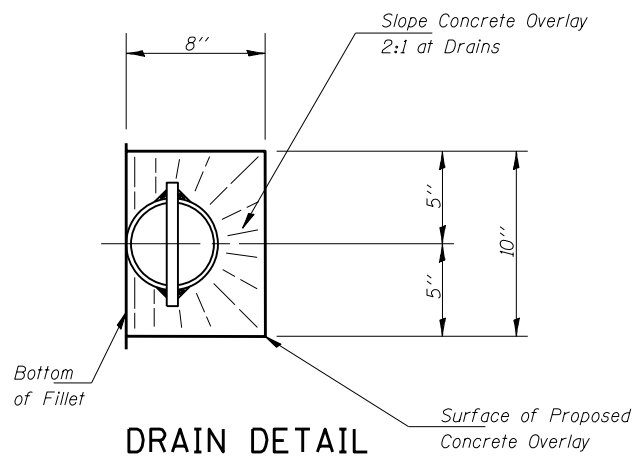
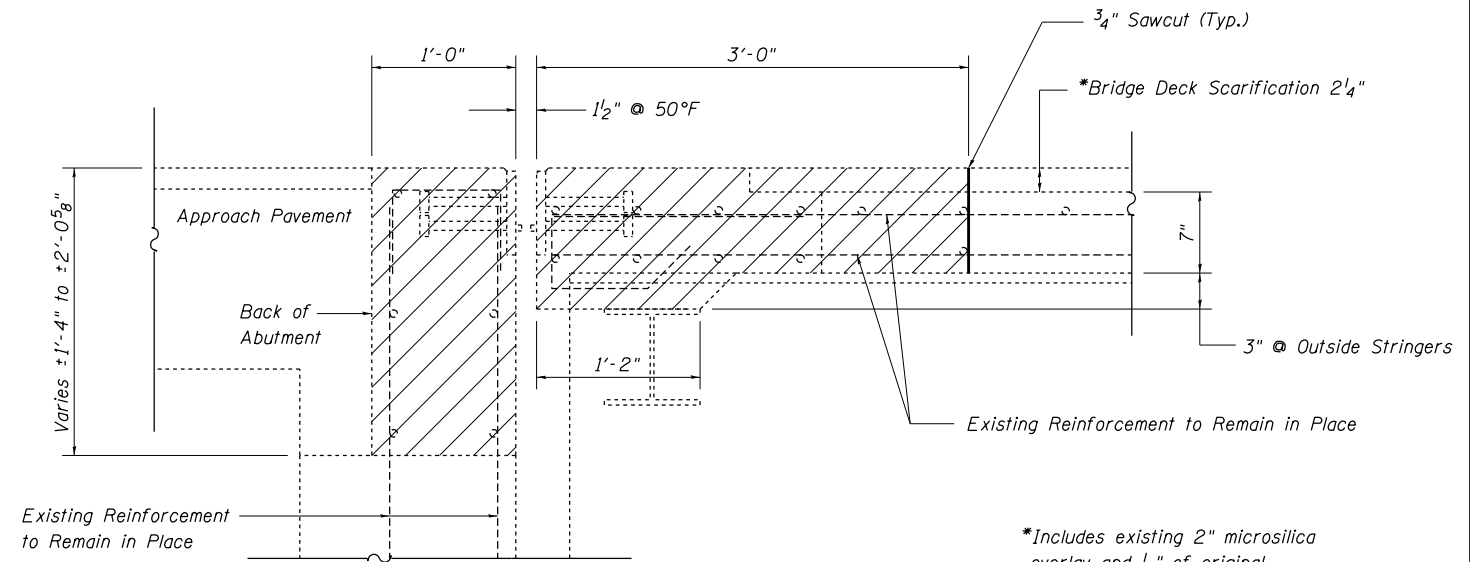


FLOOR DRAIN DETAIL

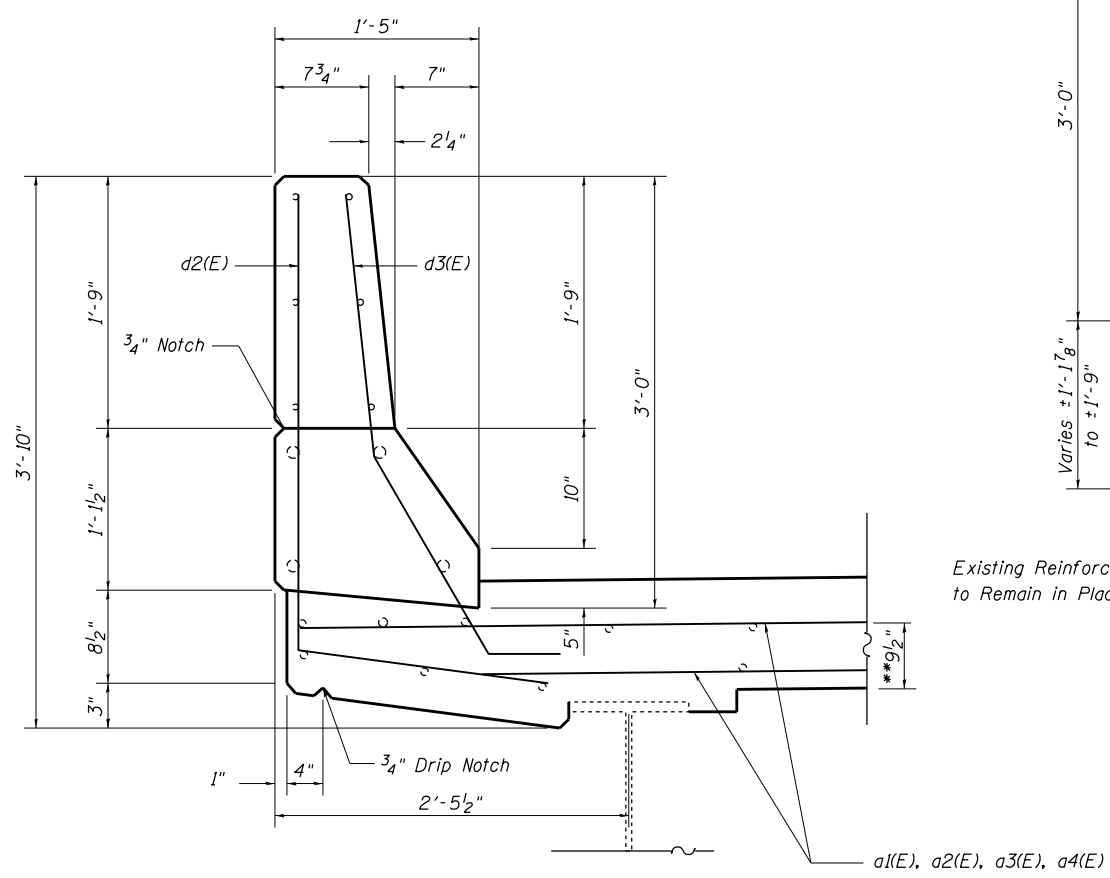


DRAIN DETAIL TOP PLAN

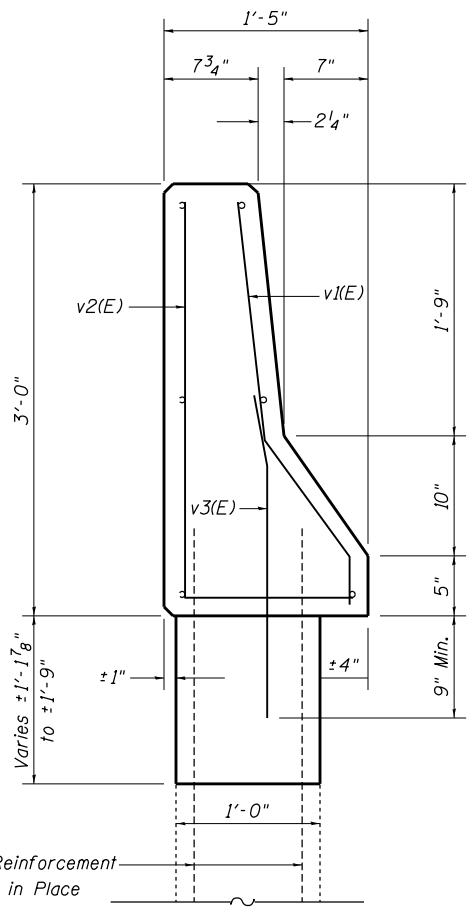


SECTION C-C
(Dimensions at Rt. L's to end of deck)

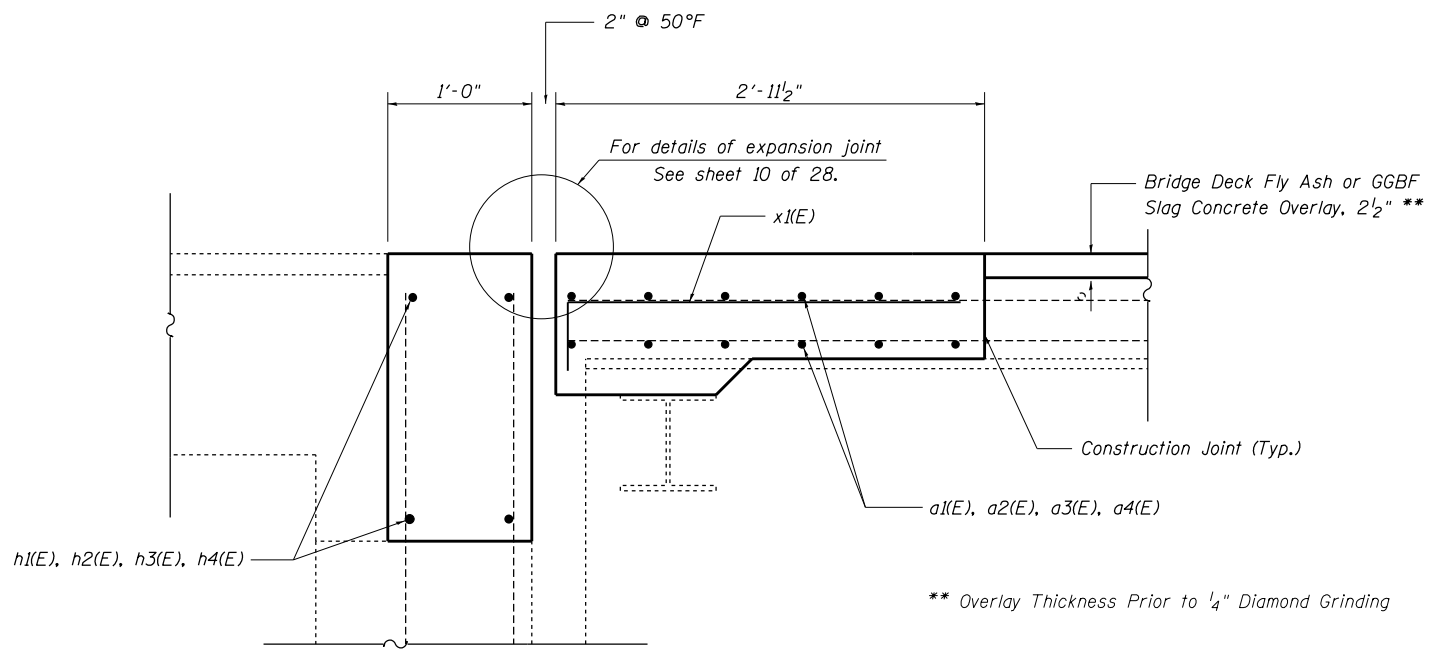
- Existing Reinforcement
- Proposed Reinforcement



SECTION THRU PARAPET



WINGWALL DETAILS



SECTION D-D
(Dimensions at Rt. L's to end of deck)

** Overlay Thickness Prior to 1/4" Diamond Grinding

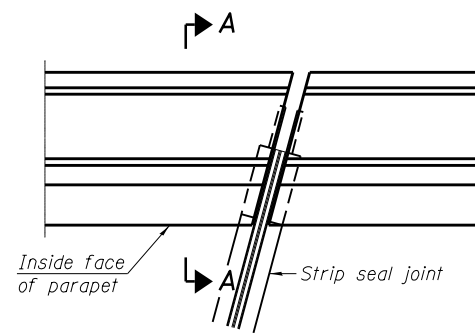
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|--|-----------------------|-------------------|------------------------------|
| FILE NAME = | USER NAME = steffenk | DESIGNED - KLB | REVISED - S. Kassel 12/16/16 |
| pw:\IL\084EBIDINTEG\illinois.gov\PWIDOT\Documents\DOT Offices\District 7\Projects\74664\DRAWING\084EBIDINTEG\structures\220000.dgn | | CHECKED - MEA | REVISED - |
| Default | PLOT DATE = 3/23/2017 | DATE - 12/24/2013 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

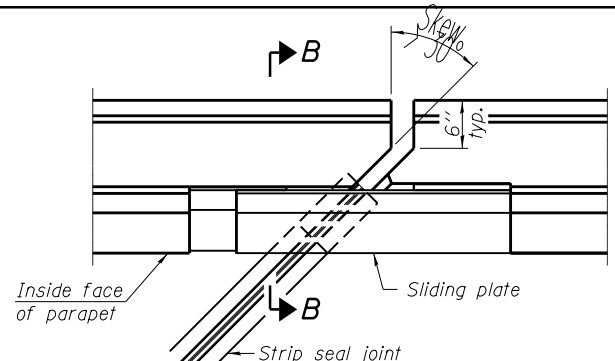
**EXPANSION JOINT REPLACEMENT DETAILS
SN. 025-0007 (EB) & SN. 025-0008 (WB)**

SCALE: SHEET 9 OF 28 SHEETS STA. TO STA.

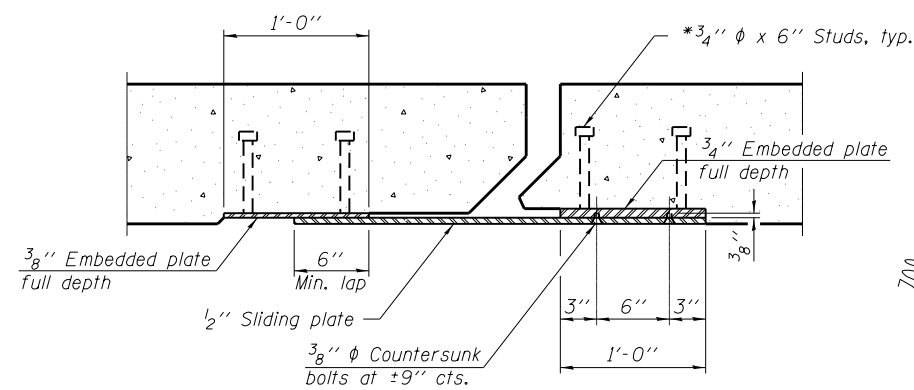
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 201 |
| CONTRACT NO. 74664 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



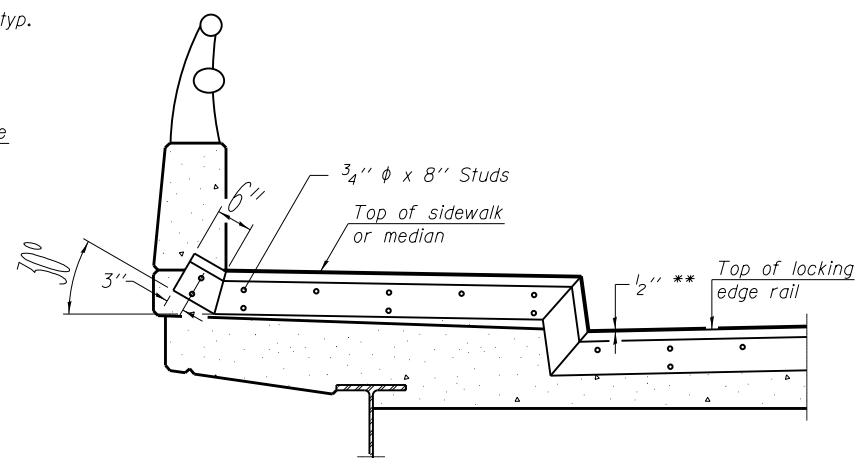
PLAN
(For skews $\leq 30^\circ$)



PLAN
(For skews $> 30^\circ$)
Showing point block

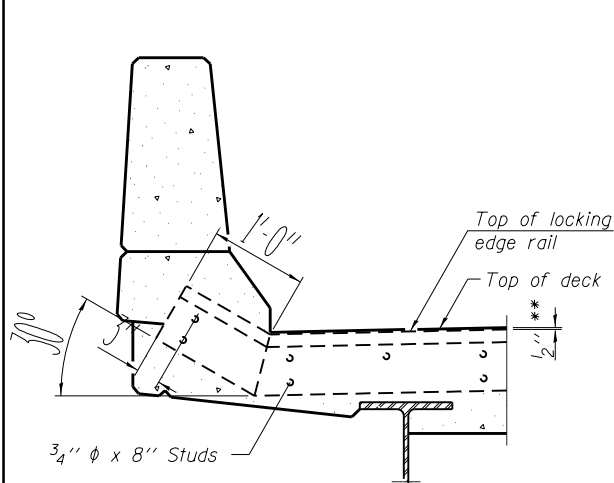


SECTION C-C

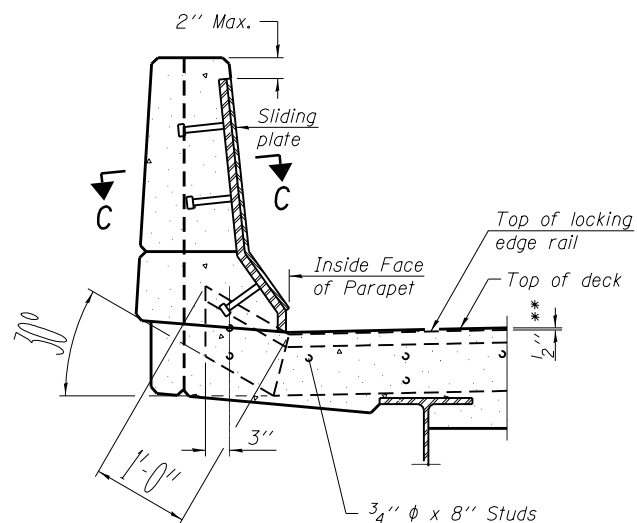


**TYPICAL END TREATMENT
AT SIDEWALK OR MEDIAN**

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

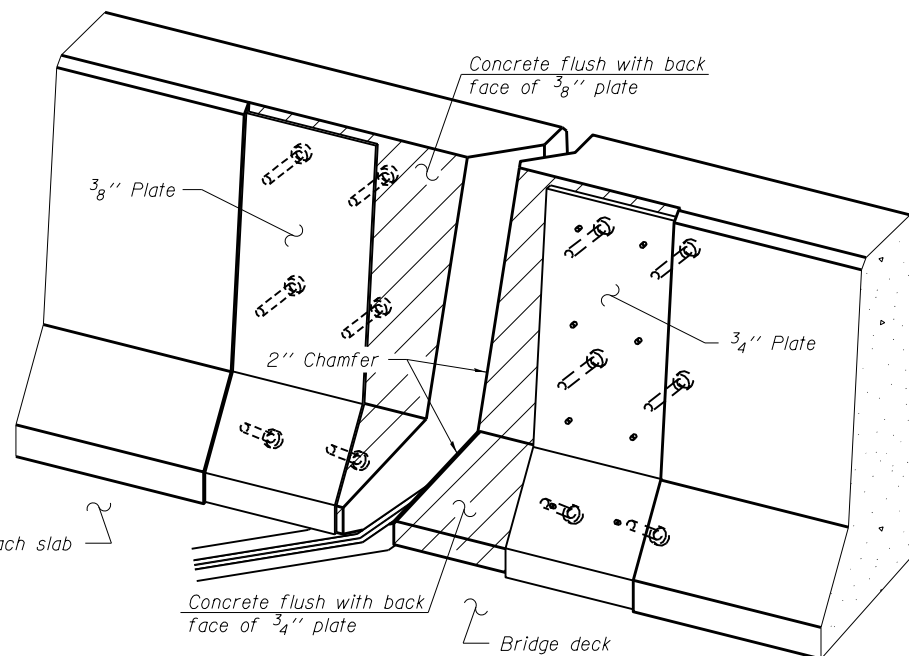


SECTION A-A



SECTION B-B

** Overlay Thickness Prior to 1/4" Diamond Grinding



TRIMETRIC VIEW
(Showing back plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

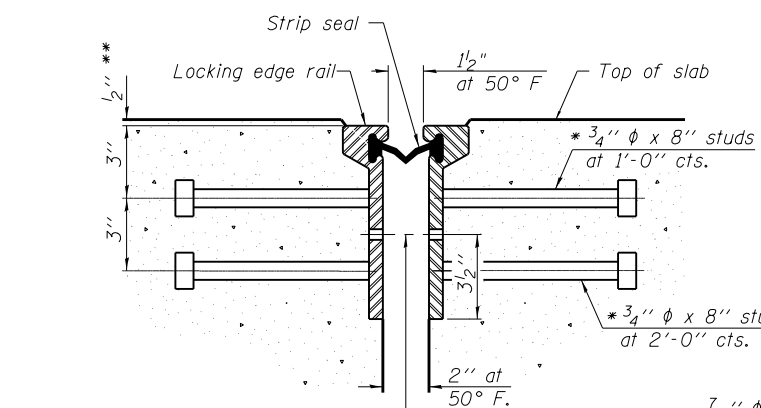
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

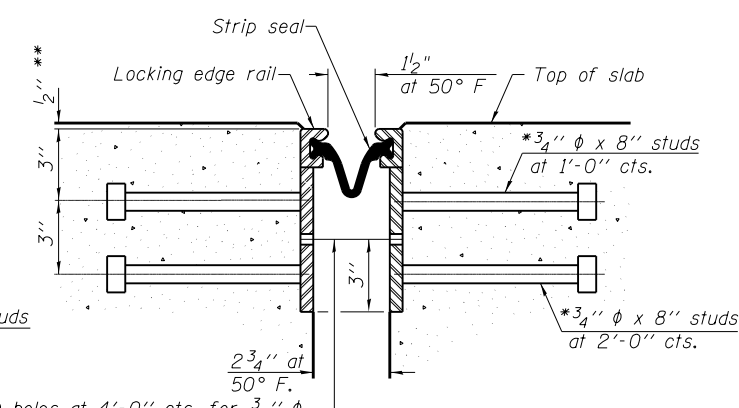
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

Parapet plates and anchorage studs for skews $> 30^\circ$ included in the cost of Preformed Joint Strip Seal.



**SECTION THRU
ROLLED RAIL JOINT**

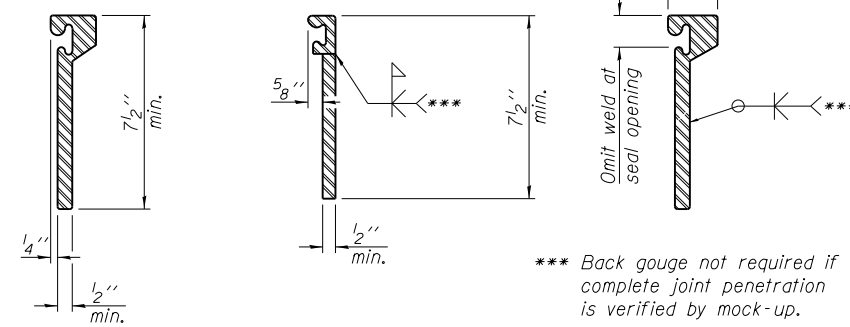


**SECTION THRU
WELDED RAIL JOINT**

7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded. ** Overlay Thickness Prior to 1/4" Diamond Grinding



**ROLLED
EXTRUDED RAIL** **WELDED RAIL**

*** Back gouge not required if complete joint penetration is verified by mock-up.

**LOCKING EDGE
RAIL SPLICE**

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

| Item | Unit | Total |
|----------------------------|------|-------|
| Preformed Joint Strip Seal | Foot | 215.0 |

EJ-SSJ

11-22-2016

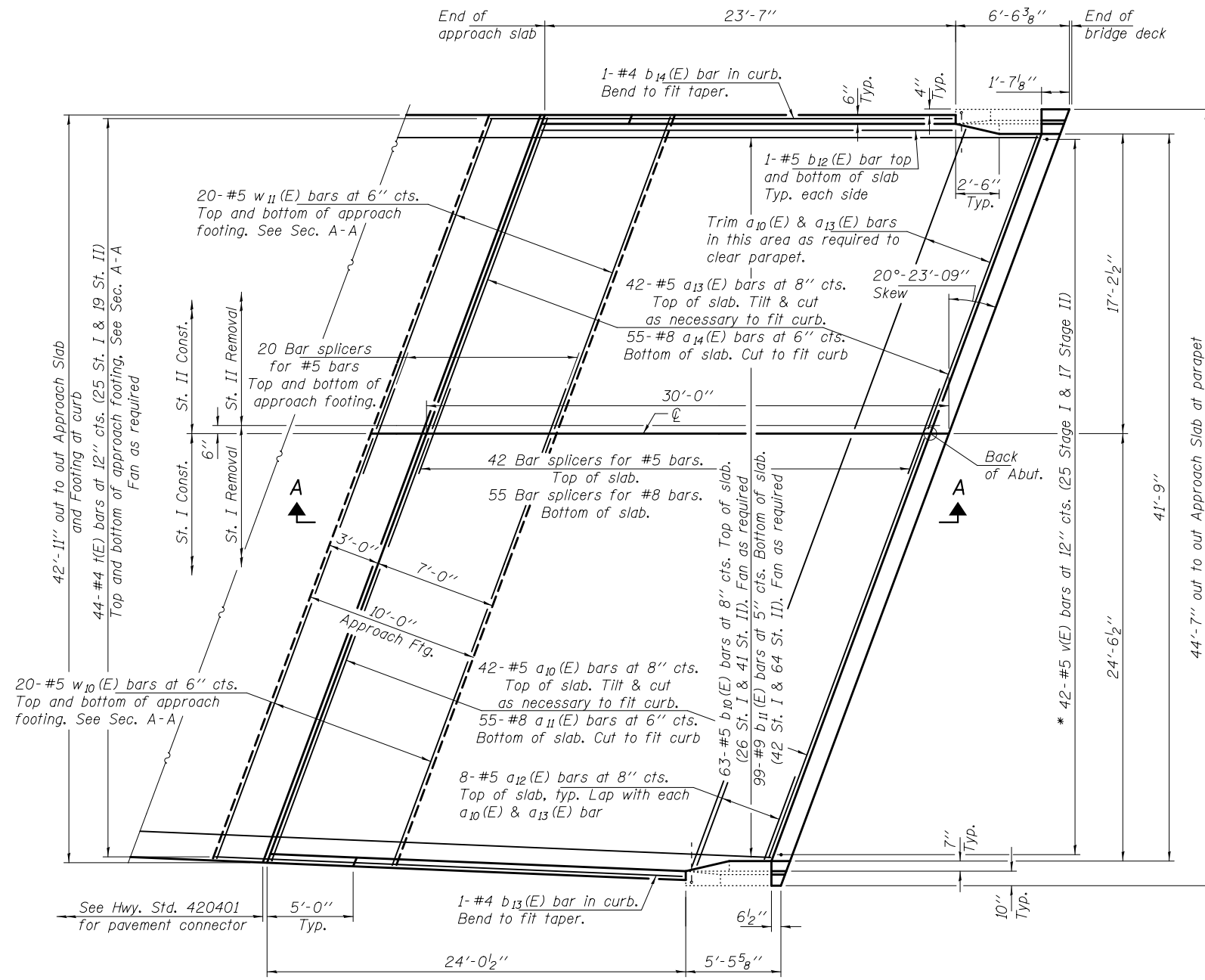
| | | | |
|---|-----------------------|-------------------|------------------------------|
| FILE NAME = | USER NAME = steffenmk | DESIGNED - KLB | REVISED - S. Kassel 12/19/16 |
| pw:\IL\084EBIDINTEG\Illinois.gov\PI\DOT\Documents\DOT Offices\District 7\Projects\74664\Drawings\CAD\Sheet\74664-structures-02\020500.dgn | | CHECKED - MEA | REVISED - |
| PLOT SCALE = 48.0000' / in. | | DATE - 12/24/2013 | REVISED - |
| Default | PLOT DATE = 3/23/2017 | | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 025-0007 (EB) & 025-0008 (WB)**

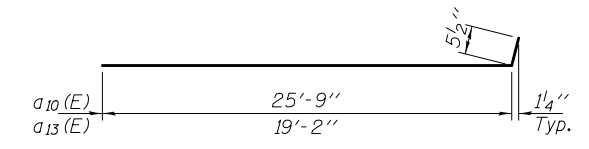
SCALE: SHEET 10 OF 28 SHEETS STA. TO STA.

| | | | | |
|---------------------------|-----------|-----------|--------------|-----------|
| F.A.I. R.E. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 202 |
| CONTRACT NO. 74664 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

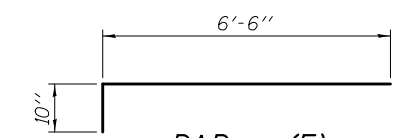


PLAN

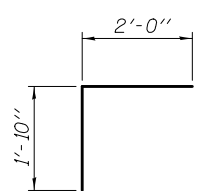
* Epoxy grout v(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BARS a₁₀(E) & a₁₃(E)



BAR a₁₂(E)

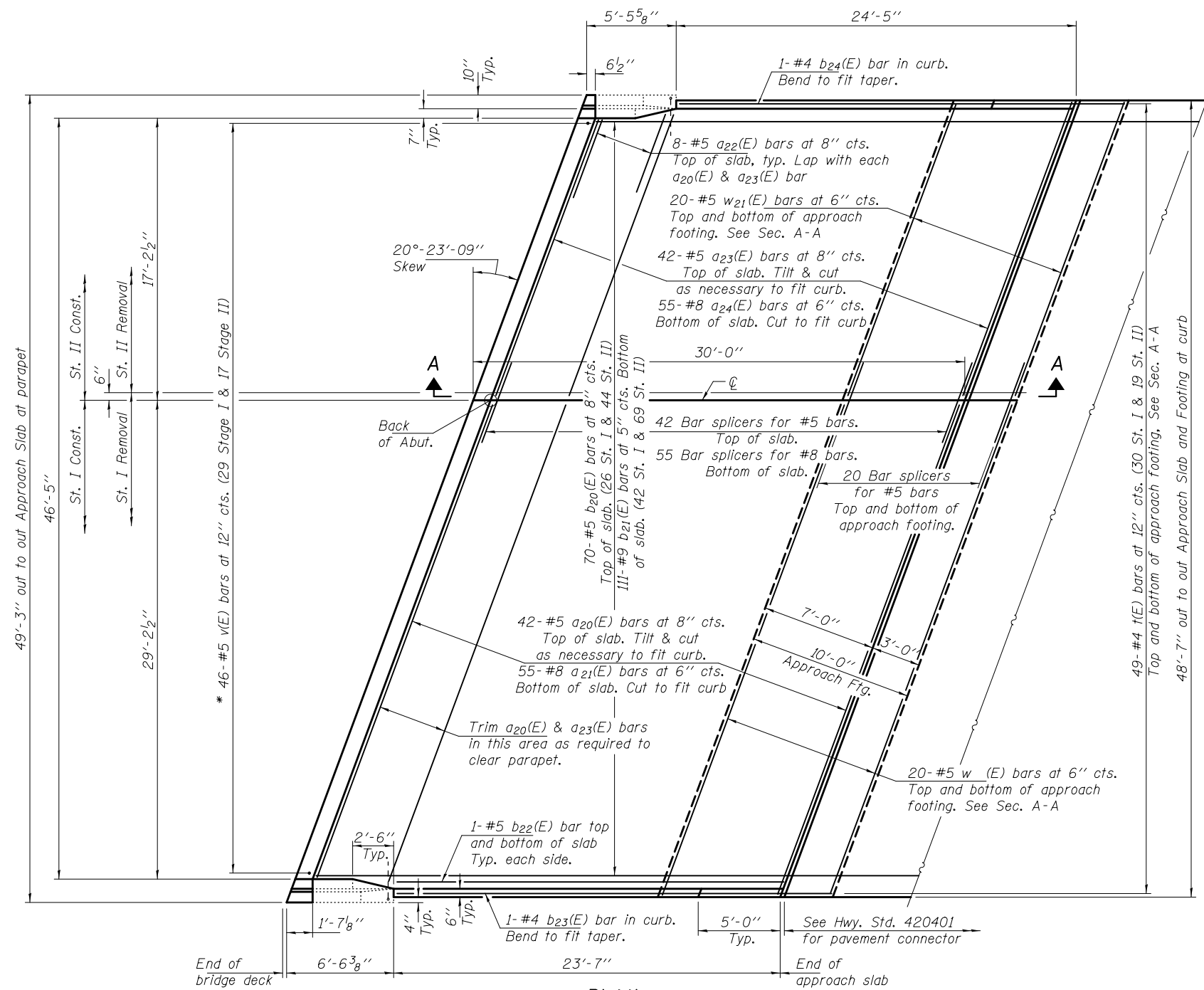


BAR v(E)

BILL OF MATERIAL

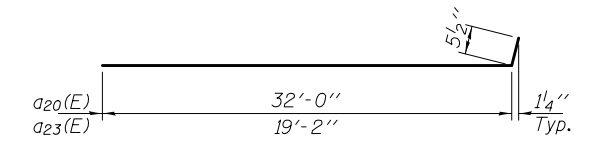
| Bar | No. | Size | Length | Shape |
|---|-----|------|---------|--------|
| a ₁₀ (E) | 42 | #5 | 26'-2" | ┌───┐ |
| a ₁₁ (E) | 55 | #8 | 25'-9" | ─── |
| a ₁₂ (E) | 16 | #5 | 7'-4" | ┌───┐ |
| a ₁₃ (E) | 42 | #5 | 19'-7" | ┌───┐ |
| a ₁₄ (E) | 55 | #8 | 19'-2" | ─── |
| b ₁₀ (E) | 67 | #5 | 28'-7" | ─── |
| b ₁₁ (E) | 99 | #9 | 28'-7" | ─── |
| b ₁₂ (E) | 4 | #5 | 23'-9" | ─── |
| b ₁₃ (E) | 1 | #4 | 23'-9" | ─── |
| b ₁₄ (E) | 1 | #4 | 23'-4" | ─── |
| t(E) | 88 | #4 | 10'-4" | ─── |
| v(E) | 42 | #5 | 3'-11" | ┌───┐ |
| w ₁₀ (E) | 40 | #5 | 25'-9" | ─── |
| w ₁₁ (E) | 40 | #5 | 19'-2" | ─── |
| Bar Splicers | | | Each | 137 |
| Concrete Superstructure (Approach Slab) | | | Cu. Yd. | 60.1 |
| Concrete Structures | | | Cu. Yd. | 14.1 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 23,150 |

For Section A-A, see sheet 14 of 28.

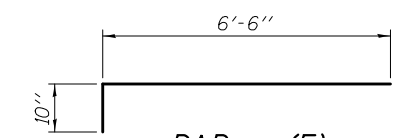


PLAN

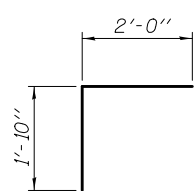
* Epoxy grout v(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BARS a₂₀(E) & a₂₃(E)



BAR a₂₂(E)

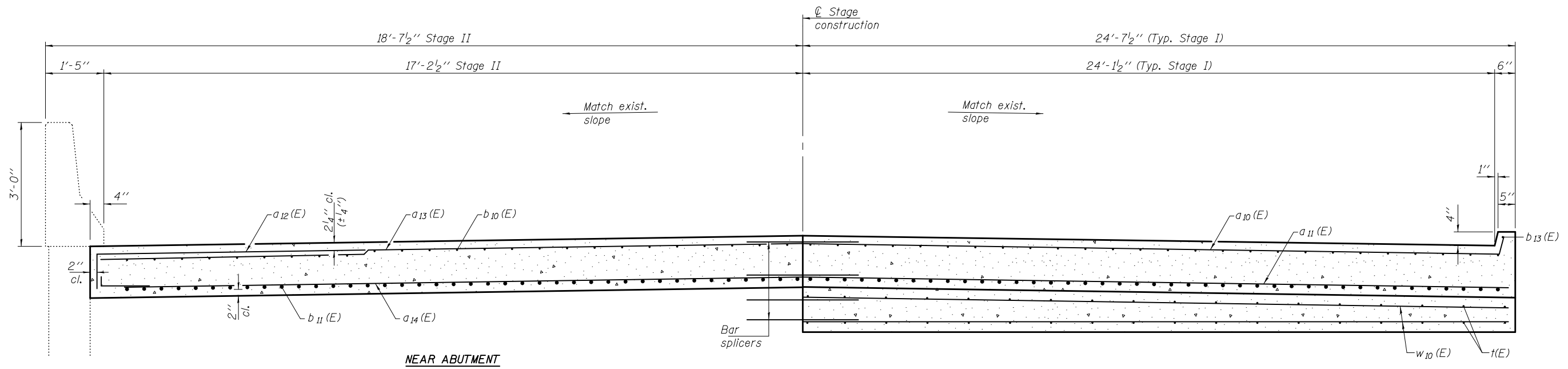


BAR v(E)

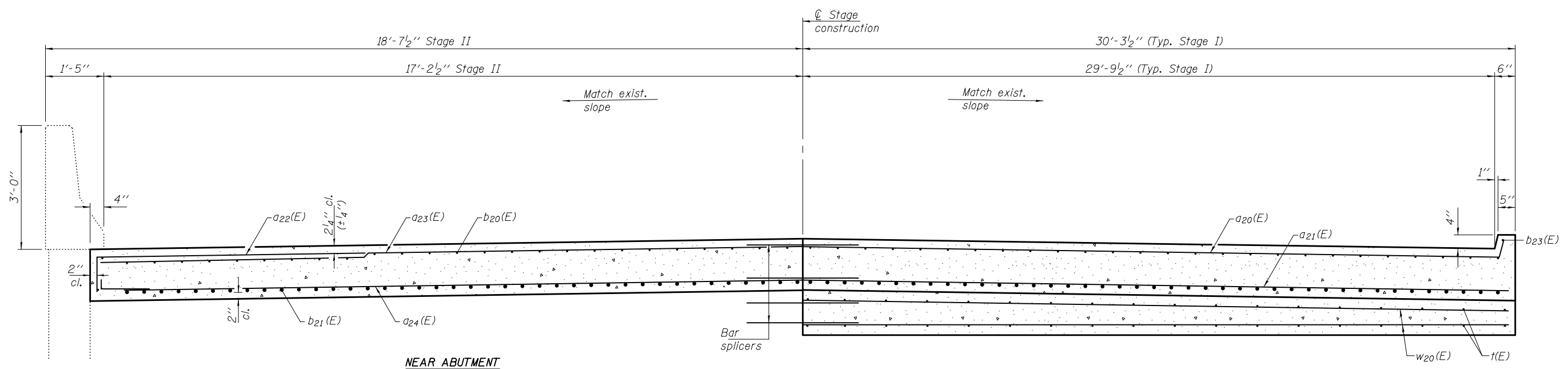
BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|---|-----|------|---------|--------|
| a ₂₀ (E) | 42 | #5 | 32'-5" | ┌───┐ |
| a ₂₁ (E) | 55 | #8 | 32'-0" | ┌───┐ |
| a ₂₂ (E) | 16 | #5 | 7'-4" | ┌───┐ |
| a ₂₃ (E) | 42 | #5 | 19'-7" | ┌───┐ |
| a ₂₄ (E) | 55 | #8 | 19'-2" | ┌───┐ |
| b ₂₀ (E) | 70 | #5 | 28'-7" | ┌───┐ |
| b ₂₁ (E) | 111 | #9 | 28'-7" | ┌───┐ |
| b ₂₂ (E) | 4 | #5 | 24'-0" | ┌───┐ |
| b ₂₃ (E) | 1 | #4 | 23'-3" | ┌───┐ |
| b ₂₄ (E) | 1 | #4 | 24'-1" | ┌───┐ |
| t(E) | 98 | #4 | 10'-4" | ┌───┐ |
| v(E) | 46 | #5 | 3'-11" | ┌──┐ |
| w ₂₀ (E) | 40 | #5 | 32'-0" | ┌───┐ |
| w ₂₁ (E) | 40 | #5 | 19'-2" | ┌───┐ |
| Bar Splicers | | | Each | 137 |
| Concrete Superstructure (Approach Slab) | | | Cu. Yd. | 65.8 |
| Concrete Structures | | | Cu. Yd. | 16.0 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 25,920 |

For Section A-A, see sheet 14 of 28.



CROSS SECTION
SN 025-0007
 (West Approach Looking East)



CROSS SECTION
SN 025-0007
 (East Approach Looking East)

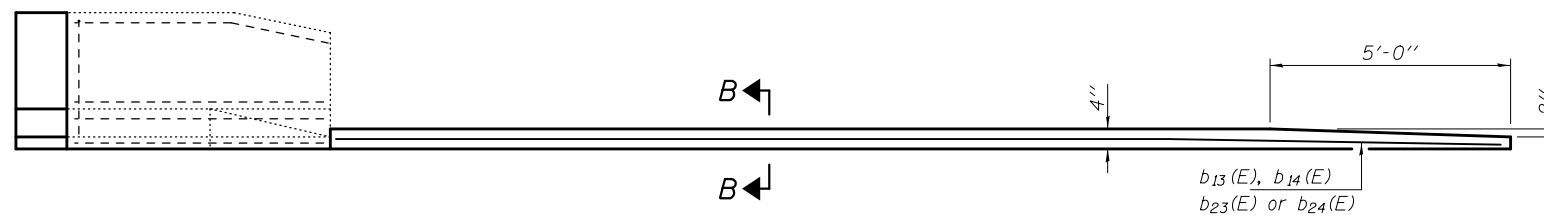
| | | | | | | | | |
|------------------------|--------------------------|---|---|--------------------|-----------|-----------|--------------|-----------|
| DESIGNED <i>VHV</i> | DATE <u>MAY 12, 2017</u> | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | BRIDGE APPROACH SLAB DETAILS I SN 025-0007 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED <i>DAB</i> | REVISIONS | | | 70 | (25-1,2)R | EFFINGHAM | 496 | 205 |
| DRAWN <i>baliva</i> | REVISIONS | SHEET NO. 13 OF 28 SHEETS | | CONTRACT NO. 74664 | | | | |
| CHECKED <i>VHV DAB</i> | REVISIONS | ILLINOIS FED. AID PROJECT | | | | | | |

Notes:

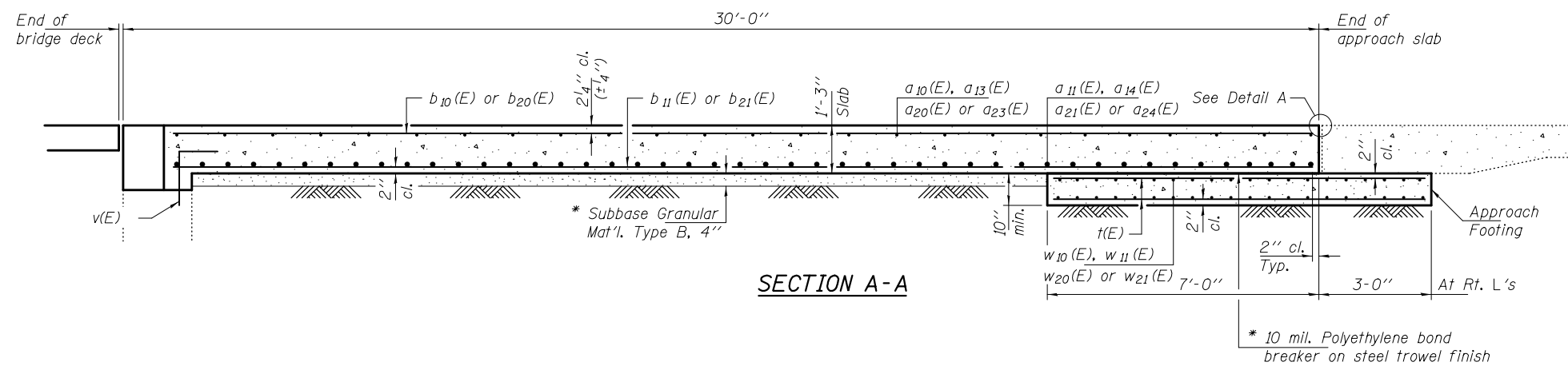
The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach pavement.

Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
Approach footing concrete shall be paid for as Concrete Structures.

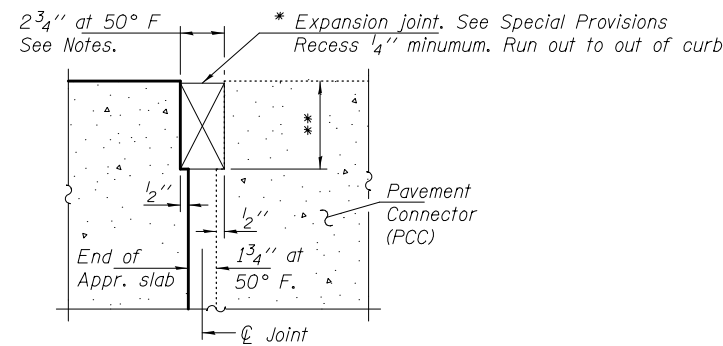
The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.



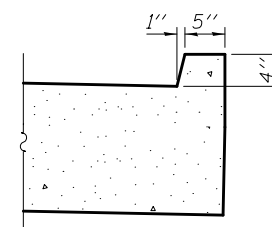
INSIDE ELEVATION OF PARAPET AND CURB



SECTION A-A



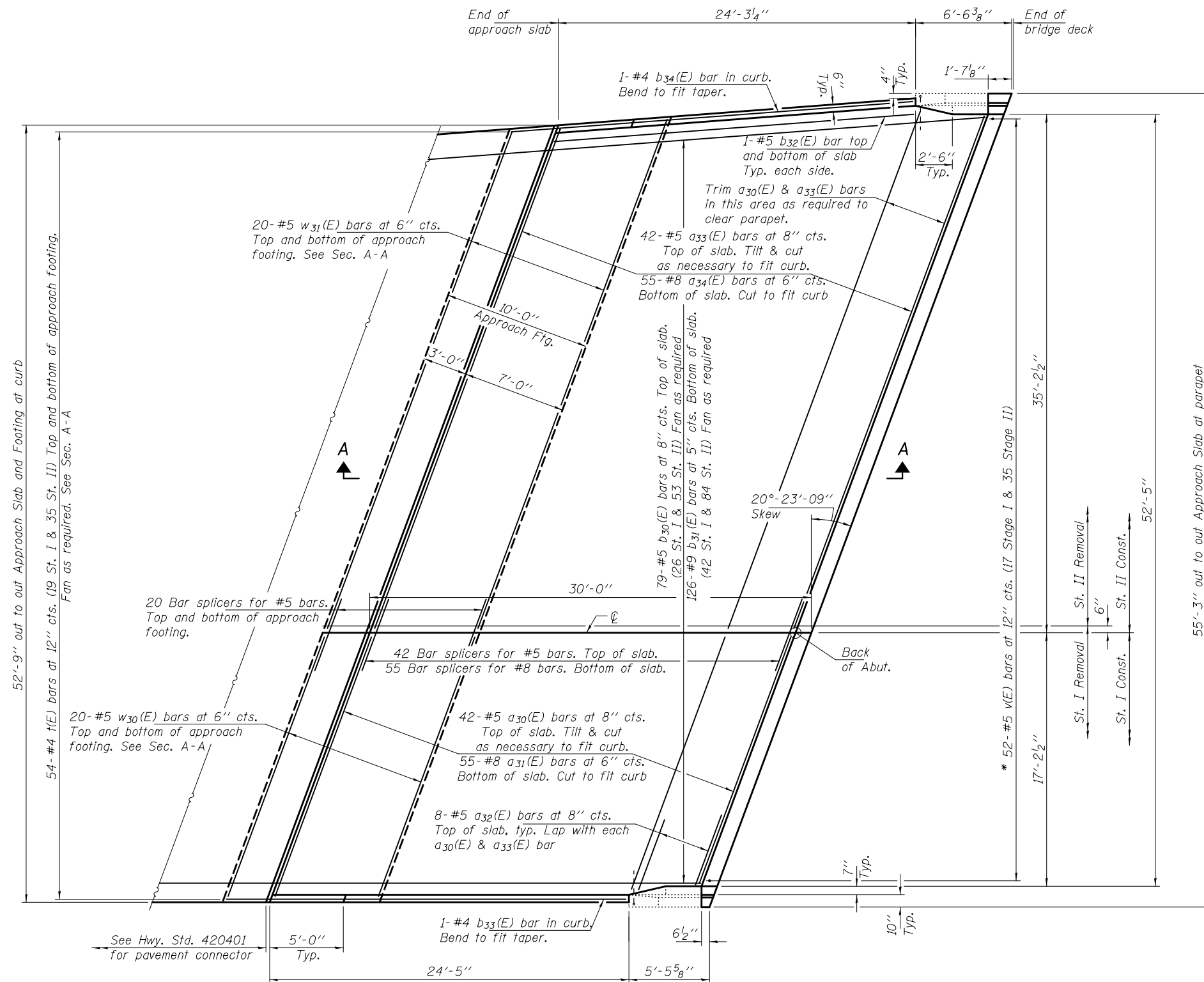
DETAIL A
(At Rt. L's)



VIEW B-B

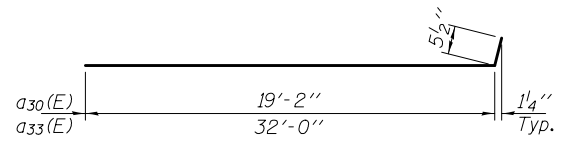
* Cost included with Concrete Superstructure (Approach Slab).
** Per manufacturer recommendations

| | | | | | | | | |
|-----------------|-------------------|---|--|---------------------------|-----------|-----------|--------------|-----------|
| DESIGNED VHV | DATE MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | BRIDGE APPROACH SLAB DETAILS II SN 025-0007 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED DAB | REVISOR | | | 70 | (25-1,2)R | EFFINGHAM | 496 | 206 |
| DRAWN baliva | REVISOR | SHEET NO. 14 OF 28 SHEETS | | CONTRACT NO. 74664 | | | | |
| CHECKED VHV DAB | REVISOR | | | ILLINOIS FED. AID PROJECT | | | | |

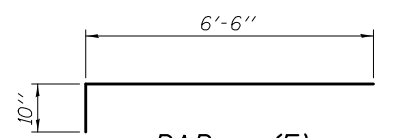


PLAN

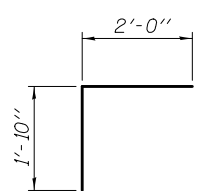
* Epoxy grout v(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BARS a30(E) & a33(E)



BAR a32(E)



BAR v(E)

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|---|-----|------|---------|--------|
| a30(E) | 42 | #5 | 19'-7" | ┌───┐ |
| a31(E) | 55 | #8 | 19'-2" | ─── |
| a32(E) | 16 | #5 | 7'-4" | ┌───┐ |
| a33(E) | 42 | #5 | 32'-5" | ┌───┐ |
| a34(E) | 55 | #8 | 32'-0" | ─── |
| b30(E) | 67 | #5 | 28'-7" | ─── |
| b31(E) | 99 | #9 | 28'-7" | ─── |
| b32(E) | 4 | #5 | 24'-0" | ─── |
| b33(E) | 1 | #4 | 24'-1" | ─── |
| b34(E) | 1 | #4 | 23'-11" | ─── |
| t(E) | 108 | #4 | 10'-4" | ─── |
| v(E) | 52 | #5 | 3'-11" | ┌───┐ |
| w30(E) | 40 | #5 | 19'-2" | ─── |
| w31(E) | 40 | #5 | 32'-0" | ─── |
| Bar Splicers | | | Each | 137 |
| Concrete Superstructure (Approach Slab) | | | Cu. Yd. | 71.9 |
| Concrete Structures | | | Cu. Yd. | 16.5 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 24,750 |

For Section A-A, see sheet 18 of 28.

DESIGNED VHV
 CHECKED DAB
 DRAWN baliva
 CHECKED VHV DAB

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE MAY 12, 2017
 REVISED
 REVISED

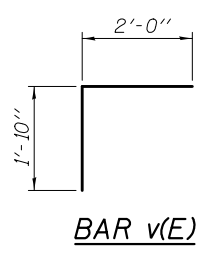
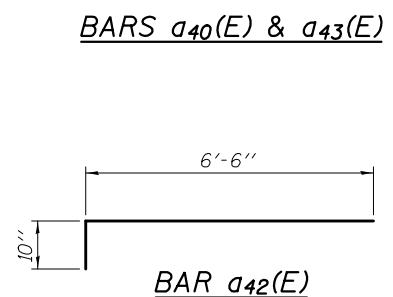
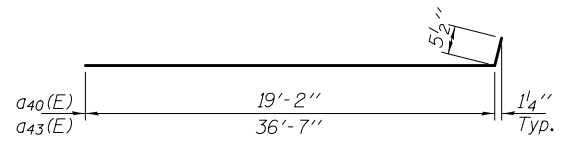
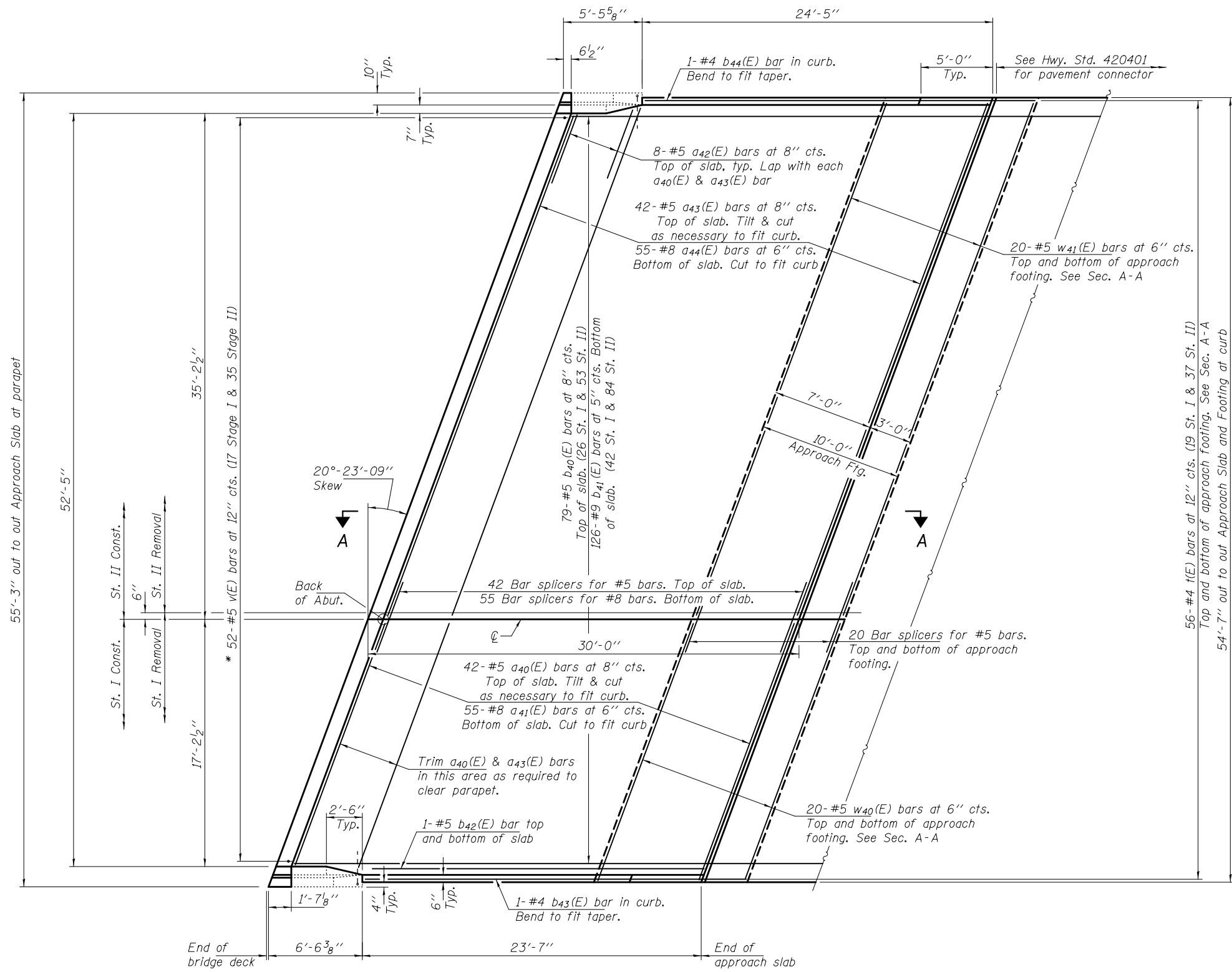
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH SLAB DETAILS
SN 025-0008

F.A.I. SECTION COUNTY TOTAL SHEETS SHEET NO.
 RTE. 70 (25-1,2R) EFFINGHAM 496 207
 CONTRACT NO. 74664

SHEET NO. 15 OF 28 SHEETS

ILLINOIS FED. AID PROJECT



PLAN

* Epoxy grout v(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|---|-----|------|---------|--------|
| a40(E) | 42 | #5 | 19'-7" | ┌ |
| a41(E) | 55 | #8 | 19'-2" | — |
| a42(E) | 16 | #5 | 7'-4" | ┌ |
| a43(E) | 42 | #5 | 37'-0" | ┌ |
| a44(E) | 55 | #8 | 36'-7" | — |
| b40(E) | 78 | #5 | 28'-7" | — |
| b41(E) | 126 | #9 | 28'-7" | — |
| b42(E) | 4 | #5 | 24'-0" | — |
| b43(E) | 1 | #4 | 23'-3" | — |
| b44(E) | 1 | #4 | 24'-1" | — |
| t(E) | 112 | #4 | 10'-4" | — |
| v(E) | 52 | #5 | 3'-11" | ┌ |
| w40(E) | 40 | #5 | 19'-2" | — |
| w41(E) | 40 | #5 | 36'-7" | — |
| Bar Splicers | | | Each | 137 |
| Concrete Superstructure (Approach Slab) | | | Cu. Yd. | 73.1 |
| Concrete Structures | | | Cu. Yd. | 18.0 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 25,850 |

For Section A-A, see sheet 18 of 28.

DESIGNED VHV
 CHECKED DAB
 DRAWN baliva
 CHECKED VHV DAB

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE MAY 12, 2017
 REVISED
 REVISED

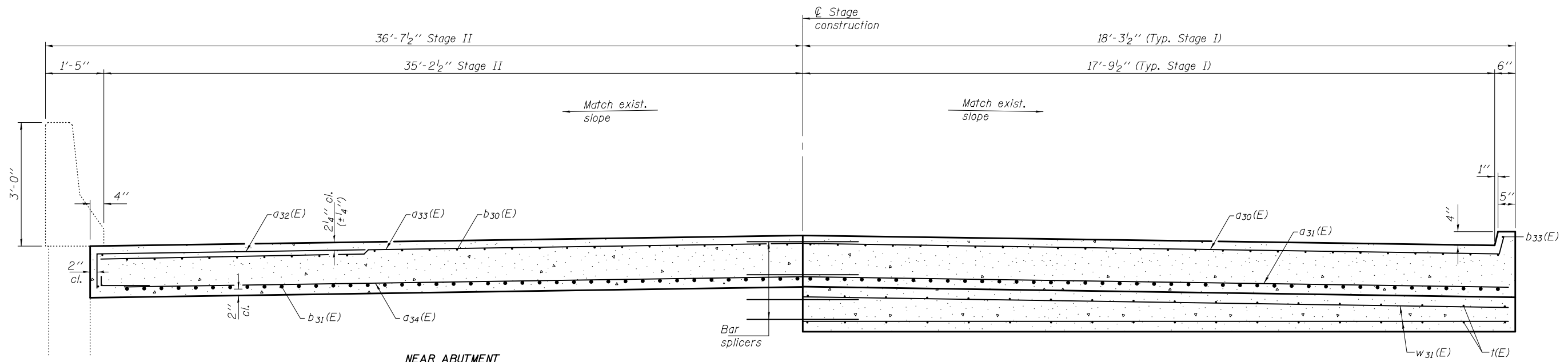
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**EAST APPROACH SLAB DETAILS
 SN 025-0008**

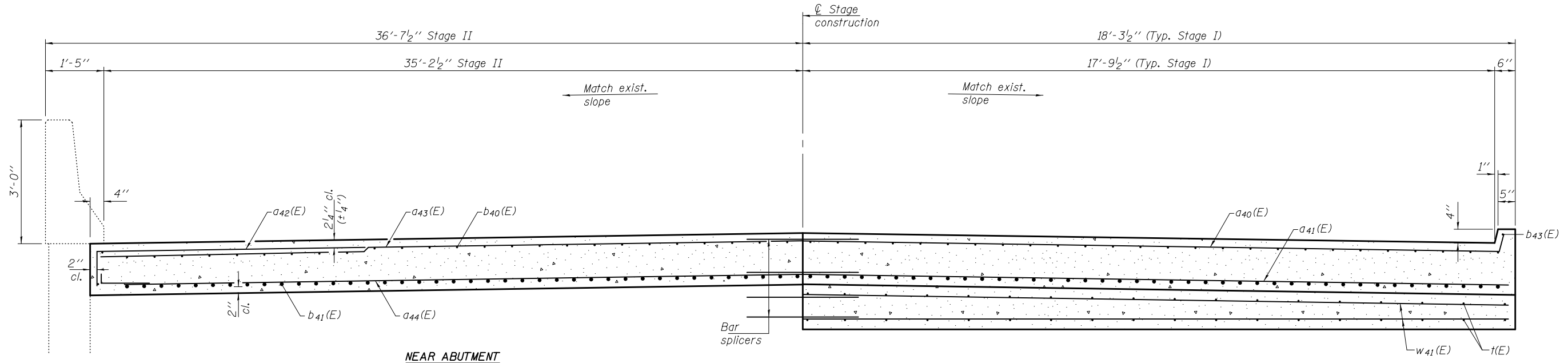
F.A.I. SECTION COUNTY TOTAL SHEETS SHEET NO.
 RTE. 70 (25-1,2R) EFFINGHAM 496 208
 CONTRACT NO. 74664

SHEET NO. 16 OF 28 SHEETS

ILLINOIS FED. AID PROJECT



CROSS SECTION
SN 025-0008
 (West Approach Looking East)



CROSS SECTION
SN 025-0008
 (East Approach Looking East)

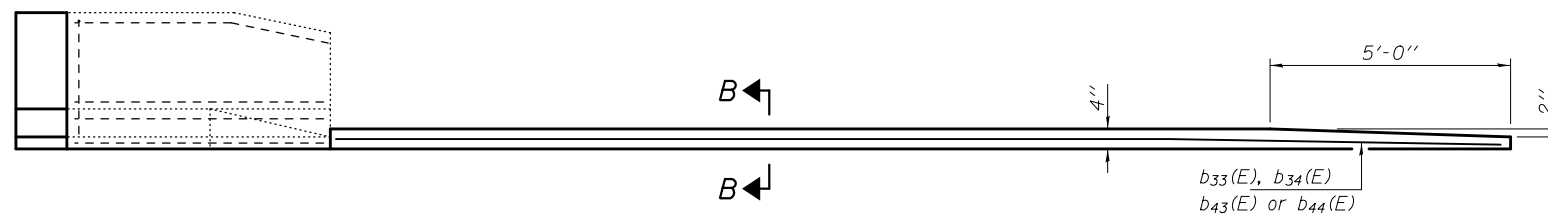
| | | | | | | | | |
|------------------------|---|---|---|--------------------|-----------|-----------|---------------------------|-----------|
| DESIGNED <i>VHV</i> | DATE <u>MAY 12, 2017</u> | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | BRIDGE APPROACH SLAB DETAILS I SN 025-0008 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED <i>DAB</i> | REVISIONS | | | 70 | (25-1,2)R | EFFINGHAM | 496 | 209 |
| DRAWN <i>baliva</i> | ENGINEER <i>Carl Berger</i> ENGINEER OF BRIDGES AND STRUCTURES | | SHEET NO. 17 OF 28 SHEETS | CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |
| CHECKED <i>VHV DAB</i> | PASSED | | | | | | | |

Notes:

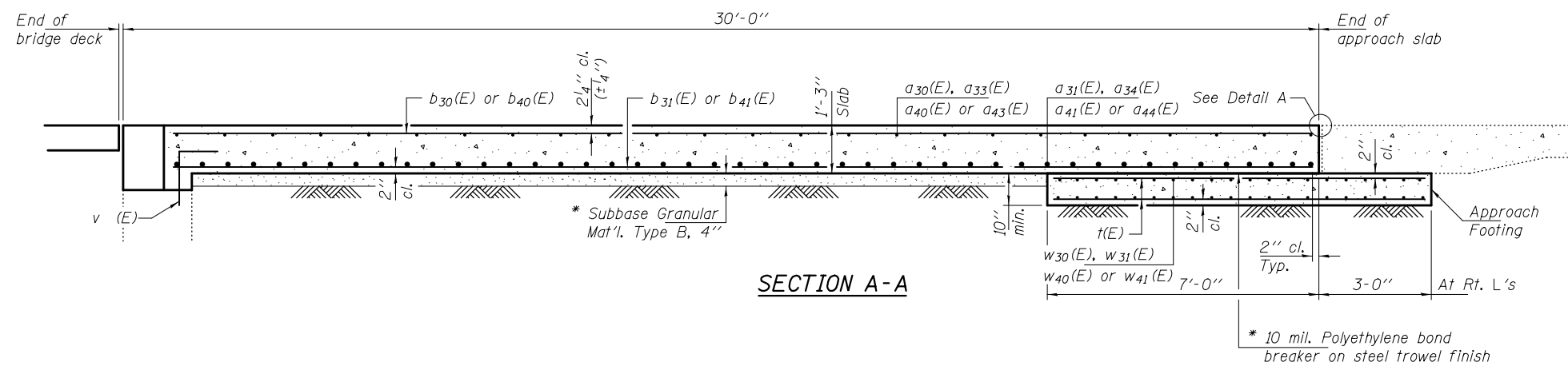
The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach pavement.

Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
Approach footing concrete shall be paid for as Concrete Structures.

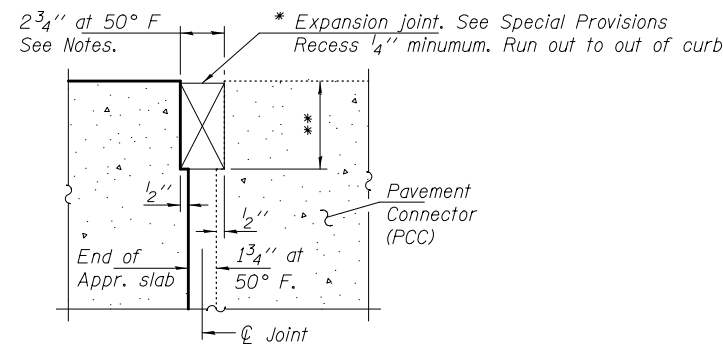
The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.



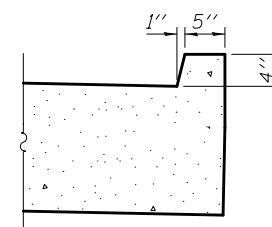
INSIDE ELEVATION OF PARAPET AND CURB



SECTION A-A



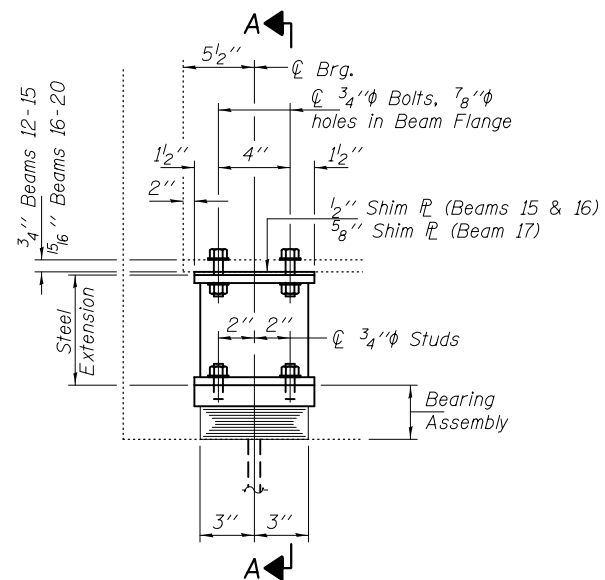
DETAIL A
(At Rt. L's)



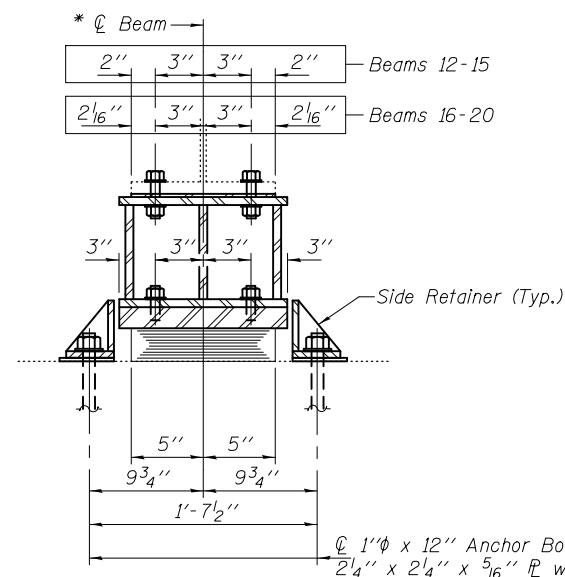
VIEW B-B

* Cost included with Concrete Superstructure (Approach Slab).
** Per manufacturer recommendations

| | | | | | | | | |
|-----------------|------------------------------------|---|--|---------------------------|-----------|-----------|--------------|-----------|
| DESIGNED VHV | DATE MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | BRIDGE APPROACH SLAB DETAILS II SN 025-0008 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED DAB | REVISOR | | | 70 | (25-1,2)R | EFFINGHAM | 496 | 210 |
| DRAWN baliva | REVISOR | SHEET NO. 18 OF 28 SHEETS | | CONTRACT NO. 74664 | | | | |
| CHECKED VHV DAB | ENGINEER OF BRIDGES AND STRUCTURES | | | ILLINOIS FED. AID PROJECT | | | | |



ELEVATION AT WEST ABUTMENT



SECTION A-A

* 27WF94 Beams 12-15
27WF114 Beams 16-20

TYPE I ELASTOMERIC EXP. BRG.

BEAM REACTIONS

(Beams B12 thru B15)

| | | |
|----------------|-----|------|
| R _ℓ | (K) | 12.5 |
| R _t | (K) | 24.1 |
| Imp. | (K) | 7.2 |
| R (Total) | (K) | 43.8 |

BEAM REACTIONS

(Beams B16 thru B20)

| | | |
|----------------|-----|------|
| R _ℓ | (K) | 13.7 |
| R _t | (K) | 26.5 |
| Imp. | (K) | 8.0 |
| R (Total) | (K) | 48.2 |

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

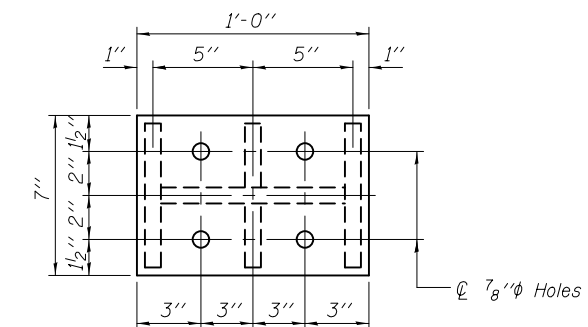
Min. jack capacity = 30 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

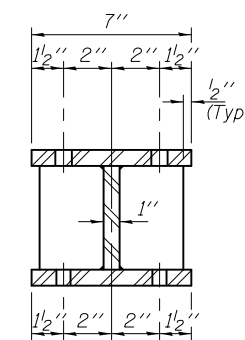
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

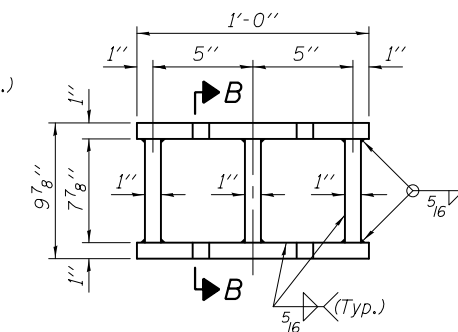
Cost of Side retainers and Stainless Steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.



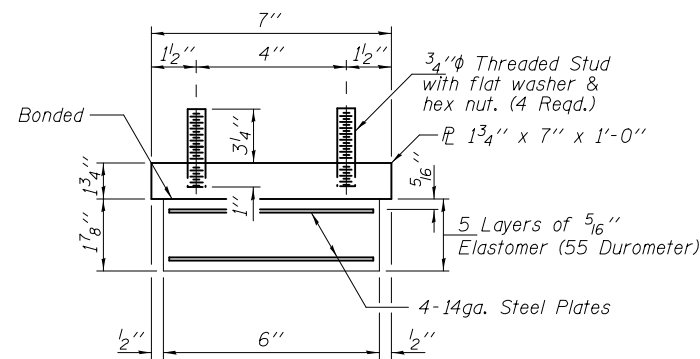
PLAN TOP AND BOTTOM PLATE



SECTION B-B

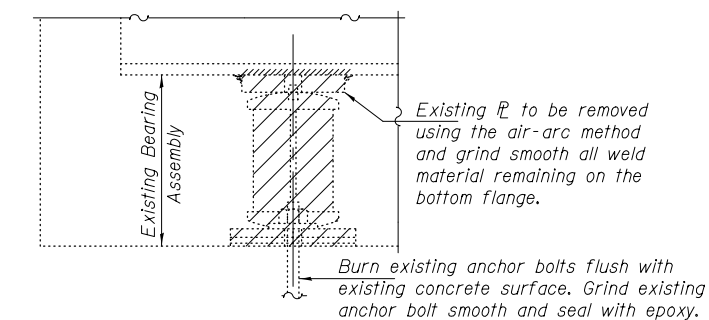


STEEL EXTENSION DETAIL



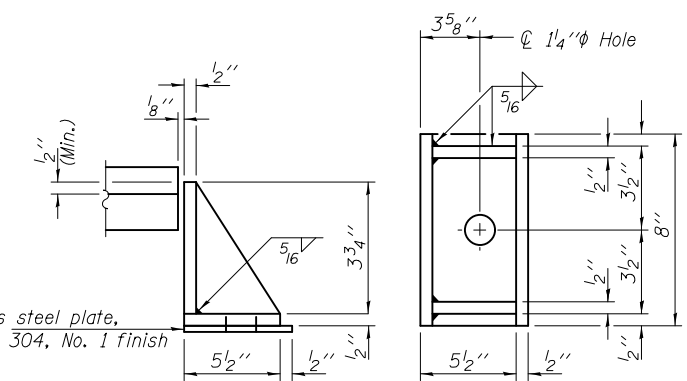
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



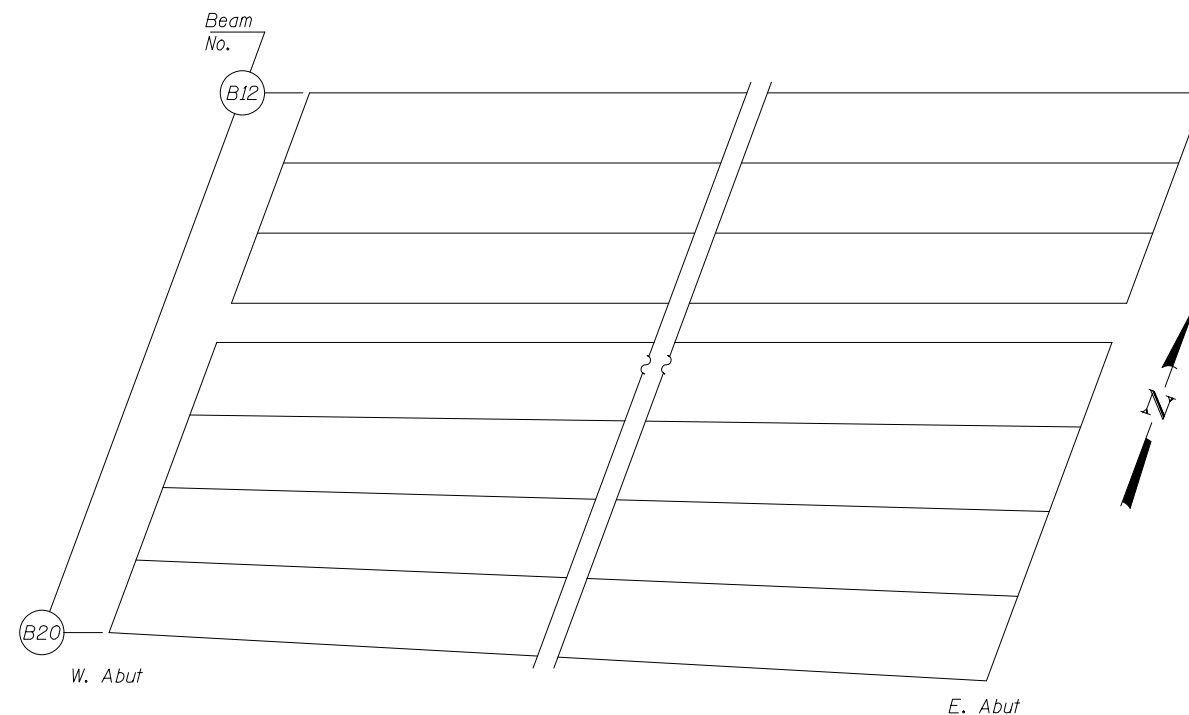
EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BEAM LAYOUT

BILL OF MATERIAL

| Item | Unit | Total |
|--|-------|-------|
| Elastomeric Bearing Assembly, Type I | Each | 9 |
| Jack and Remove Existing Bearings | Each | 9 |
| Furnishing and Erecting Structural Steel | Pound | 1010 |
| Anchor Bolts 1"φ | Each | 18 |

TYI/REPS 12-03-2008

| | |
|----------|---------|
| DESIGNED | SMR |
| CHECKED | VHV |
| DRAWN | baliva |
| CHECKED | SMR VHV |

| | |
|--------|------------------------------------|
| PASSED | <i>Carl Berger</i> |
| | ENGINEER OF BRIDGES AND STRUCTURES |

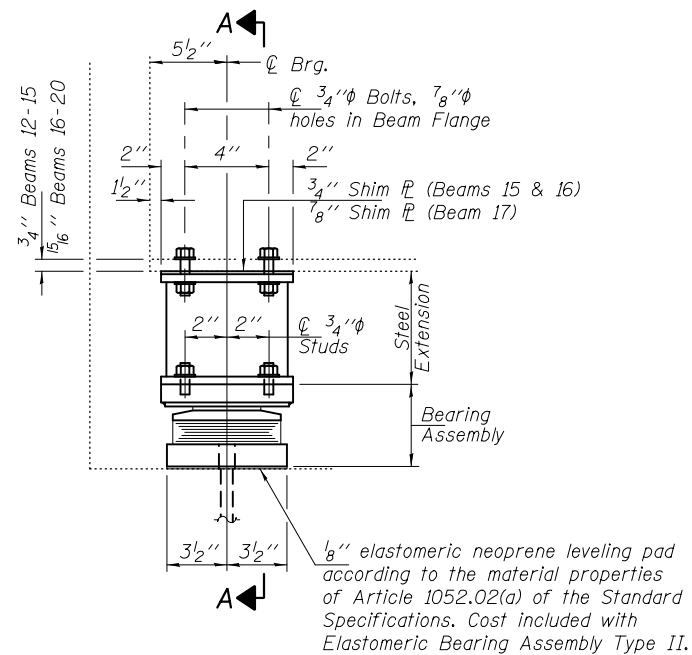
| | |
|---------|--------------|
| DATE | MAY 12, 2017 |
| REVISED | |
| REVISED | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

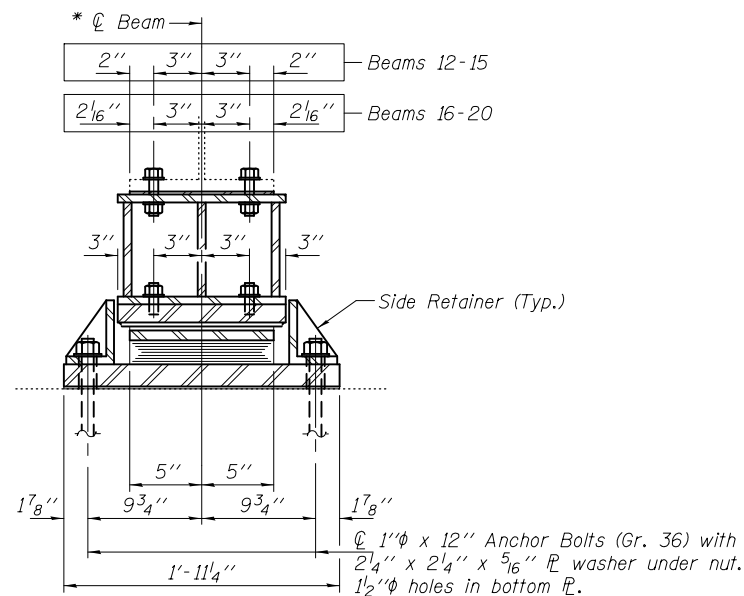
W. ABUTMENT BEARING REPLACEMENT DETAILS
SN 025-0007

SHEET NO. 19 OF 28 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------------|-----------|
| 70 | (25-1,2R) | EFFINGHAM | 496 | 211 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 74664 | |



ELEVATION AT EAST ABUTMENT



SECTION A-A

* 27WF94 Beams 12-15
27WF114 Beams 16-20

TYPE II TFE ELASTOMERIC EXP. BRG.

For beam layout, see sheet 19 of 28.

BEAM REACTIONS

(Beams B12 thru B15)

| | | |
|----------------|-----|------|
| RL | (K) | 9.1 |
| R \downarrow | (K) | 22.5 |
| Imp. | (K) | 6.8 |
| R (Total) | (K) | 38.4 |

BEAM REACTIONS

(Beams B16 thru B20)

| | | |
|----------------|-----|------|
| RL | (K) | 11.4 |
| R \downarrow | (K) | 29.9 |
| Imp. | (K) | 9.0 |
| R (Total) | (K) | 50.3 |

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Min. jack capacity = 30 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi).

The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

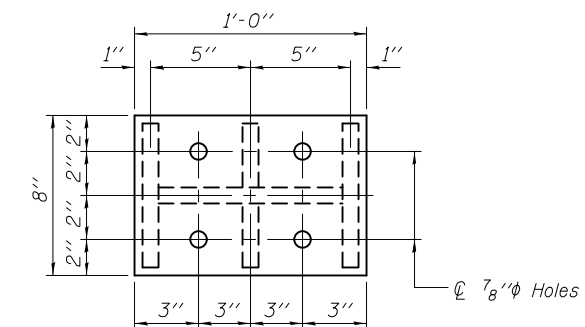
Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

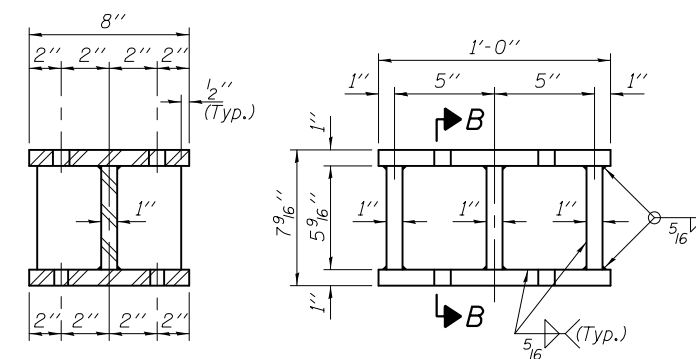
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

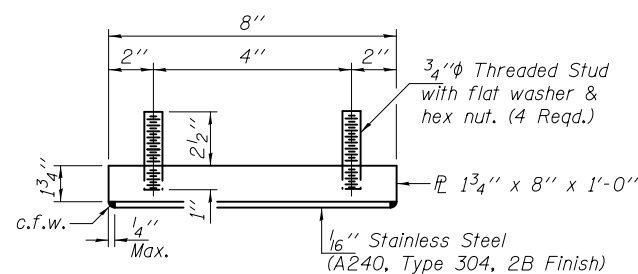


PLAN TOP AND BOTTOM PLATE



SECTION B-B

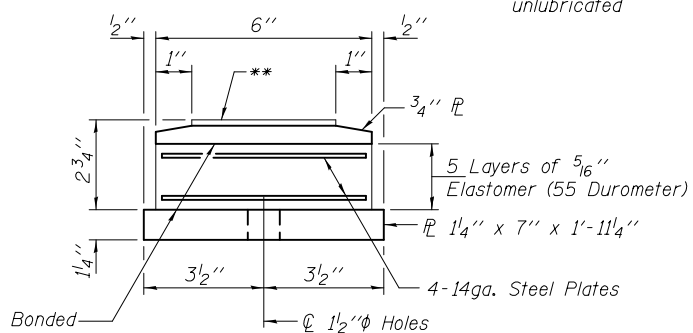
STEEL EXTENSION DETAIL



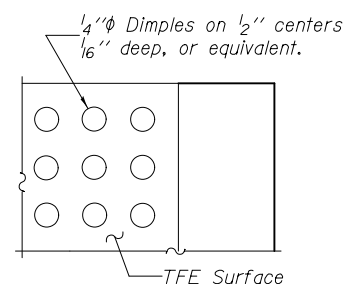
TOP BEARING ASSEMBLY

(Looking North)

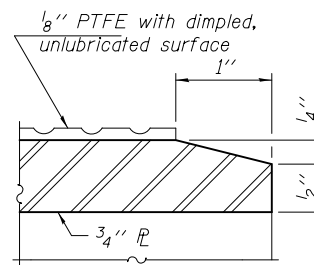
** 1/8" PTFE dimpled, unlubricated



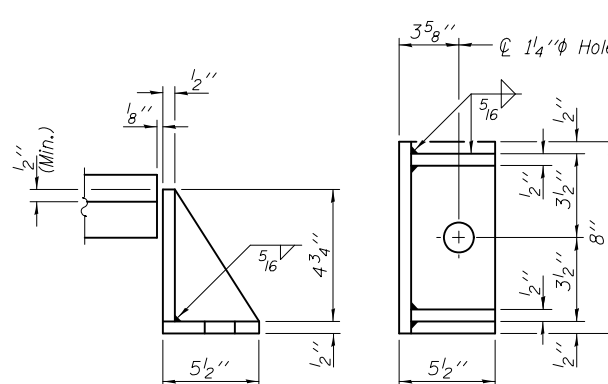
BOTTOM BEARING ASSEMBLY



PLAN-TFE SURFACE

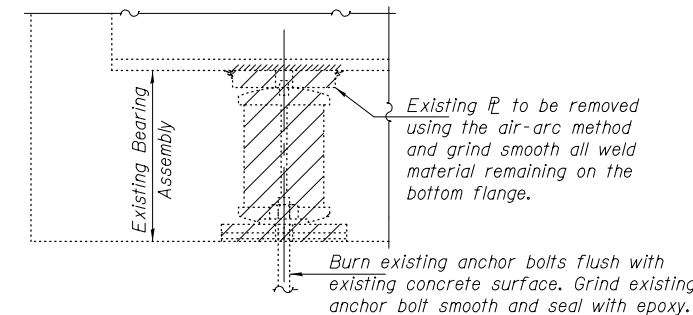


SECTION THRU TFE



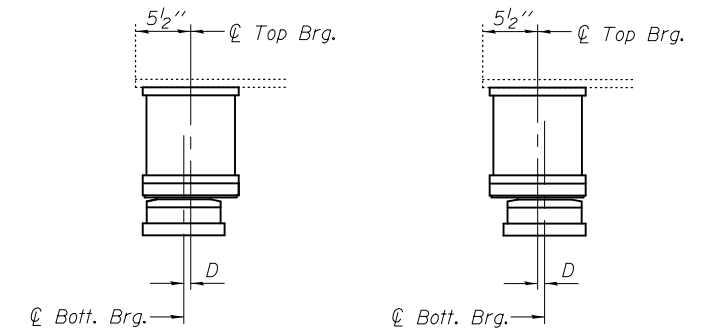
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

| Item | Unit | Total |
|--|-------|-------|
| Elastomeric Bearing Assembly Type II | Each | 9 |
| Jack and Remove Existing Bearings | Each | 9 |
| Furnishing and Erecting Structural Steel | Pound | 980 |
| Anchor Bolts 1" \varnothing | Each | 18 |

TYII/REPS 12-03-2008

| | |
|----------|---------|
| DESIGNED | SMR |
| CHECKED | VHV |
| DRAWN | baliva |
| CHECKED | SMR VHV |

| | |
|--------|--|
| PASSED | <i>Carl Pinger</i> ENGINEER OF BRIDGES AND STRUCTURES |
|--------|--|

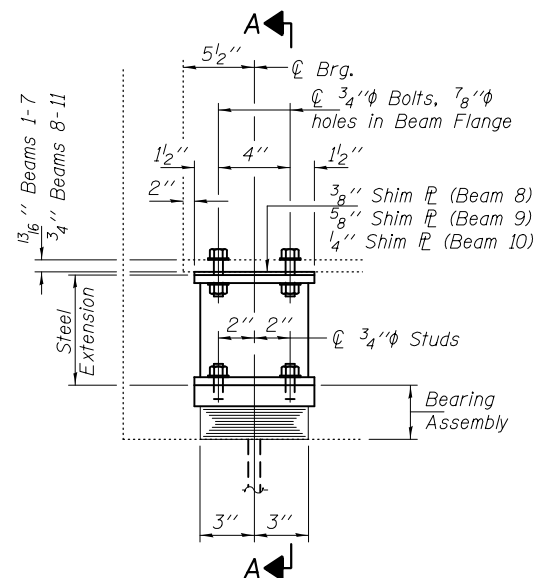
| | |
|---------|--------------|
| DATE | MAY 12, 2017 |
| REVISED | |
| REVISED | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

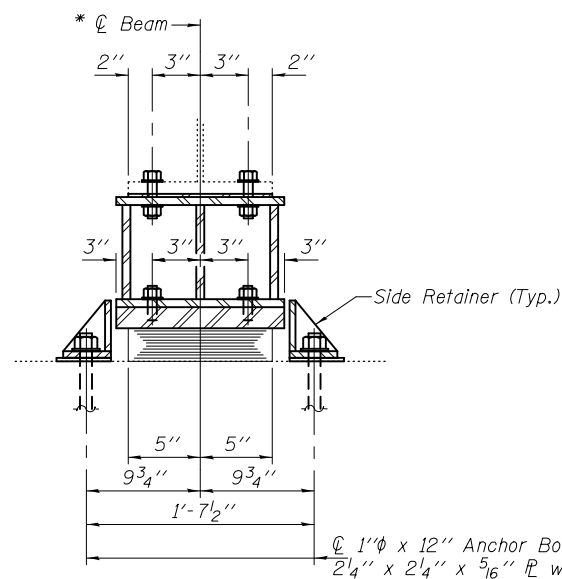
E. ABUTMENT BEARING REPLACEMENT DETAILS
SN 025-0007

SHEET NO. 20 OF 28 SHEETS

| | | | | |
|---------------------------|-----------|-----------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 212 |
| | | | CONTRACT NO. | 74664 |
| ILLINOIS FED. AID PROJECT | | | | |



ELEVATION AT WEST ABUTMENT



SECTION A-A

* 27WF102 Beams 1-7
27WF94 Beams 8-11

TYPE I ELASTOMERIC EXP. BRG.

