STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0016

JOHN ELIAS BALDACCI
GOVERNOR

DAVID A. COLE
COMMISSIONER

January 18, 2007
Subject: **Topsham**
Pin No. 14062.11
Amendment No. 4

Dear Sir/Ms:

Please make the following changes to the Bid Documents:

In the Bid Book on the "Notice to Contractors" page, within the first paragraph, change the bid opening date from **January 24, 2007** to **January 31, 2007**. Make this change in pen and ink.

In the Bid Book on the "Notice to Contractors" page, within the second paragraph, in the sentence that states: "Questions received after 12:00 noon of Monday prior to bid date will not be answered" CHANGE the Monday to Friday. Make this change in pen and ink.

ADD "Special Provision, Electrical Schedule and Details" dated January 16, 2007 one page total.

ADD "Special Provision Wash Bay" dated December 8, 2006 two pages total.

REMOVE the existing "Special Provision, Plumbing Fixtures and Materials" dated December 8, 2006 one page total and REPLACE with the attached updated "Special Provision, Plumbing Fixtures and Materials" dated January 5, 2007 one page total.

In "Division 8, Doors, Windows, Glass" REMOVE the existing "Section 0809 Overhead Doors", two pages total and REPLACE with the attached updated "Section 0809 Overhead Doors", dated January 8, 2007 three pages total.

In "Division 8, Doors, Windows, Glass" REMOVE the existing "Section 0810 Doors and Frames", two pages total and REPLACE with the attached updated "Section 0810 Doors and Frames", dated January 8, 2007 two pages total.

REMOVE in its entirety the existing "Division 13, Pre-Engineered Metal Building System", ten pages total added in amendment 2 and REPLACE with the attached updated "Division 13, Pre-Engineered Metal Building System", dated January 10, 2007 ten pages total.

In Division 16, Electrical under Section 16401 Electrical Work, in sub-section 1.05 titled: "Applicable Standards, Permits and Codes" within the first paragraph that begins: "The installation shall comply…"DELETE the following word "Fairfield" and REPLACE it with the word "Topsham". Make this change in pen and ink.

On plan sheets:

ADD to the plans the attached 81/2 X 11 detail drawings titled: "A-1A Curb Wall Section" and "A-1B Curb Wall Section".

ADD the attached plan sheets 3, 4, 7, 8, 11 & 12 from the Topsham Maintenance Facility Site Work Project Contract, Pin No. 14062.10

REMOVE the existing plan sheet A-1C "Building Plan" and replace with the new updated "A-1D, Building Plan".

REMOVE the existing plan sheet A-2B, "Building Elevations" and replace with the attached updated "A-2C, Building Elevations".

REMOVE the existing plan sheet A-8 titled: "Building Schedules" and REPLACE with the attached updated A-8B: "Building Schedules".

DELETE any reference to Doors 22 and 23 showing glazing, these doors are to be solid. Make this change in pen and ink.

On plan sheets A-1D titled: "Building Plan" and P-3 titled: "1st and 2nd Floor Hot and Cold Water Piping Plan & Details" ADD an emergency eye wash station with a water heater, mixing valve and associated piping in the wash bay and ADD a wash fountain and associated piping in the shop area. Make these changes in pen and ink.

On plan sheet A-5A titled: "2nd Floor Mezzanine, Foundation Plan and Section, Section C-C" ADD the following note. "Stair treads are to have an approved non-skid surface." Make this change in pen and ink.

On plan sheet E-3B "Building Lighting Plan" DELETE in its entirety Note 1 that begins: " All light fixtures in garage bays…" and REPLACE with the following updated Note 1 that reads: " Two thirds of the fixtures in the garage bays, shop area and mezzanine shall be high bay fixtures. One third of the fixtures in the garage bays, shop area and mezzanine shall be high bay fixtures with quartz restrike. Fixture spacing shall be approved by the Department. Fixtures in the wash bay shall be 8' Vapor Tight Industrial.

Fixtures are specified in Special Provision Electrical Schedule and Details." Make this change in pen and ink.

On plan sheet E-3B "Building Lighting Plan" DELETE in its entirety Note 2 that begins: "All light fixtures in office…" and REPLACE with the following updated Note 2 that reads: "All light fixtures in office area are to be 4 lamp 40 watt florescent fixtures with acrylic lenses." Make this change in pen and ink.

On plan sheet E-3B "Building Lighting Plan" DELETE in its entirety Note 3 that begins: "All outdoor fixtures…" and REPLACE with the following updated Note 3 that reads: "All outdoor fixtures are to be 250 watt sodium exterior with photo cell activation. Photo cell to be installed on north side of building." Make this change in pen and ink.

On plan sheet E-3B "Building Lighting Plan" ADD Note 8 that reads: "Compressor 240 volt. Refrigerator 20 amp. Air Handler 240 volt." Make this change in pen and ink.

On plan sheet E-3B "Building Lighting Plan" DELETE the twelve light fixtures shown in each bay of the garage bays, wash bay and shop area and REPLACE with six light fixtures in each bay of the garage bays, wash bay and shop area. Make this change in pen and ink.

On plan sheet H-7 "Manifold Piping Plan" under "Notes" in Note 5 that begins: "Oil Tank to be an upright…" change it to read: "Oil Tanks to be three upright…". Make this change in pen and ink.

On plan sheet H-7 "Manifold Piping Plan" The oil tank shelter shall be 16' x 8' and hold three 330 gallon tanks. Make this change in pen and ink.

The following questions have been received.

Question: What is the voltage and capacity of the Electrical Service?

Response: See attached Special Provision, Electrical Schedule and Details added earlier in this amendment.

Question: Is it the intent of the drawing to show that the Electrical Primary feed is already within the property boundaries and stops where the bold line on the drawing begin?
(Ref: drawing E-1)

Response: The contractor's work will begin where the existing PIN 14062.10 Topsham Maintenance Facility Site Work Project ends. Please see revised Special Provision Section 16410 Electrical Work, 2.15 "Electrical Service and Distribution System"

included in Amendment 2 and plan sheets 3 and 4 from the site work contract added earlier in this amendment.

Question: Who is to provide the Transformer Pad?

Response: The contractor.

Question: No exterior light locations are shown. Are these locations to be at Electrical Contractors discretion?

Response: Exterior lights are shown on sheet E-3B included in Amendment 2.

Question: Should window 11 have a fire shutter?

Response: Window 11 is a 1 hour fire rated window not to exceed 1296 square inches.

Question: Door 22/23 are drawn on MZ-2 with glass but door schedule says solid?

Response: See change made earlier in this amendment.

Question: Door 19/20/21/26/27 is drawn with 24" x 24" wired glass. Maximum wire glass in a fire rated door is 100% wire inches- 10" X 10" or 4" x 25"

Response: Door 26 is to be fire rated and 10" square glass shall be used. See attached plan sheet A-8B.

Question: Closers or self closing hinges are required on all fire doors but are not listed in hardware sets.

Response: Closers or self closing hinges are to be included. See revisions to Division 8, Doors, Windows, Glass under section 0810 Doors and Frames.

Question: Are doors 26/27 fire rated?

Response: Door 26 is fire rated. See attached plan sheet A-8B.

Question: Door 18 is listed as a 16 X 14 but drawn on A2 & A7 as a 12' x 12'?

Response: Door 18 is 12’ x 12’. See plan sheets A-2B and A-7A included in Amendment 2.

Question: Door 8 in the wash bay do you need a car wash?

Response: No.

Question: Spec calls for low clearance track and plans show 15’ 8 7/16 on sheet MZ-Z, if we can install with standard lift in that amount of headroom can we delete the low headroom tracks?

Response: Standard door lifts can be used.

Question: Spec calls for (17) pass doors count 16 on the plans unless door 28 counts as 2.

Response: There are 16 pass doors. Please see revisions to Division 8, Doors, Windows, Glass under section 0810 Doors and Frames earlier in this amendment.

Question: Spec on the overhead doors is calling for an insulated pan door. May we quote a foamed-in place “R” 14 door instead; Model Therma-seal by Raynor. This door has a much better “R” value better joint seals and a thermal break.

Response: Either a pan door or a foamed in place may be used. Please see revised Division 8, Doors, Windows, Glass under section 0809 Overhead Doors earlier in this amendment.

Question: Spec’s calls for the overhead door vendor to install the mounting pads, typically these are done by the General Contractor.

Response: This work may be done by either.

Question: Spec calls for the slide lock with cylinders and night latch the type of operator specs will automatically lock the door down. If an additional lock is desired it should have an interlock switch to prevent damage to the door.

Response: Provide interlock switch. See revised Division 8, Doors, Windows, Glass under section 0809 Overhead Doors earlier in this amendment.

Question: Typically on ME DOT jobs there are three items that are not shown on these plans
a) Double end stiles on the overhead doors.
b) One row of insulated glass on the overhead doors.
c) Radio transmitter for the overhead doors.

Response: Include double end stiles on the overhead doors, one row of insulated glass on the overhead doors and radio transmitters for the overhead doors. See revised Division 8, Doors, Windows, Glass under section 0809 Overhead Doors earlier in this amendment.

Question: Window 10 is scheduled as an Anderson casement window on A-8, is that the fixed window with pass thru & speak hole specified in 0885 glass & glazing?

Response: Yes.

Question: I need an address for the jobsite?

Response: Adjacent to 45 Village Drive, Topsham, Maine. The web site can be found at www.state.me.us/mdot/contractor-consultant-information/contractor_cons.php.

Question: Can't find reference to where existing Pin 14062.10 work ends and 14062.11 begins on prints.

Response: Refer to the attached sheets 3 and 4 of plans for project 14062.10 but field modifications have been made to project 14062.10 .

Question: Division 16 electrical general section 16401 2:15 electrical service and distribution system states all cost chargeable by the utility company for service shall be obtained by the sub-contractor and included in his bid.

Response: Please see revised Special Provision Section 16410 Electrical Work, 2.15 Electrical Service included in Amendment 2 near the bottom of the third page of Amendment 2 and the attached sheets 3 and 4 of plans for project 14062.10 in this amendment.

Question: We received Amendment No 2 today for the above reference project; however it is still unclear what the scope of work regarding site work is for this job. I understand that excavation and backfill of the building is to be included but other aspects like grading, utilities, parking lot, construction and paving are still uncertain. Amendment

No 2. instructs us to refer to PIN 14062.10 which we do not have, is this plan set still available?

Response: Plan sheets from PIN 14062.10 are attached.

Question: Are overhead doors electric?

Response: Yes.

Question: Circulation fans are they electric/who supplies and installs?

Response: Circulation fans are electric. They will be supplied and installed by the Contractor or their sub-contractor.

Question: One phase or 3 phase size feed required for compressor, refrig. unit and air handler?

Response: Compressor 240v, Refrig 20 amp 110v, Air Handler 240v. See attached Special Provision, Electrical Schedule and Details added earlier in this amendment.

Question: Electrical Panels: How Many? What size?

Response: See attached Special Provision, Electrical Schedule and Details added earlier in this amendment.

Question: Are the office area fixtures to be acrylic lenses?

Response: Yes. See revised Note 2 on plan sheet E-3B added earlier in this amendment.

Question: Are the eight foot fixtures in the mezzanine and in the front offices the same fixtures as the shop area?

Response: See attached Special Provision, Electrical Schedule and Details and revised notes on plan sheet E-3B added earlier in this amendment.

Question: Is the contractor to build the benches in the shop area?

Response: No.

Question: Amendment No. 2 calls for a roof R-value of R-30. On the plans it calls for roof R-value of R-38. Which is it?

Response: Drawings are correct. See attached revised Division 13, Pre-Engineered Metal Building System, subsection 2. provided earlier in this amendment.

Question: Is there an interior gutter on the eaves of this building?

Response: No.

Question: Drawings show eave height of 18'6". Amendment No. 2 calls for 24' clear?

Response: Drawings are correct. See attached revised Division 13, Pre-Engineered Metal Building System provided earlier in this amendment.

Question: Does the exterior wall get metal framing? Drywall? Is it limited to the office? Mezzanine? Warehouse? Are the first floor walls framed with metal studs? Do they get insulation? What Type? Do all interior walls get gypsum board? Define which ceilings get a metal grid framing?

Response: See "Notes" on attached plan sheet A-8B added earlier in this amendment.

Question: Specifications show a 1/2:12 slope and drawings show 1:12 slope.

Response: Drawings are correct. See attached revised Division 13, Pre-Engineered Metal Building System provided earlier in this amendment.

Question: Section 2.04 of specs imply an insulated panel but section 2.09 shows blanket insulation.

Response: Building is to be insulated with blanket insulation. See attached revised Division 13, Pre-Engineered Metal Building System provided earlier in this amendment.

Question: Specifications show ridge vents, but none are on the drawings.

Response: Building design does not require ridge vent.

Question: Drawings on the south elevation show a window where a main frame column is.

Response: The window has been removed.

Question: Elevations on the drawings appear to show panel on the 4' concrete wall. Is this correct?

Response: Yes. See attached Curb Wall Sections drawings provided in this amendment.

Question: There is trim band on the endwalls going from eave to eave. What is this for and is it required?

Response: It is for building enhancement and will be included.

Question: Is there a spec for the wash bay curtain?

Response: Yes. See attached Special Provision, Wash Bay Curtain provided earlier in this amendment.

Question: Does curtain extend to the roof?

Response: No.

Question: Is the curtain part of the bid?

Response: Yes.

Question: On drawing A-2, the north elevation has a detail that reads" 4'- 4 ½'curtain wall behind sheathing." What does this mean? Please provide detailed cross section.

Response: See attached Curb Wall Sections drawings provided in this amendment.

Question: Is this project tax exempt?

Response: Yes. See Standard Specification 108.6

Question: Is the general contractor responsible for the cost of quality control testing? The contract agreement (A. the work) contradicts the specifications. Is the general

contractor responsible for the cost of the building permit, impact fees, utility connection fees?

Response: The Contractor and the Department shall work cooperatively. The contractor is responsible for all aspects of the quality of construction. The Department is responsible for ensuring that the project meets the contract requirements. Quality Assurance and Control described in Divison 1, Section 0140 Quality Control will be performed and paid for as described. All other quality control inspection, testing or documentation will be the responsibility of the Contractor.

Question: Where are the full size set of revised plans based on amendment 2 dated December 28, 2006? Attached to that amendment was the revised 11" x 17" plans. This is insufficient for a project of this scale.

Response: For the plan holders that purchased a full size set of plans, we will be sending a replacement full size set of the updated plans.

Question: Is there any flooring for the stairs?

Response: Yes. See plan sheet A-5A Section C-C and note added to plan sheet A-5A provided earlier in this amendment.

Question: Is there any cove base for the walls?

Response: Yes. See attached plan sheet A-8B.

Question: Is there going to be more than 1 vinyl tile color or a pattern in the floors?

Response: No.

Question: Is the basis of payment monthly progress payment minus retainage?

Response: Yes.

Question: Page A-8 finish schedule indicates 2 layers of 5/8 at walls. Plans call for 1 hour walls which are 1 layer 5/8. Please clarify if one hour or two layers are wanted on walls.

Response: See one hour wall section and schedule on attached plan sheet A-8B.

Question: Please provide a list of bidding general contractors.

Response: A list of planholders can be found a www.state.me.us/mdot/comprehensive-list-projects/ph14062.11.htm.

Consider these changes and information prior to submitting your bid on January 31, 2007.

Sincerely,

Scott Bickford
Contracts & Specifications Engineer

Topsham
14062.11
Highway Maintenance Garage
January 16, 2007

SPECIAL PROVISION
ELECTRICAL SCHEDULE AND DETAILS

The following materials or approved equal shall be furnished and installed.

