WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Skagit County Petitioner, vs. Burlington Northern Santa Fe Railway Respondent	DOCKET NO. TR- PETITION TO CONSTRUCT OR RECONSTRUCT A RAILROAD-HIGHWAY GRADE SEPARATION (OVERCROSSING OR UNDERCROSSING) USDOT CROSSING NO.: 967619S

The Petitioner asks the Washington Utilities and Transportation Commission (UTC) to approve

☐ **Construction** ☒ **Reconstruction**

of a railroad-highway grade separation (overcrossing or undercrossing[1]) as described in this petition. *RCW 81.53.060.*

Section 1 – Petitioner's Information

Skagit County
Petitioner

Pat A. Rolls, COUNTY ENGINEER
Signature

1800 Continental Place
Street Address

Mount Vernon, WA 98273
City, State and Zip Code

Same
Mailing Address, if different than the street address

Forrest Jones
Contact Person Name

360-416-1422 forrestj@co.skagit.wa.us
Contact Phone Number and Email Address

[1] An overcrossing means any point or place where a highway crosses a railroad by passing above the same, or any point or place where one railroad crosses another railroad not at grade. An undercrossing means any point or place where a highway crosses a railroad by passing under the same, or any point or place where one railroad crosses another not at grade. *RCW 81.53.010*

Section 2 – Respondent's Information

Burlington Northern Santa Fe Railway
Respondent

2454 Occidental Avenue South, Suite 2D
Street Address

Seattle, WA 98134
City, State and Zip Code

Same
Mailing Address, if different than the street address

Stephen Semenick, Manager of Public Projecs
Contact Person Name

206-625-6413 Stephen.Semenick@BNSF.com
Contact Phone Number and Email Address

Section 3 – Proposed or Existing Crossing Location

1. Existing highway/roadway Old Highway 99 North

2. GPS location Lat: 48.51194 N. Long: 122.33750 W

3. Railroad mile post (nearest tenth) MP 74.62

4. City Burlington County Skagit

Section 4 – Current Highway Traffic Information

1. Name of highway Old Highway 99 North

2. Road authority Skagit County

3. Average annual daily traffic (AADT) 6,000

4. Number of lanes 2

5. Roadway speed 35 MPH

6. Is the crossing part of an established truck route? Yes X No ____

7. If so, trucks are what percent of total daily traffic? 11- 16

8. Is the crossing part of an established school bus route? Yes X No ____

9. If so, how many school buses travel over the crossing each day? 4

Section 5 – Crossing Traffic Information

1. Name of railroad(s) operating at crossing:
Burlington Northern Santa Fe, Amtrak

2. Type of railroad at crossing ☒ Common Carrier ☐ Logging ☐ Industrial

☒ Passenger ☐ Excursion

5. Type of tracks at crossing ☒ Main Line ☐ Siding or Spur

6. Number of tracks at crossing 1

7. Average daily train traffic, freight 18

Authorized freight train speed 59 Operated freight train speed 50

8. Average daily train traffic, passenger 2

Authorized passenger train speed 79 Operated passenger train speed 79

Section 6 – Description of Crossing Construction/Reconstruction

1. Describe in detail the reasons for constructing or reconstructing a grade separation at this location (attach additional information sheets to petition as needed):

The existing structure was built in 1936 and the 1,183 foot overpass being comprised of mostly a timber structure with the main span being steel girders. The overpass is structurally deficient with a rating of 3 out of a possible 100. The bridge/overpass was fitted with temporary shoring to allow the current truck traffic to keep using it, or it would have resulted in a load restriction of 8 tons. Due to the age and deteriorating timber structure with 9 red tagged bridge piles and caps, in addition to numerous other yellow tagged timbers. The County has determined for public safety and the increasing cost of maintaining the overpass, it should be replaced. In addition, this is alternative route for I-5 during emergency closures and construction detours. The overpass also provides access to 3 gravel pits, a concrete plant, and asphalt plant that use the overpass on a daily basis. This route also provides access to a truck stop/fueling station that use to overpass from the north for easier access.

2. How far is the nearest alternate access across the tracks from the crossing?

7.8 Miles

3. Describe the alternate access route, including distance and driving time:

The alternate access across the tracks would be to drive to the north and Bow Hill Road to access I-5 and then back south to Cook Road and the intersection of Old Highway 99 North. The driving time for this route is 12 to 15 minutes depending on signals.

There is a parallel road to the east, but it is restricted to trucks due to surface conditions and width, and would require routing trucks over an already busy (12,000) AADT at grade crossing on Cook Road.

4. If new construction, will the proposed crossing eliminate the need for one or more existing crossings?

Yes ____ No ____ N/A X

5. If so, identify the crossing(s) by USDOT number and state the distance and direction from the proposed crossing.

USDOT No. 967619S, the grade separated crossing would be at the existing location.

6. If the grade separation is replacing an existing at-grade crossing, describe what will happen with the existing crossing during construction of the grade separation, as well as what will happen with the crossing surface, signage, and signal equipment once the grade separation is complete.

This crossing is replacing an existing grade separated crossing.

6. Who is responsible for long-term maintenance of the grade separation?

Skagit County Public Works is responsible for all maintenance of the overpass.

Section 7 – Illustration of Crossing

Attach a diagram, map, or other illustration showing the location of the railroad and the proposed/existing location of the crossing. If this is a reconstruction, include design-level drawings of the proposed changes to the grade separation.

If this is a new grade separation, include the parcels of private property located on both sides of the proposed crossing for a distance of 500' from the crossing and the name and mailing address of each property owner.

Section 8 – Waiver of Hearing by Respondent

Waiver of Hearing

The undersigned represents the Respondent in this petition to construct a highway-rail grade separation.

We have investigated the conditions at the crossing. We are satisfied the conditions are the same as described by the Petitioner in this docket. We do not oppose the proposed grade-separated crossing and consent to a decision by the commission without a hearing.

Dated at Seattle, Washington, on the 8th day of October, 20 18.

Burlington Northern Santa Fe Railway
Printed name of Respondent

Signature of Respondent's Representative

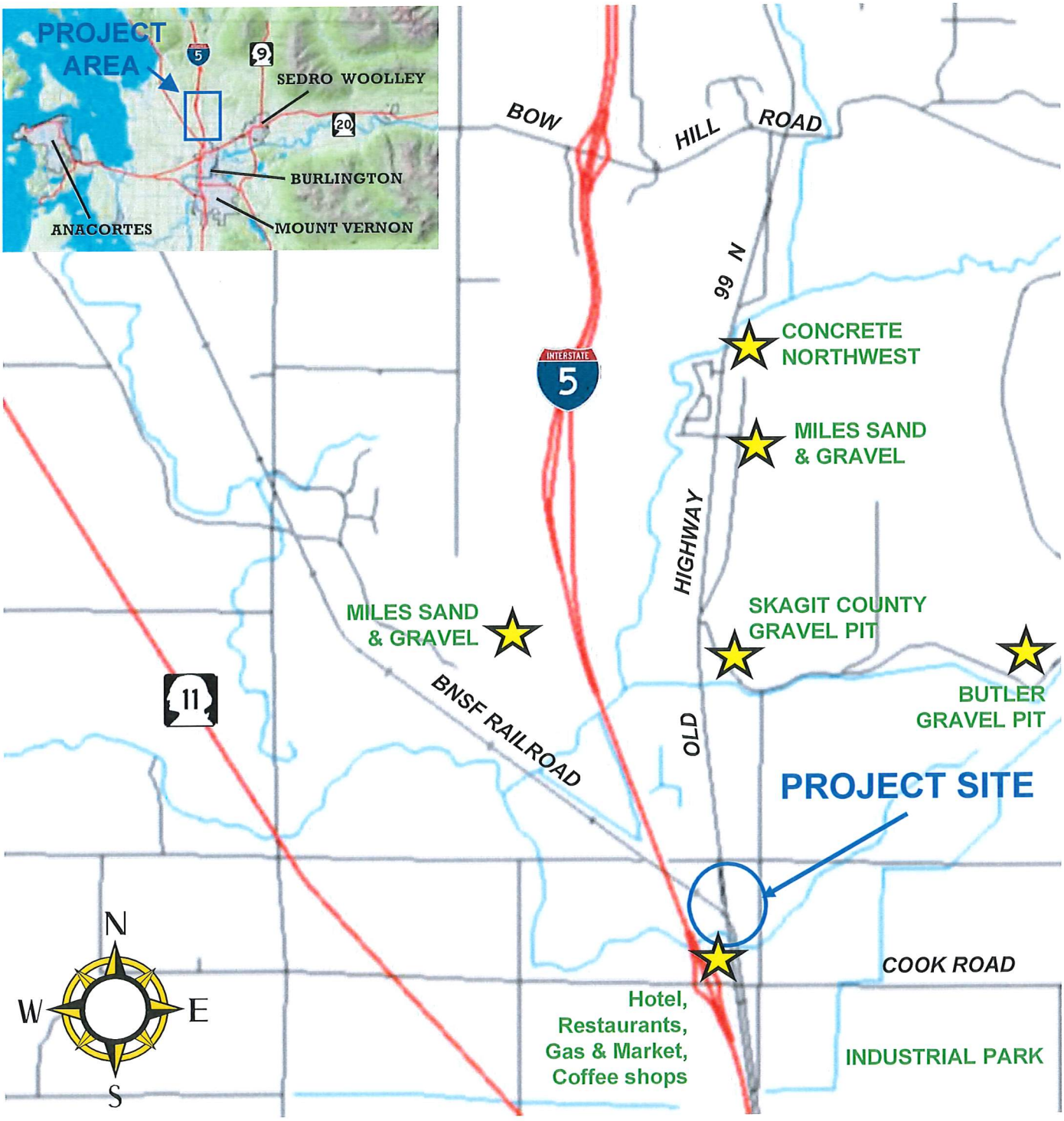
Manager Public Projects
Title

206-625-6152 stephen.semenick@bnsf.com
Phone number and email address

2454 Occidental Ave S, Suite 2D

Seattle, WA 98134
Mailing address

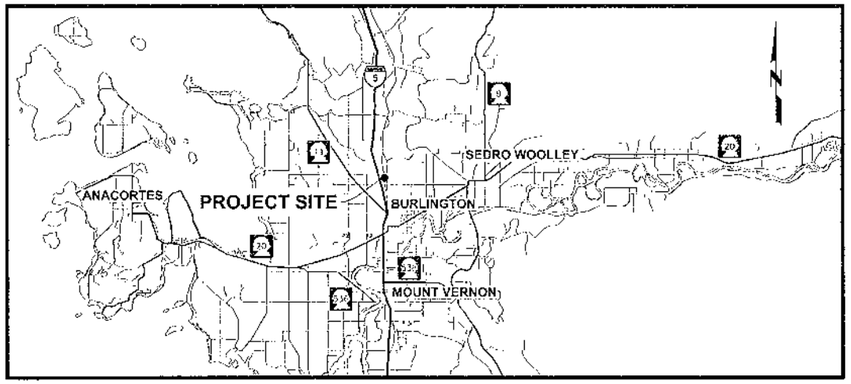
BURLINGTON NORTHERN OVERPASS REPLACEMENT PROJECT

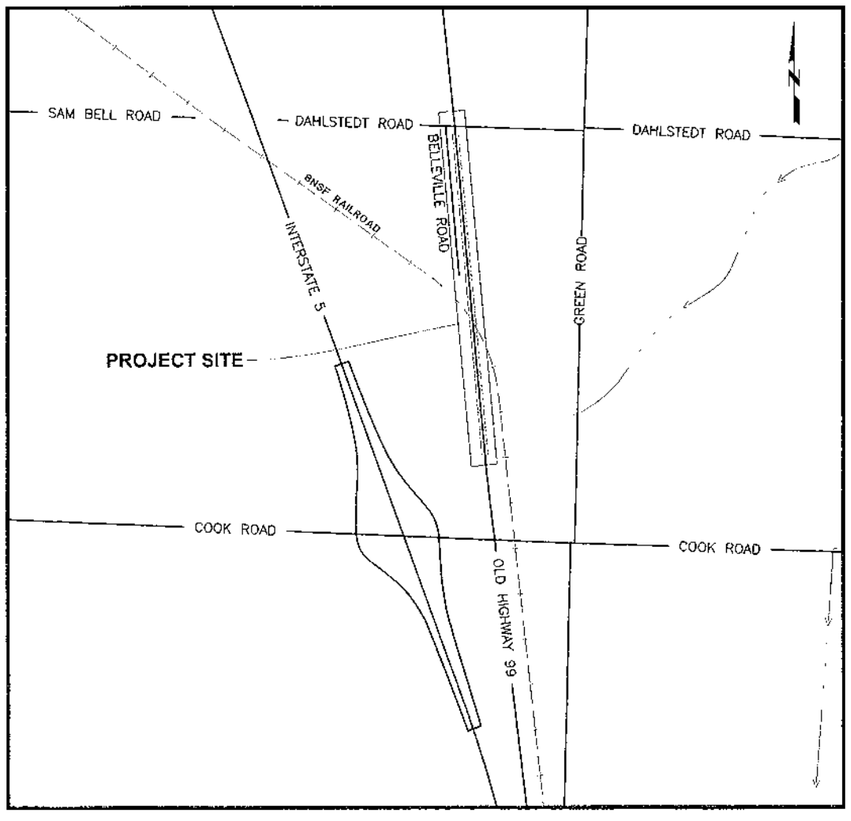


BURLINGTON NORTHERN OVERPASS PROJECT

ES50510-8

FEDERAL AID NUMBER BRS-M291(006)





VICINITY MAP NTS

PLAN SHEET INDEX

PLAN SHEET INDEX - CONTINUED

PLAN SHEET INDEX - CONTINUED

SKAGIT COUNTY OFFICIALS

BOARD OF COMMISSIONERS
- LISA JANICKI, CHAIR
- RON WESEN, COMMISSIONER
- KENNETH A. DAHLSTEDT, COMMISSIONER

PUBLIC WORKS
- DAN BERENTSON, DIRECTOR

10.11.16
PAUL A. RANDALL-GRUTTER, P.E., COUNTY ENGINEER — DATE

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 416-1400 FAX (360) 336 9478

CALL TWO (2) BUSINESS DAYS BEFORE YOU DIG
1-800 424 5555

NAVD 88

BergerABAM
1301 Fifth Avenue, Suite 1200
Seattle, Washington 98101-2677
(206) 357-5600 FAX: (206) 357-5601

DATE	REVISIONS	NO.

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-M291(006)
DESIGNED BY: CAC | DRAWN BY: CAC
CHECKED BY: NAF | APPROVED BY: RLF

PROJECT LOCATED NEAR: BURLINGTON, WA
SECTION 19, TOWNSHIP 35 N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

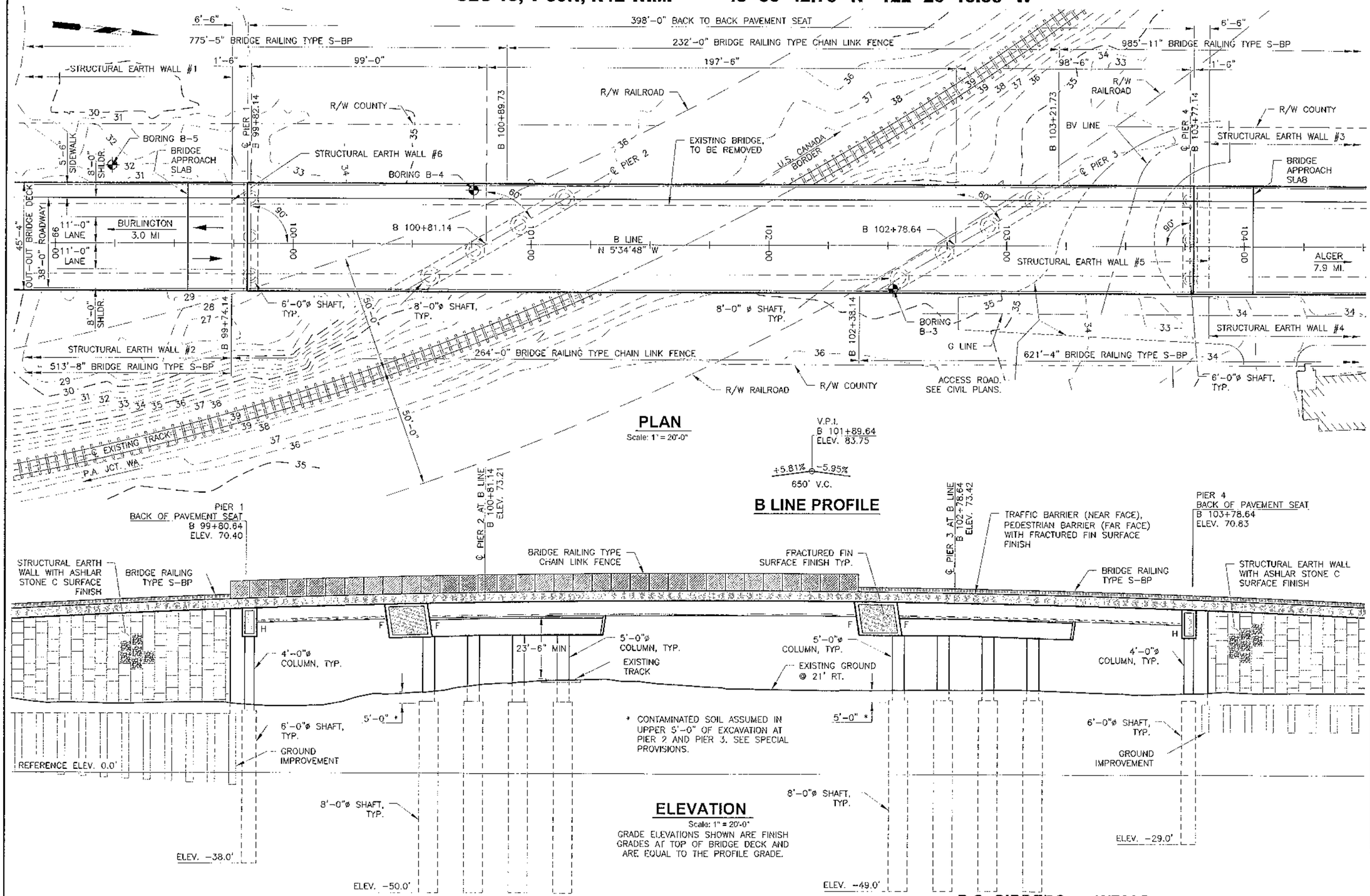
COVER SHEET (CV-01)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 1 OF 117

Last Saved by: Jef on: Jul 10, 2013 8:28 AM File: S:\Support\Alfa\xTS_A13.0324.dwg

SEC 19, T 35N, R4E W.M. 48° 30' 42.75" N 122° 20' 15.53" W



PLAN
Scale: 1" = 20'-0"

V.P.I.
B 101+89.64
ELEV. 83.75
+5.81% -5.95%
650' V.C.

B LINE PROFILE

℄ PIER 2 AT B LINE
B 100+81.14
ELEV. 73.21

℄ PIER 3 AT B LINE
B 102+78.64
ELEV. 73.42

PIER 1
BACK OF PAVEMENT SEAT
B 99+80.64
ELEV. 70.40

PIER 4
BACK OF PAVEMENT SEAT
B 103+78.64
ELEV. 70.83

* CONTAMINATED SOIL ASSUMED IN UPPER 5'-0" OF EXCAVATION AT PIER 2 AND PIER 3. SEE SPECIAL PROVISIONS.

ELEVATION
Scale: 1" = 20'-0"

GRADE ELEVATIONS SHOWN ARE FINISH GRADES AT TOP OF BRIDGE DECK AND ARE EQUAL TO THE PROFILE GRADE.

DATUM: NAVD88

P.C. GIRDERS: WF83G
LOADING: HL-93

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Pinnacle Ave. Ste B, Sedro-Woolley, WA 98284 (253) 761-7830

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336-9478

REVISIONS | NO. | DATE

PROJECT NO.: BSS0510-8
FED. AID NO.: BAS-M29(005)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

BRIDGE LAYOUT (S-1)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
50 OF 117

CONSTRUCTION NOTES:

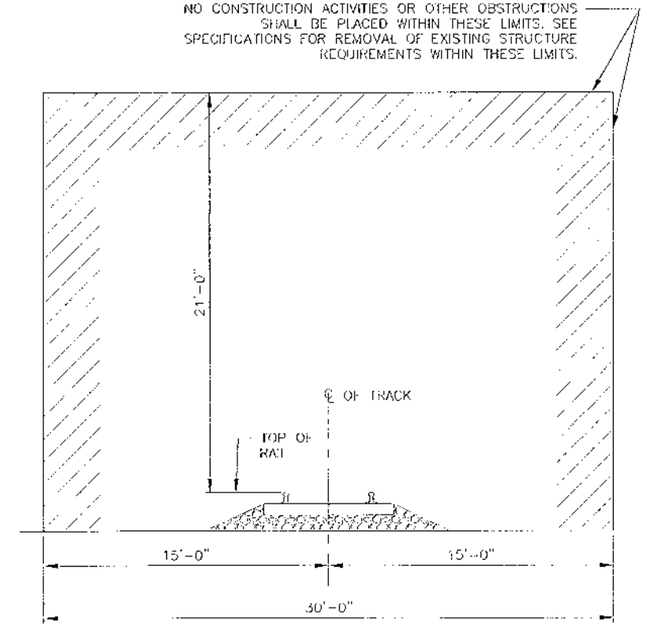
1. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) 2016 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION AND AMENDMENTS, THE CURRENT (WSDOT) STANDARD PLANS, AND SKAGIT COUNTY STANDARDS UNLESS INDICATED OTHERWISE BY THE CONTRACT DOCUMENTS.
2. UNDERGROUND UTILITIES MAY EXIST IN THE AREA OF CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ANY AND ALL UTILITIES IN THE AREA AND FIELD VERIFY THESE LOCATIONS PRIOR TO CONSTRUCTION. THE ONE-CALL NUMBER FOR UNDERGROUND UTILITIES IS: 1-800-424-5555. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER PROMPTLY OF ANY CONFLICT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ADJACENT UTILITIES WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO: WATER, SEWER, STORM SEWER, TRAFFIC CONTROL SIGNS, POWER, TELEPHONE, CABLE TV, IRRIGATION, AND STREET LIGHTING.
4. THE CONTRACTOR IS REQUIRED TO HAVE A COMPLETE SET OF THE APPROVED ROAD AND BRIDGE PLANS ON SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
5. IF THE CONTRACTOR DISCOVERS ANY DISCREPANCIES BETWEEN THE PLANS AND THE EXISTING CONDITIONS ENCOUNTERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
6. STORM WATER POLLUTION PREVENTION PLAN SHALL BE INSTALLED PRIOR TO STARTING ANY EARTHWORK.
7. ACCESS FOR AREA RESIDENTS AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES 48 HOURS IN ADVANCE OF ANY WORK AFFECTING ACCESS OR SERVICE AND SHALL MINIMIZE INTERRUPTIONS TO DRIVEWAYS FOR RESIDENTS AND BUSINESSES ADJACENT TO THE PROJECT.
8. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND FERTILIZED FOR EROSION CONTROL. THE CONTRACTOR IS RESPONSIBLE FOR SLOPE EROSION PROTECTION UNTIL VEGETATION IS ESTABLISHED.
9. UNLESS OTHERWISE SHOWN IN THE PLANS, THE CONCRETE COVER MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING STEEL SHALL BE 2½ INCHES AT THE TOP OF THE BRIDGE SLAB, 1 INCH AT THE BOTTOM THE BRIDGE SLAB, 3 INCHES FOR CONCRETE CAST AGAINST EARTH, 2 INCHES FOR CONCRETE FORMED AND BACKFILLED, 1⅜" AT STIRRUP TIE BARS AND 2 INCHES AT ALL OTHER LOCATIONS.
10. PROVIDE ¾ INCH CHAMFER AT ALL EXPOSED CONCRETE EDGES.
11. ALL DIMENSIONS ON THESE DRAWING SHALL TAKE PRECEDENCE OVER INDICATED SCALE. DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. NO LENGTH OR SHAPE IS IMPLIED UNLESS IT IS DIMENSIONED.

GENERAL NOTES

DESIGN:	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 2014 7TH EDITION WITH 2015 INTERIM REVISIONS. SEISMIC DESIGN PER AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, 2011 2ND EDITION WITH 2012-2015 INTERIM REVISIONS. WASHINGTON DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL, APRIL 2015 EDITION.
DEAD LOAD:	DESIGN INCLUDES 25 PSF FOR FUTURE WEARING SURFACE.
LIVE LOAD:	HL 93
SEISMIC PARAMETERS:	SITE CLASS "D" PGA = 0.32g (0.0 SEC.) SS = 0.73g (0.2 SEC.) S1 = 0.24g (1.0 SEC.)
EARTHQUAKE RESISTING SYSTEM:	THE BRIDGE IS DESIGNED AS TYPE 1: DUCTILE SUBSTRUCTURE WITH ESSENTIALLY ELASTIC SUPERSTRUCTURE PLASTIC HINGING AT THE TOP OF THE COLUMN ADJACENT TO THE CAP BEAM, AND AT THE BOTTOM OF THE COLUMN AT THE TOP OF SHAFT.
REINFORCEMENT:	ASTM A706 SPACE REINFORCING STEEL EVENLY UNLESS OTHERWISE NOTED.
CONCRETE:	CLASS 4000 WITH AIR IN COLUMNS, FOOTINGS, PIER 2 AND PIER 3 CAP BEAMS, BARRIERS, AND APPROACH SLABS. CLASS 6000 WITH AIR IN PIER 1 AND PIER 4 CAP BEAMS CLASS 4000D IN DECK. CLASS 4000P IN SHAFTS.
PRECAST CONCRETE:	SEE GIRDER DRAWINGS

RAILROAD NOTES:

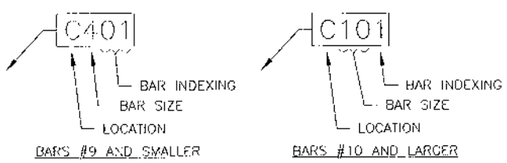
1. ANY SHORING SYSTEM THAT IMPACTS THE RAILROAD'S OPERATION AND/OR SUPPORTS THE RAILROAD'S EMBANKMENT SHALL BE DESIGNED AND CONSTRUCTED PER RAILROAD GUIDELINES FOR TEMPORARY SHORING.
2. ALL DEMOLITION WITHIN THE RAILROAD'S RIGHT-OF-WAY AND/OR DEMOLITION THAT MAY IMPACT THE RAILROAD'S TRACKS OR OPERATIONS SHALL COMPLY WITH THE RAILROAD'S DEMOLITION REQUIREMENTS.
3. ERECTION OVER THE RAILROAD'S TRACK SHALL BE PLANNED SUCH THAT IT ENABLES THE TRACK(S) TO REMAIN OPEN TO TRAFFIC PER RAILROAD REQUIREMENTS.
4. THE ELEVATION OF THE EXISTING TOP-OF-RAIL PROFILE SHALL BE VERIFIED BEFORE BEGINNING CONSTRUCTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE RAILROAD PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR MUST SUBMIT A PROPOSED METHOD OF EROSION AND SEDIMENT CONTROL AND HAVE THE METHOD APPROVED BY THE RAILROAD PRIOR TO BEGINNING ANY GRADING ON THE PROJECT SITE.
6. FOR RAILROAD COORDINATION PLEASE REFER TO THE RAILROAD'S COORDINATION REQUIREMENTS AS PART OF THE SPECIFICATIONS OR SPECIAL PROVISIONS OF THE PROJECT.
7. TEMPORARY CONSTRUCTION CLEARANCES, INCLUDING FALSEWORK CLEARANCES, SHALL COMPLY WITH THE MINIMUM CONSTRUCTION CLEARANCE ENVELOPE SHOWN THIS SHEET. SEE SPECIFICATIONS FOR REMOVAL OF EXISTING STRUCTURE REQUIREMENTS WITHIN THESE LIMITS.
8. ALL PERMANENT CLEARANCES SHALL BE VERIFIED BEFORE PROJECT CLOSEOUT. SEE THE SPECIFICATIONS FOR VERIFICATION DOCUMENT REQUIREMENTS.
9. FOR RAILROAD STOPPAGE REQUIREMENTS AND DATES SEE SPECIAL PROVISIONS.



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

Scale: 1/4" = 1'-0"

LOOKING NORMAL TO RAILROAD



BAR MARK DEFINITION

SCALE: N.T.S.

C = COLUMN
D = DECK
P = PIER
S = SHAFT
SW = SIDEWALK

ABBREVIATIONS

&	AND
@	AT
℄	CENTERLINE
°	DEGREE
ø	DIAMETER
ℙ	PLATE
ABT.	ABOUT
ABUT.	ABUTMENT
APPROX.	APPROXIMATE
C.J.	CONSTRUCTION JOINT
CLR.	CLEAR
EA.	EACH
E.F.	EACH FACE
ELEV.	ELEVATION
EQ.	EQUAL
F	FIXED
GTR	GUTTER
H	HINGE
HOR.	HORIZONTAL
MAX.	MAXIMUM
MIN.	MINIMUM
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
S.E.W.	STRUCTURAL EARTH WALL
SPA.	SPACING
STA	STATION/STATIONING
STD.	STANDARD
TYP.	TYPICAL
VERT.	VERTICAL

SHEARER DESIGN LLC
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(206) 781-7939
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES665(1)-3
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

BRIDGE GENERAL NOTES (S-2)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

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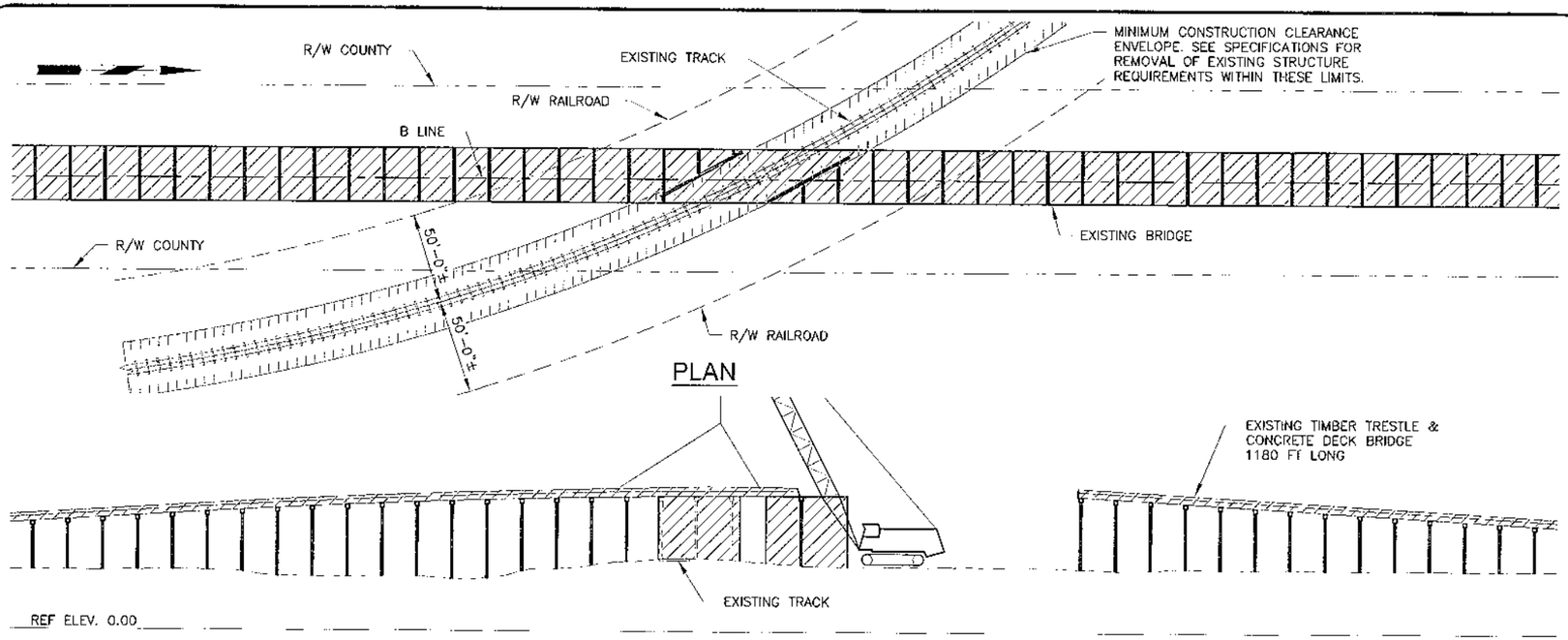
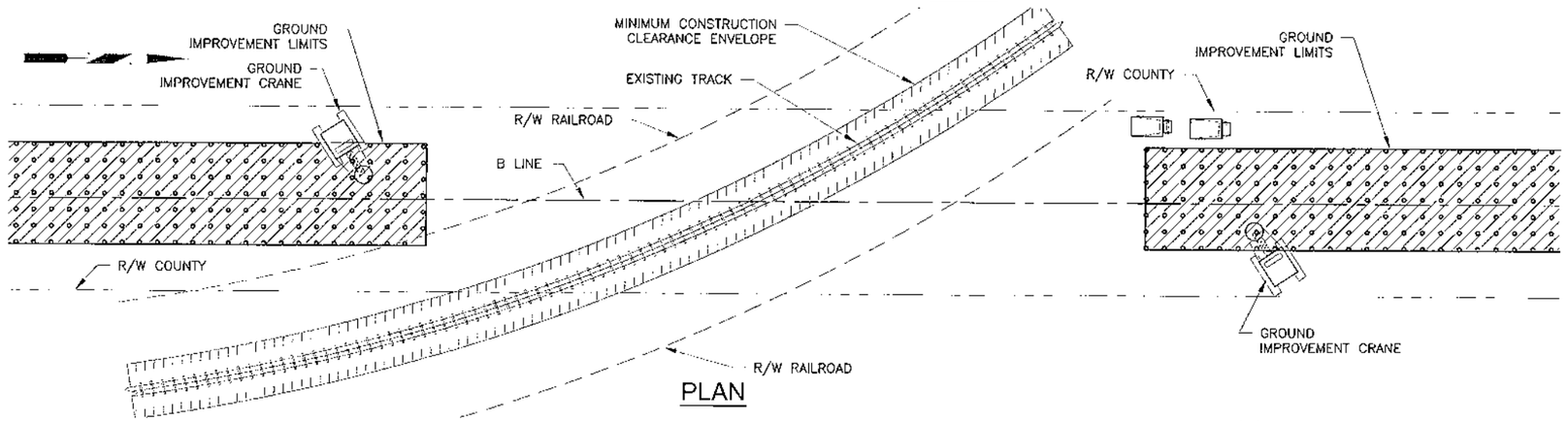


STEP 1 REMOVE EXISTING BRIDGE



STEP 2 GROUND IMPROVEMENT

CONSTRUCTION SEQUENCE

SUGGESTED SEQUENCE SHOWN IS ONE POTENTIAL SEQUENCE. FINAL SEQUENCE SHALL BE DETERMINED BY THE CONTRACTOR.

STEP DESCRIPTION

1. REMOVE EXISTING BRIDGE.
2. INSTALL GROUND IMPROVEMENTS.
3. CONSTRUCT DRILLED SHAFTS.
4. CONSTRUCT COLUMNS & CAP BEAMS AT PIER 1, PIER 2 & PIER 3.
5. ERECT AND BRACE MAIN SPAN GIRDERS.
6. CONSTRUCT PIER 4 AND SIDE SPAN GIRDERS:
   - 6.1. CONSTRUCT COLUMN AND CAP AT PIER 4.
   - 6.2. ERECT AND BRACE SIDE SPAN GIRDERS.
7. CONSTRUCT STRUCTURAL EARTH WALLS.
8. COMPLETE SUPERSTRUCTURE, SEE "SUPERSTRUCTURE CONSTRUCTION SEQUENCE":
   - 8.1. CONSTRUCT LOWER STAGE OF PIER DIAPHRAGMS AND INTERMEDIATE DIAPHRAGMS.
   - 8.2. CONSTRUCT CONCRETE BRIDGE DECK.
   - 8.3. CONSTRUCT UPPER STAGE OF PIER DIAPHRAGMS.
   - 8.4. CONSTRUCT BRIDGE APPROACH SLABS.
   - 8.5. CONSTRUCT TRAFFIC BARRIER, PEDESTRIAN BARRIER AND SIDEWALK ON BRIDGE AND STRUCTURAL EARTH WALLS.
   - 8.6. CONSTRUCT BRIDGE RAILING TYPE S-BP AND BRIDGE RAILING TYPE CHAIN LINK FENCE

NOTES

1. SEE SPECIFICATIONS SECTIONS 1-07.18 AND 1-08.5 FOR FOR INFORMATION REGARDING COORDINATION WITH THE RAILROAD, ACCESS TO RAILROAD RIGHT OF WAY, DATES OF RESTRICTED ACCESS AND OTHER INFORMATION REQUIRED FOR WORKING IN AND AROUND THE RAILROAD RIGHT OF WAY.
2. INSTALL TEMPORARY BRACING FOR ERECTION OF GIRDERS IN ACCORDANCE WITH STD. SPECIFICATION SECTION 6-02.3(17)F4.
3. INSTALL TEMPORARY BRACING FOR DIAPHRAGM AND DECK PLACEMENT IN ACCORDANCE WITH STD. SPECIFICATION SECTION 6-02.3(17)F5.
4. DECK SLAB CONCRETE SHALL BE PLACED A MINIMUM OF 24 HOURS AFTER THE LOWER SECTION OF THE PIER DIAPHRAGM CONCRETE.
5. NO LIVE LOAD SHALL BE ALLOWED ON THE SPANS UNTIL THE COMPRESSIVE STRENGTH OF THE TOP PORTION OF THE PIER DIAPHRAGM HAS REACHED 3,000 PSI.
6. CONSTRUCTION SEQUENCE SHOWN REPRESENTS ONE POSSIBLE SEQUENCE. THE ACTUAL CONSTRUCTION SEQUENCE SHALL BE DETERMINED BY THE CONTRACTOR.
7. SEE CIVIL PLANS FOR TEMPORARY CONSTRUCTION EASEMENTS, WETLANDS, WETLAND BUFFERS AND OTHER EXISTING FEATURES THAT MAY AFFECT CONSTRUCTION ACTIVITIES.

LEGEND

- WORK UNDER CONSTRUCTION
- COMPLETED WORK

SHEARER DESIGN LLC
3613 Phinney Ave N. #B
Seattle WA 98103
(206) 781-7630
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES505(10-8
FED. AID NO.: BRS-M029(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

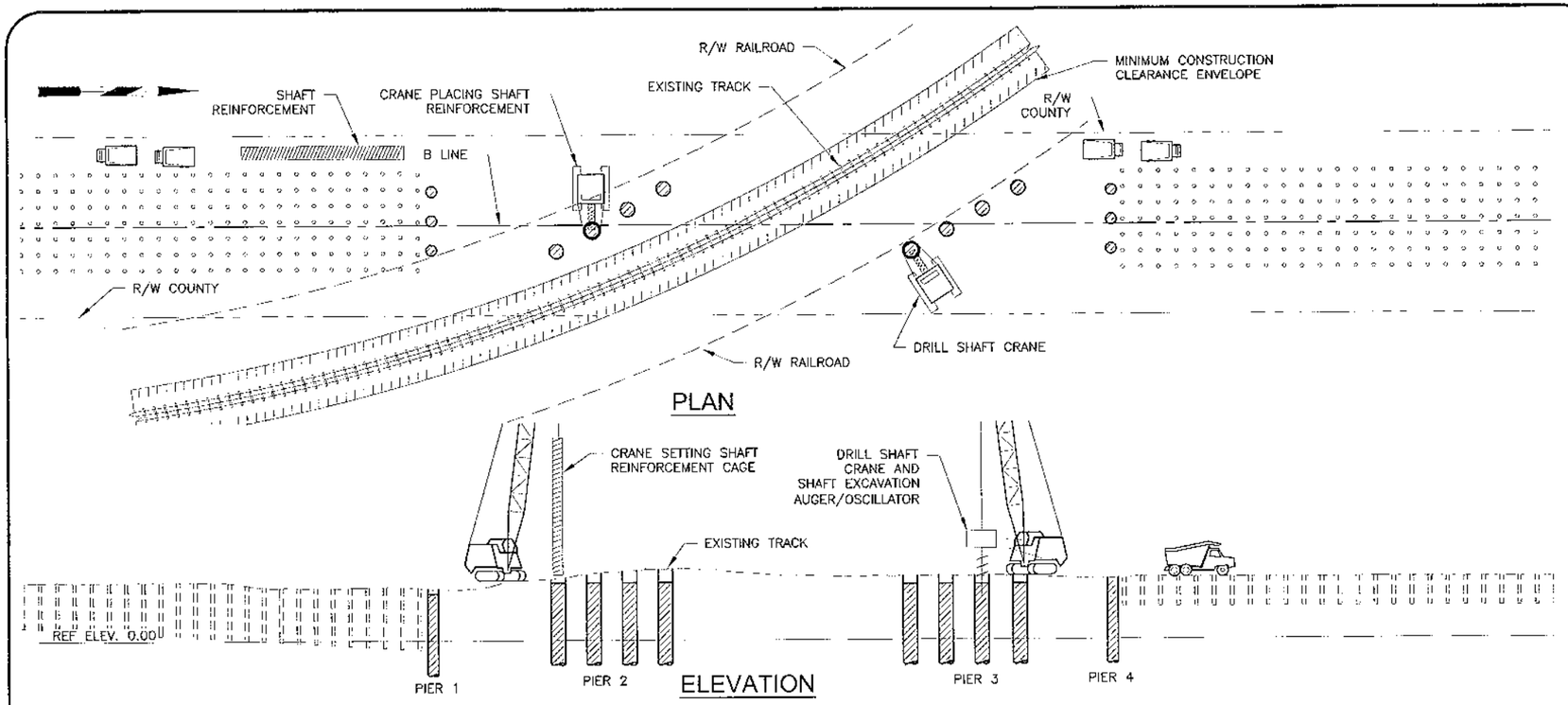
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

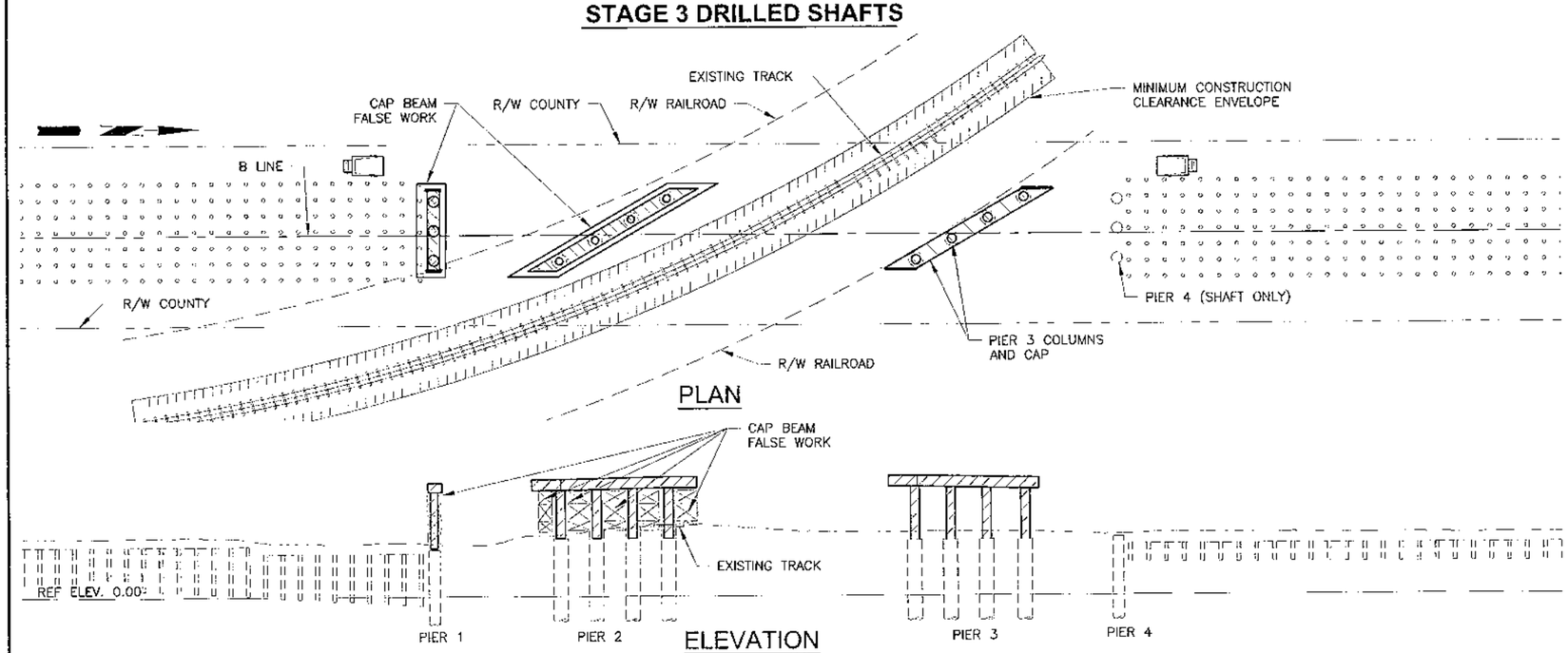
CONSTRUCTION SEQUENCE 1 OF 5 (S-3)

1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

SHEET 52 OF 117



STAGE 3 DRILLED SHAFTS



STEP 4 COLUMNS AND CAP BEAMS

CONSTRUCTION SEQUENCE

SUGGESTED SEQUENCE SHOWN IS ONE POTENTIAL SEQUENCE. FINAL SEQUENCE SHALL BE DETERMINED BY THE CONTRACTOR.

STEP DESCRIPTION

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2. INSTALL GROUND IMPROVEMENTS.
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NOTES

1. SEE SPECIFICATIONS SECTIONS 1-07.18 AND 1-08.5 FOR FOR INFORMATION REGARDING COORDINATION WITH THE RAILROAD, ACCESS TO RAILROAD RIGHT OF WAY, DATES OF RESTRICTED ACCESS AND OTHER INFORMATION REQUIRED FOR WORKING IN AND AROUND THE RAILROAD RIGHT OF WAY.
2. INSTALL TEMPORARY BRACING FOR ERECTION OF GIRDERS IN ACCORDANCE WITH STD. SPECIFICATION SECTION 6-02.3(17)F4.
3. INSTALL TEMPORARY BRACING FOR DIAPHRAGM AND DECK PLACEMENT IN ACCORDANCE WITH STD. SPECIFICATION SECTION 6-02.3(17)F5.
4. DECK SLAB CONCRETE SHALL BE PLACED A MINIMUM OF 24 HOURS AFTER THE LOWER SECTION OF THE PIER DIAPHRAGM CONCRETE.
5. NO LIVE LOAD SHALL BE ALLOWED ON THE SPANS UNTIL THE COMPRESSIVE STRENGTH OF THE TOP PORTION OF THE PIER DIAPHRAGM HAS REACHED 3,000 PSI.
6. CONSTRUCTION SEQUENCE SHOWN REPRESENTS ONE POSSIBLE SEQUENCE. THE ACTUAL CONSTRUCTION SEQUENCE SHALL BE DETERMINED BY THE CONTRACTOR.
7. SEE CIVIL PLANS FOR TEMPORARY CONSTRUCTION EASEMENTS, WETLANDS, WETLAND BUFFERS AND OTHER EXISTING FEATURES THAT MAY AFFECT CONSTRUCTION ACTIVITIES.

LEGEND

- WORK UNDER CONSTRUCTION
- COMPLETED WORK

SHEARER DESIGN PLLC
3610 Phinney Ave N. # B
Seattle WA 98103
(206) 781-7800
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

DATE | REVISIONS | NO.

PROJECT NO.: ES&R510-8
FED. AID NO.: BRS-1120(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

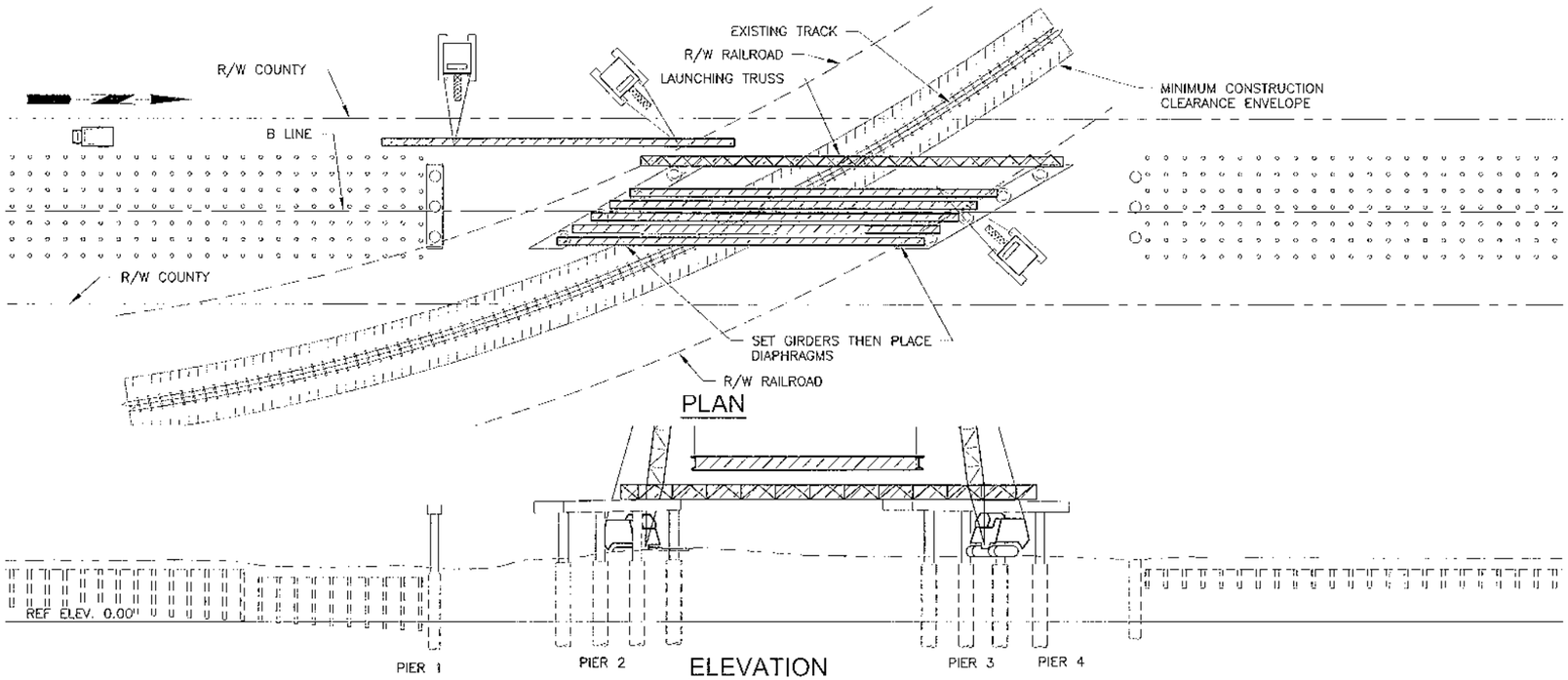
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

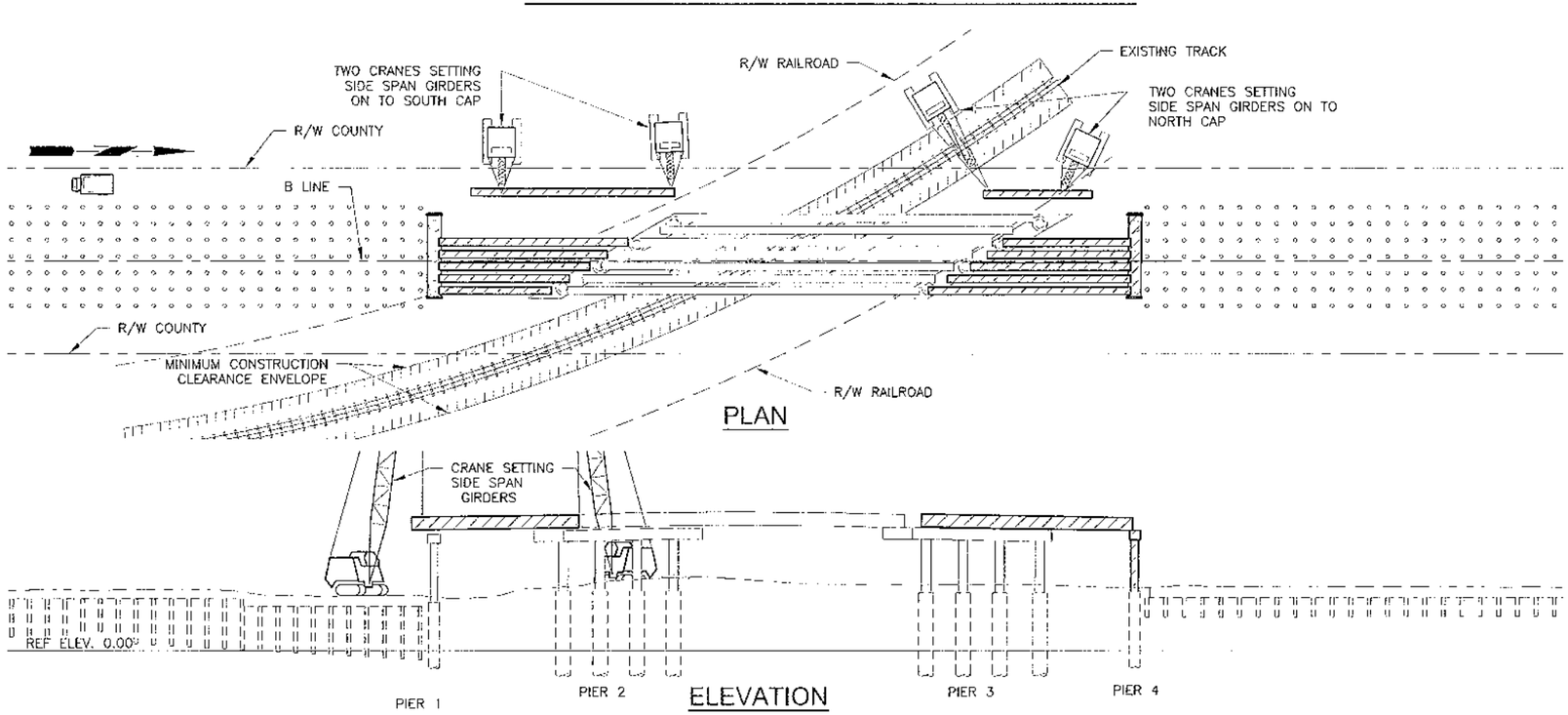
CONSTRUCTION SEQUENCE 2 OF 5 (S-4)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 53 OF 117



STEP 5 PLACE MAIN SPAN CONCRETE GIRDERS



STEP 6 BUILD PIER 4 THEN SET SIDE SPAN GIRDERS

CONSTRUCTION SEQUENCE

SUGGESTED SEQUENCE SHOWN IS ONE POTENTIAL SEQUENCE. FINAL SEQUENCE SHALL BE DETERMINED BY THE CONTRACTOR.

STEP DESCRIPTION

1. REMOVE EXISTING BRIDGE.
2. INSTALL GROUND IMPROVEMENTS.
3. CONSTRUCT DRILLED SHAFTS.
4. CONSTRUCT COLUMNS & CAP BEAMS AT PIER 1, PIER 2 & PIER 3.
5. ERECT AND BRACE MAIN SPAN GIRDERS.
6. CONSTRUCT PIER 4 AND SIDE SPAN GIRDERS:
   - 6.1. CONSTRUCT COLUMN AND CAP AT PIER 4.
   - 6.2. ERECT AND BRACE SIDE SPAN GIRDERS.
7. CONSTRUCT STRUCTURAL EARTH WALLS.
8. COMPLETE SUPERSTRUCTURE, SEE "SUPERSTRUCTURE CONSTRUCTION SEQUENCE":
   - 8.1. CONSTRUCT LOWER STAGE OF PIER DIAPHRAGMS AND INTERMEDIATE DIAPHRAGMS.
   - 8.2. CONSTRUCT CONCRETE BRIDGE DECK.
   - 8.3. CONSTRUCT UPPER STAGE OF PIER DIAPHRAGMS.
   - 8.4. CONSTRUCT BRIDGE APPROACH SLABS.
   - 8.5. CONSTRUCT TRAFFIC BARRIER, PEDESTRIAN BARRIER AND SIDEWALK ON BRIDGE AND STRUCTURAL EARTH WALLS.
   - 8.6. CONSTRUCT BRIDGE RAILING TYPE S-BP AND BRIDGE RAILING TYPE CHAIN LINK FENCE

NOTES

1. SEE SPECIFICATIONS SECTIONS 1-07.18 AND 1-08.5 FOR FOR INFORMATION REGARDING COORDINATION WITH THE RAILROAD, ACCESS TO RAILROAD RIGHT OF WAY, DATES OF RESTRICTED ACCESS AND OTHER INFORMATION REQUIRED FOR WORKING IN AND AROUND THE RAILROAD RIGHT OF WAY.
2. INSTALL TEMPORARY BRACING FOR ERECTION OF GIRDERS IN ACCORDANCE WITH STD. SPECIFICATION SECTION 6-02.3(17)F4.
3. INSTALL TEMPORARY BRACING FOR DIAPHRAGM AND DECK PLACEMENT IN ACCORDANCE WITH STD. SPECIFICATION SECTION 6-02.3(17)F5.
4. DECK SLAB CONCRETE SHALL BE PLACED A MINIMUM OF 24 HOURS AFTER THE LOWER SECTION OF THE PIER DIAPHRAGM CONCRETE.
5. NO LIVE LOAD SHALL BE ALLOWED ON THE SPANS UNTIL THE COMPRESSIVE STRENGTH OF THE TOP PORTION OF THE PIER DIAPHRAGM HAS REACHED 3,000 PSI.
6. CONSTRUCTION SEQUENCE SHOWN REPRESENTS ONE POSSIBLE SEQUENCE. THE ACTUAL CONSTRUCTION SEQUENCE SHALL BE DETERMINED BY THE CONTRACTOR.
7. SEE CIVIL PLANS FOR TEMPORARY CONSTRUCTION EASEMENTS, WETLANDS, WETLAND BUFFERS AND OTHER EXISTING FEATURES THAT MAY AFFECT CONSTRUCTION ACTIVITIES.

LEGEND

- WORK UNDER CONSTRUCTION
- COMPLETED WORK

SHEARER DESIGN LLC
3618 Fremont Ave N #B
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SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO	REVISIONS	DATE

PROJECT NO.: ES505104
FED. AID NO.: BRGM-M39(008)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

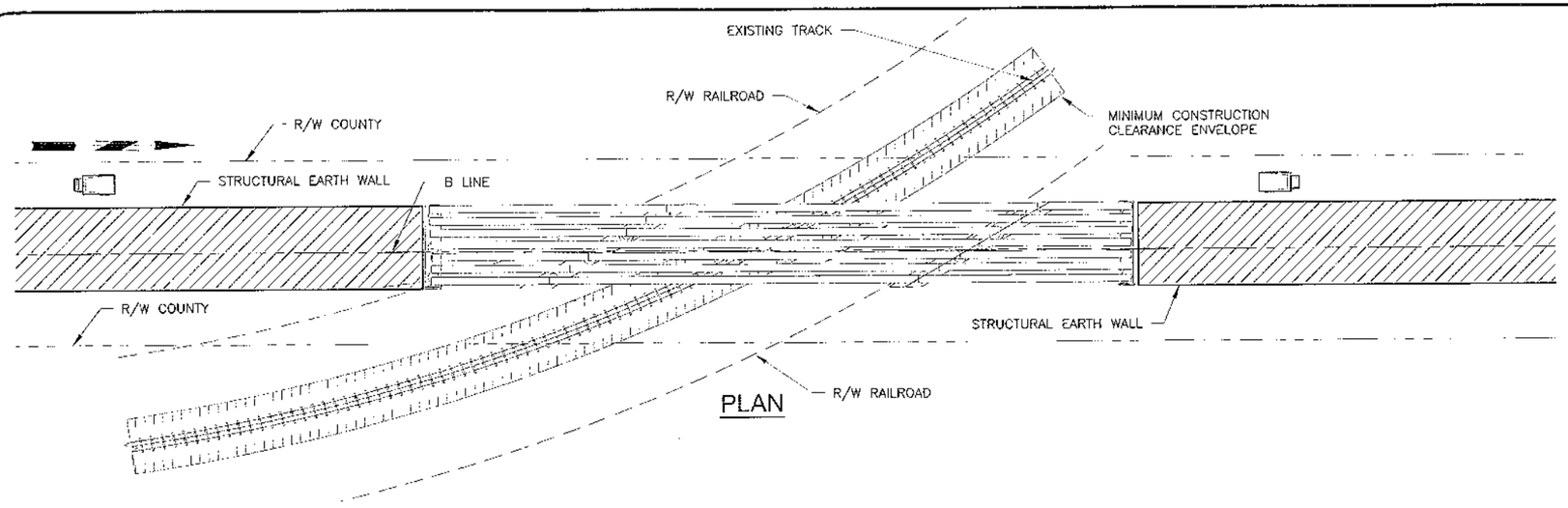
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

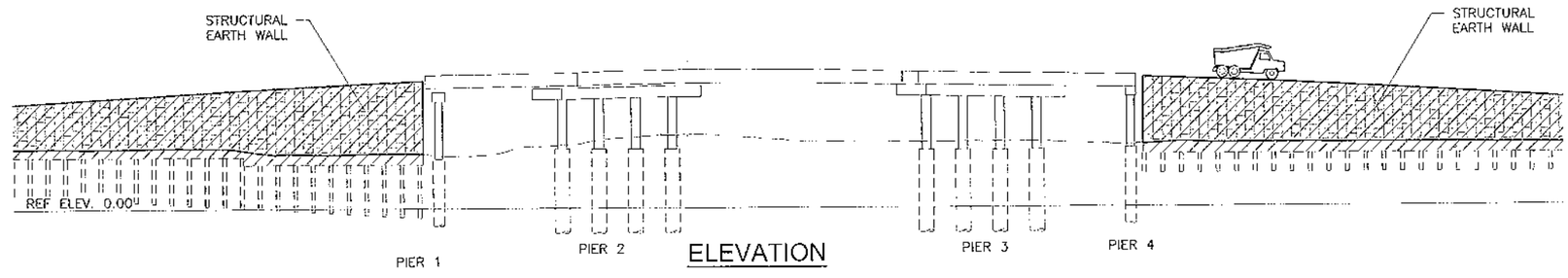
BURLINGTON NORTHERN OVERPASS PROJECT

CONSTRUCTION SEQUENCE 3 OF 5 (S-5)

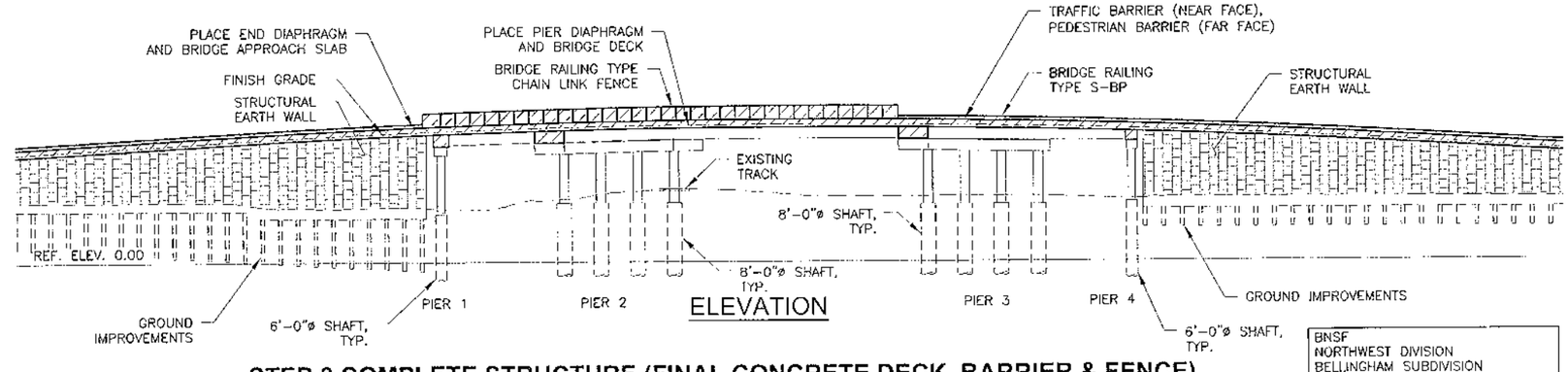
1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 54 OF 117





STEP 7 SEW WALL



STEP 8 COMPLETE STRUCTURE (FINAL CONCRETE DECK, BARRIER & FENCE)

SEE "SUPERSTRUCTURE CONSTRUCTION SEQUENCE" ON NEXT SHEET

BNSF
NORTHWEST DIVISION
BELLINGHAM SUBDIVISION
LINE SEGMENT 50
M.P. 74.62
PUBLIC OVERPASS 084776U
BURLINGTON, SKAGIT COUNTY, WA

CONSTRUCTION SEQUENCE

SUGGESTED SEQUENCE SHOWN IS ONE POTENTIAL SEQUENCE. FINAL SEQUENCE SHALL BE DETERMINED BY THE CONTRACTOR.

