



## STANDARD BID CONDITIONS

M-07-018P

1. **ACCEPTANCE AND REJECTION:** The Arkansas State Highway and Transportation Department (AHTD) reserves the right to reject any or all bids, to accept bids in whole or in part (unless otherwise indicated by bidder), to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications where efficiency of operation will not be impaired, and to award bids to best serve the interest of the State.
2. **PRICES:** Unless otherwise stated in the Bid Invitation, the following will apply: (1) unit prices shall be bid, (2) prices should be stated in units of quantity specified (feet, each, lbs., etc.), (3) prices must be F.O.B. destination specified in bid, (4) prices must be firm and not subject to escalation, (5) bid must be firm for acceptance for 30 days from bid opening date. In case of errors in extension, unit prices shall govern. Discounts from bid price will not be considered in making awards.
3. **BID BONDS AND PERFORMANCE BONDS:** If required, a **Bid Bond** in the form of a cashier's check, certified check, or surety bond issued by a surety company, in an amount stated in the Bid Invitation, must accompany bid. **Personal and company checks are not acceptable as Bid Bonds.** Failure to submit a Bid Bond as required will cause a bid to be rejected. The Bid Bond will be forfeited as liquidated damages if the successful bidder fails to provide a required Performance Bond within the period stipulated by AHTD or fails to honor their bid. Cashier's checks and certified checks submitted as Bid Bonds will be returned to unsuccessful bidders; surety bonds will be retained. The successful bidder will be required to furnish a **Performance Bond** in an amount stated in the Bid Invitation and in the form of a cashier's check, certified check, or surety bond issued by a surety company, unless otherwise stated in the Bid Invitation, as a guarantee of delivery of goods/services in accordance with the specifications and within the time established in the bid. **Personal and company checks are not acceptable as Performance Bonds.** In some cases, a cashier's check or certified check submitted as a Bid Bond will be held as the Performance Bond of the successful bidder. Cashier's checks or certified checks submitted as Performance Bonds will be refunded shortly after payment has been made to the successful bidder for completion of all terms of the bid; surety bonds will be retained. Surety bonds must be issued by a surety company authorized to do business in Arkansas, and must be signed by a Resident Local Agent licensed by the Arkansas State Insurance Commissioner to represent that surety company. Resident Agent's Power-of-Attorney must accompany the surety bond. Certain bids involving labor will require Performance Bonds in the form of surety bonds only (no checks of any kind allowed). In such cases, the company issuing the surety bond must comply with all stipulations herein and must be named in the U. S. Treasury listing of companies holding Certificates of Authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies. Any excess between the face amount of the bond and the underwriting limitation of the bonding company shall be protected by reinsurance provided by an acceptable reinsuring company. Annual Bid and Performance Bonds on file with E & P Division must have sufficient unencumbered funds to meet current bonding requirements, or the bid will be rejected, unless the balance is submitted as set forth above, prior to bid opening.
4. **TAXES:** The AHTD is not exempt from Arkansas State Sales and Use Taxes, or local option city/county sales taxes, when applicable, and bidders are responsible to the State Revenue Department for such taxes. These taxes should not be included in bid prices, but where required by law, will be paid by the AHTD as an addition thereto, and should be added to the billing to the AHTD. The AHTD is exempt from Federal Excise Taxes on all commodities except motor fuels; and excise taxes should not be included in bid prices except for motor fuels. Where applicable, tax exemption certificates will be furnished by the AHTD.
5. **"ALL OR NONE" BIDS:** Bidders who wish to bid "All or None" on two or more items shall so stipulate on the face of bid sheet; otherwise, bid may be awarded on an individual item basis.
6. **SPECIFICATIONS:** Complete specifications should be attached for any substitution or alternate offered, or where amplification is necessary. Bidder's name must be placed on all attachments to the bid.
7. **EXCEPTIONS TO SPECIFICATIONS:** Any exceptions to the bid specifications must be stated in the bid. Any exceptions to manufacturer's published literature must be stated in the bid, or it will be assumed that bidder is bidding exactly as stated in the literature.
8. **BRAND NAME REFERENCES:** All brand name references in bid specifications refer to that commodity or its equivalent, unless otherwise stated in Bid Invitation. Bidder should state brand or trade name of item being bid, if such name exists.
9. **FREIGHT:** All freight charges should be included in bid price. Any change in common carrier rates authorized by the Interstate Commerce Commission will be adjusted if such change occurs after the bid opening date. Receipted common carrier bills that reflect ICC authorized rate changes must be furnished.
10. **SAMPLES, LITERATURE, DEMONSTRATIONS:** Samples and technical literature must be provided free of any charge within 14 days of AHTD request, and free demonstrations within 30 days, unless AHTD extends time. Failure to provide as requested within this period may cause bid to be rejected. Samples, literature and demonstrations must be substantially the same as the item(s) being bid, unless otherwise agreed to by AHTD. Samples that are not destroyed will be returned upon request at bidders expense. Samples from successful bidders may be retained for comparison with items actually furnished.
11. **GUARANTY:** Unless otherwise indicated in Bid Invitation, it is understood and agreed that any item offered or shipped on this bid shall be newly manufactured, latest model and design, and in first class condition; and that all containers shall be new, suitable for storage or shipment and in compliance with all applicable laws relating to construction, packaging, labeling and registration.
12. **BACKORDERS OR DELAY IN DELIVERY:** Backorders or failure to deliver within the time required may constitute default. Vendor must give written notice to the AHTD, as soon as possible, of the reason for any delay and the expected delivery date. The AHTD has the right to extend delivery if reasons appear valid. If reason or delivery date is not acceptable, vendor is in default.
13. **DEFAULT:** All commodities furnished will be subject to inspection and acceptance by AHTD after delivery. Default in promised delivery or failure to meet specifications authorizes the AHTD to cancel award or any portion of same, to reasonably purchase commodities or services elsewhere and to charge full increase, if any, in cost and handling to defaulting vendor. Applicable bonds may be forfeited.
14. **ETHICS:** *"It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a State contract upon an agreement of understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the contractor for the purpose of securing business."* (Arkansas Code, Annotated, Section 19-11-708).

