MAINE TURNPIKE AUTHORITY

ADDENDUM NO. 1

CONTRACT 2022.08

LITCHFIELD 8-BAY GARAGE REPLACEMENT
MILE 92.7

The bid opening date is Tuesday March 29, 2022 at 11:00 am.

The following changes are made to the Proposal, Specifications and Plans.

GENERAL

All questions regarding Contract 2022.08 should be submitted by Noon on Tuesday March 22, 2022 and will be answered in an addendum to be issued on or about Friday March 25, 2022, if necessary. Questions received after that time may not be answered.

PROPOSAL

Intentionally left blank.

SPECIFICATIONS

The following changes are hereby incorporated into the project Special Provisions:

- Section 107.1 – Contract Time and Contract Completion Date, make a pen and ink change deleting this section in its entirety and replacing it with the following:

  All work for Contract 2022.08 shall be completed within 240 days of starting work on site, or by the following dates, whichever comes first:

  - Substantial Completion – Site and Building: October 13, 2023
  - Final Completion: November 17, 2023

  The MTA will entertain a start date for this work that fits within the Contractor's schedule beginning after a successful MTA Board Approval on March 31, 2022 and completed on or before the dates noted above. Liquidated damages will occur for each day after the above noted dates.

- Section 133419 – Metal Building System, delete all references to intermediate columns and interior columns. Make this change in pen and ink.

- Section 133419-2.3-G – Metal Building System, delete Roof and Wall U-Factor and R-values provided and replace with “Refer to plan sheet A-5 for required insulation values.” Make this change in pen and ink.

- Section 133419-2.6.A.1.a – Delete “Exterior Surface: Smooth, flat” and Replace with “Exterior Surface: Striated”

- Section 271100 – Communications Equipment Room Fittings, this section is deleted in its entirety and is not replaced.

PLANS

The following changes are hereby incorporated into the project Plans:

- Plan Sheet 2 – General Notes, Earthwork Note 5 is deleted and replaced with the following:

  5. Granular borrow shall be used in the areas specified on the plans, and to backfill areas of muck excavation and in low wet areas to 1' above the water level or old ground. Granular borrow used to fill muck or wet areas shall meet the requirements of granular borrow-underwater backfill. Materials excavated from on site meeting the requirements of granular borrow or granular borrow-underwater backfill shall be reused on site. Each required handling of the material approved by the Resident shall be measured for payment as common excavation. One handling shall be considered to include the operations of excavating and placement or loading/hauling/stockpiling of the material.

- Plan Sheet 2 – General Notes, add the following notes 13, 14, and 15:

  13. Following the completion of work the Contractor shall provide the Authority three hard copies of all O&M manuals associated with the project and one linked, tabbed, and searchable PDF document containing all O&M Manuals in a single file.

  14. Following the completion of work the Contractor shall provide one hard copy and one linked, tabbed, and searchable PDF document of all approved submittals associated with the project organized by work category.

  15. A highway class paver with an eight to ten foot screed (CAT AP555E or similar) will be allowed.

- Plan Sheet 27 - Water Treatment Piping Plan: **DELETE** the sheet and **REPLACE** it with, Plan Sheet 27, attached hereto with revisions.

- Plan Sheet 28 - Mechanical Plan: **DELETE** the sheet and **REPLACE** it with Plan Sheet 28, attached hereto with revisions.

- Plan Sheet 31 – Electrical Site Plan: **DELETE** the sheet and **REPLACE** it with Plan Sheet 31, attached hereto with revisions.

- Plan Sheet 34, Power and Systems Plan: **DELETE** the sheet and **REPLACE** it with Plan Sheet 34, attached hereto with revisions.

- Plan Sheet 35, Power Riser Diagram: **DELETE** the sheet and **REPLACE** it with Plan Sheet 35, attached hereto with revisions.

QUESTIONS

The following are questions asked at the pre-bid meeting held on March 15, 2022 or submitted to the Maine Turnpike Authority in writing. Answers to the questions are noted. Bidders shall utilize this information in preparing their bid.

Question 1: I see the notation for "EP" epoxy paint in the finish schedule. Is it your intention to install resinous flooring in this garage for protection of the concrete?

Answer: No, the finish schedule indicates “CONC.” as the floor finish throughout the building.

Question 2: Does specification section 27 Communications Equipment Room Fittings apply to this project? There is only one tel/data jack shown, and no data cabinet or tel/data underground entrance conduits shown on the drawings.

Answer: Sheet 34 is reissued with this addendum and Special Provision Section 271100 is removed from the Contract package. These revisions address this question.

Question 3: Specification 133419-2.2-B-1: Indicates that the primary frame type is a rigid modular with interior columns. The drawings depict clearspan primary frames. Please confirm if rigid modular frames are allowable (same question applies for 133419-2.4-D-2).

Answer: The frame is intended to be a clearspan. The pen and ink changes to Special Provision 133419 included in this Addendum address this question.

Question 4: The deflection and drift limits seem to be more stringent than industry standard for a building of this type. Please confirm the following standard deflection criteria are acceptable:

- Frames vertically supporting metal roof purlins and panels: H/180
- Frames laterally supporting metal wall girts and panels: L/60
- Purlins vertically supporting metal roof panels: L/150
- Girts laterally supporting metal wall panels: L/90

Answer: No change is made; the deflection criteria shall be as noted in the contract documents.

Question 5: The thermal performance for the roof and walls listed in the specification conflicts with drawing A-5. Please confirm which thermal performance criteria is correct.

Answer: Drawing A-5 is correct. The proposed changes to Special Provision 133419 included in this Addendum address this question.

Question 6: Painted 22 gauge roof panels add cost and increase lead time. Is a standard 24 gauge standing seam metal roof panel acceptable? Is a standard Galvalume aluminum-zinc alloy finish (approximately 55 percent aluminum, 45 percent zinc) applied by continuous hot-dip coating acceptable?

Answer: No change is made; provide roof panels as specified in the contract documents.

Question 7: Smooth, flat "Architectural" insulated metal wall panels are the most expensive panel you can buy. Please confirm if a panel surface with minor striations will be acceptable (similar to the recently completed maintenance facility).

Answer: The changes made to Special Provision 133419-2.6.A.1.a included in this addendum address this question.

Question 8: MDOT Standard Specifications and MTA Supplemental Specifications have differing information in Section 110 Indemnification, Bonding and Insurance regarding the Owner's and Contractor's Protective Policy. Is an OCP Policy required even though it is not mentioned in the special provisions? If so, will an aggregate cap of $2M be acceptable (a $5M aggregate doesn't exist)?

Answer: The MTA Supplemental Specifications consist of additions and alternations to the MaineDOT Standard Specifications, 2014 Edition, and apply to this project. The provisions of MTA Supplemental Specifications, Section 110.3.5, shall apply.

Question 9: MDOT Spec requires a 10' screed, but since this is for a yard, would it be possible to accept an 8' screed paving machine?

Answer: The change to Sheet 2, General Note 15 included in this addendum addresses this question.

Question 10: The specifications mention rigid steel conduit in the Apparatus bays. Is there a boundary line for that or does this apply for the entire space that is open to the garage door bays?

Answer: Rigid metal conduits are required everywhere inside the building.

Question 11: All the GFI's shown on the power plans are weatherproof devices. The specifications section (260533-6,3.1, B, 4) calls for Rigid steel conduit in wet/damp locations. Are we to assume that this entire garage is considered a wet/dry location?

Answer: Yes, the entire space is considered wet/damp.

Question 12: Can the bid date be extended by two weeks?

Answer: No change to the bid date is made at this time.

Question 13: Can the specifications be modified to allow for additional working days in the event of poor weather during construction?

Answer: The proposed changes to Special Provision Section 107.1 included in this addendum address this question.

Question 14: Can additional information be provided regarding the existing foundation to be removed.

Answer: MTA drilled 8 locations around the pad which showed a 6-inch depth in most locations. The pad thickens to approximately 12 inches around the perimeter and near the overhead door opening. The top of curbing to the bottom of the thickened slab is 18-inches. In addition, relevant portions of the 1969 construction plans for the original garage, relevant portions of the 2018 garage extension plans (2018.23), and two images from construction of the 2018 garage extension are included at the end of this Addendum. The Contractor shall consider these materials in the preparation of their bid.

Question 15: I do not see anything in the plans relating to fire alarm requirements with the exception of local alarms. With the project using LP for heat as well as the fuel island I would think it would be required.

Answer: Sheet 34 reissued with this addendum addresses this question. Two LP Gas and Carbon Monoxide Detectors have been added. There are no other fire alarms in the building as none are required by code.

Question 16: The access control has no clear path to tie in, please clarify.

Answer: The extent of door controls work is as shown on the plans. Provide empty conduit and 120 volt power as indicated.

Question 17: The Conduits to the future bunk house are shown on the one line drawing to be 2-3" conduits but on the site drawing they are shown to be 2-2". Which is correct?

Answer: The change to sheet 34 included in this addendum addresses this question.

Question 18: Can a ground detail be provided for the new foundations.

Answer: Grounding should be per project specifications and applicable code.

ATTACHMENTS

- Addendum No. 1 (6 pages)
- Pre-Bid Agenda (3 pages)
- Pre-Bid Sign-In Sheet (1 page)
- Revised Plan Sheets (5 pages)
- Previous 8-Bay Construction Drawings & Photos (12 pages)

Notes: The above items shall be considered as part of the bid submittal.

The total number of pages included with this addendum is 27 pages.

All bidders are requested to acknowledge the receipt of the Addendum No. 1 by signing below and faxing this sheet to Nathaniel Carll, Purchasing Department, Maine Turnpike Authority at (207) 871-7739. Bidders are also required to acknowledge receipt of this Addendum No. 1 on Page P-7 of the bid package.

_____
Business Name

_____
Print Name and Title

_____
Signature

_____
Date

Very truly yours,

MAINE TURNPIKE AUTHORITY

_____
Nathaniel Carll Purchasing Department Maine Turnpike Authority

MAINE TURNPIKE AUTHORITY

Pre-Bid Conference

CONTRACT 2022.08

LITCHFIELD 8-BAY GARAGE

REPLACEMENT

MILE 92.7

March 15, 2022 10:00 AM

1. Location
    a. The general limits of work are as shown in the Contract Plans.
2. General Description
    a. Construction of a pre-engineered building consisting of eight (8) vehicle storage garage bays.
    b. Site work, paving, lighting, generator removal and replacement, relocating propane tanks and water system, floor slab and foundation removal, new building construction, and site utilities.
3. Bid
    a. March 29, 2022, at 11:00 A.M. at the office of the MTA at 2360 Congress Street, Portland.
    b. All bid and contractual questions shall be directed to Purchasing Department (207.482.8115)
    c. All questions on plans and specifications shall be in writing and shall be directed to Nate Carll, Purchasing Manager, at (207.871.7739) or email ncarll@maineturnpike.com.
    d. All questions must be submitted by 5:00 P.M. on Tuesday March 22, 2022.
4. Notification
    a. Contractor shall notify and obtain approval from the Authority prior to visiting the Project site for field inspection. The contact person is Mr. Steve Tartre (207.482.8144) or startre@maineturnpike.com.
5. Contract Specifications
    a. The specifications are divided in to three parts: Part 1, Supplemental Specifications, Part II Special Provisions, Part III, Building Specifications.
    b. The Maine Turnpike Supplemental Specifications are additions and alterations to the 2014 Maine Department of Transportation Standard Specifications and are available on MTA's website.
6. Construction Schedule/Prosecution of Work (SP 103.4 and 107.1):
    a. MTA Board is scheduled to consider the Contract Award on March 31, 2022.
    b. Construction Schedule:
        i. All work complete on or before October 13, 2023.
        ii. Site and building work substantially complete by September 6, 2023 (See SP 107.1.1)
        iii. Additionally, all work shall be completed within 210 days of starting work on site.
7. Maine Department of Labor – Fair Hourly Wages (SP 104.3.8)
    a. Fair minimum hourly rates are provided in the project special provisions.

8. Utility Coordination (SP 104.4.6) and utility notes on Plan sheet 2 of 35.
    a. Central Maine Power (CMP) and the Maine Turnpike have utilities within the project limits.
    b. The Contractor shall contact Dig Safe and any non-member utility operators through OK-TO-DIG.
    c. Contractor is responsible for scheduling a utility coordination meeting in advance of starting the work.
    d. CMP will be removing existing overhead service lines and pole mounted transformer and setting new service and transformer on an existing pole or, if required, on a new pole.
    e. A $50,000 allowance is included as part of contract item 800.01 for CMP utility construction charges for electrical services as described in the project specifications.
9. Cooperation with other Contractors (SP 104.4.7)
    a. The Contractors for three contracts may also use the Litchfield Maintenance Yard for storage and laydown. The Contractor for Contract 2022.06 shall be responsible for working cooperatively with these contractors and the MTA to reasonably accommodate and allow all approved operations on site.
10. Limitations of Operations (SP 107.1.2)
    a. The Contractor is required to provide for the safe and reasonable operations of MTA maintenance crews. Provide access to the refueling station and all existing structures.
    b. The Contractor shall submit their proposed staging, storage and construction areas for approval. The Contractor shall be responsible for minimizing the project footprint, and resulting impacts to the MTA.
    c. Two 3,000 gallon holding tanks are to be filled and abandoned as part of the project after relocation of the water softening system. The tanks are used as storage for the water softening system effluent.
    d. The Contractor is responsible for maintaining utility services and backup power on site during construction. Limited service outages for the following are allowed with two week of notice:
        i. Backup power: Not to exceed 3 weeks. Limited to between June 1st and October 15th.
        ii. Domestic Water Service: Not to exceed 1 week.
11. Permit Requirements
    a. Removal and installation of new underground holding tanks and oil-water separator is subject to the requirements of the MaineDEP Underground Oil Storage Tank Facilities requirements and permitting. The contractor shall prepare and submit registration paperwork to the MTA per the Contract documents.
    b. Compliance with the erosion and sedimentation control requirements outlined in this Contract is required. The limit of disturbance (LOD) for this Contract has been estimated at 1.75 acres.
12. General Requirements
    a. The Contractor will be required to submit the following for inclusion with the signed contract:
        i. Contract and insurance certificates, including builders risk policy
        ii. Schedule of values and pay down schedule for the Lump Sum building item.
        iii. Listing of General Contractor's representatives and anticipated subcontractors.
        iv. Project Gantt schedule identifying project schedule highlighting critical path elements.
    b. An updated schedule will be required at each of the regularly scheduled progress meetings.
    c. Contractor shall be advised of the following requirements:
        i. Record drawings shall be provided in accordance with the Contract Specifications.

ii. RFI and Shop Logs shall be maintained. Shop drawings shall have a letter of transmittal.

iii. Progress meeting minutes will be developed by the Contractor.

iv. Method of payment – 15th of the month review pay requisitions, final requisition prior to last day of each month.

d. Access to the maintenance yard from the Maine Turnpike is not permitted.

e. All vehicles used on the Project, including concrete delivery trucks, shall be equipped with amber flashing beacons in accordance with Supplemental Specification 652.3.4.

f. Class III safety vests must be worn at all times.

g. The maintenance yard and all its facilities will remain operational during the project. Operations that may impede MTA operations shall be submitted for approval at least 14 days in advance of the work.

13. Specific Contract Items:

a. Earthworks Note 7 (Sheet 2 of 35): Dewatering costs, if required, will not be paid for separately but are incidental to the contract. Free water was not observed in the test pits or borings completed for the project. Refer to the project geotechnical report for additional information.

b. Earthworks Note 9 (Sheet 2 of 35): Materials excavated from on site meeting the requirements of granular borrow or granular borrow-underwater backfill shall be reused on site. Each required handling, as determined by the Resident, shall be measured for payment as common excavation.

c. Earthworks Note 10 (Sheet 2 of 35): Excavation limits shall be to the elevations shown on the plans and shall remove surficial organics. Excavation limits shall be approved prior to backfilling.

d. Earthworks Note 12 (Sheet 2 of 35): The MTA owns a stockpile of approximately 300 cubic yards of common fill at the Litchfield Maintenance Yard. This material may be used for construction of the earthen berm to the northwest of the proposed 8-Bay garage.

e. The water treatment system on site was destroyed by fire. A temporary treatment system is installed in a shed south of the old garage. The contractor shall relocate this equipment to the proposed 8-bay garage and re-establishing water service connections as shown on the plans. Sheet PP101 (sheet 27 of 35) provides a diagram of the temporary shed including list of equipment.

f. The contractor may use part of the maintenance yard for material storage as shown on sheet C-101.

g. SP 202, Removing Existing Structures: Includes removal of the old garage foundation, existing fuel tank slab and generator building. Includes termination of utilities and removal of wiring to source.

h. SP 203, Excavation and Embankment: A quantity of contaminated soil and groundwater have been included in the event that contamination is discovered during excavation. Borings and test pits in proximity to the proposed building foundation did not detect the presence of contaminated soil.

i. SP 602, Pipe Lining: Flowable concrete fill or gravel fill will be allowed to backfill the existing 3,000 gallon tanks. Refer to specifications for respective requirements.

j. SP 800, Litchfield Vehicle Storage Garage: Includes all work within the building footprint. All earthwork required for the project, inclusive of earthwork located within the building footprint, including excavation, the placement and compaction of Granular Borrow, Structural Fill, and Crushed Stone, will be measured for payment separately under the respective pay items.