Electrical Service shall be 240 volt, single phase, 400amp.

There shall be two panels.

All wiring, boxes, fixtures, etc. within the wash bay and adjacent to wash bay shall be suitable for a wet location.

LUMINAIRE SCHEDULE

Manufacturer	Catalog Series Number	Description	Mounting	Voltage	Watts	Type	Notes
METALUX	8TVT2 – 232 – DR – 120 – EB8 – WL	8" Vapor Tight Industrial	chain	110	32	T8 3000K	1
LUMARK	MHHBPD22M – 400MT	High Bay Fixture	pendant	240	400	MH	
LUMARK	MHHBPD22M – 400MT – EM	High Bay Fixture	pendant	240	400	MH	2

(1) FIXTURE HAS 2 LAMPS IN CROSS SECTION

(2) QUARTZ RESTRIKE SHALL BE 100W

Topsham
14062.11
Highway Maintenance Garage
December 8, 2006

SPECIAL PROVISION
Wash Bay

Description The work shall consist of the furnishing and installing the wash bay curtains, accessories and mounting hardware.

Materials Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Drapery and Curtain Hardware and Tracks:

Goff's Enterprises, Incorporated
1228 Hickory Street
Pewaukee, WI 53072
800-234-0337
262-691-4998
262-691-3255 Fax
Email sales@goffscw.com
www.goffscurtainwalls.com

Curtain Track Hardware Provide the following components for a complete curtain wall assembly:

Track: 16 gage galvanized steel channel track similar to Goff's HW150.

Track Splice: 16 gage galvanized steel similar to Goff's HW151.

Roller Hooks: Spaced 12" on center similar to Goff's HW157 (steel).

Overlapping Curtain Track Trolley: Similar to Goff's HW300.

End Mount Track Bracket: 16 gage galvanized steel similar to Goff's HW153.

Hanging Track Splice: 16 gage galvanized steel with threaded rod hanging bracket similar to Goff's HW161.

Hanging Track Bracket: 16 gage galvanized steel with threaded rod hanging bracvket similar to Goff's HW167.

Universal Track Connector: Similar to Goff's HW100

Installation Fasteners: Manufacturer's standard non-corrosive fasteners and anchors.

Curtain

Upper vinyl panel shall be 14 oz/sy (min) vinyl coated polyester.

Lower vinyl panel shall be 18 oz/sy (min) vinyl coated polyester with zinc plated chain sewn into the bottom edge hem; 28" high.

Middle panel shall be 20 mil (min) double polished clear vinyl; 52" high.

Polyester scrim at upper and lower panels shall be 9 x 9 x 1000 denier.

Curtain assembly shall comply with NFPA-701.

Vinyl Polyester Panel Temperature range: -40 degrees F to 180 degrees F.

Clear Vinyl Panel Temperature Range: -20 degrees F to 150 degrees F.

Stitching: All panels shall be secured together with double-locked mildew and rot resistant thread.

Grommets: Brass, placed along top edge of curtain at 12" on center.

Curtain Panel Attachment: 2" wide strips of industrial hook and loop fasteners at meeting vertical edges.

Curtain Height: 16 feet

Curtain Width: Full depth of wash bay plus 5% (drape).

Color: As selected by the Architect from the Manufacturer's full range of 12 colors (min).

Accessories

Floor Ties: Anchor pan shall be 4" diameter galvanized steel with flip-up "D" ring.

Anchor Straps: Heavy duty vinyl straps sewn to lower curtain panel. Strap shall have a rubber buckle slide for height adjustment and a steel spring clip hook for attachment to the floor tie "D" ring.

Floor Sweep: Manufacturer's standard vinyl detachable strip anchored to the curtain with industrial hook and loop fasteners. Sweep shall be 12" high; full width of curtain panels.

Curtain Wall Cleaner: Manufacturer's standard proprietary liquid cleaner specifically formulated for cleaning all portions of the curtain.

Installation

Install curtain, hardware, and accessories according to manufacturer's written instructions. Install track level and plumb, and at the proper height and location in relation to fixed elements. Fix securely with clips, brackets, and anchors suited to type of mounting indicated. Walls, ceilings and structure shall be made suitable for track installation. Test operation of each unit to ensure unencumbered operation. Adjust units that do not operate smoothly.

Install curtain tie down anchors in concrete floor per manufacturer's instructions at 6'-0" on center (max). Coordinate installation requirements with concrete work.

Isolate metal parts of hardware from concrete or mortar to prevent galvanic action. Use tape, thick coating, or another method, as recommended by manufacturer.

Install sweep in accordance with manufacturer's printed instructions. Trim bottom edge of sweep to sloped profile of wash bay floor forming a cove style base at the curtain's bottom edge.

Topsham
14062.11
Highway Maintenance Garage
January 5, 2007

SPECIAL PROVISION

PLUMBING FIXTURES & MATERIALS

The following materials or approved equal shall be furnished and installed. Payment will be incidental to contract.

2- toilets-Kohler k-3427 Highline elongated w/open front seats
1- Urinal-Kohler k-5016 Dexter w/1 gallon flushometer valve
2- Lavatories ADA-Kohler k2027 18 x 16 Greenwich
2- K-1808 Brackets
2- K-15198-f faucets
2- K-8998 chrome traps
2- K13885 Drains

1- Kitchen sink K-3352 Undertone w/K-8801 strainer
1- K-15173-cp Coralais faucet

1- Mop sink-Fiat MSB 24 x 24 mop basin
1- Fiat 889 cc hanger
1- Fiat 830A basin fitting w/vacuum breaker
1 - Fiat 832 AA hose & bracket

2- ADA Showers—AquaGlass Model 833941 equipped with Delta & Alson's fittings & chrome curtain rods.

2- Zurn 2" cast iron floor drains w/bronze strainer & nickel finish
2- floor drain trap primers
1- Zurn cast iron 4" cleanout floor cover bronze

2 - ADA Handrails, Grab Bars 36" Bobrick B-5806
2 - ADA Handrails, 42" Bobrick B-5806

1 -Drinking Fountain Halsey Taylor Model 5701 Wall Mount

2 - Eye Wash Station Guardian Equipment G5026
2 – Watts ½" MMV-US M1, Sweat Mixing Valve
1 – Ariston Electric Water Heat Model GL2.5

1- Wash Fountain Bradley Classic Semi Circular with 9" deep bowl Terrazzo Model WF2604

SECTION 0809
OVERHEAD DOORS

0809.01 GENERAL

The Contractor shall furnish and install all material and equipment necessary to complete the installation of the overhead doors. All work shall be done as herein specified and as shown on the drawings.

0809.02 MATERIALS

DOOR SECTIONS: Sections shall be full 2" thick, roll formed from commercial quality hot dipped galvanized steel per ASTM A-525 and A-526. Each section shall have tongue and groove joints for weather tight closure between sections. The sections shall have 1 ½" thick rigid foam isocyanurate insulation with a U-factor of .08 or an approved equal foamed in place The door shall be Series S-20 steel industrial door as manufactured by Raynor Manufacturing Company, Dixon, Illinois or approved equal. See Door schedule on plans for size of each door.

Enclose open section with not less than 16 gauge galvanized steel channel end stiles welded in place. Provide not less than 16 gauge galvanized intermediate stiles, cut to door section profile, spaced at not more than 48 inches (1200 mm) o.c., and welded in place. Reinforce bottom section with a continuous channel or angle complying with bottom section profile and allowing installation of astragal. Reinforce sections with continuous horizontal and diagonal reinforcement, as required to stiffen door and for wind loading. Provide galvanized steel bars, struts, trusses or strip steel, formed to depth and bolted or welded in place.

Provide one row of tempered insulated glass windows. Set glazing in vinyl, rubber, or neoprene glazing channel for metal-framed doors.

SPRING COUNTER BALANCE: Heavy duty oil tempered wire torsion springs on continuous ball bearing cross header shaft. Galvanized lifting cables with minimum safety factor 7 to 1.

FINISH: Door exterior to be precoated with two (2) coats of baked on polyester enamel finish over epoxy primer. Interior to have baked on grey polyester enamel.

FRAMES: Door jams and mounting pads shall be furnished as shown on drawings.

GARAGE DOOR OPENER:

1. Standard Hardware
2. Jackshaft type, with V-belt primary reduction, chain intermediate reduction, and roller chain drive.
3. Automatic door opener Model RGJ, ½ H.P. motor, 208V, single phase
4. Door opener will be equipped with a safety device to stop closure of door if doorway is obstructed, factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, remote-control stations, control devices, integral gearing for locking door, and accessories required for proper operation.

5. Provide hand-operated disconnect or mechanism for automatically engaging sprocket-chain operator and releasing brake for emergency manual operation while disconnecting motor, without affecting timing of limit switch. Mount disconnect and operator so they are accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.

6. Radio Control: Provide radio control system consisting of the following:

    1. 3-channel universal coaxial receiver to open, close, and stop door, 1 per operator.
    2. Multifunction remote control.
    3. Remote antenna mounting kit.

HARDWARE: All hinges and brackets shall be galvanized steel. Track rollers shall be hardened steel ball bearing with a minimum of 10 balls of 1/4" diameter per roller. Door shall be adequately reinforced with steel streets as recommended by the manufacturer. The lock shall be a slide lock with five pin tumbler cylinder with night latch. Lock bar shall be provided for additional interior locking. Where door unit is power operated, provide safety interlock switch to disengage power supply when door is locked. Provide reinforcement for hardware attachment.

Tracks: Provide manufacturer's standard heavy duty 3” minimum width galvanized steel track system, sized for door size and weight, designed for lift type indicated and clearances shown, and complying with ASTM A 653 (ASTM A 653M), for minimum G60 (Z180) zinc coating. Provide complete track assembly including brackets, bracing, and reinforcement for rigid support of ball-bearing roller guides for required door type and size. Provide galvanized steel track reinforcement and support members, complying with ASTM A 36 (ASTM A 36M) and ASTM A 123. Secure, reinforce, and support tracks as required for door size and weight to provide strength and rigidity without sag, sway, and vibration during opening and closing of doors. Support and attach tracks to opening with continuous angle welded to tracks and attached.

Push/Pull Handles: For push-up-operated or emergency-operated doors, provide galvanized steel lifting handles on each side of door.

WEATHERSTRIPPING: Continuous weather stripping shall be a combination of

vinyl and aluminum extrusion. Neoprene rubber jam seals shall be provided around the perimeter of the door.

WARRANTY: The complete door assembly shall have a one year warranty against defective material or workmanship.

0809.03 INSTALLATION

The installation of all overhead doors shall be done by qualified mechanics and shall be done according to the manufacturer's recommendations.

Install units and accessories accurately and neatly into their respective locations in accordance with final shop drawings and manufacturer's data and as herein specified. Doors shall be installed true, plumb and square, such that they remain open in any position.

SECTION 0810
DOORS AND FRAMES

0810.01 GENERAL

The extent of doors and frames is shown on the drawings and schedules. Exact locations and sizes shall be confirmed by the Contractor. The Contractor shall furnish doors, frames, accessory items as indicated on the drawings and / or specified herein.

Shop drawings for the fabrication and installation of doors and frames shall include details of each door and frame type, elevations of floor design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, details of joints and connections, anchorage and accessory items.

Deliver doors and frames cartoned or crated to provide protection during transit and job storage. Inspect doors and frames upon delivery for damage. Minor damages may be repaired provided the finish items are equal in all respects to new work and acceptable to the Engineer; otherwise, remove and replace damaged items as directed.

Store doors and frames at the building site under cover. Place the units on at least 4" high wood sills or on the floors in a manner that will prevent rust and damage. If the cardboard wrapper on the door becomes wet, remove carton immediately. Provide a 1/4" space between stacked doors to promote air circulation.

The Contractor must examine the substrate and conditions under which the doors and frames are to be installed and notify the Engineer in writing of any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.

0810.02 MATERIALS

The following items shall be manufacturer’s standard:

1. Supports and anchors
2. Inserts, bolts and fasteners
3. Shop applied paint
4. Weatherstripping

5. Silencers
6. Thresholds
7. Insulation

Doors and Frames:

Door Designation	Description
Garage Entrance Door	Six (6) Steelcraft Steel, insulated unit 3' - 0" x 6' - 8" No glass panel
Interior Doors	Ten (10) Steelcraft Steel

Door Accessories:

Finish doors complete with following accessories:

A. Entrance Door
   1. Standard hardware
   2. 2 pairs of butts
   3. Mortised lock and keys
   4. Closer

B. Interior Doors
   1. Standard hardware
   2. 1 - ½ pairs of butts
   3. Closer on all fire rated doors

0810.03 INSTALLATION

Install units and accessories accurately and neatly into their respective locations in accordance with final shop drawings and manufacturer’s data and as herein specified.

DIVISION 13

PRE-ENGINEERED METAL BUILDING SYSTEM

SECTION 13
PRE-ENGINEERED METAL BUILDING SYSTEM

PART 1 GENERAL

1.01 WORK INCLUDED

A. This section covers the work necessary to design, furnish, coordinate the details and construction with the concrete foundations, and install, complete, the prefabricated metal building specified herein.

1.02 GENERAL

A. Like items provided hereunder shall be the end products of one manufacturer in order to achieve standardization for appearance, operation, maintenance, spare parts, and manufacturer's service.
B. See CONDITIONS OF THE CONTRACT and Division 1, GENERAL REQUIREMENTS, which contain information and requirements that apply to the work specified herein and are mandatory for this project.

1.03 STANDARDS

A. Meet design, fabrication, and erection requirements specified herein and as applicable in following documents:
Structural Steel for Buildings".
2. AISI "Specification for the Design of Light-Gauge Cold Formed Steel Structural Members".
3. AISI "Specification for the Design of Cold-Formed Steel Structural Members".
4. AISC "Code of Standard Practice for Steel Buildings and Bridges".
5. MBMA "Metal Building Systems Manual".
6. Steel Door Institute.
7. Architectural Aluminum Manufacturers Association.
8. Applicable sections of American Welding Society's "Structural Welding Code"
AWS Dl.1 relating to welding procedures.

9. International Building Code

1.04 SUBMITTALS

A. Submittals shall be made in accordance with Section SUBMITTALS in Division 1, GENERAL REQUIREMENTS. In addition, the following specific information shall be provided:

1. Product Data:

a. Manufacturer's Standard Details and Structural Calculations: Clearly mark those portions that apply to specific project and those parts that do not apply.
b. Manufacturer's Literature and Technical Data:
Indicate deviations from Drawings or Specifications required for complete installation of proposed prefabricated metal building.
c. Painting system: Specifications including paint manufacturer's name, product trade-name, and preparation for shop and field coats.

2. Shop Drawings:

a. Show materials, components (including doors and other accessories), finishes, fastenings, method of joining, sealants, and structural calculations to include as a minimum these Drawings:

1) Foundations and Footings: Dimensions: Revised as necessary from that shown on Contract Drawings.

Details of Anchorages: Show coordination with building's foundation requirements.

Anchor Bolt Plan: Anchor bolt, shear angle, and baseplate details, including all sizes and dimensions.

2) Building Roof Plan: Show size and location of structural members and bracing.

3) Elevations and Rigid Frame details: With building elevations, show size and location of wall structural members, bracing, and structural wind columns as required.

4) Calculations: Complete structural stress and deflection analysis of structural components and connections; consider prying action of bolts should proposed design use bolted moment-resistant connections in main frames.

5) Doors. Other Openings, and Accessories: Provide details.

