OSCAR G. JOHNSON VA MEDICAL CENTER – IRON MOUNTAIN, MI
RENOVATE LOADING DOCK
PROJECT # - 585-12-125
SOLICITATION #: VA69D-17-B-0362

ADDENDUM NO. 1
FEBURARY 14, 2017

BID DATE: FEBURARY 21, 2017

The following additions, deletions, modifications, or clarifications shall be made to the appropriate sections of the plans and specifications and shall become part of the Contract Documents. Bidders shall acknowledge receipt of this Addendum in the space provided on the Bid Form.

Technical Specifications

Spec Section 05 40 00, " Cold Formed Metal Framing" – Add this section

Spec Section 09 91 00, "Painting" – Revise Section 3.9.A to include paint color.

Drawings

GI001 – Modify note on Phasing plan to accept compacted base and subbase material in lieu of asphalt pavement for maintaining temporary access during construction.

AD100 – Modify note for existing compactor to state that VA will remove existing compactor prior to construction and reinstall after completion of Phase.

AE101 – Add General Note #6 regarding morgue cooler. Cooler to be constructed of stainless steel and have a minimum door opening of 42".

AE500 - "Construction and Roofing Details," Details #9, #10 and #12.
Add General Detail Notes:

1. Reference Spec Section 05 40 00, "Cold Formed Metal Framing" for 3 5/8" metal stud and hat channels requirements.
2. Provide 3 5/8" metal stud vertical supports for horizontal metal stud framing at each end of studs typical. Provide 3 5/8" metal stud diagonal kickers as required for lateral bracing and stability. All stud framing and hat channels shall be not less than 18 gauge thickness, minimum. Horizontal, vertical and diagonal stud framing

installations shall be a delegated design, by the contractor, as specified to resist the wind loads indicated on Sheet SB-100.

3. All stud framing and hat channels shall be galvanized.

AE502 – Revised paint schedule for interior work. Refer to Specification 09 91 00 – Painting for paint colors.

M200 - Clarification to Detail 5. Extent of mechanical snowmelt system work shall include manifold and 1" GWR and 1" GWS and capped at location shown on M102. Control Panel included as part of this work.

Attachments:

Specification Section:
1. Specifications Sections 05 40 00 - Cold Formed Metal Framing
2. 09 91 00 - Painting

Drawings:
1. GI001
2. AD100
3. AE101
4. AE502
5. M200

END OF ADDENDUM #1

SECTION 05 40 00
COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 DESCRIPTION:

A. This section specifies materials and services required for installation of cold-formed steel, including tracks and required accessories as shown and specified. This Section includes the following:

1. Steel joist framing for exterior soffits, support framing and miscellaneous accessories.

1.2 RELATED WORK:

A. Structural steel framing: Section 05 12 00, STRUCTURAL STEEL FRAMING.

1.3 DESIGN REQUIREMENTS:

A. Design steel in accordance with American Iron and Steel Institute Publication "Specification for the Design of Cold-Formed Steel Structural Members", except as otherwise shown or specified.

C. Structural Performance: Engineer, fabricate, and erect cold-formed metal framing to withstand design loads within limits and under conditions required.

1. Design Loads: As indicated on Sheet SB-100.

2. Design framing systems to withstand design loads without deflections greater than the following:

a. Exterior Soffit Joist Framing: Vertical deflection of 1/240 of the span.

3. Design framing systems to provide for movement of framing members without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change (range) of 67 degrees C (120 degrees F).

4. Design framing system to accommodate deflection of primary building structure and construction tolerances, and to maintain clearances at openings.

5. Engineering Responsibility: Engage a fabricator who assumes undivided responsibility for engineering cold-formed metal framing

by employing a qualified professional engineer to prepare design calculations, shop drawings, and other structural data.

1.4 SUBMITTALS:

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Shop Drawings: Shop and erection drawings showing steel unit layout, connections to supporting members, and information necessary to complete installation as shown and specified.

C. For cold-formed metal framing indicated to comply with certain design loadings, include structural analysis data sealed and signed by the qualified professional engineer who was responsible for its preparation.

1.5 APPLICABLE PUBLICATIONS:

A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.

B. American Iron and Steel Institute (AISI):

Specification and Commentary for the Design of Cold-Formed Steel Structural Members (1996)

C. American Society of Testing and Materials (ASTM):

A36/A36M-08.....Standard Specifications for Carbon Structural Steel

A123/A123M-09.....Standard Specifications for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

A153/A153M-09.....Standard Specifications for Zinc Coating (Hot-Dip) on Iron and Steel Hardware

A307-10.....Standard Specifications for Carbon Steel Bolts and Studs

A653/A653M-10.....Standard Specifications for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

C955.....Standard Specification for Load-Bearing (Transverse and Axial) Steel Studs, Runners

(Tracks), and Bracing or Bridging for Screw Application of Gypsum Panel Products and Metal Plaster Bases

E488-96(R2003).....Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements

E1190-95(R2007).....Standard Test Methods for Strength of Power-Actuated Fasteners Installed in Structural Members

D. American Welding Society (AWS):

D1.3/D1.3M-08.....Structural Welding Code-Sheet Steel

E. Military Specifications (Mil. Spec.):

MIL-P-21035B.....Paint, High Zinc Dust Content, Galvanizing Repair

PART 2 - PRODUCTS

2.1 MATERIALS:

A. Sheet Steel for joists, studs and accessories 16 gage and heavier: ASTM A653, structural steel, zinc coated G90, with a yield of 340 MPa (50 ksi) minimum.

B. Sheet Steel for joists, studs and accessories 18 gage and lighter: ASTM A653, structural steel, zinc coated G90, with a yield of 230 MPa (33 ksi) minimum.

C. Galvanizing Repair Paint: MIL-P-21035B.

2.2 JOIST FRAMING:

A. Steel Joists: Manufacturer’s standard C-shaped steel joists, unpunched, of web depths indicated, with lipped flanges, and complying with the following:

1. Minimum Base-Steel Thickness: 1.09 mm (0.0428 inch). Design Thickness: 1.45 mm (0.0566 inch).

2. Flange Width: 41 mm (1 5/8 inches) minimum.

B. Steel Joist Track: Manufacturer’s standard U-shaped steel joist track, unpunched, of web depths indicated, with straight flanges, and complying with the following:

1. Design Thickness: Matching steel joists.

2. Flange Width: 41 mm (1 5/8-inches) minimum.

2.4 FRAMING ACCESSORIES:

A. Fabricate steel framing accessories of the same material and finish used for framing members, with a minimum yield strength of 230 MPa (33 ksi).

B. Provide accessories of manufacturer's standard thickness and configuration, matching thickness of the joist framing, as follows:

1. Supplementary framing.

2. Bracing, bridging, and solid blocking.

3. Stud kickers and stud hanging supports.

4. Furring and furring hat channels

2.5 ANCHORS, CLIPS, AND FASTENERS:

A. Steel Shapes and Clips: ASTM A36, zinc coated by the hot-dip process according to ASTM A123.

C. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 5 times the design load, as determined by testing per ASTM E488 conducted by a qualified independent testing agency.

E. Mechanical Fasteners: Corrosion-resistant coated, self-drilling, self-threading steel drill screws. Low-profile head beneath sheathing, manufacturer's standard elsewhere.

2.6 REQUIREMENTS:

A. Furnish members and accessories by one manufacturer only.

PART 3 - EXECUTION

3.1 FABRICATION:

A. Cut framing components squarely or as required for attachment. Cut framing members by sawing or shearing; do not torch cut.

B. Hold members in place until fastened.

C. Fasten cold-formed metal framing members by screw fastening, as standard with fabricator. Wire tying of framing members is not permitted. Wire tying of miscellaneous hat-channels or furring channels is not permitted.

1. Locate mechanical fasteners and install according to cold-formed metal framing manufacturer's instructions with screw penetrating joined members by not less than 3 exposed screw threads.

3.2 ERECTION:

A. Provide tracks for support of framing members to adjacent construction and roof structure. Securely anchor tracks to supports as required.

B. Plumb, align, and securely attach studs to flanges or webs of both upper and lower tracks.

C. Studs in one piece for their entire length, splices will not be permitted.

D. Provide a load distribution member at top track where joist is not located directly over bearing stud.

E. Provide joist bridging where shown.

F. Provide end blocking where joist ends are not restrained from rotation.

G. Provide temporary bracing and leave in place until framing is permanently stabilized.

H. Provide vertical stud hanging supports for horizontal joists at each of the ends of the joists, anchored to the roof structure above. Hanging supports shall resist both gravity loads downward and code specified wind loads upward.

I. Provide vertical, angled kicker supports from horizontal joists and vertical hanging supports to the roof structure above to brace the assembly. Angled kicker supports shall contribute to resisting both lateral loads sideways and code specified wind loads upward.

3.3 TOLERANCES:

A. Horizontal alignment (levelness) of walls shall be within 1/320th of their respective lengths.

B. Spacing of studs shall not be more than 3 mm (1/8 inch) +/- from the designed spacing providing that the cumulative error does not exceed the requirements of the finishing materials.

3.4 FIELD REPAIR:

Touch-up damaged galvanizing with galvanizing repair paint.

- - - E N D - - -

SECTION 09 91 00
PAINTING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Section specifies field painting.

B. Section specifies prime coats which may be applied in shop under other sections.

C. Painting includes coatings specified, and striping or markers and identity markings.

1.2 RELATED WORK

A. Shop prime painting of steel and ferrous metals: Division 05 - METALS, Division 08 - OPENINGS, Division 21 – FIRE SUPPRESSION, Division 22 - PLUMBING, Division 23 – HEATING, VENTILATION AND AIR-CONDITIONING, Division 26 - ELECTRICAL, Division 27 - COMMUNICATIONS, and Division 28 – ELECTRONIC SAFETY AND SECURITY sections.

1.3 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Manufacturer's Literature and Data:
Before work is started, or sample panels are prepared, submit manufacturer's literature, the current Master Painters Institute (MPI) "Approved Product List" indicating brand label, product name and product code as of the date of contract award, will be used to determine compliance with the submittal requirements of this specification. The Contractor may choose to use subsequent MPI "Approved Product List", however, only one list may be used for the entire contract and each coating system is to be from a single manufacturer. All coats on a particular substrate must be from a single manufacturer. No variation from the MPI "Approved Product List" where applicable is acceptable.

C. Sample Panels:

1. After painters' materials have been approved and before work is started submit sample panels showing each type of finish and color specified.
2. Panels to show color: Composition board, 4 inch by 10 inch by 1/8 inch.
3. Attach labels to panel stating the following:
   a. Federal Specification Number or manufacturers name and product number of paints used.
   b. Product type and color.
   c. Name of project.

4. Strips showing not less than 2 inch wide strips of undercoats and 4 inch wide strip of finish coat.

1.4 DELIVERY AND STORAGE

A. Deliver materials to site in manufacturer's sealed container marked to show following:
   1. Name of manufacturer.
   2. Product type.
   3. Batch number.
   4. Instructions for use.
   5. Safety precautions.

B. In addition to manufacturer's label, provide a label legibly printed as following:
   1. Federal Specification Number, where applicable, and name of material.
   2. Surface upon which material is to be applied.
   3. If paint or other coating, state coat types; prime, body or finish.

C. Maintain space for storage, and handling of painting materials and equipment in a neat and orderly condition to prevent spontaneous combustion from occurring or igniting adjacent items.

D. Store materials at site at least 24 hours before using, at a temperature between 65 and 85 degrees F.

1.5 APPLICABLE PUBLICATIONS

A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by basic designation only.