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
SPECIFICATIONS  
MEMBRANE-COVERED SALT STORAGE BUILDING**

**DESHA COUNTY AREA HEADQUARTERS – MCGEHEE  
FAULKNER COUNTY AREA HEADQUARTERS - CONWAY  
CARROLL COUNTY AREA HEADQUARTERS - BERRYVILLE**

**GENERAL**

The specification is general in nature and scope and shall not be construed as to limit the work other than the requirement that the membrane-covered frame structure shall match the manufacturer's drawings and specifications in materials, appearance, as well as Arkansas State Highway Department's configuration and details. It is the intent of these specifications that the bidder shall include all labor, materials, equipment, services and transportation for the manufacture and supply of the membrane-covered frame structure, including exterior and interior finishes as shown on the drawings. All buildings shall be as dimensioned with all features and quantities as shown. All materials used shall be new and of the types and grades specified. Building manufacture shall be performed under factory conditions in a plant specifically arranged for this type of work. Manufacturer shall provide all necessary operations for packing and shipping, and provide technical information to the contractor for adequate space planning, equipment and personnel for the assembly and installation of all major components of the building. Work under this item shall consist of furnishing a Membrane Style Salt Storage Building, designed, constructed and completed as specified hereinafter, for the purpose of stockpiling de-icing material to be used in the ice and snow control program for the Arkansas State Highway and Transportation Department.

**BUILDING DESIGN**

**The building shall be a Cover-all, Meridian style, 50 feet X 80 feet or equal with end on one of the 50 foot sides.** The membrane shall be tensioned over the framework. The interior of the structure below the main trusses shall be clear span free of any structural support members and shall provide unobstructed floor space. No exterior purlins, guy ropes or cables shall be used for anchoring the structure. The Contractor shall furnish all engineering and construction of the footings and an eight foot (8') perimeter wall, minimum 12" thick, to be constructed on both 80 foot sides and one 50 foot side.

**CAST-IN-PLACE CONCRETE**

All concrete used for footings and base wall, foundation and pier or post supports below and above grade shall be class S(AE) meeting the requirements of Section 802 of the 2003 edition of the Standard Specifications for Highway Construction.

