



**CITY OF EAST PROVIDENCE  
FIRE DEPARTMENT  
SPECIFICATIONS  
REQUEST FOR PROPOSALS EP21/22-14  
CONSTRUCTION OF A NEW FIRE TRAINING/STORAGE BUILDING AT  
60 COMMERCIAL WAY  
BID OPENING THURSDAY, JULY 07, 2022 AT 11:00AM**

**I. INTRODUCTION**

The City of East Providence is soliciting proposals from building contractors to construct a pre-fabricated building capable of housing two (2) 75,000 pound fire apparatus. The building will be constructed of pre-fabricated metal and delivered to the site for construction. All workers on site shall be paid prevailing wages in accordance with Davis-Bacon requirements.

The required construction services shall include foundation work and insulation meeting the latest energy codes. The building shell shall also meet the latest energy and building codes. The building shell shall include all rough openings and furnish ADA compliant doors 80-inches by 36-inches, two (2) 14-ft. height by 24-ft. width garage type overhead insulated doors with openers (1 door in front, and the second in rear of building). Building slab shall be included and shall be designed to accommodate two (2) 75,000 pound fire apparatus, minimum pitch shall be 1/16"/foot toward each overhead door.

**II. WORK DESCRIPTION**

The proposed building shell will be 50-ft. (length) by 30-ft. (width); refer to attached partial site plans and geotechnical data. The clear height inside the building shall be 16 ft. There shall be no internal columns. The construction shall meet every aspect of the RI building code SBC-1-2019. All plans shall be stamped by a Rhode Island professional engineer and architect. The exterior finish shall consist of siding panels (red in color) such as a high rib steel panel for metal buildings. The roof shall be metal roofing panels; black color. Building shall include gutters and downspouts.

The installing contractor(s) must be registered in the State of Rhode Island.

Tolerances

Framing Members – 1/4" from level, 1/8" plumb

Siding & Roofing – 1/8" from true position

Bottom of Footing – elev. 22.1

Top of foundation – elev. 26.54 (if applicable)

Finished Floor – elev. 25.87 south side slope 1/16”/ft down to North, elev. 25.62

### **III. OBJECTIVE**

The objective of the City is to provide a storage building to house fire apparatus and miscellaneous fire training equipment.

### **IV. SCOPE OF WORK**

The project shall be bid as a lump sum and shall meet the minimum requirements shown on the plans and as described within the specifications. The work required to meet the City’s objective shall consist of, but not necessarily be limited to, the following activities:

#### **A. Design Phase:**

1. The city shall review the architectural, MEP plans and engineering plans to assure work is in accordance with Rhode Island building and energy codes.
2. Review plans to assure appropriate siding and roofing materials, color and elevations.
3. Provide for review shop and erection drawings certifying building design meets specified roof and wind loading requirements, samples and submittals to conform to design elements.
4. Provide RI PE stamped truss engineering analysis and design data for axial forces and bending moments for each member, basic plate design value and design analysis of each joint showing that proper plates have been applied.
5. Provide engineered stamped plans for the foundation and insulated cement floor slab capable of bearing two (2) 75,000 pound fire apparatus with pitch to allow water to runoff toward both ends of the building.
6. The building shall be heated with down-fired radiant convection heaters, natural gas fueled (Reznor brand preferred) and appropriately sized for the intended use of the building. All plans associated with the heating system including slab, shall be stamped by a Professional Engineer, and reviewed for conformance.
7. The building shall be equipped with a 200A Electrical service, adequate LED lighting, and eight (8) interior and four (4) exterior 20 amp. receptacles.
8. Power will be delivered to the site by the City with an underground or overhead feed.

9. Natural gas will be brought to the site by the City.

**B. CONSTRUCTION PHASE:** Required services shall include, but not limited to:

1. The Contractor shall implement the erosion and sediment plans and any dewatering that may be required.
2. Provide all necessary labor, supplies, materials, equipment, and services required for the complete installation and construction in accordance with the approved plans and specifications.
4. Construction meetings will be held weekly with the owner/owner's representative.
5. Contractor shall provide all certifications and testing (compaction, sieve analysis, etc.) results to the Owner for review and approval.
6. Contractor shall be responsible for compliance with all applicable building codes and ordinances covering the work. Contractor shall cooperate with regulatory agencies to provide data as requested.
7. Provide all Warranty information.
8. The City shall produce the final as-built to assure the construction meets the plans and specifications.
9. The contractor is responsible for obtaining all permitting (Building, Electrical, Mechanical, etc.) for the project.