BEAM REACTIONS

(Beams B1 thru B7)

| | | |
|----------------|-----|------|
| R _D | (K) | 13.5 |
| R _L | (K) | 26.5 |
| Imp. | (K) | 8.0 |
| R (Total) | (K) | 48.0 |

BEAM REACTIONS

(Beams B8 thru B11)

| | | |
|----------------|-----|------|
| R _D | (K) | 12.5 |
| R _L | (K) | 24.1 |
| Imp. | (K) | 7.2 |
| R (Total) | (K) | 43.8 |

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

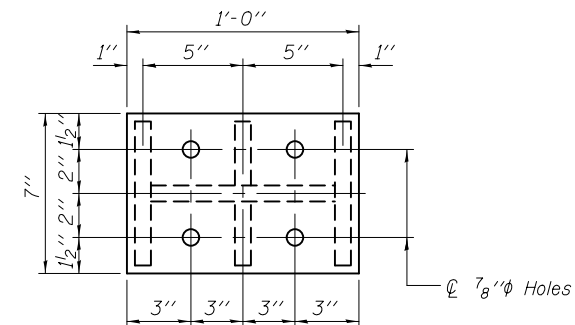
Min. jack capacity = 25 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

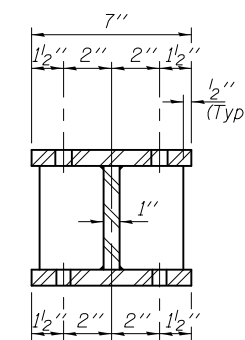
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

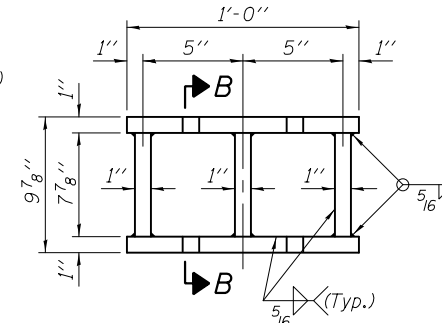
Cost of Side retainers and Stainless Steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.



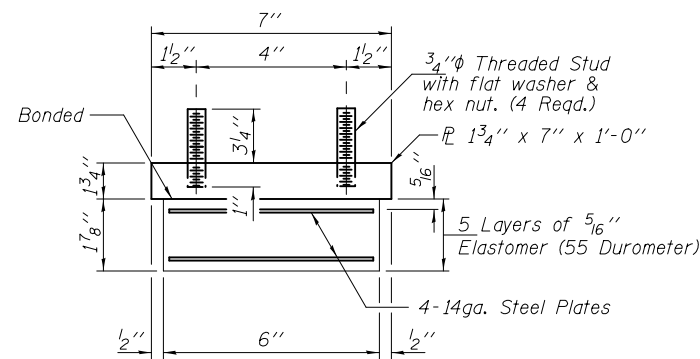
PLAN TOP AND BOTTOM PLATE



SECTION B-B

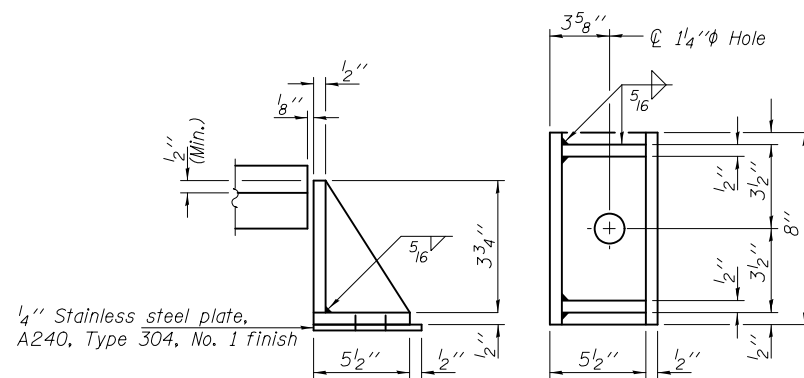


STEEL EXTENSION DETAIL



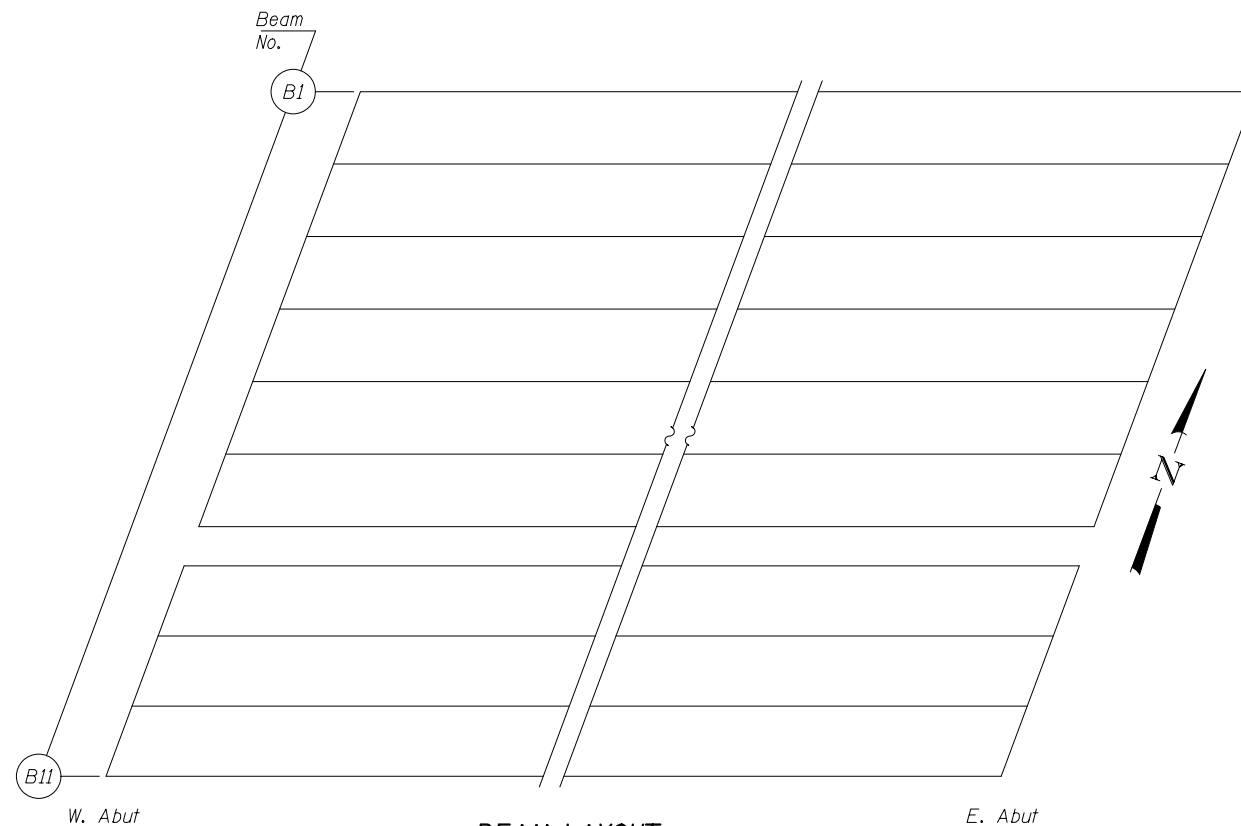
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

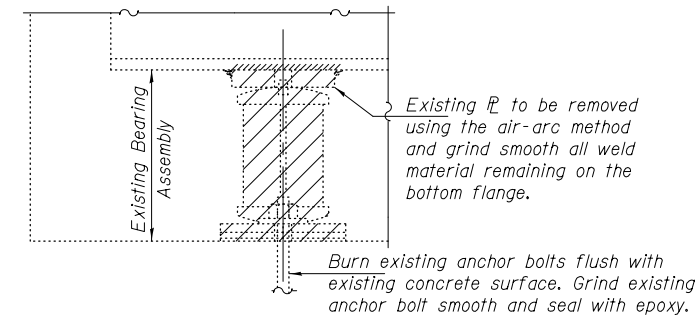


SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BEAM LAYOUT



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

BILL OF MATERIAL

| Item | Unit | Total |
|--|-------|-------|
| Elastomeric Bearing Assembly, Type I | Each | 11 |
| Jack and Remove Existing Bearings | Each | 11 |
| Furnishing and Erecting Structural Steel | Pound | 1220 |
| Anchor Bolts 1"φ | Each | 22 |

TYI/REPS 12-03-2008

| | |
|----------|---------|
| DESIGNED | SMR |
| CHECKED | VHV |
| DRAWN | baliva |
| CHECKED | SMR VHV |

PASSED

Carl Berger
ENGINEER OF BRIDGES AND STRUCTURES

DATE MAY 12, 2017

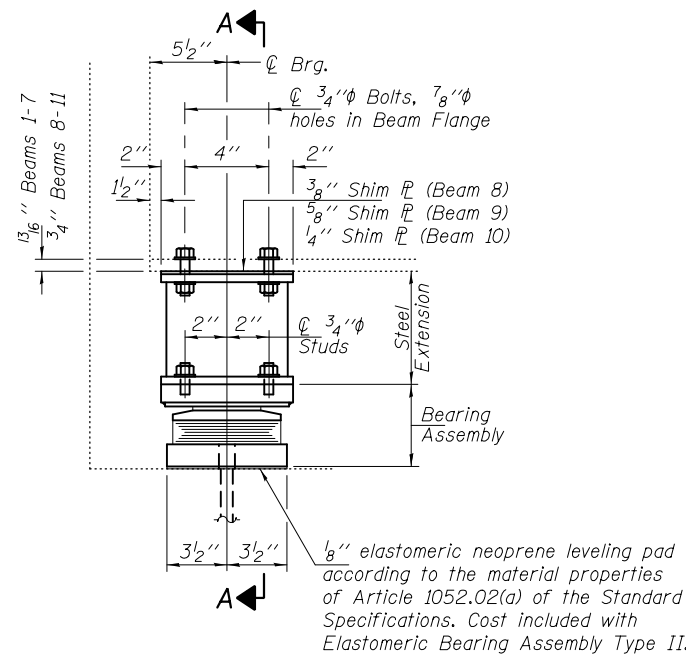
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

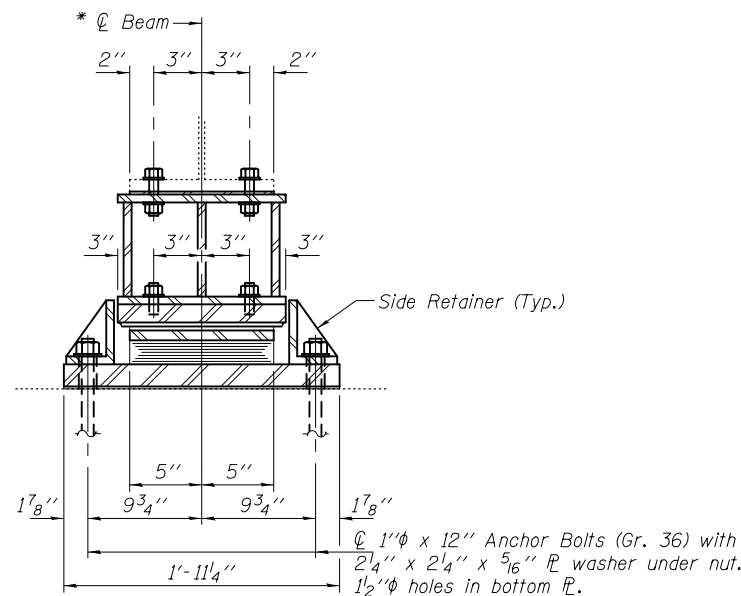
W. ABUTMENT BEARING REPLACEMENT DETAILS
SN 025-0008

SHEET NO. 21 OF 28 SHEETS

| | | | | |
|---------------------------|-----------|-----------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2R) | EFFINGHAM | 496 | 213 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 74664 | |



ELEVATION AT EAST ABUTMENT



SECTION A-A

* 27WF102 Beams 1-7
 27WF94 Beams 8-11

TYPE II TFE ELASTOMERIC EXP. BRG.

For beam layout, see sheet 21 of 28.

BEAM REACTIONS

(Beams B1 thru B7)

| | | |
|-----------------|-----|------|
| R ϕ | (K) | 9.8 |
| R $\frac{1}{2}$ | (K) | 24.7 |
| Imp. | (K) | 7.4 |
| R (Total) | (K) | 41.9 |

BEAM REACTIONS

(Beams B8 thru B11)

| | | |
|-----------------|-----|------|
| R ϕ | (K) | 9.1 |
| R $\frac{1}{2}$ | (K) | 22.5 |
| Imp. | (K) | 6.8 |
| R (Total) | (K) | 38.4 |

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Min. jack capacity = 25 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi).

The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

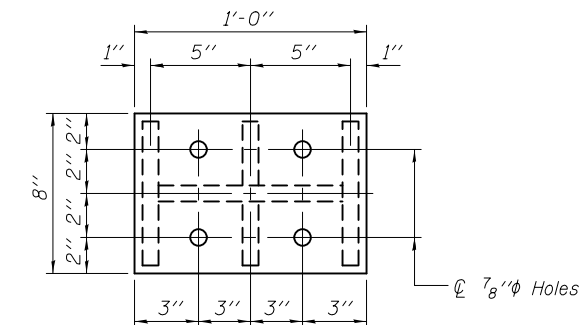
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.

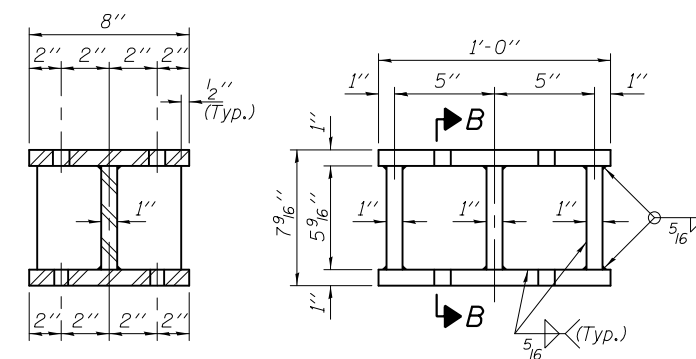
The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

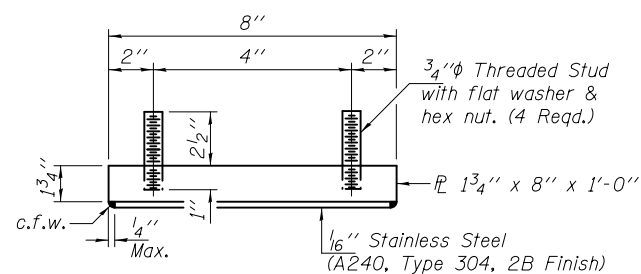


PLAN TOP AND BOTTOM PLATE



SECTION B-B

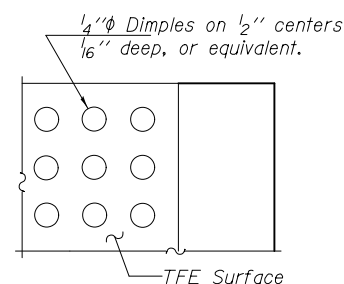
STEEL EXTENSION DETAIL



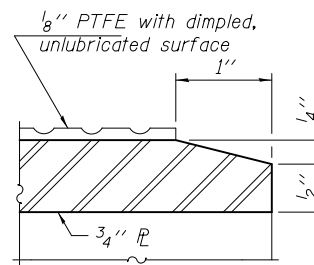
TOP BEARING ASSEMBLY

(Looking North)

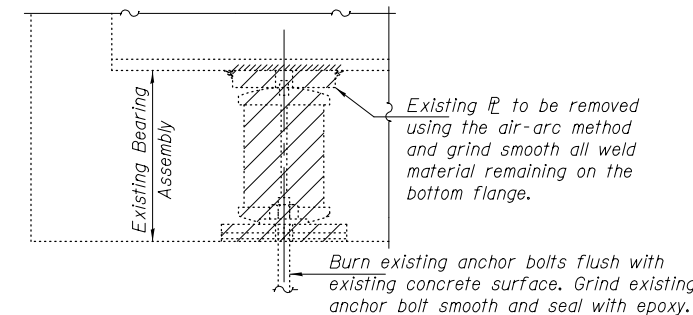
** 1/8" PTFE dimpled, unlubricated



PLAN-TFE SURFACE

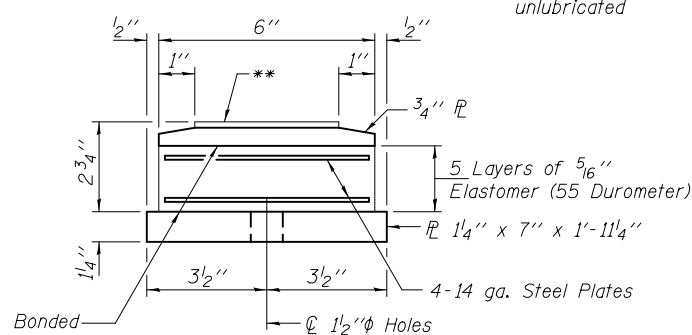


SECTION THRU TFE

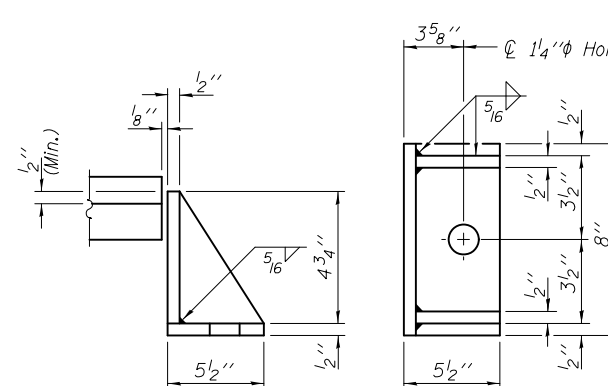


EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

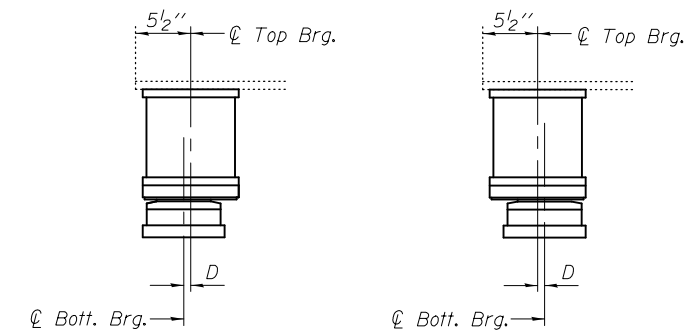


BOTTOM BEARING ASSEMBLY



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50° F.

(Move bott. brg. away from fixed brg.)

ABOVE 50° F.

(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

| Item | Unit | Total |
|--|-------|-------|
| Elastomeric Bearing Assembly Type II | Each | 11 |
| Jack and Remove Existing Bearings | Each | 11 |
| Furnishing and Erecting Structural Steel | Pound | 1160 |
| Anchor Bolts 1" ϕ | Each | 22 |

TYII/REPS 12-03-2008

| | |
|----------|---------|
| DESIGNED | SMR |
| CHECKED | VHV |
| DRAWN | baliva |
| CHECKED | SMR VHV |

| | |
|--------|--|
| PASSED | <i>Carl Berger</i> ENGINEER OF BRIDGES AND STRUCTURES |
|--------|--|

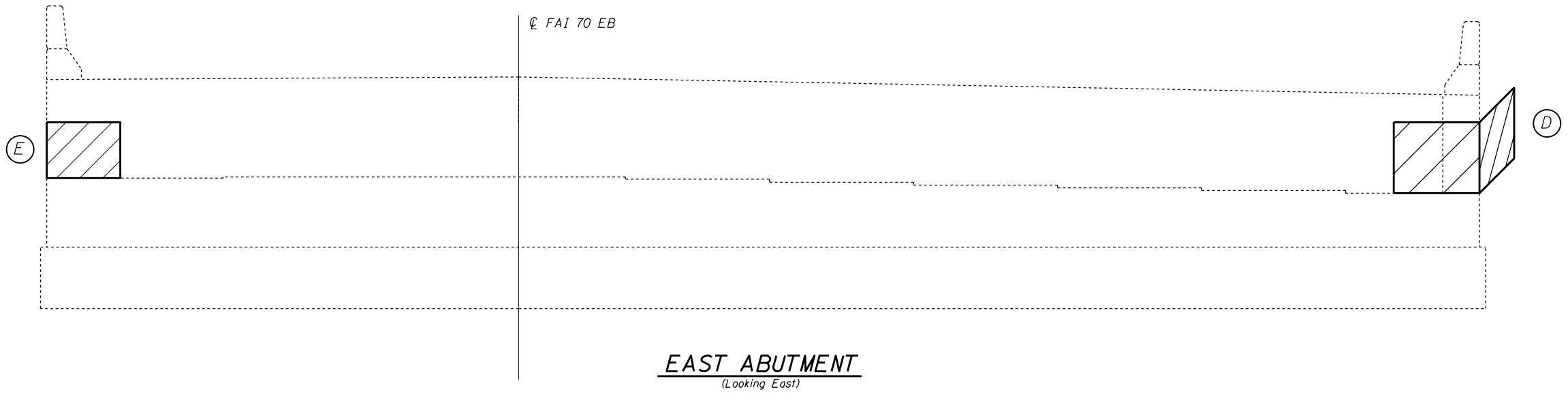
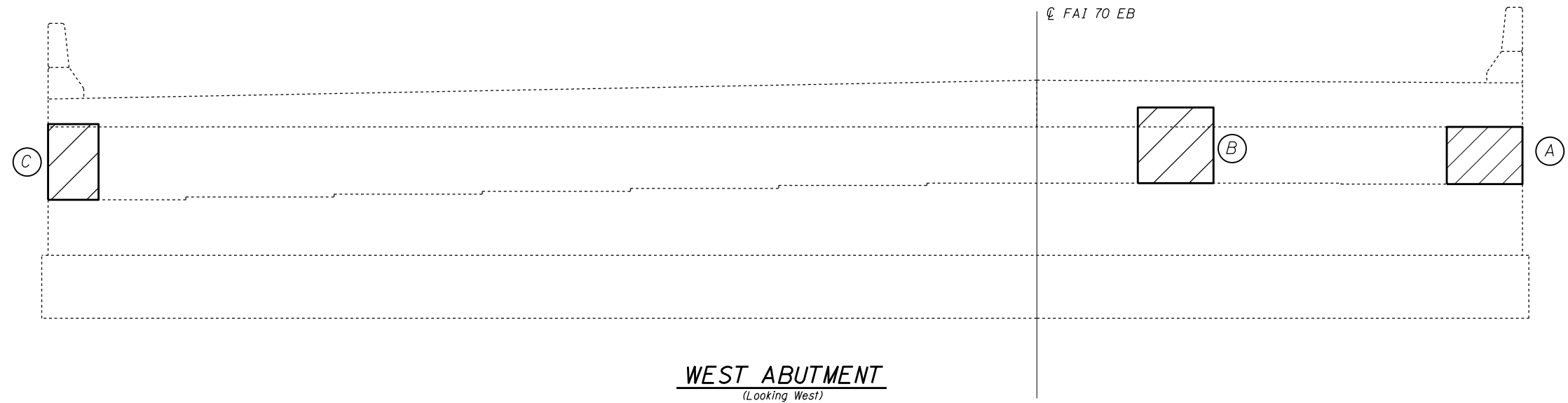
| | |
|---------|--------------|
| DATE | MAY 12, 2017 |
| REVISED | |
| REVISED | |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

E. ABUTMENT BEARING REPLACEMENT DETAILS
 SN 025-0008

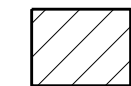
SHEET NO. 22 OF 28 SHEETS

| | | | | |
|---------------------------|-----------|-----------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2R) | EFFINGHAM | 496 | 214 |
| | | | CONTRACT NO. | 74664 |
| ILLINOIS FED. AID PROJECT | | | | |

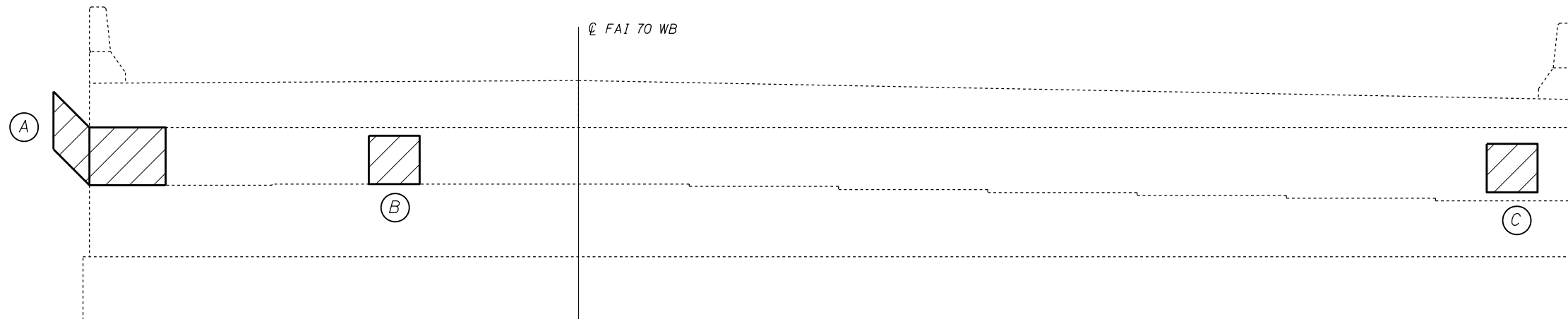


**STRUCTURAL REPAIR OF CONCRETE
(DEPTH < 5")**

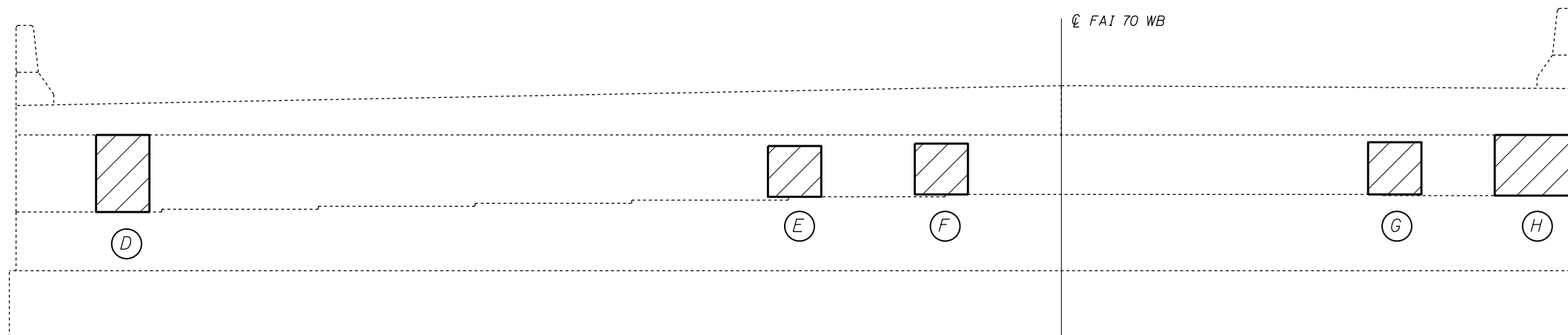
| ABUTMENT | LOCATION | AREA |
|----------------|----------|-------|
| | | SQ FT |
| WEST | A | 6.8 |
| WEST | B | 9.0 |
| WEST | C | 6.0 |
| EAST | D | 14.2 |
| EAST | E | 6.8 |
| 025-0007 TOTAL | | 42.8 |



STRUCTURAL REPAIR OF CONCRETE (DEPTH < 5")



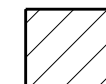
WEST ABUTMENT
(Looking West)



EAST ABUTMENT
(Looking East)

STRUCTURAL REPAIR OF CONCRETE
(DEPTH < 5")

| ABUTMENT | LOCATION | AREA SQ FT |
|----------------|----------|---------------|
| WEST | A | 10.0 |
| WEST | B | 4.0 |
| WEST | C | 4.0 |
| EAST | D | 5.8 |
| EAST | E | 4.0 |
| EAST | F | 4.0 |
| EAST | G | 4.0 |
| EAST | H | 6.8 |
| 025-0008 TOTAL | | 42.6 |



STRUCTURAL REPAIR OF CONCRETE (DEPTH < 5")

| | | | |
|--|-----------------------------|-------------------|-----------------------------|
| FILE NAME = | USER NAME = steffenk | DESIGNED - KLB | REVISED - S. Kassel 9/21/16 |
| pw:\IL\084EBIDINTEG\illinois.gov\PIDOT\Documents\IDOT Offices\District 7\Projects\74664\Drawings\CAD\sheet\B774664-structures-025-0008.dgn | | DRAWN - KLB | REVISIONS - -- |
| Default | PLOT SCALE = 40.0000' / in. | CHECKED - MEA | REVISED - -- |
| | PLOT DATE = 3/23/2017 | DATE - 12/24/2013 | REVISED - -- |

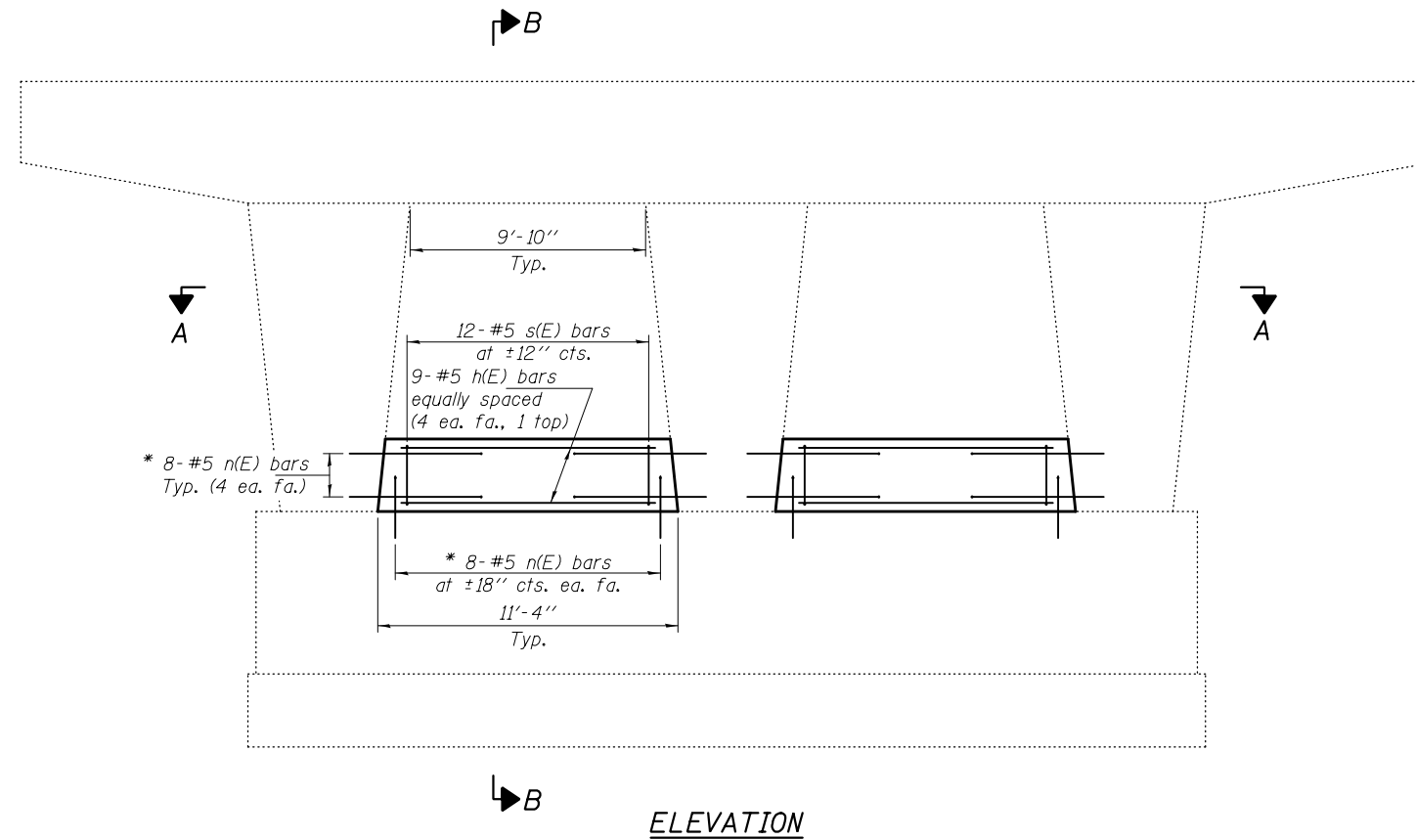
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | |
|--|----------|--------------|--------------|
| STRUCTURAL REPAIR OF CONCRETE (DEPTH < 5") | | | |
| SN. 025-0008 (WB) | | | |
| SCALE: | SHEET 24 | OF 28 SHEETS | STA. TO STA. |

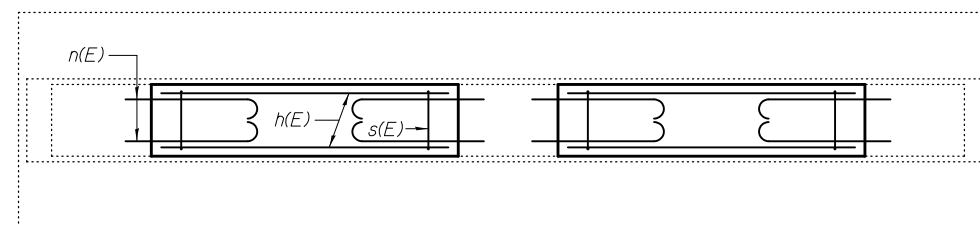
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 216 |
| CONTRACT NO. 74664 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

NOTES

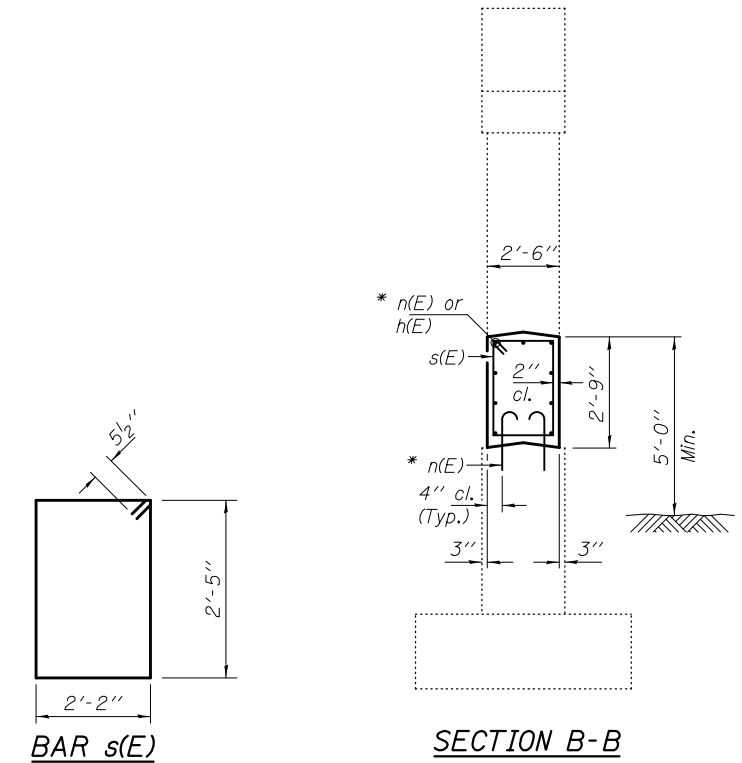
The cost of epoxy grouting threaded rods shall be included with Reinforcement Bars, Epoxy Coated.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 Reinforcement bars designated (E) shall be epoxy coated.



ELEVATION



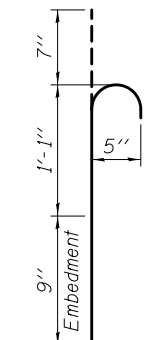
SECTION A-A



BAR s(E)

SECTION B-B

* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BAR n(E)

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h(E) | 18 | #5 | 10'-7" | — |
| n(E) | 64 | #5 | 2'-5" | ⌋ |
| s(E) | 24 | #5 | 10'-1" | □ |
| Concrete Structures | | | Cu. Yd. | 5.7 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 610 |

DESIGNED *DAB*
 CHECKED *VHV*
 DRAWN *baliva*
 CHECKED *DAB VHV*

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE MAY 12, 2017
 REVISED
 REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

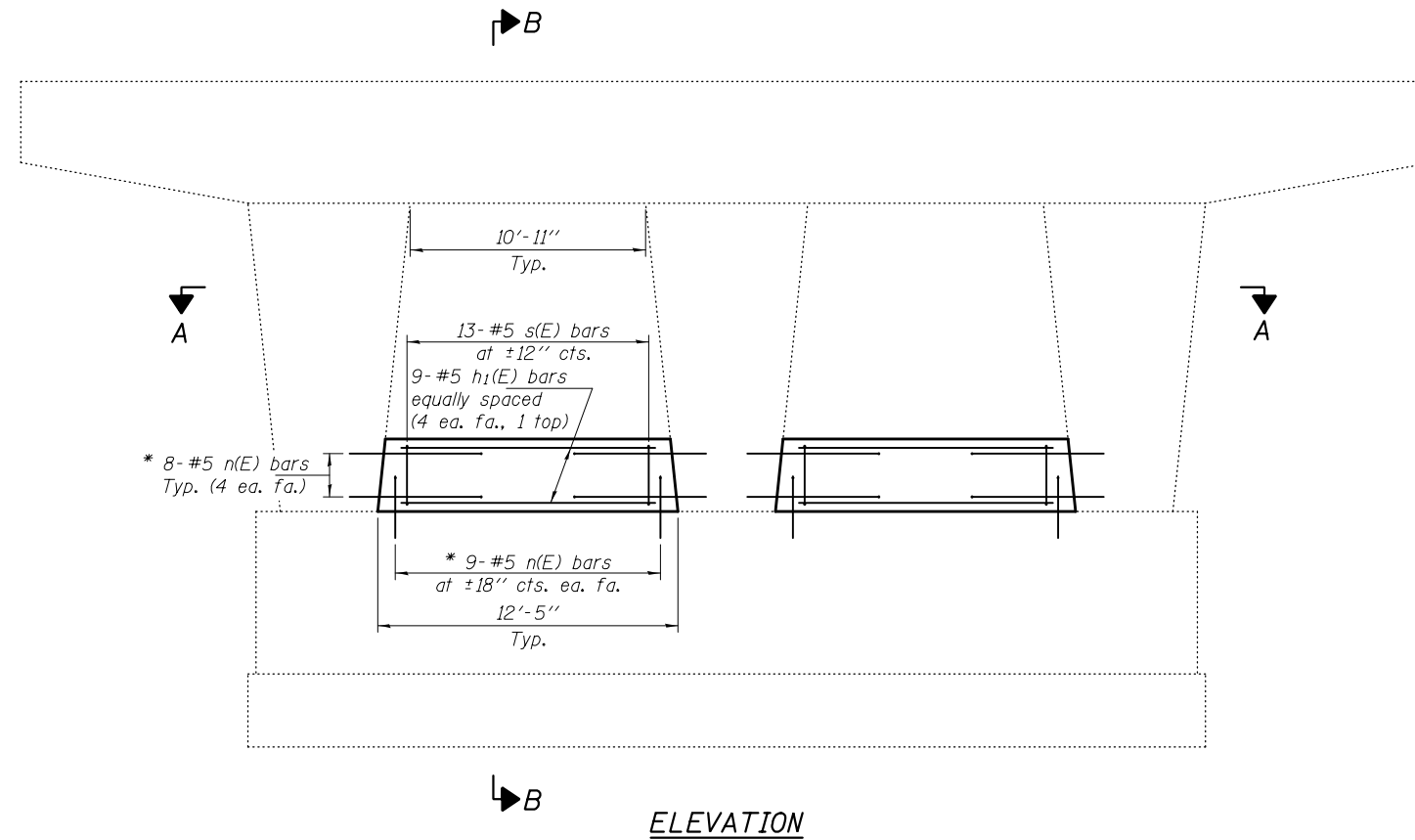
**PIER 1 CRASHWALL EXTENSION
 SN 025-0007**

SHEET NO. 25 OF 28 SHEETS

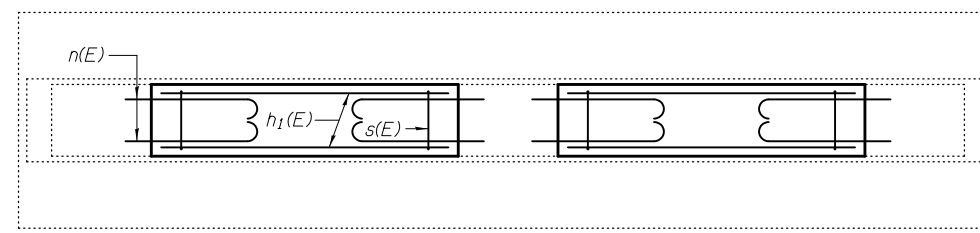
| | | | | |
|--------------------|-----------|-----------|---------------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 217 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

NOTES

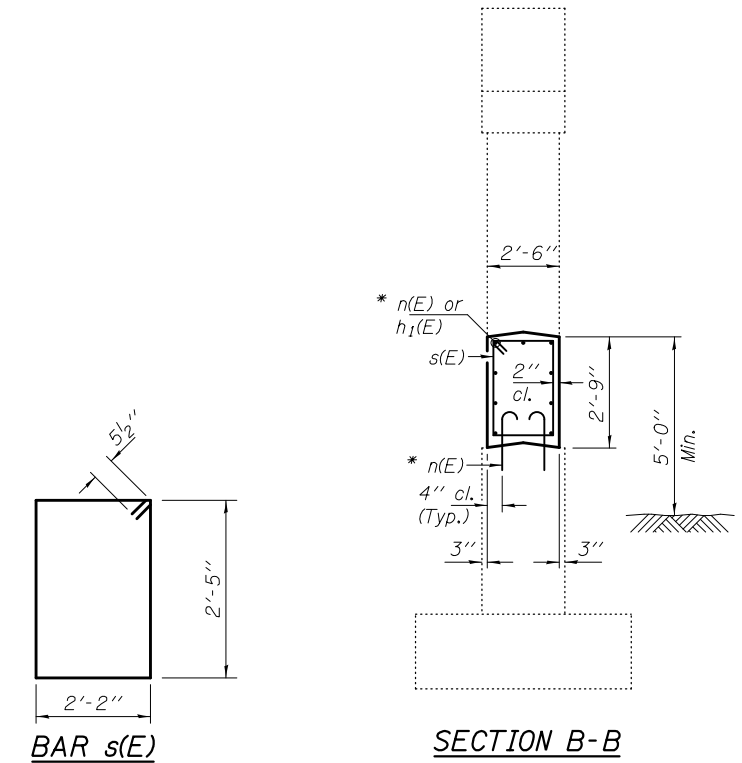
The cost of epoxy grouting threaded rods shall be included with Reinforcement Bars, Epoxy Coated.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 Reinforcement bars designated (E) shall be epoxy coated.



ELEVATION



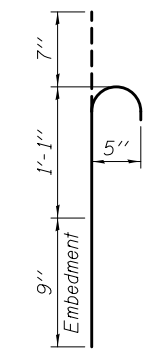
SECTION A-A



BAR s(E)

SECTION B-B

* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.




BAR n(E)

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h ₁ (E) | 18 | #5 | 11'-8" | — |
| n(E) | 68 | #5 | 2'-5" | ⌋ |
| s(E) | 26 | #5 | 10'-1" | □ |
| Concrete Structures | | | Cu. Yd. | 6.2 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 660 |

DESIGNED *DAB*
 CHECKED *VHV*
 DRAWN *baliva*
 CHECKED *DAB VHV*

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE MAY 12, 2017
 REVISED
 REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

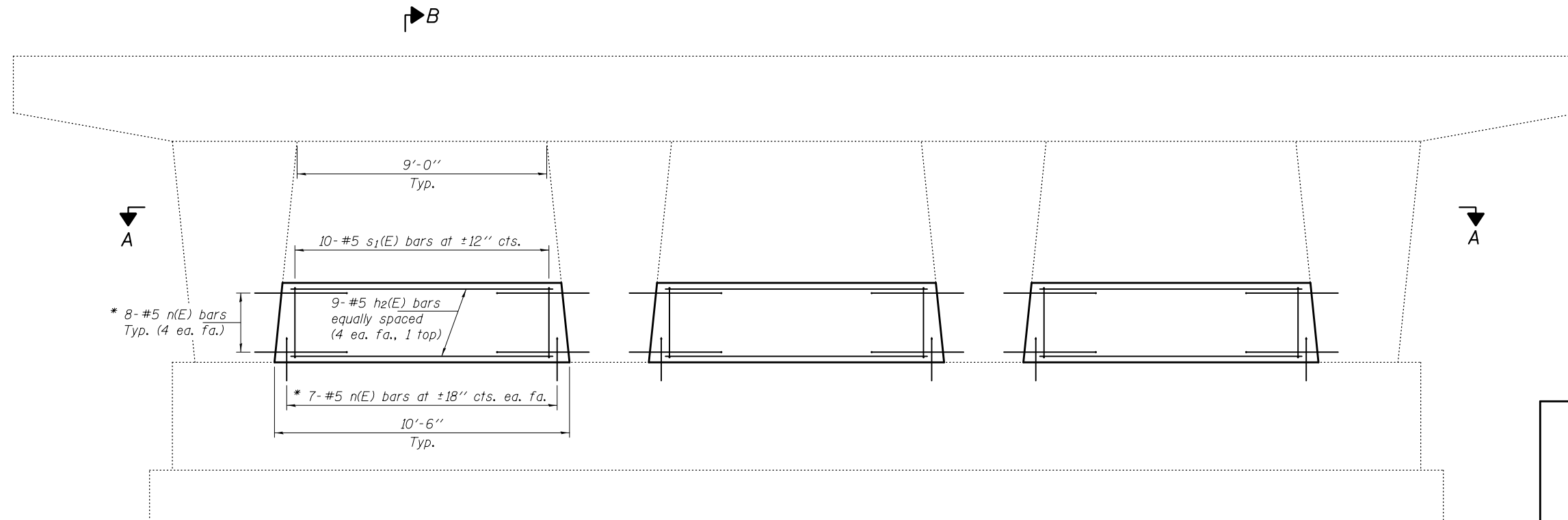
**PIER 2 CRASHWALL EXTENSION
 SN 025-0007**

SHEET NO. 26 OF 28 SHEETS

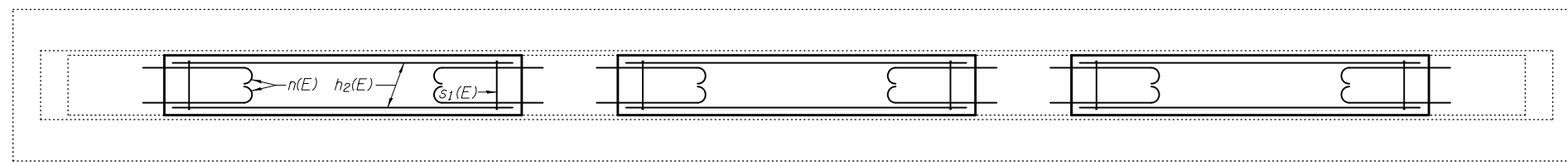
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 218 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 74664 | |

NOTES

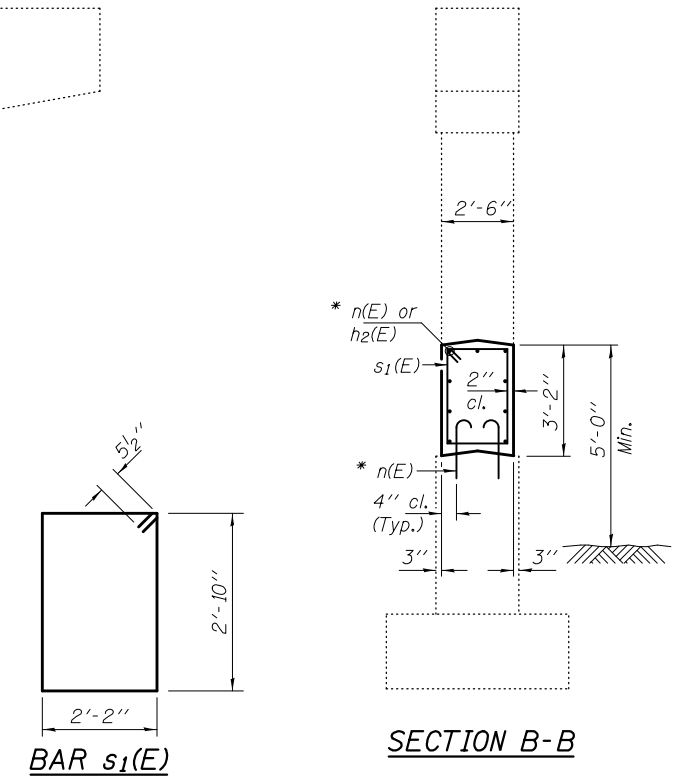
The cost of epoxy grouting threaded rods shall be included with Reinforcement Bars, Epoxy Coated.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 Reinforcement bars designated (E) shall be epoxy coated.



ELEVATION

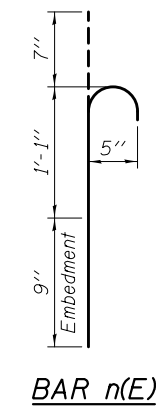


SECTION A-A



SECTION B-B

* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BAR n(E)

**BILL OF MATERIAL
2 PIERS**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h2(E) | 54 | #5 | 9'-8" | — |
| n(E) | 180 | #5 | 2'-5" | ⌋ |
| s1(E) | 60 | #5 | 10'-11" | □ |
| Concrete Structures | | | Cu. Yd. | 18.0 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 1680 |

DESIGNED *DAB*
 CHECKED *VHV*
 DRAWN *baliva*
 CHECKED *DAB VHV*

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE MAY 12, 2017
 REVISED
 REVISED

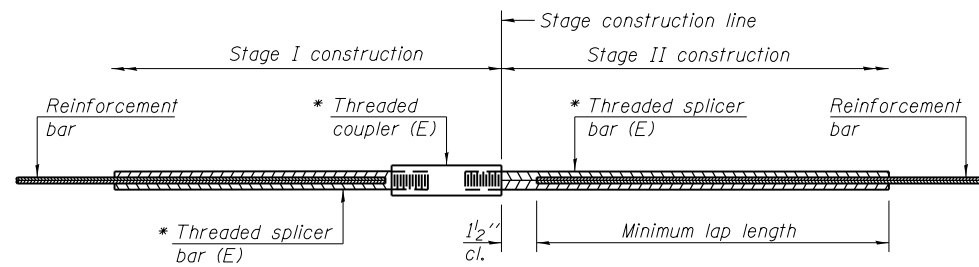
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIERS 1 & 2 CRASHWALL EXTENSION
 SN 025-0008**

SHEET NO. 27 OF 28 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|--------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 219 |
| CONTRACT NO. 74664 | | | | |

ILLINOIS FED. AID PROJECT

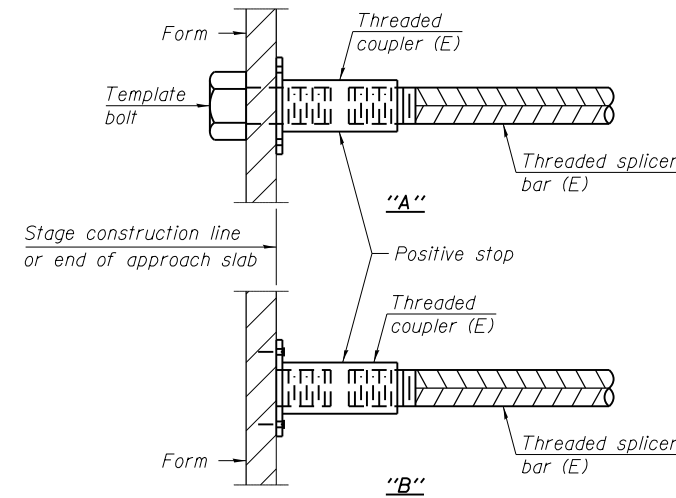


STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

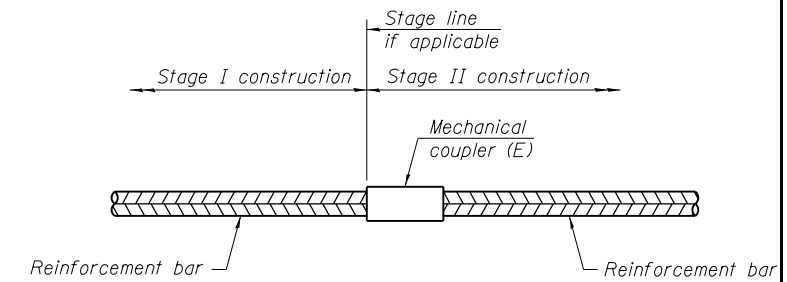
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location | Bar size | No. assemblies required | Minimum lap length |
|------------------------|----------|-------------------------|--------------------|
| 025-0007 Deck | #5 | 24 | 3'-6" |
| 025-0007 Hatch | #6 | 8 | 4'-10" |
| 025-0008 Deck | #5 | 24 | 3'-6" |
| 025-0008 Hatch | #6 | 8 | 4'-10" |
| 025-0007 Approach Slab | #5 | 164 | 3'-4" |
| 025-0007 Approach Slab | #8 | 110 | 6'-8" |
| 025-0008 Approach Slab | #5 | 164 | 3'-4" |
| 025-0008 Approach Slab | #8 | 110 | 6'-8" |



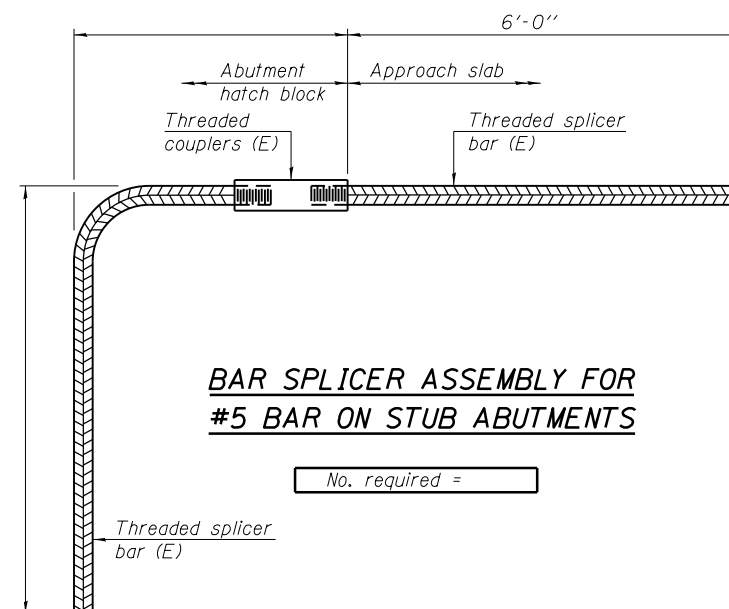
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

| Location | Bar size | No. assemblies required |
|----------|----------|-------------------------|
| | | |
| | | |
| | | |
| | | |



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

11-22-2016

| | | | |
|--|-----------------------------|----------------------|------------------------------|
| FILE NAME = | USER NAME = steffennk | DESIGNED - S. Kassel | REVISED - S. Kassel 12/19/16 |
| pw:\IL\084EBID\INTEG\Illinois.gov\PWIDOT\Documents\DOT Offices\District 7\Projects\74664\Drawings\CAD\Sheet\2500-structures-02\02500.dgn | PROJECT = 02500 | CHECKED - D. Macklin | REVISED - |
| Default | PLOT SCALE = 40.0000' / in. | DATE - 10/13/2016 | REVISED - |
| | PLOT DATE = 3/23/2017 | | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

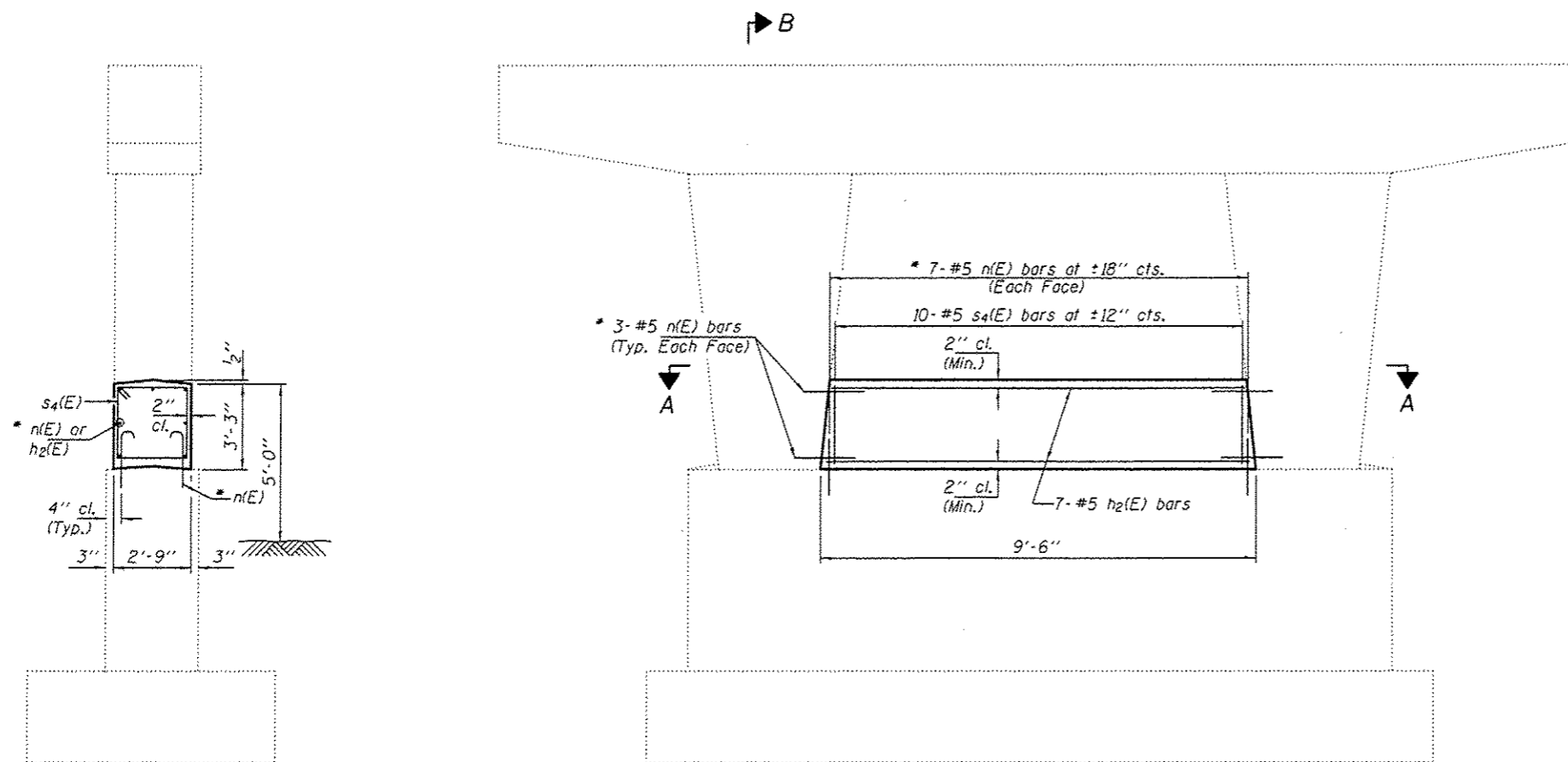
**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 025-0007 (EB) & 025-0008 (WB)**

SCALE: SHEET 28 OF 28 SHEETS STA. TO STA.

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 220 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 74664 | |

NOTES

The cost of epoxy grouting n(E) bars shall be included with Reinforcement Bars, Epoxy Coated.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 Reinforcement bars designated (E) shall be epoxy coated.

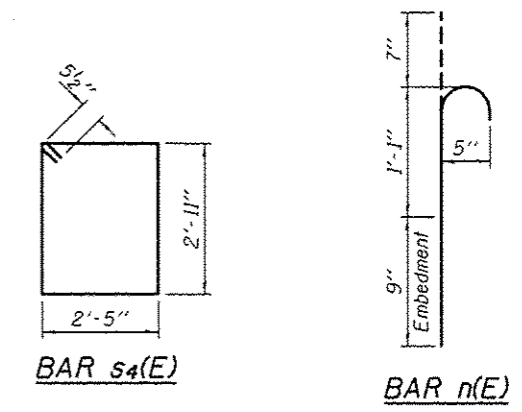


SECTION B-B

ELEVATION

SECTION A-A

* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



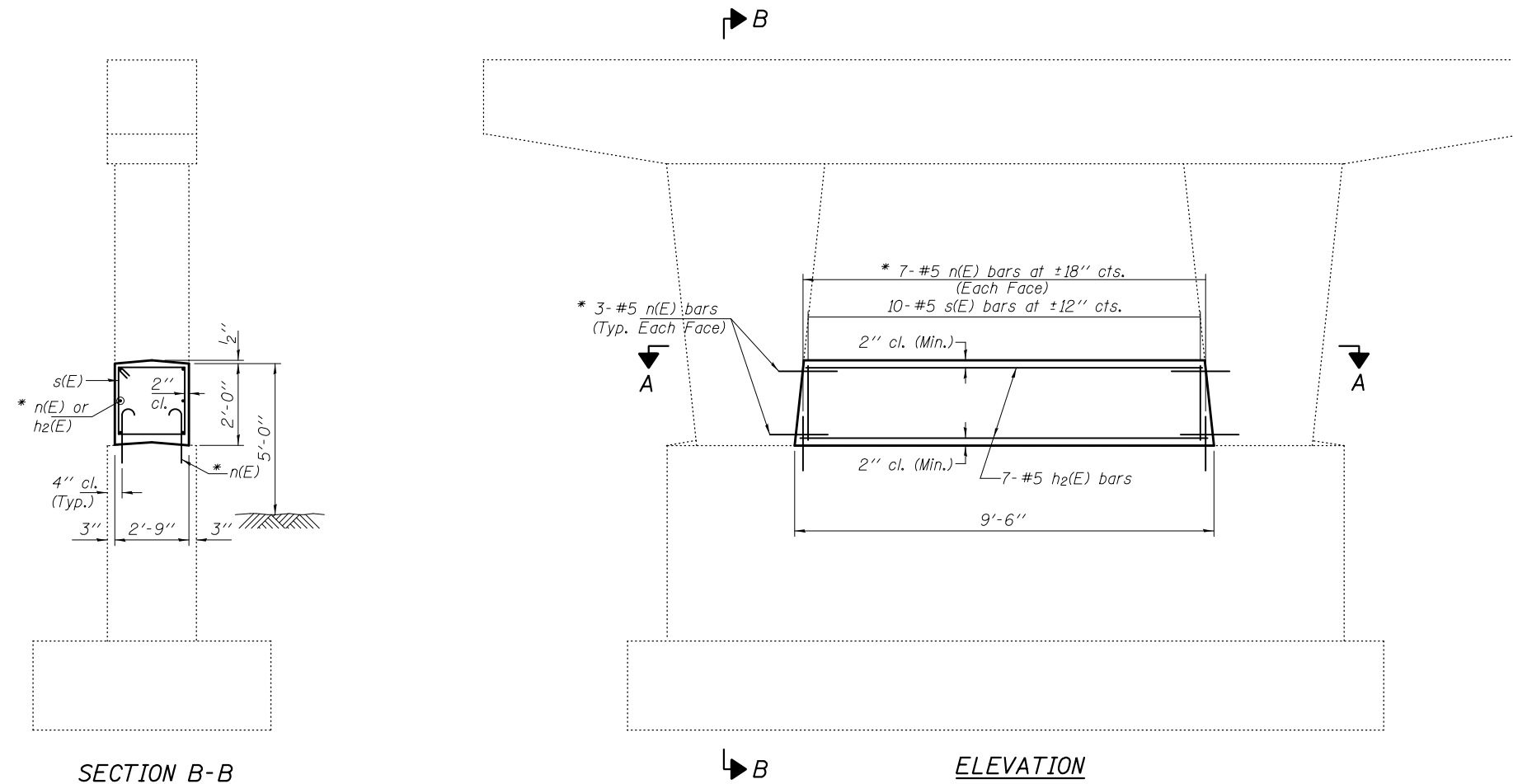
EXPIRES 11-30-2018

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h2(E) | 7 | #5 | 9'-0" | — |
| n(E) | 26 | #5 | 2'-5" | ⌒ |
| s4(E) | 10 | #5 | 11'-7" | □ |
| Concrete Structures | | | Cu. Yd. | 3.1 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 250 |

NOTES

The cost of epoxy grouting n(E) bars shall be included with Reinforcement Bars, Epoxy Coated.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work. Reinforcement bars designated (E) shall be epoxy coated.

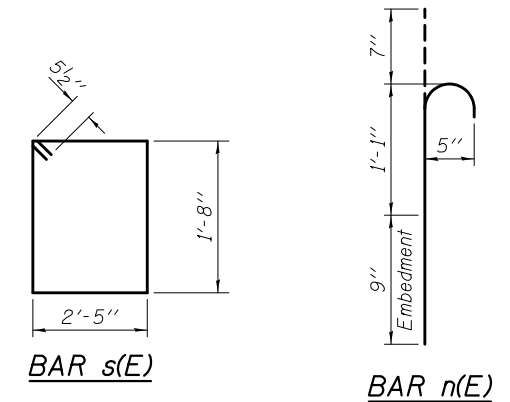


SECTION B-B

ELEVATION

SECTION A-A

* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BAR s(E)

BAR n(E)

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h ₂ (E) | 7 | #5 | 8'-11" | — |
| n(E) | 26 | #5 | 2'-5" | ⌒ |
| s(E) | 10 | #5 | 9'-1" | □ |
| Concrete Structures | | | Cu. Yd. | 1.9 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 230 |

DESIGNED VHV
 CHECKED DAB
 DRAWN baliva
 CHECKED VHV DAB

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017
 REVISED
 REVISED

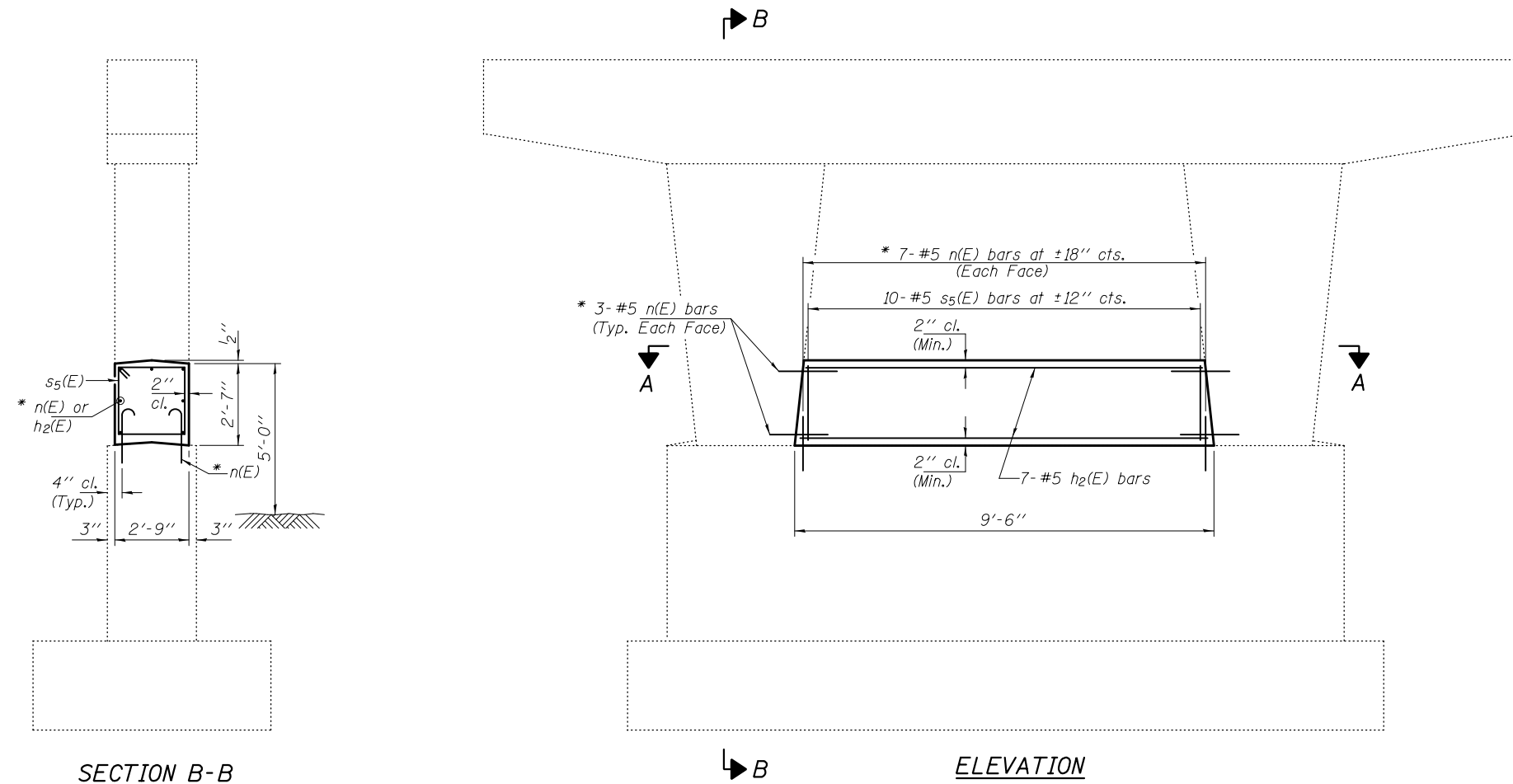
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CRASHWALL EXTENSION DETAILS PIER 2
 SN 025-0045
 SHEET NO. 2 OF 3 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 222 |
| CONTRACT NO. 74664 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

NOTES

The cost of epoxy grouting n(E) bars shall be included with Reinforcement Bars, Epoxy Coated.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 Reinforcement bars designated (E) shall be epoxy coated.

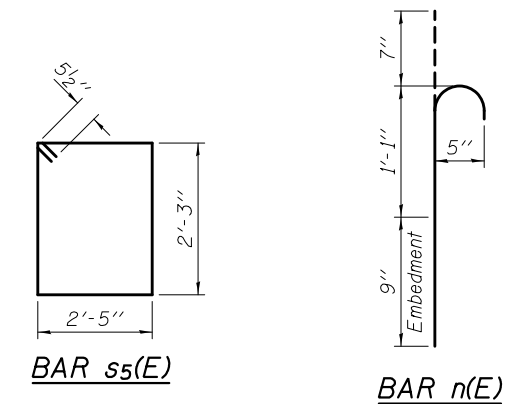


SECTION B-B

ELEVATION

SECTION A-A

* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.




BAR s5(E)

BAR n(E)

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h2(E) | 7 | #5 | 9'-0" | — |
| n(E) | 26 | #5 | 2'-5" | ⌒ |
| s5(E) | 10 | #5 | 10'-3" | □ |
| Concrete Structures | | | Cu. Yd. | 2.5 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 240 |

DESIGNED VHV
 CHECKED DAB
 DRAWN baliva
 CHECKED VHV DAB

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CRASHWALL EXTENSION DETAILS PIER 3
 SN 025-0045

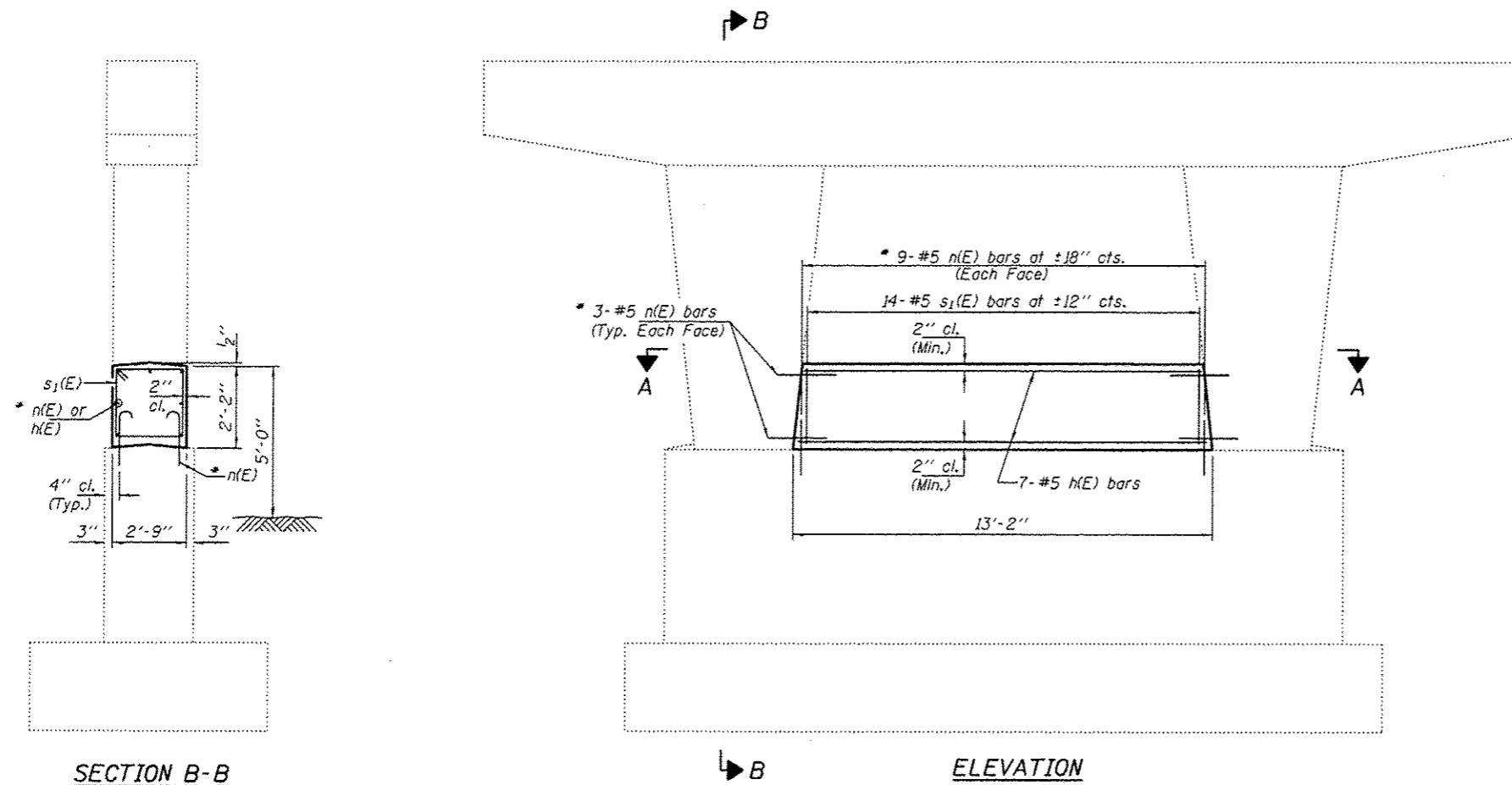
SHEET NO. 3 OF 3 SHEETS

| | | | | |
|---------------------------|-----------|-----------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 222A |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 74664 | |

NOTES

The cost of epoxy grouting n(E) bars shall be included with Reinforcement Bars, Epoxy Coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work. Reinforcement bars designated (E) shall be epoxy coated.

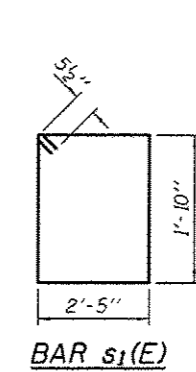


SECTION B-B

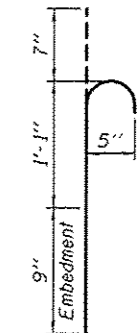
ELEVATION

SECTION A-A

* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



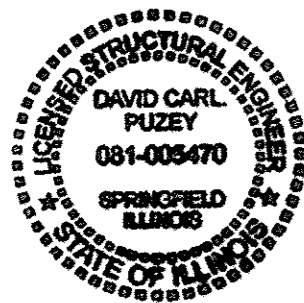
BAR s1(E)



BAR n(E)

**BILL OF MATERIAL
(2 PIERS)**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h(E) | 14 | #5 | 12'-6" | — |
| n(E) | 60 | #5 | 2'-5" | ⌒ |
| s1(E) | 28 | #5 | 9'-5" | □ |
| Concrete Structures | | | Cu. Yd. | 5.8 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 610 |



EXPIRES 11-30-2018

DESIGNED VHV
CHECKED DAB
DRAWN Daliva
CHECKED VHV DAB

PASSED

David Carl Puzey
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

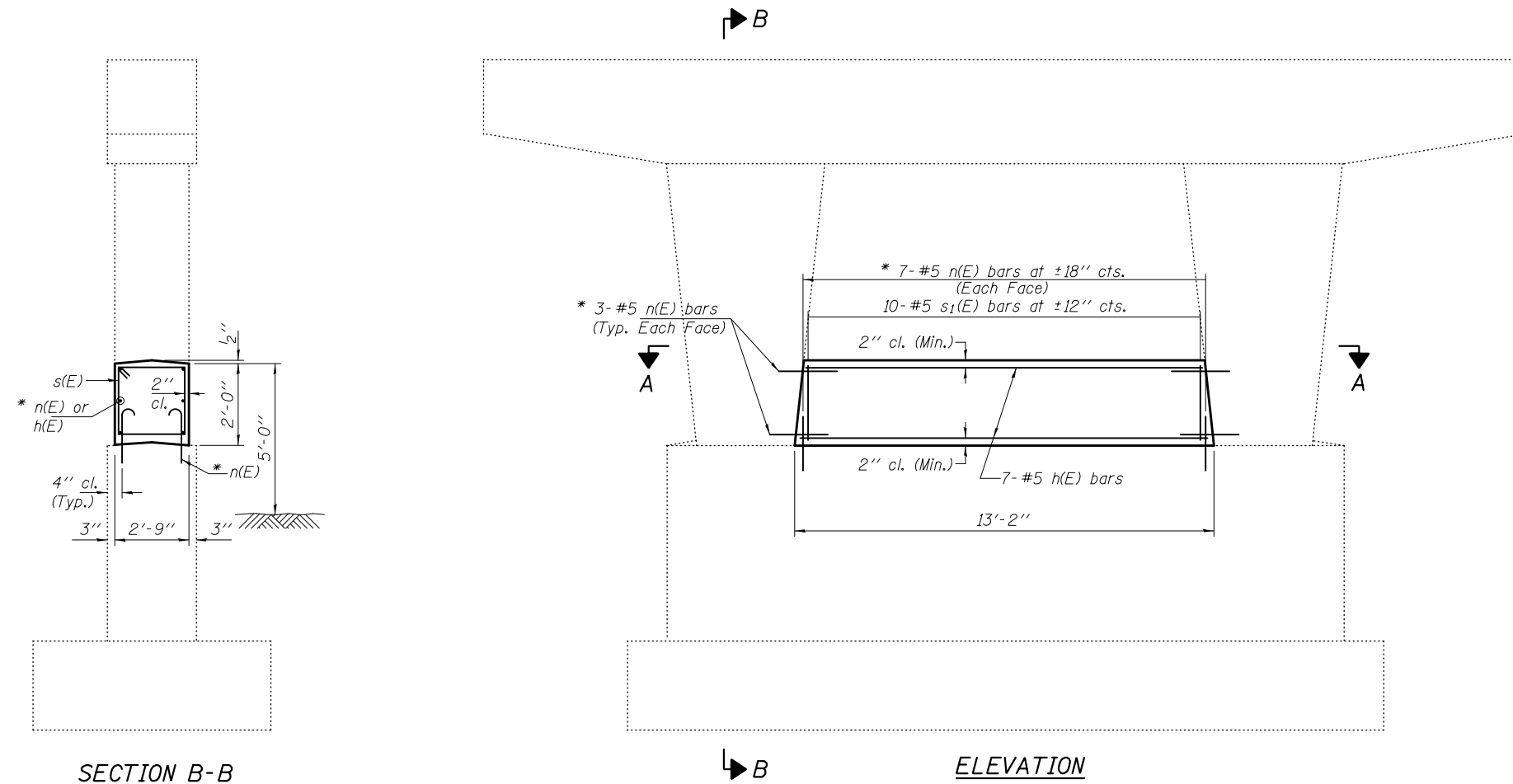
CRASHWALL EXTENSION DETAILS PIERS 1 & 3
SN 025-0057

SHEET NO. 1 OF 2 SHEETS

| | | | | |
|---------------------------|-----------|-----------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| TO | 125-1.21R | EFFINGHAM | 496 | 223 |
| | | | CONTRACT NO. 74664 | |
| ILLINOIS FED. AID PROJECT | | | | |

NOTES

The cost of epoxy grouting n(E) bars shall be included with Reinforcement Bars, Epoxy Coated.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work. Reinforcement bars designated (E) shall be epoxy coated.

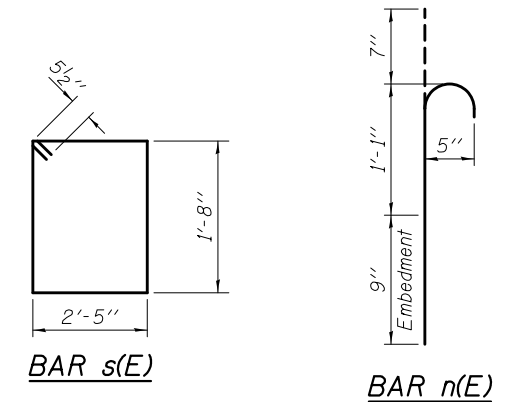


SECTION B-B

ELEVATION

SECTION A-A

* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BAR s(E)

BAR n(E)

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h(E) | 7 | #5 | 12'-6" | — |
| n(E) | 26 | #5 | 2'-5" | U |
| s(E) | 10 | #5 | 9'-1" | □ |
| Concrete Structures | | | Cu. Yd. | 2.7 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 250 |

DESIGNED VHV
 CHECKED DAB
 DRAWN baliva
 CHECKED VHV DAB

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017
 REVISED
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

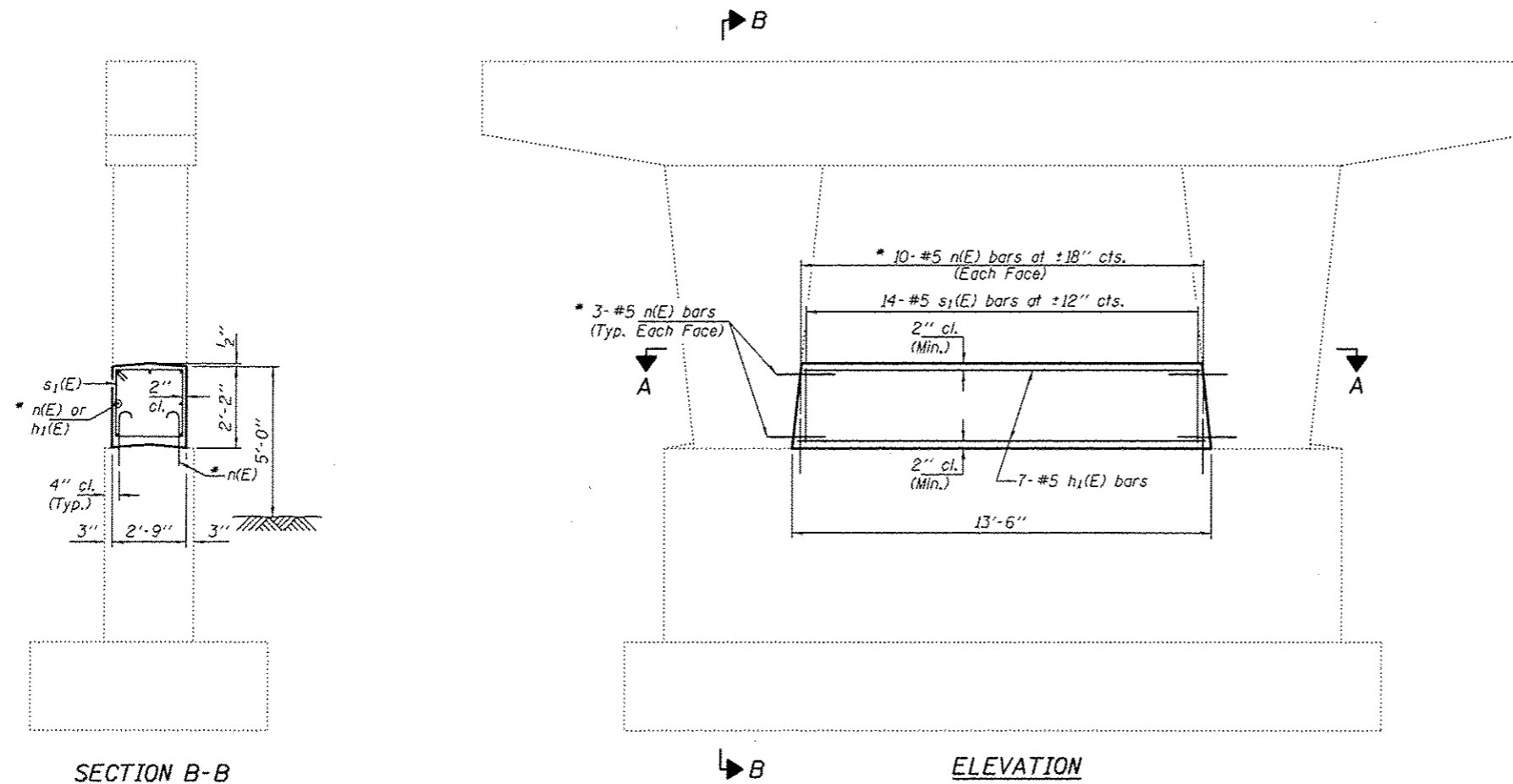
CRASHWALL EXTENSION DETAILS PIER 2
SN 025-0057
 SHEET NO. 2 OF 2 SHEETS

| | | | | |
|---------------------------|-----------|-----------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 223A |
| CONTRACT NO. 74664 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

NOTES

The cost of epoxy grouting n(E) bars shall be included with Reinforcement Bars, Epoxy Coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work. Reinforcement bars designated (E) shall be epoxy coated.

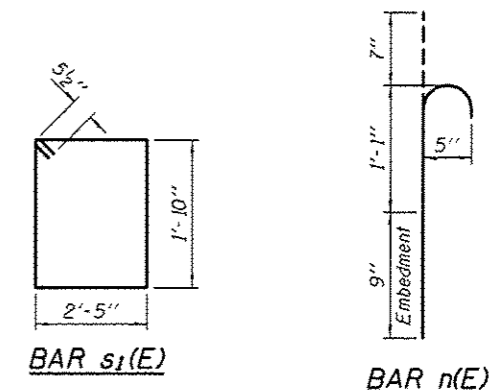


SECTION B-B

ELEVATION

SECTION A-A

* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BAR s1(E)

BAR n(E)

**BILL OF MATERIAL
(2 PIERS)**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h ₁ (E) | 14 | #5 | 12'-5" | — |
| n(E) | 64 | #5 | 2'-5" | — |
| s ₁ (E) | 28 | #5 | 9'-5" | □ |
| Concrete Structures | | | Cu. Yd. | 6.0 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 620 |



EXPIRES 11-30-2018

DESIGNED VHV
CHECKED DAB
DRAWN baliva
CHECKED VHV DAB

PASSED

David Carl Puzey
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017

REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

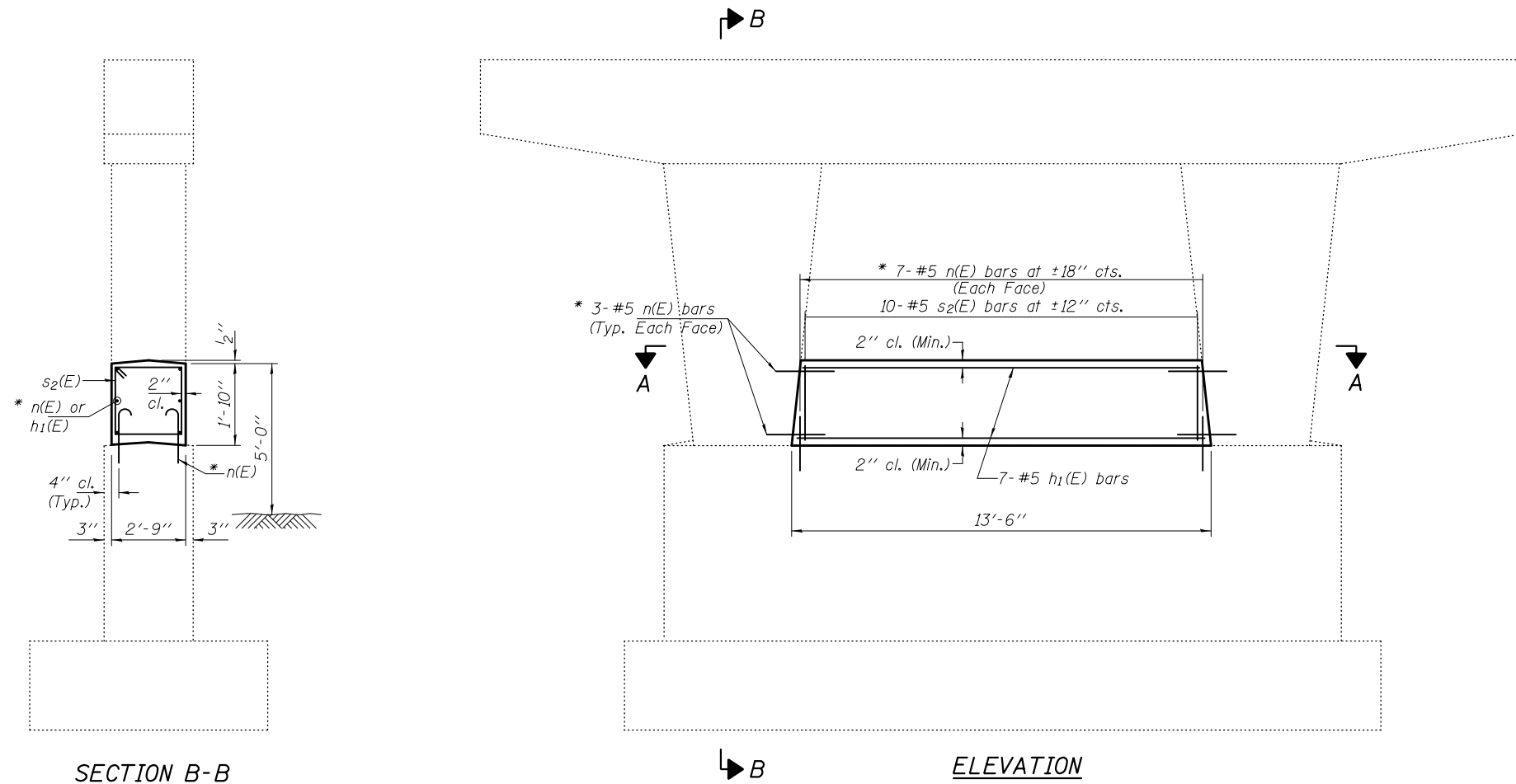
CRASHWALL EXTENSION DETAILS PIERS 1 & 3
SN 025-0058

SHEET NO. 1 OF 2 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|------------|-----------|--------------------|-----------|
| 70 | 125-1.2(R) | EFFINGHAM | 496 | 224 |
| | | | CONTRACT NO. 74664 | |
| ILLINOIS FED. AID PROJECT | | | | |

NOTES

The cost of epoxy grouting n(E) bars shall be included with Reinforcement Bars, Epoxy Coated.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work. Reinforcement bars designated (E) shall be epoxy coated.

