

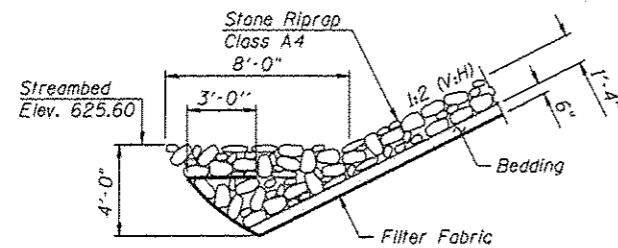
GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60.

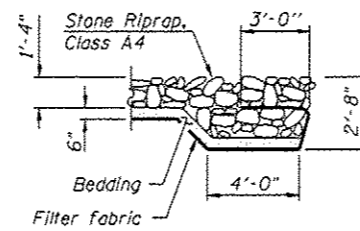
Reinforcement bars designated (E) shall be epoxy coated.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.



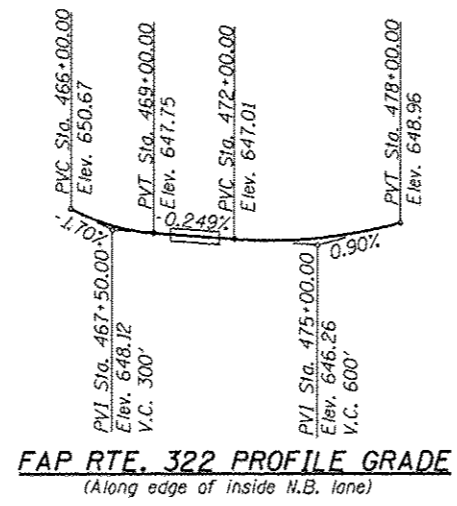
SECTION A-A



SECTION B-B

STATION 470+20.01
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RT. 322 SEC. 11-13
LOADING HS20
STR. NO. 011-0038

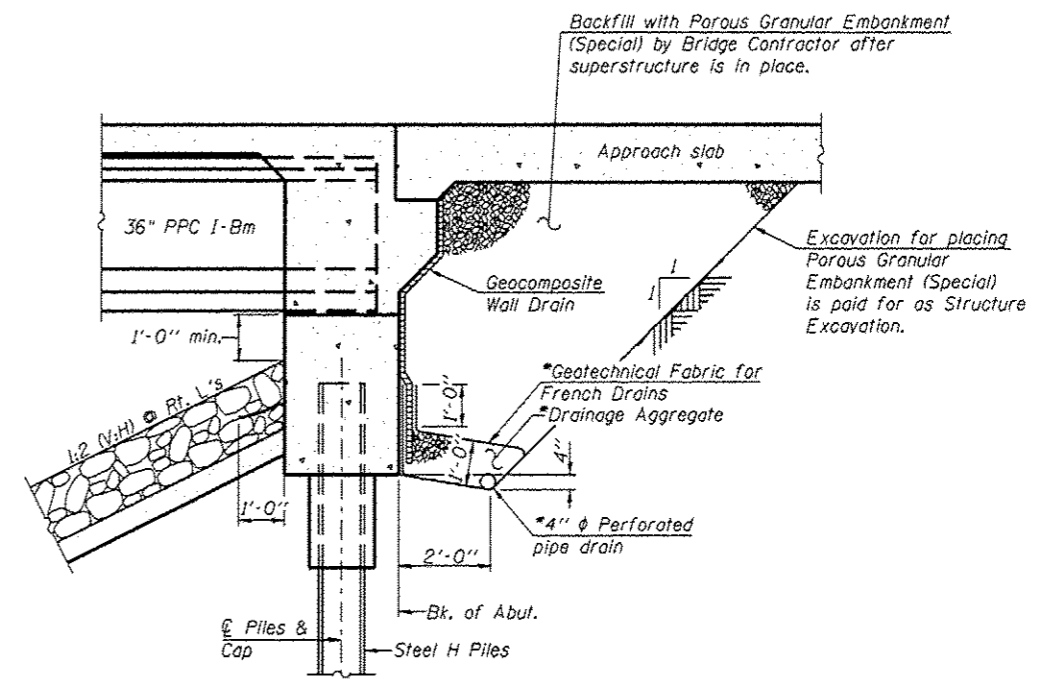
NAME PLATE
See Std. 515001



FAP RTE. 322 PROFILE GRADE
(Along edge of inside H.B. lane)

The profile grade shows the final elevations after grinding.

REVISION 1-7-13



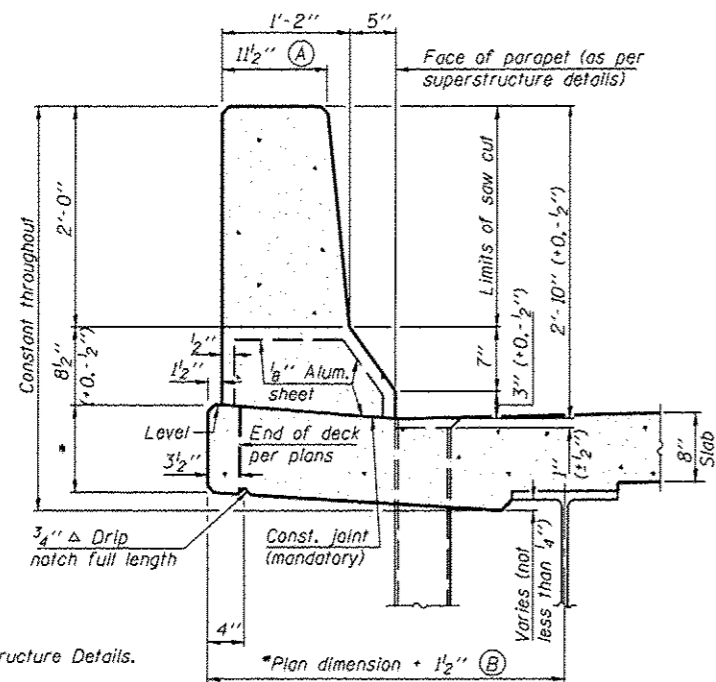
SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures, 4".

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 60110).

