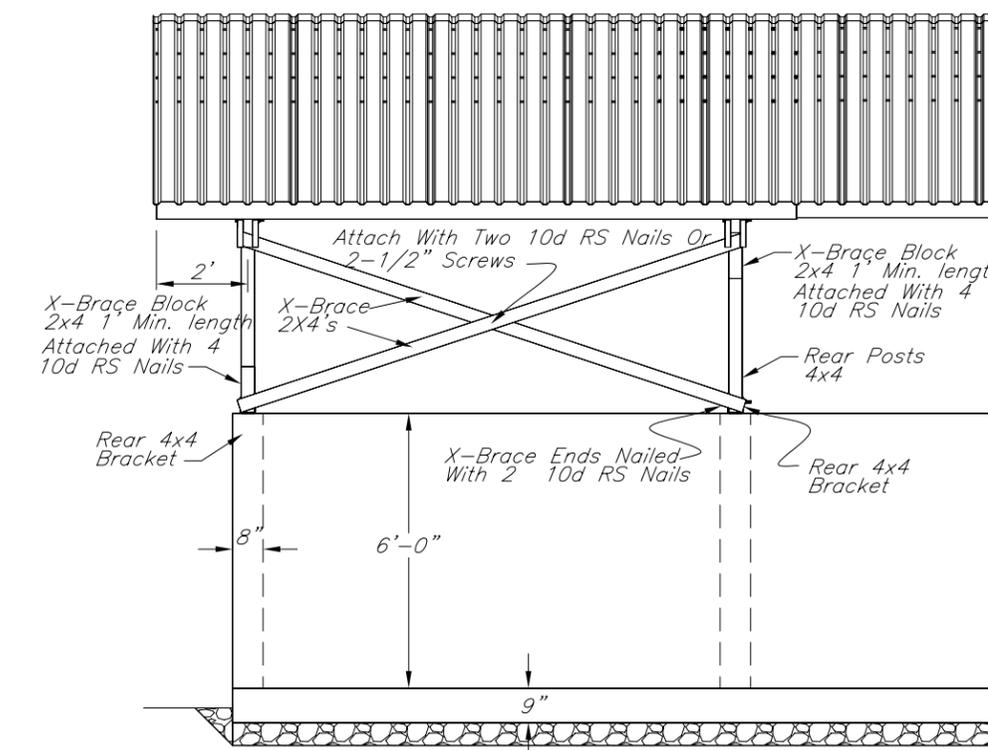


ISOMETRIC VIEW

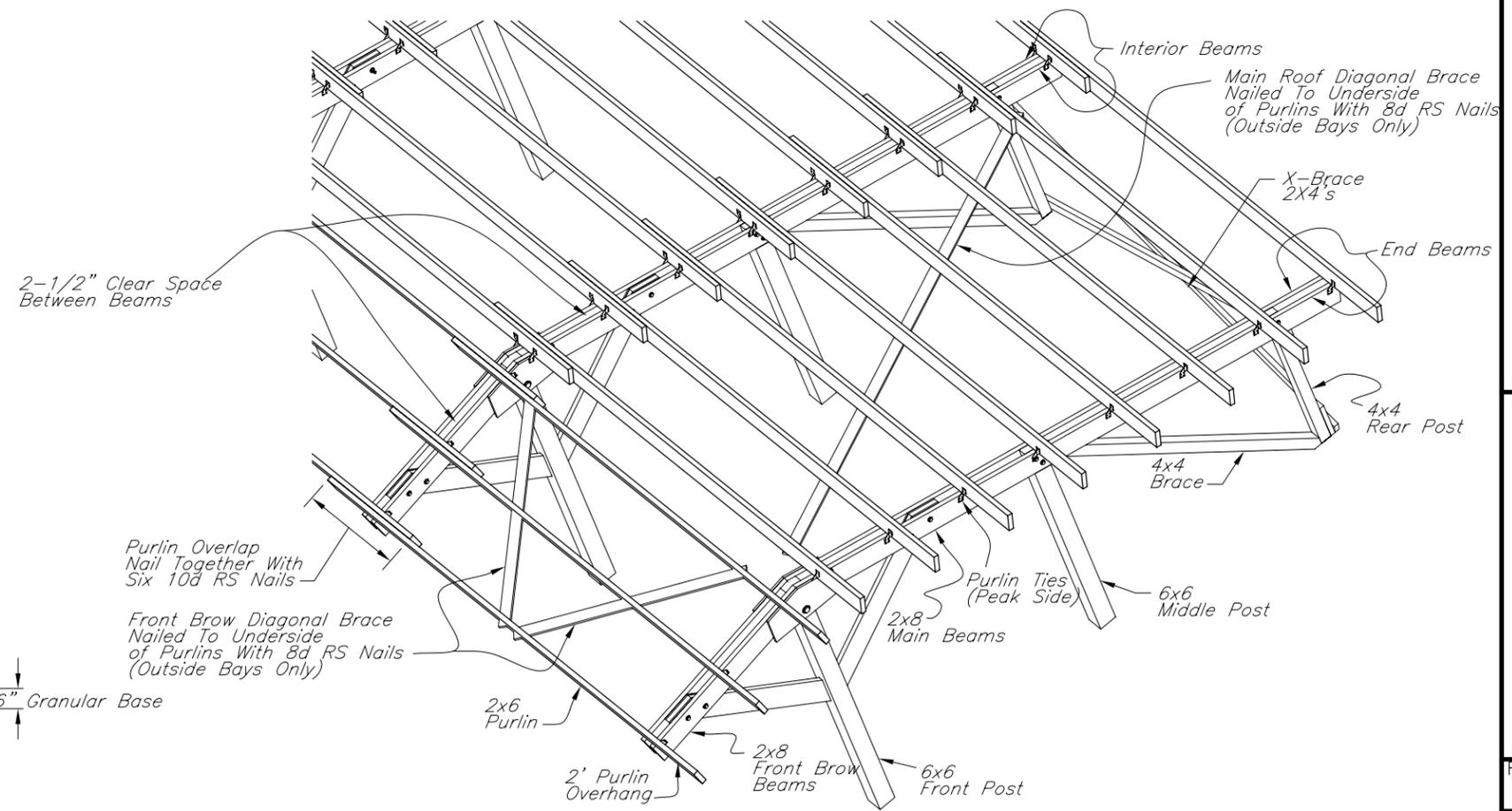
DRAWINGS ARE FOR A 3 TO 10 BIN COMPOSTER

