STATE OF RHODE ISLAND

Department of Environmental Management Division of Planning and Development 235 Promenade Street Providence, RI 02908

ADDENDUM NO. 1

RFQ 24004021 DEMOLITION AND REBUILD OF BATHHOUSES

Burlingame State Park and Campground Charlestown, Rhode Island

NOTICE TO PROSPECTIVE BIDDERS

Prospective bidders and all concerned are hereby notified of the following amendments and interpretations to RFQ 24004021 Demolition and Rebuild of Bathhouses, Burlingame State Park and Campground, Charlestown, Rhode Island. These amendments and interpretations shall be incorporated into and shall become an integral part of the Contract Documents.

• Are the cedar shingles being factory dipped with the Osmose-Pentox because it says it needs to be coated on all sides? Please clarify the painting spec.

Yes, the shingles are to be factory dipped.

- Is the exterior azak fascia, fiber cement panels, and cedar trim being field painted? Please provide an exterior painting spec.
 - The azak is not painted.
 - Fiber cement panels are to be colored in the shop.
 - Cedar trim to be field painted. Provide three-coat system consisting of primer, intermediate and topcoat. Benjamin Moore & Company or equal color to be determined by owner.
- Are the cedar planks on the ceiling coming prefinished? On the RCP it says prefinished, but it says painted on the room finish schedule.

Pre-finished.

• What is the proposed schedule for the work. Start Date? Completion date?

The project is scheduled to begin in the Fall of 2025 and take 18 months to complete. The work is to be done only while the campground is closed.

• Are we to close and start work at all 6 six sites all at one time, or will there need to be multiple mobilization doing X amount of sites at a time?

The Department expects the contractor to mobilize in such a way that work is only done during the shoulder seasons while the campground is closed. Mobilization is left to the discretion of the vendor.

• What is the MBE/WBE requirement for this job?

Pursuant to Rhode Island General Laws § 37-14.1 et al., Minority and Women Business Enterprises shall be included in all state funded and state directed public construction programs and projects and in state purchases of goods and services and shall be awarded a minimum of 10% of the dollar value of an entire procurement or project.

• Please forward a legible door schedule. ("Door schedules A-10a and Ab-10 are not useable, information is missing, we do not understand what is meant by dots everywhere, random dots in columns, dots following partial words, same for dashes. The rows and columns are not aligned with themselves or any information and make no sense. There is no way to determine anything and no way to even budget material let alone try to actual price anything on these sheets.")

See the revised schedule attached to this addendum.

• The door elevations are shown but have no elevation name / mark number....please revise material to show door elevations marks and indicate the corresponding door elevation within a useable door schedule.

See the revised schedule attached to this addendum.

- Please provide specifications for the sound insulation referenced in detail 4/M1.1 through M1.6. Please note that sound insulation will not be required for this project.
- Specification section 066115 references wireless charging units. The drawings do not indicate these units, are they a part of this contract? If yes, please provide details.

Please note that there are no wireless charging units required for this project.

• What hardware is required for doors D10, D12 and D13?

See the revised schedule attached to this addendum.

• The door schedule on drawing Ab-10a contains a door # D10, which is an 8' x 6' roll-up door. There is no door this size for the bathhouse, please advise.

See revised schedule. The door is located in the cloak room for the closet.

• The Finish schedule calls for stainless steel roll-up doors at supply closets 04 and 14, should these be prefinished cedar slats as detailed?

Yes, prefinished cedar slats.

- The specifications do not contain a section for Aluminum Windows, please provide.
 - Provided with this addendum.
- The specifications contain sections 086000, Aluminum Framed Skylights and section 086300, Metal Framed Skylights. Which section is to be used?

Aluminum.

Where is Section 23 04 00 Mechanical Insulation? Section 23 00 00 Pg. 1 & Section 23 10 00 mentions this section, but the spec goes from Section 23 03 00 to Section 23 04 400.

The missing specification Section 23 04 00 – MECHANICAL INSULATION has

been provided along with this addendum.

END OF ADDENDUM NO. 1

SECTION 08 5113 - ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes aluminum windows for exterior locations.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Burlingame State Park and Campground.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.
- C. Samples: For each exposed product and for each color specified.

1.4 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Sample warranties.

1.5 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace aluminum windows that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period:
 - a. Window: 5 years from date of Substantial Completion.
 - b. Glazing Units: Five years from date of Substantial Completion.
 - c. Aluminum Finish: Ten years from date of Substantial Completion.

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PART 2 - PRODUCTS

WINDOW PERFORMANCE REQUIREMENTS

- A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
 - 1. Window Certification: AAMA certified with label attached to each window.
- B. Performance Class and Grade: AAMA/WDMA/CSA 101/I.S.2/A440 as follows:
 - 1. Minimum Performance Class: FW-C-AW
 - 2. Minimum Performance Grade: 40
- C. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.30 Btu/sq. ft. x h x deg F (1.71 W/sq. m x K).
- D. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.40.
- E. Condensation-Resistance Factor (CRF): Provide aluminum windows tested for thermal performance according to AAMA 1503, showing a CRF of 45.
- F. Thermal Movements: Provide aluminum windows, including anchorage, that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change: 100 deg F ambient.
- G. Windborne-Debris Impact Resistance: Passes ASTM E1886 missile-impact and cyclic-pressure tests in accordance with ASTM E1996 for Wind Zone 2 (100 mph) for basic protection.
 - 1. Large-Missile Test: For glazing located within 30 feet (9.1m of grade).