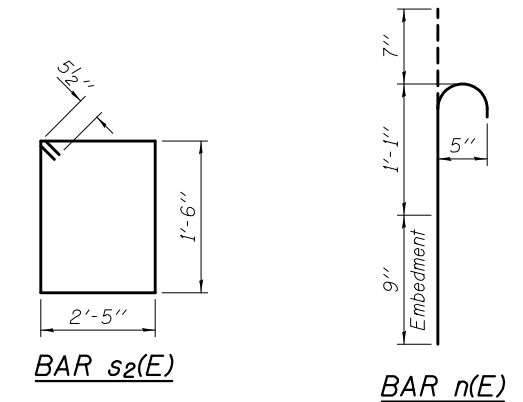


SECTION B-B

ELEVATION

SECTION A-A

* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BAR s2(E)

BAR n(E)

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h ₁ (E) | 7 | #5 | 12'-5" | — |
| n(E) | 26 | #5 | 2'-5" | ⌒ |
| s ₂ (E) | 10 | #5 | 8'-9" | □ |
| Concrete Structures | | | Cu. Yd. | 2.5 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 250 |

DESIGNED VHV
 CHECKED DAB
 DRAWN baliva
 CHECKED VHV DAB

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017
 REVISED
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

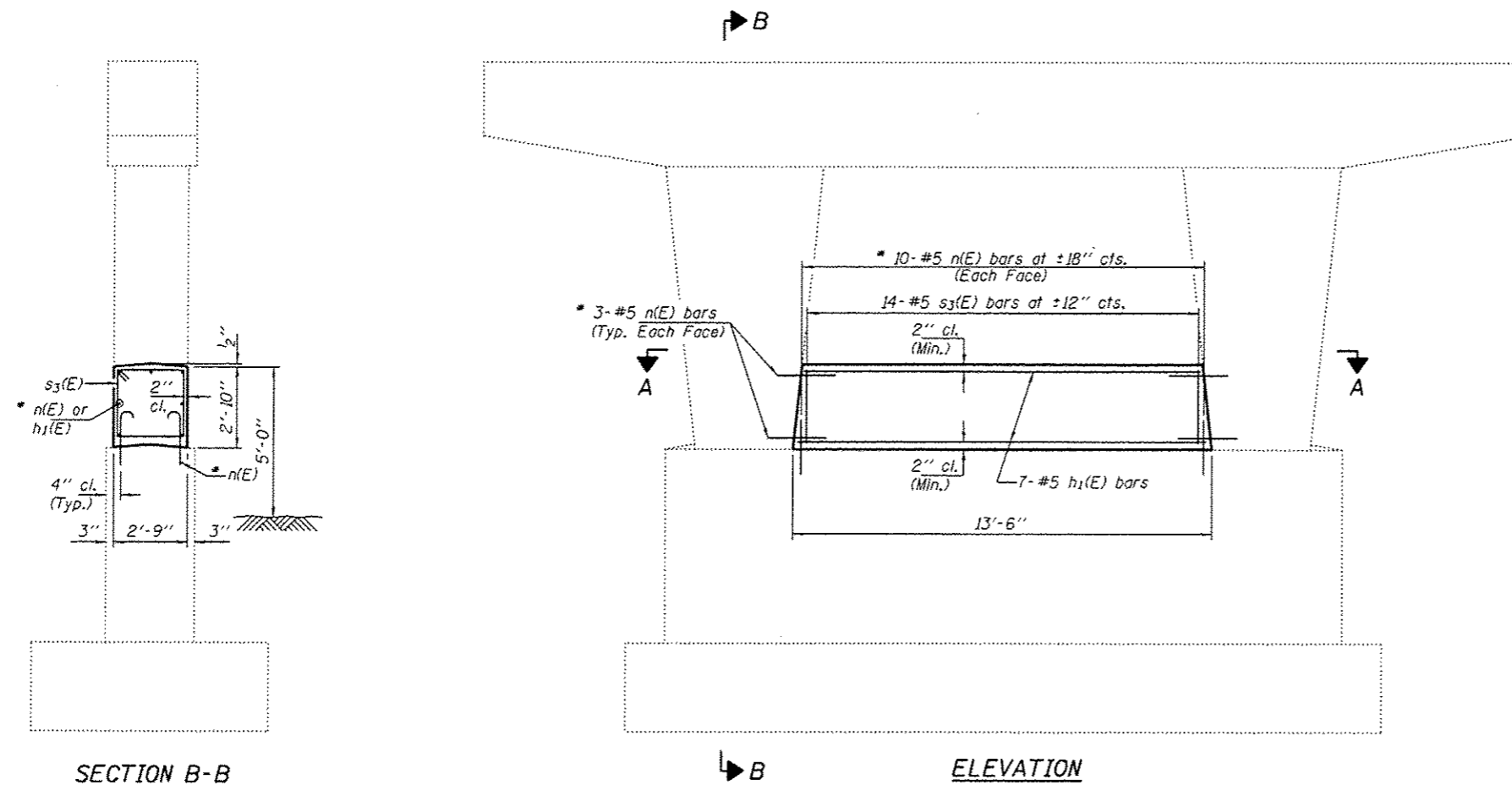
CRASHWALL EXTENSION DETAILS PIER 2
SN 025-0058
 SHEET NO. 2 OF 2 SHEETS

| | | | | |
|---------------------------|-----------|-----------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 224A |
| CONTRACT NO. 74664 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

NOTES

The cost of epoxy grouting n(E) bars shall be included with Reinforcement Bars, Epoxy Coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work. Reinforcement bars designated (E) shall be epoxy coated.

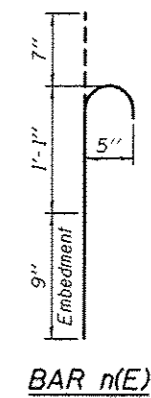
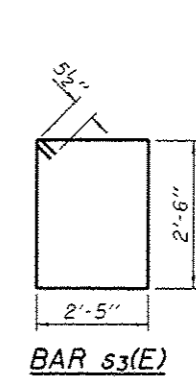


SECTION B-B

ELEVATION

SECTION A-A

* Epoxy grout n(E) bars in 9" min. holes according to Article 5B4 of the Standard Specifications.



**BILL OF MATERIAL
(2 PIERS)**

| Bar | No. | Size | Length | Shape |
|-------------------------------------|-----|------|---------|-------|
| h ₁ (E) | 14 | #5 | 12'-5" | — |
| n(E) | 64 | #5 | 2'-5" | ⌒ |
| s ₃ (E) | 28 | #5 | 10'-9" | □ |
| Concrete Structures | | | Cu. Yd. | 7.8 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 660 |



EXPIRES 11-30-2018

DESIGNED VHV
CHECKED DAB
DRAWN ballya
CHECKED VHV DAB

PASSED

David Carl Puzey
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017

REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

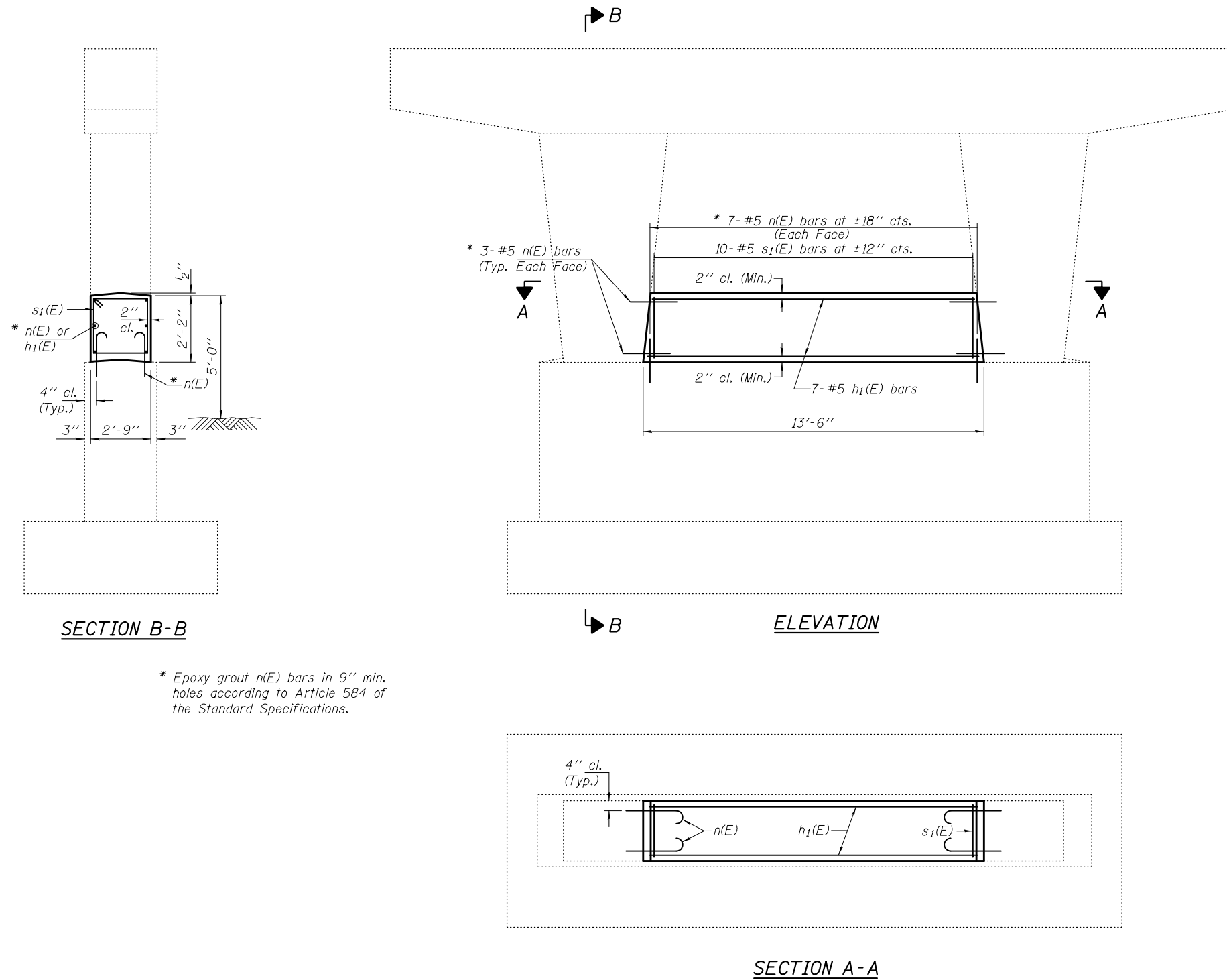
CRASHWALL EXTENSION DETAILS PIERS 1 & 3
SN 025-0059

SHEET NO. 1 OF 2 SHEETS

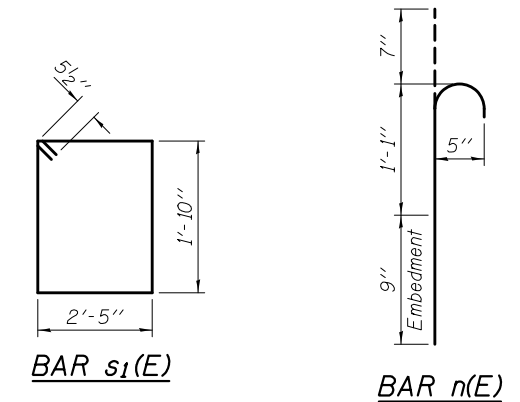
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------------|-----------|
| TO | 125-1.21R | EFFINGHAM | 496 | 225 |
| | | | CONTRACT NO. 74664 | |
| ILLINOIS FED. AID PROJECT | | | | |

NOTES

The cost of epoxy grouting n(E) bars shall be included with Reinforcement Bars, Epoxy Coated.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 Reinforcement bars designated (E) shall be epoxy coated.



* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h ₁ (E) | 7 | #5 | 12'-5" | — |
| n(E) | 26 | #5 | 2'-5" | ⌒ |
| s ₁ (E) | 10 | #5 | 9'-5" | □ |
| Concrete Structures | | | Cu. Yd. | 3.0 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 250 |

DESIGNED VHV
 CHECKED DAB
 DRAWN baliva
 CHECKED VHV DAB

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CRASHWALL EXTENSION DETAILS PIER 2
 SN 025-0059
 SHEET NO. 2 OF 2 SHEETS

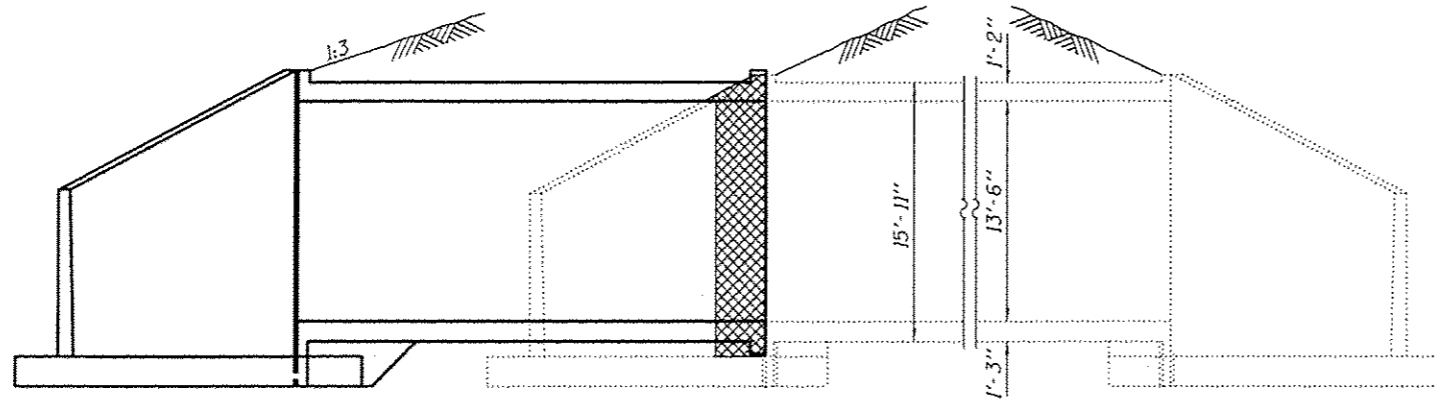
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|---------------------------|-----------|-----------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 225A |
| CONTRACT NO. 74664 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

GENERAL NOTES

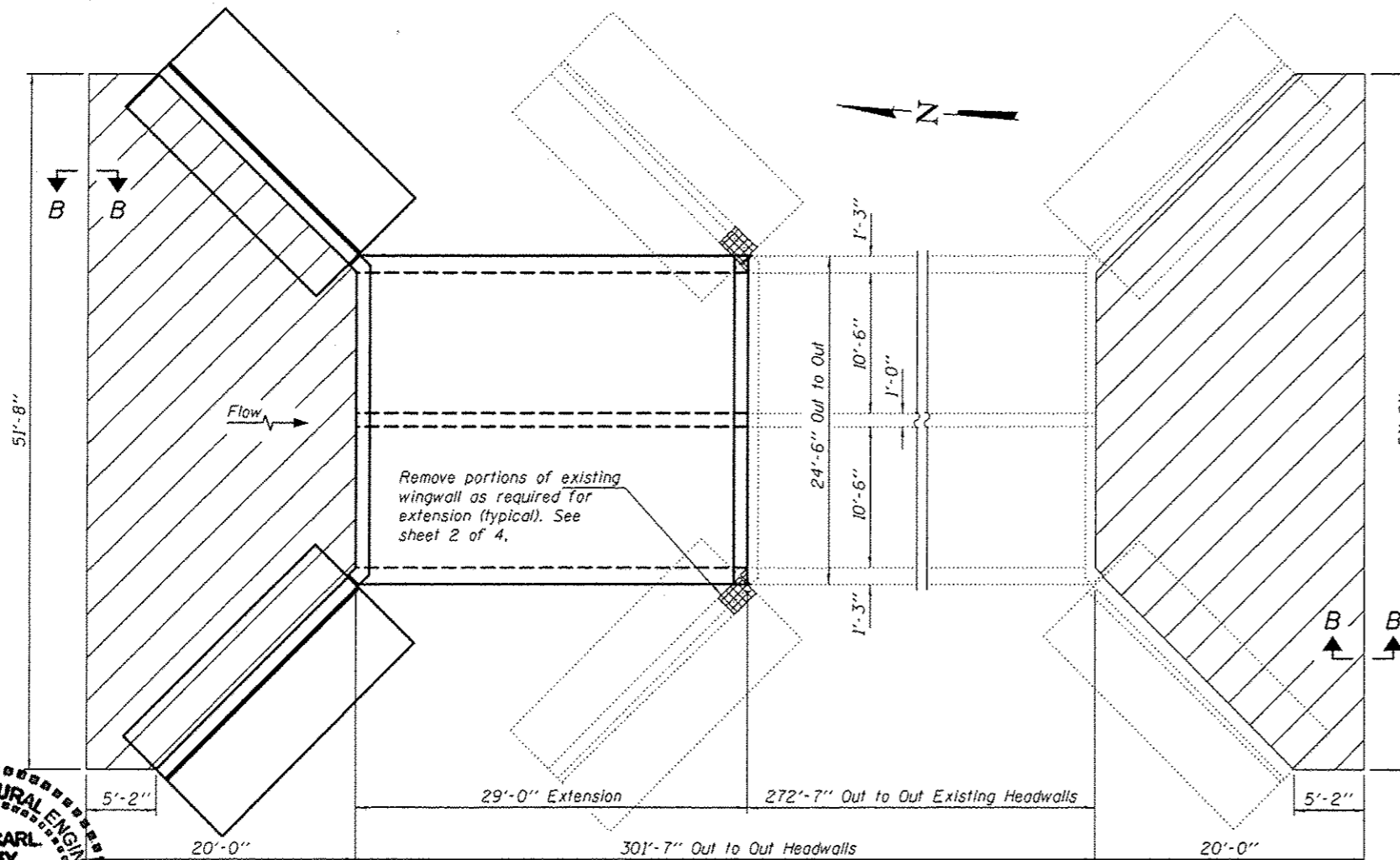
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and 3/4" x 12" hooked bolts.

All exposed edges shall have standard 3/4" chamfers.
Reinforcement bars designated (E) shall be epoxy coated.

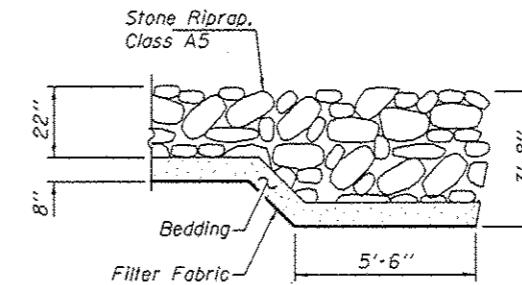


LONGITUDINAL SECTION



PLAN

The contractor shall excavate to the specified depth for placement of the Rock Fill Replacement under the culvert extensions and the wingwall footings (if present) and allow the District inspectors to test and verify that the foundation soils have a minimum Q_u of at least 2.5 tsf. If the required soil strength is not present, the Contract shall excavate an additional depth and width as directed by the Engineer to locate suitable strength material. The excavated area shall then be backfilled to the proper elevations using Rockfill capped with 6" of Coarse Aggregate. Cost of excavation and backfill material will be paid for per Art. 109.04 (b) of the Standard Specifications



SECTION B-B

Cost of any excavation necessary for placement of riprap or bedding material shall be included with Stone Riprap, Class A5

- Limits of Stone Riprap, Class A5

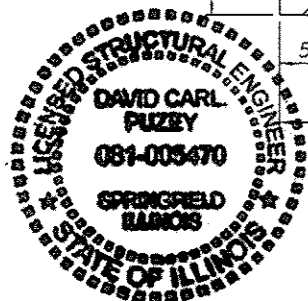
TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|----------------------------------|---------|-------|
| Concrete Removal | Cu. Yd. | 4.6 |
| Concrete Box Culverts | Cu. Yd. | 164.8 |
| Reinforcement Bars | Pound | 35400 |
| Reinforcement Bars, Epoxy Coated | Pound | 2500 |
| Expansion Bolts 3/4" | Each | 48 |
| Structure Excavation | Cu. Yd. | 238 |
| Stone Riprap, Class A5 | Sq. Yd. | 179.7 |
| Filter Fabric | Sq. Yd. | 179.7 |

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)



EXPIRES 11-30-2018

DESIGNED: *[Signature]*
CHECKED: *[Signature]*
DRAWN: *[Signature]*
CHECKED: *[Signature]*

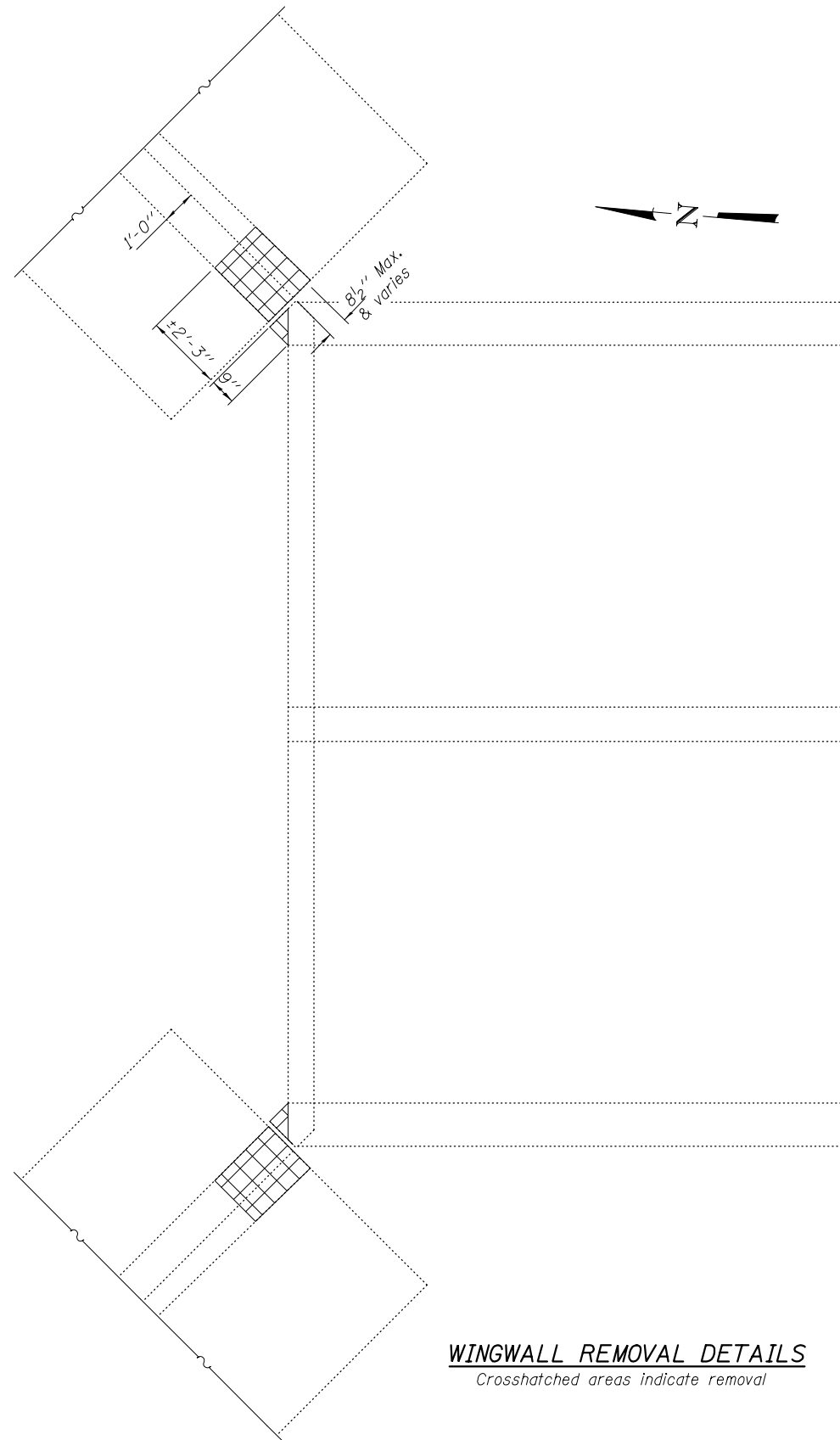
PASSED: *[Signature]*
ENGINEER OF BRIDGES AND STRUCTURES

DATE: MAY 12, 2017
REVISED: _____
REVISED: _____

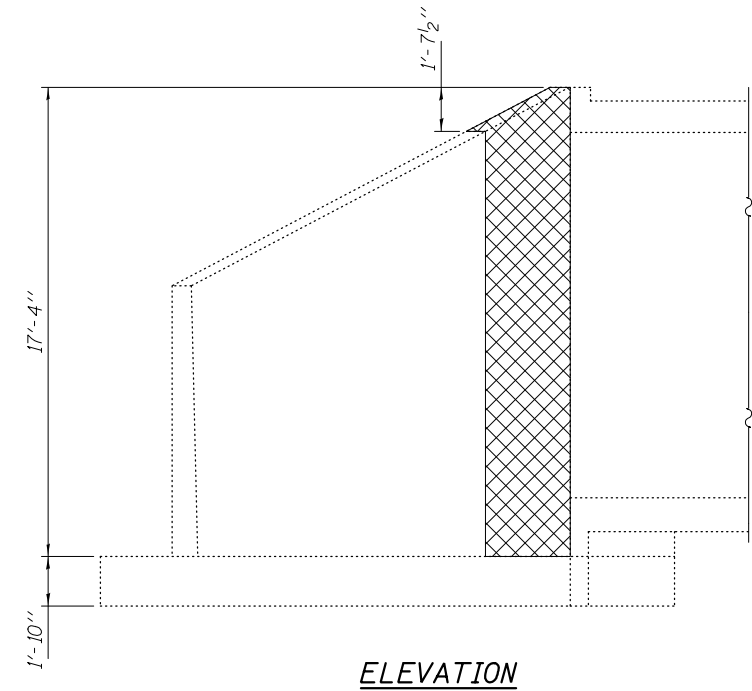
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
FAI 70
SN 025-2001
SHEET NO. 1 OF 4 SHEETS

| | | | | |
|--------------------|-----------|-----------|---------------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | 125-1,21R | EFFINGHAM | 496 | 226 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |



WINGWALL REMOVAL DETAILS
Crosshatched areas indicate removal



ELEVATION

| | |
|----------|---------|
| DESIGNED | CCC |
| CHECKED | SMR |
| DRAWN | baliva |
| CHECKED | CCC SMR |

| | | |
|----------|--------------------|------------------------------------|
| EXAMINED | DATE | MAY 12, 2017 |
| PASSED | <i>Carl Pinger</i> | ENGINEER OF BRIDGES AND STRUCTURES |

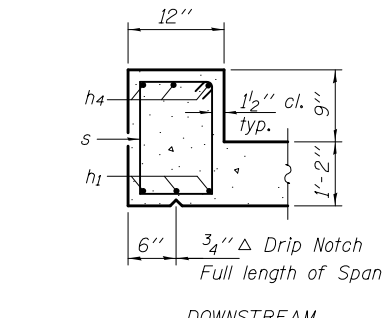
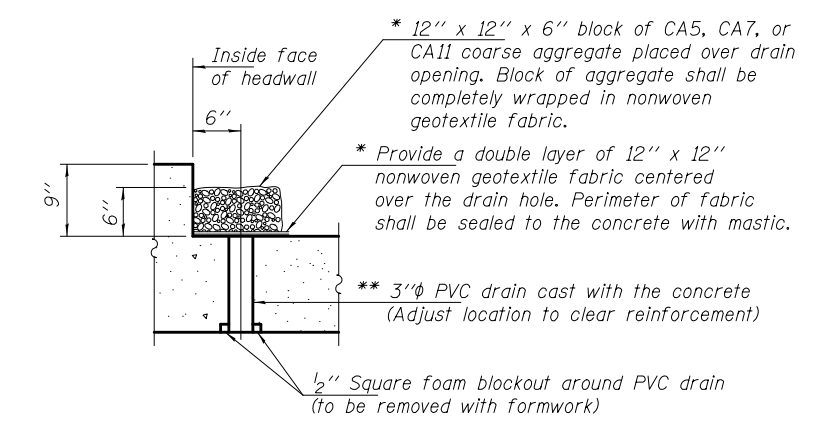
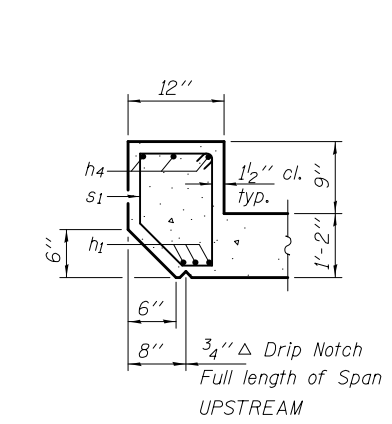
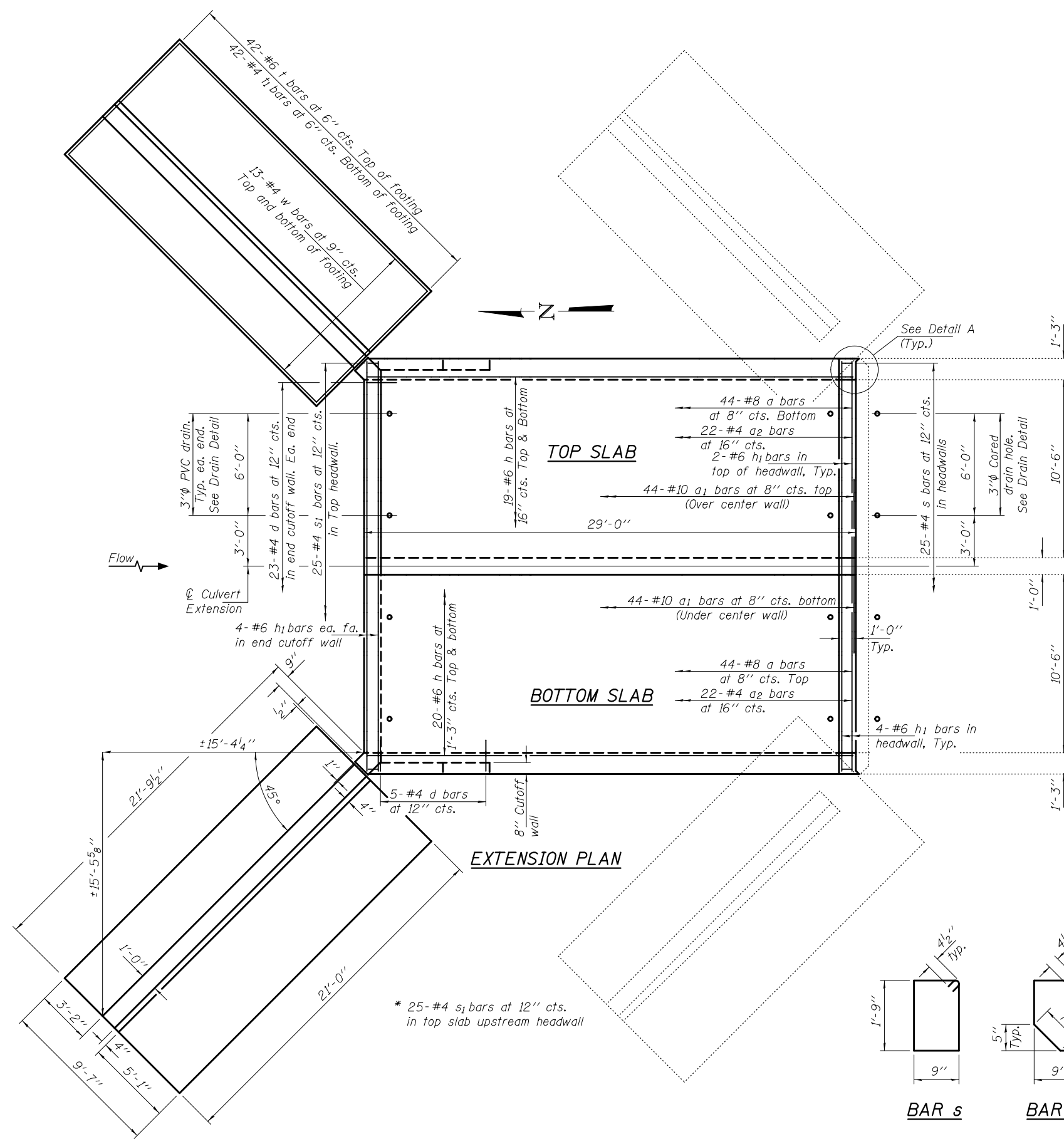
| |
|-----------|
| REVISIONS |
| |
| |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**REMOVAL DETAILS
SN 025-2001**

SHEET NO. 2 OF 4 SHEETS

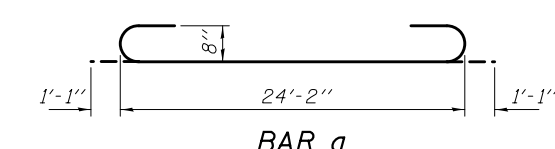
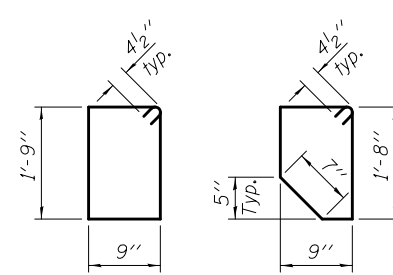
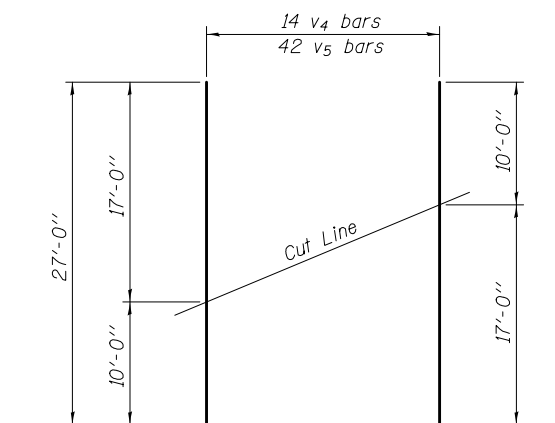
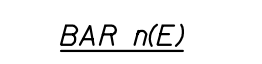
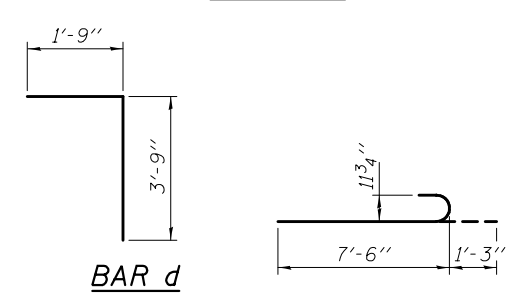
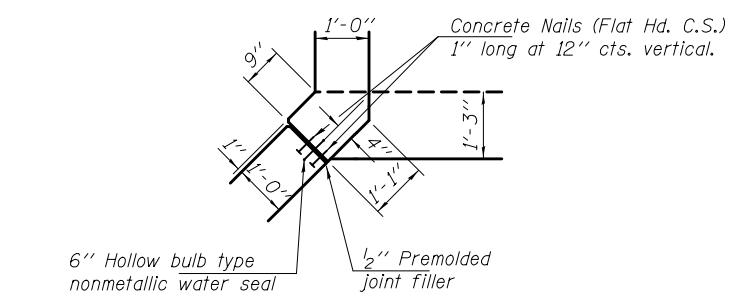
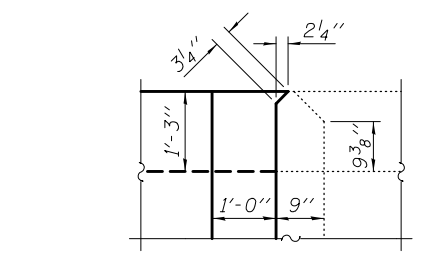
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | 125-1,2/R | EFFINGHAM | 496 | 227 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |



DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for Concrete Box Culverts.)

- * Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.
- ** 3"φ Cored drain hole in existing culvert. Cost included with Concrete Box Culverts.



* 25-#4 s₁ bars at 12" cts. in top slab upstream headwall

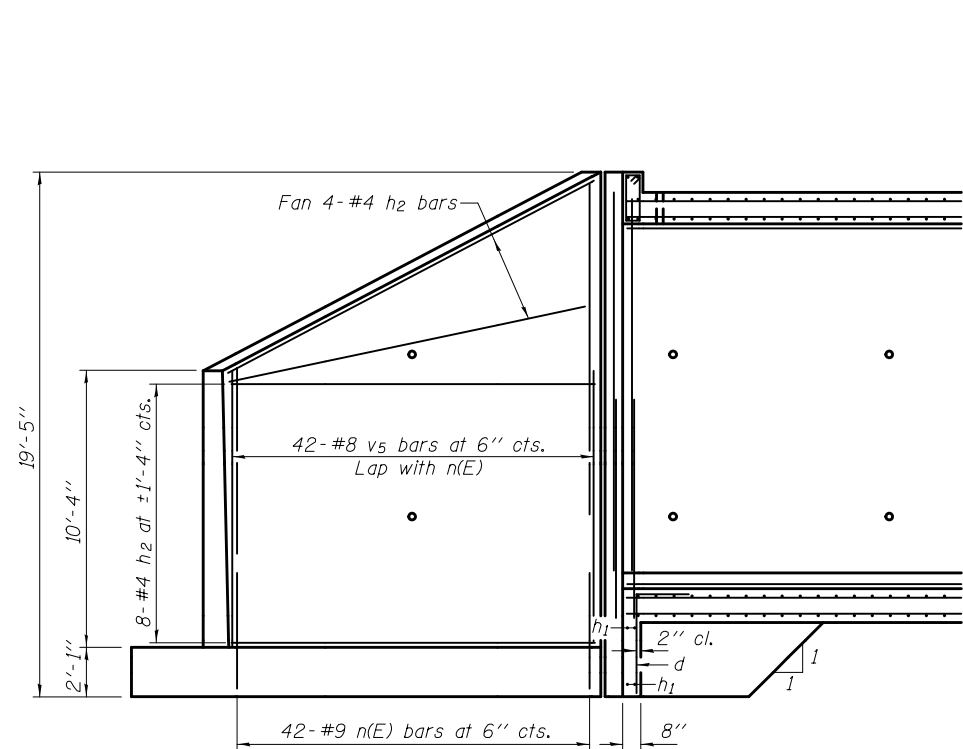
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|------------------------|--|--------------------------|
| DESIGNED <i>CCC</i> | EXAMINED | DATE <i>MAY 12, 2017</i> |
| CHECKED <i>SMR</i> | PASSED | REVISOR |
| DRAWN <i>baliva</i> | ENGINEER OF BRIDGES AND STRUCTURES | |
| CHECKED <i>CCC SMR</i> | | REVISOR |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

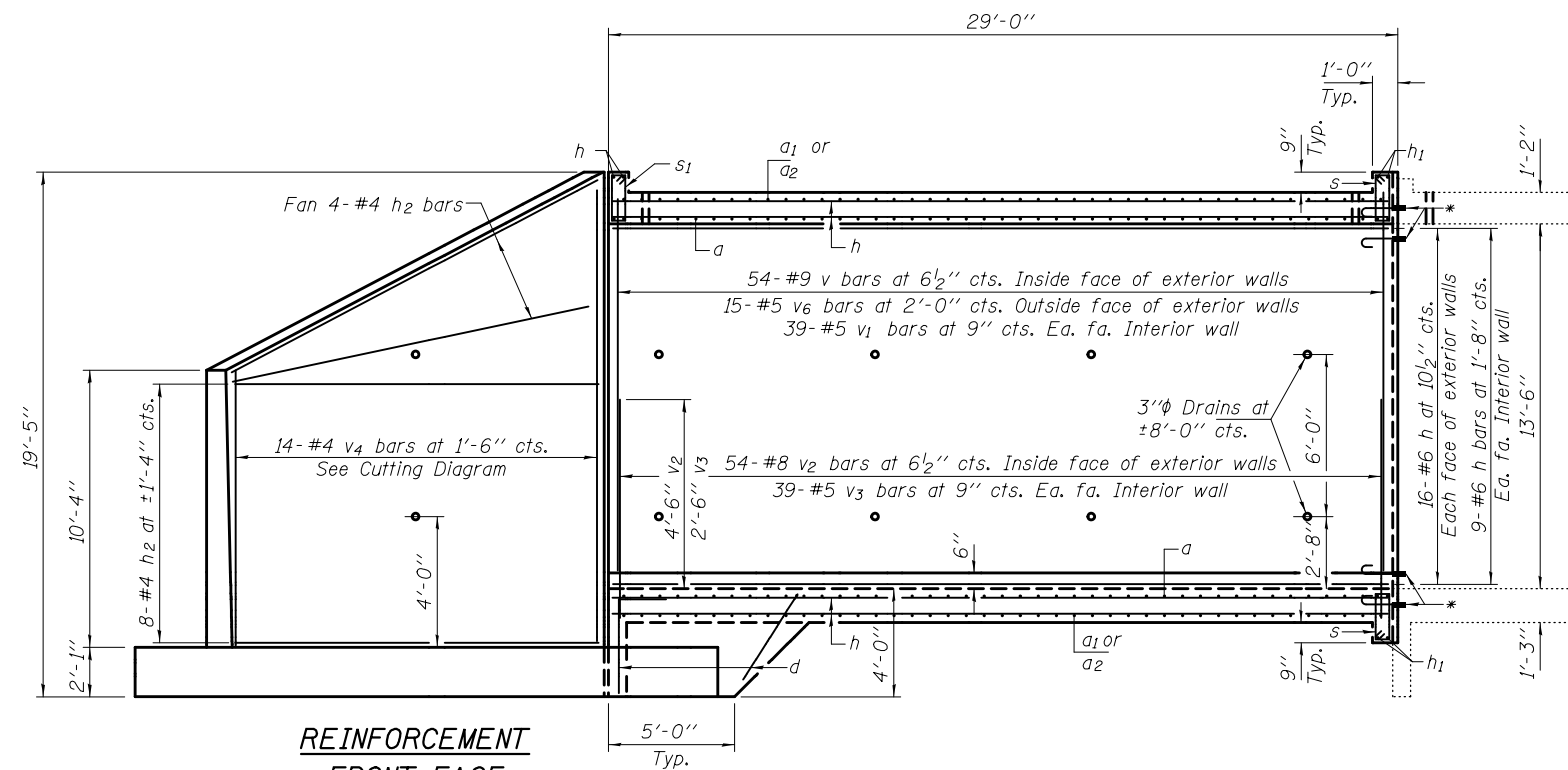
CULVERT EXTENSION DETAILS
SN 025-2001

SHEET NO. 3 OF 4 SHEETS

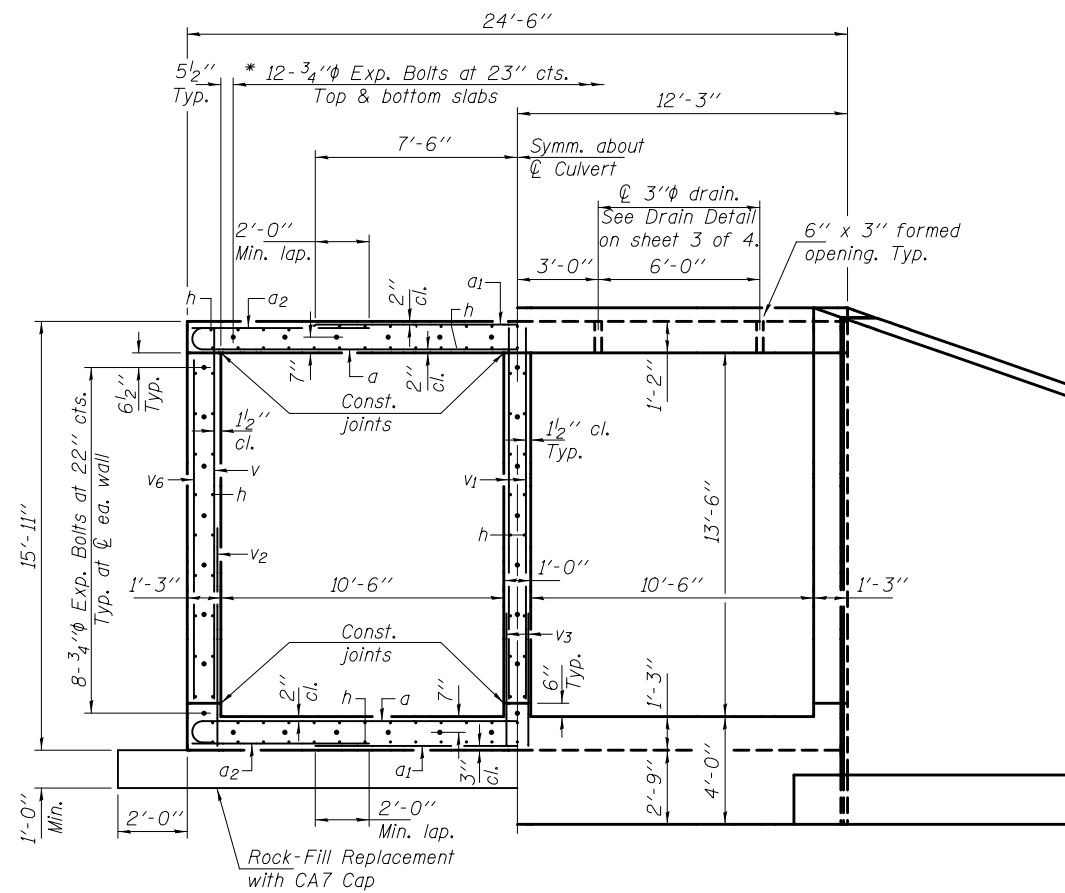
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | 125-1,21R | EFFINGHAM | 496 | 228 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |



**REINFORCEMENT
BACK FACE**

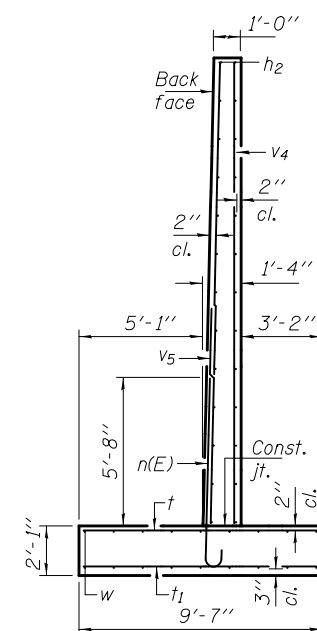


**REINFORCEMENT
FRONT FACE**



**HALF SECTION
THRU BARRELS** **HALF END ELEVATION**

* Expansion bolts shall be 3/4" diameter hooked bolts and shall extend a minimum of 9" into new concrete.



SECTION THRU WING

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| a | 88 | #8 | 26'-4" | U |
| a1 | 88 | #10 | 15'-0" | — |
| a2 | 88 | #4 | 6'-2" | — |
| d | 33 | #4 | 5'-6" | L |
| h | 160 | #6 | 28'-8" | — |
| h1 | 16 | #6 | 24'-2" | — |
| h2 | 48 | #4 | 19'-9" | — |
| n(E) | 84 | #9 | 8'-9" | U |
| s | 50 | #4 | 5'-9" | □ |
| s1 | 25 | #4 | 5'-3" | □ |
| t | 84 | #6 | 9'-4" | — |
| t1 | 84 | #4 | 9'-4" | — |
| v | 108 | #9 | 14'-4" | — |
| v1 | 78 | #5 | 14'-4" | — |
| v2 | 108 | #8 | 5'-6" | — |
| v3 | 78 | #5 | 3'-6" | — |
| v4 | 28 | #4 | 27'-0" | — |
| v5 | 42 | #8 | 27'-0" | — |
| v6 | 30 | #5 | 13'-3" | — |
| w | 52 | #4 | 20'-9" | — |
| Concrete Removal | | | Cu. Yd. | 4.6 |
| Expansion Bolts 3/4" | | | Each | 48 |
| Reinforcement Bars | | | Lbs. | 35400 |
| Reinforcement Bars, Epoxy Coated | | | Lbs. | 2500 |
| Concrete Box Culverts | | | Cu. Yd. | 164.8 |

| | | |
|-----------------|------------------------------------|-------------------|
| DESIGNED CCC | EXAMINED | DATE MAY 12, 2017 |
| CHECKED SMR | PASSED | REVISOR |
| DRAWN baliva | ENGINEER OF BRIDGES AND STRUCTURES | REVISOR |
| CHECKED CCC SMR | | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CULVERT EXTENSION DETAILS
SN 025-2001**

SHEET NO. 4 OF 4 SHEETS

| | | | | |
|--------------------|-----------|-----------|---------------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | 125-1,21R | EFFINGHAM | 496 | 229 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

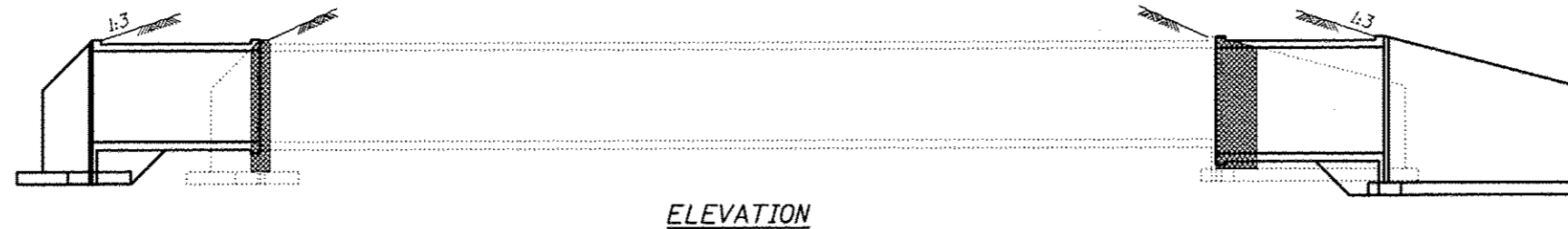
GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

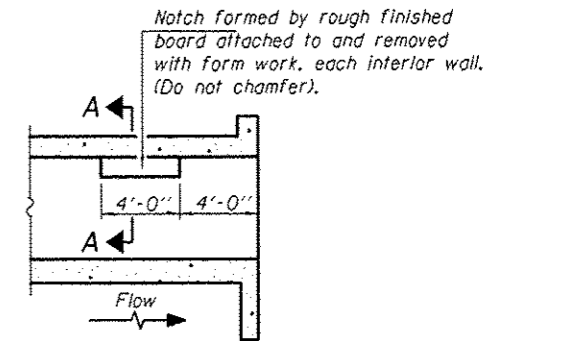
Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and 3/4" φ x 12" hooked bolts.

All exposed edges shall have standard 3/4" chamfers.

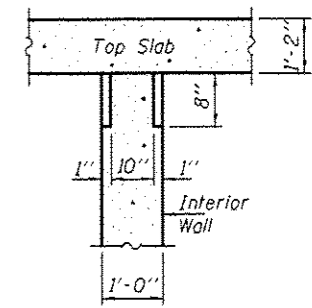
Reinforcement bars designated (E) shall be epoxy coated.



ELEVATION

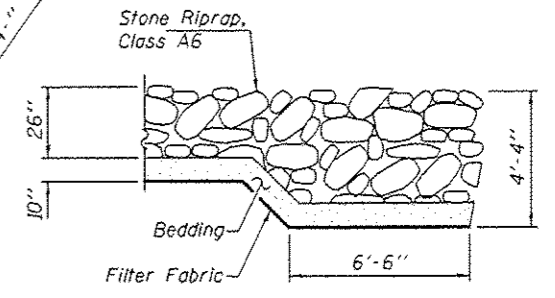


LONGITUDINAL SECTION



SECTION A-A

PHOEBE NESTING SITE DETAILS (Downstream End Only)

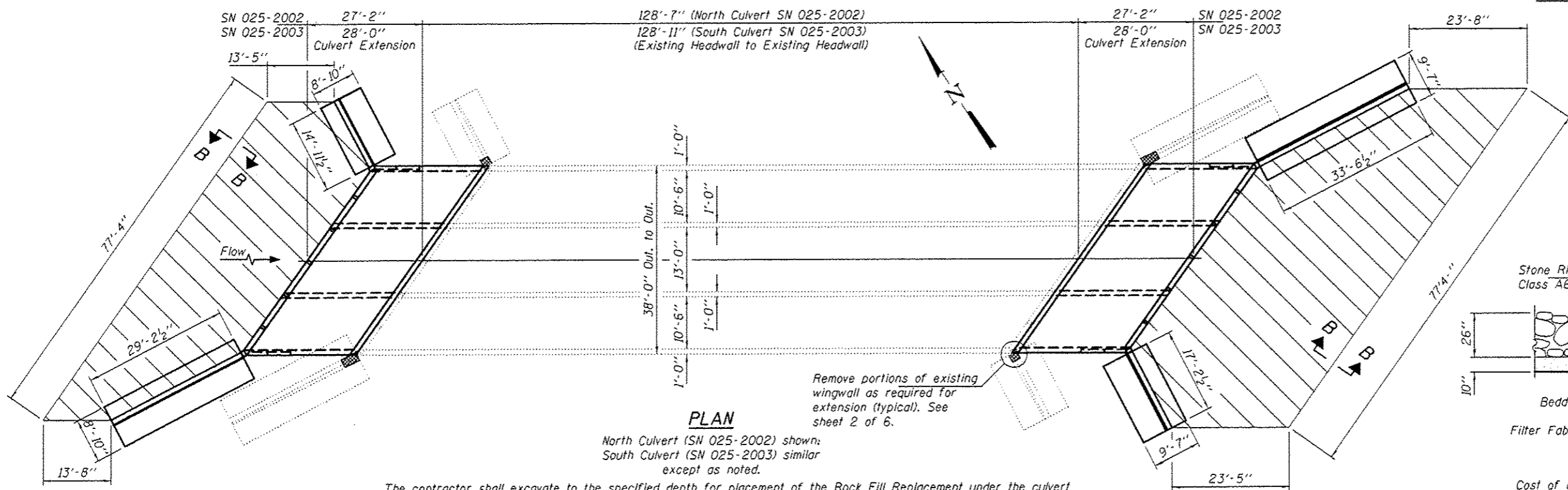


SECTION B-B

Cost of any excavation necessary for placement of riprap or bedding material shall be included with Stone Riprap, Class A6.

TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|----------------------------------|---------|--------|
| Concrete Removal | Cu. Yd. | 14.6 |
| Concrete Box Culverts | Cu. Yd. | 808.9 |
| Reinforcement Bars | Pound | 240950 |
| Reinforcement Bars, Epoxy Coated | Pound | 11430 |
| Expansion Bolts 3/4" | Each | 280 |
| Structure Excavation | Cu. Yd. | 734.8 |
| Stone Riprap, Class A6 | Sq. Yd. | 992 |
| Filter Fabric | Sq. Yd. | 992 |



PLAN

North Culvert (SN 025-2002) shown; South Culvert (SN 025-2003) similar except as noted.

Remove portions of existing wingwall as required for extension (typical). See sheet 2 of 6.

The contractor shall excavate to the specified depth for placement of the Rock Fill Replacement under the culvert extensions and the wingwall footings (if present) and allow the District inspectors to test and verify that the foundation soils have a minimum Q_u of at least 2.5 tsf. If the required soil strength is not present, the Contractor shall excavate an additional depth and width as directed by the Engineer to locate suitable strength material. The excavated area shall then be backfilled to the proper elevations using Rockfill capped with 6" of Coarse Aggregate. Cost of excavation and backfill material will be paid for per Art. 109.04 (b) of the Standard Specifications

▨ - Limits of Stone Riprap, Class A6

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500 \text{ psi}$
 $f_y = 60,000 \text{ psi (Reinforcement)}$



DESIGNED *Stephan M. Ryan*
 CHECKED *Stephan M. Ryan*
 DRAWN *baliva*
 CHECKED *SMR*

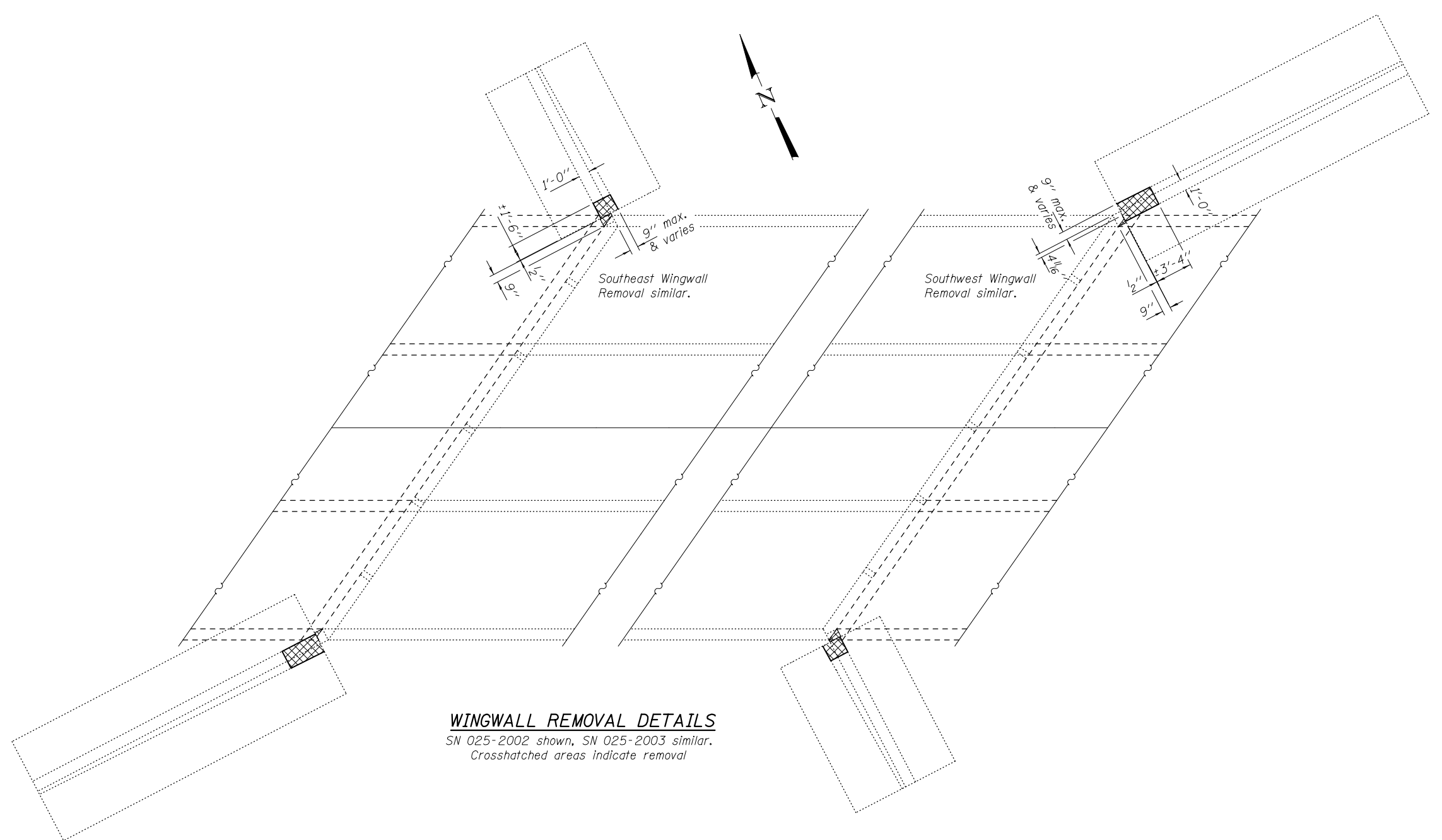
PASSED *David Carl Puzey*
 ENGINEER OF BRIDGES AND STRUCTURES

DATE MAY 12, 2017
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
 FAI 70 OVER SECOND CREEK
 SN 025-2002 (WB) & 2003 (EB)
 SHEET NO. 1 OF 6 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------|-----------|--------------|--------------------|
| TO | (25-12)R | EFFINGHAM | 496 | 230 |
| | | | | CONTRACT NO. 74664 |
| ILLINOIS FED. AID PROJECT | | | | |



WINGWALL REMOVAL DETAILS
 SN 025-2002 shown, SN 025-2003 similar.
 Crosshatched areas indicate removal

DESIGNED SMR
 CHECKED CCC
 DRAWN baliva
 CHECKED SMR CCC

EXAMINED
 PASSED *Carl Pinger*
 ENGINEER OF BRIDGES AND STRUCTURES

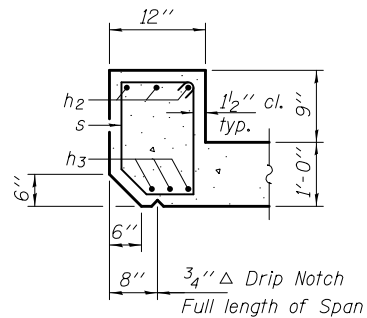
DATE MAY 12, 2017
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

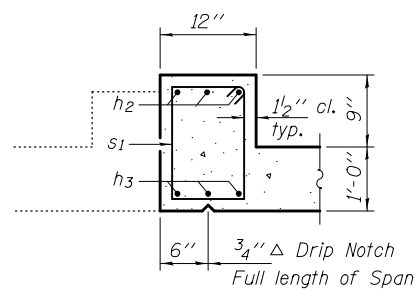
REMOVAL DETAILS
 SN 025-2002 (WB) & 2003 (EB)

SHEET NO. 2 OF 6 SHEETS

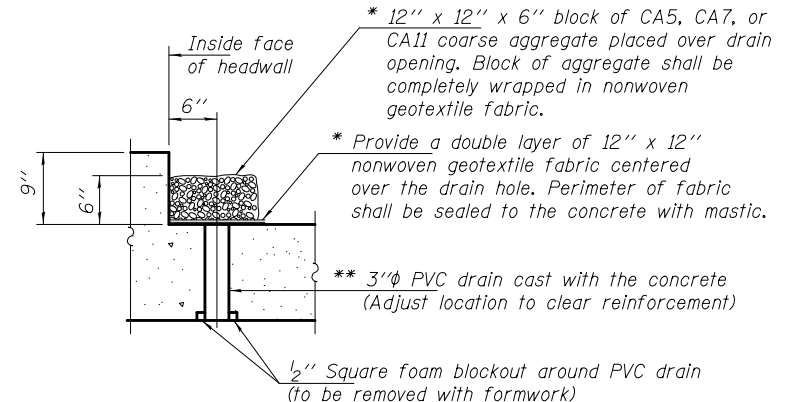
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | 125-1,2/R | EFFINGHAM | 496 | 231 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |



SECTION A-A



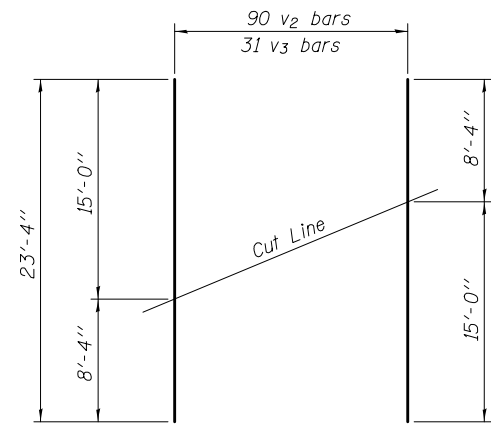
SECTION B-B



DRAIN DETAIL

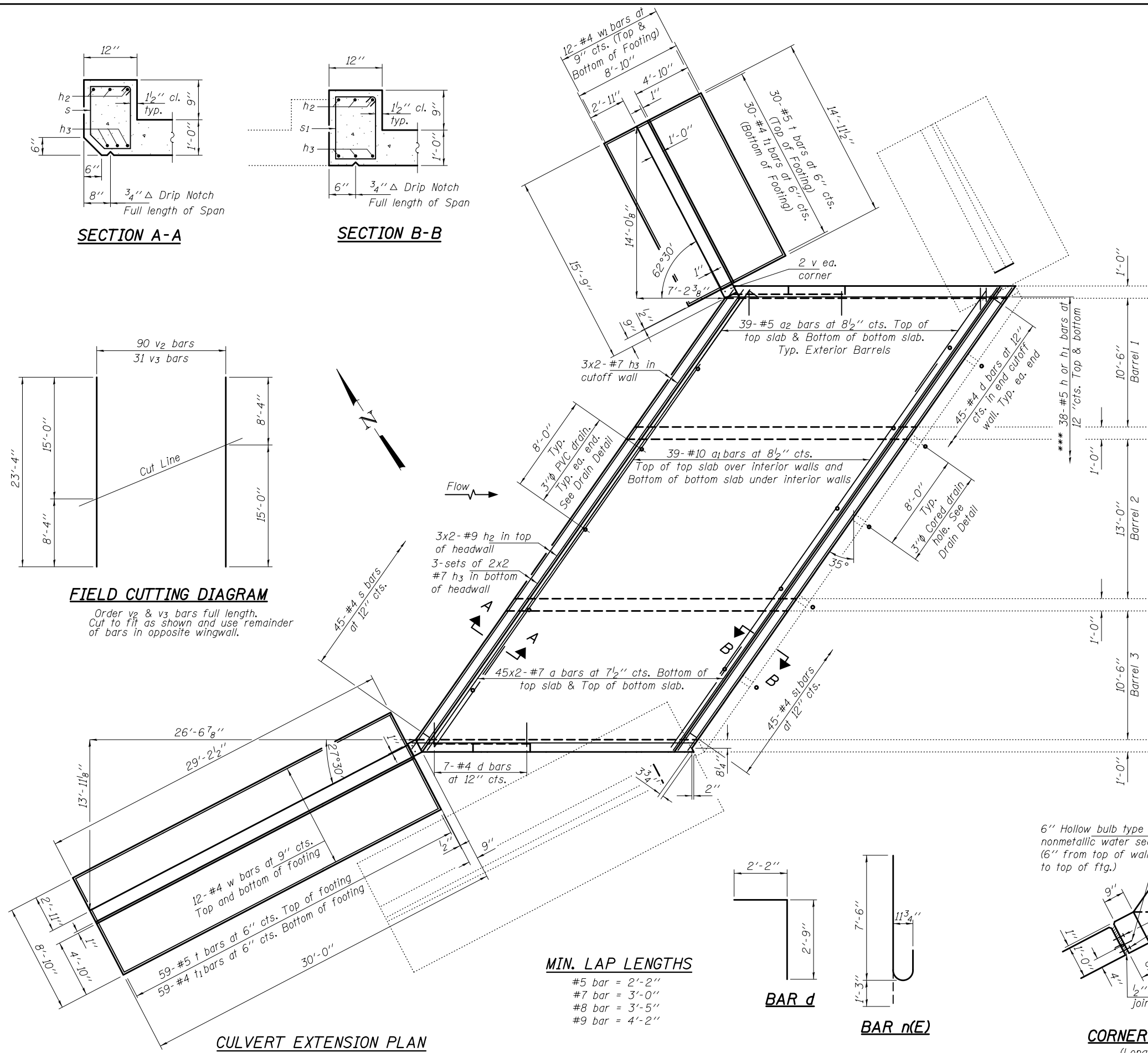
(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for Concrete Box Culverts.)

- * Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.
- ** 3"φ Cored drain hole in existing culvert. Cost included with Concrete Box Culverts.
- *** Use h bars in slabs of SN 025-2002 (WB); use h₁ bars in slabs of SN 025-2003 (EB)



FIELD CUTTING DIAGRAM

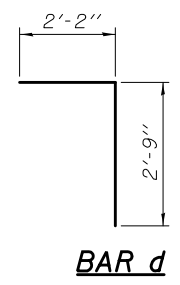
Order v₂ & v₃ bars full length. Cut to fit as shown and use remainder of bars in opposite wingwall.



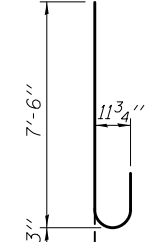
CULVERT EXTENSION PLAN

MIN. LAP LENGTHS

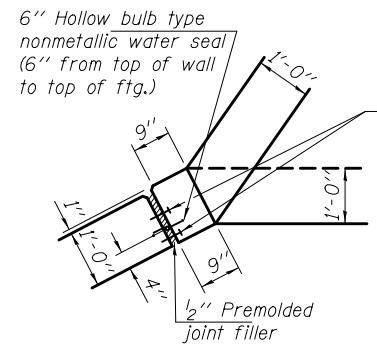
- #5 bar = 2'-2"
- #7 bar = 3'-0"
- #8 bar = 3'-5"
- #9 bar = 4'-2"



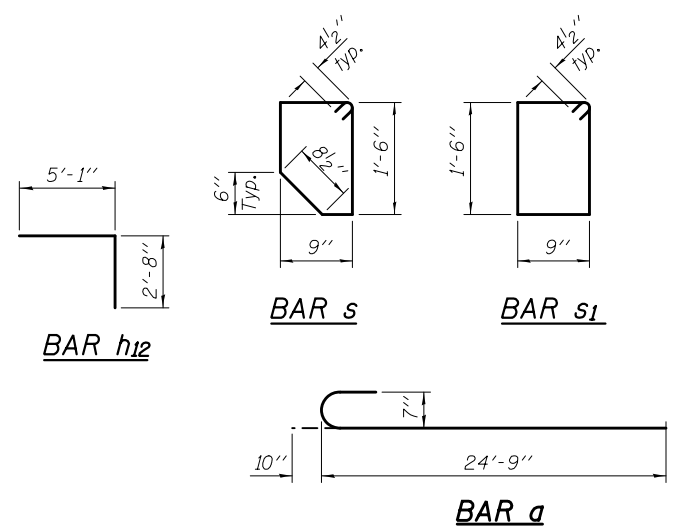
BAR d



BAR n(E)



CORNER DETAIL
(Long Wing)

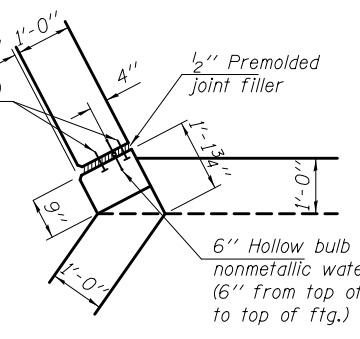


BAR h12

BAR s

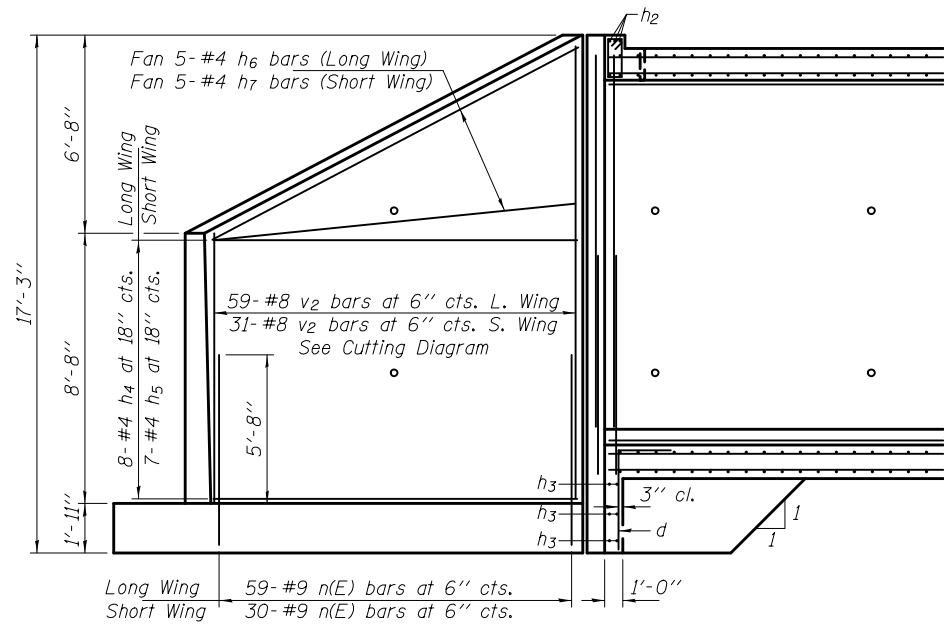
BAR s1

BAR a

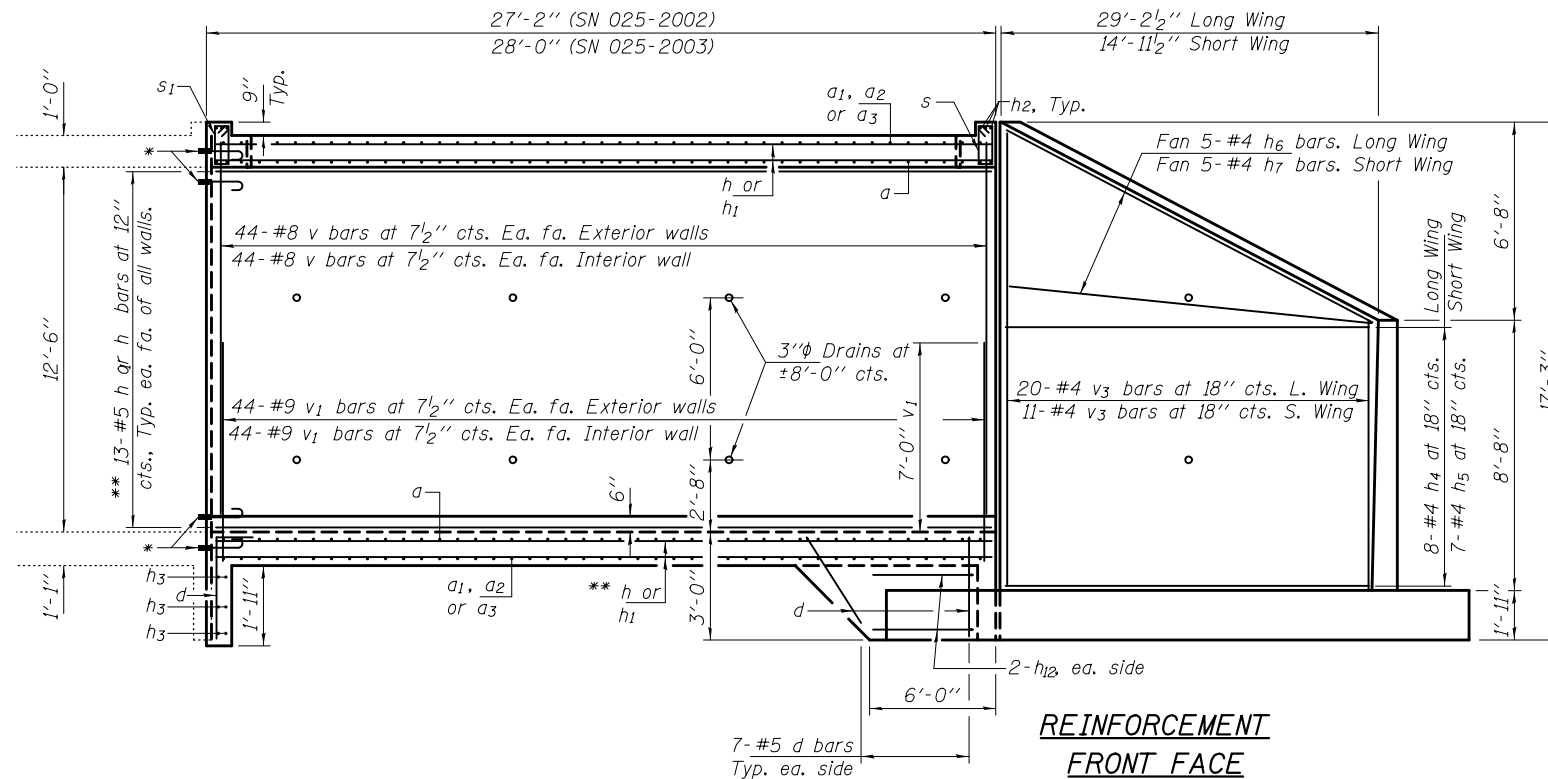


CORNER DETAIL
(Short Wing)

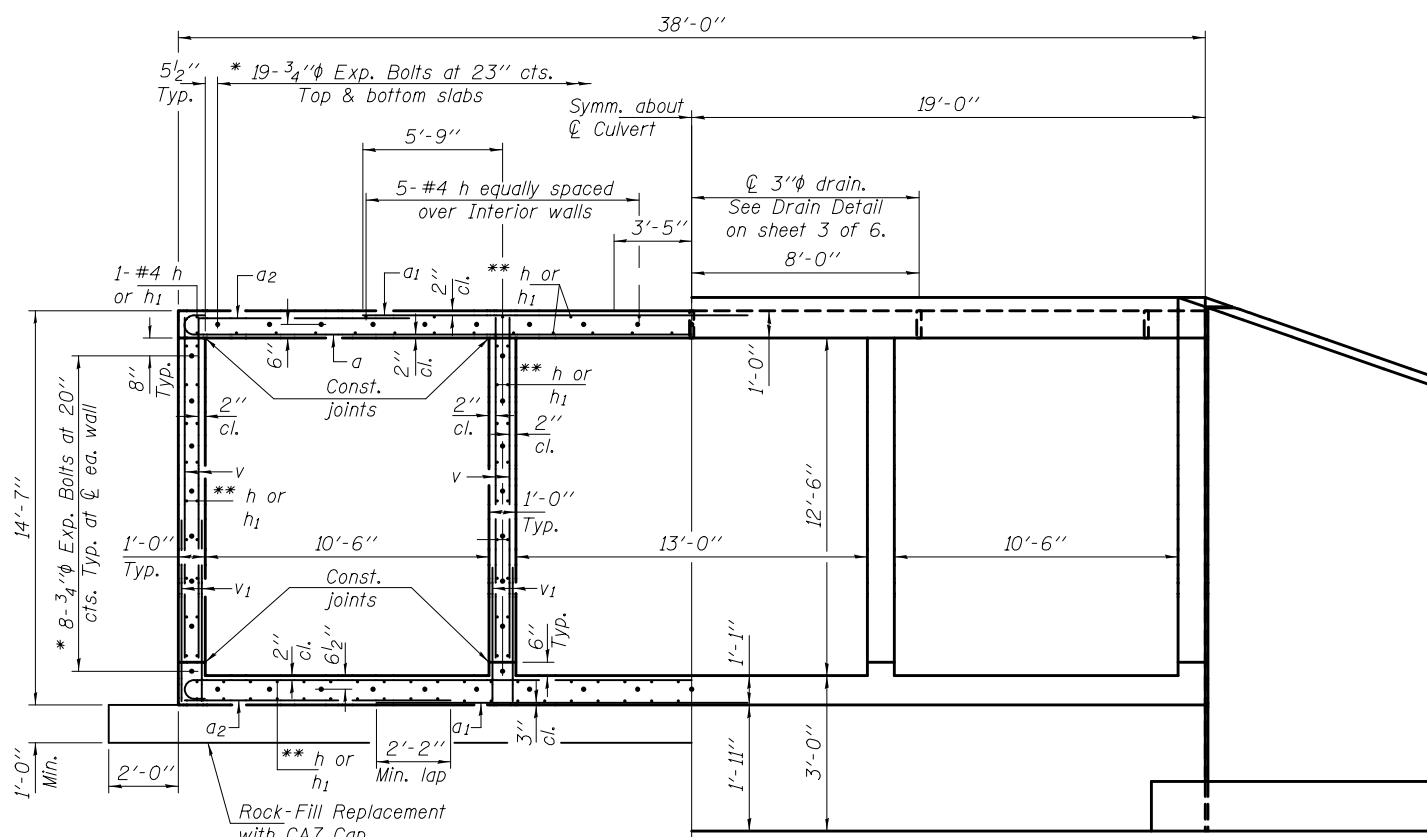
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|-----------------|---|-------------------|---|--|-------------------------|----------|-----------|---------------------------|-----------|--|
| DESIGNED SMR | EXAMINED | DATE MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | UPSTREAM CULVERT EXTENSION DETAILS SN 025-2002 (WB) & 2003 (EB) | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| CHECKED CCC | PASSED | REVISOR | | | 70 | 125-1,2R | EFFINGHAM | 496 | 232 | |
| DRAWN baliva | <i>A. Carl Pinger</i> ENGINEER OF BRIDGES AND STRUCTURES | REVISOR | | | CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | | |
| CHECKED SMR CCC | | REVISOR | | | SHEET NO. 3 OF 6 SHEETS | | | | | |



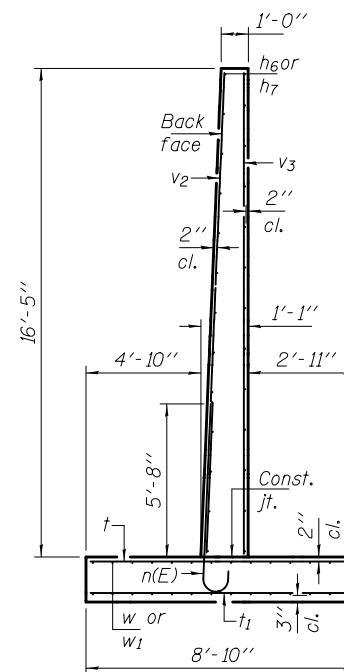
**REINFORCEMENT
BACK FACE**



**REINFORCEMENT
FRONT FACE**



**HALF SECTION
THRU BARRELS**



HALF END ELEVATION

* Expansion bolts shall be $\frac{3}{4}$ " phi hooked bolts and shall extend a minimum of 9" into new concrete.

** Use h bars in slabs of SN 025-2002 (WB); use h1 bars in slabs of SN 025-2003 (EB)

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|--------|
| a | 360 | #7 | 25'-8" | C |
| a1 | 156 | #10 | 31'-2" | — |
| a2 | 312 | #5 | 10'-0" | — |
| d | 208 | #4 | 4'-11" | L |
| h | 256 | #5 | 26'-10" | — |
| h1 | 256 | #5 | 27'-8" | — |
| h2 | 24 | #9 | 25'-2" | — |
| h3 | 72 | #7 | 24'-8" | — |
| h4 | 16 | #4 | 28'-11" | — |
| h5 | 16 | #4 | 14'-7" | — |
| h6 | 20 | #4 | 29'-9" | — |
| h7 | 20 | #4 | 16'-0" | — |
| h12 | 8 | #4 | 7'-9" | L |
| n(E) | 178 | #9 | 8'-9" | J |
| s | 90 | #4 | 5'-0" | D |
| s1 | 90 | #4 | 5'-3" | D |
| t | 89 | #5 | 8'-6" | — |
| t1 | 89 | #4 | 8'-6" | — |
| v | 708 | #8 | 12'-9" | — |
| v1 | 704 | #9 | 7'-10" | — |
| v2 | 90 | #8 | 23'-4" | — |
| v3 | 31 | #4 | 23'-4" | — |
| w | 24 | #4 | 28'-10" | — |
| w1 | 24 | #4 | 14'-7" | — |
| Concrete Removal | | | Cu. Yd. | 7.3 |
| Expansion Bolts $\frac{3}{4}$ " | | | Each | 140 |
| Reinforcement Bars | | | Lbs. | 116650 |
| Reinforcement Bars, Epoxy Coated | | | Lbs. | 5300 |
| Concrete Box Culverts | | | Cu. Yd. | 375.3 |

DESIGNED SMR
CHECKED CCC
DRAWN baliva
CHECKED SMR CCC

EXAMINED
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

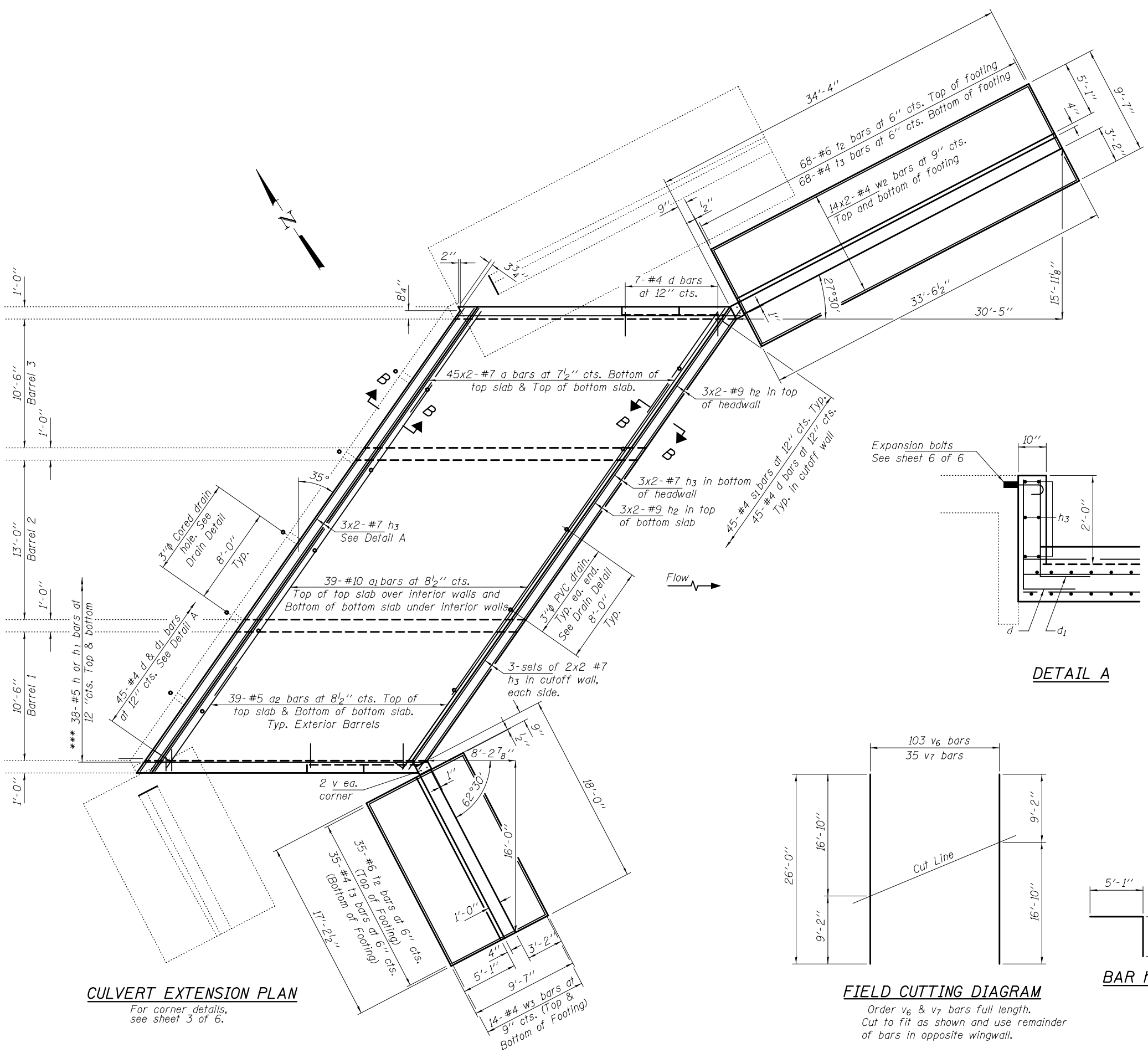
DATE MAY 12, 2017
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

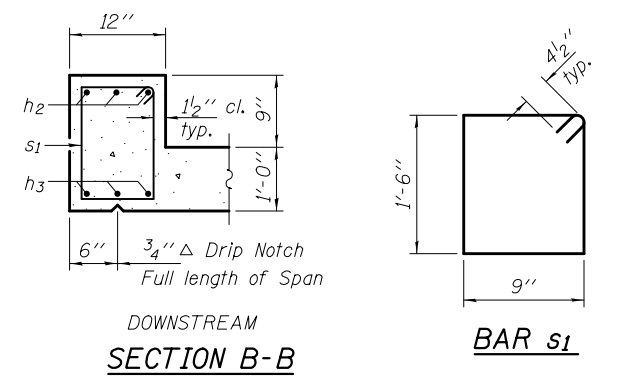
UPSTREAM CULVERT EXTENSION DETAILS
SN 025-2002 (WB) & 2003 (EB)

SHEET NO. 4 OF 6 SHEETS

| | | | | |
|--------------------|-----------|-----------|---------------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | 125-1.2/R | EFFINGHAM | 496 | 233 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

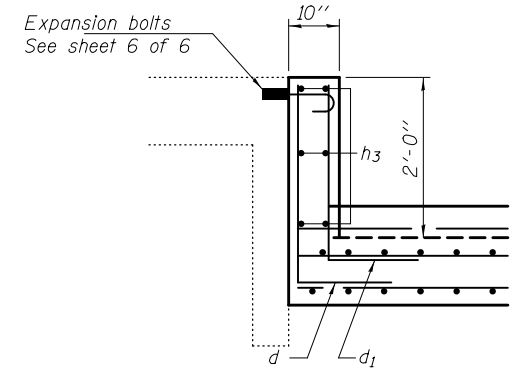


CULVERT EXTENSION PLAN
For corner details, see sheet 3 of 6.

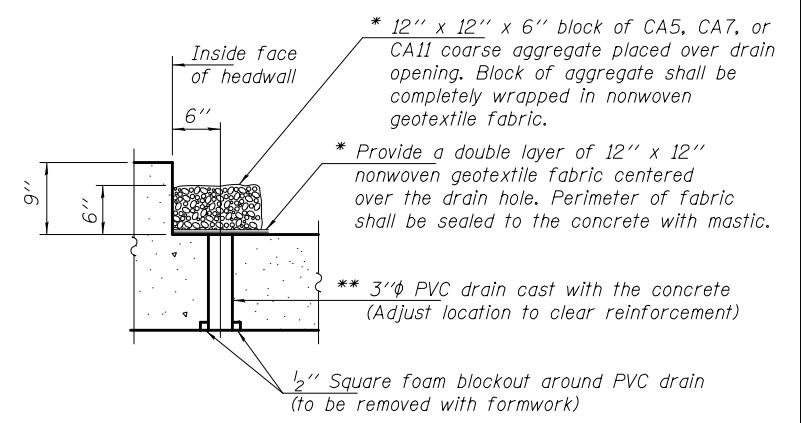


DOWNSTREAM SECTION B-B

BAR s1

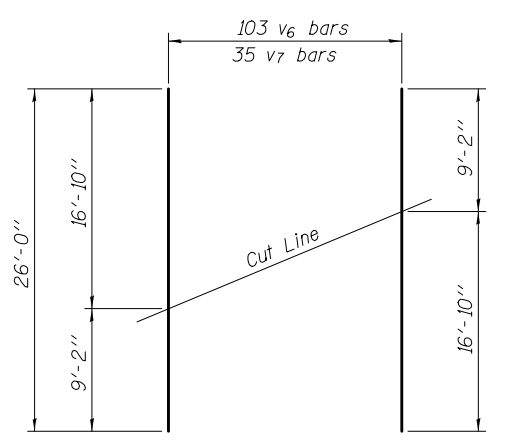


DETAIL A



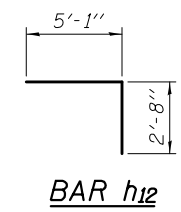
DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for Concrete Box Culverts.)
 * Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.
 ** 3" PVC Cored drain hole in existing culvert. Cost included with Concrete Box Culverts.
 *** Use h bars in slabs of SN 025-2002 (WB); use h1 bars in slabs of SN 025-2003 (EB)

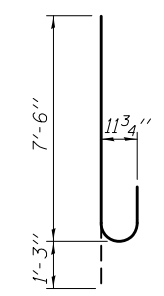


FIELD CUTTING DIAGRAM

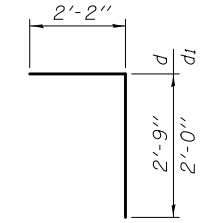
Order v6 & v7 bars full length. Cut to fit as shown and use remainder of bars in opposite wingwall.



