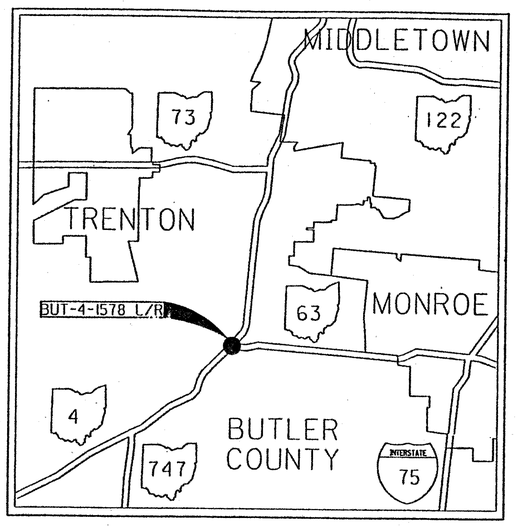
08C0344

BUT-SR 4-15.78
960127
20PGS
02-28-96



LOCATION MAP

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

BUT-4-15.78

LEMON TOWNSHIP

BUTLER COUNTY

PROJECT DESCRIPTION

REPAIR AND UPGRADE OF BRIDGE NOS. BUT-4-1578 L/R BY REFURBISHING BEARINGS, RETROFITTING RAILING TO DEFLECTOR TYPE RAILING, AND RESURFACING DECKS OF BOTH BRIDGES WITH MICRO-SILICA CONCRETE.

1995 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

INDEX OF SHEETS:

FEDERAL PROJECT NO.

PID NO. 14088

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

BUT-4-15.78

1/20

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:

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 8
BRIDGE DEPARTMENT

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	2-21-92	MT-95.30	10-10-88
EXJ-4-87	1-5-89	MT-98.14	8-25-89
GR-1.1	5-6-91	MT-99.10	11-14-86
GR-1.2	10-30-92	TC-35.10	8-29-84
GR-1.3	2-21-92		
GR-2.1	5-6-91		
GR-3.1	5-6-91		

SUPPLEMENTAL SPECIFICATIONS

802 3-23-95

APPROVED Gary M. Klaus
DATE 10-27-95 DISTRICT DEPUTY DIRECTOR

APPROVED Brad Fagrell
DATE 11-22-95 ADMINISTRATOR OF STRUCTURAL ENGINEERING

APPROVED Randall Howard
DATE 11-22-95

APPROVED
DATE 11/22/95 DIRECTOR, DEPARTMENT OF TRANSPORTATION

$$$$DATE$$$$
$$$$$$$$$$$$DGNSPEC$$$$$$$$$$$$$$

REFERENCE: shall be made to Standard Drawings:

GR-1.1	5-6-91	MT-95.30	10-10-88
GR-1.2	10-30-92	MT-98.14	8-25-89
GR-1.3	2-21-92	MT-99.10	11-14-86
GR-2.1	5-6-91	BP-3.1	2-21-92
GR-3.1	5-6-91	EXJ-4-87	1-5-89
		TC-35.10	8-29-84

and to Supplemental Specifications:

852	7-30-93
862	12-16-88
962	1-23-90

PROPOSED WORK:

BUT-4-1578L/R

1) Implement Phase I maintenance of traffic.
2) Jack structure, refurbish existing abutment bearings.
3) Remove existing bridge terminal assemblies, aluminum railing and portions of bulb angles, curb plates and concrete as necessary to perform wingwall and parapet rehab.
4) Relocate expansion joints and modify wingwalls.
5) Face railing with high performance concrete.
6) Perform scupper modification.
7) Place new micro-silica concrete overlay and repair backwalls.
8) Patch unsound areas of concrete and seal concrete surfaces.
9) Install new bridge terminal assemblies.
10) Place approach asphalt.
11) Implement Phase II maintenance of traffic and perform 2-10.

EXISTING STRUCTURE VERIFICATION: Details and dimensions shown on these plans pertaining to the existing structures have been obtained from plans of the existing structures and from field observations and measurements. Consequently, they are indicative of the existing structures and the proposed work but they shall be considered tenative and approximate. The Contractor is referred to CMS Sections 102.05 and 105.02. Contract bid prices shall be based upon a recognition of the uncertainties described above and upon a prebid examination of the existing structures 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. Plans of the existing bridges are available for reference at the District 8 Office of the Ohio Department of Transportation, Lebanon, Ohio.

BRIDGE IDENTIFICATION SIGN:

The existing bridge identification signs shall be carefully removed prior to beginning demolition work and shall be salvaged for reuse. After completion of the proposed stucture, the signs shall be installed on top of the right rear wingwall with drilled concrete anchors. Payment for all work required to complete this item will be included in Item 517 - Railing Faced, As Per Plan

BARRIER REFLECTORS, TYPE A:
BARRIER REFLECTORS, TYPE B:

These reflectors and their mounting shall conform to Supplemental Specification 802. Type A reflectors shall be used on terminal assemblies (1 each assembly). Type B reflectors shall be spaced at 50 feet.

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 Contractor's 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. An allowance of 50 pounds is included in Item 509 for this purpose.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE:

This item shall include all work necessary to jack and adequately support the existing superstructure.

The Contractor shall be responsible for the design, installation and operation of an adequate jacking system, including any temporary or permanent supports, to perform the work described in the project plans. Three (3) sets of jacking and support plans, procedures and loading calculations, performed and stamped by a registered professional engineer, shall be submitted for approval at least thirty (30) days before actual work is to begin. Submittals shall include at least the following:

Physical dimensions and capacity of the jacking systems along with the actual positions, including dimensions, defining where the jacking systems will be physically located on the structure to perform the required lifts.

Physical dimensions, materials, fabrication details and design calculations for any temporary or permanent supports along with actual details of their installed locations on the structure. Horizontal movement restraints shall be designed and detailed. Lateral and longitudinal design loads and supporting design calculations shall be included.

A jacking plan sheet layout, with adequate details to show all jacking points, calculated loadings at those points, locations of jacking equipment and temporary or permanent supports shall be included in the submittal. Any phased construction, special traffic requirements, clearance requirements, railroad details or special construction details that affect the jacking operation and any other details the Contractor deems necessary to adequately visually describe the jacking operation shall also be included in the jacking plan sheet.

The plan sheet shall include a step by step jacking procedure detailing all steps in the operation including the required work described in the project plans.

Jacking operations are limited to a maximum jacking height of ◇ inch. Maximum differential jacking height between any adjacent beams shall be limited to 1/4".

This item will be completed prior to placing concrete for the superstructure. All labor, tools equipment, materials and incidentals necessary to complete this work are included under Item 516, Lump Sum, Jacking and Temporary Support of Superstructure.

ITEM SPECIAL - PATCHING CONCRETE STRUCTURE WITH TROWELABLE MORTAR:
This item is to be used to patch areas of deteriorated concrete at the following locations:

BUT-4-1578L

1) Underside of deck	40 s.f.
2) Rear and Fwd. Abutment	50 s.f.

BUT-4-1578R

1) Underside of deck	35 s.f.
2) Rear and Fwd. Abutment	50 s.f.
Total	175 s.f.

Other areas of deteriorated concrete may be included at the direction of the Project Engineer. The Contractor shall make available to the Project Engineer safe means of marking deteriorated areas that are not readily accessible. Materials should not be ordered until the areas for repair have been marked.

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):
The color of the urethane coating shall be Federal Color Standard No. 37722 (White). The cost of cleaning and preparation of surfaces to be sealed shall be included in this item.

MICRO-SILICA CONCRETE OVERLAY (VARIABLE THICKNESS):
In addition to the quantity of variable thickness micro-silica concrete to be placed on both bridges, 6 cubic yards have been included to perform backwall repair. Included in payment for this item is removal of unsound concrete at the backwalls, equipment and labor necessary to complete this item.

STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN:
BUT-4-1578R:
This item is included for repair of the steel expansion joint on the south end of But-4-1578R where a 15" section of 1" x 2" edge bar was damaged by snow and ice removal equipment. Prior to installation of the new bar, the joint must be thoroughly cleaned of all foreign matter and all rough edges or protruding steel must be ground smooth. The new section shall be welded in place with all new welds ground smooth. Exact measurements of the replacement bar shall be taken in the field. Payment is on a linear foot basis and includes all material, labor and equipment necessary to complete the work.

(Notes continued on next sheet.)

DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
BJF	BJF	RLE	
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLM			

PLAN NOTES
BRIDGE NO. BUT-4-1578 L/R

BUT-4-1578L/R

GENERAL NOTES (CONT.)

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN:

This item includes all work necessary to properly align bridge abutment bearings as well as their cleaning and painting. Included shall be the disassembly of the bearings, hand tool cleaning (grinding if necessary), painting as required by System EEU, replacement of any damaged sheet lead (711.19), installation of any necessary steel shims of the same size as the bearings to provide a snug fit, realignment of the upper bearing plate by removing existing welds and rewelding so that the bearings are vertically aligned at 60 degrees F, lubricating sliding surfaces , and reassembly of the bearings. The Contractor shall be sure that all bearings are shimmed adequately and that no beams and/or bearing devices are "floating". At the option of the Contractor and at no additional cost to the State, new bearings, or bearing components, of the same type as the existing may be installed in lieu place of refurbishing the bearings. All work shall be to the satisfaction of the Engineer. Payment for all the above described labor and materials will be made at the contract price bid for Item 516 - Refurbish Bearing Devices, As Per Plan.

ITEM 517 - RAILING FACED, AS PER PLAN:

The contractor shall carefully remove the existing aluminum railing and stack neatly along the right-of-way for subsequent pick-up by state forces. The concrete safety curb and the remaining vertical leg of the bulb angle which protrudes above the scarified deck shall be removed. 1" dia. dowel holes, 6" deep (min.) shall be drilled at 15" c/c as shown in the plans. The holes shall be thoroughly cleaned of all dust and other deleterious material.