STEP	DESCRIPTION
1.	REMOVE EXISTING BRIDGE.
2.	INSTALL GROUND IMPROVEMENTS.
3.	CONSTRUCT DRILLED SHAFTS.
4.	CONSTRUCT COLUMNS & CAP BEAMS AT PIER 1, PIER 2 & PIER 3.
5.	ERECT AND BRACE MAIN SPAN GIRDERS.
6.	CONSTRUCT PIER 4 AND SIDE SPAN GIRDERS:
	6.1. CONSTRUCT COLUMN AND CAP AT PIER 4.
	6.2. ERECT AND BRACE SIDE SPAN GIRDERS.
7.	CONSTRUCT STRUCTURAL EARTH WALLS.
8.	COMPLETE SUPERSTRUCTURE, SEE "SUPERSTRUCTURE CONSTRUCTION SEQUENCE":
	8.1. CONSTRUCT LOWER STAGE OF PIER DIAPHRAGMS AND INTERMEDIATE DIAPHRAGMS.
	8.2. CONSTRUCT CONCRETE BRIDGE DECK.
	8.3. CONSTRUCT UPPER STAGE OF PIER DIAPHRAGMS.
	8.4. CONSTRUCT BRIDGE APPROACH SLABS.
	8.5. CONSTRUCT TRAFFIC BARRIER, PEDESTRIAN BARRIER AND SIDEWALK ON BRIDGE AND STRUCTURAL EARTH WALLS.
	8.6. CONSTRUCT BRIDGE RAILING TYPE S-BP AND BRIDGE RAILING TYPE CHAIN LINK FENCE

NOTES

1. SEE SPECIFICATIONS SECTIONS 1-07.18 AND 1-08.5 FOR FOR INFORMATION REGARDING COORDINATION WITH THE RAILROAD, ACCESS TO RAILROAD RIGHT OF WAY, DATES OF RESTRICTED ACCESS AND OTHER INFORMATION REQUIRED FOR WORKING IN AND AROUND THE RAILROAD RIGHT OF WAY.
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3. INSTALL TEMPORARY BRACING FOR DIAPHRAGM AND DECK PLACEMENT IN ACCORDANCE WITH STD. SPECIFICATION SECTION 6-02.3(17)F5.
4. DECK SLAB CONCRETE SHALL BE PLACED A MINIMUM OF 24 HOURS AFTER THE LOWER SECTION OF THE PIER DIAPHRAGM CONCRETE.
5. NO LIVE LOAD SHALL BE ALLOWED ON THE SPANS UNTIL THE COMPRESSIVE STRENGTH OF THE TOP PORTION OF THE PIER DIAPHRAGM HAS REACHED 3,000 PSI.
6. CONSTRUCTION SEQUENCE SHOWN REPRESENTS ONE POSSIBLE SEQUENCE. THE ACTUAL CONSTRUCTION SEQUENCE SHALL BE DETERMINED BY THE CONTRACTOR.
7. SEE CIVIL PLANS FOR TEMPORARY CONSTRUCTION EASEMENTS, WETLANDS, WETLAND BUFFERS AND OTHER EXISTING FEATURES THAT MAY AFFECT CONSTRUCTION ACTIVITIES.

LEGEND

WORK UNDER CONSTRUCTION

COMPLETED WORK

SHEARER DESIGN LLC
2613 Fairview Ave N #B
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Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5525
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES505105
FED. AID NO.: BRS-M299(006)
DESIGNED BY: RPD | DRAWN BY: RPC
CHECKED BY: DRS | APPROVED BY: DRS

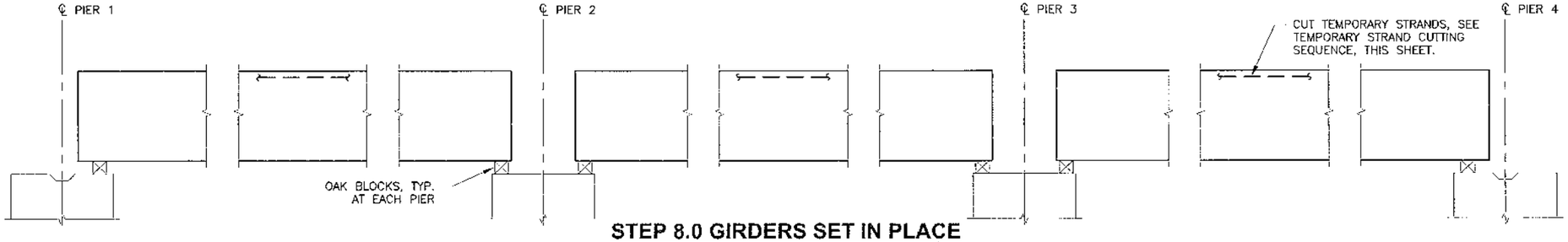
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

CONSTRUCTION SEQUENCE 4 OF 5 (S-6)

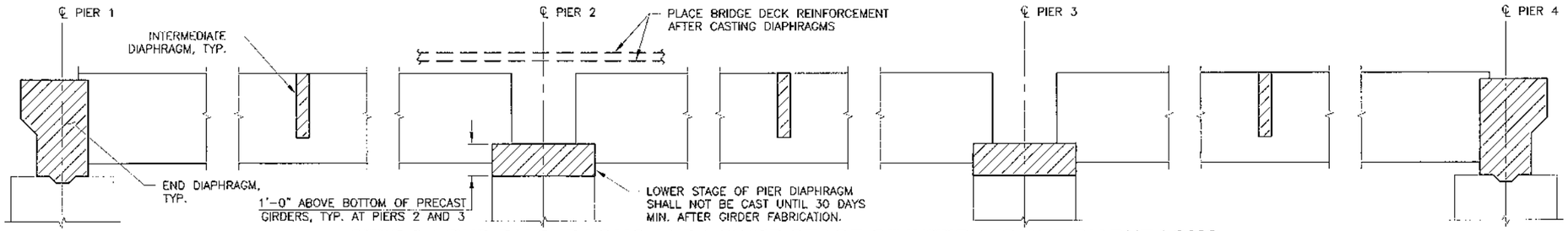
1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
55 OF 117



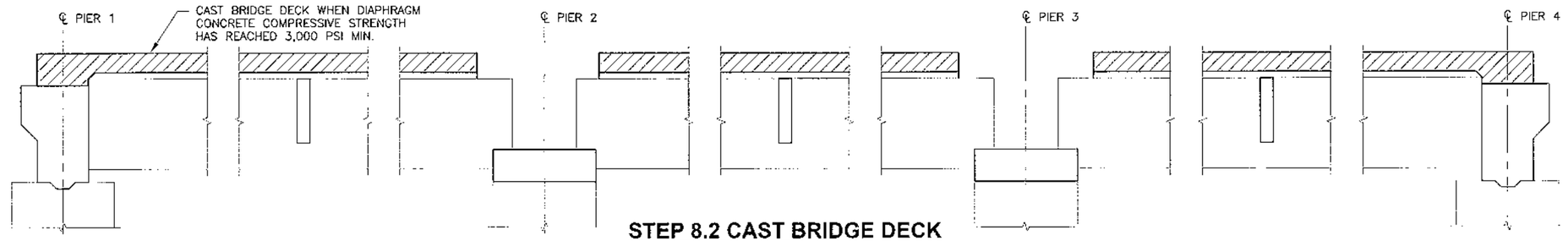
STEP 8.0 GIRDERS SET IN PLACE

INSTALL TEMPORARY BRACING FOR ERECTION IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 6-02.3(17)F4

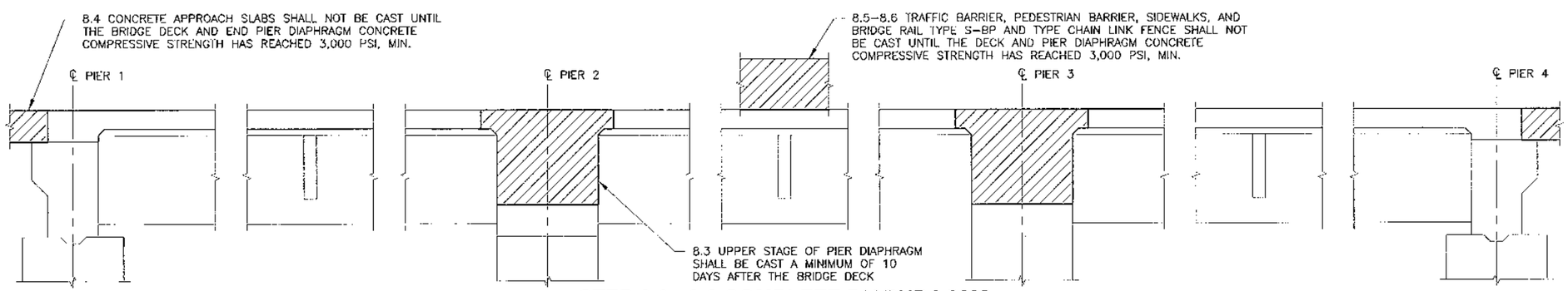


STEP 8.1 END DIAPHRAGMS AND LOWER STAGE OF INTERMEDIATE DIAPHRAGMS

INSTALL TEMPORARY BRACING FOR DIAPHRAGM AND DECK PLACEMENT IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 6-02.3(17)F5



STEP 8.2 CAST BRIDGE DECK



STEP 8.3 - 8.6 COMPLETE DIAPHRAGMS

TEMPORARY STRAND CUTTING SEQUENCE

1. ERECT AND BRACE GIRDERS.
2. JUST PRIOR TO CUTTING THE TEMPORARY STRANDS, REMOVE EXPANDED POLYSTYRENE IN RECESSES IN TOP FLANGE OF GIRDERS.
3. CUT STRANDS IN RECESSES. STRANDS MAY BE CUT BY USING A CUTTING TORCH AND MOVING THE FLAME BACK AND FORTH OVER THE LENGTH OF EXPOSED STRAND TO LET INDIVIDUAL WIRES BREAK ONE AT A TIME TO LESSEN THE SHOCK TO THE GIRDER. STRANDS SHALL BE RELEASED IN A SYMMETRICAL MANNER ABOUT THE GIRDER CENTERLINE STARTING WITH THOSE NEAREST THE CENTERLINE AND WORKING OUTWARDS.
4. DO NOT ALLOW ANY MOISTURE TO ENTER THE RECESSES. REMOVE ALL MOISTURE IN RECESSES PRIOR TO FILLING THEM WITH GROUT.
5. WITHIN 24 HOURS OF CUTTING THE TEMPORARY STRANDS, FILL THE RECESSES WITH A GROUT CONFORMING TO STANDARD SPECIFICATION SECTION 9-20.3(2).

LEGEND

WORK UNDER CONSTRUCTION

COMPLETED WORK

NOTE:
NO LIVE LOAD SHALL BE ALLOWED ON THE SPANS UNTIL THE COMPRESSIVE STRENGTH OF THE UPPER STAGE OF THE PIER DIAPHRAGM HAS REACHED 3,000 PSI, MIN.

SUPERSTRUCTURE CONSTRUCTION SEQUENCE

Scale: 1:10

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SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

DATE
REVISIONS
NO.

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-M296(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

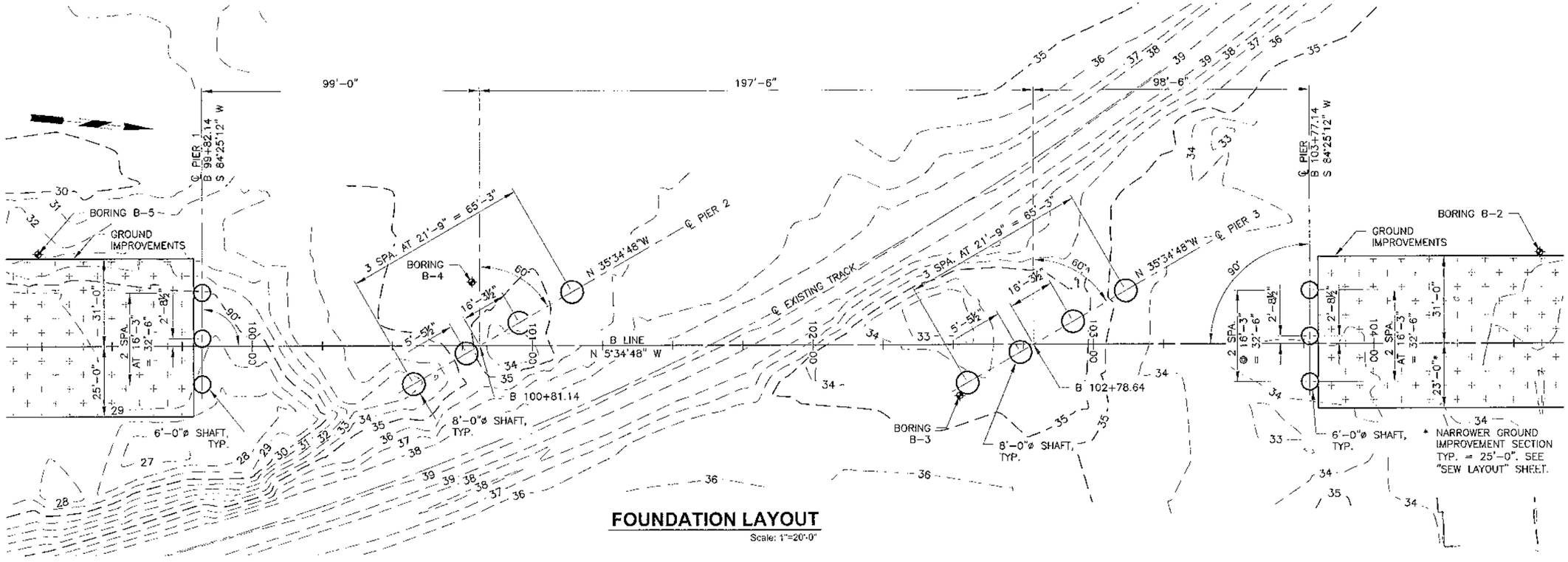
PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

CONSTRUCTION SEQUENCE 5 OF 5 (S-7)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
56 OF 117



FOUNDATION LAYOUT

Scale: 1"=20'-0"

SHAFT FOUNDATION INFORMATION

PIER NO.	SHAFT DIAMETER, FT	TIP OF DRILLED SHAFT ELEVATION, FT	NOMINAL SHAFT RESISTANCE, TONS			
			STRENGTH I LIMIT STATE		EXTREME I LIMIT STATE	
			SKIN FRICTION RESISTANCE	END BEARING RESISTANCE	SKIN FRICTION RESISTANCE	END BEARING RESISTANCE
1	6'-0"	-38.0	400	331	728	662
2	8'-0"	-50.0	647	754	1176	1508
3	8'-0"	-49.0	686	754	1248	1508
4	6'-0"	-29.0	357	424	649	848

NOTE:
SEE "SEW LAYOUT" SHEET FOR COMPLETE LIMITS OF GROUND IMPROVEMENTS.

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1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336-9476

NO.	REVISIONS	DATE

PROJECT NO.: ES50510.8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

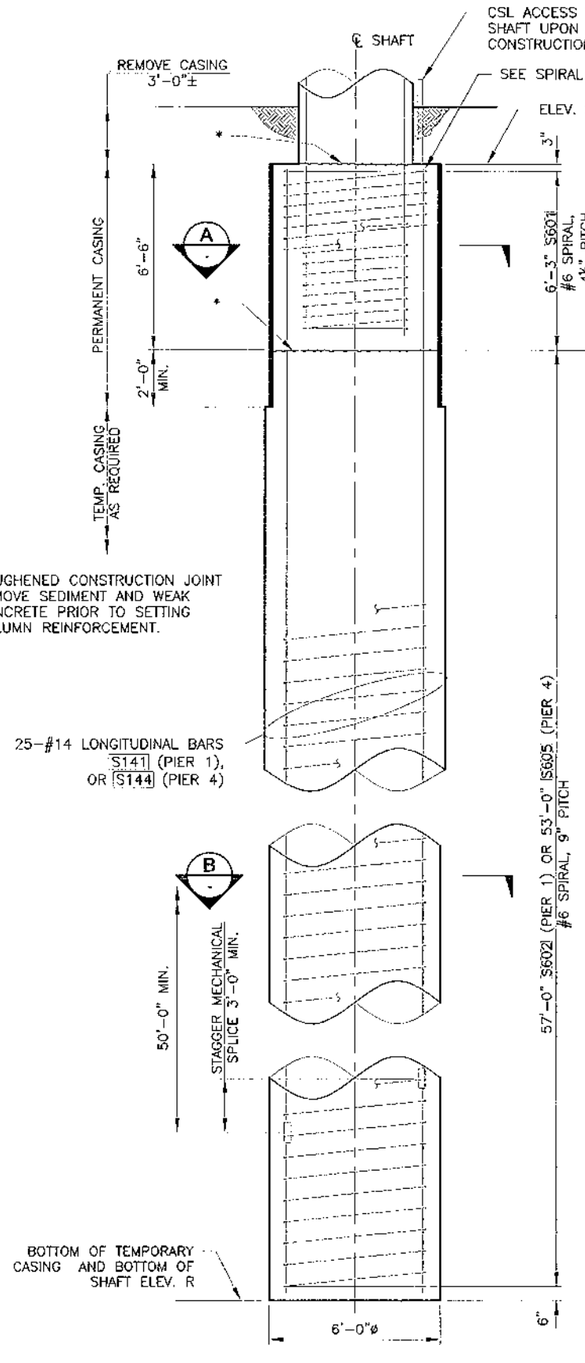
PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

FOUNDATION LAYOUT (S-8)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

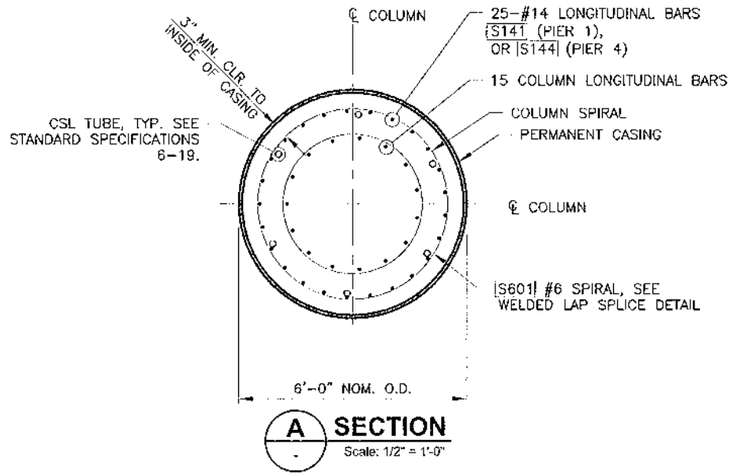
SHEET
57 OF 117



TYPICAL 6'-0" DIAMETER SHAFT

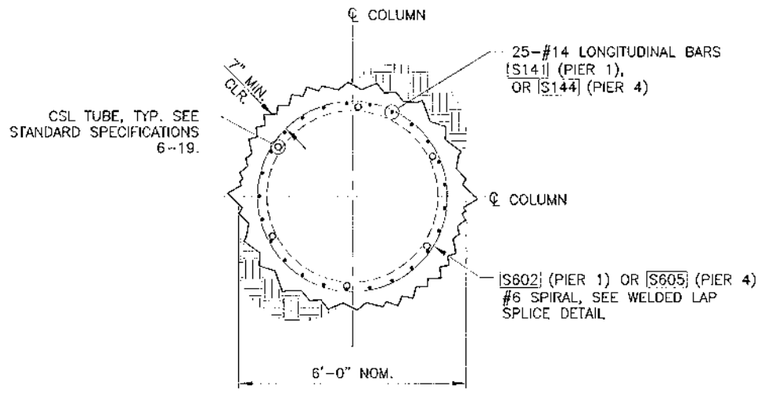
Scale: 3/8" = 1'-0"

PIER 1 AND 4



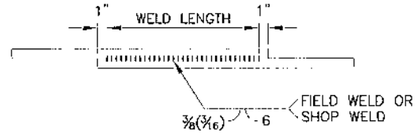
A SECTION

Scale: 1/2" = 1'-0"



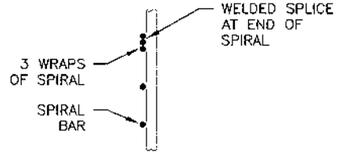
B SECTION

Scale: 1/2" = 1'-0"



WELDED LAP SPLICE DETAIL

FOR SPIRALS



SPIRAL END DETAIL

SHAFT ELEVATIONS		
PIER	ELEVATION (FT)	
	R	S
1	-38.0	26.0
4	-29.0	31.0

NOTE:
CONTRACTOR SHALL DESIGN, FURNISH AND INSTALL ALL CASINGS. SEE SPECIAL PROVISIONS.

SHEARER DESIGN L.L.C.
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SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

10/10/16

PROJECT NO.: ES30510-8
FED. AID NO.: BRS-4129(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

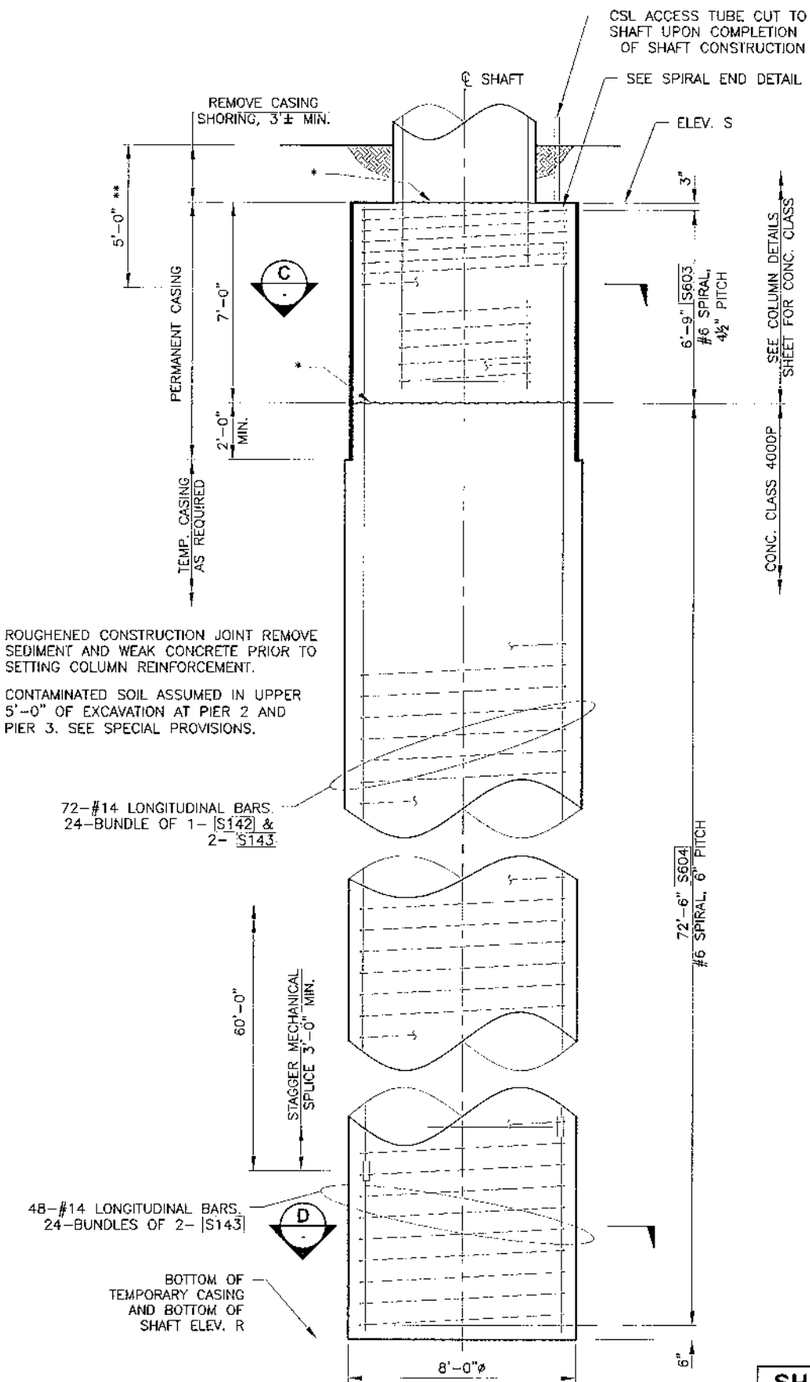
BURLINGTON NORTHERN OVERPASS PROJECT

SHAFT DETAILS - PIER 1 AND 4 (S-9)

1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

SHEET 58 OF 117

ROBERT - October 11, 2016 - 2:23 PM - K:\SHEARER\SERVER\JOBS\0227 SNGF DESIGN\DWG\ORSIG\V_CAD\CONSTV\801ES30510-8 SHAFT-COL DETAILS.DWG



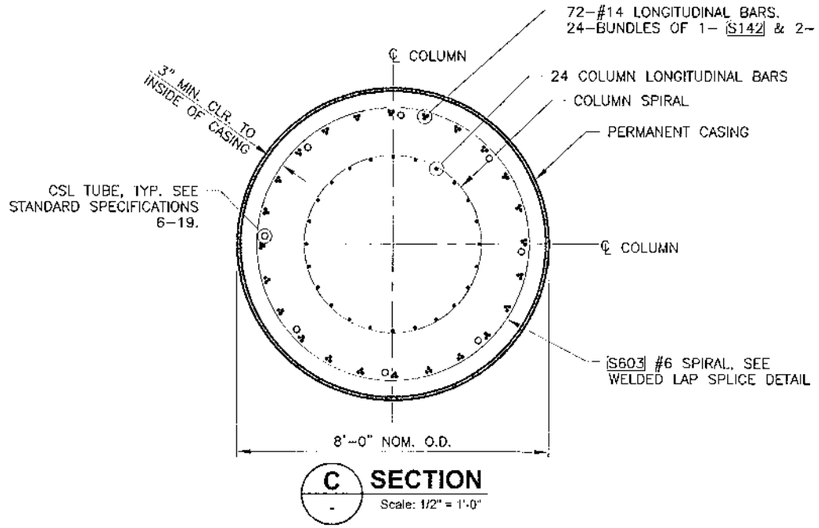
* ROUGHENED CONSTRUCTION JOINT REMOVE SEDIMENT AND WEAK CONCRETE PRIOR TO SETTING COLUMN REINFORCEMENT.

** CONTAMINATED SOIL ASSUMED IN UPPER 5'-0" OF EXCAVATION AT PIER 2 AND PIER 3. SEE SPECIAL PROVISIONS.

TYPICAL 8'-0" DIAMETER SHAFT

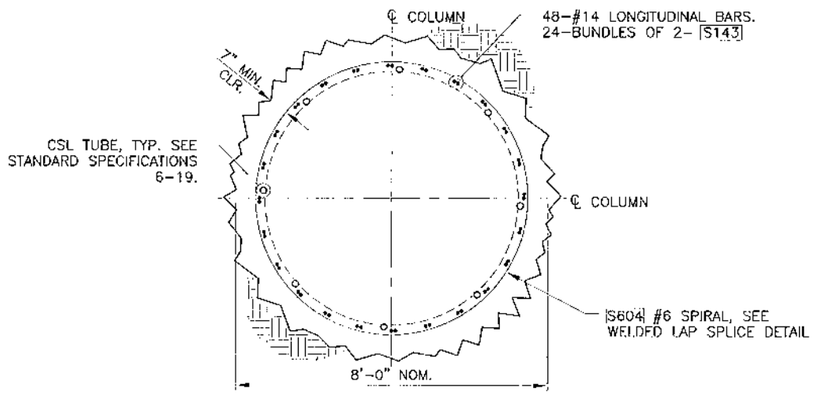
Scale: 3/8" = 1'-0"

PIER 2 AND 3



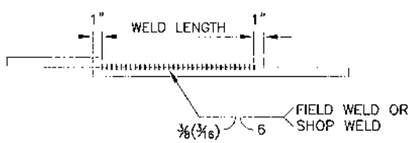
C SECTION

Scale: 1/2" = 1'-0"



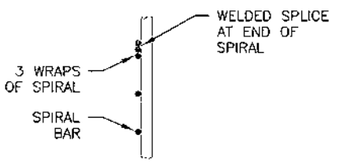
D SECTION

Scale: 1/2" = 1'-0"



WELDED LAP SPLICE DETAIL

FOR SPIRALS



SPIRAL END DETAIL

SHAFT ELEVATIONS		
PIER	ELEVATION (FT)	
	R	S
2	−50.0	30.0
3	−49.0	31.0

NOTE:
CONTRACTOR SHALL DESIGN, FURNISH AND INSTALL ALL CASINGS. SEE SPECIAL PROVISIONS.

SHEARER DESIGN LLC
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MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE
1		10/10/16

PROJECT NO.: ES50810.8
FED. AID NO.: BRS-M126(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

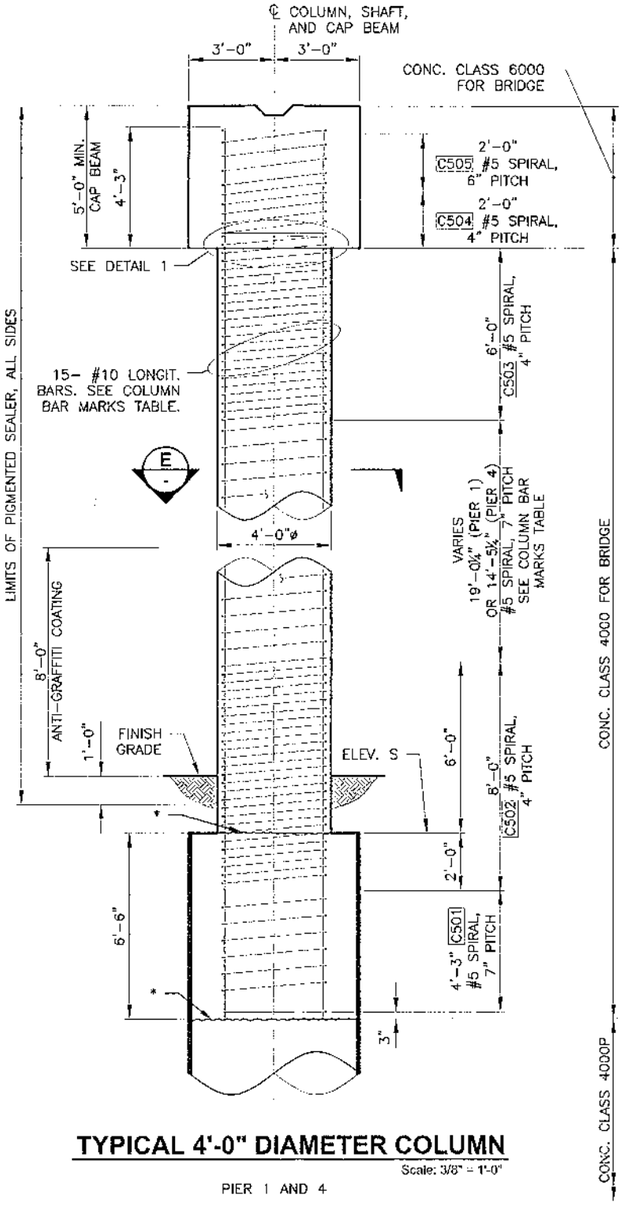
PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

SHAFT DETAILS - PIER 2 AND 3 (S-10)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

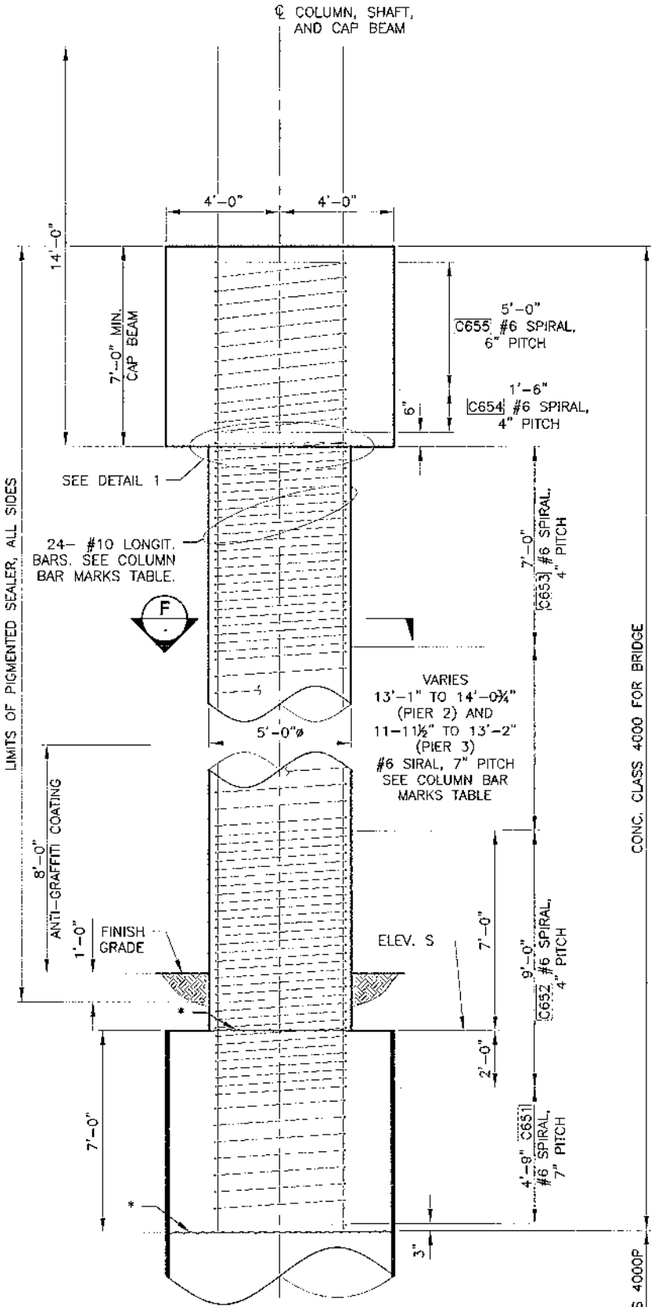
SHEET
59 OF 117



TYPICAL 4'-0" DIAMETER COLUMN

Scale: 3/8" = 1'-0"

PIER 1 AND 4



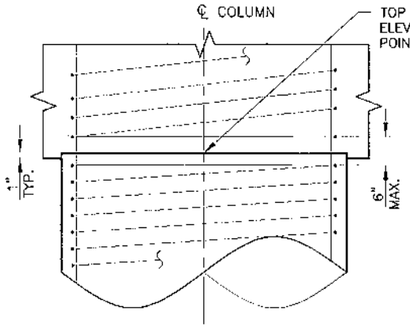
TYPICAL 5'-0" DIAMETER COLUMN

Scale: 3/8" = 1'-0"

PIER 2 AND 3

NOTE:
LAP SPLICE OF COLUMN VERTICAL REINFORCING IS NOT PERMITTED.

* ROUGHENED CONSTRUCTION JOINT. REMOVE SEDIMENT AND WEAK CONCRETE PRIOR TO SETTING COLUMN REINFORCEMENT.



DETAIL 1

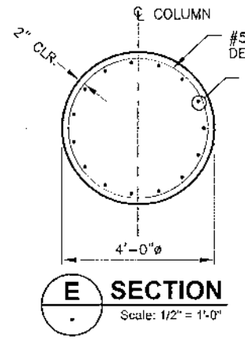
Scale: 3/4" = 1'-0"

COLUMN WORK POINT ELEVATIONS

PIER	LEFT	CENTER	RIGHT
1	57.108	57.108	57.108
4	57.527	57.527	57.527

COLUMN WORK POINT ELEVATIONS

PIER	LEFT	CENTER LEFT	CENTER RIGHT	RIGHT
2	58.148	58.058	57.780	57.165
3	57.051	57.687	58.185	58.249



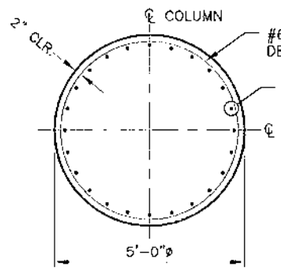
E **SECTION**

Scale: 1/2" = 1'-0"

COLUMN BAR MARKS

PIER		LEFT	CENTER	RIGHT
1	LONGITUDINAL	C100	C100	C100
	SPIRAL	C506	C506	C506
4	LONGITUDINAL	C109	C109	C109
	SPIRAL	C507	C507	C507

TABLE CONTAINS BAR MARKS FOR BARS THAT VARY BY COLUMN LOCATION. SEE TYPICAL 4' DIAMETER COLUMN DETAIL FOR OTHER BARS.



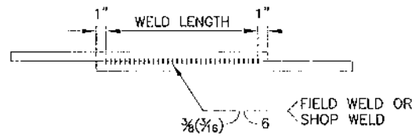
F **SECTION**

Scale: 1/2" = 1'-0"

COLUMN BAR MARKS

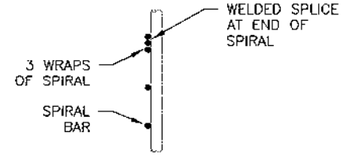
PIER		LEFT	CENTER LEFT	CENTER RIGHT	RIGHT
2	LONGITUDINAL	C101	C102	C103	C104
	SPIRAL	C656	C657	C658	C659
3	LONGITUDINAL	C105	C106	C107	C108
	SPIRAL	C660	C661	C662	C663

TABLE CONTAINS BAR MARKS FOR BARS THAT VARY BY COLUMN LOCATION. SEE TYPICAL 5' DIAMETER COLUMN DETAIL FOR OTHER BARS.



WELDED LAP SPLICE DETAIL

FOR SPIRALS



SPIRAL END DETAIL

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3613 Pinckney Ave N, # B
Everett WA 98203
(206) 781-7656
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES80910-8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

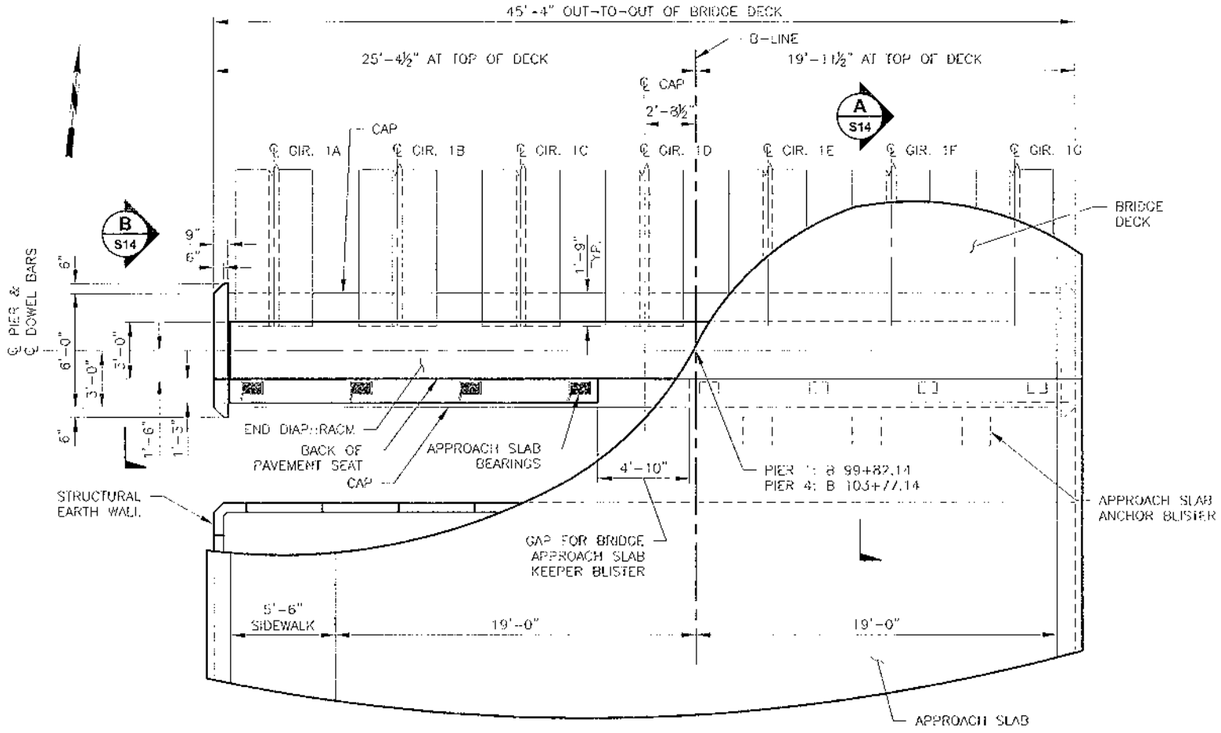
BURLINGTON NORTHERN OVERPASS PROJECT

COLUMN DETAILS (S-11)

1 INCH SCALE BAR. ADJUST SCALE ACCORDINGLY

SHEET 60 OF 117

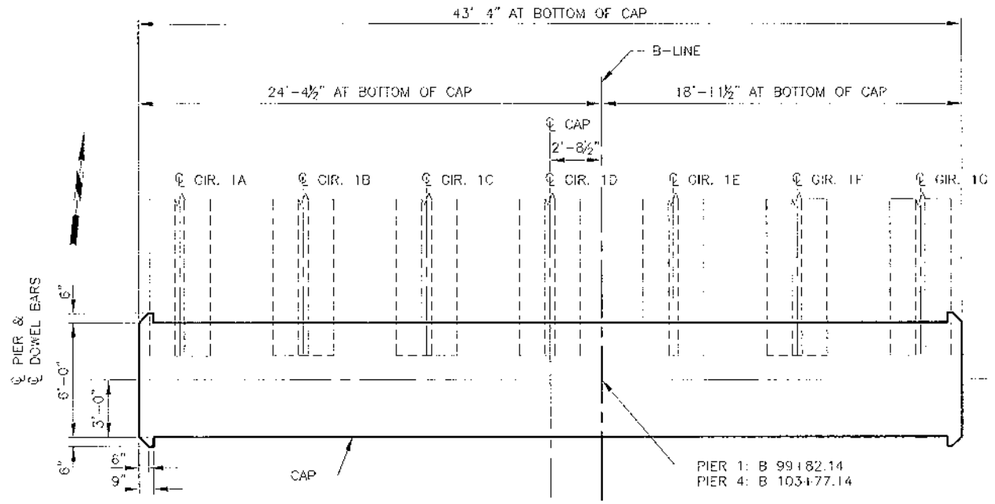
ROBERT - October 11, 2016 - 2:26 PM - \\SHEARERSERVER\JOBS\0227 BK-SP\DESIGN-PW\GIS\DESIGN_CAD\CONSTRAB\ES80910-8 SHAFT-COL DETAILS.DWG



PLAN - PIER 1

Scale: 1/4" = 1'-0"

PIER 1 SHOWN, PIER 4 SIMILAR.



PLAN - PIER 1 CAP

Scale: 1/4" = 1'-0"

PIER 1 SHOWN, PIER 4 SIMILAR.

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3613 Pacific Ave N # B
Seattle WA 98103
(206) 781-7309

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1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ESSE510-8
FED. AID NO.: BRS-5122(005)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

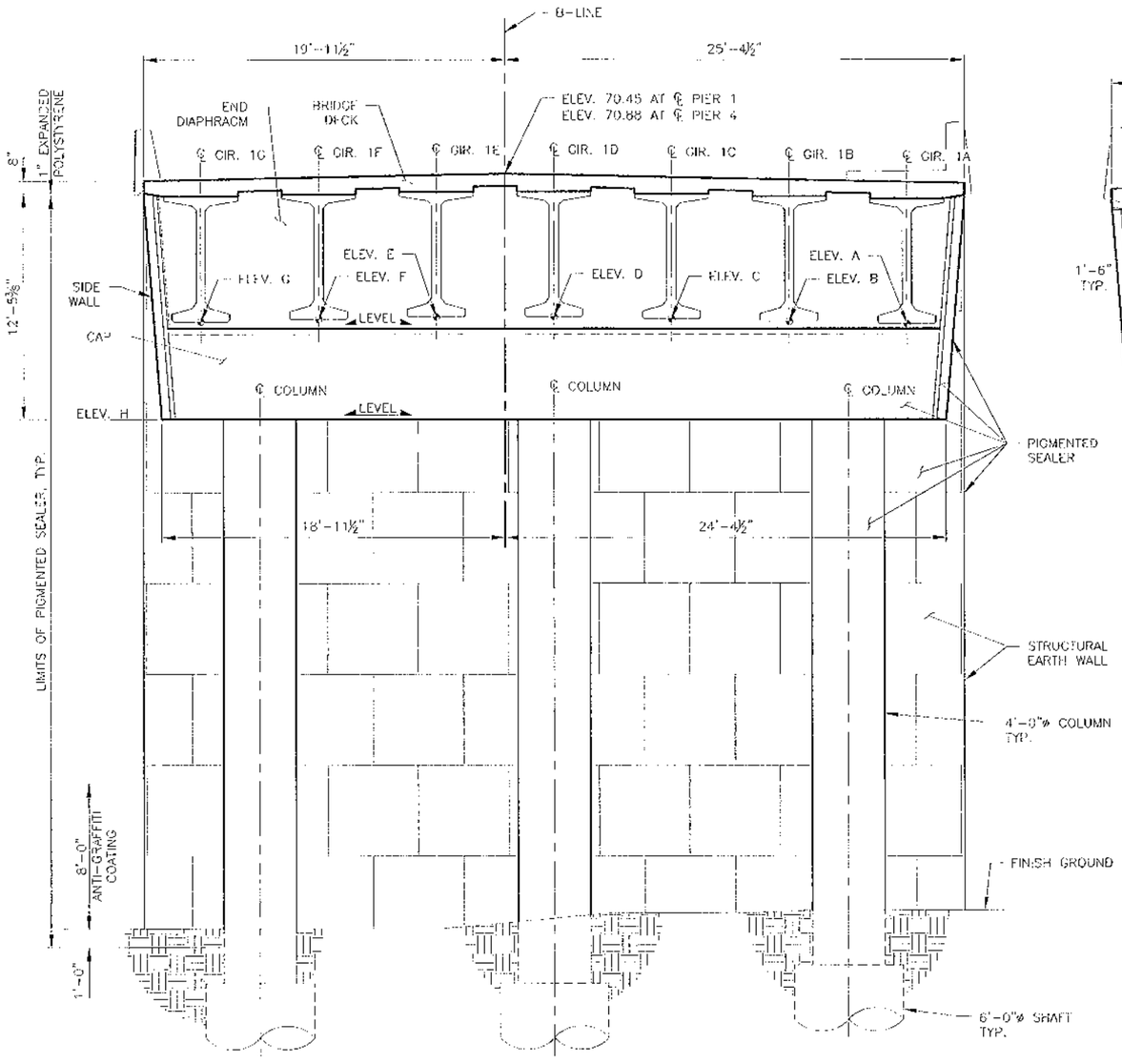
PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

PIER 1 AND 4 PLAN (S-12)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
61 OF 117

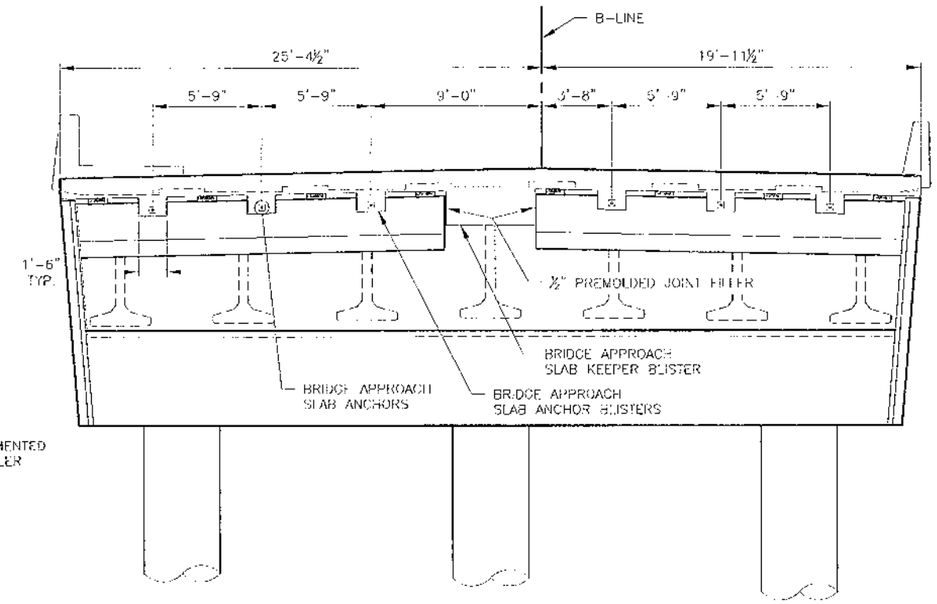


NOTE:
SEE "TYPICAL BRIDGE SECTION" SHEET FOR ADDITIONAL PIGMENTED SEALER LIMITS.

ELEVATION - PIER 1

Scale: 1/4" = 1'-0"

LOOKING BACK ON STATIONING
PIER 1 SHOWN, PIER 4 SIMILAR.



ELEVATION - PIER 1

Scale: 1/4" = 1'-0"

LOOKING AHEAD ON STATIONING
PIER 1 SHOWN, PIER 4 SIMILAR

CONTROL ELEVATIONS - PIER 1

LOCATION	DESCRIPTION		ELEV. (FT)
A	℄ GIRDER A	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.29
B	℄ GIRDER B	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.42
C	℄ GIRDER C	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.55
D	℄ GIRDER D	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.68
E	℄ GIRDER E	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.66
F	℄ GIRDER F	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.53
G	℄ GIRDER G	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.40
H	BOTTOM OF CAP		57.03

CONTROL ELEVATIONS - PIER 4

LOCATION	DESCRIPTION		ELEV. (FT)
A	℄ GIRDER A	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.71
B	℄ GIRDER B	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.84
C	℄ GIRDER C	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.97
D	℄ GIRDER D	BOTTOM OF GIRDER AT ℄ OAK BLOCK	63.10
E	℄ GIRDER E	BOTTOM OF GIRDER AT ℄ OAK BLOCK	63.08
F	℄ GIRDER F	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.95
G	℄ GIRDER G	BOTTOM OF GIRDER AT ℄ OAK BLOCK	62.82
H	BOTTOM OF CAP		57.44

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3613 Pinney Ave N #B
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1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

REVISIONS | NO. | DATE

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-M29(005)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

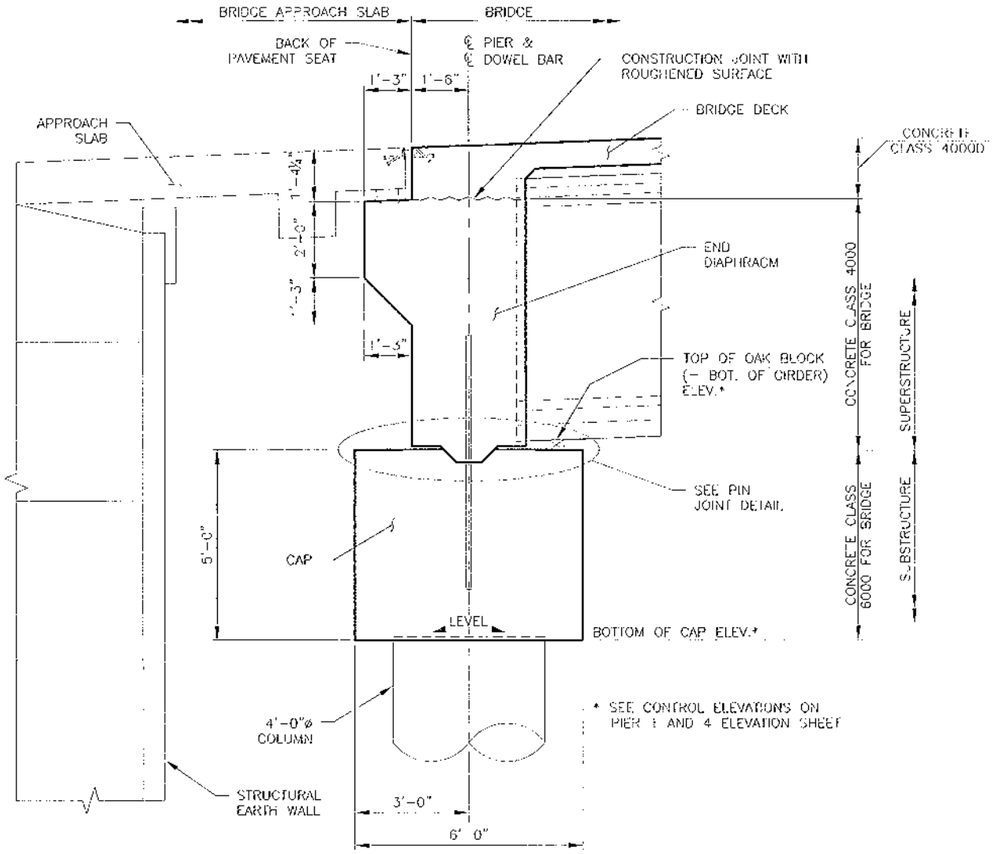
BURLINGTON NORTHERN OVERPASS PROJECT

PIER 1 AND 4 ELEVATION (S-13)

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

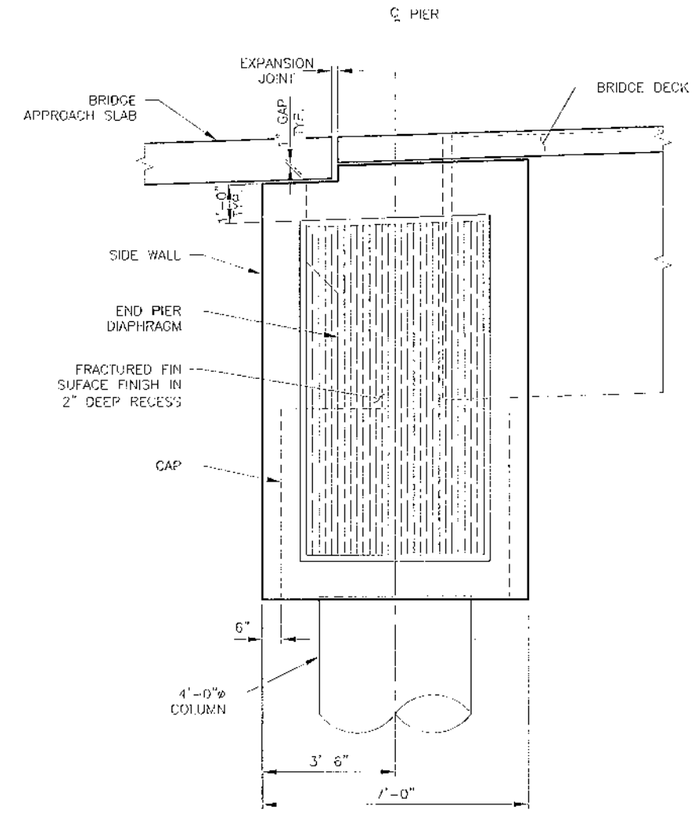
SHEET 62 OF 117



A S12 TYPICAL SECTION

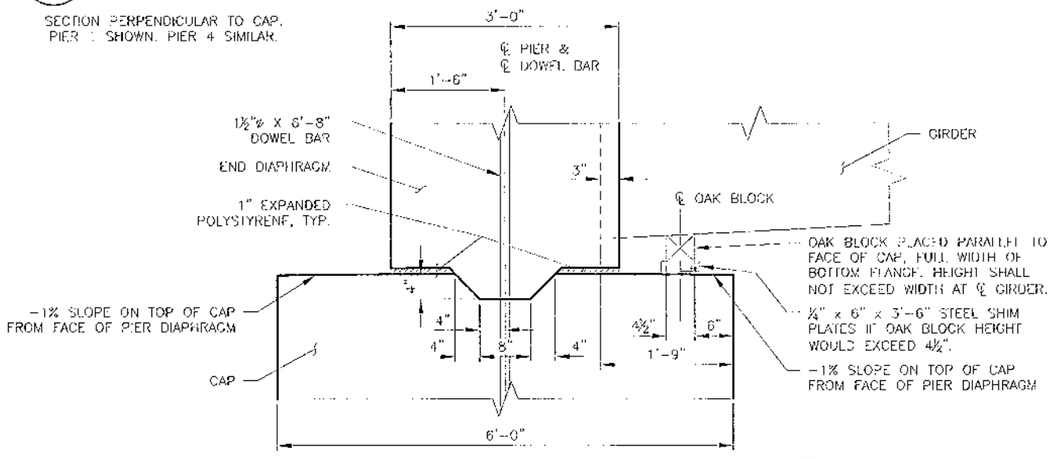
Scale: 1/2" = 1'-0"

SECTION PERPENDICULAR TO CAP. PIER 1 SHOWN. PIER 4 SIMILAR.



B S12 VIEW

Scale: 1/2" = 1'-0"

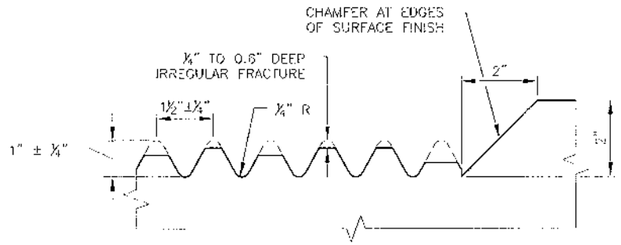


PIN JOINT DETAIL

Scale: 1" = 1'-0"

PIER 1 SHOWN. PIER 4 SIMILAR.

NOTE:
REMOVE OAK BLOCK AND STEEL SHIMS AFTER END DIAPHRAGM HAS ACHIEVED DESIGN STRENGTH.



