



Oregon

Theodore R. Kulongoski, Governor

Department of Transportation
Technical Services
Roadway Engineering Section
355 Capitol Street NE, Room 222
Salem, OR 97301-3871
Telephone 503-986-3714
FAX 503-986-3749

DATE: October 23, 2009

Addenda No. 1

TO: PLAN HOLDERS

PREPARED BY: Garry Moyer

APPROVED BY: Steve Drahota, P.E.

SUBJECT: OR6:Wilson R-US26:Hwy 47 WB over PNWR (Vadis)-B512
Wilson River & Sunset Highways
Tillamook & Washington Counties
Structures Project
(Bids to be opened and read October 29, 2009)

The following changes are made to the Project Special Provisions:

1. Section 00535 – Resin Bonded Anchor Systems – This Section is replaced with the following Section:

Comply with Section 00535 of the Standard Specifications modified as follows:

Add the following subsection:

Testing

00535.60 Testing - Prior to beginning production anchoring, install 3 anchors at a location agreed upon with the Engineer using the same materials and methods intended for production anchoring. Test anchors according to ASTM E488 to 100% of the minimum pullout force as shown in Table 00535-1. Do not begin production anchoring until the installation process and material has demonstrated its ability to meet the minimum pullout force.

Test production anchors to 90% of the Minimum Pullout Force as shown in Table 00535-1. Test only after the resin has cured according to the manufacture's recommendations. Test at least 1 anchor or 10%, whichever is greater, each day or as directed by the Engineer..

Replace resin bonded anchors that do not meet 90% of minimum pullout force at no cost to the state.

OR6:Wilson R-US26:Hwy 47 WB over PNWR (Vadis)
Wilson River & Sunset Highways
Tillamook & Washington Counties
Bundle 512
Bids to be opened and read October 29, 2009

Addenda No. 1

The following changes are made to the Project Plans:

1. Drawing Numbers 81657, 81659, 81663 and 81667 are replaced with revised Drawing Numbers 81657, 81659, 81663 and 81667.

These changes will be included in the Contract for this Project. It is understood that your Bid will be submitted accordingly.

_____:_____

Attachments: Revised Plan Sheets

GENERAL NOTES:

Provide all materials and perform all work according to the 2008 Oregon Standard Specifications for Construction of the Oregon Department of Transportation (ODOT).

Reinforced concrete crossbeam strengthening is designed with an allowance of 25 psf for future wearing surface.

Reinforced concrete crossbeam strengthening is designed for the following live loads factored in accordance with the AASHTO LRFD Bridge Design Specifications, 4th Edition, 2007 Interims, Strength II Limit State (the largest demand):

- OR-STP-4D
- OR-STP-4E
- OR-STP-5BW

The bridge load rating except for reinforced concrete prestressed slabs is per the current ODOT LRFR Interim Scoping Load Rating Guidelines for Reinforced Concrete Deck Girders with the following factors:

Gamma Dc = 1.25, gamma Dw = 1.25, I = 1.33
 Girders: $\phi_c = 1.00$, $\phi_{sf} = 1.00$, $\phi_{sv} = 1.00$
 Bent Crossbeams: $\phi_c = 1.00$, $\phi_{sf} = 0.85$, $\phi_{sv} = 1.00$

The load rating of reinforced concrete prestressed slabs is per the ODOT Tier-1 Load Rating Procedures (April 2004) with the following factors:

LRFD Rating

Gamma D = 1.20, gamma L = 1.30, I = 1.10
 $\phi = 0.95$

4.0" existing ACWS thickness used in bridge load rating.

Auxiliary seismic support design is in accordance with the AASHTO LRFD Bridge Design Specifications, 4th Edition, 2007 Interims, Extreme Event I Limit State ($\gamma_{eq}=0.0$). Required beam support length in accordance with FHWA "Seismic Retrofitting Manual for Highway Structures" (Dec. 2006).

Seismic retrofit design to prevent superstructure pull-off is based on a Horizontal Spectral Acceleration Coefficient at 1.0s (S_1) of 0.3 and modified by a Site Factor (F_V) of 1.8 for an assumed Site Class D.

