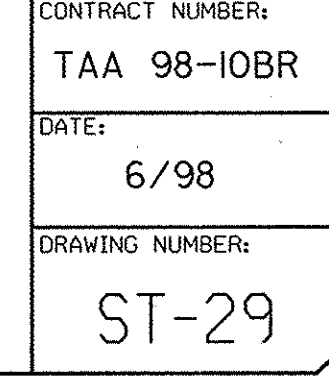
LOCATION OF PROJECT: M.P. 155.54

TITLE OF DRAWING: MISCELLANEOUS DETAILS



CONTRACT NUMBER:	TAA 98-10BR
DATE:	6/98
DRAWING NUMBER:	ST-28

THE SEAR-BROWN GROUP



**THE SEAR-BROWN GROUP**

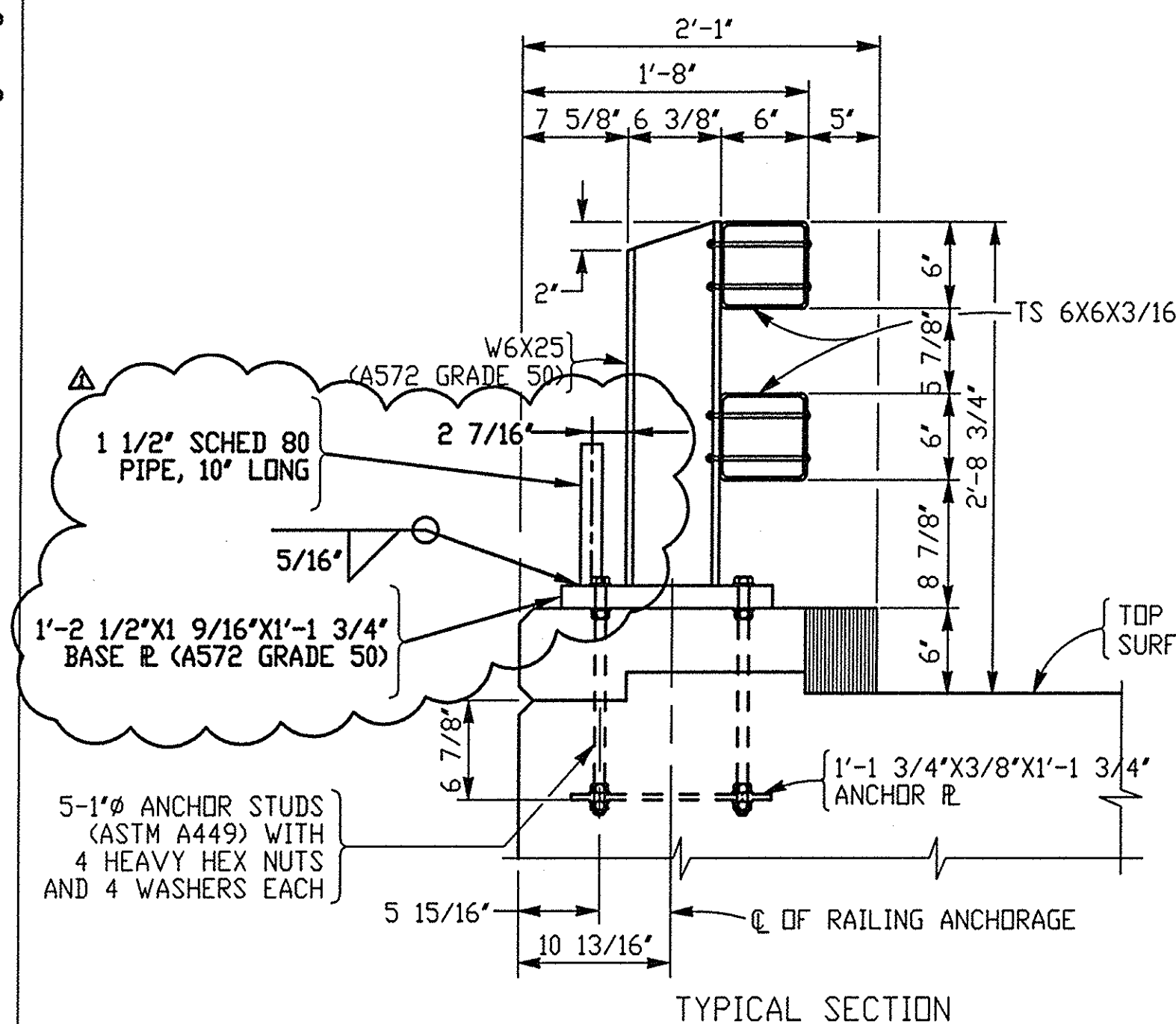




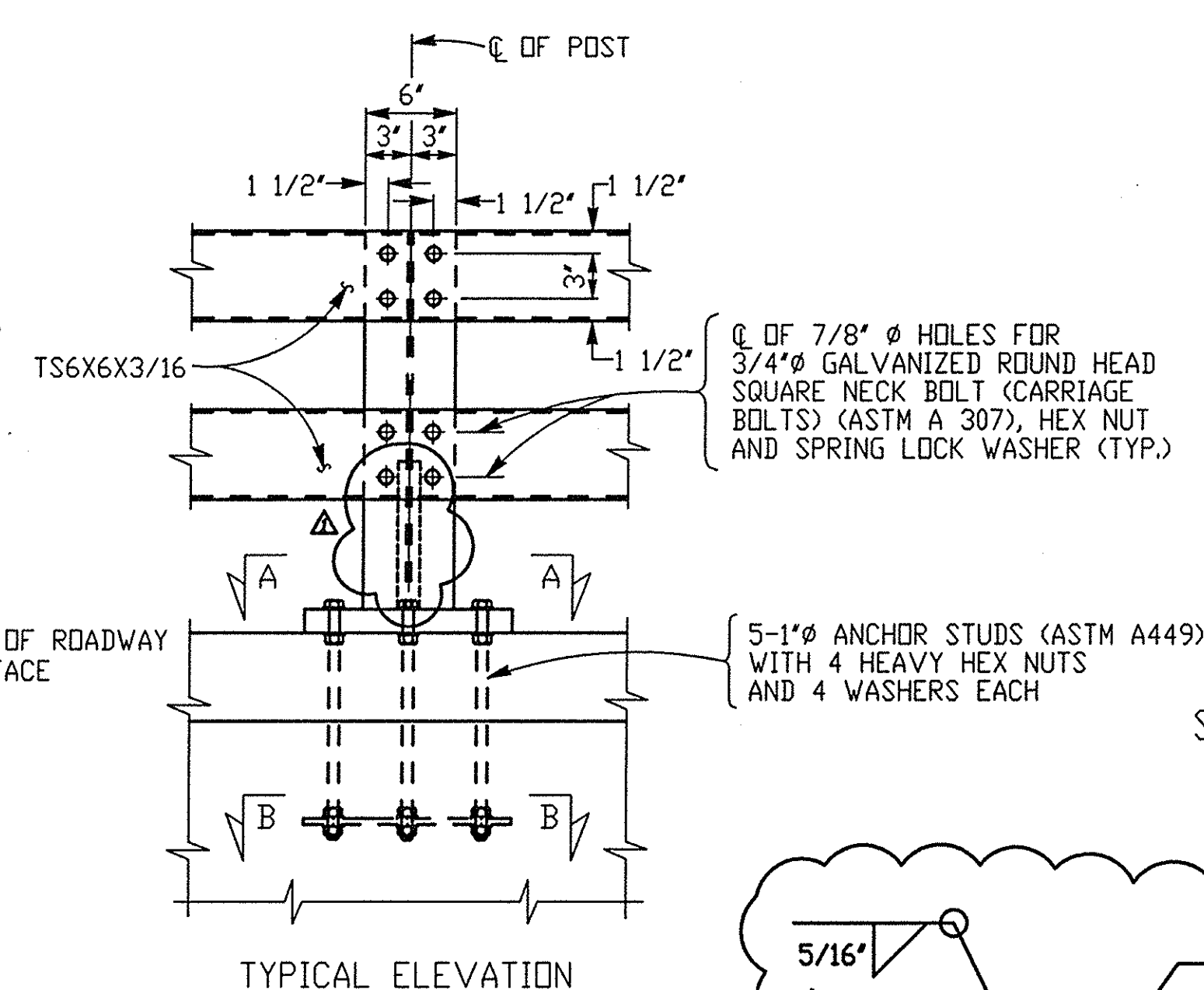
NO REVISIONS

NOTES:

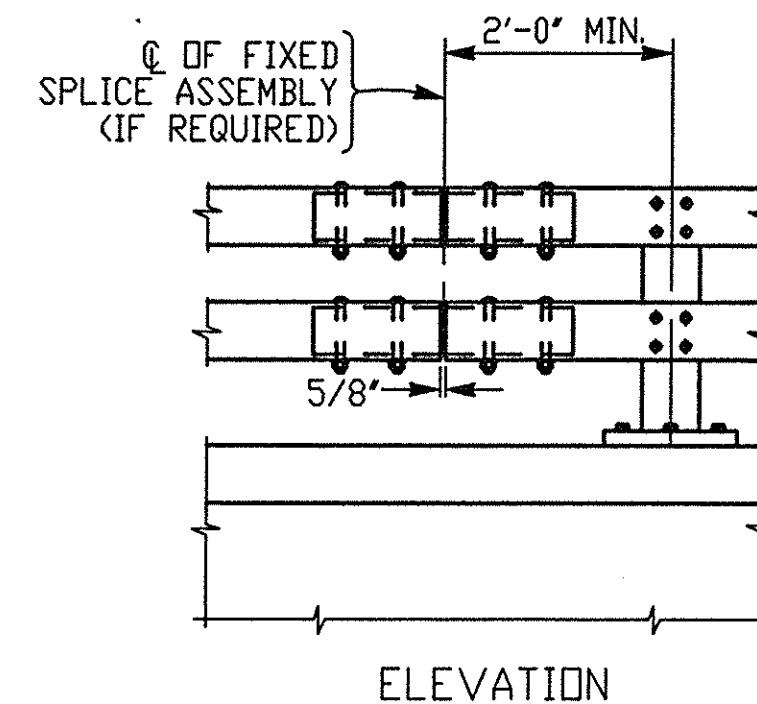
1. ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 568 OF THE STANDARD SPECIFICATIONS.
2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
3. ALL STEEL SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH N.Y.S. STANDARD SPECIFICATION SUBSECTION 719-01.
4. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 lb-ft).



TYPICAL SECTION



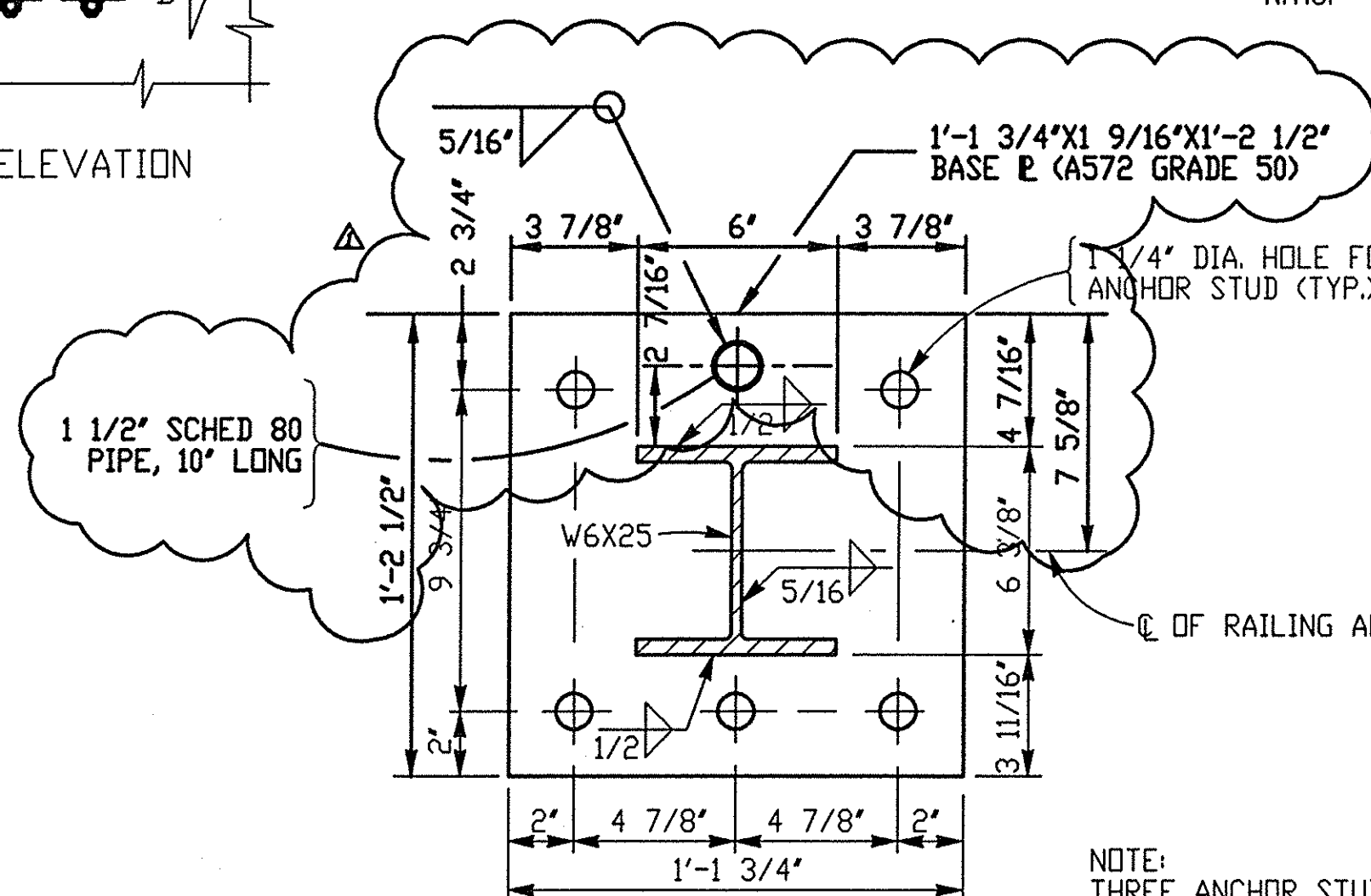
TYPICAL ELEVATION



ELEVATION

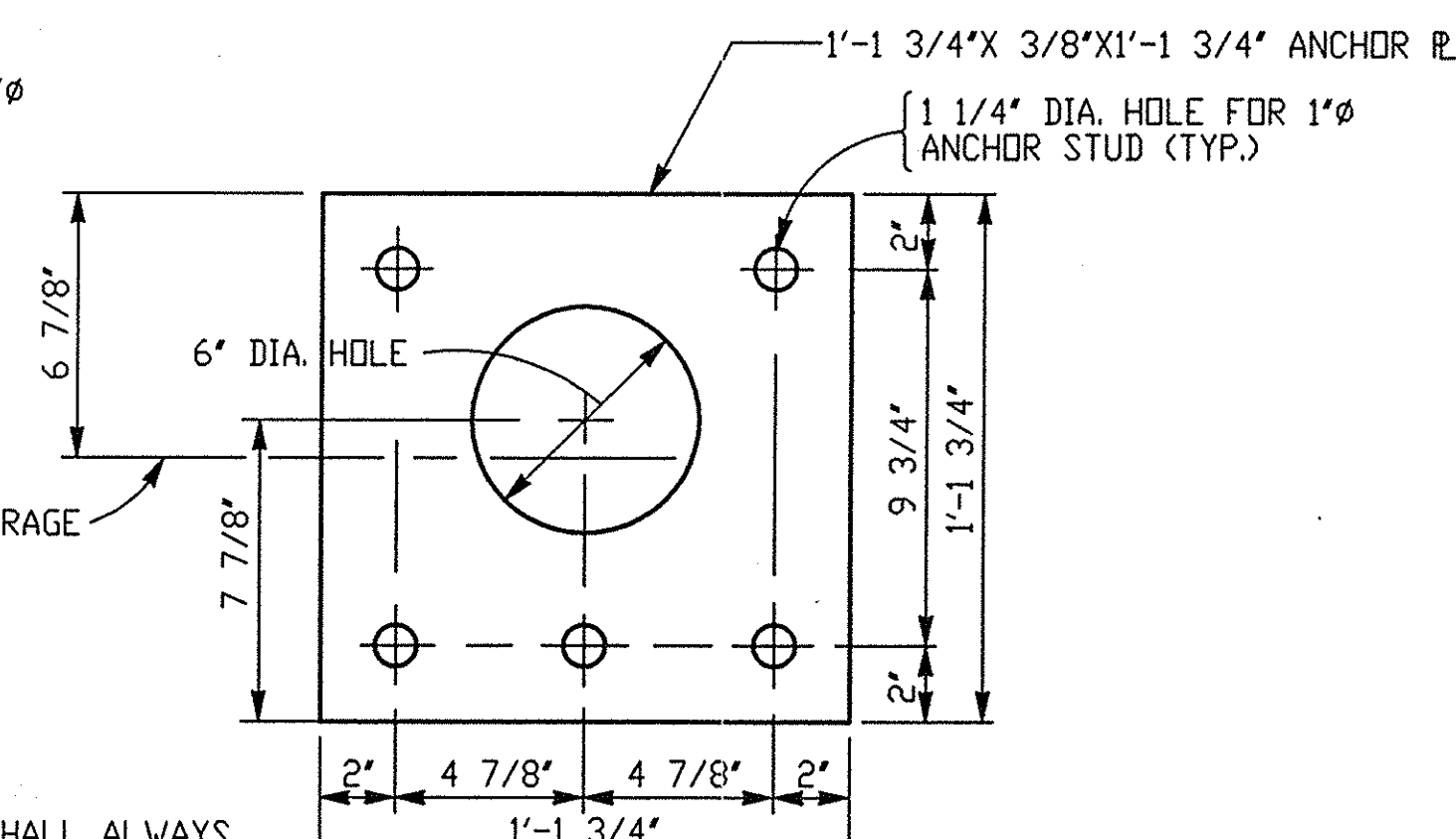
STEEL BRIDGE RAILING SPLICE DETAIL  
(TWO RAIL - BRUSH CURB)

N.T.S.

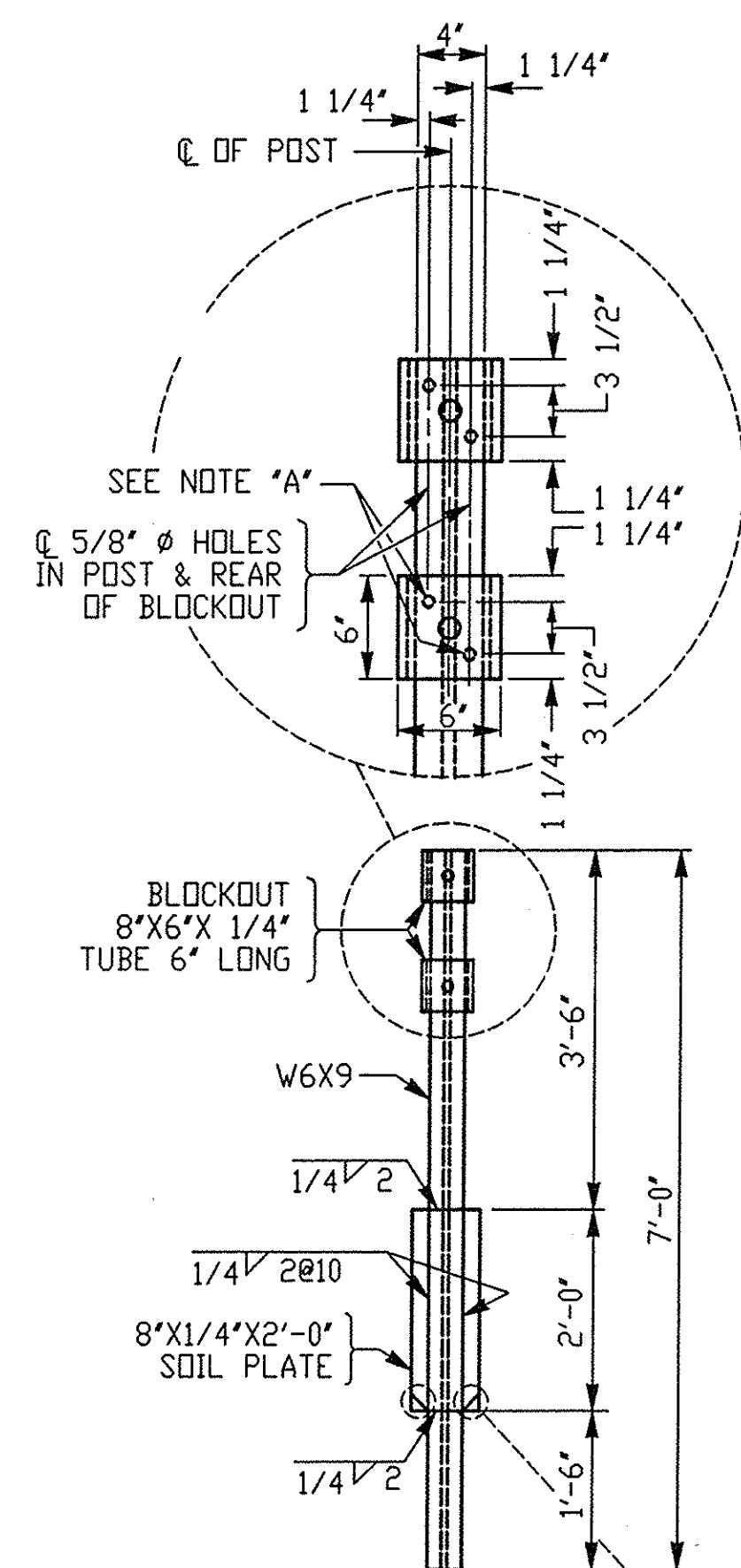


SECTION A-A  
N.T.S.

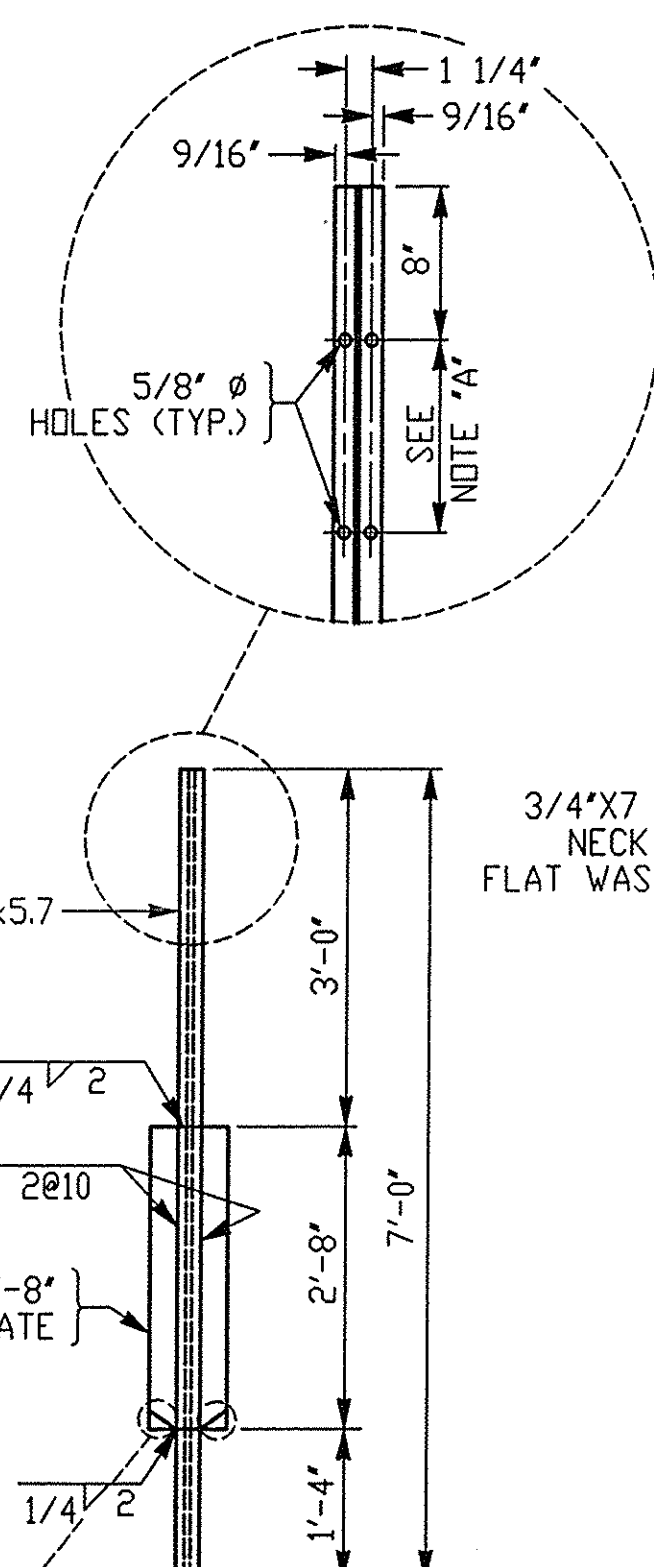
NOTE:  
THREE ANCHOR STUDS SHALL ALWAYS  
BE INSTALLED ON TRAFFIC SIDE OF  
POST.



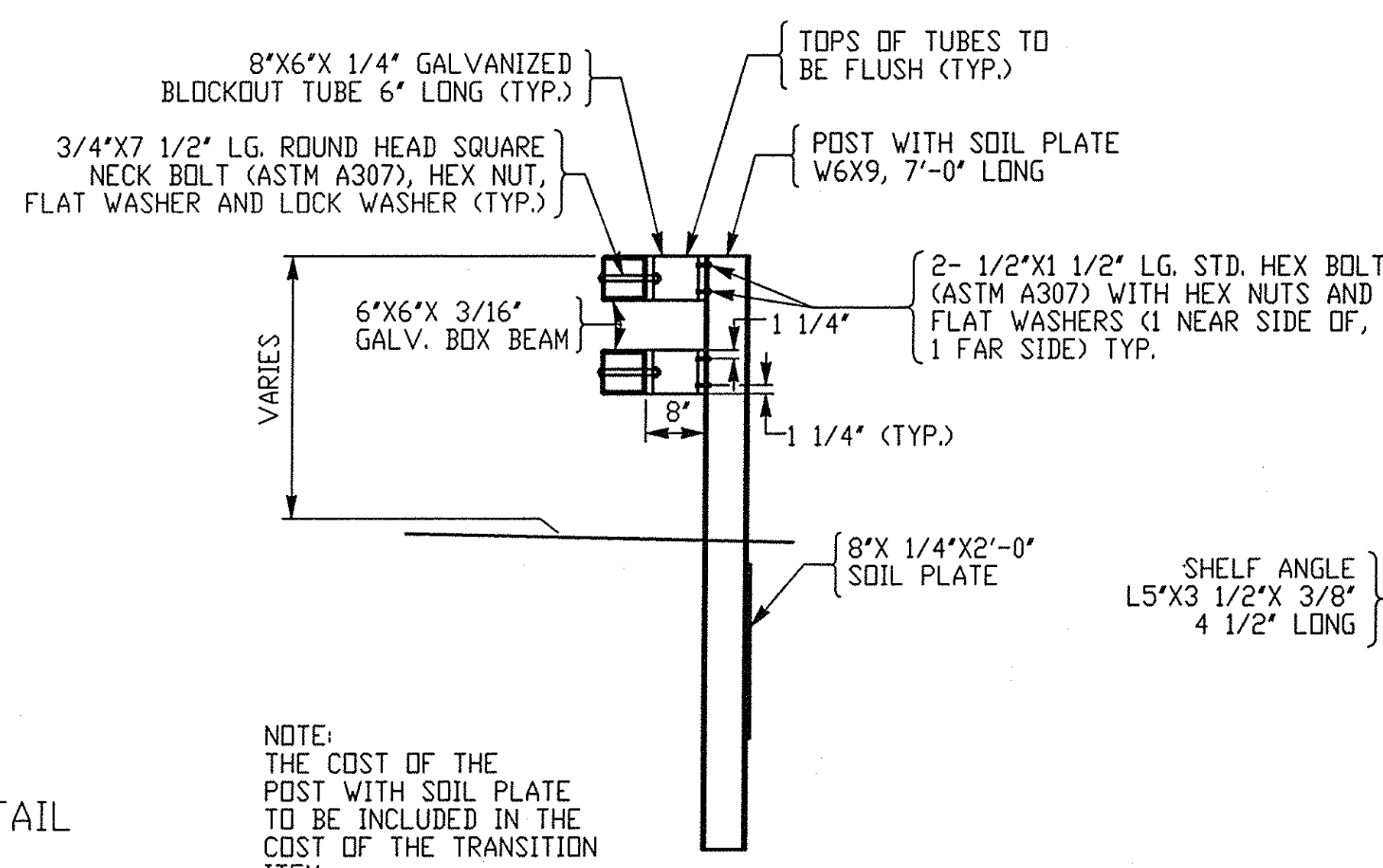
SECTION B-B  
N.T.S.



HEAVY POST DETAIL  
N.T.S.

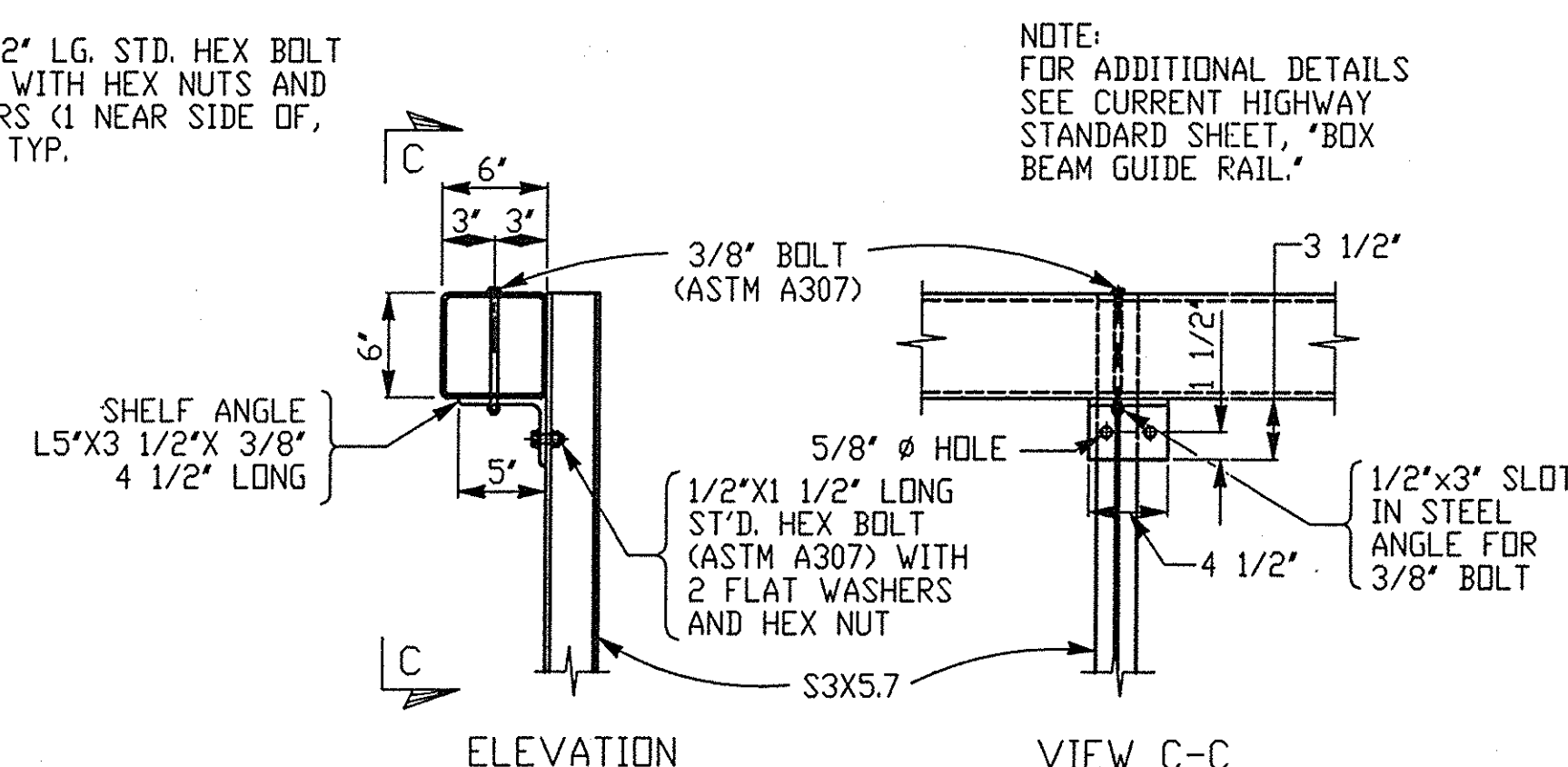


TRANSITION POST DETAIL  
N.T.S.



HEAVY POST ELEVATION  
N.T.S.

NOTE:  
THE COST OF THE  
POST WITH SOIL PLATE  
TO BE INCLUDED IN THE  
COST OF THE TRANSITION  
ITEM.



TYPICAL RAIL TO POST CONNECTION  
N.T.S.

NOTE:  
FOR ADDITIONAL DETAILS  
SEE CURRENT HIGHWAY  
STANDARD SHEET, 'BOX  
BEAM GUIDE RAIL.'

NOTE 'A'  
HOLES IN THE POST FOR THE LOWER RAIL MAY BE  
LOCATED AND DRILLED IN THE FIELD. IF SO, THE  
GALVANIZING SHALL BE REPAIRED IN ACCORDANCE  
WITH SUBSECTION 719-01.

PERMISSABLE TO CUT ALONG THIS  
LINE FOR DRIVING (TYPICAL ON  
ALL GUIDE RAIL POSTS)

NO AS BUILT REVISIONS  
BIN 5513660

1-25-99	SCREEN ANCHORAGE	J. MAURI	4
DATE	DESCRIPTION	BY	SY

## REVISIONS

NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT	HELDERBERG AVENUE BRIDGE REPLACEMENT
------------------	---

LOCATION OF PROJECT	M.P. 155.54
---------------------	-------------

TITLE OF DRAWING  
STEEL BRIDGE RAILING-TWO RAIL  
(FOR USE ON BRUSH CURBS ONLY)  
SHEET 1 OF 3



CONTRACT NUMBER:  
TAA 98-10BR

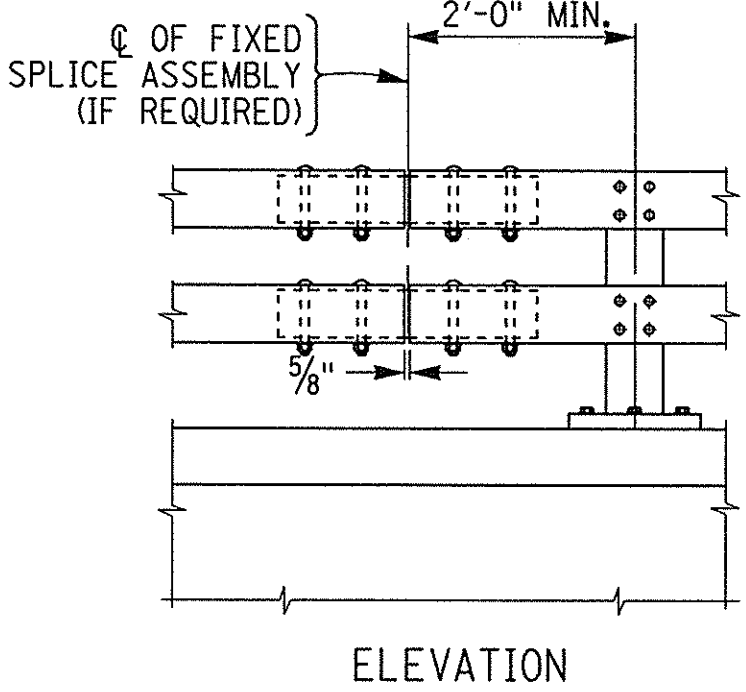
DATE: 12/97

DRAWING NUMBER:

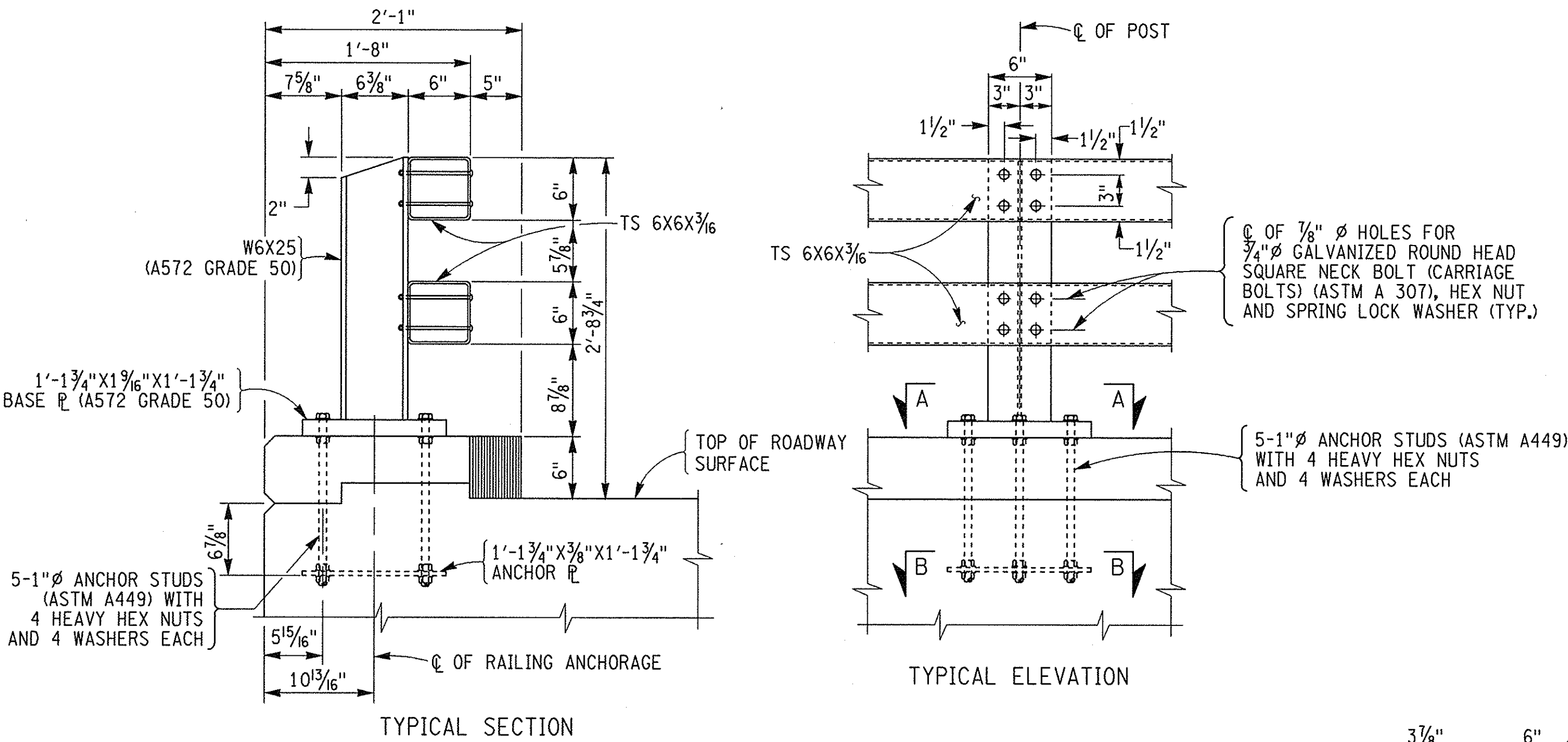
ST-31



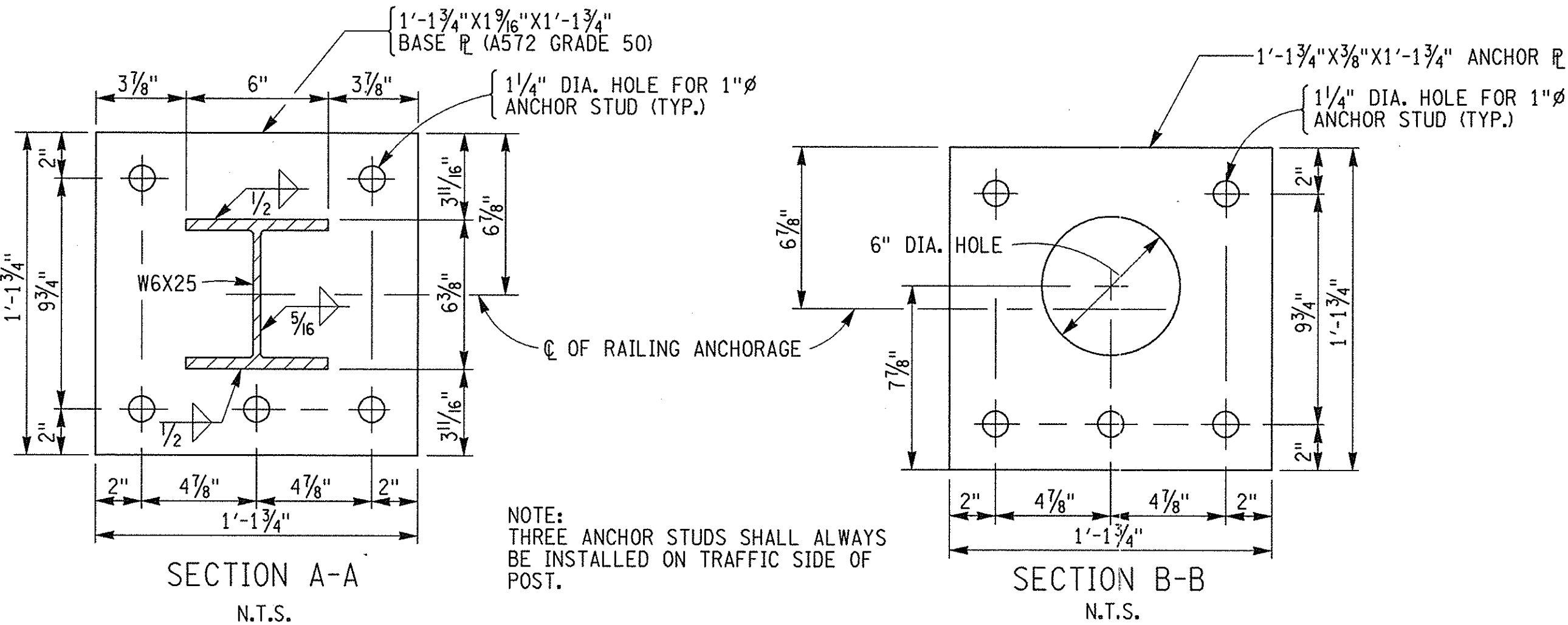
- NOTES:
1. ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 568 OF THE STANDARD SPECIFICATIONS.
  2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF  $\frac{1}{16}$ ".
  3. ALL STEEL SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH N.Y.S. STANDARD SPECIFICATION SUBSECTION 719-01.
  4. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 lb-ft).



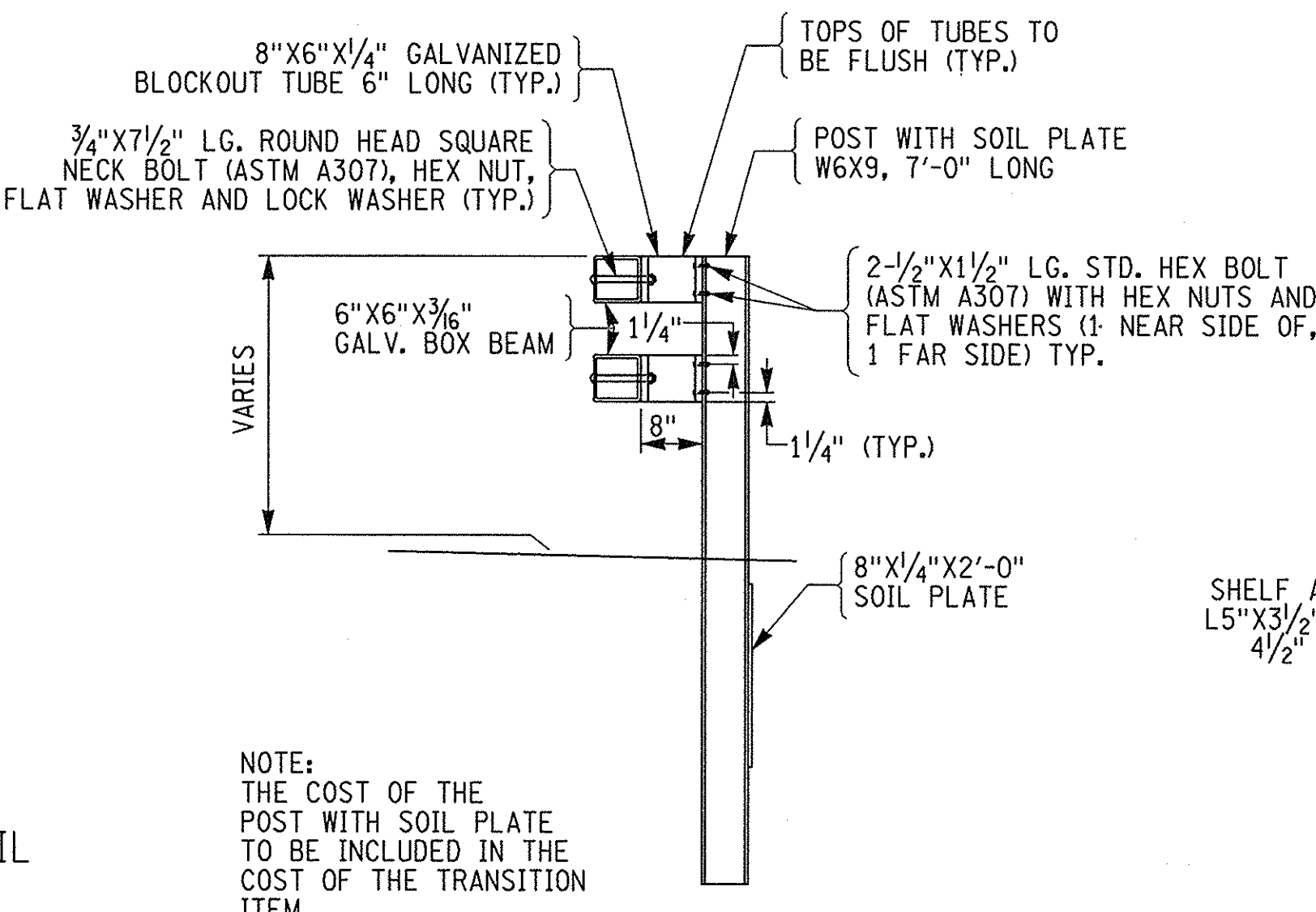
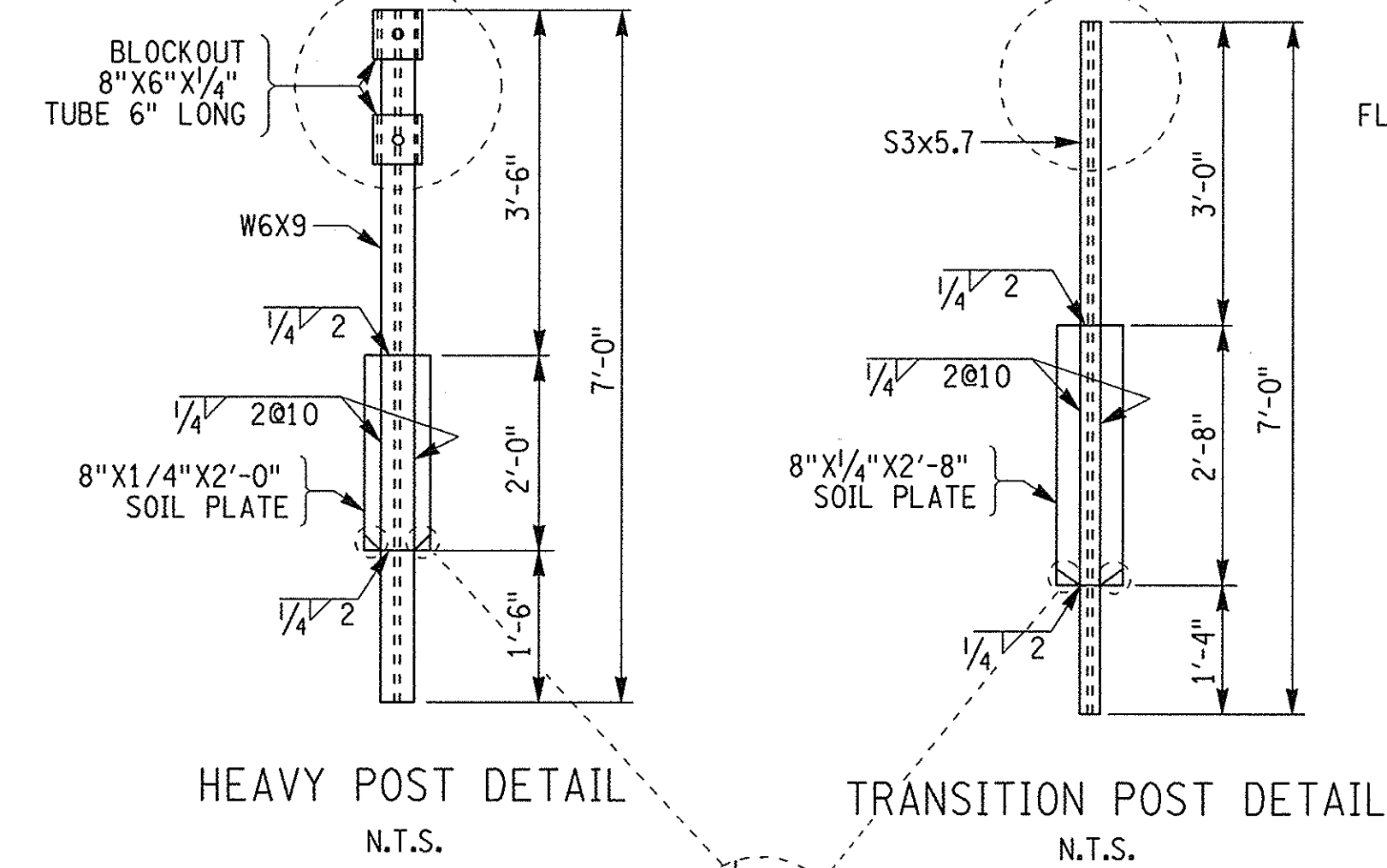
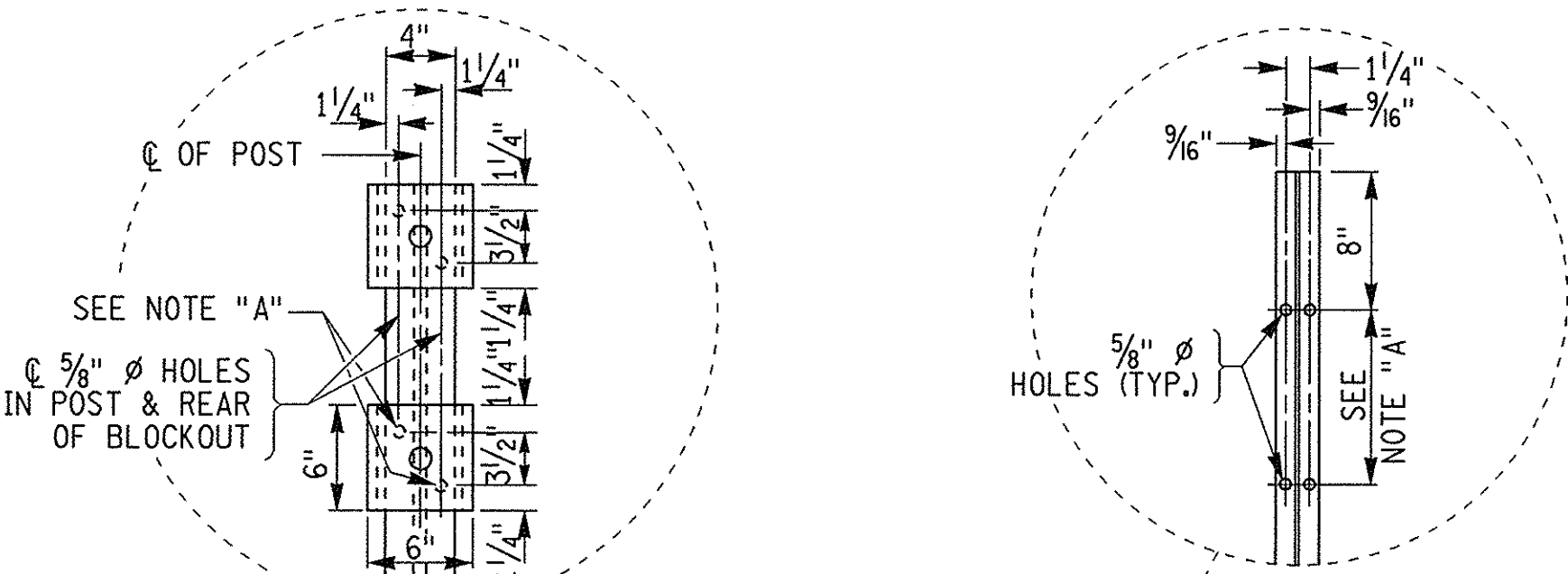
STEEL BRIDGE RAILING SPLICE DETAIL  
(TWO RAIL - BRUSH CURB)  
N.T.S.



STEEL BRIDGE RAILING  
(TWO RAIL - BRUSH CURB)  
N.T.S.

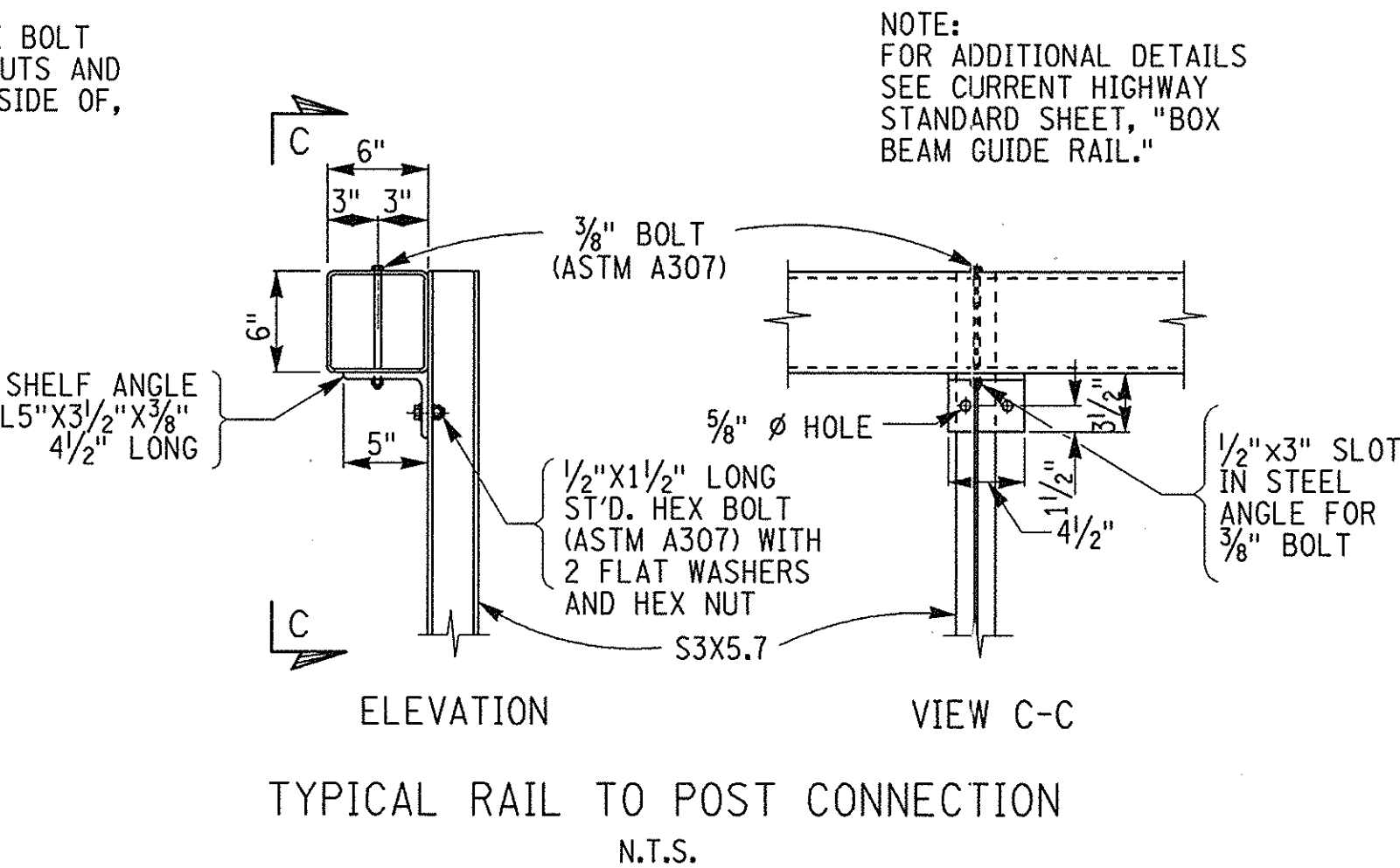


NOTE:  
THREE ANCHOR STUDS SHALL ALWAYS  
BE INSTALLED ON TRAFFIC SIDE OF  
POST.



NOTE:  
THE COST OF THE  
POST WITH SOIL PLATE  
TO BE INCLUDED IN THE  
COST OF THE TRANSITION  
ITEM.

HEAVY POST ELEVATION  
N.T.S.



NOTE:  
FOR ADDITIONAL DETAILS  
SEE CURRENT HIGHWAY  
STANDARD SHEET, "BOX  
BEAM GUIDE RAIL."

TYPICAL RAIL TO POST CONNECTION  
N.T.S.



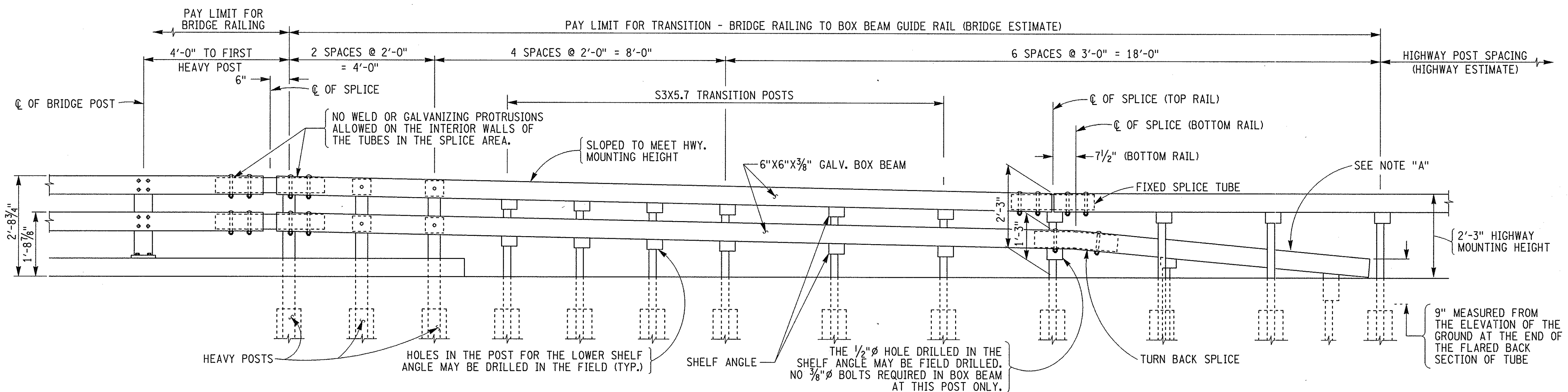
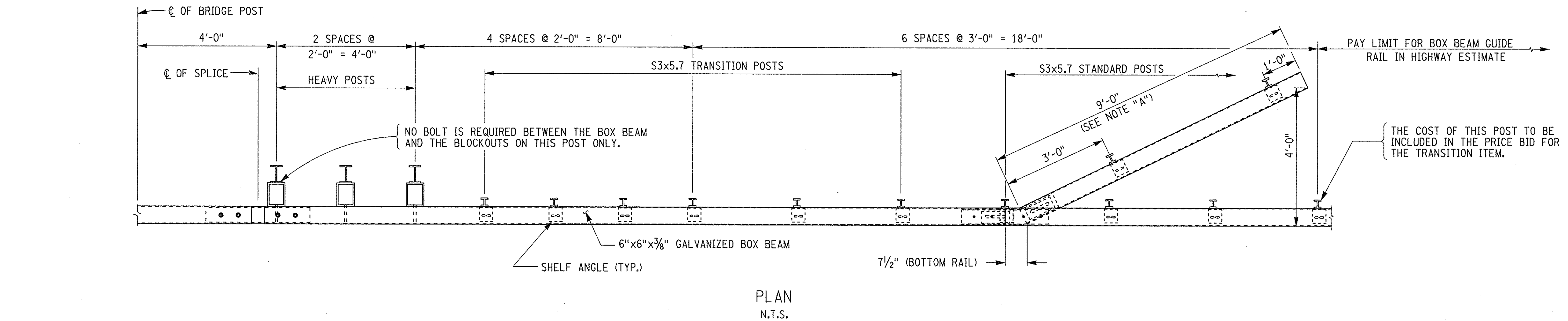
AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
1/99	SUPERCEDED BY GHT #47B1	NYSTA	
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING			
STEEL BRIDGE RAILING - TWO RAIL (FOR USE ON BRUSH CURBS ONLY) SHEET 1 OF 3			
CONTRACT NUMBER: TAA 98-10BR			
DATE: 12/97			
DRAWING NUMBER: ST-31			



NOTE "A"  
HOLES IN THE POST FOR THE LOWER RAIL MAY BE  
LOCATED AND DRILLED IN THE FIELD. IF SO, THE  
GALVANIZING SHALL BE REPAIRED IN ACCORDANCE  
WITH SUBSECTION 719-01.

PERMISSABLE TO CUT ALONG THIS  
LINE FOR DRIVING (TYPICAL ON  
ALL GUIDE RAIL POSTS)

**NOTES**

- THE COST OF THE POSTS, SPLICE TUBE AND RAIL FOR THE LOWER TUBE FLARE SECTION IS INCLUDED IN THE PRICE BID FOR THE TRANSITION ITEM.
- PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.
- ALL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH N.Y.S. STANDARD SPECIFICATIONS, SUBSECTION 719-01. ALL AREAS WHERE THE ZINC COATING IS DAMAGED DURING INSTALLATION, INCLUDING FIELD DRILLING HOLES, SHALL BE REPAIRED ACCORDING TO SUBSECTION 719-01.