**V. SUBMISSION OF PROPOSAL**

Four (4) sealed copies of technical proposals shall be submitted to the Controller's Office, Attn: Luis Olmo, Acting Procurement Specialist, Room 103, City Hall, 145 Taunton Avenue, East Providence, RI 02914 no later than **THURSDAY, JULY 07, 2022 AT 11:00AM**. Local fees will be waived. State ADA fees will apply.

Responses to this solicitation should, at a minimum, include the following:

- Building elevations indicating general design of building shell.
- A company brochure including address, city, state, phone and fax numbers, e-mail and web page address.
- Provide a signed statement that your firm is not currently on the Government Contractor Debarred List prohibiting any contractual relationship using federal funds.
- A description of the company's background in working with projects of similar scope describing previous collaboration experience on relevant projects.
- A description of the background experience and involvement of personnel who will be assigned to the project.
- References
- Any other information deemed to be pertinent in assisting the City in adequately reviewing

the firm's capabilities and qualifications with respect to the proposed project.

- Bonding capability a minimum of 125% of proposed bid.
- A Cost Proposal is to be submitted along with a schedule, which will identify the proposed cost structure for reimbursement, lump sum, as well as all applicable breakdowns of anticipated man hours per task, multipliers, and/or milestones for percentage payments, etc. that are appropriate for each phase of the scope of work. The City reserves the right to award the entire contract or any portion thereof to the most qualified bidder, as judged solely by the City. The City also reserves the right to delete elements of each phase should it be deemed in the City's best interest to do so.

## **VI. PROJECT TIMETABLE**

Solicitation of Proposals:	June 13, 2022
Pre-proposal walkthrough:	June 24, 2022 (On-site, 3:00PM)
Deadline for questions/inquiries:	June 27, 2022 (no later than 4:00PM)
Submission of Proposals:	July 07, 2022 (no later than 11:00AM)
Contract Award:	July 21, 2022
Contract Completion	August 01, 2022 (or as soon as your schedule allows)
Start of project	August 22, 2022 (on or after)

## **VII. SELECTION PROCESS AND CRITERIA**

Proposals will be reviewed by the appropriate City staff. This is a Request for Proposal, as such responses will be evaluated on the basis of the relative merits of the proposal, in addition to associated fee. The City reserves the right to schedule interviews following the submission of the proposals. The selected firm shall be chosen based on its qualifications, strength of its proposal, and associated fees. The following criteria will be used to evaluate the responses:

### **1. Company Qualifications and Experience**

Specialized experience is required in a series of work areas. Proposals must clearly demonstrate full knowledge, understanding, and experience in the methods, techniques and guidelines required for the performance of the required work. All elements within this factor are of equal importance.

The BIDDER must demonstrate experience in building construction and/or similar scopes of work within Massachusetts and Rhode Island.

The BIDDER must demonstrate expertise in the field of site design and the processes involved in obtaining all required permits and approvals.

2. Personnel Qualifications and Availability

Specialized experience is required of the project personnel proposed to undertake the work assignments. Proposal must clearly demonstrate the capability, academic background, training, certifications and experience of the proposed personnel. The availability of the proposed staff is also of critical importance and must be demonstrated. Specific project experience relevant to this scope of work must be demonstrated, as well as specific company experience.

3. Performance Record of Firm

A list of references of at least three (3) recent contracting officers on projects of a similar magnitude and complexity; references must include telephone number and affiliation.

4. Project Understanding and Approach

The BIDDER must demonstrate a comprehension of the role and function of this project in meeting the objectives of the CITY.