Front Apron Options:

1. Concrete Apron Slab,
See Standard Drawing IA-1610, sheet _____, for subgrade and joint details.
Provide contraction joints (saw cut or tooled) at each interior wall.
Provide preformed joint filler (isolation joint) between apron and structure.
2. Granular Surfacing, min. 6 in. thick
See page 5 of 5 for material requirements.



PARTIAL REAR ELEVATION



ISOMETRIC TIMBER DETAIL VIEW

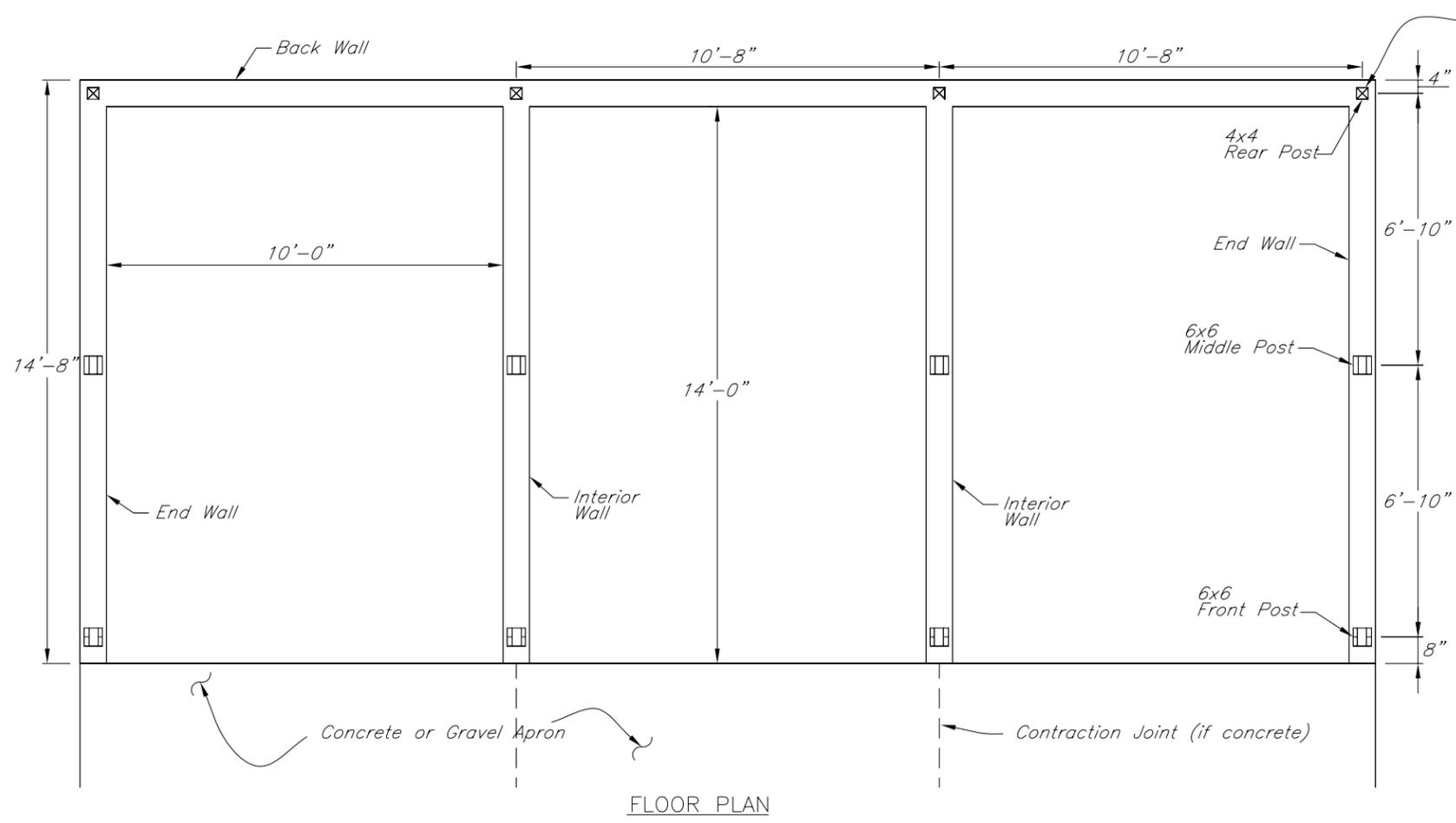
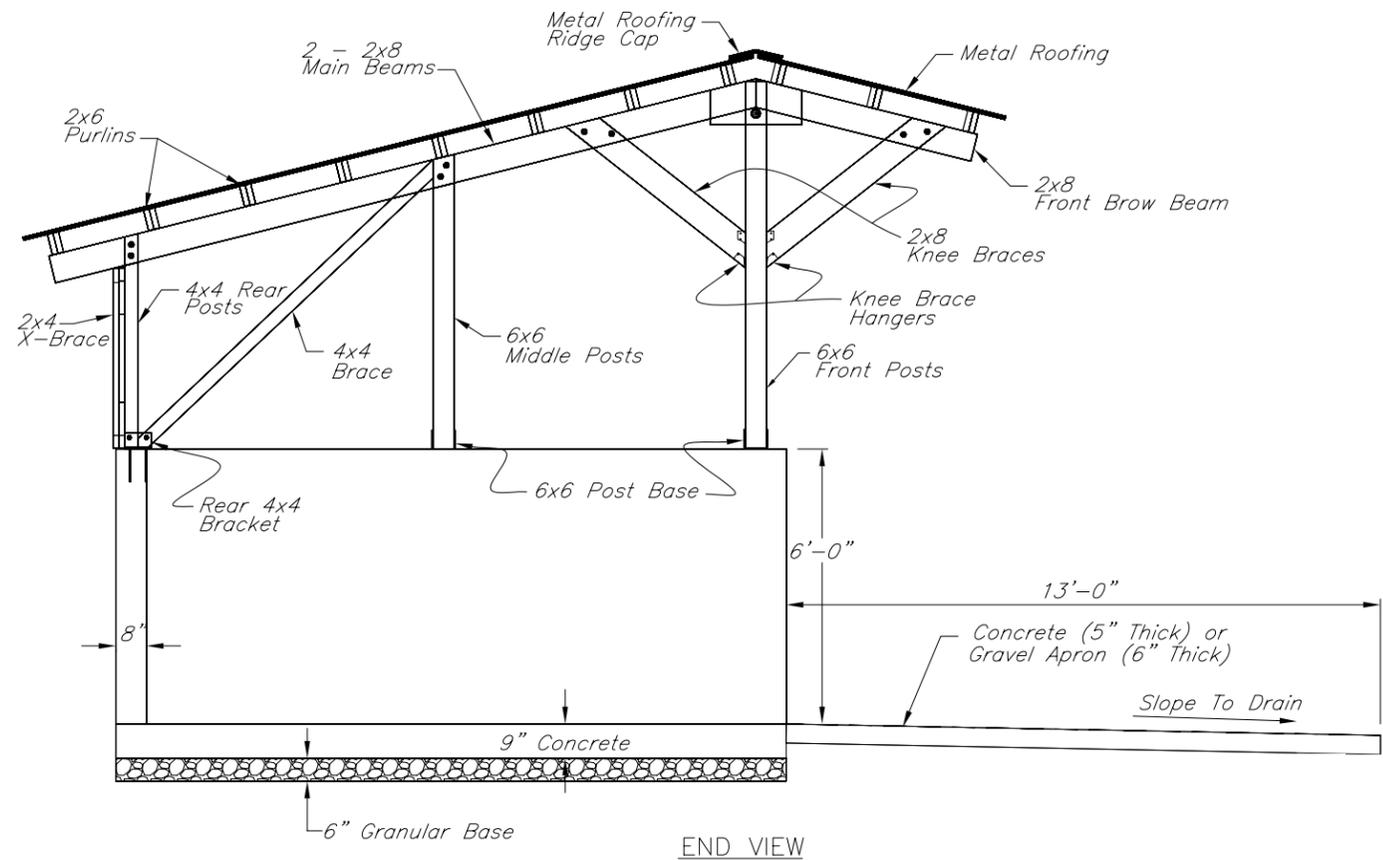
NOT TO SCALE

