

## **ADDENDUM TWO**

RLJA Project No.: **24-027**

Date: **September 13, 2024**

Subject: **CHANGES to the BIDDING DOCUMENTS**

Project: **PUBLIC SAFETY BUILDING CONCRETE RAMP SNOW AND ICE MELT  
REPLACEMENT PROJECT  
4220 WEST STATE STREET  
ROCKFORD, ILLINOIS 61101**

Bids Due: **11:00AM, FRIDAY, SEPTEMBER 20, 2024**

From: **ARCHITECT: RICHARD L. JOHNSON ASSOCIATES, INC.  
4703 CHARLES STREET  
ROCKFORD, IL 61108**

To: **ALL PROJECT DOCUMENT HOLDERS**

Please reproduce this Addendum as needed and attach to the Project Manuals for the above project.

Bidders shall indicate receipt of this and all Addenda in the space provided on the Bid Form. Failure to do so may be sufficient cause to reject the bid.

Sincerely,  
RICHARD L. JOHNSON ASSOCIATES, INC.



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Terry Carbaugh, Principal

This Addendum consists of:

Pages – 1-3

Spec Section 033543, Special Concrete Floor Finish– 13 pages.

Revised 24" x 36" Architectural Drawings A103, Dated September 13, 2024.

Revised 24" x 36" Mechanical Drawings M101, M102 & M103, Dated September 13, 2024.

Revised 24" x 36" Plumbing Drawings P101 & P102, Dated September 13, 2024.

## **CHANGES to the PROJECT MANUAL**

### **1. SECTION 033000 CAST-IN-PLACE CONCRETE**

1.1. Page 033000-8, Para. 3.6, C: Add the following items 2 &3.

1.1.1. 2. Wire reinforcing bars for the concrete ramp shall be WWF Mesh 4X4-4/4.

1.1.2. 3. Wire reinforcing bars for concrete sidewalks shall be WWF Mesh 6X6-10/10.

1.2. Page 033000-9, Para. 3.7, C: Scanning of the concrete slab was added to this section.

## **CHANGES TO THE ARCHITECTURAL DRAWINGS**

### **2. SHEET A103**

2.1. Details 1,2,3,4, &7; Delete PCC note in its entirety and replace with the following

2.1.1. PCC PAVEMENT W/ WWF MESH 4X4-4/4 CONTINUOUS WELED WIRE  
PROVIDE 4" HIGH CONTINUOUS CHAIR UPPERS @ 24" O.C.

## **CHANGES TO THE MECHANICAL DRAWINGS**

### **3. DRAWING M101**

3.1. Added removal of existing expansion tank and piping connection.

### **4. DRAWING M102**

4.1. Added new floor mounted expansion tank and piping connection.

4.2. Added General Note #2.

### **5. DRAWING M103**

5.1. Added expansion tank schedule.

## **CHANGES TO THE PLUMBING DRAWINGS**

### **6. DRAWING P101**

6.1. Revised piping labels from SAN to ST.

### **7. DRAWING P102**

- 7.1. Revised abbreviation and symbol labels from SAN to ST.
- 7.2. Add the following to Trench Drain schedule: Heavy Duty Ductile Iron Grate Sections shall be supplied in nominal 20" lengths.
- 7.3. Revised FCO detail.

## **CHANGES TO THE ELECTRICAL DRAWINGS**

### **8. DRAWING E102**

- 8.1. Lineal distances to panels (does not include vertical rises or drops):
  - A. 250 Feet to 277/480V Panel in old boiler room.
  - B. 150 Feet to 120/208V Panel in Corridor.
- 8.2. Existing lighting circuit (conduit and breaker) may be re-utilized for new lighting. Extend existing conduit to new lighting and provide new wiring from existing breaker in existing panel to new lighting fixtures.
- 8.3. Add the following to Note 1: Provide new back box for the existing card reader being reinstalled.

**NOTE:** Wherein this Addendum conflicts with the original Project Manual and Drawings, this Addendum shall govern.

**END ADDENDUM NUMBER 2**

**SECTION 033000**  
**CAST-IN-PLACE CONCRETE**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:
  - 1. Cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, insulation and finishes.
  - 2. Cast-in-place concrete curb and slab-on-grade.
  - 3. Underfloor insulation.
  - 4. Concrete fill for pipe ballards.
- B. Related Requirements:
  - 1. Section 055000 "Metal Fabrications" for steel pipe ballards
  - 2. Section 312000 "Earthwork" for drainage fill under interior slabs-on-grade.
  - 3. Pumping drawings for trench drain.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.
- B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 SUBMITTALS

- A. Process all submittals per requirements in Section 013300 – Submittal Procedures.
- B. Shop Drawings: Submit Shop Drawings pertaining to fabrication, bending and placement of concrete reinforcements.
  - 1. Comply with the ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures."
  - 2. Show bar schedules, diagrams of bent bars, and arrangements of concrete reinforcement. Include special reinforcement required at openings through concrete structures.
- C. Test Reports: Submit 3 copies of laboratory test reports for concrete materials and mix design tests including potential for alkali-silica reaction (ASR).

- D. Product Data: Submit manufacturer's data on fiber reinforcement, additives, curing agents, sealers, grouts, joint materials and similar pre-manufactured products.
- E. Certificates: Submit purchase receipt verifying grade and quantity of under-slab vapor barrier.
- F. Concrete Truck Delivery Tickets: Submit delivery tickets indicating:
  1. Delivery date and time dispatched.
  2. Name and location of project.
  3. Name of Contractor.
  4. Name of ready-mixed concrete producer.
  5. Truck number.
  6. Number of cubic yards of concrete in load.
  7. Class of concrete.
  8. Cement content in bags per cubic yard of concrete.
  9. Type and brand name of cement.
  10. Names and quantities of admixtures used.
  11. Maximum size of aggregate.
  12. Amount of water added at job, if any, and who authorized the addition.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- C. Cooperate with other trades regarding installation of embedded items. Obtain templates, dimension, instructions, etc., from other trades or other contractors as required for setting items in concrete work.
- D. The Owner shall employ a reputable testing laboratory to perform concrete inspections and tests as hereinafter specified. The costs for testing shall be paid for by the Owner, except as hereinafter specified under FIELD QUALITY CONTROL TESTS.
- E. Comply with the latest edition of each of the following:
  1. "Building Code Requirements for Reinforced Concrete" (ACI 318).
  2. "Specifications for Ready Mixed Concrete" (ASTM C 94).
  3. "Guide to Concrete Floor and Slab Construction" (ACI 302.1).
  4. "Recommended Practice for Hot Weather Concreting" (ACI 305).
  5. "Recommended Practice for Winter Concreting" (ACI 306).
  6. "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete" (ACI 304).
  7. "Specifications for Structural Concrete for Buildings" (ACI 301).
- F. Inform personnel that may be working with concrete as to requirements and the availability of ACI 301.

- G. Provide protection during the construction period for all floor slabs, from oil, grease, stains, discoloration and other physical damage.
- H. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D 1.4M.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

#### 1.7 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
  - 1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
  - 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- B. Hot-Weather Placement: Comply with ACI 301 and as follows:
  - 1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  - 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

### PART 2 - PRODUCTS

#### 2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
  - 1. ACI 301.
  - 2. ACI 117.

#### 2.2 FORM MATERIALS

- A. Form Facings for Unexposed Concrete: Plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.

