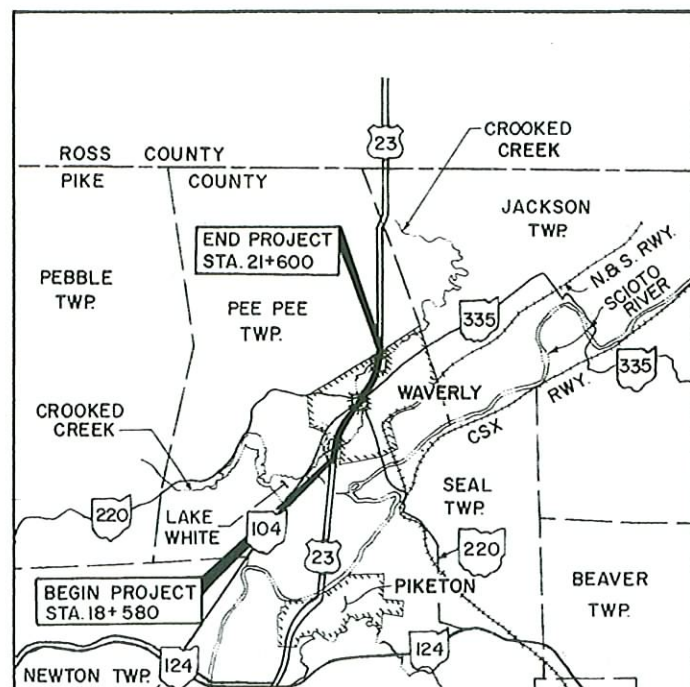


STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

PIK-23-18.580 (1156)

PROJECT DESCRIPTION
IMPROVEMENT OF 3.020 KILOMETERS OF USR 23 BY REPLACING EXISTING PAVEMENT WITH REINFORCED CONCRETE, REPLACEMENT OF SUPERSTRUCTURE OF BRIDGE NO. PIK-23-1156, REPLACEMENT OF BRIDGE NO. PIK-23-1335 AND BRIDGE NO. PIK-23-1335, UPGRADING OF STORM SEWER SYSTEM, UPGRADING OF TRAFFIC SIGNALS, AND OTHER ANCILLARY ITEMS.



LOCATION MAP
LATITUDE N 39° 07' 35" LONGITUDE W 82° 59' 10"



DESIGN DESIGNATION
CURRENT ADT (1998) = 23,220
DESIGN YEAR (2018) = 37,150
DESIGN HOURLY VOLUME (2017) = 3344
DIRECTIONAL DISTRIBUTION = .53
TRUCKS (24 HOUR B&C) = 10
DESIGN SPEED = VARIES (SEE SHEET 2)
LEGAL SPEED = VARIES (SEE SHEET 2)
DESIGN FUNCTIONAL CLASSIFICATION = PRINCIPAL ARTERIAL

DESIGN EXCEPTIONS
DESIGN FEATURE APPROVAL DATE SHEET NUMBERS
NONE

UNDERGROUND UTILITIES
Two Working Days BEFORE YOU DIG
Call 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

CEWA
CLYDE E. WILLIAMS & ASSOCIATES
PROFESSIONAL ENGINEERS
130 E. WILSON BRIDGE ROAD, STE. 025
WORTHINGTON, OHIO 43085
Abdul Wadood A. Faider 6-18-98
ENGINEER DATE

STATE OF OHIO
ABDUL WADOOD A. FAIDER
REGISTERED PROFESSIONAL ENGINEER
E-635028

Need To Add To B.M.S.
① Date of Overlay - W.S.
② Appr width - on Deck screen.
③ min Horte clearance

CITY C
PEE PE
PIKI

B.M.S. ✓
BR 87 ✓
BR 86
CARD ✓
NUMBERS ✓
PICTURES
RETIRE OLD Br. - ReHAB
V LEGAL LOAD ✓
CORRECT MAPS ✓

TITLE SHEET
SCHEMATIC PLAN
TYPICAL SECTIONS
GENERAL NOTES
WATER LINE GENERAL
MAINTENANCE OF
GENERAL SUMMARY
CALCULATIONS
STORM WATER POLL
PLAN & PROFILE
SECTION
PAVEMENT ELEVATION
INTERSECTION DET
TRAFFIC CONTROL PLAN
CAST-IN-PLACE
RIGHT-OF-WAY PLAN
S.F.N. 660593 BRIDGE # PIK 23-1156

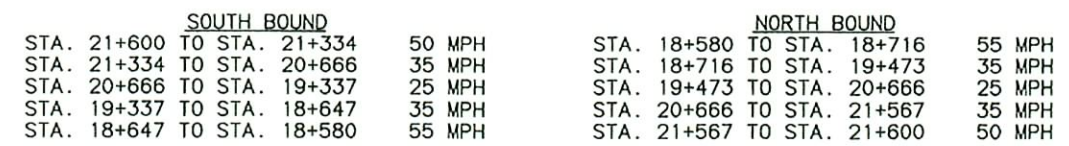


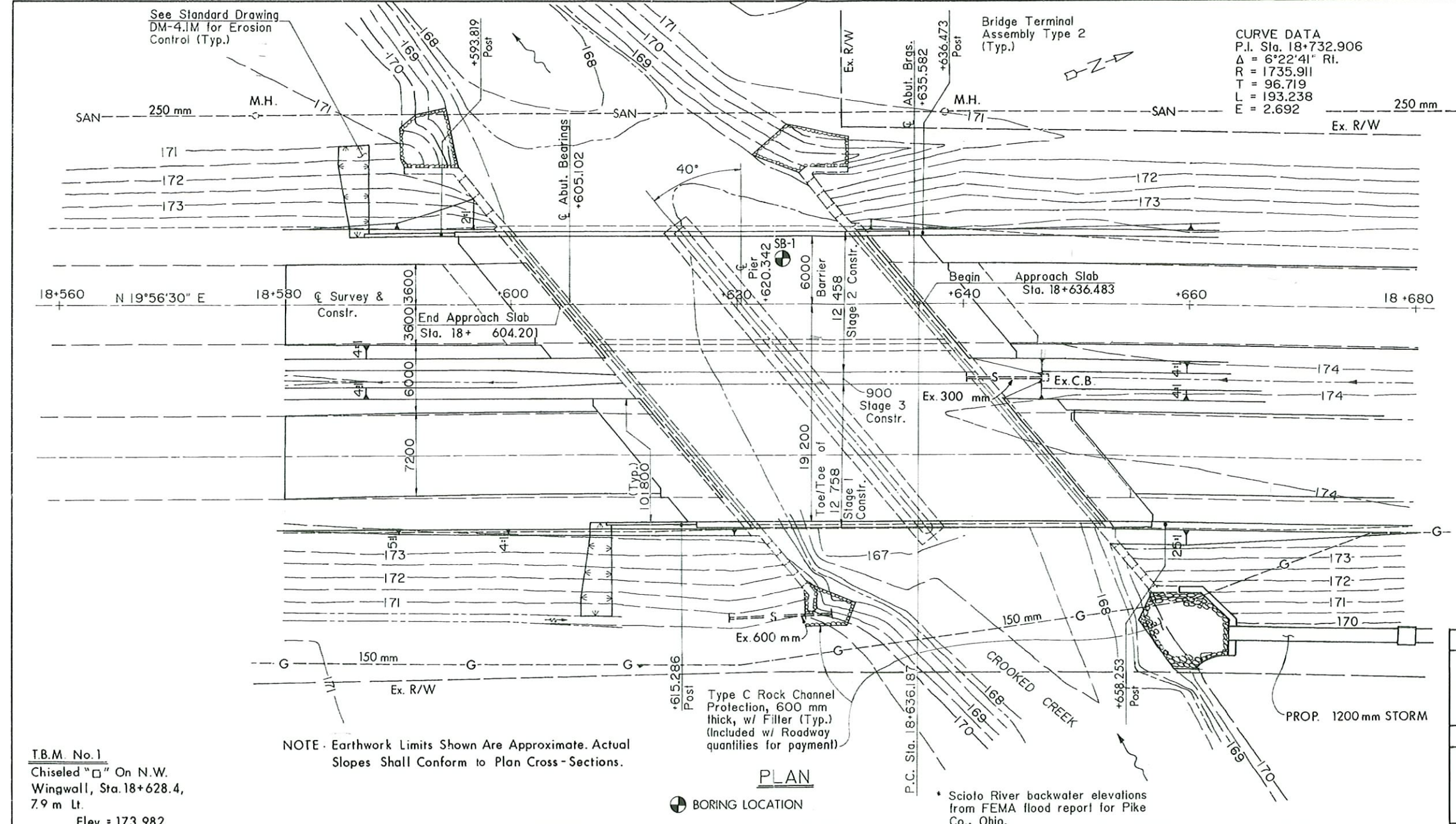
REVISIONS TO 1997 SPECIFICATIONS
BY DISTRICT #9, PRODUCTION
Lawrence A. Wells 12-29-98

John F. Hagan 12/30/98
T DEPUTY DIRECTOR DATE
Jordan Proctor 1-12-99
DIRECTOR, DEPARTMENT OF TRANSPORTATION DATE

STANDARD CONSTRUCTION DRAWINGS													SUPPLEMENTAL SPECIFICATIONS				
BP-1.1M	10-28-94	GR-4.2M	10-21-97	1- 1.2M	9-6-95	MT-95.81M	4-25-94			TC-52.10M	7-29-94	TC-85.10M	11-24-93				
BP-2.1M	4-8-97	RM-3.1M	10-21-97	MH-1.1M	10-21-97	MT-97.11M	1-30-95	HL-20.11M	3-31-95	TC-52.20M	7-29-94	TC-85.20M	11-24-93	806	9-9-97	954	9-9-97
BP-2.2M	10-21-97	RM-4.2M	10-21-97	MH-1.2M	9-6-95	MT-99.20M	1-30-95	HL-30.11M	3-31-95	TC-65.10M	11-1-95	MT-95.30M	4-25-94	816	4-21-97		
BP-3.1M	10-28-94	CB-1.1M	7-12-95	DM-1.1M	10-21-97			HL-30.21M	5-1-95	TC-65.11M	11-1-95	MT-95.31M	4-25-94	828	7-28-98		
BP-4.1M	10-28-94	CB-1.2M	7-12-95	DM-1.2M	10-21-97	MT-101.60M	4-25-96	HL-30.22M	3-31-95	TC-65.12M	11-1-95	MT-95.32M	4-25-94	844	5-5-98		
BP-5.1M	10-28-94	CB-1.3M	7-12-95	DM-4.1M	6-30-95	MT-105.10M	4-25-94	HL-50.11M	3-31-95					846	9-9-97		
BP-7.1M	10-28-94	CB-2.1M	7-12-95	DM-4.3M	6-30-95	MT-105.11M	4-25-94	TC-21.20M	12-10-96	TC-71.10M	9-1-93	BP-2.3M	10-28-94	863	9-9-97		SPECIAL
BP-8.1M	4-8-97	CB-2.2M	7-12-95	DM-4.4M	6-30-95	AS-1-81M	10-25-94	TC-41.20M	7-1-94	TC-81.10M	12-10-96	RM-1.1M	4-8-95	904	5-5-98		PROVISIONS
GR-1.1M	10-21-97	CB-2.3M	7-12-95	MT-35.10M	1-30-95	BR-1M	12-15-94	TC-41.40M	3-31-94	TC-81.20M	11-24-93			905	4-1-98	NWP#3 & #14	
GR-1.2M	1-3-96	CB-3.2M	7-12-95	MT-35.11M	1-30-95	BR-2-82M	12-19-94	TC-41.41M	3-31-94	TC-82.10M	11-24-93	GSD-1-96	2-12-97	906	5-5-98		11-13-97
GR-1.3M	11-30-94	HW-1.1M	7-12-95	MT-95.40M	4-25-94	BS-1-93M	12-15-94	TC-41.50M	7-1-94	TC-83.10M	11-24-93	ICD-1-82M	3-20-95	910	7-28-97		
GR-2.1M	10-21-97	HW-2.1M	7-12-95	MT-95.41M	4-25-94	PCB-91M	3-20-95	TC-42.10M	3-31-94	TC-83.20M	11-24-93	BP-2.31M	5-26-98	911	7-10-97		
GR-3.1M	10-21-97	HW-2.2M	7-12-95	MT-95.80M	1-30-95	EXJ-4-87M	2-18-97	TC-42.20M	3-31-94	TC-84.20M	11-24-93	SIDC-1-96M	2-12-97	932	10-2-96		