14. Questions

Contract 2022.08
Litchfield 8-Bay Garage Replacement
Mile 92.7

HNTB

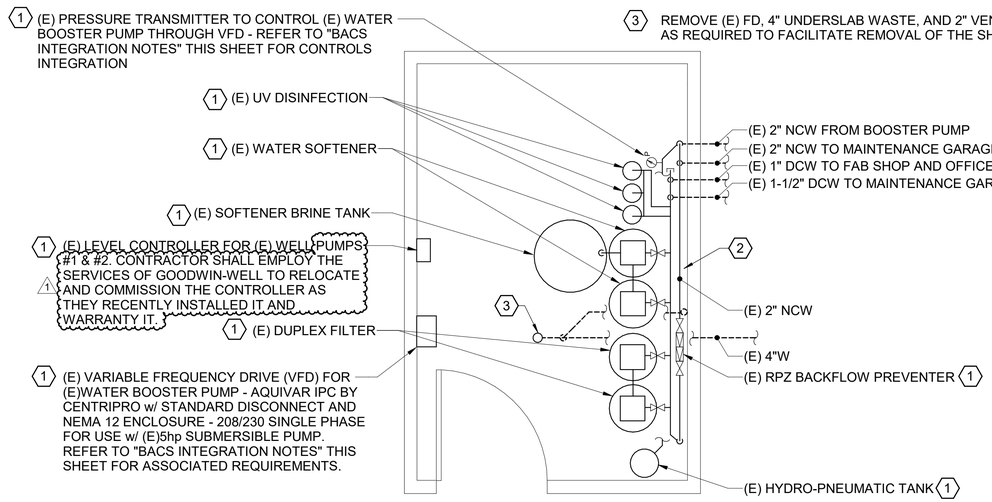
SIGN-IN SHEET **PRE-BID MEETING** **March 15, 2022**
Please Print

Name	Company and/or Address	Phone	E-Mail
Tim Cote	HNTB	228-0880	tcote@hntb.com
Paul McKechnie	HNTB	228-0913	pmckechnie@hntb.com
Anthony Davis	Allied Engineering	221-2260	adavis@allied-eng.com
Mike Hays	Grant Hays Associates	871-5900	mike@GRANTHAYS.COM
Brian Taddeo	MTA	482-8297	BTaddeo@maineturnpike.com
Jamie Mason	MTA	482-8172	JMason@maineturnpike.com
Shawn Laverdiere	MTA	240-7686	SLaverdiere@maineturnpike.com
Scott Warchol	MTA	482-8121	SWarchol@maineturnpike.com
Nate Carll	MTA	482-8115	NCarll@maineturnpike.com
Martin Brown	Doten's Construction	233-3908	martin@dotens.com
Michael Rocko	Larkin Enterprises, Inc.	713-6977	mrocko@larkinent.com
Jackson Swann	Sheridan Construction	453-9311	sales@sheridancorp.com

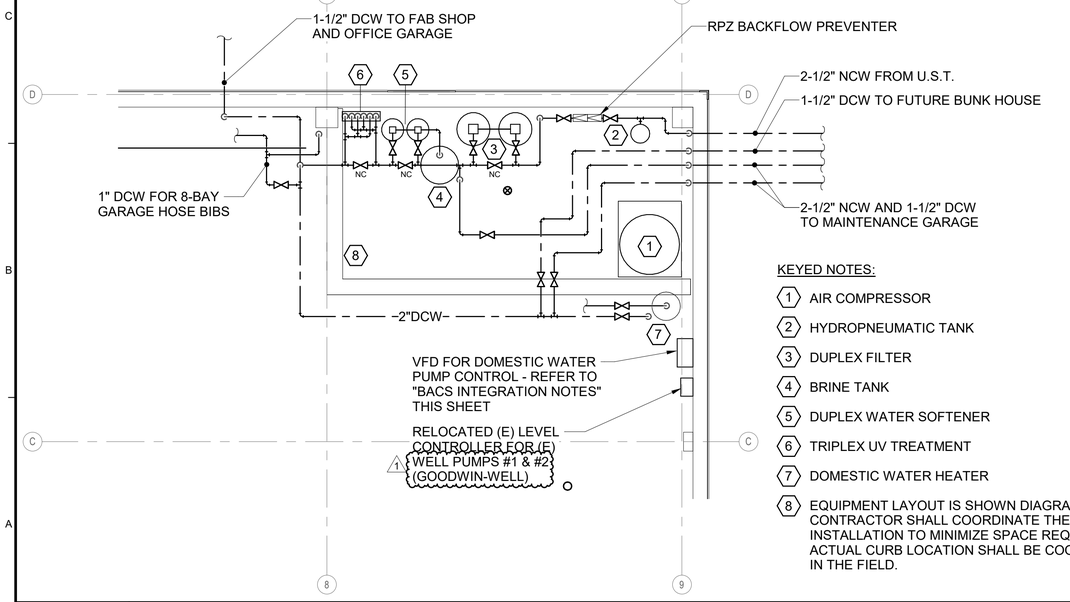
Page ___ of ___

KEYED NOTES:

1. RELOCATE (E) EQUIPMENT FROM THE TREATMENT SHED TO THE NEW 8-BAY GARAGE.
2. EXISTING EQUIPMENT LAYOUT IS SHOWN DIAGRAMATICALLY, VERIFY ACTUAL LAYOUT IN FIELD.
3. REMOVE (E) FD, 4" UNDERSLAB WASTE, AND 2" VENT PIPING AS REQUIRED TO FACILITATE REMOVAL OF THE SHED.



C1	EXISTING WATER TREATMENT SHED
NONE	



KEYED NOTES:

1. AIR COMPRESSOR
2. HYDROPNEUMATIC TANK
3. DUPLEX FILTER
4. BRINE TANK
5. DUPLEX WATER SOFTENER
6. TRIPLEX UV TREATMENT
7. DOMESTIC WATER HEATER
8. EQUIPMENT LAYOUT IS SHOWN DIAGRAMATICALLY. CONTRACTOR SHALL COORDINATE THE INSTALLATION TO MINIMIZE SPACE REQUIREMENTS. ACTUAL CURB LOCATION SHALL BE COORDINATED IN THE FIELD.

A1	WATER TREATMENT PART PLAN
1/4" = 1'-0"	

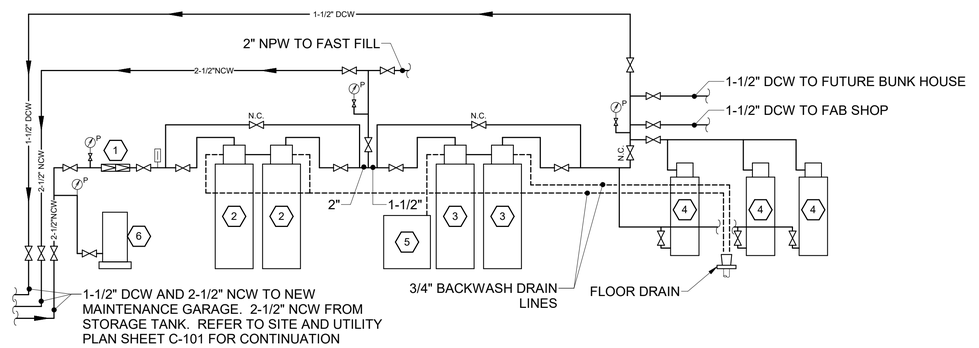
BACS INTEGRATION REQUIREMENTS

1. THE PROJECT SCOPE SHALL INCLUDE RESTORATION OF THE EXISTING BUILDING AUTOMATION CONTROL SYSTEM (BACS) INTERFACE FOR WATER PUMPING AND TREATMENT SYSTEM. REFER TO SPECIFICATION SECTIONS 230900 AND 230993. THE BACS WORK SHALL BE FURNISHED AND INSTALLED BY XL AUTOMATION SOLUTIONS - DAVID TANNER.
2. RESTORATION SCOPE SHALL INCLUDE VARIABLE SPEED CONTROL FOR THE EXISTING BOOSTER PUMPS FROM THE RELOCATED VFD IN THE NEW 8-BAY AND RESTORATION FOR MONITORING THE WATER SOFTENER SYSTEM - RELOCATED FROM THE TEMPORARY SHED TO THE NEW 8-BAY.
3. THE PROJECT SCOPE SHALL ADD LOW WATER LEVEL ALARM FOR THE EXISTING WATER TANK, BOTH THROUGH THE EXISTING BACS CONTROL FRONT END AT THE MAINTENANCE GARAGE AND VIA VISUAL ALARM AT THE MAINTENANCE GARAGE. THE ALARM SYSTEM SHALL INCLUDE AN ULTRASONIC LEVEL SENSOR BY FLOWLINE, MODEL UG03-0001-40 MOUNTED IN THE TANK UNDER THE SCOPE OF THIS PROJECT PER MANUFACTURER'S REQUIREMENTS.
4. THE PROJECT SCOPE SHALL RESTORE CONTROLS FOR WELL PUMPS #1 AND #2 FROM THE RELOCATED CONTROLLER IN THE NEW 8-BAY. BOTH PUMPS SHALL OPERATE IN CONJUNCTION TO MAINTAIN WATER LEVEL IN EXISTING WATER STORAGE TANK. (1)
5. COORDINATE WITH ELECTRICAL SITE PLAN ES-100 FOR REQUIRED UNDERGROUND CONDUIT INSTALLATIONS AT THE SITE.

E5	BACS INTEGRATION NOTES
NONE	

KEYED NOTES:

1. DOUBLE CHECK BACKFLOW PREVENTER.
2. HIGH EFFICIENCY DUPLEX DEPTH FILTER EQUAL TO CULLIGAN CTM-DF21 PROGRESSIVE FLOW FILTER W/SMART METER AND BYPASS KIT - 48 GPM @ 5psig DROP.
3. TWIN WATER SOFTENER SYSTEM EQUAL TO CULLIGAN CTM-60 TWIN WATER SOFTENER KIT W/SMART METER AND BYPASS KIT - 50 GPM @ 3psig DROP.
4. UV DISINFECTION SYSTEM EQUAL TO VIQUA MODEL VH410M, TRIPLEX, 54 GPM CAPACITY.
5. WATER SOFTENER SALT TANK.
6. (1)20gal. HYDROPNEUMATIC TANK (LOCATE IN (E)8 BAY BUILDING)



GENERAL NOTES:

1. COORDINATE w/ DIVISION 26 FOR POWER REQUIREMENTS ASSOCIATED WITH ALL COMPONENTS OF THE WATER TREATMENT SYSTEM.
2. ALL COMPONENTS OF THE WATER TREATMENT SYSTEM SHOWN HEREIN UNLESS OTHERWISE NOTED ARE CURRENTLY IN OPERATION AT THE SITE, LOCATED IN THE TEMPORARY WATER TREATMENT SHED (SEE SITE PLAN FOR LOCATION). UNDER THE SCOPE OF THIS PROJECT, THE CONTRACTOR SHALL RELOCATE THE OWNER FURNISHED EQUIPMENT FOR USE AND LOCATION IN THE NEW 8-BAY GARAGE AS DETAILED. THE CONTRACTOR SHALL STRICTLY SCHEDULE THE WORK WITH MTA AND SHALL PHASE THE WORK IN A MANNER WHICH MINIMIZES DOWNTIME OF THE SYSTEM TO THE EXTENT POSSIBLE. REFER TO EXISTING WATER TREATMENT SHED PLAN - THIS SHEET.
3. BASIS OF DESIGN FOR TREATMENT SYSTEM IS CULLIGAN COMMERCIAL REPRESENTED BY WATER TREATMENT, INC (WTE, INC), YARMOUTH, MAINE. IN THE EVENT THAT EXISTING EQUIPMENT IS DISCOVERED TO VARY FROM THAT DETAILED HEREIN, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY MTA AND HNTB TO DOCUMENT AND CLARIFY THE DISCREPANCY.

A5	DETAIL - DOMESTIC WATER ENTRANCE PIPING
NONE	

Scale:

As indicated

No.	Revision	By	Date
1	ADDENDUM #1	CRG	03/18/2022

Designed by:

Anthony S. Davis, P.E.

ISSUED FOR BID

STATE OF MAINE — ANTHONY S. DAVIS No. 8834 — LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	ASD	03/01/2022	Checked:	ASD	03/01/2022
Drawn:	CRG	03/01/2022			

Allied Engineering
Structural Mechanical Electrical Plumbing
160 Veranda Street
Portland, Maine 04103
P: 207.221.2260
F: 207.221.2266
Web:www.allied-eng.com

AEI PROJ.NO.: 21116 | CAD FILE: 20019S_R20.rvt

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

LITCHFIELD 8-BAY GARAGE REPLACEMENT

WATER TREATMENT PIPING PLAN

SHEET NUMBER: PP101

CONTRACT: 2022.08

LOUVER SCHEDULE

TAG	MAKE - MODEL	AIR SYSTEM	DUTY	CFM	DIMENSIONS						BEGINNING POINT OF WATER PENETRATI...	MAX P.D. MAX W.C.	SCREEN	NOTES
					HEIGHT (IN.)	WIDTH (IN.)	MIN. FREE AREA (SF)	NET VELOCITY (FT/MIN)	% FREE AREA	BLADE DEPTH				
L-1	RUSKIN ELF445DX	EF-1	INTAKE	13,500	72	96	26	519.2	54.2%	4"	873 FPM	0.06	SEE SPEC	

FAN SCHEDULE

TAG	SERVES	MANUFACTURER-MODEL	TYPE	DRIVE	CFM	ESP	MOTOR HP	VOLTS/ PH	VFD	MAX SONES	DAMPER	WEIGHT (LBS.)	NOTES
EF-1	GARAGE EXHAUST	LOREN COOK - 36XMWH	WALL MOUNT w/HOOD	DIRECT	13,500	0.6	3	230/3	YES	30.0	MOD	500	1, 3, 4, 5
DF-1 thru 4	DESTRATIFICATION	ZOO FANS H60 PREMIUM	DESTRAT. FAN	DIRECT	1,500	--	106w	115/1	NO	--	N/A	23	2

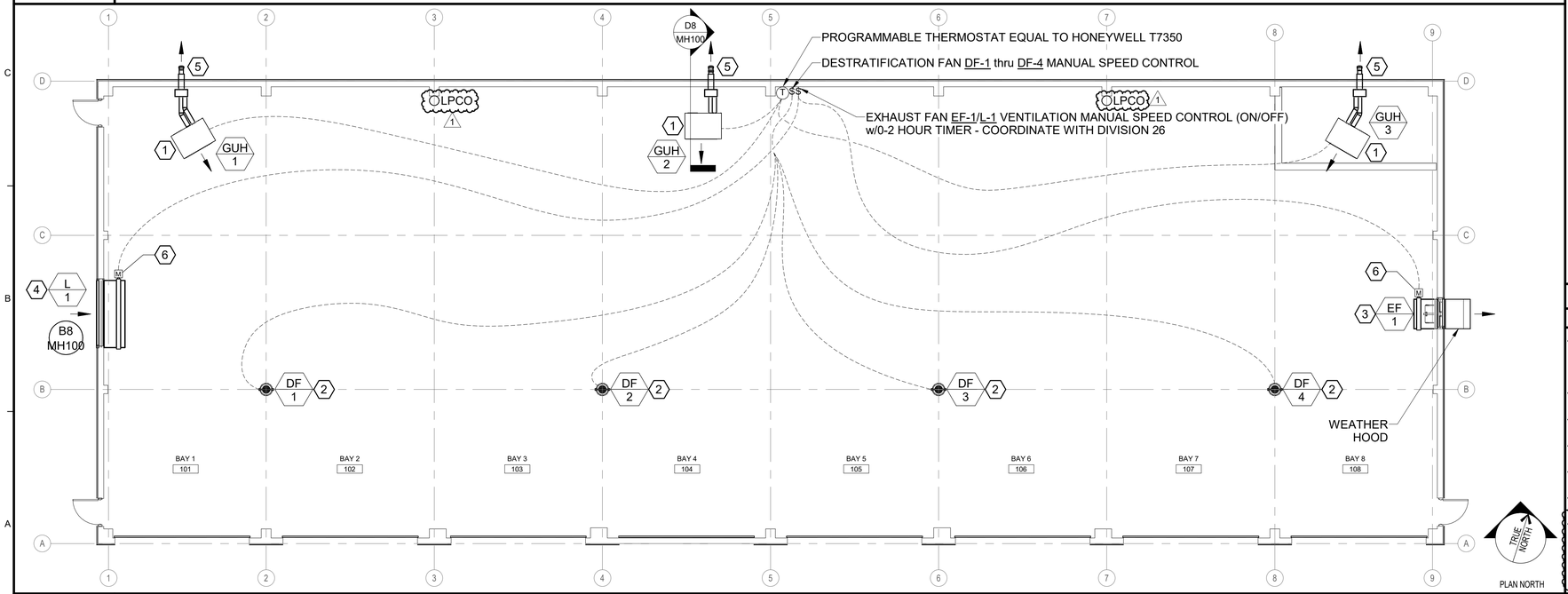
NOTES:
1. PROVIDE UNIT MOUNTED FACTORY DISCONNECT SWITCH.
2. PROVIDE WALL MOUNTED VARIABLE SPEED CONTROLLER
3. INTERLOCK WITH LOUVER AND EF MOD'S
4. PROVIDE WALL MOUNTED TIMER SWITCH AS MANUFACTURED BY INTERMATIC, MODEL FF2H OR EQUAL. COORDINATE WITH DIVISION 26 FOR OPERATION AS SPECIFIED.
5. PROVIDE WALL MOUNTED VARIABLE SPEED DRIVE EQUAL TO INVERTEK E3 SERIES, 230 SINGLE PHASE INPUT AND 230 THREE PHASE OUTPUT.

LP GAS FIRED SEALED COMBUSTION UNIT HEATER SCHEDULE

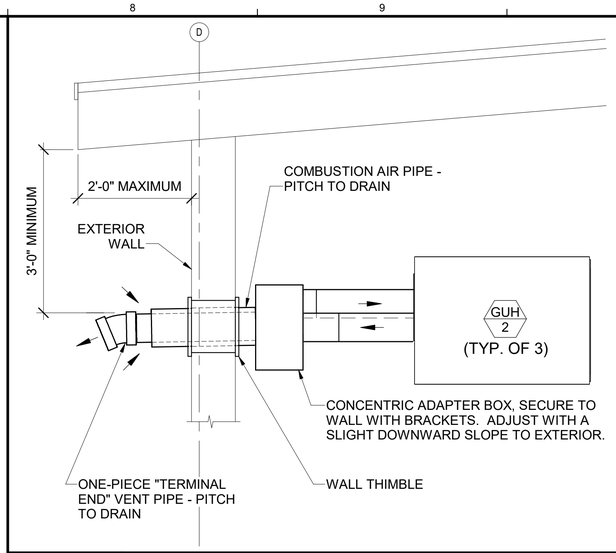
TAG	SERVES	MFR. -MODEL	SIZE	TYPE	EXPOSED FACE DIM.	DEPTH DIM.	WEIGHT LBs	INPUT MBH	OUPUT MBH	DISCHARGE TEMP RISE	GAS PRESSURE RANGE (MIN-MAX)	GAS CONN. SIZE	CFM	VENT CONN.	COMB. AIR	MOTOR HP	MOP (AMPS)	ELECT	NOTES
GUH - 1	GARAGE	REZNOR - UDZ	300	LP GAS FIRED SEPARATED COMBUSTION	41" x 34"	48"	331	300	249	50-60F	7" -14"	3/4"	3840	6"	6"	1/2	20	115/1/60	1,2
GUH - 2	GARAGE	REZNOR - UDZ	300	LP GAS FIRED SEPARATED COMBUSTION	41" x 34"	48"	331	300	249	50-60F	7" -14"	3/4"	3840	6"	6"	1/2	20	115/1/60	1,2
GUH - 3	GARAGE	REZNOR - UDZ	300	LP GAS FIRED SEPARATED COMBUSTION	41" x 34"	48"	331	300	249	50-60F	7" -14"	3/4"	3840	6"	6"	1/2	20	115/1/60	1,2

NOTES: 1. Standard Built-in (20A) Disconnect Switch
2. Concentric Venting

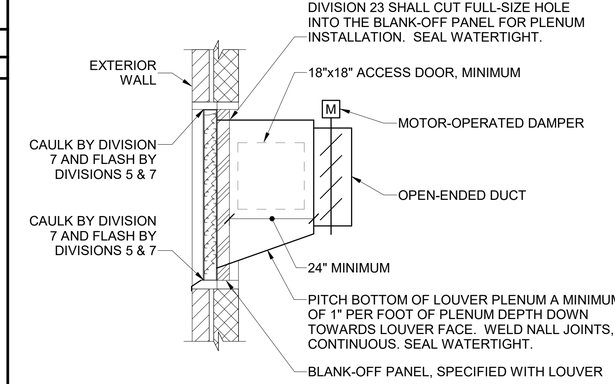
D1	MECHANICAL SCHEDULES
NONE	



A1	MECHANICAL PLAN
1/8" = 1'-0"	



D8	DETAIL - GAS FIRED UNIT HEATER CONCENTRIC VENTING
NOT TO SCALE	TYPICAL FOR ALL



B8	DETAIL - EXTERIOR LOUVER
NOT TO SCALE	

1. MOUNT UNIT HIGH AS POSSIBLE, TIGHT TO ROOF STRUCTURE, MAINTAINING MANUFACTURER'S MINIMUM RECOMMENDED CLEARANCES - APPROXIMATELY 13'-0" ABOVE FINISHED FLOOR.
2. BOTTOM OF FAN = 14'-0" ABOVE FINISHED FLOOR.
3. BOTTOM OF FAN = 8'-0" ABOVE FINISHED FLOOR.
4. BOTTOM OF LOUVER = 6'-0" ABOVE FINISHED FLOOR.
5. CONCENTRIC 6" EXHAUST VENT / 8" OUTSIDE AIR VENT THRU EXTERIOR WALL.
6. LINE VOLTAGE MOD (110V) - COORDINATE WITH DIVISION 26. 1
7. LP GAS AND CARBON MONOXIDE DETECTOR EQUAL TO MINI MERLIN LPGCO OR EQUAL, 120 V AC, 90 mA MAX, 500-10,000 PPM MEASURING RANGE FOR LP GAS, 0-1,000 PPM FOR CO. GAS VALUE PRE-ALARM => 8% LEL FOR LP GAS, 20 PPM FOR CO. GAS VALUE ALARM => 10% LEL FOR LP GAS, 20 PPM AFTER 2 HRS / 50 PPM AFTER 1 HR / 100 PPM AFTER 10 MIN / 300 PPM AFTER 1 MIN FOR CO.