- B. Form Coatings: Commercial formulation intended for form coating which will not bond with, stain, or adversely affect concrete surfaces, and which will not impair bond or adhesion of subsequent treatments nor impede wetting of surfaces to be cured with water or curing compound.
- C. Form Ties:
  - 1. Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
  - 2. Configured so as to leave no metal closer than 1" to the surface of the concrete.

## 2.3 STEEL REINFORCEMENT

- A. Materials
  - 1. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
  - 2. Tie Wire: Cold drawn steel wire meeting ASTM A 82.
  - 3. Welded Wire Fabric: Per ASTM A 185.
  - 4. Reinforcing Bar Holders: Galvanized or plastic coated when within 3/4" of exposed concrete surface.
  - 5. Continuous High Chair Upper-Plain
- B. Fabrication:
  - 1. No lapped splices for tension and compression bars unless noted on the Drawings or approved. Locate splices in temperature bars so that no more than half the bars are spliced at any point. Lap splices 36 diameters.
  - 2. Label bars to identify grade of steel and to facilitate placing.
- C. Deformed-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, flat sheet.

## 2.4 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I for normal and Type III for high-early-strength.
- B. Mixing Water: Fresh, free of oil, acid, alkalis, salts, organic matter and potable.
- C. Aggregates: Per ASTM C 33, including freedom from potentially reactive constituents, as well as soft, thin elongated or laminated pieces, disintegrated stone, plant matter, trash and lumps of frozen or partly cemented material.
  - 1. ASR Tested: Per ASTM C 1260. Submit test results.
  - 2. Fine Aggregate: Natural hard, clean sand.
  - 3. Coarse Aggregate: Gravel or crushed rock.
    - a. Size 57 (1-1/2" top size) for structural elements 6" or more in thickness.
    - b. Size 67 (3/4" top size) for slabs.
  - 4. Furnish 3 copies of testing laboratory reports showing sieve analysis.

D. Admixtures:

1. Air-Entraining Admixture: Per ASTM C 260. Use one of the following:
  - a. "Darex AEA" by W.R. Grace.
  - b. "Sika AER" by Sika Chemical Corp.
  - c. "MB-VR" by Master Builders Co.
2. Water-Reducing Admixtures: Per ASTM C 494; one of the following:
  - a. "Pozzolith" by Master Builders Company.
  - b. "Plast-o-Crete" by Sika Chemical Co.
  - c. "WRDA" by W.R. Grace.
3. Calcium Chloride: Shall NOT be used. Neither calcium chloride nor admixtures containing chloride salts shall be added to concrete.

2.5 ACCESSORY MATERIALS

A. Vapor Barrier:

1. Black low-density polyethylene film 15 mils (.015") thick to maintain a permeance of less than .01 Perms and comply with ASTM E 1745 Class A.
  - a. "Stego Wrap (15 mil)" by Stego Industries.
  - b. "EcoShield E-15" by Epro Services.
  - c. "Iron Barr 15 mil" by FlatIron Films
  - d. "Viporcheck II 15 mil" by Vipor.
2. Joint and Sealing Tape: Moisture barrier manufacturer's recommended tape.

B. Curing Materials:

1. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., conforming to AASHTO M 182, Class 3.
2. Moisture-Retaining Cover: Waterproof paper, polyethylene film or polyethylene coated burlap conforming to ASTM C 171.
3. Curing Compound: Liquid, membrane forming compound conforming to ASTM C 309, Type 1, with fugitive dye, and guaranteed to not affect the bond, adhesion or effectiveness of floor hardeners or other applied finishes or surface treatments. Product shall be one of the following:
  - a. "Masterseal" by Master Builder's Co.
  - b. "Kure-N-Seal" by Sonneborn.
  - c. "Sika-Gard C/H" by Sika Chemical Co.
  - d. "CS-309" by W.R. Meadows.
  - e. "Clearbond" by Guardian Chemical Co.
  - f. "Resi Chem Clear Cure" by Symons Corp.

C. Under Floor Slab Insulation: 3" (40 psi) rigid insulation.

1. Joint and Sealing Tape: Insulation manufacturer's recommended tape.

D. Metal Bar Supports: 4"H X 5'-0"L continuous high chair upper bar by OCM Inc. or approved equal.



- E. Dovetail Inserts: Sheet metal inserts conforming to ASTM A1008 and galvanized per ASTM A653 Class G60 (0.6oz/ft<sup>2</sup>):
  - 1. “Dovetail Anchor Slots: Hot dipped galvanized steel sheet, not less than 0.0336 inch thick, with bent tab anchors. temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

## 2.6 PROPORTIONING AND DESIGN OF MIXES

- A. Use an independent testing facility experienced in concrete mix design and acceptable to Owner for preparation of proposed designs. The testing facility shall not be the same used for field quality control testing unless otherwise acceptable to Owner.
- B. Allow a minimum of 14 days prior to placing concrete for testing laboratory to design the mix for each type of concrete required.
- C. The adequacy of the design mix shall be verified by tests on a minimum of 6 cylinders; 3 tested at least 7 days and 3 at 28 days in accordance with ASTM C 192 and C 39 and by slump tests in accordance with ASTM C 143.
- D. Submit 3 copies of the mix design and test results to Owner's Representative for review before any concrete is placed.
- E. Concrete for interior slabs and curbs shall have a maximum water-cement ratio of 6-1/2 gallons per bag and shall maintain a slump no greater than 4". Refer to drawings for compressive strength.
- F. Calcium chloride or admixtures containing chloride salts shall not be used.

## 2.7 CONCRETE MIXING

- A. Ready-Mixed Concrete: Mix and transport in accordance with ASTM C 94, “Specification for Ready-Mixed Concrete” and the established mix design.
- B. Batch mixing at the site will not be allowed except on prior approval
- C. Use admixtures only as specified in the established mix design.

## PART 3 - EXECUTION

### 3.1 VAPOR-RETARDER INSTALLATION

- A. Install vapor barrier directly under all interior concrete slabs on grade. Place barrier over the granular fill just before placement of the rigid insulation & concrete; but do not place barrier until the granular fill has been inspected for compaction and grading per the requirements of Section 312000 - Earthwork for Building.
- B. Lap the membrane sheet edges at least 6", with the top placed in the direction of the spreading of the concrete, and seal each seam continuously with approved waterproof tape. Turn membrane up on to wall and seal with tape to wall.

- C. Seal all around pipes, conduits and other penetrations with tape.
- D. Apply tape only to dry surfaces cleaned of dirt and other contaminants.
- E. Just before membrane is to be covered, inspect membrane and repair all tears and visible holes with membrane manufacturer's recommended sealing tape. For tears more than 12" long, lap a scrap piece of material to 12" beyond each side of the tear and seal all of the edges with tape.

### 3.2 UNDERFLOOR INSTALLATION

- A. Install 3" thick rigid insulation over 15 mil vapor barrier.

### 3.3 FORMWORK INSTALLATION

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Construct forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
  - 1. Install keyways, recesses, and the like, for easy removal.
  - 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- H. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- I. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

### 3.4 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of curbs, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.

1. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material are not acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

### 3.5 SHORING AND RESHORING INSTALLATION

- A. Comply with ACI 318 and ACI 301 for design, installation, and removal of shoring and reshoring.
  1. Do not remove shoring or reshoring until measurement of slab tolerances is complete.
- B. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

### 3.6 STEEL REINFORCEMENT INSTALLATION

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
  1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
  1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.
  2. Wire reinforcing bars for concrete ramp shall be WWF Mesh 4x4-4/4.
  3. Wire reinforcing bars for concrete sidewalks shall be WWF Mesh 6x6-10/10
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded-wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

### 3.7 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
  2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.
  3. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
  2. The slab shall be scanned prior to cutting joints in the concrete to avoid damaging the radiant tube heating system.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
  2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
  3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

### 3.8 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
  2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
  3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  2. Maintain reinforcement in position on chairs during concrete placement.
  3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  4. Concrete slabs shall not slope to drains. Drains to be set level with floor.
  5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

### 3.9 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
1. Apply to concrete surfaces not exposed to public view.
  2. Prepare exterior face of perimeter wall which is to receive spray on waterproofing and protection board.

### 3.10 FINISHING FLOORS, SLABS AND CURBS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch in one direction.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.
1. Apply float finish to surfaces indicated to receive trowel finish.
- D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface

is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces exposed to view.
2. Finish surfaces to the following tolerances, according to ASTM E 1155, for a randomly trafficked floor surface:
3. Finish and measure surface, so gap at any point between concrete surface and an unlevelled, freestanding, 10-ft. long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4 inch.

E. Broom Finish: Apply to exterior concrete slabs-on-grade.

1. After the concrete has been floated and is sufficiently hardened such that broom marks will not be more than 1/16" deep, brush surface with a stiff, medium bristled broom. Make the broom strokes all in one direction. Make broom strokes on sloped surfaces perpendicular to direction of slope.

### 3.11 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for remainder of curing period.

D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
  - a. Water.
  - b. Continuous water-fog spray.
  - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
  - a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer.

### 3.12 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
  1. Defer joint filling until concrete has aged at least one month. Do not fill joints until construction traffic has permanently ceased.
- B. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

### 3.13 MISCELLANEOUS CONCRETE WORK

- A. Slabs:
  1. The curb and slabs shall be in sizes as shown on the drawings with No. 5 bars at 12" o.c. as minimum reinforcement. Slab shall be minimum thickness as shown and noted on drawings. Provide 1/2" preformed filler strips in joints at junctions with walls, walks, etc., where shown. Hold top edge of filler strips 1/2" below finished surface of concrete.
  2. Provide No. 4 dowels at 12" o.c. into concrete slabs from building foundation wall.
- B. Exposed concrete curbs: All exposed concrete curbs shall be rubbed as soon as the forms have been removed. A slurry coat over the concrete is not acceptable.
- C. Pipe ballards: Set pipe ballards furnished under Section 055000 in concrete and fill pipe with concrete.

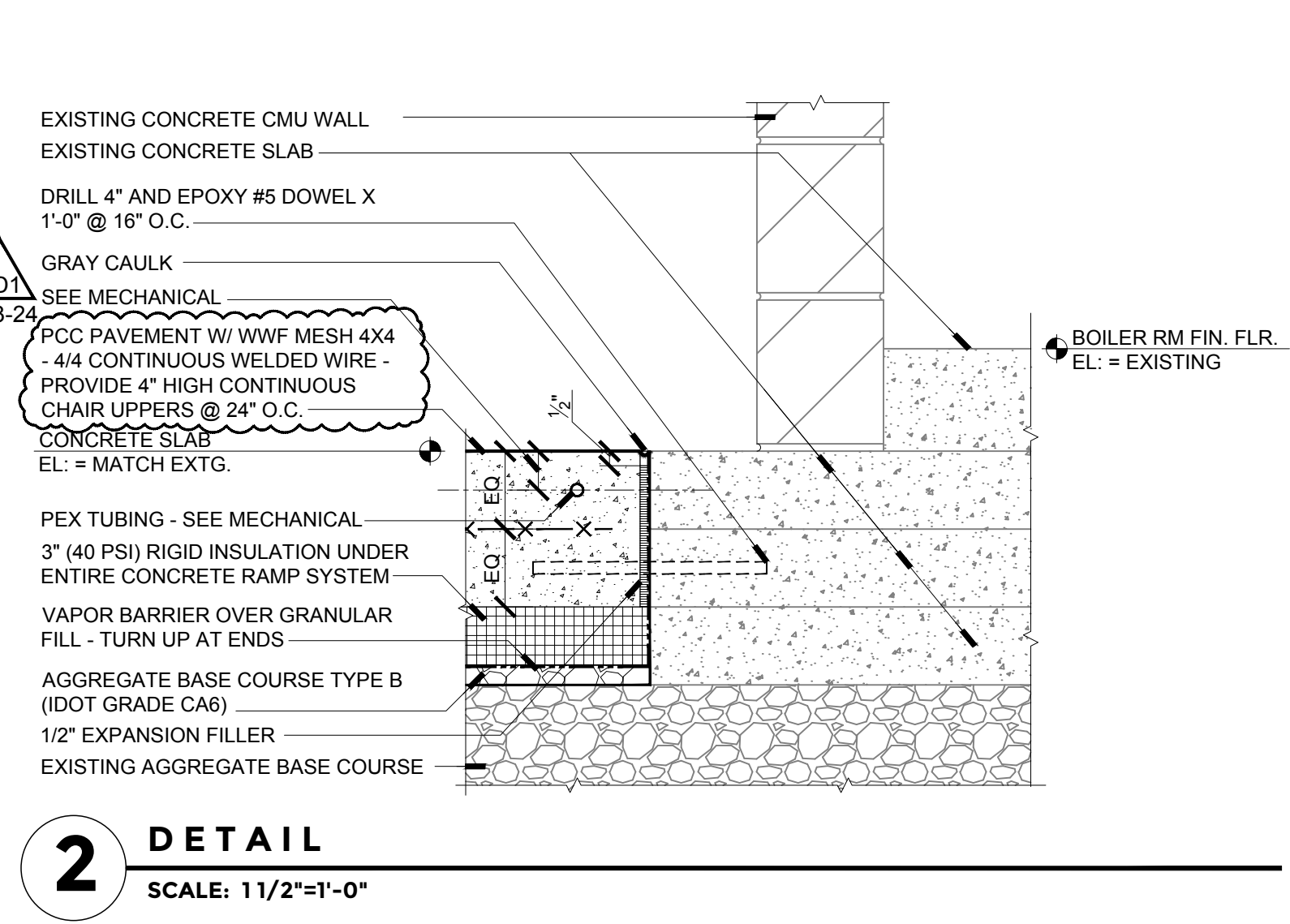
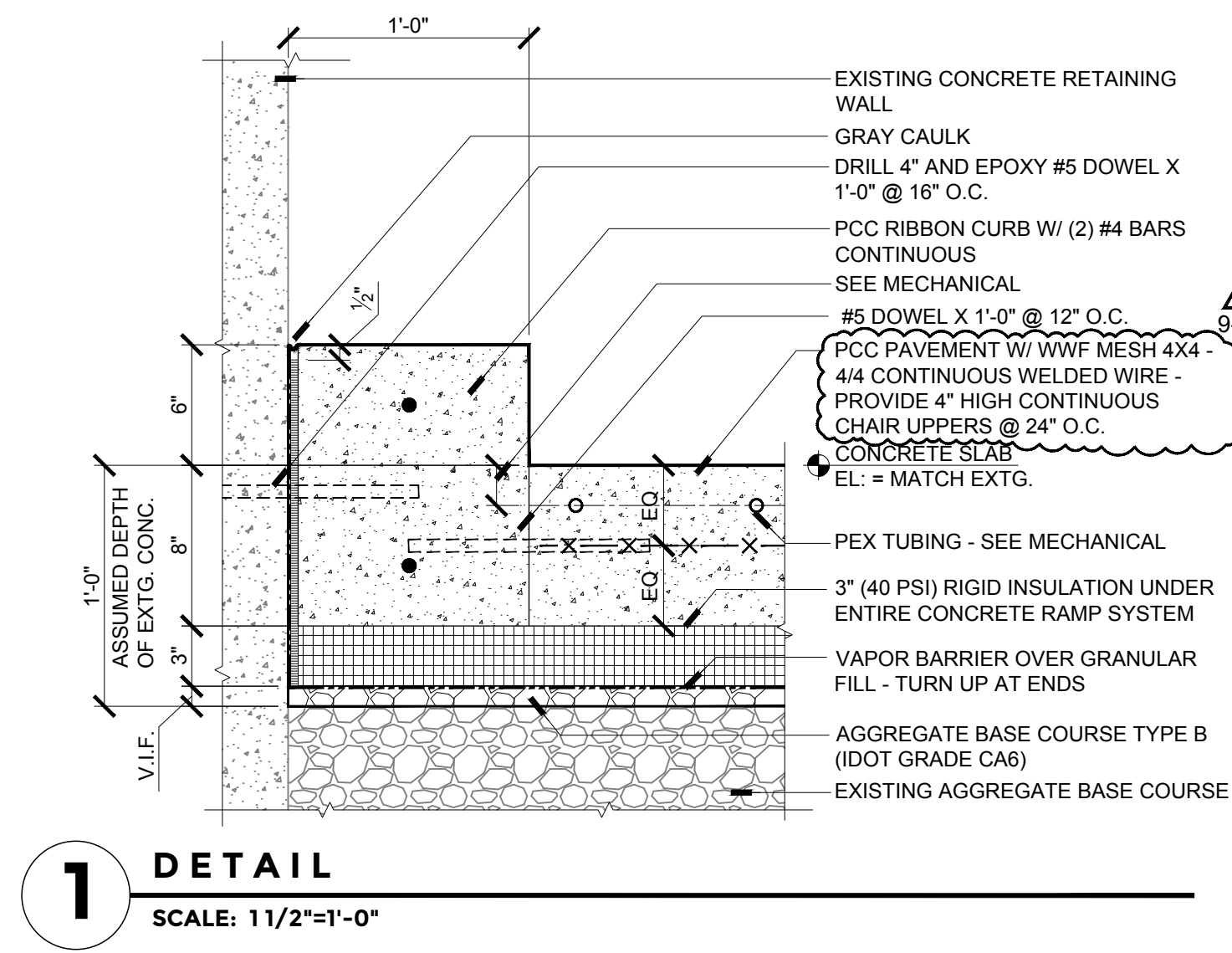
### 3.14 FIELD QUALITY CONTROL