3. Samples:
a. Color Samples: Submit for components requiring color selection.

4. Quality Control Submittals:
a. Installation by Specialist:
1) Documentation of past *5* years' experience record for erection of specified manufacturers' prefabricated metal buildings or equal, to include project name, location, type and date completed, building manufacturer and owner's contact person.
2) Certification of licensing by manufacturer.
b. Certification of Compliance: By manufacturer certifying product compliance with requirements specified herein.
c. Manufacturer's Written Instructions: Shipping, handling, storage, protection and erection or installation of building or components.
d. Manufacturer's written standards for manufacturing.
e. Manufacturer's certification or proof of current membership in Metal Building Manufacturer's Association (MBMA).

5. Contract Closeout Submittal:
a. Manufacturer's certification of proper installation.
b. Operations and Maintenance Manual.

1.05 DELIVERY, STORAGE, AND HANDLING
A. Complete fabrication and prepare for shipment knocked down, including necessary crating or bundling.
B. Ship in accordance with manufacturer's instructions.
C. Store, handle, and protect building components, prior to and during erection or installation, in accordance with manufacturer's written instructions, as approved.

1.06 WARRANTY
A. Provide extended warranties for manufacturer's standard paint film as specified below:
1. Paint film on Roof Panels: Will not crack, check, blister, peel, flake, chip, or lose adhesion for a period of 20 years from date of final acceptance, under normal weather and atmospheric conditions at the project site; and
2. Paint film on Wall Panels: Will not:
a. Chalk in excess of ASTM D659, No. 8 rating, within 20 years from date of final acceptance.
b. Fade more than *5* NBS units within 10 years from the shipment date.

c. Crack, check, blister, peel, flake, chip, or lose adhesion within 20 years from date of final acceptance, under normal weather and atmospheric conditions at the project site.
B. The plant where the building components are manufactured shall be certified by AISC for Category MB - Metal Buildings.

PRODUCTS

PART 2

2.01 GENERAL
A. The use of the manufacturer's name and model or catalog number is for the purpose of establishing the standard of quality and general configuration desired only. Other manufacturer's equipment will be considered in accordance with the General Conditions.
B. Provide manufacturer's standard components as required, unless otherwise specified.

2.02 DESIGN LOADS
Description Load
A. Steel Building Own dead load
B. Roof Snow Load 60 psf (pounds per square foot)
C. Design Wind Load 98 mph, Exposure B, importance factor 1.0
D. Earthquake Load Seismic Zone 2
E. Design roof system including support framing, roof panels, and fasteners for uplift wind loads to meet requirements of the BOCA National Building Code/1999, the 2003 version of the International Building Code and all other federal, state and municipal requirements.
F. No live load or snow load reductions are allowed.

2.03 MANUFACTURERS
A. Varco-Pruden Metal Building Systems, Pine Bluff, AR.
B. Butler Building Systems, Galesburg, IL.
C. A & S Building Systems, Inc., Caryville, Tenn.
D. Or equal.

2.04 BUILDING DESCRIPTION
A. Framing System: Steel Frame.
B. Column Locations: 20' o.c. mm. spacing, see plans.
C. Minimum Roof Slope: 1:12
D. Bracing: As required by the manufacturer. At minimum, provide one braced

wall bay, brace the corresponding roof bay, and provide wind columns at all column locations in the wall containing multiple vehicle doors.
E. Interior Clear Height: 18’6”.
F. Roof Panels:
1. Exterior: Standing seam.
2. Interior: Smooth steel.
G. Wall Panels:
1. Exterior: Ribbed steel.
2. Interior Smooth steel.
H. Insulation: Blanket Insulation

2.05 FOUNDATION AND FOOTINGS
A. Concrete Work: As specified in Division 3, Concrete.
B. Anchor Bolts: As required by building manufacturer and building designer.

2.06 FRAMING
A. Structural:
1. Steel: ASTM A36 minimum.
2. Factory Primer: Compatible with finish coat as specified herein.
B. Wall Openings:
1. Stiffen with flange channels as provided by building manufacturer.
2. Provide accessory clips as required.

2.07 PANELS - GENERAL
A. Ribbed steel panel construction (exterior).
B. Smooth steel panel construction (interior).
C. Material:
1. Galvanized steel with roll-formed corrugations for structural stiffness and appearance.
2. ASTM *A525*.
3. Federal Specification QQ-SS-775A, Type 1, Class D.
D. Finish:
1. Factory-applied baked enamel.
2. Color:
a. Interior: To match glazed concrete masonry units.
b. Exterior: Siding on top and trim is to be Moss Green in color siding on bottom is to be Dark Green, as approved by the Maine Department of Transportation. Roof is to be Dark Green in color, as approved by the Maine Department of Transportation. Overhead doors are to be white. Manufacturer’s as shown on the exterior finish schedule.
E. Panel Design: Expansion and contraction capability for ambient temperature range of 120 degrees F without buckling, opening of joints, or other detrimental effects.
F. Wall Panels, 26-gauge:
1. Insulated.
2. One-piece from base to building eave or door guide channel with factory-cut openings.
3. Major exterior and minor interior face corrugations.
G. Roof Panels. 24-gauge:

1. Insulated.
2. Type: Standing lock seam.
3. One-piece from eave to ridge except factory-punched penetrations at cave structural.
4. Maximum length to minimize endlaps with major corrugations along panel sides.
5. Provide thermal spacer blocks over purlins.
H. Sidelaps: Minimum one full corrugation, caulked and fastened as follows:
1. Wall Panels: Self-tapping screws.
2. Roof Panels: Folded lock seam.
1. Endlaps: 6 inches minimum.

J. Panel Joints: Self-sealing.
K. Frame Connections: Provide panel-to-panel and panel-to-structural connections with self-tapping screws; movable clip folded into lock seam; maintain weathertight seal.
L. Roof Ridge Panels:
1. Same configuration as roof panels.
2. One-piece factory-formed to fit roof slope and match roof.
3. Extend beyond first purlin from centerline of building.
M. Closure Sections: Provide to seal building corners, gables, and other panel intersections.
N. Insulation: Flame spread less than 25; ASTM E84.

2.08 TRANSLUCENT SKYLIGHT PANELS N/A

2.09 METAL BUILDING BLANKET INSULATION
A. As specified in Outline Specification.
B. Thickness: (Walls) 6-1/4 inch R19 or better.
(Roof) 6-1/4 inch R19+4 inch Ru zTotal R30
C. Vapor Barrier:
1. 2-mil thick white vinyl vapor barrier backing.
2. Water Vapor Permeance Rating: 0.1 maximum; ASTM E96, Procedure A.
D. Application Area: Underside of roof panels and inside of wall panels.

2.10 INSULATED METAL DOORS AND FRAMES
A. See outline Specification.

2.11 ROLL-UP DOOR
A. See Outline Specification.

2.12 GLAZING N/A

2.14 FIXED LOUVERS
A. Per manufacturer's recommendations.

2.15 HEATING
A. See Outline Specification.

2.16 TRIM
A. Factory-formed and factory-painted.
B. Include ridge cap, rake trim, simple eave trim, panel side trim, corner trim, door trim, and other trim as necessary.

2.17 MISCELLANEOUS
A. Provide panel fasteners, weather sealing compounds, roofjacks, roof curbs, bolts, nuts, gaskets, and other necessary components in accordance with manufacturer's instructions.

2.18 PAINTING
A. See interior and exterior finish schedule.

2.19 FABRICATION
A. Factory fabricate to manufacturers written standards and AISC Specification for the Design. Fabrication, and Erection of Structural Steel Buildings, and as specified herein.
B. Building Parts: Accurate and true to dimension to facilitate building erection.

2.20 MANSARD
A. Mansard to be 4211 high.
B. Mansard to be insulated around internal gutter at eaves.

2.21 INTERNAL GUTTER
A. Internal gutter to be uninsulated on bottom and side toward interior of building.

B. Internal gutters to be connected to 3 6” PVC down spouts.

PART 3 EXECUTION

3.01 PREPARATION
A. Prior to performing work of this section, verify that work of other trades, as applicable, is complete for commencement of installation.
B. Obtain manufacturer’s written instructions before commencing erection or installation.

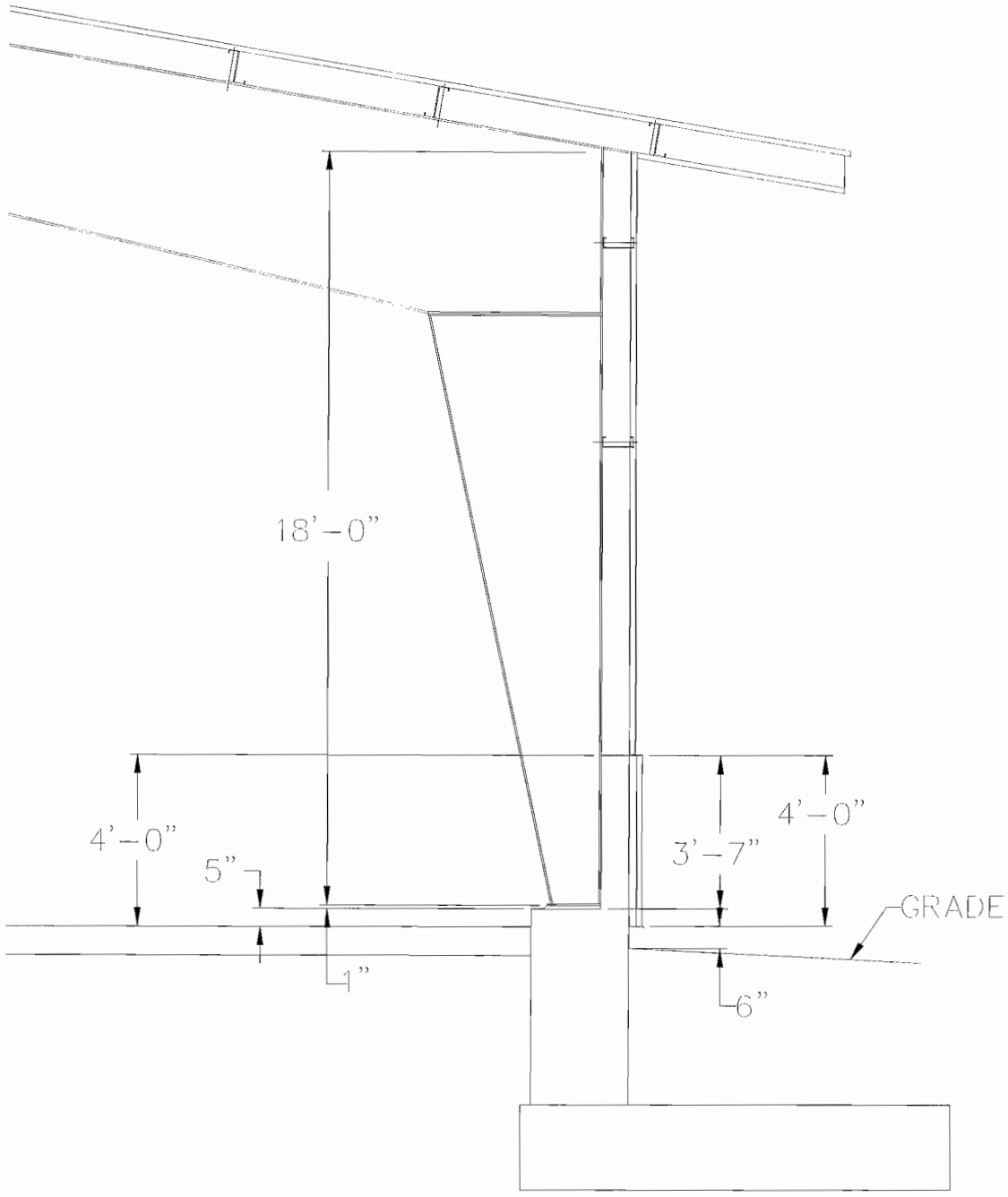
3.02 FOUNDATION AND FOOTINGS
A. Provide as shown and as modified by building manufacturer selected.
B. Floor Slab: Minimum thickness 8”.
C. Concrete Work: As specified in Division 3.
D. Anchor Bolts: Provided by building manufacturer and installed per building manufacturer’s instructions and in accordance with these Specifications.

3.03 BUILDING ERECTION
A. In accordance with manufacturer’s standards.
B. Structural Parts: No field cutting permitted.
C. Panels or Accessories:
1. Field Cutting or Patching: Not permitted unless otherwise approved by Engineer.
2. Approved Field Modification: Perform in manner not to impair appearance, weather tightness, or structural quality of material or structure.
D. Insulation: As specified in 2.09.
E. Insulated Metal Doors and Frames: As specified in 0810 DOORS AND FRAMES.
F. Roll-up Doors: As specified in 0810.

G. Electrical System: As specified in Division 16.
H. Field Painting: As per the Interior and Exterior Finish Schedule.
I. Replace or Restore Following to Original Condition:
1. Surface finishes damaged prior to or during erection.
2. Components where material and workmanship does not meet specified requirements.
J. Minor Scratches, Dents, and Holes: Repair and paint with similar enamel of thickness and color to match original coating only if allowed by the Engineer.

3.04 FIELD QUALITY CONTROL

A. Manufacturer’s Field Services: Furnish a minimum of 3 days of manufacturer’s representative at jobsite for installation assistance, inspection, and certification of installation.



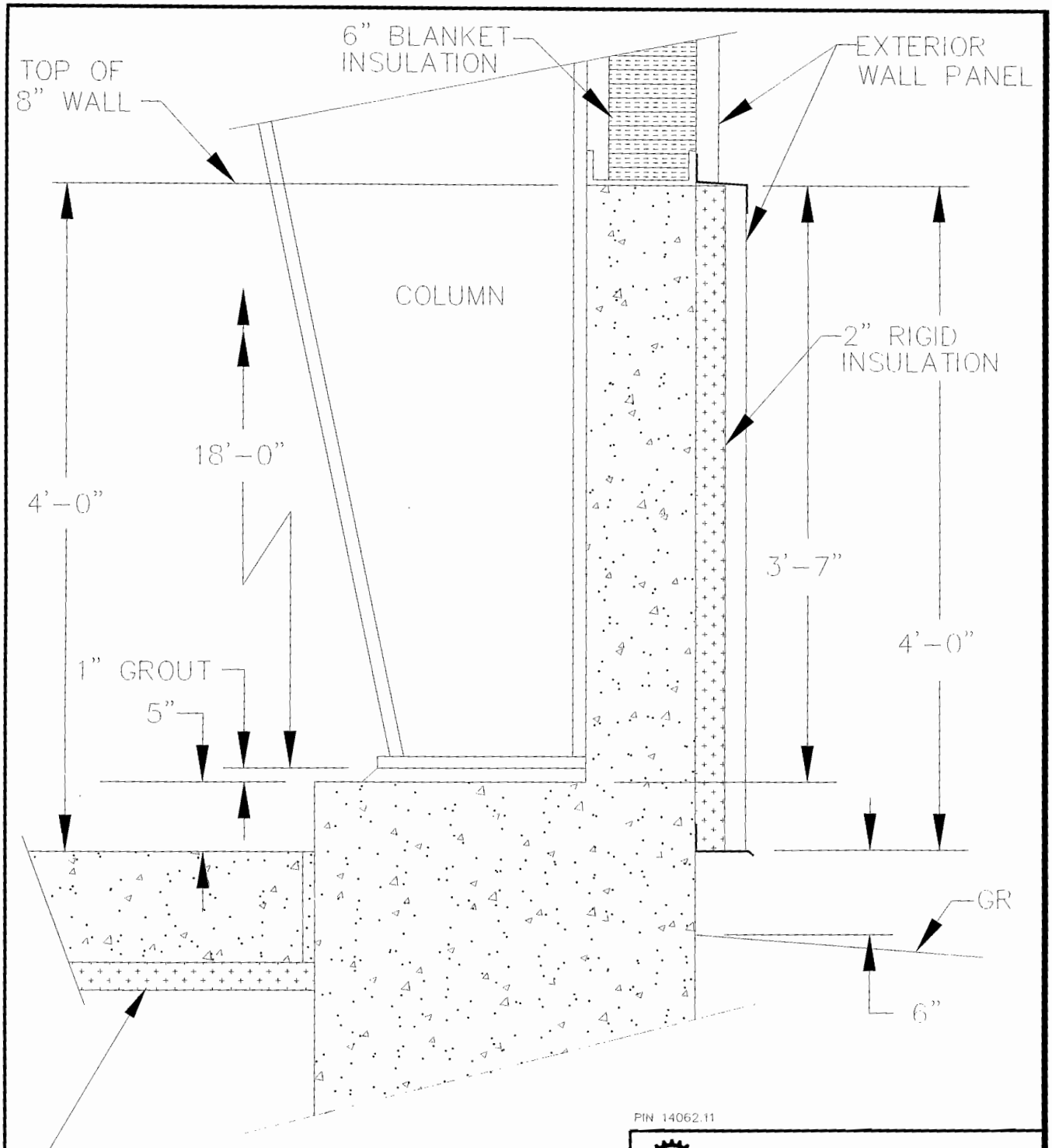
PIN 14062.11

LP ENGINEERING
CONSULTING
1265 ALBION ROAD
WINSLOW, MAINE 04901
(PH & FAX) 207-873-4928

PROJ.
TOPSHAM HIGHWAY MAINTENANCE GARAGE
TOPSHAM, MAINE

TITLE
CURB WALL SECTION

DATE	SCALE	JOB NO	DRAWING NO
05-19-06	AS SHOWN		
BY	CHKD	LP ENG 300-01-06	A-1A
L P Pelletier			



NOTE:

COLUMN FLANGES AND BASEPLATE SHOWN THICKER FOR CLARITY

PIN 14062.11

LP ENGINEERING

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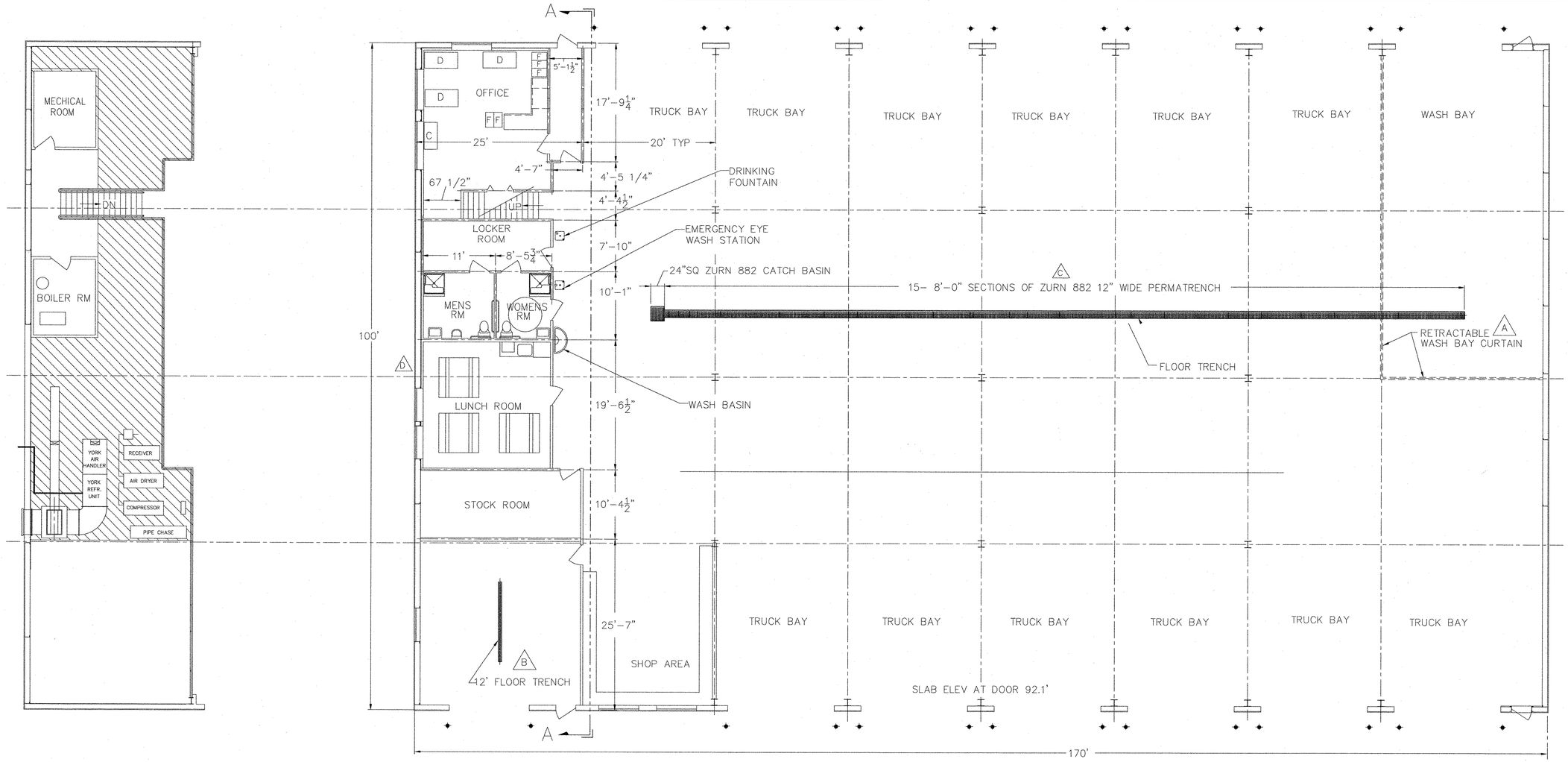
1265 ALBION ROAD
WINSLOW, MAINE 04901
(PH & FAX) 207-873-4928

PROJ.
TOPSHAM HIGHWAY MAINTENANCE GARAGE
TOPSHAM, MAINE

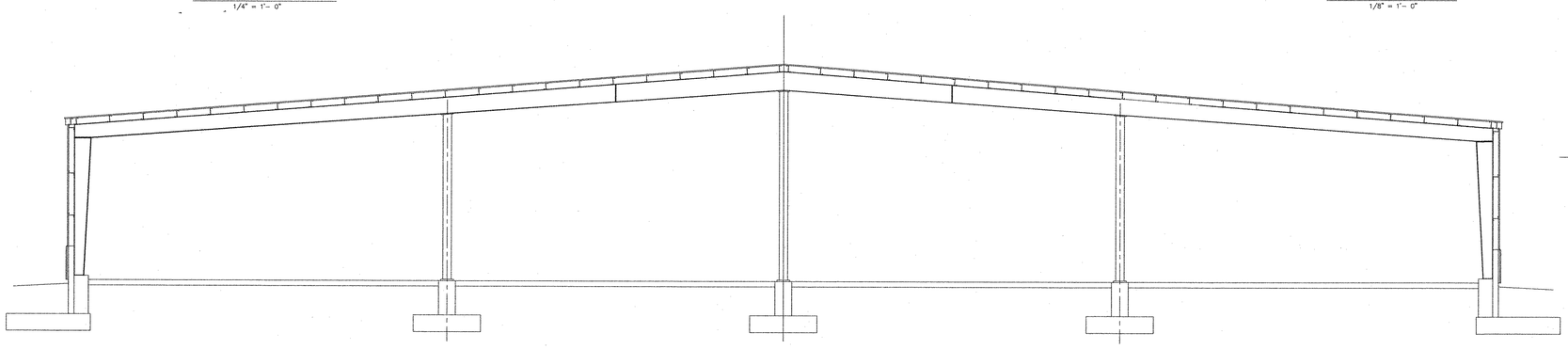
TITLE
CURB WALL SECTION

DATE	SCALE	JOB NO	DRAWING NO
05-19-06	AS SHOWN	LP ENG 300-01-06	A-1B
BY: L P Pelletier	CHKD		

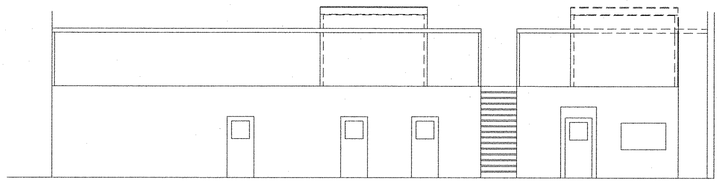


SECOND FLOOR PLAN
1/4" = 1'- 0"

FIRST FLOOR PLAN
1/8" = 1'- 0"



SECTION A–A
1/8" = 1'- 0"



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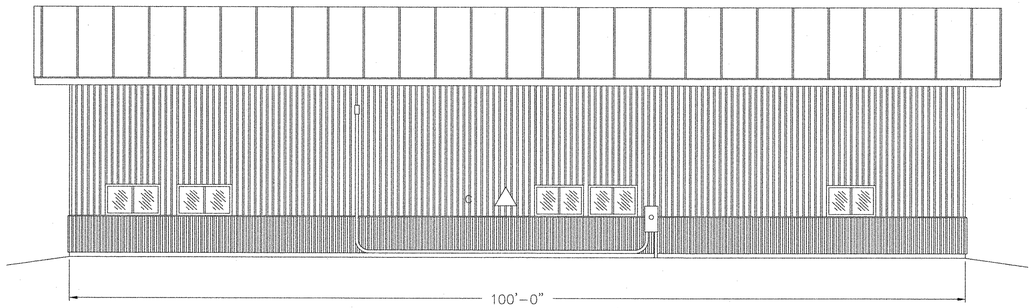
PROJ.
TOPSHAM HIGHWAY MAINTENANCE GARAGE
TOPSHAM, MAINE

TITLE
BUILDING PLAN

STATE OF MAINE — LEWIS P PELLETIER — NO. 4537 — REGISTERED PROFESSIONAL ENGINEER

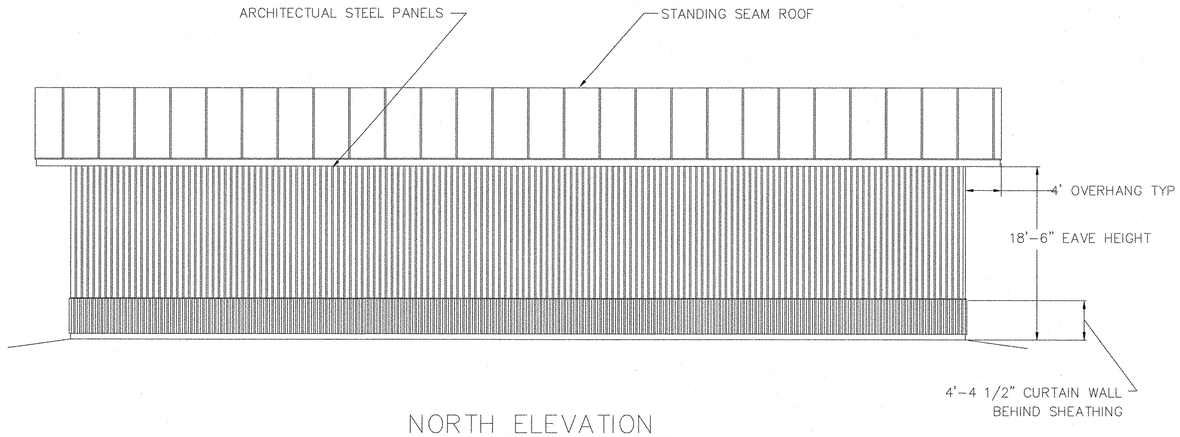
NO	DATE	DESCRIPTION
D	01-05-06	REMOVED A WINDOW AT (D)
C	12-21-06	ADDED ZURN FLOOR TRENCH AT (C)
B	12-11-06	ADDED FLOOR TRENCH AT (B) AND EYE WASH STATION
A	12-08-06	ADDED NOTE AT (A) & OFFICE DIM

DATE	SCALE	JOB NO	DRAWING NO
05-19-06	AS SHOWN	LP ENG 300-01-06	A—1D
BY: L P Pelletier	CHKD		



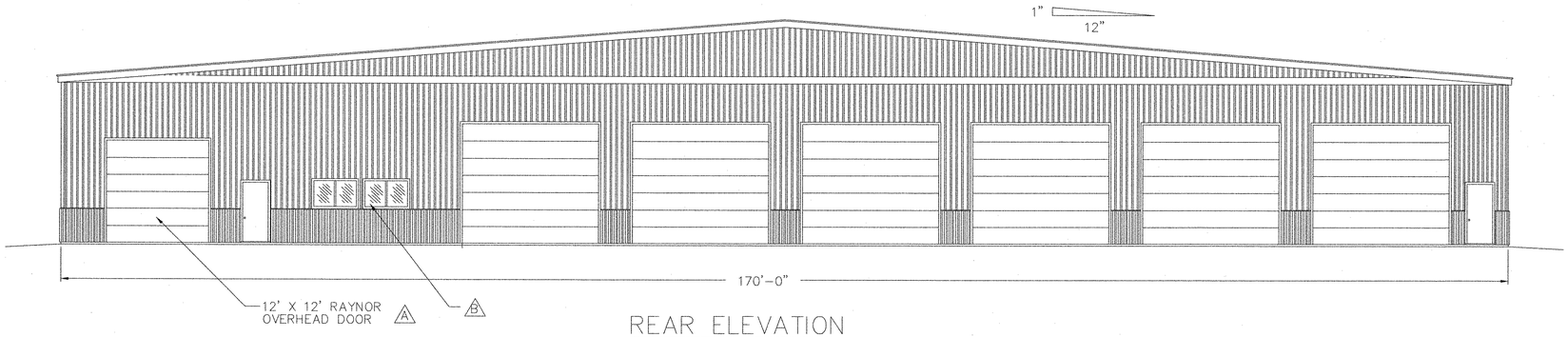
SOUTH ELEVATION

1/8" = 1'- 0"



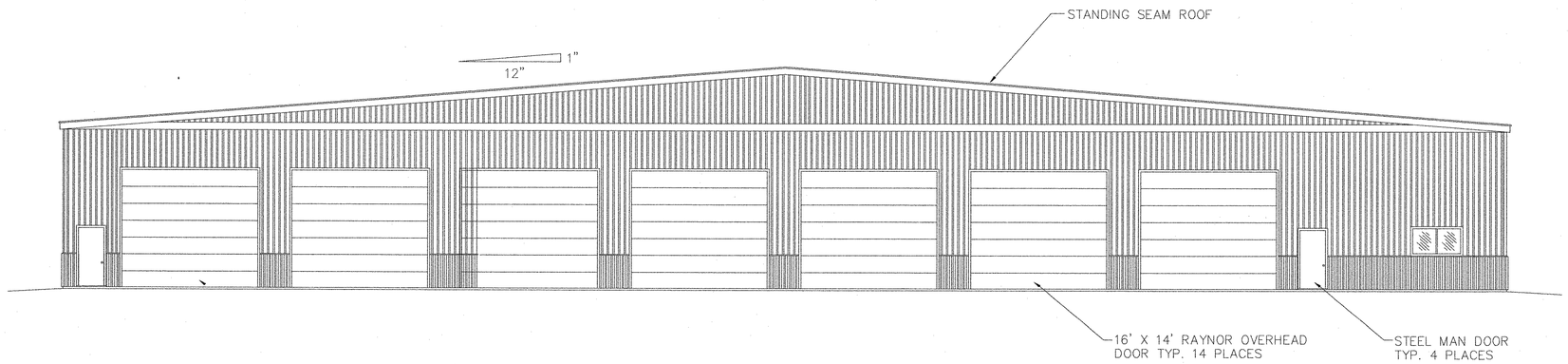
NORTH ELEVATION

1/8" = 1'- 0"