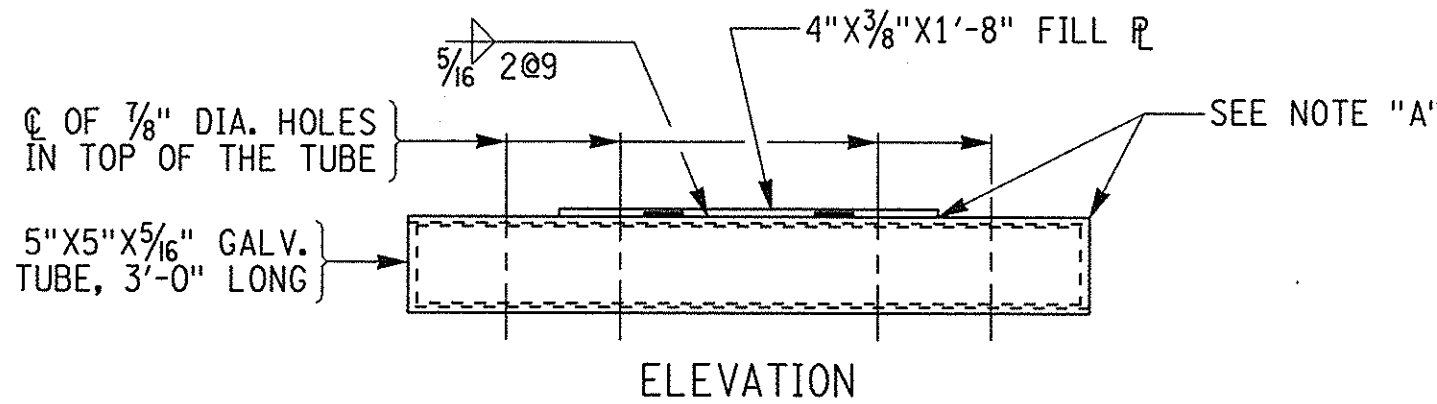
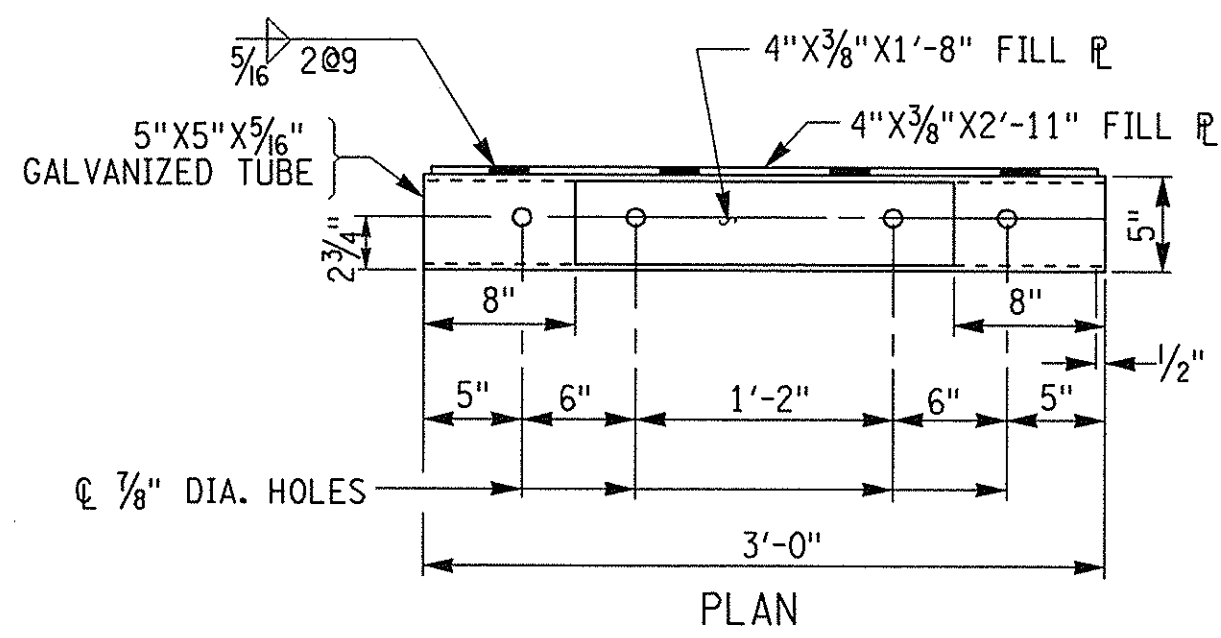
NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING STEEL BRIDGE RAILING - TWO RAIL (FOR USE ON BRUSH CURBS ONLY) SHEET 2 OF 3			
CONTRACT NUMBER: TAA 98-10BR		DATE: 12/97	
DRAWING NUMBER: ST-32			

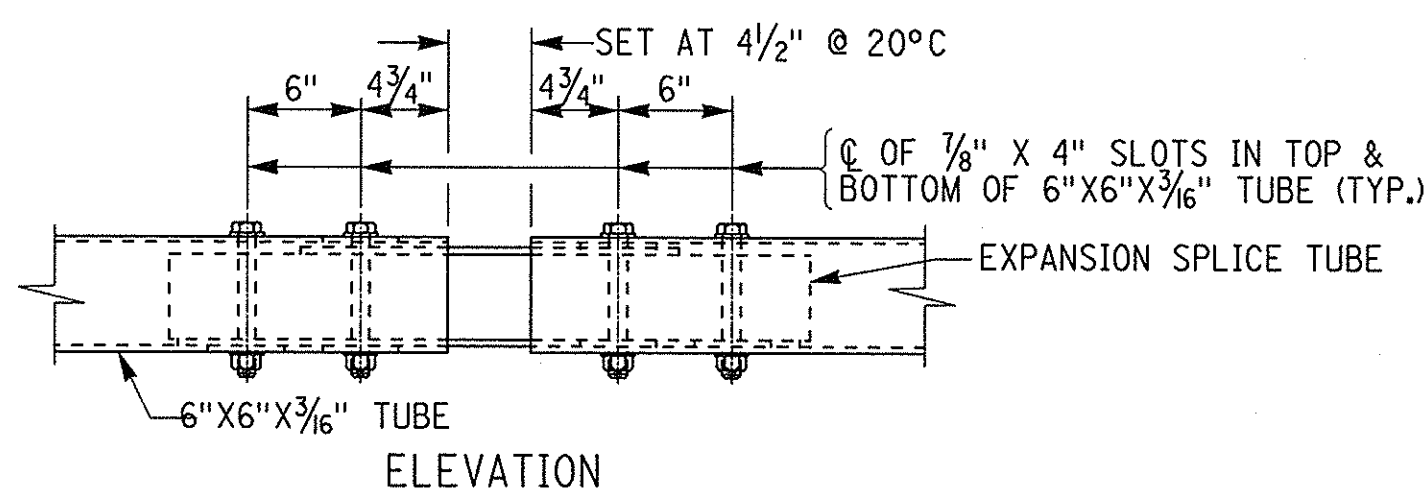
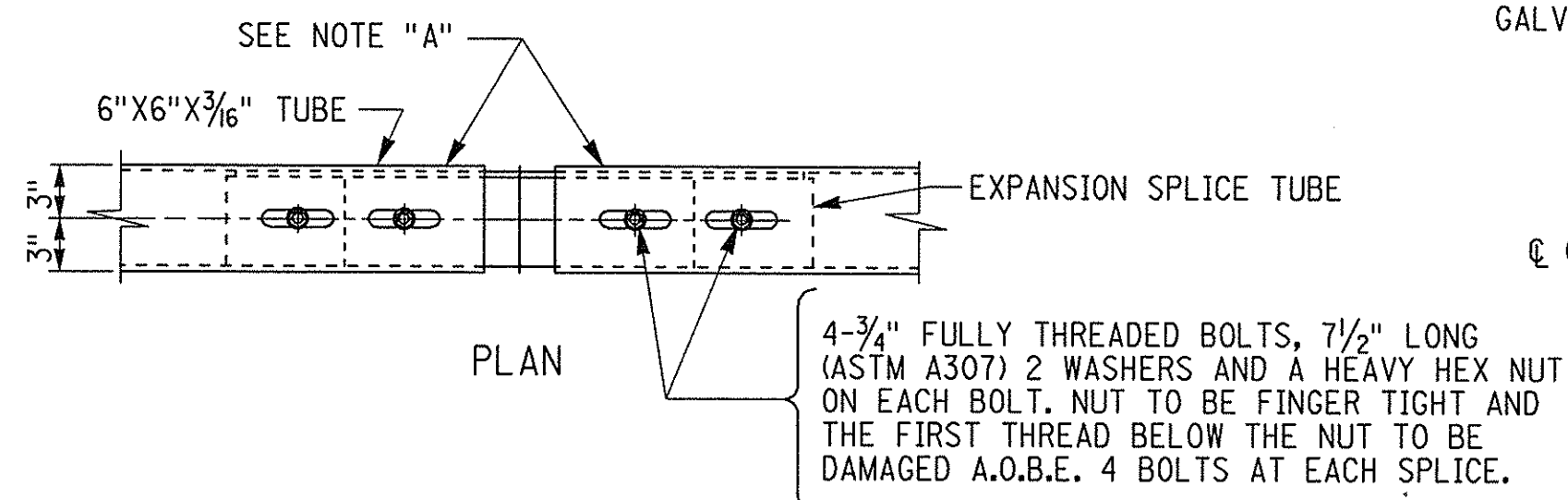




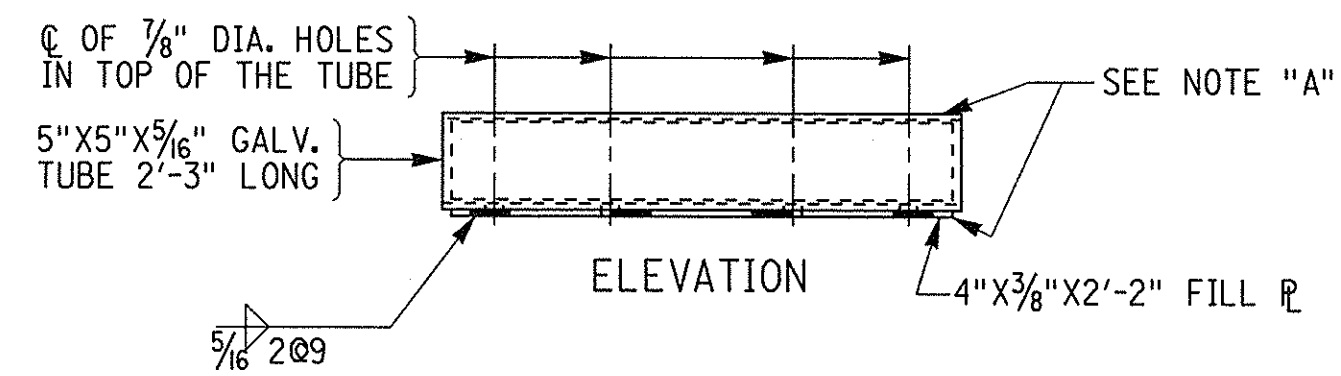
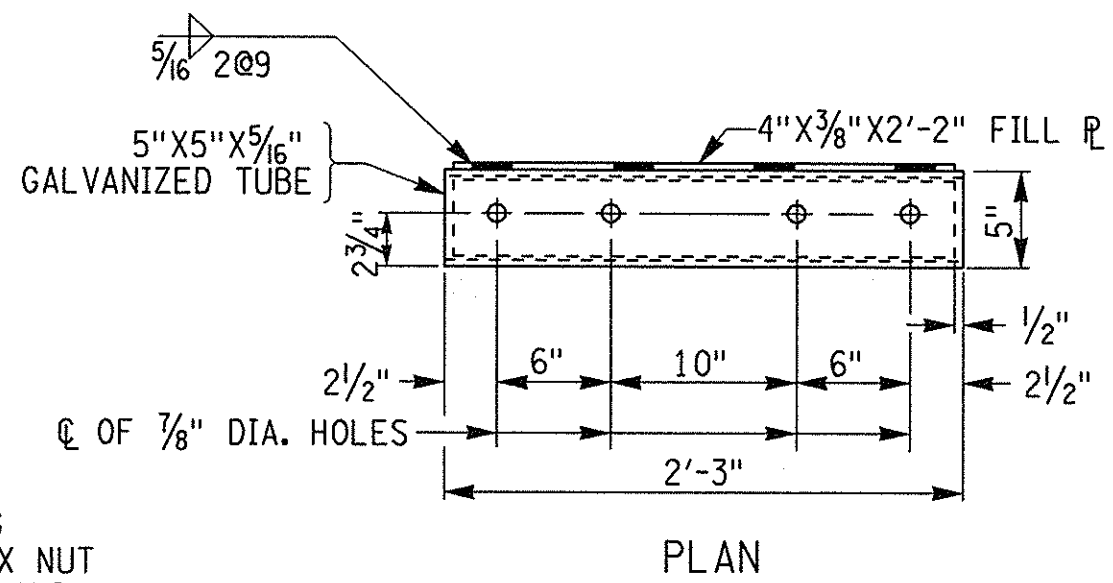
NO REVISIONS.



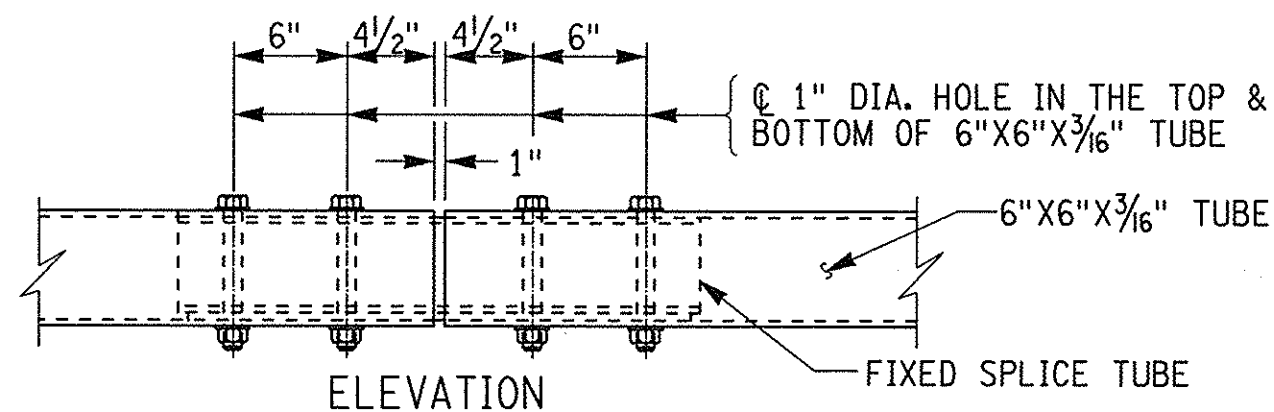
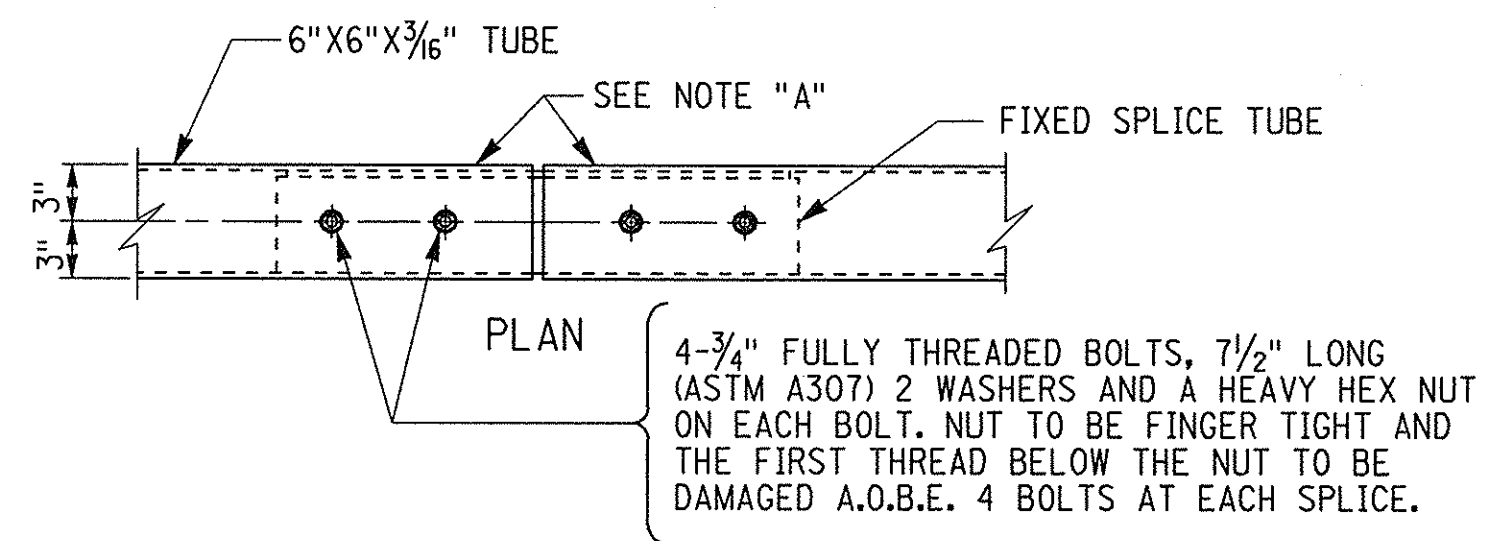
EXPANSION SPLICE TUBE  
N.T.S.



EXPANSION SPLICE ASSEMBLY  
N.T.S.



FIXED SPLICE TUBE  
N.T.S.

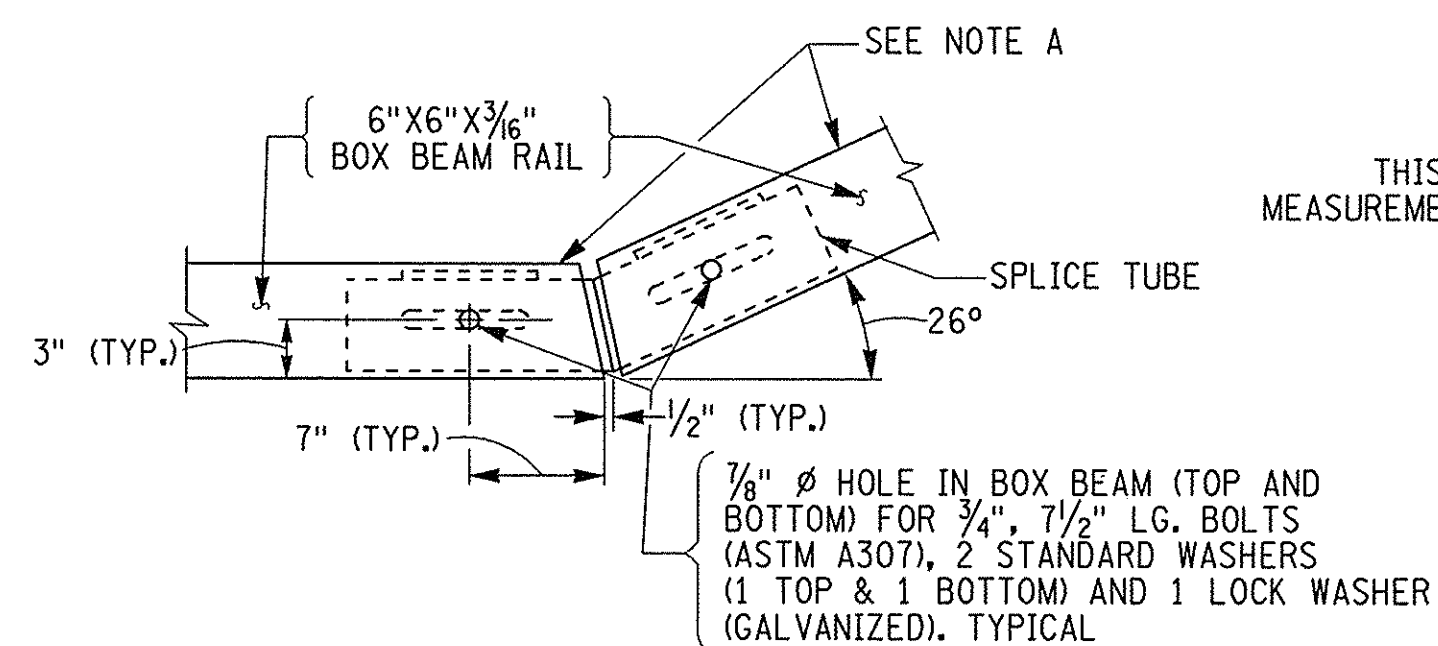


FIXED SPLICE ASSEMBLY  
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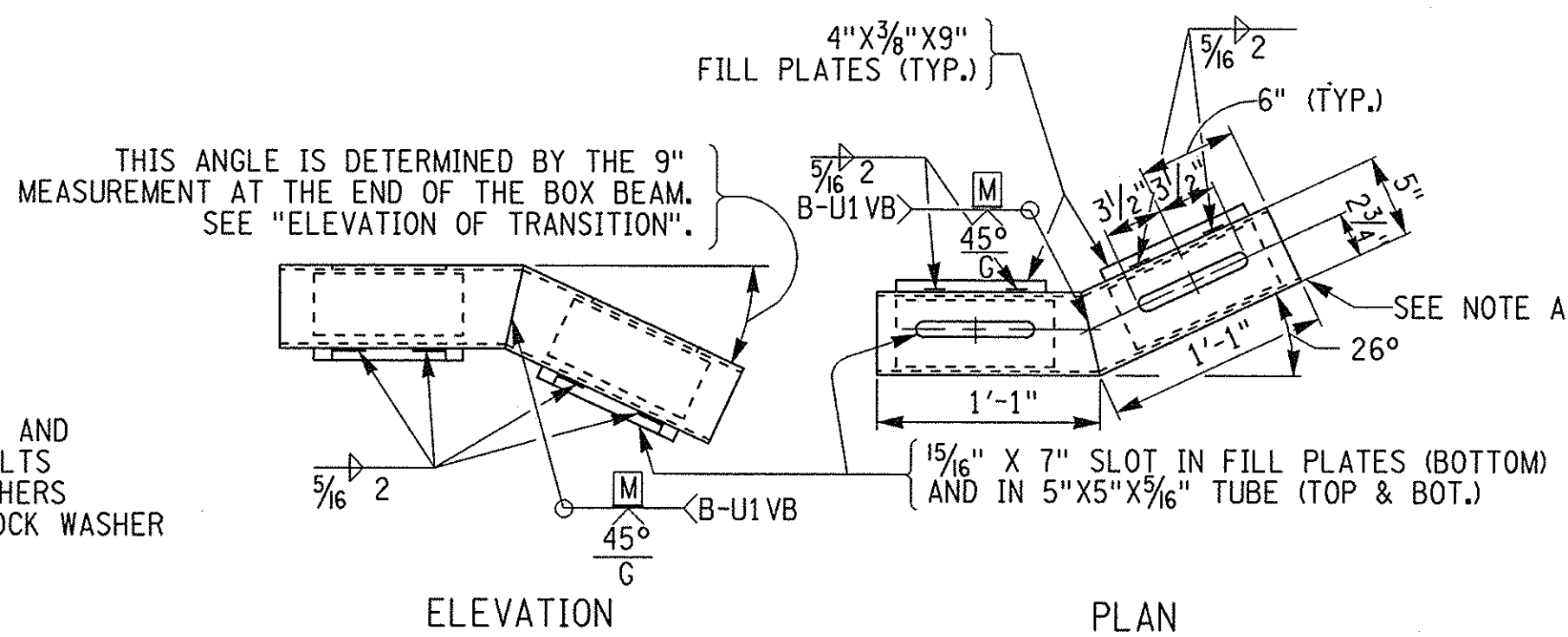
NOTES

ALL STEEL SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH THE N.Y.S. STANDARD SPECIFICATION SUBSECTION 719-01.

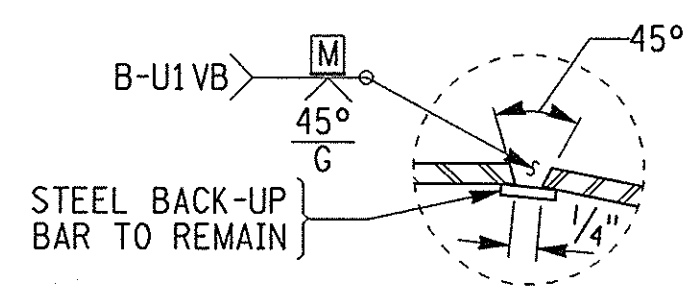
NOTE "A"  
PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.



SPLICE DETAIL AT TURN BACK IN  
LOWER TRANSITION GUIDE RAIL  
N.T.S.



SPLICE TUBE DETAIL  
FOR TURN BACK  
N.T.S.

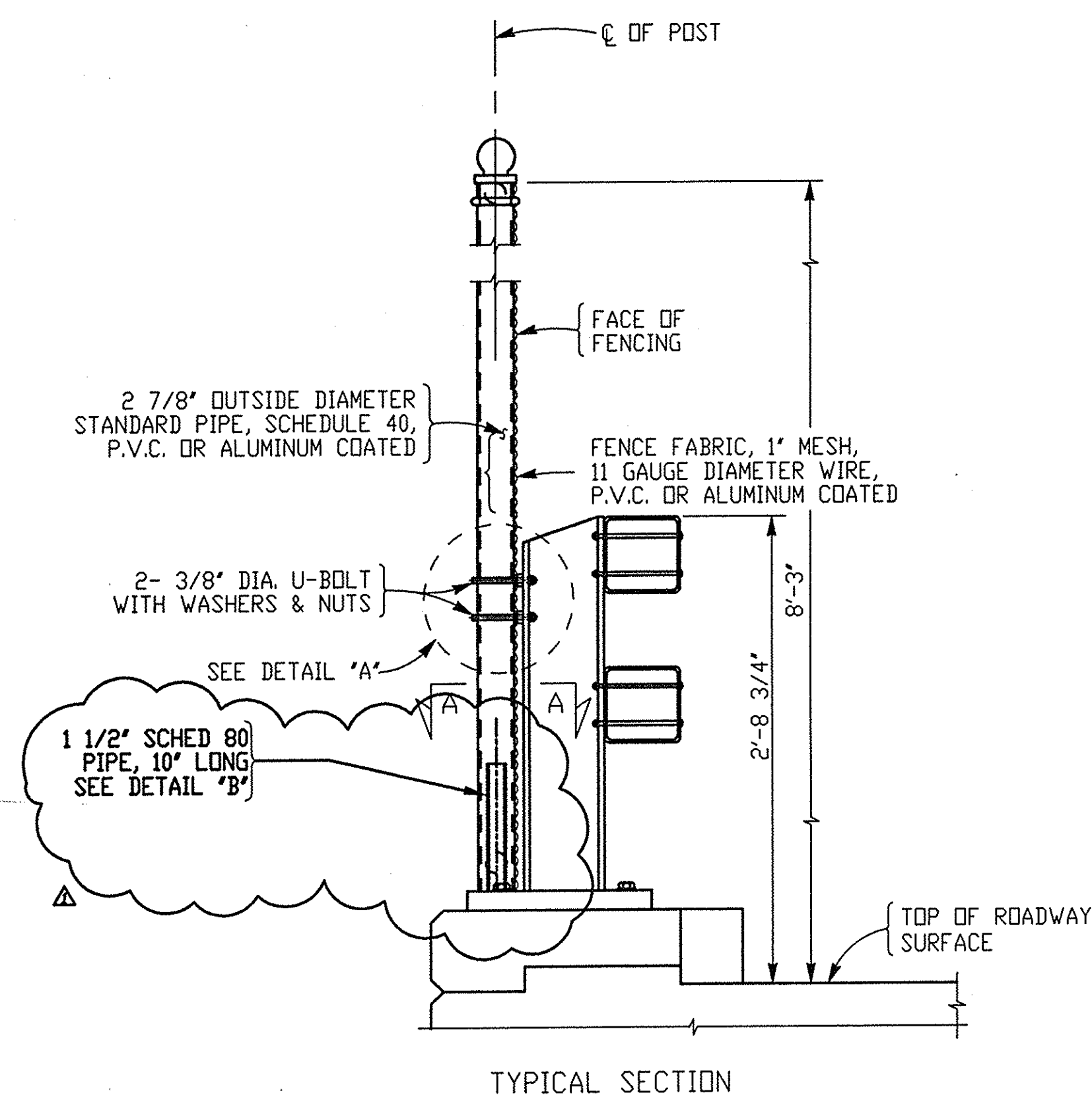


WELD DETAIL FOR  
SPLICE TUBE  
NOT TO SCALE

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING STEEL BRIDGE RAILING - TWO RAIL (FOR USE ON BRUSH CURBS ONLY) SHEET 3 OF 3			
CONTRACT NUMBER: TAA 98-10BR		DATE: 12/97	
DRAWING NUMBER: ST-33			

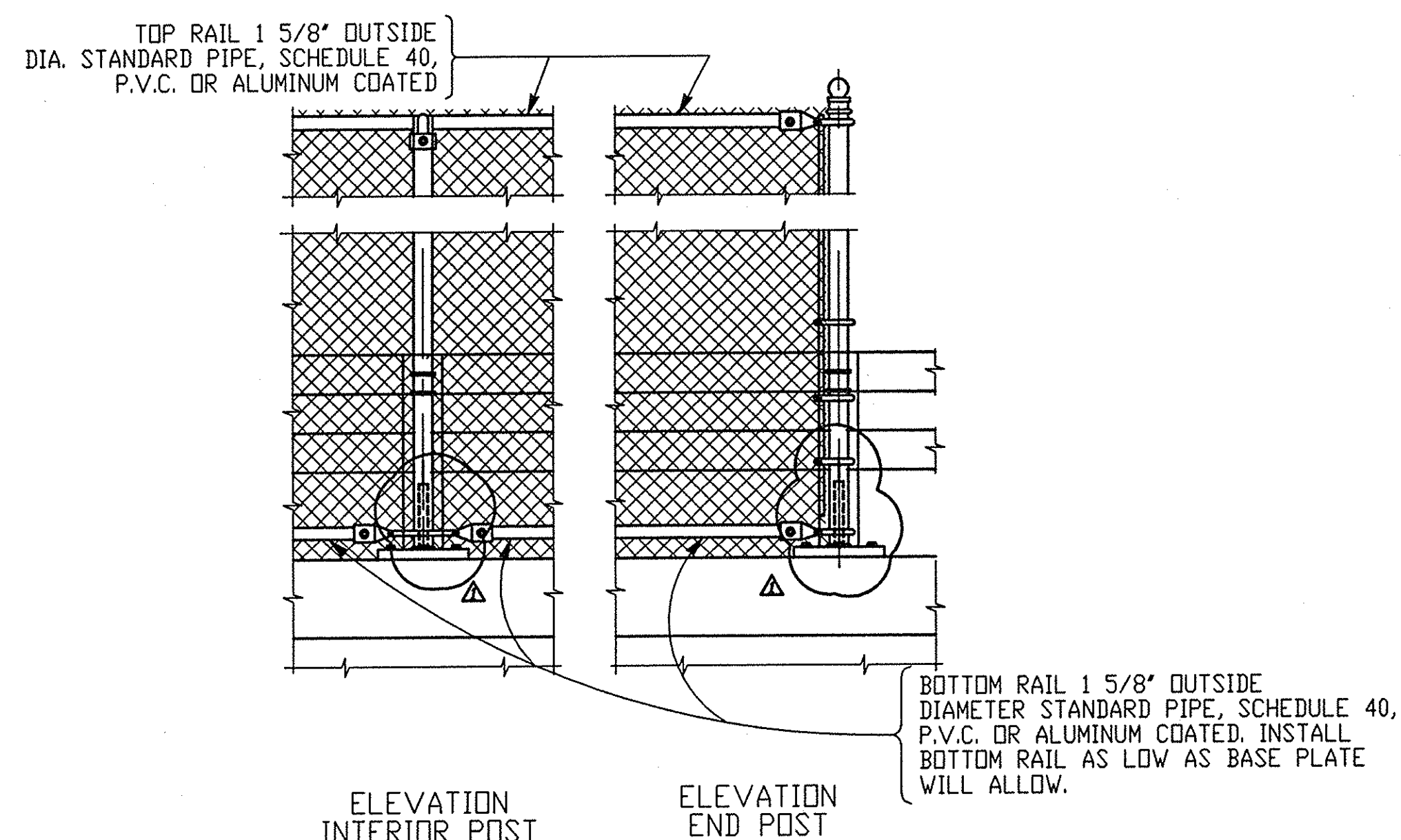
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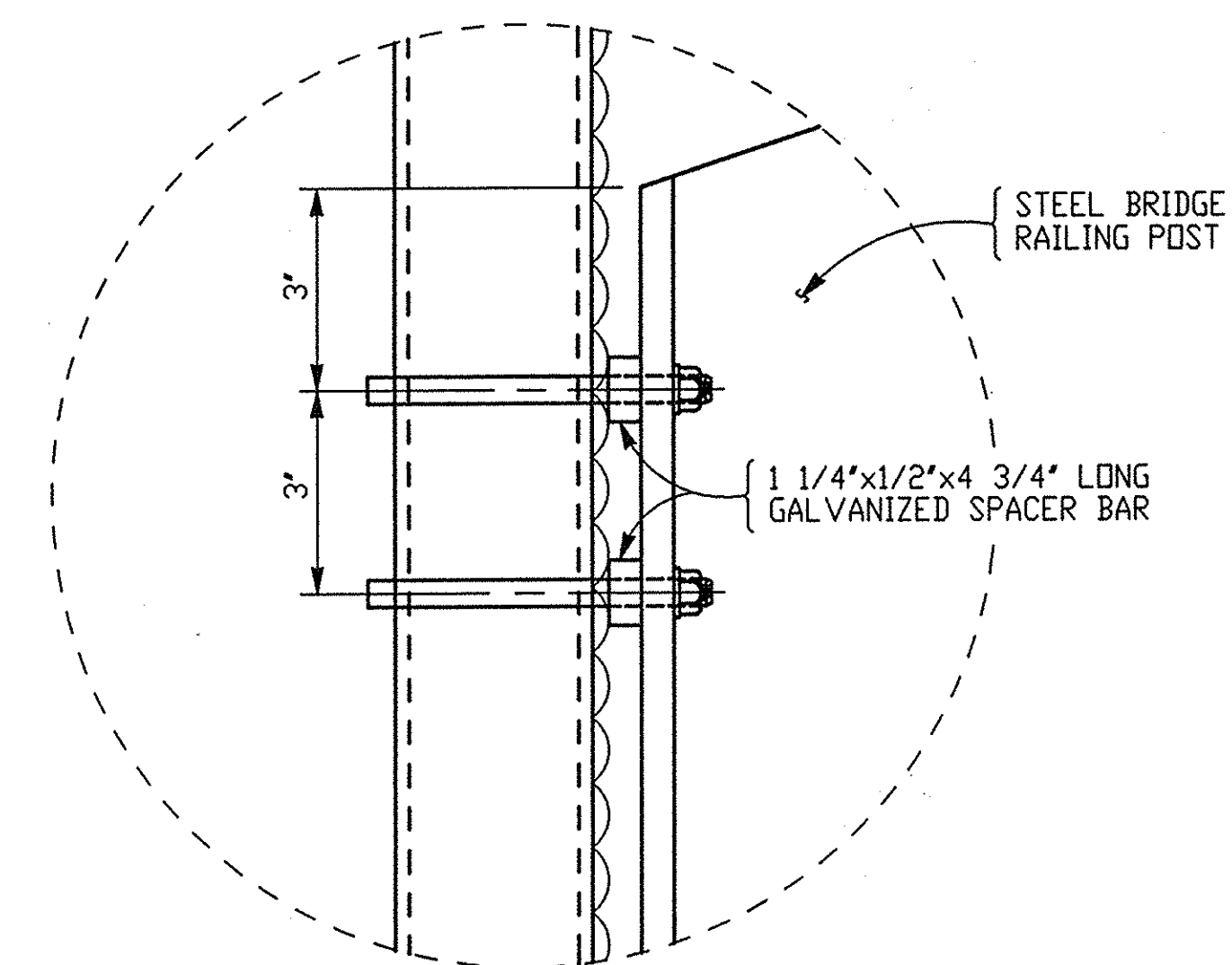
TYPICAL SECTION

PEDESTRIAN FENCE POST ATTACHMENT  
TO TWO RAIL RAILING

NOT TO SCALE

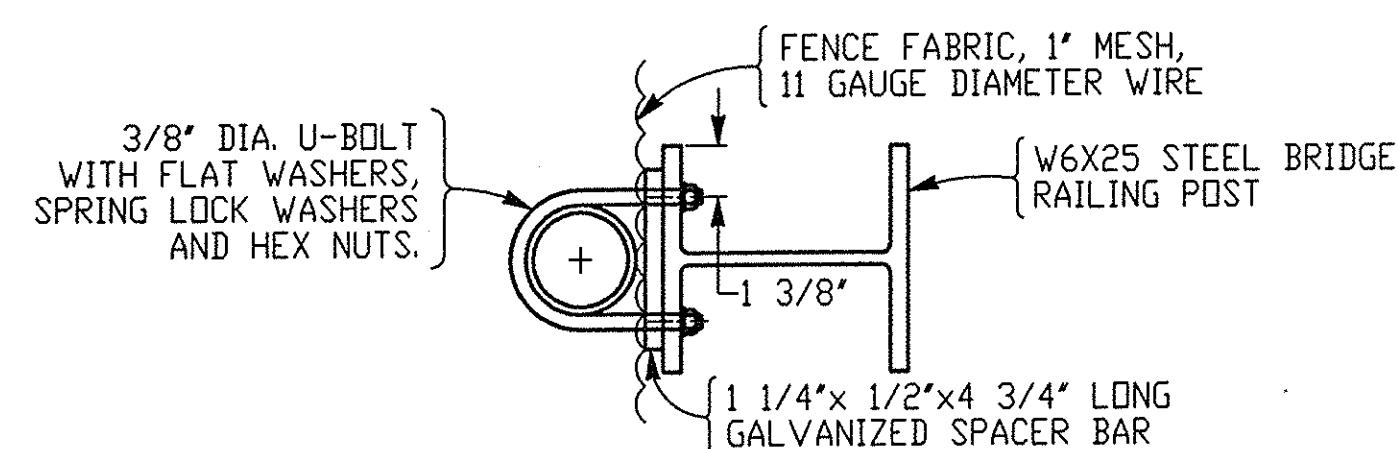
ELEVATION  
INTERIOR POSTELEVATION  
END POSTPEDESTRIAN FENCE POST ATTACHMENT  
TO TWO RAIL RAILING

NOT TO SCALE



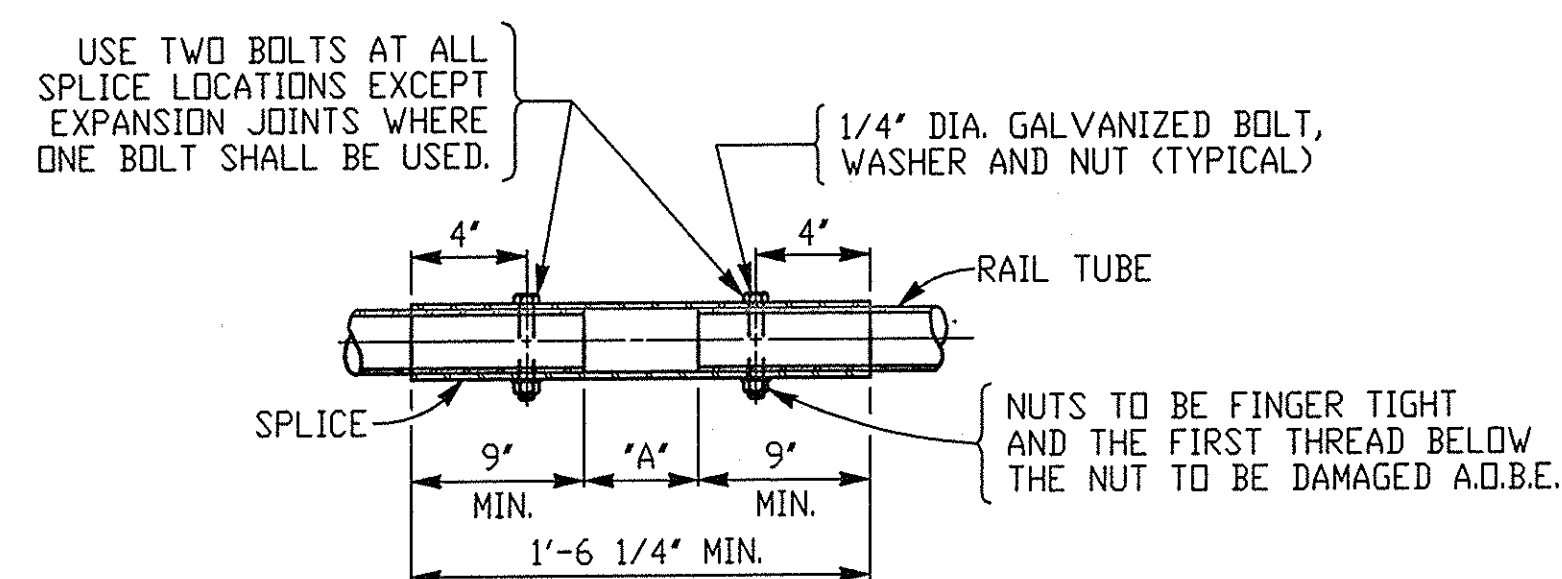
DETAIL "A"

NOT TO SCALE



SECTION A-A

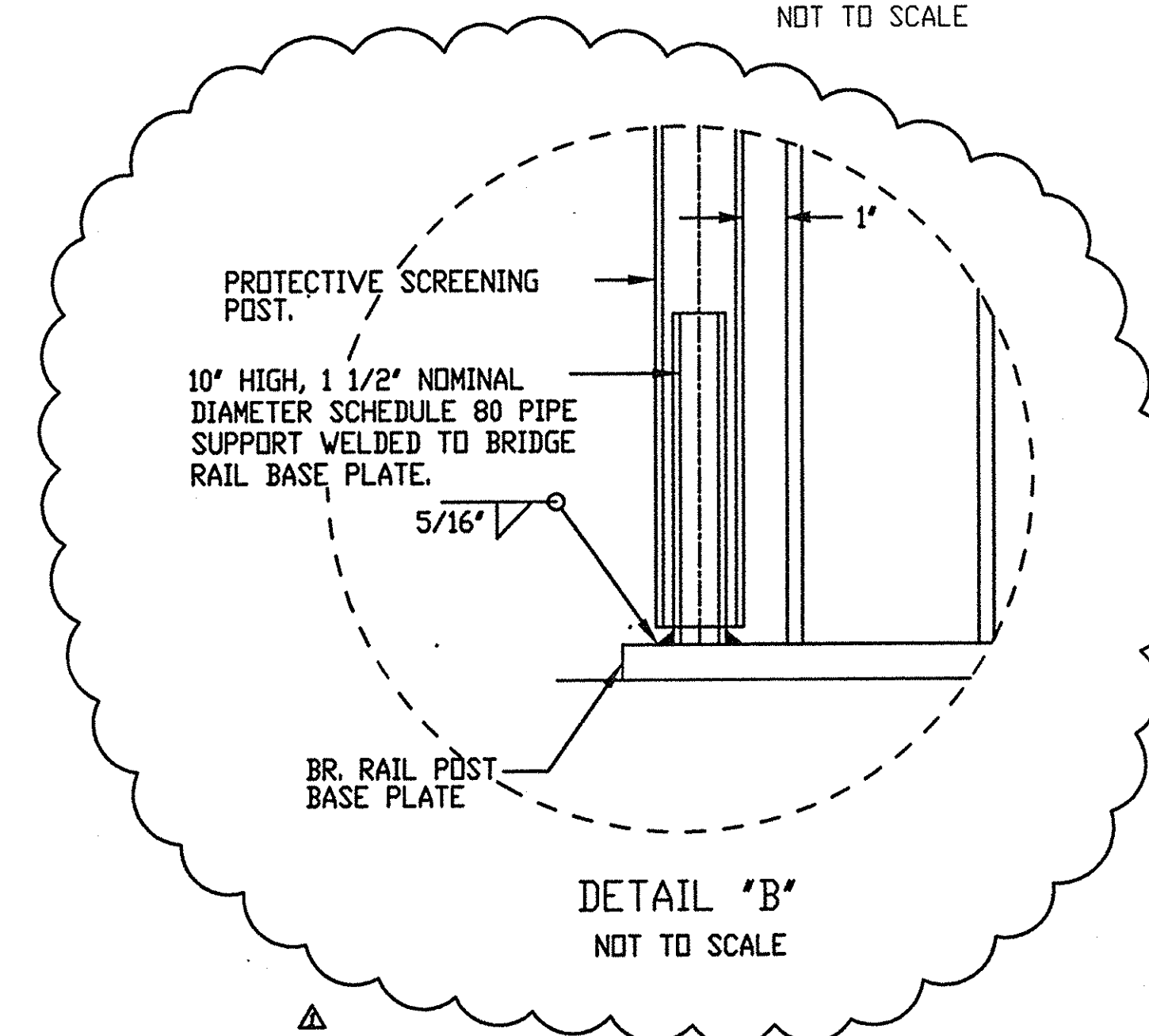
NOT TO SCALE



NOTE:  
 "A" = 1/4" EXCEPT FOR EXPANSION JOINT LOCATIONS  
 WHERE THIS DIMENSION SHALL BE SET EQUAL TO THE  
 BRIDGE DECK JOINT OPENING PLUS 1/4" (MIN.)

TYPICAL RAIL SPLICE DETAIL  
(TOP & BOTTOM RAIL)

NOT TO SCALE



DETAIL "B"

NOT TO SCALE

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
1-25-99	SCREEN ANCHORAGE	J. MAURO	Δ

## REVISIONS

NEW YORK STATE THRUWAY AUTHORITY  
 DEPARTMENT OF ENGINEERING SERVICES  
 200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT HELDERBERG AVENUE  
 BRIDGE REPLACEMENT

LOCATION OF PROJECT  
 M.P. 155.54

TITLE OF DRAWING

PEDESTRIAN FENCING DETAILS  
 FOR TWO BRIDGE RAILING

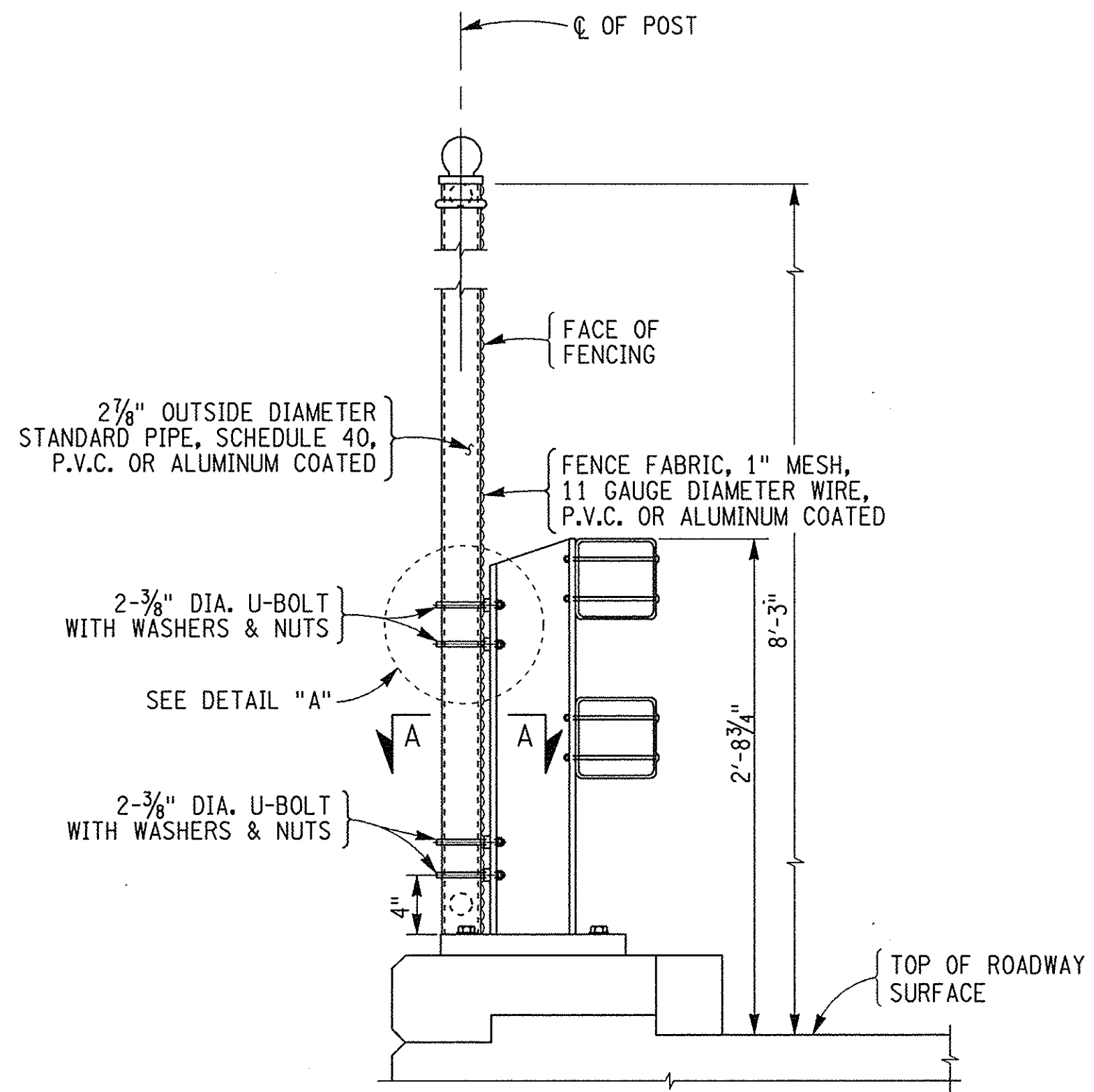


CONTRACT NUMBER:  
 TAA 98-10BR

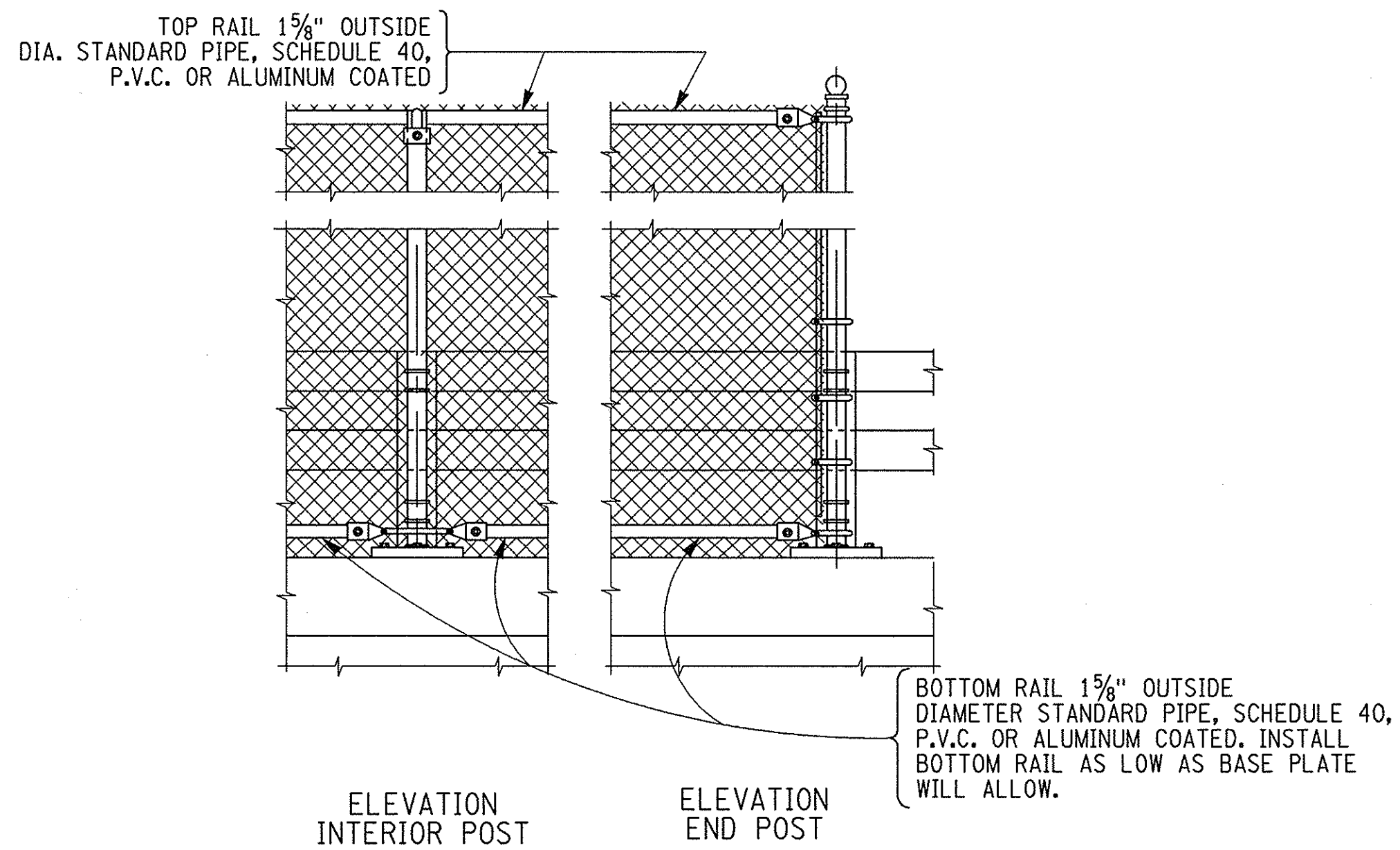
DATE:  
 12/97

DRAWING NUMBER:  
 ST-34

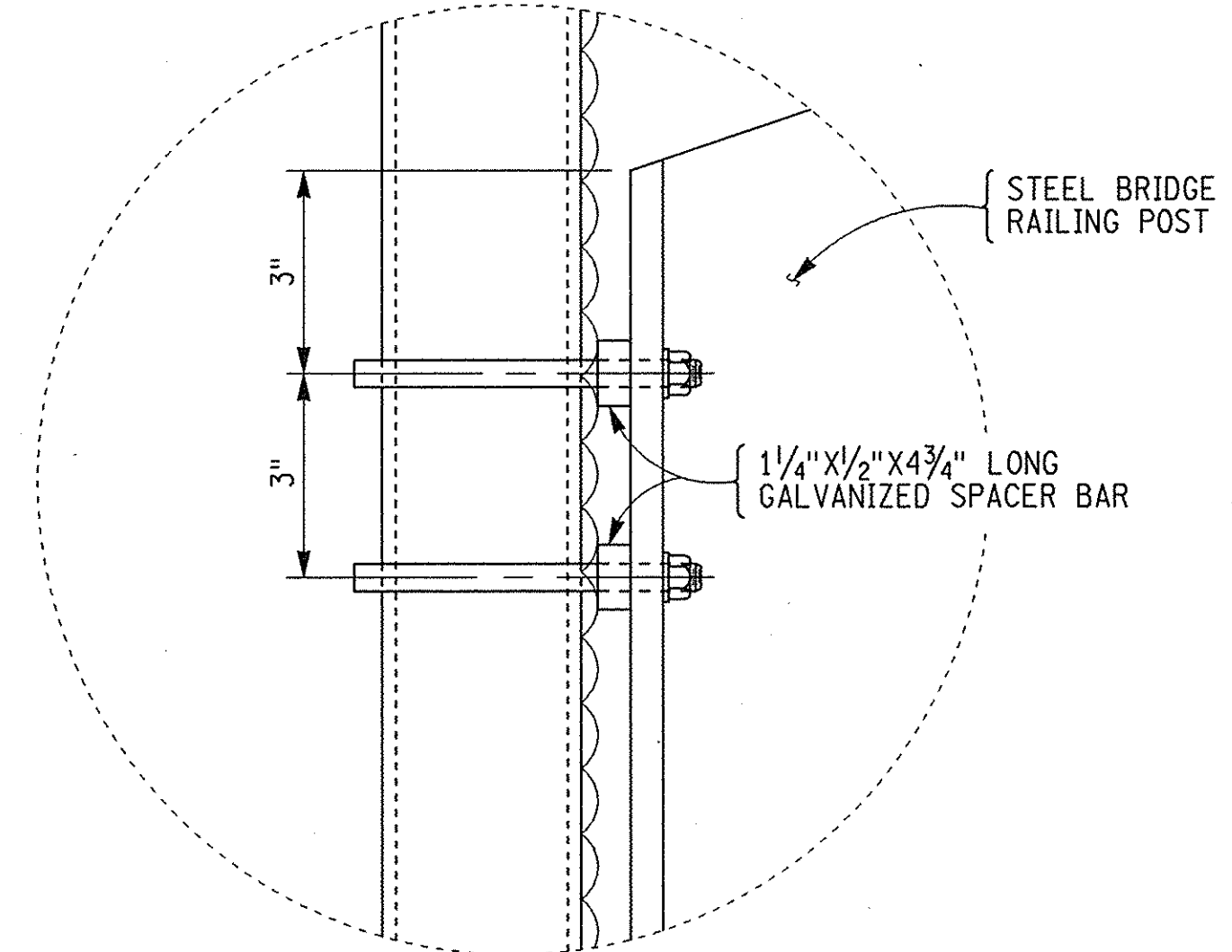




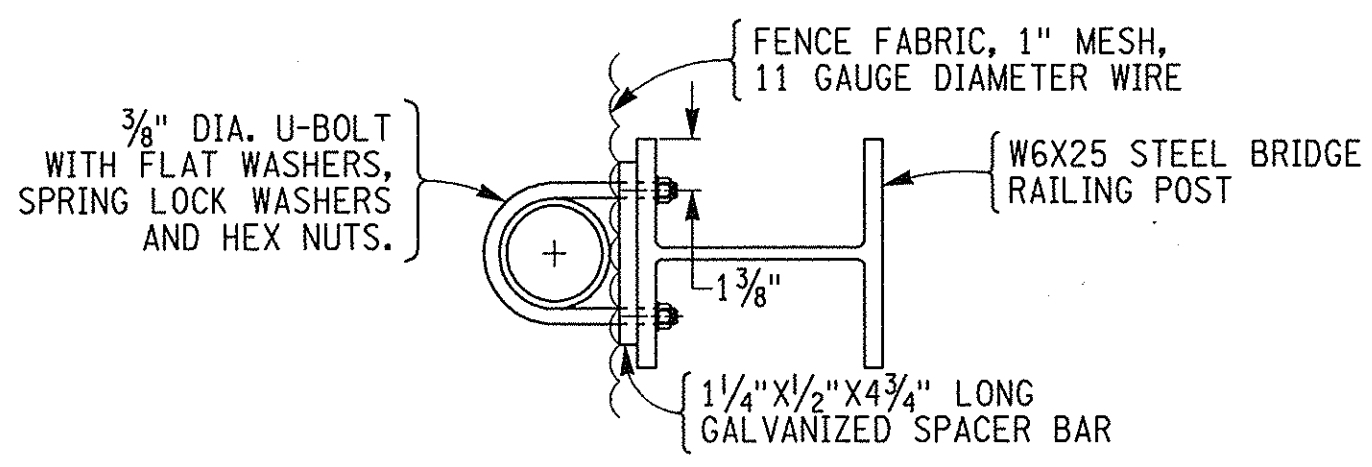
TYPICAL SECTION  
PEDESTRIAN FENCE POST ATTACHMENT  
TO TWO RAIL RAILING  
NOT TO SCALE



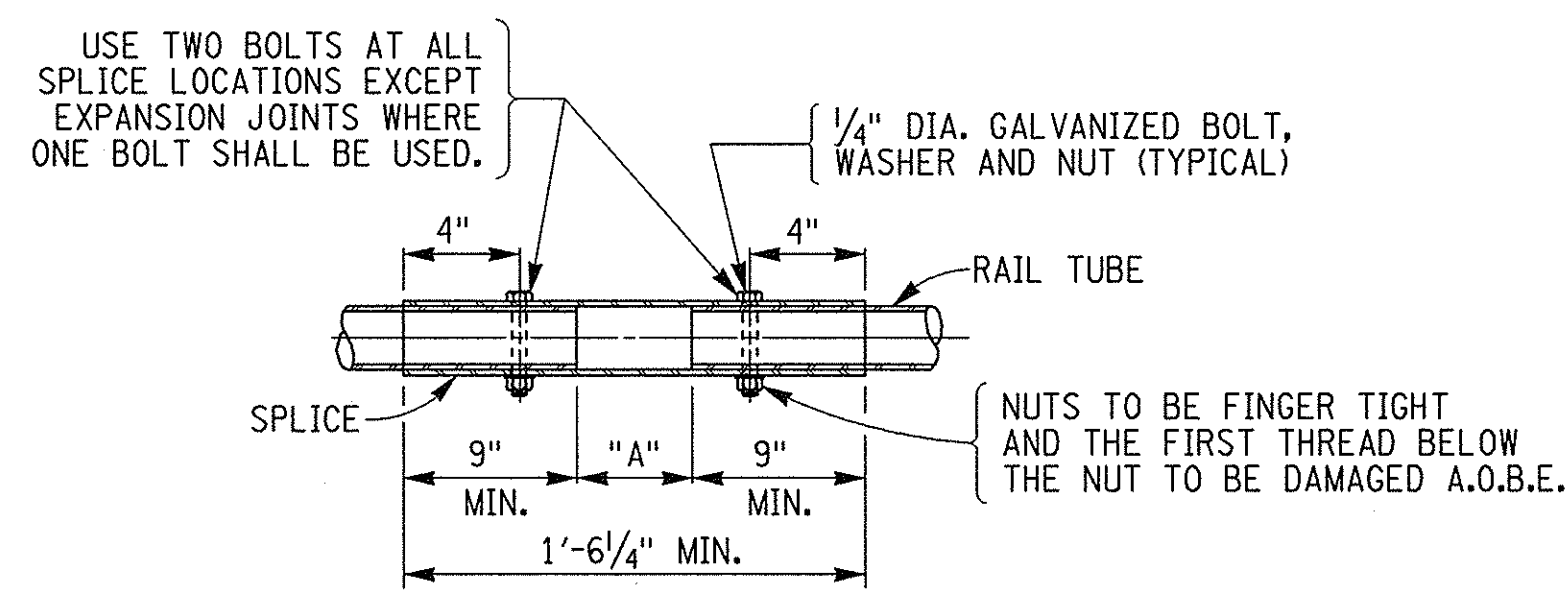
ELEVATION INTERIOR POST  
ELEVATION END POST  
PEDESTRIAN FENCE POST ATTACHMENT  
TO TWO RAIL RAILING  
NOT TO SCALE



DETAIL "A"  
NOT TO SCALE



SECTION A-A  
NOT TO SCALE



NOTE:  
"A" = 1/4" EXCEPT FOR EXPANSION JOINT LOCATIONS  
WHERE THIS DIMENSION SHALL BE SET EQUAL TO THE  
BRIDGE DECK JOINT OPENING PLUS 1/4" (MIN.)  
TYPICAL RAIL SPLICE DETAIL  
(TOP & BOTTOM RAIL)  
NOT TO SCALE



AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
1/99	SUPERCEDED BY SHEET # 001	NYSTA	

REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING PEDESTRIAN FENCING DETAILS FOR TWO BRIDGE RAILING			

	CONTRACT NUMBER: TAA 98-10BR
	DATE: 12/97
	DRAWING NUMBER: ST-34

NOTE:  
SEE SHEET # 001

T.R.B.

