

NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY
North Cover-All Fabric Membrane Replacement
eRFQ-24-02-NELHA

September 2024

1.0 Introduction

Located on the West side of the Big Island (Refer to Exhibit 1), the Natural Energy Laboratory of Hawaii Authority (NELHA) is responsible for managing and operating facilities that facilitate research, development, and commercialization of natural energy resources and ocean-related research, technology, and industry in Hawaii.

The North Cover-All is an existing 2,400 square foot building inside NELHA's Makai Research Campus that houses equipment and supplies for NELHA's operation department. Built approximately 20 years ago, the structure is a metal arch frame system covered with a durable fabric membrane on top and both ends (Refer to Exhibit 2). Due to recent high wind activity and the age of the fabric, the existing membrane has started to fail. Because progressive tearing of the canvas material is now allowing water to penetrate the building, replacement of the entire fabric membrane is required.

2.0 Scope of Work

The services to be performed are for a 60' L x 40' W x 20' H building located at 73-970 Makako Bay Drive, Kailua-Kona, Hawaii 96740. The components of the building were designed and fabricated by Cover-All Building Systems, with Vision Building Systems being the local materials distributor.

This solicitation for construction is divided into two parts: (1) shall provide for removal and proper disposal of existing fabric membrane, and any hardware associated with membrane installation. And (2) shall provide for replacement of existing damaged membrane and installation of a new NELHA-approved membrane with new installation hardware.

2.1 Preparation

All preparation work, including removal and disposal of current membrane and membrane tie-down hardware, shall be performed by contractor. Building will not be empty, and contractor shall be responsible for any damage to building contents during installation.

2.2 Materials

Contractor shall supply and deliver a new fabric membrane for the pre-existing metal arch frame building. This frame structure is a Cover-All Atlas 18-42 Series (Sales Order # 48279), whose products are currently being distributed through Vision Building Systems of Las Vegas, Nevada. New fabric membrane top and end walls for the existing framed structure shall be from Vision Building Systems or an approved equal matching the original fabric cover dimensions and specifications. The color of the new fabric membrane cover and end walls shall be white or tan. All materials provided under this scope of work shall be new, and of first quality.

Fabric shall be UV stabilized, polyethylene, waterproof membrane free of defects and provided by an approved and reputable supplier with demonstrated long term performance of such materials in the state of Hawaii. Below is the manufacturer's specification for the membrane material.

Fabric Specification:

Brand: NovaShield RU ELITE or equivalent
Weave: Woven HDPE scrim
Coating: White PE
Film: White PE
Weight: 13.5 oz/yd² (458 g/m²) ± 5%

Performance Specification:

ASTM D5034 Grab Tensile: Warp 460 lb 2042 N / Weft 410 lb 1820 N
ASTM D5035 Strip Tensile (N/5cm): Warp 275 lb/in (2442) / Weft 260 lb/in (2308)
ASTM D2261 Tongue Tear: Warp 85 lb 377 N / Weft 78 lb 346 N
ASTM D4533 Trapezoidal Tear: Warp 90 lb 399 N / Weft 85 lb 377 N
ASTM D3786 Mullen Burst: 640 psi / 4409 kPa
ASTM G154 Accelerated UV Weathering: >90% strength retention after 2000 hrs
Exposure @ 0.77 W/m²/nm, or 1200 hrs
Exposure @ 1.35 W/m²/nm
ASTM D2136 Low Temperature Bend: -65°C
Fire Retardant in accordance with NFPA 701.

All fabric membrane installation hardware shall have hot dipped galvanized corrosion protection and conform to the following standards:

ASCE 7 Minimum Design Loads for Buildings and Other Structures; American Society of Civil Engineers; 2006.

ASTM A 53/A 53A – Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2006.

2.3 Submittals

Product Sample: Small sample of fabric membrane material.

