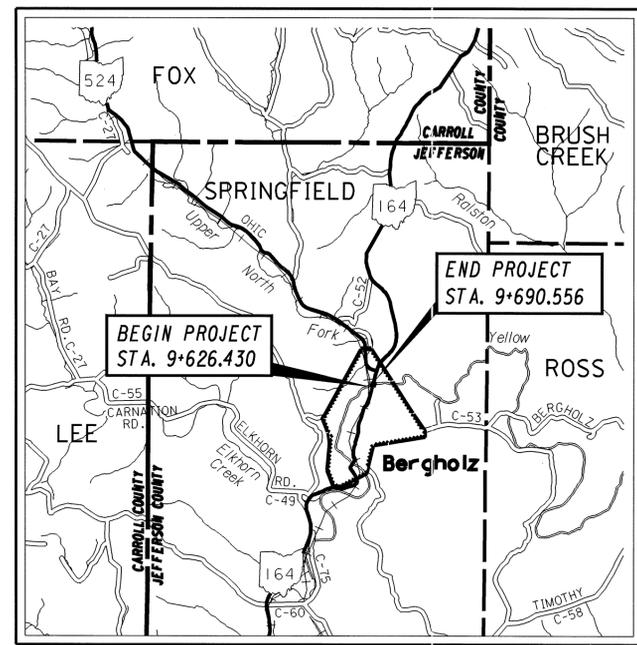




STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

PROJECT DESCRIPTION

REHABILITATION OF THE EXISTING STRUCTURE, JEF-164-09640 (0599 ENGLISH), OVER YELLOW CREEK BY REPLACEMENT OF THE BRIDGE DECK AND APPROACH SLABS, PAINTING THE STEEL BEAMS, AND REBUILDING THE ABUTMENTS TO SEMI-INTEGRAL DESIGN.



LOCATION MAP

LATITUDE: N 40° 31' 30" LONGITUDE: W 80° 53' 05"



PORTION TO BE IMPROVED _____
STATE & FEDERAL ROUTES _____
OTHER ROADS _____

JEF-164-9.626

VILLAGE OF BERGHOLZ
JEFFERSON COUNTY

INDEX OF SHEETS

TITLE SHEET	1
TYPICAL SECTIONS	2
GENERAL NOTES	3
MAINTENANCE OF TRAFFIC	4-5
GENERAL SUMMARY	6
PLAN & PROFILE	7
ESTIMATED QUANTITIES	8
CROSS SECTIONS	9-11
STRUCTURE, OVER 6M SPAN	12-23

DESIGN DESIGNATION

CURRENT ADT (1997) _____ 1200
DESIGN YEAR ADT (2017) _____ 1600
DESIGN HOURLY VOLUME (2017) _____ 160
DIRECTIONAL DISTRIBUTION _____ 55%
TRUCKS (24 HOUR B&C) _____ 3%
DESIGN SPEED _____ 60 km/h
LEGAL SPEED _____ 35 mph (56 km/h)

DESIGN FUNCTIONAL CLASSIFICATION -
RURAL COLLECTOR

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:
O.D.O.T.
DISTRICT 11
NEW PHILADELPHIA, OHIO

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	
BP-2.2M	10-21-97	AS-1.81M	10-25-94	MT-96.11M	1-30-95	815	5-30-96
BP-3.1M	10-28-94	DBR-2.73M	8-18-95	MT-96.20M	1-30-95	910	4-21-97
		PCB-91M	3-20-95	MT-96.25M	1-30-95		
DM-1.1M	10-21-97	SICD-1.96M	2-12-97	MT-97.10M	4-25-94		
DM-4.3M	6-30-95			MT-101.60M	4-25-94		
DM-4.4M	6-30-95						
				MT-105.10M	4-25-94		
				MT-105.11M	4-25-94		
GR-1.1M	10-21-97						
GR-1.2M	1-3-96						
GR-2.1M	10-21-97						
GR-3.4M	10-21-97						
GR-4.1M	11-30-94						
GR-4.2M	10-21-97						
GR-5.1M	4-21-95						
RM-4.2M	10-21-97						

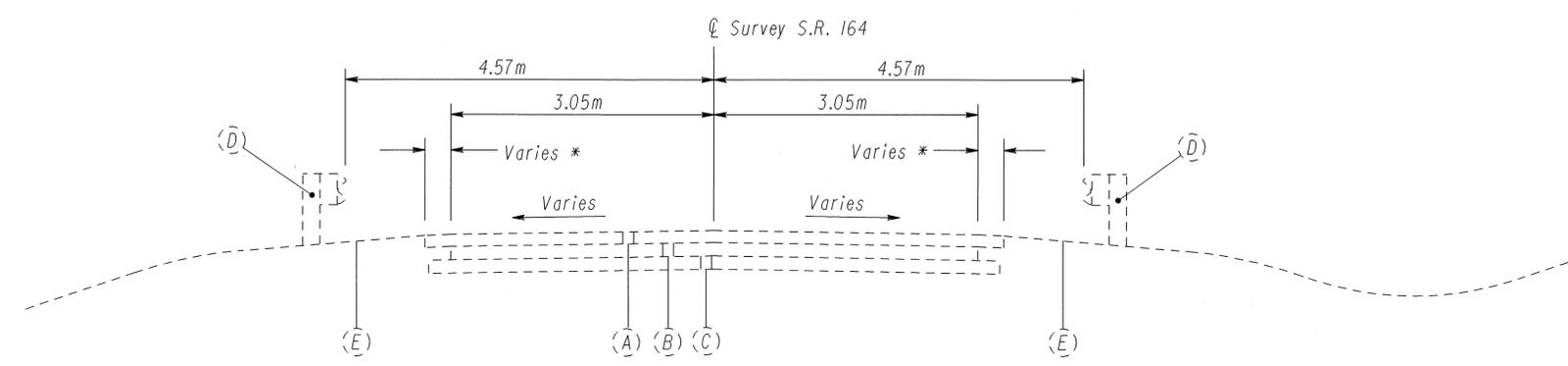
APPROVED John T. Gm
DATE 12-5-97 DISTRICT DEPUTY DIRECTOR OF
TRANSPORTATION

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF
TRANSPORTATION

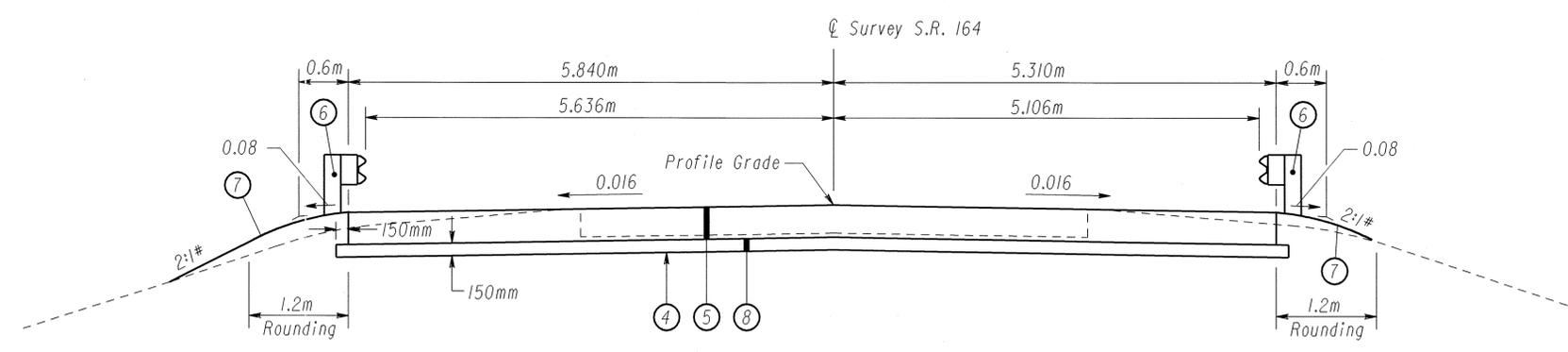
FEDERAL PROJECT NO. _____
NON-FEDERAL
PID NO. 15610
CONSTRUCTION PROJECT NO. _____
RAILROAD INVOLVEMENT NONE
JEF-164-9.626
1/23

LEGEND

- ① - Item 448 - 25mm Asphalt Concrete Surface Course, Type 1, PG64-22, As Per Plan
- ② - Item 254 - Pavement Planing, Bituminous (25mm Nominal)
- ③ - Item 407 - Tack Coat for Intermediate Course
- ④ - Item 203 - Subgrade Compaction
- ⑤ - Item 611 - Reinforced Concrete Approach Slab (T=380mm), As Per Plan
- ⑥ - Item 606 - Guardrail, Type 5
- ⑦ - Item 659 - Seeding and Mulching
- ⑧ - Item 304 - 150mm Aggregate Base
- (A) - 150mm ± Existing Asphalt Concrete
- (B) - 150mm Existing Aggregate Base
- (C) - 150mm Existing Subbase
- (D) - Existing Guardrail
- (E) - Existing Turf Shoulder

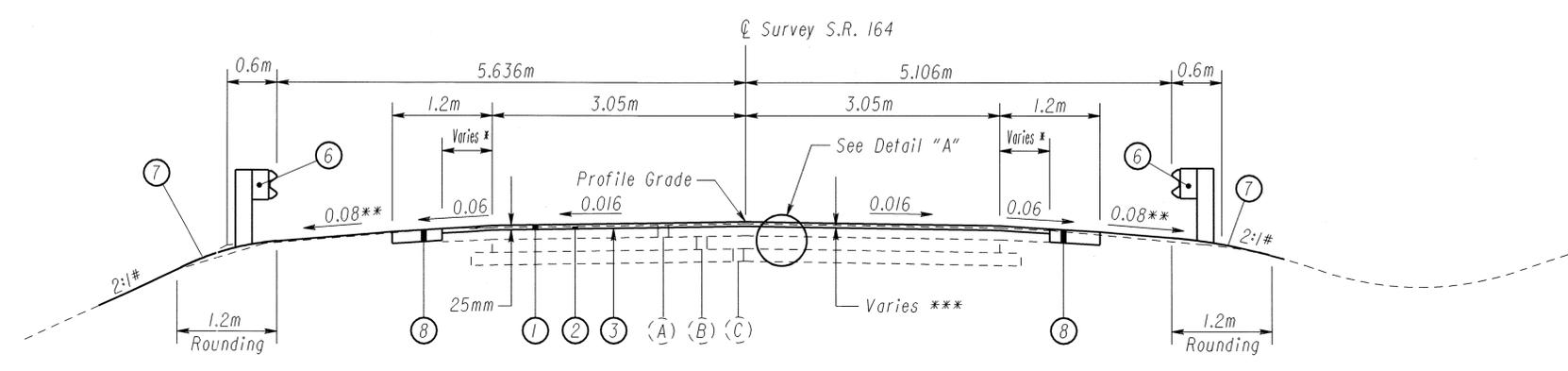


EXISTING SECTION - S.R. 164



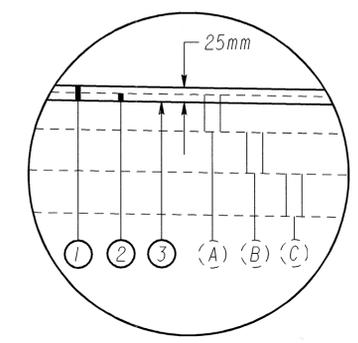
APPROACH SLAB TYPICAL SECTION - S.R. 164

SECTION APPLIES:
 Sta. 9+626.430 to Sta. 9+690.556 = 64.126m
 DEDUCT FOR STR. JEF-164-09640
 Sta. 9+634.030 to Sta. 9+682.956 = -48.926m
 Total Length = 15.2m



NORMAL SECTION - S.R. 164

SECTION APPLIES:
 Sta. 9+602.750 to Sta. 9+626.430 = 23.680m
 Sta. 9+690.556 to Sta. 9+704.700 = 14.114m
 Total Length = 37.824m



DETAIL "A"

or as Shown on the Cross Sections
 * Varies : 0.3m wide at Rear Approach and 0.6m wide at Forward Approach
 ** Provide Smooth Transition to Approach Slab
 *** Pavement Planing Depth Varies 25mm to 0mm (Sta. 9+602.750 to Sta. 9+626.421) and 0mm to 25mm (Sta. 9+690.566 to Sta. 9+704.700)

UTILITIES

Listed below are all utilities located within the project construction limits together with their respective owners:

Village of Bergholz
Water Department
P.O. Box 242
Bergholz, Ohio 43908
Telephone : (614)-768-2200

AEP - Ohio Power Company
P.O. Box 24630
301 Cleveland Ave. SW
Canton, Ohio 44701-4360
Telephone : (330) 438-7721

Columbia Gas of Ohio Inc.
P.O. Box 250
216 Highland Ave.
Cambridge, Ohio 43725
Telephone : (614) 432-8225

GTE Telephone Operations
1168 Kennel Road
Minerva, Ohio 44657
Telephone : (330)-868-4155

The location of the underground utilities shown on the plans are as obtained from the owners as required by O.R.C. Section 153.64.

ELEVATION DATUM

All elevations, unless denoted "assumed elevation", are based on U.S.G.S. datum.

ROUNDING

The rounding at slope breakpoints shown on the Typical Sections apply to all cross sections even though otherwise shown.

WORK LIMITS

The work limits shown on these plans are for physical construction only. The installation and operation of all temporary traffic control and temporary traffic control devices required by these plans shall be provided by the Contractor whether inside or outside these work limits.

PREVIOUS CONSTRUCTION PLANS

The following previous construction plans are available for inspection at the ODOT District II office:

JEF-164-5.97 Original Construction Plan, 1963

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

When it is necessary to splice proposed guardrail to existing guardrail, only the existing guardrail shall be cut, drilled, or punched. The connection shall be made using a "W-Beam Rail Splice" as shown on Standard Construction Drawing GR-1.1M and GR-1.2M. Payment shall be included in the contract price for the respective guardrail items.

ITEM SPECIAL, PIPE CLEANOUT

This item shall consist of removing all foreign material, material buildup, and obstructions from the inside of existing conduits.

The cleanout shall be accomplished by using a high pressure water jet, vacu-jet, or any other method as approved by the Engineer. The Contractor shall dispose of all collected material and debris as per Section 203.05.

For locations and quantities, See Sheet Nos. 7 and 8.

Payment for the above work will be made at the contract price for Item Special, Meter, Pipe Cleanout, and shall include the cost of all labor, tools, equipment, materials, and incidentals necessary to complete the work.

ITEM 659, SEEDING AND MULCHING

Seeding and mulching shall be applied to all areas of exposed soil between the right-of-way lines, and within the construction limits for areas outside the right-of-way lines covered by work agreement or slope easement. Quantity calculations for Item 659, Seeding and Mulching are based on these limits.

WATERING PERMANENT SEEDED AREAS

The following estimated quantity is to be used as directed by the Engineer to promote growth, and to care for permanent seeded areas as per Section 659.09:

Item 659, Water - - - - - 6 CU. METER

ITEM 407, TACK COAT FOR INTERMEDIATE COURSES

The rate of application of the 407 tack coat shall be subject to adjustment as directed by the Engineer. Plan quantities indicate an average application rate of 0.34 liters per square meter of tack coat for estimating purposes only.

ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22, AS PER PLAN

Materials furnished for fine and coarse aggregates used in this item shall exclude all stone and crushed carbonate stone.

ITEM 611, REINFORCED CONCRETE APPROACH SLAB (T= 380mm), AS PER PLAN

The reinforcing steel for the approach slabs for this structure shall be epoxy coated in conformance with Section 509.

Two separate thicknesses of clear or opaque polyethylene film, 705.06, shall be placed on the prepared subbase, and where the approach slab is to be constructed. The polyethylene films shall completely cover the full length and width of the subbase between the sidewall forms for the approach slab.

All materials, labor and installation shall be included for payment in the contract price for Item 611, Reinforced Concrete Approach Slab (T=380mm), As Per Plan.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

The following estimated quantities are to be used as directed by the Engineer for temporary erosion and sediment control measures:

Item 207, Straw or Hay Bales - - - - - 150 Each
Item 207, Filter Fabric Fence - - - - - 125 Meter

EROSION CONTROL

Items 601 is provided in the plans for erosion control. Rock of a stable nature shall not be removed in order to place this item. The Engineer shall check and non-perform quantities, or adjust locations and quantities of these items where indicated by field conditions during construction. In addition, these items shall meet the requirement of 108.04.

