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INLAND FISHERIES AND WILDLIFE NATURE PARK - ADDENDUM #1

date:	May 13, 2024	
project:	Inland Fisheries and Wildlife Store and Admin Office Project # 3096	
prepared by:	Ryan Kanteres	Simons Architects
	Adam Wiles-Rosell	Simons Architects
	Mikayla Molta	Simons Architects
to:	Plan holders	
	Richard Parker	Inland Fisheries + Wildlife
	Emily Maccabe	Inland Fisheries + Wildlife
cc:	Adam Wiles-Rosell	Simons Architects
	Mikayla Molta	Simons Architects
	Annavitte Rand	Thornton Tomasetti
	Chris Williams	Thornton Tomasetti
	Will Bennett	Bennett Engineering
	Manoli Gammaitoni	Bennett Engineering

Subject:

Addendum #1 to Bid Documents of April 23, 2024

ADDENDUM #1

This addendum revises the Drawings and/or Specifications as described below and becomes a part of the Contract Documents. The contractor will be held to do all work required for the full completion of the work described, including all work incidental thereto or necessary to complete the work properly, even though not specifically mentioned.
The original General Conditions shall govern all work unless specifically exempted or modified herein.

This Addendum consists of the following:	**Addendum #1**	**7 page**
	Specification Revisions	**53 pages**
	Drawings Revisions	**39 pages**
		99 total pages

QUESTIONS

1-Q1	Question 1	Q:	Has this project passed ComCheck, so that each assembly does not need to meet the Prescriptive Energy Code?
		A:	Not yet but we will be engaging the project with the ComCheck process.
1-Q2	Question 2	Q:	Will this project be permitted before the proposed changes to the Energy Code anticipated for July 1st?
		A:	Yes, before July 1st.
1-Q3	Question 3	Q:	Is CertainTeed MemBrain an acceptable substitute for the Intello Plus smart vapor retarder listed in the Specifications?
		A:	Please bid the specification.
1-Q4	Question 4	Q:	Scissor Truss Roof - Type R1 Calls for Loose Blown Cellulose at the bottom chords of the Scissor Trusses. Loose Blown Cellulose is not recommended for use on pitches above 3/12. Per the same detail, the height at the heel of these trusses is 11-1/4". With the Vent Baffles required at the top of the cavity, this only leaves room for 10" of Loose Blown Cellulose at the heel. At R-3.2/inch for Loose-Blown Cellulose this only provides R-32 thermal protection at the roof edges. 17" at time of install is the full thickness required to achieve the R-53 specified for the Assembly Type. Due to the pitch, should this assembly be reconfigured to be Cross-Rolled Fiberglass Batts? 6" R-19 Between the bottom chords Cross-rolled with 12" R-38 for R-57 Total. This is still 8" more insulation thickness than the heel height will accommodate. Please advise.
		A:	Based on the specified product selection, an installed thickness between 15.20″ and 18.37″ will settle out to 13.63″ (R-49) and 16.53″ (R-60) respectively. On average, 15.14″ will be required to achieve the specified R-value. Per the project manual, provide the specified loose fill insulation at an R-value of R-3.5/inch. Install insulation netting between midspan vertical truss webs and attach every 2′ or per manuf. req. in order to minimize the settlement of cellulose.
1-Q5	Question 5	Q:	Standard Truss Roof – Type R2 Calls for Densepack Cellulose (R-3.8/inch) at the bottom chords of the Standard Trusses. Densepack Cellulose requires a closed cavity to contain and compact the product. Loose Blown Cellulose (R-3.2/inch) is the correct product choice for this assembly. 17" at time of install, is the full thickness required to achieve the R-53 specified for the Assembly Type. Per details 4 & 5/S202, the height at the heel of these trusses is 16-7/8". With the Vent Baffles requires at the top of the cavity, this only leaves space for 15-3/4" of Loose Blown Cellulose at the heel. This is close to the full 17" required at install and greater than the suggested thickness after settling. Please

confirm the Loose Blown Cellulose configuration as describec
the correct product choice for this assembly.

A: Loose blown cellulose is the correct configuration for this assembly. Per the project manual provide the specified loose blown insulation with an R-value of R-3.5/inch and the following settling characteristics: installed thickness between 15.20" and 18.37" will settle out to 13.63" (R-49) and 16.53" (R-60) respectively.

1-Q6 Question 6

Q: Low Slope Shed Roof – Type R4 Framed with 2 x 12" Rafters per Architectural and Structural details. Specified as insulated with Densepack Cellulose in the cavities. With the Vent Baffles required at the underside of the roof sheathing this leaves a 10" cavity depth, 10" of Densepack Cellulose yields R-38 thermal protection. This is short of the R-42.75 specified for this assembly. This is short of the prescriptive R-49 required for current code. Add Closed-Cell Foam to create a "Hybrid Assembly" and bolster the R-Value? 4" R-30 Closed-Cell Foam + 7-1/4" R-29 Densepack Cellulose would create a "Hybrid Assembly" that would provide R-59 thermal protection and would not require a vented cavity. Please advise the correct configuration for this assembly.

A: Please refer to the revised R4 assembly type, structural framing drawings, and associated details for clarification.

SPECIFICATIONS:

1-S1 Section 01 50 00 Temporary Facilities and Controls

2.1, Omit paragraph A. site enclosure fence provided by Owner.

2.2; Omit paragraph B. This is not required by Owner.

3.5; Omit paragraph F.

1-S2 Section 02 32 00 Existing Conditions

Include this section and associated Geotechnical Report

1-S3 Section 06 20 13 Exterior Finish Carpentry

3.6, b. 2a; Revise to read "Nail at 24 inches on center. Provide horizontal wood blocking where required for vertical wood siding."

1-S4 Section Section 08 71 00 Door Hardware

Part 2; Add the following new Article.

2.21 AUTOMATIC DOOR OPERATORS

A. Provide Horton Model S4100 LE Access Operator. No substitutions.

B. Provide actuating push plates, inside and outside.

1. Push Plate: 6" diameter (152 mm) round or 4 ½" (114 mm) square, stainless steel switch. Wall mounted. Optional engravings shall be:

a. International symbol for accessibility and "Press To Open".

C. Combination Motion/Presence Sensors: Where indicated, provide self-contained units; consisting of both motion and presence sensors in a single metal or plastic housing; adjustable to provide detection field sizes and functions required by BHMA A156.10.

1. Motion Sensor: K-band-frequency, microwave-scanner units; with relay hold time of not less than 2 to 10 seconds.

a. Provide capability for switching between bidirectional and unidirectional detection.

D. Coordinate requirements with electrical contractor.

3.7; Door Hardware Sets,

HW1; Omit door number 106A.

HW7; Change the door number to read "106B" and change the word "Closer" to read "Automatic door operator".

Add the following new hardware set.

"HW 10

Doors 106A

Exit Device (function A) (10B finish)

Automatic door operator

Power supply

Floor Stop (10B finish)

Threshold (10B finish)

Balance of hardware by aluminum door supplier."

1-S5 Section 09 65 19 Resilient Tile Flooring

2.2, B; Change "3 mm" to read "5 mm"

1-S6 Section 220000 Plumbing

Section 2.1F has been removed in its entirety as it is no longer relevant.

1-S7 Section 230000 HVAC

Section 2.7A (ERV-2,3) has been revised to reference the make/model scheduled or an approved equal. The equipment shall not be provided by the owner.

1-S8 Section 230000 HVAC

Section 2.8A (ERV-1) has been revised to reference the make/model scheduled or an approved equal. The equipment shall not be provided by the owner.

DRAWINGS:

1-D1	Sheet G001	Updated drawing list.
1-D2	Sheet G002	Additional typical mounting heights and clearances provided.
1-D3	Sheet G101	Coordinated smoke detector locations with MEP drawings.
1-D4	Sheet C101	Rain chain connection to stormwater management coordinated. Drip strip (NIC) coordinated with structural details.
1-D5	Sheet A000	**Adjusted sheathing size for wall assembly + roof types. Dimension clarification for sheathing and cedar breather. R4 2x8 rafters ILO 2x12 notched rafters. 2x6 insulation cavity provided. R3 to provide a furring layer.**
1-D6	Sheet A101	**Relocated ADA push paddle and door operator to vestibule 106 from vestibule 113, located fire extinguisher cabinets, clarified window tagging for Nature Store.**
1-D7	Sheet A102	**Coordinated roof assembly types with A000.**
1-D8	Sheet A121	**Added notes for Add Alternate #1 as noted on the cover page, G001 to the Finish**

		Schedule Notes column. Provided grout specifications for floor and wall tile. (intent with typical threshold details.
1-D9	Sheet A131	Updated to reflect smoke detector locations, provided nature store wood ceiling detail. Updated mechanical drawing backgrounds per engineers issued plans in addendum #1. Lowered ceiling height in room 117 to 8'-0".
1-D10	Sheet A140	Located recessed fire extinguisher cabinet.
1-D11	Sheet A142	Coordinated interior elevations with plumbing schedule to show floor-mounted water closet fixture. Elevation 15 + 16 updated to capture Data Closet venting needs. Millwork elevation updated, see millwork details.
1-D12	Sheet A201	Tagged previously drawn exterior lighting, coordinated hose bib locations, coordinated recessed key box, and called out trimmed out exterior headers/mechanical chase at the ticketing booths. Coordinated mechanical louver locations.
1-D13	Sheet A301	Coordinated foundation walls with Structural drawings. Coordinated mechanical louver locations.
1-D14	Sheet A311	Coordinated blocking annotation with structural sections, coordinated wall to slab anchor with structural sections, included PT bottom sill, typ. all locations. Adjusted WRB sealing termination to underside of sheathing in place of lapping over top of wall and sealing to interior AVB. Coordinated sloped horizontal rigid insulation and vapor retarder with structural foundation plan and sections.
1-D15	Sheet A312	Coordinated wall to slab anchor with structural sections, tagged exterior wall light fixture. Adjusted WRB sealing termination to underside of sheathing in place of lapping over top of wall and sealing to interior AVB. Coordinated sloped horizontal rigid insulation and vapor retarder with structural foundation plan and sections. Adjusted 1/A312 to no longer require unique ductwork soffit condition.
1-D16	Sheet A313	Adjusted WRB sealing termination to underside of sheathing in place of lapping over top of wall and sealing to interior AVB. Provide solid blocking between rafters. Coordinated sloped horizontal rigid insulation and vapor retarder with structural foundation plan and sections. 2x6 ceiling framing provided for continuous insulation cavity. MEP line sets and conduit coordinated with additional detail information.
1-D17	Sheet A401	Coordinated post locations and sizes with structural drawings. Included 2x material for drywall fastenings and included tear away beads at window intersections. Adjusted door trim due to global ¾" to ½" sheathing adjustment.
1-D18	Sheet A402	Coordinated post locations with structural drawings. Provided a finish dimension to the storefront corner post. Called for tear away drywall corners at drywall to storefront intersections, typ.
1-D19	Sheet A411	Clarification on typical drip edge sealing sequencing.. Adjusted WRB sealing

		termination to underside of sheathing in place of lapping over top of wall and interior AVB. Coordinated sloped horizontal rigid insulation and vapor retarder with structural foundation plan and sections
1-D20	Sheet A412	Adjusted WRB sealing termination to underside of sheathing in place of lapping over top of wall and sealing to interior AVB. 9/A412 dimensional clarification. Omitted ductwork chase above bottom truss bottom chord. See also, revised mechanical drawing.
1-D21	Sheet A420	Detail 3 sheathing coordinated with A000 wall assemblies to reflect sheathing sizes. Detail 3 and 4 adjusted to include flush base nosing + framing to boot storage detail. Coordinated data closet needs with D5, wood louver added to door panel.
1-D22	Sheet A600	Detail 1 + 2 has been coordinated with A000 wall assemblies to reflect stud wall and sheathing sizes. Door type D5 adjusted in elevation. Door schedule adjust to relocate ADA door operator.
1-D23	Sheet A601	Detail 2 sheathing coordinated with A000 wall assemblies to reflect sheathing sizes. Header adjusted to align with structural drawings
1-D24	Sheet A603	Wall sheathing has been coordinated to reflect A000 drawings. 3/A603 vapor barrier detail modified.
1-D25	Sheet S100	Roof truss design load adjusted. Wood framing work shall conform to the AWC.
1-D26	Sheet S101	Haunch slab dimensions adjusted. Rigid insulation frost protection dimensions adjusted.
1-D27	Sheet S102	Shed roof framing configuration revised. Vestibule corner post cap specified. See general notes for sheathing fastening requirements. 2/S201 blocking notes provided.
1-D28	Sheet S201	Rigid insulation frost protection sloped, typ. Blocking and hurricane tie notes provided. Rebar configuration adjusted at thickened slab.
1-D29	Sheet S202	5/S202 Truss dimension clarified. Rebar schedule and typical details provided.
1-D30	Sheet E101	Lighting schedule updated.
1-D31	Sheet E201	See revised mechanical room and tel/data closet layout. See notes on EC provided conduit runs vs. utility conduit runs provided by others. See plan for revised data receptacle locations and WAP locations. See ADA door push pad and operator revised location.
1-D32	Sheet E301	See revised data symbols within symbol legend.
1-D33	Sheet M101	See revised mechanical ductwork and RGD layout.
1-D34	Sheet M301	See revised RGD schedule.

End of Addendum #1

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Accessible Temporary Egress: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1.5 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

B. Frost Protection: Protect footings and slabs from freezing temperatures and prevent frost from occurring beneath footings and slabs. Frozen water found on soil or concrete surface shall be reason for rejection of protection method. Provide corrective measures within 24 hours after notice of condition is given. Evidence of frost at these locations shall be reason for rejection, removal, and replacement at no additional cost to the Owner.

C. Use of new heating or cooling systems, during the construction period, will not be allowed unless authorized in writing by the Owner. If use is allowed by Owner, the following conditions will apply:

1. Warranty for all equipment shall commence at date of Substantial Completion and not the start of temporary use.
2. Fuel and electrical for use of the equipment will be paid for by the Contractor.
3. At Substantial Completion, repair, renovate, and clean heating or cooling systems used during construction period. Comply with final cleaning requirements specified in Section 01 77 00 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 MATERIALS

PARAGRAPH A OMITTED

B. Lumber and Plywood: Comply with requirements in Division 06 Section "Rough Carpentry."

C. Gypsum Board: Minimum 1/2 inch thick by 48 inches wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36/C 36M.

D. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less in accordance with ASTM E84 and passing NFPA 701 Test Method 2.

E. Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats, minimum 36 by 60 inches.

F. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

2.2 TEMPORARY FACILITIES

A. Field Offices: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

PARAGRAPH B OMITTED

C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control. Heaters shall be located outside the building and combustion gases shall be vented outside the building. Maintain observation of units in operation.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating, Cooling, and Dehumidifying Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Section 01 10 00 "Summary."

C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings.

1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
4. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

PARAGRAPH F OMITTED

G. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.

H. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

I. Temporary Egress: Provide temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction. Provide signage directing occupants to temporary egress.
1.

SECTION 023200 - GEOTECHNICAL INVESTIGATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes geotechnical investigations.

B. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidders' own investigations. They are made available for Bidders' convenience and information. This Document and its attachments are not part of the Contract Documents.

C. Because subsurface conditions indicated by the soil borings are a sampling in relation to the entire construction area, and for other reasons, the Owner, the Architect, the Architect's consultants, and the firm reporting the subsurface conditions do not warranty the conditions below the depths of the borings or that the strata logged from the borings are necessarily typical of the entire site. Any party using the information described in the soil borings and geotechnical report shall accept full responsibility for its use.

D. A geotechnical investigation report for Project, prepared by S.W. Cole Engineering, dated January 17, 2024, is available for viewing as appended to this Document.

1. The opinions expressed in this report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by a geotechnical engineer. Owner is not responsible for interpretations or conclusions drawn from the data.
2. Any party using information described in the geotechnical report shall make additional test borings and conduct other exploratory operations that may be required to determine the character of subsurface materials that may be encountered.

1.2 DESCRIPTION

A. Subsurface explorations have been done at the location of the project and soils reports have been compiled for the purpose of guidance in the design of the project facilities. This work can include open excavation test pits, observation wells and soil borings.

B. The logs are not intended to indicate subsurface conditions except at the locations of the exploration (at the time explorations were made) and any interpretation the Contractor may make is his responsibility.

C. The subsurface investigations of the site were made in conjunction with design of the facility to be constructed under this Contract. Portions of this investigation are presented in reports which are a part of the Contract Documents. The reports present the opinion of the Geotechnical Engineer and shall not be interpreted to prescribe or dictate construction procedures or relieve the Contractor in any way of his responsibility for the construction. The explorations are shown on the drawings and the logs are included in Appendix C.

D. The water levels shown on the log at the exploration locations are based on observations made by the Field personnel at the same time the explorations were made and may or may not represent the groundwater surface in the immediate vicinity of the explorations. They are presented only as an observation of the free-standing water surface in the exploration on the date noted.

E. The refusal depths shown at the exploration locations indicate only, that in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impractical by the procedures and equipment being used. Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man- made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 023200

REPORT

23-1997 S

January 17, 2024

Explorations and Geotechnical Engineering Services

Proposed Maine Wildlife Park
Improvements
Game Farm Road
Gray, Maine

Prepared For:
Simons Architects
Attention: Adam Wiles-Rosell
75 York Street
Portland, ME 04101

Prepared By:
S. W. Cole Engineering, Inc.
286 Portland Road
Gray, ME 04039
T: 207-657-2866

TABLE OF CONTENTS

23-1997 S

January 17, 2024

Simons Architects
Attention: Adam Wiles-Rosell
75 York Street
Portland, ME 04101

Subject: Explorations and Geotechnical Engineering Services
Proposed Maine Wildlife Park Improvements
Game Farm Road
Gray, Maine

Dear Adam:

In accordance with our Proposal, dated October 3, 2023, we have performed subsurface explorations for the subject project. This report summarizes our findings and geotechnical recommendations, and its contents are subject to the limitations set forth in Appendix A.

1.0 INTRODUCTION

1.1 Scope and Purpose

The purpose of our services was to obtain subsurface information at the site in order to develop geotechnical recommendations relative to foundations and earthwork associated with the proposed construction. Our scope of services included test boring explorations, soils laboratory testing, a geotechnical analysis of the subsurface findings and preparation of this report.

1.2 Site and Proposed Construction

We understand the site is located in the westerly portion, near the existing main entrance, of the Maine Wildlife Park on Game Farm Road in Gray, Maine. The site has recently been cleared of trees and is undeveloped except for an existing paved walkway which extends east from the entrance gate. Existing grades are relatively flat, ranging from about elevation 307 to 308 feet (project datum).

We understand improvement plans include a new administration office building, a new ticketing station structure, and a new gift shop building. We understand the proposed structures are to be single-story and on-grade, with finish floor elevations of about 308.5 feet. We anticipate the structures will be relatively lightweight, wood-framed or metal-stud construction.

Proposed and existing site features are shown on the "Exploration Location Plan" attached in Appendix B.

2.0 EXPLORATION AND TESTING

2.1 Explorations

Three test borings (B-101 through B-103) were made at the site on December 20, 2023 by Northern Test Boring, Inc of Gorham, Maine working under subcontract to S. W. Cole Engineering, Inc. (S.W.COLE). The exploration locations were selected and established in the field by S.W.COLE using measurements from existing site features. The approximate exploration locations are shown on the "Exploration Location Plan" attached in Appendix B. Logs of the explorations and a key to the notes and symbols used on the logs are attached in Appendix C. The elevations shown on the logs were estimated based on topographic information shown on the "Exploration Location Plan".

2.2 Field Testing

The test borings were drilled using hollow stem auger techniques. The soils were sampled at 2 to 5 foot intervals using a split spoon sampler and Standard Penetration Testing (SPT) methods. SPT blow counts are shown on the logs.

2.3 Laboratory Testing

Soil samples obtained from the explorations were returned to our laboratory for further classification and testing. The results of two grain size analyses are attached in Appendix D. The results of two moisture content tests are shown on the boring logs.

3.0 SUBSURFACE CONDITIONS

3.1 Soil and Bedrock

Below a surficial layer of forest duff and topsoil, the test borings encountered a subsurface profile generally consisting of a subsoil layer of silt and sand or silty sand with rootlets up to about 2 feet thick, overlying native deposits of loose to medium dense sand with trace to some silt and trace gravel. The test borings were terminated in the native sand deposits at depths of 22 feet below existing ground surface. Bedrock was not encountered within the depths explored at the test boring locations. Refer to the attached logs for more detailed subsurface information.

3.2 Groundwater

Saturated soils were encountered in boring B-103 below a depth of about 21 feet below ground surface. Long term groundwater information is not available. It should be anticipated that groundwater levels will fluctuate, particularly in response to periods of snowmelt and precipitation, as well as changes in site use.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 General Findings

Based on the subsurface findings, the proposed construction appears feasible from a geotechnical standpoint. The principle geotechnical considerations include:

- Support of the proposed buildings on spread footing foundations and a slab-on-grade floors bearing on properly prepared subgrades appear suitable. Footings should bear on 3 inches of compacted Crushed Stone overlying densified, native, non-organic sand. On-grade floor slabs should bear on at least 12-inches of compacted Structural Fill overlying densified, native, non-organic sand.

- We understand the design team is considering supporting the proposed buildings on frost-protected shallow foundations in lieu of spread footings. Based on the findings at the borings, insulated frost-protected shallow foundations appear suitable for the proposed buildings; design of these foundations should be in accordance with ASCE-32.

- All existing topsoil, subsoil with organics, pavement, fill, utilities, and remnant structures must be completely removed from beneath the proposed buildings and backfilled with properly compacted Granular Borrow.

- Subgrades across the building pads are anticipated to consist of sand. Earthwork and grading activities should occur during drier, non-freezing weather of Spring, Summer and Fall. Excavation of bearing surfaces should be completed with a smooth-edged bucket to reduce subgrade disturbance.

4.2 Site and Subgrade Preparation

We recommend that site preparation begin with the construction of an erosion control system to protect adjacent drainage ways and areas outside the construction limits. Existing organics, roots, topsoil, subsoil with organics, pavement, fill, utilities, and remnant structures should be completely removed from beneath the proposed building footprints and backfilled with compacted Structural Fill. As much vegetation as possible should remain outside the construction areas to lessen the potential for erosion and site disturbance.

Following site clearing and grubbing, we recommend that the native sands exposed beneath the proposed buildings be moisture conditioned and densified with at least 3 passes of a 10-ton vibratory roller compactor. We recommend that footings be excavated using a smooth-edged bucket and that footings be underlain by at least 3 inches of compacted Crushed Stone densified with at least 3 passes of a vibratory plate compactor weighing at least 600 pounds.

Subgrade preparation for frost-protected shallow foundations, if used to support the proposed buildings, should also be in accordance with ASCE-32.

4.3 Excavation and Dewatering

Excavation work will generally encounter topsoil and subsoil with organics overlying native deposits of sand. Care must be exercised during construction to limit disturbance of the bearing soils. Earthwork and grading activities should occur during drier, non-freezing weather of Spring, Summer and Fall.

Sumping and pumping dewatering techniques should be adequate to control groundwater in excavations. Controlling the water levels to at least one foot below planned excavation depths will help stabilize subgrades during construction. Excavations must be properly shored or sloped in accordance with OSHA Regulations to prevent sloughing and caving of the sidewalls during construction. Care must be taken to preclude undermining adjacent structures, utilities and roadways.

The design and planning of excavations, excavation support systems, and dewatering is the responsibility of the contractor.

4.4 Foundations

We recommend the proposed buildings be supported on spread footings founded on at least 3-inches of compacted Crushed Stone bearing on densified, native, non-organic sand. For foundations bearing on properly prepared subgrades, we recommend the following geotechnical parameters for design consideration:

Geotechnical Parameters for Spread Footings and Foundation Walls	
Design Frost Depth (100-year AFI)	4.5 feet
Net Allowable Soil Bearing Pressure	2.0 ksf
Base Friction Factor	0.35
Total Unit Weight of Backfill	125 pcf
At-Rest Lateral Earth Pressure Coefficient	0.5
Internal Friction Angle of Backfill	30°
Seismic Soil Site Class	D (IBC 2015)
Estimated Total Settlement	1-inch
Differential Settlement	½-inch

4.5 Foundation Drainage

Considering the relatively well drained sand and depth to groundwater encountered in the test borings, in our opinion, foundation underdrains do not appear warranted for the proposed buildings.

4.6 Slab-On-Grade

On-grade floor slabs in heated areas may be designed using a subgrade reaction modulus of 100 pci (pounds per cubic inch) provided the slab is underlain by at least 12-inches of compacted Structural Fill placed over properly prepared subgrades. The structural engineer or concrete consultant must design steel reinforcing and joint

spacing appropriate to slab thickness and function, as well as control of shrinkage cracking and slab curling.

We recommend a sub-slab vapor retarder particularly in areas of the building where the concrete slab will be covered with an impermeable surface treatment or floor covering that may be sensitive to moisture vapors. The vapor retarder must have a permeance that is less than the floor cover or surface treatment that is applied to the slab. The vapor retarder must have sufficient durability to withstand direct contact with the sub-slab base material and construction activity. The vapor retarder material should be placed according to the manufacturer's recommended method, including the taping and lapping of all joints and wall connections. The architect and/or flooring consultant should select the vapor retarder products compatible with flooring and adhesive materials.

The floor slab should be appropriately cured using moisture retention methods after casting. Typical floor slab curing methods should be used for at least 7 days. The architect or flooring consultant should assign curing methods consistent with current applicable American Concrete Institute (ACI) procedures with consideration of curing method compatibility to proposed surface treatments, flooring and adhesive materials.

4.7 Entrance Slabs and Sidewalks

Entrance slabs and sidewalks adjacent to the building must be designed to reduce the effects of differential frost action between adjacent pavement, doorways, and entrances. We recommend that non-frost susceptible Structural Fill be provided to a depth of at least 4.5 feet below the top of entrance slabs. This thickness of Structural Fill should extend the full footprint of the entrance slab, thereafter, transitioning up to the bottom of the adjacent sidewalk or pavement gravels at a 3H:1V or flatter slope. Alternatively, if shallow frost-protected foundations are used to support the proposed buildings, insulation may be provided beneath entrance slabs and sidewalks per ASCE-32.

4.8 Fill, Backfill and Compaction

We recommend the following fill and backfill materials: recycled products must also be tested in accordance with applicable environmental regulations and approved by a qualified environmental consultant.

Common Borrow: Fill to raise grades in landscape areas should be non-organic compactable earth meeting the requirements of 2020 MaineDOT Standard Specification 703.18 Common Borrow.

Granular Borrow: Fill to raise grades in paved areas should be sand or silty sand meeting the requirements of 2020 MaineDOT Standard Specification 703.19 Granular Borrow.

Structural Fill: Fill to raise grades beneath the proposed buildings, backfill for foundations, backfill for overexcavations, slab base material, and material below exterior entrances slabs should be clean, non-frost susceptible sand and gravel meeting the gradation requirements for Structural Fill as given below:

Structural Fill	
Sieve Size	**Percent Finer by Weight**
4 inch	100
3 inch	90 to 100
¼ inch	25 to 90
No. 40	0 to 30
No. 200	0 to 6

Crushed Stone: Crushed Stone, used beneath foundations, should be washed ¾-inch crushed stone meeting the requirements of 2020 MaineDOT Standard Specification 703.13 Crushed Stone ¾-Inch.

Reuse of Site Soils: The non-organic on-site soils are unsuitable for reuse in building areas but may be suitable for reuse as Granular Borrow in paved areas, provided they are at a compactable moisture content at the time of reuse.

Placement and Compaction: Fill should be placed in horizontal lifts and compacted such that the desired density is achieved throughout the lift thickness with 3 to 5 passes of the compaction equipment. Loose lift thicknesses for grading, fill and backfill activities should not exceed 12 inches. We recommend that fill and backfill in building and paved areas be compacted to at least 95 percent of its maximum dry density as determined by ASTM D-1557. Crushed Stone should be compacted with 3 to 5 passes of a vibratory plate compactor having a static weight of at least 500 pounds.

4.9 Weather Considerations

Construction activity should be limited during wet and freezing weather and the site soils may require drying or thawing before construction activities may continue. The contractor should anticipate the need for water to temper fills in order to facilitate compaction during dry weather. If construction takes place during cold weather, subgrades, foundations and floor slabs must be protected during freezing conditions. Concrete and fill must not be placed on frozen soil; and once placed, the concrete and soil beneath the structure must be protected from freezing.

4.10 Design Review and Construction Testing

S.W.COLE should be retained to review the construction documents prior to bidding to determine that our earthwork and foundation recommendations have been properly interpreted and implemented.

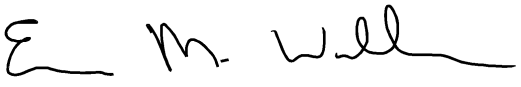
A construction materials testing and quality assurance program should be implemented during construction to observe compliance with the design concepts, plans, and specifications. S.W.COLE is available to observe earthwork activities and the preparation of foundation bearing surfaces, as well as to provide testing and IBC Special Inspection services for soils, concrete, steel, spray-applied fireproofing, fire-stopping, structural masonry and asphalt construction materials.

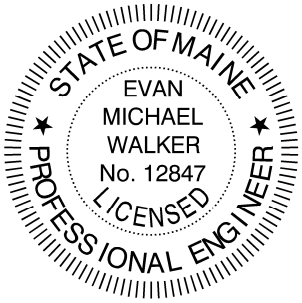
5.0 CLOSURE

It has been a pleasure to be of assistance to you with this phase of your project. We look forward to working with you during the construction phase of the project.

Sincerely,

S. W. Cole Engineering, Inc.





Evan M. Walker, P.E.
Senior Geotechnical Engineer

EMW:tjb

APPENDIX A

Limitations

This report has been prepared for the exclusive use of Simons Architects for specific application to the proposed Maine Wildlife Park Improvements on Game Farm Road in Gray, Maine. S. W. Cole Engineering, Inc. (S.W.COLE) has endeavored to conduct our services in accordance with generally accepted soil and foundation engineering practices. No warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.

The analyses performed during this investigation and recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

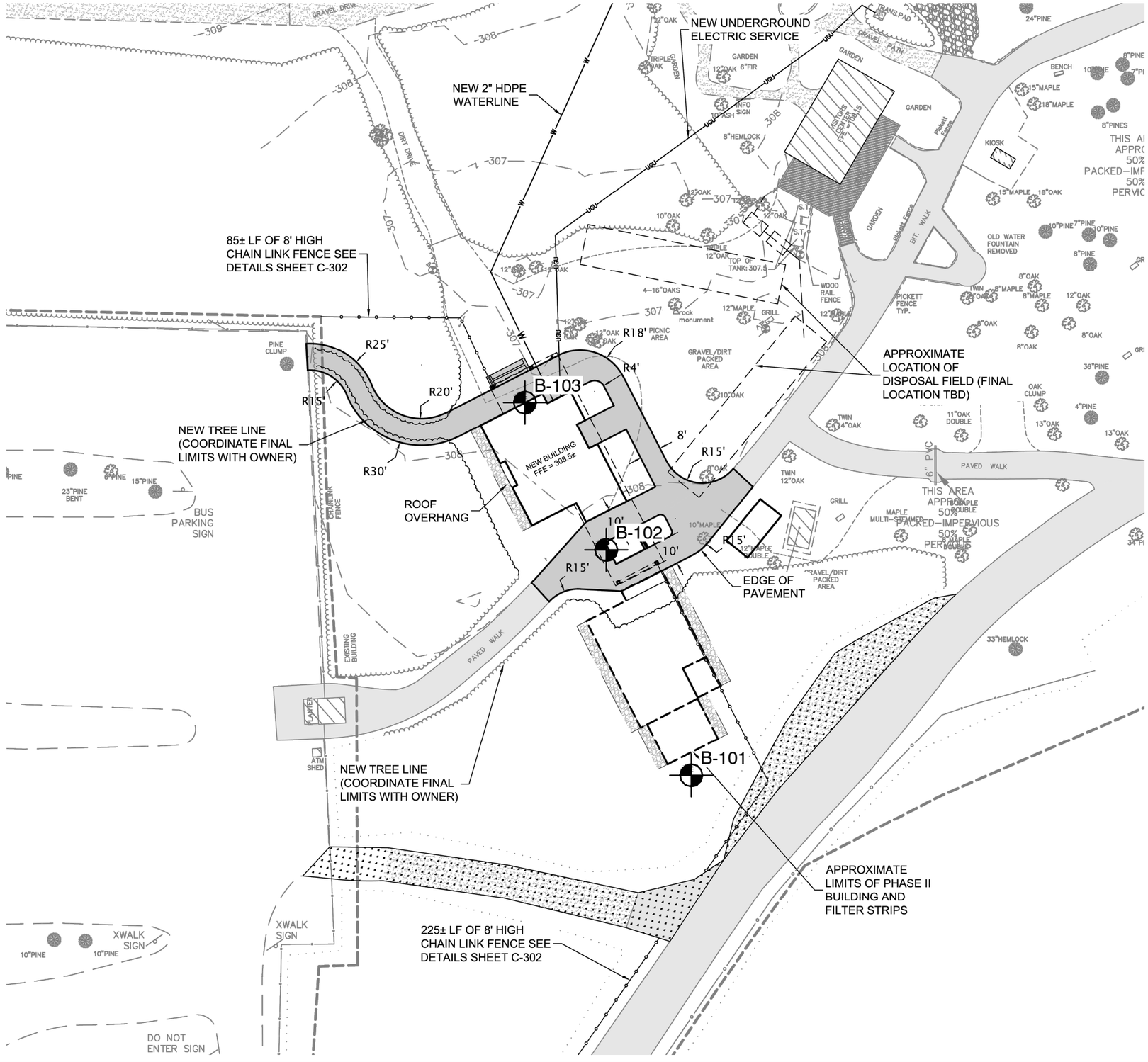
Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.

S.W.COLE's scope of services has not included the investigation, detection, or prevention of any Biological Pollutants at the project site or in any existing or proposed structure at the site. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

Recommendations contained in this report are based substantially upon information provided by others regarding the proposed project. In the event that any changes are made in the design, nature, or location of the proposed project, S.W.COLE should review such changes as they relate to analyses associated with this report. Recommendations contained in this report shall not be considered valid unless the changes are reviewed by S.W.COLE.

APPENDIX B

Figures



LEGEND:

APPROXIMATE BORING LOCATION

NOTES:

1. EXPLORATION LOCATION PLAN WAS PREPARED FROM A 1"=30' SCALE PLAN OF THE SITE TITLED "SITE LAYOUT AND UTILITIES PLAN," PREPARED BY SIMONS ARCHITECTS, DATED SEPTEMBER 18, 2020.
2. THE BORINGS WERE LOCATED IN THE FIELD BY MEASUREMENTS FROM EXISTING SITE FEATURES.
3. THIS PLAN SHOULD BE USED IN CONJUNCTION WITH THE ASSOCIATED S. W. COLE ENGINEERING, INC. GEOTECHNICAL REPORT.
4. THE PURPOSE OF THIS PLAN IS ONLY TO DEPICT THE LOCATION OF THE EXPLORATIONS IN RELATION TO THE EXISTING CONDITIONS AND PROPOSED CONSTRUCTION AND IS NOT TO BE USED FOR CONSTRUCTION.

0 40 80 Feet

S.W.COLE ENGINEERING, INC.

SIMONS ARCHITECTS

EXPLORATION LOCATION PLAN

PROPOSED MAINE WILDLIFE PARK IMPROVEMENTS
GAME FARM ROAD
GRAY, MAINE

Job No.:	23-1997	Scale:	1" = 40'
Date :	12/22/2023	Sheet:	1

APPENDIX C

Exploration Logs and Key

BORING LOG

BORING NO.:	**B-101**
SHEET:	1 of 1
PROJECT NO.	23-1997
DATE START:	12/20/2023
DATE FINISH:	12/20/2023

CLIENT: Simons Architects
PROJECT: Proposed Maine Wildlife Park Improvements
LOCATION: Game Farm Road, Gray, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** 308' +/- **TOTAL DEPTH (FT):** 22.0 **LOGGED BY:** Bryce Walker
DRILLING CO.: Northern Test Boring, Inc. **DRILLER:** Michael Nadeau **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 **AUGER ID/OD:** 2 1/4 in / 5 5/8 in **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / N/A **HAMMER WEIGHT (lbs):** 140 **CASING ID/OD:** N/A /N/A **CORE BARREL:** N/A
HAMMER CORRECTION FACTOR: **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft): No Free Water Observed
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_2O Depth	Remarks
			1D		0-2	24/21	1-2-2-3			0.5 Forest Duff / Topsoil 1.2 Very loose, brown-orange, SILT and fine SAND trace fine gravel; with rootlets Loose to medium dense, light brown, SAND trace silt trace fine gravel		
305												
	5		2D		5-7	24/16	6-4-5-4					
300												
	10		3D		10-12	24/15	13-6-5-6					
295												
	15		4D		15-17	24/24	5-6-5-5			15.0 Medium dense, brown, fine SAND some silt		
290												
	20		5D		20-22	24/20	5-8-7-7			20.0 Medium dense, light brown SAND trace silt trace fine gravel		

Bottom of Exploration at 22.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING LOG

CLIENT: Simons Architects
PROJECT: Proposed Maine Wildlife Park Improvements
LOCATION: Game Farm Road, Gray, Maine

BORING NO.: B-102
SHEET: 1 of 1
PROJECT NO. 23-1997
DATE START: 12/20/2023
DATE FINISH: 12/20/2023

Drilling Information

LOCATION: See Exploration Location Plan
ELEVATION (FT): 308' +/-
TOTAL DEPTH (FT): 22.0
LOGGED BY: Bryce Walker
DRILLING CO.: Northern Test Boring, Inc.
DRILLER: Michael Nadeau
DRILLING METHOD: Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50
AUGER ID/OD: 2 1/4 in / 5 5/8 in
SAMPLER: Standard Split-Spoon
HAMMER TYPE: Automatic / N/A
HAMMER WEIGHT (lbs): 140
CASING ID/OD: N/A /N/A
CORE BARREL: N/A
HAMMER CORRECTION FACTOR:
HAMMER DROP (inch): 30
WATER LEVEL DEPTHS (ft): No Free Water Observed
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
			1D		0-2	24/18	2-2-2-3			0.5 Forest Duff / Topsoil Very loose, brown-orange, Silty fine SAND trace gravel; with rootlets		
			2D		2-4	24/20	4-3-4-6			1.7 Loose to medium dense, light brown, SAND trace silt trace fine gravel		
305								w =6.6 %				
	5		3D		5-7	24/17	5-4-5-5					
300												
	10		4D		10-12	24/17	3-2-4-4					
295												
	15		5D		15-17	24/18	4-5-7-6			16.0 Medium dense, brown, fine SAND some silt		
290												
	20		6D		20-22	24/17	6-8-7-8			20.0 Medium dense, light brown, SAND trace silt trace fine gravel		

Bottom of Exploration at 22.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING LOG

CLIENT: Simons Architects
PROJECT: Proposed Maine Wildlife Park Improvements
LOCATION: Game Farm Road, Gray, Maine

BORING NO.: B-103
SHEET: 1 of 1
PROJECT NO. 23-1997
DATE START: 12/20/2023
DATE FINISH: 12/20/2023

Drilling Information

LOCATION: See Exploration Location Plan | **ELEVATION (FT):** 307' +/- | **TOTAL DEPTH (FT):** 22.0 | **LOGGED BY:** Bryce Walker
DRILLING CO.: Northern Test Boring, Inc. | **DRILLER:** Michael Nadeau | **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 | **AUGER ID/OD:** 2 1/4 in / 5 5/8 in | **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / N/A | **HAMMER WEIGHT (lbs):** 140 | **CASING ID/OD:** N/A /N/A | **CORE BARREL:** N/A
HAMMER CORRECTION FACTOR: | **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft): ▽ 21 ft Soils Saturated Below 21' +/-
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
			1D		0-2	24/16	1-2-3-4			0.5 Forest Duff / Topsoil		
										1.5 Loose, brown-orange, silty SAND trace gravel; with rootlets		
305			2D		2-4	24/18	5-4-4-5			Loose to medium dense, light brown, SAND trace silt trace fine gravel; with rootlets to 3 feet		
	5		3D		5-7	24/19	6-5-6-6					
300												
	10		4D		10-12	24/21	9-7-7-7					
295												
	15		5D		15-17	24/22	3-3-4-5			15.2 Loose, brown, fine SAND some silt trace fine gravel		
290												
	20		6D		20-22	24/18	6-5-5-5			20.5 Loose, light brown, SAND trace silt trace fine gravel	▽	
285										Bottom of Exploration at 22.0 feet		

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

KEY TO NOTES & SYMBOLS

Test Boring and Test Pit Explorations

Stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
q_u	-	unconfined compressive strength, kips/sq. ft. - laboratory test
S_v	-	field vane shear strength, kips/sq. ft.
L_v	-	lab vane shear strength, kips/sq. ft.
q_p	-	unconfined compressive strength, kips/sq. ft. – pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W_L	-	liquid limit - Atterberg test
W_P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass.
γ_T	-	total soil weight
γ_B	-	buoyant soil weight

Description of Proportions:

Trace:	0 to 5%
Some:	5 to 12%
"Y"	12 to 35%
And	35+%
With	Undifferentiated

Description of Stratified Soils

Parting:	0 to 1/16" thickness
Seam:	1/16" to 1/2" thickness
Layer:	½" to 12" thickness
Varved:	Alternating seams or layers
Occasional:	one or less per foot of thickness
Frequent:	more than one per foot of thickness

REFUSAL: **Test Boring Explorations** - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: **Test Pit Explorations** - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

APPENDIX D

Laboratory Test Results

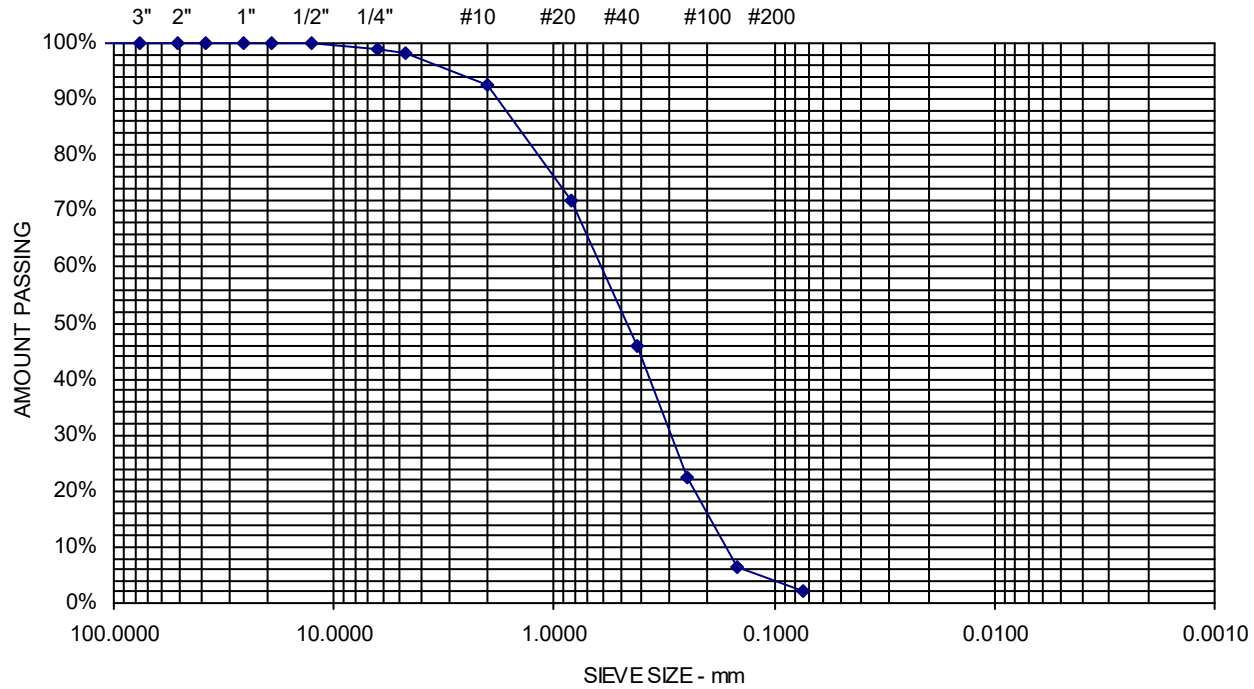
S.W.COLE ENGINEERING, INC.

Report of Gradation

ASTM C-117 & C-136

Project Name	GRAY ME - PROPOSED MAINE WILDLIFE PARK IMPROVEMENTS - GEOTECHNICAL ENGINEERING SERVICES	Project Number	23-1997
Client	SIMONS ARCHITECTS, LLC	Lab ID	31252G
		Date Received	1/3/2024
		Date Completed	1/5/2024
Material Source	**B-102, 2D, 2-4**	Tested By	OLIVIA MILLS

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	
150 mm	**6"**	**100**	
125 mm	**5"**	**100**	
100 mm	**4"**	**100**	
75 mm	**3"**	**100**	
50 mm	**2"**	**100**	
38.1 mm	**1-1/2"**	**100**	
25.0 mm	**1"**	**100**	
19.0 mm	**3/4"**	**100**	
12.5 mm	**1/2"**	**100**	
6.3 mm	**1/4"**	**99**	
4.75 mm	**No. 4**	**98**	1.8% Gravel
2.00 mm	**No. 10**	**93**	
850 um	**No. 20**	**72**	
425 um	**No. 40**	**46**	95.9% Sand
250 um	**No. 60**	**22**	
150 um	**No. 100**	**7**	
75 um	**No. 200**	**2.2**	2.2% Fines



Comments: w= 6.6%

Sheet

3.5 DRAINAGE MATERIAL INSTALLATION

A. Install drainage material over building wrap and flashing to comply with manufacturer's written instructions.

3.6 INSTALLATION OF SIDING

A. Horizontal Lumber Siding:

1. Apply starter strip along bottom edge of sheathing or sill.
2. Install first course of siding, with lower edge at least 1/8 inch below starter strip and subsequent courses lapped 1 inch over course below.

    a. Nail at each stud.
    b. Do not allow nails to penetrate more than one thickness of siding.

3. Leave 1/8-inch gap at trim and corners unless otherwise recommended by manufacturer, and apply sealant.
4. Butt joints only over framing or blocking, nailing top and bottom on each side and staggering joints in subsequent courses.
5. Install prefabricated outside corners as recommended by manufacturer of siding materials.

B. Vertical Lumber Siding:

1. Begin application at corner, with tongue edge up.
2. Install subsequent courses with tongue-and-groove edges tightly fitted together.

    a. Nail at 24 inches on center. Provide horizontal wood blocking where required for vertical wood siding

3. Leave 1/8-inch gap at trim and corners unless otherwise recommended by manufacturer, and apply sealant.
4. Butt joints only over framing or blocking, nailing top and bottom on each side and staggering joints in subsequent courses.
5. Install prefabricated outside corners as recommended by manufacturer of siding materials.

C. Flashing: Install metal flashing as indicated on Drawings and as recommended by siding manufacturer.

D. Finish: Apply finish within two weeks of installation.

3.7 ADJUSTING

A. Replace exterior finish carpentry that is damaged or does not comply with requirements.

1. Exterior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

2.21 AUTOMATIC DOOR OPERATORS

A. Provide Horton Model S4100 LE Access Operator. No substitutions.

B. Provide actuating push plates, inside and outside.

1. Push Plate: 6" diameter (152 mm) round or 4 ½" (114 mm) square, stainless steel switch. Wall mounted. Optional engravings shall be:

a. International symbol for accessibility and "Press To Open".

C. Combination Motion/Presence Sensors: Where indicated, provide self-contained units; consisting of both motion and presence sensors in a single metal or plastic housing; adjustable to provide detection field sizes and functions required by BHMA A156.10.

1. Motion Sensor: K-band-frequency, microwave-scanner units; with relay hold time of not less than 2 to 10 seconds.

a. Provide capability for switching between bidirectional and unidirectional detection.

D. Coordinate requirements with electrical contractor.

E. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Section 079200 "Joint Sealants."

F. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.

G. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

H. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 FIELD QUALITY CONTROL

A. Independent Architectural Hardware Consultant: Owner will engage a qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.

1. Independent Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.6 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items as necessary to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DOOR HARDWARE SETS

A. The hardware sets listed below indicate the items of hardware required for each opening. It is the bidder’s responsibility to accurately furnish the proper quantities, items, sizes, weights and functions as required by the plans and specifications. If an opening has, through error, been

omitted from the following hardware sets, it shall be the bidder's responsibility to supply hardware of equivalent quality and quantity, as that which is specified for a comparable opening.

SINGLE ALUMINUM ENTRANCE DOOR

HW1

Doors 101A, 101C, 104A, 105A, 113A

Exit Device (function A) (10B finish)
Closer with drop plate (bronze finish)
Floor Stop (10B finish)
Threshold (10B finish)

Balance of hardware by aluminum door supplier.

SINGLE ALUMINUM ENTRANCE DOOR (with access control)

HW2

Doors 113A

Exit Device (function C) (10B finish)
Electrical transfer device
Power supply
Closer with drop plate (bronze finish)
Floor Stop (10B finish)
Threshold (10B finish)

Balance of hardware by aluminum door supplier.

DOUBLE ALUMINUM ENTRANCE DOOR

HW3

Doors 101B

Exit Devices (function B) (10B finish)
Closers with drop plates (bronze finish)
Removable mullion (bronze finish)
Floor Stops (10B finish)
Threshold (10B finish)

Balance of hardware by aluminum door supplier.

VESTIBULE DOORS

HW4

Doors 113B

Hinges
Push plate
Pull
Closer
Kickplate
Wall Stop

JANITOR, ELECTRICAL, MECHANICAL, EMR

HW5

Doors 109

Hinges
Closer
Lockset (function A) (function 1)
Kick plate
Wall stop
Smoke gasketing

PRIVATE TOILET - NON-RATED

HW6

Doors 111, 112

Hinges
Lockset (function 6)
Closer
Wall Stop
Silencers

SINGLE CORRIDOR

HW7

Doors 106B

Hinges
Automatic door operator
Lockset (function 4)
Electric strike
Power supply
Kickplate

Wall Stop
Silencers

OFFICE OR STORAGE (no smoke seals)

HW8

Doors 103, 108, 114, 115, 116, 117

Hinges
Lockset (function 4)
Door Stop
Silencers

SLIDING BARN DDOOR

HW9

Doors 107

Sliding door hardware kit
Pulls (inside and out)

HW10

Doors 106A

Exit Device (function A) (10B finish)
Automatic door operator
Power supply
Floor Stop (10B finish)
Threshold (10B finish)
Balance of hardware by aluminum door supplier.”