Care shall be taken not to cut or damage any existing reinforcing steel that is designated to be salvaged. Existing reinforcing steel to be salvaged shall be cleaned for reuse. Any damage caused by the removal operations shall be repaired to the satisfaction of the Engineer at the Contractor's expense. The maximum hammer size permitted on the concrete removal shall be 70 lbs. nominal. Hoe rams are not permitted.

Existing reinforcing steel that is to be preserved shall not be cut flush at all locations but shall be cut as indicated on the plans or as directed by the Engineer to serve as extensions or principal reinforcement in the faced railing. Care shall be taken to preserve the bond of such rebars or principal reinforcement in the existing concrete. These rebars shall be cleaned of all concrete fragments and foreign matter. Pneumatic hammers shall not be placed in direct contact with rebars. Hand tools shall be employed for final cleaning. Damaged reinforcement that is to remain shall be cut and the stress transfer shall be accomplished by either a lapped or mechanical splice. Any additional reinforcement or mechanical splices shall be provided by the Conctractor at no additional cost to the State. Other existing reinforcement within the removal limits shall be removed and disposed of.

Reinforcing steel shall be installed using epoxy grout per SS852 (CMS 705.20). All existing reinforcing steel bars in the area of the dowel hole shall be located with the aid of a reinforcing steel bar locator (pachometer) prior to drilling the holes. If an existing bar is encountered at the same location as a proposed dowel hole, the dowel hole shall be moved to either side of the existing bar. All reinforcing steel, dowel holes and grouting shall be included with this item 517 for payment.

All loose and unsound concrete in the area of the parapet to be faced shall be removed. All remaining sound concrete shall then be mechanically scarified ⅞" deep. The minimum thickness of the proposed facing shall be 4 inches. All reinforcing steel shall be epoxy coated as per 509. Epoxy coated reinforcing steel which is damaged due to cutting, bending or for any other reason shall be repaired as per 509. Concrete cover for all reinforcing steel shall be 2 inches. The concrete surfaces to be faced shall be thoroughly drenched with clean water and allowed to dry to a damp condition just before the concrete is placed. Use High Performance Concrete (mix #3) in accordance with the Proposal Note for facing on both the north and southbound bridge. All associated quantities will be included in Item 517, Railing Faced, As Per Plan.

Shrinkage control joints shall be placed in the new concrete at the same location as the existing deflection joints and shall be made at a right angle to the deck by sawing to match alignment of existing deflection joints. The saw cut shall be made in the complete circumference of the parapet, starting and ending at the elevation of the concrete deck. The depth of the sawcut shall be one inch. The sawing shall be done no more than 48 hours after the concrete placement. The use of an edge guide, fence or jig is required to ensure that the cut is straight, true and aligned on all faces of the parapet. The joint width shall be the width of the saw blade, not to exceed one-quarter of an inch. The sawcut shall be filled with a caulking material conforming to Federal Specification TT-S-00227E. The bottom one half inch of both the inside and outside faces of the parapet should be left unsealed to allow and water which may enter the joint to escape.

The quantity shall be the actual length of railing faced as measured from end of wingwall to end of wingwall. This item shall include the furnishing of all labor, equipment and materials necessary to complete this work. All costs of removal, dowel holes, reinforcing steel, concrete and shrinkage control joints complete and in place shall be included in the unit bid price for:

ITEM 517 LIN.FT. RAILING FACED, AS PER PLAN

ITEM 518 - SCUPPER MODIFICATION, AS PER PLAN:

This item of work shall consist of lengthening the scuppers at the bottoms and extending them at the surface of the deck in accordance with details shown in these plans. The actual length of each bottom extension depends on the deterioration of the existing downspout as determined by the Engineer.

The Contractor shall remove the deteriorated section by flame cutting and grinding the surface smooth to accomodate the new section. Joint connections shall be welded as required by 513.17. Galvanizing shall be in accordance with 711.02. Scuppers shall be cleaned, sandblasted and filled with deck overlay material in areas detailed.

Payment for the above work shall be included in the contract bid price for Item 518 - Scupper Modification, As Per Plan which includes all materials, labor, tools, and incidentals necessary to complete the item. See Sheet 19 for details.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN:

BUT-4-1578L/R:

This item shall include the cost of all labor, equipment and materials necessary to relocate expansion joints in the parapet railing and upgrade joints on the bridge deck. All concrete removal, steel grinding and trimming, reinforcing steel repair and/or replacement of steel and strip seal installation will be included.

Due to phase construction, a complete penetration butt weld will be necessary at the phase joints in the steel retainers.

See Sheet No. 17 for strip seal product information. The strip shall be continuous and installed in one piece.

MAINTENANCE OF TRAFFIC: It is the intention to perform the required work with the least inconvenience to, and maximum safety of the traveling public and Contractor. Any variance from these maintenance of traffic notes must be approved in advance in writing by the Director. The requirements for maintaining traffic as indicated in the current edition of the Ohio Manual of Uniform Traffic Control Devices for Street and Highways and pertinent items of the Specifications and Proposal shall apply. Before work begins the Contractor shall submit to the Engineer the names and telephone numbers of persons who can be contacted 24 hours a day by the Ohio Department of Transportation and all interested police agencies. These persons shall be responsible for repairing and/or adjusting the temporary traffic signals and for placing or replacing the necessary traffic control devices to maintain the traveled pavement safely. The work limits shown on these plans are for physical construction only. The installation and operation of all traffic control devices required shall be provided by the Contractor whether inside or outside of these work limits.

One lane of traffic shall be maintained at all times using existing and temporary pavement. No traffic will be diverted onto the existing paved shoulder. A minimum lane width of 10 ft. between edge lines shall be maintained at all times. The Temporary white and yellow edge lines shall be offset 1 ft. from any temporary drums, guardrail and edge of temporary pavement.

SEQUENCE OF OPERATION:

1.) Excavate and place 301 widening while maintaining traffic using flaggers.
2.) Install temporary traffic control devices for Phase I in accordance with plan drawings.
3.) Perform bridge repair for Phase I.
4.) Place temp. asphalt wedges at both approaches to the bridge.
5.) Rearrange and install temporary traffic control devices for Phase II.
6.) Perform Phase II bridge repairs.
7.) Place asphalt pavement.
8.) Remove temporary traffic control devices.
9.) Replace conflicting pavement markings that were removed prior.

The traffic control shall be as shown on Sheet Nos. 6, 7 and 8 and Std, Dwgs. MT-95.30 and MT-98.14. Included with this item is the removal and replacement of all existing pavement markings that will conflict with traffic movement during construction that are not itemized in the general summary.

In addition to the 301 base provided to beef-up the existing shoulder, Item 404, Bituminous Concrete for Maintaining Traffic, 20 c.y., is provided to be used at the direction of the Engineer.

Payment for this item shall include all work necessary to provide, erect, maintain and remove all signs, drums, barricades, cones, regulatory signs, temporary asphalt wedges, removal of temporary and conflicting existing pavement markings, layout and any other work that is necessary to implement the Phase I and II traffic control plan, unless separately itemized in the quantity summary.

DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

DESIGNED	DRAWN	REVISED	DATE
BJF	BJF	RLE	STRUCTURE FILE NUMBER
CHECKED	REVISED		
MLM			

PLAN NOTES CONT.
BRIDGE NO. BUT-4-1578 L/R

BUT-4-1578 L/R

SHEET NUMBER								PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
						BUT-4-1578L	BUT-4-1578R								
						50	50				202	38000	100	LIN. FT.	Guardrail removed
						34	63				203	12000	97	CU.YD.	Excavation not including embankment construction
						400	266				254	01000	666	SQ.YD.	Pavement planing, bituminous
						34	63				301	10002	97	CU.YD.	Bituminous aggregate base, AC-20
						25	17				404	20000	42	CU.YD.	Asphalt concrete, AC-20
											404	35000	20	CU.YD.	Bituminous concrete for maintaining traffic
						45	30				407	10000	75	GAL.	Tack coat
											509	15800	50	LBS.	Epoxy coated reinforcing steel, Grade 60
						124	98				516	11211	222	LIN.FT.	Structural expansion joint including elastomeric strip seal, as per plan
							1.33				516	12201	1.33	LIN.FT.	Structural steel expansion joint, as per plan
						LUMP	LUMP				516	47001	LUMP	LUMP	Jacking and temporary support of structure
						14	12				516	45305	26	EACH	Refurbish bearing devices, as per plan
						426	421				517	76201	847	LIN.FT.	Railing faced, as per plan (1)
						12	12				518	12701	24	EACH	Scupper modification, as per plan
						50	50				606	13000	100	LIN.FT.	Guardrail, Type 5
						2	2				606	35000	4	EACH	Bridge terminal assembly, Type 1
						590	520				Special	51267502	1100	SQ. YD.	Sealing of concrete surfaces, (epoxy-urethane) *
						90	85				Special	51911502	175	SQ. FT.	Patching concrete structure with trowelable mortar *
						990	775				Special	51922000	1765	SQ. YD.	Micro-silica modified concrete overlay, (1◇" thick) *
						27	20				Special	51922100	47	CU. YD.	Micro-silica modified concrete overlay (variable thickness) *
						2	2				Special	51922200	4	CU. YD.	Full depth repair *
						.84	1.32				614	22300	2.16	MILE	Temporary edge line, Class 1, 740.05, Type C
						.13	.07				642	00102	0.20	MILE	Edge line, Type 2
						.08	.07				642	00302	0.15	MILE	Center line, Type 2
						2	2				802	00100	4	EACH	Barrier reflector, Type A
						10	10				802	00200	20	EACH	Barrier reflector, Type B
						LUMP	LUMP				614	11000	LUMP	LUMP	Maintaining traffic
						LUMP	LUMP				624	10000	LUMP	LUMP	Mobilization

