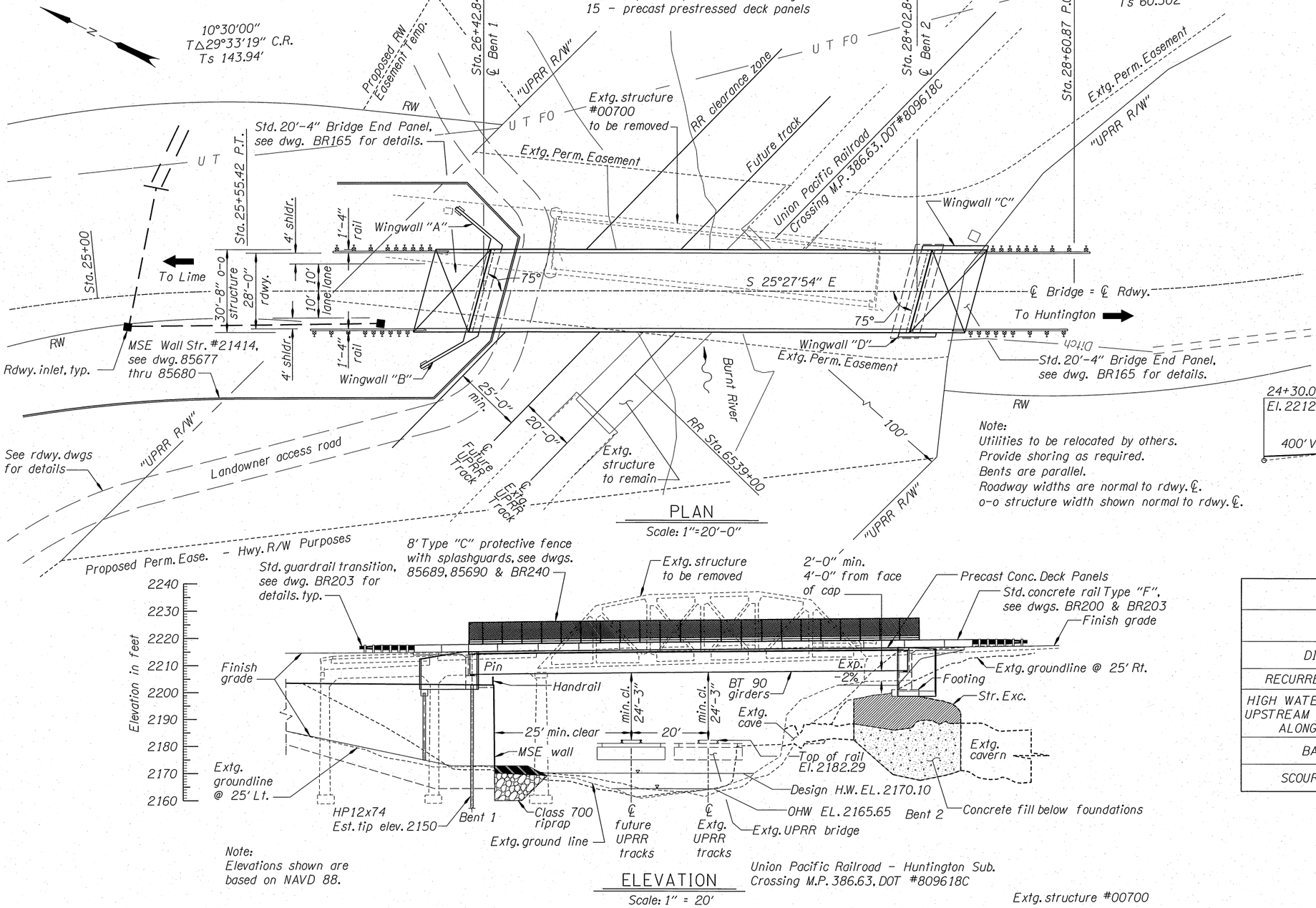


PLAN

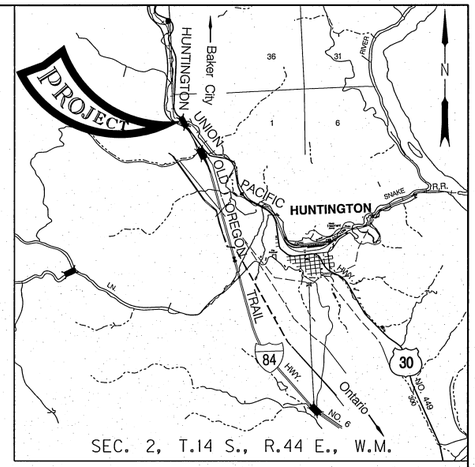
Scale: 1"=20'-0"

ELEVATION

Scale: 1" = 20'

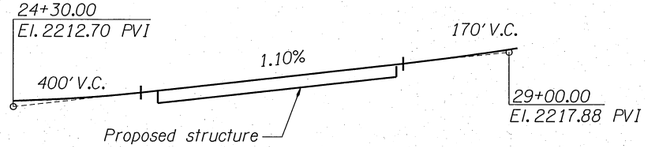
Note:
Utilities to be relocated by others.
Provide shoring as required.
Bents are parallel.
Roadway widths are normal to rdwy. ℄.
o-o structure width shown normal to rdwy. ℄.

Note:
Elevations shown are based on NAVD 88.



LOCATION MAP

No Scale



GRADE LINE DIAGRAM @ ROADWAY CENTERLINE

NOT TO SCALE

HYDRAULIC DATA

ITEMS	UNITS	DESIGN FLOOD	BASE FLOOD	MAX. PROBABLE FLOOD
DISCHARGE	$ft.^3/s$	3,100	3,700	5,300
RECURRENCE INTERVAL	years	50	100	500
HIGH WATER ELEVATION AT UPSTREAM FACE OF BRIDGE ALONG EMBANKMENT	feet	2170.1	2170.7	2171.9
BACKWATER	feet	0.4	0.6	1.2
SCOUR ELEVATION	feet	0	0	0

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

△	DATE	REVISION	BY

ACCOMPANIED BY DWGS. 85681-85706, BR157, BR165, BR200, BR203, BR240, BR241, BR260, BR256, BR350 TM570, TM571, TM675

DRAFTER: RICK B. STANTON
DESIGNER: GEORGE F. BORNSTEDT
CHECKER: BOB KASPARI
REVIEWER: MARK HANSON

REGISTERED PROFESSIONAL ENGINEER 80,830 OREGON JUNE 29, 2009 GEORGE F. BORNSTEDT
RENEWS: 12-31-2011

OREGON DEPARTMENT OF TRANSPORTATION

Region 5 Tech Center
BRIDGE ENGINEERING
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STRUCTURE NO. 21252
DATE July - 2011
CALC. BOOK 6165

BURNT RIVER & UPRR HWY 449, MP 2.75
FFO - US:30 BURNT RIVER & UPRR BRIDGE PROJECT
HUNTINGTON HIGHWAY
BAKER COUNTY

PLAN & ELEVATION

SHEET 1 OF 26
DRAWING NO. 85681

\\Sn-reg5hq-1\Proj_Dev\Projects\US30_Burnt_River (UPRR) Bridge\Bridge\FINPlans\rbs21252.dgn :: layout 7/28/2011 11:51:00 AM hwye90v

sht 01 1:240 layout

GENERAL NOTES:

Provide all materials and perform all work according to the Oregon Standard Specifications for Construction 2008.

Bridge is designed in accordance with the 2007 edition of the AASHTO LRFD Bridge Design Specifications (including 2008 thru 2009 interim revisions) with an allowance of 25psf for future wearing surface and all of the following Live Loads:

Service and Strength I Limit States:
HL-93: Design truck and the design lane load.

Strength II Limit State:
ODOT Type STP-5BW Permit truck
ODOT Type STP-4E Permit truck
ODOT Type STP-4D Permit truck

Seismic design is performed in accordance with the "AASHTO LRFD Bridge Design Specifications" ("AASHTO Guide Specifications for LRFD Seismic Bridge Design") as modified by the "ODOT Bridge Design & Drafting Manual" for 500- and 1000-year criteria. The Horizontal Peak Ground Acceleration Coefficients (PGA) for the 500 year (Serviceable) and 1000 year (No Collapse) return periods are 0.07g and 0.10g respectively, based on 2002 USGS Seismic Hazard Maps. The bridge site is defined as a Site Class B with Site Factor (Fpga) of 1.0

See Footing Plan for foundation design notes.

Support the bottom mat reinforcing steel from the forms with precast mortar blocks at 24" maximum centers each way. Support the top mat of reinforcing steel from the bottom mat of reinforcing steel with wire bar supports as shown in Chapter 3 of the CRSI Manual of Standard Practice (SBU, BBU, or CHCU). Place wire bar supports at 24" maximum centers.

Use Epoxy coated reinforcing steel in the precast deck, deck closure pour and bridge end panel. This includes top and bottom longitudinal bars, top and bottom transverse bars, and all bars extending into the bridge rail.
Use uncoated prestressing strand in precast panels.

Place bars 2" clear of the nearest face of concrete unless shown otherwise. The top bends of stirrups extending from beam stems into the top slab may be shop or field bent unless shown otherwise.
Do not fabricate reinforcing steel for walls until final footing elevations have been determined in the field.

Provide Foundation Concrete, Class 3300 - 1½, 1 or ¾ concrete in footings and back walls.
Provide Deck Concrete, Class HPC8000 - 1½ concrete in precast deck.
Provide Class HPC4000 - 1½, 1 or ¾ concrete in deck closure pour and reinforced concrete end panels.
Provide UHPC - Class 17,000 - Deck panel joints, blockouts and haunches.
Provide General Structural Concrete, Class 3300 - 1½, 1 or ¾ concrete in pilecaps, stemwalls and wingwalls.
Provide General Structural Concrete, Class 3300 - 1½, ¾ concrete in bridge rail.
Provide General Structural Concrete, Class 4000 - 1½, 1 or ¾ concrete in diaphragms and end beams.
Provide Class 3300 - 1½, 1 or ¾ concrete for all other concrete.
Provide Class 8500 - ¾ concrete in precast prestressed girders according to detail plans.
The minimum strength of concrete at transfer of prestress is 7500 psi. See dwg. 85693 & 85695.

Provide prestressing steel according to detail plans.
Provide structural steel according to ASTM A709 Grade 50 accordance with detail plans. Hot-dip galvanize all bolts, washers, nuts and structural steel after fabrication. ("Galvanize-Control Silicon" - provided silicon content of the base metal in either of the ranges 0 to 0.04 percent, or 0.15 to 0.25 percent.)

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

REINFORCING SPLICE LENGTHS (CLASS B) GRADE 60 f'c = 4.0 ksi										
Bar Size	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14 & #18
Uncoated	1'-0"	1'-4"	1'-8"	2'-0"	2'-6"	3'-3"	4'-1"	5'-2"	6'-4"	Not Permitted
Coated (1)	1'-2"	1'-7"	2'-0"	2'-2"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"	Not Permitted
Coated (2)	1'-6"	2'-0"	2'-6"	3'-0"	3'-8"	4'-10"	6'-2"	7'-9"	9'-6"	Not Permitted

REINFORCING SPLICE LENGTHS (CLASS B) GRADE 60 f'c = 3.3 ksi										
Bar Size	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14 & #18
Uncoated	1'-0"	1'-4"	1'-8"	2'-0"	2'-9"	3'-7"	4'-6"	5'-9"	7'-0"	Not Permitted
Coated (1)	1'-2"	1'-7"	2'-0"	2'-2"	3'-3"	4'-3"	5'-5"	6'-10"	8'-5"	Not Permitted
Coated (2)	1'-6"	2'-0"	2'-6"	3'-0"	4'-1"	5'-4"	6'-9"	8'-7"	10'-6"	Not Permitted

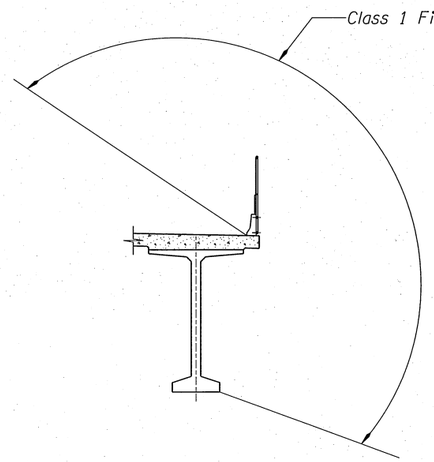
Use Coated (1) for epoxy coated bars with cover at least 3*db and clear spacing between bars at least 6*db.

Use Coated (2) for epoxy coated bars with cover less than 3*db or clear spacing between bars less than 6*db.

Increase all splice lengths 40% for horizontal or nearly horizontal bars so placed that more than 12" of fresh concrete is cast below the bar.

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

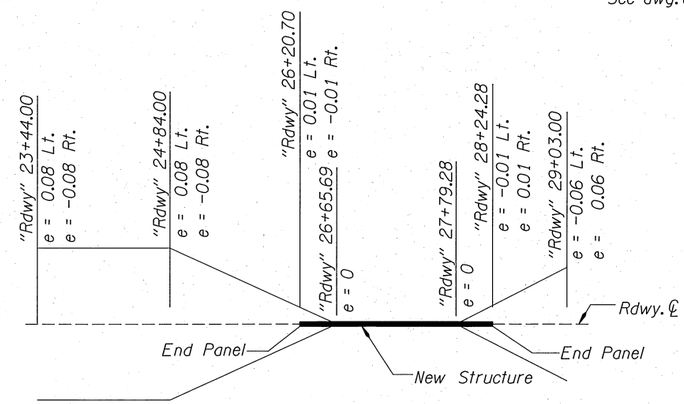
Welding shall conform to latest editon of AWS D1.5



CONCRETE FINISH DIAGRAM
Not to scale

Note:
Provide sheet aluminum.
Provide green background and silver white legends per ASTM Type III or Type IV.
See dwg. 85689

BRIDGE ID PADDLE
NOT TO SCALE



SUPERELEVATION DIAGRAM
Not to scale

Note:
Rate of superelevation shown perpendicular to rdwy. alignment.

