Notes:
1. Concrete mix should be designed to yield 28 day compressive strength of 4000 psi.
2. The wall will be built with contraction and expansion joints (see Joint details on page 4). No section of wall will be over 30 feet long between contraction joints and no more than 90° between expansion joints.
3. A construction joint must be placed anywhere the concrete placement is not continuous. See Construction Joint Notes on page 4.
4. All steel must have a minimum clear concrete cover over reinforcement of 2 inches except when concrete is on or against earth, then minimum clear cover is 3 inches.
5. All rebar must be grade 60. Lap splice of rebar must have a minimum lap length of: Mark 4 & 5 – 33'; all other #4 bars – 25'; all #6 bars – 31''
6. No earth backfill will be placed around the outside of these walls.
7. Bin length is 16'-6' maximum and bin width is 15'-6' foot maximum.
8. Bedding under concrete must be IDOT Grad. No. FA 1, 2, 4, or CA 7, 8, 11, 13, 14, 15, 16.
9. Compact the bedding material with the track or tire of the equipment used for construction to ensure a smooth uniform foundation without depressions or irregularities.
10. Place an expansion joint filler between all wood/concrete interfaces and all concrete slab interfaces. This includes joints between concrete heavy use area and bins. The joint filler must conform to ASTM Specification D 1752, D 894 or D 1751 Type I, Type II or Type III.

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BIN COMPOSTER

BINS ON EACH SIDE

Bench Mark EL
Description

---
**Description**

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Posts</td>
<td>6&quot; x 8&quot; x 15'-0&quot;</td>
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<tr>
<td>Concrete (4,000 PSI)</td>
<td></td>
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<tr>
<td>Walls &amp; Footing, Cu.Yd.</td>
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</tr>
<tr>
<td>Slab, Cu.Yd.</td>
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<tr>
<td>Total Concrete, Cu.Yd.</td>
<td></td>
</tr>
<tr>
<td>(Excludes Concrete Around Posts)</td>
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</tr>
<tr>
<td>Floor Reinforcing Options 1 &amp; 2</td>
<td></td>
</tr>
<tr>
<td>1. Welded Wire Fabric 6&quot; x 6&quot; x 8/8 Gauge, Sq.Ft. * Or</td>
<td></td>
</tr>
<tr>
<td>2. #4 Bar, Lin.Ft.</td>
<td></td>
</tr>
<tr>
<td>Slab And Footing</td>
<td>Bedding, Tons</td>
</tr>
<tr>
<td>Expansion And Isolation Joints</td>
<td>Expansion Board, Lin. Ft.</td>
</tr>
<tr>
<td>Water Stop</td>
<td>Lin.Ft.</td>
</tr>
<tr>
<td>Steel Dowel Bars</td>
<td>3/4&quot; Dia x 14&quot; Long, Each</td>
</tr>
<tr>
<td>Trusses</td>
<td></td>
</tr>
<tr>
<td>Truss, Each</td>
<td></td>
</tr>
<tr>
<td>Truss Bracing 2&quot; x 4&quot;, Lin.Ft.</td>
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</tr>
<tr>
<td>Knee Brace 2&quot; x 6&quot; x 6&quot;, Each</td>
<td></td>
</tr>
<tr>
<td>Truss Support 2&quot; x 8&quot; x 42&quot;, Each</td>
<td></td>
</tr>
<tr>
<td>Truss Connector 2&quot; x 8&quot; x 20&quot;, Each</td>
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<tr>
<td>Girders</td>
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<td>Girder 2&quot; x 12&quot;, Lin.Ft.</td>
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<tr>
<td>Girder Support 2&quot; x 6&quot; x 12&quot;, Each</td>
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<td>Roofing Material</td>
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<td>Roof Cap, Lin.Ft.</td>
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<tr>
<td>Cable End Sheathing, Sq.Ft.</td>
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<tr>
<td>Purlins 2&quot;x4&quot;, Lin.Ft. *</td>
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<tr>
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<tr>
<td>Downspout 3&quot; x 4&quot;, Lin.Ft.</td>
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</tr>
<tr>
<td>Pressure Treated Plate 2&quot; x 6&quot;, Lin.Ft.</td>
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</tbody>
</table>