SPECIAL PROVISIONS
NWP#3 & #14
11-13-97





REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD

DRAWINGS:

AS-1-81M	DATED	10-25-94
BR-1M	DATED	12-15-94
BS-1-93M	DATED	12-15-94
EXJ-4-87M	REVISED	2-18-97
BP-2.31M	DATED	5-26-98
DM-1.1M	DATED	10-21-97

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

816	DATED	4-21-97
844	DATED	5-5-98
863	DATED	9-9-97
910	DATED	7-28-97
911	DATED	7-10-97
954	DATED	9-9-97

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997 AND 1998 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

DESIGN LOADING - MS18 CASE 11 AND THE ALTERNATE MILITARY LOADING

CONCRETE CLASS S - UNIT STRESS 10.3 MPa (SUPERSTRUCTURE)

CONCRETE CLASS C - UNIT STRESS 9.2 MPa (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615M, A616M OR A617M, GRADE 400, UNIT STRESS 160 MPa

STRUCTURAL STEEL - ASTM A588M, UNIT STRESS 186.2 MPa

DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL, 65MM CONCRETE COVER AND SEALING OF CONCRETE SURFACES.

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 25 MM THICK.

PORTIONS OF STRUCTURE REMOVED OVER 6M SPAN, AS PER PLAN SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF THE HAMMER SHALL BE APPROVED BY THE ENGINEER. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 41 KILOGRAM CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH THE REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO THE CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

PROPOSED WORK

REMOVE THE EXISTING CONCRETE DECK, STEEL BEAMS, ABUTMENT BACKWALLS, AND A PORTION OF THE PIER CAP. MODIFY THE ABUTMENT AND PIER SEATS. INSTALL NEW STEEL BEAMS, CONCRETE DECK, ABUTMENT BACKWALLS, WINGWALLS AND PARAPETS.

BACKWALL CONCRETE

IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.

ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THE BACKFILL MATERIAL FOR ALL EXCAVATION BEHIND THE ABUTMENTS SHALL BE ITEM 613 LOW STRENGTH MORTAR BACKFILL, TYPE 1 (LSM BACKFILL) WITHIN THE LIMITS OF THE APPROACH SLABS AS SHOWN ON SHEETS 4/14, 5/14, 6/14 AND 7/14. THE CONTRACTOR ALSO MAY USE THE LSM BACKFILL TO CONSTRUCT THE SLOPES IN THE SAME AREA AS LONG AS IT IS COVERED WITH ONE FOOT OF SOIL TO MEET THE FINISHED GRADE. THE AREA FOR THE POROUS BACKFILL WITH FILTER FABRIC SHALL BE FORMED UP PRIOR TO THE PLACEMENT OF THE LSM BACKFILL, AND THE FILTER FABRIC AND POROUS BACKFILL SHALL BE PLACED AFTER THE LSM BACKFILL HAS BEEN CURED AND THE FORMS HAVE BEEN REMOVED.

THE COST OF ALL LABOR, EQUIPMENT AND MATERIAL TO PLACE THE LSM BACKFILL AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN.

REPLACEMENT OF EXISTING REINFORCING STEEL

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THE CONTRACTOR'S COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL.

CONCRETE PARAPETS

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 25MM DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 6MM. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 25MM.

INSTALLATION OF SEAL

DURING INSTALLATION OF THE SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE EXPANSION JOINT SEAL, THE SEATING OF THE BEAMS ON THE BEARINGS SHALL BE CAREFULLY OBSERVED TO ASSURE THAT POSITIVE BEARING IS MAINTAINED. PROPER VERTICAL FIT OF THE SUPPORT/ARMOR ON THE BEAMS SHALL BE ACHIEVED BY POSITIONING OF THE BEVEL FILL PLATES RATHER THAN BY CLAMPING FORCE.

CUT LINE CONSTRUCTION JOINT PREPARATION

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 25MM DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, THE EXISTING REINFORCING STEEL WHERE REQUIRED IN THE PLANS SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN

IN ADDITION TO THE NORMAL REQUIREMENTS OF SECTION 503.03 OF THE CMS FOR THE CONSTRUCTION OF THE STRUCTURE, ANY TEMPORARY SHORING REQUIRED AS DIRECTED BY THE ENGINEER, TO SUPPORT THE EXISTING EMBANKMENT DURING PHASE CONSTRUCTION OF THE STRUCTURE, AS SHOWN ON SHEET 3/14 SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 503, COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN.

THE DESIGN OF THE TEMPORARY SHORING FOR PHASE CONSTRUCTION, IF REQUIRED BY THE ENGINEER, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PLANS FOR SUCH SHORING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND CONFORM WITH 501.05. THE CONTRACTOR SHALL SUBMIT FIVE COPIES TO THE DIRECTOR AND CONCURRENTLY, ONE COPY TO THE OFFICE OF STRUCTURAL ENGINEERING FOR REVIEW AND APPROVAL. CONSTRUCTION OF THE TEMPORARY SHORING SHALL NOT BEGIN UNTIL AFTER WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE DIRECTOR.

PORTIONS OF THE TEMPORARY SHORING COMPOSED OF STEEL OR CONCRETE MAY BE LEFT IN PLACE AT THE DISCRETION OF THE ENGINEER. PORTIONS COMPOSED OF OTHER MATERIALS SHALL BE REMOVED PRIOR TO COMPLETION OF THE WORK.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 503, COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN AND SHALL INCLUDE ALL NECESSARY LABOR, EQUIPMENT AND MATERIALS NEEDED TO COMPLETE THIS WORK.

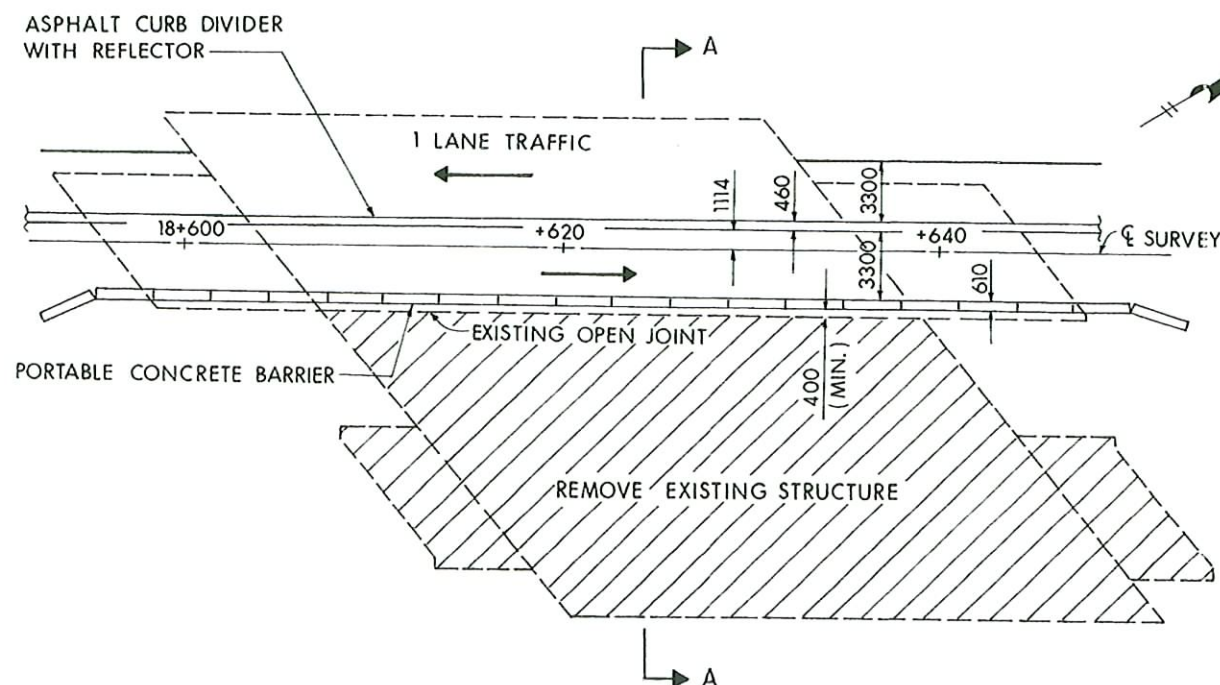
SUBSTRUCTURE CONCRETE REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 16 KILOGRAMS FOR REMOVAL WITHIN 450MM OF PORTIONS TO BE PRESERVED. OUTSIDE THE 450MM LIMIT, A HAMMER HEAVIER THAN 16 KILOGRAMS BUT NOT TO EXCEED 41 KILOGRAMS MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