CHECKED BY:

V.L.G.

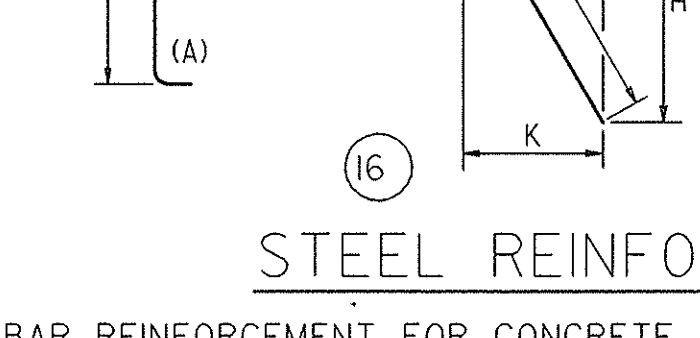
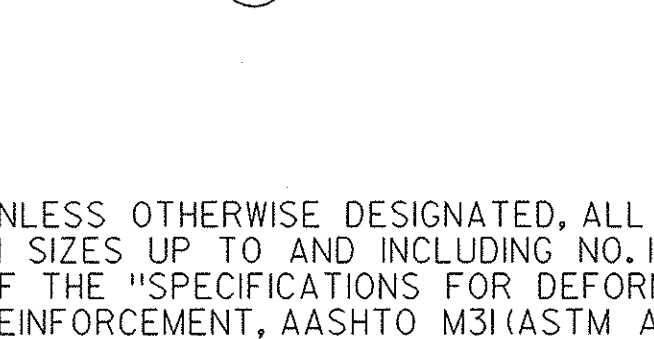
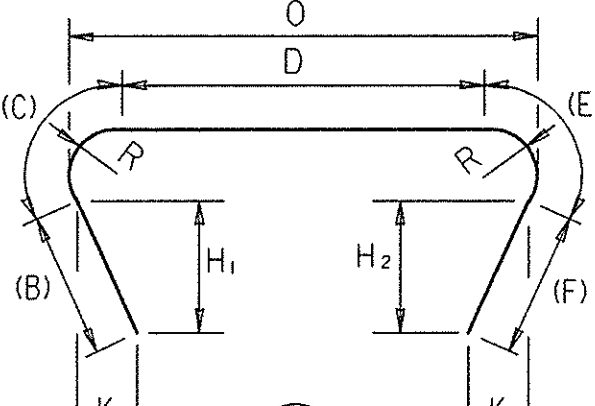
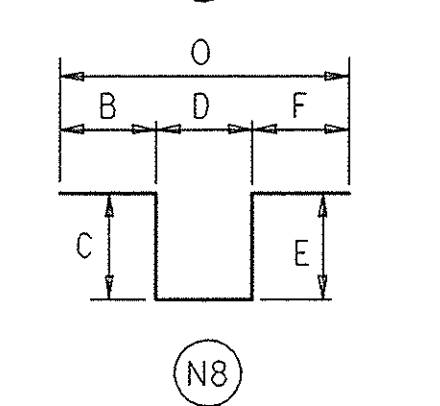
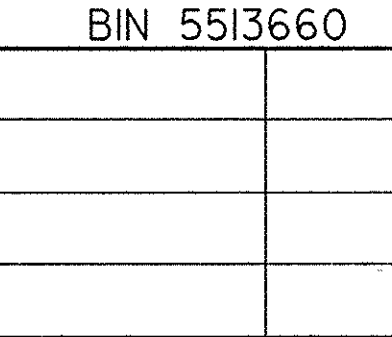
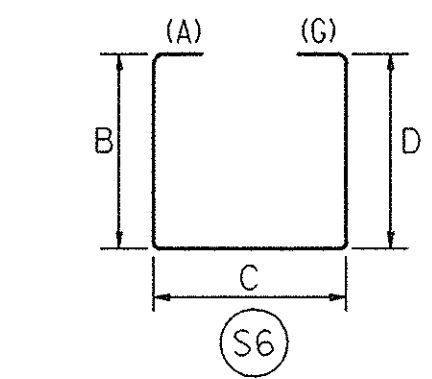
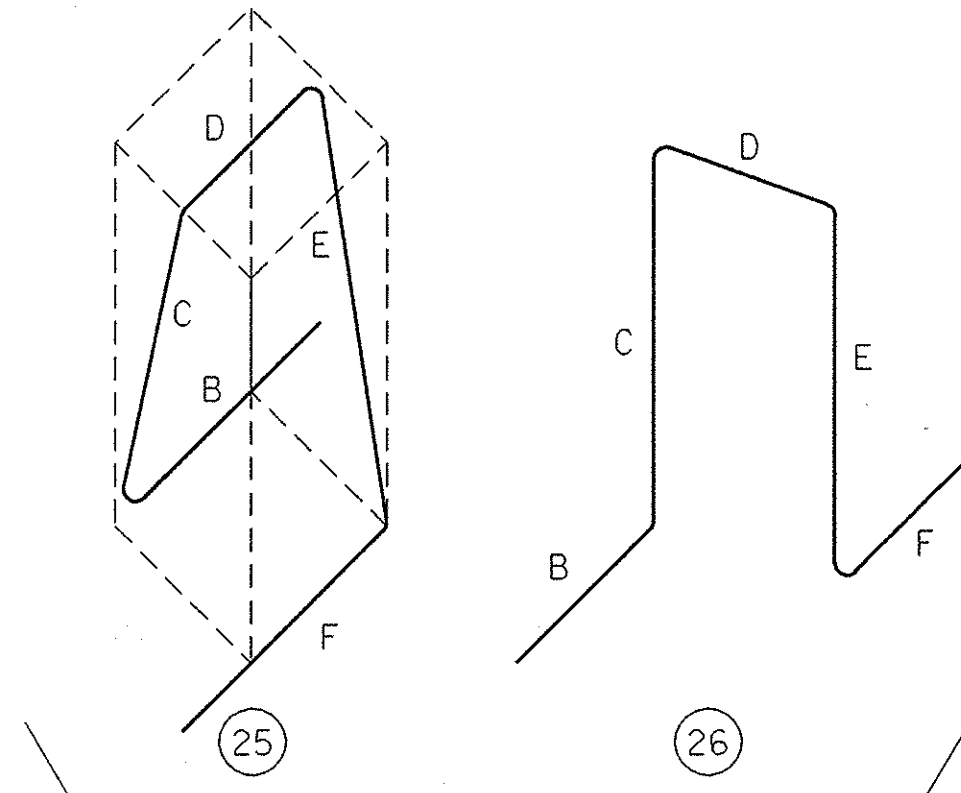
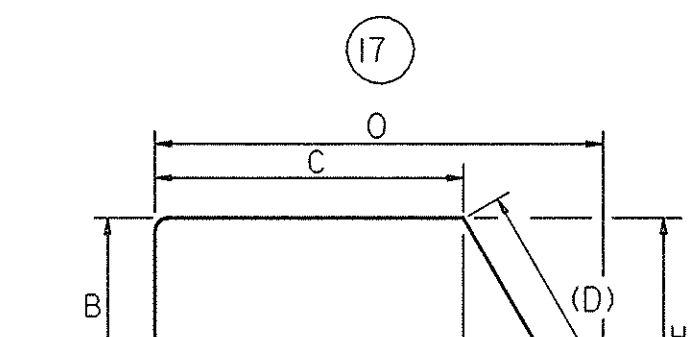
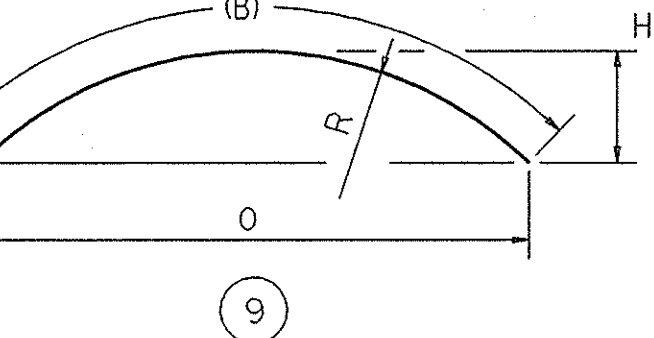
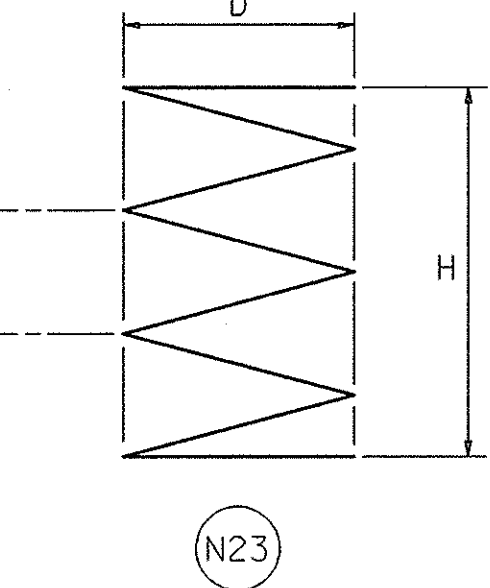
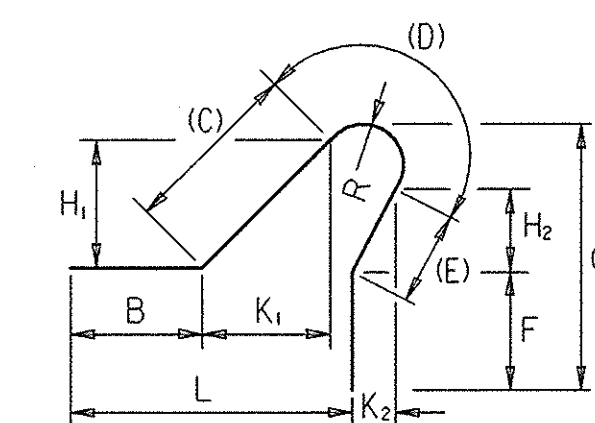
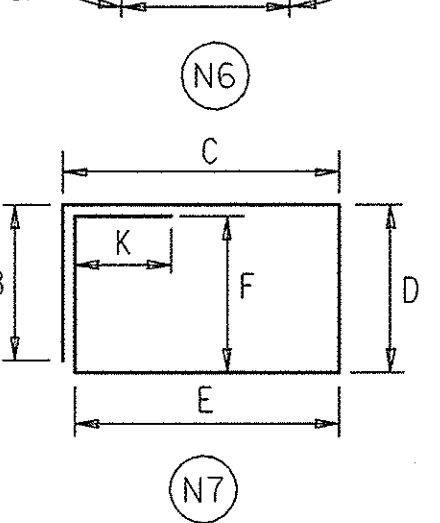
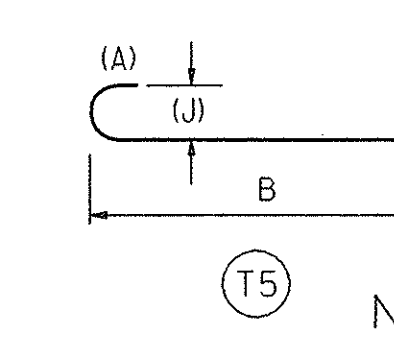
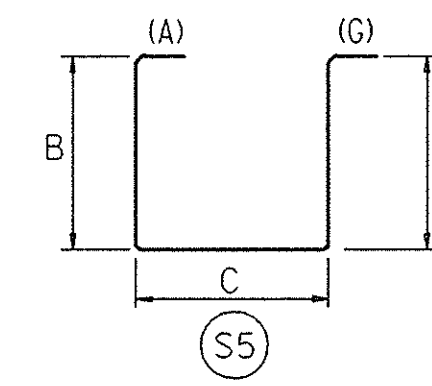
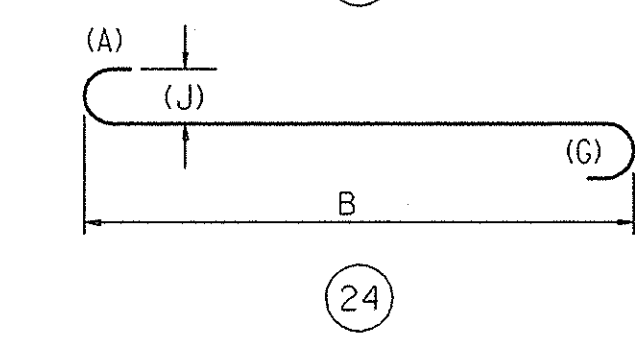
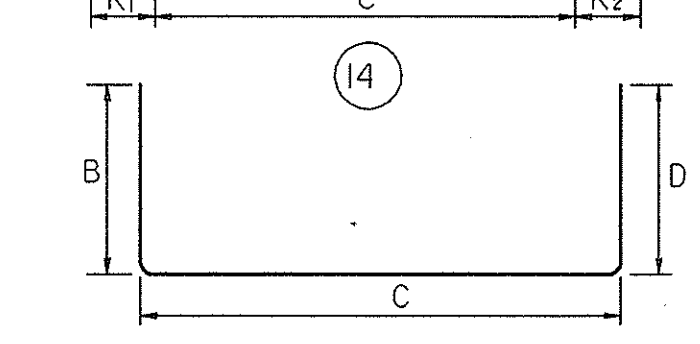
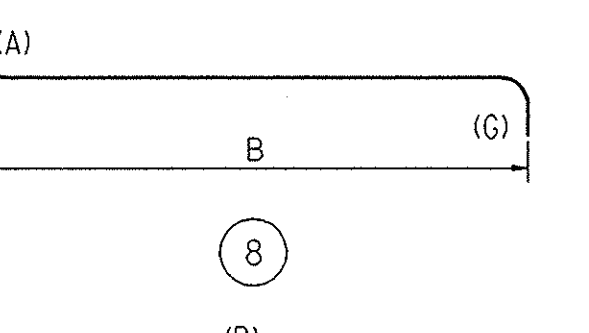
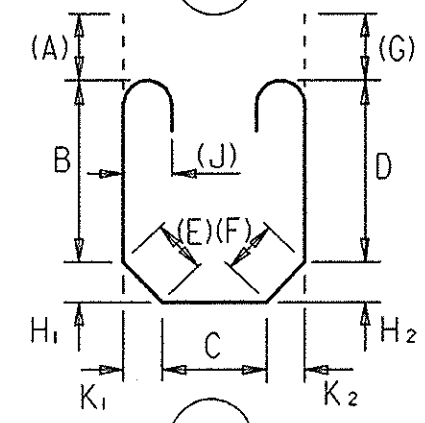
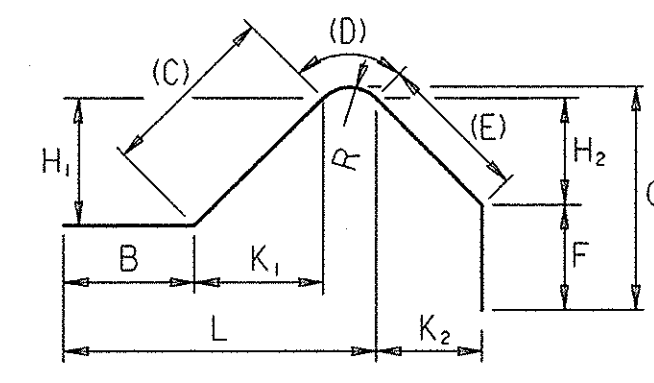
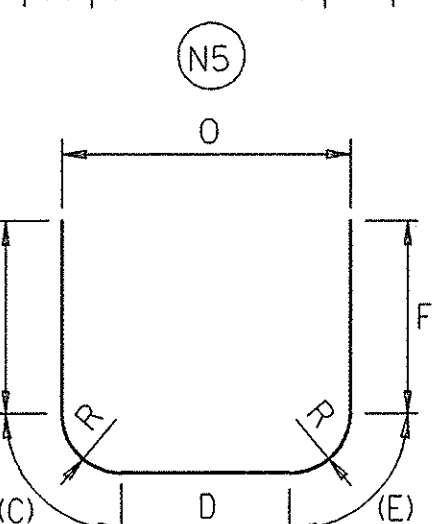
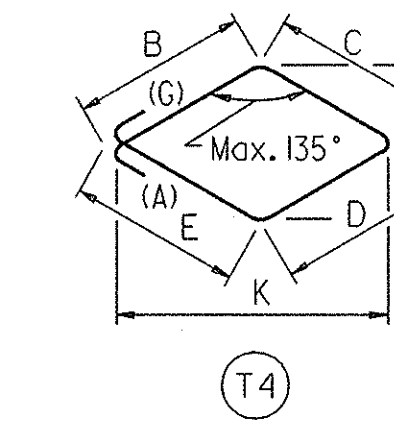
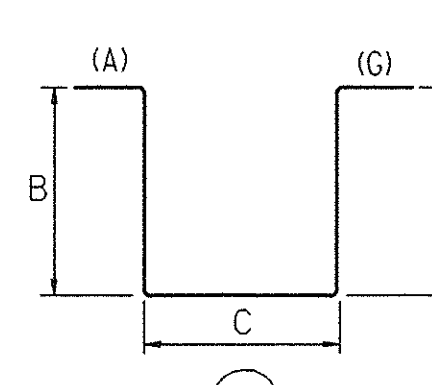
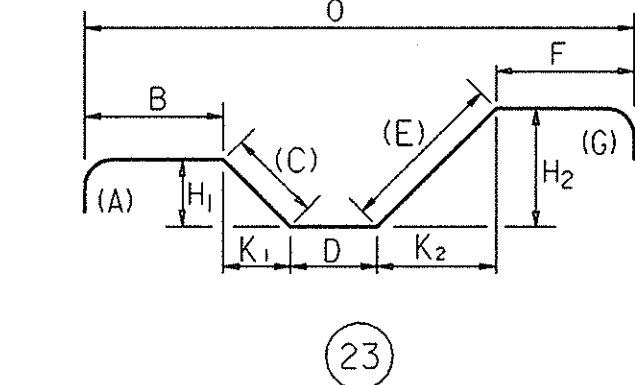
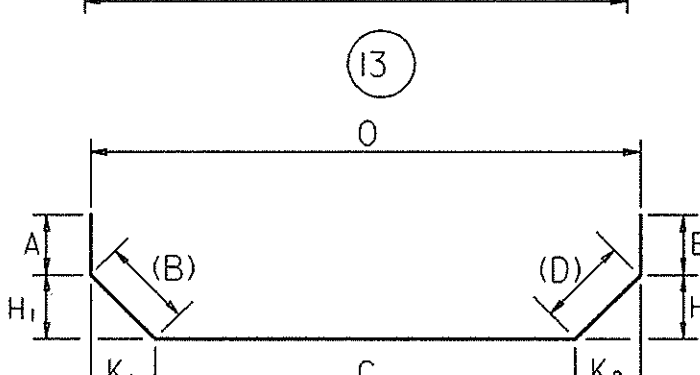
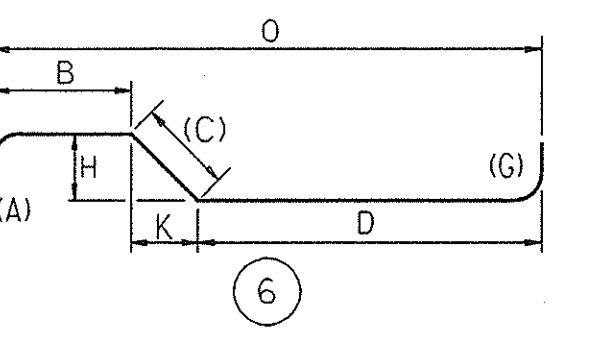
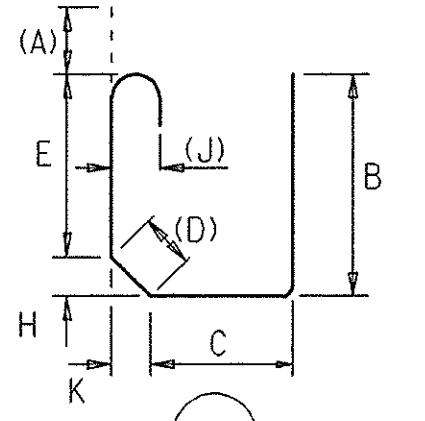
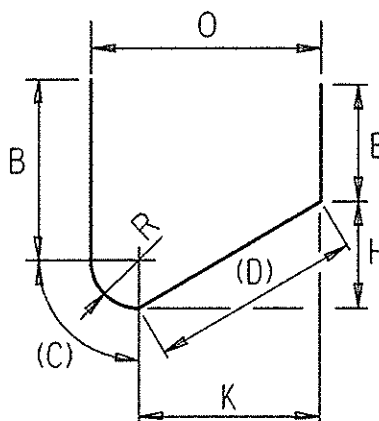
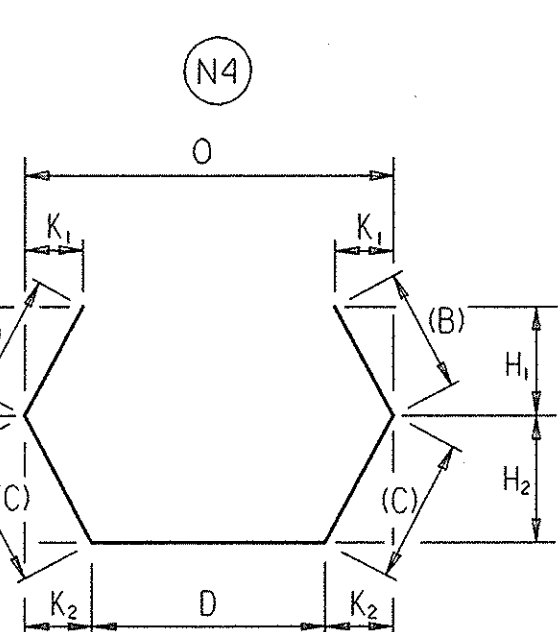
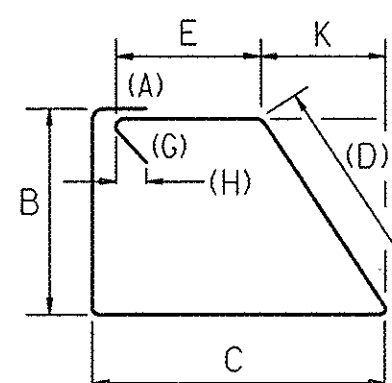
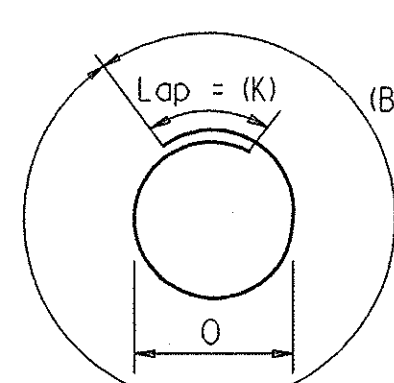
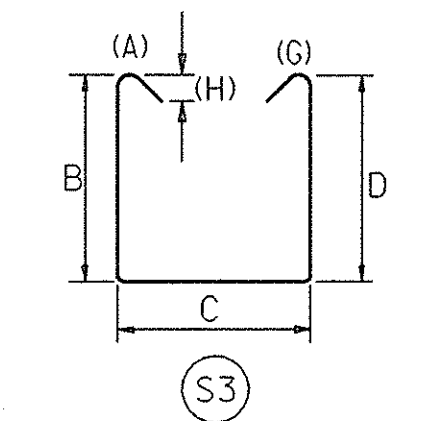
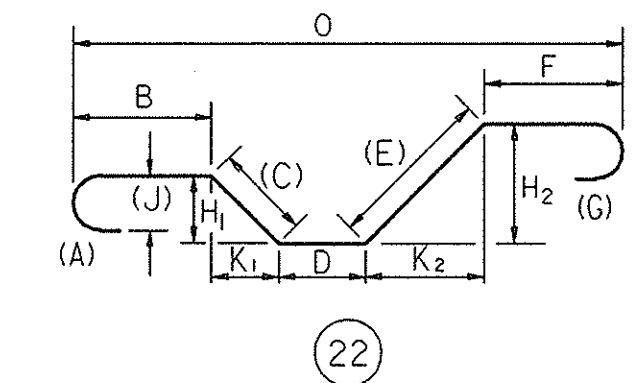
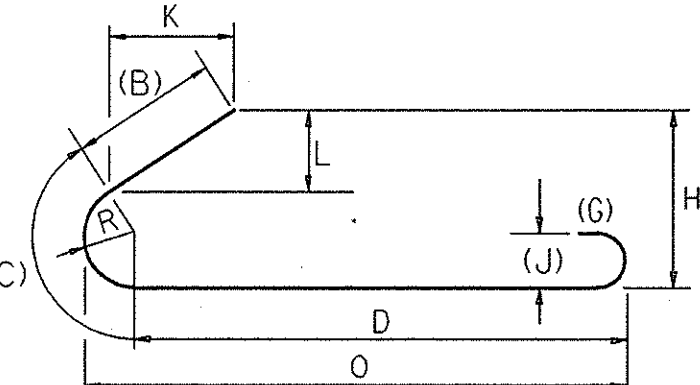
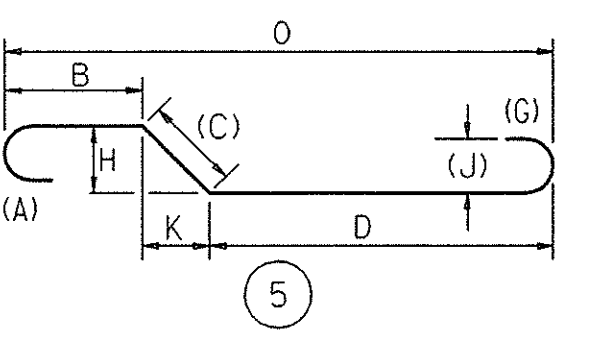
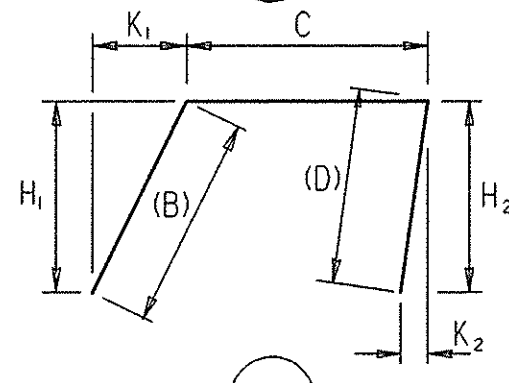
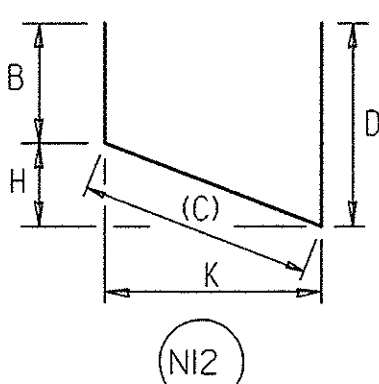
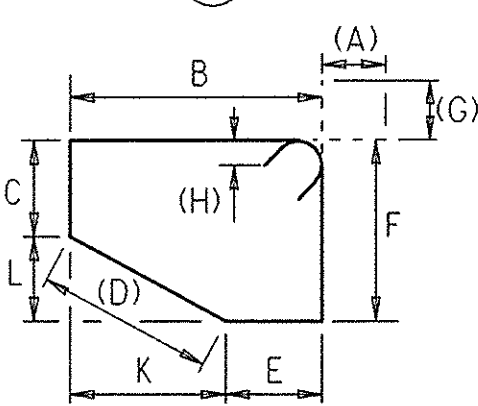
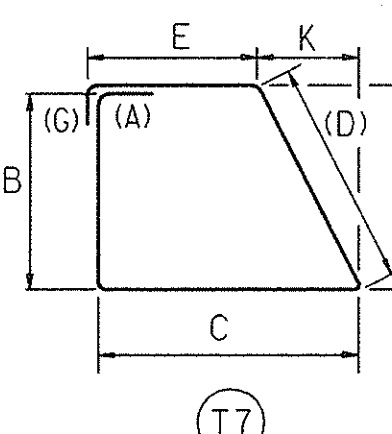
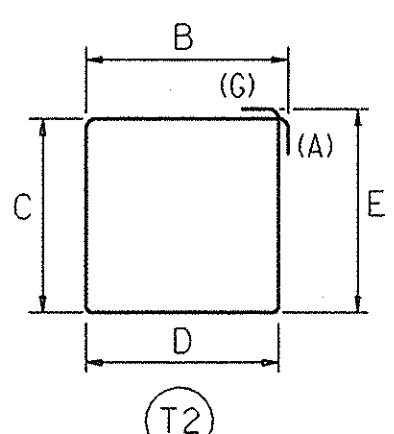
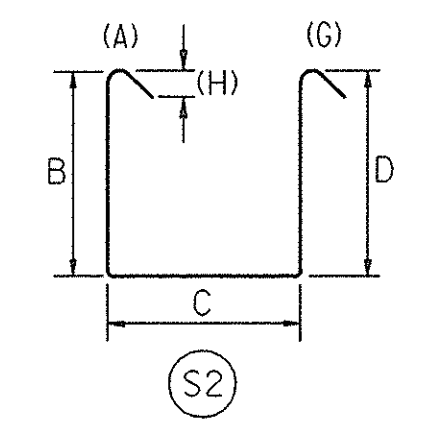
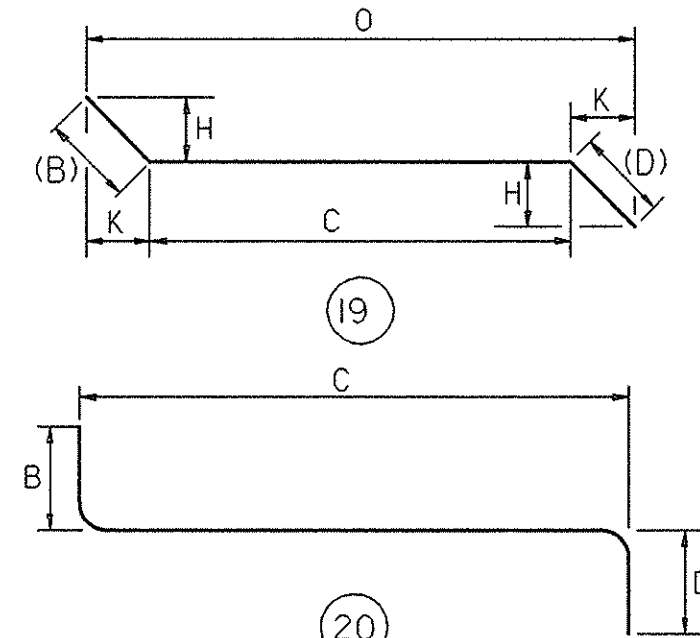
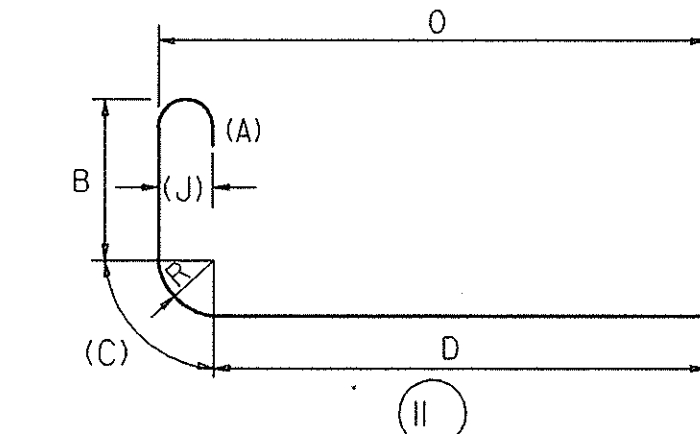
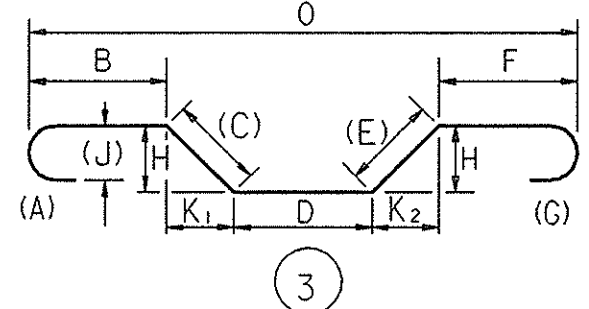
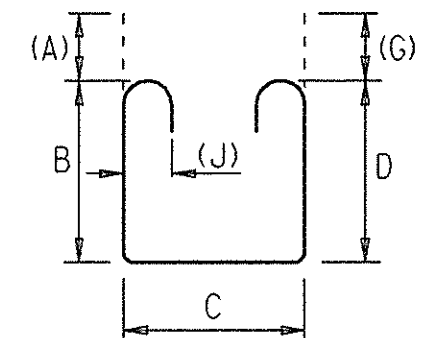
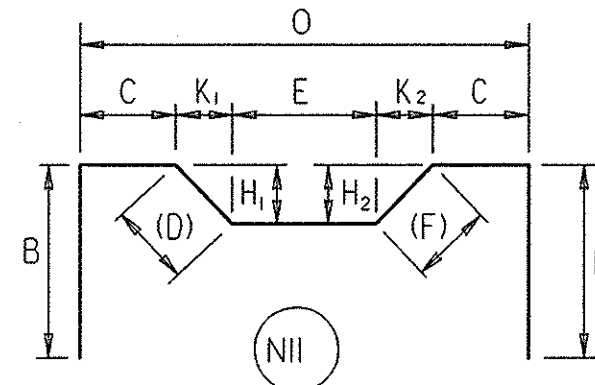
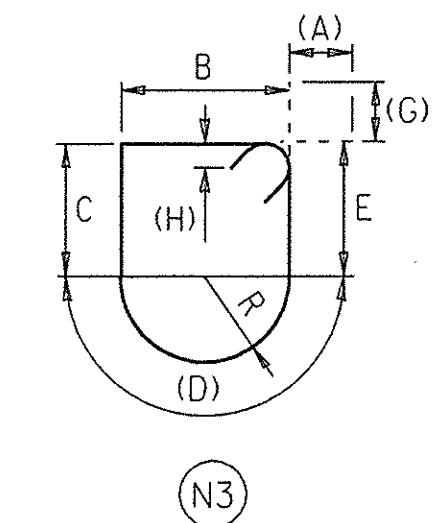
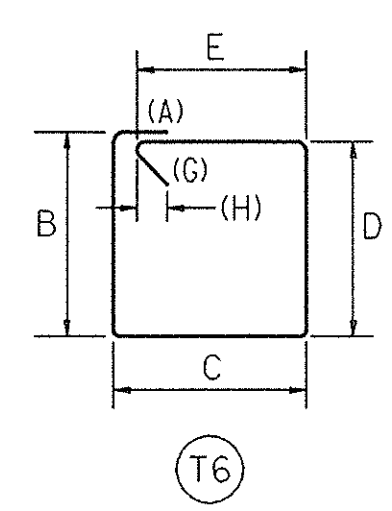
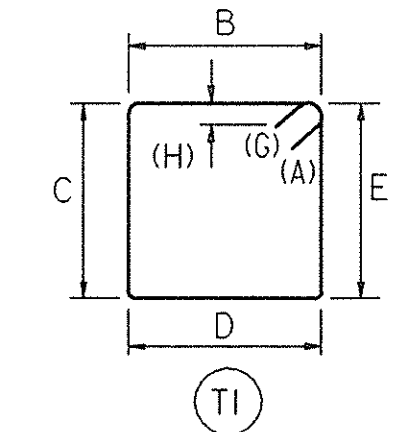
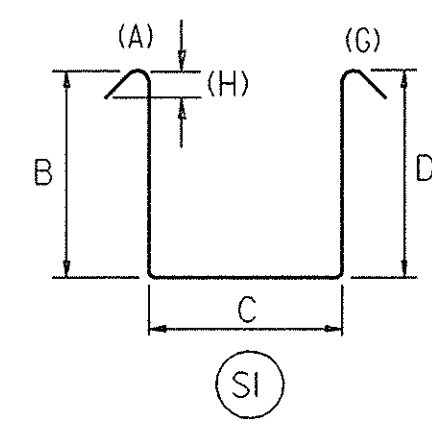
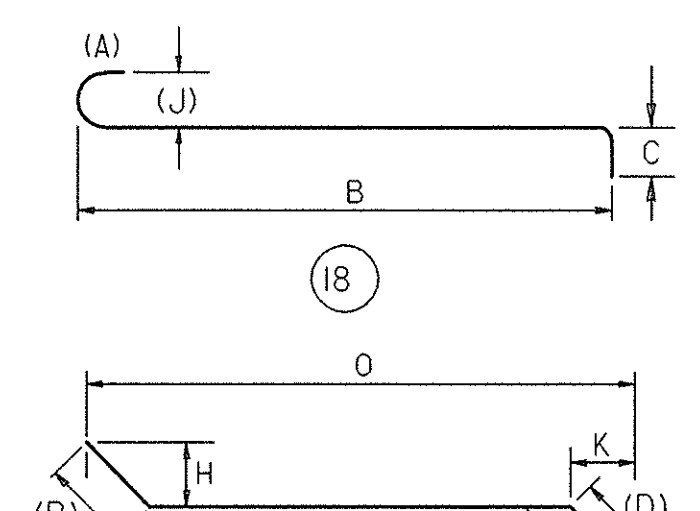
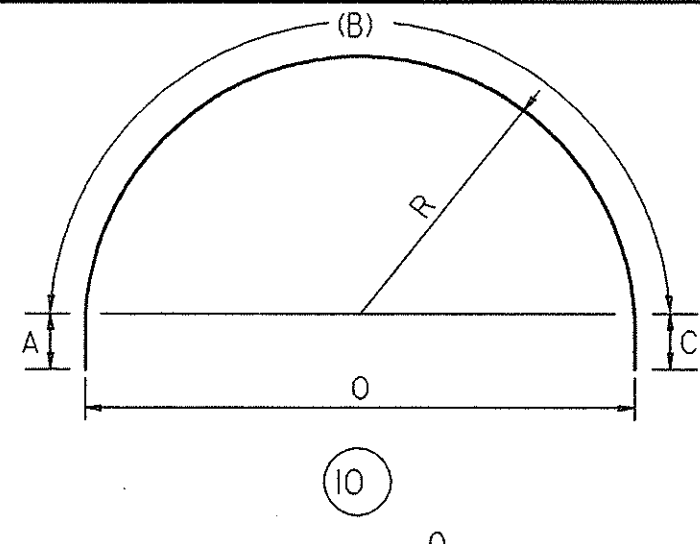
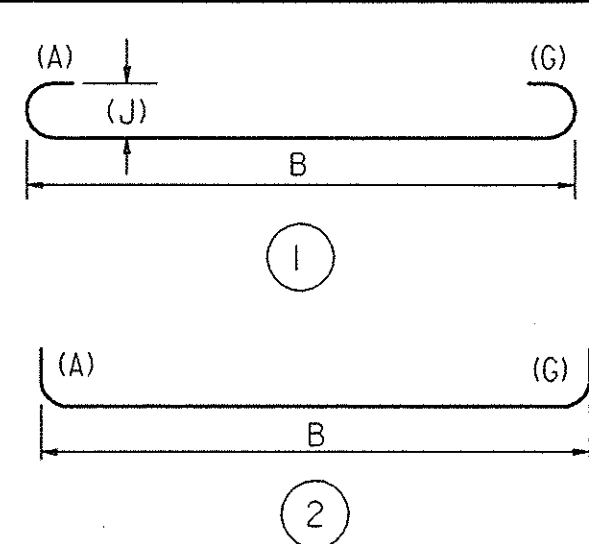
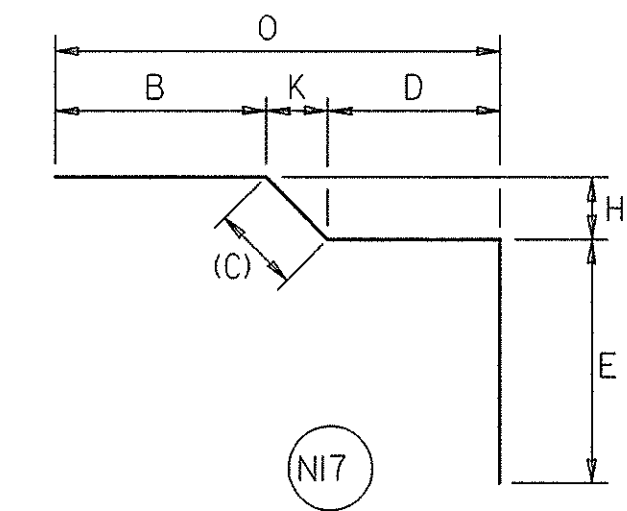
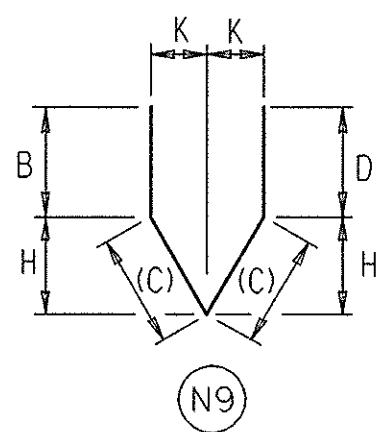
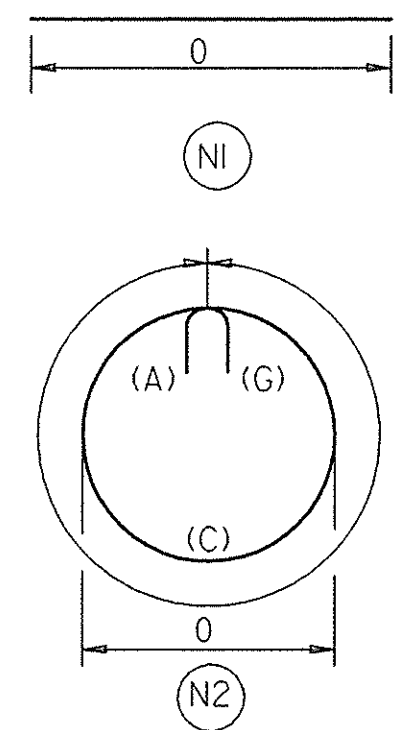
DRAFTED BY:

R.J.M.

DESIGNED BY:

J.R.N.

IN CHARGE OF:



## STEEL REINFORCEMENT NOTES

- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT, AASHTO M31 (ASTM A615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
- FOR TYPICAL BENDING DETAILS, RECOMMENDED P.I.N. DIAMETER "D" OF BENDS HOOKS AND OTHER STANDARD PRACTICES SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICES" (MSP).
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEG. AND 135 DEG. HOOKS.
- DIMENSIONS "A", "C" AND "J" ARE STANDARD BENDING DIMENSIONS PER EACH SIZE OF BAR. REFER TO C.R.S.I. - M.S.P. FOR DETAILS.
- WHERE SLOPE DIFFERS FROM 45 DEG, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- △ - INDICATES BARS TO CUT TO FIT IN THE FIELD.

- FIELD CUT ENDS OF GALVANIZED REINFORCING STEEL SHALL BE REPAIRED AS PER THE MATERIAL SPECIFICATION 719-01 "GALVANIZED COATINGS AND REPAIR METHODS". THE COST FOR THIS WORK SHALL BE INCLUDED IN THE TOTAL PRICE BID FOR ITEM 25556.99.

- ITEMS FOR REINFORCING STEEL ARE AS FOLLOWS:

25556.99 - GALVANIZED BAR REINFORCEMENT FOR STRUCTURES

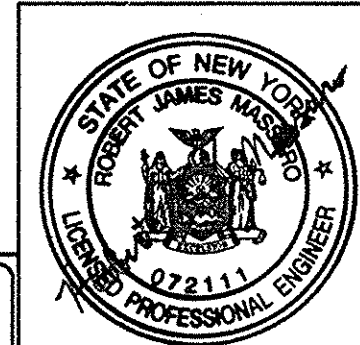
- BAR MARK PROCEDURE IS AS FOLLOWS:

SAGQ3

SEQUENTIAL BAR NUMBER  
INDICATES BAR COATING (G=GALV., E=EPOXY, BLANK=BLACK)  
INDICATES STRUCTURE TYPE (IE A=ABUTMENT, P=PIER, ETC.)  
INDICATES BAR SIZE (IE 5,6,7, ETC.)

- ( ) - DENOTES COMPUTER GENERATED DIMENSION

THE SEAR-BROWN GROUP



CONTRACT NUMBER:  
TAA 98-10BR  
DATE:  
1 / 98  
DRAWING NUMBER:  
ST-35

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.

NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING BAR BENDING DIAGRAMS			



MARK	NO.	LENGTH	TYPE	WEIGHT	A	B	C	D	E	F	G	H H <sub>1</sub>	H <sub>2</sub>	J	K K <sub>1</sub>	K <sub>2</sub>	L	O	R
SOUTH ABUTMENT																			
PLACEMENT 1 - SOUTH ABUTMENT STEM, STAGE 1																			
8AG1	42	18'-10"	17	2 112		2'-0"	14'-10"	2'-0"											
8AG2	8	17'-10"	17	381		1'-6"	14'-10"	1'-6"											
8AG2	DIMENSIONS "B & D" VARY FROM 2'-0" TO 1'-0"																		
5AG3	12	16'-3"	N1	203														16'-3"	
5AG4	12	13'-3"	N1	166														13'-3"	
5AG5	13	4'-5"	N17	60		3'-1"	1'-4"	- -	- -			0'-7"			1'-2"				
4AG6	154	3'-6"	T9	360	0'-7"	2'-6"					0'-5"	0'-5"							
5AG7	14	4'-6"	17	66		1'-0"	2'-6"	1'-0"											
5AG8	3	3'-6"	17	11		1'-0"	1'-6"	1'-0"											
5AG8	DIMENSION "C" VARIES FROM 2'-0" TO 1'-0"																		
8AG9	3	16'-3"	N1	130														16'-3"	
8AG10	3	14'-5"	N1	115														14'-5"	
8AG10	DIMENSION "O" VARIES FROM 13'-3" TO 15'-6"																		
SUBTOTAL =				3 604	lbs														
PLACEMENT 2 - SOUTHWEST WINGWALL FOOTING																			
5AG15	44	7'-2"	1	329	0'-7"	6'-0"					0'-7"			0'-5"					
7AG16	7	21'-4"	N1	305														21'-4"	
6AG17	7	21'-4"	N1	224														21'-4"	
4AG18	18	2'-6"	T9	30	0'-7"	1'-6"					0'-5"	0'-5"							
6AG19	22	5'-4"	1	176	0'-8"	4'-0"					0'-8"			0'-6"					
5AG20	22	4'-3"	1	98	0'-7"	3'-1"					0'-7"			0'-5"					
SUBTOTAL =				1 162	lbs														
PLACEMENT 3 - SOUTHWEST WINGWALL																			
5AG25	40	8'-2"	N1	339														8'-2"	
5AG25	DIMENSION "O" VARIES FROM 3'-0" TO 13'-3"																		
5AG26	4	13'-10"	N1	58														13'-10"	
5AG27	8	21'-0"	N1	175														21'-0"	
5AG28	18	11'-2"	N1	210														11'-2"	
5AG28	DIMENSION "O" VARIES FROM 3'-6" TO 18'-10"																		
4AG29	154	2'-0"	T9	206	0'-7"	1'-0"					0'-5"	0'-5"							
5AG30	2	23'-2"	N1	48														23'-2"	
5AG31	22	3'-0"	17	69		1'-0"	1'-0"	1'-0"											
SUBTOTAL =				1 105	lbs														
PLACEMENT 4 - SOUTH ABUTMENT STEM, STAGE 2																			
8AG1	54	18'-10"	17	2 715		2'-0"	14'-10"	2'-0"											
8AG2	8	17'-10"	17	381		1'-6"	14'-10"	1'-6"											
8AG2	DIMENSIONS "B & D" VARY FROM 2'-0" TO 1'-0"																		
5AG3	12	20'-3"	N1	253														20'-3"	
5AG4	12	17'-3"	N1	216														17'-3"	
5AG5	13	4'-5"	N17	60		3'-1"	1'-4"	- -	- -			0'-7"			1'-2"				
4AG6	198	3'-6"	T9	463	0'-7"	2'-6"					0'-5"	0'-5"							
5AG7	18	4'-6"	17	84		1'-0"	2'-6"	1'-0"											
5AG8	3	3'-6"	17	11		1'-0"	1'-6"	1'-0"											
5AG8	DIMENSION "C" VARIES FROM 2'-0" TO 1'-0"																		
8AG9	3	20'-3"	N1	162														20'-3"	
8AG10	3	18'-5"	N1	147														18'-5"	
8AG10	DIMENSION "O" VARIES FROM 17'-3" TO 19'-6"																		
SUBTOTAL =				4 492	lbs														

[illegible]

NO REVISIONS

NO AS BUILT REVISIONS  
BIN 5513660

<b>DATE</b>	<b>DESCRIPTION</b>	<b>BY</b>	<b>SYM</b>

## REVISIONS

NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT	HELDERBERG AVENUE BRIDGE REPLACEMENT
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LOCATION OF PROJECT  
M.P. 155.54

TITLE OF DRAWING	
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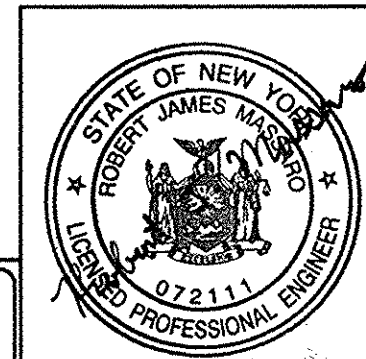
BAR LIST

CONTRACT NUMBER:	TAA 98-10BR
------------------	-------------

DATE: 1/98

DRAWING NUMBER:

ST-36



**THE SEAR-BROWN GROUP**

T.R.B.

CHECKED BY:

V.L.G.

DRAFTED BY:

R.J.M.

DESIGNED BY:

J.R.N.

IN CHARGE OF:

MARK	NO.	LENGTH	TYPE	WEIGHT	A	B	C	D	E	F	G	H <sub>1</sub>	H <sub>2</sub>	J	K <sub>K1</sub>	K <sub>2</sub>	L	O	R
NORTH ABUTMENT																			
PLACEMENT 1 - NORTH ABUTMENT STEM, STAGE 1																			
8AG1	42	17'-6"	17	1 962		2'-0"	13'-6"	2'-0"											
8AG2	8	16'-6"	17	352		1'-6"	13'-6"	1'-6"											
8AG2	DIMENSIONS "B & D" VARY FROM 2'-0" TO 1'-0"																		
5AG3	11	16'-3"	N1	186														16'-3"	
5AG4	11	13'-3"	N1	152														13'-3"	
5AG5	12	4'-5"	N17	55		3'-1"	1'-4"	- -	- -			0'-7"			1'-2"				
4AG6	140	3'-6"	T9	327	0'-7"	2'-6"					0'-5"	0'-5"							
5AG7	14	4'-6"	17	66		1'-0"	2'-6"	1'-0"											
5AG8	3	3'-6"	17	11		1'-0"	1'-6"	1'-0"											
5AG8	DIMENSION "C" VARIES FROM 2'-0" TO 1'-0"																		
8AG9	3	16'-3"	N1	130														16'-3"	
8AG10	3	14'-5"	N1	115														14'-5"	
8AG10	DIMENSION "O" VARIES FROM 13'-3" TO 15'-6"																		
SUBTOTAL	=			3 356	lbs														
PLACEMENT 2 - NORTHWEST WINGWALL FOOTING																			
5AG15	38	7'-2"	I	284	0'-7"	6'-0"					0'-7"			0'-5"					
7AG16	7	18'-7"	N1	266														18'-7"	
6AG17	7	18'-7"	N1	195														18'-7"	
4AG18	18	2'-6"	T9	30	0'-7"	1'-6"					0'-5"	0'-5"							
6AG19	19	5'-4"	I	152	0'-8"	4'-0"					0'-8"			0'-6"					
5AG20	19	4'-3"	I	84	0'-7"	3'-1"					0'-7"			0'-5"					
SUBTOTAL	=			1 011	lbs														
PLACEMENT 3 - NORTHWEST WINGWALL																			
5AG25	34	7'-5"	N1	263														7'-5"	
5AG25	DIMENSION "O" VARIES FROM 3'-0" TO 11'-10"																		
5AG26	4	12'-5"	N1	52														12'-5"	
5AG27	8	18'-3"	N1	152														18'-3"	
5AG28	16	9'-7"	N1	160														9'-7"	
5AG28	DIMENSION "O" VARIES FROM 3'-0" TO 16'-2"																		
4AG29	124	2'-0"	T9	166	0'-7"	1'-0"					0'-5"	0'-5"						19'-8"	
5AG30	2	19'-8"	N1	41															
5AG31	19	3'-0"	17	59		1'-0"	1'-0"	1'-0"											
SUBTOTAL	=			893	lbs														
PLACEMENT 4 - NORTH ABUTMENT STEM, STAGE 2																			
8AG1	54	17'-6"	17	2 523		2'-0"	13'-6"	2'-0"											
8AG2	8	16'-6"	17	352		1'-6"	13'-6"	1'-6"											
8AG2	DIMENSIONS "B & D" VARY FROM 2'-0" TO 1'-0"																		
5AG3	11	20'-3"	N1	232														20'-3"	
5AG4	11	17'-3"	N1	198														17'-3"	
5AG5	12	4'-5"	N17	55		3'-1"	1'-4"	- -	- -			0'-7"			1'-2"				
4AG6	180	3'-6"	T9	421	0'-7"	2'-6"					0'-5"	0'-5"							
5AG7	18	4'-6"	17	84		1'-0"	2'-6"	1'-0"											
5AG8	3	3'-6"	17	11		1'-0"	1'-6"	1'-0"											
5AG8	DIMENSION "C" VARIES FROM 2'-0" TO 1'-0"																		
8AG9	3	20'-3"	N1	162														20'-3"	
8AG10	3	18'-5"	N1	147														18'-5"	
8AG10	DIMENSION "O" VARIES FROM 17'-3" TO 19'-6"																		
SUBTOTAL	=			4 185	lbs														

MARK	NO.	LENGTH	TYPE	WEIGHT	A	B	C	D	E	F	G	H <sub>1</sub>	H <sub>2</sub>	J	K <sub>K1</sub>	K <sub>2</sub>	L	O	R
PLACEMENT 5 - NORTHEAST WINGWALL FOOTING																			
5AG15	38	7'-2"	I	284	0'-7"	6'-0"					0'-7"			0'-5"					
7AG16	7	18'-7"	N1	266														18'-7"	
6AG17	7	18'-7"	N1	195														18'-7"	
4AG18	18	2'-6"	T9	30	0'-7"	1'-6"					0'-5"	0'-5"							
6AG19	19	5'-4"	I	152	0'-8"	4'-0"					0'-8"			0'-6"					
5AG20	19	4'-3"	I	84	0'-7"	3'-1"					0'-7"			0'-5"					
SUBTOTAL	=			1 011	lbs														
PLACEMENT 6 - NORTHEAST WINGWALL																			
5AG25	34	7'-4"	N1	260														7'-4"	
5AG25	DIMENSION "O" VARIES FROM 3'-0" TO 11'-8"																		
5AG26	4	12'-3"	N1	51														12'-3"	
5AG27	8	18'-3"	N1	152														18'-3"	
5AG28	16	9'-7"	N1	160														9'-7"	
5AG28	DIMENSION "O" VARIES FROM 3'-0" TO 16'-2"																		
4AG29	124	2'-0"	T9	166	0'-7"	1'-0"					0'-5"	0'-5"						19'-7"	
5AG30	2	19'-7"	N1	41															
5AG31	19	3'-0"	17	59		1'-0"	1'-0"	1'-0"											
SUBTOTAL	=			889	lbs														
TOTAL NORTH ABUTMENT	=			11 345	lbs														

NO REVISIONS.

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 280 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING BAR LIST			
CONTRACT NUMBER: TAA 98-10BR		DATE: 1/98	
DRAWING NUMBER: ST-37			

THE SEAR-BROWN GROUP





T.R.B.

CHECKED BY:

V.L.G.

DRAFTED BY:

R.J.M.

DESIGNED BY:

J.P.N.

IN CHARGE OF:

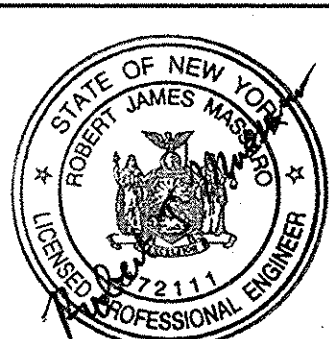
MARK	NO.	LENGTH	TYPE	WEIGHT	A	B	C	D	E	F	G	H <sub>H1</sub>	H <sub>2</sub>	J	K <sub>K1</sub>	K <sub>2</sub>	L	O	R
PIER																			
POUR 1 - PIER FOOTING, STAGE 1																			
8PG1	24	11'-4"	I	726	0'-11"	9'-6"					0'-11"			0'-8"					
6PG2	24	10'-10"	I	391	0'-8"	9'-6"					0'-8"			0'-6"					
6PG3	22	16'-0"	I	529	0'-8"	15'-4"					--			0'-6"					
4PG4	20	3'-9"	N18	50	0'-7"	2'-7"					0'-7"	0'-5"							
6PG5	56	23'-10"	I	2 005	0'-8"	23'-2"					--			0'-6"					
SUBTOTAL =				3 701	lbs														
POUR 2 - PIER STEM, STAGE 1																			
5PG8	40	13'-4"	N1	556														13'-4"	
4PG9	280	3'-7"	T9	670	0'-7"	2'-4"					0'-8"	0'-5"							
5PG10	10	2'-6"	N1	26														2'-6"	
8PG11	5	13'-5"	N1	179														13'-5"	
5PG14	20	2'-10"	I7	59		0'-10"	2'-0"	--											
SUBTOTAL =				1 490	lbs														
POUR 3 - PEDESTALS, STAGE 1																			
5PG15	3	13'-4"	T1	42	0'-8"	3'-6"	2'-6"	3'-6"	2'-6"		0'-8"	0'-6"							
SUBTOTAL =				42	lbs														
POUR 4 - PIER FOOTING, STAGE 2																			
8PG1	30	11'-4"	I	908	0'-11"	9'-6"					0'-11"			0'-8"					
6PG2	30	10'-10"	I	488	0'-8"	9'-6"					0'-8"			0'-6"					
4PG4	20	3'-9"	N18	50	0'-7"	2'-7"					0'-7"	0'-5"							
6PG5	74	23'-10"	I	2 649	0'-8"	23'-2"					--			0'-6"					
6PG6	22	20'-6"	I	677	0'-8"	19'-10"					--			0'-6"					
SUBTOTAL =				4 772	lbs														
POUR 5 - PIER STEM, STAGE 2																			
4PG9	400	3'-7"	T9	957	0'-7"	2'-4"					0'-8"	0'-5"							
5PG10	14	2'-6"	N1	37														2'-6"	
5PG12	40	19'-2"	N1	800														19'-2"	
8PG13	5	19'-2"	N1	256														19'-2"	
5PG14	20	2'-10"	I7	59		0'-10"	2'-0"	--											
SUBTOTAL =				2 109	lbs														
POUR 6 - PEDESTALS, STAGE 2																			
5PG15	3	13'-4"	T1	42	0'-8"	3'-6"	2'-6"	3'-6"	2'-6"		0'-8"	0'-6"							
SUBTOTAL =				42	lbs														
TOTAL PIER =				12 156	lbs														

MARK	NO.	LENGTH	TYPE	WEIGHT	A	B	C	D	E	F	G	H <sub>H1</sub>	H <sub>2</sub>	J	K <sub>K1</sub>	K <sub>2</sub>	L	O	R
DECK SLAB																			
WEST SIDE STAGE 1																			
6SG1	291	17'-10"	N1	7 794															17'-10"
5SG2	42	34'-5"	N1	1 508															34'-5"
5SG3	93	40'-0"	N1	3 880															40'-0"
5SG4	20	35'-0"	I	730	0'-7"	34'-5"					--			0'-5"					
6SG5	20	40'-0"	N1	1 202															40'-0"
6SG6	20	18'-9"	N1	563															18'-9"
6SG7	291	18'-6"	I	8 086	0'-8"	17'-10"					--			0'-6"					
5SG8	290	5'-2"	I	1 563	0'-7"	4'-7"					--			0'-5"					
6SG9	8	18'-3"	N1	219															18'-3"
6SG10	148	4'-7"	S4	1 019	--	1'-0"	1'-3"	1'-0"			1'-4"								
6SG11	20	15'-10"	N1	476															15'-10"
5SG12	6	16'-3"	N1	102															16'-3"
5SG13	6	9'-0"	N1	56															9'-0"
5SG14	24	5'-8"	I7	142		1'-7"	2'-6"	1'-7"											
5SG15	24	3'-2"	I9	79		1'-10"	1'-4"	--				1'-4"			1'-4"	--			2'-8"
6SG16	24	10'-10"	I4	391	2'-0"	1'-10"	7'-0"	--	--			1'-4"	--		1'-4"	--			
6SG17	24	5'-3"	I7	189		2'-6"	2'-9"	--											
6SG18	32	11'-4"	I	545	0'-8"	10'-0"					0'-8"			0'-6"					
5SG19	6	3'-0"	N1	19															3'-0"
5SG20	2	5'-6"	I6	11	--	2'-0"	0'-6"	3'-0"				2'-8"			1'-4"				
5SG26	6	2'-6"	N1	16															2'-6"
5SG28	32	2'-6"	N1	83															2'-6"
SUBTOTAL =				28 673	lbs														
EAST SIDE STAGE 2																			
5SG2	54	34'-5"	N1	1 938															34'-5"
5SG3	120	40'-0"	N1	5 006															40'-0"
5SG4	26	35'-0"	I	949	0'-7"	34'-5"					--			0'-5"					
6SG5	26	40'-0"	N1	1 562															40'-0"
6SG6	26	18'-9"	N1	732															18'-9"
5SG8	290	5'-2"	I	1 563	0'-7"	4'-7"					--			0'-5"					
6SG10	148	4'-7"	S4	1 019	--	1'-0"	1'-3"	1'-0"			1'-4"								
5SG13	6	9'-0"	N1	56															9'-0"
5SG14	32	5'-8"	I7	189		1'-7"	2'-6"	1'-7"											
5SG15	32	3'-2"	I9	106		1'-10"	1'-4"	--				1'-4"			1'-4"	--			2'-8"
6SG16	32	10'-10"	I4	521	2'-0"	1'-10"	7'-0"	--	--			1'-4"	--		1'-4"	--			
6SG17	32	5'-3"	I7	252		2'-6"	2'-9"	--											
6SG18	44	11'-4"	I	749	0'-8"	10'-0"					0'-8"			0'-6"					
5SG19	6	3'-0"	N1	19															3'-0"
5SG20	2	5'-6"	I6	11	--	2'-0"	0'-6"	3'-0"				2'-8"			1'-4"				
6SG21	291	19'-7"	N1	8 559															19'-7"
6SG22	291	20'-3"	I	8 851	0'-8"	19'-7"					--			0'-6"					
6SG23	8	20'-0"	N1	240															20'-0"
6SG24	20	19'-10"	N1	596															19'-10"
5SG25	6	20'-3"	N1	127															20'-3"
5SG27	6	6'-6"	N1	41															6'-6"
SUBTOTAL =				33 086	lbs														
TOTAL DECK SLAB =				61 759	lbs														

NO REVISIONS

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING BAR LIST			
CONTRACT NUMBER: TAA 98-10BR		DATE: 6/98	
DRAWING NUMBER: ST-38			



THE SEAR-BROWN GROUP

IN CHARGE OF:

[illegible]

ST-39

**THE SEAR-BROWN GROUP**



PLOTTING: JEFF JOHNS  
 USER: JEFF JOHNS  
 FILENAME: F:\JOHNS \ 1467202 \ CIVIL \ MPTLON  
 PLOT FILE: S0850.PLT OR IIX ITHP.PLT  
 DATE: 11/11/98  
 TIME: 11:11

JWJ

KAR

CDF

PJB

IN CHARGE OF:

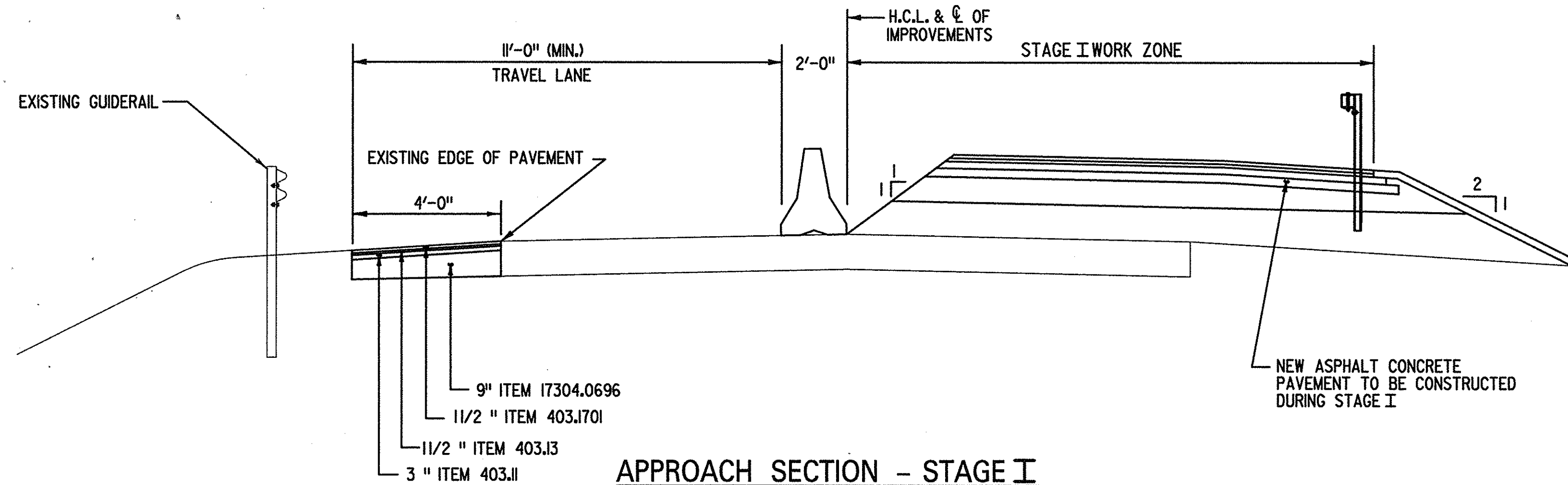
CHECKED BY:

DRAFTED BY:

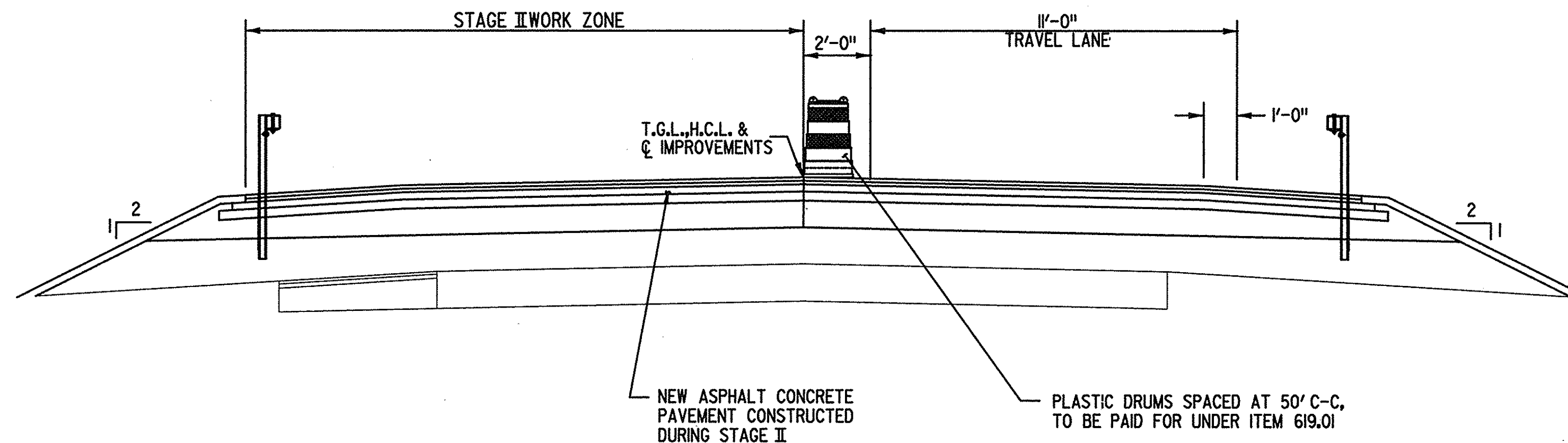
DESIGNED BY:

NO REVISIONS.