A8	KEYED NOTES
NONE	

Scale: As indicated

No.	Revision	By	Date
1	ADDENDUM #1	CRG	03/18/2022

Designed by: Anthony S. Davis, P.E.
ISSUED FOR BID

STATE OF MAINE — ANTHONY S. DAVIS No. 8834 — LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	ASD	03/01/2022	Checked:	ASD	03/01/2022
Drawn:	CRG	03/01/2022			

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Web:www.allied-eng.com

AEI PROJ.NO.: 21116 | CAD FILE: 20019S_R20.rvt

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

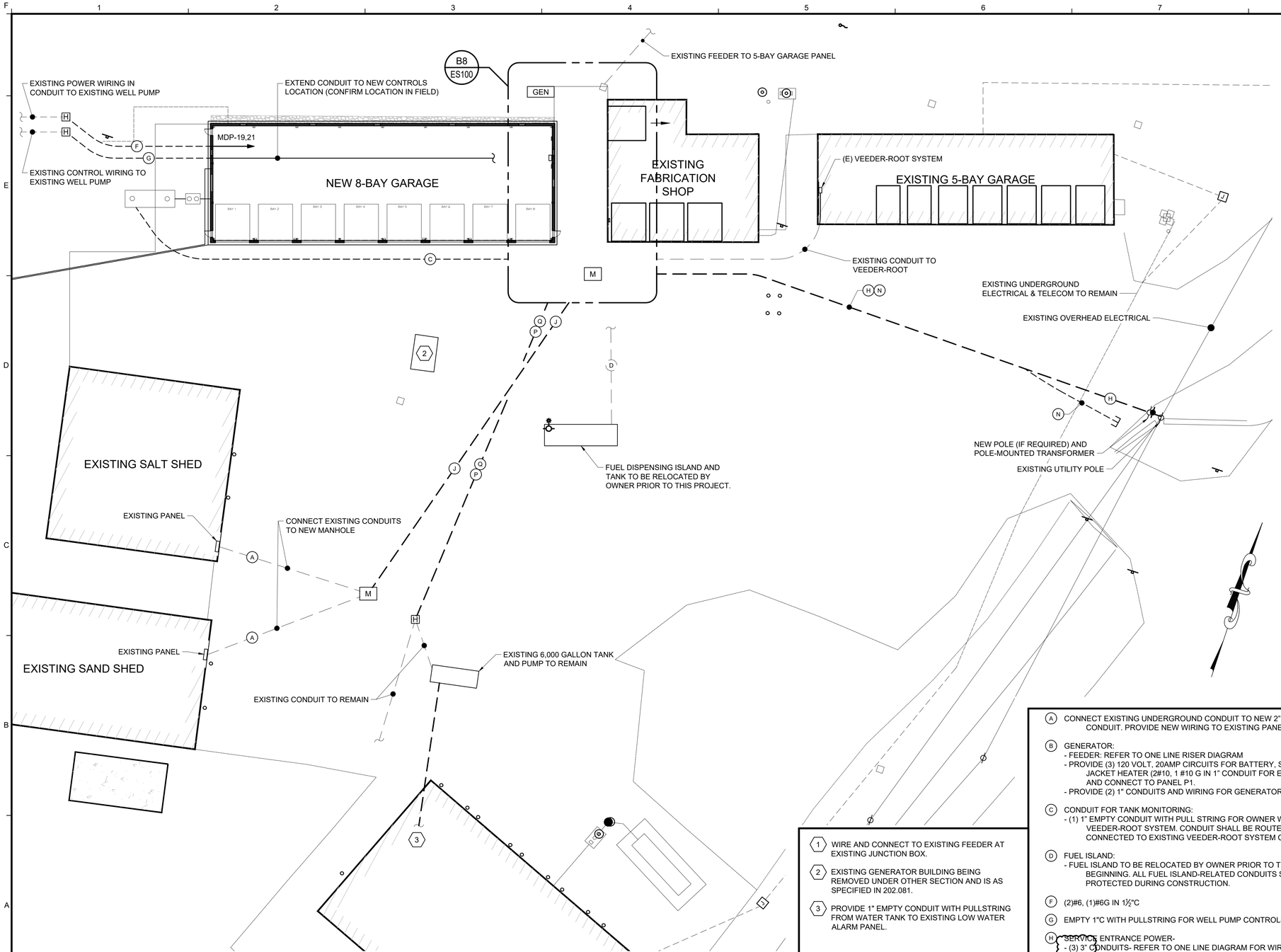
LITCHFIELD 8-BAY GARAGE REPLACEMENT

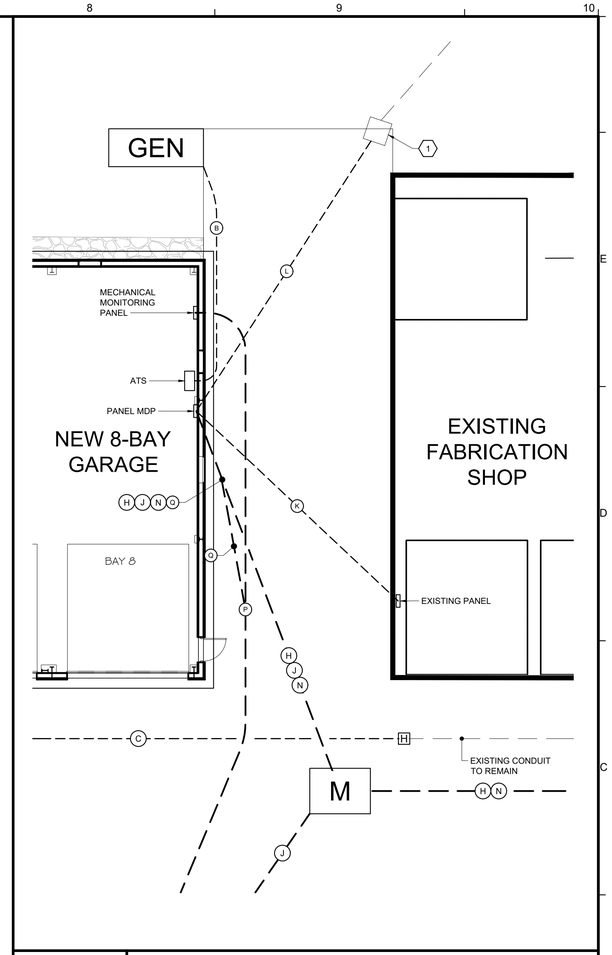
MECHANICAL PLAN

SHEET NUMBER: MH100

CONTRACT: 2022.08

28 OF 35





B8	DETAIL
SCALE: 1"=10'	

1. WIRE AND CONNECT TO EXISTING FEEDER AT EXISTING JUNCTION BOX.
2. EXISTING GENERATOR BUILDING BEING REMOVED UNDER OTHER SECTION AND IS AS SPECIFIED IN 202.081.
3. PROVIDE 1" EMPTY CONDUIT WITH PULLSTRING FROM WATER TANK TO EXISTING LOW WATER ALARM PANEL.

A1	ELECTRICAL SITE PLAN	C9		KEYNOTES	A9	CONDUIT KEY
SCALE: 1"=25'						

(A) CONNECT EXISTING UNDERGROUND CONDUIT TO NEW 2" UNDERGROUND CONDUIT. PROVIDE NEW WIRING TO EXISTING PANEL.

(B) GENERATOR:
- FEEDER: REFER TO ONE LINE RISER DIAGRAM
- PROVIDE (3) 120 VOLT, 20AMP CIRCUITS FOR BATTERY, STRIP HEATER AND JACKET HEATER (2#10, 1 #10 G IN 1" CONDUIT FOR EACH CIRCUIT. WIRE AND CONNECT TO PANEL P1.
- PROVIDE (2) 1" CONDUITS AND WIRING FOR GENERATOR CONTROLS.

(C) CONDUIT FOR TANK MONITORING:
- (1) 1" EMPTY CONDUIT WITH PULL STRING FOR OWNER WIRING TO VEEDER-ROOT SYSTEM. CONDUIT SHALL BE ROUTED FROM TANK AND CONNECTED TO EXISTING VEEDER-ROOT SYSTEM CONDUIT AS SHOWN.

(D) FUEL ISLAND:
- FUEL ISLAND TO BE RELOCATED BY OWNER PRIOR TO THIS PROJECT BEGINNING. ALL FUEL ISLAND-RELATED CONDUITS SHALL REMAIN AND BE PROTECTED DURING CONSTRUCTION.

(F) (2)#6, (1)#6G IN 1½"C

(G) EMPTY 1"C WITH PULLSTRING FOR WELL PUMP CONTROLS- WIRING BY OTHERS

(H) SERVICE ENTRANCE POWER-
- (3) 3" CONDUITS- REFER TO ONE LINE DIAGRAM FOR WIRING.

(J) SAND SHED AND SALT SHED FEEDER-
- (2) 1-1/2" CONDUITS- REFER TO ONE LINE DIAGRAM FOR WIRING.

(K) FABRICATION SHOP FEEDER-
- (1) 2" CONDUIT- REFER TO ONE LINE DIAGRAM FOR WIRING.

(L) 5 BAY GARAGE FEEDER-
- (1) 2" CONDUIT- REFER TO ONE LINE DIAGRAM FOR WIRING. CONNECT TO EXISTING FEEDER AS INDICATED.

(N) SPARE CONDUITS TO FUTURE BUNKHOUSE-
- (2) EMPTY 2" CONDUIT WITH PULL STRING.

(P) PUMP CONTROLS/ALARMS-
- (2) EMPTY 1" CONDUITS WITH PULL STRING. WIRING BY OTHERS.

(Q) PUMP POWER-
- (1) 1"C WITH (2)#6+(1)#10G

Scale: AS NOTED

No.	Revision	By	Date
1	ADDENDUM #1	PMC	03/18/2022

Designed by: Catherine Faucher, P.E.

ISSUED FOR BID

STATE OF MAINE — CATHERINE A. FAUCHER No. 7575 — LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	CAF	03/01/2022	Checked:	CAF	03/01/2022
Drawn:	REW	03/01/2022			

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AEI PROJ.NO.: 21116 | CAD FILE:21116_ES.dwg

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

LITCHFIELD 8-BAY GARAGE REPLACEMENT

ELECTRICAL SITE PLAN

SHEET NUMBER: ES100

CONTRACT: 2022.08

31 OF 35

Lighting and Appliance Panelboard: P1

Location: BAY 8 108 | **Volts:** 120/240 Single | **A.I.C. Rating:** 42kA
Supply From: MDP | **Phases:** 1 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 3 | **Bus Rating:** 100 A
MCB Rating:

CKT	Circuit Description	Trip Amps	Poles	A (kVA)		B (kVA)		Poles	Trip Amps	Circuit Description	CKT
1	Lighting, Switch a	20	1	0.7	0.7			1	20	CORD REELS BAYS 1-2	2
3	Lighting, Switch b	20	1			0.8	0.7	1	20	CORD REELS BAYS 3-4	4
5	Lighting, Switch c	20	1	0.7	0.7			1	20	CORD REELS BAYS 5-6	6
7	EXTERIOR BUILDING LIGHTING	20	1			0.1	0.7	1	20	CORD REELS BAYS 7-8	8
9	EXTERIOR BUILDING LIGHTING	20	1	0.5	0.5			1	20	GENERATOR BATTERY CHARGER	10
11	GENERATOR START	20	1			0.5	1.4	1	20	GEN JACKET WH AND STRIP HEATER	12
13	Receptacles	20	1	0.9	0.9			1	20	Receptacles	14
15	Receptacles	20	1			0.9	1.1	1	20	Receptacles	16
17	Receptacles	20	1	1.1	1.1			1	20	Receptacles	18
19	DOOR POWER	20	1			0	0.5	1	20	HVAC CONTROL PANELS	20
21	SPARE	20	1	0	0.2			1	20	HVAC - LP GAS DETECTOR	22
23	SPARE	20	1			0	0	1	20	SPARE	24
25	SPARE	20	1	0	0			1	20	SPARE	26
27	Receptacle	20	1			0.4	0	1	20	SPARE	28
29	SPARE	20	1	0	0			1	20	SPARE	30
			Total Load:	6.9 kVA		6.4 kVA					
			Total Amp:	57 A		53 A					

1

Notes:

Lighting and Appliance Panelboard: MDP

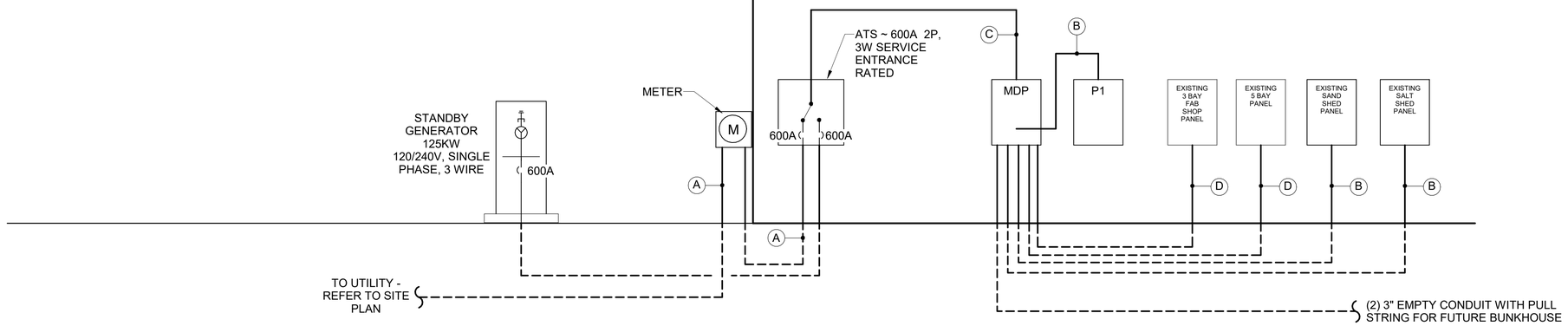
Location: BAY 8 108 | **Volts:** 120/240 Single | **A.I.C. Rating:** 42kA
Supply From: | **Phases:** 1 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 3 | **Bus Rating:** 600 A
MCB Rating: 600A

CKT	Circuit Description	Trip Amps	Poles	A (kVA)		B (kVA)		Poles	Trip Amps	Circuit Description	CKT
1	DOOR OPERATOR BAY 1	20	1	1.4	1.4			1	20	DOOR OPERATOR BAY 2	2
3	DOOR OPERATOR BAY 3	20	1			1.4	1.4	1	20	DOOR OPERATOR BAY 4	4
5	DOOR OPERATOR BAY 5	20	1	1.4	1.4			1	20	DOOR OPERATOR BAY 6	6
7	DOOR OPERATOR BAY 7	20	1			1.4	1.4	1	20	DOOR OPERATOR BAY 8	8
9	DESTRAT FANS	15	1	0.5	1.2			1	20	GAS UNIT HEATER 1	10
11	HVAC CONTROL POWER	20	1			0.5	1.2	1	20	GAS UNIT HEATER 2	12
13	WATER HEATER	20	1	1.7	1.2			1	20	GAS UNIT HEATER 3	14
15	HVAC CONTROL POWER	20	1			0.5	0.2	1	20	HVAC - WF-1	16
17	HVAC - UV-1	20	1	0.2	0.2			1	20	HVAC - WS-1	18
19	EXISTING WELL PUMP	30	2			1.8	0.2	1	20	HVAC - LOUVER POWER L-1	20
21				1.8	0			1	20	SPARE	22
23	HVAC - VFD-1 WATER PUMP	40	2			2.4	0	1	20	SPARE	24
25				2.4	0			1	20	SPARE	26
27	HVAC - EF-1 EXHAUST FAN	35	2			2.2	4.8	2	80	AC-1 AIR COMPRESSOR	28
29				2.2	4.8						30
31	SPARE	100	2			0	0	2	100	SPARE	32
33				0	0						34
35	EXISTING 3 BAY FAB SHOP PANEL	200	2			0	0	2	225	EXISTING 5 BAY PANEL	36
37				0	0						38
39	P2 PANEL	100	2			6.9	0	2	100	SPARE (BUNKHOUSE)	40
41				6.4	0						42
			Total Load:	28.3 kVA		26.3 kVA					
			Total Amp:	235 A		220 A					

Notes:

FEEDER SCHEDULE

TAG	DESCRIPTION	CONDUCTORS (NOTE 1)	CONDUIT (NOTE...
Ⓐ	600 AMP FEEDER	2 SETS OF (3) #350KCMIL	(2) 3"
Ⓑ	100 AMP FEEDER	(3) #2, (1) #8 G	1 1/2"
Ⓒ	600 AMP FEEDER	2 SETS OF (3) #350KCMIL, (1) #1 G	(2) 3"
Ⓓ	225 AMP FEEDER	(3) 4/0, (1) #4 G	2"
	FEEDER SCHEDULE NOTES:		
	1. WIRING BASED ON COPPER THWN/THHN		
	2. CONDUIT SIZE BASED ON EMT		



A1	POWER RISER DIAGRAM
NONE	

Scale: 12" = 1'-0"

No.	Revision	By	Date
1	ADDENDUM #1	PMC	03/18/2022

Designed by: Catherine A. Faucher

ISSUED FOR BID

STATE OF MAINE · CATHERINE A. FAUCHER No. 7575 · LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	CAF	03/01/2022	Checked:	CAF	03/01/2022
Drawn:	PMC	03/01/2022			

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AEI PROJ.NO.: 21116 | CAD FILE: 20019S_R20.rvt