2.2 ALUMINUM WINDOWS

- A. Types: Fixed aluminum framed windows with laminated safety glazing.
- B. Frames and Sashes: Aluminum extrusions complying with AAMA/WDMA/CSA 101/I.S.2/A440.
 - 1. Thermally Improved Construction: Fabricate frames, sashes, and muntins with an integral, concealed, low-conductance thermal barrier located between exterior materials and window members exposed on interior side in a manner that eliminates direct metal-to-metal contact.
 - 2. Glazing Kind: Clear laminated safety glazing

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- C. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.
- D. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.
 - 1. Exposed Fasteners: Do not use exposed fasteners to greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

2.3 ACCESSORIES

- A. Dividers (False Muntins): None
- B. Subsills: Nonthermal extruded-aluminum subsills in configurations indicated on Drawings.
- C. Column Covers: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.
- D. Interior Trim: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.
- E. Panning Trim: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.
- F. Receptor System: Two-piece, snap-together, thermally broken, extruded-aluminum receptor system that anchors windows in place.
- G. Aluminum Frames: Complying with SMA 1004 or SMA 1201.

2.4 FABRICATION

- A. Fabricate aluminum windows in sizes indicated. Include a complete system for assembling components and anchoring windows.
- B. Glaze aluminum windows in the factory.
- C. Weep Holes: Provide weep holes and internal passages to conduct infiltrating water to exterior.
- D. Mullions: Provide mullions and cover plates, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections. Provide mullions and cover plates capable of withstanding design wind loads of window units.
- E. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation.

ALUMINUM WINDOWS

2.5 ALUMINUM FINISHES

A. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: non-specular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E2112.
- B. Install windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.
- C. Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.
- D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
- E. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.
- F. Clean exposed surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
- G. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION 08 5113

SECTION 23 04 00 MECHANICAL INSULATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 01 and the following listed sections as a minimum, apply fully to work in this section.

Section 23 00 00 MECHANICAL GENERAL REQUIREMENTS

B. Refer to and coordinate all work with the work of the following listed sections:

Section 23 02 50	MECHANICAL: PIPE HANGERS AND SUPPORTS
Section 23 03 00	MECHANICAL: FIRE SAFING / FIRESTOPPING

Section 23 10 00 PLUMBING

1.02 SCOPE

A. Provide labor, equipment and materials to complete the work indicated on drawings and herein specified.

Work includes but is not limited to:

Hot Piping systems insulation

Cold Piping systems insulation

Condensation (anti sweat) insulation

1.03 RELATED WORK

A. Work in conjunction with this section shall be as designated below:

General Contractor:

Cutting, Patching, and Painting

Flashing

Openings in walls

Equipment foundations and supports

All temporary heating

1.04 PROJECT ADMINISTRATION

- A. Transmit questions, submissions, notices, and correspondence through the general contractor for transmittal to the Architect.
- B. Prepare and transmit to the Architect all submittal requirements within the time period allowed. See Schedule of Submissions.

1.05 SUBMITTALS

- A. See SUBMITTAL GENERAL REQUIREMENTS within Section 23 00 00.
- B. The following shop drawings shall be prepared and submitted for approval within the time period stated (see SCHEDULE OF SUBMISSIONS in Section 23 00 00): (The list below is not intended to be all-inclusive. Provide submittals for all materials and equipment proposed for use on this project.)

Piping Insulation, All Systems

Vapor Barrier Materials

General Materials:

A complete list of materials, including manufacturer's descriptive technical literature, performance data, catalog cuts, and installation instructions. The product number, k-value, thickness and furnished accessories for each mechanical system requiring insulation shall be included. Materials furnished under this section of the specification shall be submitted at one time.

C. Provide a schedule for each system including the following:

Material

Thickness

"k" value

Density

Finish

Jacket

D. Samples:

Thermal Insulation Materials: After approval of materials, actual sections of installed systems, properly insulated in accordance with the specification requirements, shall be displayed. Such actual sections must remain accessible to inspection throughout the job and will be reviewed from time to time for controlling the quality of the work throughout the construction site. Each material used shall be identified, by indicating on an attached sheet the specification requirement for the material and the material by each manufacturer intended to meet the requirement. The Owner will inspect display sample sections at the jobsite. Approved display sample sections shall remain on display at the jobsite during the construction period. Upon completion of construction, the display sample sections will be closed and sealed.

1.06 SYSTEM DESCRIPTION

A. Field-applied insulation and accessories on mechanical systems shall be as specified herein; factory-applied insulation is specified under the piping, duct or equipment to be insulated.

B. Insulation Systems are as follows:

Anti Sweat AS

Heat Conservation: HC

Cold Conservation: CC

Energy Conservation EC

Personal Protection: PP

C. Piping Systems – Insulation systems are as follows:

Domestic cold water AS/CC

Domestic hot water HC

1.07 REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. At the discretion of the Owner, the manufacturer of any material supplied will be required to furnish test reports pertaining to any of the tests necessary to assure compliance with the standard or standards referenced in this specification.

American Society for Testing And Materials (ASTM)

ASTM C 1136 (1995) Flexible, Low Permeance Vapor Retarders for Thermal Insulation

ASTM C 195 (1995) Mineral Fiber Thermal Insulating Cement

ASTM C 449/C 449M (2000) Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement

ASTM C 534 (2001a) Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form

ASTM C 553 (2000) Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications

ASTM C 647 (1995; R 2000) Properties and Tests of Mastics and Coating Finishes for Thermal Insulation

ASTM C 916 (1985; R 1996el) Adhesives for Duct Thermal Insulation

ASTM C 920 (2002) Elastomeric Joint Sealants

ASTM C 921 (1989; R 1996) Determining the Properties of Jacketing Materials for Thermal Insulation

ASTM D 882 (1997) Tensile Properties of Thin Plastic Sheeting

ASTM E 84 (2001) Surface Burning Characteristics of Building Materials

ASTM E 96 (2000e1) Water Vapor Transmission of Materials

1.08 GENERAL QUALITY CONTROL

A. Standard Products:

Materials shall be the standard products of manufacturers regularly engaged in the manufacture of such products and shall essentially duplicate items that have been in satisfactory use for at least 2 years prior to bid opening.