B. American National Standards Institute (ANSI):
   A13.1-07.....Scheme for the Identification of Piping Systems

C. Master Painters Institute (MPI):
   No. 1-12.....Aluminum Paint (AP)
   No. 4-12.....Interior/ Exterior Latex Block Filler
   No. 8-12.....Exterior Alkyd, Flat MPI Gloss Level 1 (EO)
   No. 9-12.....Exterior Alkyd Enamel MPI Gloss Level 6 (EO)
   No. 10-12.....Exterior Latex, Flat (AE)
   No. 11-12.....Exterior Latex, Semi-Gloss (AE)
   No. 18-12.....Organic Zinc Rich Primer
   No. 22-12.....Aluminum Paint, High Heat (up to 590% - 1100F)(HR)
   No. 26-12.....Cementitious Galvanized Metal Primer
   No. 43-12.....Interior Satin Latex, MPI Gloss Level 4
   No. 44-12.....Interior Low Sheen Latex, MPI Gloss Level 2
   No. 45-12.....Interior Primer Sealer
   No. 46-12.....Interior Enamel Undercoat
   No. 47-12.....Interior Alkyd, Semi-Gloss, MPI Gloss Level 5 (AK)

No. 48-12.....Interior Alkyd, Gloss, MPI Gloss Level 6 (AK)
No. 49-12.....Interior Alkyd, Flat, MPI Gloss Level 1 (AK)
No. 50-12.....Interior Latex Primer Sealer
No. 51-12.....Interior Alkyd, Eggshell, MPI Gloss Level 3
No. 52-12.....Interior Latex, MPI Gloss Level 3 (LE)
No. 53-12.....Interior Latex, Flat, MPI Gloss Level 1 (LE)
No. 54-12.....Interior Latex, Semi-Gloss, MPI Gloss Level 5 (LE)
No. 94-12.....Exterior Alkyd, Semi-Gloss (EO)
No. 95-12.....Fast Drying Metal Primer
No. 98-12.....High Build Epoxy Coating
No. 101-12.....Epoxy Anti-Corrosive Metal Primer
No. 108-12.....High Build Epoxy Coating, Low Gloss (EC)
No. 114-12.....Interior Latex, Gloss (LE) and (LG)
No. 119-12.....Exterior Latex, High Gloss (acrylic) (AE)
No. 135-12.....Non-Cementitious Galvanized Primer
No. 138-12.....Interior High Performance Latex, MPI Gloss Level 2 (LF)
No. 139-12.....Interior High Performance Latex, MPI Gloss Level 3 (LL)
No. 140-12.....Interior High Performance Latex, MPI Gloss Level 4
No. 141-12.....Interior High Performance Latex (SG) MPI Gloss Level 5

D. Steel Structures Painting Council (SSPC):
SSPC SP 1-04 (R2004)....Solvent Cleaning
SSPC SP 2-04 (R2004)....Hand Tool Cleaning
SSPC SP 3-04 (R2004)....Power Tool Cleaning

PART 2 - PRODUCTS

2.1 MATERIALS

A. Interior/Exterior Latex Block Filler: MPI 4.
B. Exterior Alkyd, Flat (EO): MPI 8.
C. Exterior Alkyd Enamel (EO): MPI 9.
D. Exterior Latex, Flat (AE): MPI 10.
E. Exterior Latex, Semi-Gloss (AE): MPI 11.
F. Organic Zinc rich Coating (HR): MPI 22.
G. High Heat Resistant Coating (HR): MPI 22.
H. Cementitious Galvanized Metal Primer: MPI 26.
I. Interior Satin Latex: MPI 43.
J. Interior Low Sheen Latex: MPI 44.
K. Interior Primer Sealer: MPI 45.
L. Interior Enamel Undercoat: MPI 47.
M. Interior Alkyd, Semi-Gloss (AK): MPI 47.

N. Interior Alkyd, Gloss (AK): MPI 49.
O. Interior Latex Primer Sealer: MPI 50.
P. Interior Alkyd, Eggshell: MPI 51
Q. Interior Latex, MPI Gloss Level 3 (LE): MPI 52.
R. Interior Latex, Flat, MPI Gloss Level 1 (LE): MPI 53.
S. Interior Latex, Semi-Gloss, MPI Gloss Level 5 (LE): MPI 54.
T. Exterior Alkyd, Semi-Gloss (EO): MPI 94.
U. Fast Drying Metal Primer: MPI 95.
V. High Build Epoxy Coating: MPI 98.
W. Interior latex, Gloss (LE) and (LG): MPI 114.
X. Exterior Latex, High Gloss (acrylic) (AE): MPI 119.
Y. Waterborne Galvanized Primer: MPI 134.

2.2 PAINT PROPERTIES

A. Use ready-mixed (including colors), except two component epoxies, polyurethanes, polyesters, paints having metallic powders packaged separately and paints requiring specified additives.
B. Where no requirements are given in the referenced specifications for primers, use primers with pigment and vehicle, compatible with substrate and finish coats specified.

2.3 REGULATORY REQUIREMENTS/quality assurance

A. Paint materials shall conform to the restrictions of the local Environmental and Toxic Control jurisdiction.
   1. Volatile Organic Compounds (VOC): VOC content of paint materials shall not exceed 10g/l for interior latex paints/primers and 50g/l for exterior latex paints and primers.
   2. Lead-Base Paint:
      a. Comply with Section 410 of the Lead-Based Paint Poisoning Prevention Act, as amended, and with implementing regulations promulgated by Secretary of Housing and Urban Development.
      b. Regulations concerning prohibition against use of lead-based paint in federal and federally assisted construction, or rehabilitation of residential structures are set forth in Subpart F, Title 24, Code of Federal Regulations, Department of Housing and Urban Development.
   3. Asbestos: Materials shall not contain asbestos.
   4. Chromate, Cadmium, Mercury, and Silica: Materials shall not contain zinc-chromate, strontium-chromate, Cadmium, mercury or mercury compounds or free crystalline silica.
   5. Human Carcinogens: Materials shall not contain any of the ACGIH-BKLT and ACGHI-DOC confirmed or suspected human carcinogens.
   6. Use high performance acrylic paints in place of alkyd paints, where possible.

7. VOC content for solvent-based paints shall not exceed 250g/l and shall not be formulated with more than one percent aromatic hydro carbons by weight.

PART 3 - EXECUTION

3.1 JOB CONDITIONS

A. Safety: Observe required safety regulations and manufacturer's warning and instructions for storage, handling and application of painting materials.
   1. Take necessary precautions to protect personnel and property from hazards due to falls, injuries, toxic fumes, fire, explosion, or other harm.
   2. Deposit soiled cleaning rags and waste materials in metal containers approved for that purpose. Dispose of such items off the site at end of each days work.

B. Atmospheric and Surface Conditions:
   1. Do not apply coating when air or substrate conditions are:
      a. Less than 5 degrees F above dew point.
      b. Below 50 degrees F or over 95 degrees F, unless specifically pre-approved by the Contracting Officer and the product manufacturer. Under no circumstances shall application conditions exceed manufacturer recommendations.
   2. Maintain interior temperatures until paint dries hard.
   3. Do no exterior painting when it is windy and dusty.
   4. Do not paint in direct sunlight or on surfaces that the sun will soon warm.

3.2 SURFACE PREPARATION

A. Method of surface preparation is optional, provided results of finish painting produce solid even color and texture specified with no overlays.

B. General:
   1. Remove prefinished items not to be painted such as lighting fixtures, escutcheon plates, hardware, trim, and similar items for reinstallation after paint is dried.
   2. Remove items for reinstallation and complete painting of such items and adjacent areas when item or adjacent surface is not accessible or finish is different.
   3. See other sections of specifications for specified surface conditions and prime coat.
   4. Clean surfaces for painting with materials and methods compatible with substrate and specified finish. Remove any residue remaining from cleaning agents used. Do not use solvents, acid, or steam on concrete and masonry.

C. Ferrous Metals:
   1. Remove oil, grease, soil, drawing and cutting compounds, flux and other detrimental foreign matter in accordance with SSPC-SP 1 (Solvent Cleaning).
   2. Remove loose mill scale, rust, and paint, by hand or power tool cleaning, as defined in SSPC-SP 2 (Hand Tool Cleaning) and SSPC-SP 3 (Power Tool Cleaning). Exception: where high temperature aluminum paint is used, prepare surface in accordance with paint manufacturer's instructions.
   3. Fill dents, holes and similar voids and depressions in flat exposed surfaces of hollow steel doors and frames, access panels, roll-up steel doors and similar items specified to have semi-gloss or gloss finish with TT-F-322D (Filler, Two-Component Type, For Dents, Small Holes and Blow-Holes). Finish flush with adjacent surfaces.
      a. This includes flat head countersunk screws used for permanent anchors.
      b. Do not fill screws of item intended for removal such as glazing beads.
   4. Spot prime abraded and damaged areas in shop prime coat which expose bare metal with same type of paint used for prime coat. Feather edge of spot prime to produce smooth finish coat.
   5. Spot prime abraded and damaged areas which expose bare metal of factory finished items with paint as recommended by manufacturer of item.

D. Zinc-Coated (Galvanized) Metal, Surfaces Specified Painted:
   1. Clean surfaces to remove grease, oil and other deterrents to paint adhesion in accordance with SSPC-SP 1 (Solvent Cleaning).
   2. Spot coat abraded and damaged areas of zinc-coating which expose base metal on hot-dip zinc-coated items with MPI 18 (Organic Zinc Rich Coating). Prime or spot prime with MPI 134 (Waterborne Galvanized Primer) or MPI 135 (Non- Cementitious Galvanized Primer) depending on finish coat compatibility.

E. Masonry, Concrete, Cement Board, Cement Plaster and Stucco:
   1. Clean and remove dust, dirt, oil, grease efflorescence, form release agents, laitance, and other deterrents to paint adhesion.
   2. Use emulsion type cleaning agents to remove oil, grease, paint and similar products. Use of solvents, acid, or steam is not permitted.
   3. Remove loose mortar in masonry work.
   4. Replace mortar and fill open joints, holes, cracks and depressions with new mortar specified in Section 04 05 13, MASONRY MORTARING and Section 04 05 16, MASONRY GROUTING. Do not fill weep holes. Finish to match adjacent surfaces.

5. Neutralize Concrete floors to be painted by washing with a solution of 1.4 Kg (3 pounds) of zinc sulfate crystals to 3.8 L (1 gallon) of water, allow to dry three days and brush thoroughly free of crystals.
6. Repair broken and spalled concrete edges with concrete patching compound to match adjacent surfaces as specified in CONCRETE Sections. Remove projections to level of adjacent surface by grinding or similar methods.

F. Gypsum Plaster and Gypsum Board:
1. Remove efflorescence, loose and chalking plaster or finishing materials.
2. Remove dust, dirt, and other deterrents to paint adhesion.
3. Fill holes, cracks, and other depressions with CID-A-A-1272A [Plaster, Gypsum (Spackling Compound) finished flush with adjacent surface, with texture to match texture of adjacent surface. Patch holes over 25 mm (1-inch) in diameter as specified in Section for plaster or gypsum board.

3.3 PAINT PREPARATION

A. Thoroughly mix painting materials to ensure uniformity of color, complete dispersion of pigment and uniform composition.
B. Do not thin unless necessary for application and when finish paint is used for body and prime coats. Use materials and quantities for thinning as specified in manufacturer's printed instructions.
C. Remove paint skins, then strain paint through commercial paint strainer to remove lumps and other particles.
D. For tinting required to produce exact shades specified, use color pigment recommended by the paint manufacturer.