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

Extg. structure #00700

△	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
DESIGNER: GEORGE F. BORNSTEDT
CHECKER: BOB KASPARI
REVIEWER: MARK HANSON

REGISTERED PROFESSIONAL ENGINEER
80,830
OREGON
JUNE 29, 2009
GEORGE F. BORNSTEDT
RENEWS: 12-31-2011

OREGON DEPARTMENT OF TRANSPORTATION
Region 5 Tech. Center
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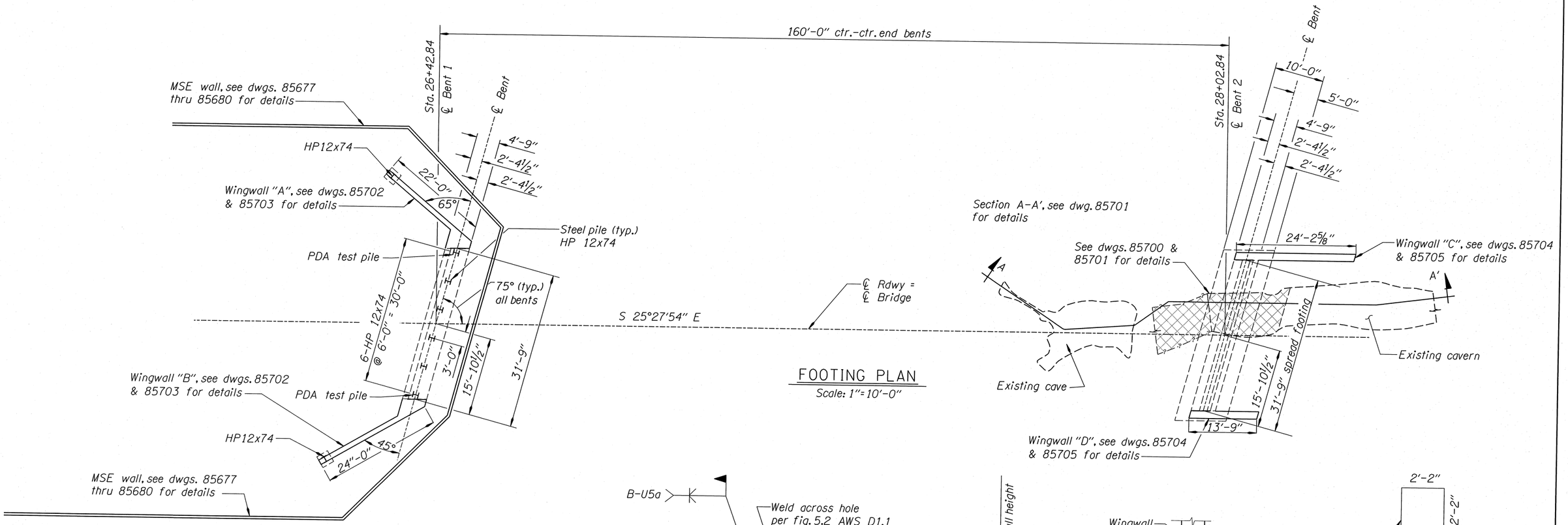
STRUCTURE NO. 21252
DATE July - 2011
CALC. BOOK 6165

BURNT RIVER & UPRR HWY 449, MP 2.75
FFO - US:30 BURNT RIVER & UPRR BRIDGE PROJECT
HUNTINGTON HIGHWAY
BAKER COUNTY

GENERAL NOTES

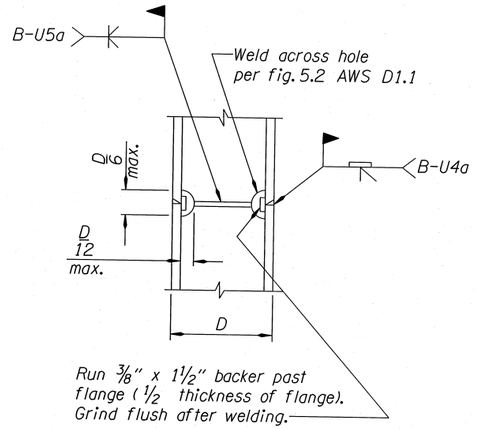
SHEET 2 OF 26
DRAWING NO. 85682



Foundation Design Notes:

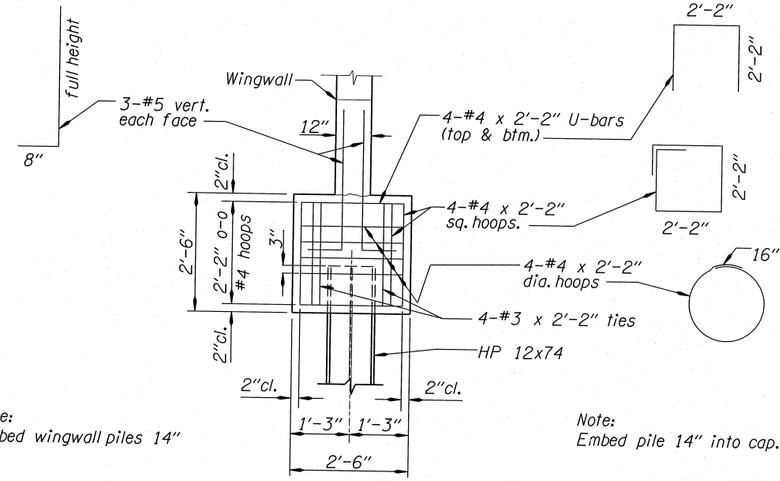
For Bent 1, Provide HP12x74, ASTM A572, Grade 50 steel piling with reinforced tips.
Drive PDA test piles first.
Drive all piling to the specified nominal resistance using driving criteria developed from the results of the dynamic load tests.
Drive all piling prior to constructing MSE wall.
See project special provisions.
For wingwall dimensions, see dwgs. 85702 & 85704

Bent	Number of Piles	Pile Section	Required Nominal Resistance, kips	Tip Elevation for Minimum Penetration, ft.	Estimated Tip Elevation ft.
1	8	HP12x74	520	2152.0	2150.0



Run ⅜" x 1½" backer past flange (½ thickness of flange). Grind flush after welding.

PILE SPLICE DETAILS
NOT TO SCALE



Note: Embed wingwall piles 14"

Note: Embed pile 14" into cap.

PILE CAP - END OF WINGWALL
NOT TO SCALE

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

Extg. structure #00700

△	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
DESIGNER: GEORGE F. BORNSTEDT
CHECKER: BOB KASPARI
REVIEWER: MARK HANSON

REGISTERED PROFESSIONAL ENGINEER 80,830 OREGON JUNE 29, 2009 GEORGE F. BORNSTEDT
RENEWS: 12-31-2011

OREGON DEPARTMENT OF TRANSPORTATION
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STRUCTURE NO. 21252
DATE March - 2011
CALC. BOOK 6165

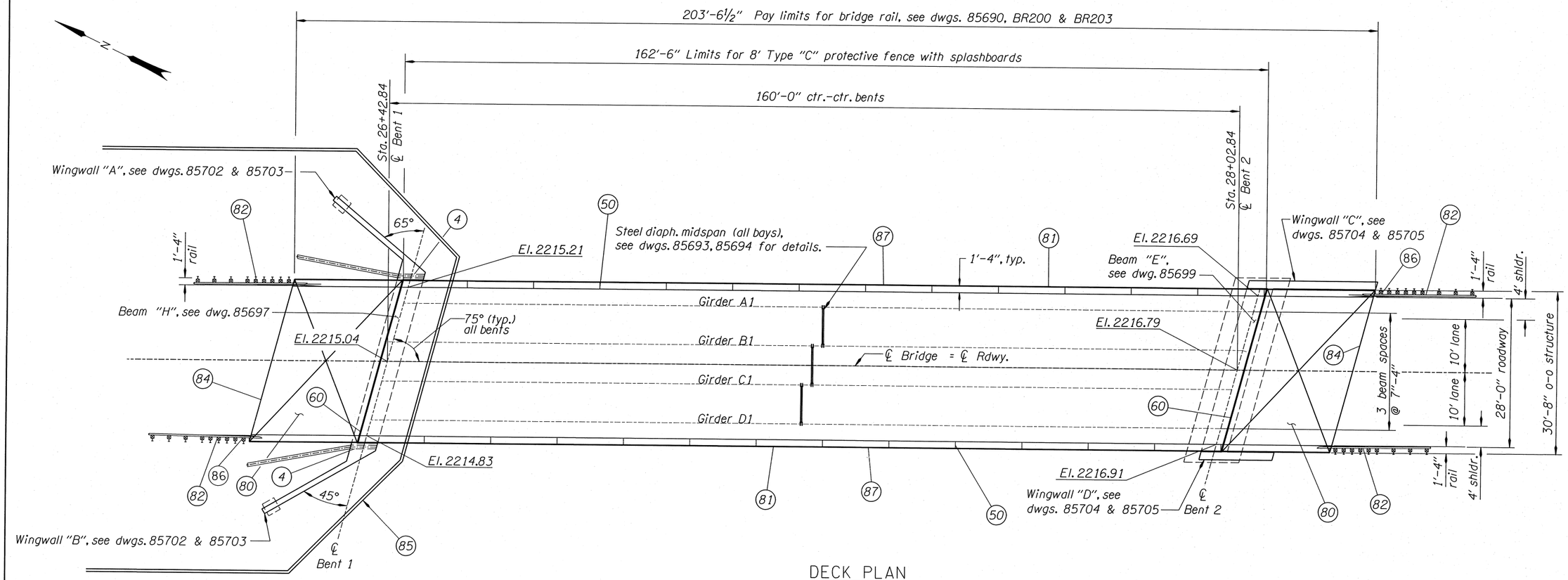
BURNT RIVER & UPRR HWY 449, MP 2.75
FFO - US30: BURNT RIVER & UPRR BRIDGE PROJECT
HUNTINGTON HIGHWAY
BAKER COUNTY

FOOTING PLAN

SHEET 8 OF 26
DRAWING NO. 85688

\\sn-reg5hq-1\Proj_Dev\Projects\US30_Burnt_River (UPRR) Bridge\Bridge\FINPlans\rbs21252.dgn :: substructure 3/21/2011 10:26:27 AM hwyr50i

sht 08 1:12 footing plan



DECK PLAN

Scale: 1"=10'-0"

Note:
Precast Deck Panels not shown for clarity.
See dwgs. 85690 & 85691 for Precast Deck Panels.

DETAIL REFERENCE NUMBERS:

(4) Utility conduit through wingwall, see dwgs. 85696 & 85702 for details.
(50) Concrete bridge rail, Type "F", see dwgs. 85690, BR200 & BR203 for details.
(60) Asphalt plug joint, see dwgs. BR157, 85697 & 85699 for details.
(80) Std. 20'-4" Bridge End Panel at bidge ends, see dwg. BR165 for details.
(81) ¾" utitlity inserts @ 8' max. spacing, see dwg. 85692 for details.
(82) Std. guardrail transition, see dwg. BR203 for details.
(84) Sawcut ACWS @ Bridge End Panel and fill with traffic loop sealant.
(85) Construct MSE Wall Structure #21414, see dwgs. 85677 thru 85680
(86) Bridge ID paddle with Type 1 post as directed, see dwg. TM570, TM571 & 85682 for details.
(87) Construct 8' Type "C" protective fence with splash guards, see dwgs. 85690, BR240, BR241 & TM675

Extg. structure #00700

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

△	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
DESIGNER: GEORGE F. BORNSTEDT
CHECKER: BOB KASPARI
REVIEWER: MARK HANSON

REGISTERED PROFESSIONAL ENGINEER
80,830
OREGON
JUNE 29, 2009
GEORGE F. BORNSTEDT
RENEWS: 12-31-2011

OREGON DEPARTMENT OF TRANSPORTATION
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STRUCTURE NO. 21252
DATE March - 2011
CALC. BOOK 6165

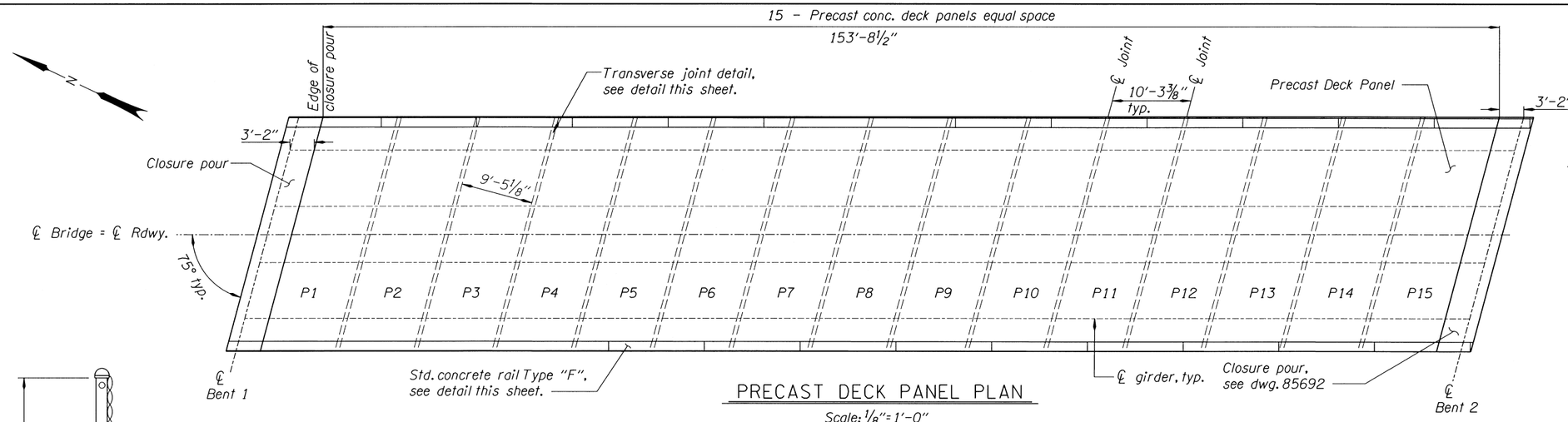
BURNT RIVER & UPRR HWY 449, MP 2.75
FFO - US30: BURNT RIVER & UPRR BRIDGE PROJECT
HUNTINGTON HIGHWAY
BAKER COUNTY

DECK PLAN

SHEET 9 OF 26
DRAWING NO. 85689

\\sn-reg5hq-1\Proj_Dev\Projects\US30_Burnt_River (UPRR) Bridge\Bridge\FINPlans\rbs21252.dgn :: superstructure 3/21/2011 10:22:52 AM hwyr50i

sht 09 1:12 deck plan



PRECAST DECK PANEL PLAN

Scale: ⅛"=1'-0"

DECK PLACEMENT SEQUENCE

1. Set Girders and construct steel diaphragm, Beam "E" & Beam "H".

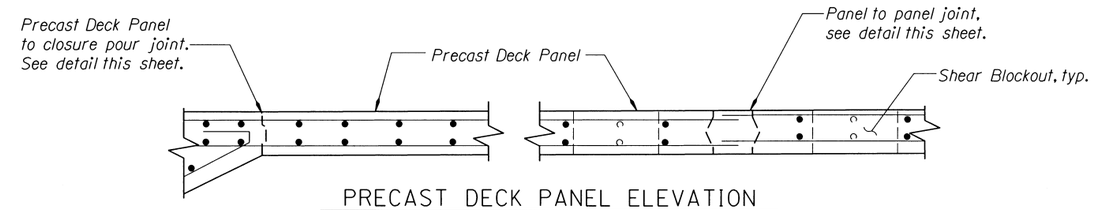
2. Place precast deck panels starting at midspan and alternating outward in each direction, until panels P6 thru P10 are set.