REAR ELEVATION

1/8" = 1'- 0"



FRONT ELEVATION

1/8" = 1'- 0"

STATE OF MAINE
LEWIS F. PELLETIER
NO. 4537
REGISTERED PROFESSIONAL ENGINEER

NO	DATE	DESCRIPTION
C	01-05-06	REMOVED A WINDOW AT C
B	12-15-06	REPLACED DOOR WITH 2-WINDOWS AT B
A	12-11-06	REVISED OVERHEAD DOOR SIZE AND ADDED A 05-19-06

PIN 14062.11

LP ENGINEERING
CONSULTING
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PROJ.
TOPSHAM HIGHWAY MAINTENANCE GARAGE
TOPSHAM, MAINE

TITLE
BUILDING ELEVATIONS

DATE	SCALE	JOB NO	DRAWING NO
	AS SHOWN		A-2C
BY L P Pelletier	CHKD	LP ENG 300-01-06	

ROOM SCHEDULE

ROOM NO.	PURPOSE	FLOOR	WALLS	CEILING
1	OFFICE	TILE	GYP-BRD PAINT	SUSP/ACOUS
2	CLOSET	TILE	GYP-BRD PAINT	SUSP/ACOUS
3	LOCKER ROOM	TILE	GYP-BRD PAINT	SUSP/ACOUS
4	MENS ROOM	TILE	GYP-BRD PAINT	SUSP/ACOUS
5	WOMENS ROOM	TILE	GYP-BRD PAINT	SUSP/ACOUS
6	LUNCH ROOM	TILE	GYP-BRD PAINT	SUSP/ACOUS
7	STOCK ROOM	TILE	GYP-BRD PAINT	SUSP/ACOUS
8	MAINT-SHOP	TILE	GYP-BRD PAINT	SUSP/ACOUS
9	HALLWAY	TILE	GYP-BRD PAINT	SUSP/ACOUS
10	MECH ROOM	CONCRETE	GYP-BRD PAINT	GYP-BRD PAINT
11	BOILER ROOM	CONCRETE	GYP-BRD PAINT	GYP-BRD PAINT

WINDOW SCHEDULE

WIND. NO.	LOCATION	MAKE	TYPE	SIZE	ROUGH OPENING
1	OFFICE EXTERIOR	ANDERSON	GLIDING WINDOW	G64	6'-0" X 3'-0"
2	OFFICE EXTERIOR	ANDERSON	GLIDING WINDOW	G64	6'-0" X 3'-0"
3	OFFICE EXTERIOR	ANDERSON	GLIDING WINDOW	G64	6'-0" X 3'-0"
4	LUNCH-RM EXTERIOR	ANDERSON	GLIDING WINDOW	G64	5'-0" X 3'-0"
5	LUNCH-RM EXTERIOR	ANDERSON	GLIDING WINDOW	G63	5'-0" X 3'-0"
6	LUNCH-RM EXTERIOR	ANDERSON	GLIDING WINDOW	G63	5'-0" X 3'-0"
7	MAINT-SHOP EXTERIOR	ANDERSON	GLIDING WINDOW	G63	6'-0" X 3'-0"
8	SHOP	ANDERSON	GLIDING WINDOW	G54	6'-0" X 3'-0"
9	SHOP	ANDERSON	GLIDING WINDOW	G54	6'-0" X 3'-0"
10	OFFICE INTERIOR	ANDERSON	CASEMENT WINDOW	CP34	6'-3/8" X 4'-1/2"
11	HALL INTERIOR	1 HOUR FIRE RATED	STATIONARY WINDOW	NOT TO EXCEED 1296 SQ. IN.	3'-0" X 3'-0"

DOOR SCHEDULE

DOOR NO.	LOCATION	MAKE	SIZE	MATERIAL	GLAZING	HARDWARE	ROUGH OPENING
1	WEST SIDE	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	NONE	LOCKSET/LEVER	3'-2 3/8" X 7'-3"
2	WEST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT	MANUFACTURER STANDARD	DOOR OPENER	16'-2 3/8 X 14'-3"
3	WEST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT		DOOR OPENER	16'-2 3/8 X 14'-3"
4	WEST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT		DOOR OPENER	16'-2 3/8 X 14'-3"
5	WEST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT		DOOR OPENER	16'-2 3/8 X 14'-3"
6	WEST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT		DOOR OPENER	16'-2 3/8 X 14'-3"
7	WEST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT		DOOR OPENER	16'-2 3/8 X 14'-3"
8	WEST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT		DOOR OPENER	16'-2 3/8 X 14'-3"
9	WEST SIDE	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	NONE	LOCKSET/LEVER	3'-2 3/8" X 7'-3"
10	EAST SIDE	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	NONE	LOCKSET/LEVER	3'-2 3/8" X 7'-3"
11	EAST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT	MANUFACTURER STANDARD	DOOR OPENER	16'-2 3/8 X 14'-3"

DOOR SCHEDULE

DOOR NO.	LOCATION	MAKE	SIZE	MATERIAL	GLAZING	HARDWARE	ROUGH OPENING
12	EAST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT	MANUFACTURER STANDARD	DOOR OPENER	16'-2 3/8 X 14'-3"
13	EAST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT		DOOR OPENER	16'-2 3/8 X 14'-3"
14	EAST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT		DOOR OPENER	16'-2 3/8 X 14'-3"
15	EAST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT		DOOR OPENER	16'-2 3/8 X 14'-3"
16	EAST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT		DOOR OPENER	16'-2 3/8 X 14'-3"
17	EAST SIDE	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	NONE	LOCKSET/LEVER	3'-2 3/8" X 7'-3"
18	EAST SIDE	RAYNOR	16/0 X 14/0 2"	STEEL/PAINT	MANUFACTURER STANDARD	DOOR OPENER	16'-2 3/8 X 14'-3"
19	WASH ROOM	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	24" SQ. WIRED	LOCKSET/LEVER	3'-2 3/8" X 7'-3"
20	STOCK ROOM	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	24" SQ. WIRED	LOCKSET/LEVER	3'-2 3/8" X 7'-3"
21	LUNCH ROOM	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	24" SQ. WIRED	LEVER	3'-2 3/8" X 7'-3"
22	WOMENS ROOM	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	SLIDE/LATCH	LOCKSET/LEVER	3'-2 3/8" X 7'-3"

DOOR SCHEDULE

DOOR NO.	LOCATION	MAKE	SIZE	MATERIAL	GLAZING	HARDWARE	ROUGH OPENING
23	LOCKER ROOM	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	NONE	LEVER	3'-2 3/8" X 7'-3"
24	WOMENS ROOM	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	SLIDE/LATCH	LOCKSET/LEVER	3'-2 3/8" X 7'-3"
25	MENS ROOM	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	SLIDE/LATCH	LOCKSET/LEVER	3'-2 3/8" X 7'-3"
26	OFFICE ENTRY	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	10" SQ. WIRED	LOCKSET/LEVER	3'-2 2/8" X 7'-3"
27	OFFICE ENTRY	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	24" SQ. WIRED	LOCKSET/LEVER	3'-2 3/8" X 7'-3"
28	STORAGE CLOSET	BI-FOLD	4/0 X VAR 1 1/4"	WOOD/PAINT	NONE	LATCH	4'-2 3/8" X 7'-3"
29	MECH RM 2ND FLOOR	STEELCRAFT	3/0 X 7/0 1 3/4"	STEEL/PAINT	NONE	LOCKSET/LEVER	3'-2 3/8" X 7'-3"
30	BOILER RM 2ND FLOOR	STEELCRAFT	3/0 X 6/8 1 1/4"	STEEL/PAINT	NONE	LOCKSET/LEVER	3'-2 3/8" X 7'-3"

INSULATION SCHEDULE

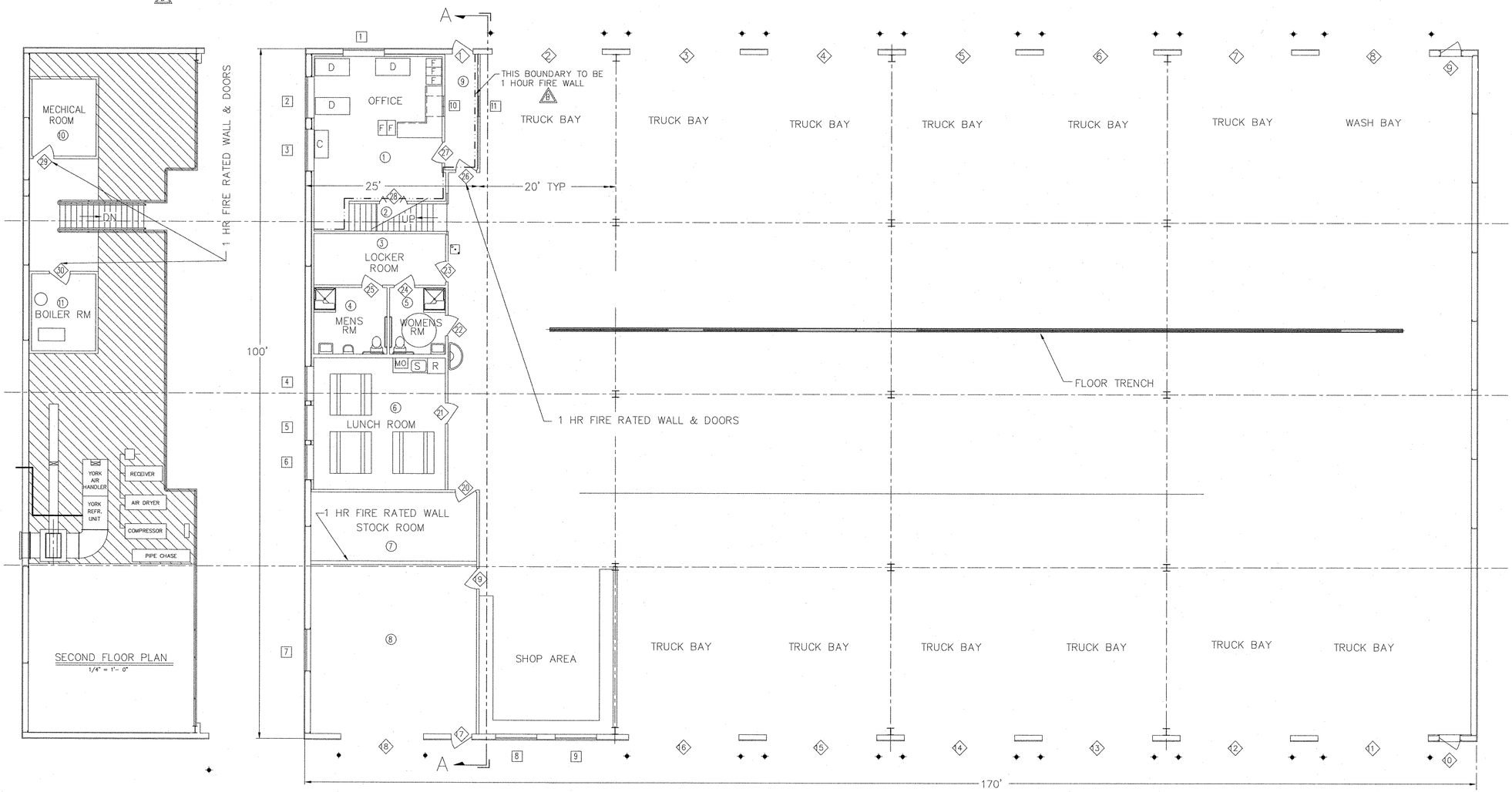
LOCATION	TYPE	THICKNESS	R-VALUE
EXTERIOR WALLS	FIBERGLASS BLANKET VINYL-FACED	6"	19
ROOF	FIBERGLASS BLANKET VINYL-FACED	10"	38
UNDER SLAB	RIGID THERMAX BOARD	2"	16
OUTSIDE FOUNDATION	RIGID THERMAX BOARD	2"	16
OUTSIDE PIPE TRENCH	RIGID THERMAX BOARD OVER PIPE LINES	2"	16
OUTSIDE PERIMETER OF INSIDE PARTITIONS	FIBERGLASS BATT UN-FACED	3 1/2"	11

SHEATHING SCHEDULE

LOCATION	TYPE	THICKNESS	FINISH	EXTENT
EXTERIOR WALLS	STEEL ARCHITECTRAL PANELS	26 GA./36"W	COLOR	ALL
INTERIOR WALLS	STEEL WHITE RAISED LINER PANEL	26 GA./36"W	WHITE	CONCR. TO EAVE
ROOF	STEEL STANDING SEAM	24 GA./24"COV	COLOR	ALL
RM 1-7&9 INTERIOR	SHEETROCK/HIR FIRE RATE	1 1/4" THK. 2-LAYERS@5/8"	PAINT (2 COATS)	FLOOR TO CEILING
RM 1-7&9 EXT.	STEEL WHITE RAISED LINER PANEL	26 GA./36"W	WHITE	FLOOR TO MEZZ.
HALL, BOILER RM & MECH RM INTERIOR	SHEETROCK/HIR FIRE RATE	1 1/4" THK. 2-LAYERS@5/8"	PAINT (2 COATS)	FLOOR TO CEILING
HALL, BOILER RM & MECH RM EXTERIOR	STEEL WHITE RAISED LINER PANEL	26 GA./36"W	WHITE	FLOOR TO MEZZ.
SHOP PARTITION	STEEL WHITE RAISED LINER PANEL	26 GA./36"W	WHITE	FLOOR TO ROOF
TRUCK BAY PARTITION	STEEL WHITE RAISED LINER PANEL	26 GA./36"W	WHITE	FLOOR TO ROOF

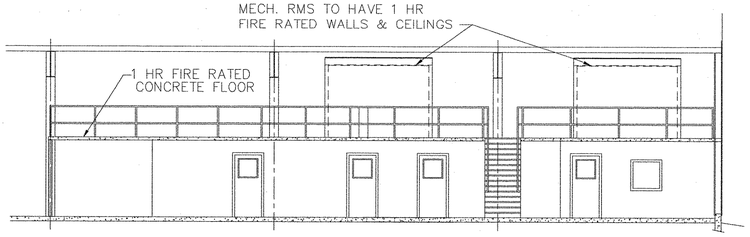
CEILING SCHEDULE

LOCATION	TYPE	THICKNESS	FINISH	SUPPORT
HALL INTERIOR	SUSPENDED RECESS PANEL WITH 2HR FIRE RATING	5/8" THK.	CEIL WHITE	SUSPENDED GRID SUPPORT WITH 2HR FIRE RATING
RM 1-7&9	SUSPENDED RECESS PANEL WITH 2HR FIRE RATING	5/8" THK.	CEIL WHITE	SUSPENDED GRID SUPPORT WITH 2HR FIRE RATING
BOILER ROOM	TWO LAYERS OF 5/8" THK SHEETROCK WITH 1 HR FIRE RATE	5/8" THK.	WHITE PAINT	1"X 2" STRAPPING & JOIST
MECH ROOM	TWO LAYERS OF 5/8" THK SHEETROCK WITH 1 HR FIRE RATE	5/8" THK.	WHITE PAINT	1"X 2" STRAPPING & JOIST

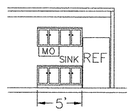


SECOND FLOOR PLAN
1/4" = 1'- 0"

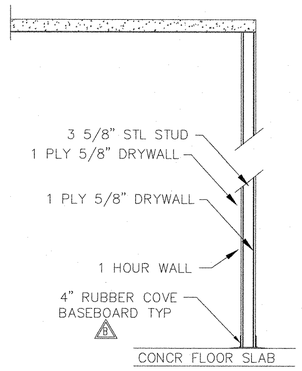
FIRST FLOOR PLAN
1/8" = 1'- 0"



SECTION A-A
1/8" = 1'- 0"



LUNCH ROOM
1/8" = 1'- 0"



ONE HOUR WALL SECTION
1/2" = 1'-0"

ALL INTERIOR WALLS SHEATHED WITH DRYWALL SHALL HAVE

NOTES:

1. The entire interior of the exterior wall is insulated and sheathed with metal panels except for the office, locker room, bath rooms and lunch room, boiler room and mechanical room, which is to be drywall finish, including the ceiling which will be insulated and with metal grid framing, except the boiler and mechanical rooms will have 2 layers of 5/8" water resistant sheetrock on walls and ceiling to provide a 1 hour fire rating, and no grid framework.
2. Exit signs shall be provided for doors 26 and 10.