END OF SECTION 08 71 00

1. Engage an installer who employs workers for this Project who are trained or certified by floor tile manufacturer for installation techniques required.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces.

1.8 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive floor tile during the following periods:

1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.

B. Beginning 48 hours after installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Close spaces to traffic during floor tile installation.

D. Close spaces to traffic for 48 hours after floor tile installation.

E. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For resilient floor tile, as determined by testing identical products according to ASTM E648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 SOLID VINYL FLOOR TILE

A. Basis-of-Design Product: Subject to compliance with requirements, provide J&J Composite V5041or approved substitution.

B. Overall Thickness: 5 mm.

C. Wear Thickness: 20 mil.

D. Size: 18 by 36 inches.

SECTION 22 00 00 - PLUMBING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. The drawings and the specifications including Section 23 05 00 “Common Work Results for HVAC” are hereby made a part of the work of this section.

1.2 DESCRIPTION

A. The work covered by this Section of the specifications includes the furnishing of labor, materials, equipment, transportation, permits, inspections, and incidentals and the performing of operations required to provide a complete and functional plumbing system.

B. Work shall be in accordance with the current edition of the Maine State Plumbing Code and applicable local ordinances.

1.3 SUBMITTALS

A. Substitutions: Your attention is directed to Section 23 05 00 "Substitutions", relative to competition and the (ONLY) notation. Familiarity with this section shall be achieved before reading the PRODUCTS section of this specification.

B. The items for which the submittals paragraph in Section 23 05 00 “Common Work Results for HVAC”, apply are as follows:

1. Piping materials.
2. Valves.
3. Pipe hangers.
4. Fixtures and trim.
5. Miscellaneous equipment.
6. Water heating equipment.
7. Piping, valves and equipment identification.
8. Thermostatic mixing valves.
9. Firestopping.

PART 2 PRODUCTS

2.1 PIPING MATERIALS

A. Soil and Waste (Sanitary), Rainwater and Vent Piping:

1. Sched. 40 PVC with solvent welded joints. Contractor shall use Purple Primer on all solvent welded joints. Vent piping shall be Sched. 40 PVC with solvent welded joints, cast iron (ONLY) thru roof. Contractor shall use Purple Primer on all solvent welded joints.

B. Domestic Water Piping:

1. Pipe sizes larger than 1": Type L hard copper tubing and cast bronze or wrought copper solder fittings.

2. Unit branch piping sizes 1" and smaller shall be one of the following:

a. Uponor AquaPEX, NSF rated, 180°F at 100psi, red (HW), blue (CW) and white (RHW).

b. "Flowguard Gold" CTS solvent-welded CPVC pipe and fittings. CPVC pipe and fittings shall be rated at 100 psig at 180^0F and shall meet or exceed the requirements of ASTM D2846, the IBC, and be certified by the ANSI/NSF for potable water applications. Installation, including supports, shall be per the manufacturer's recommendations.

c. Type L hard copper tubing and cast bronze or wrought copper solder fittings.

C. Exposed Water and Waste Piping at Fixtures: Schedule 40 PVC with solvent welded joints and deep one piece escutcheon plates at traverse points. Provide cleanout plug at all sink traps.

D. Solder: Lead-free (ONLY), Englehard Silvabrite 100, 440°F melting point, ASTM B32.

E. Condensate Piping: Schedule 40 PVC with solvent welded joints.

2.3 NO HUB COUPLINGS

A. For DWV piping, couplings shall be Clamp-All HI-TORQ125, shall maintain 15 PSI hydrostatic seal, constructed 304SS housing and ASTM C-564 neoprene gasket. Couplings shall meet FM 1680, BOCA and local codes and requirements.

2.4 VALVES

A. Ball Valves: Copper alloy with stationary seat ring and chromium plated or stainless steel floating ball per Federal Specification WW-V-35B. Blowout proof stem, reinforced PTFE seal. Sizes 2" and larger shall have threaded ends. Provide lever handle with stem extension as required to allow operation without interfering with pipe insulation.

B. Check Valves: Horizontal Swing, MSS SP-80, Type 3, Class 125.

C. Drain Valves: Provide ball valves with 3/4" hose connection and brass cap.

D. Fixture Service Stop Valves: Quarter-Turn Ball Valve Stop, Lead-Free, NSF & ANSI compliant, similar to Watts KwikStop.

1. Each plumbing fixture shall have individual stop valves in the hot and cold supplies.

2. Service stop valves exposed in finished areas shall be chrome-plated brass; in non-finished areas, ball valves shall be used in lieu of chromed supplies.

E. Temperature and Pressure Relief Valves: Bronze body, tested under ANSI Z21.22, AGA and ASME rated, 125 psig/210°F relief settings.

F. Balancing Valves: Taco "Accu-Flo".

1. Bronze or brass body and internals, teflon seats, memory stop, 300 psi working pressure, 250°F working temperature. Balancing devices shall have provisions for connecting a portable differential pressure gauge. Each balancing device shall be sized to provide a differential pressure reading between 2 and 5 feet with the valve full open at design flow rates.

2. Install per manufacturer's recommendations for adjacent length of straight pipe.

3. Submittals shall indicate gpm, size, wide open differential pressure meter reading, and actual water pressure drop.

2.5 PIPE HANGERS

A. Adjustable Swivel Hangers:

1. Pipe sizes 2" and less: Carpenter and Paterson Fig. 800, oversize for insulated piping systems.

2. Pipe sizes larger than 2": Carpenter and Paterson Fig. 100, oversize for insulated piping systems.

B. Riser Clamp: Carpenter and Paterson Fig. 126 CT copper plated for copper piping, Fig. 126 for iron and PVC piping.

C. Insulation Shields: 18 ga. galvanized steel, 180° wrap, Carpenter and Paterson Fig. 265P, Type H.

2.6 FIXTURES AND TRIM

A. Any substitutions to fixtures specified below must be submitted and approved by the Architect during the bid period. Even after review by the Architect, the fixtures will be subject to the normal submittal process and review by the Engineer.

B. (P-1) ADA Water Closet Flush Valve: Floor-mounted, flush valve, siphon jet, American-Standard "Madera" 3451.528.020, Kohler, Toto, Zurn, or equal, high efficiency elongated bowl, white vitreous china, low consumption (1.28 GPF), and shall flush with 30 psi water pressure at the valve. The water closet shall be 14" H, top spud.

1. Seat: American Standard Champion Slow Close elongated seat, solid plastic, open front with cover, integral bumpers, external check hinges, for elongated bowl, white color.

2. The flush valve shall be Zurn, Toto or Sloan "Solis" Model 8186 HEU, sensor-operated, electronic, hard-wires and self-powered manual override. Installation shall be per the manufacturer's recommendations.

3. Total installed height of front edge of seat shall be 17" to 19" above finished floor.

4. Installation shall meet ADA and ANSI A117.1 requirements.

C. (P-2) ADA Lavatory, Wall-hung: American Standard Decorum 9024.001EC (center hole only) with Everclean, rear overflow and wall support. Overall dimensions shall be 20”x18”.

1. Faucet: Kohler Hint model K-97060-4-CP, single handle, 1.2 GPM, polished chrome finish.

2. Drain: Perforated grid strainer and drain assembly with bright metal finish.

3. Trap: 1-1/4” PVC P-trat with cleanout plug. Adjustable with connected elbow and nipple to wall.

4. Lavatory shall be installed at 34" above finished floor. Final installation of lavatory and accessories shall meet ADA guidelines and ANSI A117.1. Insulate exposed traps and supplies with Truebro Lavguard.

D. (P-3) ADA 36” Shower: Aquatic model 1363BFSD, AcrylX alcove one-piece shower, 42.5" x 38.25" x 76.875" overall dimensions with no return flanges and 3/4” exterior threshold. Shower unit shall include 2” diameter ADA and ANSI grab bars and phenolic fold-up seat supported by wall bracket and four legs (seat shall support up to 400 lb). Provide with flexible rubber dam (collapsible threshold), weighted anti-bacterial curtain and curtain rod.

1. Shower Controls: Symmons Origins packaged unit Model S-9605-PLR. ASSE 1016 compliant pressure-balancing mixing valve with adjustable stop screw to limit handle turn with integral diverter and volume control, secondary diverter (fixed head to hand-held). Fixed shower head (2.0 gpm) and hand shower (2.0 gpm) with in-line vacuum breaker and non-positive shutoff, flexible 5' metal hose, wall connection and flange, 30" slide bar for hand shower mounting.

2. Installation shall be compliant with ANSI A117.1 and ADA guidelines.

E. (P-4) ADA Break Room Sink: Elkay model LRAD291855, two-bowl, stainless steel, dimensions of 29” x 18” x 5.5” with 4 faucet holes on 4” centers.

1. Faucet: Moen model 8707 M-Dura brass commercial single lever kitchen faucet with hose and spray, deck plate, 9” spout.

2. Strainer: Elkay LK35 removable basket strainer.

3. Traps and supplies shall be covered with McGuire ProWrap insulated 1-1/2” P-trap with supply covers. Supplies shall be chrome plated angle supplies with wheel stops and wrought (not bell) escutcheons.

4. Installation shall be compliant with ANSI A117.1 and ADA guidelines.

2.7 MISCELLANEOUS EQUIPMENT

A. Floor Drain (FD): Zurn Z-415B, cast iron body with 2” or 3" bottom outlet (as scheduled), combination invertible membrane clamp and adjustable collar. Strainer shall be 6" diameter Zurn "Type B", polished nickel-bronze. Floor drains shall have “deep seal” traps and trap primer connection, connect to nearest plumbing fixture.

B. Floor Drain, wood deck (FD): Zurn FD-2240, cast iron body with steel flange for wood deck mounting with flexible sheet flooring, 2” or 3" bottom outlet (as scheduled), nickel top. Floor drains shall have “deep seal” traps and trap primer connection, connect to nearest plumbing fixture.

C. Floor/Yard Cleanout (FCO/YCO): Zurn Z-1400 adjustable floor cleanout, cast iron body, with gas and watertight ABS tapered thread plug. Provide size equal to piping served with maximum size of 4".

1. Concrete floor finishes: Scoriated round polished bronze top.

2. Sheet tile finishes: Scoriated square polished bronze top recessed to receive tile.

3. Carpeted finishes: Scoriated round polished bronze top and carpet marker.

D. Wall Cleanout (WCO): Sanitary tee with threaded raised nut or countersunk-nut cleanout plug located behind Zurn Z-1468 round stainless steel wall access cover.

E. Vacuum Breaker: Watts Model N36, 3/4" size, 20 CFM capacity.

F. Strainer: Watts Series 777, MIL-S-16293, bronze body wye-type, 200 WOG rating, screwed end connections, 20 mesh stainless steel, monel, or bronze screen.

G. Backflow Preventor (BFP): Conforming to AWWA C506, FCCHR-USC Manual Section 10, and UL listed. Types, sizes and capacities scheduled.

1. Reduced Pressure Zone (RPZ): Reduced pressure principle type; bronze body with stainless steel internals. Provide bronze body ball valves, test cocks, and air gap fittings.

H. Freezeless Wall Hydrant (FPHB): Zurn Model Z-1300, “Ecolotrol”, Josam, or approved equal, encased, non-freeze, anti-siphon, automatic draining, flush installation, 3/4" connection, hinged cover. Wall box shall be nickel bronze construction. Wall hydrants shall have an integral backflow preventer. Furnish with key lock.

I. Thermometers: Trerice Series V80445 or Ashcroft Series 600A-04, vapor actuated, adjustable angle, 4-1/2" diameter face, cast aluminum case, stainless steel ring, glass window, white background dial with black figures, black finished stainless steel pointer, brass movement with bronze bearings, phosphor bronze bourdon tube. Accuracy shall be to within one scale division.

1. Thermowell: Provide with brass thermometer wells projecting a minimum of 2" into the pipe with extension to face of insulation. Provide with heat transfer fluid to fill interstitial space between bulb and well.

2. Range: 30°F to 240°F for domestic hot water systems.

J. Pressure Gauges: Trerice Series 800 or Ashcroft Type 1005, Grade B, 3-1/2" dial, ANSI B40.1, drawn steel case, white background dial with black figures, clear glass window, brass movement, beryllium copper bourdon tube, 0 to 100 PSI range, accuracy shall be within 2% over middle half of scale and 3% over the remainder. Provide with shut off petcock and restrictor.

K. Water Hammer Arrestor (Shock Absorber): Plumbing and Drainage Institute listed.

Schedule:

"A" - Size #100 PDI - 0-11 Fixture Units
"B" - Size #200 PDI - 12-32 Fixture Units
"C" - Size #300 PDI - 33-60 Fixture Units
"D" - Size #400 PDI - 61-113 Fixture Units

L. Vacuum Breaker: Watts Model N36, 3/4" size, 15 CFM capacity.

M. Strainer: Watts Series 777, MIL-S-16293, bronze body wye-type, 200 WOG rating, screwed end connections, 20 mesh stainless steel, monel, or bronze screen.

N. Thermostatic Mixing Valve (TMV): Thermostatic controller shall be of capacity and size indicated. Provide regulator valve, swivel action check stops, removable cartridge, strainer, stainless steel piston and liquid fill thermal motor with bellows element mounted out of water, in rough chrome finish.

O. Trap Primer (TP): Zurn Z-1022 Automatic Trap Primer, all bronze body with integral vacuum breaker, non-liming internal operating assembly with gasketed bronze cover, flow-thru design operates on a 2-5psi pressure drop.

P. Circulator (inline)(CP): Taco or Wilo model indicated, pumps shall be inline cartridge-type or close coupled pump of capacity and performance indicated with all bronze construction 125 psig rated working pressure, 200°F maximum water temperature, carbon Ni-resist mechanical seal, flexible coupling, resilient-mount drip-proof sleeve bearing motor. The pumps shall be factory tested, cleaned and painted with machinery enamel. A set of installation instructions shall be included with pump. Provide high efficiency motors if available as an option of the manufacturer. If high efficiency motors are not available as an option of the manufacturer, submit a certification stating same.

1. Sequence of Operation: CP-1 shall operate based on an aquastat located on the return line: ‘on’ at 105F and ‘off’ at 115F.

2.8 WATER HEATING EQUIPMENT

A. Electric Heat Pump Water Heater (EWH-#): Model indicated or approved equal, UL 732 and ASHRAE 90A (2013 requirements) compliant, replaceable anode rods and plastic jacket, factory installed ASME rated temperature and pressure relief valve, and adjustable range thermostat. Set to provide 140°F water temperature.

2.9 PIPING, VALVE, AND EQUIPMENT IDENTIFICATION

A. Piping identification: Provide plastic "wrap-around" identification markers indicating flow and fluid flowing for the following:

1. Domestic Hot Water
3. Domestic Cold Water
4. Vent Piping
5. Exposed Above-ground Sanitary Drain Piping
6. Condensate Piping

B. Markers shall be placed 30-50 ft. apart for piping in accessible areas.

C. Markers shall be placed outside the pipe insulation and in the most obvious location for viewing.

D. Valve Tags:

1. Attach to each valve a 1-1/2" round or octagonal brass tag with 1/2" indented numerals filled with a durable black compound. In addition to the valve numbers, each tag shall identify the system it controls. Service stop valves exposed in finished areas need not be tagged.

2. Tags shall be securely attached to stems of valves with copper or brass "S" hooks, or chains.

3. Valve charts shall be provided for each piping system and shall consist of schematic drawings of piping layouts, showing and identifying each valve and describing its function. Upon completion of the work, one (1) copy of each chart, sealed to rigid backboard with clear lacquer placed under glass and framed, shall be hung where directed. Two (2) additional unmounted copies shall be delivered to the Architect.

4. Tags and charts shall be coordinated with Section 23 00 00 HVAC System and when completed this work shall have been done sequentially.

E. Equipment Identification: Provide laminated plastic nameplates for equipment, pumps, mixing valves, backflow preventers, and balancing valves. Nameplates shall be laminated 0.125-inch thick melamine plastic conforming to Fed. Spec. L-P-387, black with white center core. Surface shall be a matte finish, corners shall be square. Accurately align lettering and engrave into the white core. Minimum size of nameplates shall be 1.0 inch by 2.5 inches. Lettering shall be minimum of 0.25-inch high normal block lettering.

PART 3 EXECUTION

3.1 SURFACE CONDITIONS

A. Inspection:

1. Prior to work of this Section, carefully inspect the installed work of other trades and verify that such work is complete to the point where this installation may properly commence.

2. Verify that plumbing may be installed in strict accordance with pertinent codes and regulations and the reviewed Shop Drawings.

3.2 INSTALLATION OF PIPING

A. Provide and erect in accordance with the best practice of the trade piping shown on the drawings and as required to complete the intended installation. Make offsets as shown or required to place piping in proper position to avoid other work and to allow the application of insulation and finish painting to the satisfaction of the Architect.

B. The size and general arrangements, as well as the methods of connecting piping, valves, and equipment, shall be as indicated, or so as to meet the requirements of the Architect.

C. Piping shall be erected so as to provide for the easy and noiseless passage of fluids under working conditions.

D. Install unions to facilitate removal of equipment.

E. Copper pipe shall be reamed to remove burrs.

F. Connections between copper and steel piping shall be made with brass fittings.

G. Solder joints shall be made with lead free solder. Clean surfaces to be soldered and use a paste flux. Wash joints with sodium bicarbonate and water to remove corrosive effects of heated solder paste. Caution: Lead-bearing solder is not permitted.

H. Pipe penetrations through walls, floors and ceilings shall be in accordance with Section 230500 "Supplemental General Mechanical Requirements". Traverse points of piping shall be escutcheoned with split chrome floor and ceiling plates and spring anchors, where visible to occupancy.

I. Provide a cleanout in the vertical position at the base of each sanitary and roof drain drop.

J. Sanitary and vent piping shall be sized and installed at 1/4" per foot slope.

3.3 PIPE HANGERS

A. Impact driven studs are prohibited.

B. Copper Tubing: supported at intervals with rod sizes as follows, double nuts on hangers and on beam clips.

Copper Size	Hanger Intervals	Rod Sizes
1/2"	5'	3/8"
3/4"	6'	3/8"
1"	6'	3/8"
1-1/4"	8'	3/8"
1-1/2"	8'	3/8"
2"	10'	3/8"

C. Cast Iron Pipe: Supported at intervals with rod sizes as follows, double nuts on hangers and on beam clips.

Cast Iron Size	Hanger Intervals	Rod Sizes
1-1/2"	5'	3/8"
2"	5'	3/8"
2-1/2"	5'	1/2"
3"	6'	1/2"
4"	7'	5/8"

D. PVC Pipe: Supported at 4 foot intervals.

E. Verticals: Supported by use of clamp hangers at every story height, and at not more than 6 feet intervals for copper piping 1-1/4" and smaller size.

3.4 CLOSING IN UNINSPECTED WORK

A. General: Cover up or enclose work after it has been properly and completely reviewed.

B. If any of the work is covered or enclosed prior to required inspections and review, uncover the work as required for the test and review. After review, tests and acceptance, repairs and replacements shall be made by the appropriate trades with such materials as necessary for the acceptance by the Architect and at no additional cost to the Owner.

3.5 CLEANUP AND CORROSION PREVENTION

A. Upon completion of the work thoroughly clean and flush piping systems to the sewer with water.

B. Fixtures, piping and equipment shall be thoroughly cleaned. Dirt, dust, and debris shall be removed and the premises left in a clean and neat condition.

C. Caulk around fixtures at floor and wall.

D. Before covering is applied to piping systems, clips, rods, clevises and other hanger attachments, and before uncovered piping is permitted to be concealed, corrosion and rust shall be wire brushed and cleaned and in the case of iron products, a coat of approved protective paint applied to these surfaces. When corrosion is from the effects of hot solder paste, the areas shall be cleaned and polished and a wash of bicarbonate of soda and water used to neutralize the acid condition.

3.6 DISINFECTING

A. After the entire potable water system is completed, cleaned and tested, and just before the building is ready to be occupied, disinfect the system as follows: After flushing the mains, introduce a water and chlorine solution for a period of not less than three hours before final flushing of the system.

3.7 TESTS

A. Sanitary soil, waste and vent piping: Fill with water to top of vents, and test as required by Code.

B. Water piping shall be tested to a pressure of 100 lbs. per square inch for at least 30 minutes. Pressure drop in this period shall not exceed two pounds per square inch. Leaks shall be repaired and system retested. Notify Architect 24 hours before test is to be performed.

3.8 INSTRUCTIONS

A. On completion of the project, provide a competent technician to thoroughly instruct the Owner's representative in the care and operation of the system. The total period of instruction shall not exceed eight (8) hours. The time of instruction shall be arranged with the Owner.

3.9 FIRESTOPPING

A. Firestopping shall be performed in accordance with Specification Section 07 84 00 “Firestopping”. All penetrations of fire-rated assemblies including walls and floors by mechanical system components (piping, ductwork, conduits, etc.) shall be firestopped as specified.

END OF SECTION

SECTION 23 00 00 - HVAC SYSTEM

PART 1 GENERAL

1.1 DESCRIPTION

A. The work covered by this Section of the specifications includes the furnishing of labor, materials, equipment, transportation, permits, inspections and incidentals and the performing of operations required to install the heating, ventilating and air conditioning systems indicated.

1.2 RELATED DOCUMENTS

A. The drawings and the specifications including SECTION 23 05 00 “Common Work Results for HVAC” are hereby made a part of the work of this section.

1.3 SUBMITTALS

A. Substitutions: Your attention is directed to Section 23 05 00-"Substitutions", relative to competition and the (ONLY) notation. Familiarity with this section should be achieved before reading the PRODUCTS section of this specification.

B. The items for which the submittals paragraph in Section 23 05 00, Common Work Results for HVAC, apply are as follows:

1. Piping materials.
2. Hangers.
3. Valves.
4. Piping, valve and equipment identification.
5. Split-system air conditioning heat pump units.
6. Electric duct coils.
7. Energy recovery ventilator.

PART 2 PRODUCTS

2.1 REFRIGERANT PIPING

A. Refrigerant Piping: Dimensions and material requirements for pipe, pipe fittings and components shall conform to ASHRAE 15 and ANSI B31.5 and shall be compatible with fluids used and capable of withstanding the pressures and temperatures of the service.

B. All piping exterior to building, shall be a minimum of type “L”, “ACR” rated straight pipe for R- 410A or as specified. All piping on the building interior shall be “L”, ACR” rated rolled soft copper or line set for R-410A or as specified, piping (after annealing) shall have sufficient wall thickness for a continuous operating pressure of 600 PSI per ASME B 31.5-2010.

C. Tubing used for refrigerant service shall be cleaned, sealed, capped, or plugged prior to shipment from the manufacturer's plant.

D. All joints shall be brazed except at the indoor units which shall be flared. Brazing Materials: Provide AWS A5.8 brazing filler metal Type BAg-5 with AWS Type 3 flux, except Type BCuP-5 or BCuP-6 may be used for brazing copper-to-copper joints

1. Dry Nitrogen: Dry nitrogen must be used during all brazing (pressure regulated to 3 PSI) to prevent copper plate or oxidation formation

E. All piping shall be installed in accordance with the mechanical design. Any deviation shall be submitted for prior approval to the mechanical engineer prior to installation. Selected copper tube must be of suitable wall thickness for higher operation pressures.

F. Flaring: Flared tube ends should have a smooth, even round flare of sufficient length to fully engage the mating surface of the flare nut, without protruding into the threads. Use only "PVE" or "POE" refrigeration oil when making flares. Dedicated flare block and tool is recommended. Only use synthetic oil on the flare tool.

G. Pressure testing: Tighten down stop valves before any pressure testing to prevent nitrogen from leaking back through condenser and contaminating refrigerant.

Pressure testing shall be done in three
(3) steps.
Step 1 – Leak check 3 minutes at 150
PSI
Step 2 – Leak check after 5 minutes at 325 PSI
Step 3 – Leak check after 24 hours at 550 PSI (450 psi for systems with vertical Air Handlers) Always check flare nuts for leaks using bubble solution. Be sure to use a recommended product. Do not use a watered down fairy liquid solution.

H. Leak testing and evacuation shall be done in accordance with the US EPA "Green Chill Best Practices Guideline Ensuring Leak-Tight Installation of Commercial Refrigerant Equipment."

I. Evacuation procedures: Evacuation procedures shall be performed as follows:

1. Evacuate the system to 4000 microns. Break the vacuum with dry nitrogen to a pressure of 2-3 PSI and hold for 15 minutes.
2. Evacuate system to 1500 microns and maintain for 20 minutes. Break the vacuum with dry nitrogen to a pressure of 2-3 PSI and hold for 15 minutes.
3. Evacuate system to below 500 microns and hold for 60 minutes.
4. Evacuate system to below 300 microns and hold for 24 hours.

Vacuum pump check valve should be used to prevent mineral oil from being drawn into the system. These procedures must be adhered to, documented and included in the HVAC subcontractors price.

J. Refrigerant charging: Weigh in additional refrigerant with digital scales. Calculate charge based on total line length plus lb/ft of diameter. Check with each unit model for correct multiplier. After the amount of refrigerant to be added is determined write it down on the label on the back side of the front cover. After the vacuum/drying is

complete, charge the additional refrigerant in its liquid state through the liquid stop valve service port.

Make sure to use installation tools exclusively used on R410A installations to withstand the pressure and to prevent foreign material from mixing into the system.

K. Ball valves: Ball valves for refrigerant service shall be Streamline Cyclemaster ball valves, with full port construction, rupture-proof encapsulated stem, UL Listed with a maximum working pressure of 700 psig and a working temperature range of -40°F to 300°F. Materials shall be compatible with all CFC, HCFC and HFC refrigerants and oils.

2.2 HANGERS

A. Adjustable Swivel Hanger: Pipe Sizes 2" and Less: Carpenter and Paterson Fig. 800 conforming to MSS-SP-58, oversize for insulated piping systems. Pipe Sizes Larger Than 2": Carpenter and Paterson Fig. 100, oversize for insulated piping systems.

B. Riser Clamp: Carpenter and Paterson Fig. 126 and Fig. 126 CT conforming to MSS-SP-58, provide copper plated clamps on copper pipes.

C. Insulation Shields: 18 ga. galvanized steel, 180^{o} wrap, Carpenter and Paterson Fig. 265P, Type H.

2.3 PIPING, VALVE AND EQUIPMENT IDENTIFICATION

A. Pipe Identification: Provide plastic "wrap around" identification markers indicating flow direction and fluid flowing for the following:

Refrigerant Suction Piping
Refrigerant Liquid Piping

1. Markers shall be placed 30-50 ft. apart for piping in accessible areas.

2. Markers shall be placed outside the pipe insulation and in the most obvious location for viewing. Markers shall not be installed in exposed areas except in the mechanical rooms.

B. Valve Tags:

1. Attach to each valve a 1-1/2" round or octagonal brass tag with 1/2" indented numerals filled with a durable black compound. In addition to the valve numbers, each tag shall identify the system it controls. Service stop valves exposed in finished areas need not be tagged.

2. Tags shall be securely attached to stems of valves with copper or brass "S" hooks, or chains.

3. Valve charts shall be provided for each piping system and shall consist of schematic drawings of piping layouts, showing and identifying each valve and describing its function. Upon completion of the work, one (1) copy of each chart, sealed to rigid backboard with clear lacquer placed under glass and framed,

shall be hung where directed. Two (2) additional unmounted copies shall be delivered to the Architect.

4. Tags and charts shall be coordinated with Section 22 00 00 Plumbing and when completed this work shall have been done sequentially.

C. Equipment Identification:

1. Provide laminated plastic nameplates for boilers, pumps, and air handling units. Laminated plastic shall be 0.125-inch thick melamine plastic conforming to Fed. Spec. L-P-387, black with white center core. Surface shall be a matte finish, corners shall be square. Accurately align lettering and engrave into the white core. Minimum size of nameplates shall be 1.0 inch by 2.5 inches. Lettering shall be minimum of 0.25-inch high normal block lettering.

2.4 SPLIT SYSTEM HEAT PUMPS

A. The Split System Heat Pump Air Conditioning Systems shall be Mitsubishi MXZ-SM Series consisting of a multiple indoor units served by a single outdoor condensing units. The outdoor unit shall have rated performance of heating operation at -13^{0}F ambient temperatures (note: Submittal must include unit performance from the manufacturer at -13°F). The system shall utilize R-410A refrigerant. Piping joints and headers in the refrigeration piping shall be manufactured by the system manufacturer, piping shall be type ACR Copper. The split system shall include packaged controls including hard wired remote space sensors and condensate overflow safety switches for each indoor unit.

B. The indoor air handling unit shall be Mitsubishi MSZ-FS series (wall-mounted) or as scheduled/indicated. Cooling/Heating capacities shall be as scheduled. The system shall operate on 230V-1 phase power fed from the outdoor unit to the indoor unit. Furnish with refrigerant piping, wiring and condensate piping as recommended by the manufacturer. Units must be suitable for use with the refrigerant line lengths required by the unit placement as shown on the plans with no reduction in capacity. All indoor units shall include condensate pumps, condensate shall be piped in order to drain to daylight. All outdoor units shall include wind baffles and 24” tall stands. Provide with wired thermostats.

C. The split system heat pump units shall be the model and capacity scheduled. Compressors shall be inverter-driven scroll type. Capacity shall match system load. Heat exchanger shall be a copper pipe-in-pipe structure, unit shall include a high pressure sensor and switch, inverter overcurrent/overheat protection, compressor overheat protection, auto-defrost mode.

D. Outdoor units shall be set on the ground on 24” tall stands mounted on concrete pads as recommended by the manufacturer. Provide snow / hail guards and base pan heaters. The indoor units shall be piped in an aesthetically pleasing manner with a minimum of exposed piping. Exposed piping shall have a finished molded PVC cover. Installation shall be per the manufacturers recommendations.

E. Unit thermostats shall be similar to Mitsubishi PAR-21MAA, hard-wired, or equal programmable thermostats, battery back-up, programmable heating/cooling limits.

F. Sequence of Operation: Wired controller provided with units, Contractor shall install and wire per manufacturers requirements. The space temperature sensor shall be located as indicated on the drawings. The unit shall maintain the space temperature setpoint by operating the heat pump in heating or cooling mode as necessary.

2.5 ELECTRIC DUCT COILS

A. Electric Duct Coils shall be Renewaire, Indeeco TXFU, Chromalox or equal and shall have finned tubular elements consisting of a grade A coil constructed from 80% nickel and 20% chromium, centered in a stainless steel tube that is filled with granular magnesium oxide. The finned element is a stainless steel fin helically wound onto the tube. Provide coils with airflow interlocks, SCR controller, both automatic and manual reset thermal cutouts (for primary and secondary overtemperature protection), built-in snap acting, door interlocking disconnect marked with “on” and “off” positions and factory mounted control transformer. Coils shall be suitable for use with 120V, 1-Phase power and shall provide the scheduled capacity. Coils shall be UL-Listed.

B. Sequence of Operation: At outside air temperature below 55°F and subject to the airflow proving switch, the associated electric duct coil shall operate to maintain a discharge temperature of 72°F (adjustable). At outside air temperatures above 70°F, the associated electric duct coil shall be de-energized.

2.6 ELECTRIC WALL HEATER (WH-#)

A. Electric Wall Heaters shall be Berko model indicated or equal, capacity scheduled on drawings. Heaters shall utilize power noted on schedule and shall be provided with remote mount thermostat, built-in thermal cutout, non-glowing 80/20 Ni-Ch electric resistance wire enclosed in a steel sheath with steel fins. Cabinet shall be surface mounted and painted with an enamel paint (color by architect). Unit shall include disconnect switch mounted behind the front panel for positive disconnect of power supply.

B. Sequence of Operation: Electric wall heaters shall operate as required to satisfy the built-in thermostat setpoint (adj.).

2.7 INDOOR TOTAL ENERGY RECOVERY EQUIPMENT (ERV-2,3)

A. Make/model scheduled or approved equal, capacities and performance as scheduled. The heat recovery equipment shall be a factory assembled and tested package, constructed and rated in accordance with AHRI. System components shall include fan(s) with ECM motors (where available), air-to-air heat exchanger, low-leakage dampers, filter sections, non-fused disconnect switches and insulated airtight casing with interior sheetmetal liner. The casing shall have 1" thick (minimum) 3.0 pcf fiberglass thermal insulation. All unit casings shall be factory painted.

B. The air-to-air “total energy” heat recovery units shall be a static plate core capable of sensible and latent energy transfer. Energy transfer efficiency shall be as scheduled.

C. Supply and exhaust prefilters shall be 2" thick, 30-35% efficient extended surface pleated media disposable type by Farr, or approved equal. Furnish a total of three (3) complete sets of filters for each filter bank.

D. Dampers shall be galvanized steel, airfoil blade, or approved equal, "ultra low leak" type with a maximum leakage of 4CFM/sf @ 1.0" w.g. per IECC. Blade seals shall be neoprene and jamb seals shall be compressible aluminum or stainless steel. Motorized backdraft dampers and actuators with end switches shall be provided for the supply and exhaust fans.

E. Electrical work shall be in accordance with the National Electrical Code (NFPA 70) and shall include motor starters, junction boxes. Provide switches with pilot lights. Wiring shall be in galvanized steel or liquidtight conduit. A single point electrical connection shall be provided.

F. The heat recovery units shall be started up and their operation verified by an authorized representative of the equipment manufacturer.

G. Sequence of Operation:

1. Fans: Exhaust air and outside air motorized dampers shall open, supply and exhaust fans shall operate continuously.

2. Supply air temperature: Refer to electric duct coil sequence of operation.

3. Motorized Dampers: Outside air and exhaust air motorized dampers shall close upon unit shutdown.

2.8 INDOOR TOTAL ENERGY RECOVERY EQUIPMENT (ERV-1), (ADD-ALTERNATE)

A. Make/model scheduled or approved equal, capacities and performance as scheduled. The heat recovery equipment shall be a factory assembled and tested package, constructed and rated in accordance with AHRI. System components shall include fan(s) with ECM motors (where available), air-to-air heat exchanger, low-leakage dampers, filter sections, non-fused disconnect switches and insulated airtight casing with interior sheetmetal liner. The casing shall have 1" thick (minimum) 3.0 pcf fiberglass thermal insulation. All unit casings shall be factory painted.

B. The air-to-air "total energy" heat recovery units shall be a static plate core capable of sensible and latent energy transfer. Energy transfer efficiency shall be as scheduled.

C. Supply and exhaust prefilters shall be 2" thick, 30-35% efficient extended surface pleated media disposable type by Farr, or approved equal. Furnish a total of three (3) complete sets of filters for each filter bank.

D. Dampers shall be galvanized steel, airfoil blade, or approved equal, "ultra low leak" type with a maximum leakage of 4CFM/sf @ 1.0" w.g. per IECC. Blade seals shall be neoprene and jamb seals shall be compressible aluminum or stainless steel. Motorized backdraft dampers and actuators with end switches shall be provided for the supply and exhaust fans.

E. Electrical work shall be in accordance with the National Electrical Code (NFPA 70) and shall include motor starters, junction boxes. Provide switches with pilot lights. Wiring shall be in galvanized steel or liquidtight conduit. A single point electrical connection shall be provided.

F. The heat recovery units shall be started up and their operation verified by an authorized representative of the equipment manufacturer.

G. This unit is intended to be installed in such a way as to be winterized during the off-season.

H. Sequence of Operation:

1. Fans: Exhaust air and outside air motorized dampers shall open, supply and exhaust fans shall operate continuously.

2. Motorized Dampers: Outside air and exhaust air motorized dampers shall close upon unit shutdown.

PART 3 EXECUTION

3.1 SURFACE CONDITIONS

A. Inspection:

1. Prior to work of this Section, carefully inspect the installed work of other trades and verify that such work is complete to the point where this installation may properly commence.

2. Verify that the heating system may be installed in accordance with pertinent codes and regulations and the reviewed Submittals.

3.2 INSTALLATION OF PIPING

A. In general, piping shall be run concealed above ceilings in occupied areas. Piping in other areas may be run exposed. Piping shall not be exposed in occupied spaces unless written authorization is given by the Architect.

B. Provide and erect in accordance with the best practice of the trade piping shown on the Drawings and as required to complete the intended installation. Make offsets as shown or required to place piping in proper position to avoid other work and to allow the application of insulation and finish painting to the satisfaction of the Architect.

C. The size and general arrangements, as well as the methods of connecting piping, valves, and equipment, shall be as indicated, or so as to meet the requirements of the Architect.

D. Piping shall be erected so as to provide for the easy and noiseless passage of fluid under working conditions. Inverted eccentric reducing fittings shall be used whenever water pipes reduce in size.

E. Solder joints shall be made with non-lead solder. Clean surfaces to be soldered and use a paste flux. Wash joints with sodium bicarbonate and water to remove corrosive effects of heated solder paste. Hot wipe solder at each fitting.

F. PVC piping shall have solvent welded joints except at connections to equipment and valves which shall be screwed for sizes 2" and smaller and flanged for sizes 2-1/2" and

larger. Solvent welded joints: Pipe ends deburred, and beveled. Pipe end and fitting: Cleaned and dried, primed to soften bonding surfaces. Pipe end: Apply even full layer of solvent cement after priming. Before cement starts to set, insert pipe end into fitting and turn 1/4 turn to evenly distribute cement. Hold joint together until cement sets-up, wipe excess cement off joint.

G. Pipe penetrations through walls, floors and ceilings shall be in accordance with Section 23 05 00 "Supplemental Mechanical General Requirements". Traverse points of piping shall be escutcheoned with split chrome floor and ceiling plates and spring anchors, where visible to occupancy.

H. All vertical and horizontal penetrations through walls, floors and ceilings shall be sealed against air movement between spaces.

3.3 PIPE HANGERS

A. Impact driven studs are not acceptable.

B. Pipes (copper or steel) shall be supported at intervals and rod sizes as follows, double nuts on hangers and on beam clips.

Pipe Size	Hanger Intervals	Rod Sizes
1/2"	5'	3/8"
3/4"	6'	3/8"
1"	7'	3/8"
1-1/4"	8'	3/8"
1-1/2"	9'	3/8"
2"	10'	3/8"
2-1/2"	11'	1/2"
3"	12'	1/2"

C. Verticals: Supported at the base and at intervals as follows by use of clamp hangers:

Steel Pipe: Not more than 16 ft.

Copper Pipe and Tubing:

1-1/2" and larger - Not more than 12 ft.
1-1/4" and smaller - Not more than 6 ft.

D. Provide welded steel saddles at each hanger on steel piping systems 4" and larger.

E. PVC Piping: Supported at 4' intervals.

F. Spring Isolators: All piping within 20' upstream and downstream of the pumps.

3.4 CLOSING IN WORK

A. Cover up or enclose work after it has been properly and completely tested and reviewed.

B. No additional cost to the Owner will be allowed for uncovering or recovering any work that is covered or enclosed prior to required test and review.

3.5 TEST AND ADJUST

A. Piping Systems: Test with water to a pressure of 75 psi and hold for a period of two hours. Repair any leaks and retest the piping system; repeat process until systems are leak-free. Test piping before it is insulated.

B. Before operating any system, flush the piping to remove oil and foreign materials.

C. After the installation is complete and ready for operation, test the system under normal operating conditions in the presence of the Architect and demonstrate that the system functions as designed.

D. Demonstrate that the HVAC systems have free and noiseless circulation of water, that all air has been purged and that systems are watertight.

E. Correct defects which develop in operational testing, conduct additional testing until defect free operation is achieved.

F. Provide balancing and adjusting of terminal devices in accordance with Specification Section 23 05 93.

3.6 CLEANUP AND CORROSION PREVENTION

A. Piping and equipment shall be thoroughly cleaned. Dirt, dust, and debris shall be removed and the premises left in a clean and neat condition.

B. Before covering is applied to piping systems, clips, rods, clevises and other hanger attachments, and before uncovered piping is permitted to be concealed, corrosion and rust shall be wire brushed and cleaned and in the case of iron products, a coat of approved protective paint applied to these surfaces. When corrosion is from the effects of hot solder paste, the areas shall be cleaned and polished and a wash of bicarbonate of soda and water used to neutralize the acid condition.

3.7 INSTRUCTIONS

A. On completion of the project, instruct the Owner's representative in the care and operation of the system. The period of instruction shall be for not less than one 8 hour period. The time of instruction shall be arranged with the Owner. In addition to the prime Mechanical Contractor, the control system Contractor, Balancing Contractor, and Owner's representative shall be present and participate in the Owner's instruction.

3.8 FIRESTOPPING

A. Firestopping shall be performed in accordance with Specification Section 07860 “Firestopping & Smoke Seals”. All penetrations of fire-rated assemblies including walls and floors by mechanical system components (piping, ductwork, conduits, etc.) shall be firestopped as specified.

* END OF SECTION *

MAINE IF+W NATURE STORE & ADMIN OFFICE

56 Game Farm Rd, Gray, ME 04039
ISSUED FOR BID BGS #3096
DATE OF ISSUE: 04.23.2024

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ALTERNATES

Alternate No. 1: Nature Store Shell.
1. Base Bid: Provide construction of the Nature Store shell with the exterior completed to Specification and Plans and the interior to have framing completed only. Bid shall not include insulation, drywall, ceilings, millwork, casework, heating and cooling, and electrical. Floor sealant and 200-amp electrical panel to remain in base bid.
2. Alternate: Provide everything to complete the interior to Specifications and plans

Alternate No. 2: Nature Store ERV-1.
1. Base Bid: Do not provide Nature Store ERV-1.
2. Alternate: Provide Nature Store ERV-1, associated ductwork and power requirements as indicated in the Contract Documents.

Alternate No. 3: Nature Store Shelving.
1. Base Bid: Do not provide Nature Store Shelving.
2. Alternate: Provide Nature Store Shelving as indicated in the Contract Documents.

Alternate No. 4: Cedar Siding.
1. Base Bid: Provide pine siding as indicated in the Contract Documents.
2. Alternate: Provide cedar siding in lieu of pine siding as indicated in the Contract Documents.

Alternate No. 5: Mud Room Millwork.
1. Base Bid: Do not provide Mud Room Millwork.
2. Alternate: Provide Mud Room Millwork as indicated in the Contract Documents.

DRAWING LIST

• FIRST ISSUANCE □ REISSUED, NO REVISIONS • ISSUED WITH REVISIONS ⊗ REMOVED FROM SET

SHEET NO.	SHEET NAME	ISSUE 01 - 04/23/2024	ISSUE 02 - 05/13/2024
GENERAL			
G001	COVER SHEET	•	▪
G002	TYPICAL MOUNTING	•	▪
G101	LIFE SAFETY PLAN + CODE SUMMARY	•	▪
CIVIL			
C-101	SITE LAYOUT AND UTILITIES PLAN	•	▪
ARCHITECTURAL			
A000	ASSEMBLY TYPES	•	▪
A101	CONSTRUCTION PLAN - LEVEL 01	•	▪
A102	ROOF PLAN	•	▪
A121	FINISH PLAN - LEVEL 01	•	▪
A131	REFLECTED CEILING PLAN - LEVEL 01	•	▪
A140	INTERIOR ELEVATIONS	•	▪
A141	INTERIOR ELEVATIONS	•	□
A142	INTERIOR ELEVATIONS	•	▪
A201	EXTERIOR ELEVATIONS	•	▪
A301	BUILDING SECTIONS	•	▪
A311	WALL SECTIONS	•	▪
A312	WALL SECTIONS	•	▪
A313	WALL SECTIONS	•	▪
A401	PLAN DETAILS	•	▪
A402	PLAN DETAILS	•	▪
A411	VERTICAL DETAILS	•	▪
A412	VERTICAL DETAILS	•	▪

SHEET NO.	SHEET NAME	ISSUE 01 - 04/23/2024	ISSUE 02 - 05/13/2024
A420	MILLWORK DETAILS	•	▪
A600	DOOR SCHEDULE	•	▪
A601	DOOR DETAILS	•	▪
A602	EXTERIOR WINDOW SCHEDULE	•	□
A603	WINDOW DETAILS	•	▪
STRUCTURAL			
S100	GENERAL NOTES	•	▪
S101	FOUNDATION PLAN	•	▪
S102	ROOF FRAMING PLAN	•	▪
S201	WALL SECTIONS	•	▪
S202	FRAMING SECTIONS & TRUSS ELEVATIONS	•	▪
ELECTRICAL			
E101	LIGHTING PLAN	•	▪
E201	POWER PLAN	•	▪
E301	ELECTRICAL NOTES, LEGEND & DETAILS	•	▪
MECHANICAL			
M101	MECHANICAL PLAN	•	▪
M201	PLUMBING PLAN	•	□
M301	SCHEDULES	•	▪
M401	LEGEND AND DETAILS	•	□
M402	HEAT PUMP SCHEMATIC DETAILS	•	□

MATERIALS AND SYMBOLS

COURSE GRAVEL
CONCRETE
STONE
EARTH/COMPACT FILL
GLASS
GYPSUM/PLASTER
PLYWOOD
FINISH WOOD
ROUGH WOOD
BLOCKING WOOD
CONCRETE MASONRY
BRICK MASONRY
SAND/FINE GRAVEL
DENSE PAK CELLULOSE INSULATION
SPRAY FOAM INSULATION
BATT INSULATION
XPS INSULATION
EPS INSULATION

AP-000 — APPLIANCE / EQUIPMENT / ACCESSORY
X / AXXX — BUILDING SECTION
X / AXXX — BUILDING ELEVATION
ACP.000 / X'-X" AFF — CEILING - TYPE AND HEIGHT
HIGHER / LOWER — CEILING HEIGHT CHANGE
CENTER LINE
X — COLUMN REFERENCE LINE
X / AXXX — DETAIL CALL OUT
X / AXXX — DETAIL SECTION
101A — DOOR TAG

DOOR - NEW
DOOR - EXISTING
WD-0 — FLOOR FINISH
FLOOR FINISH TRANSITION
N / W X AXXX E / S — INTERIOR ELEVATION(S)
M4 / 01 — PARTITION TAG
000.0 — PLUMBING FIXTURE
TOP OF FIN. FLOOR EL. + X'-X" — PROPOSED ELEVATION
1 — REVISION REFERENCE
PT00 — WALL FINISH
PT00 / PT00 — WALL/BASE FINISH
NO. — WINDOW TAG

ABBREVIATIONS

AB	ANCHOR BOLT
ACCESS	ACCESSORY
ACOUS	ACOUSTIC(AL)
ACT	ACOUSTICAL CEILING TILE
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
AP	ACCESS PANEL
APPL	APPLIANCE
APV	ASPHALT PAVER
ARCH	ARCHITECT(URAL)
AUTO	AUTOMATIC
AVG	AVERAGE
BD	BOARD
BF	BOTTLE FILLER
BIT	BITUMINOUS
BLDG	BUILDING
BLKG	BLOCKING
BM	BENCHMARK
BRG	BEARING
CAB	CABINET
CB	CATCH BASIN
CEM	CEMENT(ITIOUS)
CF	CUBIC FEET
CG	CORNER GUIARD
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CLG	CEILING
CLO	CLOSET
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS(ATION)
COORD	CORRDINATE(ED)
CPT	CARPET
CRS	COURSE
DBL	DOUBLE
DEFL	DEFLECTION
DEMO	DEMOLITION
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DISP	DISPENSER
DN	DOWN
DR	DOOR
DWG	DRAWING(S)
EA	EACH
EF	EXHAUST FAN
EJ	EXPANSION JOINT
EL	ELEVATION
EMBED	EMBEDD(ED)(ING)
ENTR	ENTRANCE
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST / EXT'G	EXISTING
FBO	FURNISHED BY OWNER
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER AND CABINET
FG	FIBERGLASS
FHC	FIRE HOSE AND CABINET
FIN	FINISH
FLR	FLOOR(ING)
FOS	FACE OF STUD
FR	FIRE RAT(ING)(ED)
FRP	FIBERGLASS REINFORCED PLASTIC
FXD	FIXED
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GL	GLASS
GR	GRANITE
GWB	GYPSUM WALL BOARD
HC	HOLLOW CORE
HD	HIGH DENSITY
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HVAC	HEATING, VENTILATIING, AND AIR CONDITIONING
ID	INSIDE DIAMETER
INCL	INCLUD(ING)
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
JAN	JANITOR
JT	JOINT
KIT	KITCHEN
LAM	LAMINATE(D)
LAV	LAVATORY
LCC	LEAD COATED COPPER
LF	LINEAR FOOT/FEET
LT	LIGHT
MAS	MASONRY
MEMB	MEMBRANE
MET	METAL
MEZZ	MEZZANINE
MFD	MANUFACTURED
MFR	MANUFACTURER
MH	MANHOLE
MISC	MISCELLANEOUS
MLWK	MILLWORK
MO	MASONRY OPENING
MOIST	MOISTURE
MOLD	MOLDING
MOT	MOTOR(IZED)
MR	MOISTURE RESISTANT
MTD	MOUNTED
MTRL	MATERIAL
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OPNG	OPENING(S)
OPR	OPERABLE
OVHD	OVERHEAD
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLSTC	PLASTIC
PLYWD	PLYWOOD
PNL	PANEL
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PT	PAINT
PVMT	PAVEMENT
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
RECES	RECESSED
RECPT	RECEPTACLE
REF	REFER(ENCE)
REFR	REFRIGERATOR
REINF	REINFORCED(D)(ING)(MENT)
REQD	REQUIRED
RESIL	RESILIENT
RESIS	RESIST(ANT)(IVE)
RFG	ROOFING
RM	ROOM
RO	ROUGH OPENING
SAFB	SOUND ATTENUATION FIRE BATT (BRACKET)
SAN	SANITARY
SCR	SCRIBE
SD	STORM DRAIN
SECT	SECTION
SIM	SIMILAR
SPEC	SPECIFICATION(S)
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SURF	SURFACE
SUSP	SUSPENDED
SYS	SYSTEM(S)
T&G	TONGUE AND GROOVE
THK	THICK
TLT	TOILET
TRANS	TRANSPARENT
TRTD	TREATED
TYP	TYPICAL
UNDRLAY	UNDERLAYMENT
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WT	WEIGHT
WTRPRF	WATERPROOFING

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PROJECT NAME:
MAINE IF+W NATURE STORE & ADMIN OFFICE

56 Game Farm Rd, Gray, ME 04039

SEAL:

LICENSED ARCHITECT
SCOTT R. SIMONS
NO. 2034
STATE OF MAINE

△ REVISIONS

DATE OF ISSUE: 04.23.2024
PROJECT NUMBER: 2023-0190
STATUS: ISSUED FOR BID BGS #3096

COVER SHEET

G001

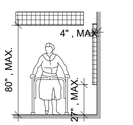


FIG. 307.2 -
LIMITS OF PROTRUDING OBJECTS

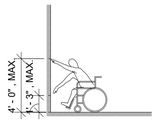


FIG. 308.2.1 - UNOBSTRUCTED FORWARD REACH

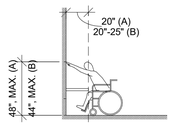


FIG. 308.2.2 - OBSTRUCTED HIGH FORWARD REACH

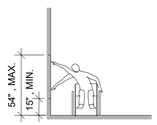


FIG. 308.3.1 - UNOBSTRUCTED SIDE REACH

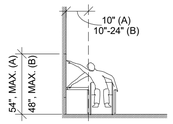


FIG. 308.3.2 - OBSTRUCTED SIDE REACH

FIRE EXTINGUISHING CABINET MOUNTING HEIGHT

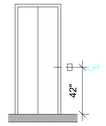


FIG. 407.2.2

ELEV. CALL BUTTONS

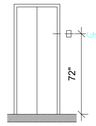


FIG. 407.2.3.1

HEIGHT OF ELEV. VISIBLE SIGNALS

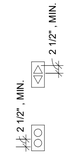


FIG. 407.2.3.2.2

SIZE OF ELEV. VISIBLE SIGNALS

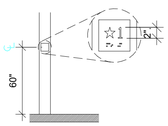


FIG. 407.2.4

TACTILE CHARACTERS ON ELEV. HOISTWAY ENTRANCES

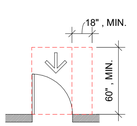
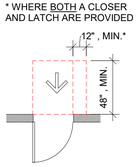
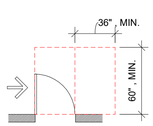


FIG. 404.2.41 - MANEUVERING CLEARANCE AT SWING DOOR

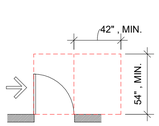
(A) FRONT APPROACH, PULL SIDE



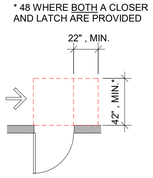
(B) FRONT APPROACH, PUSH SIDE



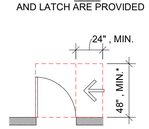
(C) HINGE APPROACH, PULL SIDE



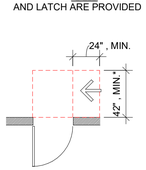
(D) HINGE APPROACH, PULL SIDE



(E) HINGE APPROACH, PULL SIDE



(F) LATCH APPROACH, PULL SIDE



(G) LATCH APPROACH, PUSH SIDE

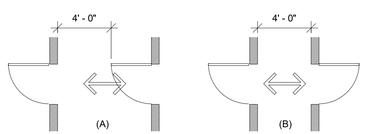


FIG. 404.2.6

TWO DOORS IN A SERIES
(A) AND (B)

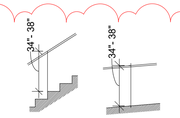


FIG. 505.4.