In addition to the understanding of the scope and approach, the BIDDER must demonstrate the following which will be considered in the selection:

1. Knowledge of current issues and state of the art in the relevant technical areas.
2. Experience demonstrated on similar projects.
3. Working knowledge of the geographic area as evidenced by prior work experience in the region.
4. A demonstrated expertise and ability for rapid turn-around and flexibility on short-term projects.
5. The capability to effectively direct multiple simultaneous work assignments.
6. An ability to integrate and utilize interdisciplinary study teams effectively on assignments requiring a variety of skills and expertise from in-house resources.
7. The ability to provide the necessary skills and expertise from in-house resources.
8. Methods for assuring product quality, cost control, delivery schedule and project

oversight. A narrative description of the BIDDER'S quality control plan must be included.

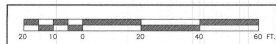
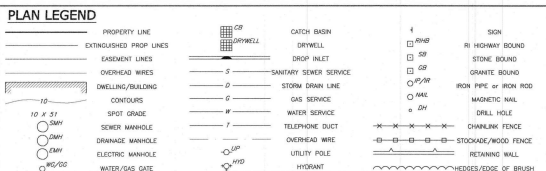
9. Proven ability to work with municipal, state and federal government agencies and complete projects in a timely fashion and within the prescribed budget.

## **VIII. GENERAL CONDITIONS**

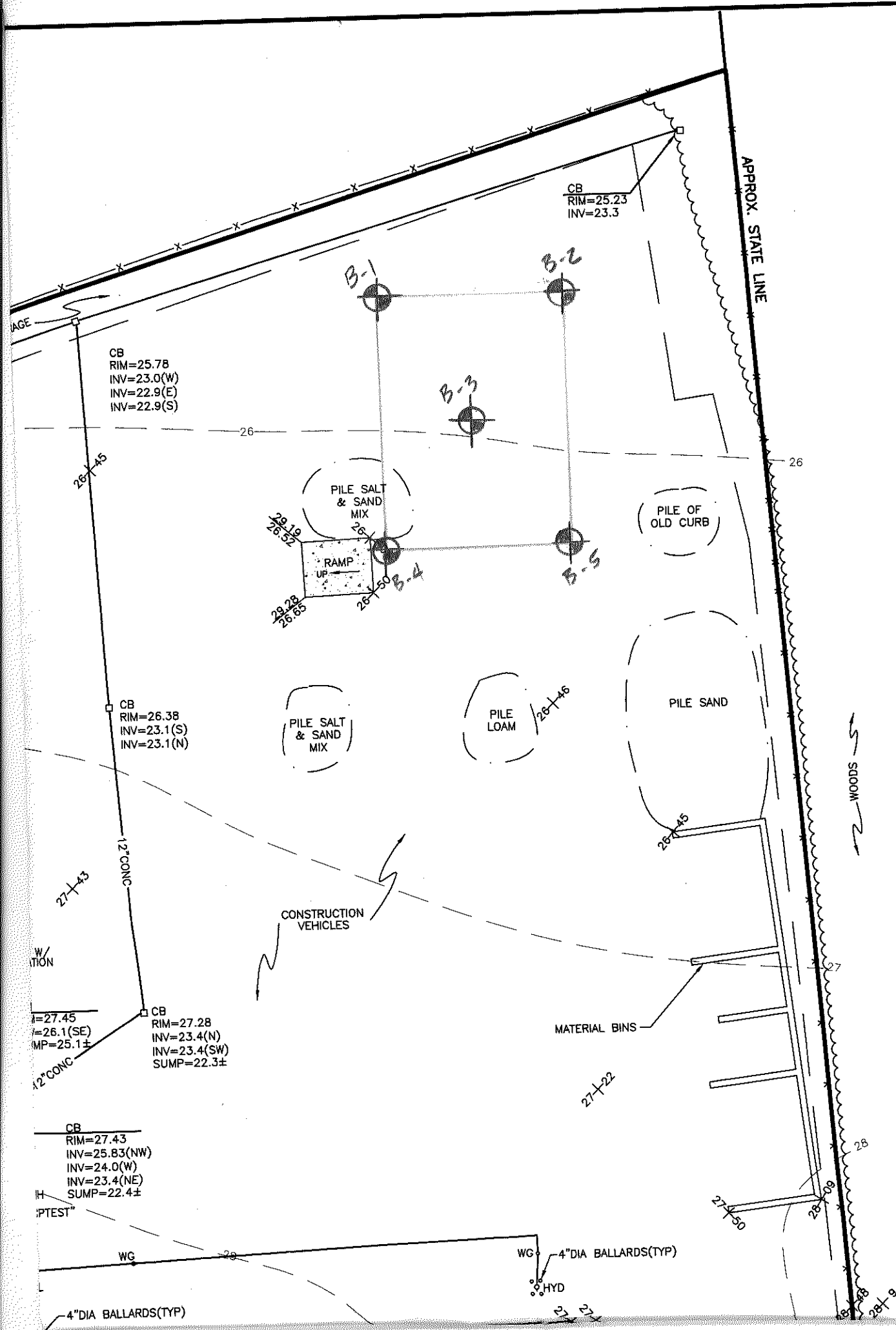
- A. The City reserves the right to reject any and all proposals, to waive any informality, to request interviews of contractors prior to award, and to select and negotiate the contractor's services in the best interest of the City.
- B. The City reserves the right to accept all or part of any proposal and to negotiate a contract for services and cost with the selected Contractor.
- C. The Contractor shall provide all necessary personnel, sub-contractors, materials and equipment to perform and complete all work under this proposal.
- D. All original documents and drawings shall become the property of the City after completion of the consultant's work.
- E. The Contractor shall be prepared to commence work immediately upon execution of a contract with the City.