ITEM SPECIAL SEALING OF CONCRETE SURFACES

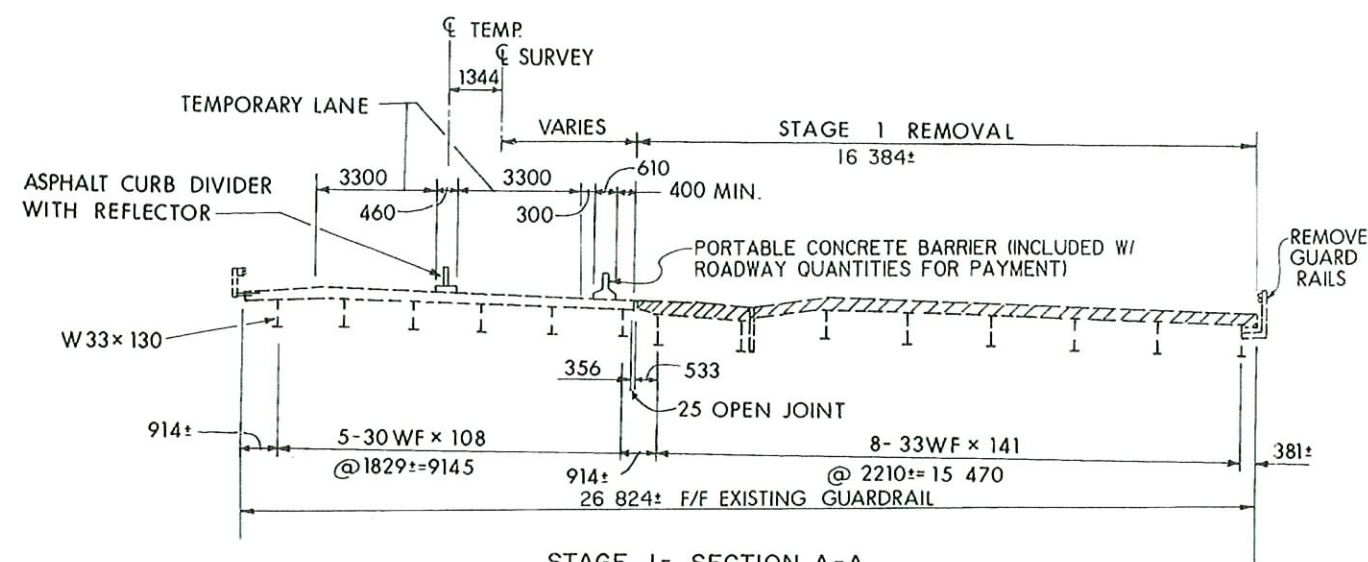
(EPOXY-URETHANE) THE COLOR OF THE URETHANE SHALL BE FEDERAL COLOR NUMBER 17778 (OFF-WHITE).

CALCULATED BY HM, DATE 11/2/95		CHECKED BY JDL, DATE 11/2/95		DESCRIPTION	SUPER	ABUT.	PIER	GEN.	SEE SHEET NO.
ITEM	ITEM EXT.	TOTAL	UNIT						
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 6 METER SPAN, AS PER PLAN					LUMP
202	23500	866	SQ. M.	WEARING COURSE REMOVED		866			
503	11101	LUMP		COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN					LUMP
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN					
512	44400	3	SQ. M.	TYPE B WATERPROOFING					
SPECIAL	51267510	627	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)*		195	432		2/14
516	11219	67.893	METER	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL		67.893			
516	44001	20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (215 x 305 x 26 ELASTOMERIC PAD WITH 245 x 335 x 38 STEEL LOAD PLATE)			20		9/14
516	44001	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (270 x 460 x 47 ELASTOMERIC PAD WITH 300 x 610 x 38 STEEL LOAD PLATE)				10	9/14
518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC					
518	40000	64.70	METER	150 MM PERFORATED CORRUGATED PLASTIC PIPE					
518	40010	20.80	METER	150 MM NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS					
604	36600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET					
816	00600	LUMP		FIELD PAINTING OF NEW STEEL, INTERMEDIATE AND FINISH COAT, SYSTEM 12U					
844	48000	187	CU. M.	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (DECK)		187			
844	48020	20	CU. M.	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (PARAPET)		20			
844	48040	110	CU. M.	HIGH PERFORMANCE CONCRETE, SUBSTRUCTURE					
844	49000	LUMP		HIGH PERFORMANCE CONCRETE, TRAIL MIX			87	23	LUMP
863	10040	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL TWO (2) FABRICATION					
863	20000	2820	EACH	WELDED STUD SHEAR CONNECTOR					

* SEE PROPOSAL NOTE



STAGE 1 - PLAN



STAGE 1- SECTION A-A

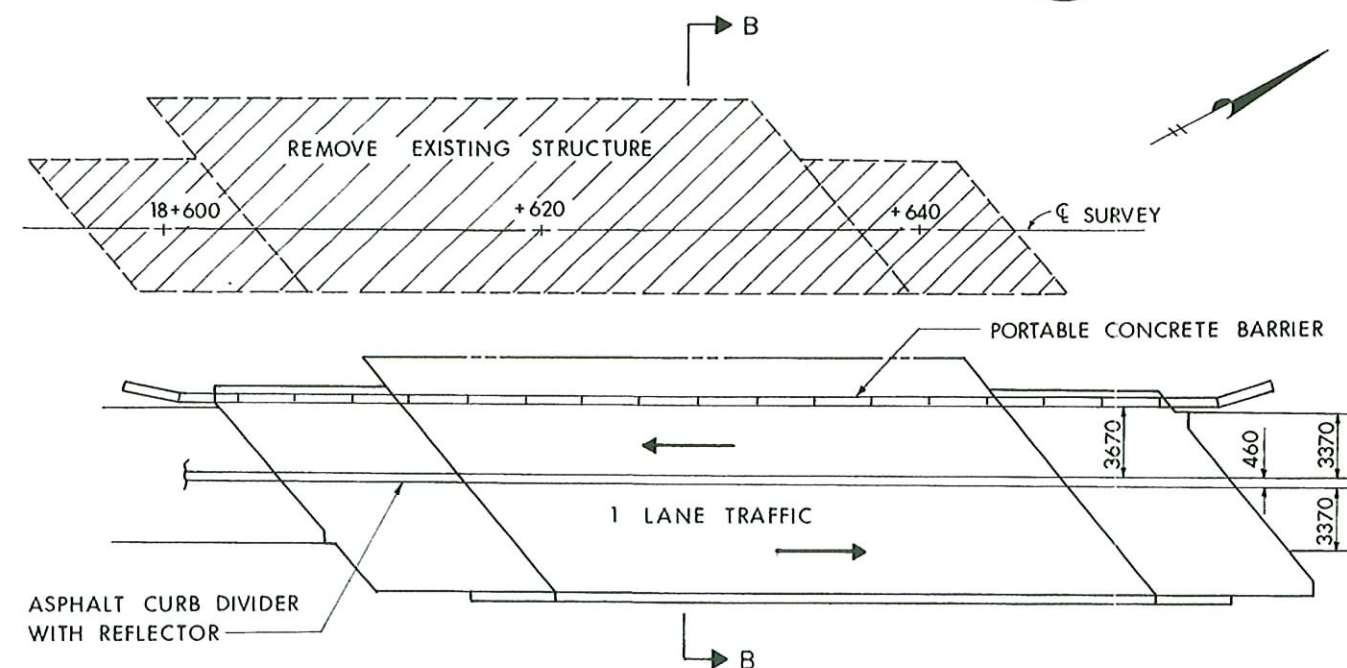
STAGE 1

1. ADD ADDITIONAL PAVEMENT TO WEST APPROACH PAVEMENT.
2. ADD ASPHALT CURB DIVIDER WITH REFLECTOR AND PORTABLE CONCRETE BARRIER TO WEST SIDE OF EXISTING STRUCTURE.
3. TRANSFER TRAFFIC TO WEST SIDE OF STRUCTURE WITH ONE LANE TEMPORARY TRAFFIC IN EACH DIRECTION.
4. REMOVE EXISTING STRUCTURE ON RIGHT SIDE OF EXISTING STRUCTURE UP TO THE EXISTING OPEN JOINT.
5. CONSTRUCT RIGHT SIDE OF PROPOSED STRUCTURE.

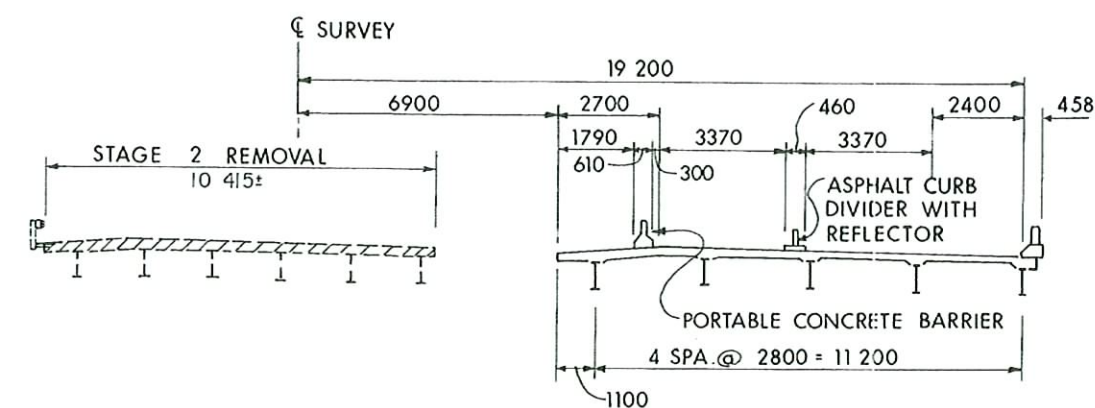
STAGE 3

REFER TO TRANSVERSE SECTION ON SHEET II OF I4.

1. INSTALL CROSS-FRAMING AT CLOSURE SECTION.
2. POUR CLOSURE DECK SECTION.
3. REMOVE BARRIER AND TRANSFER TRAFFIC TO NORMAL NORTH AND SOUTH BOUND TRAFFIC.