- A. Cooperate with the laboratory in every respect by arranging material for sampling and supplying necessary facilities at the job site for making the field tests and storing specimens.
- B. Tests shall be made for each 50 cubic yards of concrete or fraction thereof, but not less than 2 for each day's pour. Perform the following tests:
  1. Compression Test: Make a minimum of 3 standard 6"x12" cylinders for testing, one at the age of 7 days, and one for testing at 28 days, unless otherwise directed. If compression tests are to be used for determining when forms may be removed, make at least 2 additional cylinders and cure on job site in accordance with ASTM C 31.
  2. Tests for Air-Entrainment: Per ASTM C 231, on a random basis, as determined by the Owner's Representative.

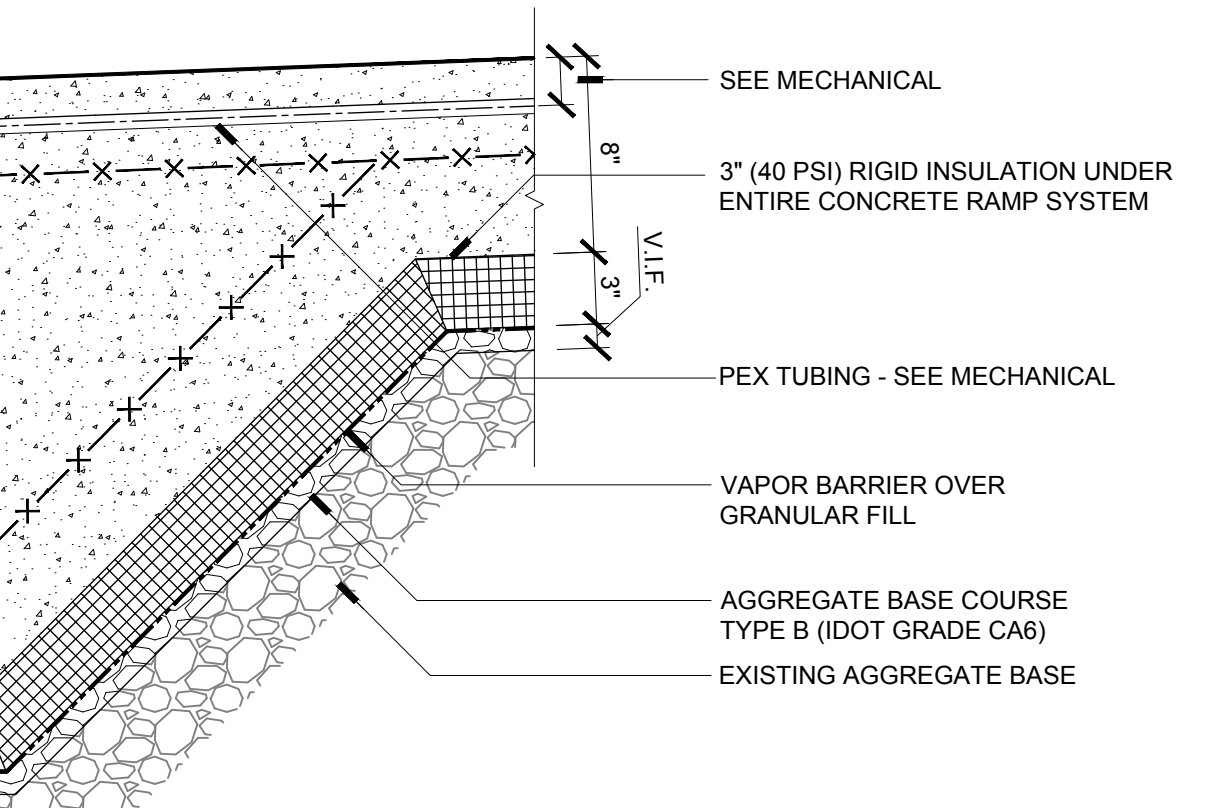
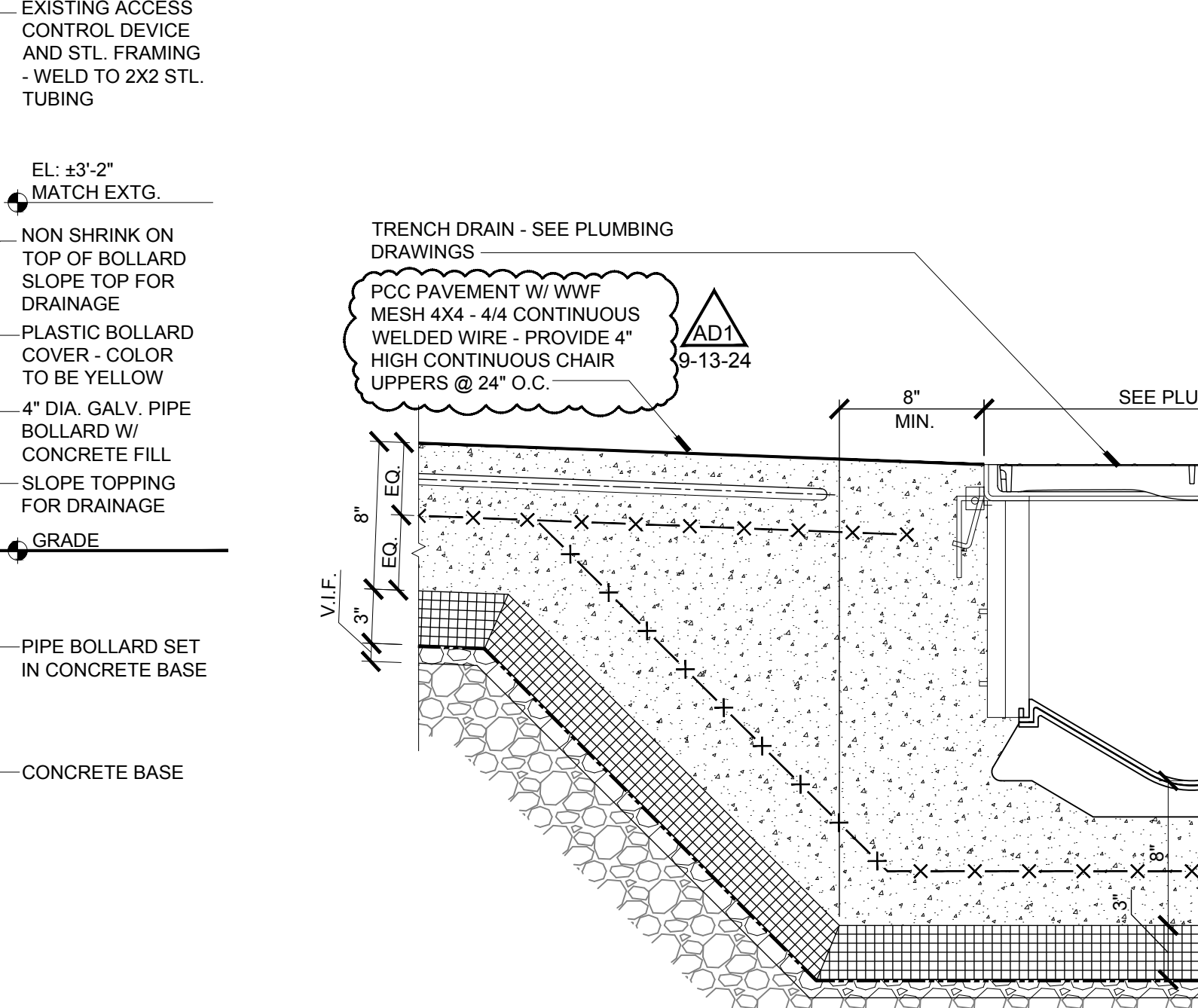
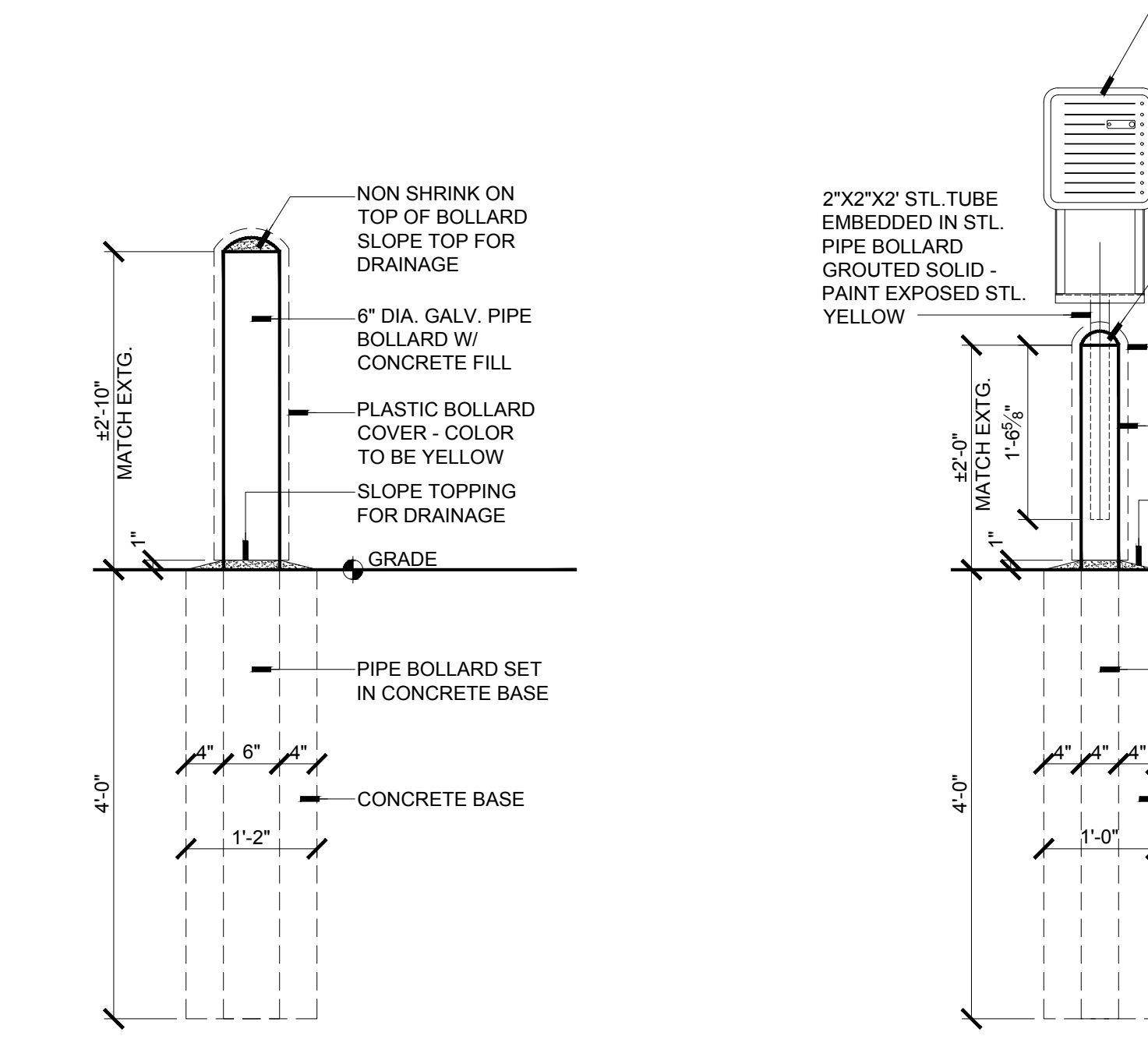
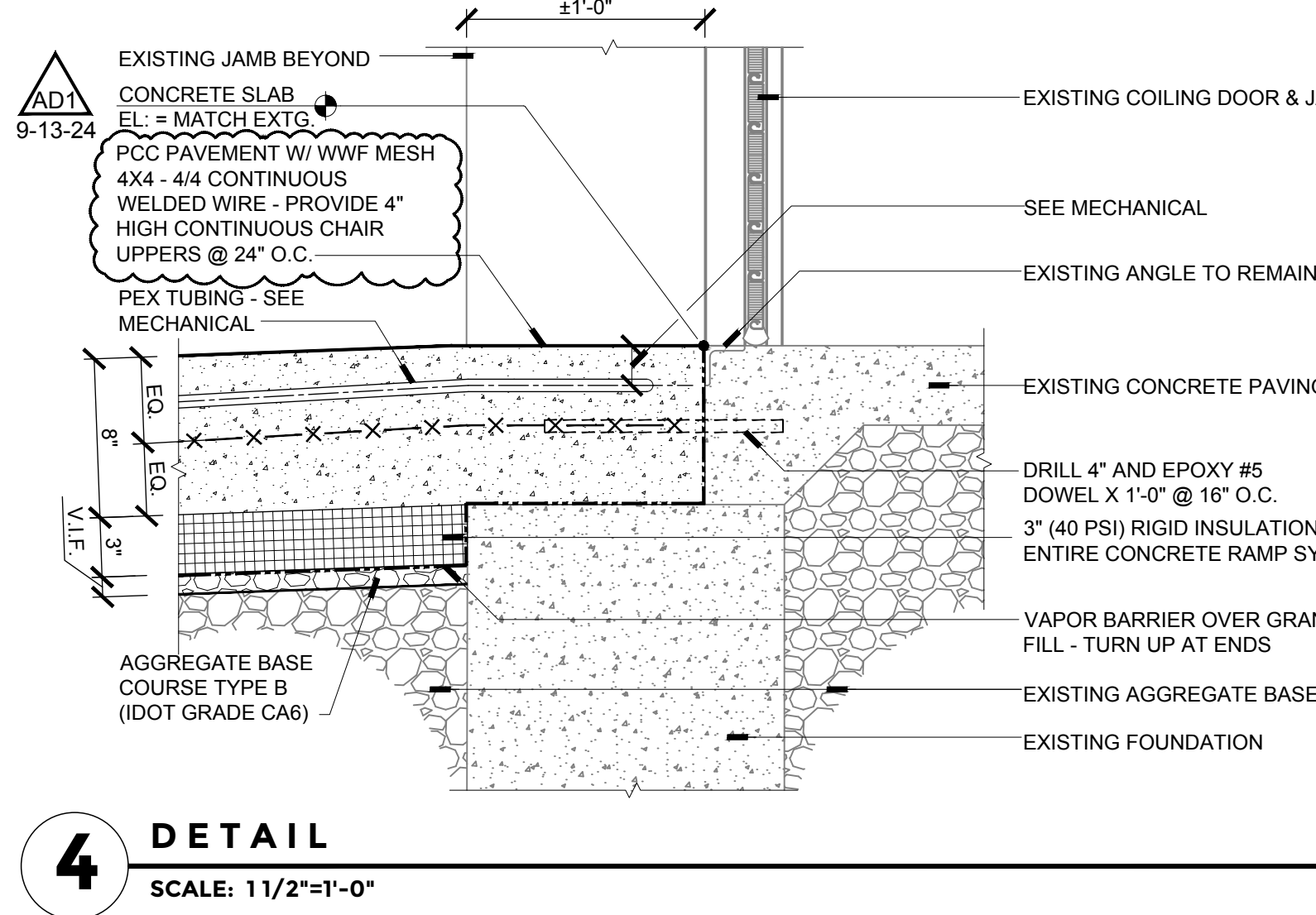
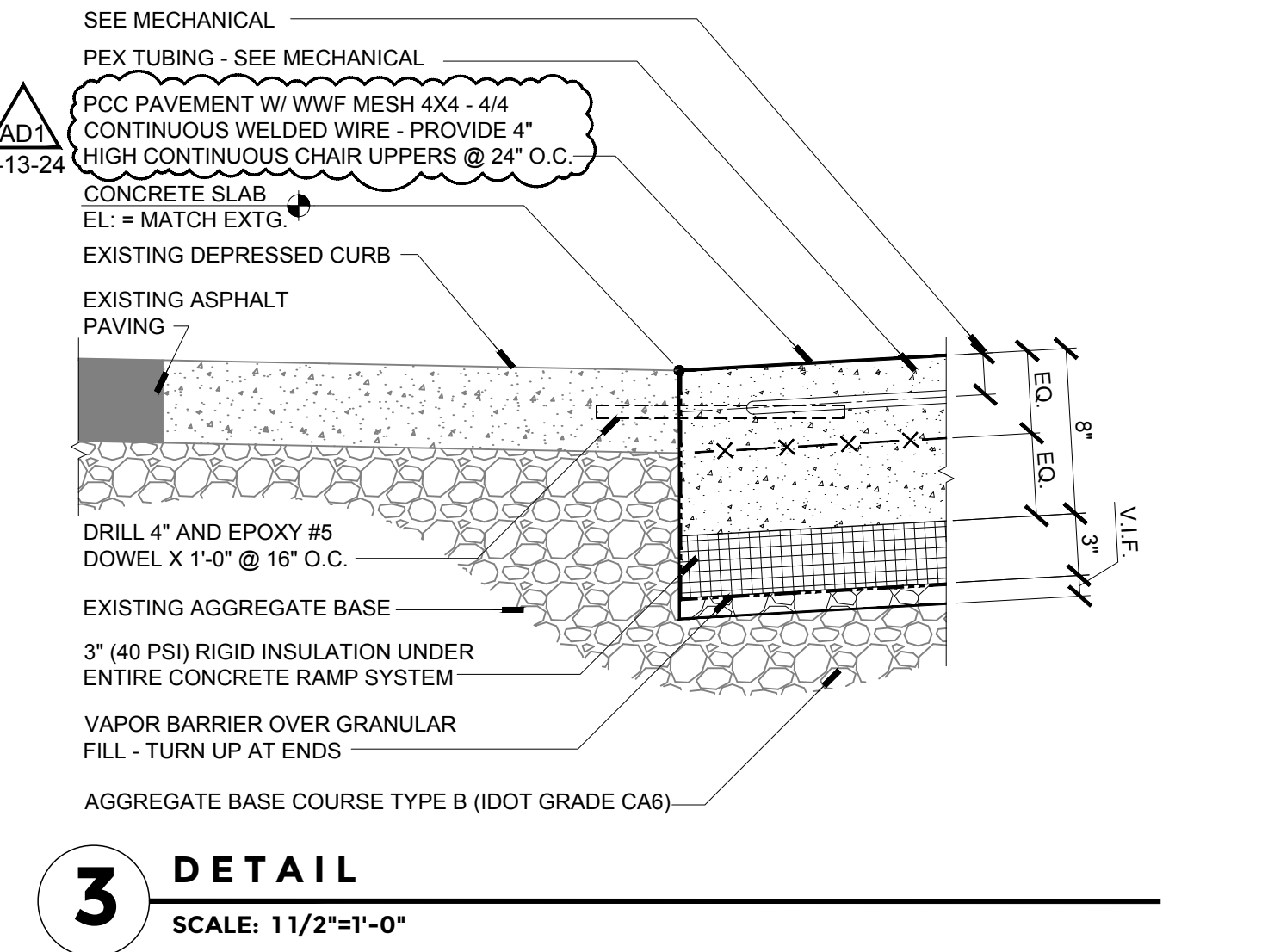
3. Slump Test: Per ASTM C 143. Contractor shall provide cone and make tests whenever requested by Owner's Representative. Test each and every truckload. 1/2" tolerance allowed each way.
  4. Additional Tests: If, in the opinion of the Owner's Representative there is any question as to the quality of the concrete already placed, make additional tests as directed. Tests may be either compression tests on cored cylinders, per ASTM C 42; or load tests as outlined in ACI 318; or as directed. These tests shall be paid for by the Contractor.
- C. Evaluation of Tests: In accordance with ACI 214-83.
- D. Test Reports: Furnish for all tests. Report must show exact location of work represented by samples and tests.