*Quantities Do Not Include Extra Material For Overlap

**Notes:**

- **SECTION C-C (Pg 1):** Bin Concrete Slab/Heavy Use Area
- Not To Scale

- **1/8" = 1'-0"**

- **Scale:** 1/8" = 1'-0"
FOOTING, FLOOR & WALL DETAIL

CENTER & SIDE WALL DETAIL
PLAN VIEW

CENTER & PARTITION
WALL DETAIL PLAN VIEW

LEGEND
CJ = Construction Joint
WS = Waterstop 6" Wide Non-metallic

FOOTING & FLOOR
1" Deep Saw Cut
WS
Optional Monolithic Concrete Pour
DETAIL 1

EXAMPLE WALL JOINT
PLACEMENT SEQUENCE

REINFORCING STEEL SCHEDULE

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<thead>
<tr>
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<th>Size</th>
<th>Quantity</th>
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<th>B</th>
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<td>2</td>
<td>3'-0&quot;</td>
<td>3'-0&quot;</td>
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</tr>
<tr>
<td>2</td>
<td>#4</td>
<td>7'-7&quot;</td>
<td>2</td>
<td>6'-7&quot;</td>
<td>1'-0&quot;</td>
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</tr>
<tr>
<td>3</td>
<td>#4</td>
<td>3'-6&quot;</td>
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</tr>
<tr>
<td>4</td>
<td>#4</td>
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</tr>
<tr>
<td>5</td>
<td>#4</td>
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<td>1</td>
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</tr>
<tr>
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<td>#4</td>
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<td>1</td>
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</tr>
<tr>
<td>7</td>
<td>#4</td>
<td>4</td>
<td>1</td>
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Steel Length:__ft__pounds

Scale 3"/4" = 1'-0"
SECTION A-A (Pg 1)

Post Embedment Detail
At Front Of Bin

Q. Of 2" Deep X 1" Wide Groove,
Both Sides, Form Groove with
Blockout Strips Attached to Forms

Note:
Flexible 6" Non-Metallic
Waterstop, End 3" From Top Of Wall.

WALL CONTRACTION JOINT
30' C.C. SPACING
Scale: 1/2" = 1'-0"

DETAIL 2
Not To Scale

### Expansion Joint Filler

Expansion Joint Filler (See Note 10 Page 1)

Construction Joint
See Notes This Page

CONSTRUCTION JOINT NOTES
1. A construction joint must be prepared when the concrete pour is not continuous, typically between the floor and wall.
2. Prepare all surfaces that will be in contact with new concrete as per note 5.
3. Let concrete cure at least 12 hours prior to steel tying and form construction for the next pour.
4. New concrete must not be placed until the hardened concrete has cured at least 12 hours.
5. Construction joints must be prepared using one of the following two methods:
   - Method 1 - Water-Air or Sandblasting. Clean the joint surface of all unsatisfactory concrete, lamine, coating, stains, and debris by sandblasting or high-pressure air-water cutting, or both. Sandblasting can be used after the concrete has gained sufficient strength to resist excessive cutting, and high-pressure air-water cutting can be used as soon as the concrete has hardened sufficiently to prevent the jet from displacing the coarse aggregates. The surface of the concrete in place must be cut to expose clean, sound aggregate, but not so deep as to undercut the edges of larger particles of the aggregate. Cut the surface to a depth of at least 1/4" and thoroughly wash the surface to remove all material after cutting.
   - Method 2 - Mechanical. Clean the joint surface of all unsatisfactory concrete, lamine, coatings, stains, and debris by washing and scrubbing with a wire brush, wire broom, or other means approved by the engineer to expose coarse aggregate without displacing it. The surface must be roughened to a depth of at least 1/4".
6. All construction joints must be wetted and standing water removed immediately before new concrete is placed.
7. New concrete must be sufficiently vibrated to ensure good contact into the prepared joint.
8. Keyways or steel plates cannot be substituted for the construction joint methods above.

