

**GENERAL NOTES**

**FABRIC** - THE FABRIC MAY BE WOVEN WITH EITHER ZINC COATED STEEL WIRE OR ALUMINUM-ALLOY WIRE IN A 2-INCH MESH. COATED WIRE AND ALUMINUM-ALLOY SHALL HAVE A DIAMETER OF 0.148 INCHES. THE FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS: (1) ZINC-COATED STEEL FABRIC SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 181, TYPE 1, CLASS D. (2) ALUMINUM-COATED STEEL FABRIC SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 181 TYPE II. THE UNIT WEIGHT OF THE COATING SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T 213. THE ALUMINUM-COATED STEEL FABRIC SHALL BE GIVEN A CLEAR ORGANIC COATING AFTER FABRICATION. (3) ALUMINUM-ALLOY FABRIC SHALL BE MADE FROM WIRE CONFORMING TO THE REQUIREMENTS OF AASHTO M 181 TYPE III.

**METAL POSTS** - METAL POSTS (LINE, CORNER, END, PULL AND GATE POSTS) SHALL BE THE SHAPES, DIMENSIONS, AND WEIGHT SHOWN IN THE TABLES. (1) STEEL PIPE, TYPE A, SHALL BE HOT-DIPPED GALVANIZED CONFORMING TO THE REQUIREMENTS OF ASTM F 1083. (2) STEEL PIPE, TYPE B, SHALL BE MANUFACTURED FROM COLD ROLLED ELECTRIC RESISTANCE WELDED, HEATED AND TEMPERED STEEL. THE STEEL STRIP USED IN THE MANUFACTURE OF THE PIPE SHALL CONFORM TO ASTM A 569 OR ASTM A 607. THE WALL THICKNESS SHALL NOT BE LESS THAN THAT SHOWN IN THE TABLE. THE PRODUCT OF THE YIELD STRENGTH AND SECTION MODULUS OF THE PIPE SHALL NOT BE LESS THAN THAT OF THE PIPE MEETING THE REQUIREMENTS OF ASTM F 1083. (3) STEEL PIPE, TYPE C, SHALL BE MANUFACTURED BY ROLLED FORMING ALUMINIZED STEEL TYPE 2 STRIP AND ELECTRIC RESISTANCE WELDING INTO TUBULAR FORM. THE OUTSIDE OF THE WELD AREA SHALL BE METALLIZED WITH COMMERCIAL PURE ALUMINUM TO A THICKNESS SUFFICIENT TO PROVIDE RESISTANCE TO CORROSION EQUAL TO THAT OF THE REMAINDER OF THE OUTSIDE OF THE TUBE. THE ALUMINUM COATING WEIGHT SHALL BE A MINIMUM OF 0.75 OUNCES PER SQUARE FOOT, TRIPLE SPOT TEST, 0.70 OUNCES PER SQUARE FOOT SINGLE SPOT TEST, AS MEASURED IN ACCORDANCE WITH ASTM A 428. THE STEEL STRIP USED IN THE MANUFACTURE OF THE PIPE SHALL CONFORM TO ASTM A 787 TYPE 1 AND SHALL HAVE A MINIMUM YIELD STRENGTH OF 50,000 P.S.I. THE WEIGHT OF THE PIPE SHALL NOT BE LESS THAN THAT SHOWN ON THE PLANS AND THE PRODUCT OF THE YIELD STRENGTH AND SECTION MODULUS OF THE PIPE SHALL NOT BE LESS THAN THAT OF PIPE MEETING THE REQUIREMENTS OF ASTM A 120. (4) STRUCTURAL SHAPES SHALL BE FABRICATED FROM STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M 281, GRADES A OR B. ROLLED FORMED SECTIONS SHALL BE FABRICATED FROM STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A 570, GRADES 36 THRU 50, WITH A MAXIMUM TENSILE STRENGTH OF 80,000 POUNDS PER SQUARE INCH. ALL STRUCTURAL SHAPES AND ROLLED FORMED SECTIONS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111, USING ZINC OF ANY GRADE CONFORMING TO THE REQUIREMENTS OF AASHTO M 120. THE ZINC COATING SHALL BE NOT LESS THAN 2.0 OUNCES PER SQUARE FOOT OF SURFACE. (5) SQUARE HOLLOW STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 500, GRADE B OR ASTM A 501. THE TUBING SHALL BE GALVANIZED INSIDE AND OUTSIDE IN ACCORDANCE WITH AASHTO M 111, USING ZINC OF ANY GRADE CONFORMING TO THE REQUIREMENT OF AASHTO M 120. THE ZINC COATING SHALL NOT BE LESS THAN 2.0 OUNCES PER SQUARE FOOT OF SURFACE. (6) ROLL FORMED STEEL "C" SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F 1043 OR ASTM F 1083, GROUP IIA, AND BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM F 1043, TYPE A.

