

| Estimated Quantities | | | |
|--|-------------|------------|-------------|
| Item | Substr. | Superstr. | Total |
| Class 1 Excavation | cu. yard | 210 | 210 |
| Temporary Shoring | lump sum | | 1 |
| Removal of Bridges (A-504 NB & SB) | lump sum | | 1 |
| Bridge Approach Slab (Bridge) | sq. yard | 536 | 536 |
| Drilled Shafts (5 ft. 6 in. Dia.) | linear foot | 260.0 | 260.0 |
| Rock Sockets (5 ft. 0 in. Dia.) | linear foot | 116.0 | 116.0 |
| Supplementary Television Camera Inspection | each | 8 | 8 |
| Foundation Inspection Holes | linear foot | 196.0 | 196.0 |
| Sonic Logging Testing | each | 8 | 8 |
| Structural Steel Piles (14 in.) | linear foot | 1755 | 1755 |
| Pile Point Reinforcement | each | 15 | 15 |
| Class B Concrete (Substructure) | cu. yard | 389.3 | 389.3 |
| Slab on Steel | sq. yard | | 3075 |
| * Safety Barrier Curb | linear foot | | 631 |
| * Median Barrier Curb (Type C) | linear foot | | 330 |
| Reinforcing Steel (Bridges) | pound | 115,490 | 115,490 |
| Mechanical Bar Splice | each | 144 | 2144 |
| Temporary Coating - Concrete Bents and Piers (Weathering Steel) | lump sum | | 1 |
| Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50W | pound | | 750,020 |
| Slab Drain | each | | 56 |
| Drainage System (On Structure) | lump sum | | 1 |
| Intermediate Field Coat (System H) | sq. foot | | 3900 |
| Finish Field Coat (System H) | sq. foot | | 3900 |
| Vertical Drain at End Bents | each | | 2 |
| Plain Neoprene Bearing Pad | each | | 12 |
| Laminated Neoprene Bearing Pad (Tapered) | each | | 12 |
| Laminated Neoprene Bearing Pad Assembly | each | | 24 |

* Barrier curb shall be cast-in-place option or slip-form option.

All concrete between the upper and lower construction joints in the end bents is included in the Estimated Quantities for Slab on Steel.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Steel.

All mechanical bar splices in the end bents and slab are included in the Superstructure Quantities.

| Estimated Quantities for Slab on Steel | | |
|--|-------------|-------------|
| Item | | Total |
| Class B-2 Concrete | cu. yard | 887.8 |
| Reinforcing Steel | pound | 25,050 |
| Reinforcing Steel (Epoxy Coated) | pound | 223,180 |
| Mechanical Bar Splice | each | 2144 |

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard with the horizontal dimensions as shown on the plan of slab. Payment for stay-in-place forms, conventional forms, all concrete and coated and uncoated reinforcing steel **except MBS** will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Slab shall be cast-in-place with conventional forms or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

1. Don't use note if pay item is not required (Total MBS quantity <50).
2. Would exclude "end bents" if bents were non-integral.
3. Would replace "end bents" with "concrete diaphragms at end bents" if bents were non-integral and girders were concrete.
4. Would add ", intermediate bent concrete diaphragms" after "end bents" if girders were concrete.
5. Would exclude "slab" if MBS were not located in the slab.

General Notes:

Design Specifications:

2007 - AASHTO LRFD 4th Edition and 2008 Interims
 Load and Resistance Factor Design
 2002 - AASHTO 17th Edition (Seismic)
 Load Factor Design
 Seismic Performance Category B

Design Loading:

HL-93 (LRFD Superstructure, LRFD Substructure)
 35#/Sq. Ft. Future Wearing Surface
 Earth 120 #/Cu. Ft., Equivalent Fluid Pressure 45#/Cu. Ft.
 400 kip Equivalent Static Collision Force
 Intermediate Bents No. 2 & 3 include dead load for a possible future reinforced concrete collision wall with a length of 80'-0", height of 23'-0" and a thickness of 2'-6"

1. Pay item required since total is greater than or equal to fifty.
2. Substructure total should include the quantity of mechanical bar splices located in non-integral end bents and all intermediate bents.
3. Superstructure total should include the quantity of mechanical bar splices located in deck slabs, integral end bents, concrete diaphragms at non-integral end bents and concrete diaphragms at intermediate bents.