B. Installer's Qualifications:

Qualified installers shall have successfully completed three or more similar type jobs within the last 5 years.

C. Surface-Burning Characteristics:

Unless otherwise specified, insulation not covered with a jacket shall have a flame spread index no higher than 75 and a smoke developed index no higher than 150. Insulation systems which are located in air plenums, in ceiling spaces, and in attic spaces shall have a flame spread index no higher than 25 and a smoke developed index no higher than 50. Insulation materials located exterior to the building perimeter are not required to be fire-rated. Flame spread, and smoke developed indexes, shall be determined by ASTM E 84. Insulation shall be tested in the same density and installed thickness as the material to be used in the actual construction. Material supplied by a manufacturer with a jacket shall be tested as a composite material. Jackets, facings, and adhesives shall have a flame spread index no higher than 25 and a smoke developed index no higher than 50 when tested in accordance with ASTM E 84.

D. Identification of Materials:

Packages or standard containers of insulation, jacket material, cements, adhesives, and coatings delivered for use, and samples required for approval shall have manufacturer's stamp or label attached giving the name of the manufacturer and brand, and a description of the material.

1.09 STORAGE

A. Materials shall be delivered in the manufacturer's unopened containers. Materials delivered and placed in storage shall be provided with protection from weather, humidity, dirt, dust and other contaminants. The Owner may reject insulation material and supplies that become dirty, dusty, wet, or contaminated by some other means.

PART 2 - PRODUCTS GENERAL

2.01 GENERAL MATERIALS

A. Materials shall be compatible and shall not contribute to corrosion, soften, or otherwise attack surfaces to which applied in either the wet or dry state. Materials to be used on stainless steel

surfaces shall meet ASTM C 795 requirements. Materials shall be asbestos free and conform to the following:

B. Acoustical Lining Insulation Adhesive

Adhesive shall be a nonflammable, fire-resistant adhesive conforming to ASTM C 916, Type I.

C. Mineral Fiber Insulation Cement

Cement shall be in accordance with ASTM C 195.

D. Lagging Adhesive

Lagging is the material used for thermal insulation, especially around a cylindrical object. This may include the insulation as well as the cloth/material covering the insulation. Lagging adhesives shall be nonflammable and fire-resistant and shall have a flame spread rating no higher than 25 and a smoke developed rating no higher than 50 when tested in accordance with ASTM E 84. Adhesive shall be pigmented white and be suitable for bonding fibrous glass cloth to faced and unfaced fibrous glass insulation board; for bonding cotton brattice cloth to faced and unfaced fibrous glass insulation board; for sealing edges of and bonding fibrous glass tape to joints of fibrous glass board; for bonding lagging cloth to thermal insulation; or for attaching fibrous glass insulation to metal surfaces. Lagging adhesives shall be applied in strict accordance with the manufacturer's recommendations.

E. Contact Adhesive

Adhesives may be dispersed in a volatile organic solvent. Adhesives may be any of, but not limited to, the neoprane based, rubber based, or elastomeric type that have a flame spread index no higher than 25 and a smoke developed index no higher than 50 when tested in the dry state in accordance with ASTM E 84. The adhesive shall not adversely affect, initially or in service, the insulation to which it is applied, nor shall it cause any corrosive effect on metal to which it is applied. Any solvent dispersing medium or volatile component of the adhesive shall have no objectionable odor and shall not contain any benzene or carbon tetrachloride. The dried adhesive shall not emit nauseous, irritating, or toxic volatile matters or aerosols when the adhesive is heated to any temperature up to 212 degrees F. The dried adhesive shall be nonflammable and fire resistant. Natural cross-ventilation, local (mechanical) pickup, and/or general area (mechanical) ventilation shall be used to prevent an accumulation of solvent vapors, keeping in mind the ventilation pattern must remove any heavier-than-air solvent vapors from lower levels of the workspaces. Gloves and spectacle-type safety glasses are recommended in accordance with safe installation practices.

F. Caulking

ASTM C 920, Type S, Grade NS, Class 25, Use A.

G. Corner Angles

Nominal 0.016 inch aluminum 1 x 1 inch with factory applied kraft backing. Aluminum shall be ASTM B 209, Alloy 3003, 3105, or 5005.

H. Finishing Cement

ASTM C 449/C 449M: Mineral fiber hydraulic-setting thermal insulating and finishing cement. All cements that may come in contact with Austenitic stainless steel must include testing per ASTM C 795.

I. Fibrous Glass Cloth and Glass Tape

Fibrous glass cloth and glass tape shall have flame spread and smoke developed ratings of no greater than 25/50 when measured in accordance with ASTM E 84. Tape shall be 4 inch wide rolls.

J. Staples

Outward clinching type ASTM A 167, Type 304 or 316 stainless steel. Monel is a nickel rich alloy that has high strength, high ductility, and excellent resistance to corrosion.