**TOP RAILS** - THE TOP RAILS SHALL BE 1.625 INCH O.D., GALVANIZED OR ALUMINUM COATED PIPE HAVING A MINIMUM BENDING STRENGTH OF 202 LBS. AT THE CENTER OF A 10 FT. SPAN.

**BOTTOM TENSION WIRE** - THE BOTTOM TENSION WIRE SHALL BE #9 GAUGE GALVANIZED STEEL WIRE MEETING THE REQUIREMENTS OF AASHTO M 181, THE WIRE SHALL BE STRETCHED TIGHT WITH GALVANIZED TURNBUCKLES SPACED AT INTERVALS NOT MORE THAN 1,000 FEET. THE ZINC COATING SHALL BE NOT LESS THAN 12 OUNCES PER SQUARE FOOT OF SURFACE.

**HORIZONTAL BRACES** - THE BRACES SHALL BE "STANDARD WEIGHT" GALVANIZED STEEL PIPE MEETING THE SPECIFICATIONS FOR LINE POSTS AND SHALL BE THE SAME DIMENSIONS AND WEIGHT AS REQUIRED FOR THE TOP RAIL.

**TRUSS RODS** - THE TRUSS RODS SHALL BE 3/8" ROUND GALVANIZED STEEL ROD WITH GALVANIZED TURNBUCKLES. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE.

**GATE** - THE GATE TYPE AND SIZE SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS AND AS PROVIDED IN THE SPECIAL PROVISIONS.

**POST TOPS** - THE POST TOPS SHALL BE STEEL OR MALLEABLE IRON OR WROUGHT IRON OR APPROVED TYPE AND SHALL BE GALVANIZED. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE.

**STRETCHER BARS** - THE STRETCHER BARS SHALL BE FLAT GALVANIZED STEEL BARS NOT LESS THAN 1/4" X 3/4" AND THE STRETCHER BAR BANDS SHALL BE FLAT GALVANIZED STEEL BARS NOT LESS THAN 1/8" X 1" WITH A 3/8" DIAMETER GALVANIZED CARRIAGE BOLT. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE.

**FABRIC TIES** - THE FABRIC TIES SHALL BE HOG RINGS, OR ALUMINUM WIRE, OR GALVANIZED STEEL WIRE NOT LESS THAN #9 GAUGE. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE.

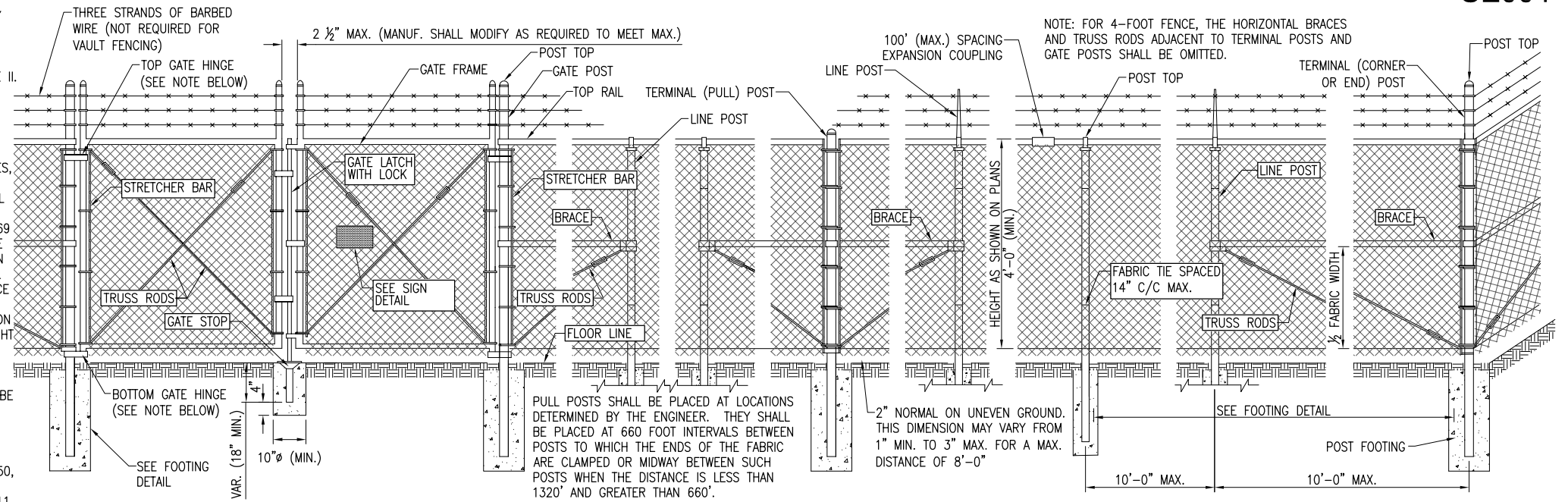
**FITTINGS** - THE PERTINENT FITTINGS FOR FENCE AND GATES SHALL BE STEEL OR MALLEABLE IRON OR WROUGHT IRON OR APPROVED TYPE AND SHALL BE GALVANIZED. THE ZINC COATING SHALL BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE IN ACCORDANCE WITH AASHTO M 232.