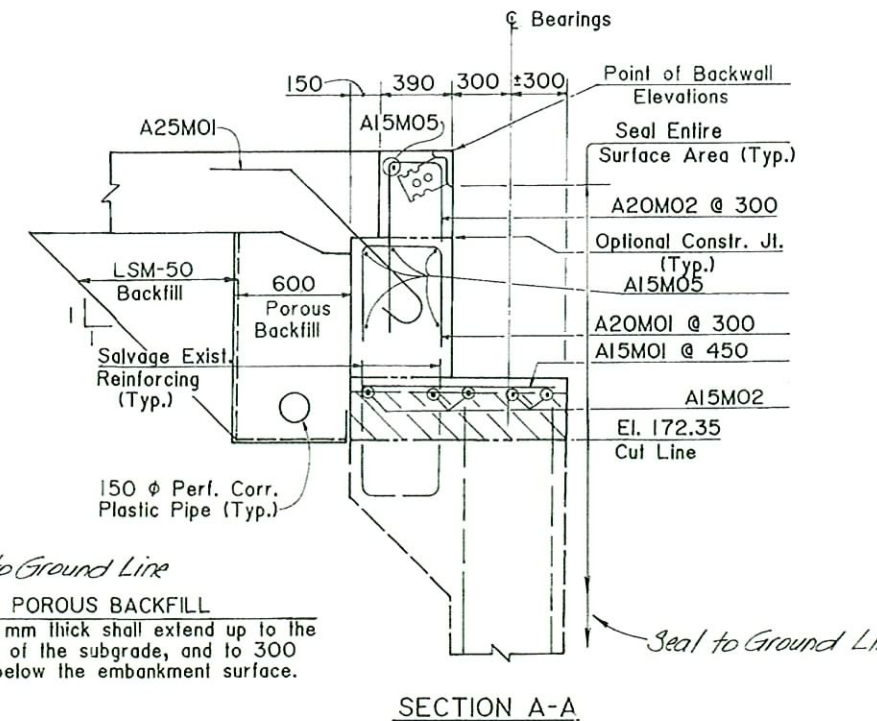
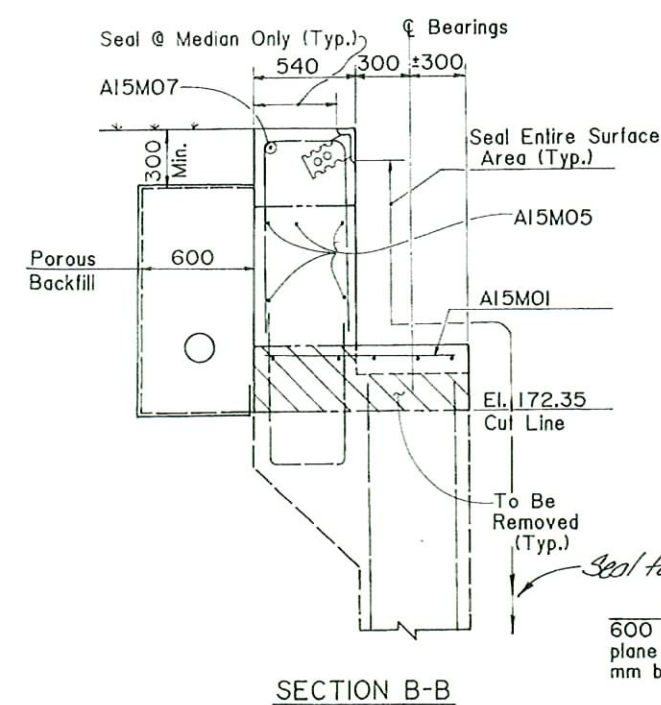
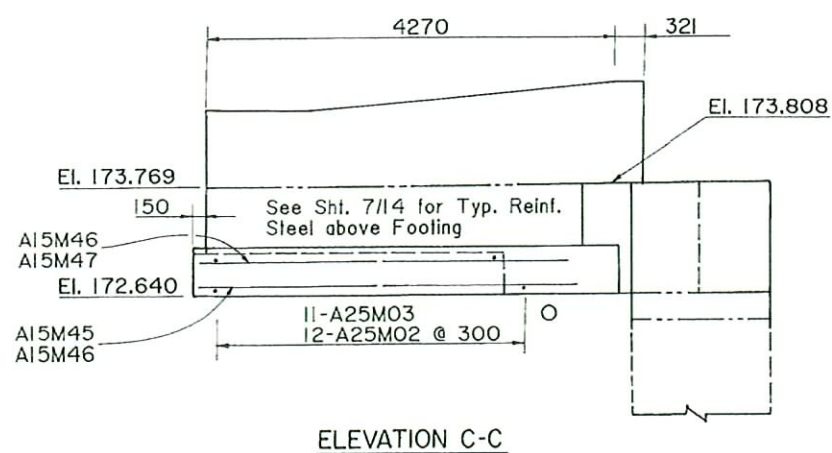
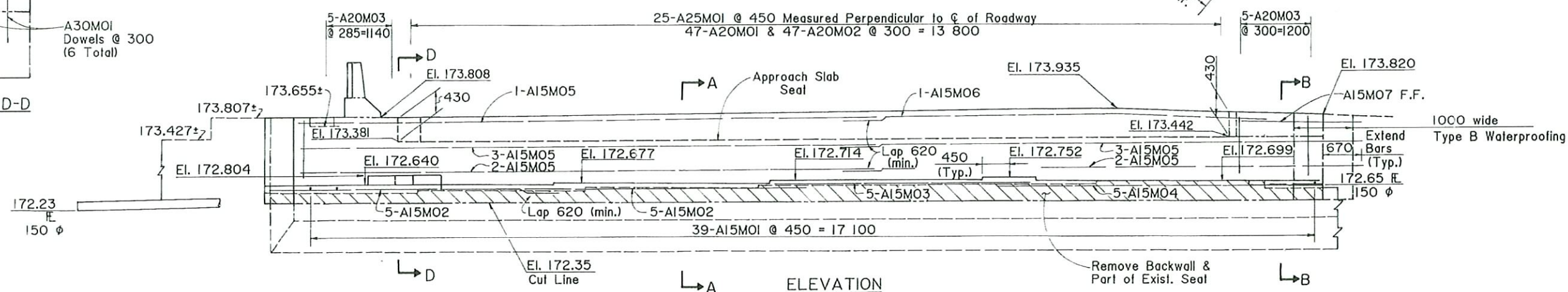
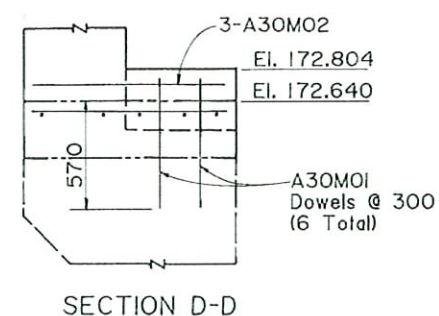
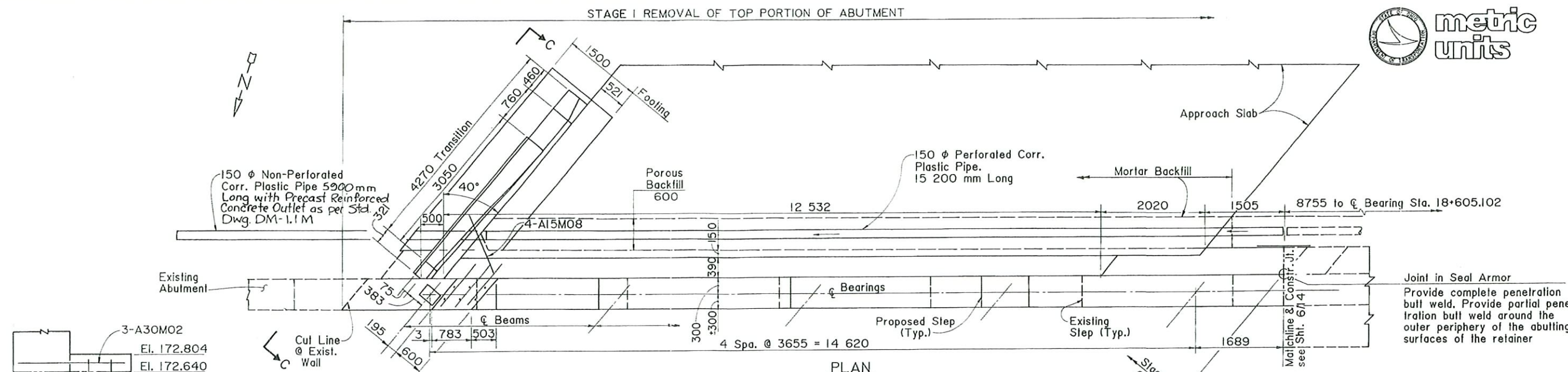
STAGE 2 - PLAN



STAGE 2 - SECTION B-B

STAGE 2

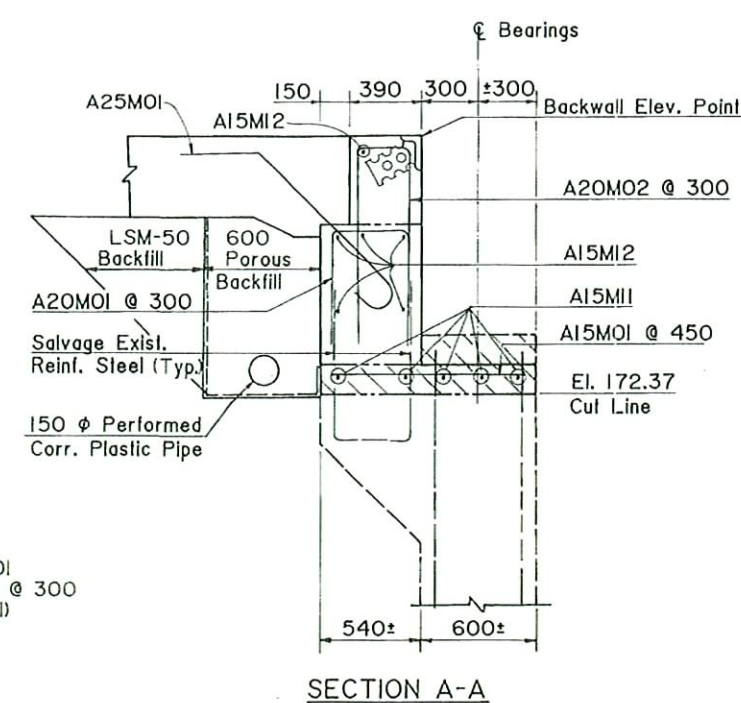
1. ADD ASPHALT CURB DIVIDER WITH REFLECTOR AND PORTABLE CONCRETE BARRIER TO STRUCTURE JUST CONSTRUCTED.
2. TRANSFER TRAFFIC TO NEW STRUCTURE WITH ONE LANE TEMPORARY TRAFFIC IN EACH DIRECTION.
3. REMOVE ASPHALT CURB DIVIDER AND PORTABLE CONCRETE BARRIER FROM EXISTING WEST PORTION OF OLD STRUCTURE.
4. REMOVE EXISTING WEST PORTION OF OLD STRUCTURE.
5. CONSTRUCT LEFT SIDE OF PROPOSED STRUCTURE.
6. REMOVE ASPHALT CURB DIVIDER WITH REFLECTOR AND PORTABLE CONCRETE BARRIER FROM NEW RIGHT STRUCTURE.