K. Jackets

ASTM C 921, Type I, maximum moisture vapor transmission 0.02 perms, (measured before factory application or installation), minimum puncture resistance 50 Beach units on all surfaces where a minimum puncture resistance of 25 Beach units is acceptable. Minimum tensile strength, 35 pounds/inch width. ASTM C 921, Type II, minimum puncture resistance 25 Beach units, tensile strength minimum 20 pounds/inch width. Jackets used on insulation exposed in finished areas shall have white finish suitable for painting without sizing. Based on the application, insulation materials that require factory applied jackets are mineral fiber, cellular glass, and phenolic foam. All non-metallic jackets shall have a maximum flame spread index of 25 and a maximum smoke developed index of 50 when tested in accordance with ASTM E 84.

L. White Vapor Retarder All Service Jacket (ASJ)

For use on hot/cold pipes, ducts, or equipment vapor retarder jackets used on insulation exposed in finished areas shall have white finish suitable for painting without sizing.

M. Aluminum Jackets

Aluminum jackets shall be corrugated, embossed or smooth sheet, 0.016 inch nominal thickness; ASTM B 209, Temper H14, Temper H16, Alloy 3003, 5005, or 3105 with factory applied moisture retarder. Corrugated aluminum jacket shall not be used outdoors. aluminum jacket securing bands shall be Type 304 stainless steel, 0.015 inch thick, 1/2 inch wide for pipe under 12 inch diameter and 3/4 inch wide for pipe over 12 inch and larger diameter. Aluminum jacket circumferential seam bands shall be 2×0.016 inch aluminum matching jacket material. Bands for insulation below ground shall be $3/4 \times 0.020$ inch) thick stainless steel, or fiberglass reinforced tape. The jacket may, at the option of the Contractor, be provided with a factory fabricated Pittsburgh or "Z" type longitudinal joint. When the "Z" joint is used, the bands at the circumferential joints shall be designed by the manufacturer to seal the joints and hold the jacket in place.

N. Polyvinyl Chloride (PVC) Jackets

Polyvinyl chloride (PVC) jacket and fitting covers shall have high impact strength, UV resistantrating or treatment and moderate chemical resistance with minimum thickness 0.030 inch.

O. Vapor Retarder Mastic Coatings

The vapor retarder coating shall be fire and water resistant and appropriately selected for either outdoor or indoor service. Color shall be white. The water vapor permeance of the compound shall be determined according to procedure B of ASTM E 96 utilizing apparatus described in ASTM E 96. The coating shall be a nonflammable, fire resistant type. All other application and service properties shall be in accordance with ASTM C 647.

P. Laminated Film Vapor Retarder

ASTM C 1136, Type I, maximum moisture vapor transmission 0.02 perms, minimum puncture resistance 50 Beach units on all surfaces except concealed ductwork, where Type II, maximum moisture vapor transmission 0.02 perms, a minimum puncture resistance of 25 Beach units is acceptable.

Q. Polyvinylidene Chloride (PVDC) Film Vapor Retarder

The PVDC film vapor retarder shall have a maximum moisture vapor transmission of 0.02 perms, minimum puncture resistance of 150 Beach units, a minimum tensile strength in any direction of 30 lb/inch when tested per ASTM D 882, and a maximum flame spread/smoke developed index of 25/50 per ASTM E 84.

R. Polyvinylidene Chloride Vapor Retarder Adhesive Tape

Requirements must meet the same as specified for PVDC Film Vapor Retarder in paragraph above.

S. Non-Vapor Retarder Mastic Coatings

ASTM C 1136, Type III, maximum moisture vapor transmission 0.10 perms, minimum puncture resistance 50 Beach units on all surfaces except ductwork, where Type IV, maximum moisture vapor transmission 0.10, a minimum puncture resistance of 25 Beach units is acceptable.

T. Wire

Soft annealed ASTM A 580/A 580M Type 302, 304 or 316 stainless steel, 16 or 18 gauge.

U. Sealants

Sealants shall be chosen from the butyl polymer type, the styrene-butadiene rubber type, or the butyl type of sealants. Sealants shall have a maximum moisture vapor transmission of 0.02 perms, and a maximum flame spread/smoke developed index of 25/50 per ASTM E 84.

PART 3 - INSULATION SYSTEMS: PIPING

- 3.01 INSULATION: GENERAL
 - A. Install insulation in a neat and workmanlike manner, observing the best practices of the trade. Longitudinal seams shall be flat and face structure away from view. Insulation shall be smooth throughout. No raw ends of insulation will be permitted; cover raw ends with caps.
- 3.02 INSULATION SYSTEM: DOMESTIC WATER PIPING
 - A. Scope / Insulation System:

Domestic Cold Water CC / AS

Domestic Hot Water HC

Domestic Hot Water Recirculating HC

B. Materials: Provide one piece insulation of long, fine flame attenuated glass fibers, covered with factory applied all purpose jacket of white kraft bonded to aluminum foil and reinforced with fiberglass yarn.

Flame spread: 25

Smoke developed: 50

Conductivity: .24 at 100 degree F (mean)

- C. Fittings and valves shall be covered with similar material, of same thickness, as pipe covering with vapor seal and PVC premolded plastic jacket.
- D. Workmanship: Apply pipe insulation over clean, dry surfaces, with adjoining sections firmly together. Insulate flanges, valves and fittings with mitered segments of pipe insulation of equal thickness. Fittings on 2" and smaller pipe may be insulated with insulating cement of equal thickness. Insulation and vapor barrier shall pass uninterrupted through all hangers, supports and pipe sleeves.
- E. Insulation Thickness Schedule

Pipe Size:	1/2" thru 1-1/2"	2" thru 3"	4" and larger
Pipe Use:			
Hot Water, Recirc.	1"	1"	2"
Cold Water	1/2"	1"	1 ½"

Scope: All domestic water system piping. Premolded PVC coverings on exposed piping only.