**STRUCTURAL P.C. CONCRETE** - THE STRUCTURAL P.C. CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ITEM 610 OF THE STANDARD SPECIFICATIONS.

**BOLTS AND NUTS** - THE BOLTS AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 307 AND SHALL BE ZINC COATED IN ACCORDANCE WITH AASHTO M 232 OR M 298, CLASS 50.

**BARBED WIRE** - BARBED WIRE IS NOT REQUIRED FOR THE FENCE TO HOUSE THE VAULT EQUIPMENT.

**STEEL FOR FENCING MATERIALS** SHALL BE 100% DOMESTIC STEEL.



**VEHICLE GATE ARRANGEMENT**

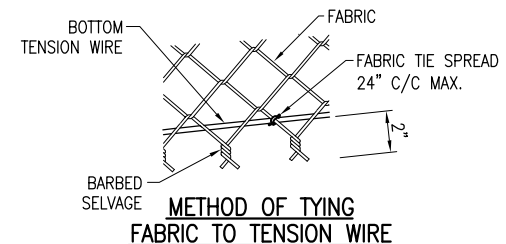
**PULL POST ARRANGEMENT**

**LINE POST ARRANGEMENT**

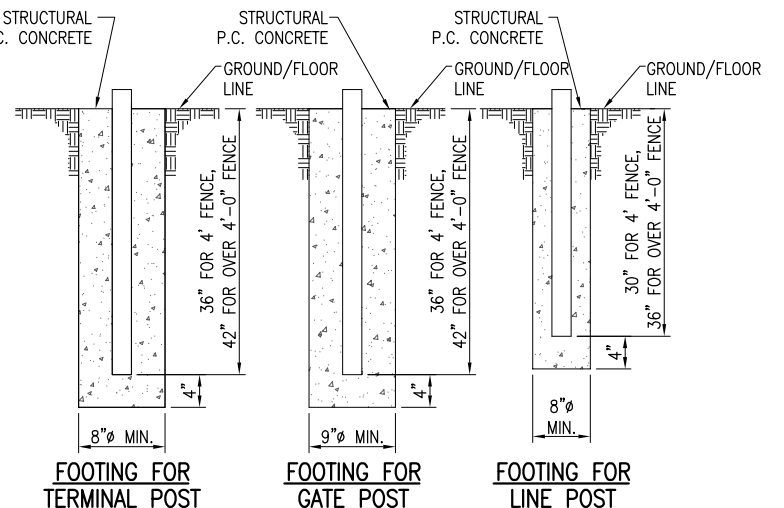
**CORNER OR END POST ARRANGEMENT**

6' FENCE-POST & BRACE TABLE		
DESCRIPTION	DIA. - INCH (O.D.)	WT. LBS./FT.
LINE POST	1.9	2.72
TERMINAL POST	2.375	3.65
END POST	2.375	3.65
CORNER POST	2.375	3.65
PULL POST	2.375	3.65
GATE POST	2.875	5.79
TOP RAIL	1.66	2.27

NOTE: ONLY ROUND POSTS WILL BE PERMITTED. TABLE ABOVE IS FOR SCHEDULE 40 PIPE. OTHER MATERIALS ARE ACCEPTABLE, IN ACCORDANCE WITH THE PARAGRAPH AT LEFT, AND SHALL BE OF EQUAL CAPACITY AND STRENGTH TO THAT SHOWN FOR SCHEDULE 40, BUT NOT NECESSARILY OF EQUAL DIMENSION DUE TO THE VARIOUS MATERIAL CHARACTERISTICS.