Product Data: Product data for all components and accessories specified or required shall be provided to NELHA/State, including test reports on fabric showing compliance with specified standards. The required product data to be submitted shall include:

- A. Manufacturer's affidavit of compliance with specifications
- B. Fabric membrane manufacturer's installation manual if using equivalent

2.4 Installation

Installation of new fabric membrane shall be performed by contractor using manufacturer's detailed instructions for the installation of the cover, end walls and all hardware required to attach the components to the existing metal frame. Refer to manufacturer's fabric cover installation manual (Attachments 1 & 2).

3.0 NELHA Construction Notes

Installer shall adhere to the following requirements and construction best practices:

1. Contractor shall be responsible to obtain all required Federal, State, and County permits for this project at no additional cost.
2. All work, including all additional materials and labor required to complete this project, whether shown or called for, shall be considered incidental to the various contract items in the proposal, and no additional compensation will be allowed, therefore.
3. Should the plans or drawings disagree in themselves; the better quality or greater quantity of work or materials shall be estimated upon and unless otherwise ordered in writing shall be furnished.
4. Contractor shall document damage to existing structures and facilities in and around the work area before starting work, and shall, at that time, provide copies of said documentation to NELHA's designated Officer In-Charge (OIC) for concurrence. Failing to do so shall be cause for Contractor to be responsible for all costs and remedies relating to restoring and repairing undocumented damage.
5. Coordinate with the OIC for mobilization, storing of equipment and materials, barricades, parking, traffic flow, etc.
6. Contractor must conduct his construction work with minimum Interference to the operations of NELHA or its tenants.
7. Normal working hours shall be between the hours of 7:00 a.m. to 3:30 p.m., Mondays to Fridays excluding holidays observed by the State of Hawaii.
8. No work shall be done outside of normal working hours without prior approval of the OIC, provided such work is also in conformance with Hawaii Administrative Rules (HRS), chapter 11-46, "Community Noise Control".
9. Contractor, at his own expense, shall keep the project area and surrounding area free from dust nuisance. The work shall be in conformance with the air pollution control standards contained in HRS chapter 342B, "Air Pollution Control".

10. Contractor shall protect structures and property from damages during construction, and shall support, secure, and take all precautions to prevent damaging these facilities and improvements.
11. Existing facilities and/or improvements to remain – including but not limited to graded unpaved areas, pavement, pavement striping, signage, fencing, gates, landscaping and irrigation - that are damaged by Contractor shall be restored to their original condition at Contractor's expense and to the satisfaction of the OIC.
12. Waste materials - collect and store all waste materials in a securely lidded container with cover to keep rain out or loss of waste during windy conditions. Deposit all trash and construction debris from the site in the container. Empty the container when it is two-thirds full or sooner. Do not bury construction waste materials onsite. Properly dispose of all waste material off-site in accordance with all applicable Federal, State and County regulations.
13. Hazardous waste - dispose all hazardous waste materials in the manner specified by local or State regulations and by the manufacturer. Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.
14. Sanitary waste - collect all sanitary waste from the portable units a minimum of once per week, or as required. Position sanitary facilities where they are secure and will not be tipped over or knocked down.
15. Use Material Management Practices to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. Store only enough product on-site as is required to do the job.
16. All materials stored onsite shall be kept in a neat, orderly manner in their appropriate containers and if possible, under a roof or other enclosure.
17. Keep products in their original containers with the original manufacturer's label.
18. Do not mix substances with one another unless recommended by the manufacturer.
19. Whenever possible, use a product up completely before disposing of the container.
20. Follow manufacturer's recommendations for proper use and disposal.
21. Conduct a daily inspection to ensure proper use and disposal of materials onsite.
22. Retain original labels and Safety Data Sheets (SDS), formerly Material Safety Data Sheets (MSDS).
23. Dispose of surplus products according to manufacturers' instructions and local and State regulations.
24. Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24-hour period, Contractor shall notify the NELHA OIC as soon as Contractor has knowledge of the discharge. The OIC will notify the National Response Center (NRG) at (800) 424-8802, the Clean Water Branch during regular business hours at 586-4309, and the Hawaii State Hospital Operator at 247-2191 and the Clean Water Branch (DOH-CWBJ via email at cleanwaterbranch@doh.hawaii.gov during non-business hours immediately. Contractor shall also provide to the OIC, within 7 calendar days of knowledge of the release, a description of the release, the circumstances leading to the release, and the date of the release. The OIC will provide this information to the DOH-CWB. The OIC will provide information to the NRG if requested.