**BASE WALL**

- A. Reinforcing steel shall be Grade 60, meeting the requirements of section 804 of the 2003 Standard Specifications for Highway Construction.
- B. Anchor bolts shall be stainless steel meeting all building manufacturer's requirements for design loading.

- C. INTERIOR AND EXTERIOR CONCRETE PROTECTIVE TREATMENT - In order to protect the reinforcement bars from chemical attack, the concrete surface of the structure shall be treated with XYPEX ADMIX according to manufacturer's specifications. The protective treatment shall be capable of completely preventing the intrusion of salt/rain/water into the building.

### **MISCELLANEOUS STEEL**

At the entrance opening, furnish and install two of the following jamb protection devices (one each at the outside corners of the entry way) as indicated on the Plans:

Standard 6", Schedule 40 PVC, 4'-0" above grade, 3'-0" below grade, with a 1" rebar in the center and filled with concrete.

### **ELECTRICAL**

- A. The interior of the structure shall be illuminated with three (3) high-pressure sodium light fixtures equally spaced in the structure, or as directed by the Engineer. Light fixtures shall be industrial moisture-proof type for use in this nature with 250 Watt lamps. The fixtures shall be installed so as not to be hidden or obstructed by any building construction and aligned to completely illuminate the full interior of the structure.
- B. The Contractor shall install 100 Amp, 120/240 Volt, lockable, weatherproof panel board with a main and circuit breakers to control lighting and outlet. The panel board shall be mounted firmly to the exterior of the concrete wall near the entrance, as indicated on the Plans, or as directed by the Engineer.
- C. All pull-boxes and junction boxes inside the structure shall be PVC, weatherproof and corrosion resistant. They shall be firmly attached to the walls of the structure. The Contractor shall install a surface-mounted switch for controlling interior lights; and a 20 Amp, 120/240 Volt, heavy duty rated receptacle shall be installed near the entry way, on the outside, as indicated on the Plans, or as directed by the Engineer.
- D. All conduit from the panel board to and including the interior of the structure shall be Schedule 40 PVC. Conduit shall not be less than 3/4".
- E. Electrical power will be furnished to the panel board area by the Arkansas State Highway and Transportation Department.
- F. All Electrical shall be in accordance with the National Electrical Code.
- G. A dampered aluminum power ventilator shall be installed in the end of the building to provide ventilation at a rate of 4400 cfm at 1/4 inch static pressure.

## **STRUCTURAL FRAME**

**Purlin Bracing** – To provide for structural stability and to provide for installation of accessory items, the main structural trusses shall be laterally braced by tubular purlins at intervals required by the truss design. All purlin locations shall brace both truss chords at locations where they are attached.

**Wind and Frame Bracing** – The structure shall be appropriately stabilized with wind bracing cable so as to efficiently transfer wind and snow induced stresses to the foundation/ anchoring system. Cable diameter for main wind bracing shall be a minimum ¼” diameter and larger if so required. The bays at each end of the structure shall be designed to be “X” braced early during erection to allow for permanent stability of the frame during installation.

**Connecting Joints** – Connections between primary shall be made with 5/8” diameter Grade 5 bolts and self drilling screws. Connection of truss frame to foundation shall be a pinned type connection to reduce member forces in the truss.

**Alternative Cladding materials** – The structure shall be designed such that alternative wall covering materials such as metal can be added with minimal modification to the leg portion of the truss.

**Shipping** – The main structural trusses shall be two-dimensional trusses which nest tightly together in order to minimize shipping and storage volume.

**Ancillary Systems** – The structure shall be designed such that it can be readily retrofitted with insulation and other ancillary systems such as lighting, sprinklers, HVAC, etc.

## **MEMBRANE CLADDING**

**Weather Tight** – The structure membrane shall form a continuous uninterrupted weather tight shell over the framework and perimeter wall. The end wall membrane cladding shall be manufactured and connected to the adjacent roof cladding. In order to provide for a good finished appearance and to insure weather tightness, the membrane shall be assembled and tensioned, in a manner to minimize wrinkles in hot and cold temperatures. The roof profile shall be curved to reduce fabric wear due to wind induced “flapping” and attached without the use of lacing or end flaps. Horizontal stretch (warp direction) shall be maintained with horizontal purlins. Vertical stretch (fill direction) shall be maintained with a belt and winch lock system.