Date	06/08
Designed	STANDARD
Drawn	
Checked	
Approved	

ANIMAL MORTALITY COMPOSTING FACILITY
10'W x 14'L x 6'H BINS



File No.	IA-1640.dwg
Drawing No.	IA 1640



NOTE: Post Bases Shall be Installed So That The Bottom of The Base is Flush With The Top of The Concrete Wall.

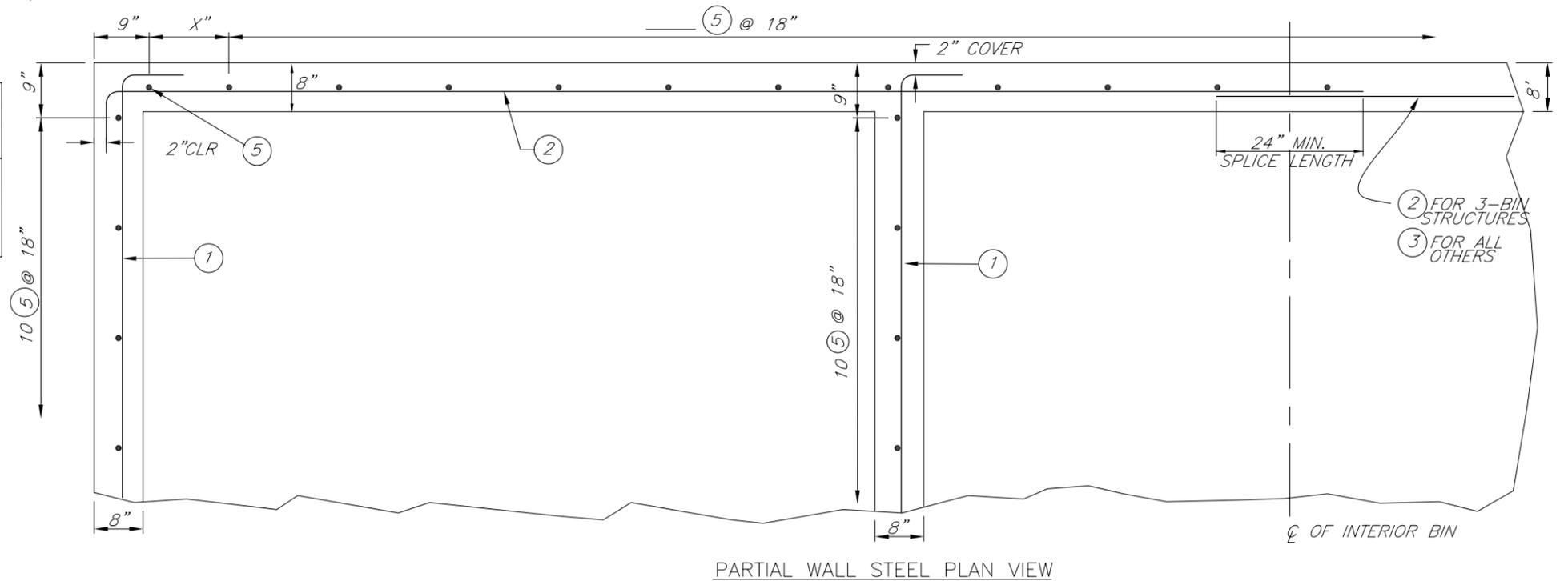
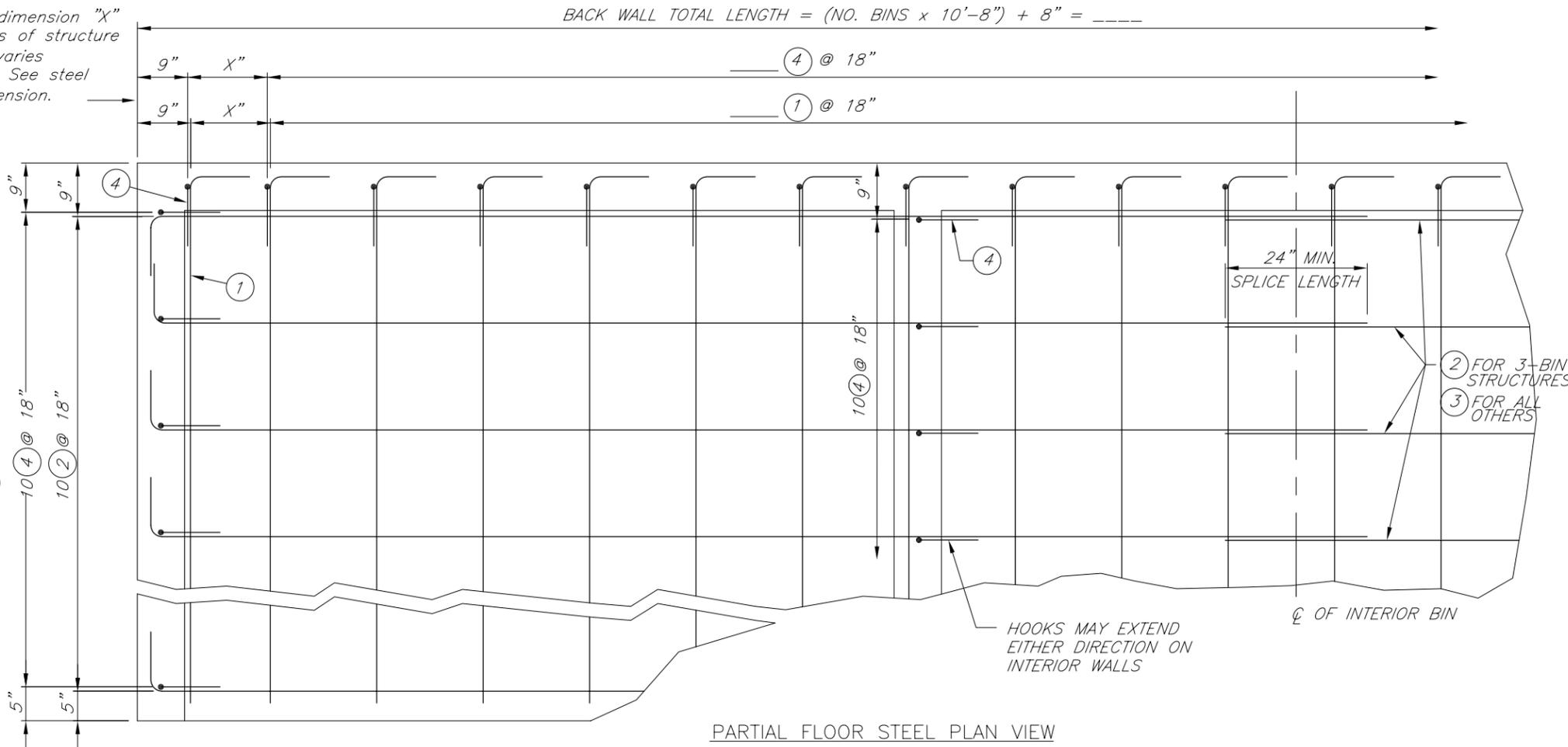
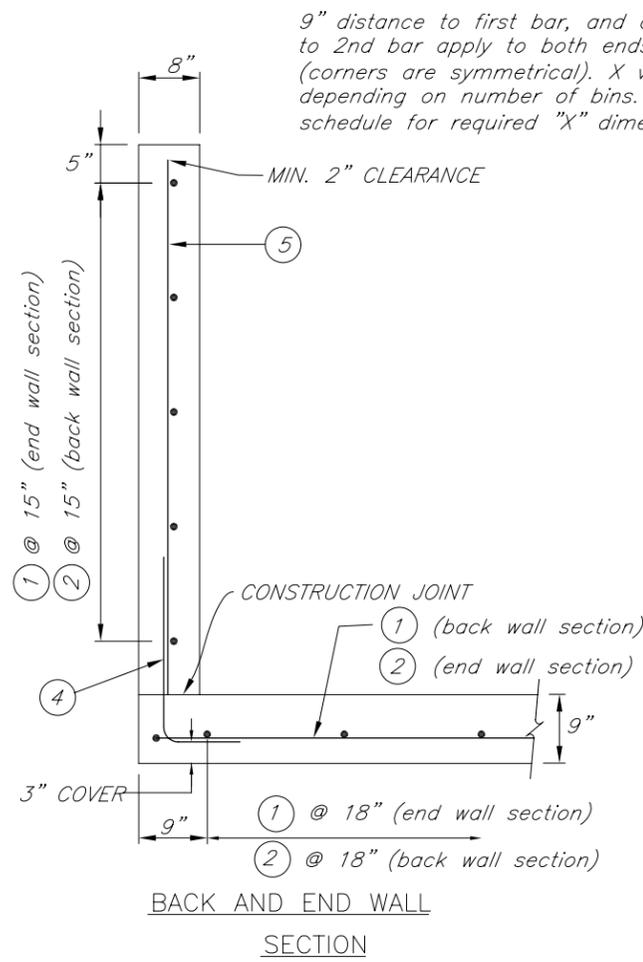
NOT TO SCALE