CONTINGENCY QUANTITIES

The Contractor shall not order materials or perform work for items designated by plan note to be used "as directed by the Engineer" unless authorized by the Engineer. The actual work locations and quantities used for such items shall be incorporated into the final change order governing completion of this project.

STREAM CHANNEL EXCAVATION

The contractor shall take all precautions necessary to prevent any incidental discharges associated with the excavation and hauling of material from the stream channel. This pertains to any excavation operations such as, foundation pier or abutment excavation, channel clean out, excavation for rock channel protection and removal of any temporary fill associated with construction operations.

INSTREAM WORK

Instream work will be limited where practicable and only clean non-erodible material will be used for fords or cofferdams. This temporary placed material will be removed and the stream bottom restored to near natural conditions when the work is completed.

SPECIAL FLOOD HAZARD AREA

The project is located in Zone A of the Special Flood Hazard Areas inundated by the 100-year flood as designated by FEMA. The Contractor shall obtain a permit from the Local Flood Plain Administrator, (614) 283-8568, for disposal of any excavated material below the 100-year flood elevation.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

The Contractor shall notify the Engineer at least eighteen (18) days prior to implementing any work zone restrictions that will reduce the width or vertical clearance of any lane on which traffic will be maintained during construction.

The Engineer shall immediately notify the District Roadway Services Manager to advise the Office of Highway Management of the restrictions.

ITEM 614 - MAINTAINING TRAFFIC

The Contractor shall maintain traffic at all times and in accordance with the requirements of Item 614 and the construction phasing described on sheet no. 4-5. Traffic shall be maintained at all times by use of the existing pavement, temporary pavement, and portions of the existing and new bridge.

Alternating one-way traffic shall be maintained during phases 1 through 2 by use of temporary signals as shown on Standard Construction Drawings MT-96.11M, MT-96.20M, and MT-96.25M. Traffic shall be separated from the work area by means of Item 622 - Portable Concrete Barrier. Access for local property owners shall be maintained at all times except as noted on the plans.

Prior to the beginning of any construction that will require the closure of existing lanes to traffic, all temporary signals, signs, lights, portable concrete barriers, and temporary pavement markings shall be furnished and installed as shown on Standard Construction Drawing MT-96.11M and sheet no. 4. Temporary pavement markings, raised pavement markings, and portable concrete barrier installation shall be accomplished in one day, with flaggers being utilized for the protection of vehicular traffic during the installation of these items. When the above requirements have been satisfied, signal controlled alternating one-way traffic may begin.

The Contractor shall schedule and work in a continuous manner, satisfactory to the Engineer, in order to minimize the closure of Monroe Avenue. The Contractor shall contact the Bergholz Fire Department at 614-768-2700 14 days before closing Monroe Avenue, and immediately reopen Monroe Avenue upon the completion of Phase 2.

The following estimated quantity has been included in the General Summary, for use as directed by the Engineer, for the maintenance of traffic:

Item 410 - Traffic Compacted Surface, Type C 10 CU. METER
Item 614 - Bituminous Concrete for Maintaining Traffic 3 CU. METER

All work and traffic control devices shall be in accordance with 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices. Payment for all labor, equipment and materials shall be included in the Lump Sum contract price for 614, Maintaining Traffic, unless separately itemized in the plan.



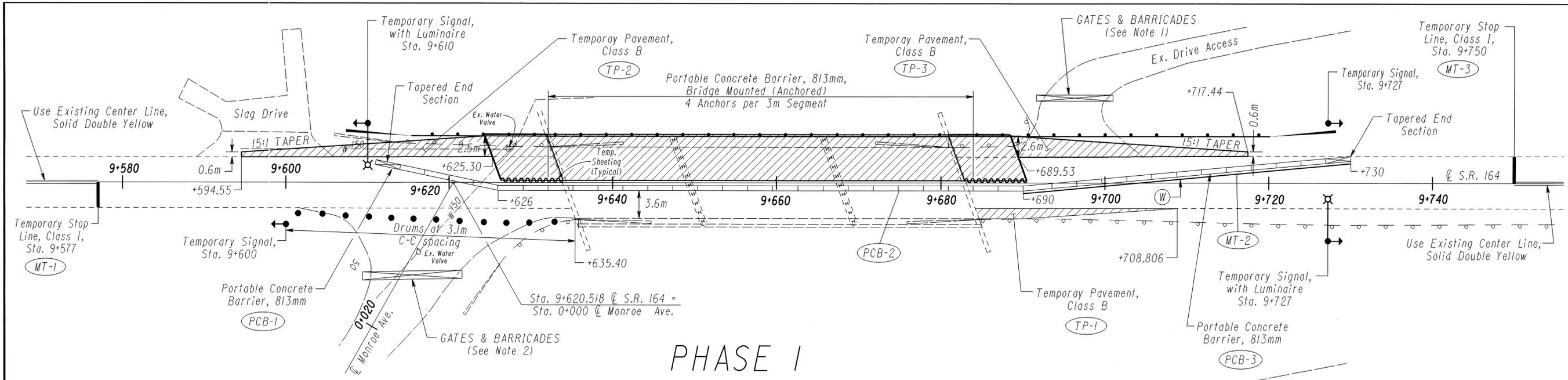
HORIZONTAL SCALE IN METERS

CALCULATED JPB CHECKED SAL

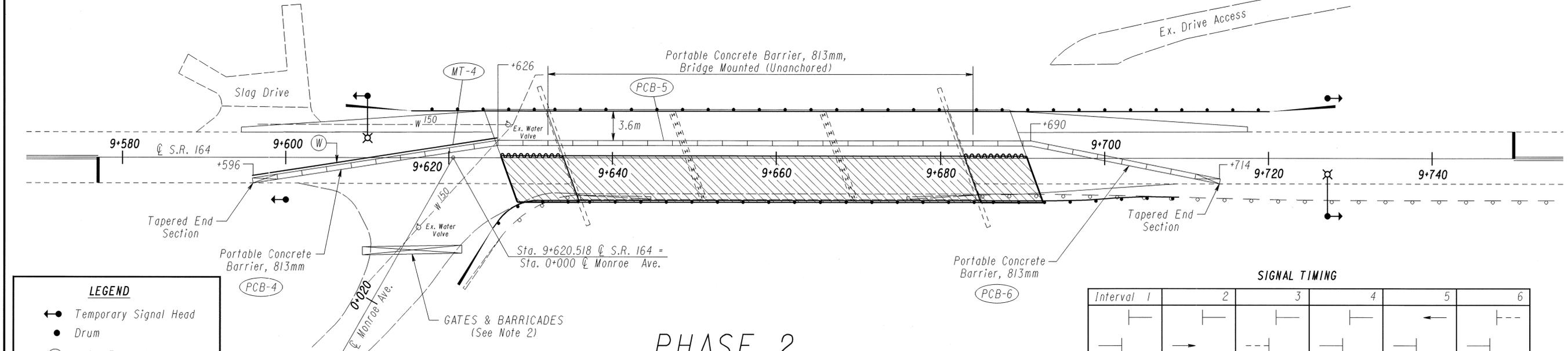
MAINTENANCE OF TRAFFIC PLAN

JEF-164-9.626

4 23



PHASE I



PHASE II

LEGEND

- ←• Temporary Signal Head
- Drum
- (W) White Edge Line
- ▬ Portable Concrete Barrier
- ▨ Work Area

SIGNAL TIMING

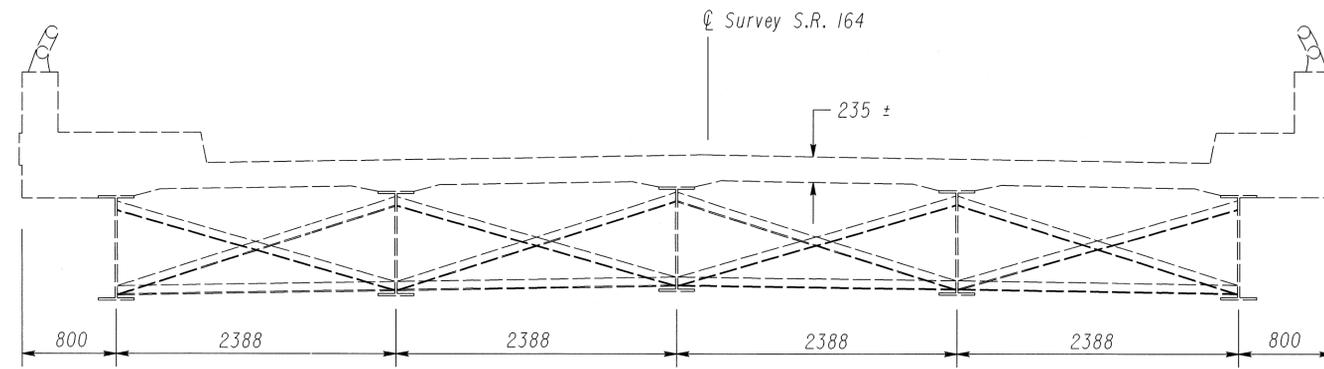
Interval 1	2	3	4	5	6
				←	
16 Sec.	15 Sec.	4 Sec.	16 Sec.	15 Sec.	4 Sec.

- PHASE I**
1. Construct Temporary Pavement, Class B from Sta. 9+684.223 to Sta. 9+708.806, right side, prior to lane closure.
 2. Place portable concrete barrier (PCB), use anchored, bridge mounted on the bridge.
 3. Place gates and barricades for Monroe Ave. and existing drive access. Access for the driveway is approximately 85 m north of the existing drive and shall remain open at all times.
 4. Maintain two-way traffic with one lane on northbound portion of bridge, via signal control.
 5. Remove southbound portion of superstructure, approach slab, and abutment, as detailed in plan.
 6. Construct southbound portion of superstructure, embankment, approach slab, guardrail, and temporary pavement.

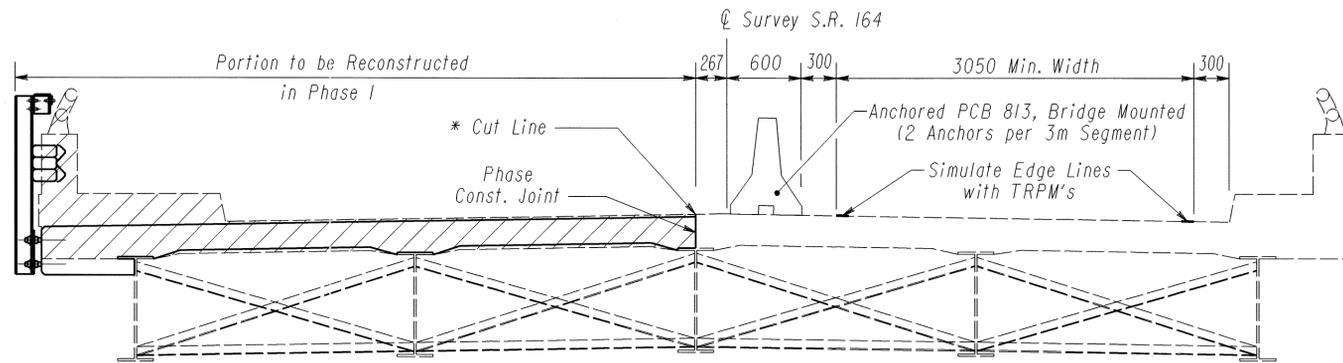
- PHASE II**
1. Place portable concrete barrier.
 2. Maintain two-way traffic with one lane on southbound portion of bridge, via signal control.
 3. Remove northbound portion of superstructure, approach slab, and abutment, as detailed in plan.
 4. Construct northbound portion of superstructure, embankment, approach slab, and guardrail.
- PHASE III**
1. Reopen Monroe Ave. to traffic immediately upon completion of Phase 2.
 2. Remove the temporary pavement placed in Phase I.
 3. Complete paving operations; pavement planing and 25mm overlay on S.R. 164 and Monroe Ave.

- NOTES :**
1. Close existing drive access /exit with gates and barricades during Phase I. Drive access is to be permanently closed during Phase I operations.
 2. Close Monroe Ave. entrance/exit with gates and barricades during Phases I and 2. Advance signing shall be placed for Monroe Ave. as shown in Std. Construction Dwg. MT-101.60M, except sign spacing shall be reduced to 30m.

For Details not Shown, See Standard Construction Drawings MT-96.11M, MT-96.20M, MT-96.25M, MT-101.60M, and PCB-91M.
 For Maintenance of Traffic Quantities, See Sheet No. 5.



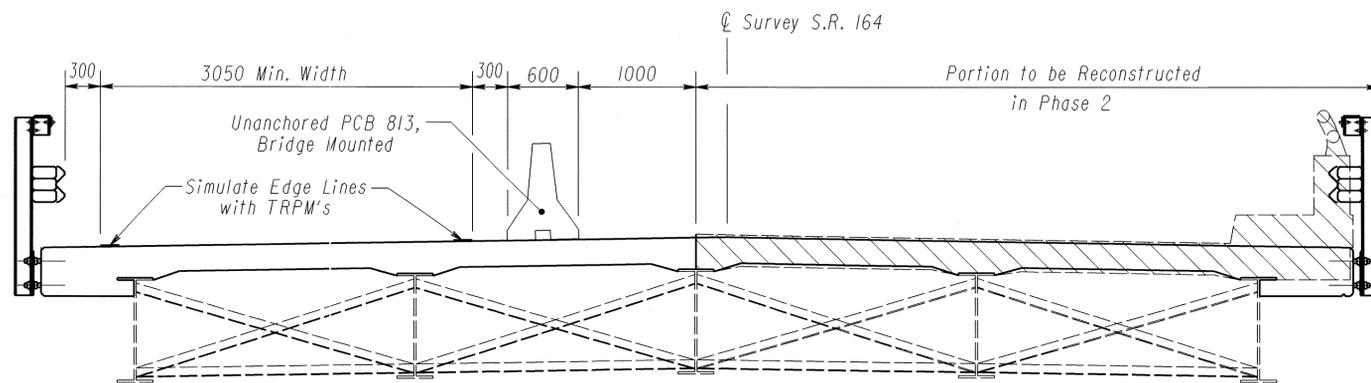
EXISTING TRANSVERSE SECTION



PHASE I

* Care shall be taken to not cut into the top beam flange. See deck concrete removal notes on Structure Sheet No. 2 /12.