**Cladding Section Joints** – The aluminum track system, which holds the membrane to the main structure support trusses, shall be removable to allow for quick interchange ability of the membrane if damage should occur, allowing for any section of the membrane to be removed. Adjacent membrane cladding sections shall be installed in the aluminum extrusion track and be tensioned both vertically and horizontally to prevent wear and abrasion. All membrane welded seams shall attain a minimum strength equal to 70% the membrane material.

**Base Tensioning System** – The membrane cladding will be provided with a mechanical tensioning system that allows the membrane to be fully tensioned around the structure perimeter. The system will be designed such that the membrane can be neatly secured over the structural frame and the systems have a remaining range for adjustment.

**Membrane Seal at Opening and Base** – The building design will make allowance for the design tension and seal of the membrane material around door, ventilation and other openings as well as around the structure perimeter below the main tensioning system. This seal shall provide a neat and finished appearance and eliminate any loose membrane cladding that could otherwise be damaged by flapping or abrasion. When a membrane base skirt is required, this shall be supplied and attached at the base perimeter to allow a reasonable seal against air and water intrusion. **The membrane shall not be designed to function as a structural member such that, should any damage to or penetrations of the membrane occur, the integrity of the structural framework would be affected.**

## **CODES**

Drawings and calculations shall be provided to the client, upon request, meeting the provisions of the applicable code for the building location. Revisions and corrections to those documents shall be completed and submitted as required to obtain approvals. All work to be performed under the conditions of these specifications shall comply with the rules and regulations of all agencies having jurisdiction for this classification of construction, including Building, Fire, Welding, and Safety Codes.

## **STRUCTURAL DESIGN CRITERIA**

### **Dimensions**

The buildings shall occupy an area as shown on the Drawings.

### **Design Guides**

The structure shall be designed in accordance with appropriate standards using methodology from PART 4 of the National Building Code of Canada 1995; using load cases as per Article 4.1.3. *Limit States design*, when located in Canada; and ASCE 7 as an equivalent to SECTION 16 of the International, National, Standard and Uniform Building Codes; using load cases as per Section 2.3 *Combining Factored Loads Using Strength Design*, when located in the United States. Primary and secondary framing shall comply with current issues of AISC, AISI and ASTM specifications.

### **Roof Loads**

At a minimum, the structure shall be capable of supporting a roof live load of 1.0 kPa as per Section 4.1.6.3 of NBC in Canada; and 20 psf as per IBC 2000 Section 1607.11.2.1 reducible for tributary area and roof slope in the United States, projected over the entire roof area or portion thereof, and any probable arrangement of loading resulting in the highest stress in the members. At a minimum, the structure shall be capable of supporting a wind pressure of 10 Psf from any direction in an exposed location category for structures in United States. The minimum site loads shall be 40 Psf roof snow load, and 90 mph basic wind speed, both in exposed conditions.

## **OPERATIONS AND USE**

### **General**

The Structure shall be designed to provide a minimum 15-year operational use period with appropriate inspection and maintenance. The structure shall be capable of being assembled, operated and dismantled in all ambient temperatures between –20F and 120F, and of accepting differential settlement of up to 2-½ % between truss positions.

## **Materials**

All materials used in the structure shall be new, without defects and free of repairs. The quality of the materials used shall be such that the structure is in conformance with the performance requirements specified herein.

## **CLADDING MEMBRANE**

The structure shall be clad with Duraweave; a fire retardant UV stabilized waterproof membrane, free of defects, manufactured by an approved and reputable supplier with demonstrated long-term performance. The material will be selected by the Arkansas State Highway and Transportation Department from the manufacturer's standard colors. The membrane shall have a coated weight of 12 +/- 2 oz/sy with a grab tensile strength of 340 lbs as tested per ASTM D-5034, and pass the flame resistance requirements of CAN/ULC S-109 and NFPA 701. The flame spread shall meet the requirements of ASTM E-84.