Date	06/08
Designed	STANDARD
Drawn	
Checked	
Approved	

ANIMAL MORTALITY COMPOSTING FACILITY
10'W x 14'L x 6'H BINS



File No.	IA-1640.dwg
Drawing No.	IA 1640



STEEL SCHEDULE

MARK	SIZE	QUANTITY										TYPE	LENGTH	A	B
		3	4	5	6	7	8	9	10						
1	5	42	54	66	79	91	103	115	127	2	15-1	0-10	14-3		
2	5	30	30	30	30	30	30	30	2	18-0	0-10	17-2			
3	5	-	15	30	45	60	75	90	105	STR	12-8	-			
4	5	62	79	96	114	131	148	165	182	2	2-10	0-10	2-0		
5	5	62	79	96	114	131	148	165	182	STR	5-10	-	-		

BAR SPACING "X" ON BACK WALL & FLOOR FOR MARKS 1, 4 & 5, INCHES

16	17	18	10	11	12	13	14
----	----	----	----	----	----	----	----

# of BINS			
3	4	5	6
TOTAL LENGTH #5 BARS, FT.			
1,710-10	2,229-2	2,747-6	3,289-7
# of BINS			
7	8	9	10
TOTAL LENGTH #5 BARS, FT.			
3,807-11	4,326-3	4,844-7	5,362-11



- NOTES:
- All exposed concrete edges and corners shall be rounded or chamfered 1".
 - Bar spacing is measured from center to center.
 - Unless otherwise marked, all wall steel shall be centered in the wall.