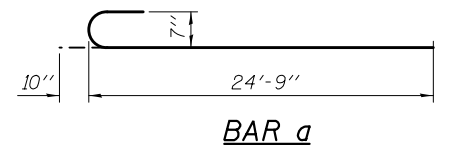
BAR h12



BAR n(E)



BARS d & d1

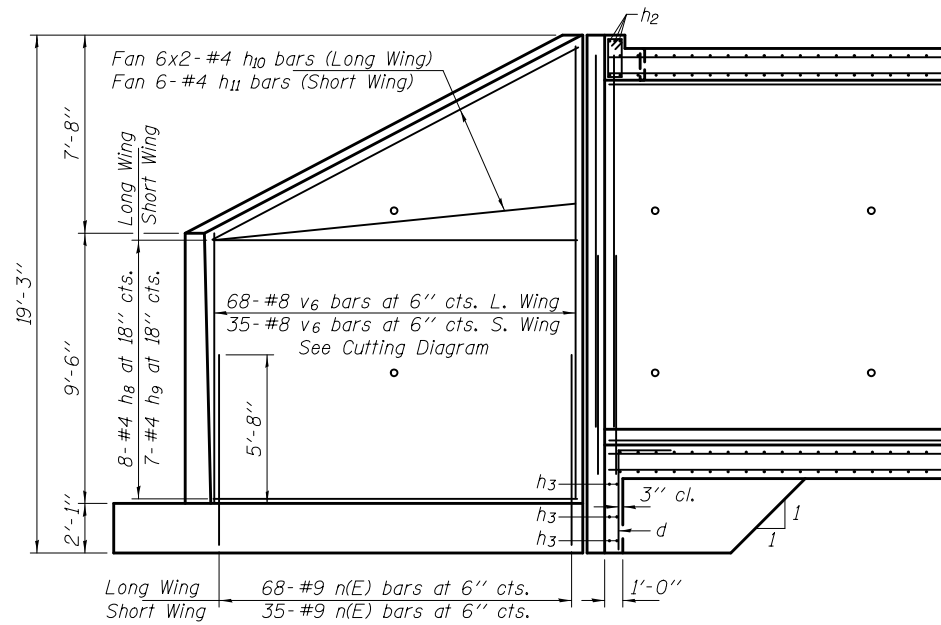


BAR a

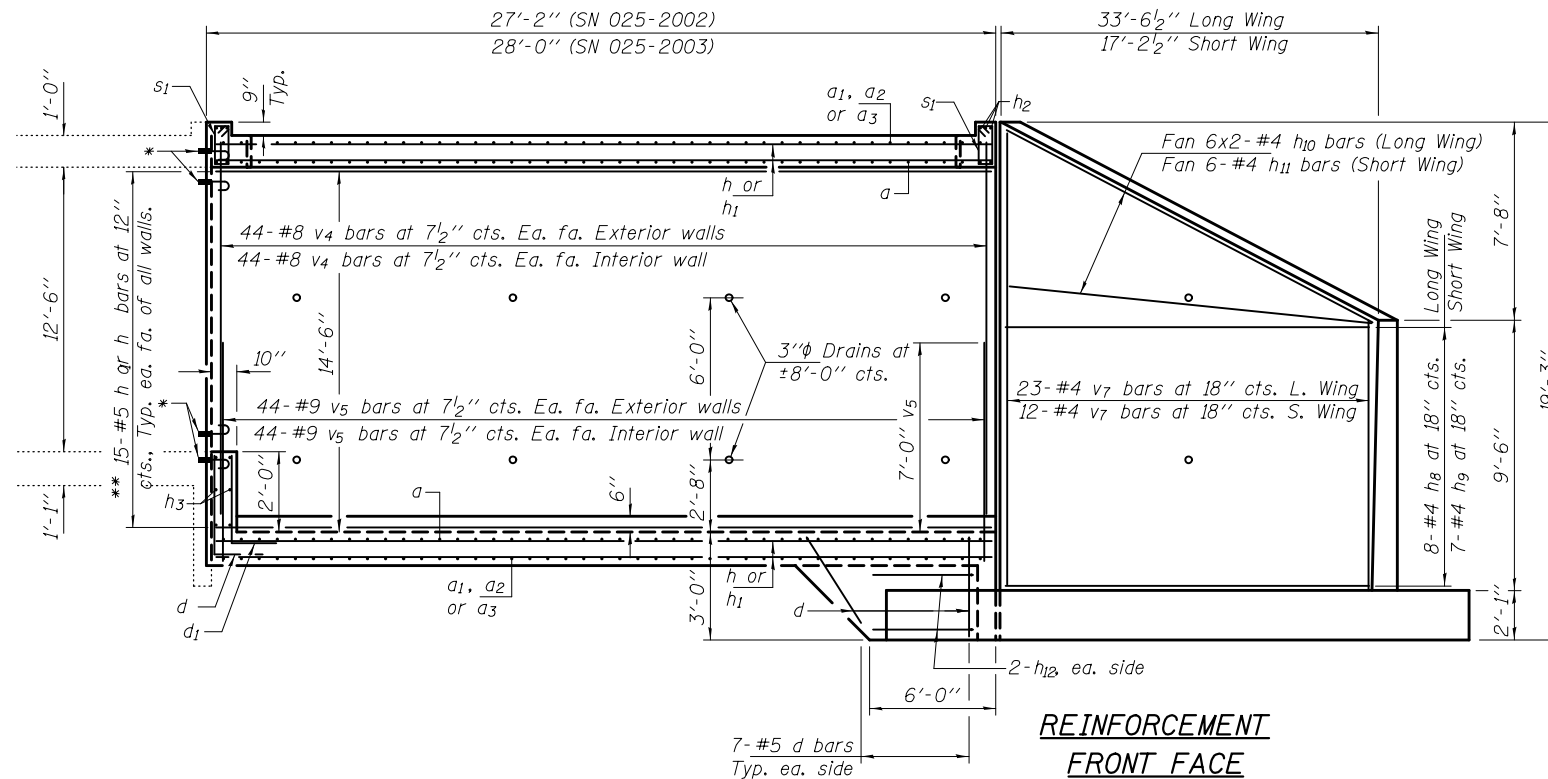
MIN. LAP LENGTHS

- #5 bar = 2'-2"
- #7 bar = 3'-0"
- #8 bar = 3'-5"
- #9 bar = 4'-2"

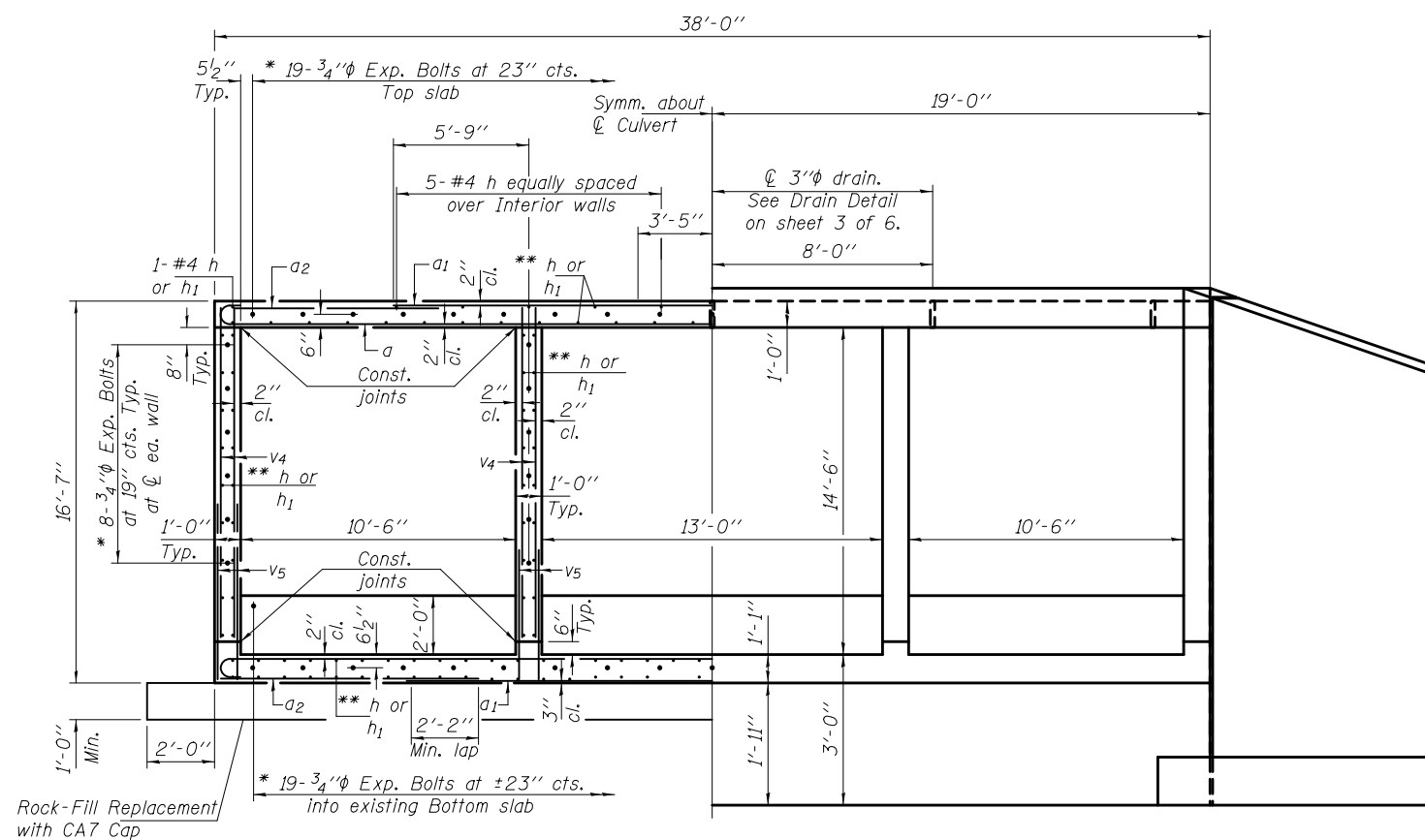
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|-----------------|---|-------------------|---|--|---------------------------|----------|-----------|--------------|-----------|--|
| DESIGNED SMR | EXAMINED | DATE MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DOWNSTREAM CULVERT EXTENSION DETAILS SN 025-2002 (WB) & 2003 (EB) | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| CHECKED CCC | PASSED | REVISOR | | | 70 | 125-1,2R | EFFINGHAM | 496 | 234 | |
| DRAWN baliva | <i>A. Carl Pinger</i> ENGINEER OF BRIDGES AND STRUCTURES | REVISOR | | | CONTRACT NO. 74664 | | | | | |
| CHECKED SMR CCC | | REVISOR | | | ILLINOIS FED. AID PROJECT | | | | | |
| | | | | SHEET NO. 5 OF 6 SHEETS | | | | | | |



**REINFORCEMENT
BACK FACE**

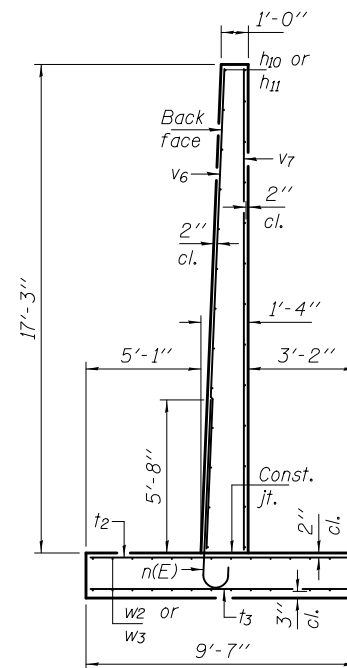


**REINFORCEMENT
FRONT FACE**



**HALF SECTION
THRU BARRELS**

HALF END ELEVATION



MIN. LAP LENGTHS
#4 bar = 1'-9"

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|--------|
| a | 360 | #7 | 25'-7" | C |
| a ₁ | 156 | #10 | 31'-2" | — |
| a ₂ | 312 | #5 | 10'-0" | — |
| d | 208 | #4 | 4'-11" | L |
| d ₁ | 90 | #4 | 4'-2" | L |
| h | 272 | #5 | 26'-10" | — |
| h ₁ | 272 | #5 | 27'-8" | — |
| h ₂ | 24 | #9 | 25'-2" | — |
| h ₃ | 72 | #7 | 24'-8" | — |
| h ₈ | 16 | #4 | 33'-2" | — |
| h ₉ | 16 | #4 | 16'-10" | — |
| h ₁₀ | 24 | #4 | 17'-11" | — |
| h ₁₁ | 12 | #4 | 18'-7" | — |
| h ₁₂ | 8 | #4 | 7'-9" | L |
| n(E) | 206 | #9 | 8'-9" | U |
| s ₁ | 180 | #4 | 5'-3" | □ |
| t ₂ | 103 | #6 | 9'-3" | — |
| t ₃ | 103 | #4 | 9'-3" | — |
| v ₄ | 712 | #8 | 14'-9" | — |
| v ₅ | 704 | #9 | 5'-7" | — |
| v ₆ | 103 | #8 | 26'-0" | — |
| v ₇ | 35 | #4 | 26'-0" | — |
| w ₂ | 56 | #4 | 17'-7" | — |
| w ₃ | 28 | #4 | 16'-1" | — |
| Concrete Removal | | | Cu. Yd. | 7.3 |
| Expansion Bolts 3/4" | | | Each | 140 |
| Reinforcement Bars | | | Lbs. | 124300 |
| Reinforcement Bars, Epoxy Coated | | | Lbs. | 6130 |
| Concrete Box Culverts | | | Cu. Yd. | 433.6 |

DESIGNED SMR
CHECKED CCC
DRAWN baliva
CHECKED SMR CCC

EXAMINED
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

DATE MAY 12, 2017
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DOWNSTREAM CULVERT EXTENSION DETAILS
SN 025-2002 (WB) & 2003 (EB)

SHEET NO. 6 OF 6 SHEETS

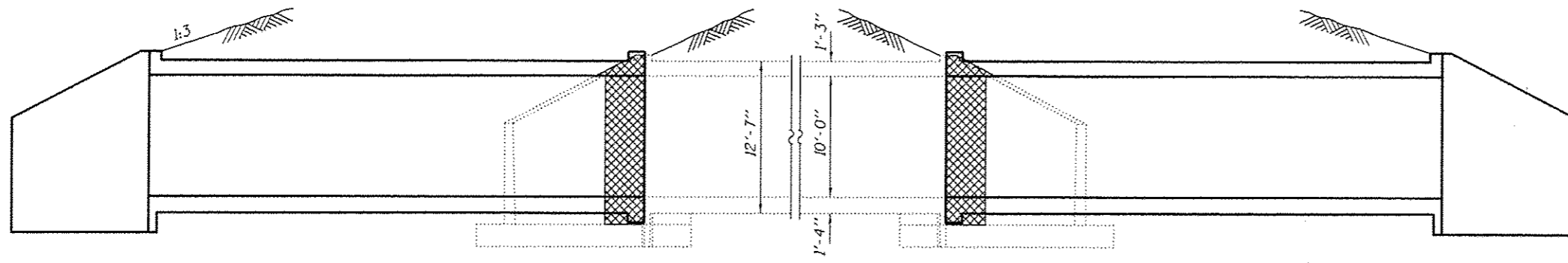
F.A.I. SECTION COUNTY TOTAL SHEETS SHEET NO.
RTE. 70 125-1,21R EFFINGHAM 496 235
CONTRACT NO. 74664
ILLINOIS FED. AID PROJECT

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and 3/4" φ x 12" hooked bolts.

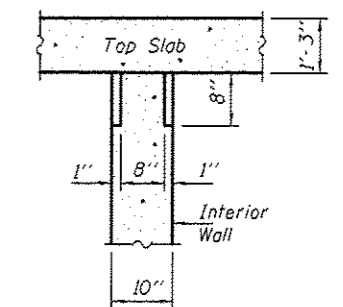
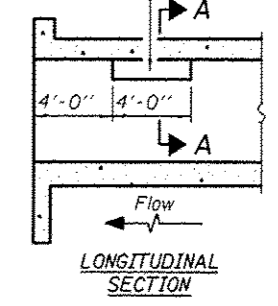
All exposed edges shall have standard 3/4" chamfers.



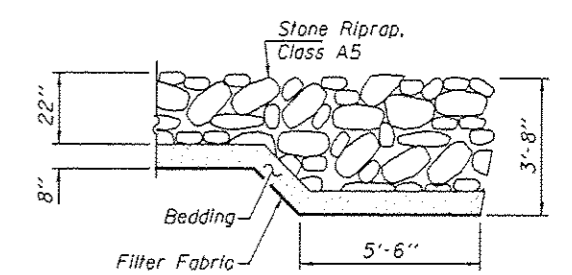
LONGITUDINAL SECTION

- Limits of Stone Riprap, Class A5

Notch formed by rough finished board attached to and removed with form work, each interior wall. (Do not chamfer).



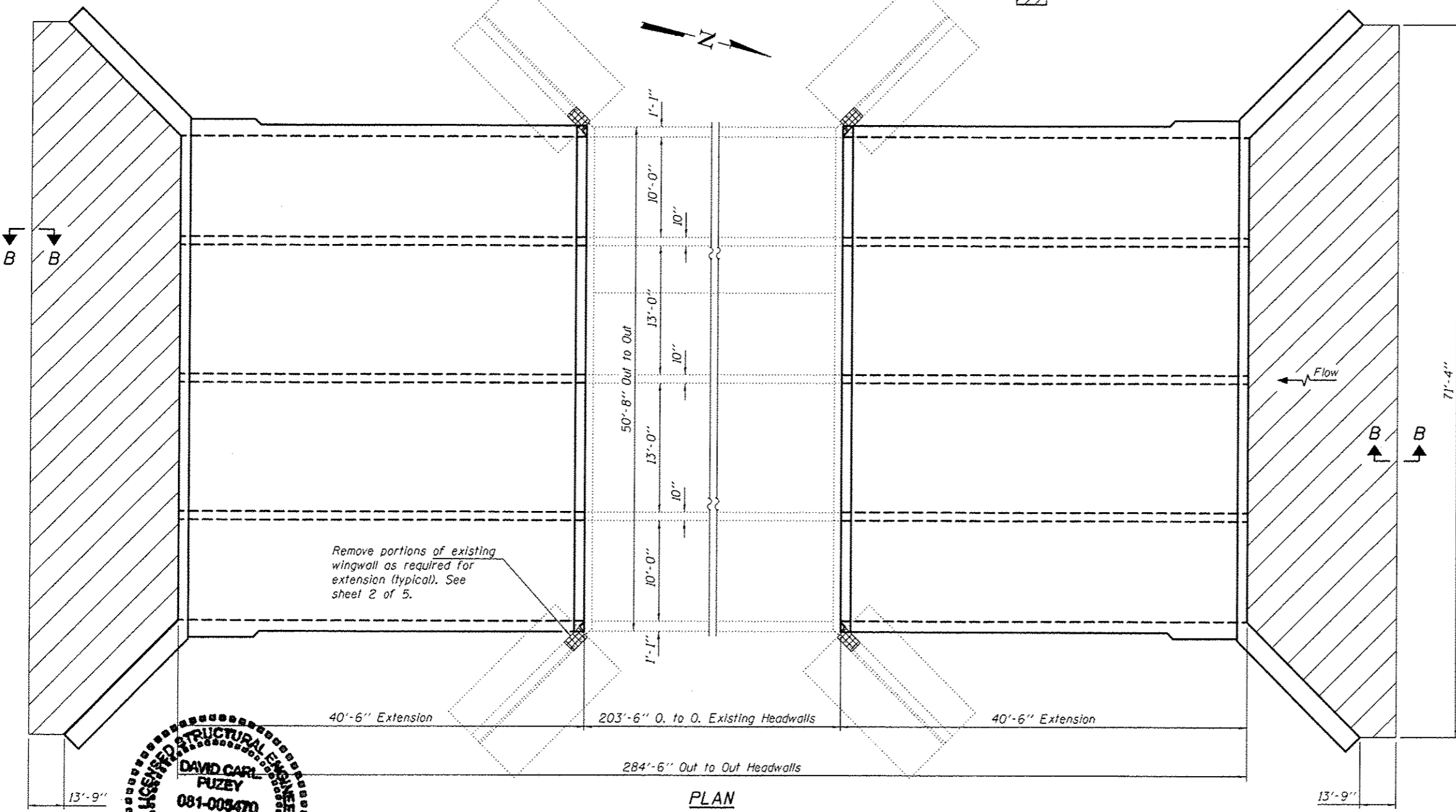
**SECTION A-A
PHOEBE NESTING
SITE DETAILS
(Downstream End Only)**



SECTION B-B
Cost of any excavation necessary for placement of riprap or bedding material shall be included with Stone Riprap, Class A5

TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|------------------------|---------|---------|
| Concrete Removal | Cu. Yd. | 5.3 |
| Concrete Box Culverts | Cu. Yd. | 603 |
| Reinforcement Bars | Pound | 148,060 |
| Expansion Bolts 3/4" | Each | 150 |
| Structure Excavation | Cu. Yd. | 600 |
| Stone Riprap, Class A5 | Sq. Yd. | 368.8 |
| Filter Fabric | Sq. Yd. | 368.8 |

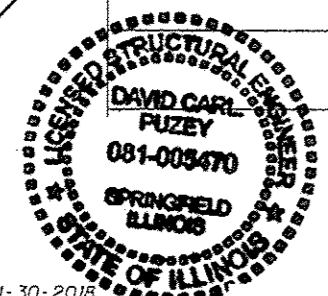


PLAN

Remove portions of existing wingwall as required for extension (typical). See sheet 2 of 5.

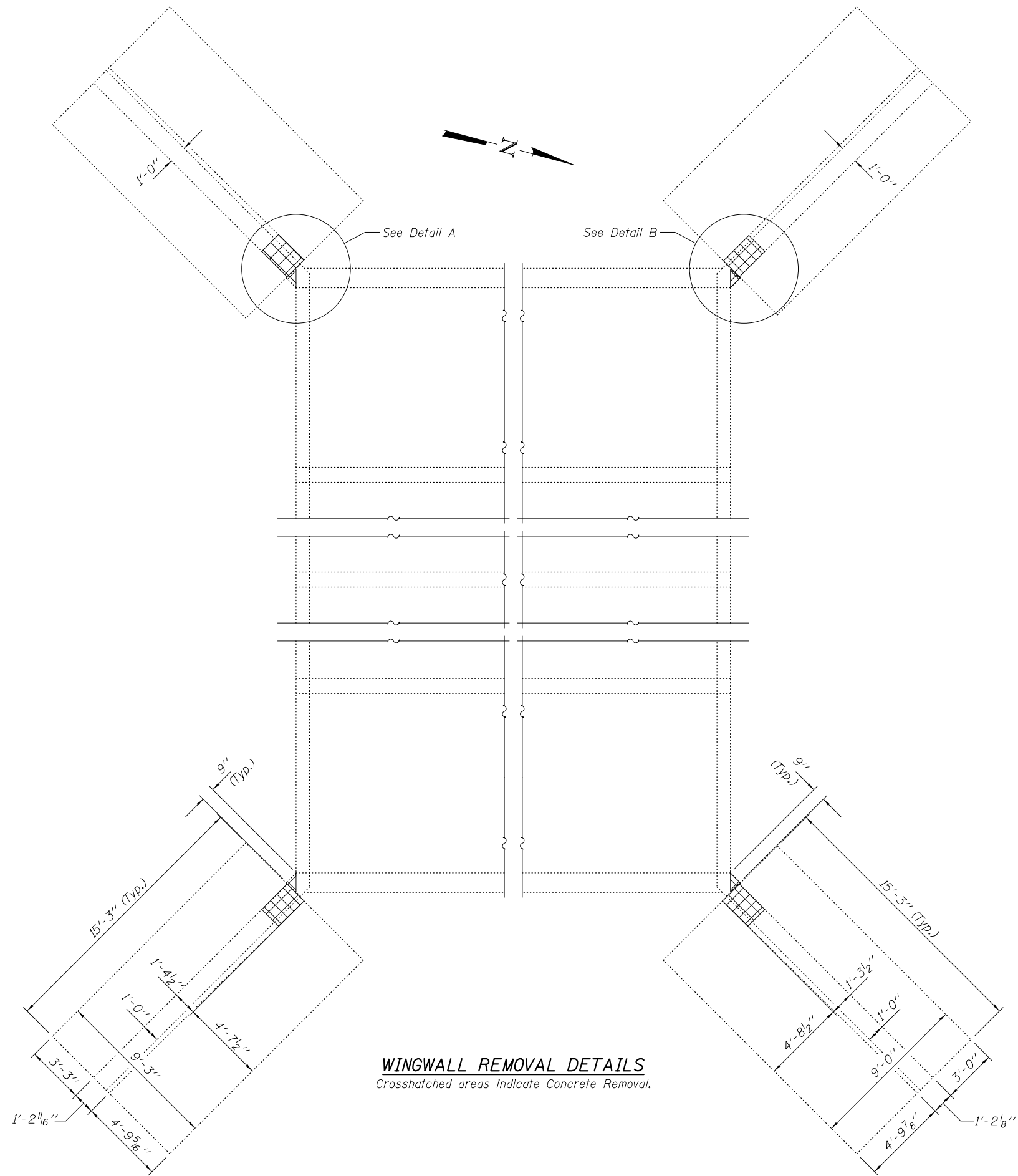
**DESIGN STRESSES
FIELD UNITS**

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

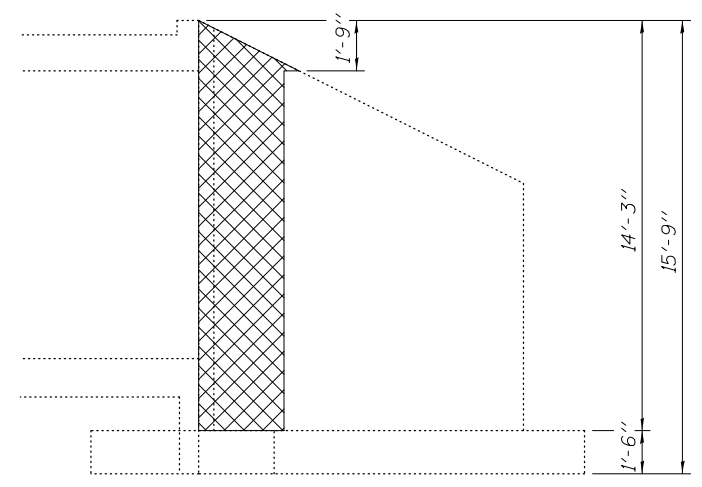


The contractor shall excavate to the specified depth for placement of the Rock Fill Replacement under the culvert extensions and the wingwall footings (if present) and allow the District inspectors to test and verify that the foundation soils have a minimum D_u of at least 2.5 tsf. If the required soil strength is not present, the Contractor shall excavate an additional depth and width as directed by the Engineer to locate suitable strength material. The excavated area shall then be backfilled to the proper elevations using Rockfill capped with 6" of Coarse Aggregate. Cost of excavation and backfill material will be paid for per Art. 109.04 (b) of the Standard Specifications

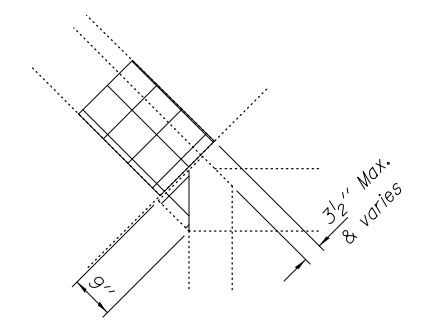
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|---|-----------------------------------|-----------------------|---------------------|----------------------|---------|---------|---|--|---|----------------------|---------------------|---------------------|------------------|
| DESIGNED <i>David Carl Fuzey</i> | CHECKED <i>Stephen M. Ryan</i> | DRAWN J. Schneller | CHECKED C.C. SMR | DATE MAY 12, 2017 | REVISED | REVISED | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | PLAN AND ELEVATION FAI 70 SN 025-2004 SHEET NO. 1 OF 5 SHEETS | F.A.I. RTE. | SECTION 125-1,21R | COUNTY EFFINGHAM | TOTAL SHEETS 496 | SHEET NO. 236 |
| PASSED <i>David Carl Fuzey</i> ENGINEER OF BRIDGES AND STRUCTURES | | | | | | | | | CONTRACT NO. 74664 [ILLINOIS] FED. AID PROJECT | | | | |



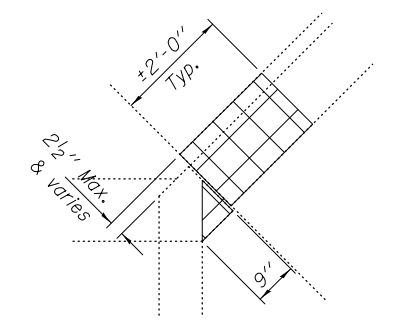
WINGWALL REMOVAL DETAILS
 Crosshatched areas indicate Concrete Removal.



ELEVATION

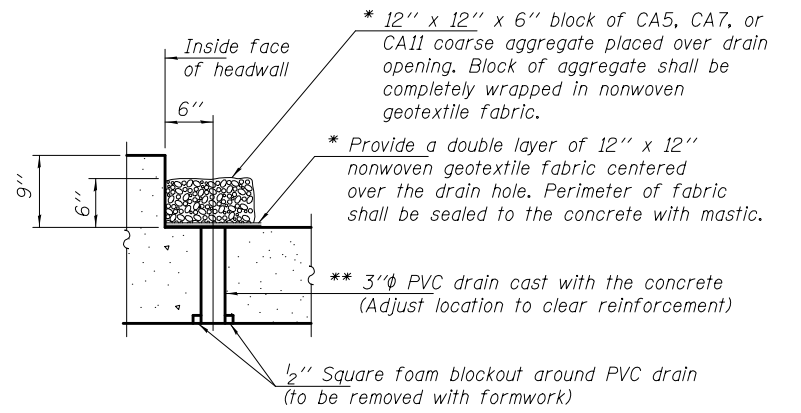
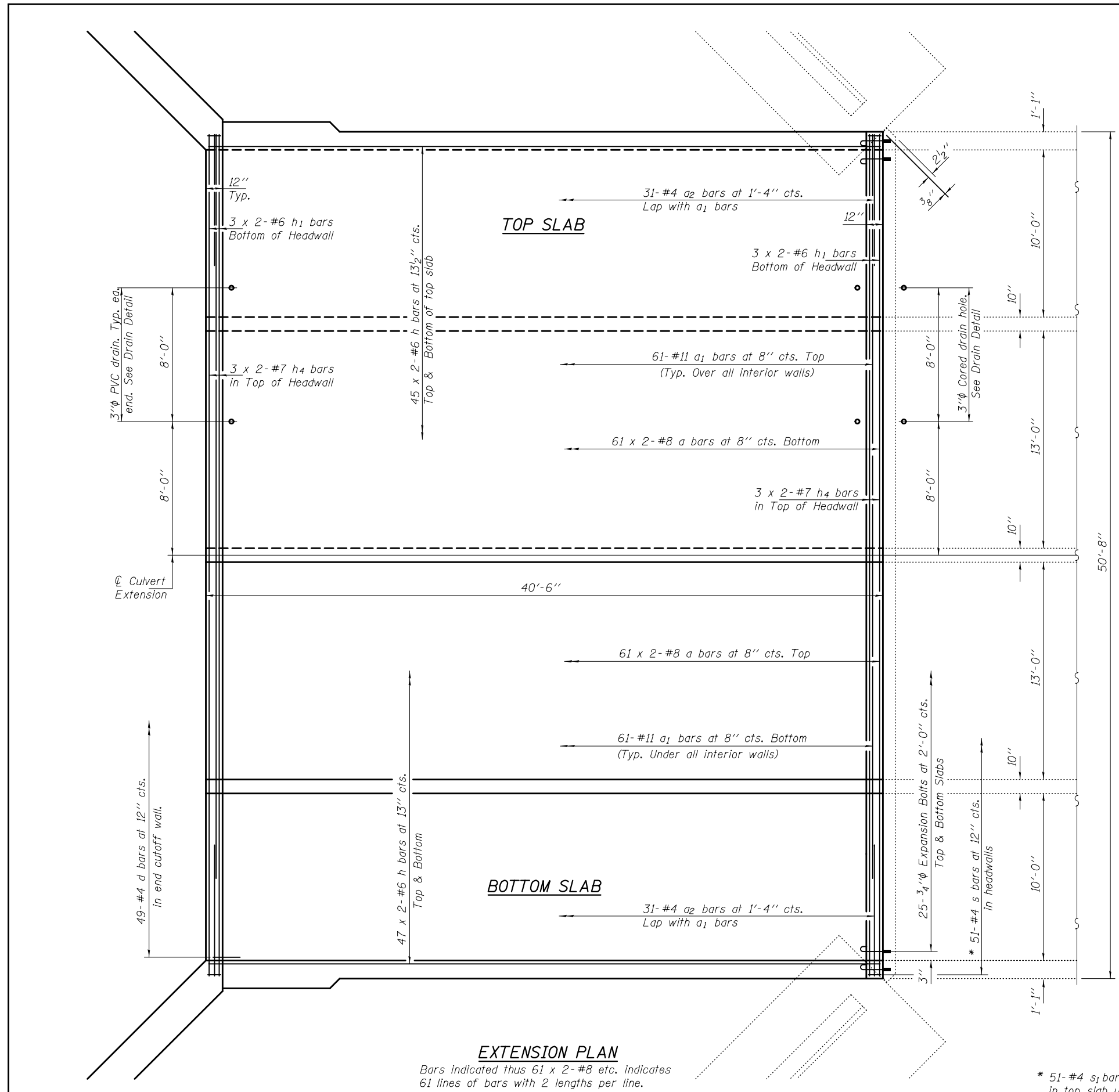


DETAIL A



DETAIL B

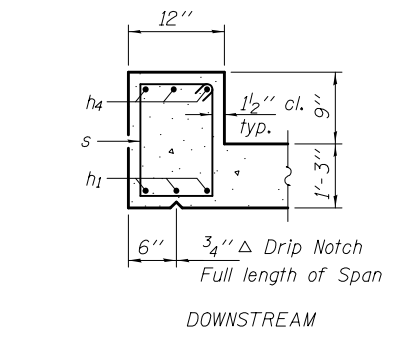
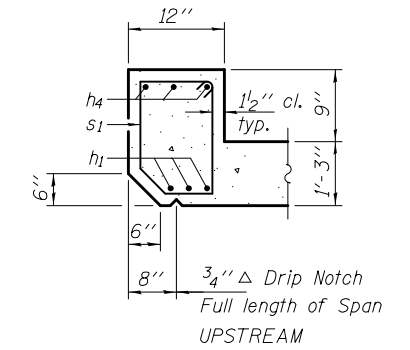
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|--------------------|------------------------------------|---|--------------------------------|---------------------------|-----------|-----------|--------------|-----------|
| DESIGNED CCC | DATE MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | REMOVAL DETAILS SN 025-2004 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED SMR | REVISIONS | | | 70 | 125-1,2/R | EFFINGHAM | 496 | 237 |
| DRAWN J. Schneller | ENGINEER OF BRIDGES AND STRUCTURES | | SHEET NO. 2 OF 5 SHEETS | CONTRACT NO. 74664 | | | | |
| CHECKED CCC SMR | | | | ILLINOIS FED. AID PROJECT | | | | |



DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

- * Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.
- ** 3" φ Cored drain hole in existing culvert. Cost included with Concrete Box Culverts.



SECTION THRU HEADWALL

Notes:
Expansion bolts shall be 3/4 inch φ hooked bolts and shall extend a minimum of 9 inches into new concrete.

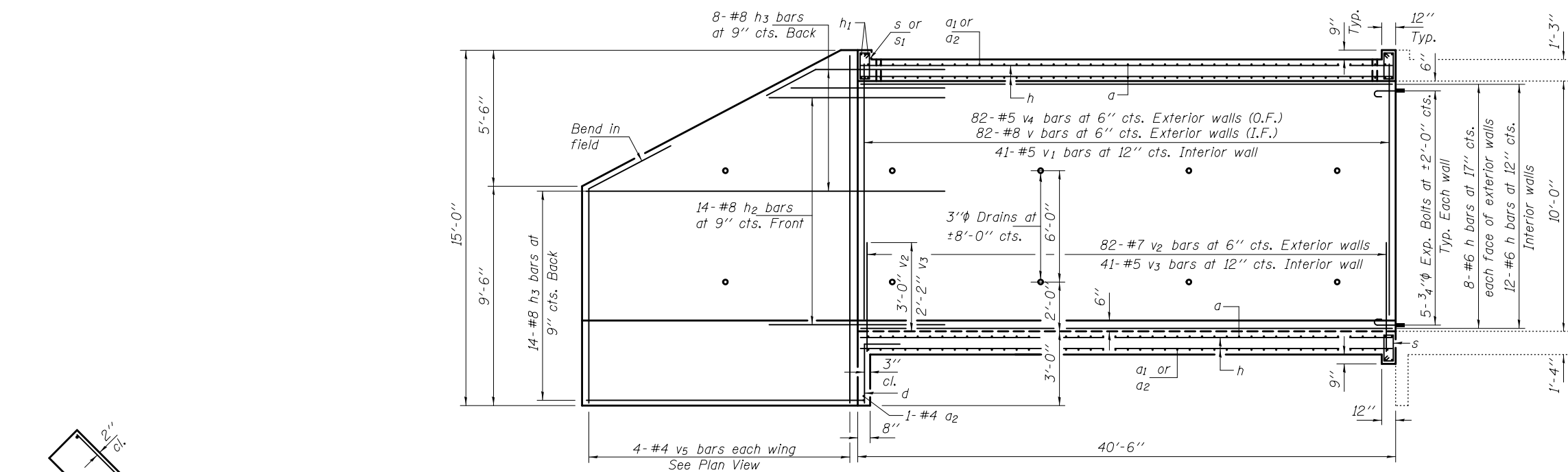
MIN. LAP LENGTHS

- #4 bar = 2'-3"
- #6 bar = 2'-7"
- #7 bar = 3'-4"
- #8 bar = 4'-3"

* 51-#4 s1 bars at 12" cts. in top slab upstream headwall

EXTENSION PLAN
Bars indicated thus 61 x 2-#8 etc. indicates 61 lines of bars with 2 lengths per line.

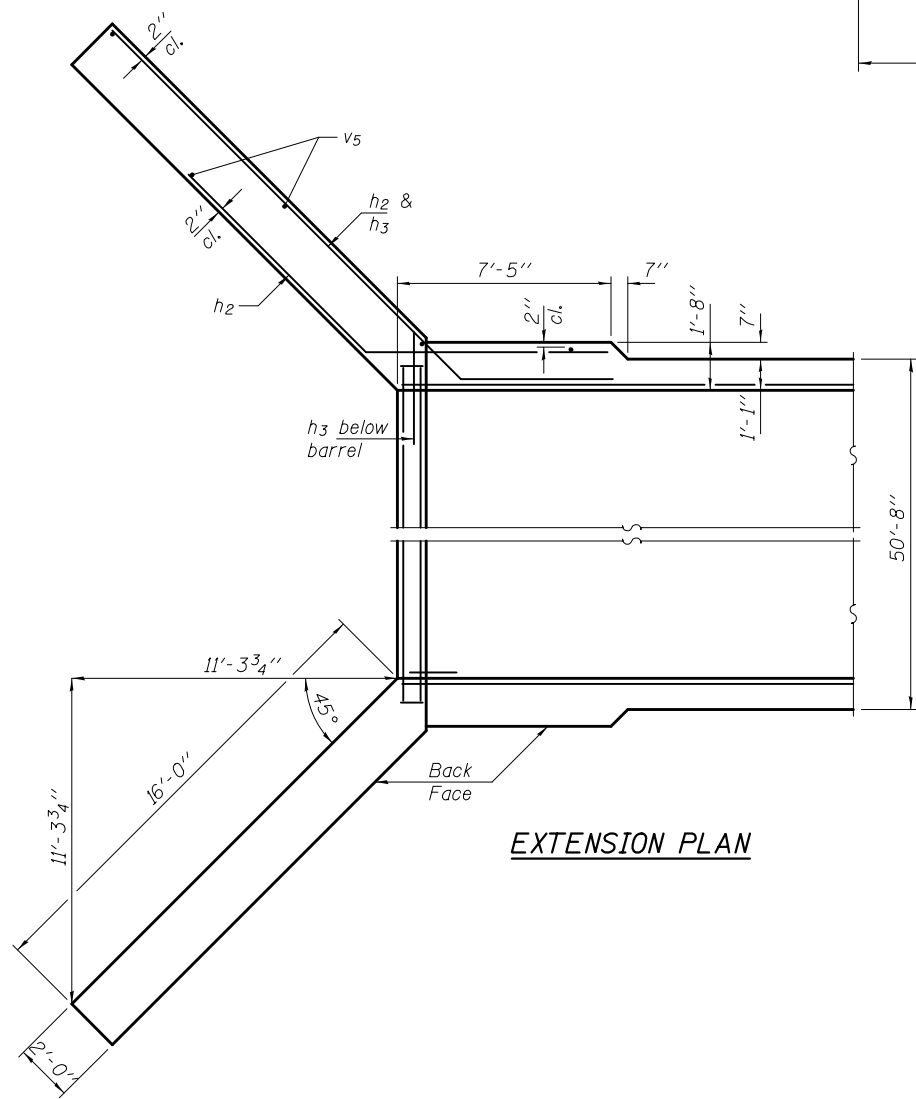
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|--------------------|------------------------------------|---|--|---------------------------|-----------|-----------|--------------|-----------|
| DESIGNED CCC | DATE MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CULVERT EXTENSION DETAILS SN 025-2004 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED SMR | REVISIONS | | | 70 | 125-1,2/R | EFFINGHAM | 496 | 238 |
| DRAWN J. Schneller | ENGINEER OF BRIDGES AND STRUCTURES | | SHEET NO. 3 OF 5 SHEETS | CONTRACT NO. 74664 | | | | |
| CHECKED CCC SMR | | | | ILLINOIS FED. AID PROJECT | | | | |



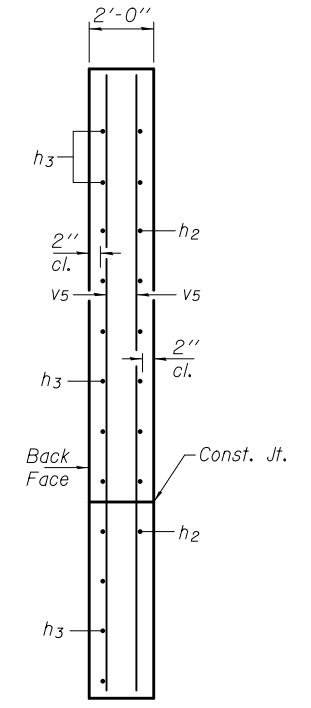
ELEVATION

Bars indicated thus 7 x 2-#4 etc. indicates 7 lines of bars with 2 lengths per line.

Note:
Expansion bolts shall be 3/4" diameter hooked bolts and shall extend a minimum of 9" into new concrete.

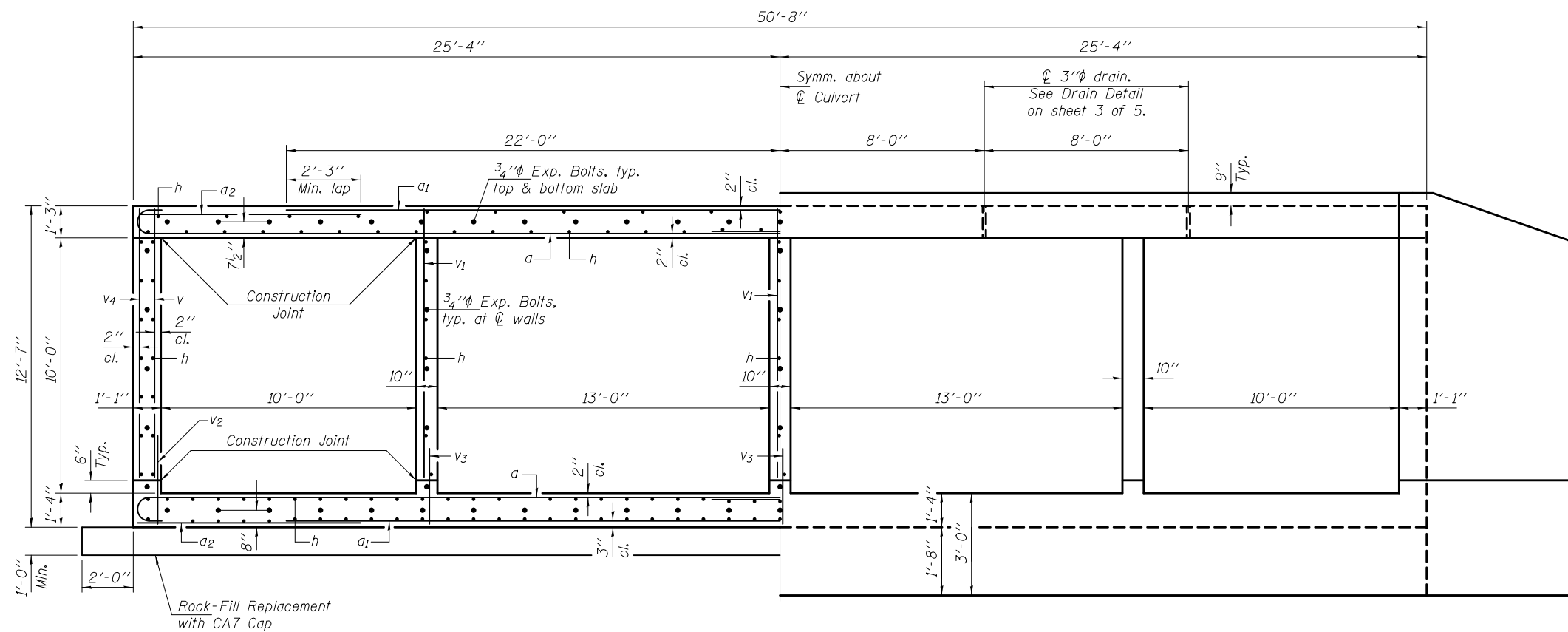


EXTENSION PLAN



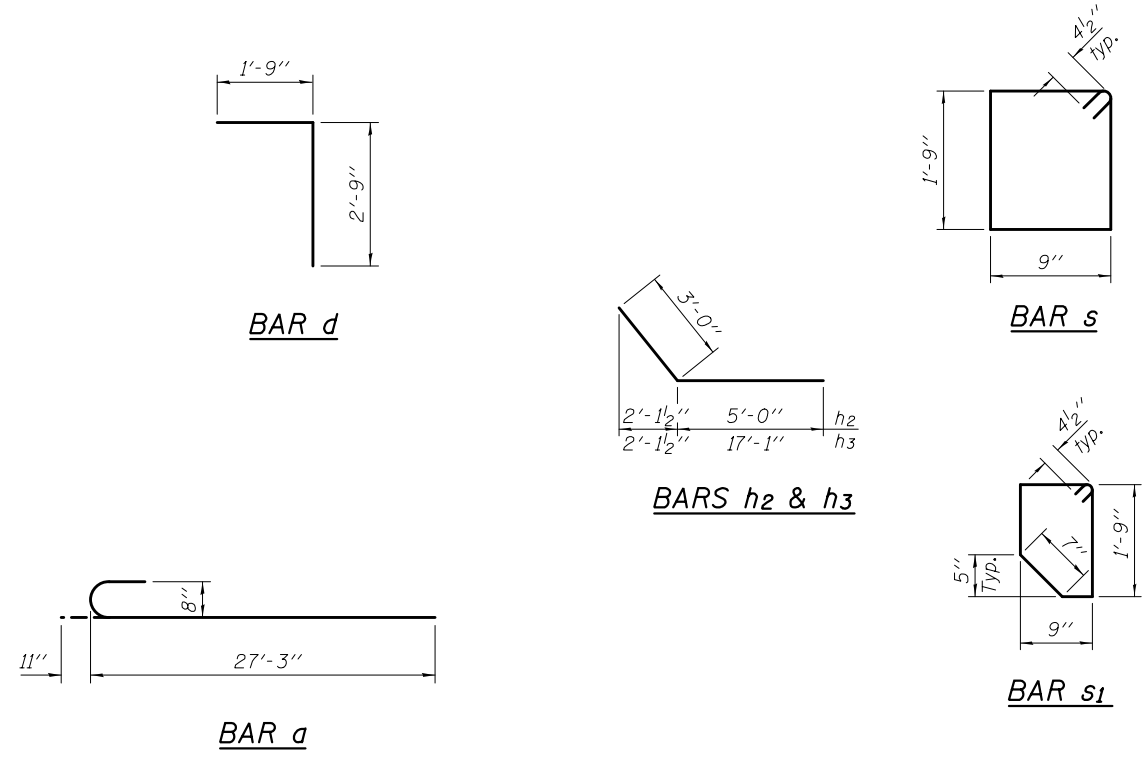
SECTION THRU WING

| | | | | | | | | |
|--------------------|------------------------------------|---|--|---------------------------|-----------|-----------|--------------|-----------|
| DESIGNED CCC | DATE MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CULVERT EXTENSION DETAILS SN 025-2004 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED SMR | REVISIONS | | | 70 | 125-1,21R | EFFINGHAM | 496 | 239 |
| DRAWN J. Schneller | ENGINEER OF BRIDGES AND STRUCTURES | | SHEET NO. 4 OF 5 SHEETS | CONTRACT NO. 74664 | | | | |
| CHECKED CCC SMR | | | | ILLINOIS FED. AID PROJECT | | | | |



HALF SECTION THRU BARRELS

HALF END ELEVATION



BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|---------------------------------|-----|------|---------|---------|
| a | 488 | #8 | 28'-2" | C |
| a1 | 244 | #11 | 38'-8" | — |
| a2 | 248 | #4 | 5'-7" | — |
| d | 196 | #4 | 4'-6" | — |
| h | 872 | #6 | 22'-0" | — |
| h1 | 36 | #6 | 26'-8" | — |
| h2 | 56 | #8 | 8'-0" | — |
| h3 | 88 | #8 | 20'-1" | — |
| h4 | 36 | #7 | 27'-0" | — |
| v | 328 | #8 | 10'-6" | — |
| v1 | 246 | #5 | 10'-6" | — |
| v2 | 328 | #7 | 4'-6" | — |
| v3 | 246 | #5 | 3'-6" | — |
| v4 | 328 | #5 | 9'-9" | — |
| v5 | 16 | #4 | 15'-5" | — |
| s | 255 | #4 | 5'-9" | □ |
| s1 | 51 | #4 | 5'-5" | □ |
| Concrete Removal | | | Cu. Yd. | 5.3 |
| Expansion Bolts $\frac{3}{4}$ " | | | Each | 150 |
| Reinforcement Bars | | | Lbs. | 148,060 |
| Concrete Box Culverts | | | Cu. Yd. | 603 |

DESIGNED CCC
 CHECKED SMR
 DRAWN J. Schneller
 CHECKED CCC SMR

DATE MAY 12, 2017

REVISOR
 REVISOR

PASSED *J. Carl Pinger*
 ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CULVERT EXTENSION DETAILS
 SN 025-2004

SHEET NO. 5 OF 5 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | 125-1.2/R | EFFINGHAM | 496 | 240 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

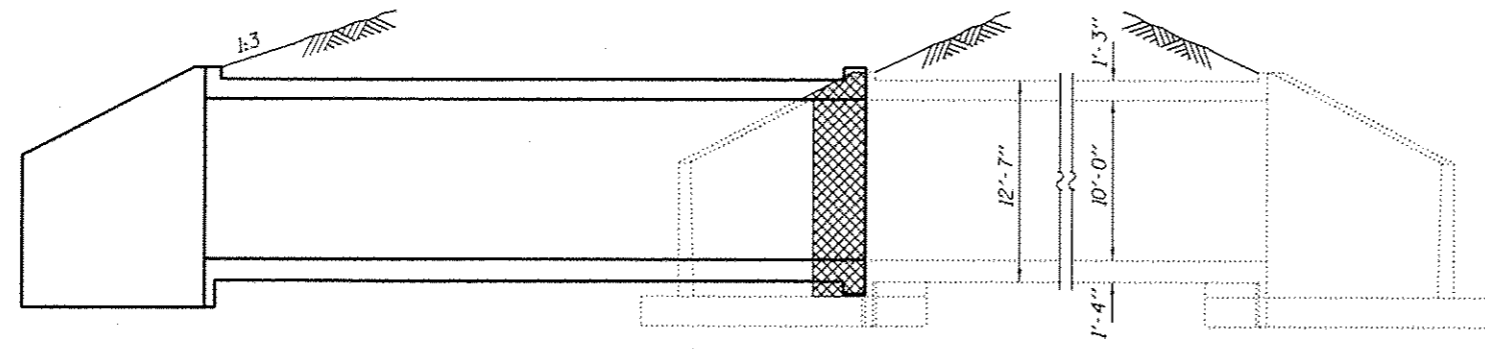
GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and 3/4" φ x 12" hooked bolts.

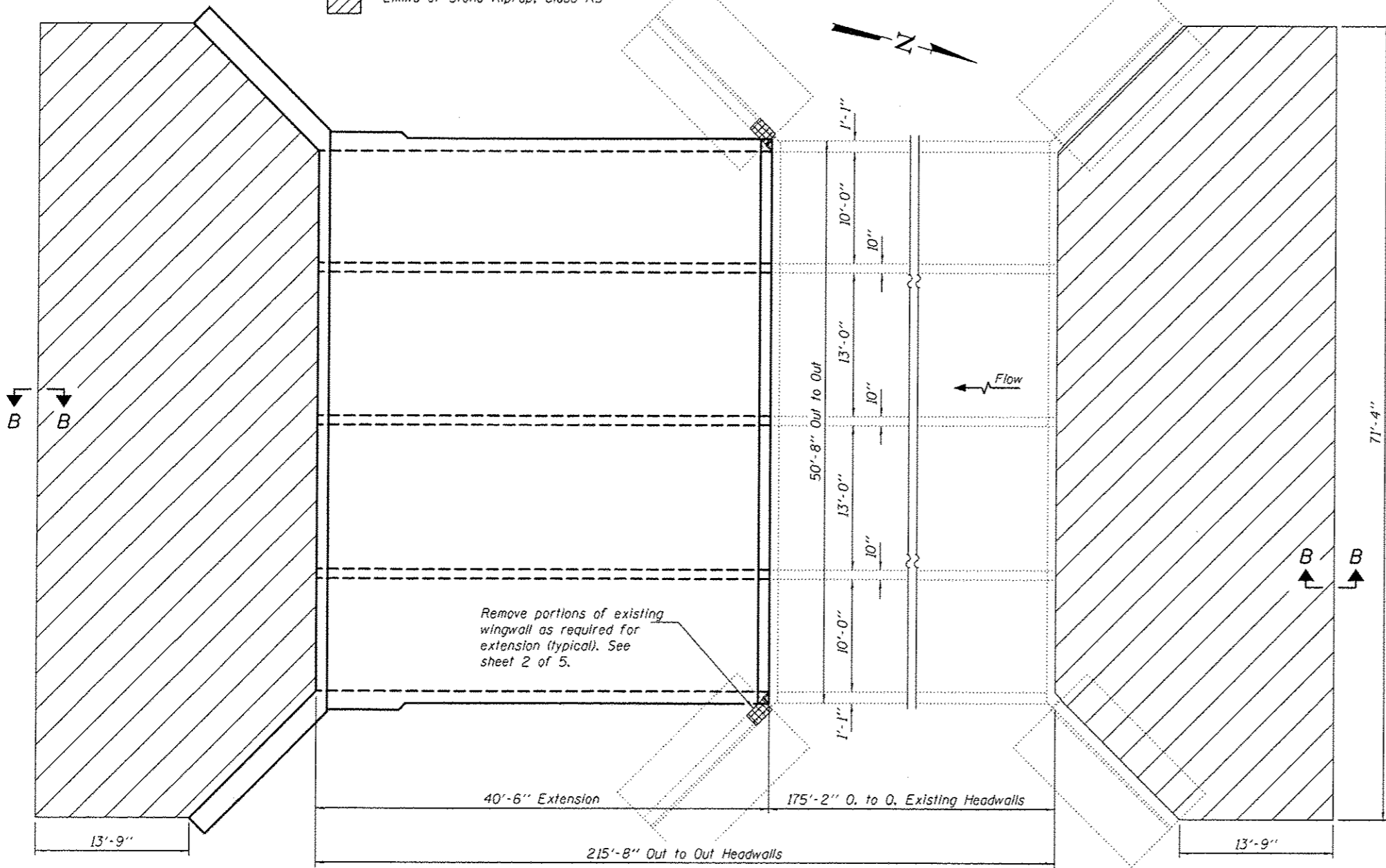
All exposed edges shall have standard 3/4" chamfers.

Notch formed by rough finished board attached to and removed with form work, each interior wall. (Do not chamfer).



LONGITUDINAL SECTION

- Limits of Stone Riprap, Class A5

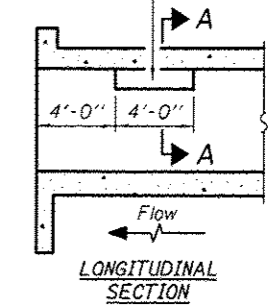


PLAN

The contractor shall excavate to the specified depth for placement of the Rock Fill Replacement under the culvert and the wingwall footings (if present) and allow the District inspectors to test and verify that the foundation soils have a minimum Q_u of at least 2.5 tsf. If the required soil strength is not present, the Contractor shall excavate an additional depth and width as directed by the Engineer to locate suitable strength material. The excavated area shall then be backfilled to the proper elevations using Rockfill capped with 6" of Coarse Aggregate. Cost of excavation and backfill material will be paid for per Art. 109.04 (b) of the Standard Specifications

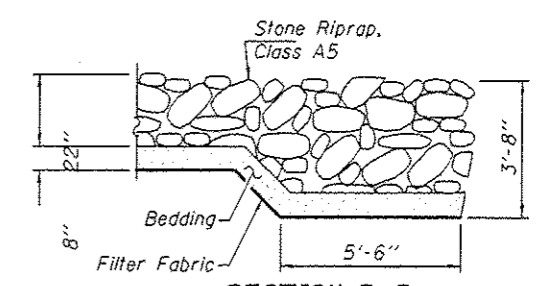


David Carl Puzey 5/2/17
Expires 11/30/18



SECTION A-A

PHOEBE NESTING SITE DETAILS
(Downstream End Only)



SECTION B-B

Cost of any excavation necessary for placement of riprap or bedding material shall be included with Stone Riprap, Class A5

TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|------------------------|---------|--------|
| Concrete Removal | Cu. Yd. | 2.6 |
| Concrete Box Culverts | Cu. Yd. | 301.5 |
| Reinforcement Bars | Pound | 77,490 |
| Expansion Bolts 3/4" | Each | 75 |
| Structure Excavation | Cu. Yd. | 300 |
| Stone Riprap, Class A5 | Sq. Yd. | 368.8 |
| Filter Fabric | Sq. Yd. | 368.8 |

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

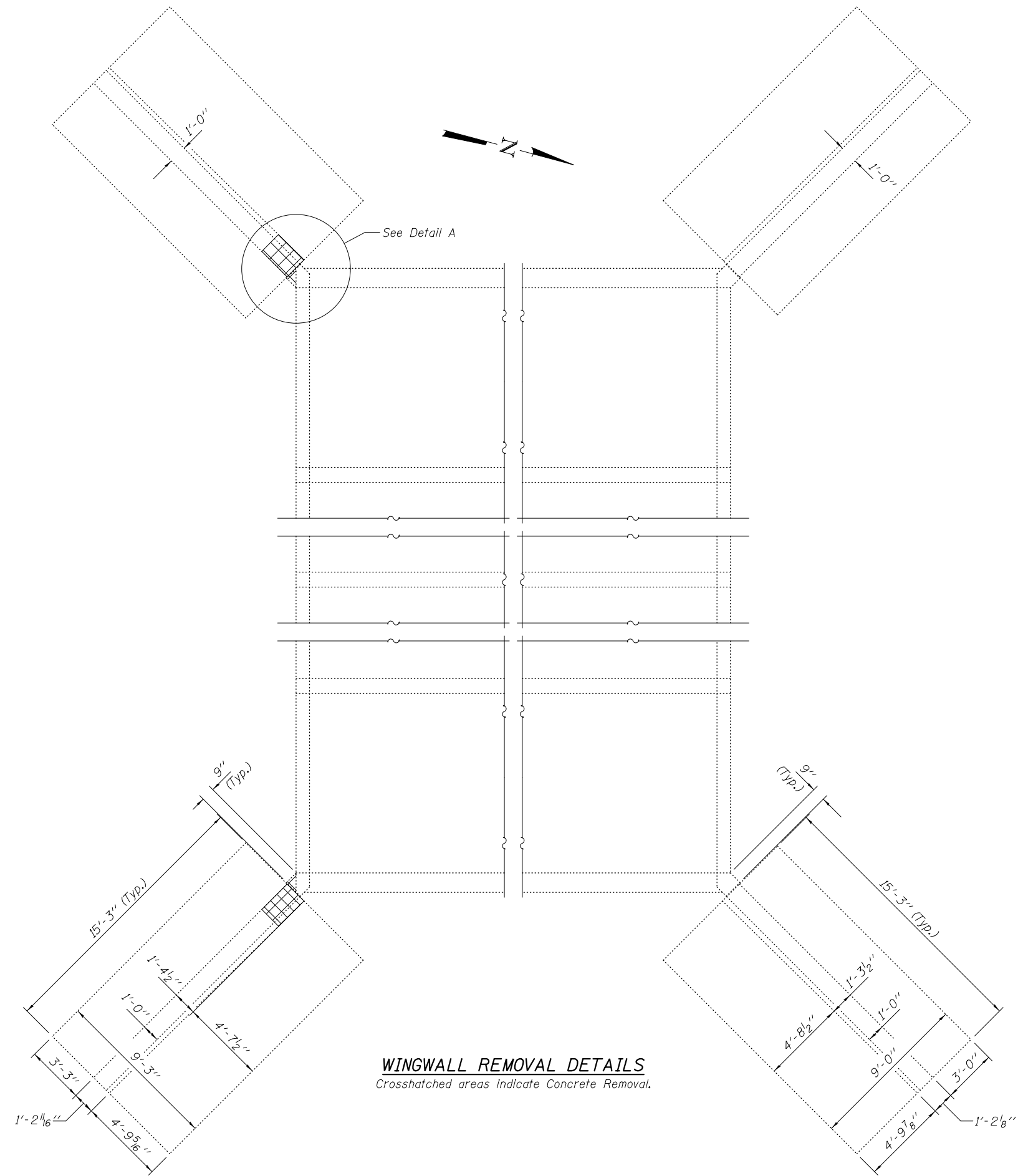
DESIGNED: *[Signature]*
CHECKED: *[Signature]*
DRAWN: J. Schneller
CHECKED: *[Signature]*

PASSED: *[Signature]*
DATE: MAY 12, 2017
ENGINEER OF BRIDGES AND STRUCTURES

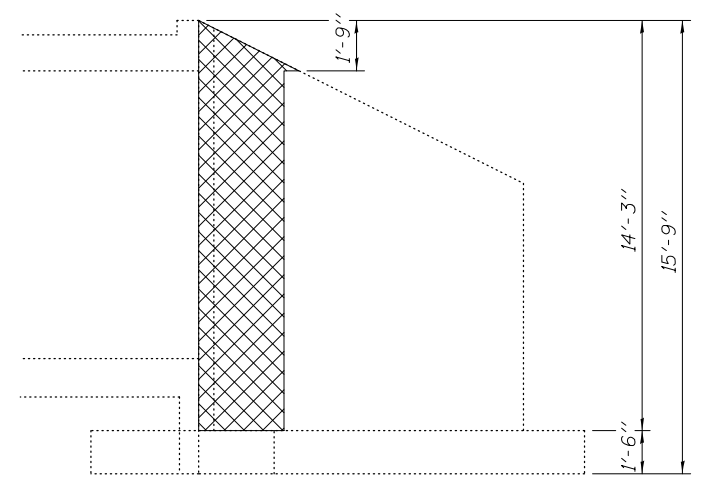
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
FAI 70
SN 025-2005
SHEET NO. 1 OF 5 SHEETS

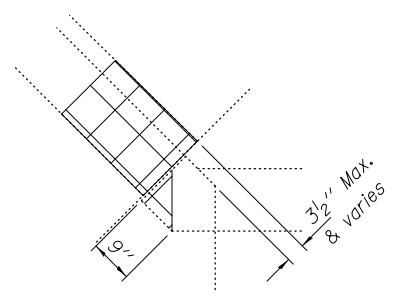
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------|--------------------|
| TO | 125-1,21R | EFFINGHAM | 496 | 241 |
| | | | | CONTRACT NO. 74664 |
| ILLINOIS FED. AID PROJECT | | | | |



WINGWALL REMOVAL DETAILS
 Crosshatched areas indicate Concrete Removal.

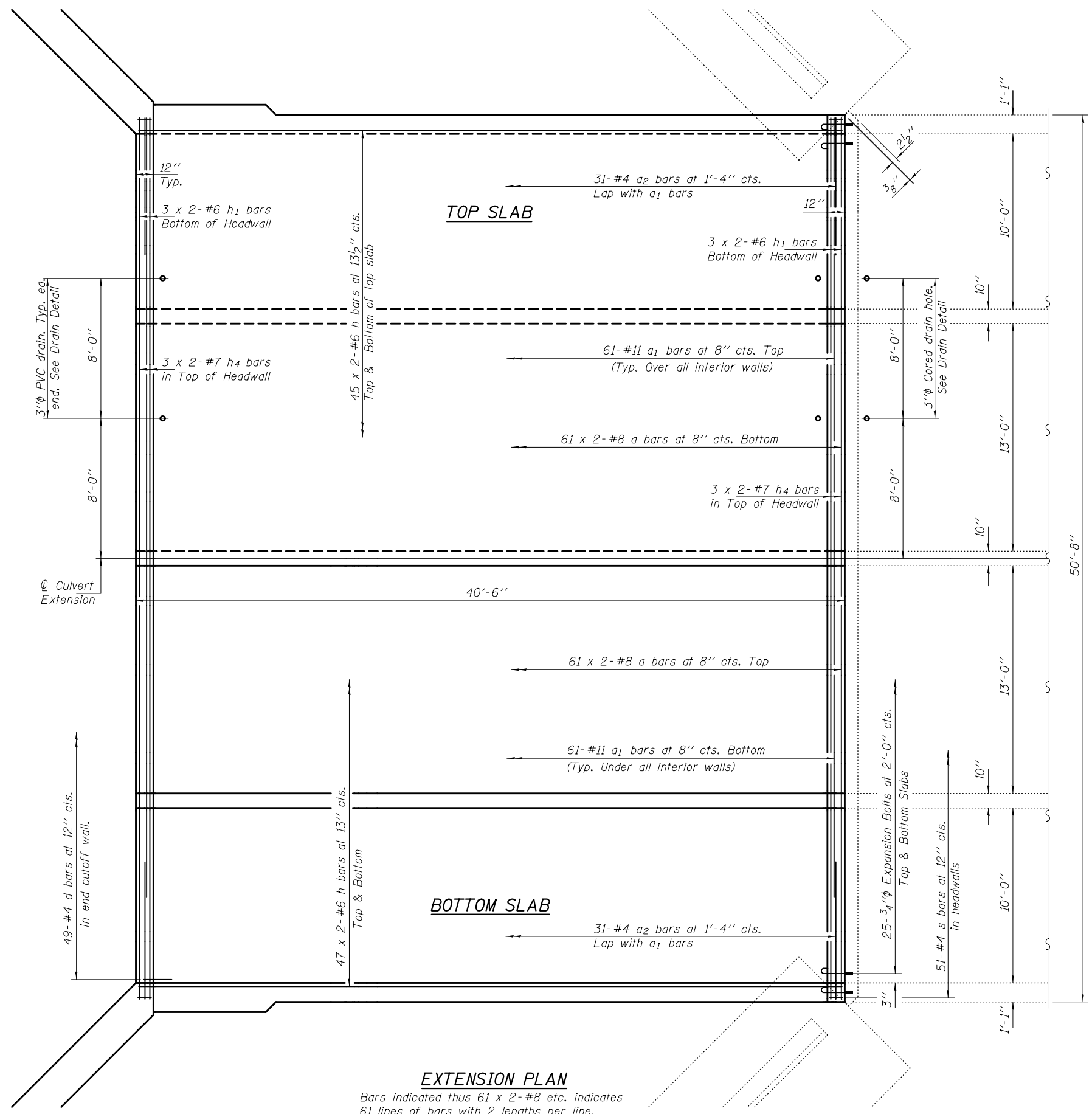


ELEVATION

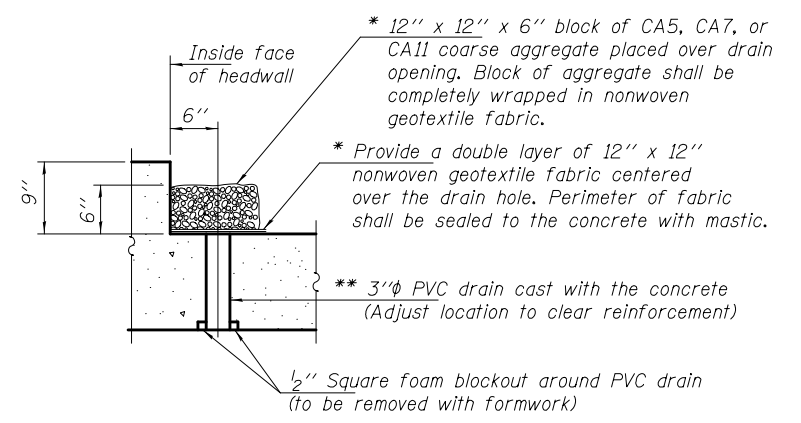


DETAIL A

| | | | | | | | | |
|--------------------|------------------------------------|---|--------------------------------|---------------------------|-----------|-----------|--------------|-----------|
| DESIGNED CCC | DATE MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | REMOVAL DETAILS SN 025-2005 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED SMR | REVISIONS | | | 70 | 125-1,2/R | EFFINGHAM | 496 | 242 |
| DRAWN J. Schneller | ENGINEER OF BRIDGES AND STRUCTURES | | SHEET NO. 2 OF 5 SHEETS | CONTRACT NO. 74664 | | | | |
| CHECKED CCC SMR | | | | ILLINOIS FED. AID PROJECT | | | | |



EXTENSION PLAN
 Bars indicated thus 61 x 2-#8 etc. indicates 61 lines of bars with 2 lengths per line.

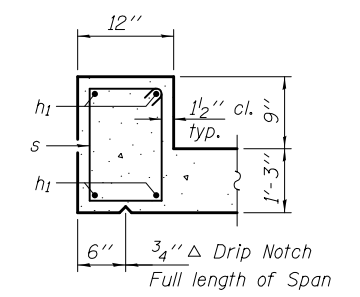


DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

- * Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.
- ** 3" ϕ Cored drain hole in existing culvert. Cost included with Concrete Box Culverts.

Notes:
 Expansion bolts shall be $\frac{3}{4}$ " ϕ hooked bolts and shall extend a minimum of 9" into new concrete.

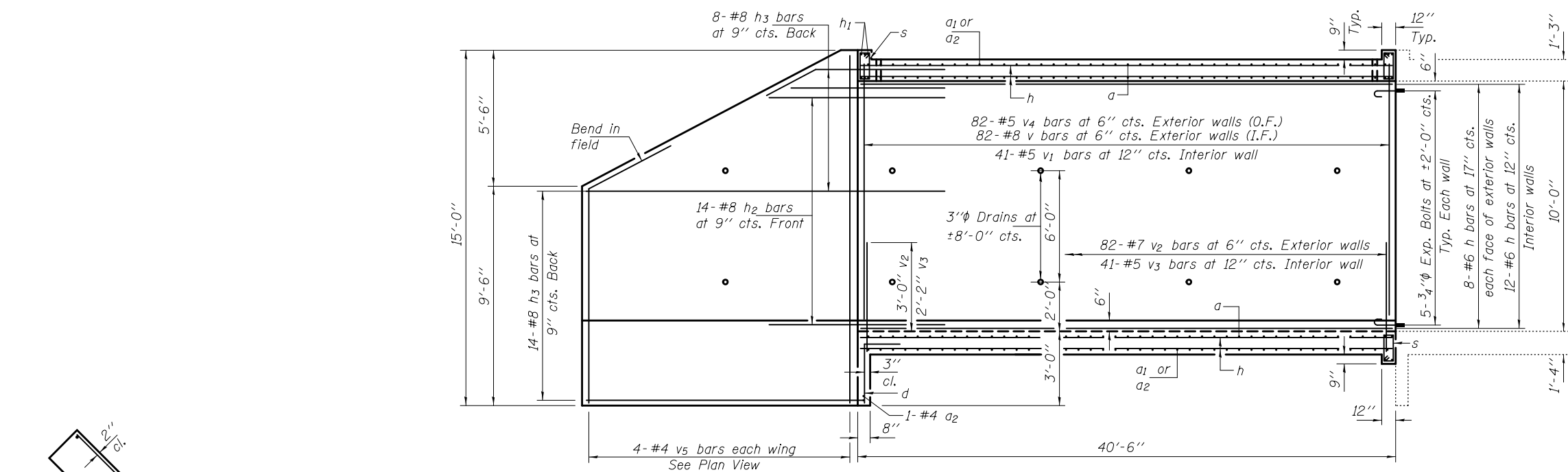


SECTION THRU HEADWALL

MIN. LAP LENGTHS

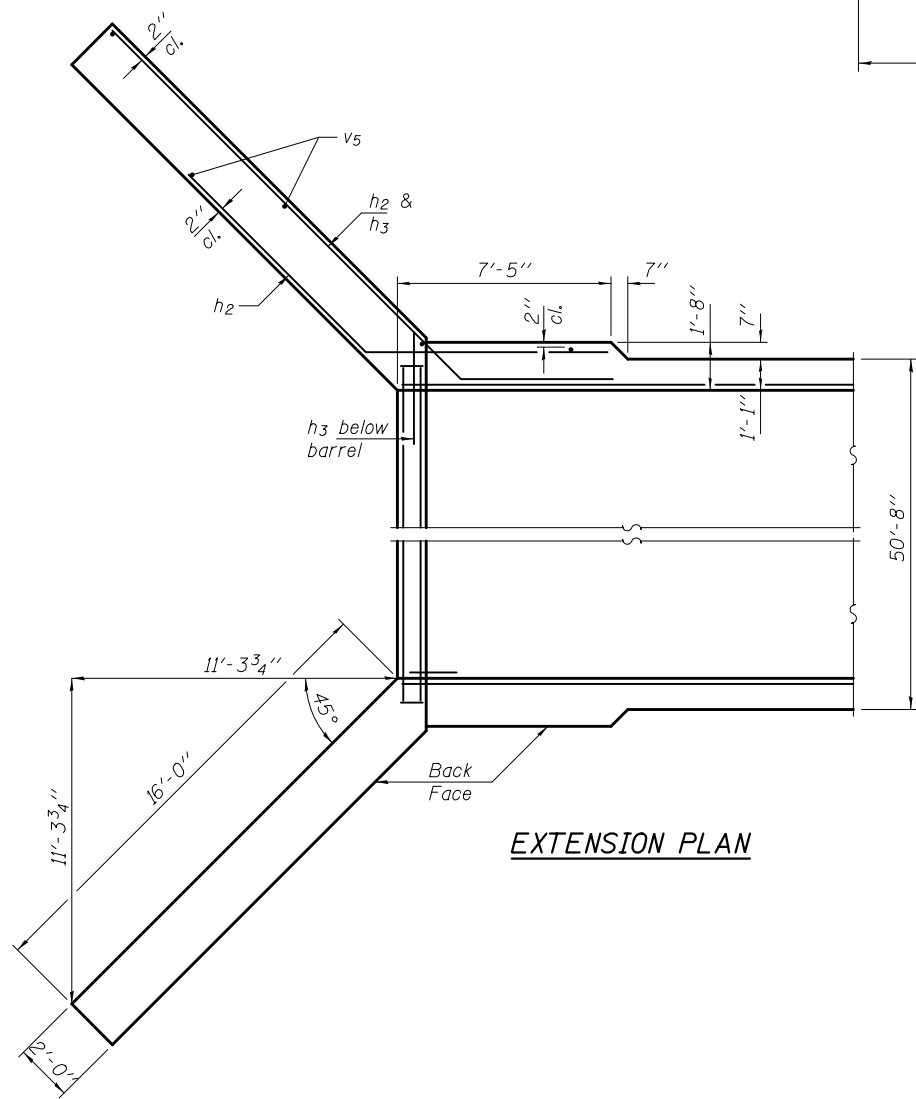
- #4 bar = 2'-3"
- #6 bar = 2'-7"
- #7 bar = 3'-4"
- #8 bar = 4'-3"

| | | | | | | | | |
|--------------------|-------------------|---|--|--------------------|-----------|-----------|--------------|-----------|
| DESIGNED CCC | DATE MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CULVERT EXTENSION DETAILS SN 025-2005 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED SMR | REVISOR | | | 70 | 125-1,21R | EFFINGHAM | 496 | 243 |
| DRAWN J. Schneller | REVISOR | SHEET NO. 3 OF 5 SHEETS | ILLINOIS FED. AID PROJECT | CONTRACT NO. 74664 | | | | |
| CHECKED CCC SMR | REVISOR | | | CONTRACT NO. 74664 | | | | |

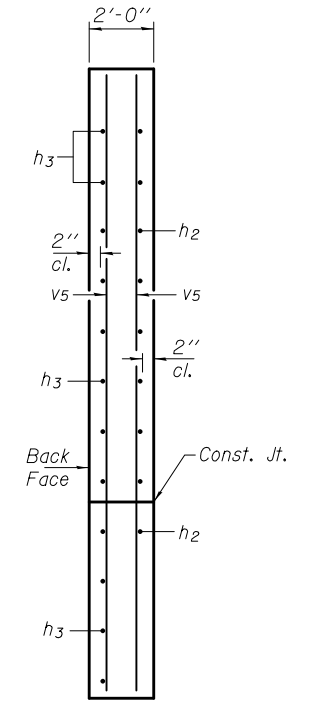


ELEVATION

Bars indicated thus 7 x 2-#4 etc. indicates 7 lines of bars with 2 lengths per line.

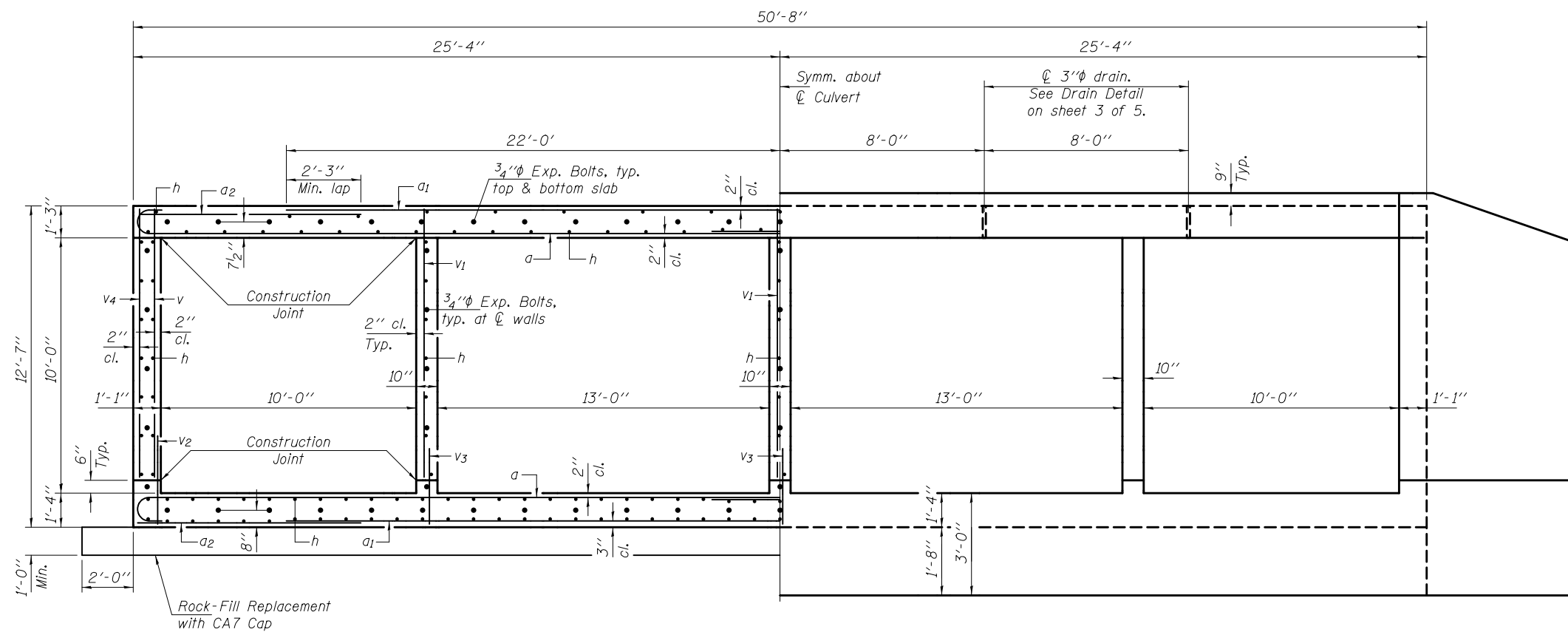


EXTENSION PLAN



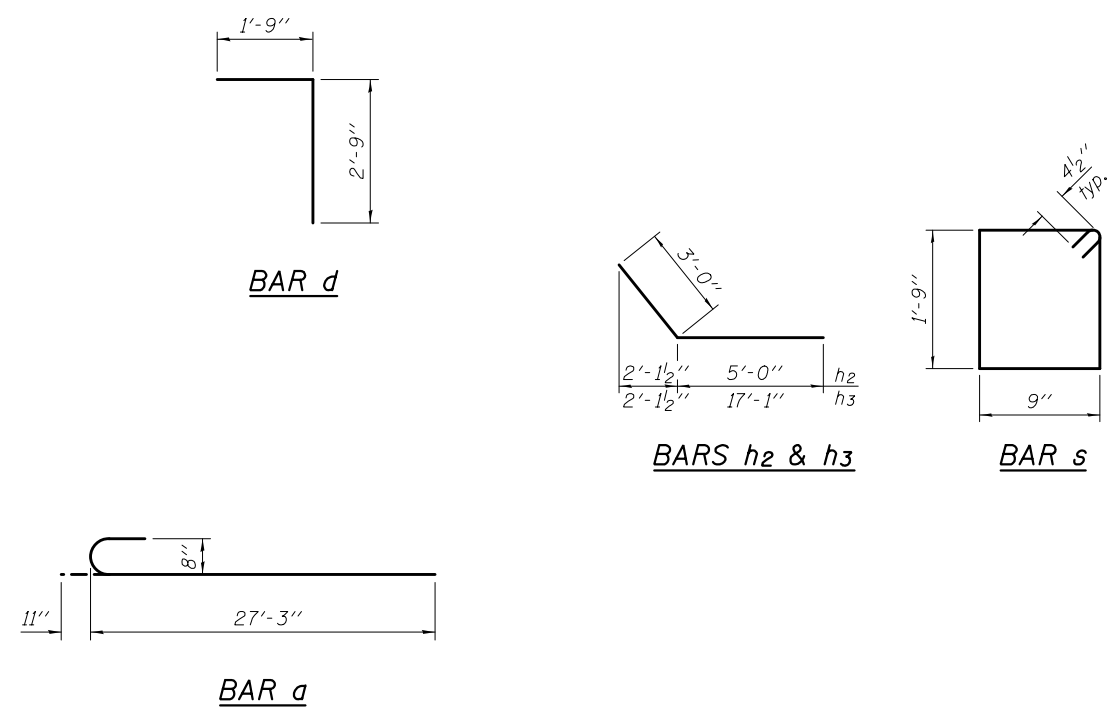
SECTION THRU WING

| | | | | | | | | |
|--------------------|------------------------------------|---|--|---------------------------|-----------|-----------|--------------|-----------|
| DESIGNED CCC | DATE MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CULVERT EXTENSION DETAILS SN 025-2005 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED SMR | REVISIONS | | | 70 | 125-1,2/R | EFFINGHAM | 496 | 244 |
| DRAWN J. Schneller | ENGINEER OF BRIDGES AND STRUCTURES | | SHEET NO. 4 OF 5 SHEETS | CONTRACT NO. 74664 | | | | |
| CHECKED CCC SMR | | | | ILLINOIS FED. AID PROJECT | | | | |



HALF SECTION THRU BARRELS

HALF END ELEVATION



BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|-----------------------|-----|------|---------|--------|
| a | 244 | #8 | 28'-2" | |
| a1 | 122 | #11 | 44'-0" | |
| a2 | 124 | #4 | 5'-7" | |
| d | 98 | #4 | 5'-6" | |
| h | 436 | #6 | 22'-0" | |
| h1 | 18 | #6 | 26'-8" | |
| h2 | 28 | #8 | 8'-0" | |
| h3 | 44 | #8 | 20'-1" | |
| h4 | 18 | #7 | 27'-0" | |
| v | 164 | #8 | 10'-6" | |
| v1 | 123 | #5 | 10'-6" | |
| v2 | 164 | #7 | 4'-6" | |
| v3 | 123 | #5 | 3'-6" | |
| v4 | 164 | #5 | 9'-9" | |
| v5 | 8 | #4 | 15'-5" | |
| s | 153 | #4 | 5'-9" | |
| Concrete Removal | | | Cu. Yd. | 2.6 |
| Expansion Bolts 3/4" | | | Each | 75 |
| Reinforcement Bars | | | Lbs. | 77,490 |
| Concrete Box Culverts | | | Cu. Yd. | 301.5 |

| | |
|--------------------|------------------------------------|
| DESIGNED CCC | DATE MAY 12, 2017 |
| CHECKED SMR | |
| DRAWN J. Schneller | |
| CHECKED CCC SMR | |
| PASSED | ENGINEER OF BRIDGES AND STRUCTURES |
| REVISED | REVISED |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CULVERT EXTENSION DETAILS
SN 025-2005**

SHEET NO. 5 OF 5 SHEETS

| | | | | |
|--------------------|-----------|-----------|---------------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | 125-1,21R | EFFINGHAM | 496 | 245 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

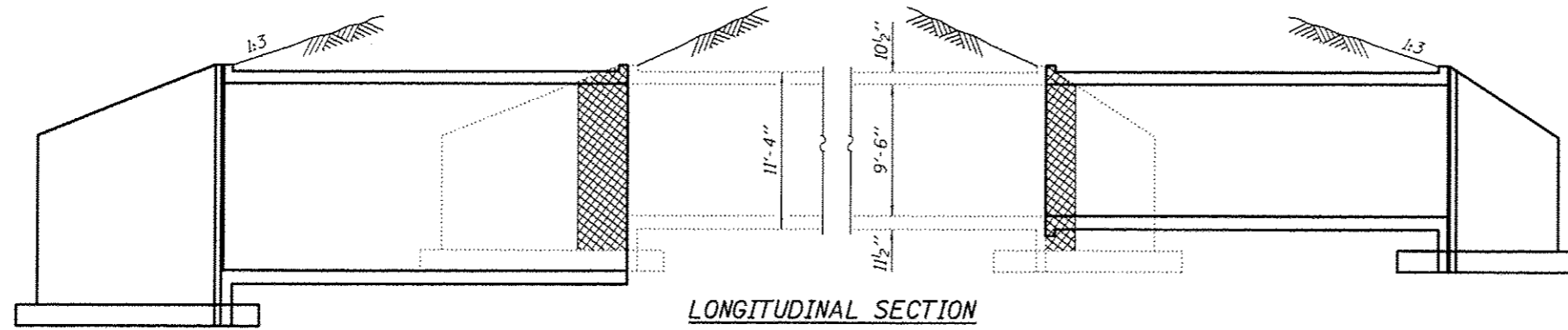
GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

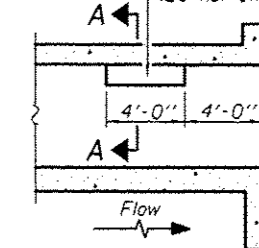
Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and 3/4" φ x 12" hooked bolts. All exposed edges shall have standard 3/4" chamfers.

Reinforcement bars designated (E) shall be epoxy coated.

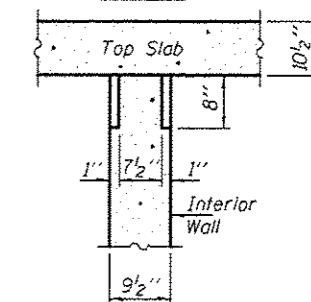
Notch formed by rough finished board attached to and removed with form work, each interior wall. (Do not chamfer).