3. Contractor option of setting panels P1 thru P5 & P11 thru P15 independently after step 2.

4. Adjust panels as required.

5. Field bend shear pocket reinforcement.

6. Form, cast and cure UHPC joints, shear pockets and haunches.



PRECAST DECK PANEL ELEVATION

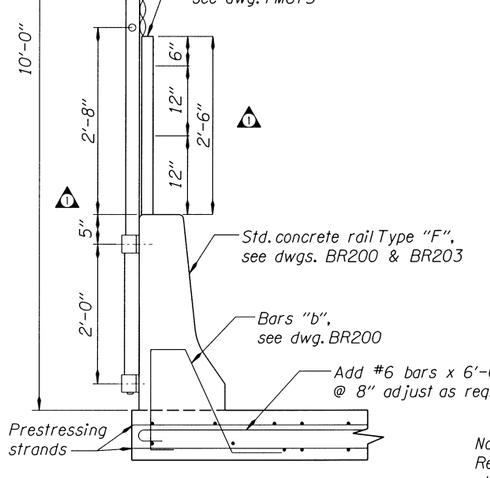
NOT TO SCALE

Notes:
See dwg. 85691 & 85692 for deck sections.

See dwg. 85692 for closure pour typical section.

All loads on bridge deck other than small tool & light equipment loads shall be approved by the Engineer prior to UHPC concrete connections reaching design strength.

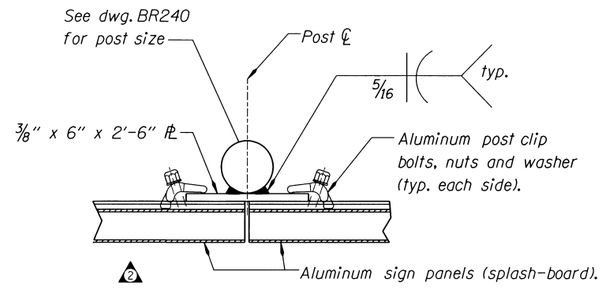
Conduct plant assembly according to 00550.49(e)



TYPE F BARRIER

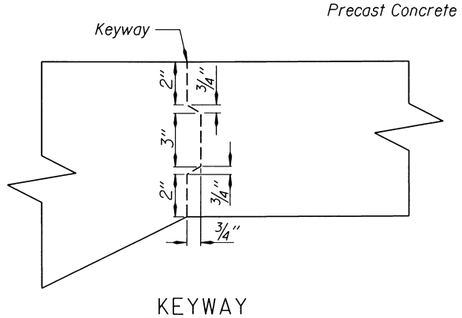
NOT TO SCALE

Note:
Remove last 1½" of prestressing strands and patch holes.



PANEL CONNECTION DETAIL

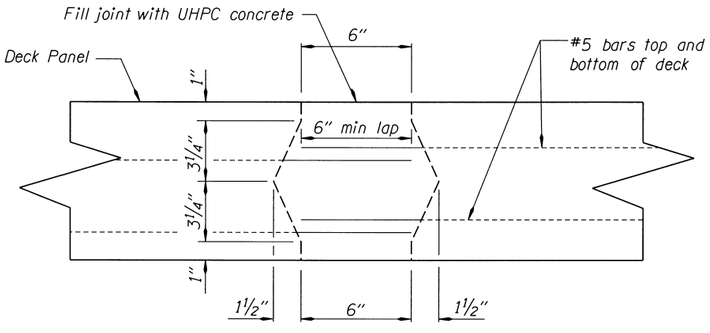
NOT TO SCALE



KEYWAY

NOT TO SCALE

Note:
Reinforcement not shown for clarity.



TRANSVERSE JOINT DETAIL

Scale: ⅛"=1'-0"

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

Extg. structure #00700

	DATE	REVISION	BY
1	10-10-2011	Changed note added dimensions	RBS
2	10-10-2011	Added detail	RBS
3	10-10-2011	Changed name of reviewer and date	RBS

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
DESIGNER: GEORGE F. BORNSTEDT
CHECKER: BOB KASPARI
REVIEWER: 3 STEVEN A. DAVIS

REGISTERED PROFESSIONAL ENGINEER 80,830 OREGON JUNE 29, 2009 GEORGE F. BORNSTEDT
RENEWS: 12-31-2011

OREGON DEPARTMENT OF TRANSPORTATION
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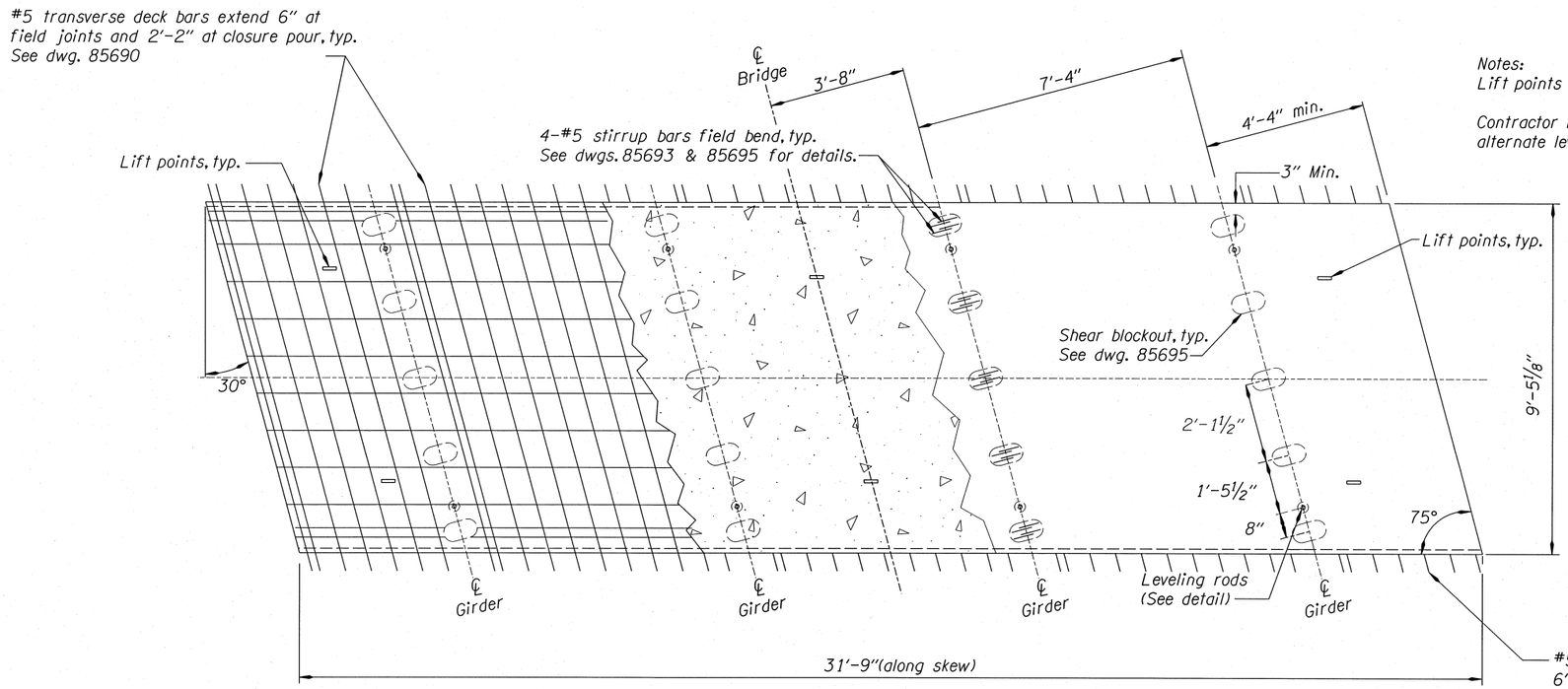
STRUCTURE NO. 21252
3 DATE OCT. - 2011
CALC. BOOK 6165

BURNT RIVER & UPRR HWY 449, MP 2.75
FFO - US30: BURNT RIVER & UPRR BRIDGE PROJECT
HUNTINGTON HIGHWAY
BAKER COUNTY

PRECAST DECK PANEL DETAILS

SHEET 10 OF 26
DRAWING NO. 85690

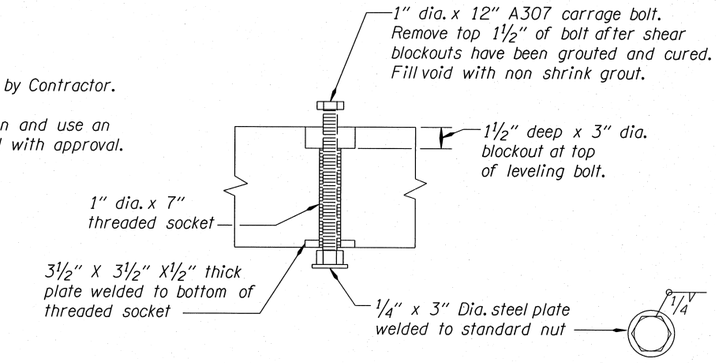


PRECAST DECK PANEL REINFORCEMENT PLAN

Scale: ½"=1'-0"

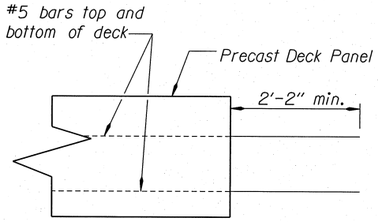
Notes:
Lift points designed by Contractor.

Contractor may design and use an alternate leveling rod with approval.



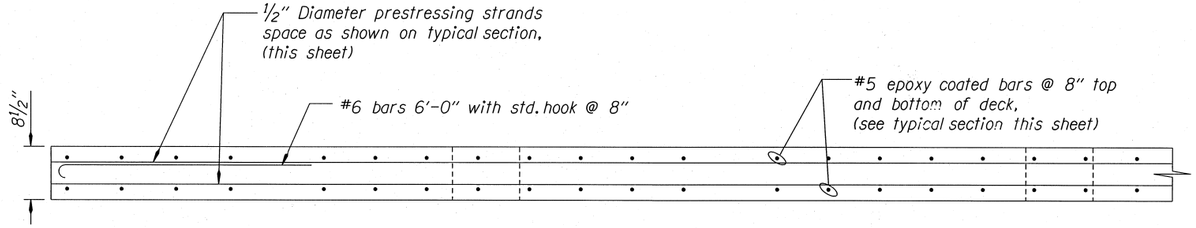
LEVELING BOLT DETAIL

NOT TO SCALE



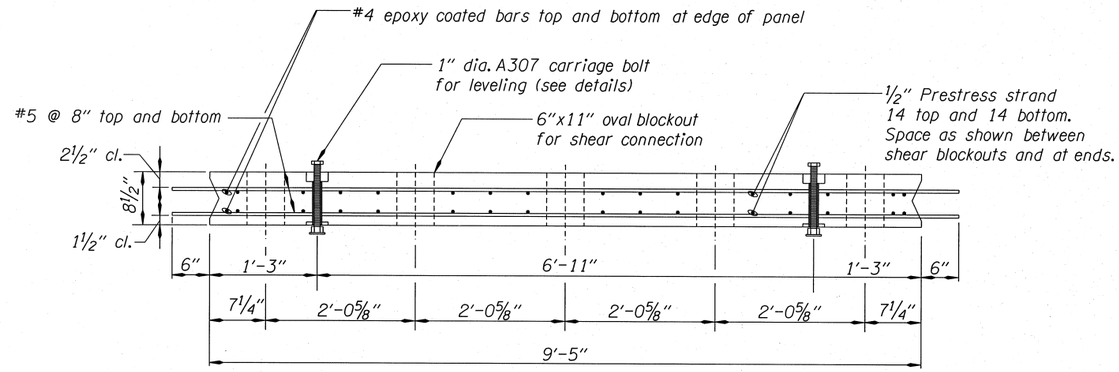
PRECAST PANEL AT CLOSURE POUR DETAILS

NOT TO SCALE



PRECAST DECK PANEL REINFORCEMENT ELEVATION

NOT TO SCALE



PRECAST DECK PANEL TYPICAL SECTION

NOT TO SCALE

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

Extg. structure #00700

	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
DESIGNER: GEORGE F. BORNSTEDT
CHECKER: BOB KASPARI
REVIEWER: MARK HANSON