Portion to be Removed



PHASE 2

Portion to be Removed

MAINTENANCE OF TRAFFIC QUANTITIES

Sheet No.	Reference	614				615	622	
		Barrier Reflector, Type B2	Object Marker	Temporary Edge Line, Class I, 740.06, Type I	Temporary Stop Line, Class I, 740.06, Type I	Temporary Pavement, Class B	Portable Concrete Barrier, 813mm	Portable Concrete Barrier, 815mm, Bridge Mounted
		EACH	EACH	KILO-METER	METER	Sq. M	METER	METER
4	TP-1					18.93		
4	TP-2					47.66		
4	TP-3					45.90		
4	PCB-1	3	2				21.35	
4	PCB-2	7	7					51.85
4	PCB-3	6	6				45.75	
4	MT-1				3.0			
4	MT-2			0.04				
4	MT-3				3.0			
Sub-Total		16	15	0.04	6.0	112.49	67.10	51.85
4	PCB-4	5	5				36.60	
4	PCB-5	7	7					51.85
4	PCB-6	4	3				30.50	
4	MT-4			0.03				
Sub-Total		16	15	0.03			67.10	51.85
Totals Carried to Gen. Summary		32	30	0.07	6.0	112.49	134.20	103.7

ITEM 614 - TEMPORARY RAISED PAVEMENT MARKERS

	STATIONING			SPACING	TYPE A			REMARKS (LINE TYPE)
	FROM	TO	SIDE	METER	W	Y	YYY	
PHASE 1	9+577	9+626	RT.	1.5	33			SIMULATE EDGE LINE
	9+626	9+730	RT.	1.5	71	71		SIMULATE EDGE LINE
	9+626	9+690	LT.	1.5	44	44		SIMULATE EDGE LINE
PHASE 2	9+577	9+690	LT.	1.5	75	75		SIMULATE EDGE LINE
	9+690	9+730	LT.	1.5	28			SIMULATE EDGE LINE
	9+626	9+690	RT.	1.5	44	44		SIMULATE EDGE LINE
Totals Carried to General Summary					295	234		
					529			

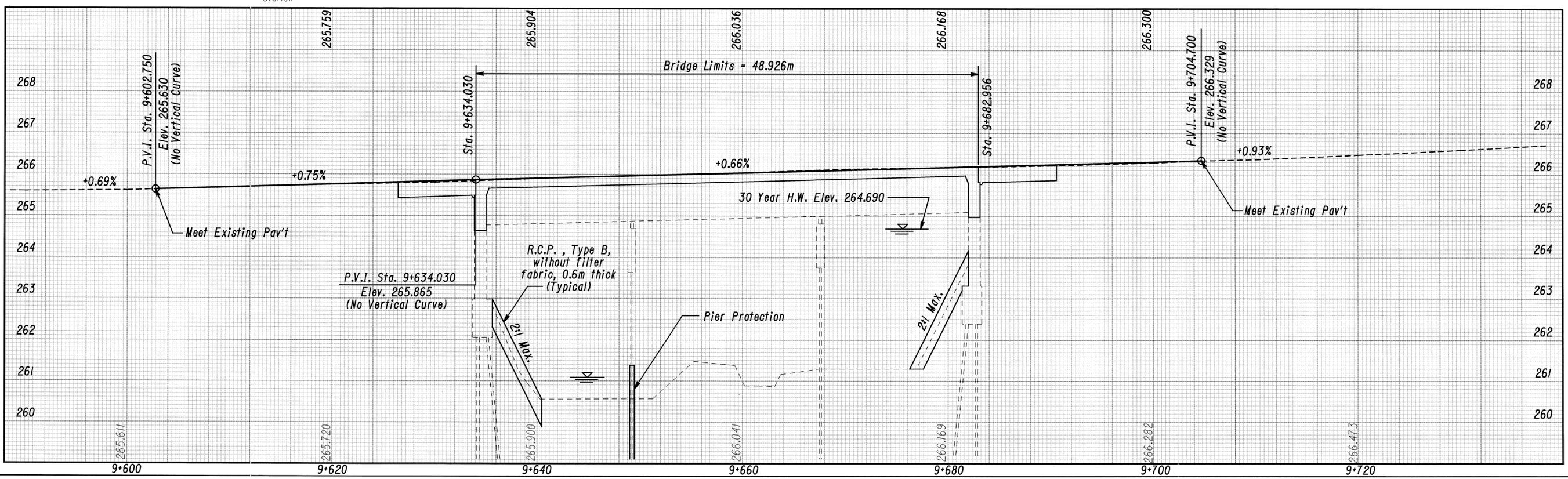
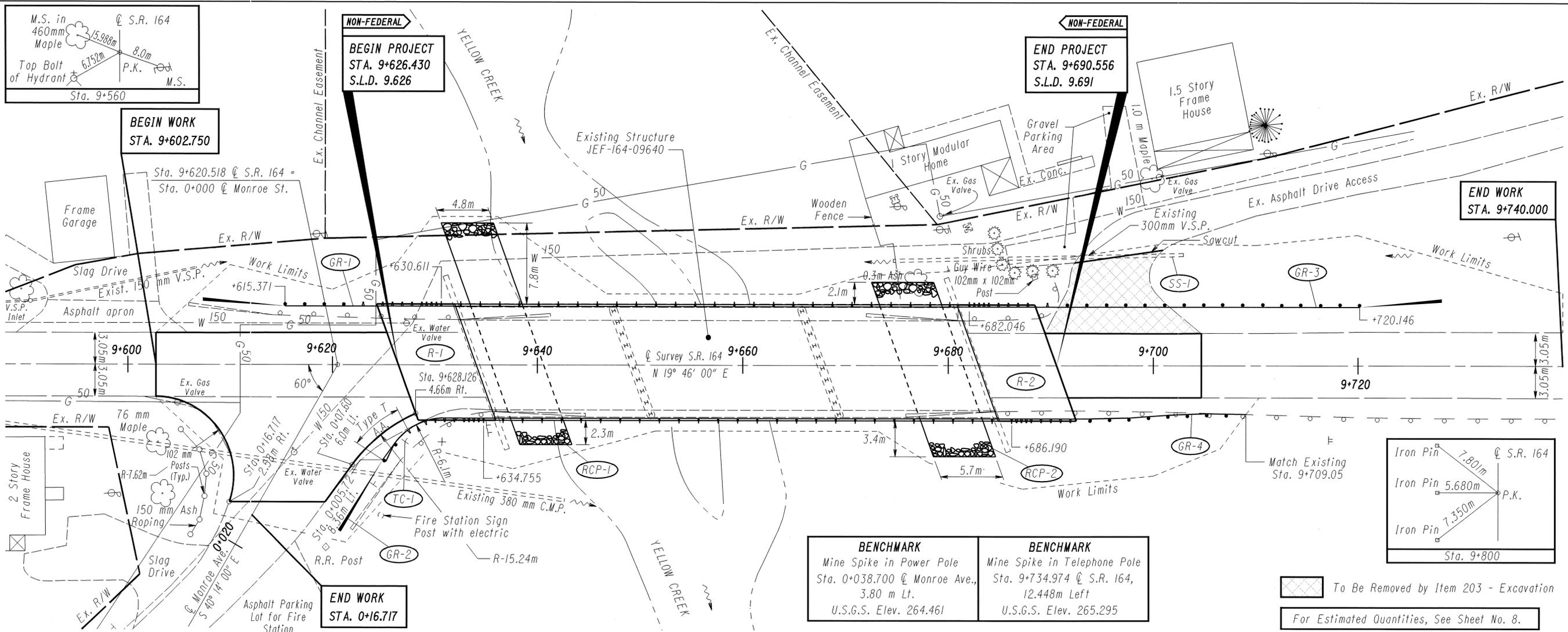
All Dimensions are in Millimeters, Unless Otherwise Noted.

CALCULATED
JPB
CHECKED
SAL

MAINTENANCE OF TRAFFIC

JEF-164-9.626

5
23



PLAN AND PROFILE SHEET
 STA. 9+600 to STA. 9+730
 JEF-164-9.626
 7
 23

REFERENCE NO.	PLAN SHEET NO.	STATION		SIDE	LENGTH	WIDTH	202		203	254	304	407	448	606			611	SPECIAL	630			
							GUARDRAIL REMOVED	APPROACH SLAB REMOVED	SUBGRADE COMPACTION	PAVEMENT PLANING, BITUMINOUS	150mm AGGREGATE BASE	TACK COAT FOR INTERMEDIATE COURSE AT 0.34 L/Sq. METER	25mm ASPHALT CONCRETE SURFACE COURSE TYPE 1, PG64-22, AS PER PLAN	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE A	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 4	REINFORCED CONCRETE APPROACH SLAB (T=380mm), AS PER PLAN	PIPE CLEANOUT	REMOVAL OF GROUND MOUNTED POST AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND RERECTION	GROUND MOUNTED SUPPORT, NO. 3 POST
							METER	SQ. METER	SQ. METER	SQ. METER	CU. METER	LITER	CU. METER	METER	EACH	EACH	EACH	SQ. METER	METER	EACH	EACH	METER
GR-1	7	9+607.751	9+630.611	LT.			34.29							15.24	/	/	/					
GR-2	7	0+012.925 @ Monroe Ave.	9+634.755	RT.			26.67							7.62	/	/	/					
GR-3	7	9+682.046	9+727.766	LT.			19.05							38.10	/	/	/					
GR-4	7	9+686.190	9+709.050	RT.			24.384							22.86	/	/	/					
SS-1	7	9+674.750	9+702.933	LT.													28.5					
R-1	7	9+626.430	9+634.030					46.45														
R-2	7	9+682.956	9+690.556					46.45														
TC-1	7	0+003.000 @ Monroe Ave. 9.4m Lt.																	/	/	4.1	
PAVEMENT CALCULATIONS :																						
		9+604.724	9+620.291	LT.	15.567	0.9					2.10											
		9+691.676	9+704.700	RT.	13.024	0.6					1.17											
		9+689.212	9+713.484	LT.	24.272	0.6					2.18											
		9+602.750	9+626.430		23.680	6.70			158.65		53.94	3.96										
		9+626.430	9+634.030		7.600	11.15		84.74		13.05							84.74					
		9+682.956	9+690.556		7.600	11.15		84.74		13.05							84.74					
		9+690.556	9+704.700		14.144	7.30			103.25		35.11	2.58										
TOTALS (CARRIED TO GENERAL SUMMARY)							104.394	92.90	169.48	261.91	31.55	89.05	6.54	83.82	3	1	4	169.48	28.5	1	1	4.1

PAVEMENT MARKINGS

Item 642 - Edge Line, Type I

Sta. 9+602.750 to Sta. 9+730.000, Lt. = 127.500 m
 Sta. 9+627.000 to Sta. 9+708.806, Rt. = 81.806 m

$127.500m + 81.806m = 209.306m \div 1000 = \underline{0.21 \text{ KILOMETER}}$

Item 642 - Center Line, Type I

Sta. 9+577.000 to Sta. 9+610.000 = 33.000 m
 Sta. 9+625.000 to Sta. 9+750.000 = 125.000 m

$33m + 125m \div 1000 = \underline{0.16 \text{ KILOMETER}}$

Item 642 - Stop Line, Type I

Sta. 0+005.50 @ Monroe Ave. - 6.0 METER

ROCK CHANNEL PROTECTION

Item 601 - Rock Channel Protection, Type B, without Filter Fabric

RCP-1 :

$4.8m \times 22.65m \times 0.6m = 65.23 \text{ CU. METER}$

RCP-2 :

$5.7m \times 17.85m \times 0.6m = 61.05 \text{ CU. METER}$

$65.23 \text{ cu. m} + 61.05 \text{ cu. m} = \underline{126.28 \text{ CU. METER}}$

EARTHWORK SUMMARY TABLE

FROM SHEET NO.	203		659
	EXCAVATION	EMBANKMENT	SEEDING & MULCHING
	CU. METER	CU. METER	SQ. METER
9	5.3	4.3	63.7
10	69.9	46.3	291.4
11	0.5	25	218.5
TOTALS	76	76	574

Item 659 - Commercial Fertilizer :

$574 \text{ Sq. Meter} \times 0.1 \text{ kg/Sq. Meter} = 57.40 \text{ KILOGRAM}$ USE 57 KILOGRAM

Item 659 - Agricultural Liming :

$574 \text{ Sq. Meter} \times (256 \text{ kg} \div 1000 \text{ Sq. Meter}) \times 220\% = 323.28 \text{ KILOGRAM}$ USE 323 KILOGRAM

Item 659 - Water : (Quantity Carried to Sheet No. 3.)

$574 \text{ Sq. Meter} \times (9.8 \text{ Cu. Meter} \div 1000 \text{ Sq. Meter}) = 5.63 \text{ CU. METER}$ USE 6 CU. METER

MONROE AVE. QUANTITIES

Planimetered Area = 146 Sq. Meter

Item 254 - Pavement Planing, Bituminous = 146 SQ. METER

Item 407 - Tack Coat for Intermediate Course :

$146 \text{ Sq. Meter} \times 0.34 \text{ L/Sq. Meter} = \underline{49.64 \text{ LITER}}$

Item 448 - 25mm Asphalt Concrete Surface Course Type I, PG64-22, As Per Plan :

$146 \text{ Sq. Meter} \times 25\text{mm} = \underline{3.65 \text{ CU. METER}}$

Quantities Carried to General Summary, Unless Otherwise Noted.

ESTIMATED QUANTITIES

JEF-164-9.626

SEEDING
END SQ.
WIDTH METER

END AREA
CUT FILL
VOLUME
CUT FILL
CALCULATED
TKD
CHECKED
JPB

30

20

10

℄

10

20

30

270

268

266

264

AHEAD 3.5 0.4

BACK 0 0.4

270

268

266

264

0.4 0

270

268

266

264

0.2 0.3

266

264

0 0

SHEET TOTAL

270

268

266

264

7

25.7

270

268

266

264

19

270

268

266

264

19

266

264

63.7

30

20

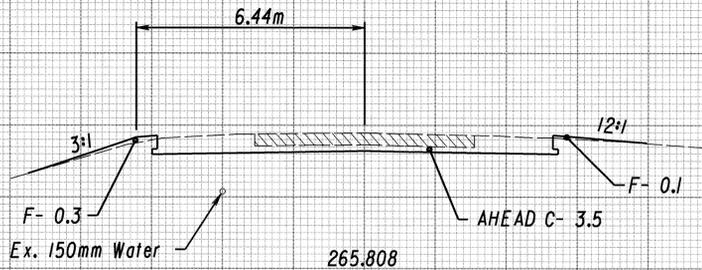
10

℄

10

20

30



9+626.430

265.250

6.24m

0.08

C-0.4

Ex. 50mm Gas

265.759

9+620.000

265.720

Ex. 150mm Water

Ex. 380mm CMP

6.95m

0.08

C-0.2

F-0.3

265.684

9+610.000

265.680

Ex. 50mm Gas

Ex. 380mm C.M.P.

To be Removed With Item 202 - Approach Slab Removed

Ex. 150mm V.S.P.

Ex. 150mm Water

9+600.000

265.611

Ex. 50mm Gas

BEGIN EARTHWORK & SEEDING

CROSS SECTION SHEET
STA. 9+600.00 TO STA. 9+626.430

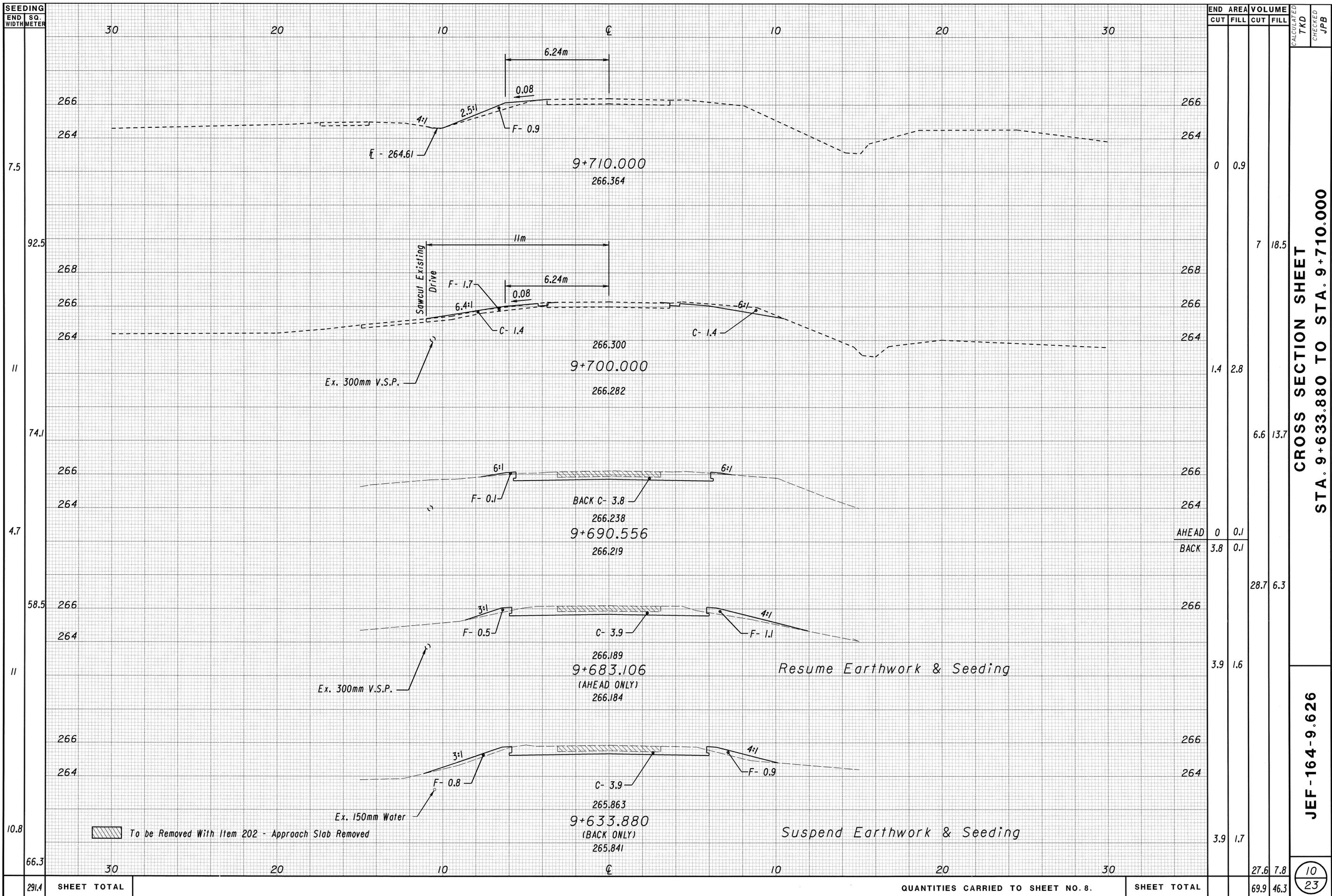
JEF-164-9.626

9
23

QUANTITIES CARRIED TO SHEET NO. 8.