3.4 APPLICATION

A. Start of surface preparation or painting will be construed as acceptance of the surface as satisfactory for the application of materials.
B. Unless otherwise specified, apply paint in three coats; prime, body, and finish. When two coats applied to prime coat are the same, first coat applied over primer is body coat and second coat is finish coat.
C. Apply each coat evenly and cover substrate completely.
D. Allow not less than 48 hours between application of succeeding coats, except as allowed by manufacturer's printed instructions, and approved by Resident Engineer.
E. Finish surfaces to show solid even color, free from runs, lumps, brushmarks, laps, holidays, or other defects.
F. Apply by brush, roller or spray, except as otherwise specified.
G. Do not spray paint in existing occupied spaces unless approved by Resident Engineer, except in spaces sealed from existing occupied spaces.

1. Apply painting materials specifically required by manufacturer to be applied by spraying.
2. In areas, where paint is applied by spray, mask or enclose with polyethylene, or similar air tight material with edges and seams continuously sealed including items specified in WORK NOT PAINTED, motors, controls, telephone, and electrical equipment, fronts of sterilizes and other recessed equipment and similar prefinished items.

H. Do not paint in closed position operable items such as access doors and panels, window sashes, overhead doors, and similar items except overhead roll-up doors and shutters.

3.5 PRIME PAINTING

A. After surface preparation prime surfaces before application of body and finish coats, except as otherwise specified.

B. Spot prime and apply body coat to damaged and abraded painted surfaces before applying succeeding coats.

C. Additional field applied prime coats over shop or factory applied prime coats are not required except for exterior exposed steel apply an additional prime coat.

D. Metals except boilers, incinerator stacks, and engine exhaust pipes:
1. Steel and iron: // MPI 95 (Fast Drying Metal Primer) //.
2. Zinc-coated steel and iron: // MPI 134 (Waterborne Galvanized Primer) // MPI 135 (Non-Cementitious Galvanized Primer) //.
3. Asphalt coated metal: MPI 1 (Aluminum Paint (AP)).

E. Gypsum Board:
1. Surfaces scheduled to have MPI 11 (Exterior Latex, Semi-Gloss (AE)) or MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5 (LE)).
2. Primer: MPI 50(Interior Latex Primer Sealer).
3. Surfaces scheduled to receive vinyl coated fabric wallcovering:
4. Use MPI 45 (Interior Primer Sealer) // MPI 46 (Interior Enamel Undercoat).

F. Concrete Masonry Units except glazed or integrally colored and decorative units:
1. MPI 4 (Block Filler) on interior surfaces.
2. Prime exterior surface as specified for exterior finishes.

3.6 EXTERIOR FINISHES

A. Apply following finish coats where specified.

B. Steel and Ferrous Metal:
1. Two coats of MPI 8 (Exterior Alkyd, Flat (EO)) // MPI 9 (Exterior Alkyd Enamel (EO)) // MPI 94 (Exterior Alkyd, Semi-Gloss (EO)) on exposed surfaces, except on surfaces over 94 degrees C (200 degrees F).

C. Concrete Masonry Units:
   1. General:
      a. Mix as specified in manufacturer's printed directions.
      b. Do not mix more paint at one time than can be used within four hours after mixing. Discard paint that has started to set.
      c. Dampen warm surfaces above 75 degrees F with fine mist of water before application of paint. Do not leave free water on surface.
      d. Cure paint with a fine mist of water as specified in manufacturer's printed instructions.
   2. Use two coats of TT-P-1411 (Paint, Co-polymer-Resin, Cementitious (CEP)), unless specified otherwise.

3.7 INTERIOR FINISHES

A. Apply following finish coats over prime coats in spaces or on surfaces specified.
B. Metal Work:
   1. Apply to exposed surfaces.
   2. Omit body and finish coats on surfaces concealed after installation except electrical conduit containing conductors over 600 volts and bar joist s and metal decks.
   3. Ferrous Metal, Galvanized Metal, and Other Metals Scheduled:
      a. Apply two coats of MPI 47 (Interior Alkyd, Semi-Gloss (AK)) unless specified otherwise.
C. Gypsum Board:
   1. One coat of MPI 45 (Interior Primer Sealer) plus one coat of MPI 139 (Interior High Performance Latex, MPI Gloss level 3 (LL)).
D. Masonry and Concrete Walls:
   1. Over MPI 4 (Interior/Exterior Latex Block Filler) on CMU surfaces.
   2. Two coats of MPI 139 (Interior High Performance Latex, MPI Gloss level 3 (LL).

3.8 REFINISHING EXISTING PAINTED SURFACES

A. Clean, patch and repair existing surfaces as specified under surface preparation.
B. Remove and reinstall items as specified under surface preparation.
C. Remove existing finishes or apply separation coats to prevent non compatible coatings from having contact.
D. Patched or Replaced Areas in Surfaces and Components: Apply spot prime and body coats as specified for new work to repaired areas or replaced components.
E. Except where scheduled for complete painting apply finish coat over plane surface to nearest break in plane, such as corner, reveal, or frame.

F. Refinish areas as specified for new work to match adjoining work unless specified or scheduled otherwise.

G. Sand or dull glossy surfaces prior to painting.

H. Sand existing coatings to a feather edge so that transition between new and existing finish will not show in finished work.

3.9 PAINT COLOR

A. Color:

1. PT-1, SW-3238 WHITE ROCK
2. PT-2, SW-7038 TONY TAUPE

B. Coat Colors:

1. Color of priming coat: Lighter than body coat.
2. Color of body coat: Lighter than finish coat.
3. Color prime and body coats to not show through the finish coat and to mask surface imperfections or contrasts.

3.10 MECHANICAL AND ELECTRICAL WORK FIELD PAINTING SCHEDULE

A. Field painting of mechanical and electrical consists of cleaning, touching-up abraded shop prime coats, and applying prime, body and finish coats to materials and equipment if not factory finished in space scheduled to be finished.

B. Paint various systems specified in Division 21 – FIRE SUPPRESSION, Division 22 - PLUMBING, Division 23 – HEATING, VENTILATION AND AIR-CONDITIONING, Division 26 - ELECTRICAL, Division 27 - COMMUNICATIONS, and Division 28 – ELECTRONIC SAFETY AND SECURITY.

C. Paint after tests have been completed.

D. Omit prime coat from factory prime-coated items.

E. Finish painting of mechanical and electrical equipment is not required when located in interstitial spaces, above suspended ceilings, in concealed areas such as pipe and electric closets, pipe basements, pipe tunnels, trenches, attics, roof spaces, shafts and furred spaces except on electrical conduit containing feeders 600 volts or more.

F. Color:

1. Paint items having no color specified to match surrounding surfaces.
2. Paint colors as specified for the following:
   a. White .....Exterior unfinished surfaces of enameled plumbing fixtures. Insulation coverings on breeching and uptake inside boiler house, drums and drum-heads, oil heaters, condensate tanks and condensate piping.
   b. Gray: .....Heating, ventilating, air conditioning and refrigeration equipment (except as required to match surrounding surfaces), and water and sewage treatment equipment and sewage ejection equipment.

c. Federal Safety Red: Exposed fire protection piping hydrants, post indicators, electrical conducts containing fire alarm control wiring, and fire alarm equipment.

d. Color to match brickwork sheet metal covering on breeching outside of exterior wall of boiler house.

G. Apply paint systems on properly prepared and primed surface as follows:

1. Exterior Locations:

a. Apply two coats of MPI 94 (Exterior Alkyd, Semi-gloss (EO)) to the following ferrous metal items:

b. Apply two coats of MPI 11 (Exterior Latex, Semi Gloss (AE)) to the following metal items:
Galvanized and zinc-copper alloy metal.

2. Interior Locations:

a. Apply two coats of MPI 47 (Interior Alkyd, Semi-Gloss (AK)) to following items:

1) Metal under 200 degrees F of items such as bare piping, fittings, hangers and supports.

2) Equipment and systems such as hinged covers and frames for control cabinets and boxes, cast-iron radiators, electric conduits and panel boards.

3) Heating, ventilating, air conditioning, plumbing equipment, and machinery having shop prime coat and not factory finished.

3.11 BUILDING AND STRUCTURAL WORK FIELD PAINTING

A. Painting and finishing of interior and exterior work except as specified under paragraph 3.11 B.

1. Painting and finishing of new and existing work.
2. Painting of disturbed, damaged and repaired or patched surfaces when entire space is not scheduled for complete repainting or refinishing.
3. Painting of ferrous metal and galvanized metal.
4. Identity painting and safety painting.

B. Building and Structural Work not Painted:

1. Finished surfaces:

a. Hardware except ferrous metal.

b. Signs, fixtures, and other similar items integrally finished.

2. Concealed surfaces:

a. Inside interstitial spaces, pipe basements, crawl spaces, pipe tunnels, above ceilings, attics, except as otherwise specified.

b. Inside walls or other spaces behind access doors or panels.

c. Surfaces concealed behind permanently installed casework and equipment.

3. Moving and operating parts:

a. Shafts, chains, gears, mechanical and electrical operators, linkages, and sprinkler heads, and sensing devices.
b. Tracks for overhead or coiling doors, shutters, and grilles.

4. Labels:
   a. Code required label, such as Underwriters Laboratories Inc., Inchcape Testing Services, Inc., or Factory Mutual Research Corporation.
   b. Identification plates, instruction plates, performance rating, and nomenclature.
5. Galvanized metal:
   a. Except where specifically specified to be painted.
6. Metal safety treads and nosings.
7. Gaskets.
8. Concrete curbs, gutters, pavements, retaining walls, exterior exposed foundations walls and interior walls in pipe basements.
9. Face brick.
10. Structural steel encased in concrete, masonry, or other enclosure.
11. Structural steel to receive sprayed-on fire proofing.
12. Ceilings, walls, columns in interstitial spaces.
13. Ceilings, walls, and columns in pipe basements.

3.12 IDENTITY PAINTING SCHEDULE

A. Identify designated service in accordance with ANSI A13.1, unless specified otherwise, on exposed piping, piping above removable ceilings, piping in accessible pipe spaces, interstitial spaces, and piping behind access panels.
   1. Legend may be identified using 2.1 G options or by stencil applications.
   2. Apply legends adjacent to changes in direction, on branches, where pipes pass through walls or floors, adjacent to operating accessories such as valves, regulators, strainers and cleanouts a minimum of 12 000 mm (40 feet) apart on straight runs of piping. Identification next to plumbing fixtures is not required.
   3. Locate Legends clearly visible from operating position.
   4. Use arrow to indicate direction of flow.
   5. Identify pipe contents with sufficient additional details such as temperature, pressure, and contents to identify possible hazard. Insert working pressure shown on drawings where asterisk appears for High, Medium, and Low Pressure designations as follows:
      a. High Pressure - 414 kPa (60 psig) and above.
      b. Medium Pressure - 104 to 413 kPa (15 to 59 psig).
      c. Low Pressure - 103 kPa (14 psig) and below.

d. Add Fuel oil grade numbers.