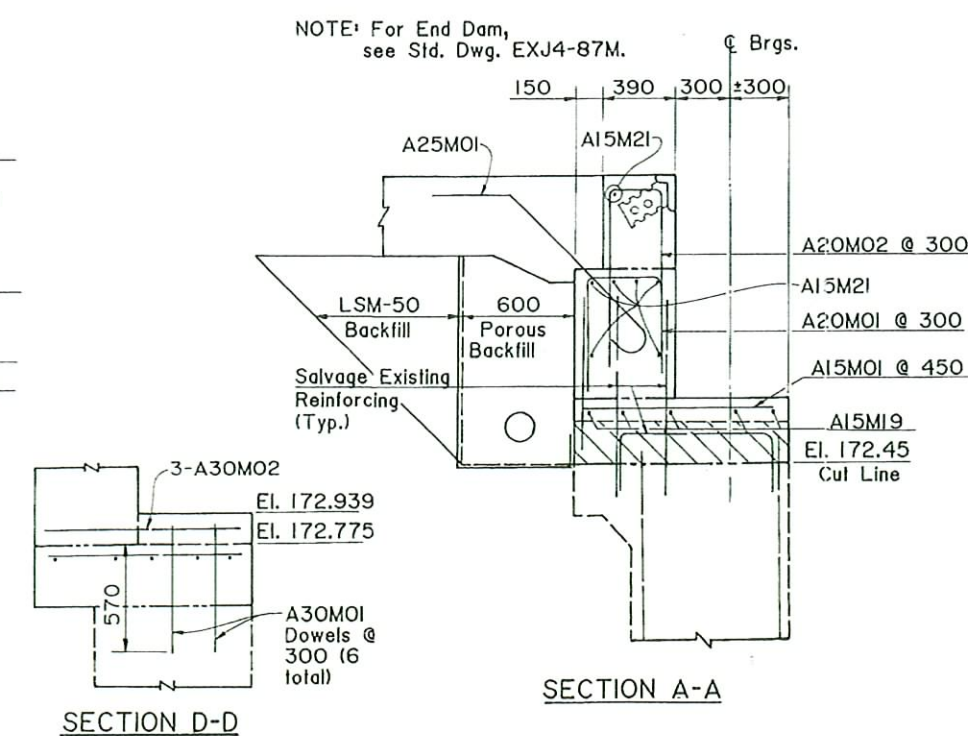
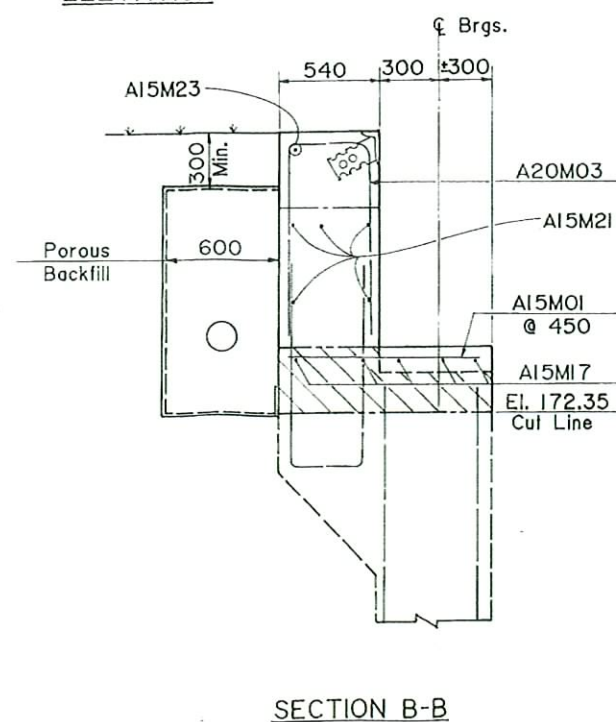
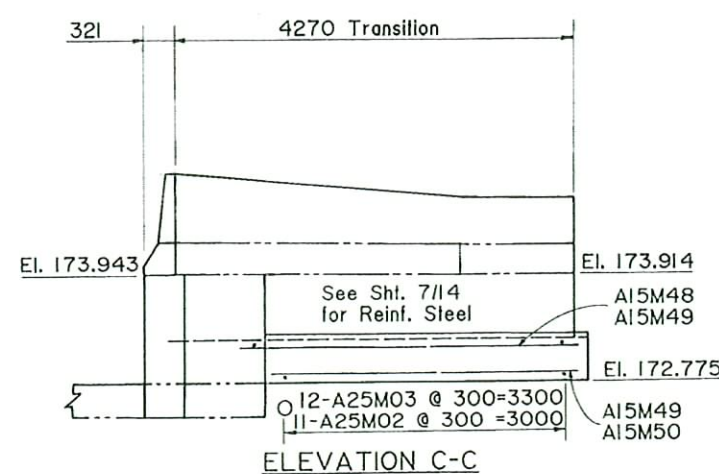
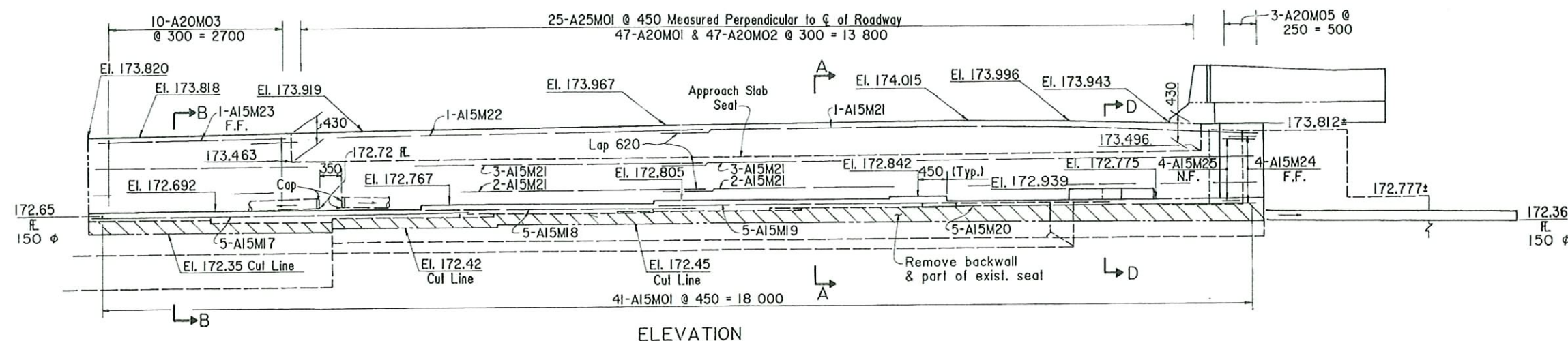
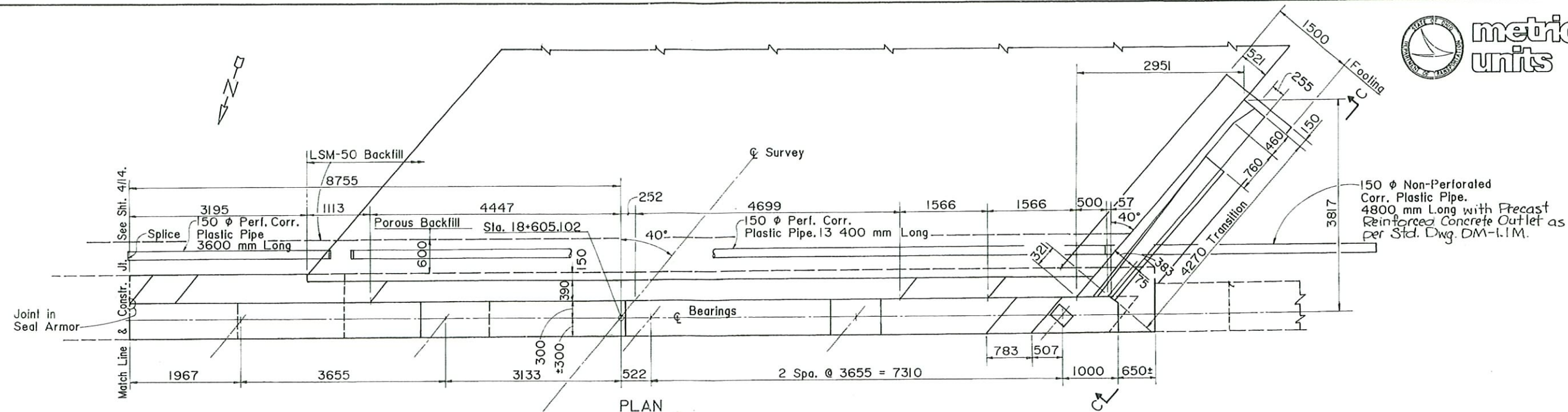


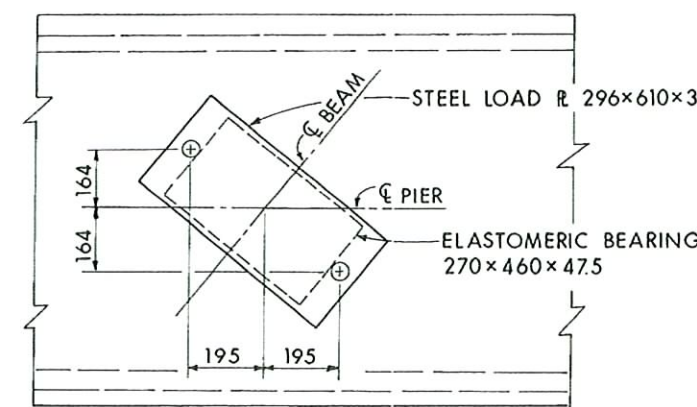
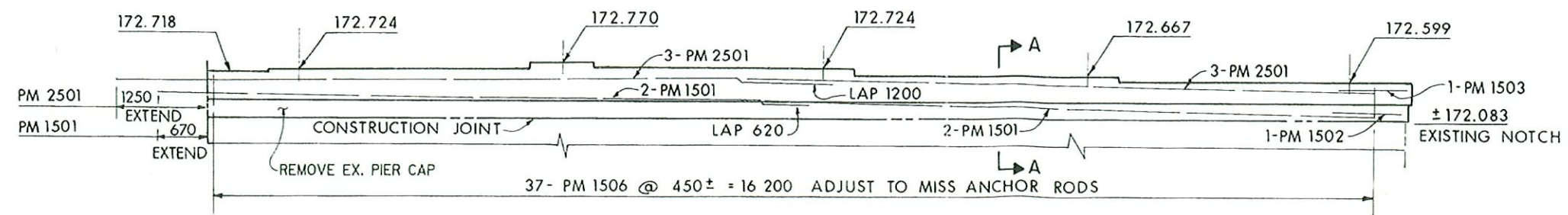
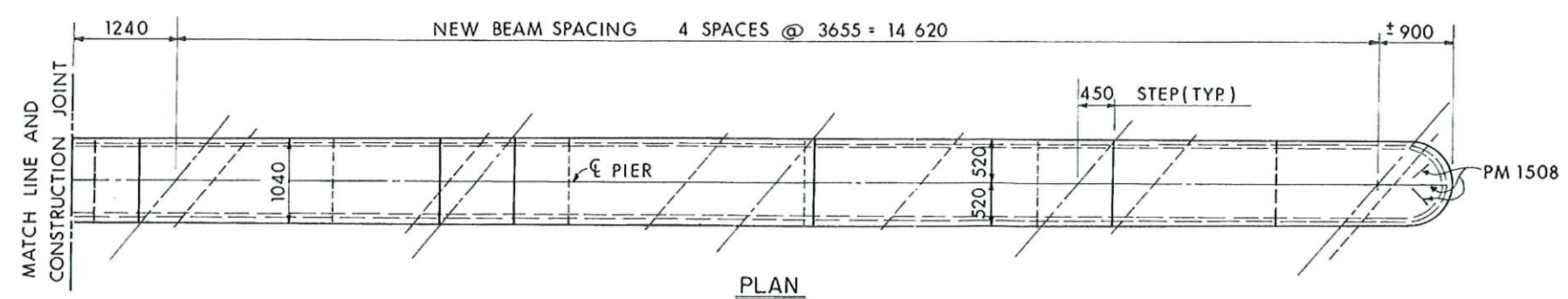
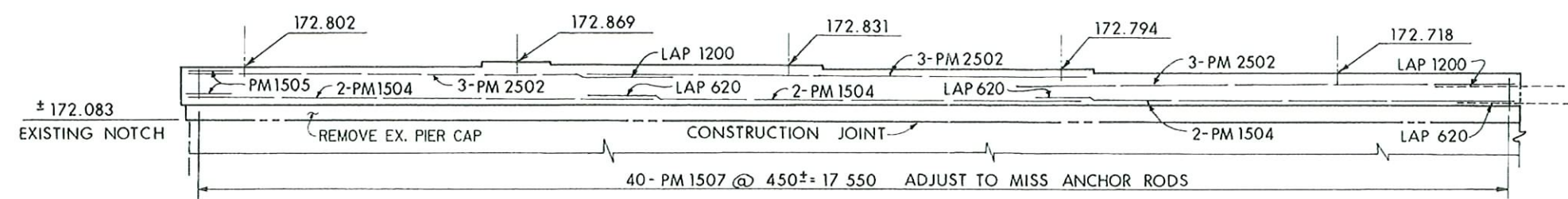
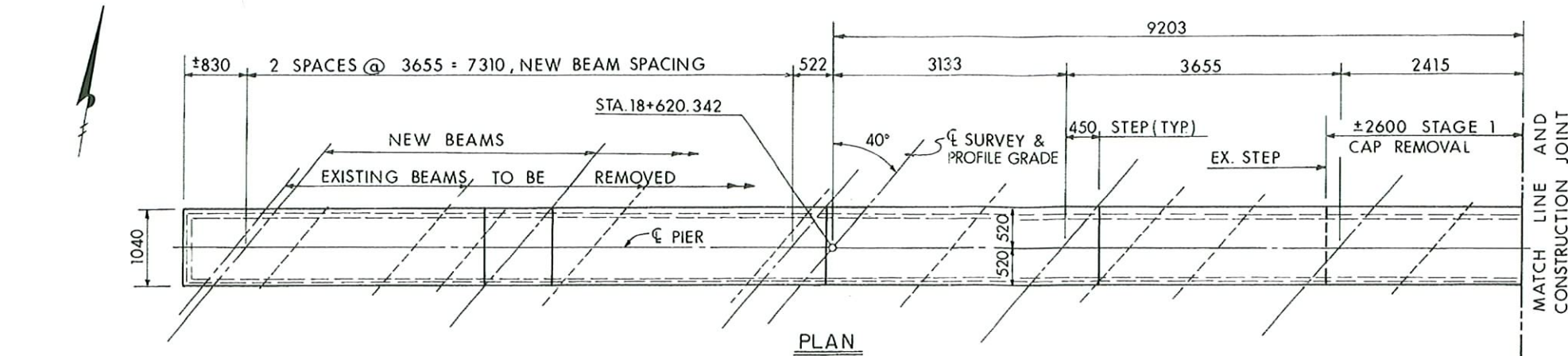