NOT TO SCALE

STANDARD DWG. NO. IA-1640

DATE 06/08 SHEET 3 OF 5

Date 06/08

Designed STANDARD

Drawn

Checked

Approved

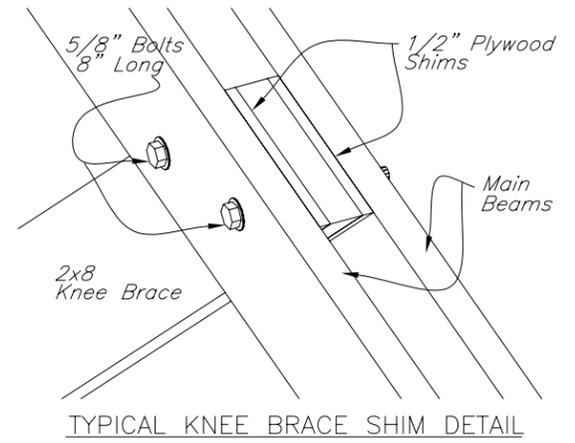
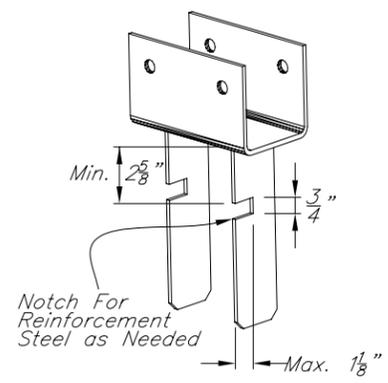
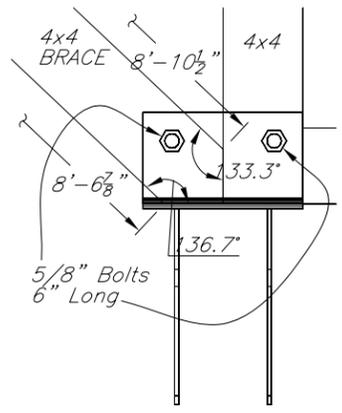
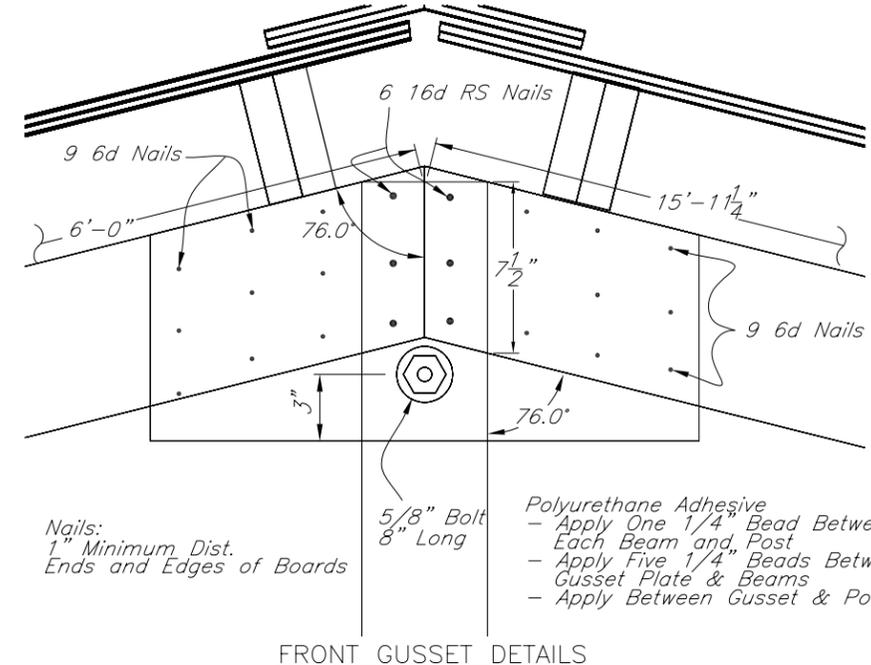