6. Legend name in full or in abbreviated form as follows:

PIPING	COLOR OF EXPOSED PIPING	COLOR OF BACKGROUND	COLOR OF LETTERS	LEGEND BBREVIATIONS
Blow-off	Yellow	Black		Blow-off
Boiler Feedwater	Yellow	Black		Blr Feed
A/C Condenser Water Supply	Green	White		A/C Cond Wtr Sup
A/C Condenser Water Return	Green	White		A/C Cond Wtr Ret
Chilled Water Supply	Green	White		Ch. Wtr Sup
Chilled Water Return	Green	White		Ch. Wtr Ret
Shop Compressed Air	Yellow	Black		Shop Air
Air-Instrument Controls	Green	White		Air-Inst Cont
Drain Line	Green	White		Drain
High Pressure Steam	Yellow	Black		H.P. _____*
High Pressure Condensate Return	Yellow	Black		H.P. Ret ____*
Medium Pressure Steam	Yellow	Black		M. P. Stm ____*
Medium Pressure Condensate Return	Yellow	Black		M.P. Ret _____*
Low Pressure Steam	Yellow	Black		L.P. Stm _____*
Low Pressure Condensate Return	Yellow	Black		L.P. Ret _____*
High Temperature Water Supply	Yellow	Black		H. Temp Wtr Sup
High Temperature Water Return	Yellow	Black		H. Temp Wtr Ret
Hot Water Heating Supply	Yellow	Black		H. W. Htg Sup
Hot Water Heating Return	Yellow	Black		H. W. Htg Ret
Gravity Condensate Return	Yellow	Black		Gravity Cond Ret
Pumped Condensate Return	Yellow	Black		Pumped Cond Ret
Vacuum Condensate Return	Yellow	Black		Vac Cond Ret
Pumped Condensate	Black			Pump Cond
Pump Recirculating	Yellow	Black		Pump-Recirc.
Vent Line	Yellow	Black		Vent

Cold Water (Domestic)	White	Green	White	C.W. Dom
Hot Water (Domestic)				
Supply	White	Yellow	Black	H.W. Dom
Return	White	Yellow	Black	H.W. Dom Ret
Tempered Water	White	Yellow	Black	Temp. Wtr
Sanitary Waste		Green	White	San Waste
Sanitary Vent		Green	White	San Vent
Storm Drainage		Green	White	St Drain
Pump Drainage		Green	White	Pump Disch
Fire Protection Water				
Sprinkler		Red	White	Auto Spr
Standpipe		Red	White	Stand
Sprinkler		Red	White	Drain

B. Fire and Smoke Partitions:
   1. Identify partitions above ceilings on both sides of partitions except within shafts in letters not less than 2 1/2 inches high.
   2. Stenciled message: "SMOKE BARRIER" or, "FIRE BARRIER" as applicable.
   3. Locate not more than 20 feet on center on corridor sides of partitions, and with a least one message per room on room side of partition.
   4. Use semigloss paint of color that contrasts with color of substrate.

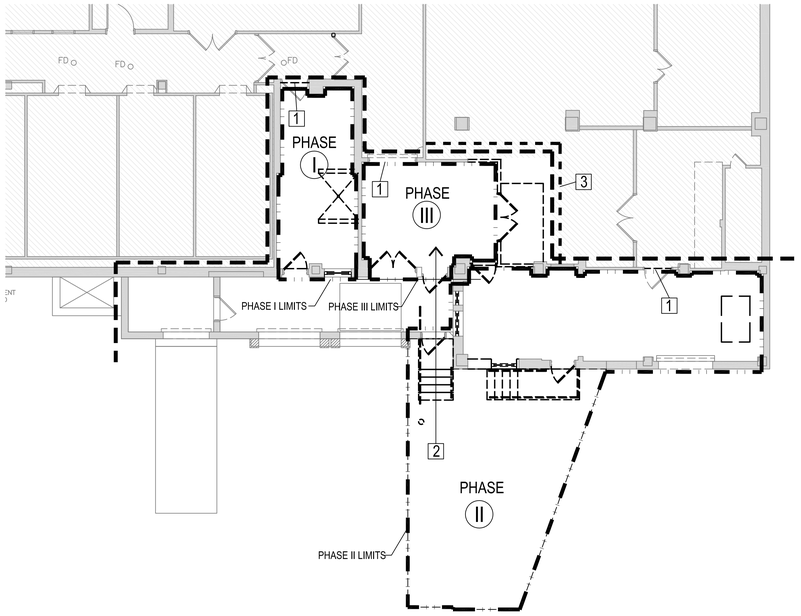
3.13 PROTECTION CLEAN UP, AND TOUCH-UP

A. Protect work from paint droppings and spattering by use of masking, drop cloths, removal of items or by other approved methods.

B. Upon completion, clean paint from hardware, glass and other surfaces and items not required to be painted of paint drops or smears.

C. Before final inspection, touch-up or refinished in a manner to produce solid even color and finish texture, free from defects in work which was damaged or discolored.

- - - E N D - - -



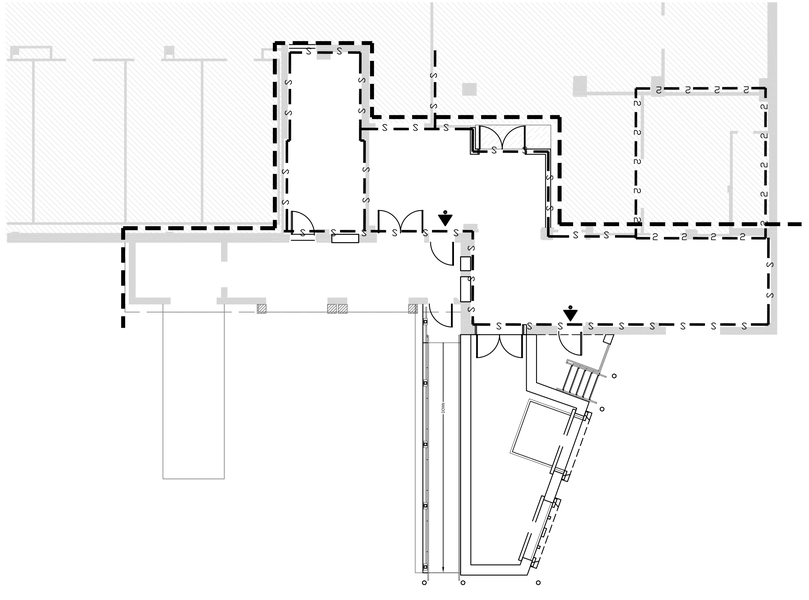
1 **PHASING PLAN**
SCALE: 1/4" = 1'-0"

0 4' 8'

NORTH

COORIDATE SEQUENCING OF SITE CIVIL WORK WITH OWNER. ACCESS DRIVE ON SOUTH SIDE OF NEW LOADING DOCK SHALL REMAIN OPEN FOR DELIVERIES AT ALL TIMES. SOME CIVIL SITE WORK MAY BE REQUIRE. IN AREAS WHERE PAVEMENT IS REMOVED, COMPACTED BASE AND SUBBASE IN ACCORDANCE TO PAVEMENT DETAILS ON SHEET CDT100 SHALL BE PLACED TO KEEP ACCESS OPEN TO EXISTING LOADING DOCK. REFER TO SPECIFICAITON 10 00 00 - GENERAL CONDITIONS.

2



2 **LIFE SAFETY PLAN**
SCALE: 1/4" = 1'-0"

0 4' 8'

NORTH

PHASING AND CODE PLAN LEGEND

- 2 — 2 HOUR SEPARATION
- S — SMOKE SEPARATION
- EGRESS PATH
- EXIT
- ARE OUTSIDE THE EXTENT OF INTERIOR FINISH WORK
- EXISTING EXIT LIGHT
- EXISTING WALL MOUNTED FIRE EXTINGUISHER

PHASING DESCRIPTION

REFER TO SPEC DIVISION 01 FOR ADDITIONAL INFORMATION.

PHASE 0: OFF-SITE PRE-CONSTRUCTION ACTIVITIES
- PRE-CONSTRUCTION PROCUREMENT OF LONG-LEAD TIME EQUIPMENT AND MATERIAL.
- CONTRACTOR'S MOBILIZATION ON-SITE AND EXTERIOR TEMPORARY FACILITY.
- OWNER'S MOVE OUT OF INTERIOR CONSTRUCTION AREA.

PHASE 1: B186 E RENOVATE
- DEMOLITION OF THE ROOM B186E.
- TEMPORARY PARTITION AND DUST CONTROL AT DOORS AND WINDOWS.
- SELECTIVE CONSTRUCTION IN ROOM B186E PER NEW PLAN.
- OWNER'S MOVE IN TO B186E AS OPERATE THE B186 E AS NEW SHREDDER ROOM.

PHASE II: B278 RENOVATE AND NEW DOCK
- OWNERS MOVE OUT TO NEW SHREDDER ROOM B186E FROM B278
- TEMPORARY PARTITION AND DUST CONTROL AT DOORS AND WINDOWS.
- SELECTIVE DEMOLITION IN ROOM B278.
- FOUNDATION AND NEW LOADING DOCK AND RAMP CONSTRUCTION.
- MOBILIZATION FOR SITE CIVIL WORK.

PHASE III: B276 VESTIBULE AND SITE CIVIL WORK
- TEMPORARY PARTITION AND DUST CONTROL AT DOORS AND WINDOWS.
- SELECTIVE DEMOLITION IN ROOM B276 AND B274
- NEW CONSTRUCTION IN ROOM B276 AND B274.
- ALL NEW CIVIL SITE WORK.

GENERAL PHASING NOTES

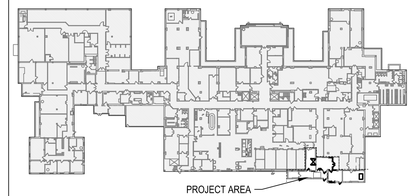
1. CONTRACTOR IS RESPONSIBLE TO COORDINATE WORK AND PHASING WITH VA AND COORDINATION OF FURNISHING AND EQUIPMENT. REFER TO SPECIFICATION 012100 FOR PROJECT COORDINATION AND INFECTION CONTROL INSTRUCTION.
2. AREAS OF THE BUILDING WITHIN THE WORK AREAS WILL REMAIN OCCUPIED BY THE HOSPITAL STAFF AND USERS DURING CONSTRUCTION AS INDICATED. ACCESS WILL BE GRANTED BY THE VA FOR LIMITED DURATIONS. OTHER AREAS ADJACENT TO THE WORK AREAS WILL REMAIN OCCUPIED BY THE HOSPITAL. AT NO TIME SHALL THE OCCUPANTS BE DISTURBED DURING EXECUTION OF THE WORK.
3. ALL CODE REQUIRED EGRESS SHALL BE MAINTAINED THROUGHOUT THE PERIOD OF CONSTRUCTION.
4. ALL LIFE-SAFETY UTILITIES RUNNING THROUGH WORK AREAS, SERVING AREAS OUTSIDE THE WORK AREA SHALL BE MAINTAINED WITHOUT INTERRUPTION THROUGHOUT THE DURATION OF THIS WORK.
5. NO DUST, DIRT OR DEBRIS SHALL BE ALLOWED TO EXTEND BEYOND THE WORK AREA. PROVIDE TEMPORARY FACILITIES AS REQUIRED. SEE SPEC SECTIONS 010000, 012100, 013216-17 AND 015719.
6. REFER TO SPEC DIVISION 01 FOR ADDITIONAL REQUIREMENTS, INCLUDING PHASING, OCCUPIED SPACES, SITE USAGE, ACCESS, WORK RESTRICTIONS, WORK HOURS, NOTICES, ETC., NOT NOTED THIS SHEET.
7. BUILDING 1 LOADING DOCK IS AT SOUTH SIDE OF THE BUILDING. INDICATED IN SHEET GI 000, IS TO BE USE FOR CONSTRUCTION ACCESS. COORDINATE WITH THE COR FOR LIMITED USE OF DOCK FOR CONSTRUCTION ACCESS.
8. PROPOSED PHASING PLAN AND TEMPORARY PARTITION PLAN ARE DIAGRAMMATIC ONLY. COORDINATE WITH COR FOR FINAL REQUIREMENTS.
9. TEMPORARY PARTITIONS: CONSTRUCT A TEMPORARY, DUST TIGHT, 1-HR TYPE CONSTRUCTION FULL HEIGHT BARRIER OF METAL STUD AND GYPSUM BOARD. PARTITION TO EXTEND TIGHTLY TO THE UNDERSIDE OF THE EXISTING CEILING. DO NOT ANCHOR THROUGH THE EXISTING FLOOR OR OTHER NON-REPAIRABLE FINISHES. INSTALL A DUST TIGHT POLYETHYLENE SHEET BARRIER ABOVE THE EXISTING CEILING CONSTRUCTION. ALL EXPOSED SURFACES OF PARTITIONS SHALL BE FINISHED TO MATCH ADJACENT.
10. C-LABEL (3/4 HR) TEMPORARY DOOR IN HM FRAME WITH LATCHING HARDWARE AND CLOSERS, PERIMETER SEALS, AND DOOR BOTTOM SEAL, FOR DAILY CONSTRUCTION ACCESS. PAINT EXPOSED DOOR AND FRAME TO MATCH TEMPORARY PARTITION.