FRACTURED FIN FINISH

Scale: 6" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336-9478

NO.	REVISIONS	DATE

10/10/16

PROJECT NO.: ES99910-8
FED. AID NO.: BRS-M29(009)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

BURLINGTON NORTHERN OVERPASS PROJECT

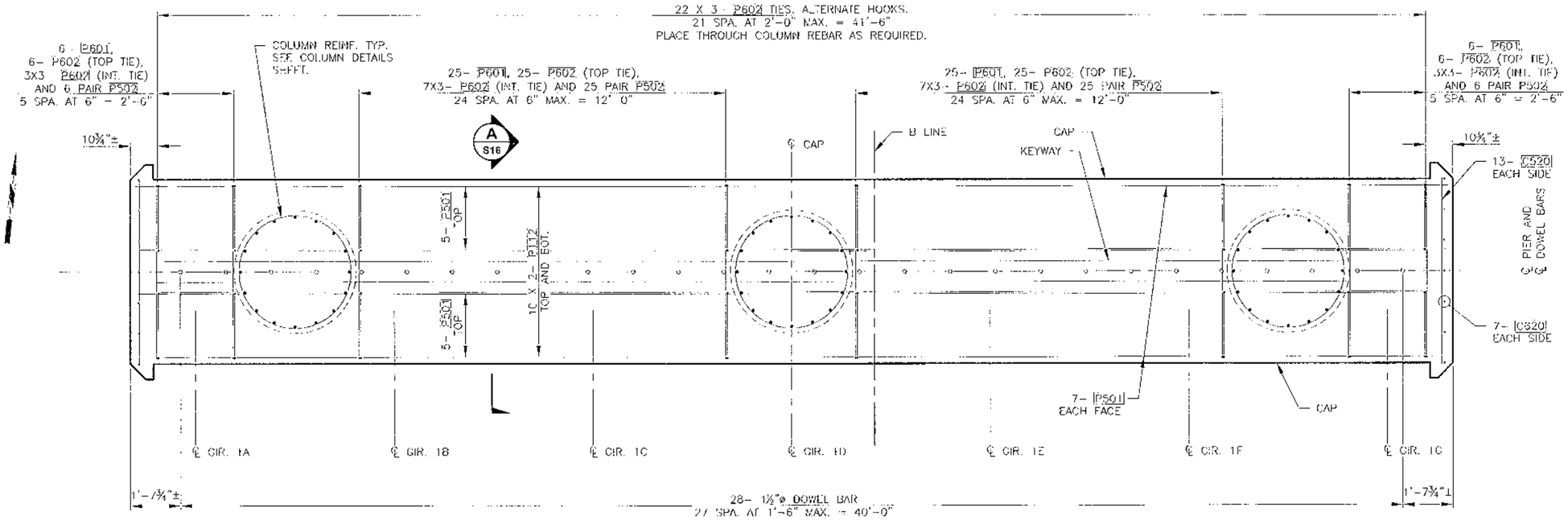
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

PIER 1 AND 4 SECTIONS (S-14)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 63 OF 117

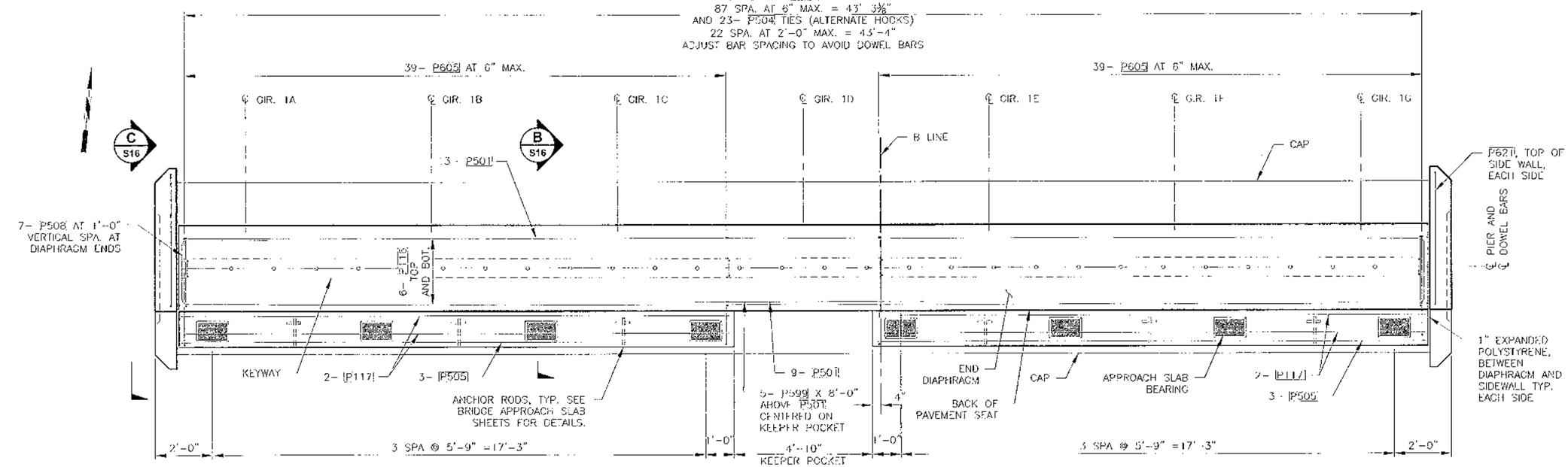
SHEARER DESIGN LLC
3613 Rucker Ave. N. # B
Everett, WA 98213
(206) 784-1953
Bridge Design, Construction Engineering, Infrastructure Aesthetics



PLAN - PIER 1 CAP

Scale: 1/2" = 1'-0"

PIER 1 SHOWN, PIER 4 SIMILAR.



PLAN - PIER 1 END DIAPHRAGM

Scale: 1/2" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES05010-9
FED. AID NO.: BRS-M29(005)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

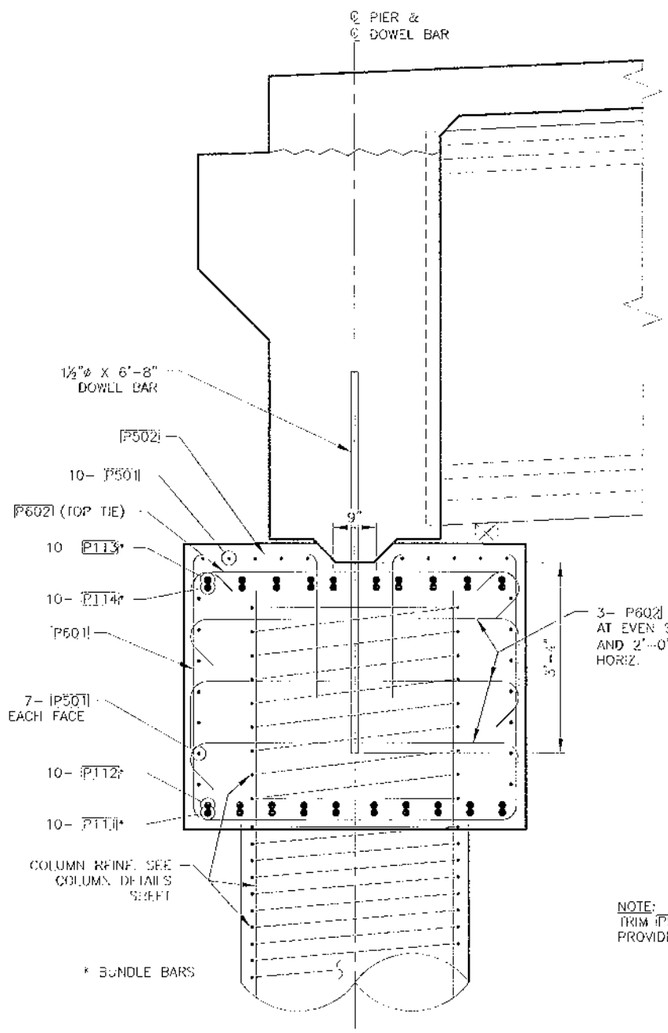
BURLINGTON NORTHERN OVERPASS PROJECT

PIER 1 AND 4 DETAILS 1 OF 2 (S-15)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

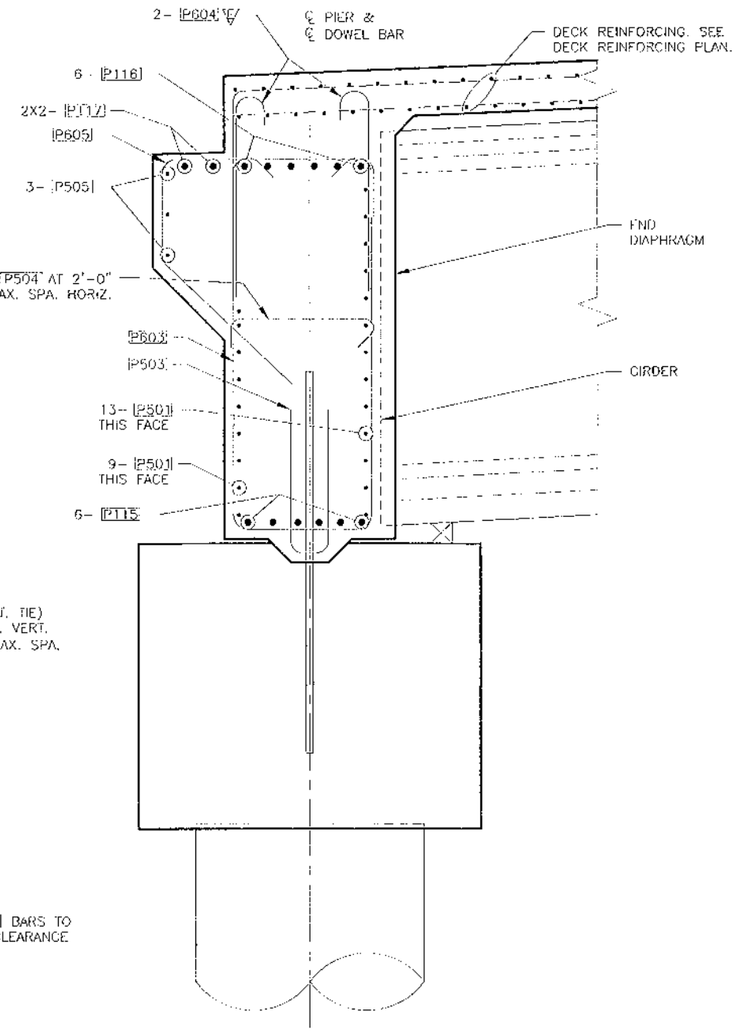
SHEET 64 OF 117

SHEARER DESIGN LLC
3613 Pinecrest Ave N. # B
Seattle WA 98103
(206) 781-7836
Bridge Design, Construction Engineering, Infrastructure Aesthetics



A S15 **SECTION**
Scale: 3/4" = 1'-0"

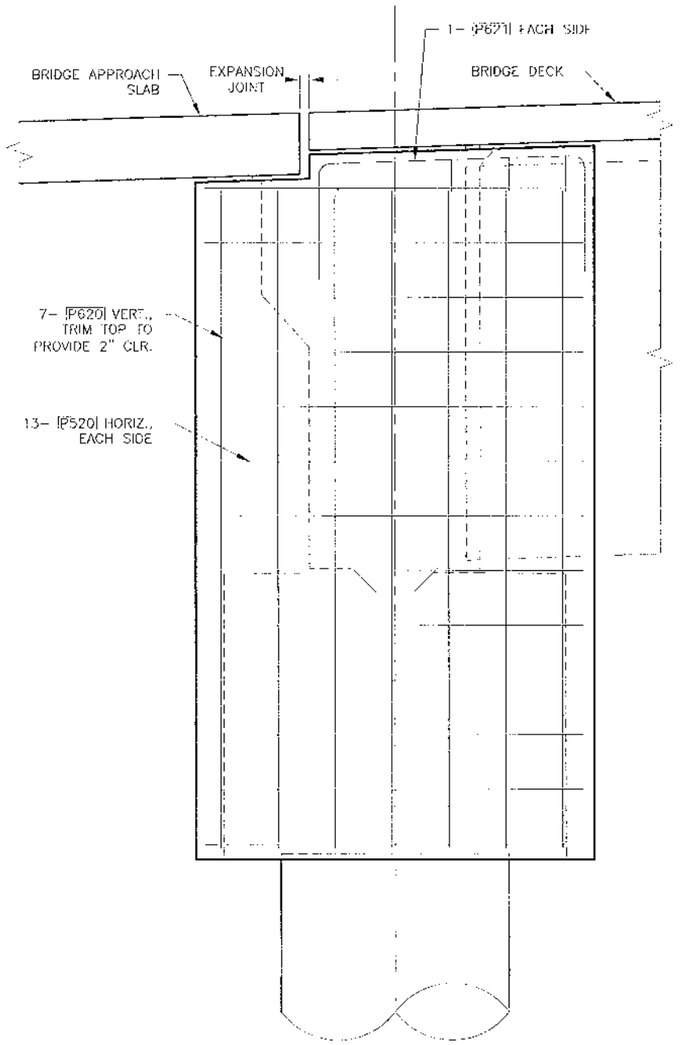
SECTION PERPENDICULAR TO CAP



NOTE:
TRIM P501 BARS TO
PROVIDE CLEARANCE

B S15 **SECTION**
Scale: 3/4" = 1'-0"

SECTION PERPENDICULAR TO CAP



C S15 **VIEW**
Scale: 3/4" = 1'-0"

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MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE
1		10/9/15

PROJECT NO.: ES5010-5
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 15, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

PIER 1 AND 4 DETAILS 2 OF 2 (S-16)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
65 OF 117

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Pacific Ave # B
Seattle WA 98103
(206) 781-7636

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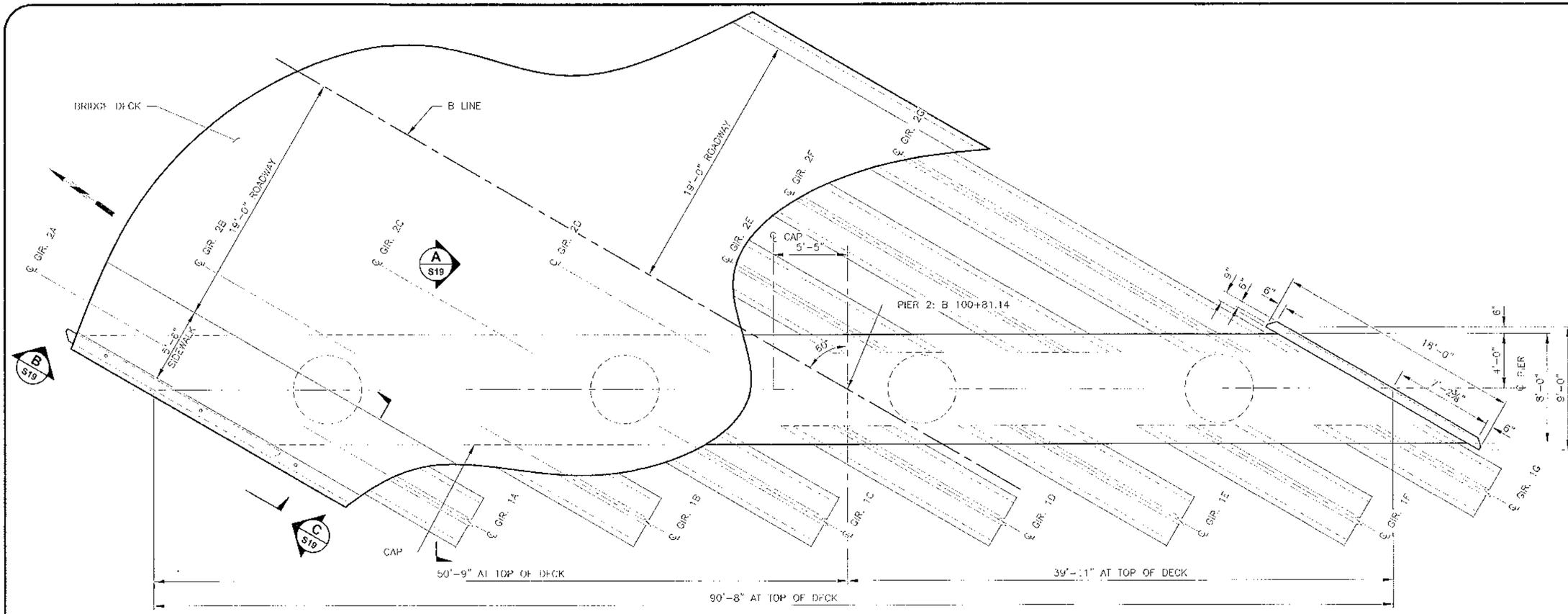
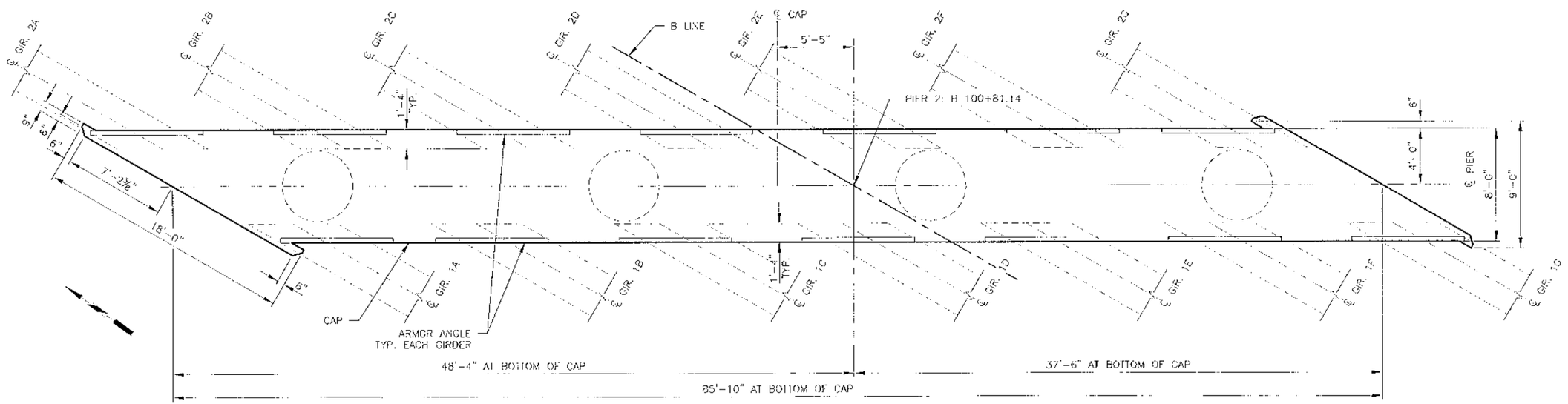


PLAN - PIER 2 DIAPHRAGM & DECK

Scale: 1/4" = 1'-0"



PLAN - PIER 2 CAP

Scale: 1/4" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-6625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ESM-0008
FED. AID NO.: BRS-1629(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

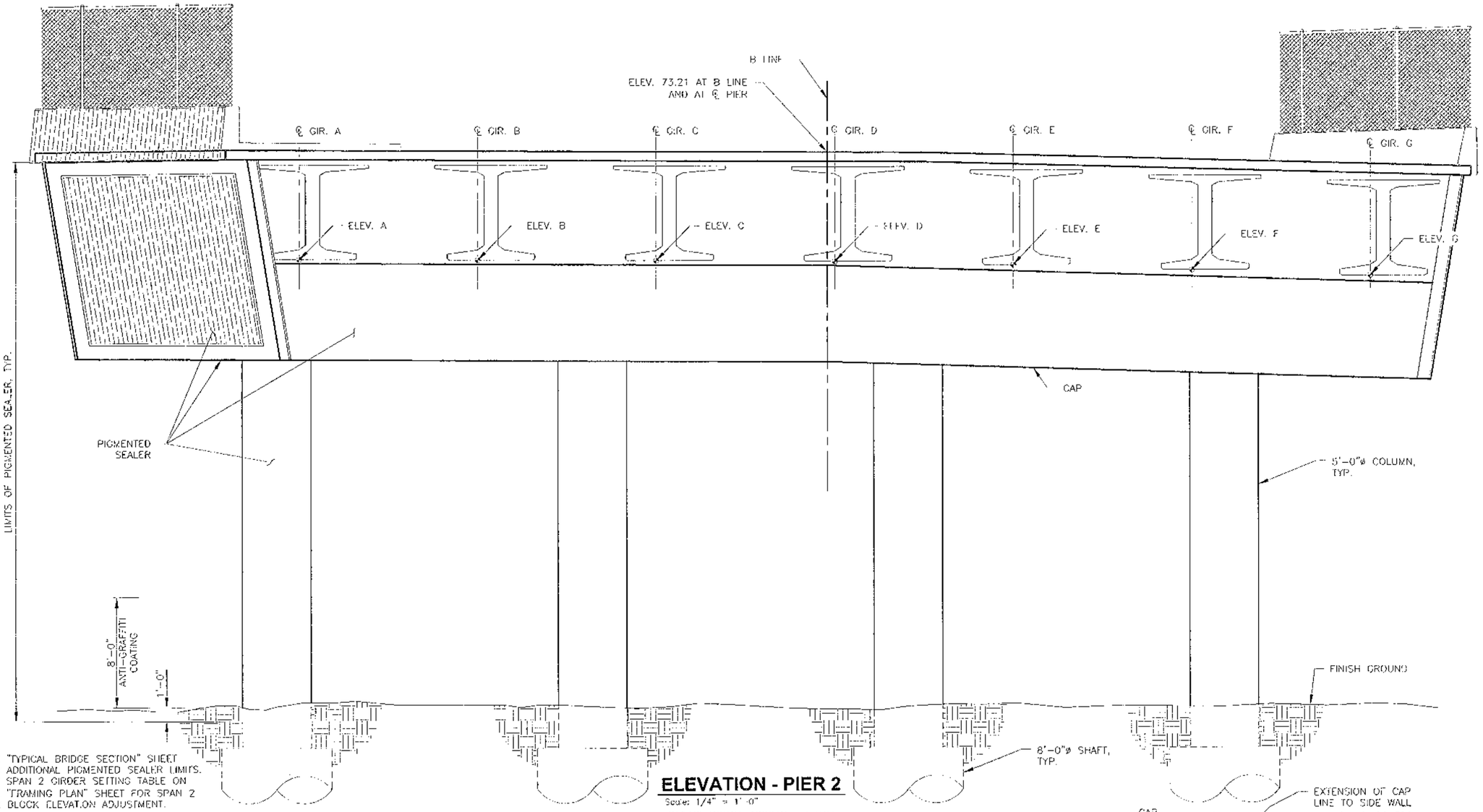
BURLINGTON NORTHERN OVERPASS PROJECT

PIER 2 PLAN (S-17)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 66 OF 117

SHEARER DESIGN LLC
3613 Fitzroy Ave SE #B
Seattle WA 98133
(206) 791-7892
Bridge Design, Construction Engineering, Infrastructure Aesthetics

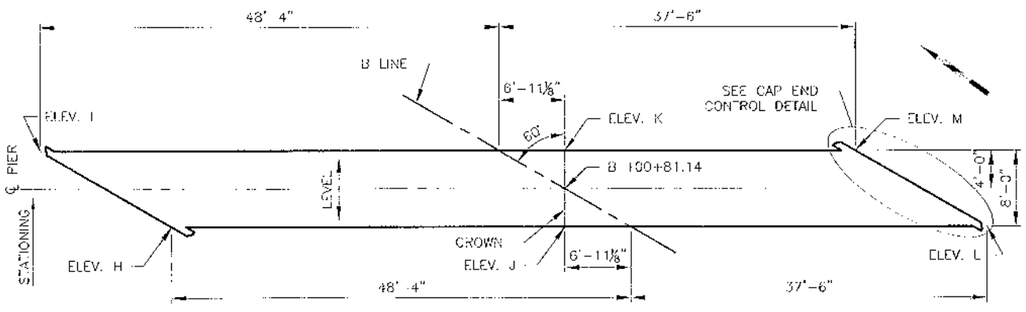


NOTES:
1. SEE "TYPICAL BRIDGE SECTION" SHEET FOR ADDITIONAL PIGMENTED SEALER LIMITS.
2. SEE SPAN 2 GIRDER SETTING TABLE ON THE "FRAMING PLAN" SHEET FOR SPAN 2 OAK BLOCK ELEVATION ADJUSTMENT.

ELEVATION - PIER 2

Scale: 1/4" = 1'-0"

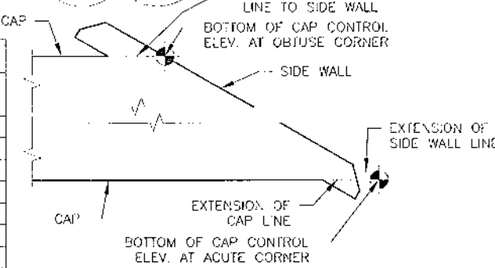
FACING NORTH, NORMAL TO CAP



PLAN - PIER 2 BOTTOM OF CAP ELEVATIONS

CONTROL ELEVATIONS - PIER 2

LOCATION	DESCRIPTION		SPAN 1 ELEV. (FT)	SPAN 2 ELEV. (FT)
A	℄ GIRDER A	BOTTOM OF GIRDER AT ℄ OAK BLOCK	65.47	65.63
B	℄ GIRDER B	BOTTOM OF GIRDER AT ℄ OAK BLOCK	65.44	65.63
C	℄ GIRDER C	BOTTOM OF GIRDER AT ℄ OAK BLOCK	65.39	65.61
D	℄ GIRDER D	BOTTOM OF GIRDER AT ℄ OAK BLOCK	65.32	65.56
E	℄ GIRDER E	BOTTOM OF GIRDER AT ℄ OAK BLOCK	65.07	65.34
F	℄ GIRDER F	BOTTOM OF GIRDER AT ℄ OAK BLOCK	64.69	64.98
G	℄ GIRDER G	BOTTOM OF GIRDER AT ℄ OAK BLOCK	64.28	64.61
H	BOTTOM OF CAP	B 101+15.01, 24.17' LT	58.08	
I	BOTTOM OF CAP	B 101+31.01, 24.17' LT	58.14	
J	BOTTOM OF CAP	B 100+79.14, 3.46' LT	57.91	
K	BOTTOM OF CAP	B 100+83.14, 3.46' RT	57.91	
L	BOTTOM OF CAP	B 100+40.68, 18.75' RT	56.56	
M	BOTTOM OF CAP	B 100+56.68, 18.75' RT	56.98	



CAP END CONTROL DETAIL

Scale: 1/2" = 1'-0"

RIGHT SIDE SHOWN. MIRROR FOR LEFT SIDE.

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1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-M129(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 9, TOWNSHIP 35N, RANGE 04E, W.M.

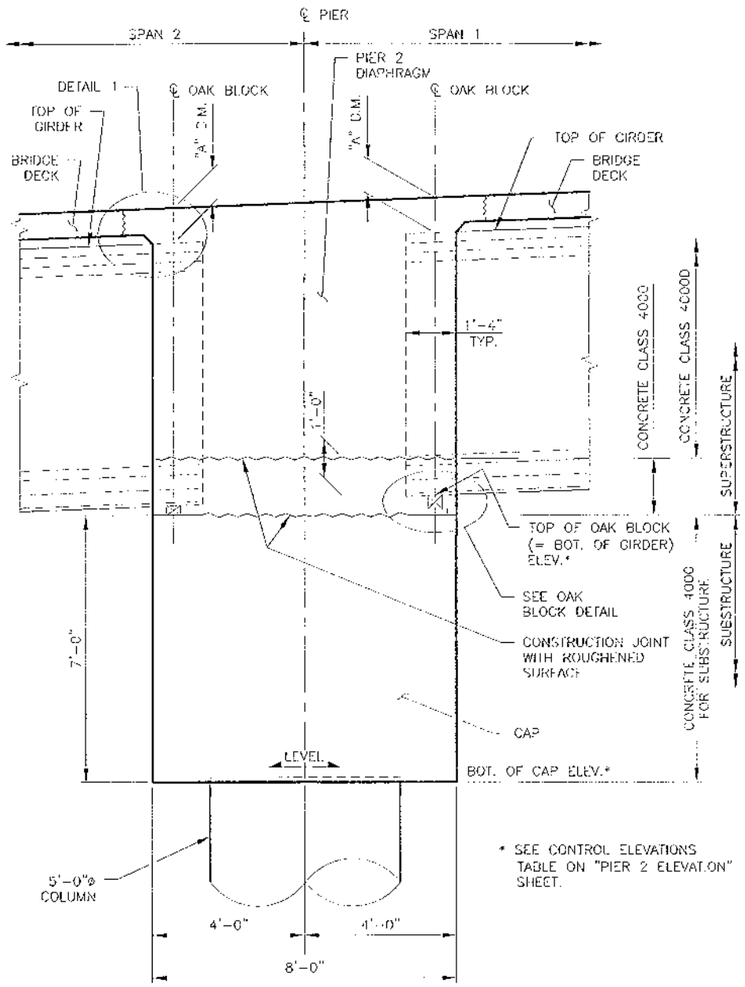
BURLINGTON NORTHERN OVERPASS PROJECT

PIER 2 ELEVATION (S-18)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

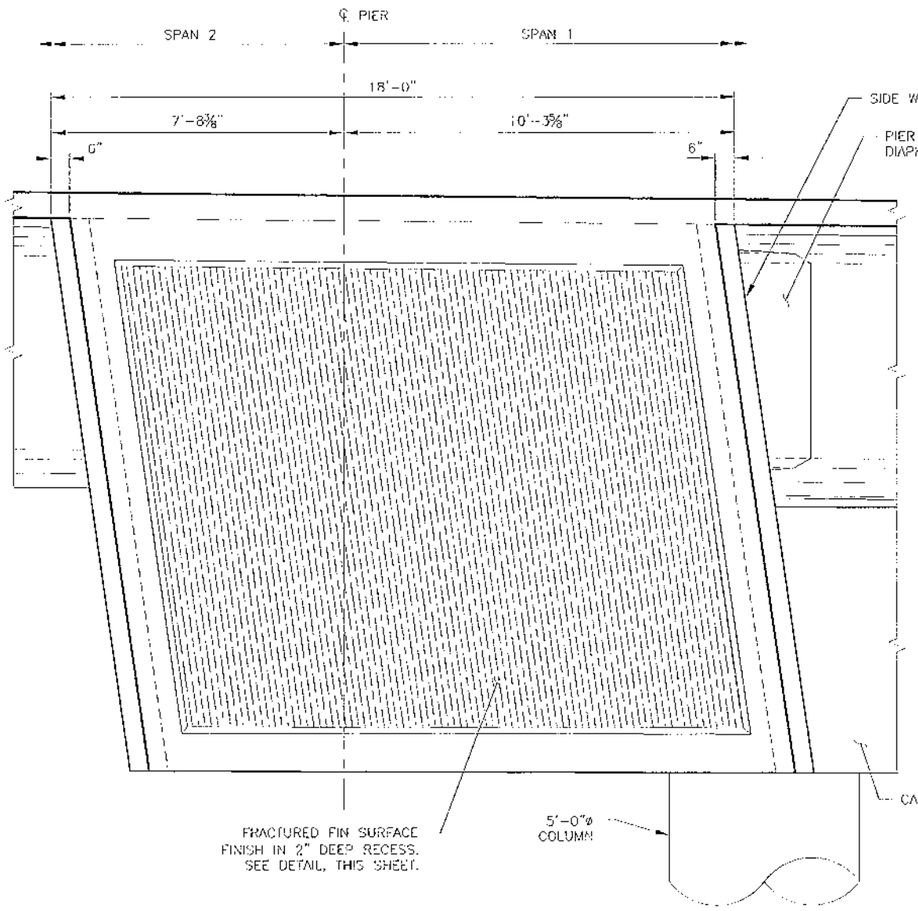
SHEET 67 OF 117

ROBERT - October 11, 2016 - 2:26 PM - I:\SHEARER\SERVER JOBS 0227 &NSP\DESIGN\DWG\DESIGN_CAD\CONST\AB02ES50510-8 PIER 2 DETAILS.DWG

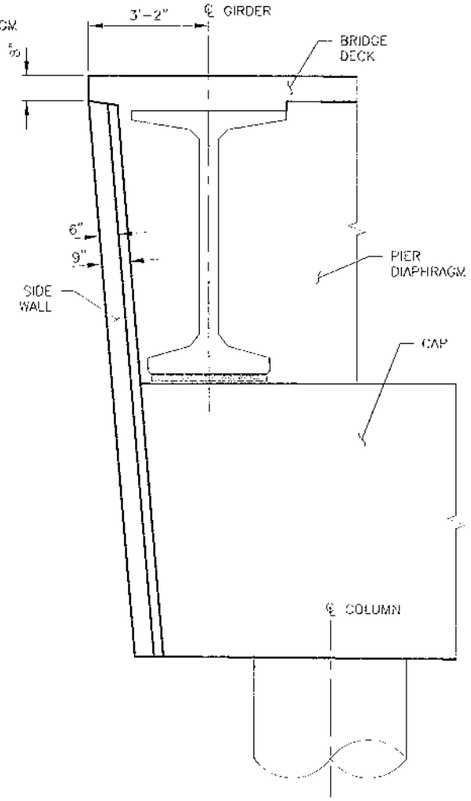


A S17 **TYPICAL SECTION**
Scale: 1/2" = 1'-0"

SECTION PERPENDICULAR TO CAP

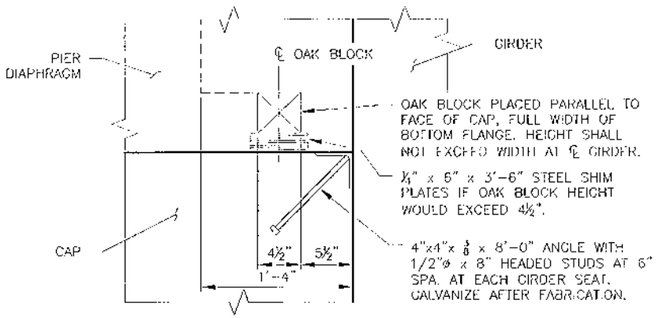


B S17 **VIEW**
Scale: 1/2" = 1'-0"



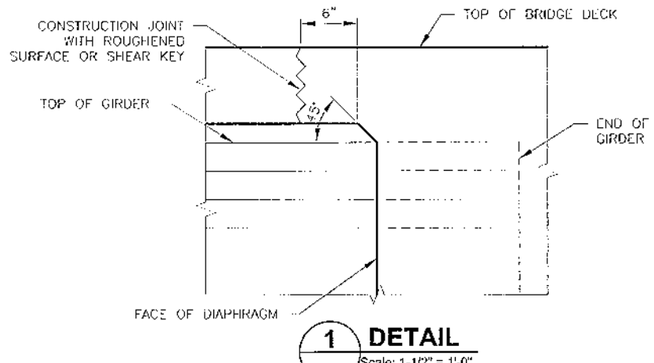
C S17 **SECTION**
Scale: 1/2" = 1'-0"

LEFT SIDE SHOWN. RIGHT SIDE SIMILAR.



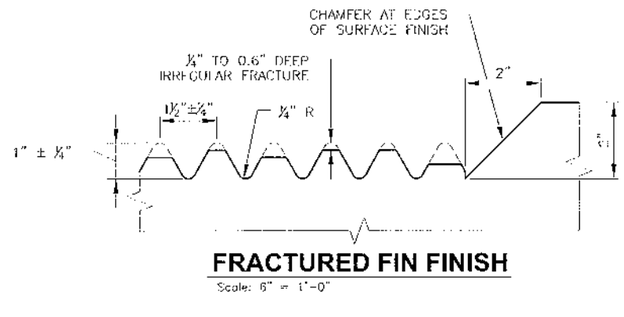
OAK BLOCK DETAIL
Scale: 1-1/2" = 1'-0"

SECTION PERPENDICULAR TO CAP



1 - **DETAIL**
Scale: 1-1/2" = 1'-0"

DIAPHRAGM REINFORCING NOT SHOWN FOR CLARITY



FRACTURED FIN FINISH
Scale: 6" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES3G310-8
FED. AID NO.: BRS-1029(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 33N, RANGE 04 E, W.M.

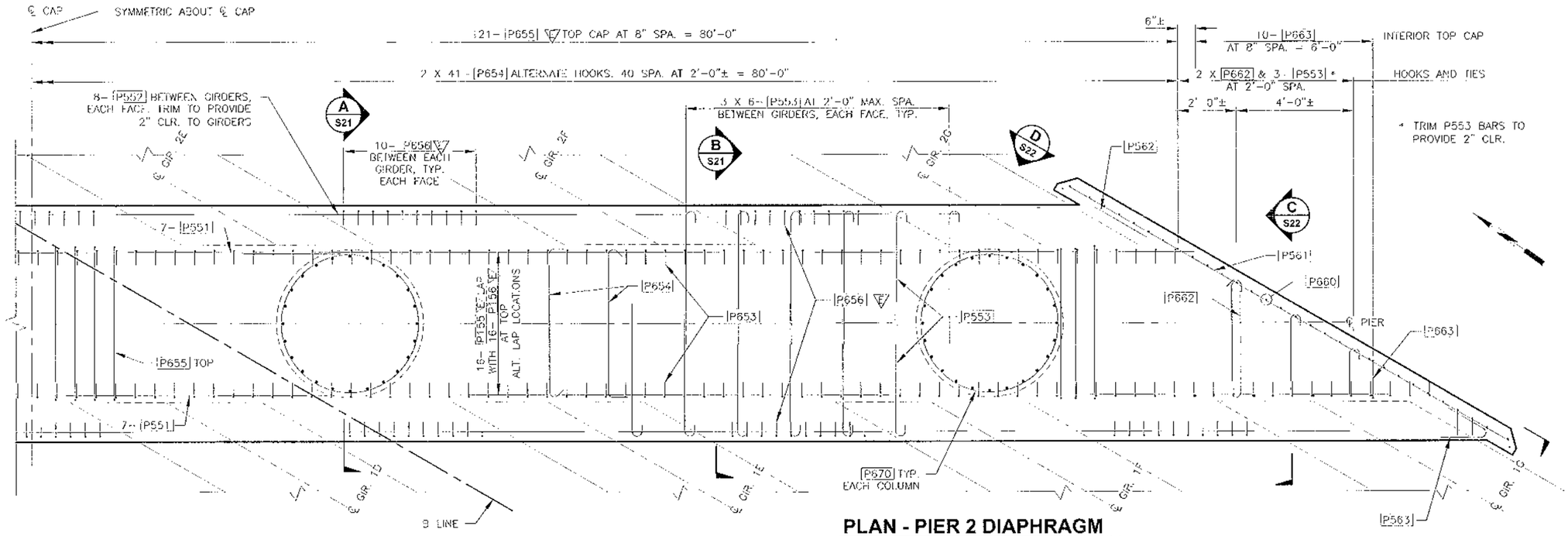
BURLINGTON NORTHERN OVERPASS PROJECT

PIER 2 DETAILS (S-19)

1 INCH SCALE BAR. ADJUST SCALE ACCORDINGLY

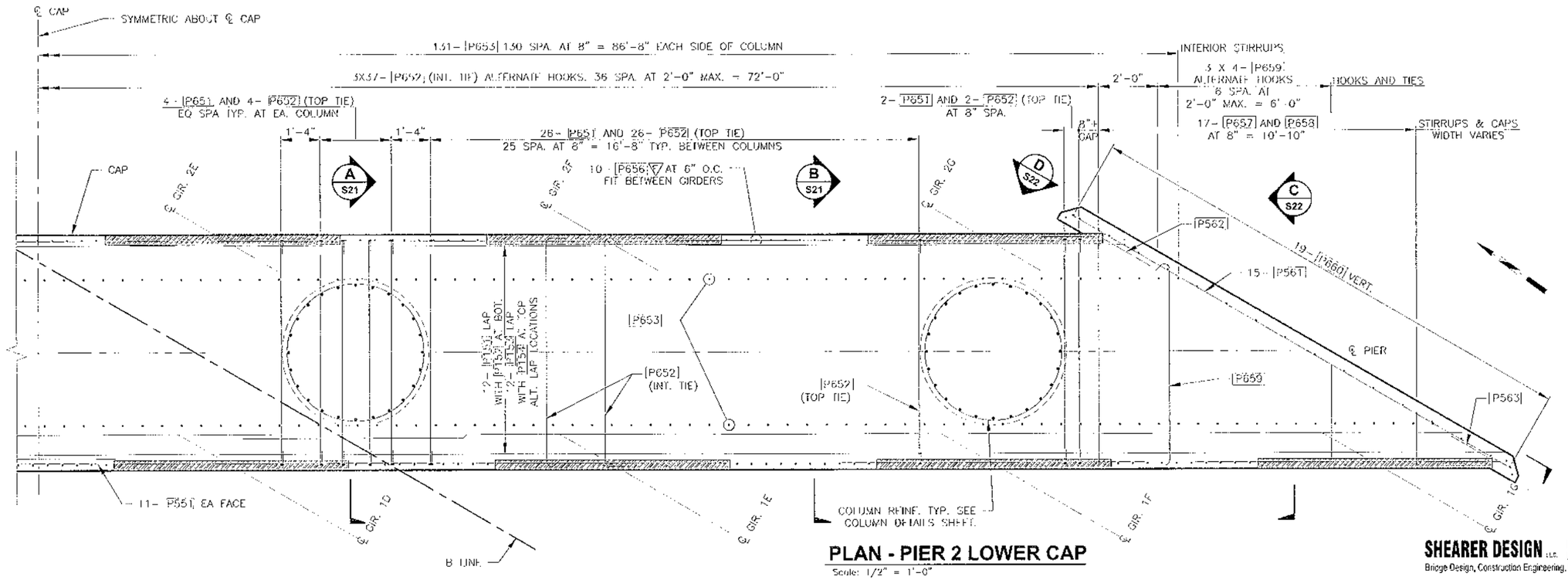
SHEET 68 OF 117

SHEARER DESIGN LLC
3612 Fairway Ave N, #B
Seattle WA 98103
(206) 781-7830
Bridge Design, Construction Engineering, Infrastructure Aesthetics



PLAN - PIER 2 DIAPHRAGM

Scale: 1/2" = 1'-0"



PLAN - PIER 2 LOWER CAP

Scale: 1/2" = 1'-0"

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Rucker Ave. Ste. B
Everett WA 98213
(206) 791-7659

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES05310-8
FED. AID NO.: BRS-HSP9(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

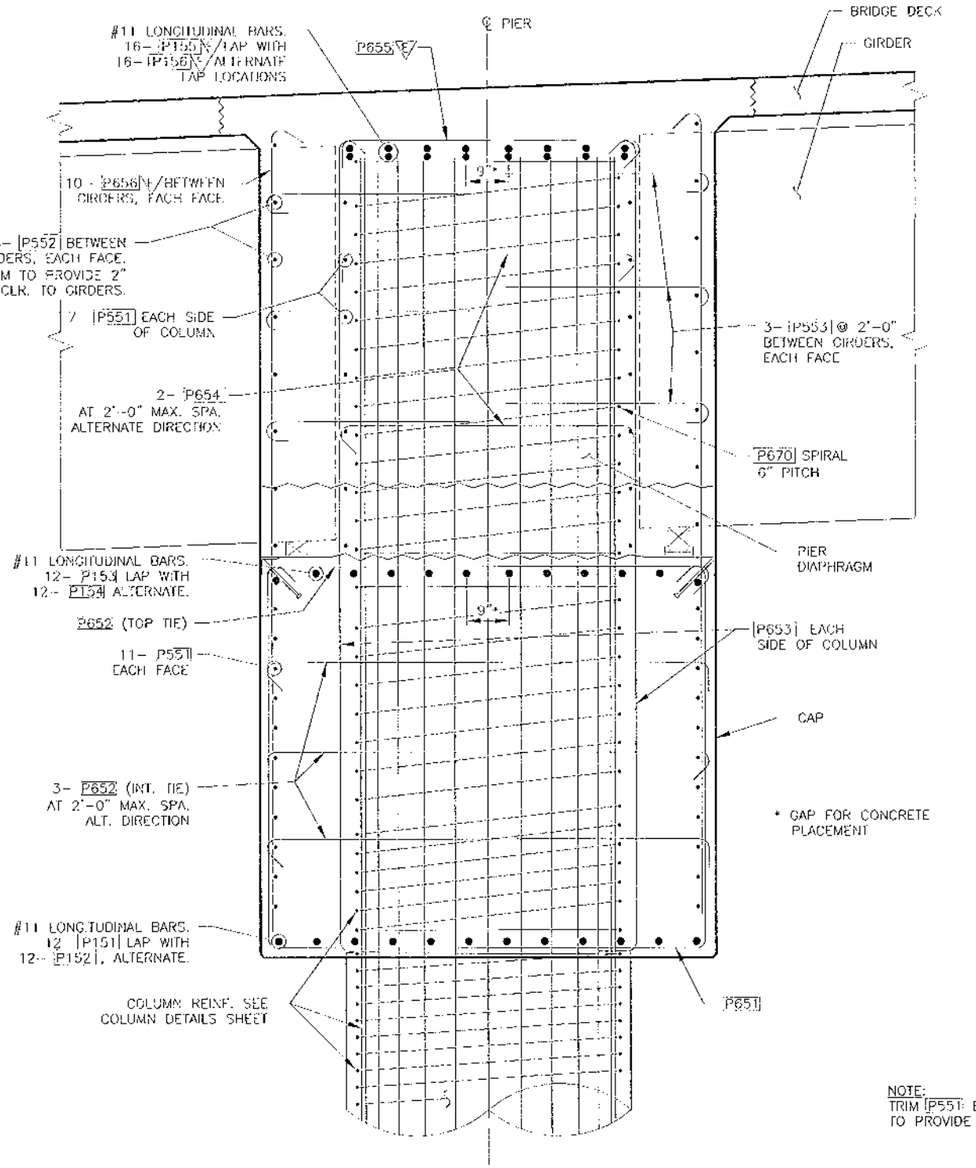
BURLINGTON NORTHERN OVERPASS PROJECT

PIER 2 CAP REINFORCEMENT PLAN (S-20)

1 INCH SCALE BAR. ADJUST SCALE ACCORDINGLY

SHEET 69 OF 117

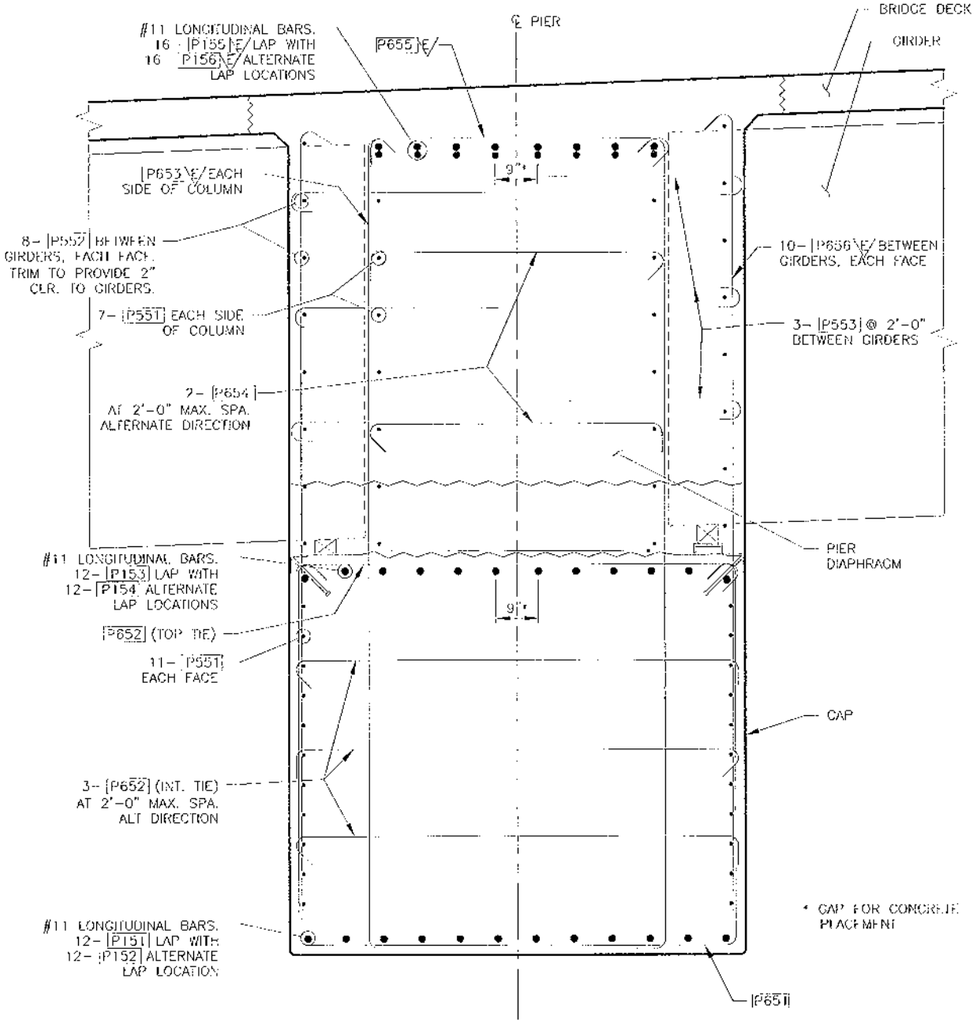
ROBERT - October 11, 2016 - 3:28 PM - \\SHEARERSERVER...\DESIGN\DWG\DESIGN_CAD\CONSTR\ES05310-8 PIER 2 DETAILS.DWG



A S20 **SECTION**
Scale: 3/4" = 1'-0"

SECTION PERPENDICULAR TO CAP

NOTE:
TRIM P551 BARS OR INCREASE LAP TO PROVIDE CLEARANCE



B S20 **SECTION**
Scale: 3/4" = 1'-0"

SECTION PERPENDICULAR TO CAP

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: FS00510-8
FED. AID NO.: BRS-M79(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

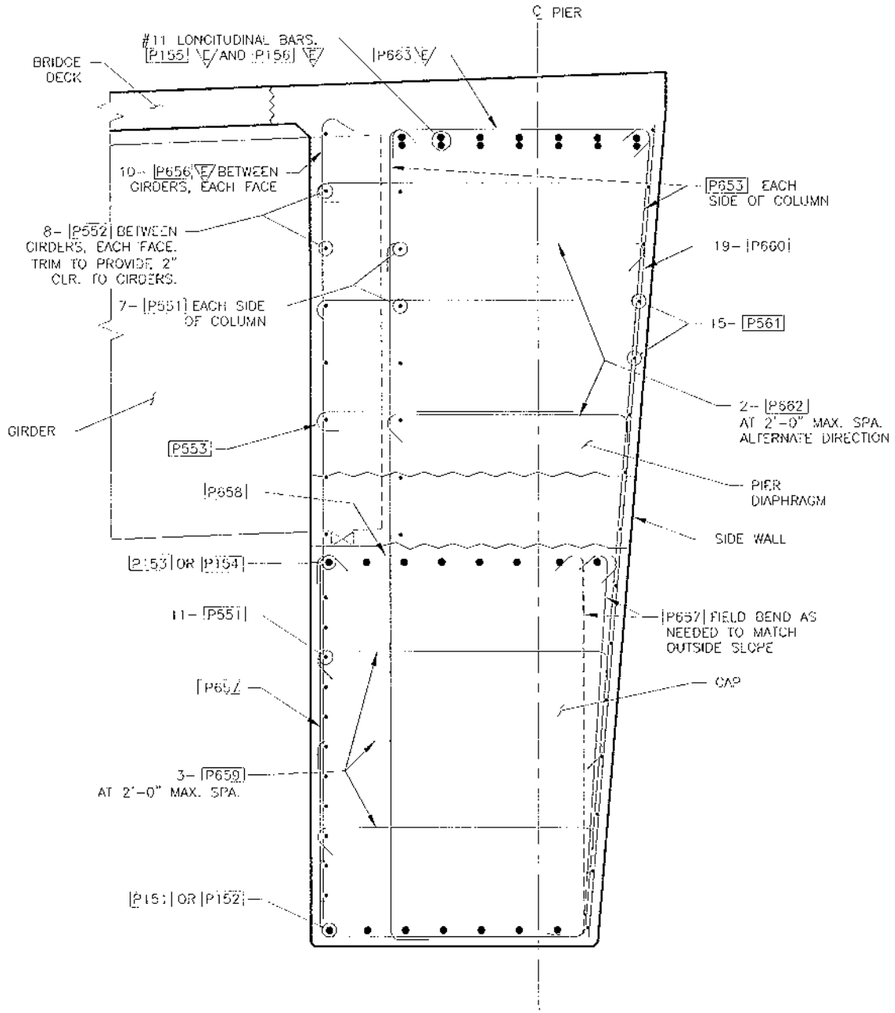
BURLINGTON NORTHERN OVERPASS PROJECT

PIER 2 REINFORCEMENT SECTIONS 1 OF 2
(S-21)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

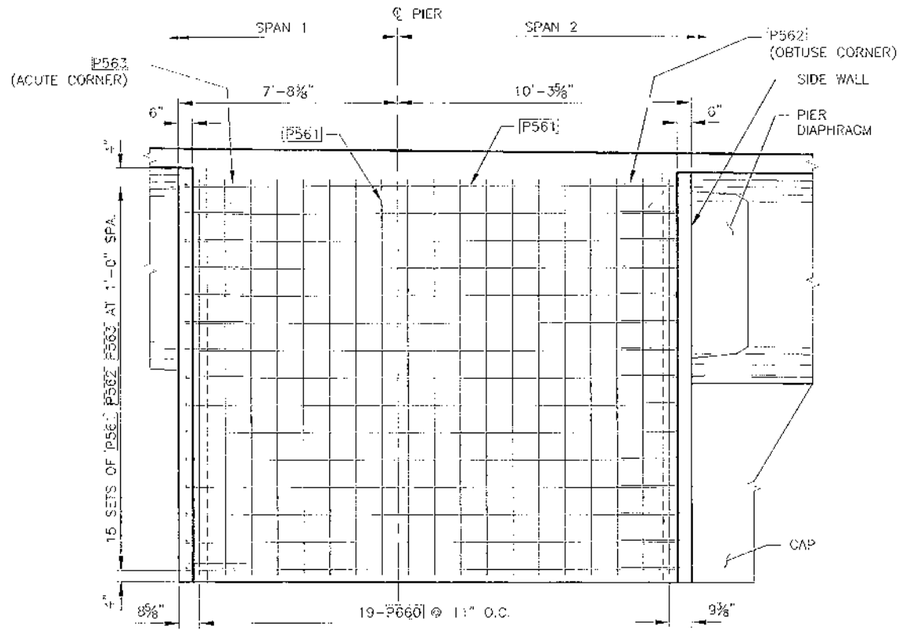
SHEET
70 OF 117

SHEARER DESIGN LLC
2643 Pinkney Ave N, #B
Seattle WA 98109
(206) 781-7650
Bridge Design, Construction Engineering, Infrastructure Aesthetics



C S20 **SECTION**
Scale: 3/4" = 1'-0"

SECTION PERPENDICULAR TO CAP



D S20 **VIEW**
Scale: 3/8" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES9510-8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

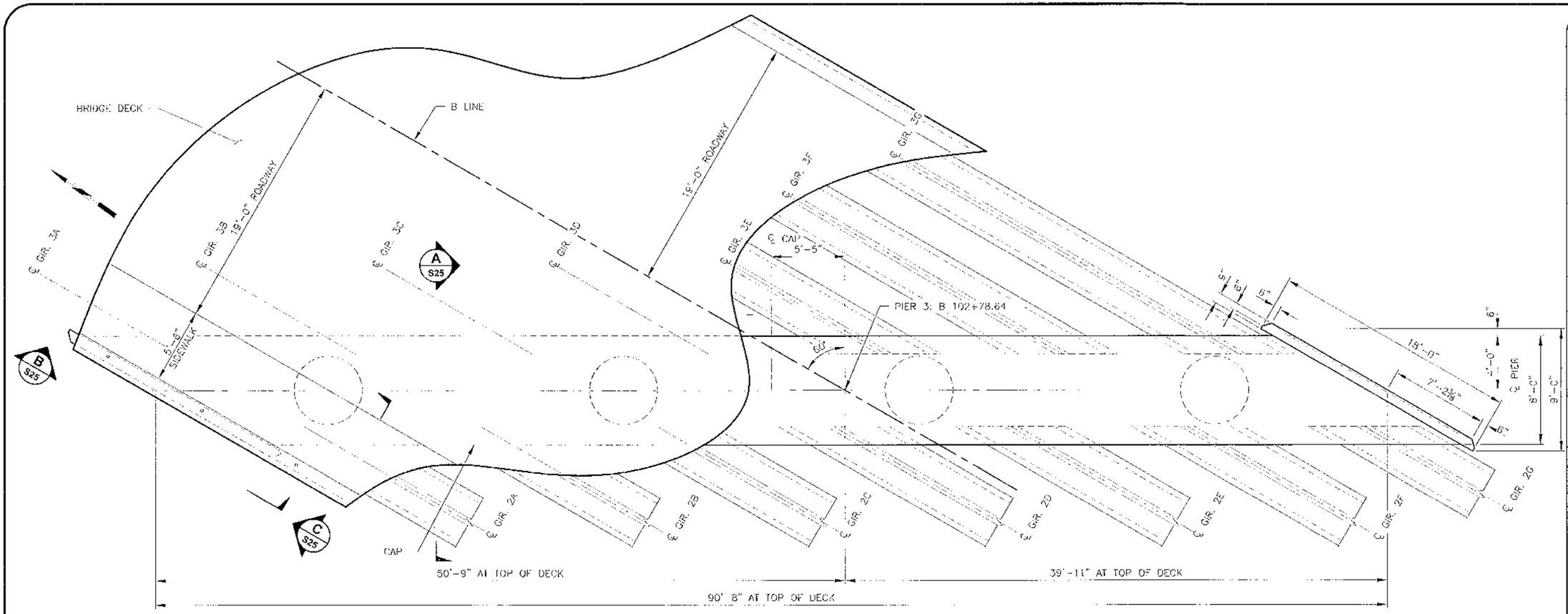
BURLINGTON NORTHERN OVERPASS PROJECT

PIER 2 REINFORCEMENT SECTIONS 2 OF 2 (S-22)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

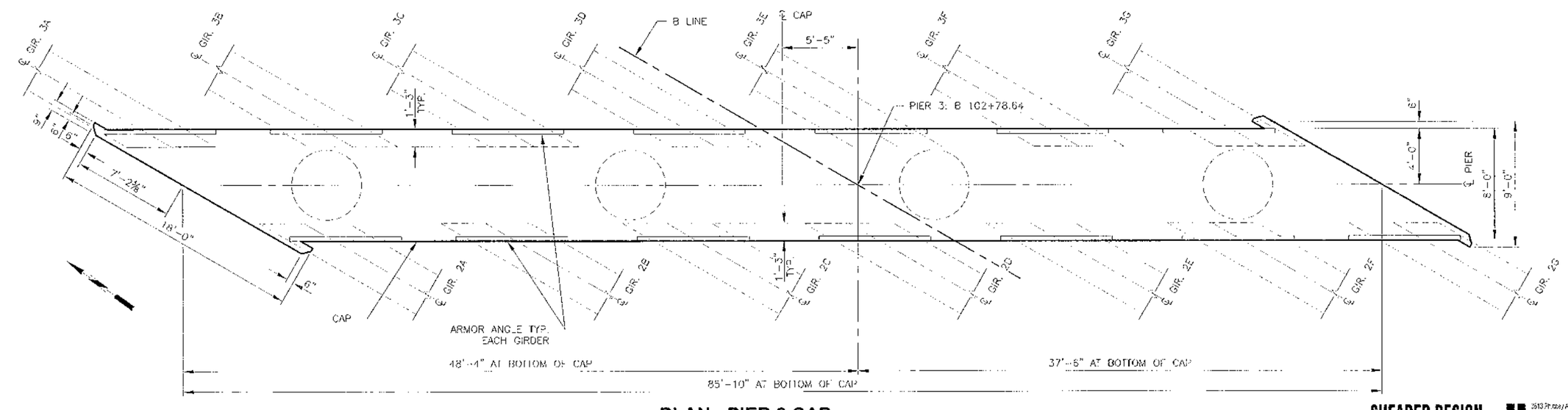
SHEET 71 OF 117

SHEARER DESIGN LLC
3613 Primacy Ave N, # B
Seattle WA 98103
(253) 781-7856
Bridge Design, Construction Engineering, Infrastructure Aesthetics



PLAN - PIER 3 DIAPHRAGM & DECK

Scale: 1/4" = 1'-0"



PLAN - PIER 3 CAP

Scale: 1/4" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: FS505310-8
FED. AID NO.: BRS-M29(008)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

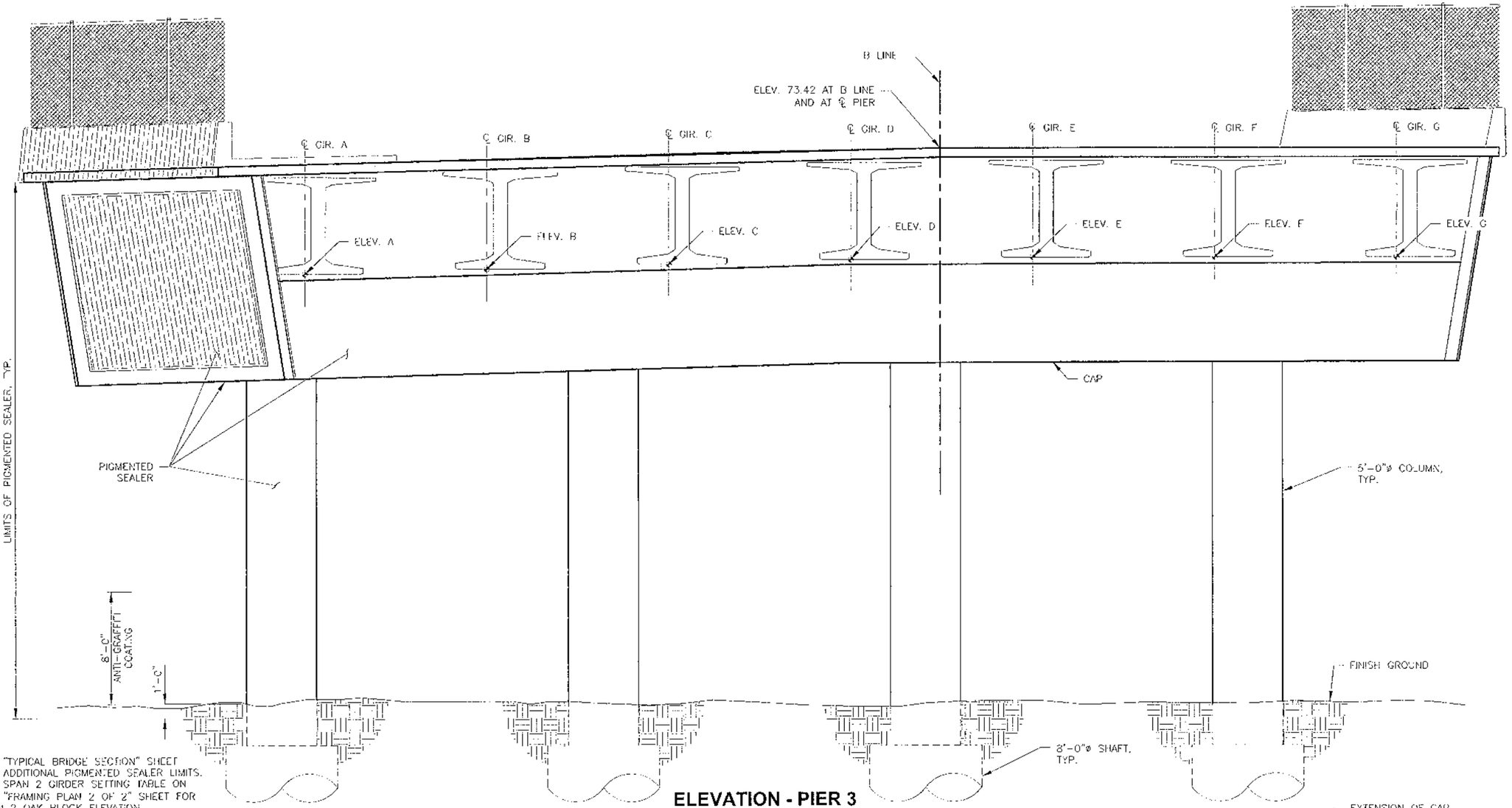
BURLINGTON NORTHERN OVERPASS PROJECT

PIER 3 PLAN (S-23)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 72 OF 117

SHEARER DESIGN LLC
2513 Pt Gray Rd Ste 10 B
Seattle WA 98133
(206) 781-7833
Bridge Design, Construction Engineering, Infrastructure Aesthetics

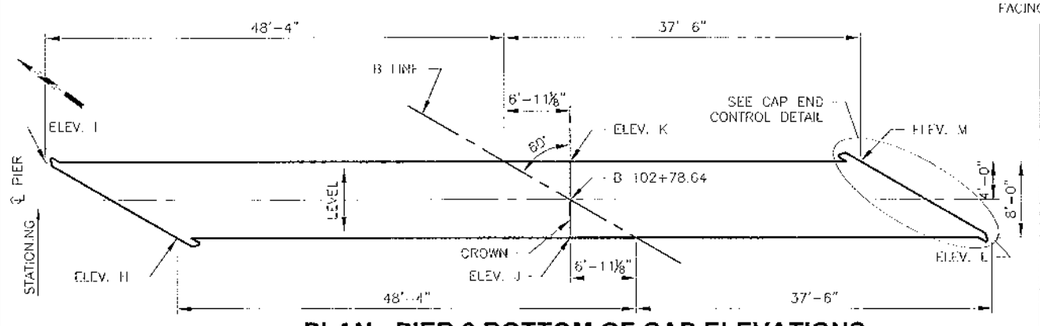


NOTE:
1. SEE "TYPICAL BRIDGE SECTION" SHEET FOR ADDITIONAL PIGMENTED SEALER LIMITS.
2. SEE SPAN 2 GIRDER SETTING TABLE ON THE "FRAMING PLAN 2 OF 2" SHEET FOR SPAN 2 OAK BLOCK ELEVATION ADJUSTMENT.