HANDRAIL HEIGHT
(A) STAIRS
(B) RAMPS

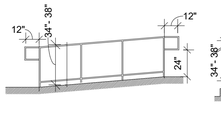


FIG. 505.10.1

TOP AND BOTTOM HANDRAIL EXTENSIONS AT RAMPS

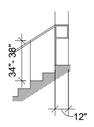


FIG. 505.10.2

TOP HANDRAIL EXTENSION AT STAIRS

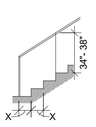


FIG. 505.10.3

TOP HANDRAIL EXTENSION AT STAIRS

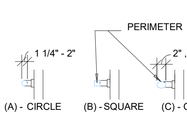


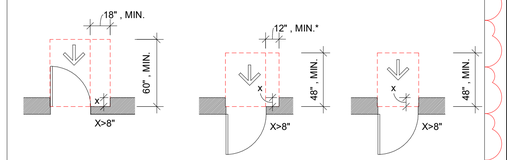
FIG. 609.2

SIZE OF GRAB BARS
(A) CIRCULAR
(B) AND (C) NON CIRCULAR

FIG. 609.3

SPACING OF GRAB BARS

404.2.4.3
MANEUVERING CLEARANCES FOR FORWARD APPROACH SHALL BE PROVIDED WHEN ANY OBSTRUCTION WITHIN 18 INCHES (455 MM) OF THE LATCH SIDE OF A DOORWAY PROJECTS MORE THAN 8 INCHES (205 MM) BEYOND THE FACE OF THE DOOR, MEASURED PERPENDICULAR TO THE FACE OF THE DOOR OR GATE. FIG. 404.2.4.3



FRONT APPROACH, PULL SIDE

FRONT APPROACH, PUSH SIDE W/ BOTH CLOSER & LATCH

FRONT APPROACH, PUSH SIDE

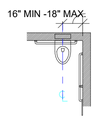


FIG. 604.2

WATER CLOSET LOCATION

FIG. 604.4

HEIGHT TO TOP OF SEAT

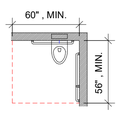


FIG. 604.3.1

SIZE OF CLEARANCE FOR WATER CLOSET

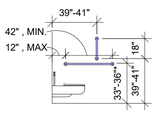


FIG. 604.5.1

SIDE WALL GRAB BAR FOR WATER CLOSET

* TO TOP OF GRAB BAR

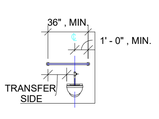
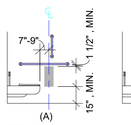


FIG. 604.5.2

REAR WALL GRAB BAR FOR WATER CLOSET



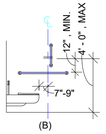
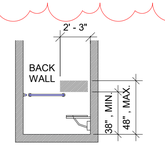


FIG. 604.7

DISPENSER LOCATION

(A) BELOW GRAB BAR
(B) ABOVE GRAB BAR



(B)
WITH SEAT
FIG. 608.3.5

CONTROLS IN TRANSFER-TYPE SHOWERS

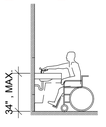


FIG. 606.3 -
HEIGHT OF LAVATORIES AND SINKS

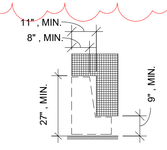
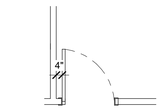
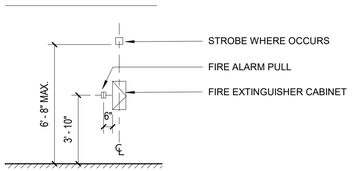


FIG. 306.3 -

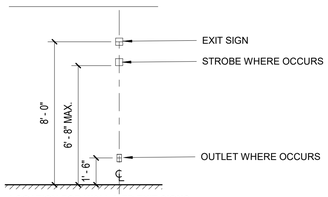
KNEE CLEARANCE



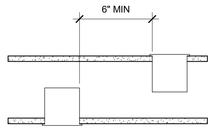
TYP. DOOR RETURN AT PERPENDICULAR WALLS



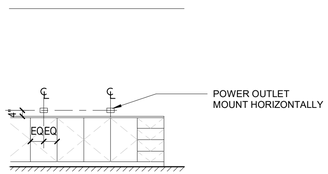
LOCATIONS at FIRE EXTINGUISHER CABINET
STROBES and FIRE ALARM PULLS



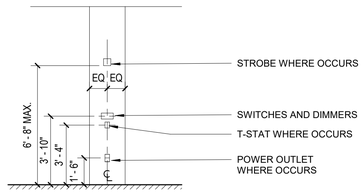
LOCATION FOR WALL MTD EXIT SIGNS



TYP. BACK TO BACK DEVICES (AT SAME HEIGHT)
(COORDINATE WITH SPECIFIC PLAN & ELEVATION)



DEVICE LOCATIONS at MILLWORK COUNTERS



DEVICE LOCATIONS at COLUMNS, BETWEEN DOORS, ETC.

DEVICE LOCATIONS at CORNERS

DEVICE LOCATIONS at OPEN DOORS

NOTES:

A. CONTRACTOR TO COORDINATE LOCATION OF STUDS IN PARTITION TO ACHIEVE INTENT. PROVIDE ADDITIONALSTUDS/BRACING AS NEEDED. PROVIDE SOUNDLINERS AT DEVICE BACK BOXES WHERE DEVICES ARE LOCATED IN PARTITIONS WITH INSULATION.
B. DIMENSIONS ARE TO CENTER LINE OF DEVICES, TYP. FIRE STROBE DIMENSION IS TO THE BOTTOM OF THE DEVICE.
C. TOP OF ACCESSIBLE DEVICES NOT TO EXCEED 48" AFF.
D. BOTTOM OF ACCISSBLE DEVICES TO BE NO LOWER THAN 18".
E. ALL DEVICES WITHIN 6'-0' OF ANOTHER TO BE ALIGNED PER THE DIAGRAMS ON THIS PAGE.

DEVICE LOCATIONS at CREDENZAS or COUNTERS

DEVICE LOCATIONS at WORK SURFACES

DEVICE LOCATIONS at DOOR JAMBS

LOCATION FOR TYPICAL SIGNS

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designed for human potential

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Portland, Maine 04101
simonsarchitects.com
207.772.4656

PROJECT NAME:

MAINE IF+W NATURE STORE & ADMIN OFFICE

56 Game Farm Rd, Gray, ME 04039

SEAL:

LICENSED ARCHITECT
SCOTT R. SIMONS
NO. 2034
STATE OF MAINE

REVISIONS

1	Addendum #1	05.13.2024

DATE OF ISSUE: 04.23.2024
PROJECT NUMBER: 2023-0190
STATUS: ISSUED FOR BID BGS #3096

TYPICAL MOUNTING

G002

LIFE SAFETY PLAN LEGEND:

- ### / ###| OCC / ####| SF — USE TYPE, (###) DENOTES ACCESSORY USE; OCCUPANTS; ROOM AREA
- ## / ## — OCCUPANT EGRESS LOAD AT DOOR/STAIR; DOOR/STAIR OCCUPANT CAPACITY; DIRECTION OF EGRESS
- X — EXIT KEY
- X XXX' — DISTANCE TO EXIT
- [XX'-X"] — DIAGONAL / SEPARATION DISTANCE
- (XX'-X") — PATH OF EGRESS (LEG DISTANCE)
- 1-HOUR FIRE RATED SEPARATION WITH 45 MINUTE OPENINGS
- 2-HOUR RATING
- SMOKE SEPARATION WITH 20 MINUTE OPENINGS
- FE — FIRE EXTINGUISHER
- ILLUMINATED EXIT SIGN (WALL MOUNTED)
- ILLUMINATED EXIT SIGN (CEILING MOUNTED)
- SD — SMOKE/FIRE DETECTOR
- K — KNOX BOX
- P — FIRE ALARM PULL STATION
- FIRE ALARM STROBE ONLY
- FIRE ALARM HORN / STROBE
- FIRE ALARM HORN / STROBE (CEILING MOUNTED)
- EMERGENCY LIGHT
- COMBINATION EMERGENCY LIGHT / EXIT SIGN
- FACP — FIRE ALARM CONTROL PANEL

CODE SUMMARY:

APPLICABLE CODES
*NOTE: All Codes shall include chnages/amedments by the State of Maine

Maine Uniform Building and Energy Code "MUBEC" consisting of the following applicable codes:
2015 International Building Code (IBC) Commercial Building Code
2015 International Energy Conservation Code (IECC)
2021 Plumbing Code
2020 National Electrical Code (NFPA 70)
Indoor Commercial Ventilation Code / ASHRAE 62 1, 2013 (Standards)
Indoor Residential Ventilation Code / ASHRAE 62 1, 2013 (Standards)
State of Maine Subsurface Wastewater Disposal Rules (ed. Jan 1
Residential Radon Code ASTM E 1465 (Standards)
Elevator Standards pursuuant to 32 M.S.R.15206, ASME A17.1 2007 Ed.

FIRE & LIFE SAFETY
NFPA Life Safety Code as adopted by the State of Maine
Including but not limited to:
2018 NFPA 001: Fire Code
2018 NFPA 101: Life Safety Code
2019 NFPA 72: Fire Alarm and Signaling

ACCESSIBILITY
2010 ADA Standards for Accessible Design

OCCUPANCY CLASSIFICATION
(IBC Sec 302, 303, 304, 508.3.1) (NFPA 101 6.1.14.3.2)
Mercantile M
Business B

AUTOMATIC SUPPRESSION SYSTEM
Not Included

FIRE ALARM SYSTEM
(NFPA 72, 2019)
Full fire alarm system

CONSTRUCTION TYPE
(IBC Sec. 602, NFPA 220)
VB - Non-Protected Wood Frame (IBC)
Type V (000) (NFPA)

GENERAL BUILDING INFORMATION AND ALLOWABLE BUILDING HEIGHTS AND AREA
(IBC Table 504.3, 504.4, 506.2)

	Proposed	Allowable
Building Height:	22' - 9 1/2" (To Ridge)	40'
Building Stories:	1 Story (M Dictates)	1
Total Area:	3,574 Sqft	9,000 SF
Perimeter:	Nature Store 177'	
	Ticketing 46'- 6"	
	Admin Office 192'	
	Total 315' - 6"	

REQUIRED OCCUPANCY SEPARATIONS
(IBC Table 508.4)
Seperation is not required between occupancy use types.

FIRE RESISTIVE RATINGS (IBC Table 601 / (NFPA Table A.8.2.1.2)	TYPE V (000) VB
STRUCTURAL FRAME	0
BEARING WALLS, EXTERIOR AND INTERIOR	0
NON-BEARING WALLS AND PARTITIONS, EXTERIOR NON-BEARING WALLS AND PARTITIONS, INTERIOR	0
FLOOR CONSTRUCTION AND SECONDARY MEMBERS	0
ROOF CONSTRUCTION AND SECONDARY MEMBERS	0

OCCUPANCY LOAD
(IBC Table 1004.1.2), (NFPA 101 Table 7.3.1.2)

Mercantile M	60 Gross Sqft per Occupant
Business B	100 Gross Sqft per Occupant
Accessory Storage (controlled access)	300 Gross Sqft per Occupant
Mechanical (controlled access)	300 Gross Sqft per Occupant

MEANS OF EGRESS
(IBC Chapter 10)

EGRESS WIDTH PER OCCUPANT
(IBC 1005.1)(NFPA)

0.2 Inches for other egress components

EXIT ACCESS
egress travel distance
(IBC 1017.1 / NFPA 101 Table A.7.6)
egress travel distance / common path of travel
For Mercantile 200' max allowed
For Business 200' max allowed

common path of travel
For Mercantile 75' max allowed OL less than 30 non-sprinkled
For Business 100' max allowed OL less than 30 non-sprinkled

Corridor Fire Resistance
(IBC Table 1020.1)
0 hour w/ Business load <30 and "Exception 4" - Occupancy Group B only requires
a single means of egress complying with section 1006.2.

Corridor Width
(IBC 1020.2)
Not less than 44"
Not less than 36" when less than 50 occupants

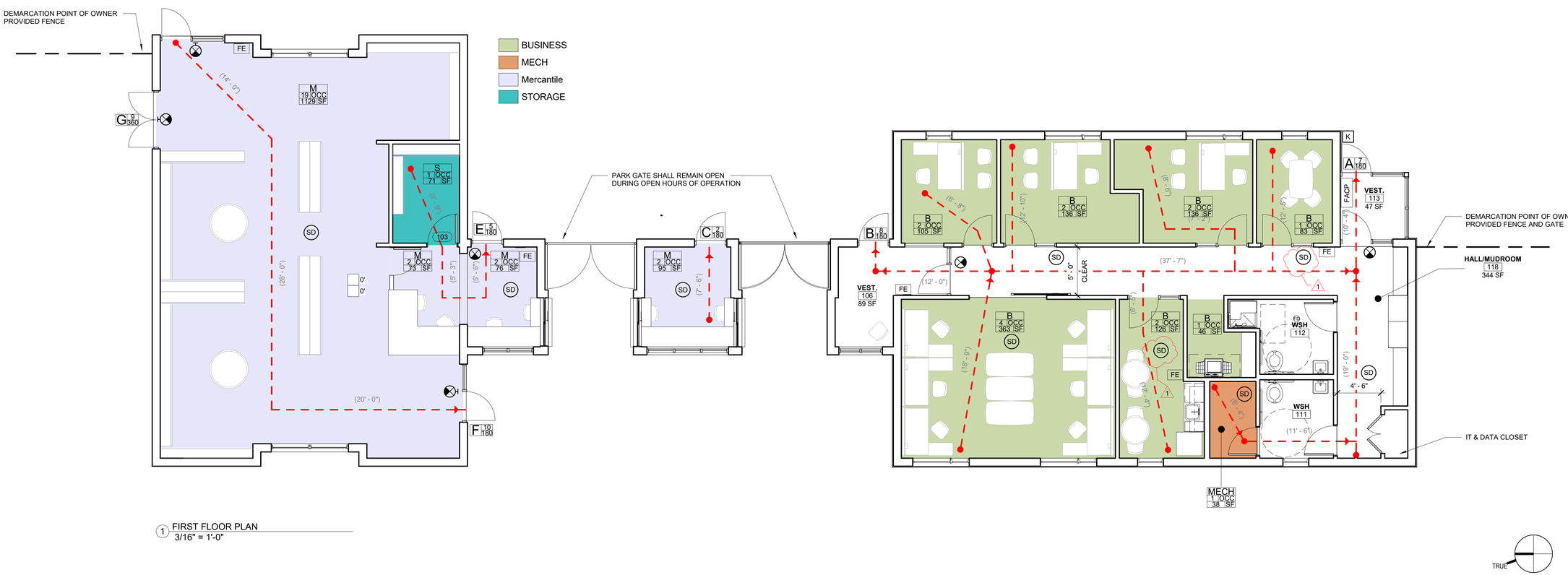
Dead-End Corridor
(IBC 1020.4) (NFPA 101 Table A.7.6)
For Business 20'
For Mercantile 20'

EGRESS CAPACITY - DOORS (IBC 1005.1, NFPA 101 TABLE 07.3.3.1)

		CAPACITY		
DOOR TAG	EGRESS WIDTH	FACTOR	MAX	LOAD
A	36"	0.2	180	7
B	36"	0.2	180	8
C	36"	0.2	180	2
E	36"	0.2	180	5
F	36"	0.2	180	10
G	72"	0.2	360	9

LIFE SAFETY NOTES:

1. THESE LIFE SAFETY PLANS ARE MEANT TO SHOW CONFORMANCE WITH THE REGULATIONS EXISTING AT THE TIME OF CONSTRUCTION, OR AS INDICATED IN THE CODE SUMMARY NOTES. THESE DOCUMENTS ARE A COMPILATION OF EXISTING CONSTRUCTION DOCUMENTS, EXISTING CONDITIONS AS OBSERVED IN THE FIELD, AND CURRENT PROGRAMMATIC USE STATEMENTS. THOUGH THE INTENT IS TO ACCURATELY REFLECT THE CURRENT CONDITIONS OF THE SCHOOL, AN AS-BUILT SURVEY WAS NOT CONDUCTED FOR THE COMPLETION OF THESE DRAWINGS; SOME CONDITIONS MAY DIFFER FROM THOSE SHOWN.
2. SEE A000 FOR PARTITION TYPES
3. SEE E SERIES DWGS FOR ADD'L FIRE ALARM AND FIRE PROTECTION SYSTEM INFORMATION
4. SEE G002 FOR MOUNTING HEIGHTS OF DEVICES
5. SEE E SERIES DWGS FOR DESIGNATION OF LIGHTS ON EMERGENCY CIRCUITS



1 FIRST FLOOR PLAN
3/16" = 1'-0"

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75 York Street
Portland, Maine 04101
simonsarchitects.com
207.772.4656

PROJECT NAME:

MAINE IF+W NATURE STORE & ADMIN OFFICE

56 Game Farm Rd, Gray, ME 04039

SEAL:

LICENSED ARCHITECT
SCOTT R. SIMONS
NO. 2034
STATE OF MAINE

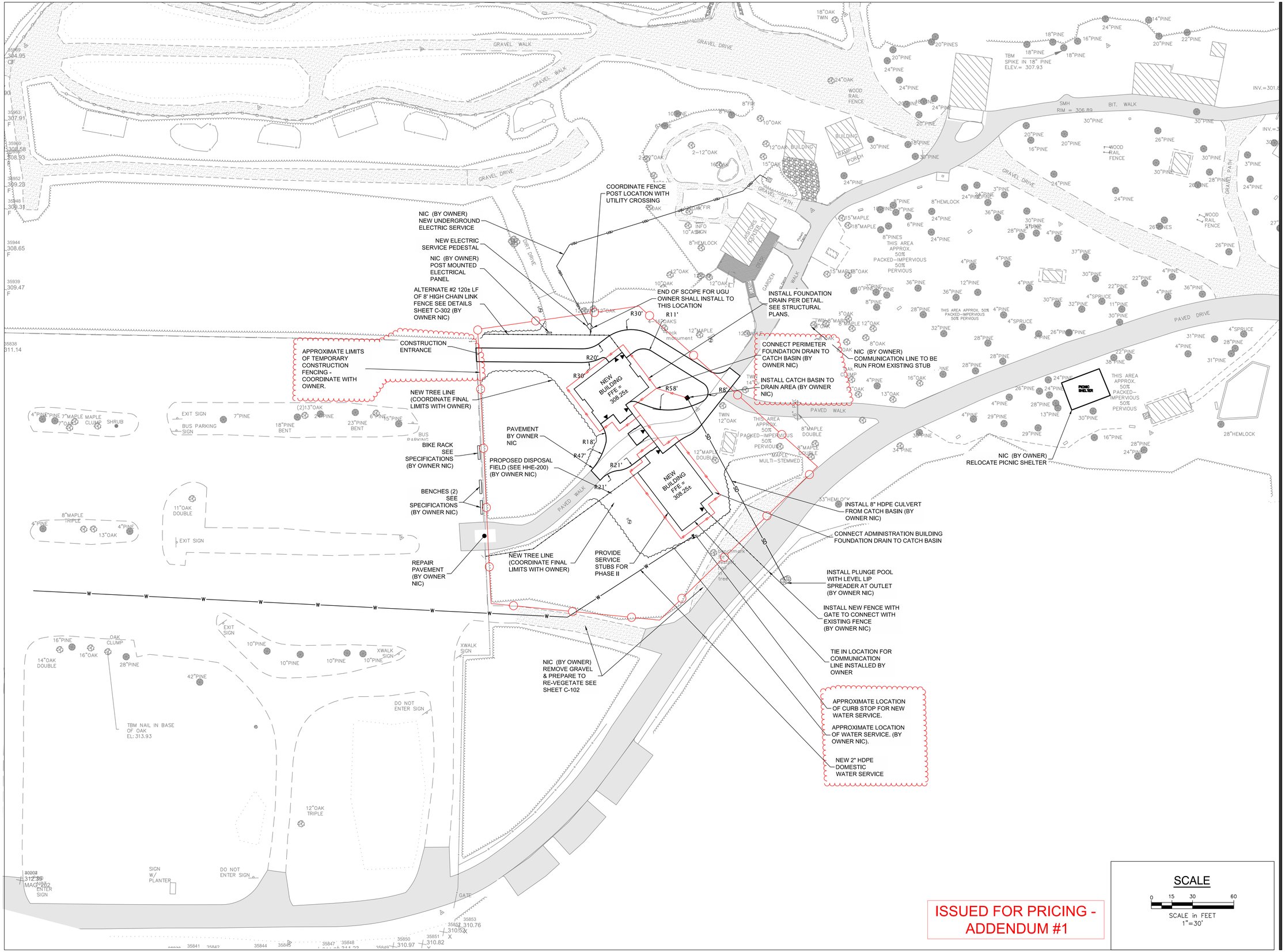
REVISIONS

1	Addendum #1	05.13.2024

DATE OF ISSUE: 04.23.2024
PROJECT NUMBER: 2023-0190
STATUS: ISSUED FOR BID BGS #3096

LIFE SAFETY PLAN + CODE SUMMARY

G101



ISSUED FOR PRICING - ADDENDUM #1

SCALE

0 15 30 60

SCALE in FEET
1"=30'

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designed for human potential

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Portland, Maine 04101
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STATE OF MAINE
JASON A. VAFIADES
No. 12661
LICENSED PROFESSIONAL ENGINEER
5/13/2024

IF & W NATURE STORE AND OFFICE

56 GAME FARMROAD
GRAY, MAINE 04039

ISSUED FOR PRICING

1	REVISED PER PLANNING BOARD COMMENTS.	11-23-20 DATE
2	ISSUED FOR FINAL COORDINATION.	12-08-20 DATE
3	REVISED LAYOUT AND GRADING PLAN	2/16/24 DATE
4	ISSUED FOR PRICING	2/21/24 DATE
5	ADDENDUM #1	5/13/24 DATE
6		DATE

SEPTEMBER 18, 2020

2020-0070

DESIGN DEVELOPMENT

SITE LAYOUT AND UTILITIES PLAN

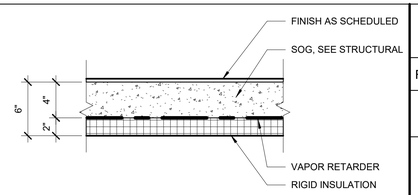
C-101

ASSEMBLY TYPES

FLOORS

F1

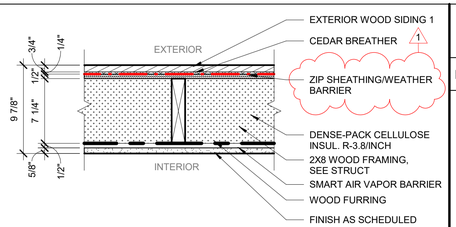
R-VALUE 10



EXTERIOR PARTITIONS

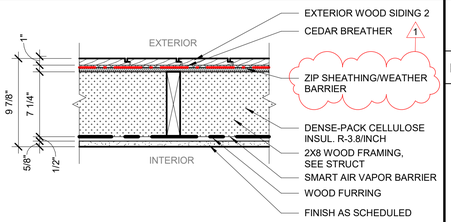
EW1

R-VALUE 27.5



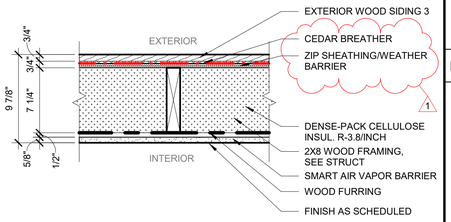
EW2

R-VALUE 27.5



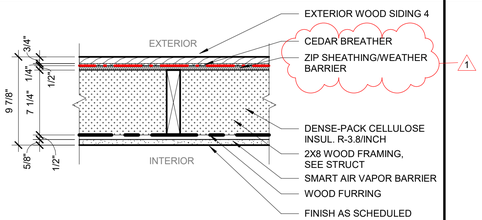
EW3

R-VALUE 27.5



EW4

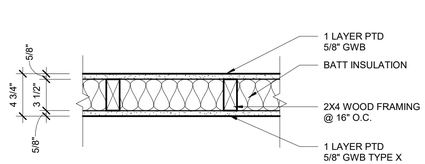
R-VALUE 27.5



INTERIOR PARTITIONS

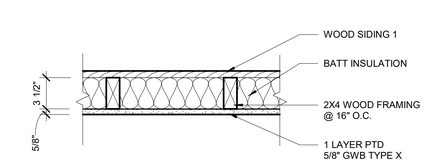
W1

RATING ---



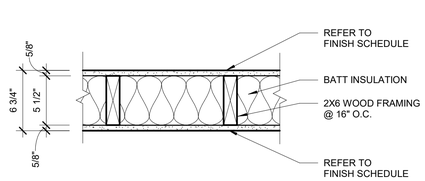
W2

RATING ---



W3

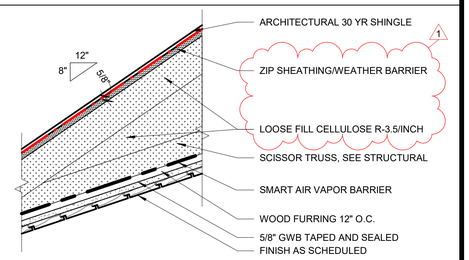
RATING ---



ROOFS

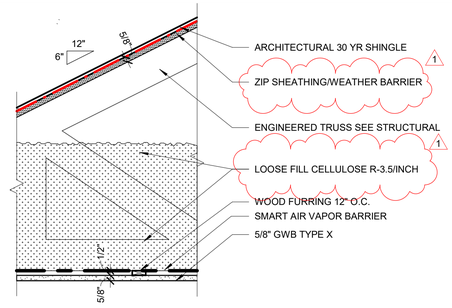
R1

R-VALUE 53



R2

R-VALUE 53



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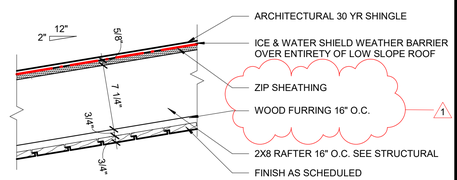
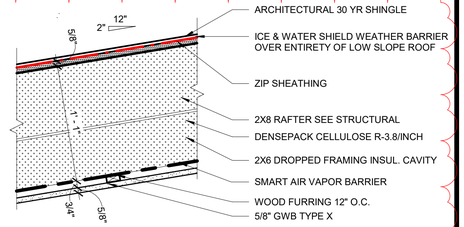


R4

R-VALUE 49



GENERAL NOTES:

1. SEE ALSO STRUCTURAL DOCUMENTS.
2. ALL W1 AND W3 PARTITIONS TO TERMINATE AT BOTTOM OF TRUSS. U.N.O.
3. SEAL ALL PENETRATIONS AS REQUIRED.
4. SEE G002 FOR FIRE RATED LOCATIONS.
5. ALL INTERIOR NON-LOAD BEARING WALLS TO HAVE DOUBLE BOTTOM PLATE.
6. ALL PARTITIONS AT WET LOCATIONS, BATHROOMS, KITCHEN SINK WALLS, ETC. TO RECEIVE MOISTURE RESISTANT GWB.
7. ALL PARTITIONS WITH TILE TO HAVE CERAMIC TILE UNDERLAY / GLASROC IN PLACE OF GWB.
8. TAPE + SEAL ALL ZIP SHEATHING JOINTS + PENITRATIONS AS REQUIRED PER MANUFACTURERS.

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PROJECT NAME:

MAINE IF+W NATURE STORE & ADMIN OFFICE

56 Game Farm Rd, Gray, ME 04039

SEAL:

LICENSED ARCHITECT
SCOTT R. SIMONS
NO. 2034
STATE OF MAINE

△ REVISIONS

1	Addendum #1	05.13.2024

DATE OF ISSUE: 04.23.2024

PROJECT NUMBER: 2023-0190

STATUS: ISSUED FOR BID BGS #3096

ASSEMBLY TYPES

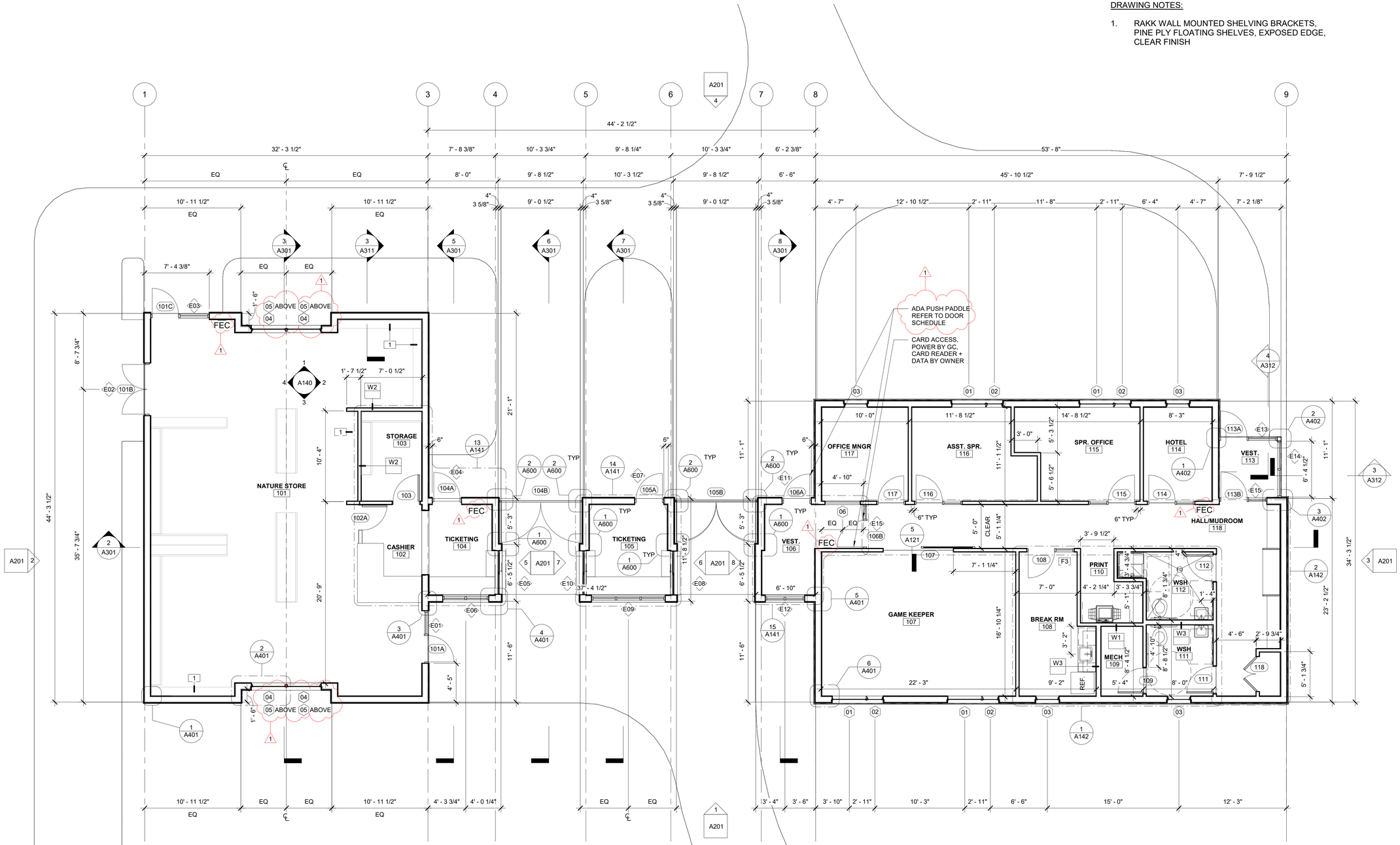
A000

GENERAL NOTES:

1. SEE A000 FOR ASSEMBLY TYPES
2. ALL PARTITIONS W1 U.N.O.
3. SEE A000/A301 FOR TYPICAL WALL ASSEMBLIES
4. SEE A000/A301 FOR TYPICAL ROOF ASSEMBLIES
5. DIMENSIONS ARE TO FACE OF FRAMING U.N.O.
6. WINDOWS ARE DIMENSIONED TO CL U.N.O.
7. ALUM. STOREFRONT IS MEASURED TO R.O. U.N.O

DRAWING NOTES:

1. RAKK WALL MOUNTED SHELVING BRACKETS, PINE PLY FLOATING SHELVES, EXPOSED EDGE, CLEAR FINISH



1 FIRST FLOOR PLAN
3/16" = 1'-0"

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PROJECT NAME:

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REVISIONS

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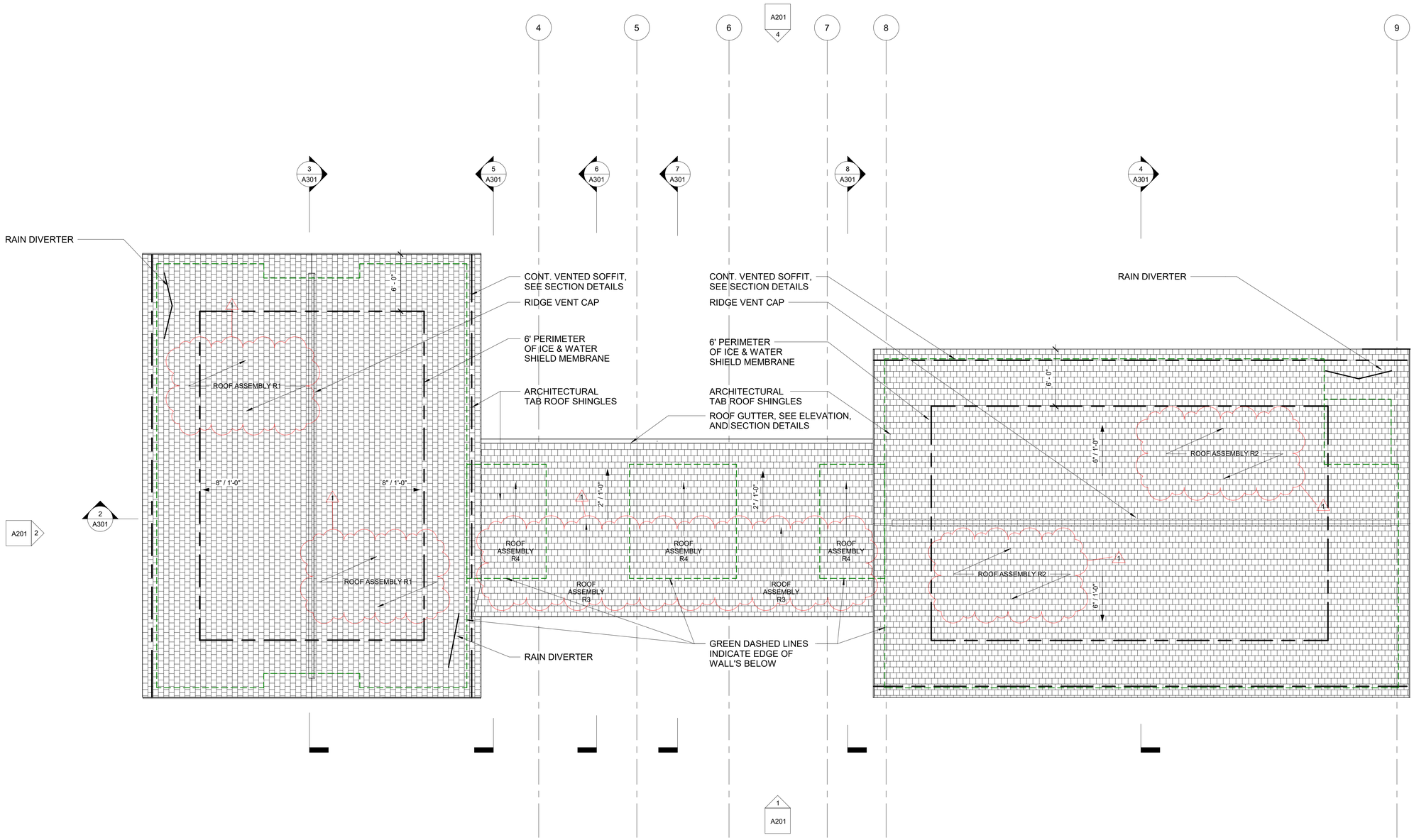
CONSTRUCTION PLAN - LEVEL 01

A101

GENERAL NOTES:

1. SEE A601 FOR PARTITION TYPES
2. ALL PARTITIONS W401 U.N.O.
3. SEE A301 FOR TYPICAL WALL ASSEMBLIES
4. SEE A301 FOR TYPICAL ROOF ASSEMBLIES



1 ROOF PLAN
3/16" = 1'-0"

TRUE

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PROJECT NAME:

MAINE IF+W NATURE STORE & ADMIN OFFICE

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SEAL:

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SCOTT R. SIMONS
NO. 2934
STATE OF MAINE

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ROOF PLAN

A102

FINISH SCHEDULE FIRST FLOOR

ROOM NO	ROOM NAME	FLOOR BASE	FLOOR FLOOR	WALLS NORTH	WALLS SOUTH	WALLS EAST	WALLS WEST	CEILING	NOTES
101	NATURE STORE	PTD WOOD	CONC.	PTD GWB	PTD GWB	PTD GWB	PTD GWB	WD 1	SEE ALTERNATE 1 ON COVER PAGE
102	CASHIER	PTD WOOD	CONC.	PTD GWB	PTD GWB	PTD GWB	PTD GWB	WD 1	SEE ALTERNATE 1 ON COVER PAGE
103	STORAGE	PTD WOOD	CONC.	PTD GWB	PTD GWB	PTD GWB	PTD GWB	GYP.	SEE ALTERNATE 1 ON COVER PAGE
104	TICKETING	PTD WOOD	CONC.	PTD GWB	PTD GWB	PTD GWB	PTD GWB	WD 2	SEE ALTERNATE 1 ON COVER PAGE
105	TICKETING	PTD WOOD	CONC.	PTD GWB	PTD GWB	PTD GWB	PTD GWB	WD 2	
106	VEST.	PTD WOOD	CONC.	PTD GWB	PTD GWB	PTD GWB	PTD GWB	WD 2	
107	GAME KEEPER	PTD WOOD	CARPET	PTD GWB	PTD GWB	PTD GWB	PTD GWB	ACT 1	
108	BREAK RM	PTD WOOD	LVT	PTD GWB	PTD GWB	PTD GWB	PTD GWB	ACT 1	
109	MECH.	N/A	CONC.		PTD GWB	PTD GWB	PTD GWB	GYP.	
110	PRINT	PTD WOOD	CARPET	PTD GWB	PTD GWB	PTD GWB	PTD GWB	ACT 1	
111	WSH	COVE TILE	TILE	PTD GWB/TILE	PTD GWB/TILE	PTD GWB/TILE	PTD GWB/TILE	GYP.	PROVIDE TILE BACKER @ ALL TILED LOCATIONS. FLOOR/WALL TRANSITION TO HAVE COVE TILE BASE + BULLNOSE TILE @ GYP TRANSITION, SEE A142 FOR MORE INFORMATION
112	WSH	COVE TILE	TILE	PTD GWB/TILE	PTD GWB/TILE	PTD GWB/TILE	PTD GWB/TILE	GYP.	PROVIDE TILE BACKER @ ALL TILED LOCATIONS. FLOOR/WALL TRANSITION TO HAVE COVE TILE BASE + BULLNOSE TILE @ GYP TRANSITION, SEE A142 FOR MORE INFORMATION
113	VEST.	PTD WOOD	CONC.	PTD GWB	PTD GWB	PTD GWB	PTD GWB	WD 2	
114	HOTEL	PTD WOOD	CARPET	PTD GWB	PTD GWB	PTD GWB	PTD GWB	ACT 1	
115	SPR. OFFICE	PTD WOOD	CARPET	PTD GWB	PTD GWB	PTD GWB	PTD GWB	ACT 1	
116	ASST. SPR.	PTD WOOD	CARPET	PTD GWB	PTD GWB	PTD GWB	PTD GWB	ACT 1	
117	OFFICE MNGR	PTD WOOD	CARPET	PTD GWB	PTD GWB	PTD GWB	PTD GWB	ACT 1	
118	HALL/MUDROOM	PTD WOOD	LVT	PTD GWB	PTD GWB	PTD GWB	PTD GWB	ACT 1	

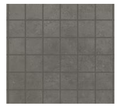
FINISH LEGEND

NOTE	DESCRIPTION
FLOOR	
CONC.	POLISHED CONCRETE
CRPT -1	J&J FLOORING, CARPET, WARP + WEFT COLLECTION - 18" X 36", QUILL, LICHEN 7801/3625 (ASHLAR)
LVT	J&J FLOORING, LVT, COMPOSITE - 18"X36", 1115 SUITABLE, 5MM
TILE 1	DALTILE, PORTFOLIO, PORCELAIN TILE - 2X2, MATTE, IRON GREY PF06, GROUT DUSTY GREY 60 (1)
BASE	
WOOD	2" WOOD BASE PNT FINISH
WALL	
WOOD	PINE HORIONTAL NICKLE GAP SHIPLAP - CLEAR FINISH
PTD1 GWB	PAINTED GYPSUM WALL BOARD - SHERWIN WILLIAMS WHITE DUCK SW710
PTD2 GWB	PAINTED GYPSUM WALL BOARD - SHERWIN WILLIAMS FAWN BRINDLE SW 7640
PTD3 GWB	PAINTED GYPSUM WALL BOARD - SHERWIN WILLIAMS SECRET GARDEN SW 6181
PTD4 GWB	PAINTED GYPSUM WALL BOARD - SHERWIN WILLIAMS SECRET GARDEN SW 6181
PTD5 GWB	PAINTED GYPSUM WALL BOARD - SHERWIN WILLIAMS COLONIAL REVIVAL GREEN STONE SW 2826
PTD6 GWB	PAINTED GYPSUM WALL BOARD - SHERWIN WILLIAMS STILL WATER SW 6223
PTD7 GWB	PAINTED GYPSUM WALL BOARD - SHERWIN WILLIAMS PENNYWISE SW 6349
TILE	DALTILE, CLASSIC COLOR WHEEL, GLAZED CERAMIC TILE - 3X6, GARDEN SPOT, 0141 (3), GROUT MINK 95 (1)
GL	STOREFRONT GLASS SYSTEM
CEILING	
PTD GYP	PAINTED GYPSUM
ACT 1	2X2 ACOUSTIC CEILING TILE
WD 1	8'-0" LENGTH PINE T&G - CLEAR FINISH
WD 2	RANDOM LENGTH PINE T&G - CLEAR FINISH
MILLWORK	
CNTR -1	FORMICA, BLACKENED BRONZE, MATTE TEXTURE - 1519-58
CNTR -2	FORMICA, PALOMA POLAR, MATTE TEXTURE - 6698-58
PNT CAB - 1	PAINTED WOOD, SHERWIN WILLIAMS URBANE BRONZE SW 7048
CAB - 2	BIRCH PLYWOOD
BENCH	FORMICA, BLACKENED BRONZE, MATTE TEXTURE - 1519-58, HARDWOOD EDGE, REFER TO DETAILS

GENERAL NOTES:

1. SEE A601 FOR PARTITION TYPES
2. ALL PARTITIONS W401 U.N.O.
3. SEE A301 FOR TYPICAL WALL ASSEMBLIES
4. SEE A301 FOR TYPICAL ROOF ASSEMBLIES
5. ALL WALLS TO BE PAINTED PTD1, U.N.O.
6. ALL INTERIOR DOOR + BASE TRIM TO BE PAINTED TO MATCH COORDINATING WALLS, U.N.O.