PHASING KEY NOTES

[1] PROVIDE NECESSARY PROTECTION AND DUST CONTROL AT EXISTING DOOR.

[2] MAINTAIN DAILY ACCESS / EGRESS FOR HOSPITAL USE DURING CONSTRUCTION

[3] LINE OF TEMPORARY PARTITION



KEY PLAN

Revisions:	Date
2 ADDENDUM #1 PER OWNER	2/14/17
1 OWNER REVISIONS	12/23/16
100% CONSTRUCTION DRAWINGS	08/22/14
95% CONSTRUCTION DRAWINGS	01/09/14
50% CONSTRUCTION DRAWINGS	11/08/13

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315 S. Oneida Ave.
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54501-3422

Drawing Title: PHASING & TEMPORARY PARTITIONS

Approved Project Director:

Project Title: RENOVATE LOADING DOCK

Location: 325 EAST H ST. IRON MOUNTAIN, MI 49801

Date: 08/22/14 | Checked: PG | Drawn: NMK

Project Number: 585-12-125

Building Number: BUILDING 1

Drawing Number: GI001

Dwg 2 of 33

Office of Facilities Management

Department of Veterans Affairs

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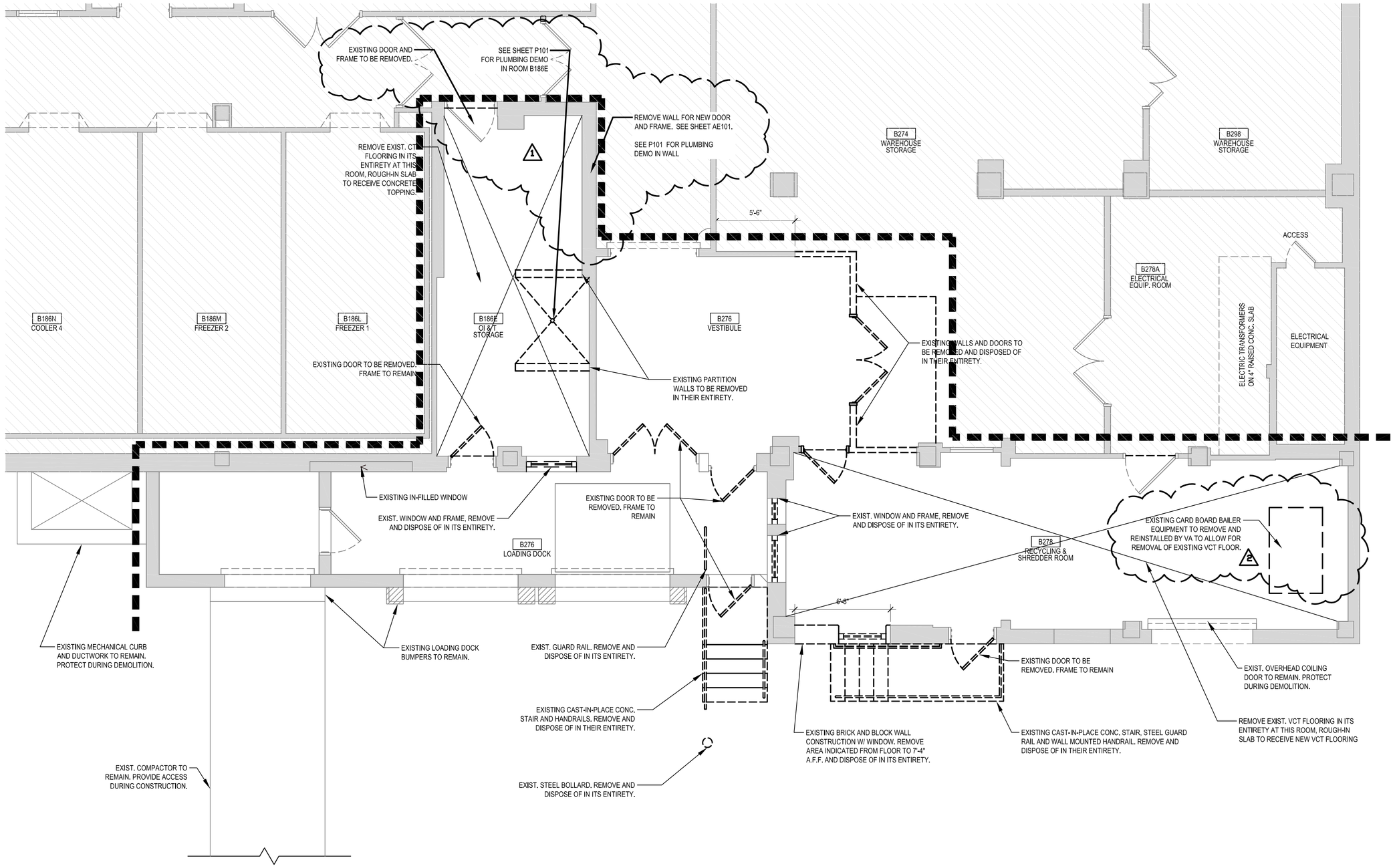
DEMOLITION LEGEND

- EXISTING WALL TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- EXISTING DOOR TO REMAIN
- EXISTING DOOR TO BE DEMOLISHED
- AREA OUTSIDE SCOPE OF INTERIOR RENOVATION.
- EXTENT OF DEMOLITION WORK INDICATED BY NOTE
- EXISTING WINDOW TO BE DEMOLISHED

GENERAL DEMOLITION NOTES

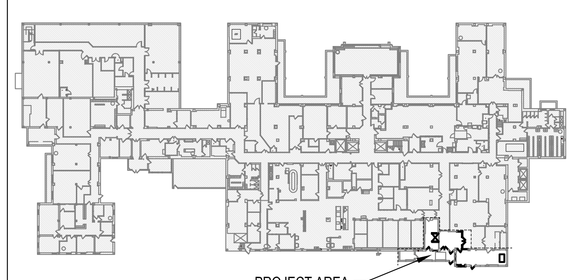
1. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO COMMENCING THE WORK.
2. CONTRACTOR SHALL NOTIFY THE OWNER IF ANY DISCREPANCIES BETWEEN THE DEMOLITION DRAWINGS AND ACTUAL CONDITIONS PRIOR TO PROCEEDING WITH THE WORK.
3. REFER TO C/S/M/E/P, DEMOLITION, AND NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
4. PROVIDE PROTECTION AGAINST MOISTURE, IMPACT AND OTHER TYPES OF DAMAGE AT ALL OPENINGS CREATED BY SELECTIVE DEMOLITION. PROTECT EXISTING CONSTRUCTION FROM DAMAGE DURING THE DEMOLITION AND NEW CONSTRUCTION WORK. REPAIR OR REPLACE AS REQUIRED EXISTING CONSTRUCTION DAMAGED AT NO COST TO THE OWNER.
5. CONTRACTOR TO PROVIDE ALL REQUIRED OPENINGS IN EXISTING WALLS AND FLOORS FOR PENETRATION OF HVAC, MECHANICAL, PLUMBING, FIRE PROTECTION, COMMUNICATIONS, AND ALL OTHER REQUIRED BUILDING SYSTEMS. PATCH TO MATCH EXISTING FIRE AND SMOKE SEPARATION TO MATCH AND MAINTAIN SMOKE AND FIRE RATINGS AS REQUIRED. PROVIDE FIRESTOPPING IDENTIFICATION LABELS ON BOTH SIDES OF EACH PENETRATION THROUGH RATED WALLS.
6. PROTECT EXISTING INTERIOR WALLS DURING DEMOLITION AND CONSTRUCTION. PROVIDE TEMPORARY PROTECTION FROM DUST, NOISE, DAMAGE, ETC. CONSTRUCTION BARRIERS AND OTHER SITE PROTECTION REQUIREMENTS TO BE CONSISTENT WITH THE SPECIFICATIONS SECTION AND DIVISION 1, GENERAL REQUIREMENTS, REFER TO THE PROJECT MANUAL, SPECIFICATIONS DIVISION 1, AND GENERAL REQUIREMENTS FOR RELATED PROJECT, DEMOLITION, CONSTRUCTION, AND PROTECTION REQUIREMENTS.
7. PLANS ARE DIAGRAMMATIC AND PROVIDED TO SHOW THE INTENT ONLY. UNLESS SPECIFICALLY NOTED OTHERWISE ALL PARTITION ASSEMBLIES INDICATED TO BE DEMOLISHED SHALL BE DEMOLISHED COMPLETELY, INCLUDING GWB, STUDS, TRACKS, FASTENING DEVICES, AND ALL RELATED PARTS.
8. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND WORK ORDERS REQUIRED AND SHALL NOTIFY ALL UTILITIES HAVING SERVICE CONNECTIONS WITHIN THE SITE.
9. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS DAILY. DEMOLITION WORK SHALL REMAIN SAFE AND CLEAN FOR THE BUILDING'S OCCUPANTS AND CONSTRUCTION WORKERS, OCCUPIED AREAS ADJACENT TO THE PROJECT WORK AREAS SHALL BE KEPT CLEAN AT ALL TIMES DURING THE WORK. SEE GC01 FOR ADDITIONAL WORK LIMITATIONS DUE TO OCCUPIED CONSTRUCTION.
10. ROOM LAYOUTS AND CONFIGURATIONS AND AREAS OUTSIDE OF THE CURRENT PHASE OF WORK ARE SHOWN FOR REFERENCE ONLY. EXISTING PASSAGE AND ROOMS ARE BASED UPON INFORMATION PROVIDED BY THE OWNER, FIELD VERIFICATION PRIOR TO COMMENCEMENT OF CONSTRUCTION IS REQUIRED.
11. CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTION, SUPPORT, BRACING SEALING AND CAPPING OF EXISTING PARTITIONS, CEILINGS, PIPES, DUCTS, CONDUITS, ETC. SHOWN ARE TO BE PARTIALLY DEMOLISHED IN THIS PHASE OF WORK. THE TEMPORARY WORK SHALL KEEP THE PARTIALLY DEMOLISHED WORK STABILIZED WHERE EXISTING CONSTRUCTION IS SHOWN TO BE PARTIALLY DEMOLISHED IN THIS PHASE OF WORK. EXTEND DEMOLITION WORK A MINIMAL DISTANCE AS REQUIRED TO INSTALL NEW WORK INDICATED.
12. CONTRACTOR SHALL MAINTAIN NEGATIVE PRESSURE WITH THE EXISTING SPACE AT ALL TIMES DURING DEMOLITION AND NEW CONSTRUCTION. PROVIDE TEMPORARY VENTILATION AND TEMPORARY PERIMETER SEALS ON ALL EXISTING UTILITIES AND DUCTS PARTIALLY DEMOLISHED TO PREVENT CONTAMINATION FROM CONSTRUCTION.
13. ALL NOTES AND DRAFTING SYMBOLS INDICATING "DEMOLITION" INCLUDE COMPLETE DEMOLITION AND PROPER DISPOSAL OF ITEM(S) IDENTIFIED.