F. PVC Fitting Covers

Provide PVC premolded, one piece, high impact covers with fiberglass inserts and accessories for elbows tees, valves, caps, couplings, specialties, etc.

Surface burning characteristics 25 Flame

50 Smoke

UL Listed 94V-0

Insert thermal conductivity .26K @ 75°F

Installation: Fiberglass insert shall be wrapped completely around the fitting or snugly positioned inside the PVC Cover for proper fit. The Cover shall be applied over the fitting and insert, and the throat secured by tack fastening, taping, sealing with a solvent type PVC adhesive, or banding.

Cold Pipe: Fitting systems below ambient temperature shall be with a continuous vapor barrier, with PVC Tape, PVC Adhesive, or a vapor barrier mastic as specified by the engineer. When using PVC Tape, use a 2" minimum downward overlap. Care should be taken not to stretch the last 2" of PVC Tape, to avoid stretching or creeping.

Scope: Provide premolded PVC coverings on exposed piping only.

G. PVC Insulation Jacket

All piping exposed to view within occupied spaces shall be fit with insulation faced with a white, PVC exterior jacket. Piping insulation within mechanical spaces does not require PVC jacketing.

The jacketing shall be installed such that it extends into all wall sleeves, out of view, past escutcheons. All seams shall be continuously cemented and arranged such that they are out of view. Jacketing for pipe insulation shall be Zeston 2000 PVC jacketing, 20 mils thick, white to match fitting covers. Jacket shall be ASTM E84 rated 25/50. Manufacturer shall provide Zeston Perma-Weld solvent welding adhesive to seal PVC lap joints.

PART 4 - EXECUTION

4.01 GENERAL:

A. Installation:

Insulation shall only be applied to non-operating, unheated and uncooled piping and equipment. Flexible elastomeric cellular insulation shall not be compressed at joists, studs, columns, ducts, hangers, etc. The insulation shall not pull apart after a one hour period; any insulation found to pull apart after one hour, shall be replaced.

Except as otherwise specified, material shall be installed in accordance with the manufacturer's written instructions. Insulation materials shall not be applied until tests specified in other sections of this specification are completed. Material such as rust, scale, dirt and moisture shall be removed from surfaces to receive insulation. Insulation shall be kept clean and dry. Insulation shall not be removed from its shipping containers until the day it is ready to use and shall be returned to like containers or equally protected from dirt and moisture at the end of each workday. Insulation that becomes dirty shall be thoroughly cleaned prior to use. If insulation becomes wet or if cleaning does not restore the surfaces to like new condition, the insulation will be rejected, and shall be immediately removed from the job site. Joints shall be staggered on multi layer insulation. Mineral fiber thermal insulating cement shall be mixed with demineralized water when used on stainless steel surfaces. Insulation, jacketing and accessories shall be installed in accordance with MICA Insulation Stds plates except where modified herein or on the drawings.

B. Fire-Stopping:

Where pipes and ducts pass through firewalls, fire partitions, above grade floors, and fire rated chase walls, the penetration shall be sealed with fire stopping materials.

C. Painting and Finishing:

Painting shall be as directed by the Owner or to match existing requirements.

D. Installation of Flexible Elastomeric Cellular Insulation

Flexible elastomeric cellular insulation shall be installed with seams and joints sealed with rubberized contact adhesive. Insulation with pre-applied adhesive is not permitted. Flexible elastomeric cellular insulation shall not be used on surfaces greater than 200 degrees F. Seams shall be staggered when applying multiple layers of insulation. Insulation exposed to weather and not shown to have jacketing shall be protected with two coats of UV resistant finish as recommended by the manufacturer after the adhesive is dry. A brush coating of adhesive shall be applied to both butt ends to be joined and to both slit surfaces to be sealed. The adhesive shall be allowed to set until dry

to touch but tacky under slight pressure before joining the surfaces. Insulation seals at seams and joints shall not be capable of being pulled apart one hour after application. Insulation that can be pulled apart one hour after installation shall be replaced.

E. Pipes which require Insulation:

Insulation is required on all pipes, ducts, or equipment, unless specifically noted otherwise.

4.02 PIPE INSULATION INSTALLATION

A. General:

Pipe insulation shall be installed on aboveground hot and cold pipeline systems as specified below to form a continuous thermal retarder, including straight runs, fittings and appurtenances unless specified otherwise. Installation shall be with full-length units of insulation and using a single cut piece to complete a run. Cut pieces or scraps abutting each other shall not be used.

B. Pipe insulation shall be omitted on the following:

Pipe used solely for fire protection.

Chromium plated pipe to plumbing fixtures. However, fixtures for use by the physically handicapped shall have the hot water supply and drain, including the trap, insulated where exposed.

Sanitary drain lines.

Air chambers.

Pipes Passing Through Walls, Roofs, and Floors

Pipe insulation shall be continuous through the sleeve.

An aluminum jacket with factory applied moisture retarder shall be provided over the insulation wherever penetrations require sealing.

Where pipes penetrate interior walls, the aluminum jacket shall extend 2 inches beyond either side of the wall and shall be secured on each end with a band.

Where penetrating floors, the aluminum jacket shall extend from a point below the backup material to a point 10 inches above the floor with one band at the floor and one not more than 1 inch from the end of the aluminum jacket.

Where penetrating waterproofed floors, the aluminum jacket shall extend from below the backup material to a point 2 inches above the flashing with a band 1 inch from the end of the aluminum jacket.