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

LITCHFIELD 8-BAY GARAGE REPLACEMENT

POWER RISER DIAGRAM

SHEET NUMBER: EP500

CONTRACT: 2022.08

35 OF 35

ELECTRICAL SCHEDULE OF MECHANICAL EQUIPMENT- REFER TO PANEL SCHEDULES FOR CIRCUITING

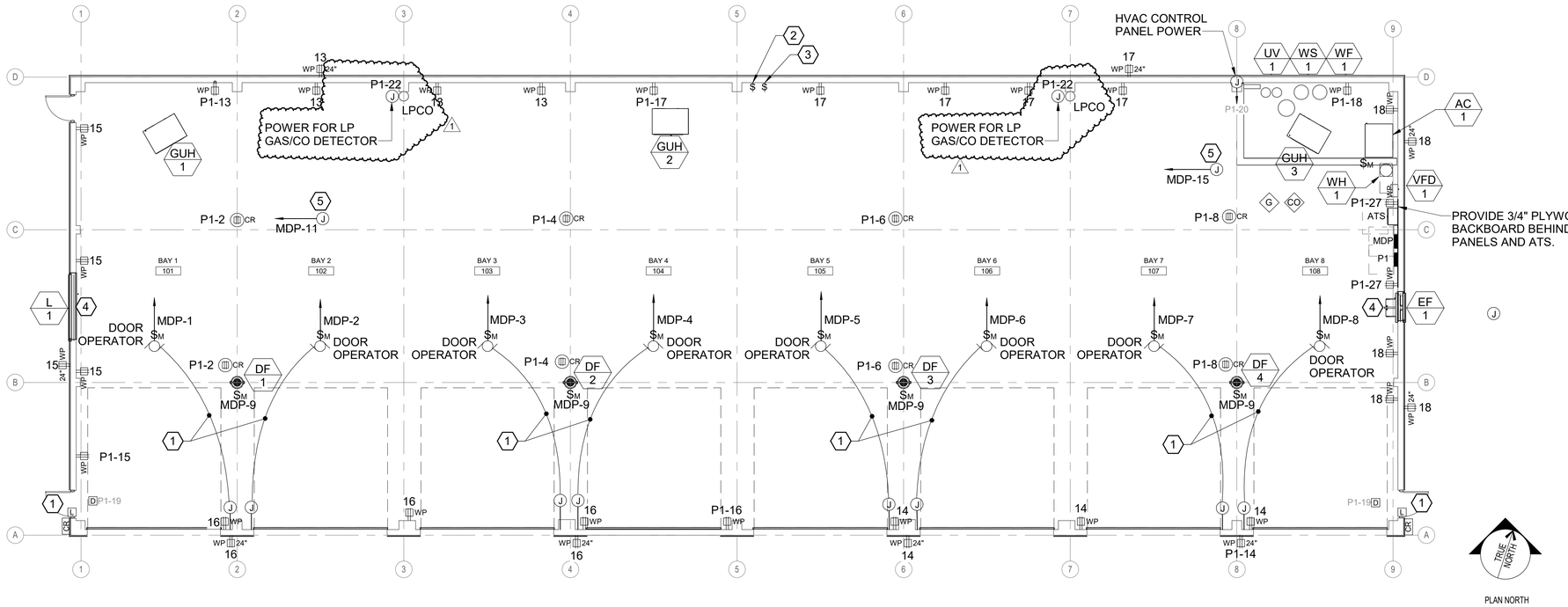
TAG	DESCRIPTION/ AREA SERVED	VOLTS	PH	LOAD	FLA	MCA	MOPD	DISCONNECT SWITCH					STARTER (NEMA)		CBD	WIRING IN CONDUIT (2 #12, 1#12 G UNO)	NOTES
								FRAME	POLES	FUSE	NEMA...	FBD	SIZE/...	FBD			
AC-1	AIR COMPRESSOR	240	1	7.5 HP	40	46	80	FWE				22		22	22	3 #4 , 1 #8G	
GUH-1	BLOWER HEATER	120	1	.5 hp	9.8		20	FWE				23		23	23	3 #12, 1 #12G	
GUH-2	BLOWER HEATER	120	1		9.8		20	FWE				23		23	23	3 #12, 1 #12G	
GUH-3	BLOWER HEATER	120	1		9.8		20	FWE				23		23	23	3 #12, 1 #12G	
DF-1,2,3,4	DESTRATIFICATION FANS	120	1	106W	1.0		15	MRT				26		23	23	3 #12, 1 #12G	
EF-1	EXHAUST FAN	240	1	3 HP	17.0		30	FWE				23		23	23	4#10, 1 #10G	1,2
WH-1	ELECTRIC WATER HEATER	120	1	1650W	14.0		20	MRT				23		23	23	3 #12, 1 #12G	
L-1	INTAKE LOUVER	120	1		2.0		20	-				23		23	23	3#12, 1 #12G	1
UV-1	ULTRAVIOLET WATER DISINFECTION	120	1	60W	0.5		20	FWE				23		23	23	3#12, 1 #12G	3
VFD-1	VFD FOR DOM. WATER PUMP CONTROL	240	1	4800W	20.0		40	FWE				23		23	23	3#8, 1 #10G	
WF-1	WATER FILTER SYSTEM	120	1		2.0		20	FWE				23		23	23	3#12, 1 #12G	3
WS-1	WATER SOFTNER SYSTEM	120	1		2.0		20	FWE				23		23	23	3#12, 1 #12G	3

NOTES:

1. LINE VOLTAGE CONTROL WIRING BY DIVISION 26, CONTROL DEVICES FURNISHED BY DIVISION 23. L-1/EF-1 SHALL BE INTERLOCKED. CONDUIT AND WIRING BETWEEN EXHAUST FAN, LOUVERS AND CONTROL DEVICES BY DIV 26.
2. VFD FURNISHED BY DIV 23 TO BE INSTALLED BY DIV 26
3. CORD AND PLUG FURNISHED WITH EQUIPMENT, PROVIDE NEMA 5-20 GFCI RECEPTACLE. COORDINATE EXACT LOCATION FOR RECEPTACLE IN FIELD.

ABBREVIATIONS:

FWE	FURNISHED WITH EQUIPMENT
NF	NOT FUSED
SWBD	SWITCHBOARD
FBD	FURNISHED BY DIVISION
CBD	CONTROL WIRING BY DIVISION
MRT	MOTOR RATED TOGGLE SWITCH (VOLTAGE, CURRENT RATING AND POLE QUANTITY AS REQUIRED)



KEYED NOTES:

1. PROVIDE EMPTY J-BOX 44" ABOVE FINISHED FLOOR AND 1-1/2" EMPTY CONDUIT FOR DOOR CONTROL WIRING AND CONTROLS BY OTHERS.
2. DESTRATIFICATION FAN DF-1 thru DF-4 MANUAL SPEED CONTROL-CONTROLS BY OTHERS
3. EXHAUST FAN EF-1/L-1 VENTILATION MANUAL CONTROL-CONTROLS BY OTHERS. CONDUIT AND WIRING BETWEEN EF-1/L-1 BY DIV. 26.
4. WIRE AND CONNECT MOTORIZED DAMPERS TO CIRCUIT MDP-20. COORDINATE CONTROL WITH DIV 23
5. PROVIDE 120 VOLT POWER FOR HVAC CONTROLS AT UNDERSIDE OF DECK. CONTROLS BY OTHERS.

A1	POWER AND SYSTEMS PLAN
1/8" = 1'-0"	

Scale: 1/8" = 1'-0"

No.	Revision	By	Date
1	ADDENDUM #1	PMC	03/18/2022

Designed by: Catherine A. Faucher

ISSUED FOR BID

STATE OF MAINE CATHERINE A. FAUCHER No. 7575 LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	CAF	03/01/2022	Checked:	CAF	03/01/2022
Drawn:	PMC	03/01/2022			

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

LITCHFIELD 8-BAY GARAGE REPLACEMENT

POWER AND SYSTEMS PLAN

SHEET NUMBER: EP100

CONTRACT: 2022.08

34 OF 35

STUD DIMENSIONS TYPICAL FROM EACH CORNER

6'-3" 8'-0" 8'-0" 4x6 STUDS 8'-0" OC (EXCEPT WHERE NOTED)

1'-7" 1'-4" 1'-4" 2x6 STUDS 16" OC (EXCEPT WHERE NOTED)

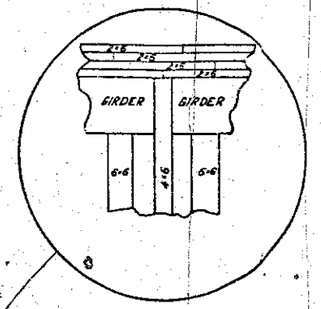
BRACING TYPICAL FROM EACH CORNER

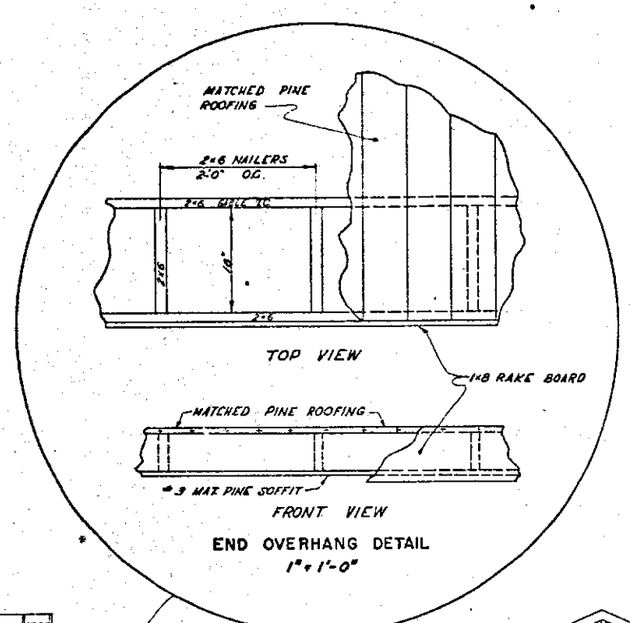
INSTALL FLASHING ABOVE ALL WINDOWS FOR 2 BAY GARAGES OMIT REAR WINDOW

2x6 BACKING FOR TANK HANGER

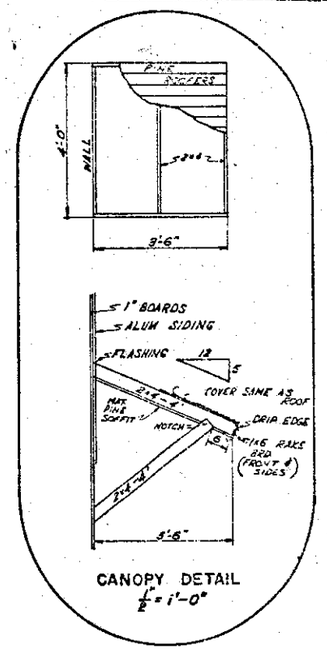
35'-3" TO ℄ OF WINDOW

REAR FRAMING
(VIEW FROM INSIDE)
$\frac{1}{4}$" = 1'-0"





END OVERHANG DETAIL
1" = 1'-0"



CANOPY DETAIL
$\frac{1}{2}$" = 1'-0"

1'-4" 2'-3" 2'-0" TYPICAL FROM EACH CORNER

TRUSSES 2'-0" OC. (EXCEPT WHERE NOTED)

VERTICAL X-BRACING - CONTINUOUS 1"x6"-18' SPRUCE

BUILT UP GIRDER

2x6 KNEE BRACE
6x6 DOOR STUD
4x6 STUDS
BLOCKING
2-2x6 SHOE

ROUGH OPENING FOR O.H. DOORS
14'-1" WIDE x 13'-0" HIGH

CANOPY SEE DETAIL

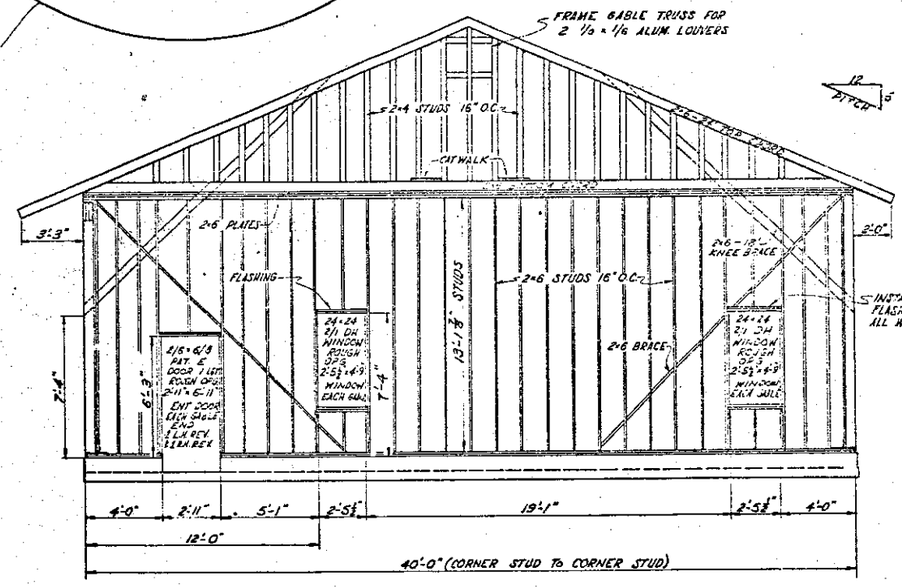
12'-0" 4" STUDS

TWO SECTIONS OF 6-LIGHTS PER DOOR

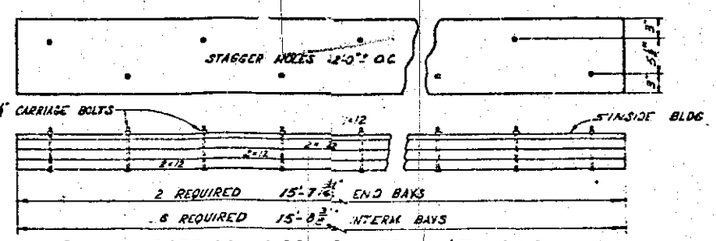
1'-4" 14'-1" 1'-11" 14'-1" 1'-11"
15'-3" 15'-0"

VARIABLE (SEE CHART SHEET 4 of 6)

FRONT FRAMING LAYOUT
$\frac{1}{4}$" = 1'-0"



END FRAMING LAYOUT
$\frac{1}{4}$" = 1'-0"



BUILT UP GIRDER

MAINE STATE HIGHWAY COMMISSION

FRAMING LAYOUT

SCALE : AS SHOWN	DATE : JUNE 1969
DRAWN BY :	SHEET No 1 OF 7 SHT

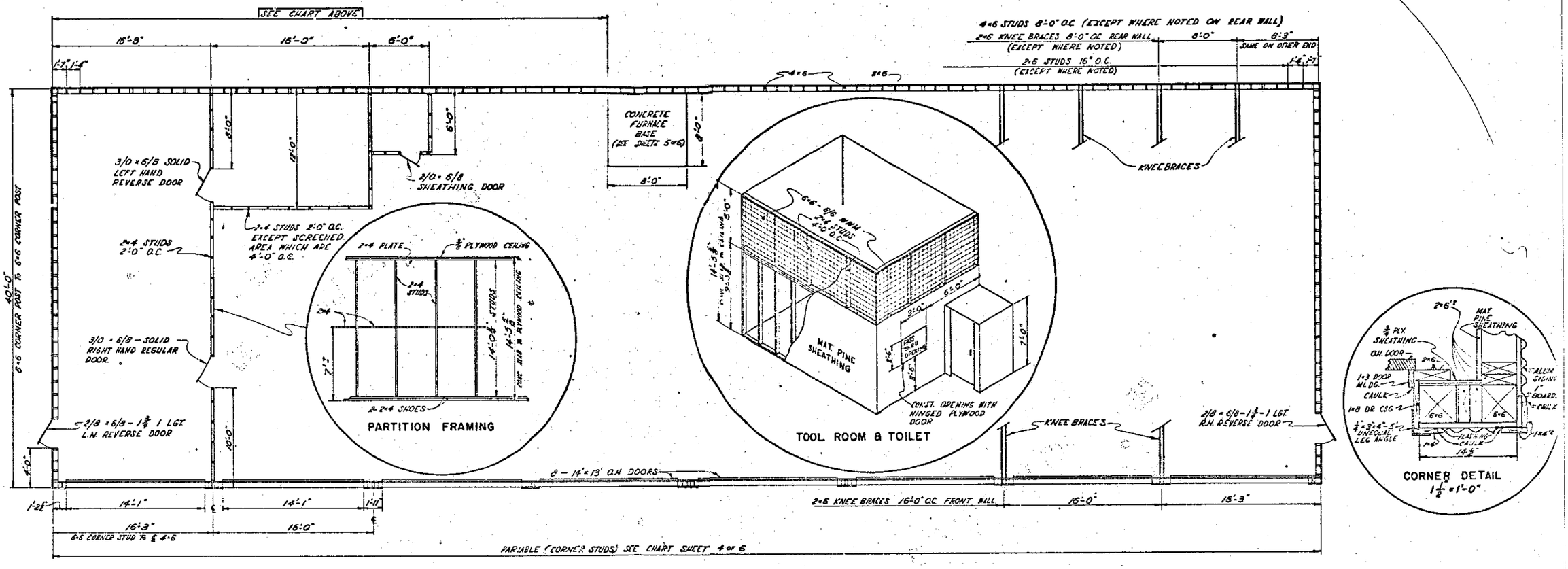
B. P. A. REG. NO	STATE	PROJECT NUMBER	SHEET NO	TOTAL SHEETS
1	MAINE			

NUMBER OF BAYS	2	4	5	6	7	8
DISTANCE FROM CORNER STUD	NOTE BELOW	40'-3"	40'-3"	56'-3"	56'-3"	56'-3"
	2 BAY GARAGES ARE COLD STORAGE					

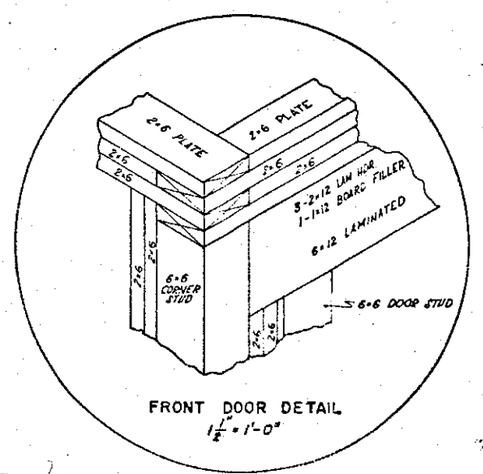
NOTE: TOILET AND FURANCE TO BE LOCATED AT THE DISCRETION OF THE BUILDER

OMIT THE FOLLOWING FOR 2 BAY GARAGES:

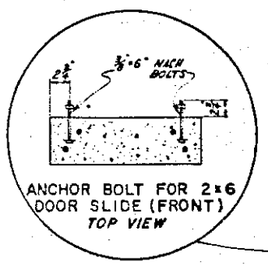
1. FIBERGLASS INSULATION WALLS & CEILING
2. INSIDE PARTITIONS, TOILET & FURNACE
3. FLOOR DRAINS
4. REAR WINDOW
5. NO SLOPING NECESSARY FOR CONCRETE FLOOR
6. ONE SIDE DOOR

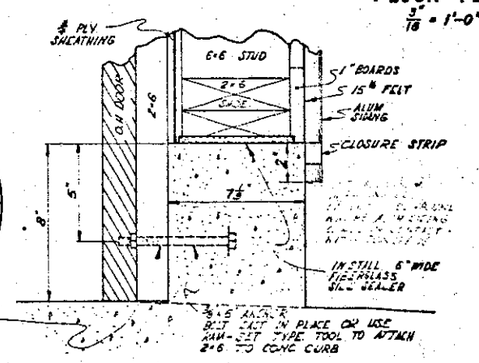


FLOOR PLAN
3/16" = 1'-0"