This would be the only highlighted item needed on this sheet if MBS pay item were not required. If this were the case, add the following to the end of this note:
 ... except that on measurement will be made for mechanical bar splices and they will be considered completely covered by the contract unit price for other items.

Fabricated Steel Connections:

Field connections shall be made with 3/4" diameter high strength bolts and 13/16" diameter washers.

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Section (FS-712) from Materials Manual.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.

MBS refers to mechanical bar splice. Mechanical bar splices shall be in accordance with Sec 706 or 710.

Structural Steel Protective Coatings:

Protective Coating: Facia girders shall be coated with complete System H in accordance with Sec 1081.

Portions of the structural steel embedded in or in contact with concrete, including but not limited to the top flange of girders, shall be coated with not less than 2.0 mils of the prime coat for System H.

Prime Coat: The prime coat shall be applied in the fabrication shop. The cost of the prime coat will be considered completely covered by the contract unit price for the Fabricated Structural Steel.

Field Coats: The color of the field coats shall be Brown (Federal Standard #30045). The cost of the intermediate field coat will be considered completely covered by the contract unit price per sq. foot for Intermediate Field Coat (System H). The cost of the finish field coat will be considered completely covered by the contract unit price per sq. foot for Finish Field Coat (System H). At the option of the contractor, the intermediate and finish field coats may be applied in the shop. The contractor shall exercise extreme care during all phases of loading, hauling, handling, erection and pouring of the slab to minimize damage and shall be fully responsible for all repairs and cleaning of the coating systems as required by the engineer.

Permanent Steel Casing Protective Coatings (Int. Bent No. 3):

Before the coating is applied, steel casing shall be thoroughly cleaned. All exposed surfaces of the permanent steel casing shall be coated with one 6-mil (0.15 mm) thickness of approved gray epoxy-mastic in accordance with the epoxy-mastic manufacturer's recommendations.

No direct payment will be made for coating exposed surfaces of steel casing. Payment for coating the steel casing and all material, labor, tools, equipment and incidentals necessary to complete the protective coating items will be considered completely covered under the contract unit price for other items.

Concrete Protective Coatings:

Temporary coating for concrete bents and piers (weathering steel) shall be applied on all concrete surfaces above the ground line or low water elevation on all abutments and intermediate bents in accordance with Sec 711.

Traffic Handling:

Staged construction. Maintain 2 lanes of traffic per direction, except for closure pours. See roadway plans for traffic control plan.

Miscellaneous:

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

Existing Structure:

With approval of the engineer, existing substructure may be removed to existing construction joints if necessary for stage construction. See existing bridge plans for location of existing construction joints.

Closure Pour:

Expansive Class B-2 concrete shall be used in the closure pour.