56  
64



APPROACH SECTION - STAGE I



APPROACH SECTION - STAGE II

### NOTES:

#### CONSTRUCTION STAGE DESCRIPTION PRE STAGE I

1. INSTALL ALL CONSTRUCTION SIGNS AND TEMPORARY STRIPING. EXISTING SIGNS AND STRIPING DEEMED BY THE EIC AS INAPPROPRIATE SHALL BE REMOVED AND/OR COVERED.
2. INSTALL TEMPORARY SIGNAL POLES AND EQUIPMENT.
3. RECONSTRUCT SHOULDER ON EAST SIDE OF ROADWAY FROM STA. 3+50 TO STA 13+00.

#### STAGE I

1. PLACE TEMPORARY CONCRETE BARRIER AND TYPE III CONSTRUCTION BARRICADES AS SHOWN ON DWG. NO. MPT-3.
2. ACTIVATE TEMPORARY TRAFFIC SIGNAL AND BEGIN ONE-WAY ALTERNATING TRAFFIC
3. CONSTRUCT WEST SIDE OF BRIDGE.
4. CONSTRUCTION NEW HELDERBERG AVENUE AND NETHERLANDS BOULVARD ROADWAY SECTION.
5. INSTALL BRIDGE RAIL AND GUIDE RAIL.

#### STAGE II

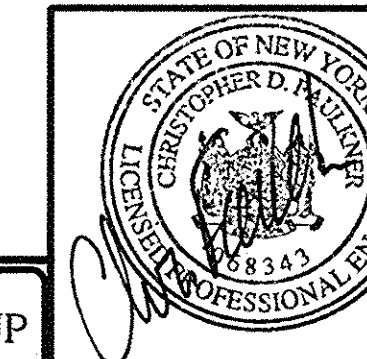
1. PLACE TEMPORARY CONCRETE BARRIER AND TYPE III BARRICADES AND INSTALL TEMPORARY STRIPING AS SHOWN ON DWG. NO. MPT-4.
2. INSTALL PLASTIC DRUMS, SPACED AT 50' CENTER-TO-CENTER ALONG THE WESTERN EDGE OF PAVEMENT OF THE NEWLY CONSTRUCTED ROADWAY SECTION. .
3. SHIFT TRAFFIC TO THE WEST SIDE OF THE BRIDGE.
4. CONSTRUCT EAST SIDE OF BRIDGE.
5. CONSTRUCT NEW HELDERBERG AVENUE ROADWAY SECTION. RESURFACE OLD CHURCH ROAD.
6. INSTALL BRIDGE RAILING AND APPROACH RAILING.
7. REMOVE TEMPORARY CONCRETE BARRIER AND TRAFFIC SIGNAL SYSTEM.
8. RESTORE TWO-WAY TRAFFIC.

THE INTENT OF THE CONSTRUCTION PHASE DESCRIPTION IS TO LIST THE MAJOR ITEMS OF WORK TO BE COMPLETED FOR EACH PHASE OF CONSTRUCTION. IT IS NOT TO LIST ALL WORK INCLUDED AS A PART OF THIS CONTRACT.

ITEM NO.	DESCRIPTION	UNITS
203.02	UNCLASSIFIED EXCAVATION & DISPOSAL	C.Y.
203.03	EMBANKMENT IN PLACE	C.Y.
17304.0696	SUBBASE COURSE (OPTIONAL TYPE) W/ RECYCLED CONC/BITUM. MATERIAL OPTION	C.Y.
403.11	ASPHALT CONCRETE - TYPE 1 BASE COURSE	TON
403.13	ASPHALT CONCRETE - TYPE 3 BINDER COURSE	TON
403.1701	ASPHALT CONCRETE - TYPE 6F TOP COURSE (HIGH FRICTION) MARSHALL DESIGN	TON
407.01	TACK COAT	GAL.
606.10	BOX BEAM GUIDE RAIL	L.F.
610.0203	ESTABLISHING TURF	ACRE
613.0101	TOPSOIL	C.Y.
18633.06	CLEAN EXIST PAV'T AND/OR SHOULDERS	S.Y.
18633.07	CLEAN & FILL JOINTS AND CRACKS	L.S.

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING TRAFFIC MAINTENANCE PROCEDURES			



CONTRACT NUMBER:  
**TAA 98-10BR**  
DATE:  
**1/98**  
DRAWING NUMBER:  
**MPT-1**

THE SEAR-BROWN GROUP





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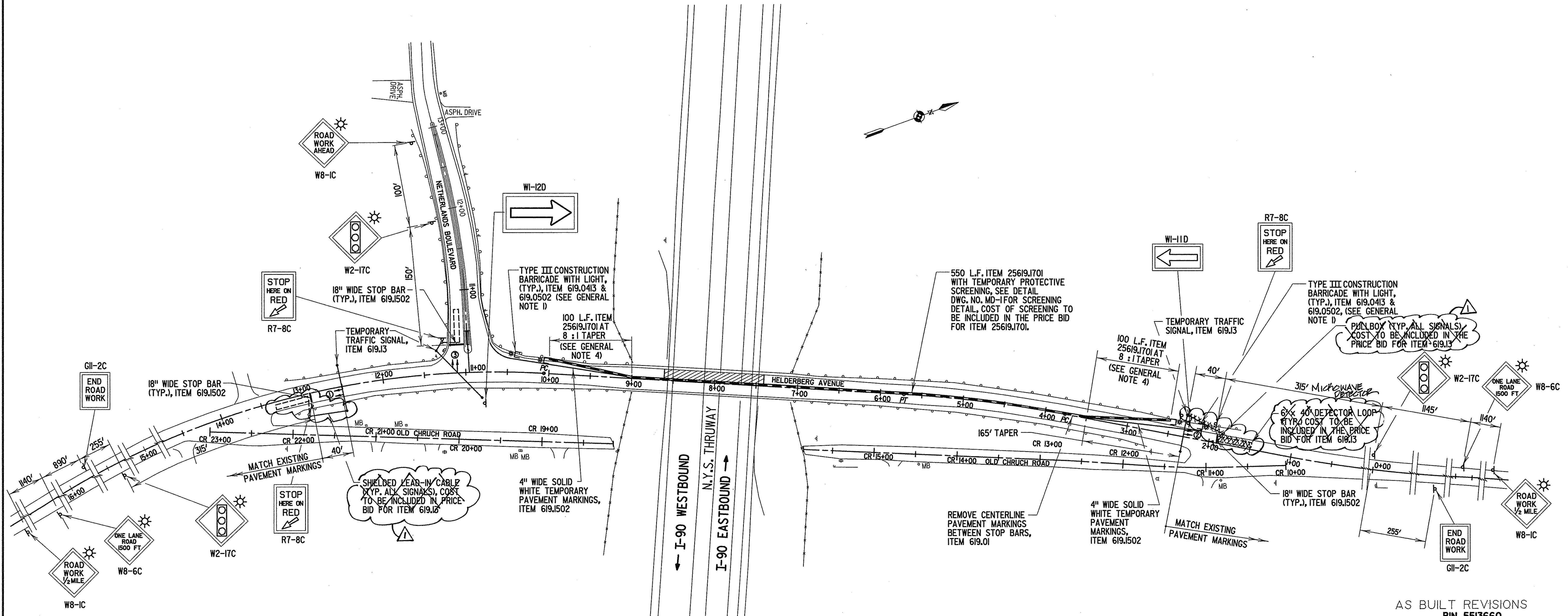
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IN CHARGE OF:

REVISIONS.

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### TEMPORARY TRAFFIC SIGNAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL EQUIPMENT NECESSARY FOR THE INSTALLATION OF THE TEMPORARY TRAFFIC SIGNAL.
2. THE 6' x 40' DETECTION LOOPS SHALL HAVE TWO TURNS AND BE LOCATED 6' BEHIND THE STOP BAR.
3. THE MINIMUM DISTANCE FROM THE STOP BAR TO THE SIGNAL HEADS IS 40'. MAXIMUM IS 120'.
4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A CLEAR DETECTION ZONE, FREE OF MATERIALS WHICH MAY INTERFERE WITH VEHICLE DETECTION.
5. ALL SIGNAL HEADS WILL BE 12" IN DIAMETER AND CONTAIN 150 WATT TRAFFIC SIGNAL BULBS.
6. THE POLES FOR THE TEMPORARY TRAFFIC SIGNAL SHALL BE LOCATED 20' MIN. FROM THE EDGE OF PAVEMENT UNLESS PROTECTED BY TEMPORARY CONCRETE BARRIER OR GUIDE RAILING, IN WHICH CASE THEY MAY BE LOCATED CLOSER, IF CONDITIONS REQUIRE ALTERATION OF THIS POLICY, POLES SHALL BE LOCATED AS DIRECTED A.O.B.E.
7. 3 CONDUCTORS PLUS A GROUND WILL BE REQUIRED FOR EACH SET OF SIGNAL HEADS FOR EACH DIRECTION OF TRAVEL.
8. EACH DETECTION LOOP WILL HAVE ITS OWN RUN OF SHIELDED LEAD-IN CABLE TO RUN FROM THE LOOP TO THE CONTROLLER.
9. THE TEMPORARY TRAFFIC SIGNAL SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD SHEET 619-1RI.
10. TRAFFIC WILL NOT BE ALLOWED TO BE MAINTAINED ON THE SUBBASE COURSE OVERNIGHT. THE CONTRACTOR SHALL PLACE THE BASE COURSE PRIOR TO COMPLETING WORK FOR THE DAY. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION FROM THE EXISTING ELEVATION TO THE BASE COURSE ELEVATION.
11. ALL TRAFFIC SIGNALS SHALL HAVE THE CAPABILITY OF BEING FULLY TRAFFIC ACTIVATED.
12. THE TRAFFIC SIGNAL CONTROLLER SHALL BE EQUIPPED TO PROVIDE REST-IN-RED PHASE.

### GENERAL NOTES

1. TYPE III CONSTRUCTION BARRICADES SHALL BE INSTALLED EVERY 50 FEET ALONG LANE TAPER. TYPE "A" LOW INTENSITY FLASHING LIGHTS (ITEM 619.0502) SHALL BE INSTALLED ON THE FIRST TWO BARRICADES FACING TRAFFIC AND TYPE "C" LOW INTENSITY STEADY BURNING LIGHTS (ITEM 619.0502) SHALL BE INSTALLED ON THE REMAINING BARRICADES.
2. ALL CONCRETE BARRIER SHALL HAVE TYPE "C" LOW INTENSITY STEADY BURNING LIGHTS (ITEM 10619.0599) SPACED AT 50 FOOT INTERVALS.
3. CONCRETE BARRIER INSTALLED ON THE BRIDGE SHALL HAVE ANCHOR RODS IN ACCORDANCE WITH STANDARD SHEET 619-3R3.
4. PROVIDE TAPERED END SECTION FOR CONCRETE BARRIER.
5. ALL CONSTRUCTION SIGNS SHALL BE GROUND MOUNTED.

### STAGE I HELDERBERG AVEUNE PLAN

NOT TO SCALE

### LEGEND

- TYPE III BARRICADE WITH LIGHT
- TEMPORARY CONCRETE BARRIER
- MPT SIGN
- TEMPORARY TRAFFIC ACTUATED SIGNAL
- DETECTOR LOOP
- TYPE "A" FLASHING LOW INTENSITY WARNING LIGHT
- WORK ZONE

### SIGNAL PHASING

PHASE	FACE ①	FACE ②	FACE ③	TIME (SEC.)
A	GREEN	RED	RED	15
1 <sup>ST</sup> CLEARANCE	YELLOW	RED	RED	5
2 <sup>ND</sup> CLEARANCE	RED	RED	RED	30
B	RED	GREEN	RED	15
1 <sup>ST</sup> CLEARANCE	RED	YELLOW	RED	5
2 <sup>ND</sup> CLEARANCE	RED	RED	RED	30
C	RED	RED	GREEN	10
1 <sup>ST</sup> CLEARANCE	RED	RED	YELLOW	5

AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
3/69	MICROWAVE DETECTOR	KPK	

REVISIONS

NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209	TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT
LOCATION OF PROJECT M.P. 155.54	TITLE OF DRAWING STAGE I TRAFFIC MAINTENANCE PROCEDURES

CONTRACT NUMBER:  
TAA 98-10BR  
DATE:  
1/98  
DRAWING NUMBER:  
MPT-3

THE SEAR-BROWN GROUP

PLOTTING:  
OFFICE: ?  
USER:  
DATE:  
TIME:  
USERNAME: KEN BARRELO  
FILENAME: F:\085\1667203 CIVIL MPT-2.DGN  
FONT FILE: SSG.FLB  
PLOT FILE: SSG650.PLT OR IIX (THP).PLT

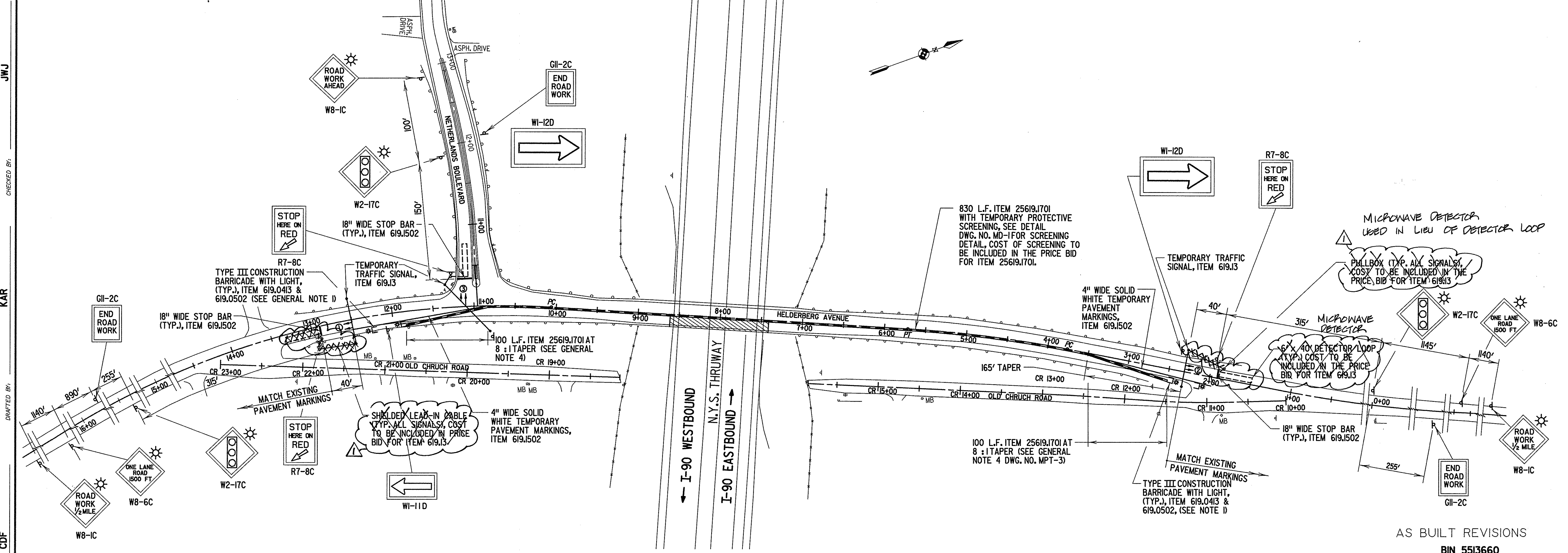
JWJ

KAR

CDF

PJB

IN CHARGE OF:



STAGE II  
HELDERBERG AVEUNE PLAN  
NOT TO SCALE

- LEGEND**
- \* TYPE III BARRICADE WITH LIGHT
  - TEMPORARY CONCRETE BARRIER
  - 4 MPT SIGN
  - TEMPORARY TRAFFIC ACTUATED SIGNAL
  - DETECTOR LOOP
  - \* TYPE "A" FLASHING LOW INTENSITY WARNING LIGHT
  - /// WORK ZONE

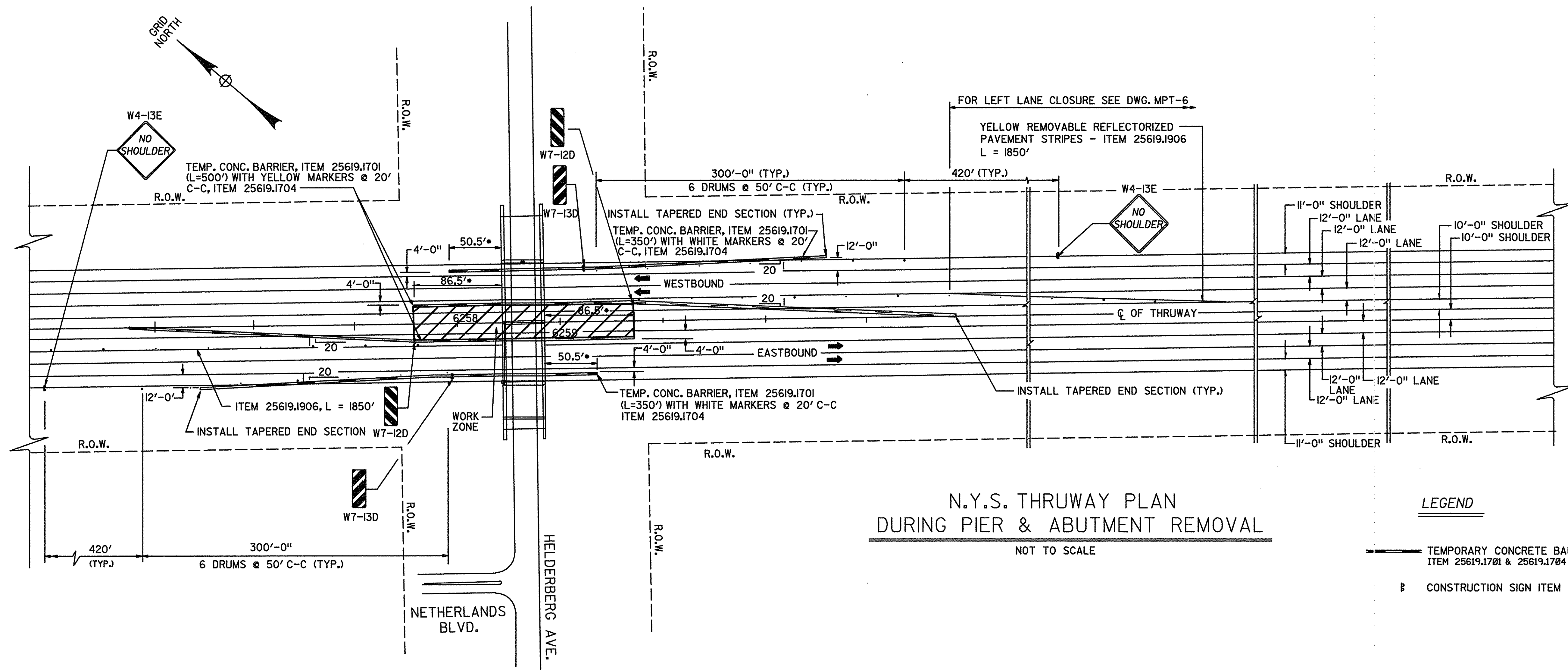


AS BUILT REVISIONS  
BIN 5513660

3/99	MICROWAVE DETECTOR	KPK	
DATE	DESCRIPTION	BY	SYM.
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING STAGE II TRAFFIC MAINTENANCE PROCEDURES			
CONTRACT NUMBER: TAA 98-10BR			
DATE: 1/98			
DRAWING NUMBER: MPT-4			

THE SEAR-BROWN GROUP





N.Y.S. THRUWAY PLAN  
DURING PIER & ABUTMENT REMOVAL

NOT TO SCALE

LEGEND

- TEMPORARY CONCRETE BARRIER  
ITEM 25619.1701 & 25619.1704
- B CONSTRUCTION SIGN ITEM 15619.0201

THRUWAY MAINTENANCE AND PROTECTION OF TRAFFIC

1. THE CONTRACTOR ATTENTION IS DIRECTED TO THE "SPECIAL NOTE" TITLED NEW YORK STATE THRUWAY AUTHORITY SPECIAL PROVISIONS LOCATED IN THE CONTRACT PROPOSAL.
2. THE CONTRACTOR SHALL COORDINATE NECESSARY LANE RESTRICTIONS AND/OR CLOSURE OF THRUWAY TRAVEL LANES TO COINCIDE WITH BRIDGE WORK.
3. CONSTRUCTION SIGNS AND TEMPORARY CONCRETE BARRIERS SHALL BE INSTALLED PRIOR TO BEGINNING ANY WORK ON THE STRUCTURE.
4. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT BE ALLOWED TO DROP WASTE CONCRETE, DEBRIS OR ANY OTHER MATERIAL ON OR ADJACENT TO THE AREA BELOW THE STRUCTURE EXCEPT WHERE SPECIFICALLY NOTED ON THE CONTRACT PLANS. PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE USED TO CATCH ALL MATERIALS.
5. DURING THE INSTALLATION, MAINTENANCE OR REMOVAL OF PROTECTIVE DEVICES, OR AT ANY OTHER TIME WHEN THERE IS A CHANCE OF ANY OBJECTS FALLING ONTO THE TRAVEL LANES. THE CONTRACTOR SHALL PROVIDE SINGLE LANE CLOSURES AND OR LANE RESTRICTIONS AS NECESSARY BELOW THE AREA IN WHICH IS WORK BEING PERFORMED.
6. TRAVEL LANE CLOSURES AND/OR LANE RESTRICTIONS SHALL BE MADE IN ACCORDANCE WITH DRAWING NO. MPT-6 OR A.O.B.E.
7. AT NO TIME SHALL THE CONTRACTOR STOP TRAFFIC ON THE THRUWAY UNLESS FOR AN EMERGENCY OR AS NOTED IN NOTE 8.
8. IT IS EXPECTED THE MAJORITY OF THE WORK OVER THE THRUWAY CAN BE PROGRESSED BY IMPLEMENTING THE LANE CLOSURE SHOWN ON THE MPT DRAWING. HOWEVER, THE CONTRACTOR WILL BE ALLOWED TO HAVE NEW YORK STATE POLICE STOP TRAFFIC FOR A MAXIMUM OF FIVE MINUTES DURING THE REMOVAL OF EACH GIRDER. THE CONTRACTOR WILL BE REQUIRED TO GIVE THE NEW YORK STATE THRUWAY AUTHORITY, E.I.C., AT LEAST TWO WEEKS NOTICE PRIOR TO PLANNED STOPPAGES AND AGAIN 48 HOURS BEFORE THE ACTUAL STOPPAGE.
9. THE CONTRACTOR MUST PROVIDE ADEQUATE SIGNS TO ENSURE THE SAFE STOPPAGE OF TRAFFIC. THIS SHALL INCLUDE A MOVEABLE "BE PREPARED TO STOP SIGN" MOUNTED ON THE BACK OF A TRUCK WHICH SHALL BACKUP ON THE RIGHT-HAND SHOULDER WHILE TRAFFIC IS STOPPED, STAYING 1500 FEET UPSTREAM OF THE END OF THE QUEUE.
10. SPEED REDUCTION SIGNS ON WEST SIDE OF BRIDGE SHALL BE LOCATED SIMILARLY TO THE EAST SIDE OF THE BRIDGE.
11. REMOVABLE PAVEMENT MARKINGS SHALL BE PREFORMED REFLECTORIZED MARKING TAPE.

NO AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	S

## REVISIONS

NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES  
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT	HELDERBERG AVENUE BRIDGE REPLACEMEN
------------------	--

LOCATION OF PROJECT  
M.P. 155.54

TITLE OF DRAWING

## TRAFFIC MAINTENANCE PROCEDURES

CONTRACT NUMBER:

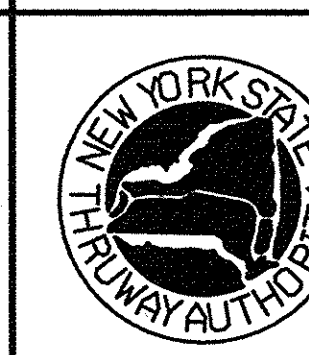
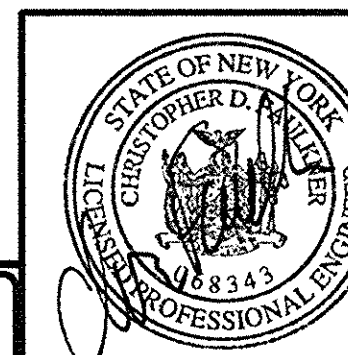
TAA 98-10BR

DATE: \_\_\_\_\_

1/98

DRAWING NUMBER:

MPT-5



**THE SEAR-BROWN GROUP**

USER: CHRIS FAULKNER  
PROJECT: 1467202 CIVIL MPT-6.DGN  
DATE: 10/15/98  
TIME: 10:00 AM  
FILE: 1467202 CIVIL MPT-6.DGN  
FONT: 1467202 CIVIL MPT-6.DGN  
PLOT: 1467202 CIVIL MPT-6.DGN

JWJ

CHECKED BY:

KAR

DRAFTED BY:

CDF

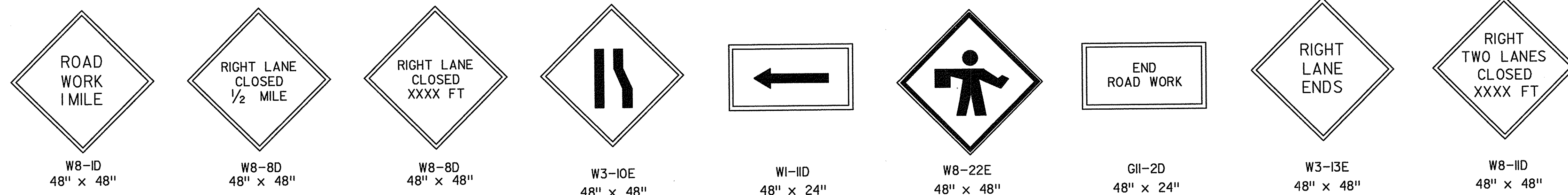
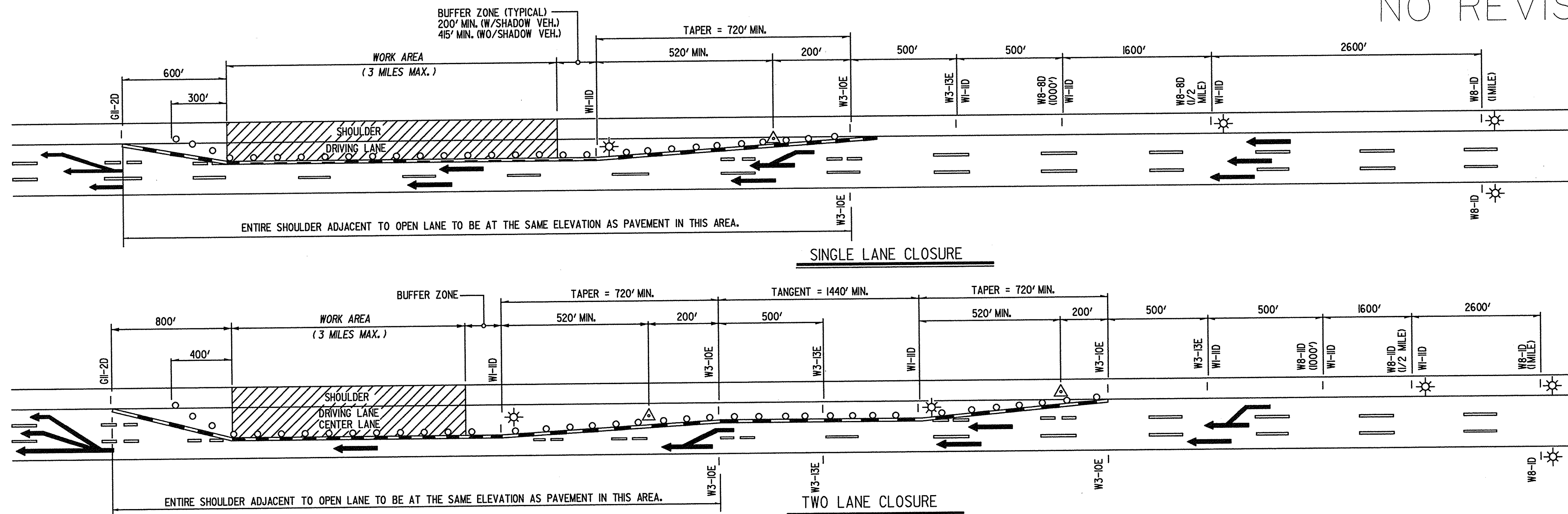
DESIGNED BY:

PJB

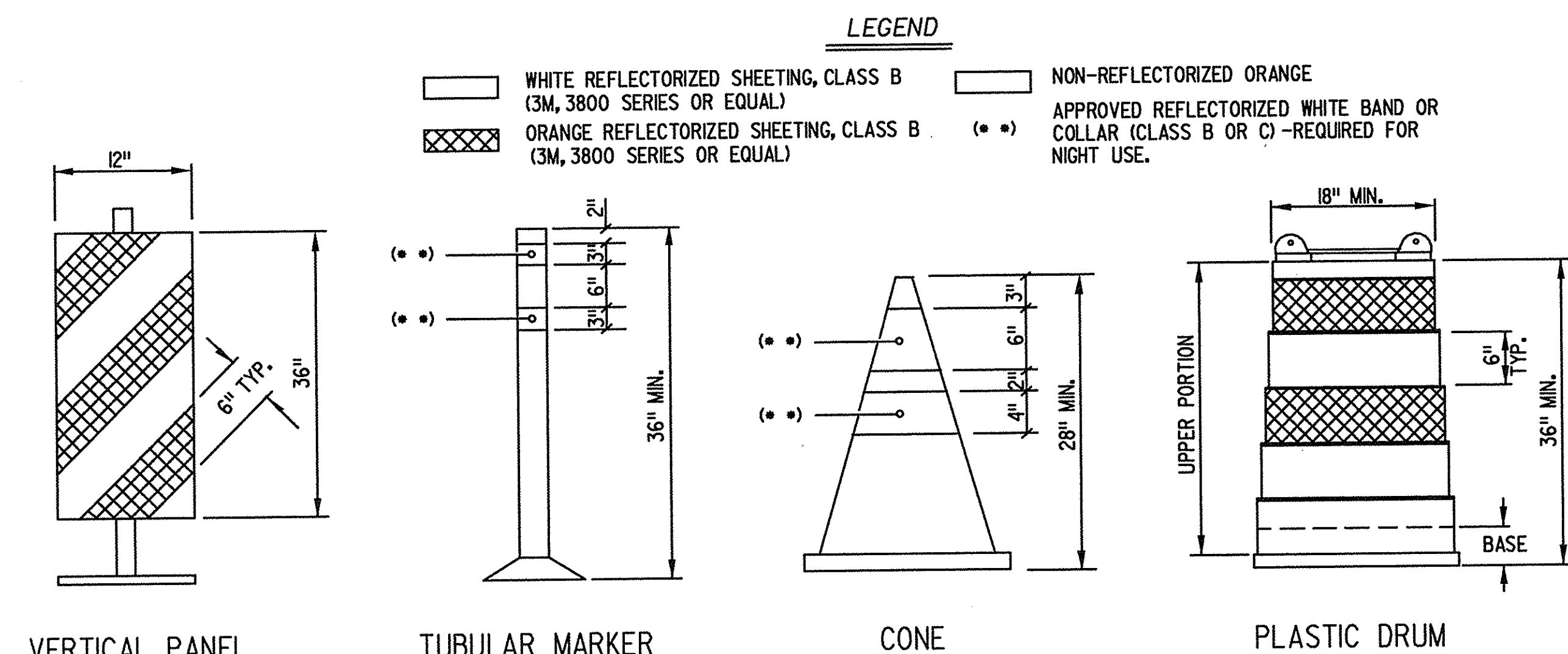
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64



- LEGEND
- EXISTING PAVEMENT MARKINGS (BROKEN OR SOLID)
  - REMOVAL OF EXISTING PAVEMENT MARKINGS. (SEE NOTE 8)
  - TEMPORARY PAVEMENT MARKING FOR CONSTRUCTION (SEE NOTE 8)
  - TRAFFIC CONES AT 40' INTERVALS ON TAPER, 80' ON TANGENT.
  - SIGNS
  - FLASHING ARROWBOARD
  - FLASHING LIGHTS (LOW INTENSITY FOR NIGHT USE OR A.O.B.E.)



(OPTIONAL DEVICES)

TRAFFIC CONTROL DEVICES

NOTES:

- ALL SIGNS MAY BE FOUND IN THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL "W" SERIES SIGNS SHALL BE BLACK ON FLUORESCENT ORANGE. ALL REFLECTORIZED SIGN BACKGROUNDS SHALL BE CLASS "B" OR "C" REFLECTIVE SHEETING.
- SIGN SUPPORTS SHALL RESIST OVERTURNING IN WINDS AND PROVIDE A MINIMUM MOUNTING HEIGHT OF 5 FEET TO THE SIGN BOTTOM. SIGNS SHALL BE PLACED AT OR AS NEAR AS PRACTICABLE TO THE LOCATIONS SHOWN. LATERAL PLACEMENT OF SIGNS SHALL CONFORM TO SECTIONS 201.5 AND/OR 301.2 OF THE MUTCD.
- FLAGGERS ARE TO BE PROVIDED AND LOCATED IN THE PATTERN AS DIRECTED BY THE ENGINEER. WHEN USED, A W8-22E SIGN WILL BE PLACED NOT CLOSER THAN 500 FEET NOR FURTHER THAN 2600 FEET AHEAD OF THE FLAGGER.
- ALL FLASHING LIGHTS SHOWN ON THIS SHEET SHALL BE PLACED IN OPERATION FROM 1/2 HOUR AFTER SUNSET TO 1/2 HOUR BEFORE SUNRISE OR AS ORDERED BY THE ENGINEER.
- FLASHING ARROWBOARDS SHALL CONFORM TO SECTION 294.45 OF THE MUTCD. THE MINIMUM SIZE SHALL BE TYPE C (96" X 48") FULL ARROW FLASH. NO CHEVRONS NOR SEQUENTIAL ARROW FLASH WILL BE ALLOWED.
- THESE PLANS SHALL BE MODIFIED TO LEFT LANE CLOSURE(S) BY CHANGING SIGNS W1-12D TO W1-12D, W8-8D TO W8-7D, W8-12D TO W8-10D, W3-10E TO W3-9E AND W3-13E TO W3-12E. THE LEFT LANE CLOSURE(S) SHALL BE THE MIRROR IMAGES OF THE RIGHT LANE CLOSURES.
- THE TRAFFIC SUPERVISOR WILL APPROVE THE CONDITION OF ALL TRAFFIC CONTROL DEVICES PRIOR TO USE, AND WILL REVIEW THE PROPOSED TRAFFIC CONTROL PATTERN (FOR PRECISE DEVICE POSITIONING) PRIOR TO INSTALLATION.
- EXISTING PAVEMENT MARKINGS SHALL BE MAINTAINED BY THE CONTRACTOR WITHIN THE PROJECT LIMITS. IF THE CONTRACTOR'S OPERATIONS IN ANY WORK AREA WILL EXCEED A PERIOD OF 2 WEEKS, OR IF DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL COMPLETELY REMOVE PORTIONS OF THE EXISTING MARKINGS AND INSTALL TEMPORARY MARKINGS AS DETAILED ON THIS SHEET. TEMPORARY MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD, CONTRACT PLANS AND/OR PROPOSAL. WHEN ALL WORK IS COMPLETED IN THE WORK AREA, OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE THE TEMPORARY MARKINGS AND RESTORE THE EXISTING MARKINGS.
- IF THE CONTRACTOR'S OPERATION IN ANY WORK AREA WILL EXCEED FOUR DAYS, OR EXTEND INTO A WEEKEND, OR IF ORDERED BY THE ENGINEER, DRUMS SHALL BE SUBSTITUTED FOR CONES IN THE ASSOCIATED TRAFFIC PATTERN. THE DRUMS SHALL BE SPACED AT 70 FOOT INTERVALS ON TAPERS AND 120 FOOT INTERVALS ON TANGENT SECTIONS, OR A.O.B.E. (NOTE - DRUMS MAY BE SUBSTITUTED FOR CONES AT ANY TIME PROVIDED THE ABOVE MAXIMUM SPACING IS MAINTAINED). VERTICAL PANELS AND/OR TUBULAR MARKERS MAY BE SUBSTITUTED FOR CONES WITH THE APPROVAL OF THE ENGINEER.

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BIN 5513660

DATE	DESCRIPTION	BY	SYM.

REVISIONS			

NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209	TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT
LOCATION OF PROJECT M.P. 155.54	TITLE OF DRAWING TRAFFIC MAINTENANCE PROCEDURES
CONTRACT NUMBER: TAA 98-10BR	DRAWING NUMBER: MPT-6

THE SEAR-BROWN GROUP





USER: KEN RAPELLO  
OFFICE: ?  
FILE: F:\JOBS\167202\1\GWL\SPMDON  
FONT: PLT\SEG18E  
DATE: 11/18/98  
TIME: 11:18:11  
PLT: 167202.DWG

JWJ

CHECKED BY:

KAR

DRAFTED BY:

CDF

DESIGNED BY:

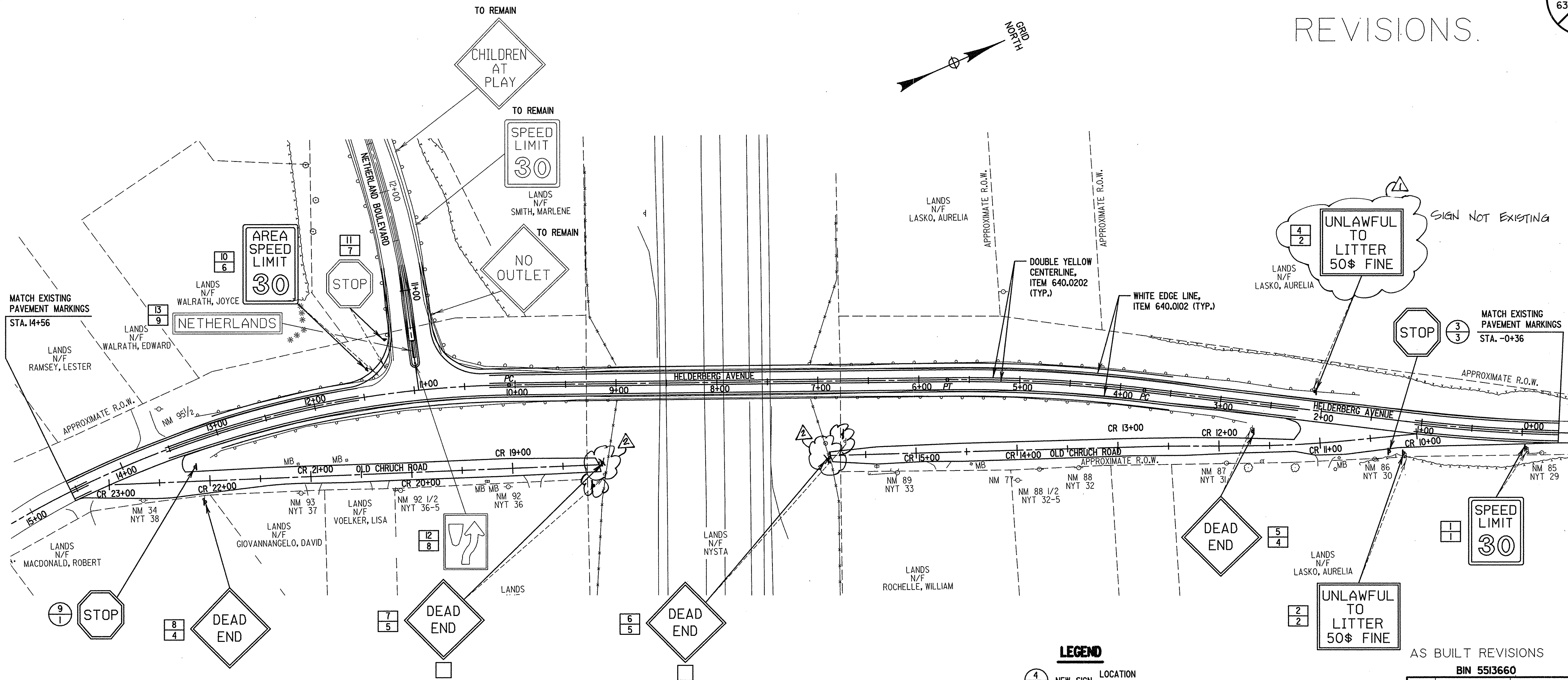
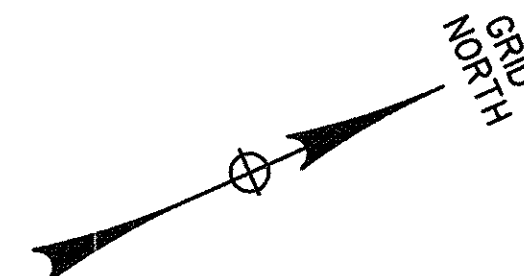
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IN CHARGE OF:

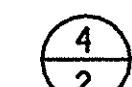
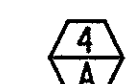
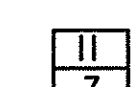
REVISIONS.

63/1



64



LEGEND

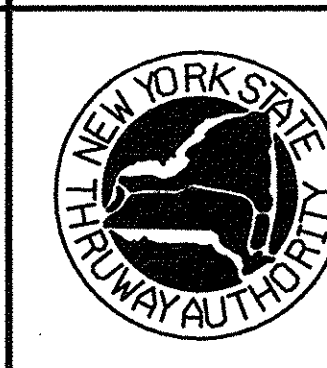
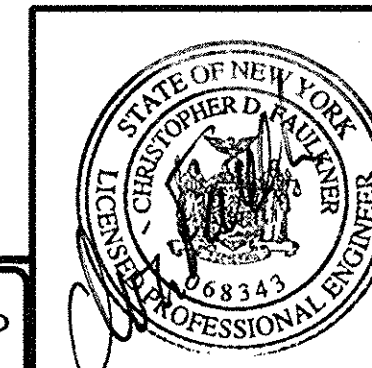
-  NEW SIGN LOCATION TEXT
-  REMOVE SIGN LOCATION SIZE
-  RELOCATE SIGN LOCATION SIZE

AS BUILT REVISIONS  
BIN 5513660

DATE	DESCRIPTION	BY	SYM.
11/98	DEAD END SIGNS LOC. CHANGE NO RELOCATION FOR SIGN 4/2	KPK	
11/98		KPK	

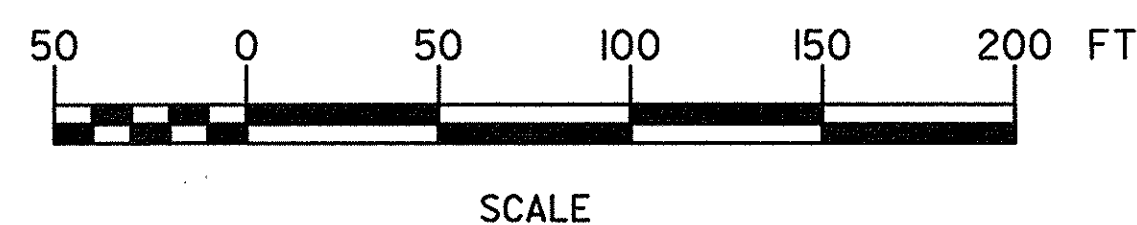


REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING SIGN AND PAVEMENT MARKING PLAN			



CONTRACT NUMBER:  
**TAA 98-10B-R**  
DATE:  
**1/98**  
DRAWING NUMBER:  
**SPM-1**

THE SEAR-BROWN GROUP





JWJ

CHECKED BY:

KAR

DRAFTED BY:

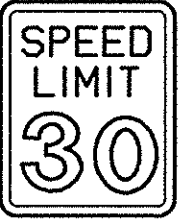
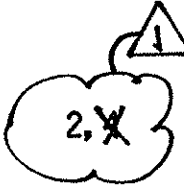
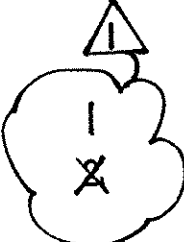

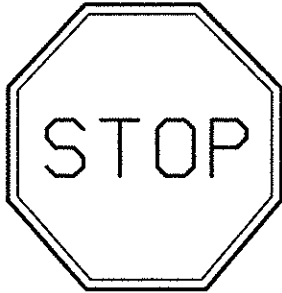

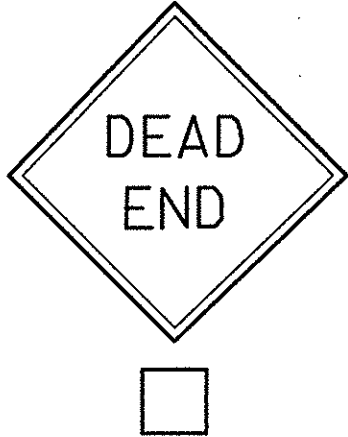

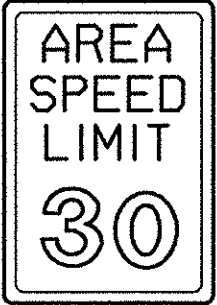
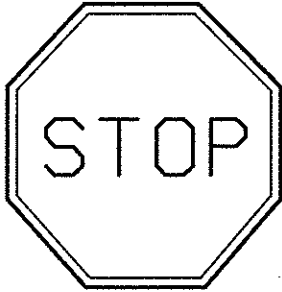
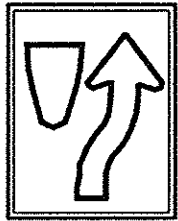

CDF

DESIGNED BY:

PJB

IN CHARGE OF:

SIGN TEXT DATA SHEET


ITEM NO.	LOCATION NUMBERS	TEXT NO.	TEXT	MUTCD NO.	SIZE OF SIGN	TYPE OF MOUNT
647.10	1	1		R2-1C	24"X30"	GR. MTD.
647.10				NONE	24"X30"	GR. MTD.
645.2020	3, 9	3		R1-1C	30"X30"	GR. MTD.
647.10	5, 8	4		W3-17C	30"X30"	GR. MTD.
647.10	6, 7	5		W3-17C	30"X30"	GR. MTD.
				W7-14C	18"X18"	GR. MTD.
647.10	10	6		R2-3C	24"X30"	GR. MTD.
647.10	11	7		R1-1C	30"X30"	GR. MTD.
647.10	12	8		R4-6C	24"X30"	GR. MTD.
647.10	13	9				GR. MTD.

REVISIONS

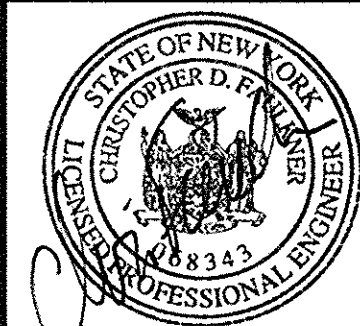
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64

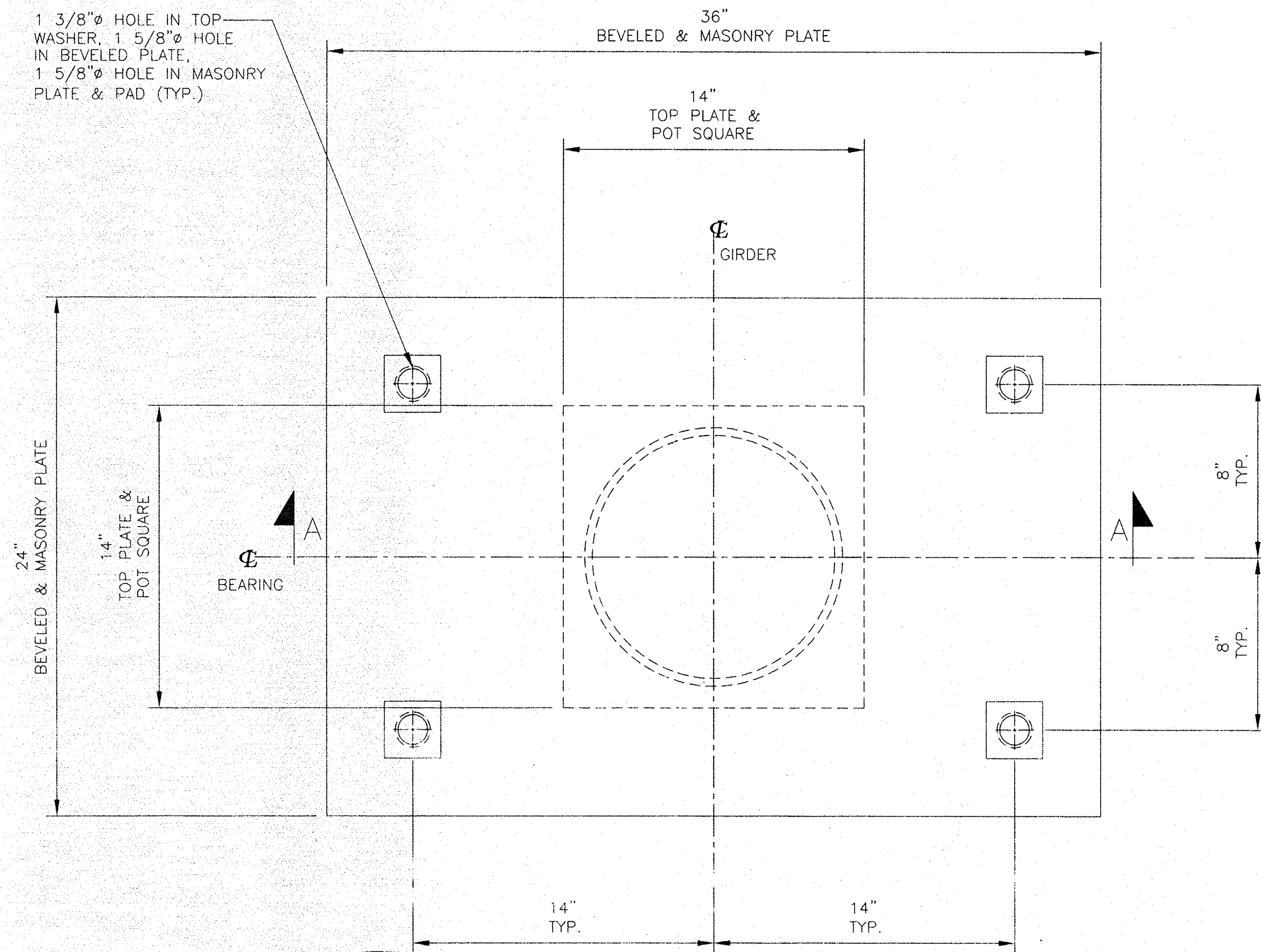


AS BUILT REVISIONS  
BIN 5513660

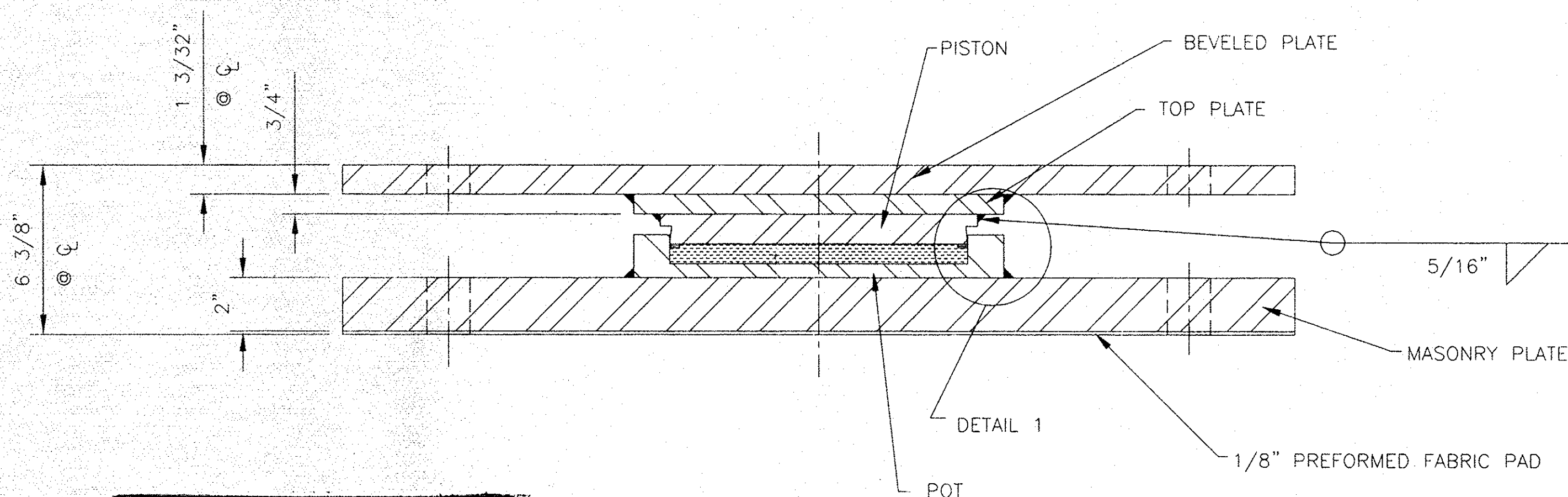
DATE	DESCRIPTION	BY	SYM.
11/99	DELETE SIGN 4/2	KFK	
REVISIONS			
NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES 200 SOUTHERN BLVD., ALBANY, N.Y. 12209			
TITLE OF PROJECT HELDERBERG AVENUE BRIDGE REPLACEMENT			
LOCATION OF PROJECT M.P. 155.54			
TITLE OF DRAWING SIGN TEXT DATA			
CONTRACT NUMBER: TAA 98-10BR			
DATE: 1/98			
DRAWING NUMBER: STD-1			

THE SEAR-BROWN GROUP





PLAN



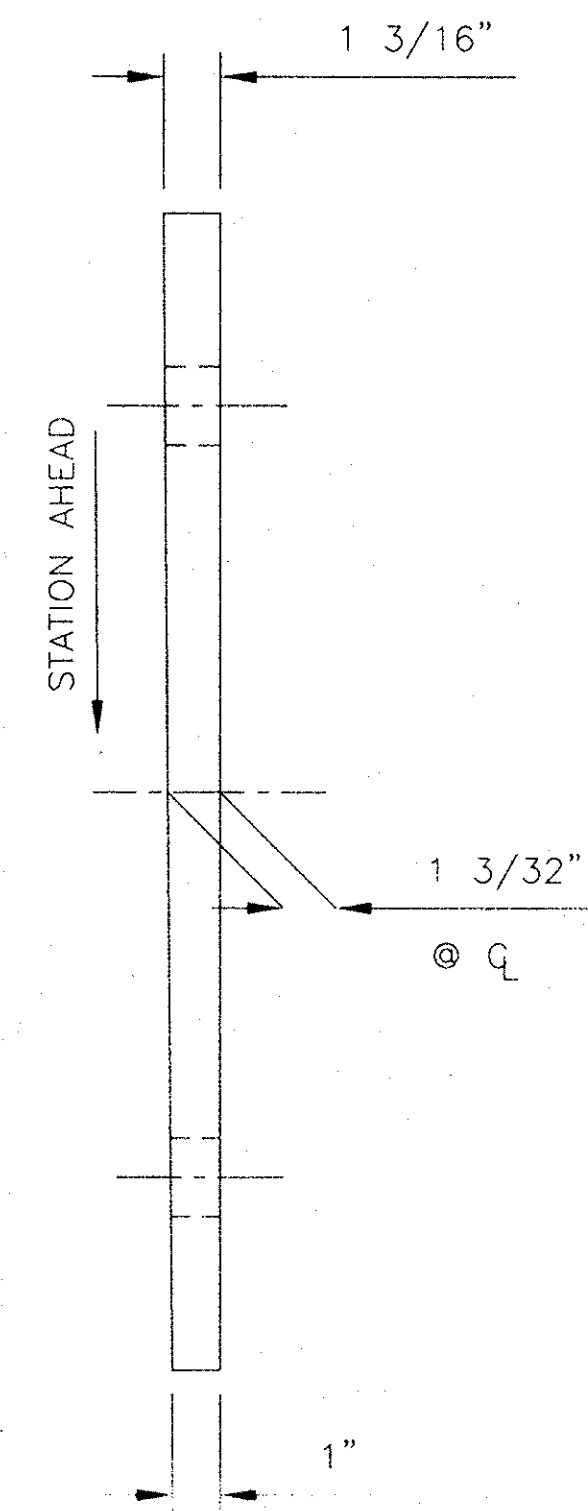
SECTION A-A

TOTAL VERTICAL CAPACITY - 350 KIPS  
 TOTAL HORIZONTAL CAPACITY - 63 KIPS  
 TOTAL MOVEMENT - 0"  
 QUANTITY - 4

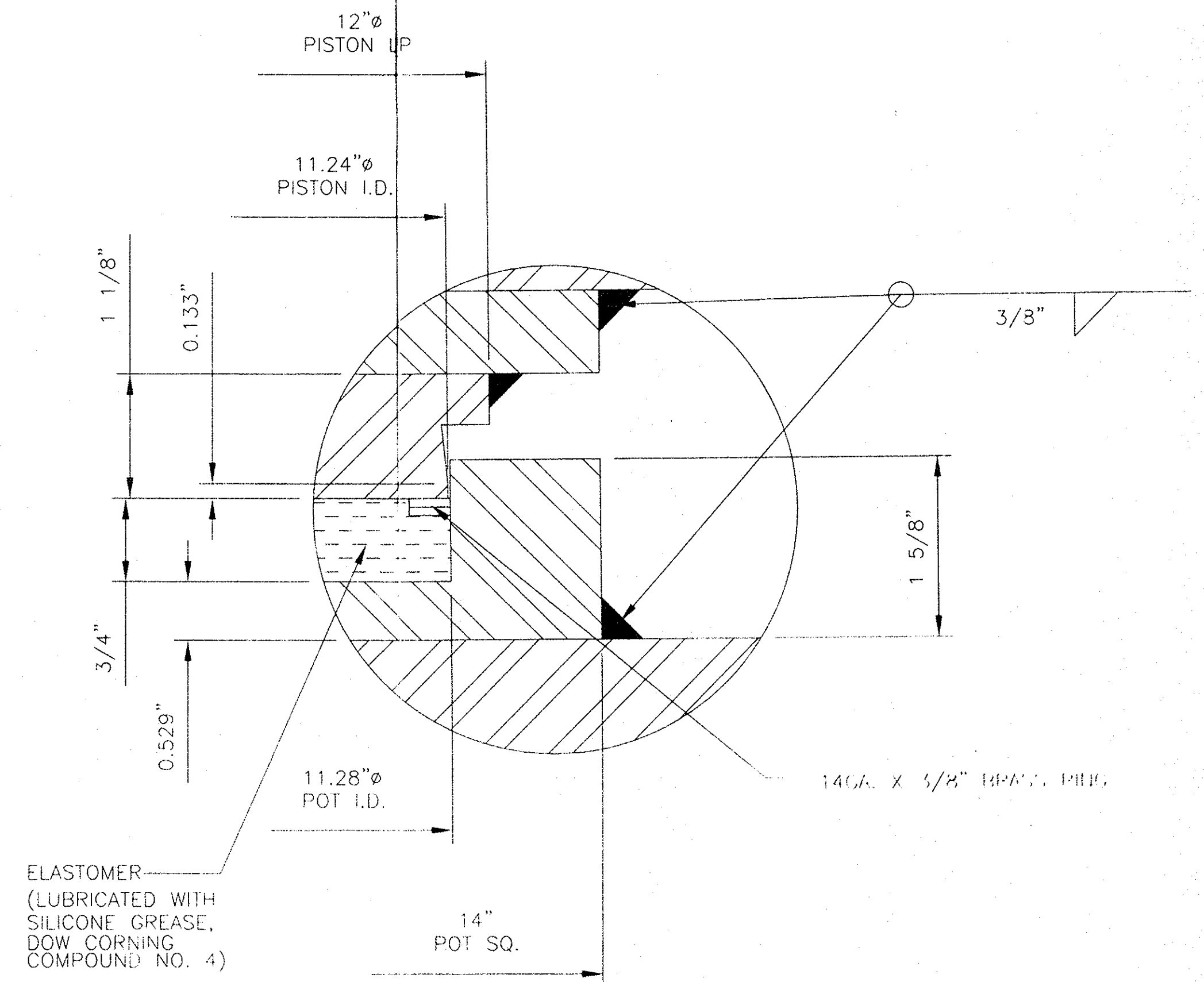
New York State  
 Thruway Authority  
 FINAL SHOP DRAWING REVIEW

☒ Approved  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_

By: Raymond Date: 11/2/98



SIDE ELEVATION  
 (BEVELED PLATE ONLY)

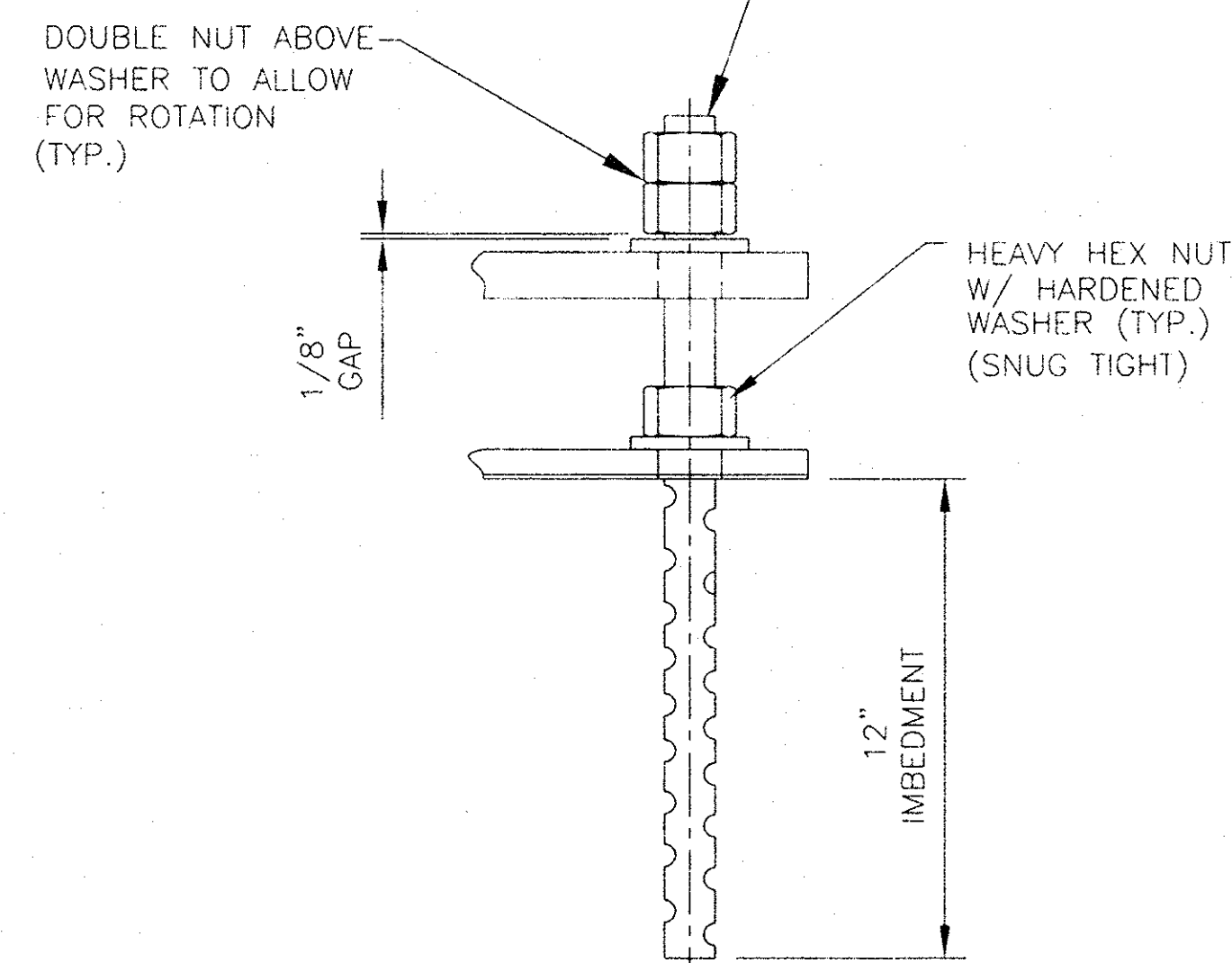


DETAIL 1

**MATERIALS**  
 STEEL - AASHTO M270M GR345 (ASTM A572 GR50) METALLIZED (SEE NOTE 1)  
 ELASTOMER - AASHTO 50 DUROMETER  
 BRASS RING - ASTM B36 HALF HARD  
 PREFORMED FABRIC PAD - AASHTO SPEC 18.10.2, DIV. II

- NOTES**
- ALL STEEL SURFACES EXCEPT TOP OF BEVELED PLATE & BOTTOM OF MASONRY PLATE SHALL BE ZINC METALLIZED. 6 MILS EXTERIOR SURFACES, 2 MILS INTERIOR SURFACES.
  - ALL MATERIAL USED IN THE FABRICATION OF THESE BEARINGS SHALL BE MADE IN THE U.S.A
  - LOCATION OF FABRICATION PLANT - 70 SOUTH ST. WALPOLE, VA 02081
  - COSMEC INC. REPRESENTATIVE - WILLIAM BURHOE (508-668-6600)

1 1/4" X 22" LONG ANCHOR BOLT, SWEDGED ONE END, 10" THREAD THE OTHER END, WITH HEAVY HEX NUTS, 1/8" X 2 5/8" SQ. WASHER (TYP.) ASTM A449 ANCHOR BOLTS GALVANIZED.