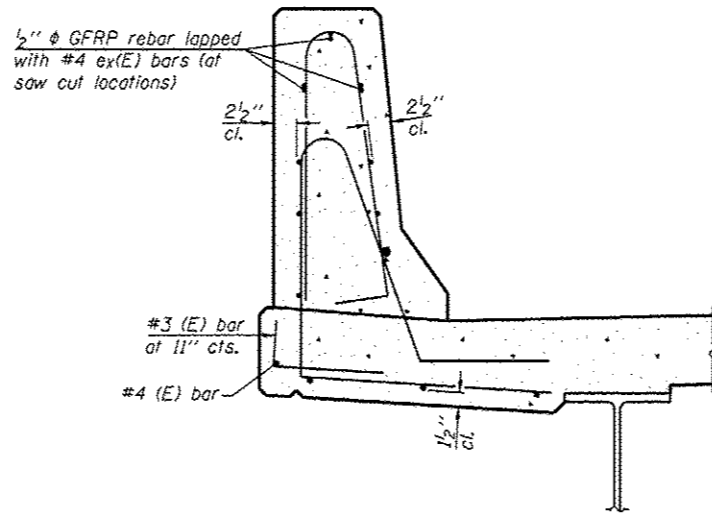
TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|---------|-------|-------|-------|
| Stone Riprap, Class A4 | Sq. Yd. | - | 1234 | 1234 |
| Filter Fabric | Sq. Yd. | - | 1234 | 1234 |
| Structure Excavation | Cu. Yd. | - | 292 | 292 |
| Cofferdam Excavation | Cu. Yd. | - | 5 | 5 |
| Cofferdam (Type 1) - Location 1 | Each | - | 1 | 1 |
| Cofferdam (Type 1) - Location 2 | Each | - | 1 | 1 |
| Floor Drains | Each | 14 | - | 14 |
| Concrete Structures | Cu. Yd. | - | 226.3 | 226.3 |
| Concrete Superstructure | Cu. Yd. | 349.6 | - | 349.6 |
| Bridge Deck Grooving | Sq. Yd. | 771 | - | 771 |
| Concrete Encasement | Cu. Yd. | - | 8.4 | 8.4 |
| Protective Coat | Sq. Yd. | 947 | - | 947 |
| Furnishing and Erecting Precast Prestressed Concrete I-Beams 36" | Foot | 714 | - | 714 |
| Reinforcement Bars, Epoxy Coated | Pound | 71440 | 22620 | 94060 |
| Bar Splicers | Each | 88 | - | 88 |
| Furnishing Steel Piles HPI2x63 | Foot | - | 1436 | 1436 |
| Driving Piles | Foot | - | 1436 | 1436 |
| Test Pile Steel HPI2x63 | Each | - | 2 | 2 |
| Pile Shoes | Each | - | 24 | 24 |
| Name Plates | Each | 1 | - | 1 |
| Geocomposite Wall Drain | Sq. Yd. | - | 76 | 76 |
| Porous Granular Embankment, Special | Cu. Yd. | - | 150 | 150 |
| Pipe Underdrains for Structures, 4" | Foot | - | 132 | 132 |
| Diamond Grinding (Bridge Section) | Sq. Yd. | 734 | - | 734 |



34" F SHAPE PARAPET SECTION
(Showing dimensions)

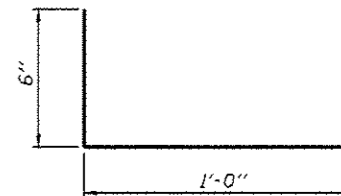
*See Superstructure Details.



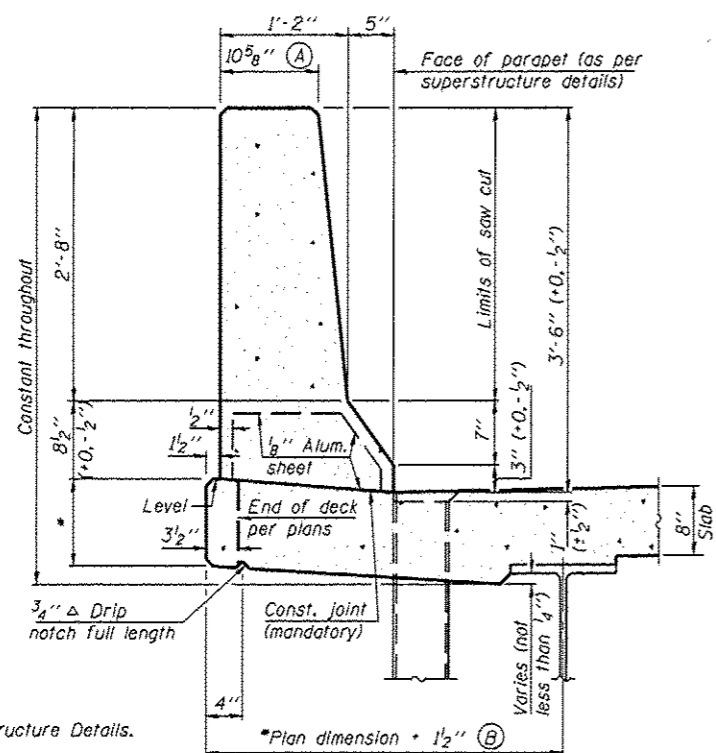
SECTION

(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GENERAL NOTES
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.

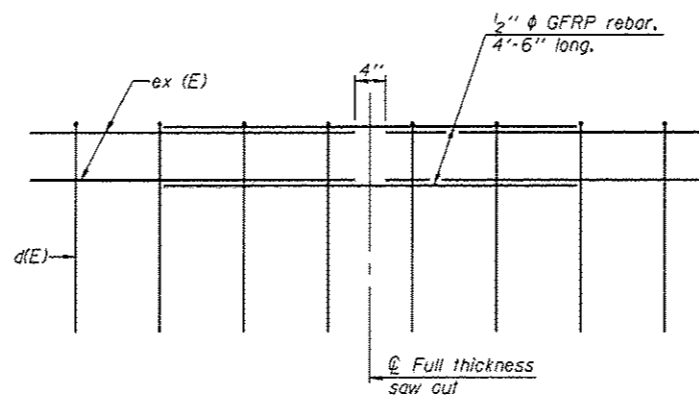


#3 (E) BAR



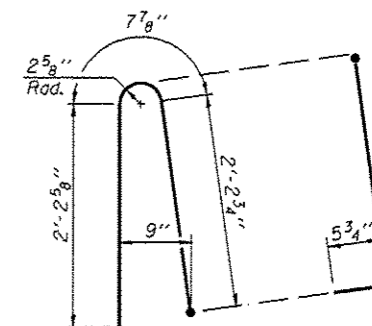
42" F SHAPE PARAPET SECTION
(Showing dimensions)

*See Superstructure Details.

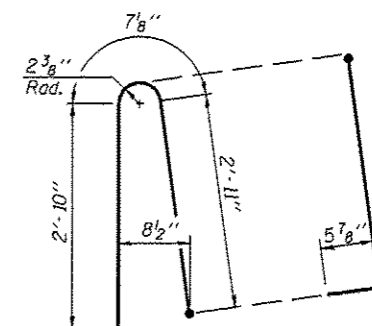


GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)



ALTERNATE BAR d(E)
(For 34" parapet when conduit is present)



ALTERNATE BAR d(E)
(For 42" parapet when conduit is present)

SFP 34-42

8-16-12

▲ SHEET ADDED 1-7-13

| | | | | | | | | | | |
|--|--------------|----------------|--------------------|---|---|---------------------------|---------|-----------|--------------|-----------|
| | USER NAME * | DESIGNED - KWB | REVISED - 11-21-12 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CONCRETE PARAPET SLIPFORMING OPTION STRUCTURE NO. 011-0038 | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | FILE NAME * | CHECKED - MTH | REVISED - | | | 322 | 11-13 | CHRISTIAN | 437 | 184A |
| | PLOT SCALE * | DRAWN - JMD | REVISED - | | | CONTRACT NO. 72961 | | | | |
| | PLOT DATE * | CHECKED - MTH | REVISED - | | | ILLINOIS FED. AID PROJECT | | | | |