ELEVATION - PIER 3

Scale: 1/4" = 1'-0"

FACING NORTH, NORMAL TO CAP

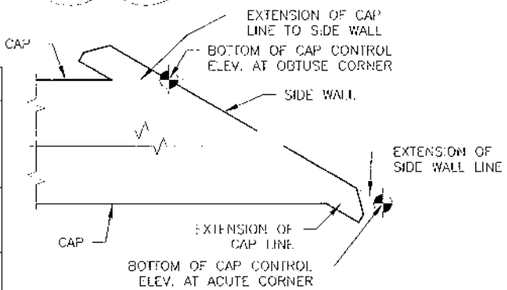


PLAN - PIER 3 BOTTOM OF CAP ELEVATIONS

Scale: 1/8" = 1'-0"

CONTROL ELEVATIONS - PIER 3

LOCATION	DESCRIPTION		SPAN 2 ELEV. (FT)	SPAN 3 ELEV. (FT)
A	℄ GIRDER A	BOTTOM OF GIRDER AT ℄ OAK BLOCK	64.54	64.22
B	℄ GIRDER B	BOTTOM OF GIRDER AT ℄ OAK BLOCK	64.92	64.62
C	℄ GIRDER C	BOTTOM OF GIRDER AT ℄ OAK BLOCK	65.27	65.00
D	℄ GIRDER D	BOTTOM OF GIRDER AT ℄ OAK BLOCK	65.59	65.36
E	℄ GIRDER E	BOTTOM OF GIRDER AT ℄ OAK BLOCK	65.75	65.54
F	℄ GIRDER F	BOTTOM OF GIRDER AT ℄ OAK BLOCK	65.77	65.58
G	℄ GIRDER G	BOTTOM OF GIRDER AT ℄ OAK BLOCK	65.76	65.61
H	BOTTOM OF CAP	B 103+12.53, 24.17' LT	56.91	
I	BOTTOM OF CAP	B 103+28.53, 24.17' LT	56.50	
J	BOTTOM OF CAP	B 102+76.64, 3.46' LT	58.12	
K	BOTTOM OF CAP	B 102+80.64, 3.46' RT	58.12	
L	BOTTOM OF CAP	B 102138.16, 18.75' RT	58.26	
M	BOTTOM OF CAP	B 102+54.16, 18.75' RT	58.22	



CAP END CONTROL DETAIL

Scale: 1/2" = 1'-0"

RIGHT SIDE SHOWN. MIRROR FOR LEFT SIDE.

SHEARER DESIGN LLC
5613 Priority Ave SE # B
Seattle WA 98103
(206) 251-7550
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ESSD5104.6
FED. AID NO.: BRS-1129(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

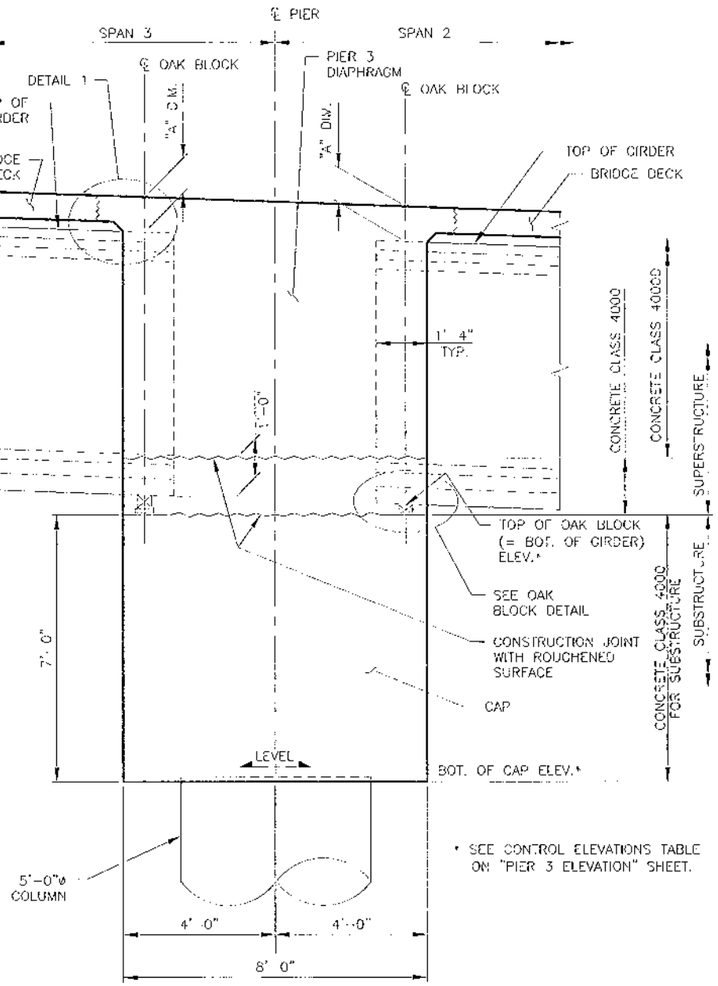
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

PIER 3 ELEVATION (S-24)

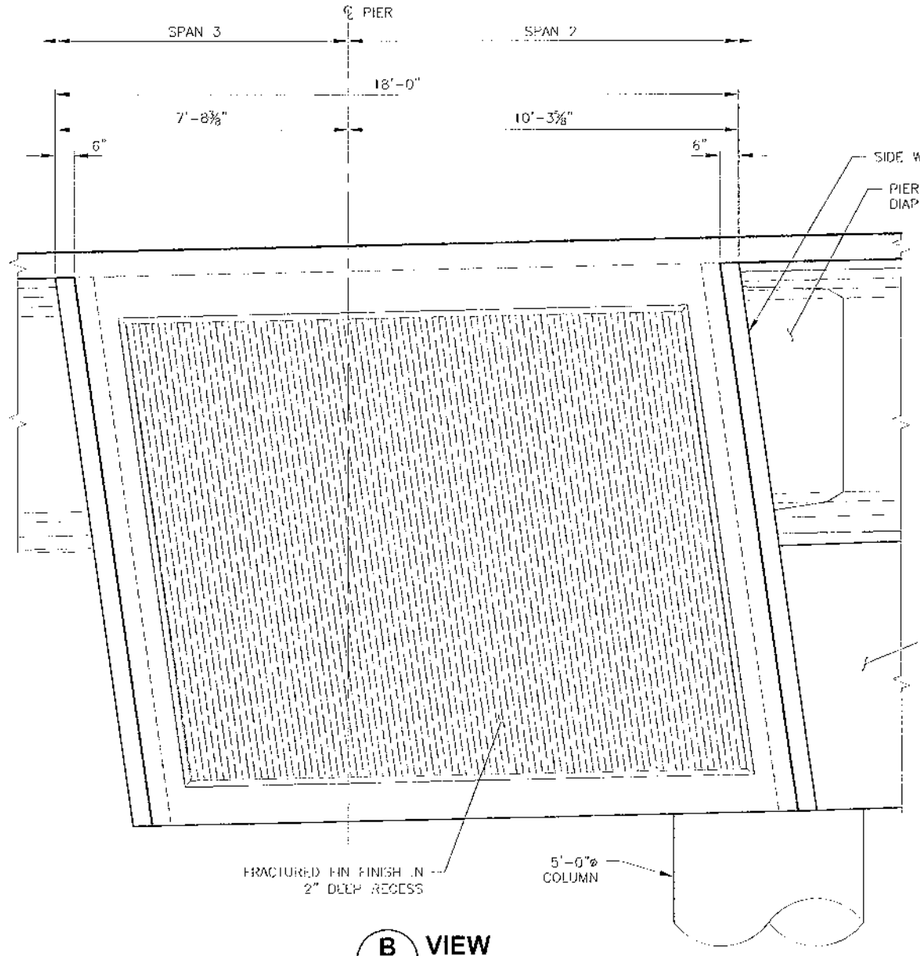
1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

SHEET 73 OF 117

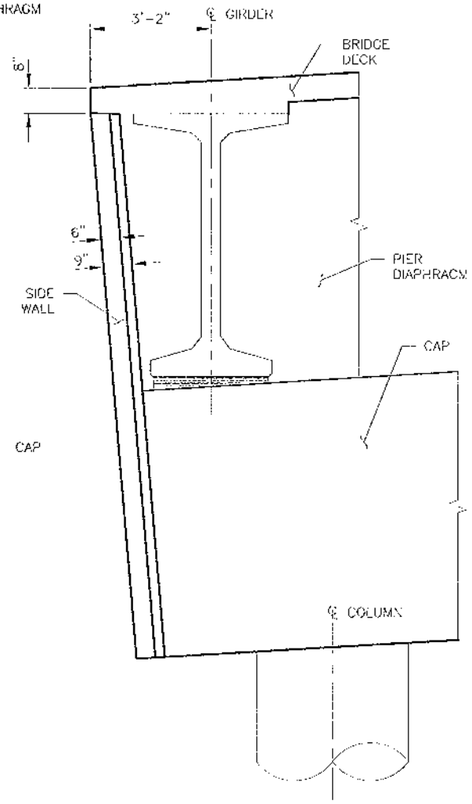


A S23 **TYPICAL SECTION**
Scale: 1/2" = 1'-0"

SECTION PERPENDICULAR TO CAP

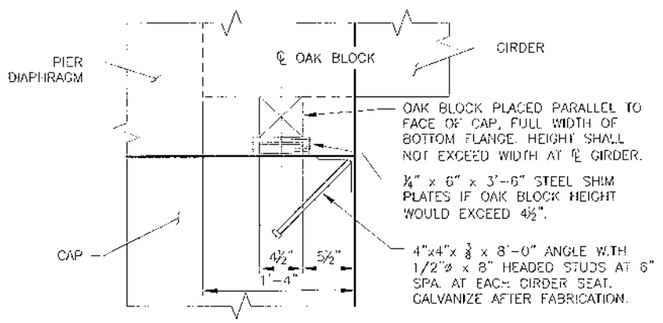


B S23 **VIEW**
Scale: 1/2" = 1'-0"



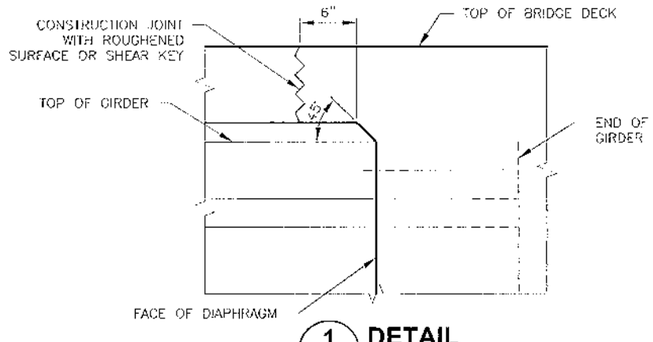
C S23 **SECTION**
Scale: 1/2" = 1'-0"

LEFT SIDE SHOWN. RIGHT SIDE SIMILAR.



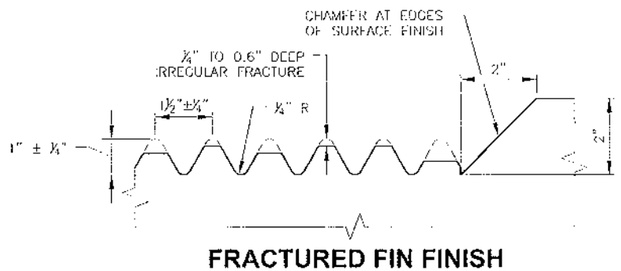
OAK BLOCK DETAIL
Scale: 1-1/2" = 1'-0"

SECTION PERPENDICULAR TO CAP



1 **DETAIL**
Scale: 1-1/2" = 1'-0"

DIAPHRAGM REINFORCING NOT SHOWN FOR CLARITY



FRACTURED FIN FINISH
Scale: 6" = 1'-0"

SHEARER DESIGN LLC
3615 Phinney Ave N #3
Seattle WA 98103
(206) 781-7830
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ESN0519-8
FED. AID NO.: BRS-1029(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

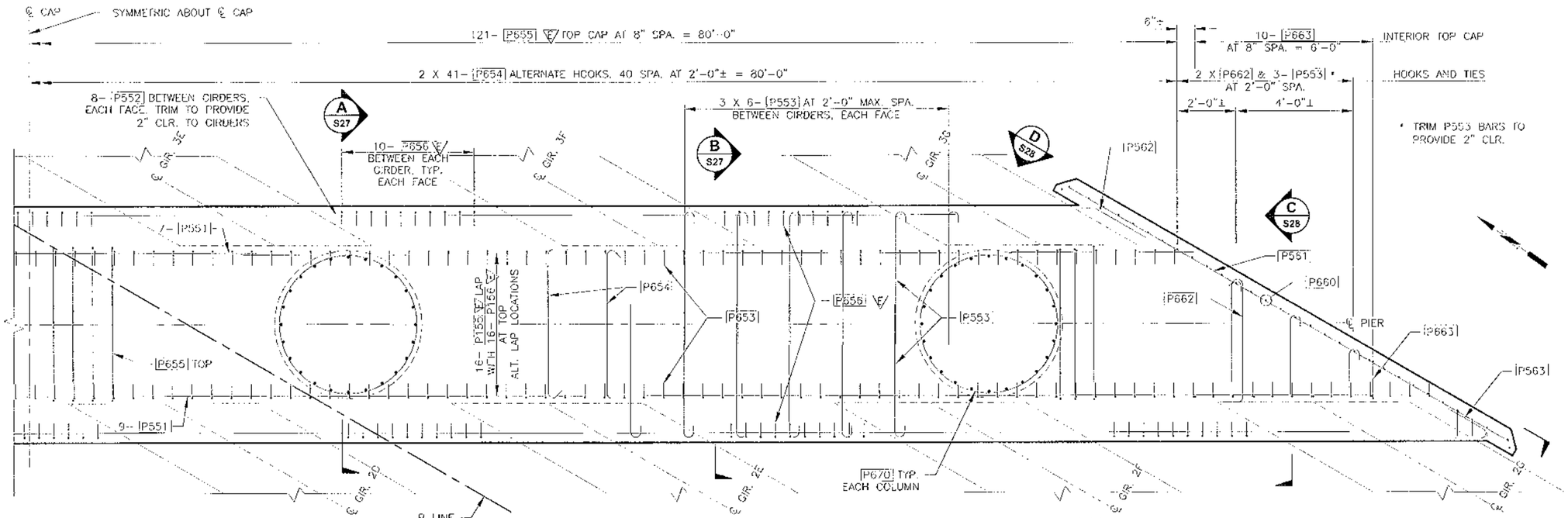
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

PIER 3 DETAILS (S-25)

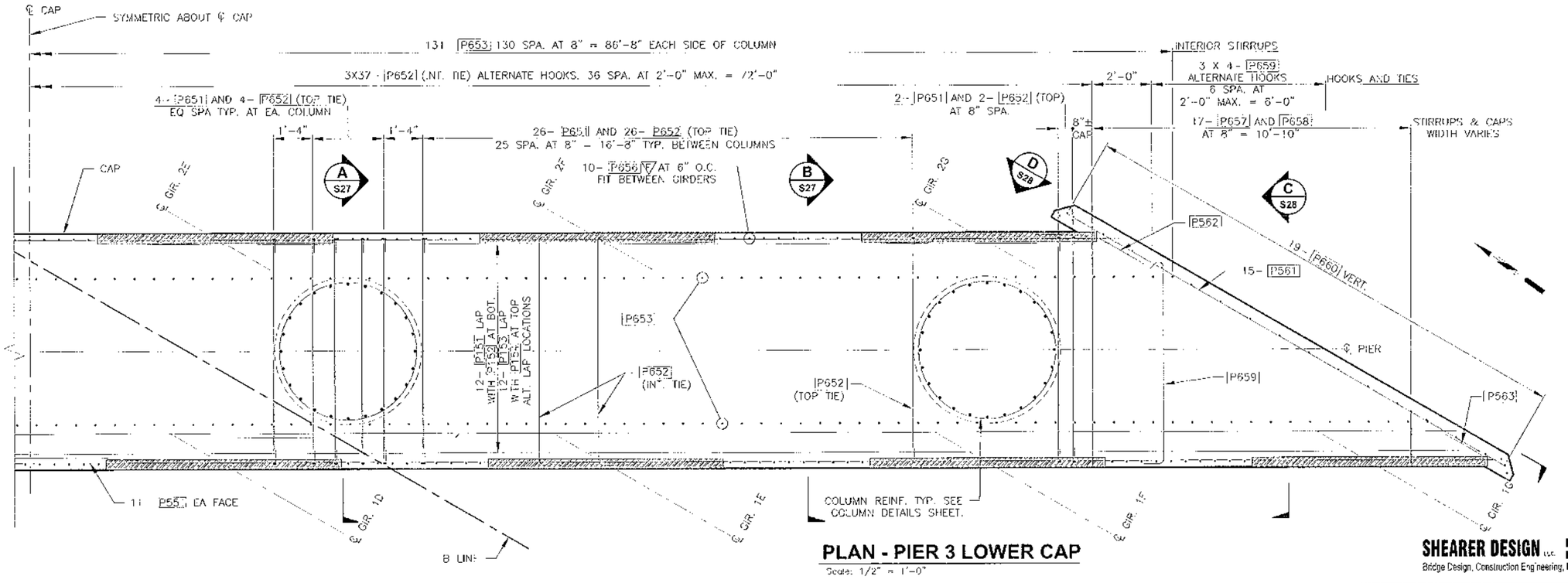
1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
74 OF 117



PLAN - PIER 3 DIAPHRAGM

Scale: 1/2" = 1'-0"



PLAN - PIER 3 LOWER CAP

Scale: 1/2" = 1'-0"

SHEARER DESIGN LLC
3613 Fairway Ave N, #B
Seattle WA 98103
(206) 781-7830
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

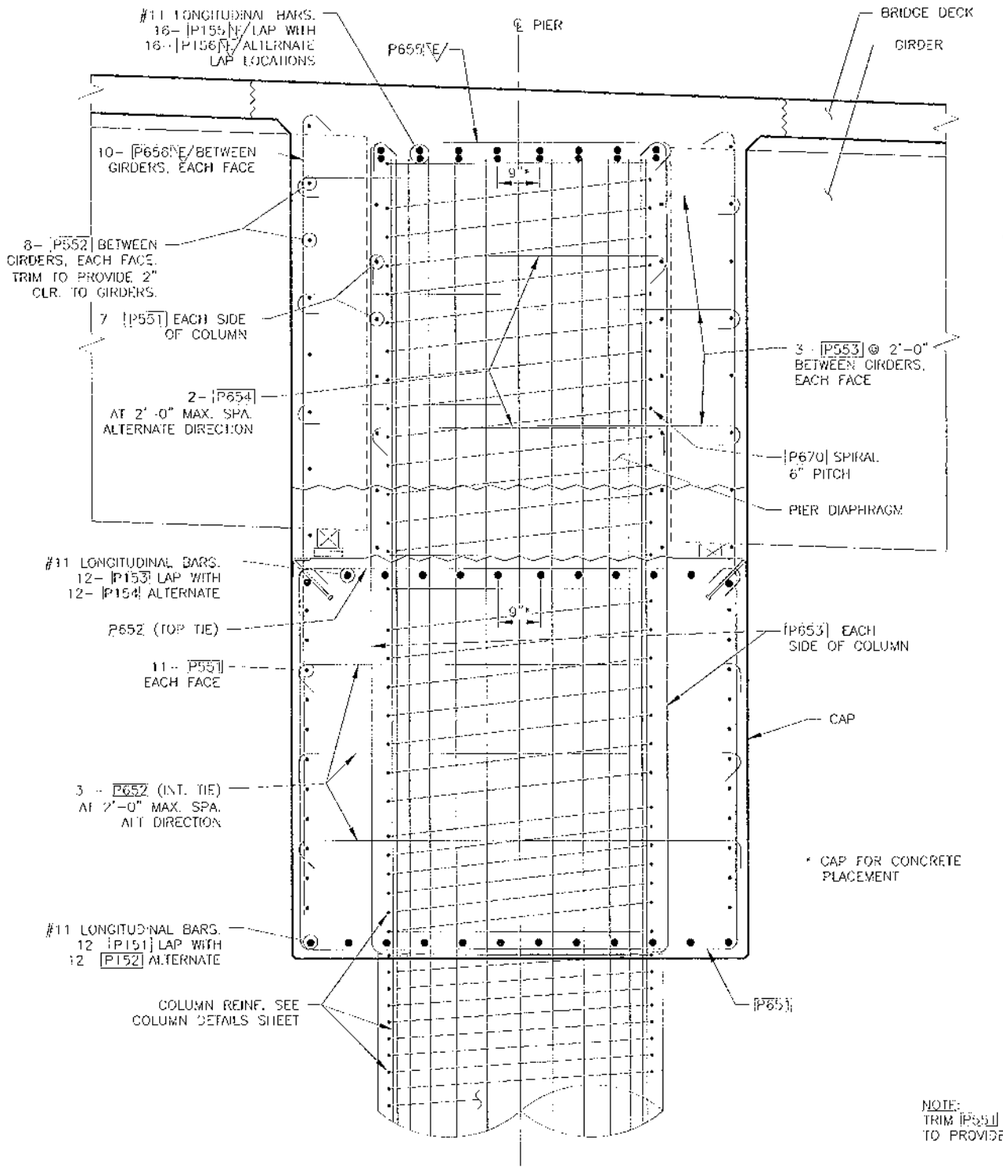
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

PIER 3 CAP REINFORCEMENT PLAN (S-26)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

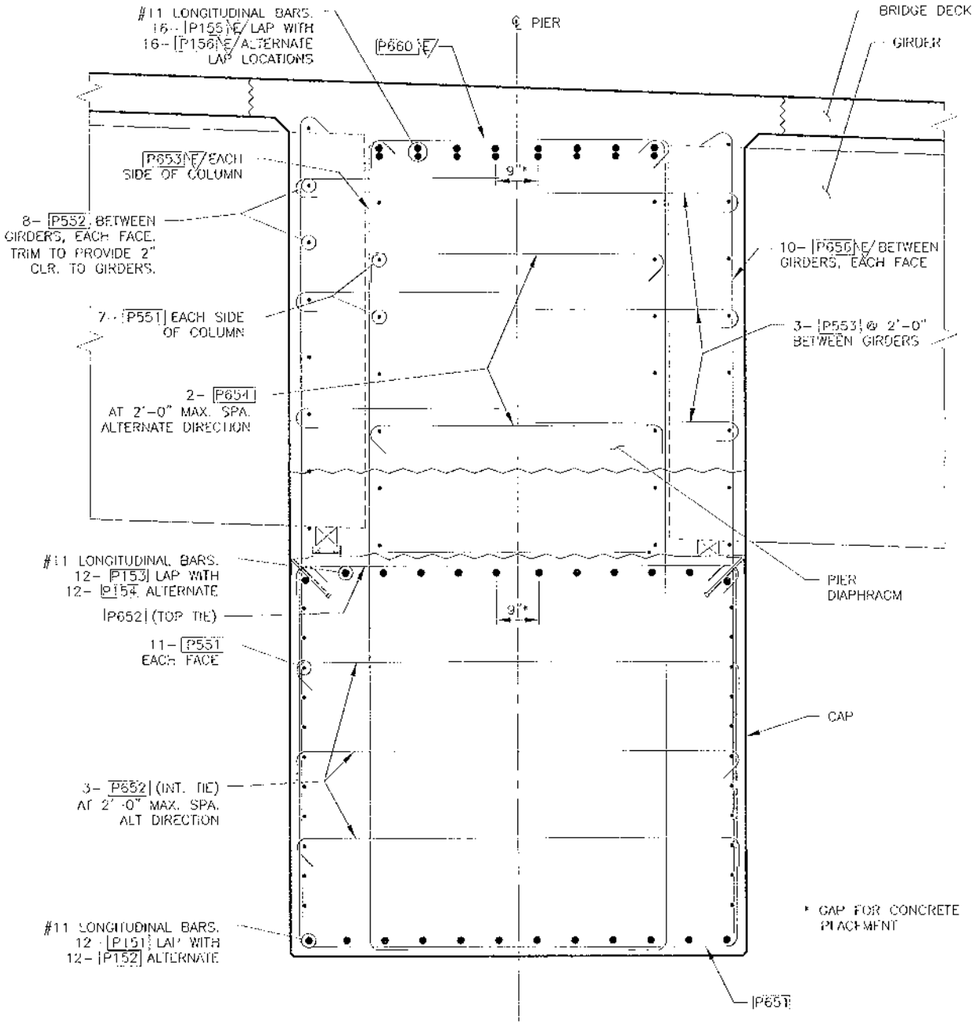
SHEET 75 OF 117



A S26 SECTION
Scale: 3/4" = 1'-0"

SECTION PERPENDICULAR TO CAP

NOTE:
TRIM P651 BARS OR INCREASE LAP
TO PROVIDE CLEARANCE.



B S26 SECTION
Scale: 3/4" = 1'-0"

SECTION PERPENDICULAR TO CAP

SKAGIT COUNTY
PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES505510-8
FED. AID NO.: BRS-0129(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

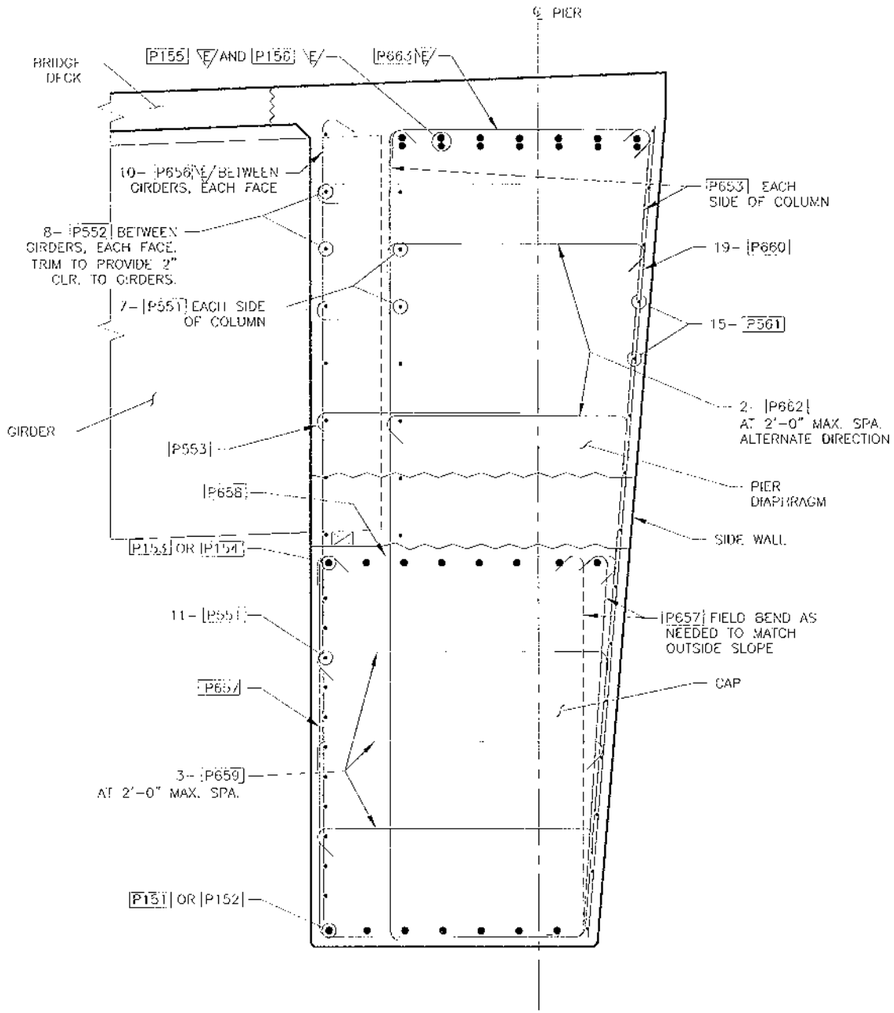
BURLINGTON NORTHERN OVERPASS PROJECT

PIER 3 REINFORCEMENT SECTIONS 1 OF 2
(S-27)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

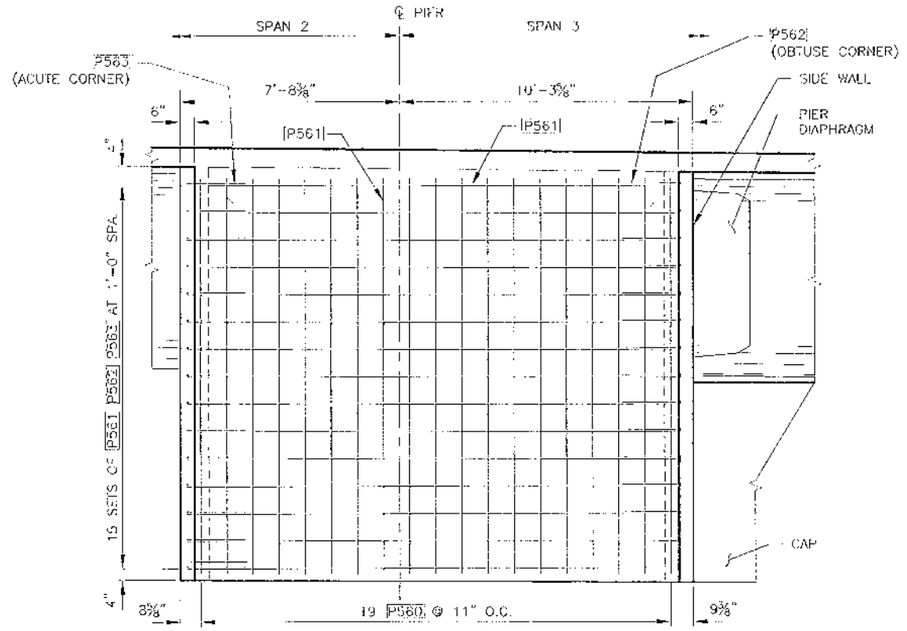
SHEET
76 OF 117

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Railroad Ave SE # B
Seattle, WA 98134
(206) 781-7830



C S26 SECTION
Scale: 3/4" = 1'-0"

SECTION PERPENDICULAR TO CAP



D S26 VIEW
Scale: 3/8" = 1'-0"

SHEARER DESIGN LLC
3613 Phinney Ave N, # B
Seattle WA 98103
(206) 281-7830
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY
PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ESM0510-8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

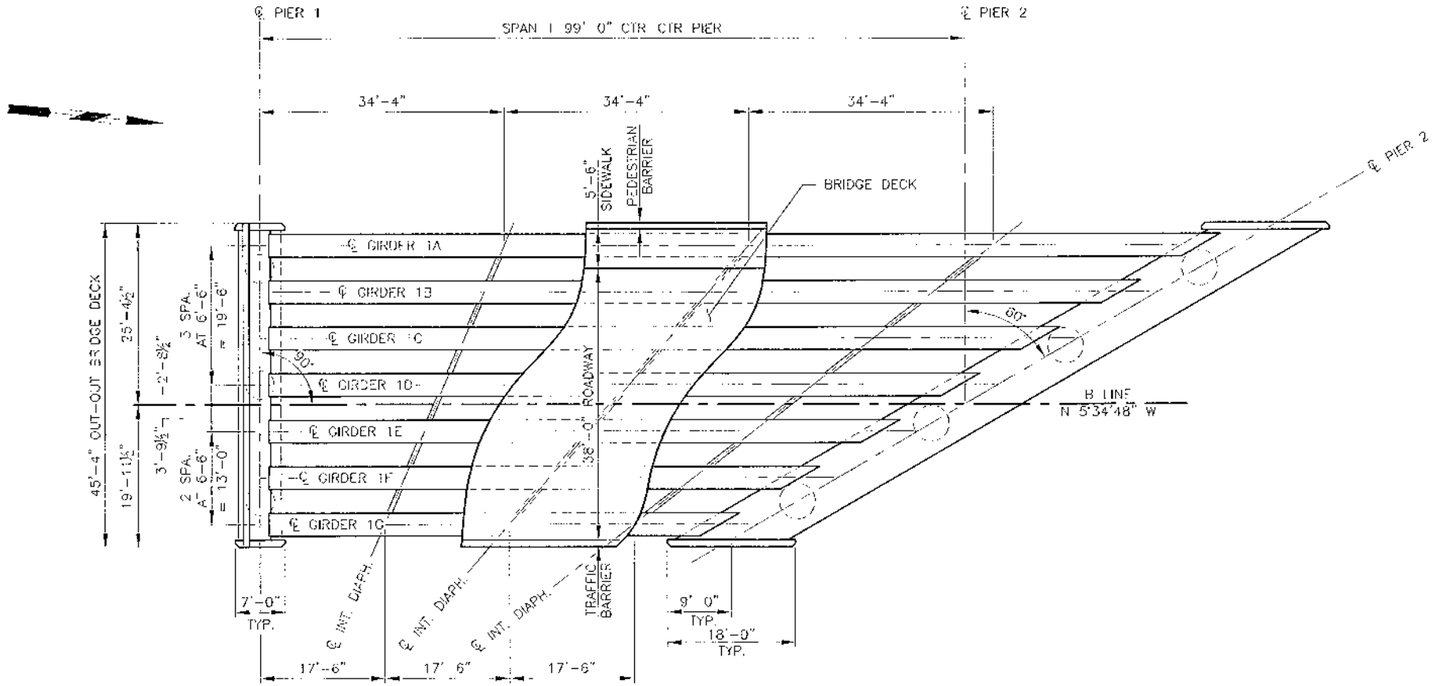
PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

PIER 3 REINFORCEMENT SECTIONS 2 OF 2 (S-26)

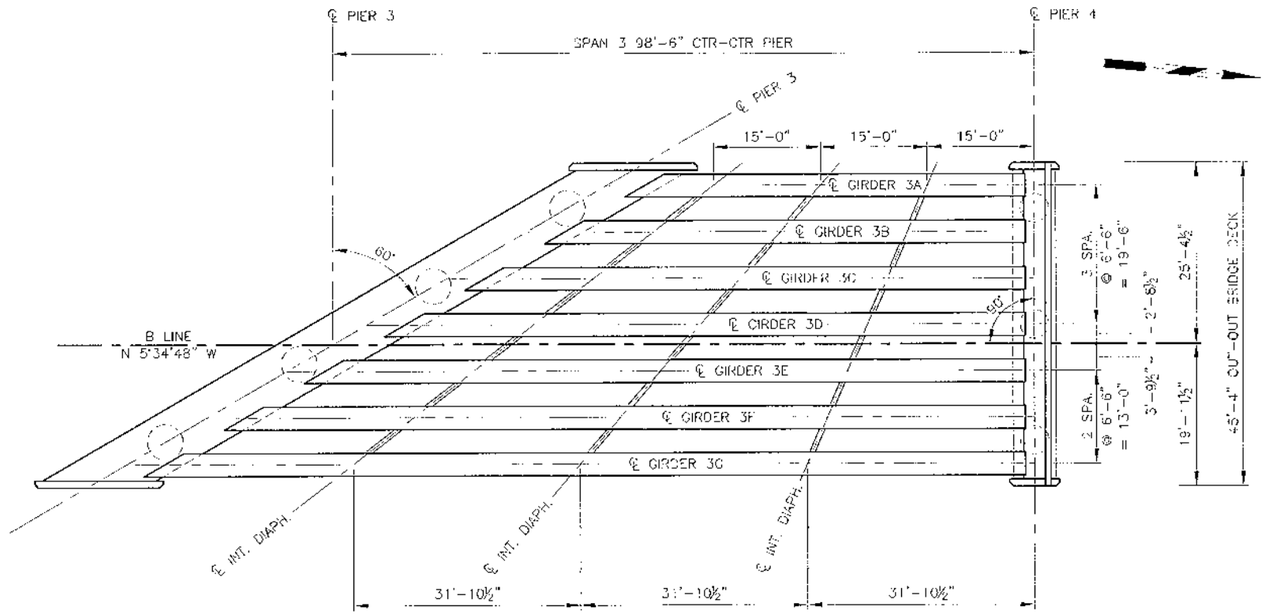
1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
77 OF 117



SPAN 1 FRAMING PLAN

Scale: 3/32" = 1'-0"



SPAN 3 FRAMING PLAN

Scale: 3/32" = 1'-0"

SHEARER DESIGN LLC
3913 Pacific Ave Ste B
Seattle WA 98418
(206) 781-7530
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES60910-8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

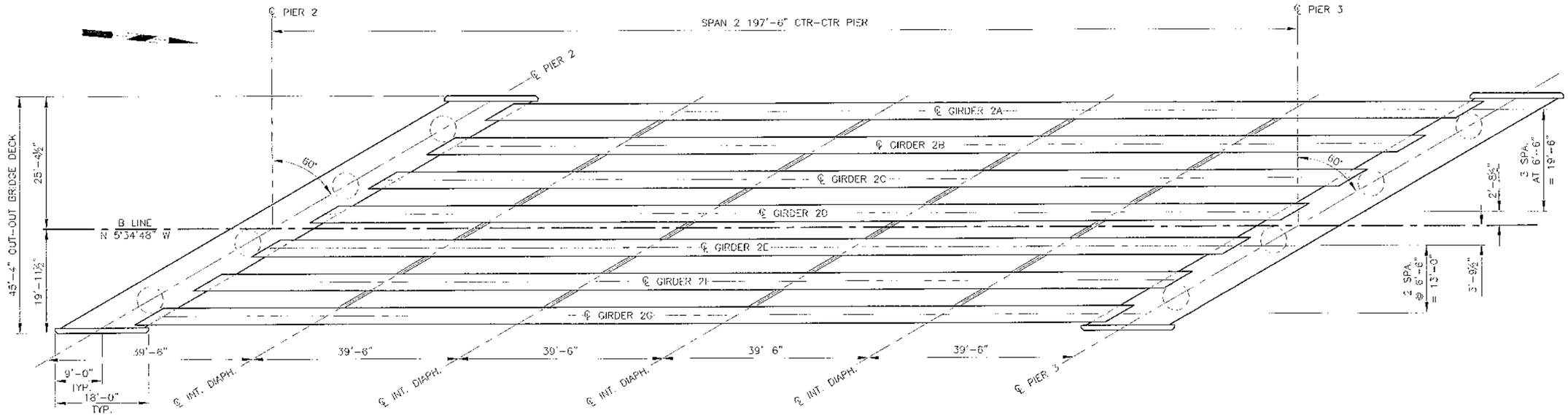
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

FRAMING PLAN 1 OF 2 (S-29)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 78 OF 117



SPAN 2 FRAMING PLAN

Scale: 3/32" = 1'-0"

SPAN 2 GIRDER SETTING		
GIRDER TOTAL CAMBER (IN)	GIRDER "A" DIMENSION (IN)	ADJUST OAK BLOCK ELEVATION (IN)
17.5	9.25	1.75
18.5	10.00	1.00
19.5	11.00	0.00
20.5	12.00	−1.00
21.5	13.00	−2.00
22.5	14.00	−3.00
23.5	15.00	4.00
24.5	16.00	5.00

NOTE:
THE CONTRACTOR SHALL MEASURE THE ACTUAL TOTAL CAMBER IN THE GIRDERS AND USE THE TABLE ABOVE TO ADJUST OAK BLOCK ELEVATIONS FOR SETTING THE GIRDERS. THE CAMBER SHALL BE MEASURED NO MORE THAN 14 DAYS PRIOR TO SETTING GIRDERS IN THEIR FINAL POSITION. INTERMEDIATE VALUES IN THE TABLE MAY BE LINEARLY INTERPOLATED.

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336-9478

REV. SIGNS | NO. | DATE

PROJECT NO.: FS6B510-8
FED. AID NO.: BRS-4129(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

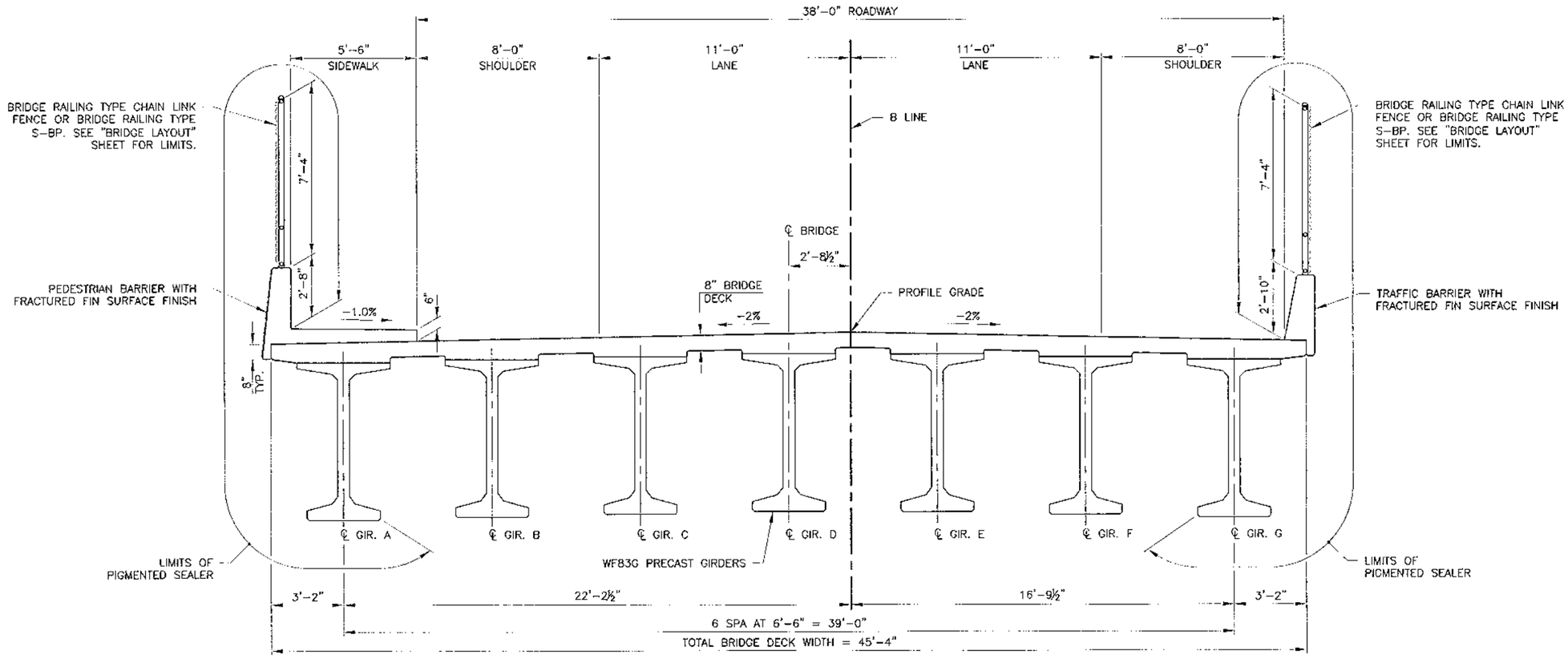
BURLINGTON NORTHERN OVERPASS PROJECT

FRAMING PLAN 2 OF 2 (S-30)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
79 OF 117

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Rucker Ave N. # B
Everett WA 98203
(206) 791-7636



TYPICAL BRIDGE SECTION

Scale: 3/8" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES5610.8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

TYPICAL BRIDGE SECTION (S-31)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
80 OF 117

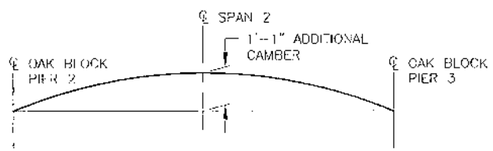
SHEARER DESIGN LLC
3613 Rucker Ave Ste #B
Everett, WA 98213
(206) 731-7550
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SPAN	GIRDER	GIRDER SERIES	END 1 TYPE	END 2 TYPE	"A" DIMENSION AT ℄ BEARINGS (IN)	I (FT-IN)	II (FT-IN)	I.T (FT-IN)	Ø1 (DEG.)	Ø2 (DEG.)	PLAN LENGTH (ALONG GIRDER GRADE) (FT-IN)	MIN. CONC. COMP. STRENGTH AT FINAL F'c (KSI)	MIN. CONC. COMP. STRENGTH AT RELEASE F'ci (KSI)	NUMBER OF STRAIGHT STRANDS	NUMBER OF HARPED STRANDS	NUMBER OF TEMP. STRANDS	LOCATION OF C.G. STRANDS e1 (IN)	LOCATION OF C.G. STRANDS e2 (IN)	LOCATION OF C.G. STRANDS Fo (IN)	STRAIGHT STR. TO EXTEND END 1	STRAIGHT STR. TO EXTEND END 2	DECK SCREED CAMBER C (IN)	D LOWER BOUND AT 40 DAYS	D UPPER BOUND AT 120 DAYS	TOTAL CAMBER LOWER BOUND AT 40 DAYS	TOTAL CAMBER UPPER BOUND AT 120 DAYS	REINFORCEMENT DETAILS V1	V2 (IN)	V3	V4 (IN)	V5	V6 (IN)	H1 (FT-IN)
1	A	WF83G	C	D	11.00	3'-0"	9'-0"	9'-0"	90	60	130'-11⅛"	7.0	5.0	30	10	2	2⅜	4	8	③ TO ⑥	⑲ TO ⑱	1½	1⅜	3⅛	–	–	6	3½	24	6	5	9	8'-1½"
1	B	WF83G	C	D	11.00	3'-0"	7'-0"	7'-0"	90	60	119'-8"	7.0	5.0	26	8	2	2¾	4	11	③ TO ⑥	③ TO ⑥ ⑲ TO ⑱	1	1⅛	2¾	–	–	6	3½	24	6	5	9	8'-1½"
1	C	WF83G	C	D	11.00	3'-0"	7'-0"	7'-0"	90	60	108'-4⅞"	7.0	5.0	22	7	0	2½	4	17⅝	③ TO ⑥	③ TO ⑥ ⑮ TO ⑱	¾	1	2¼	–	–	6	3½	24	6	5	9	8'-1½"
1	D	WF83G	C	D	11.00	3'-0"	7'-0"	7'-0"	90	60	97'-1¾"	7.0	5.0	14	7	0	2⅝	4	26⅝	③ TO ⑥	③ TO ⑥ ⑲ TO ⑱	⅜	½	1¼			6	3½	24	6	5	9	8'-1½"
1	E	WF83G	C	D	11.00	3'-0"	7'-0"	7'-0"	90	60	85'-10⅝"	7.0	5.0	12	6	0	2⅝	4	30	③ TO ⑥	③ TO ⑥ ⑮ TO ⑱	¼	⅜	⅞	–	–	6	3½	24	6	5	9	8'-1½"
1	F	WF83G	C	D	11.00	3'-0"	7'-0"	7'-0"	90	60	74'-7½"	7.0	5.0	10	6	0	2¾	4	36	③ TO ⑥	③ TO ⑥ ⑮ TO ⑱	⅛	¼	⅝	–	–	6	3½	24	6	5	9	8'-1½"
1	G	WF83G	C	D	11.00	3'-0"	7'-0"	7'-0"	90	60	63'-4⅜"	7.0	5.0	8	4	0	3	4	42	③ TO ⑥	③ TO ⑥ ⑮ TO ⑱	⅛	⅛	⅜	–	–	6	3½	24	6	5	9	8'-1½"
2	A-G	WF83G	D	D	11.00	19'-0"	24'-5"	32'-0"	60	60	186'-10"	9.5	7.5	46	21	6	4⅛	5¼	13½	③ TO ⑥ ⑮ TO ⑱	③ TO ⑥ ⑲ TO ⑱	8⅞	5¼	11½	18¼	24½	9	2¼	24	6	5	9	8'-1½"
3	A	WF83G	D	C	11.00	3'-0"	7'-0"	7'-0"	60	90	53'-5¾"	7.0	5.0	6	4	0	2⅝	4	48	③ TO ⑥ ⑮ TO ⑱	③ TO ⑥	0	⅛	¼	–	–	6	3½	24	6	5	9	8'-1½"
3	B	WF83G	D	C	11.00	3'-0"	7'-0"	7'-0"	60	90	64' 8⅞"	7.0	5.0	8	6	0	3	4	42	③ TO ⑥ ⑮ TO ⑱	③ TO ⑥	⅛	⅛	⅛	–	–	6	3½	24	6	5	9	8'-1½"
3	C	WF83G	D	C	11.00	3'-0"	7'-0"	7'-0"	60	90	76'-0"	7.0	5.0	12	4	0	2⅝	4	36	③ TO ⑥ ⑮ TO ⑱	③ TO ⑥	⅛	⅛	¾	–	–	6	3½	24	6	5	9	8'-1½"
3	D	WF83G	D	C	11.00	3'-0"	7'-0"	7'-0"	60	90	87'-3⅛"	7.0	5.0	12	6	0	2⅝	4	30	③ TO ⑥ ⑮ TO ⑱	③ TO ⑥	⅛	⅛	⅞	–	–	6	3½	24	6	5	9	8'-1½"
3	E	WF83G	D	C	11.00	3'-0"	7'-0"	7'-0"	60	90	98'-6¼"	7.0	5.0	16	8	0	2½	4	22	③ TO ⑥ ⑮ TO ⑱	③ TO ⑥	⅜	⅝	1⅜			6	3½	24	6	5	9	8'-1½"
3	F	WF83G	D	C	11.00	3'-0"	7'-0"	7'-0"	60	90	109'-9⅛"	7.0	5.0	18	8	0	2½	4	16	③ TO ⑥ ⑮ TO ⑱	③ TO ⑥	⅝	¾	1⅞	–	–	6	3½	24	6	5	9	8'-1½"
3	G	WF83G	D	C	11.00	3'-0"	7'-0"	7'-0"	60	90	121' 0⅜"	7.0	5.0	22	10	2	2½	4	12	③ TO ⑥ ⑮ TO ⑱	③ TO ⑥	⅞	1	2½	–	–	6	3½	24	6	5	9	8'-1½"

GIRDER SCHEDULE

NOTES:

1. CONCRETE IN SPAN 2 GIRDERS (2A–2G) SHALL BE LIGHTWEIGHT CONCRETE. ALL OTHER GIRDERS SHALL BE NORMAL WEIGHT CONCRETE. SEE GIRDER NOTE 9.
2. DEFLECT GIRDER FORMS FOR SPAN 2 GIRDERS (2A–2G) TO PROVIDE ADDITIONAL CAMBER AS SHOWN IN THE FORM DEFLECTION DIAGRAM. SEE GIRDER NOTE 10.
3. "C" IS DECK SCREED CAMBER AT MID-SPAN (TO ACCOUNT FOR DEFLECTION DUE TO SLAB PLACEMENT AND SUPERIMPOSED DEAD LOADS). SEE SCREED SETTING DIMENSIONS DETAIL ON THE "DECK SECTIONS" SHEET.
4. SPAN 2 ONLY: THE "A" DIMENSION VALUES SHOWN IN THE GIRDER SCHEDULE ARE LISTED FOR REFERENCE. THE CONTRACTOR SHALL MEASURE THE ACTUAL TOTAL CAMBER AND USE THE SPAN 2 GIRDER SETTING TABLE SHOWN ON THE "FRAMING PLAN" SHEET TO ADJUST OAK BLOCK ELEVATIONS FOR SETTING THE GIRDERS. THE CAMBER SHALL BE MEASURED NO MORE THAN 14 DAYS PRIOR TO SETTING GIRDERS IN THEIR FINAL POSITION.



FORM DEFLECTION DIAGRAM

N.T.S

SPAN 2 ONLY
TOTAL CAMBER = ADDITIONAL CAMBER + ESTIMATED CAMBERS GIVEN IN THE GIRDER SCHEDULE. SEE GIRDER NOTE 10.

SKAGIT COUNTY PUBLIC WORKS
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MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE
1		10/10/16

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 16, TOWNSHIP 35N, RANGE 04 E, W.M.

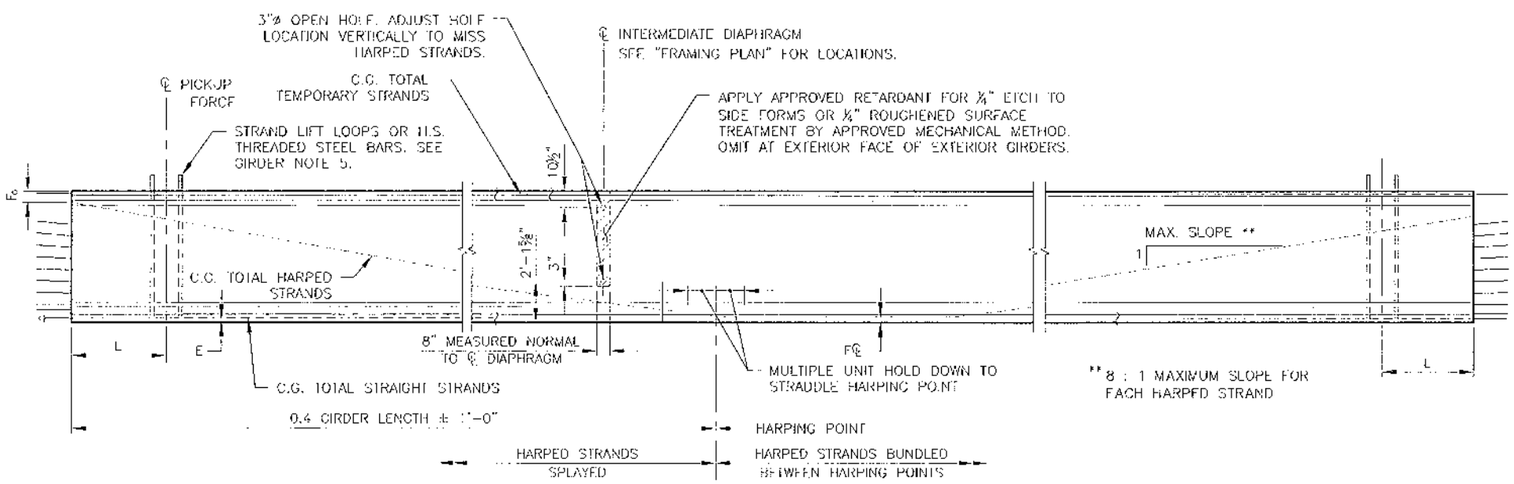
BURLINGTON NORTHERN OVERPASS PROJECT

WF83G GIRDERS 1 OF 4 (S-32)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

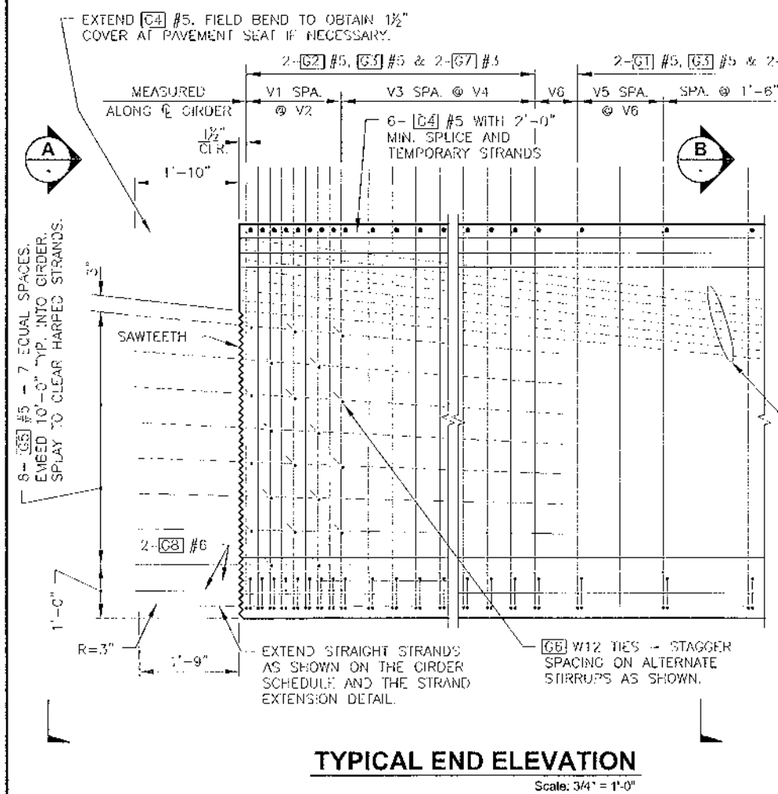
SHEET 81 OF 117

SHEARER DESIGN LLC
3618 Pillsbury Ave N #B
Seattle WA 98103
(206) 781-7830
Bridge Design, Construction Engineering, Infrastructure Aesthetics



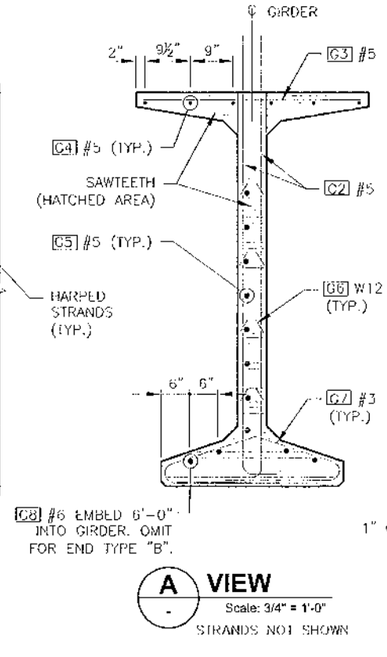
GIRDER ELEVATION

Scale: 1/4" = 1'-0"



TYPICAL END ELEVATION

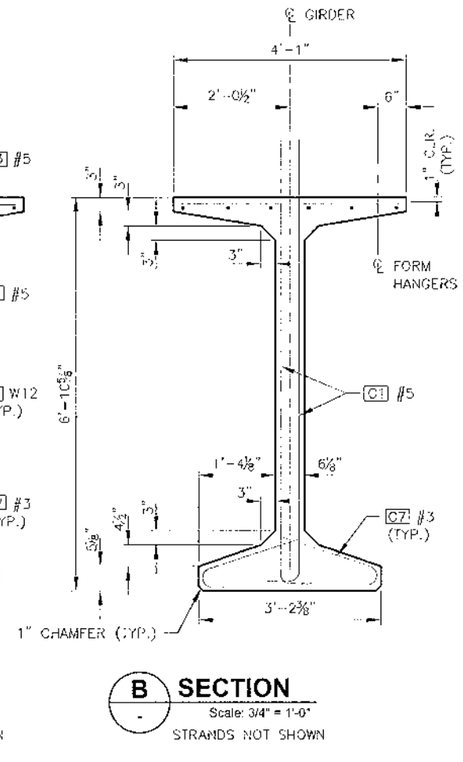
Scale: 3/4" = 1'-0"



A VIEW

Scale: 3/4" = 1'-0"

STRANDS NOT SHOWN



B SECTION

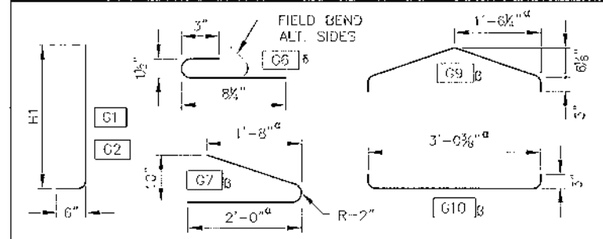
Scale: 3/4" = 1'-0"

STRANDS NOT SHOWN

GIRDER NOTES

1. PLAN LENGTH SHALL BE INCREASED AS NECESSARY TO COMPENSATE FOR SHORTENING DUE TO PRESTRESS AND SHRINKAGE.
2. ALL PRETENSIONED AND TEMPORARY STRANDS SHALL BE 0.6ø AASHTO M203 GRADE 270 LOW RELAXATION STRANDS, JACKED TO 202.5 KSI.
3. CUT ALL STRANDS FLUSH WITH THE GIRDER ENDS AND PAINT WITH AN APPROVED EPOXY RESIN, EXCEPT FOR EXTENDED STRANDS AS SHOWN.
4. TEXTURE TOP OF GIRDER IN ACCORDANCE WITH STANDARD SPECIFICATION 6-02.3(25)H.
5. INSTALL LIFTING EMBEDMENT IN ACCORDANCE WITH STANDARD SPECIFICATION 6-02.3(25)L. REMOVE TO TOP OF GIRDER AFTER ERECTION.
6. CAUTION SHALL BE EXERCISED IN HANDLING AND PLACING GIRDERS. ALL GIRDERS SHALL BE CHECKED BY THE CONTRACTOR TO ENSURE THAT THEY ARE BRACED ADEQUATELY TO PREVENT TIPPING AND TO CONTROL LATERAL BENDING DURING SHIPPING. ONCE ERECTED, ALL GIRDERS SHALL BE BRACED LATERALLY TO PREVENT TIPPING UNTIL THE DIAPHRAGMS ARE CAST AND CURED.
7. TEMPORARY TOP STRANDS SHALL BE EITHER PRETENSIONED OR POST-TENSIONED IN ACCORDANCE WITH SECTION 6-02.3(25)I OF THE STANDARD SPECIFICATIONS AND THE GIRDER DETAILS SHEETS. THE LIFTING LOCATION "L" AND CONCRETE RELEASE STRENGTH "F'ci" SHOWN IN THE GIRDER SCHEDULE ASSUME THAT THE TEMPORARY TOP STRANDS ARE PRETENSIONED. ALTERNATIVELY, POST-TENSIONED TEMPORARY TOP STRANDS MAY BE USED IF THE LIFTING POINTS IN THE GIRDER SCHEDULE ARE MAINTAINED AND THE STRANDS ARE STRESSED PRIOR TO LIFTING THE GIRDER FROM THE FORM.
8. FOR INTERMEDIATE DIAPHRAGMS, OMIT HOLES AND PLACE INSERTS ON THE INTERIOR FACE OF EXTERIOR GIRDERS. PLACE HOLES AND INSERTS PARALLEL TO DIAPHRAGM CENTERLINE. INSERTS SHALL BE 1"ø MEADOWBURKE MX-3 HI-TENSILE, 1"ø x 5½" WILLIAMS F22 OPEN FERRULE INSERT, 1"ø x 4⅛" DAYTON-SUPERIOR F-62 FLARED THIN SLAB FERRULE INSERT, OR APPROVED EQUAL.
9. CONCRETE FOR GIRDERS IN SPAN 2 (2A-2G) SHALL BE LIGHTWEIGHT CONCRETE. THE GIRDER DESIGN IS BASED ON AN ASSUMED UNIT WEIGHT OF LIGHTWEIGHT CONCRETE OF 0.140 KCF FOR CALCULATION OF DEAD LOADS AND 0.123 KCF FOR CALCULATION OF MODULUS OF ELASTICITY. ALL OTHER GIRDERS SHALL BE FABRICATED USING REGULAR WEIGHT CONCRETE. SEE THE GIRDER SCHEDULE FOR REQUIRED CONCRETE STRENGTHS.
10. DEFLECT GIRDER FORMS FOR GIRDERS IN SPAN 2 (2A-2G) TO PROVIDE ADDITIONAL CAMBER AS SHOWN IN THE FORM DEFLECTION DIAGRAM. FINAL DEFLECTED SHAPE SHALL BE PARABOLIC AND SHALL APPROXIMATE ROADWAY PROFILE. THE MAXIMUM FORM DEFLECTION VALUE IS BASED ON THE ESTIMATED CAMBERS GIVEN IN THE GIRDER SCHEDULE WITH ADDITIONAL CAMBER NEEDED TO MATCH THE ROADWAY PROFILE. THE CONTRACTOR SHALL INDEPENDENTLY VERIFY GIRDER CAMBERS SHOWN IN THE GIRDER SCHEDULE AND ADJUST FORM DEFLECTION VALUES AS REQUIRED AND UPON THE ENGINEER'S APPROVAL.