STATE OF MAINE LEWIS P PELLETIER NO. 4537 REGISTERED PROFESSIONAL ENGINEER

NO	DATE	DESCRIPTION
B	01-10-07	ADDED NOTES AT B
B	01-10-07	ADDED 1 HOUR FIRE WALL BOUNDARY AT B
A	09-05-98	REVISED POLY-DRAIN DIM. AND ISSUED FOR CONSTR.

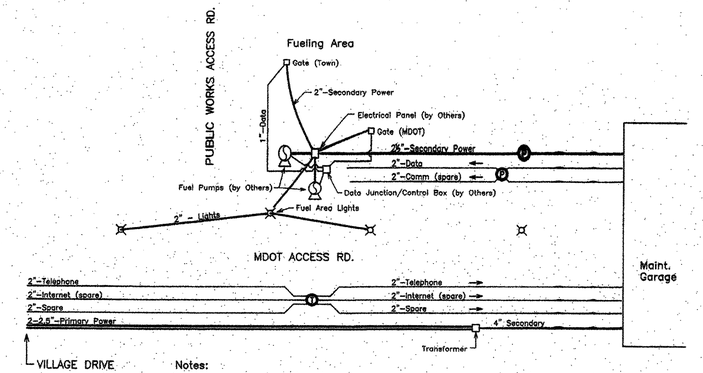
PIN 14062.11

LP ENGINEERING
CONSULTING
1265 ALBION ROAD
WINSLOW, MAINE 04901
(PH & FAX) 207-873-4928

PROJ.
TOPSHAM HIGHWAY MAINTENANCE GARAGE
TOPSHAM, MAINE

TITLE
BUILDING SCHEDULES

DATE	SCALE	JOB NO	DRAWING NO
05-19-06	AS SHOWN	LP ENG 20-1-97	A-8B
BY: L P Pelletier	CHKD		

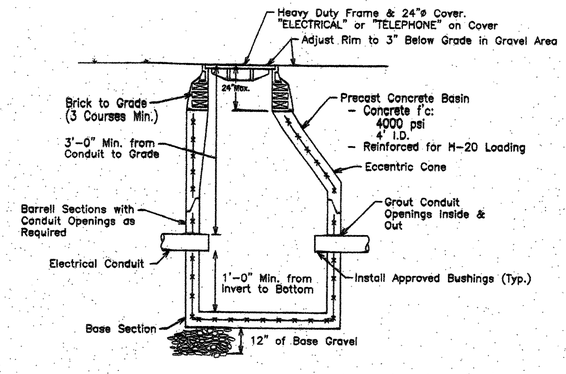


Notes:

1. Schematic does not show all splice boxes, pedestals, lights, etc.; see Utility Plans.

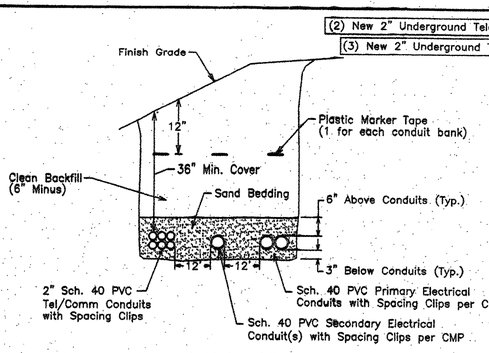
2. Parallel conduits may be combined in duct banks in compliance with CMP and Verizon standards.

3. Stub all conduits 12" above grade and cap at fuel station area. Clearly label conduits. Arrangement and location to be approved by MDOT.



ELECTRICAL/TELECOMMUNICATIONS PULL BOX DETAIL

NOT TO SCALE

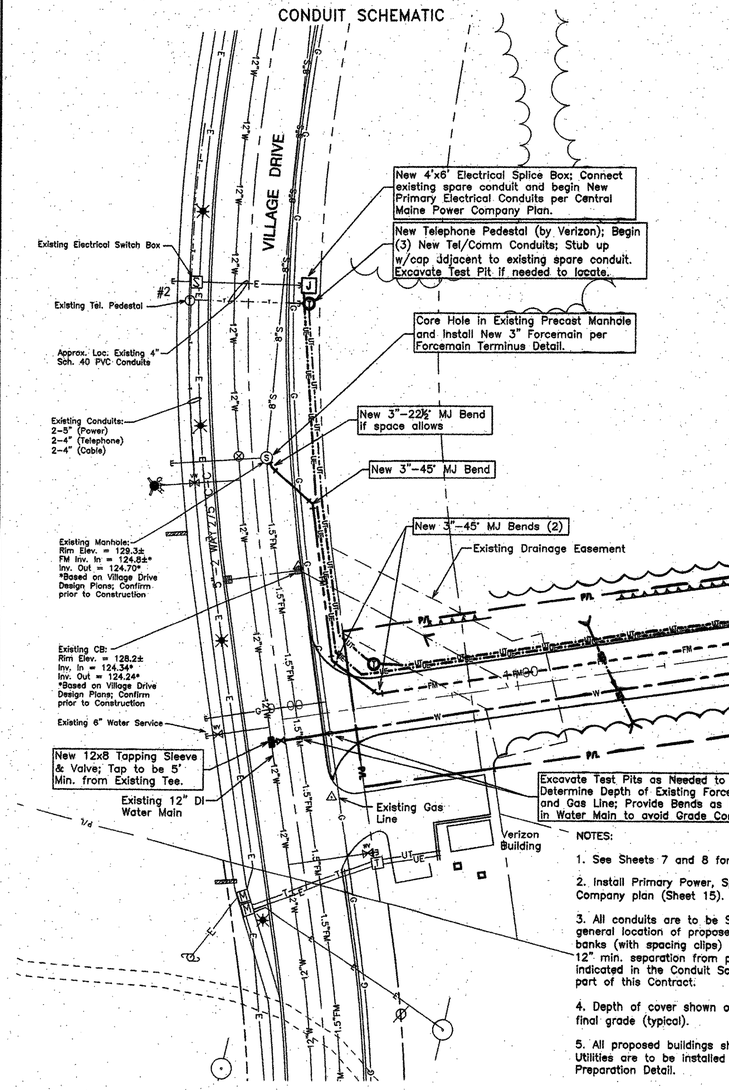


Note: Encase electrical conduit(s) in concrete if required by Central Maine Power Co.

ELECTRICAL & TELECOMMUNICATIONS CONDUIT DETAIL

NOT TO SCALE

CONDUIT SCHEMATIC



NOTES:

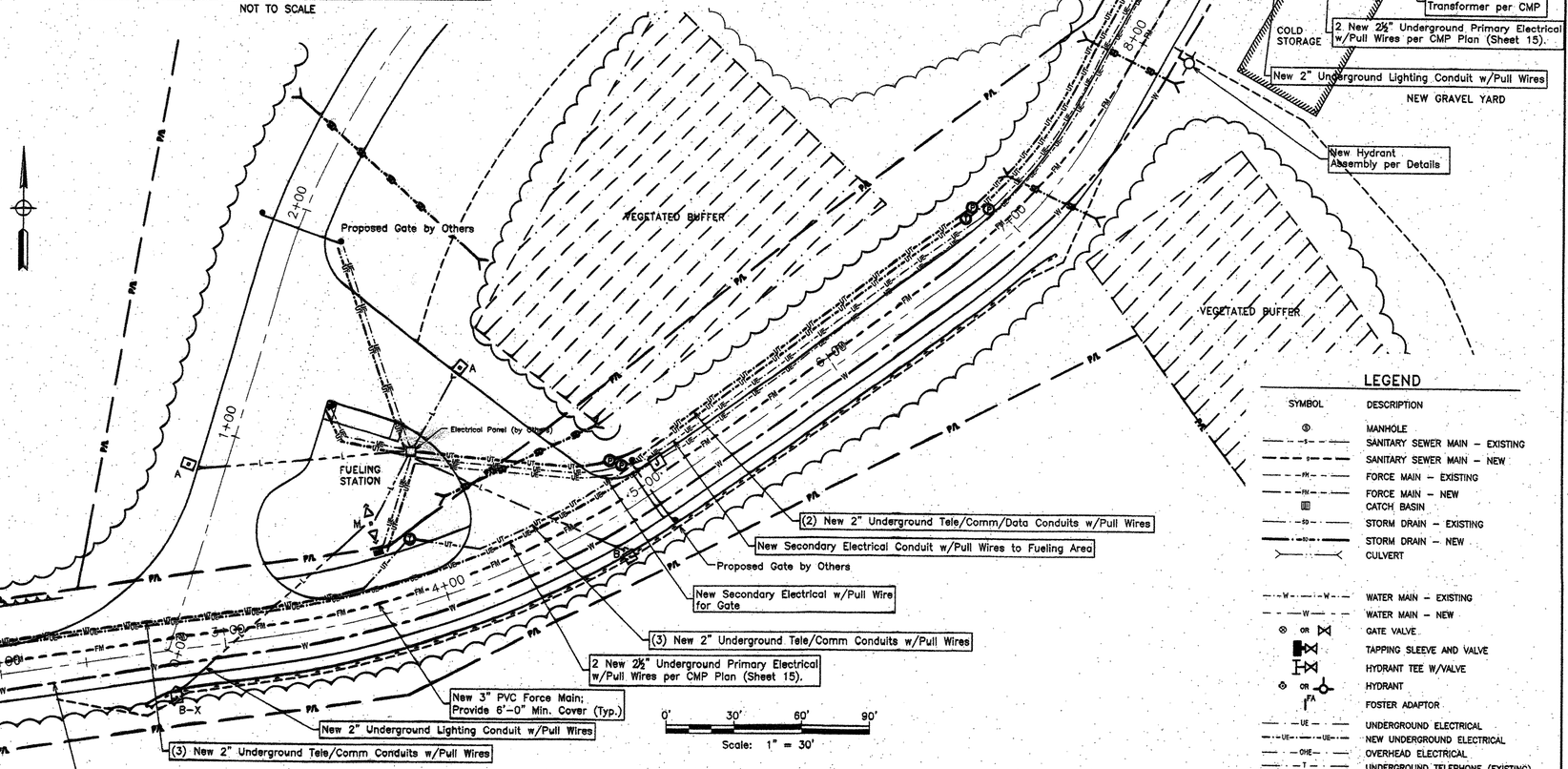
1. See Sheets 7 and 8 for proposed grading and Storm Drain inverts.

2. Install Primary Power, Splice Boxes, and Transformer per Central Maine Power Company plan (Sheet 15).

3. All conduits are to be Sch. 40 PVC unless noted otherwise. Utility Plans shows general location of proposed conduits. Parallel conduits may be combined in duct banks (with spacing clips) in compliance with CMP and Verizon standards. (Provide 12" min. separation from primary power.) Install all conduits with pull wires as indicated in the Conduit Schematic on this Sheet. No conductors are required as part of this Contract.

4. Depth of cover shown over the new conduits and mains is measured from the final grade (typical).

5. All proposed buildings shown on the plan are to be constructed by others. Utilities are to be installed to within 5' of proposed building; see Typical Building Preparation Detail.



LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts	Mounting Height
	A	2	GZ50HPOOLFF	MONGOOSE	250W CLEAR HPS	51437.IES	28000	0.81	1	30
	B	6	G15AHPOOLNF	MONGOOSE	150W CLEAR HPS	49274.IES	16000	0.81	1	30
	M	1	G15AHPOOLWF	MONGOOSE	150W CLEAR HPS	49419.IES	16000	0.81	1	30
	I	2	WL3K250HPOOXX	WALLPACK III	250W CLEAR HPS	43270.IES	27500	0.81	1	25
	L	12	WL2K150HPOO LOW	WALLPACK II	150W CLEAR HPS	33264.IES	16000	0.81	1	18
	M	1	G400HPOOLWF	MONGOOSE	400W CLEAR HPS	49396.IES	50000	0.81	2	30

Notes:
1. Luminaire schedule was provided by MDOT and is given for reference only. Provide 24'ø light pole foundations (MDOT Detail 628(02)and 2" Sch. 40 PVC conduits for all Mongoose style lights. Wallpack fixtures will be mounted on buildings by others. All poles, fixtures, and conductors will be provided and installed by others. Conduits to be 2" Sch. 40 PVC.
2. X indicates Fixture that should be on during hours of darkness.

LEGEND

SYMBOL	DESCRIPTION
	MANHOLE
—S—	SANITARY SEWER MAIN – EXISTING
—S—	SANITARY SEWER MAIN – NEW
—FM—	FORCE MAIN – EXISTING
—FM—	FORCE MAIN – NEW
	CATCH BASIN
—SD—	STORM DRAIN – EXISTING
—SD—	STORM DRAIN – NEW
	CULVERT
—W—W—	WATER MAIN – EXISTING
—W—W—	WATER MAIN – NEW
	GATE VALVE
	TAPPING SLEEVE AND VALVE
	HYDRANT TEE W/VALVE
	HYDRANT
	FOSTER ADAPTOR
—UE—	UNDERGROUND ELECTRICAL
—UE—UE—	NEW UNDERGROUND ELECTRICAL
—OHE—	OVERHEAD ELECTRICAL
—T—	UNDERGROUND TELEPHONE (EXISTING)
—UT—UT—	UNDERGROUND TEL/COMM (PROPOSED)
	NEW TELEPHONE PEDESTAL BY VERIZON
	NEW 4'ø PULL BOX PER DETAIL
	NEW PADMOUNT TRANSFORMER 7X7 FOUNDATION PER CMP PLAN
J	NEW 4'x6' SPLICE BOX PER CMP PLAN
	NEW UNDERGROUND LIGHT CONDUIT
	VEGETATED BUFFER STRIP (CONSERVATION EASEMENT)

NO.	REVISIONS	DATE

MAINE DEPT. OF TRANSPORTATION
BUREAU OF MAINTENANCE AND OPERATIONS

NEW MAINTENANCE FACILITY
TOPSHAM, MAINE

SITE UTILITIES PLAN – WEST

SCALE:	AS NOTED
DATE:	6/29/06
DRAWN BY:	RJB
CHECKED:	TDS
APPROVED:	RJB
FIELD BK:	–
FILE: A	01 SITE PLAN
PROJECT:	#28412

SHAWMUT DESIGN GROUP, LLC
2 DIRIGO DRIVE
FAIRFIELD, ME 04937
(207) 453-6970

TOPSHAM PUBLIC WORKS

PUBLIC WORKS WET POND

New 2" Underground Lighting Conduits w/Pull Wires

COLD STORAGE

BRINE OPS.