REGISTERED PROFESSIONAL ENGINEER 80,830 OREGON JUNE 29, 2009 GEORGE F. BORNSTEDT
RENEWS: 12-31-2011

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STRUCTURE NO. 21252
DATE March - 2011
CALC. BOOK 6165

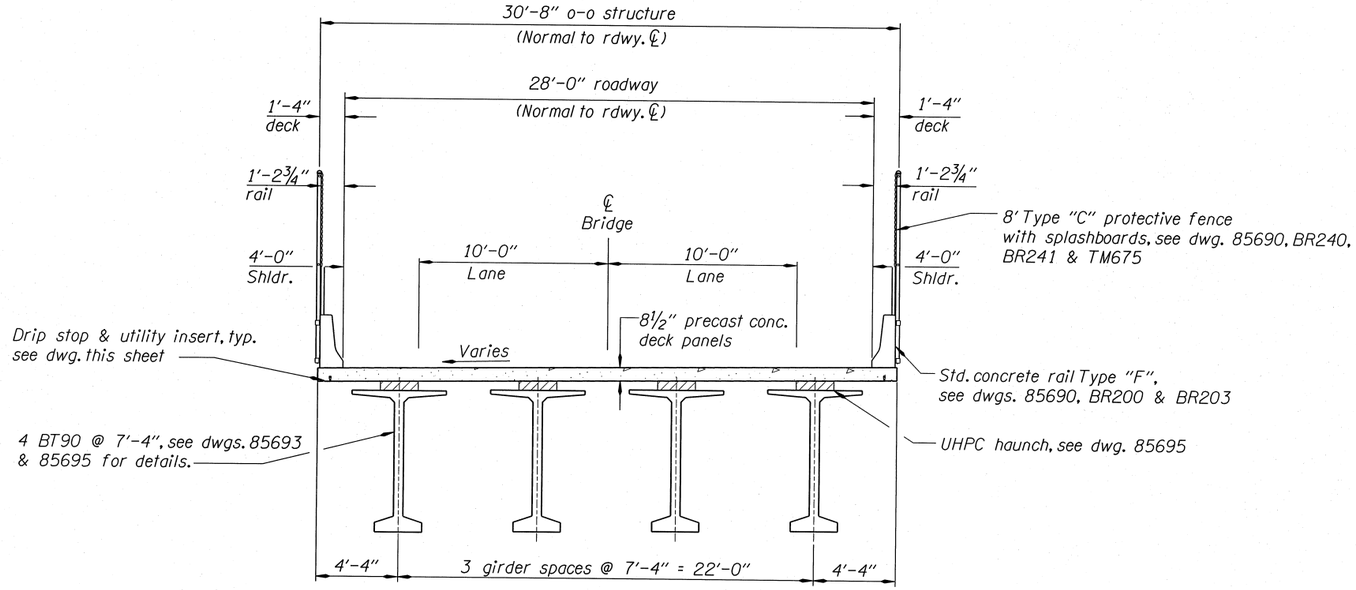
BURNT RIVER & UPRR HWY 449, MP 2.75
FFO - US30: BURNT RIVER & UPRR BRIDGE PROJECT
HUNTINGTON HIGHWAY
BAKER COUNTY

PRECAST DECK PANEL REINFORCEMENT

SHEET 11 OF 26
DRAWING NO. 85691

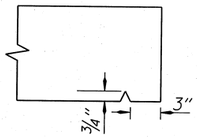
\\sn-reg5hq-1\Proj_Dev\Projects\US30_Burnt_River (UPRR) Bridge\Bridge\FINPlans\rbs21252.dgn :: superstructure 3/21/2011 10:23:01 AM hwyr50i

sht 11 1:24 precast deck reinf



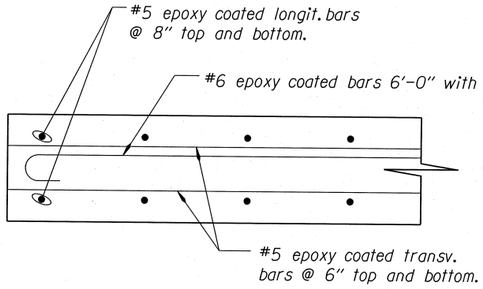
TYPICAL SECTION

Scale: ¼" = 1'-0"



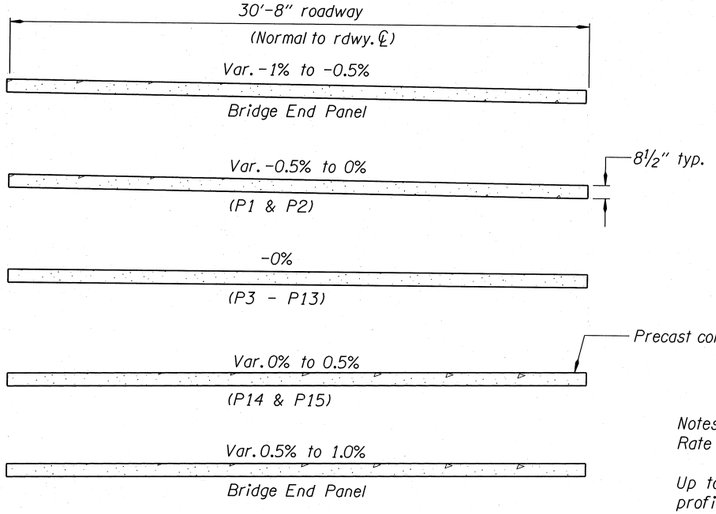
V-GROOVE

NOT TO SCALE



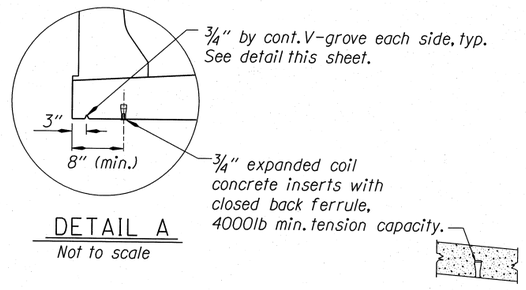
DECK CLOSURE POUR REINFORCEMENT DETAIL

NOT TO SCALE



DECK SECTIONS

Scale: ¼" = 1'



DETAIL A

Not to scale

Notes:
Rate of superelevation shown normal to roadway ℄.

Up to ½" of precast panel maybe used for profile grinding as required.

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

Extg. structure #00700

△	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
DESIGNER: GEORGE F. BORNSTEDT
CHECKER: BOB KASPARI
REVIEWER: MARK HANSON

REGISTERED PROFESSIONAL ENGINEER 80,830 OREGON JUNE 29, 2007 GEORGE F. BORNSTEDT
RENEWS: 12-31-2011

OREGON DEPARTMENT OF TRANSPORTATION
Region 5 Tech Center
BRIDGE ENGINEERING
3012 Island Ave.
La Grande, OR 97850
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STRUCTURE NO. 21252
DATE March - 2011
CALC. BOOK 6165

BURNT RIVER & UPRR HWY 449, MP 2.75
FFO - US30: BURNT RIVER & UPRR BRIDGE PROJECT
HUNTINGTON HIGHWAY
BAKER COUNTY

TYPICAL DECK SECTION

SHEET 12 OF 26
DRAWING NO. 85692

Note:
Negative values for "F_L" or "F_R" indicates that corner of top slab extends beyond end of girder web.

"E_L"
"F_L"
Flare #3 transverse bars @ 6" max. as req'd
"E_R"
"F_R"
12" min.
#4 "U" bars @ 12" max. each end of girder

TYPICAL PLAN

℄ Span
"DL"
See deck plans for diaphragm beams
"DR"
θ
Use in staggered steel diaphragm beams. Provide 8 -1¼" holes in girder webs for 8-1" dia. bolts, typ.
6"
6"
web
5'-0" Flange
℄ holes or inserts

End beam per project plans
"E_L"
"F_L"
½"
Pour this part of flange for exterior side of exterior girders, typ. each end
Chamfer corners when angle is less than 60° "D_L" and "D_R"
"E_R"
"F_R"

Negative Direction
Positive Direction

Extend stirrup bars 6" into closure pour See dwg. 85695
2"
8 @ 2¼" 1'-6"
9 @ 4" #4 "U4"
"a" = 18 @ 6" #4 "U4" stirrups
"b" = 12 @ 12" #4 "U4" stirrups
1'-6" max. ctrs.
Diaphragm ℄'s, see dwg. 85694
2'-7¼"
1'-6" max. #4 "U4" stirrups
Extend 4-#5 bars into shear pockets, embed 3'-0" into girder, typ.
Noncomposite stirrups
1'-10½" typ.
9-#5 "U5" stirrups each end. Vary spacing to avoid insert or hole locations
2-#5 x 4'-6" L-bars (std. 90° hook)

* CONCRETE INSERTS:
Expanded coil concrete inserts with closed-back ferrule threaded to receive 1" dia. x 2'-3" rods AASHTO M314, GR36 (ASTM A307) threaded full length.

Note:
Minimum insert length = 5½"
Minimum safe working load in tension = 6,000lbs

6" to 2'-6" equal spacing
℄ dual hold downs (deflected strands 14)
Strand c.g.
9½"
1¼" holes for 1" bolts, typ see dwg. 85694
6" 6" 6" 6"
#4 "U4" stirrups
16"
#4 "U" bars @ 12" max. each end of girder
10"
℄ Bearing
#3 "U3" bars
0.4 Span Length (ctr. - ctr. bearing) ±2'-6"
℄ hold down
"yc"
Diaphragm ℄
Diaphragm ℄ Opp. side
1'-11½"
2-#5 "U6" bars at each end of girder
Horizontal girder length "A" (add grade correction and estimated shortening allowance to "A" for fabrication length)

3"
4"
7"
4-1" dia. conc. inserts (*) in exterior girder webs and 4-2" dia. holes thru interior girder webs for 4-#7 x 6'-0" bars (unless shown otherwise on detail plans)
Strand c.g.
4"
1'-6" "ye"
℄ Bearing
10"

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

BACK END OF GIRDER (ON STATIONING)

AHEAD END OF GIRDER (ON STATIONING)

Note:
Girder details are symmetrical except as noted otherwise

TYPICAL ELEVATION

TYPICAL DETENSIONING ORDER

DETENSIONING NOTE:
Detension strands in a systematic order about girder ℄ to limit eccentricity.

Girder ℄
Strand
⑧ ① ② ⑦
⑨ ④ ③ ⑩
⑫ ⑤ ⑥ ⑪

NOTES:
Provide all material and preform all work according to the current Oregon Standard Specifications.
Girders designed for live loading and superimposed dead load as shown in the General Notes.
Provide reinforcing steel as shown in the General Notes except as noted. Provide welded wire fabric conforming to ASTM A497.
Provide 0.6" dia. 7-wire low relaxation strands conforming to AASHTO M203 (ASTM A416), Grade 270, Supplement 1. Provide an initial tension (after harping deflected strands) of 44.5 kips per strand unless shown otherwise on Girder Schedule.
Provide the class of concrete shown on Girder Schedule.
Keep girders in an upright position w/the support points within 2'-0" of the girder ends.
Deflected strands may be bundled between hold-down points.
Provide temporary diaphragm beams as required, see BR350.
Ensure girder ends are plumb in their final position under full dead load.

Field bend 6" min. 90 deg hook as shown in blockouts after deck panel has been placed to final position
5'-0"
1'-2"
6-#5 bars cont.
½" cl.
6"
2½"
4½"
#3 x 4'-10" @ 6"
10-#3 x cont. @ 6" (or 6 x 6 - D12 x D12 welded wire fabric)
3"
3"
2"
2'-3"
6" web
#4 "U4" stirrups (2 bars each stirrup)
#3 "U3" bars (#3 "U3a" bars where deflected strands conflict) at each "U4" stirrup and at alternate "U5" stirrup
1" min. cl. unless shown otherwise (typ)
7'-6" BT90
12"
6'-4"
See Bulb Detail

COMPOSITE SECTION

6"
1'-2"
3'-0"

ADDITIONAL STIRRUP BARS

6"
5'-0"

1½"
1'-6" hook for noncomposite bars not in shear pockets or closure pours. typ.
9-#5 "U5" stirrups (2 bars each stirrup)
2-#5 x 4'-6" L-bars (std. 90° hook)
Deflected strands @ 2" ctrs.
"he"
"ye"
c.g. strands
2-#5 "U6" bars of each end of girder
2'-6"

NON-COMPOSITE SECTION

4'-4"
3"
0-0
Slant bars as required to fit inside "U5" stirrups.

BAR "U" (ASTM A706)

"m" = girder depth + 4¼" (closure pours)
"m" = girder depth - 1½" (non composite)

6"
"m"
2" dia. tight bend for #5 this bend only
4"
1'-4"

BAR "U4" or "U5"

14"
8⅝"
2'-4"

BAR "U3"

4" 10"
12½"
3½"

BAR "U3a"

(Use in lieu of "U3" bars when deflected strands conflict).

BAR BENDING DETAILS

Upper group deflected strands (10 max.)
Middle group deflected strands (10 max.)
Lower deflected strand group (10 max.)
2" 2 @ 2-4"
2"
2"
0.6" spacing deflected strands at midspan
c.g. strands at midspan
"yc"
2¼" 5@2"= 10" 0.9" (typ.)
2¾"
2'-6"
"hc" ≥ 3" at midspan
Chamfer soffit corners 1" max.