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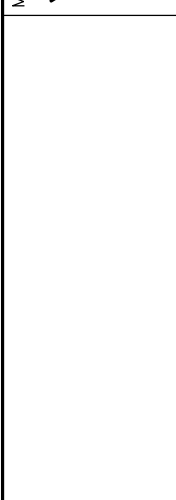
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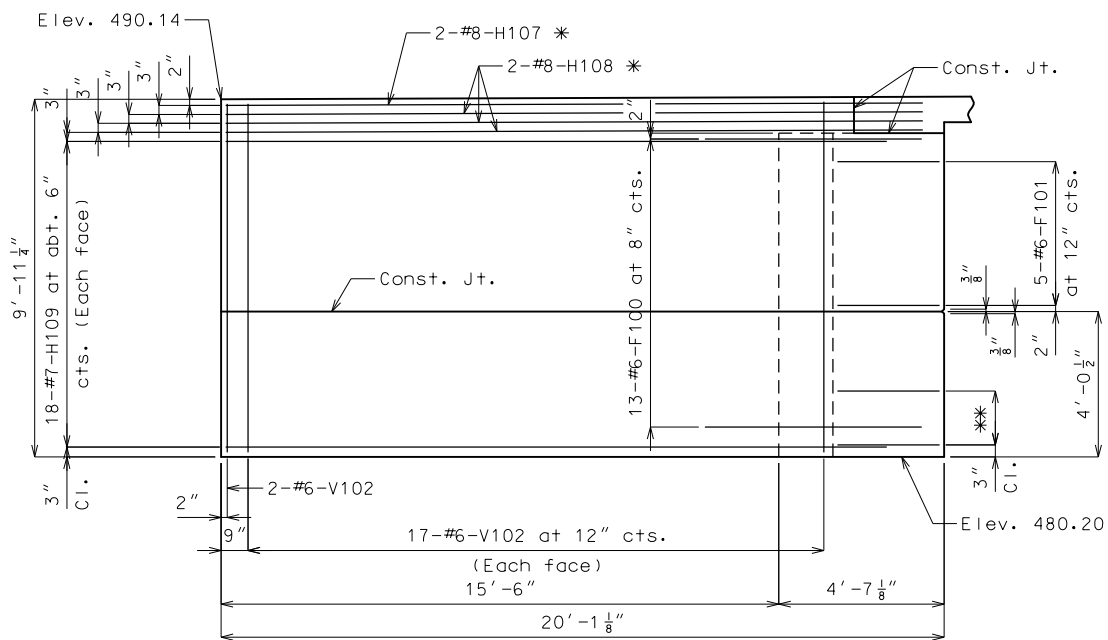
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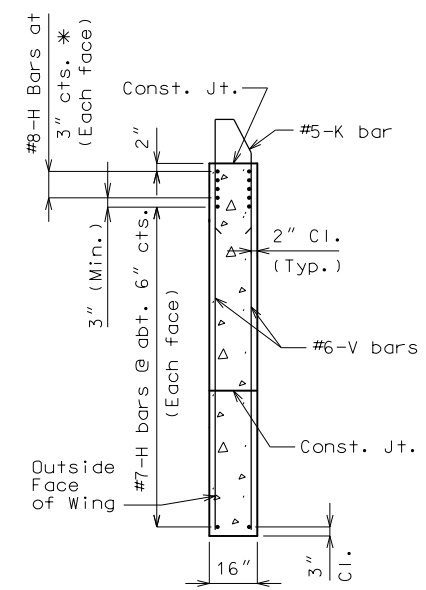
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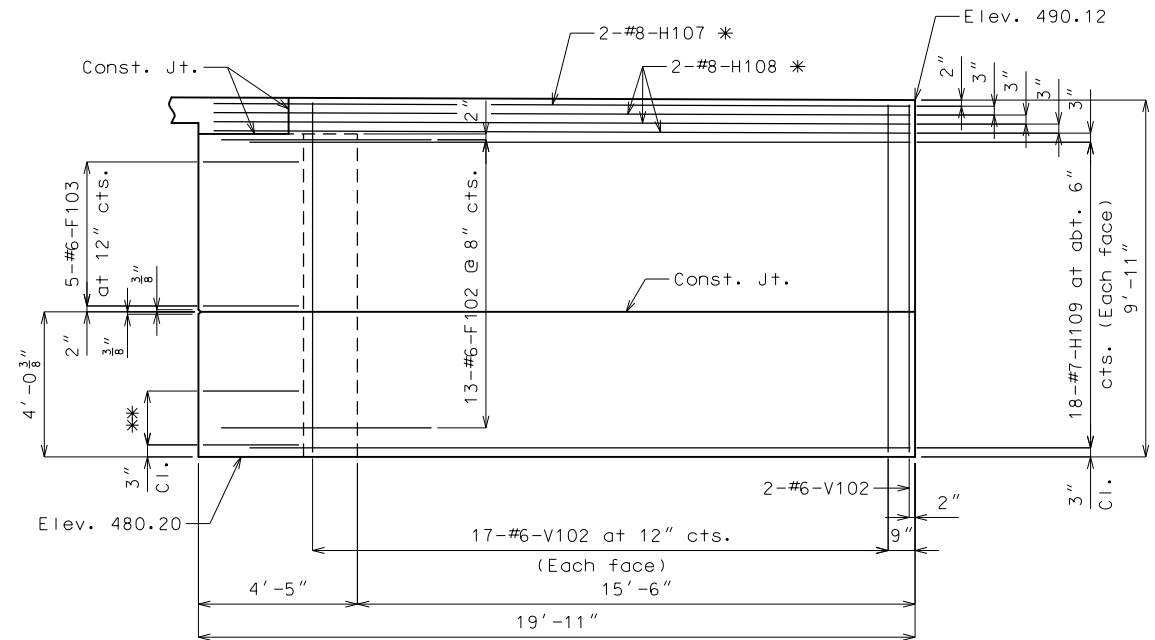