## **Truss Steel**

All Components of the structural framework shall be fabricated from Gatorshield coated ViperSteel. The main structure shall consist of a welded truss with parallel tube chords separated using 14 GA 2.0" x 3.0" rectangular tube space 20" apart with 14 GA 1.66" diameter tube webs. All steel tubing used in the structure must have the minimum structural and mechanical properties of (ASTM A-500 GR B): Tension Ultimate: 55 KSI and Yield: 50 KSI. All steel flat bar, cross rods and other steel components shall be fabricated and then hot dipped galvanized from material having the minimum structural and mechanical properties of (CSAG40.21/ ASTM A572 GR 44): Tensile: 50 KSI and Yield: 44 KSI

## **Corrosion Protection**

All steel tube components, trusses, purlins and fastening tubes shall be coated on the exterior with a Gatorshield gloss finish providing a corrosion resistance of 2000 hours tested in accordance with ASTM B 117-90; with a 100% zinc based organic coating applied to interior.

## **Hardware**

**Bolts** Bolts shall be Grade 5 bolts and plated/galvanized or upgraded with JS500 corrosion resistant finish. Bolts connecting the truss to the concrete shall be stainless steel. All bolts shall be installed and securely pretensioned so as to prevent change in tightness. Those subject to removal or adjustment shall not be swaged, peened, staked or otherwise installed.

**Membrane Tensioning Hardware** The membrane shall be tensioned with load rated hardware which is plated/hot dipped galvanized so as to prevent corrosion. Hardware shall allow full and free rotation at the foundation connection to avoid fatigue failure of threaded assemblies.

## **Membrane Tensioning Webbing**

The membrane shall be tensioned with load-tested tie-down belts.

## **Cable Assemblies**

Main and wind bracing cable assemblies shall be manufactured to the required length and press swaged with metal sleeves. The cables shall be manufactured using preformed galvanized "aircraft" cables, sized with appropriate safety factors.

### **Other Fasteners**

Non-structural fasteners shall be corrosion resistant.

### **Welding**

Welding shall be employed only when specified in the original design. The truss fabricator must be certified by CWB to CSA Standard W47.1 Division 2 and by AWS as an Approved Fabricator as per B5.17 and QC17. Welding shall be in accordance with CSA W59 and CAN/CSA-S136 in Canada; and AWS D1.1 and AWS D1.3 and AISI-truss in the United States. All welded components shall be prepared by steel shot blasting prior to a finish coating of hot molten zinc applied to a minimum of 3 mils thick.

### **Workmanship**

The workmanship of all materials and components of the structure shall be commensurate with the functional requirements of the item. The basis for quality standards shall be:

Cover-All Building Systems, Inc.  
3815 Wanuskewin Rd.  
Saskatoon, SK S7P 1A4 Canada  
Ph: 1.877.615.4776

### **Manufacturer**

The structure supplier shall be reputable manufacturer certified to ISO 9001:2000 *Quality Management Systems Standard*; shall have direct experience in the design, manufacture and installation of structures of the type specified herein; shall operate according to a comprehensive quality system and shall provide three references with structures in use for at least five years which are clear span and which enclose an area in excess of 2500 square feet.

### **Piece Marking and Identification**

All individual parts or bundles and packages of identical parts are to be clearly marked for identification. The shipping document shall list the description, quantity and piece mark of the various parts, components and elements.

### **Material Delivery**

The building system materials shall be delivered to the project site during normal AHTD working hours. Installation contractor will provide adequate workmen and equipment to promptly unload, inspect and accept material delivery.

### **Handling**

The installation contractor shall be responsible for unloading, field storage, protection and transfer to the work area of all materials and equipment required to perform the work. At no time shall materials be dropped, thrown or dragged over the transport equipment or the ground.

## **FOUNDATION DESIGN**

### **General**

The Membrane-Covered building manufacturer shall provide base reactions for foundation design along with a copy of the anchoring requirements, the anchor bolt plan, truss and leg truss line locations. Anchor bolt diameters and quantities shown on Cover-All Building Systems drawings are the minimum required for the sole purpose of determining the hole diameters in the base plates. The final design of the

stainless steel anchor bolt diameters, quantities and embedment lengths are the responsibility of the foundation designer. Any changes required to anchor bolt diameters and quantities must be prior to manufacturing.