BENDING DIAGRAM (ALL DIMENSIONS ARE OUT TO OUT)



NOTES:

FOR DIMENSION "H1", SEE "GIRDER SCHEDULE"

α - VARIES FOR SKEWED ENDS.

δ - #3 OR #4 MAY BE SUBSTITUTED. FIELD BENDING IS OPTIONAL.

β - PAIRS OF G7 BARS, OR G9 AND G10 BARS, MAY BE USED INTERCHANGEABLY AS BOTTOM FLANGE TIES.

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(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: FS50510-8
FED. AID NO.: BRS-M79(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

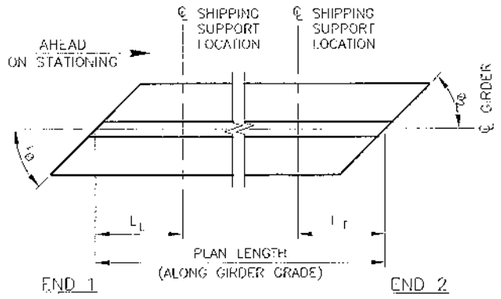
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

WF83G GIRDERS 2 OF 4 (S-33)

1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

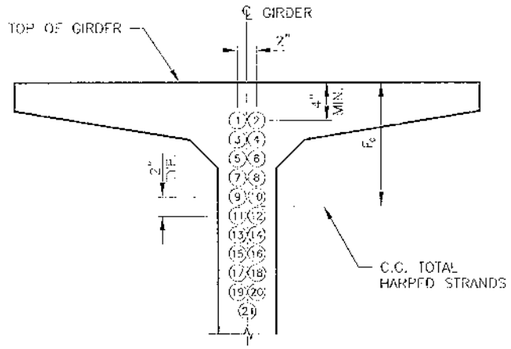
SHEET 82 OF 117



GIRDER SCHEDULE LEGEND

Scale: 1-1/2" = 1'-0"

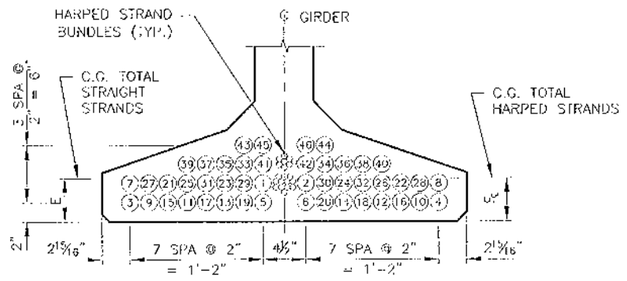
L_L AND L_T ARE SHIPPING SUPPORT LOCATIONS AT LEADING AND TRAILING ENDS, RESPECTIVELY.



STRAND PATTERN AT END

Scale: 1-1/2" = 1'-0"

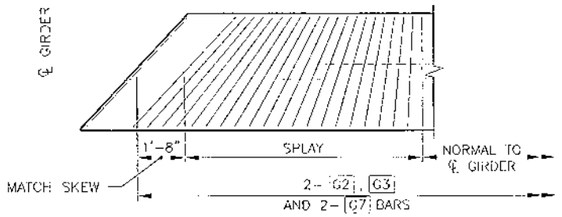
HARPED STRAND LOCATION SEQUENCE SHALL BE AS SHOWN ①, ② ETC.



STRAND PATTERN AT MIDSPAN

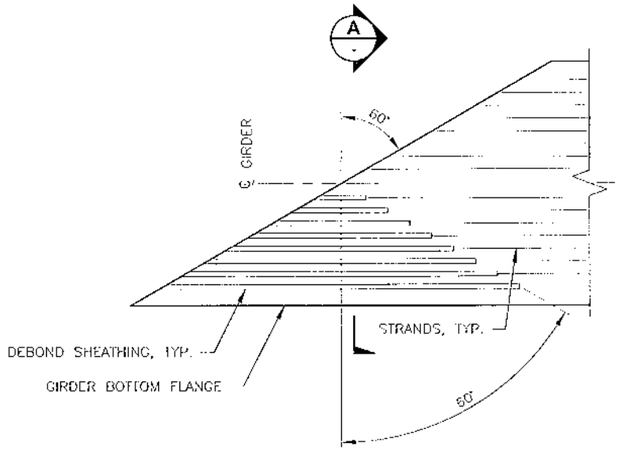
Scale: 1-1/2" = 1'-0"

STRAIGHT STRAND LOCATION SEQUENCE SHALL BE AS SHOWN ①, ② ETC.



TRANSVERSE REINFORCING SKEWED ENDS

Scale: 3/8" = 1'-0"

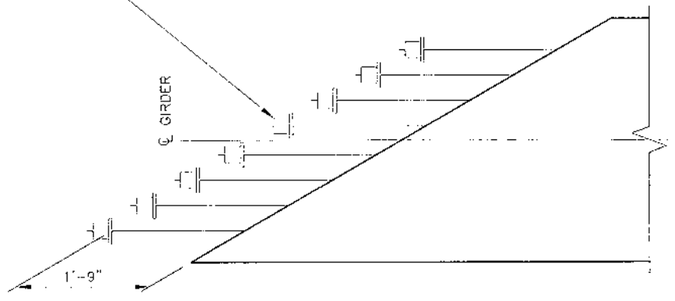


BOTTOM FLANGE DEBONDED STRANDS

Scale: 1" = 1'-0"

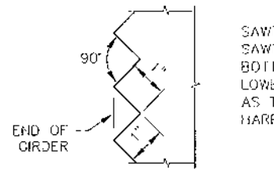
DEBOND ALL BOTTOM FLANGE STRAND ON SIDE OF GIRDER WITH ACUTE CORNER AS SHOWN. ALTERNATE GIRDER END DEBOND AND REINFORCEMENT ABOUT GIRDER ℄ FOR OPPOSITE END.

STRAND CHUCK TACK WELDED TO ASTM A36 PL ½"x4"x0'-4" WITH ¾"ø HOLE PRIOR TO INSTALLING ON STRAND, ASTM A 108 2¾"ø×1⅛" STEEL STRAND ANCHOR, OR APPROVED EQUAL, TYP. VERIFY STRAND GRIPS ARE SEATED TIGHTLY IMMEDIATELY BEFORE PLACING DIAPHRAGM CONCRETE. SECURELY TIE ANCHOR TO THE REBAR CAGE TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT.



STRAND EXTENSION DETAIL

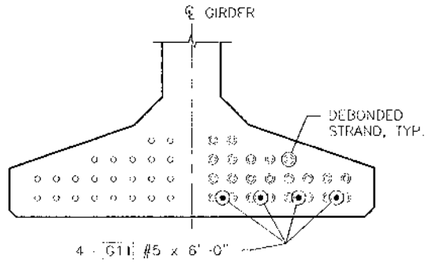
Scale: 1" = 1'-0"



SAWTEETH ARE FULL WIDTH – USE SAWTOOTH KEYS FROM BOTTOM OF BOTTOM FLANGE TO BOTTOM OF LOWEST HARPED STRAND AS WELL AS TOP FLANGE ADJACENT TO HARPED STRANDS.

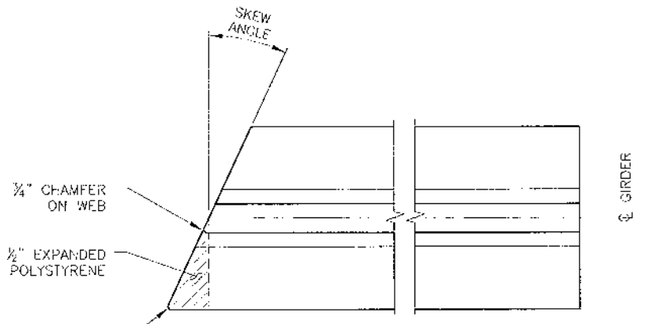
SAWTEETH DETAIL

Scale: 6" = 1'-0"

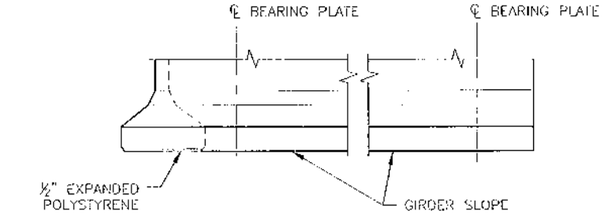


A SECTION

Scale: 1-1/2" = 1'-0"



PLAN VIEW



ELEVATION VIEW

BOTTOM FLANGE SPALL PROTECTION DETAIL

Scale: 3/4" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
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(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: FS565(10)8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 12, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

WF83G GIRDERS 3 OF 4 (S-34)

1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

SHEET 83 OF 117

SHEARER DESIGN LLC
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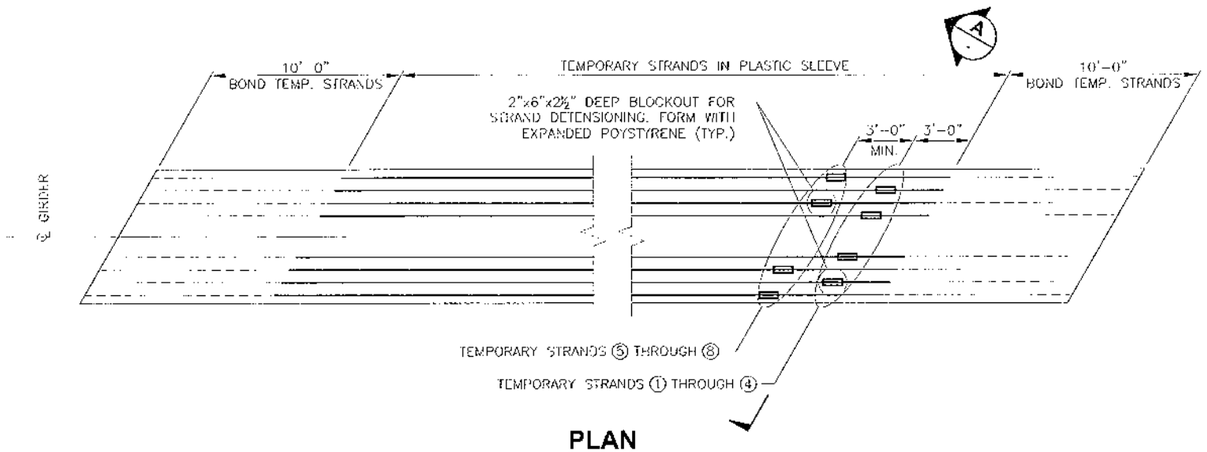
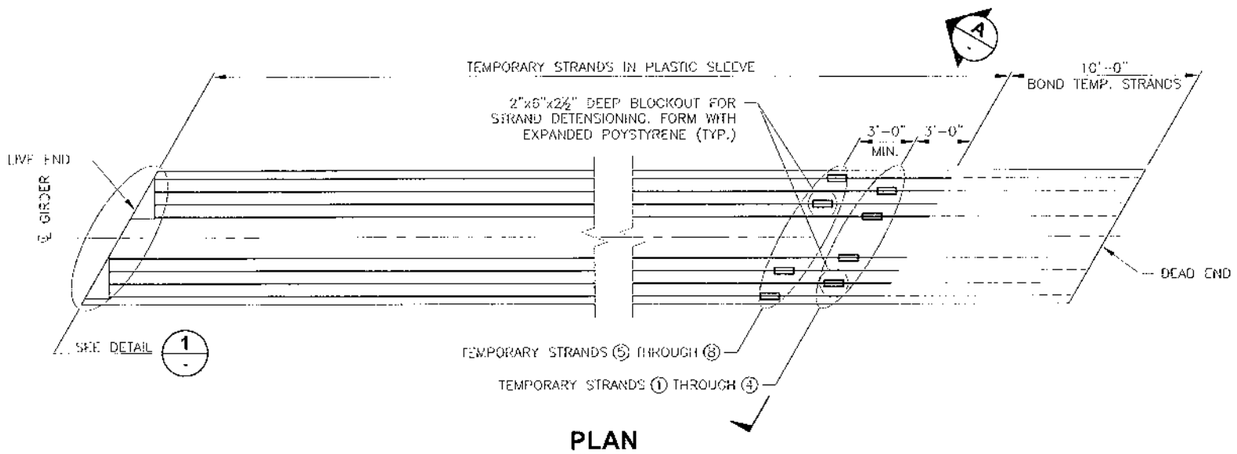
Seattle WA 98103
(206) 781-7830
Bridge Design, Construction Engineering, Infrastructure Aesthetics



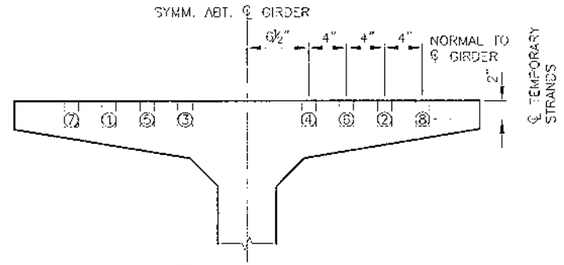
PLAN
PRETENSIONED TEMPORARY TOP STRANDS ALTERNATE

SEE "GIRDER SCHEDULE" FOR NUMBER OF TEMPORARY STRANDS REQUIRED.



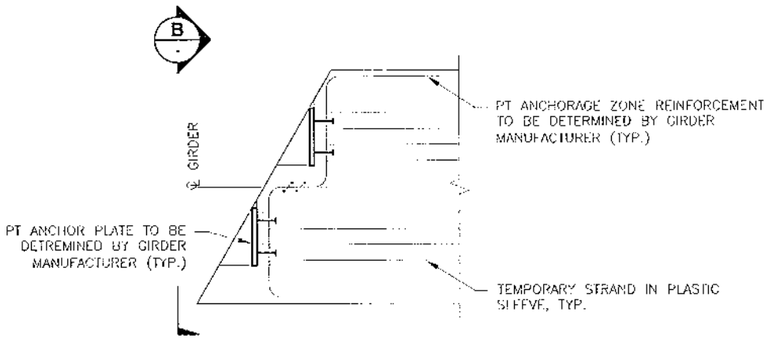
PLAN
POST-TENSIONED TEMPORARY TOP STRANDS ALTERNATE

SEE "GIRDER SCHEDULE" FOR NUMBER OF TEMPORARY STRANDS REQUIRED.

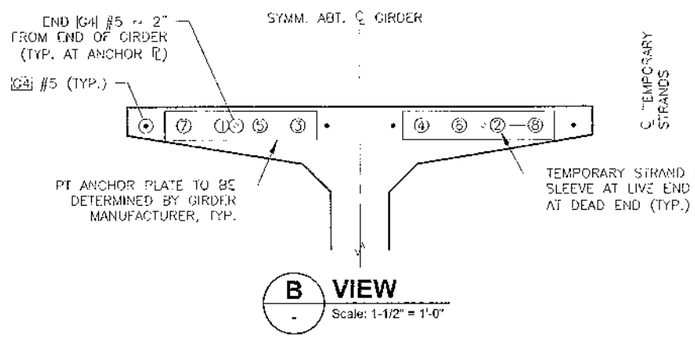


A SECTION
Scale: 1-1/2" = 1'-0"

NOTES:
1. TEMPORARY STRAND LOCATION SEQUENCE SHALL BE AS SHOWN ① ② ETC.



1 DETAIL
Scale: 3/4" = 1'-0"



B VIEW
Scale: 1-1/2" = 1'-0"

TEMPORARY STRAND LOCATION SEQUENCE SHALL BE AS SHOWN ① ② ETC.

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: FS505(10-8
FED. AID NO.: BRSAUP9(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

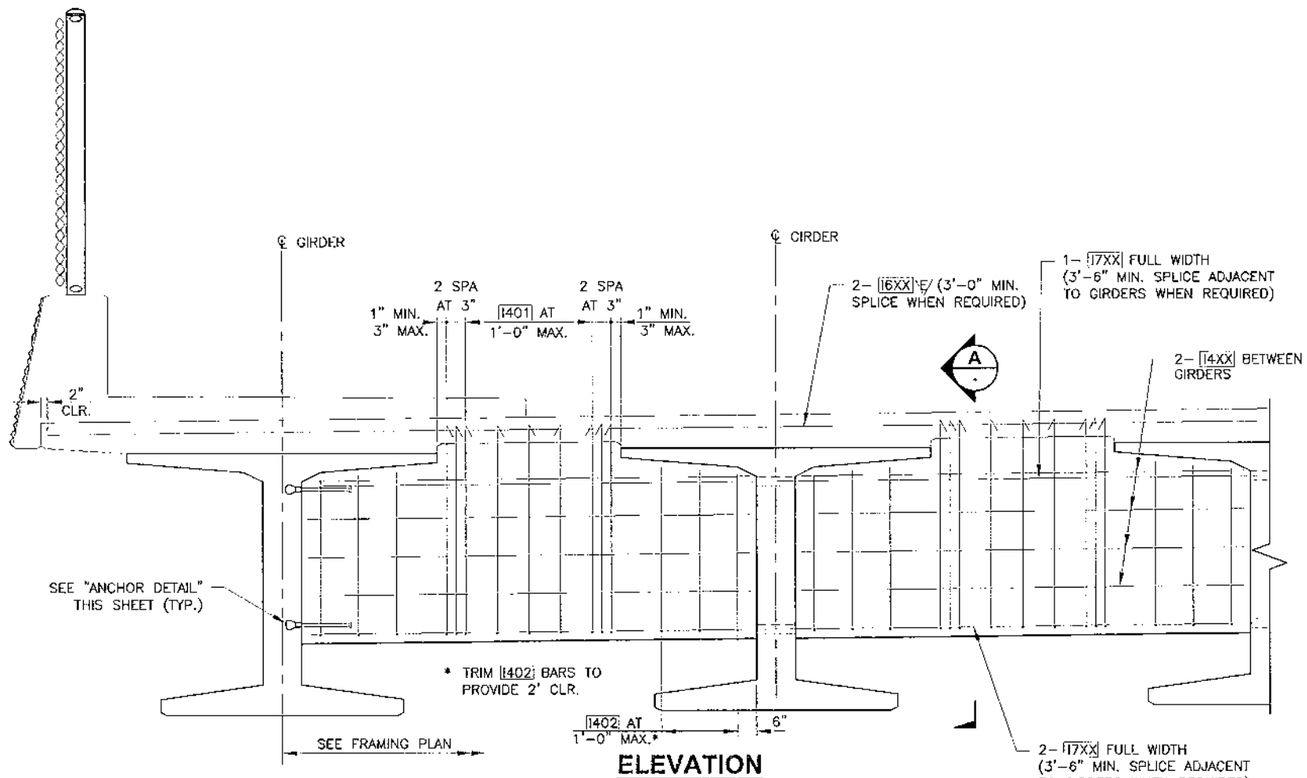
BURLINGTON NORTHERN OVERPASS PROJECT

WF83G GIRDERS 4 OF 4 (S-35)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
84 OF 117

SHEARER DESIGN LLC
3613 Phinney Ave N # 3
Seattle WA 98103
(206) 781-7590
Bridge Design, Construction Engineering, Infrastructure Aesthetics

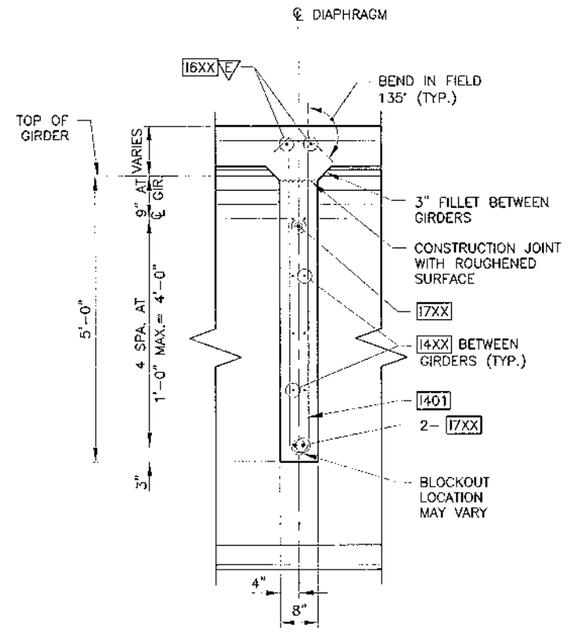


ELEVATION

INTERMEDIATE DIAPHRAGM

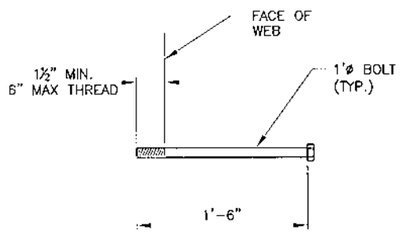
Scale: 1/2" = 1'-0"

SPAN 2 SHOWN NORMAL TO DIAPHRAGM, OTHER LOCATIONS SIMILAR



A SECTION

Scale: 3/4" = 1'-0"



ANCHOR DETAIL

Scale: 1-1/2" = 1'-0"

ASTM A307

NOTES

1. GIRDERS SHALL BE HELD RIGIDLY IN PLACE WHEN DIAPHRAGMS ARE PLACE.
2. IT MAY BE NECESSARY TO THREAD #7 REINFORCING BARS THROUGH HOLES IN GIRDERS PRIOR TO PLACING EXTERIOR GIRDERS.
3. CUT/RELEASE GIRDER TEMPORARY STRANDS BEFORE CASTING DIAPHRAGM. SEE TEMPORARY STRAND CUTTING SEQUENCE.
4. LONGITUDINAL DIMENSIONS ARE PARALLEL TO LINE OF INTERMEDIATE DIAPHRAGM. SEE "FRAMING PLAN" SHEET.
5. FOR CONCRETE PLACEMENT PROCEDURE SEE "SUPERSTRUCTURE CONSTRUCTION SEQUENCE" SHEET.
6. REINFORCING BAR MARK ENDING IN "XX" (14XX, 16XX AND 17XX) VARY BY LOCATION OF INTERMEDIATE DIAPHRAGM AS FOLLOWS. DIAPHRAGMS ARE NUMBERED (1ST, 2ND, 3RD, ETC.) INCREASING ALONG STATIONING. SEE "BARLIST" SHEETS FOR MORE DETAILS.
   - 11 = SPAN 1 1ST DIAPHRAGM AND SPAN 3 3RD DIAPHRAGM
   - 12 = SPAN 1 2ND DIAPHRAGM AND SPAN 3 2ND DIAPHRAGM
   - 13 = SPAN 1 3RD DIAPHRAGM AND SPAN 3 1ST DIAPRAGM
   - 21 = SPAN 2, ALL DIAPHRAGMS

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Everett WA 98213
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1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ESD0510-9
FED. AID NO.: BRS-M329(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

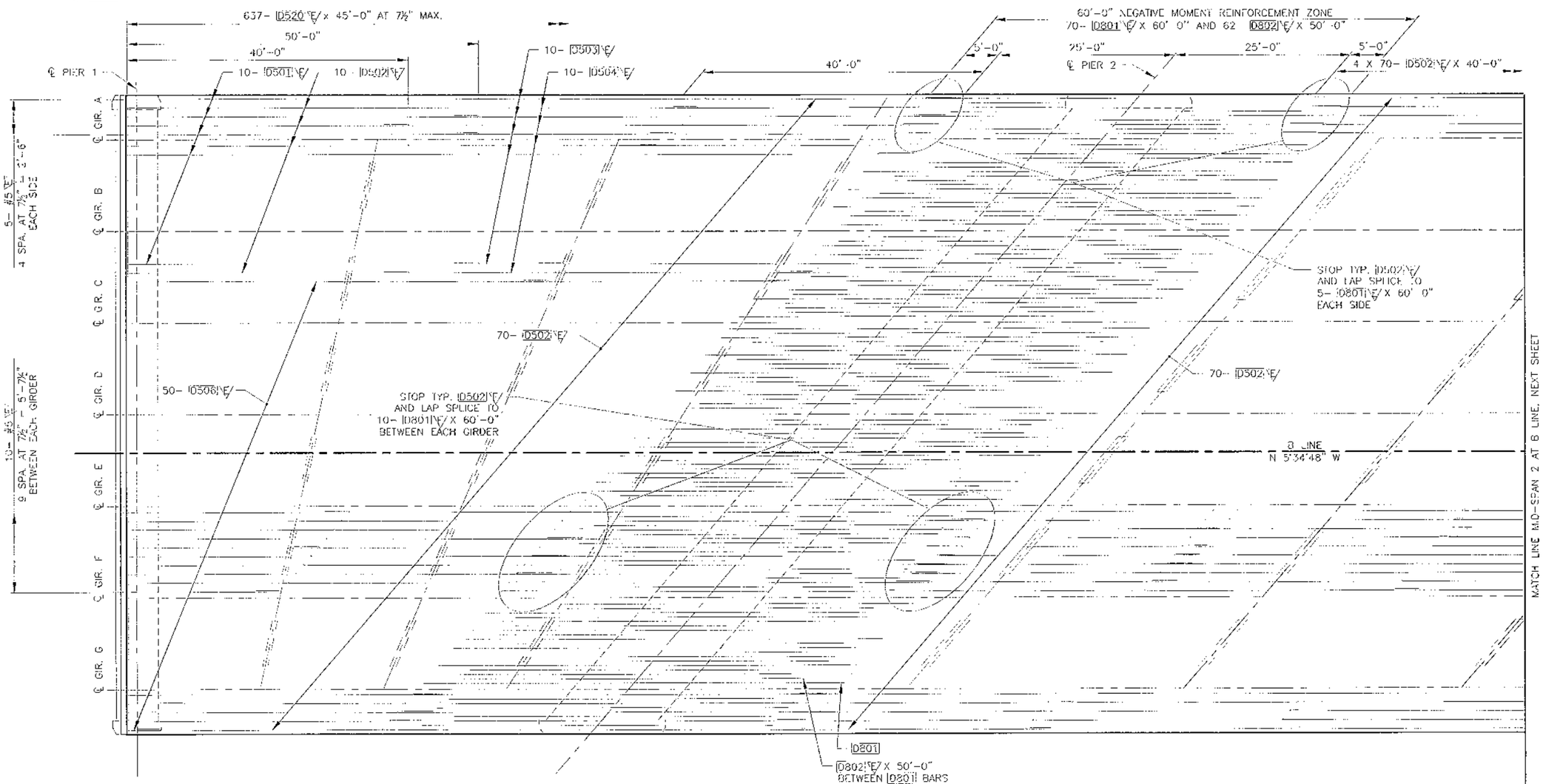
PROJECT LOCATED NEAR: BURLINGTON
SECTION 12, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

INTERMEDIATE DIAPHRAGM DETAILS (S-36)

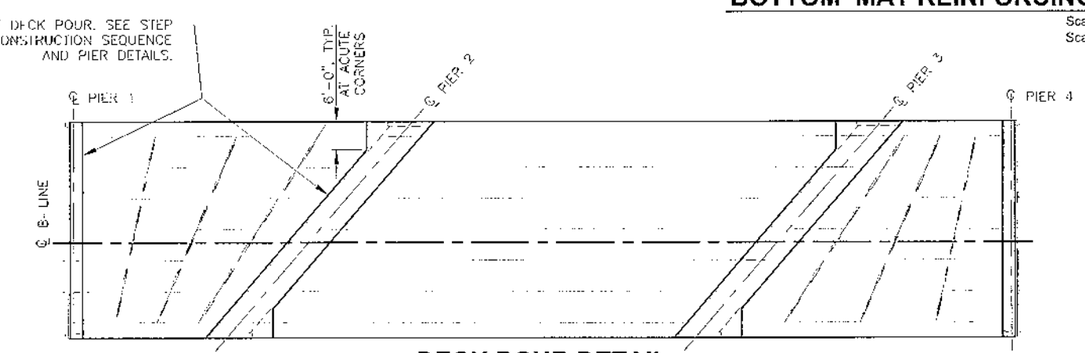
1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 85 OF 117



BOTTOM MAT REINFORCING PLAN

Scale: 1/8" = 1'-0" HORIZ.
Scale: 1/4" = 1'-0" VERT.



DECK POUR DETAIL

NOTES:

1. LOCATION OF SPLICES SHALL BE AS SHOWN ON THE PLANS.
2. MINIMUM LAP SPLICES SHALL CONFORM TO THE FOLLOWING:
   #5 E/ BARS: 3'-6"
   #8 E/ BARS: 5' 0"
3. SEE "DECK SECTIONS" SHEET FOR ADDITIONAL DETAILS.
4. SEE "TRAFFIC BARRIER" AND "PEDESTRIAN BARRIER" SHEETS FOR BARRIER REINFORCEMENT EMBEDDED IN THE BRIDGE DECK.

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Phinney Ave N. #B
Seattle WA 98103
(206) 784-7460

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1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336-9478

SKAGIT COUNTY WASHINGTON

REVISIONS | NO. | DATE

ROBERT D. SHEARER 19000 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON
10/10/16

PROJECT NO.: ES505104
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

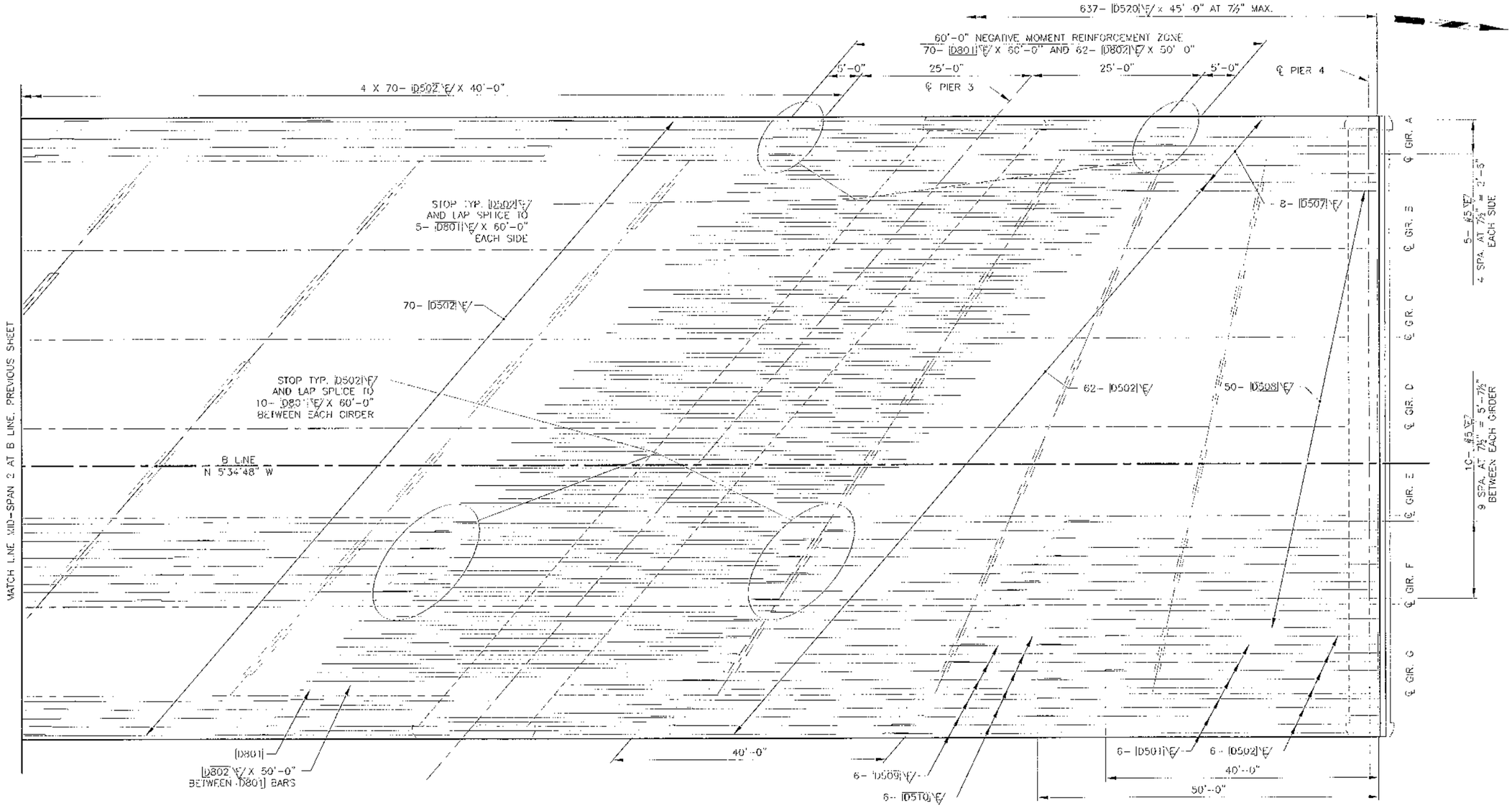
PROJECT LOCATED NEAR:
BURLINGTON
SECT ON 19, TOWNSHIP 35N, RANGE 04E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

DECK REINFORCING PLAN 1 OF 4 (S-37)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
86 OF 117



BOTTOM MAT REINFORCING PLAN

Scale: 1/8" = 1'-0" HORIZ.
Scale: 1/4" = 1'-0" VERT.

NOTES:

1. LOCATION OF SPLICES SHALL BE AS SHOWN ON THE PLANS.
2. MINIMUM LAP SPLICES SHALL CONFORM TO THE FOLLOWING:
   #5 @ 6" BARS: 3'-6"
   #8 @ 6" BARS: 5'-0"
3. SEE "DECK SECTIONS" SHEET FOR ADDITIONAL DETAILS.
4. SEE "TRAFFIC BARRIER" AND "PEDESTRIAN BARRIER" SHEETS FOR BARRIER REINFORCEMENT EMBEDDED IN THE BRIDGE DECK.

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-M32e(006)
DESIGNED BY: RPD | DRAWN BY: RPG
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

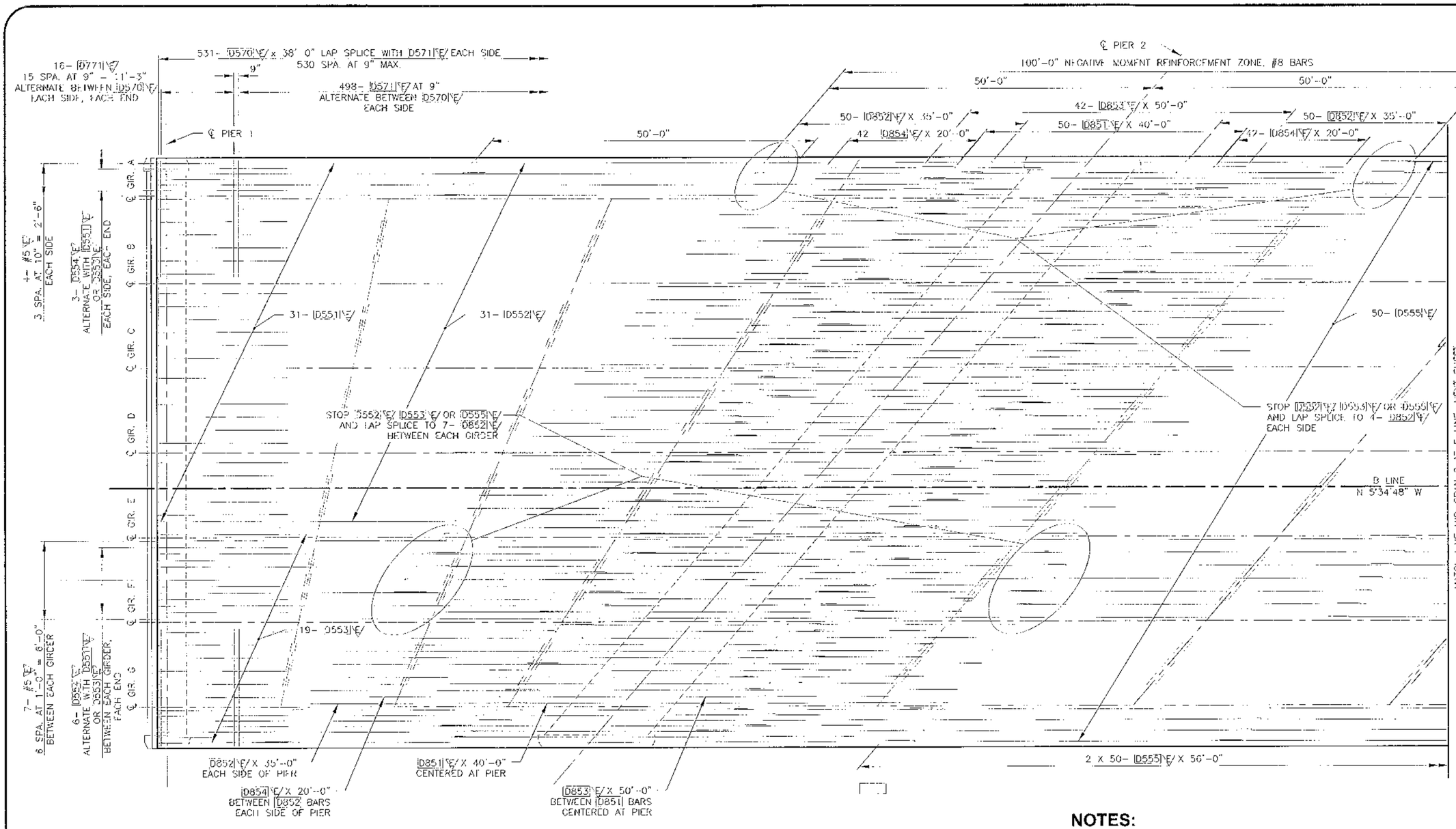
BURLINGTON NORTHERN OVERPASS PROJECT

DECK REINFORCING PLAN 2 OF 4 (S-38)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 87 OF 117

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Phinney Ave N #B
Seattle WA 98103
(206) 784-7353



TOP MAT REINFORCING PLAN

Scale: 1/8" = 1'-0" HORIZ.
Scale: 1/4" = 1'-0" VERT.

NOTES:

1. LOCATION OF SPLICES SHALL BE AS SHOWN ON THE PLANS.
2. MINIMUM LAP SPLICES SHALL CONFORM TO THE FOLLOWING:
   #5 E BARS: 3'-6"
   #8 E BARS: 5'-0"
3. SEE "DECK SECTIONS" SHEET FOR ADDITIONAL DETAILS.
4. SEE "TRAFFIC BARRIER" AND "PEDESTRIAN BARRIER" SHEETS FOR BARRIER REINFORCEMENT EMBEDDED IN THE BRIDGE DECK.

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1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE
6		10/10/16

PROJECT NO.: ES505103
FED. AID NO.: BRS-M25(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS
PROJECT LOCATED NEAR: BURLINGTON
SECTION 13, TOWNSHIP 35N, RANGE 04 E, W.M.

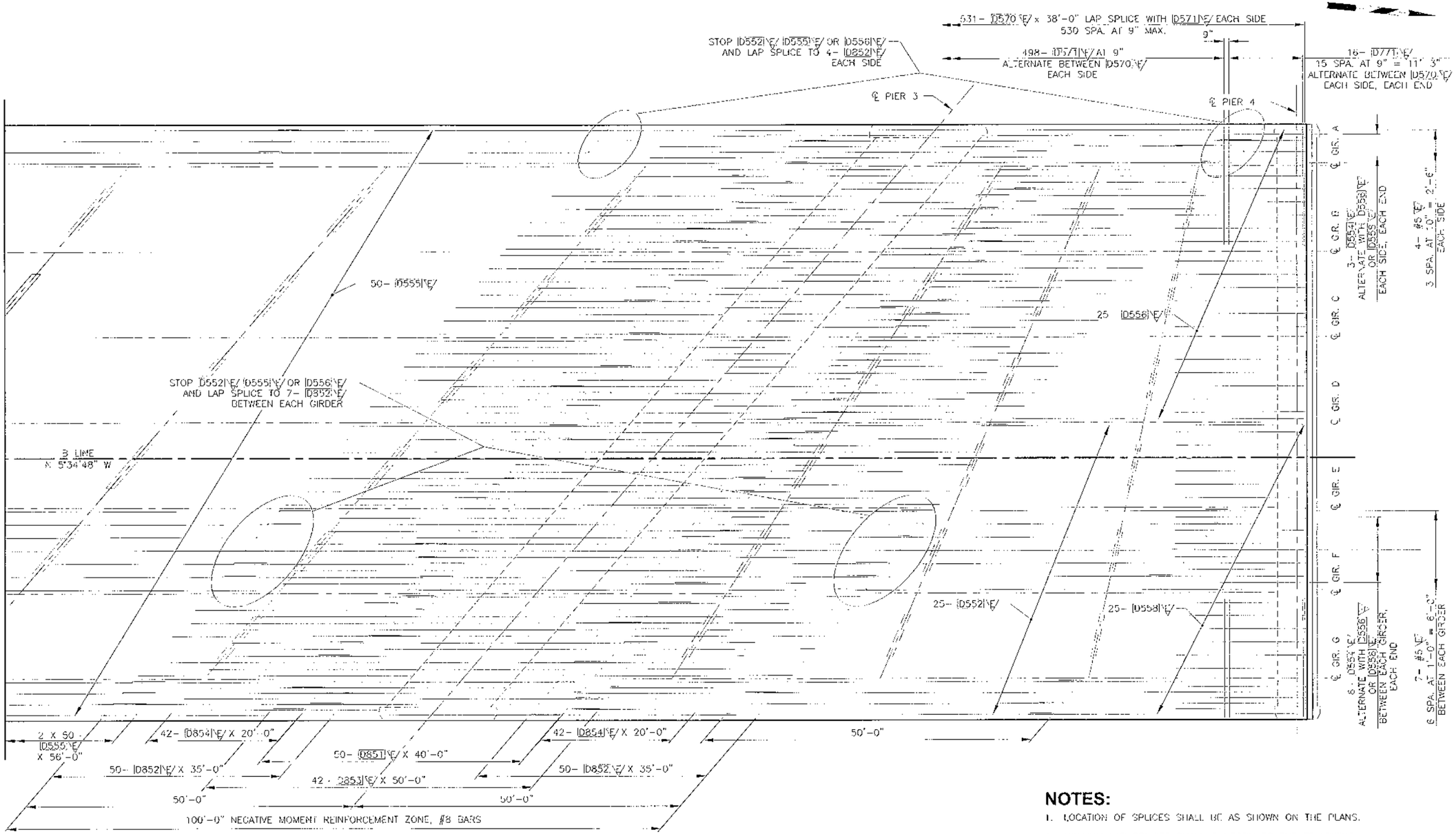
BURLINGTON NORTHERN OVERPASS PROJECT

DECK REINFORCING PLAN 3 OF 4 (S-39)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 88 OF 117

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Rainier Ave N, # B
Seattle WA 98134
(206) 781-7899



TOP MAT REINFORCING PLAN

Scale: 1/8" = 1'-0" HORIZ.
Scale: 1/4" = 1'-0" VERT.

NOTES:

1. LOCATION OF SPLICES SHALL BE AS SHOWN ON THE PLANS.
2. MINIMUM LAP SPLICES SHALL CONFORM TO THE FOLLOWING:
   #5 \E/ BARS: 3'-6"
   #8 \E/ BARS: 5'-0"
3. SEE "DECK SECTIONS" SHEET FOR ADDITIONAL DETAILS.
4. SEE "TRAFFIC BARRIER" AND "PEDESTRIAN BARRIER" SHEETS FOR BARRIER REINFORCEMENT EMBEDDED IN THE BRIDGE DECK.

SKAGIT COUNTY PUBLIC WORKS
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MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES56610-8
FED. AID NO.: BRS-1099(006)
DESIGNED BY: RPD DRAWN BY: RPD
CHECKED BY: DRS APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

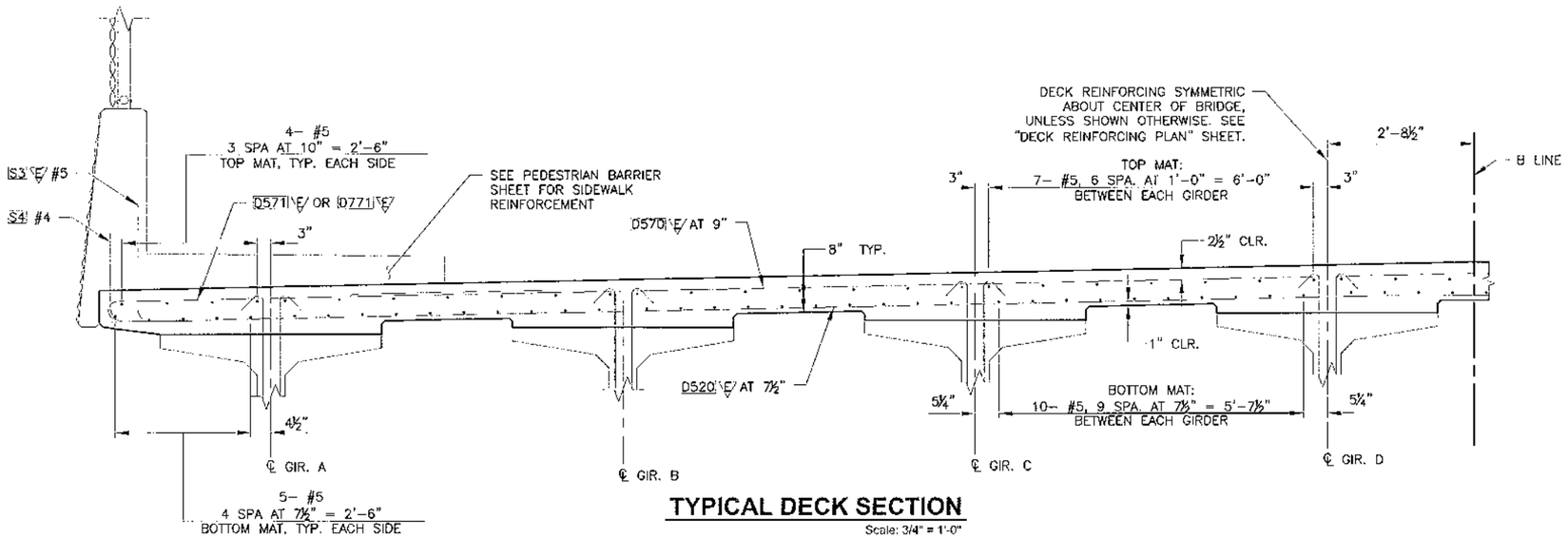
BURLINGTON NORTHERN OVERPASS PROJECT

DECK REINFORCING PLAN 4 OF 4 (S-40)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 89 OF 117

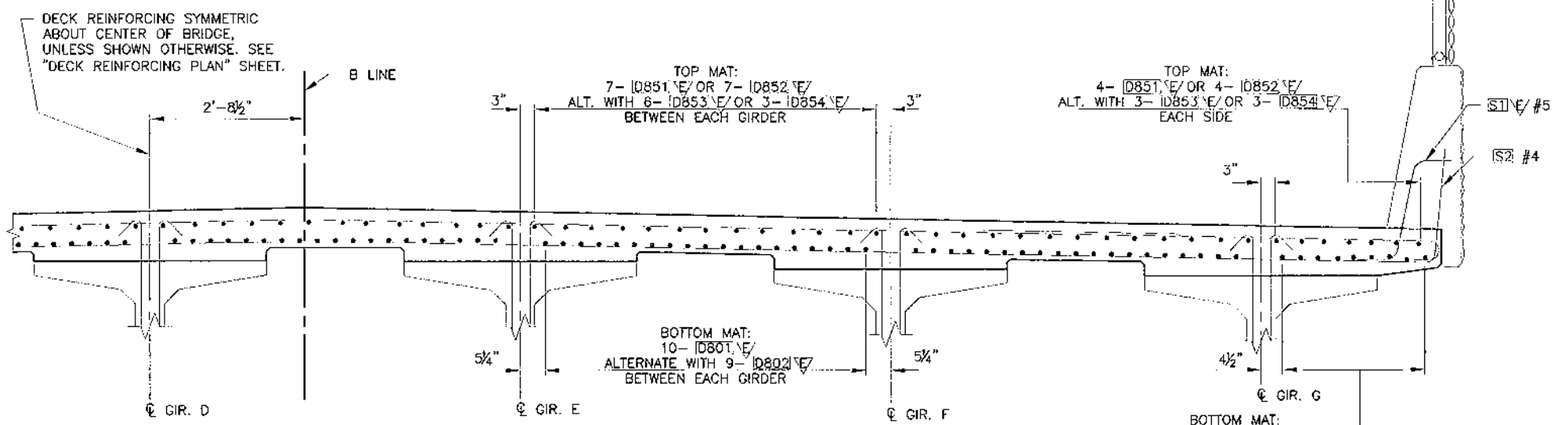
SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Pacific Ave N # B
Seattle WA 98103
(206) 781-7826



TYPICAL DECK SECTION

Scale: 3/4" = 1'-0"

SECTION PERPENDICULAR TO GIRDERS

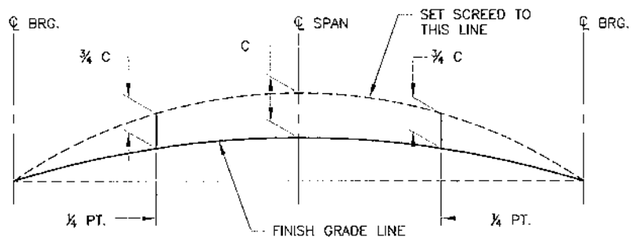


DECK SECTION NEAR PIER 2 AND PIER 3

Scale: 3/4" = 1'-0"

SECTION PERPENDICULAR TO GIRDERS
SEE "TYPICAL DECK SECTION" SHEET FOR DETAILS NOT SHOWN
SEE "DECK REINFORCING PLAN" SHEET FOR BAR LIMITS

NOTE:
SEE "TRAFFIC BARRIER" AND "PEDESTRIAN BARRIER" SHEETS FOR BARRIER REINFORCEMENT EMBEDDED IN THE BRIDGE DECK.



SCREED SETTING DIMENSIONS

Scale: 1-1/2" = 1'-0"

FOR DIMENSION "C" SEE GIRDER SCHEDULE

SHEARER DESIGN LLC
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Seattle WA 98103
(206) 769-7539
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY
PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-1129(036)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

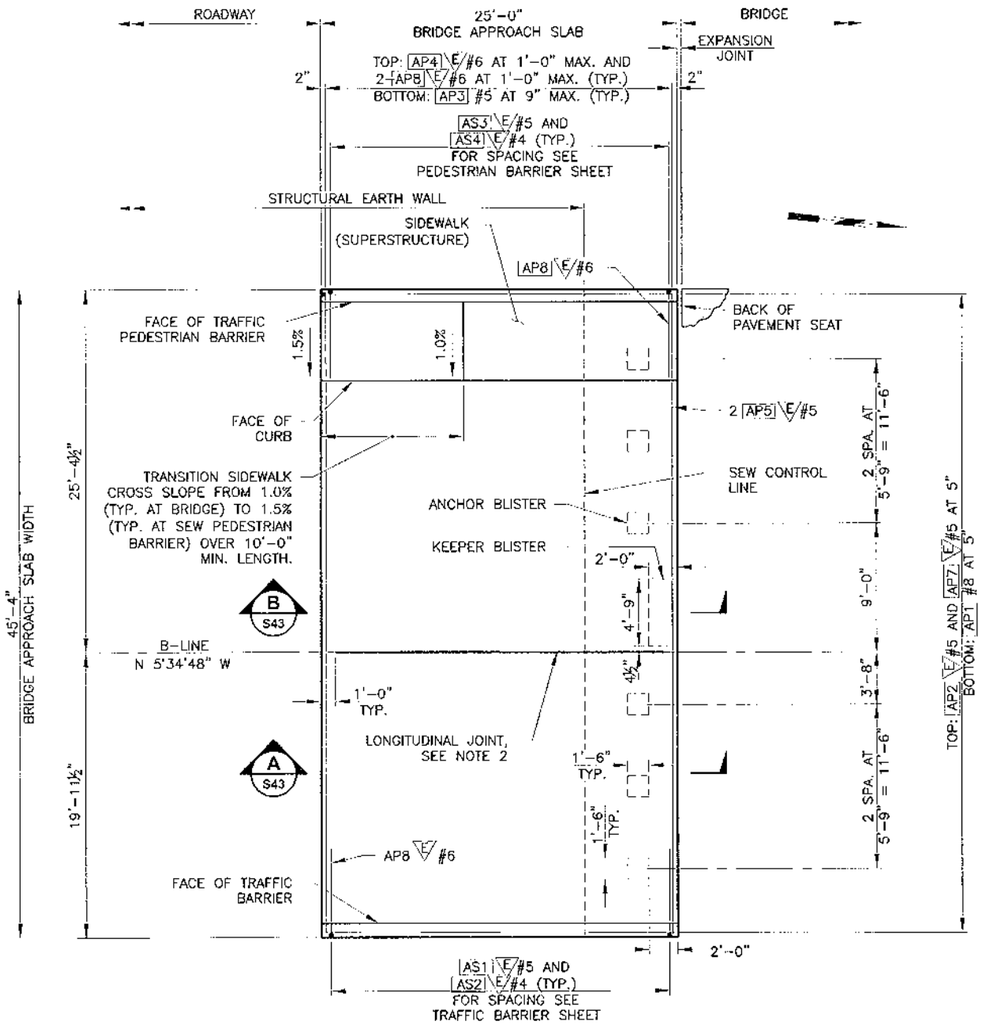
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

DECK SECTIONS (S-41)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 90 OF 117



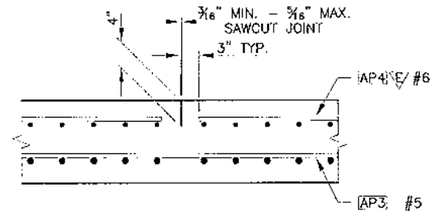
PLAN

Scale: 3/16" = 1'-0"

BRIDGE APPROACH SLAB AT PIER 1 SHOWN, PIER 4 SIMILAR

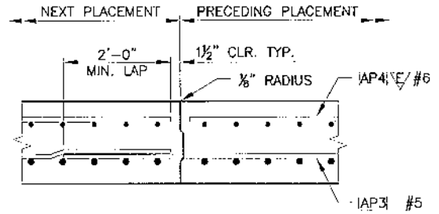
NOTES:

1. ALL EDGES OF BRIDGE APROACH SLAB SHALL HAVE ½" RADIUS EXCEPT AT LONGITUDINAL JOINTS AND ADJACENT TO ABUTMENT.
2. LONGITUDINAL JOINTS SHALL BE PLACED ON LANE LINES AND SHALL BE CONSTRUCTED AND SEALED IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION SECTION 5-05.3(8). JOINTS MAY BE EITHER A SAWCUT CRACK CONTROL JOINT OR A CONSTRUCTION JOINT. SAWCUT JOINTS SHALL TERMINATE 1'-0" BEFORE REACHING EDGE OF SLAB AND MUST BE SAWCUT AS SOON AS POSSIBLE AFTER PLACEMENT OF CONCRETE. SEE LONGITUDINAL JOINT DETAIL ON THIS SHEET.
3. THE MINIMUM LAP SPLICE OF #5 IS 2'-0", EPOXY COATED #5 IS 2'-6", EPOXY COATED #6 IS 3'-0", AND #8 IS 3'-3". ALL LAP SPLICES SHALL BE STAGGERED SO THAT NO MORE THAN 50% OF REBAR IS SPLICED AT THE SAME LOCATION. LAP SPLICES SHALL BE LOCATED WITHIN THE MIDDLE HALF OF THE BRIDGE APPROACH SLAB. OPTIONAL SPLICES ARE ALLOWED FOR AP4 EPOXY COATED #6.
4. SEE "TRAFFIC BARRIER" AND "PEDESTRIAN BARRIER" SHEETS FOR BARRIER INFORMATION NOT SHOWN.



LONGITUDINAL JOINT DETAIL

Scale: 1" = 1'-0"

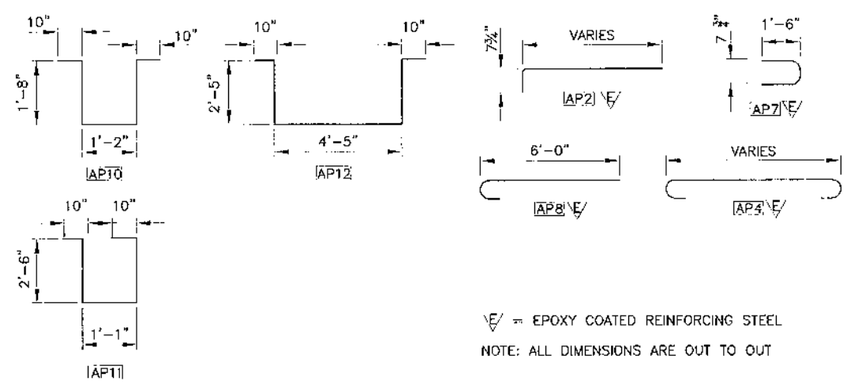


ALTERNATE LONGITUDINAL JOINT DETAIL

Scale: 1" = 1'-0"

EDGE PRECEDING PLACEMENT ONLY WITH ⅛" RADIUS.

BENDING DIAGRAM



E/ = EPOXY COATED REINFORCING STEEL

NOTE: ALL DIMENSIONS ARE OUT TO OUT

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336.9400 FAX (360) 336.9478

NO.	REVISIONS	DATE

PROJECT NO.: ES&S510-8
FED. AID NO.: BRS-M32(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04E, W.M.