BULB DETAIL

Accompanied by dwg. BR350

Extg. structure #00700

	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
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CHECKER: BOB KASPARI
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REGISTERED PROFESSIONAL ENGINEER
80,830
OREGON
JUNE 29, 2009
GEORGE F. BORNSTEDT
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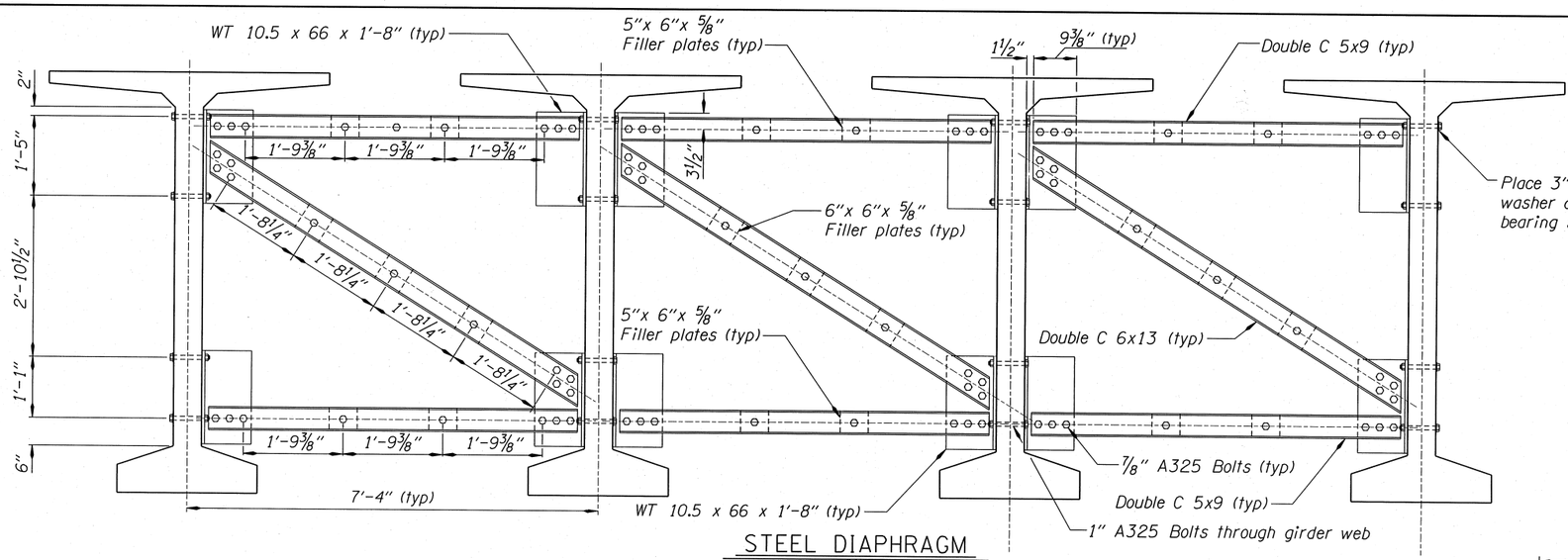
HUNTINGTON HIGHWAY
BAKER COUNTY

BT90 GIRDER DETAILS

SHEET 13 OF 26
DRAWING NO. 85693



STEEL DIAPHRAGM

Scale: ¾"=1'-0"

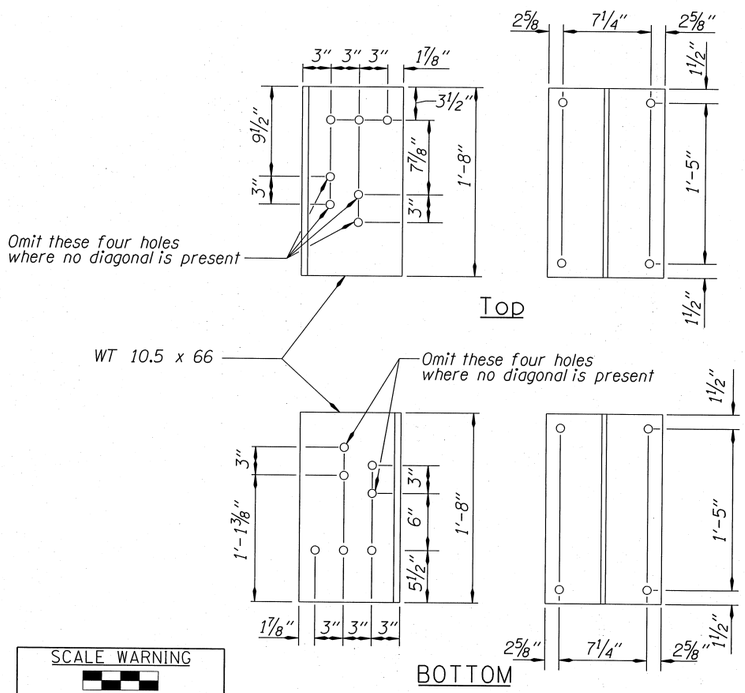
Notes:
All steel shall be ASTM A709 (AASHTO M270), Grade 50

All steel shall be hot dip galvanized after fabrication.

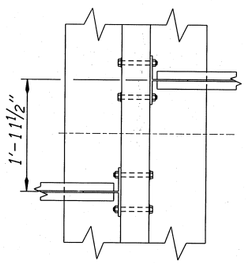
Field drill all "WT"-plates to ensure fit-up, eliminate sweep and accommodate differential camber.

Provide 2-coats of re-galvanizing compound conforming to ASTM A780 to all field drilled holes.

See dwg. 85689 & 85693 for diaphragm locations.



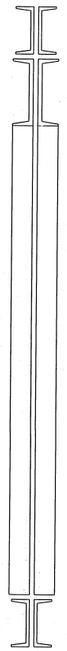
Note:
Field verify hole spacing in Girders before fabrication.



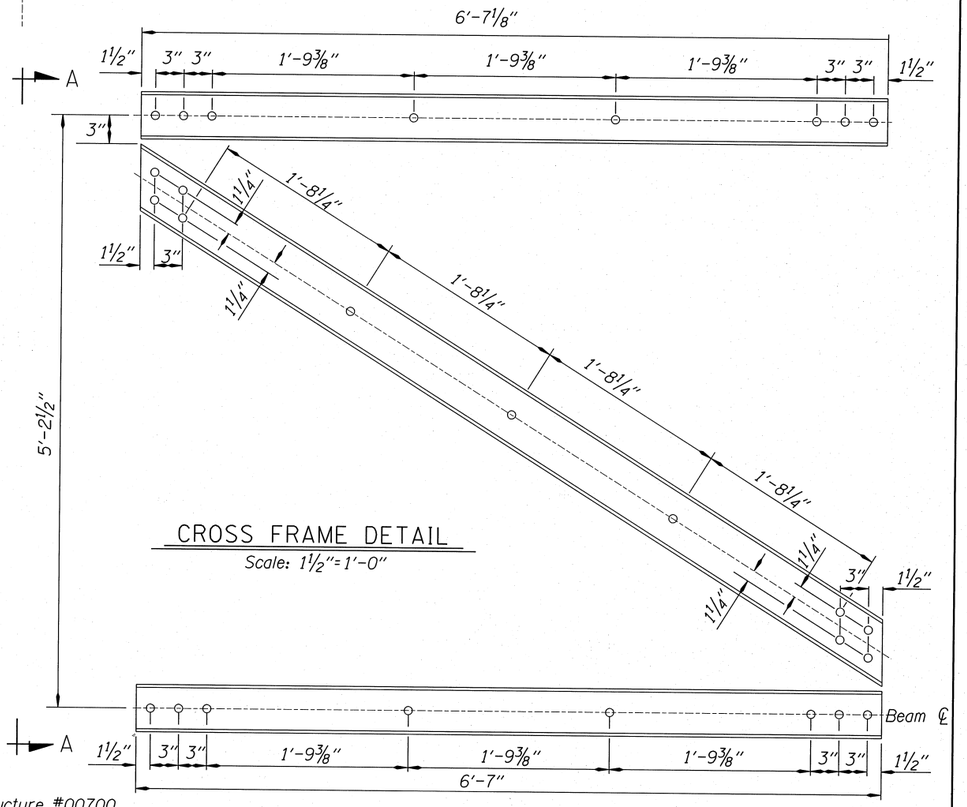
SKEW OFFSET

Scale: 1½" = 1'-0"

Note:
Some components not shown for clarity.
See details above.



VIEW A-A



CROSS FRAME DETAIL

Scale: 1½"=1'-0"

Extg. structure #00700

CONNECTION BRACKET DETAILS

Scale: 1½" = 1'-0"

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

△	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

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REGISTERED PROFESSIONAL ENGINEER 80,830 OREGON JUNE 29, 2009 GEORGE F. BORNSTEDT
RENEWS: 12-31-2011

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HUNTINGTON HIGHWAY
BAKER COUNTY

MIDSPAN DIAPHRAGM DETAILS

SHEET 14 OF 26
DRAWING NO. 85694

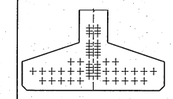
\\sn-reg5hq-1\Proj_Dev\Projects\US30_Burnt_River (UPRR) Bridge\Bridge\FINPlans\rbs21252.dgn :: superstructure 3/21/2011 10:23:15 AM hwyr50i

sht 14 1:0016 girder details

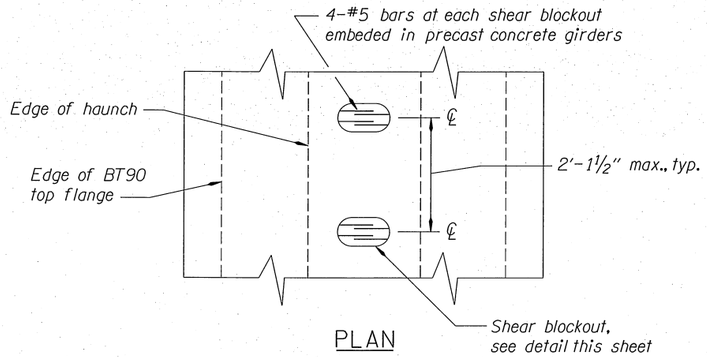
GIRDER SCHEDULE

Girder Type	Girder Number	Number Required	LT. = Lt. Exterior RT. = Rt. Exterior	Span Number	Span ctr. - ctr. Bents along Girder ℄	"A", o-o Girder (Horiz. length after shortening)	Girder Wt., Kips	Concrete Strength @ 28 Days, KSI	Concrete Strength @ Release, KSI	Initial Tension per Strand, Kips	Number of Strands per Girder, "N"	Deflected Strands per girder, "Ds"	Figure Number for Strand Pattern	Reinforcing Bars: Stirrup spaces "a"	Reinforcing Bars: Stirrup spaces "b"	Reinforcing Bars: (Stirrup leg) "m"	Diaphragm: Negative Value Indicates back from midspan "D_L"	Diaphragm: Negative Value Indicates back from midspan "D_R"	Back End (On Stationing): End Block	Back End: Negative Value Indicates Point beyond Girder End "F_L"	Back End: "E_L"	Back End: "E_R"	Back End: "F_R"	Ahead End (On Stationing): End Block	Ahead End: Negative Value Indicates Point beyond Girder End "F_L"	Ahead End: "E_L"	Ahead End: "E_R"	Ahead End: "F_R"	Estimated Midspan Deflection: Upward at Release	Upward 3 months after Release	Down Due to Deck Dead Load	Down Due to Rail & Diaphragm	Est. Shortening 2 weeks after Release
BT90	A1	1	Lt.	1	160.0′	161.67	161.6	8.5	7.5	44.5	52	26	1	18	12	Var.	XX	-11¾"	No	4"	10¾"	9¼"	11¼"	No	0	9¼"	10¾"	2′-3⅜"	3⅝"	6¼"	2¼"	¾"	⅞"
BT90	B1	1		1	160.0′	161.67	161.6	8.5	7.5	44.5	52	26	1	18	12	Var.	11¾"	-11¾"	No	2′-3⅜"	10¾"	9¼"	11¼"	No	11¼"	9¼"	10¾"	2′-3⅜"	3⅝"	6¼"	2¼"	¾"	⅞"
BT90	C1	1		1	160.0′	161.67	161.6	8.5	7.5	44.5	52	26	1	18	12	Var.	11¾"	-11¾"	No	2′-3⅜"	10¾"	9¼"	11¼"	No	11¼"	9¼"	10¾"	2′-3⅜"	3⅝"	6¼"	2¼"	¾"	⅞"
BT90	D1	1	Rt.	1	160.0′	161.67	161.6	8.5	7.5	44.5	52	26	1	18	12	Var.	11¾"	XX	No	2′-3⅜"	10¾"	9¼"	0	No	11¼"	9¼"	10¾"	4"	3⅝"	6¼"	2¼"	¾"	⅞"

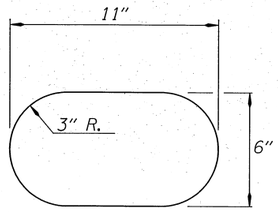
FIGURE 1



"N"	52	
"D_S"	26	
"y_c"	5.72	
"h_c"	3"	
	Back	Ahead
"y_e"	22.77"	22.77"
"h_e"	30"	30"

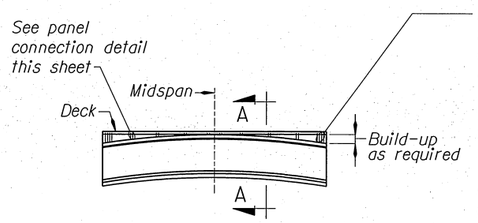


PLAN



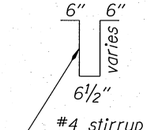
SHEAR BLOCKOUT DETAIL

NOT TO SCALE

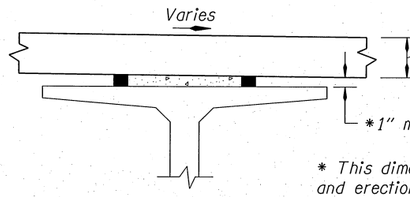


BUILD - UP DECK DETAIL

When the girder build-up exceeds 3" and/or the girder stirrups extend less than 2" into closure pour deck, add #4 stirrup extensions. Place stirrup extensions at each girder stirrups and tie to the girder stirrup. Where girder stirrup spacing is 6" or less, place stirrup extentions @ 12" max. See closure pour detail this sheet.