Any questions regarding the RFP may be directed in writing to Luis Olmo, Acting Procurement Specialist [lolmo@eastprovidenceri.gov](mailto:lolmo@eastprovidenceri.gov) no later than **MONDAY, JUNE 27, 2022 AT 4:00PM**

The City reserves the right to reject any/or all companies, to waive any informality in the qualification statement, and to pre-qualify any company based on what the City deems to be in its best interest.



Nabil Y. Rashid, C.O.A. #LS-A427  
Registered Professional Land Surveyor





# **SALT STORAGE BUILDING**

## **Technical/Performance Specifications**

### **SECTION 1 – SITE WORK**

#### **General**

The Contract Documents include a site plan that depicts the proposed location of the Salt Storage facility, as well as other existing buildings at the 60 Commercial Way Municipal Garage Facility. Also noted on the plans are the locations of the five (5) borings that were conducted by the City's geotechnical consultant. The boring logs and recommendations by the Geotechnical Engineer are included in the Contract Documents. The Contractor is responsible for all of his/her own layout and survey work necessary to complete the project as specified.

#### **1.01 Earthwork and Foundation Excavation**

The Contractor shall prepare the site for the building so that the grade within the building is level to within plus or minus three (3) inches, and so that the grade of the surrounding area slopes away from the building in all directions sufficiently to generally provide for proper drainage. The Contractor shall excavate and backfill to original grade for the foundation footings, and shall rough grade all areas of the site that are disturbed by the construction activities after the building has been erected. All backfill required for the footings, shall be clean structural compacted gravel, placed and compacted (95% density) in six (6) inch maximum lifts.

#### **1.02 Building Floor**

The Contractor shall install a 3" thick hot mix asphalt floor for the entire building area.

### **SECTION 2 – QUALITY ASSURANCE (MATERIALS)**

#### **2.01 Quality Assurance**

##### **A. Contractor's Qualifications**

To be eligible for award of Bid, Contractor shall have at least five (5) years' successful experience in the construction of the type of structure proposed in his Bid, and shall provide references on the form attached for this purpose with his Bid.

##### **B. Materials**

The Contractor shall provide materials that have a proven track record, and shall be responsible for all products, components, accessories, and methods used in constructing the building.

The minimum printed code standard requirements of the following organizations for material quality, fabrication, and installation procedures shall be met or exceeded, for applicable methods employed in the building design:

American Institute of Steel Construction (AISC)  
American Concrete Institute (ACI)  
American Institute of Timber Construction (AITC)  
American Iron and Steel Institute (AISI)  
American Plywood Association (APA)  
American Softwood Lumber Standard: U. S. Department of Commerce PS-20

## **2.02 Submittals**

Furnish the following information as proof of conformity to design and performance criteria requirements of this specification. The information (for the Post-bid submittal by the successful bidder, below) shall be stamped with the registration seal of an Architect or a Professional Engineer, licensed in the State of Rhode Island and bearing the authorized facsimile of the signature of such Architect or Professional Engineer.