ELEVATION A-A

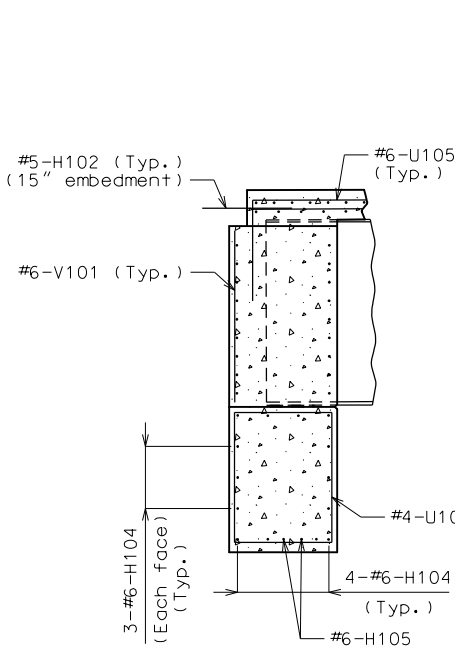


TYPICAL SECTION THRU WING

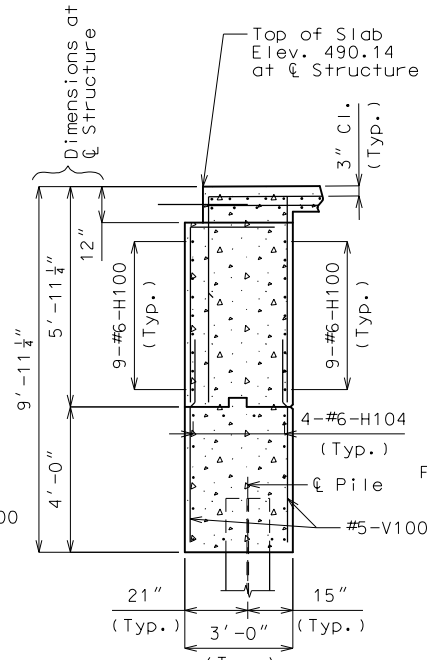
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** 4-#6-F104 at 6" cts.



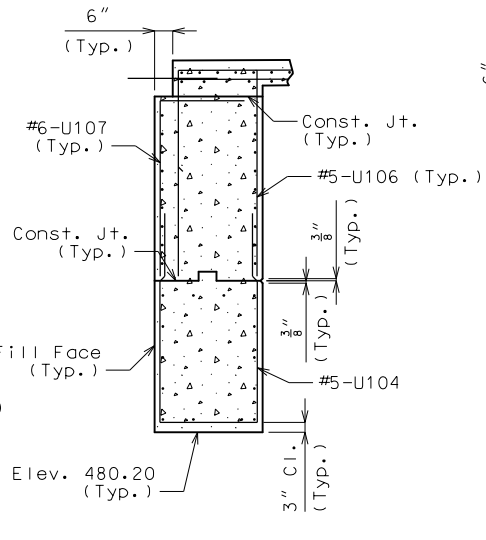
ELEVATION B-B



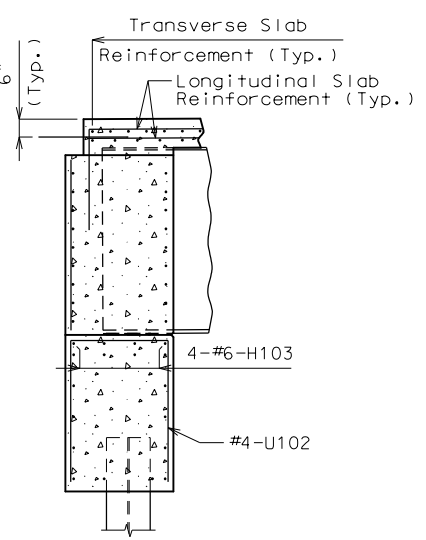
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

| Item | Quantity |
|---------------------------------|-----------------|
| Class 1 Excavation | cu. yard 105 |
| Structural Steel Pile (14 in.) | linear foot 675 |
| Class B Concrete (Substructure) | cu. yard 53.1 |

Notes: These quantities are included in the table of Estimated Quantities on Sheet No. 2.

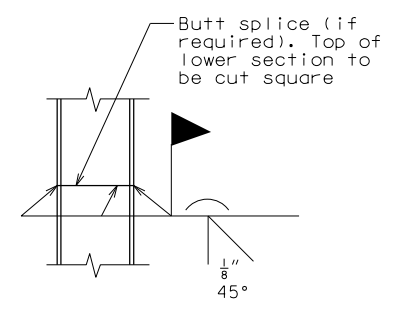
For details of End Bent No. 1 not shown, see Sheets No. 12 & 13.