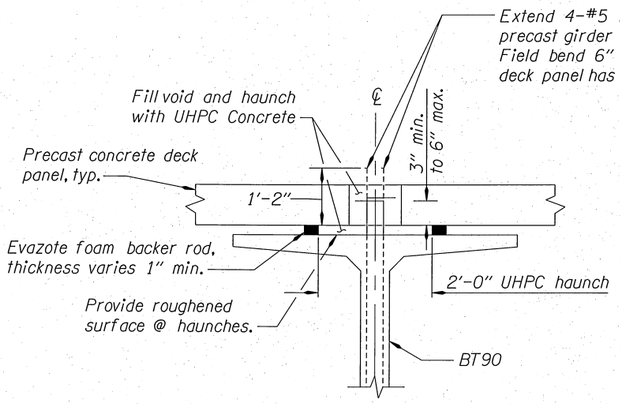


Ensure girder soffits are on level grade prior to prestressing. Use build-up over girders to compensate for the difference between deck elevation and girder camber.



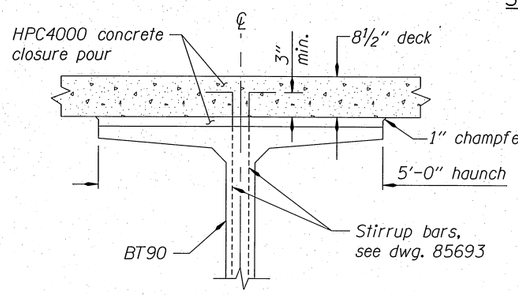
SECTION A-A

* This dimension assumes girder fabrication and erection will meet the required deck elevations. In case of variations, lower girder to meet corrected elevation.

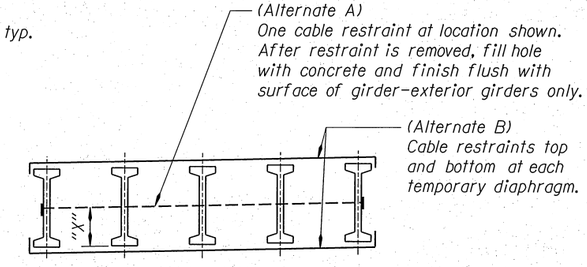


ELEVATION

PANEL CONNECTION



CLOSURE POUR



GIRDER RESTRAINT DIAGRAM

Notes:

Provide temporary diaphragms as required.

Temporary midspan diaphragms not required if permanent diaphragms are used.

Provide temporary bracing from top flange to top flange at midspan until permanent diaphragms are installed.

Provide inserts or other connection devices. Do not use girder reinforcement as part of temporary bracing connections.

Snug fit prestressed girders against forms prior to diaphragm pour. Restraints to remain in place a min. of two days after completion of diaphragm pour.

Transport and place precast members in accordance with Section 00550.49 of the Standard Specifications for Highway Construction.

For BT90 Girder general details, see dwg. 85693

Provide Evazote compressible foam backer rod or approved equal per UHPC manufacturer's recommendation.

Install Evazote backer rod to form a tight seal between girder and precast panels to accommodate girder camber and fully contain UHPC.

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

Extg. structure #00700

△	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
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REGISTERED PROFESSIONAL ENGINEER 80,830 OREGON JUNE 29, 2009 GEORGE F. BORNSTEDT
RENEWS: 12-31-2011

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STRUCTURE NO. 21252
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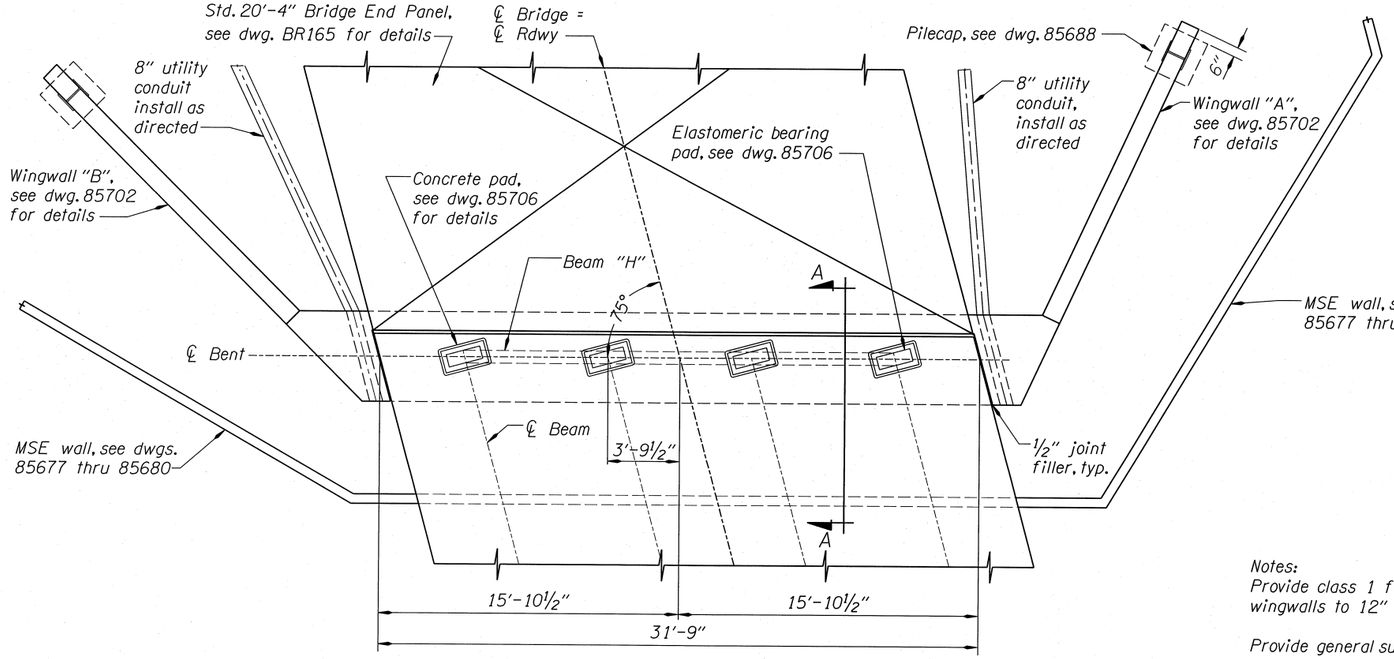
HUNTINGTON HIGHWAY
BAKER COUNTY

GIRDER SCHEDULE

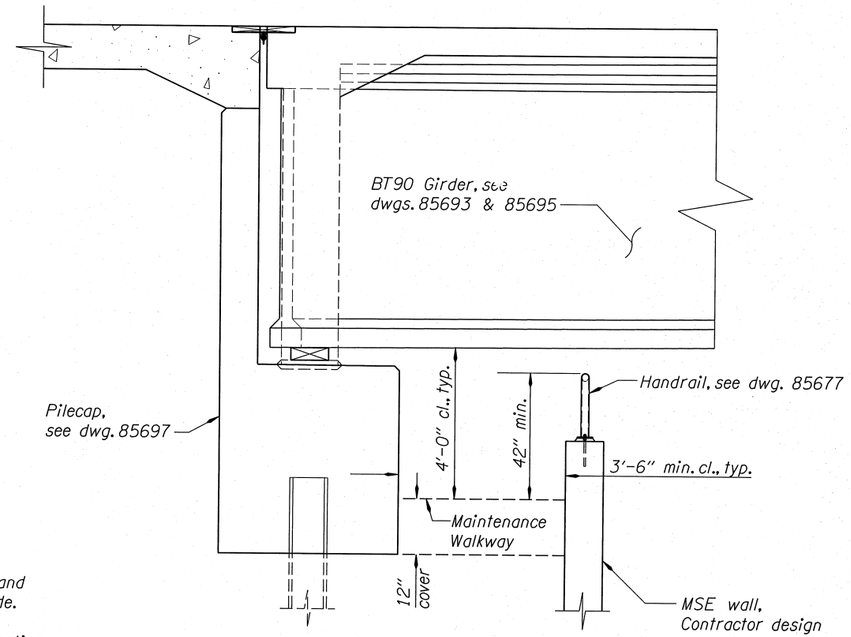
SHEET 15 OF 26
DRAWING NO. 85695



PLAN: BENT 1

(Looking back on station)

Scale: ¼"=1'-0"

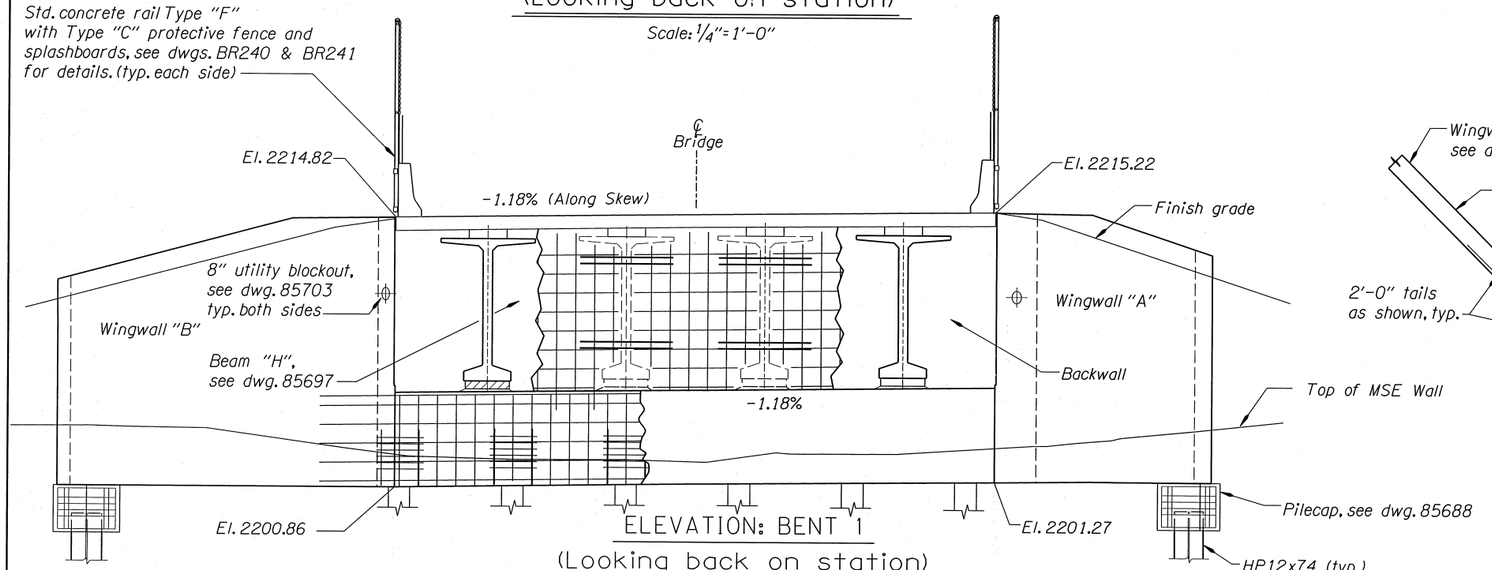


SECTION A-A

NOT TO SCALE

Notes:
Provide class 1 finish to stemwall and wingwalls to 12" below finish grade.

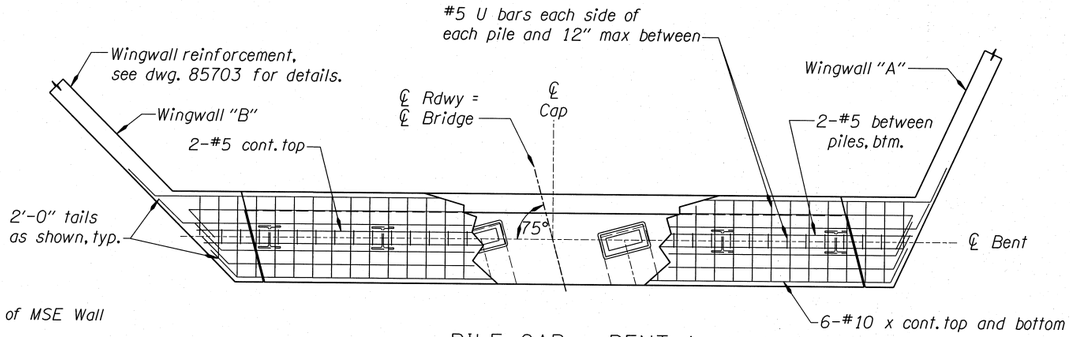
Provide general surface finish to footing, stemwall and wingwalls below grade.