LONGITUDINAL SECTION

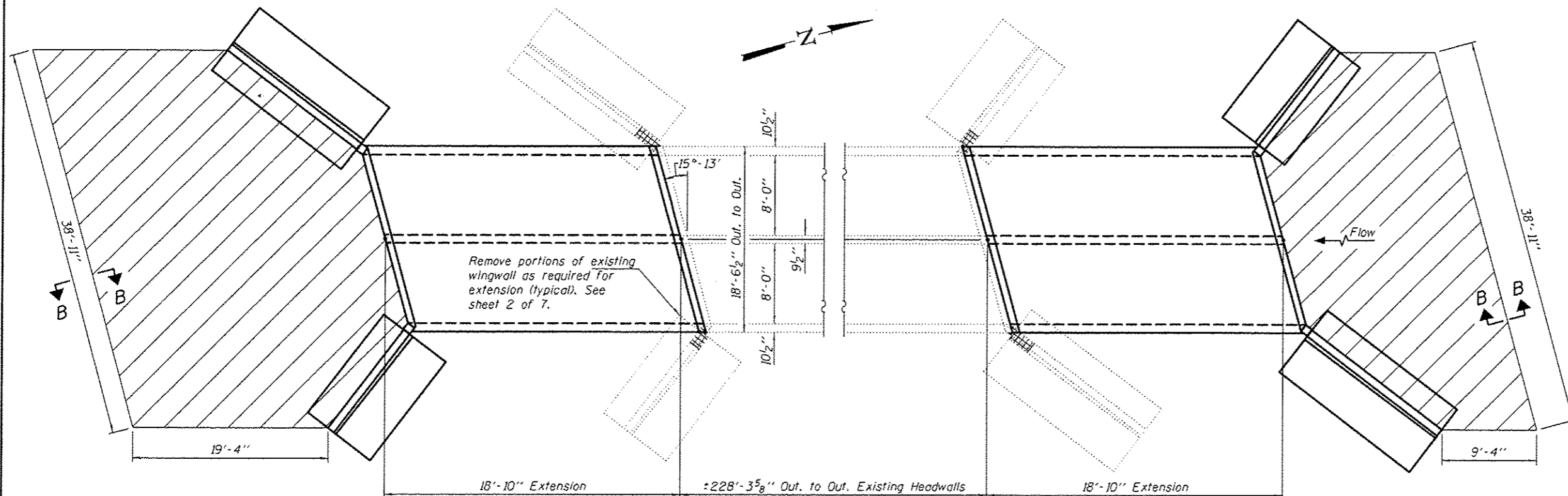


LONGITUDINAL SECTION



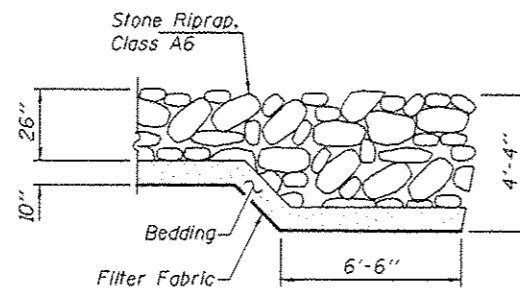
SECTION A-A

PHOEBE NESTING SITE DETAILS (Downstream End Only)



PLAN

- Limits of Stone Riprap, Class A6



SECTION B-B

Cost of any excavation necessary for placement of riprap or bedding material shall be included with Stone Riprap, Class A6

The contractor shall excavate to the specified depth for placement of the Rock Fill Replacement under the culvert extensions and the wingwall footings (if present) and allow the District inspectors to test and verify that the foundation soils have a minimum Q_u of at least 2.5 tsf. If the required soil strength is not present, the Contractor shall excavate an additional depth and width as directed by the Engineer to locate suitable strength material. The excavated area shall then be backfilled to the proper elevations using Rockfill capped with 6" of Coarse Aggregate. Cost of excavation and backfill material will be paid for per Art. 109.04 (b) of the Standard Specifications

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|----------------------------------|---------|-------|
| Concrete Removal | Cu. Yd. | 4.3 |
| Concrete Box Culverts | Cu. Yd. | 176.0 |
| Reinforcement Bars | Pound | 30360 |
| Reinforcement Bars, Epoxy Coated | Pound | 2890 |
| Expansion Bolts 3/4" | Each | 78 |
| Structure Excavation | Cu. Yd. | 319.4 |
| Stone Riprap, Class A6 | Sq. Yd. | 228.7 |
| Filter Fabric | Sq. Yd. | 228.7 |



Expires: November 30, 2018

DESIGNED - *[Signature]*
CHECKED - *[Signature]*
DRAWN - Kyle M. Steffen
CHECKED - *[Signature]*

PASSED

[Signature]
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017

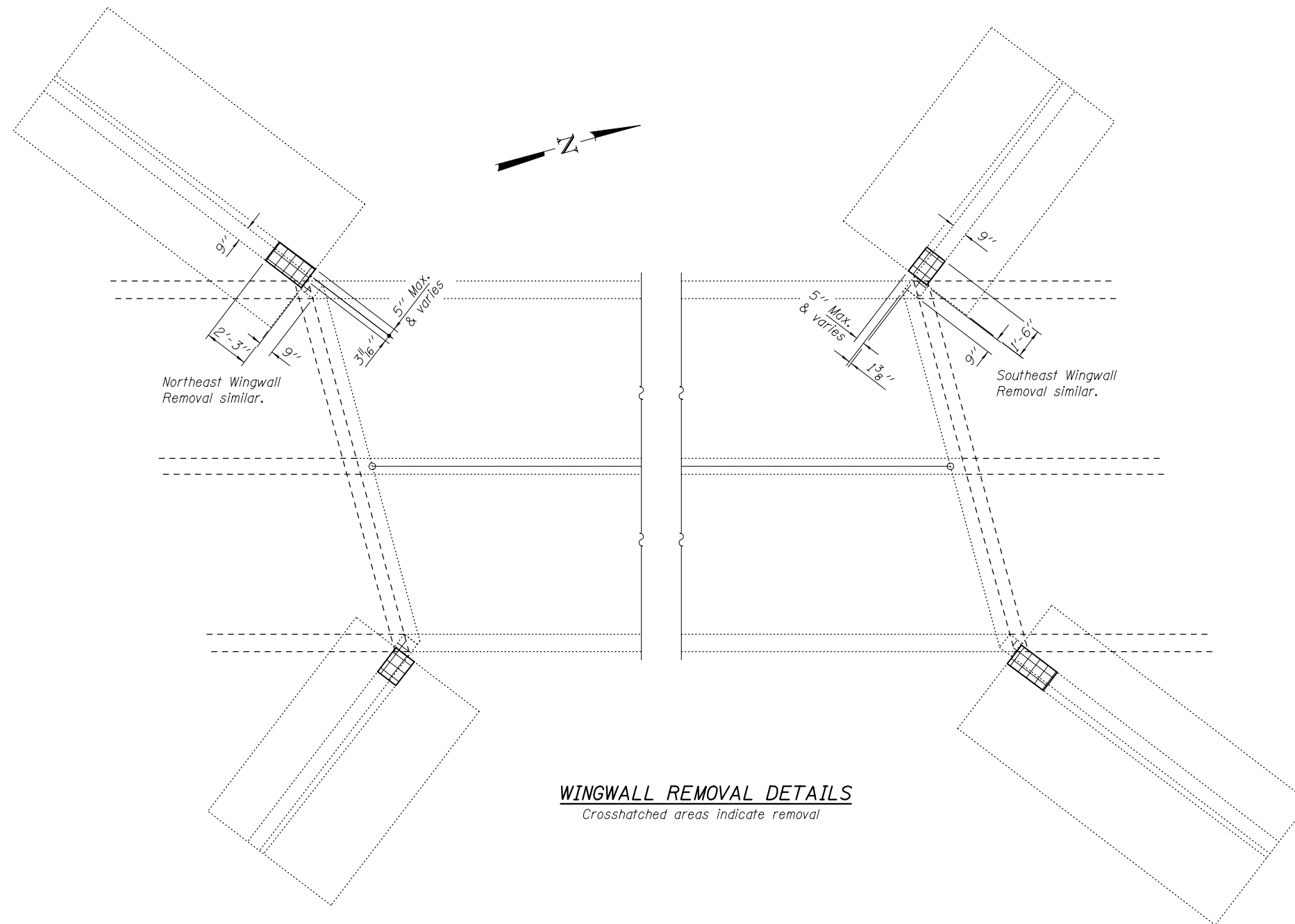
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
F.A.I. ROUTE 70 OVER STREAM
SN 025-2016

SHEET NO. 1 OF 7 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------|--------------------|
| 70 | 125-1,21R | EFFINGHAM | 496 | 246 |
| | | | | CONTRACT NO. 74664 |
| ILLINOIS FED. AID PROJECT | | | | |

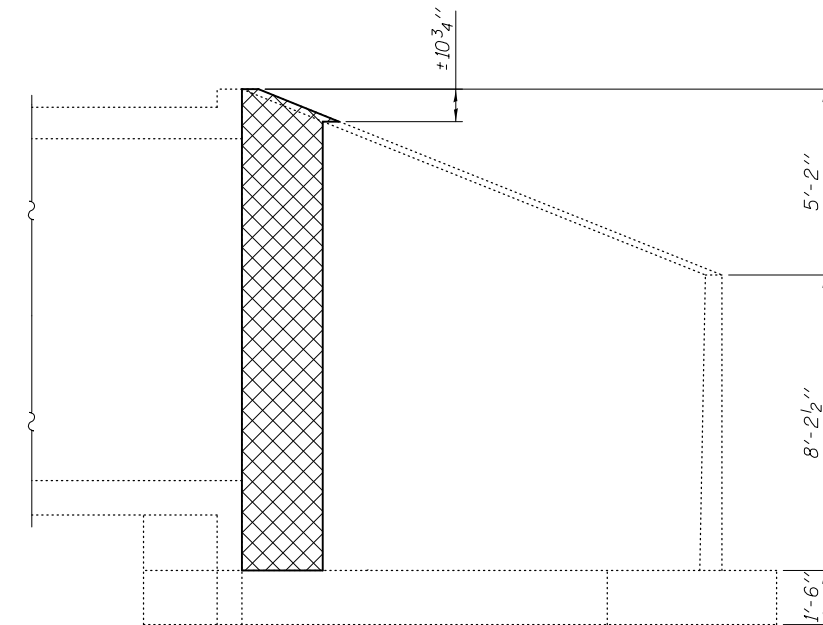


Northeast Wingwall
Removal similar.

Southeast Wingwall
Removal similar.

WINGWALL REMOVAL DETAILS

Crosshatched areas indicate removal



ELEVATION

| |
|-------------------------|
| DESIGNED - CCC |
| CHECKED - SMR |
| DRAWN - Kyle M. Steffen |
| CHECKED - CCC SMR |

PASSED

Carl Ringer
ENGINEER OF BRIDGES AND STRUCTURES

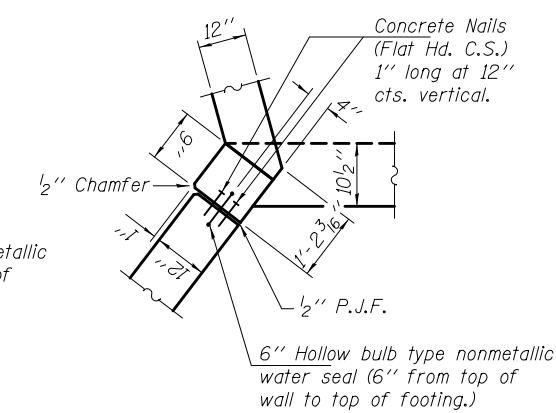
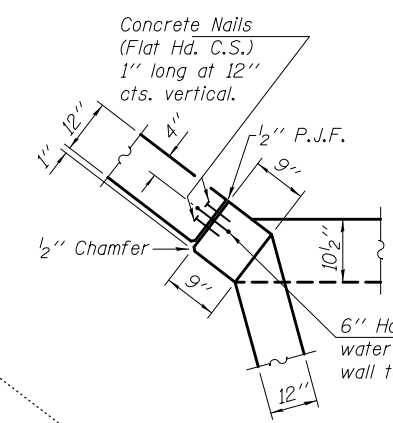
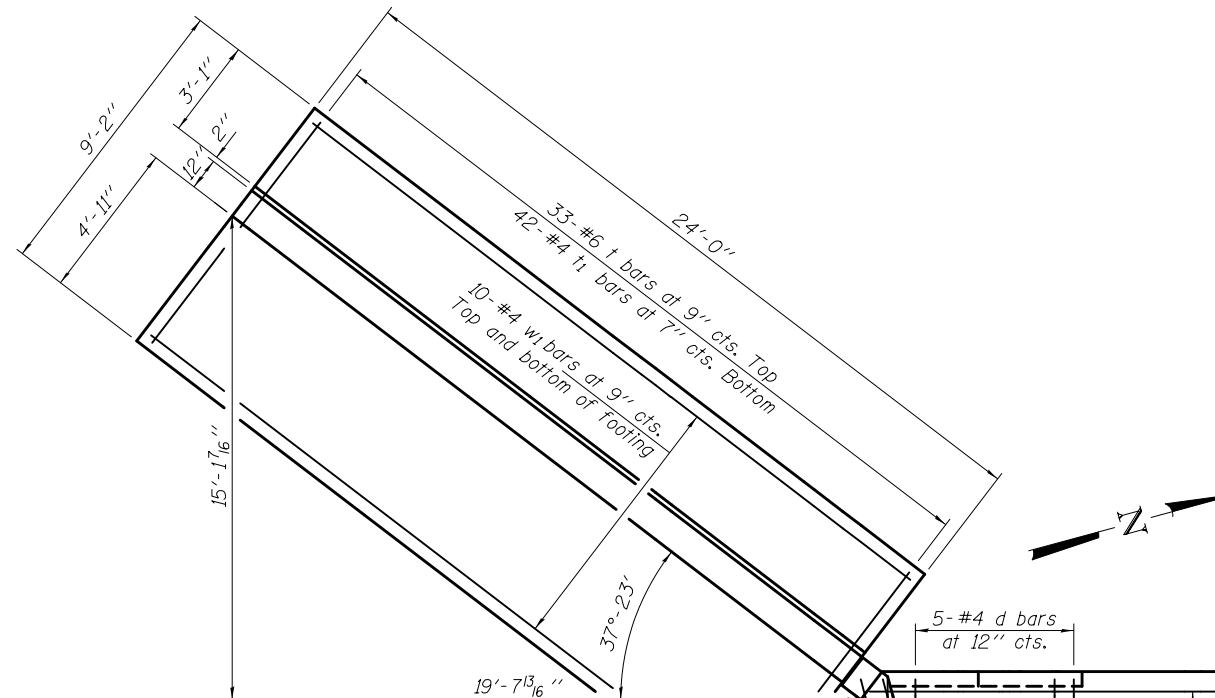
| |
|---------------------|
| DATE - MAY 12, 2017 |
| REVISED |
| REVISED |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**REMOVAL DETAILS
SN 025-2016**

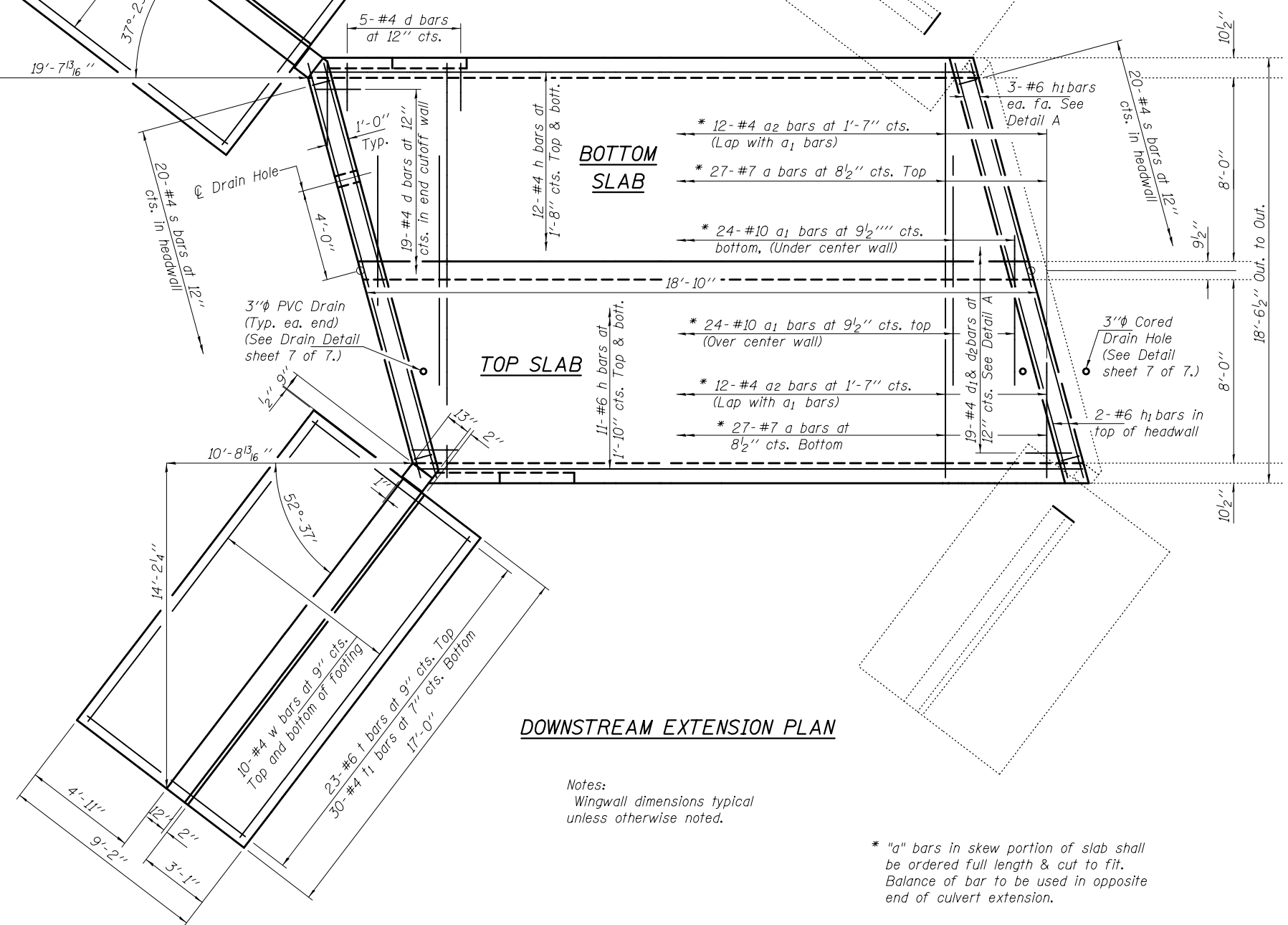
SHEET NO. 2 OF 7 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 247 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |



SOUTHWEST CORNER

SOUTHEAST CORNER



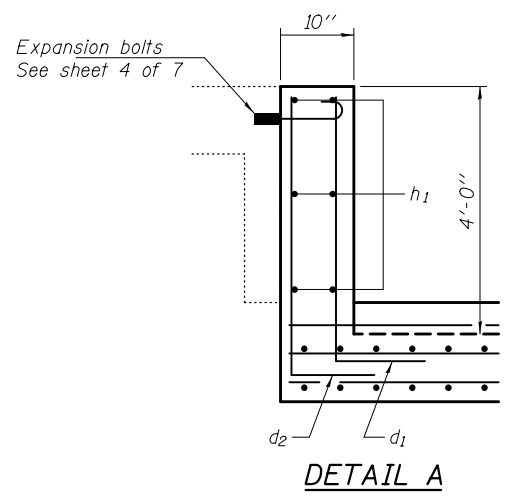
BOTTOM SLAB

TOP SLAB

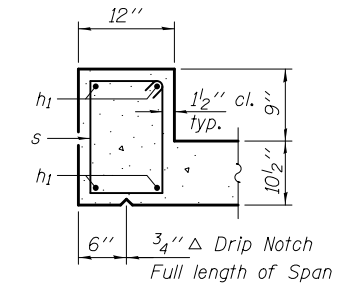
DOWNSTREAM EXTENSION PLAN

Notes:
Wingwall dimensions typical unless otherwise noted.

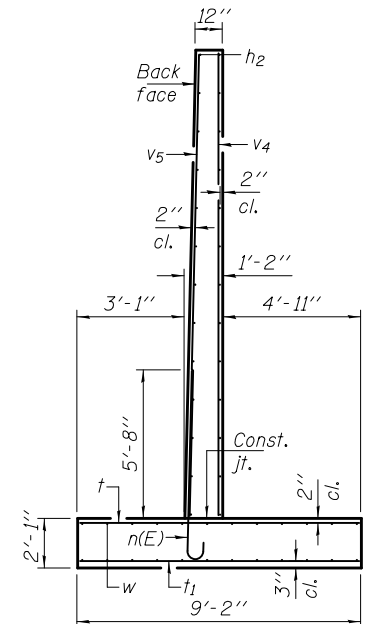
* "a" bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert extension.



DETAIL A

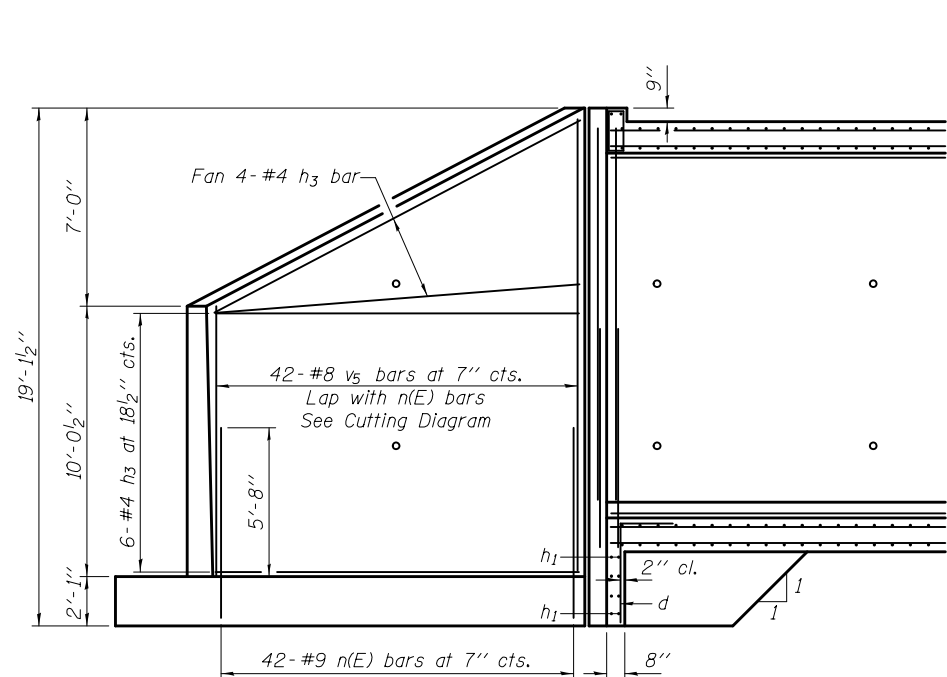


SECTION THRU HEADWALL



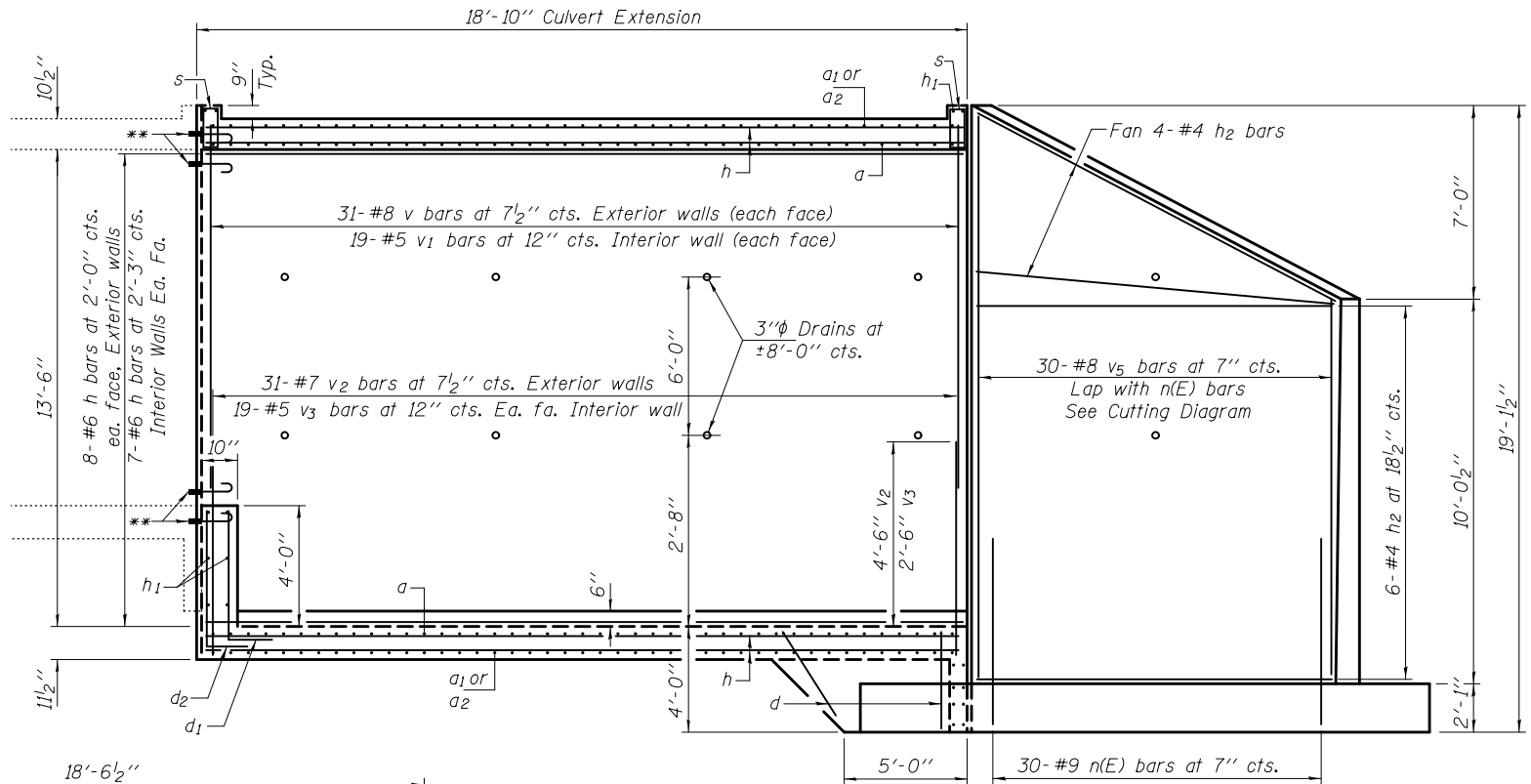
SECTION THRU WING

| | | | | | | | | |
|-------------------------|---------------------|---|---|---------------------------|----------|-----------|--------------|-----------|
| DESIGNED - CCC | DATE - MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DOWNSTREAM CULVERT EXTENSION DETAILS SN 025-2016 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED - SMR | REVIS | | | 70 | (25-12R) | EFFINGHAM | 496 | 248 |
| DRAWN - Kyle M. Steffen | REVIS | SHEET NO. 3 OF 7 SHEETS | | CONTRACT NO. 74664 | | | | |
| CHECKED - CCC SMR | REVIS | | | ILLINOIS FED. AID PROJECT | | | | |

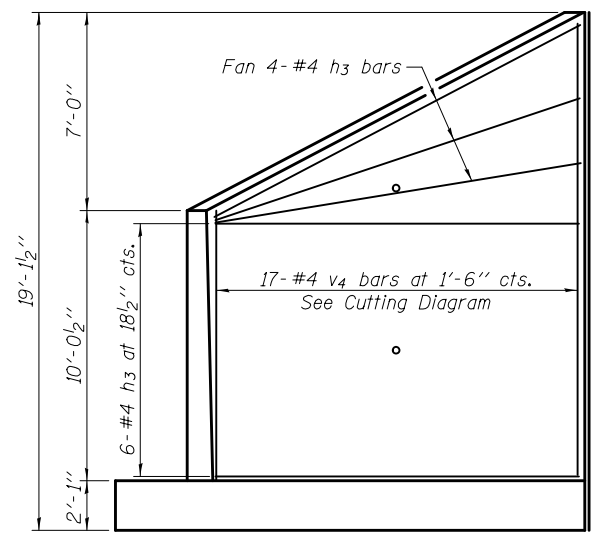


**REINFORCEMENT
LONG WING BACK FACE**

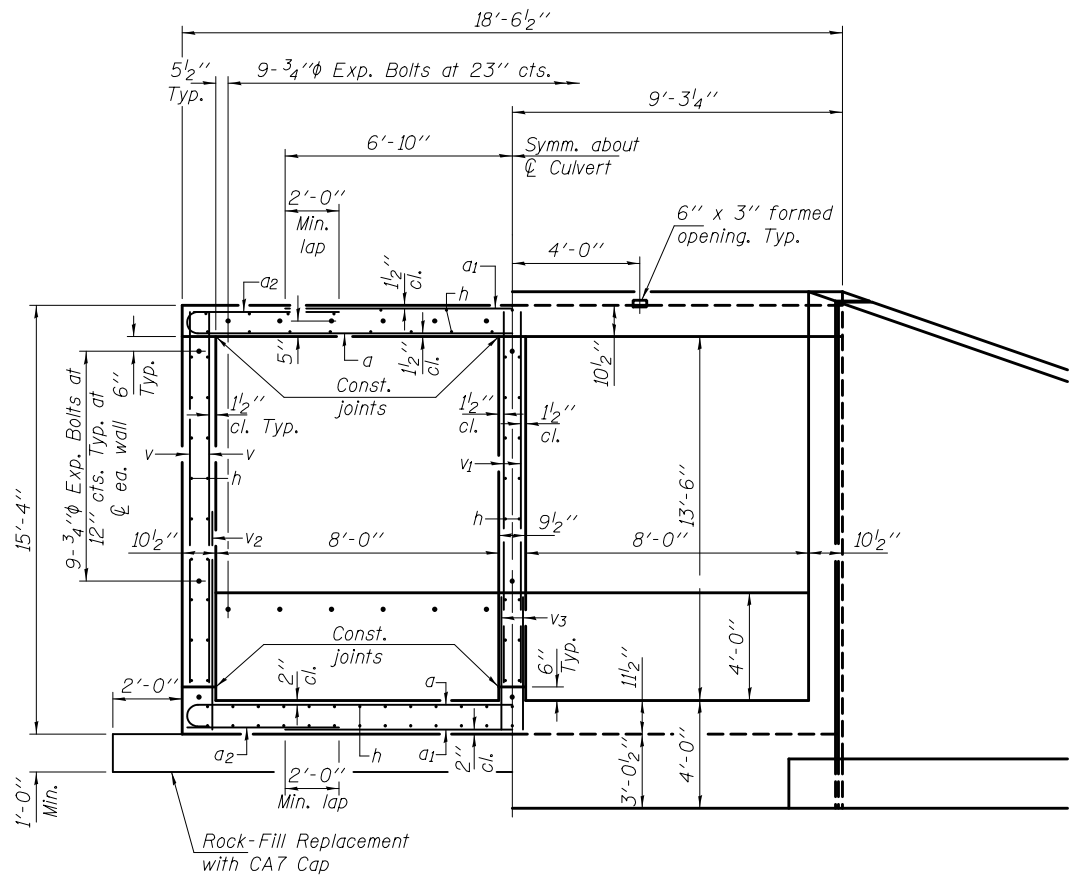
** Expansion Bolts shall be 3/4"φ hooked bolts and extend a minimum of 9" into new concrete.



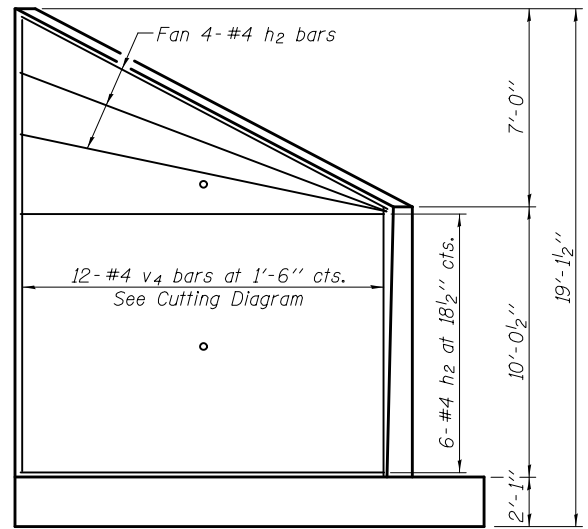
**REINFORCEMENT
SHORT WING BACK FACE**



**REINFORCEMENT
LONG WING FRONT FACE**

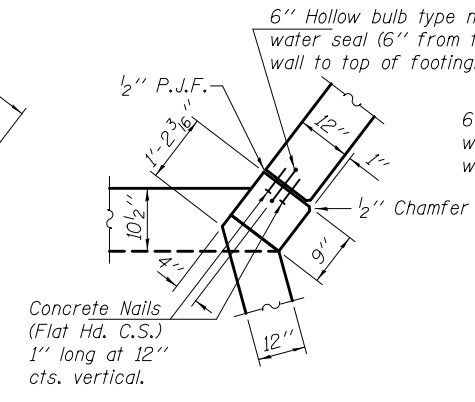
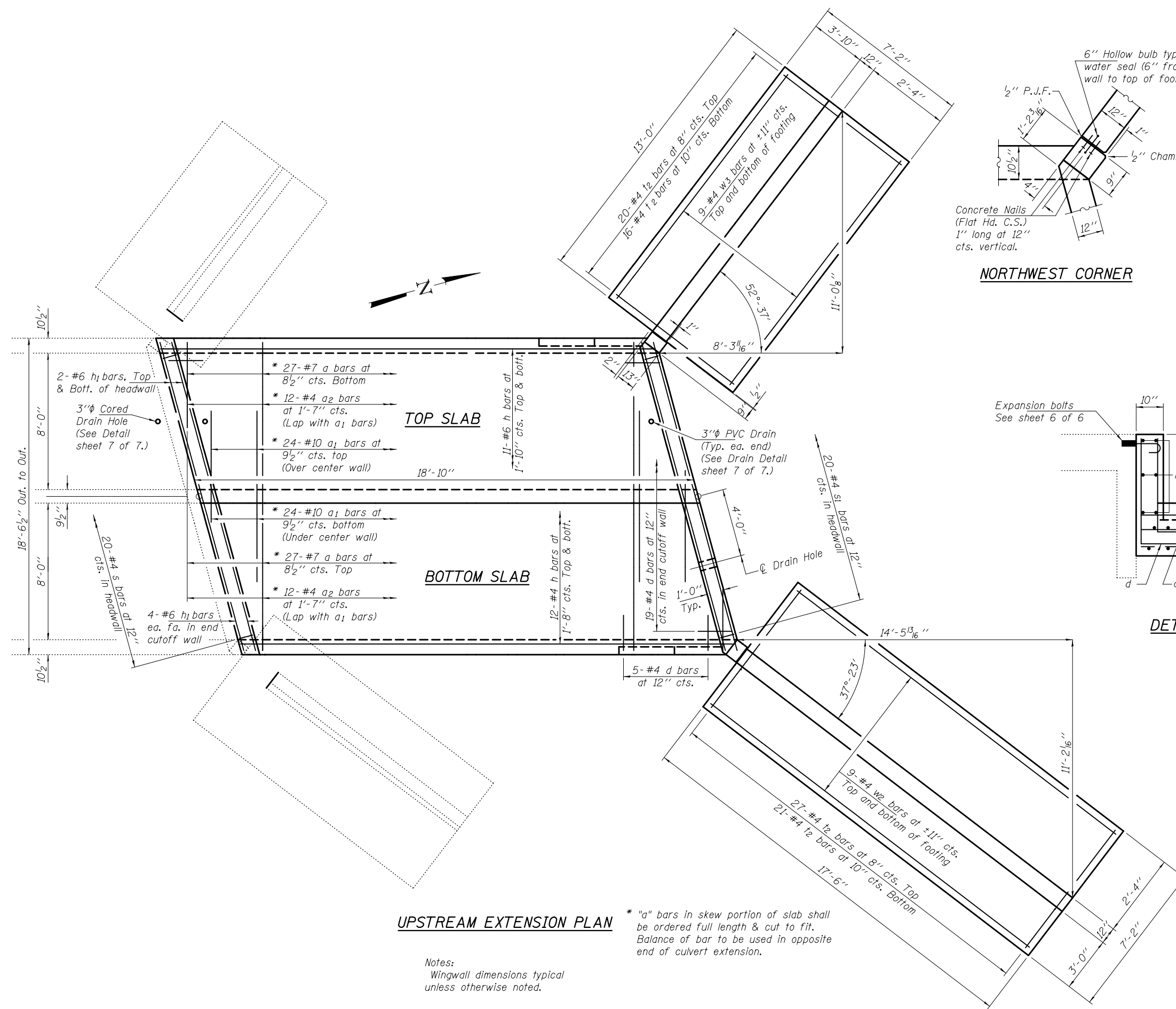


**HALF SECTION
THRU BARRELS** **HALF END ELEVATION**

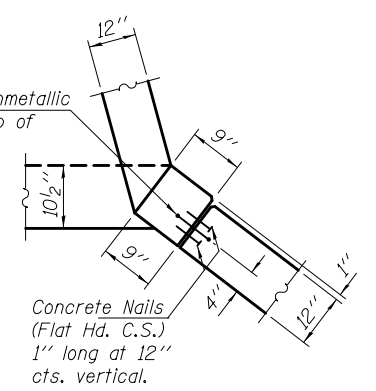


**REINFORCEMENT
SHORT WING FRONT FACE**

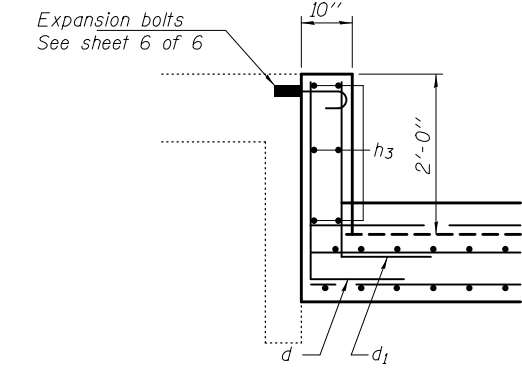
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|-------------------------|---|-------------------------|---|--|---------------------------|-----------|-----------|--------------|-----------|
| DESIGNED - CCC | PASSED  ENGINEER OF BRIDGES AND STRUCTURES | DATE - MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DOWNSTREAM REPAIR DETAILS SN 025-2016 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED - SMR | | REVISD | | | 70 | (25-1,2R) | EFFINGHAM | 496 | 249 |
| DRAWN - Kyle M. Steffen | | REVISD | | | CONTRACT NO. 74664 | | | | |
| CHECKED - CCC SMR | | SHEET NO. 4 OF 7 SHEETS | | | ILLINOIS FED. AID PROJECT | | | | |



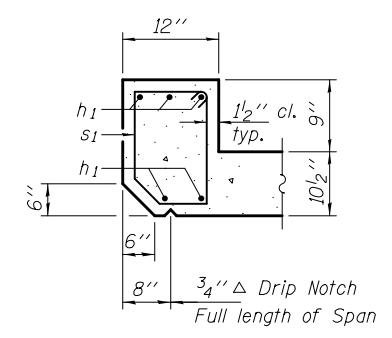
NORTHWEST CORNER



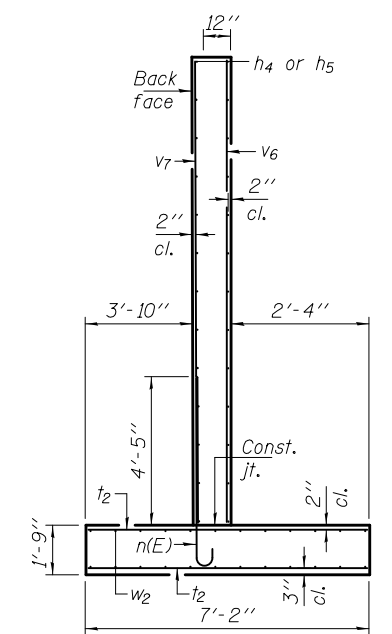
NORTHEAST CORNER



DETAIL A



SECTION THRU HEADWALL



SECTION THRU WING

UPSTREAM EXTENSION PLAN

Notes:
Wingwall dimensions typical unless otherwise noted.

* "a" bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert extension.

| | |
|-------------------------|--|
| DESIGNED - CCC | |
| CHECKED - SMR | |
| DRAWN - Kyle M. Steffen | |
| CHECKED - CCC SMR | |

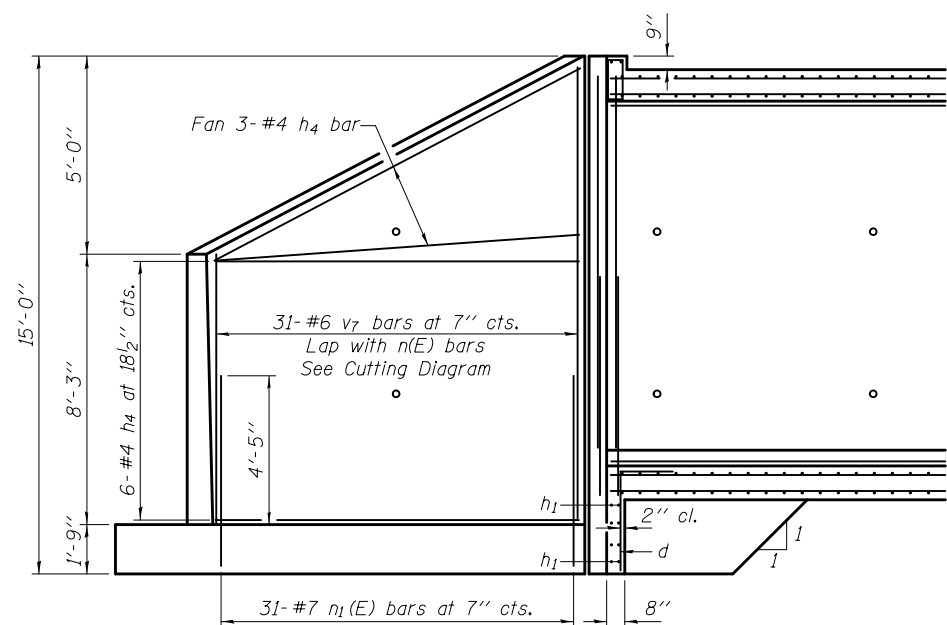
| | |
|--------|--|
| PASSED | <i>Carl Ringer</i> ENGINEER OF BRIDGES AND STRUCTURES |
|--------|--|

| |
|---------------------|
| DATE - MAY 12, 2017 |
| REVISED |
| REVISED |

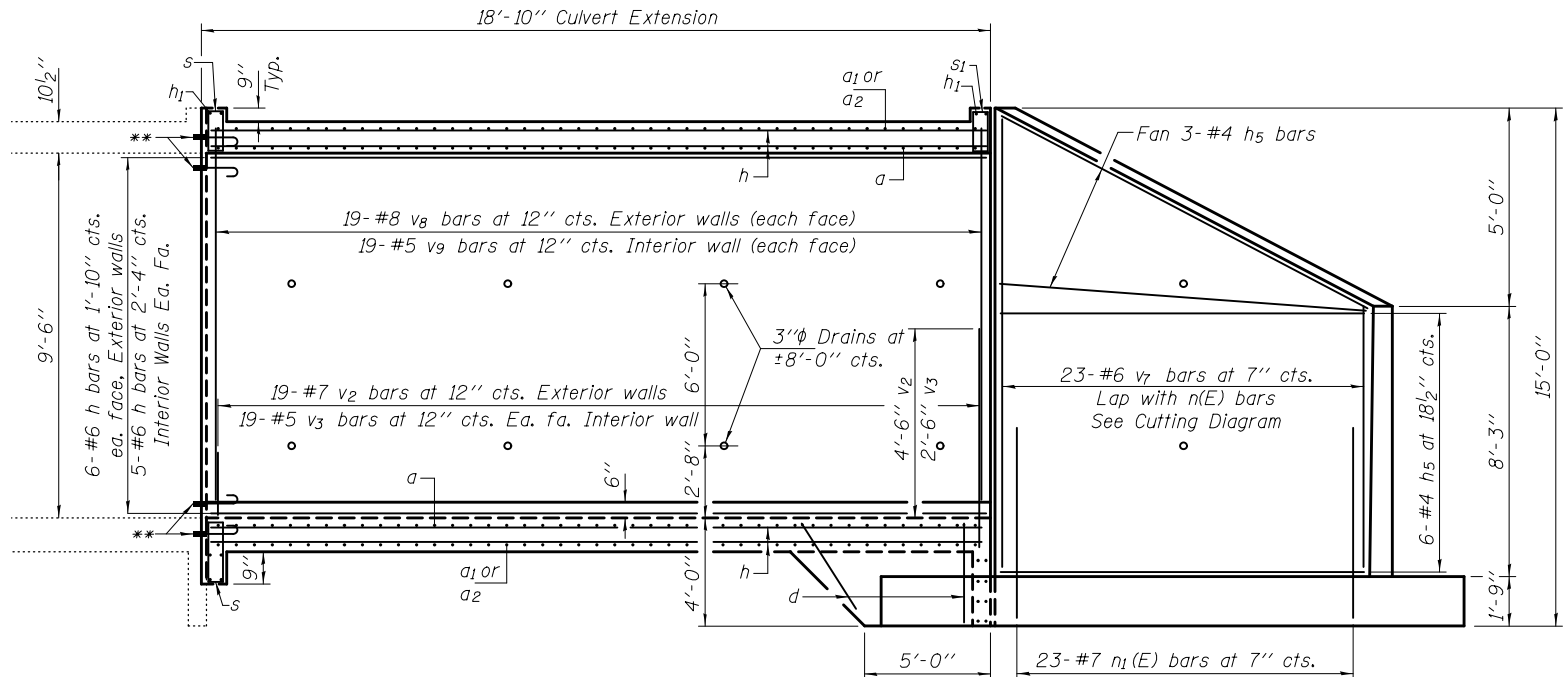
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

UPSTREAM CULVERT EXTENSION DETAILS
SN 025-2016
SHEET NO. 5 OF 7 SHEETS

| | | | | |
|--------------------|----------|-----------|---------------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-12R) | EFFINGHAM | 496 | 250 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

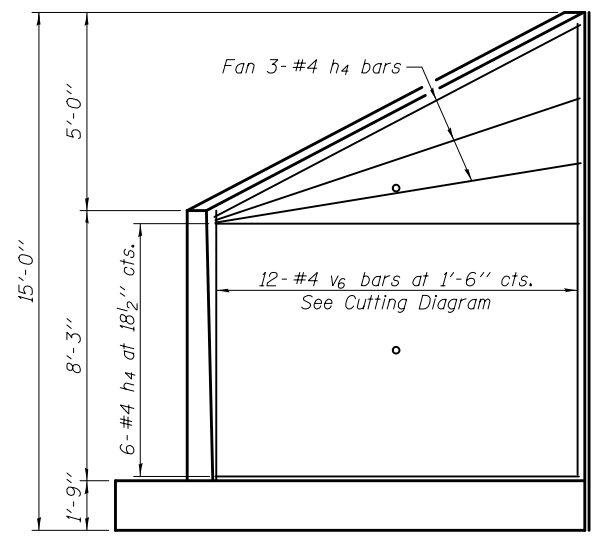


**REINFORCEMENT
LONG WING BACK FACE**

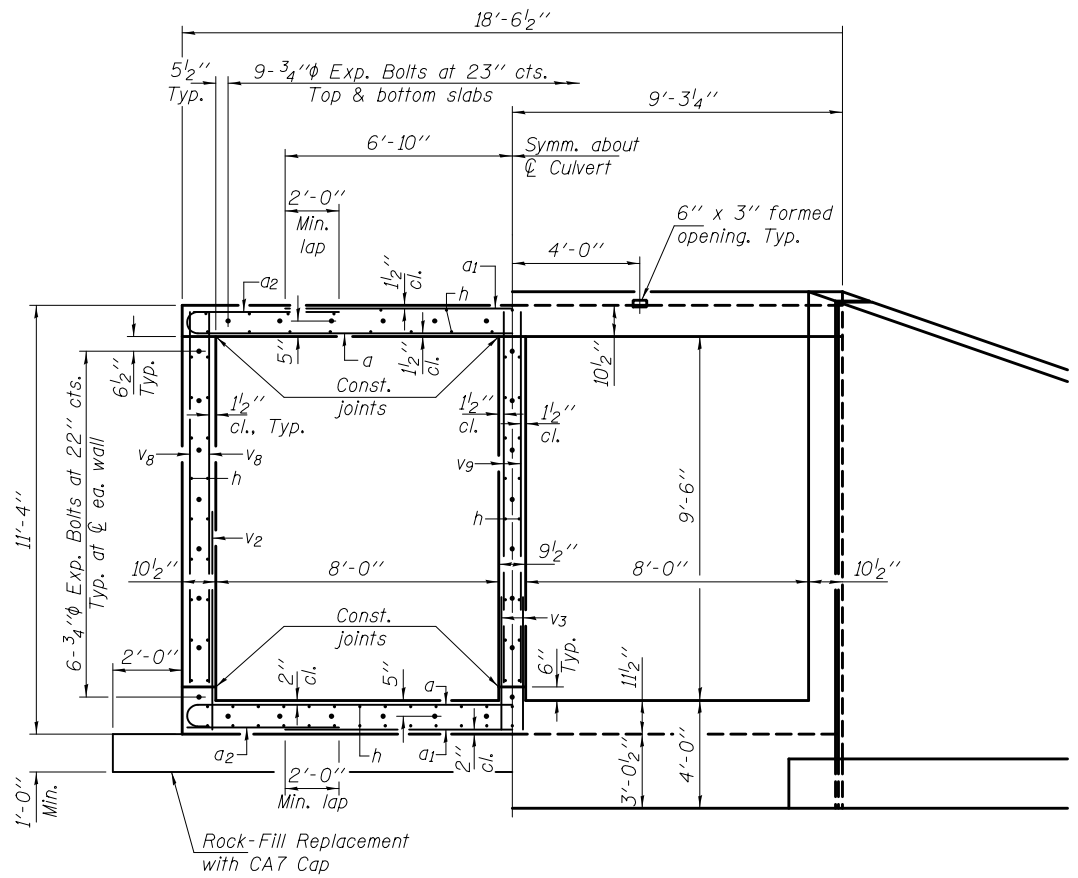


**REINFORCEMENT
SHORT WING BACK FACE**

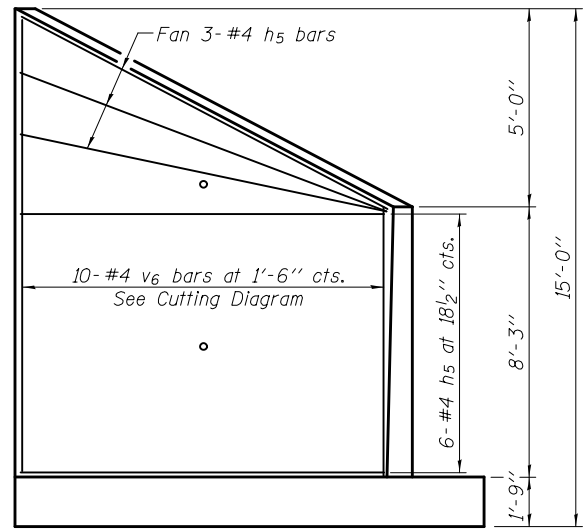
** Expansion Bolts shall be 3/4"φ hooked bolts and extend a minimum of 9" into new concrete.



**REINFORCEMENT
LONG WING FRONT FACE**

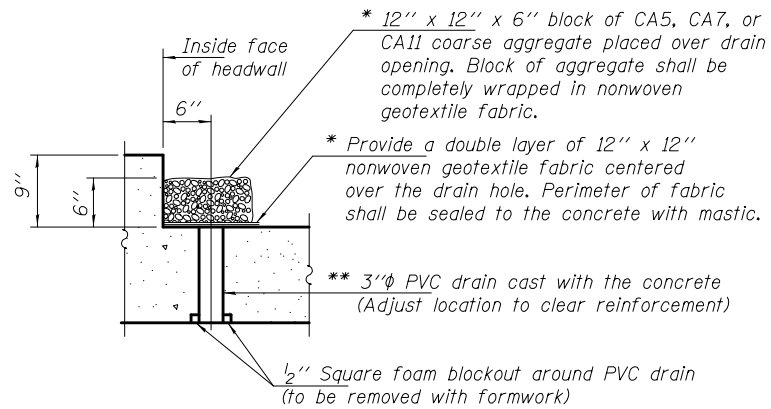


**HALF SECTION THRU BARRELS
HALF END ELEVATION**



**REINFORCEMENT
SHORT WING FRONT FACE**

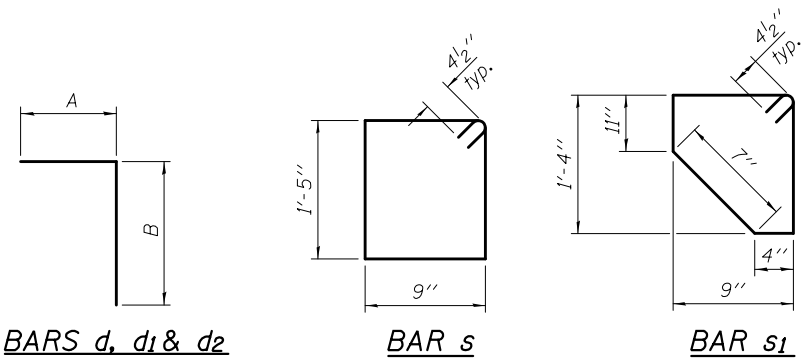
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|-------------------------|---------------------|---|--|--------------------|-----------|-----------|--------------|-----------|
| DESIGNED - CCC | DATE - MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | UPSTREAM REPAIR DETAILS SN 025-2016 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED - SMR | REVISOR | | | 70 | (25-1,2)R | EFFINGHAM | 496 | 251 |
| DRAWN - Kyle M. Steffen | REVISOR | SHEET NO. 6 OF 7 SHEETS | | CONTRACT NO. 74664 | | | | |
| CHECKED - CCC SMR | REVISOR | ILLINOIS FED. AID PROJECT | | | | | | |



DRAIN DETAIL

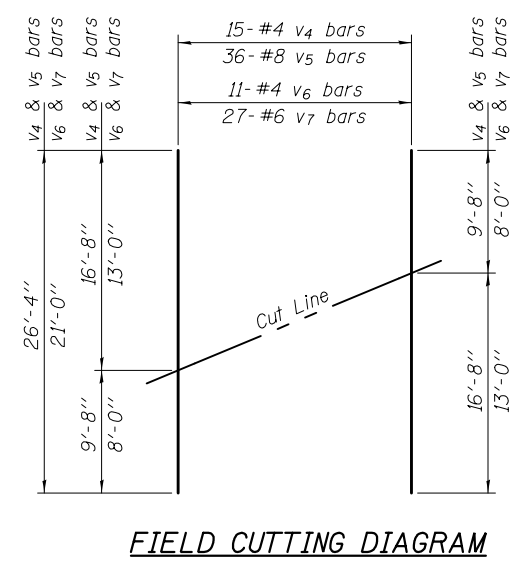
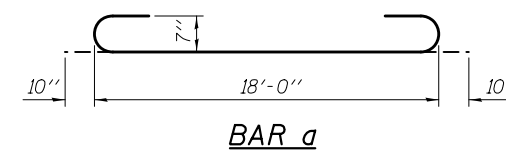
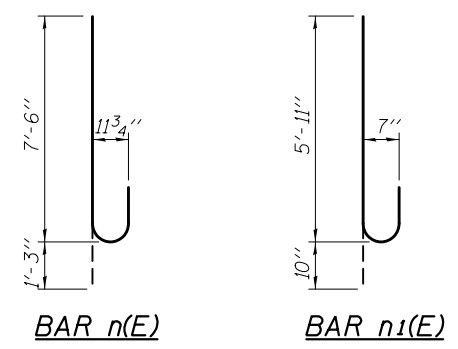
(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

- * Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.
- ** 3"φ Cored drain hole in existing culvert. Cost included with Concrete Box Culverts.



A & B DIMENSIONS

| Bar | A | B |
|-----|-------|-------|
| d | 1'-9" | 3'-9" |
| d | 1'-9" | 4'-0" |
| d | 1'-9" | 4'-3" |



BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|---------|---------|-------|
| a | 108 | #7 | 19'-8" | U |
| a_1 | 96 | #10 | 13'-8" | U |
| a_2 | 96 | #4 | 4'-6" | U |
| d | 58 | #4 | 5'-6" | L |
| d_1 | 19 | #4 | 5'-9" | L |
| d_2 | 19 | #4 | 6'-0" | L |
| h | 172 | #4 | 18'-6" | — |
| h_1 | 41 | #6 | 18'-10" | — |
| h_2 | 20 | #4 | 16'-8" | — |
| h_3 | 20 | #4 | 23'-8" | — |
| h_4 | 18 | #4 | 17'-2" | — |
| h_5 | 18 | #4 | 12'-8" | — |
| $n(E)$ | 72 | #9 | 8'-9" | U |
| $n_1(E)$ | 54 | #7 | 6'-9" | U |
| s | 80 | #4 | 5'-1" | □ |
| s_1 | 20 | #4 | 4'-8" | □ |
| t | 56 | #6 | 8'-11" | — |
| t_1 | 72 | #4 | 8'-11" | — |
| t_2 | 84 | #4 | 6'-10" | — |
| v | 124 | #8 | 14'-0" | — |
| v_1 | 38 | #5 | 15'-0" | — |
| v_2 | 100 | #7 | 5'-2" | — |
| v_3 | 76 | #5 | 3'-2" | — |
| v_4 | 15 | #4 | 26'-4" | — |
| v_5 | 36 | #8 | 26'-4" | — |
| v_6 | 11 | #4 | 21'-0" | — |
| v_7 | 27 | #6 | 21'-0" | — |
| v_8 | 76 | #8 | 10'-0" | — |
| v_9 | 38 | #5 | 9'-6" | — |
| w | 20 | #4 | 16'-8" | — |
| w_1 | 20 | #4 | 23'-8" | — |
| w_2 | 18 | #4 | 17'-2" | — |
| w_3 | 18 | #4 | 12'-8" | — |
| Concrete Removal | | Cu. Yd. | 4.3 | |
| Concrete Box Culverts | | Cu. Yd. | 176.0 | |
| Expansion Bolts 3/4" | | Each | 78 | |
| Reinforcement Bars | | Lbs. | 30360 | |
| Reinforcement Bars, Epoxy Coated | | Lbs. | 2890 | |

DESIGNED - CCC
 CHECKED - SMR
 DRAWN - Kyle M. Steffen
 CHECKED - CCC SMR

PASSED

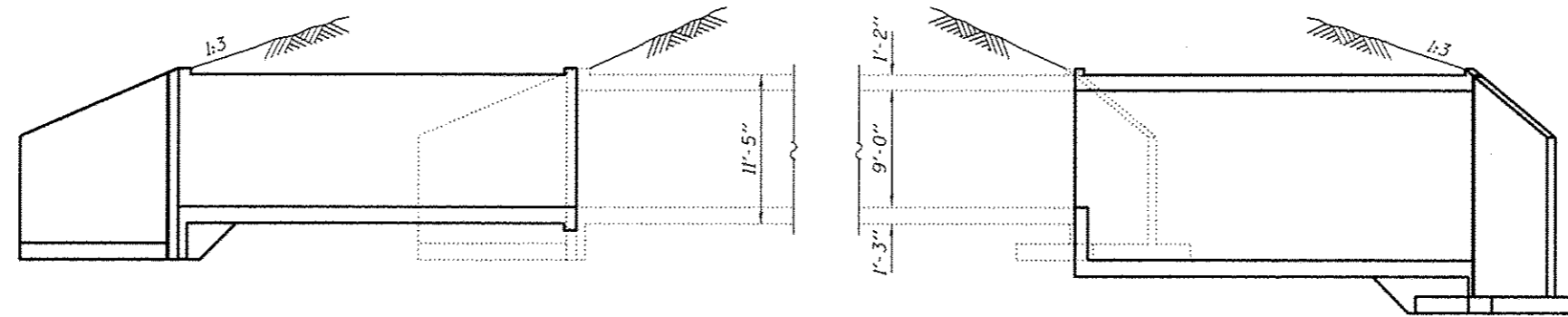
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017
 REVISED
 REVISED

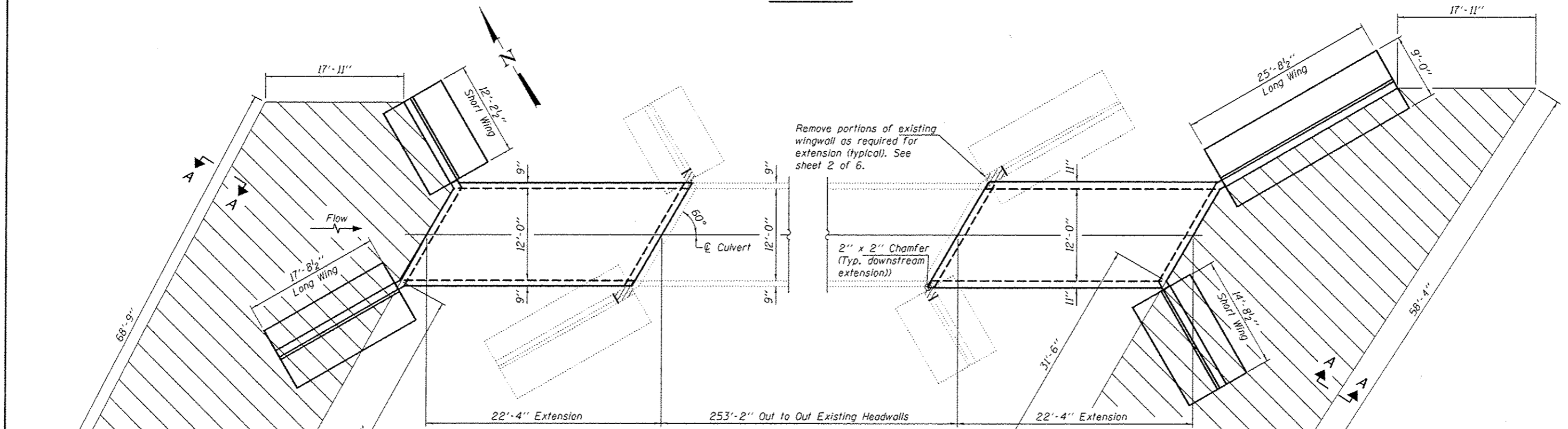
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REPAIR DETAILS
 SN 025-2016
 SHEET NO. 7 OF 7 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------|-----------|--------------------|-----------|
| 70 | (25-12R) | EFFINGHAM | 496 | 252 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 74664 | |



ELEVATION



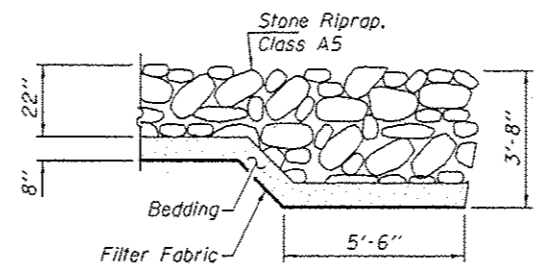
PLAN

The contractor shall excavate to the specified depth for placement of the Rock Fill Replacement under the culvert extensions and the wingwall footings (if present) and allow the District inspectors to test and verify that the foundation soils have a minimum Q_u of at least 2.5 tsf. If the required soil strength is not present, the Contractor shall excavate an additional depth and width as directed by the Engineer to locate suitable strength material. The excavated area shall then be backfilled to the proper elevations using Rockfill capped with 6" of Coarse Aggregate. Cost of excavation and backfill material will be paid for per Art. 109.04 (b) of the Standard Specifications

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and $\frac{3}{4}$ " ϕ x 12" hooked bolts. All exposed edges shall have standard $\frac{3}{4}$ " chamfers. Reinforcement bars designated (E) shall be epoxy coated.



SECTION A-A

Cost of any excavation necessary for placement of riprap or bedding material shall be included with Stone Riprap, Class A5

▨ Limits of Stone Riprap, Class A5

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|----------------------------------|---------|-------|
| Concrete Removal | Cu. Yd. | 3.6 |
| Concrete Box Culverts | Cu. Yd. | 164.2 |
| Reinforcement Bars, Epoxy Coated | Pound | 3210 |
| Reinforcement Bars | Pound | 41430 |
| Structure Excavation | Cu. Yd. | 109.0 |
| Expansion Bolts $\frac{3}{4}$ " | Each | 64 |
| Stone Riprap, Class A5 | Sq. Yd. | 358.2 |
| Filter Fabric | Sq. Yd. | 358.2 |



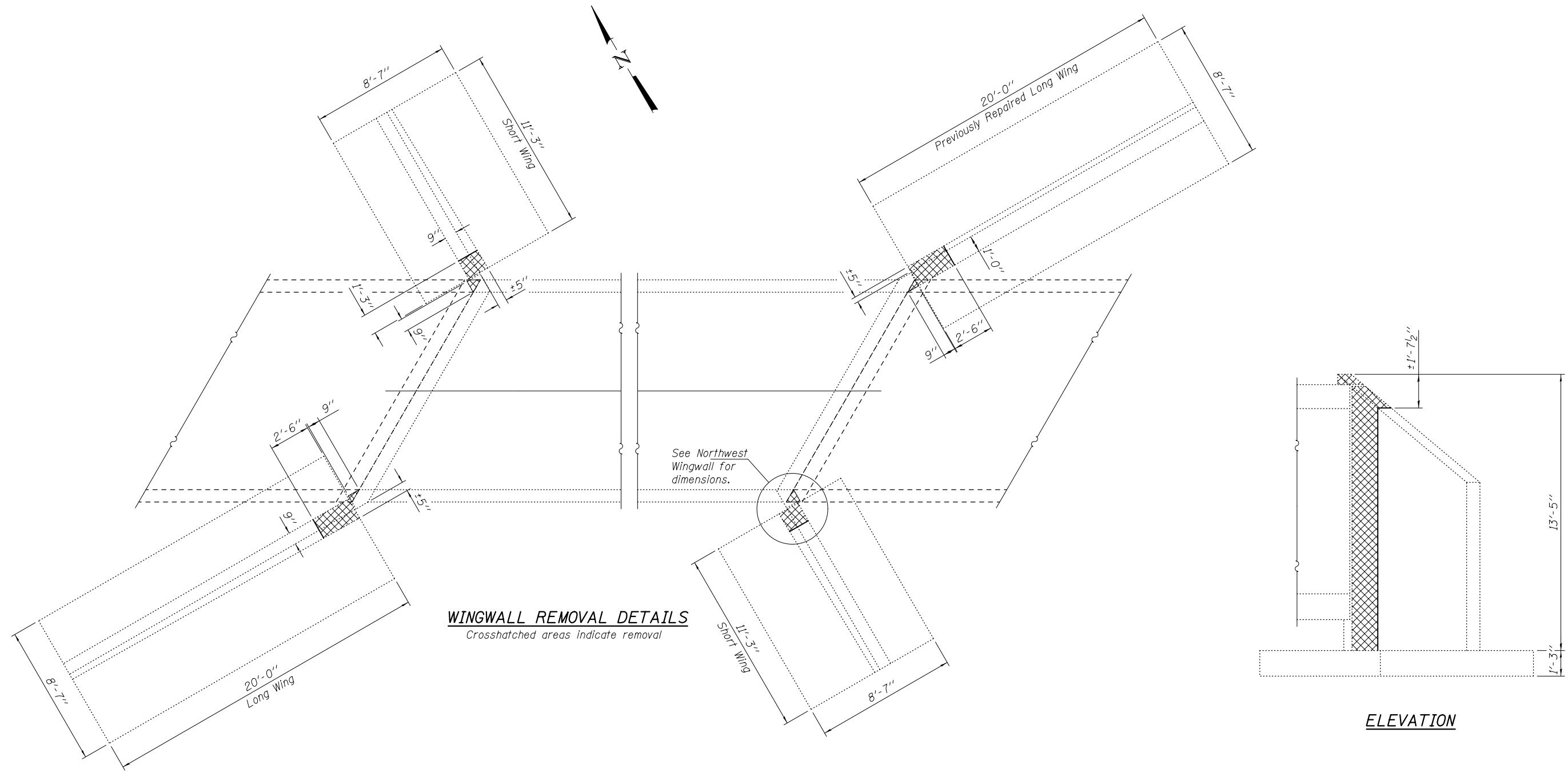
DESIGNED - [Signature]
 CHECKED - [Signature]
 DRAWN - Kyle M. Staffen
 CHECKED - SMR JSB

DATE - MAY 12, 2017
 PASSED [Signature]
 ENGINEER OF BRIDGES AND STRUCTURES

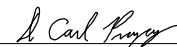
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
 F.A.I. ROUTE 70
 SN 025-8689
 SHEET NO. 1 OF 6 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------|--------------------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 253 |
| | | | | CONTRACT NO. 74664 |
| ILLINOIS FED. AID PROJECT | | | | |



DESIGNED - SMR
 CHECKED - JSB
 DRAWN - Kyle M. Steffen
 CHECKED - SMR JSB

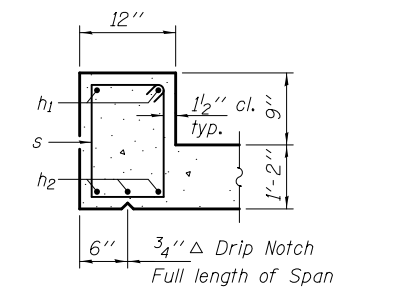
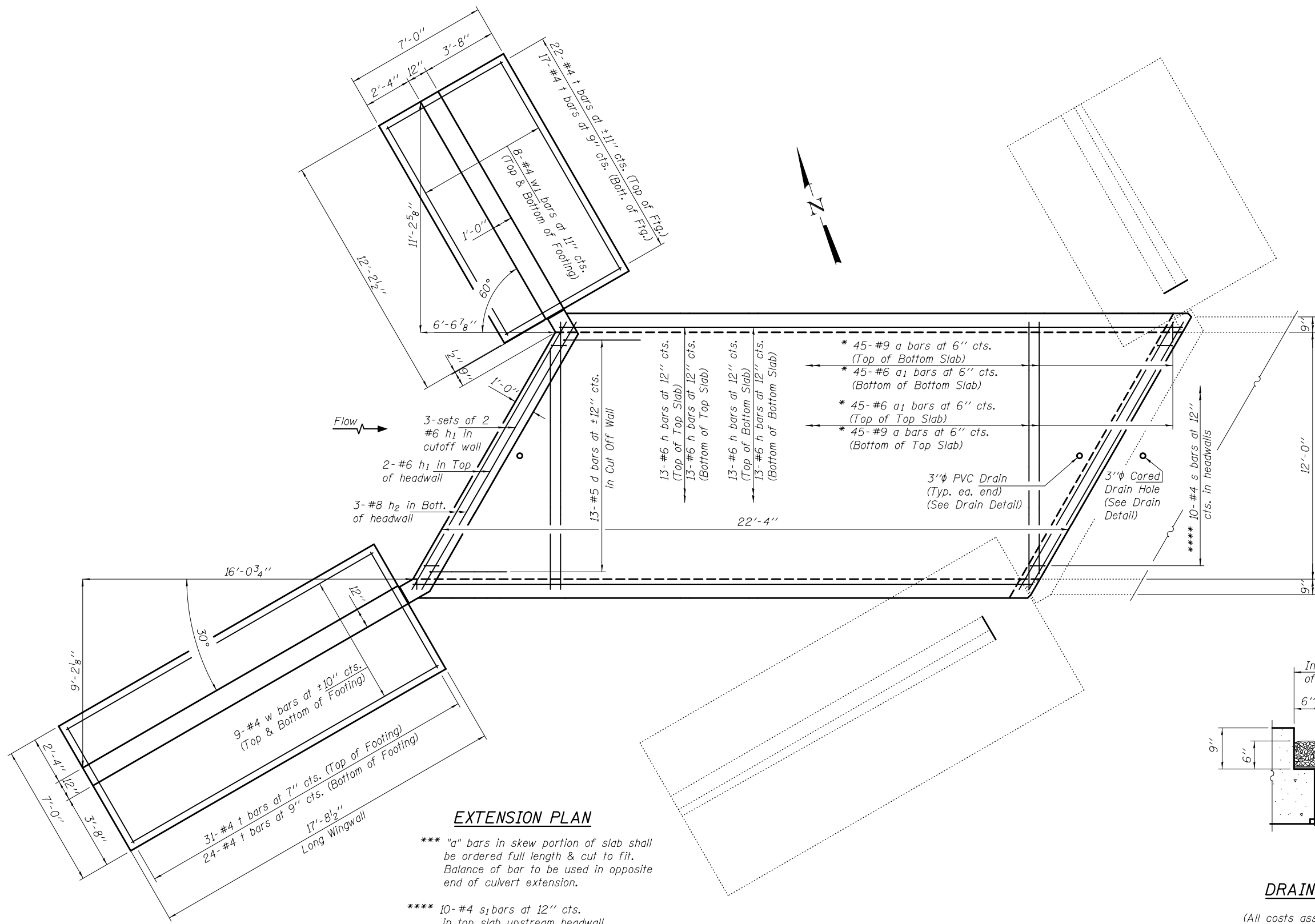
PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 12, 2017
 REVISED
 REVISED

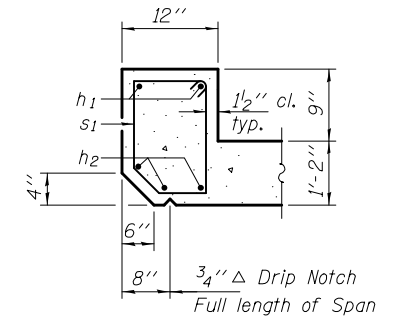
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WINGWALL REMOVAL DETAILS
SN 025-8689
 SHEET NO. 2 OF 6 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------|-----------|--------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 254 |
| CONTRACT NO. 74664 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



SECTION THRU HEADWALL

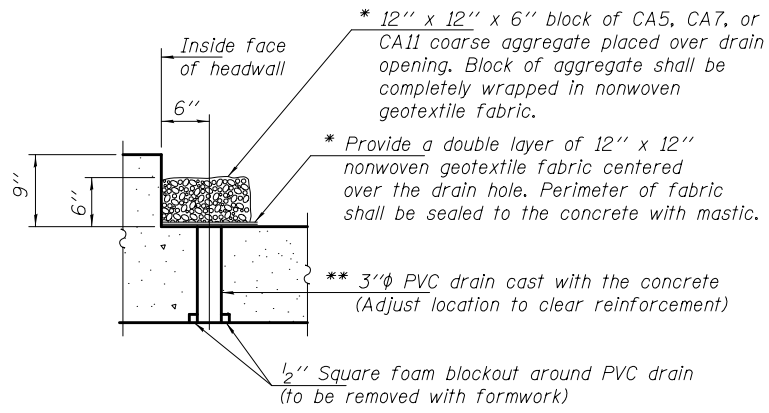


SECTION THRU HEADWALL

EXTENSION PLAN

*** "a" bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert extension.

**** 10-#4 s₁ bars at 12" cts. in top slab upstream headwall



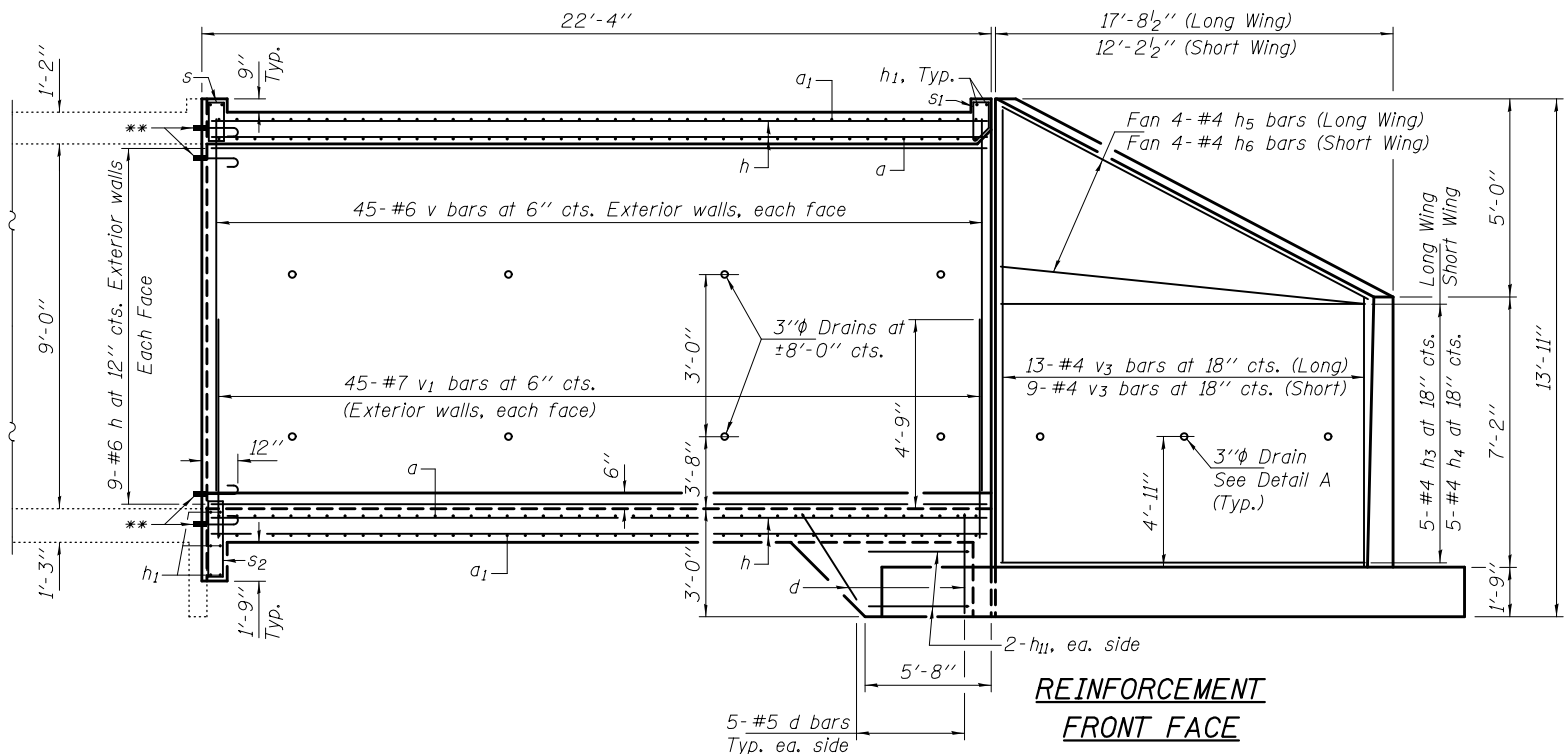
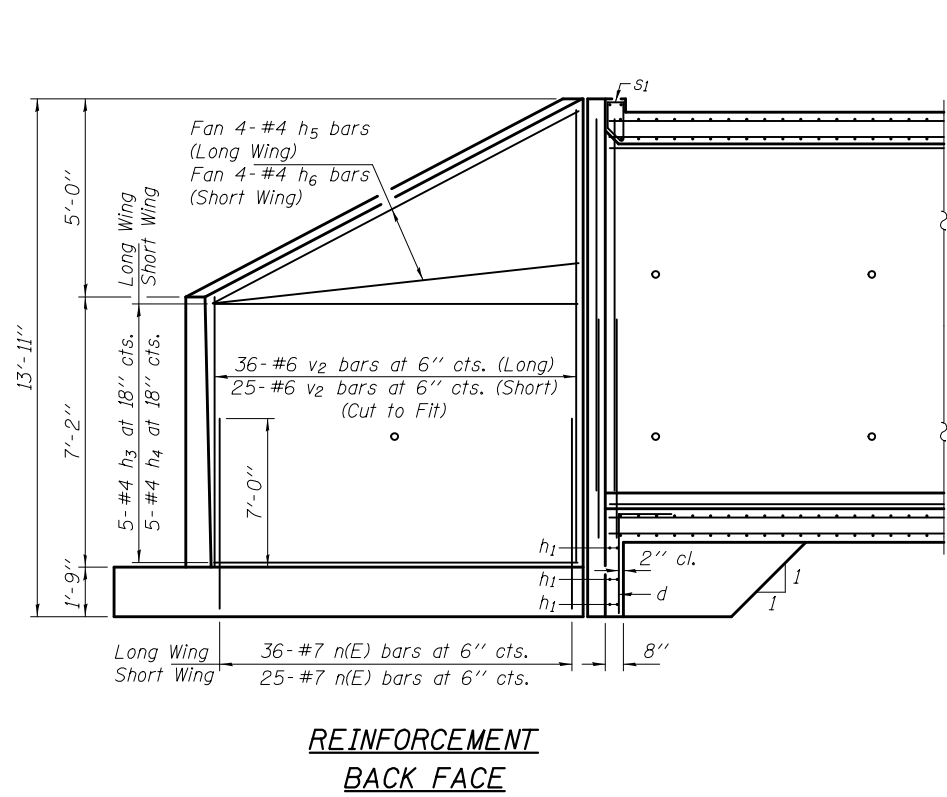
DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for Concrete Box Culverts.)

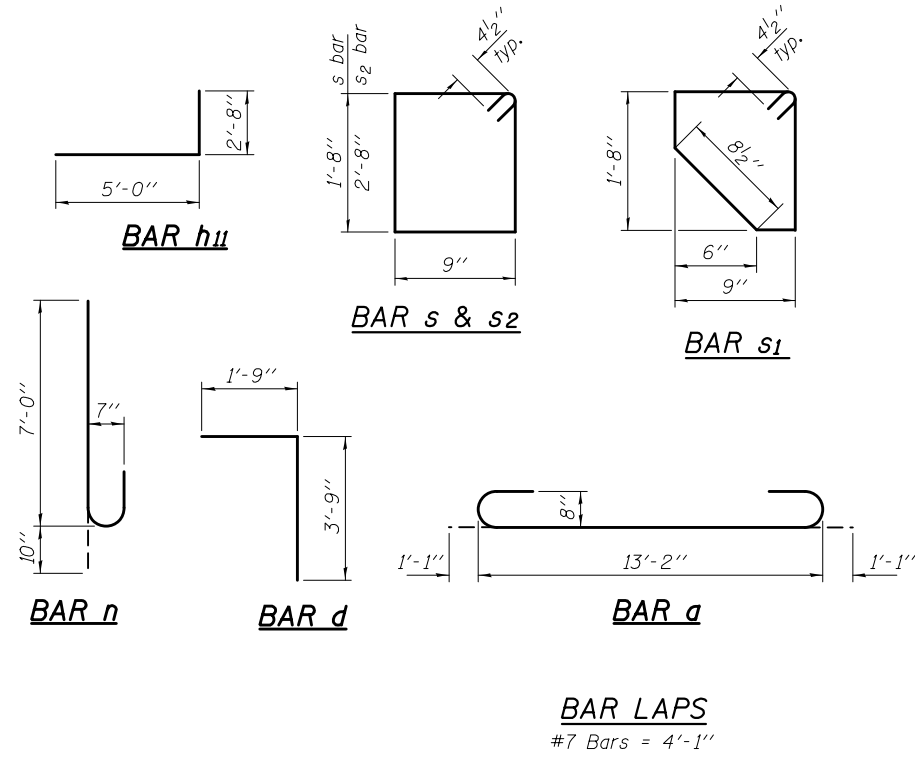
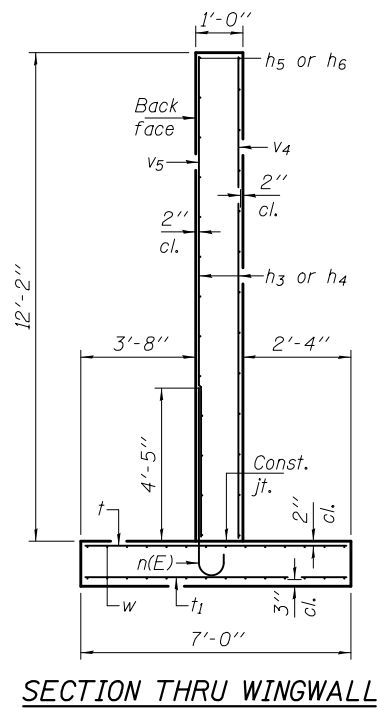
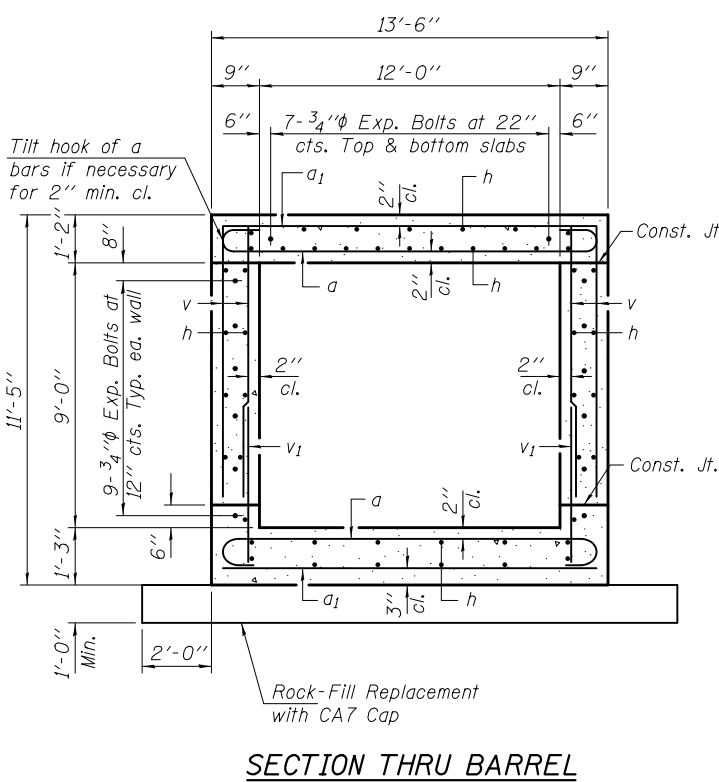
* Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

** 3"φ Cored drain hole in existing culvert. Cost included with Concrete Box Culverts.

| | | | | | | | | |
|-------------------------|------------------------------------|---|---|---------------------------|----------|-----------|--------------|-----------|
| DESIGNED - SMR | DATE - MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | NORTH END (UPSTREAM) CULVERT EXTENSION DETAILS SN 025-8689 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED - JSB | REVISOR | | | 70 | (25-12R) | EFFINGHAM | 496 | 255 |
| DRAWN - Kyle M. Steffen | REVISOR | SHEET NO. 3 OF 6 SHEETS | | CONTRACT NO. 74664 | | | | |
| CHECKED - SMR JSB | ENGINEER OF BRIDGES AND STRUCTURES | | | ILLINOIS FED. AID PROJECT | | | | |

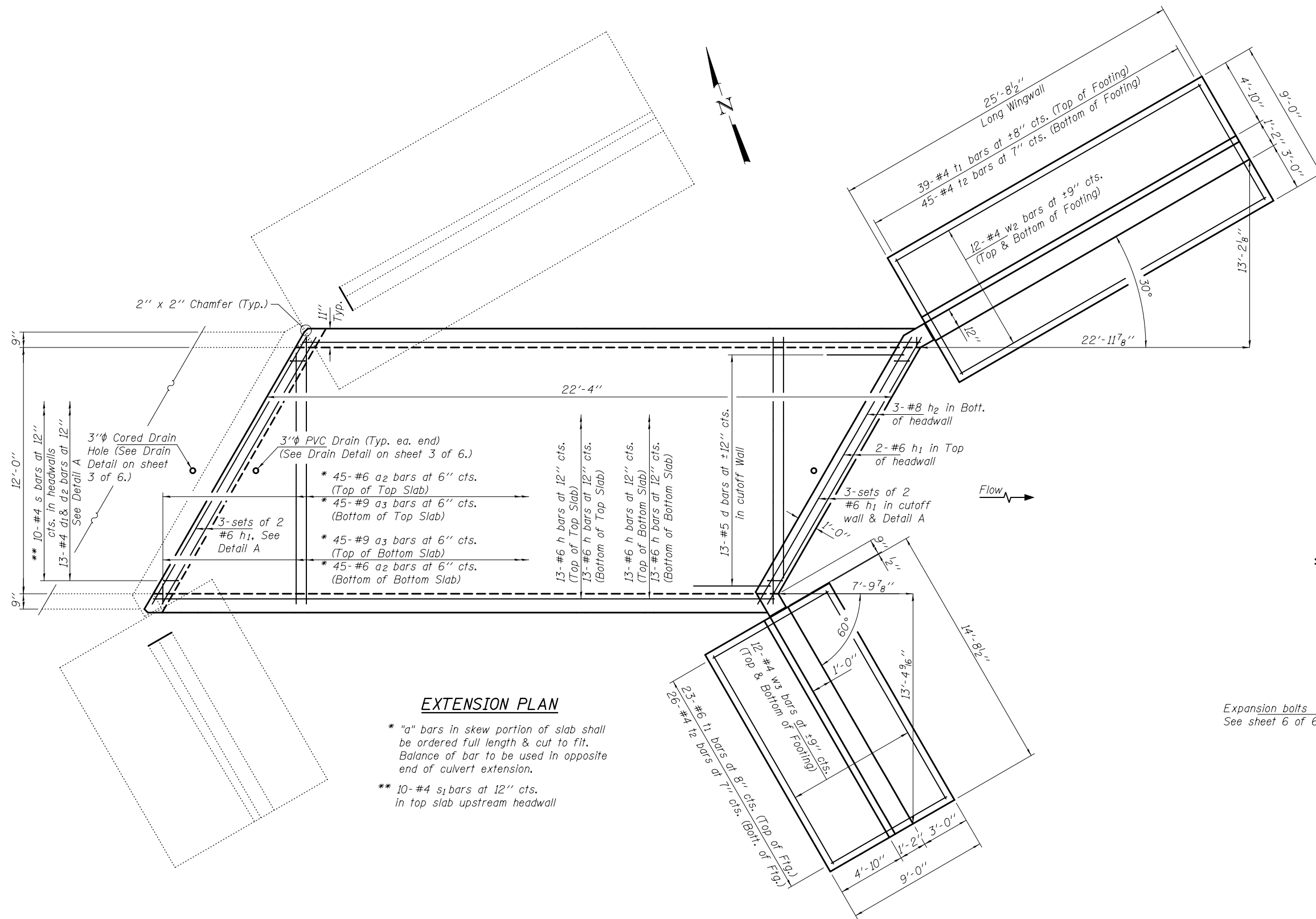


** Expansion Bolts shall be 3/4" phi hooked bolts and extend a minimum of 9" into new concrete.



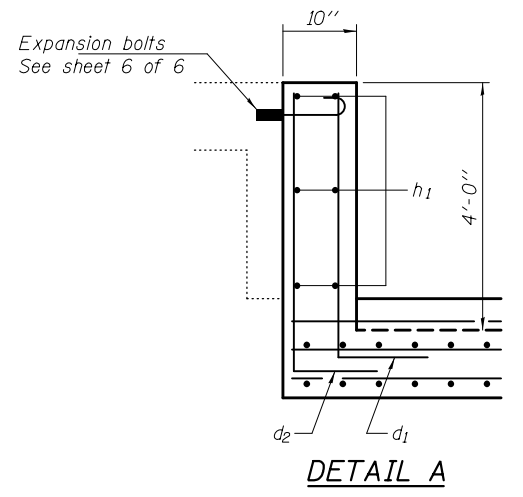
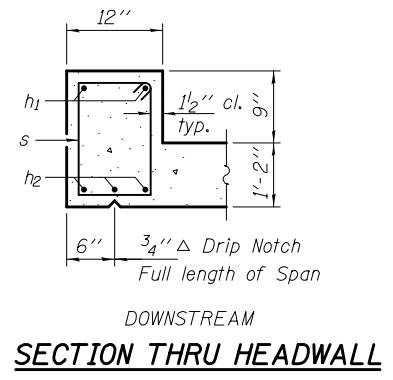
BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| a | 90 | #9 | 15'-4" | U |
| a1 | 90 | #6 | 13'-2" | — |
| d | 23 | #5 | 5'-6" | L |
| h | 88 | #6 | 22'-0" | — |
| h1 | 16 | #6 | 13'-6" | — |
| h2 | 6 | #8 | 13'-6" | — |
| h3 | 10 | #4 | 17'-5" | — |
| h4 | 10 | #4 | 11'-10" | — |
| h5 | 8 | #4 | 18'-0" | — |
| h6 | 8 | #4 | 13'-0" | — |
| h11 | 4 | #6 | 7'-8" | L |
| n(E) | 61 | #7 | 7'-10" | U |
| s | 10 | #4 | 5'-7" | □ |
| s1 | 10 | #4 | 5'-4" | □ |
| s2 | 10 | #4 | 7'-7" | □ |
| t | 94 | #4 | 6'-9" | — |
| v | 180 | #6 | 9'-3" | — |
| v1 | 90 | #7 | 5'-10" | — |
| v2 | 61 | #6 | 11'-10" | — |
| v3 | 22 | #4 | 11'-10" | — |
| w | 18 | #4 | 17'-5" | — |
| w1 | 16 | #4 | 11'-10" | — |
| Concrete Removal | | | Cu. Yd. | 1.8 |
| Concrete Box Culverts | | | Cu. Yd. | 64.2 |
| Expansion Bolts 3/4" | | | Each | 32 |
| Reinforcement Bars | | | Lbs. | 16180 |
| Reinforcement Bars, Epoxy Coated | | | Lbs. | 980 |

