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<tr>
<td>TSA-SB-PSSP-LS</td>
<td>2 rows of reinf in top slab; 1 row of reinf in each sidewall; Permanent Steel Sheet Pile Wingwalls, Left Skew</td>
<td>2/17/2017</td>
</tr>
<tr>
<td>TSA-SB-PSSP-RS</td>
<td>2 rows of reinf in top slab; 1 row of reinf in each sidewall; Permanent Steel Sheet Pile Wingwalls, Right Skew</td>
<td>2/17/2017</td>
</tr>
<tr>
<td>TSA-SB-PSSP-ZS</td>
<td>2 rows of reinf in top slab; 1 row of reinf in each sidewall; Permanent Steel Sheet Pile Wingwalls, Zero Skew</td>
<td>2/17/2017</td>
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<tr>
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The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling. The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling.

Sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi. The minimum effective section modulus of the permanent steel sheet pile wall shall be shown. Reductions in quantities shall be made for this substitution.

At the Contractor's option, a longer v1 bar may be ordered to replace the v bar. No bars indicated thus 12 x 4 -#5 etc. indicates 12 lines of bars with 4 lengths per line. Notes:

- "a" bars in skew portion of slab shall be ordered full length & cut to fit.
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The minimum effective section modulus of the permanent steel sheet pile wall shall be in.\footnotesize{Ft}. Each Corner

2-# v3 bars

Notes:

- Bars indicated thus 12 x A-#5 etc. indicates 12 lines of bars with # lengths per line.
- At the Contractor's option, a longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.
- The minimum effective section modulus of the permanent steel sheet pile wall shall be in.\footnotesize{Ft}.
- Sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.
- The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling.

See Section Thru Headwall

SECTION A-A

BAR s1

BAR s

BAR d

BAR a1

1/6" V

3/4" V

Back Face

LIMITS OF Filter Fabric

CONCRETE Bar reinforcement +

Reinforcement Bars Found

Permanent Sheet Piling

5a Ft

DETAIL A

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT DETAILS
STRUCTURE NO.

BILL OF MATERIAL

Bar | No | Area | Length | Shape
--- | --- | --- | --- | ---
... | ... | ... | ... | ...
Concrete Box Culverts

16-5-2 each sheet

Typ. at Back Face

Chamfer

4°

See Detail A

Be 4 oz./sq. yd. Fold as shown.

Specifications. Minimum weight shall be 4 oz./sq. yd. Fold as shown. Filters shall be included in the cost of Permanent Sheet Piling.

The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling. Further, 650 psi or a minimum compressive strength of 3500 psi.

Sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 850 psi or a minimum compressive strength of 3500 psi.

The minimum effective section modulus of the permanent steel sheet pile wall shall be in full length of span

At the Contractor’s option, a longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.

Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

As the Contractor’s option, a longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.

The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling.
**SECTION THRU HEADWALL**

**BILL OF MATERIAL**

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**SECTION A-A**

Notes:
- Bars indicated thus 32 x 4-#5 etc. indicates 32 lines of bars with 4 lengths per line.
- At the Contractor's option, a longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.
- The minimum effective section modulus of the permanent steel sheet pile wall shall be 10-ft.
- Shear piling shall not be driven until the concrete strength has attained a minimum flexural strength of 600 psi or a minimum compressive strength of 3500 psi.
- The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling.

**CULVERT DETAILS**

**STRUCTURE NO.**

**STATE OF ILLINOIS**

**DEPARTMENT OF TRANSPORTATION**

**CONTRACT NO.**

**BILL OF MATERIAL**

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The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling. The minimum effective section modulus of the permanent steel sheet pile wall shall be 1 in.". A reduction in quantities shall be made for this substitution.

Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line. Balance of bar to be used in opposite end of culvert. Bars may be ordered full length & cut to fit.

"a" bars in skew portion of slab shall be ordered full length & cut to fit. Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line. Balance of bar to be used in opposite end of culvert.

Notes:
- Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line. Balance of bar to be used in opposite end of culvert.
- Bars may be ordered full length & cut to fit.
- "a" bars in skew portion of slab shall be ordered full length & cut to fit. Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line. Balance of bar to be used in opposite end of culvert.

DEPARTMENT OF TRANSPORTATION
STATE OF ILLINOIS
CULVERT DETAILS
STRUCTURE NO.

CONTRACT NO. 1030.02

BILL OF MATERIAL

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DETAILED A

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CONCRETE BOX CULVERTS

(Used for section thru Headwall)

Geosynthetic Filter Fabric per Section 1080.01 of the Standard Specifications. Minimum weight shall be 4 oz./sq. yd. Fold as shown.

Bar a1
Bar d
Bar s
Bar s1

SECTION THRU BARREL

§ Geosynthetic Filter Fabric per Section 1080.01 of the Standard Specifications. Minimum weight shall be 4 oz./sq. yd. Fold as shown.

CONCRETE BOX CULVERTS

(Used for section thru Headwall)

Geosynthetic Filter Fabric per Section 1080.01 of the Standard Specifications. Minimum weight shall be 4 oz./sq. yd. Fold as shown.

Bar a1
Bar d
Bar s
Bar s1

SECTION A-A
**Concrete Box Culverts**

**Typ. at each sheet**

- 2'-8" Drip notch
  - full length of span
  - upstream

- 6" Drip notch
  - full length of span
  - downstream

**NOTES:**

Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

At the Contractor's option, a longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.

The minimum effective section modulus of the permanent steel sheet pile wall shall be 0.75.

Sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 650 psi or a minimum compressive strength of 2500 psi.

The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling.