1 **DEMOLITION FLOOR PLAN**
SCALE: 1/4" = 1'-0"

0 4' 8'

NORTH



KEY PLAN

⚠ADDENDUM #1 PER OWNER	2/14/17
⚠OWNER REVISIONS	12/23/16
100% CONSTRUCTION DRAWINGS	08/22/14
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Drawing Title: DEMOLITION FLOOR PLAN
Approved Project Director:
Project Title: RENOVATE LOADING DOCK
Location: 325 EAST H ST, IRON MOUNTAIN, MI 49801
Date: 08/22/14 | Checked: PG | Drawn: NMK
Project Number: 585-12-125
Building Number: BUILDING 1
Drawing Number: AD100
Dwg 13 of 33

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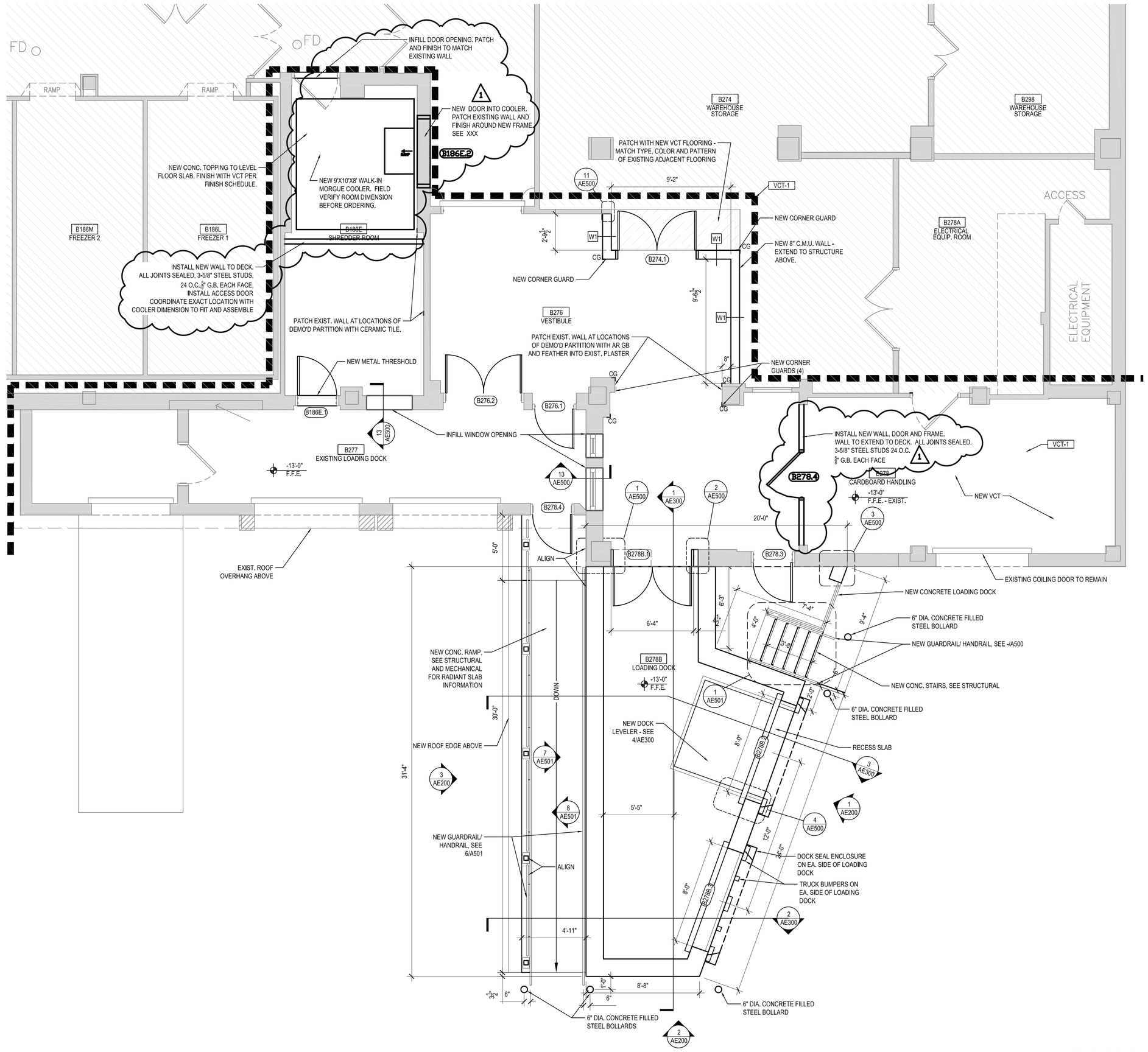


PLAN LEGEND

- EXISTING WALL TO REMAIN
- NEW WALL / PARTITION
- EXISTING DOOR TO REMAIN
- NEW DOOR AND HARDWARE
- AREA NOT IN SCOPE OF WORK

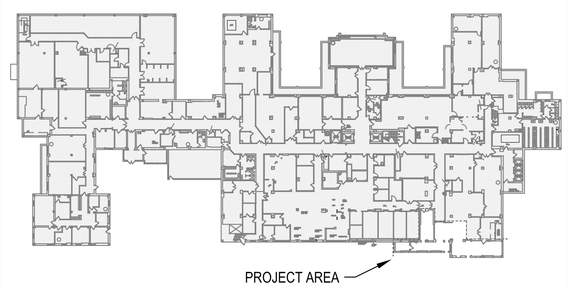
GENERAL NOTES

1. SEE SHEET AI000 FOR ABBREVIATIONS, SYMBOLS & NOTES.
2. SEE SECTION 09 91 00 - PAINTING FOR SCHEDULE OF FINISHES (INTERIOR AND EXTERIOR) 2
3. REFER TO THE MECHANICAL AND ELECTRICAL DWGS. FOR THE DETAILED DESIGN OF THE MECHANICAL AND ELECTRICAL OF WHICH PORTIONS MAY BE SHOWN ON THE ARCHITECTURAL DWGS.
4. STORE ALL MATERIALS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND TO PROTECT FROM DAMPNESS AND MAINTAIN MOISTURE CONTENT.
5. SEE STRUCTURAL FOR LINTELS.
6. MORGUE COOLER TO BE CONSTRUCTED OF STAINLESS STEEL. COOLER DOOR OPENING TO BE A MINIMUM OF 42" WIDE. 2

1 **FLOOR PLAN - NEW WORK**
SCALE: 1/4" = 1'-0"

0 4' 8'

NORTH



KEY PLAN

⚠2 ADDENDUM #1 PER OWNER	2/14/17
⚠1 OWNER REVISIONS	12/23/16
100% CONSTRUCTION DRAWINGS	08/22/14
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Drawing Title	NEW WORK FLOOR PLAN
Approved Project Director	
Project Title	RENOVATE LOADING DOCK
Location	325 EAST H ST. IRON MOUNTAIN, MI 49801
Date	08/22/14
Checked:	PG
Drawn:	NMK
Project Number	585-12-125
Building Number	BUILDING 1
Drawing Number	AE101
Dwg 15 of 33	

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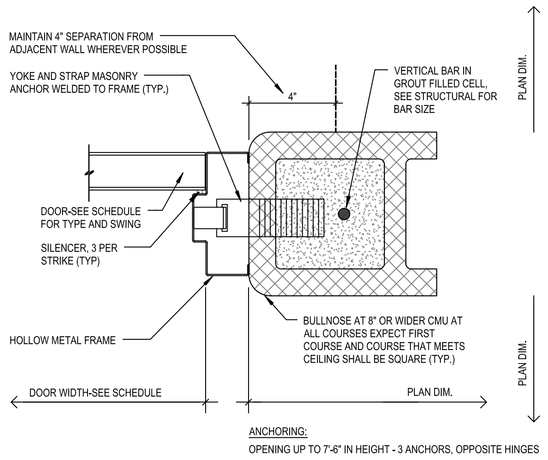
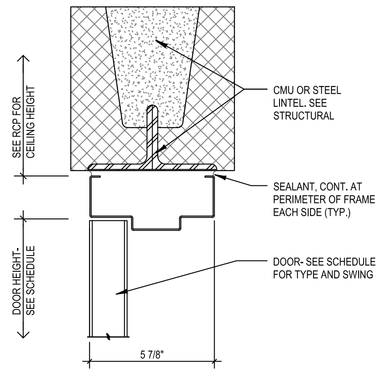


INT HM JAMB DETAIL
SCALE: 3" = 1' - 0"

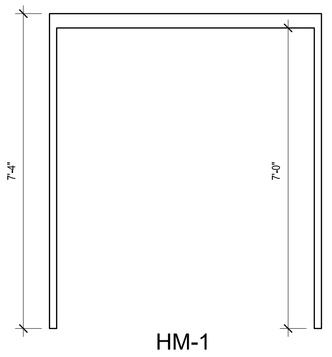


INT HM HEAD DETAIL
SCALE: 3" = 1' - 0"

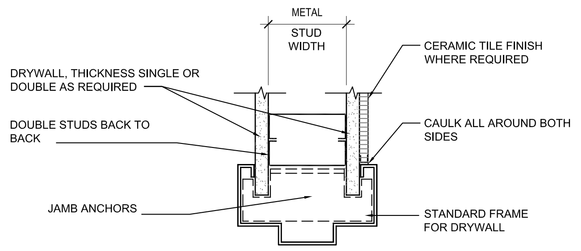
DOOR SCHEDULE

DOOR NUMBER	ROOM NUMBER	ROOM NAME	DOOR WIDTH	DOOR HEIGHT	DOOR THICHNESS	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	DETAILS HEAD	DETAILS JAMB	FIRE RATING	HARDWARE SET	COMMENTS
B274.1	B274	WAREHOUSE STORAGE	6'-0"	7'-0"	1-3/8"	NL	MTL	PNT-2	HM-1	MTL	PNT-2			-	1	(2) 3'-0" LEAFS
B278.3	B278	CARDBOARD HANDLING	3'-0"	7'-0"	1-3/8"	NL	MTL	PNT-2	EXIST.	MTL	PNT-2	-	-	-	2	
B186E.1	B186E	SHREDDER ROOM	3'-0"	7'-0"	1-3/8"	F	MTL	PNT-2	EXIST.	MTL	PNT-2	-	-	-	3	
B276.1	B276	VESTIBULE	3'-0"	7'-0"	1-3/8"	NL	MTL	PNT-2	EXIST.	MTL	PNT-2				4	
B276.2	B276	VESTIBULE	5'-10"	7'-0"	1-3/8"	NL	MTL	PNT-2	EXIST.	MTL	PNT-2				7	
B278.4	B277	EXIST. LOADING DOCK	3'-0"	7'-0"	1-3/8"	F	MTL	PNT-2	EXIST.	MTL	PNT-2				2	
B278B.1	B278B	LOADING DOCK	6'-0"	7'-0"	1-3/8"	F	MTL	PNT-2	HM-1	MTL	PNT-2	-	1,2/AE500	-	5	(2) 3'-0" LEAFS
B278B.2	B278B	LOADING DOCK	8'-0"	8'-0"	-	-	MTL	PNT-2	-	-	PNT-2	5/AE500	4/AE500	-	6	OVERHEAD COILING DOOR
B278B.3	B278B	LOADING DOCK	8'-0"	8'-0"	-	-	MTL	PNT-2	-	-	PNT-2	5/AE500	4/AE500	-	6	OVERHEAD COILING DOOR
B278.4	B278	LOADING DOCK	3'-6"	7'-0"	1-3/4"	F	MTL	PNT-2	HM-1	MTL	PNT-2				4	
B186E.2	B186E	MORGUE COOLER	5'-0"	7'-0"	1-3/4"	F	MTL	PNT-2	HM-1	MTL	PNT-2				8	DOUBLE DOORS; RIGHT HAND DOOR ACTIVE (LEFT SIDE FROM CORRIDOR)