The diagram is an elevation view of a bridge structure. Key features include:

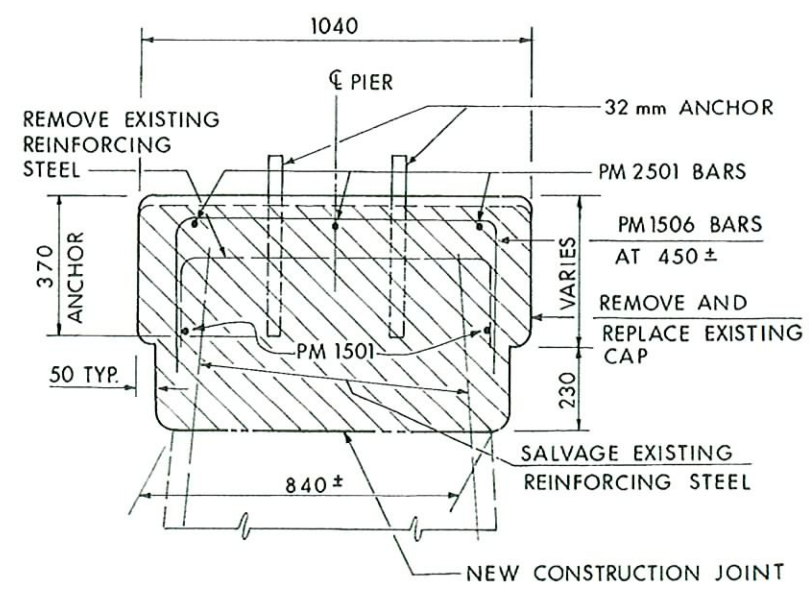
- Dimensions and Spacing:**
 - 8-A20M03 @ 300 = 2100
 - 25-A25M01 @ 450 Measured Perpendicular to C of Roadway
 - 47-A20M01 & 47-A20M02 @ 300 = 13 800
 - 2-A20M03 @ 300 = 600
 - 4-A20M04 Series @ 300 = 900
 - 39-A15M01 @ 450 = 17 100
- Elevations:**
 - El. 173.888
 - El. 173.995
 - El. 172.760
 - El. 172.794
 - El. 172.710
 - El. 172.615
 - El. 172.693
 - El. 172.529
 - El. 173.698
 - El. 173.967
 - El. 173.567
 - El. 171.56±
 - El. 172.37 (Cul Line)
- Structural Components and Notes:**
 - 1-A15M14 F.F.
 - 1-A15M13
 - Approach Slab Seal
 - Lap 620
 - 1-A15M12
 - 3-A15M12
 - 2-A15M12
 - 5-A15M09
 - 5-A15M10
 - 5-A15M10
 - 5-A15M11
 - 4-A15M16 N.F.
 - 4-A15M15 F.F.
 - Remove Backwall & part of exist. seal.
 - Top to be Removed
 - 1000 wide Type B Waterprig.
 - Extend Bars (Typ.)
 - Match Line & Const.
- Other Labels:**
 - 670
 - 430
 - 172.71
 - 150 φ
 - 173.531
 - 173.259
 - 172.529
- Section Labels:** A, B, C, D
- Orientation:** L, R
- Title:** ELEVATION







BRIDGE SEAT REINFORCING: REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.

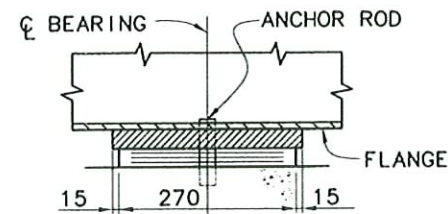
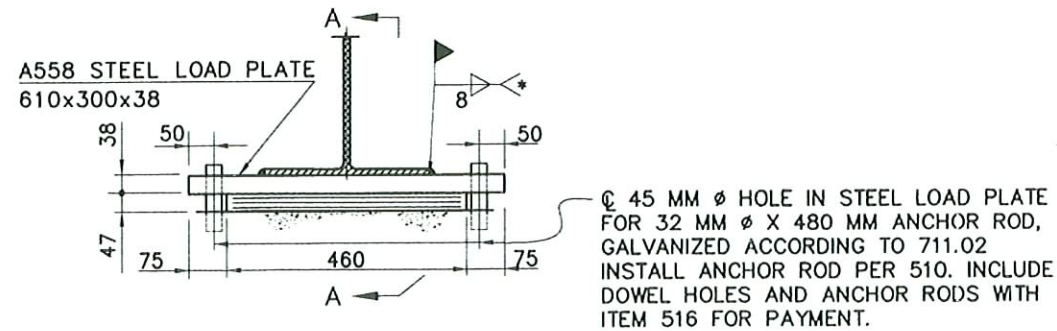


ELASTOMERIC BEARINGS

PIER - FIXED BEARINGS			
INT. ELASTOMERIC LAYERS	4	② 75	= 28 MM
EXT. ELASTOMERIC LAYERS	2	② 5	= 10
STEEL LAMINATES	5	② 1.89	= 9.45
TOTAL			= 47.45

$$\begin{array}{r} \text{DL} = 499 \text{ kn} \\ \text{LL} = 305 \text{ kn} \\ \hline 804 \text{ kn} \end{array}$$

INT. ELASTOMERIC LAYERS	2 @ 6.0MM	= 12MM
EXT. ELASTOMERIC LAYERS	2 @ 4.0	= 8
STEEL LAMINATES	3 @ 1.89	= 5.67

$$\begin{array}{r} \text{DL} = 157 \text{ kn} \\ \text{LL} = 264 \text{ kn} \\ \hline 421 \text{ kn} \end{array}$$


SECTION A-A
PIER - FIXED

ELASTOMERIC BEARINGS SHALL COMPLY WITH 516 AND ARTICLES 18.2.5 THROUGH 18.2.8 OF SECTION 18, BEARING DEVICES, DIVISION II, CONSTRUCTION, OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. BEARINGS SHALL BE GRADE 3, 50-DUROMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS CORRESPONDING TO DESIGN METHOD A. TESTING SHALL BE INCLUDED IN THE PRICE BID FOR THE BEARINGS.

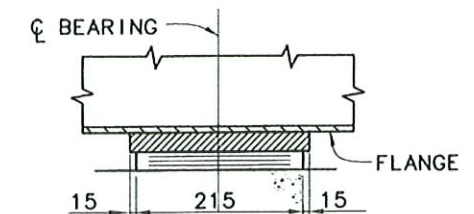
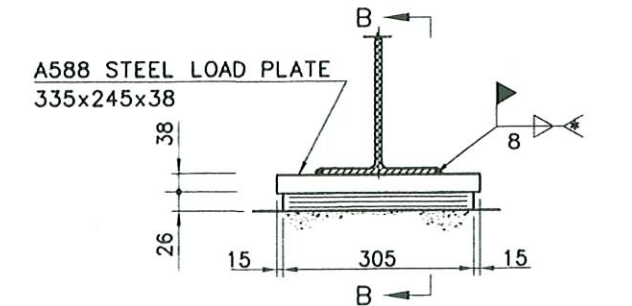
LOAD PLATE. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

STEEL AND PAINT DESIGNATION. THE STEEL LOAD PLATE SHALL BE A588 STEEL, AND SHALL BE CLEANED AND COATED SIMILAR TO THAT USED ON THE MAIN STRUCTURAL STEEL. SURFACE PREPARATION AND PRIMING SHALL BE DONE IN THE SHOP AND INCLUDED IN THE PRICE BID FOR THE BEARINGS. FIELD COATS SHALL BE INCLUDED IN THE PRICE BID FOR PAINTING MAIN STRUCTURAL STEEL.