ANCHOR BOLT DETAIL

N.T.S.

NOTE:  
 BEARING HEIGHT DIFFERS FROM THAT SHOWN ON THE CONTRACT PLANS. CONTRACTOR SHALL RECOMPUTE ALL BEARING SEAT ELEVATIONS TO ACCURATELY REFLECT THE HEIGHT OF BEARING SUPPLIED.

STATE OF NEW YORK  
 THRUWAY AUTHORITY

HELDERBERG AVENUE  
 BRIDGE REPLACEMENT

M.P. 155.54  
 CONTRACT NO. TAA 98-10BR  
 ITEM 565.1706

COSMEC, INC.

70 SOUTH STREET  
 WALPOLE, MA 02081

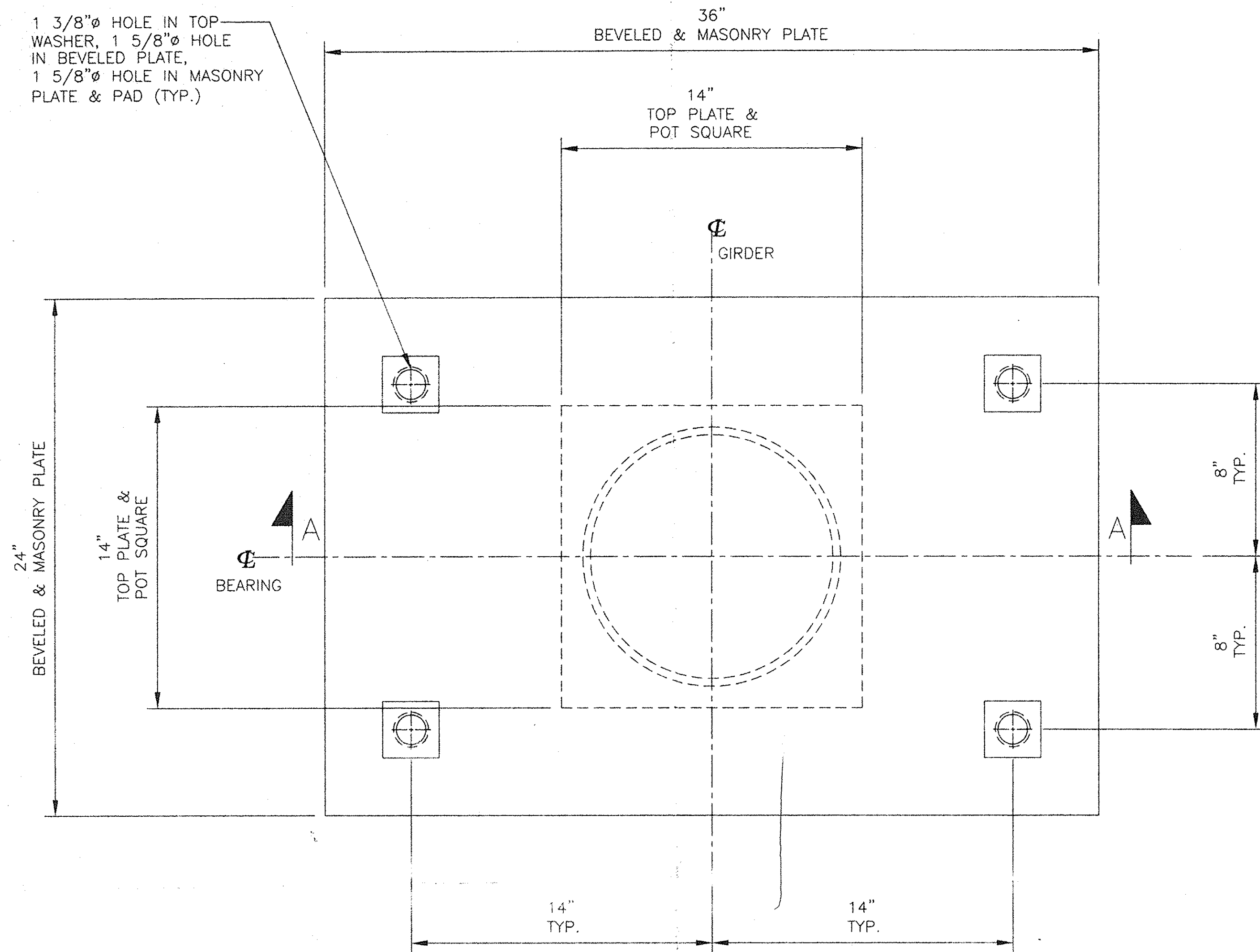
SCALE: 1/4" = 1" DRAWN BY: NH CHECKED BY: MCM  
 DATE: 11.17.98 DATE: 11.24.98

COSMEC FIXED POT BEARING

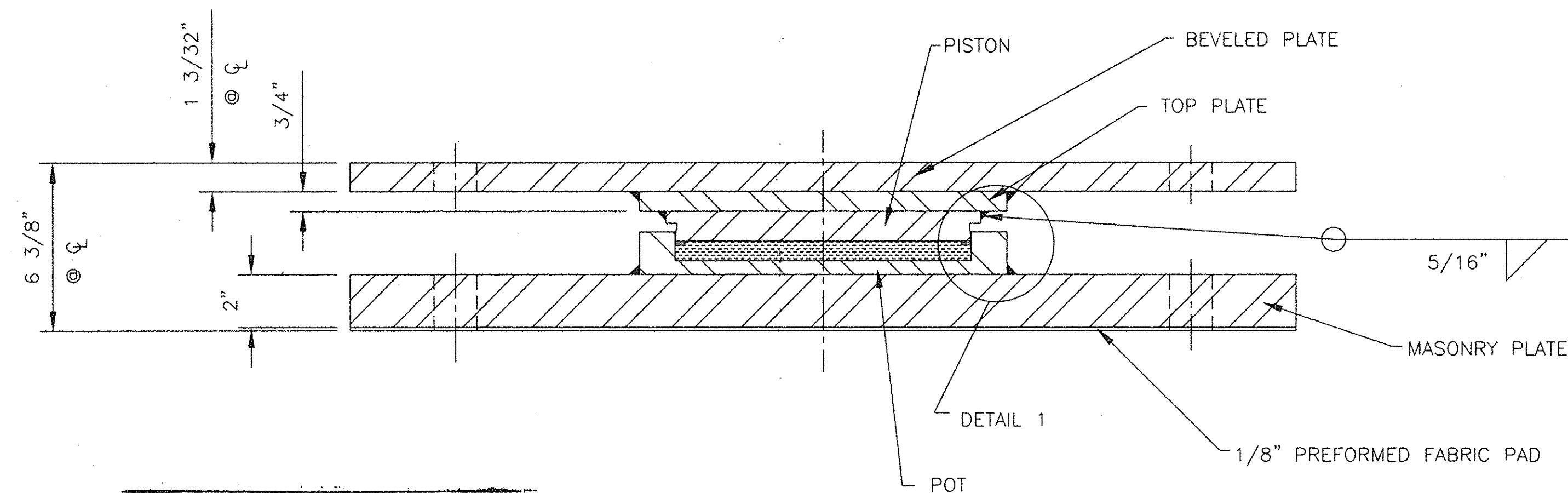
CUSTOMER: BARRY, BETTE & LED DUKE, INC. S.O. NUMBER: 58585 DRAWING NUMBER: 3015 REV.

REV.	BY:	DATE	CK'D BY:	DATE





PLAN



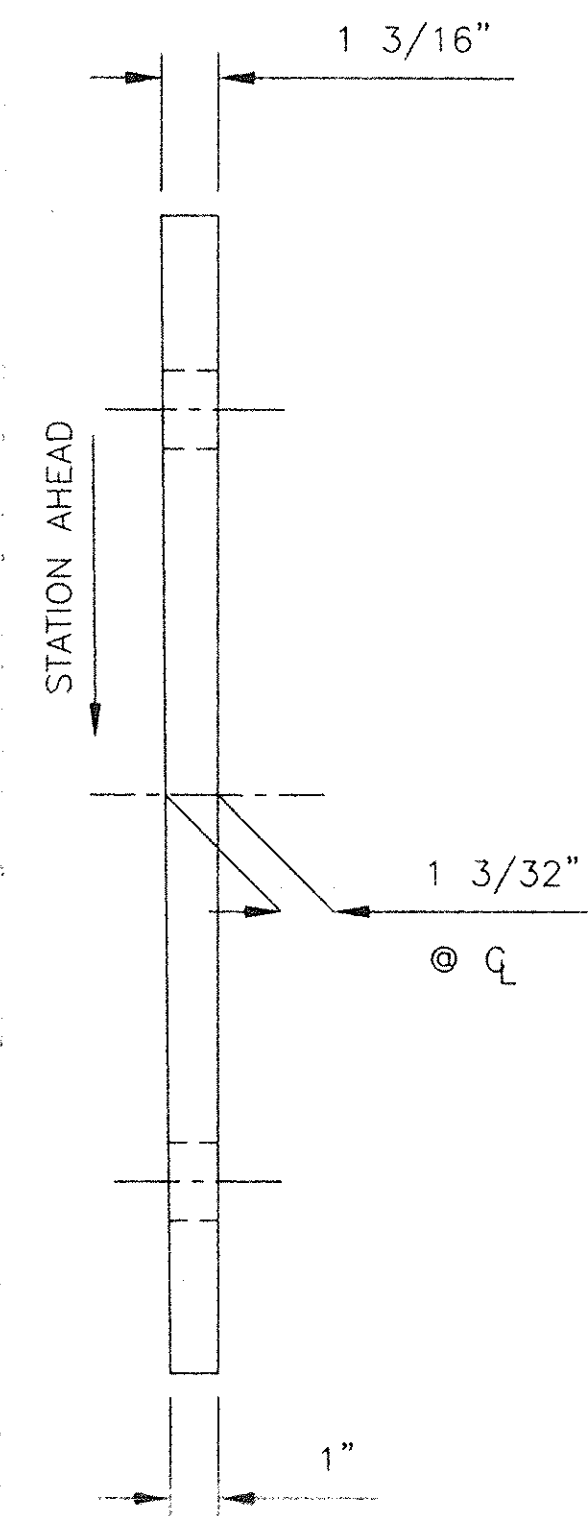
SECTION A-A

New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

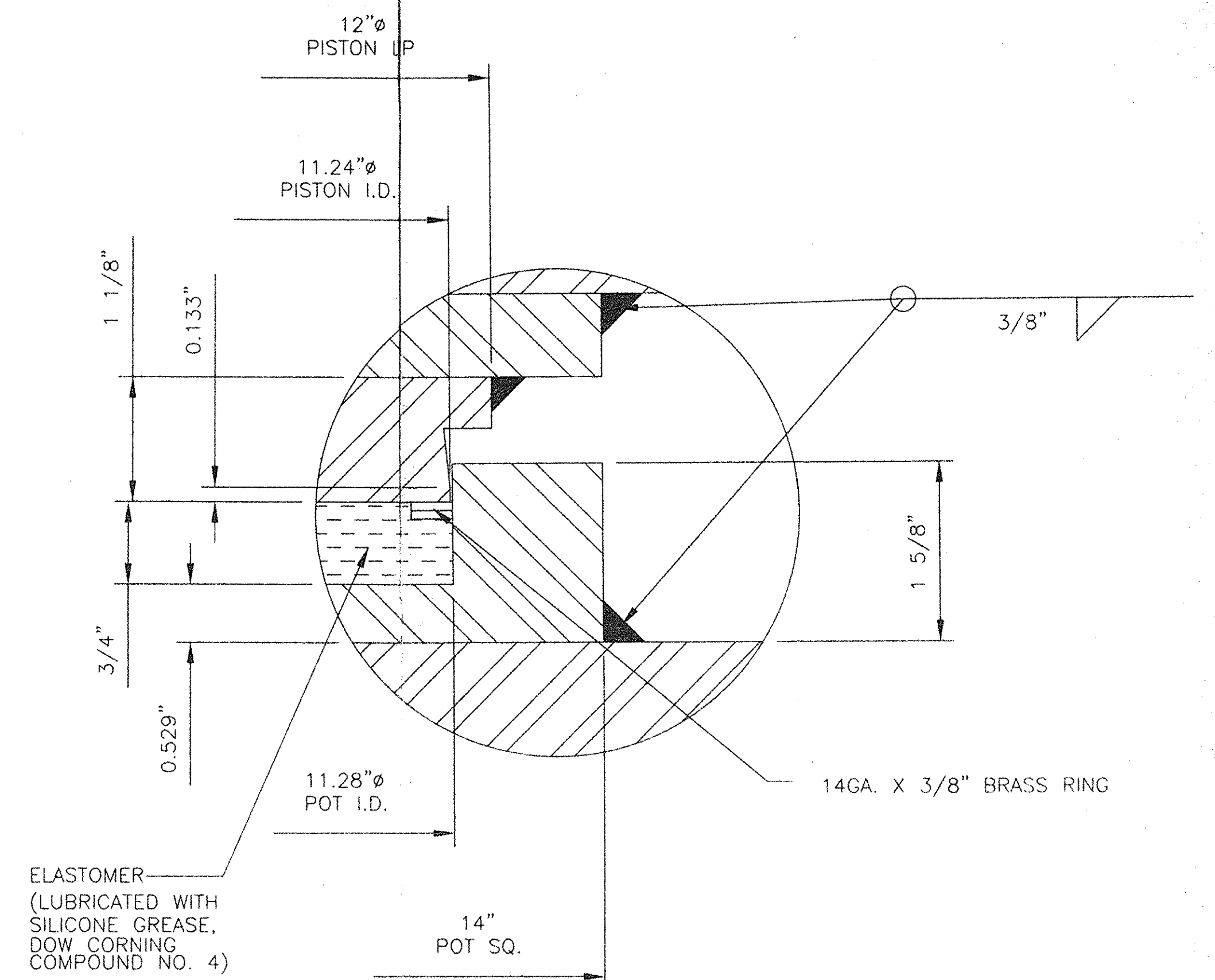
Approved  
Approved As Noted  
Approved For Revision No. \_\_\_\_\_

By: *Raymond* Date: *11.24.98*

TOTAL VERTICAL CAPACITY - 350 KIPS  
TOTAL HORIZONTAL CAPACITY - 63 KIPS  
TOTAL MOVEMENT - 0"  
QUANTITY - 4



SIDE ELEVATION  
(BEVELED PLATE ONLY)



DETAIL 1

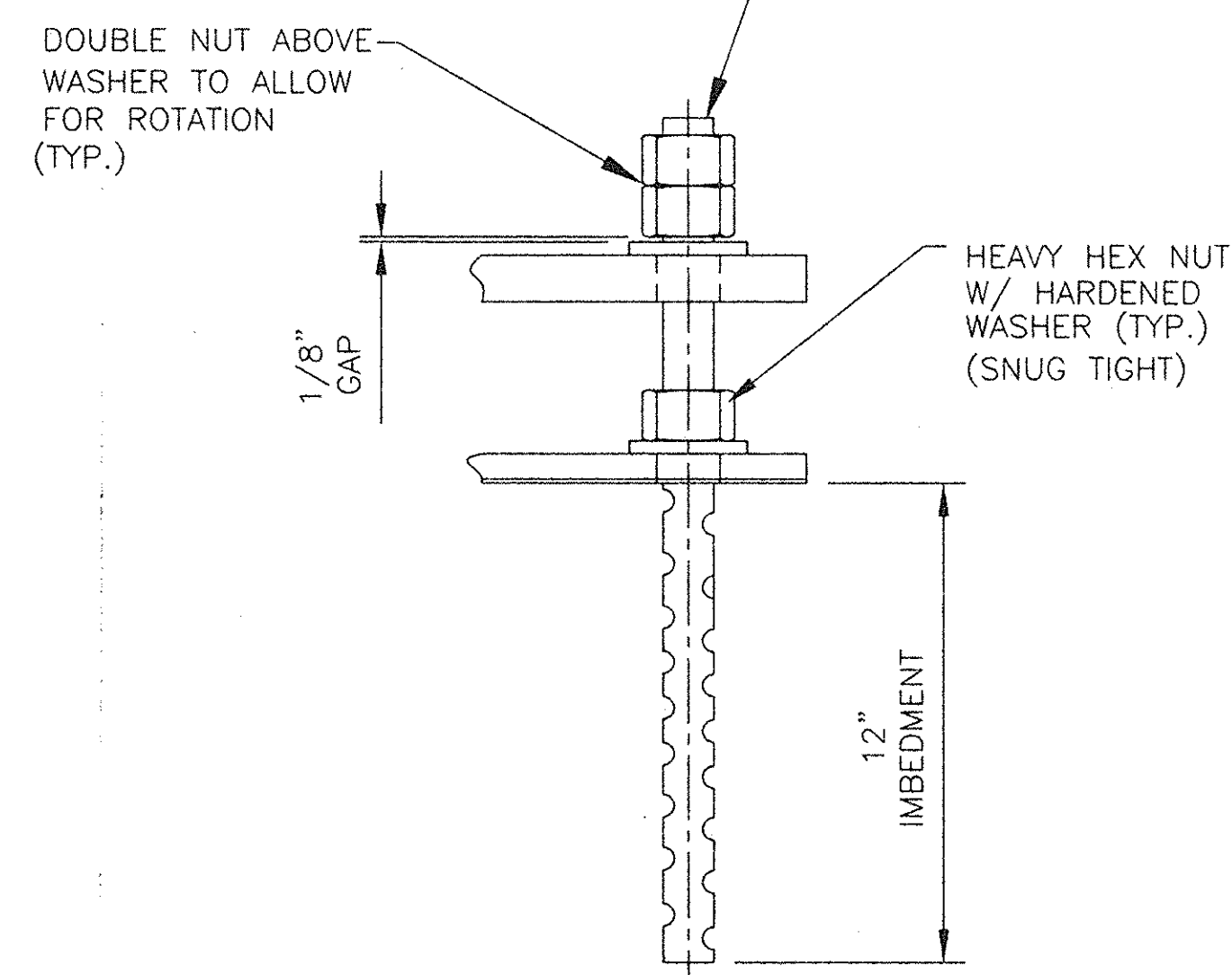
MATERIALS

STEEL - AASHTO M270M GR345 (ASTM A572 GR50) METALLIZED (SEE NOTE 1)  
ELASTOMER - AASHTO 50 DUROMETER  
BRASS RING - ASTM B36 HALF HARD  
PREFORMED FABRIC PAD - AASHTO SPEC 18.10.2, DIV. II

NOTES

- ALL STEEL SURFACES EXCEPT TOP OF BEVELED PLATE & BOTTOM OF MASONRY PLATE SHALL BE ZINC METALLIZED. 6 MILS EXTERIOR SURFACES, 2 MILS INTERIOR SURFACES.
- ALL MATERIAL USED IN THE FABRICATION OF THESE BEARINGS SHALL BE MADE IN THE U.S.A
- LOCATION OF FABRICATION PLANT - 70 SOUTH ST. WALPOLE, MA 02081
- COSMEC INC. REPRESENTATIVE - WILLIAM BURHOE (508-668-6600)

NOTE:  
BEARING HEIGHT DIFFERS FROM THAT SHOWN ON THE CONTRACT PLANS. CONTRACTOR SHALL RECOMPUTE ALL BEARING SEAT ELEVATIONS TO ACCURATELY REFLECT THE HEIGHT OF BEARING SUPPLIED.



ANCHOR BOLT DETAIL

N.T.S.

STATE OF NEW YORK  
THRUWAY AUTHORITY

HELDERBERG AVENUE  
BRIDGE REPLACEMENT

M.P. 155.54  
CONTRACT NO. TAA 98-10BR  
ITEM 565.1706

COSMEC, INC.

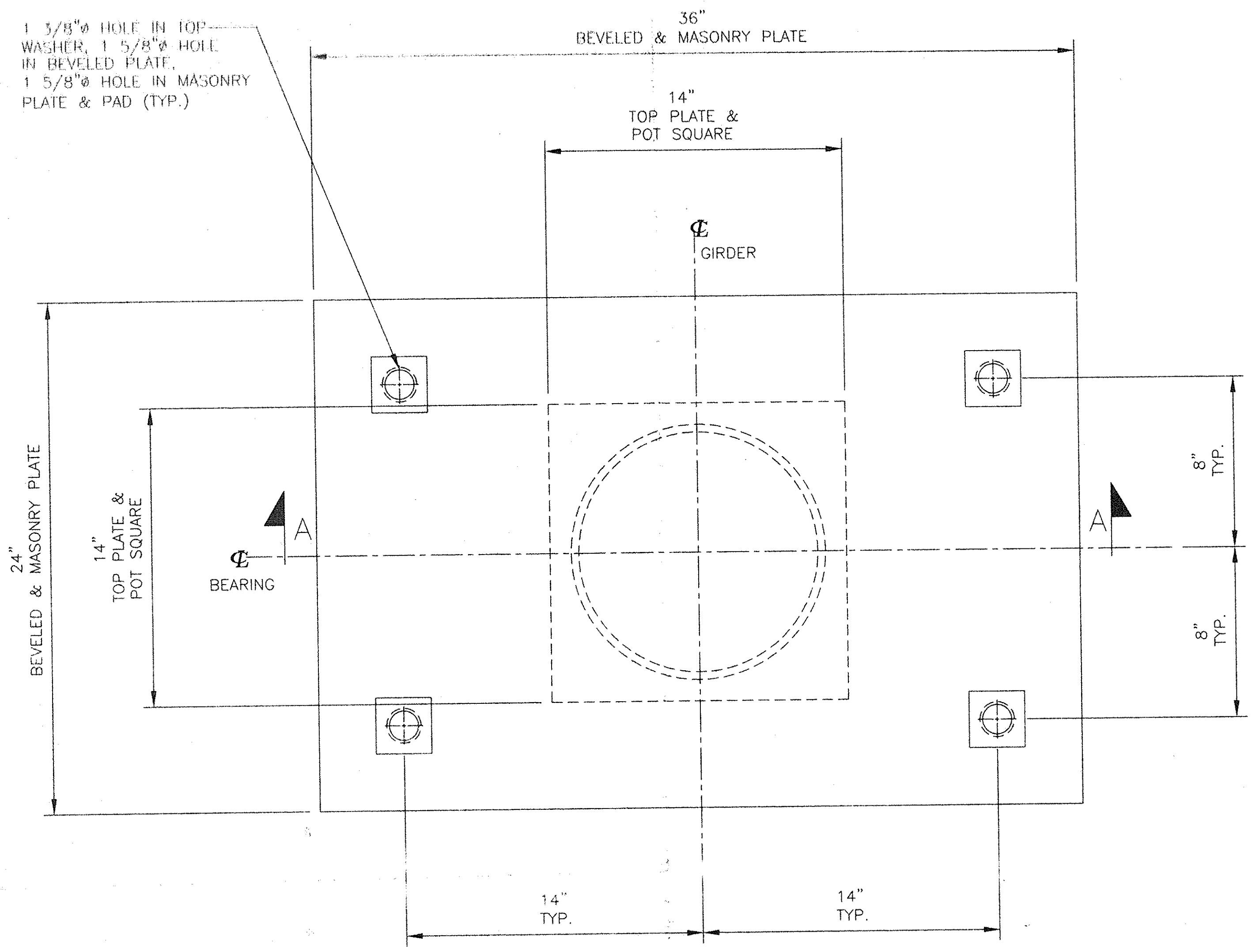
70 SOUTH STREET  
WALPOLE, MA 02081

SCALE: 1/4" = 1" DRAWN BY: NH CHECKED BY: MCM  
DATE: 11.17.98 DATE: 11.24.98

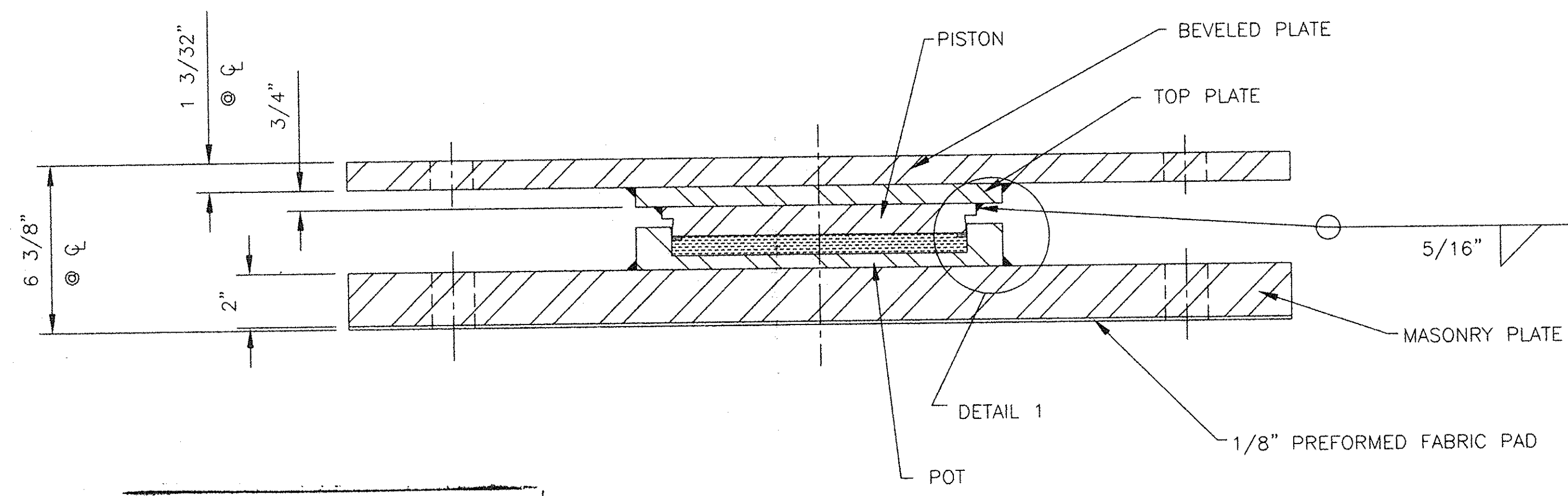
COSMEC FIXED POT BEARING

CUSTOMER: BARRY, BETTE & LED DUKE, INC. S.D. NUMBER: 58585 DRAWING NUMBER: 3015 REV.

REV.	BY	DATE	CK'D BY	DATE



PLAN



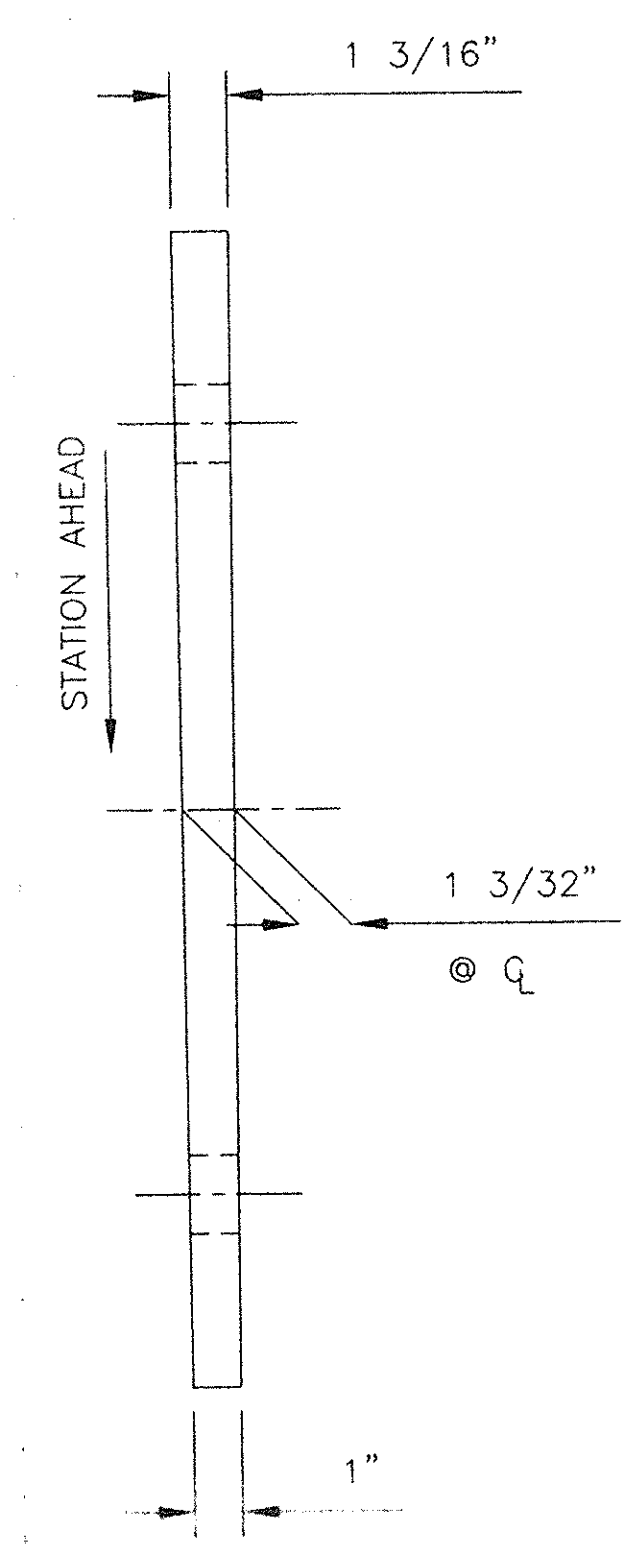
SECTION A-A

TOTAL VERTICAL CAPACITY - 350 KIPS  
 TOTAL HORIZONTAL CAPACITY - 63 KIPS  
 TOTAL MOVEMENT - 0"  
 QUANTITY - 4

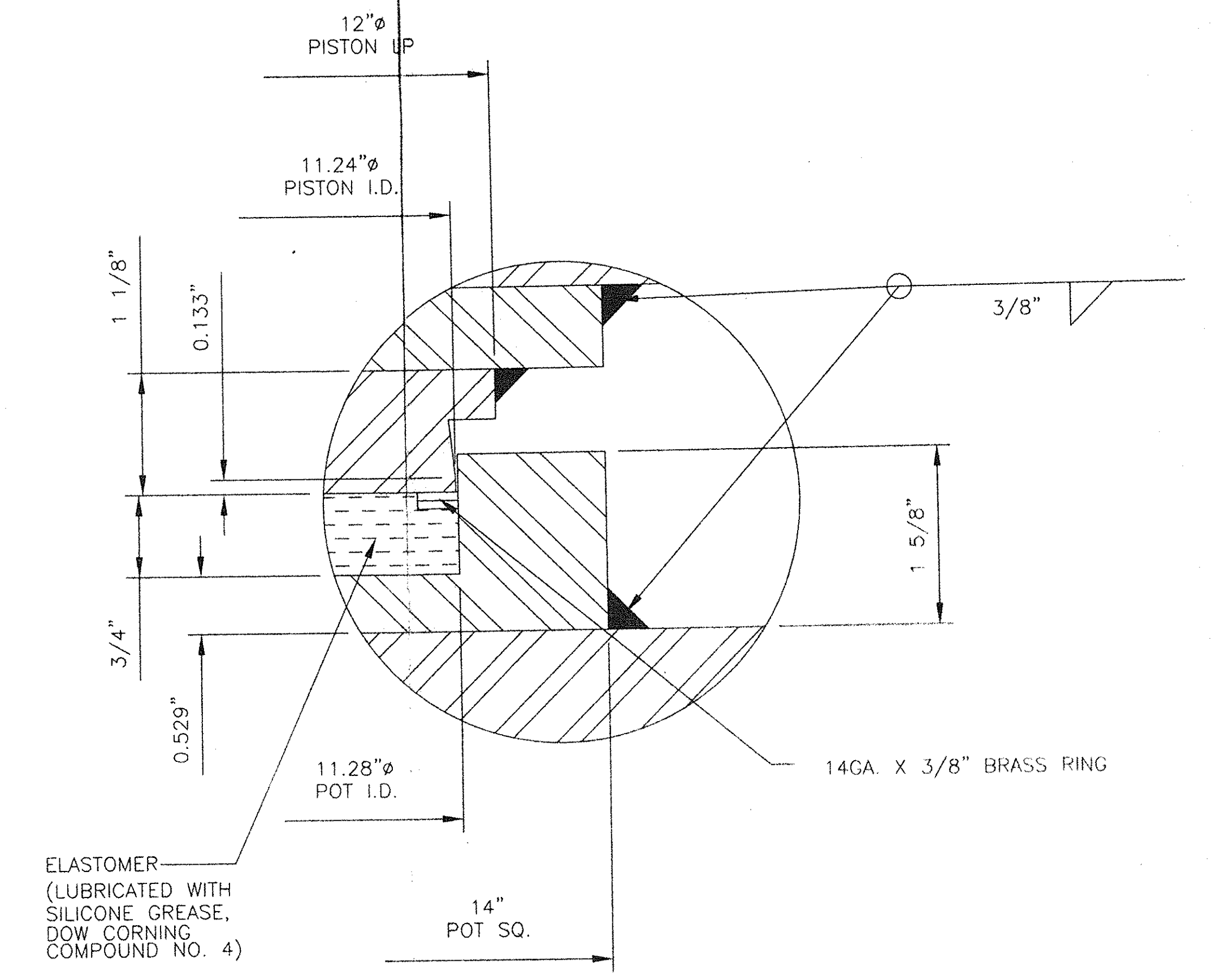
New York State  
 Thruway Authority  
 FINAL SHOP DRAWING REVIEW

☒ Approved  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_

By: *[Signature]* Date: 11.24.98



SIDE ELEVATION  
 (BEVELED PLATE ONLY)

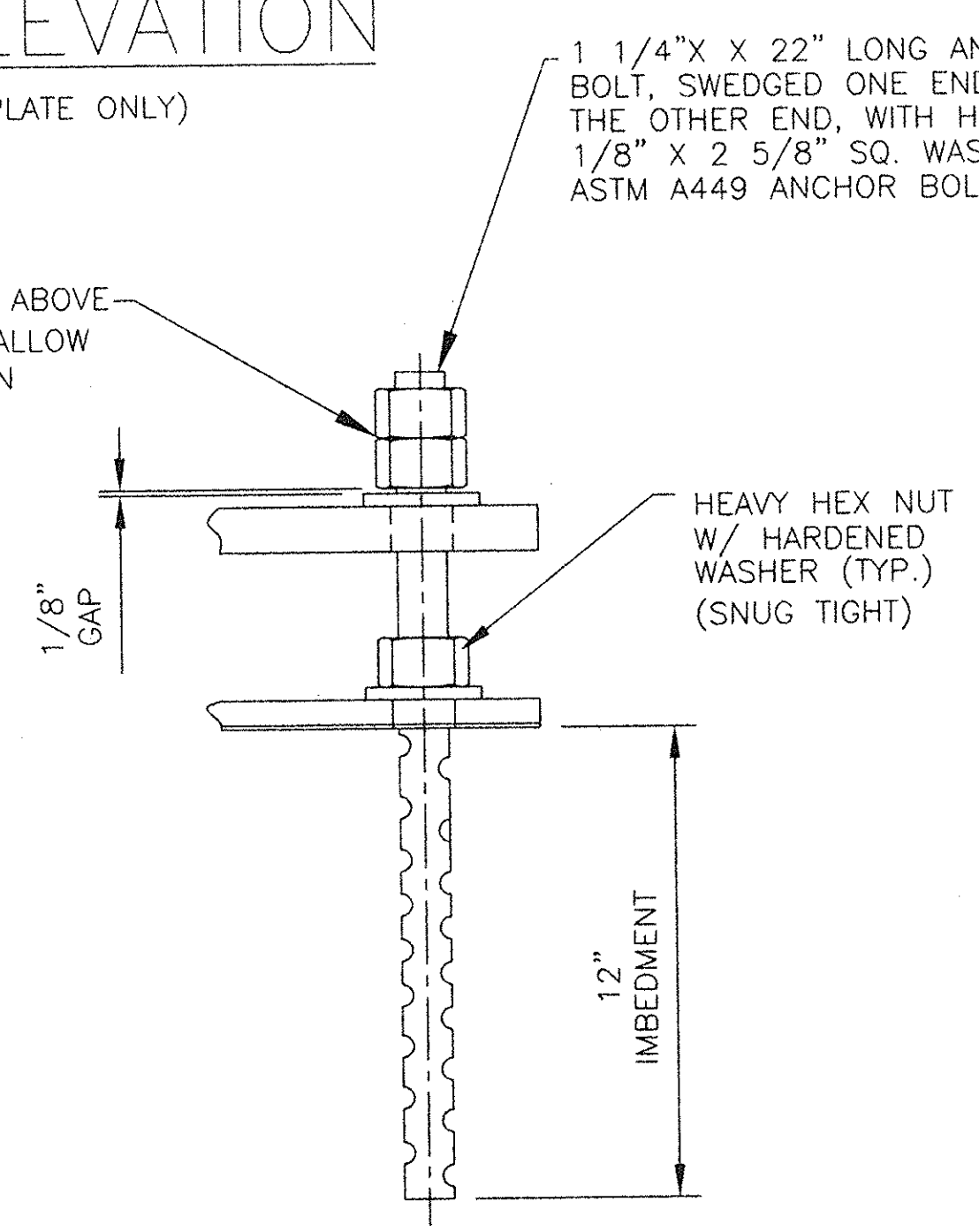


DETAIL 1

**MATERIALS**  
 STEEL - AASHTO M270M GR345 (ASTM A572 GR50) METALLIZED (SEE NOTE 1)  
 ELASTOMER - AASHTO 50 DUROMETER  
 BRASS RING - ASTM B36 HALF HARD  
 PREFORMED FABRIC PAD - AASHTO SPEC 18.10.2, DIV. II

**NOTES**  
 1. ALL STEEL SURFACES EXCEPT TOP OF BEVELED PLATE & BOTTOM OF MASONRY PLATE SHALL BE ZINC METALLIZED. 6 MILS EXTERIOR SURFACES, 2 MILS INTERIOR SURFACES.  
 2. ALL MATERIAL USED IN THE FABRICATION OF THESE BEARINGS SHALL BE MADE IN THE U.S.A  
 3. LOCATION OF FABRICATION PLANT - 70 SOUTH ST. WALPOLE, MA 02081  
 4. COSMEC INC. REPRESENTATIVE - WILLIAM BURHOE (508-668-6600)

NOTE:  
 BEARING HEIGHT DIFFERS FROM THAT SHOWN ON THE CONTRACT PLANS. CONTRACTOR SHALL RECOMPUTE ALL BEARING SEAT ELEVATIONS TO ACCURATELY REFLECT THE HEIGHT OF BEARING SUPPLIED.



ANCHOR BOLT DETAIL

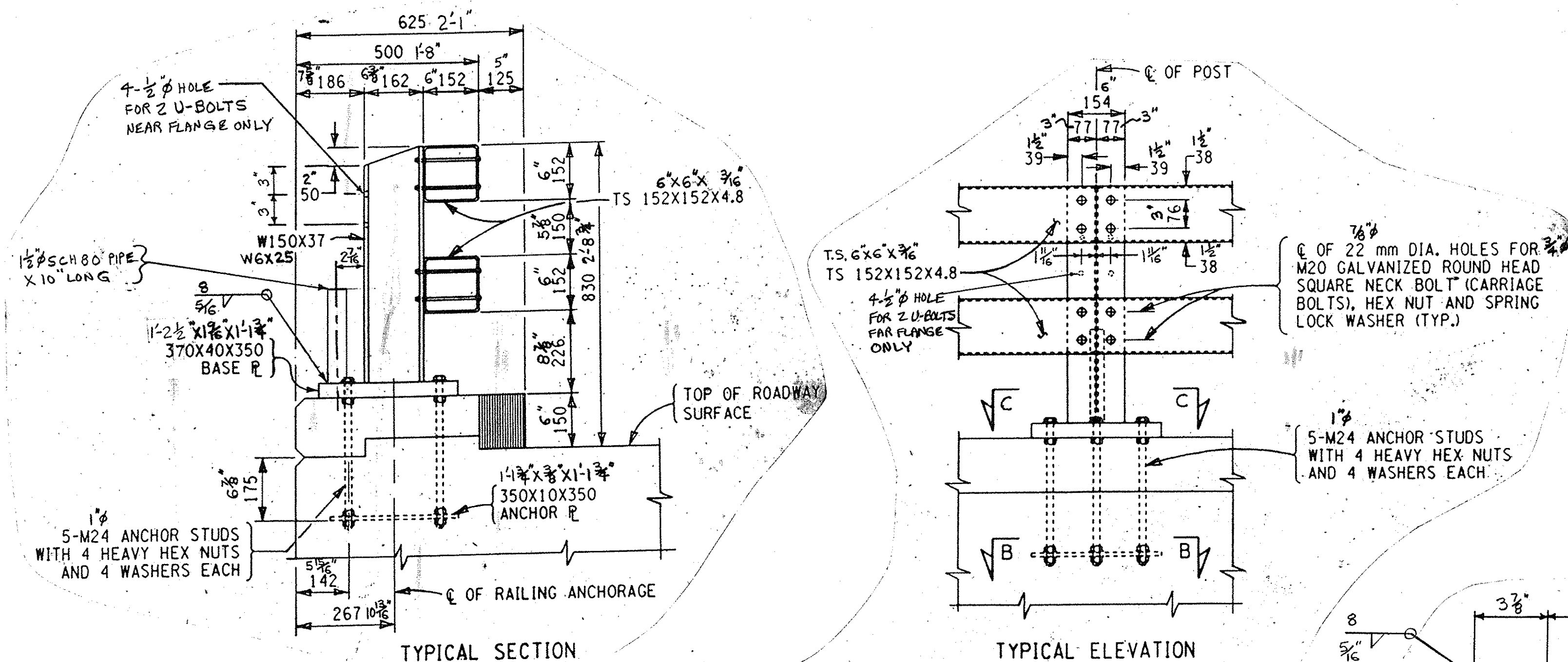
N.T.S.

STATE OF NEW YORK  
 THRUWAY AUTHORITY  
 HELDERBERG AVENUE  
 BRIDGE REPLACEMENT  
 M.P. 155.54  
 CONTRACT NO. TAA 98-10BR  
 ITEM 565.1706

**COSMEC, INC.** 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 1/4"=1"	DRAWN BY: NH	CHECKED BY: MCM
	DATE: 11.17.98	DATE: 11.24.98
COSMEC FIXED POT BEARING		
CUSTOMER BARRY, BETTE & LED DUKE, INC.	S.O. NUMBER 58585	DRAWING NUMBER 3015





**SECTION C-C**

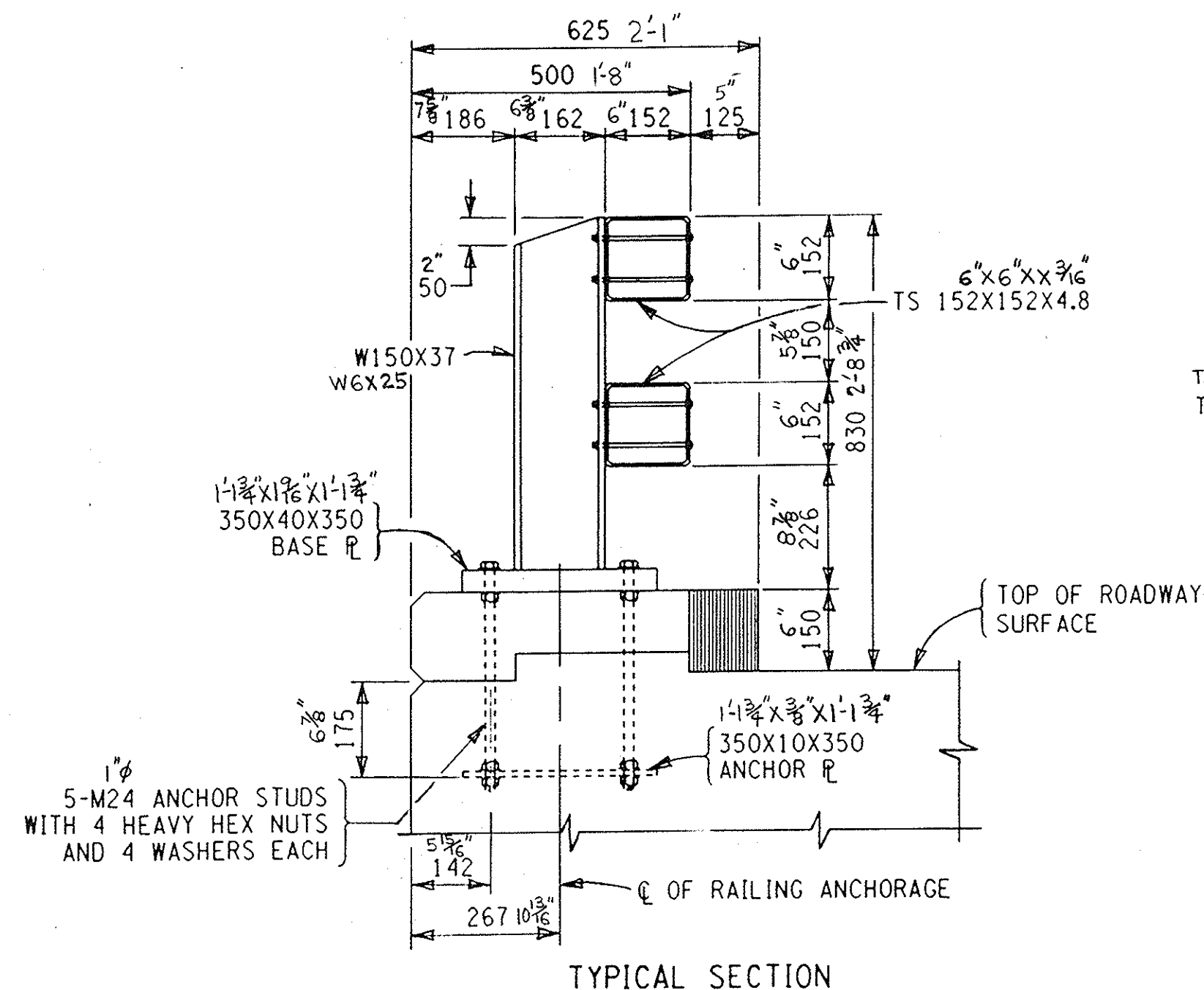
1½" SCH 80 PIPE X 10' LONG  
 1'-1¾" x 16" x 1½" BASE PL.  
 350X40X370 BASE P.  
 15" Ø  
 28 mm DIA. HOLE FOR M24 ANCHOR STUD (TYP.)  
 1" Ø  
 W150X37  
 W6X25  
 12  
 5"  
 8"  
 12  
 2"  
 4"  
 125  
 125  
 2"  
 350  
 1-1¾"

NOTE:  
THREE ANCHOR STUDS SHALL BE INSTALLED ON TRAFFIC SIDE.

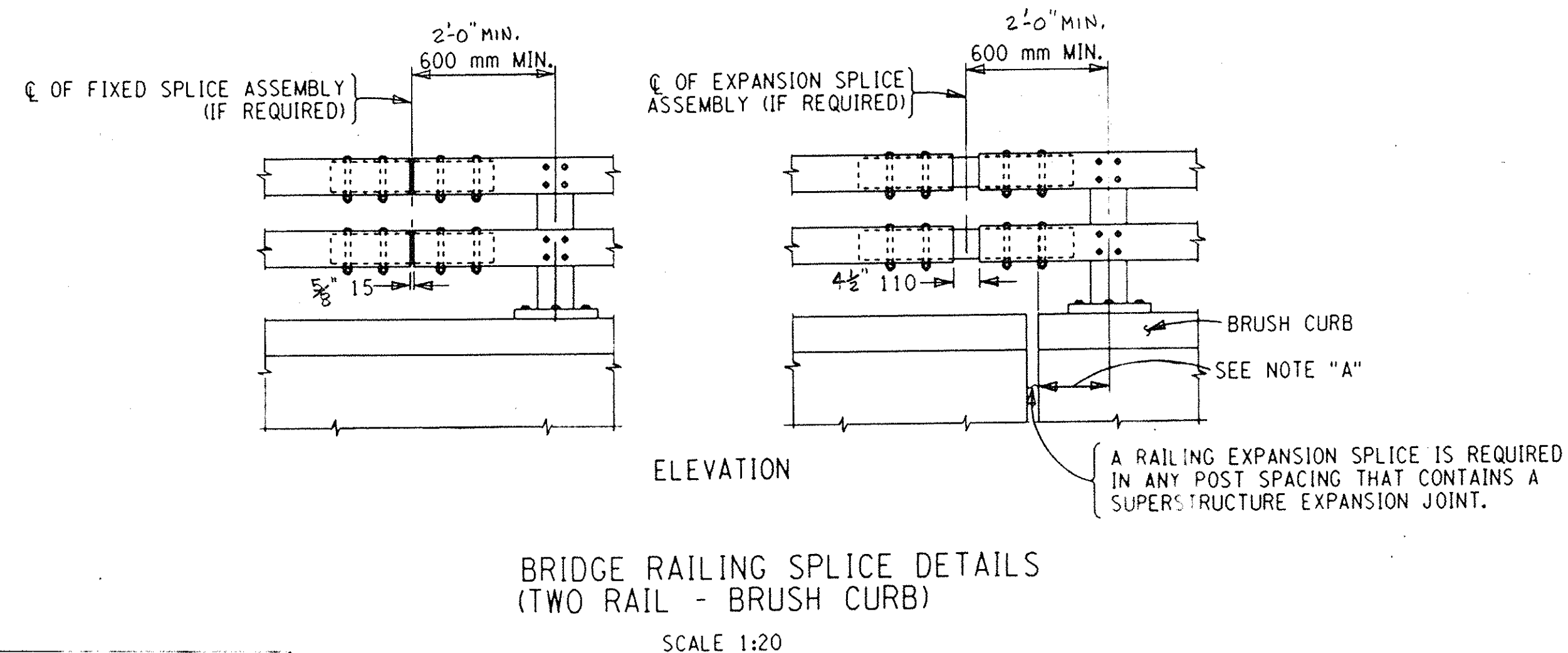
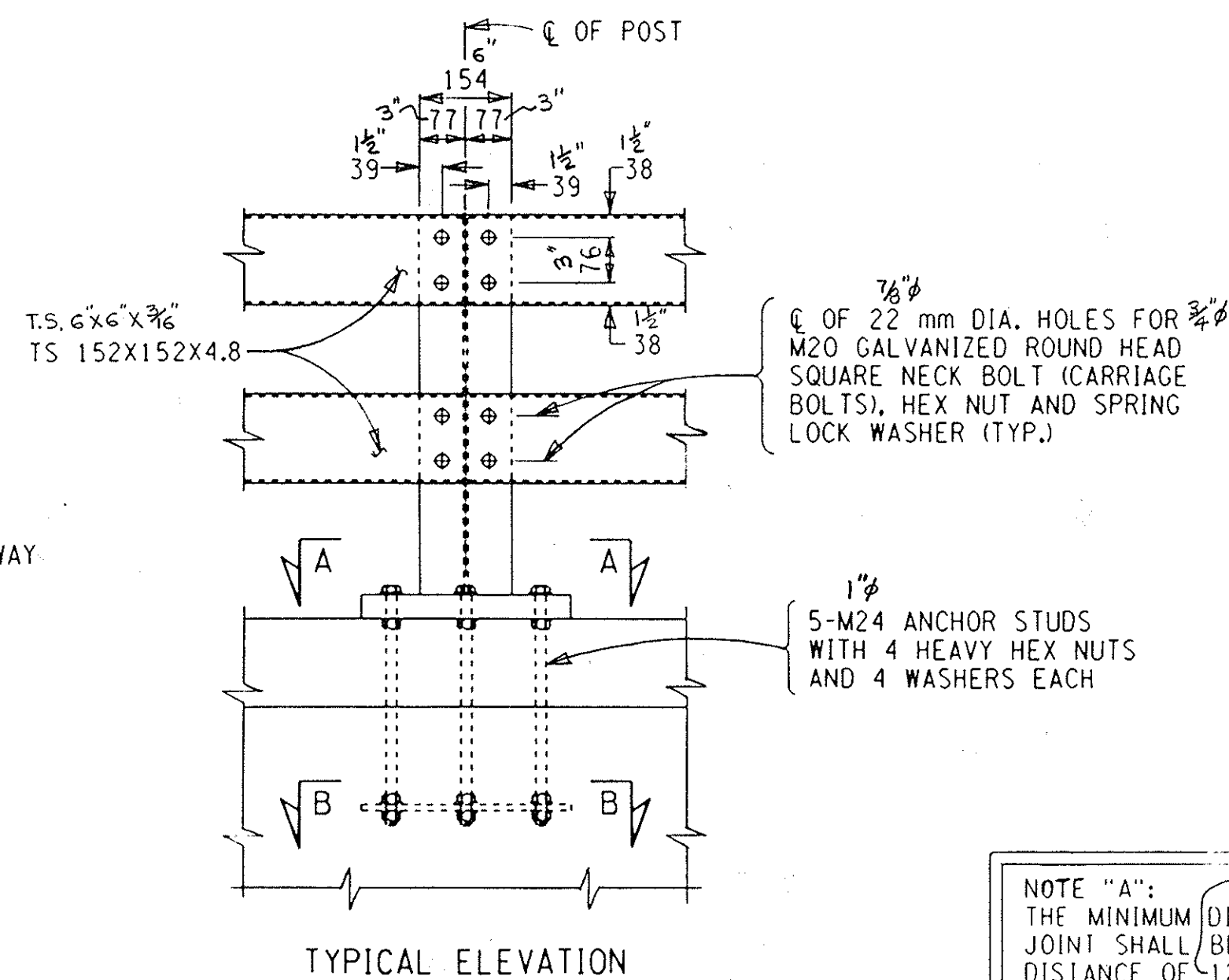
NOTE:  
THREE ANCHOR STUDS SHALL ALWAYS  
BE INSTALLED ON TRAFFIC SIDE OF  
POST.