See As-Built drawings for details not shown. Location of existing reinforcing steel in drawings is approximate.

Verify dimensions of existing structure. Verify reinforcing steel locations using an electronic rebar locator. Adjust the location of resin bonded anchors to clear existing deck and beam reinforcement. Place anchors within 3 inches of girder centerline.

▲ Provide 1" dia. anchor rods. Provide a high strength resin from the QPL or approved equal. Do not place resin until approved by Inspector.

For drawings of existing structure, see 5986 thru 5988 and 38279 thru 38282.

Provide all reinforcing steel in accordance with ASTM Specification A706 or AASHTO M31 (ASTM A615) Grade 60.

All reinforcing steel shall have a minimum of 2" concrete cover unless shown otherwise.

Reinforcement spacing is maximum unless noted otherwise.

Provide a $\frac{3}{4}$ " chamfer on all exposed concrete edges unless noted otherwise.

Provide class 3300- $\frac{3}{4}$ " concrete for all concrete.

Use uncoated reinforcing steel in all concrete.

Field verify existing conditions prior to fabrication of reinforcing steel.

Where new concrete is placed against existing concrete, roughen existing concrete surface (1/4" min. amplitude) using bush hammer or other approved method.

A resin bonded anchor system selected from ODOT QPL shall be used where doweling is required of new reinforcing bars into existing concrete.

Prior to drilling holes, verify existing reinforcing steel locations by non-destructive means. Adjust proposed locations for new reinforcing steel to clear existing reinforcing steel as necessary.

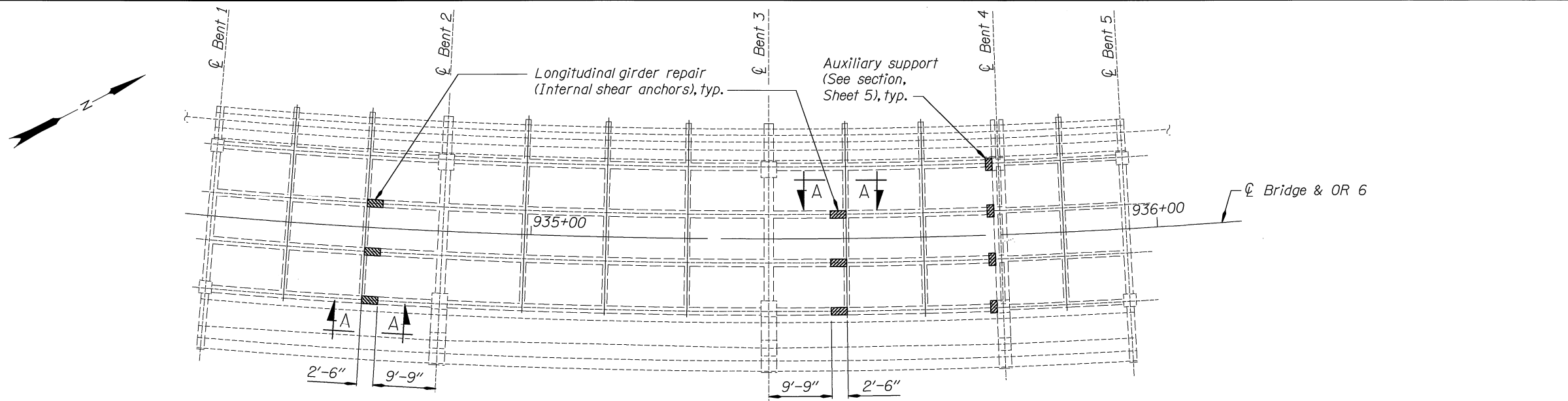
Provide all reinforcing steel according to ASTM Specification A706 or AASHTO M31 (ASTM A615) Grade 60. Provide field bent stirrups according to ASTM Specification A706. Use the following splice lengths unless shown otherwise:

Reinforcing Splice Lengths (Class B) Grade 60

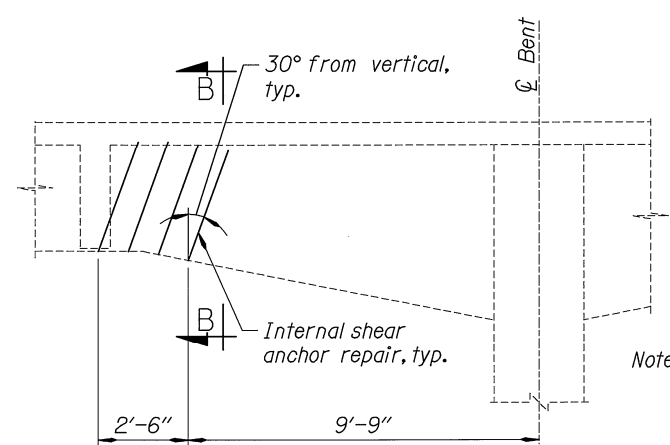
| Bar Size | #3 | #4 | #5 | #6 | #7 | #8 | #9 | #10 | #11 | #14 | #18 |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|-----|
| Splice Length, Uncoated | 1'-0" | 1'-4" | 1'-8" | 2'-0" | 2'-8" | 3'-6" | 4'-4" | 5'-7" | 6'-9" | Not Permitted | |

Splice reinforcing steel at alternate bars, staggered at least one splice length or as far as possible, unless shown otherwise.

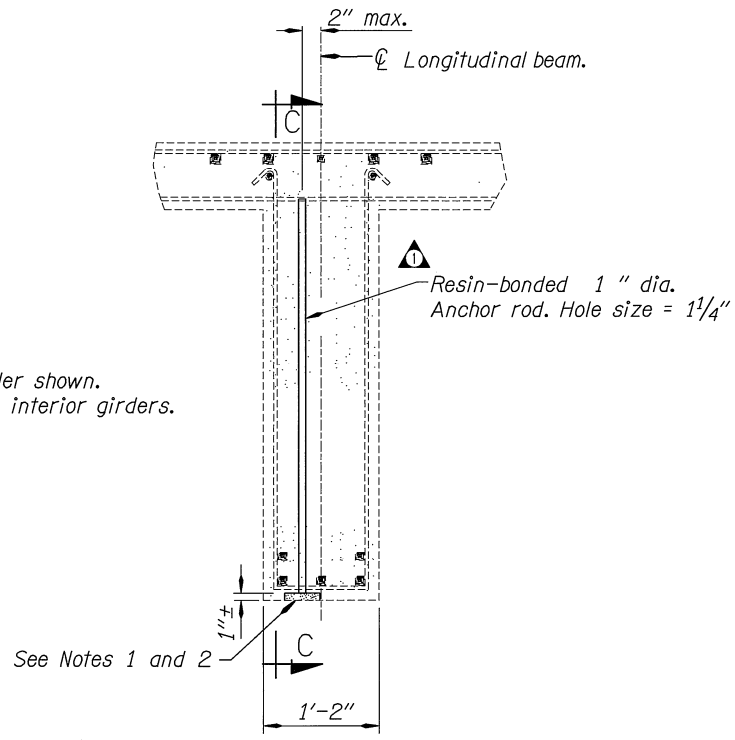
| | | | | | | | | | |
|--|----------|----------------------------|-----|--|---|---|-------------------|--|----------------------|
|  | DATE | REVISION | BY | DRAFTER: <i>Kevin Stiffey</i> DESIGNER: <i>Joseph L. Darlicki</i> CHECKER: <i>William A. Amrhein</i> REVIEWER: <i>Matthew A. Bunner</i> |  |  OREGON DEPARTMENT OF TRANSPORTATION | STRUCTURE NO. | JORDAN CREEK, HWY. 37 OR6: WILSON R-US26: HWY 47 WB OVER PNWR (VADIS)-B512 WILSON RIVER HIGHWAY (HWY. 37) (MP 18.03) TILLAMOOK COUNTY | SHEET |
| | 10-22-09 | Bar Diameter Note Revision | EMG | | | | 01872A | | 2 OF 6 |
| ACCOMPANIED BY DWGS. | | | | CHECKER: <i>Bill Amrhein</i> REVIEWER: <i>Matt Bunner</i> | EXPIRATION DATE: 12/31/09 |  ONE COMPANY <i>Many Solutions</i> SM | DATE June 2009 | CALC. BOOK 6087 | DRAWING NO. 81657 |