Note:
Dowel sleeve for contraction joint may be manufactured plastic sleeve, PVC sleeve, grease or any other means to prevent bond between half of the dowel and the concrete. Place a dowel sleeve on one end of each dowel.

Q. Of 2" Deep X 1" Wide Groove,
Both Sides, Form Groove With
Blockout Strips Attached to Forms

6" Non-Metallic
Waterstop

7" From Center Of Groove
To The End Of Dowel

6" Non-Metallic
Waterstop

4/0" x 14" Plain Steel Dowel Bar
14" Long With Expansion Chamber
For 3/4" Joint (Expansion) Spaced
At 15" C.C. Min 25% Cover From
Inside Face Of Wall

Dowel Sleeve

3/4" Expansion Chamber

6" Non-Metallic
Waterstop

End Water Stop
3" From Top Of Wall

Top View Wall
CONTRACTION JOINT
Scale: 3/4" = 1'-0"
NOTES:
1. All posts and cross braces must be pressure treated with a preservative approved by the AWPA for ground contact.
2. Attach purlins to rafters with 2 16d nails at each rafter. Purlins shall overlap at trusses. See sheet 6.
3. Splice girders only at posts.
4. All bolts must be 5/8 inch diameter galvanized, with galvanized washers at both ends.
5. All 16d nails must be galvanized and ringshank.
7. Nuts must be kept snug throughout the life of the structure or serious damage could result.
8. Install gutters where needed to control erosion or exclude clean water from contamination. Use drawing IL-ENC-124.
   ○ Gutter on ________ side of roof.
   ○ Gutter on ________ side of roof.
9. Sheath gable ends of roof structure with pressure treated plywood or other suitable material.
10. See additional truss bracing on page 6.
11. Set post spacings so that each post will connect to a truss.
12. Connect truss on each end of compost facility to outside face of posts.
13. Extended purlins to full extent of roof overhang on each of end roof.

See Truss Manufacturer's Certification Sheet. Trusses shall be designed and manufactured by a certified truss manufacturer. Trusses are designed for 30 pounds per square foot total load.

Sixty Six (66) nails or screws per 100 square feet shall be used to secure the roofing.
TRUSS TO POST ANCHORAGE

2" x 4" Longitudinal Runners
On Top Of Bottom Chords.
Use 3 Equally Spaced The Entire Length Of Structure

2" x 4" Diagonal Cross Bracing Attached
Underneath The Top Chord From Center Of One Truss To Side Of Truss 2 Trusses Away.
Use Two Diagonal Cross Braces In Opposing Directions At Each End Of Roof And For Every 40 Feet Of Building Length

TRUSS BRACING DETAILS

Attach All Cross Bracing And Runners With 2 Each 16d Ring Shank Nails At Each Truss

TRUSS TO GIRDER ANCHORAGE

2" x 8" x 20" Truss Connector
On Both Sides Of Truss

5/8" x 10" Galvanized Bolt
With Washer And Nut

20d Nails, 6 On Each Side

2" x 8" x 42" Truss Support With 8 Each 20d Galvanized Ring Shank Nail

3 Each 20d Galvanized Ring Shank Nails Driven Into The Post Into The Truss Support At Bottom

2" x 6" x 12" Girder Support With 4 Each 20d Galvanized Ring Shank Nails Driven Into Each Girder Support On Both Sides Of The Post

5/8" x 10" Galvanized Bolt With Washers And Nut

TRUSS TO GIRDER ANCHORAGE

2" x 6" x 6' Knee Brace With 6 Each 16d Galvanized Ring Shank Nails Driven Into The Truss

Knee Brace Must Extend To The Top Chord.

For Purlin Splice, Use 2 16d Ring Shank Nails In Each Board

Typical Purlin Attachment 2 16d Ring Shank Nails

PURLINS SPACED @ 24" CENTERS

Note:
The truss support, girder support and knee brace shall be pressure treated. See Note 1 page 5.