SHEET TOTAL

5.3 4.3



CROSS SECTION SHEET
STA. 9+633.880 TO STA. 9+710.000

JEF-164-9.626

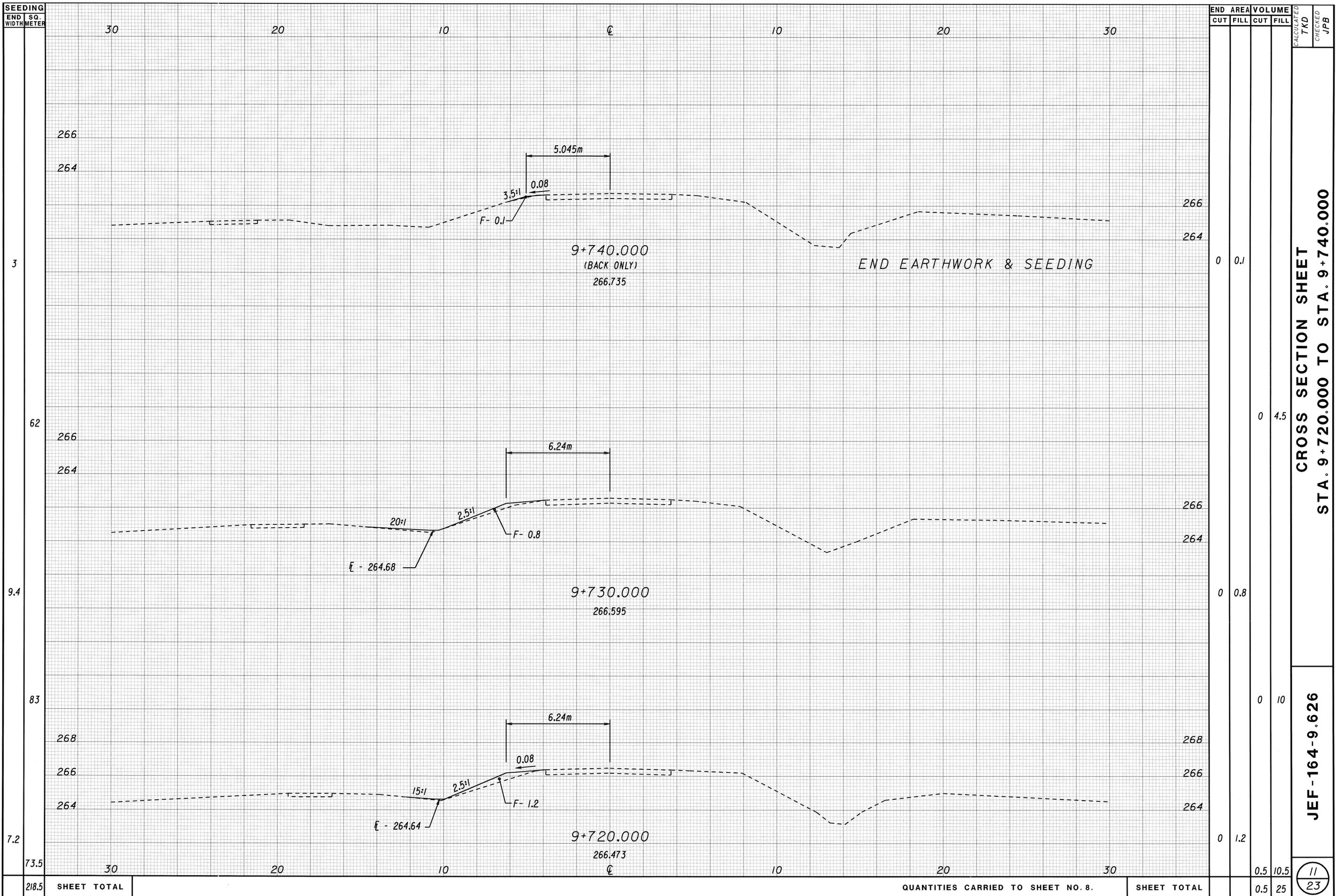
10
23

QUANTITIES CARRIED TO SHEET NO. 8.

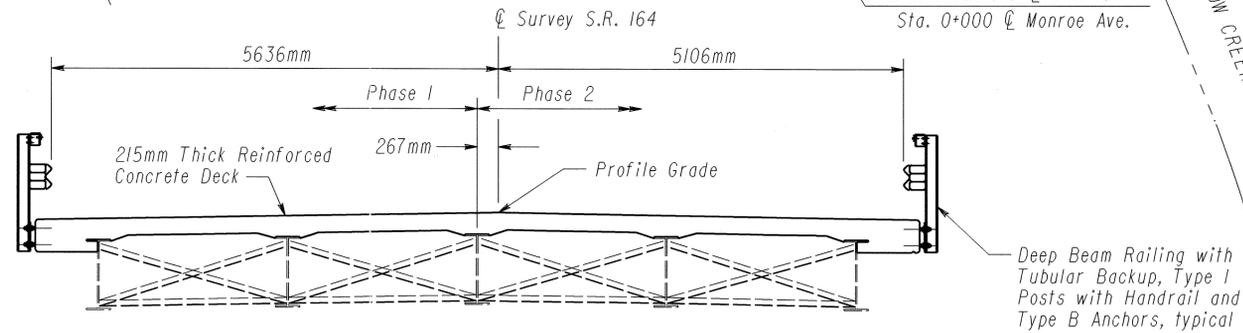
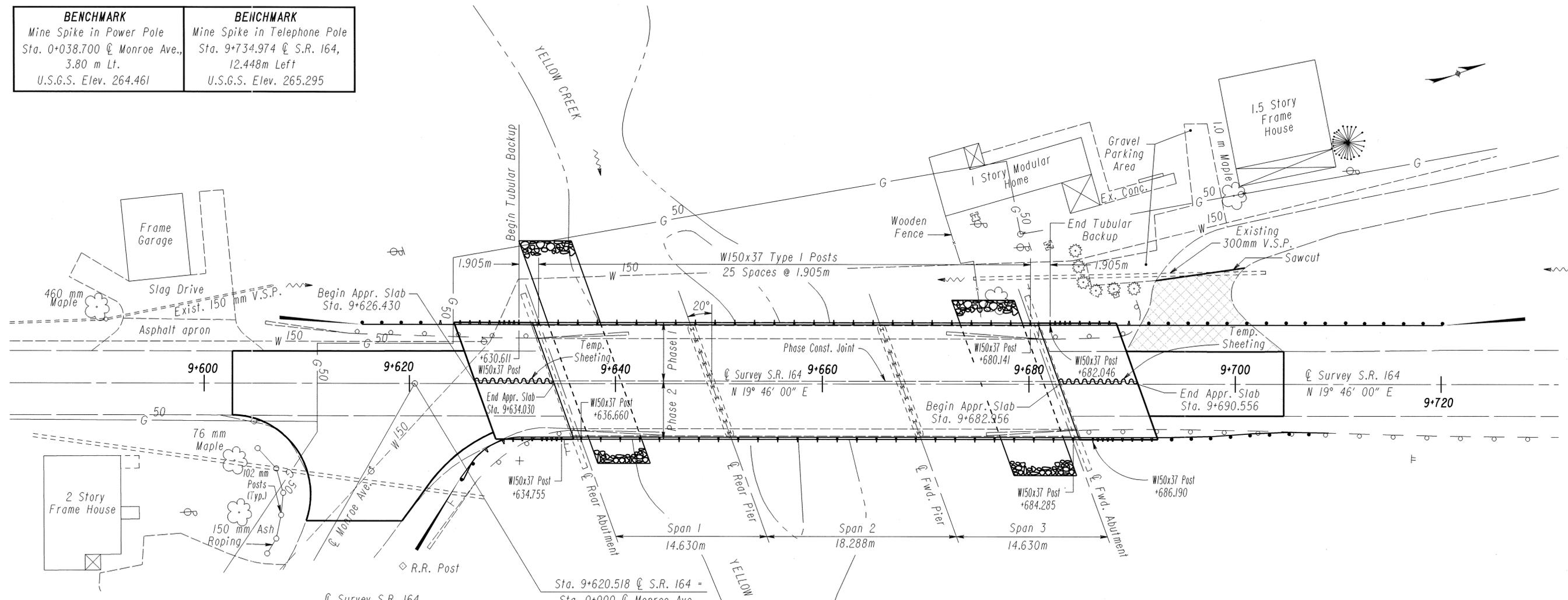
To be Removed With Item 202 - Approach Slab Removed

Resume Earthwork & Seeding

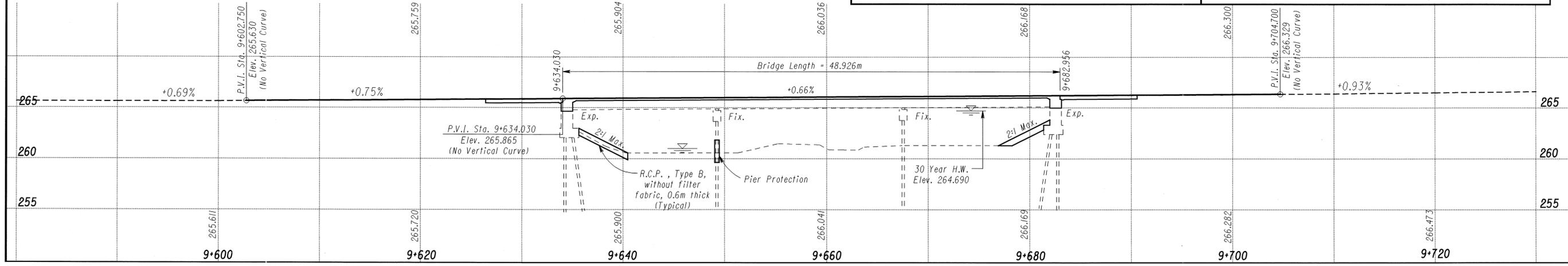
Suspend Earthwork & Seeding



BENCHMARK Mine Spike in Power Pole Sta. 0+038.700 @ Monroe Ave., 3.80 m Lt. U.S.G.S. Elev. 264.461	BENCHMARK Mine Spike in Telephone Pole Sta. 9+734.974 @ S.R. 164, 12.448m Left U.S.G.S. Elev. 265.295
---	--



EXISTING STRUCTURE	PROPOSED STRUCTURE
TYPE : Three span continuous steel beams with reinforced concrete deck and substructure.	TYPE : Three span continuous steel beams with reinforced concrete deck and substructure.
SPAN LENGTH : 14630mm - 18288mm - 14630mm c/c Bearings	SPAN LENGTH : 14630mm - 18288mm - 14630mm c/c Bearings
ROADWAY WIDTH : 8535mm f/f curbing	ROADWAY WIDTH : 10 742mm f/f guardrail
LOADING : H-15 (English)	LOADING : MS-18, Case II and Alternate Military Loading
SKEW : 20° R.F.	SKEW : 20° R.F.
WEARING SURFACE : 51mm Asphalt Concrete	WEARING SURFACE : 25mm Monolithic Concrete
STRUCTURAL FILE NO. : 4103068	DATE BUILT : 1964
	APPROACH SLAB : AS-1-81M (7600mm long)



SITE PLAN
 BRIDGE NO. JEF-164-09640
 over YELLOW CREEK

DESIGNED BY: JPB
 CHECKED BY: SAL
 DRAWN BY: JPB
 REVISIONS: SAL

REVIEWED DATE: 11-7-97
 DFT: 4103068
 STRUCTURE FILE NUMBER: 4103068

DESIGN AGENCY: O.D.O.T. DISTRICT II
 PRODUCTION DEPARTMENT

JEFFERSON COUNTY
 STA. 9+634.030
 STA. 9+682.956

JEF-164-9.626
 1/12
 12/23

REFERENCES:

Reference shall be made to Standard Drawings :

AS-1-81M	10-25-94
DBR-2-73M	8-15-95
PCB-91M	3-20-95
SICD-1-96M	2-12-97

and to Supplemental Specifications :

815	5-30-96
910	4-21-97

PROPOSED WORK:

Proposed work includes the following :

- 1.) Remove existing bridge railings, concrete deck, approach slabs, end finishes and portions of substructure concrete.
- 2.) Jack superstructure.
- 3.) Repair sub-structure concrete.
- 4.) Install elastomeric bearings.
- 5.) Install re-steel and place concrete for end diaphragms.
- 6.) Install re-steel and place concrete for deck.
- 7.) Groove deck.
- 8.) Install abutment drainage system.
- 9.) Place concrete for approach slabs.
- 10.) Place concrete for rear pier protection.
- 11.) Seal concrete surfaces.
- 12.) Install deep beam railing with handrail.

DESIGN DATA:

Design Loading - MS18, Case II and Alternate Military Loading
 High Performance Concrete - compressive strength 31.0 MPa (superstructure)
 Concrete Class C - compressive strength 27.5 MPa (substructure)
 Reinforcing Steel - ASTM A615M, A616M or A617M, Grade 400, minimum yield strength 400MPa

DECK PROTECTION METHOD:

Epoxy coated reinforcing steel and mechanical connectors.
 65mm concrete cover.
 Sealing of concrete surfaces.

MONOLITHIC WEARING SURFACE:

Monolithic wearing surface is assumed, for design purposes, to be 25mm thick.

EXISTING STRUCTURE VERIFICATION:

Details and dimensions of 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 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 that have been verified by the Contractor in the field. Plans of the existing bridge are available for reference at the District II Office of the Ohio Department of Transportation, New Philadelphia, Ohio.

REPLACEMENT OF EXISTING REINFORCING STEEL:

Any existing reinforcing bars which are to be incorporated into the new work and which are made unusable by 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. Replacement of corroded reinforcing bars shall be included in the unit price bid for the High Performance Concrete, Superstructure (Deck).

PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:**SUPERSTRUCTURE CONCRETE REMOVAL:**

DESCRIPTION: This work shall consist of removal of the concrete deck including the asphalt wearing course, sidewalks, parapets, railing, deck joints and other appurtenances from steel supporting systems (beams, girders, cross frames, etc.), and abutment backwalls. Existing and intermediate cross frames shall be removed as detailed in the plan. Care shall be taken during deck removals to protect portions of such systems that are to be salvaged and incorporated into the proposed structure. In this respect, the use of explosives, headache balls and/or hoe ram type of equipment is prohibited.

PROTECTION OF TRAFFIC: Prior to demolition of any portions of the existing superstructure, the Contractor shall submit plans for the protection of traffic (vehicular, pedestrian, etc.) adjacent to the structure to the Director for approval. These plans shall include provisions for any devices and structures that may be necessary to ensure such protection.

PROTECTION OF STEEL SUPPORT SYSTEMS : Before deck slab cutting is permitted, the outline of primary steel members in contact with the bottom of the deck shall be drawn on the surface of deck. Small diameter pilot holes shall be drilled 50mm outside these lines to confirm the location of the flanges. Deck cuts over or within 50mm of flange edges shall not extend lower than the bottom layer of deck slab reinforcing steel. Cuts made outside 50mm of flange edges may extend the full depth of the deck. During cutting of the slab, care shall be taken not to damage steel members that are to be incorporated into the proposed structure.

REMOVAL METHODS : Concrete may be removed by cutting and by means of hand operated pneumatic hammers employing pointed or blunted chisel type tools. For removals above steel members, a hammer heavier than 16 kilogram but not to exceed 41 kilogram may be used at the approval of the Engineer, to ensure adequate depth control and to prevent nicking or gouging the primary steel members. Care shall be taken to minimize the amount of waste materials that fall into the stream channel. Any materials that inadvertently fall into the stream shall be immediately removed and properly disposed. Suitable sound waste concrete meeting the requirements of Item 601 and approved by the Engineer, can be salvaged for use as rock channel protection. When removing the existing steel end finishes and sliding plate bearings care shall be taken to not damage or gouge the existing beam flanges. Flange surfaces shall be ground smooth.

DECK REMOVALS : Due to the possible presence of welded attachments to existing structural steel (finishing machine, scupper and form supports, etc.) care shall be taken during deck removal to avoid damaging stringers which are to remain. Stringers damaged by the Contractor's removal operations shall, at no cost to the project, be replaced or repaired. Proposed repairs, developed by a registered professional engineer, shall be submitted in writing for review and approval by the Director. All welded repairs shall be radiographed as per CMS 513.21.