NOTES. 1. F = POST WITH FENCE CONNECTION.  
2. GALV. VENT HOLE REQ'D. IN FENCE STUB PIPE

▲ REVISED 2/15/99 DCK ADD'D FENCE CONNECTIONS ETC. THIS SHEET ONLY ▲ REVISED 3/23/99 DCK PER COMMENTS		DRAWN BY: DCK		DATE: 12/18/98	CHECKED BY:	SHEET No. 1 OF 3
PAY LIMIT FOR 2 RAIL BRIDGE RAIL = 440.6667' (APPROX)						
<p align="center"><u>BRIDGE RAILING LAYOUT</u></p> <p align="center">NEW YORK STATE THRUWAY AUTHORITY          HELDERBERG AVENUE BRIDGE OVER THE THRUWAY AT          M.P. 155.54 IN SCHENECTADY COUNTY          (B.I.N. 5513660)</p>						
CONT. NO. TAA 98-10BR						
GENERAL CONTRACTOR BARRY, BETTE, & LED DUKE, INC.						
ERECTOR: EMI GUIDE RAIL, LLC.					JOB NO. E05-13	
FABRICATOR: DT HIGHWAY SIGN + STRUCTURE PO. Box 123, NEW YORK MILLS, NY. 13417						

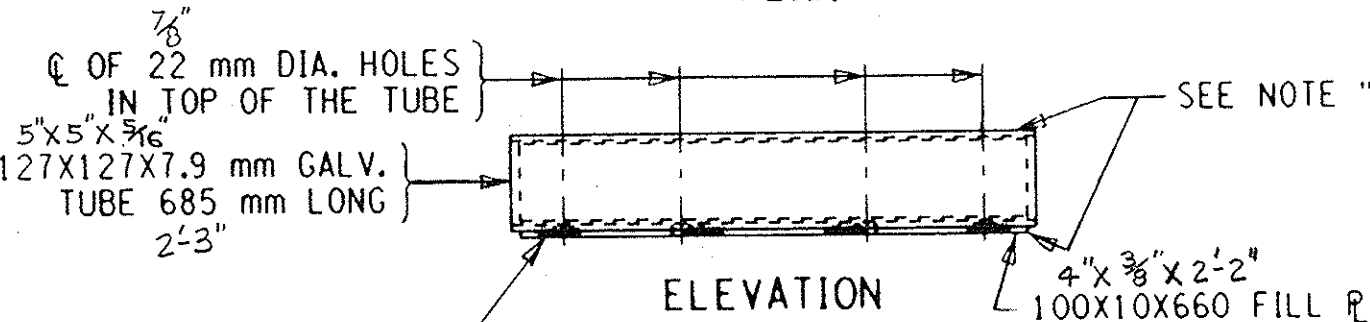
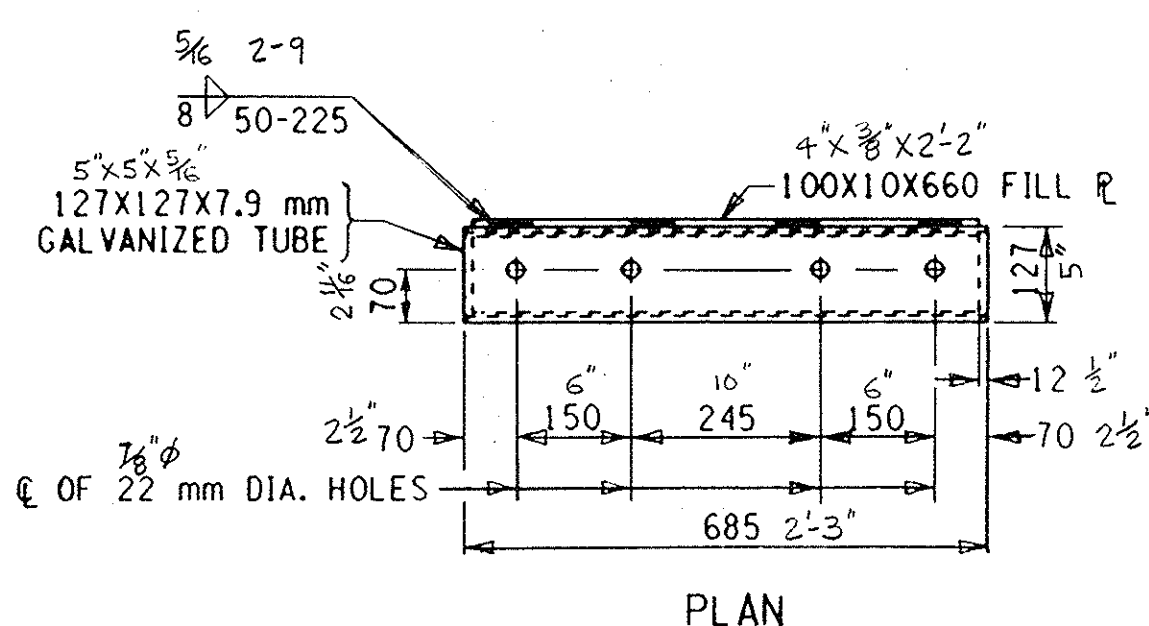


STEEL BRIDGE RAILING  
(TWO RAIL - BRUSH CURB)  
SCALE 1:10

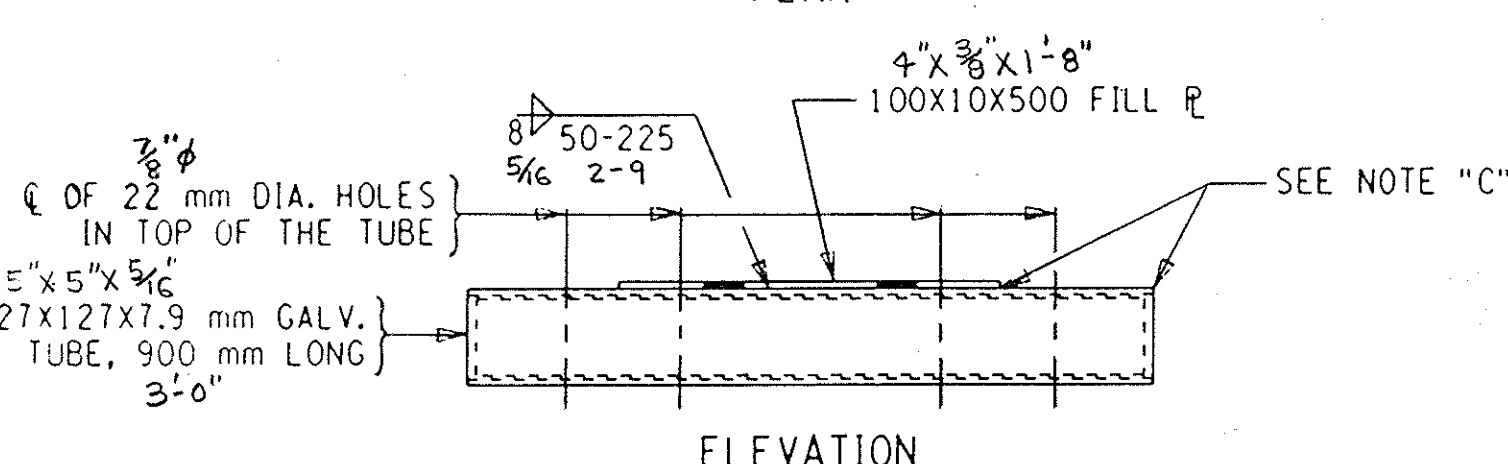
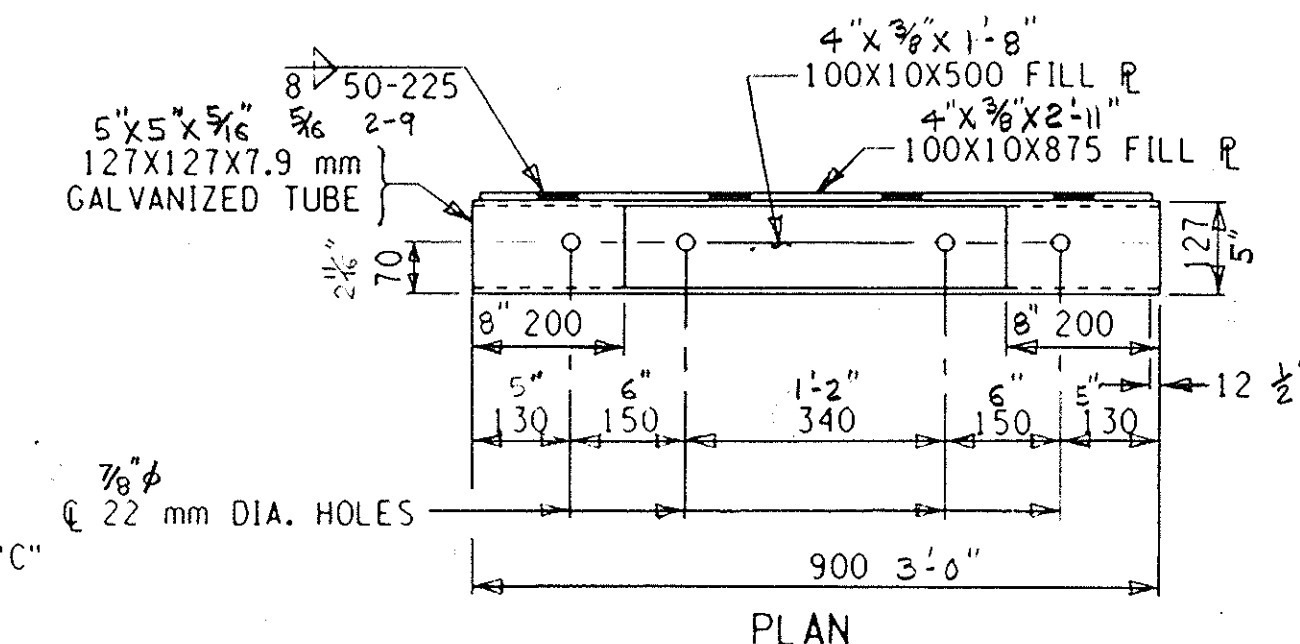


NOTE "A":  
THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 125 mm FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR TO THE RECESS POUR FOR AN EXPANSION JOINT, IF THERE IS ONE. ON PRESTRESSED CONCRETE BRIDGES, THE POST SHALL BE LOCATED TO MINIMIZE ANCHOR PLATE/END BLOCK REINFORCEMENT CONFLICTS. POST SPACING SHALL BE ADJUSTED ACCORDINGLY.

DESIGNER:  
IF THE SUPERSTRUCTURE EXPANSION JOINT IS DESIGNED TO TAKE MORE THAN 100 mm OF EXPANSION, THE DESIGNER SHALL INCREASE THE SPLICE TUBE LENGTH, LOCATED HOLES AND 110 mm CLEARANCE.

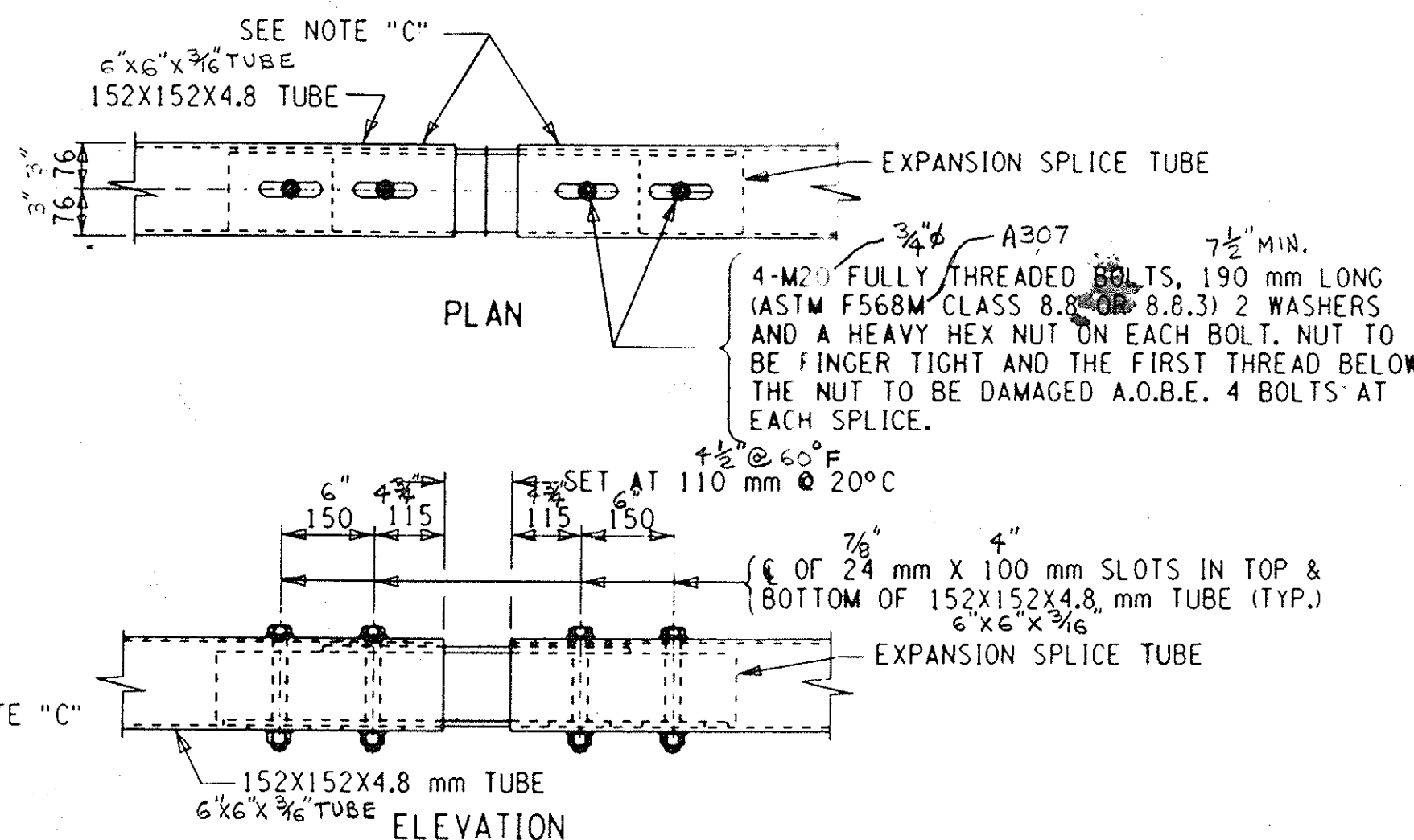


FIXED SPLICE TUBE  
SCALE 1:10



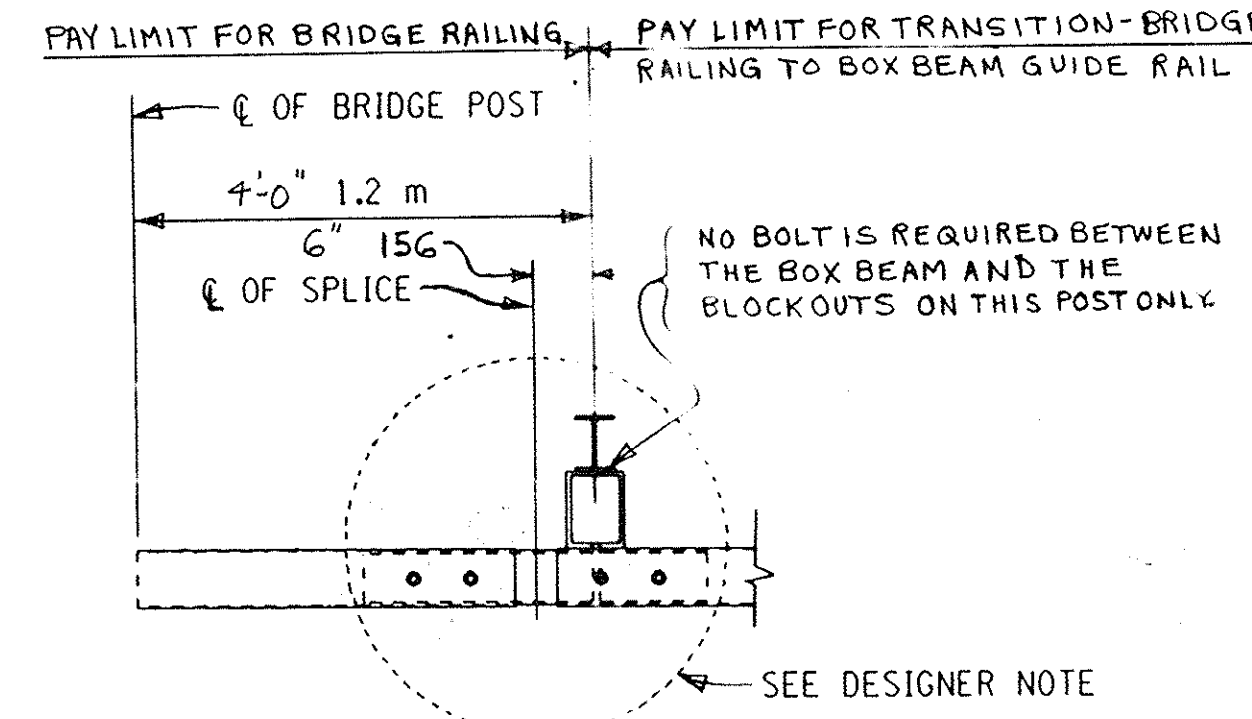
EXPANSION SPLICE TUBE  
SCALE 1:10

NOTE "C":  
PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.



DESIGNER:  
THE EXPANSION SPLICE ASSEMBLY DETAIL WILL ACCOMMODATE 80 mm OF EXPANSION OR 80 mm OF CONTRACTION. IF ADDITIONAL MOVEMENT IS ANTICIPATED, THE EXPANSION SPLICE ASSEMBLY MUST BE REDESIGNED.

DESIGNER:  
THE MAXIMUM CENTER TO CENTER SPACING OF RAILING POSTS IS 2.5 m.



DESIGNER NOTE:  
THE DESIGNER SHALL CHECK THE CLEARANCE FROM THE SUBSTRUCTURE TO THE FIRST HEAVY POST. THIS POST MAY REQUIRE THE SPECIAL POST DETAIL, SEE NEXT SHT.

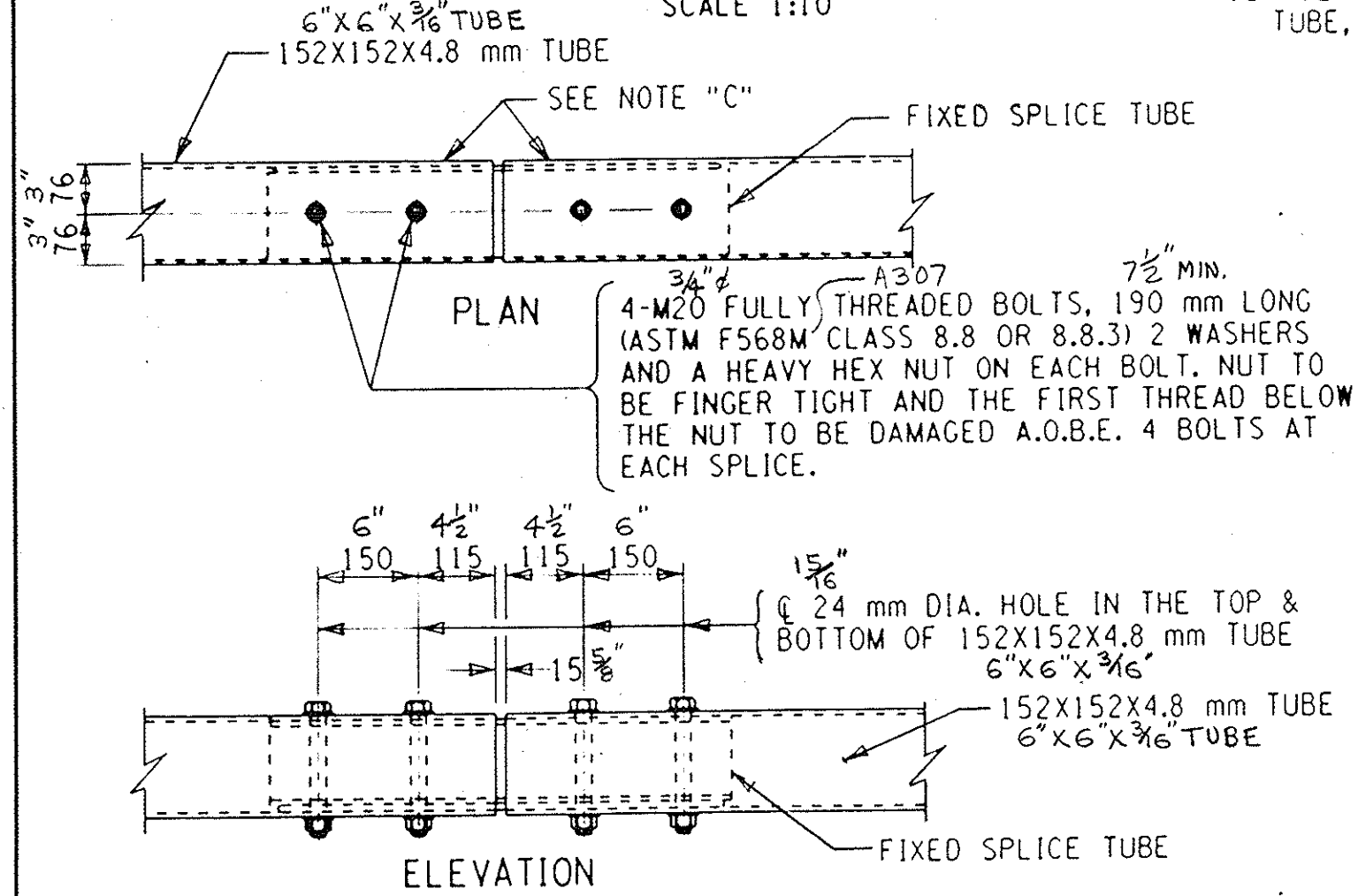
- NOTES:**
1. ALL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH N.Y.S. STANDARD SPECIFICATIONS, SUBSECTION 719-01. ALL AREAS WHERE THE ZINC COATING IS DAMAGED DURING INSTALLATION, INCLUDING FIELD DRILLING HOLES, SHALL BE REPAIRED ACCORDING TO SUBSECTION 719-01.
  2. ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 568 OF THE STANDARD SPECIFICATIONS.
  3. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 2 mm.
  4. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 135 N-m).
  5. FOR SECTIONS A-A & B-B, SEE NEXT SHEET.

NOTE:  
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.

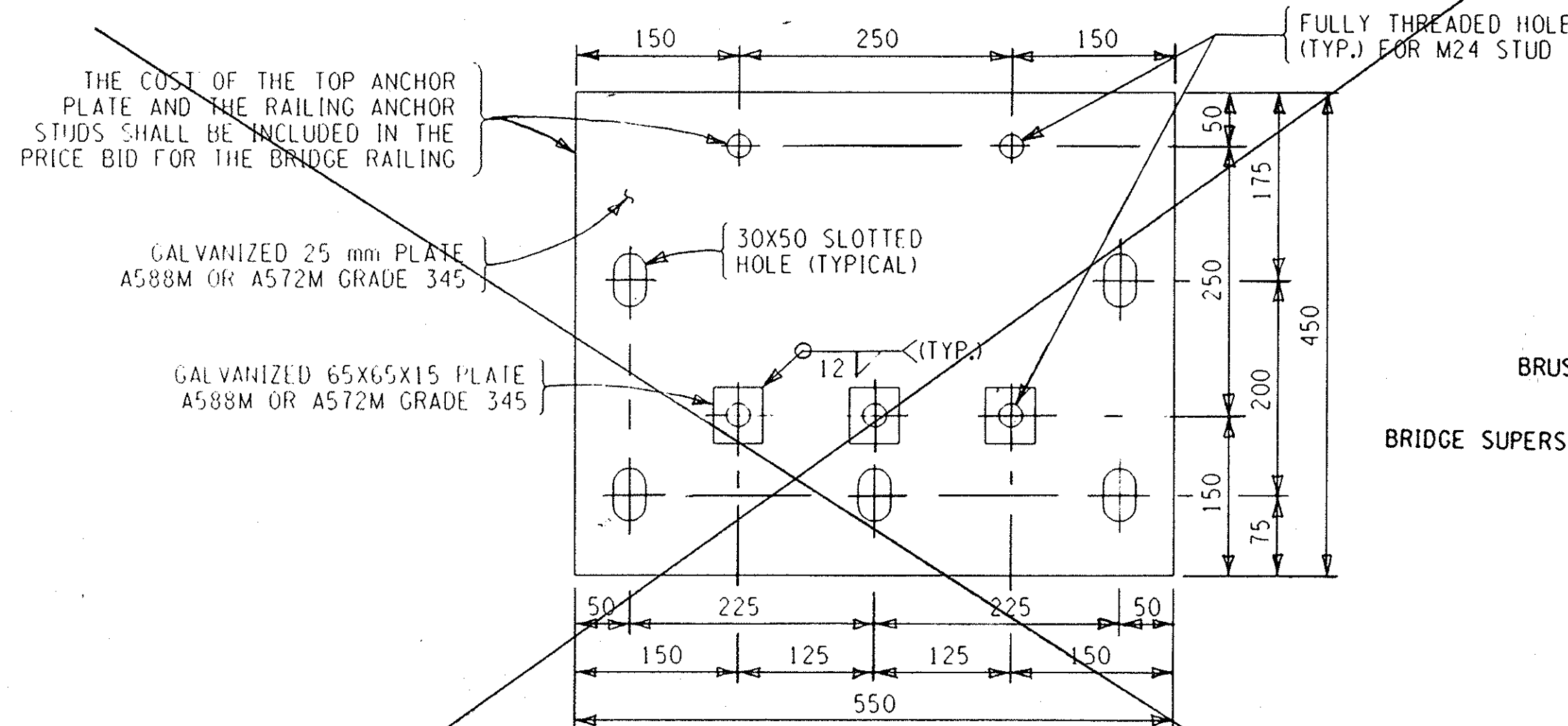
DRAWN BY: DCK	DATE: 12/21/98	CHECKED BY:	SHT. 2 OF 3
BRIDGE RAILING DETAILS			
NEW YORK STATE THRUWAY AUTHORITY HELDERBERG AVENUE BRIDGE OVER THE THRUWAY AT M.P. 155.54 IN SCHENECTADY COUNTY (B.I.N. 5513660)			
CONT. No. - TAA 98-10BR	REGION No.		JOB No.
GENERAL CONTRACTOR: BARRY, BETTE, & LEO DUKE, INC.			E05-13
ERECTOR: EMI GUIDE RAIL, I.L.C.			
FABRICATOR: DI HIGHWAY SIGN & STRUCTURE CORP. P.O. BOX 123, NEW YORK MILLS, N.Y. 13417			

K.F. Korona-R.E. 4/19/99

FIXED SPLICE ASSEMBLY  
SCALE 1:10



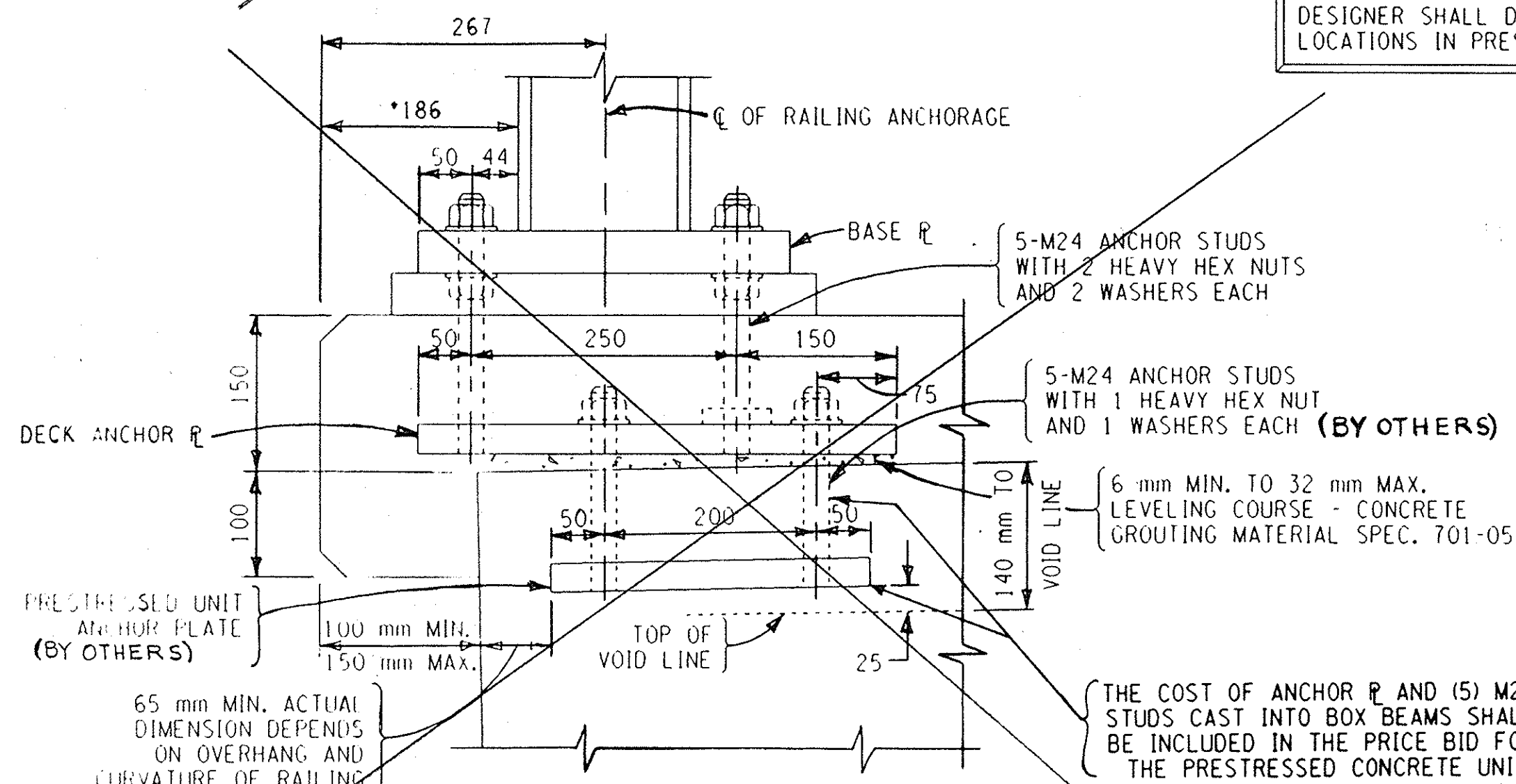




DETAIL OF DECK ANCHOR PLATE

SCALE 1:5

NOTE:  
DESIGNER SHALL DETAIL ANCHOR PLATE  
LOCATIONS IN PRESTRESSED UNITS.



STEEL BRIDGE RAILING ANCHOR DETAIL  
FOR PRESTRESSED CONCRETE BRIDGE

SCALE 1:5

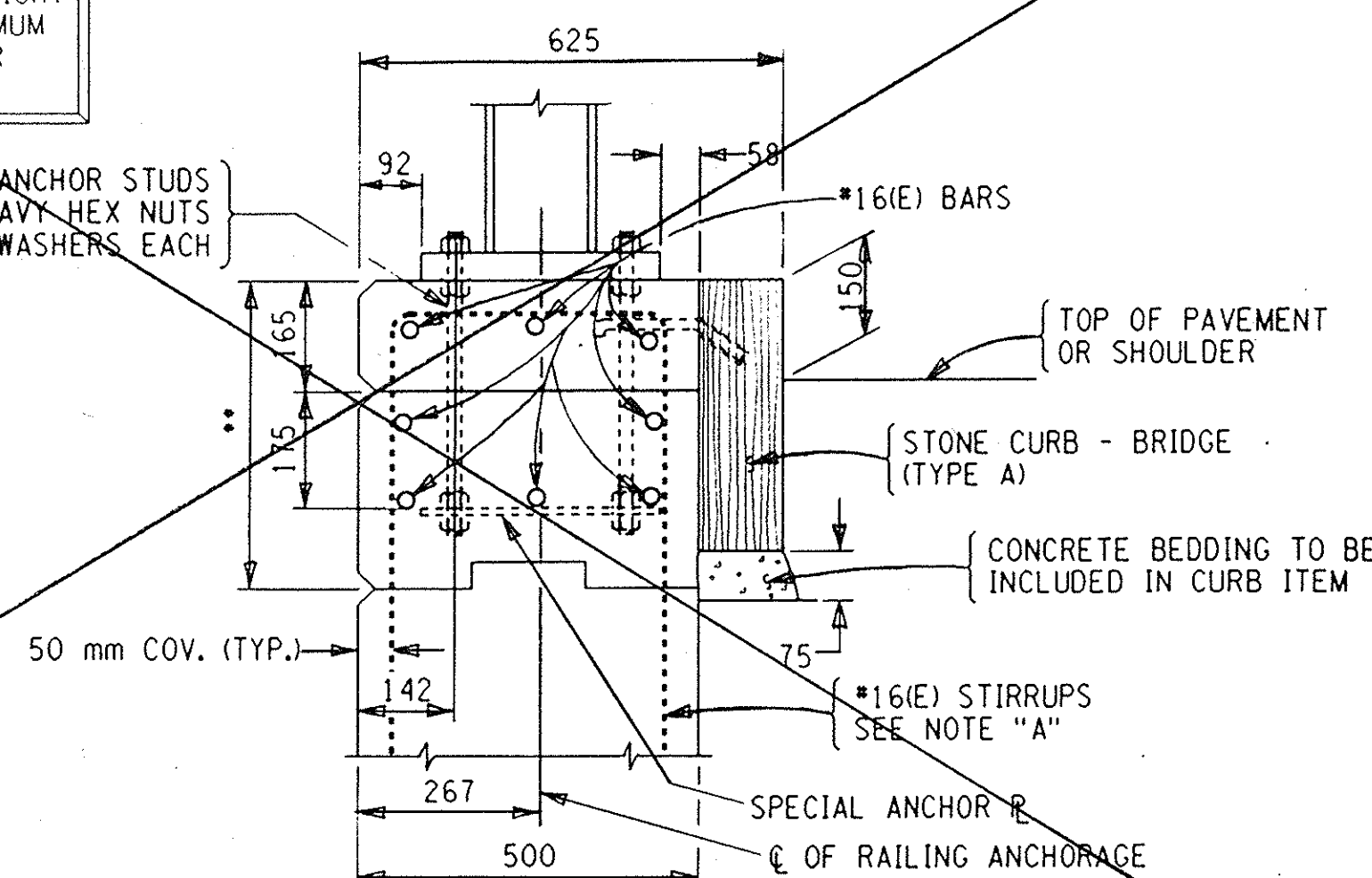
DESIGNER:  
• A CURVED RAILING LAYOUT ON A STRAIGHT FASCIA SHALL USE 180 mm AS A MINIMUM AND INCREASE PRESTRESS UNIT ANCHOR PLATE COVER AS REQUIRED.

• DIMENSION TO MATCH THE FASCIA DEPTH ON THE SUPERSTRUCTURE.

REINFORCEMENT IN U-WINGWALL NOT SHOWN.

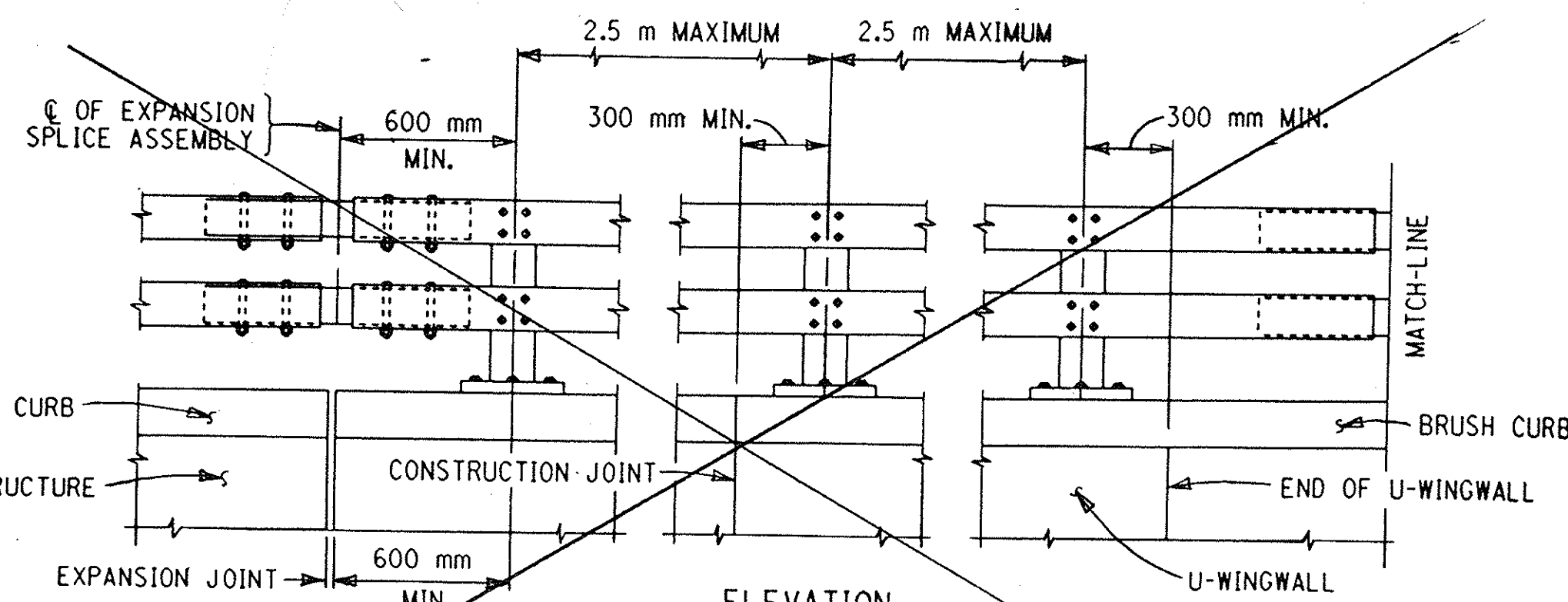
(E) DENOTES EPOXY COATED BARS.

NOTE "A":  
LOCATE THE STIRRUPS AT THE RAILING POSTS TO FIT IN THE NOTCHES IN THE SPECIAL ANCHOR PLATE AND MAINTAIN 50 mm COVER. EMBED STIRRUPS 650 mm INTO U-WINGWALL.



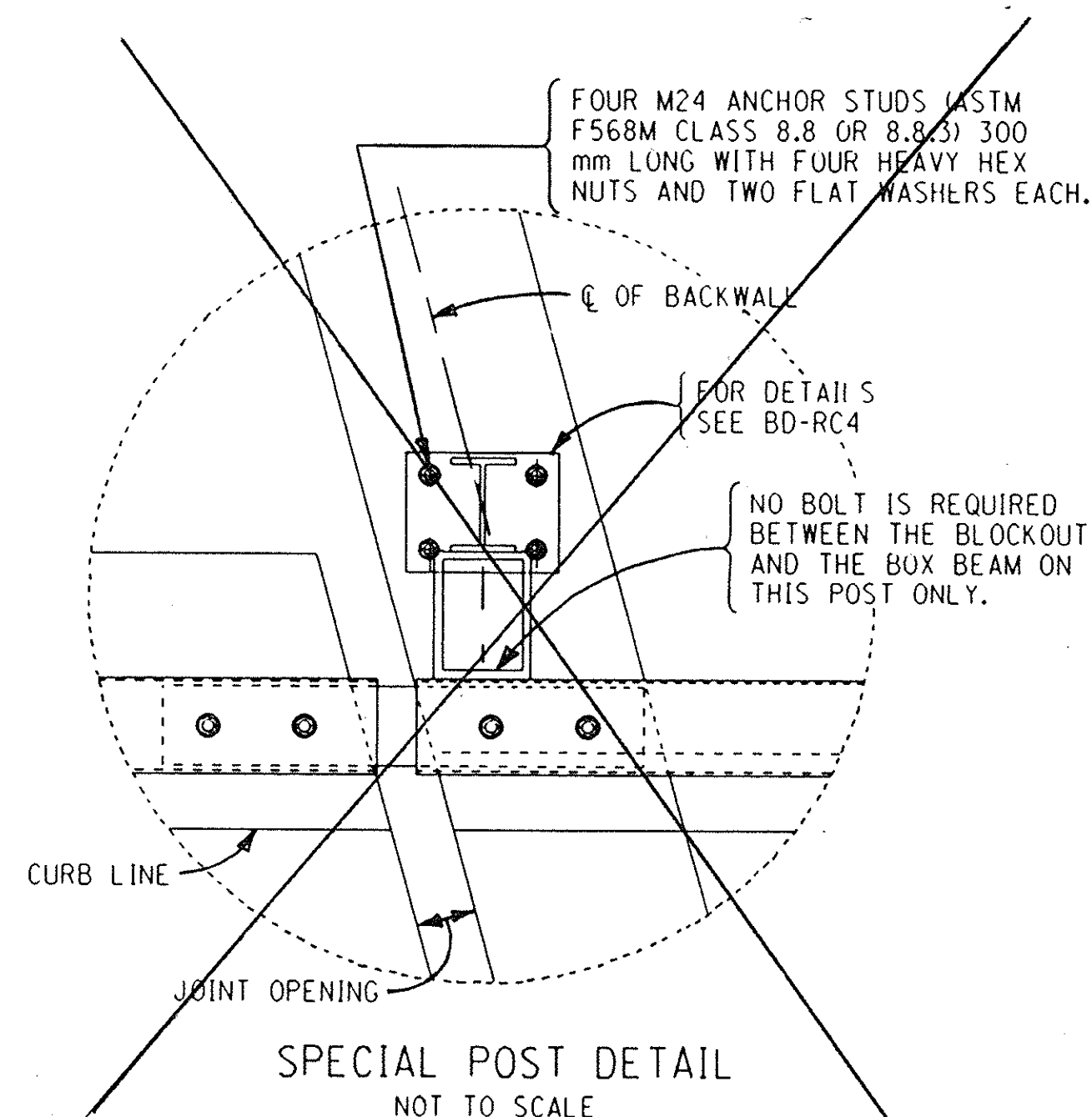
U-WINGWALL WITH BRUSH CURB

SCALE 1:10

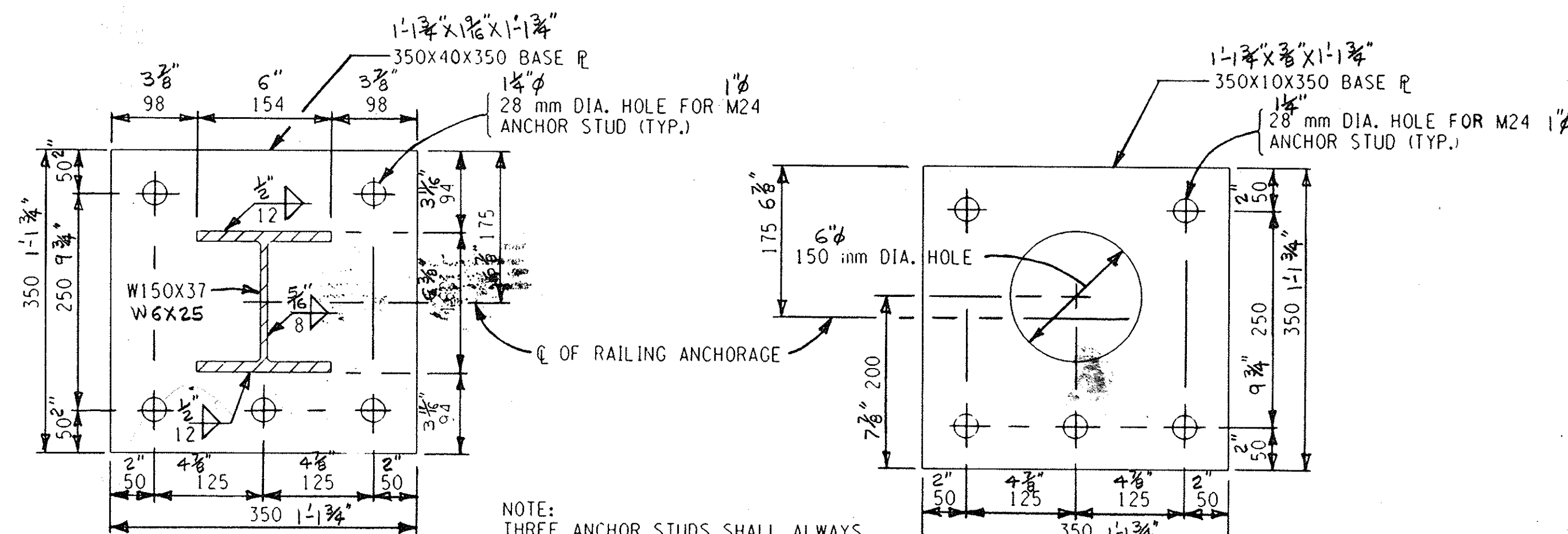


STEEL BRIDGE RAILING  
(TWO RAIL - BRUSH CURB)  
ON U-WINGWALL

SCALE 1:20



SPECIAL POST DETAIL  
NOT TO SCALE



SECTION A-A

SCALE 1:5

SECTION B-B

SCALE 1:5

NOTES:

ALL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH N.Y.S. STANDARD SPECIFICATIONS, SUBSECTION 719-01. ALL AREAS WHERE THE ZINC COATING IS DAMAGED DURING INSTALLATION, INCLUDING FIELD DRILLING HOLES, SHALL BE REPAIRED ACCORDING TO SUBSECTION 719-01.

ALL STEEL SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH THE N.Y.S. STANDARD SPECIFICATION SUBSECTION 719-01.

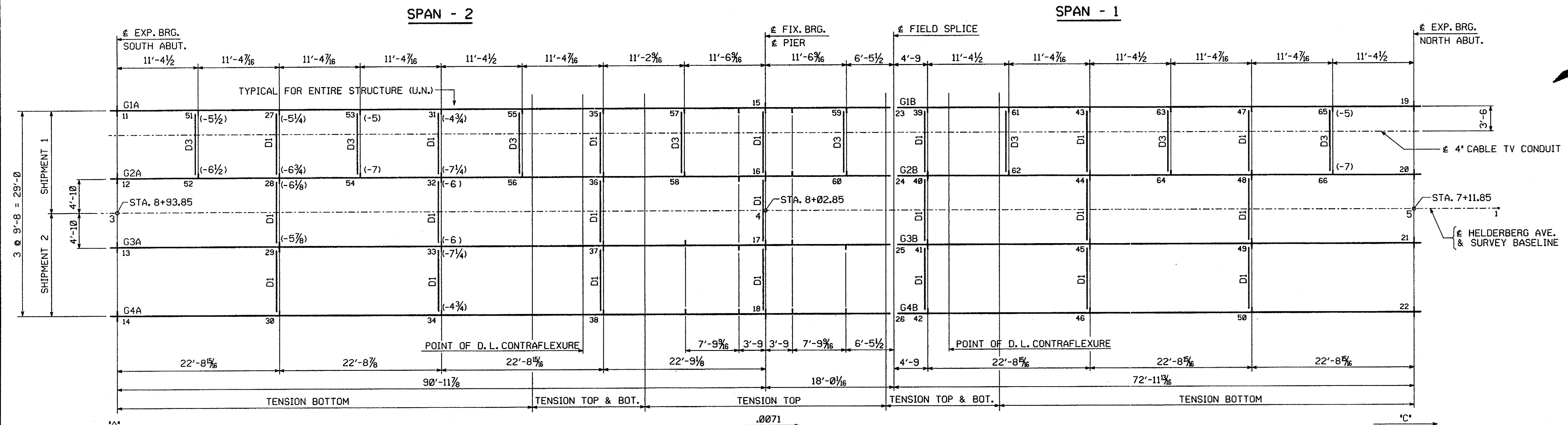
NOTE "C"  
PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPlice TUBES AND FILL PLATES.

NOTE:  
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.

DRAWN BY: DCK	DATE: 12/21/98	CHECKED BY:	SHT. 3 OF 3
<u>BRIDGE RAILING DETAILS</u>			
NEW YORK STATE THRUWAY AUTHORITY HELDERBERG AVENUE BRIDGE OVER THE THRUWAY AT M.P. 155.54 IN SCHENECTADY COUNTY (B.I.N. 5513660)			
CONT. No. TAA 98-10BR			REGION No.
GENERAL CONTRACTOR: BARRY, BETTE, & LED DUKE, INC.			JOB No.
ERECTOR: EMI GUIDE RAIL, LLC.			E05-13
FABRICATOR: DI HIGHWAY SIGN & STRUCTURE CORP.			
P.O. BOX 123, NEW YORK MILLS, N.Y. 13447			

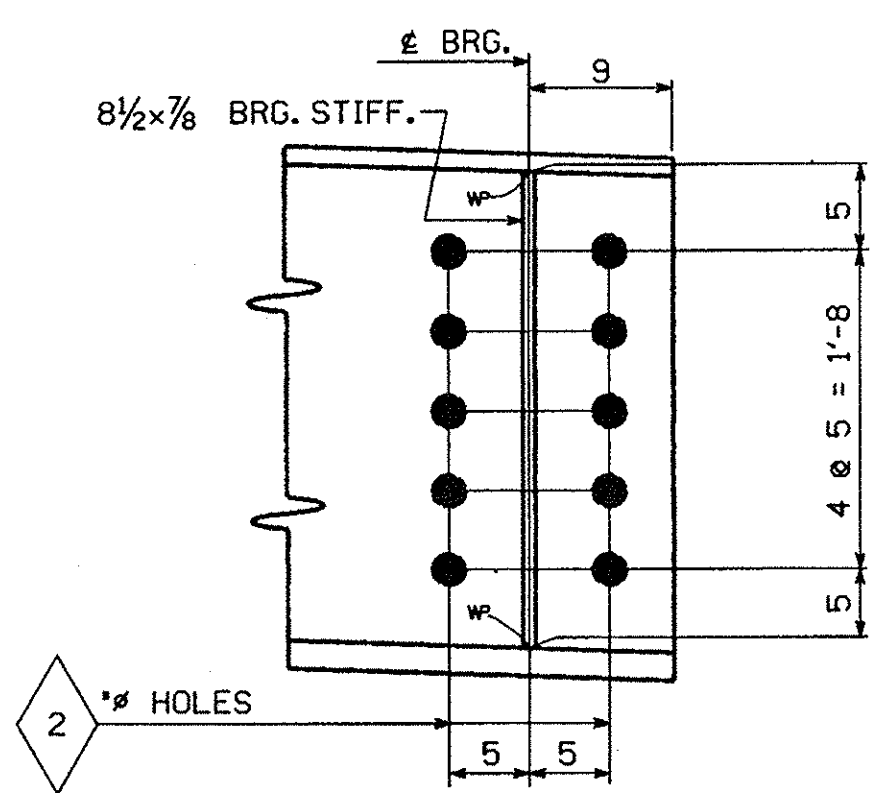
ENGLISH  
SCALE = .010416667 FEET/FOOT

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	NY	



FIGURING PLAN

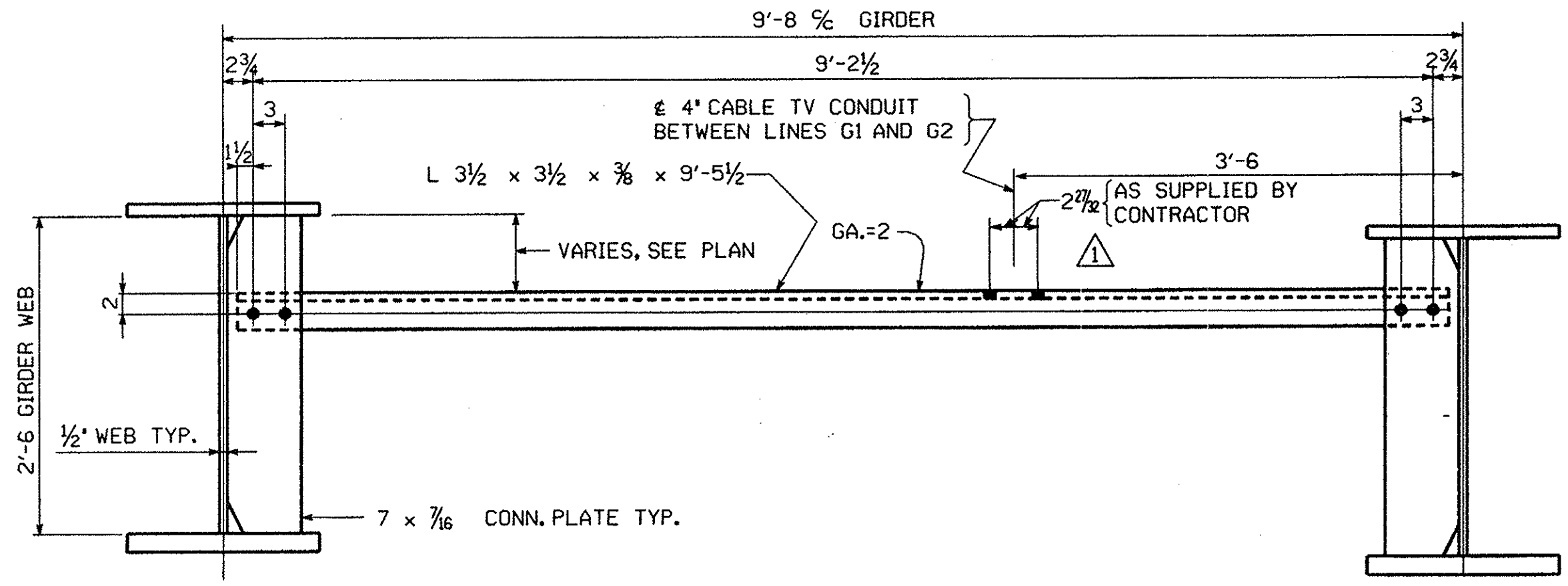
LINE	'A'	'B'	'C'
G1	-	.0016	.0142
G2	.0021	-	.0168
G3	.0039	-	.0180
G4	.0039	-	.0181



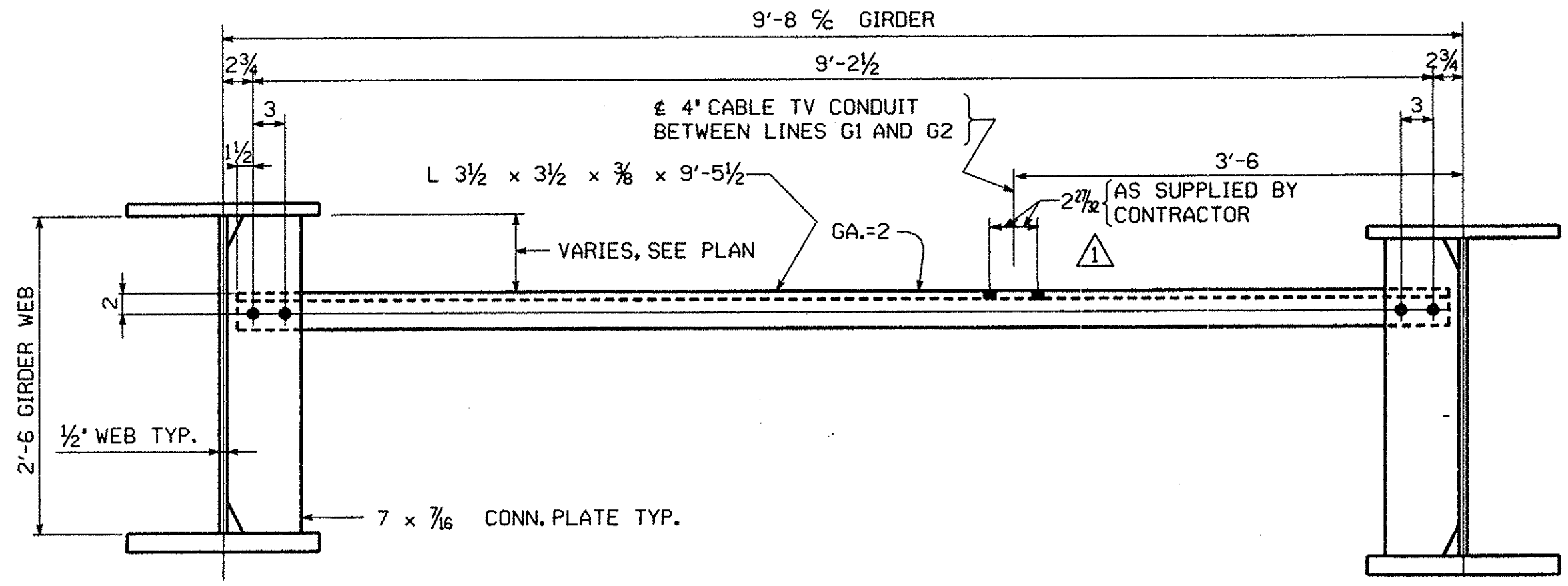
GIRDER WEB LAYOUT AT NORTH ABUTMENT

(SOUTH ABUTMENT SIMILAR)

DIAPHRAGM TYPE D1 LAYOUT  
(LOOKING SOUTH)



DIAPHRAGM TYPE D3 LAYOUT  
(LOOKING SOUTH)



NOTES:

DIMENSIONS ON PLAN ALONG GIRDERS ARE GIVEN TO THE CHORD AT THE BOTTOM OF WEB IN FULLY CAMBERED POSITION. ALL OTHER DIMENSIONS ARE GIVEN HORIZONTALLY.  
FIGURES GIVEN THUS:  $\frac{1}{16}$  ARE THE GRADES OF THE GIRDERS AT THE BEARINGS IN FINAL POSITION; ARROW POINTS DOWNGRADE.  
ALL STIFFENER AND CONNECTION PLATE SPACINGS ARE GIVEN TO  $\frac{1}{8}$  PLATE. ENDS OF GIRDERS AND ALL BEARING STIFFENERS TO BE VERTICAL IN FINAL POSITION.  
ALL STEEL TO BE ASTM A709 GR. 50W (U.N.).  
ALL FIELD CONNECTIONS TO BE MADE WITH  $\frac{7}{8}$ " H.S. (A325 TYPE 3) BOLTS (U.N.).  
FIGURES GIVEN THUS: (-6) ARE THE DISTANCES FROM THE TOP OF GIRDER WEB TO THE TOP OF THE DIAPHRAGM.

New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

☒ Approved  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_

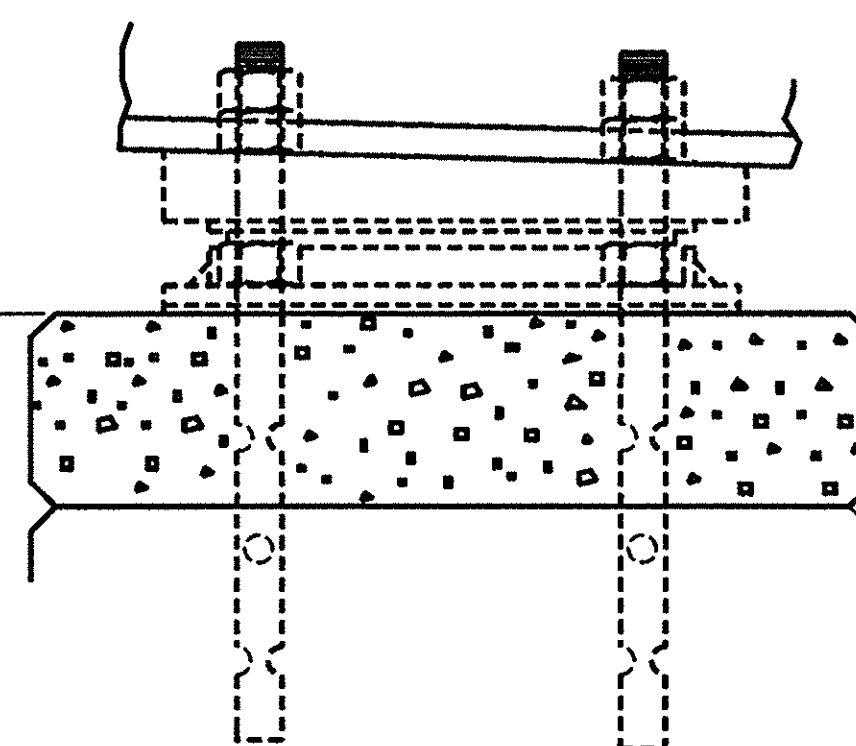
By: *[Signature]* Date: 5-4-99

△		
△		
△	ADDED HOLE SPACING	4-20-99
NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. <i>[Logo]</i> 1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5211 A Division of High Industries, Inc.		
WORKSHEET - FIGURING PLAN		
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LEO DUKE, INC.		
IN CHARGE: ALLEN (IH) MADE BY: Kma CHK'D BY: GS DATE: 1-6-99		
CONTRACT NUMBER: NY-98176-1 & 2 DRAWING NUMBER: WS1 OF WS1		






TOP OF CONCRETE PEDESTAL ELEVATIONS SHOWN HAVE BEEN ADJUSTED TO CORRESPOND WITH THE 'AS SUPPLIED' BEARING HEIGHT OF 6%. HIGH STEEL STRUCTURES, INC. WILL NOT BE RESPONSIBLE FOR ANY COSTS RELATIVE TO IMPROPER PEDESTAL ELEVATIONS.