ELEVATION: BENT 1

(Looking back on station)

Scale: ¼"=1'-0"



PILE CAP - BENT 1

(Looking back on station)

Scale: ¼"=1'-0"

Extg. structure #00700

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

	DATE	REVISION	BY

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DRAFTER: RICK B. STANTON

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CHECKER: BOB KASPARI

REVIEWER: MARK HANSON

REGISTERED PROFESSIONAL ENGINEER — 80,830 — OREGON — JUNE 29, 2007 — GEORGE F. BORNSTEDT

RENEWS: 12-31-2011

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CALC. BOOK	6165

BURNT RIVER & UPRR HWY 449, MP 2.75
FFO - US30: BURNT RIVER & UPRR BRIDGE PROJECT
HUNTINGTON HIGHWAY
BAKER COUNTY

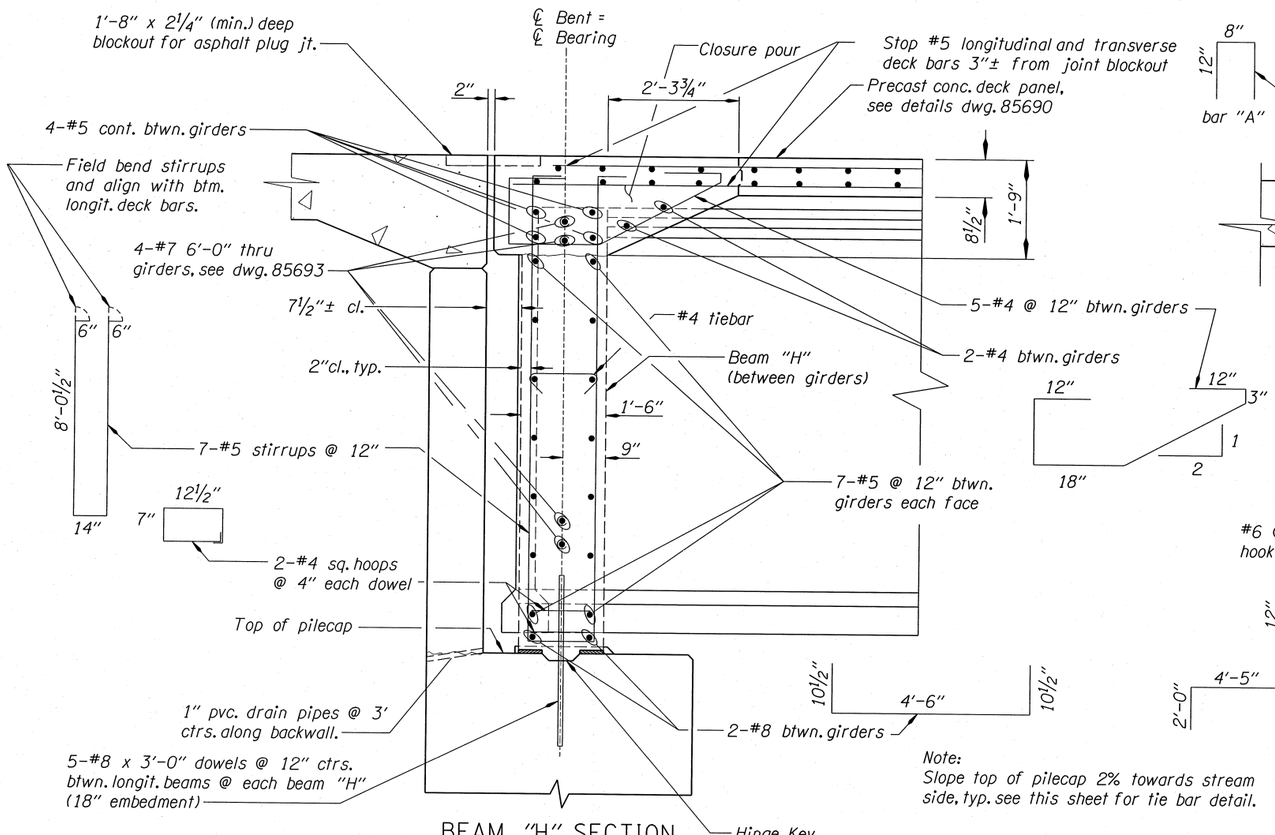
BENT 1 PLAN & ELEVATION

SHEET 16 OF 26

DRAWING NO. 85696

\\sn-reg5hq-1\Proj_Dev\Projects\US30_Burnt_River (UPRR) Bridge\Bridge\FINPlans\rbs21252.dgn :: substructure 3/21/2011 10:26:31 AM hwyr50i

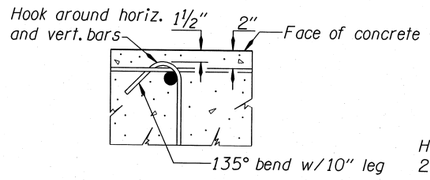
sht 16 1:48 bent 1plan



BEAM "H" SECTION

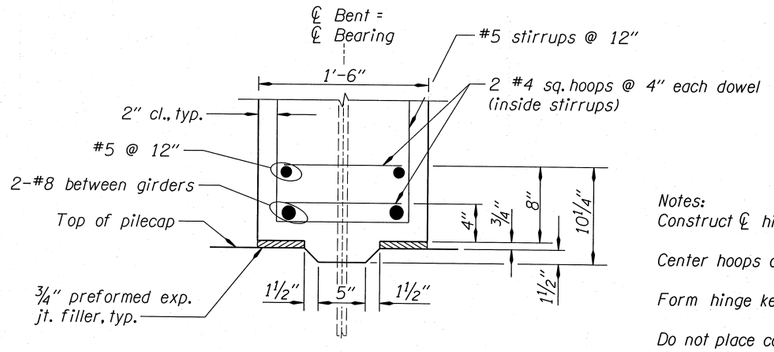
Scale: ¾"= 1'-0"

Note:
Slope top of pilecap 2% towards stream side, typ. see this sheet for tie bar detail.



TIE BAR DETAIL

NOT TO SCALE



HINGE KEY DETAIL

Scale: ¾"= 1'-0"

Notes:
Construct ℄ hinge key and ℄ dowels at ℄ of bearing (±¼").

Center hoops on dowels.

Form hinge key into top of pile cap.

Do not place concrete deck until Beam "H" concrete has achieved the design strength.

Place expansion joint filler between Beam "H" and the elastomeric bearing pad (as required), typ.

Provide 1" chamfer at all exposed corners.

BENT 1 TYPICAL SECTION

Scale: ¾"= 1'-0"

Extg. structure #00700

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

△	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
DESIGNER: GEORGE F. BORNSTEDT
CHECKER: BOB KASPARI
REVIEWER: MARK HANSON

REGISTERED PROFESSIONAL ENGINEER 80,830 OREGON JUNE 29, 2009 GEORGE F. BORNSTEDT
RENEWS: 12-31-2011

OREGON DEPARTMENT OF TRANSPORTATION

Region 5 Tech Center
BRIDGE ENGINEERING
3012 Island Ave
La Grande, OR 97850
(541) 963-3177

STRUCTURE NO. 21252
DATE March - 2011
CALC. BOOK 6165

BURNT RIVER & UPRR HWY 449, MP 2.75
FFO - US30: BURNT RIVER & UPRR BRIDGE PROJECT
HUNTINGTON HIGHWAY
BAKER COUNTY

BENT 1 TYPICAL & BEAM "H"

SHEET 17 OF 26
DRAWING NO. 85697

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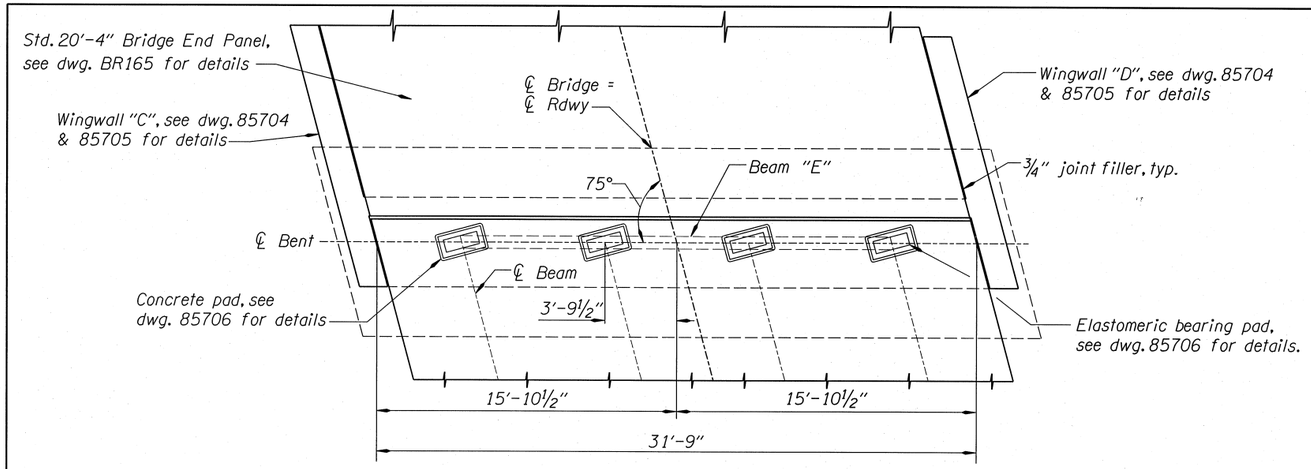
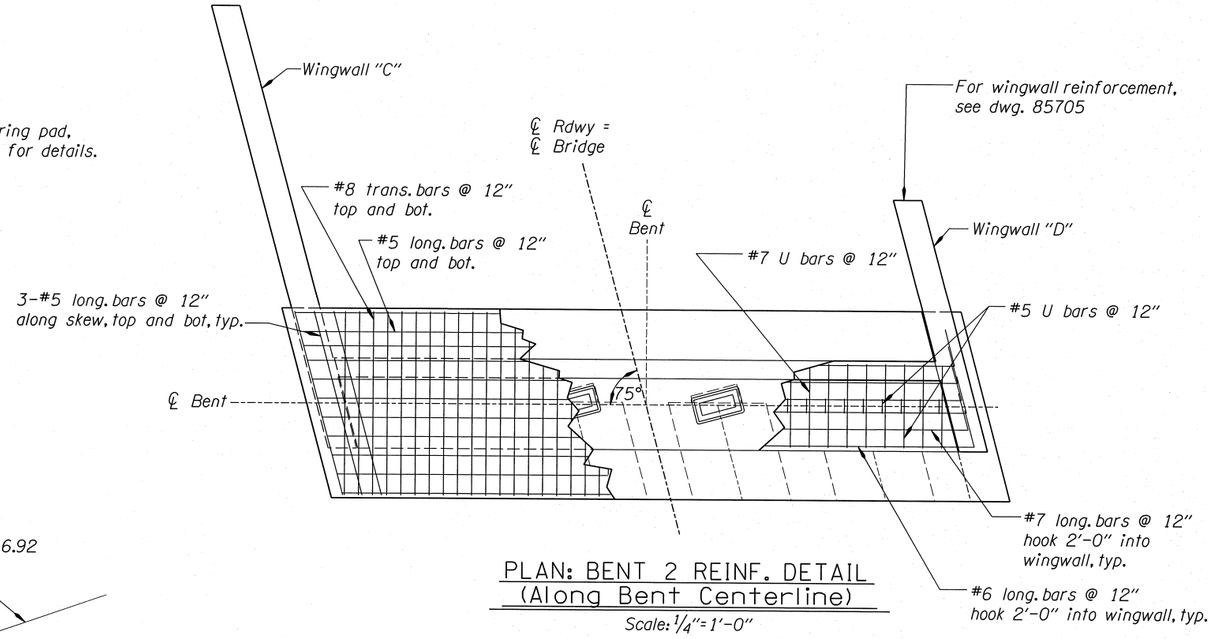
sht 17 1:16 bent 1 typ



PLAN: BENT 2
(Along bent centerline)
Scale: ¼"=1'-0"

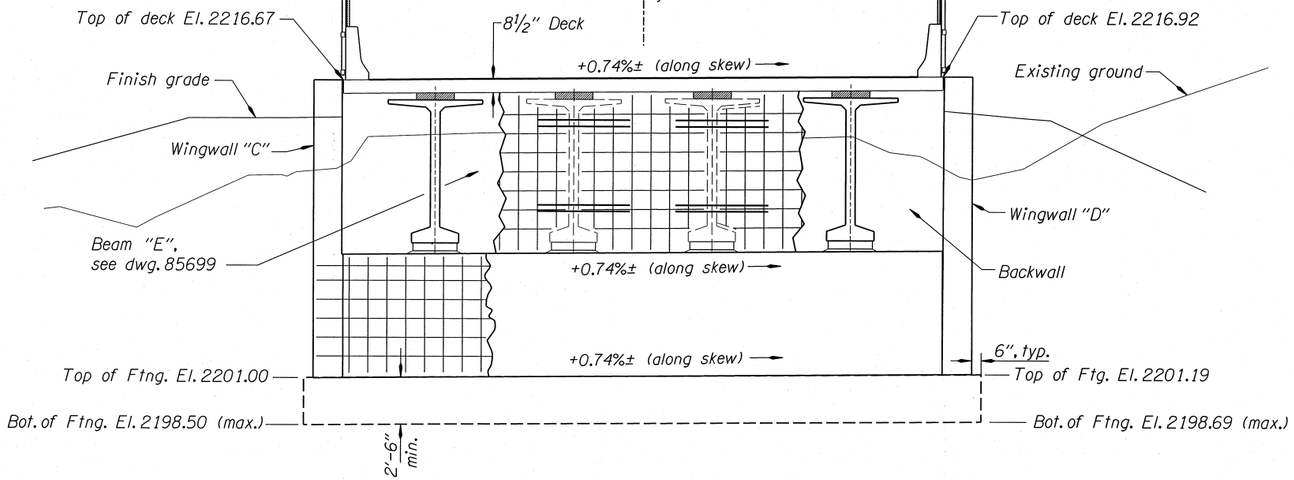


PLAN: BENT 2 REINF. DETAIL
(Along Bent Centerline)
Scale: ¼"=1'-0"

Note:
See dwg. 85699 for details not shown.

Notes:
Provide class 1 finish to stemwall and wingwalls to 12" below finish grade.

Provide general surface finish to footing, stemwall and wingwalls below grade.



