

SPECIFICATIONS

Section 1 - Scope of the Work

1.1 General

The work to be performed under this Contract shall consist of the furnishing of all labor, equipment, materials and all else necessary to construct the pole barn storage building at the Mountain Lakes D.P.W. yard, as shown on the Drawings and/or as specified herein.

1.2 Work Included

The project shall include, but shall not be limited to the following items of work:

1.2.1 Material fabrication and delivery of materials to the job site.

1.2.2 Excavation, filling and grading.

1.2.3 Architectural/engineering design of the structure, and submission of sealed plans for obtaining construction permits.

1.2.4 Preparation and submission of shop drawings for pre-fabrication approval.

1.2.5 Assembly, erection and completion of the herein specified building.

1.3 Work Not Included

The following items are specifically excluded from the work to be performed under this contract:

1.3.1 Fees for building permits.

1.3.2 Electrical, plumbing or heating.

1.3.3 Finished grading and landscaping.

1.3.4 Paving.

1.4 Intent

It is the intent of these specifications to describe a pre-engineered, prefabricated pole type building with timber frame structure and ribbed metal wall and roof panels. The building components shall be the product of a company which specializes in the manufacture of pre-fabricated buildings, such as Butler, Lester or Morton building systems.

The manufacturer of the building system shall have at least 5 years experience, in the design and production of prefabricated building systems; and the erector of the building shall have at least 2 years experience in the installation of prefabricated buildings of the pole barn type.

The entire structure shall be the product of one (1) manufacturer, and the completed building shall be a totally integrated system of structural and covering components to accomplish the final specified structure. Built-in-place "stick" buildings or other such buildings which are not factory designed and prefabricated will not be accepted.

The Owner reserves the right, in reviewing bids and making an award, to waive minor specification provisions and to accept a building which deviates from the requirements if it determines that the cost-effectiveness of such deviations are in its best interests.

Section 2 - Excavation and Site Work

The Contractor shall perform all of the excavations as may be required for the satisfactory construction and installation of the work specified. Excavations for foundations or substructures shall be performed to the exact subgrade elevation, using hand excavation as required.

A sufficient quantity of excavated material shall be retained for backfilling and grading where applicable. Excess excavated material shall be removed from the site and shall be properly disposed of by the Contractor.

The Contractor shall fill and grade the site as required to create the leveled area for the proposed building. Any required fill shall be provided by the Contractor and shall be clean granular material as approved by the Engineer. Said material shall be compacted so as to achieve at least 90% of the maximum modified Proctor density.

Section 3 - Concrete Floor

3.1 General

The Contractor shall furnish the labor, material, equipment and all else necessary to construct the concrete structures as indicated on the Contract Drawings. Unless otherwise specified, all concrete employed in the construction shall be transit mixed concrete designed and certified to have a minimum 28-day strength of 3,000 psi.

3.2 Reinforcement

All reinforcing bars shall be the A-305 type deformed bar as described in the latest edition of the Building Code of the American Concrete Institute. Steel shall comply with the latest ASTM Specifications for new billet steel or rail steel of intermediate or hard grades, ASTM Des. A-615 and A-616.

All reinforcement steel shall be delivered without rust other than such as may have accumulated during transportation to the work. It shall at all times be fully protected from moisture, grease, dirt, mortar, or concrete.

3.3 Depositing

Concrete shall be deposited as nearly as practicable in its final position to avoid segregation due to rehandling or flowing. The concreting shall be carried on at such a rate that the concrete is at all times plastic and flows readily into the space between the bars. No concrete that has partially hardened or been contaminated by foreign material shall be deposited on the work, nor shall retempered concrete be used.

All concrete shall be placed in accordance with the best accepted practices to insure that the construction will be of the best possible quality. Adequate vibration shall be employed to insure proper density and a minimum period of five (5) days for curing shall be provided to insure weather resistance. The concrete work shall conform to the recommended practices as promulgated by the American Concrete Institute.

3.4 Tests on Concrete

During the progress of the work compression test specimens shall be taken and cured in accordance with Standard Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field (ASTM C31). Not less than three (3) specimens shall be taken for each delivery.

Specimens shall be tested in accordance with Standard Method of Test (ASTM C 39) for Compressive Strength of Molded Concrete Cylinders.

The standard age of test cylinders shall be 28 days, but 7-day tests may be used provided that the relation between the 7 and 28 day strengths of the concrete is established by test for the materials and proportions used.

Section 4 - Building Specifications

The basic requirements and standard features of the proposed building are as follows:

4.1 Overall Dimensions

Length: 64 feet, gable to gable.
Depth: 46 feet, front wall to back wall.
Height: 16 feet, floor to underside of roof trusses.