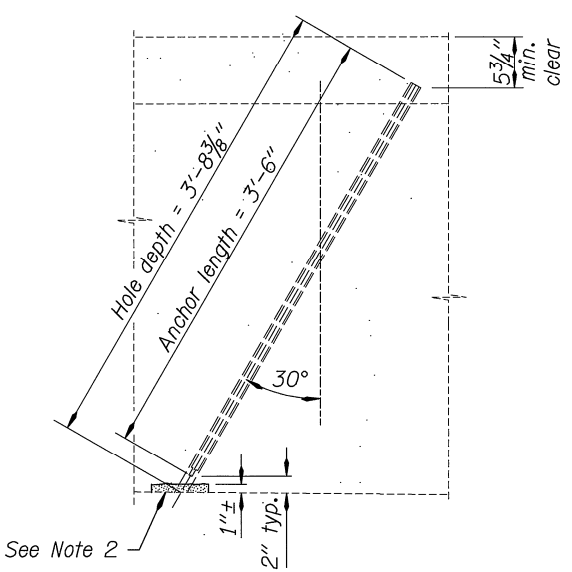
PLAN - REPAIR LOCATIONS
N.T.S.



VIEW A-A
N.T.S.



SECTION B-B
N.T.S.



SECTION C-C
N.T.S.

RESIN BONDED SHEAR ANCHOR CONSTRUCTION SEQUENCE:
 Core-drill hole
 Roughen surface of hole with rotary drill
 Clean hole with wire brush
 Water wash hole to remove debris
 Vacuum out water
 Blow out with dry air to obtain surface dry hole
 Contain core drilling residue and construction debris within limits of the structure.
 See Special Provisions subsection 00536.40 for additional construction requirements.
 Complete the installation of resin bonded anchors for a single girder line across the entire length of the bridge before beginning to core drill on the next girder line.
 Place anchors and resin only for holes drilled the same day or previous day.

Note:
 Patch anchor holes with approved concrete patching material.
 Adjust anchor locations as required to avoid existing top mat rebars. Maximum adjustment = 2".

Note 1:
 Use electronic rebar mapping device to determine core hole locations.

Note 2:
 Remove concrete as necessary to locate existing rebar. Sawcut edges. Do not cut existing rebar. Patch with non-epoxy grout after resin has set. Ensure grout attains a compressive strength of 2000 psi before opening to traffic.

See As-constructed drawings for approximate locations of existing rebar.

| | | | | | | | | |
|----------------------|----------|--------------------------------------|-----|---|---------------------------|---------------|--|-------------|
| | DATE | REVISION | BY | DRAFTER: <i>Kevin Stiffey</i> DESIGNER: <i>Joseph I. Garlicki</i> CHECKER: <i>William Amrhein</i> REVIEWER: <i>Matthew A. Bunner</i> | | STRUCTURE NO. | JORDAN CREEK, HWY. 37 OR6: WILSON R-US26: HWY 47 WB OVER PNWR (VADIS)-B512 WILSON RIVER HIGHWAY (HWY. 37) (MP 18.03) TILLAMOOK COUNTY | SHEET |
| | 10-22-09 | Bar & Hole Dia. Revision-Section B-B | EMG | | | 01872A | | 4 |
| ACCOMPANIED BY DWGS. | | | | | | DATE | REPAIR LOCATION PLAN AND SHEAR ANCHOR SECTIONS | OF |
| | | | | | | June 2009 | | 6 |
| | | | | | EXPIRATION DATE: 12/31/09 | CALC. BOOK | 6087 | DRAWING NO. |
| | | | | | | 81659 | | |

GENERAL NOTES:

Provide all materials and perform all work according to the 2008 Oregon Standard Specifications for Construction of the Oregon Department of Transportation (ODOT).