Where penetrating exterior walls, the aluminum jacket required for pipe exposed to weather shall continue through the sleeve to a point 2 inches beyond the interior surface of the wall.

Where penetrating roofs, pipe shall be insulated as required for interior service to a point flush with the top of the flashing and sealed with vapor retarder coating. The insulation for exterior application shall butt tightly to the top of flashing and interior insulation. The exterior aluminum jacket shall extend 2 inches down beyond the end of the insulation to form a counter flashing. The flashing and counter flashing shall be sealed underneath with caulking.

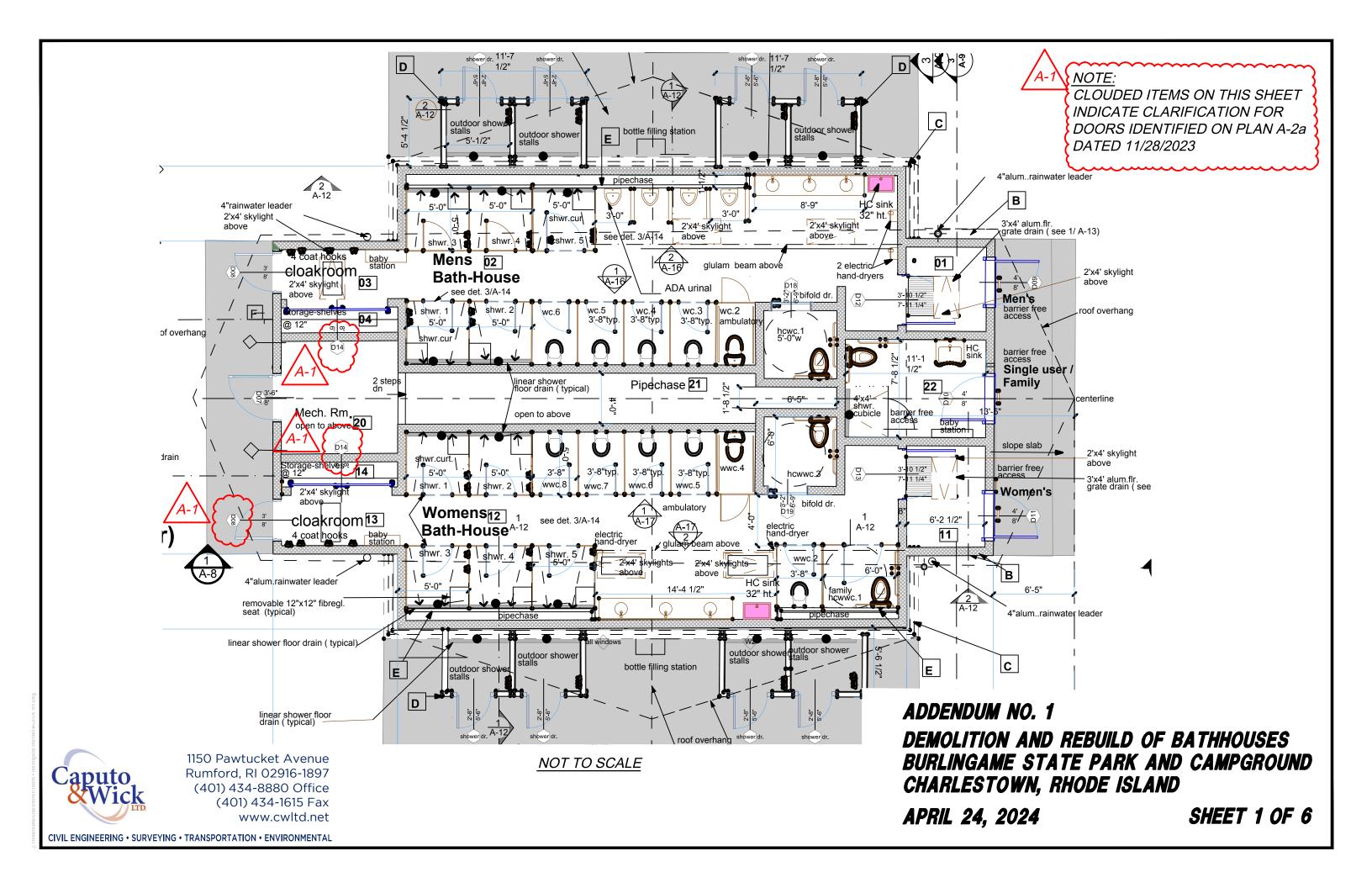
C. Pipes Passing Through Hangers:

Insulation, whether hot or cold application, shall be continuous through hangers. All horizontal pipes 2 inches and smaller shall be supported on hangers with the addition of a Type 40 protection shield to protect the insulation in accordance with MSS SP-69. Whenever insulation shows signs of being compressed, or when the insulation or jacket shows visible signs of distortion at or near the support shield, insulation inserts as specified below for piping larger than 2 inches shall be installed.

Horizontal pipes larger than 2 inches at 60 degrees F and above shall be supported on hangers in accordance with MSS SP-69.

Horizontal pipes larger than 2 inches and below 60 degrees F shall be supported on hangers with the addition of a Type 40 protection shield in accordance with MSS SP-69. An insulation insert of cellular glass, calcium silicate (or perlite above 80 F) or the necessary strength polyisocyanurate, shall be installed above each shield. The insert shall cover not less than the bottom 180-degree arc of the pipe. Inserts shall be the same thickness as the insulation, and shall extend 2 inches on each end beyond the protection shield. When insulation inserts are required per the above, and the insulation thickness is less than 1 inch, wooden or cork dowels or blocks may be installed between the pipe and the shield to prevent the weight of the pipe from crushing the insulation, as an option to installing insulation inserts. The insulation jacket shall be continuous over the wooden dowel, wooden block, or insulation insert.