4.2 Design Criteria

Building Codes: BOCA, National Building Code
Roof: 30# live load.
Wind Rating: 80 MPH.

Perform calculations using diaphragm design analysis. Incorporate bracing as required if building exceeds diaphragm requirements. Comply with AF&PA "National Design Specification for Wood Construction (NDS)."

4.3 Trusses

Roof trusses shall be structural web type wooden trusses with galvanized splice plates.

Limit deflection for live or snow loads to L/240 for trusses supporting ceilings and to L/180 for overhangs and trusses not supporting ceilings. Comply with appropriate NDS and Truss Plate Institute (TPI) standards.

Comply with TPI "Design Specification for Metal Plate Connected Wood Trusses" and "Quality Standard for Metal Plate Connected Wood Trusses."

Manufacturer shall have a third party inspection program to verify compliance with requirements of TPI.

4.4 Metal Roof, Metal Wall Panels and Trim

Design in accordance with AISI "Specifications for the Design of Light-Gauge, Cold-Formed Steel Structural Members" and in accordance with sound engineering methods and practices. Design to support a 200 pound (90 kg) load evenly distributed over a 2 foot (60 mm) square area centered between purlins; limit deflection to L/180 in a two-span condition.

All metal roof panels and wall panels shall be 29 gauge "Uni-Rib" type, ASTM A653, structural quality, Grade 80, with G60 Z180 galvanizing on both sides.

Finish shall be bonderized and baked on primer with Valspar 10-S finish oat, 0.9 mil min. DFT. Color shall be as selected by the Owner from manufacturer's standard colors.

Fasteners shall be color coated No. 10 drill screws with 1/4 inch hex head with attached 1/2 inch diameter galvanized steel and EPDM washers.

4.5 Structural Framing

4.5.1 Columns - Treated Lumber Section

Lumber: No. 1 or Better Southern Yellow Pine, pressure treated with Chromated Copper Arsenate, Type III, to a retention of 0.6 pcf (9.6 kg/m³) and kiln dried after treating to 19 percent maximum moisture content.

Fabrication: Laminate individual pieces using treated lumber ring shank or wire feed nails per manufacturer's engineered nailing pattern.

4.5.2 Columns - Untreated Lumber Section

Lumber: No. 1 or Better Southern Yellow Pine or Douglas Fir-Larch kiln dried to 19 percent maximum moisture content.

Fabrication: Laminate individual pieces using ring shank or wire feed nails per manufacturer's engineered nailing pattern.

4.5.3 Column Configuration

Sidewall and Endwall Columns: 3 ply or 4 ply combining 2x6, 2x8, or 2x10 (50x150, 50x200, 50x250 mm) dimension lumber as required by "Structural Design" requirements specified herein and configured to accept interlocking girts and splashplank.

Corner Columns: 2 ply or 3 ply 2x6 or 2x8 (50x150, 50x200 mm) dimension lumber as required by "Structural Design" requirements specified herein and configured to accept interlocking girts and splashplank from side and endwall directions.

4.5.4 Secondary Framing

Purlins and Girts: No. 2 or better dimension lumber kiln dried to 19 percent maximum moisture content.

Configuration: 2x4 or 2x6 (50x100, 50x150 mm) as required by "Structural Design" requirements specified herein.

Spacing as required by "Structural Design" requirements specified herein.

Splashplank: No. 2 or Better Southern Yellow Pine, pressure treated with Chromated Copper Arsenate, Type III, to a retention of 0.6 pcf (9.6 kg/m³) and kiln dried after treating to 19 percent maximum moisture content.

Configuration: 2x8 (50x200 mm) tongue and groove dimension lumber precision cut to fit between and interlock with columns.

4.6 Doors

- (4) - 12' wide x 12' high steel panel overhead doors as noted on the Plans.

- (2) - 3'-0" x 6'-8" flush steel service doors as noted on the Plans.

4.7 Other

The Contractor shall supply all other materials, fasteners, hardware, lumber, bracing, sealants, ridgecap, flashings, trim etc. which are not specifically called for in these specifications, but are required for a complete installation.

4.8 Warranty

The treated wooden columns shall have a 40 year guarantee against decay and insect damage when in contact with soil.

All steel roof and wall panels shall be guaranteed for 25 years against perforation or structural failure due to deterioration from red rust, and 25 years against crack, peel, blister or flake of paint coating.

Section 5 - Clean-up & Restoration

The Contractor shall clean-up the entire work site, remove all debris, excess materials and equipment, and shall leave the area in a neat condition to the satisfaction of the Owner and Engineer.

Any damage to surfaces, structures, or landscaping shall be repaired or replaced by the Contractor at his expense.