- A. With bid proposal at the time of bidding, furnish a complete set of design drawings, indicating in detail all features of the proposed building. In the case of prefabricated buildings and proprietary design, submit advertising literature depicting the proposed building.
- B. Post-bidding submittal by the apparent successful bidder will furnish the following information within two (2) weeks of notification by Owner:
  - 1. Complete design calculations and stamped design plans for building and foundation work.
  - 2. For prefabricated structures: original working drawings, or copies of complete fabrication and erection drawings, material lists, and detailed erection instructions.
  - 3. Foundation work: detailed drawings for preparation and construction.

## **2.03 Roofing Guarantee**

Shingles used in roofing shall carry a manufacturer's written guarantee for a minimum of 30 years, and the Contractor shall guarantee the installation of the roof for a period of two (2) years after the building is accepted by the Owner.

## **2.04 Code Compliance**

The structure shall be built in conformance with all applicable codes. The Contractor is responsible to submit the design for any required review prior to commencement of construction; and must execute the construction of the building so as to achieve compliance.

# **PART 3 -- DESIGN CRITERIA & PRODUCTS**

## **3.01 Salt Storage Building Design and Performance Criteria**

- A. Dimensional Requirements for Rectangular Building
  - Width: 60'
  - Length: 80'
  - Vertical Side Wall Height: 12' above finished floor
  - Overall Height: Not to exceed 40' above finished grade
- B. Loading Method

The building shall be filled without the use of conveyors, grain augers, or similar loading equipment. For this reason, it shall be designed to permit delivery of materials directly into the building, including by such vehicles as tractor-trailer trucks.
- C. Storage Method

The building shall, when filled to capacity, enclose the material stored entirely within the structure, exclusive of the entranceway. Pile sides shall be enclosed by the interior barrier wall described in 3.01.G. The remaining uncontained pile sides, above the contained portion, shall be assumed to be sloped at a 32-degree angle of repose.

D. Building Structural Requirements

Provide a rigid, self-supporting structure comprised of standard building framing components, or an approved building system of integrated structural components, complete with necessary foundations which are designed to securely and permanently support roof and wall construction. Building shall meet or exceed the following minimum structural design criteria:

1. Static Snow Load: 30 pounds per square foot
2. Lateral Wind Load: 110 miles per hour
3. Soil Bearing Pressure: 3,000 pounds per square foot

**Refer to attached soil boring logs and Geotechnical recommendations.**

E. Building Products

The following minimum required standards shall be met for the products listed.

1. Concrete

Concrete shall, if used in the building design, have a minimum compressive strength of 3,000 psi at 28 days, and be supplied by a state-approved concrete plant.

Note: Concrete shall not be used where it is in direct contact with salt.

2. Preservative Treated Wood

- a. General: Treat lumber as herein specified. Comply with applicable American Wood Preserver's Bureau (AWPB) requirements.

All timbers to be dressed timbers.

All lumber to be kiln dried to a maximum moisture content of 19% before treatment.

- b. All above-ground lumber exposed to weather, or directly in contact with salt, shall be treated with water-borne preservatives for above-ground use, complying with AWPB-LP-2 (CCA .40).

- c. Load-bearing wood members placed in the ground, or encased in concrete, are to be treated with below-ground water-borne preservatives complying with AWPB-LP-22 (CCA .60).

- d. Any wood components with a nominal thickness of 2" or less shall have a moisture content not to exceed 19% when installed.

3. Metal Plates and Fasteners

Metal plates and fasteners used in the building (truss bearing plates, shear plates, truss gusset plates, joist hangers, nails, bolts, nuts, washers, screws, etc.) which are in direct contact with salt, or which are exposed to an atmosphere containing salt, shall be designed to resist corrosion due to such contact or exposure.

Items listed below (if used in the building) shall meet the following specific requirements:

- a. Truss bearing plates, bolts, and washers: to be stainless steel.
- b. Truss gusset plates: to be galvanized steel, epoxy coated.
- c. Joist hangers: to be hot dip galvanized.