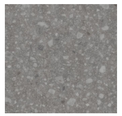
TILE-1



TILE -2

CRPT -1

LVT-1



CNT -1, BENCH

CNT -2

CAB -1

CAB -2

PTD -1

PTD -2

PTD -3

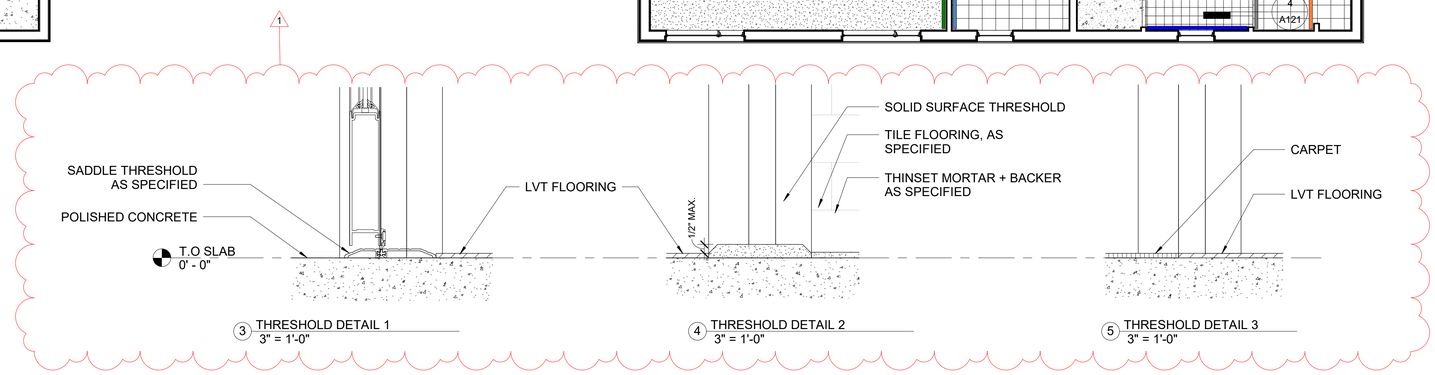
PTD -4

PTD -5

PTD -6

PTD -7, PNT CAB-2

1 FIRST FLOOR FINISH PLAN
3/16" = 1'-0"



3 THRESHOLD DETAIL 1
3" = 1'-0"

4 THRESHOLD DETAIL 2
3" = 1'-0"

5 THRESHOLD DETAIL 3
3" = 1'-0"

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PROJECT NAME:

MAINE IF+W
NATURE STORE
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56 Game Farm Rd, Gray, ME 04039

SEAL:

LICENSED ARCHITECT
SCOTT R. SIMONS
NO. 2034
STATE OF MAINE

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FINISH PLAN - LEVEL 01

A121

LIGHTING LEGEND

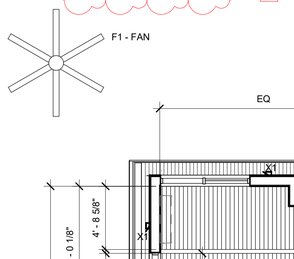
- R1 - 2X2 FIXTURE
- R2 - RECESSED FIXTURE
- W1 - LINEAR WALL MOUNT
- P1 - LINEAR PENDANT
- P2 - PENDANT
- S1 - SURFACE MOUNT
- S2 - ACT GRID LIGHT
- V1 - SCONCE
- X1 - EXTERIOR SCONCE
- X2 - UPLIGHT/ SPOT LIGHT
- X3 - EXTERIOR SCONCE UP/DOWN LIGHT
- EBU - EMERGENCY LIGHTING
- EX - EXIT LIGHTING
- SD - SMOKE DETECTOR (1)
- F1 - FAN

CEILING FINISH LEGEND

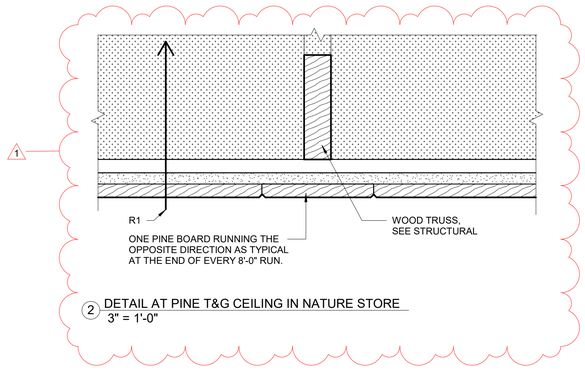
- WOOD CEILING 1
- WOOD CEILING 2
- 2 X 2 ACT CEILING
- GWB CEILING

SYMBOLS

HIGHER / LOWER — HEIGHT CHANGE; GWB HEADER U.N.O



1 FIRST FLOOR RCP
3/16" = 1'-0"



2 DETAIL AT PINE T&G CEILING IN NATURE STORE
3" = 1'-0"

GENERAL NOTES:

1. RGD SHAL BE CENTERED IN ACT CEILING TILES U.N.O.
2. FIXTURES SHALL BE CENTERED IN ACT CEILING TILES U.N.O
3. SEE G002, A201, AND A142 FOR TYPICAL WALL MOUNT LOCATIONS

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PROJECT NAME:

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56 Game Farm Rd, Gray, ME 04039

SEAL:

LICENSED ARCHITECT — SCOTT R. SIMONS NO. 2924 — STATE OF MAINE

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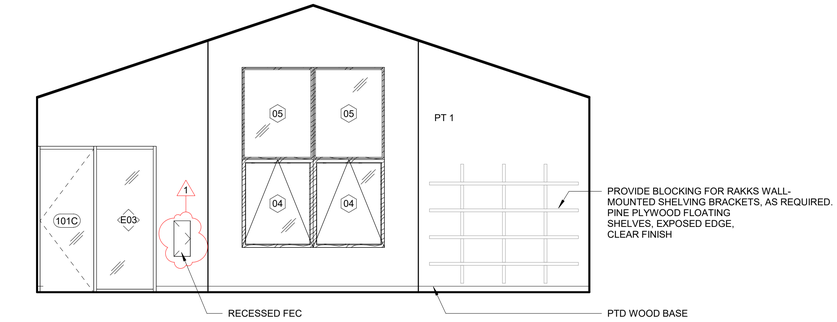
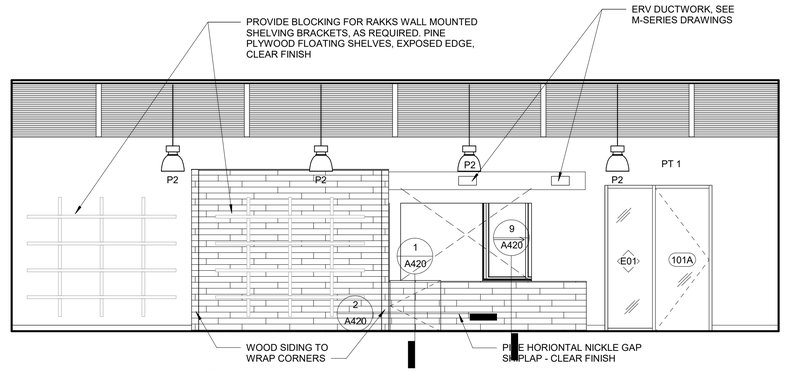
REFLECTED CEILING PLAN - LEVEL 01

A131

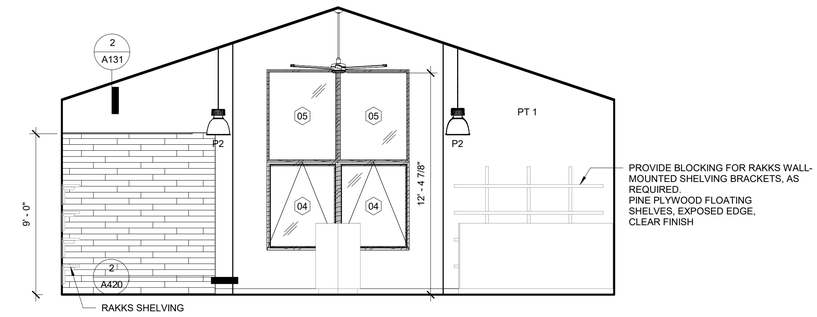
TRUE



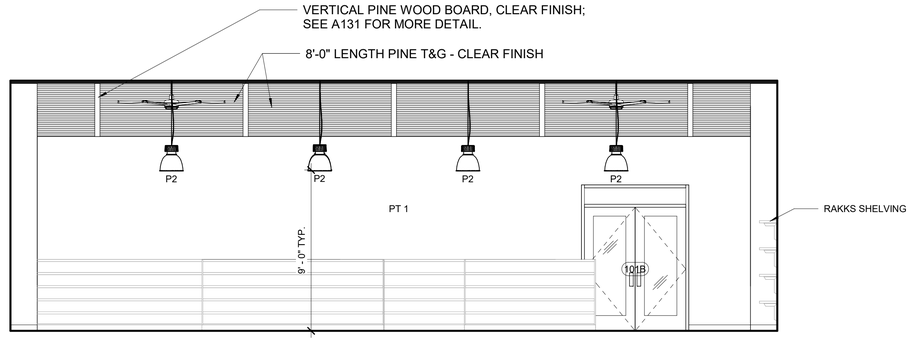
1 NATURE STORE INTERIOR ELEVATION 1
1/4" = 1'-0"



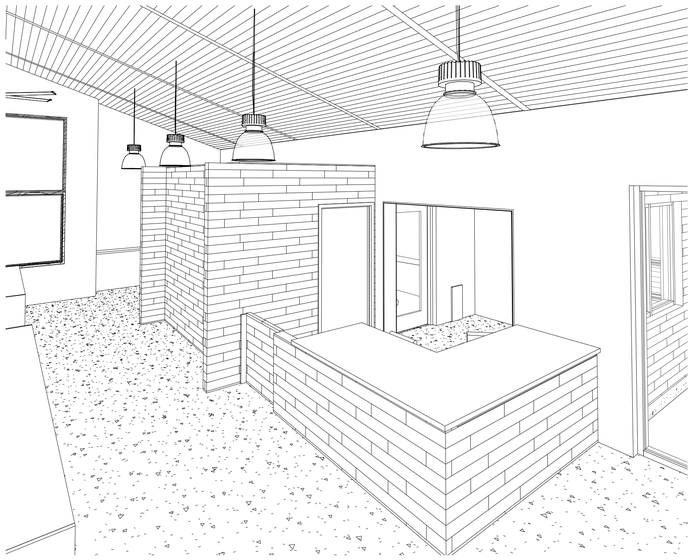
2 NATURE STORE INTERIOR ELEVATION 2
1/4" = 1'-0"



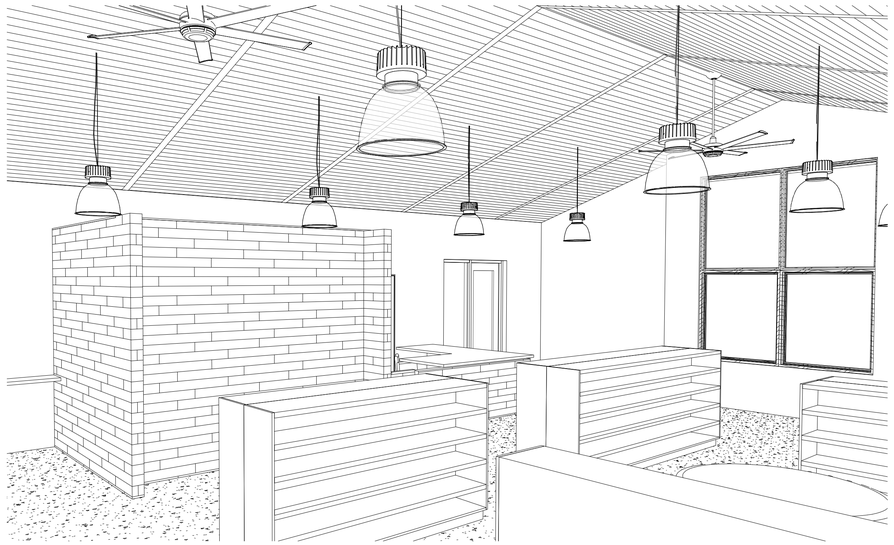
3 NATURE STORE INTERIOR ELEVATION 3
1/4" = 1'-0"



4 NATURE STORE INTERIOR ELEVATION 4
1/4" = 1'-0"



5 NATURE STORE INTERIOR VIEW 1



6 3D View 5

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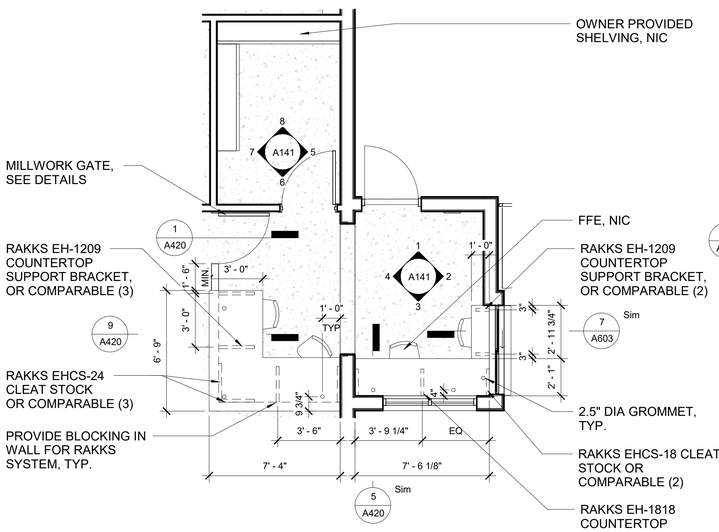
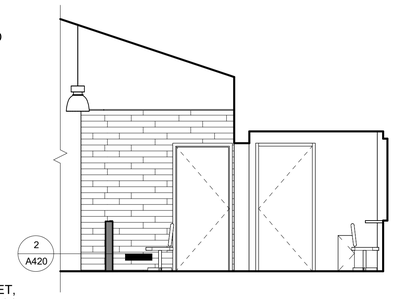
INTERIOR ELEVATIONS

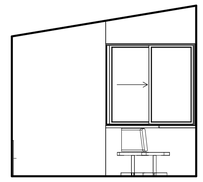
A140



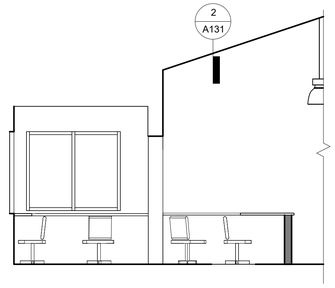
13 CASHIER/STORAGE KEY PLAN
1/4" = 1'-0"



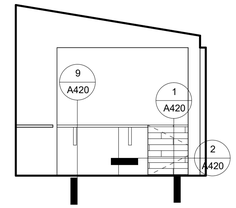
1 CASHIER/TICKETING 1
1/4" = 1'-0"



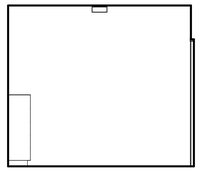
2 CASHIER/TICKETING 2
1/4" = 1'-0"



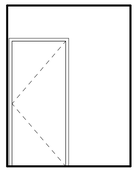
3 CASHIER/TICKETING 3
1/4" = 1'-0"



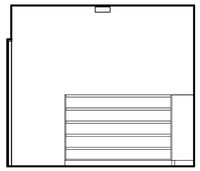
4 CASHIER/TICKETING 4
1/4" = 1'-0"



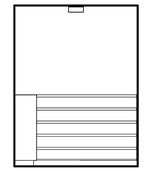
5 STORAGE 5
1/4" = 1'-0"



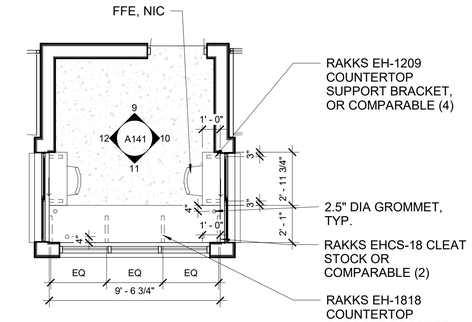
6 STORAGE 6
1/4" = 1'-0"



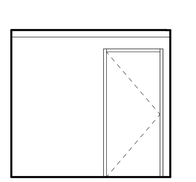
7 STORAGE 7
1/4" = 1'-0"



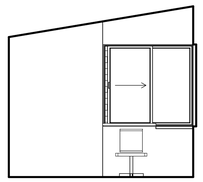
8 STORAGE 8
1/4" = 1'-0"



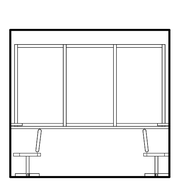
14 Level 1 - Callout 3
1/4" = 1'-0"



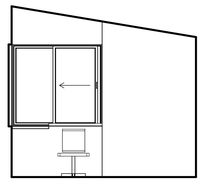
9 TICKETING 1
1/4" = 1'-0"



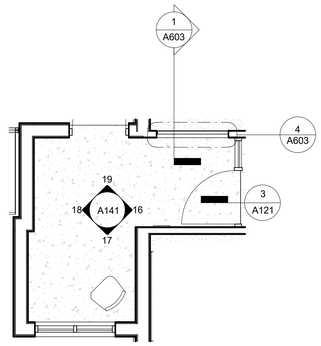
10 TICKETING 2
1/4" = 1'-0"



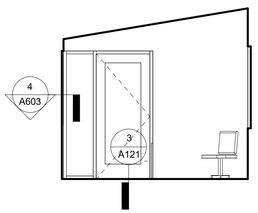
11 TICKETING 3
1/4" = 1'-0"



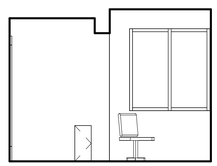
12 TICKETING 4
1/4" = 1'-0"



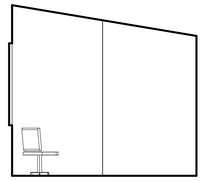
15 Level 1 - Callout 6
1/4" = 1'-0"



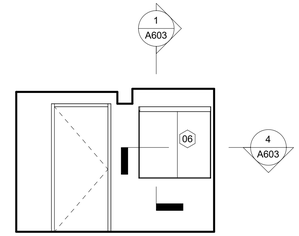
16 VESTIBULE 1
1/4" = 1'-0"



17 VESTIBULE 2
1/4" = 1'-0"



18 VESTIBULE 3
1/4" = 1'-0"



19 VESTIBULE 4
1/4" = 1'-0"

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PROJECT NAME:

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SEAL:

LICENSED ARCHITECT
SCOTT R. SIMONS
NO. 2934
STATE OF MAINE

△ REVISIONS

DATE OF ISSUE: 04.23.2024
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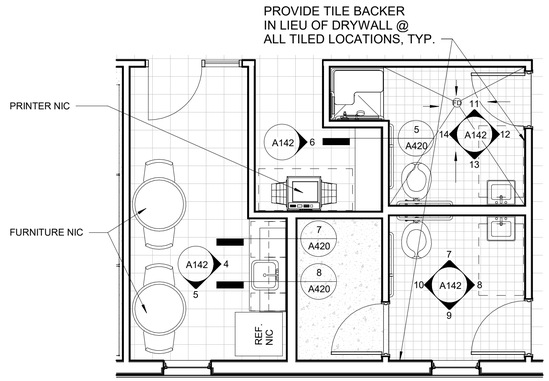
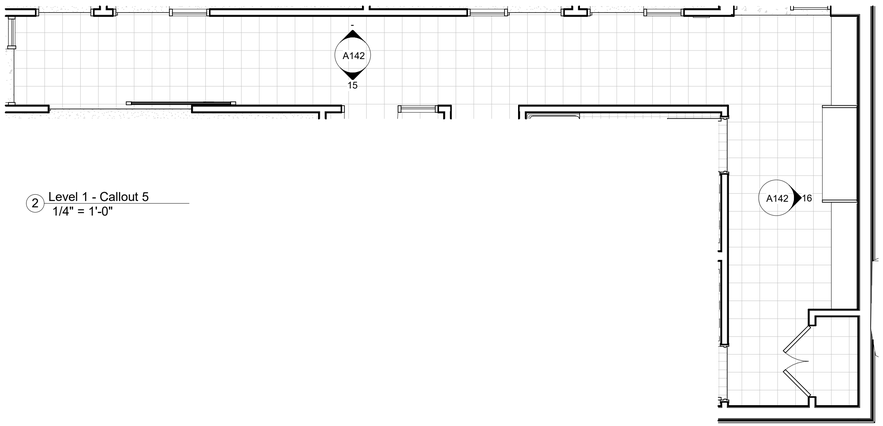
STATUS: ISSUED FOR BID BGS #3096

INTERIOR ELEVATIONS

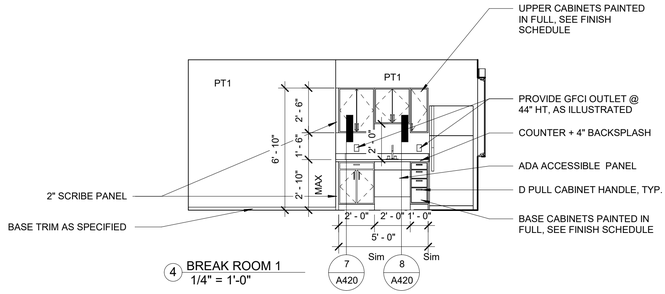
A141



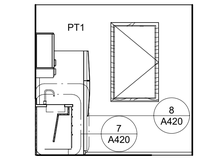
1 Level 1 - Callout 4
1/4" = 1'-0"



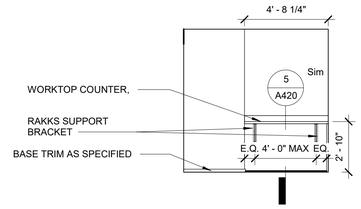
2 Level 1 - Callout 5
1/4" = 1'-0"



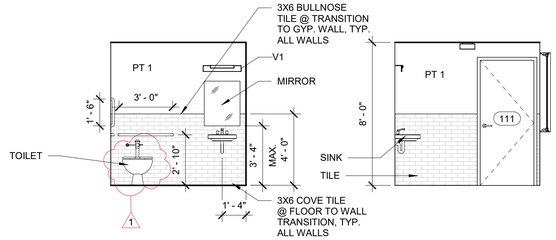
4 BREAK ROOM 1
1/4" = 1'-0"



5 BREAK ROOM 2
1/4" = 1'-0"

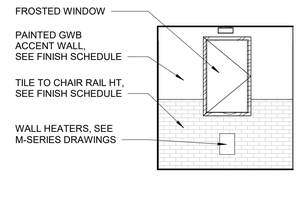


6 PRINT ROOM 1
1/4" = 1'-0"

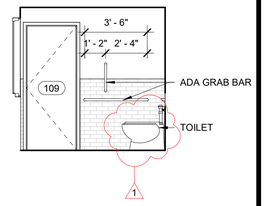


7 BATHROOM 111 (1)
1/4" = 1'-0"

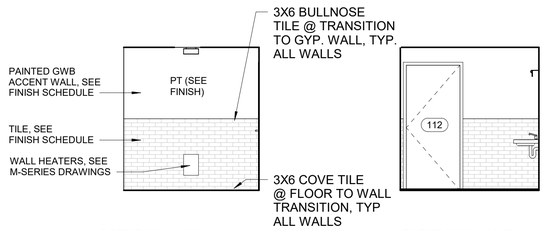
8 BATHROOM 111 (2)
1/4" = 1'-0"



9 BATHROOM 111 (3)
1/4" = 1'-0"

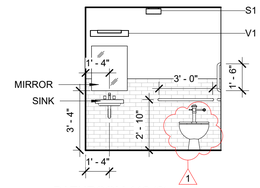


10 BATHROOM 111 (4)
1/4" = 1'-0"

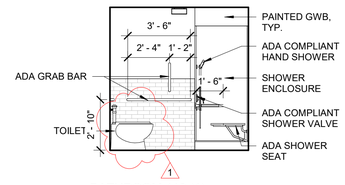


11 BATHROOM 112 (1)
1/4" = 1'-0"

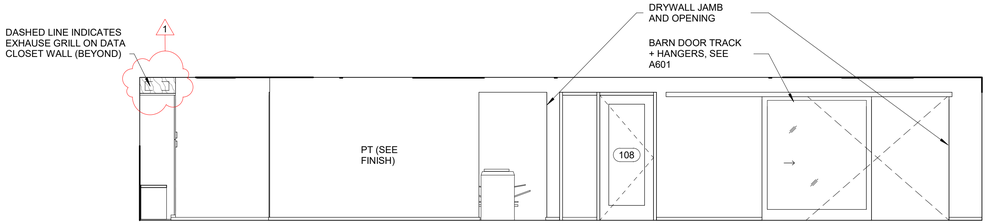
12 BATHROOM 112 (2)
1/4" = 1'-0"



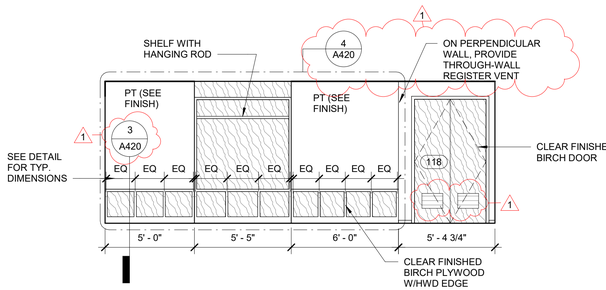
13 BATHROOM 112 (3)
1/4" = 1'-0"



14 BATHROOM 112 (4)
1/4" = 1'-0"



15 MUDROOM/HALLWAY 1
1/4" = 1'-0"



16 MUDROOM/ HALLWAY 2
1/4" = 1'-0"

GENERAL NOTES:

1. PROVIDE BLOCKING AS REQUIRED FOR ALL MOUNTING REQUIREMENTS

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SCOTT R. SIMONS
NO. 2034
STATE OF MAINE

REVISIONS

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INTERIOR ELEVATIONS

A142

PROVIDE WIRING FOR SECURITY CAMERA, SECURITY SYSTEM BY OWNER

WOOD SIDING #2 - PINE 6" VERTICAL SIDING, NICKLE GAP, NO. 2 GRADE, STAIN TBD BY OWNER + ARCH.

WOOD SIDING #1 - PINE 6" HORIZONTAL SIDING, CHANNEL RUSTIC, NO. 2 GRADE, STAIN TBD BY OWNER + ARCH

T.O. RIDGE NS 22' - 10 3/4"

T.O. RIDGE ADM 19' - 7 1/4"

T.O. WALL NS 11' - 0"

T.O. WALL ADM 9' - 6"

T.O SLAB 0' - 0"

WOOD CEILING #2 PINE V-GROOVE STK GRADE, CLEAR COAT

PROVIDE WIRING FOR SECURITY CAMERA, SECURITY SYSTEM BY OWNER

WALL PACKS, SEE ELECTRICAL DRAWINGS

ARCHITECTURAL TAB ROOF SHINGLES

PROVIDE WIRING FOR SECURITY CAMERA, SECURITY SYSTEM BY OWNER

WOOD SIDING #4 - 6" VERTICAL PINE SIDING, CHANNEL RUSTIC, NO. 2 GRADE STAIN TBD BY OWNER + ARCH.

INLAND FISHERIES + WILDLIFE NATURE STORE

WRAP STRUCTURAL HEADER W/ MATCHING WOOD SIDING AT DROPPED TICKET BOOTH HEADER, TYP.

HOSE BIB

WOOD SIDING #3 PINE 6" HORIZONTAL NICKLE GAP SIDING, NO. 2 GRADE, CLEAR COAT

1 SOUTH-EAST ELEVATIONN
1/8" = 1'-0"

ARCHITECTURAL TAB ROOF SHINGLES

WOOD SIDING #1 - PINE 6" HORIZONTAL SIDING, CHANNEL RUSTIC, NO. 2 GRADE, STAIN TBD BY OWNER + ARCH

2 SOUTH-WEST ELEVATIONN
1/8" = 1'-0"

PROVIDE WIRING FOR SECURITY CAMERA, SECURITY SYSTEM BY OWNER

CARD ACCESS, POWER BY GC, CARD READER + DATA BY OWNER

WOOD SIDING #4 - 6" VERTICAL PINE SIDING, CHANNEL RUSTIC, NO. 2 GRADE STAIN TBD BY OWNER + ARCH.

ARCHITECTURAL TAB ROOF SHINGLES

GUTTER ALONG ENTIRE EDGE, THIS ROOF

RAIN CHAIN

T.O. RIDGE NS 22' - 10 3/4"

T.O. RIDGE ADM 19' - 7 1/4"

T.O. WALL NS 11' - 0"

T.O. WALL ADM 9' - 6"

T.O SLAB 0' - 0"

HOSE BIB

4 NORTH-WEST ELEVATIONN
1/8" = 1'-0"

WOOD SIDING #2 - PINE 6" VERTICAL SIDING, NICKLE GAP, NO. 2 GRADE, STAIN TBD BY OWNER + ARCH.

WOOD SIDING #1 - PINE 6" HORIZONTAL SIDING, CHANNEL RUSTIC, NO. 2 GRADE, STAIN TBD BY OWNER + ARCH

EXTERIOR SCONCE, SEE LIGHTING SCHEDULE, TYP.

3 NORTH-EAST ELEVATIONN
1/8" = 1'-0"

WOOD SIDING #4 - 6" VERTICAL PINE SIDING, CHANNEL RUSTIC, NO. 2 GRADE, STAIN TBD BY OWNER + ARCH.

ERV INTAKE AND EXHAUST COORD. W/M-SERIES DRAWINGS

WOOD SIDING #1 - PINE 6" HORIZONTAL SIDING, CHANNEL RUSTIC, NO. 2 GRADE, STAIN TBD BY OWNER + ARCH

FULLY RECESSED KEY BOX

WRAP STRUCTURAL HEADER W/ MATCHING WOOD SIDING AT DROPPED TICKET BOOTH HEADER, TYP.

ARCHITECTURAL TAB ROOF SHINGLES

ERV INTAKE AND EXHAUST COORD. W/M-SERIES DRAWINGS

WOOD SIDING #1 - PINE 6" HORIZONTAL SIDING, CHANNEL RUSTIC, NO. 2 GRADE, STAIN TBD BY OWNER + ARCH

T.O. RIDGE NS 22' - 10 3/4"

T.O. WALL NS 11' - 0"

TICKETING H.P. PLATE HT 9' - 8"

TICKETING L.P. PLATE HT 7' - 10"

T.O SLAB 0' - 0"

WOOD SIDING #3 PINE 6" HORIZONTAL CHANNEL RUSTIC SIDING, STK GRADE, CLEAR COAT

5 TICKETING NORTH-EAST ELEVATION
1/8" = 1'-0"

METAL TICKETING TRANSACTION COUNTER

7 CENTER TICKETING SOUTH-WEST ELEVATION
1/8" = 1'-0"

WOOD SIDING #3 PINE 6" HORIZONTAL CHANNEL RUSTIC SIDING, STK GRADE, CLEAR COAT

6 CENTER TICKETING NORTH-EAST ELEVATION
1/8" = 1'-0"

ERV INTAKE AND EXHAUST COORD. W/M-SERIES DRAWINGS

T.O. RIDGE ADM 19' - 7 1/4"

WOOD SIDING #4 - 6" VERTICAL PINE SIDING, CHANNEL RUSTIC, NO. 2 GRADE STAIN TBD BY OWNER + ARCH.

T.O. WALL ADM 9' - 6"

8 VESTIBULE SOUTH-WEST ELEVATION
1/8" = 1'-0"

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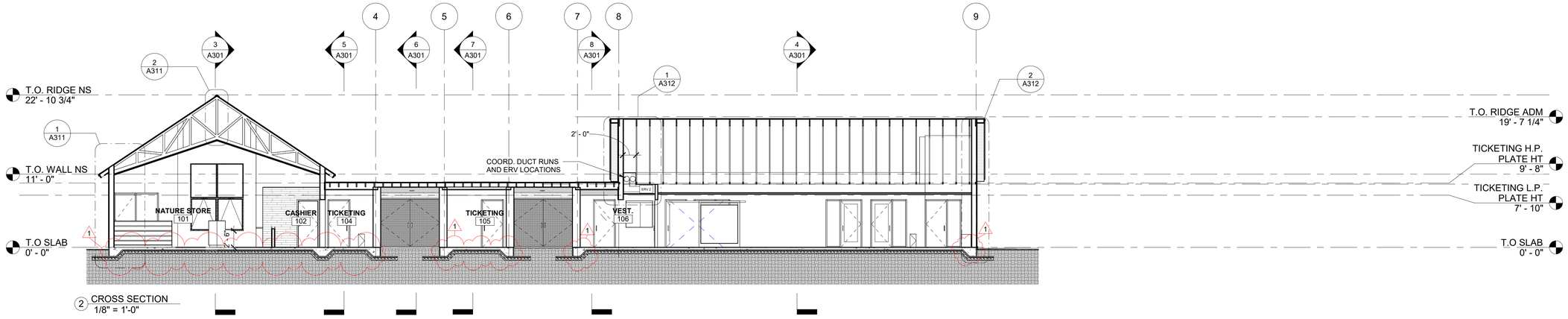
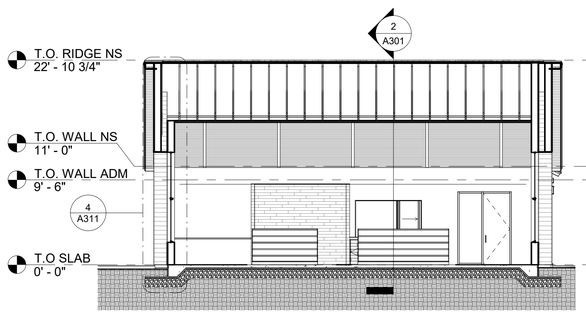
EXTERIOR ELEVATIONS

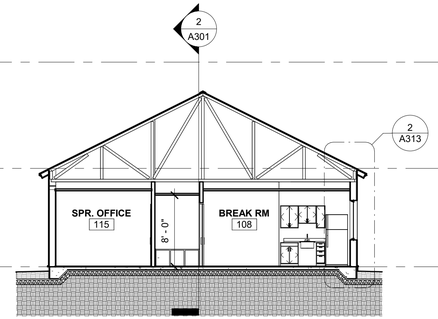
A201



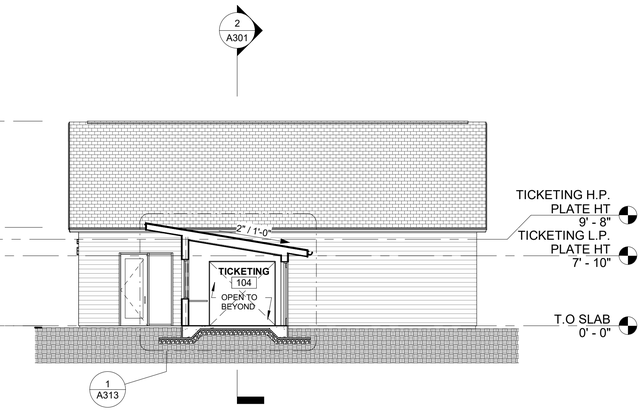
2 CROSS SECTION
1/8" = 1'-0"



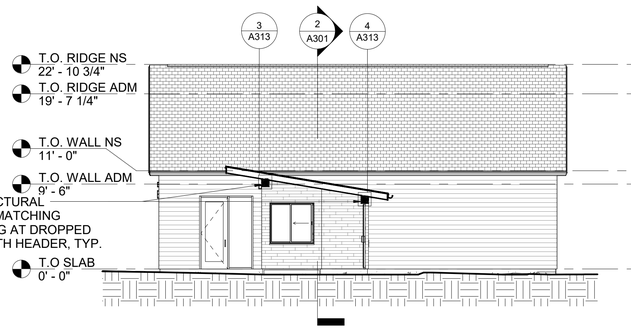
3 CROSS SECTION @ NATURE STORE
1/8" = 1'-0"



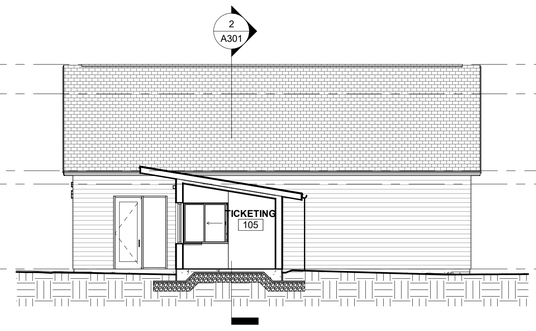
4 SECTION @ ADMIN BUILDING
1/8" = 1'-0"



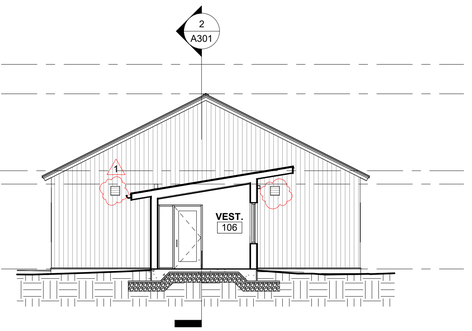
5 SECTION @ TICKETING 104
1/8" = 1'-0"



6 SECTION @ TICKETING 1
1/8" = 1'-0"



7 SECTION @ TICKETING 005
1/8" = 1'-0"



8 SECTION @ VESTIBULE 018
1/8" = 1'-0"

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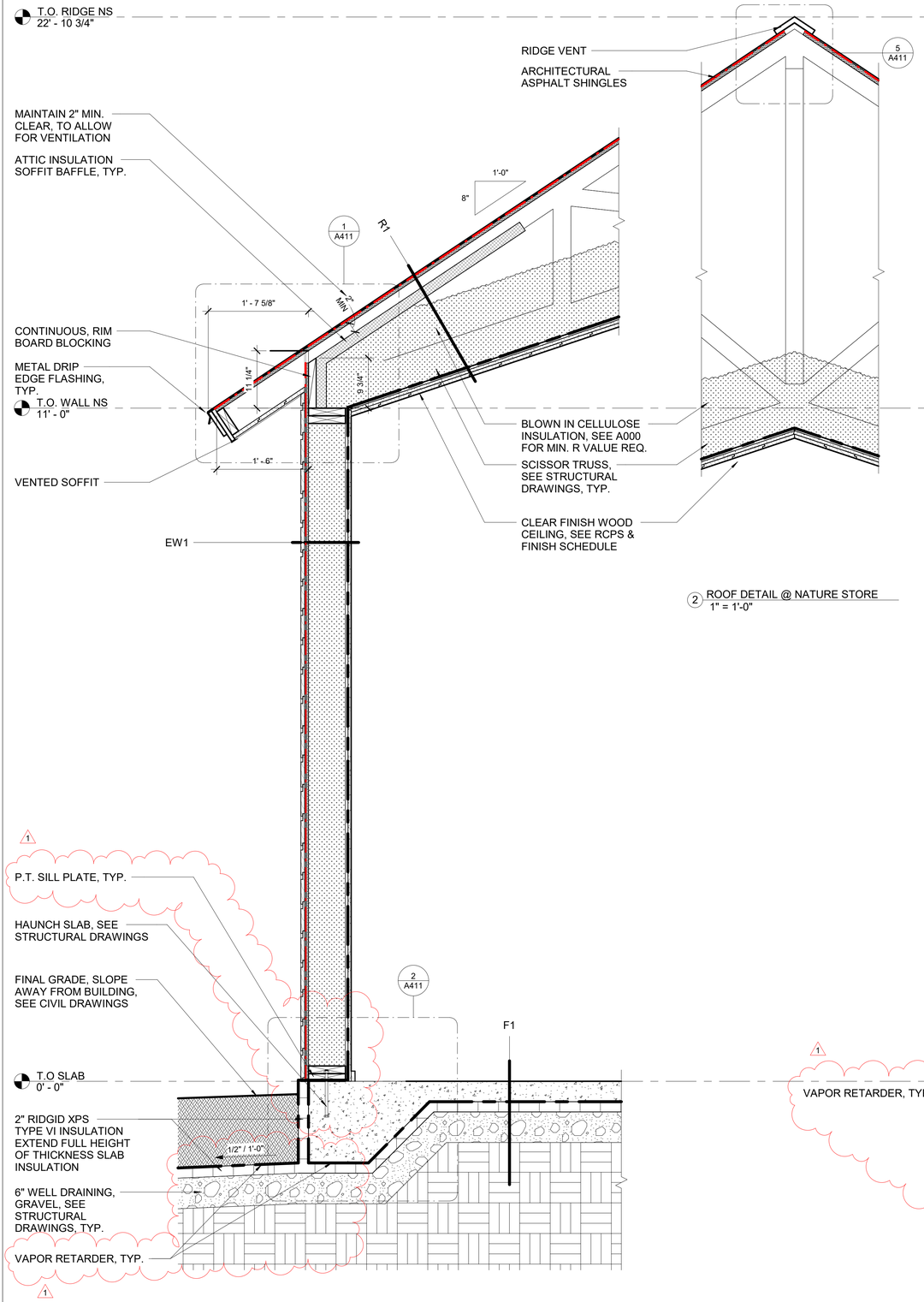
BUILDING SECTIONS

A301



2 ROOF DETAIL @ NATURE STORE
1" = 1'-0"

1 TYPICAL WALL SECTION @ NATURE STORE
1" = 1'-0"

3 TYPICAL NATURE STORE WALL SECTION @ GABLE END
1" = 1'-0"

4 TYPICAL NATURE STORE WALL SECTION @ WINDOW
1" = 1'-0"

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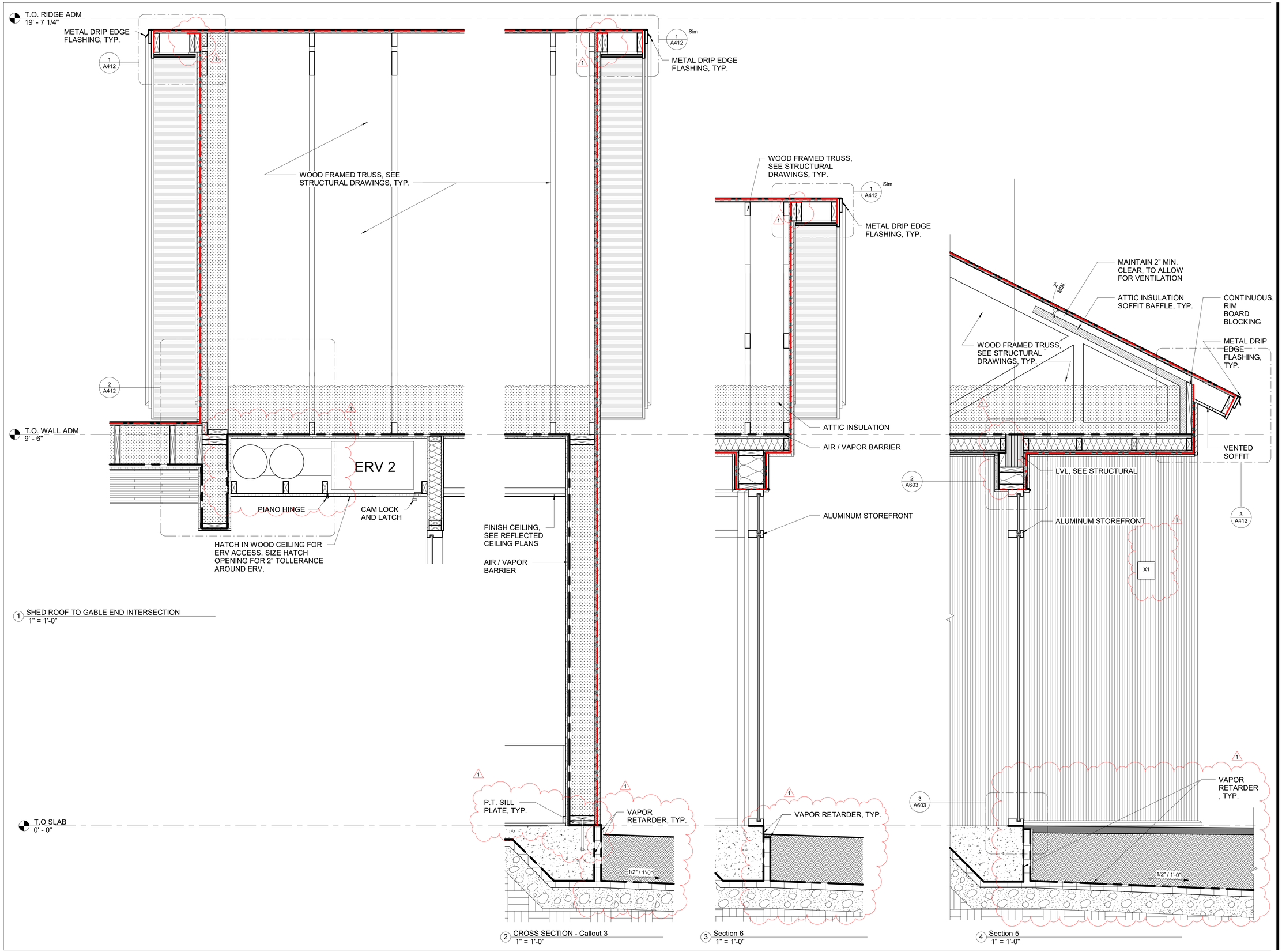
WALL SECTIONS

A311



1 SHED ROOF TO GABLE END INTERSECTION
1" = 1'-0"

2 CROSS SECTION - Callout 3
1" = 1'-0"

3 Section 6
1" = 1'-0"

4 Section 5
1" = 1'-0"

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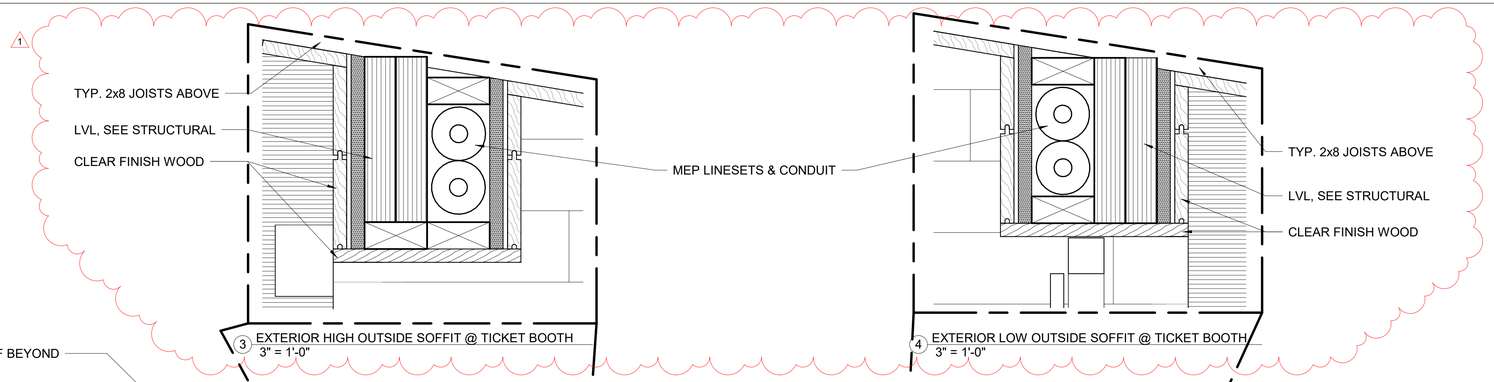
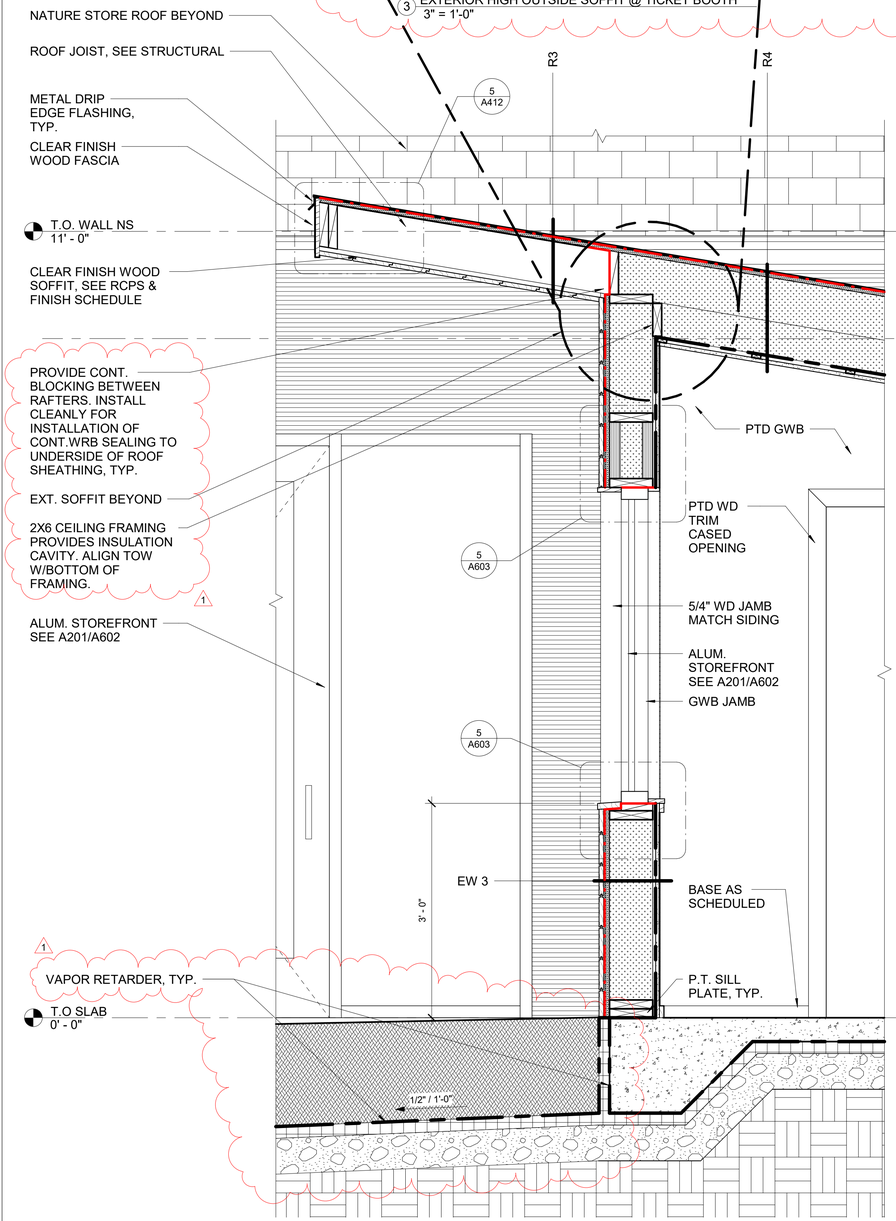
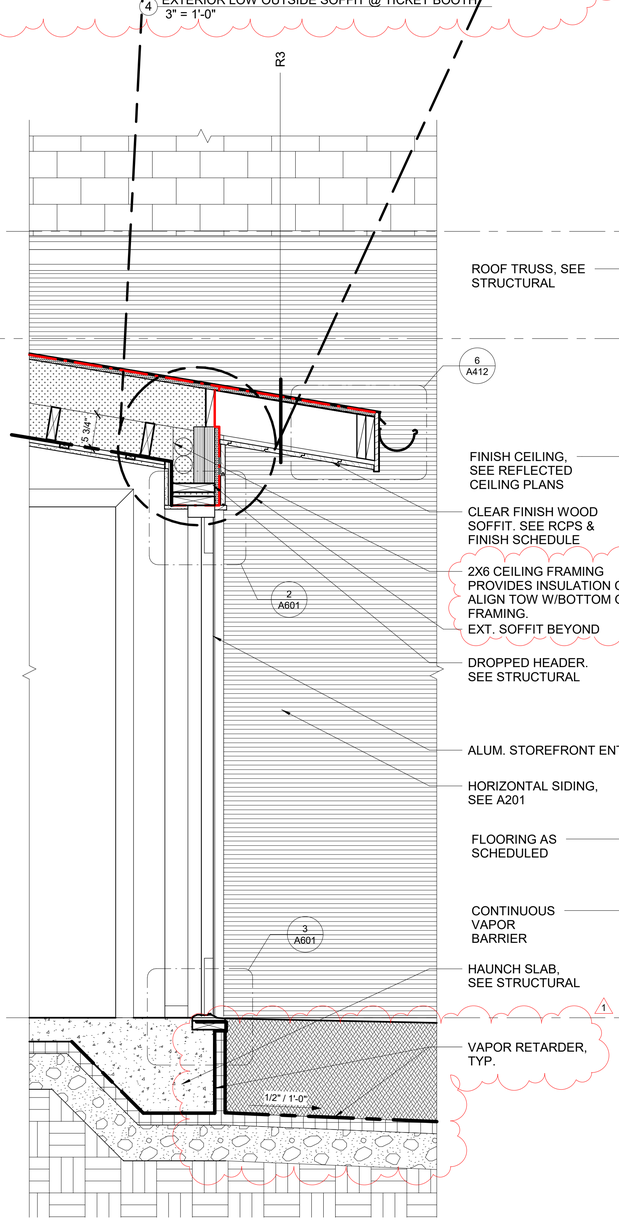
WALL SECTIONS

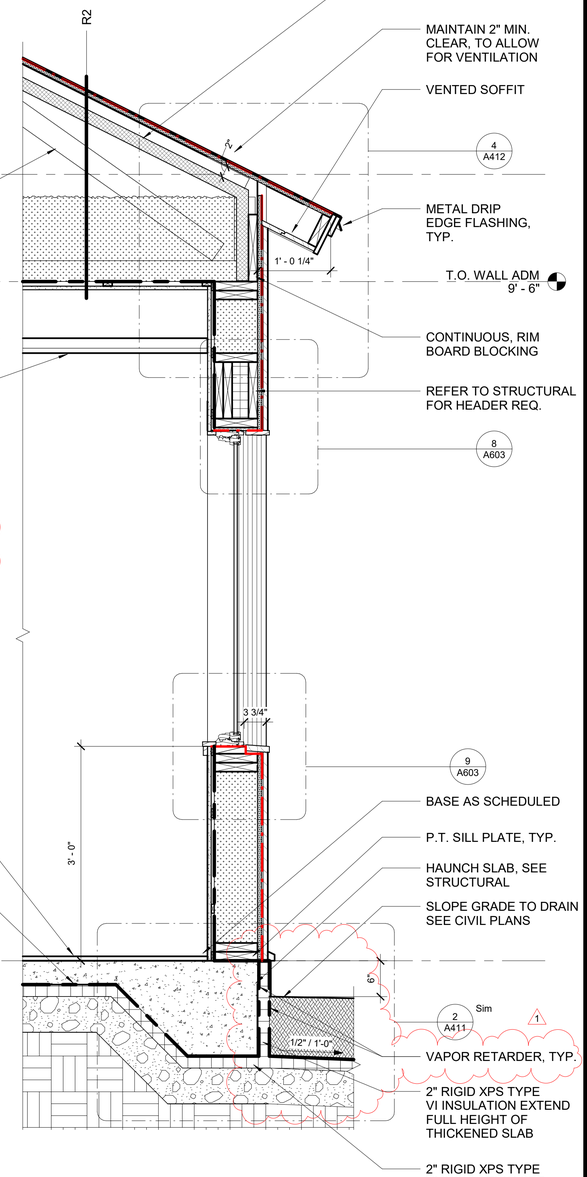
A312





1 TYP. TICKETING WALL SECTION
1" = 1'-0"





2 TYP. ADMIN OFFICE WALL SECTION @ WINDOW
1" = 1'-0"

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PROJECT NAME:

MAINE IF+W NATURE STORE & ADMIN OFFICE

56 Game Farm Rd, Gray, ME 04039

SEAL:

LICENSED ARCHITECT
SCOTT R. SIMONS
NO. 2034
STATE OF MAINE

REVISIONS

1	Addendum #1	05.13.2024

DATE OF ISSUE:	04.23.2024
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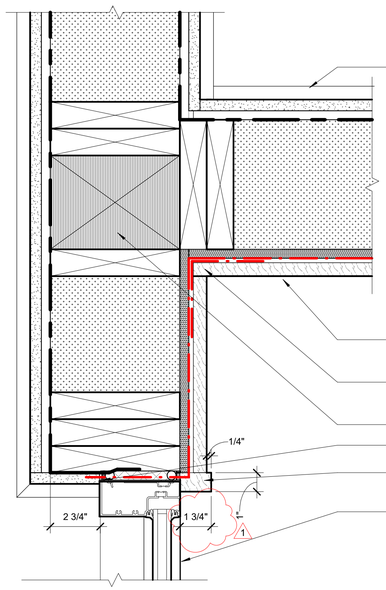
WALL SECTIONS

A313



HORIZONTAL CHANNEL RUSTIC SIDING

TAPE AND SEAL ALL JOINTS OF WRB, TYP

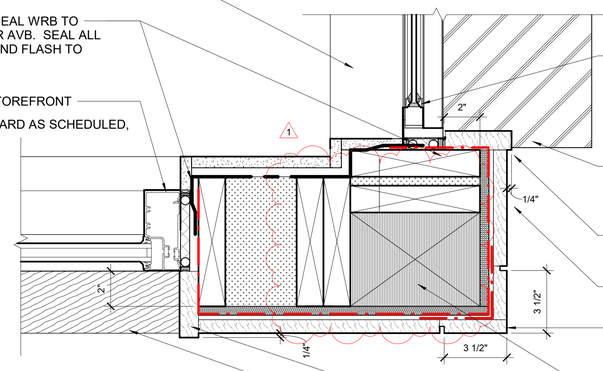
PSL COL. SEE STRUCTURAL

TEAR AWAY DRYWALL CORNER, TYP

5/4" JAMB TRIM, FINISH TO MATCH SIDING

ALUM. STOREFRONT SEE A201 + A600

4 TICKET BOOTH OUTSIDE CORNER
3" = 1'-0"



SEE MILLWORK DETAILS FOR COUNTER SURFACE INFORMATION

TAPE & SEAL WRB TO INTERIOR AVB. SEAL ALL EDGES AND FLASH TO R.O.SILL

ALUM. STOREFRONT

BASEBOARD AS SCHEDULED, BEYOND

BLACKENED STEEL EXT. SERVICE COUNTER, SEE MILLWORK DETAILS

5/4" WOOD JAMB FINISH TO MATCH SIDING

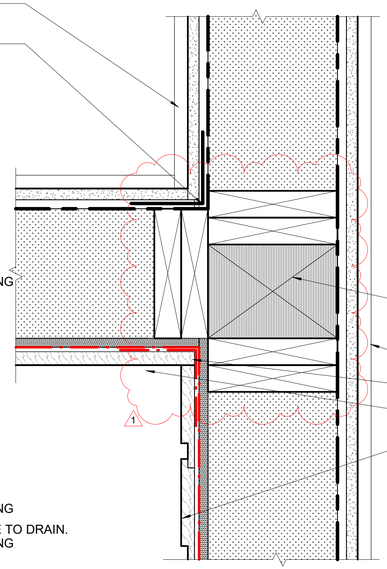
HORIZONTAL WOOD SIDING

VERTICAL CORNER BOARD MATCH SIDING FINISH, TYP

PSL COL. SEE STRUCTURAL

5/4" WOOD JAMB FINISH TO MATCH SIDING

5/4" WOOD SILL, SLOPE TO DRAIN. FINISH TO MATCH SIDING



BASEBOARD AS SCHEDULED, BEYOND

TAPE & SEAL ALL INTERIOR AVB JOINTS

SLIDING ALUM. STOREFRONT

PSL COL. SEE STRUCTURAL

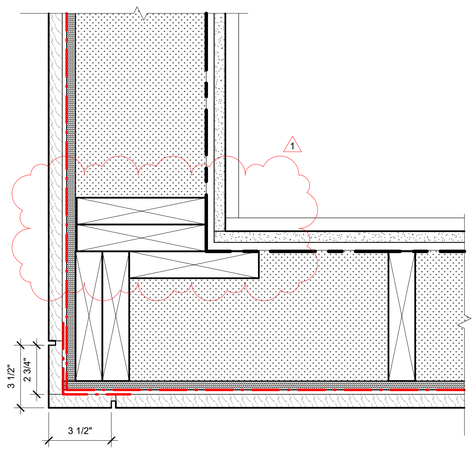
BASEBOARD AS SCHEDULED, BEYOND

TAPE AND SEAL ALL JOINTS OF WRB, TYP

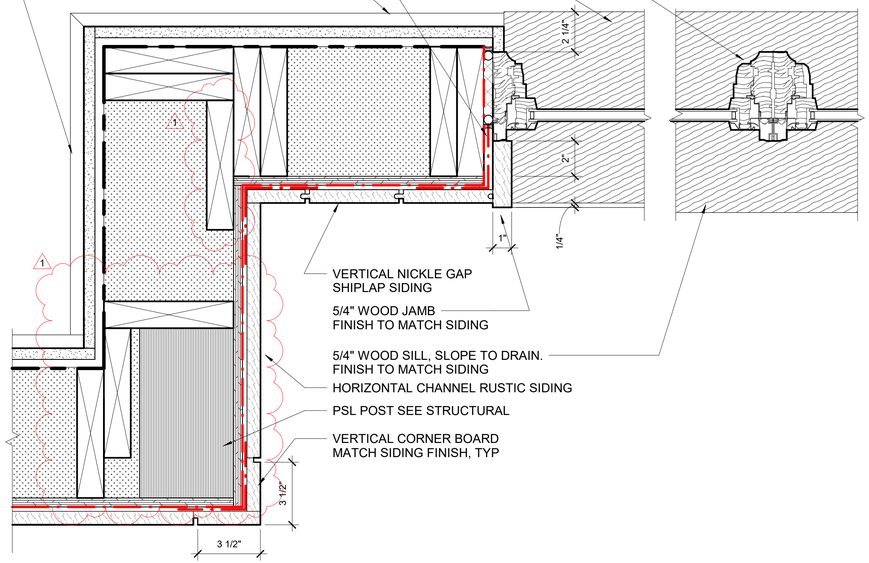
HORIZONTAL SHIPLAP NICKLE GAP SIDING

VERTICAL CHANNEL RUSTIC SIDING

5 TICKET BOOTH TO ADMIN INSIDE CORNER
3" = 1'-0"



3 NATURE STORE TO TICKET BOOTH INSIDE CORNER
3" = 1'-0"



ALUM. CLAD WOOD WINDOW MULLED UNIT AT NATURE STORE GABLE WALL, TYP.