ELEVATION: BENT 2
(CENTERLINE BENT ALONG SKEW)
Scale: ¼"=1'-0"

Extg. structure #00700

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
DESIGNER: GEORGE F. BORNSTEDT
CHECKER: BOB KASPARI
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REGISTERED PROFESSIONAL ENGINEER 80,830 OREGON JUNE 29, 2009 GEORGE F. BORNSTEDT
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HUNTINGTON HIGHWAY
BAKER COUNTY

BENT 2 PLAN & ELEVATION

SHEET 18 OF 26
DRAWING NO. 85698

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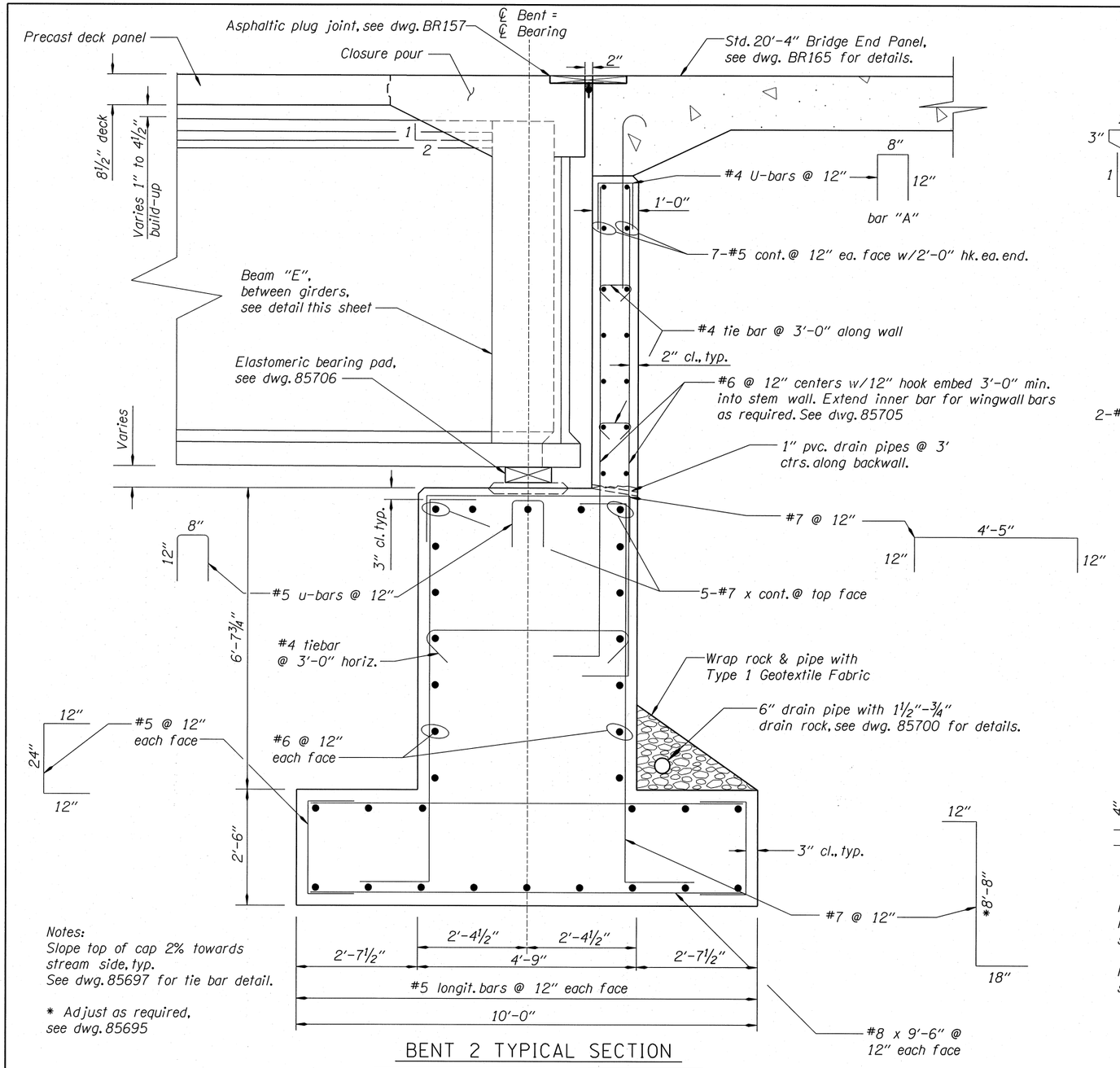
sht 18 1:48 bent 2 plan

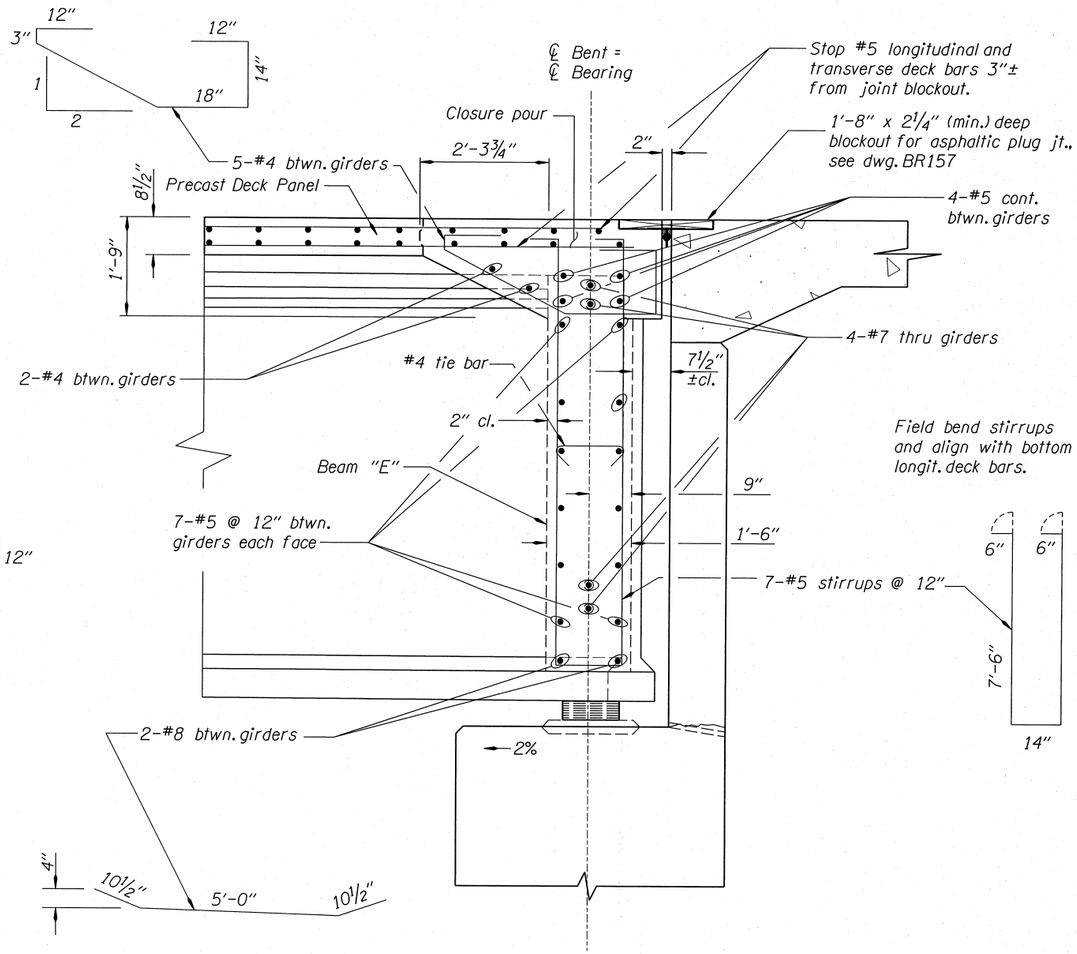


Notes:
Slope top of cap 2% towards stream side, typ.
See dwg. 85697 for tie bar detail.

* Adjust as required, see dwg. 85695

BENT 2 TYPICAL SECTION

Scale: ½"= 1'-0"



Note:
For precast deck reinforcement, see dwg. 85691

For closure pour reinforcement, see dwg. 85692

BEAM "E" SECTION

Scale: ½"= 1'-0"

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

Extg. structure #00700

	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
DESIGNER: GEORGE F. BORNSTEDT
CHECKER: BOB KASPARI
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REGISTERED PROFESSIONAL ENGINEER 80,830 OREGON JUNE 29, 2009 GEORGE F. BORNSTEDT
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STRUCTURE NO.	21252
DATE	March - 2011
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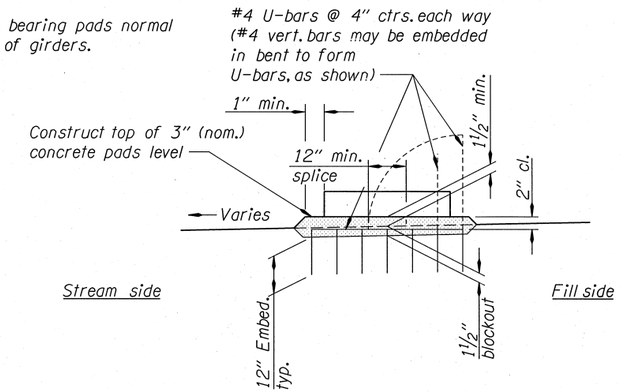
BURNT RIVER & UPRR HWY 449, MP 2.75
FFO - US30: BURNT RIVER & UPRR BRIDGE PROJECT
HUNTINGTON HIGHWAY
BAKER COUNTY

BENT 2 TYPICAL & BEAM "E"

SHEET 19 OF 26

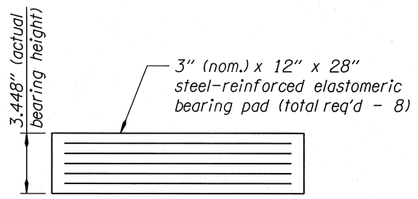
DRAWING NO. 85699

Note:
Place bearing pads normal to ℄ of girders.



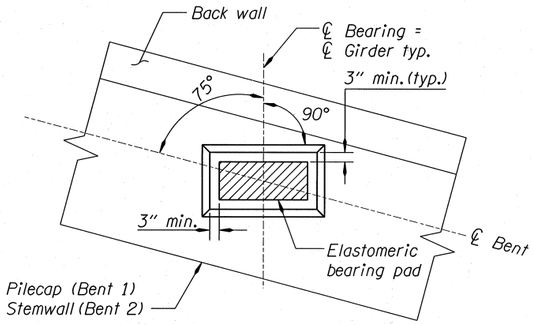
TYPICAL CONCRETE PAD

Not to scale



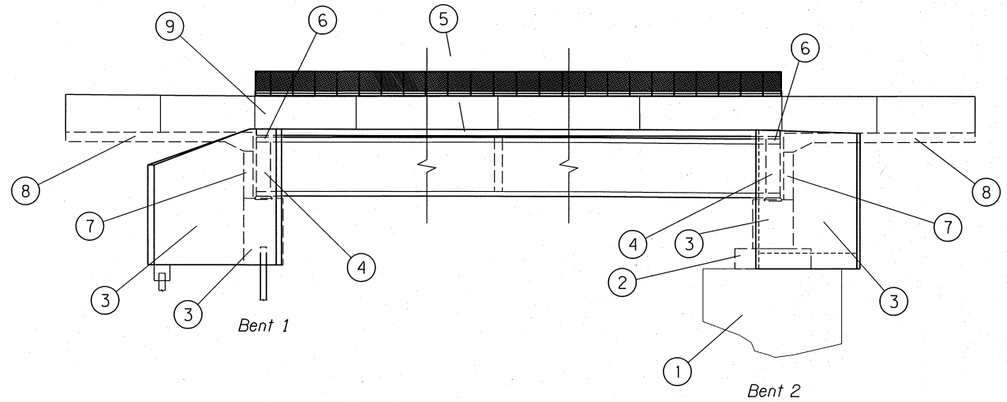
ELASTOMERIC BEARING PAD DETAIL

Not to scale



PLAN

Not to scale



CONCRETE PLACEMENT SEQUENCE

Not to scale

Concrete Classes:	
Concrete Fill Below Foundations Class 3300	(1)
Foundation Class 3300	(2) (7)
General Structural Class 3300	(3) (9)
General Structural Class 4000	(4)
HPC Class 4000	(6) (8)
UHPC Class 17,000	(5)

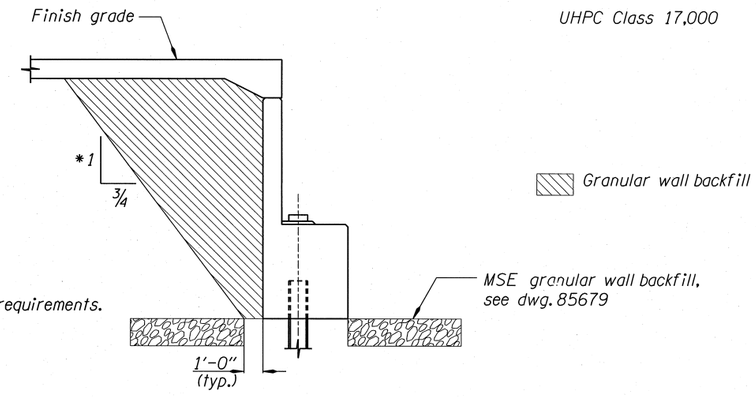
Typical Construction and Concrete Pour Sequence

1. Fill/excavate and drive piles at Bent 1 and rock excavation at Bent 2.
2. Pours (1) include concrete fill below foundations.
3. Pour (2) includes footing at Bent 2 after concrete fill below foundations reaches design strength.
4. Pours (3) include pilecap at Bent 1, stemwall at Bent 2 and wingwalls.
5. Place prestressed girders and steel diaphragms after pile cap concrete and bearing pad grout has reached the design strength.
6. Pours (4) include diaphragm beams "E" and "H".
7. Set Precast Concrete Deck Panels
8. Pour UHPC (5) at shear pockets, panel joints and haunches.
9. Pour (6) includes deck closure pour after beam "E" and "H" have reached the design strength.
10. Pour (7) includes backwalls.
11. Pour (8) includes bridge end panels after backwalls have reached the design strength.
12. Pour (9) includes bridge rail after end panels have reached the design strength.

Notes:
After casting pilecap or stemwall, place 3" (nom.) level concrete pad. Ensure concrete has reached 75% of design strength prior to setting girders.

Casting concrete pad monolithic with pilecap or stemwall will not be allowed.

Place ½" layer of grout, elastomeric bearing pad and prestressed girder before grout is fully set to insure uniform bearing across full width of girder and bearing pad. If uniform bearing is not achieved, lift girder and repeat procedure. Remove any excess grout protruding above bottom of bearing pads immediately after placing girder.



Note:
* Temporary excavation slopes shall meet Oregon OSHA requirements.

BENT 1
STRUCTURAL EXCAVATION AND GRANULAR WALL BACKFILL

Scale: ¼" = 1'-0"

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

Extg. structure #00700

	DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: RICK B. STANTON
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HUNTINGTON HIGHWAY
BAKER COUNTY

CONC. PAD, POUR SEQUENCE & GENERAL DETAILS

SHEET 26 OF 26
DRAWING NO. 85706