END OF SECTION 23 04 00





THE SCHEDULE FOR DOOR
TYPES ON THIS SHEET INDICATE
CLARIFICATION FOR DOORS
TYPES ON PLAN A-10a DATED
9/2/2023



DOOR TYPES									
TYPE	STYLE 1 STYLE 3		ROLLING DOOR	STYLE 2	OUTDOOR SHOWER DOOR	Style 11			
VIEW				metal kickplate	fibregl sl. stl pivots	frosted laminated safety glass maintenance lockset kickplate			
DIMS	3'-10 1/2"x7'-11 1/4"	3'-6"x7'-9"	7'-11 1/4"x6'	3'x8'	2'-8"x5'-6"	3'-6"x8'			
NOTES	D-12, D-13	D-09, D-10, D-11	D-14 (cedar slats in alum. frame)	D-08	Shower dr.	D-07			

NOT TO SCALE



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CHARLESTOWN, RHODE ISLAND

APRIL 24, 2024

SHEET 2 OF 6

A-1 <u>NOTE:</u>

THE DOOR SCHEDULE ON THIS
SHEET INDICATE CLARIFICATION
FOR THE SCHEDULE ON PLAN
A-10a DATED 9/2/2023



				DO	OR SCH	EDULE				
Name (A	ttributes)	D07	D08	D09	D10	D11	D1.2	D13	D14	Shower dr.
	TYPE	Style 11	Style 2	Style 3	Style 3	Style 3	Style 1	Style 1	Rolling Door	Outdoor Shower
	W	3'-6"	3'-0"	4'-0"	4'-0"	4'-0"	3'-10 1/2"	3'-10 1/2"	7'-11 1/4"	2'-8"
DOOR	HT	8'-0"	8'-0"	8'-0"	8'-0"	8'-0"	7'-11 1/4"	7'-11 1/4"	6'-0"	5'-6"
DOOK	THK	0'-1 3/4"	0'-1 3/4"	0'-1 3/4"	0'-1 3/4"	0'-1 3/4"	0'-1 3/4"	0'-1 3/4"	0'-1 1/2"	0'-1 3/4"
	MATL	НМ	НМ	НМ	НМ	НМ	НМ	НМ		
	GLZ	Laminate Safety								
FRAME	W	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	0'-2"	0'-5"
FRAIVIE	THK	10"	10"	10"	10"	10"	10"	10"	0'-4"	0'-4"
	finish	Plastic Laminate	Plastic Laminate	Plastic Laminate	Plastic Laminate	Plastic Laminate	Plastic Laminate	Plastic Laminate	Painted	painted
DETAILS										
	SILL	ADA Threshold	ADA Threshold	ADA Threshold	ADA Threshold	ADA Threshold	ADA Threshold	ADA Threshold		
HDW	SET	Lockset	Panic Hardware & Self Closer	Panic Hardware & Self Closer	Lever Hardware & Self Closer	Panic Hardware & Self Closer	Panic Hardware & Self Closer	Panic Hardware & Self Closer	Lockset	Lever Hardware & Self Closer
NO [*]	TES	Service door	Lockset for Seasonal Closure	Lockset for Seasonal Closure	Lockset for Seasonal Closure	Lockset for Seasonal Closure			Cedar Slats See Specifications	