INTERIOR WOOD SILL

TAPE & SEAL WRB TO INTERIOR AVB. SEAL ALL EDGES AND FLASH TO R.O.SILL

BASEBOARD AS SCHEDULED, BEYOND

VERTICAL NICKLE GAP SHIPLAP SIDING

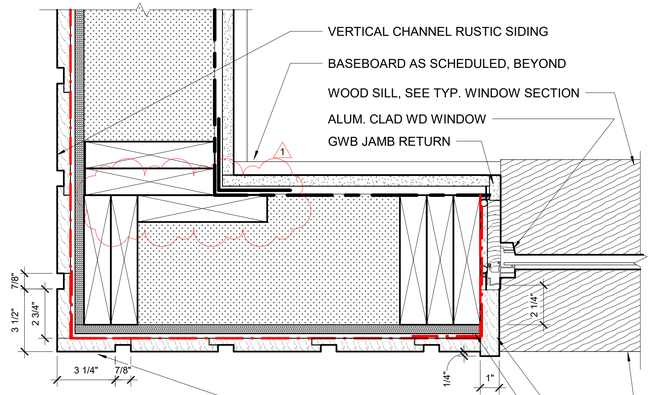
5/4" WOOD JAMB FINISH TO MATCH SIDING

5/4" WOOD SILL, SLOPE TO DRAIN. FINISH TO MATCH SIDING

HORIZONTAL CHANNEL RUSTIC SIDING

PSL POST SEE STRUCTURAL

VERTICAL CORNER BOARD MATCH SIDING FINISH, TYP



VERTICAL CHANNEL RUSTIC SIDING

BASEBOARD AS SCHEDULED, BEYOND

WOOD SILL, SEE TYP. WINDOW SECTION

ALUM. CLAD WD WINDOW

GWB JAMB RETURN

VERTICAL CORNER BOARD MATCH SIDING FINISH, TYP

TAPE & SEAL WRB TO INTERIOR AVB. SEAL ALL EDGES AND FLASH TO R.O.SILL

5/4" WOOD JAMB FINISH TO MATCH SIDING

5/4" WOOD SILL, SLOPE TO DRAIN. FINISH TO MATCH SIDING

6 TYP. ADMIN OFFICE OUTSIDE CORNER
3" = 1'-0"

1 TYP. NATURE STORE OUTSIDE CORNER
3" = 1'-0"

2 NATURE STORE INSIDE CORNER + MULLED WINDOW
3" = 1'-0"

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PROJECT NAME:

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SEAL:

LICENSED ARCHITECT
SCOTT R. SIMONS
NO. 2934
STATE OF MAINE

△ REVISIONS

1	Addendum #1	05.13.2024

DATE OF ISSUE: 04.23.2024

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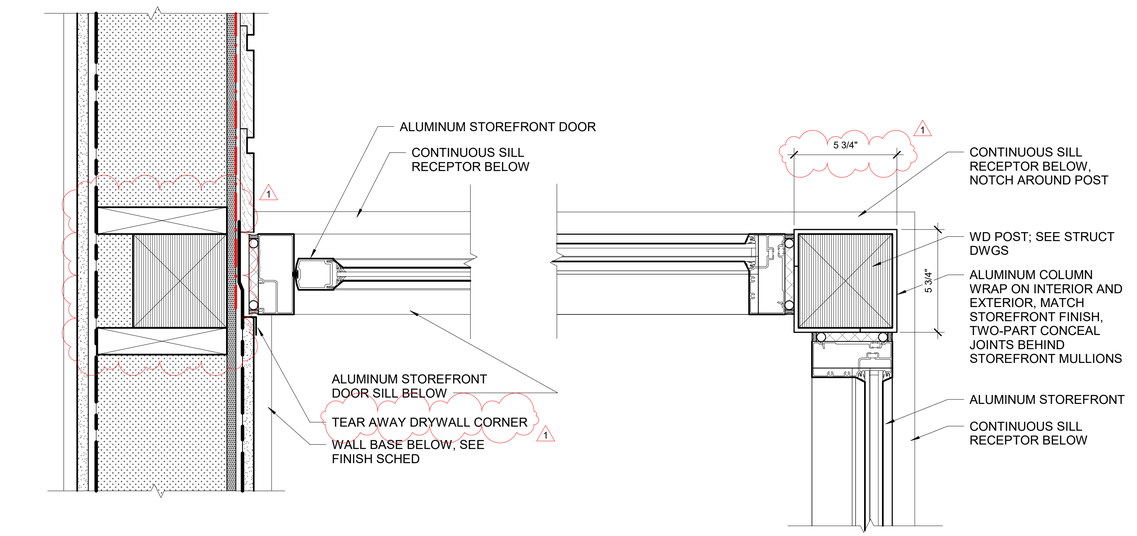
STATUS: ISSUED FOR BID BGS #3096

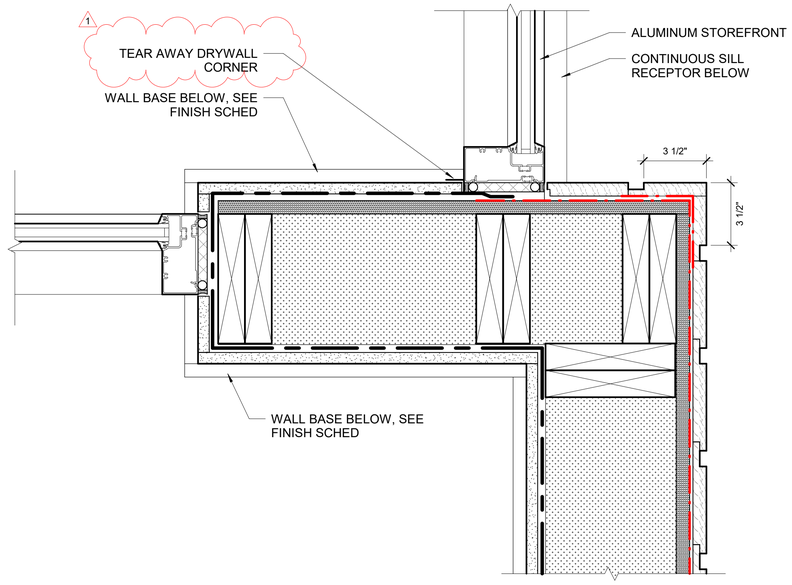
PLAN DETAILS

A401



1 ADMIN ENTRY VESTIBULE AT DOOR
3" = 1'-0"

2 ADMIN ENTRY VESTIBULE AT STOREFRONT CORNER
3" = 1'-0"



3 ADMIN ENTRY VESTIBULE AT STOREFRONT / WALL INTERFACE
3" = 1'-0"

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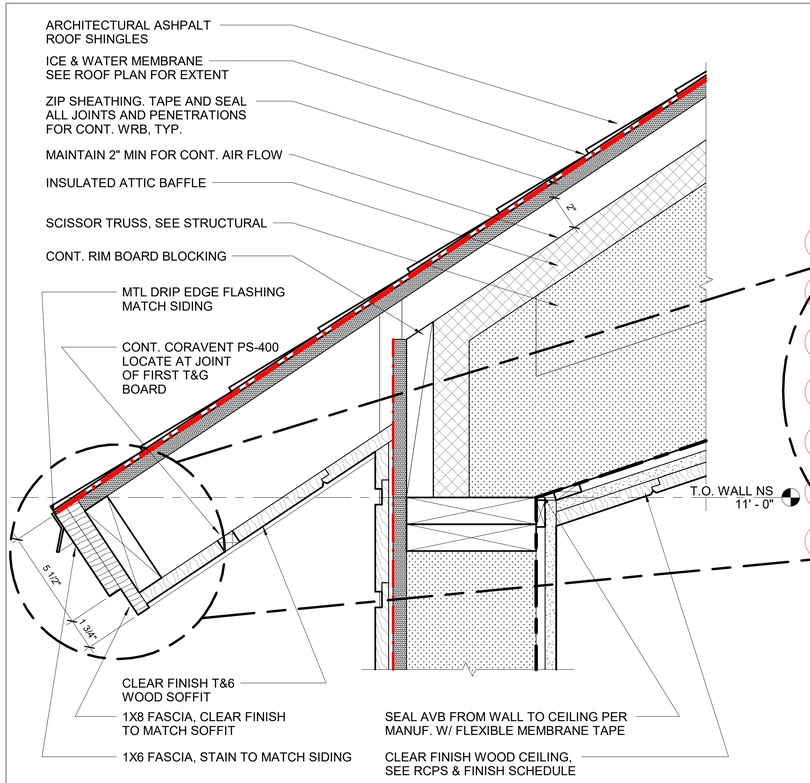
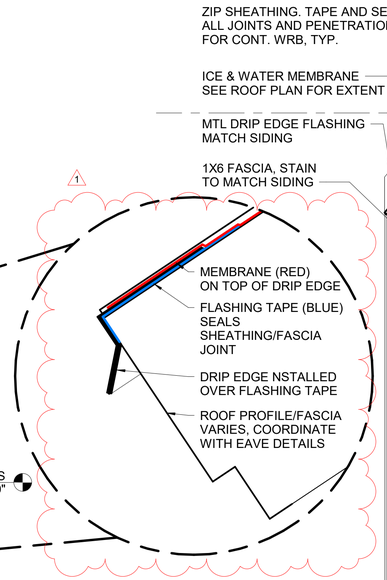
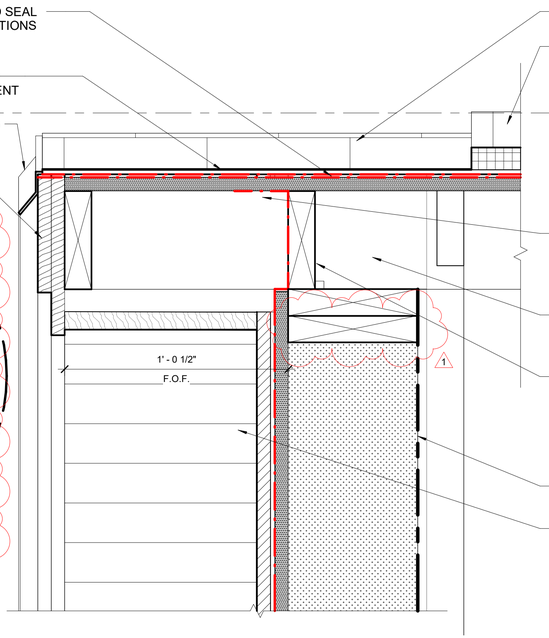
PLAN DETAILS

A402

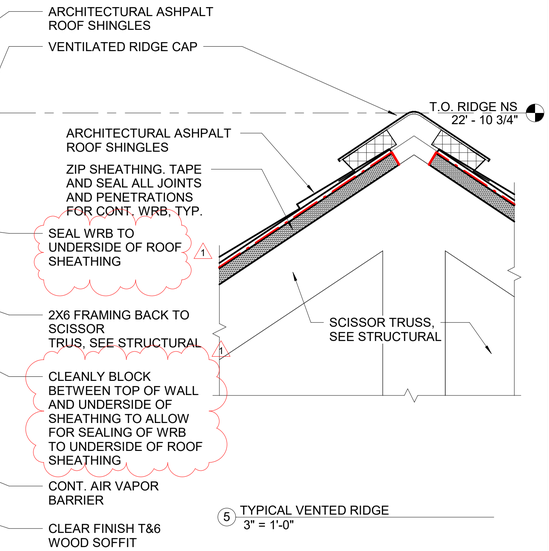


1 TYPICAL EAVE DETAIL @ NATURE STORE
3" = 1'-0"

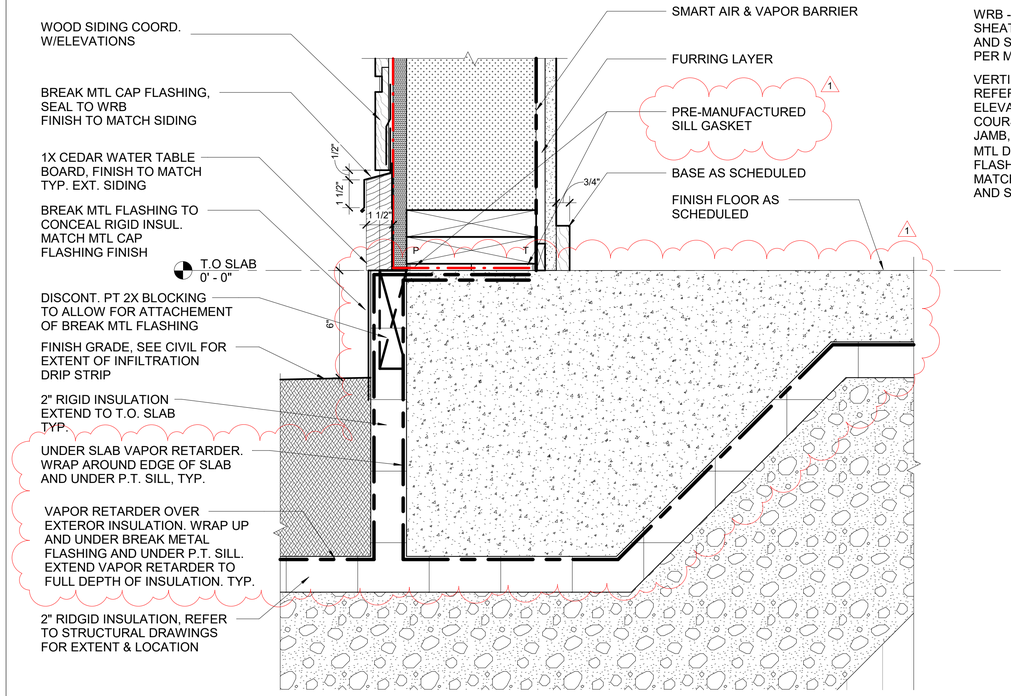




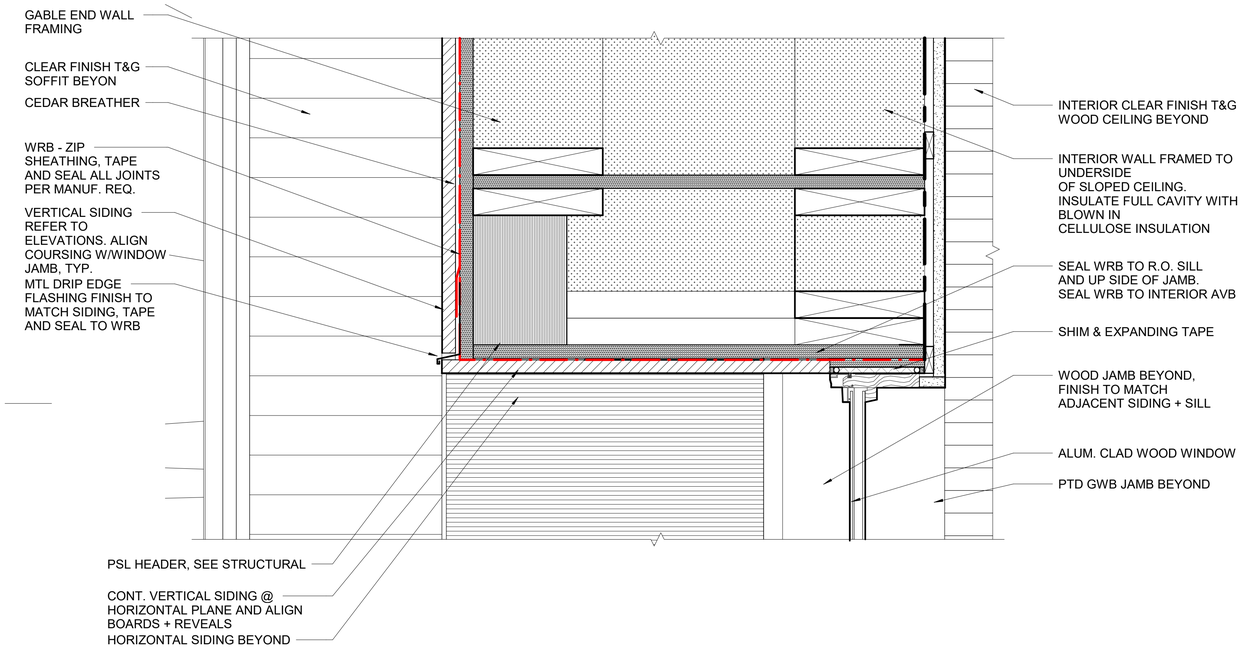
3 TYPICAL NATURE STORE RAKE DETAIL
3" = 1'-0"



5 TYPICAL VENTED RIDGE
3" = 1'-0"



2 TYPICAL FOUNDATION DETAIL
3" = 1'-0"



4 NATURE STORE GABLE BUMP IN DETAIL
3" = 1'-0"

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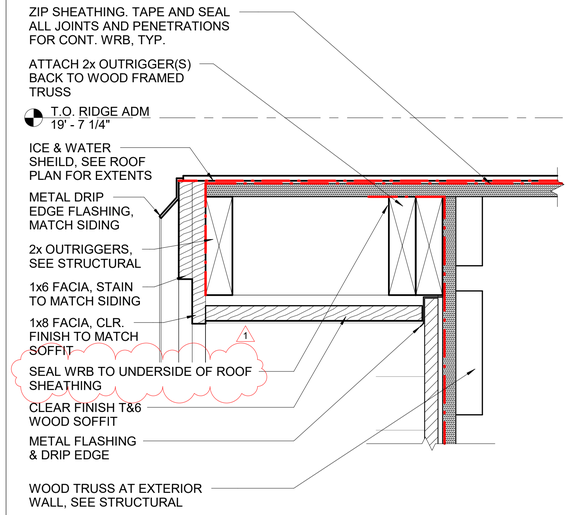
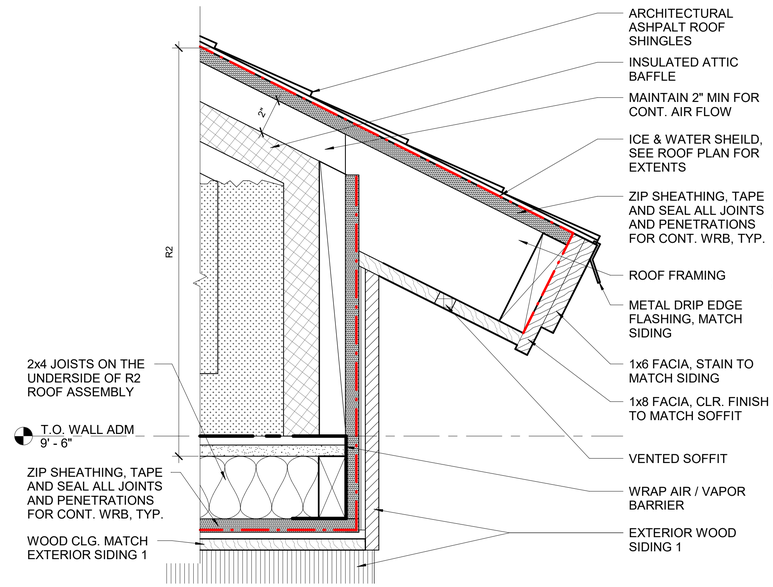
VERTICAL DETAILS

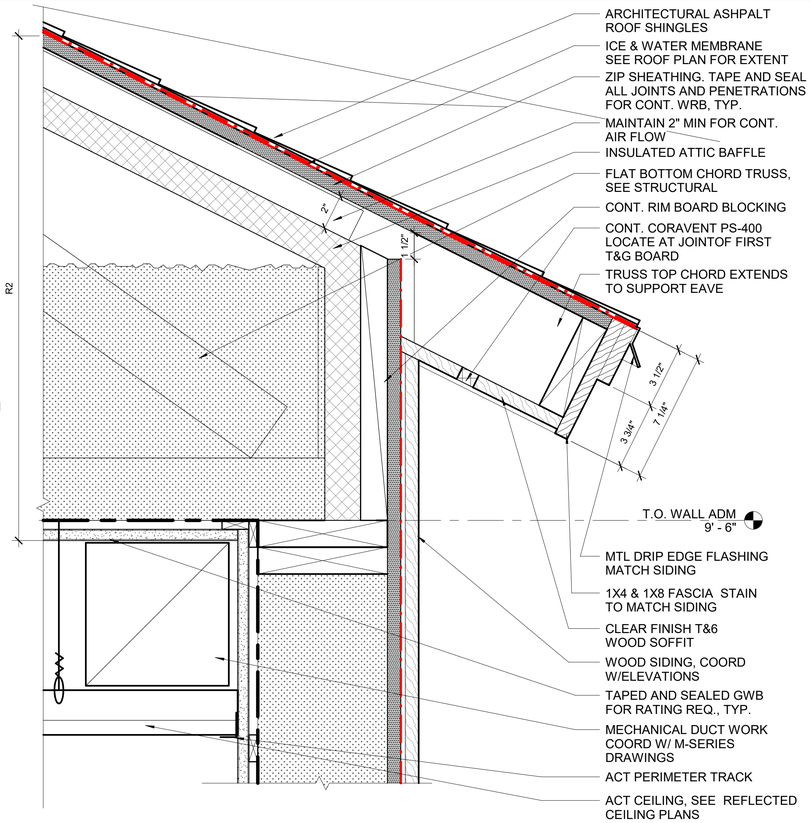
A411



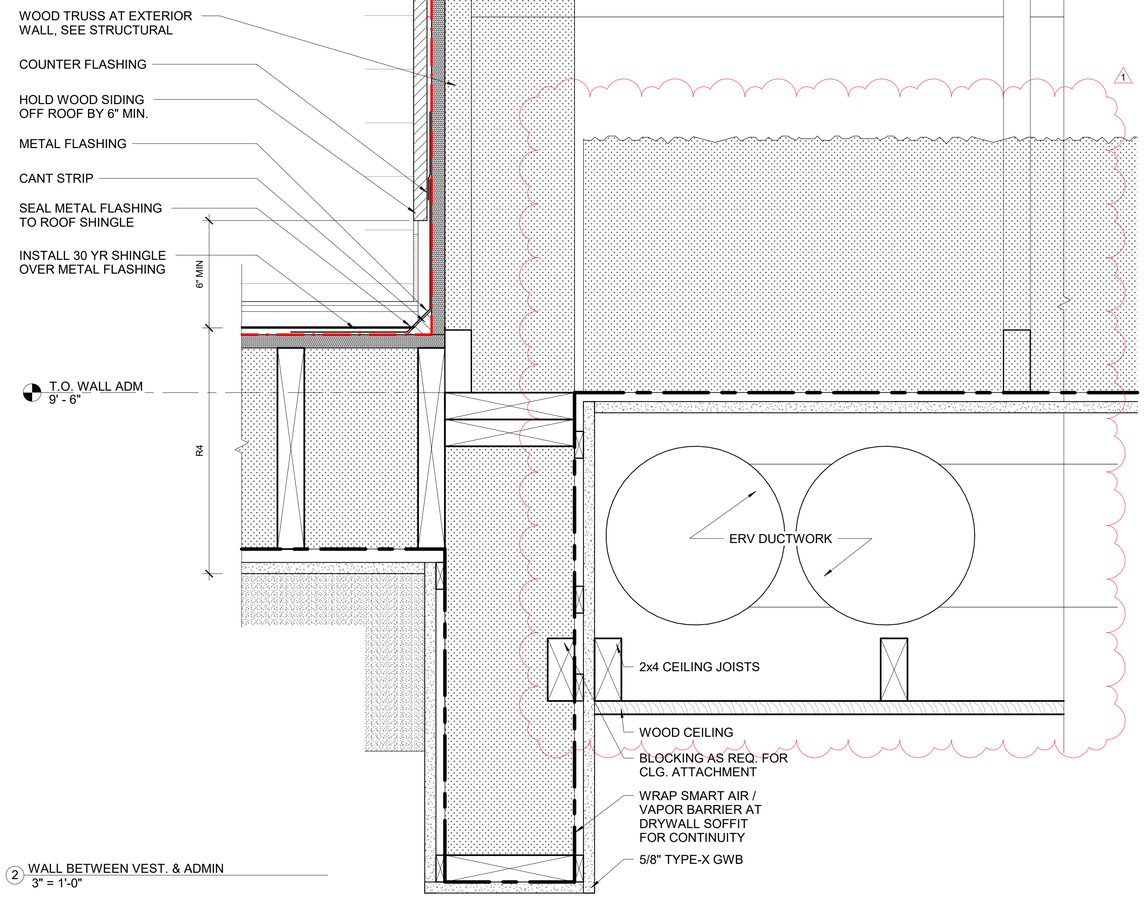
1 EAVE @ ADMIN
3" = 1'-0"



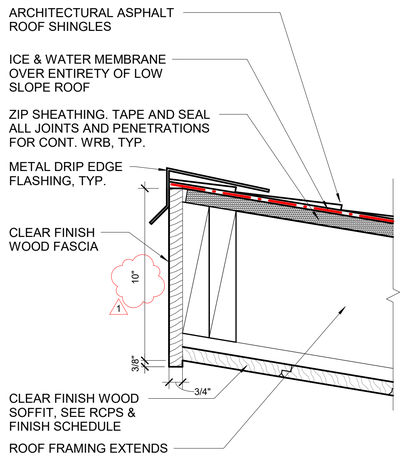
3 ROOF EAVE AT ADMIN STOREFRONT
3" = 1'-0"



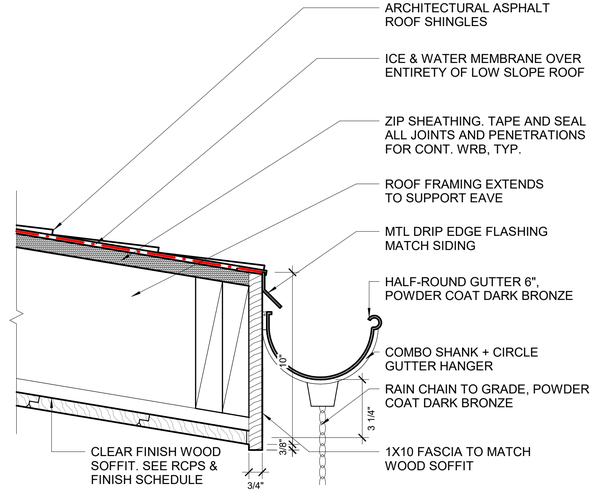
4 TYPICAL ADMIN. EAVE DETAIL
3" = 1'-0"



2 WALL BETWEEN VEST. & ADMIN
3" = 1'-0"



5 ROOF EDGE @ TICKETING - UPPER
3" = 1'-0"



6 ROOF EDGE @ TICKETING - LOWER
3" = 1'-0"

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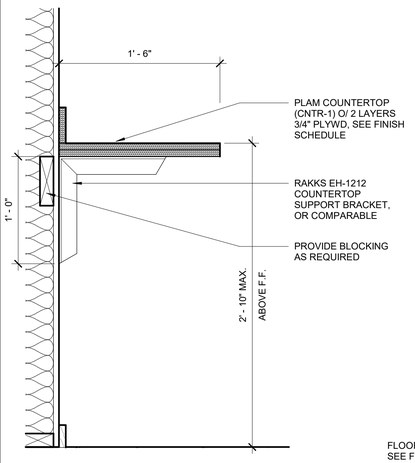
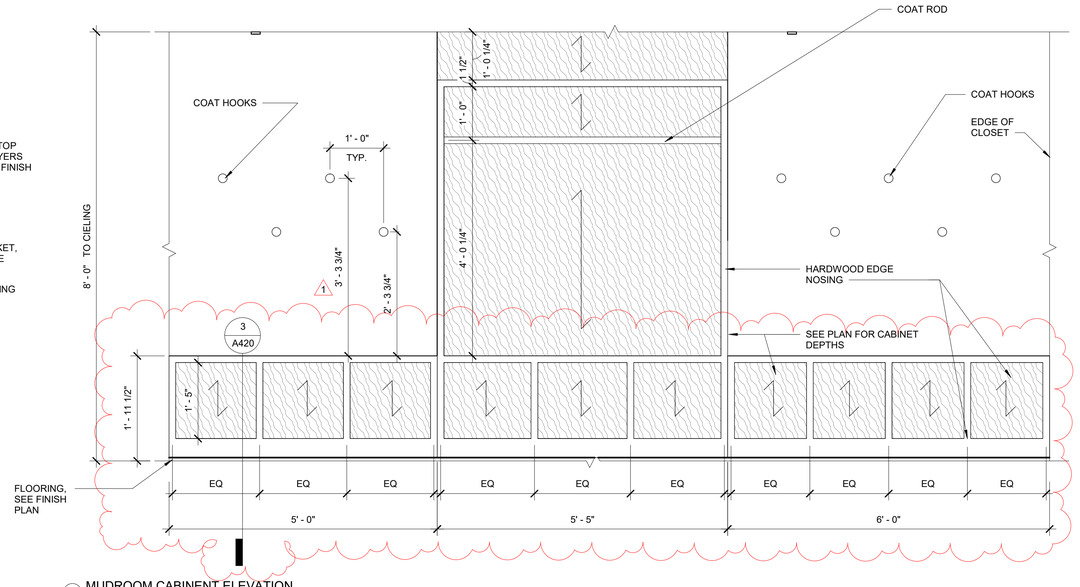
VERTICAL DETAILS

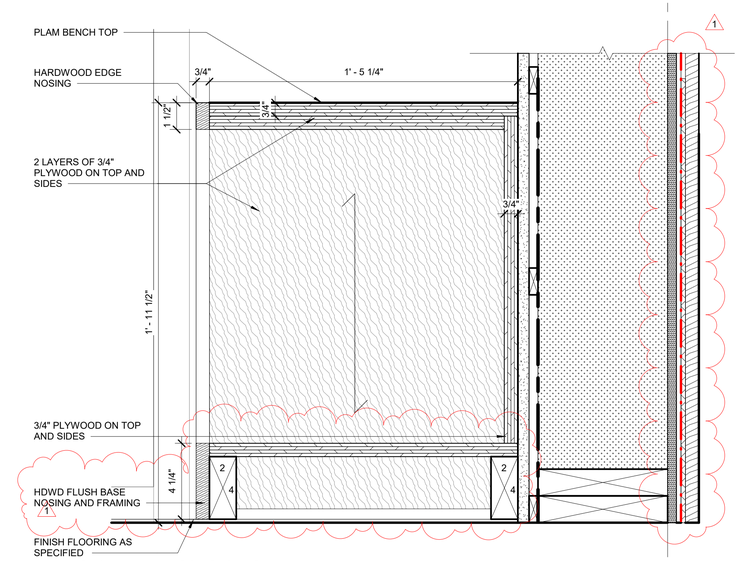
A412



5 SECTION THROUGH PRINT ROOM COUNTER, TYP.
1 1/2" = 1'-0"

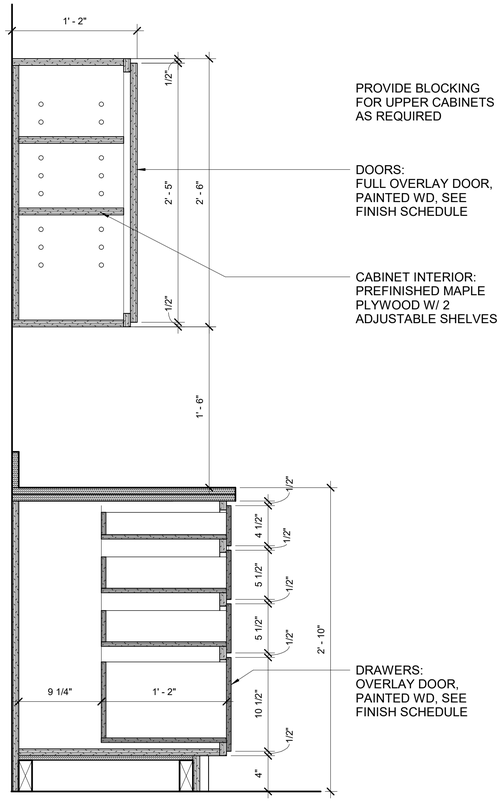


4 MUDROOM CABINENT ELEVATION
3/4" = 1'-0"

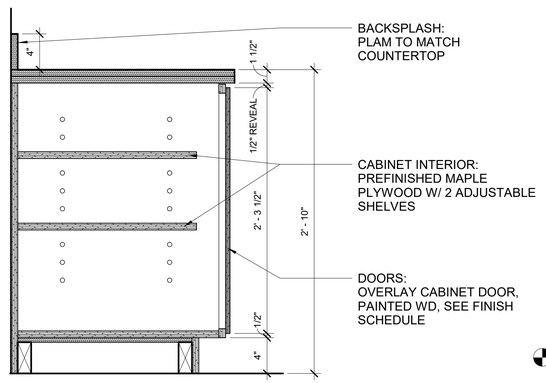


3 MUDRROM/ HALLWAY BOOT STORAGE DETAIL
3" = 1'-0"

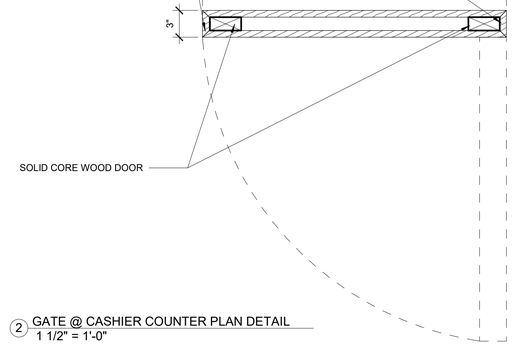
8 SECTION THROUGH BREAK ROOM SINK
1 1/2" = 1'-0"



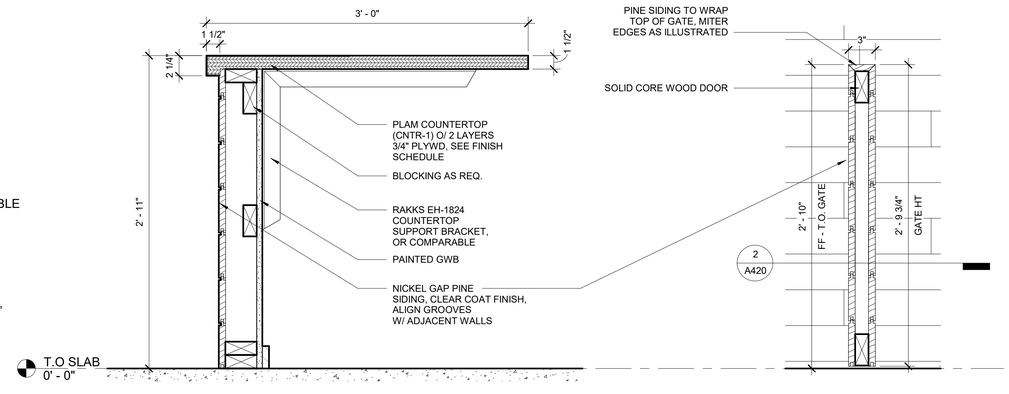
6 SECTION THROUGH BREAK ROOM UPPER & LOWER CABINET
1 1/2" = 1'-0"



7 SECTION THROUGH BREAK ROOM COUNTER, TYP.
1 1/2" = 1'-0"



2 GATE @ CASHIER COUNTER PLAN DETAIL
1 1/2" = 1'-0"



9 TYP. NATURE STORE POS DESK
1 1/2" = 1'-0"

1 GATE @ CASHIER COUNTER SECTION DETAIL
1 1/2" = 1'-0"

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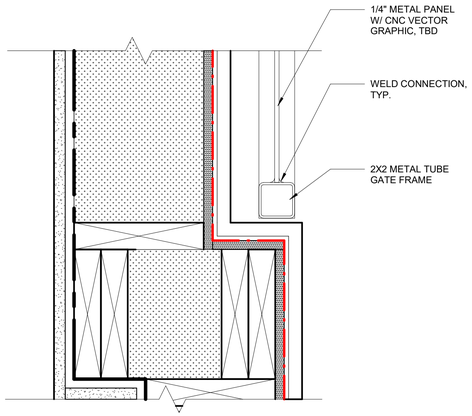
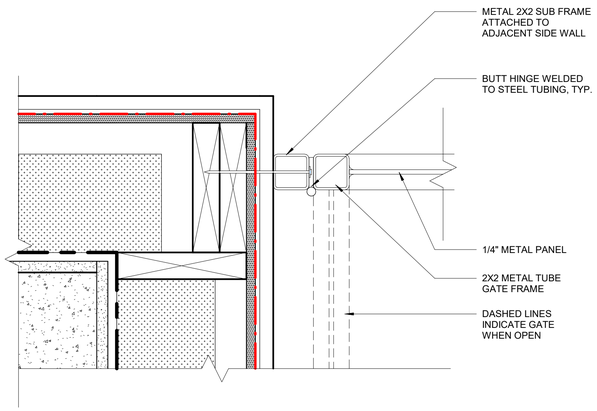
MILLWORK DETAILS

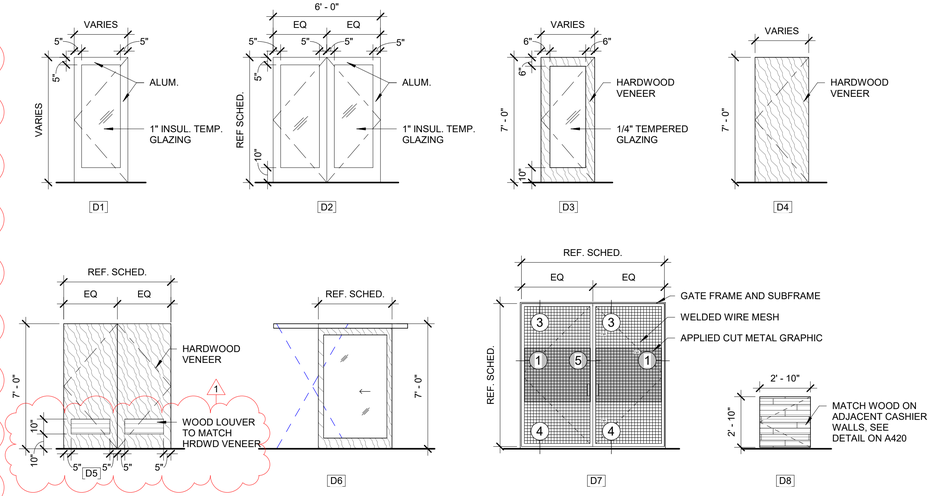
A420



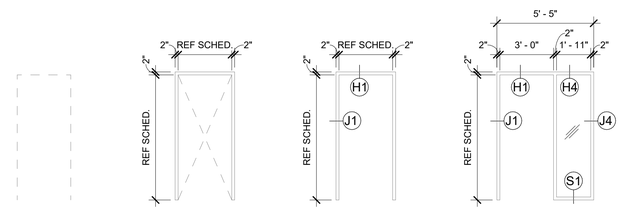
1 PARK GATE DETAIL @ DOOR INSET, TYP.
3" = 1'-0"



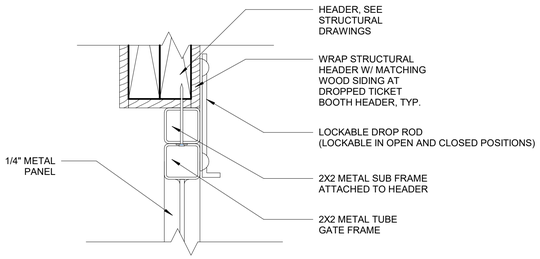
2 PARK GATE DETAIL @ JAMB, TYP.
3" = 1'-0"



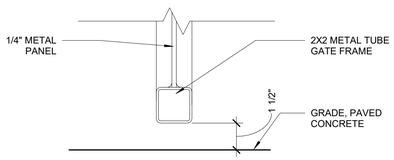
DOOR TYPES
1/4" = 1'-0"



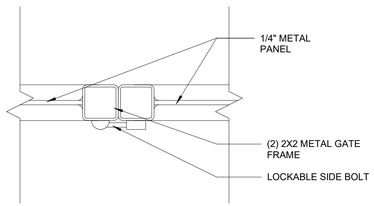
DOOR FRAME TYPES
1/4" = 1'-0"



3 PARK GATE SECTION @ HEADER
3" = 1'-0"



4 PARK GATE SECTION @ SILL
3" = 1'-0"



5 PARK GATE DETAIL @ CENTER LATCH
3" - 1'-0"

DOOR SCHEDULE

NO.	ROOM	DOOR TYPE	MANUF.	DESCRIPTION	DOOR HEIGHT	DOOR WIDTH	DOOR THICKNESS	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME HEAD DETAIL	FRAME JAMB DETAIL	FIRE RATING	INT/EXT	CARD READER	COMMENTS
101A	NATURE STORE	D1	KAWNEER	ALUM. FULL LITE	8' - 0"	3' - 0"		ALUM/GLASS		ALUM.						
101B	NATURE STORE	D2	KAWNEER	ALUM. FULL LITE	6' - 11"	5' - 8"		ALUM/GLASS		ALUM.						
101C	NATURE STORE	D1	KAWNEER	ALUM. FULL LITE	8' - 0"	3' - 0"		ALUM/GLASS		ALUM.						
102A	CASHIER	D8	CUSTOM	GATE	2' - 10"	2' - 10"	0' - 2"	WD VENEER	N/A	WD						SIDING CLAD GATE
102B	CASHIER	F4			7' - 2"	7' - 4"			F0	N/A						
103	STORAGE	D4		FLUSH SC WOOD VENEER	7' - 0"	3' - 0"	0' - 1 3/4"	WD VENEER	F1	HM	H1	J1				
104A	TICKETING	D1	KAWNEER	ALUM. FULL LITE	7' - 0"	3' - 0"										
104B		D7		EXT. WIRE MESH GATE	7' - 0 1/2"	9' - 0"			N/A	N/A						
105A	TICKETING	D1	KAWNEER	ALUM. FULL LITE	7' - 0"	3' - 0"										
105B		D7		EXT. WIRE MESH GATE	7' - 0 1/2"	9' - 0"			N/A	N/A						
106A	VEST.	D1	KAWNEER	ALUM. FULL LITE	7' - 0"	3' - 0"		ALUM/GLASS		ALUM.						ADA DOOR OPERATOR PUSHPAD, SEE E201 FOR MORE DETAILS
106B	HALL/MUDROOM	D3		WOOD VENEER, FULL LITE	7' - 0"	3' - 0"		WD/GLASS	F3	HM					Yes	CARD READER BY OWNER, ADA DOOR OPERATOR PUSHPAD, SEE E201 FOR MORE DETAILS
107	GAME KEEPER	D6		SLIDING BARN DOOR, FULL LITE	7' - 0"	8' - 0"	0' - 2"		F1	HM	H3	J2				
108	BREAK RM	D3		WOOD VENEER, FULL LITE	7' - 0"	3' - 0"		WD/GLASS	F3	HM	H2	J2/J4				
109	MECH.	F3			7' - 0"	2' - 10"	0' - 1 3/4"	WD	F1	HM	H2	J2				
111	WSH	D4		FLUSH SC WOOD VENEER	7' - 0"	3' - 0"	0' - 1 3/4"	WD	F1	HM	H2	J2/J3				
112	WSH	D4		FLUSH SC WOOD VENEER	7' - 0"	3' - 0"	0' - 1 3/4"	WD VENEER	F0	HM	H2	J2/J3				
113A	VEST.	D1	KAWNEER	ALUM. FULL LITE	7' - 0"	3' - 0"		ALUM/GLASS		ALUM.						
113B	VEST.	D1	KAWNEER	ALUM. FULL LITE	7' - 0"	3' - 0"		WD/GLASS		HM					Yes	CARD READER BY OWNER
114	HOTEL	D3		WOOD VENEER, FULL LITE	7' - 0"	3' - 0"		WD/GLASS	F3	HM	H2	J2/J4				
115	SPR. OFFICE	D3		WOOD VENEER, FULL LITE	7' - 0"	3' - 0"		WD/GLASS	F3	HM	H2	J2/J4				
116	ASST. SPR.	D3		WOOD VENEER, FULL LITE	7' - 0"	3' - 0"		WD/GLASS	F3	HM	H2	J2/J4				
117	HALL/MUDROOM	D3		WOOD VENEER, FULL LITE	7' - 0"	2' - 11"		WD/GLASS	F3	HM	H2	J2/J4				
118	HALL/MUDROOM	D5			7' - 0"	4' - 0"	0' - 2"	WD VENEER	F3	HM	H2	J2				
122		D7		EXT. WIRE MESH GATE	7' - 0 1/2"	9' - 0"			N/A	N/A						

GENERAL NOTES:
1. DOORS AND FRAMES SHOULD BE SHOP-PREPPED ACCORDING TO FIRE LISTINGS.
2. FOR FRAME TYPES INTEGRAL TO INT. WINDOW ASSEMBLY SEE A602 FOR WINDOW TYPES + DETAILS.
3. DOORS NOTED AS "CARD READER BY OWNER" TO INCLUDE CONDUIT AND JUNCTION BOX ONLY, CARD READER + DATA BY OWNER

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PROJECT NAME:

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SEAL:

LICENSED ARCHITECT SCOTT R. SIMONS NO. 2034 STATE OF MAINE

REVISIONS

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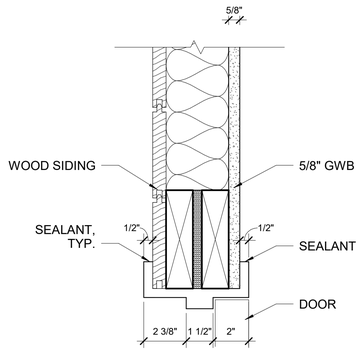
DOOR SCHEDULE

A600



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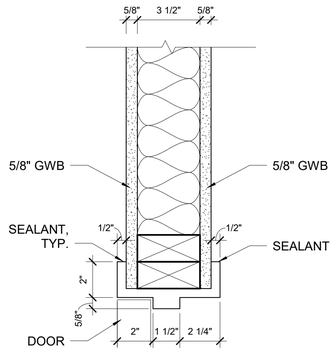

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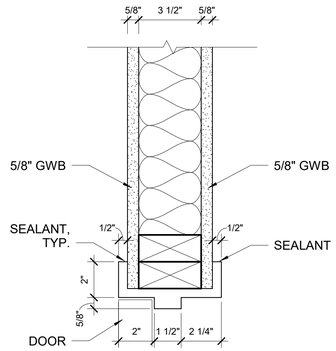
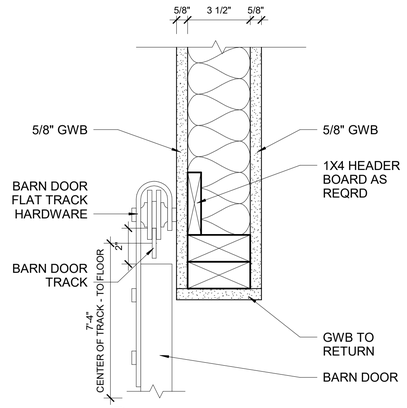


H2 SIM.