### **INSPECTIONS AND TEST**

The Contractor shall certify that all materials meet the requirements of this specification.

### **GENERAL CONDITIONS**

The applicable portions of the General Provisions, together with applicable Special Provisions, of the Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, Edition of 2003 shall govern where appropriate.

### **LOCAL CONDITIONS**

Bidders are required to visit the site prior to submission of proposal to familiarize themselves with local conditions, including general characteristics of the site, and accessibility of the work.

### **PERMITS, INSPECTIONS, AND TAXES**

The Contractor, if awarded a Contract for the furnishing and construction of a Membrane Style Salt Storage Building, shall give all necessary notices; obtain and pay for all permits, licenses, certificates, inspection and other legal fees required and other costs in connection with his work, both permanent and temporary, file all necessary plans; prepare all documents and obtain all necessary approvals of all governmental departments having jurisdiction; and obtain required certificates of inspection for his work and deliver same to the Department.

The Contractor shall include in the work, without extra cost to the Department, all labor materials, services, apparatus, drawings, and related items in order to comply with all laws, ordinances, rules and regulations, whether or not shown on the Plans and/or in these Specifications.

The Contractor shall include in his bid all State Sales Tax, Social Security Taxes, State Unemployment Compensation Insurance, and all other such items of like nature. It is the intent that the bid shall represent the total cost to the Department of all work included in this Contract.

### **EXAMINATION OF PLANS AND SPECIFICATIONS**

Before submitting a proposal, each bidder shall examine the Plans and Specifications and shall become fully informed as to the extent and character of the work to be performed. No consideration will be given to alleged misunderstandings of materials to be furnished or work required under this contract. Submission of a proposal is an implied consent to the conditions of the Plans and Specifications.

### **SUBSTITUTING OF MATERIALS**

It is intended that the Contractor may have the option of substituting a material or appliance that will perform the function or service equally as well as the one named. The Engineer shall be given written notice two (2) weeks prior to the proposed use of a substitution so that a decision can be made as to the equal merits of the two (2) products.

### **ACCESS TO THE WORK**

The Engineer or his representatives shall have access to the work at all times, shall be permitted to approach, enter or examine all stages or phases of the work as it progresses and shall have the authority to reject work which is defective in workmanship or material.

### **REQUIRED SUPERVISION**

The Contractor shall keep on the job at all times, when work is in progress, a competent superintendent satisfactory to the Engineer. The superintendent shall represent the Contractor in his absence and all instructions given to him shall be binding on the Contractor. Workmanship shall be by craftsmen skilled in their trade and shall be in accordance with the best standard practice.

### **QUALITY OF MATERIAL**

All material, appliances or appurtenances furnished under these Specifications shall be new and unused and shall be free from defects and imperfections. Any material, appliance or appurtenance thereto found to be defective shall be replaced by the Contractor at no cost to the Arkansas State Highway and Transportation Department. All material shall comply with the requirements and applicable provisions of the Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, Edition of 2003, applicable Special Provisions and these Specifications. Any material not covered in the Specifications above shall be approved by the Engineer.

### **INSURANCE**

The Contractor shall carry Workmen's Compensation Insurance as required by Arkansas Law. In case any hazardous occupations are required for the execution of the work which are not covered by the above Insurance, special Employer's Liability Policies shall be obtained to cover workers engaged in such hazardous occupations. The Contractor shall procure and maintain, during the life of the Contract, Contractor's Public Liability Insurance in the amount of not less than \$250,000/\$500,000 limits, and Property Damage Insurance in the amount of not less than \$250,000/\$500,000 limits.

### **ACCIDENT PREVENTION**

Precaution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws and building and construction codes shall be observed. Machinery, equipment and other hazards shall be guarded in accordance with safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable laws. The Contractor shall be responsible for any damage which may be caused by workmen during the performance of the work.