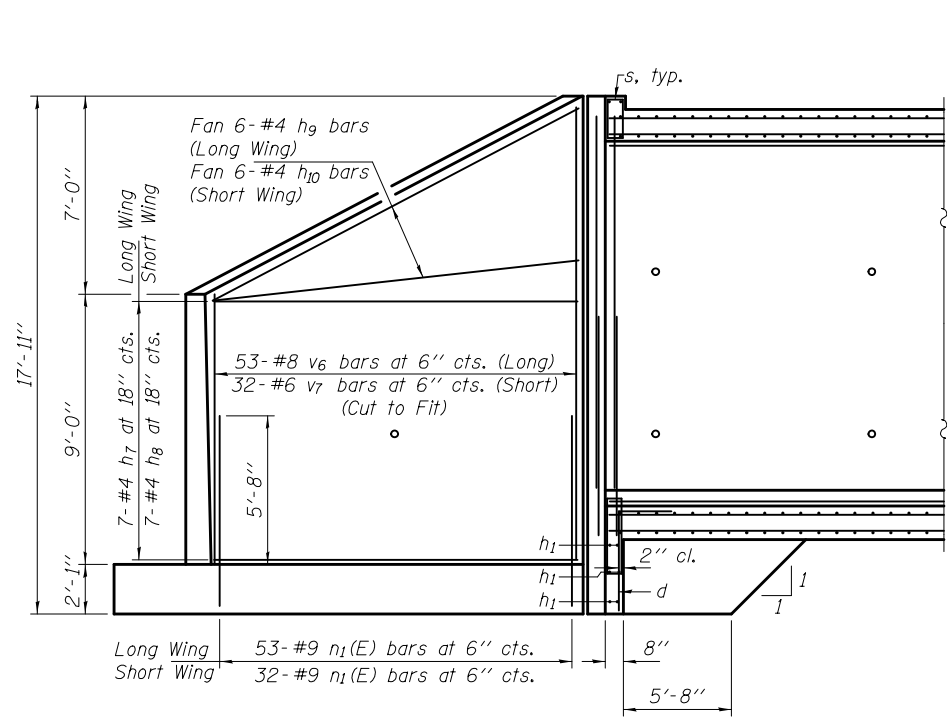


EXTENSION PLAN

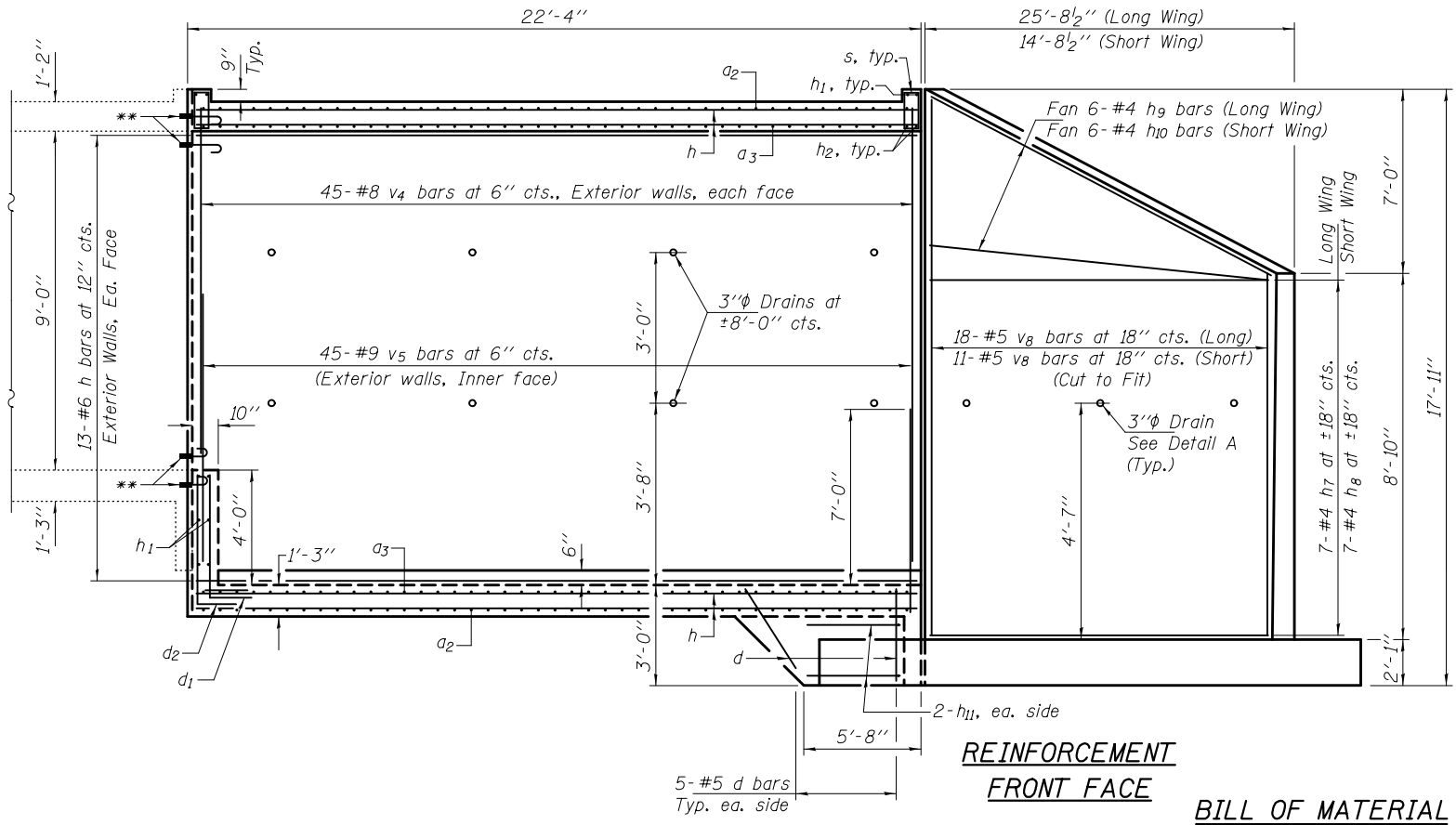
- * "a" bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert extension.
- ** 10-#4 s₁ bars at 12" cts. in top slab upstream headwall



| | | | | | | | | | | |
|-------------------------|--------|---|---------------------|---|---|---------------------------|-----------|-----------|--------------|-----------|
| DESIGNED - SMR | PASSED |  ENGINEER OF BRIDGES AND STRUCTURES | DATE - MAY 12, 2017 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | SOUTH END (DOWNSTREAM) CULVERT EXTENSION DETAILS SN 025-8689 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CHECKED - JSB | | | REVISED | | | 70 | (25-1,2R) | EFFINGHAM | 496 | 257 |
| DRAWN - Kyle M. Steffen | | | REVISED | | | CONTRACT NO. 74664 | | | | |
| CHECKED - SMR JSB | | | REVISED | | | ILLINOIS FED. AID PROJECT | | | | |
| SHEET NO. 5 OF 6 SHEETS | | | | | | | | | | |



**REINFORCEMENT
BACK FACE**

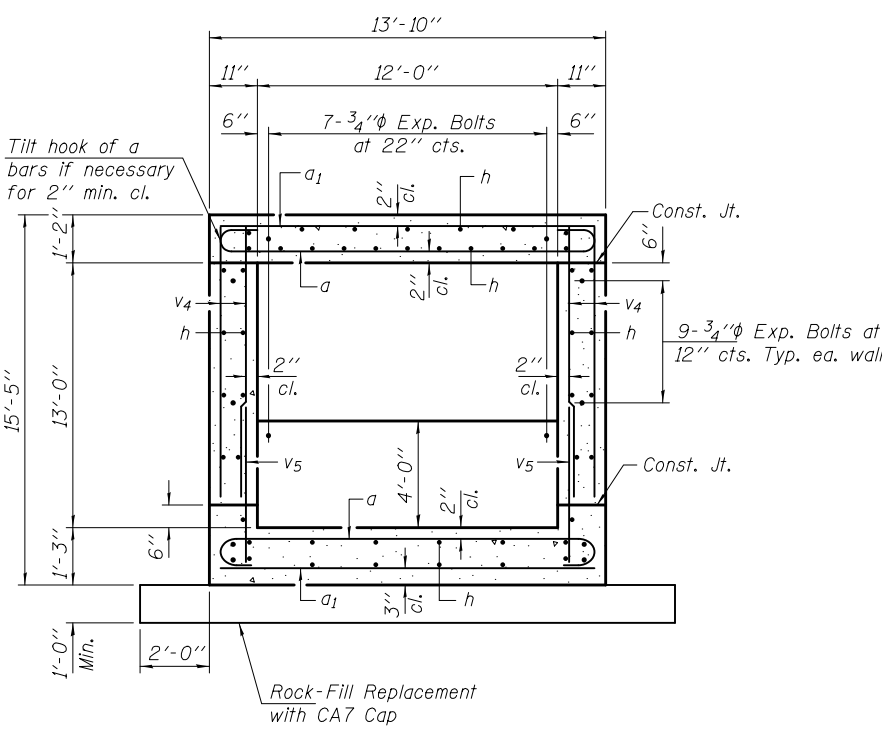


**REINFORCEMENT
FRONT FACE**

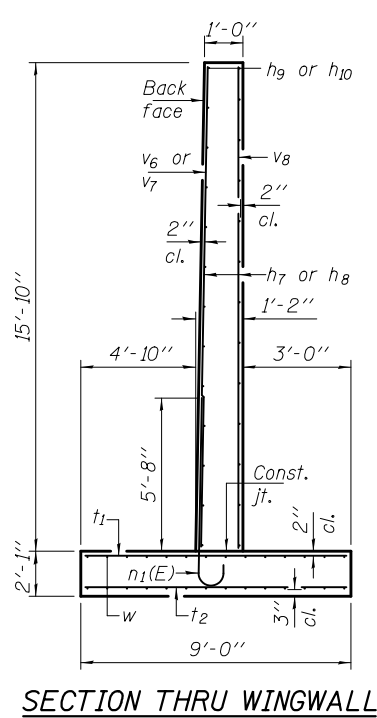
BILL OF MATERIAL

** Expansion Bolts shall be 3/4"φ hooked bolts and extend a minimum of 9" into new concrete.

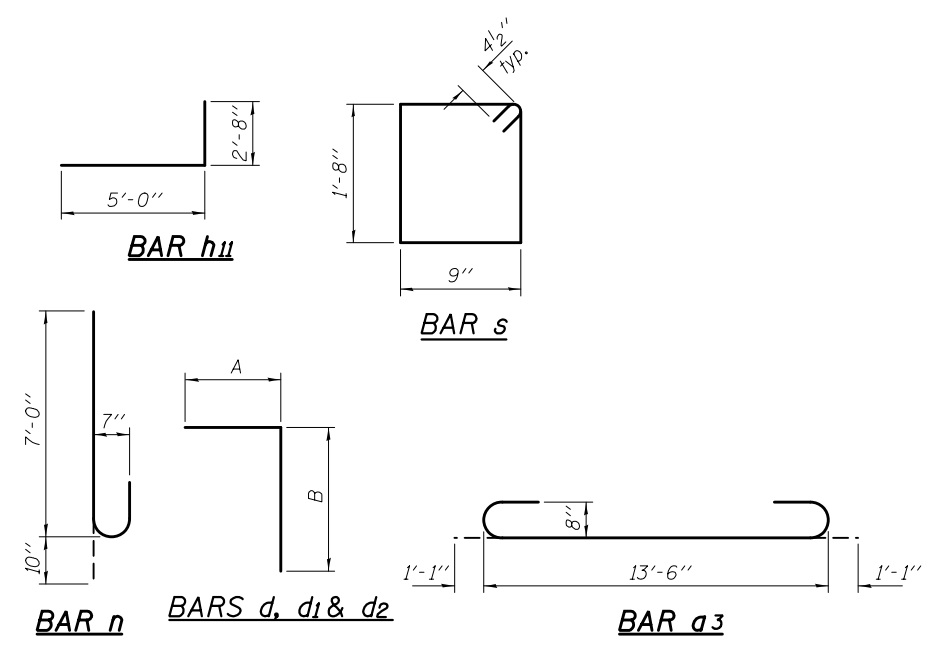
| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| a | 90 | #9 | 15'-4" | U |
| a1 | 90 | #6 | 13'-2" | — |
| d | 36 | #4 | 5'-6" | L |
| d1 | 13 | #4 | 5'-9" | L |
| d2 | 13 | #4 | 6'-0" | L |
| h | 104 | #6 | 22'-0" | — |
| h1 | 16 | #6 | 13'-6" | — |
| h2 | 6 | #8 | 13'-6" | — |
| h7 | 14 | #4 | 26'-6" | — |
| h8 | 14 | #4 | 14'-4" | — |
| h9 | 12 | #4 | 26'-5" | — |
| h10 | 12 | #4 | 16'-2" | — |
| h11 | 4 | #6 | 7'-8" | L |
| n1(E) | 75 | #9 | 8'-9" | U |
| s | 20 | #4 | 5'-7" | □ |
| t1 | 62 | #6 | 8'-9" | — |
| t2 | 71 | #4 | 8'-9" | — |
| v4 | 180 | #8 | 13'-0" | — |
| v5 | 90 | #9 | 7'-5" | — |
| v6 | 53 | #8 | 15'-6" | — |
| v7 | 32 | #6 | 15'-6" | — |
| v8 | 29 | #5 | 15'-6" | — |
| w2 | 24 | #4 | 25'-4" | — |
| w3 | 24 | #4 | 14'-4" | — |
| Concrete Removal | | | Cu. Yd. | 1.8 |
| Concrete Box Culverts | | | Cu. Yd. | 100.0 |
| Expansion Bolts 3/4" | | | Each | 32 |
| Reinforcement Bars | | | Lbs. | 25250 |
| Reinforcement Bars, Epoxy Coated | | | Lbs. | 2230 |



SECTION THRU BARREL



SECTION THRU WINGWALL



A & B DIMENSIONS

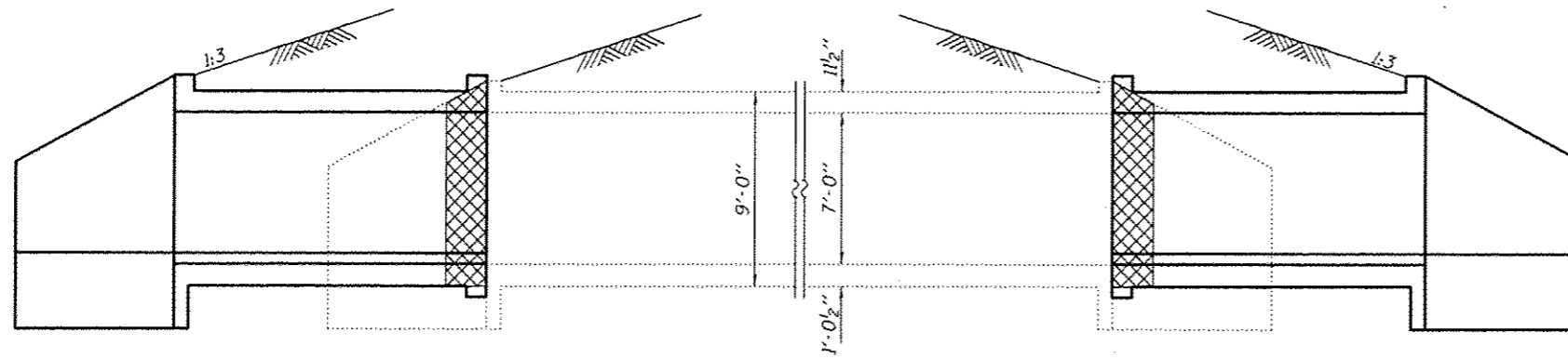
| Bar | A | B |
|-----|-------|-------|
| d | 1'-9" | 3'-9" |
| d1 | 1'-9" | 4'-0" |
| d2 | 1'-9" | 4'-3" |

BAR LAPS
#9 Bars = 6'-4"

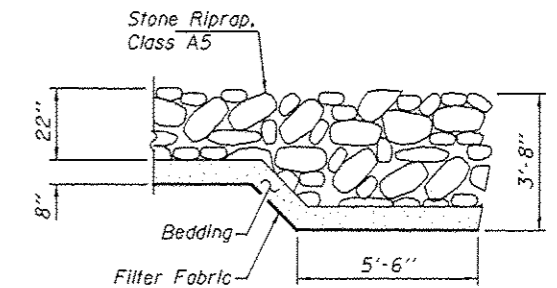
GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and 3/4" φ x 12" hooked bolts. All exposed edges shall have standard 3/4" chamfers.

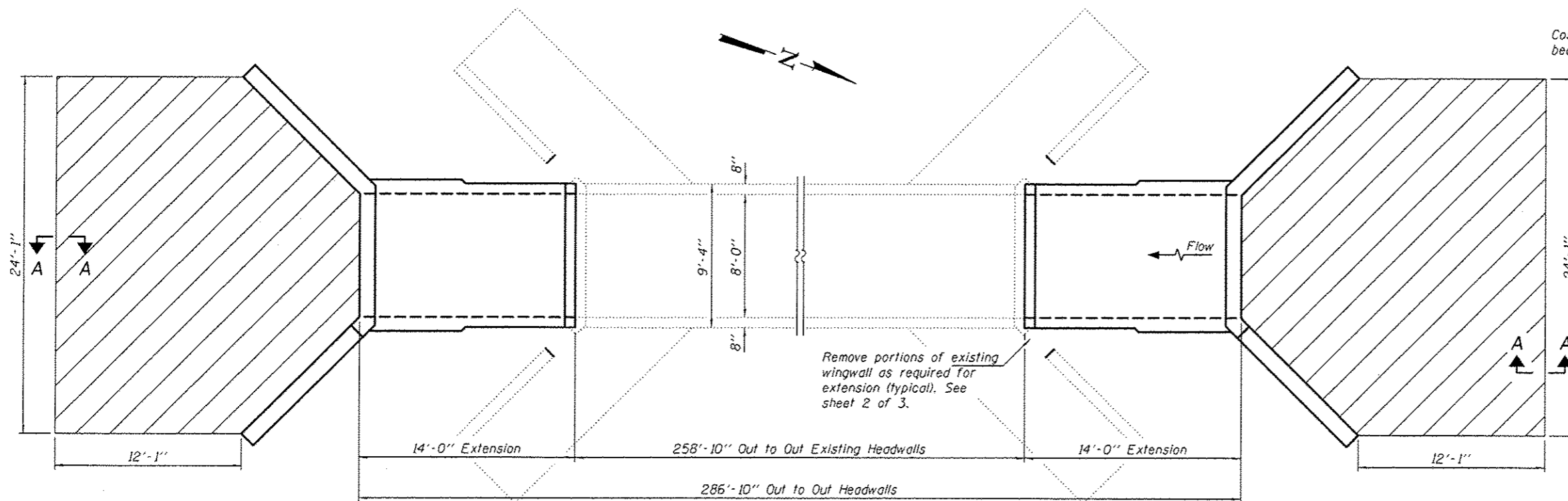


LONGITUDINAL SECTION



SECTION A-A

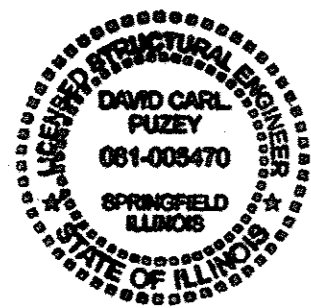
Cost of any excavation necessary for placement of riprap or bedding material shall be included with Stone Riprap, Class A5



PLAN

The contractor shall excavate to the specified depth for placement of the Rock Fill Replacement under the culvert extensions and the wingwall footings (if present) and allow the District inspectors to test and verify that the foundation soils have a minimum Q_u of at least 2.5 tsf. If the required soil strength is not present, the Contract shall excavate an additional depth and width as directed by the Engineer to locate suitable strength material. The excavated area shall then be backfilled to the proper elevations using Rockfill capped with 6" of Coarse Aggregate. Cost of excavation and backfill material will be paid for per Art. 109.04 (b) of the Standard Specifications

- Limits of Stone Riprap, Class A5



EXPIRES 11-30-2018

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)

TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|------------------------|---------|-------|
| Concrete Removal | Cu. Yd. | 2.2 |
| Concrete Box Culverts | Cu. Yd. | 48.6 |
| Reinforcement Bars | Pound | 9730 |
| Expansion Bolts 3/4" | Each | 44 |
| Structure Excavation | Cu. Yd. | 48.7 |
| Stone Riprap, Class A5 | Sq. Yd. | 92.9 |
| Filter Fabric | Sq. Yd. | 92.9 |

DESIGNED *Stephan...*
CHECKED *...*
DRAWN *baliva*
CHECKED *SMR*

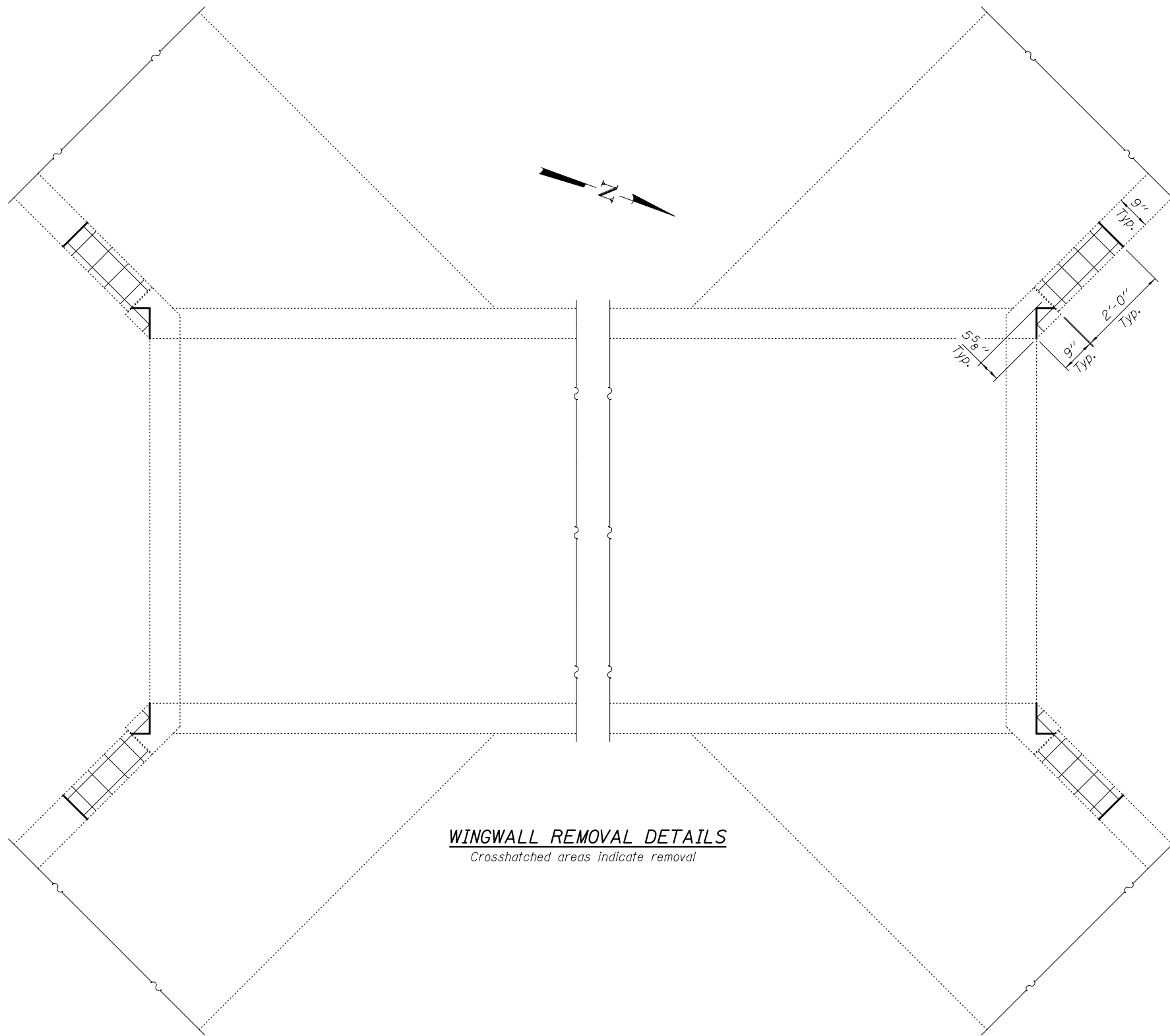
PASSED *David Carl Puzey*
ENGINEER OF BRIDGES AND STRUCTURES

DATE MAY 12, 2017
REVISED
REVISED

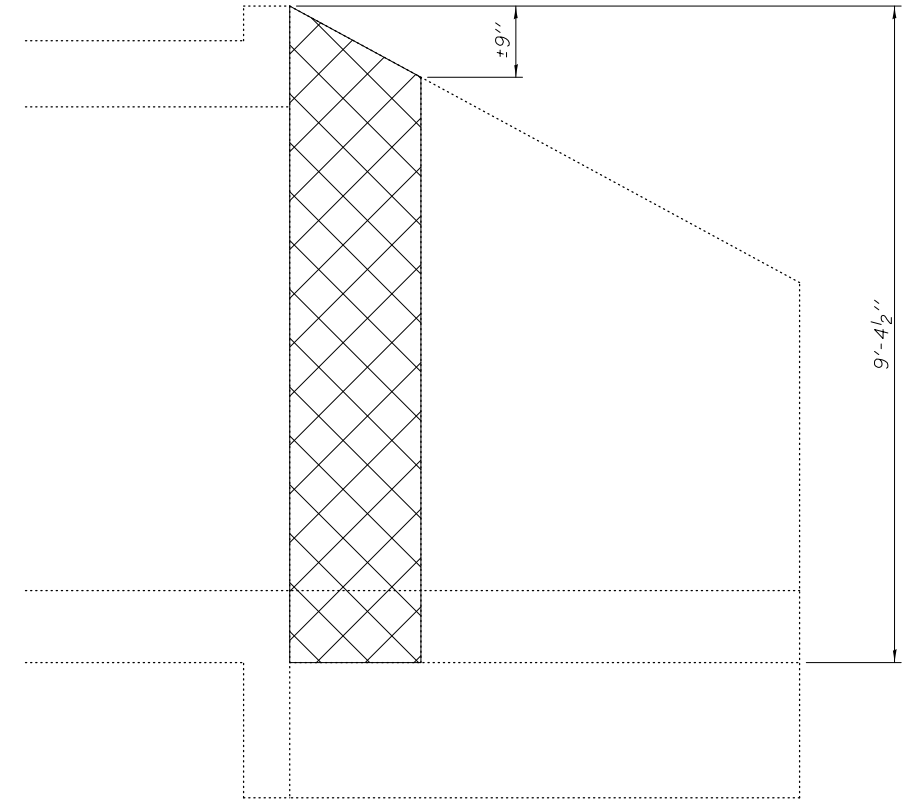
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
FAI 70
SN 025-8690
SHEET NO. 1 OF 3 SHEETS

| | | | | |
|--------------------|-----------|-----------|---------------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | 125-1,21R | EFFINGHAM | 496 | 259 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |



WINGWALL REMOVAL DETAILS
Crosshatched areas indicate removal



ELEVATION

| | |
|----------|---------|
| DESIGNED | SMR |
| CHECKED | JSB |
| DRAWN | baliva |
| CHECKED | SMR JSB |

| | |
|--------|--|
| PASSED | <i>Carl Pinger</i> ENGINEER OF BRIDGES AND STRUCTURES |
|--------|--|

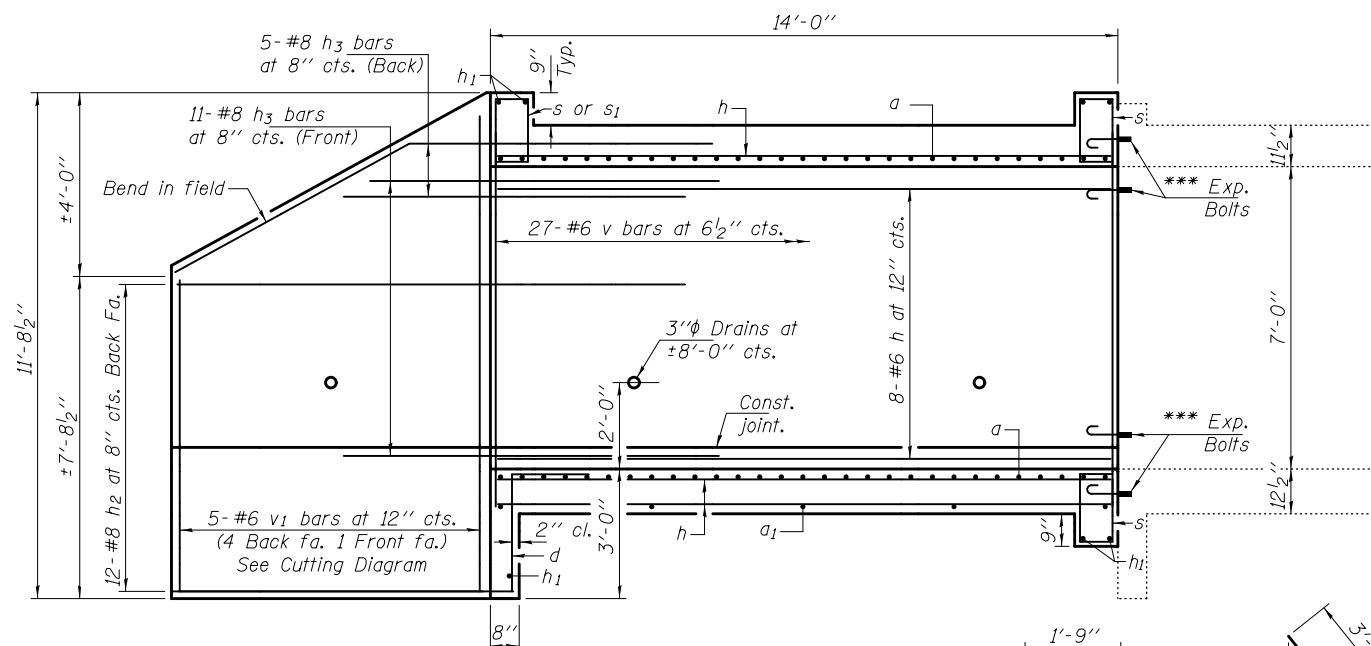
| | |
|---------|--------------|
| DATE | MAY 12, 2017 |
| REVISED | |
| REVISED | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

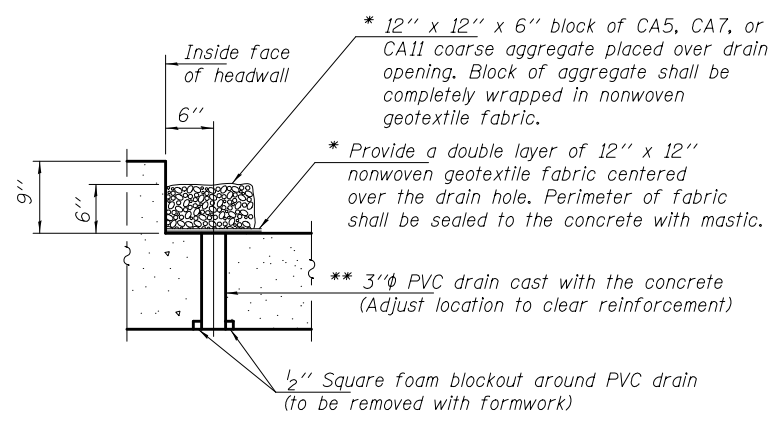
**REMOVAL DETAILS
SN 025-8690**

SHEET NO. 2 OF 3 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | 125-1,2/R | EFFINGHAM | 496 | 260 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |



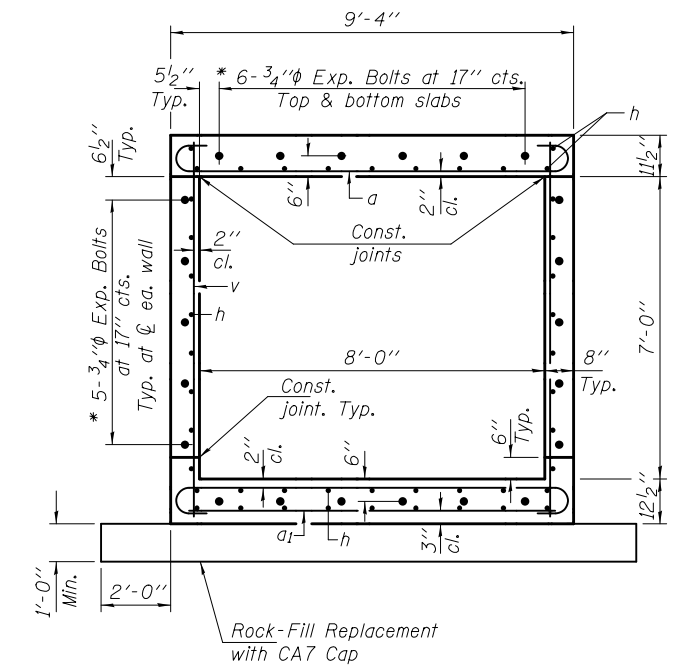
ELEVATION



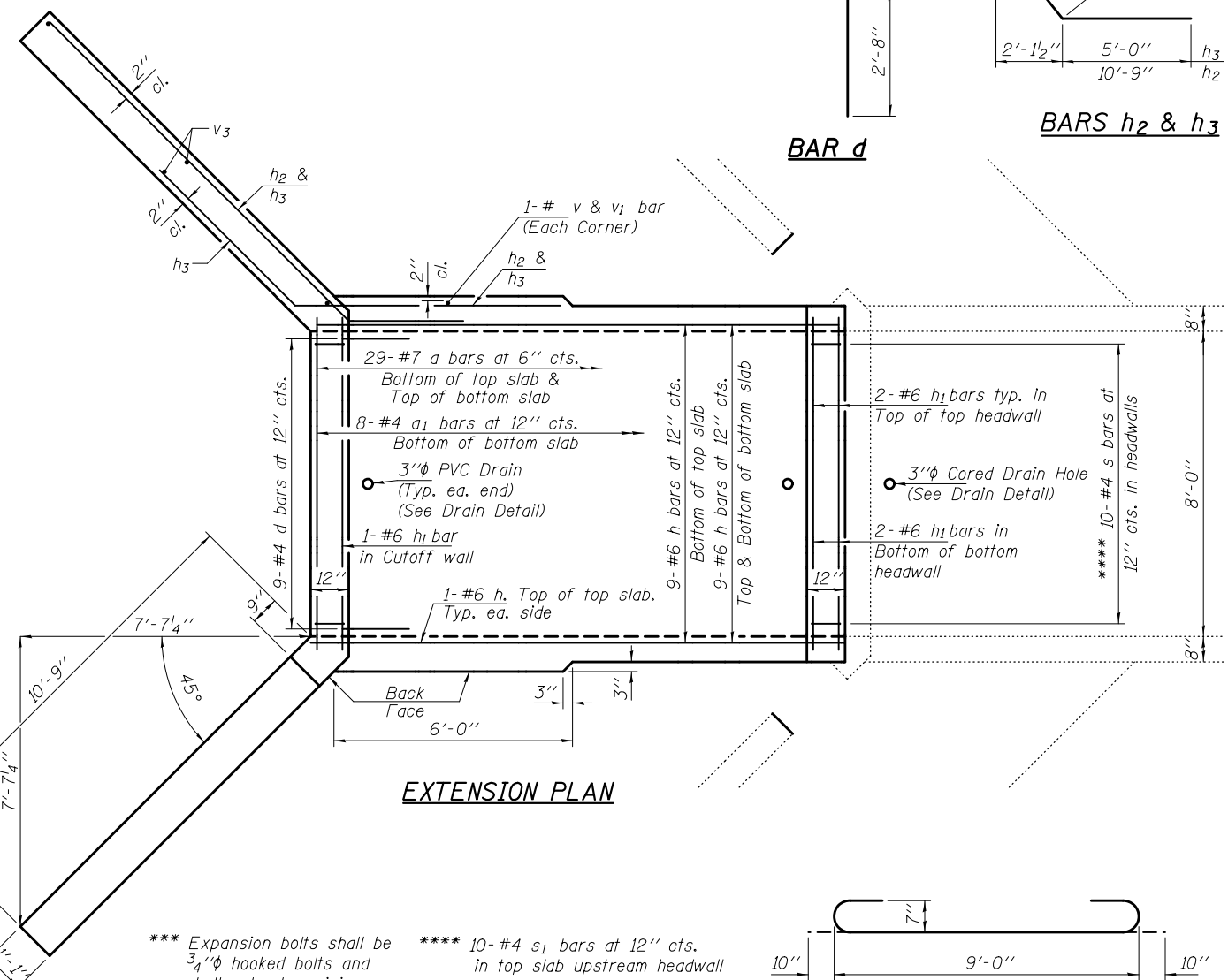
DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

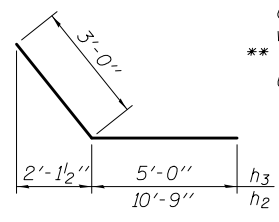
* Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.
 ** 3" φ Cored drain hole in existing culvert. Cost included with Concrete Box Culverts.



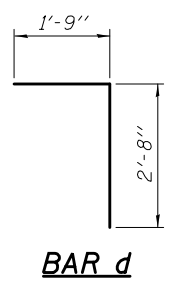
SECTION THRU BARREL



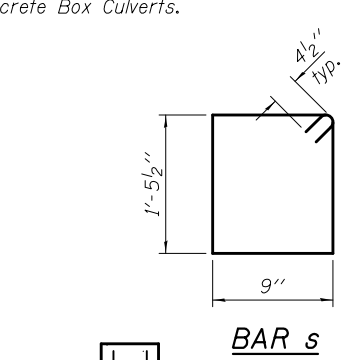
EXTENSION PLAN



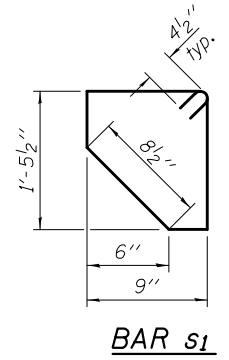
BARS h₂ & h₃



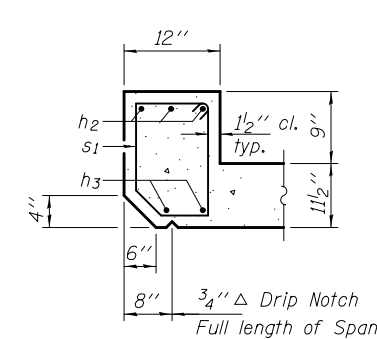
BAR d



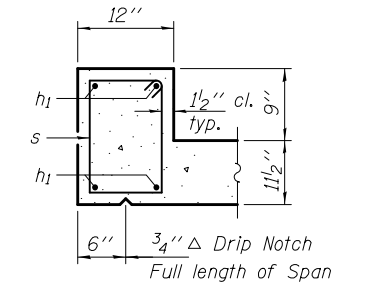
BAR s



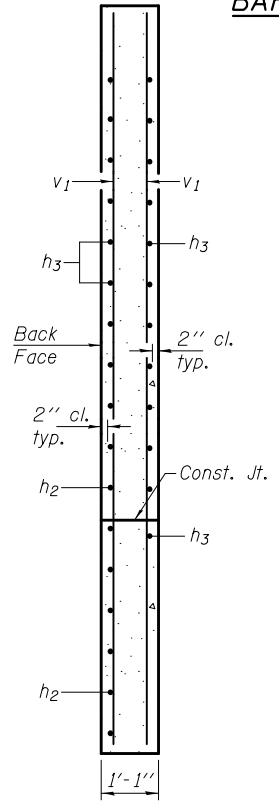
BAR s₁



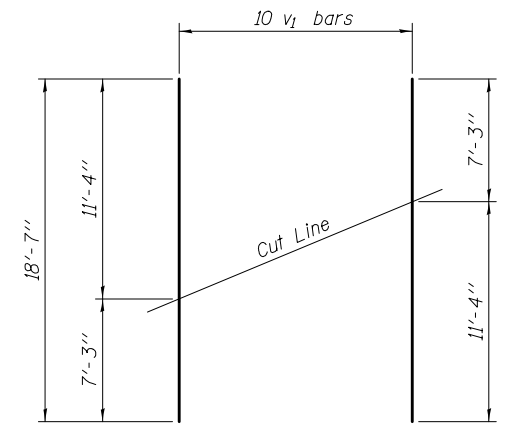
SECTION THRU HEADWALL UPSTREAM



SECTION THRU HEADWALL DOWNSTREAM



SECTION THRU WING



FIELD CUTTING DIAGRAM

Order v₁ bars full length. Cut to fit as shown and use remainder of bars in opposite wingwall.

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape | |
|-----------------------|-----|------|------------|---------|------|
| a | 116 | #7 | 10'-8" | U | |
| a ₁ | 16 | #4 | 9'-0" | — | |
| d | 18 | #4 | 4'-5" | L | |
| h | 90 | #6 | 13'-8" | — | |
| h ₁ | 14 | #6 | 9'-0" | — | |
| h ₂ | 48 | #8 | 13'-9" | — | |
| h ₃ | 64 | #8 | 8'-0" | — | |
| s | 50 | #4 | 5'-2" | □ | |
| s ₁ | 10 | #4 | 4'-10 1/2" | □ | |
| v | 108 | #6 | 8'-8" | — | |
| v ₁ | 10 | #6 | 18'-7" | — | |
| Concrete Removal | | | | Cu. Yd. | 2.2 |
| Expansion Bolts 3/4" | | | | Each | 44 |
| Reinforcement Bars | | | | Lbs. | 9730 |
| Concrete Box Culverts | | | | Cu. Yd. | 48.6 |

DESIGNED SMR
 CHECKED JSB
 DRAWN baliva
 CHECKED SMR JSB

PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

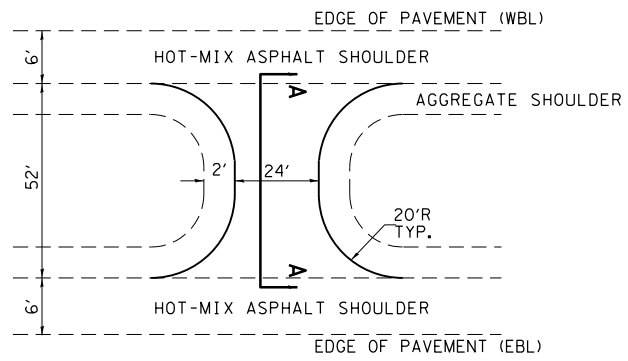
DATE MAY 12, 2017
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

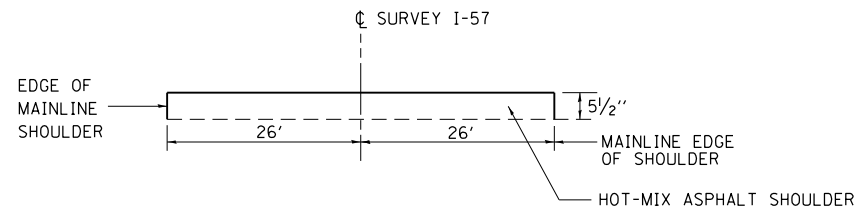
CULVERT EXTENSION DETAILS
 SN 025-8690

SHEET NO. 3 OF 3 SHEETS

F.A.I. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
 70 125-121R EFFINGHAM 496 260A
 CONTRACT NO. 74664
 ILLINOIS FED. AID PROJECT

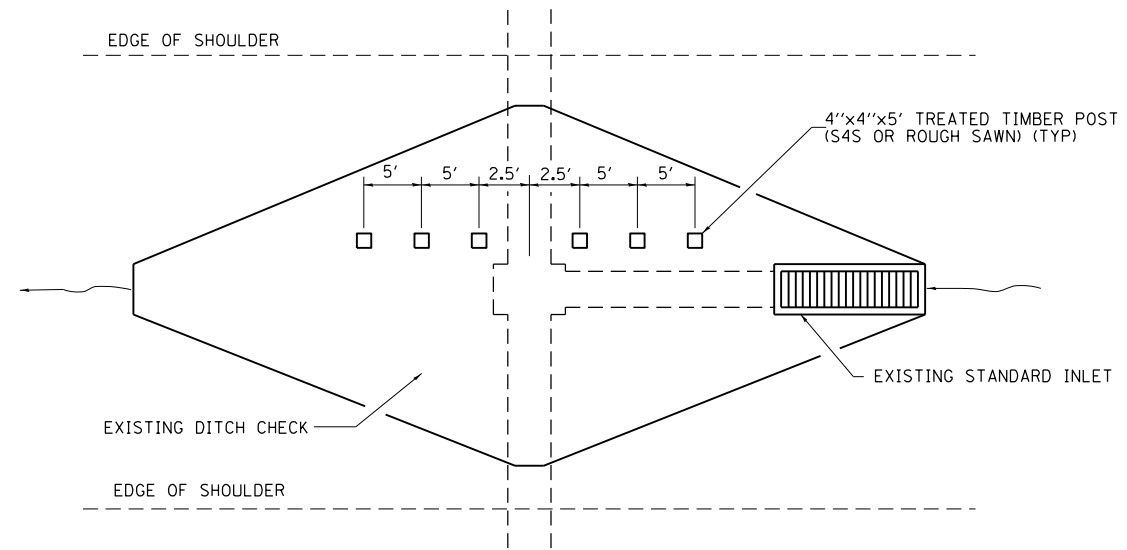


DETAIL OF MEDIAN CROSSOVER

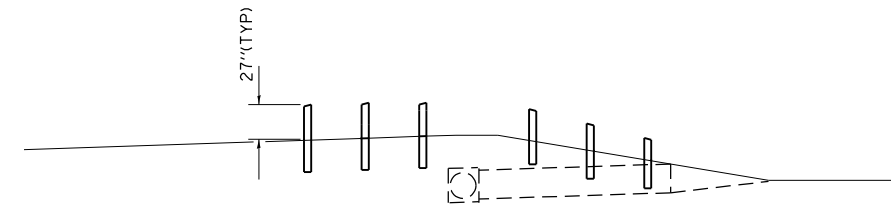


SECTION A-A

STATION 1590+53
 STATION 1725+72
 STATION 1843+13
 STATION 1977+57

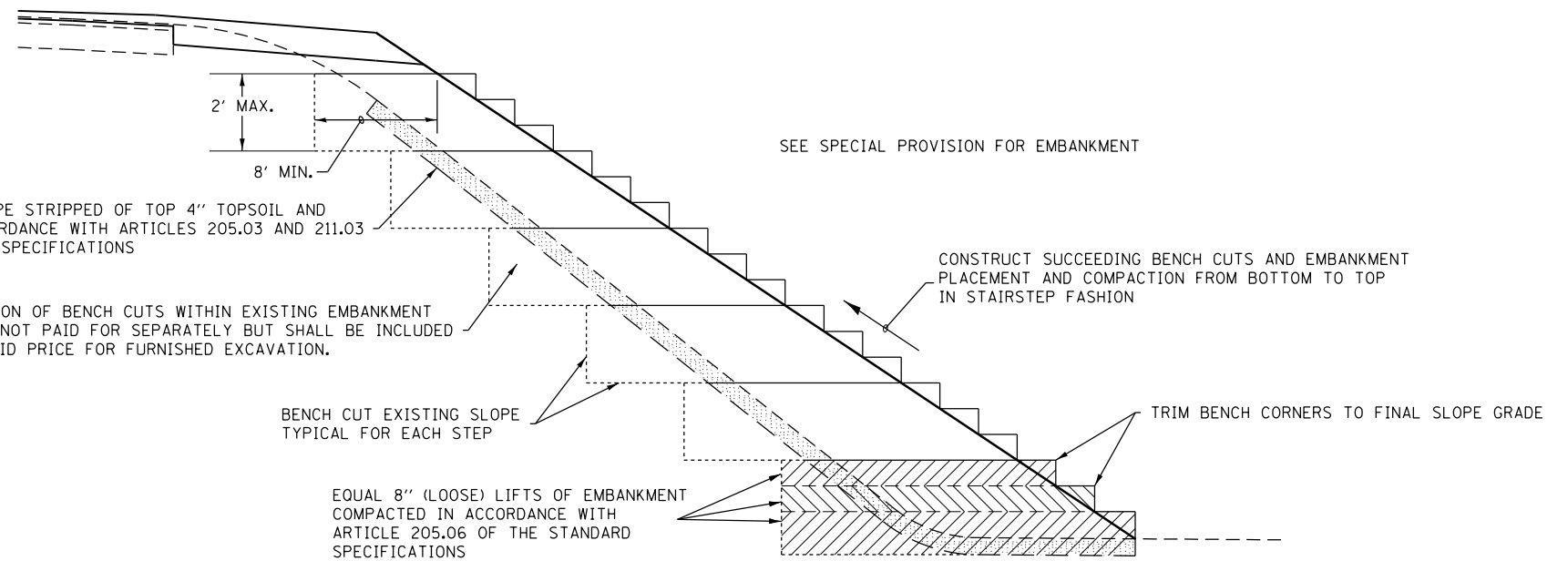


PLAN VIEW



ELEVATION VIEW

DETAIL OF GUARD POST PLACEMENT



TYPICAL BENCHING FOR EMBANKMENTS DETAIL

(NOT TO SCALE)

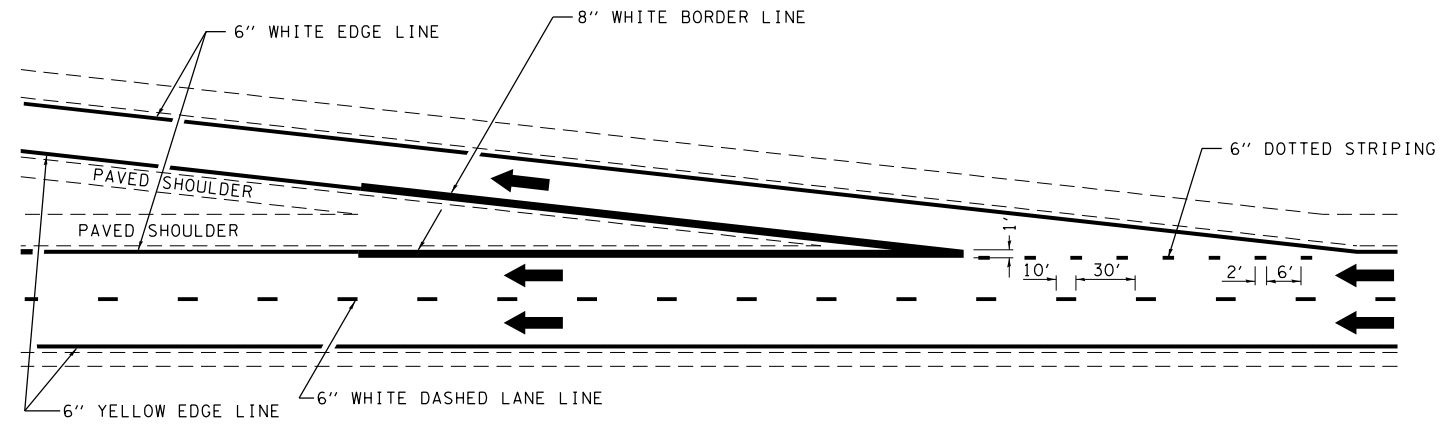
| | | | |
|---|-------------------------------|------------|-----------|
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| Default | PLOT SCALE = 100.0000' / 1in. | CHECKED - | REVISED - |
| | PLOT DATE = 5/1/2017 | DATE - | REVISED - |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

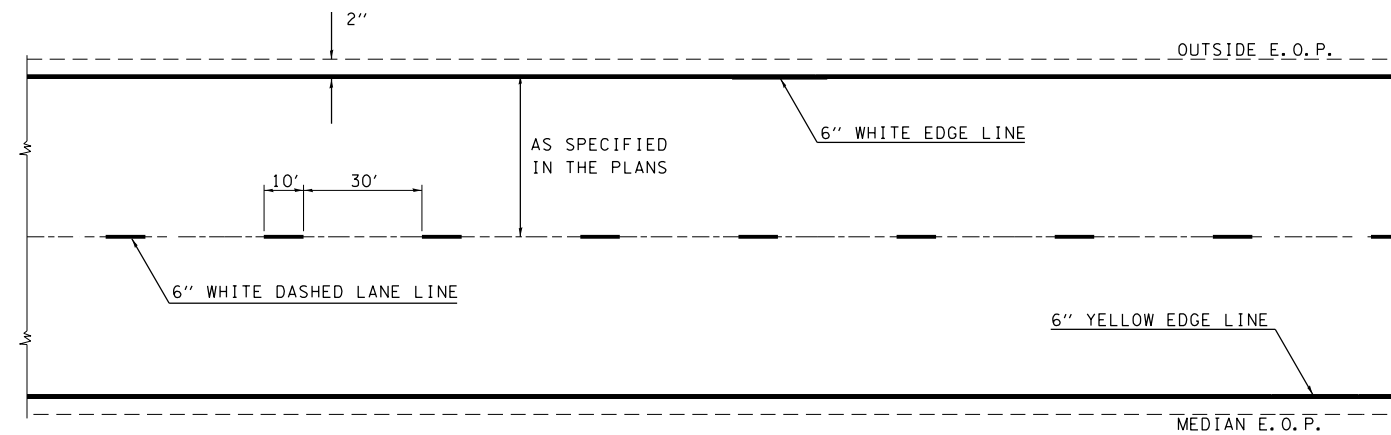
DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

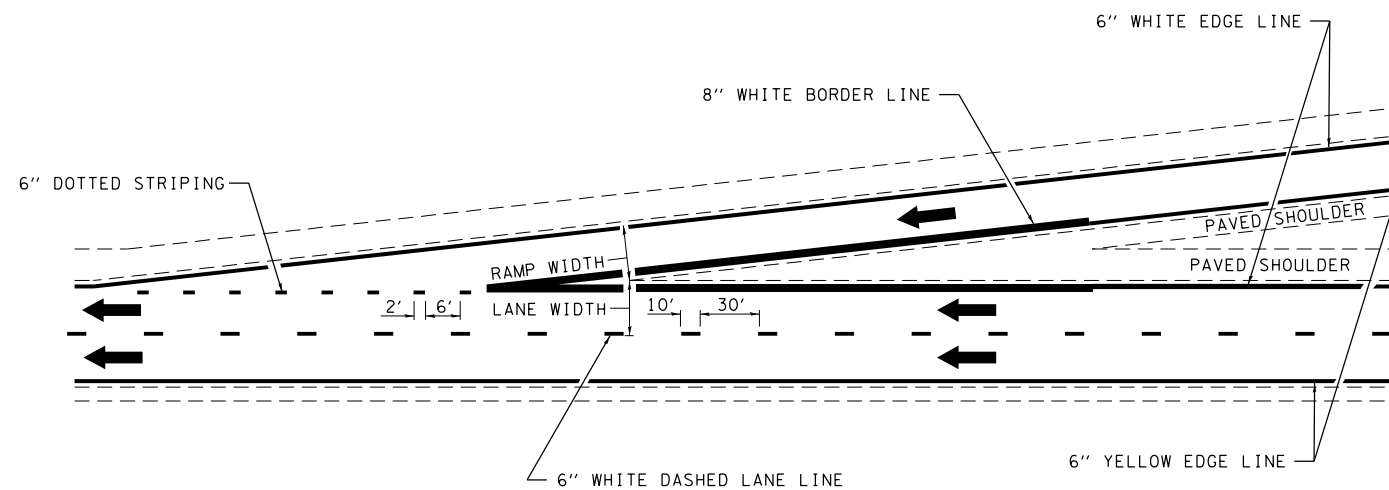
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 261 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |



TYPICAL EXIT RAMP MARKING



TYPICAL CENTERLINE & EDGELINE MARKINGS



TYPICAL ENTRANCE RAMP MARKING

NOT TO SCALE

| | | | |
|--|------------------------------|------------|-----------|
| FILE NAME = | USER NAME = steffenmk | DESIGNED - | REVISED - |
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| Default | PLOT SCALE = 100.0000' / in. | DATE - | REVISED - |
| | PLOT DATE = 5/1/2017 | | |

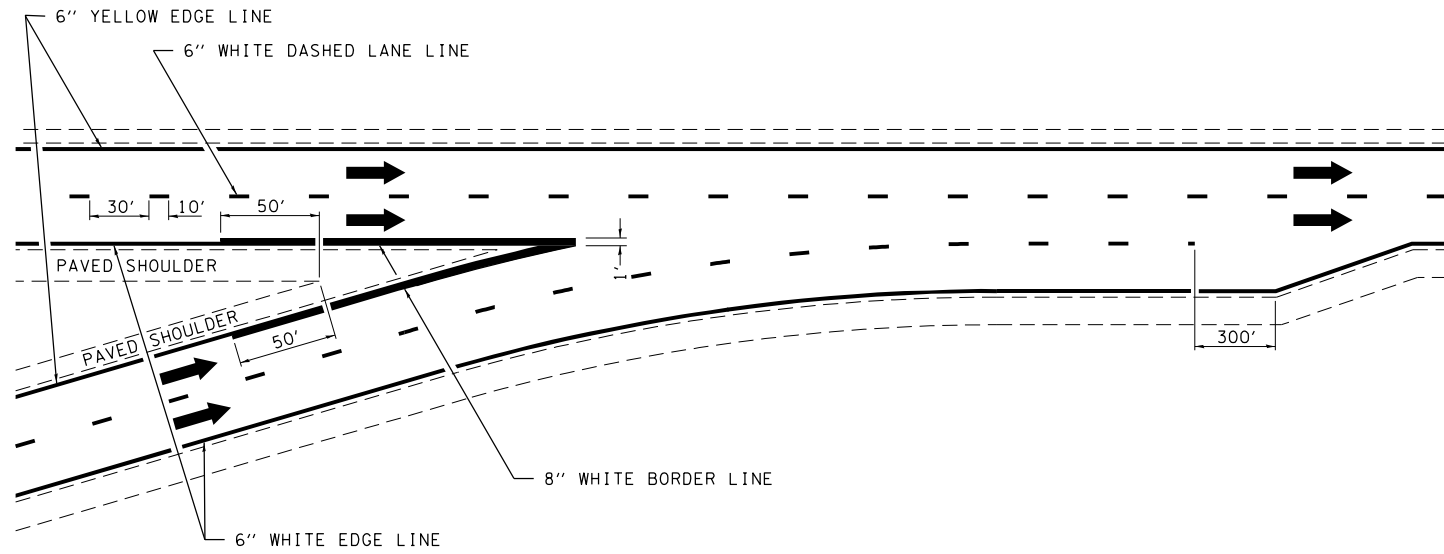
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING DETAILS

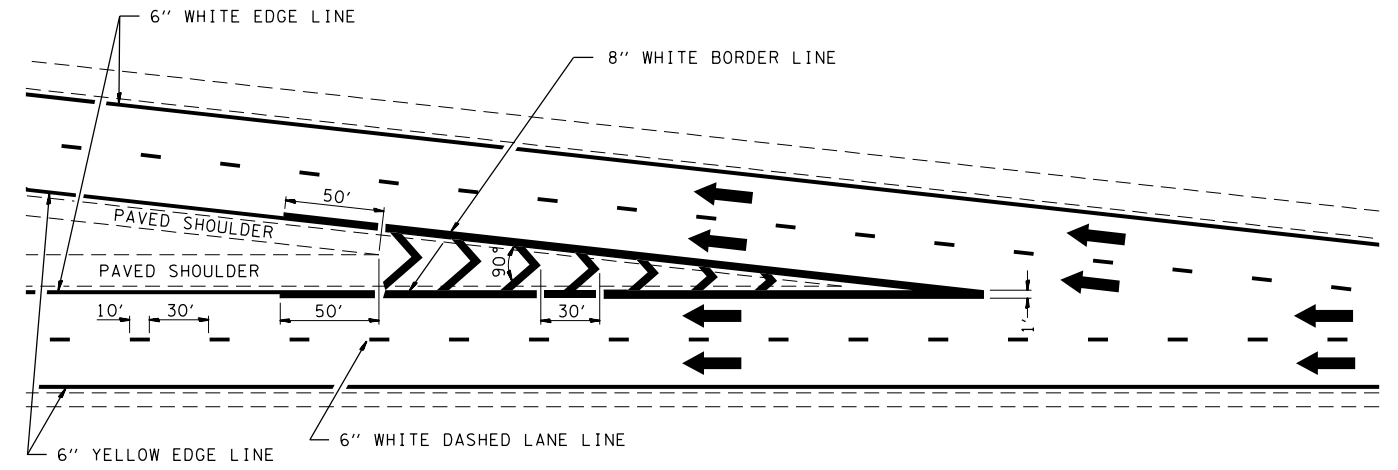
SCALE: SHEET OF SHEETS STA. TO STA.

DISTRICT 7 DETAIL NO. 7800002

| F.A.I. RE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 262 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

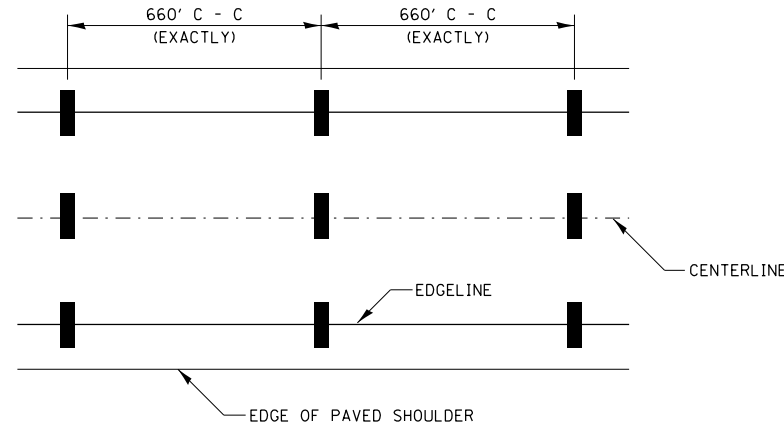


TYPICAL CONVERGENCE MARKING

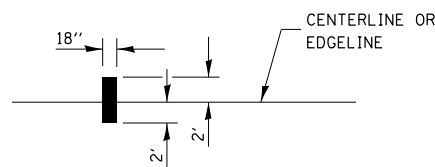


TYPICAL DIVERGENCE MARKING

AERIAL SPEED CHECK ZONES



IT WILL BE NECESSARY TO HAVE A REPRESENTATIVE OF THE STATE POLICE PRESENT SO THAT THE ACCURACY OF MEASUREMENT CAN BE ATTESTED TO IN COURT.



NOT TO SCALE

| | | | |
|---|-------------------------------|------------|-----------|
| FILE NAME = | USER NAME = steffenmk | DESIGNED - | REVISED - |
| p:\11\084EBIDINTEG\illinois.gov\PIWIDOT\Documents\DOT Offices\District 7\Projects\74664\Drawings\CAD\Sheets\0774664-sht-details.dwg | | DRAWN - | REVISED - |
| Default | PLOT SCALE = 100.0000' / 1" = | CHECKED - | REVISED - |
| | PLOT DATE = 5/1/2017 | DATE - | REVISED - |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

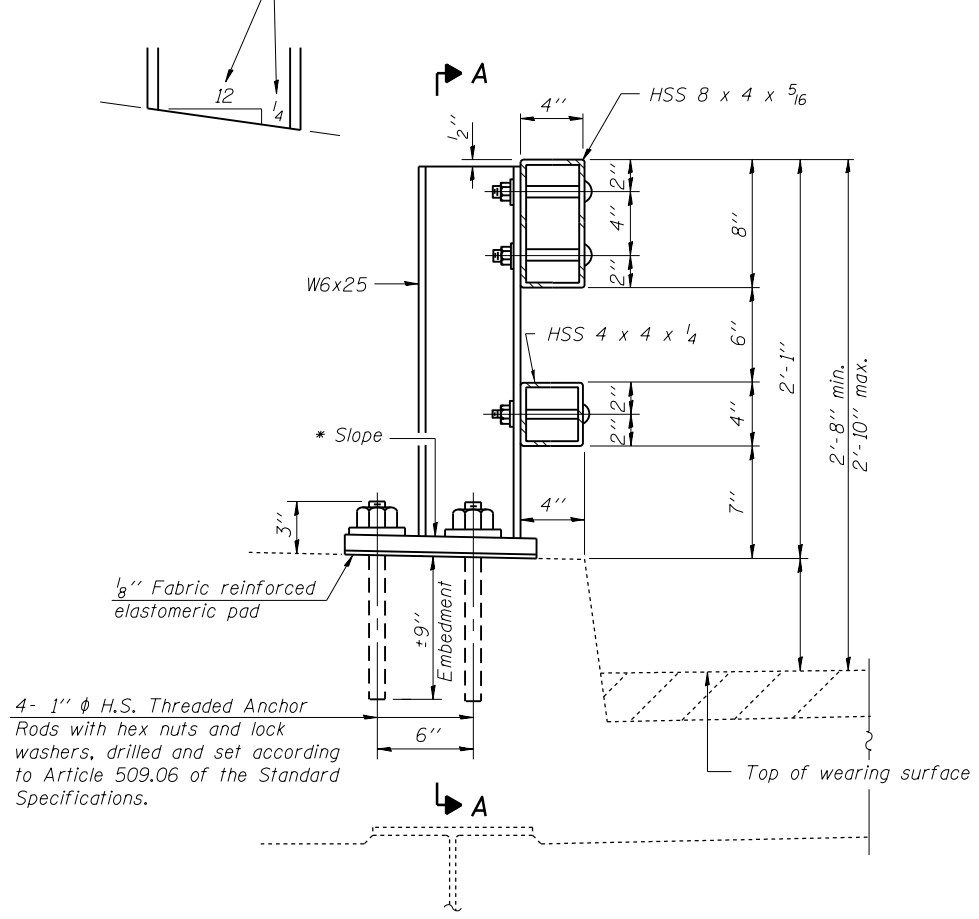
PAVEMENT MARKING DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

DISTRICT 7 DETAIL NO. 7800002

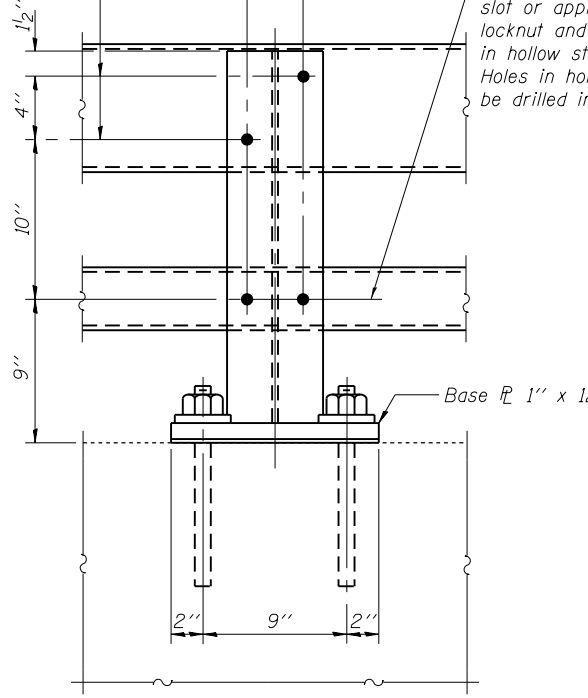
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 263 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

* Cut bottom end of post to curb slope.



SECTION AT RAIL POST

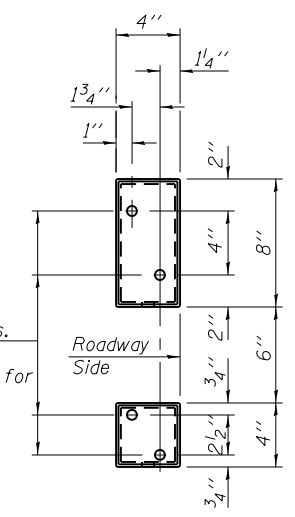
2-3/4" φ x 6" Round Head Bolts (With slot or approved recess in head.) with locknut and flat washer. 7/8" φ Holes in tubing and posts. Holes in hollow structural section may be drilled in the field.



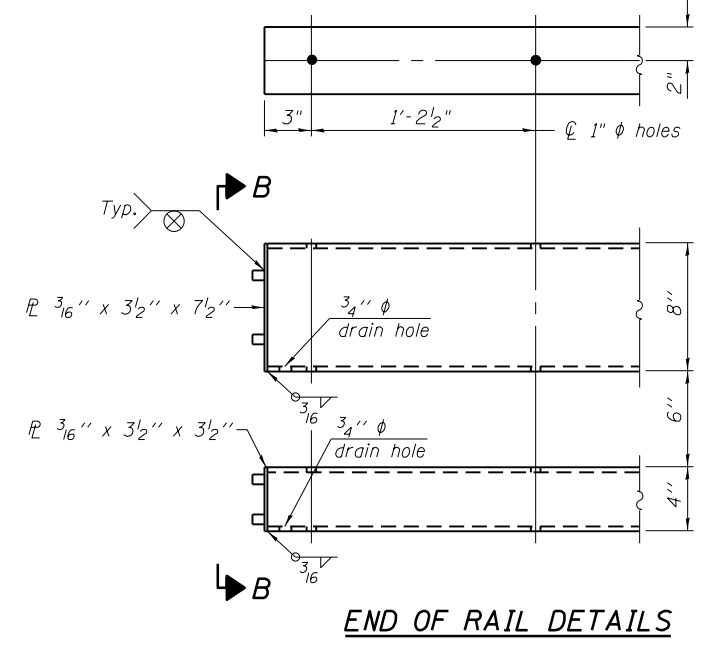
SECTION A-A

2-1/2" φ x 6" Round Head Bolts (With slot or approved recess in head.) with locknut and flat washer. 5/8" φ Holes in hollow structural section and post. Holes in hollow structural section may be drilled in the field.

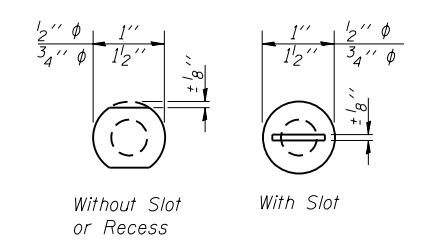
4-5/8" reduced base welded studs. Provide 4-5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.



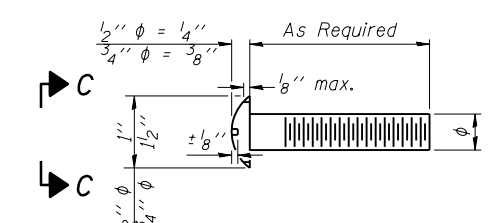
VIEW B-B



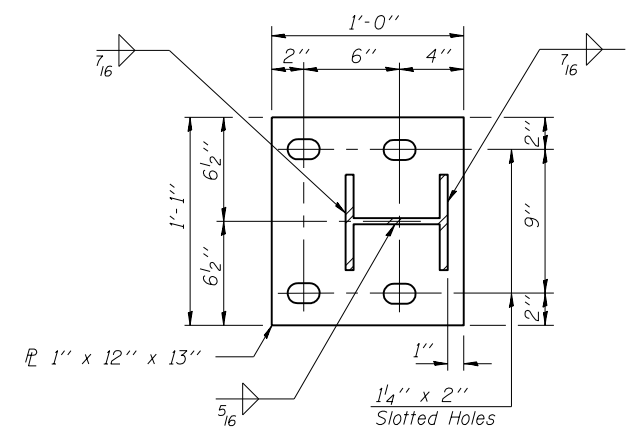
END OF RAIL DETAILS



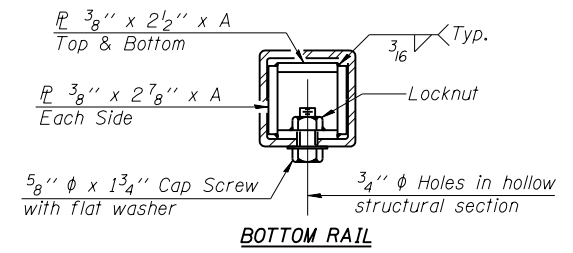
VIEW C-C



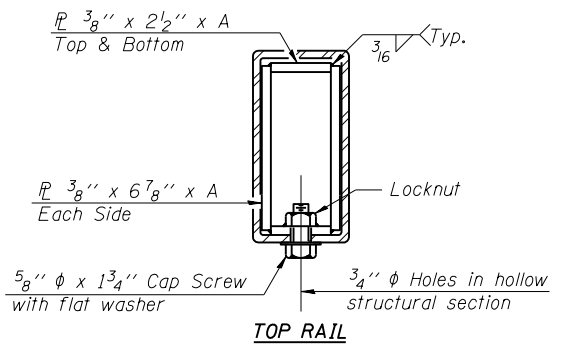
DETAIL OF 1/2" φ & 3/4" φ ROUND HEAD BOLTS



BASE PLATE DETAIL

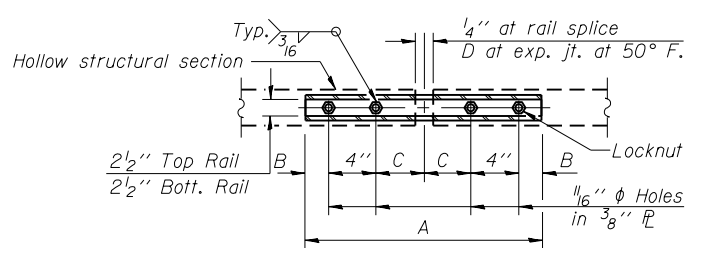


BOTTOM RAIL

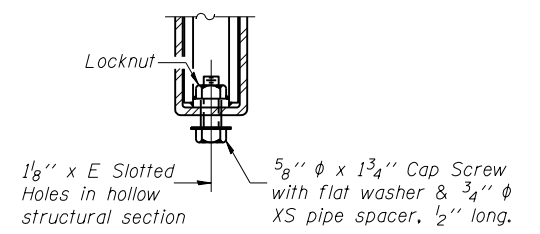


TOP RAIL

SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

Notes:

All field drilled holes shall be coated with an approved zinc rich paint before erection.
 Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.
 Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.
 Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

SPLICE DIMENSIONS

| T | D | A | B | C | E |
|-------------|--------|--------|--------|--------|--------|
| ≤4" | 2 1/2" | 1'-8" | 2" | 4" | 2 1/2" |
| >4" ≤6 1/2" | 3 3/4" | 2'-0" | 2 1/2" | 5 1/2" | 3 1/2" |
| >6 1/2" ≤9" | 5" | 2'-4" | 3 1/2" | 6 1/2" | 9" |
| >9" ≤13" | 7" | 2'-10" | 4 1/2" | 8 1/2" | 11" |
| Rail Splice | 1/4" | 1'-8" | 2" | 4" | — |

T = Total movement at expansion joint as shown on the design plans.

BILL OF MATERIAL

| Item | Struct.# | Unit | Quantity |
|--------------------------|----------|------|----------|
| Steel Railing, Type 2399 | 025-0057 | Foot | 462 |
| Steel Railing, Type 2399 | 025-0058 | Foot | 476 |
| Steel Railing, Type 2399 | 025-0059 | Foot | 474 |
| Steel Railing, Type 2399 | 025-0045 | Foot | 462 |

R-31

7-1-10

(6'-3" Maximum Post Spacing)

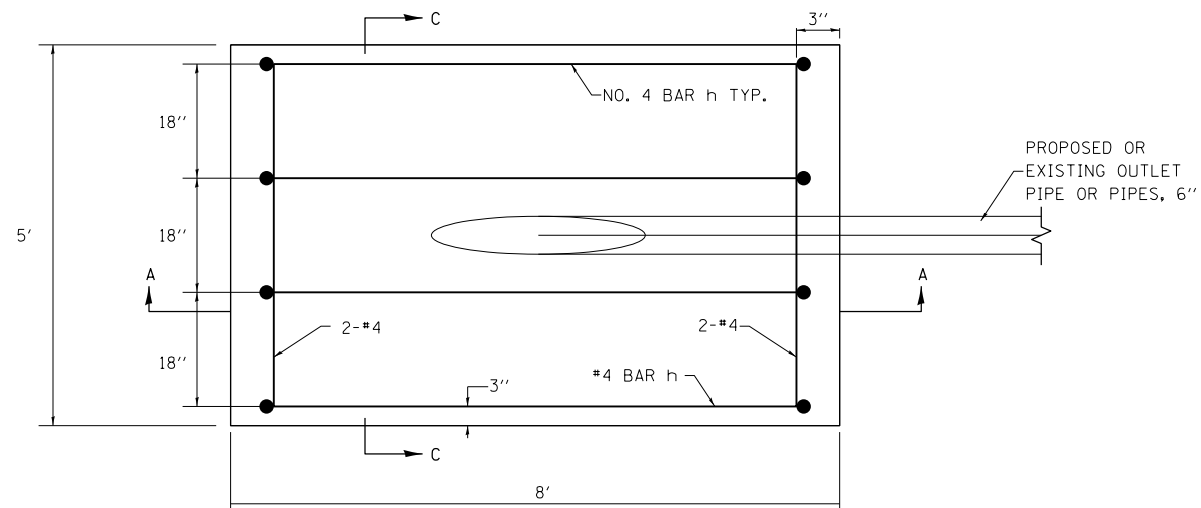
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| Default | PLOT DATE = 3/23/2017 | DATE - | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

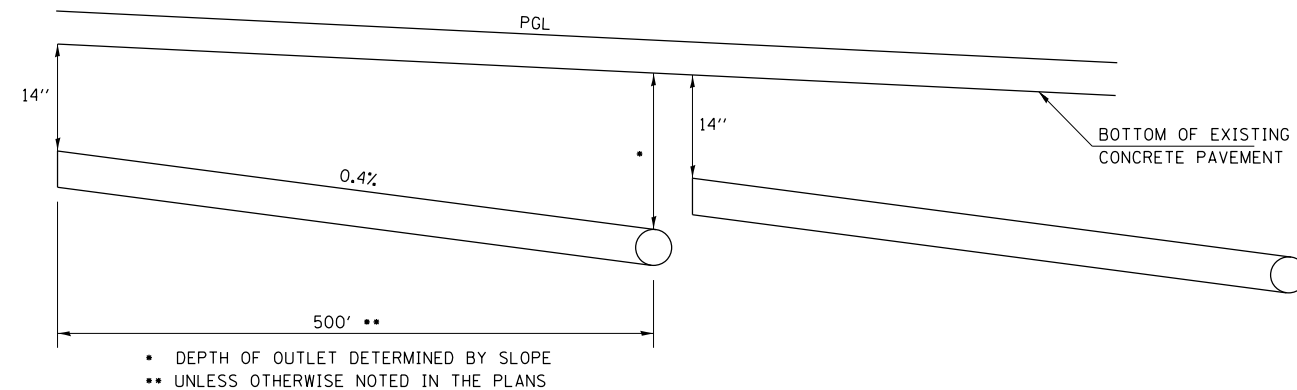
**STEEL RAIL RETROFIT FOR
OVERHEAD STRUCTURES**

SCALE: SHEET OF SHEETS STA. TO STA.

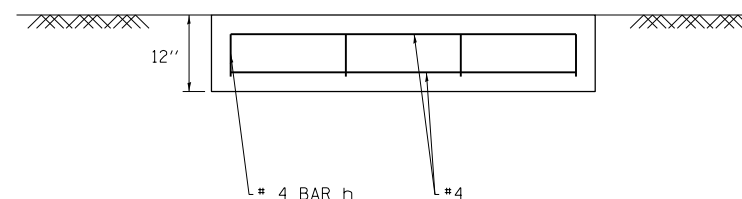
| | | | | |
|---------------------------|-----------|-----------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 264 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 74664 | |



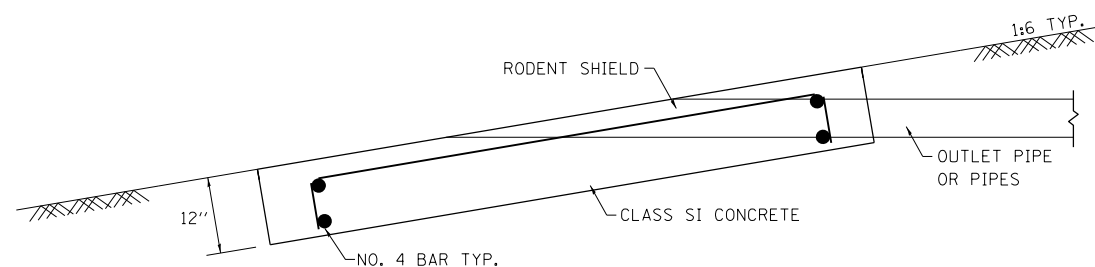
PLAN VIEW



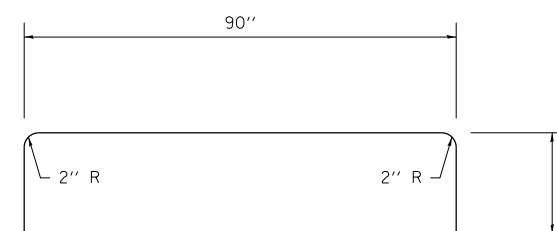
PIPE UNDERDRAIN DETAIL
(USE WHEN PGL IS LESS THAN 0.4%)



SECTION C-C



SECTION A-A



#4 h BAR

NOTES

- SEE STANDARD 601101 FOR DETAILS OF RODENT SHIELDS.
- THE OUTLET PIPE OR PIPES SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE CENTER OF THE OUTLET PROTECTOR.
- THE LAST 10 FEET OF OUTLET PIPE SHALL BE SCHEDULE 40 PVC.
- REINFORCEMENT BARS MAY BE CUT OR RELOCATED TO ACCOMMODATE PIPE.
- CUT OUTLET PIPE ON A BEVEL TO MATCH FINISHED SURFACE OF SURROUNDING PCC.
- SEEDING CLASS 2 SHALL BE CONSIDERED INCLUDED IN THE COST OF THE PAY ITEMS.

| APPROXIMATE OUTLET PROTECTOR QUANTITIES FOR EACH OUTLET PROTECTOR | |
|---|-------------------|
| CONCRETE, CLASS SI | REINFORCING STEEL |
| CU YD 1.5 | LB 35.6 |

UNDERDRAIN OUTLET PROTECTOR DETAIL

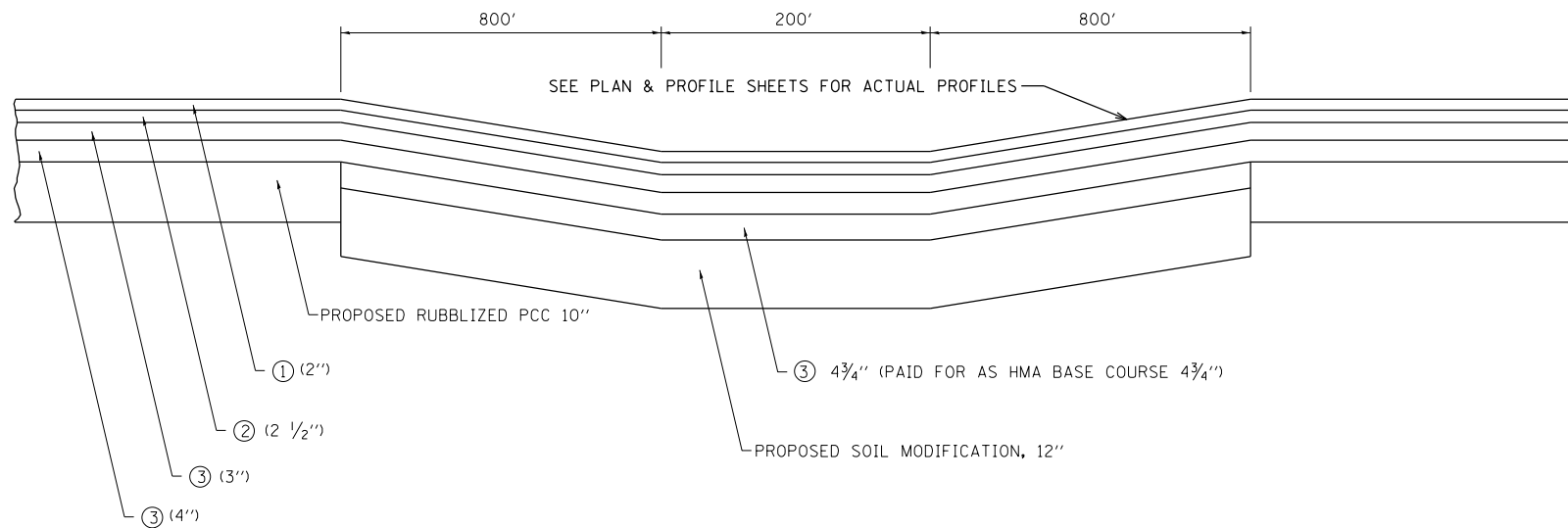
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| FILE NAME = | USER NAME = steffenmk | DESIGNED - | REVISED - |
| pw:\IL\084EBIDINTEG\illinois.gov\PWIDOT\Documents\IDOT Offices\District 7\Projects\74664\DRAWING\CA\Sheets\D774664-sht-details.p | | CHECKED - | REVISED - |
| Default | PLOT DATE = 5/1/2017 | DATE - | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OUTLET PROTECTOR DETAILS

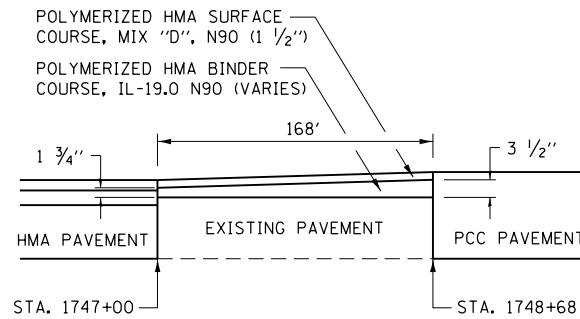
SCALE: SHEET OF SHEETS STA. TO STA.

| | | | | |
|---------------------------|-----------|-----------|--------------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
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| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 74664 | |

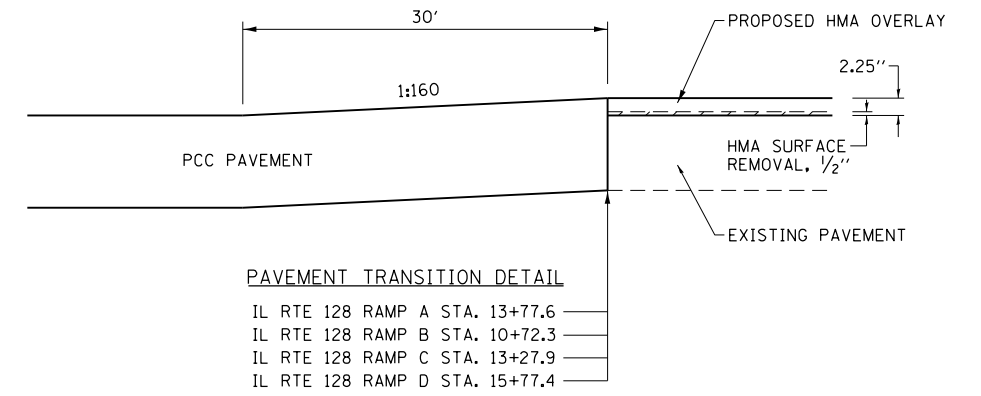


STA. 1611+48 TO STA. 1629+48 (EB)
 STA. 1611+82 TO STA. 1629+82 (WB)
 STA. 1731B+69.9 TO STA. 1749+90 (EB)
 STA. 1732+30 TO STA. 1750+30 (WB)
 STA. 1818+67 TO STA. 1836+67 (EB)
 STA. 1819+05 TO STA. 1837+05 (WB)
 STA. 1934+52 TO STA. 1952+52 (EB)
 STA. 1934+86 TO STA. 1952+86 (WB)

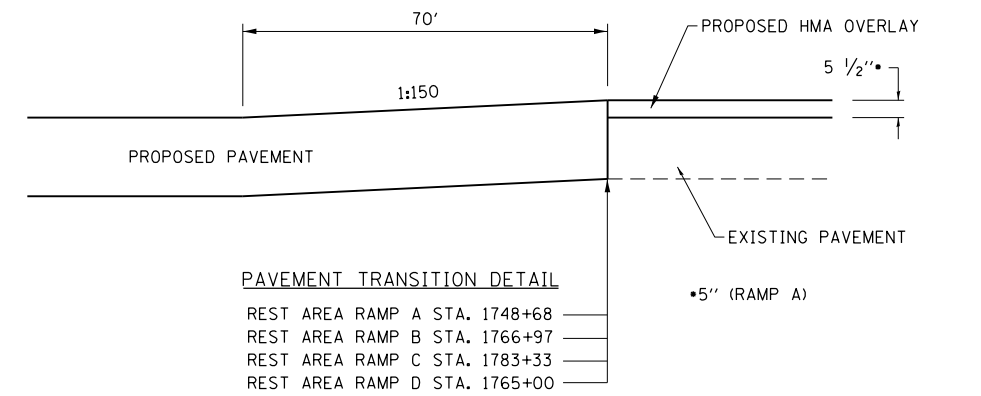
- ① POLYMERIZED HMA SURFACE COURSE, STONE MATRIX ASPHALT, N80
- ② POLYMERIZED HMA BINDER COURSE, IL-19.0, N90
- ③ HMA BINDER COURSE, IL-19.0, N90



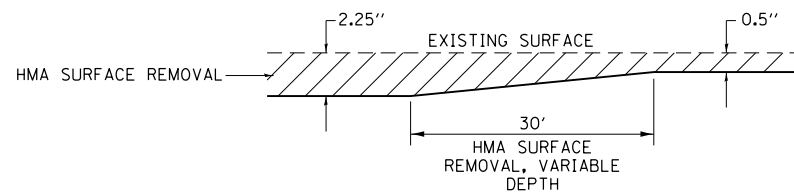
PAVEMENT TRANSITION DETAIL
 REST AREA RAMP A STA. 1747+00 TO 1748+68



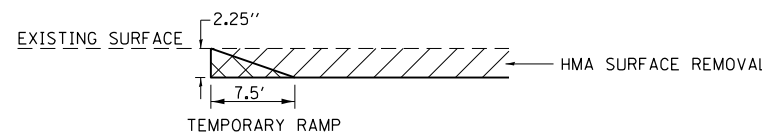
PAVEMENT TRANSITION DETAIL
 IL RTE 128 RAMP A STA. 13+77.6
 IL RTE 128 RAMP B STA. 10+72.3
 IL RTE 128 RAMP C STA. 13+27.9
 IL RTE 128 RAMP D STA. 15+77.4



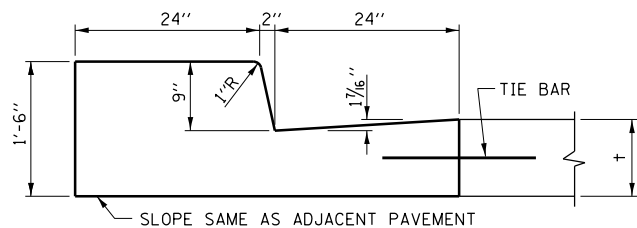
PAVEMENT TRANSITION DETAIL
 REST AREA RAMP A STA. 1748+68
 REST AREA RAMP B STA. 1766+97
 REST AREA RAMP C STA. 1783+33
 REST AREA RAMP D STA. 1765+00



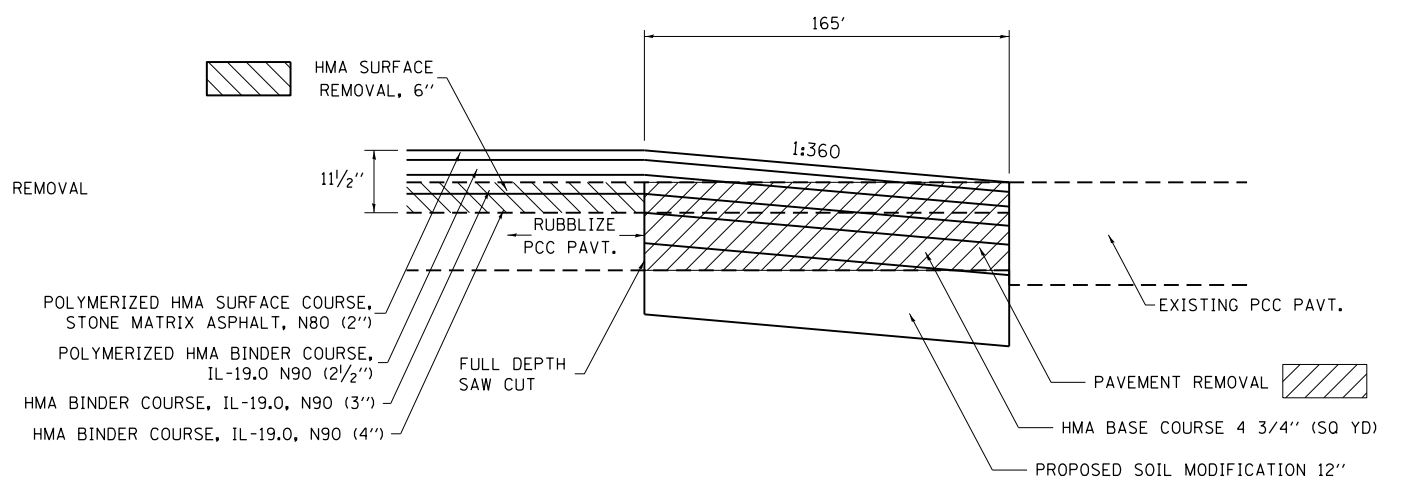
MILLING DEPTH TRANSITION DETAIL
 IL RTE 128 RAMP A STA. 1+20 TO STA. 1+50
 IL RTE 128 RAMP B STA. 1+85 TO STA. 2+15
 IL RTE 128 RAMP C STA. 1+15 TO STA. 1+45
 IL RTE 128 RAMP D STA. 1+75 TO STA. 2+05



TEMPORARY RAMP DETAIL
 IL RTE 128 RAMP A STA. 0+11 TO STA. 0+19
 IL RTE 128 RAMP A STA. 13+69 TO STA. 13+77
 IL RTE 128 RAMP B STA. 0+11 TO STA. 0+19
 IL RTE 128 RAMP B STA. 10+64 TO STA. 10+72
 IL RTE 128 RAMP C STA. 0+11 TO STA. 0+19
 IL RTE 128 RAMP C STA. 13+20 TO STA. 13+28
 IL RTE 128 RAMP D STA. 0+11 TO STA. 0+19
 IL RTE 128 RAMP D STA. 15+69 TO STA. 15+77