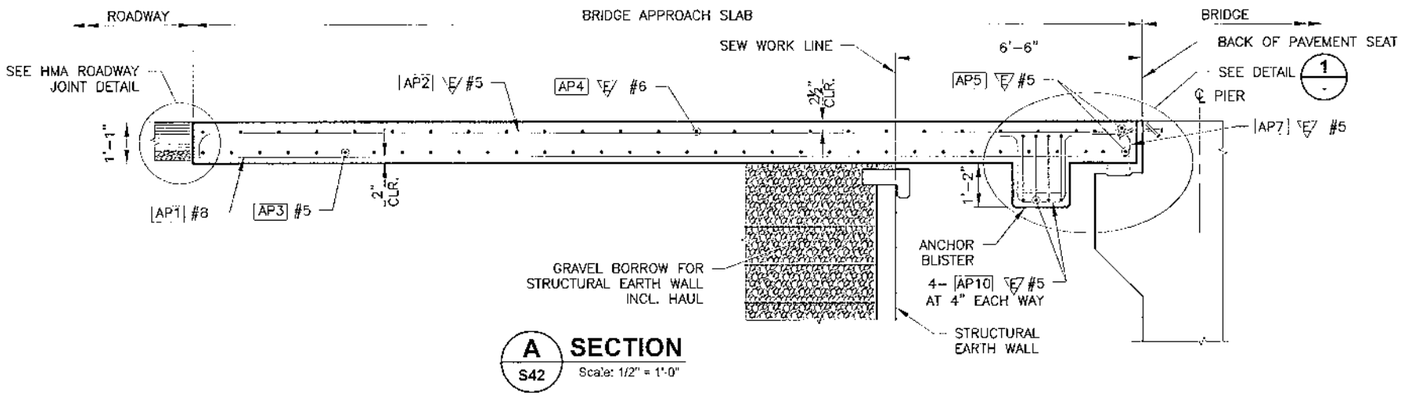
BURLINGTON NORTHERN OVERPASS PROJECT

BRIDGE APROACH SLAB 1 OF 2 (S-42)

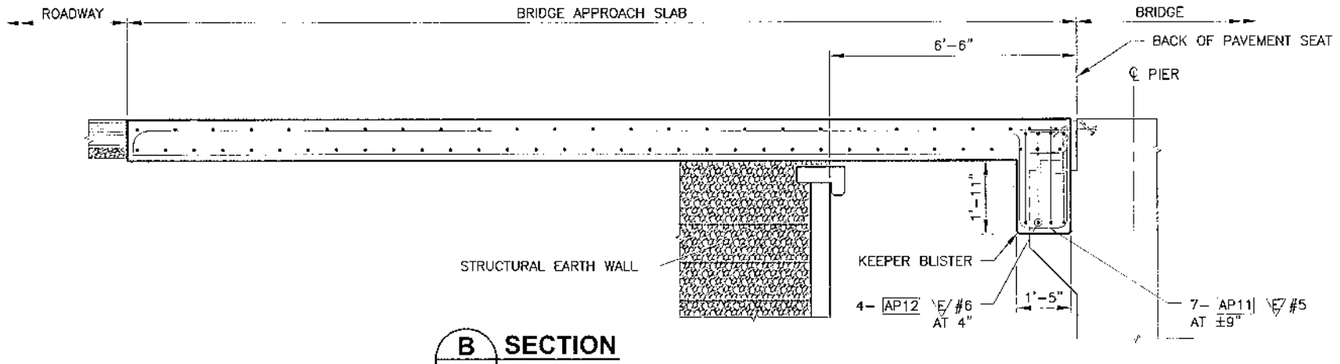
1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

SHEET 91 OF 117

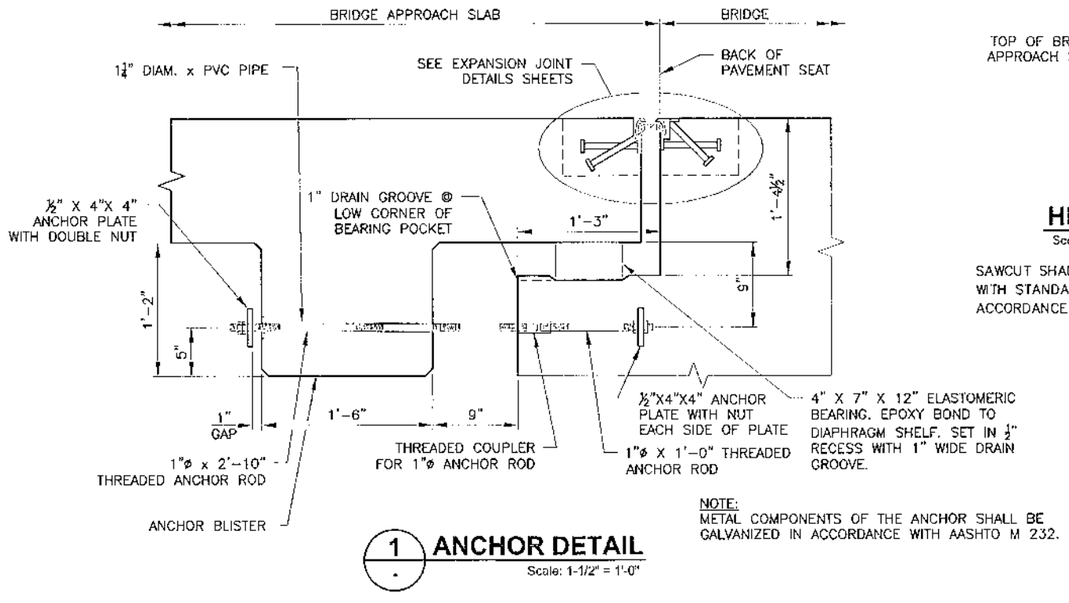
SHEARER DESIGN LLC
3613 Phinney Ave N, # B
Seattle, WA 98103
(206) 781-7659
Bridge Design, Construction Engineering, Infrastructure Aesthetics



A SECTION S42
Scale: 1/2" = 1'-0"

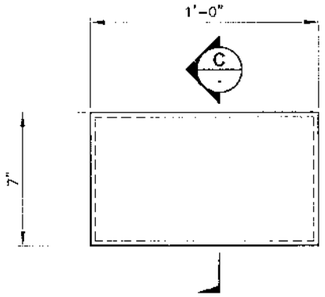


B SECTION S42
Scale: 1/2" = 1'-0"

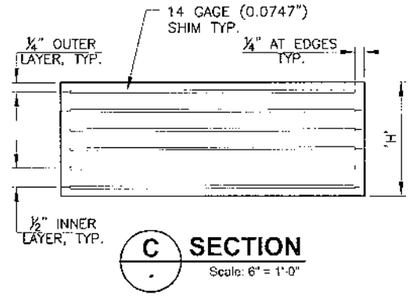


NOTE:
METAL COMPONENTS OF THE ANCHOR SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232.

1 ANCHOR DETAIL
Scale: 1-1/2" = 1'-0"



PLAN: ELASTOMERIC BEARING
Scale: 3" = 1'-0"

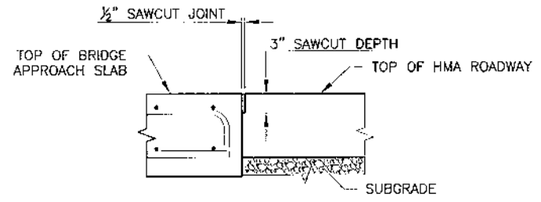


C SECTION
Scale: 6" = 1'-0"

BEARING DESIGN TABLE	
SERVICE I LIMIT STATE	
DEAD LOAD REACTION	18.6 KIPS
LIVE LOAD REACTION (W/OUT IMPACT)	28.3 KIPS
UNLOADED HEIGHT, 'H'	4.02 INCHES
LOADED HEIGHT (DL)	3.98 INCHES
SHEAR MODULUS AT 73° F	140 PSI

BEARING NOTES:

1. STRUCTURAL STEEL SHALL BE ASTM A36, GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111
2. THE BEARING PADS SHALL BE BONDED TO THE DIAPHRAGM SHELF WITH AN APPROVED ADHESIVE.



HMA ROADWAY JOINT DETAIL
Scale: 1" = 1'-0"

SAWCUT SHALL BE FILLED WITH HOT-POURED COMPONENT IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 9-04.2(1) AND SEALED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 5-05.3(8)B.

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

REVISIONS | NO. | DATE

PROJECT NO.: ES505101-B
FED. AID NO.: BRS-M129(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N., RANGE 4E, W.M.

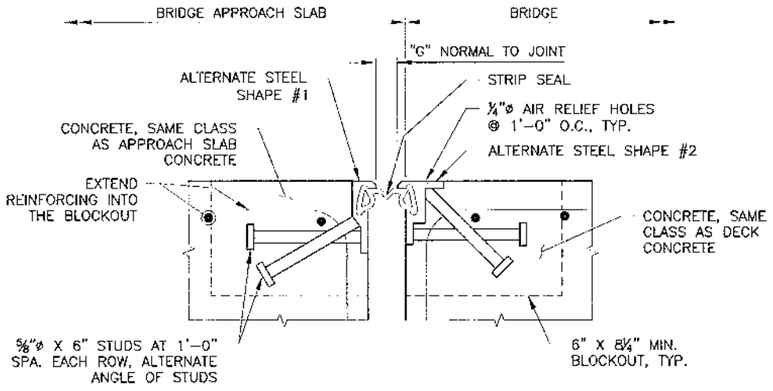
BURLINGTON NORTHERN OVERPASS PROJECT

BRIDGE APPROACH SLAB 2 OF 2 (S-43)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

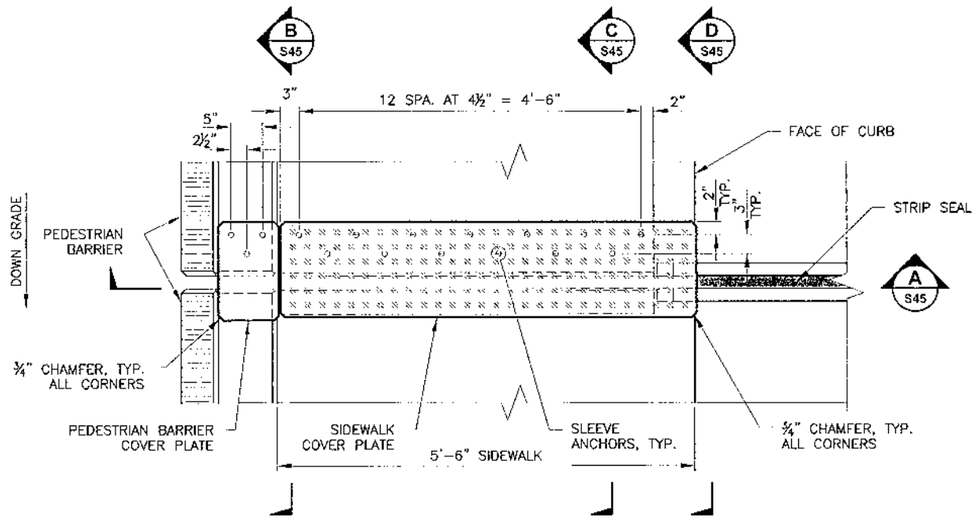
SHEET 92 OF 117

SHEARER DESIGN LLC
3913 Pleasant Ave N #3
Seattle WA 98103
(206) 781-7550
Bridge Design, Construction Engineering, Infrastructure Aesthetics



STRIP SEAL TYPICAL SECTION

Scale: 3" = 1'-0"



PLAN - EXPANSION JOINT AT SIDEWALK

Scale: 1" = 1'-0"

PIER 1 EXPANSION JOINT

MANUFACTURER	ITEM NAME	OPENING "G" NORMAL TO JOINT					
		MIN.	MAX.	MIN. INSTALLATION WIDTH	@40°F	@64°F	@80°F
D.S. BROWN	DSB STRIP SEAL A2R-400	½"	4½"	1½"	2.12"	1.74"	1.49"
WATSON BOWMAN	WABO STRIP SEAL SE-300	0"	3"	1½"	2.12"	1.74"	1.49"
R. J. WATSON, INC	RJ STRIP SEAL 300	0"	3"	1½"	2.12"	1.74"	1.49"
DYMAT CONSTRUCTION PRODUCTS INC.	DYMA STRIP SEAL J2000C	¼"	4¾"	1½"	2.12"	1.74"	1.49"

PIER 4 EXPANSION JOINT

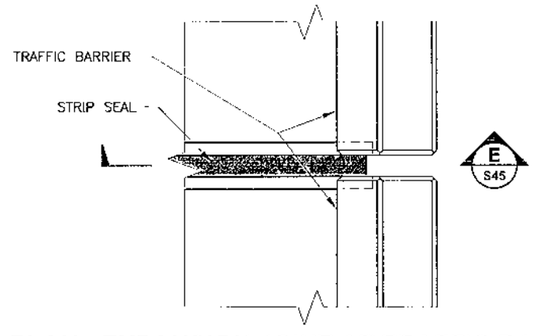
MANUFACTURER	ITEM NAME	OPENING "G" NORMAL TO JOINT					
		MIN.	MAX.	MIN. INSTALLATION WIDTH	@40°F	@64°F	@80°F
D.S. BROWN	DSB STRIP SEAL A2R-400	½"	4½"	1½"	2.06"	1.67"	1.40"
WATSON BOWMAN	WABO STRIP SEAL SE-300	0"	3"	1½"	2.06"	1.67"	1.40"
R. J. WATSON, INC	RJ STRIP SEAL 300	0"	3"	1½"	2.06"	1.67"	1.40"
DYMAT CONSTRUCTION PRODUCTS INC.	DYMA STRIP SEAL J2000C	¼"	4¾"	1½"	2.06"	1.67"	1.40"

STEEL SHAPE TYPES

MANUFACTURER	ITEM NAME	S/T			V/W			X/Y		
		TYPE	S	T	TYPE	V	W	TYPE	X	Y
D.S. BROWN	DSB STRIP SEAL	SSCM2	1⅛"	3¾"	SSA2*	1¼"	2"	SSE2*	1"	1½"
WATSON BOWMAN	WABO STRIP SEAL	M, R, P	2¾"	3¼"	A	1¼"	2"	E	1½"	1½"
R. J. WATSON, INC	RJ STRIP SEAL	RJM	2¾"	3¼"	RJA	1¼"	2"	RJE	1¼"	1½"
DYMAT CONSTRUCTION PRODUCTS INC.	DYMAT STRIP SEAL	C	2½"	3"	A	1¼"	2"	E	1⅜"	1½"

DO NOT USE STEEL SHAPES WITH HORIZONTAL LEGS IN CURB OR BARRIER REGION.

* TRIM VERTIAL LEG OF SSCM2 SHAPE FOR USE IN TRAFFIC BARRIER



PLAN - EXPANSION JOINT AT TRAFFIC BARRIER

Scale: 1" = 1'-0"

SHEARER DESIGN, LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Rowley Ave, Ste B
Sacramento, CA 95838
(916) 731-7836

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

REVISIONS | NO. | DATE

PROJECT NO.: ES505010-8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

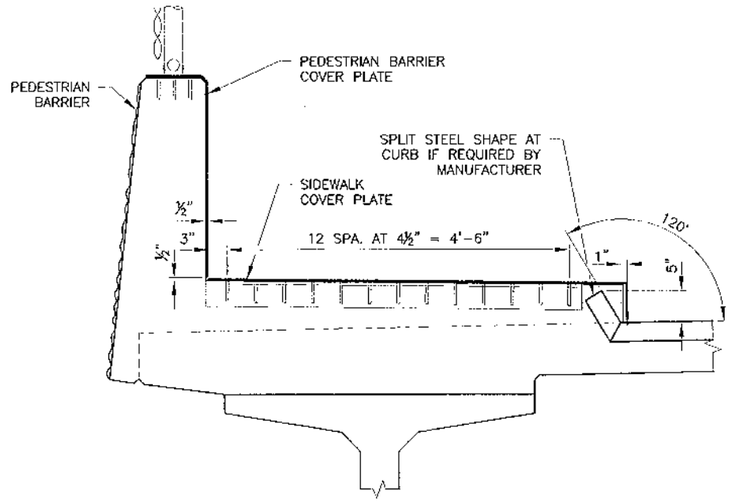
PROJECT LOCATED NEAR:
BURLINGTON
SECTION 18, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

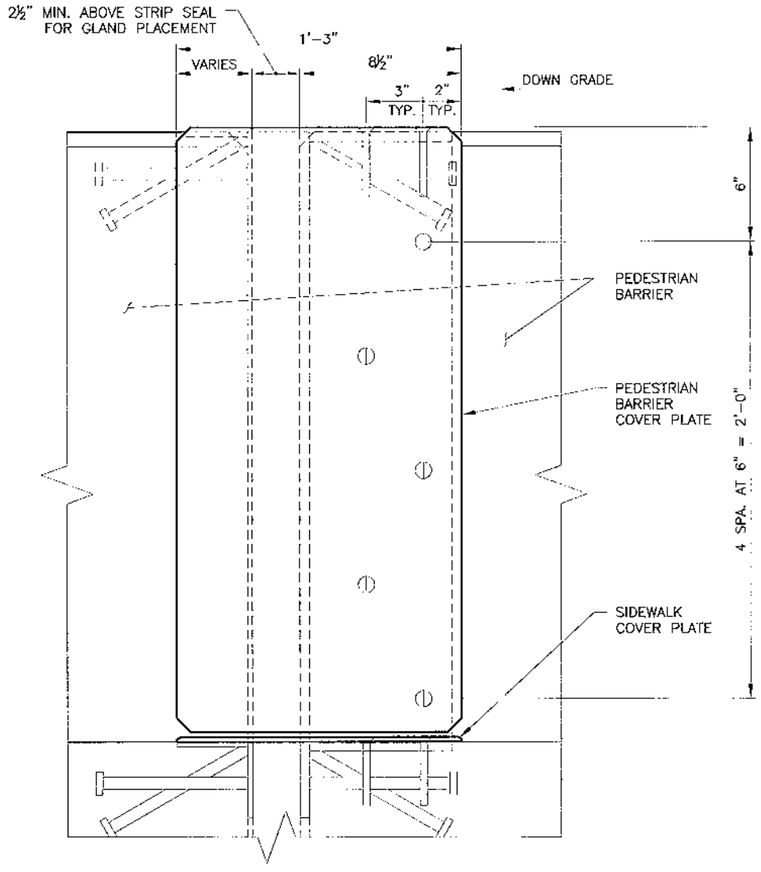
EXPANSION JOINT DETAILS 1 OF 2 (S-44)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

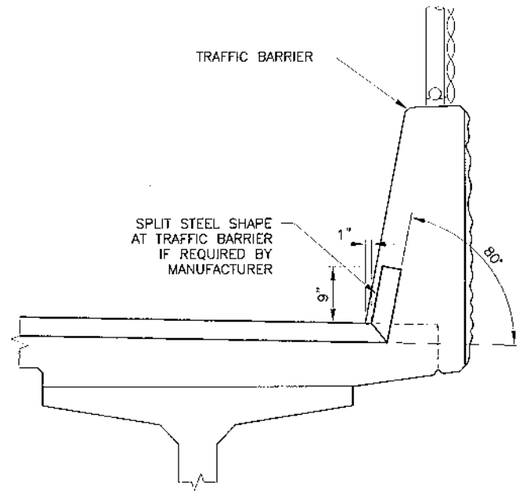
SHEET
93 OF 117



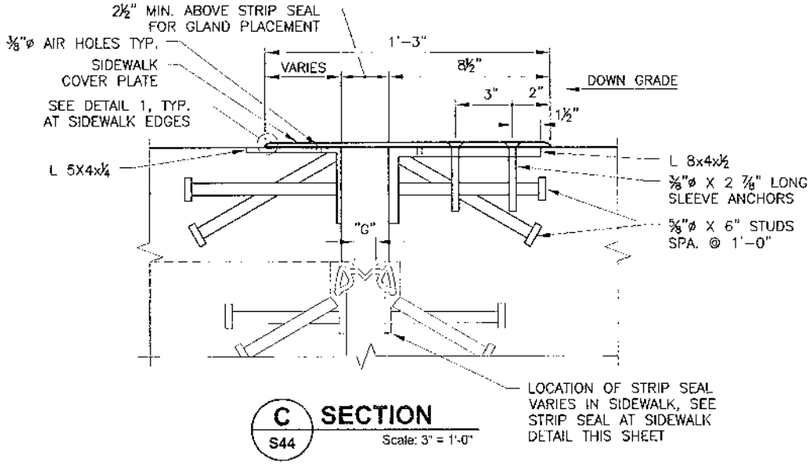
A S44 **SECTION**
Scale: 1" = 1'-0"



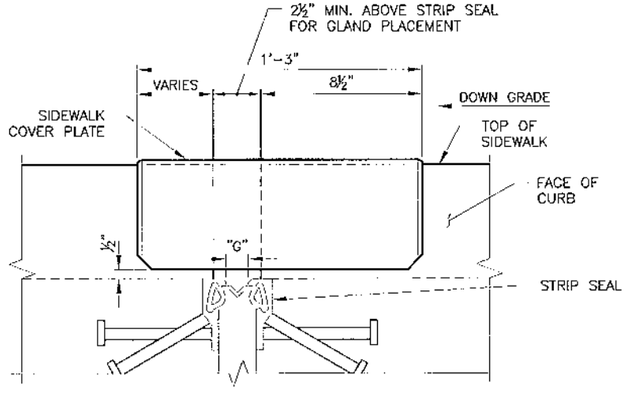
B S44 **SECTION**
Scale: 3" = 1'-0"



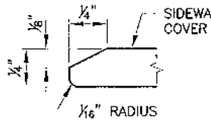
E S44 **SECTION**
Scale: 1" = 1'-0"



C S44 **SECTION**
Scale: 3" = 1'-0"



D S44 **SECTION**
Scale: 3" = 1'-0"



1 - **DETAIL**
Scale: 2'-0"=1'-0"

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Phinney Ave N # B
Seattle WA 98103
(206) 781-7330

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES50510-B
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

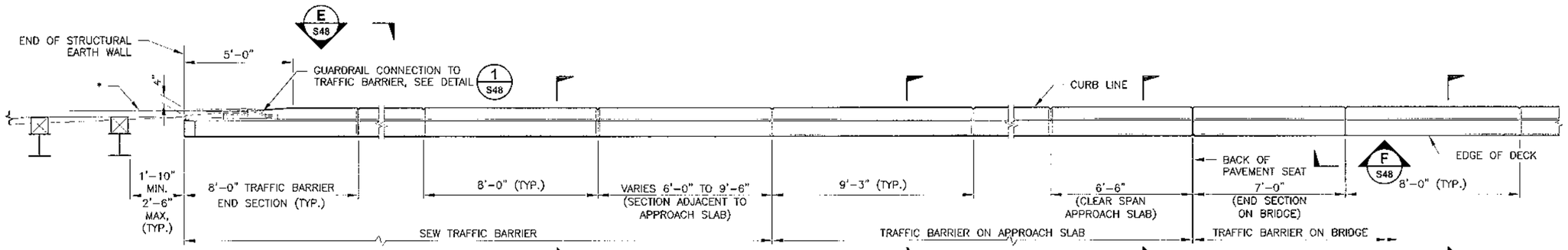
BURLINGTON NORTHERN OVERPASS PROJECT

EXPANSION JOINT DETAILS 2 OF 2 (S-45)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
94 OF 117

ROBERT - October 11, 2016 - 2:33 PM - \\SHEARER\SERVER-D-DRIVE\JOBS\0227 BNSF-DESIGN-D-NG\DESIGN_CAD\CONSTR\301ES50510-B EXPANSION JOINT.DWG



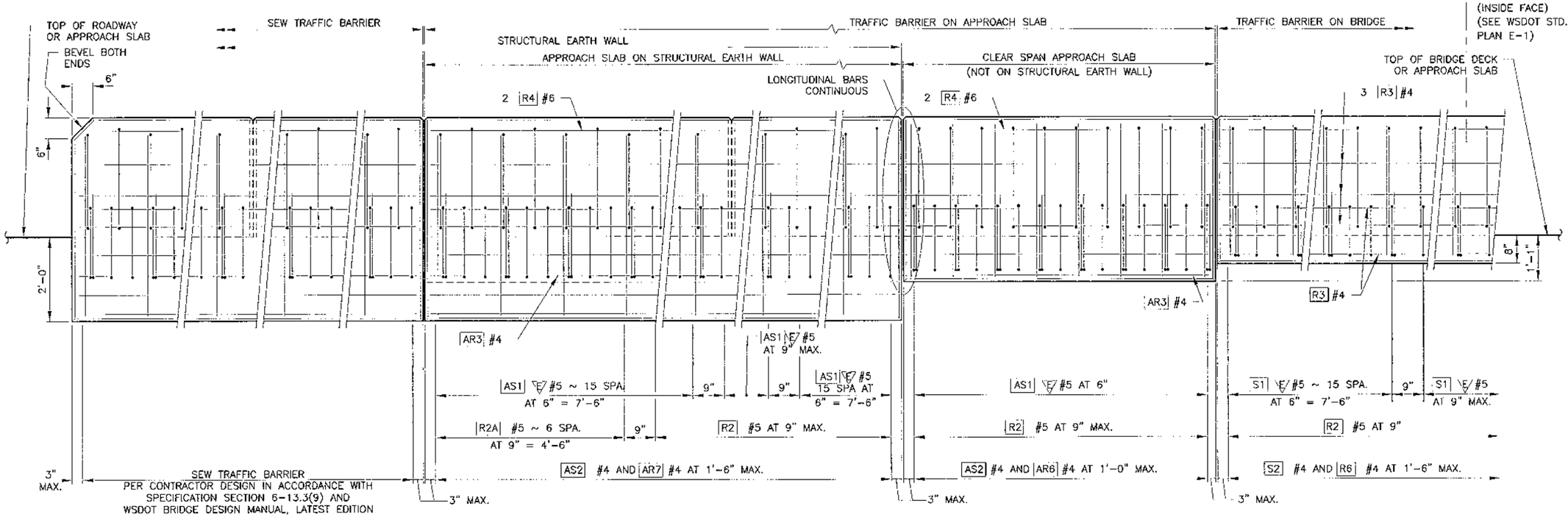
* SOUTHEST CORNER (BEGIN WALL #2): BEAM GUARDRAIL TYPE 31 TRANSITION SECTION TYPE 20. SEE STD. PLAN C-25.18-05.

* NORTHWEST CORNER (END WALL #3): GUARDRAIL CONNECTION OMITTED. SEE CIVIL PLANS FOR IMPACT ATTENUATOR. SEE PEDESTRIAN BARRIER SHEETS FOR CONDUIT DETAILS.

* NORTHEAST CORNER (END WALL #4): BEAM GUARDRAIL TYPE 31 WITH TYPE "D" CONNECTION. SEE STD. PLAN C-24.10-01.

PLAN
TRAFFIC BARRIER

BARRIER CONTINUOUS BETWEEN ROADWAY EXPANSION JOINTS.
CONSTRUCTION JOINTS WITH SHEAR KEYS ARE PERMISSIBLE AT DUMMY JOINT LOCATIONS.
FORM JOINTS BETWEEN DUMMY JOINTS SHALL NOT BE PERMITTED.



OUTSIDE ELEVATION
END OF TRAFFIC BARRIER

SHOWN WITH BRIDGE, APPROACH SLAB AND STRUCTURAL EARTH WALL

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336-9478

NO.	REVISIONS	DATE

PROJECT NO.: ES65510-8
FED. AID NO.: BRS-M28006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 18, TOWNSHIP 35N, RANGE 04 E, W.M.

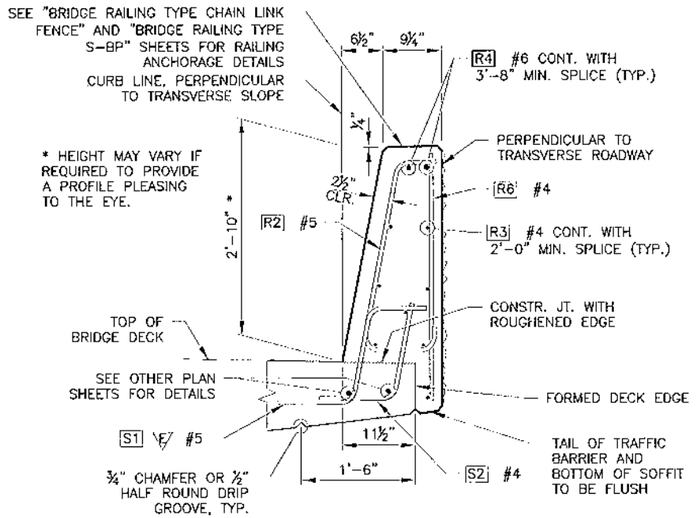
BURLINGTON NORTHERN OVERPASS PROJECT

TRAFFIC BARRIER 1 OF 3 (S-46)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 95 OF 117

SHEARER DESIGN LLC
3613 Burney Ave N #B
Seattle WA 98103
(206) 781-7830
Bridge Design, Construction Engineering, Infrastructure Aesthetics

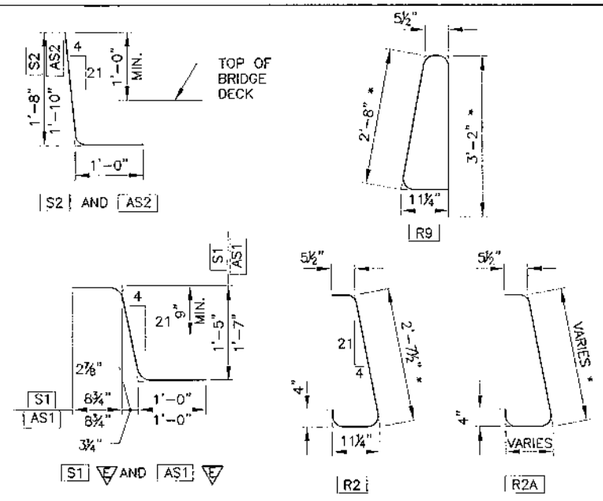


A S46 TYPICAL SECTION - TRAFFIC BARRIER

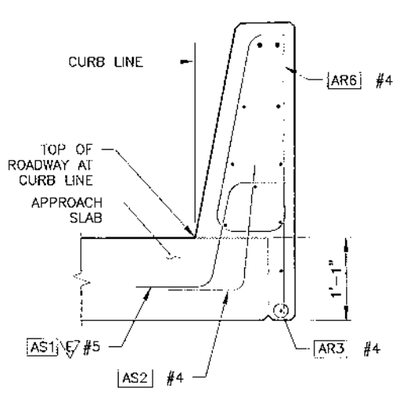
Scale: 1" = 1'-0"

DETAIL FOR BRIDGE.
FOR DETAILS NOT SHOWN SEE OUTSIDE ELEVATION.

BENDING DIAGRAM



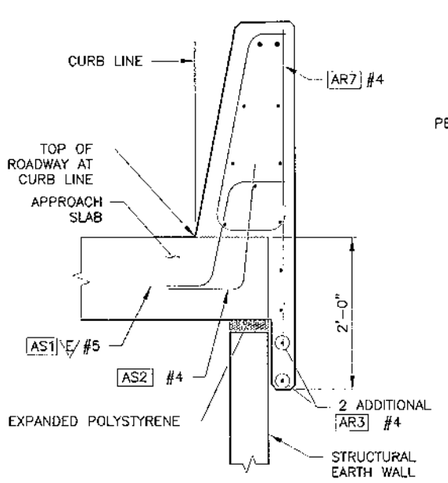
ALL DIMENSIONS ARE OUT TO OUT
E = EPOXY COATED REINFORCING STEEL
* = DIMENSIONS TO POINTS OF INTERSECTION



B S46 SECTION

Scale: 1" = 1'-0"

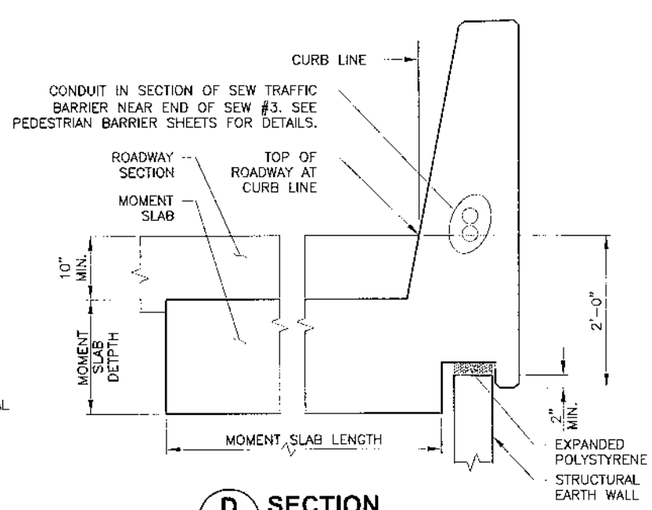
DETAIL FOR CLEAR SPAN APPROACH SLAB.
FOR DETAILS NOT SHOWN SEE OUTSIDE ELEVATION AND TYPICAL SECTION – TRAFFIC BARRIER DETAILS.



C S46 SECTION

Scale: 1" = 1'-0"

DETAIL FOR APPROACH SLAB ON STRUCTURAL EARTH WALL.
FOR DETAILS NOT SHOWN SEE OUTSIDE ELEVATION AND TYPICAL SECTION – TRAFFIC BARRIER DETAILS.



D S46 SECTION

Scale: 1" = 1'-0"

DETAIL FOR SEW TRAFFIC BARRIER.
BARRIER DIMENSIONS SHALL CONFORM TO TYPICAL SECTION – TRAFFIC BARRIER DETAIL AND THOSE SHOWN HERE.
CONTRACTOR SHALL DESIGN SEW TRAFFIC BARRIER IN ACCORDANCE WITH SPECIFICATION SECTION 6-13.3(9) AND WSDOT BRIDGE DESIGN MANUAL, LATEST EDITION.

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

DATE | REVISIONS | NO.

10/10/16

PROJECT NO.: ESD5010-8
FED. AID NO.: BRS-4129(005)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 4E, W.M.

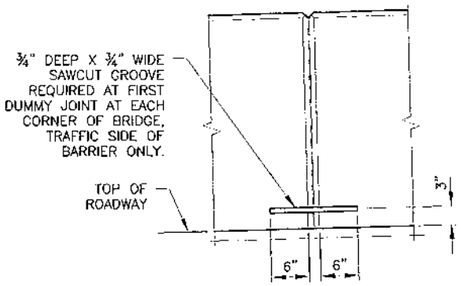
BURLINGTON NORTHERN OVERPASS PROJECT

TRAFFIC BARRIER 2 OF 3 (S-47)

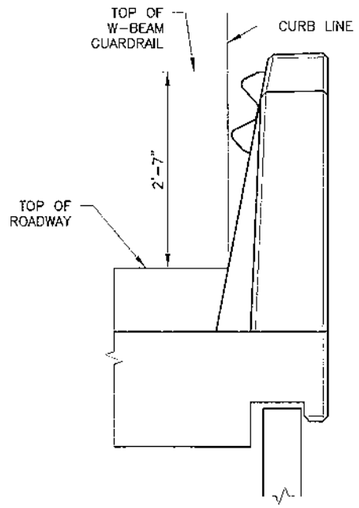
1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 96 OF 117

SHEARER DESIGN LLC
3613 Rucker Ave Ste B
Everett WA 98213
(425) 251-1830
Bridge Design, Construction Engineering, Infrastructure Aesthetics

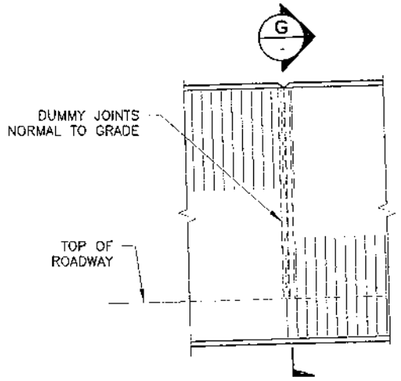


E / S46 **VIEW**
Scale: 1" = 1'-0"

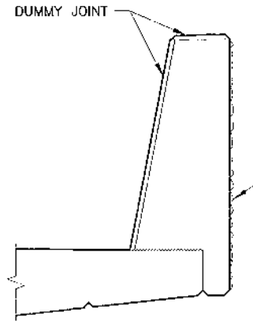


END VIEW
Scale: 1" = 1'-0"

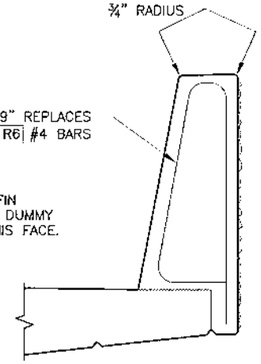
W-BEAM SHOWN WITH "D" CONNECTION



F / S46 **VIEW**
Scale: 1" = 1'-0"



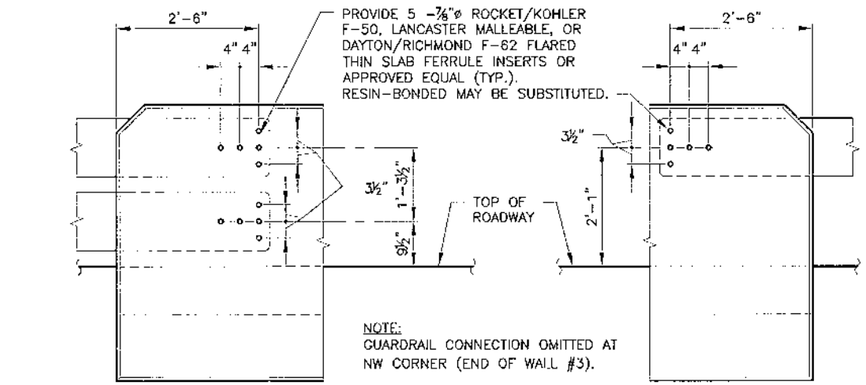
G / - **SECTION**
Scale: 1" = 1'-0"



G / - **SECTION - SLIPFORM ALTERNATE**
Scale: 1" = 1'-0"

SEE TYPICAL SECTION – TRAFFIC BARRIER DETAIL FOR DETAILS NOT SHOWN.

THE CONTRACTOR IS ADVISED THAT THE SLIPFORM CONSTRUCTION METHOD IS A PATENTED PROPRIETARY PROCESS FOR BARRIERS WITH A FRACTURED FIN FINISH.



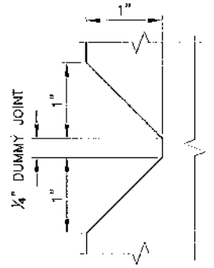
SOUTHEAST CORNER (BEGIN WALL #2)
BEAM GUARDRAIL (TYPE 31) TRANSITION SECTION TYPE 20
(SEE STD. PLAN C-25.18-05)

NORTHEAST CORNER (END WALL #4)
BEAM GUARDRAIL TYPE 31 TYPE "D" CONNECTION
(SEE STD. PLAN C-24.10-01)

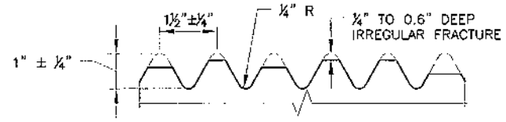
OUTSIDE ELEVATION

1 / S46 **TRAFFIC BARRIER - GUARDRAIL CONNECTION**
Scale: 3/4" = 1'-0"

(GUARDRAIL CONNECTION TO SEW TRAFFIC BARRIER AT ENDS OF STRUCTURAL EARTH WALLS. SEE CIVIL PLANS FOR GUARDRAIL TYPE.)



DUMMY JOINT DETAIL
Scale: 1'-0" = 1'-0"



FRACTURED FIN FINISH
Scale: 6" = 1'-0"

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Pacific Ave N, # B
Seattle WA 98103
(206) 781-7829

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

REVISIONS | NO. | DATE

PROJECT NO.: ES50310-8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

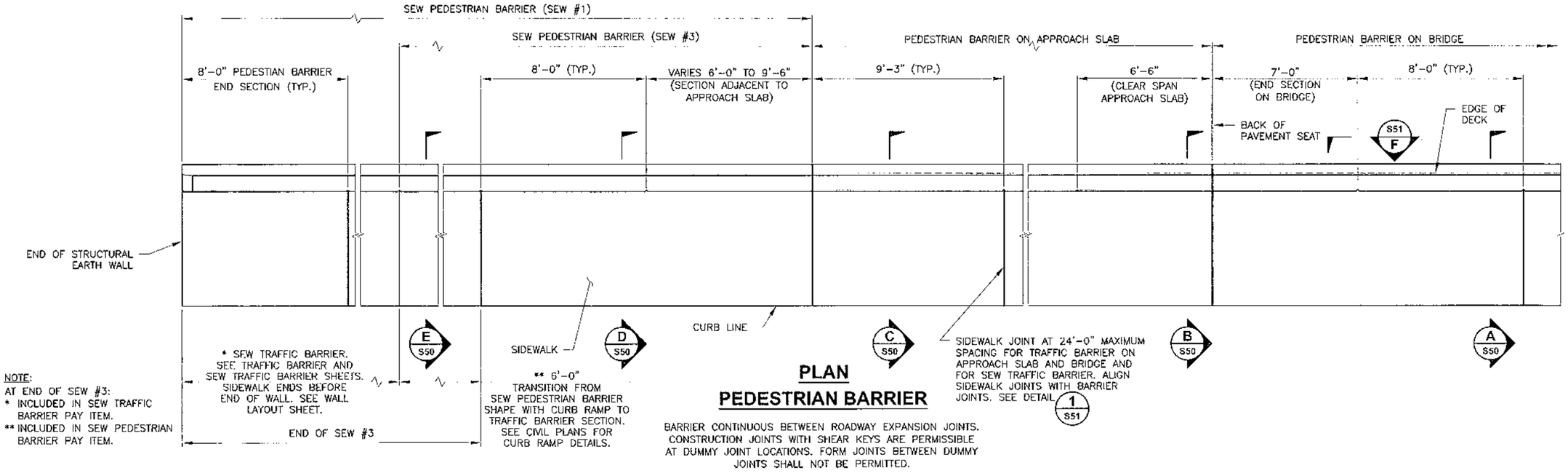
PROJECT LOCATED NEAR:
BURLINGTON
SECTION 18, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

TRAFFIC BARRIER 3 OF 3 (S-48)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
97 OF 117



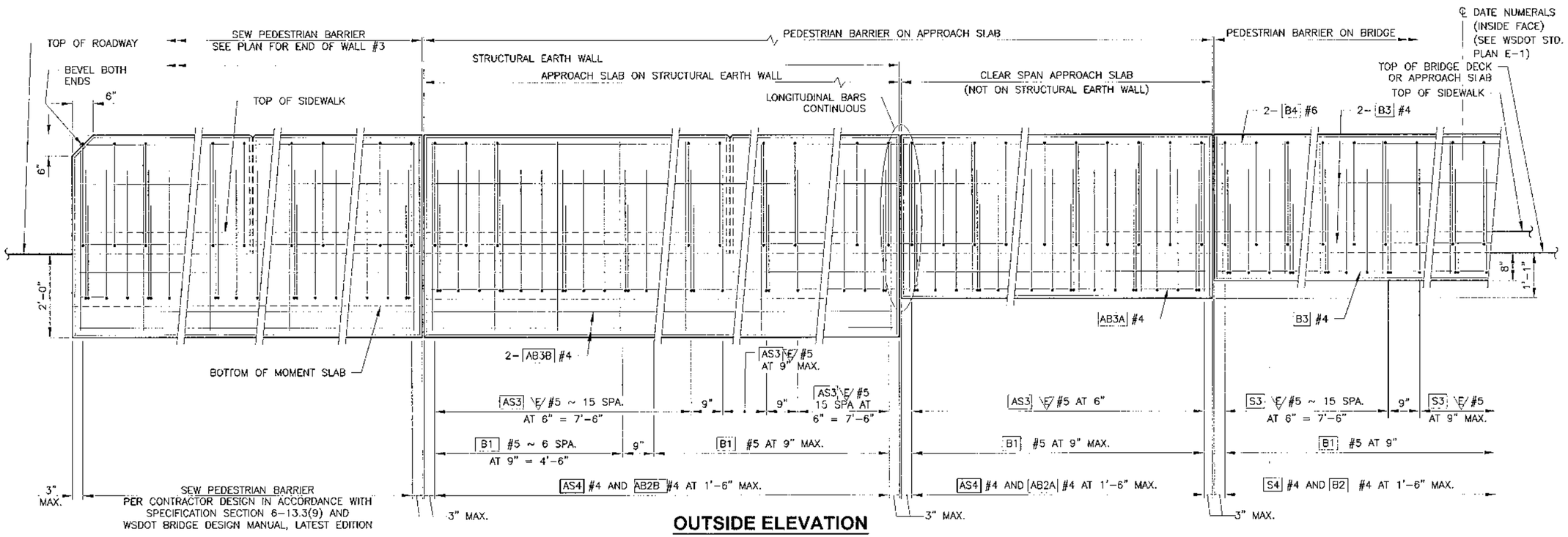
NOTE:
AT END OF SEW #3:
* INCLUDED IN SEW TRAFFIC BARRIER PAY ITEM.
** INCLUDED IN SEW PEDESTRIAN BARRIER PAY ITEM.

* SEW TRAFFIC BARRIER. SEE TRAFFIC BARRIER AND SEW TRAFFIC BARRIER SHEETS. SIDEWALK ENDS BEFORE END OF WALL. SEE WALL LAYOUT SHEET.

** 6'-0" TRANSITION FROM SEW PEDESTRIAN BARRIER SHAPE WITH CURB RAMP TO TRAFFIC BARRIER SECTION. SEE CIVIL PLANS FOR CURB RAMP DETAILS.

PLAN
PEDESTRIAN BARRIER

BARRIER CONTINUOUS BETWEEN ROADWAY EXPANSION JOINTS. CONSTRUCTION JOINTS WITH SHEAR KEYS ARE PERMISSIBLE AT DUMMY JOINT LOCATIONS. FORM JOINTS BETWEEN DUMMY JOINTS SHALL NOT BE PERMITTED.



OUTSIDE ELEVATION
END OF PEDESTRIAN BARRIER

SHOWN WITH BRIDGE, APPROACH SLAB AND STRUCTURAL EARTH WALL

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: FS550510-8
FED. AID NO.: BRS-4128(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 3 4 E, W.M.

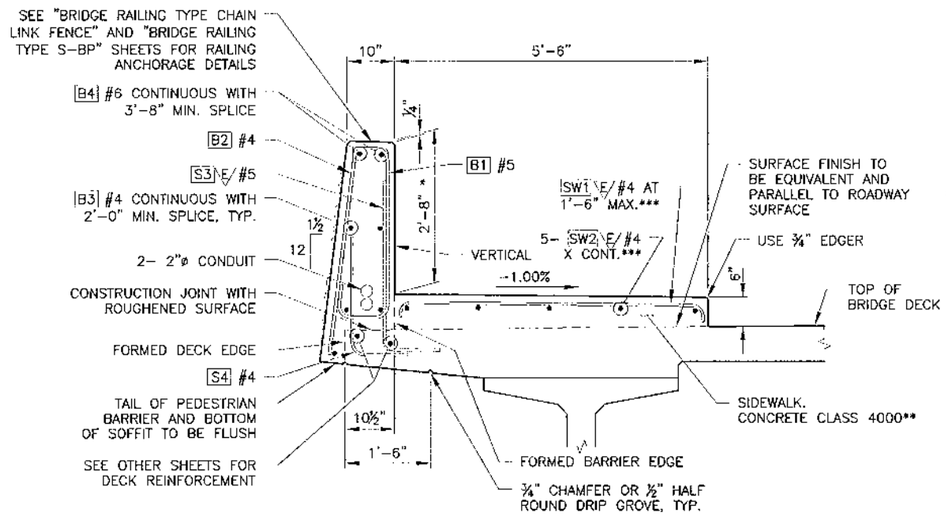
BURLINGTON NORTHERN OVERPASS PROJECT

PEDESTRIAN BARRIER 1 OF 4 (S-49)

1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

SHEET 98 OF 117

SHEARER DESIGN LLC
5613 Phinney Ave N. # B
Seattle WA 98103
(206) 781-7830
Bridge Design, Construction Engineering, Infrastructure Aesthetics



* MIN. HEIGHT. PEDESTRIAN BARRIER HEIGHT MAY VARY IF REQUIRED TO PROVIDE A SMOOTH PROFILE.

** INCLUDED IN SUPERSTRUCTURE CONCRETE.

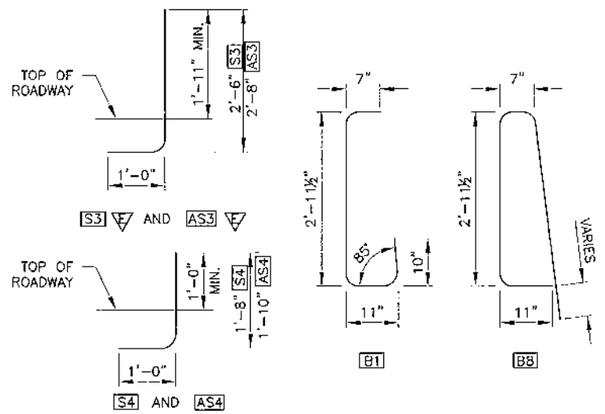
*** INCLUDED IN SUPERSTRUCTURE REINFORCING.

A S49 TYPICAL SECTION - PEDESTRIAN BARRIER AND SIDEWALK

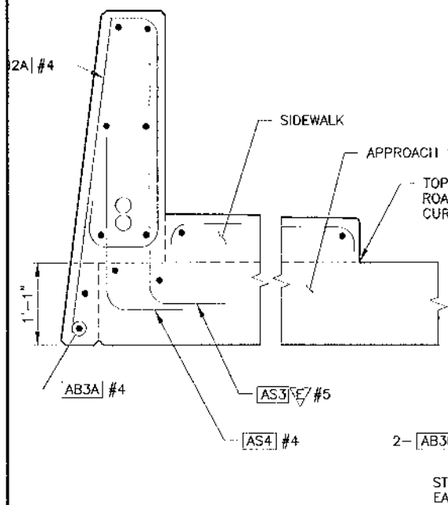
Scale: 3/4" = 1'-0"

DETAIL FOR BRIDGE.
FOR DETAILS NOT SHOWN SEE OUTSIDE ELEVATION.

BENDING DIAGRAM



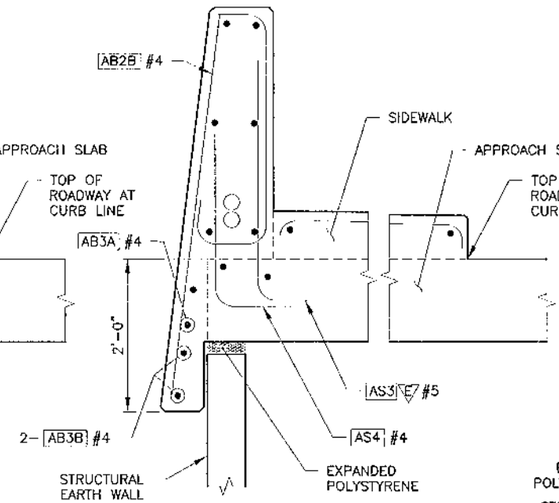
ALL DIMENSIONS ARE OUT TO OUT
E/ = EPOXY COATED REINFORCING STEEL



B S49 SECTION

Scale: 1" = 1'-0"

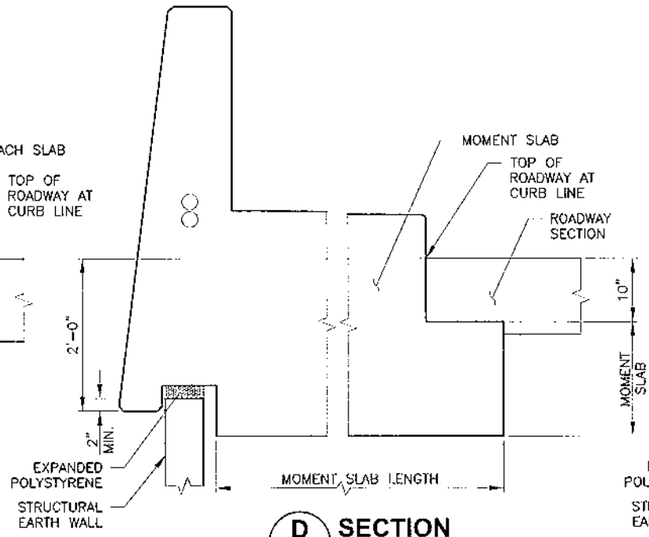
DETAIL FOR CLEAR SPAN APPROACH SLAB.
FOR DETAILS NOT SHOWN SEE OUTSIDE ELEVATION AND TYPICAL SECTION – PEDESTRIAN BARRIER AND SIDEWALK DETAILS.



C S49 SECTION

Scale: 1" = 1'-0"

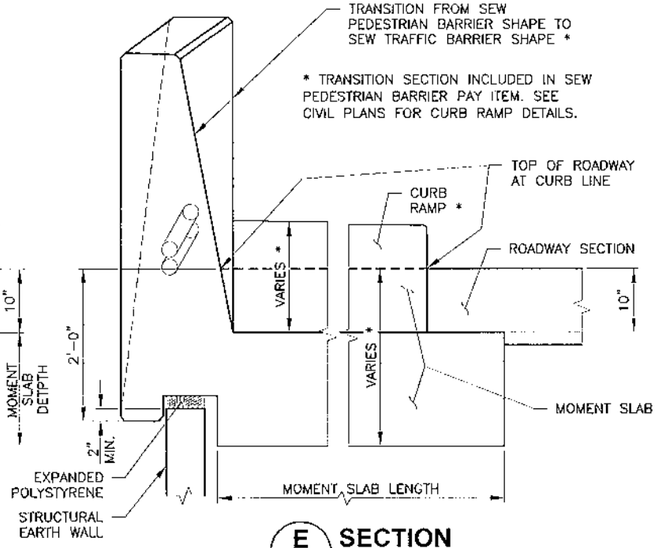
DETAIL FOR APPROACH SLAB ON STRUCTURAL EARTH WALL.
FOR DETAILS NOT SHOWN SEE OUTSIDE ELEVATION AND TYPICAL SECTION – PEDESTRIAN BARRIER AND SIDEWALK DETAILS.



D S49 SECTION

Scale: 1" = 1'-0"

DETAIL FOR TYPICAL SEW PEDESTRIAN BARRIER.
BARRIER DIMENSIONS SHALL CONFORM TO TYPICAL SECTION – PEDESTRIAN BARRIER AND SIDEWALK DETAIL AND THOSE SHOWN HERE. CONTRACTOR SHALL DESIGN SEW PEDESTRIAN BARRIER IN ACCORDANCE WITH SPECIFICATION SECTION 6-13.3(9) AND WSDOT BRIDGE DESIGN MANUAL, LATEST EDITION.



E S49 SECTION

Scale: 1" = 1'-0"

DETAIL FOR TRANSITION FROM TYPICAL SEW PEDESTRIAN BARRIER TO TYPICAL SEW TRAFFIC BARRIER INCLUDING CURB RAMP TRANSITION FROM TYPICAL SIDEWALK TO SEW TRAFFIC BARRIER MOMENT SLAB. BARRIER DIMENSIONS SHALL CONFORM TO TYPICAL SECTION – PEDESTRIAN BARRIER AND SIDEWALK DETAIL AND THOSE SHOWN HERE. CONTRACTOR SHALL DESIGN IN ACCORDANCE WITH SPECIFICATION SECTION 6-13.3(9) AND WSDOT BRIDGE DESIGN MANUAL, LATEST EDITION.

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

DATE
REVISIONS
NO.
10/10/16

SHEARER DESIGN LLC
3673 Peabody Ave W. # B
Seattle WA 98199
(253) 691-7430
Bridge Design, Construction Engineering, Infrastructure Aesthetics

PROJECT NO.: ES30510-8
FED. AID NO.: BRSM39(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

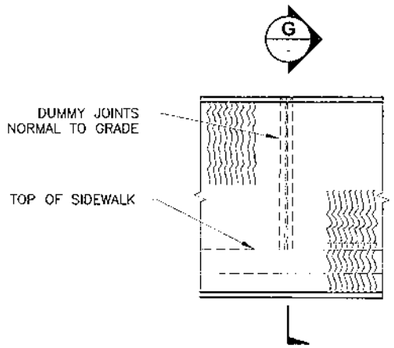
BURLINGTON NORTHERN OVERPASS PROJECT

PEDESTRIAN BARRIER 2 OF 4 (S-50)

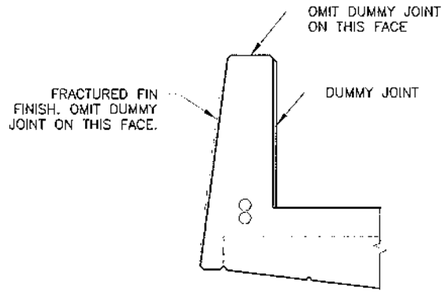
1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 99 OF 117

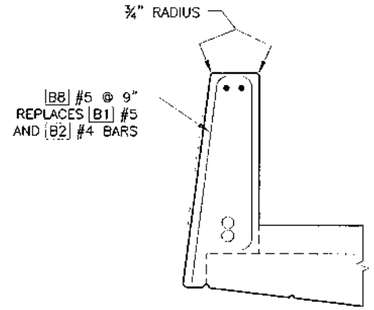
ROBERT - October 11, 2016 - 2:31 PM - \\SHEARERSERVER\JOBS\0227 BNSFOES.GN\DWG\DESIGN_CAD\CONSTR\R002ES30510 8 PEDESTRIAN BARRIER.DWG



F S49 **VIEW**
Scale: 3/4" = 1'-0"



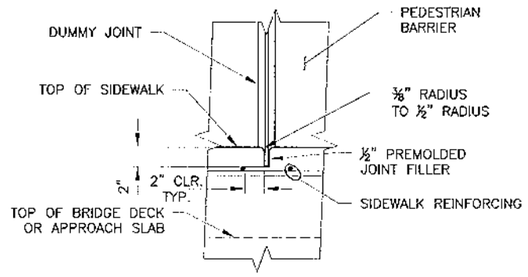
G - **SECTION**
Scale: 3/4" = 1'-0"



G - **SECTION - SLIPFORM ALTERNATE**
Scale: 3/4" = 1'-0"

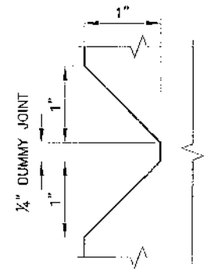
SEE TYPICAL SECTION – PEDESTRIAN BARRIER DETAIL FOR DETAILS NOT SHOWN.

THE CONTRACTOR IS ADVISED THAT THE SLIPFORM CONSTRUCTION METHOD IS A PATENTED PROPRIETARY PROCESS FOR BARRIERS WITH A FRACTURED FIN FINISH.

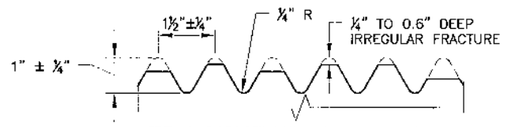


1 S49 **SIDEWALK JOINT DETAIL**
Scale: 1-1/2" = 1'-0"

SIDEWALK ON BRIDGE OR APPROACH SLAB SHOWN. CONTRACTOR SHALL INCORPORATE SIDEWALK JOINTS INTO SEW PEDESTRIAN BARRIER DESIGN.



DUMMY JOINT DETAIL
Scale: 1'-0" = 1'-0"



FRACTURED FIN FINISH
Scale: 6" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES56510-8
FED. AID NO.: BRS-4129(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

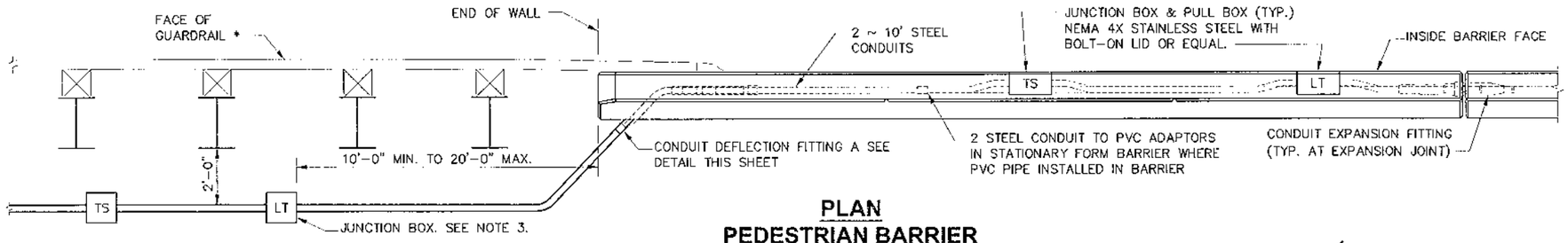
BURLINGTON NORTHERN OVERPASS PROJECT

PEDESTRIAN BARRIER 3 OF 4 (S-51)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
100 OF 117

SHEARER DESIGN, LLC
3613 Fairway Circle, # B
Bellingham, WA 98229
(206) 781-7639
Bridge Design, Construction Engineering, Infrastructure Aesthetics



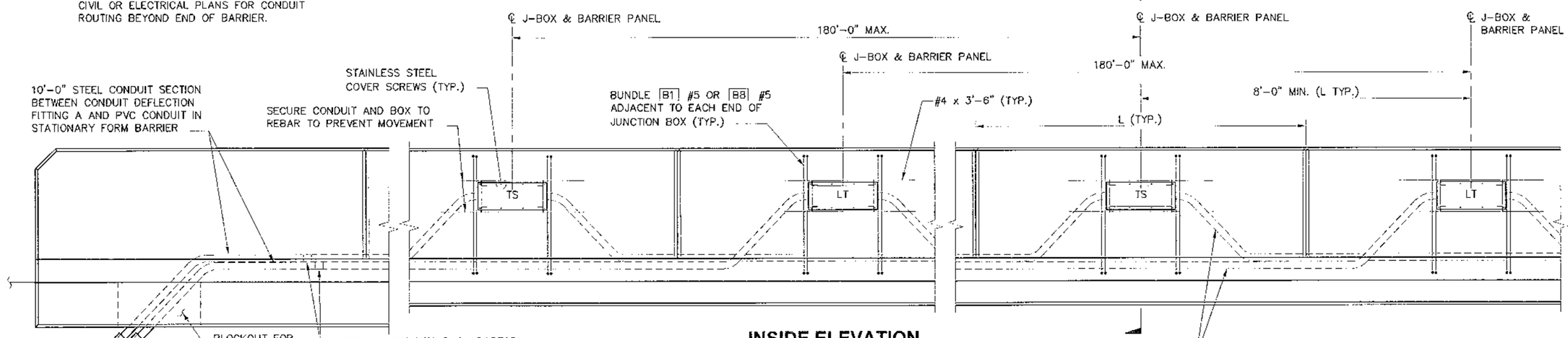
* GUARDRAIL SHOWN HERE SCHEMATICALLY TO INDICATE THAT CONDUIT ALIGNMENT MAY VARY AT THE END OF BARRIER. SEE CIVIL OR ELECTRICAL PLANS FOR CONDUIT ROUTING BEYOND END OF BARRIER.