SHEET NO. 8A OF 24 SHEETS

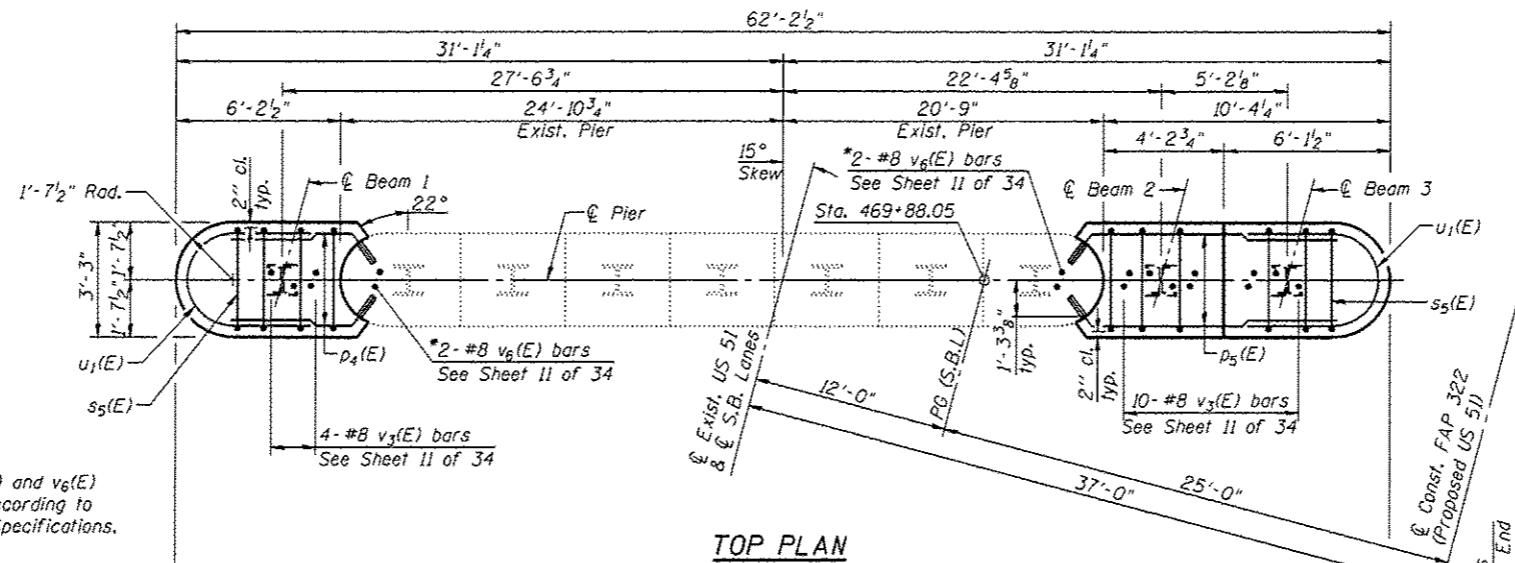
11/21/2012 11:31:47 AM

Notes:
 Pour steps monolithically with cap.
 For details of piles, see sheet 27 of 34.

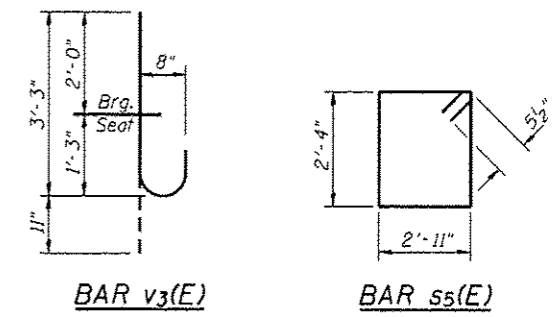
PILE DATA

Type: Steel HP 12x53
 Nominal Required Bearing: 419 Kips/Pile
 Factored Resistance Available: 209 Kips/Pile
 Est. Length: 69 Ft./Pile
 No. Production Piles: 3

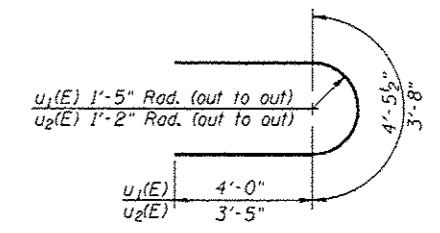
* Epoxy grout $p_4(E)$, $p_5(E)$, $v_1(E)$ and $v_6(E)$ bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.