EXTRANEIOUS MEMBERS : Existing extraneous members (i.e., finishing machine and form supports, etc., and the support for scuppers and bulb angles which are to be removed) attached by welded connections to portions of the top flanges designated "tension" shall be removed and the flange surfaces ground smooth. Grinding shall be carefully done and parallel to the flanges.

LOADING LIMITATIONS : No part of the structure shall be subjected to unit stresses that exceed 136.5% of the allowable unit stresses given in the AASHTO Standard Specifications for Highway Bridges due either to demolition, erection or construction methods, or to the use or movement of the demolition or erection equipment on or across the structure. Structural analysis computations, by a registered professional engineer, showing the allowable stresses and the maximum stresses produced by the Contractor's methods or equipment shall be submitted to the Director for review and approval at least two weeks prior to the start of the work.

ABUTMENT CONCRETE REMOVAL:

Cut line construction joint preparation :

Saw cut boundaries of proposed concrete removals 25mm deep except where noted. Remove concrete to a rough surface. Unless otherwise specified, at least 300mm length of protruding reinforcing steel shall be left in place. 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.

Substructure concrete removal :

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 kilogram for removal within 450mm of portions to be preserved. Outside the 450mm limit, a hammer heavier than 16 kilogram, but not to exceed 41 kilogram, 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. When concrete removal has exposed the existing reinforcing steel, the adjacent concrete shall be removed sufficiently to provide a minimum of 20mm clearance around the bar.

MISCELLANEOUS : Any debris or brush that exists beneath the bridge, in the channel bottom or slopes at the time of construction shall be removed by the Contractor with payment to be included in this item.

PAYMENT : This work and drilling of the 50mm holes in the steel beams at the end diaphragms will be paid for at the contract lump sum price bid, which price and payment shall be full compensation for all labor, equipment, materials and incidentals necessary to complete the work in conformance with these requirements, with pertinent provisions of 202, and to the satisfaction of the Engineer.

INSPECTION OF EXISTING STRUCTURAL STEEL:

After the existing concrete deck has been removed and the deck forms are in place, the Engineer shall visually inspect all existing butt-welded splices and/or top flange cover plate fillet welds to ensure that they are free of defects. The deck slab haunch forms immediately adjacent to such welds shall not be erected until after the Engineer has completed this inspection. This inspection shall not take place until after the top flanges are cleaned as specified in 511.08, but it shall be done before the deck slab reinforcement is installed. The cost associated with this inspection shall be included with Item Special - High Performance Concrete (Deck), for payment.

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

The following concrete surfaces shall be sealed :

- 1.) Outside deck edges including top deck surface to 75mm in from the edge and bottom overhang from deck edge to face of steel beams.
- 2.) All exposed surfaces of both abutments and diaphragms.
- 3.) Outside 2000mm of pier cap; seal faces and top and bottom surface.

The color of the urethane coating shall be Federal Color Standard No. 37722 (White).

RAILING MISC.: DEEP BEAM RAIL WITH TUBULAR BACKUP AND HANDRAIL, INCLUDING STEEL POSTS, BOLTS AND ACCESSORIES:

The location of the steel railing posts shall be laid out by the Contractor prior to installing the anchor bolts. The locations may be adjusted by the Engineer, if necessary, to permit installation of the Type I post on the surface of the deck edge adjacent to the abutment backwalls and clear the backwall at the first post off the bridge. All handrail elements, assembly and connections shall be included with the above work in Item 517-Railing Misc.: Deep Beam Rail with Tubular Backup and Handrail, Including Steel Posts, Bolts and Accessories.

MAINTENANCE OF TRAFFIC:

For Maintenance of Traffic Plan, quantities and notes, See Sheet Nos. 3-5.

GENERAL NOTES
 BRIDGE NO. JEF-164-09640
 over YELLOW CREEK

JEF-164-9.626

2 / 12

13
23

DESIGN AGENCY
 O.D.O.T.
 DISTRICT II
 PRODUCTION DEPARTMENT

DATE
 11-7-97
 REVIEWED
 DFT
 STRUCTURE FILE NUMBER
 4103068

DRAWN
 JPB
 REVISIONS
 CHECKED
 SAL

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:

This item is provided to repair an area of deteriorated concrete between beam seats no. 1 and 2, and an area right of beam seat no. 5, both areas are located at the forward abutment. The areas are approximately 2.0m x 0.5m and 1.0m x 1.0m. The existing concrete shall be removed to a depth of 200mm or to sound concrete, whichever is greater. Where removal has exposed an existing reinforcing steel bar, the adjacent concrete shall be removed sufficiently to provide a minimum of 75mm of clearance around the bar. An additional 3.0 Sq. Meters, to be used as directed by the Engineer, has been carried to the Bridge Summary.

After removal of deteriorated concrete, the surface of the existing concrete and the existing reinforcing steel shall be abrasive blasted to remove loose or scaling rust or concrete, dirt or other contaminants. Prior to placing concrete, the existing concrete surface shall have a bonding agent applied. The will be Poly-Carb Mark 24, Mark 24.3 or Mark 25.3 as produced by Poly-Carb, 33095 Bainbridge Rd., Cleveland, Ohio 44139, (216) 248-1223. An approved equal may be used, with the approval of the Engineer. The application shall be in accordance with the Manufacturer's recommendations.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF STRUCTURE, AS PER PLAN :

This item shall consist of furnishing all necessary labor, materials, and equipment to raise or reposition any existing structures to the dimensions and requirements defined in the project plans.

The Contractor shall be responsible for the design, installation and operation of an adequate jacking system, including any temporary or permanent supports necessary to perform the work described in the project plans. Three (3) sets of jacking plans, which include the information described in this note, shall be submitted to the Director for approval at least thirty (30) days before actual work is to begin. The plans shall be prepared and stamped by a registered professional engineer.

Jacking submittals shall include at least the following:

1. The signature and number, or professional seal, of the registered professional engineer who prepared the submittal.
2. Calculations and analysis of the structure to determine and define the actual loading applied at the contractor's selected jacking points.
3. A drawing showing the physical and dimensional position of the jacks with respect to the structure including clearances and center of lift.
4. A schematic layout of jacks, check valves, pumps with 3 way retractor valve, pressure gages, flow control valves, etc. in accordance with manufacturer's recommendations. All jacks for each abutment or pier shall be connected together. All jacks at each abutment or pier shall be the same size.
5. Analysis and calculations of stresses induced or created in the structure and any temporary or permanent supports. Design calculations for any temporary or permanent supports.
6. Physical dimensions, materials, and fabrication details of any temporary or permanent supports. Horizontal and vertical movement restraint shall be provided.
7. A step by step procedure detailing all steps in the jacking operation.
8. Method of attachment to structural members. Welding to tension areas will not be permitted.

The entire system including jacks shall have 20% more capacity than required based on calculated loads.

For lifts greater than 25mm, jacks shall have locking nuts to positively lock and support the structure during the lift.

Jacks shall have a swivel load cap, a domed piston head or some other device to protect against the effects of side load on the jack.

Jacks alone shall not be used to support loads except during the actual jacking operation. Temporary supports, blocking or other methods approved by the Director shall be used.

Single acting rams with no over-travel protection system shall not be used.

Spare equipment shall be available on site for the required structure raising to proceed in the event of a breakdown. A list of spare equipment shall be provided to the Engineer.

At a minimum, a jacking operation shall lift all beams at any one abutment or pier simultaneously. The only exception is the situation where the work involves replacing or rehabilitating individual bearings; no permanent shimming is required and the height of the lift shall not exceed 6mm.

Maximum differential jacking height between any adjacent abutments or piers shall be 25mm or less.

If, during the jacking operations, cracking of the concrete superstructure, separation of the concrete deck from the steel stringers, or other damage to the structure is visually observed, the jacking operation shall immediately cease and approved supports shall be installed. The Contractor shall then analyze the damage and submit a method of correction to the Engineer for approval. All jacking operations must be completed and the superstructure in its permanent position before any concrete is placed for the deck or end diaphragms.

The Contractor shall demonstrate to the Engineer that the bridge bearings are fully seated between all contact areas. If full seating is not attained, suitable means of repair, subject to the approval of the Engineer, will be required at the Contractor's expense.

The jacking operation shall be directed by a Professional Engineer employed by the Contractor. Failure to have a Professional Engineer present shall be cause for ceasing jacking operations.

Any asphalt wedges at the approaches that are needed to maintain traffic, as directed by the Engineer, are included in this item for payment.

Payment shall be made at the lump sum price bid for Item 516 - Jacking and Temporary Support of Superstructure, As Per Plan and shall include all necessary tools, labor, equipment and materials necessary to complete this item of work.

ITEM 503 - UNCLASSIFIED EXCAVATION:

Any excavation, in addition to that required to remove portions of the existing structure, that is necessary to construct the new structure, is included in this item for payment.

HIGH PERFORMANCE CONCRETE SUPERSTRUCTURE (DECK):

Mix Design No. 4 of the Proposal Note using granulated iron blast furnace slag and micro-silica shall be used on this project. Concrete for the deck and diaphragms shall not be placed until all superstructure jacking and bearing items are complete.

NEOPRENE SHEETING:

Installation and material requirements of neoprene sheeting shall be as described in Std. Dwg. SICD-I-96M, Sheet No. 7 of 7, Neoprene Placement, except payment shall be included in Item 516 - Nylon Reinforced Neoprene Sheeting.

ITEM 518 - 150mm PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN:

Corrugated pipe used in abutment drainage shall be 150mm diameter plastic corrugated as per, AASHTO M294, Type SP.

ITEM 518 - 150mm NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN:

Corrugated pipe used in abutment drainage shall be 150mm diameter plastic corrugated as per, AASHTO M294, Type S. This item shall include all elbows, tees and end caps required to complete the abutment drainage system.

ITEM 815 - FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU:

Removal and placement of the concrete deck will be completed prior to painting the structural steel using system OZEU, except for the area of the existing steel beams to be encased in concrete, which shall be cleaned and have a prime coat only.

If the new coat is damaged by any construction operations, it shall be repaired by the Contractor, as directed by the Engineer, at no additional cost to the State.

ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE): 290mm x 225mm x 50mm LAMINATED ELASOMERIC PAD and 350mm x 255mm x 60mm STEEL LOAD PLATE, AS PER PLAN :

Materials for the steel shim plates shall be the same as the steel load plate. No more than two (2) variable thickness steel shims shall be used per location.

Payment for materials, labor and installation of the steel shim plates shall be included with the elastomeric bearings for payment.

GENERAL NOTES
BRIDGE NO. JEF-164-09640
over YELLOW CREEK

JEF-164-9.626

3/12

14
23

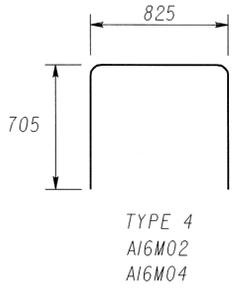
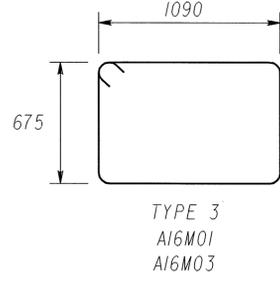
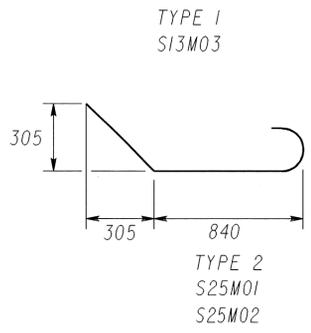
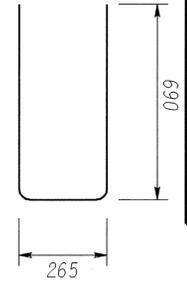
DESIGN AGENCY
O.D.O.T.
DISTRICT II
PRODUCTION DEPARTMENT

DATE
11-7-97
REVIEWED
DFT
STRUCTURE FILE NUMBER
4103068

DRAWN
JPB
REVISOR
JPB
CHECKED
SAL

BRIDGE SUMMARY (* SEE PROPOSAL NOTE)					As Per Plan Sht. No.
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 6 METER SPAN, AS PER PLAN	2/12
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING	
503	21300	LUMP		UNCLASSIFIED EXCAVATION	
SPECIAL	51148000	180	CU METER	HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (DECK) *	
SPECIAL	51149000	LUMP		HIGH PERFORMANCE CONCRETE, TRIAL MIX *	
SPECIAL	51149010	LUMP		HIGH PERFORMANCE CONCRETE TESTING *	
SPECIAL	51267510	225	SQ METER	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) *	
513	20000	1650	EACH	WELDED STUD SHEAR CONNECTOR	
516	13900	3	SQ METER	51 MM PREFORMED EXPANSION JOINT FILLER	
516	25000	27	SQ METER	NYLON REINFORCED NEOPRENE SHEETING	
516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE); 290mm x 225mm x 50mm LAMINATED ELASTOMERIC PAD and 350mm x 255mm x 60mm STEEL LOAD PLATE, AS PER PLAN *	
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	3/12
517	76300	102.87	METER	RAILING, MISC.: DEEP BEAM RAIL WITH TUBULAR BACKUP AND HANDRAIL, INCLUDING STEEL POSTS, BOLTS AND ACCESSORIES *	
518	21200	33	CU METER	POROUS BACKFILL WITH FILTER FABRIC	
518	40001	37	METER	150 MM PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN	3/12
518	40011	12	METER	150 MM NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	3/12
519	11101	5	SQ METER	PATCHING CONCRETE STRUCTURE, AS PER PLAN	3/12
602	20000	12	CU METER	CONCRETE MASONRY	
815	00050	865	SQ METER	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU	
815	00056	865	SQ METER	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU	
815	00060	815	SQ METER	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU	
815	00066	815	SQ METER	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU	
815	00504	50	MAN HOUR	GRINDING FINS, TEARS, SLIVERS	
SPECIAL	85050070	546	SQ METER	BRIDGE DECK GROOVING *	

EPOXY COATED REINFORCING STEEL LIST						
MARK	NUMBER			LENGTH	TYPE	CONN.
	PHASE 1	PHASE 2	TOTAL			
SUPERSTRUCTURE :						
SI3M01	80	76	156	12 000	Str.	
SI3M02	20	19	39	3500	Str.	
SI3M03	153	153	306	1565	Type 1	
SI6M01	---	584	584	5525	Str.	Female
SI6M02	---	14	14	Varies from 2885 to 5525 by 440	Str.	
SI6M03	---	10	10	2400	Str.	
SI6M04	---	24	24	Varies from 440 to 5280 by 440	Str.	Female
SI6M05	584	---	584	5525	Str.	Male
SI6M06	14	---	14	Varies from 2885 to 5525 by 440	Str.	
SI6M07	10	---	10	2400	Str.	
SI6M08	24	---	24	Varies from 440 to 5280 by 440	Str.	Male
SI6M09	84	84	168	12 000	Str.	
SI6M10	---	4	4	5880	Str.	Female
SI6M11	4	---	4	5880	Str.	Male
SI6M12	21	21	42	4400	Str.	
SI9M11	38	38	76	7400	Str.	
A25M01	13	13	26	5880	Str.	Female
A25M02	13	13	26	5880	Str.	Male
AI6M01	15	15	30	3410	Type 3	
AI6M02	15	15	30	2155	Type 4	
AI6M03	15	15	30	3410	Type 3	
AI6M04	15	15	30	2155	Type 4	
S25M01	13	13	26	1600	Type 2	
S25M02	13	13	26	1600	Type 2	



Note : The length of the reinforcing steel bars shown in the table includes the mechanical connectors

Elevations are for the proposed deck surface prior to placement of deck concrete. Allowances have been made for anticipated deflection of beams.