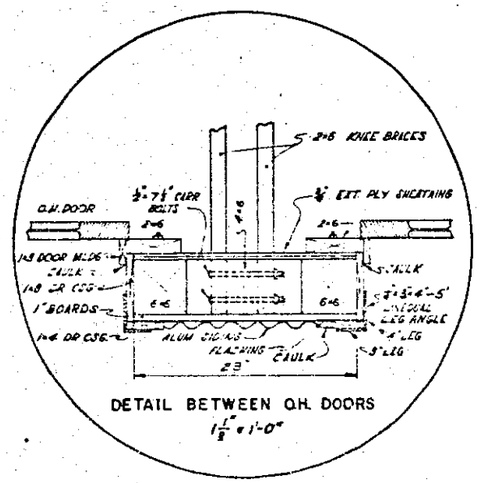


FRONT DOOR DETAIL
1 1/2" = 1'-0"





SIDE VIEW OF CONC. CURB BETWEEN OVERHEAR DOORS
3" = 1'-0"

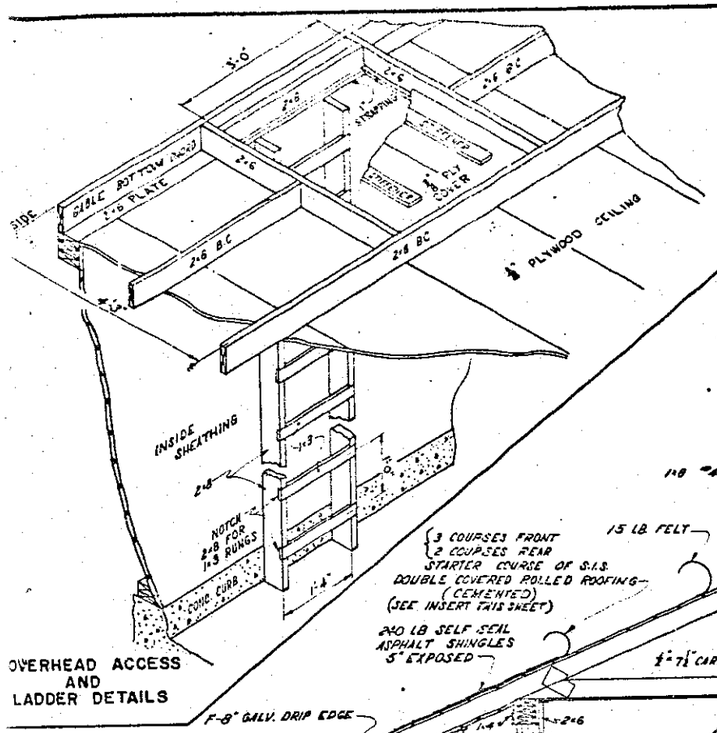


DETAIL BETWEEN O.H. DOORS
1 1/2" = 1'-0"

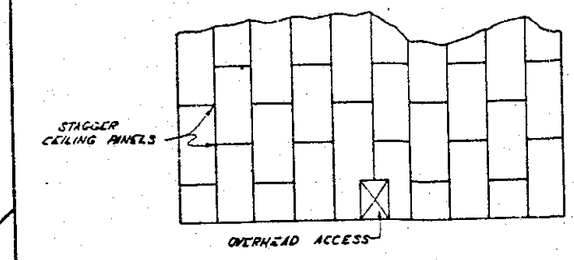
MAINE STATE HIGHWAY COMMISSION

FLOOR PLAN & FRONT CORNER POST DETAILS

SCALE AS SHOWN	DATE: JUNE 1969
DRAWN BY: [illegible]	SHEET No. 2 OF 7 SHEETS

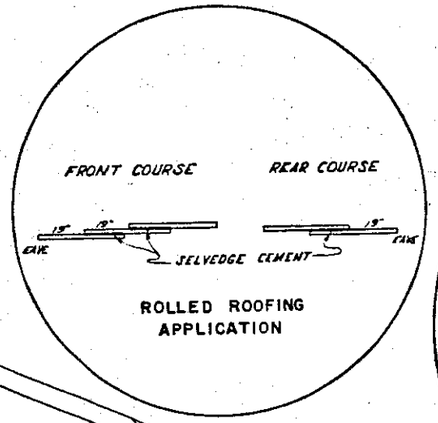


OVERHEAD ACCESS AND LADDER DETAILS

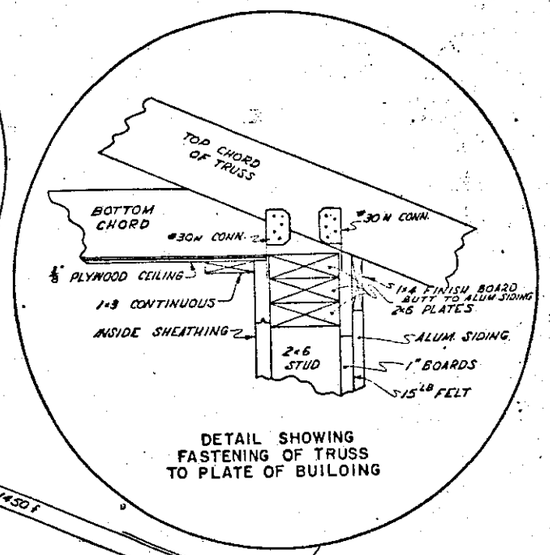


PLYWOOD CEILING

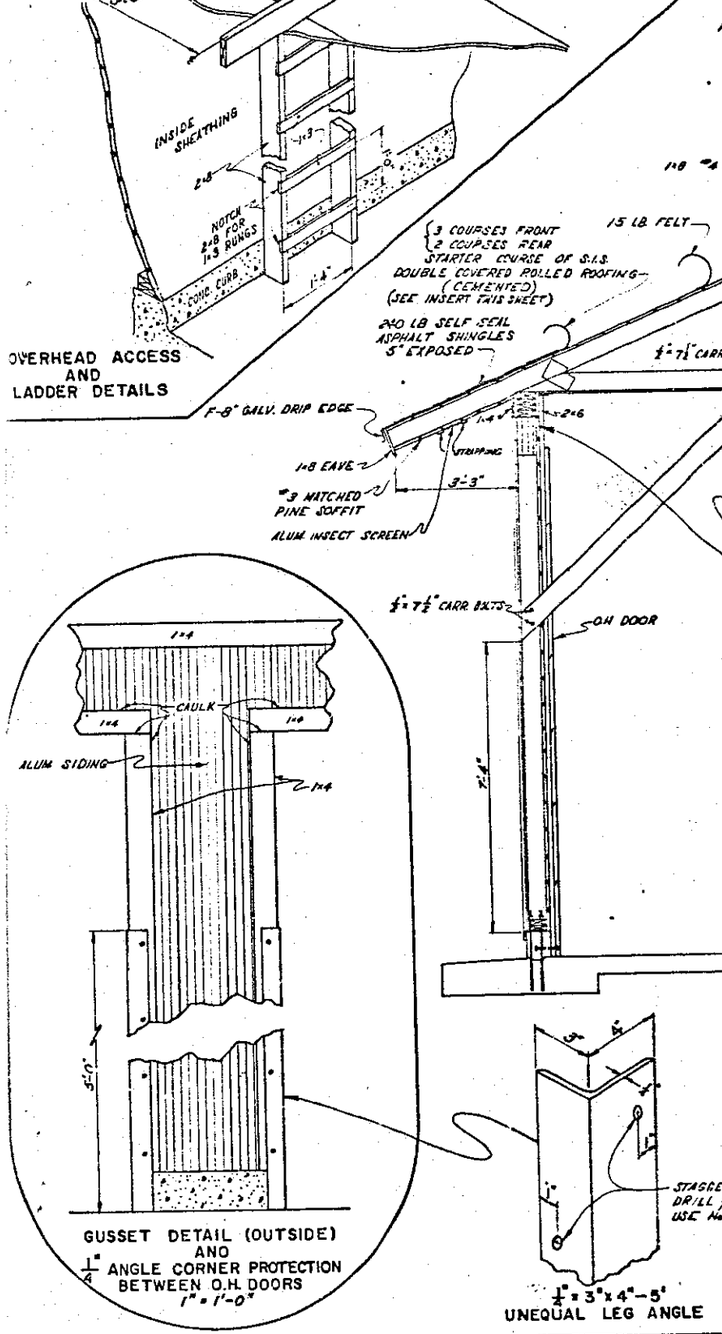
NOTE: USE 1¼" GALV. RFG. NAILS FOR STARTER COURSE AND RIDGE SHINGLING ONLY. USE 1" GALV. RFG. NAILS FOR REMAINDER OF ROOF SHINGLING.



ROLLED ROOFING APPLICATION

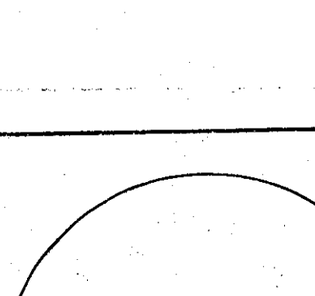


DETAIL SHOWING FASTENING OF TRUSS TO PLATE OF BUILOING



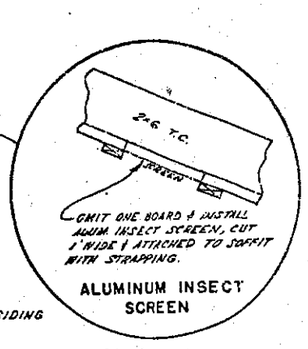
CROSS SECTION
½"=1'-0"

½" GRADE AC. PLYWOOD CEILING (INTERIOR) IF TRUSSES ARE LEFT UNBRACED, WHEN INSTALLING PLYWOOD CEILING THEY CAN BE MOVED TO ACCOMMODATE THE 4×8 SHEETS, WITHOUT TRIMMING. STRAPPING FOR CEILING IS NOT INCLUDED IN MATERIALS LIST, BUT MAY BE BOUGHT AND USED AT BUILDERS DISCRETION.



STAGGER 2×6 TOP PLATES AS SHOWN

GUSSET DETAIL (INSIDE)



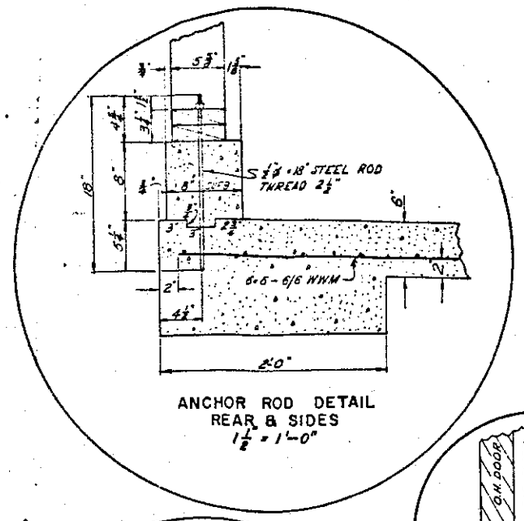
ALUMINUM INSECT SCREEN

GUSSET DETAIL (OUTSIDE) AND ½" ANGLE CORNER PROTECTION BETWEEN O.H. DOORS
1"=1'-0"

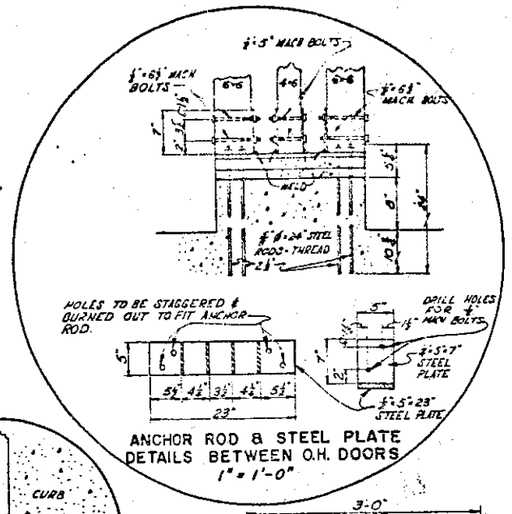
½"x3"x4"-5" UNEQUAL LEG ANGLE

NOTE: WHEN NAILING ALUMINUM SIDING TO SHEATHING STRETCH CHALKED STRING LINE THE ENTIRE LENGTH OF SIDE.

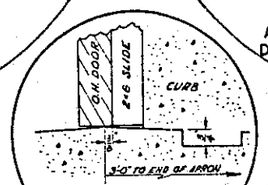
MAINE STATE HIGHWAY COMMISSION	
CROSS SECTION	
SCALE : AS SHOWN	DATE : JUNE 1969
DRAWN BY : [illegible]	SHEET No. 3 OF 7 SHEE



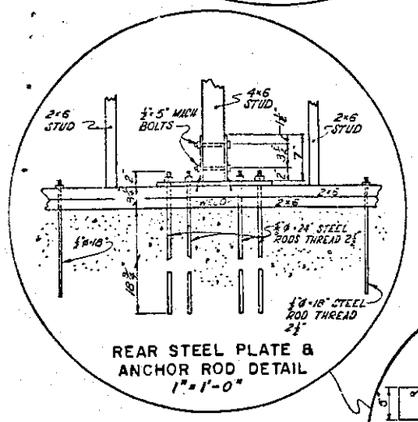
ANCHOR ROD DETAIL
REAR & SIDES
1½" = 1'-0"



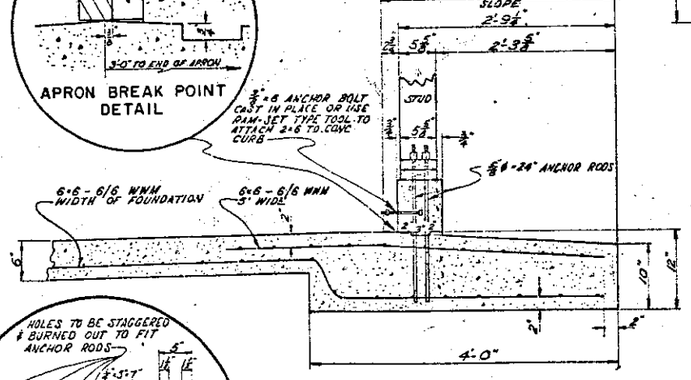
ANCHOR ROD & STEEL PLATE
DETAILS BETWEEN O.H. DOORS
1" = 1'-0"



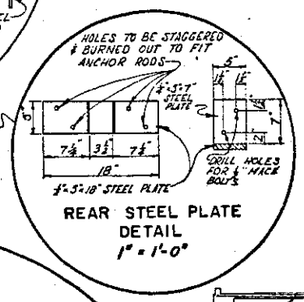
APRON BREAK POINT
DETAIL



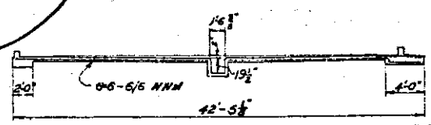
REAR STEEL PLATE &
ANCHOR ROD DETAIL
1" = 1'-0"

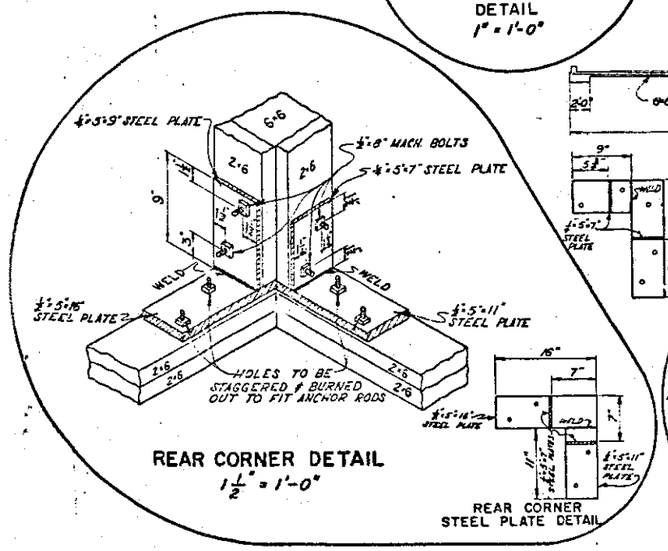


ANCHOR ROD (FRONT)
& APRON DETAIL
1" = 1'-0"



REAR STEEL PLATE
DETAIL
1" = 1'-0"

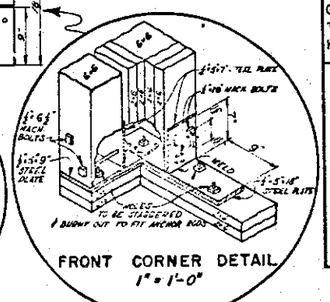




REAR CORNER DETAIL
1½" = 1'-0"

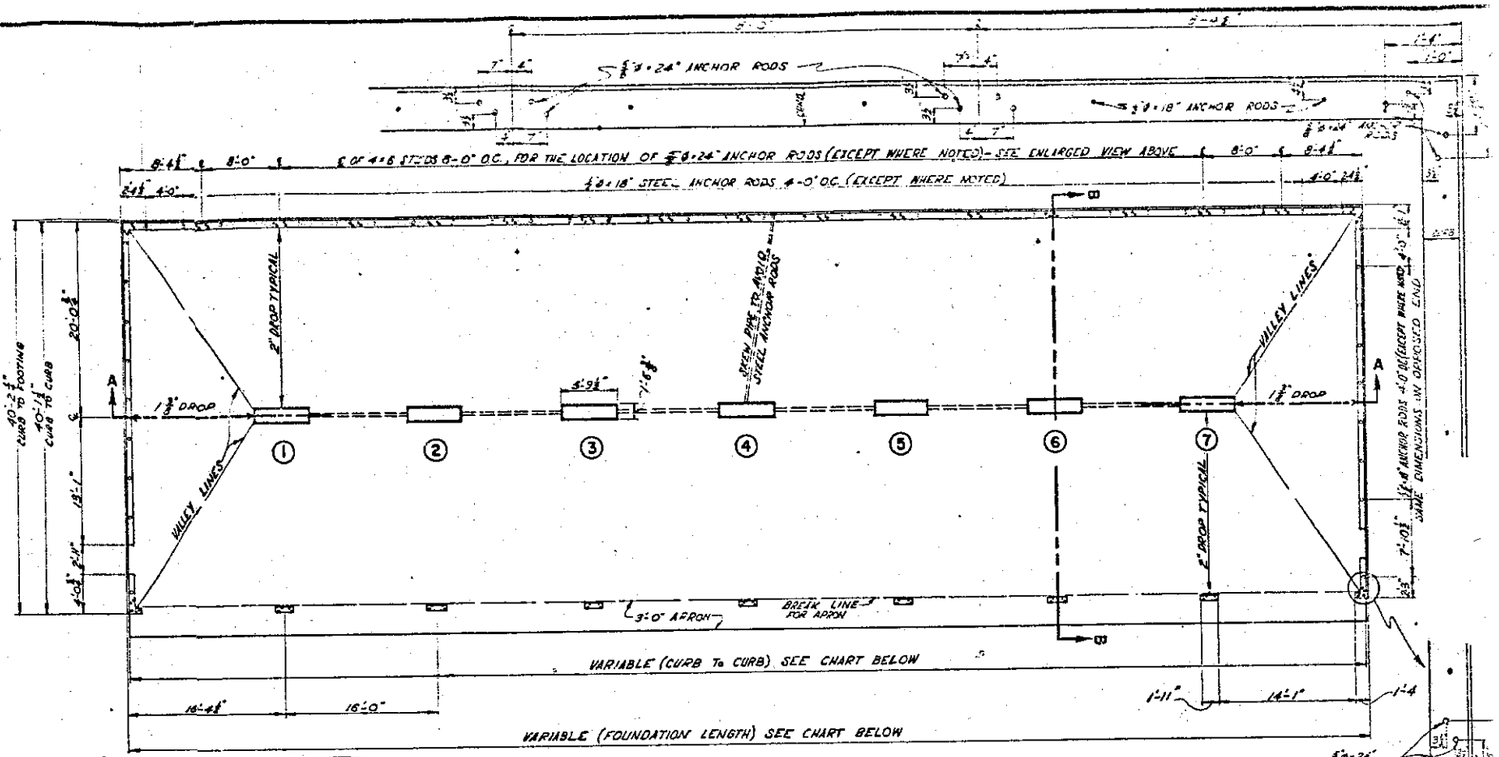
REAR CORNER
STEEL PLATE DETAIL

VIEW B-B
1" = 1'-0"