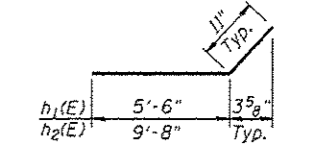
TOP PLAN



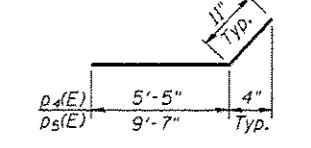
BAR $v_3(E)$ BAR $s_5(E)$



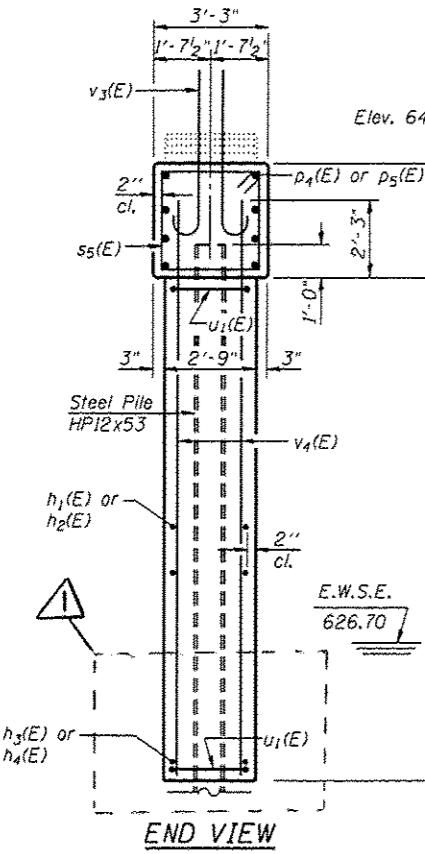
BARS $u_1(E)$ & $u_2(E)$



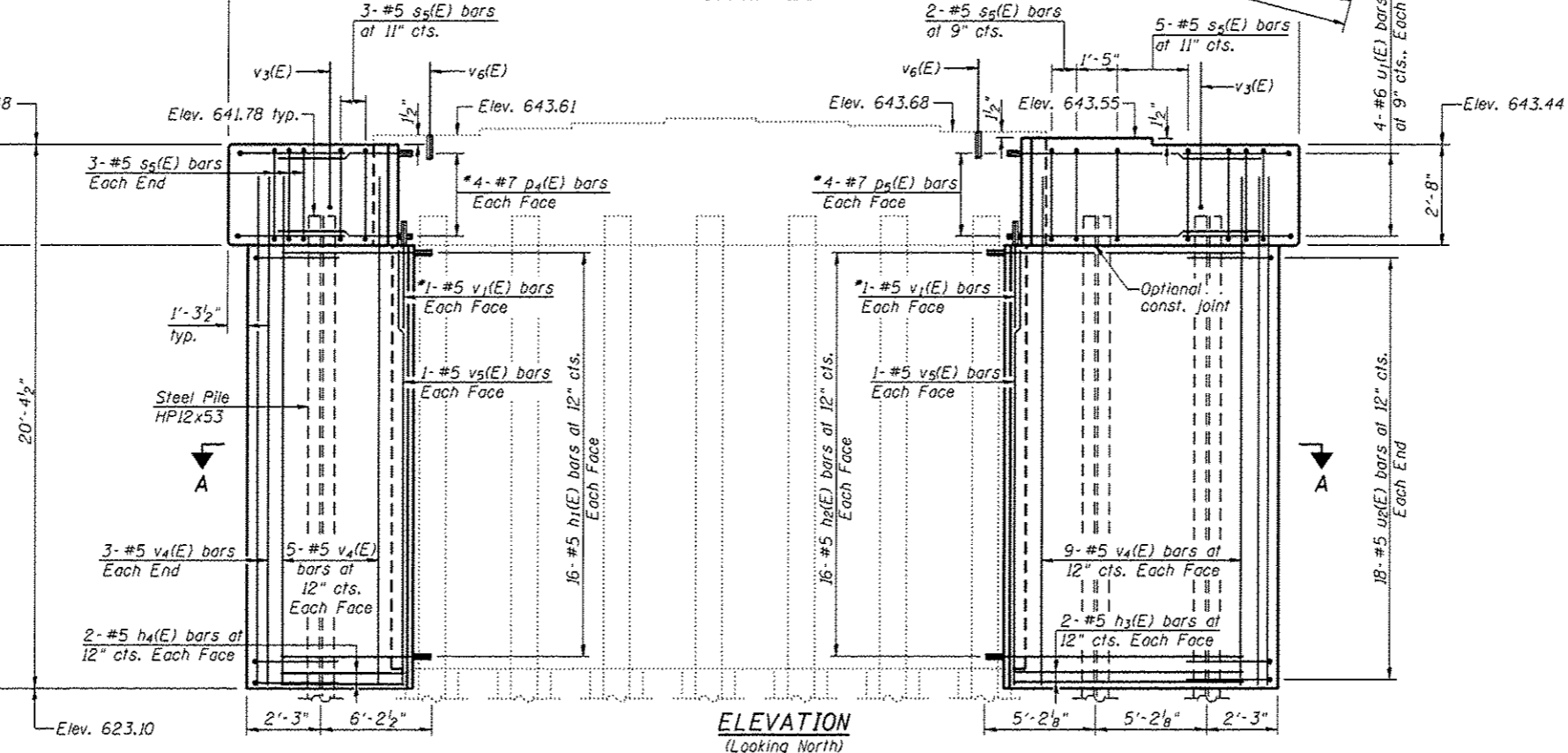
BARS $h_1(E)$ & $h_2(E)$



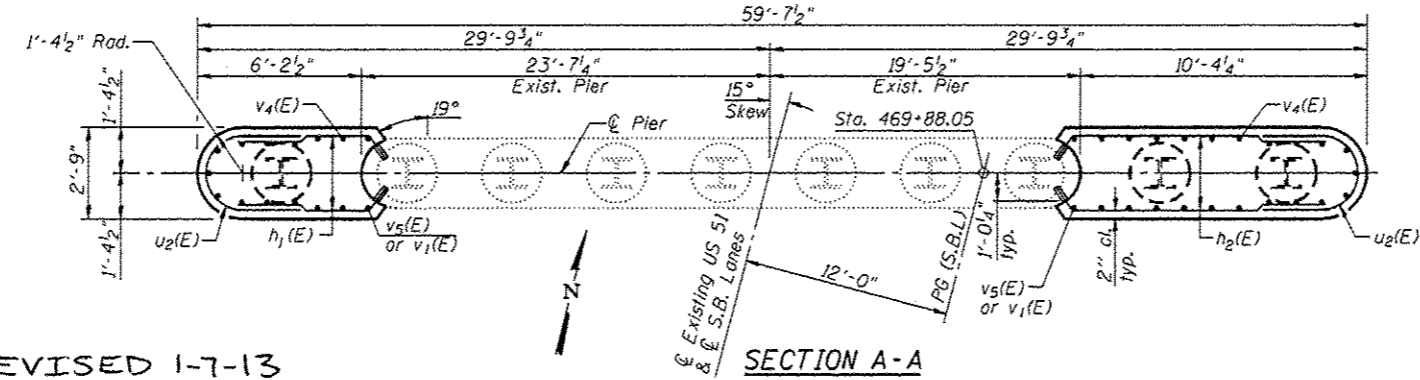
BARS $p_4(E)$ & $p_5(E)$



END VIEW



ELEVATION (Looking North)



SECTION A-A

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| $h_1(E)$ | 32 | #5 | 6'-5" | — |
| $h_2(E)$ | 32 | #5 | 10'-7" | — |
| $h_3(E)$ | 4 | #5 | 9'-8" | — |
| $h_4(E)$ | 4 | #5 | 5'-6" | — |
| $p_4(E)$ | 8 | #7 | 6'-4" | — |
| $p_5(E)$ | 8 | #7 | 10'-6" | — |
| $s_5(E)$ | 16 | #5 | 11'-5" | □ |
| $u_1(E)$ | 8 | #6 | 12'-6" | — |
| $u_2(E)$ | 36 | #5 | 10'-6" | — |
| $v_1(E)$ | 4 | #5 | 4'-4" | — |
| $v_3(E)$ | 14 | #8 | 4'-2" | — |
| $v_4(E)$ | 34 | #5 | 19'-9" | — |
| $v_5(E)$ | 4 | #5 | 17'-4" | — |
| $v_6(E)$ | 4 | #8 | 2'-9" | — |
| Cofferdam Excavation | | | Cu. Yd. | 6 |
| Concrete Structures | | | Cu. Yd. | 35.6 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 2,620 |
| Furnishing Steel Piles HP12x53 | | | Foot | 207 |
| Driving Piles | | | Foot | 207 |
| Cofferdam (Type I) (Location 3) | | | Each | 1 |

REVISION 1-7-13

| | | | | | | | | | | |
|-----------|------------|--------------|------------------------|---|--|-----------------|---------------|------------------|---------------------------|-----------|
| FILE NAME | USER NAME | DESIGNED ADL | REVISED - 11-21-12 RJP | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | PIER #1 STRUCTURE NO. 011-0037 SHEET NO. 24 OF 34 SHEETS | F.A.P. RTE. 322 | SECTION 11-10 | COUNTY CHRISTIAN | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE | CHECKED RJP | REVISED - | | | | | | 437 | 224 |
| | PLOT DATE | DRAWN RJP | REVISED - | | | | | | CONTRACT NO. 72961 | |
| | | CHECKED ADL | REVISED - | | | | | | ILLINOIS FED. AID PROJECT | |