NO. REQ'D PER.		
SHP. 1	SHP. 2	
158	250	408 - 7/8" HIGH STRENGTH BOLTS x Ø'-2 1/4
67	67	134 - 7/8" HIGH STRENGTH BOLTS x Ø'-2 1/2
22	42	64 - 7/8" HIGH STRENGTH BOLTS x Ø'-2 3/4
100	100	200 - 7/8" HIGH STRENGTH BOLTS x Ø'-3 1/4
150	150	300 - 7/8" HIGH STRENGTH BOLTS x Ø'-4
497	689	1106 HARD, FLAT F436 WEATHERING WASHERS FOR 7/8" H. S. BOLTS

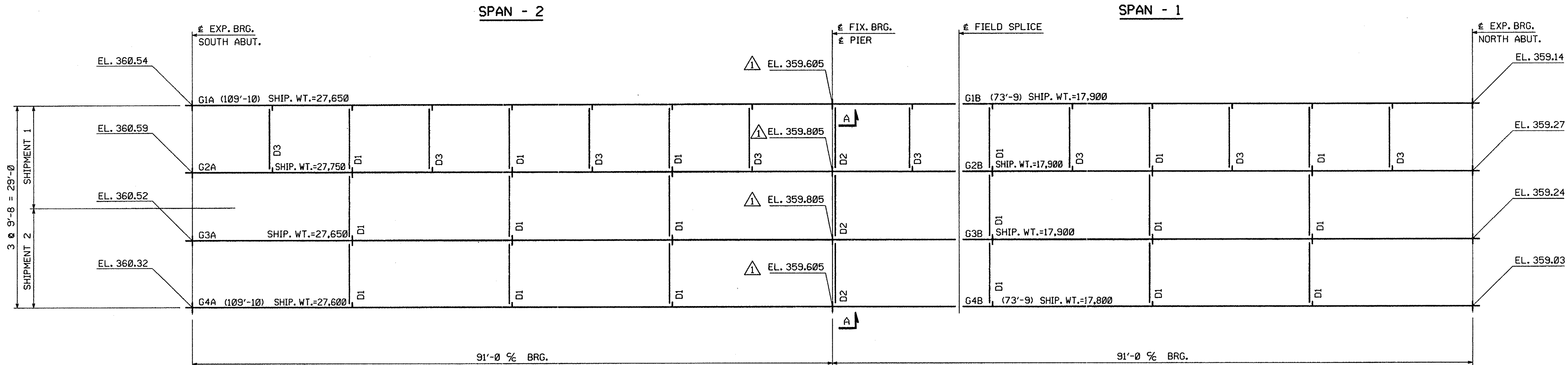
[illegible]

☐ Approved  
☐ Approved As Noted  
☒ Approved For Revision No. 2 *BJ*  
By: *Boyle* Date: 6

△		
△	CONTRACTOR REQUEST- FIELD DRILL DIAPHRAGMS	6-4-99
△	APPROVAL CHANGES	4-20-99
NO.	REVISION	DATE
<p>          1170 Hempstead Road          Lancaster, PA 17605-0008          Phone 717/299-5211  <i>A Division of High Industries, Inc.</i> </p>		
ERECTION PLAN		
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.5		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LED DUKE, INC.		
IN CHARGE	ALLEN (IH)	MADE BY: A66 CHK'D. BY: K9 DATE: 2-20-99
CONTRACT NO. NY-98176 -1 & 2 DRAWING NO. E1 OF E1		

ENGLISH

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.
	NY	

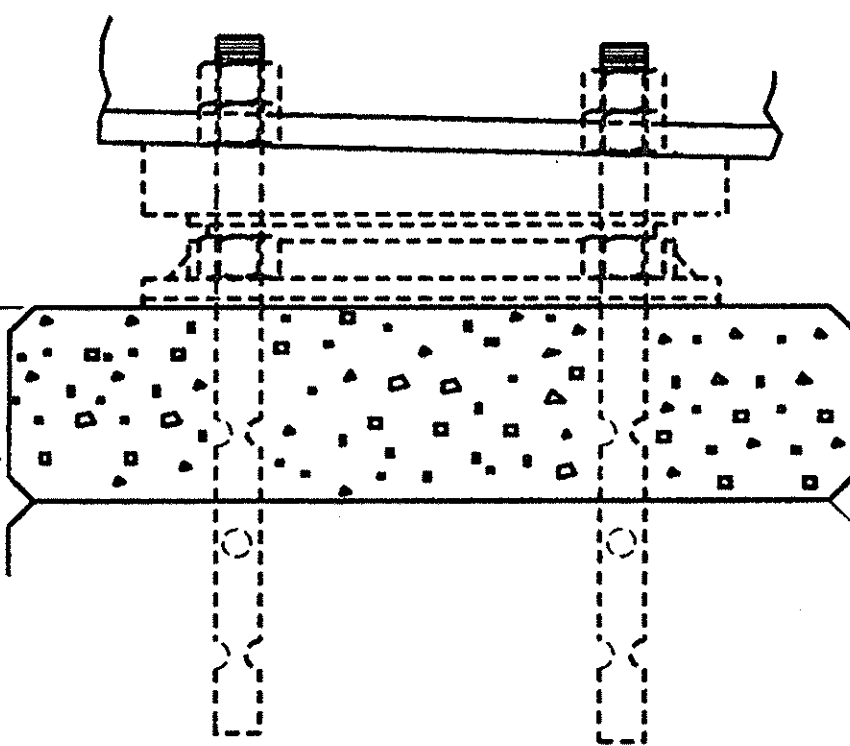


ERECTION PLAN

CONTRACTOR NOTE:

TOP OF CONCRETE PEDESTAL ELEVATIONS SHOWN HAVE BEEN ADJUSTED TO CORRESPOND WITH THE 'AS SUPPLIED' BEARING HEIGHT OF 6". HIGH STEEL STRUCTURES, INC. WILL NOT BE RESPONSIBLE FOR ANY COSTS RELATIVE TO IMPROPER PEDESTAL ELEVATIONS.

TOP OF CONCRETE PEDESTAL FOR ELEV. SEE PLAN



SECTION A

FIELD BOLT SUMMARY

(4% ADDITIONAL BOLTS ADDED)

ASTM A325 TYPE 3 BOLTS WITH HVY. HEX HEAD AND  
ASTM A563 GRADE C3 HVY. HEX NUT

NO. REQ'D PER SHIP. 1	NO. REQ'D PER SHIP. 2	
158	250	408 - 7/8" HIGH STRENGTH BOLTS x 0'-2 1/4"
67	67	134 - 7/8" HIGH STRENGTH BOLTS x 0'-2 1/2"
22	42	64 - 7/8" HIGH STRENGTH BOLTS x 0'-2 3/4"
100	100	200 - 7/8" HIGH STRENGTH BOLTS x 0'-3 3/4"
150	150	300 - 7/8" HIGH STRENGTH BOLTS x 0'-4 3/4"
497	609	1106 HARD. FLAT F436 WEATHERING WASHERS FOR 7/8" H. S. BOLTS

**ERECTOR NOTE:** ALL BOLTS MUST BE LOCATED IN ACCORDANCE WITH THIS LIST OF FIELD CONNECTIONS. HIGH STEEL STRUCTURES WILL NOT BE RESPONSIBLE FOR FURNISHING ADDITIONAL BOLTS OR FOR ANY OTHER RELATED COSTS OR DAMAGES RESULTING FROM IMPROPER LOCATION OF BOLTS.

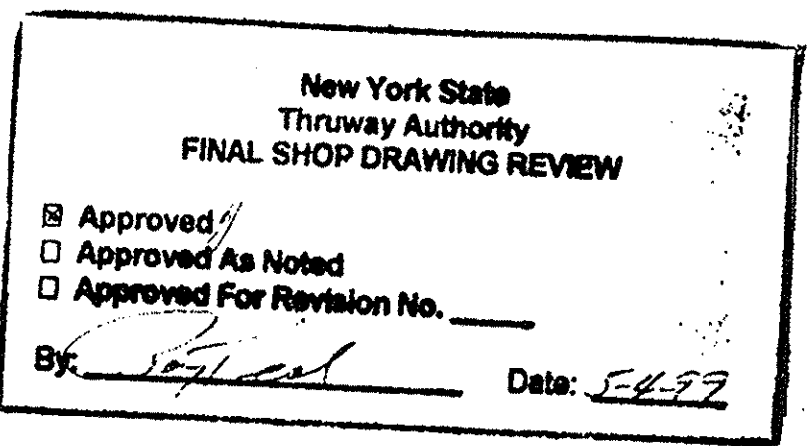
LIST OF FIELD CONNECTIONS


ONE WASHER PER BOLT UNLESS NOTED OTHERWISE

LINE	SHIP. 1 NO. REQ'D	SHIP. 2 NO. REQ'D	TOTAL NO. REQ'D	BOLT DIAM.	BOLT LENGTH	BOLTS / CONN.	* OF CONNS.	GRIP	THICKNESS OF PCS. CONNECTED	PIECES CONNECTED AND REMARKS
1	96	96	192	7/8"	3 3/4"	48	4	2 3/8"	7/16" 1 1/2" 7/16"	TOP FLANGE SPLICE
2	64	64	128	7/8"	2 1/2"	32	4	1 1/4"	3/8" 1/2" 3/8"	WEB SPLICE
3	144	144	288	7/8"	4 3/4"	72	4	3 1/2"	7/8" 1 3/4" 7/8"	BOTTOM FLANGE SPLICE
4	120	240	360	7/8"	2 1/4"	10	36	7/16"	7/16"	MC18 x 42.7 TO CONNECTION PLATE
5	20	40	60	7/8"	2 3/4"	10	6	1 5/16"	7/16"	MC18 x 42.7 TO BRG. STIFF.
6	32	--	32	7/8"	2 1/4"	2	16	1 5/16"	3/8" 7/16"	L 3 1/2" x 3 1/2" 7/16" TO CONNECTION PLATE IN UTILITY BAY
7										

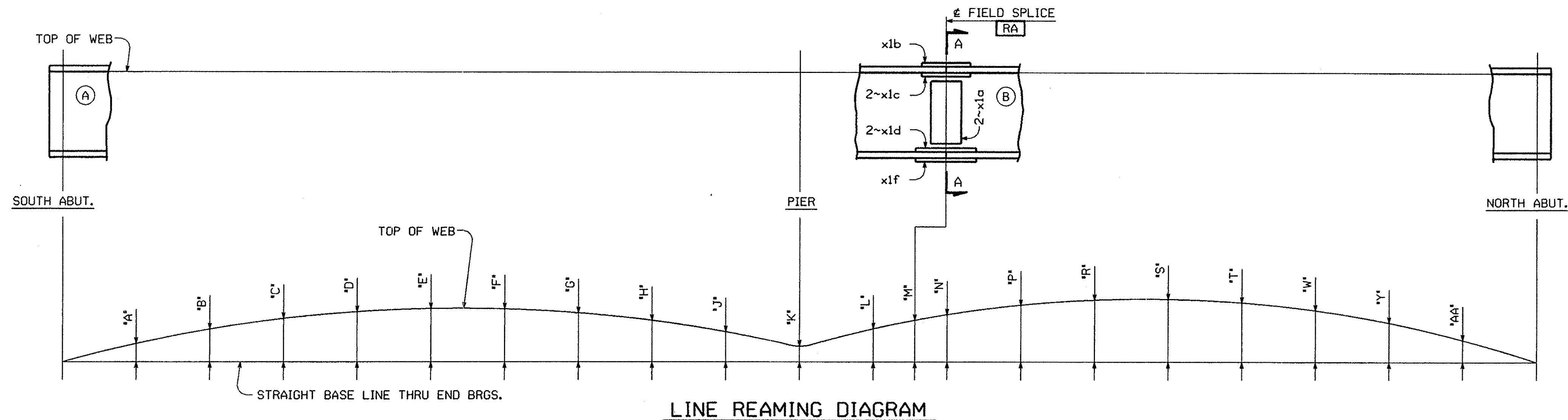
NOTES:

NO CREDIT WILL BE ALLOWED FOR WORK PERFORMED BY OTHERS IN REPLACING OR CORRECTING MATERIALS OR WORKMANSHIP COVERED BY THIS DRAWING UNLESS EXPRESSLY AUTHORIZED BY HIGH STEEL STRUCTURES, INC. ALL FIELD CONNECTIONS TO BE MADE WITH 7/8" HIGH STRENGTH (A325, TYPE 3) BOLTS (U.N.). ALL DIMENSIONS ARE GIVEN HORIZONTALLY (U.N.). DIMENSIONS GIVEN THUS: (109'-10") ARE THE SHIPPING LENGTHS OUT TO OUT OF FASCIA GIRDERS. HIGH STEEL STRUCTURES, INC. DOES NOT SUPPLY SHEAR STUDS, ROD HANGERS OR HARDWARE AT UTILITIES, EXPANSION DAM MATERIALS OR BRIDGE DRAINAGE FOR SHOP ASSEMBLY DIAGRAM, SEE DRAWING SAI. NOTICE: WEIGHTS OF MEMBERS LISTED ON THESE DRAWINGS ARE ESTIMATED WEIGHTS AND ACTUAL WEIGHTS WILL VARY. HIGH STEEL STRUCTURES, INC. WILL NOT BE RESPONSIBLE FOR ANY ERECTION PROCEDURES, SHIPPING PROCEDURES, ETC. DEVELOPED USING ESTIMATED WEIGHTS AS SHOWN. ERECTOR NOTE: ELEVATIONS AND/OR CAMBER CHECKS OF FIELD SPLICES MUST BE COMPLETED PRIOR TO FINAL BOLTING. HIGH STEEL STRUCTURES IS TO BE NOTIFIED AND CONSULTED, PRIOR TO FINAL BOLTING, IF SPLICE ELEVATIONS ARE NOT WITHIN ACCEPTABLE TOLERANCE. THE CORRECTION OF ANY UNACCEPTABLE SPLICES AFTER FINAL BOLTING WILL BE AT NO COST TO HIGH STEEL STRUCTURES. ALL FIELD BOLTS THRU FLANGES ARE TO HAVE HEADS UP. ALL FIELD BOLTS THRU WEB OF FASCIA GIRDERS ARE TO HAVE HEADS ON OUTSIDE OF WEB. FIELD BOLTS THRU WEB OF INTERIOR GIRDERS TO HAVE HEADS TOWARD ONCOMING TRAFFIC. ELEVATIONS SHOWN AT ABUTMENTS CONFORM TO CONTRACT DRAWING ELEVATIONS.

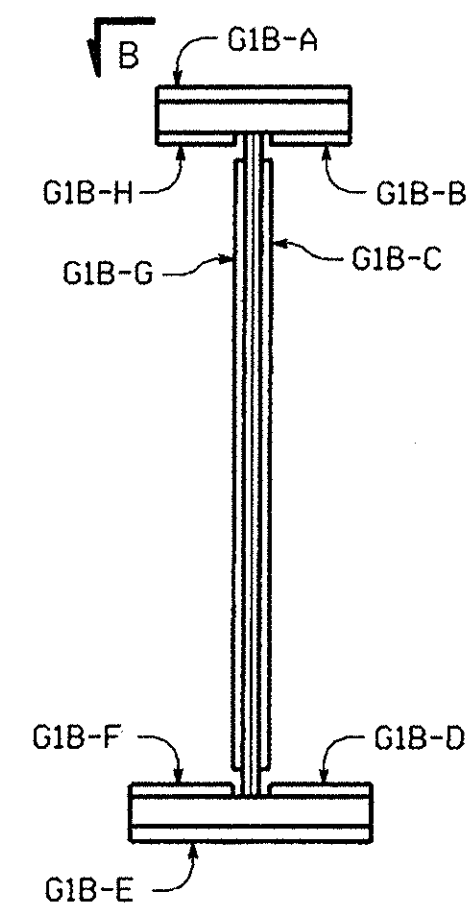


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△	APPROVAL CHANGES	4-20-99
NO.	REVISION	DATE
<b>HIGH STEEL STRUCTURES, INC.</b>  1770 Hempstead Road, Lancaster, PA 17605-0008 Phone 717/299-5201 A Division of High Industries, Inc.		
ERECTION PLAN		
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LED DUKE, INC.		
IN CHARGE: ALLEN (IH) MADE BY: AGS CHK'D. KG DATE: 2-20-99		
CONTRACT NUMBER: NY-98176 -1 & 2 DRAWING NUMBER: E1 OF E1		

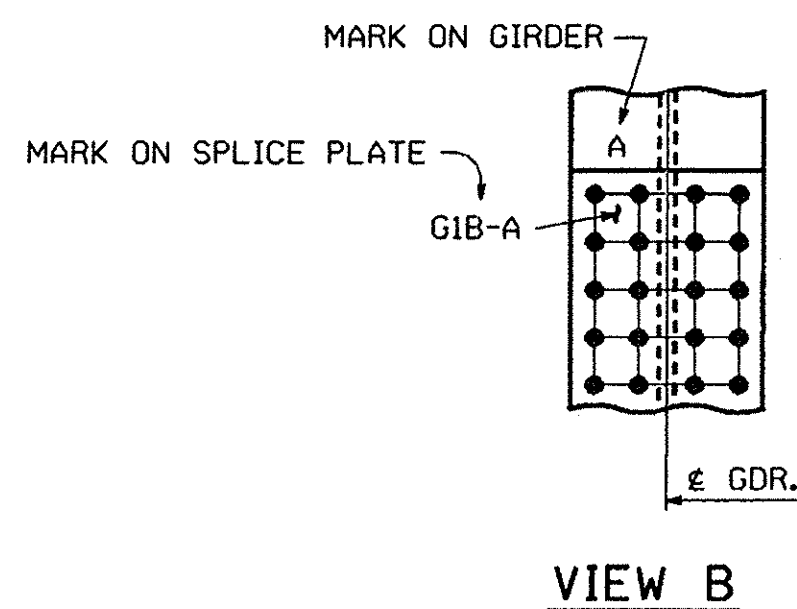




SHIPMENT	GDR. LINE	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'L'	'M'	'N'	'P'	'R'	'S'	'T'	'W'	'Y'	'AA'
1	G1	1 1/8	3	3 5/8	4 3/8	4 1/8	4 5/8	4 3/8	4 1/2	4 3/8	4 1/8	4 3/8	4 3/4	4 3/4	5 1/4	5 1/2	5 1/2	5	4 1/8	2 5/8	1 5/8
1	G2	2	3 1/8	5	5 7/8	6 3/8	6 1/8	6 1/4	5 7/8	5 3/8	5 7/8	5 3/8	6	6	6 3/8	6 3/8	6 3/8	6 1/8	5 1/8	3 1/8	2
2	G3	2 3/8	4 1/8	5 3/8	6 3/8	7 1/8	7 3/8	7	6 3/8	6 1/4	6 1/8	6 1/4	6 3/8	6 3/8	7	7 1/8	7 1/8	6 3/8	5 3/8	4 1/8	2 3/8
2	G4	2 3/8	4 1/8	5 3/8	6 3/8	7 1/8	7 3/8	7	6 3/8	6 1/4	6 1/8	6 1/4	6 3/8	6 3/8	7	7 1/8	7 1/8	6 3/8	5 3/8	4 1/8	2 3/8



SECTION A-A FOR G1B  
(G2B, G3B, G4B SIMILAR)



**NOTES:**

ALL SPLICE PLATES ARE MATCH MARKED AFTER REAMING AS SHOWN IN SECTION A-A. THE MATCH MARKS ON THE SPLICE PLATES CONSIST OF THE MARK OF THE GIRDER THEY ARE SHIPPED WITH AND A SUFFIX. THE MARKINGS ARE LOCATED ON THE STEEL AT THE END OF THE SPLICE PLATE WHICH IS ON THE GIRDER IT IS SHIPPED WITH. THE CORRESPONDING SUFFIX (A, B, C, ETC.) IS MARKED NEAR THE SPLICE PLATE ON THE GIRDER (SEE VIEW B).  
FOR GIRDER MARKS, SEE THE ERECTION PLAN DRAWINGS.  
HOLES MARKED [RA] ARE TO BE SUB-PUNCHED/SUB-DRILLED 1/4" UNDER SIZE AND REAMED TO FULL SIZE OR DRILLED FROM SOLID WITH CONNECTING PARTS ASSEMBLED AND MATCH MARKED. HOLES TO BE 5/16" DIA.  
(A) INDICATES SUFFIX MARK OF SHIPPING PIECE.

New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

☒ Approved  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_

By: *[Signature]* Date: *5-29-99*

△		
△		
△		
NO.	REVISION	DATE

**HIGH STEEL STRUCTURES, INC.**  
1770 Hempstead Road  
Lancaster, PA 17605-0008  
Phone 717/299-5281  
A Division of High Industries, Inc.

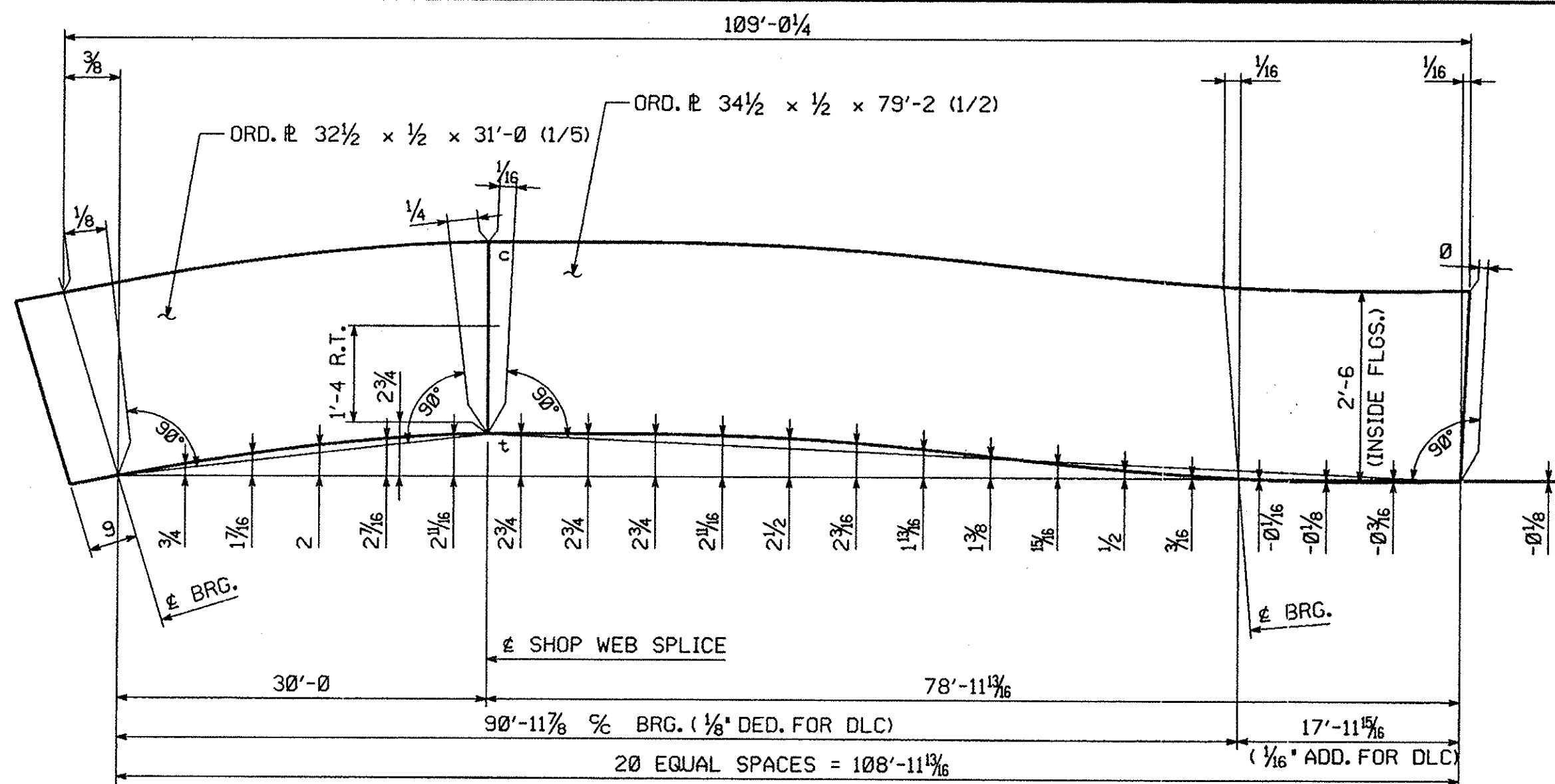
SHOP ASSEMBLY DIAGRAM  
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54  
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85  
SCHENECTADY COUNTY, NEW YORK  
NEW YORK STATE THRUWAY AUTHORITY  
DEPARTMENT OF ENGINEERING SERVICES

STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490  
CONTRACTOR BARRY, BETTE & LED DUKE, INC.  
IN CHARGE: ALLEN (IH) MADE BY: AGS CHK'D BY: KG DATE: 2-20-99  
DRAWING NUMBER: NY-98176-1 & 2 SAI OF SAI

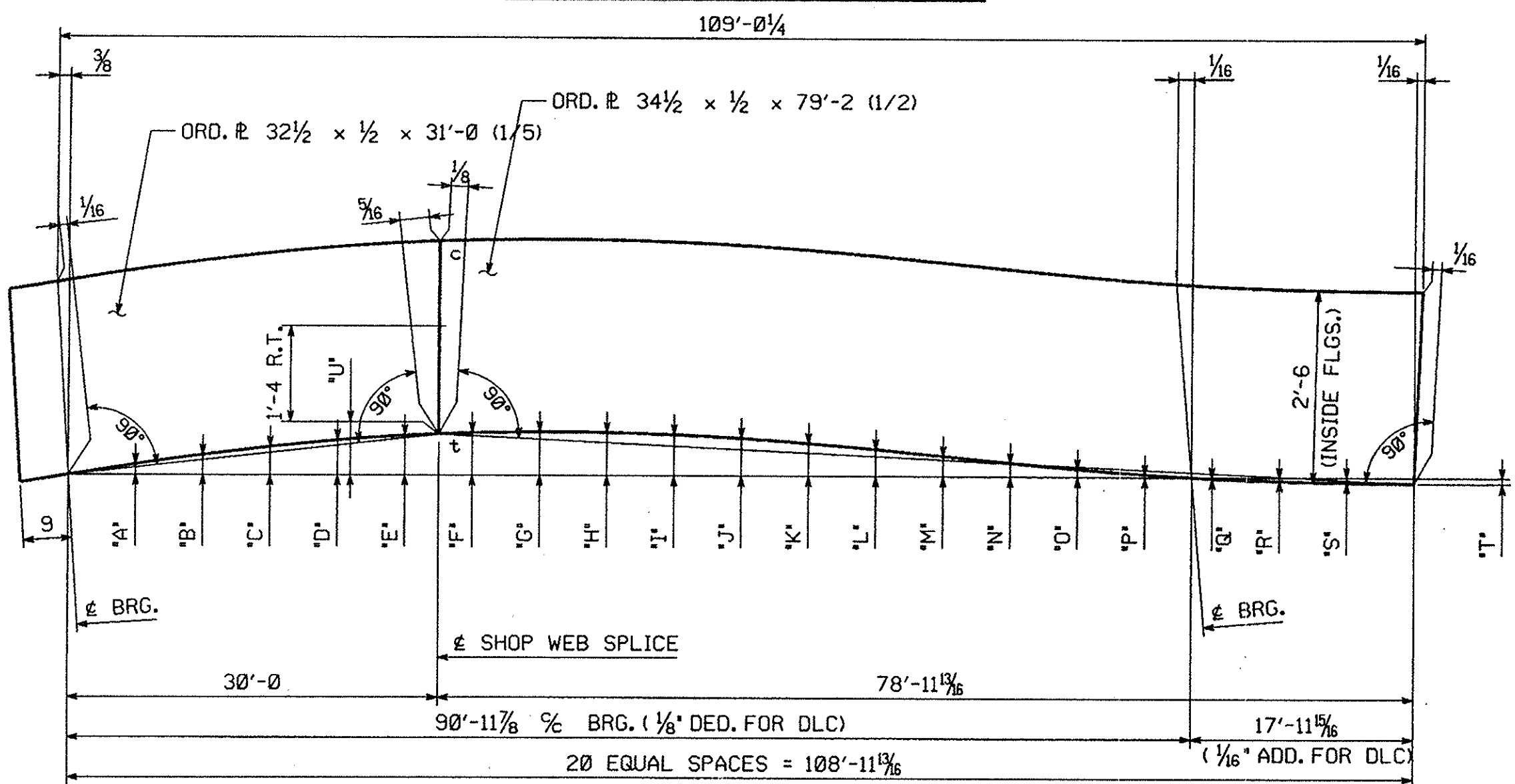


## 60

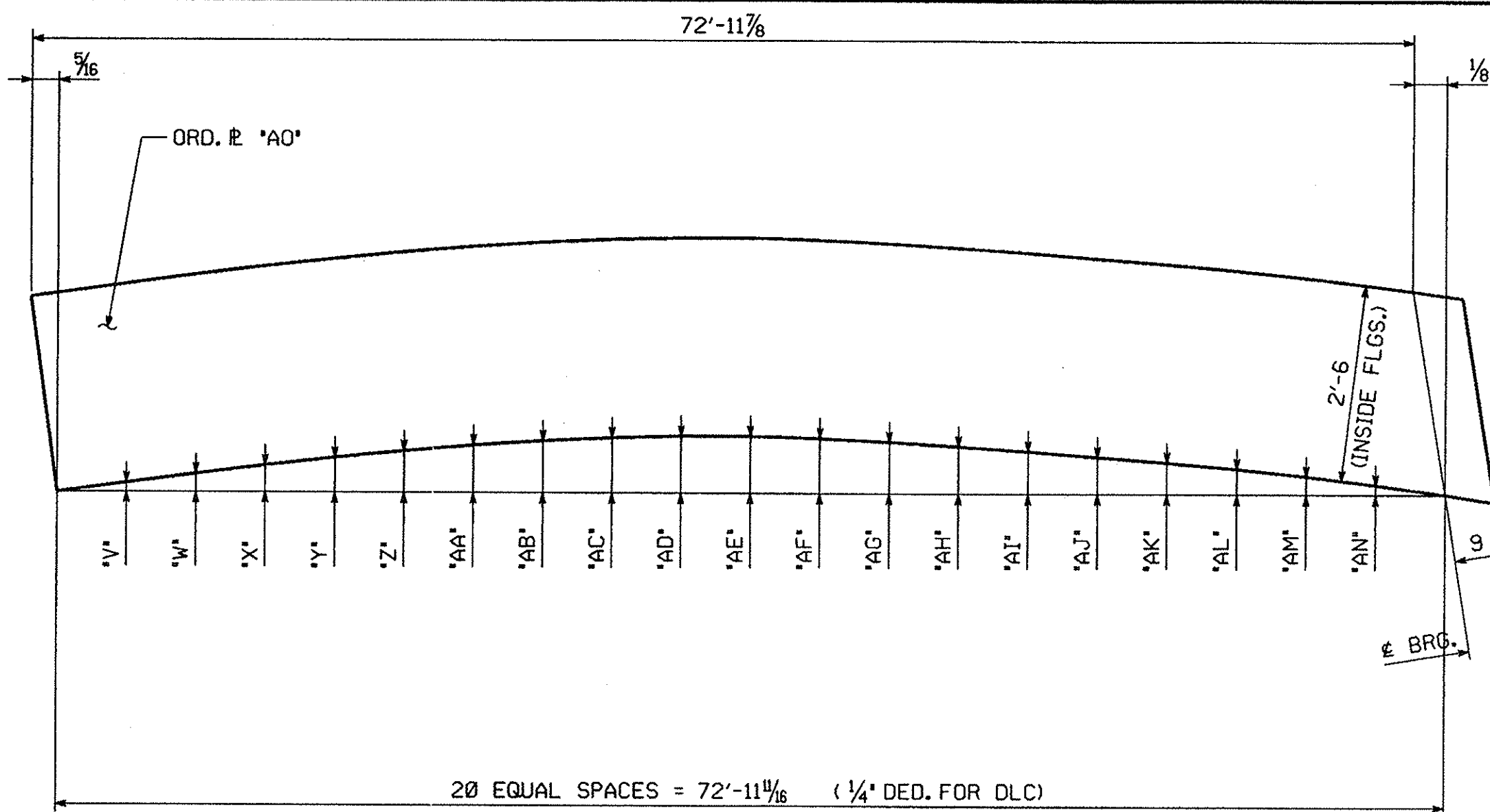




CAMBER DIAGRAM - G1A



MARK	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*	*N*	*O*	*P*	*Q*	*R*	*S*	*T*	*U*
G2A	5/16	1 3/4	2 7/16	3	3 3/8	3 5/8	3 7/16	3 1/2	3 3/8	2 5/8	2 5/8	1 3/4	1 3/8	1 1/8	1/4	-0 1/16	-0 5/16	-0 7/16	-0 1/2	3 1/2	
G3A	1	1 1/8	2 5/8	3 1/4	3 3/4	4 1/4	4 3/8	4 1/2	3 5/8	3 3/4	3 1/2	2 3/4	1 5/8	1 1/2	3/4	5/8	-0 1/8	-0 3/8	-0 1/2	-0 5/8	3 3/8
G4A	1	1 1/8	2 5/8	3 1/4	3 3/4	4 1/4	4 3/8	4 1/2	3 5/8	3 3/4	3 1/2	2 3/4	1 5/8	1 1/2	3/4	5/8	-0 1/8	-0 3/8	-0 5/8	-0 1/4	3 3/8



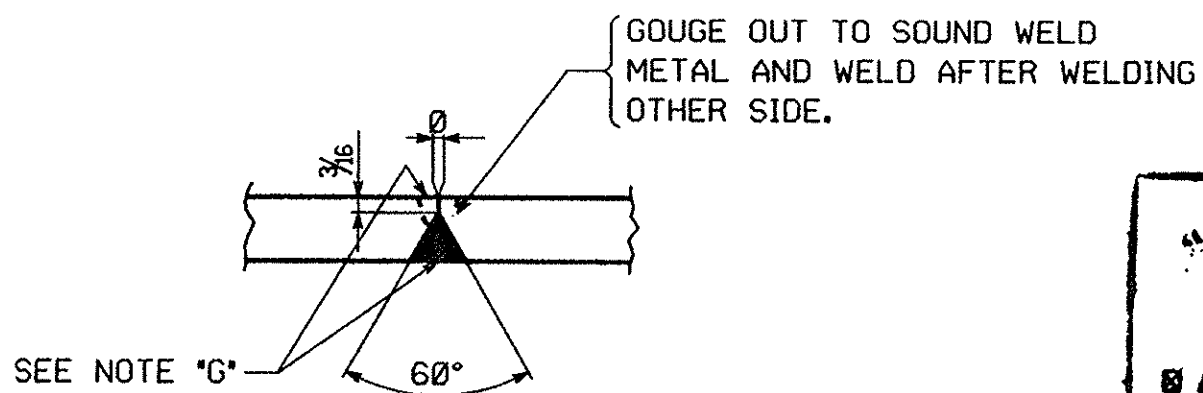
MARK	*V*	*W*	*X*	*Y*	*Z*	*AA*	*AB*	*AC*	*AD*	*AE*	*AF*	*AG*	*AH*	*AI*	*AJ*	*AK*	*AL*	*AM*	*AN*	*AO*
G1B	5/16	7/8	1 1/4	1 5/8	1 5/8	2 1/4	2 3/8	2 3/8	2 5/8	2 5/8	2 3/8	2 3/8	2 3/8	2	1 3/4	1 1/2	1 3/8	1 3/8	7/16	3 1/2 x 1/2 x 73'-11 (1/4)
G2B	1/2	5/8	1 1/8	1 5/8	2 1/4	2 3/8	2 3/8	2 3/8	3 1/8	3 1/8	2 5/8	2 3/8	2 3/8	2 1/2	2 3/8	1 7/8	1	1 1/8	1 1/8	3 1/2 x 1/2 x 73'-11 (1/4)
G3B,G4B	1/2	1	1 1/8	1 5/8	2 1/4	2 3/8	2 3/8	3 1/8	3 1/4	3 3/8	3 3/8	3 3/8	3	2 3/4	2 3/8	2 1/8	1 3/8	1 1/8	1 1/8	3 1/2 x 1/2 x 73'-11 (1/3)

G1 & G2 SHIPMENT 1

G3 & G4 SHIPMENT 2

NOTES:

FOR GENERAL SHOP NOTES, SEE DRAWING N1.  
ALL WEB PLATES REQUIRE CHARPY V-NOTCH TEST.  
NEGATIVE CAMBER ORDINATES INDICATE CURVE IS BELOW BASELINE.  
THE LETTERS 't' & 'c' AT WEB SPLICES INDICATE TENSION AND  
COMPRESSION EDGES AT SPLICES.  
RT INDICATES RADIOGRAPHIC TESTING.



TYPICAL WEB PLATE SPLICE  
FOR WEB PLATES 2" THICK AND UNDER (B-LIV-S)

New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

☒ Approved  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_

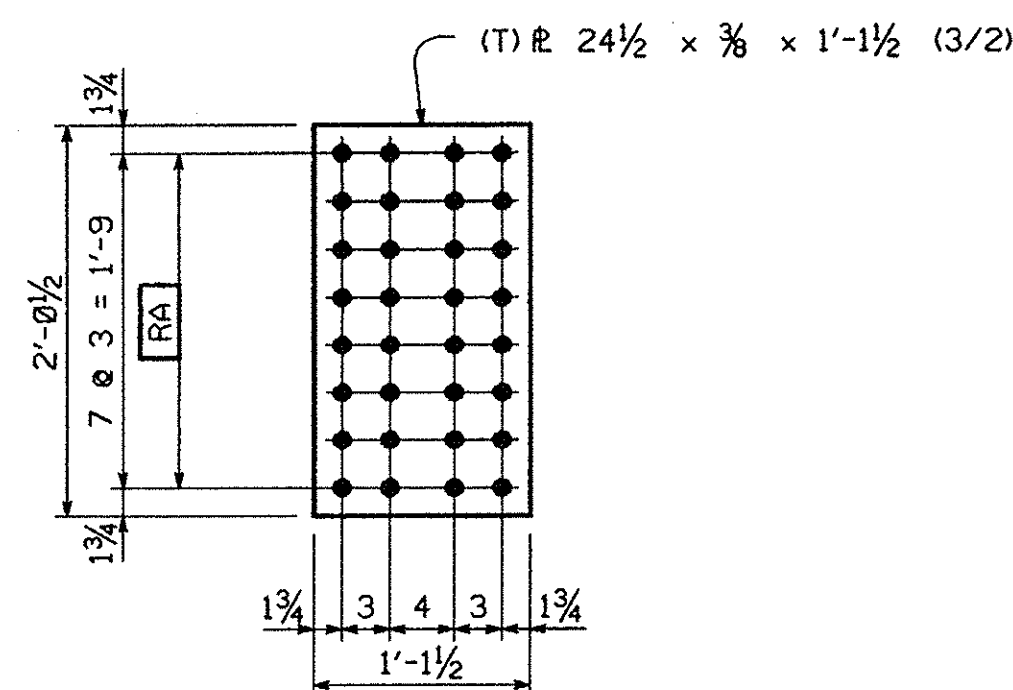
By: *[Signature]* Date: *5-2-99*

NOTE 'G'

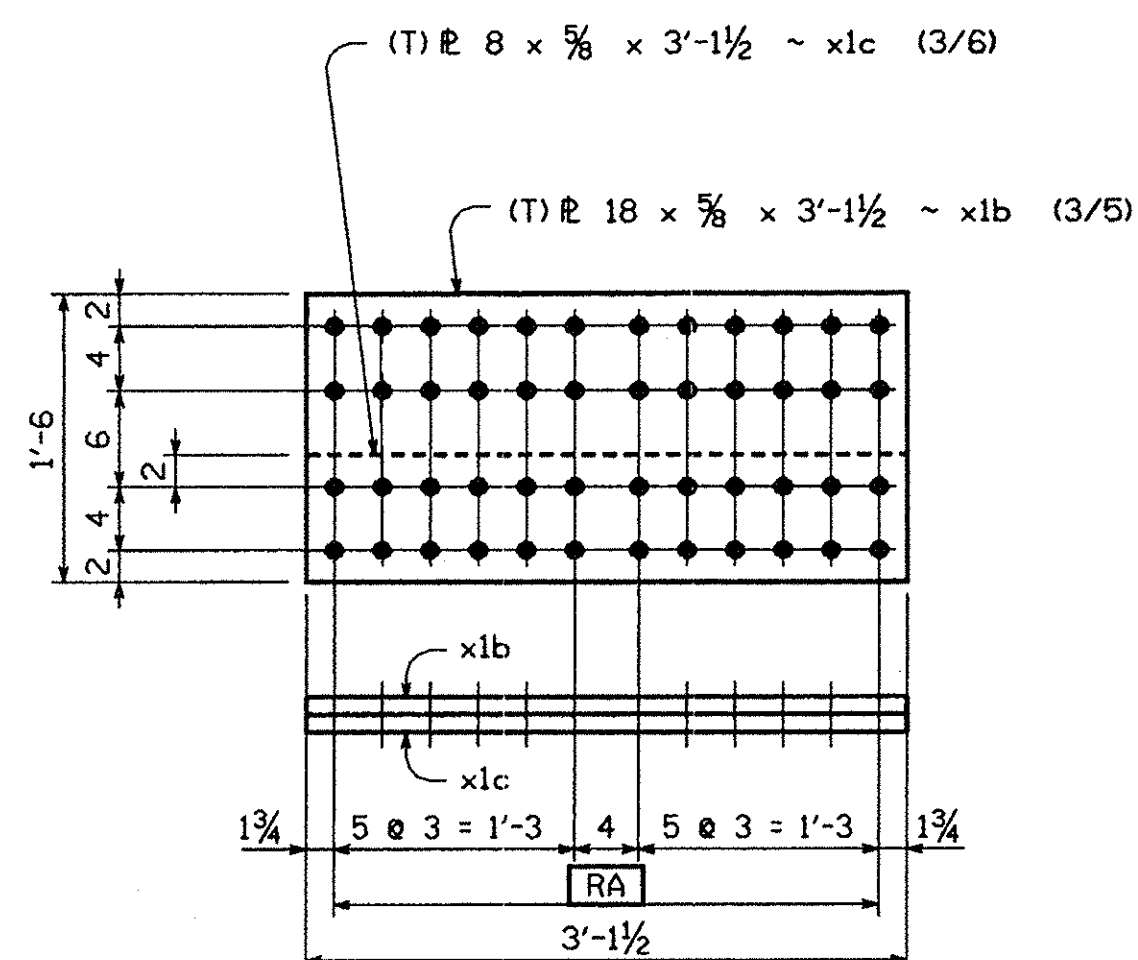
GRIND THE WELDS SMOOTH IN THE AREAS TO BE  
TESTED AND FOR THE FULL DEPTH OF WEB ON  
G1A (F.S.) AND G4A (N.S.). ALL OTHER WELDS MAY  
HAVE A MAXIMUM REINFORCEMENT OF 1/8".

△		
△		
△		
NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. <i>[Logo]</i> 1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5211 A Division of High Industries, Inc.		
WEB CAMBER DIAGRAMS		
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LED DUKE, INC.		
IN CHARGE: ALLEN (IH)	MADE BY: KMA	CHK'D. CS DATE: 1-6-99
CONTRACT NUMBER: NY-98176-1 & 2	DRAWING NUMBER: WC1 OF WC1	

CODE: 30

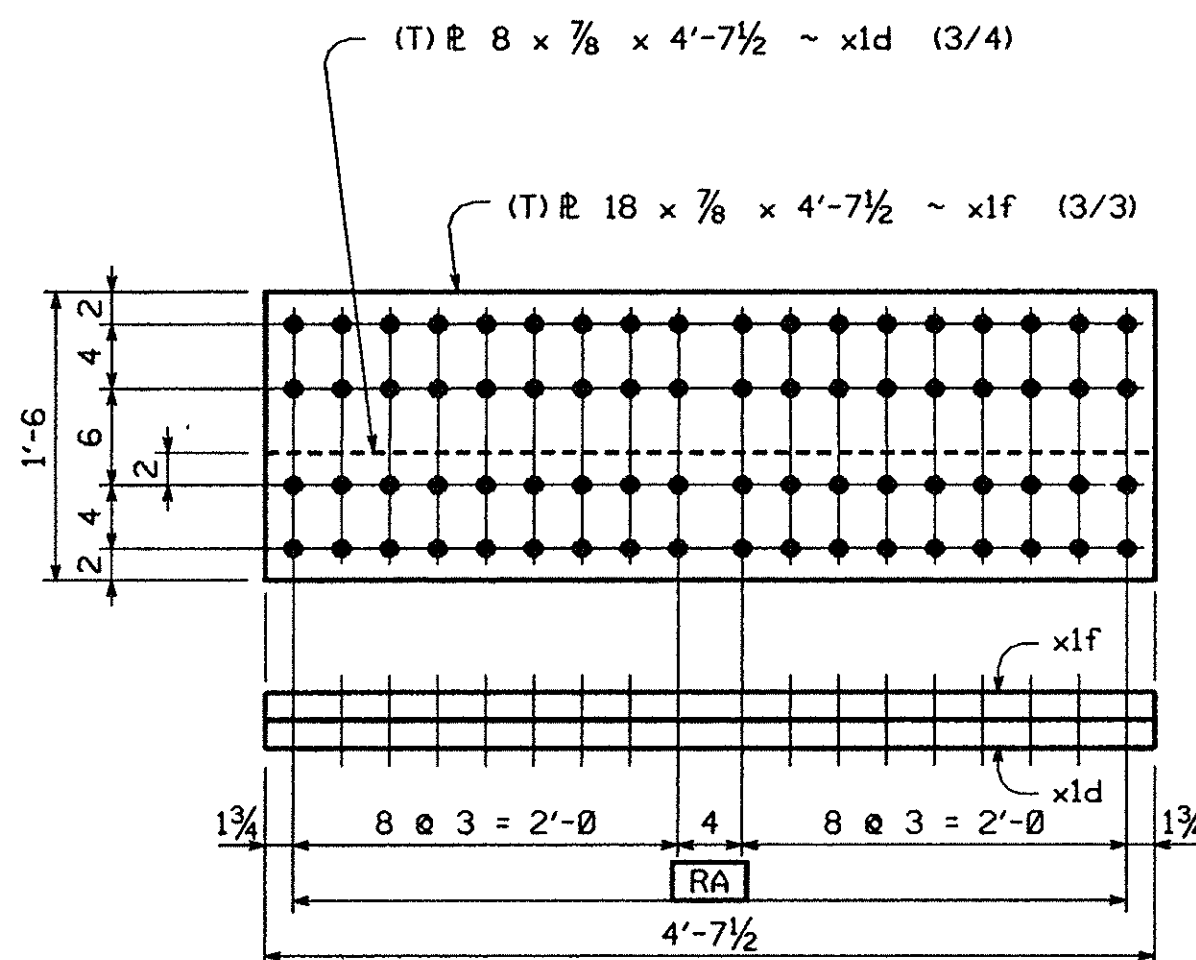


**8 ~ SPLICE R MK. xla**  
4 ~ SHIPMENT 1  
4 ~ SHIPMENT 2



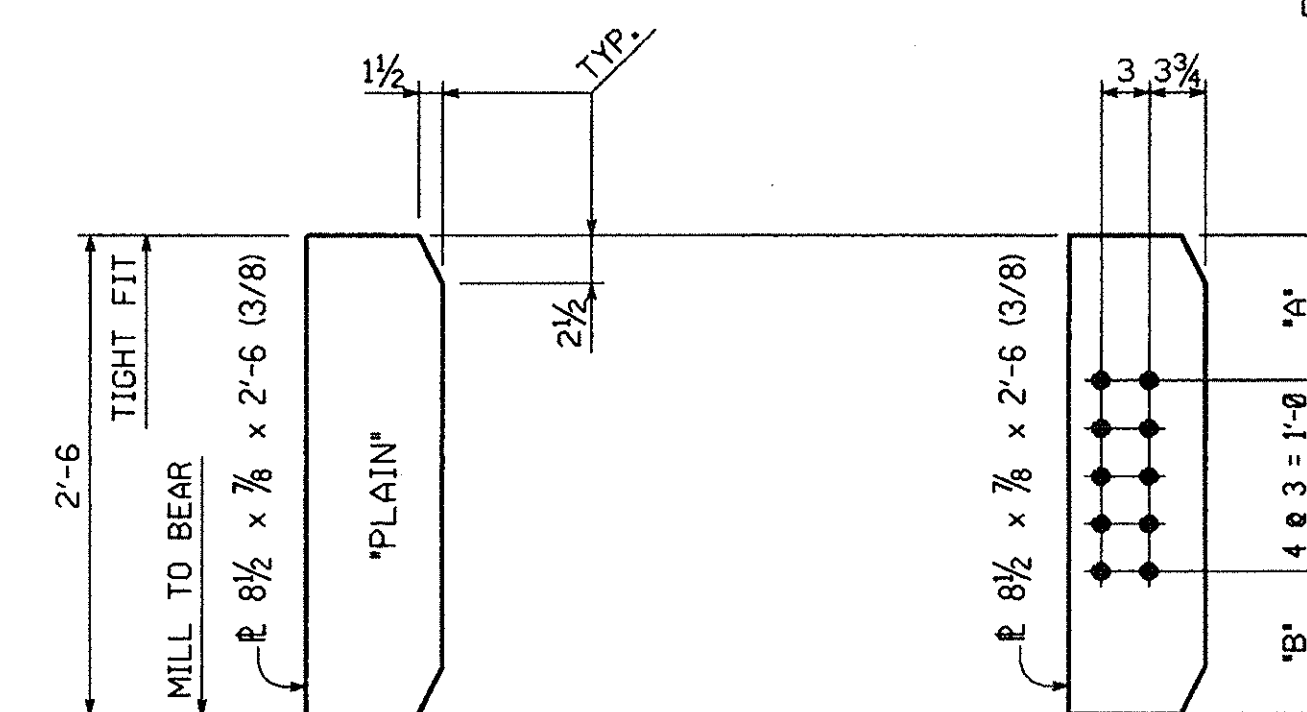
**4 ~ SPLICE R MK. xlb**  
2 ~ SHIPMENT 1  
2 ~ SHIPMENT 2

**8 ~ SPLICE R MK. xlc**  
4 ~ SHIPMENT 1  
4 ~ SHIPMENT 2



**4 ~ SPLICE R MK. xlf**  
2 ~ SHIPMENT 1  
2 ~ SHIPMENT 2

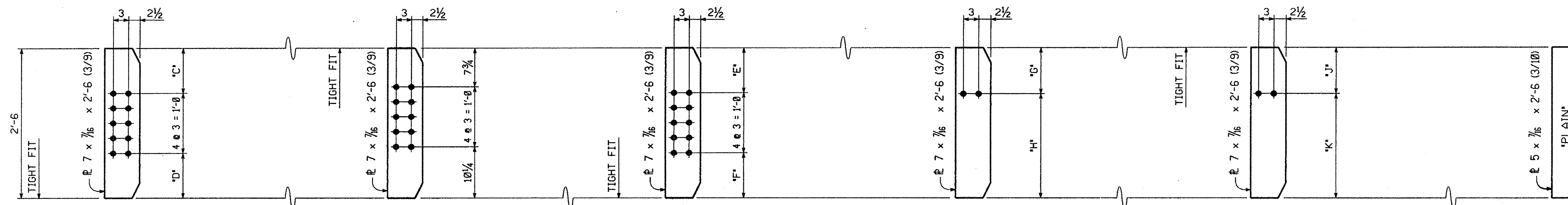
**8 ~ SPLICE R MK. xld**  
4 ~ SHIPMENT 1  
4 ~ SHIPMENT 2



**18 ~ BRG. STIFF. MK. xlg**  
9 ~ SHIPMENT 1  
9 ~ SHIPMENT 2

**BRG. STIFF.**

SHIP. 1	SHIP. 2	MARK	REQ'D.	*A*	*B*
1	1	xlh	2	7 3/4	10 1/4
1	1	xlk	2	9	9
1	1	xlm	2	10 1/4	7 3/4



**CONN. R**

SHIP. 1	SHIP. 2	MARK	REQ'D.	*C*	*D*
3	4	xln	7	7 3/4	10 1/4
1	--	xlp	1	8 1/4	9 3/4
--	1	xls	1	8 3/8	9 1/8
3	3	xlt	6	9	9
1	--	xlw	1	9 1/8	8 3/8
1	--	xly	1	9 3/4	8 1/4
3	4	xlaa	7	10 1/4	7 3/4

**4 ~ CONN. R MK. xlob**  
2 ~ SHIPMENT 1  
2 ~ SHIPMENT 2

**CONN. R**

SHIP. 1	SHIP. 2	MARK	REQ'D.	*E*	*F*
2	2	xlac	4	9	9
2	2	xlad	4	10 1/4	7 3/4

**CONN. R**  
SHIPMENT 1

MARK	REQ'D.	*G*	*H*
xlaf	3	6 3/4	1'-11 1/4
xlag	2	7	1'-11
xlah	1	7 1/2	1'-10 1/2
xlak	1	8 1/2	1'-9 1/2
xlam	2	9	1'-9
xlan	3	9 1/4	1'-8 3/4

**CONN. R**  
SHIPMENT 1

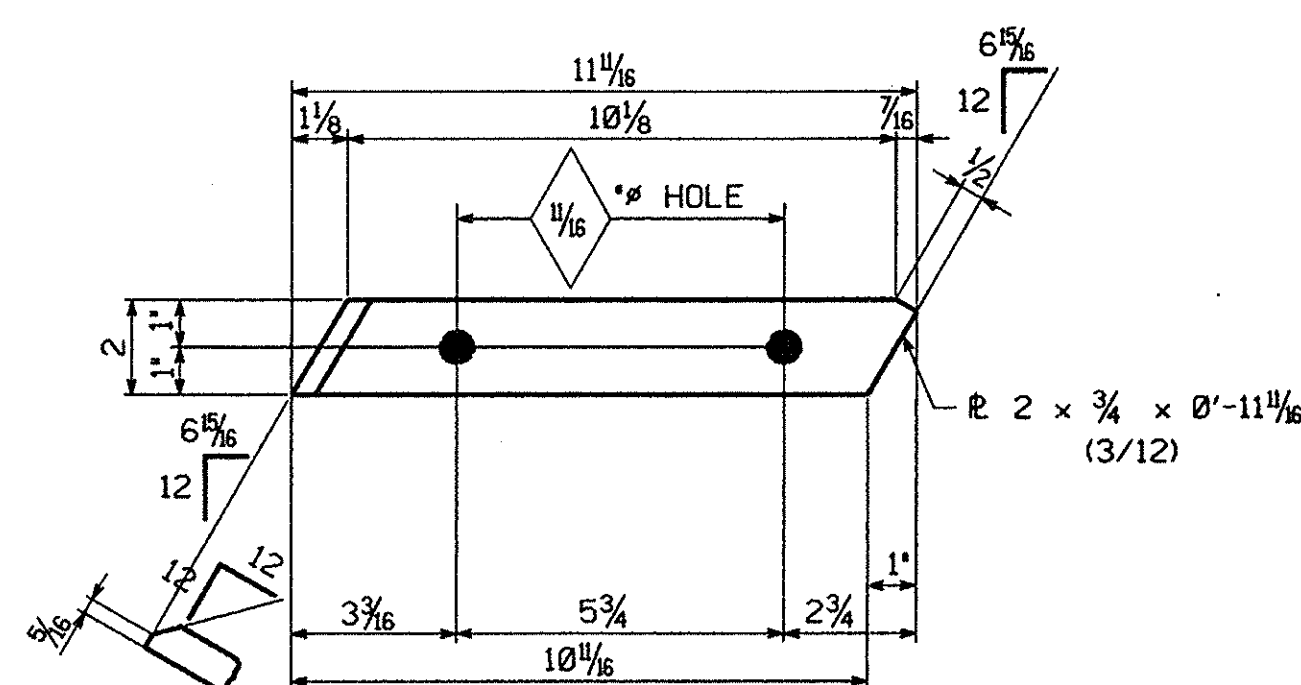
MARK	REQ'D.	*J*	*K*
xlap	2	6 3/4	1'-11 1/4
xlas	2	9 1/4	1'-8 3/4

**12 ~ INT. STIFF. MK xlat**  
4 ~ SHIPMENT 1  
8 ~ SHIPMENT 2

New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

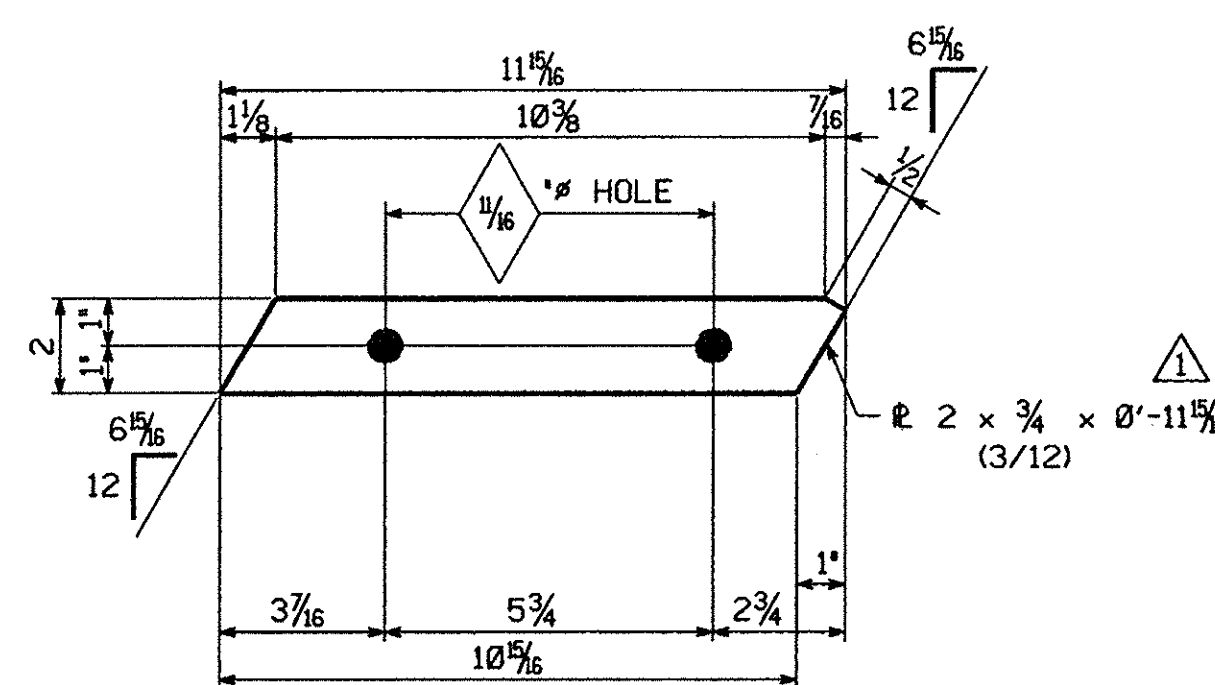
☐ Approved  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_

By: *[Signature]* Date: *5-8-99*



**5~DRIP BARS MK. xlow<sup>R</sup>**  
2 ~ SHIPMENT 1  
3 ~ SHIPMENT 2

**5~DRIP BARS MK. xlow<sup>L</sup>**  
2 ~ SHIPMENT 1  
3 ~ SHIPMENT 2



**10~DRIP BARS MK. xloba**  
4 ~ SHIPMENT 1  
6 ~ SHIPMENT 2

# **SHOP NOTE**

**HOLES:** 1/8" Ø (U.N.)  
**BOLTS:** NONE  
**PAINT:** NONE  
FOR GENERAL SHOP NOTES, SEE DWG. N1.

CODE:30

△		
△		
△	DETAIL ERROR	3-8-99
NO.	REVISION	DATE
<p><b>HIGH STEEL STRUCTURES, INC.</b></p> <p>1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5211</p> <p>A Division of High Industries, Inc.</p>		
<p><b>GIRDER JOB STANDARDS</b></p> <p>HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54</p> <p>HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85</p> <p>SCHENECTADY COUNTY, NEW YORK</p> <p>NEW YORK STATE THRUWAY AUTHORITY</p> <p>DEPARTMENT OF ENGINEERING SERVICES</p>		
<p>STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490</p> <p>CONTRACTOR BARRY, BETTE &amp; LED DUKE, INC.</p> <p>IN CHARGE: ALLEN (IH) MADE BY: AGS CHK'D. BY: KG DATE: 2-20-99</p> <p>CONTRACT NUMBER: NY-98176-1 &amp; 2 DRAWING NUMBER: X1 OF X1</p>		



GENERAL SHOP NOTES

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	NY	

△ SPECIFICATIONS:  
DESIGN SPECIFICATIONS: CURRENT NEW YORK STATE DEPARTMENT OF TRANSPORTATION  
STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES WITH ALL PROVISIONS IN EFFECT,  
EXCEPT AS MODIFIED BY THE NEW YORK STATE THRUWAY AUTHORITY STRUCTURES DESIGN  
MANUAL -- SECOND EDITION

MATERIAL AND CONSTRUCTION SPECIFICATIONS: STANDARD SPECIFICATIONS, CONSTRUCTION  
AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF  
ENGINEERING, DATED JANUARY 2, 1990 INCLUDING ADDENDUM #1, ADOPTED NOV. 18,  
1993, WITH CURRENT ADDITIONS AND MODIFICATIONS.  
ALL FABRICATION TO BE IN ACCORDANCE WITH THE NEW YORK STATE STEEL CONSTRUCTION  
MANUAL DATED NOV. 1, 1981 AND ADDENDUM 1, ADOPTED APRIL 1, 1984.

MATERIAL:  
UNLESS NOTED OTHERWISE, ALL STEEL TO BE ASTM A709 GRADE 50W.  
(T) INDICATES CHARPY V-NOTCH TESTING REQUIRED.  
SHOP BOLTS TO BE HIGH STRENGTH ASTM A325 TYPE 3 (FRICTION) WITH HEAVY HEX HEAD AND  
ASTM A563 GRADE C3 HEAVY HEX NUT, WITH ONE ASTM F436 WEATHERING WASHER PER BOLT.  
ALL STEEL TO BE OF DOMESTIC ORIGIN.  
ALL STRUCTURAL STEEL PLATES AND SHAPES USED IN AREAS SUBJECT TO TENSILE STRESS  
AS DESIGNATED ON THE PLANS OR AS LISTED IN THE STANDARD SPECIFICATIONS  
(SECTION 715-01 UNDER STEELS TO BE FURNISHED), SHALL RECEIVE CHARPY V-NOTCH  
TOUGHNESS TEST AS DESCRIBED THERE-IN.  
UNLESS NOTED OTHERWISE, ALL STEEL ON THESE DETAILS SHALL BE FURNISHED UNDER BID  
ITEM 564.0501

SHOP PROCEDURE:  
ALL FLANGE AND WEB PLATE SPLICES TO BE MADE BEFORE FINAL FITTING AND WELDING  
INTO GIRDER.  
CAMBER TOLERANCE: -0" TO +3/4"  
ALL RE-ENTRANT CUTS TO HAVE 1" MIN. RADIUS.  
BEARING AREA, AS NOTED ON GIRDER DETAILS, INDICATES AREA THAT MUST BE FLAT AND  
TRUE TO RECEIVE SOLE PLATE.  
ALL ADJUSTMENTS TO CAMBER OR THE HORIZONTAL SWEEP OF GIRDERS MUST BE DONE IN  
ACCORDANCE WITH SECTION 15 (HEAT CURVING, CAMBERING, AND STRAIGHTENING) OF THE  
NEW YORK STATE STEEL CONSTRUCTION MANUAL.  
ALL SHOP BOLTS THROUGH BOTTOM FLANGE TO HAVE BOLT HEADS UP.

INSPECTION:  
SHOP INSPECTION BY R. W. HUNT CO.

WELDING:  
ALL WELDING IS TO CONFORM TO THE NEW YORK STATE STEEL CONSTRUCTION MANUAL AS  
PER APPROVED WELDING PROCEDURES.

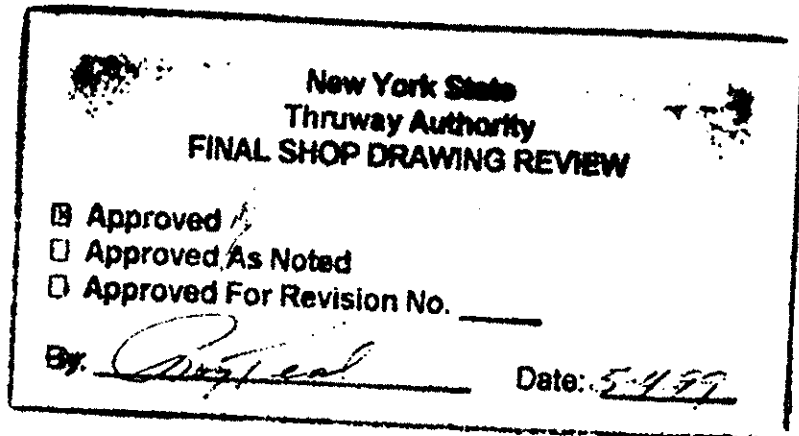
NON-DESTRUCTIVE TESTING:  
FLANGE AND WEB PLATE SPLICES TO BE RADIOGRAPHICALLY TESTED, AS CALLED FOR ON  
DRAWINGS PREFIXED 'FS' AND 'WC', BY H.S.S.I.