4.0 NELHA General Conditions

Installer shall adhere to the General Conditions for Construction (Attachment 3).

Exhibit 1: Project Location Map

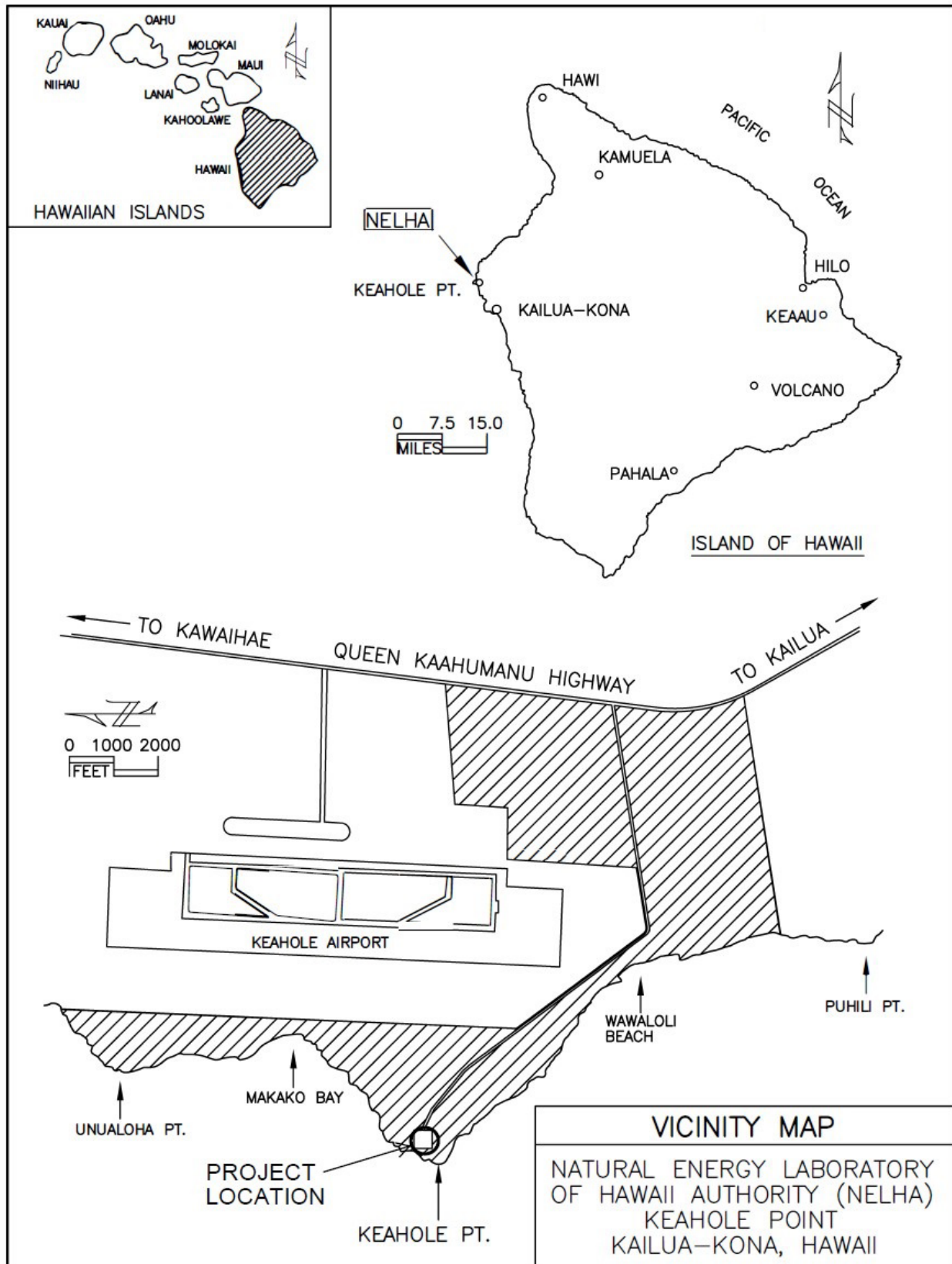
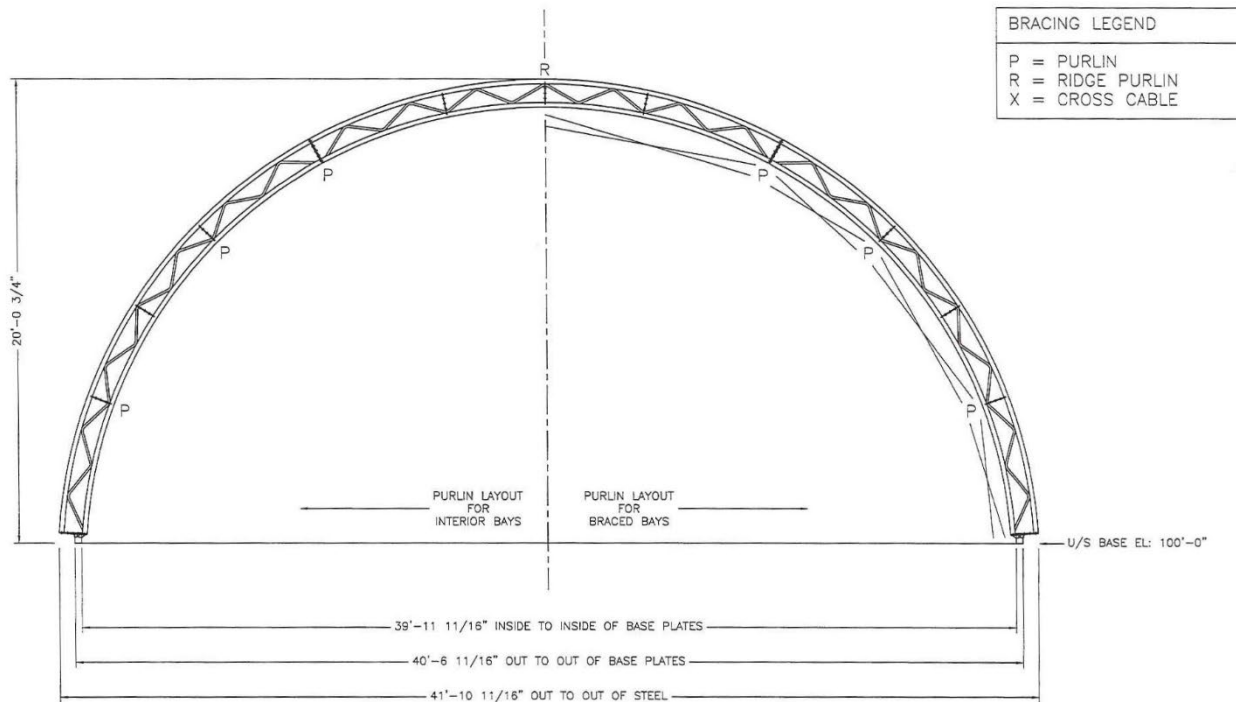