* See Proposal Note

(1) See High Performance Concrete Proposal note

CALCULATED BJF CHECKED

GENERAL SUMMARY

BUT-4-1578L/R

SSSSDATESSS
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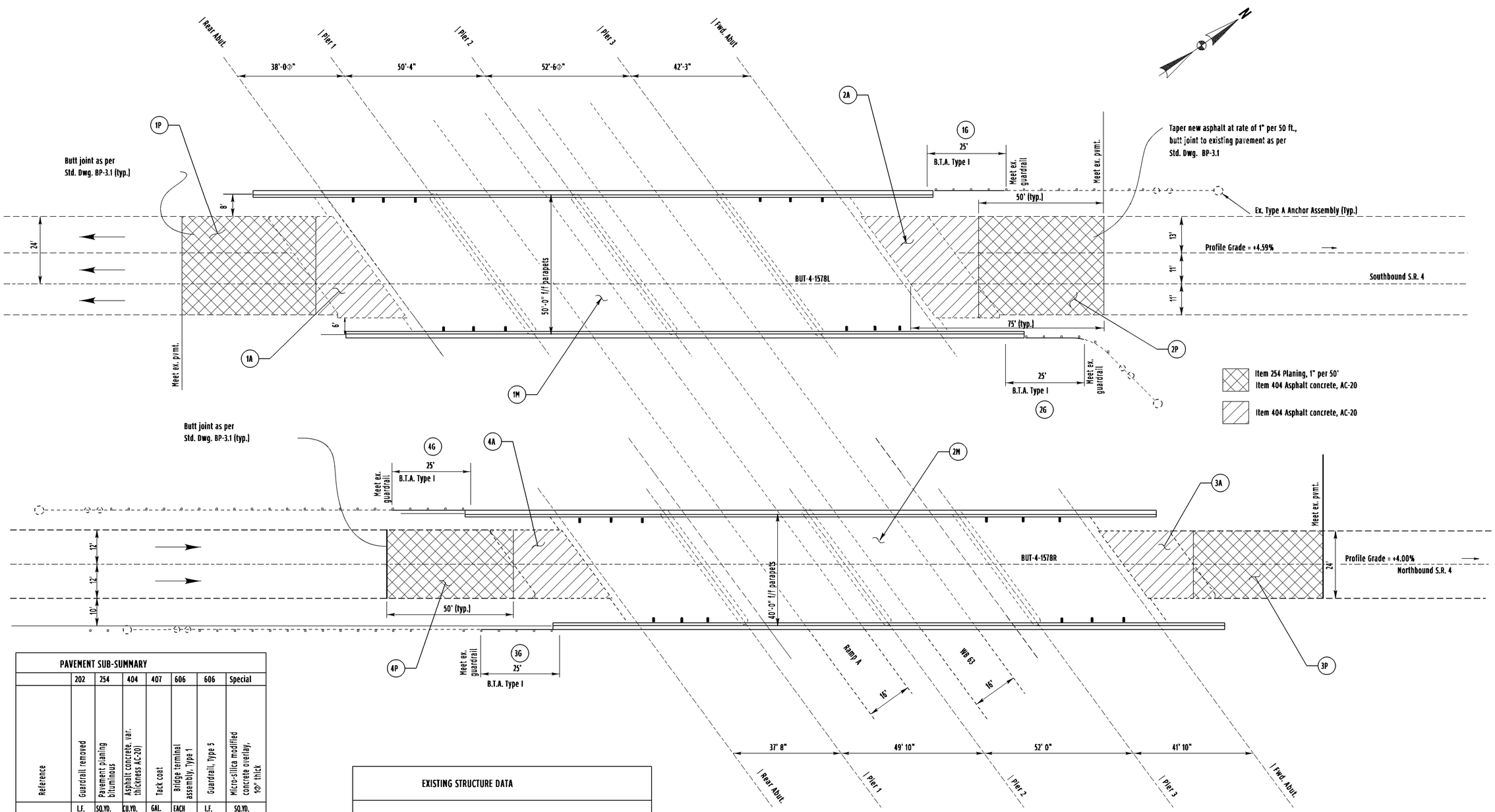

PAVEMENT SUB-SUMMARY

Reference	202 Guardrail removed	254 Pavement planing bituminous	404 Asphalt concrete, var. thickness (AC-20)	407 Tack coat	606 Bridge terminal assembly, Type 1	606 Guardrail, Type 5	Special Micro-silica modified concrete overlay, ½" thick
	L.F.	SQ.YD.	CU.YD.	GAL.	EACH	L.F.	SQ.YD.
1A			12.5	22.5			
2A			12.5	22.5			
3A			8.5	15			
4A			8.5	15			
1G	25				1	25	
2G	25				1	25	
3G	25				1	25	
4G	25				1	25	
1M							990
2M							775
1P		200					
2P		200					
3P		133					
4P		133					
Sub-total	100	666	42	75	4	100	1765

EXISTING STRUCTURE DATA

TYPE: Cont. steel beam with reinforced concrete deck and substructure
SPANS: Southbound; 38'-0◊", 50'-4", 52'-6◊", 42'-3"
Northbound; 37'-8", 49'-10", 52'-0", 41'-10"
ROADWAY:
Northbound: 40'-0" f/f parapet w/1'-2" curbs
Southbound: 50'-0" f/f parapet w/1'-2" curbs
LOAD FREQUENCY: CF=400[57]
SKEW: Northbound bridge: 35°-33' right forward
Southbound bridge: 36°-20' right forward
WEARING SURFACE: 1" monolithic concrete
APPR. SLABS: AS-1-54 (25' long)
ALIGNMENT: Northbound bridge partially on 0°-15' curve
Southbound bridge tangent
SFN: 0900249 (L)
0900273 (R)

DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
BJF	BJF	RLE	

STRUCTURE FILE NUMBER
0900249, 0900273

REVISED

CHECKED
MLM

SITE PLAN
BRIDGE NO. BUT-4-1578 L/R

BUT-4-1578L/R

$$$$DATE$$$$
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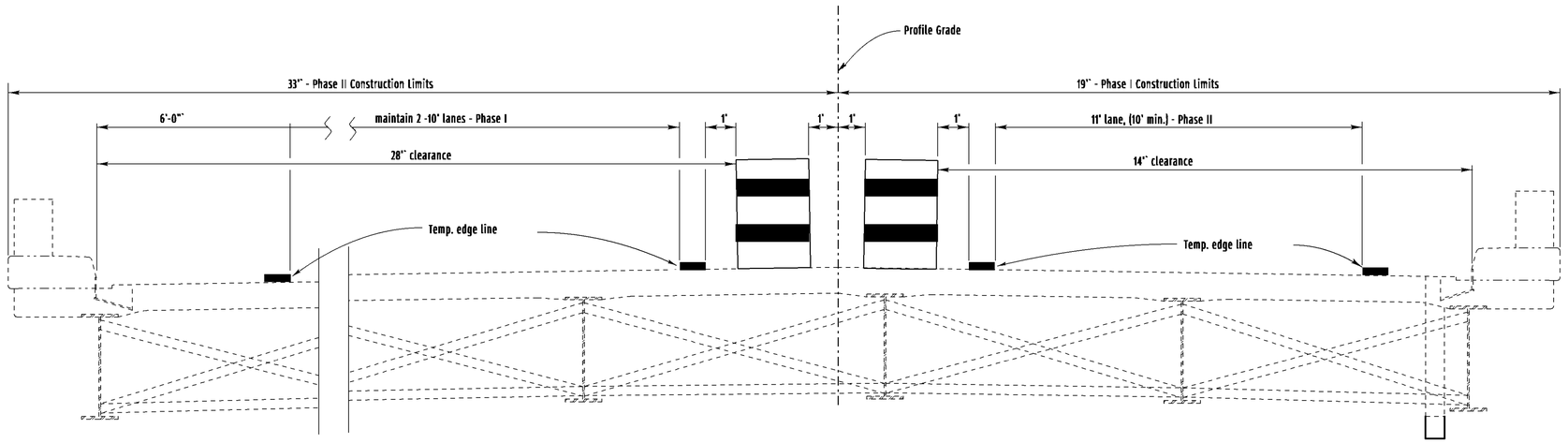
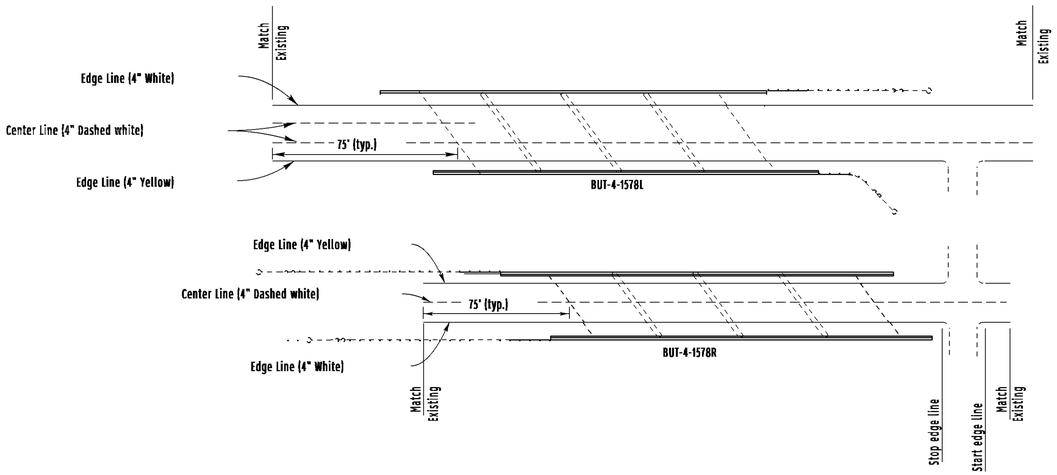