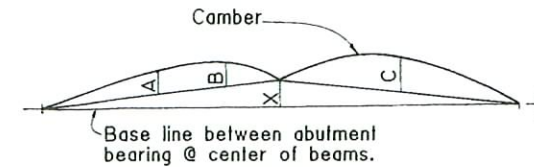
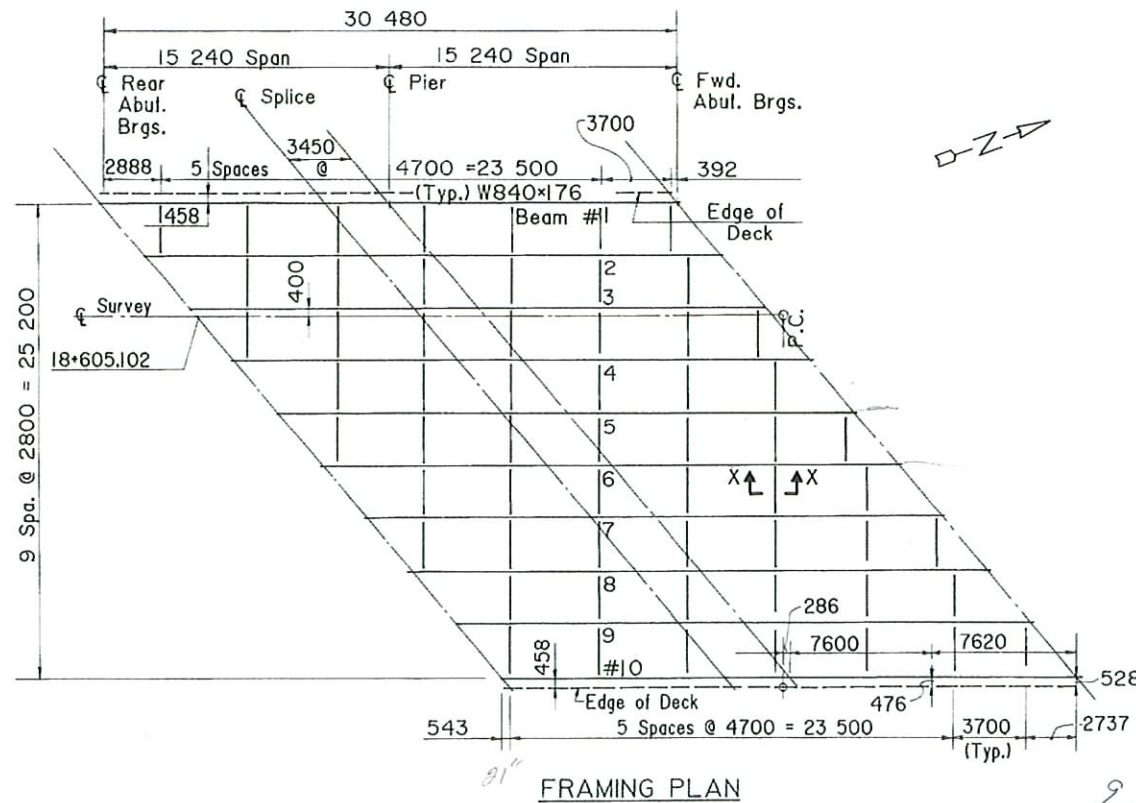
* WELDING: SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 150° C AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 27° C OR LOWER THAN 4° C AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 15° C (+/-) 5°C, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARING TO RETURN TO THEIR UNDEFORMED SHAPE AT 15°C (+/-) 5°C.

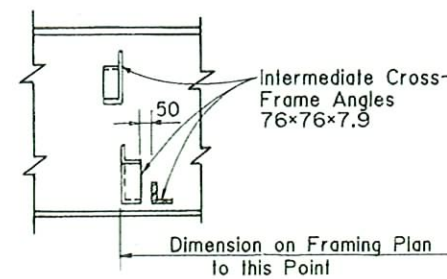
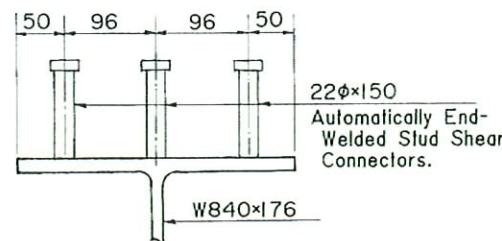
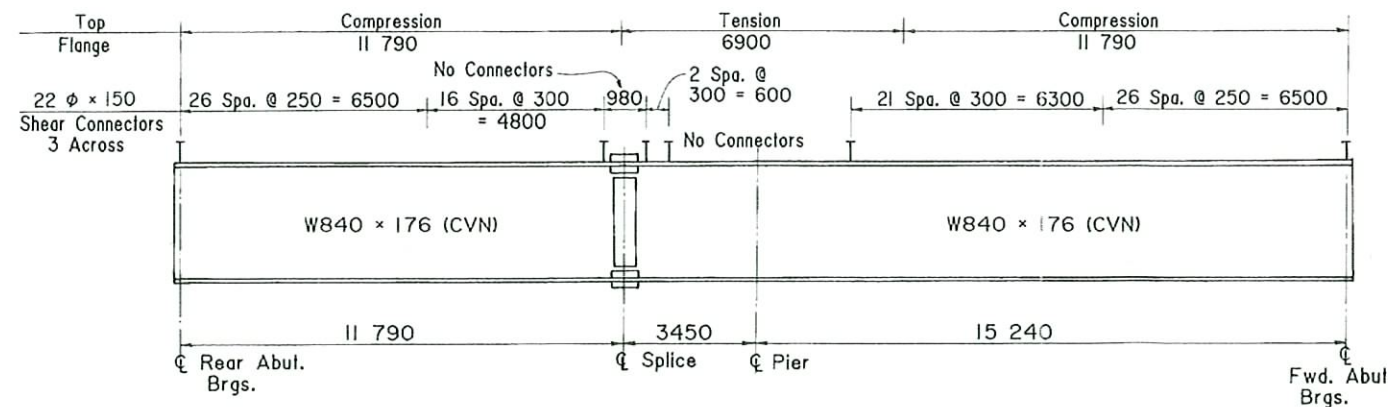
BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE, (NEOPRENE), AS PER PLAN (SEE ESTIMATED QUANTITIES)



SECTION B-B
ABUTMENTS- EXP.



WELDED ATTACHMENT of supports for concrete deck finishing machine may be made to areas of the fascia stringer flanges designated "Compression". Attachments shall not be made to areas designated "Tension". Fillet welds to compression flanges shall not be closer than 25 mm from edge of flange, be not more than 50 mm long, and be not smaller than the minimum size required by AASHTO.



NOTES:

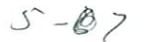
For Splice Detail, see Standard Drawing BS-1-93M Sheet No. 3 of 3, Beam W840x176.

Where a shape or plate is designated (CVN) the material shall meet specified minimum notch toughness requirements as specified in 711.01.

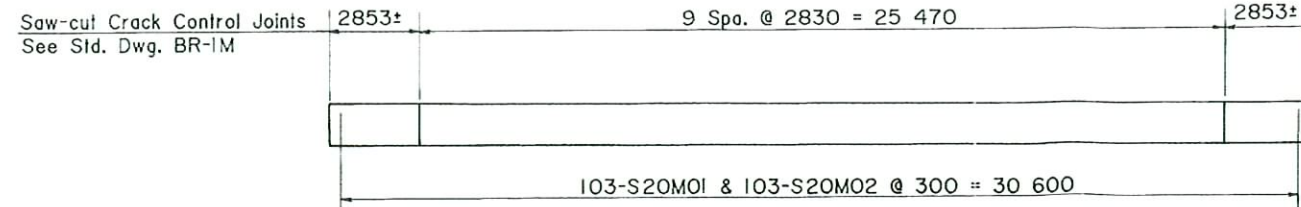
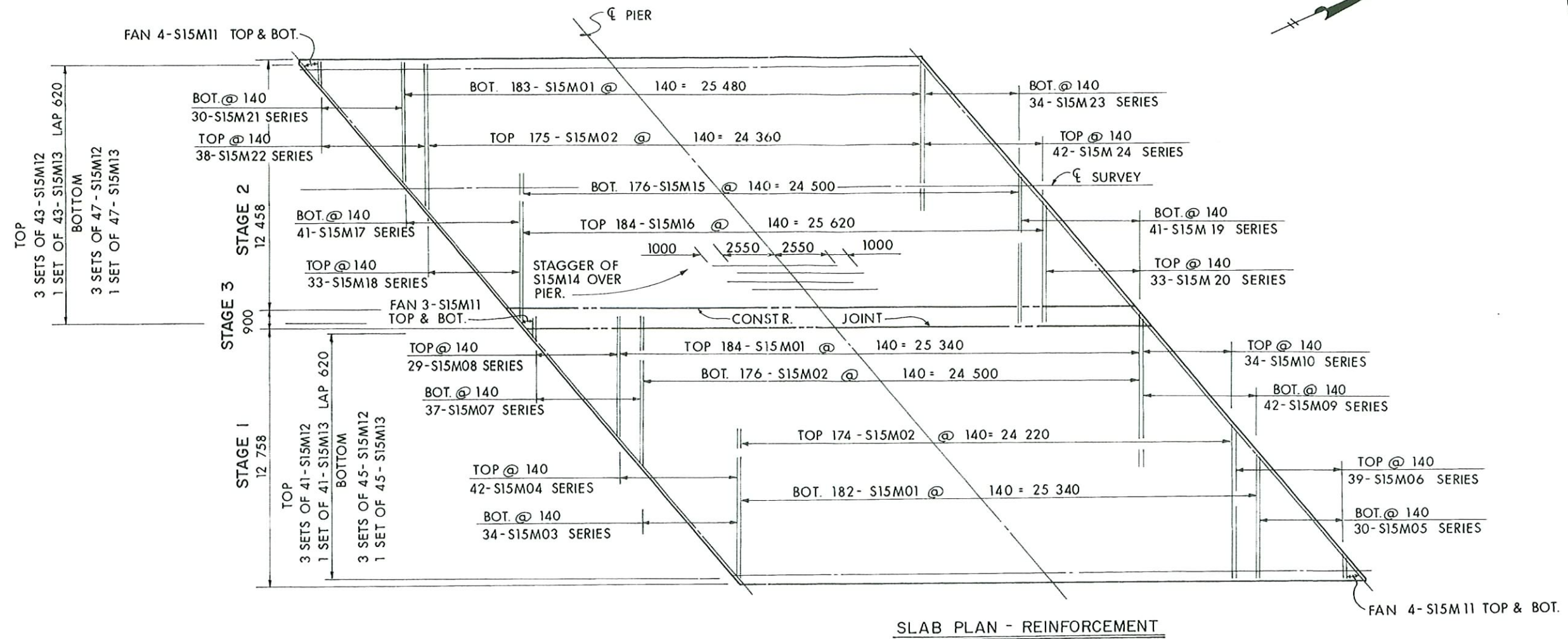
PARTIAL PAINTING OF A588 STEEL: A 3000 mm length from the ends of beams adjacent to abutments and all cross frames and other A588 steel within these limits shall be painted. Paint shall be System IZEU. The prime coat shall be 708.17. The top coat color shall closely approach Federal Standard No. 595a-20045 or 20059 (the color of weathering steel).