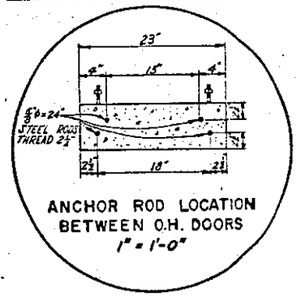


FRONT CORNER DETAIL
1" = 1'-0"

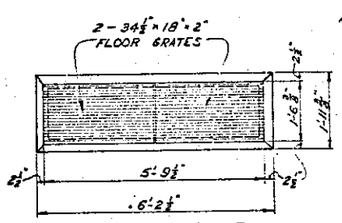
NUMBER OF BAYS		2	4	5	6	7	8
LENGTH	FOUNDATION	32'-9"	64'-9"	80'-9"	96'-9"	112'-9"	128'-9"
	CURB TO CURB	32'-7½"	64'-7½"	80'-7½"	96'-7½"	112'-7½"	128'-7½"
	CORNER STUD TO CORNER STUD	32'-6"	64'-6"	80'-6"	96'-6"	112'-6"	128'-6"
DRAIN NUMBER (NO DRAINS)	1		18"	18"	18"	18"	18"
	2		19½"	19½"	19½"	19½"	19½"
	3		21"	21"	21"	21"	21"
	4			18"	22½"	22½"	22½"
	5				18"	20¼"	21"
	6					18"	19½"
	7						18"



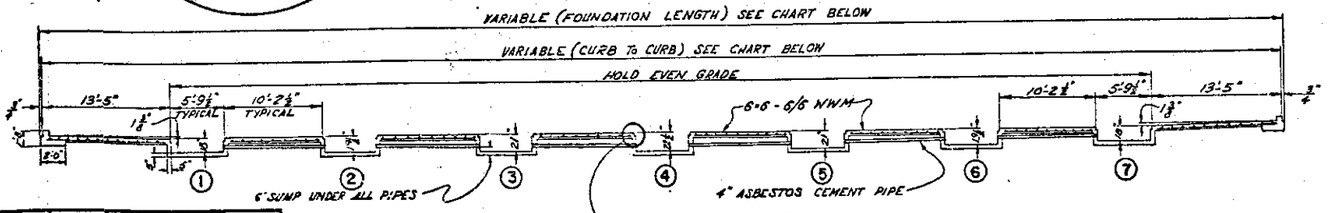
PLAN VIEW
⅛" = 1'-0"



ANCHOR ROD LOCATION
BETWEEN O.H. DOORS
1" = 1'-0"

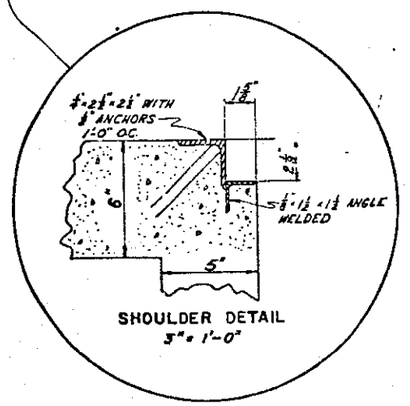


ANGLE IRON FRAME
(¼" x 2½" x 2½" w/½" ANCHORS 1'-0" O.C.)



VIEW A-A
⅛" = 1'-0"

NOTE: 12" GRAVEL BASE REQUIRED UNDER CONCRETE SLAB



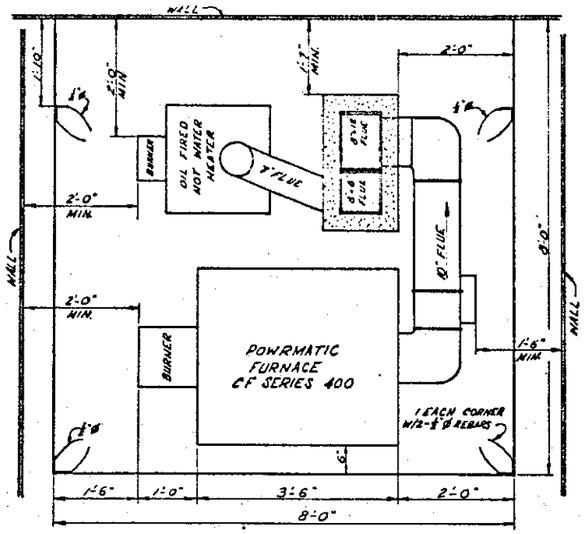
SHOULDER DETAIL
3" = 1'-0"

MAINE STATE HIGHWAY COMMISSION

FLOOR DRAINAGE
AND
FOUNDATION PLAN

SCALE: AS SHOWN | DATE: JUNE 1969

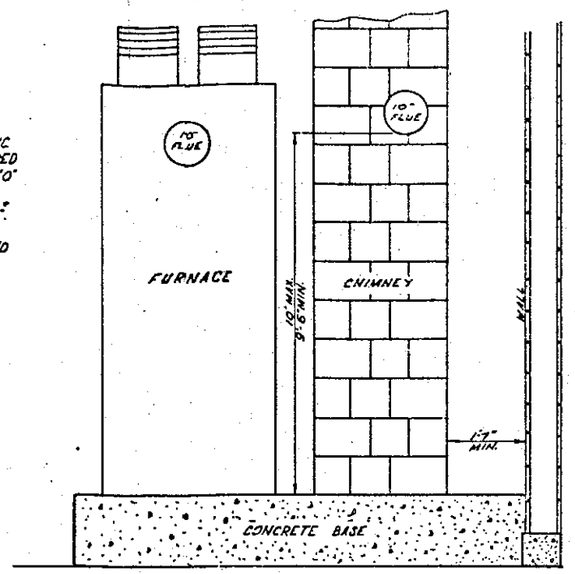
DRAWN BY: [illegible] | SHEET No. 4 OF 7 SHEE



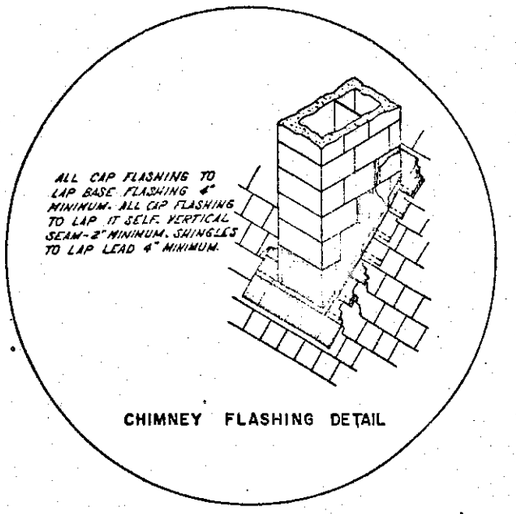
PLAN VIEW
CONCRETE BASE
MINIMUM CLEARANCE TO COMBUSTIBLE MATERIAL

IMPORTANT
NOTE:

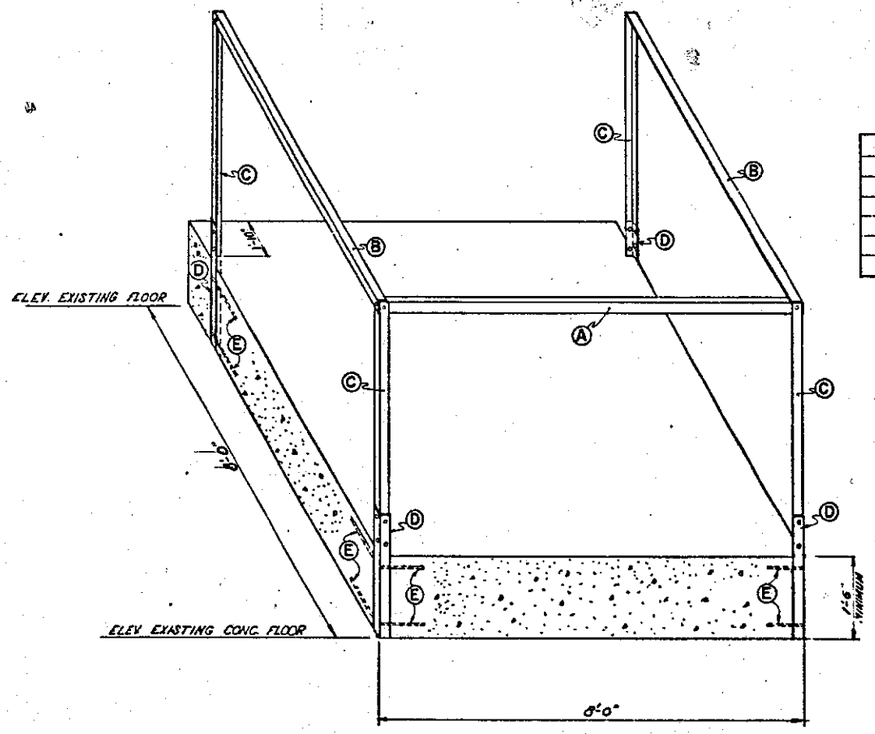
1. CAST BASE IN ORDER THAT CONC. BLOCK CHIMNEY CAN BE CENTERED BETWEEN PRE-FAB RAFTERS 2'-0" CENTERS.
2. 7" THIMBLES TO BE 8'-0"± ABOVE CONCRETE BASE.
3. APPROX. 3½ CU YDS. CONC. REQ'D
4. 10" THIMBLES TO BE 10'-0"± ABOVE CONC. BASE



MINIMUM CLEARANCE TO COMBUSTIBLE MATERIAL

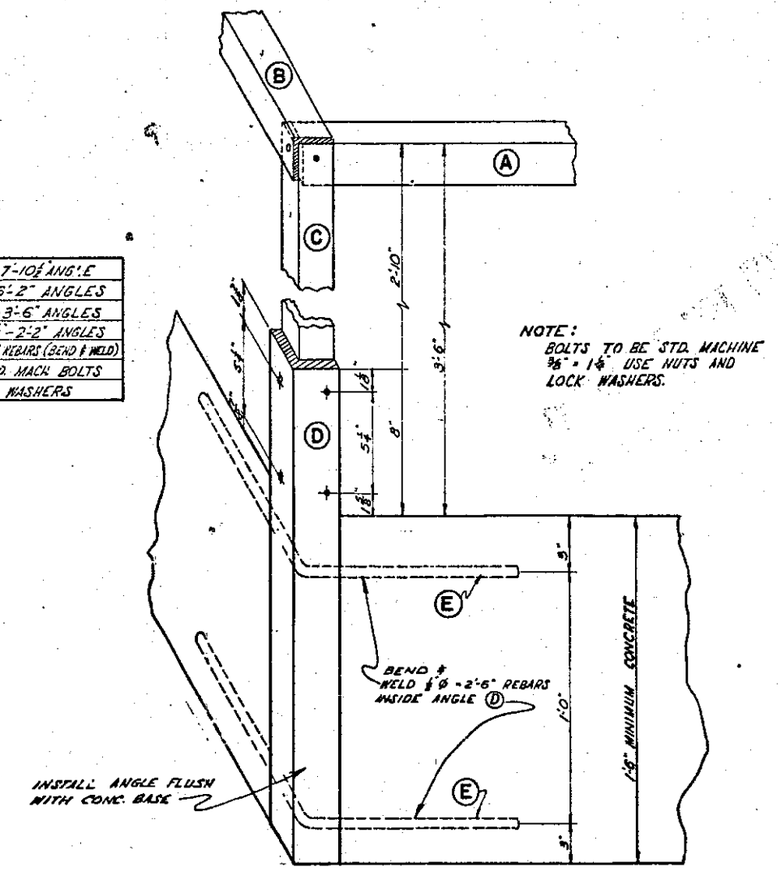


CHIMNEY FLASHING DETAIL



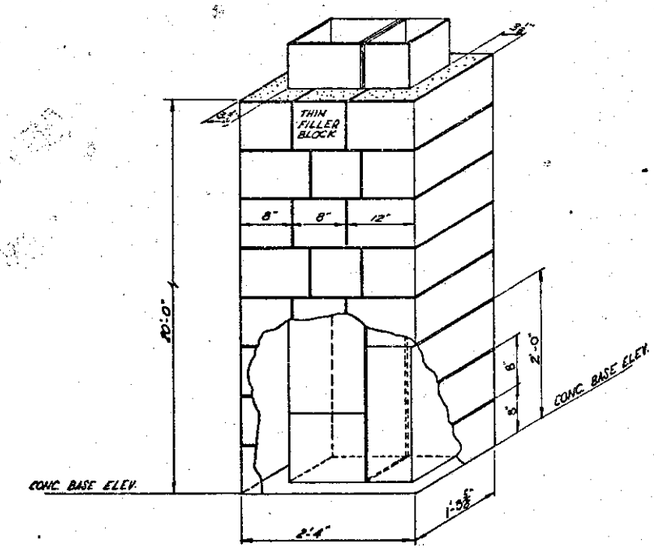
A	1 PC.	2"x2"x¼" - 7'-10½" ANGLE
B	2 PCS	2"x2"x¼" - 6'-2" ANGLES
C	4 PCS	2"x2"x⅜" - 3'-6" ANGLES
D	4 PCS	2½"x2½"x¼" - 2'-2" ANGLES
E	8 PCS	½" Ø x 2'-6" REBARS (BEND & WELD)
	22	⅜"x1¼" STD. MACH. BOLTS
	22	⅜" LOCK WASHERS

CONCRETE BASE



NOTE:
BOLTS TO BE STD. MACHINE ⅜"x1¼" USE NUTS AND LOCK WASHERS.

CORNER DETAIL - CONCRETE BASE

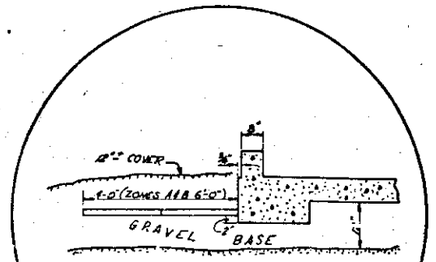


DETAIL CONCRETE BLOCK CHIMNEY
2 FLUE (8½"12") (8½"8")
WIRE MESH EACH LIFT

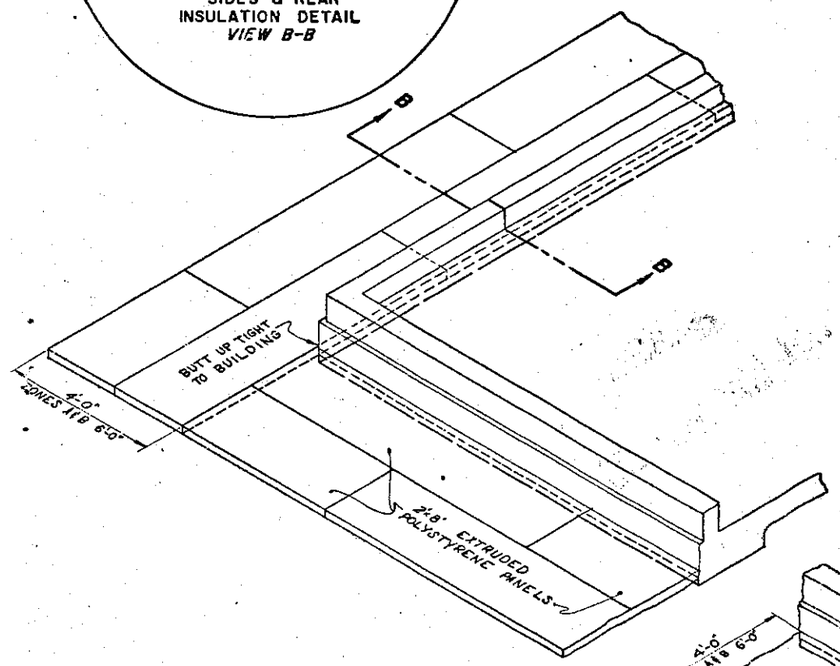
MAINE STATE HIGHWAY COMMISSION

CONCRETE FURNACE BASE AND CHIMNEY DETAILS

SCALE: NONE	DATE: JUNE 1969
DRAWN BY: E.H.Allen	SHEET No. 5 OF 7 SHEE

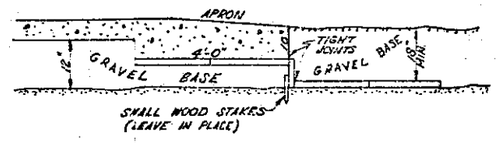


SIDES & REAR
INSULATION DETAIL
VIEW B-B

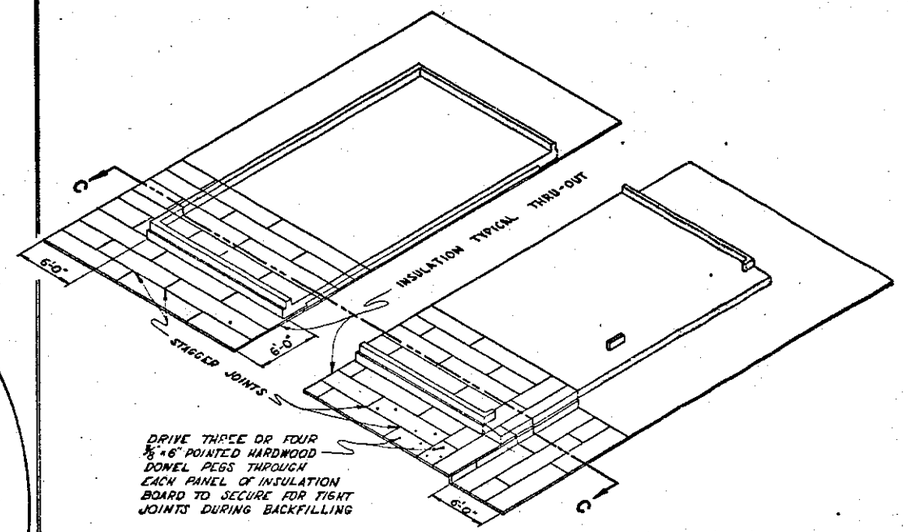


SUGGESTED WORK SEQUENCE :

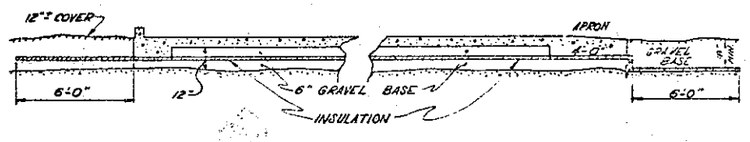
1. *PLACE INSULATION BOARDS IN FRONT OF CONCRETE APRON AREA.*
2. *SET VERTICAL INSULATION BOARD AND HOLD TIGHTLY AGAINST PREVIOUSLY PLACED HORIZONTAL BOARDS WITH SHORT WOOD STAKES*
3. *CAREFULLY PLACE GRAVEL EACH SIDE OF VERTICAL BOARD TO ELEVATION OF BOTTOM OF APRON INSULATION AND THOROUGHLY COMPACT.*
4. *PLACE BOARDS FOR APRON — SCRIBING AGAINST VERTICAL BOARD IF NECESSARY TO MAKE TIGHT FIT*
5. *DO NOT DRIVE APRON FORM STAKES THROUGH INSULATION.*