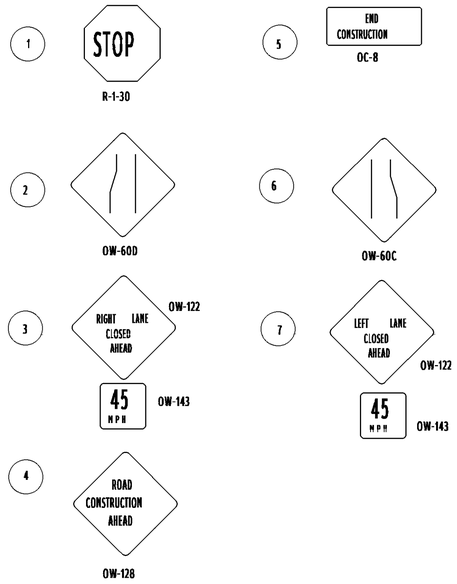
TRANSVERSE SECTION

MAINT. OF TRAFFIC SUB-SUMMARY; BUT-4-1578L (totals to be carried to general summary)						
PHASE I	PHASE Ii	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
	34	203	12000	34	CU.YD.	Excavation, not including embankment construction
	34	301	10002	34	CU.YD.	Bituminous aggregate base, AC-20
.43	.41	614	22300	.84	MILE	Temporary edge line, Class 1, 740.05, Type C



PERMANENT STRIPING PLAN

CONSTRUCTION SIGNS



DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
BJF	BJF	RLE	

CHECKED	REVISED	STRUCTURE FILE NUMBER
MLM		0900249

PART A MAINTENANCE OF TRAFFIC (CONT.)
BRIDGE NO. BUT-4-1578L

BUT-4-1578L/R

$$$$DATE$$$
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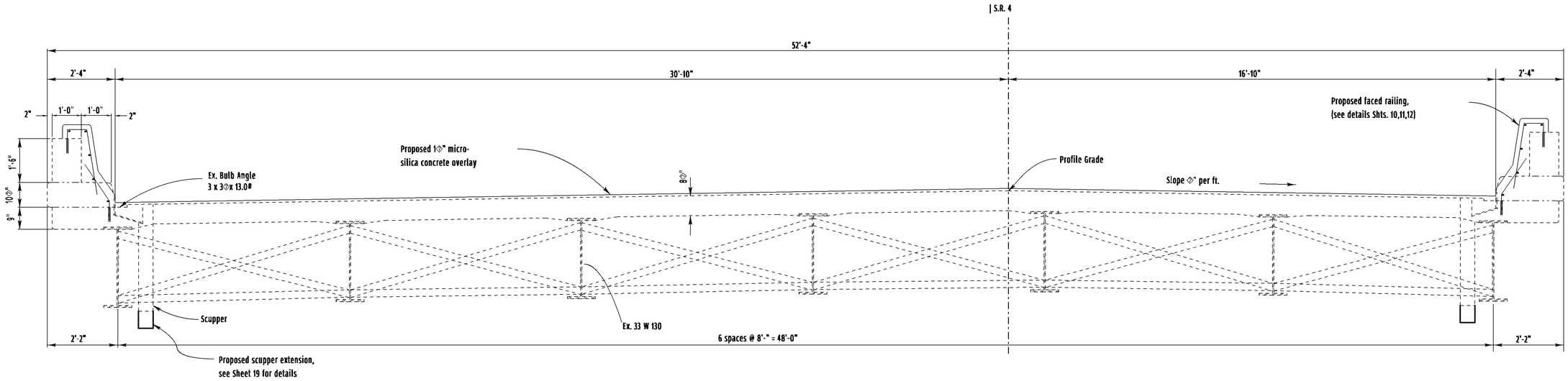
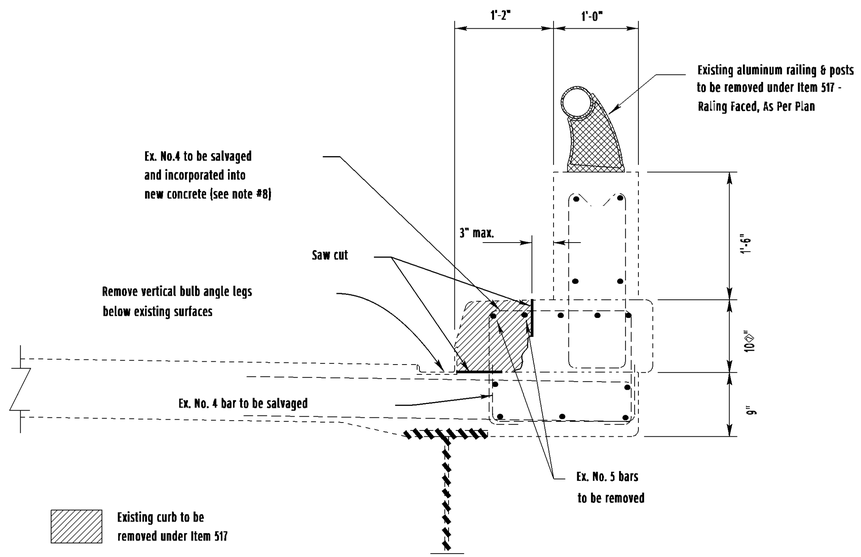




EXISTING PARAPET (TYP. SECTION)

(REMOVAL DETAILS)

Common Notes:

1. Bend and overlap existing No. 5 bars in order to incorporate into new concrete. Payment is to be included under Item 517 - Railing Faced, As Per Plan.

2. Remove all unsound concrete and scarify all faces of existing parapet which will be in contact with new concrete, then clean these areas as per Item 519 of C.M.S. Payment to be made under Item 517 - Railing Faced, As Per Plan.

3. All resteel shall be epoxy coated and shall have a minimum of 2" concrete cover. Payment for the re-steel to be included under Item 517 - Railing Faced As Per Plan.

4. Install deflection joints as per general note. Spacing shall coincide with existing deflection joint locations.

5. 1" dia. dowel holes to be drilled @ 15" c/c spaced to clear deflection joints by 3" min. Payment to be made under Item 517 - Railing Faced, As Per Plan.

6. Stop reinforcing bars 3" short of existing deflection joints. Contractor shall cut bars as necessary to accomodate parapet joints and wingwall lengths.

7. Payment for removal of existing curb and parapet joints is to be made under Item 517 - Railing Faced, As Per Plan.

8. Remove enough concrete so that min. 2" clearance is available. If necessary, cut bars and bend for clearance.

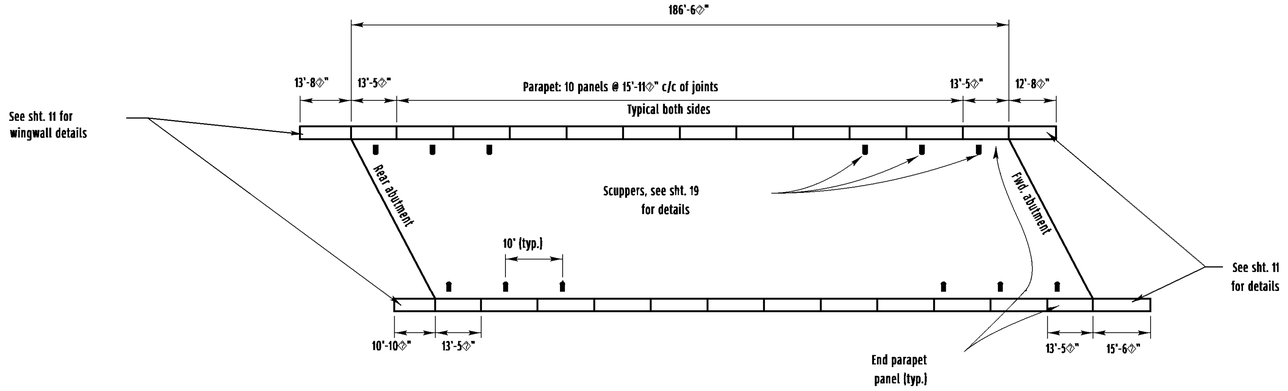
DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

DESIGNED	DRAWN	REVISED	DATE
BJF	BJF	R.L.E	STRUCTURE FILE NUMBER 0900249
CHECKED	REVISED		
MLM			

TRANSVERSE SECTION - SOUTHBOUND BRIDGE
BRIDGE NO. BUT-4-1578L

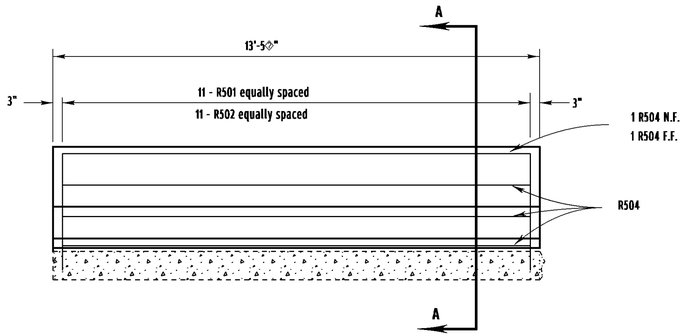
BUT-4-1578L / R

$$$$DATE$$$$
$$$$$$$$$$$$$DGNSPEC$$$$$$$$$$$$$

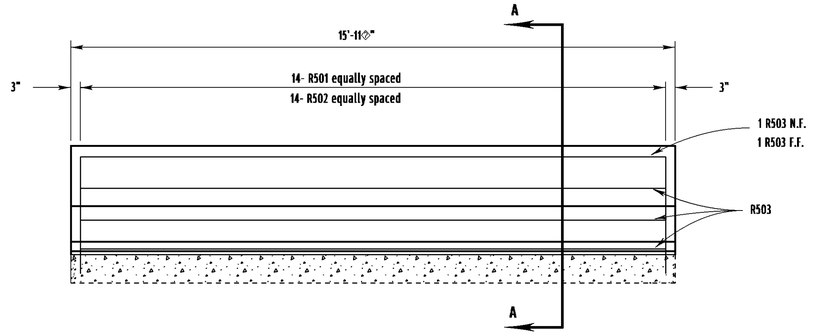


Note: Wingwall and end parapet panel lengths reflect joint modification.