For details of vertical drain at end bents, see Sheet No. 15.

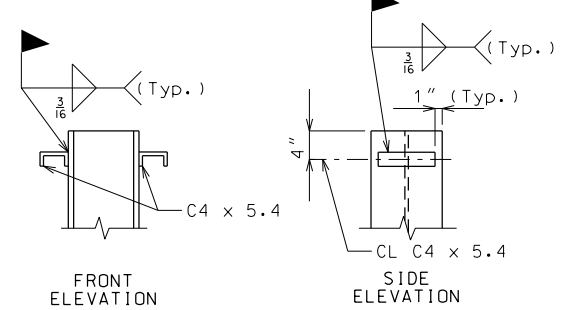
For reinforcement of safety barrier curb, see Sheets No. 41, 42 & 43.

1. End bents are integral and therefore the 64 MBS detailed in this bent are included in the slab quantities and the superstructure total in the table of Estimated Quantities and not listed in this table.

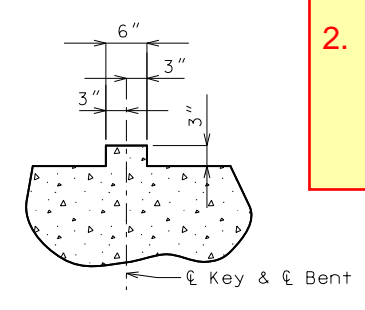
2. If bents were non-integral and the overall MBS quantity was 50 or more (requiring pay item) the quantity of MBS would be listed in the substructure table and included in the substructure total in the table of Estimated Quantities.