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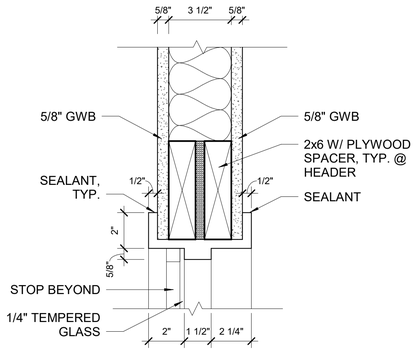

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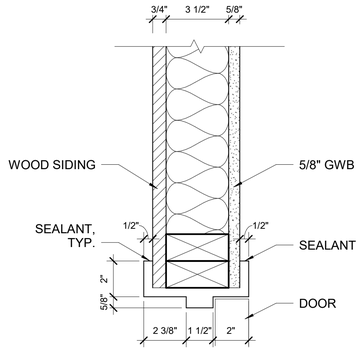

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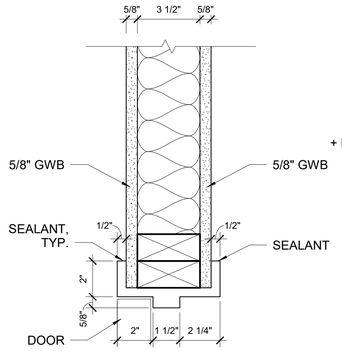

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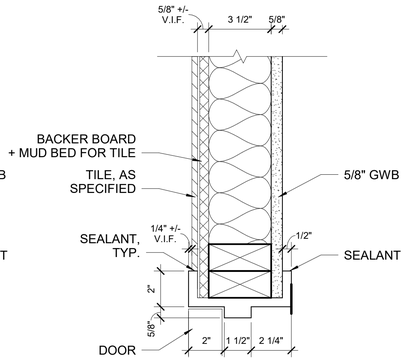

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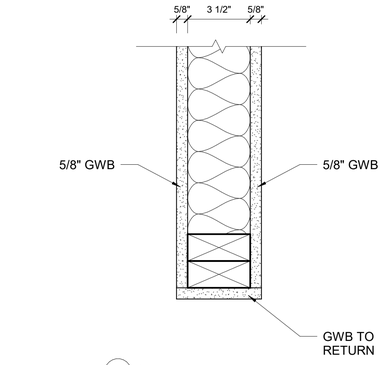
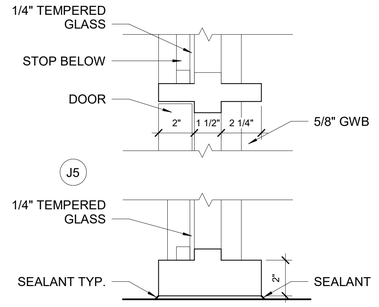


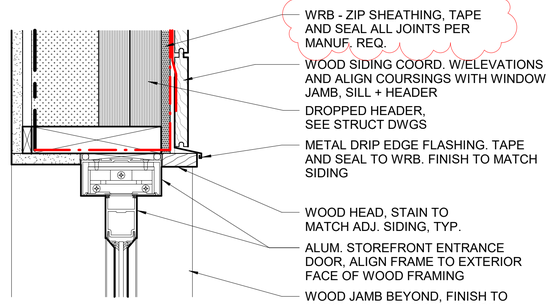
J4 SIM.



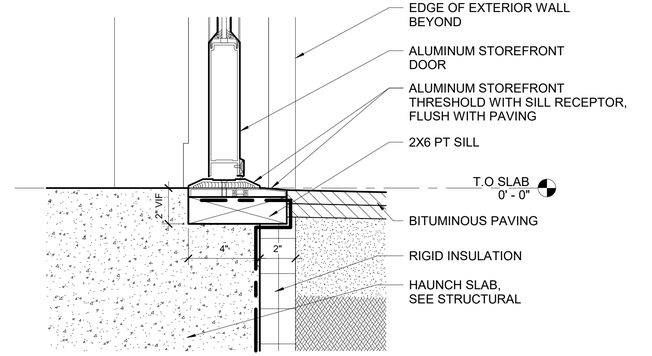
J5

S1

1 INTERIOR DOOR HEADER + JAMB DETAILS
3" = 1'-0"



2 EXT DOOR HEAD @ TICKETING
3" = 1'-0"



3 EXT DOOR THRESHOLD @ TICKETING
3" = 1'-0"

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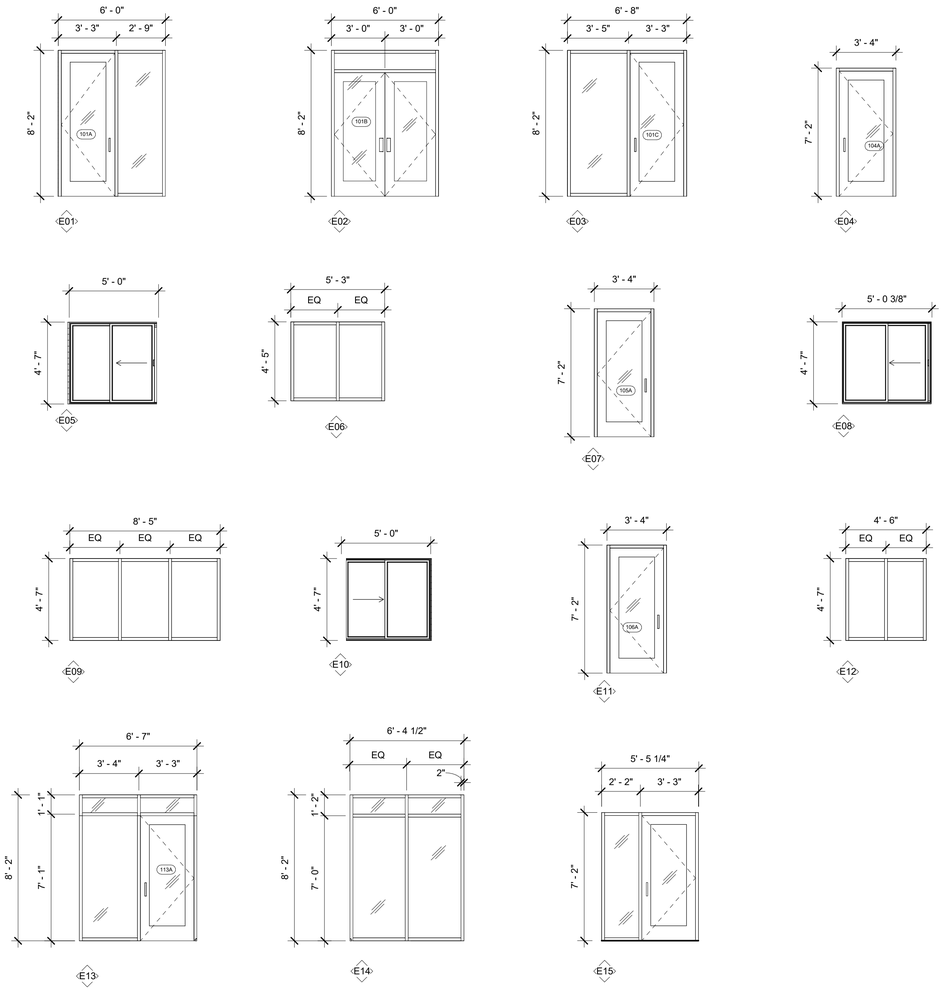
DOOR DETAILS

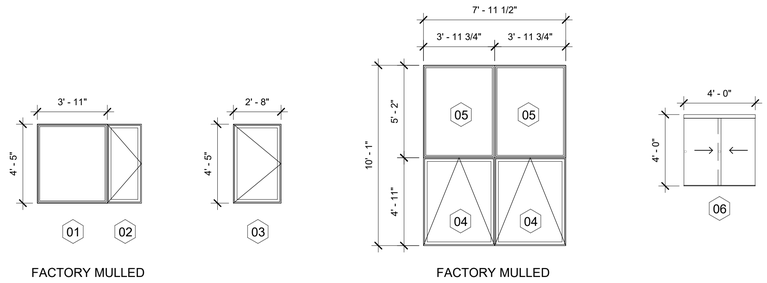
A601

EXTERIOR ASSEBLIES									
Window			Frame Size (W x H)			Material			
No.	Manufacturer	Description	Width	Height	R.O.	Int	Ext	Glazing	Notes
E01	KAWNEER	Alum. Partition System	6' - 0"	8' - 2"	Per MFQR REQ.	Alum.	Alum.		
E02	KAWNEER	Alum. Partition System	6' - 0"	8' - 2"	Per MFQR REQ.	Alum.	Alum.		
E03	KAWNEER	Alum. Partition System	6' - 8"	8' - 2"	Per MFQR REQ.	Alum.	Alum.		
E04	KAWNEER	Alum. Partition System	3' - 4"	7' - 2"	Per MFQR REQ.	Alum.	Alum.		
E05	KAWNEER	Alum. Partition System	5' - 0"	4' - 7"	Per MFQR REQ.	Alum.	Alum.		
E06	KAWNEER	Alum. Partition System	5' - 3"	4' - 5"	Per MFQR REQ.	Alum.	Alum.		
E07	KAWNEER	Alum. Partition System	3' - 4"	7' - 2"	Per MFQR REQ.	Alum.	Alum.		
E08	KAWNEER	Alum. Partition System	5' - 5 1/8"	4' - 7"	Per MFQR REQ.	Alum.	Alum.		
E09	KAWNEER	Alum. Partition System	8' - 5"	4' - 7"	Per MFQR REQ.	Alum.	Alum.		
E10	KAWNEER	Alum. Partition System	5' - 0"	4' - 7"	Per MFQR REQ.	Alum.	Alum.		
E11	KAWNEER	Alum. Partition System	3' - 4"	7' - 2"	Per MFQR REQ.	Alum.	Alum.		
E12	KAWNEER	Alum. Partition System	4' - 6"	4' - 7"	Per MFQR REQ.	Alum.	Alum.		
E13	KAWNEER	Alum. Partition System	6' - 7"	8' - 2"	Per MFQR REQ.	Alum.	Alum.		
E14	KAWNEER	Alum. Partition System	6' - 4 1/2"	8' - 2"	Per MFQR REQ.	Alum.	Alum.		
E15	KAWNEER	Alum. Partition System	5' - 5"	7' - 2"	Per MFQR REQ.	Alum.	Alum.		



1 STOREFRONT TYPES
1/4" = 1'=0"

WINDOW SCHEDULE									
Window				Frame Size (W x H)		Material			
No.	Manufacturer	Window Line	Operation	Width	Height	Int	Ext	Glazing	Notes
01	Pella	Lifestyle	Fixed	3' - 11"	4' - 5"	Pine	Alum. Clad		HARDWARE - STANDARD BROWN
02	Pella	Lifestyle	Casement	1' - 11"	4' - 5"	Pine	Alum. Clad		HARDWARE - STANDARD BROWN
03	Pella	Lifestyle	Casement	2' - 8"	4' - 5"	Pine	Alum. Clad		HARDWARE - STANDARD BROWN
04	Pella	Lifestyle	Awning	3' - 11 3/4"	4' - 11"	Pine	Alum. Clad		HARDWARE - STANDARD BROWN
05	Pella	Lifestyle	Fixed	3' - 11 3/4"	5' - 2"	Pine	Alum. Clad		HARDWARE - STANDARD BROWN
06	CRL	Sharyn Frameless Pass-Thru	Slider	4' - 0"	4' - 0"				



FACTORY MULLED

FACTORY MULLED

2 WINDOW TYPES
1/4" = 1'=0"

GENERAL NOTES:
1. DIM TO UNIT SIZE U.N.O.
2. ALL GLASS TO BE TEMPERED AS REQUIRED
3. CONTRACTOR SHALL FIELD VERIFY DIM. PRIOR TO FABRICATION OF WINDOW UNITS

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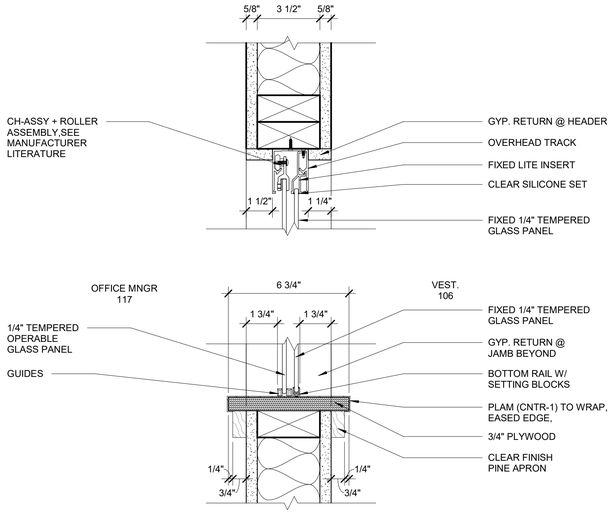
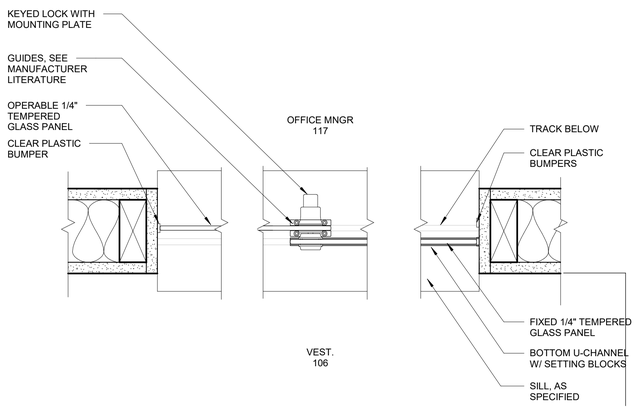
EXTERIOR WINDOW SCHEDULE

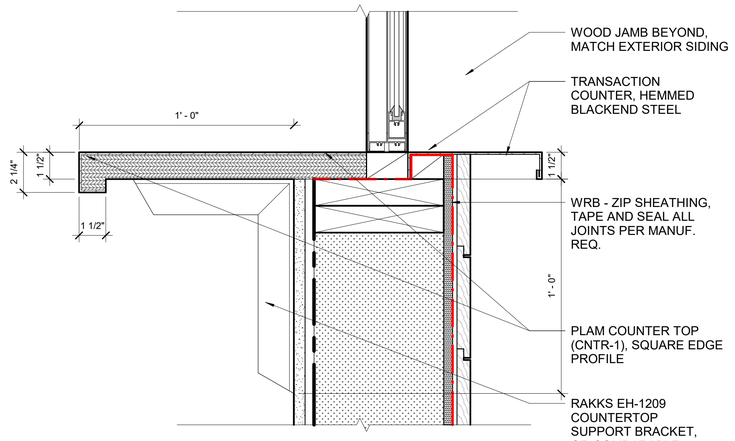
A602



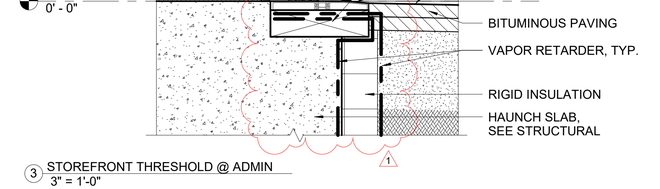
1 SILL + HEADER DETAIL @ PASS-THRU WINDOW
3" = 1'-0"



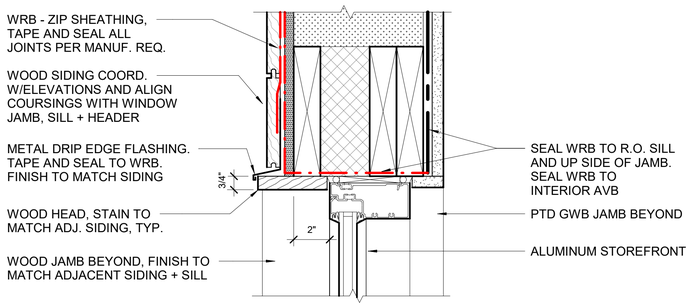
4 PLAN DETAIL @ PASS-THRU WINDOW
3" = 1'-0"



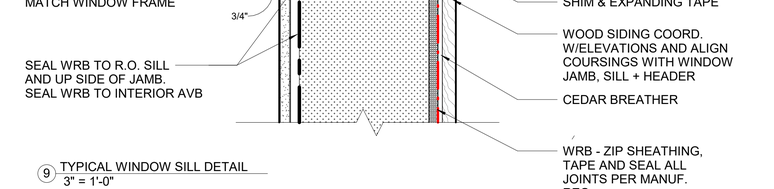
7 TICKETING COUNTER, TYP.
3" = 1'-0"



2 DETAIL AT STOREFRONT HEAD AT ADMIN
3" = 1'-0"

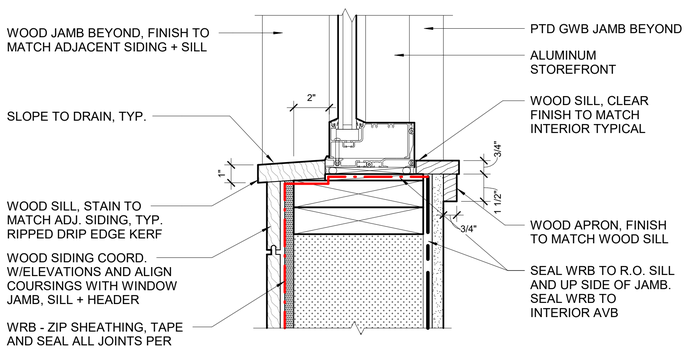


5 WINDOW HEAD AT TICKETING
3" = 1'-0"



8 TYPICAL WINDOW HEADER DETAIL
3" = 1'-0"

3 STOREFRONT THRESHOLD @ ADMIN
3" = 1'-0"



6 WINDOW SILL @ TICKETING
3" = 1'-0"

9 TYPICAL WINDOW SILL DETAIL
3" = 1'-0"

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WINDOW DETAILS

A603

GR GENERAL REQUIREMENTS

GR-1 THE NOTES ON THESE DRAWINGS ARE NOT INTENDED TO REPLACE SPECIFICATIONS.
SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES. INCONSISTENCIES BETWEEN THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.

GR-2 EDITIONS OF MATERIAL STANDARDS REFERENCED ON THIS DRAWING SHALL BE AS INDICATED IN THE BUILDING CODES.

GR-3 STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER PROJECT DRAWINGS AND SPECIFICATIONS. CONSULT ALL OTHER PROJECT DOCUMENTS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, CHASES, INSERTS, REGLETS, SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

GR-4 ALL DIMENSIONS, EXISTING CONDITIONS, AND AS-BUILT CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH THE EFFECTED PART OF THE WORK.

GR-5 SECTIONS AND DETAILS SHOWN ON ANY STRUCTURAL DRAWINGS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS AS DETERMINED BY THE STRUCTURAL ENGINEER. THE STRUCTURAL ENGINEER RESERVES THE RIGHT TO INTERPRET DETAILS TO ADDRESS OTHER PROJECT CONDITIONS.

GR-6 IN ACCORDANCE WITH THE MAINE UNIFORM BUILDING AND ENERGY CODE/INTERNATIONAL BUILDING CODE (2015 EDITION, SECTION 1704.1), SPECIAL INSPECTIONS ARE REQUIRED BY THE LOCAL CODE OFFICIAL. SEE THE STATEMENT OF INSPECTIONS AND THE PROJECT SPECIFICATIONS FOR ADDITIONAL CRITERIA.

GR-7 ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

GR-8 THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE ONLY AFTER THE STRUCTURAL WORK CONTAINED IN THE STRUCTURAL DRAWINGS IS COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS, OR TIE-DOWNS. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.

GR-9 REFERENCE THE PROJECT SPECIFICATIONS FOR SUBMITTAL AND TESTING REQUIREMENTS.

CD CODES AND DESIGN CRITERIA

CD-1 PERFORM ALL CONSTRUCTION IN CONFORMANCE WITH THE BUILDING AND DESIGN CODES REFERENCED WITHIN THESE DOCUMENTS. THE PROJECT DOCUMENTS REFER TO THE FOLLOWING CODES AND STANDARDS, UON:

INTERNATIONAL BUILDING CODE, 2015 EDITION

STRUCTURAL CONCRETE:
"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
THE AMERICAN CONCRETE INSTITUTE (ACI 318-14)

WOOD:
"NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION"
AMERICAN NATIONAL STANDARDS INSTITUTE / AMERICAN FOREST & PAPER ASSOCIATION (ANSI/AWC NDS-2015)

CD-2 LIVE LOADS (SERVICE LEVEL):

OFFICES	50 PSF
NATURE STORE	100 PSF

CD-4 RISK CATEGORY: II

CD-5 SNOW LOADS (SERVICE LEVEL):

FLAT ROOF SNOW LOAD (Pf):	59 PSF
GROUND SNOW LOAD (Pg)	70 PSF
SNOW EXPOSURE FACTOR (Ce):	1.0
SNOW LOAD IMPORTANCE FACTOR (Is):	1.0
THERMAL FACTOR (Ct):	1.2
SNOW DRIFTING PER CODE	

CD-6 WIND LOAD DESIGN DATA (STRENGTH LEVEL):

MAIN WIND FORCE RESISTING SYSTEM	
BASIC WIND SPEED, V	115 MPH
EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT	[± 0.18]

CD-7 SEISMIC LOAD DESIGN DATA (STRENGTH LEVEL):

SEISMIC IMPORTANCE FACTOR (I_E)	1.0
S_s	0.252
S_1	0.082
S_{DS}	0.296
S_{D1}	0.13
SITE CLASS	D
SEISMIC DESIGN CATEGORY	B
LATERAL SYSTEM DESCRIPTION	SHEATHED WOOD FRAMED SHEAR WALLS
SEISMIC RESPONSE COEFFICIENT (Cs)	0.041
RESPONSE MODIFICATION FACTOR (R)	6.5
ANALYSIS PROCEDURE DESCRIPTION	EQUIVALENT LATERAL FORCE
DESIGN BASE SHEAR	9.1 KIPS

DI DELEGATED DESIGN ITEMS

DI-1 THE CONTRACTOR SHALL EMPLOY OR RETAIN A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THIS PROJECT IS LOCATED TO DESIGN AND DETAIL DELEGATED DESIGN ITEMS TO MEET THE PERFORMANCE AND DESIGN CRITERIA ESTABLISHED AS PART OF THE BASE BUILDING STRUCTURE INDICATED IN THE CONTRACT DOCUMENTS FOR WOOD TRUSSES.

SU SUBMITTALS

SU-1 THE CONTRACTOR SHALL PROVIDE THE REQUIRED SUBMITTALS FOR STRUCTURAL REVIEW AS OUTLINED IN THE SPECIFICATIONS. THIS INCLUDES BOTH ITEMS FULLY DESIGNED ON THE CONTRACT DOCUMENTS AND ITEMS LISTED AS DELEGATED DESIGN. ITEMS INCLUDE BUT ARE NOT LIMITED TO:

031000	CONCRETE FORMWORK
032000	CONCRETE REINFORCEMENT AND EMBEDDED ASSEMBLIES
033000	CAST-IN-PLACE CONCRETE
061900	WOOD TRUSSES

FN FOUNDATIONS

FN-1 FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE REPORT ENTITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES, PROPOSED MAINE WILDLIFE PARK IMPROVEMENTS", PREPARED BY S.W. COLE DATED 01/17/2024. THE RECOMMENDATIONS OF THE REPORT ARE PART OF THIS WORK. REFER TO THIS REPORT FOR SPECIFIC RECOMMENDATIONS.

FN-2 FOUNDATION DESIGN IS BASED ON INSULATED FROST-PROTECTED SHALLOW FOUNDATIONS PER THE REQUIREMENTS OF THE GEOTECHNICAL REPORT AND IN ACCORDANCE WITH ASCE-32. REFER TO THIS REPORT FOR SPECIFIC BEARING RECOMMENDATIONS.

FN-3 ALLOWABLE BEARING CAPACITY 2,000 PSF.

FN-4 SEE TYPICAL DETAILS S201 FOR INSULATION EXTENTS FOR FROST PROECTION.

FN-5 NO FILL FOR BUILDING SUPPORT SHALL BE PLACED UNTIL SUBGRADES HAVE BEEN OBSERVED AND APPROVED BY THE GEOTECHNICAL ENGINEER.

FN-6 REFERENCE THE GEOTECHNICAL REPORT FOR ALL EXCAVATION, BACKFILL, COMPACTION, CONSTRUCTION DEWATERING AND PERMANENT DRAINAGE REQUIREMENTS.

FN-7 SOILS EXPOSED AT THE BASE OF ALL SATISFACTORY FOUNDATION EXCAVATIONS SHALL BE PROTECTED AGAINST ANY DETRIMENTAL CHANGE IN CONDITION, SUCH AS DISTURBANCE FROM RAIN OR FROST. SURFACE RUNOFF SHALL BE DRAINED AWAY FROM THE EXCAVATIONS AND NOT BE ALLOWED TO POND. FOUNDATION EXCAVATIONS SHALL BE ADEQUATELY PROTECTED FROM RAINFALL OR FREEZING CONDITIONS. GROUNDWATER SHOULD BE ANTICIPATED FOR EXCAVATIONS AND APPROPRIATE DEWATERING MEASURES SHALL BE EMPLOYED.

FN-8 EXCAVATIONS FOR BUILDING CONSTRUCTION SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS. BRACED EXCAVATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MAINE. DO NOT UNDERMINE EXISTING FOUNDATIONS OF ANY ADJACENT STRUCTURES. REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL AND/OR MORE SPECIFIC REQUIREMENTS.

CM CONCRETE MATERIALS

CM-1 CONCRETE WORK SHALL CONFORM TO THE ACI "MANUAL OF CONCRETE PRACTICE," INCLUDING BUT NOT LIMITED TO ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE."

CM-2 CONCRETE SLABS ON GRADE (INCLUDING THICKENED SLAB AREAS) SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,500 PSI. EXTERIOR SLAB-ON-GRADE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. ADDITIONAL CONCRETE MIX PERFORMANCE DATA INCLUDING AIR CONTENT, WATER-CEMENT RATIO, AGGREGATE SIZE, SLUMP, ETC. HAS BEEN INCLUDED IN THE PROJECT SPECIFICATIONS. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

CM-3 CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.

CM-4 REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS AND SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH ACI 315.

CM-5 WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND SHALL BE PROVIDED IN FLAT SHEETS. LAP TWO SQUARES AT ALL JOINTS AND TIE AT 3'-0" ON CENTER.

CM-6 MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
- A. SURFACES CAST AGAINST AND PERMANENTLY IN CONTACT WITH EARTH, 3"
- B. FORMED SURFACES IN CONTACT WITH EARTH OF EXPOSED TO WEATHER:
  - #6 BARS AND SMALLER, 1 1/2"
  - #6 THROUGH #11 BARS, 2"
- C. SURFACES NOT IN CONTACT WITH EARTH OR EXPOSED TO WEATHER:
  - WALLS, SLABS, AND JOISTS #11 AND SMALLER, 1"
  - BEAMS, GIRDERS, AND COLUMNS; ALL REINFORCEMENT, 1 1/2"

CM-7 REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS AND AT INTERSECTIONS. PROVIDE LAPPED BARS AT NECESSARY SPLICES OR HOOKED BARS AT DISCONTINUOUS ENDS. SEE SCHEDULE FOR REQUIRED REBAR LAP SPLICE LENGTHS.

CM-8 WELDING OF REINFORCEMENT IS NOT PERMITTED, UNLESS SPECIFICALLY INDICATED.

CM-9 CONSTRUCTION AND CONTRACTION JOINTS SHOWN ON DRAWINGS ARE MANDATORY. OMISSIONS, ADDITIONS, OR CHANGES SHALL NOT BE MADE EXCEPT WITH THE SUBMITTAL OF A WRITTEN REQUEST TOGETHER WITH DRAWINGS OF THE PROPOSED JOINT LOCATIONS FOR APPROVAL OF THE STRUCTURAL ENGINEER. WHERE JOINTS ARE NOT SHOWN, OR WHEN ALTERNATE LOCATIONS ARE PROPOSED, DRAWINGS SHOWING LOCATION OF CONSTRUCTION AND CONTRACTION JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS. CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED. VERTICAL CONSTRUCTION JOINTS AND STOPS IN CONCRETE BEAMS/GRADE BEAMS SHALL BE MADE AT MIDSPAN OR AT POINTS OF MINIMUM SHEAR, UNLESS NOTED OTHERWISE.

CM-10 SPACING OF CONSTRUCTION OR CONTRACTION JOINTS, UNLESS NOTED OTHERWISE SHALL BE AS FOLLOWS:
- A. FOOTINGS AND WALLS:
  MAX SPACING OF 40'-0" OR 15'-0" FROM ANY CORNER. A MINIMUM OF 72 HOURS SHALL ELAPSE BETWEEN ADJACENT CONCRETE PLACEMENTS. COORDINATE JOINT LOCATIONS WITH VENEER CONTROL JOINT LOCATIONS WHEREVER POSSIBLE.
- B. SLABS ON GRADE
  MAX SPACING IN EACH DIRECTION OF 36xSLAB DEPTH. LIMIT PLAN ASPECT RATIOS TO 1.5.

CM-11 ANCHOR RODS FOR STRUCTURAL STEEL ATTACHMENTS SHALL BE HEADED RODS CONFORMING TO ASTM F1554, GRADE 36 KSI WELDABLE STEEL, UNLESS NOTED OTHERWISE ON DRAWINGS. ANCHOR RODS FOR ATTACHMENT OF SILL PLATES SHALL BE A307, UNLESS NOTED OTHERWISE ON THE DRAWINGS. ANCHOR RODS THAT ARE TO BE IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT-DIPPED GALVANIZED.

CM-12 SLAB THICKNESSES INDICATED ON THE DRAWINGS ARE MINIMUMS. PROVIDE SUFFICIENT CONCRETE TO ACCOUNT FOR STRUCTURE DEFLECTION, SUBGRADE FLUCTUATIONS, AND TO OBTAIN THE SPECIFIED SLAB ELEVATION AT THE FLATNESS AND LEVELNESS INDICATED.

CM-13 PROVIDE A 15-MIL POLYOLEFIN VAPOR RETARDER MEETING THE REQUIREMENTS OF ASTM E1745 CLASS A OVER PREPARED SUB BASE (U.N.O). REFERENCE ARCHITECTURAL DRAWINGS AND GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS AND VAPOR RETARDER LOCATIONS.

CM-14 FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS, PROVIDE SUPPLEMENTAL REINFORCING AROUND OPENING AS SHOWN IN THE TYPICAL DETAILS.

CM-15 PROVIDE PVC SLEEVES WHERE PIPES PASS THROUGH EXTERIOR CONCRETE OR SLABS CAST ON GRADE. ADJACENT SLEEVES SHALL BE SPACED A MINIMUM OF THREE DIAMETERS APART. NO PENETRATIONS SHALL BE MADE THROUGH FOOTINGS WITHOUT WRITTEN PERMISSION FROM ENGINEER.

CM-16 INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO THE SCHEDULED CONCRETE PLACEMENT. NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF COMPLETION AT LEAST 24 HOURS PRIOR TO THE SCHEDULED COMPLETION OF THE INSTALLATION OF REINFORCEMENT.

CM-17 ALL ITEMS TO BE EMBEDDED INTO CONCRETE SHALL BE INSTALLED PRIOR TO PLACEMENT OF CONCRETE. PROVIDE ADDITIONAL REINFORCEMENT AND/OR TEMPLATES AS REQUIRED TO ENSURE THE CORRECT POSITIONS OF EMBEDMENTS. "WET SETTING" OF EMBEDMENTS INTO CONCRETE IS STRICTLY PROHIBITED. EMBEDMENTS INCLUDE, BUT NOT BY LIMITATION, REINFORCEMENT, REINFORCING DOWELS, EMBEDDED PLATES, ANCHOR RODS, ANCHOR INSERTS, SLEEVES, LOAD TRANSFER PLATES, DIAMOND DOWELS, AND SHELF BULK HEADS.

WF WOOD FRAMING

WF-1 WOOD FRAMING WORK SHALL CONFORM TO THE AWC NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS) AND WOOD SHEATHING WORK SHALL TO CONFORM TO AMERICAN PLYWOOD ASSOCIATION (APA).

WF-2 DIMENSIONAL LUMBER: NO. 2 GRADE OR BETTER SPRUCE-PINE-FIR (SPF), NLGA GRADED. NELMA GRADED SPF-S WILL NOT BE ACCEPTED AS AN EQUAL SUBSTITUTE. KILN-DRIED OR SEASONED TO 19% MAXIMUM MOISTURE CONTENT.

WF-3 STRUCTURAL COMPOSITE LUMBER: LAMINATED VENEER LUMBER (LVL), PARALLEL STRAND LUMBER (PSL), AND LAMINATED STRAND LUMBER (LSL) BY WEYERHAEUSER, BOISE, OR APPROVED PRODUCTS (SUBMIT DATA). INSTALLATION AND FASTENING OF PLIES ACCORDING TO MANUFACTURER'S DETAILS.

BEAMS AND HEADERS (LVL & PSL):
MODULUS OF ELASTICITY (E) = 2,000,000 PSI (MIN)
ALLOWABLE BENDING STRESS (Fb) = 2,600 PSI (MIN)
ALLOWABLE SHEAR STRESS (Fv) = 285 PSI (MIN)

POSTS AND COLUMNS (LVL & PSL):
E = 1,800,000 PSI (MIN)
Fb = 2,400 PSI (MIN)
Fv = 190 PSI (MIN)

STUDS (LSL):
E = 1,500,000 PSI (MIN)
Fb = 2,250 PSI (MIN)
Fv = 285 PSI (MIN)

WF-4 PRESERVATIVE TREATED (PT) LUMBER: NO. 2 GRADE OR BETTER SOUTHERN PINE (SP OR SYP) TREATED WITH MICRONIZED COPPER AZOLE (MCA) OR ALKALINE COPPER QUATERNARY (ACQ). PRESERVATIVE CONTENT AS SPECIFIED BY AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) FOR SERVICE CONDITION USE: ABOVE GROUND EXTERIOR OR GROUND CONTACT. USE ONLY HOT-DIP GALVANIZED OR STAINLESS STEEL NAILS AND FASTENERS, OR COATED FASTENERS APPROVED FOR USE IN PT LUMBER AND EXTERIOR APPLICATION.

WF-5 ROOF SHEATHING: ZIP WOOD STRUCTURAL PANELS STAMPED RATED SHEATHING, EXPOSURE 1. APPLY SHEATHING WITH LONG EDGES AND FACE GRAIN PERPENDICULAR TO FRAMING.

ROOFS: 5/8 INCH NOMINAL. USE T&G FOR 24" O.C. FRAMING.
WALLS: 1/2 INCH NOMINAL.

NAIL SHEATHING TO ALL FRAMING AND BLOCKING USING GALVANIZED 8d BOX NAILS 0.113"x2 3/8" (MIN) OR BRIGHT 8d COMMON NAILS 0.131"x2 1/2" (MIN) AS FOLLOWS:

ROOFS: 4" O.C. PANEL EDGES, 8" O.C. WITHIN PANELS.
WALLS: 6" O.C. PANEL EDGES, 12" O.C. WITHIN PANELS (SEE SHEAR WALL SECTIONS AND SCHEDULE FOR NAILING REQUIREMENTS)

WF-6 NAIL BUILT-UP LUMBER BEAMS, HEADERS, AND POSTS AS FOLLOWS:
BEAMS AND HEADERS: (3) ROWS 12d BOX NAILS (0.128"x3 1/4" MIN) @ 12" O.C. IN EACH PIECE.
POSTS AND COLUMNS: (2) ROWS 12d BOX NAILS @ 8" O.C IN EACH PIECE.

WF-7 FASTENING NOT SPECIFIED IN THESE NOTES OR ON THE DRAWINGS SHALL CONFORM TO THE FASTENING SCHEDULE AND TABLES IN IBC OR IRC CODES AS REQUIRED BY THE PROJECT TYPE. FASTENERS SHALL CONFORM TO:

NAILS: ASTM F1667
THROUGH BOLTS: ANSI B18.2.1 WITH HEX HEAD & NUT AND WASHER AGAINST WOOD.
LAG SCREWS: ANSI B18.2.1 WITH HEX HEAD & WASHER.

HOLE FOR BOLT OR LAG SCREW TO BE 1/32" TO 1/16" LARGER IN DIAMETER THAN BOLT OR LAG SCREW SHANK. LEAD HOLE FOR LAG SCREW THREADS:

A. 60% TO 75% OF SHANK DIAMETER FOR SP OR SYP, LVL & PSL
B. 40% TO 70% OF SHANK DIAMETER FOR SPF.

WF-8 ALL WOOD FRAMING CONNECTION HARDWARE (JOIST HANGERS, POST BASES, SHEARWALL HOLDOWNS, ETC) TO BE MANUFACTURED BY SIMPSON STRONG-TIE, OR APPROVED EQUAL (SUBMIT DATA). ALL CONNECTION HARDWARE SHALL BE ZINC COATED G-90 (MIN). CONNECTION HARDWARE USED WITH PRESERVATIVE TREATED LUMBER (PT) AND/OR EXTERIOR APPLICATION SHALL BE GALVANIZED G185 (ZMAX). USE FASTENERS OF SAME MATERIAL & COATING AS CONNECTOR AS SPECIFIED BY MANUFACTURER. REFER TO MANUFACTURER'S LITERATURE FOR PROPER CONNECTOR HANDLING AND INSTALLATION GUIDELINES.

WF-9 FASTENERS USED WITH PT LUMBER AND EXTERIOR EXPOSED FRAMING (OTHER THAN THOSE IN SIMPSON OR EQUAL CONNECTORS) SHALL BE HOT-DIPPED GALVANIZED INCLUDING NUTS AND WASHERS (ASTM A153).

WF-10 LOAD BEARING STUD WALLS SHALL BE CAPPED WITH DOUBLE TOP PLATES HAVING END JOINTS OFFSET OVERLAPPED 4'-0" (MIN) AND NAILED WITH (12) 10d OR 12d SPACED @ 8" O.C. OVERLAP TOP PLATES AT CORNERS AND INTERSECTIONS AND NAIL WITH (4) 10d OR 12d.

WF-11 PROVIDE BLOCKING UNDER POSTS MATCHING SIZE OF POST. PROVIDE POST OF MATCHING MATERIAL AND SIZE UNDERNEATH POST & BLOCKING WHERE ABOVE A STUD WALL (U.N.O.).

WF-12 HOLES IN FRAMING FOR ELECTRICAL, PLUMBING, HEATING, AND MECHANICAL COMPONENTS MUST MEET THE GUIDELINES AND REQUIREMENTS IN THE IBC CODE FOR LUMBER. HOLES IN LVL, PSL, LSL, AND I-JOISTS MUST MEET THE GUIDELINES AND REQUIREMENTS OF THE MANUFACTURER.

WT WOOD TRUSSES

WT-1 WOOD TRUSS DESIGN, DETAIL, FABRICATION, ERECTION, AND BRACING SHALL CONFORM TO WTCA/TPI BCSI "BUILDING COMPONENT SAFETY INFORMATION" GUIDEBOOK-LATEST EDITION.

WT-2 WOOD TRUSS ERECTION AND TEMPORARY BRACING SHALL CONFORM TO WTCA/TPI BCSI "BUILDING COMPONENT SAFETY INFORMATION" GUIDEBOOK-LATEST EDITION.

WT-3 SEE ROOF FRAMING PLAN(S) FOR TRUSS ORIENTATION, SPACING, AND LOCATIONS.

WT-4 SEE TRUSS ELEVATIONS FOR GENERAL TRUSS PROFILES, BEARING CONDITIONS, AND LOADING. SEE ARCHITECTURAL DRAWINGS FOR ALL TRUSS PROFILES AND DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.

WT-5 TEMPORARY BRACING SHALL BE LEFT IN PLACE AND SERVE AS PART OF THE PERMANENT BRACING SYSTEM. REFERENCE TRUSS SUBMITTAL FOR PERMANENT BRACING LOCATION INFORMATION. REFERENCE DETAILS IN STRUCTURAL DRAWINGS INCLUDING ADDITIONAL DIAGONAL BRACING AND CONNECTION REQUIREMENTS.

WT-6 TRUSS ENGINEER SHALL DESIGN TRUSSES TO MINIMIZE PERMANENT LATERAL BRACING REQUIRED TO BE INSTALLED IN THE FIELD.

WT-7 TRUSS ENGINEER SHALL PROVIDE ALL CONNECTION DESIGN FOR TRUSS TO TRUSS CONNECTIONS.

WT-8 PROVIDE GABLE END TRUSSES WITH VERTICALS AT 24" O.C. MAXIMUM (U.N.O). DESIGN GABLE END TRUSS FOR WIND LOAD INDICATED ON THE STRUCTURAL DRAWINGS.

WT-9 ALL TRUSSES SHALL BE DESIGNED FOR TRANSIENT LOAD CASES INDICATED IN THE BUILDING CODE, INCLUDING UNBALANCED AND SKIP LOADINGS.

WT-10 ROOF TRUSS DESIGN LOADS:
TOP CHORD DEAD LOAD = 15 PSF (MIN)
TOP CHORD SNOW LOAD (BALANCED) = 59 PSF (MIN) REFER TO DESIGN LOADS
DESIGNER SHALL CONSIDER UNBALANCED SNOW LOADS PER ASCE 7-10
BOTTOM CHORD DEAD LOAD = 8 PSF (MIN)
BOTTOM CHORD LIVE LOAD = 10 PSF (MIN) NON-CONCURRENT WITH SNOW LOAD
VERTICAL TRUSS DEFLECTION = L/360 MINIMUM OR 1" MAXIMUM (SNOW LOAD).
HORIZONTAL TRUSS DEFLECTION = 3/8" MAXIMUM (SNOW LOAD).

WT-11 TRUSS MANUFACTURER SHALL SUBMIT A TRUSS PLACEMENT DRAWING INDICATING THE FOLLOWING:

SLOPE
SPAN
SPACING
TRUSS NUMBER THAT CORRESPONDS TO TRUSS ERECTION DRAWING.
LOCATION OF PERMANENT LATERAL BRACING. LOCATION OF BRACING SHALL BE INDICATED ON THE TRUSSES BY EITHER A TAG OR A PAINT MARK.

WT-12 TRUSS DESIGN DRAWINGS AND CALCULATIONS SHALL BE STAMPED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MAINE.

WT-13 TRUSS DESIGN DRAWINGS SHALL INCLUDE THE FOLLOWING:

SLOPE, SPAN, AND SPACING
LOCATIONS OF ALL JOINTS
REQUIRED BEARING WIDTHS
CHORD AND WEB MEMBER SIZE, GRADE, AND SPECIES
CALCULATED SNOW LOAD, LIVE LOAD, AND TOTAL LOAD VERTICAL AND HORIZONTAL DEFLECTIONS.
MAXIMUM AXIAL TENSION AND COMPRESSION FORCES IN EACH OF THE TRUSS MEMBERS TO ENABLE THE BUILDING DESIGNER TO REVIEW THE SIZE, CONNECTIONS, AND ANCHORAGE OF PERMANENT CONTINUOUS LATERAL BRACING.
REQUIRED PERMANENT TRUSS BEARING AND BRACING LOCATIONS

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GRAY, MAINE

SEAL:

STATE OF MAINE
CHRISTOPHER G. WILLIAMS
No. 12854
LICENSED
PROFESSIONAL ENGINEER

△ REVISIONS

1	ADDENDUM 1	5/13/2024

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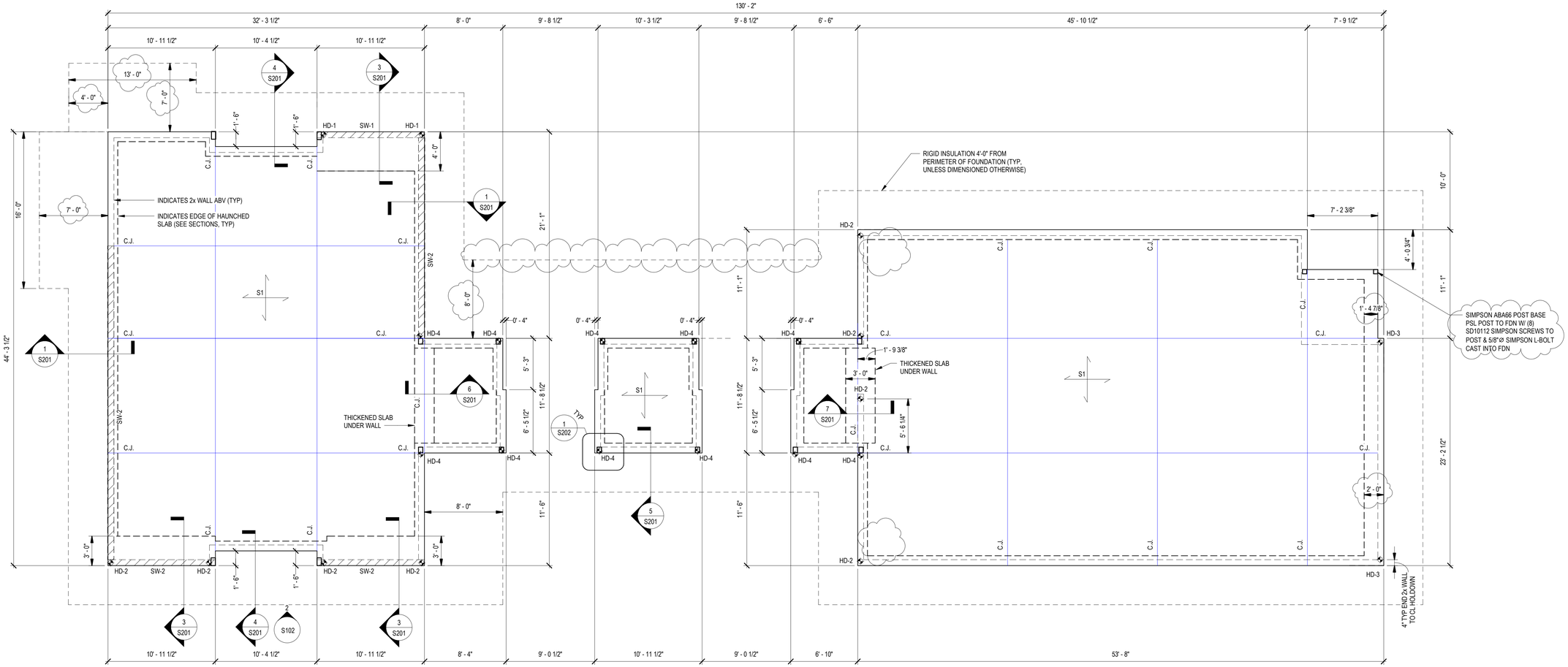
GENERAL NOTES

S100



1 FOUNDATION PLAN

SCALE: 3/16" = 1'-0"

NOTES:

1. SEE GENERAL NOTES FOR CONCRETE COMPRESSIVE STRENGTH
2. T/SLAB = EL 0'-00", UON. REF SITE/CIVIL SLAB ON GRADE ELEVATION OF
3. C.J. INDICATES SLAB CONTROL/CONTRACTION JOINT.
4. S1 INDICATES 4" SLAB ON GRADE WITH 6x6-W2.9x2W2.9 WELDED WIRE FABRIC. SEE SECTIONS S201 OR DIMENSIONS & REINFORCEMENT REQUIREMENTS @ HAUNCHED SLAB.
5. HD-X INDICATES SIMPSON HOLDOWN.