PLAN
PEDESTRIAN BARRIER

CONDUIT AT PROJECT LEFT BARRIER. END SECTION APPLIES TO SEW PEDESTRIAN BARRIER AND SEW TRAFFIC BARRIER.

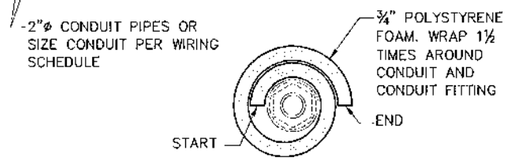
NOTE:

1. PROVIDE CONDUIT IN BARRIER FULL LENGTH OF BARRIER ON LEFT SIDE OF PROJECT FROM BEGIN SEW#1 TO END SEW #3 REGARDLESS OF BARRIER TYPE. NOTE THAT A PORTION OF THE BARRIER NEAR THE NORTH END OF SEW #3 IS SEW TRAFFIC BARRIER. PROVIDE CONDUIT IN SEW PEDESTRIAN BARRIER AND SEW TRAFFIC BARRIER SIMILAR TO SHOWN HERE FOR PEDESTRIAN BARRIER.
2. BEGIN JUNCTION BOXES IN BARRIER AT APPROX. STATION 93+20 LEFT AND END AT APPROX. STA.113+00 LEFT. SPACE AS SHOWN.
3. JUNCTION BOX SIZE AND LABELS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO DELIVERY.

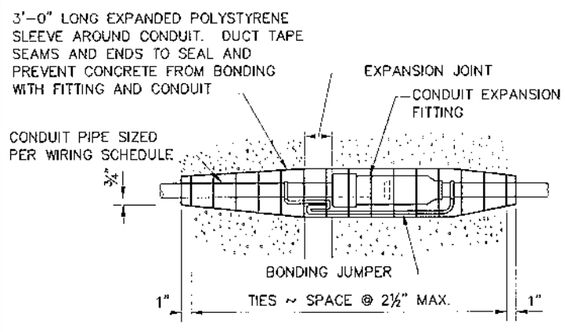


INSIDE ELEVATION
CONDUITS & J-BOX IN PEDESTRIAN BARRIER

LABEL JUNCTION BOX COVER IN ACCORDANCE WITH STANDARD SPECIFICATION 9-29.2(4) AND SPECIAL PROVISIONS. ADJACENT JUNCTION BOXES ARE SHOWN CENTERED BETWEEN ADJACENT DUMMY JOINTS. IF THE DISTANCE BETWEEN ADJACENT DUMMY JOINTS IS 16'-0" OR GREATER, PLACE ADJACENT JUNCTION BOXES SYMMETRICALLY ON EITHER SIDE OF THE CENTER OF ONE DUMMY PANEL WHILE MAINTAINING 8'-0" MINIMUM BETWEEN CENTER LINES OF THE JUNCTION BOXES.

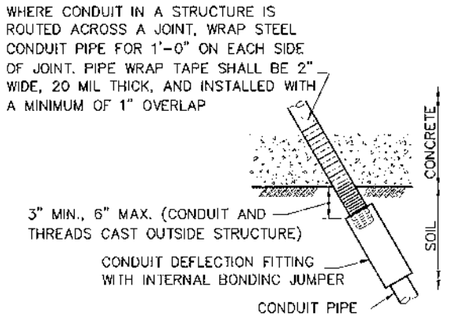


B SECTION
Scale: 3" = 1'-0"



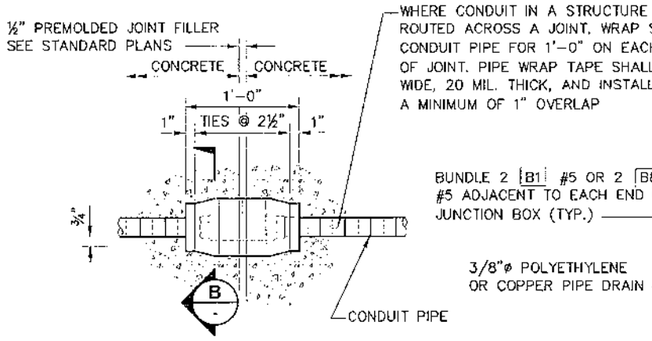
CONDUIT EXPANSION FITTING

CONDUIT FITTING – (TYPE AX FOR MOVEMENT OF ± 2") AT BRIDGE EXPANSION JOINTS



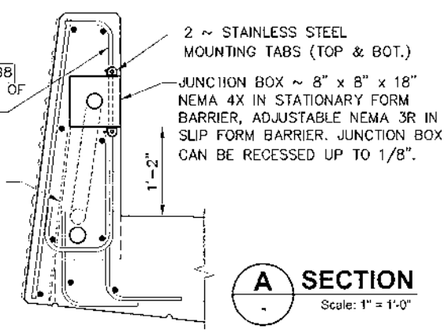
CONDUIT DEFLECTION FITTING A

CONDUIT FITTING – TYPE DX FOR DEFLECTION OF 30° AND ¾" MOVEMENT. PLACE AT CONDUIT PIPE EXIT FROM STRUCTURE.



CONDUIT DEFLECTION FITTING B

CONDUIT FITTING – TYPE DX FOR DEFLECTION OF 30° AND ¾" MOVEMENT. CONDUIT PIPES PLACED THROUGH RETAINING WALL PEDESTRIAN BARRIER SHALL BE FITTED WITH DEFLECTION FITTINGS AT A MAXIMUM SPACING OF 120'. THE DEFLECTION FITTINGS SHALL BE PLACED AT THE PEDESTRIAN BARRIER OPEN JOINT THAT COINCIDES WITH THE RETAINING WALL STEM EXPANSION JOINT NEAREST TO THE TRANSVERSE CONSTRUCTION JOINT IN THE WALL FOOTING.



A SECTION
Scale: 1" = 1'-0"

SHEARER DESIGN LLC
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Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

DATE	REVISIONS	NO.

PROJECT NO.: ES0610-8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

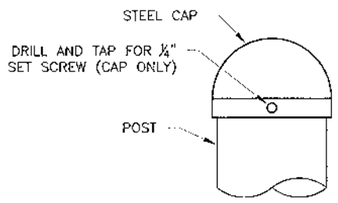
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

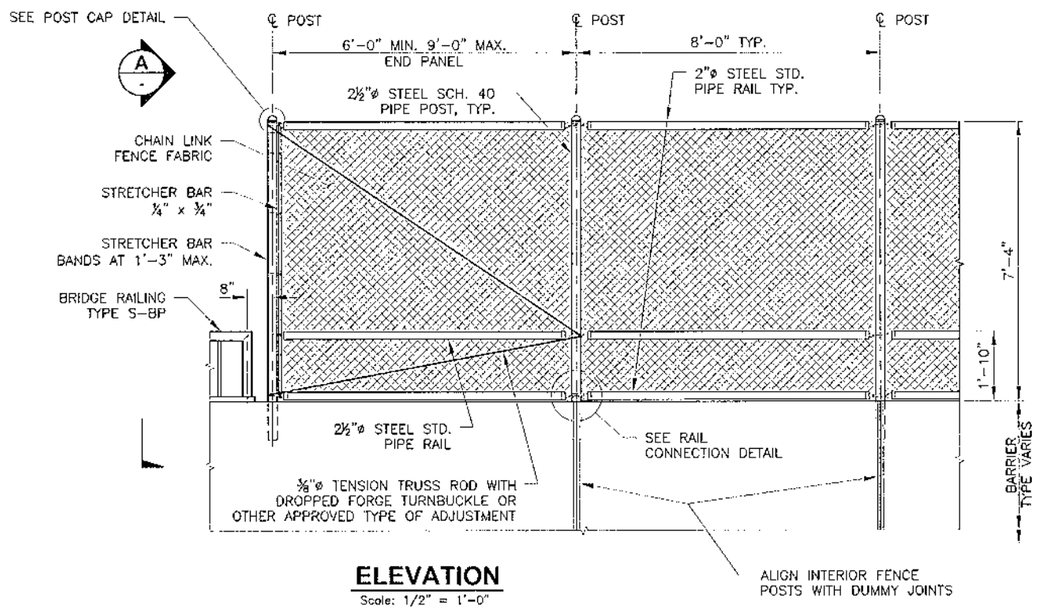
PEDESTRIAN BARRIER 4 OF 4 (S-52)

1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

SHEET 101 OF 117



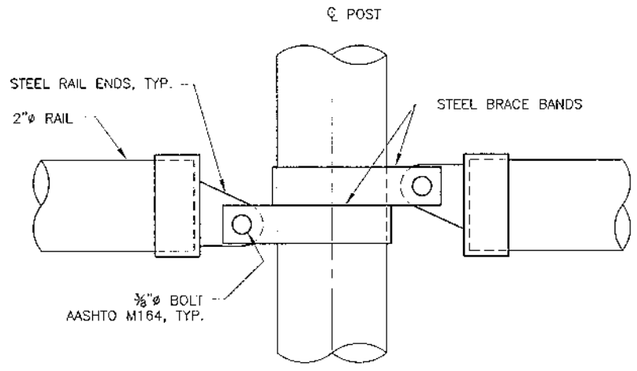
POST CAP DETAIL
Scale: 6" = 1'-0"



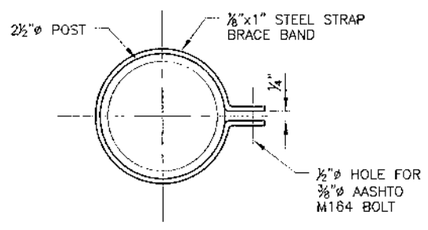
ELEVATION
Scale: 1/2" = 1'-0"

NOTES

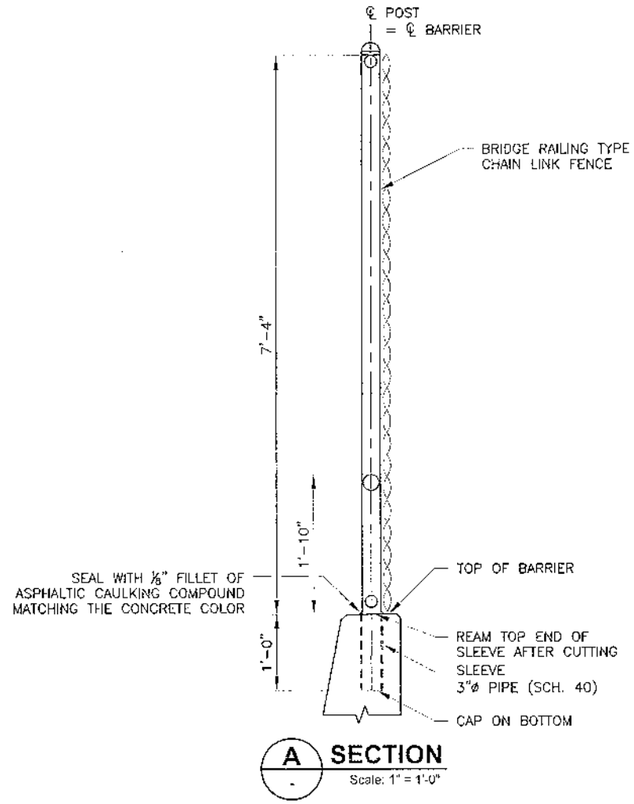
1. FENCING IS DESIGNED ACCORDING TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 7TH EDITION WITH 2015 INTERIM REVISIONS.
2. APPLIED LOADING IS 0.015 KSF ACCORDING TO AASHTO LRFD SUBSECTION 13.8.2.
3. INSTALL ALL POSTS NORMAL TO GRADE IN THE LONGITUDINAL DIRECTION AND PLUMB IN THE TRANSVERSE DIRECTION.
4. STRETCH CHAIN LINK FABRIC AND FASTEN TO VERTICAL POSTS AT 1'-3" MAX. CENTERS AND 2'-0" MAX. CENTERS TO HORIZONTAL RAILS.
5. PROVIDE STEEL PIPE FOR POSTS AND RAILS CONFORMING TO ASTM SPECIFICATION A53 GRADE B, TYPE E OR S, GALVANIZED.
6. PROVIDE STEEL PLATES AND SHAPES CONFORMING TO AASHTO M183 (ASTM SPECIFICATION A36) AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111..
7. PROVIDE BOLTS, NUTS AND WASHERS CONFORMING TO AASHTO M164 (ASTM A325), WSDOT SPECIFICATION 9-06.5(3). GALVANIZE AFTER FABRICATION IN ACCORDANCE WITH AASHTO M232.
8. PROVIDE 9 GAGE WIRE FOR CHAIN LINK FENCE FABRIC WOVEN IN A 2 INCH DIAMOND MESH WITH KNUCKLE, TOP AND BOTTOM. FABRIC SHALL BE GALVANIZED CONFORMING TO AASHTO A392, CLASS 1.
9. PROVIDE FITTINGS AND HARDWARE IN ACCORDANCE WITH WSDOT SPECIFICATION 9-16.1.
10. OMIT LONGITUDINAL RAILS AND ALLOW CHAIN LINK FABRIC TO BE BULGED 1½" OUT OF PLANE TO ALLOW FOR EXPANSION BETWEEN POSTS ON EITHER SIDE OF AN EXPANSION JOINT. PLACE POST CENTERLINE 1'-0" FROM CLOSEST EDGE OF EXPANSION JOINT UNLESS SHOWN OTHERWISE.
11. CHAIN LINK FABRIC SHALL BE WITHIN ¼" OF CONCRETE SURFACE.
12. PROVIDE NO MORE THAN TWO FABRIC SPLICES PER RUN AND SPACED NO CLOSER THAN 50 FEET.



RAIL CONNECTION DETAIL
Scale: 6" = 1'-0"



BRACE BAND
Scale: 6" = 1'-0"



A - SECTION
Scale: 1" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

REVISIONS | NO. | DATE

PROJECT A/C: ESSD510-8
FED. AID NO.: BRS-M25(008)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

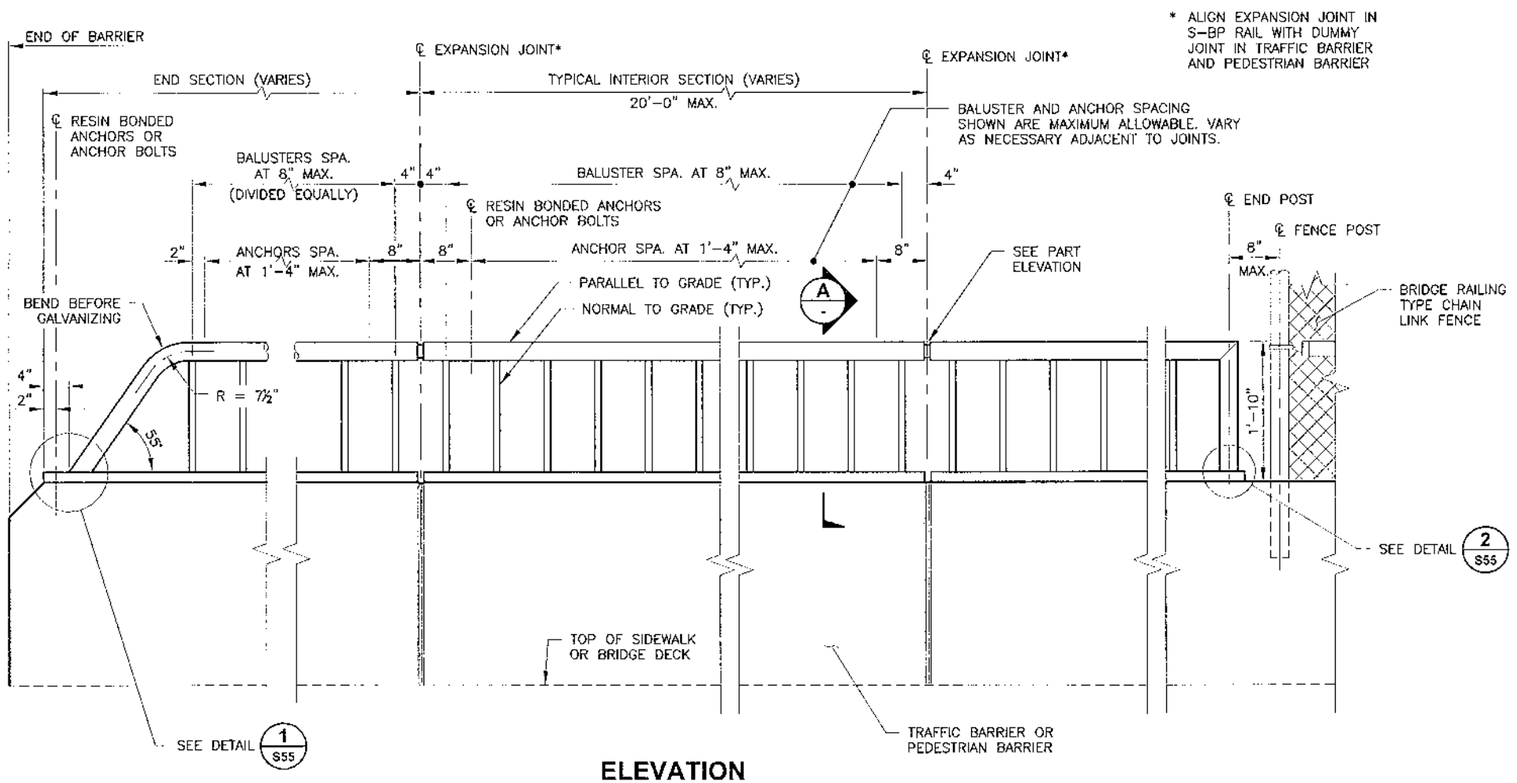
BURLINGTON NORTHERN OVERPASS PROJECT

BRIDGE RAILING TYPE CHAIN LINK FENCE (S-53)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 102 OF 117

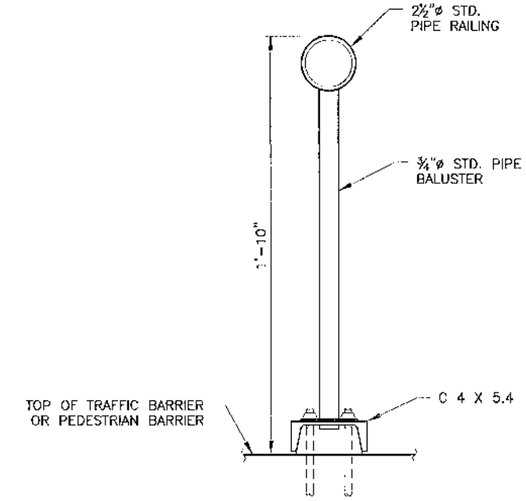
SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Pacific Way Suite A-B
Bellingham WA 98225
(206) 783-7690



ELEVATION

Scale: 1" = 1'-0"

BALUSTER ATTACHMENT DETAILS NOT SHOWN



A - SECTION

Scale: 3" = 1'-0"

MAT'L	PART	MATERIAL SPECIFICATION
STEEL	PIPES	ASTM A 53 GRADE B SCHEDULE 40 (STD. PIPE) GALVANIZED IN ACCORDANCE WITH AASHTO M 111.
	WASHERS	ASTM A 193 GRADE B7 GALVANIZED IN ACCORDANCE WITH AASHTO M 232.
	PLATES/BAR CHANNELS	ASTM A 36 GALVANIZED IN ACCORDANCE WITH AASHTO M 111
	DRIVE PINS	ASTM A 276 TYPE 302 STAINLESS STEEL
	ANCHOR BOLTS	ASTM F 593 TYPE 302 STAINLESS STEEL
NUTS		TAMPER-PROOF TYPE OF EITHER CLEAR ANODIZED ALUMINUM OR ZINC ALLOY

NOTES

1. SHOP DRAWINGS OF RAILING SHALL BE SUBMITTED FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION, GALVANIZING AND INCLUDING AN ERECTION DIAGRAM. MATERIAL SPECIFICATIONS SHALL BE PROVIDED IN THE SHOP DRAWINGS FOR ALL COMPONENTS.
2. CUTTING SHALL BE DONE BY SAWING OR MILLING AND ALL CUTS SHALL BE TRUE AND SMOOTH.
3. PIPE RAILING, PIPE BALUSTERS, RAILING SPLICE AND CHANNELS SHALL BE ADEQUATELY WRAPPED TO ENSURE SURFACE PROTECTION DURING HANDLING AND TRANSPORTATION TO THE JOB SITE.
4. WELDING SHALL CONFORM TO AWS D1.1.
5. PIPE RAILING AND SPLICES MAY BE HEATED TO FACILITATE FORMING OR BENDING.
6. BRIDGE RAILING SHALL BE HOT DIP GALVANIZED AFTER FABRICATION PER AASHTO M111. ALL COMPONENTS OF RAIL PANEL, POSTS, AND SPLICE SLEEVES SHALL HAVE ALL SURFACES HOT DIP GALVANIZED PRIOR TO ASSEMBLY.
7. REPAIR ALL GALVANIZED STEEL SURFACES DAMAGED BY FIELD OPERATIONS BY PAINTING THE DAMAGED AREAS WITH TWO COATS OF PAINT CONFORMING TO SPECIFICATION 9-08.1(2)B.

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SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-M129(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

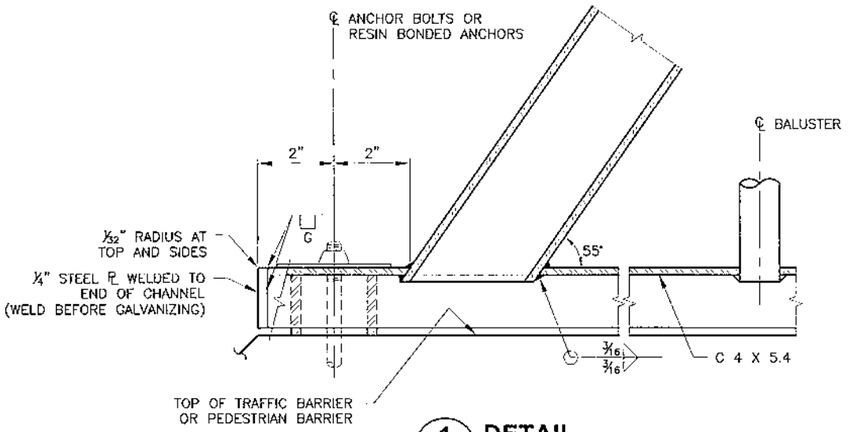
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

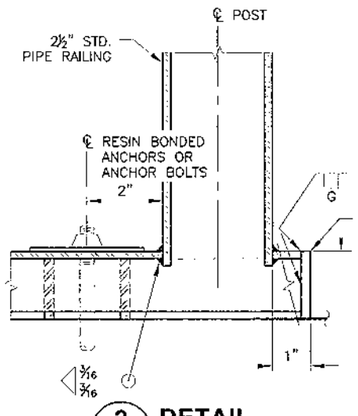
BRIDGE RAILING TYPE S-BP 1 OF 2 (S-54)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

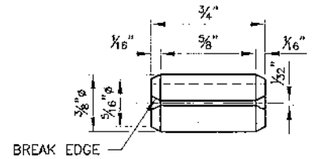
SHEET 103 OF 117



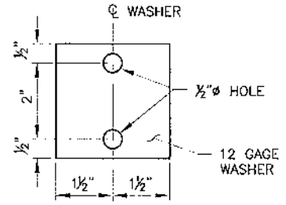
1 S54 DETAIL
Scale: 6" = 1'-0"



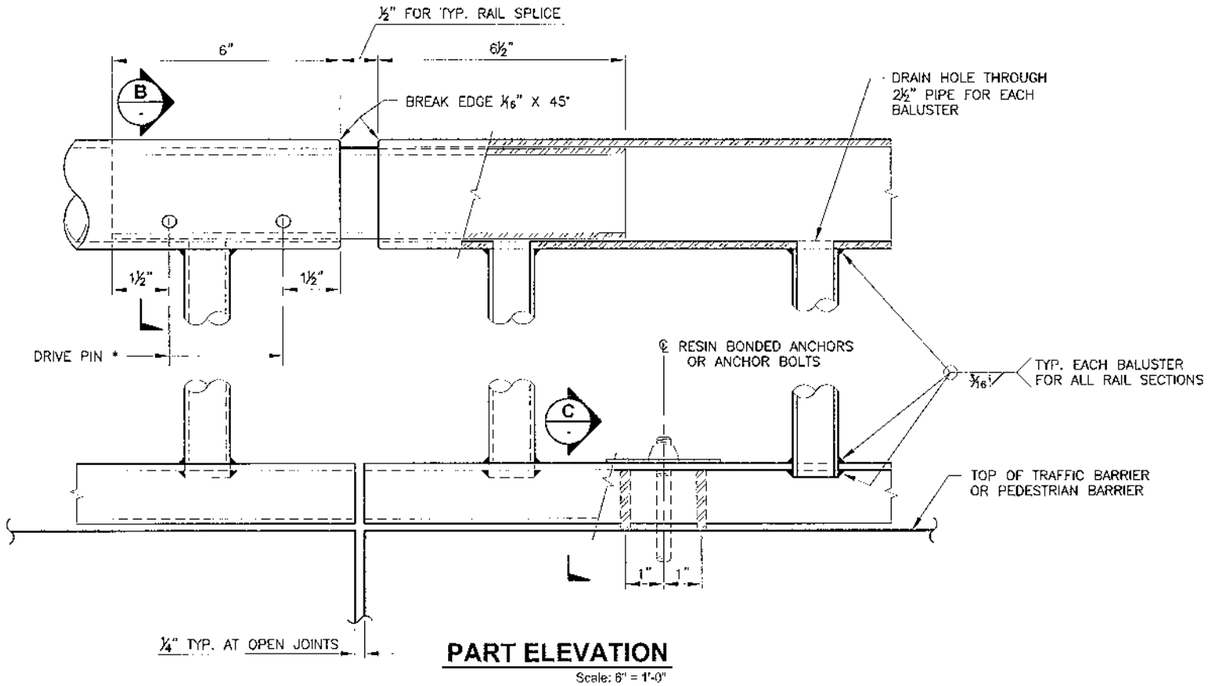
2 S54 DETAIL
Scale: 6" = 1'-0"



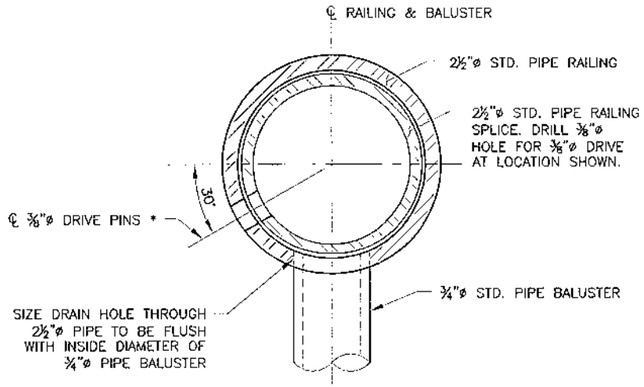
DRIVE PIN DETAIL
Scale: 2"=1"
SLOTTED TYPE SPRING PIN (ANSI B18.8.2)



WASHER DETAIL
Scale: 6" = 1'-0"
HOT DIP GALVANIZE AFTER FABRICATION

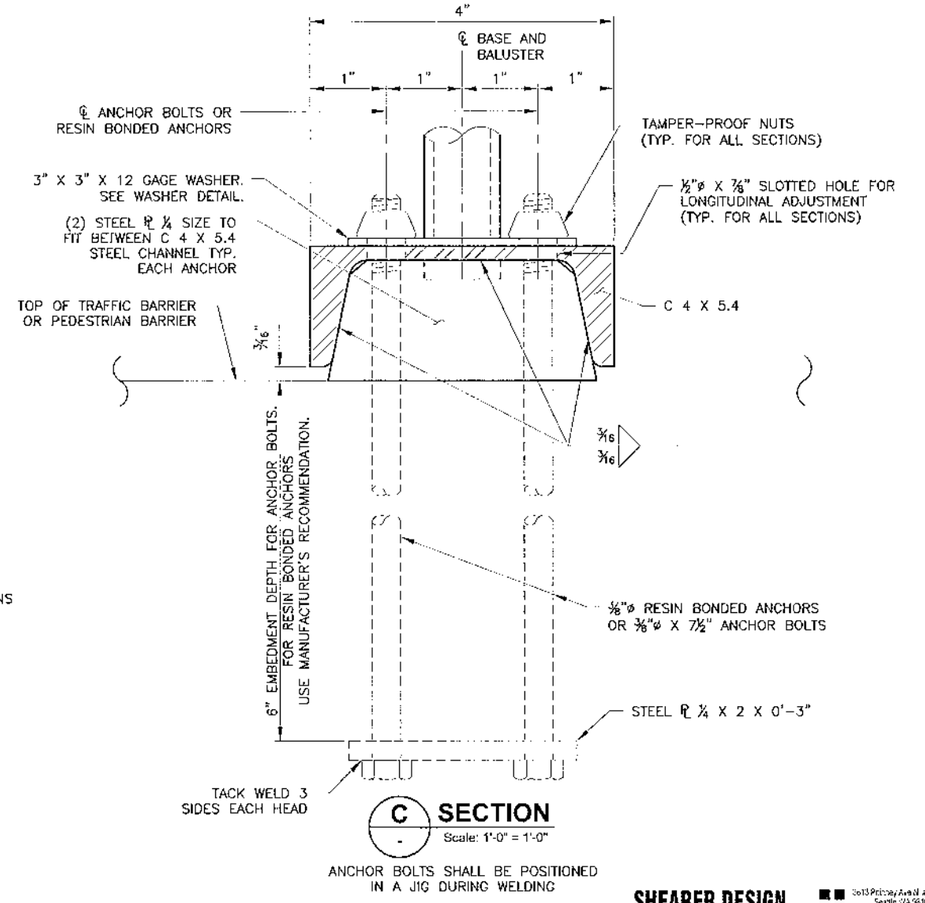


PART ELEVATION
Scale: 6" = 1'-0"



B SECTION
Scale: 1'-0" = 1'-0"

* LOCATE ON OPPOSITE SIDE OF TRAFFIC. DRIVE PINS SHALL BE DRIVEN FLUSH WITH THE OUTSIDE FACE OF THE RAILING.



C SECTION
Scale: 1'-0" = 1'-0"

ANCHOR BOLTS SHALL BE POSITIONED IN A JIG DURING WELDING

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE
6		10/10/16

PROJECT NO.: ES56510-8
FED. AID NO.: BRS-M32(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

BRIDGE RAILING TYPE S-BP 2 OF 2 (S-55)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 104 OF 117

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
2613 Pritchard Ave W #3
Seattle WA 98199
(206) 781-7950

S = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES
L = LUMP SUM QUANTITY
T = TRANSVERSE OR E = EARTHQUAKE
E = BAR IS TO EPOXY COATED
V = BAR DIMENSIONS VARY BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE

MARK NO.	LOCATION	SIZE	NO. REQUIRED	BEND TYPE	TIE OR STIR	LUMP SUM	SUBSTRUCTURE	EPOXY COAT	VARIES	NO. EACH	DIMENSIONS (OUT TO OUT) U FT	U IN	W FT	W IN	X FT	X IN	Y FT	Y IN	Z FT	Z IN	θ1 DEG.	θ2 DEG.	LENGTH FT	LENGTH IN	MASS LB
	PIER 1 SHAFTS																								
S141	LONGIT	14	75	89			S				63	7.0	0	0.0									63	7.0	36479
S601	SPIRAL TOP	6	3	67			S				5	4.0	6	3.0	0	4.5	0	8.0	60	0.0			279	1.3	1758
S602	SPIRAL BOT	6	3	67			S				5	4.0	57	0.0	0	9.0	0	8.0	60	0.0			1273	8.6	5739
	PIER 2 SHAFTS																								
S142	LONGIT	14	96	90			S				60	0.0											60	0.0	44062
S143	LONGIT	14	192	89			S				79	7.0	0	0.0									79	7.0	116887
S603	SPIRAL TOP	6	4	67			S				6	11.8	6	9.0	0	4.5	0	8.0	60	0.0			395	9.1	2378
S604	SPIRAL BOT	6	4	67			S				6	11.8	72	6.0	0	6.0	0	8.0	60	0.0			3188	5.4	19154
	PIER 3 SHAFTS																								
S142	LONGIT	14	96	90			S				60	0.0											60	0.0	44062
S143	LONGIT	14	192	89			S				79	7.0	0	0.0									79	7.0	116887
S603	SPIRAL TOP	6	4	67			S				6	11.8	6	9.0	0	4.5	0	8.0	60	0.0			395	9.1	2378
S604	SPIRAL BOT	6	4	67			S				6	11.8	72	6.0	0	6.0	0	8.0	60	0.0			3188	5.4	19154
	PIER 4 SHAFTS																								
S144	LONGIT	14	75	89			S				59	7.0	0	0.0									59	7.0	36185
S601	SPIRAL TOP	6	3	67			S				5	4.0	6	3.0	0	4.5	0	8.0	60	0.0			279	1.3	1758
S605	SPIRAL BOT	6	3	67			S				5	4.0	53	0.0	0	9.0	0	8.0	60	0.0			1184	4.0	5336
	PIER 1 COLUMNS																								
C100	LONGIT.	10	75	90		S					41	9.0											41	9.0	8085
C501	SPIRAL	5	3	67		S					3	8.0	4	3.0	0	7.0	0	8.0	60	0.0			83	9.1	262
C502	SPIRAL	5	3	67		S					3	8.0	8	0.0	0	4.0	0	8.0	60	0.0			275	8.1	862
C503	SPIRAL	5	3	67		S					3	8.0	6	0.0	0	4.0	0	8.0	60	0.0			206	9.1	647
C504	SPIRAL	5	3	67		S					3	8.0	2	0.0	0	4.0	0	8.0	60	0.0			68	11.0	216
C505	SPIRAL	5	3	67		S					3	8.0	2	0.0	0	6.0	0	8.0	60	0.0			45	11.6	144
C506	SPIRAL	5	3	67		S					3	8.0	19	0.3	0	7.0	0	8.0	60	0.0			374	10.5	1173
	PIER 2 COLUMNS																								
C101	LONGIT. LT	10	24	90		S					49	0.8											49	0.8	5368
C102	LONGIT. CTR-LT	10	24	90		S					48	11.5											48	11.5	5356
C103	LONGIT. CTR RT	10	24	90		S					48	8.3											48	8.3	5028
C104	LONGIT. RT	10	24	90		S					48	1.0											48	1.0	4966
C651	SPIRAL	6	4	67		S					4	8.0	4	9.0	0	7.0	0	8.0	60	0.0			119	2.2	716
C652	SPIRAL	6	4	67		S					4	8.0	9	0.0	0	4.0	0	8.0	60	0.0			394	11.6	2373
C653	SPIRAL	6	4	67		S					4	8.0	7	0.0	0	4.0	0	8.0	60	0.0			307	2.4	1845
C654	SPIRAL	6	4	67		S					4	8.0	1	6.0	0	4.0	0	8.0	60	0.0			65	9.9	395
C655	SPIRAL	6	4	67		S					4	8.0	5	0.0	0	6.0	0	8.0	60	0.0			146	4.0	879
C656	SPIRAL LT	6	1	67		S					4	8.0	14	0.8	0	7.0	0	8.0	60	0.0			352	10.1	530
C657	SPIRAL CTR LT	6	1	67		S					4	8.0	13	11.5	0	7.0	0	8.0	60	0.0			350	2.8	526
C658	SPIRAL CTR-RT	6	1	67		S					4	8.0	13	8.3	0	7.0	0	8.0	60	0.0			343	6.5	516
C659	SPIRAL RT	6	1	67		S					4	8.0	13	1.0	0	7.0	0	8.0	60	0.0			328	3.3	493
	PIER 3 COLUMNS																								
C105	LONGIT. LT	10	24	90		S					46	11.0											46	11.0	4846
C106	LONGIT. CTR-LT	10	24	90		S					47	7.0											47	7.0	4914
C107	LONGIT. CTR-RT	10	24	90		S					48	1.0											48	1.0	4966
C108	LONGIT. RT	10	24	90		S					48	2.0											48	2.0	4975
C651	SPIRAL	6	4	67		S					4	8.0	4	9.3	0	7.0	0	8.0	60	0.0			119	2.2	716
C652	SPIRAL	6	4	67		S					4	8.0	9	9.3	0	4.0	0	8.0	60	0.0			394	11.6	2373
C653	SPIRAL	6	4	67		S					4	8.0	7	9.3	0	4.0	0	8.0	60	0.0			307	2.4	1845
C654	SPIRAL	6	4	67		S					4	8.0	1	6.0	0	4.0	0	8.0	60	0.0			65	9.9	395
C655	SPIRAL	6	4	67		S					4	8.0	5	9.0	0	6.0	0	8.0	60	0.0			146	4.0	879
C660	SPIRAL LT	6	1	67		S					4	8.0	11	11.5	0	7.0	0	8.0	60	0.0			300	0.5	451
C661	SPIRAL CTR-LT	6	1	67		S					4	8.0	12	7.3	0	7.0	0	8.0	60	0.0			316	3.0	475
C662	SPIRAL CTR-RT	6	1	67		S					4	8.0	13	1.3	0	7.0	0	8.0	60	0.0			328	10.8	494
C663	SPIRAL RT	6	1	67		S					4	8.0	13	2.0	0	7.0	0	8.0	60	0.0			330	4.4	496

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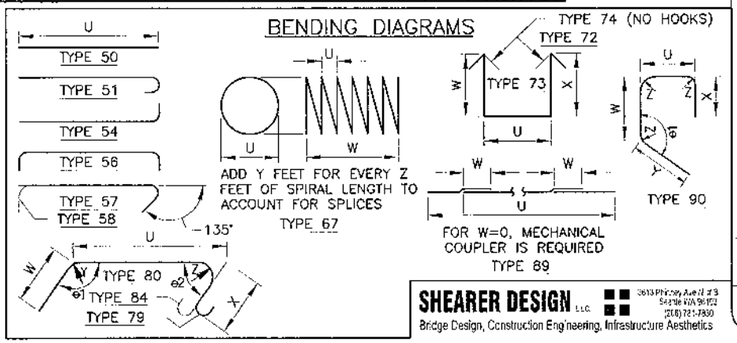
MARK NO.	LOCATION	SIZE	NO. REQUIRED	BEND TYPE	TIE OR STIR	LUMP SUM	SUBSTRUCTURE	EPOXY COAT	VARIES	NO. EACH	DIMENSIONS (OUT TO OUT) U FT	U IN	W FT	W IN	X FT	X IN	Y FT	Y IN	Z FT	Z IN	θ1 DEG.	θ2 DEG.	LENGTH FT	LENGTH IN	MASS LB
	PIER 4 COLUMNS																								
C109	LONGIT.	10	45	90			S				37	2.0											37	2.0	7197
C501	SPIRAL	5	3	67			S				3	8.0	4	3.0	0	7.0	0	8.0	60	0.0			83	9.1	262
C502	SPIRAL	5	3	67			S				3	8.0	8	0.0	0	4.0	0	8.0	60	0.0			275	8.1	862
C503	SPIRAL	5	3	67			S				3	8.0	6	0.0	0	4.0	0	8.0	60	0.0			206	9.1	647
C504	SPIRAL	5	3	67			S				3	8.0	2	0.0	0	4.0	0	8.0	60	0.0			68	11.0	216
C505	SPIRAL	5	3	67			S				3	8.0	2	0.0	0	6.0	0	8.0	60	0.0			45	11.6	144
C507	SPIRAL	5	3	67			S				3	8.0	14	5.3	0	7.0	0	8.0	60	0.0			284	6.5	890
	PIER 1 CAP AND END DIAPH.																								
P111	CAP LONGIT.	11	40	56			S				43	0.0											46	3.7	2460
P112	CAP LONGIT.	11	10	56			S				42	9.0											46	0.7	2447
P113	CAP LONGIT.	11	10	56			S				43	4.5											46	8.2	2480
P114	CAP LONGIT.	11	10	56			S				43	1.5											46	5.2	2467
P115	END DIAPH LONGIT.	11	6	56		L					43	10.9											47	1.7	1503
P116	END DIAPH LONGIT.	11	6	56		L					44	6.9											47	9.7	1564
P117	CORBEL TOP LONGIT.	11	4	96		L					19	0.0											22	3.7	474
P501	CAP LONGIT.	5	24	56			S				45	0.0											45	0.0	1126
P301	END DIAPH LONGIT.	5	22	90		L					45	0.0											45	0.0	1032
P302	CAP TRANSV.	5	124	74	T		S				2	2.0	2	6.0	2	6.0							6	11.4	872
P303	END DIAPH KEY TRANSV.	5	88	74	T						1	8.0	2	6.0	2	6.0							5	5.4	500
P304	END DIAPH TIE	5	23	58	T	L					2	6.0											3	3.9	80
P305	END DIAPH LONGIT.	5	6	90		L					19	0.0											19	0.0	119
P308	DIAPH END CAP	5	14	74		E					2	4.0	3	0.0	3	0.0							8	0.9	118
P599	CAP LONGIT.	5	5	90			S				8	0.0											8	0.0	42
P501	CAP STIRRUP	6	62	72	T		S				5	8.0	4	4.0	4	4.0							15	3.6	1425
P502	CAP TIE	6	122	58	T		S				5	9.0											7	2.9	1326
P603	END DIAPH TRANSV.	6	88	72	T			V	2		2	5.0	6	3.0	6	3.0							15	10.7	2765
											2	5.0	6	9.0	6	9.0							16	10.7	
P503	END DIAPH TRANSV.	6	176	51		L		E			3	6.0											4	2.3	1107
P605	END DIAPH CORBEL TRANSV.	6	78	90	T	L					3	8.0	1	9.0	1	0.0	3	6.0	0	2.3	135		3	8.0	439
P520	SIDEWALL HORIZ.	5	10	50			S				6	8.0											6	8.0	70
P520	SIDEWALL HORIZ.	5	16	90			S				6	8.0											6	8.0	111
P320	SIDEWALL VERT.	6	14	90			S				11	10.0											11	10.0	243
P321	SIDEWALL TOP	6	2	74							4	8.0	2	0.0	2	0.0							8	1.2	25

NOTES:

1. REINFORCING FOR CONCRETE BARRIERS, BRIDGE APPROACH SLABS, AND GIRDERS NOT SHOWN IN THIS BARLIST.
2. THE FINAL NUMBER AND LENGTH OF BARS SHALL BE DETERMINED BY THE CONTRACTOR FROM THE PLANS.
3. BEND FOR TRANSVERSE BARS DUE TO ROADWAY CROWN CONDITIONS HAVE NOT BEEN SHOWN. THESE BARS SHALL BE BENT AS REQUIRED TO CONFORM TO THE CONFIGURATION OF THE STRUCTURE.

BENDING DIAGRAMS



SHEARER DESIGN LLC
3613 Phinney Ave N #3, Seattle WA 98103
(206) 781-7830
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1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE
1		10/10/16

PROJECT NO.: ES505103
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

BARLIST 1 OF 3 (S-56)

1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

SHEET 105 OF 117

S = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES
L = LUMP SUM QUANTITY
T = TRANSVERSE OR E = EARTHQUAKE
E = BAR IS TO EPOXY COATED
V = BAR DIMENSIONS VARY BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE

MARK NO.	LOCATION	SIZE	NO. REQUIRED	BEND TYPE	TIE OR STIR	LUMP SUM	SUBSTRUCTURE	EPOXY COAT	VARIES	NO. EACH	DIMENSIONS (OUT TO OUT) U FT	U IN	W FT	W IN	X FT	X IN	Y FT	Y IN	Z FT	Z IN	θ1 DEG.	θ2 DEG.	LENGTH FT	LENGTH IN	MASS LB
	PIER 2 CAP AND PIER DIAPH.																								
P151	CAP LONGIT.	11	12	56			S				55	3.0											56	7.8	3612
P152	CAP LONGIT.	11	12	56			S				36	6.0											38	1.8	2433
P153	CAP LONGIT.	11	12	56			S				56	3.0											57	7.8	3676
P154	CAP LONGIT.	11	12	56			S				37	6.0											39	1.8	2496
P155	DIAPH. LONGIT. TOP	11	12	56	L			S			58	0.0											59	7.8	3803
P156	DIAPH. LONGIT. TOP	11	12	56	L			E			39	3.0											40	7.8	2592
P551	CAP LONGIT.	5	22	89			S				95	8.0	3	0.0									96	8.0	2218
P551	DIAPH. LONGIT.	5	14	89	L						90	8.0	3	0.0									96	8.0	1411
P552	DIAPH. LONGIT.	5	96	50	L						12	9.0											12	0.0	1201
P553	TIES	5	216	51		L					4	6.0											5	0.9	1143
P561	SIDEWALL HORIZ.	5	14	50	T		S				17	4.0											17	4.0	253
P561	SIDEWALL HORIZ.	5	16	50	T		S				17	4.0											17	4.0	289
P562	OBTUSE CORNERS	5	14	90	T	L					2	0.0	2	0.0	0	0.0	0	4.5	0	0.0	150		3	11.8	58
P562	OBTUSE CORNERS	5	16	90	T	L					2	0.0	2	0.0	0	0.0	0	4.5	0	0.0	150		3	11.8	66
P563	ACUTE CORNERS	5	14	90	T		S				2	0.0	2	0.0	0	0.0	0	4.5	0	0.0	90		2	1.4	31
P563	ACUTE CORNERS	5	16	90	T		S				2	0.0	2	0.0	0	0.0	0	4.5	0	0.0	90		2	1.4	35
P651	CAP STIRRUP	6	111	72	T		S				7	8.0	6	8.0	6	8.0							21	11.7	3663
P652	CAP TIE TOP	6	181	58	T		S				7	9.0											9	2.9	2511
P653	CAP VERT.	6	262	56	T		S				14	2.0											15	7.9	6160
P654	DIAPH. TIE	6	82	58	T	T			F		5	1.0											6	6.9	809
P655	DIAPH. TOP TIE	6	121	58	T	T			F		5	0.0											6	5.9	1179
P656	CAP VERT.	6	120	57	T		S	E			14	8.0											15	3.7	2755
P657	CAP STIRRUP	6	34	72	T		S		V	2	1	8.0	6	8.0	6	8.0							15	11.7	977
											8	0.0	6	8.0	6	8.0							22	3.6	
P658	CAP TIE TOP	6	34	58	T		S		V	2	1	9.0											3	2.9	327
											8	1.0											9	6.9	
P659	CAP TIE	6	24	58	T		S		V	2	3	3.0											4	8.9	235
											6	10.0											8	3.9	
P660	SIDEWALL VERT.	6	38	50	T		S				14	4.0											14	4.0	818
P662	DIAPH. TIE	6	12	38	T	L			V	2	1	8.0											3	1.9	78
											4	0.0											5	5.9	
P663	DIAPH TOP TIE	6	20	58	T	T		E	V	2	1	10.0											3	3.9	135
											4	2.0											5	7.9	
P670	SPIRAL	6	4	67		L					4	8.0	6	10.0	0	6.0	0	8.0	60	0.0			199	11.9	1201
	PIER 3 CAP AND PIER DIAPH.																								
P151	CAP LONGIT.	11	12	56			S				55	0.0											56	7.8	3612
P152	CAP LONGIT.	11	12	56			S				36	6.0											38	1.8	2433
P153	CAP LONGIT.	11	12	56			S				56	0.0											57	7.8	3676
P154	CAP LONGIT.	11	12	56			S				37	6.0											39	1.8	2496
P155	DIAPH. LONGIT. TOP	11	12	56		L		S			58	9.0											59	7.8	3803
P156	DIAPH. LONGIT. TOP	11	12	56		L		E			39	0.0											40	7.8	2592
P551	CAP LONGIT.	5	22	89			S				96	8.0	3	0.0									96	8.0	2218
P551	DIAPH. LONGIT.	5	14	89	L						90	8.0	3	0.0									96	8.0	1411
P552	DIAPH. LONGIT.	5	96	90	L						12	0.0											12	0.0	1201
P553	TIES	5	216	51		L					4	6.0											5	0.9	1143
P561	SIDEWALL HORIZ.	5	14	50	T		S				17	4.0											17	4.0	253
P561	SIDEWALL HORIZ.	5	16	50	T		S				17	4.0											17	4.0	289
P562	OBTUSE CORNERS	5	14	90	T		S				2	0.0	2	0.0	0	0.0	0	4.5	0	0.0	150		3	11.8	58
P562	OBTUSE CORNERS	5	16	90	T	L					2	0.0	2	0.0	0	0.0	0	4.5	0	0.0	150		3	11.8	66
P563	ACUTE CORNERS	5	14	90	T		S				2	0.0	2	0.0	0	0.0	0	4.5	0	0.0	90		2	1.4	31
P563	ACUTE CORNERS	5	16	90	T		S				2	0.0	2	0.0	0	0.0	0	4.5	0	0.0	90		2	1.4	35
P651	CAP STIRRUP	6	111	72	T		S				7	8.0	6	8.0	6	8.0							21	11.7	3663
P652	CAP TIE TOP	6	181	58	T		S				7	9.0											9	2.9	2511
P653	CAP VERT.	6	262	56	T		S				14	2.0											15	7.9	6160
P654	DIAPH. TIE	6	82	58	T	T					5	1.0											6	6.9	809
P655	DIAPH. TOP TIE	6	121	58	T	T		E			5	0.0											6	5.9	1179
P656	CAP VERT.	6	120	57	T		S	E			14	8.0											15	3.7	2759
P657	CAP STIRRUP	6	34	72	T		S		V	2	1	8.0	6	8.0	6	8.0							15	11.7	977
											8	0.0	6	8.0	6	8.0							22	3.6	
P658	CAP TIE TOP	6	34	58	T		S		V	2	1	9.0											3	2.9	327
											8	1.0											9	6.9	
P659	CAP TIE	6	24	58	T		S		V	2	3	3.0											4	8.9	235
											6	10.0											8	3.9	
P660	SIDEWALL VERT.	6	38	50	T		S				14	4.0											14	4.0	818

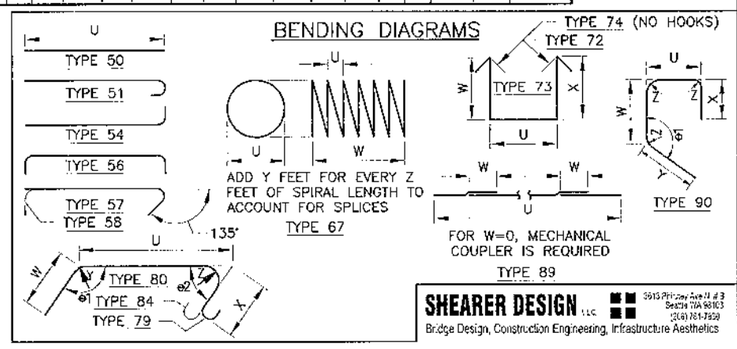
S = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES
L = LUMP SUM QUANTITY
T = TRANSVERSE OR E = EARTHQUAKE
E = BAR IS TO EPOXY COATED
V = BAR DIMENSIONS VARY BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE

MARK NO.	LOCATION	SIZE	NO. REQUIRED	BEND TYPE	TIE OR STIR	LUMP SUM	SUBSTRUCTURE	EPOXY COAT	VARIES	NO. EACH	DIMENSIONS (OUT TO OUT) U FT	U IN	W FT	W IN	X FT	X IN	Y FT	Y IN	Z FT	Z IN	θ1 DEG.	θ2 DEG.	LENGTH FT	LENGTH IN	MASS LB
P662	DIAPH. TIE	6	12	38	T	L			V	2	1	8.0											3	1.9	78
											4	0.0											5	5.9	
P663	DIAPH TOP TIE	6	20	58	T	T		E	V	2	1	10.0											3	3.9	135
											4	2.0											5	7.9	
P670	SPIRAL	6	4	67		L					4	8.0	6	10.0	0	6.0	0	8.0	60	0.0			199	11.9	1201
	PIER 4 CAP AND END DIAPH.																								
P112	CAP LONGIT.	11	19	56			S				42	9.0											46	0.7	2447
P113	CAP LONGIT.	11	10	56			S				43	4.5											46	8.2	2480
P114	CAP LONGIT.	11	10	56			S				43	1.5											46	5.2	2467
P115	END DIAPH. LONGIT.	11	6	56		L					43	10.0											47	1.7	1503
P116	END DIAPH. LONGIT.	11	6	56		L					44	6.0											47	9.7	1524
P117	CORBT. TOP LONGIT.	11	4	56		L					19	0.0											22	3.7	474
P501	CAP LONGIT.	5	22	89			S				45	0.0											45	0.0	1126
P501	END DIAPH. LONGIT.	5	22	89		L					45	0.0											45	9.0	1932
P502	CAP TRANSV.	5	124	74			S				2	2.0	2	6.0	2	6.0							6	11.4	899
P503	END DIAPH. KEY TRANSV.	5	88	74		L					0	8.0	2	6.0	2	6.0							5	5.4	500
P504	END DIAPH. TIE	5	23	58		L					2	6.0											3	3.9	80
P505	END DIAPH. LONGIT.	5	6	56		L					19	0.0											19	0.0	119
P506	DIAPH. END CAP	5	14	74		L					2	4.3	3	0.0	3	0.0							8	1.4	119
P599	CAP LONGIT.	5	5	50			S				8	0.0											8	0.0	42
P601	CAP STIRRUP	6	62	72			S				5	8.0	4	4.0	4	4.0							15	3.6	1425
P602	CAP TIE	6	122	58			S				5	9.0											7	2.9	1326
P603	END DIAPH. TRANSV.	6	88	72		L			V	2	2	5.0	6	3.0	6	3.0							15	10.7	2156
											2	5.0	6	9.0	6	9.0							16	10.7	
P604	END DIAPH. TRANSV.	6	176	51		L		E			3	6.3											4	2.3	1107
P605	END DIAPH. CORBT. TRANSV.	6	78	90		L					3	8.0	1	9.0	1	0.0	3	6.0	0	2.3	135		3	8.0	430
P520	SIDEWALL HORIZ.	5	10	50			S				6	8.0											6	8.0	70
P520	SIDEWALL HORIZ.	5	16	50		L					6	8.0											6	8.0	111
P620	SIDEWALL VERT.	6	14	50			S				11	10.0											11	10.0	249
P621	SIDEWALL TOP	6	2	74		L					4	8.9	2	0.0	2	0.0							8	4.2	25
P111	CAP LONGIT.	11	10	56			S				43	3.0											46	3.7	2460
	INTERMEDIATE DIAPH.																								
1401	TRANSV.	4	430	74		L					0	5.0	6	0.0	6	0.0							12	2.9	3926
1402	TRANSV.	4	350	74		L					0	5.0	4	5.9	4	5.0							9	0.9	2383
1411	LONGIT. SIDE 1-1 & 3-3	4	96	50		L					6	2.0											6	2.0	395
1412	LONGIT. SIDE 1-2 & 3-2	4	96	50		L					7	4.0											7	7.9	486
1413	LONGIT. SIDE 1-3 & 3-1	4	96	50		L					9	5.0											9	5.0	604
1421	LONGIT. SPAN 2, ALL	4	192	50		L					11	7.0											11	7.0	1485
1611	LONGIT. TOP 1-1 & 3-3	6	4	89		L	S				49	0.0	3	3.0									49	0.0	294
1612	LONGIT. TOP 1-2 & 3-2	6	4	89		L	S				59	6.0	3	9.0									59	6.9	352
1613	LONGIT. TOP 1-3 & 3-1	6	4	89		L	S				73	9.0	3	3.0									76	9.0	461
1621	LONGIT. TOP SPAN 2, ALL	6	8	89		L	S				90	4.0	3	3.0									93	4.0	1121
1711	LONGIT. THRU 1-1 & 3-3	7	6	89		L					41	7.0	3	6.0									41	7.0	310
1712	LONGIT. THRU 1-2 & 3-2	7	6	89		L					50	6.0	3	6.0									53	6.0	619
1713	LONGIT. THRU 1-3 & 3-1	7	6	89		L					62	7.0	3	6.0									66	1.0	810
1721	LONGIT. THRU SPAN 2, ALL	7	12	89		L					76	7.0	3	6.0									80	1.0	1964

NOTES:

1. REINFORCING FOR CONCRETE BARRIERS, BRIDGE APPROACH SLABS AND GIRDERS NOT SHOWN IN THIS BARLIST.
2. THE FINAL NUMBER AND LENGTH OF BARS SHALL BE DETERMINED BY THE CONTRACTOR FROM THE PLANS.
3. BEND FOR TRANSVERSE BARS DUE TO ROADWAY CROWN CONDITIONS HAVE NOT BEEN SHOWN. THESE BARS SHALL BE BENT AS REQUIRED TO CONFORM TO THE CONFIGURATION OF THE STRUCTURE.

BENDING DIAGRAMS



SHEARER DESIGN LLC
5613 Phinney Ave N # B, Seattle WA 98103
(314) 761-7690
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

REVISIONS | NO. | DATE

PROJECT NO.: ES30510.8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

BARLIST 2 OF 3 (S-57)

1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

SHEET 106 OF 117

S = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES
L = LUMP SUM QUANTITY
T = TRANSVERSE OR E = EARTHQUAKE
E = BAR IS TO EPOXY COATED
V = BAR DIMENSIONS VARY BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE

MARK NO.	LOCATION	SIZE	NO. REQUIRED	BEND TYPE	TIE OR STIR	LUMP SUM	SUBSTRUCTURE	EPOXY COAT	VARIES	NO. EACH	DIMENSIONS (OUT TO OUT) U FT	U IN	W FT	W IN	X FT	X IN	Y FT	Y IN	Z FT	Z IN	θ1 DEG.	θ2 DEG.	LENGTH FT	LENGTH IN	MASS LB
	DECK																								
D501	BOT. LONGIT.	5	16	55		L		E			56	0.0											56	0.0	836
D502	BOT. LONGIT.	5	428	50		L		E			40	0.0											40	0.0	17834
D503	BOT. LONGIT.	5	10	55		L		E	V	1	16	6.0											16	0.0	272
											36	0.0											36	0.0	
D504	BOT. LONGIT.	5	10	50		L		E	V	1	25	0.0											25	0.0	365
											45	0.0											45	0.0	
D506	BOT. LONGIT.	5	50	50		L		E	V	1	5	0.0											5	0.0	1695
											60	0.0											60	0.0	
D507	BOT. LONGIT.	5	8	50		L		E	V	1	32	0.0											32	0.0	298
											39	6.0											39	6.0	
D508	BOT. LONGIT.	5	30	50		L		E	V	1	4	0.0											4	0.0	1669
											60	0.0											60	0.0	
D509	BOT. LONGIT.	5	6	50		L		E	V	1	15	0.0											15	0.0	128
											26	0.0											26	0.0	
D510	BOT. LONGIT.	5	6	50		L		E	V	1	24	0.0											24	0.0	185
											35	0.0											35	0.0	
D801	BOT. LONGIT. AT PIER	8	140	50		L		E			60	0.0											60	0.0	22426
D802	BOT. LONGIT. AT PIER	8	124	50		L		E			50	0.0											50	0.0	16552
D520	BOT. TRANSV.	5	637	50		L		E			45	0.0											45	0.0	23895
D551	TOP LONGIT	5	31	50		L		E	V	1	5	0.0											5	0.0	938
											53	0.0											53	0.0	
D552	TOP LONGIT.	5	56	50		L		E			50	0.0											50	0.0	2920
D553	TOP LONGIT	5	19	50		L		E	V	1	21	6.0											21	6.0	703
											49	6.0											49	6.0	
D554	TOP LONGIT	5	84	74		L		E			3	0.0	20	0.0	0	9.0							22	10.4	2003
D555	TOP LONGIT	5	100	50		L		E			56	0.0											56	0.0	3840
D556	TOP LONGIT.	5	25	50		L		E	V	1	11	0.0											11	0.0	792
											49	9.0											49	9.0	
D558	TOP LONGIT.	5	25	50		L		E	V	1	5	0.0											5	0.0	626
											43	0.0											43	0.0	
D851	TOP LONGIT. AT PIER	8	100	50		L		E			40	0.0											40	0.0	10679
D852	TOP LONGIT. AT PIER	8	200	50		L		E			35	0.0											35	0.0	18688
D853	TOP LONGIT. AT PIER	8	84	50		L		E			50	0.0											50	0.0	11213
D854	TOP LONGIT. AT PIER	8	168	50		L		E			20	0.0											20	0.0	8970
D570	TOP TRANSV.	5	331	50		L		E			38	0.0											38	0.0	21044
D571	TOP TRANSV.	5	2008	51		L		E			9	6.0											9	6.0	20548
D771	TOP TRANSV.	7	64	51		L		E			9	6.0											9	6.0	1282
	SIDEWALK																								
SW1	TRANSV.	4	266	74	T	L		E			5	7.0	0	4.0	0	3.0							5	6.9	991
SW2	LONGIT.	4	5	89	T	L		E			397	8.0	2	0.0									415	8.0	1388

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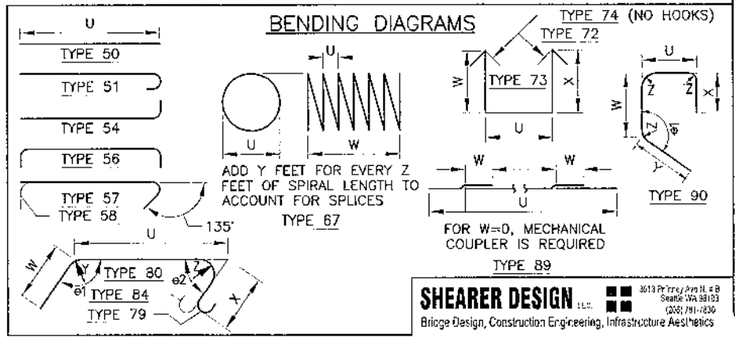
E = BAR IS TO EPOXY COATED
V = BAR DIMENSIONS VARY BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE

MARK NO.	LOCATION	SIZE	NO. REQUIRED	BEND TYPE	TIE OR STIR	LUMP SUM	SUBSTRUCTURE	EPOXY COAT	VARIES	NO. EACH	DIMENSIONS (OUT TO OUT) U FT	U IN	W FT	W IN	X FT	X IN	Y FT	Y IN	Z FT	Z IN	θ1 DEG.	θ2 DEG.	LENGTH FT	LENGTH IN	MASS LB

NOTES:

1. REINFORCING FOR CONCRETE BARRIERS, BRIDGE APPROACH SLABS AND GIRDERS NOT SHOWN IN THIS BARLIST.
2. TIE FINAL NUMBER AND LENGTH OF BARS SHALL BE DETERMINED BY THE CONTRACTOR FROM THE PLANS.
3. BEND FOR TRANSVERSE BARS DUE TO ROADWAY CROWN CONDITIONS HAVE NOT BEEN SHOWN. THESE BARS SHALL BE BENT AS REQUIRED TO CONFORM TO THE CONFIGURATION OF THE STRUCTURE.