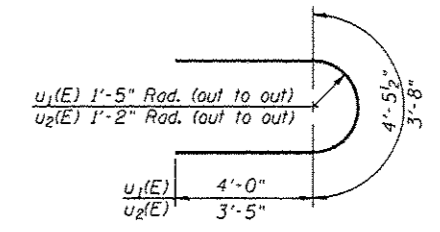
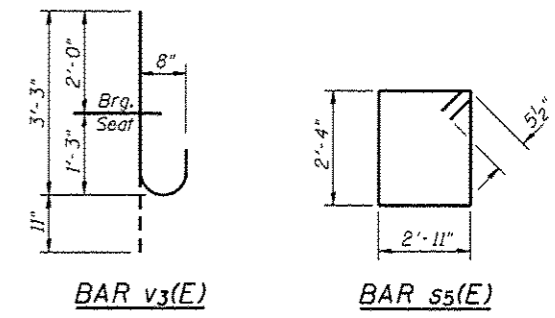
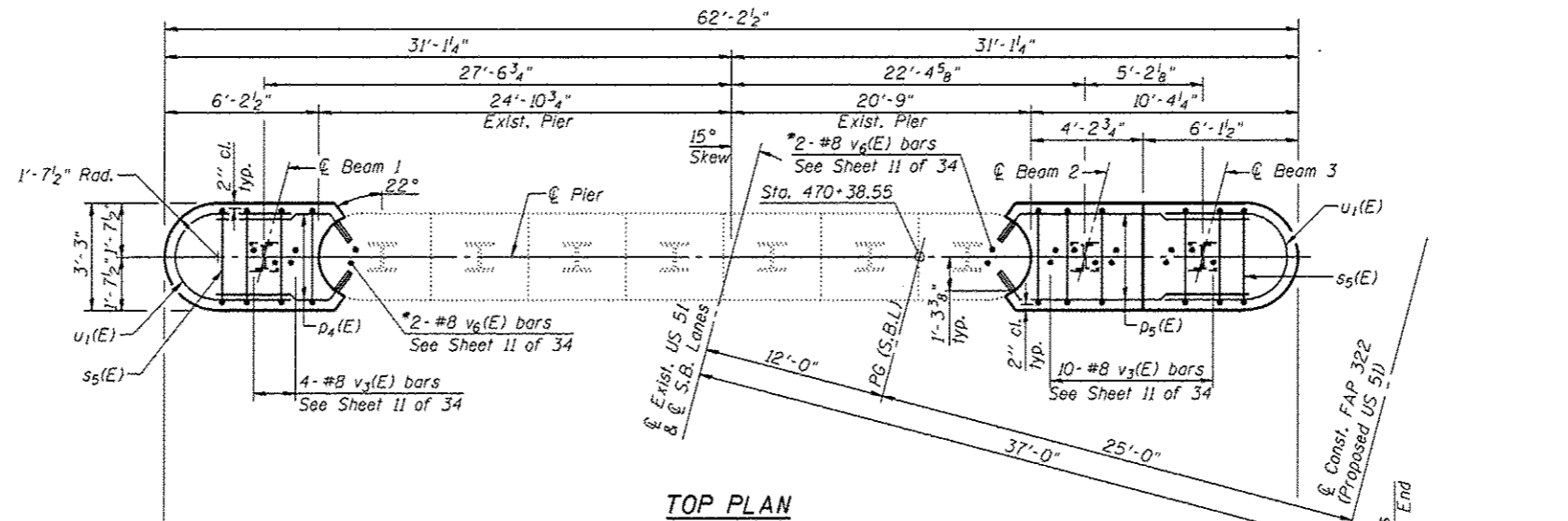
Klingner & Associates P.C.

11/21/2012 11:32:21 AM

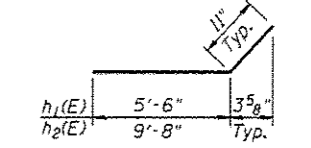
Notes:
 Pour steps monolithically with cap.
 For details of piles, see sheet 27 of 34.

PILE DATA

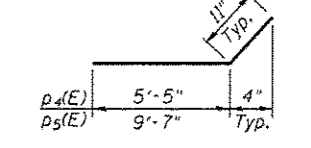
Type: Steel HP 12x53
 Nominal Required Bearing: 419 Kips/Pile
 Factored Resistance Available: 209 Kips/Pile
 Est. Length: 65 Ft./Pile
 No. Production Piles: 3



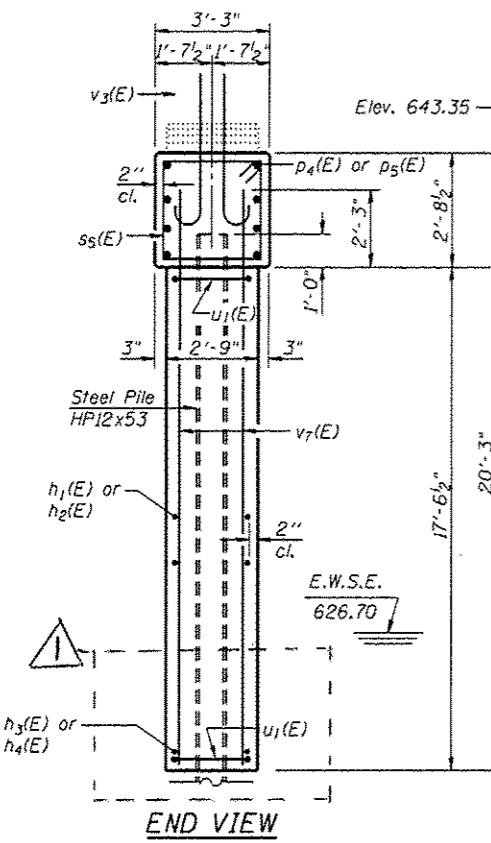
BARS u1(E) & u2(E)



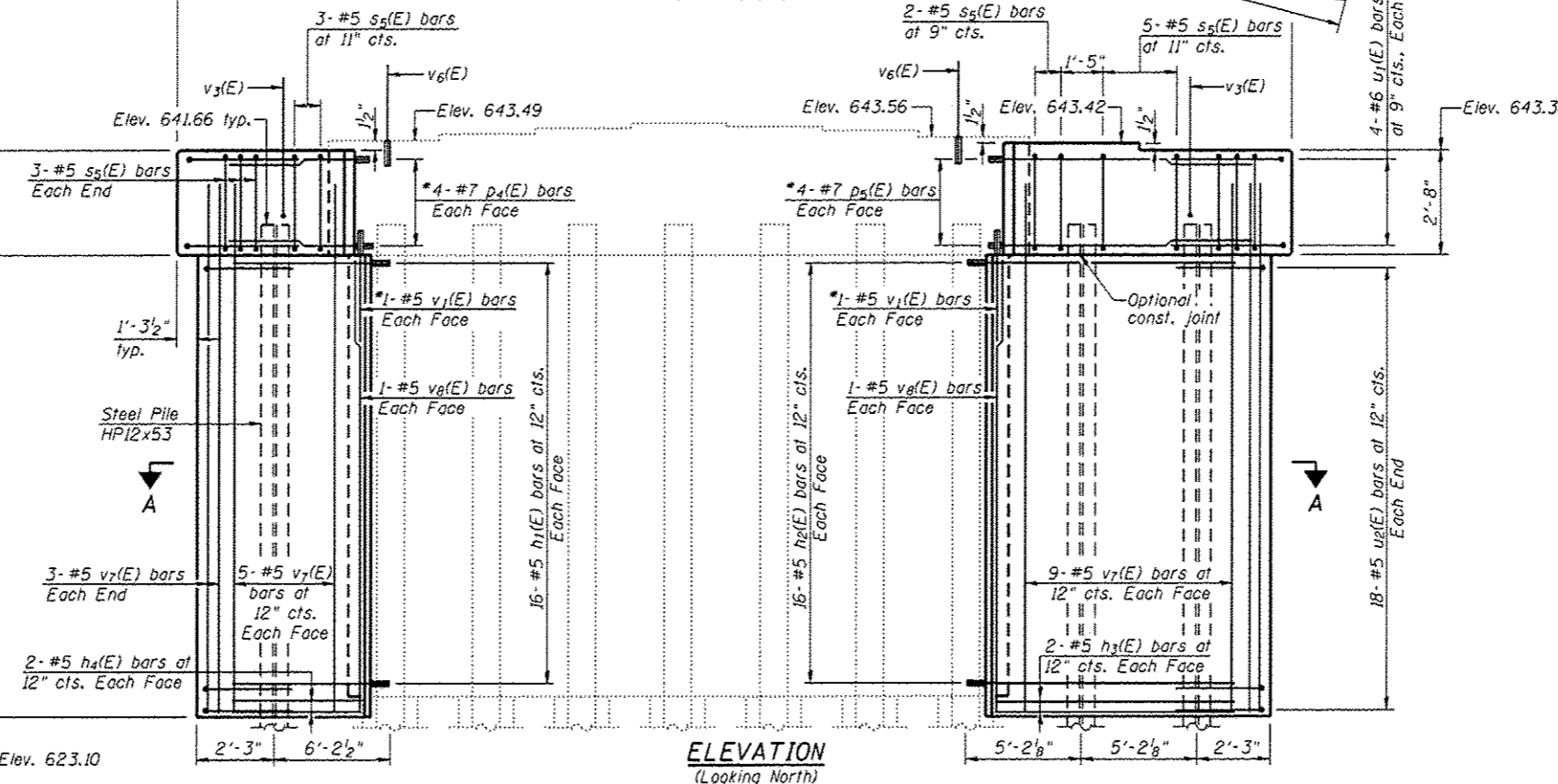
BARS h1(E) & h2(E)