   HD-1 INDICATES HDU8 W/ (20)1/4"x4 1/2" SDS SCREWS TO POST & 7/8"ø SSTB28 ANCHOR BOLT TO FOUNDATION
   HD-2 INDICATES HDU4 W/ (10)1/4"x4 1/2" SDS SCREWS TO POST & 5/8"øSSTB16 ANCHOR BOLT TO FOUNDATION
   HD-3 INDICATES DTT2Z-SDS2.5 W/ (8)1/4"x2 1/2" SDS SCREWS TO POST & 1/2"ø HEADED ANCHOR BOLT EMBED 18" IN FOUNDATION
   HD-4 INDICATES STHD10 W/ (24)0.148"x3 1/4" NAILS TO PSL POST (SEE DETAIL 1/S202)
6. SW-X INDICATES SHEAR WALL (SEE NOTES S102).
7. SEE S102 FOR POST SIZES.

TRUE

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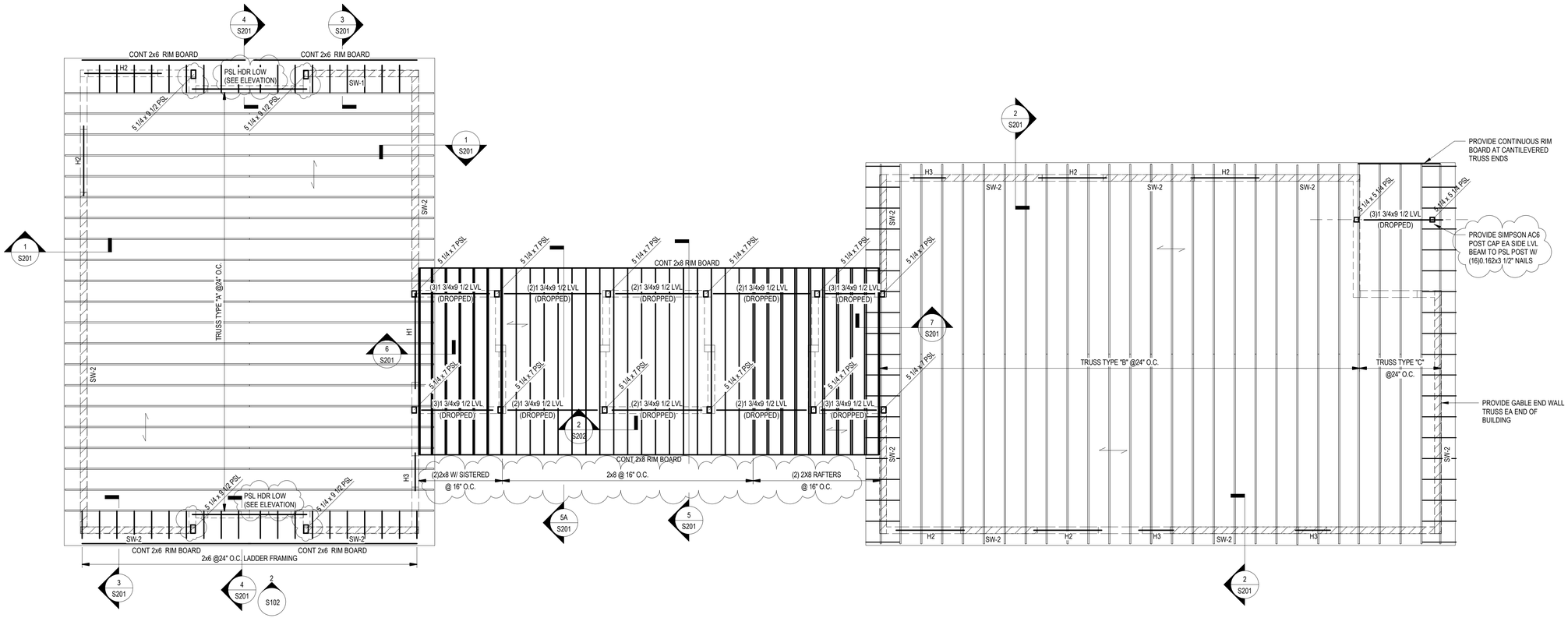
FOUNDATION PLAN

S101



HEADER SCHEDULE			
HEADER	FRAMING	JACK STUD	KING STUD
H1	(4)2x12	(2)2x8	(2)2x8
H2	(3)2x12	(2)2x8	(2)2x8
H3	(3)2x6	(1)2x8	(1)2x8

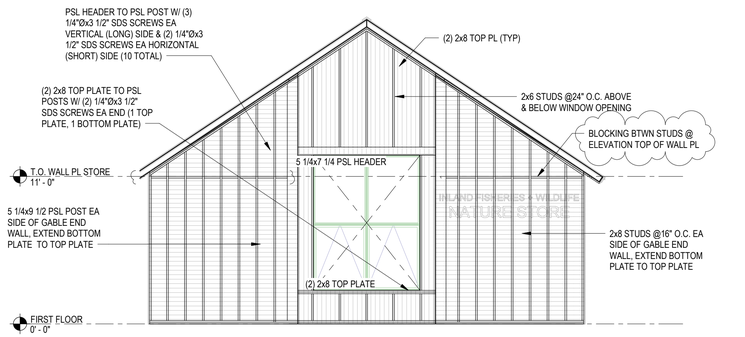
1 ROOF FRAMING PLAN

SCALE: 3/16" = 1'-0"

NOTES:

1. INDICATES SPAN 5/8" ZIP ROOF SHEATHING, SEE GENERAL NOTES FOR FASTENING SIZE & PATTERN.
2. SW-X INDICATES SHEAR WALL WITH FOLLOWING NAIL PATTERNS. BLOCK ALL EDGES OF SHEATHING.

   SW-1: 8D NAILS @ 4" O.C. EDGE, 12" O.C. FIELD
   SW-2: 8D NAILS @ 6" O.C. EDGE, 12" O.C. FIELD
3. T/PLATE ELEVATION VARIES. SEE WALL SECTIONS S201.



2 GABLE END ELEVATION

SCALE: 3/16" = 1'-0"

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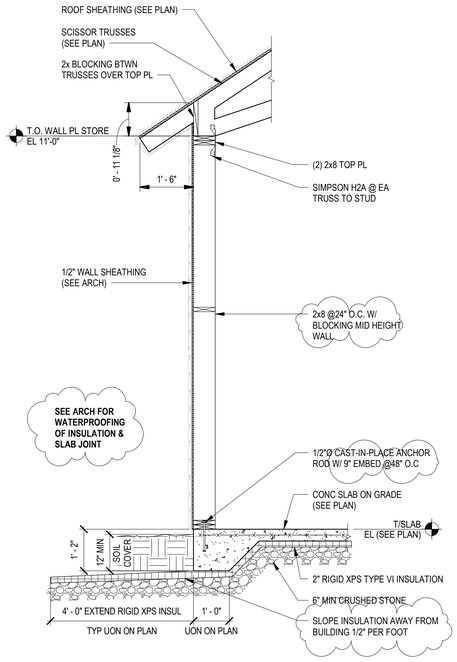
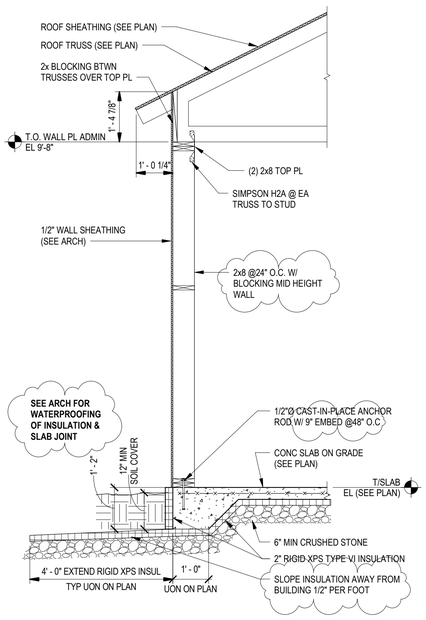
ROOF FRAMING PLAN

S102



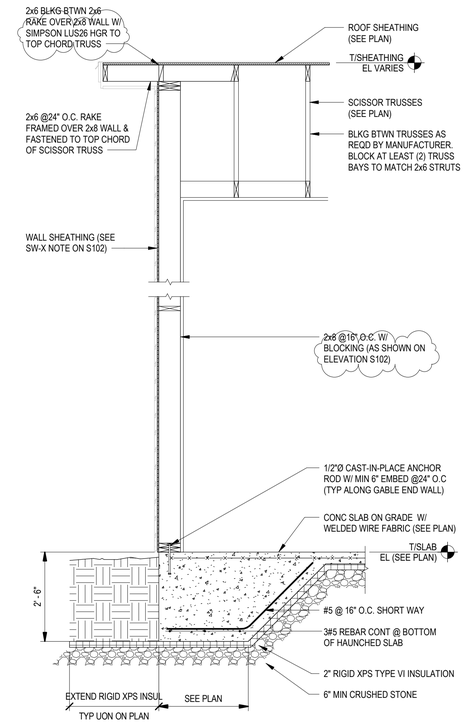
1 TYPICAL WALL SECTION @ NATURE STORE

SCALE: 1/2" = 1'-0"



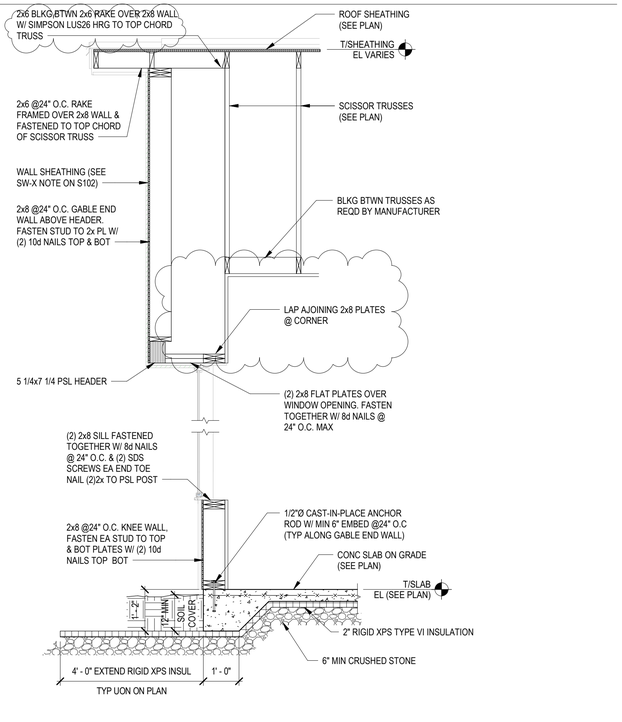
2 TYPICAL WALL SECTION @ OFFICE

SCALE: 1/2" = 1'-0"



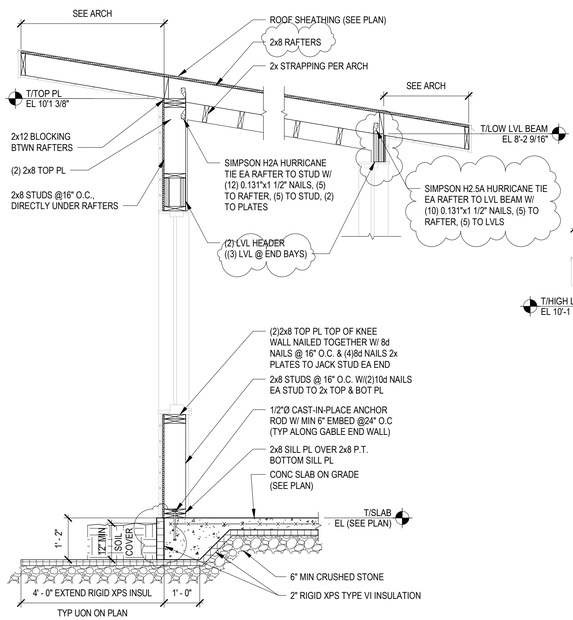
3 GABLE ENDS WALLS AT NATURE STORE

SCALE: 1/2" = 1'-0"



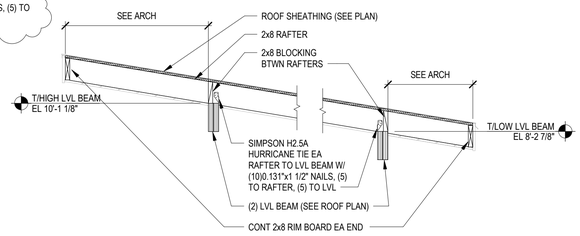
4 GABLE END WALL SECTION AT NATURE STORE WINDOW

SCALE: 1/2" = 1'-0"



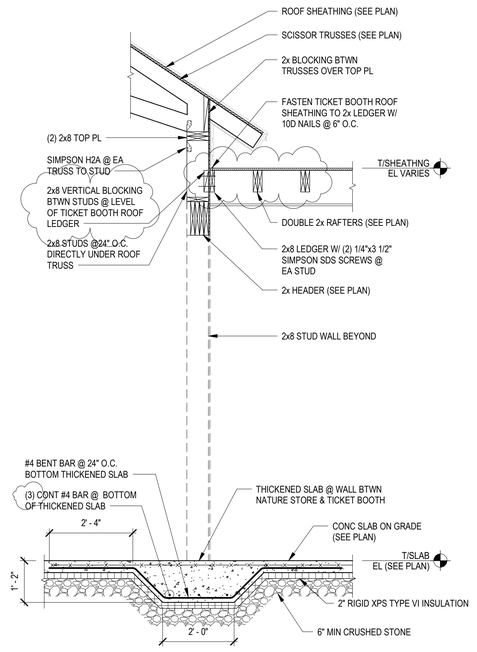
5 SECTION AT TICKET BOOTH

SCALE: 1/2" = 1'-0"



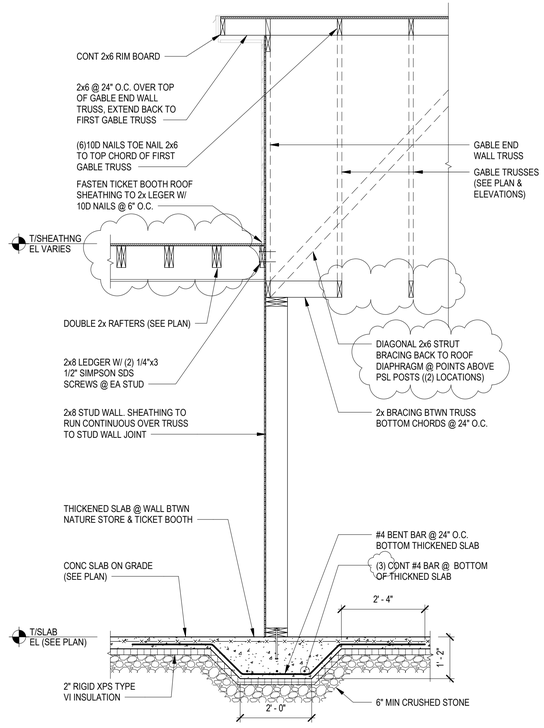
5A OPEN FRAMING TICKET BOOTH

SCALE: 1/2" = 1'-0"



6 SECTION AT NATURE STORE TICKET BOOTH

SCALE: 1/2" = 1'-0"



7 SECTION AT OFFICE TICKET BOOTH

SCALE: 1/2" = 1'-0"

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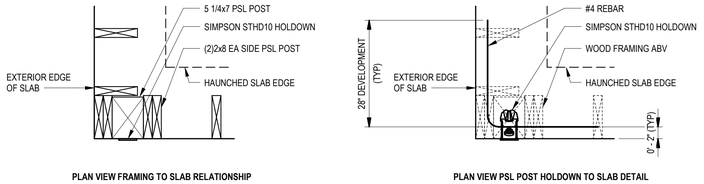
WALL SECTIONS

S201

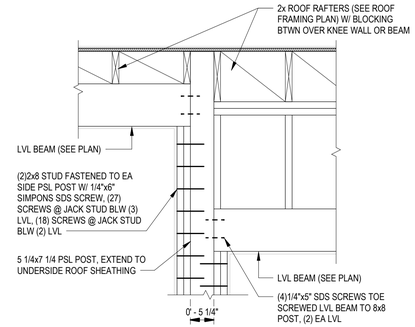


PLAN VIEW FRAMING TO SLAB RELATIONSHIP

PLAN VIEW PSL POST HOLDOWN TO SLAB DETAIL

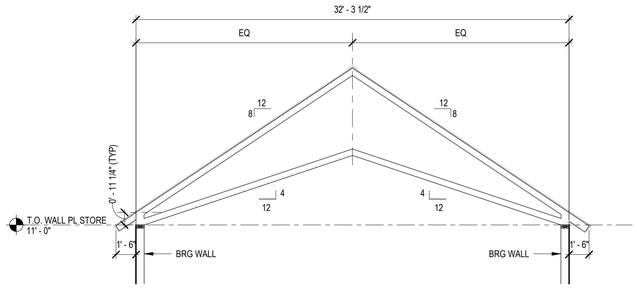
1 PSL POST TO SLAB DETAIL

SCALE: 1" = 1'-0"



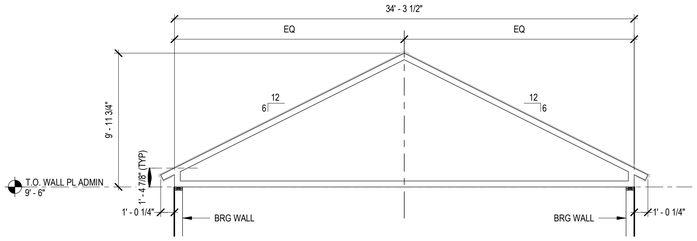
2 LVL TO POST CONN

SCALE: 3/4" = 1'-0"



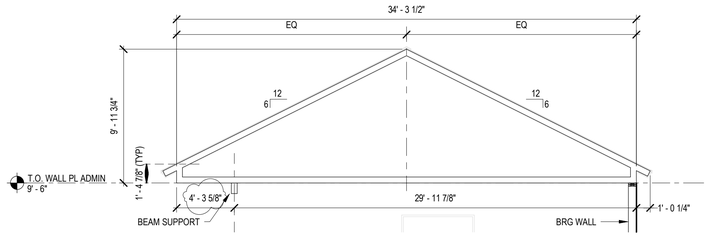
3 TRUSS TYPE A - SCISSOR TRUSS

SCALE: 3/16" = 1'-0"



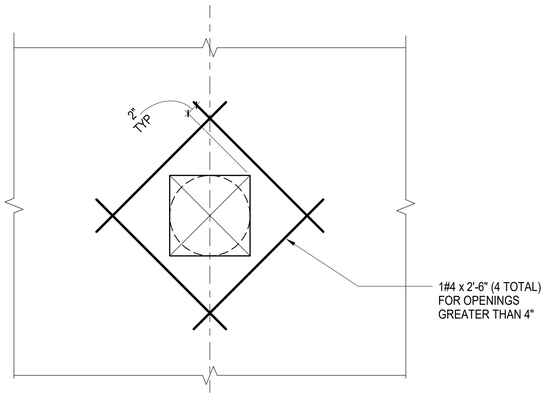
4 TRUSS TYPE B - GABLE TRUSS

SCALE: 3/16" = 1'-0"



5 TRUSS TYPE C - GABLE TRUSS

SCALE: 3/16" = 1'-0"

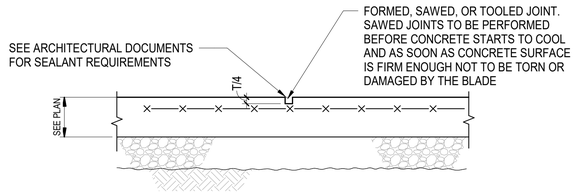


NOTES:

1. MINIMUM CLEAR DISTANCE BETWEEN OPENINGS IS 2 TIMES MAXIMUM OPENING SIZE
2. FOR OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS, CONTRACTOR TO SUBMIT LOCATIONS AND SPACING TO STRUCTURAL ENGINEER FOR WRITTEN APPROVAL

6 TYP REINFORCEMENT OPENING IN SLAB

SCALE: 1" = 1'-0"



7 TYP DETAIL SLAB ON GRADE CONTRACTION JOINT

SCALE: 1" = 1'-0"

REBAR LAP SPLICE TABLE	
SIZE	LAP LENGTH
#3	30"
#4	36"
#5	48"

8 REBAR LAP SPLICE SCHEDULE

SCALE: 1" = 1'-0"

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PROJECT NAME:

IFW Visitor Center Redesign

GRAY, MAINE

SEAL:

STATE OF MAINE
CHRISTOPHER G. WILLIAMS
No. 12854
LICENSED
PROFESSIONAL ENGINEER

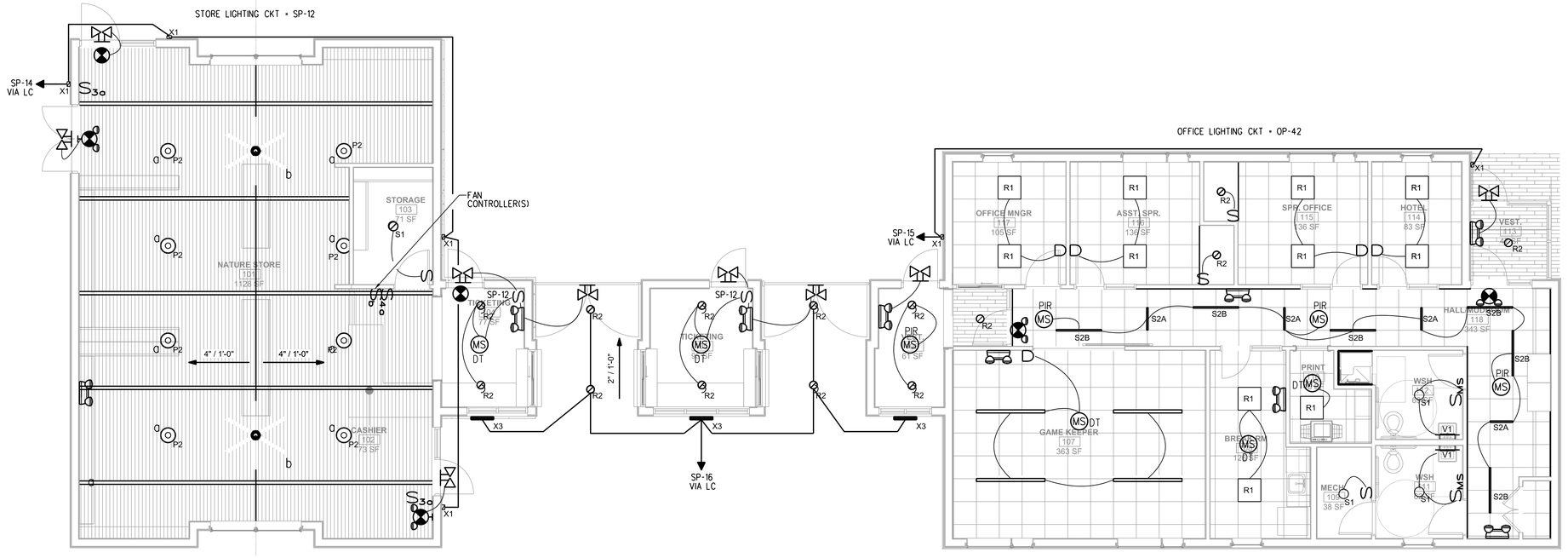
REVISIONS

1	ADDENDUM 1	5/13/2024

DATE OF ISSUE:	4/23/2024
PROJECT NUMBER:	2017-0110
STATUS:	ISSUE FOR BID

FRAMING SECTIONS & TRUSS ELEVS

S202



1 E101 LIGHTING PLAN

SCALE: 3/16" = 1'-0"

LIGHTING FIXTURE SCHEDULE

TYPE	MANUF.	CATALOG NUMBER	TYPE	VOLTS	DIMMING	MOUNTING	MTG HEIGHT	FINISH	LOCATION	NOTES
R1	ELITE	22-OEVHP-LED-2000L-3000L-4000L(4000L)-DIM10-MVOLT-35K-40K-50K (35k)-85	35K LED/ 4000 LUMENS	UNV	0-10V	RECESSED	N/A	N/A	THROUGHOUT	
R2	LIGTHEADED	2-156-TLW-05-SL-BR055-35-8010 /D4B-IC1A-R-TLW-5-P-XX	35K LED / 135000 LUMENS	TBD	0-10V	RECESSED	N/A	N/A	THROUGHOUT	
P1	LIGHTLY	B-6-XX-XX-XX-A-M-35-R-XX	35K LED / 1400LUM/FT	UNV	0-10V	PENDANT	7'AFF	TBD	MEETING	
P2	CONTECH	CGL1254-35K-MVD2-A16-FC-B -PACDLA16	35K LED/ 2985 LUMENS	UNV	0-10V	PENDANT	15'AFF	TBD	STORE	
S1	LITON	LCMPD7 R-XX-UE-D10-TS30	30K LED /1100 LUMENS	UNV	0-10V	CEILING	N/A	TBD	RESTROOM	
S2	LITON	DCG1-XX-04-35K-UD-XX	35K LED / 227 LUM/FT	UNV	0-10V	CEILING	N/A	TBD	CORRIDOR	LENGHTS PER PLANS; REFER TO RCP
V1	AFX	BARV2403L30D1 BK	30K LED/ 1289 LUMENS	120	ELV	WALL	TBD	BLACK	RESTROOM	MOUNTED ABOVE MIRROR (TBD)
X1	TARGETTI	MRS-W41-XX-MD-L1-30	30K LED/ 522 LUMENS	UNV	0-10V	WALL	6'AFF	TBD	EXTERIOR	
X2	TARGETTI	DRM-41-XX-L2-FL-30 / 1E3028	30K LED /2042 LUMENS	UNV	0-10V	EARTH SPIKE	GROUND	TBD	EXTERIOR	
X3	TARGETTI	MSS-W-41-XX-BI-L2-30	30K LED / 1055 LUMENS	UNV	0-10V	WALL	8'AFF	TBD	EXTERIOR	
EX	*EVENLITE*	*TLX-EM-XX*	*LED*					*TBD*	*THROUGHOUT*	
EBU	*EVENLITE*	*TCL-XX-XX*	*LED*				*WALL*	*TBD*	*THROUGHOUT*	

1

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PROJECT NAME:
IF+W

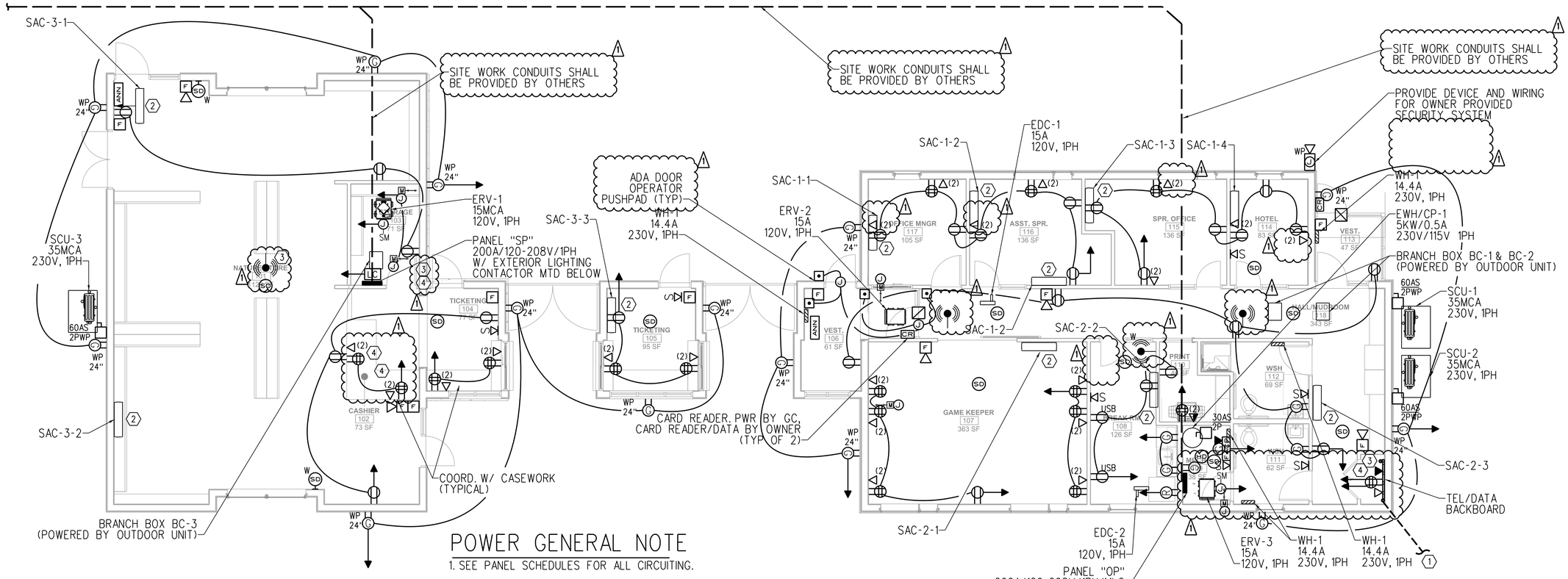
SEAL:
STATE OF MAINE STEVEN R. JOHNSON #9488 LICENSED PROFESSIONAL ENGINEER

△ REVISIONS
⚠ 13 MAY, 2024

DATE OF ISSUE: 23 APRIL, 2024
PROJECT NUMBER: 2000.01
STATUS: BID SET

Lighting Plan

E101



POWER GENERAL NOTE

1. SEE PANEL SCHEDULES FOR ALL CIRCUITING.

POWER WORK NOTES

1. FIBER COMMUNICATIONS CABLE INSTALLED TO STATE POLICE BUILDING ON ROUTE 26. COORDINATE WITH CIVIL.
2. CONTRACTOR SHALL PROVIDE 20A, 2-POLE MOTOR RATED SWITCH FLUSH WALL MOUNTED ADJACENT TO EQUIPMENT LOCATION. COORDINATE FINAL SWITCH LOCATION WITH MECHANICAL. SEE PANEL SCHEDULES FOR CIRCUITING INFO.
3. CONTRACTOR SHALL PROVIDE QTY OF (2) 2" CONDUIT RUN FROM WAP LOCATION TO STORAGE THEN BACK TO TEL/DATA BACKBOARD AT I.T. CLOSET. CONDUIT FROM STORAGE TO WAP LOCATION (RUN THRU NATURE STORE) SHALL BE EXPOSED RUN.
4. CONTRACTOR SHALL RUN 3/4" CONDUIT FROM DATA DROPS AT NATURE STORE P.O.S. COUNTER TO STORAGE THEN RUN CABLING IN THE 2" CONDUIT RUN BACK TO I.T. CLOSET.

2 POWER PLAN

E201

SCALE: 3/16" = 1'-0"

PANEL OP 120/240 1PH 3W 200 AMP MLO 42K AIC NEMA TYPE 1 (SURFACE)

CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA	VA	CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA	VA
1	EWH	30	2	22	1.00	22	2288	2	CP-1	20	1	1	1.00	1	60
3							2288	4	FACP	20	1	5	1.00	5	600
5	TBB (LEFT RECEPTS)	20	1	14	1.00	14	1681	6	RECEPTS: MECH RM	20	1	3	1.00	3	360
7	TBB (RIGHT RECEPTS)	20	1	14	1.00	14	1681	8	ERV-3	20	1	15	1.00	15	1801
9	WH-1: MECH RM	20	2	14	1.00	14	1498	10	EDC-2	20	1	15	1.00	15	1801
11							1498	12	WH-1: WASHRM 111	20	2	14	1.00	14	1498
13	MOTOR OPERATED DAMPERS AT HVAC DUCTW	20	1	3	0.50	2	180	14							1498
15	WH-1: WASHRM 112	20	2	14	1.00	14	1498	16	GEN USE RECEPTS: HALL/MUD RM WASHROO	20	1	11	0.50	6	660
17							1498	18	COUNTER RECEPTS: BREAK RM	20	1	3	0.50	2	180
19	SCU-1	50	2	35	1.00	35	3640	20	SCU-2	50	2	35	1.00	35	3640
21							3640	22							3640
23	SAC-1-1 THRU SAC-1-4: OFFICES	20	2	4	1.00	4	416	24	SAC-2-1 THRU SAC-2-3: GAME KEEPER/	20	2	3	1.00	3	312
25							416	26	BREAK RM/MUD RM						312
27	REFRIGERATOR: BREAK RM	20	1	10	1.00	10	1201	28	RECEPTS: BREAK RM/PRINT	20	1	6	1.00	6	721
29	DEDICATED QUAD AT COPIER	20	1	14	0.50	7	841	30	RECEPTS: GAME KEEPER WORKSTATIONS	20	1	9	1.00	9	1081
31	RECEPTS: GAMEKEEPER WORKSTATIONS	20	1	11	0.50	6	660	32	RECEPTS: HOTEL & SPR. OFFICE	20	1	12	1.00	12	1441
33	RECEPTS: ASST. SPR & OFFICE MNGR	20	1	14	1.00	14	1681	34	WH-1: VEST 106	20	2	14	1.00	14	1498
35	ERV-2	20	1	15	1.00	15	1801	36							1498
37	EDC-1	20	1	15	1.00	15	1801	38	DOOR OPERATORS	20	1	2	0.20	0	48
39	WH-1: VEST 113	20	2	14	1.00	14	1498	40	SMOKE DETECTORS	20	1		1.00	0	0
41							1498	42	LIGHTS	20	1		0.80	0	0

AT - Amp Trip
P - Poles
A - Amps
CA - Connected Amperes
DF - Demand Factor (1 - .1)
DA - Demand Amperes
DW - Demand Watts
MLO - Main Lug Only
MCB - Main Circuit Breaker

LOCATION OF PANEL: BREAK RM

PANEL SP 120/240 1PH 3W 200 AMP MLO 42K AIC NEMA TYPE 1 (SURFACE)

CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA	VA	CKT #	LOAD DESCRIPTION	AT	P	CA	DF	DA	VA
1	EXTERIOR RECEPTS AT OFFICE BLDG	20	1	5	0.50	2	270	2	EXTERIOR RECEPTS AT TICKETING/STORE	20	1	6	0.50	3	360
3	RECEPTS: TICKETING BOOTH 105	20	1	8	0.50	4	450	4	ERV-1 (PART OF ADD ALT PACKAGE)	20	1	15	1.00	15	1801
5	QUAD RECEPTS: TICKETING 104 WORKSTATIONS	20	1	6	0.50	3	360	6	QUAD RECEPTS: CASHIER 102	20	1	6	0.50	3	360
7	GEN USE RECEPTS: STORE 101/TICKETING 104	20	1	5	0.50	2	270	8	GEN USE RECEPTS: STORE 101/STORAGE 103	20	1	5	0.50	2	270
9	EXTERIOR RECEPTS AT STORE	20	1	6	0.50	3	360	10	MOTOR OPERATED DAMPERS AT HVAC DUCTWORK	20	1	3	0.50	2	180
11	SMOKE DETECTORS	20	1	5	1.00	5	600	12	INTERIOR LIGHTS AT STORE/TICKETING BOOTHS	20	1	5	0.80	4	480
13	EXTERIOR LIGHTING CONTACTOR TIMECLOCK/PHOTOC	20	1	4	1.00	4	480	14	EXTERIOR LTS AT STORE VIA LIGHTING CONT. (LC)	20	1	5	0.80	4	480
15	EXTERIOR LTS AT OFFICE VIA LIGHTING CONT. (LC)	20	1	10	1.00	10	1201	16	EXTERIOR LTS AT TICKETING VIA LIGHTING CONT. (LC)	20	1	5	0.80	4	480
17	LIGHTING CONTACTOR SPARE	20	1	0	1.00	0	0	18	SPARE	20	1		1.00	0	0
19	SAC-3-1 & 3-2	20	2	2	1.00	2	240	20	SCU-3	50	2	35	1.00	35	4200
21							240	22							4200
23	SPARE	20	1		1.00	0	0	24	SPARE	20	1		1.00	0	0
25	SPARE	20	1		1.00	0	0	26	SPARE	20	1		1.00	0	0
27	SPARE	20	1		1.00	0	0	28	SPARE	20	1		1.00	0	0
29	SPARE	20	1		1.00	0	0	30	SPARE	20	1		1.00	0	0
31						0	0	32						0	0
33						0	0	34						0	0
35						0	0	36						0	0
37						0	0	38						0	0
39						0	0	40						0	0
41						0	0	42						0	0

AT - Amp Trip
P - Poles
A - Amps
CA - Connected Amperes
DF - Demand Factor (1 - .1)
DA - Demand Amperes
DW - Demand Watts
MLO - Main Lug Only
MCB - Main Circuit Breaker

LOCATION OF PANEL: STORE STORAGE RM

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PROJECT NAME:
IF+W

SEAL:
STATE OF MAINE
STEVEN K. JOHNSON #9439 LICENSED PROFESSIONAL ENGINEER

REVISIONS
1 13 MAY, 2024

DATE OF ISSUE: 23 APRIL, 2024
PROJECT NUMBER: 2000.01
STATUS: BID SET

Power Plan

E201

GENERAL NOTES

1. NOT ALL SYMBOLS INDICATED IN THE LEGEND APPEAR ON THE DRAWINGS. COORDINATE WORK ACCORDINGLY. COMPLY WITH SPECIFICATIONS AND NOTES BELOW AS APPLICABLE.

2. ALL RECEPTACLES SHALL BE INSTALLED 18" AFF TO CENTERLINE OF BOX UNLESS NOTED OTHERWISE.

3. MOUNT PANELS IN RESIDENTIAL SPACES SO NO CIRCUIT BREAKER HANDLE IS HIGHER THAN 44" AFF.

4. ALL WIRING SHALL BE COPPER UNLESS DESIGNATED AS "AL". UNLESS OTHERWISE NOTED ALL WIRING SHALL BE #12 AWG AND #12 EQUIPMENT GROUNDING CONDUCTOR. HOMERUNS FED FROM A 20A-1P, 120V CIRCUIT IN EXCESS OF 70' SHALL BE #10 AWG.

5. CONNECT BATTERY BACKED EMERGENCY AND EXIT LIGHTING TO NEAREST LIGHTING CIRCUIT AHEAD OF ANY SWITCHING. CONNECT REMOTE HEADS WITH #10 AWG COPPER CONDUCTORS. AC EXIT FIXTURES SHALL BE CONNECTED TO NEAREST EMERGENCY CIRCUIT OR AS INDICATED.

6. TEST ALL EMERGENCY LIGHTING UNITS FOR PROPER OPERATION OF LAMPS AND BATTERIES.

7. SEE MECHANICAL PLAN FOR HVAC UNITS, PUMPS AND FANS CONTROLLED BY THERMOSTATS (PROVIDED BY ATC CONTRACTOR).

8. FUSES AND OVERLOAD UNITS FOR MOTORS SHALL BE SIZED BASED ON ACTUAL MOTOR NAMEPLATE DATA AND IN ACCORDANCE WITH NEC. CIRCUIT BREAKERS FOR MOTORS ARE SUPPLIED AT MAX VALUE PER NEC (2.5 x FLA). SIZE IN THE FIELD IN ACCORDANCE WITH MFGR RECOMMENDATION.

9. ALL WORK SHALL COMPLY WITH NFPA70, NFPA72, NFPA101 & ALL FEDERAL, STATE & LOCAL REGULATIONS.

10. ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN FIRE RATING FOR THE SEPARATION.

11. ALL ENCLOSURES, CONDUIT BODIES AND THEIR COVERS CONTAINING FIRE ALARM SYSTEM CONDUCTORS SHALL BE PAINTED RED.

12. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITH ALL FEEDERS AND BRANCH CIRCUITS. SIZE IN ACCORDANCE WITH NFPA 70 ARTICLE 250.

13. COORDINATE INSTALLATION OF VOICE/DATA OUTLETS WITH OWNER, MIS OR COMMUNICATIONS CONTRACTOR.

14. LOCATE DISCONNECTS AT EQUIPMENT AS REQUIRED BY MANUFACTURER. LOCATIONS ON DRAWINGS ARE APPROXIMATE.

15. PROVIDE RISER OR PLENUM RATED CABLES ABOVE SUSPENDED CEILINGS.

16. THE CONTRACTOR SHALL SET ALL ELECTRONIC BREAKERS TO SPECIFIED TRIP SETTINGS BEFORE ENERGIZING EQUIPMENT.

17. PROVIDE EXPANSION FITTINGS FOR ALL UNDERGROUND RACEWAYS ENTERING ENCLOSURES ATTACHED TO FIXED STRUCTURES.

18. OUTDOOR RECEPTACLE COVERS SHALL COMPLY WITH NFPA 70 - ARTICLE 406.9.

19. ALL CONDUCTOR INSULATION FOR BUILDING WIRE SHALL BE THWN/THHN UNLESS NOTED OTHERWISE.

20. PROVIDE LABEL ON SERVICE EQUIPMENT INDICATING AVAILABLE SHORT CIRCUIT CURRENT OBTAIN VALUES FROM ENGINEER.

21. PROVIDE ARC FAULT LABELS PER NFPA 70-ARTICLE 110.24

22. IF BUILDING REQUIRES TWO SERVICE ENTRANCES, PROVIDE SIGNS PER NFPA 70-230.

23. OUTLETS INSTALLED IN FIRE RATED WALLS BACK TO BACK SHALL BE SEPARATED BY 24" MINIMUM OR BE PROTECTED WITH "PUTTY PADS" PER 2015 INTERNATIONAL BUILDING CODE SECTION 713.3.2.

24. PROVIDE AIR VAPOR BARRIER BOXES FOR WIRING DEVICES IN EXTERIOR WALLS AND INTERIOR SOUND CONTROL WALLS BETWEEN RESIDENT ROOMS. INSTALL PER MANUFACTURER'S INSTRUCTIONS. PROVIDE LESSCO MODEL NUMBER: VAPORBOX

25. MINIMUM WIRE SIZE ON ALL BRANCH CIRCUITS SHALL BE #12.

26. PROVIDE SIGN AT SERVICE ENTRANCE EQUIPMENT INDICATING TYPE AND LOCATION OF EMERGENCY GENERATOR PER NEC 700.7.

27. PROVIDE ELECTRICAL SUPPLY FOR FUTURE RADON FANS IN AREA OF ALL FUTURE RADON FAN LOCATIONS.

ABBREVIATIONS

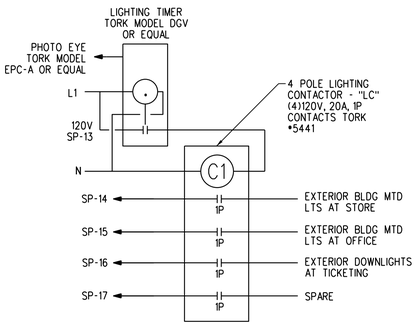
A	AMP
AC	ALTERNATING CURRENT, ABOVE COUNTER
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMP FRAME
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY
AL	ALUMINUM
AT	AMP TRIP
ATC	AUTOMATIC TEMPERATURE CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CI	CAST IRON
CKT	CIRCUIT
℄	CENTERLINE
CMP	CENTRAL MAINE POWER (ELECTRIC UTILITY)
CMU	CONCRETE MASONRY UNIT
CT	CURRENT TRANSFORMER
CONC	CONCRETE
CS	CARBON STEEL
CU	COPPER
CUH	CABINET UNIT HEATER
DL	DAMP LOCATION
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ERL	EXISTING RELOCATE
ERV	EXISTING REMOVE
ETR	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRICAL WATER COOLER
FACP	FIRE ALARM CONTROL PANEL
FAPS	FIRE ALARM PULL STATION
FRP	FIBER REINFORCED PLASTIC
FVNR FWU	FULL VOLTAGE, NON-REVERSING FURNISHED WITH UNIT
DC	DIRECT CURRENT
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HZ	HERTZ
ICB	INSULATED CASE CIRCUIT BREAKER
JB	JUNCTION BOX
KAIC	THOUSAND AMP INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MIL
KV	THOUSAND VOLTS
KVA	THOUSAND VOLT-AMPS
KW	THOUSAND WATTS (KILOWATT)
LC	LIGHTING CONTACTORS
LCP	LIGHTING CONTROL PANEL
LED	LIGHT EMITTING DIODE
LP	LIGHTING PANELBOARD
LTG	LIGHTING
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND FAULT CIRCUIT BREAKER TRIP FUNCTIONS AS INDICATED
MCC	MOTOR CONTROL CENTER
MCCB	MOLDED CASE CIRCUIT BREAKER
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRUBITION PANEL
MH	MANHOLE
MIS	MANAGEMENT INFORMATION SYSTEM
MLO	MAIN LUGS ONLY
MTS	MANUAL TRANSFER SWITCH
NC	NORMALLY CLOSED OF NURSE CALL
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NO.	NUMBER
OL	OVERLOAD
P	POLE
PA	PUBLIC ADDRESS
PB	PUSH BUTTON
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
TP1-2	TELE-POWER POLE - POLE AND CIRCUIT NUMBER AS INDICATED
PSNH	PUBLIC SERVICE OF NEW HAMPSHIRE (ELECTRIC UTILITY)
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RL	ELECTRICAL EQUIPMENT TO BE RELOCATED
RM	ELECTRICAL EQUIPMENT TO REMAIN
RSC	RIGID STEEL CONDUIT
RTU	ROOF TOP UNIT
RV	ELECTRICAL EQUIPMENT TO REMOVE
RVNR	REDUCED VOLTAGE, NON-REVESING
SB	SMART BOARD
SF	SUPPLY FAN
SLD	SINGLE LINE DIAGRAM
SM	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD DEVICE, MOUNTED AT UNIT
SS	SOLID STATE
SWBD-1	SWITCHBOARD NUMBER AS DESIGNATED
TC	TIME CLOCK
TS	TRANSFER SWITCH
T&B	TOP AND BOTTOM
TYP	TYPICAL
UG	UNDERGROUND
V	VOLT
VA	VOLT-AMPERE
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
3PH	THREE PHASE
4W	FOUR WIRE
3W	THREE WIRE

SYMBOL LEGEND

- SURFACE MOUNTED POWER PANEL, SEE PANEL SCHEDULES FOR RATING
- RECESSED MOUNTED POWER PANEL, SEE PANEL SCHEDULES FOR RATING
- (M) ELECTRIC MOTOR DRIVEN EQUIPMENT, HP SHOWN
- H, DS, DW (J) JUNCTION BOX, "H" DENOTES RANGE HOOD, "DS" DENOTES DISPOSAL UNIT, "DW" DENOTES DISHWASHER
- SM MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD DEVICE MOUNTED AT UNIT
- DISCONNECT SWITCH, SIZE AND NUMBER OF POLES AS INDICATED ON DRAWING. PROVIDED BY EC UNLESS NOTED OTHERWISE. PROVIDE FUSES WHERE RECOMMENDED BY MANUFACTURER.
- COMBINATION MOTOR STARTER/ DISCONNECT SWITCH WITH AUXILARY CONTACTS AND HAND-OFF-AUTO SWITCH AND RED RUN LIGHT. PROVIDED AND INSTALLED BY EC UNLESS NOTED OTHERWISE.
- VFD VARIABLE FREQUENCY DRIVE, PROVIDED BY MC, INSTALLED AND WIRED BY EC
- DUPLEX RECEPTACLE, 20A, 125V SPEC GRADE GROUNDING TYPE, TAMPER PROOF AND MATCHING PLATE. MOUNT 18" AFF UNLESS NOTED OTHERWISE.
  - "AC" - MOUNTED WITHIN 6" OF COUNTERTOP
  - "SW" - DENOTES SWITCHED OUTLET
  - "NL" - EQUIPPED WITH NIGHTLIGHT LEGRAND #NTL885TRICC6 OR EQUAL
- QUAD RECEPTACLE, 20A, 125V SPEC GRADE GROUNDING TYPE, TAMPER PROOF AND MATCHING PLATE. MOUNT 18" AFF UNLESS NOTED OTHERWISE.
- DUPLEX RECEPTACLE, 20A, 125V SPEC GRADE GROUNDING TYPE, TAMPER PROOF AND MATCHING PLATE. MOUNT 18" AFF, BOTTOM RECEPTACLE SWITCHED.
- GROUND FAULT DUPLEX RECEPTACLE 20A, 125V, TAMPER PROOF WITH MATCHING PLATE FURNISHED W/ OUTLET. FLUSH MOUNTED 18" AFF (OR 45" AFF AT COUNTERS) UNLESS OTHERWISE NOTED.
- REFRIGERATOR DUPLEX RECEPTACLE, 20A, 125V SPEC GRADE GROUNDING TYPE, TAMPER PROOF AND MATCHING PLATE. MOUNT RECEPTACLE AT 48" AFF.
- USB DUPLEX RECEPTACLE, 20A, 125V SPEC GRADE GROUNDING TYPE, TAMPER PROOF WITH (2) USB CHARGING PORTS, COLOR BY ARCH. MOUNT 18" AFF UNLESS NOTED OTHERWISE.
- CL FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE- 20A, 125V SPEC GRADE GROUNDING TYPE. "CL" DENOTES CEILING MOUNTED
- RANGE OUTLET 50 AMP, 250 VOLT, GROUNDING TYPE FLUSH MOUNTED 18" AFF
- DRYER OUTLET 30 AMP, 240 VOLT, GROUNDING TYPE NEMA 14-30R 4-PRONG RECEPTACLE, FLUSH MOUNTED 18" AFF
- SPECIAL PURPOSE RECEPTACLE, 220V SPEC GRADE GROUNDING TYPE, TAMPER PROOF WITH MATCHING PLATE. FLUSH MOUNTED AT 18" AFF UNLESS NOTED OTHERWISE. AMPERAGE AS NOTED ON PLAN(S)
- FLUSH FLOOR MOUNTED FURNITURE POWER AND COMMUNICATIONS BASE INFEED LOCATION: COORDINATE ALL FINAL LOCATIONS WITH FURNITURE VENDOR
- RACEWAY & WIRING OR MC CABLE RUN CONCEALED IN WALLS/CEILINGS
- RACEWAY & WIRING RUN EXPOSED
- RACEWAY & WIRING RUN CONCEALED UNDER FLOOR OR BURIED 30" BELOW FINISH GRADE
- x/xx → HP-XX HOME RUN TO PANEL, WITH PANEL AND CIRCUIT NUMBER

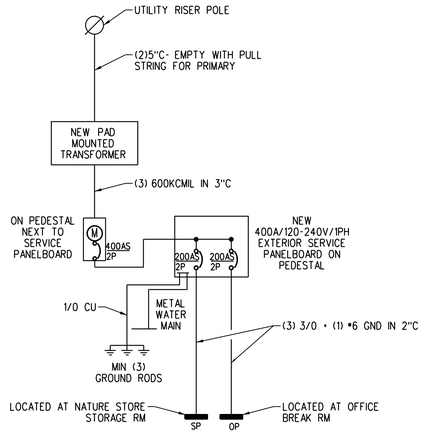
  BRANCH CIRCUIT WIRING SHALL CONSIST OF (1)1/2"C-2#12AWG+1#12GND UNLESS OTHER WISE NOTED. (•)ASTERISK DENOTED #10AWG FOR ALL CIRCUITS CONTAINED IN HOME RUN. (••)DOUBLE ASTERISK DENOTES (1)3/4"C-2#8AWG+1#10GND.