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Seismic retrofit design to prevent superstructure pull-off is based on a Horizontal Spectral Acceleration Coefficient at 1.0s (S_1) of 0.3 and modified by a Site Factor (F_v) of 1.8 for an assumed Site Class D.

See As-Built drawings for details not shown. Location of existing reinforcing steel in drawings is approximate.

Verify dimensions of existing structure. Verify reinforcing steel locations using an electronic rebar locator. Adjust the location of resin bonded anchors to clear existing deck and beam reinforcement. Place anchors within 3 inches of girder centerline.

⚠ Provide 1" dia. anchor rods. Provide a high strength resin from the QPL or approved equal. Do not place resin until approved by Inspector.

For drawings of existing structure, see 8384 thru 8388 and 49348.

Provide all reinforcing steel in accordance with ASTM Specification A706 or AASHTO M31 (ASTM A615) Grade 60.

All reinforcing steel shall have a minimum of 2" concrete cover unless shown otherwise.

Reinforcement spacing is maximum unless noted otherwise.

Provide a 3/4" chamfer on all exposed concrete edges unless noted otherwise.

Provide class 3300-3/4" concrete for all concrete.

Use uncoated reinforcing steel for all concrete.

Field verify existing conditions prior to fabrication of reinforcing steel.

Where new concrete is placed against existing concrete, roughen existing concrete surface (1/4" min. amplitude) using bush hammer or other approved method.

A resin bonded anchor system selected from ODOT QPL shall be used where doweling is required of new reinforcing bars into existing concrete.

Prior to drilling holes, verify existing reinforcing steel locations by non-destructive means. Adjust proposed locations for new reinforcing steel to clear existing reinforcing steel as necessary.

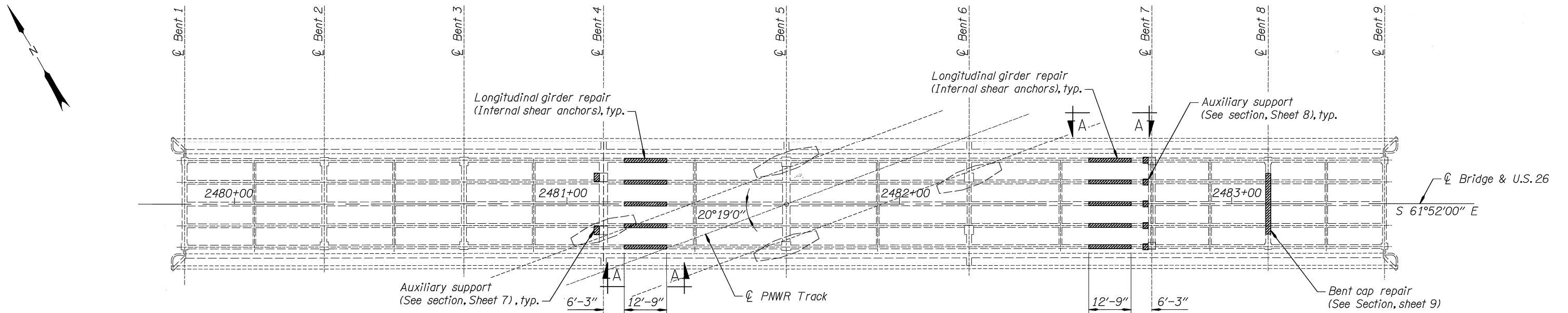
Provide all reinforcing steel according to ASTM Specification A706 or AASHTO M31 (ASTM A615) Grade 60. Provide field bent stirrups according to ASTM Specification A706. Use the following splice lengths unless shown otherwise:

Reinforcing Splice Lengths (Class B) Grade 60

| Bar Size | #3 | #4 | #5 | #6 | #7 | #8 | #9 | #10 | #11 | #14 | #18 |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|-----|
| Splice Length, Uncoated | 1'-0" | 1'-4" | 1'-8" | 2'-0" | 2'-8" | 3'-6" | 4'-4" | 5'-7" | 6'-9" | Not Permitted | |