STEEL PILE SPLICE

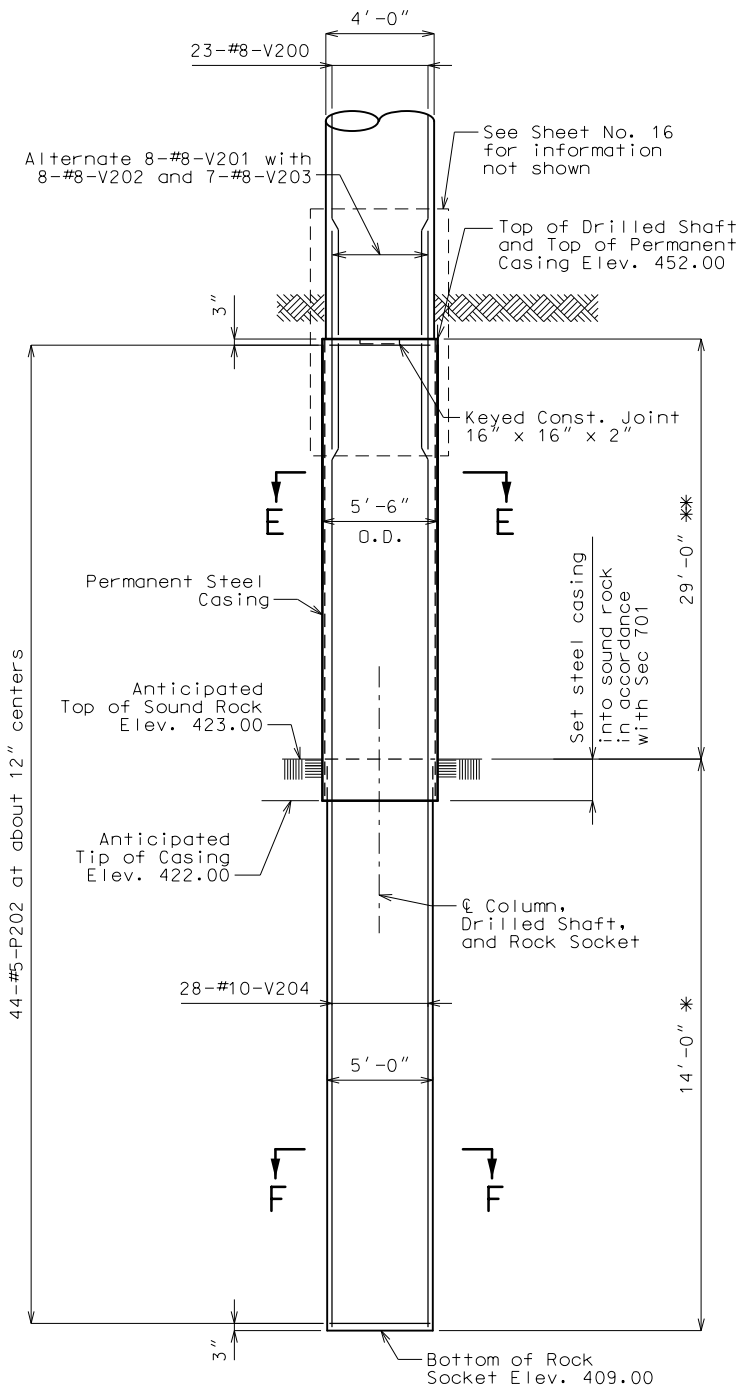


DETAILS OF PILE ANCHORS



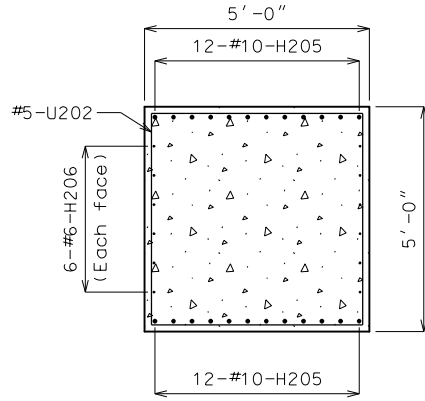
TYPICAL SECTION THRU KEY

DETAILS OF END BENT NO. 1

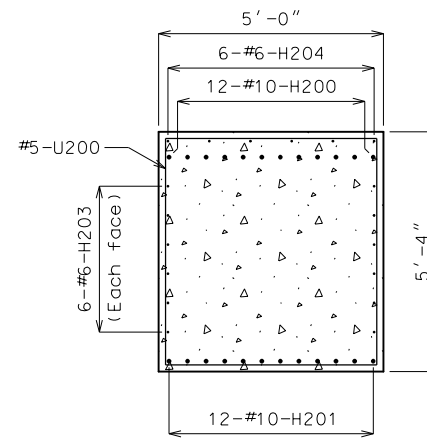


ELEVATION OF DRILLED SHAFTS AND ROCK SOCKETS

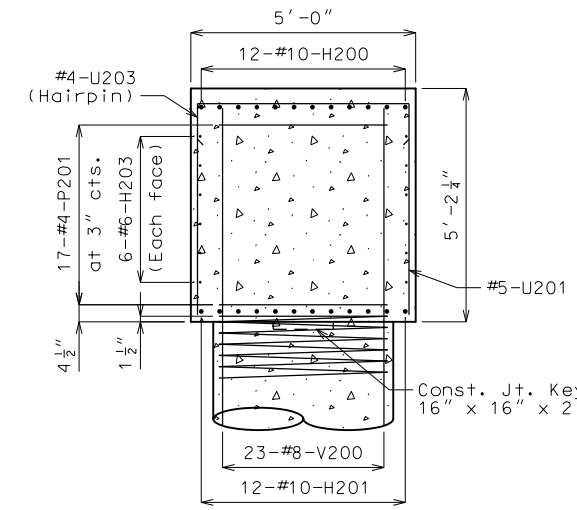
* Pay Items Rock Socket (5'-0" diameter)
 ** Pay Items Drilled Shaft (5'-6" diameter)