RA NOTE:  
HOLES MARKED RA ON DETAIL DRAWINGS TO BE SUB-PUNCHED/SUB-DRILLED 1/4" UNDER  
SIZE AND REAMED TO FULL SIZE OR DRILLED FROM SOLID WITH CONNECTING PARTS  
ASSEMBLED AND MATCH MARKED.

CLEANING:  
BLAST CLEAN ALL SURFACES OF ALL GIRDERS WITHIN AREA OF FIELD SPLICE PLATES AND  
ALL FIELD SPLICE PLATES TO SSPC-SP10 (NEAR WHITE). BLAST CLEAN FASCIA GIRDERS  
(AS NOTED ON DETAILS) TO SSPC-SP6 (COMMERCIAL).  
REMOVE SHOP MARKS AND ANY FOREIGN SUBSTANCE FROM BALANCE OF MATERIAL.

PAINTING:  
NO PAINT

DRAWING REFERENCE:  
FLANGE SPLICES -PREFIXED 'FS'  
WEB CAMBERS -PREFIXED 'WC'  
GIRDER JOB STANDARDS -PREFIXED 'X'  
SHOP ASSEMBLY -PREFIXED 'SA'



△		
△		
△	APPROVAL CHANGES	4-20-99
NO.	REVISION	DATE
<div><div>HIGH STEEL STRUCTURES, INC.</div><div><div>1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5211 A Division of High Industries, Inc.</div></div></div>		
GENERAL SHOP NOTES		
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, 0212490		
CONTRACTOR BARRY, BETTE & LEO DUKE, INC.		
IN CHARGE: ALLEN (IH) MADE BY: KMA CHK'D. CS DATE: 1-6-99		
DRAWING NUMBER: NY-98176-1 & 2 DRAWING NUMBER: N1 OF N1		



MARK	'A'	'B'
D1	9'-2½	5'-11¼
D2	9'-0	5'-10



MARK	'C'
D5	9'-2 1/2"
D6	9'-0"

### SHOP NOTE

**HOLES:**  $15/16$  "  $\varnothing$  

**BOLTS:** NONE

**PAINT:** NONE

FOR GENERAL SHOP NOTES, SEE DWG. N1.

[illegible]


△		
△	CONTRACTOR REQUEST- FIELD DRILL DIAPHRAGMS	6-4-99
△	ADDED HOLE SPACING	4-20-99
NO.	REVISION	DATE
 <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> <p>1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5211</p> <p><i>A Division of High Industries, Inc.</i></p> </div>		
DIAPHRAGMS		
D1 THRU D3		
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO.      CONTRACT TAA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LED DUKE, INC.		
IN CHARGE, ALLEN (IH)	MADE BY, A65	CHK'D. BY, KG
		DATE, 2-20-99
CONTRACT NUMBER, NY-98176-1 & 2		DRAWING NUMBER, 1 OF 9





Diagram showing the elevation view of a beam with the following dimensions and features:

- Overall length:  $9'-2\frac{1}{2}"$
- Distance from left end to start of triangular load:  $5'-11\frac{1}{4}"$
- Height of the triangular load at its peak:  $27\frac{1}{2}"$
- Height of the beam at the left end:  $1\frac{1}{2}"$
- Height of the beam at the right end:  $3"$
- Height of the beam at the base:  $2"$
- Support condition:  $GA = 2$
- Triangular load symbol:  $\triangle$

## DIAPHRAGMS MK. D3


New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

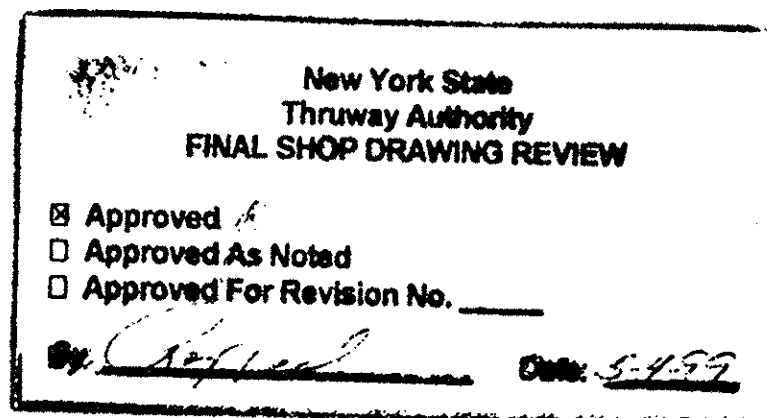
☒ Approved  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_


By: [Signature] Date: 5-4-99

### SHOP NOTE

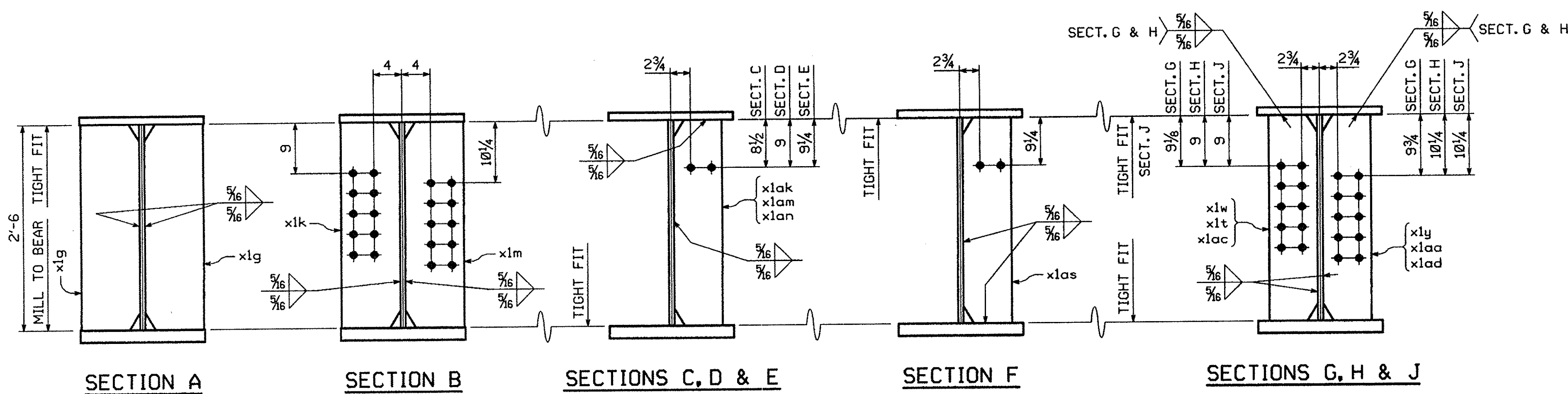
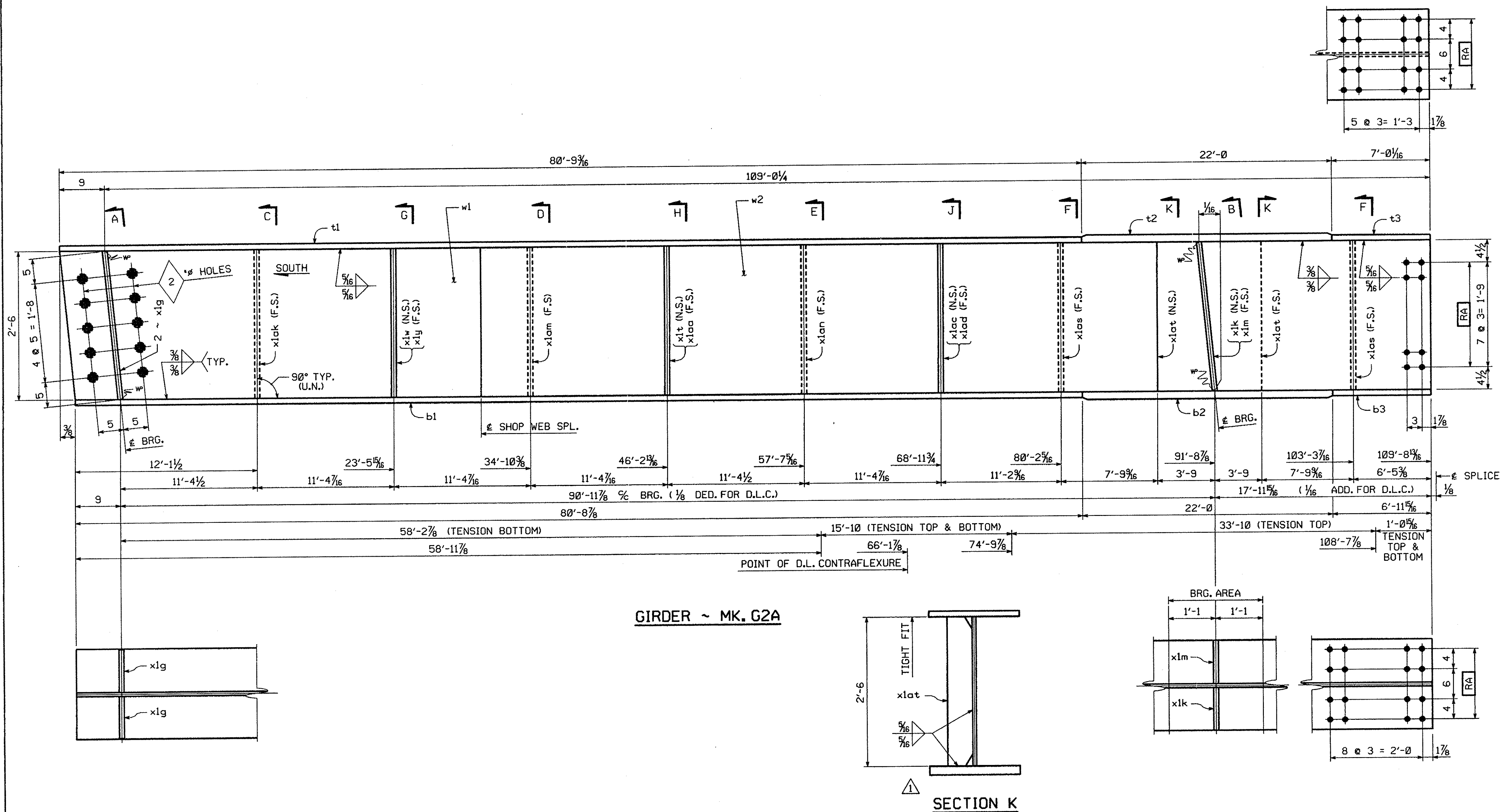
**HOLES:**  $\frac{15}{16}$ "  $\varnothing$  (U.N.)  
**BOLTS:** NONE  
**PAINT:** NONE  
 FOR GENERAL SHOP NOTES, SEE DWG. N1.

△		
△		
△	ADDED HOLE SPACING	4-20-95
NO.	REVISION	DATE
<p>    <b>HIGH STEEL STRUCTURES, INC.</b>             1770 Hempstead Road            Lancaster, PA 17605-0008            Phone 717/299-5218  <i>A Division of High Industries, Inc.</i> </p>		
DIAPHRAGMS		DI THRU C
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.5		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. <u>CONTRACT TAA98-10BR, D212490</u>		
CONTRACTOR <u>BARRY, BETTE &amp; LED DUKE, INC.</u>		
IN CHARGE: <u>ALLEN (IH)</u>	MADE BY: <u>AGS</u>	CHK'D. BY: <u>KG</u> DATE: <u>2-20-9</u>
CONTRACT NUMBER <u>NY-98176-1 &amp; 2</u>		DRAWING NUMBER <u>1 OF 9</u>



△		
△	APPROVAL CHANGE - MOVED SECTION K	4-20-99
NO.	REVISION	DATE
<p>          1770 Hempstead Road          Lancaster, PA 17605-0008          Phone 717/299-5211  <i>A Division of High Industries, Inc.</i> </p>		
GIRDER		G1A
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54 HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85 SCHENECTADY COUNTY, NEW YORK NEW YORK STATE THRUWAY AUTHORITY DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO.      CONTRACT TAA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LED DUKE, INC.		
IN CHARGE: ALLEN (IH)	MADE BY: AGS	CHK'D. BY: KG      DATE: 2-20-99
CONTRACT NUMBER: NY-98176-1	DRAWING NUMBER: 2 OF 9	





New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

☒ Approved  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_

By: *[Signature]* Date: 5-9-99

**SHOP NOTE**

**HOLES:** 5/16" (U.N.)

**BOLTS:** NONE

**PAINT:** NONE

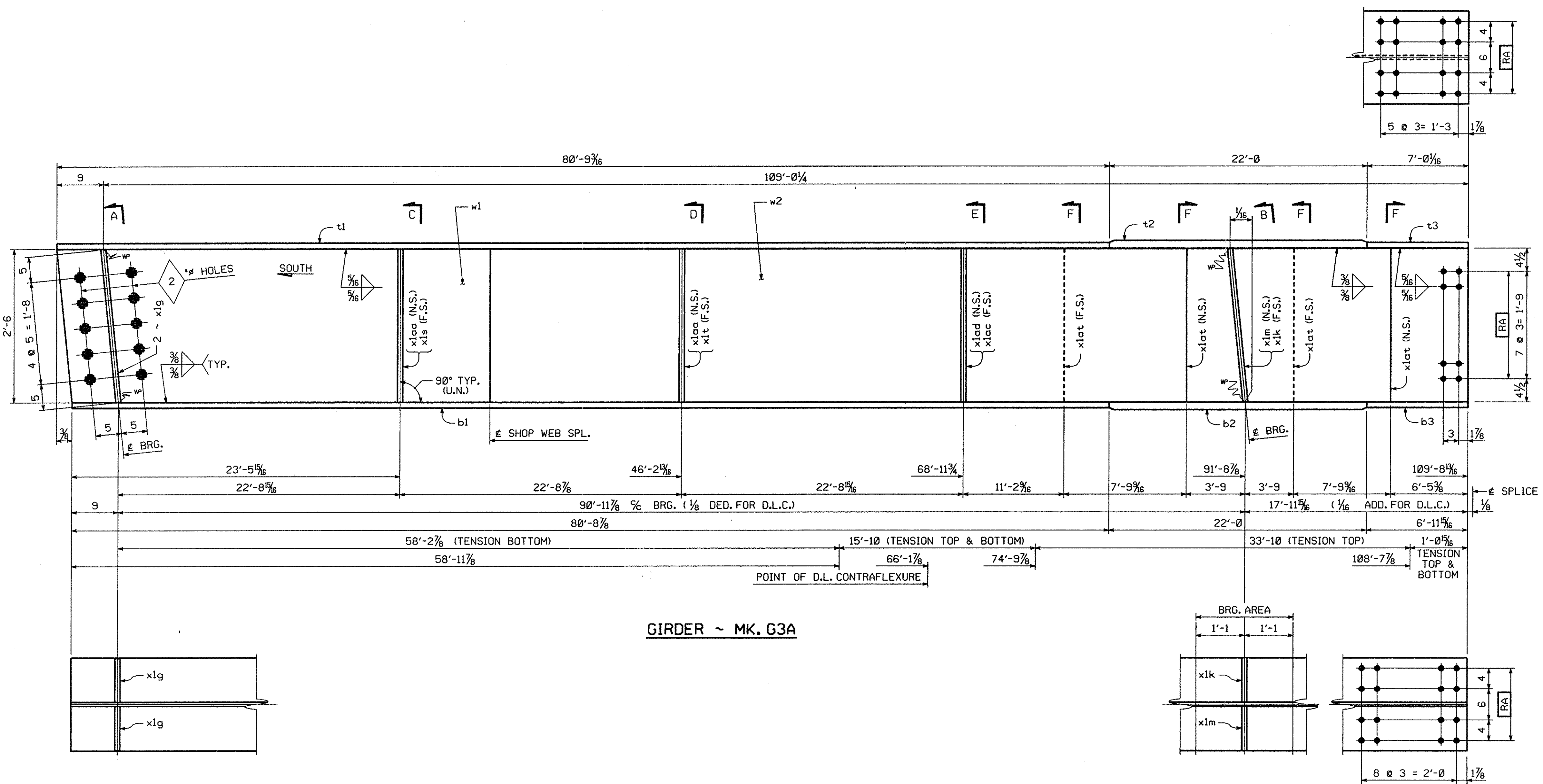
FOR GENERAL SHOP NOTES, SEE DWG. N1.  
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

**BILL OF MATERIAL**

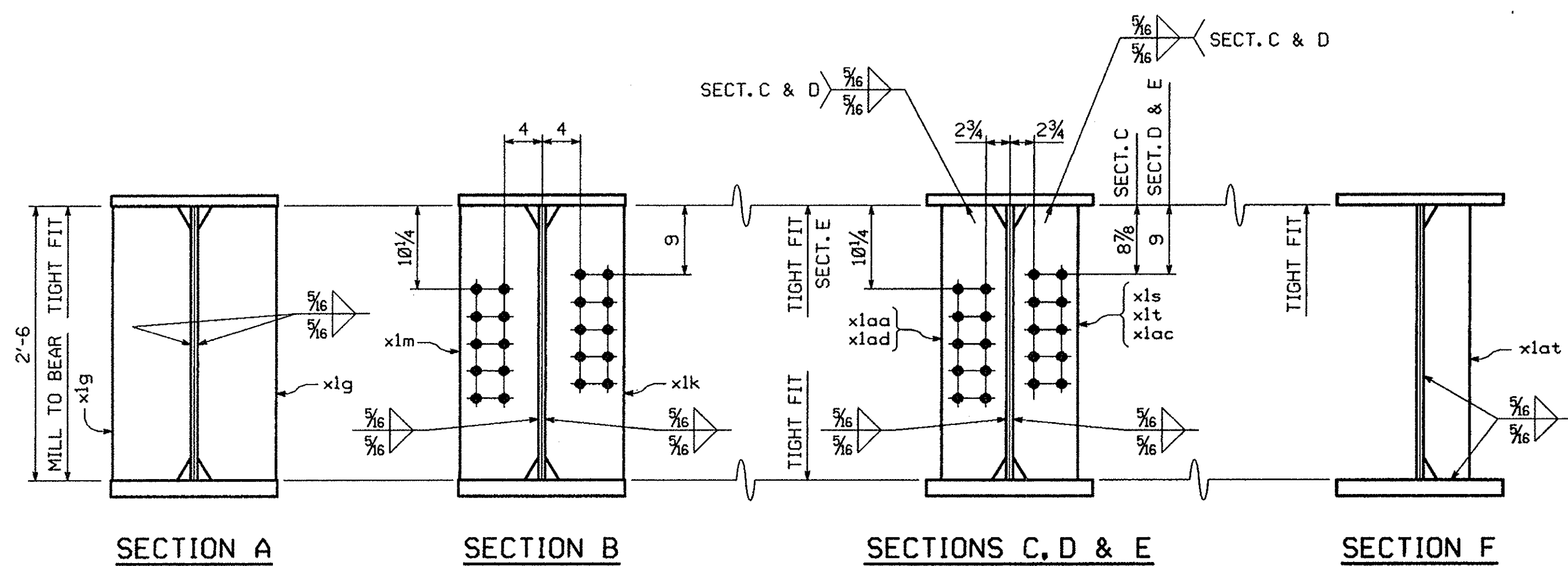
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM	SHIP. WEIGHT EA.
ONE	G2A	GIRDER				27,750
1	w1	2 30 x 1/2	30 9 3/8	(T)	1 5	
1	w2	2 30 x 1/2	79 0	(T)	1 2	
1	t1	2 18 x 1 1/4	80 9 3/8	(T)	2 7	
1	t2	2 18 x 2 1/4	22 0	(T)	2 3	
1	t3	2 18 x 1 1/4	7 0 1/8	(T)	2 9	
1	b1	2 18 x 1 1/4	80 8 7/8	(T)	2 4	
1	b2	2 18 x 2 1/4	22 0		2 2	
1	b3	2 18 x 1 1/4	6 11 5/8	(T)	2 6	
2	xlg	2 8 1/2 x 7/8	2 6		3 8	
1	xlk	2 8 1/2 x 7/8	2 6		3 8	
1	xlm	2 8 1/2 x 7/8	2 6		3 9	
1	xlt	2 7 x 7/8	2 6		3 9	
1	xlw	2 7 x 7/8	2 6		3 9	
1	xly	2 7 x 7/8	2 6		3 9	
1	xlaa	2 7 x 7/8	2 6		3 9	
1	xlae	2 7 x 7/8	2 6		3 9	
1	xlad	2 7 x 7/8	2 6		3 9	
1	xlae	2 7 x 7/8	2 6		3 9	
1	xlae	2 7 x 7/8	2 6		3 9	
1	xlan	2 7 x 7/8	2 6		3 9	
2	xlas	2 7 x 7/8	2 6		3 9	
2	xlat	2 5 x 7/8	2 6		3 10	

△		
△		
△	APPROVAL CHANGE - MOVED SECTION K	4-20-99
NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC.		
1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5211 A Division of High Industries, Inc.		
GIRDER G2A		
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LED DUKE, INC.		
IN CHARGE ALLEN (IH)	MADE BY: AGS	CHK'D. BY: KG
CONTRACT NUMBER: NY-98176-1	DRAWING NUMBER: 3 OF 9	DATE: 2-20-99

CODE:30



GIRDER ~ MK. G3A



New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

☒ Approved  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_  
 By: *[Signature]* Date: *2-2-99*

**SHOP NOTE**HOLES:  $\frac{5}{16}$ \"

BOLTS: NONE

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. N1.  
 FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

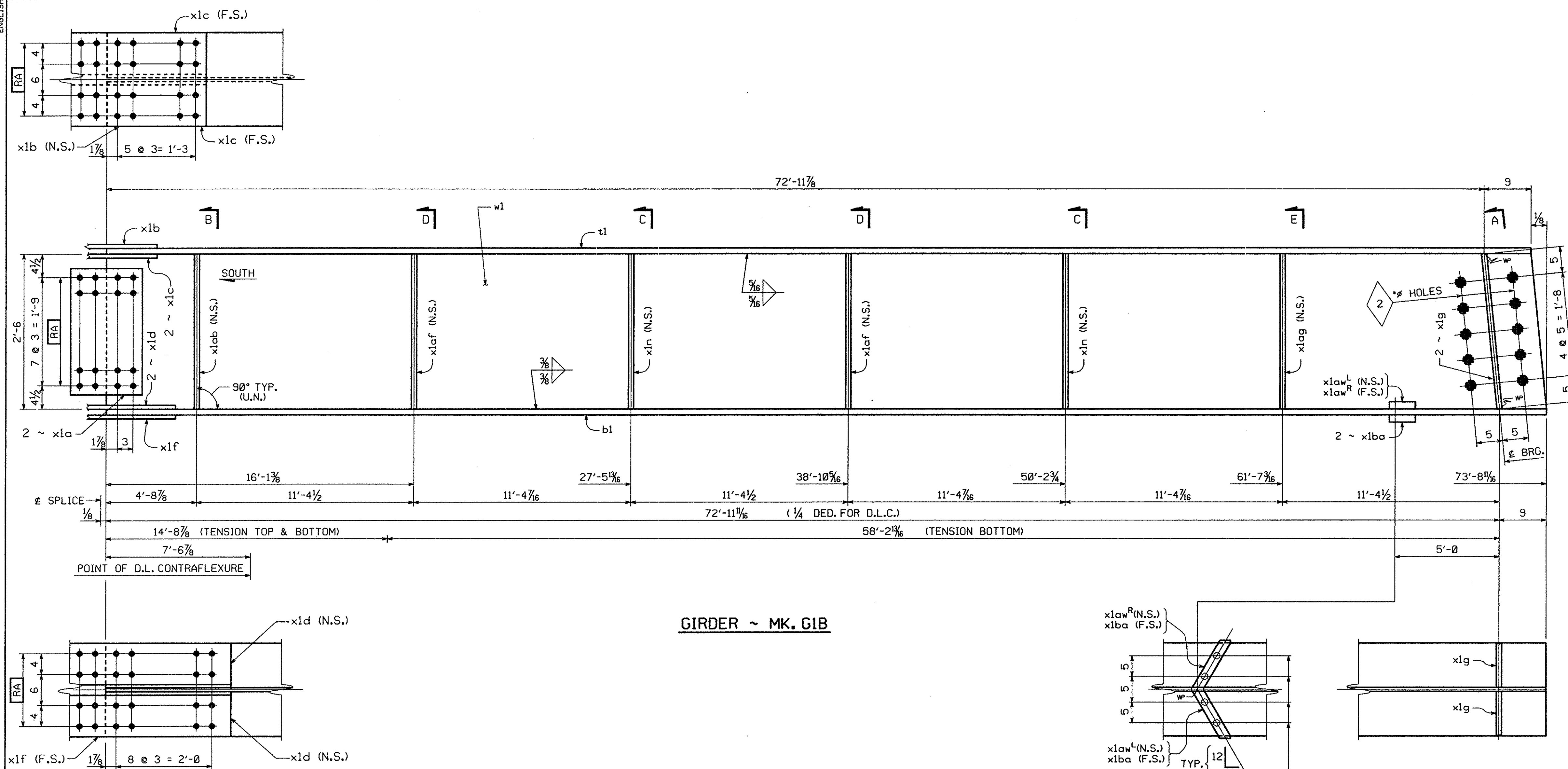
**BILL OF MATERIAL**

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM	SHIP. WEIGHT
ONE	G3A	GIRDER				27,650
1	w1	2 30 x 1/2	30 9 3/8	(T)	1	5
1	w2	2 30 x 1/2	79 0	(T)	1	2
1	t1	2 18 x 1 1/8	80 9 3/8	(T)	2	7
1	t2	2 18 x 2 1/4	22 0	(T)	2	3
1	t3	2 18 x 1 1/8	7 0 1/8	(T)	2	9
1	b1	2 18 x 1 3/4	80 8 7/8	(T)	2	4
1	b2	2 18 x 2 1/4	22 0		2	2
1	b3	2 18 x 1 3/4	6 11 5/8	(T)	2	6
2	x1g	2 8 1/2 x 7/8	2 6		3	8
1	x1k	2 8 1/2 x 7/8	2 6		3	8
1	x1m	2 8 1/2 x 7/8	2 6		3	8
1	x1s	2 7 x 7/8	2 6		3	9
1	x1t	2 7 x 7/8	2 6		3	9
2	x1aa	2 7 x 7/8	2 6		3	9
1	x1ac	2 7 x 7/8	2 6		3	9
1	x1ad	2 7 x 7/8	2 6		3	9
4	x1at	2 5 x 7/8	2 6		3	10

NO.	REVISION	DATE
<p>1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5201</p> <p><b>HIGH STEEL STRUCTURES, INC.</b></p> <p>A Division of High Industries, Inc.</p>		
GIRDER G3A		
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LED DUKE, INC.		
IN CHARGE: ALLEN (IH)	MADE: AGS	CHK'D: KG DATE: 2-20-99
CONTRACT NUMBER: NY-98176-2		DRAWING NUMBER: 4 OF 9

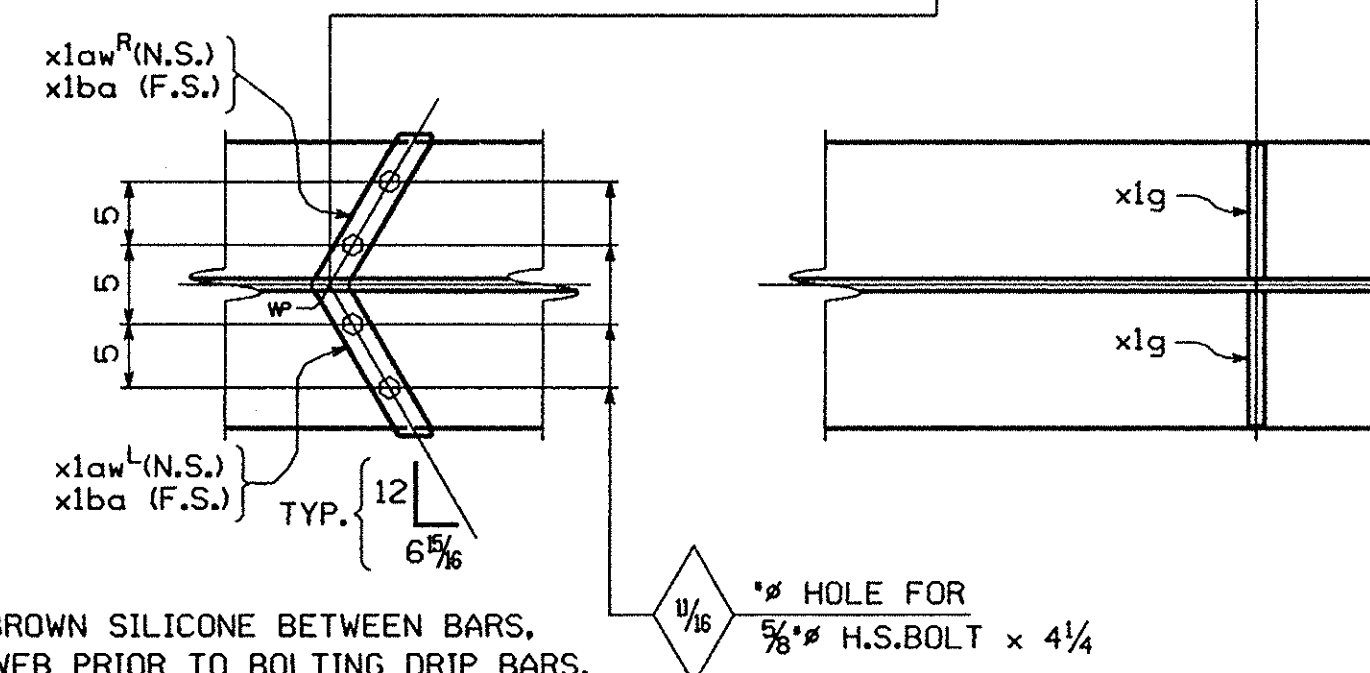






GIRDER ~ MK. G1B

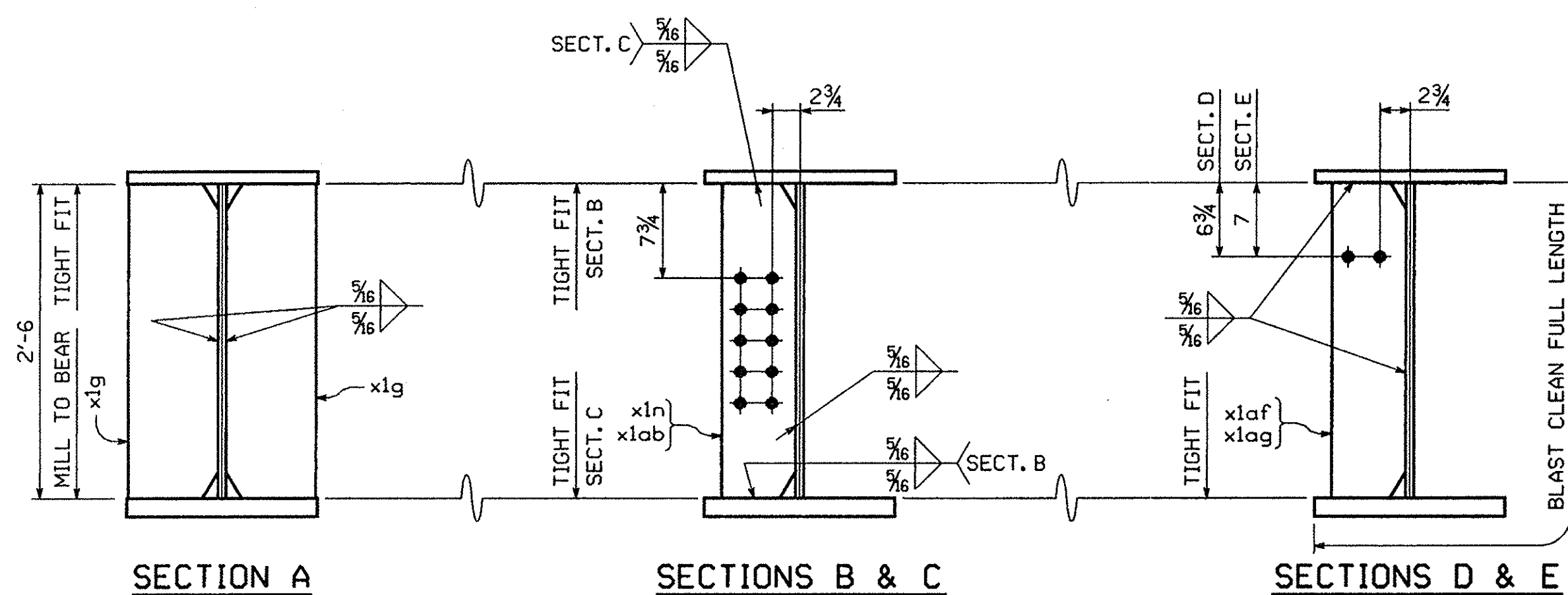
NOTE:  
PLACE BROWN SILICONE BETWEEN BARS,  
FLG. & WEB PRIOR TO BOLTING DRIP BARS.



FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.
	NY	

## BILL OF MATERIAL

NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM	SHIP WEIGHT E.L.
ONE	G1B	GIRDER				17,850
1	w1	# 30 x 1/2	73	9 (T)	1	4
1	t1	# 18 x 1 1/8	73	8 7/8 (T)	2	8
1	b1	# 18 x 1 1/4	73	8 1/8 (T)	2	5
2	x1a	# 24 1/2 x 3/8	1	1 1/2 (T)	3	2
1	x1b	# 18 x 5/8	3	1 1/2 (T)	3	5
2	x1c	# 8 x 5/8	3	1 1/2 (T)	3	6
2	x1d	# 8 x 7/8	4	7 1/2 (T)	3	4
1	x1f	# 18 x 7/8	4	7 1/2 (T)	3	3
2	x1g	# 8 1/2 x 7/8	2	6	3	8
2	x1n	# 7 x 7/16	2	6	3	9
1	x1ab	# 7 x 7/16	2	6	3	9
2	x1af	# 7 x 7/16	2	6	3	9
1	x1ag	# 7 x 7/16	2	6	3	9
2	x1aw <sup>R</sup>	# 2 x 3/4	0	11 1/8	3	12
2	x1ba	# 2 x 3/4	0	11 1/8	3	12
4		5/8" H.S. BOLTS	0	4 1/4	B1	13
4		WASHERS FOR 5/8" H.S. BOLTS	0		B1	15



New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

☒ Approved  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_

By: \_\_\_\_\_ Date: 5-4-99

## SHOP NOTE

HOLES: 5/16" (U.N.)

BOLTS: AS NOTED

PAINT: NONE

FOR GENERAL SHOP NOTES, SEE DWG. N1.  
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

NO.	REVISION	DATE

1770 Hempstead Road  
Lancaster, PA 17605-0008  
Phone 717/299-5211

**HIGH STEEL STRUCTURES, INC.**

GIRDER G1B

HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54

HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85

SCHENECTADY COUNTY, NEW YORK

NEW YORK STATE THRUWAY AUTHORITY

DEPARTMENT OF ENGINEERING SERVICES

STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490

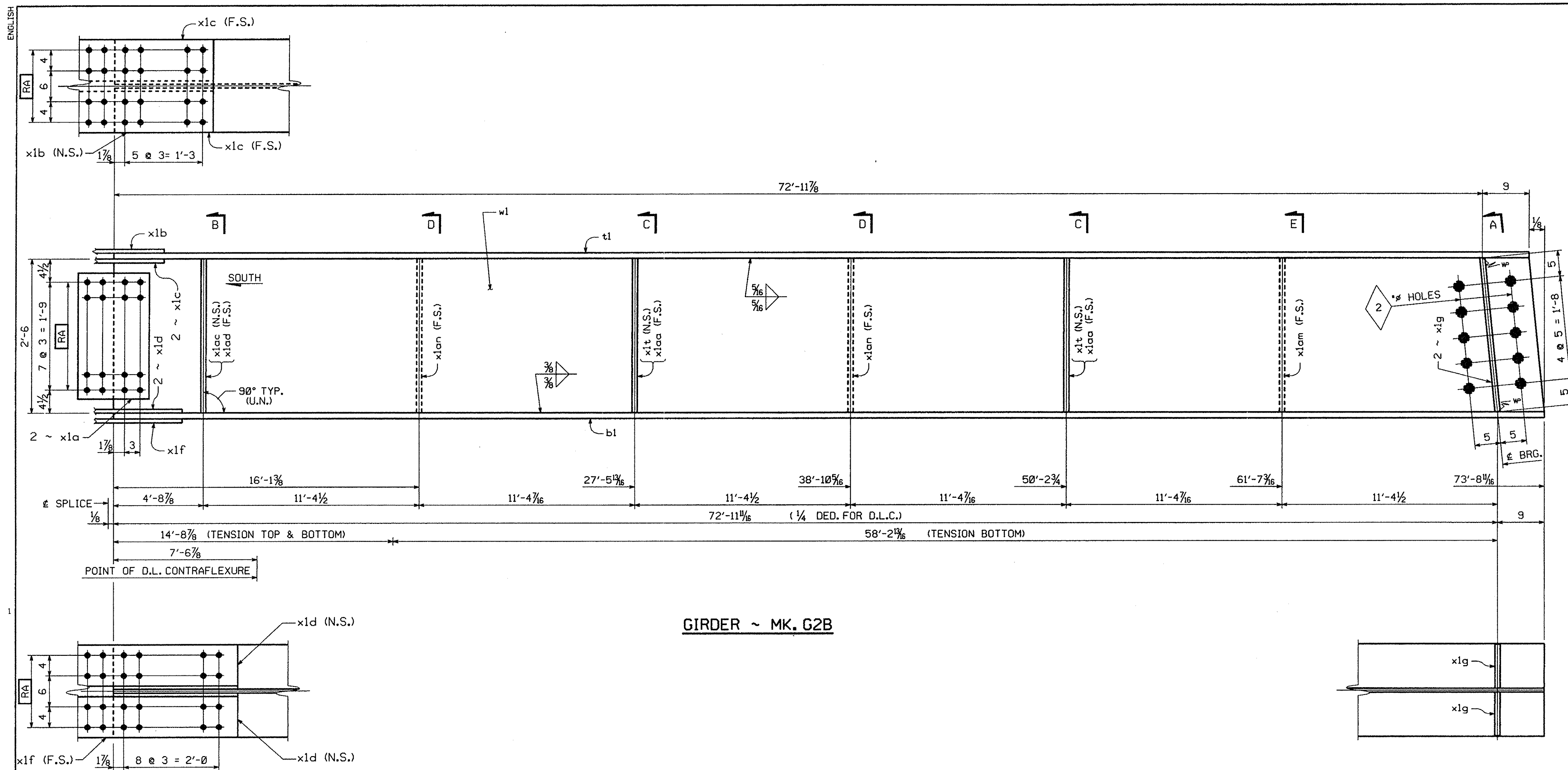
CONTRACTOR BARRY, BETTE & LED DUKE, INC.

IN CHARGE: ALLEN (IH) MADE: A65 CHK'D: KG DATE: 2-20-99

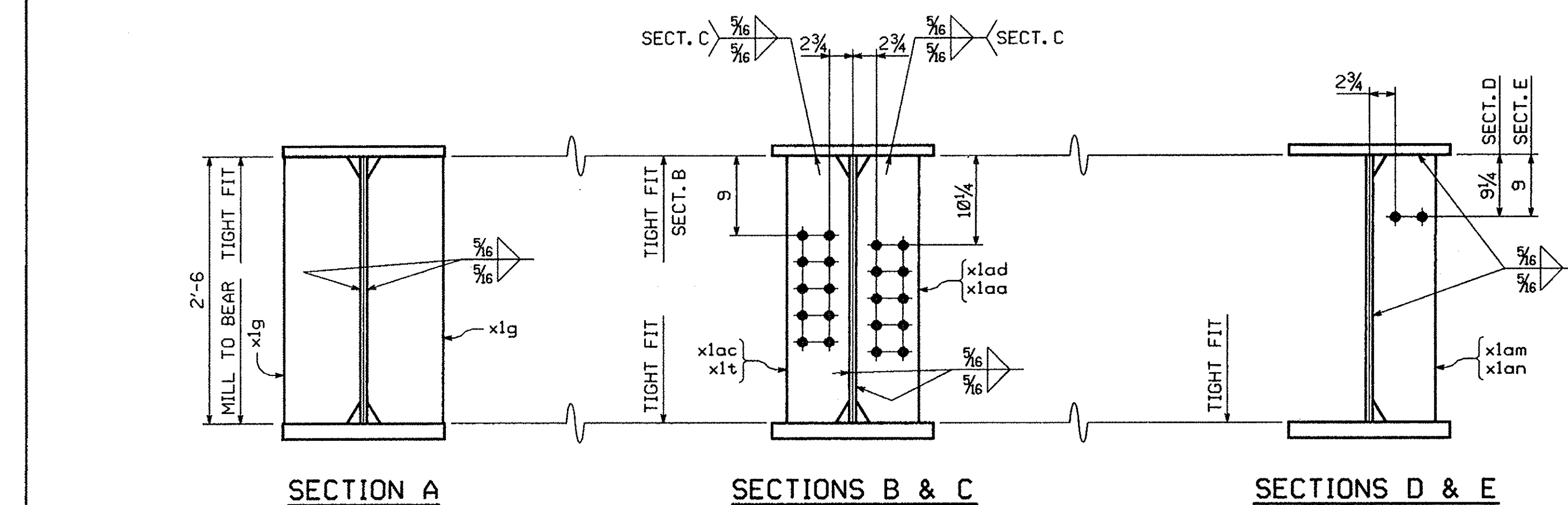
CONTRACT NUMBER: NY-98176-1 DRAWING NUMBER: 6 OF 9



ENGLISH



GIRDER ~ MK. G2B



New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW  
By: [Signature] Date: 5-4-99

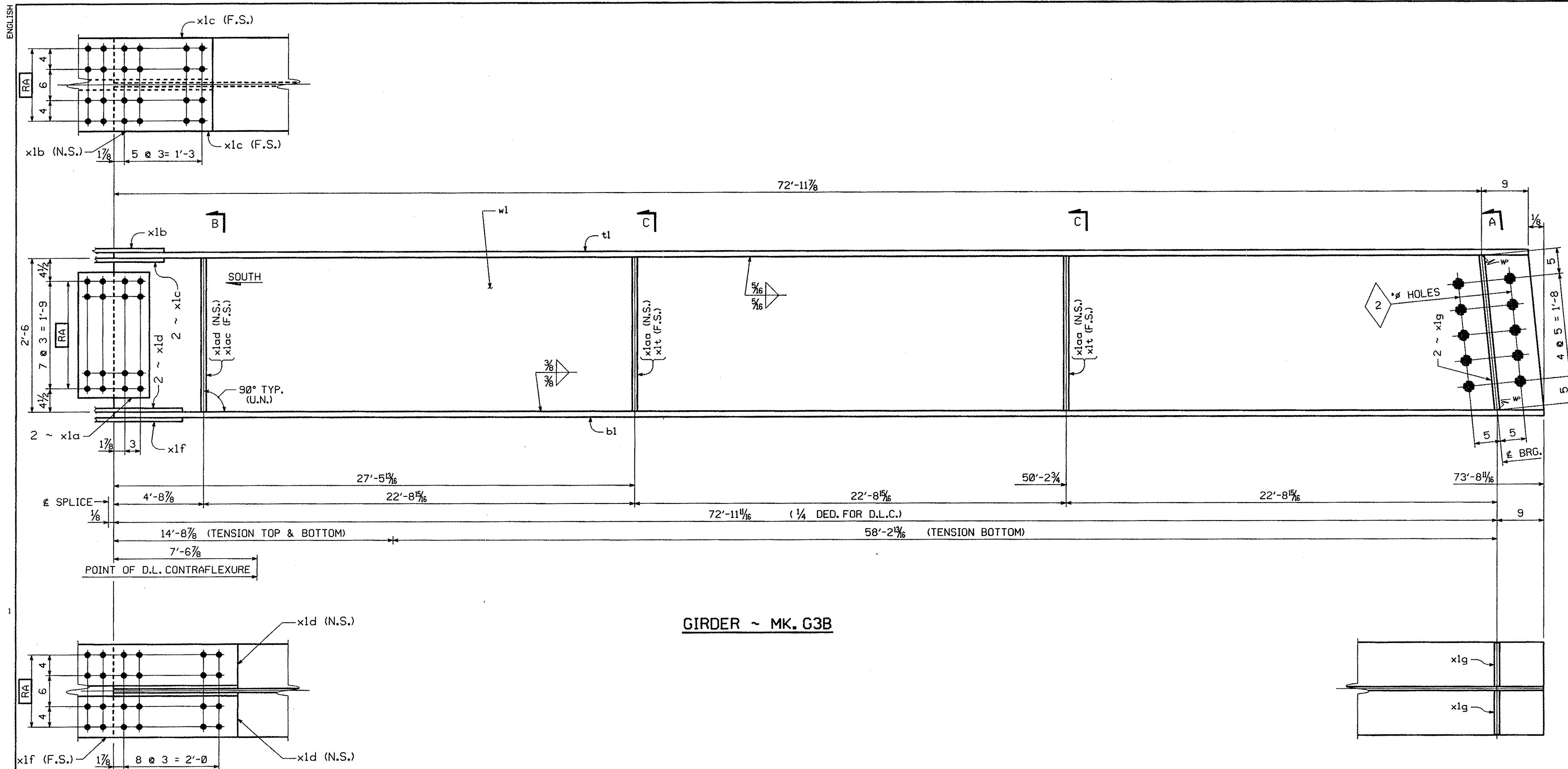
SHOP NOTE

HOLES: 5/8" (U.N.)  
BOLTS: NONE  
PAINT: NONE  
FOR GENERAL SHOP NOTES, SEE DWG. N1.  
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

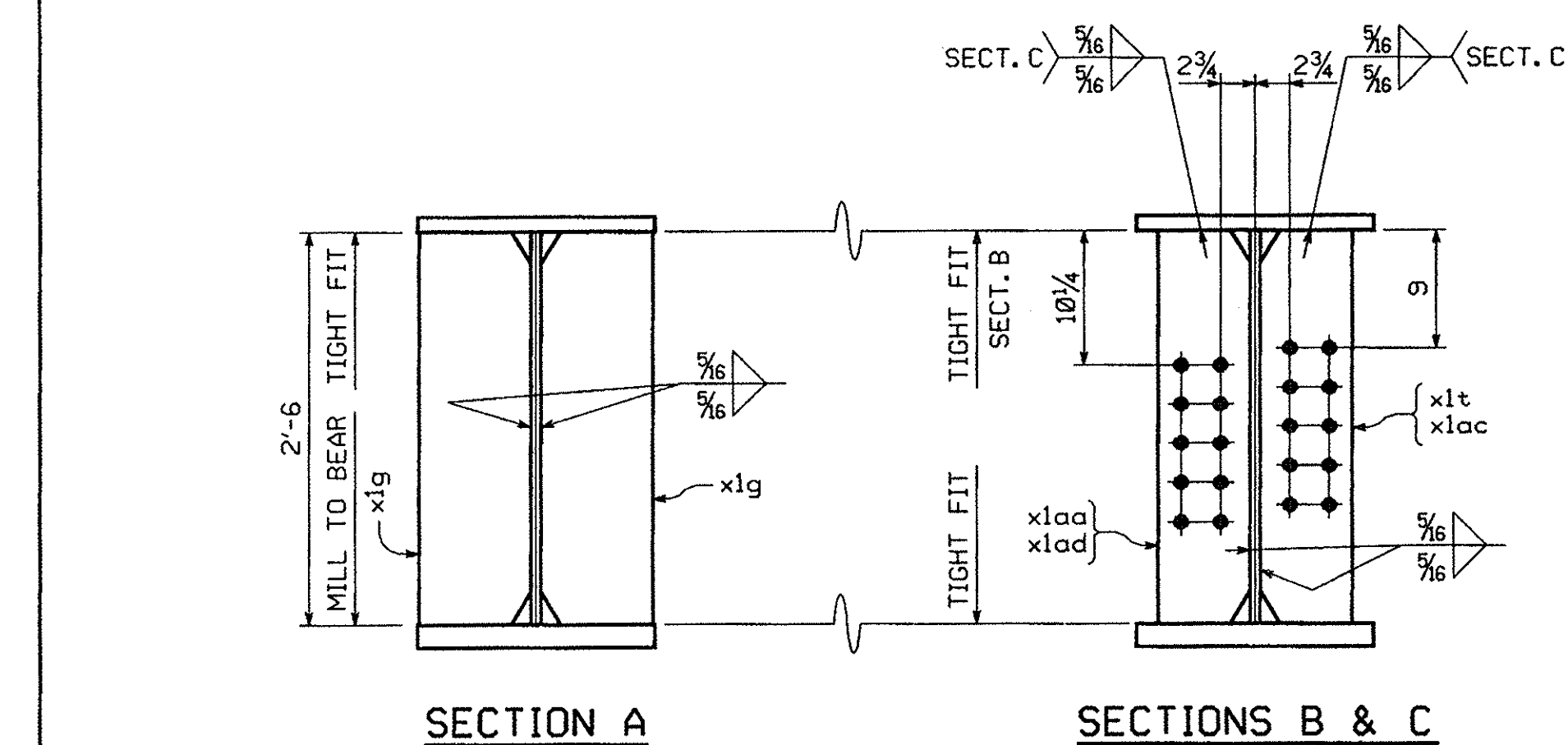
BILL OF MATERIAL						
NO.	MARK	DESCRIPTION	LENGTH	REMARKS	ITEM	SHIP. WEIGHT E.A.
ONE	G2B	GIRDER				17,900
1	w1	2 30 x 1/2	73	9 (T)	1	4
1	tl	2 18 x 1 1/8	73	8 7/8 (T)	2	8
1	b1	2 18 x 1 3/4	73	8 7/8 (T)	2	5
2	x1a	2 24 1/2 x 3/8	1	1 1/2 (T)	3	2
1	x1b	2 18 x 3/8	3	1 1/2 (T)	3	5
2	x1c	2 8 x 5/8	3	1 1/2 (T)	3	6
2	x1d	2 8 x 7/8	4	7 1/2 (T)	3	4
1	x1f	2 18 x 7/8	4	7 1/2 (T)	3	3
2	x1g	2 8 1/2 x 7/8	2	6	3	8
2	x1t	2 7 x 7/16	2	6	3	9
2	x1aa	2 7 x 7/16	2	6	3	9
1	x1ac	2 7 x 7/16	2	6	3	9
1	x1ad	2 7 x 7/16	2	6	3	9
2	x1an	2 7 x 7/16	2	6	3	9
1	x1am	2 7 x 7/16	2	6	3	9

△		
△		
△		
NO.	REVISION	DATE
HIGH STEEL STRUCTURES, INC. 1770 Hempstead Road, Lancaster, PA 17605-0008, Phone 717/299-5211		
GIRDER G2B		
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LEO DUKE, INC.		
IN CHARGE: ALLEN (IH)	MADE BY: AGS	CHK'D. BY: KG DATE: 2-20-99
CONTRACT NUMBER: NY-98176-1		DRAWING NUMBER: 7 OF 9

ENGLISH



GIRDER ~ MK. G3B



New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

Approved: *[Signature]*  
Approved As Noted  
Approved For Revision No. \_\_\_\_\_  
By: *[Signature]* Date: 5-4-89

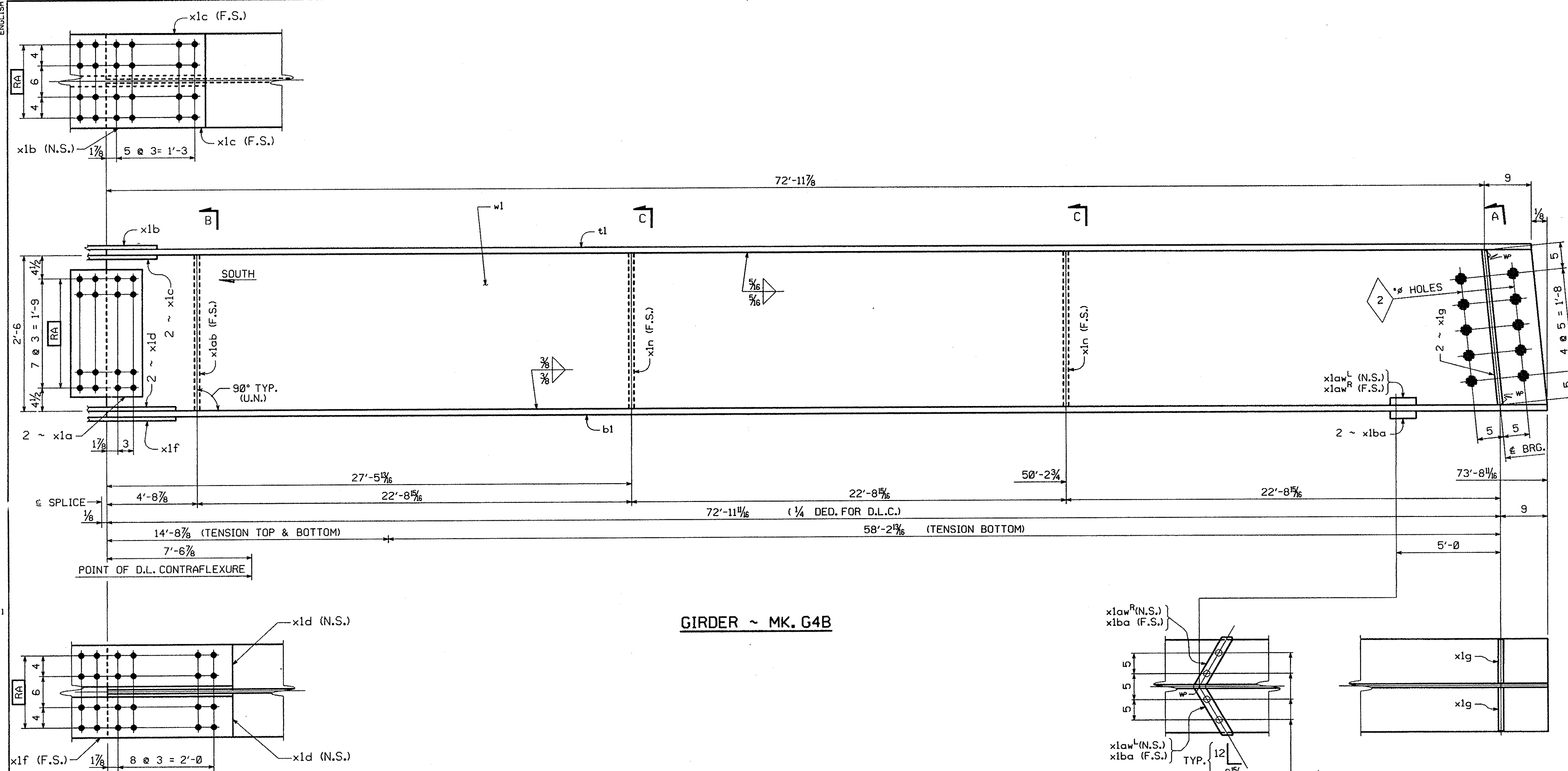
SHOP NOTE

HOLES:  $\frac{5}{16}$ \" (U.N.)  
BOLTS: NONE  
PAINT: NONE  
FOR GENERAL SHOP NOTES, SEE DWG. N1.  
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

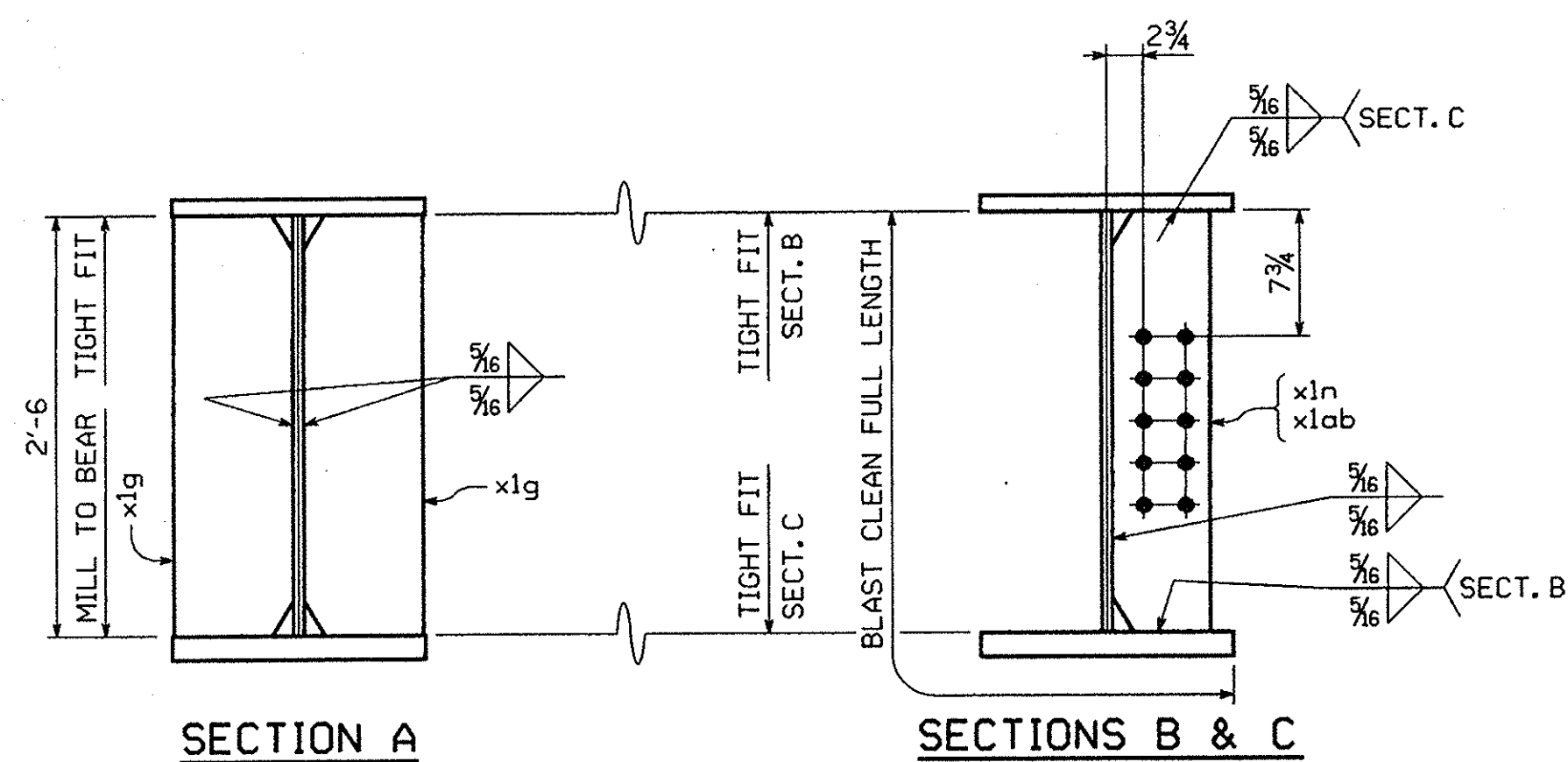
				FED. ROAD DIV. NO.		STATE		FED. AID PROJ. NO.	
						NY			
BILL OF MATERIAL									
NO.	MARK	DESCRIPTION	LENGTH		REMARKS		ITEM	SHIP WEIGHT EA.	
ONE	G3B	GIRDER						17,800	
1	w1	2 30 x 1/2	73	9	(T)		1	3	
1	tl	2 18 x 1 1/8	73	8 7/8	(T)		2	8	
1	bl	2 18 x 1 3/4	73	8 1/2	(T)		2	5	
2	x1a	2 24 1/2 x 3/8	1	1 1/2	(T)		3	2	
1	x1b	2 18 x 5/8	3	1 1/2	(T)		3	5	
2	x1c	2 8 x 5/8	3	1 1/2	(T)		3	6	
2	x1d	2 8 x 7/8	4	7 1/2	(T)		3	4	
1	x1f	2 18 x 7/8	4	7 1/2	(T)		3	3	
2	x1g	2 8 1/2 x 7/8	2	6			3	8	
2	x1t	2 7 x 7/16	2	6			3	9	
2	x1aa	2 7 x 7/16	2	6			3	9	
1	x1ac	2 7 x 7/16	2	6			3	9	
1	x1ad	2 7 x 7/16	2	6			3	9	
				</					

NO.	REVISION	DATE
△		
△		
△		
1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5281 <b>HIGH STEEL STRUCTURES, INC.</b> <i>HSI</i> A Division of High Industries, Inc.		
GIRDER G3B		
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. CONTRACT TAA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LED DUKE, INC.		
IN CHARGE: ALLEN (IH)	MADE BY: AGS	CHK'D BY: KG DATE: 2-20-99
CONTRACT NUMBER: NY-98176-2		DRAWING NUMBER: 8 OF 9





NOTE:  
PLACE BROWN SILICONE BETWEEN BARS,  
FLG. & WEB PRIOR TO BOLTING DRIP BARS.

[illegible]

New York State  
Thruway Authority  
FINAL SHOP DRAWING REVIEW

☒ Approved *19*  
☐ Approved As Noted  
☐ Approved For Revision No. \_\_\_\_\_

By: *Original* Date: *5-4-99*


### SHOP NOTE

**HOLES:**  $\frac{15}{16}$  "Ø (U.N.)

**BOLTS:** AS NOTED

**PAINT:** NONE

FOR GENERAL SHOP NOTES, SEE DWG. N1.  
FOR WEB CAMBER DIAGRAM, SEE DWG. WC1.

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△		
NO.	REVISION	DATE
<p><b>HIGH STEEL STRUCTURES, INC.</b></p> <p style="text-align: right;">1770 Hempstead Road Lancaster, PA 17605-0008 Phone 717/299-5211</p> <p style="text-align: center;"></p> <p style="text-align: right;"><i>A Division of High Industries, Inc.</i></p>		
GIRDER		G4E
HELDERBERG AVENUE BRIDGE OVER NYS THRUWAY AT M.P. 155.54		
HELDERBERG AVENUE STA. 7+11.85 TO 8+93.85		
SCHENECTADY COUNTY, NEW YORK		
NEW YORK STATE THRUWAY AUTHORITY		
DEPARTMENT OF ENGINEERING SERVICES		
STATE CONTRACT OR REF. NO. CONTRACT TA98-10BR, D212490		
CONTRACTOR BARRY, BETTE & LED DUKE, INC.		
IN CHARGE: ALLEN (IH)	MADE BY: AGG	CHK'D. BY: KG DATE: 2-20-99
CONTRACT NUMBER: NY-98176-2		DRAWING NUMBER: 9 OF 9

DIRECT ALL QUESTIONS TO:  
SCOTT W. KOPP, WELDING TECHNICIAN  
HIGH STEEL STRUCTURES, INC.  
PHONE: (717)390-4232