### **DRAWINGS AND SPECIFICATIONS**

- A. Bidders shall submit copies of the manufacturer's descriptive literature, proposal drawings, capacity computations and a cross-section through the proposed structure.
- B. The lowest acceptable bidder, if awarded a Contract for the furnishing and construction of a Membrane Style Salt Storage Building, shall subsequently be required to furnish five (5) copies of the final construction drawings and specifications, signed and sealed by a registered professional engineer licensed and registered in the state of Arkansas.

### **QUALITY ASSURANCE**

- A. The Vendor must be able to demonstrate a successful completion record as a pre-engineered Membrane Style Salt Storage Building supplier or manufacturer.
- B. Erection Subcontractors must have adequate previous experience in this specialized work and must be certified by the Vendor as a qualified erector.
- C. The Contractor shall have a minimum experience of completing at least three (3) similar buildings. Contractor shall include name, address and telephone numbers of other owners of the same or similarly constructed buildings supplied and constructed by him.

### **DELIVERY, PROTECTION OF MATERIALS, AND ERECTION**

- A. Delivery, protection and acceptance of materials at the work site is the Contractor's responsibility, including any losses due to theft, vandalism or accidental damage.
- B. The building furnished by the Contractor is to be erected and assembled at the work site and in accordance with Plans and Specifications as approved by the Department. The Contractor shall be responsible for the safe unloading and storage of materials and building components.

### **CLEAN-UP**

The Contractor shall not allow any waste material or rubbish caused by his employees to accumulate in or about the premises but shall promptly remove same. At completion of the work, all rubbish, tools, scaffolding and surplus materials shall be removed and the Contractor shall leave the site clean and ready to use.

### **WARRANTY**

All materials and workmanship shall be warranted against defects for a period of one (1) year from date of acceptance by the Arkansas State Highway and Transportation Department, with a ten (10) year warranty on the structural integrity of the membrane style salt storage building, and a fifteen (15) year warranty on the exterior membrane. The Warranty of the materials by the supplier shall be in writing to the Contractor who will forward copies to the Department for a permanent record.

### **REFERENCE STANDARDS**

#### **General**

The following publications are for the standards listed below but referred to thereafter by basic letter designation only. They form a part of this specification to the extent referenced thereto:

#### **American Institute of Steel Construction (AISC)**

S326 Design, Fabrication and Erection of Structural Steel Buildings

S329 Structural Joints Using ASTM A325 or A490 Bolts

#### **American Iron and Steel Institute (AISI)**

SG 503 the Design of Fabrication of Cold-Formed Steel Structures

#### **American Society of Civil Engineers (ASCE)**

ASCE 7 Minimum Design Loads for Building and Other Structures

#### **American Welding Society (AWS)**

D1.1 Structural Welding Code-Steel

D1.3 Structural Welding Code-Steel Sheet Steel

**American Society for Testing and Materials (ASTM)**

A 36 Structural Steel

A 123 A Specification for Zinc (Hot Dip Galvanized) Iron and Steel Products

A 307 Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength

A 325 High-Strength Bolts for Structural Steel Joints

A 500 A Specification of Cold Formed Welded & Seamless Structural Tubing

A 563 A Carbon and Alloy Steel Nuts

A 687 High-Strength Non-Headed Steel Bolts and Studs.

**Canadian Standards Association (CAN/CSA)**

S 16.1 Limit States Design of Steel Structures

G 164-M Hot Dip Galvanizing of Irregularly Shaped Articles

W 47.1 Certification of Companies for Fusion Welding of Steel Structures

W 59 Welded Steel Construction

**METHOD OF MEASUREMENT**

Membrane Style Salt Storage Building, complete, in place and operating, including all subsidiary items, as indicated on the Plans, as called for in these Specifications, or as directed by the Engineer and accepted, will be measured for payment by the "Lump Sum".

**BASIS OF PAYMENT**

Work completed and accepted under this item and measured as provided above will be paid for at the lump sum price bid for "Membrane Style Salt Storage Building", which price shall be full compensation for all materials, labor, tools, equipment, machinery, drayage, clean-up, guarantees and any and all incidental items required to complete the work.

**PAY ITEM**

**PAY UNIT**

Membrane Style Salt Storage Building

Lump Sum