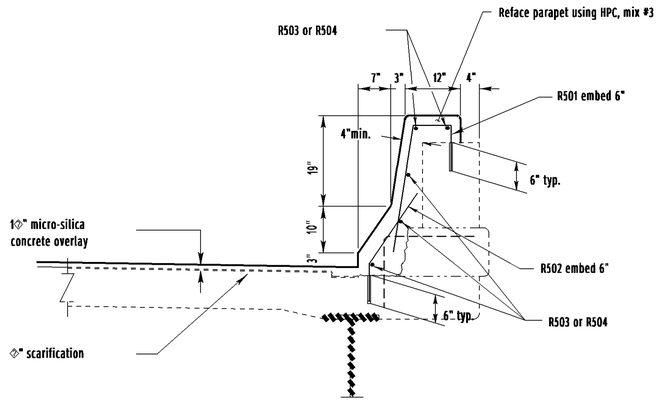
PROPOSED FACED RAILING PLAN



TYPICAL END PARAPET PANEL



INTERMEDIATE PARAPET PANEL



PROPOSED RAIL FACING
SECTION A-A

DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

DESIGNED	DRAWN	REVISED	DATE
BJF	BJF	RLE	

CHECKED: MLM
REVISED:
STRUCTURE FILE NUMBER: 0900249

PARAPET FACING DETAILS
BRIDGE NO. BUT-4-1578L

BUT-4-1578L/R

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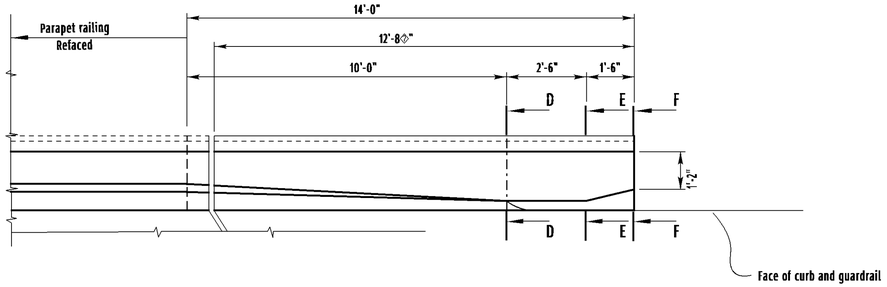
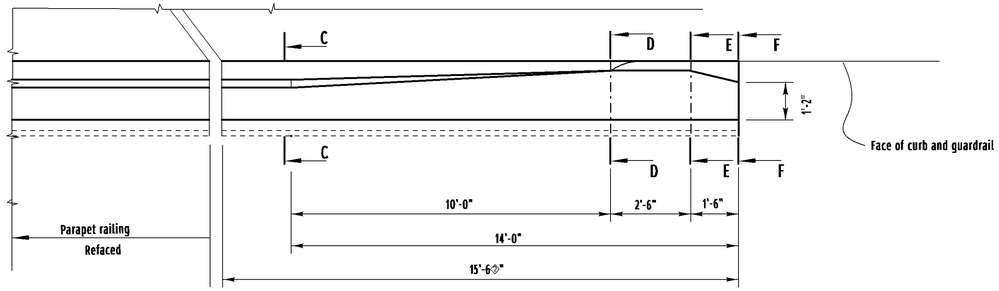
SSSSDATESSS
SSSSSSSSSSSSDGNSPECSSSSSSSSSSSS