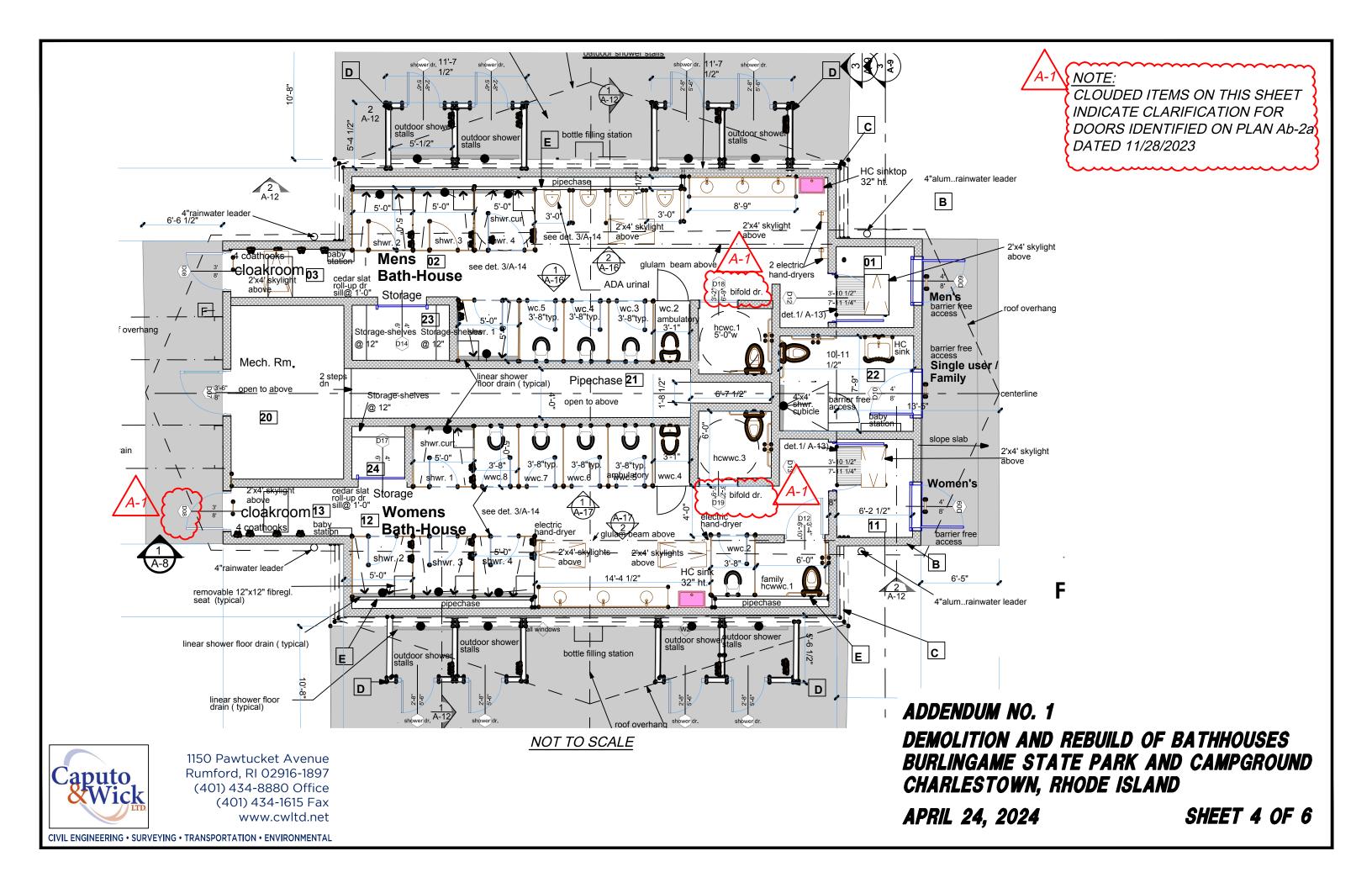
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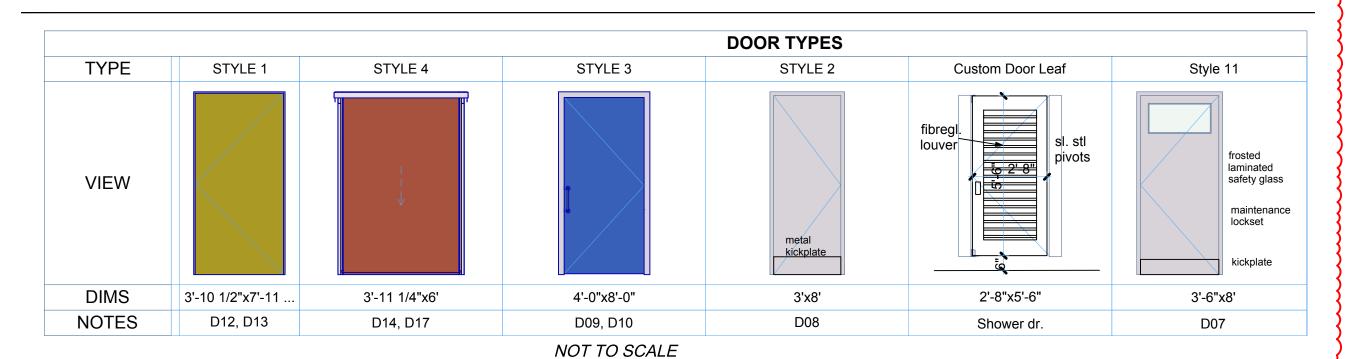
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A-1\NOTE:

THE SCHEDULE FOR DOOR
TYPES ON THIS SHEET INDICATE
CLARIFICATION FOR DOOR
TYPES ON PLAN Ab-10a DATED
9/2/2023







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SHEET 5 OF 6



NOTE:

THE DOOR SCHEDULE ON THIS SHEET INDICATES CLARIFICATION FOR THE SCHEDULE ON PLAN Ab-10a DATED 9/2/2023



DOOR SCHEDULE									
Name (A	ttributes)	D07	D08	D09	D10	D1.2	D13	D14 & D17	Shower dr.
	TYPE	Style 11	Style 2	Style 3	Style 3	Style 1	Style 1	Style 4	Outdoor Shower
	W	3'-6"	3'-0"	4'-0"	4'-0"	3'-10 1/2"	3'-10 1/2"	4'-0"	2'-8"
DOOR	HT	8'-0"	8'-0"	8'-0"	8'-0"	7'-11 1/4"	7'-11 1/4"	6'-0"	5'-6"
DOOK	THK	0'-1 3/4"	0'-1 3/4"	0'-1 3/4"	0'-1 3/4"	0'-1 3/4"	0'-1 3/4"	0'-1 1/2"	0'-1 3/4"
	MATL	НМ	НМ	НМ	НМ	НМ	НМ		
	GLZ	Laminate Safety							
FRAME	W	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	0'-2"	0'-5"
FRAIVIE	THK	10"	10"	10"	10"	10"	10"	0'-4"	0'-4"
	finish	Plastic Laminate	Plastic Laminate	Plastic Laminate	Plastic Laminate	Plastic Laminate	Plastic Laminate	Painted	Painted
DETAILS									
	SILL	ADA Threshold	ADA Threshold	ADA Threshold	ADA Threshold	ADA Threshold	ADA Threshold		
HDW SET		Lockset	Panic Hardware & Self Closer	Panic Hardware & Self Closer	Lever Hardware & Self Closer	Panic Hardware & Self Closer	Panic Hardware & Self Closer	Lockset	Lever Hardware & Self Closer
NOTES		Service door	Lockset for Seasonal Closure	Lockset for Seasonal Closure	Lockset for Seasonal Closure			Cedar Slats See specification	



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