A588 STEEL is to be left unpainted. The outside surfaces and bottom surfaces of the bottom flanges of fascia beams shall be abrasively blast cleaned to grade Sa2 in the fabrication shop.

DEFLECTION AND CAMBER						
BEAM #1 (WEST SIDE) X = -4 mm	SPAN #1 1/2 PT. A	SP. #2 1/2 PT. B	SP. #2 1/2 PT. C	BEAM #6 X = 16 mm	SPAN #1 1/2 PT. A	SP. #2 1/2 PT. B
Deflection Due to Weight of Steel	1 mm	0	1 mm	Deflection Due to Weight of Steel	1 mm	0
Deflection Due to Wt. of Conc. Deck	9	3	9	Deflection Due to Wt. of Conc. Deck	9	3
Deflection Due to Remaining Dead Load	3	1	3	Deflection Due to Remaining Dead Load	3	1
Superelevation Adjustment	-	-	-3	Superelevation Adjustment	1	2
Required Shop Camber	13	4	10	Required Shop Camber	14	6
BEAM #2 X = -5 mm				BEAM #7 X = 19 mm		
Deflection Due to Weight of Steel	1	0	1	Deflection Due to Weight of Steel	1	0
Deflection Due to Wt. of Conc. Deck	9	3	9	Deflection Due to Wt. of Conc. Deck	9	3
Deflection Due to Remaining Dead Load	3	1	3	Deflection Due to Remaining Dead Load	3	1
Superelevation Adjustment	-	-	-4	Superelevation Adjustment	4	4
Required Shop Camber	13	4	9	Required Shop Camber	17	8
BEAM #3 X = -2 mm				BEAM #8 X = 34 mm		
Deflection Due to Weight of Steel	1	0	1	Deflection Due to Weight of Steel	1	0
Deflection Due to Wt. of Conc. Deck	9	3	9	Deflection Due to Wt. of Conc. Deck	9	3
Deflection Due to Remaining Dead Load	3	1	3	Deflection Due to Remaining Dead Load	3	1
Superelevation Adjustment	-	-	0	Superelevation Adjustment	8	6
Required Shop Camber	13	4	13	Required Shop Camber	21	10
BEAM #4 X = +7 mm				BEAM #9 X = 43 mm		
Deflection Due to Weight of Steel	1	0	1	Deflection Due to Weight of Steel	1	0
Deflection Due to Wt. of Conc. Deck	9	3	9	Deflection Due to Wt. of Conc. Deck	9	3
Deflection Due to Remaining Dead Load	3	1	3	Deflection Due to Remaining Dead Load	3	1
Superelevation Adjustment	-	-	4	Superelevation Adjustment	13	13
Required Shop Camber	13	4	17	Required Shop Camber	26	17
BEAM #5 X = 13 mm				BEAM #10 (E. Side) X = 36 mm		
Deflection Due to Weight of Steel	1	0	1	Deflection Due to Weight of Steel	1	0
Deflection Due to Wt. of Conc. Deck	9	3	9	Deflection Due to Wt. of Conc. Deck	9	3
Deflection Due to Remaining Dead Load	3	1	3	Deflection Due to Remaining Dead Load	3	1
Superelevation Adjustment	-	-	5	Superelevation Adjustment	19	14
Required Shop Camber	13	4	18	Required Shop Camber	31	18



PAVEMENT TRANSITION

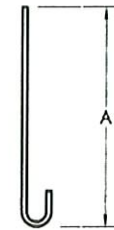
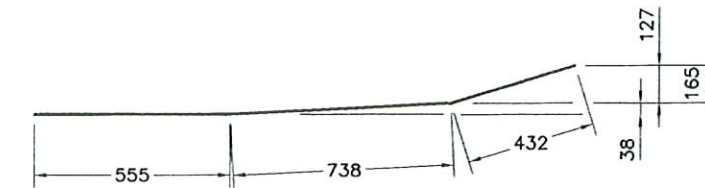
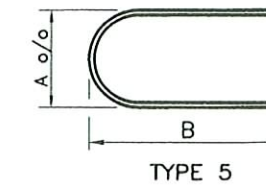
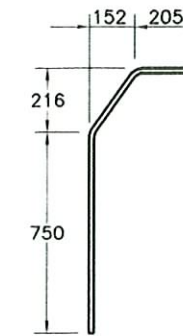
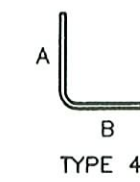
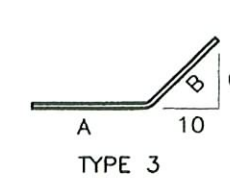
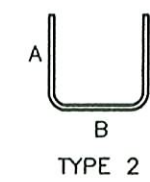
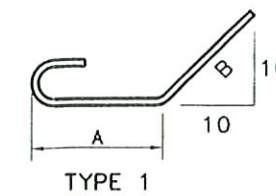


TYPICAL CONCRETE PARAPET ELEVATION

SCREED ELEVATIONS						
	Rear Abutment	Mid-Span	Splice	Pier	Mid-Span	Forward Abutment
Lt. Gutter	173.944	173.978	173.985	173.993	174.027	174.049
3600 Lt. of C	174.016	174.050	174.057	174.065	174.099	174.123
Beam No. 2	174.011	174.045	174.052	174.060	174.094	174.118
Beam No. 3	173.974	174.007	174.014	174.022	174.056	174.073
Beam No. 4	173.936	173.970	173.977	173.985	174.015	174.019
Beam No. 5	173.861	173.894	173.901	173.909	173.934	173.930
6900 Rt. of C	173.821	173.855	173.862	173.869	173.892	173.886
Beam No. 6	173.868	173.902	173.909	173.915	173.937	173.929
Beam No. 7	173.921	173.954	173.959	173.961	173.976	173.963
Beam No. 8	173.883	173.916	173.917	173.915	173.908	173.879
Beam No. 9	173.846	173.874	173.868	173.858	173.831	173.784
Beam No. 10	173.809	173.828	173.811	173.790	173.742	173.698
Rt. Gutter	173.809	173.828	173.811	173.790	173.741	173.696

SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

ABUTMENTS								
MARK	NO.	LENGTH MM		TYPE	A MM	B MM	C MM	INCREMENT
A30M01	24	680		ST				
A30M02	12	1040		ST				
A25M01	100	1830		1	1120	430		
A20M01	188	1340		2	500	440	500	
A20M02	188	2290		2	1050	290	1050	
A20M03	41	2340		2	1000	440	1000	
A20M04	1 SERIES OF 4	3395 TO 2645 *		2	1060	1375 TO 625 *	1060	* 250 INC.
A20M05	3	3060		2	1060	1040	1060	
A20M06	60	1410		ST				
A20M07	44	1200		6				
A20M08	16	1485		ST				
A15M01	159	1040		ST				
A15M02	10	4860		ST				
A15M03	5	4450		ST				
A15M04	5	6200		ST				
A15M05	11	9320		ST				
A15M06	1	7200		ST				
A15M07	1	2170		ST				
A15M08	4	1200		ST				
A15M09	5	5175		ST				
A15M10	10	4275		ST				
A15M11	5	6105		ST				
A15M12	11	9370		ST				
A15M13	1	6800		ST				
A15M14	1	3040		ST				
A15M15	4	1800		3	500	1300	11.66	
A15M16	4	2310		4	1300	1050		
A15M17	5	5790		ST				
A15M18	5	4275		ST				
A15M19	5	4450		ST				
A15M20	5	5475		ST				
A15M21	11	9375		ST				
A15M22	1	7000		ST				
A15M23	1	3095		ST				
A15M24	4	1200		4	620	620		
A15M25	4	1760		4	1300	500		
A15M26	5	5000		ST				
A15M27	5	4450		ST				
A15M28	5	4275		ST				
A15M29	5	6310		ST				
A15M30	11	9160		ST				
A15M31	1	7500		ST				
A15M32	1	2200		ST				
A15M33	1	850		ST				
A15M34	4	1200		ST				
A15M41	4	4170		ST				
A15M42	4	4470		ST				
A15M43	4	4420		ST				
A15M44	4	4220		ST				
A15M45	2	4200		ST				
A15M46	4	3850		ST				
A15M47	2	3450		ST				
A15M48	2	3950		ST				
A15M49	4	3600		ST				

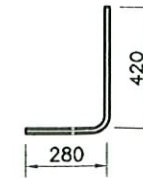


ABUTMENTS (CON'T)								
MARK	NO.	LENGTH MM		TYPE	A MM	B MM	C MM	INCREMENT
A15M50	2	3250		ST				
A15M51	16	3050		ST				
A15M52	8	1725		7				
A15M53	8	1725		ST				
A15M54	16	4470**		ST				
A15M55	4	1170		8	990			
A15M56	4	1165		8	965			
A15M57	4	1120		8	940			
A15M58	4	1095		8	915			
A15M59	4	1070		8	890			
A15M60	4	1045		8	865			
A15M61	4	1020		8	840			
A15M62	4	995		8	815			
A15M63	4	970		8	790			
A15M64	4	945		8	765			
A15M65	4	920		8	740			

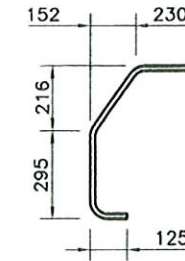
** - FIELD BEND AND CUT AS NEEDED.

PIER								
MARK	NO.	LENGTH MM		TYPE	A MM	B MM	C MM	INCREMENT
P25M01	6	9345		ST				
P25M02	9	6675		ST				
P15M01	4	8765		ST				
P15M02	1	2515		5	800	1040		I.R. = 385
P15M03	1	2615		ST	800	1090		I.R. = 385
P15M04	6	6335		ST				
P15M05	2	1250		2	300	730	300	
P15M06	37	1560		2	400	840	400	
P15M07	40	1760		2	500	840	500	
P15M08	3	920		2	300	400	300	

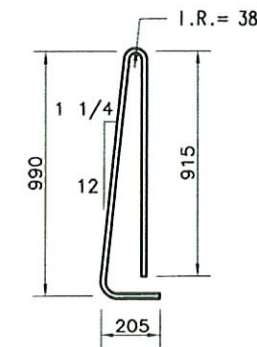
See Notes on Sheet 14.



TYPE 1



TYPE 2



TYPE 3

[illegible][illegible]

NOTE:

ALL REINFORCING STEEL TO BE EPOXY COATED.

All dimensions are out to out unless otherwise indicated. All dimensions are shown in millimeters, except where noted. The bar size number is specified on the plans in the bar mark column. The first two digits indicates the bar size number, for example A15M01 is a 15 bar. Standard bends are to be provided, except where noted. Reinforcing steel is included with the appropriate concrete item for payment.