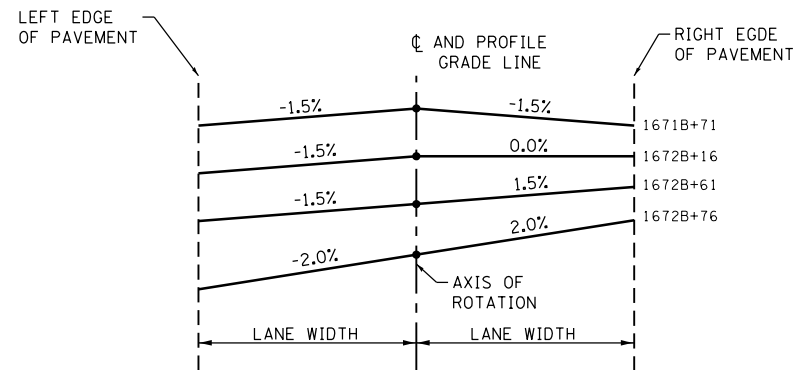


COMBINATION CONCRETE CURB AND GUTTER, TYPE B9.24 (SPECIAL) DETAIL



BUTT JOINT DETAIL
 STA. 1996+10 TO STA. 1997+75

| | | | | | | | | | | | | | |
|--|-------------------------------|------------|-----------|---|--------------------------------|-----------|-----------|--------|---------------------------|---------|--------|--------------|-----------|
| FILE NAME = | USER NAME = steffenmk | DESIGNED - | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | PAVING AND CURB DETAILS | | | | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| pw\IL084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 7\Projects\74664\Drawings\CAD\Drawings\74664-sht-details.dwg | | CHECKED - | REVISED - | | 70 | (25-1,2)R | EFFINGHAM | 496 | 266 | | | | |
| Default | PLOT SCALE = 100.0000' / 1in. | DATE - | REVISED - | | CONTRACT NO. 74664 | | | | ILLINOIS FED. AID PROJECT | | | | |
| | PLOT DATE = 5/1/2017 | | | | SCALE: | SHEET | OF | SHEETS | STA. | TO | STA. | | |

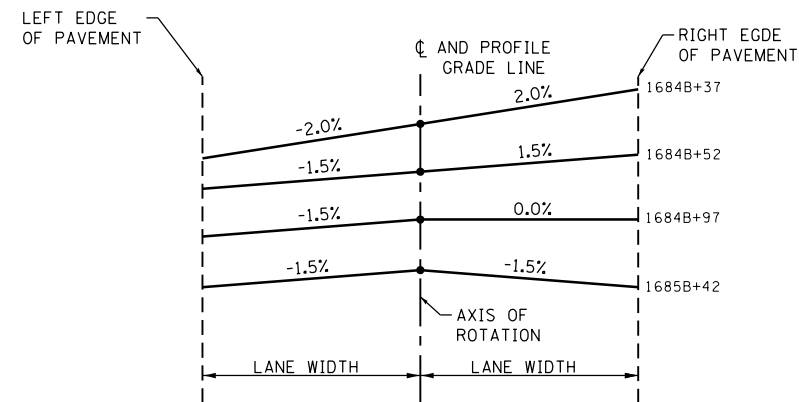


TRANSITION TABLE
FOR TRANSITION
DETAIL 1

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|----------------------|-----------------------|
| 1671B+71 | -1.50 | -1.50 |
| 1671B+86 | -1.50 | -1.00 |
| 1672B+01 | -1.50 | -0.50 |
| 1672B+16 | -1.50 | 0.00 |
| 1672B+31 | -1.50 | 0.50 |
| 1672B+46 | -1.50 | 1.00 |
| 1672B+61 | -1.50 | 1.50 |
| 1672B+76 | -2.00 | 2.00 |

TRANSITION DETAIL 1
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE EBL2 - WEST END

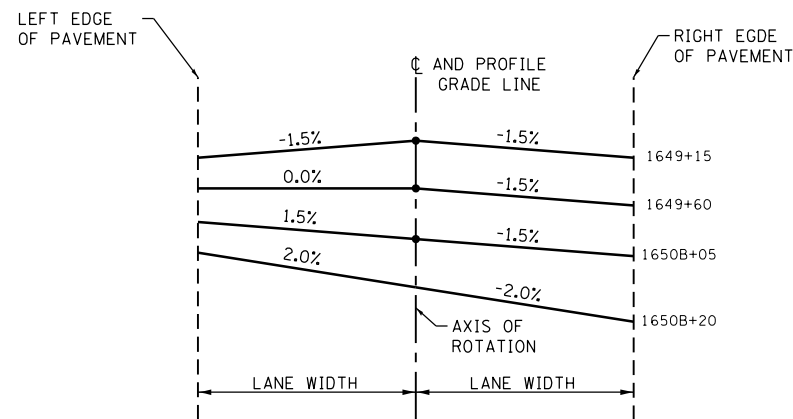


TRANSITION TABLE
FOR TRANSITION
DETAIL 3

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|----------------------|-----------------------|
| 1684B+37 | -2.00 | 2.00 |
| 1684B+52 | -1.50 | 1.50 |
| 1684B+67 | -1.50 | 1.00 |
| 1684B+82 | -1.50 | 0.50 |
| 1684B+97 | -1.50 | 0.00 |
| 1685B+12 | -1.50 | -0.50 |
| 1685B+27 | -1.50 | -1.00 |
| 1685B+42 | -1.50 | -1.50 |

TRANSITION DETAIL 3
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE EBL2 - EAST END

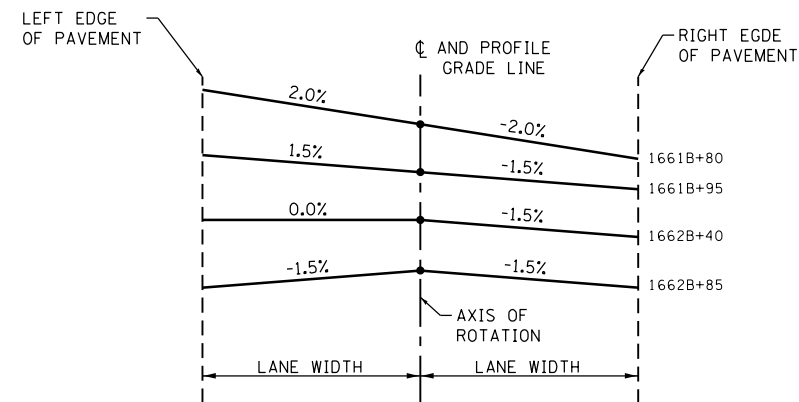


TRANSITION TABLE
FOR TRANSITION
DETAIL 2

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|----------------------|-----------------------|
| 1649+15 | -1.50 | -1.50 |
| 1649+30 | -1.00 | -1.50 |
| 1649+45 | -0.50 | -1.50 |
| 1649+60 | 0.00 | -1.50 |
| 1649+75 | 0.50 | -1.50 |
| 1649+90 | 1.00 | -1.50 |
| 1650B+05 | 1.50 | -1.50 |
| 1650B+20 | 2.00 | -2.00 |

TRANSITION DETAIL 2
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE EBL1 - WEST END

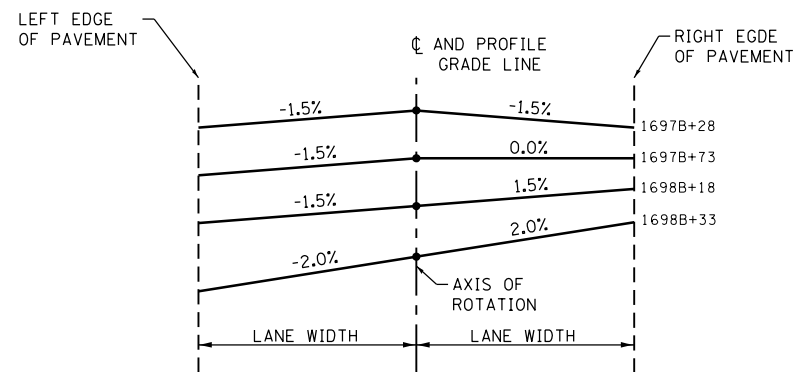


TRANSITION TABLE
FOR TRANSITION
DETAIL 4

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|----------------------|-----------------------|
| 1661B+80 | 2.00 | -2.00 |
| 1661B+95 | 1.50 | -1.50 |
| 1662B+10 | 1.00 | -1.50 |
| 1662B+25 | 0.50 | -1.50 |
| 1662B+40 | 0.00 | -1.50 |
| 1662B+55 | -0.50 | -1.50 |
| 1662B+70 | -1.00 | -1.50 |
| 1662B+85 | -1.50 | -1.50 |

TRANSITION DETAIL 4
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE EBL1 - EAST END

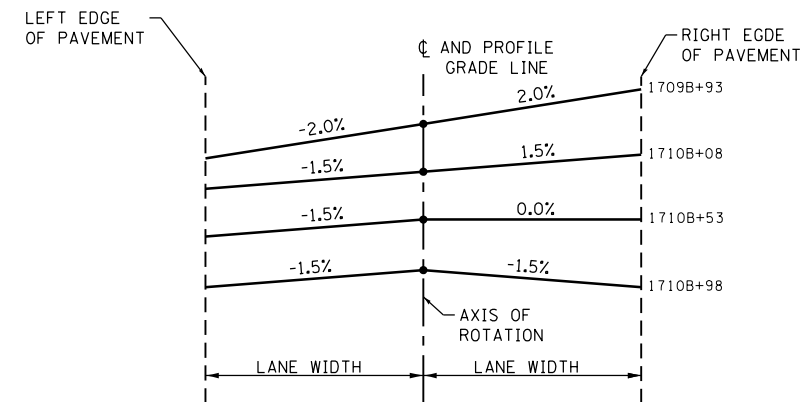


TRANSITION TABLE
FOR TRANSITION
DETAIL 1

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|-------------------------|--------------------------|
| 1697B+28 | -1.50 | -1.50 |
| 1697B+43 | -1.50 | -1.00 |
| 1697B+58 | -1.50 | -0.50 |
| 1697B+73 | -1.50 | 0.00 |
| 1697B+88 | -1.50 | 0.50 |
| 1698B+03 | -1.50 | 1.00 |
| 1698B+18 | -1.50 | 1.50 |
| 1698B+33 | -2.00 | 2.00 |

TRANSITION DETAIL 1
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE EBL3 - WEST END

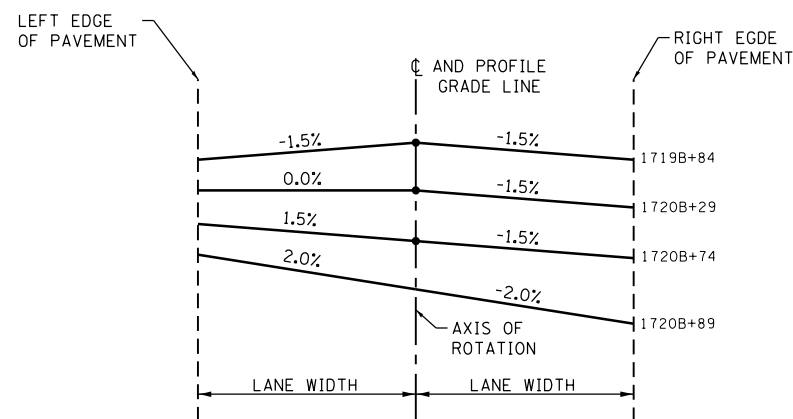


TRANSITION TABLE
FOR TRANSITION
DETAIL 3

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|-------------------------|--------------------------|
| 1709B+93 | -2.00 | 2.00 |
| 1710B+08 | -1.50 | 1.50 |
| 1710B+23 | -1.50 | 1.00 |
| 1710B+38 | -1.50 | 0.50 |
| 1710B+53 | -1.50 | 0.00 |
| 1710B+68 | -1.50 | -0.50 |
| 1710B+83 | -1.50 | -1.00 |
| 1710B+98 | -1.50 | -1.50 |

TRANSITION DETAIL 3
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE EBL3 - EAST END

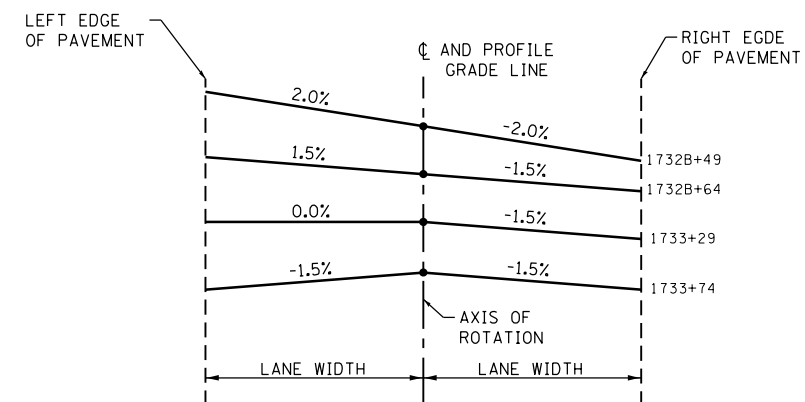


TRANSITION TABLE
FOR TRANSITION
DETAIL 2

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|-------------------------|--------------------------|
| 1719B+84 | -1.50 | -1.50 |
| 1719B+99 | -1.00 | -1.50 |
| 1720B+14 | -0.50 | -1.50 |
| 1720B+29 | 0.00 | -1.50 |
| 1720B+44 | 0.50 | -1.50 |
| 1720B+59 | 1.00 | -1.50 |
| 1720B+74 | 1.50 | -1.50 |
| 1720B+89 | 2.00 | -2.00 |

TRANSITION DETAIL 2
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE EBL4 - WEST END

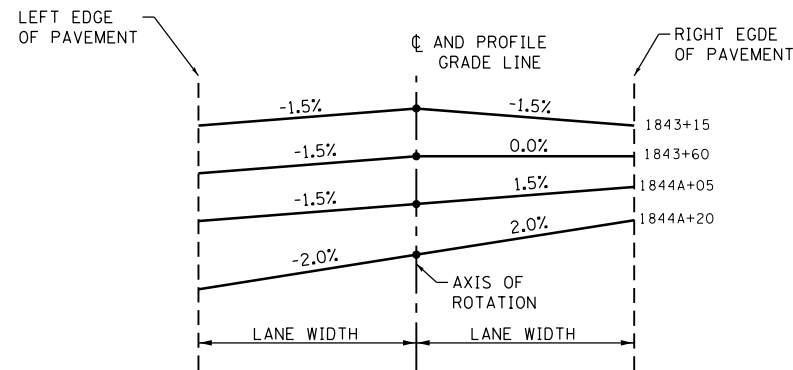


TRANSITION TABLE
FOR TRANSITION
DETAIL 4

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|-------------------------|--------------------------|
| 1732B+49 | 2.00 | -2.00 |
| 1732B+64 | 1.50 | -1.50 |
| 1732+99 | 1.00 | -1.50 |
| 1733+14 | 0.50 | -1.50 |
| 1733+29 | 0.00 | -1.50 |
| 1733+44 | -0.50 | -1.50 |
| 1733+59 | -1.00 | -1.50 |
| 1733+74 | -1.50 | -1.50 |

TRANSITION DETAIL 4
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE EBL4 - EAST END

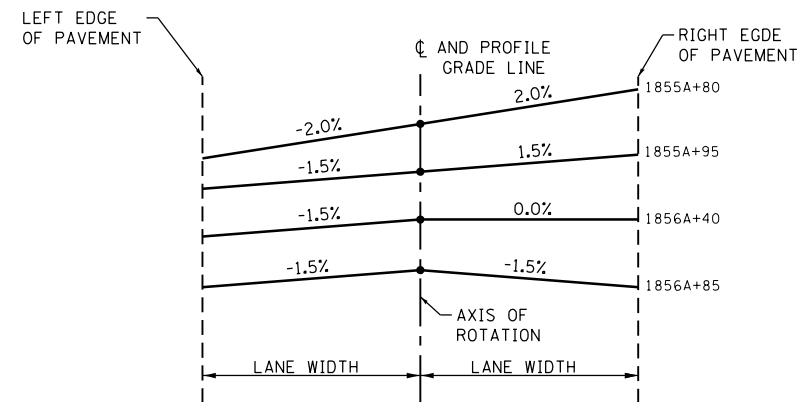


TRANSITION TABLE
FOR TRANSITION
DETAIL 1

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|----------------------|-----------------------|
| 1843+15 | -1.50 | -1.50 |
| 1843+30 | -1.50 | -1.00 |
| 1843+45 | -1.50 | -0.50 |
| 1843+60 | -1.50 | 0.00 |
| 1843+75 | -1.50 | 0.50 |
| 1843+90 | -1.50 | 1.00 |
| 1844A+05 | -1.50 | 1.50 |
| 1844A+20 | -2.00 | 2.00 |

TRANSITION DETAIL 1
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE WBL1 - WEST END

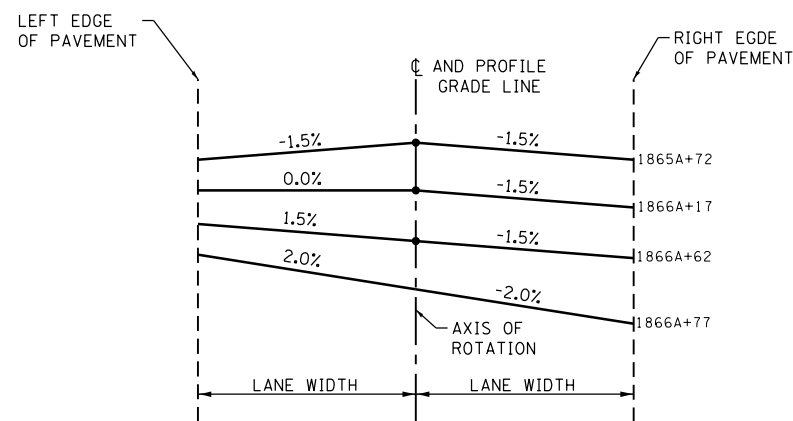


TRANSITION TABLE
FOR TRANSITION
DETAIL 3

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|----------------------|-----------------------|
| 1855A+80 | -2.00 | 2.00 |
| 1855A+95 | -1.50 | 1.50 |
| 1856A+10 | -1.50 | 1.00 |
| 1856A+25 | -1.50 | 0.50 |
| 1856A+40 | -1.50 | 0.00 |
| 1856A+55 | -1.50 | -0.50 |
| 1856A+70 | -1.50 | -1.00 |
| 1856A+85 | -1.50 | -1.50 |

TRANSITION DETAIL 3
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE WBL1 - EAST END

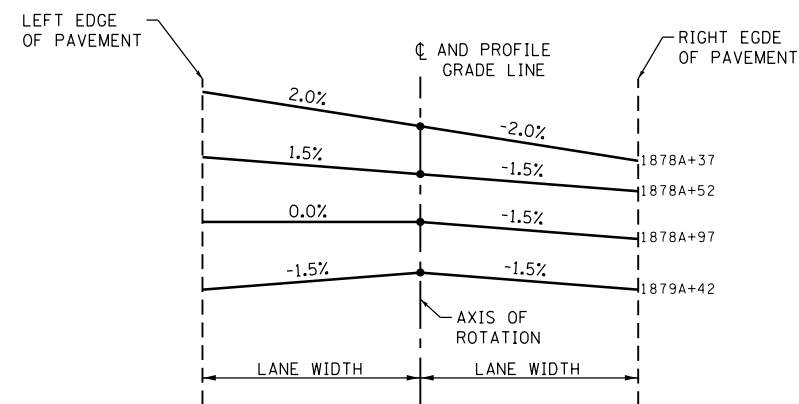


TRANSITION TABLE
FOR TRANSITION
DETAIL 2

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|----------------------|-----------------------|
| 1865A+72 | -1.50 | -1.50 |
| 1865A+87 | -1.00 | -1.50 |
| 1866A+02 | -0.50 | -1.50 |
| 1866A+17 | 0.00 | -1.50 |
| 1866A+32 | 0.50 | -1.50 |
| 1866A+47 | 1.00 | -1.50 |
| 1866A+62 | 1.50 | -1.50 |
| 1866A+77 | 2.00 | -2.00 |

TRANSITION DETAIL 2
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE WBL2 - WEST END

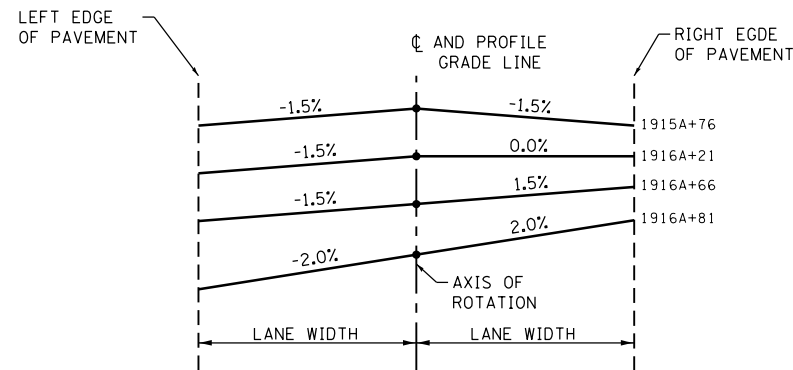


TRANSITION TABLE
FOR TRANSITION
DETAIL 4

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|----------------------|-----------------------|
| 1878A+37 | 2.00 | -2.00 |
| 1878A+52 | 1.50 | -1.50 |
| 1878A+67 | 1.00 | -1.50 |
| 1878A+82 | 0.50 | -1.50 |
| 1878A+97 | 0.00 | -1.50 |
| 1879A+12 | -0.50 | -1.50 |
| 1879A+27 | -1.00 | -1.50 |
| 1879A+42 | -1.50 | -1.50 |

TRANSITION DETAIL 4
SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE WBL2 - EAST END



TRANSITION TABLE

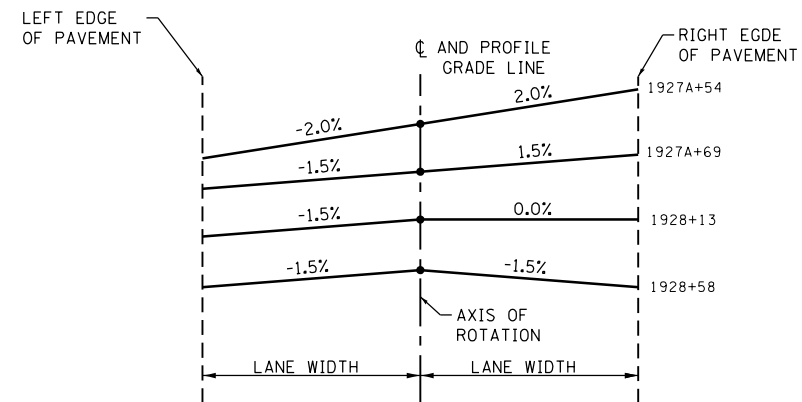
FOR TRANSITION
DETAIL 1

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|-------------------------|--------------------------|
| 1915A+76 | -1.50 | -1.50 |
| 1915A+91 | -1.50 | -1.00 |
| 1916A+06 | -1.50 | -0.50 |
| 1916A+21 | -1.50 | 0.00 |
| 1916A+36 | -1.50 | 0.50 |
| 1916A+51 | -1.50 | 1.00 |
| 1916A+66 | -1.50 | 1.50 |
| 1916A+81 | -2.00 | 2.00 |

TRANSITION DETAIL 1

SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE WBL4 - WEST END



TRANSITION TABLE

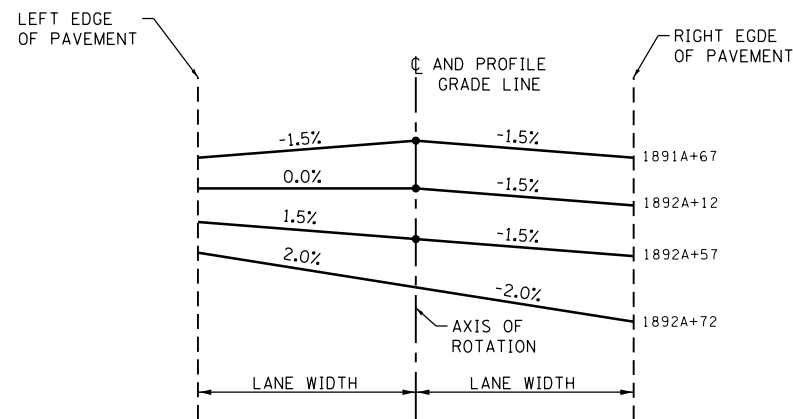
FOR TRANSITION
DETAIL 3

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|-------------------------|--------------------------|
| 1927A+54 | -2.00 | 2.00 |
| 1927A+69 | -1.50 | 1.50 |
| 1927+83 | -1.50 | 1.00 |
| 1927+98 | -1.50 | 0.50 |
| 1928+13 | -1.50 | 0.00 |
| 1928+28 | -1.50 | -0.50 |
| 1928+43 | -1.50 | -1.00 |
| 1928+58 | -1.50 | -1.50 |

TRANSITION DETAIL 3

SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE WBL4 - EAST END



TRANSITION TABLE

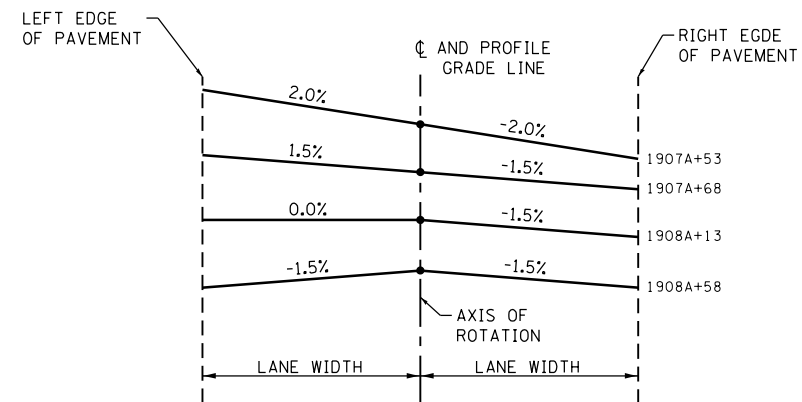
FOR TRANSITION
DETAIL 2

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|-------------------------|--------------------------|
| 1891A+67 | -1.50 | -1.50 |
| 1891A+82 | -1.00 | -1.50 |
| 1891A+97 | -0.50 | -1.50 |
| 1892A+12 | 0.00 | -1.50 |
| 1892A+27 | 0.50 | -1.50 |
| 1892A+42 | 1.00 | -1.50 |
| 1892A+57 | 1.50 | -1.50 |
| 1892A+72 | 2.00 | -2.00 |

TRANSITION DETAIL 2

SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE WBL3 - WEST END



TRANSITION TABLE

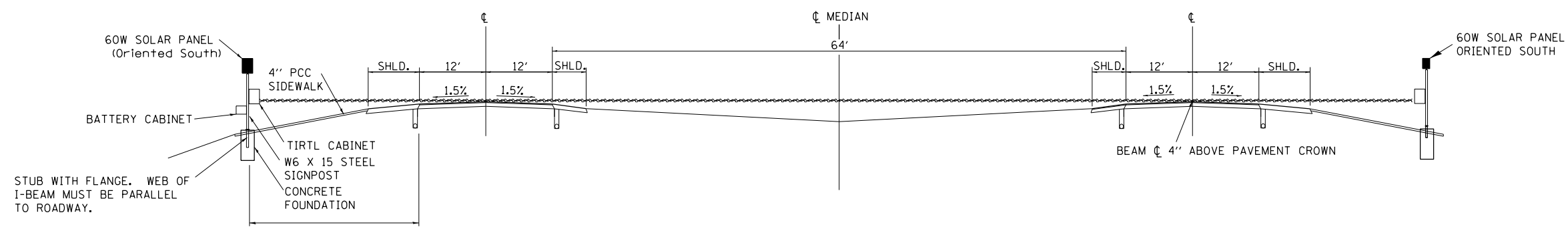
FOR TRANSITION
DETAIL 4

| Station | LEFT Cross Slope (%) | RIGHT Cross Slope (%) |
|----------|-------------------------|--------------------------|
| 1907A+53 | 2.00 | -2.00 |
| 1907A+68 | 1.50 | -1.50 |
| 1907A+83 | 1.00 | -1.50 |
| 1907A+98 | 0.50 | -1.50 |
| 1908A+13 | 0.00 | -1.50 |
| 1908A+28 | -0.50 | -1.50 |
| 1908A+43 | -1.00 | -1.50 |
| 1908A+58 | -1.50 | -1.50 |

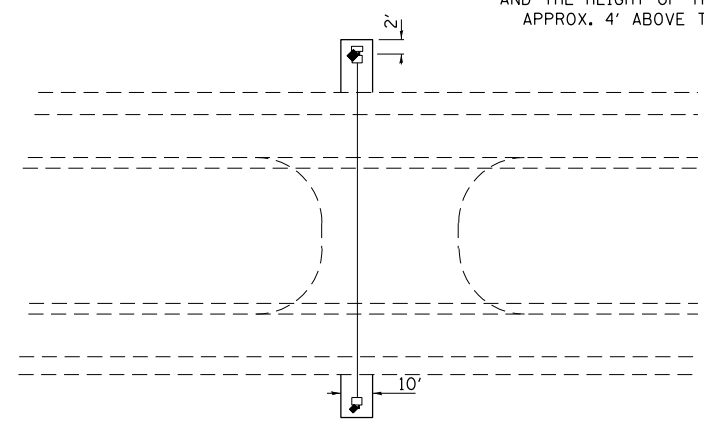
TRANSITION DETAIL 4

SEE PLAN AND PROFILE SHEETS FOR INDIVIDUAL
CURVE DATA AND SUPERELEVATION DETAILS

CURVE WBL3 - EAST END



INTERSTATE SECTION AT MAINTENANCE CROSSOVER



LOCATION: THE FIRST CROSS-OVER WEST OF LITTLE WABASH RIVER BRIDGE (STA. 1977+60±)

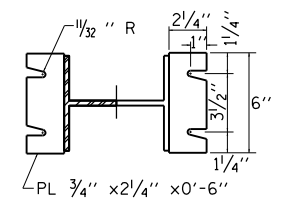
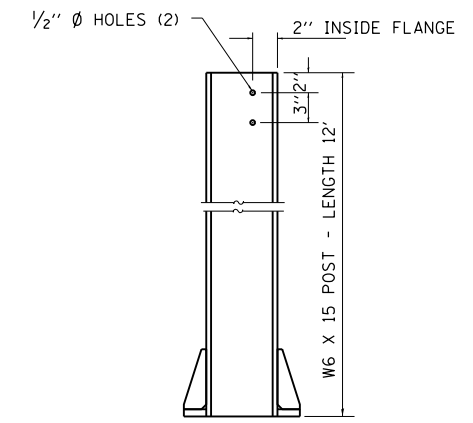
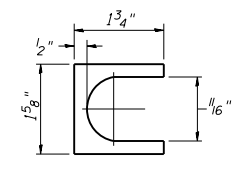
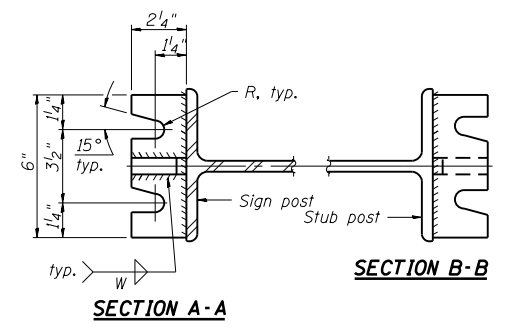
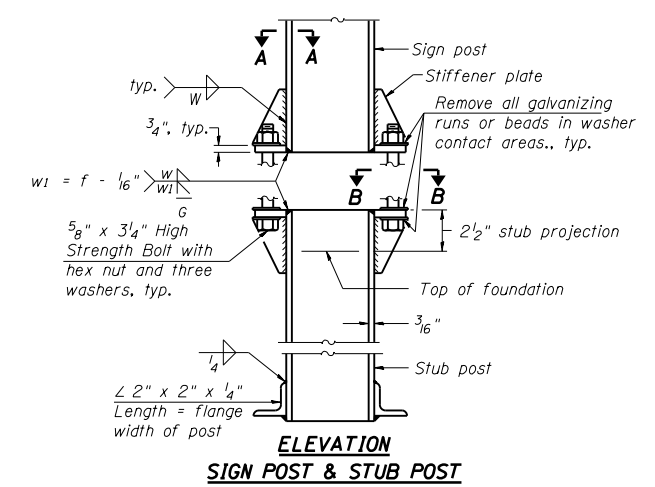
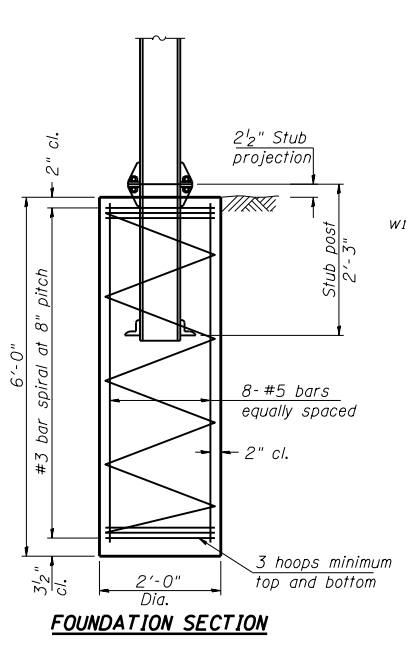
THIS DISTANCE VARIES TO ADJUST THE PLACEMENT OF THE TIRTL CABINET SO THE HEIGHT OF THE BEAM IS 4" ABOVE THE CROWN OF THE PAVEMENT AND THE HEIGHT OF THE CABINET IS APPROX. 4' ABOVE THE GROUND.

NOTES:

1. SYSTEM CONSISTS OF TWO W6 X 15 I-BEAM SIGNPOSTS WITH CONCRETE FOUNDATION AND A FLANGE WITH BREAKAWAY BOLTS
2. THE I-BEAMS ARE 12' LONG AND DRILLED AS PER THE I-BEAM DETAIL TO ACCOMMODATE A PIPE TO ALLOW THE MOUNTING OF THE SOLAR PANEL.
3. THE WEB OF THE I-BEAM IS TO BE PLACED PARALLEL TO THE LANES.
4. THE TWO POSTS MUST BE PLACED DIRECTLY ACROSS FROM EACH OTHER AND PERPENDICULAR TO THE LANES.
5. TWO POSTS ARE REQUIRED LOCATED AS PER THE ENGINEER AND DRAWING.
6. THE CABINETS ARE ATTACHED TO THE I-BEAM USING 8" GALVANIZED J-BOLTS.
7. THE BOTTOM OF THE CABINET HEIGHT MUST BE NO LOWER THAN 4' ABOVE THE GROUND AND BE ABLE TO VIEW ACROSS ALL LANES AT THE CROWN OF THE PAVEMENT.
8. THE IDOT OFFICE OF PLANNING AND PROGRAMMING DATA MANAGEMENT LAB (RAMON TAYLOR or RICH MARX 217-782-2065) SHALL BE NOTIFIED TWO WEEKS PRIOR TO THE LAYOUT AND SHALL BE PRESENT DURING THE PLACEMENT OF THE POST FOUNDATIONS.

TIRTL TRAFFIC COUNTER SCHEDULE OF QUANTITIES (FOR INFORMATION ONLY)

| CODE NUMBER | ITEM | UNIT | QUANTITY |
|--|--|-------|----------|
| 42400100 | PORTLAND CEMENT CONCRETE SIDEWALK 4 INCH | SQ FT | 283.5 |
| 72700100 | STRUCTURAL STEEL SIGN SUPPORT - BREAKAWAY | POUND | 520 |
| 73400100 | CONCRETE FOUNDATIONS | CU YD | 1.4 |
| X0323388 | TRAFFIC COUNTER (INCLUDES ITEMS BELOW) | EACH | 1 |
| TIRTL TRAFFIC DATA COLLECTION SYSTEM INCLUDES: | | | |
| | Sierra Wireless GX-450 Mobile 4G XLTE Gateway EVDO-Verizon | EACH | 1 |
| | Panorama Low Profile LTE MIMO LGAM-BC3G-26-3SP Antenna | EACH | 1 |
| | TIRTL CABINET 15" X 27" X 16" | EACH | 2 |
| | BATTERY CABINET 16.5" X 16" X 11.5" BBA1M w/ #2 Police Lock | EACH | 1 |
| | SOLAR PANEL 60 W 12 VDC with Bracket | EACH | 2 |
| | TIRTL TRAFFIC COUNTER | EACH | 1 |
| | SUNSAVER SOLAR CHARGE REGULATOR 10 AMP 12 VDC | EACH | 2 |
| | BATTERY - 33 AH ABSORBED ELECTROLYTE 8" X 5.5" X 7" (DEEP CYCLE) | EACH | 1 |
| | BATTERY -104AH ABSORBED ELECTROLYTE 10" X 6" X 8" (DEEP CYCLE) | EACH | 1 |



GENERAL NOTES

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 727.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

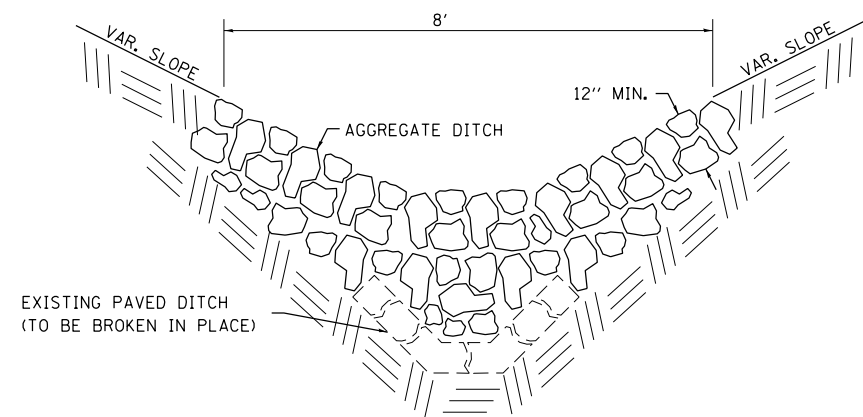
DESIGN STRESSES:
 Structural steel - 20,000 p.s.i.
 Reinforcing steel - 20,000 p.s.i.
 Concrete - 1,400 p.s.i.
 Footing soil pressure - 2,000 p.s.f.

After fabrication, the post and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

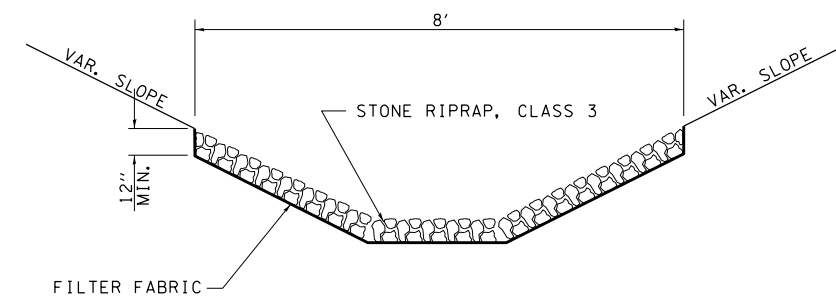
BREAK-AWAY WIDE FLANGE STEEL POST DETAILS

| STATION | PAVED DITCH REMOVAL | BREAKING PAVED DITCH | AGGREGATE DITCH | REMOVE EXISTING RIPRAP | FILTER FABRIC | STONE RIPRAP, CLASS A3 |
|---|------------------------|-------------------------|-----------------|---------------------------|---------------|---------------------------|
| | FOOT | FOOT | TON | SO YD | SO YD | SO YD |
| RAMP C | | | | | | |
| RT STA 10+03 TO 10+49 | | 61 | 30.5 | | | |
| RAMP D | | | | | | |
| RT STA 12+70 TO 13+83 | | 88 | 44 | | | |
| LT STA 13+00 TO 13+71 | | 81 | 40.5 | | | |
| I-70 EASTBOUND | | | | | | |
| RT STA 1551+17 TO 1551+42 | | 27 | 13.5 | | | |
| RT STA 1620+55 TO 1620+84 | 33 | | | | | |
| RT STA 1646+16 TO 1646+93 | | | | 55 | 85 | 68 |
| RT STA 1690B+22 TO 1691B+57 | | | | 223 | 139 | 111 |
| RT STA 1705B+36 TO 1707B+42 | | 209 | 104.5 | | | |
| RT STA 1714B+97 TO 1717B+45 | | | | 272 | 278 | 222 |
| RT STA 1740+13 TO 1740+59 | 47 | | | | | |
| RT STA 1750+82 TO 1750+95 | | 27 | 13.5 | | | |
| RT STA 1791+19 TO 1792+33 | | | | 71 | 129 | 103 |
| RT STA 1797+72 TO 1800+66 | | | | 541 | 321 | 257 |
| RT STA 1810+26 TO 1811+92 | | | | 103 | 185 | 148 |
| RT STA 1877+44 TO 1878+24 | | | | 58 | 81 | 65 |
| LT STA 1878+00 TO 1879+00 | | | | 63 | 113 | 90 |
| RT STA 1890+39 TO LT STA 1892+39 | | | | 297 | 251 | 201 |
| RT STA 1891+00 TO 1892+64 | | | | 250 | 226 | 181 |
| RT STA 1899+72 TO 1901+10 | | | | 97 | 151 | 121 |
| RT STA 1906+00 TO 1906+36 | | | | 25 | 39 | 31 |
| RT STA 1906+02 TO 1906+21 | | | | 12 | 19 | 15 |
| RT STA 1916+05 TO 1919+38 | | | | 247 | 370 | 296 |
| RT STA 1920+08 TO 1921+56 | | | | 87 | 165 | 132 |
| RT STA 1930+16 TO 1931+02 | 86 | | | | | |
| RT STA 1933+43 TO 1936+09 | | | | 255 | 308 | 246 |
| RT STA 1942+23 TO 1943+27 | | 128 | 64 | | | |
| RT STA 1976+86 TO 1977+35 | | | | 70 | 53 | 42 |
| RAMPS & I-70 EASTBOUND TOTAL | 166 | 621 | 310.5 | 2726 | 2913 | 2329 |

| STATION | PAVED DITCH REMOVAL | BREAKING PAVED DITCH | AGGREGATE DITCH | REMOVE EXISTING RIPRAP | FILTER FABRIC | STONE RIPRAP, CLASS A3 |
|------------------------------|------------------------|-------------------------|-----------------|---------------------------|---------------|---------------------------|
| I-70 WESTBOUND | | | | | | |
| LT STA 1550+66 TO 1553+27 | | | | 286 | | |
| LT STA 1550+71 TO 1551+65 | | | | | 70 | 56 |
| LT STA 1552+12 TO 1553+27 | | | | | 108 | 86 |
| LT STA 1564+35 TO 1564+46 | | | | 26 | 21 | 17 |
| LT STA 1621+11 TO 1621+59 | 48 | | | | | |
| LT STA 1642+83 TO 1643+19 | | | | 12 | 38 | 30 |
| LT STA 1643+17 TO 1643+65 | | 49 | 24.5 | | | |
| LT STA 1648+74 TO 1649+08 | 35 | | | | | |
| LT STA 1677+05 TO 1677+61 | | | | 33 | 60 | 48 |
| LT STA 1688+44 TO 1689+75 | | | | 78 | 146 | 117 |
| RT STA 1702+70 TO LT 1704+26 | | | | 100 | 179 | 143 |
| LT STA 1716+37 TO 1717+08 | | | | 50 | 81 | 65 |
| RT STA 1717+86 TO 1718+01 | | | | | 21 | 17 |
| RT STA 1719+70 TO 1720+72 | | | | 68 | 129 | 103 |
| LT STA 1723+99 TO 1724+98 | | | | 61 | 114 | 91 |
| LT STA 1741+08 TO 1741+25 | 17 | | | | | |
| LT STA 1765+55 TO 1766+01 | | 52 | 26 | | | |
| LT STA 1778+06 TO 1778+42 | | 38 | 19 | | | |
| LT STA 1781+95 TO 1782+31 | | 55 | 27.5 | | | |
| LT STA 1795+57 TO 1797+17 | 173 | | | | | |
| LT STA 1796+68 TO 1797+08 | | | | 24 | 31 | 25 |
| LT STA 1798+69 TO 1799+55 | | | | 403 | | |
| LT STA 1799+48 TO 1803+04 | 362 | | | | | |
| LT STA 1812+62 TO 1814+09 | | | | 98 | | |
| LT STA 1827+60 TO 1827+88 | | 65 | 32.5 | | | |
| LT STA 1873A+38 TO 1878A+37 | | | | 703 | 555 | 444 |
| RT STA 1876A+80 TO 1878A+24 | | | | 78 | 159 | 127 |
| LT STA 1889A+62 TO 1890A+58 | | | | 66 | 108 | 86 |
| LT STA 1899A+34 TO 1899A+96 | 63 | | | | | |
| LT STA 1918A+27 TO 1920A+32 | | | | 139 | | |
| LT STA 1919A+51 TO 1919A+93 | | | | 34 | 46 | 37 |
| LT STA 1977+61 TO 1978+41 | | | | 96 | 94 | 75 |
| LT STA 1985+15 TO 1986+34 | | | | 78 | 133 | 106 |
| LT STA 1989+85 TO 1990+54 | | | | 68 | 76 | 61 |
| I-70 WESTBOUND TOTAL | 698 | 259 | 129.5 | 2501 | 2169 | 1734 |
| PROJECT TOTAL | 864 | 880 | 440 | 5227 | 5082 | 4063 |



DETAIL OF AGGREGATE DITCH



DETAIL OF RIPRAP, CLASS 3

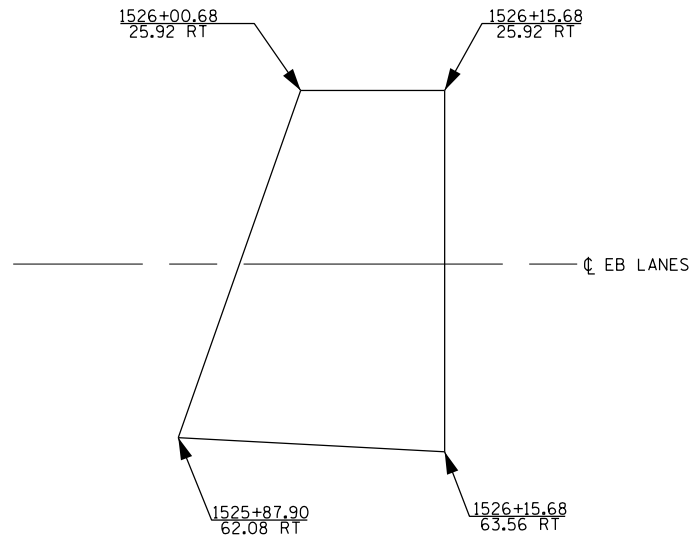
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| Default | PLOT DATE = 5/1/2017 | DATE - | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

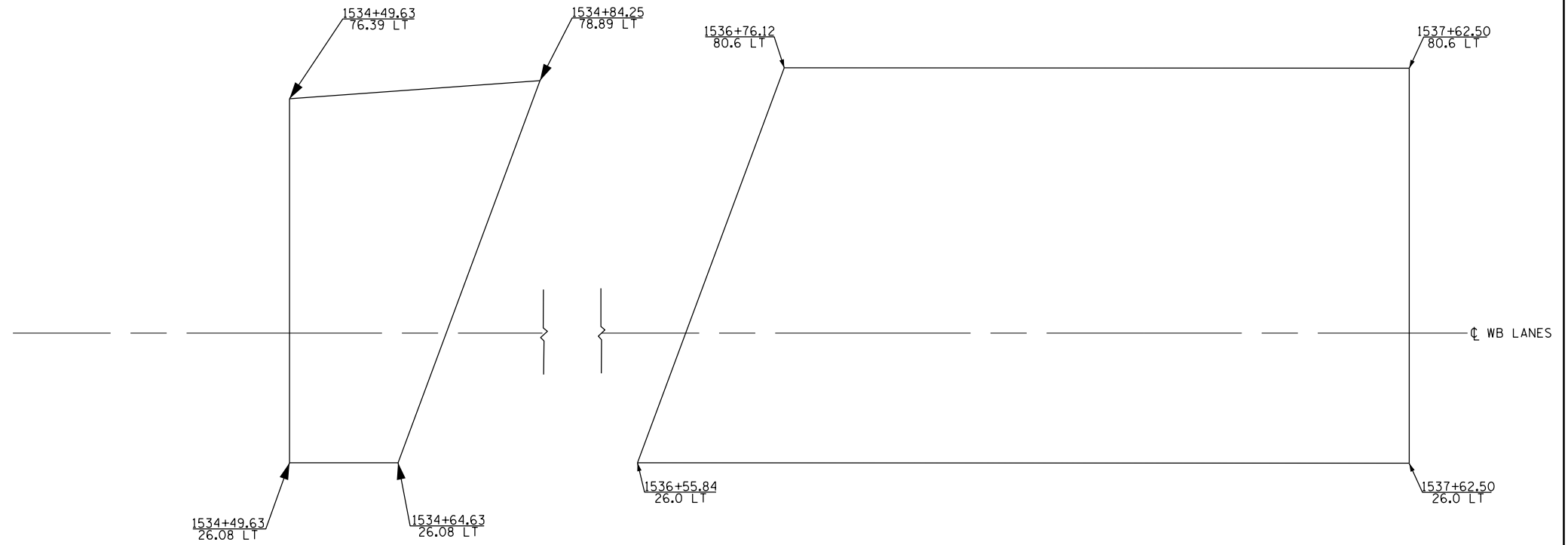
RIPRAP DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

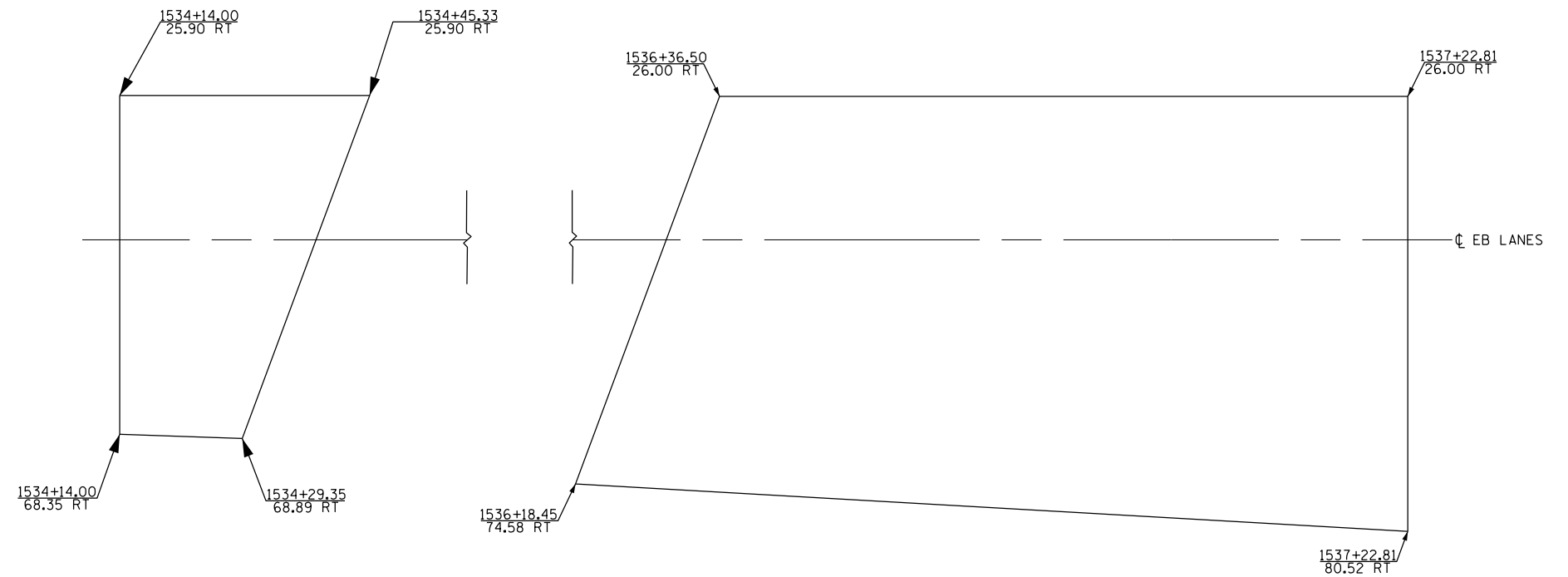
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|---------------------------|-----------|-----------|--------------------|--------------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 272 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 74664 | |



SN 025-0005 EAST END



SN 025-0008



SN 025-0007

NOTE: DIMENSIONS OF CONNECTOR PAVEMENTS NOT SHOWN ARE ACCORDING TO STD 420401

| | | | |
|---|------------------------------|------------|-----------|
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| Default | PLOT SCALE = 100.0000' / in. | CHECKED - | REVISED - |
| | PLOT DATE = 5/1/2017 | DATE - | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

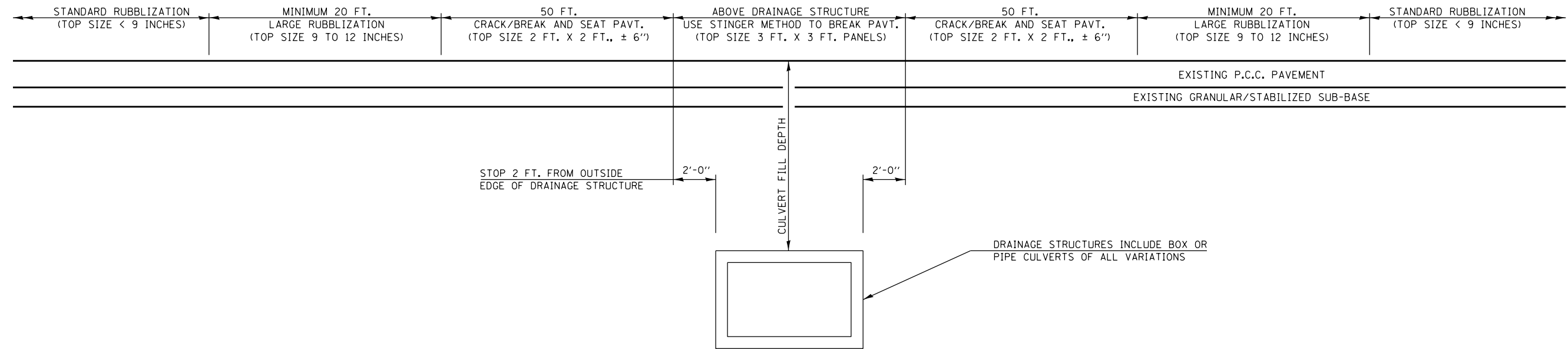
PAVEMENT CONNECTOR DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 273 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

RUBBLIZATION AT DRAINAGE STRUCTURES FOR CULVERT FILL DEPTH EQUAL TO OR LESS THAN 8 FT.

(USE STANDARD RUBBLIZATION WITH C.F.D. GREATER THAN 8 FT.)



NOTES

THE TABLE PROVIDED ON THIS SHEET IS A LIST OF STRUCTURES KNOWN TO EXIST AT THE TIME THE PLANS WERE COMPLETED THAT LIE WITHIN THE LIMITS OF THIS SECTION AND HAVE FILL DEPTHS EQUAL TO OR LESS THAN 8 FT.

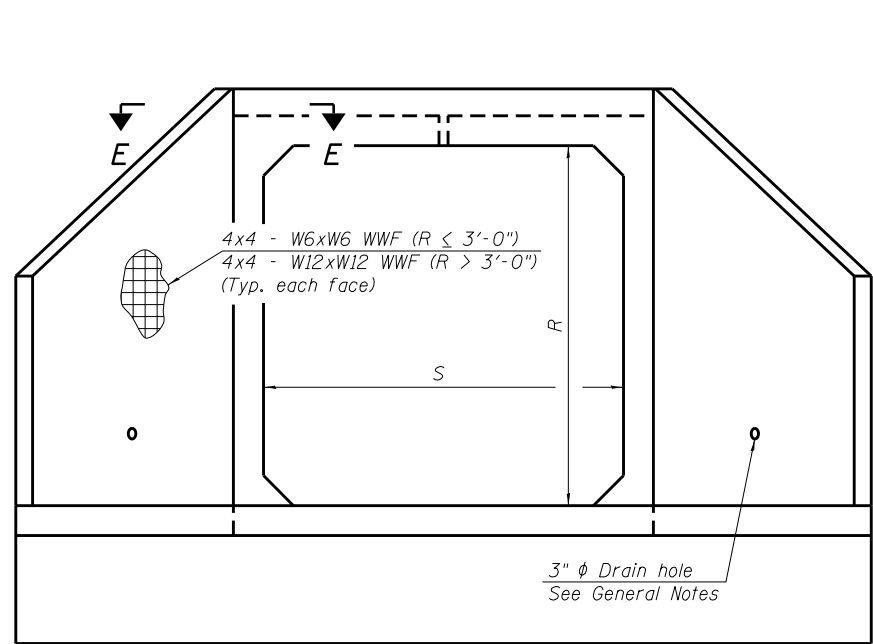
ESTIMATED FILL DEPTHS PROVIDED REPRESENT THE DIFFERENCE IN ELEVATION FROM THE EXISTING TOP OF EDGE OF PAVEMENT TO THE TOP OF THE CULVERT.

USE OF VIBRATORY ROLLERS IS ALLOWED OVER ALL DRAINAGE STRUCTURES.

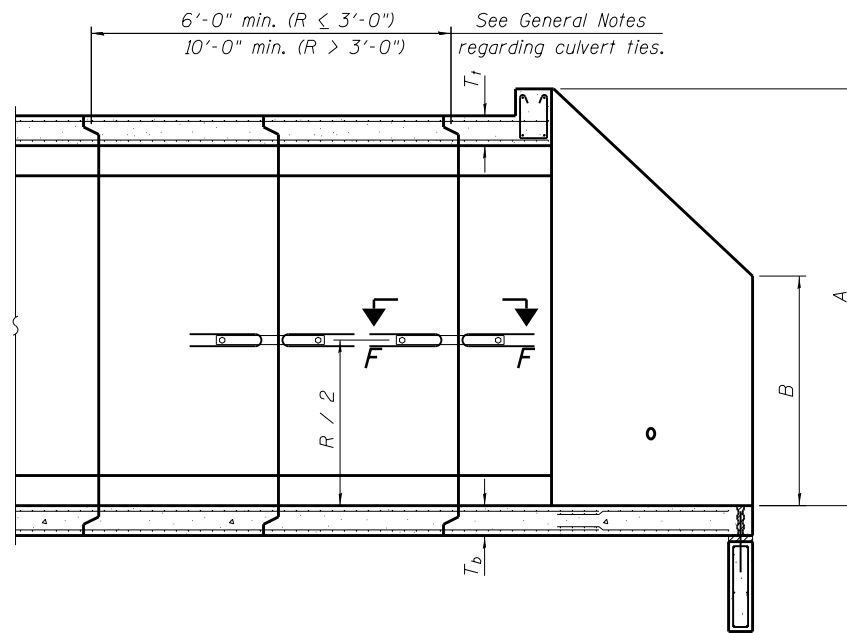
THIS WORK TO BE PAID FOR BY THE SQUARE YARD AS RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT. SEE SPECIAL PROVISIONS.

STRUCTURE TABLE

| STRUCTURE NUMBER | STATION | LOCATION | ESTIMATED FILL DEPTH (FT.) | DESCRIPTION |
|------------------|---------|----------|----------------------------|---------------|
| 025-8687 | 1592+76 | WB | 6.9 | 1 @ 6'x3' BOX |
| 025-8687 | 1592+76 | EB | 8.0 | 1 @ 6'x3' BOX |
| | 1606+00 | WB | 6.2 | 1 @ 24" RCCP |
| | 1766+10 | EB | 7.2 | 1 @ 36" RCCP |
| | 1766+10 | WB | 7.1 | 1 @ 36" RCCP |
| | 1779+00 | EB | 5.3 | 1 @ 24" RCCP |
| | 1934+15 | EB | 7.3 | 1 @ 24" RCCP |
| | 1965+13 | EB | 7.2 | 1 @ 30" RCCP |
| | 1965+13 | WB | 4.2 | 1 @ 30" RCCP |



END VIEW



SECTION A-A

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. End sections will be paid for at the contract unit price per each for Box Culvert End Sections.

The Contractor may furnish the end section as a single precast concrete piece or construct the end section in the field using cast-in-place (CIP) construction. For CIP construction, the bottom slab thickness shall be increased by 2" and the clear cover to the bottom mat of reinforcement shall be increased to 3".

Box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements for ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

The number of culvert ties shall be sufficient to engage the minimum length of culvert barrel shown within the pay limits for Precast Concrete Box Culverts and will be dependent upon the length of box culvert segments furnished by the Contractor. Culvert ties are not required for box culverts having a rise (R) less than or equal to 3 ft and a span (S) greater than or equal to 10 ft.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the unit price for Box Culvert End Sections of the culvert number specified.

Shop drawings that detail slab thickness and reinforcement layout for the Box Culvert End Sections shall be provided to the Engineer for review and approval. Reinforcement bars not detailed herein shall be detailed with a clear distance at the end of the reinforcement not less than 1/2" nor more than 2". For the precast option, it shall be the Contractor's responsibility for determining a method of handling and a construction procedure shall be included on the shop drawings. The Contractor shall determine and detail in the shop drawings any necessary strengthening or stiffening provisions necessary to handle the precast segment. Any required modifications shall be at no extra charge.

The Contractor may use reinforcement bars in lieu of welded wire fabric (WWF). Reinforcement bars shall be limited to the sizes of #3 through #5 bars, a maximum spacing of the lesser of 8" or the member thickness, and shall result in area of reinforcement equal to or greater than that provided by the WWF. Minimum lap lengths detailed herein are applicable to WWF and reinforcement bars.

Reinforcement (circumferential and longitudinal) in the culvert barrel portion of the end section being lapped with reinforcement from the wingwalls or bottom slab of the end section shall not be less than that required by ASTM C 1577 for the design fill height or the reinforcement detailed for the end section, whichever is greater.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.

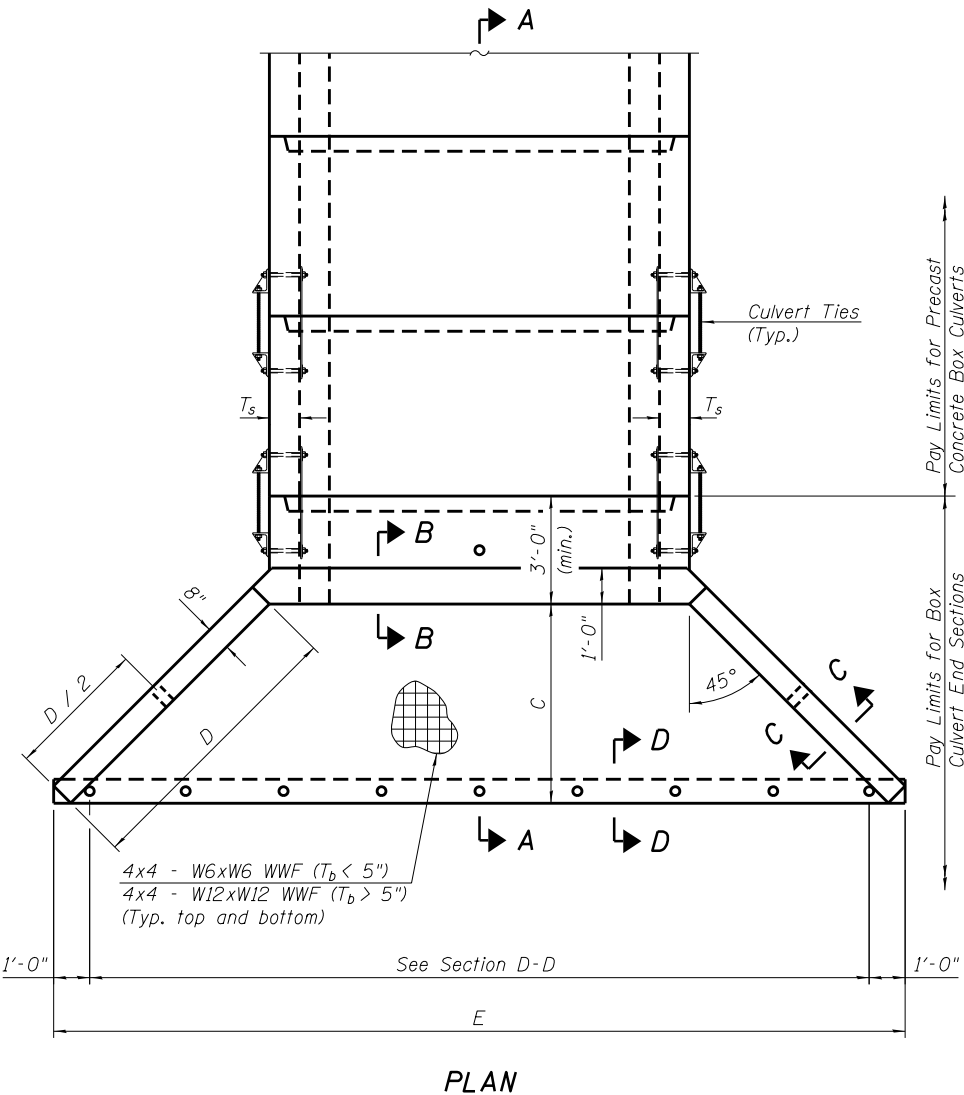
One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

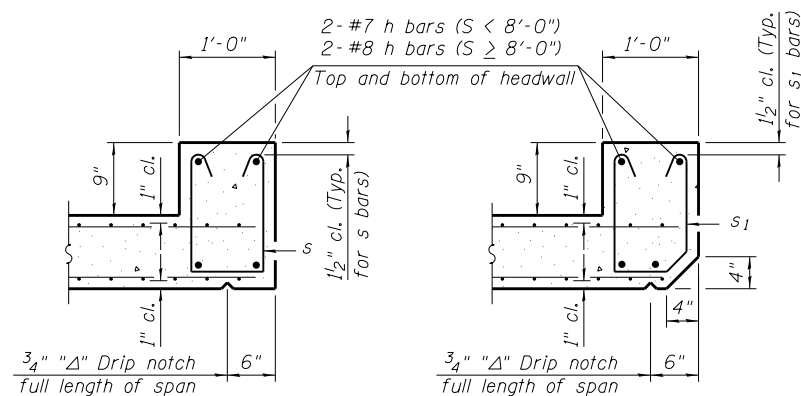
| Span (S) | Rise (R) | T _t | T _b | T _s | A | B | C | D | E | Concrete Cu. Yd. | Culvert Ties Required |
|----------|----------|----------------|----------------|----------------|------------------------------------|------------------------------------|-------------------------------------|--------|--------------------------------------|------------------|-----------------------|
| 3'-0" | 2'-0" | 7" | 6" | 4" | 3'-4" | 2'-2" | 2'-10 ⁵ / ₈ " | 4'-1" | 10'-4 ⁵ / ₈ " | 2.8 | Yes |
| 3'-0" | 2'-0" | 4" | 4" | 4" | 3'-1" | 2'-1" | 2'-7 ⁷ / ₈ " | 3'-9" | 9'-11" | 2.3 | Yes |
| 3'-0" | 3'-0" | 7" | 6" | 4" | 4'-4" | 2'-8" | 3'-10 ⁵ / ₈ " | 5'-6" | 12'-4 ⁵ / ₈ " | 3.7 | Yes |
| 3'-0" | 3'-0" | 4" | 4" | 4" | 4'-1" | 2'-7" | 3'-7 ⁷ / ₈ " | 5'-2" | 11'-11" | 3.1 | Yes |
| 4'-0" | 2'-0" | 7.5" | 6" | 5" | 3'-4 ¹ / ₂ " | 2'-2 ¹ / ₂ " | 2'-11 ³ / ₈ " | 4'-2" | 11'-8" | 3.3 | Yes |
| 4'-0" | 2'-0" | 5" | 5" | 5" | 3'-2" | 2'-1" | 2'-8 ¹ / ₂ " | 3'-10" | 11'-2 ³ / ₈ " | 2.8 | Yes |
| 4'-0" | 3'-0" | 7.5" | 6" | 5" | 4'-4 ¹ / ₂ " | 2'-8 ¹ / ₂ " | 3'-11 ³ / ₈ " | 5'-7" | 13'-8 ¹ / ₈ " | 4.2 | Yes |
| 4'-0" | 3'-0" | 5" | 5" | 5" | 4'-2" | 2'-7" | 3'-8 ¹ / ₂ " | 5'-3" | 13'-2 ³ / ₈ " | 3.7 | Yes |
| 4'-0" | 4'-0" | 7.5" | 6" | 5" | 5'-4 ¹ / ₂ " | 3'-2 ¹ / ₂ " | 4'-11 ³ / ₈ " | 7'-0" | 15'-8 ¹ / ₈ " | 5.3 | Yes |
| 4'-0" | 4'-0" | 5" | 5" | 5" | 5'-2" | 3'-1" | 4'-8 ⁵ / ₈ " | 6'-8" | 15'-2 ¹ / ₂ " | 4.7 | Yes |
| 5'-0" | 2'-0" | 8" | 7" | 6" | 3'-5" | 2'-3" | 2'-11 ³ / ₈ " | 4'-2" | 12'-10" | 3.9 | Yes |
| 5'-0" | 2'-0" | 6" | 6" | 6" | 3'-3" | 2'-2" | 2'-10" | 4'-0" | 12'-7 ¹ / ₄ " | 3.5 | Yes |
| 5'-0" | 3'-0" | 8" | 7" | 6" | 4'-5" | 2'-9" | 3'-11 ³ / ₈ " | 5'-7" | 14'-10 ¹ / ₈ " | 4.9 | Yes |
| 5'-0" | 3'-0" | 6" | 6" | 6" | 4'-3" | 2'-8" | 3'-10" | 5'-5" | 14'-7 ¹ / ₄ " | 4.5 | Yes |
| 5'-0" | 4'-0" | 8" | 7" | 6" | 5'-5" | 3'-3" | 4'-11 ³ / ₈ " | 7'-0" | 16'-10 ¹ / ₈ " | 6.1 | Yes |
| 5'-0" | 4'-0" | 6" | 6" | 6" | 5'-3" | 3'-2" | 4'-9 ¹ / ₄ " | 6'-9" | 16'-5 ⁷ / ₈ " | 5.5 | Yes |
| 5'-0" | 5'-0" | 8" | 7" | 6" | 6'-5" | 3'-9" | 5'-11 ³ / ₈ " | 8'-5" | 18'-10 ¹ / ₈ " | 7.4 | Yes |
| 5'-0" | 5'-0" | 6" | 6" | 6" | 6'-3" | 3'-8" | 5'-9 ¹ / ₄ " | 8'-2" | 18'-5 ⁷ / ₈ " | 6.8 | Yes |
| 6'-0" | 2'-0" | 8" | 7" | 7" | 3'-5" | 2'-3" | 2'-11 ³ / ₈ " | 4'-2" | 14'-0" | 4.3 | Yes |
| 6'-0" | 2'-0" | 7" | 7" | 7" | 3'-4" | 2'-2" | 2'-10 ⁵ / ₈ " | 4'-1" | 13'-10 ⁵ / ₈ " | 4.2 | Yes |
| 6'-0" | 3'-0" | 8" | 7" | 7" | 4'-5" | 2'-9" | 3'-11 ³ / ₈ " | 5'-7" | 16'-0 ¹ / ₈ " | 5.4 | Yes |
| 6'-0" | 3'-0" | 7" | 7" | 7" | 4'-4" | 2'-8" | 3'-10 ⁵ / ₈ " | 5'-6" | 15'-10 ⁵ / ₈ " | 5.2 | Yes |
| 6'-0" | 4'-0" | 8" | 7" | 7" | 5'-5" | 3'-3" | 4'-11 ³ / ₈ " | 7'-0" | 18'-0 ¹ / ₈ " | 6.5 | Yes |
| 6'-0" | 4'-0" | 7" | 7" | 7" | 5'-4" | 3'-2" | 4'-10 ³ / ₄ " | 6'-11" | 17'-10 ³ / ₄ " | 6.5 | Yes |
| 6'-0" | 5'-0" | 8" | 7" | 7" | 6'-5" | 3'-9" | 5'-11 ³ / ₈ " | 8'-5" | 20'-0 ¹ / ₈ " | 8.0 | Yes |
| 6'-0" | 5'-0" | 7" | 7" | 7" | 6'-4" | 3'-8" | 5'-10 ³ / ₄ " | 8'-4" | 19'-10 ³ / ₄ " | 7.8 | Yes |
| 6'-0" | 6'-0" | 8" | 7" | 7" | 7'-5" | 4'-3" | 6'-11 ¹ / ₂ " | 9'-10" | 22'-0 ¹ / ₄ " | 9.5 | Yes |
| 6'-0" | 6'-0" | 7" | 7" | 7" | 7'-4" | 4'-2" | 6'-10 ³ / ₄ " | 9'-9" | 21'-10 ³ / ₄ " | 9.3 | Yes |
| 7'-0" | 4'-0" | 8" | 8" | 8" | 5'-5" | 3'-3" | 4'-11 ³ / ₈ " | 7'-0" | 19'-2 ¹ / ₈ " | 7.4 | Yes |
| 7'-0" | 5'-0" | 8" | 8" | 8" | 6'-5" | 3'-9" | 5'-11 ³ / ₈ " | 8'-5" | 21'-2 ¹ / ₈ " | 8.9 | Yes |
| 7'-0" | 6'-0" | 8" | 8" | 8" | 7'-5" | 4'-3" | 6'-11 ¹ / ₂ " | 9'-10" | 23'-2 ¹ / ₄ " | 10.6 | Yes |
| 8'-0" | 2'-0" | 8" | 8" | 8" | 3'-5" | 2'-3" | 2'-11 ³ / ₈ " | 4'-2" | 16'-2" | 5.3 | Yes |
| 8'-0" | 3'-0" | 8" | 8" | 8" | 4'-5" | 2'-9" | 3'-11 ³ / ₈ " | 5'-7" | 18'-2 ¹ / ₈ " | 6.5 | Yes |
| 8'-0" | 4'-0" | 8" | 8" | 8" | 5'-5" | 3'-3" | 4'-11 ³ / ₈ " | 7'-0" | 20'-2 ¹ / ₈ " | 7.8 | Yes |
| 8'-0" | 5'-0" | 8" | 8" | 8" | 6'-5" | 3'-9" | 5'-11 ³ / ₈ " | 8'-5" | 22'-2 ¹ / ₈ " | 9.3 | Yes |
| 8'-0" | 6'-0" | 8" | 8" | 8" | 7'-5" | 4'-3" | 6'-11 ¹ / ₂ " | 9'-10" | 24'-2 ¹ / ₄ " | 11.0 | Yes |
| 9'-0" | 5'-0" | 9" | 9" | 9" | 6'-6" | 3'-9" | 6'-0 ⁷ / ₈ " | 8'-7" | 23'-7" | 10.6 | Yes |
| 9'-0" | 6'-0" | 9" | 9" | 9" | 7'-6" | 4'-3" | 7'-0 ¹ / ₈ " | 9'-11" | 25'-5 ⁵ / ₈ " | 12.4 | Yes |
| 10'-0" | 2'-0" | 10" | 10" | 10" | 3'-7" | 2'-4" | 3'-1 ¹ / ₂ " | 4'-5" | 18'-10 ¹ / ₄ " | 7.1 | No |
| 10'-0" | 3'-0" | 10" | 10" | 10" | 4'-7" | 2'-10" | 4'-1 ¹ / ₂ " | 5'-10" | 20'-10 ¹ / ₄ " | 8.6 | No |
| 10'-0" | 5'-0" | 10" | 10" | 10" | 6'-7" | 3'-10" | 6'-1 ¹ / ₂ " | 8'-8" | 24'-10 ³ / ₈ " | 12.0 | Yes |
| 10'-0" | 6'-0" | 10" | 10" | 10" | 7'-7" | 4'-4" | 7'-1 ¹ / ₂ " | 10'-1" | 26'-10 ³ / ₈ " | 13.9 | Yes |
| 11'-0" | 4'-0" | 11" | 11" | 11" | 5'-8" | 3'-4" | 5'-2 ¹ / ₄ " | 7'-4" | 24'-1 ³ / ₄ " | 11.5 | Yes |
| 11'-0" | 6'-0" | 11" | 11" | 11" | 7'-8" | 4'-4" | 7'-2 ¹ / ₄ " | 10'-2" | 28'-1 ⁷ / ₈ " | 15.5 | Yes |
| 12'-0" | 2'-0" | 12" | 12" | 12" | 3'-9" | 2'-5" | 3'-3 ⁵ / ₈ " | 4'-8" | 21'-6 ¹ / ₂ " | 9.3 | No |
| 12'-0" | 3'-0" | 12" | 12" | 12" | 4'-9" | 2'-11" | 4'-3 ⁵ / ₈ " | 6'-1" | 23'-6 ¹ / ₂ " | 11.1 | No |
| 12'-0" | 4'-0" | 12" | 12" | 12" | 5'-9" | 3'-5" | 5'-3 ⁵ / ₈ " | 7'-6" | 25'-6 ⁵ / ₈ " | 13.0 | Yes |
| 12'-0" | 6'-0" | 12" | 12" | 12" | 7'-9" | 4'-5" | 7'-3 ⁵ / ₈ " | 10'-4" | 29'-6 ⁵ / ₈ " | 17.4 | Yes |

Note:

Two sets of apron end section dimensions are shown above for some box culvert sizes due to the top and bottom slabs having different thicknesses per ASTM C 1577 for design fill heights less than 2 ft.

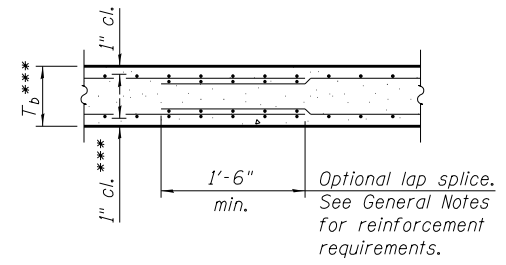


PLAN

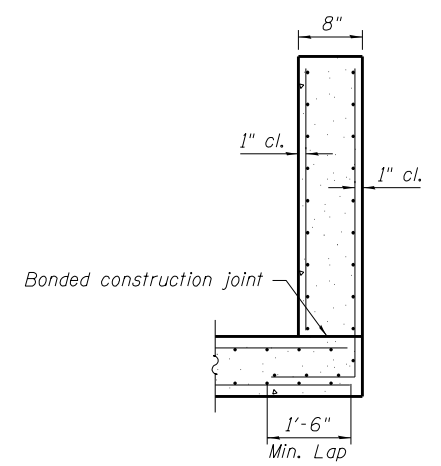


SECTION B-B
(Top slab at downstream end)

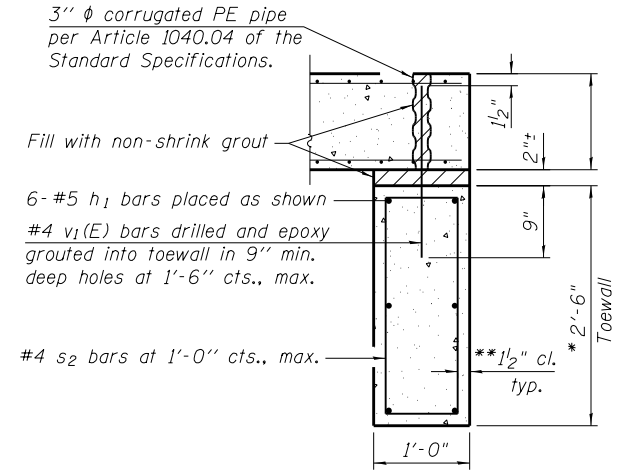
SECTION B-B
(Top slab at upstream end)



SECTION B-B
(Bottom Slab)

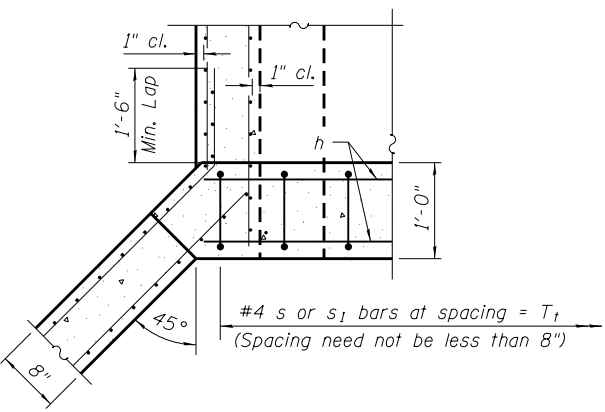


SECTION C-C

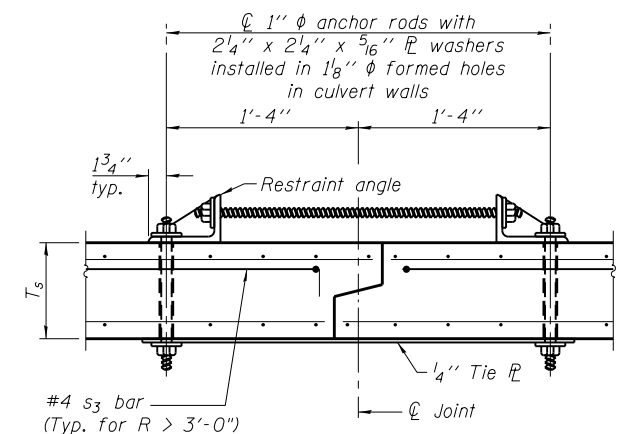


SECTION D-D

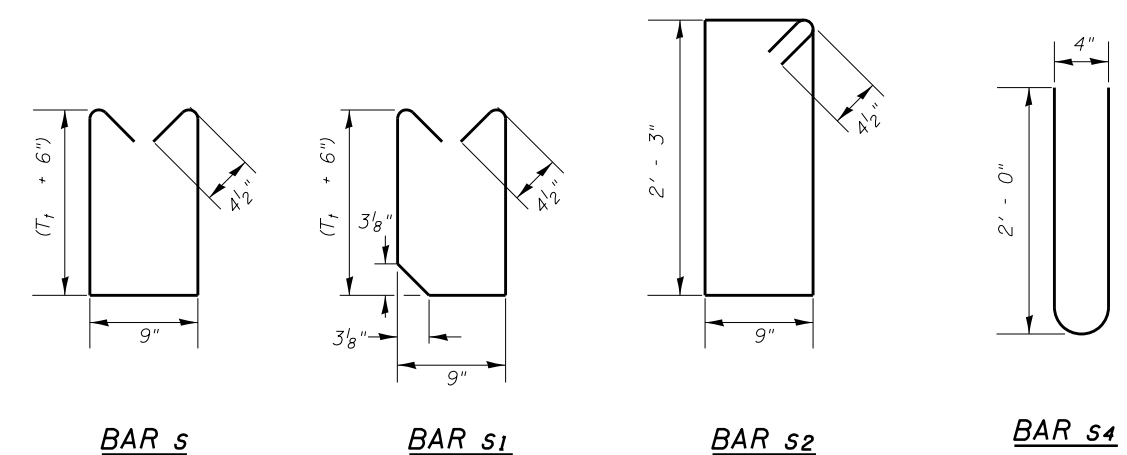
*** This dimension shall be increased by 2" for CIP construction.



SECTION E-E



SECTION F-F
(Showing culvert tie details)

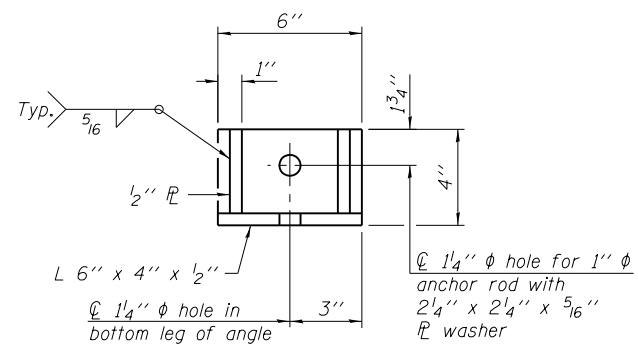


BAR s

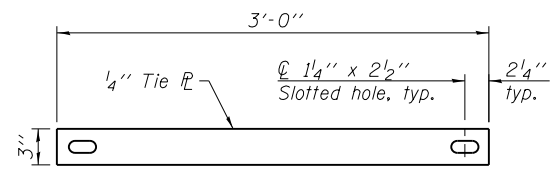
BAR s₁

BAR s₂

BAR s₄



RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

TOEWALL CONSTRUCTION SEQUENCE

1. Perform excavation and construct toewall.
2. Backfill accordingly and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling method.

** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.

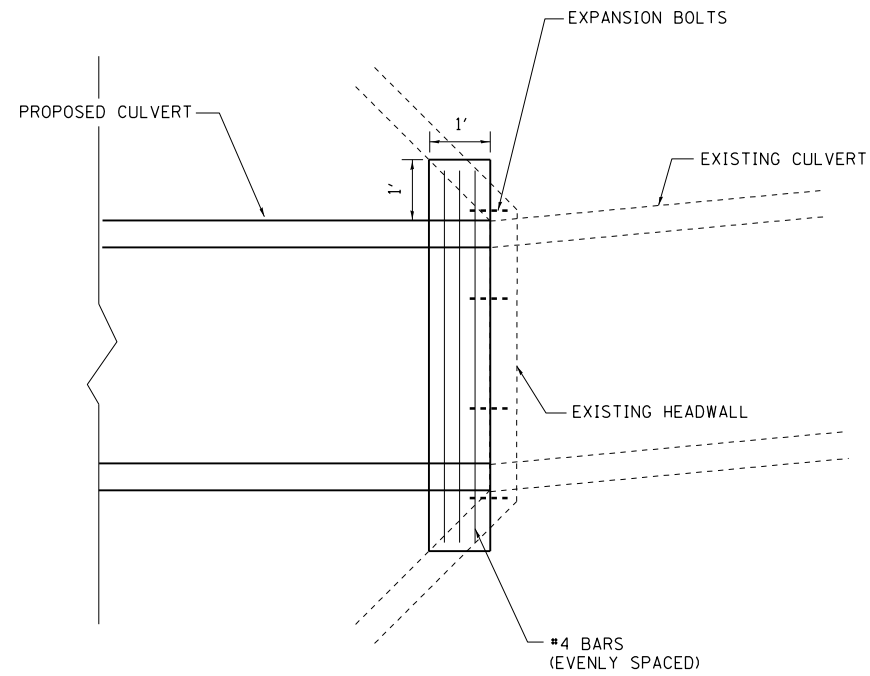
Notes:

1" φ anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for the tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2 1/4"x2 1/4"x5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods installed in the sidewalls of the culvert shall be tightened per Article 505.04(f)2(d) of the Standard Specifications. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes. Alternate culvert ties similar in strength and stiffness to the plan details may be provided by the Contractor. Alternate culvert ties shall be subject to the approval of the Engineer.

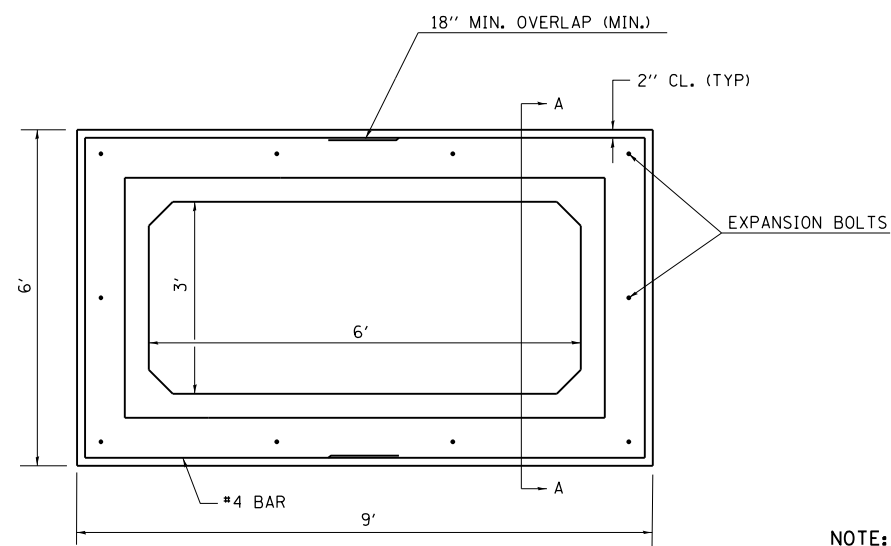
| | | | | | | | | | | |
|---|-----------------------|------------|-----------|---|--|---------------------------|-----------|-----------|--------------|-----------|
| FILE NAME = | USER NAME = steffennk | DESIGNED - | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | PRECAST CONCRETE BOX CULVERT APRON END SECTION DETAILS CULVERT NO. 1 STA. 1592 + 44 (SN 025-8687) | F.A.I. R.T.E. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| pw\1\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 7\Projects\74664\CAD\Drawings\0774664-sht-details.dwg | DATE = 3/23/2017 | CHECKED - | REVISED - | | | 70 | (25-1,2)R | EFFINGHAM | 496 | 276 |
| PLOT SCALE = 100.0000' / 1in. | DATE = | DATE = | DATE = | | | CONTRACT NO. 74664 | | | | |
| Default | | | | | | ILLINOIS FED. AID PROJECT | | | | |

BOX CULVERT CONCRETE COLLAR DETAIL AT STA 1592+44

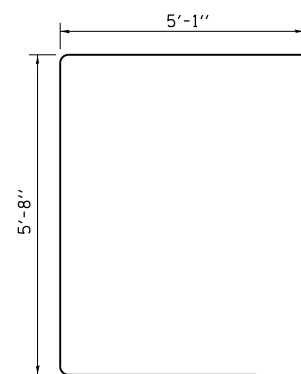
COLLAR PLAN VIEW



CULVERT & COLLAR END SECTION



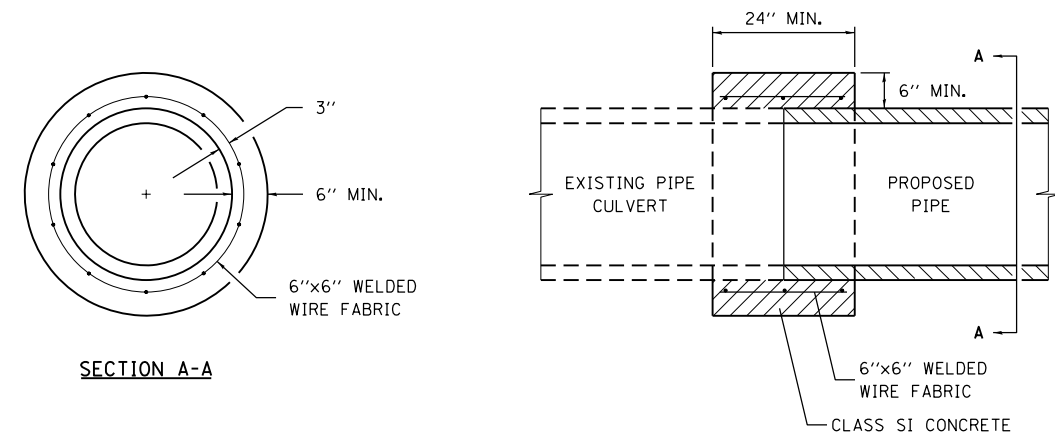
BAR DETAIL



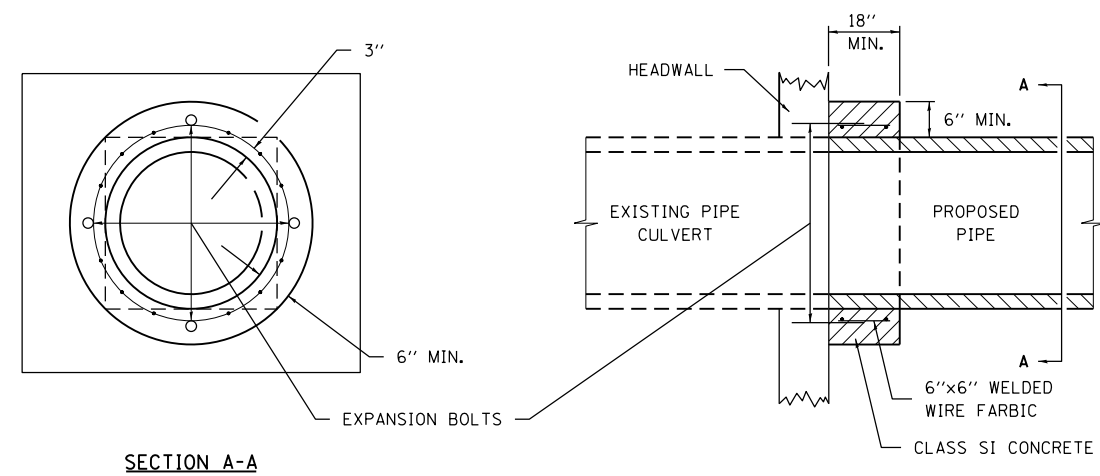
NOTE: EXPANSION BOLTS SHALL CONSIST OF SELF-DRILLING EXPANSION SHIELDS AND 3/4" DIAMETER HOOKED BOLTS IN ACCORDANCE WITH SECTION 1006.09. HOOKED BOLTS SHALL EXTEND A MINIMUM 6" INTO NEW CONCRETE.