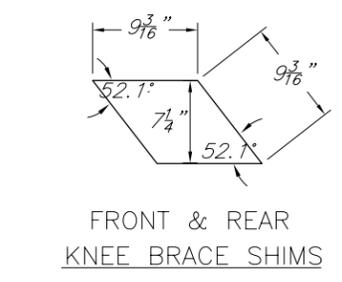
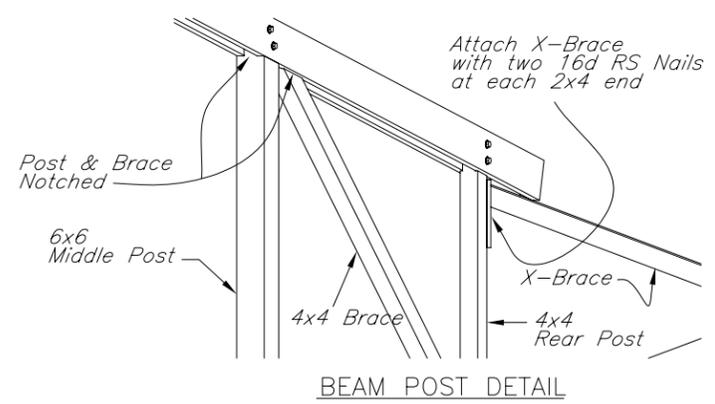
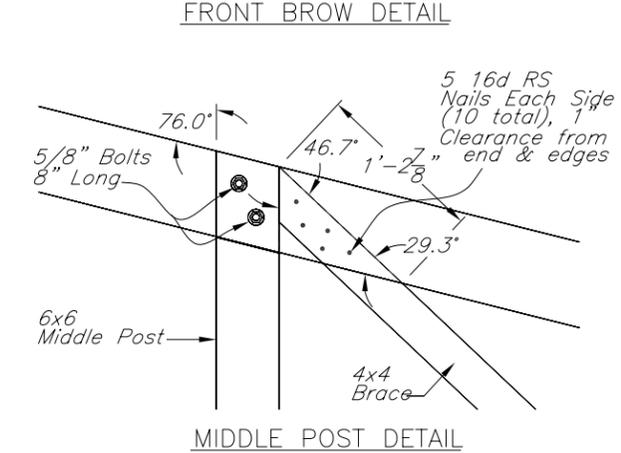
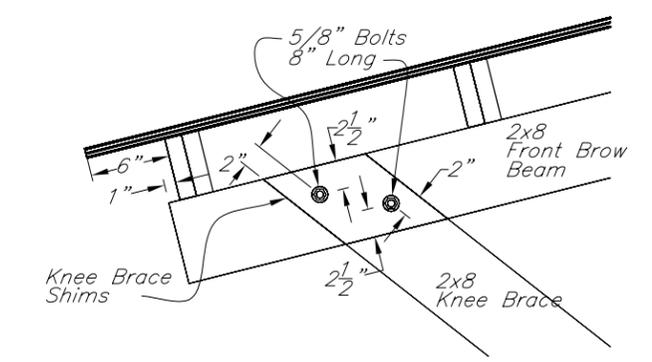
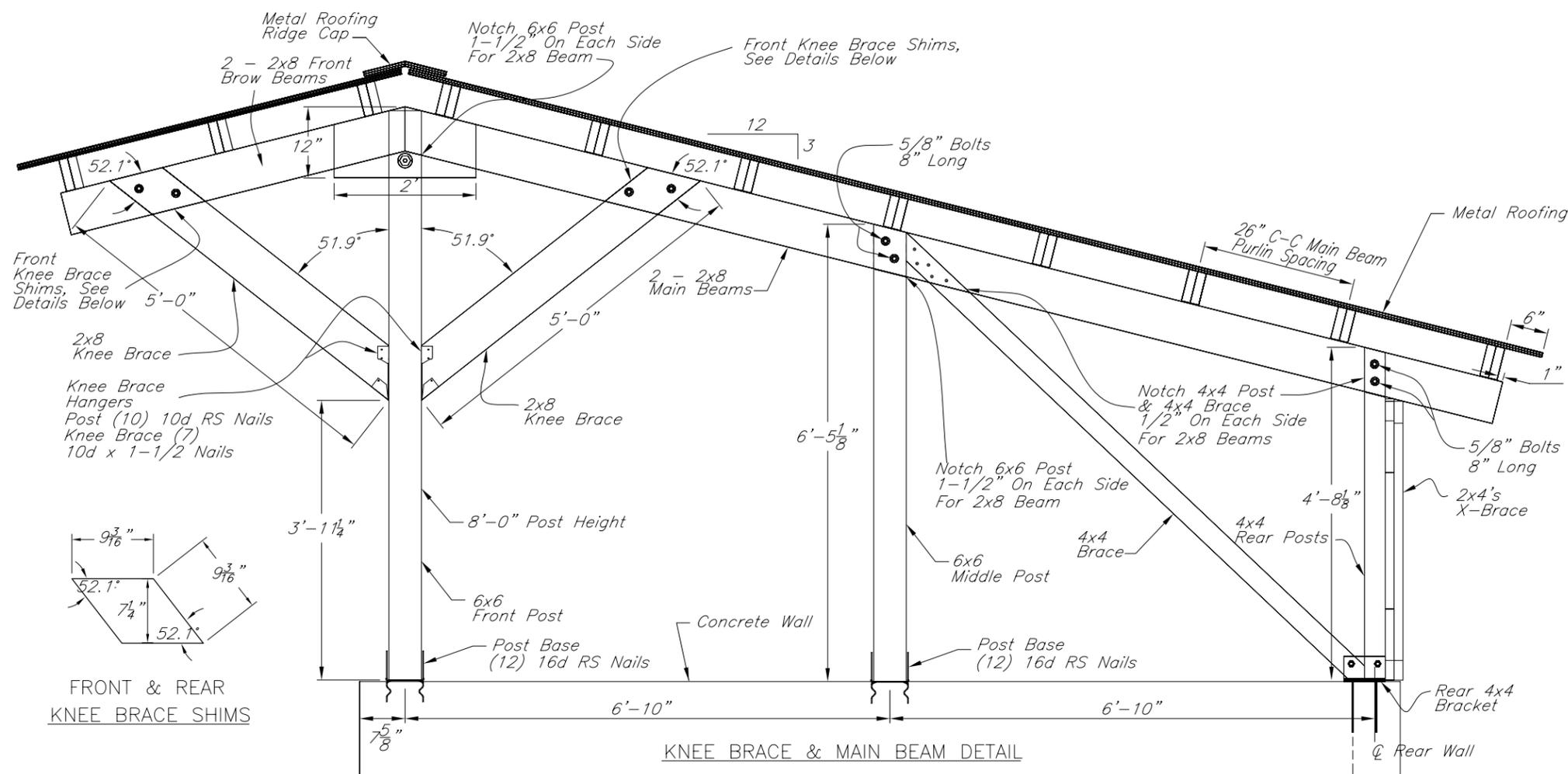
ANIMAL MORTALITY COMPOSTING FACILITY
CONCRETE AND STEEL REINFORCEMENT DETAILS
10'W x 14'L x 6'H BINS