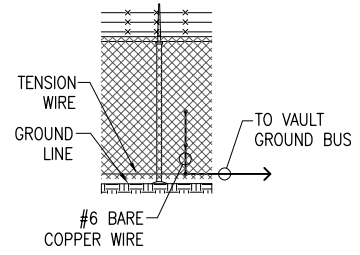
**METHOD OF TYING FABRIC TO TENSION WIRE**



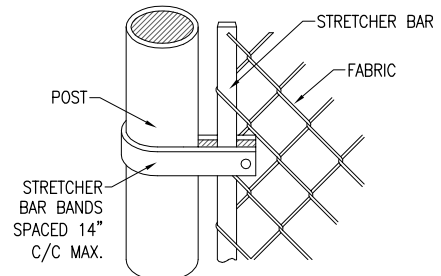
**FOOTING FOR TERMINAL POST**

**FOOTING FOR GATE POST**

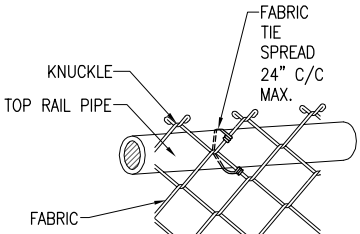
**FOOTING FOR LINE POST**



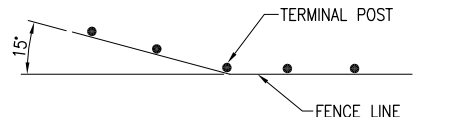
**STANDARD GROUND**  
**PROTECTIVE ELECTRICAL GROUND**



**METHOD OF FASTENING STRETCHER BAR TO POST**



**METHOD OF TYING FABRIC TO PIPE**



WHERE THE FENCE LINE HAS A CHANGE IN DIRECTION OF 15° OR MORE, A TERMINAL POST SHALL BE PLACED AS SHOWN ABOVE. WHERE ANGLE IS LESS THAN 15° AND EXISTING CONDITIONS REQUIRE TERMINAL POST, THEY SHALL BE PLACED AS DIRECTED BY ENGINEER.

**GENERAL NOTE:**

FENCE FOR THE VAULT SHALL BE GROUNDED. THERE SHALL BE A GROUND WITHIN 100 FT OF GATES IN EACH SECTION OF THE FENCE ADJACENT TO THE GATE. THE GROUND WIRE SHALL BE CONNECTED TO THE FABRIC AND TENSION WIRE WITH UL LISTED GROUNDING CONNECTORS OF CAST BRONZE BODY AND BRONZE OR STAINLESS STEEL BOLTS AND WASHERS. GROUNDING CONNECTORS SHALL BE SIZED AND SUITABLE FOR THE RESPECTIVE APPLICATION. CONNECTIONS TO VAULT GROUND BUS SHALL BE WITH 2 - HOLE TONGUE COMPRESSION LUGS WITH 3/8" STAINLESS BOLTS, NUTS, & WASHERS. THE GROUND WIRE USED TO BOND THE FENCE FABRIC AND TENSION WIRE TO THE GROUND BUS SHALL BE #6 AWG BARE COPPER CONDUCTOR.

SE004

REVISION  
DATE  
SHELBY COUNTY AIRPORT  
SHELBYVILLE, ILLINOIS  
A.I.P. PROJ.: 3-17-0093-B11  
IL PROJ.: 2HO-4149

Hanson Proj. No. 10A0047	AS SHOWN	02/18/12
Scale	02/18/12	
LAYOUT	KNL	02/16/12
DRAWN	CWS	02/20/12
REVIEWED	CAH/KNL	

**HANSON**  
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CONSTRUCT VAULT,  
LIGHT TAXIWAY &  
INSTALL NAVAIDS  
PROPOSED FENCE DETAILS

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