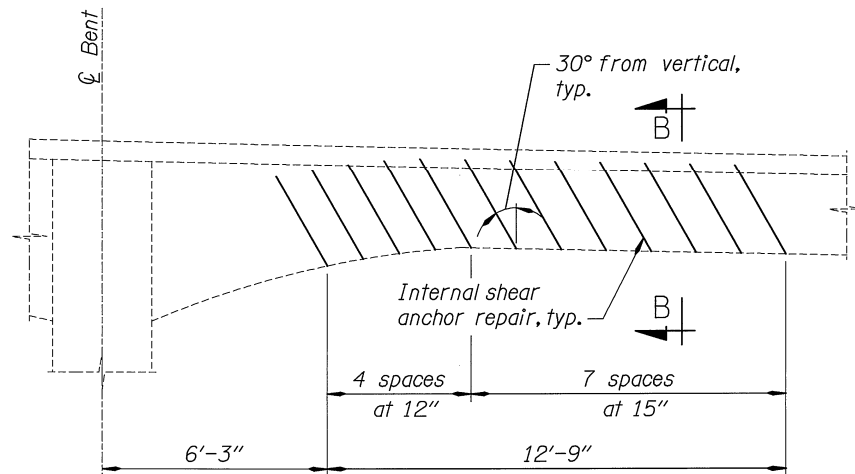
Splice reinforcing steel at alternate bars, staggered at least one splice length or as far as possible, unless shown otherwise.

| | | | | | | | | | |
|---------------------------|----------|----------------------------|-----|--|--|---|--------------------|---|-------|
| | DATE | REVISION | BY | DRAFTER: <i>Kevin Stiffey</i> DESIGNER: <i>Joseph I. Zarlicki</i> CHECKER: <i>William A. Amrhein</i> REVIEWER: <i>Matthew A. Bunner</i> | | | STRUCTURE NO. | HWY. 47 WB OVER PNWR (VADIS) ORG: WILSON R-US26:HWY 47 WB OVER PNWR (VADIS)-B512 SUNSET HIGHWAY (HWY. 47 WB) (MP 55.72W) WASHINGTON COUNTY | SHEET |
| | 10-22-09 | Bar Diameter Note Revision | EMG | | | | 02367 | | 2 |
| ACCOMPANIED BY DWGS. | | | | DESIGNER: <i>Joe Garlicki</i> CHECKER: <i>Bill Amrhein</i> REVIEWER: <i>Matt Bunner</i> | | ONE COMPANY Many Solutions SM | DATE | GENERAL NOTES | OF |
| | | | | CHECKER: <i>Matthew A. Bunner</i> REVIEWER: <i>Matt Bunner</i> | | | CALC. BOOK 6088 | | 10 |
| | | | | | | | | DRAWING NO. | 81663 |



PLAN - REPAIR LOCATIONS

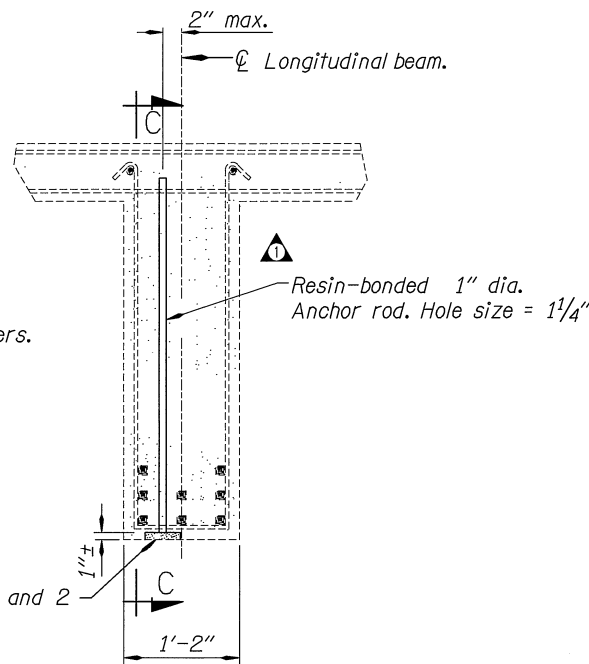
N.T.S.