NOTE: SEE SPEC 08 71 00 FOR HARDWARE SET



FRAME TYPES



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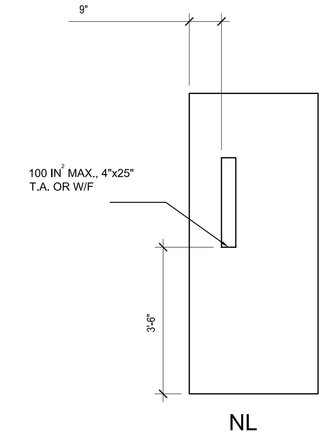
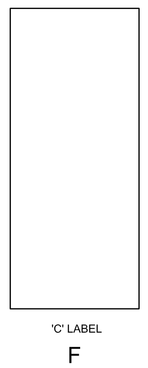
DOOR DETAILS

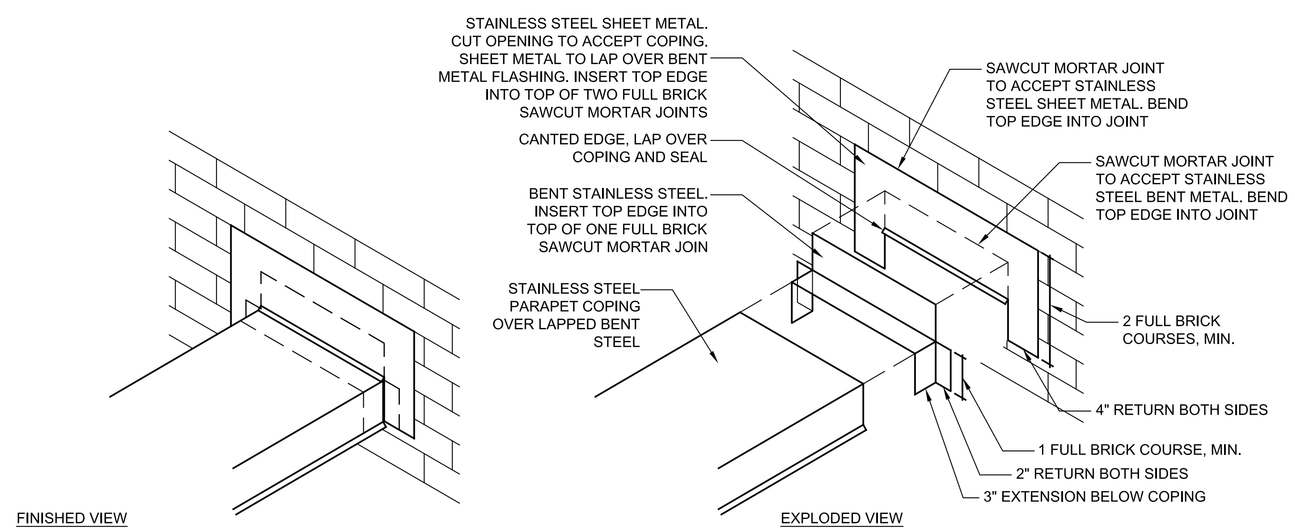
ROOM SCHEDULE

ROOM NUMBER	ROOM NAME	WALLS NORTH	WALLS EAST	WALLS SOUTH	WALLS WEST	BASE	FLOOR	CEILING
B186E	SHREDDER ROOM	EXIST.	EXIST.	EXIST.	EXIST.	RB-1*	VCT	ACT-1
B276	VESTIBULE	PT-1	PT-1	PT-1	PT-1	RB-1	(E) CONC	ACT-1
B277	(E) LOADING DOCK	PT-1	PT-1	PT-1	PT-1	EXIST.	EXIST.	EXIST.
B278	CARDBOARD HANDLING	PT-1	PT-1	PT-1	PT-1	RB-1	CONC.	EXP. / EXIST.
B278B	LOADING DOCK	PT-1	PT-1	PT-1	PT-1	**RB–1**	CONC.	PT-2





DOOR TYPES



1 ROOF TO WALL 3-PIECE COPING FLASHING
SCALE: NOT TO SCALE

Revisions:	Date
2 ADDENDUM #1 PER OWNER	2/14/17
1 OWNER REVISIONS	12/23/16
100% CONSTRUCTION DRAWINGS	08/22/14
95% CONSTRUCTION DRAWINGS	01/09/14
50% CONSTRUCTION DRAWINGS	11/08/13

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Drawing Title: DOOR AND FINISH SCHEDULES AND DETAILS

Approved Project Director:

Project Title: RENOVATE LOADING DOCK

Location: 325 EAST H ST. IRON MOUNTAIN, MI 49801

Date: 08/22/14 | Checked: PG | Drawn: NMK

Project Number: 585-12-125

Building Number: BUILDING 1

Drawing Number: AE502

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Office of Facilities Management

Department of Veterans Affairs

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SEQUENCE OF OPERATION:

1. STEAM CONTROL VALVE SHALL MODULATE TO MAINTAIN THE LEAVING HOT WATER TEMPERATURE AT SET POINT.

2. THE LEAVING HOT WATER TEMPERATURE SHALL BE RESET INVERSELY WITH THE OUTDOOR TEMPERATURE AS SCHEDULED.

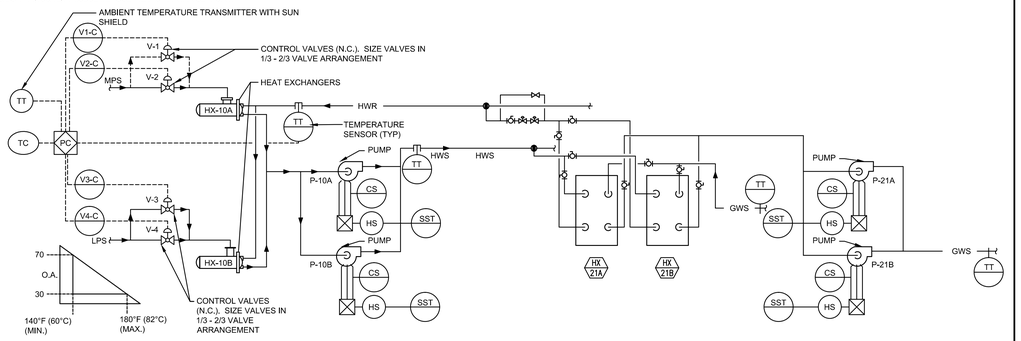
3. THE LEAD AND LAG PUMPS AND HEAT EXCHANGERS SHALL BE SEQUENTIAL BY THE OPERATOR CONTROLS AT THE PRE-DETERMINED INTERVAL (USUALLY 7 DAYS). IN THE EVENT THE PUMP FAILS TO START WITHIN 30 SECONDS, AN ALARM SHALL BE INITIATED AND THE SECOND PUMP SHALL START AUTOMATICALLY.

VALVE SEQUENCE:

1. V1,V3 @ CAPACITY) MODULATING FULLY OPEN TO MAINTAIN SET POINT

2. V2,V4 @ CAPACITY) MODULATE FULLY OPEN TO MAINTAIN SET POINT.

3. BOTH V1,V3 & V2,V4 MODULATE TOGETHER TO MAINTAIN SET POINT.



DUAL HEAT EXCHANGER CONTROLS (HEATING SYSTEM) HX10A, HX10B

1 N.T.S.

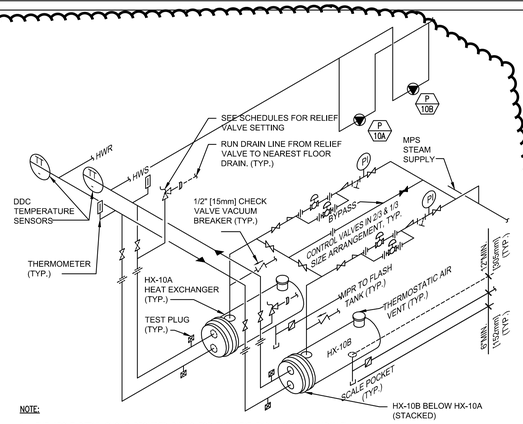
70 O.A. 30 — 140°F (60°C) (MIN.) — 180°F (82°C) (MAX.)

TYP OSA RESET SCHEDULE

NOTE:

PROVIDE ENERGY MONITORING TRENDING AND CALCULATIONS FOR NEW ENERGY DASHBOARD BAS

⚠ NOT IN CONTRACT



NOTE:

1. THE ABOVE DETAIL SHOWS REQUIRED PIPING FOR TWO HEAT EXCHANGERS IN PARALLEL.
2. PROVIDE SADDLE SUPPORTS AND LEGS OR HANGERS FOR HEAT EXCHANGER. MOUNTING HEIGHT SHALL BE ADJUSTED TO FACILITATE GRAVITY RETURN OF STEAM CONDENSATE.
3. MAKE THE BYPASS THE SAME SIZE AS THE CONNECTIONS TO THE CONTROL VALVES.
4. CONTROL VALVES SHALL BE IN A 1/3 AND 2/3 SIZE ARRANGEMENT.
5. REWORK/REUSE EXISTING PIPING AS REQUIRED. PROVIDE NEW VALVES, SENSORS, DEVICES AS REQUIRED.

3 HEAT EXCHANGER - STEAM TO HOT WATER- HX10A, HX10B

N.T.S.

PUMP SCHEDULE

TAG NO. (P)	SERVICE/ LOCATION	CAP GPM	PUMP TYPE	TOTAL HEAD W.C. FT	WORKING PRESS MAX. PSIG.	LIQUID TEMP. °F	N.P.S.H. MIN. SUCTION HEAD W.C. ABSOLUTE FT	PUMP BHP	PUMP RPM	MOTOR V/PH/C (4)	MOTOR HP	MOTOR RPM	VIBRATION ISOLATION TYPE	VIBRATION ISOLATION MIN. STATIC DEFL. IN.	REMARKS BASED ON: BELL & GOSSETT
21 A	SNOW MELTING/ SUB-BSMT	7	INLINE	65	–	100	–	–	–	208/3	1	3450	–	–	SERIES 90, 1 AA (1)(3)
21 B	SNOW MELTING/ SUB-BSMT	7	INLINE	65	–	100	–	–	–	208/3	1	3450	–	–	SERIES 90, 1 AA (1)(3)
10 A	HX-10A/ SUB-BSMT	46	INLINE	65	–	100	–	–	–	460/3	3	3450	–	–	SERIES 90, 1 1/2 AA (1)(2)
10 B	HX-10B/ SUB-BSMT	46	INLINE	65	–	100	–	–	–	460/3	3	3450	–	–	SERIES 90, 1 1/2 AA (1)(2)

(1) FLANGED ENDS

(2) REMOVE 1.5 HP MOTOR AND PROVIDE 3 HP HIGH EFFICIENCY MOTOR, CHANGE IMPELLER FROM 3.75 TO 4.75, PROVIDE (2) DANFOSS MODEL FC102 VARIABLE FREQUENCY DRIVES WITH DISC SWITCH.

(3) 40% PROPYLENE GLYCOL

(4) FIELD VERIFY EXACT VOLTAGE PRIOR TO ORDERING.