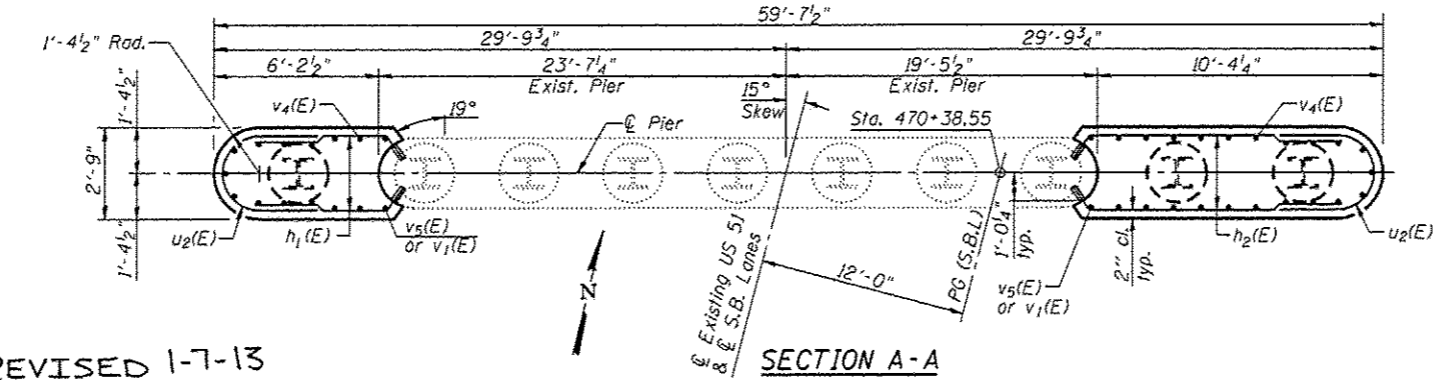
BARS p4(E) & p5(E)



END VIEW



ELEVATION (Looking North)



SECTION A-A

REVISION 1-7-13

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h1(E) | 32 | #5 | 6'-5" | — |
| h2(E) | 32 | #5 | 10'-7" | — |
| h3(E) | 4 | #5 | 9'-8" | — |
| h4(E) | 4 | #5 | 5'-6" | — |
| p4(E) | 8 | #7 | 6'-4" | — |
| p5(E) | 8 | #7 | 10'-6" | — |
| s5(E) | 16 | #5 | 11'-5" | □ |
| u1(E) | 8 | #6 | 12'-6" | U |
| u2(E) | 36 | #5 | 10'-6" | U |
| v1(E) | 4 | #5 | 4'-4" | — |
| v3(E) | 14 | #8 | 4'-2" | — |
| v6(E) | 4 | #8 | 2'-9" | — |
| v7(E) | 34 | #5 | 19'-7" | — |
| v8(E) | 4 | #5 | 17'-2" | — |
| Cofferdam Excavation | | | Cu. Yd. | 6 |
| Concrete Structures | | | Cu. Yd. | 35.2 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 2,610 |
| Furnishing Steel Piles HPI2x53 | | | Foot | 195 |
| Driving Piles | | | Foot | 195 |
| Cofferdam (Type 1) (Location 4) | | | Each | 1 |

| | | | | | | | | | | |
|-----------|------------|--------------|------------------------|---|-----------------------------------|------------|---------------|------------------|---------------------------|-----------|
| FILE NAME | USER NAME | DESIGNED ADL | REVISED - 11-21-12 RJP | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | PIER #2 STRUCTURE NO. 011-0037 | F.A.P. 322 | SECTION 11-10 | COUNTY CHRISTIAN | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE | CHECKED RJP | REVISED - | | | | | | 437 | 225 |
| | PLOT DATE | DRAWN RJP | REVISED - | | | | | | CONTRACT NO. 72961 | |
| | | CHECKED ADL | REVISED - | | | | | | ILLINOIS FED. AID PROJECT | |

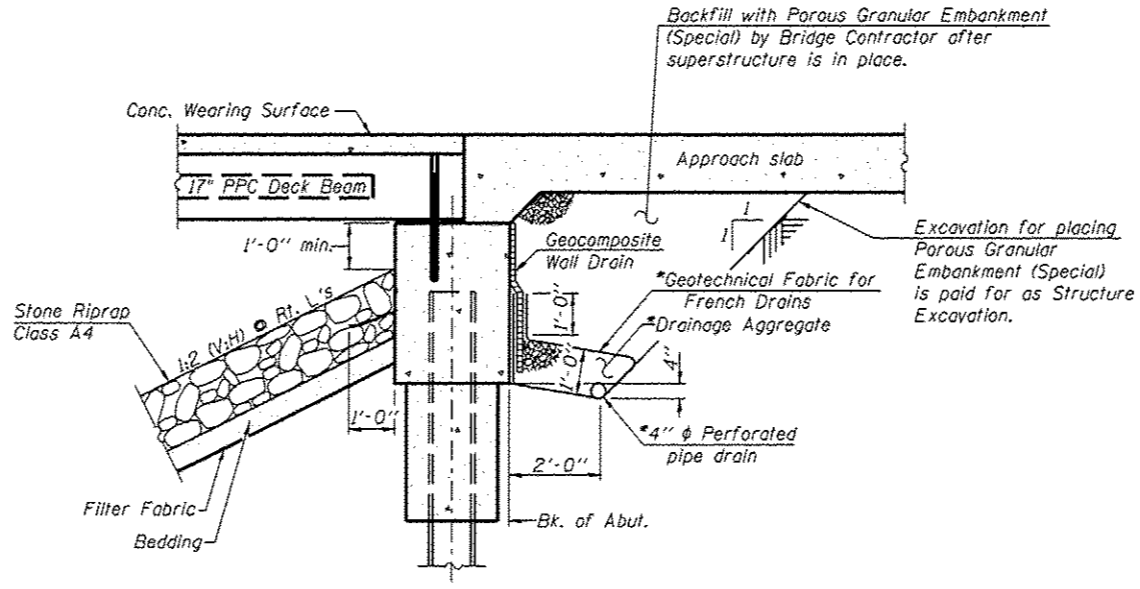
Klingner & Associates P.C.