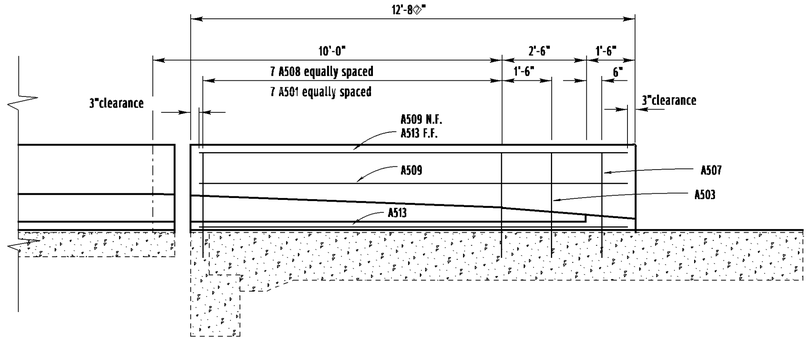
PLAN

** SEE SHT. 12 FOR TYPICAL SECTIONS



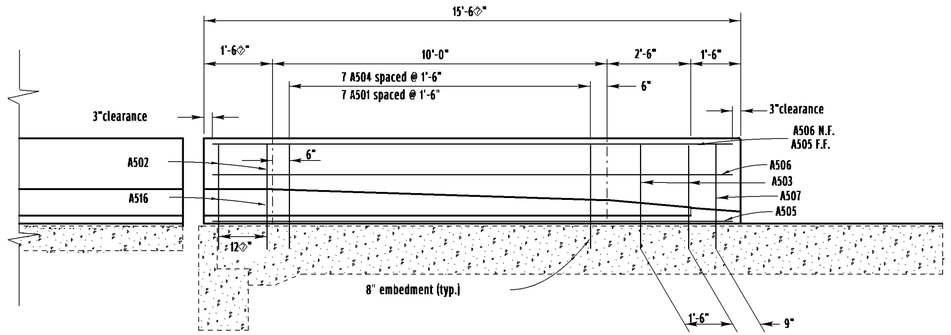
PLAN

** SEE SHT. 12 FOR TYPICAL SECTIONS



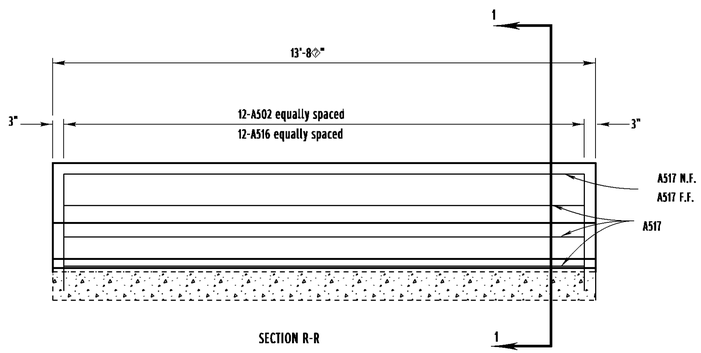
ELEVATION

FORWARD ABUTMENT, LEFT WINGWALL



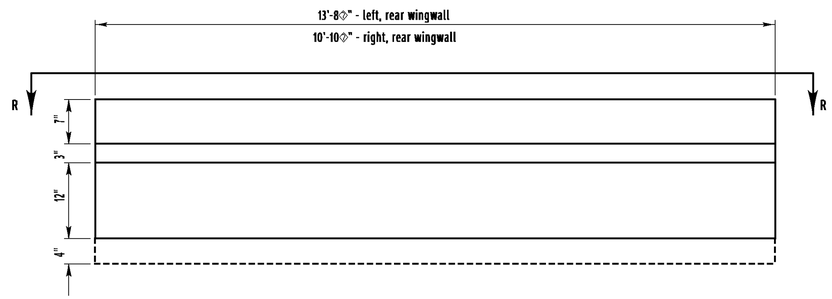
ELEVATION

FORWARD ABUTMENT, RIGHT WINGWALL



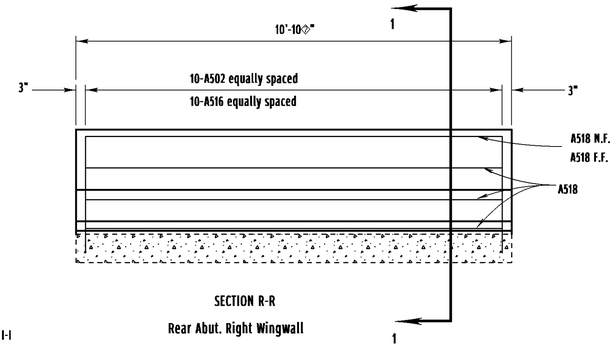
SECTION R-R

Rear Abut. Left Wingwall



PLAN

See sheet 12 for sect. I-I



SECTION R-R

Rear Abut. Right Wingwall

REAR ABUT. RIGHT AND LEFT WINGWALLS

DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

DESIGNED	DRAWN	REVISED	DATE
BJF	BJF		
CHECKED	REVISED	REVISED	DATE
MLM		RLE	

STRUCTURE FILE NUMBER
0900249

WINGWALL FACING DETAILS
BRIDGE NO. BUT-4-1578L

BUT-4-1578L/R

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$$$$DATE$$$
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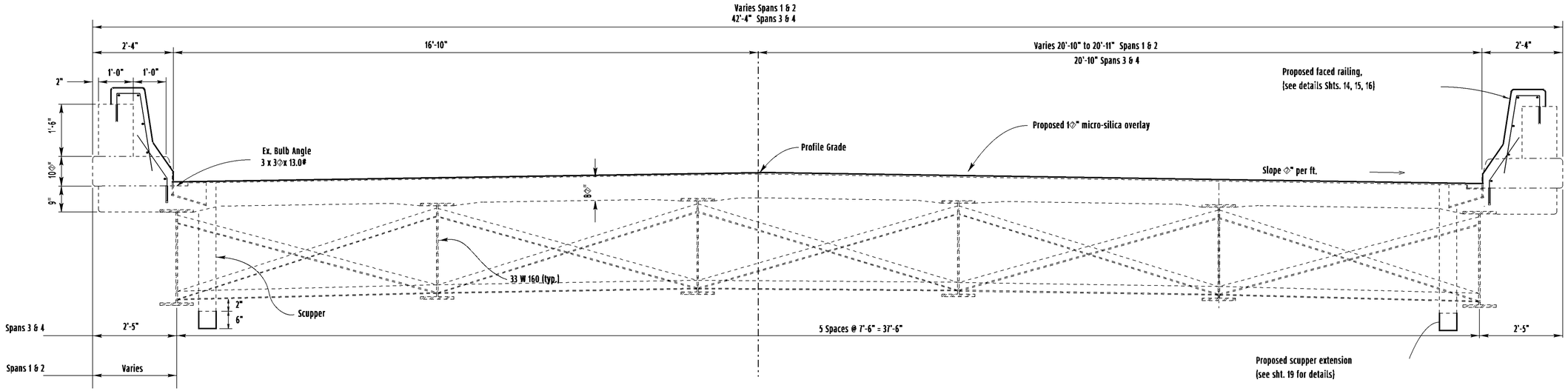
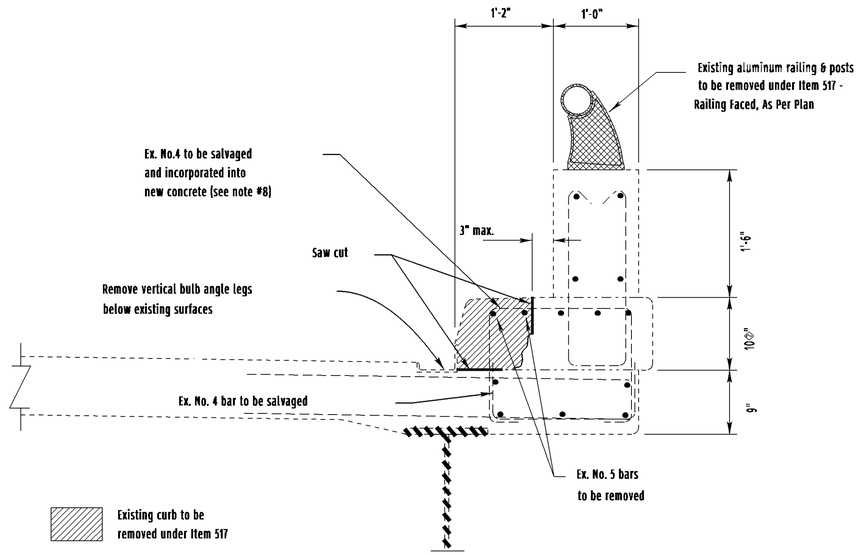




EXISTING PARAPET (TYP. SECTION)

(REMOVAL DETAILS)

Common Notes:

1. Bend and overlap existing No. 5 bars in order to incorporate into new concrete. Payment is to be included under Item 517 - Railing Faced, As Per Plan.

2. Remove all unsound concrete and scarify all faces of existing parapet which will be in contact with new concrete, then clean these areas as per Item 519 of C.M.S. Payment to be made under Item 517 - Railing Faced, As Per Plan.

3. All resteel shall be epoxy coated and shall have a minimum of 2" concrete cover. Payment for the re-steel to be included under Item 517 - Railing Faced As Per Plan.

4. Install deflection joints as per general note. Spacing shall coincide with existing deflection joint locations.

5. 1" dia. dowel holes to be drilled @ 15" c/c spaced to clear deflection joints by 3" min. Payment to be made under Item 517 - Railing Faced, As Per Plan.

6. Stop reinforcing bars 3" short of existing deflection joints. Contractor shall cut bars as necessary to accomodate parapet joints and wingwall lengths.

7. Payment for removal of existing curb and parapet joints is to be made under Item 517 - Railing Faced, As Per Plan.

8. Remove enough concrete so that min. 2" clearance is available. If necessary, cut bars and bend for clearance

DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

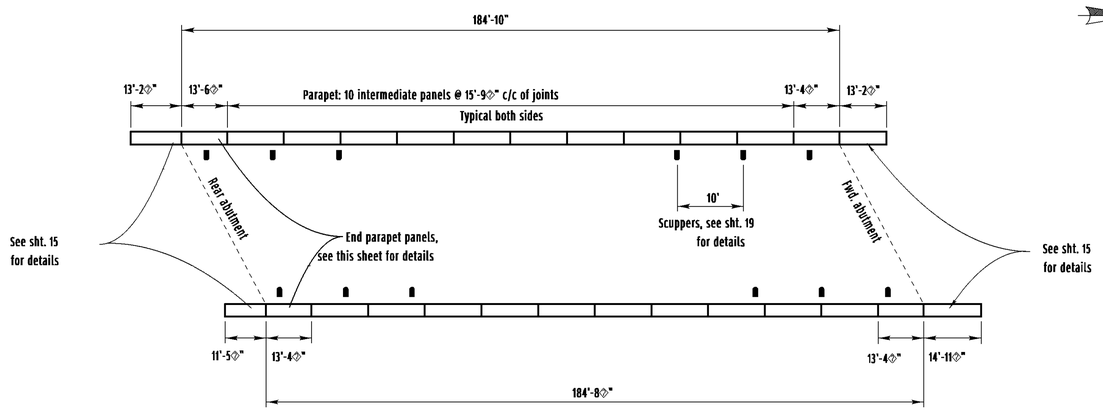
DESIGNED	DRAWN	REVISED	DATE
BJF	BJF	RLE	

CHECKED MLM
REVISED
STRUCTURE FILE NUMBER 0300273

TRANSVERSE DECK SECTION NORTHBOUND BRIDGE
BRIDGE NO. BUT-4-1578R

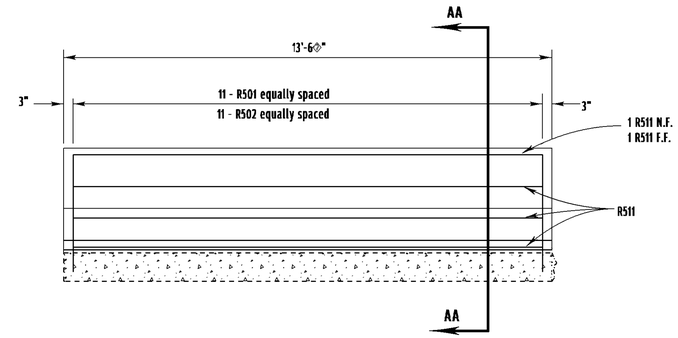
BUT-4-1578L/R

$$$$DATE$$$
$$$$$$$$$$$$$$DGNSPEC$$$$$$$$$$$$$$

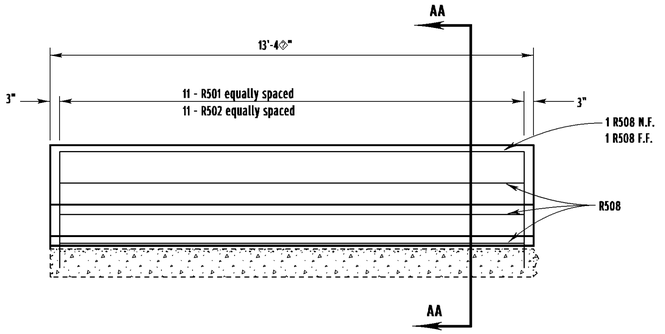


PLAN

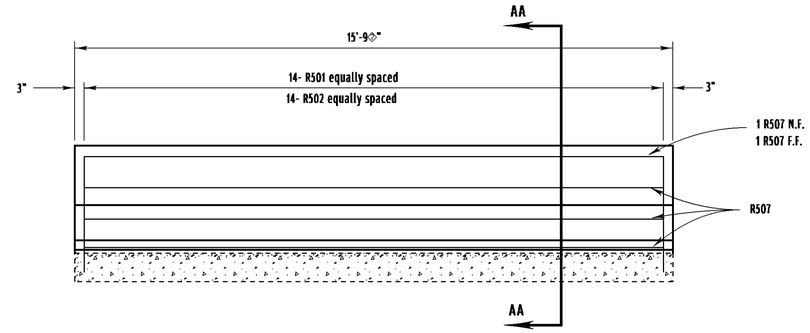
N



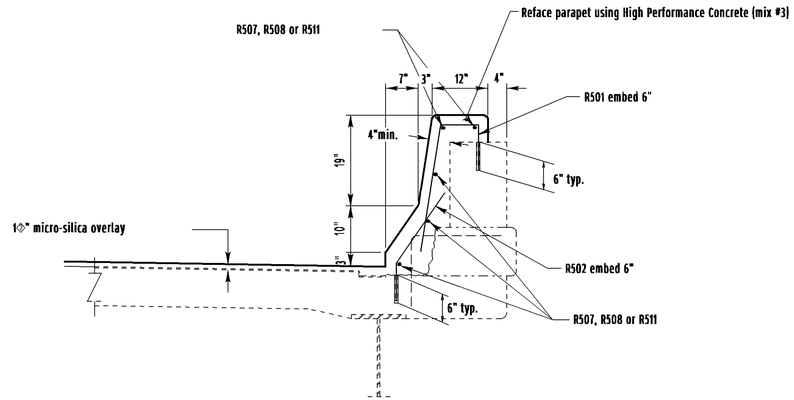
S.W. END PARAPET PANEL



TYPICAL END PARAPET PANEL



INTERMEDIATE PARAPET PANEL



PROPOSED RAIL FACING

SECTION AA-AA

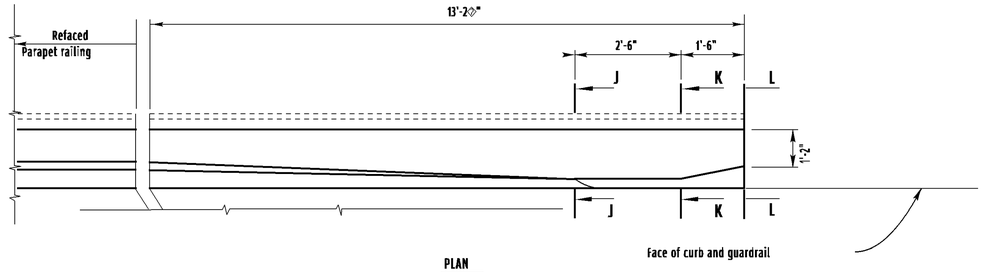
DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