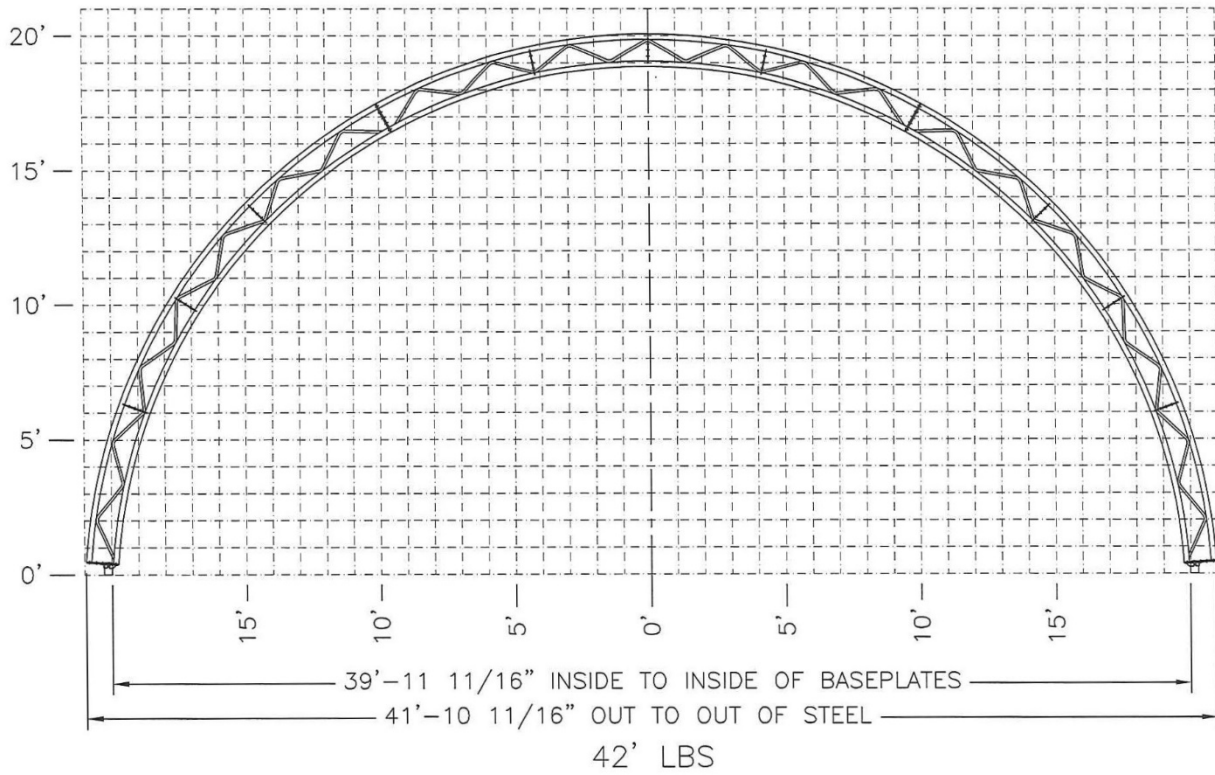
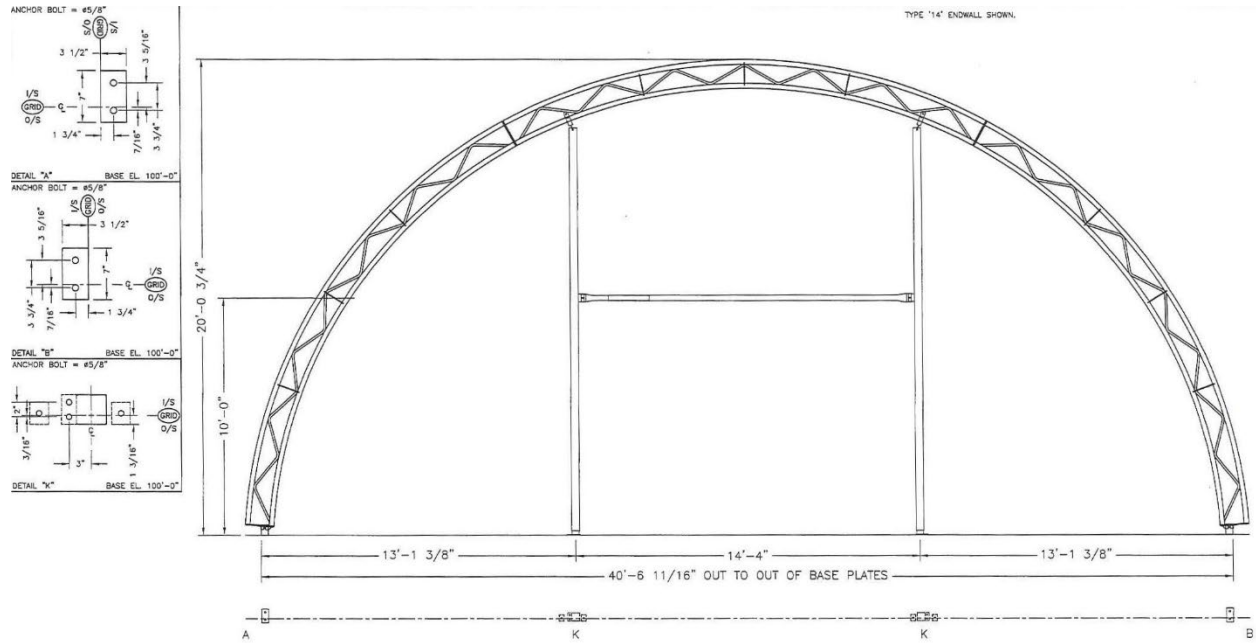