New 2" PVC Conduits, 2 each Building (1 for Elec., 1 Spare)

SAND/SALT QUONSET HUT

New 2" Underground Lighting Conduit w/Pull Wires

New 2" Conduit for Future Light; Extend 5' beyond Pavement and Stub to 6" below Grade. Mark end per Typical Building Preparation Detail.

New 6" PVC Sewer Service; see Profile.

HIGHWAY MAINT. GARAGE

New 4" DI Water Main; Provide 6'-0" Min. Cover (Typ.)

New 8" PVC Floor Drain Discharge Pipe; s = 0.01

New 6" PVC Sewer Service; min. s = 0.01

New 6'ø Oil/Grit Separator per Detail.

New 8" PVC Pipe; See Profile on Sheet 5

New 4'ø Manhole

New 4" Gate Valve

New 8"x4" Reducer

New 8" PVC Sewer Main; See Profile on Sheet 5

New Det. Pond & Underdrained Filter

VEGETATED BUFFER

SWALE

FUTURE STORAGE & STOCKPILE AREA

See Sheet 3 for Conduits in this Area

New 8"-45° Bends (2)

New 3"-45° MJ Bends (2)

New 3" PVC Forcemain; Provide 6'-0" Min. Cover (Typ.)

New 2" Copper Water Service per Detail; Confirm Size & Loc. with MDOT.

COLD STORAGE

New 8"-45° Bends (2)

New 8" DI Water Main; Provide 6'-0" Min. Cover (Typ.)

New Hydrant Assembly per Details

PROPOSED STORAGE & STOCKPILE AREA

New Sewer Pump Station per Details

New 8" DI Water Main; Provide 6'-0" Min. Cover (Typ.)

12+00

11+00

10+00

9+00

8+00

7+00

B-X

B

H-X

Domestic (Drains into Brine Pit)

Floor Drain

Scale: 1"=40'

LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts	Mounting Height
	A	2	G250MP00LFF	MONGOOSE	250W CLEAR MPS	51437.IES	28000	0.81	1	30
	B	6	G15AMP00LNF	MONGOOSE	150W CLEAR MPS	49274.IES	16000	0.81	1	30
	H	1	G15AMP00LWF	MONGOOSE	150W CLEAR MPS	49419.IES	16000	0.81	1	30
	I	2	WL3K250MP00XX	WALLPACK III	250W CLEAR MPS	43270.IES	27500	0.81	1	25
	L	12	WL2K150MP00 LOW	WALLPACK II	150W CLEAR MPS	33284.IES	16000	0.81	1	18
	M	1	G400MP00LWF	MONGOOSE	400W CLEAR MPS	49386.IES	50000	0.81	2	30

Notes:
1. Luminaire schedule was provided by MDOT and is given for reference only. Provide 24'ø light pole foundations (MDOT Detail 626(02)and 2" Sch. 40 PVC conduits for all Mongoose style lights. Wallpack fixtures will be mounted on buildings by others. All poles, fixtures, and conductors will be provided and installed by others. Conduits to be 2" Sch. 40 PVC.
2. X Indicates Fixture that should be on during hours of darkness.

NOTES:

1. See Sheets 7 and 8 for proposed grading and Storm Drain inverts.
2. Install Primary Power, Splice Boxes, and Transformer per Central Maine Power Company plan (Sheet 15).
3. All proposed buildings shown on the plan are to be constructed by others. Utilities are to be installed to within 5' of proposed building; see Typical Building Preparation Detail.

NO.	REVISIONS	DATE

MAINE DEPT. OF TRANSPORTATION
BUREAU OF MAINTENANCE AND OPERATIONS

NEW MAINTENANCE FACILITY
TOPSHAM, MAINE

SITE UTILITIES PLAN - EAST

SCALE:	AS NOTED
DATE:	6/29/06
DRAWN BY:	RJB
CHECKED:	TDS
APPROVED:	RJB
FIELD BK:	--
FILE: A	01 SITE PLAN
PROJECT:	#28412

SHAWMUT DESIGN GROUP, LLC
2 DIRIGO DRIVE
FAIRFIELD, ME 04937
(207) 453-6970

SHEET 4 OF 15

Edge of Pavement
Topsham Public Works Facility
Remove Existing 12" PVC Culvert;
Existing Emergency Spillway Elev. = 93.5
Existing Gravel Yard
Existing Spillway Discharge to be Routed south along Ditchline
New 15" x 60' CPE Culvert
New Gravel Entrance
New Stone Check Dam per Details (Typ.)
Blast Ledge if Necessary for Positive Drainage
Gravel Storage Yard
Future Gravel Storage Area by Others (Approx. 50' x 200'); Proposed Grades shown in ellipses are not part of this contract; For this contract, provide 4:1 slope from access road shoulder to match original ground per Cross Sections.
Det. Pond
New Erosion Control Fence (Typ.)
New Diversion Ditch per Details
Limit of Contours
Existing Diversion Ditch
New 18" x 110' CPE Culvert; Inv. in = 104.0; Inv. out = 101.25; s = 0.025; Provide 15' Long Level Spreader at Outlet
New Paved Swale per Detail (Pavement by Others)
FF 93.0
New Topsham Public Works Access Road
New 24"x50' CPE Culvert; Inv. in = 91.0; Inv. out = 90.5; s = 0.01 min.
Wooded Buffer (Typ.)
New Ditchline
New 15' Long Level Spreader
New 50' Long Level Spreader
New Gravel Yard with 21" of Type D Gravel and 3" of Type B Gravel; Construct per Typical Road Cross Section.
New Ditch per Typical Ditch Section
Edge of New Gravel Yard
Start of Road Construction; Remove Existing Curb; Match Existing Pavement Grade. 25' Radius
Existing Drainage Easement
Existing 12" CPE Culvert to be Cut Back to New Ditchline as Shown; Install Rip-rap protection per Culvert Details.
New 24"x50' CPE Culvert; Inv. in = 91.0; Inv. out = 90.5; s = 0.01 min.
New Stone Check Dam (Typ.)
New MDOT Access Road
New Diversion Berm for Stormwater Treatment
New Erosion Control Fence (Typ.)
Wetland Boundary
New 18" x 80' CPE Culvert; Inv. in = 101.5; Inv. out = 99.5; s = 0.025
New Guard Rail with Low Volume Ends & Shoulder Widening; Provide "Reduced" Berm (2' wide) per MDOT Standard Detail 606(17). See Notes for Measurement.
New 13' Wide Gravel Shoulder for Fueling Area (to be Paved by Others)
Bid Alternate 1 (if needed; see Cross Sections): New Prefabricated Concrete Block Gravity Retaining Wall; Dimensions to be Field Determined; See Detail on Sheet 11.
New 10,000 Gal. Above Ground Diesel Storage Tank (by Others)
New Vegetated Area; Clear, Grub, and Strip area; seed per Erosion Control Notes
New 18" x 50'± CPE Culvert; Inverts to be Field Determined; s = 0.01 min.
Paved Drive
Verizon
New Temporary Stabilized Construction Entrance per MDOT Standard Detail 802(20)
VILLAGE DRIVE
0.5%
3.0%
2.41%
4.0%
3% for 75'
6.7%
4.3%
5.0%
8.0%
1.5% for 50'

LEGEND

- WETLAND BOUNDARY
- VEGETATED BUFFER STRIP (CONSERVATION EASEMENT)
- PROPOSED EROSION CONTROL FENCE
- PROPOSED HAY BALE DAM
- PROPOSED STONE CHECK DAM
- 96 — EXISTING CONTOURS
- 95.2 EXISTING SPOT ELEVATIONS
- 104 PROPOSED CONTOURS
- 104.5 PROPOSED SPOT ELEVATIONS
- 104.50 PROPOSED "PREVAILING GRADE" AT NEW CB; SEE GRADING NOTES.
- 4.0% PROPOSED SLOPE
- (104.5) PROPOSED FUTURE GRADE (BY OTHERS)

GRID NORTH

NOTES:

1. Install Erosion Controls measures prior to start of construction. See Sheet 11 for additional Erosion Control Notes and Details.
2. If topsoil is stockpiled during construction, stockpiles must not be located in wetlands or areas of concentrated flows. Install erosion control fence or bark mulch barrier at downhill edge of each stockpile and mulch stockpile per Erosion Control Notes within 48 hours.
3. All grades in areas to be paved represent final pavement grades. Adjust new gravel grades accordingly.
4. All proposed buildings shown on the plan are to be constructed by others. Prepare building areas per Typical Building Preparation Detail. Proposed finish floor grades are approximate; design by others.

NO.	REVISIONS	DATE

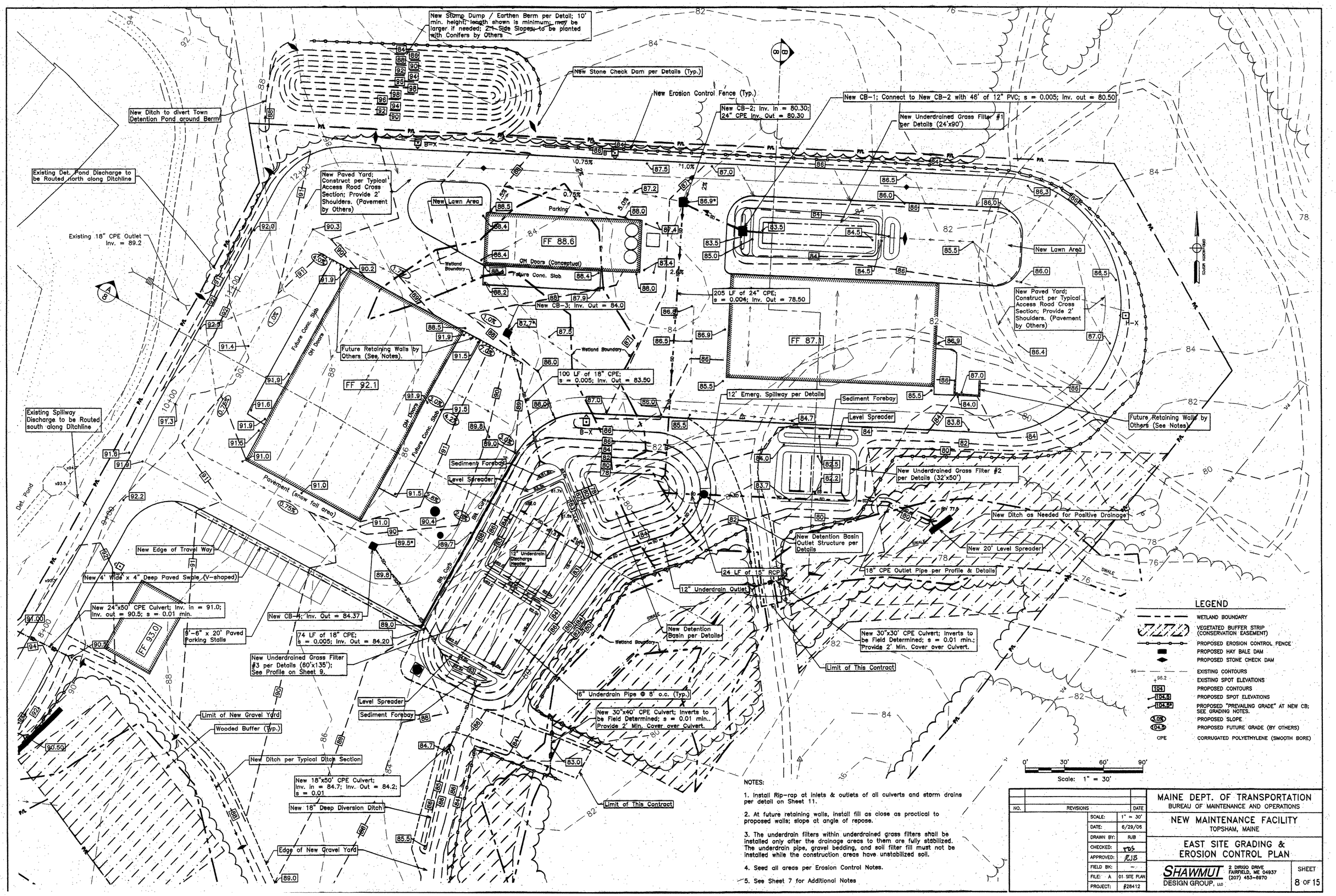
MAINE DEPT. OF TRANSPORTATION
BUREAU OF MAINTENANCE AND OPERATIONS

NEW MAINTENANCE FACILITY
TOPSHAM, MAINE

WEST SITE GRADING & EROSION CONTROL PLAN

SCALE:	AS NOTED
DATE:	6/29/06
DRAWN BY:	RJB
CHECKED:	TDS
APPROVED:	RJB
FIELD BK:	-
FILE: A	01 SITE PLAN

SHAWMUT DESIGN GROUP, LLC
2 DIRIGO DRIVE
FAIRFIELD, ME 04937
(207) 453-6970



LEGEND

- WETLAND BOUNDARY
- VEGETATED BUFFER STRIP (CONSERVATION EASEMENT)
- PROPOSED EROSION CONTROL FENCE
- PROPOSED HAY BALE DAM
- PROPOSED STONE CHECK DAM
- 96 EXISTING CONTOURS
- 96.2 EXISTING SPOT ELEVATIONS
- 104 PROPOSED CONTOURS
- 104.5 PROPOSED SPOT ELEVATIONS
- 104.5* PROPOSED "PREVAILING GRADE" AT NEW CB; SEE GRADING NOTES.
- 3.0% PROPOSED SLOPE
- 104.5 PROPOSED FUTURE GRADE (BY OTHERS)
- CPE CORRUGATED POLYETHYLENE (SMOOTH BORE)

NOTES:

1. Install Rip-rap at inlets & outlets of all culverts and storm drains per detail on Sheet 11.
2. At future retaining walls, install fill as close as practical to proposed walls; slope at angle of repose.
3. The underdrain filters within underdrained grass filters shall be installed only after the drainage areas to them are fully stabilized. The underdrain pipe, gravel bedding, and soil filter fill must not be installed while the construction areas have unstabilized soil.
4. Seed all areas per Erosion Control Notes.
5. See Sheet 7 for Additional Notes

NO.	REVISIONS	DATE

MAINE DEPT. OF TRANSPORTATION
BUREAU OF MAINTENANCE AND OPERATIONS

NEW MAINTENANCE FACILITY
TOPSHAM, MAINE

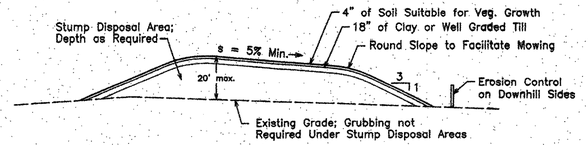
EAST SITE GRADING & EROSION CONTROL PLAN

SCALE:	1" = 30'
DATE:	6/29/06
DRAWN BY:	RJB
CHECKED:	RDS
APPROVED:	RJB
FIELD BK:	-
FILE: A 01 SITE PLAN	
PROJECT:	#28412

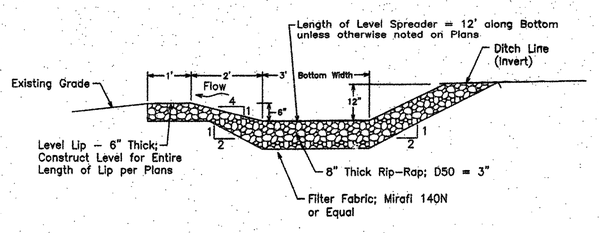
SHAWMUT DESIGN GROUP, LLC
2 DIRIGO DRIVE
FAIRFIELD, ME 04937
(207) 453-6970

SHEET 8 OF 15

Notes:
1. No stumps shall be placed within 3' of seasonal high water table. Fill if needed.
2. Stumps shall be buried/mixed with Fill Material to Prevent Excessive Settling.