  PROVIDE EQUIPMENT GROUNDS IN ACCORDANCE WITH NFPA 70, ARTICLE 250.
- CTV CABLE TV JUNCTION BOX "CTV", SIZE AS REQUIRED BY CABLE UTILITY
- TV TV OUTLET LOCATION, CABLE AND JACKS BY EC
- TCP TEMPERATURE CONTROL PANEL, PROVIDED BY MC WIRED BY EC
- PUSHBUTTON FOR ELECTRICALLY OPERATED DOOR, FURN W/ DOOR OPERATOR, WIRED BY EC
- DOOR PUSHBUTTON-DOORBELL
- DOOR ELECTRIC STRIKE
- DS DOOR CHIME WITH STROBE-ADA COMMUNICATIONS REQUIREMENT
- A, D, F LIGHTING FIXTURES, CAPITAL LETTERS DENOTE TYPE PER LIGHTING FIXTURE SCHEDULE. LOWER CASE LETTERS INDICATE SWITCH CONTROL. "ab" INDICATES INBOARD LAMPS CONTROLLED BY OUTBOARD SWITCHED "a" AND "b". DIAGONAL OR "NL" INDICATES NIGHT LIGHT (UNSWITCHED)
- SELF CONTAINED EMERGENCY LIGHT W/2 HEADS DUAL-LITE (LED) MODEL LZ25NI-03L, 25 WATTS FOR 90 MINUTES, COLOR BY ARCHITECT
- BATT EMERGENCY LIGHTING BATTERY PACK DUAL-LITE No LM130-12VI-0 SELF-DIAGNOSTIC
- INTERIOR REMOTE HEAD DUAL-LITE (LED) MODEL No CPRD 1203L, COLOR BY ARCHITECT
- EXTERIOR REMOTE HEAD DUAL-LITE (LED) MODEL No OCRD 1203L COLOR BY ARCHITECT
- EXIT LIGHT FIXTURE, UNSWITCHED, DUAL-LITE SESRWE OR APPROVED EQUAL
- EXIT/ EMERGENCY LIGHT COMBO, DUAL-LITE No EVCU-R-D4-IOR APPROVED EQUAL COLOR BY ARCHITECT
- SECURITY CAMERA LOCATION, COORDINATE AND PROVIDE DUPLEX RECEPTACLE, DATA AND CONDUIT PER MANUFACTURERS RECOMMENDATIONS
- DT PIR (MS) CEILING MOUNTED MOTION SENSOR: SENSORS AND RELAYS TO CONTROL CIRCUITS IN SPACES INDICATED. DEVICES SHALL PROVIDE FULL COVERAGE IN AREAS INSTALLED. DT INDICATES DUAL TECHNOLOGY PIR INDICATED PASSIVE INFRARED TECHNOLOGY
- S_{WS} WALL MOUNTED SWITCH MOTION SENSOR. MOUNT AT 48" AFF UNLESS OTHER WISE NOTED
- S_S S_3 S_4 SINGLE POLE SWITCH, 120V, 20A, SPEC GRADE, GROUNDING TYPE, MOUNT 48" AFF, 3-3 WAY, 4-4 WAY, LOWER CASE LETTER INDICATES FIXTURE OR CONTROLLED LOAD.
- S_{PL} SWITCH WITH PILOT LIGHT, SWITCH SHALL BE PROVIDED W/ ENGRAVED NAMEPLATE IDENTIFYING USE
- S_{RF} REMOTE RANGE HOOD FAN SWITCH, CONNECT TO HOOD FAN THRU HOOD JUNCTION BOX.
- S_{RL} REMOTE RANGE HOOD LIGHT SWITCH, CONNECT TO HOOD LIGHT THRU JUNCTION BOX.
- S_B BURNER SAFETY SWITCH, PROVIDE WITH RED PLATE, MOUNTED 72" AFF
- D_S D_3 SINGLE POLE DIMMER SWITCH, 120V, 20A, SPEC GRADE, GROUNDING TYPE, MOUNT 48" AFF, 3-3 WAY, 4-4 WAY, LOWER CASE LETTER INDICATES FIXTURE OR CONTROLLED LOAD.
- PC PHOTOCELL
- LC LIGHTING CONTACTOR
- TC TIME CLOCK
- TELEPHONE/DATA DUAL JACK, MOUNT 18"AFF, CONTRACTOR SHALL PROVIDE EMPTY DEVICE BOX AND CONDUIT WITH PULL STRINGS ONLY, STUBBED UP ABOVE CEILING FOR INSTALLER USE
- DATA JACK, PROVIDE EMPTY DEVICE BOX AND CONDUIT WITH PULL STRINGS ONLY STUBBED UP ABOVE CEILING FOR INSTALLER USE
- CL FLUSH FLOOR MOUNTED TELEPHONE/DATA DUAL JACK: PROVIDE EMPTY DEVICE BOX AND CONDUIT WITH PULL STRINGS ONLY FOR INSTALLER USE. "CL" DENOTES CEILING MOUNTED
- TELEPHONE JACK MOUNT 18"AFF UNLESS NOTED OTHERWISE. RUN ONE CABLE BACK TO TBB.
- TELEPHONE/DATA BACK BOARD
- W WIFI ROUTER, PROVIDE EMPTY CONDUIT WITH PULL STRINGS ONLY STUBBED UP ABOVE CEILING FOR INSTALLER USE. "W" DENOTES WALL MOUNTED LOCATION AT 72" AFF
- IC UP INTERCOM PANEL IN UNIT
- ICMP INTERCOM PANEL AT RECEPTION OR MAIN ENTRY
- MEDIA MEDIA PANEL OR WIRING BOX FOR LOW VOLTAGE CONNECTIONS WITHIN TENANT UNIT. RUN CAT 6 CABLE FROM EACH UNIT MEDIA PANEL LOCATION BACK TO TBB
- CR CARD READER LOCATION: PROVIDE SINGLE GANG JUNCTION BOX AND 3/4" EMPTY CONDUIT, WITH PULL STRINGS ONLY, STUBBED UP ABOVE CEILING.
- FACP FIRE ALARM CONTROL PANEL WITH DEDICATED TELEPHONE JACK
- ANN FIRE ALARM ANNUNCIATOR PANEL
- FEM FIRE EXTINGUISHER ELECTRONIC MONITOR-SHALL BE ACCOMPLISHED THROUGH USE OF AN ADDRESSABLE INTERFACE DEVICE AND SHALL PROVIDE INPUT TO THE FACP
- 30 MH FIRE ALARM AUDIO/VISUAL, MOUNT 6'-8"AFF, NUMBER DENOTES CANDELA RATING. "MH" DENOTES MINIHORN, "CL" DENOTES CEILING MOUNTED. NO DESIGNATION EQUALS 15cd
- F FIRE ALARM PULL STATION, MOUNT 48"AFF
- 15 CD SD FIRE ALARM VISUAL STROBE ONLY, FLUSH MOUNT 6'-8" AFF, NUMBER DENOTES CANDELA RATINGS. "CL" DENOTES CEILING MOUNTED
- SD SYSTEM CONNECTED SMOKE / CARBON MONOXIDE DETECTOR, PHOTOELECTRIC TYPE
- 135° HD SYSTEM CONNECTED FIXED TEMPERATURE HEAT DETECTOR
- SD SMOKE DETECTOR, PHOTOELECTRIC TYPE, SYSTEM CONNECTED.
- ER SD SMOKE DETECTOR, PHOTOELECTRIC TYPE, SYSTEM CONNECTED. "ER" DENOTES ELEVATOR RECALL
- SB SD SYSTEM CONNECTED SMOKE DETECTOR, PHOTOELECTRIC TYPE, WITH SOUNDER BASE
- CO CARBON MONOXIDE DETECTOR
- SD DUCT SMOKE DETECTOR & TEST STATION
- FD/SD FIRE/SMOKE DAMPER: MECHANICAL CONTRACTOR SHALL PROVIDE & INSTALL DAMPER AND DUCT SMOKE DETECTOR. ELECTRICAL CONTRACTOR TO PROVIDE WIRING, ADDRESSABLE MODULES/PROGRAMMING AND MAKE FINAL CONNECTIONS. EC AND MC SHALL COORDINATE PRIOR TO ROUGH-IN.
- SPRINKLER SYSTEM FLOW SWITCH, SPRINKLER SYSTEM TAMPER SWITCH — SUPPLIED BY SPRINKLER CONTRACTOR, WIRED BY EC, VERIFY LOCATIONS WITH SPRINKLER CONTRACTOR.
- M M MAGNETIC DOOR HOLD



LIGHTING CONTACTOR "LC" DETAIL (EXTERIOR LIGHTING)

SCALE: NONE



ELECTRICAL SERVICE PEDESTAL SHALL BE LOCATED APPROXIMATELY 25'-0" FROM NATURE STORE. COORDINATE WITH CIVIL AND UTILITY

ONE-LINE DIAGRAM

SCALE: NONE

TRUE

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BENNETT ENGINEERING
MECHANICAL • ELECTRICAL
(207) 865-9475

PROJECT NAME:

IF+W

SEAL:

STATE OF MAINE — STEVEN J. JOHNSON #9498 LICENSED PROFESSIONAL ENGINEER

REVISIONS

1 13 MAY, 2024

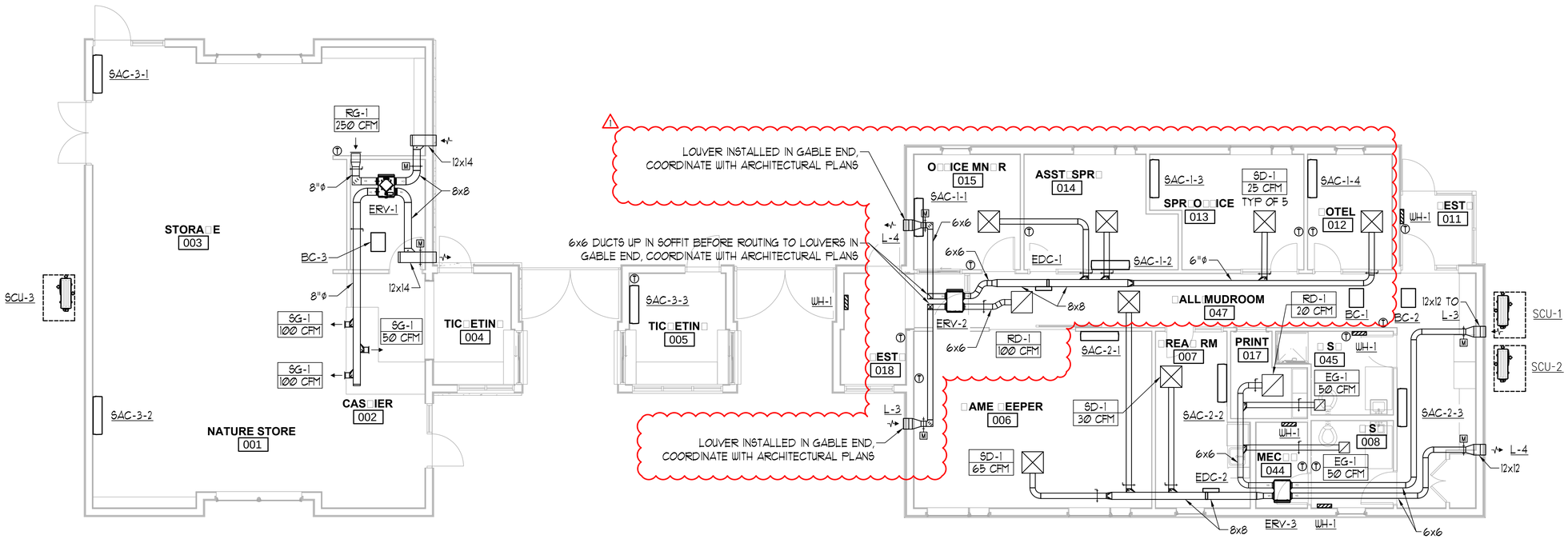
DATE OF ISSUE:	23 APRIL, 2024
PROJECT NUMBER:	2000.01
STATUS:	BID SET

Electrical Notes, Legend & Details

E301

GENERAL MECHANICAL NOTES:

1. ALL DUCT BRANCHES SERVING INDIVIDUAL SUPPLY OR RETURN DIFFUSERS SHALL BE SIZED AT 6"ø (UNLESS OTHERWISE NOTED).
2. EXHAUST AND INTAKE DUCTS SHALL BE PROVIDED WITH MOTOR-OPERATED DAMPERS. PRIOR TO TRANSITIONING TO LOUVER CONNECTION.
3. PROVIDE ACCESS PANELS AS NECESSARY FOR ALL EQUIPMENT SERVICE REQUIREMENTS.
4. FIELD ROUTE REFRIGERANT PIPING FROM OUTDOOR SCU UNITS TO INDOOR BRANCH BOXES AND SAC UNITS.
5. ERV-1 AND ALL ASSOCIATED COMPONENTS, ACCESSORIES AND LABOR SHALL BE ADD-ALTERNATE.



1 M101 MECHANICAL PLAN

SCALE: 3/16" = 1'-0"

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PROJECT NAME:

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SEAL:

STATE OF MAINE
JUSTIN M. VALLIERE
No. 10548
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

⚠ 13 MAY, 2024

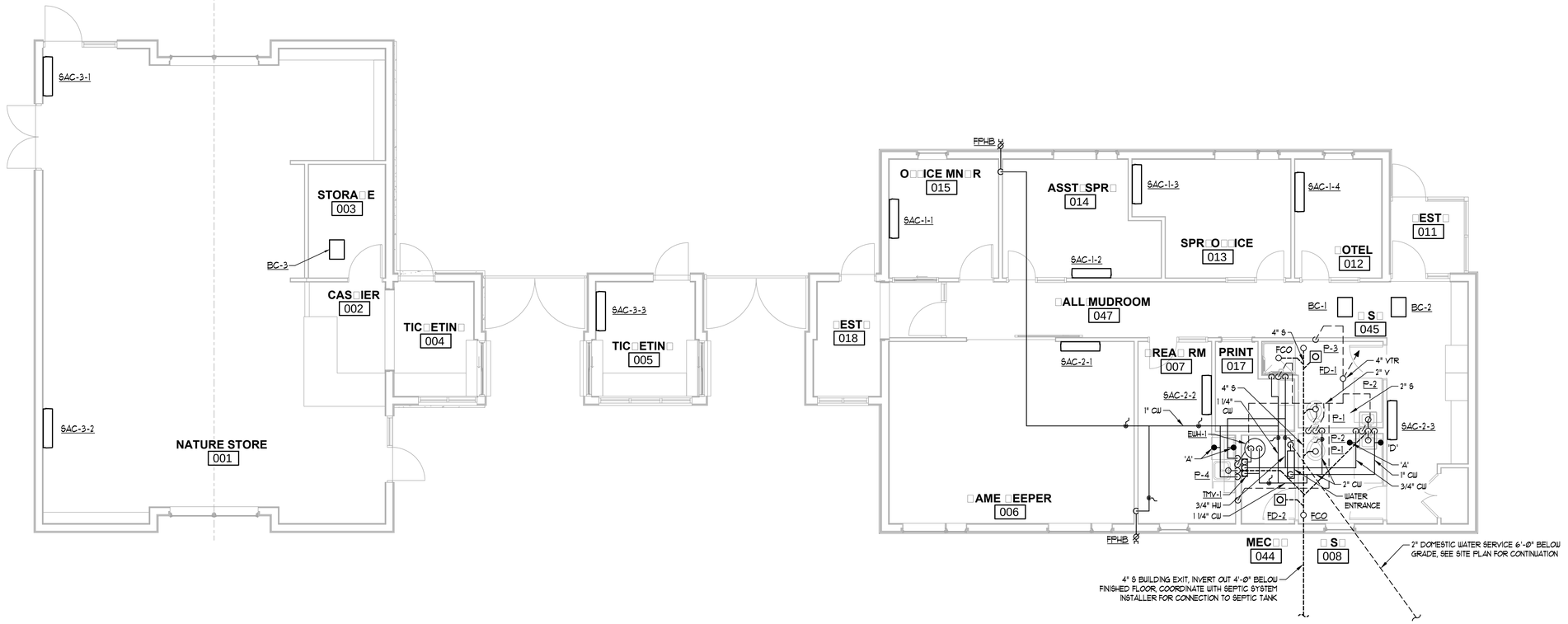
DATE OF ISSUE:	23 APRIL, 2024
PROJECT NUMBER:	2000.01
STATUS:	BID SET

MECHANICAL PLAN

M101

GENERAL PLUMBING/SANITARY NOTES:

1. ALL CW/HW PIPING SHALL BE INSTALLED IN LOWERED CEILINGS.
2. FIELD ROUTE ALL SAC CONDENSATE PIPING TO DRAIN TO THE EXTERIOR OF THE BUILDING. COORDINATE FINAL LOCATION WITH ARCHITECT.



1 M201 PLUMBING PLAN

SCALE: 3/16" = 1'-0"

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1 13 MAY, 2024

DATE OF ISSUE: 23 APRIL, 2024

PROJECT NUMBER: 2000.01

STATUS: BID SET

PLUMBING PLAN

M201

PACKAGED ENERGY RECOVERY VENTILATOR PERFORMANCE SCHEDULE

TAG	AIR STREAM	DUCT CONNECTIONS		UNIT AIRFLOW					ENERGY RECOVERY - WINTER					ENERGY RECOVERY - SUMMER					DUCT COIL	ELECTRICAL REQUIREMENTS			WEIGHT (LBS)	BASIS OF DESIGN: RENEWAIRE		NOTES
		ENTERING	LEAVING	CFM	E.S.P. (INWC)	T.S.P. (INWC)	HP	BHP	E.D.B. (DEG F)	E.W.B. (DEG F)	L.D.B. (DEG F)	L.W.B. (DEG F)	EFF, %	E.D.B. (DEG F)	E.W.B. (DEG F)	L.D.B. (DEG F)	L.W.B. (DEG F)	EFF, %	TAG	V/PH/HZ	MCA	MOP		SERVICE	MODEL	
ERV-1	SUPPLY	END	END	250	0.40	-	0.1	-	-10.0	-10.9	48.4	37.4	73.0 SENS / 52.6 TOT	89.0	73.0	78.8	67.8	73.0 SENS / 69.7 TOT	N/A	120/1/60	15	20.0	70	NATURE STORE	EV PREMIUM LH	1
	EXHAUST	END	END	250	0.40	-	0.1	-	70.0	51.5	-	-		75.0	62.6	-	-									
ERV-2	SUPPLY	END	END	100	0.50	-	0.1	-	-10.0	-10.9	50.3	38.8	75.4 SENS / 56.3 TOT	89.0	73.0	78.4	67.4	75.4 SENS / 72.5 TOT	EDC-1	120/1/60	15	20.0	70	OFFICE AREA	EV PREMIUM MH	1
	EXHAUST	END	END	100	0.50	-	0.1	-	70.0	51.5	-	-		75.0	62.6	-	-									
ERV-3	SUPPLY	END	END	120	0.50	-	0.1	-	-10.0	-10.9	48.2	37.3	72.8 SENS / 52.4 TOT	89.0	73.0	78.8	67.8	72.8 SENS / 69.6 TOT	EDC-2	120/1/60	15	20.0	70	OFFICE AREA	EV PREMIUM MH	1
	EXHAUST	END	END	120	0.50	-	0.1	-	70.0	51.5	-	-		75.0	62.6	-	-									

NOTE:

1. PROVIDE WITH PREMIUM STANDALONE MICROPROCESSOR CONTROL, ECM MOTORS, INSULATED LOW LEAK DAMPERS, FUSED DISCONNECT AND MERV 13 FILTERS.
2. ERV-1 AND ALL ASSOCIATED COMPONENTS, ACCESSORIES, AND LABOR SHALL BE ADD-ALTERNATE.

SPLIT - SYSTEM HEAT PUMP INDOOR UNIT PERFORMANCE SCHEDULE

TAG	CORRESPONDING OUTDOOR UNIT	CORRESPONDING BRANCH BOX		NOMINAL COOLING (MBH)*	NOMINAL HEATING (MBH)*	CORRECTED COOLING (MBH)**	CORRECTED HEATING (MBH)***	MAX AIRFLOW (CFM)	COND. DRAIN (IN)	REFRIGERANT PIPING		SOUND RATING (DB)	WIEIGHT (LBS)	ELECTRICAL REQUIREMENTS			BASIS OF DESIGN: MITSUBISHI		
		TAG	MODEL							LIQUID (IN)	GAS (IN)			MCA	MOCP	V/PH/HZ	SERVICE	ARRANGEMENT	MODEL
SAC-1-1	SCU-1	BC-1	PAC-MKA50BC	12.0	12.3	11.7	6.3	454	5/8	1/4	1/2	44	29	1.00	--	208/1/60	OFFICE MANAGER 015	WALL	MSZ-FS12NA
SAC-1-2				9.0	9.6	8.7	4.8	437	5/8	1/4	1/2	42	29	1.00	--	208/1/60	ASST. SPR. 014	WALL	MSZ-FS09NA
SAC-1-3				9.0	9.6	8.7	4.8	437	5/8	1/4	1/2	42	29	1.00	--	208/1/60	SPR. OFFICE 013	WALL	MSZ-FS09NA
SAC-1-4				6.0	8.7	5.8	4.4	437	5/8	1/4	1/2	42	29	1.00	--	208/1/60	HOTEL 012	WALL	MSZ-FS06NA
SAC-2-1	SCU-2	BC-2	PAC-MKA50BC	14.0	16.0	13.6	8.6	514	5/8	1/4	1/2	46	29	1.00	--	208/1/60	GAME KEEPER 006	WALL	MSZ-FS15NA
SAC-2-2				9.0	9.6	8.7	5.2	437	5/8	1/4	1/2	42	29	1.00	--	208/1/60	BREAK RM 007	WALL	MSZ-FS09NA
SAC-2-3				12.0	12.3	11.7	6.6	454	5/8	1/4	1/2	44	29	1.00	--	208/1/60	HALL/MUDROOM 047	WALL	MSZ-FS12NA
SAC-3-1	SCU-3	BC-3	PAC-MKA50BC	14.0	16.0	13.6	8.0	514	5/8	1/4	1/2	46	29	1.00	--	208/1/60	NATURE STORE 001	WALL	MSZ-FS15NA
SAC-3-2				14.0	16.0	13.6	8.0	514	5/8	1/4	1/2	46	29	1.00	--	208/1/60		WALL	MSZ-FS15NA
SAC-3-3				6.0	8.7	5.8	4.3	437	5/8	1/4	1/2	42	29	1.00	--	208/1/60	TICKETING 005	WALL	MSZ-FS06NA

* NOMINAL HEATING AND COOLING AT AHRI CONDITIONS OF 80°F DB / 67°F WB (INDOOR) AND 95°F OUTDOOR FOR COOLING AND 70°F DB / 60°F WB (INDOOR AND 47°F OUTDOOR FOR HEATING
** CORRECTED COOLING AS PART OF THE SPECIFIC COMPLETE SYSTEM INCLUDING LINE LENGTHS AND AT OUTDOOR CONDITIONS OF 95°F DB AND INDOOR CONDITIONS OF 75°F DB / 63.9°F WB
*** CORRECTED HEATING AS PART OF THE SPECIFIC COMPLETE SYSTEM INCLUDING LINE LENGTHS AND WITH A 5% DEFROST AND AT OUTDOOR CONDITIONS OF -10.0°F DB AND INDOOR CONDITIONS OF 70°F DB
1. PROVIDE ALL UNITS WITH CONDENSATE PUMPS.
2. OUTDOOR UNIT POWERS THE BRANCH BOX AND INDOOR UNITS, REFER TO SCHEMATIC DETAIL.

HEAT PUMP OUTDOOR UNIT PERFORMANCE SCHEDULE

TAG	NOMINAL COOLING (MBH)*	NOMINAL HEATING (MBH)*	CORRECTED COOLING (MBH)**	CORRECTED HEATING (MBH)***	EER	REFRIGERANT	MINIMUM COOLING TEMP(DEG F)	MINIMUM HEATING TEMP(DEG F)	FOOTPRINT DIM (INCHES) (HxWxD)	POWERS INDOOR UNIT(S)?	ELECTRICAL REQUIREMENTS			REFRIGERANT LINES		SOUND (DBA)	OPERATING WEIGHT (LBS)	BASIS OF DESIGN: MITSUBISHI		
											MCA	MOCP	V/PH/HZ	LIQUID (IN)	GAS (IN)			SERVICE	MODEL	NOTES
SCU-1	36.0	42.0	35.8	20.4	15.0	R-410A	14.0	-13.0	53 X 42 X 13	YES	35.0	50.0	208/1/60	1/4	1/2	53	271	OFFICES	MXZ-SM36NAM	ALL
SCU-2	36.0	42.0	34.1	20.4	15.0	R-410A	14.0	-13.0	53 X 42 X 13	YES	35.0	50.0	208/1/60	1/4	1/2	53	271	COMMON AREAS	MXZ-SM36NAM	ALL
SCU-3	36.0	42.0	33.1	20.4	15.0	R-410A	14.0	-13.0	53 X 42 X 13	YES	35.0	50.0	208/1/60	1/4	1/2	53	271	NATURE STORE	MXZ-SM36NAM	ALL

* NOMINAL HEATING AND COOLING AT AHRI CONDITIONS OF 80°F DB / 67°F WB (INDOOR) AND 95°F OUTDOOR FOR COOLING AND 70°F DB / 60°F WB (INDOOR AND 47°F OUTDOOR FOR HEATING
** CORRECTED COOLING AS PART OF THE SPECIFIC COMPLETE SYSTEM INCLUDING LINE LENGTHS AND AT OUTDOOR CONDITIONS OF 89°F DB AND INDOOR CONDITIONS OF 75°F DB / 63.9°F WB
*** CORRECTED HEATING AS PART OF THE SPECIFIC COMPLETE SYSTEM INCLUDING LINE LENGTHS AND WITH A 5% DEFROST AND AT OUTDOOR CONDITIONS OF -10.0°F DB AND INDOOR CONDITIONS OF 70°F DB
1. PROVIDE SNOW/HAIL GUARDS.

ELECTRIC DUCT HEATING COIL PERFORMANCE SCHEDULE

TAG	HTG. AIR FLOW (CFM)	MAX A.P.D. (IN.WG.)	DIMENSION (WxH, INCHES)	VELOCITY (FPM)	E.A.T. (DEG F)	L.A.T. (DEG F)	ELECTRICAL REQUIREMENTS				BASIS OF DESIGN: RENEWAIRE	
							KW	V/PH/HZ	MCA	MOCP	SERVICE	MODEL
EDC-1	100	0.05	8" x 8"	225	50.3	72.0	1.0	120/1/60	10.4	15	ERV-2 HEAT	EK
EDC-2	120	0.05	8" x 8"	270	48.2	72.0	1.0	120/1/60	10.4	15	ERV-3 HEAT	EK

PROVIDE WITH SCR CONTROLLER w/THERMOSTAT AND SENSOR, AIRFLOW PROVING SWITCH, FAN INTERLOCK AND DISCONNECT.

ELECTRIC WALL HEATER SCHEDULE

TAG	LOCATION	MOUNTING	MAX WATTS	MAX BTUH	CFM	ELECTRICAL POWER			WEIGHT LB	BASIS OF DESIGN: MESTEK QMARK	
						SOURCE	AMPS	MOCP		MODEL	REMARKS
WH-1	MULTIPLE	SURFACE	3,000	10,236	100	208/1/60	14.4	-	26	AWH4404F	NOTES: ALL

NOTES:
1. WALL HEATERS SHALL BE INSTALLED PER MANUFACTURER RECCOMENDATIONS.

REGISTERS, GRILLES AND DIFFUSERS SCHEDULE

TAG	DESCRIPTION	MAX CFM	MODULE SIZE W X H	NECK SIZE (INCHES)	MAX STATIC PRESSURE (IN. WC)	SOUND (NC)	BASIS OF DESIGN: PRICE INDUSTRIES	
							MODEL	NOTES
SD-1	SUPPLY DIFFUSER	65	24 X 24	6	0.01	15	SPD	ALL
RD-1	RETURN DIFFUSER	100	24 X 24	8	0.01	15	PDDR	ALL
EG-1	EXHAUST GRILLE	50	10 X 10	–	0.01	15	530	ALL

NOTES:
1. NOMINAL MODULE SIZE BASED ON GRILLE NECK SIZE.
2. LAY-IN OR SURFACE MOUNT IN ACCORDANCE WITH ARCHITECTS REFLECTIVE CEILING PLAN.
3. PRODUCT SELECTION SHALL BE BASED ON NOISE CRITERIA LESS THAN NC-30.

PLUMBING FIXTURE CONNECTION SCHEDULE

TAG	DESCRIPTION	SAN	VENT	CW	HW
P-1	ADA WATER CLOSET FV	3"	2"	1"	-
P-2	LAVATORY	1-1/2"	1-1/2"	1/2"	1/2"
P-3A	36" ADA TUB SHOWER	2"	2"	1/2"	1/2"
P-4	ADA BREAK ROOM SINK	2"	2"	1/2"	1/2"
FPHB	FREEZE PROOF HOSE BIB	-	-	3/4"	-
FD-1	EMERGENCY FLOOR DRAIN	2"	2"	-	-
FD-2	FLOOR DRAIN	3"	2"	-	-

NOTES:
1. MINIMUM SIZE OF BELOW SLAB SANITARY & VENT PIPING SHALL BE 2".
2. PROVIDE TRAP PRIMERS ON FLOOR DRAINS, CONNECT TO NEAREST FIXTURE.

PUMP PERFORMANCE SCHEDULE

TAG	GPM	DISCHARGE HEAD FT	RPM	ELECTRICAL				ARRANGEMENT	BASIS OF DESIGN: TACO	
				HP	POWER	MCA	MOCP		MODEL	REMARKS
CP-1	0.5	10.0	3250	1/25	115/1/60	0.79	—	CARTRIDGE	008-F6	NOTES: ALL

NOTES:
1. PUMP SHALL BE STAINLESS STEEL CONSTRUCTION.

BFP PERFORMANCE SCHEDULE

TAG	SIZE	FLOW RATE (GPM)	W.P.D. (PSI)	MAX. WORK'G TEMPERATURE (DEGREES F)	MAX. WORK'G PRESSURE (PSI)	TESTABLE (Y) OR (N)	BASIS OF DESIGN: WATTS		
							BODY STYLE	SERVICE	MODEL
BFP-1	1"	16.0	14.0	145	175	Y	RPZ	WATER ENTRANCE	LF909

THERMOSTATIC MIXING VALVE PERFORMANCE SCHEDULE

TAG	FLOW RATE (GPM)	INLET CONNECTION (INCHES)	OUTLET CONNECTION (INCHES)	W.P.D. (PSIG)	SETPOINT (DEG F)	PROVIDE SPARE CARTRIDGE (Y) OR (N)	BASIS OF DESIGN: SYMMONS	
							ARRANGMENT	MODEL
TMV-1	8.0	1/2"	1/2"	10.0	120	Y	WALL	7-200

ELECTRIC WATER HEATER SCHEDULE

TAG	SERVICE	CAPACITY GALS	RECOVERY GPH @ 100F RISE	TEMPERATURE SETPOINT (F)	ELECTRICAL				BASIS OF DESIGN: A.O. SMITH	
					ELEMENTS	TOTAL KW	POWER	FLA	MODEL	REMARKS
EWH-1	DOMESTIC HW	52	41	140	2	5.0 / 5.0	208/1/60	-	DEN-40	NOTES: ALL

NOTES:
1. PERFORMANCE IS BASED ON NON-SIMULTANEOUS OPERATION.
2. PROVIDE MANUFACTURERS STANDARD WARRANTY MINIMUM FIVE YEARS.

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BENNETT ENGINEERING
MECHANICAL • ELECTRICAL
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PROJECT NAME:
IF+W

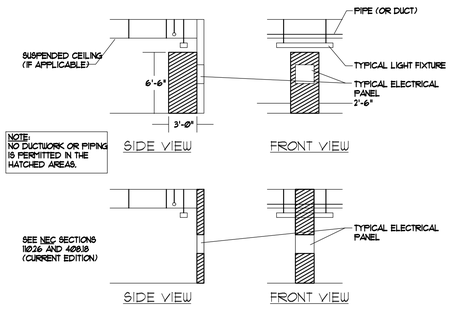
SEAL:
STATE OF MAINE
JUSTIN M VALLIERE
No. 10548
LICENSED PROFESSIONAL ENGINEER

REVISIONS
1 13 MAY, 2024

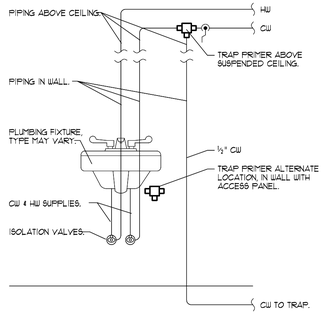
DATE OF ISSUE: 23 APRIL, 2024
PROJECT NUMBER: 2000.01
STATUS: BID SET

SCHEDULES

M301

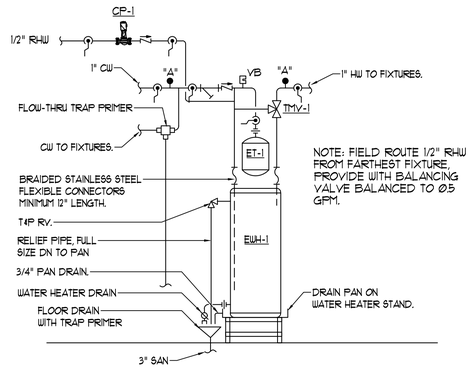


CLEARANCES AT ELECTRICAL PANELS
NTS

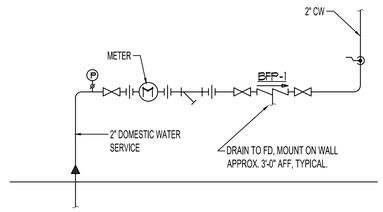


TRAP PRIMER CONNECTION DETAIL
NTS

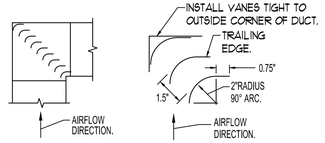
NOTE - ALL FLOOR DRAINS SHALL HAVE TRAP PRIMERS, CONNECT TO NEAREST FIXTURE.



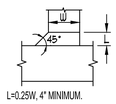
UNIT WATER HEATER PIPING SYSTEM SCHEMATIC
NTS



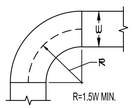
WATER ENTRANCE SCHEMATIC DETAIL
NTS



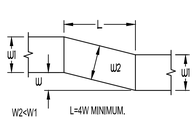
RECT. ELBOW W/TURNING VANES
NTS NOTE: INSTALL VANE EDGES TO PROJECT TANGENTS PARALLEL TO DUCT SIDES.



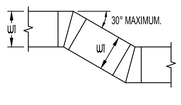
RECTANGULAR TAP 45 DEGREE ENTRY
NTS



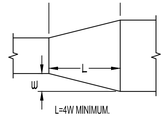
RADIUS ELBOW
NTS



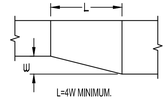
OFFSET TYPE 1 (ANGLED)
NTS



OFFSET TYPE 2 (MITERED)
NTS

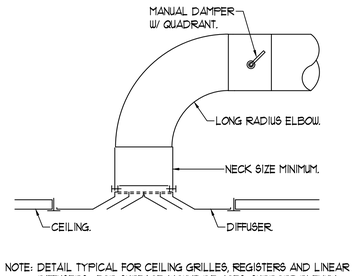


CONCENTRIC TRANSITION
NTS

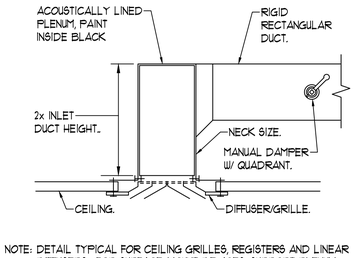


ECCENTRIC TRANSITION
NTS

LOW PRESSURE DUCT CONSTRUCTION DETAILS - TYPICAL
NTS

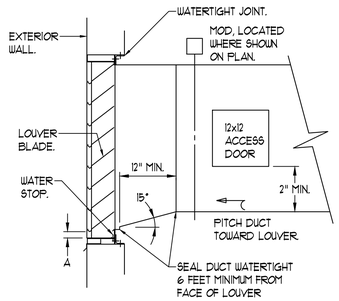


NOTE: DETAIL TYPICAL FOR CEILING GRILLES, REGISTERS AND LINEAR DIFFUSERS. FOR SURFACE-MOUNT DEVICES, SUPPORT PLENUM FROM CEILING GRID WITH STEEL ANGLES FASTENED TO PLENUM.



NOTE: DETAIL TYPICAL FOR CEILING GRILLES, REGISTERS AND LINEAR DIFFUSERS. FOR SURFACE-MOUNT DEVICES, SUPPORT PLENUM FROM CEILING GRID WITH STEEL ANGLES FASTENED TO PLENUM.

DIFFUSER/GRILL CONNECTION DETAIL
NTS



LOUVER DETAIL WITH HORIZONTAL DUCT
NTS

MECHANICAL AND PLUMBING SYMBOLS AND ABBREVIATIONS LEGEND

NOTE - USE SYMBOLS AND ABBREVIATIONS AS APPLICABLE FOR THIS MECHANICAL DRAWING SET. SOME SYMBOLS AND ABBREVIATIONS IN THIS LEGEND MAY NOT APPLY.

SYMBOL	DESCRIPTION
CA	COMPRESSED AIR PIPING (CA)
C	CONDENSATE DRAIN PIPING (C)
CTR	COOLING TOWER RETURN PIPING (CTR)
CTS	COOLING TOWER SUPPLY PIPING (CTS)
CWR	CHILLED WATER RETURN PIPING (CWR)
CWS	CHILLED WATER SUPPLY PIPING (CWS)
FOR	FUEL OIL RETURN PIPING (FOR)
FOS	FUEL OIL SUPPLY PIPING (FOS)
G	GAS PIPING (G)
HWR	HOT WATER RETURN PIPING (HWR)
HWS	HOT WATER SUPPLY PIPING (HWS)
RL	REFRIGERANT LIQUID PIPING (RL)
RG	REFRIGERANT GAS PIPING (RG)
	SANITARY PIPING BELOW FLOOR (SAN)
	SANITARY PIPING ABOVE FLOOR (SAN)
	SANITARY VENT PIPING
RWL	RAINWATER LEADER ABOVE SLAB (RWL)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	RECIRCULATED HOT WATER PIPING (RHW)
	PIPE CAP
	DIRECTION OF FLUID FLOW
	ELBOW UP
	ELBOW DOWN
	PIPE TEE UP
	PIPE TEE DOWN
	PIPE REDUCER
	PIPE WITH GUIDE
	PIPE WITH ANCHOR
	BUTTERFLY VALVE
	GS & Y GATE VALVE
	BACKFLOW PREVENTER (BFP)
	CHECK VALVE
	BALANCING VALVE (ADJUSTABLE)
	AUTOMATIC FLOW CONTROL VALVE
	RELIEF VALVE (RV)
	BALL VALVE
	BALL VALVE
	3/4" BALL VALVE WITH 3/4" HOSE END
	GATE VALVE
	PRESSURE REDUCING VALVE
	FUSIBLE VALVE
	STRAINER W/BLOWDOWN BALL VALVE
	2-WAY CONTROL VALVE
	SOLENOID VALVE
	3-WAY CONTROL VALVE
	3-WAY CONTROL VALVE (TOP VIEW)
	4-WAY CONTROL VALVE (TOP VIEW)
	2 BUTTERFLY VALVES W/SINGLE ACTUATOR
	BUTTERFLY VALVE W/ACTUATOR
	TRIPLE-DUTY VALVE
	UNION
	PIPE FLANGE
	PUMP WITH FLANGES
	BASE MOUNTED PUMP
	CARTRIDGE TYPE INLINE PUMP
	VERTICAL INLINE PUMP
FC	FLEXIBLE PIPE CONNECTION (FC)
	PITCH DOWN
	PETCOCK

SYMBOL	DESCRIPTION
	PRESSURE GAGE WITH GAGE COCK
	THERMOMETER IN WELL
	WATER FLOW SWITCH
	PRESSURE SWITCH OR SENSOR
	EMERSION TEMPERATURE SENSOR
	DUCT MOUNTED SMOKE DETECTOR
	ROOM TEMPERATURE SENSOR
	THERMOSTAT OR SENSOR ON WALL
G	T-STAT OR SENSOR W/ TAMPERPROOF GUARD
	MANUAL AIR VENT
	NOTE TAG (NUMBER)
	AIR DEVICE TAG (LETTER) WITH CFM
	ROOM NUMBER
	TURNING VANES
	DUCT W/MANUAL DAMPER
	DUCT W/FLEXIBLE CONNECTION (FC)
	LAGGED DUCT
	DUCT W/ACOUSTIC LINING
	DUCT W/SQUARE-TO-ROUND TRANSITION
	FLEXIBLE DUCT
MOD	MOTOR OPERATED DAMPER
	AIRFLOW OUT
	AIRFLOW IN
ϕ	DIAMETER OR FLAT OVAL
	FIRE DAMPER
	ROUND OR FLAT OVAL DUCT DOWN
	ROUND OR FLAT OVAL DUCT UP
	SUPPLY DIFFUSER
	RETURN GRILLE
	STEAM TRAP
	WATER HAMMER ARRESTOR

ABBREVIATION	DESCRIPTION
AAV	AUTOMATIC AIR VENT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU-*	AIR HANDLING UNIT TAG
AMS	AIRFLOW MONITORING STATION
AMPS	AMPERES
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
AS-*	AIR SEPARATOR TAG
ATC	AUTOMATIC TEMPERATURE CONTROL
BD-*	BYPASS DAMPER TAG
BFP-*	BACKFLOW PREVENTER TAG
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNITS PER HOUR
CC-*	COOLING COIL TAG
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
CP-*	CIRCULATING PUMP TAG
Cv	VALVE COEFFICIENT
CW	COLD WATER
DB	DRY BULB
dB RE	DECIBELS RELATIVE TO
DC	DOUBLE CHECK
DCA	DOUBLE CHECK ATMOSPHERIC
DEG F	DEGREES FAHRENHEIT
DIA	DIAMETER
DIW	DOWN IN WALL
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE

ABBREVIATION	DESCRIPTION
EDB	ENTERING DRY BULB
EDC-*	ELECTRIC DUCT COIL TAG
EER	ENERGY EFFICIENCY RATIO
EF-*	EXHAUST FAN TAG
EFF	EFFICIENCY
ESP	EXTERNAL STATIC PRESSURE
ET-*	EXPANSION TANK TAG
EWB	ENTERING WET BULB
EWH-*	ELECTRIC WATER HEATER TAG
EWT	ENTERING WATER TEMPERATURE
EXG	EXISTING
EXH	EXHAUST
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD	FIRE DAMPER
FD-*	FLOOR DRAIN TAG
FLA	FULL LOAD AMPS
FPHB	FROST PROOF HOSE BIBB
FPM	FEET PER MINUTE
FSD	COMBINATION FIRE & SMOKE DAMPER
FT	FEET
GA.	GAGE
GAL	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HC-*	HEATING COIL TAG
HP	HORSEPOWER
HRV-*	HEAT RECOVERY VENTILATOR TAG
HW	HOT WATER
HWS/R	HOT WATER SUPPLY AND RETURN

ABBREVIATION	DESCRIPTION
I+B+R	INSTITUTE OF BOILER AND RADIATOR MANUFACTURERS
IN.	INCHES
L-*	LOUVER TAG
LAT	LEAVING AIR TEMPERATURE
LB	POUNDS
LWS/R	LOOP WATER SUPPLY/RETURN
LRA	LOCKED ROTOR AMPS
LWCO	LOW WATER CUTOUT
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSANDS OF BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
NC	NOISE CRITERION
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
O.D.	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
OPD	OVERCURRENT PROTECTIVE DEVICE
P-*	PLUMBING FIXTURE TAG
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PVC	POLYVINYL CHLORIDE (PIPE)
RA	RETURN AIR
RD	ROOF DRAIN
RHW	RECIRCULATED HOT WATER

ABBREVIATION	DESCRIPTION
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
RTU	ROOM TEMPERATURE SENSOR
RV	RELIEF VALVE
RWL	RAINWATER LEADER
SA	SUPPLY AIR
SAN	SANITARY (DRAIN & WASTE)
SD	SMOKE DAMPER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SF	SUPPLY FAN
SP	STATIC PRESSURE
ΔT	TEMPERATURE DIFFERENTIAL
TEMP.	TEMPERATURE
TCP	TEMPERATURE CONTROL PANEL
TMV-*	THERMOSTATIC MIXING VALVE TAG
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH-*	UNIT HEATER TAG
VB	VACUUM BREAKER
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF
V/PH/HZ	VOLTS/PHASES/HERTZ
WB	WET BULB
WCO	WALL CLEANOUT
WG	WATER GAGE
WPD	WATER PRESSURE DROP
WTD	WATER TEMPERATURE DROP
W/	WITH

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13 MAY, 2024

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LEGEND AND DETAILS

M401

CITY MULTI

SYSTEM SCHEMATIC DWG.

DIAGRAM SYMBOL LEGEND	
DISPLAY	DESCRIPTION
—//—	POWER WIRE
———	CONTROL WIRE
———	REF. PIPE

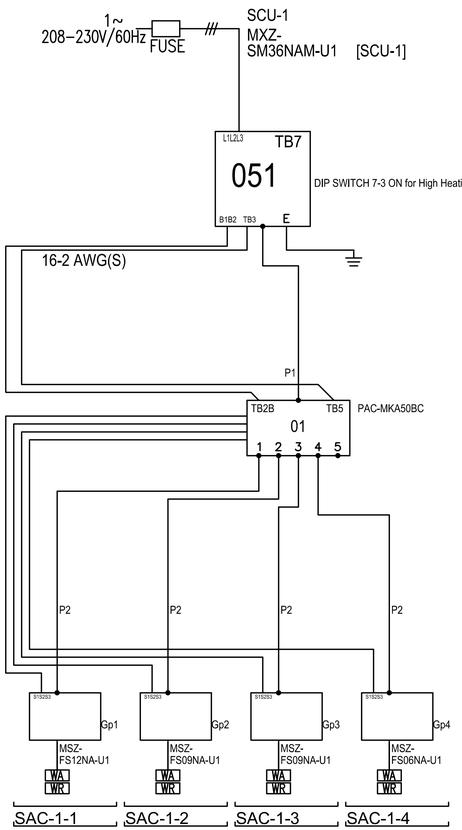
CONT.No		PAGE	

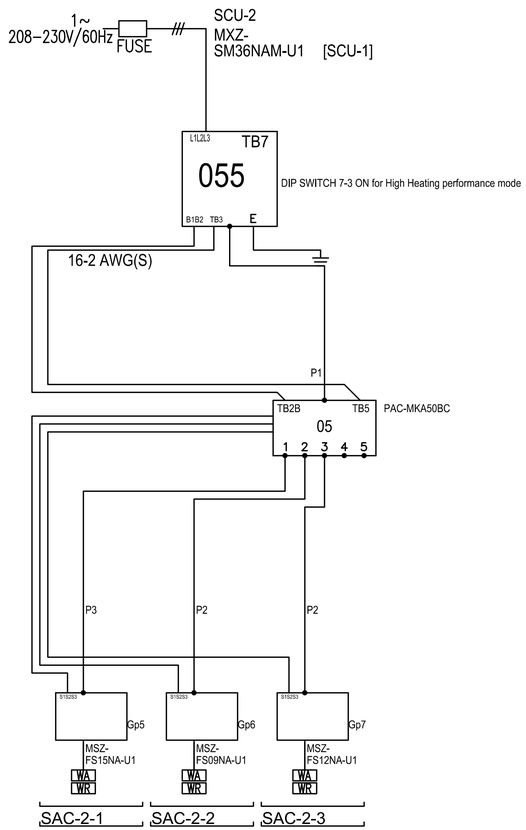
This drawing is schematic in nature. Final routing of piping & wiring shall be determined by the installing contractor and/or designer of record

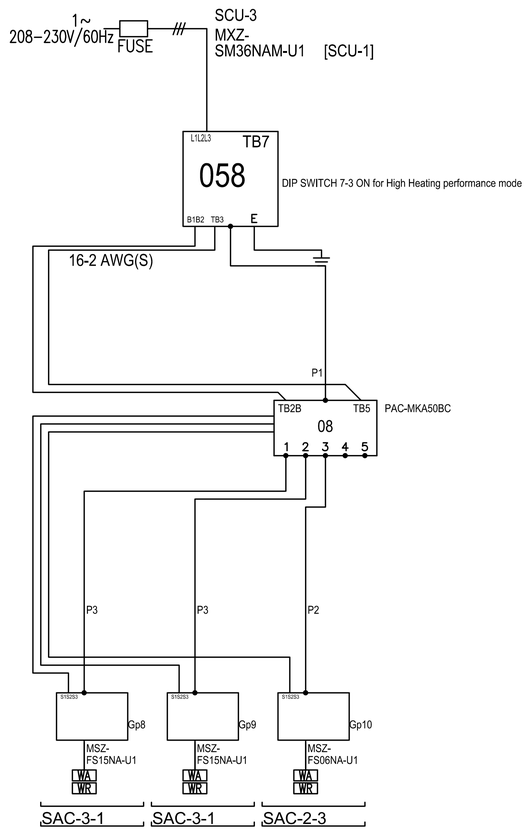
Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.

1.25mm²(16 AWG) : 1.25mm²(16 AWG) or more. 0.75mm²(20 AWG) : between 0.5mm²(24 AWG) and 0.75mm²(20 AWG).

PIPING AND CONTROLS	
SYMBOL	LIQUID PIPE/GAS PIPE SIZE
P1	3/8 / 5/8
P2	1/4 / 3/8
P3	1/4 / 1/2
SYMBOL	MODEL NUMBER
WA/WR	stock controller







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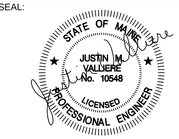

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HEAT PUMP
SCHEMATIC DETAILS

M402