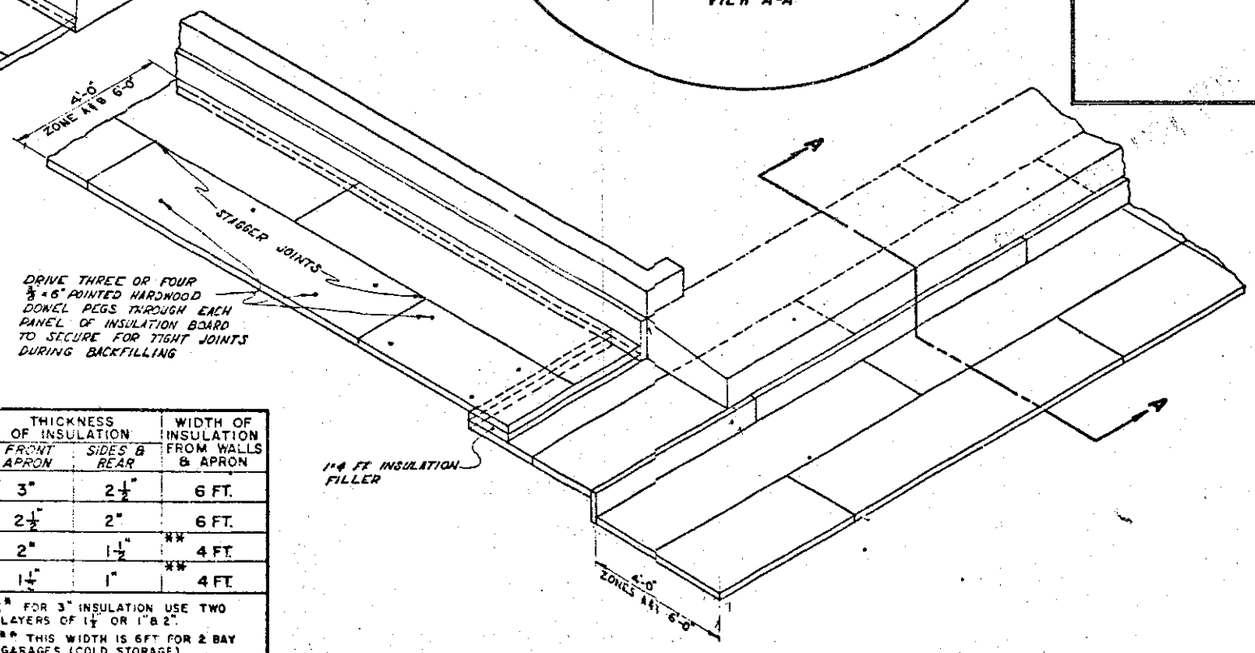
FRONT INSULATION DETAIL
VIEW A-A

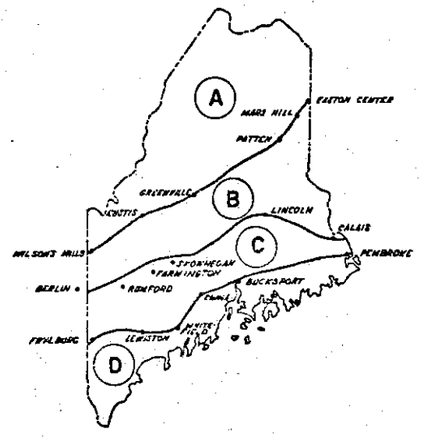


SEE VIEW A-A NOTES FOR CONSTRUCTION



VIEW C-C
INSULATION OF AN UNHEATED MAINT. GARAGE
(2 BAY)





FREEZING INDEX MAP

ZONE	THICKNESS OF INSULATION		WIDTH OF INSULATION FROM WALLS & APRON
	FRONT APRON	*SIDES & REAR*	
A	* 3"	2½"	6 FT.
B	2½"	2"	6 FT.
C	2"	1½"	** 4 FT.
D	1½"	1"	** 4 FT.

NOTES: * FOR 3" INSULATION USE TWO LAYERS OF 1½" OR 1" & 2".
** THIS WIDTH IS 6FT FOR 2 BAY GARAGES (COLD STORAGE).

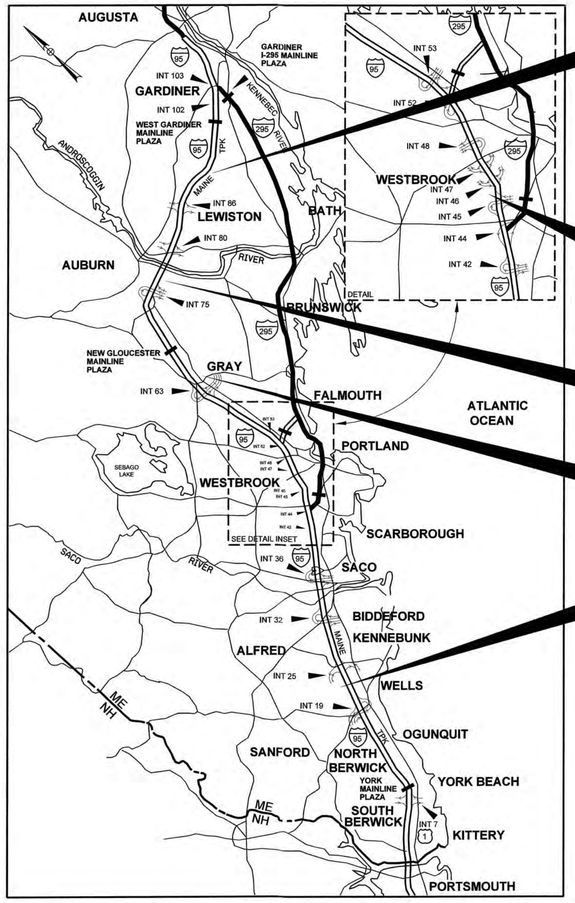
NOTE: INSULATION FOR FROST PREVENTION SHALL BE EXTRUDED POLYSTYRENE IN BOARD FORM HAVING PROPERTIES EQUAL TO "STYROFOAM" H.I. BRAND PLASTIC FOAM.

MAINE STATE HIGHWAY COMMISSION

FOUNDATION INSULATION

SCALE : NONE	DATE : JUNE 1969
DRAWN BY : [illegible]	SHEET No. 6 OF 7 SHEETS

Date:11/12/2018



LOCATION MAP

MAINTENANCE GARAGE LITCHFIELD

MAINTENANCE GARAGE CROSBY

MAINTENANCE GARAGE AUBURN

MAINTENANCE GARAGE GRAY

MAINTENANCE GARAGE KENNEBUNK

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR
ROBERT D. STONE, VICE CHAIR
MICHAEL J. CIANCHETTE, MEMBER
JOHN E. DORITY, MEMBER
ANN R. ROBINSON, MEMBER
THOMAS J. ZUKE, MEMBER
KAREN S. DOYLE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

INDEX OF SHEETS

CONTRACT 2018.23

CONTRACT 2018.23
MAINTENANCE GARAGE EXTENSIONS AND HVAC SYSTEM IMPROVEMENTS IN AUBURN, CROSBY, GRAY, KENNEBUNK, AND LITCHFIELD

HNTB

APPROVED:

MAINE TURNPIKE AUTHORITY

PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER — DATE 11/13/18

STEPHEN R. TARTRE, P.E., - DIRECTOR OF ENGINEERING & BUILDING MAINTENANCE — DATE 11/13/18

JOHN W. CANNELL, - DIRECTOR OF HIGHWAY & EQUIPMENT AND MAINTENANCE — DATE 11/13/18

STATE OF MAINE — Kurt F. Magnusson 10257 — LICENSED PROFESSIONAL ENGINEER

MECHANICAL SYSTEMS ENGINEERS

MECHANICAL DESIGN
MECHANICAL SYSTEMS ENGINEERS
SHEETS EM-01 TO EM-12

KURT MAGNUSSON, P.E. — DATE 11/13/18

STATE OF MAINE — ROLAND A. LAVALLEE No. 6452 — LICENSED PROFESSIONAL ENGINEER

ROLAND A. LAVALLEE P.E., PLS
VICE PRESIDENT
DIRECTOR OF OPERATIONS

DATE 11/11/18

Filename: 001_Title.dgn

Date:11/12/2018

GENERAL NOTES

1. THE FOLLOWING BUILDING CODES AND STANDARDS SHALL BE REFERENCED DURING CONSTRUCTION:
   IBC INTERNATIONAL BUILDING CODE, 2015

   ASCE 7 AMERICAN SOCIETY OF CIVIL ENGINEERS, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2016

   ACI 301 AMERICAN CONCRETE INSTITUTE, SPECIFICATION FOR STRUCTURAL CONCRETE, 2016

   AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION, STEEL CONSTRUCTION MANUAL, 2017

   ACI 318 AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, 2014

   ASTM AMERICAN SOCIETY OF TESTING AND MATERIALS

   NATIONAL FOREST PRODUCTS ASSOCIATION, NDS NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, 2015

2. COPIES OF THE AS-BUILT PLANS ARE NOT AVAILABLE. EXISTING DIMENSIONS AND CONDITIONS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL EXISTING CONSTRUCTION AND DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION OR FABRICATION. ALL DISCREPANCIES SHALL BE REPORTED TO THE MAINE TURNPIKE AUTHORITY PRIOR TO COMMENCING WORK.

3. ALL MATERIALS STORED ON THE PROJECT SHALL BE PROTECTED FROM THE ELEMENTS BY BEING STORED INDOORS ABOVE GROUND LEVEL ON SUITABLE DUNNAGE.

4. ALL MATERIALS REQUIRED TO BE REMOVED AND REUSED SHALL BE MAINTAINED IN SERVICEABLE CONDITION, STORED IN A MOISTURE FREE ENVIRONMENT INDOORS ABOVE THE GROUND LEVEL ON SUITABLE DUNNAGE.

5. THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 1-888-344-7233 AND DIG SMART AT 207-749-7231 AT LEAST 72 HOURS PRIOR TO START OF WORK. THE CONTRACTOR SHALL NOTIFY THE RESIDENT 10 DAYS PRIOR TO CONSTRUCTION SO THE RESIDENT CAN ARRANGE FOR MAINE TURNPIKE UNDERGROUND UTILITY LOCATION. EXCAVATION LOCATIONS SHALL BE MARKED AT THE NOTIFICATION TIME. EXCAVATION WILL NOT BE PERMITTED UNTIL THE AUTHORITY HAS LOCATED AND MARKED ITS UNDERGROUND UTILITIES, OR NOTIFIED THE RESIDENT THERE ARE NO UNDERGROUND UTILITIES IN THE MARKED AREAS.

6. THE AUTHORITY HAS PROGRAMMED TWO FIELD VISITS FOR MAINE TURNPIKE UTILITY COORDINATION ON THIS PROJECT. SHOULD THE CONTRACTOR NEED ADDITIONAL EXCAVATION LOCATIONS MARKED, OR SHOULD THE CONTRACTOR FAIL TO MAINTAIN THE AUTHORITY'S PREVIOUSLY ESTABLISHED DIG SAFE MARKS, THE AUTHORITY SHALL DEDUCT THE ADDED MARKING COSTS FROM THE CONTRACTOR'S PAYMENTS.

7. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH OSHA SUBPART P OF 29 CFR PART 1926.650-62 (CONSTRUCTION STANDARDS FOR EXCAVATIONS).

8. ALL DETAILS SHALL BE IN CONFORMANCE WITH MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) STANDARD DETAILS NOVEMBER 2014 WITH LATEST REVISIONS AND MAINEDOT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL LATEST REVISION UNLESS OTHERWISE INDICATED IN THESE PLANS.

9. THERE ARE NO PERMANENT OR TEMPORARY EASEMENTS ASSOCIATED WITH THIS PROJECT. ALL WORK SHALL BE COMPLETED WITHIN THE EXISTING RIGHT OF WAY.

10. THE CONTRACTOR SHALL SUBMIT THE PROPOSED STAGING AREA(S) TO THE RESIDENT PRIOR TO STARTING WORK.

11. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS AFTER CONSTRUCTION IS COMPLETED.

GENERAL SCOPE OF WORK:

1. CONSTRUCT A BUILDING EXTENSION OFF THE BACK OF THE FOLLOWING MAINTENANCE GARAGES:
   AUBURN, ONE (1) BUILDING
   CROSBY, THREE (3) BUILDINGS
   GRAY, ONE (1) BUILDING
   KENNEBUNK, TWO (2) BUILDINGS
   LITCHFIELD, ONE (1) BUILDING.

2. THE NEW BUILDING CONSTRUCTION SHALL INCLUDE: TEMPORARY SUPPORT, SLAB-ON-GRADE, STUD WALL, ROOF RAFTERS, SHEATHING, COLUMNS AND LVL HEADER.

3. REMOVE ALL EXISTING SIDING AND REPLACE WITH NEW PREFORMED METAL SIDING.

4. REMOVE ALL EXISTING ROOF SHINGLES AND REPLACE WITH NEW PREFORMED METAL ROOFING.

5. ADD LED LIGHTS IN EACH BAY OF GARAGE.

6. REINSTALL ELECTRICAL CONDUITS AND ADD OUTLETS AS SHOWN ON THE PLANS.

7. ADD HVAC AT (1) AUBURN GARAGE, (3) CROSBY GARAGES, (1) GRAY GARAGE, (2) KENNEBUNK GARAGES, AND (1) LITCHFIELD GARAGE AS SHOWN IN THE PLANS.

FOUNDATION NOTES:

1. ALL FILL USED TO SUPPORT SLABS-ON-GRADE SHALL BE WELL-GRADED 12" CRUSHED GRAVEL MEETING THE REQUIREMENTS IN THE CONTRACT SPECIFICATIONS.

2. PRESUMED ALLOWABLE SOIL BEARING PRESSURE USED IN DESIGN = 2,000 PSF. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY IF ANY UNSUITABLE SOILS ARE ENCOUNTERED PRIOR TO PLACING FOUNDATIONS. 2 FT OF UNSUITABLE SOIL ASSUMED AT GRAY WILL NEED TO BE EXCAVATED AND REPLACED.

3. SLABS-ON-GRADE SHALL REACH THEIR FULL DESIGN STRENGTH PRIOR TO LOADING. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING/BRACING AS NECESSARY TO PLACE STRUCTURAL FILL AND CONSTRUCT SLAB-ON-GRADE.

4. CARE SHALL BE TAKEN DURING EXCAVATION NOT TO DISRUPT EXISTING UTILITIES AND DRAINAGE. IF EXISTING UTILITIES ARE DAMAGED DURING EXCAVATION OR SLAB CONSTRUCTION, THE CONTRACTOR SHALL REPLACE OR REPAIR DAMAGED UTILITIES AT NO ADDITIONAL COST TO THE AUTHORITY.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHORING AND BRACING OF EXISTING STRUCTURES DURING EXCAVATION, BACKFILLING AND CONSTRUCTION. CONTRACTOR SHALL SLOPE EXCAVATIONS TO ACHIEVE SOIL STABILITY.

CONCRETE REINFORCING NOTES:

1. USE DEFORMED EPOXY COATED STEEL REINFORCING BARS, GRADE 60 IN CONFORMANCE WITH ASTM A775/ A 775M. REINFORCEMENT SHALL BE PLACED AND SUPPORTED PRIOR TO CONCRETE PLACEMENT, AND SHALL BE SECURED AGAINST DISPLACEMENT.

2. THE CONTRACTOR SHALL SUBMIT REINFORCING SHOP DRAWINGS TO THE MAINE TURNPIKE AUTHORITY FOR REVIEW AND ACCEPTANCE PRIOR TO COMMENCING FABRICATION. SHOP DRAWINGS SHALL SHOW REINFORCING STEEL PLACEMENT DETAILS AND SECTIONS.

3. MINIMUM CONCRETE COVER FOR REINFORCEMENT:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER	2 INCHES
CONCRETE NOT EXPOSED TO EARTH OR WEATHER IN SLABS AND WALLS	1½ INCHES
CONCRETE NOT EXPOSED TO EARTH OR WEATHER IN CURBS	1½ INCHES

4. CONTINUOUS REINFORCEMENT SHALL BE TENSION LAP SPLICED PER LAP SLICE LENGTH TABLE, U.N.O.

LAP SPLICE LENGTH TABLE

BAR SIZE	#3	#4	#5	#6	#7	#8	#9
MIN LAP SPLICE (INCHES)	17	23	28	42	49	58	74

5. REINFORCEMENT HOOKS SHALL CONFORM TO STANDARD HOOKS ACCORDING TO ACI 318.

6. WELDING OF REINFORCING IS NOT PERMITTED, U.N.O.

CONCRETE NOTES:

1. ALL CONCRETE WORK, INCLUDING MATERIAL SELECTION, ADMIXTURES, MIXING, AND PLACEMENT OF CONCRETE SHALL BE IN CONFORMANCE WITH APPLICABLE BUILDING CODES IN ADDITION, REFERENCE THE CAST-IN-PLACE CONCRETE SPECIFICATIONS.

2. CONTRACTOR SHALL NOT PLACE CONCRETE ON FROZEN GROUND OR IN WATER. ADEQUATE EQUIPMENT SHALL BE PROVIDED FOR HEATING CONCRETE MATERIALS AND PROTECTING CONCRETE DURING NEAR-FREEZING, OR FREEZING WEATHER. REFERENCE SECTION 502.08 COLD WEATHER CONCRETE OF "STATE OF MAINE, DEPARTMENT OF TRANSPIRATION STANDARD SPECIFICATIONS, REVISION OF NOVEMBER 2014" FOR REQUIREMENTS FOR COLD WEATHER CURING.

3. CONTRACTOR SHALL SUBMIT PROPOSED CONCRETE MIX DESIGN AND LABORATORY TESTS OF FABRICATED CYLINDERS VERIFYING CONCRETE STRENGTH OR PERFORMANCE HISTORY OF MIX TO THE MAINE TURNPIKE AUTHORITY FOR ACCEPTANCE PRIOR TO PLACEMENT OF CONCRETE. CONCRETE USED ON SITE SHALL BE FIELD TESTED BY THE MAINE TURNPIKE AUTHORITY. FIELD TESTING INFORMATION SHALL INDICATE SLUMP, AIR CONTENT, AND TEMPERATURE. PROVIDE A SET OF FIVE CYLINDERS FOR EACH PLACEMENT AND PER 50 CUBIC YARDS OF CONCRETE PLACED. COMPRESSION TEST TWO CYLINDERS AT 7 DAYS AND TWO AT 28 DAYS. HOLD AN ADDITIONAL CYLINDER FOR A 56 DAY BREAK IF NECESSARY. THE MAINE TURNPIKE AUTHORITY SHALL PROVIDE ALL CONCRETE TESTING.