DESIGNED	DRAWN	REVISED	DATE
BJF	BJF	RLE	

CHECKED	REVISED	STRUCTURE FILE NUMBER
RLE		09000273

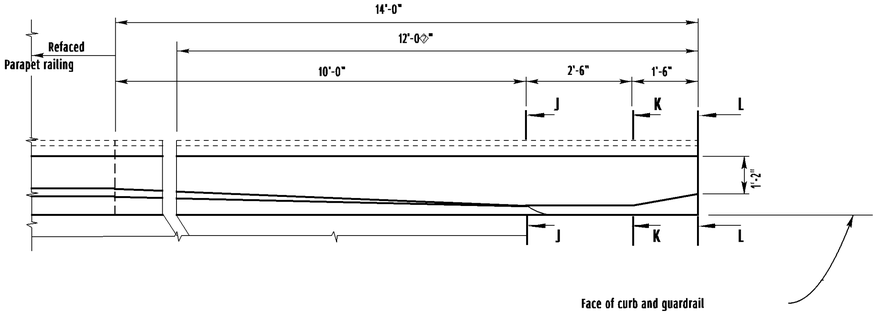
PARAPET FACING DETAILS
BRIDGE NO. BUT-4-1578R

BUT-4-1578L/R



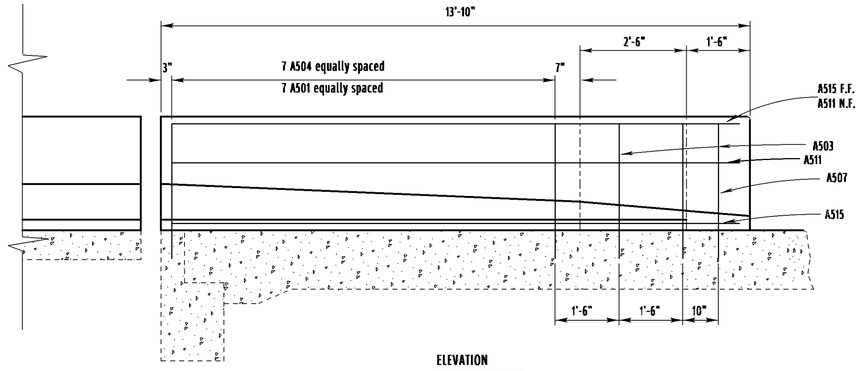
PLAN

** SEE SHEET 16 FOR TYPICAL SECTIONS



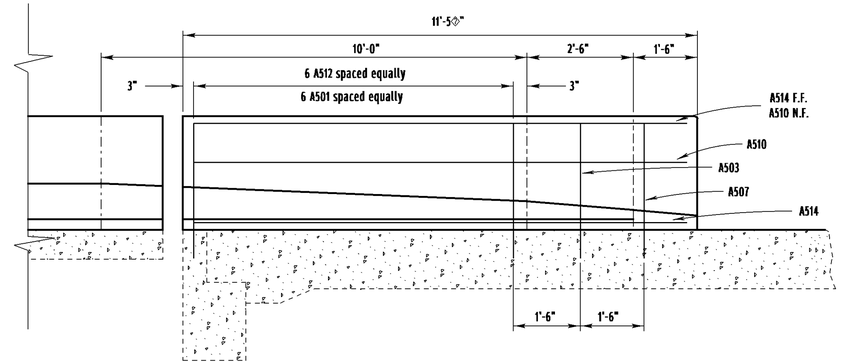
PLAN

** SEE SHEET 16 FOR TYPICAL SECTIONS



ELEVATION

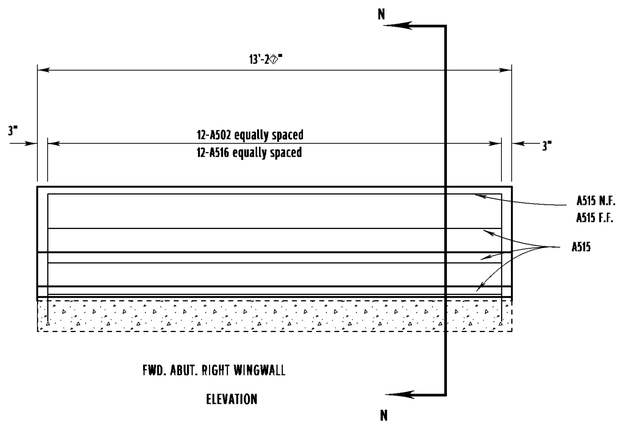
REAR ABUTMENT, LEFT WINGWALL



ELEVATION

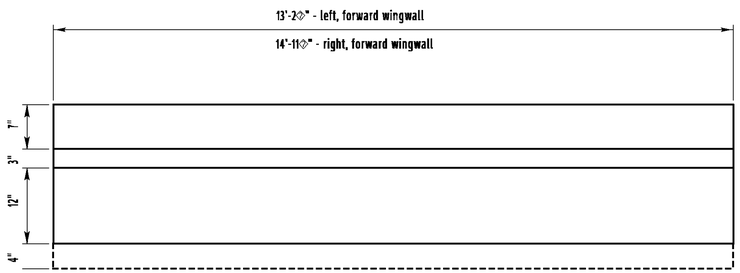
REAR ABUTMENT, RIGHT WINGWALL

See Sheet 16 for sections
J-J, K-K, L-L, N-N



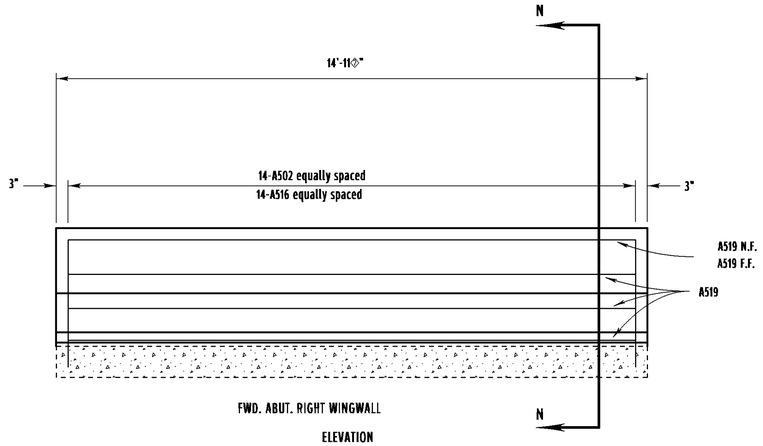
FWD. ABUT. RIGHT WINGWALL

ELEVATION



FWD. ABUT. RIGHT AND LEFT WINGWALLS

PLAN



FWD. ABUT. RIGHT WINGWALL

ELEVATION

DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

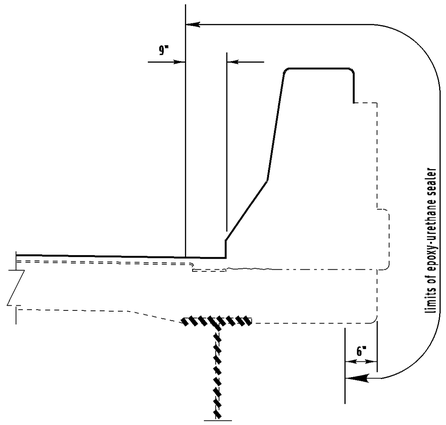
DESIGNED	DRAWN	REVIEWED	DATE
BJF	BJF	RLE	

CHECKED MLM
REVISED
STRUCTURE NUMBER 0900273

WINGWALL FACING DETAILS
BRIDGE NO. BUT-4-1578R

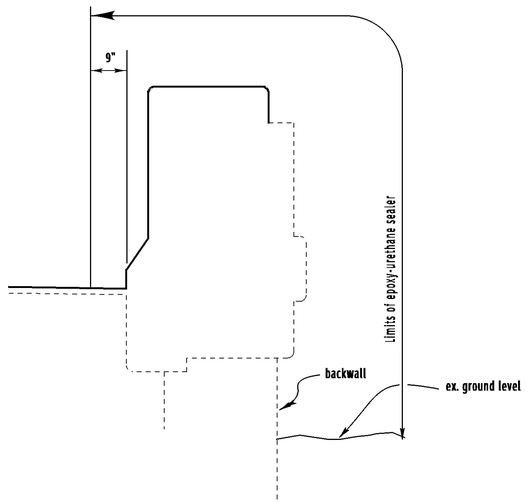
BUT-4-1578L/R

$$$$DATE$$$$
$$$$$$$$$$$$$DGNSPEC$$$$$$$$$$$$$$



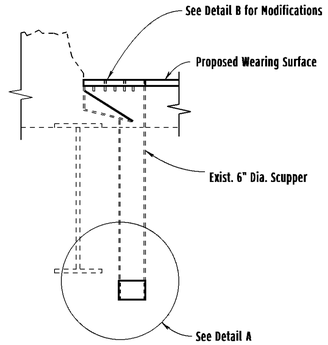
SEALING LIMITS, PARAPET

(New parapet, deck facia, underside of deck edge)