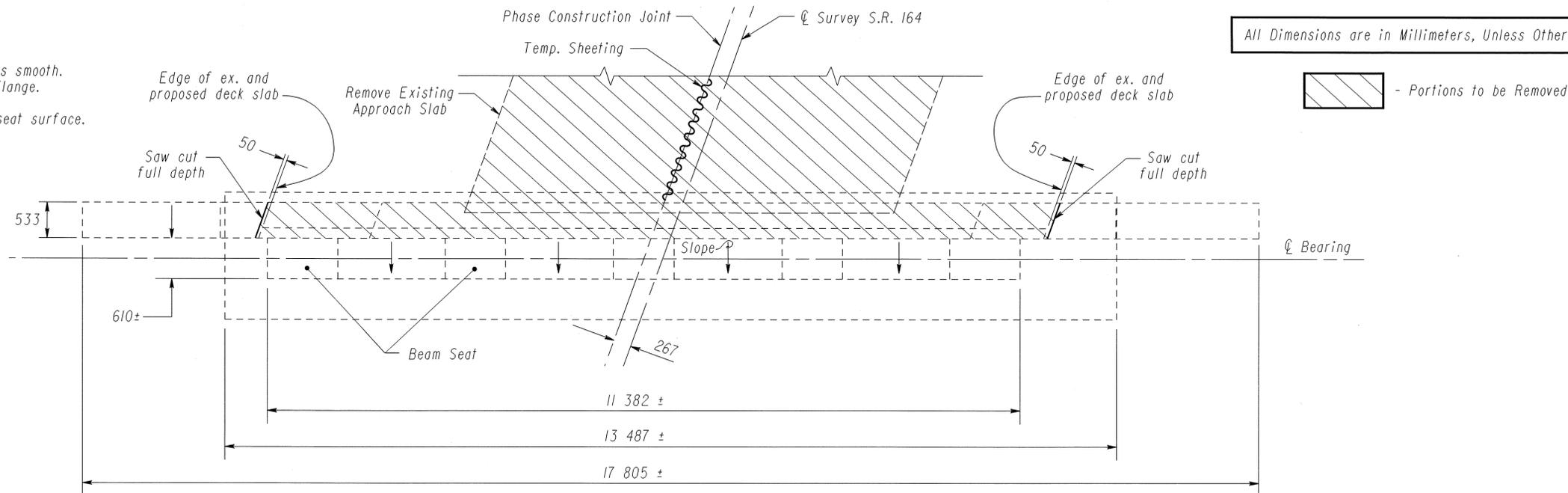
DECK SCREED ELEVATIONS								
	Left Deck Edge	Beam 1	Beam 2	Beam 3	℄ Survey S.R. 164	Beam 4	Beam 5	Right Deck Edge
℄ Rear Bearing	265.779	265.791	265.830	265.868	265.872	265.838	265.800	265.787
1/4 Point	265.808	265.820	265.859	265.897	265.901	265.867	265.829	265.816
1/2 Point	265.832	265.844	265.883	265.921	265.925	265.891	265.853	265.840
3/4 Point	265.854	265.866	265.905	265.943	265.947	265.913	265.875	265.862
℄ Rear Pier	265.876	265.888	265.927	265.965	265.969	265.935	265.897	265.884
1/4 Point	265.909	265.921	265.959	265.998	266.002	265.968	265.930	265.917
1/2 Point	265.942	265.954	265.993	266.031	266.035	266.001	265.963	265.950
3/4 Point	265.970	265.982	266.021	266.059	266.063	266.029	265.991	265.978
℄ Fwd. Pier	265.997	266.009	266.048	266.086	266.090	266.056	266.018	266.005
1/4 Point	266.023	266.035	266.074	266.112	266.116	266.082	266.044	266.031
1/2 Point	266.050	266.062	266.101	266.139	266.143	266.109	266.071	266.058
3/4 Point	266.075	266.087	266.126	266.164	266.168	266.134	266.096	266.084
℄ Fwd. Bearing	266.094	266.106	266.145	266.183	266.187	266.153	266.115	266.102

DESIGN AGENCY: O.D.O.T. DISTRICT II
 PRODUCTION DEPARTMENT
 DATE: 11-7-97
 REVIEWED: DFT
 STRUCTURE FILE NUMBER: 4103068
 DRAWN: JPB
 REVISIONS:
 DESIGNED: JPB
 CHECKED: SAL
GENERAL SUMMARY and MISC. DETAILS
 BRIDGE JEF-164-09640
 over YELLOW CREEK
JEF-164-9.626
 4 / 12
 15
 23

NOTES:

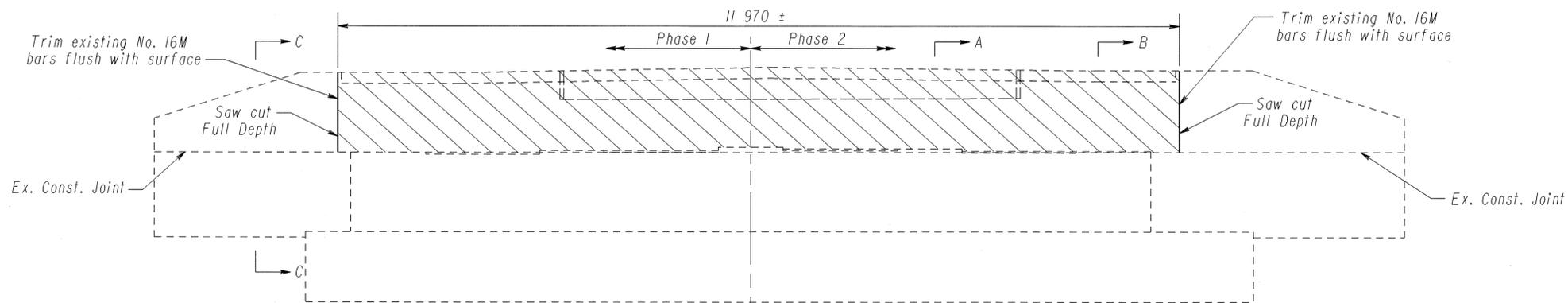
- 1.) Remove existing bearings and grind flanges smooth. Grind load plate welds smooth with beam flange.
- 2.) Cut bearing anchor rods flush with beam seat surface.

All Dimensions are in Millimeters, Unless Otherwise Noted.

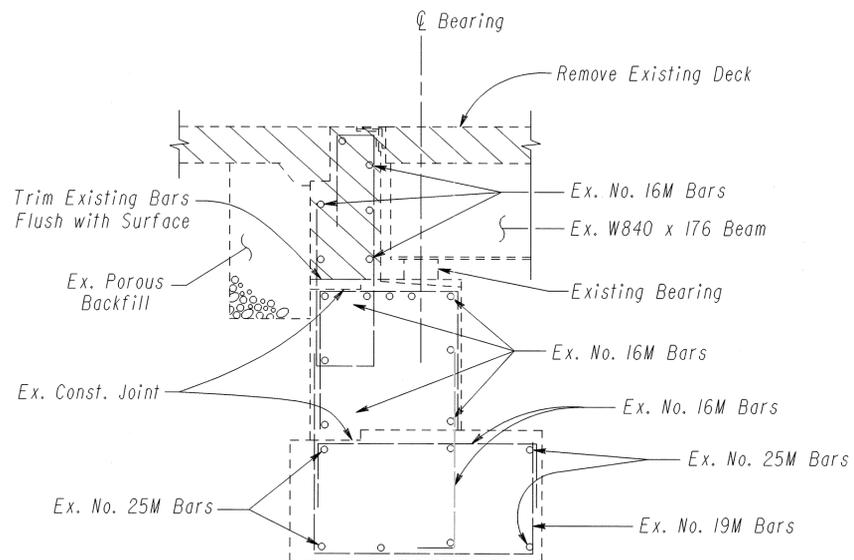


PLAN

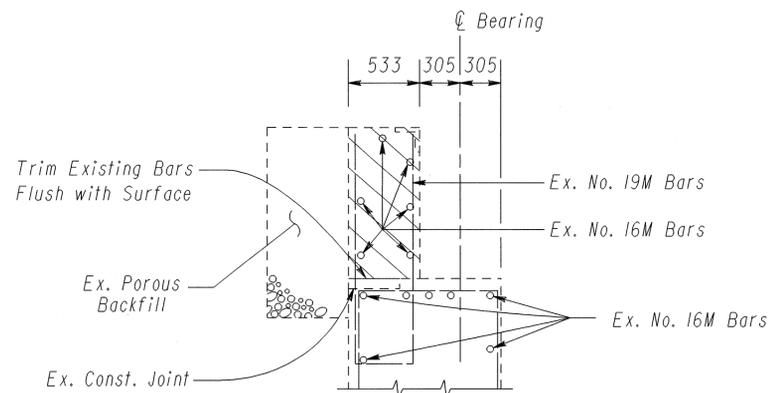
Forward and Rear Abutments Similar



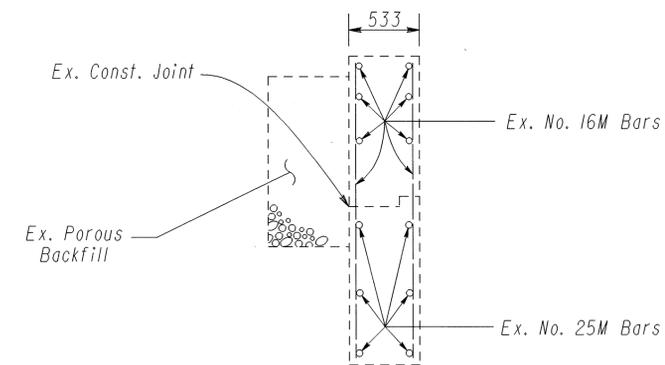
ELEVATION



SECTION A-A



SECTION B-B



SECTION C-C

DESIGN AGENCY
O.D.O.T.
DISTRICT II
PRODUCTION DEPARTMENT

DESIGNED	DATE
JPB	11-7-97
CHECKED	REVIEWED
SAL	DFT
	STRUCTURE FILE NUMBER
	4103068

ABUTMENT REMOVAL DETAILS
BRIDGE NO. JEF-164-09640
over YELLOW CREEK

JEF-164-9.626

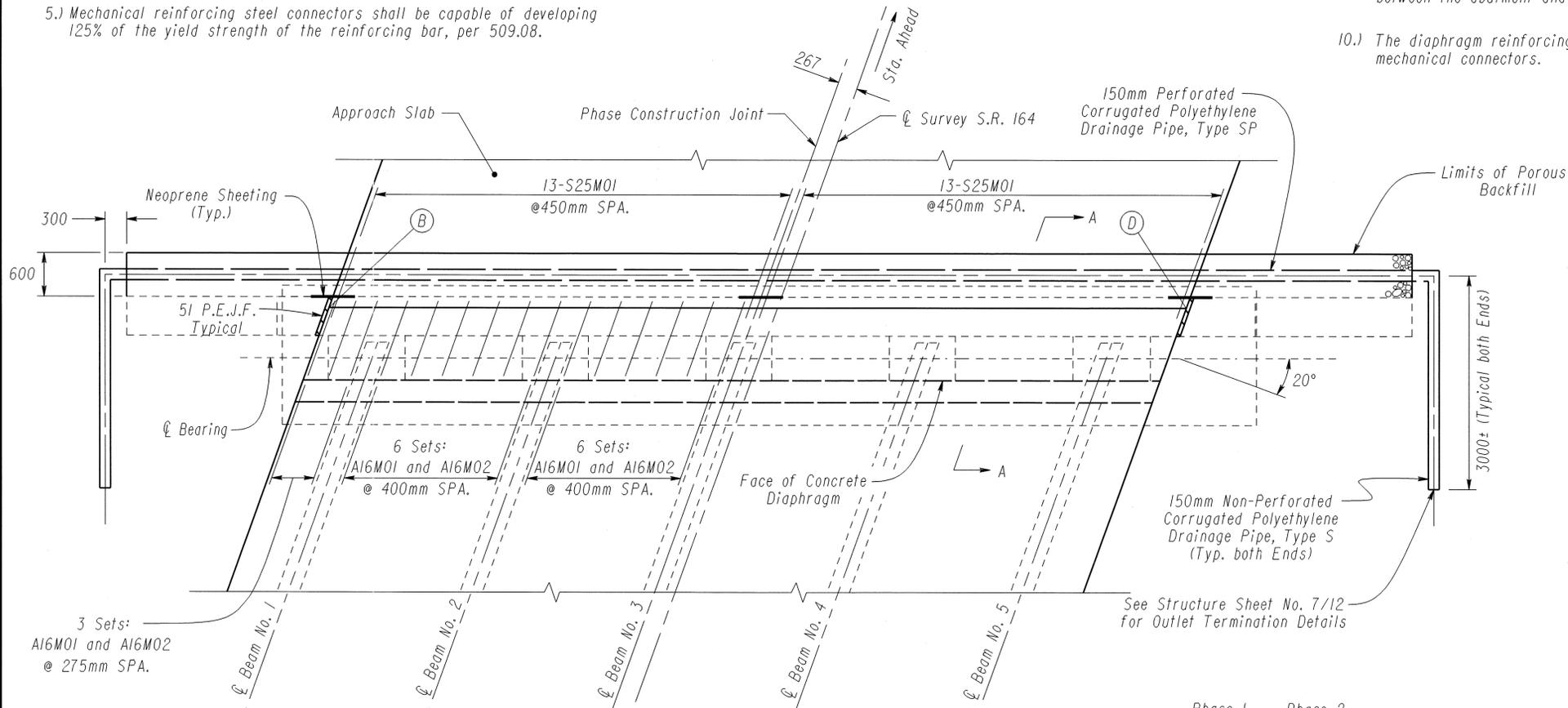
5/12

16
23

NOTES:

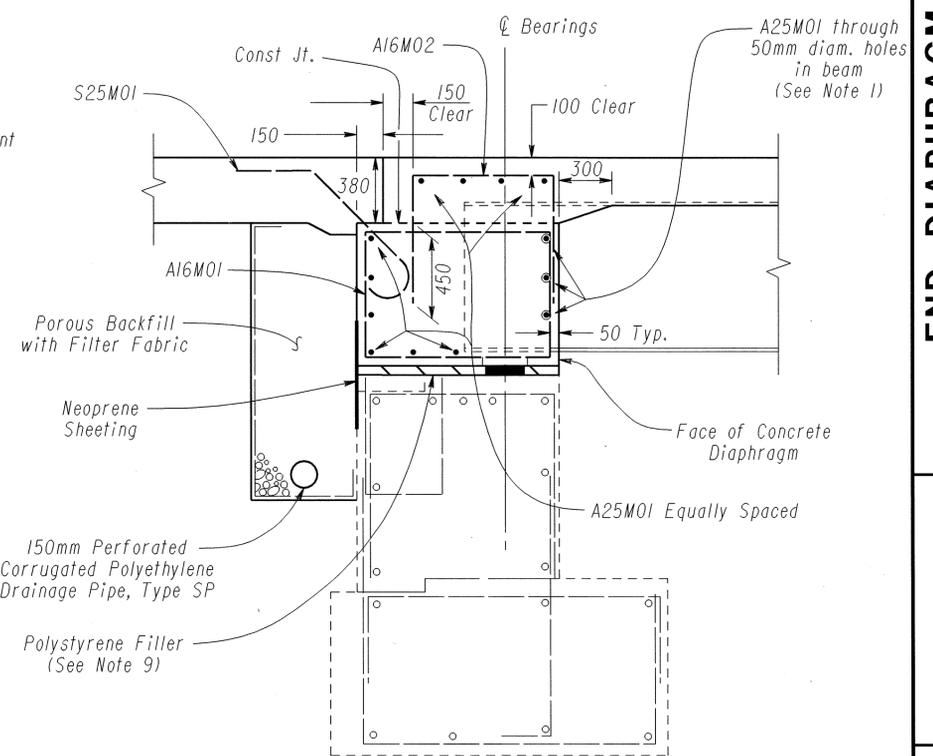
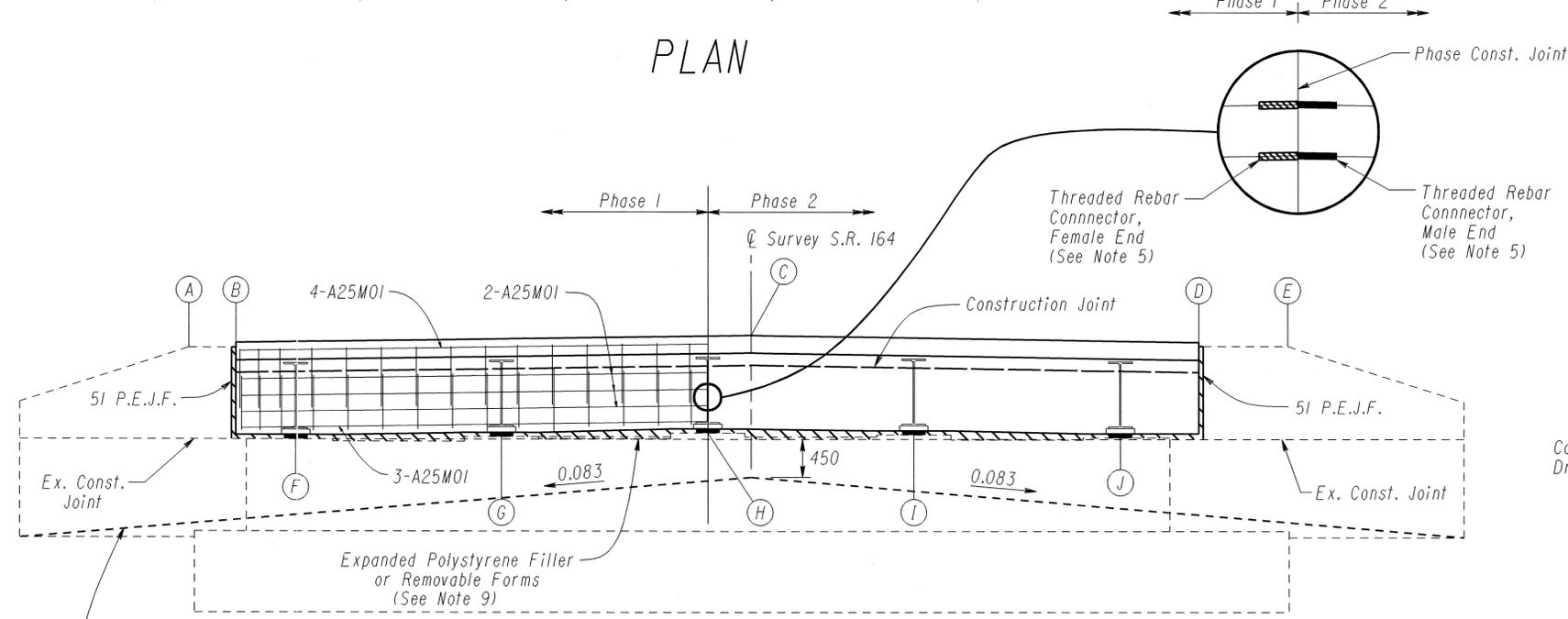
- 1.) For 50mm diameter hole locations, See Structure Sheet No. 8/12.
- 2.) For Reinforcing Steel List, See Structure Sheet No. 4/12.
- 3.) Deck slab rebar in the Plan view are not shown for clarity.
- 4.) Spacing for rebar A16M01, A16M02, A16M03, and A16M04 are measured perpendicular to the ϕ of the roadway.
- 5.) Mechanical reinforcing steel connectors shall be capable of developing 125% of the yield strength of the reinforcing bar, per 509.08.
- 6.) For details of the reinforced concrete approach slab, see Std. Dwg. AS-1-81M.
- 7.) Diaphragm concrete encasing the structural member sections supported in the semi-integral and integral type abutments shall be placed at least 48 hours before the actual deck concrete is placed.