F. Interior Space

Provide unobstructed interior space to allow charging and re-charging of the pile storage area to full capacity, and to allow unimpeded loading of truck-spreader vehicles with front-end loading equipment. Provide the entire interior floor area free of columns or roof supports of any type.

Minimum Center Clearance: Provide a 30'-5" clear height at the center of the building width and extending the length of the building. This clearance shall be maintained in an area at least 20 ft. wide, centered on the entranceway and running the length of the structure.

**G. Interior Barrier Wall**

Provide a suitable interior protective barrier wall conforming to the following:

1. Barrier wall and supports to be pressure treated wood, complying with 3.01 E. 2. above. No concrete to be used above grade.

No matter what type barrier wall is used, exterior braces must be provided to support the wall columns and to support the loads on the wall described below.

2. Design the barrier wall to resist the weight (i. e., forces) of salt and sand when filled to a contained height of twelve feet (12'), plus the weight (i. e., forces) of the uncontained pile sloped at an angle of repose of 32 degrees above the barrier wall.

Wall shall be designed to resist salt and sand load of 100 pcf, to resist a horizontal impact load of 250 lbs., and to resist structural damage from abrasion by salt loading equipment.

3. Design and construct the barrier wall to require minimal maintenance. It shall be arranged for easy replacement of components by maintenance personnel without requiring the use of heavy equipment.

**H. Doors**

Provide one unobstructed rectangular entrance opening, minimum dimensions to be 30' high by 20' wide. For the main entrance opening an upward acting sectional fiberglass door (overhead); General American Door Company (GADCO) Series 3500 or approved equal, 20 feet wide by 30 feet high by 2 inches thickness, designed for 110 mph minimum lateral wind load. Supply and install all wood head and jamb framing and blocking as called for by the door manufacturer. A chain hoist to provide capability for manual operation of door shall be included. Electric door operator shall be jack shaft, side mounted, model as recommended by the door manufacturer for size and lift condition, with standard hardware operable both from inside and outside of the building, including two (2) remote control operators. Interior locking latch system required (no keys or lock cylinders).

Furnish and install a 3'-0" x 6'-8" exterior grade wood swing out pass door. Hardware shall be installed so that this lock can be locked from the outside; keyed to match the existing Highway Garage Facility.

**I. Pipe Bollards**

Furnish and install two pipe bollards as door jamb guard posts, minimum six inches (6") in diameter and seven feet (7') in length, consisting of standard weight steel structural pipe, filled with concrete. These shall be imbedded in concrete footings, and painted federal safety yellow. Painting shall extend the length of the pipe to the surface of the footing.

**J. Exterior Wall Construction**

Provide exterior wall system or components of pressure treated wood to provide a durable weather-resistant barrier, which may be maintained easily by Owner with non-proprietary products readily available for such purpose.

**K. Roofing System (General)**

Provide materials and surface finishes conforming to the guarantee specified in Section 1.04, requiring minimum maintenance and conforming to, or exceeding, the Underwriters' Laboratories, Inc. Class C rating requirements (labels are not required). Unprotected

aluminum or bare steel surfaces are not acceptable.

1. Type: prefabricated or site-built, complete with all necessary accessories, fastening devices, trim, and flashings. A skylight system shall be included as an integral part of the roof structure.
2. Drainage: positive slope; no standing water.
3. Strength: comply with structural criteria specified in Section 3.01.D.
4. Wind Resistance: 60 psf (uplift) for adhesive applied products, UL Standard 997 for shingle type products.
5. Compatibility: all materials to be physically and chemically compatible with each other and with adjacent building components.

L. Ventilation

Provide suitable openings located at or near the highest point of the roof to provide a minimum ratio of 1 sq. in. of free air area for each 55 sq. ft. of building floor area.

**3.02 Installation and Erection**

- A. Provide all required footings, foundations, and/or other required substructures or supports at the required elevations on properly prepared subgrade, as required for the erection of the complete storage building.
- B. Provide the salt storage building and required appurtenances, erected on abovementioned foundations, conforming to the performance requirements of these specifications complete and prepared for the storage of salt.

**3.03 Electrical**

The Contractor shall provide all necessary poles, conduit, wiring, boxes, trenching, wires, etc. labor and incidentals to connect to the existing electrical panel in the Commercial Way Municipal Garage, and to provide overhead service (100-AMP) to the salt shed, and fully wire and connect all fixtures therein.