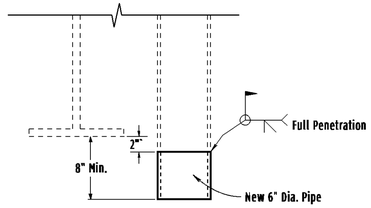


SEALING LIMITS, WINGWALL

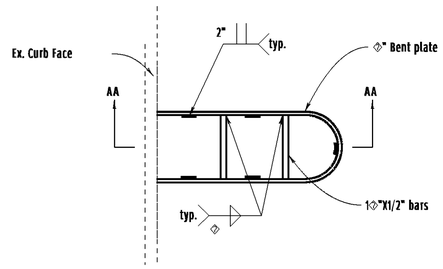
(Both faces, tops, backwall face to groundline)



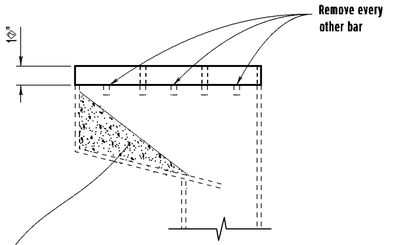
ELEVATION



DETAIL A



DETAIL B

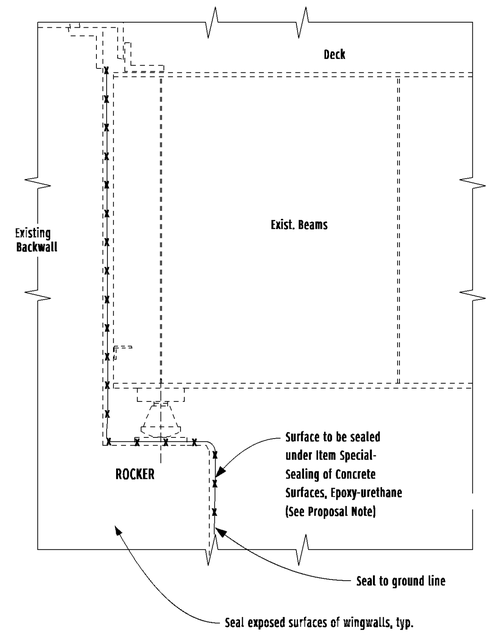


SECTION AA-AA

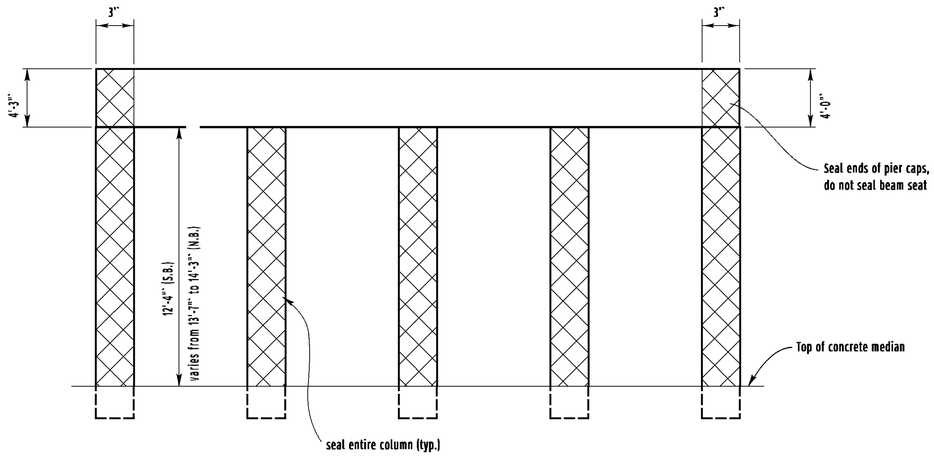
Sandblast inside of scupper and fill with deck overlay material as shown. The Contractor shall not leave scuppers clogged with overlay material.

SCUPPER MODIFICATION DETAILS

Cost of all work shall be included in the price bid per each , Item 518, Scupper modification, as per plan.



SEALING LIMITS, ABUTMENT



SEALING LIMITS, PIERS

BUT-4-1578L, Pier 2 (shown)
BUT-4-1578R, Pier 2 (4 columns)

DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

DESIGNED	DRAWN	REVISED	DATE
BJF	BJF	RLE	

CHECKED MLM

STRUCTURE FILE NUMBER 09000249, 09000273

MISCELLANEOUS DETAILS
BRIDGE NO. BUT-4-1578L/R

BUT-4-1578L/R

19
20

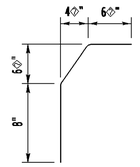
$$$$DATE$$$
$$$$$$$$$$$$$DGNSPEC$$$$$$$$$$$$$

BUT-4-1578 L

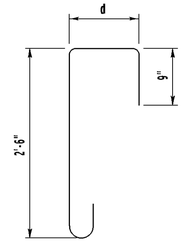
REINFORCING STEEL LIST				
MARK	NO.	LENGTH	WEIGHT	TYPE
WINGWALLS				
A501	14	2'-1"	30	Bent
A503	3	5'-0"	16	Bent
A504	1 Series of 7	Varies from 4'-3" to 4'-9" by 1"	33	Bent
A505	2	15'-2"	32	Str.
A506	2	15'-2"	32	Bent
A507	2	4'-7"	10	Bent
A508	1 Series of 7	Varies from 4'-3" to 4'-9" by 1"	33	Bent
A509	2	12'-2"	26	Bent
A513	2	12'-2"	26	Str.
A502	24	3'-5"	86	Bent
A516	24	2'-3"	56	Bent
A517	5	13'-4"	70	Str.
A518	5	10'-6"	55	Str.
Sub Total, Wingwalls:			505 lbs.	
PARAPETS				
R501	324	3'-5"	1155	Bent
R502	324	2'-3"	760	Bent
R503	100	15'-6"	1617	Str.
R504	20	13'-0"	272	Str.
Sub Total, Parapets:			3804 lbs.	
Total Reinforcing Steel			4309 lbs.	
Payment for reinforcing steel included in Item 517 - Railing Faced, As Per Plan				

BUT-4-1578 R

REINFORCING STEEL LIST				
MARK	NO.	LENGTH	WEIGHT	TYPE
WINGWALLS				
A501	13	2'-1"	28	Bent
A503	3	5'-0"	16	Bent
A504	1 Series of 7	Varies from 4'-3" to 4'-9" by 1"	33	Bent
A507	2	4'-7"	10	Bent
A510	2	11'-0"	23	Bent
A511	2	12'-9"	27	Bent
A512	1 Series of 6	Varies from 4'-4" to 4'-9" by 1"	28	Bent
A514	2	11'-0"	23	Str.
A515	7	12'-9"	93	Str.
A502	26	3'-5"	93	Bent
A516	26	2'-3"	61	Bent
A519	5	14'-6"	76	Str.
Sub Total, Wingwalls:			511 lbs	
PARAPETS				
R501	324	3'-5"	1155	Bent
R502	324	2'-3"	760	Bent
R507	100	15'-4"	1599	Str.
R508	15	12'-11"	202	Str.
R511	5	13'-1"	68	Str.
Sub Total, Parapets:			3784 lbs.	
Total Reinforcing Steel			4295 lbs.	
Payment for reinforcing steel included in Item 517 - Railing Faced, As Per Plan				

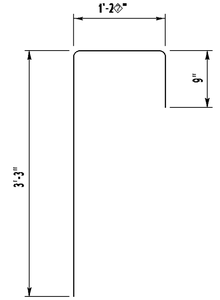


A501

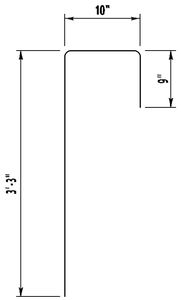


A504, A508, A512

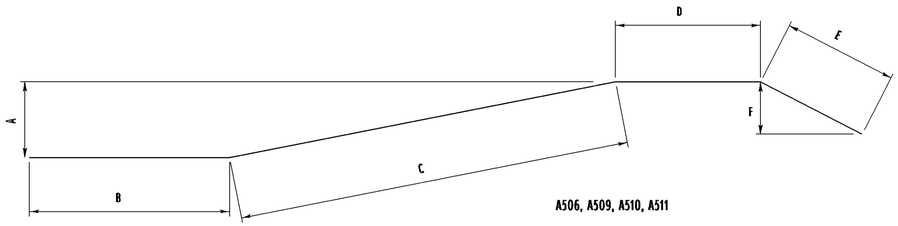
MARK	DIMENSION d
A504	8" to 14" by 1" increments
A508	8◊" to 14◊" by 1" increments
A512	9◊" to 14◊" by 1" increments



A503

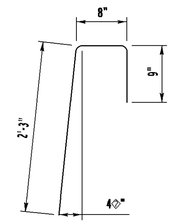


A507

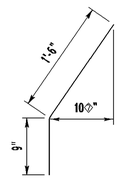


A506, A509, A510, A511

MARK	A	B	C	D	E	F
A506	6◊"	1'-5◊"	10'-0"	2'-6"	1'-3"	3◊"
A509	5◊"	0	8'-6"	2'-6"	1'-3"	3◊"
A510	5"	0	7'-5"	2'-6"	1'-3"	3◊"
A511	6"	0	9'-2"	2'-6"	1'-3"	3◊"



R501, A502



R502, A516

DESIGN AGENCY
DISTRICT 8
BRIDGE DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
BJF	BJF	RLE	
CHECKED	REVISED	STRUCTURE FILE NUMBER	
MLM		0900249, 0900273	

REINFORCING STEEL DETAILS, PARTS A & B
BRIDGE NO. BUT-4-1578L/R

BUT-4-15.78 L/R

20
20