- 8.) Porous backfill with filter fabric shall extend up to the plane of the subgrade to 300mm below the embankment surface and laterally to the ends of the wingwalls. Geotextile fabric shall conform with 712.09, Type A. The fabric shall cover the vertical face between the porous backfill and the excavation, the bottom surface of the excavation and 150mm vertical upturn between the porous backfill and the concrete back wall. The bottom of the porous backfill shall be sloped (0.083 minimum) laterally to drain. The geotextile fabric is included with the porous backfill for payment.
- 9.) Expanded polystyrene filler or removable forms shall be used in forming to provide the clearance required between the abutment and superstructure and shall be included with the superstructure concrete for payment.
- 10.) The diaphragm reinforcing steel details are symmetrical about the phase construction line, except for the mechanical connectors.



All Dimensions are in Millimeters, Unless otherwise Noted.

Point	Station	Elevation
TOP OF WINGWALL	A	266.036
EDGE OF DECK AT WINGWALL	B	266.081
STA. 9+682.956	C	266.188
EDGE OF DECK AT WINGWALL	D	266.115
TOP OF WINGWALL	E	266.054
BEAM SEAT	F	264.897
	G	264.926
	H	264.972
	I	264.949
	J	264.914

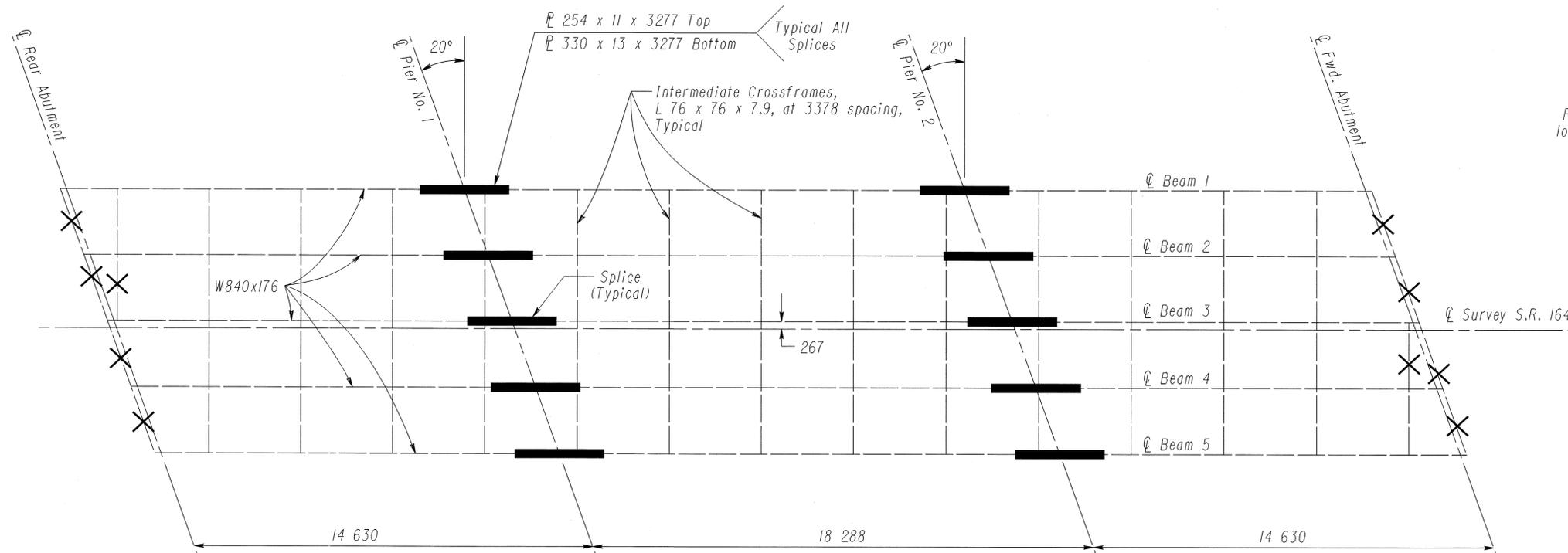


Notes :

1) Welded attachments of supports for the concrete deck finishing machine can 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 25mm to the edge of the flange, be not more than 50mm long, and be not smaller than the minimum size required by AASHTO.

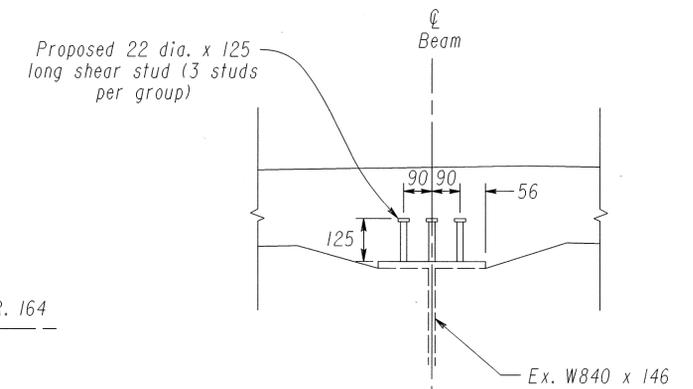
2) When removing existing end and intermediate cross frames, care shall be taken not to gouge or otherwise damage the existing steel beams. Cross frames to be completely removed shall have welds ground smooth with the web. Payment included with Item 202, Portions of Structure Removed, As Per Plan.

3) 50mm dia. holes in beam web are paid under Item 202 Portions of Structure Removed, over 6m Span, as per plan.

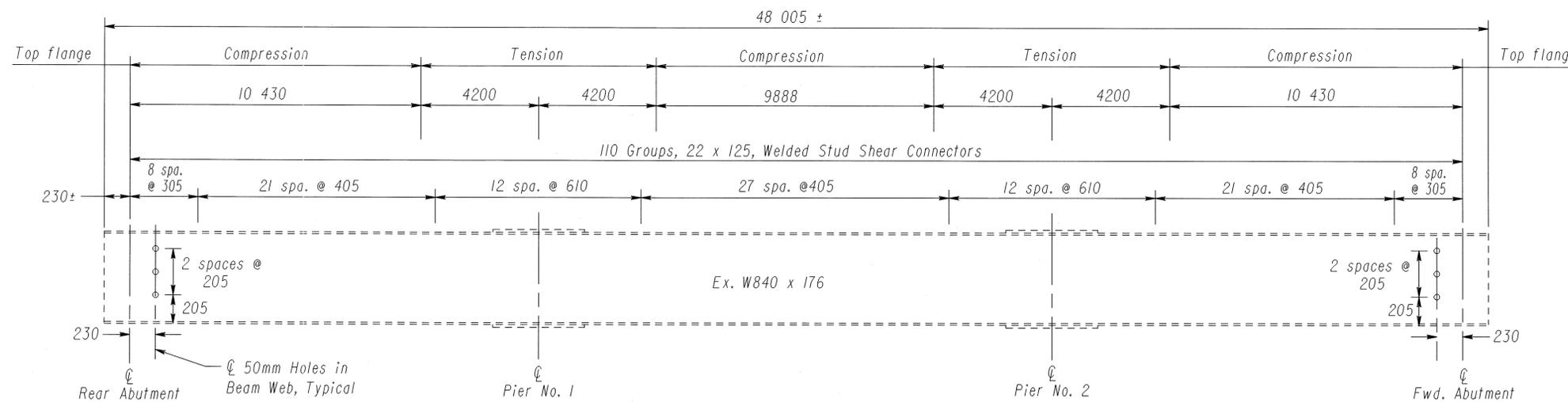


EXISTING FRAMING PLAN

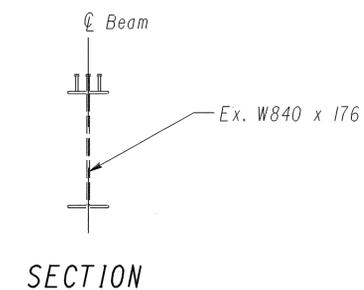
X - Indicates removal of existing crossframe



SHEAR CONNECTOR DETAIL



EXISTING BEAM ELEVATION



SECTION

All Dimensions are in Millimeters, Unless otherwise Noted.

DESIGN AGENCY
O.D.O.T.
DISTRICT II
PRODUCTION DEPARTMENT

DATE
11-7-97
REVIEWED
DFT
STRUCTURE FILE NUMBER
4103068

DRAWN
JPB
DESIGNED
JPB
CHECKED
SAL

EXISTING STEEL FRAMING PLAN
BRIDGE NO. JEF-164-09640
over YELLOW CREEK

JEF-164-9.626

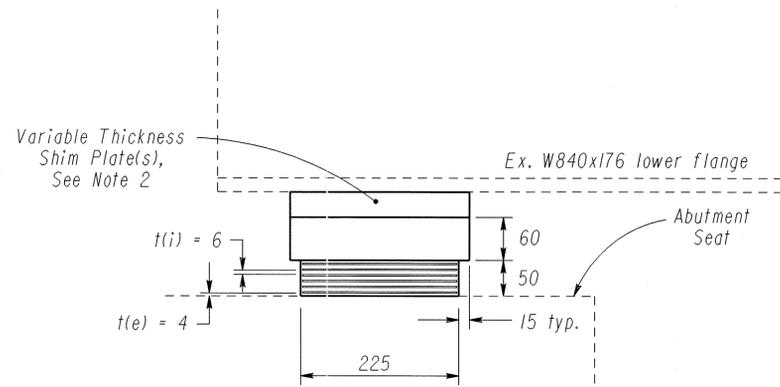
8/12

19
23

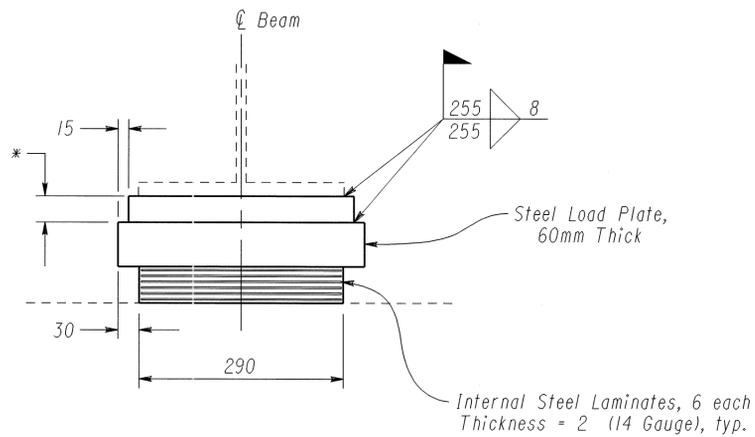
ELASTOMERIC PAD NOTES :

- 1.) 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.
- 2.) The Contractor shall use no more than 2 shim plates per bearing location. The cost of shims and installation shall be included in the unit price bid for the bearings, each.
- 3.) $t(i)$ = Thickness of internal layer
- 4.) $t(e)$ = Thickness of external layer

5.) Elastomeric Bearings shall comply with item 516 and Articles 18.2.5 through 18.2.8 of Section 18, Bearing Devices, Division II, Construction of the AASHTO Standard Specification 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 unit price bid for the bearings, each.

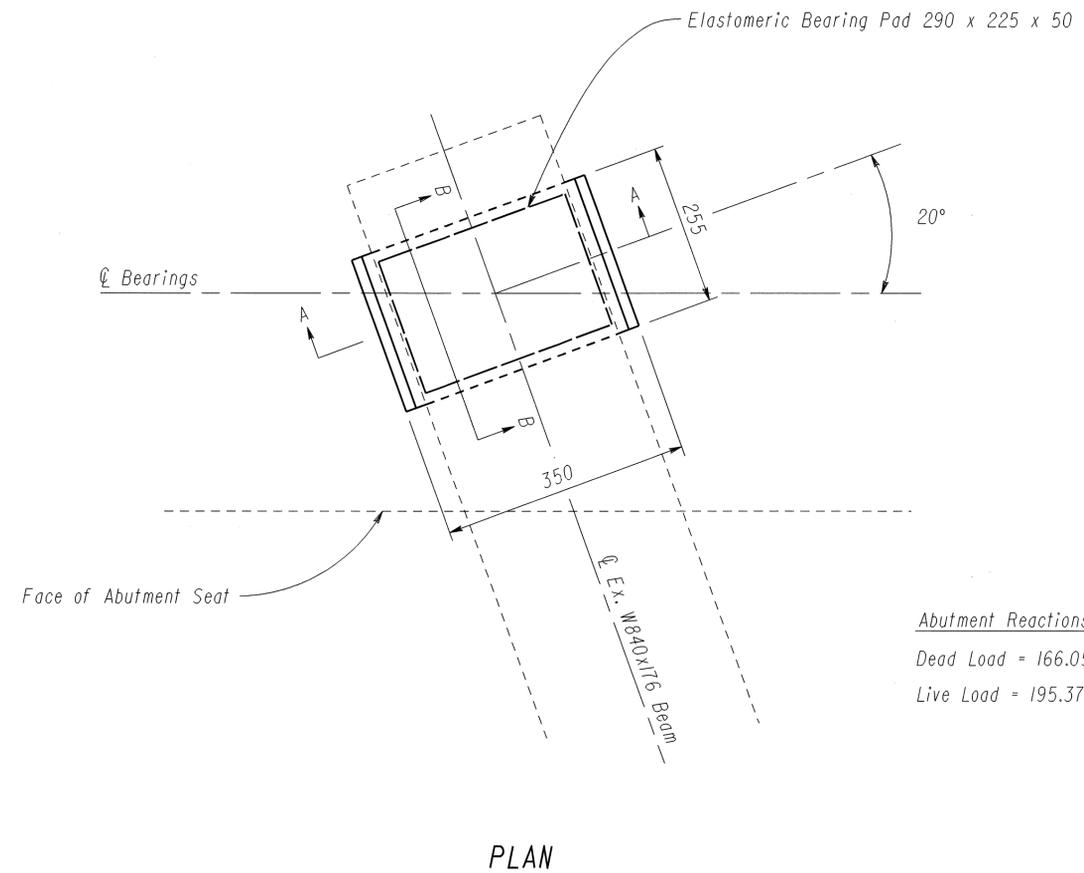


SECTION B-B



SECTION A-A

* - This dimension shall be determined by the Contractor for each beam taking into account any shims that are present and correcting floating beams as necessary to provide a snug fit.