VIEW A-A

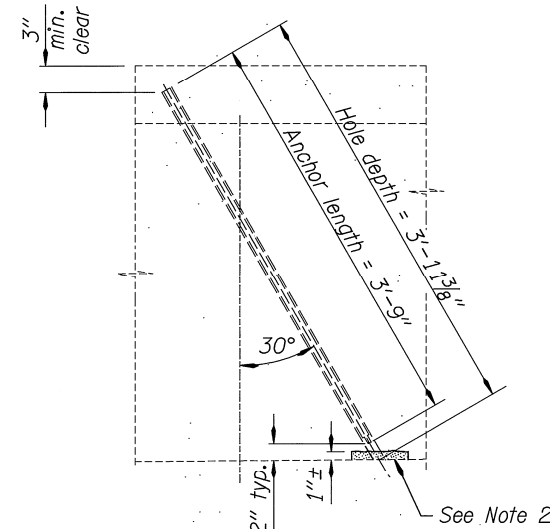
N.T.S.

Note: Exterior girder shown.
No haunch on interior girders.



SECTION B-B

N.T.S.



SECTION C-C

N.T.S.

Note: Patch anchor holes with approved concrete patching material.

Adjust anchor locations as required to avoid existing top mat rebars. Maximum adjustment = 2".

Note 1: Use electronic rebar mapping device to determine core hole locations.

Note 2: Remove concrete as necessary to locate existing rebar, sawcut edges. Do not cut existing rebar. Patch with non-epoxy grout after resin has set. Ensure grout attains a compressive strength of 2000 psi before opening to traffic.

See As-constructed drawings for approximate locations of existing rebar.

RESIN BONDED SHEAR ANCHOR CONSTRUCTION SEQUENCE:

- Core-drill hole
- Roughen surface of hole with rotary drill
- Clean hole with wire brush
- Water wash hole to remove debris
- Vacuum out water
- Blow out with dry air to obtain surface dry hole
- Contain core drilling residue and construction debris within limits of the structure.
- See Special Provisions subsection 00536.40 for additional construction requirements.
- Complete the installation of resin bonded anchors for a single girder line across the entire length of the bridge before beginning to core drill on the next girder line.
- Place anchors and resin only for holes drilled the same day or previous day.

| | | | | | | | | | |
|----------------------|--------------------|-----------|--------------------------------------|-----------|-------------------|--|---|--|------------------------|
| DATE | 10-22-09 | REVISION | Bar & Hole Dia. Revision-Section B-B | BY | EMG | STRUCTURE NO. | 02367 | HWY. 47 WB OVER PNWR (VADIS) OR6:WILSON R-US26:HWY 47 WB OVER PNWR (VADIS)-B512 SUNSET HIGHWAY (HWY. 47 WB) (MP 55.72W) WASHINGTON COUNTY | SHEET 6 OF 10 |
| | DATE | June 2009 | DATE | June 2009 | DATE | | June 2009 | | |
| DESIGNER: | Joseph I. Darlicki | CHECKER: | William Amrhein | REVIEWER: | Matthew A. Bunner | CALC. BOOK | 6088 | REPAIR LOCATION PLAN AND SHEAR ANCHOR SECTIONS | DRAWING NO. 81667 |
| DESIGNER: | Joe Garlicki | CHECKER: | William Amrhein | REVIEWER: | Matthew A. Bunner | CALC. BOOK | 6088 | | |
| ACCOMPANIED BY DWGS. | | | | | | REGISTERED PROFESSIONAL ENGINEER 76759PE Oregon MAY 10, 2005 STEVEN M. DRABOTHA EXPIRATION DATE: 12/31/09 | OREGON DEPARTMENT OF TRANSPORTATION | | |
| | | | | | | HDR | ONE COMPANY Many Solutions SM | | |