WINGWALLS SHALL BE REMOVED WHERE NECESSARY TO FIT THE PROPOSED BOX CULVERT AND CONCRETE COLLAR AGAINST THE EXISTING BOX CULVERT. THIS WORK SHALL BE INCIDENTAL TO THE CONCRETE COLLAR.

EXISTING PIPE CULVERT WITHOUT HEADWALLS
(TO BE USED WITH UNLIKE DIAMETERS & MATERIALS.)



EXISTING PIPE CULVERT OR BOX CULVERT WITH HEADWALLS



NOTE: EXPANSION BOLTS SHALL CONSIST OF SELF-DRILLING EXPANSION SHIELDS AND 3/4" DIAMETER HOOKED BOLTS IN ACCORDANCE WITH SECTION 1006.09. HOOKED BOLTS SHALL EXTEND A MINIMUM 6" INTO NEW CONCRETE.

WELDED WIRE FABRIC SHALL BE INCIDENTAL TO THE CONCRETE COLLAR

WINGWALLS SHALL BE REMOVED WHERE NECESSARY TO FIT THE PROPOSED PIPE AGAINST THE EXISTING PIPE CULVERT. THIS WORK SHALL BE INCIDENTAL TO THE CONCRETE COLLAR

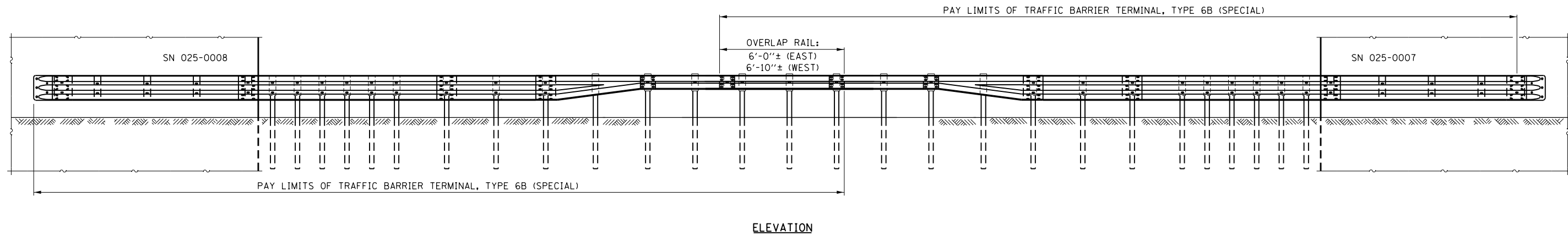
| | | | |
|---|-----------------------|------------|-----------|
| FILE NAME = | USER NAME = steffenmk | DESIGNED - | REVISED - |
| pw:\IL\084EBIDINTEG\illinois.gov\PIWIDOT\Documents\IDOT Offices\District 7\Projects\74664\Drawings\CAD\Drawings\0774664-sht-details.dwg | | CHECKED - | REVISED - |
| | | DATE - | REVISED - |
| | | | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

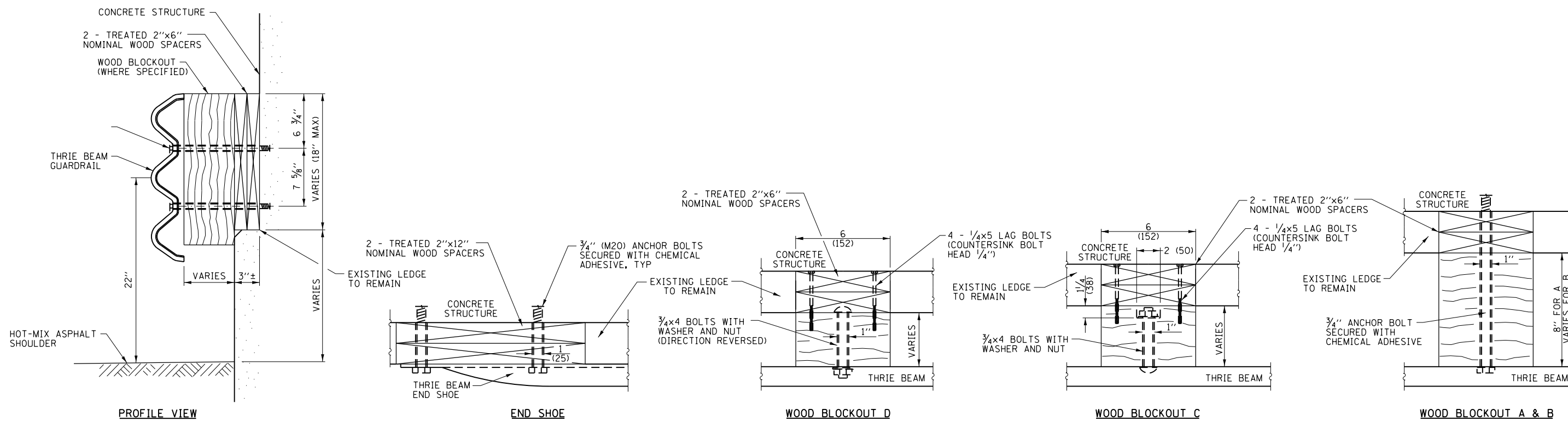
CONCRETE COLLAR

SCALE: SHEET NO. OF SHEETS STA. TO STA.

| | | | | |
|--------------------|-----------|-----------|---------------------------|-----------|
| F.A.I. R.T.E. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 277 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |



ELEVATION
IL ROUTE 128 TRAFFIC BARRIER TERMINAL OVERLAP DETAIL



TRAFFIC BARRIER TERMINAL, TYPE 6B (SPECIAL) DETAILS

| | | | |
|---|-----------------------|------------|-----------|
| FILE NAME = | USER NAME = steffenk | DESIGNED - | REVISED - |
| p:\11\084EBID\INTEG.illinois.gov\PI\DOT\Documents\DOT Offices\District 7\Projects\74664\Drawings\CAD\Sheets\0774664-sht-details.dwg | | CHECKED - | REVISED - |
| Default | PLOT DATE = 3/23/2017 | DATE - | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

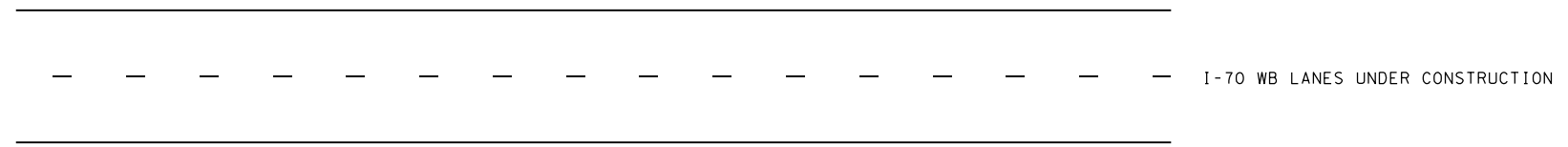
GUARDRAIL DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

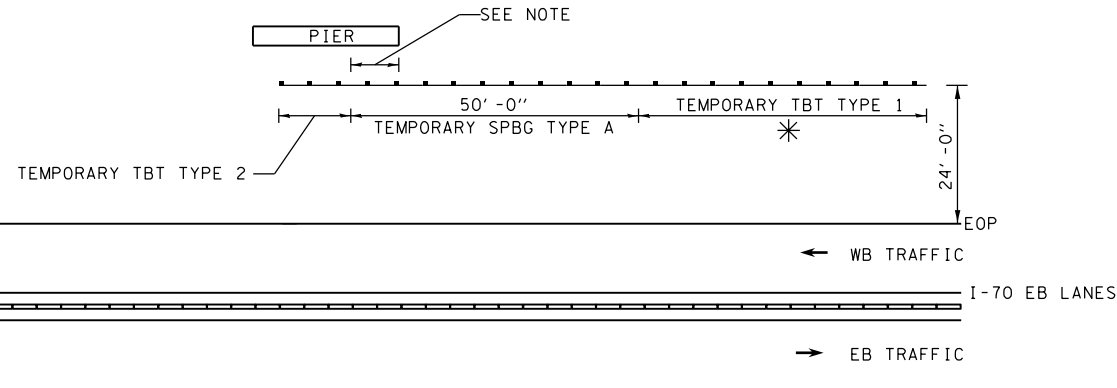
| | | | | |
|--------------------|-----------|-----------|---------------------------|-----------|
| F.A.I. RE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 278 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

STAGE 2: TEMPORARY GUARDRAIL LOCATIONS FOR CENTER PIERS

SN 025-0057
 SN 025-0058
 SN 025-0059
 SN 025-0045



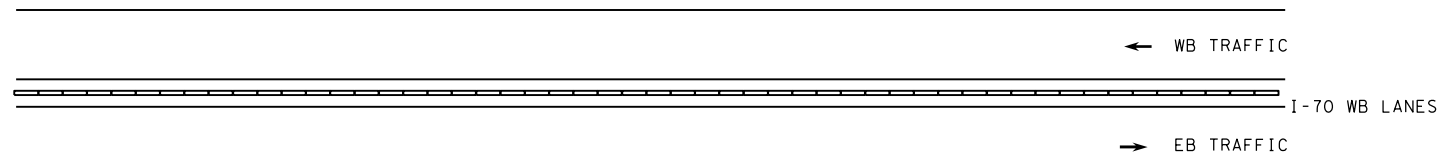
* SHALL BE ON THE LIST OF QUALIFIED PRODUCTS FOR TBT TYPE 1 SPECIAL (TANGENT)



| NOTE: | LENGTH |
|-------------|---------|
| SN 025-0057 | 8' - 3" |
| SN 025-0058 | 8' - 3" |
| SN 025-0059 | 8' - 3" |
| SN 025-0045 | 4' - 3" |

STAGE 3: TEMPORARY GUARDRAIL LOCATIONS FOR CENTER PIERS

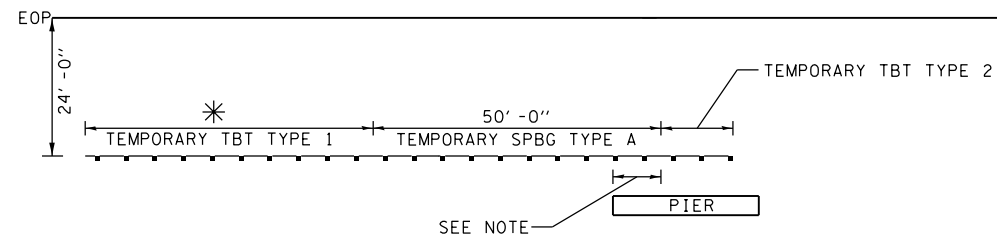
SN 025-0057
 SN 025-0058
 SN 025-0059
 SN 025-0045



← WB TRAFFIC

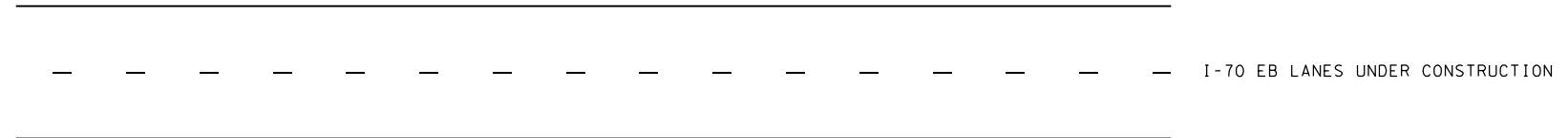
I-70 WB LANES

→ EB TRAFFIC

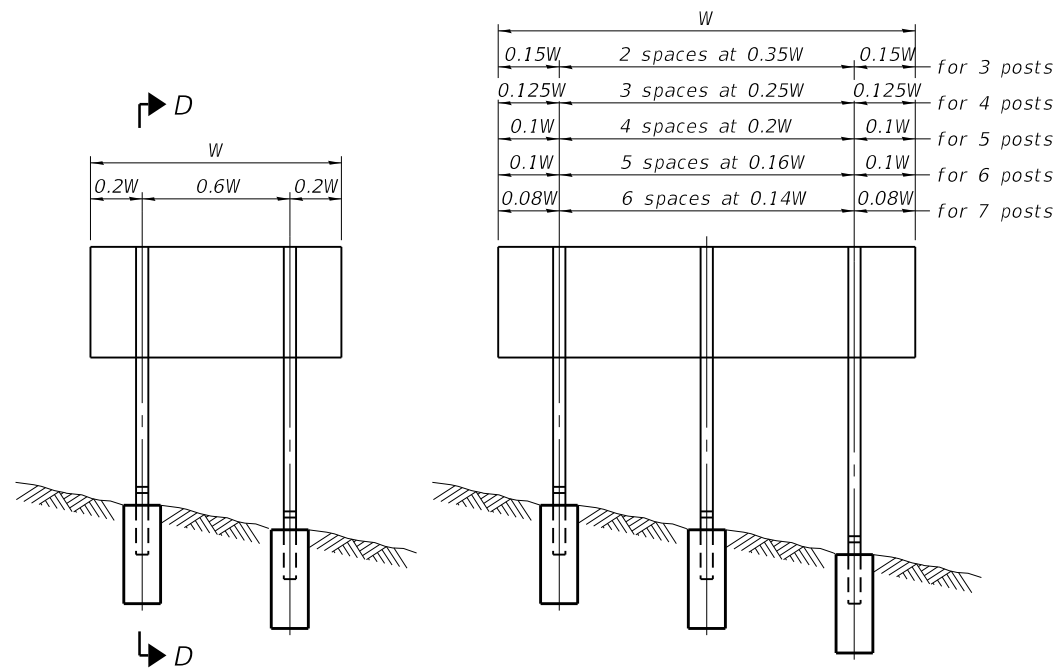


* SHALL BE ON THE LIST OF QUALIFIED PRODUCTS FOR TBT TYPE 1 SPECIAL (TANGENT)

| NOTE: | LENGTH |
|-------------|---------|
| SN 025-0057 | 8' - 3" |
| SN 025-0058 | 8' - 3" |
| SN 025-0059 | 8' - 3" |
| SN 025-0045 | 4' - 3" |

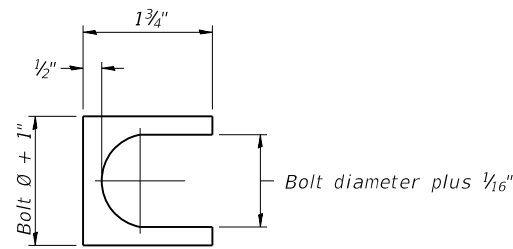


I-70 EB LANES UNDER CONSTRUCTION



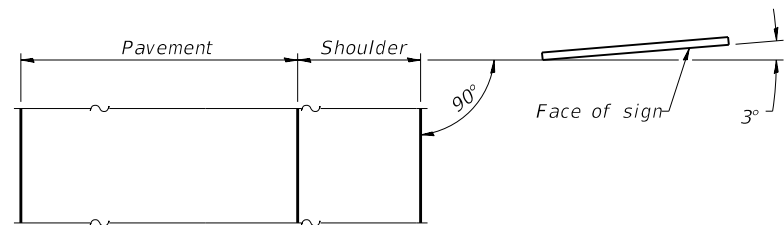
ELEVATION

| | | | |
|--------|-------------------|--------|-------------|
| 0.15W | 2 spaces at 0.35W | 0.15W | for 3 posts |
| 0.125W | 3 spaces at 0.25W | 0.125W | for 4 posts |
| 0.1W | 4 spaces at 0.2W | 0.1W | for 5 posts |
| 0.1W | 5 spaces at 0.16W | 0.1W | for 6 posts |
| 0.08W | 6 spaces at 0.14W | 0.08W | for 7 posts |

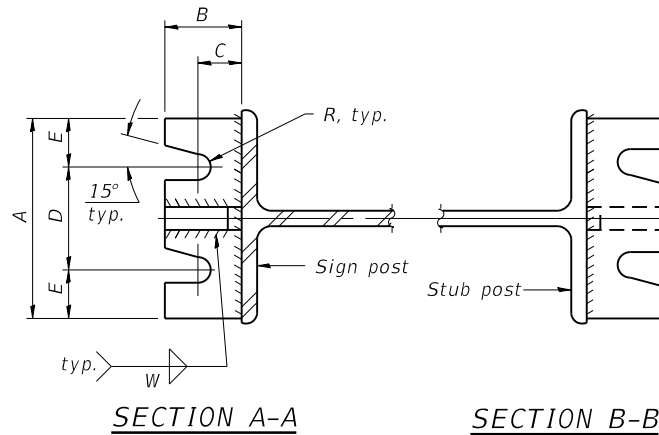


SHIM DETAIL

Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.



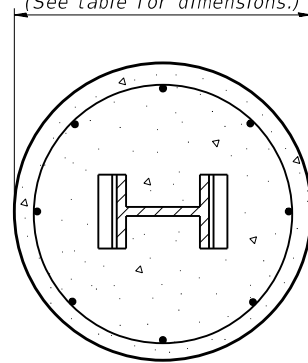
LOCATION SKETCH



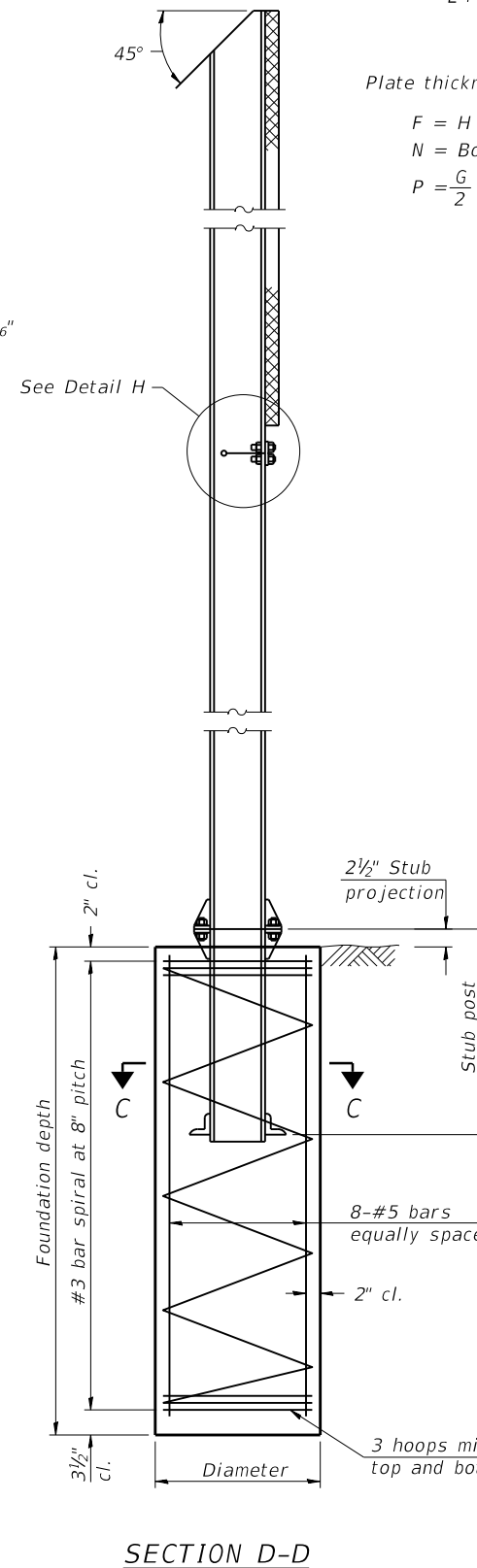
SECTION A-A

SECTION B-B

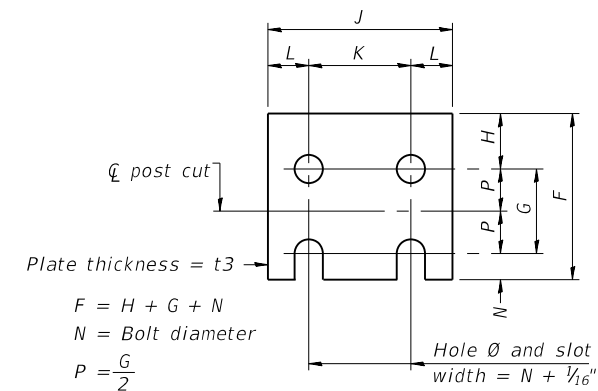
(See table for dimensions.)



SECTION C-C



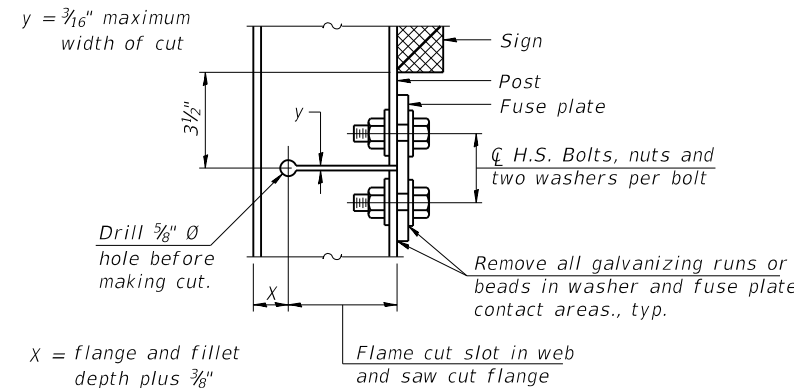
SECTION D-D



FUSE PLATE DETAIL
(Install with notches down.)

| N = Bolt Diameter | G | H |
|-------------------|--------|--------|
| 1/2" | 2" | 1 1/8" |
| 5/8" | 2 1/4" | 1 1/4" |
| 3/4" | 2 1/2" | 1 3/8" |
| 7/8" | 2 3/4" | 1 1/2" |
| 1" | 3" | 1 5/8" |
| 1 1/8" | 3 1/4" | 1 3/4" |
| 1 1/4" | 3 1/2" | 1 7/8" |

Plate thickness = t3
 $F = H + G + N$
 $N = \text{Bolt diameter}$
 $P = \frac{G}{2}$



DETAIL H

STIFFENER PLATE DETAIL

Diameter
Plate thickness = t2

GENERAL NOTES

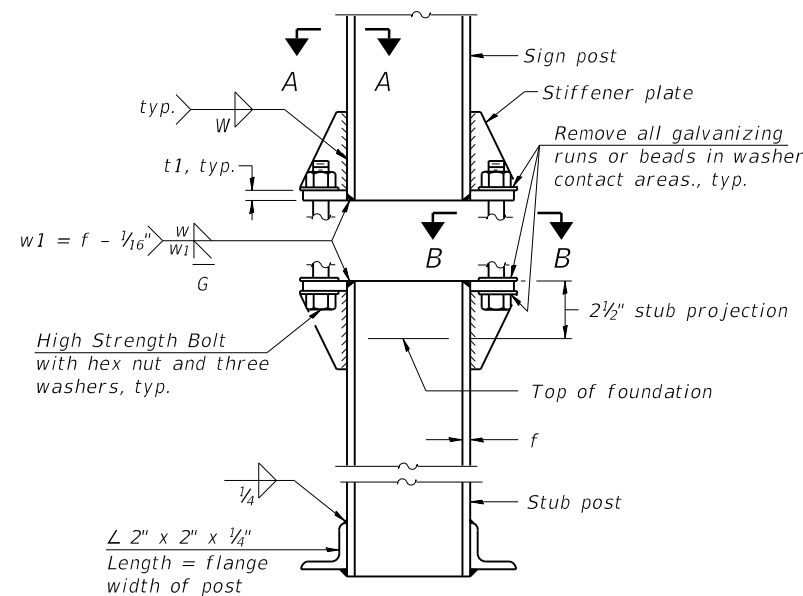
Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 727.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

DESIGN STRESSES:
 Structural steel - 20,000 p.s.i.
 Reinforcing steel - 20,000 p.s.i.
 Concrete - 1,400 p.s.i.
 Footing soil pressure - 2,000 p.s.f.

After fabrication, the post, fuse plate and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

Work this sheet with Base Sheet BAW-A-2.



ELEVATION
SIGN POST & STUB POST

BAW-A-1

2-17-2017

(Sheet 1 of 2)

| | | | |
|---|-----------------------|------------|-----------|
| FILE NAME = | USER NAME = steffenmk | DESIGNED - | REVISED - |
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| Default | PLOT DATE = 3/23/2017 | DATE - | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BREAK-AWAY WIDE FLANGE
STEEL SIGN POST DETAILS

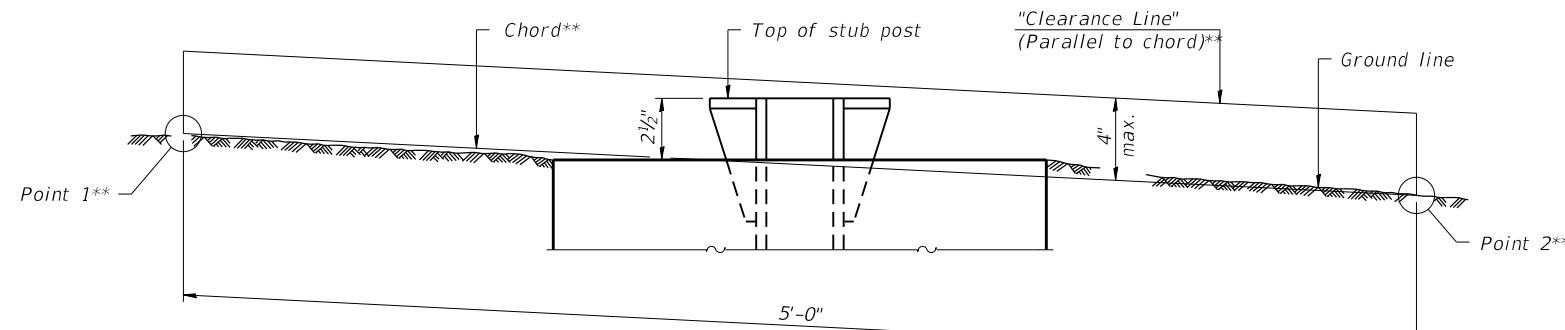
SCALE: SHEET OF SHEETS STA. TO STA.

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------|-----------|---------------------------|-----------|
| 70 | (25-1,2)R | EFFINGHAM | 496 | 280 |
| CONTRACT NO. 74664 | | | ILLINOIS FED. AID PROJECT | |

| POST | CONCRETE FOUNDATION TABLE | | | | | | | POST TO STUB POST CONNECTION DATA | | | | | | | | FUSE PLATE DATA | | | | | | |
|--------|---------------------------|---------------|----------------------------------|----------------------|--------------|----------------|------------------|-----------------------------------|---------------|--------|--------|--------|--------|--------|--------|-----------------|---------|-------|--------|--------|--------|-------------------|
| | Foundation | | | Reinforcement | | | Stub Post Length | Bolt Size | A | B | C | D | E | t1 | t2 | R | W | J | K | L | t3 | |
| | Diameter* | Minimum Depth | Concrete ^① (cu. yds.) | Vertical Bars Length | Bar Diameter | Spirals Length | | | | | | | | | | | | | | | | lbs. ^② |
| W6x9 | 2'-0" | 6'-0" | 0.70 | 5'-9" | 1'-8 1/2" | 79'-0" | 78 | 2'-3" | 5/8" x 3 1/4" | 6" | 2 1/4" | 1 1/4" | 3 1/2" | 1 1/4" | 3/4" | 1 1/2" | 1 1/32" | 1/4" | 4" | 2 1/4" | 7/8" | 1/4" |
| W6x15 | 2'-0" | 6'-0" | 0.70 | 5'-9" | 1'-8 1/2" | 79'-0" | 78 | 2'-6" | 5/8" x 3 1/4" | 6" | 2 1/4" | 1 1/4" | 3 1/2" | 1 1/4" | 3/4" | 1 1/2" | 1 1/32" | 1/4" | 6" | 3 1/2" | 1 1/4" | 3/8" |
| W8x18 | 2'-0" | 6'-0" | 0.70 | 5'-9" | 1'-8 1/2" | 79'-0" | 78 | 2'-6" | 3/4" x 3 3/4" | 6" | 2 1/2" | 1 3/8" | 3 1/4" | 1 3/8" | 1" | 1/2" | 1 3/32" | 5/16" | 5 1/4" | 2 3/4" | 1 1/4" | 3/8" |
| W10x22 | 2'-6" | 6'-6" | 1.18 | 6'-3" | 2'-2 1/2" | 105'-0" | 92 | 3'-0" | 3/4" x 3 3/4" | 6" | 2 1/2" | 1 3/8" | 3 1/4" | 1 3/8" | 1" | 1/2" | 1 3/32" | 5/16" | 5 3/4" | 2 3/4" | 1 1/2" | 1/2" |
| W10x26 | 2'-6" | 7'-0" | 1.27 | 6'-9" | 2'-2 1/2" | 112'-0" | 98 | 3'-0" | 7/8" x 4" | 7" | 2 3/4" | 1 1/2" | 4" | 1 1/2" | 1" | 3/4" | 1 5/32" | 3/8" | 5 3/4" | 2 3/4" | 1 1/2" | 5/8" |
| W12x26 | 2'-6" | 7'-9" | 1.41 | 7'-6" | 2'-2 1/2" | 119'-0" | 107 | 3'-0" | 7/8" x 4" | 7" | 2 3/4" | 1 1/2" | 4" | 1 1/2" | 1" | 3/4" | 1 5/32" | 3/8" | 6 1/2" | 3 1/2" | 1 1/2" | 5/8" |
| W14x30 | 3'-0" | 7'-3" | 1.90 | 7'-0" | 2'-8 1/2" | 145'-0" | 113 | 3'-0" | 7/8" x 4" | 7" | 2 3/4" | 1 1/2" | 4" | 1 1/2" | 1" | 3/4" | 1 5/32" | 3/8" | 6 3/4" | 3 1/2" | 1 5/8" | 1/2" |
| W14x38 | 3'-0" | 8'-0" | 2.09 | 7'-9" | 2'-8 1/2" | 153'-0" | 122 | 3'-6" | 1" x 4 1/2" | 7 1/2" | 3" | 1 3/4" | 4" | 1 3/4" | 1 1/4" | 3/4" | 1 7/32" | 3/8" | 6 3/4" | 3 1/2" | 1 5/8" | 1/2" |
| W16x45 | 3'-0" | 8'-6" | 2.23 | 8'-3" | 2'-8 1/2" | 162'-0" | 130 | 3'-6" | 1" x 4 1/2" | 7 1/2" | 3" | 1 3/4" | 4" | 1 3/4" | 1 1/4" | 3/4" | 1 7/32" | 3/8" | 7" | 3 1/2" | 1 3/4" | 1/2" |

*Dimensional changes required for varying site conditions shall be approved by the Engineer.

| POST | FUSE PLATE BOLT SIZE | | | | | | | | | | | | | | | | | | | | |
|--------|----------------------|---------------|---------------|---------------|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Sign Height | | | | | | | | | | | | | | | | | | | | |
| | 4'-0" | 5'-0" | 6'-0" | 7'-0" | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" | 13'-0" | 14'-0" | 15'-0" | 16'-0" | 17'-0" | 18'-0" | 19'-0" | 20'-0" | 21'-0" | 22'-0" | 23'-0" | 24'-0" |
| W6x9 | 1/2" x 1 1/2" | 1/2" x 1 1/2" | 1/2" x 1 1/2" | 1/2" x 1 1/2" | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| W6x15 | 1/2" x 1 3/4" | 1/2" x 1 3/4" | 1/2" x 1 3/4" | 5/8" x 2" | 5/8" x 2" | 3/4" x 2" | 3/4" x 2" | 3/4" x 2" | 3/4" x 2" | 3/4" x 2" | — | — | — | — | — | — | — | — | — | — | — |
| W8x18 | 1/2" x 1 3/4" | 1/2" x 1 3/4" | 1/2" x 1 3/4" | 1/2" x 1 3/4" | 5/8" x 2" | 5/8" x 2" | 3/4" x 2" | 3/4" x 2" | 3/4" x 2" | 3/4" x 2" | — | — | — | — | — | — | — | — | — | — | — |
| W10x22 | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 5/8" x 2" | 5/8" x 2" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | — | — | — | — | — | — | — | — |
| W10x26 | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | — | — | — | — | — | — | — |
| W12x26 | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | — | — | — | — | — | — |
| W14x30 | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 5/8" x 2" | 5/8" x 2" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | — | — | — | — | — |
| W14x38 | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 3/4" x 2 1/2" |
| W16x45 | — | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 1/2" x 2" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 5/8" x 2 1/4" |



ELEVATION
GROUND LINE & STUB POST

** For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.

- ① Quantity includes all concrete necessary for one foundation.
- ② Includes reinforcement bars and spiral hooping for one foundation.

BAW-A-2

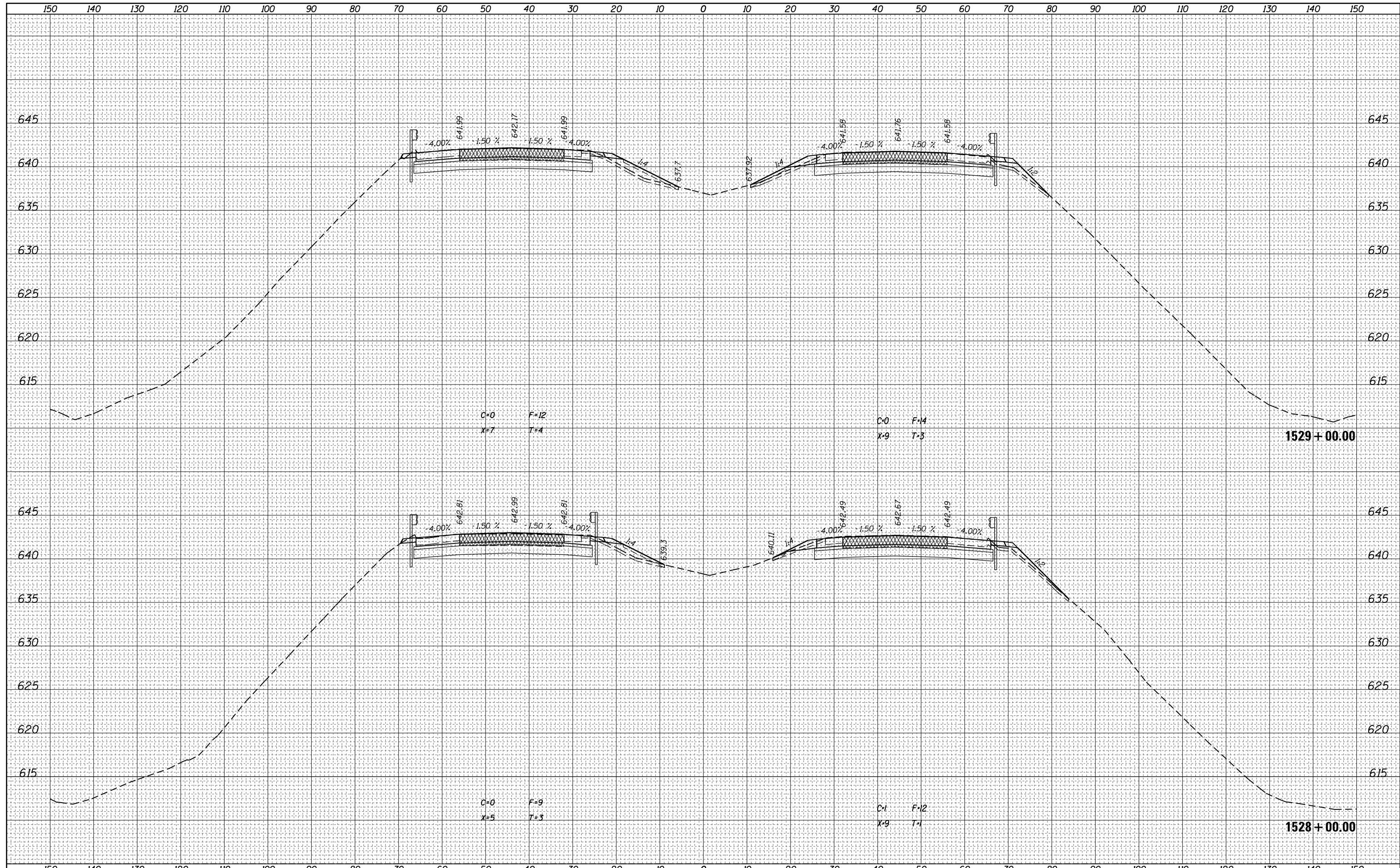
2-17-2017

(Sheet 2 of 2)

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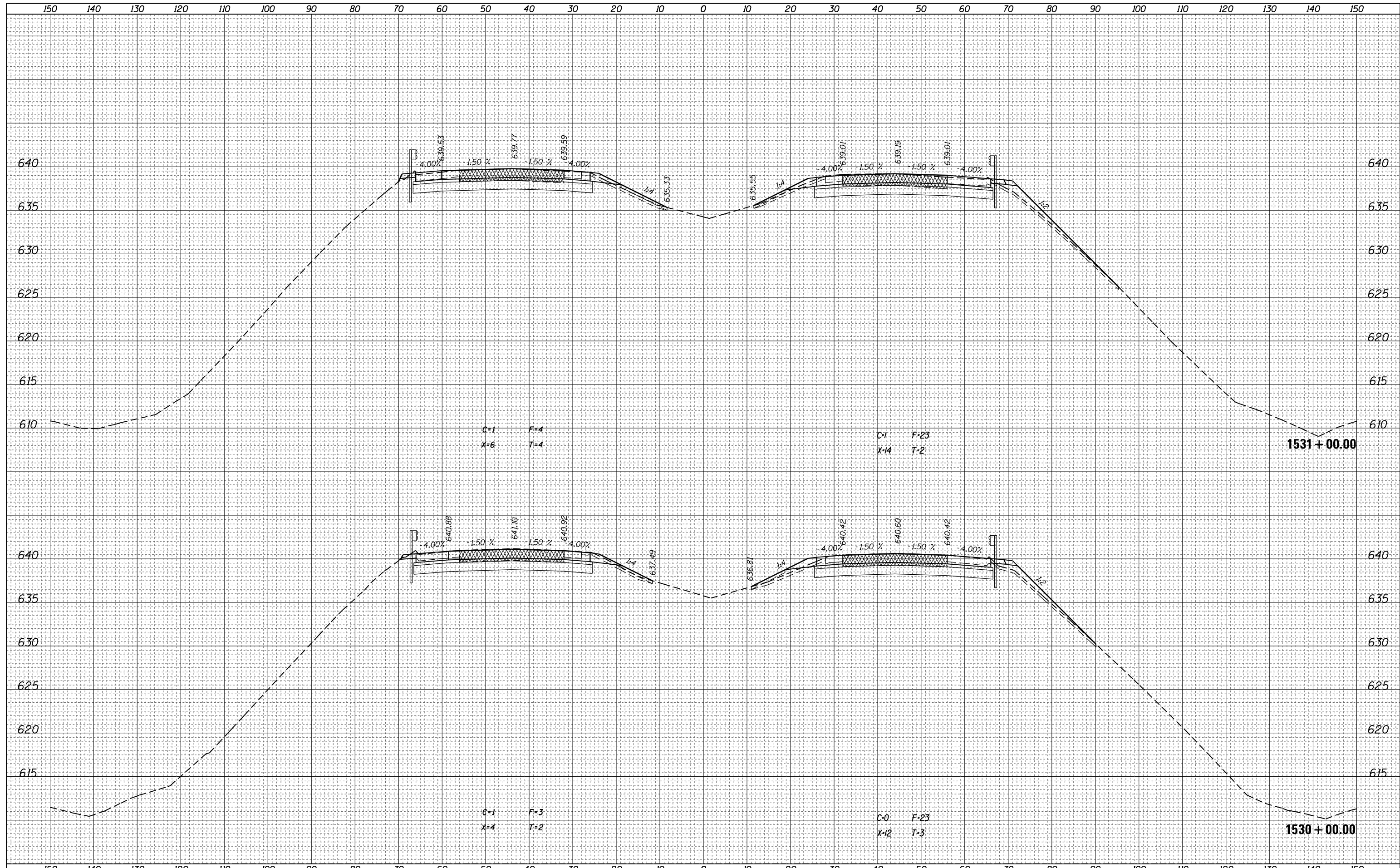
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| NOTE BOOK | |
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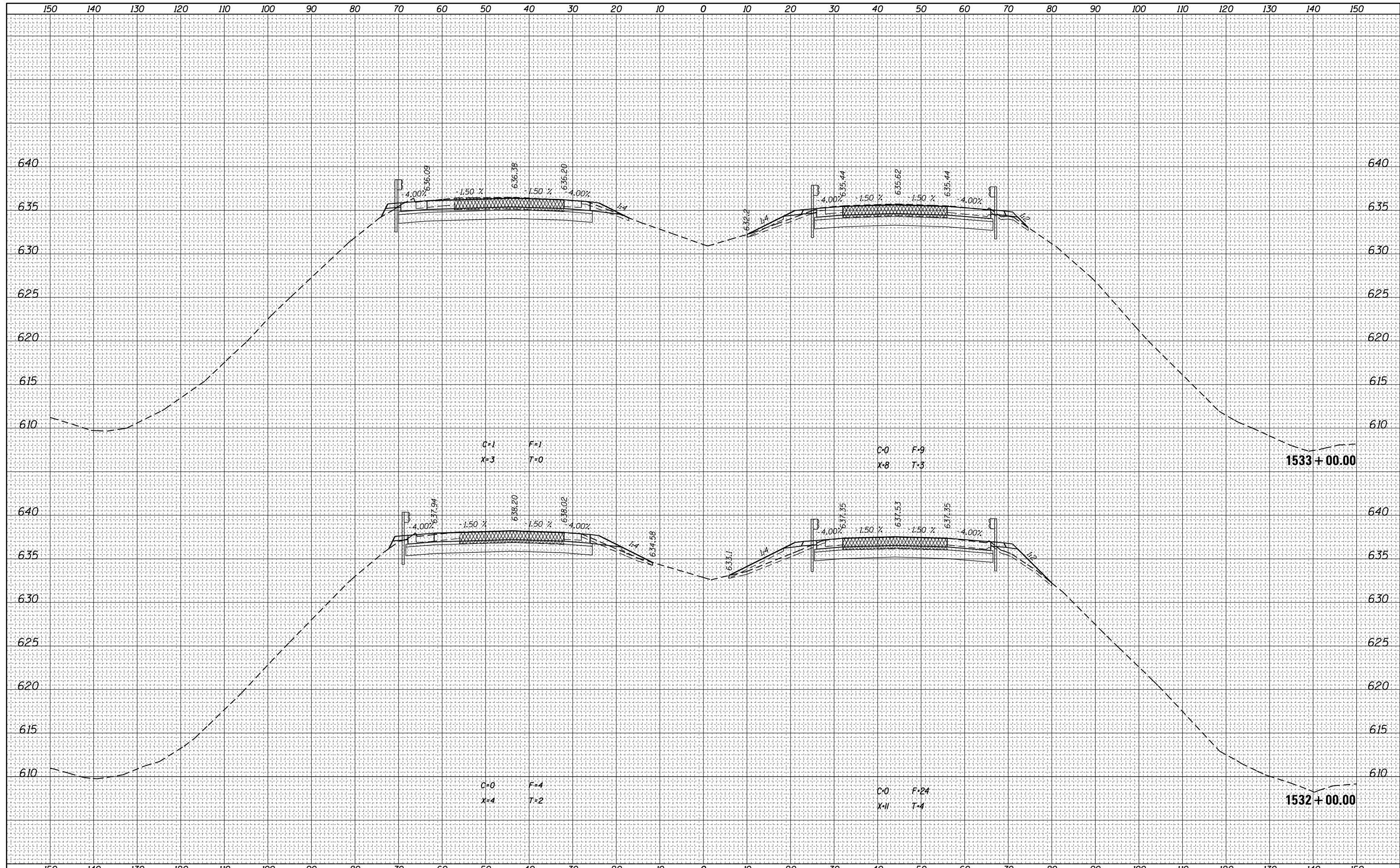
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| FILE NAME = | USER NAME = steffenk | DESIGNED - | REVISIED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CROSS SECTIONS - I-70 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
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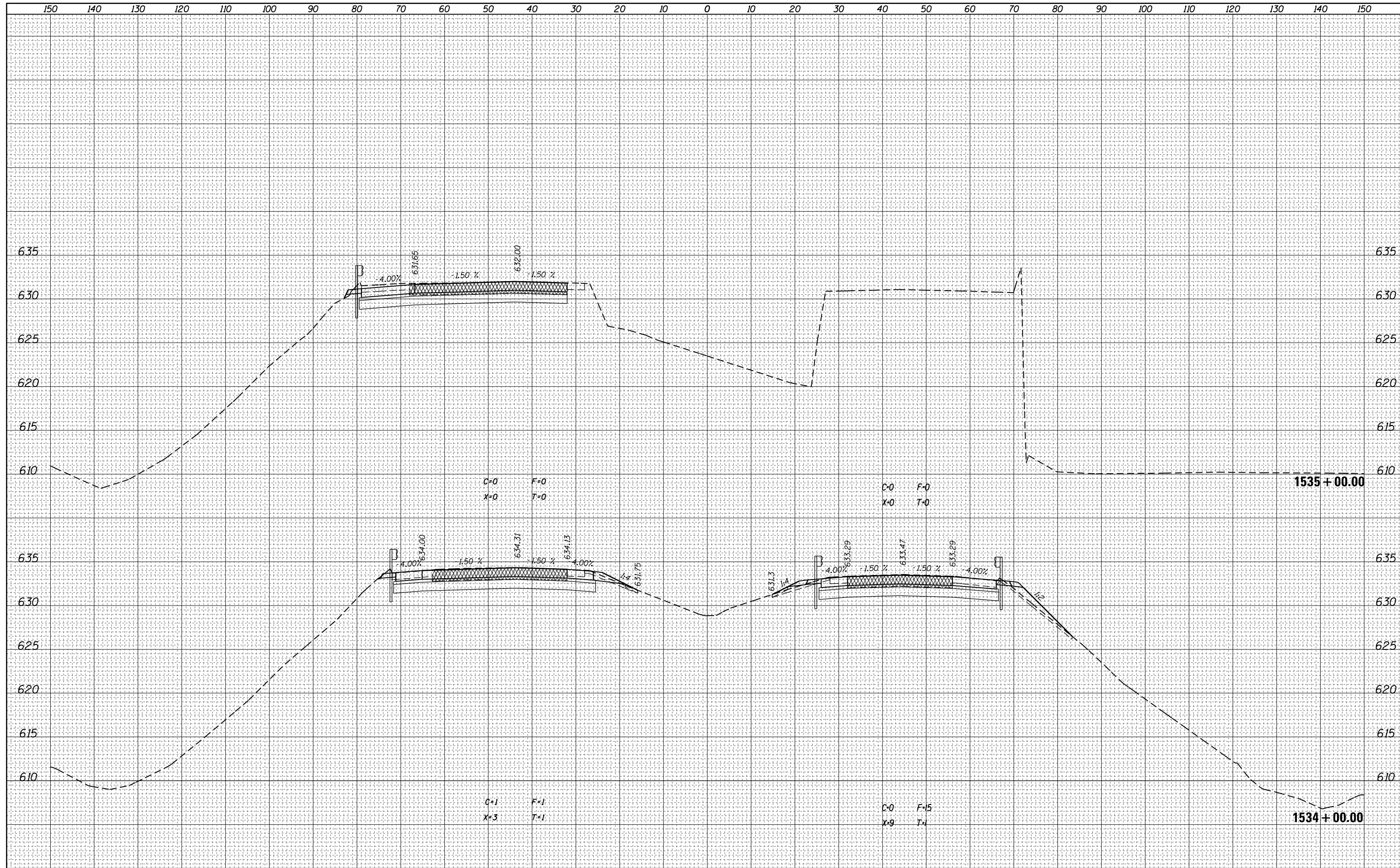
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| FILE NAME = | USER NAME = steffenk | DESIGNED - | REVISIED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CROSS SECTIONS - I-70 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
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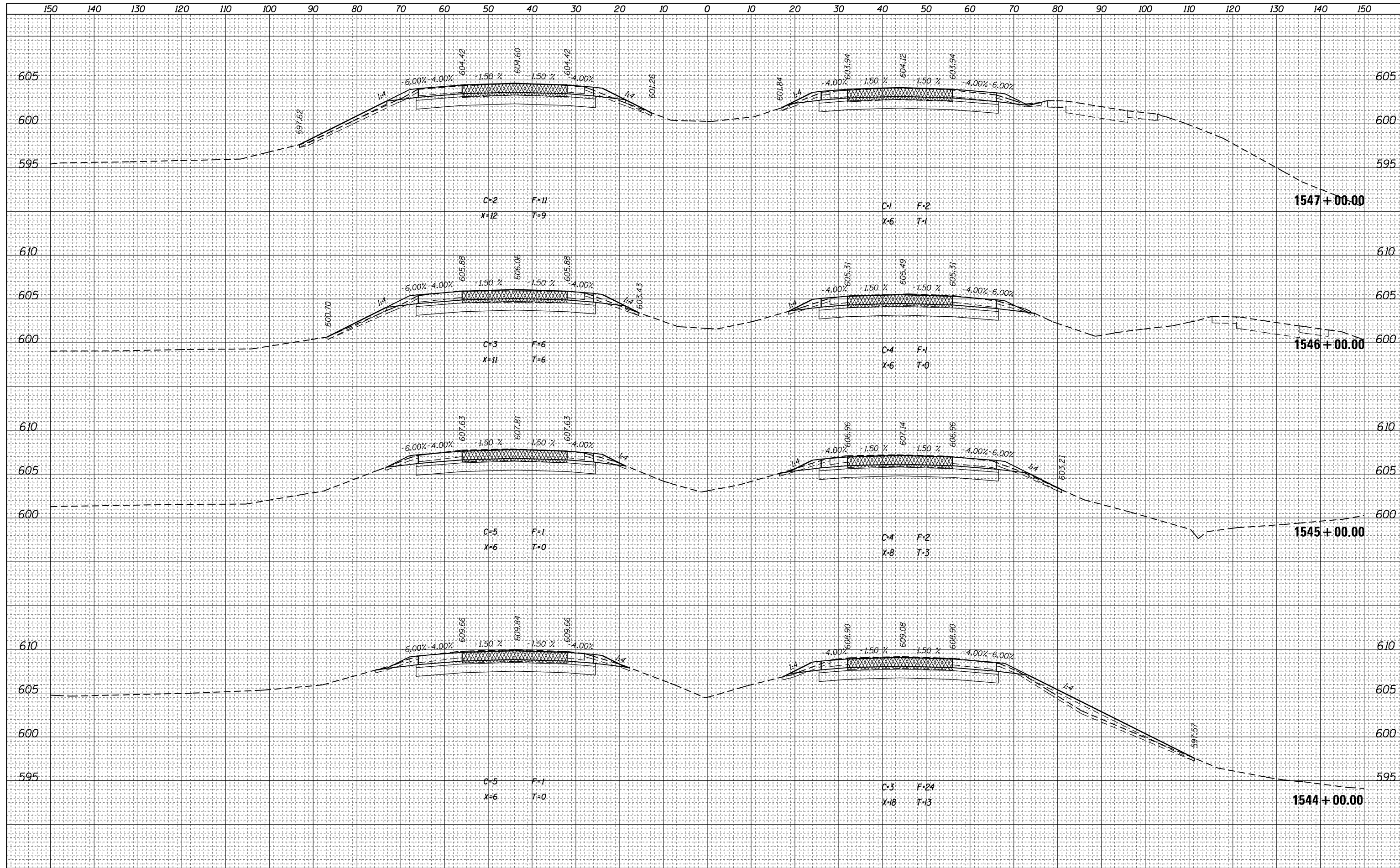
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| Default | DATE - | REVISIED - | REVISIED - | ILLINOIS FED. AID PROJECT | | | | |

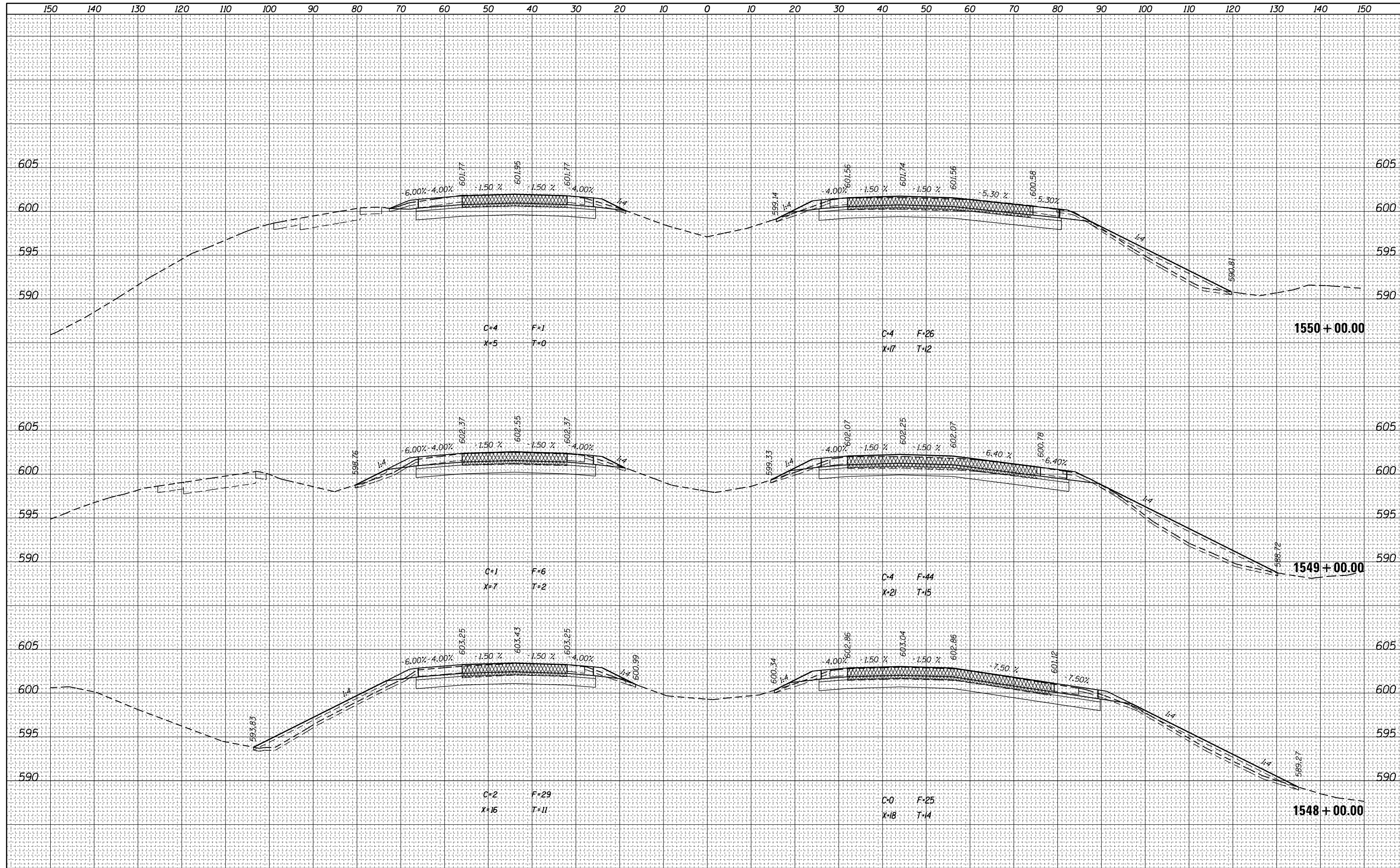
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS - I-70

SCALE: SHEET OF SHEETS STA. 1544+00.00 TO STA. 1547+00.00

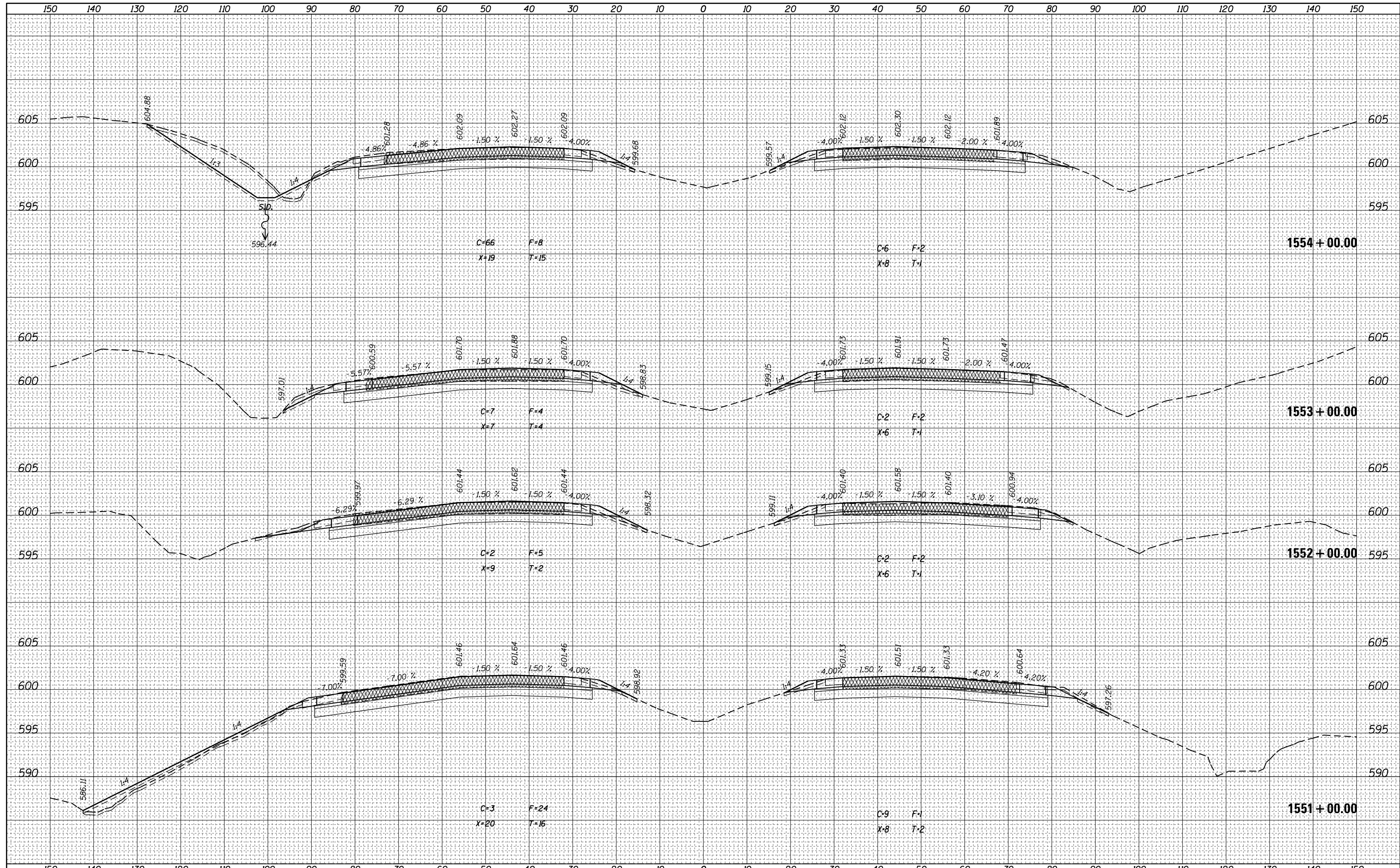
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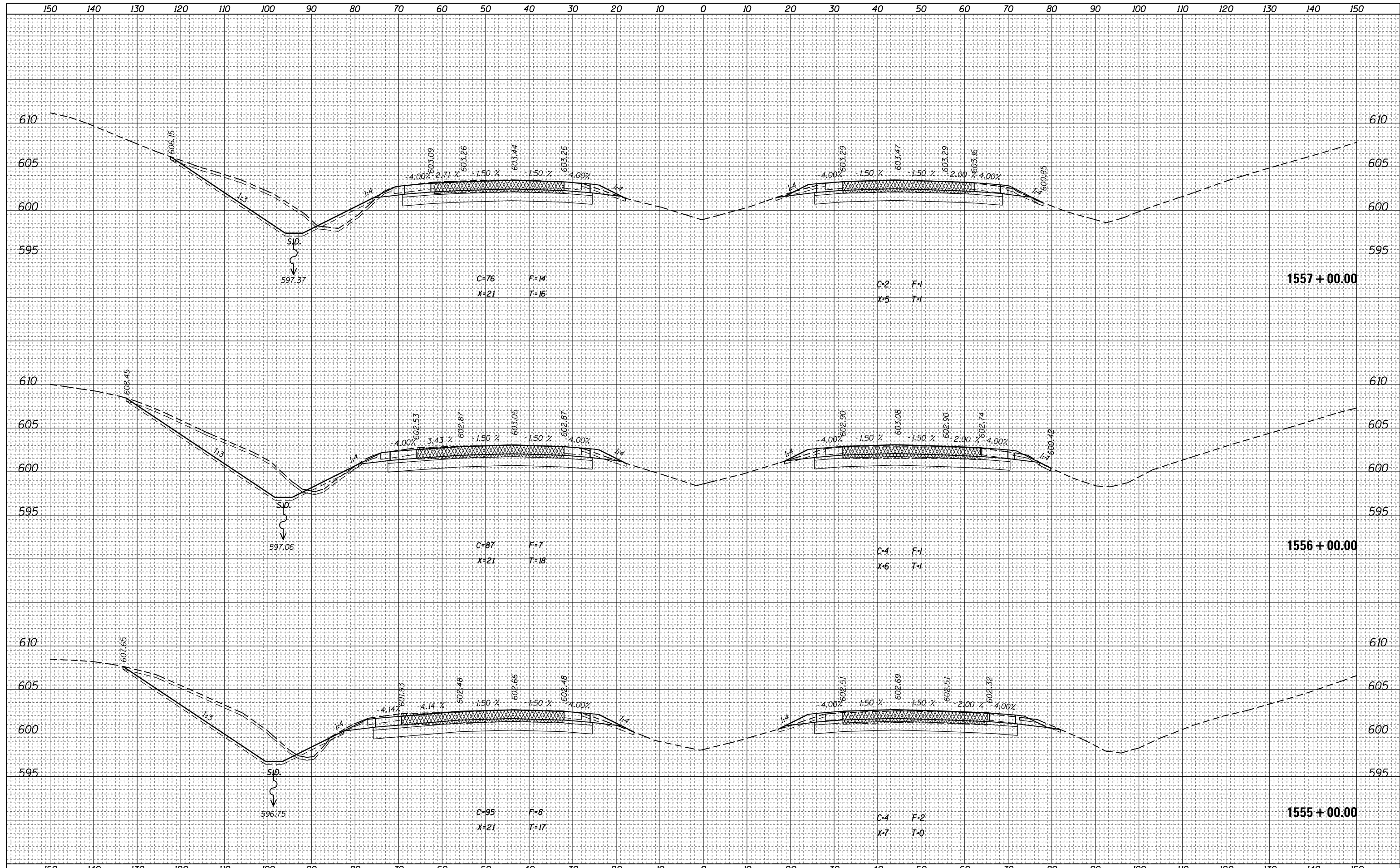


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| PLOT SCALE = 20.0000' / in. | CHECKED - | REVISIED - | REVISIED - | | | CONTRACT NO. 74664 | | | | |
| PLOT DATE = 3/23/2017 | DATE - | REVISIED - | REVISIED - | | | ILLINOIS FED. AID PROJECT | | | | |

SCALE: SHEET OF SHEETS STA. 1551+00.00 TO STA. 1554+00.00

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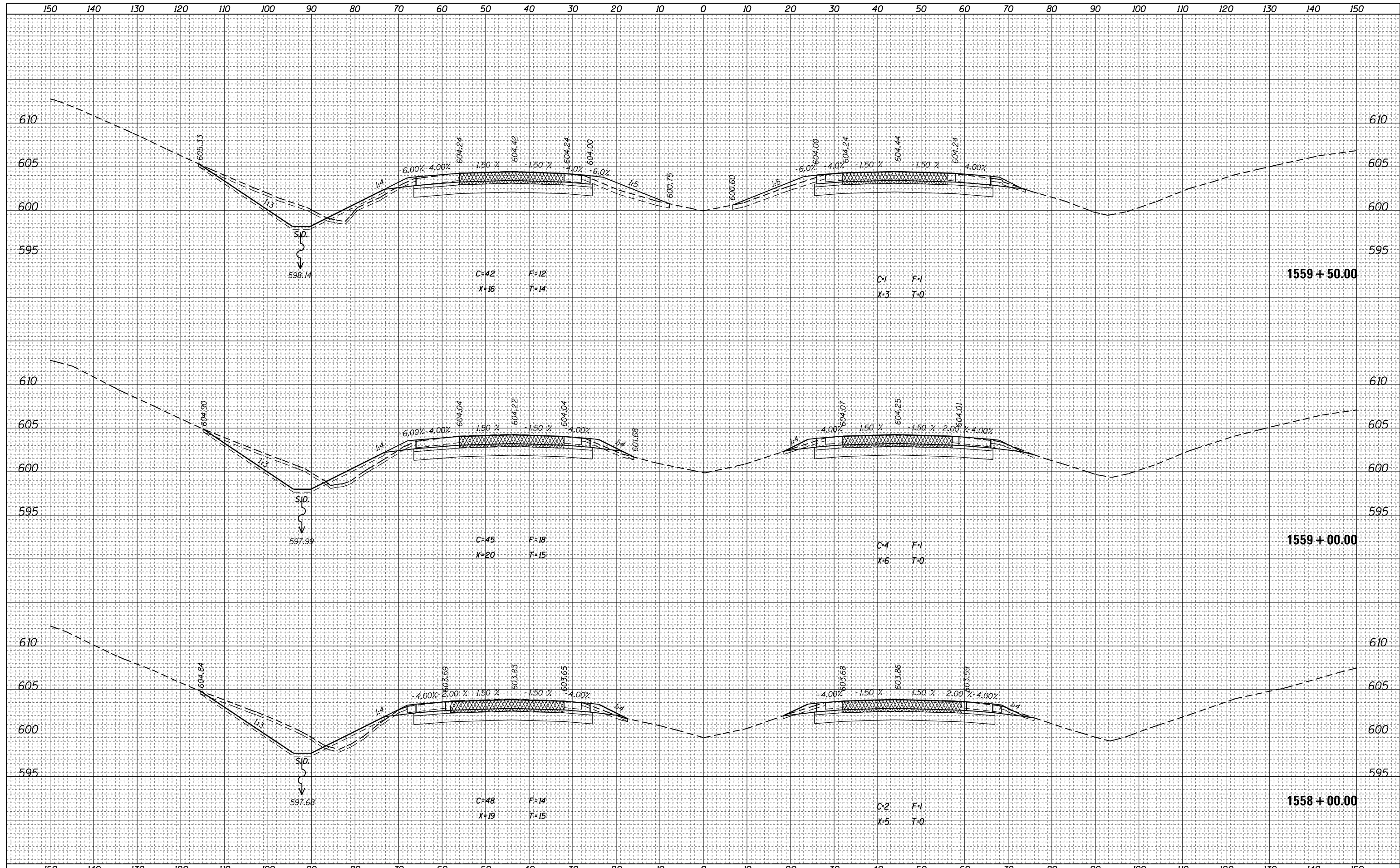
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| PLOT DATE = 3/23/2017 | DATE - | REVISIED - | REVISIED - | | | | | | | | | | | | | | | | |
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| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | | | | | | | | | | | | | | | |
| 70 | (25-1,2)R | EFFINGHAM | 496 | 293 | | | | | | | | | | | | | | | |
| CONTRACT NO. 74664 | | | | | | | | | | | | | | | | | | | |

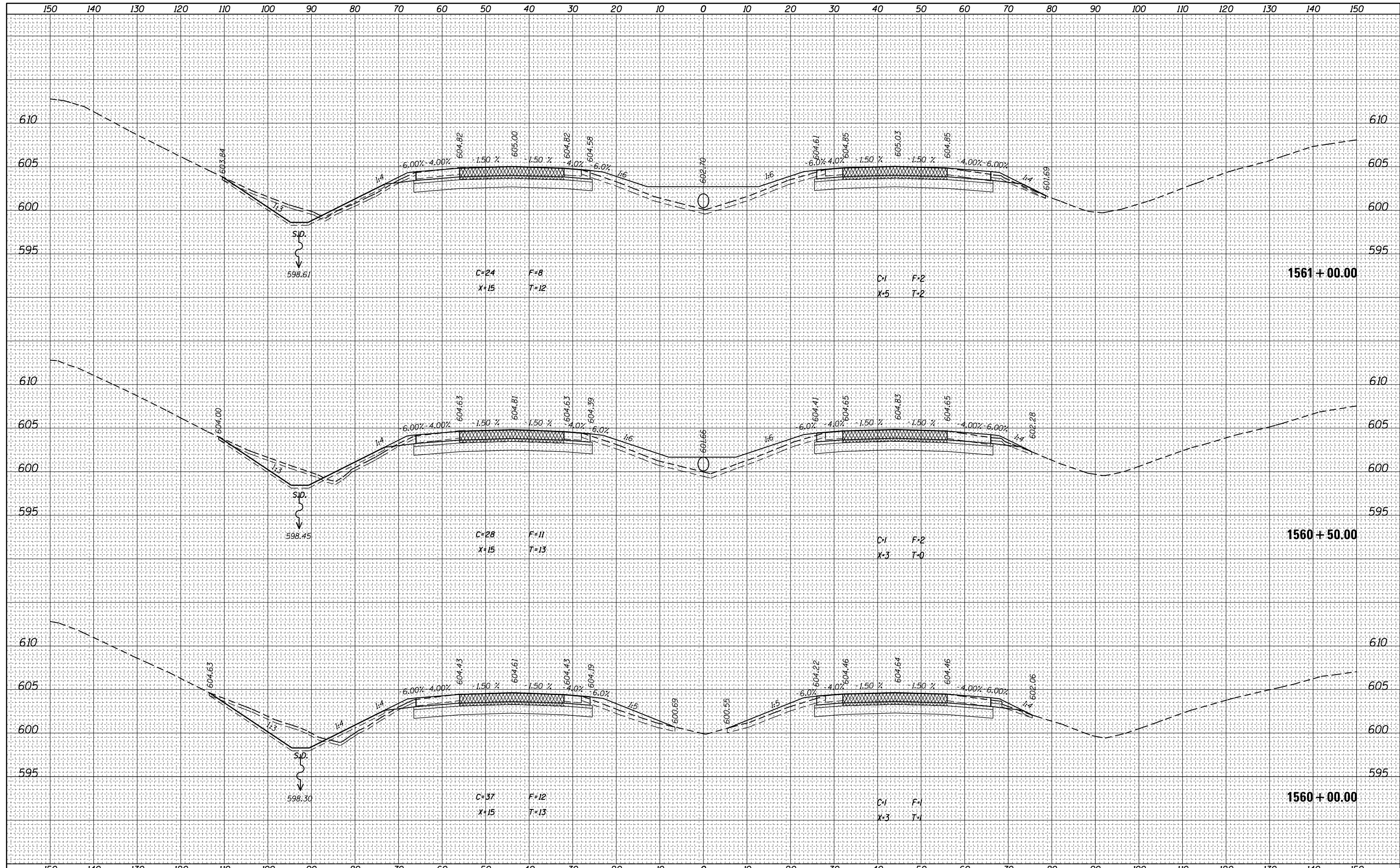
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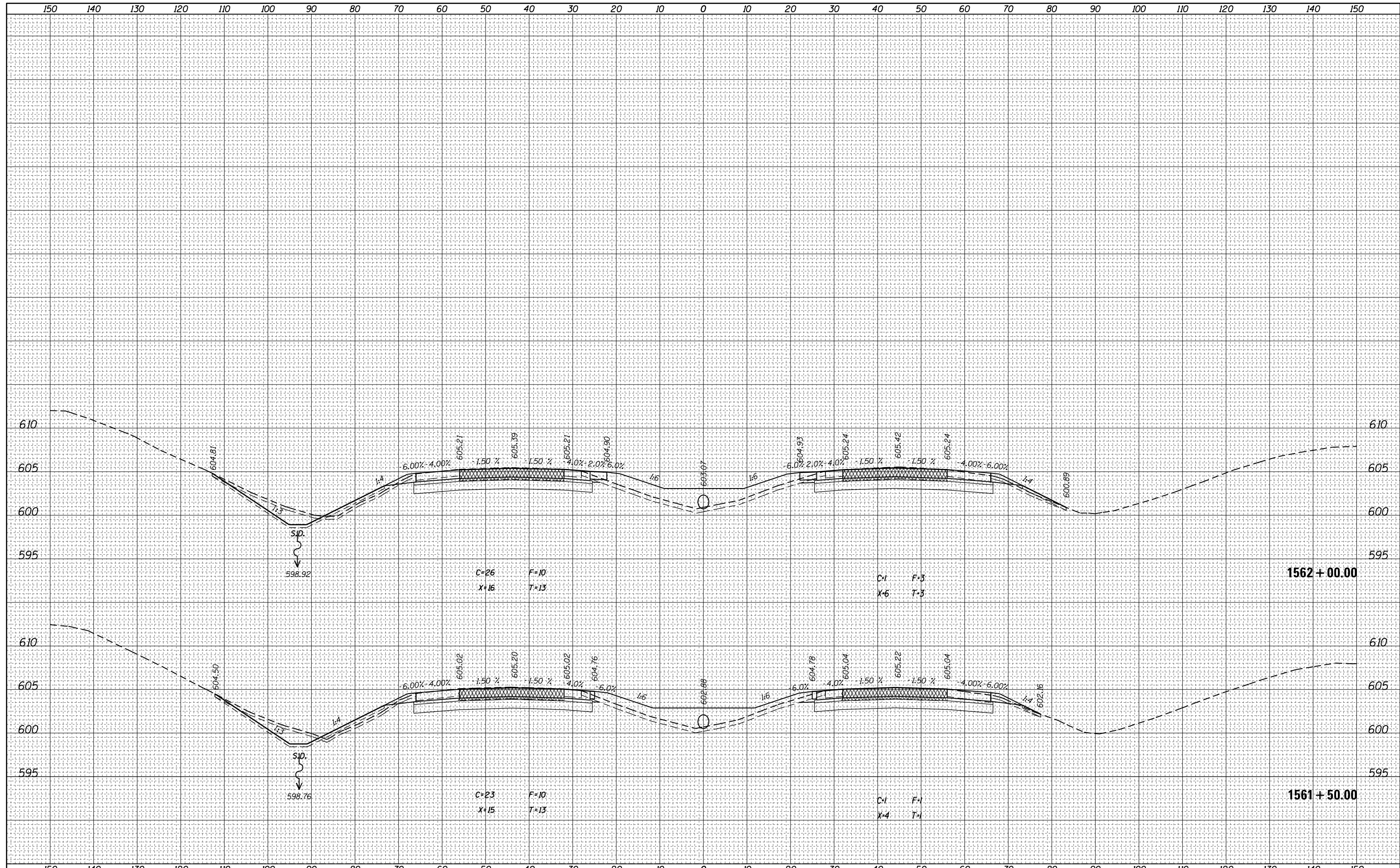
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| FILE NAME = | USER NAME = steffemk | DESIGNED - | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CROSS SECTIONS - I-70 | F.A.I. RTÉ. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| p:\11084EBIDINTEG\Illinois.gov\PIDOT\Documents\DOT Offices\District 7\Projects\74664\CADD\Drawings\Drawings\74664-sht-xssht.dgn | NOTED | CHECKED - | REVISED - | | | 70 | (25-1,2)R | EFFINGHAM | 496 | 295 |
| PLOT SCALE = 20.0000' / in. | | DATE - | REVISED - | | | CONTRACT NO. 74664 | | ILLINOIS FED. AID PROJECT | | |
| Default | | | | | | SCALE: | SHEET | OF | SHEETS | STA. 1560+00.00 |

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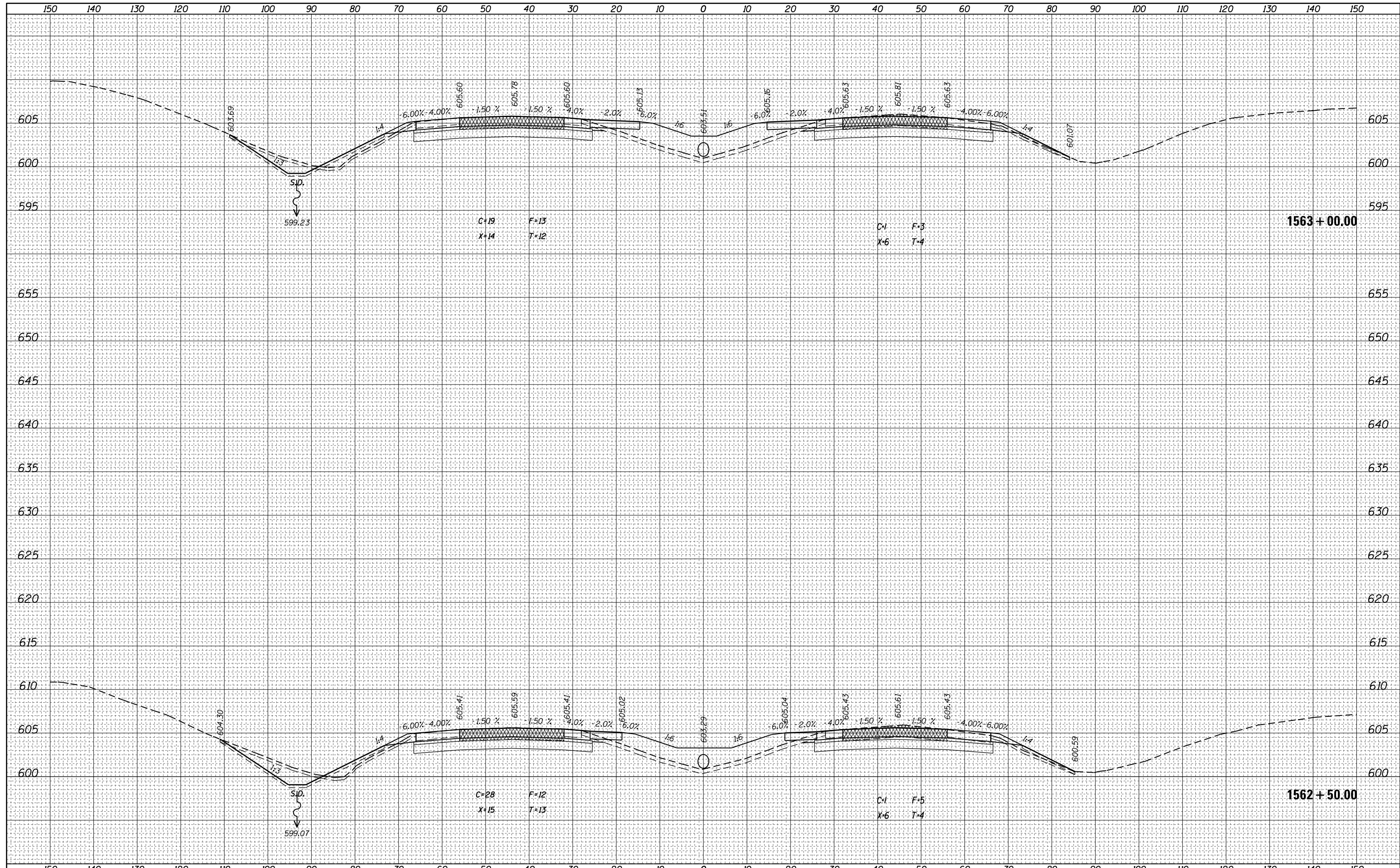
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| FILE NAME = | USER NAME = steffennk | DESIGNED - | REVISIED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CROSS SECTIONS - I-70 | F.A.I. RTÉ. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| Default | DOT Offices\District 7\Projects\74664\CADD\Drawings\Drawings\74664-sht-xssht.dgn | CHECKED - | REVISIED - | | | 70 | (25-1,2)R | EFFINGHAM | 496 | 296 | |
| | PLOT SCALE = 20.0000' / in. | DATE - | REVISIED - | | | CONTRACT NO. 74664 | | | | | |
| | PLOT DATE = 3/23/2017 | | REVISIED - | | | SCALE: | SHEET | OF | SHEETS | STA. 1561+50.00 | TO STA. 1562+00.00 |

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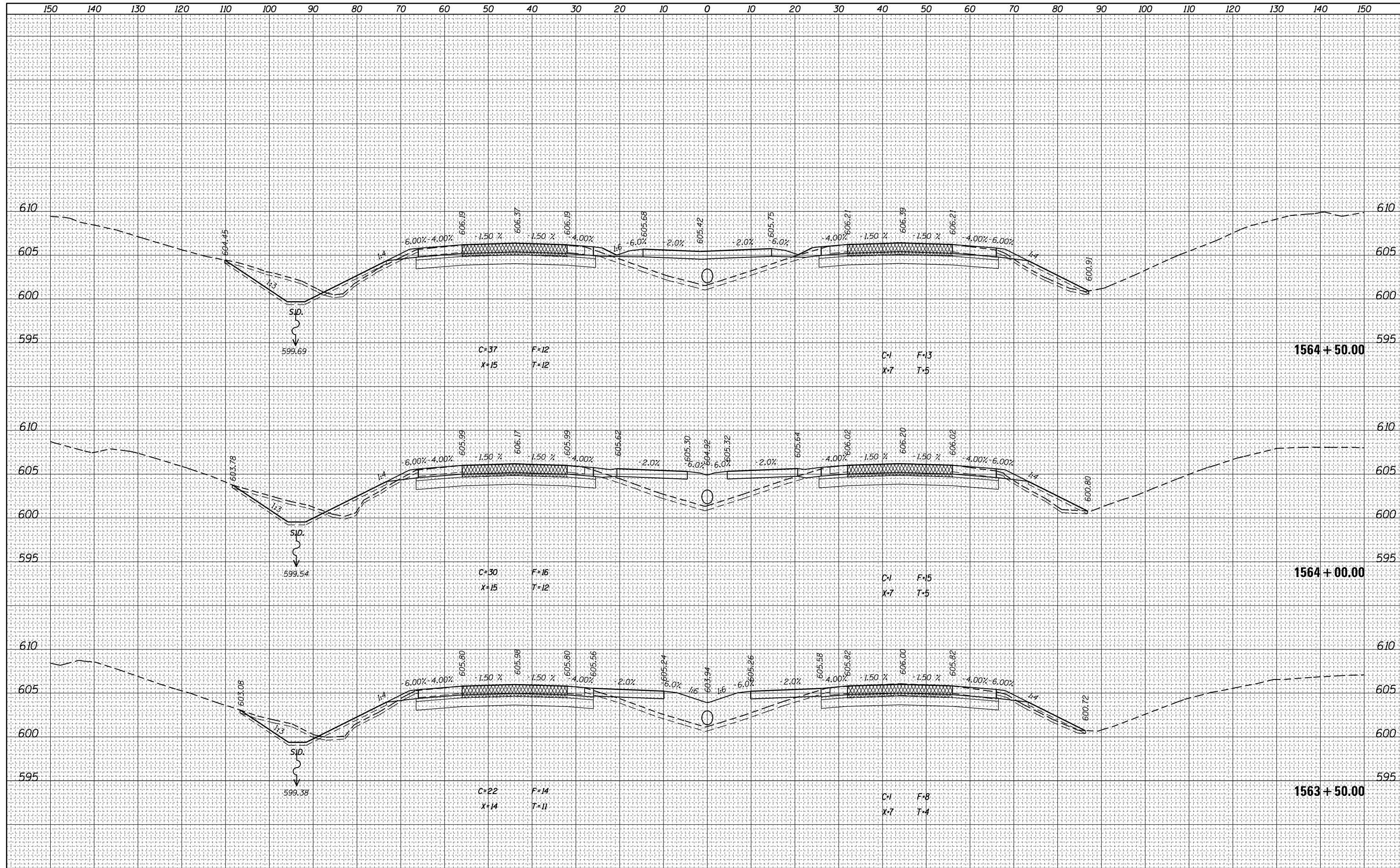
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| FILE NAME = | USER NAME = steffennk | DESIGNED - | REVISIED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CROSS SECTIONS - I-70 | F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| Default | \\IL084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 7\Projects\74664\CADD\Drawings\Drawings\74664-sht-xsst.dgn | CHECKED - | REVISIED - | | | 70 | (25-1,2)R | EFFINGHAM | 496 | 297 | |
| | PLOT SCALE = 20.0000' / in. | DATE - | REVISIED - | | | CONTRACT NO. 74664 | | ILLINOIS FED. AID PROJECT | | | |
| | PLOT DATE = 3/23/2017 | | | | | SCALE: | SHEET | OF | SHEETS | STA. 1562+50.00 | TO STA. 1563+00.00 |

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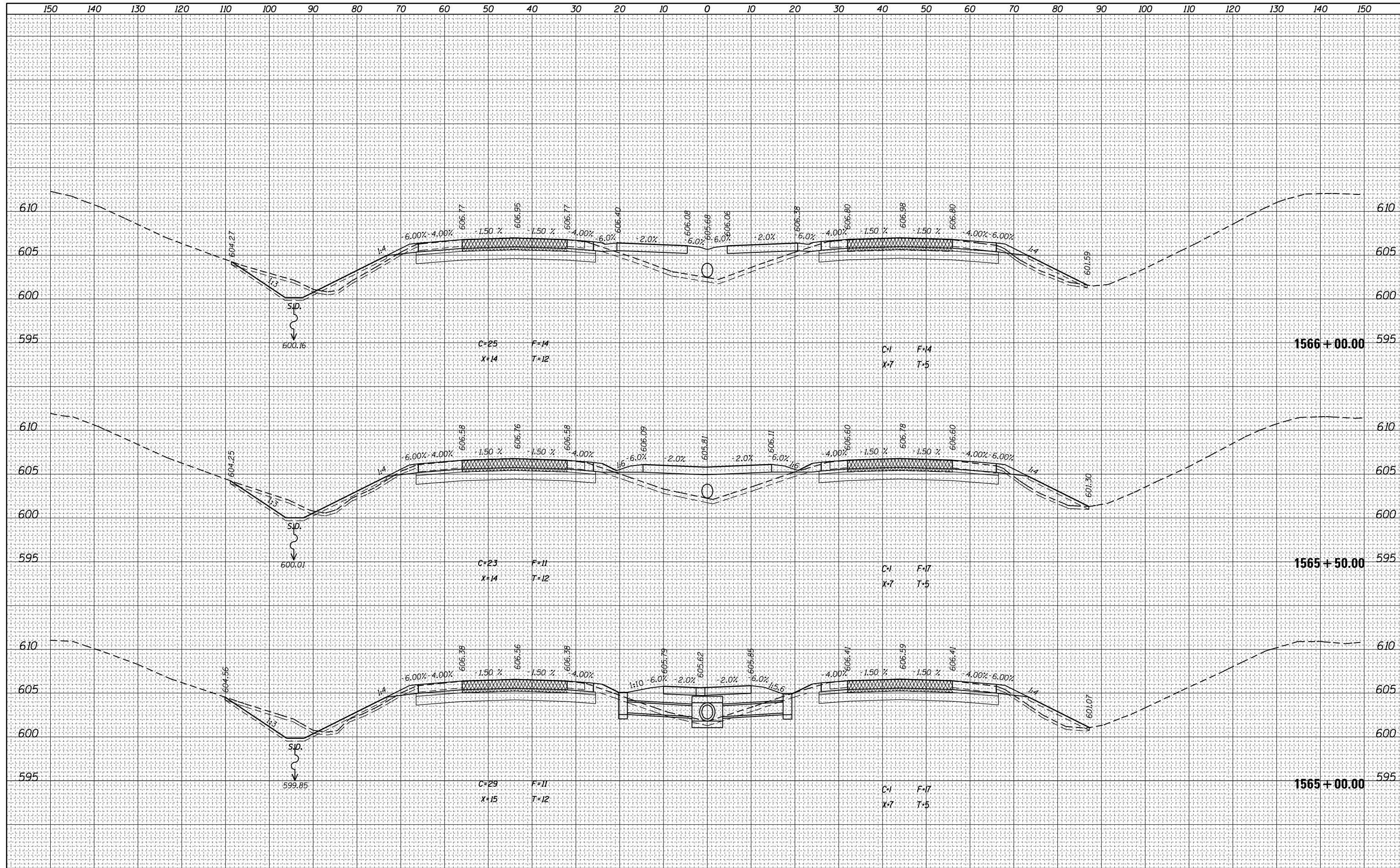
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| FILE NAME = | USER NAME = steffennik | DESIGNED - | REVISOR - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CROSS SECTIONS - I-70 | F.A.I. RTÉ. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| p:\11084EBIDINTEG\Illinois.gov\PWIDOT\Documents\IDOT Offices\District 7\Projects\74664\CADD\Drawings\Drawings\74664-sht-xsst.dgn | DRAWN | REVISOR - | REVISOR - | | | 70 | (25-1,2R) | EFFINGHAM | 496 | 298 |
| PLOT SCALE = 20.0000' / in. | CHECKED - | REVISOR - | REVISOR - | | | CONTRACT NO. 74664 | | | | |
| PLOT DATE = 3/23/2017 | DATE - | REVISOR - | REVISOR - | | | ILLINOIS FED. AID PROJECT | | | | |
| Default | | | | SCALE: | SHEET | OF | SHEETS | STA. 1563+50.00 | TO STA. 1564+50.00 | |

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| FILE NAME = | USER NAME = steffennik | DESIGNED - | REVISOR - | F.A.I. R.T.E. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| p:\11084EBIDINTEG\Illinois.gov\PIDOT\Documents\IDOT Offices\District 7\Projects\74664\CADD\Drawings\Drawings\74664-sht-xsst.dgn | | DRAWN | REVISOR - | 70 | (25-1,2)R | EFFINGHAM | 496 | 299 |
| Default | PLOT SCALE = 20.0000' / in. | CHECKED - | REVISOR - | CONTRACT NO. 74664 | | | | |
| | PLOT DATE = 3/23/2017 | DATE - | REVISOR - | ILLINOIS FED. AID PROJECT | | | | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS - I-70

SCALE: SHEET OF SHEETS STA. 1565+00.00 TO STA. 1566+00.00

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| SURVEYED | |
| PLOTTED | |
| TEMPLATE | |
| NOTE BOOK | |
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| DATE | |
| BY | |
| ORIGINAL SURVEY NO. | |
| SURVEYED | |
| PLOTTED | |
| TEMPLATE | |
| NOTE BOOK | |
| AREAS CHECKED | |