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.



SECTION THRU ABUTMENT
(Horiz. dim. @ Rt. L's)

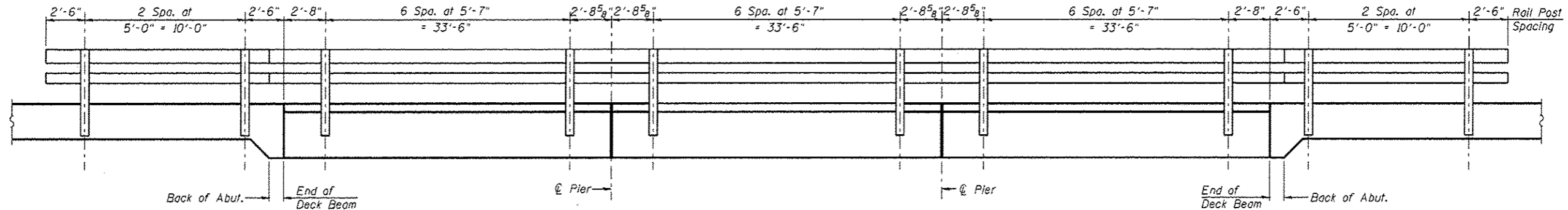
*Included in the cost of Pipe Underdrains for Structures.

Note:

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|---|---------|-------|-------|-------|
| Stone Riprap, Class A4 | Sq. Yd. | - | 1009 | 1009 |
| Filter Fabric | Sq. Yd. | - | 1009 | 1009 |
| Structure Excavation | Cu. Yd. | - | 40 | 40 |
| Cofferdam Excavation | Cu. Yd. | - | 72 | 72 |
| Cofferdam (Type 1) (Location-5) | Each | - | 1 | 1 |
| Cofferdam (Type 1) (Location-6) | Each | - | 1 | 1 |
| Concrete Structures | Cu. Yd. | - | 222.2 | 222.2 |
| Concrete Superstructure | Cu. Yd. | 85.7 | - | 85.7 |
| Bridge Deck Grooving | Sq. Yd. | 544 | - | 544 |
| Concrete Encasement | Cu. Yd. | - | 3.5 | 3.5 |
| Protective Coat | Sq. Yd. | 565 | - | 565 |
| Precast Prestressed Concrete Deck Beams (17" Depth) | Sq. Ft. | 3262 | - | 3262 |
| Reinforcement Bars, Epoxy Coated | Pound | 23820 | 17980 | 41800 |
| Steel Rolling, Type SM | Foot | 294 | - | 294 |
| Furnishing Steel Piles HPI2x53 | Foot | - | 1237 | 1237 |
| Driving Piles | Foot | - | 1237 | 1237 |
| Test Pile Steel HPI2x53 | Each | - | 2 | 2 |
| Pile Shoes | Each | - | 22 | 22 |
| Name Plates | Each | 1 | - | 1 |
| Geocomposite Wall Drain | Sq. Yd. | - | 28 | 28 |
| Porous Granular Embankment, Special | Cu. Yd. | - | 47 | 47 |
| Concrete Wearing Surface, 5" | Sq. Yd. | 363 | - | 363 |
| Pipe Underdrains for Structures 4" | Foot | - | 122 | 122 |

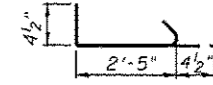
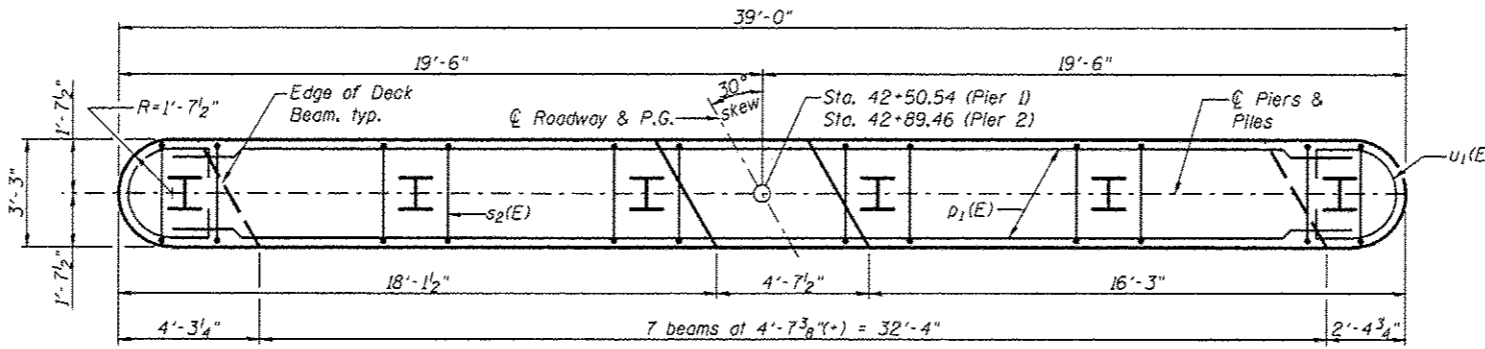


RAIL POST SPACING

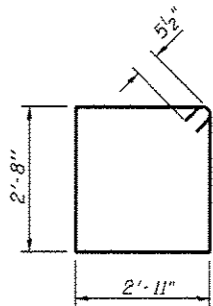
REVISION 1-7-13

| | | | | | | | | | | | |
|--|--------------|----------------|--------------------|---|--|-------|-------------|---------|--------|--------------|-----------|
| <p>LIN ENGINEERING, LTD. Consulting Engineers Completed Work</p> | USER NAME * | DESIGNED - MTH | REVISED - 11-21-12 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | GENERAL DATA STRUCTURE NO. 011-3362 | | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | FILE NAME * | CHECKED - TBP | REVISED - | | 322 | 11-13 | CHRISTIAN | 437 | 236 | | |
| | PLOT SCALE * | DRAWN - AJF | REVISED - | | CONTRACT NO. 72961 | | | | | | |
| | PLOT DATE * | CHECKED - MTH | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | |
| SHEET NO. 2 OF 16 SHEETS | | | | | | | | | | | |

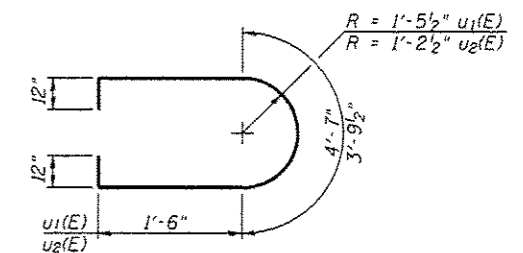
Notes:
 Space reinforcement in cap to miss Dowel Rods.
 See sheet 11 of 16 for layout of Dowel Rods.
 For details of piles, see sheet 14 of 16.