PLAN

ELASTOMERIC BEARING DETAILS

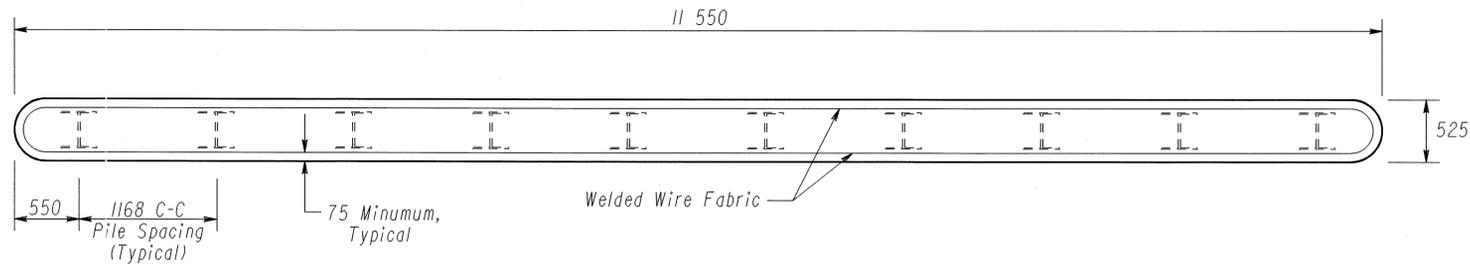
Abutment Reactions :
 Dead Load = 166.05 kN
 Live Load = 195.37 kN

All Dimensions are in Millimeters, Unless otherwise Noted.

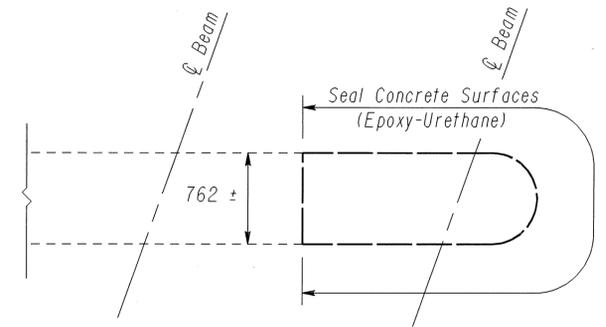
DESIGN AGENCY O.D.O.T. DISTRICT II PRODUCTION DEPARTMENT	REVIEWED DFT DATE 11-7-97	STRUCTURE FILE NUMBER 4103068
DESIGNED JPB	DRAWN JPB	CHECKED SAL
ELASTOMERIC BEARING DETAILS		
BRIDGE NO. JEF-164-09640 over YELLOW CREEK		
JEF-164-9.626		
10/12		
21 23		

NOTES :

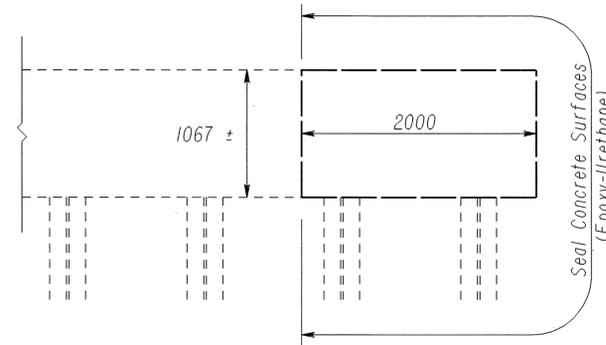
- 1.) Forms for encasement shall be subject to the Engineers approval.
- 2.) The finish elevation for the encasement shall be uniform.
- 3.) Concrete for encasement shall be Class C.
- 4.) Use welded wire fabric 6x6-W4/W4 (English) to reinforce the concrete between piles and around the nose of the pier protection. The welded wire fabric shall be galvanized or comparable. Welded wire fabric shall be include in the unit price bid for Item 602 - Concrete Masonry.
- 5.) H-piles for the rear pier shall be surface prepared using hand tools and then prime coated, to the Engineers satisfaction, prior to placement of the concrete encasement. The remainder of the H-pile shall be cleaned, primed and painted using System OZEU.
- 6.) H-piles for the forward pier shall be cleaned, primed and painted using System OZEU. Painting limits shall be the bottom of pier cap to 1.0m below the existing ground surface, or as directed by the Engineer. Any excavation shall be included in the lump sum bid for Item 503-Unclassified Excavation.
- 7.) Any use of cofferdams, cribs or sheeting for forming the concrete encasement shall be included in the lump sum bid for Item - 503 Cofferdams, Cribs and Sheeting.



SECTION A-A



PLAN

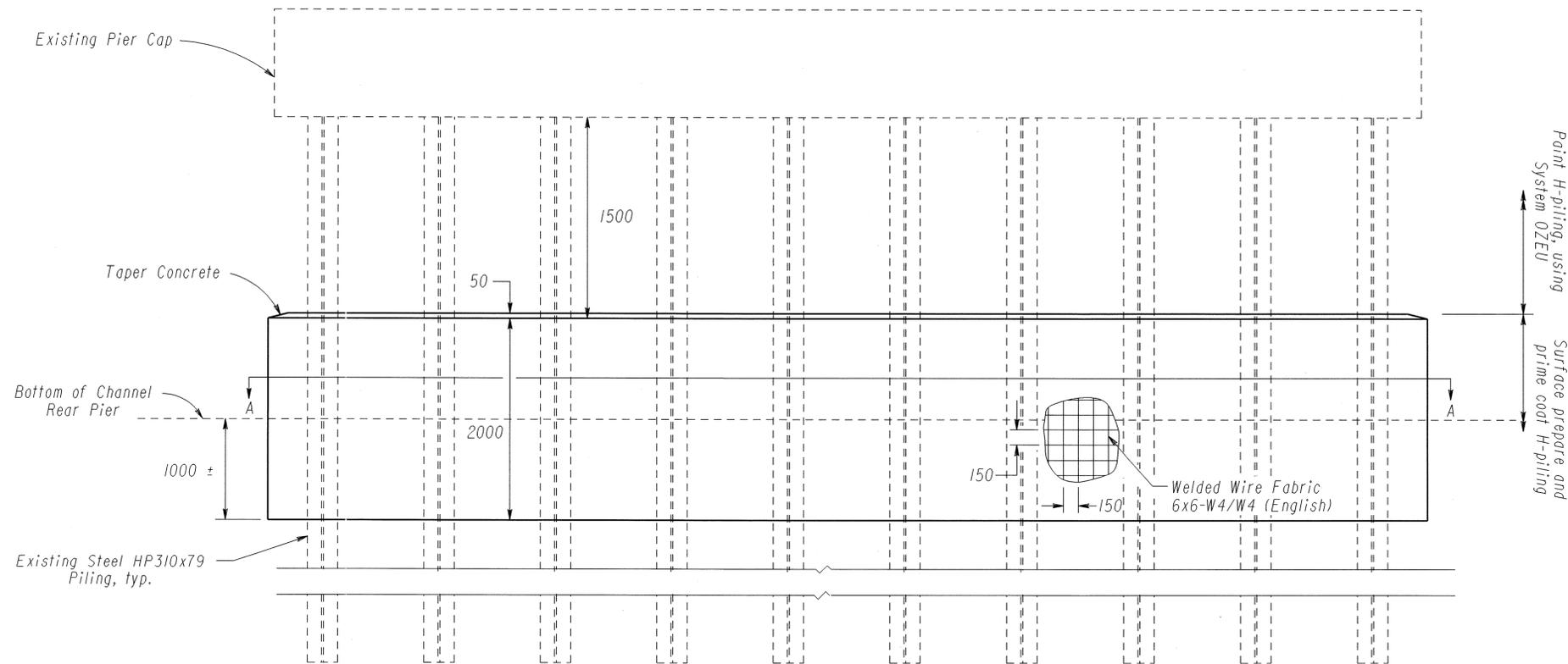


ELEVATION

PIER CAP DETAIL

FORWARD & REAR PIERS

(Typical both Ends)



ELEVATION

REAR PIER

All Dimensions are in Millimeters, Unless otherwise Noted.

PIER PROTECTION DETAILS

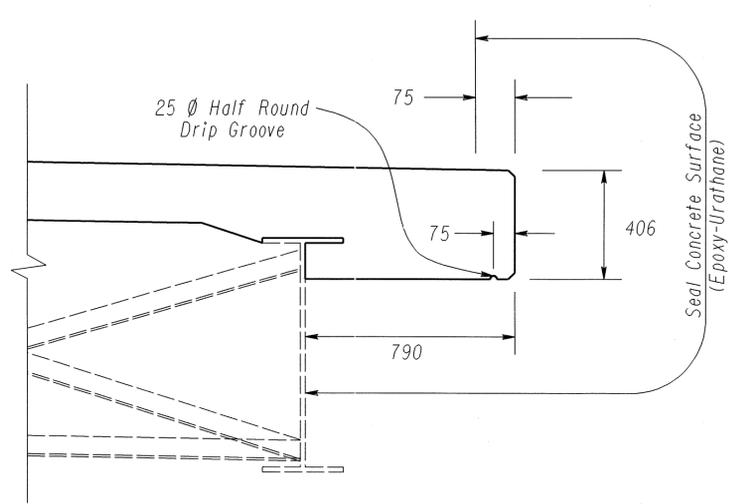
BRIDGE No. JEF-164-09640
over YELLOW CREEK

JEF-164-9.626

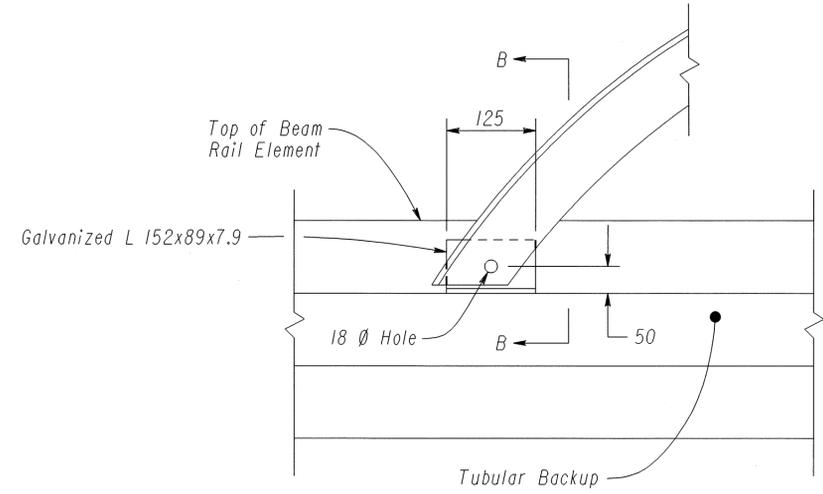
11/12

22
23

DESIGNED	JPB	CHECKED	SAL
DRAWN	JPB	REVISD	
REVIEWED	DFT	STRUCTURE FILE NUMBER	4103068
DATE	11-7-97		
DESIGN AGENCY	O.D.O.T.	DISTRICT	II
		PRODUCTION	DEPARTMENT



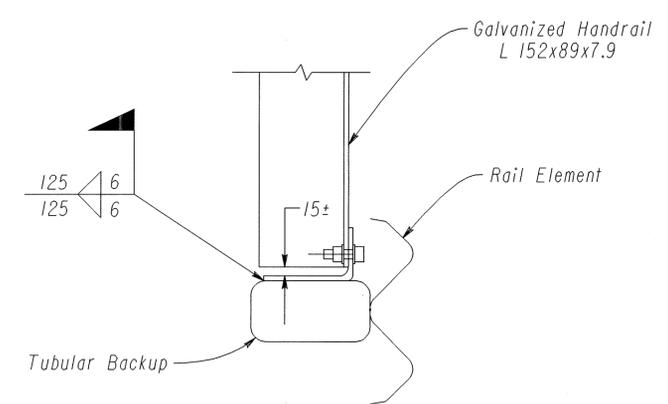
TYPICAL DECK EDGE DETAIL



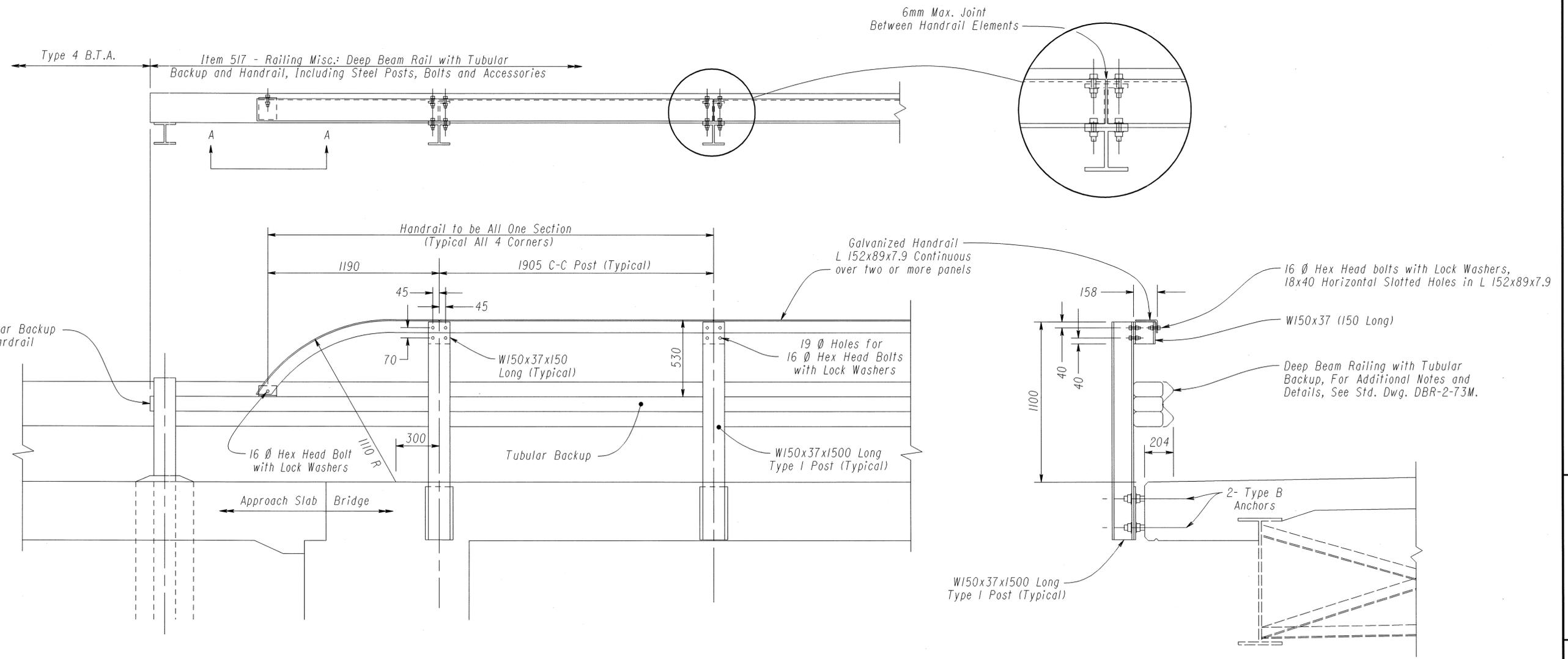
VIEW A-A
TYPICAL HANDRAIL CONNECTION
TO TUBULAR BACKUP

HANDRAIL NOTES :

- 1.) All handrail, bridge rail, bolts, nuts, and washers shall be in accordance with ASTM A123 or ASTM A153 except as otherwise noted on Std. Dwg. DBR-2-73M. All provisions of Std. Dwg. DBR-2-73M apply except as shown on this detail sheet.
- 2.) Joints in handrail shall be at centerline of posts.



SECTION B-B



HANDRAILING END DETAIL

TYPICAL SECTION

All Dimensions are in Millimeters, Unless otherwise Noted.

DESIGNED	JPB	CHECKED	SAL
DRAWN	JPB	REVIEWED	DFT
DATE	11-7-97	STRUCTURE FILE NUMBER	4103068
DESIGN AGENCY	O.D.O.T.		
DISTRICT	II		
PRODUCTION DEPARTMENT			
MISCELLANEOUS DETAILS			
BRIDGE NO. JEF-164-09640 over YELLOW CREEK			
JEF-164-9.626			
12/12			
23 23			