BENDING DIAGRAMS



SHEARER DESIGN LLC
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SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

REVISIONS | NO. | DATE

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-M129(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

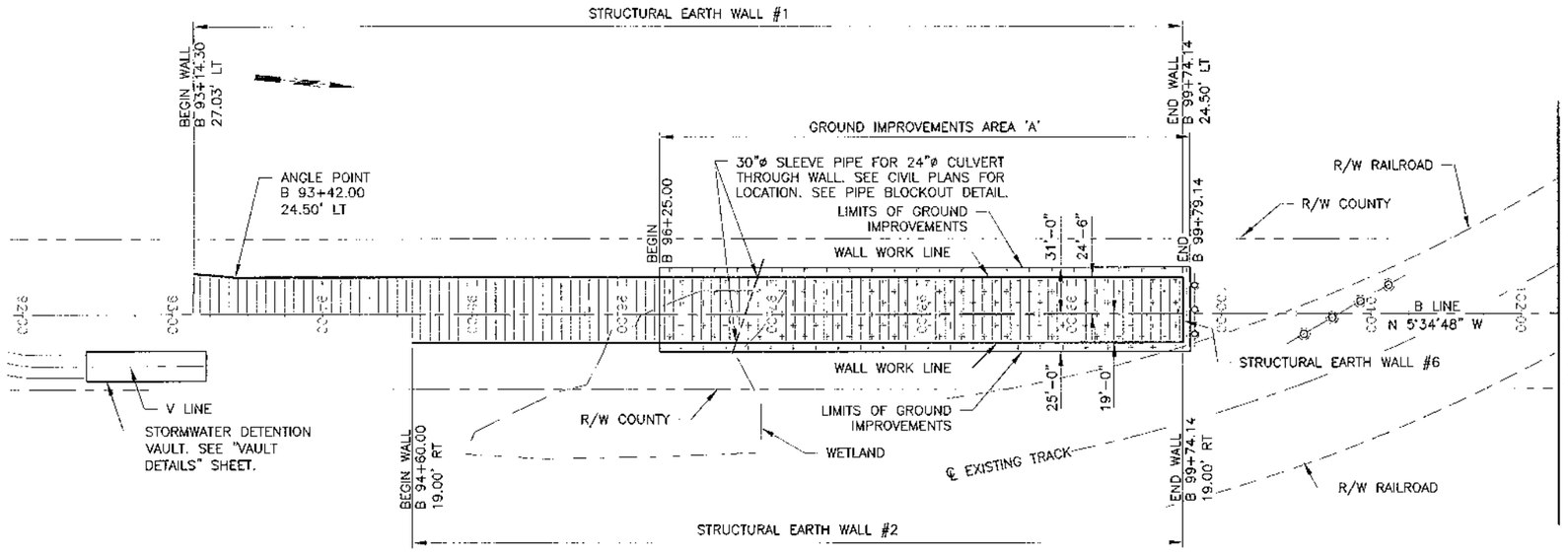
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

BARLIST 3 OF 3 (S-58)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 107 OF 117



PLAN: STRUCTURAL EARTH WALLS AND GROUND IMPROVEMENTS

Scale: 1" = 50'-0"

GROUND IMPROVEMENTS SHALL EXTEND 5'-0" FROM FACE OF WALL

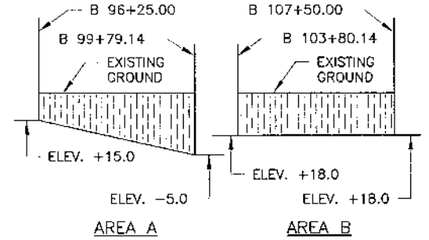
SEW GENERAL NOTES

1. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) 2016 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, AMENDMENTS, AND SPECIAL PROVISIONS.
2. PROVIDE ASHLAR STONE C SURFACE FINISH FOR STRUCTURAL EARTH WALL PANELS.
3. THE DIMENSIONS OF THE TOP ROW OF CONCRETE FACING PANELS FOR WALLS CONSTRUCTED ON GROUND IMPROVEMENTS SHALL BE BASED ON A FIELD SURVEY PERFORMED BY THE CONTRACTOR AFTER THE SETTLEMENT PERIOD IS COMPLETED.
4. SEE SPECIFICATIONS FOR GROUND IMPROVEMENT REQUIREMENTS.

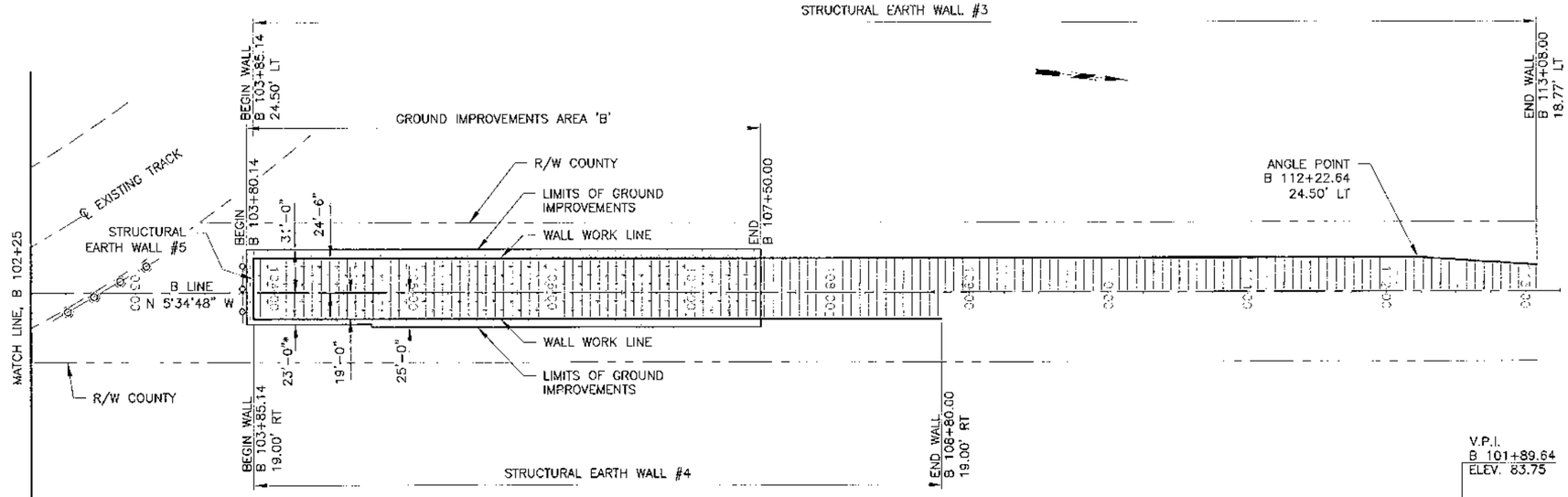
LEGEND

STRUCTURAL EARTH WALL (SEW) LIMITS

GROUND IMPROVEMENT LIMITS



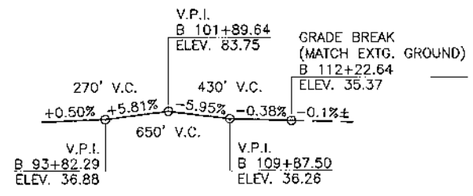
GROUND IMPROVEMENT DEPTHS



PLAN: STRUCTURAL EARTH WALLS AND GROUND IMPROVEMENTS

Scale: 1" = 50'-0"

GROUND IMPROVEMENTS SHALL EXTEND 3'-0" FROM FACE OF WALL BETWEEN B 103+80.14 TO B 104+70.00, RIGHT SIDE.
ALL OTHER LOCATIONS 5'-0" FROM FACE OF WALL.



B-LINE PROFILE

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE
1		10/10/16

PROJECT NO.: ES505(10-9
FED. AID NO.: BRS-M26(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

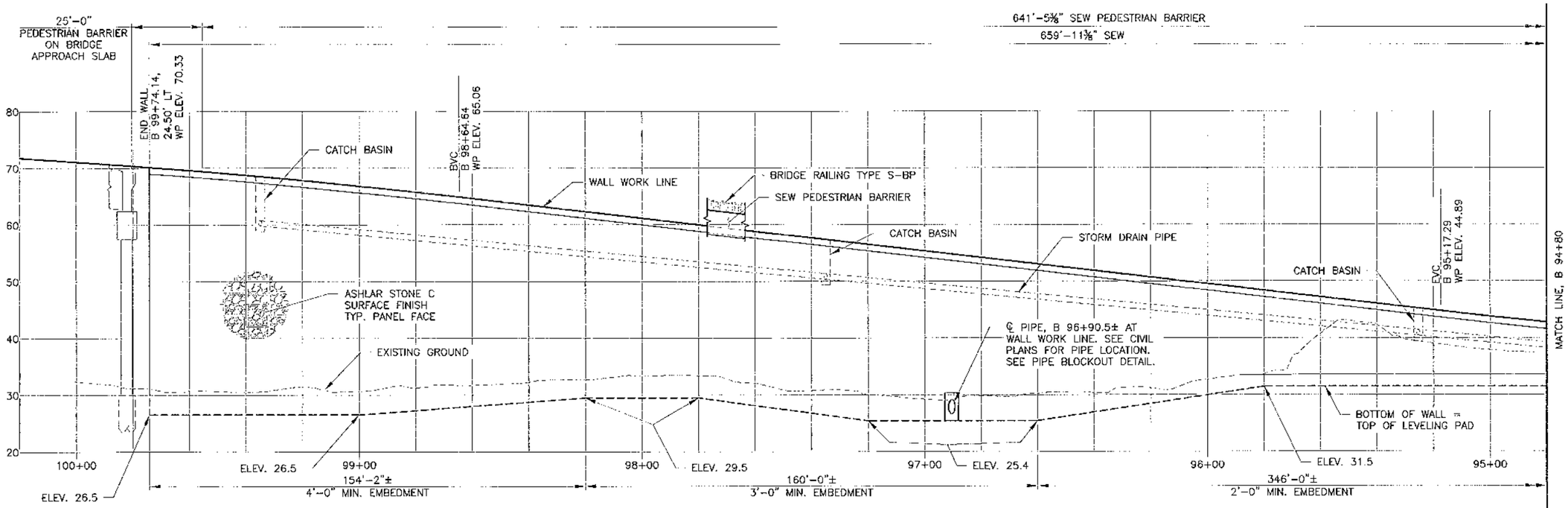
BURLINGTON NORTHERN OVERPASS PROJECT

SEW LAYOUT (S-59)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 108 OF 117

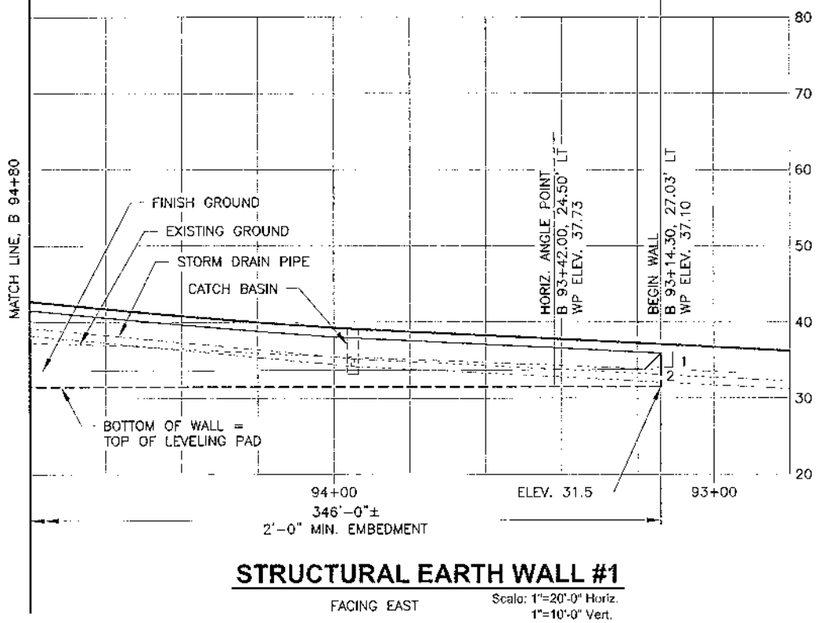
SHEARER DESIGN L.L.C.
3913 Primary Avenue N.W.
Seattle WA 98103
(206) 781-7830
Bridge Design, Construction Engineering, Infrastructure Aesthetics



STRUCTURAL EARTH WALL #1

FACING EAST

Scale: 1"=20'-0" Horiz.
1"=10'-0" Vert.



STRUCTURAL EARTH WALL #1

FACING EAST

Scale: 1"=20'-0" Horiz.
1"=10'-0" Vert.

NOTES:
1. WP = WORK POINT
2. SEE TABLES ON SHEET S64 FOR WORK POINT ELEVATIONS.
3. SEE CIVIL PLANS FOR PIPE AND CATCH BASIN LOCATIONS.

SHEARER DESIGN LLC
3615 Primary Ave W # B
Seattle WA 98107
(206) 781-7800
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

ROBERT S. SHEARER — EXPIRES 10/10/16

PROJECT NO.: ES505104-8
FED. AID NO.: BRS-4029(036)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

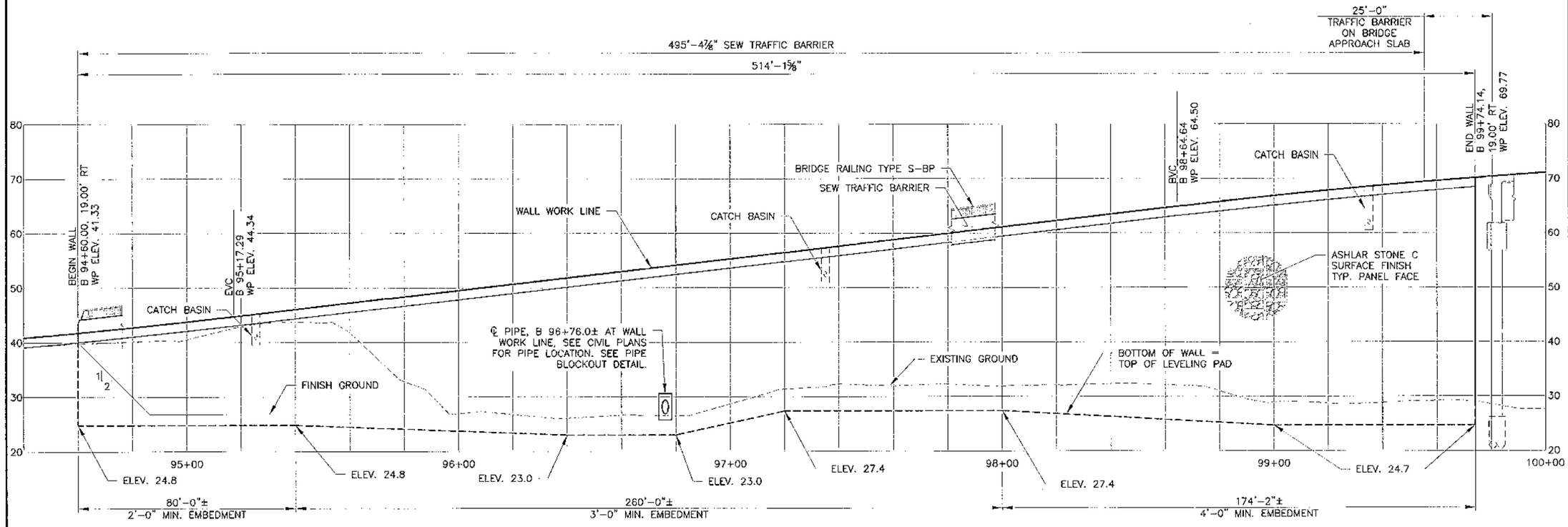
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

SEW 1 ELEVATION (S-60)

1 INCH SCALE BAR ADJUST SCALE ACCORDINGLY

SHEET 109 OF 117



STRUCTURAL EARTH WALL #2

FACING WEST

Scale: 1"=20'-0" Horiz.
1"=10'-0" Vert.

NOTES:
1. WP = WORK POINT
2. SEE TABLES ON SHEET S64 FOR WORK POINT ELEVATIONS.
3. SEE CIVIL PLANS FOR PIPE AND CATCH BASIN LOCATIONS.

SHEARER DESIGN LLC
2613 Pinehurst Ave N #3
Seattle WA 98109
(206) 781-3630
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

REVISIONS | NO. | DATE

PROJECT NO.: FS30510-9
FED. AID NO.: BTS-4129(006)
DESIGNED BY:
DRAWN BY:
CHECKED BY: DRS
APPROVED BY: DRS

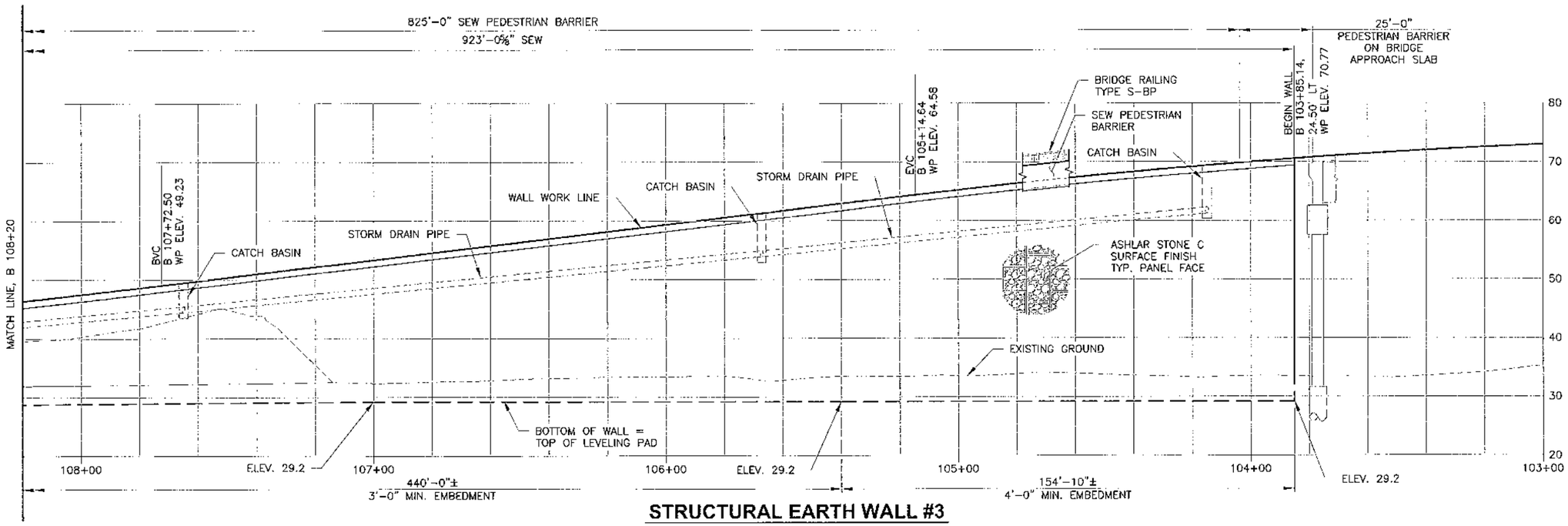
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

SEW 2 ELEVATION (S-61)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

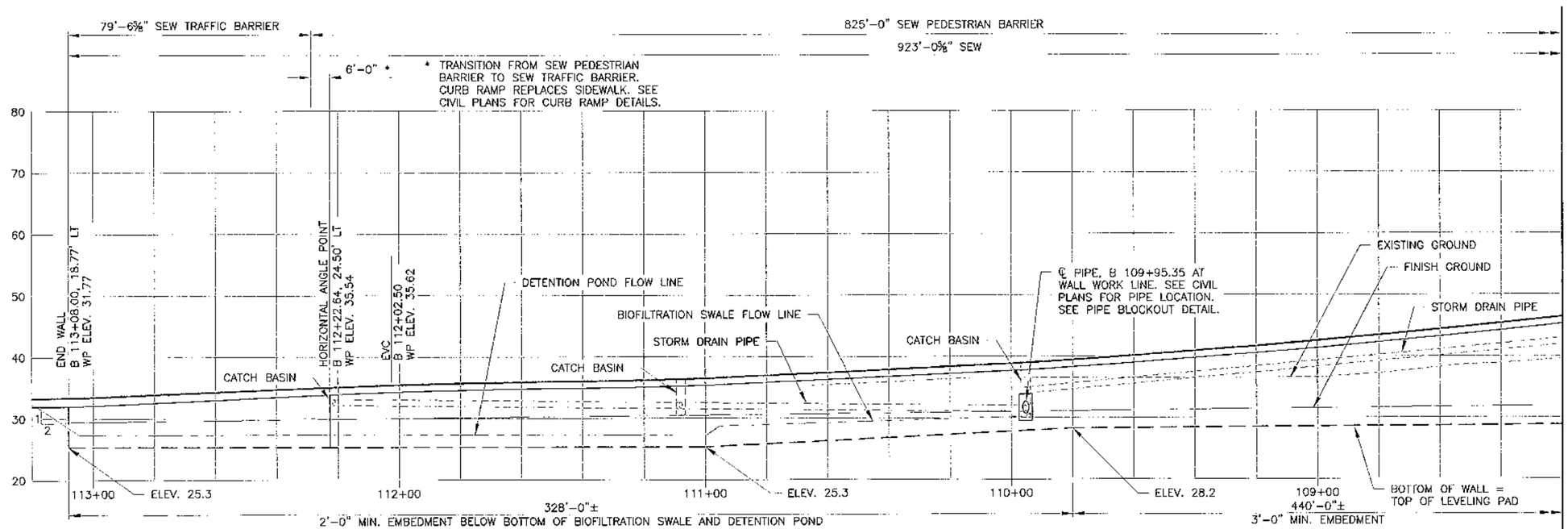
SHEET
110 OF 117



STRUCTURAL EARTH WALL #3

FACING EAST

Scale: 1"=20'-0" Horiz.
1"=10'-0" Vert.



STRUCTURAL EARTH WALL #3

FACING EAST

Scale: 1"=20'-0" Horiz.
1"=10'-0" Vert.

NOTES:
1. WP = WORK POINT
2. SEE TABLES ON SHEET S64 FOR WORK POINT ELEVATIONS.
3. SEE CIVIL PLANS FOR PIPE AND CATCH BASIN LOCATIONS.

SHEARER DESIGN LLC
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SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336-9478

REVISIONS | NO. | DATE

ROBERT R. SHEARER — WASHINGTON — 23605 — REGISTERED PROFESSIONAL ENGINEER — 10/10/16

PROJECT NO.: ES60510-B
FED. AID NO.: BRS-M129(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DPS

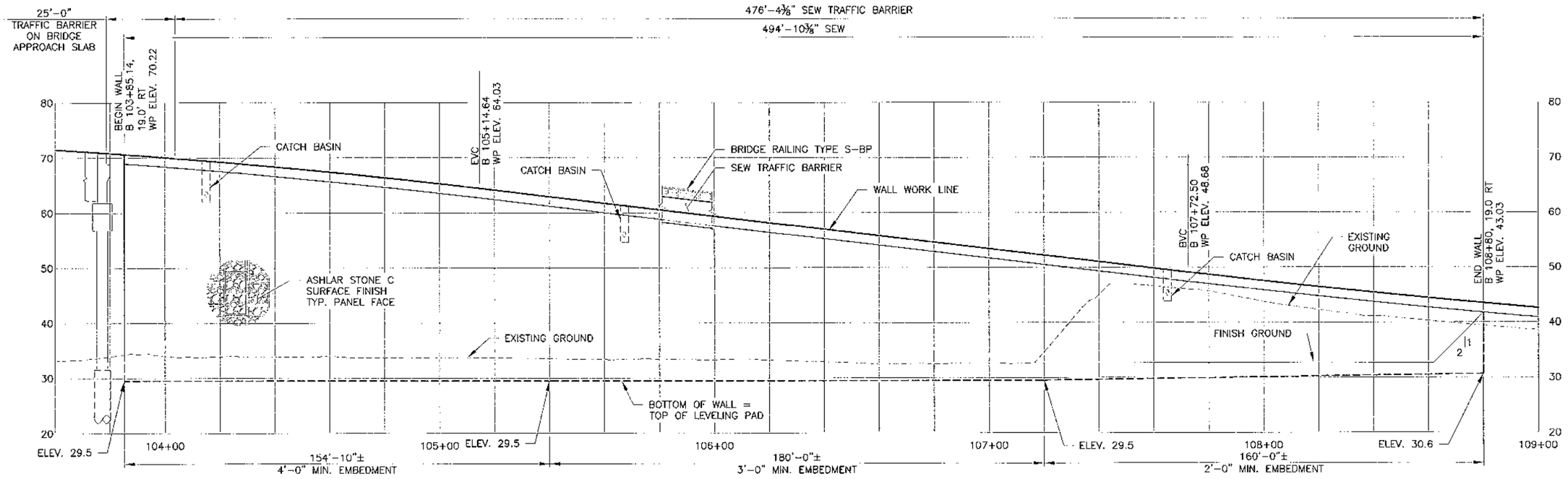
PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

SEW 3 ELEVATION (S-62)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET 111 OF 117



STRUCTURAL EARTH WALL #4

FACING WEST

Scale: 1"=20'-0" Horiz.
1"=10'-0" Vert.

NOTES:
1. WP = WORK POINT
2. SEE TABLES ON SHEET S64 FOR WORK POINT ELEVATIONS.
3. SEE CIVIL PLANS FOR PIPE AND CATCH BASIN LOCATIONS.

SHEARER DESIGN LLC
3613 Pt Piney Ave N, # B
Seattle WA 98103
(206) 781-1829
Bridge Design, Construction Engineering, Infrastructure Aesthetics

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

REVISIONS | NO. | DATE

PROJECT NO.: ESHC510-8
FED. AID NO.: BPS-ATP9(000)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

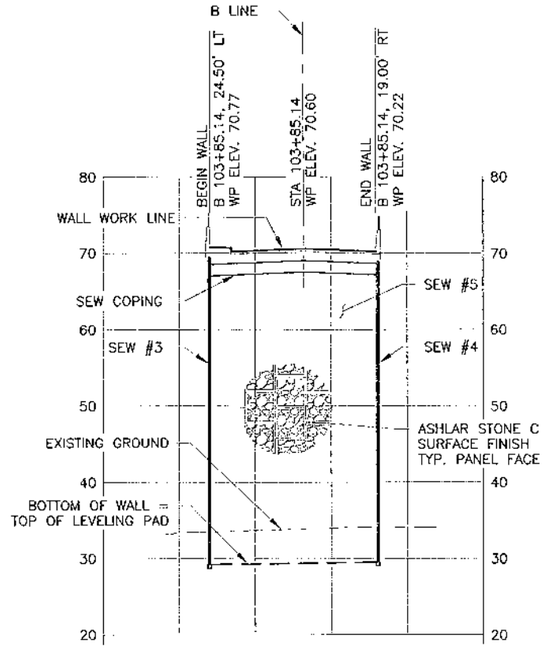
PROJECT LOCATED NEAR: BURLINGTON
SECTION 12, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

SEW 4 ELEVATION (S-63)

1 INCH SCALE BAR. ADJUST SCALE ACCORDINGLY

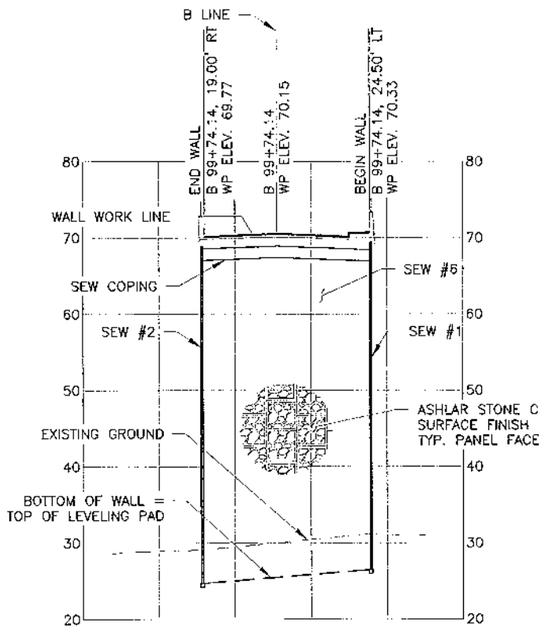
SHEET 112 OF 117



STRUCTURAL EARTH WALL #5

FACING NORTH

Scale: 1"=20'-0" Horiz.
1"=10'-0" Vert.



STRUCTURAL EARTH WALL #6

FACING SOUTH

Scale: 1"=20'-0" Horiz.
1"=10'-0" Vert.

NOTE:
WP = WORK POINT

SEW #1

STATION	WORK POINT ELEVATION	STATION	WORK POINT ELEVATION
B 93+14.30	37.13	B 96+50.00	52.62
B 93+20.00	37.25	B 96+60.00	53.20
B 93+30.00	37.47	B 96+70.00	53.78
B 93+40.00	37.71	B 96+80.00	54.36
B 93+42.00	37.76	B 96+90.00	54.94
B 93+50.00	37.96	B 97+00.00	55.53
B 93+60.00	38.22	B 97+10.00	56.11
B 93+70.00	38.50	B 97+20.00	56.69
B 93+80.00	38.80	B 97+30.00	57.27
B 93+90.00	39.12	B 97+40.00	57.85
B 94+00.00	39.46	B 97+50.00	58.43
B 94+10.00	39.82	B 97+60.00	59.01
B 94+20.00	40.20	B 97+70.00	59.59
B 94+30.00	40.60	B 97+80.00	60.17
B 94+40.00	41.02	B 97+90.00	60.75
B 94+50.00	41.46	B 98+00.00	61.33
B 94+60.00	41.91	B 98+10.00	61.91
B 94+70.00	42.39	B 98+20.00	62.49
B 94+80.00	42.89	B 98+30.00	63.07
B 94+90.00	43.41	B 98+40.00	63.65
B 95+00.00	43.94	B 98+50.00	64.23
B 95+10.00	44.50	B 98+60.00	64.81
B 95+17.29	44.92	B 98+64.64	65.08
B 95+20.00	45.08	B 98+70.00	65.39
B 95+30.00	45.66	B 98+80.00	65.95
B 95+40.00	46.24	B 98+90.00	66.50
B 95+50.00	46.82	B 99+00.00	67.02
B 95+60.00	47.40	B 99+10.00	67.53
B 95+70.00	47.98	B 99+20.00	68.02
B 95+80.00	48.56	B 99+30.00	68.49
B 95+90.00	49.14	B 99+40.00	68.95
B 96+00.00	49.72	B 99+50.00	69.38
B 96+10.00	50.30	B 99+60.00	69.80
B 96+20.00	50.88	B 99+70.00	70.20
B 96+30.00	51.46	B 99+74.14	70.36
B 96+40.00	52.04		

SEW #2

STATION	WORK POINT ELEVATION
B 94+60.00	41.33
B 94+70.00	41.81
B 94+80.00	42.31
B 94+90.00	42.82
B 95+00.00	43.36
B 95+10.00	43.92
B 95+17.29	44.34
B 95+20.00	44.49
B 95+30.00	45.07
B 95+40.00	45.65
B 95+50.00	46.23
B 95+60.00	46.81
B 95+70.00	47.40
B 95+80.00	47.98
B 95+90.00	48.56
B 96+00.00	49.14
B 96+10.00	49.72
B 96+20.00	50.30
B 96+30.00	50.88
B 96+40.00	51.46
B 96+50.00	52.04
B 96+60.00	52.62
B 96+70.00	53.20
B 96+80.00	53.78
B 96+90.00	54.36
B 97+00.00	54.94
B 97+10.00	55.52
B 97+20.00	56.10
B 97+30.00	56.68
B 97+40.00	57.27
B 97+50.00	57.85
B 97+60.00	58.43
B 97+70.00	59.01
B 97+80.00	59.59
B 97+90.00	60.17
B 98+00.00	60.75
B 98+10.00	61.33
B 98+20.00	61.91
B 98+30.00	62.49
B 98+40.00	63.07
B 98+50.00	63.65
B 98+60.00	64.23
B 98+64.64	64.50
B 98+70.00	64.81
B 98+80.00	65.37
B 98+90.00	65.92
B 99+00.00	66.44
B 99+10.00	66.95
B 99+20.00	67.44
B 99+30.00	67.91
B 99+40.00	68.36
B 99+50.00	68.80
B 99+60.00	69.22
B 99+70.00	69.61
B 99+74.14	69.77

SEW #3

STATION	WORK POINT ELEVATION	STATION	WORK POINT ELEVATION
B 103+85.14	70.80	B 108+50.00	45.04
B 103+90.00	70.62	B 108+60.00	44.55
B 104+00.00	70.24	B 108+70.00	44.07
B 104+10.00	69.85	B 108+80.00	43.61
B 104+20.00	69.43	B 108+90.00	43.16
B 104+30.00	69.00	B 109+00.00	42.73
B 104+40.00	68.55	B 109+10.00	42.30
B 104+50.00	68.08	B 109+20.00	41.89
B 104+60.00	67.59	B 109+30.00	41.49
B 104+70.00	67.09	B 109+40.00	41.11
B 104+80.00	66.56	B 109+50.00	40.74
B 104+90.00	66.02	B 109+60.00	40.38
B 105+00.00	65.46	B 109+70.00	40.03
B 105+10.00	64.88	B 109+80.00	39.70
B 105+14.64	64.61	B 109+90.00	39.38
B 105+20.00	64.29	B 110+00.00	39.07
B 105+30.00	63.69	B 110+10.00	38.78
B 105+40.00	63.10	B 110+20.00	38.50
B 105+50.00	62.50	B 110+30.00	38.23
B 105+60.00	61.91	B 110+40.00	37.98
B 105+70.00	61.31	B 110+50.00	37.73
B 105+80.00	60.72	B 110+60.00	37.50
B 105+90.00	60.12	B 110+70.00	37.29
B 106+00.00	59.53	B 110+80.00	37.09
B 106+10.00	58.93	B 110+90.00	36.89
B 106+20.00	58.34	B 111+00.00	36.72
B 106+30.00	57.74	B 111+10.00	36.55
B 106+40.00	57.15	B 111+20.00	36.40
B 106+50.00	56.55	B 111+30.00	36.26
B 106+60.00	55.96	B 111+40.00	36.14
B 106+70.00	55.36	B 111+50.00	36.03
B 106+80.00	54.77	B 111+60.00	35.93
B 106+90.00	54.17	B 111+70.00	35.84
B 107+00.00	53.58	B 111+80.00	35.77
B 107+10.00	52.98	B 111+90.00	35.70
B 107+20.00	52.39	B 112+00.00	35.66
B 107+30.00	51.79	B 112+02.50	35.65
B 107+40.00	51.20	B 112+10.00	35.62
B 107+50.00	50.60	B 112+20.00	35.58
B 107+60.00	50.01	B 112+22.64	35.57
B 107+70.00	49.41	B 112+30.00	35.57
B 107+72.50	49.26	B 112+40.00	35.58
B 107+80.00	48.82	B 112+50.00	35.58
B 107+90.00	48.24	B 112+60.00	35.59
B 108+00.00	47.67	B 112+70.00	35.60
B 108+10.00	47.12	B 112+80.00	35.61
B 108+20.00	46.58	B 112+90.00	35.61
B 108+30.00	46.05	B 113+00.00	35.62
B 108+40.00	45.54	B 113+08.00	35.63

SEW #4

STATION	WORK POINT ELEVATION
B 103+85.14	70.22
B 103+90.00	70.04
B 104+00.00	69.66
B 104+10.00	69.26
B 104+20.00	68.85
B 104+30.00	68.42
B 104+40.00	67.97
B 104+50.00	67.50
B 104+60.00	67.01
B 104+70.00	66.50
B 104+80.00	65.98
B 104+90.00	65.44
B 105+00.00	64.88
B 105+10.00	64.30
B 105+14.64	64.03
B 105+20.00	63.71
B 105+30.00	63.11
B 105+40.00	62.52
B 105+50.00	61.92
B 105+60.00	61.33
B 105+70.00	60.73
B 105+80.00	60.14
B 105+90.00	59.54
B 106+00.00	58.95
B 106+10.00	58.35
B 106+20.00	57.76
B 106+30.00	57.16
B 106+40.00	56.57
B 106+50.00	55.97
B 106+60.00	55.38
B 106+70.00	54.78
B 106+80.00	54.18
B 106+90.00	53.59
B 107+00.00	52.99
B 107+10.00	52.40
B 107+20.00	51.80
B 107+30.00	51.21
B 107+40.00	50.61
B 107+50.00	50.02
B 107+60.00	49.42
B 107+70.00	48.83
B 107+72.50	48.68
B 107+80.00	48.24
B 107+90.00	47.66
B 108+00.00	47.09
B 108+10.00	46.54
B 108+20.00	46.00
B 108+30.00	45.47
B 108+40.00	44.96
B 108+50.00	44.46
B 108+60.00	43.97
B 108+70.00	43.49
B 108+80.00	43.03

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES50510-8
FED. AID NO.: BRS-4123(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 3E, W.M.

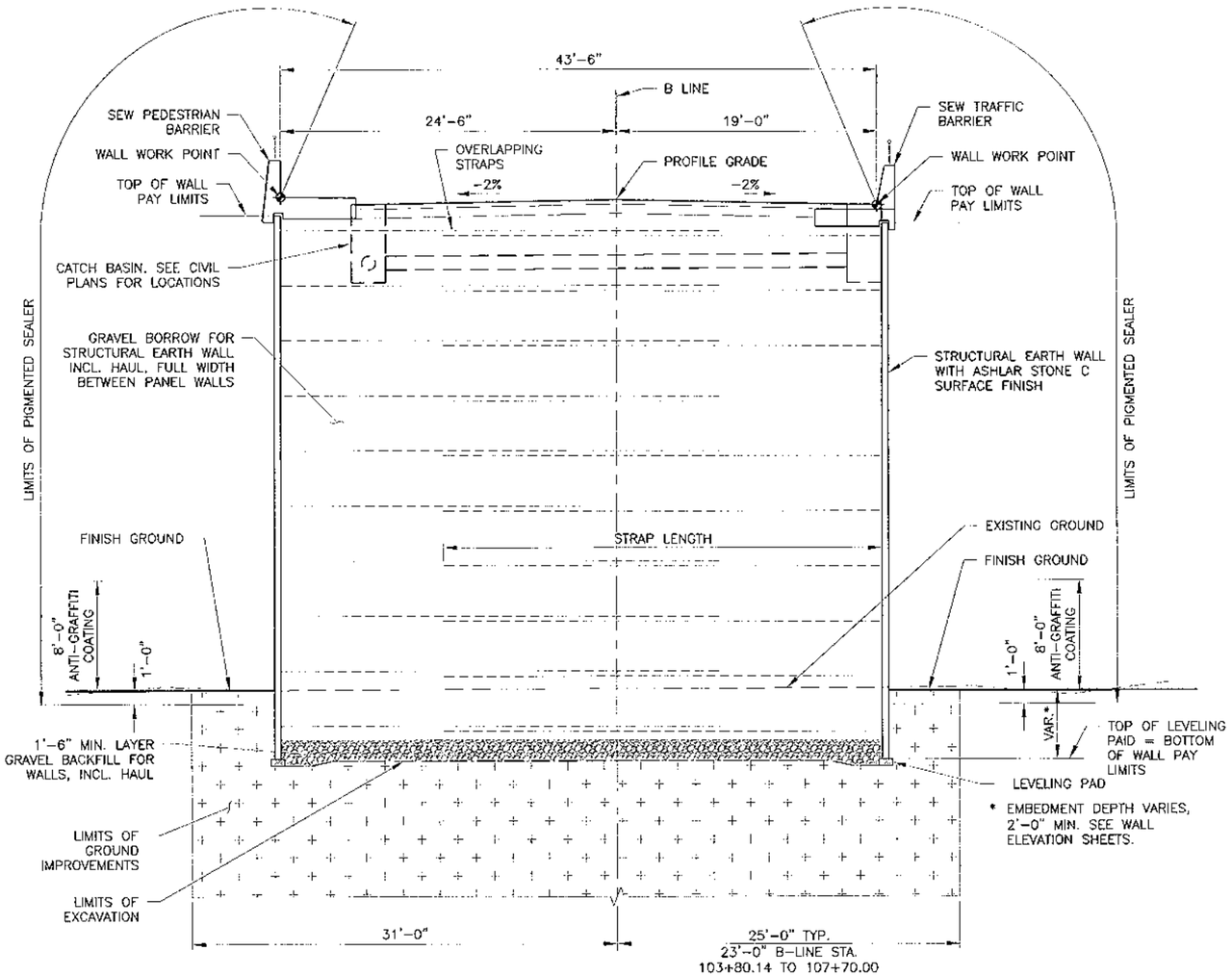
BURLINGTON NORTHERN OVERPASS PROJECT

SEW 5 AND 6 ELEVATION AND ELEVATION TABLES (S-64)

1 INCH SCALE BAR.
ADJUST SCALE ACCORDINGLY

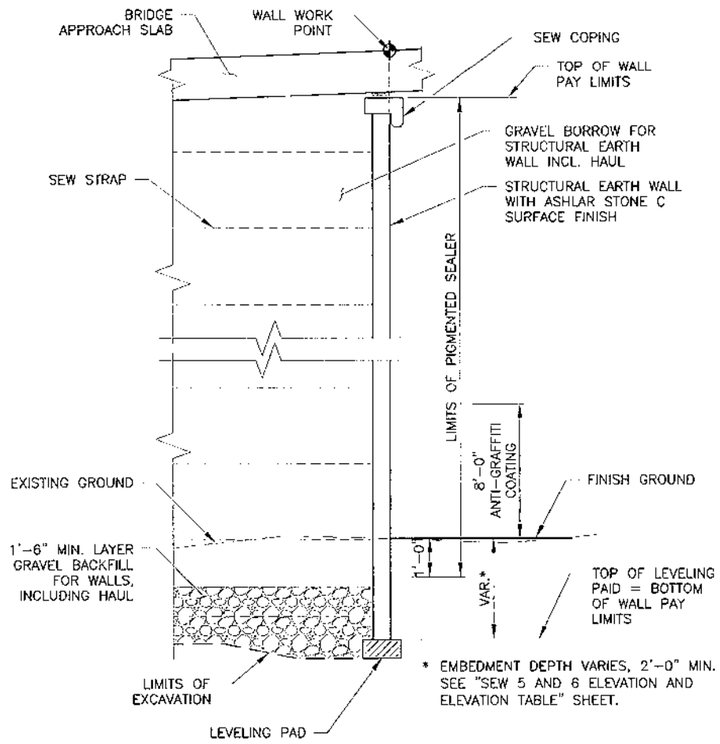
SHEET
113 OF 117

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Pacific Ave Ste B
Seattle WA 98418
(253) 761-7550



TYPICAL SECTION: SEW 1 - 4

Scale: 3/16" = 1'-0"



TYPICAL SECTION: SEW 5 - 6

Scale: 1/2" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES-9510-8
FED. AID NO.: BRS-M29(066)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

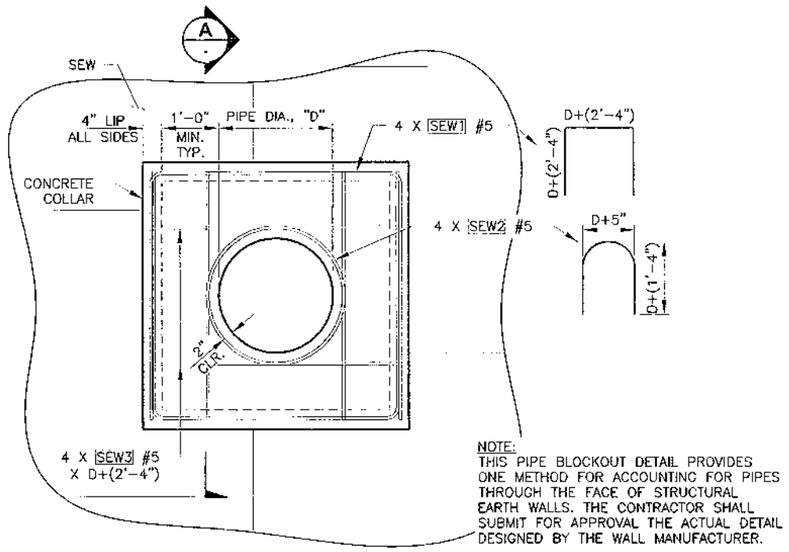
BURLINGTON NORTHERN OVERPASS PROJECT

SEW TYPICAL SECTIONS (S-65)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

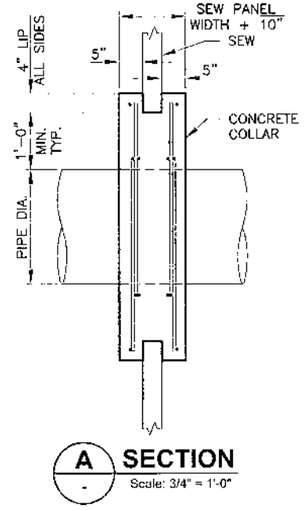
SHEET 114 OF 117

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Primacy Area Bldg B
Seattle WA 98103
(206) 731-1529



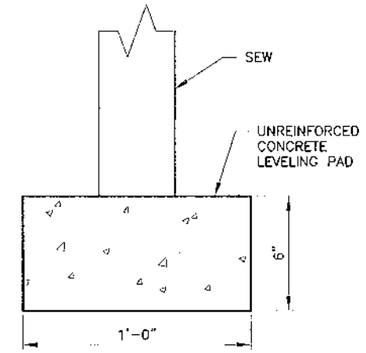
PIPE BLOCKOUT DETAIL

Scale: 3/4" = 1'-0"



A SECTION

Scale: 3/4" = 1'-0"



LEVELING PAD DETAIL

Scale: 3" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

10/10/16

PROJECT NO.: ES-06510-8
FED. AID NO.: BRS-M29(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 3 E, W.M.

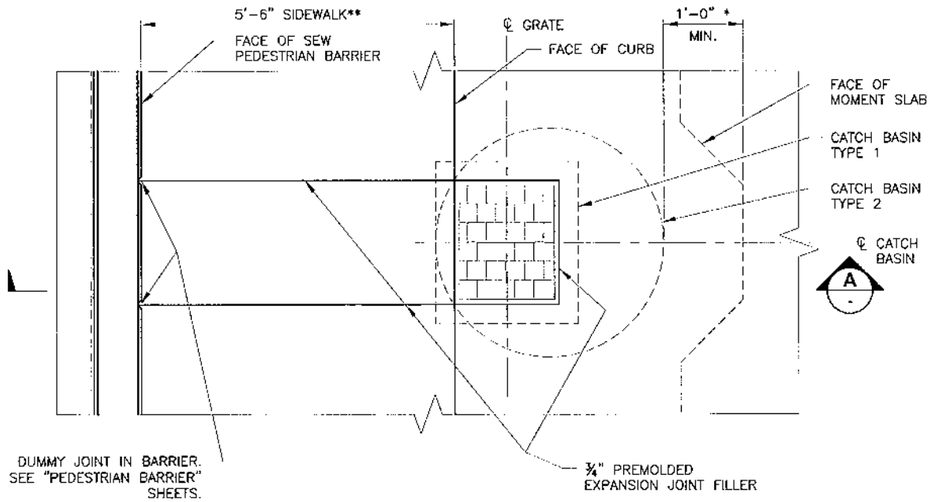
BURLINGTON NORTHERN OVERPASS PROJECT

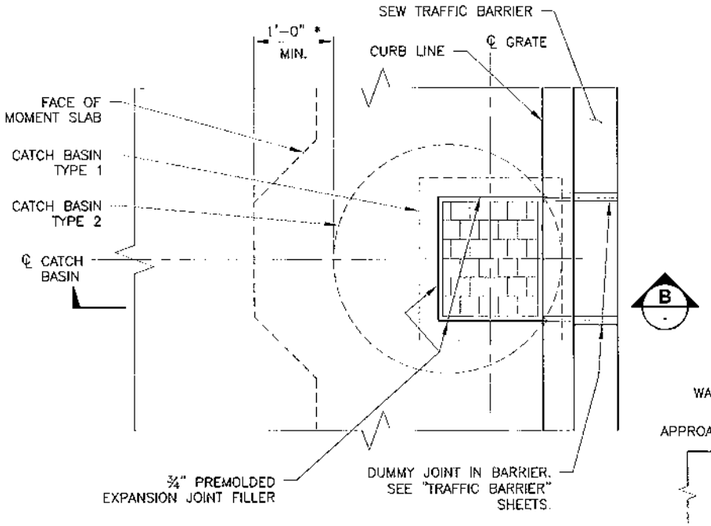
SEW DETAILS (S-66)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
115 OF 117

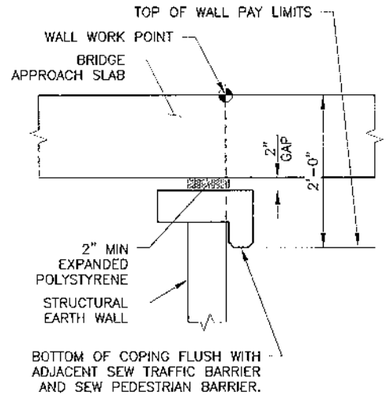
SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Fairview Ave E #B
Seattle WA 98102
(206) 781-7939





* PROVIDE MOMENT SLAB 1'-0" MIN. CLEAR AROUND CATCH BASIN TYPE 1 AND CATCH BASIN TYPE 2. SEE CIVIL PLANS FOR CATCH BASIN LOCATIONS.

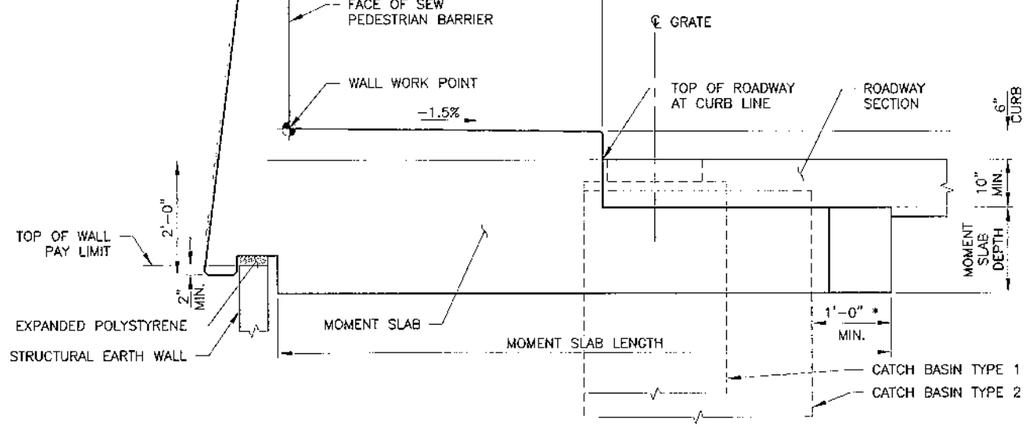
** SIDEWALK, TYP.
AT SEW #3 PROVIDE CURB RAMP B 112+22.64 TO B 112+28.64 AND NO SIDEWALK B 112+28.64 TO B 113+08.00. SEE CIVIL PLANS FOR CURB RAMP REQUIREMENTS.



SEW COPING DETAIL

Scale: 1" = 1'-0"

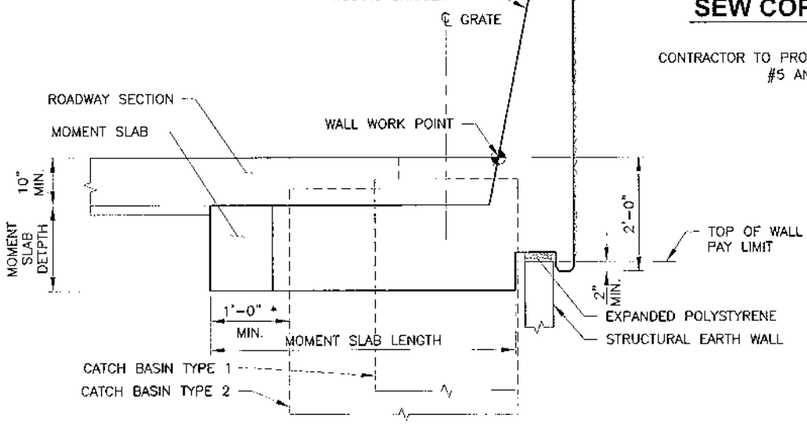
CONTRACTOR TO PROVIDE SEW COPING AT SEW #5 AND SEW #6



A SECTION

Scale: 3/4" = 1'-0"

SEE "PEDESTRIAN BARRIER" SHEETS FOR DETAILS NOT SHOWN.
CONTRACTOR SHALL DESIGN SEW PEDESTRIAN BARRIER IN ACCORDANCE WITH SPECIFICATION SECTION 6-13.3(9) AND WSDOT BRIDGE DESIGN MANUAL, LATEST EDITION.



B SECTION

Scale: 3/4" = 1'-0"

SEE "TRAFFIC BARRIER" SHEETS FOR DETAILS NOT SHOWN.
CONTRACTOR SHALL DESIGN SEW TRAFFIC BARRIER IN ACCORDANCE WITH SPECIFICATION SECTION 6-13.3(9) AND WSDOT BRIDGE DESIGN MANUAL, LATEST EDITION.

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336-9478

NO.	REVISIONS	DATE

PROJECT NO.: ES66510-8
FED. AID NO.: BRS-M128(006)
DESIGNED BY: RPD | DRAWN BY: RPD
CHECKED BY: DRS | APPROVED BY: DRS

PROJECT LOCATED NEAR: BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

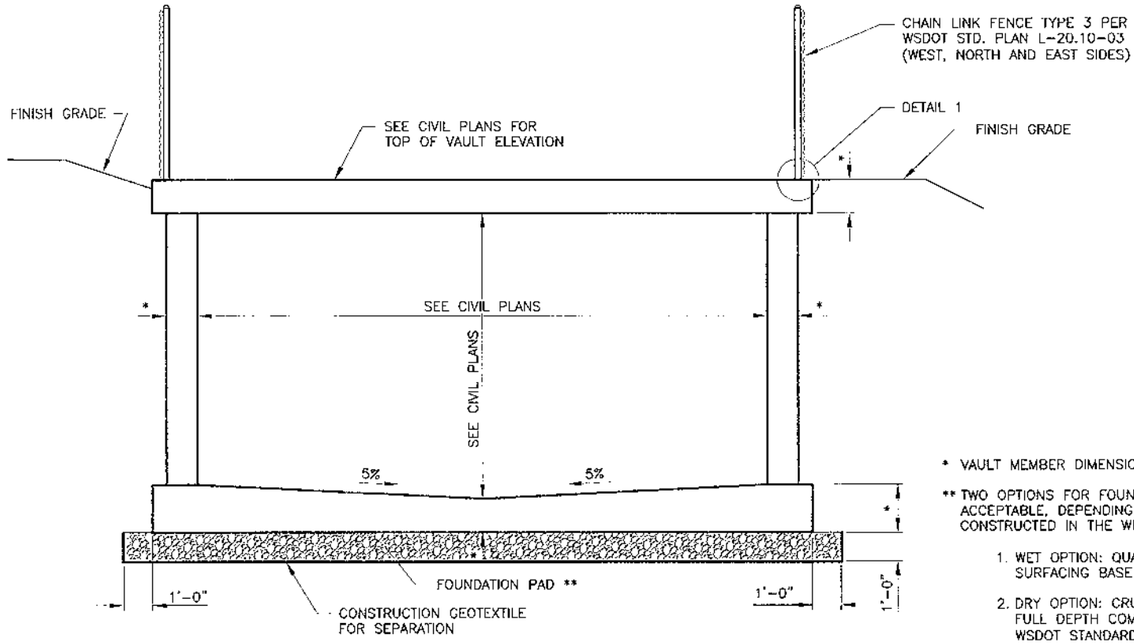
BURLINGTON NORTHERN OVERPASS PROJECT

SEW TRAFFIC BARRIER, PEDESTRIAN BARRIER, COPING (S-67)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
116 OF 117

SHEARER DESIGN LLC
Bridge Design, Construction Engineering, Infrastructure Aesthetics
3613 Primley Ave N, # B
Seattle WA 98103
(206) 781-7656



DETENTION VAULT - TYPICAL SECTION

Scale: 3/8" = 1'-0"

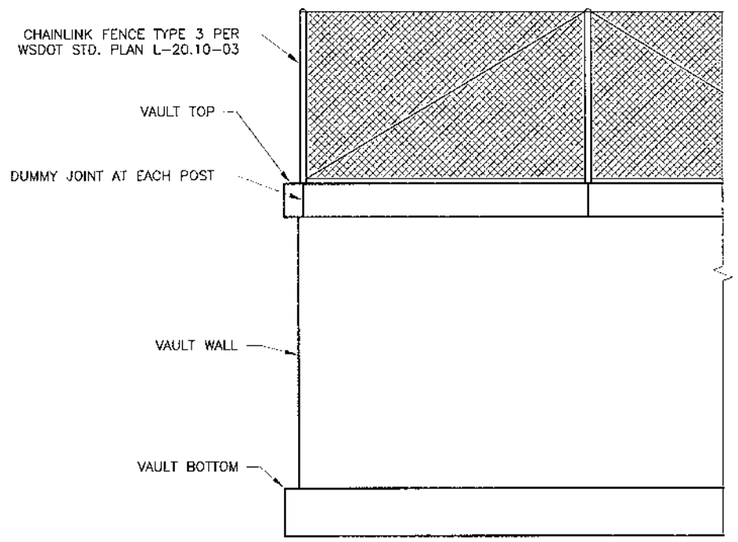
* VAULT MEMBER DIMENSIONS PER CONTRACTOR DESIGN.

** TWO OPTIONS FOR FOUNDATION PAD WILL BE ACCEPTABLE, DEPENDING ON WHETHER THE FOOTING IS CONSTRUCTED IN THE WET OR IN THE DRY:

1. WET OPTION: QUARRY SPALLS WITH 2"± CRUSHED SURFACING BASE COURSE TO SEAL TOP, OR
2. DRY OPTION: CRUSHED SURFACING BASE COURSE FULL DEPTH COMPACTED BY METHOD C PER WSDOT STANDARD SPECIFICATION 2-03.3(14)C.

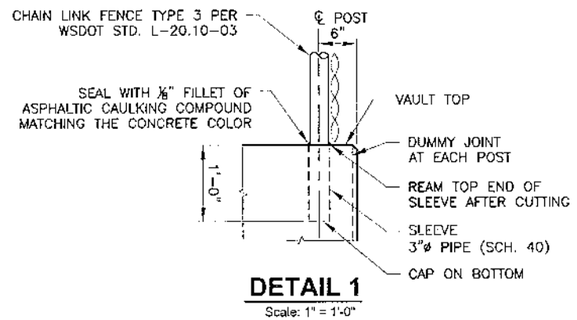
VAULT GENERAL NOTES

1. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) 2016 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, AMENDMENTS, AND SPECIAL PROVISIONS.
2. THE VAULT SHALL BE CONTRACTOR DESIGNED IN ACCORDANCE WITH THE LINES AND GRADES SHOWN AND THE SPECIFICATIONS.
3. PROVIDE ¾" CHAMFER ON ALL EXPOSED EDGES OF CONCRETE.
4. SEE CIVIL PLANS FOR DETAILS NOT SHOWN.



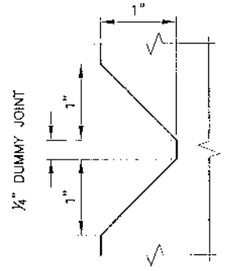
OUTSIDE PARTIAL ELEVATION

Scale: 3/8" = 1'-0"



DETAIL 1

Scale: 1" = 1'-0"



DUMMY JOINT DETAIL

Scale: 1'-0" = 1'-0"

SKAGIT COUNTY PUBLIC WORKS
1800 CONTINENTAL PLACE
MOUNT VERNON, WA 98273-5625
(360) 336-9400 FAX (360) 336 9478

NO.	REVISIONS	DATE

PROJECT NO.: ES905510-9
FED. AID NO.: BRS-4129(006)
DESIGNED BY: RPD
DRAWN BY: RPD
CHECKED BY: DRS
APPROVED BY: DRS

PROJECT LOCATED NEAR:
BURLINGTON
SECTION 19, TOWNSHIP 35N, RANGE 04 E, W.M.

BURLINGTON NORTHERN OVERPASS PROJECT

VAULT DETAILS (S-68)

1 INCH SCALE BAR
ADJUST SCALE ACCORDINGLY

SHEET
117 OF 117

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