END OF SECTION 033000





- CONCRETE NOTES**
- All pavement shall be constructed in accordance with the following:
    - Concrete pavement shall be constructed in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction" (Standard Specifications), latest edition, including all updates and standards thereto.
    - Standards and requirements of the City of Rockford.
    - Additional details and requirements provided in the contract documents, including this plan set.
  - The subgrade of pavement areas shall be free of all unsuitable material and shall be compacted to a minimum 95 per cent of Standard proctor density.
  - The quantities contained in these documents are approximate and estimated, and are presented as a guide to the contractor in determining the scope of work. It is the Contractor's responsibility to determine all quantities and to become familiar with the site and soil conditions.
  - The paving Contractor is responsible for the final subgrade preparation, concrete placement, concrete jointing, concrete finishing, concrete curing, and all final clean-up and related work associated with the paving operation.
  - The proposed pavement shall be of the type and thickness as specified in the engineering drawings, and constructed in strict conformance with the previously referenced IDOT standard specifications and the City of Rockford.
  - Areas of deficient paving, including compaction, smoothness, thickness, and asphalt mixture, shall be delineated, removed, and replaced in compliance with Specifications requirements unless corrected otherwise as directed and approved by the owner.
  - Field quality control tests specified herein will be conducted by the owner's Independent Testing Laboratory (ITL) at no cost to the contractor. Any testing and inspection resulting from the requirements of necessary permits by the City of Rockford or the State of Illinois shall be at the contractor's expense. The contractor shall perform additional testing as considered necessary by the contractor for assurance of quality control. Retesting required as a result of failed initial tests shall be at the contractor's expense.
    - Field testing, frequency, and methods may vary as determined by and between the owner, the ITL and the City of Rockford.
    - No ponding shall occur on paved surfaces.
  - Materials shall comply with the following standards of quality:
    - Portland Cement: ASTM C150 Type I, Normal ASTM C150 Type II, High-Early-Strength.
    - Fine Aggregate: ASTM C33, clean sand graded between #100 and #4 sieve limits.
    - Coarse Aggregate: ASTM C33, uncoated crushed stone or washed gravel.
    - Water: Potable and fit to drink.
    - Water-Reducing Admixture: ASTM C494 Type A (normal) or Type D (retarder).
    - Air Entraining Agent: ASTM C260.
    - Premoulded Filler Strips: ASTM D994.
    - Curing Compound: ASTM C309, Type 2 (white, pigmented).
    - Reinforcement: ASTM A615, Grade 40.
  - Physical characteristics shall comply with the following:
    - Strength: 4,000 PSI compressive strength in 28 days.
    - Slump: Maximum 4".
    - Water to Cement Ratio: Shall not exceed 0.45 by weight.
    - Air Entrainment: 6% ± 1%
  - All concrete pavement and curb and gutter shall be broom finished.
  - Curing and protection of all concrete shall be in strict conformance with the provisions of Section 1020.13 of the Standard Specifications.
  - The curb and gutter shall have 1" thick premolded fiber expansion joints with 3/4" diameter by 18 inch long plain round steel dowel bars at 100-foot intervals at all PC's and PT's, and at all curb returns. Construction joints shall be constructed at 20-foot intervals. The cost of these joints shall be incidental to the curb and gutter. Curb joints and ties shall be constructed in accordance with IDOT standard 606001.
  - Depressed curb shall be provided for handicapped ramps and at driveway locations in accordance with IDOT standard 606001.
  - Concrete Pavement joints shall comply with the following:
    - Construct expansion, weakened-plane control (contraction), and construction joints straight with face perpendicular to concrete surface. Construct transverse joints perpendicular to centerline, unless otherwise detailed.
    - Provide joints at a spacing of 12'-0" (maximum) on centers each way. Panels shall be kept as square as possible with the length to width ratio not exceeding 125% unless otherwise noted. Construct control joints with a depth equal to at least 1/4 of the concrete thickness, as follows:
      - Form tooled joints in fresh concrete by grooving top with recommended tool and finishing edge with jointer.
      - Form sawed joints using powered saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut joints into hardened concrete as soon as surface will not be torn, abraded, or otherwise damaged by cutting action.
    - Sidewalk contraction joint spacing shall not exceed corresponding width of sidewalk. 12" wide sidewalks shall have a longitudinal contraction joint along the center of the sidewalk and transverse contraction joints shall be spaced at 6' max.
    - A diamond edge saw blade shall be used for all required contraction and longitudinal pavement joints.
    - All sawcuts required shall be incidental to items for which direct payment is made.
    - Place construction joints at end of placements and at locations where placement operations are stopped for period of more than 1/2 hour, except where such placements terminate at expansion joints. Construct joints in accordance with IDOT specifications.
    - For butt joints against existing pavement:
      - Place 16" long dowels eight inches into holes drilled into center of existing slab.
      - Epoxy dowels into holes with approved epoxy compound.
      - Place dowels prior to concrete placement for new concrete.
      - Dowel spacing shall be 24" on center unless otherwise shown on construction drawings.
      - Saw joint and fill with joint sealer.
  - Extend joint fillers full-width and depth of joint, and not less than 1/2-inch nor more than 1-inch below finished surface where joint sealer is indicated. Furnish joint fillers in 1-piece lengths for full width being placed, wherever possible. Where more than 1 length is required, lace or clip joint filler sections together.
  - All joints shall be sealed with gray approved exterior pavement joint sealants and shall be installed in accordance with manufacturer's recommendations.
  - Contractor shall include Prosocon Salt Guard VOC or approved solvent based salt guard treatment to all proposed concrete surfaces in accordance with section 587 of the standard Specification. Application shall be in accordance with manufacturer's recommendations.