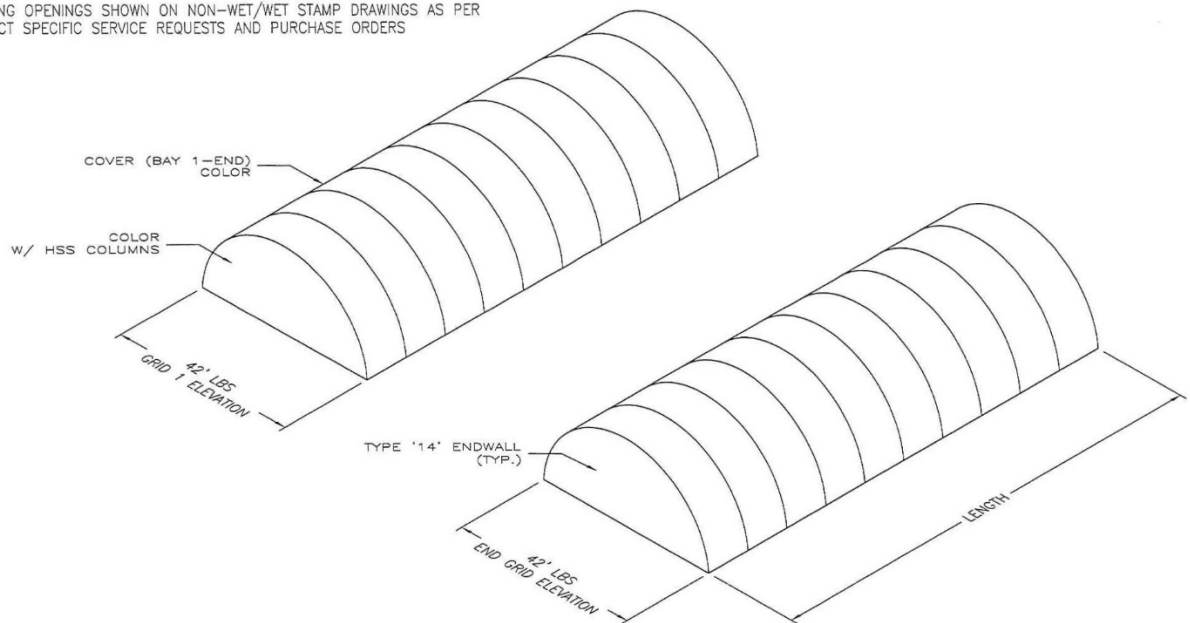
Exhibit 2: Shop Drawing & Site Photos

□ 1'x1' GRID

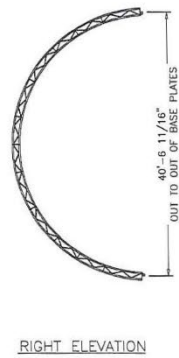
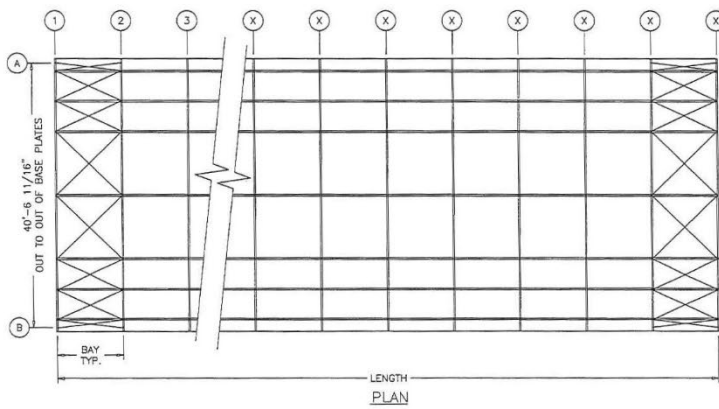
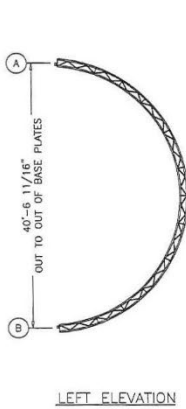
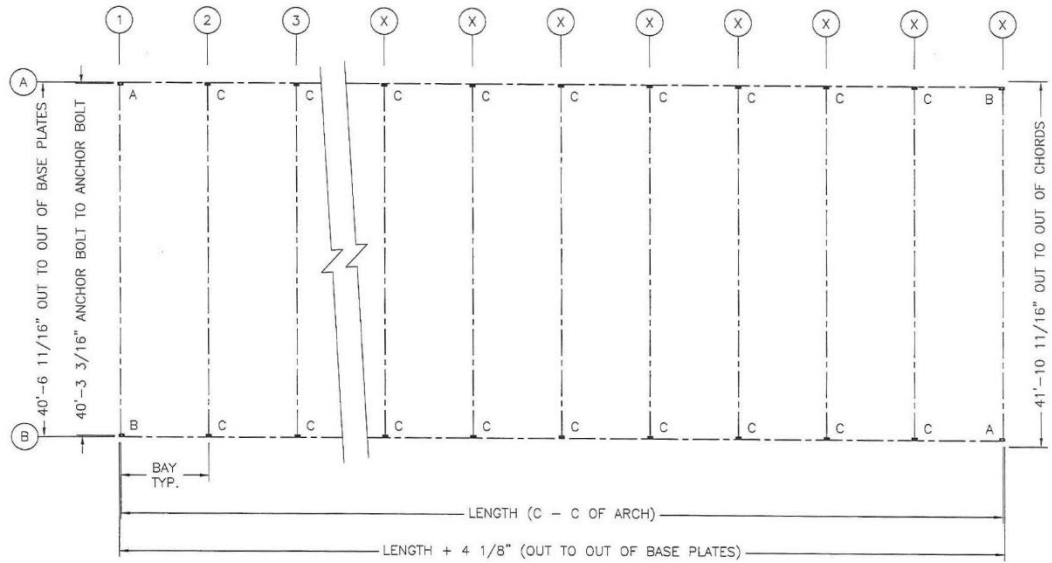
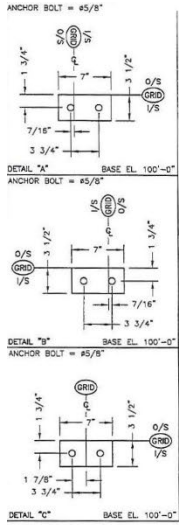




BUILDING OPENINGS SHOWN ON NON-WET/WET STAMP DRAWINGS AS PER PROJECT SPECIFIC SERVICE REQUESTS AND PURCHASE ORDERS



PLEASE REFER TO FOLLOWING DRAWINGS FOR EXACT BUILDING DIMENSIONS



NOTE: BRACING CONFIGURATION, PURLIN SIZE AND NUMBER OF BRACED BAYS TO BE DETERMINED BASED ON BAY SIZE AND BUILDING LENGTH.