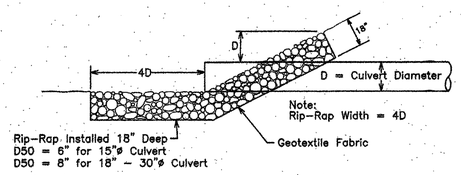


TYPICAL STUMP DISPOSAL AREA DETAIL
NOT TO SCALE



LEVEL SPREADER DETAIL
NOT TO SCALE

NOTE:
Culvert and storm drain inlet and outlet protection shall be installed within 48 hours of installing each culvert or storm drain.



CULVERT OR SD INLET/OUTLET DETAIL
NOT TO SCALE

EROSION CONTROL NOTES:

1. All erosion control measures shall be installed prior to the start of construction and maintained throughout the construction period.
The following implementation plans for soil erosion and sedimentation control measures shall be utilized throughout the project.

Item	Time for Completion
Silt Fence & Hay Bale Installation	1 week prior to excavation
Temporary On-Site Soil Stabilization (Seed & Mulch)	2 weeks
Temporary Road Banks	
Soil Stockpiles	
Ditch Check Dams	within 1 week
Permanent Seeding	within 2 weeks of completion of each segment
Maintenance	once/week and immediately after significant rainfall

2. Any section of road ditch or drainage swale excavated or brought to rough grade shall have Temporary Stone Check Dams installed within them and their side slopes mulched within 48 hours unless final grading and permanent stabilization will take place within 1 week. Install Temporary Stone Check Dams at intervals Specified in Details.

   Any section of road ditch or drainage swale brought to final grade shall be permanently stabilized within 48 hours. Roadway ditch lines and other drainage swales shall be lined with erosion control matting to firmly hold loamed and seeded areas in place. Install per manufacturer's recommendations. Unless otherwise noted, use North American Green S-150, staple pattern D.

3. Disturbed soils shall be revegetated within 15 days of disturbance during construction. Seed shall consist of the following mixture for both disturbed areas and temporary stockpiles during the normal growing season. Areas shall be inspected weekly and redressed, as necessary until a permanent growth is established.

   For locations expected to experience more concentrated flows, the following seed mixture shall be applied at a rate of 62 lbs/acre:

97%	Tall Fescue
3%	Red Top

   Areas not expected to experience concentrated flows shall receive the following seed mixture at a rate of 37 lbs/acre:

54%	Tall Fescue
40%	Creeping Red Fescue
6%	Red Top

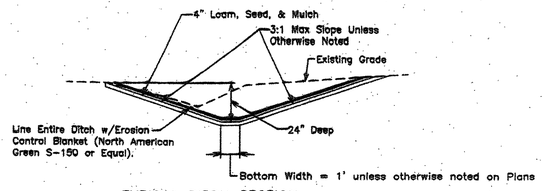
   Areas designated as lawn on the plans shall receive MDOT seed mixture method #1 (park mixture) per MDOT specifications.

4. Disturbed areas shall also receive hay mulch at the rate of 3 bales/1000 s.f.. Spreading shall be accomplished so that the hay lightly covers 80% to 90% of the seeded surface. Routine maintenance shall be taken at washout areas by reapplying the above seed mixture and mulch.

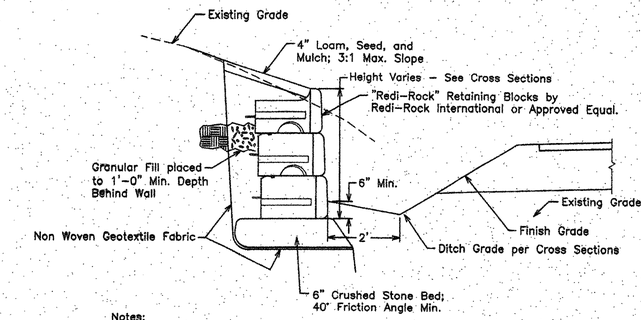
5. 10-10-10 fertilizer shall be applied at a rate of 138 lbs/1000 s.f. and lime shall be applied to disturbed areas at 138 lbs/1000 s.f. Areas shall be inspected weekly and redressed, as necessary, until a permanent growth is established.

6. Winter Construction activity shall comply with the terms of "Winter Construction Plan" in Section 656 of Special Provisions.

7. New Slopes steeper than 3:1 shall be reinforced with erosion control blankets such as North American Green S-150. Install blankets per manufacturer's recommendations.



TYPICAL DITCH SECTION
NOT TO SCALE



Notes:

1. This detail shall be used along the access road for areas where ledge slope would extend beyond property line; see Access Road Cross Sections.

2. Install Retaining Wall per Spec. 635.31 and in Accordance with Manufacturer's Recommendations. Provide reinforcing geotextile if required per Mfr. Recommendations. Design by Supplier or Mfr.

3. Setback = 1.75" ±0.5" per Unit (5.55° Batter)

4. In case of conflict between this detail and Spec. 635.31, the latter shall prevail.

PREFABRICATED CONCRETE BLOCK GRAVITY RETAINING WALL
NOT TO SCALE

NO.	REVISIONS	DATE

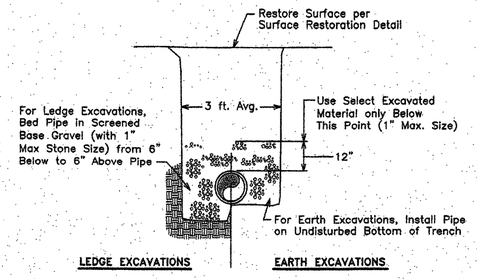
SCALE:	AS NOTED
DATE:	6/29/06
DRAWN BY:	RJB
CHECKED:	TDS
APPROVED:	RJB
FIELD BK:	–
FILE: A	01 SITE PLAN
PROJECT:	#28412

MAINE DEPT. OF TRANSPORTATION
BUREAU OF MAINTENANCE AND OPERATIONS

NEW MAINTENANCE FACILITY
TOPSHAM, MAINE

STORMWATER & EROSION CONTROL DETAILS

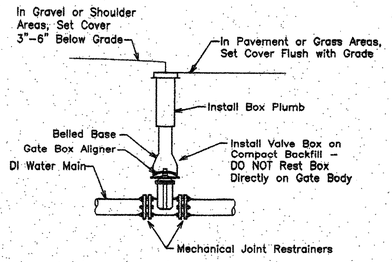
SHAWMUT DESIGN GROUP, LLC
2 DIRIGO DRIVE
FAIRFIELD, ME 04937
(207) 453-8970



DUCTILE IRON TRENCH DETAIL

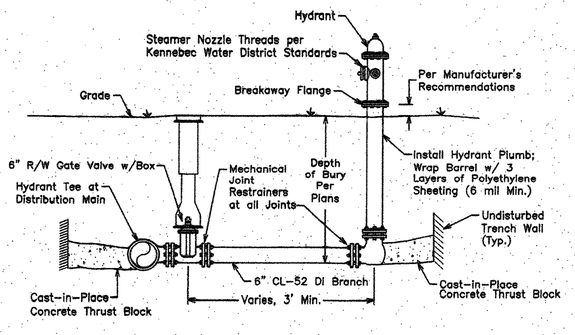
NOT TO SCALE

Note:
All water work shall comply with Brunswick–Topsham Water District standards.



TYPICAL VALVE DETAIL

NOT TO SCALE

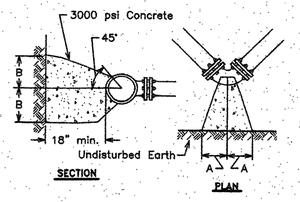


TYPICAL HYDRANT ASSEMBLY

NOT TO SCALE

Notes:

1. Thrust Blocks shall be installed to support all hydrants, tees, tapping sleeves, all bends, plugs, and caps, etc.
2. Polyethylene Sheeting (4 mil min. thickness) shall be installed between the thrust block and fitting.



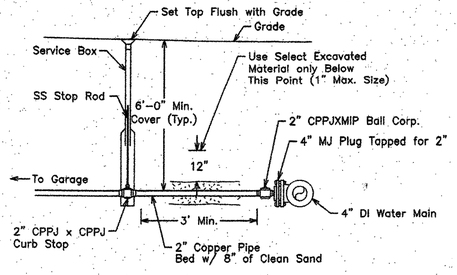
MINIMUM THRUST BLOCK DIMENSIONS

Pipe Dia.	FITTING	A	B
3"–8"	Dead End/Tee	12"	10"
	90° Bend	16"	12"
	45/22.5° Bend	12"	10"
10"–12"	Dead End/Tee	18"	16"
	90° Bend	20"	18"
	45/22.5° Bend	18"	16"

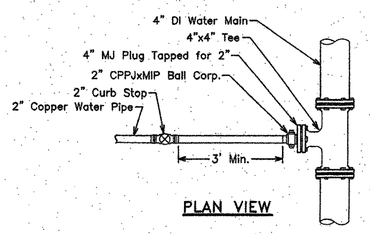
Double Dimensions When in Soft Clay

THRUST BLOCK DETAILS

NOT TO SCALE



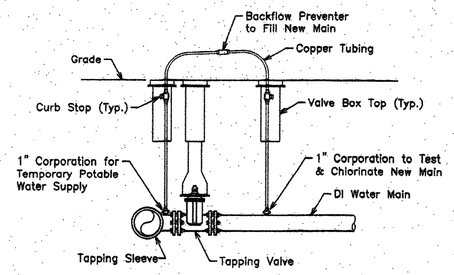
PROFILE VIEW



PLAN VIEW

2" WATER SERVICE DETAIL

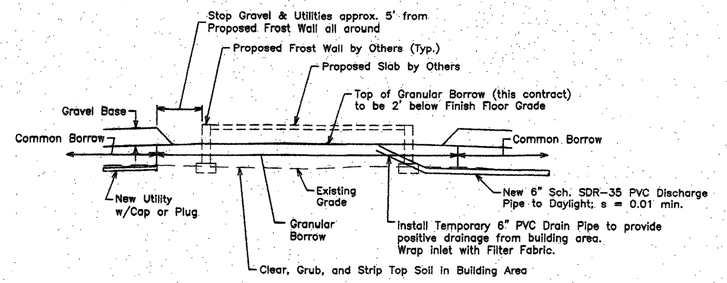
NOT TO SCALE



Note:
Following Successful Testing and Disinfection of New Main, Shut off Corporations and remove Temporary Valve Box Tops, Tubing, and Curb Stops.

TAPPING SLEEVE & VALVE DETAIL

NOT TO SCALE



Note: At end of Utilities, install 2x4 Stake to 3' above grade and #4 Rebar w/cap to grade.

TYPICAL BUILDING PREPARATION DETAIL

NOT TO SCALE

SUPERELEVATION CHART

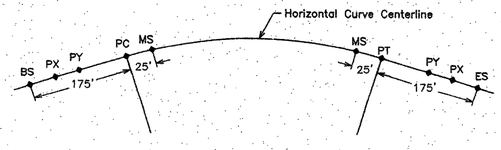
For 25 mph Design Speed, 12' Travel Lane, 2% Normal Crown, Transition length = 200'

	SUPERELEVATION RATE e_{max} = 0.03				LOCATION
	SUPERELEVATION STAGE				
END OF SUPERELEVATION	–0.25' NC	ES		–0.25' NC	175' after PT
	–0.25' NC	PX	+0.00'		125' after PT
	–0.36' NC	PY	+0.17'		90' after PT
MAXIMUM SUPERELEVATION	–0.36'	MS	+0.36'		25' before PT to 25' after PC
	–0.25' NC	PY	+0.25'		90' before PC
	–0.25' NC	PX	+0.00'		125' before PC
BEGINNING OF SUPERELEVATION	–0.25' NC	BS		–0.25' NC	175' before PC

Edge of Travel Lane

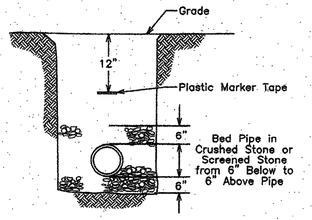
Notes:

1. NC = Normal Crown (i.e. ¼"/ft = 0.02) e = superelevation rate
   PC = Point of Curvature PT = Point of Tangency
2. See Horizontal Curve data for individual curves to determine e_{max} If no e_{max} is listed, superelevation is not required.
3. "Rollover" between travel lane and outside shoulder should not exceed 8%. (e.g. for e = 6%, outside shoulder slope = 2%.). Inside shoulder slope shall be 4% or e, whichever is greater.
4. Where tangents between curves are less than 175', adjust PX and PY values as needed.



SUPERELEVATION DETAIL

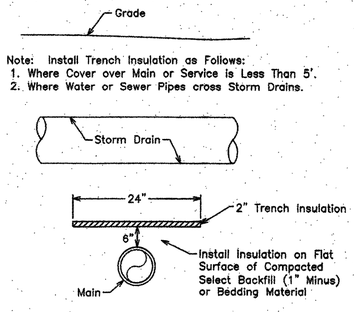
NOT TO SCALE



PVC/CPE TRENCH DETAIL

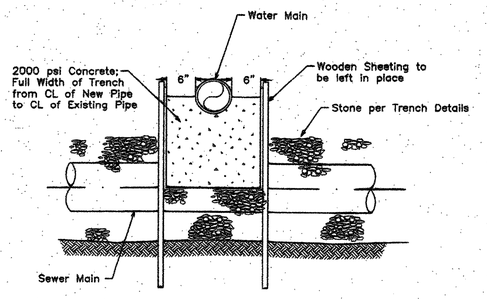
NOT TO SCALE

NOTE: CPE = Corrugated Polyethylene Pipe.



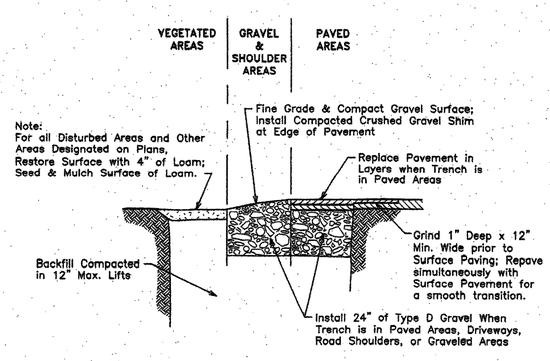
TRENCH INSULATION DETAIL

NOT TO SCALE



UTILITY CROSSING DETAIL

NOT TO SCALE



Pavement Thickness Requirements					
MDOT Pavement Type	MDOT Travel Lane	MDOT Shoulders	Town Roads	Driveways	Sidewalks
9.5mm	2"	2"	1½"	1½"	1½"
19mm	4" (2 Layers)	3"	2"	2"	2"

Note: Surface Pavement shall be machine placed.

SURFACE RESTORATION DETAIL

NOT TO SCALE

NO.	REVISIONS	DATE

SCALE:	AS NOTED
DATE:	6/29/06
DRAWN BY:	RJB
CHECKED:	TBS
APPROVED:	RJB
FIELD BK:	–
FILE: A 01 SITE PLAN	
PROJECT:	#28412

MAINE DEPT. OF TRANSPORTATION
BUREAU OF MAINTENANCE AND OPERATIONS

NEW MAINTENANCE FACILITY
TOPSHAM, MAINE

MISCELLANEOUS DETAILS

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