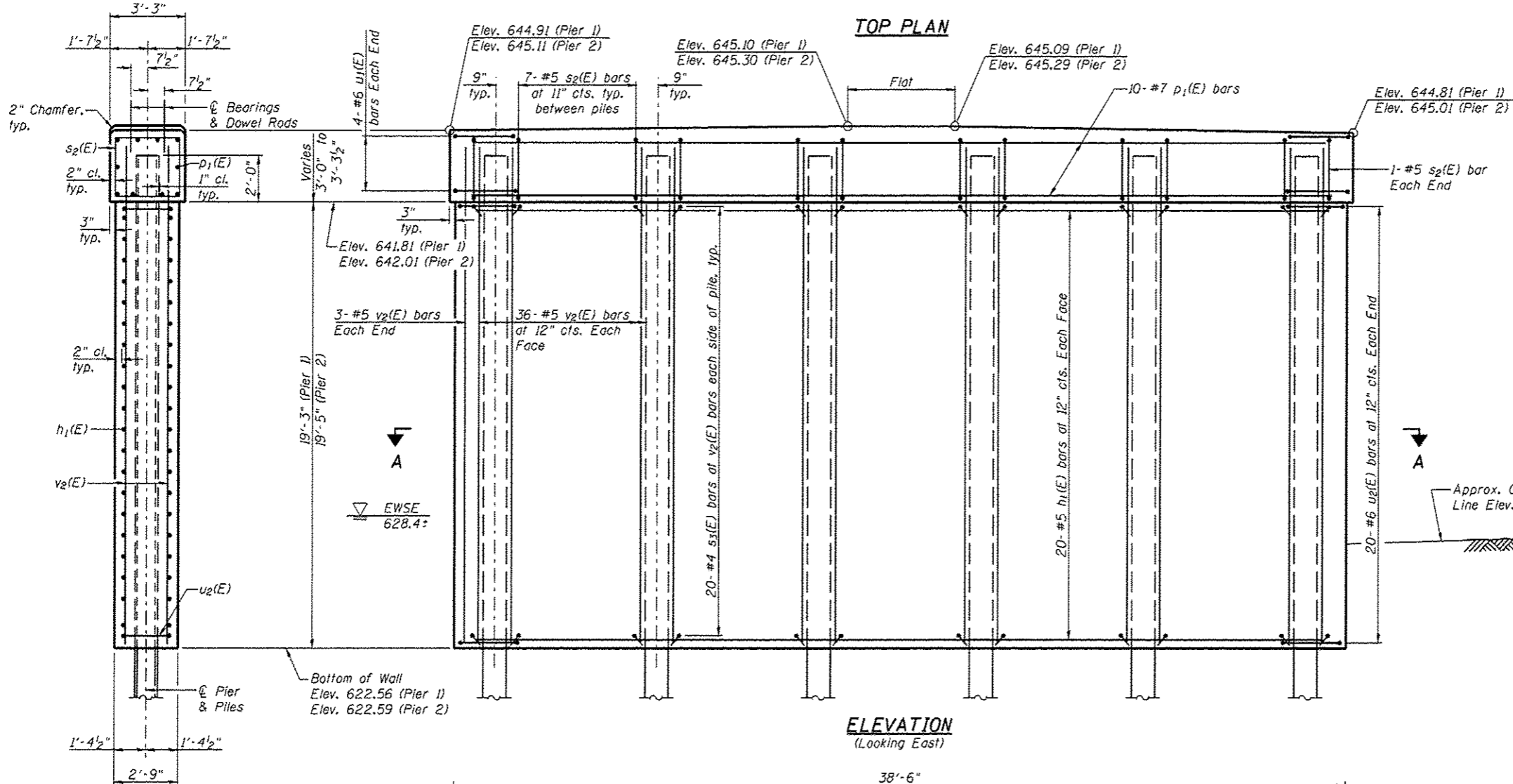
BAR s3(E)



BAR s2(E)

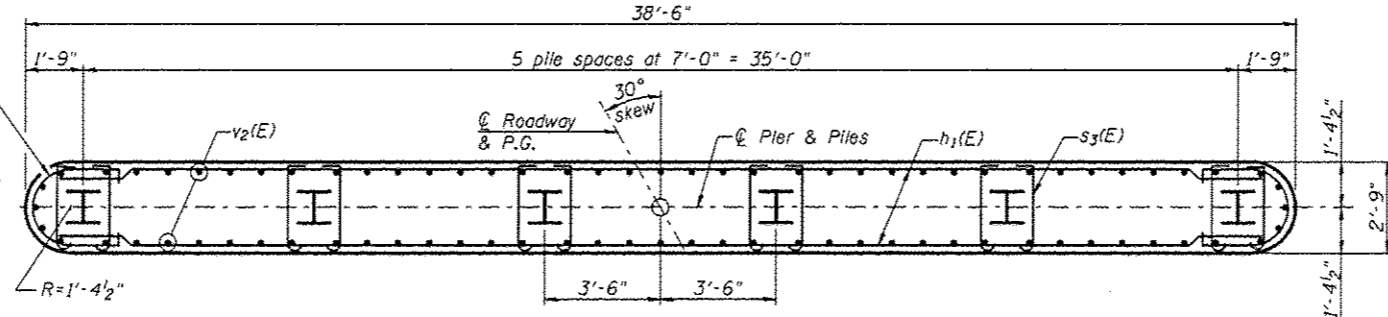


BARS u1(E) & u2(E)



ELEVATION
(Looking East)

END VIEW



SECTION A-A

PIER 1 PILE DATA

Type: Steel HP 12x53 w/Pile Shoes
 Nominal Required Bearing: 387k
 Factored Resistance Available: 213k
 Est. Length: 65 Ft
 No. Production Piles: 5
 No. Test Piles: 1

PIER 2 PILE DATA

Type: Steel HP 12x53 w/Pile Shoes
 Nominal Required Bearing: 365k
 Factored Resistance Available: 201k
 Est. Length: 61 Ft
 No. Production Piles: 6
 No. Test Piles: 0

REVISION 1-7-13

BILL OF MATERIAL
(Two Piers)

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|---------|--------|-------|
| h1(E) | 80 | #5 | 35'-9" | — |
| p1(E) | 20 | #7 | 35'-9" | — |
| s2(E) | 74 | #5 | 12'-1" | U |
| s3(E) | 480 | #4 | 3'-2" | U |
| u1(E) | 16 | #6 | 9'-7" | U |
| u2(E) | 80 | #6 | 8'-10" | U |
| v2(E) | 156 | #5 | 22'-0" | — |
| Cofferdam Excavation | | Cu. Yd. | 72 | |
| Concrete Structures | | Cu. Yd. | 178.6 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 11270 | |
| Furnishing Steel Piles, HP 12x53 | | Foot | 691 | |
| Driving Piles | | Foot | 691 | |
| Test Pile Steel HP 12x53 | | Each | 1 | |
| Pile Shoes | | Each | 12 | |
| Cofferdam (Type 1) (Location-5) | | Each | 1 | |
| Cofferdam (Type 1) (Location-6) | | Each | 1 | |



| | | |
|--------------|----------------|--------------------|
| USER NAME * | DESIGNED - MTH | REVISED - 11-21-12 |
| FILE NAME * | CHECKED - TBP | REVISED * |
| PLOT SCALE * | DRAWN - AJF | REVISED - |
| PLOT DATE * | CHECKED - MTH | REVISED - |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER DETAILS
 STRUCTURE NO. 011-3362
 SHEET NO. 13 OF 16 SHEETS

| | | | | |
|---------------------------|---------|-----------|--------------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 322 | 11-13 | CHRISTIAN | 437 | 247 |
| | | | CONTRACT NO. 72961 | |
| ILLINOIS FED. AID PROJECT | | | | |