File No. IA-1640.dwg

Drawing No. IA 1640

Sheet 3 of 5



STANDARD DWG. NO. IA-1640

DATE 06/08 SHEET 4 OF 5

NOT TO SCALE

Date 06/08

Designed STANDARD

Drawn

Checked

Approved

ANIMAL MORTALITY COMPOSTING FACILITY
FRAMING DETAILS
10'W x 14'L x 6'H BINS



File No. IA-1640.dwg

Drawing No. IA 1640

Sheet 4 of 5

GENERAL

This plan set shows details for three (3) composting bins. Additional bins may be added by duplicating the center concrete bins and roofing details.

This composting facility roof was designed based on a 90mph wind load and a 42 psf. snow load. An importance factor of 0.8 was applied to the snow load resulting in a design load of 33.6 psf.

Concrete Wall Loading Inside Load: 0 to 6 ft., 60 psf/ft
Outside Load: 0 to 5 ft., 85 psf/ft (low to med plasticity silts & clays)

MATERIALS

HARDWARE: All nails, bolts, washers, and nuts shall be either Hot Dipped Galvanized after fabrication or Stainless Steel. Nails marked RS are ring shanked.

Commercially manufactured structural connectors shall be installed using the number and type of fasteners specified by the manufacturer.

METAL ROOFING: Metal roofing will be 29 gauge steel and galvanized. Metal roofing shall consist of panels long enough to reach from under the ridge cap to 6" beyond the eave, eliminating any horizontal joints. Panels shall have an allowable uniform inward load of 55 psf or more for a 2.5' span over 3 or more equal spans resulting in a maximum deflection ratio of L/180 of the span.

LUMBER sizes shown in Materials List table above are nominal. Actual sizes to be provided shall be the dressed size as follows:

- 6x6 - 5 1/2" x 5 1/2"
- 4x4 - 3 1/2" x 3 1/2"
- 2x8 - 1 1/2" x 7 1/4"
- 2x6 - 1 1/2" x 5 1/2"
- 2x4 - 1 1/2" x 3 1/2"
- 1x4 - 3/4" x 3 1/2"

All lumber will be No. 2 Douglas Fir - Larch, No. 2 Southern Pine, or better. 1x4, 2x6 & 2x8 lumber shall be kiln dried to 19% moisture content or drier. Posts, X-braces and 4x4 braces shall be CCA or ACQ treated.

CONCRETE: The concrete shall conform to Iowa NRCS Construction Specification 31, Concrete. All concrete shall have a 28 day Compressive strength of 4000 pounds per square inch.

STEEL REINFORCING BARS: See sheet 3 for the steel schedule. Steel shall have fy = 60,000 psi.

GRANULAR BASE MATERIAL shall be dense-graded with less than 15% by weight passing the #200 sieve. Suggested gradations: IDOT No. 11 (Granular Surface and Shoulder) or 14 (Modified Subbase).

GRAVEL SURFACING MATERIAL: Suggested gradation: IDOT No.11 (Granular Surface and Shoulder).

MISCELLANEOUS: Polyurethane adhesive shall be one-part type.