**Table: Bill of Material**

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**Details:**

- Mind. Lap
- Minimum Lap

**Section A-A**

IMPROVED SHEET PILING

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<tr>
<th>Section</th>
<th>Sheet Piling</th>
<th>Permanent Sheet Piling</th>
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**State of Illinois**

**Department of Transportation**

**Structure No.**

**Culvert Details**

**FILE NAME**

**USER NAME**

**PLOT SCALE**

**PLOT DATE**

**CHECKED**

**DRAWN**

**CHECKED**

**DESIGNED**

**REVISED**

**REVISED**

**REVISED**

**REVISED**

**DEPARTMENT OF TRANSPORTATION**

**STATE OF ILLINOIS**

**F.A. RTE.**

**SECTION**

**ILLINOIS FED. AID PROJECT**

**COUNTY**

**CONTRACT NO.**

**TOTAL SHEETS**

**SHEET NO.**
SHOWING HEADWALL

Notes:
- Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
- At the Contractor's option, a longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.
- The minimum effective section modulus of the permanent steel sheet pile wall shall be in.'/ft.
- Sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.
- The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling.

Permanent sheet piling, typ

UTE NAME
FED. AID PROJECT
BAR s1
BAR s
Shape
typ.
No.
PLAN
each sheet
FILE NAME
TSB-SB-PSSP-RS

BILL OF MATERIAL

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Concrete Box Culverts
Concrete Sheet Piling
Pneumatic Box Culverts
Permeable Filter Fabric

CONTRACT NO.
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CORNER DETAIL

DETAIL A

SECTION A-A

SECTION THRU HEADWALL

LONGITUDINAL SECTION

(Dimensions at M. Ls to § Roadway)

Elev.

SHOWING TOEWALL

1-#4 a2 bar

SEE DETAIL A

BILL OF MATERIAL

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Concrete Box Culverts
Concrete Sheet Piling
Pneumatic Box Culverts
Permeable Filter Fabric

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CORNER DETAIL

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SECTION A-A

SECTION THRU HEADWALL

LONGITUDINAL SECTION

(Dimensions at M. Ls to § Roadway)

Elev.

SHOWING TOEWALL

1-#4 a2 bar

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Concrete Sheet Piling
Pneumatic Box Culverts
Permeable Filter Fabric

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STATE OF ILLINOIS
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CORNER DETAIL

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SECTION A-A

SECTION THRU HEADWALL

LONGITUDINAL SECTION

(Dimensions at M. Ls to § Roadway)

Elev.

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1-#4 a2 bar

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Concrete Box Culverts
Concrete Sheet Piling
Pneumatic Box Culverts
Permeable Filter Fabric

CONTRACT NO.
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CORNER DETAIL

DETAIL A

SECTION A-A

SECTION THRU HEADWALL

LONGITUDINAL SECTION

(Dimensions at M. Ls to § Roadway)

Elev.

SHOWING TOEWALL

1-#4 a2 bar

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Concrete Box Culverts
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SECTION A-A

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Concrete Box Culverts
Concrete Sheet Piling
Pneumatic Box Culverts
Permeable Filter Fabric

CONTRACT NO.
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CORNER DETAIL

DETAIL A

SECTION A-A

SECTION THRU HEADWALL

LONGITUDINAL SECTION

(Dimensions at M. Ls to § Roadway)

Elev.

SHOWING TOEWALL

1-#4 a2 bar

SEE DETAIL A

BILL OF MATERIAL

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SECTION THRU HEADWALL

LONGITUDINAL SECTION

(Dimensions at M. Ls to § Roadway)

Elev.
Concrete Box Culverts

16
5
2
each sheet

Typ. at
Back Face
" Chamfer
See Detail A
be 4 oz./sq. yd. Fold as shown.
Specifications. Minimum weight shall

Minimum limits of
Filter fabric per
Section 1080.01 of the Standard
Specifications. Minimum weight shall
be 4 oz./sq. yd. Fold as shown.

Notes:
Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
At the Contractor's option, a longer v1 bar may be ordered to replace the v bar. No
reduction in quantities shall be made for this substitution.
The minimum effective section modulus of the permanent steel sheet pile wall shall be
in.
Sheet piling shall not be driven until the concrete strength has attained a minimum flexural
strength of 650 psi or a minimum compressive strength of 3500 psi.
The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter
fabric shall be included in the cost of Permanent Sheet Piling.

2-17-2017

T5B-SB-PSSP-ZS
2-17-2017

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
LONGITUDINAL SECTION

PLAN

SHOWING TEEWALL

Notes:
Bars indicated thus 12 x 4 #5 etc indicates 12 lines of bars with 4 lengths per line.
Bars to be 3 ft. O.C. in_web. A longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.

The minimum effective section modulus of the permanent steel sheet pile wall shall be in accordance with the Standard Specifications. Minimum weight shall be 4 oz./sq. yd. in accordance with the Standard Specifications. Minimum weight shall be 4 oz./sq. yd. as shown.

The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling.
Concrete Box Culverts

2'-8"  1'-9"

Tilt head of a1 bars if necessary
for 2" min. cl.

Const. Jt.

I.F., Each Wall
bars at 12" cts.

Typ. at each sheet

Back Face

See Section Thru Barrel

See Section Thru Headwall

Details of the Standard Specifications.

Elastomeric mat per Section 1028
and filter fabric per Section 1080.01 of the Standard Specifications. Minimum weight shall be 4 oz./sq. yd. Fold as shown.

Notes:
Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
At the Contractor’s option, a longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.

The minimum effective section modulus of the permanent steel sheet pile wall shall be in./ft.

The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling.

The cost of sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

The cost of furnishing and installing the fabricated steel cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TSB-SC-PSSP-ZS 2-17-2017