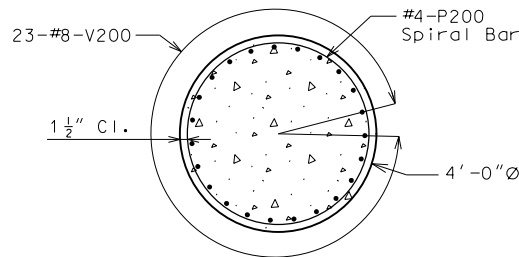
SECTION A-A



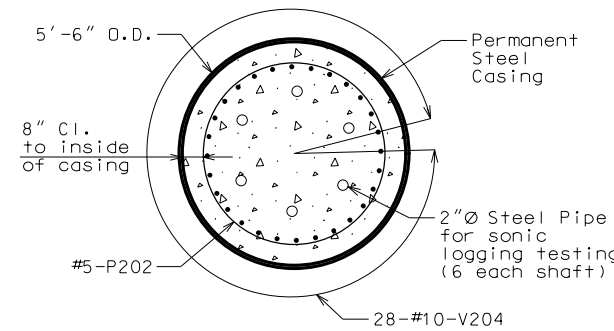
SECTION B-B



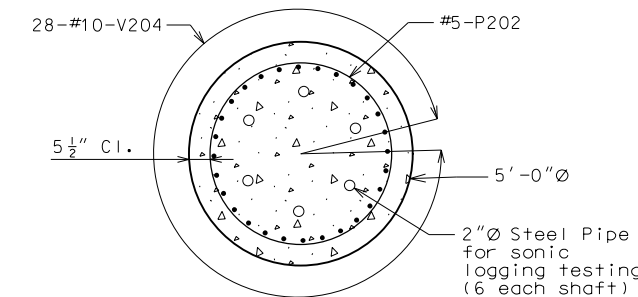
SECTION C-C



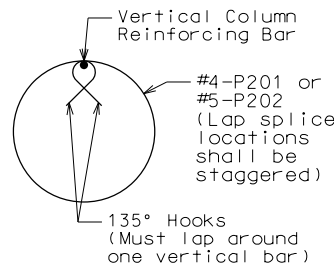
SECTION D-D



SECTION E-E



SECTION F-F



DETAIL OF SEISMIC STIRRUP BAR

If mechanical bar splices were also required in the drilled shafts, their quantity would also be included in this total and shown in the elevation detail.

| Item | Quantity |
|--|-------------------|
| Drilled Shafts (5 ft. 6 in. Dia.) | linear foot 116.0 |
| Rock Sockets (5 ft. 0 in. Dia.) | linear foot 56.0 |
| Supplementary Television Camera Inspection | each 4 |
| Foundation Inspection Holes | linear foot 96.0 |
| Sonic Logging Testing | each 4 |
| Class B Concrete (Substructure) | cu. yard 141.8 |
| Reinforcing Steel (Bridges) | pound 55,630 |
| Mechanical Bar Splice | each 72 |

These quantities are included in the table of Estimated Quantities on Sheet No. 2.

Notes: All reinforcing bars in the tops of substructure beams or caps shall be spaced to clear anchor bolt wells for bearings by at least 1/2".

An additional 4 feet has been added to V-bar lengths and an additional 16 P-bars (4 per shaft) have been added for possible change in drilled shaft or rock socket depth. The excess V-bar length shall be cut off if not required. The P-bars shall be spaced similarly to that shown in elevation where required or a lesser spacing if not required but not less than 5" cts.

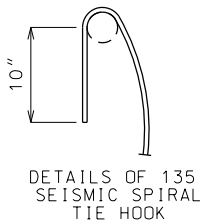
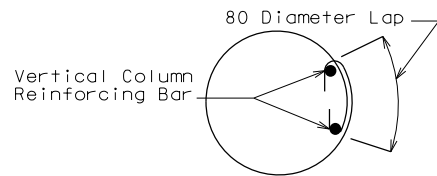
Sonic logging testing shall be performed on all drilled shafts and rock sockets.

The thickness of the steel casing shall meet all the requirements of Sec 701 with the minimum thickness being 1/2 inch.

All reinforcement in drilled shafts and rock sockets is included in Substructure Quantity Table for Bent No. 2.

For details of laminated neoprene bearing pad assembly, see Sheet No. 23.

Work this sheet with Sheet No. 16.



ANCHOR SPLICES IN SPIRAL AROUND VERTICAL BAR (USE FOR INTERMEDIATE SPLICES OF SPIRALS)