MATERIALS LIST			QUANTITIES									
			use column w/checked box									
TIMBER	SIZE	LENGTH	<input type="checkbox"/> 3 BINS	<input type="checkbox"/> 4 BINS	<input type="checkbox"/> 5 BINS	<input type="checkbox"/> 6 BINS	<input type="checkbox"/> 7 BINS	<input type="checkbox"/> 8 BINS	<input type="checkbox"/> 9 BINS	<input type="checkbox"/> 10 BINS		
FRONT POSTS	6 x 6 treated	8'-0"	4	5	6	7	8	9	10	11		
MIDDLE POSTS	6 x 6 treated	6'-5 1/8"	4	5	6	7	8	9	10	11		
REAR POSTS	4 x 4 treated	4'-8 1/8"	4	5	6	7	8	9	10	11		
MAIN BEAMS	2 x 8	16'-0"	8	10	12	14	16	18	20	22		
FRONT BROW BEAMS	2 x 8	6'-0"	8	10	12	14	16	18	20	22		
4x4 BRACES	4 x 4 treated	8'-10 1/2"	4	5	6	7	8	9	10	11		
X BRACES	2 x 4 treated	11'-7"	4	4	4	4	4	4	4	4		
X BRACE BLOCKS	2 x 4 treated	1'-0"	4	4	4	4	4	4	4	4		
KNEE BRACES	2 x 8	5'-0"	8	10	12	14	16	18	20	22		
PURLINS	2 x 6	14'-0"	33	44	55	66	77	88	99	110		
DIAGONAL BRACING	1 x 4	16'-0"	2	2	2	2	2	2	2	2		
MAIN ROOF BROW ROOF	1 x 4	6'-0"	4	4	4	4	4	4	4	4		
PLYWOOD												
FRONT POST GUSSETS	3/4" ext. grade	See drawings	8	10	12	14	16	18	20	22		
KNEE BRACE SHIMS	1/2" ext. grade	See drawings	16	20	24	28	32	36	40	44		
HARDWARE	MFR./PART NO.											
6x6 POST BASES	USP WE66 or Simpson PB66		8	10	12	14	16	18	20	22		
4x4 POST BASES	USP KCC44-HDG or Simpson CC44-HDG		4	5	6	7	8	9	10	11		
KNEE BRACE HANGERS	USP LSSH210 or Simpson LSSU210		8	10	12	14	16	18	20	22		
BEAM TOP STRAPS	USP MSTA36 or Simpson MSTA36		8	10	12	14	16	18	20	22		
PURLIN TIES	USP RT3 or Simpson H3		66	88	110	132	154	176	198	220		
BOLTS w/NUTS & WASHERS	5/8" 5/8"	6" 8"	8 28	10 35	12 42	14 49	16 56	18 63	20 70	22 77		
NAILS	8d x 1.5" 10d x 1.5" 6d (2") 8d RS (2.5") 10d RS (3") 16d RS (3.5")		528 56 128 52 132 168	704 70 160 70 198 206	880 84 192 52 264 244	1056 98 224 52 330 282	1232 112 256 52 396 320	1408 126 288 52 462 358	1584 140 320 52 528 396	1760 150 352 52 594 434		
ROOFING PANELS			813 ft. ²	1054 ft. ²	1278 ft. ²	1536 ft. ²	1777 ft. ²	2017 ft. ²	2258 ft. ²	2499 ft. ²		
CONCRETE (NOT INCL. APRON)			26.4 CY	34.4 CY	42.4 CY	50.4 CY	58.4 CY	66.4 CY	74.4 CY	82.4 CY		
STEEL REINFORCEMENT			1784 lb	2325 lb	2866 lb	3431 lb	3972 lb	4512 lb	5053 lb	5594 lb		
GRANULAR BASE			10 CY	12 CY	15 CY	18 CY	21 CY	24 CY	27 CY	30 CY		
FRONT APRON	<input type="checkbox"/> OPT. 1 - CONCRETE <input type="checkbox"/> OPT. 2 - GRAVEL		6.6 CY 8.0 CY	8.7 CY 11.0 CY	10.8 CY 13.0 CY	13.0 CY 16.0 CY	15.1 CY 18.0 CY	17.3 CY 21.0 CY	19.4 CY 24.0 CY	21.5 CY 26.0 CY		
MISCELLANEOUS	POLYURETHANE ADHESIVE		59 oz.	81 oz.	102 oz.	123 oz.	144 oz.	165 oz.	186 oz.	207 oz.		

Number of nails is approximate.

CONSTRUCTION NOTES

SAFETY: All operations shall be carried out in a safe and skillful manner. Safety and health regulations shall be observed and appropriate safety measures used.

SUBGRADE: Proper subgrade preparation is essential to the long-term performance of the structure. After clearing and stripping, the foundation shall be excavated as needed to allow the placement of the 6" granular base. The resulting subgrade shall be structurally uniform, with no zones of soils that may cause differential settlement. Subgrade materials shall be blended or unsuitable materials removed and replaced as needed to obtain a uniform foundation. Grading tolerance for the soil subgrade shall be +1/2" to -1".

GRANULAR BASE: The installed granular base shall be compacted by at least two passes of a vibrating plate compactor. The resulting gravel surface shall be firm, level and uniform; grading tolerance shall be +1/4" to -1/2".

POST BASES shall be cast into the concrete walls. The tops of the walls need to be level and the post bases spaced as shown on the drawings for the lumber dimensions to fit as shown.

PURLINS: Purlin joints will be staggered over rafters and overlapped. Overlapping purlins shall be nailed together with six (6) 10d RS nails. Purlins will be attached to rafters, on edge, with manufactured purlin ties. Two purlin ties shall be used at overlapped purlin locations, one tie on the end, single purlin locations. All purlin ties shall be installed on the up slope (peak side) of the purlins.

BOLTS shall be centered on single bolt connections. On multiple bolt connections the bolts shall follow the details as shown on the drawings. All bolts are 5/8" in diameter and shall utilize washers on both ends and a nut. Bolts hole diameter shall be 1/32" to 1/16" larger than bolt diameter. Minimum clearance from center of bolt hole to edge of member is 1.5".

METAL ROOFING shall be installed following the manufacturer's recommendations.

VEGETATION: All disturbed areas shall be graded to drain away from structure and reseeded. Topsoil shall be added, if needed, to establish vegetation.