The Contractor shall provide metal halide lighting, at a level of 8-foot candles, to the entire enclosed space, and one exterior fixture operated on a photocell and mounted on the building above the entranceway. All work is to be done in accordance with the National Electric Code and all State and local codes.

**3.04 Lean-to Design and Performance Criteria (ADD ALTERNATE No. 1)**

- A. Provide an adjunct structure, hereinafter referred to as the "lean-to", comprised of standard building framing components, or an approved building system of integrated structural components, complete with necessary foundations designed to support the superstructure.
- B. Building and foundations shall meet or exceed the structural design criteria specified in Section 3.01 D. and E.
- C. Nominal dimensions of the lean-to shall be 25' deep by 80' long. Provide a minimum interior clearance of 14'. Columns on the lean-to shall be spaced 12' on center.
- D. If the roof of the main structure is designed to allow movement; the roof structure of the lean-to shall be designed so as not to interfere with such movement. Roofing materials

shall be as called for in Section 3.01 K. and shall be protected by the same guarantee.

- E. The front and back ends of the lean-to (25' dimension) shall be enclosed. Siding materials and finishes shall match those used on the salt storage building.

### **3.03 Installation and Erection**

- A. Provide all required footings, foundations, and/or other required substructures or supports at the required elevations on properly prepared subgrade, as required for the erection of the complete storage building.
- B. Provide the salt storage building and required appurtenances, erected on abovementioned foundations, conforming to the performance requirements of these specifications complete and prepared for the storage of salt.

## REFERENCE LIST

Bidder shall submit information on this sheet indicating construction experience on similar work. Failure to complete this sheet may be cause for rejection of bid.

1.	Type of Structure	_____
	Year Constructed	_____
	Owner	_____
	Location (City, State)	_____
	Owner's Contact Person	_____
	Owner's Telephone No.	_____
2.	Type of Structure	_____
	Year Constructed	_____
	Owner	_____
	Location (City, State)	_____
	Owner's Contact Person	_____
	Owner's Telephone No.	_____
3.	Type of Structure	_____
	Year Constructed	_____
	Owner	_____
	Location (City, State)	_____
	Owner's Contact Person	_____
	Owner's Telephone No.	_____
4.	Type of Structure	_____
	Year Constructed	_____
	Owner	_____
	Location (City, State)	_____
	Owner's Contact Person	_____
	Owner's Telephone No.	_____
5.	Type of Structure	_____
	Year Constructed	_____
	Owner	_____
	Location (City, State)	_____
	Owner's Contact Person	_____
	Owner's Telephone No.	_____

## **SOIL BORING LOGS & GEOTECHNICAL RECOMMENDATIONS**



## HAMMER

# Allstate Drilling Co.

EAST PROVIDENCE, R.I. 02915

SHEET 1 OF 1

LOCATION E. PROV.

HOLE NO. B-1

LINE &amp; STA.

### OFFSET

CASING: WT. \_\_\_\_\_ FALL \_\_\_\_\_

SAMPLER: WT. 140 FALL 30

CLIENT: CITY OF EAST PROVIDENCE

PROJECT: SALT STORAGE FACILITY

INSPECTOR:

R. COOK, JR.

**DRILLER:**

**J. MASTROFRANCESCO**

SAMPLER I. D. 1 3/8"

CASING I. D. \_\_\_\_\_

ALLSTATE NO. S-540

DATE STAMP 04/23/04

DATE, FINISH: 04/23/04

**GROUND ELEVATION.**

GROUND WATER DEPTH 2.2'

[illegible]

GROUND SURFACE TO 30.0

## FT. USED AUGERS

**CASING: THEN**

## SAMPLE SPOON

HOLE NO. B-1

## Summary

32.0'

### Earth Boring

### Rock Coring

## Samples

D-11

Type of Sample

D = Dry      C = Cored      W = Washed  
UP = Undisturbed Piston  
TP = Test Pit      A = Auger  
US = Undisturbed Shelby  
V = Vane Test