4. CONCRETE DESIGN STRENGTH SHALL BE A MINIMUM OF 4,000 PSI.

5. THREADED RODS SHALL CONFORM TO ASTM F1554, GRADE 55. THREADED RODS SHALL HAVE HEAVY HEX NUTS AND LOCK WASHERS. WET STICKING THREADED ROD SHALL NOT BE ACCEPTABLE.

6. CHAMFER ALL EXPOSED CONCRETE EDGES ¾" UNLESS OTHERWISE NOTED.

WOOD NOTES:

1. ALL LUMBER SHALL BE VISUALLY GRADED AND STAMPED WITH GRADE DESIGNATION, SPECS AND ADDITIONAL INSPECTION INFORMATION, U.N.O.

2. CARE SHALL BE TAKEN TO PROTECT TIMBER FROM WEATHER AND DAMPNESS. DO NOT STACK IN SUCH A WAY AS TO CAUSE WARPING OR PREVENT ADEQUATE AIR CIRCULATION. WARPED TIMBER MAY BE REJECTED.

3. WOOD GRADES AND SPECIES:
   A. SPRUCE-PINE-FIR NO.2 OR BETTER FOR TYPICAL LUMBER (STUDS, RAFTERS, ETC.) U.N.O.
   B. SOUTHERN YELLOW PINE FOR EXTERIOR EXPOSURE APPLICATIONS AND WHERE SHOWN ON DRAWINGS AS PRESERVATIVE PRESSURE TREATED LUMBER (PT OR PPT).
   C. WHERE NOTED LVL ON DRAWINGS PROVIDE VERSA LAM 3100 BY BOISE CASCADE OR EQUIVALENT, WHICH HAS THE FOLLOWING MINIMUM ALLOWABLE STRESSES:
      Fb = 3,100 PSI Fc = 2,510 PSI (PARALLEL TO GRAIN
      Fv = 285 PSI Fc = 750 PSI (PERPENDICULAR TO GRAIN)
      Ft = 1,555 PPSI E = 2,000,000 PSI

4. STRUCTURAL LUMBER SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19%

5. PROVIDE PRESSURE TREATED LUMBER FOR ALL LUMBER IN CONTACT WITH CONCRETE. ALL CONNECTORS THAT ARE IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT-DIP GALVANIZED, U.N.O.

6. NOMINAL SIZES ARE TYPICALLY REFERENCED ON THE DRAWINGS. PROVIDE ACTUAL SIZES AS SET FORTH BY U.S. DEPARTMENT OF COMMERCE VOLUNTARY PRODUCT STANDARD PS20-99.

7. ALL PLYWOOD SHALL BE APA RATED SHEATHING.

8. PROVIDE FULL DEPTH BLOCKING AT ENDS AND INTERIOR SUPPORTS OF ALL RAFTERS WHERE RAFTERS FRAME OVER SUPPORTS. PROVIDE FULL DEPTH SOLID BLOCKING FOR EACH 8'-0" SPAN FOR ALL RAFTERS.

9. ALL FASTENERS AND WASHERS SHALL BE HOT-DIPED GALVANIZED, U.N.O.

10. ALIGN COLUMNS SUCH THAT COLUMNS BEAR CONTINUOUSLY TO FOUNDATION SUPPORT.

11. PROVIDE HORIZONTAL BLOCKING FOR ALL LOAD BEARING WALLS AT 4'-0" O.C. VERTICAL, MAXIMUM.

LIST OF ABBREVIATIONS

ABUT. - ABUTMENT
ADDL. - ADDITIONAL
ALT. - ALTERNATE
APPROX. - APPROXIMATELY
BOT. - BOTTOM
BRG. - BEARING
CL. - CLEAR
℄ - CENTERLINE
CONC. - CONCRETE
CONSTR. - CONSTRUCTION
DEMO. - DEMOLITION
DIA. - DIAMETER
EA. - EACH
EB - EASTBOUND
E.F. - EACH FACE
EL. - ELEVATION
EQ. - EQUAL
EXIST. - EXISTING
EXP. - EXPANSION
F.F. - FAR FACE
JT. - JOINT
MAX. - MAXIMUM
MAINEDOT - MAINE DEPARTMENT OF TRANSPORTATION
MIN. - MINIMUM
MTA - MAINE TURNPIKE AUTHORITY
NB - NORTHBOUND
N.F. - NEAR FACE
N.T.S. - NOT TO SCALE
PED. - PEDESTAL
PGL - PROFILE GRADE LINE
℗ - PLATE
PROP. - PROPOSED
P.S.I. - POUNDS per SQUARE INCH
RDWY. - ROADWAY
REQ'D - REQUIRED
SHLDR. - SHOULDER
SB - SOUTHBOUND
SP. - SPACES
STA. - STATION
T.&B. - TOP & BOTTOM
TPKE. - TURNPIKE
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE
V.I.F. - VERIFY IN FIELD
VERT. - VERTICAL
WB - WESTBOUND
W.P. - WORKING POINT

Filename: 002_GeneralNotes.dgn

Scale:

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Designed by: HNTB

CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE

	By	Date		By	Date
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

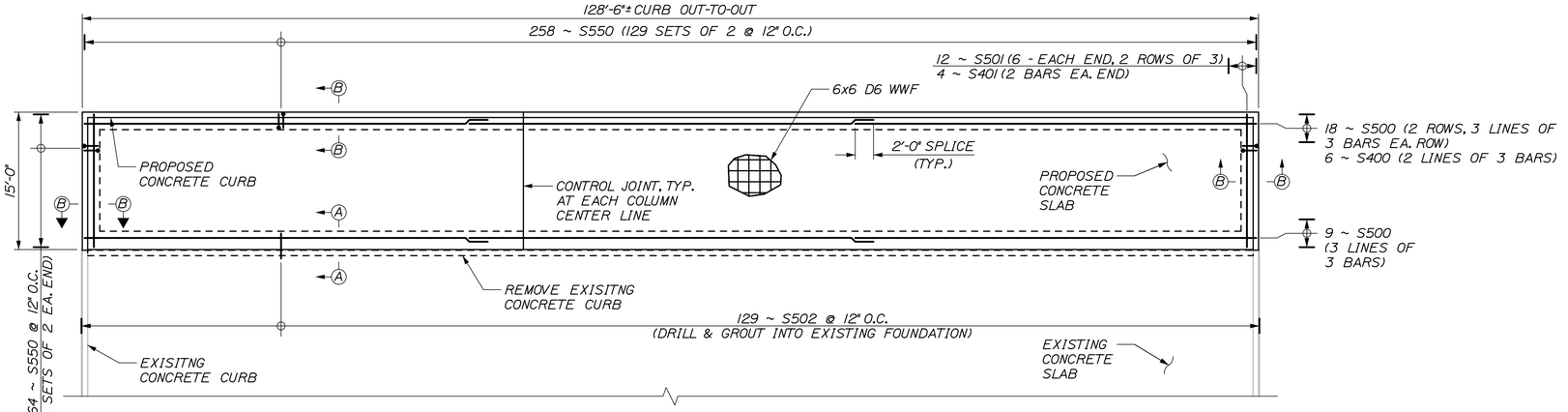
MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS

GENERAL NOTES

SHEET NUMBER: S1

CONTRACT:2018.23



SLAB ON GRADE PLAN VIEW - KENNEBUNK #1, KENNEBUNK #2, AND GRAY

SCALE: 1/8" = 1'-0"

NOTE: SLOPE PROPOSED SLAB TO MATCH EXISTING SLAB SLOPE.
EXISTING DRAINS TO BE USED TO DRAIN SLAB EXTENSION.

SLAB-ON-GRADE NOTES:

1. SLOPE PROPOSED SLAB TO MATCH EXISTING SLAB SLOPE. EXISTING DRAINS TO BE USED TO DRAIN SLAB EXTENSION.

2. SAW CUT 1½" DEEP CONTROL JOINTS IN PROPOSED SLAB-ON-GRADE. CONTROL JOINTS SHALL ALIGN WITH THE PROPOSED COLUMN CENTER LINES AND RUN PARALLEL TO THE SHORT (15') DIRECTION. SEAL CONTROL JOINTS WITH ⅜" DEEP SIKA IA.

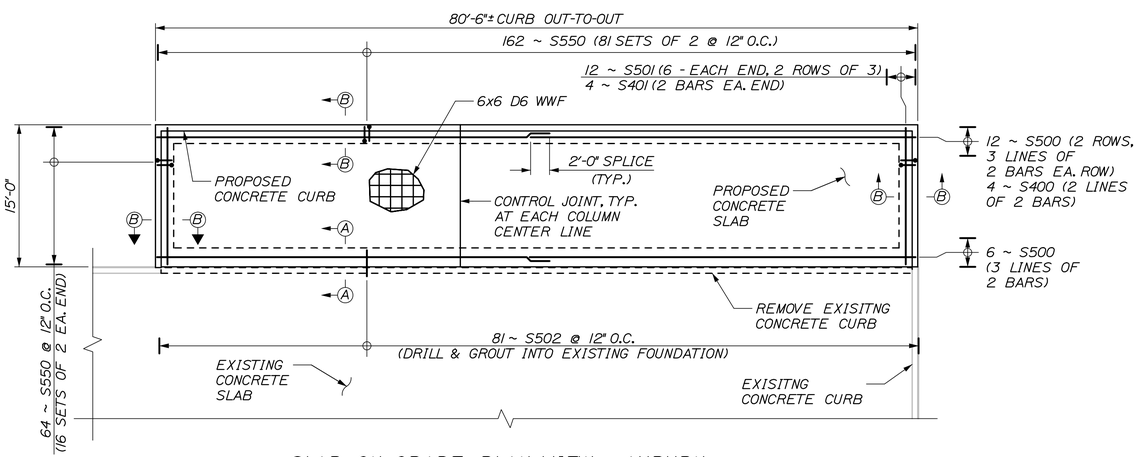
3. CONTRACTOR TO SUBMIT DOCUMENTATION OF WWF SUPPORT METHOD THAT MEETS THE REQUIREMENTS OF THE REINFORCEMENT SPECIFICATIONS.

4. IF EXISTING FOUNDATION DRAINS ARE PRESENT THEY SHALL BE EXTENDED AROUND THE PROPOSED SLAB EXTENSION. THIS WORK SHALL BE INCIDENTAL TO THE LUMP SUM BUILDING ITEMS.

5. SYNTHETIC FIBER REINFORCEMENT SHALL BE USED AT A DOSAGE RATE OF 3LB/CY.

6. REINFORCING SCHEDULE QUANTITIES ARE PER BUILDING.

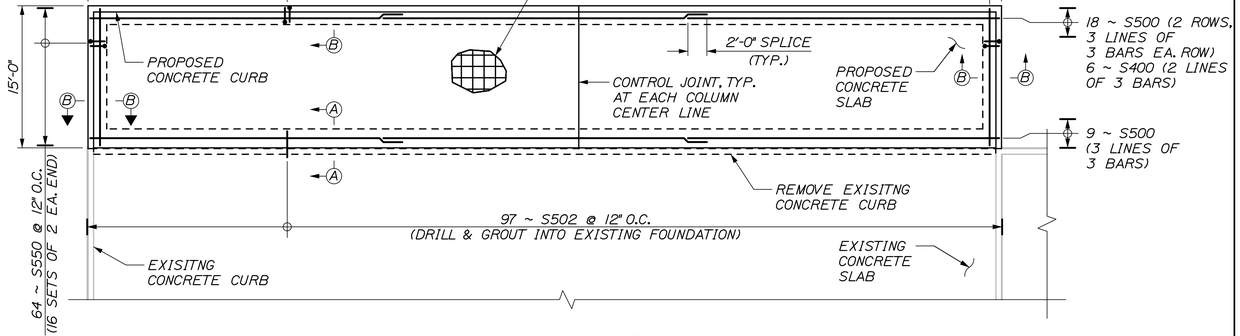
7. FOR SECTIONS A-A AND B-B SEE SHEET S-23.



SLAB ON GRADE PLAN VIEW - AUBURN

SCALE: 1/8" = 1'-0"

NOTE: SLOPE PROPOSED SLAB TO MATCH EXISTING SLAB SLOPE.
EXISTING DRAINS TO BE USED TO DRAIN SLAB EXTENSION.



SLAB ON GRADE PLAN VIEW - LITCHFIELD

SCALE: 1/8" = 1'-0"

NOTE: SLOPE PROPOSED SLAB TO MATCH EXISTING SLAB SLOPE.
EXISTING DRAINS TO BE USED TO DRAIN SLAB EXTENSION.

AUBURN REINFORCING SCHEDULE

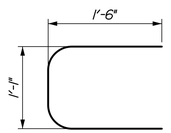
MARK	SIZE	No.	LENGTH	TYPE	LOCATION
S400	4	4	41'-1"	STR	CURB LONG
S401	4	4	14'-8"	STR	CURB SHORT
S500	5	18	41'-0"	STR	FOOTING LONG
S501	5	12	14'-6"	STR	FOOTING SHORT
S502	5	81	2'-9"	STR	FOOTING DOWEL
S550	5	226	4'-1"	U-BAR	FOOTING STIRRUP

KENNEBUNK #1 & #2, GRAY REINFORCING SCHEDULE

MARK	SIZE	No.	LENGTH	TYPE	LOCATION
S400	4	6	44'-1"	STR	CURB LONG
S401	4	4	14'-8"	STR	CURB SHORT
S500	5	27	44'-0"	STR	FOOTING LONG
S501	5	12	14'-6"	STR	FOOTING SHORT
S502	5	129	2'-9"	STR	FOOTING DOWEL
S550	5	322	4'-1"	U-BAR	FOOTING STIRRUP

LITCHFIELD REINFORCING SCHEDULE

MARK	SIZE	No.	LENGTH	TYPE	LOCATION
S400	4	6	33'-4"	STR	CURB LONG
S401	4	4	14'-8"	STR	CURB SHORT
S500	5	27	33'-4"	STR	FOOTING LONG
S501	5	12	14'-6"	STR	FOOTING SHORT
S502	5	97	2'-9"	STR	FOOTING DOWEL
S550	5	258	4'-1"	U-BAR	FOOTING STIRRUP



S550 DETAIL

SCALE: N.T.S.

Scale:

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Designed by:

HNTB

CONSULTANT PROJECT MANAGER: BRUCE MUNGER, PE

	By	Date		By	Date
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: BRIAN TADDEO, PE

MAINTENANCE GARAGE EXTENSIONS

PROPOSED SLAB-ON-GRADE DETAILS I

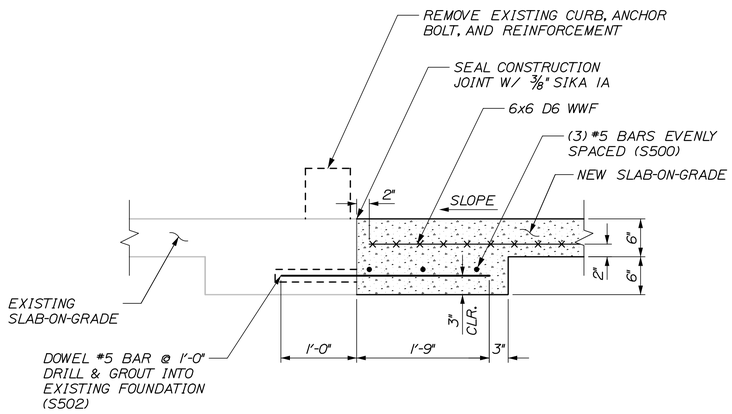
SHEET NUMBER: S21

CONTRACT:2018.23

22 OF 58

Date:11/12/2018

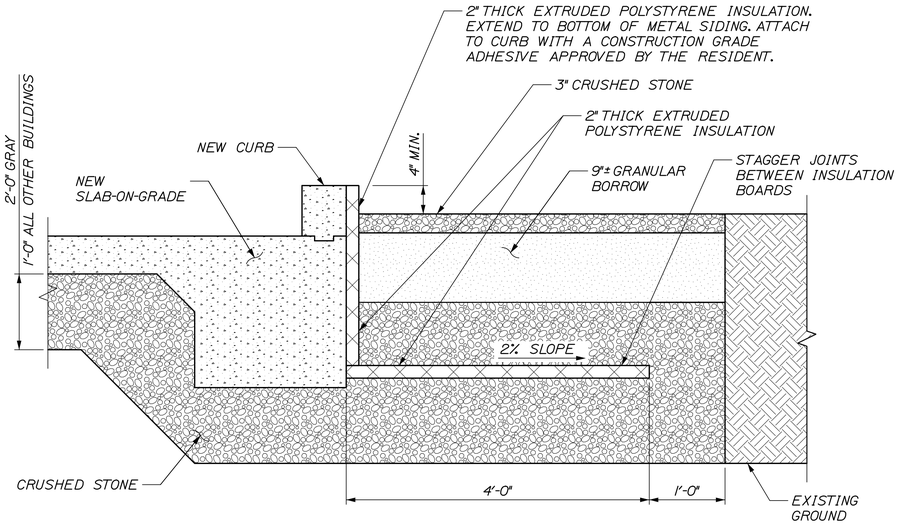
Filename: 022_Proposed Slab on Grade Details 1.dgn



SECTION A-A
EXISTING AND NEW FOUNDATION INTERFACE DETAILS

SCALE: 1" = 1'-0"

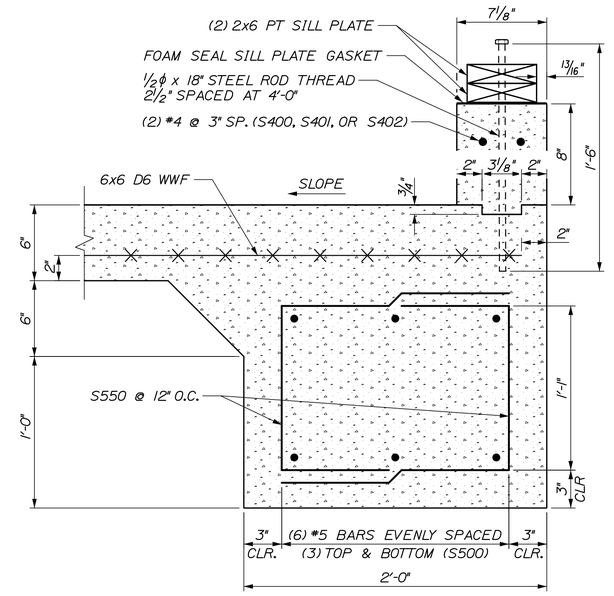
NOTE: 12" GRAVEL BASE REQUIRED UNDER CONCRETE SLAB. CONCRETE SHALL HAVE A MINIMUM DESIGN STRENGTH OF 4,000PSI



BACKWALL INSULATION DETAIL

SCALE: 1" = 1'-0"

NOTE: DRIVE THREE OR FOUR 3/8x6" POINTED HARDWOOD DOWEL PEGS THROUGH EACH INSULATION PANEL TO SECURE FOR TIGHT JOINTS DURING BACKFILLING



SECTION B-B
CURB AND ANCHOR BOLT DETAIL

SCALE: 2" = 1'-0"

NOTE: 12" GRAVEL BASE REQUIRED UNDER CONCRETE SLAB EXCEPT 24" GRAVEL BASE AT GRAY GARAGE

Date:11/12/2018

Filename: 024_Proposed Slab on Grade Details III.dgn

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MAINTENANCE GARAGE EXTENSIONS

PROPOSED SLAB-ON-GRADE DETAILS III

SHEET NUMBER: S23

CONTRACT:2018.23

24 OF 58


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