⚠ NOT IN CONTRACT

UNIT HEATER SCHEDULE

TAG NO. (UH)	LOCATION	TYPE	FAN APPROX CFM @ 70°F	FAN E.S.P. INCHES H2O	FAN RPM	AIR TEMPERATURE °F ENT.	AIR TEMPERATURE °F LVG	MIN. MBH	WGHT	STEAM CAP LBS/HR @5PSIG	STEAM TRAP SIZE	MOTOR QTY	MOTOR HP	MOTOR VOLT	VIBRATION ISOLATION TYPE	VIBRATION ISOLATION MIN. STATIC DEFL. INCHES	REMARKS BASED ON
1	DOCK	AIR CURTAIN	7035	–	–	65	100	–	274	251	–	3	1/2	120	–	–	BERNER INTERNATIONAL, MODEL VSA3096S (1)
2	DOCK	AIR CURTAIN	7035	–	–	–	–	–	274	251	–	3	1/2	120	–	–	BERNER INTERNATIONAL, MODEL VSA3096S (1)
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

(1) THERMOSTAT WITH FAN SPEED SELECTOR SWITCH AND COMFORT PLUS CONTROL PACKAGE (UNIT ACTIVATED BY DOOR SWITCH OR THE THERMOSTAT TO PROVIDE SUPPLEMENTAL HEATING), EXTENSION BRACKETS, DOORSWITCH INTERLOCK, 3 SPEED SWITCH, CONTROL PANEL (UH-1-RH, UH-2-LH), STEAM COIL CONNECTIONS (UH-1-RH, UH-2-LH), INLET SCREEN WITH MERV 8 FILTER, STAINLESS STEEL CABINET, 3 SPD MOTORS, 1 ROW COIL PER STEAM COIL

⚠ NOT IN CONTRACT

CONVERTER SCHEDULE (HX)

UNIT NO.	SERVICE	LOCATION	FLOW RATE SHELL STEAM #/HR. AT 5 PSIG	FLOW RATE TUBES WATER GPM	CAPACITY MBH	WATER TEMP °F INLET	WATER TEMP °F OUTLET	MAX. P.D. FEET H2O	NO. OF PASSES	FOULING FACTOR	HEATING SURFACE SQ. FT.	APPROX. SIZE DIAM. X LENGTH	REMARKS (1)
10A,10B	PHARMACY	SUB-BASEMENT	477	46.9	458	160	180	2.44	–	.0006	11.5	–	B&G MODEL QSU45-2

(1) CAST IRON FRONT HEADER, COPPER TUBES, STEEL SHELL, 2" LPS/1" LPR CONNECTIONS, 1.5" HWS,R CONNECTIONS.

BRAZED PLATE HEAT EXCHANGER SCHEDULE (HX)

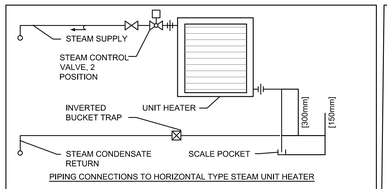
UNIT NO.	SERVICE	LOCATION	HOT SIDE FLOW GPM	HOT SIDE EWT °F	HOT SIDE LWT °F	HOT SIDE PD PSI	HOT SIDE FLUID %	COLD SIDE FLOW GPM	COLD SIDE EWT °F	COLD SIDE LWT °F	COLD SIDE PD PSI	COLD SIDE FLUID % PROP.	CAPACITY MBH	PLATES NO.	PLATE MATL	EFFECTIVE HEAT SURFACE SQ. FT.	GASKET	REMARKS
21A,21B	RAMP SNOWMELT	SUB-BASEMENT	6.3	180	160	6.77	–	6.3	80	100	7.38	40	61.5	10	316 SS	1.01	–	B&G MODEL BP400-10

(1) 3/4" CONNECTION, 8.45"x3.18"x2.13" HxWxD, COPPER BLAZING MATERIAL.

HEATING SYSTEM OVERVIEW

SYSTEM COMPONENT:	POINT ID	SYSTEM OUTPUTS BINARY COMMAND	SYSTEM OUTPUTS ANA-LOG POSITION/PID	SYSTEM INPUTS BINARY STATUS	SYSTEM INPUTS ANALOG TEMPERATURE (TF)	PRESSURE	DIFFERENTIAL PRESSURE	LEVEL	FLOW	CURRENT	TOTALIZATION	CONDUCTIVITY	ORP	DATA (COM LINE)	SYSTEM SOFTWARE/CONTROL ALARM PROCESSING EQUIPMENT STATUS	LOW LIMIT	HIGH LIMIT	APPLICATION /FUNCTION LEAD/LAG	START/STOP
Hot Water Pump																			
On/Off										●						●			
Start/Stop		●																●	●
Status Auto				●															
Status Hand				●															
VFD Control Panel Data														●					
Hot Water Supply Temperature					●												●		
Hot Water Return Temperature					●												●		
Hot Water Flow									●										

INCLUDES P-10A, P-10B, P-21A, P-21B AND AUTOMATIC CHANGEOVER.
ALSO PROVIDE START/STOP/STATUS FOR SNOW MELT CONTROL PANEL, GLYCOL SUPPLY & RETURN TEMPERATURES, CONTROL VALVE START/STOP FOR GLYCOL HEAT.
ALSO PROVIDE FAN START/STOP/STATUS FOR EXISTING EXHAUST FAN IN SHREDDING ROOM.
ALSO PROVIDE POINTS FOR UNIT HEATERS. SEE DETAIL 7 THIS SHEET.
ALSO PROVIDE POINTS FOR EXHAUST FAN FOR NEW SHREDDER ROOM.
ALSO PROVIDE POINTS FOR LOADING DOCK RADIATOR TEMPERATURE & STEAM VALVES.

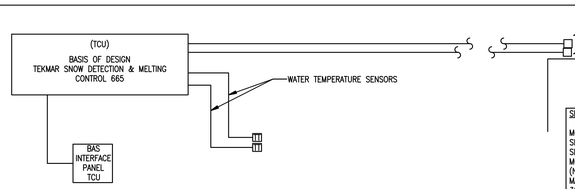


PIPING CONNECTIONS TO HORIZONTAL TYPE STEAM UNIT HEATER

NOTES:
1.UNIT MOUNTED THERMOSTAT SHALL MAINTAIN SPACE TEMPERATURE BY CYCLING THE FAN. THE CONTROL VALVE SHALL BE INTERLOCK WITH THE FAN.

2 UNIT HEATERS (STEAM) PIPING CONNECTIONS (AIR CURTAIN)

N.T.S.

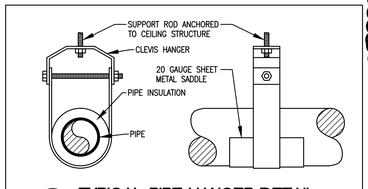


SEQUENCE OF OPERATION

MOISTURE/SLAB SENSOR SHALL START P-21A THRU SIGNAL TO BAS (CONTROL OF PUMPS THRU BAS)-OA OR SLAB TEMP BELOW 40' (NO MOISTURE) OR SLAB MOIST/RH ABOVE 90%. 2-WAY CONTROL VALVE V-5 (N.O.) VIA TCU (TECHMAR CONTROLLER) MODULATES TO MAINTAIN DESIRED SETPOINT, 26 DEG-OA BELOW 40' OR 36' -SLAB MOIST. P-21A SHALL ALTERNATE WITH P-21B. PROVIDE SAME BAS INTERFACE POINTS AS EXISTING FRONT WALK SNOW MELT SYSTEM. SEE DETAIL 1 ABOVE.

4 SNOW MELT SENSORS

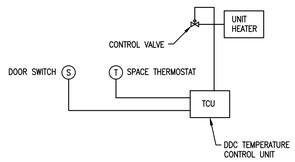
N.T.S.



6 TYPICAL PIPE HANGER DETAIL

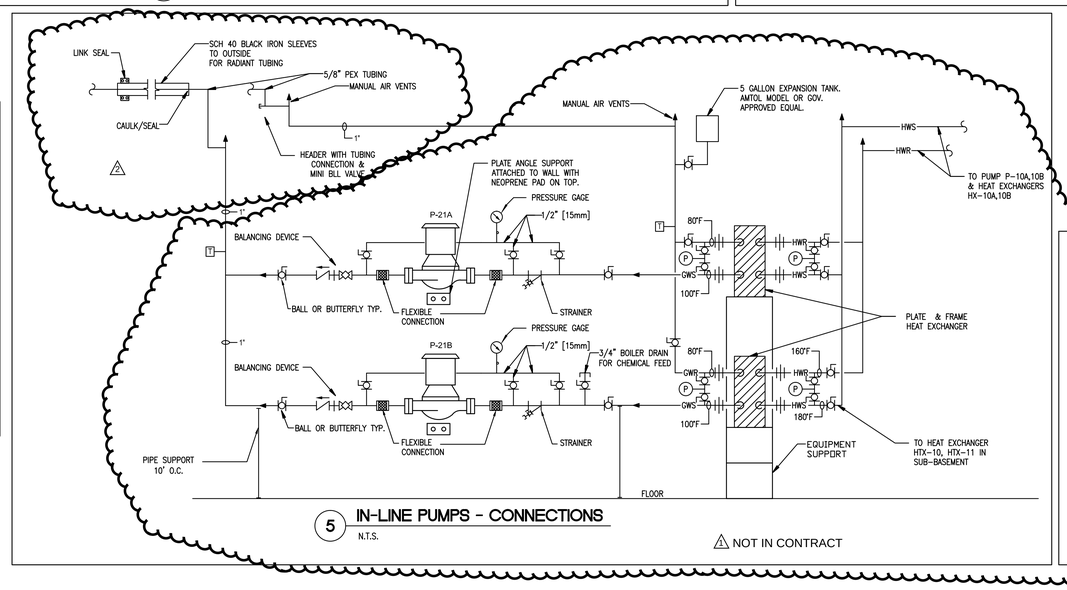
N.T.S.

SEQUENCE OF OPERATION
UNIT HEATER START BY THERMOSTAT DOOR SWITCH THERMOSTAT CONTROLS VALVE TO MAINTAIN SPACE SETPOINT. UNIT TO HAVE MULTIPLE SPEED ADJUSTMENTS.
PROVIDE THE FOLLOWING BAS POINTS
1. FAN ONM CURRENT
2. POSITIVE AIRFLOW
3. STEAM VALVE STATUS
4. COND. TEMP, LBS/HR, TRENDING, ENERGY CALC. TO MATCH ENERGY DASHBOARD.
5. MOD. STEAM VALVE.
6. ROOM TEMP.



7 UNIT HEATERS (STEAM)

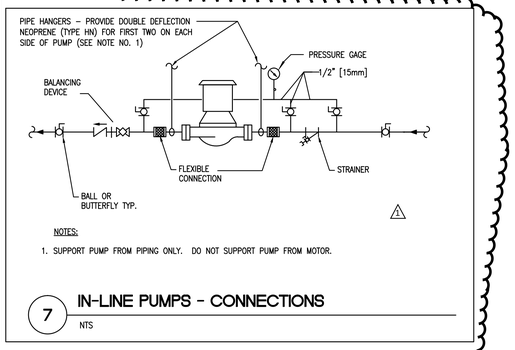
N.T.S.



5 IN-LINE PUMPS - CONNECTIONS

N.T.S.

⚠ NOT IN CONTRACT



NOTES:

1. SUPPORT PUMP FROM PIPING ONLY. DO NOT SUPPORT PUMP FROM MOTOR.

7 IN-LINE PUMPS - CONNECTIONS

NTS

⚠ ADDENDUM #1 PER OWNER	2/14/17
⚠ OWNER REVISIONS	12/23/16
100% CONSTRUCTION DRAWINGS	08/22/14
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Drawing Title: SCHEDULES AND DETAILS

Approved Project Director

Project Title: RENOVATE LOADING DOCK

Location: 325 EAST H ST. IRON MOUNTAIN, MI 49801

Date: 08/22/14 | Checked: KWL | Drawn: JB

Project Number: 1301-13-06

Building Number: BUILDING 1

Drawing Number: M200

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