Proportions Used	
trace	0 to 10%
little	11 to 20%
some	21 to 35%
and	36 to 50%

Penetration Resistance			
140 lb. Wt falling 30" on 2" O.D. Sampler			
Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50 +	Very Dense	16-30	V-Stiff
		31 +	Hard

Earth Boring \_\_\_\_\_ 52.0  
Rock Coring \_\_\_\_\_  
Samples \_\_\_\_\_ D-11





[illegible]

## HAMMER

# Allstate Drilling Co.

EAST PROVIDENCE, R.I. 02915

SHEET 1 OF 1  
LOCATION E. PROV.  
HOLE NO. B-5  
LINE & STA. \_\_\_\_\_  
OFFSET \_\_\_\_\_

CASING: WT. \_\_\_\_\_ FALL \_\_\_\_\_

SAMPLER: WT. 140 FALL 30

CLIENT: CITY OF EAST PROVIDENCE  
PROJECT: SALT STORAGE FACILITY

INSPECTOR: R. COOK, JR.  
DRILLER: J. MASTROFRANCESCO  
HELPER: \_\_\_\_\_

SAMPLER I. D. 1 3/8"  
CASING I. D. ---

ALLSTATE NO. S-540  
DATE, START: 04/29/04  
DATE, FINISH: 04/29/04

GROUND ELEVATION \_\_\_\_\_  
GROUND WATER DEPTH 2.6'

[illegible]

GROUND SURFACE TO 30.0 FT. USED AUGERS CASING: THEN SAMPLE SPOON

HOLE NO. B-5  
Summary

Type of Sample

D = Dry      C = Cored      W = Washed  
UP = Undisturbed Piston  
TP = Test Pit      A = Auger  
US = Undisturbed Shelby  
V = Vane Test

<u>Proportions Used</u>	
little	0 to 10%
some	11 to 20%
and	21 to 35%
	36 to 50%

Penetration Resistance			
140 lb. Wt. falling 30" on 2" O.D. Sample		Cohesive Consistency	
	Cohesionless Density		
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50 +	Very Dense	16-30	V-Stiff
		31-45	W

Earth Boring \_\_\_\_\_ 32.0'  
Rock Coring \_\_\_\_\_ --  
Samples \_\_\_\_\_ D-10

<i>Base Course</i>	<i>8 inches</i>
<i>Subgrade</i>	<i>Existing Subgrade Soil*</i>
<b>PROJECT SITE CONDITIONS</b>	
<b>Asphalt</b>	<i>0 to 0.3 feet</i>
<i>Fine to Medium dark brown Sand, little F-M Gravel, little silt - FILL (SP-SM)</i>	<i>0.3 to 3.00 feet</i>
<i>Dark Brown Organic Silt (ML)</i>	<i>2.3 to 4.8 feet</i>
<i>Fine Lt. Gray Sand, little silt with traces of fine to medium gravel and at varying depths trace of silt (SP-SM to SM)</i>	<i>3.9 to 19.0 feet</i>
<i>Light to Dark Gray silt, with some traces of clay (SM)</i>	<i>10.0 to 32.0 feet</i>
<i>Groundwater Depth</i>	<i>2.0 feet at time of exploration**</i>
<i>Soil Expansion</i>	<i>Low to Medium</i>

\* The soil borings confirmed a presence of the organic silt layer between 3.0 feet to 4.8 feet which is under a gravel fill. This layer must be removed under any and all foundations that support the building. The minimum depth below existing exterior grade is to be 4.0 feet, as per the R.I. State Building Code. We do not require that it be removed from the area of the proposed slab as long as it is not within the top 3 feet of soil subgrade for the slab.

Due to the depth of water table and the depth of the organic silt it will be necessary to do some dewatering of the excavation for the foundations. We would suggest that after the removal of the organic silt that a minimum of 12 inches of 1 ½" crushed stone be placed followed by subsequent lifts of a bank run or processed gravel. The gravel and stone shall be compacted to a minimum of 98% percent of their maximum dry unit weight as determined by ASTM S-1557. All gravel shall be placed in

**a maximum of 12 inch lifts.**

**\*\* Seasonal variations in water table will occur upward during the traditional high water table season. We believe that the water table seasonal high should be designed for at a depth of 2 feet and that some of the water which was indicated as water table was a perched or trapped water table.**