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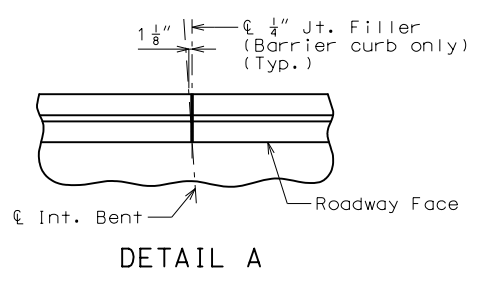
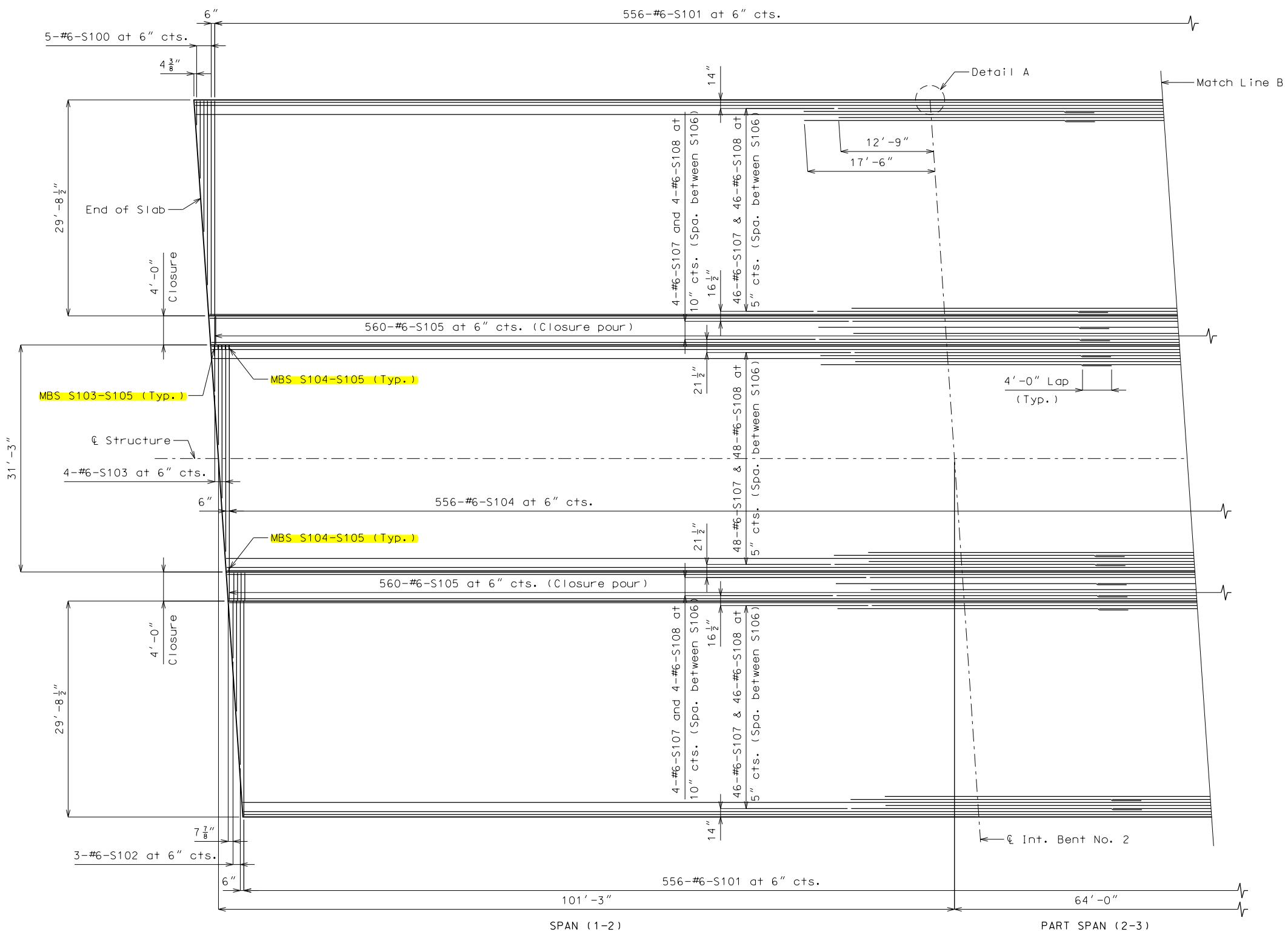
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PLAN OF SLAB SHOWING TOP REINFORCEMENT

- Notes:
- Longitudinal dimensions shown are horizontal.
 - For Plan of Slab Showing Bottom Reinforcement, see Sheets No. 38 & 39.
 - For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 40.
 - For Plate Girder Camber Diagram and Theoretical Slab Haunch, see Sheet No. 27.
 - For Dead Load Deflection, see Sheet No. 28.
 - For Theoretical Bottom of Slab Elevations, see Sheet No. 29.
 - For details and locations of slab drains, see Sheets No. 32 & 33.
 - For details of barrier curb not shown, see Sheets No. 41, 42 & 43.
 - For details of median curb not shown, see Sheets No. 44 & 45.
 - Work this sheet with Sheet No. 37.

DETAILS OF SLAB

Detailed Nov. 2010
Checked Nov. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 36 of 51