- EARTHWORK NOTES**
- The earthwork contractor is responsible for earth excavation and embankment, shaping and compaction of subgrade, placement and compaction of aggregate base course, removal of spoil material from the underground contractors, and the placement of topsoil to finished grade.
  - Unsuitable Materials: Assume that if unsuitable materials are encountered and the replacement of these materials is required, this situation shall be handled as follows:
    - The site contractor shall notify the general contractor immediately. The project superintendent, prior to the undercutting being completed, shall approve any additional undercutting. The quantities shall be verified by the engineer as the additional removal is being completed.
    - If approved by the engineer, these materials shall be removed and replaced with compacted granular materials and compacted in accordance to required standards. The cost of this work shall be an extra to the contract, with the cost being adjusted by change order.
    - If the site contractor is furnishing any off site materials, a representative sample of such materials shall be furnished to the general contractor's approved testing agency to determine a proctor.
    - These materials shall be placed as homogeneously as possible to facilitate accurate compaction and moisture testing.
  - Definition for materials:
    - "Organic material" is defined as material having an organic content in excess of 8% or as determined by the project owner's engineer.
    - Topsoil shall be friable and loamy (loam, sandy loam, silt loam, sandy clay loam, or clay loam).
      - Sand content shall generally be less than 70% by weight.
      - Clay content shall generally be less than 35% by weight.
      - Organic soils, such as peat or muck, shall not be used as topsoil.
    - Topsoil shall be relatively free from large roots, weeds, brush, or stones larger than 25 mm (1 inch). At least 90% shall pass the 2.00 mm (no. 10) sieve.
    - Topsoil ph shall be between 5.0 and 8.0. Topsoil organic content shall not be less than 1.5% by weight. Topsoil shall contain no substance that is potentially toxic to plant growth.
    - "Existing on-site material within moisture content limits" is defined as material of such a quality that the specified compaction can be met without any additional work other than "densifying" with a roller. Scarification and drying of this material will not need to be done prior to compaction. On-site material may be reused. The contractor shall consider shaping and compaction of existing materials as incidental.
    - "Existing on-site material NOT within moisture content limits" is defined as material with a high moisture content that can not meet specified compaction requirements without scarification and drying, chemical stabilization, etc. of this material prior to compaction.
    - "Unsuitable material" is defined as any materials that:
      - Cannot be utilized as "topsoil" (organic) for landscape areas.
      - Cannot be utilized as "engineered fill" regardless of moisture content and / or does not structurally meet the standards of the project owner's engineer's recommendations for "engineered fill".
      - Can be defined as natural materials or materials from "demolition" and / or excavated areas (i.e., materials that would not be suitable for "engineered fill").
    - "Off-site material" is defined as any materials that are brought from any area not indicated on this plan set.
    - "Trench backfill" shall be defined as any materials used for the purposes of backfilling any trench and / or any excavation requiring backfilling. Refer to "Standards for fill areas" to determine acceptable materials and procedures.
    - The term "stripping" or "strip" as used herein shall be defined as the removal of all "organic materials" from a given area. The term "organic materials" is defined as material having an organic content over 8% based on ASTM D2974, or as defined by the owner's engineer.
  - Standards for cut areas:
    - A "cut area" is defined as any area where "engineered fill" is not required to bring the site to design subgrade elevation. Instead, excavation or "cutting" is required to achieve design subgrade elevation ("engineered fill" being defined as any material being "offsite material").
    - In "cut areas" the site contractor shall perform one of the following procedures at the discretion and in the presence of a representative of the owner's engineer and the project architect:
      - For exposed building or parking lot subgrades consisting primarily of granular soils, the exposed subgrade should be compacted / densified by at least one (1) pass of a smooth-drummed vibratory roller having a minimum gross weight of 10 tons.
      - For exposed building or parking lot subgrades consisting primarily of cohesive soils, the exposed subgrades should be proof-rolled with a fully-loaded six-wheel truck having a minimum gross weight of 25 tons. The maximum allowable deflection under the specified equipment shall be 1/2".
    - In the event that adequate stability of granular soils subgrades cannot be achieved by the procedures as outlined in item 1 above, or that deflections greater than 1/2" are observed during the "proof rolling" of cohesive soils subgrades (as outlined in item 2 above) additional corrective measures will be required. These measures could include, but not necessarily be limited to, scarification, moisture conditioning, re-compaction, undercutting and replacement with engineered fill or crushed stone (with or without geotextiles), or chemical stabilization.
    - It shall be considered as part of the scope of these documents (and thus part of this contractor's responsibility) to perform scarification and drying of the subgrade per Illinois Department of Transportation (IDOT) standards (scarify a 16" depth for 3 days). If this does not work then additional drying measures shall be an extra to the contract.
    - Any proposed corrective measures by the contractor should be reviewed by the owner's engineer and the project architect. In the event that in the opinion of the owner's engineer and / or the project architect proof rolling is not a good indicator of the subgrade stability, an alternative method shall be specified by the owner's engineer and / or the project architect.
  - Standards for fill areas:
    - A "fill" area is defined as any area where material is required to adjust the existing elevation to a proposed subgrade elevation (these areas require installation of "engineered fill" to achieve design subgrade elevation). "Engineered fill" material can be defined as either "granular soil" or "soil" that is either from the construction site or is "offsite material". Materials having their origin from the construction site is referred to as "borrow". The composition and the compaction standards of the engineered fill for this project will be specified by owner's engineer and the project architect.
    - In "fill" areas, "borrow" materials are allowed to be utilized as engineered fill such that the site contractor compacts the "borrow" areas to the specified compaction. Compaction standards (for engineered fill and back filled areas)
      - Prior to placement of fill in areas below the design grade, the exposed subgrade should be observed by a representative of the owner's engineer to evaluate that adequate stripping has been performed. Additionally, the proof rolling or compaction procedures outlined in the "standards for cut areas" section of these notes should be performed. It is typical practice to proof roll (and densify if necessary) exposed subgrades prior to filling. If soft or unstable subgrades are observed, these areas should be stabilized or undercut. Minimum compaction standards are based upon a percentage of the fill or backfill material's maximum standard proctor dry density (ASTM D698). All engineered subgrades should meet the following minimum compaction:
        - Areas under foundations bases: 95% standard proctor
        - Areas under foundation bases and pavement sections: 95% standard proctor
        - Landscape areas: 90% standard proctor for all fill placed in landscape areas. These areas should be brought to grade with "topsoil" to a depth of 12 inches in areas to be seeded and 6 inches in areas to be sodded.
        - Base course portion of pavement sections: 95% standard proctor for all base course materials that are part of a "pavement section".
    - The option of utilizing the modified proctor (ASTM D1557) in lieu of the specified standard proctor (ASTM D698) shall be at the discretion of the general contractor, contingent upon written approval by the architect and owner's engineer.
    - All backfill and fill materials shall be placed in lifts not greater than 8" in loose depth. Before compacting, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum density of the area.

PUBLIC SAFETY BUILDING CONCRETE RAMP SNOW AND ICE MELT REPLACEMENT PROJECT

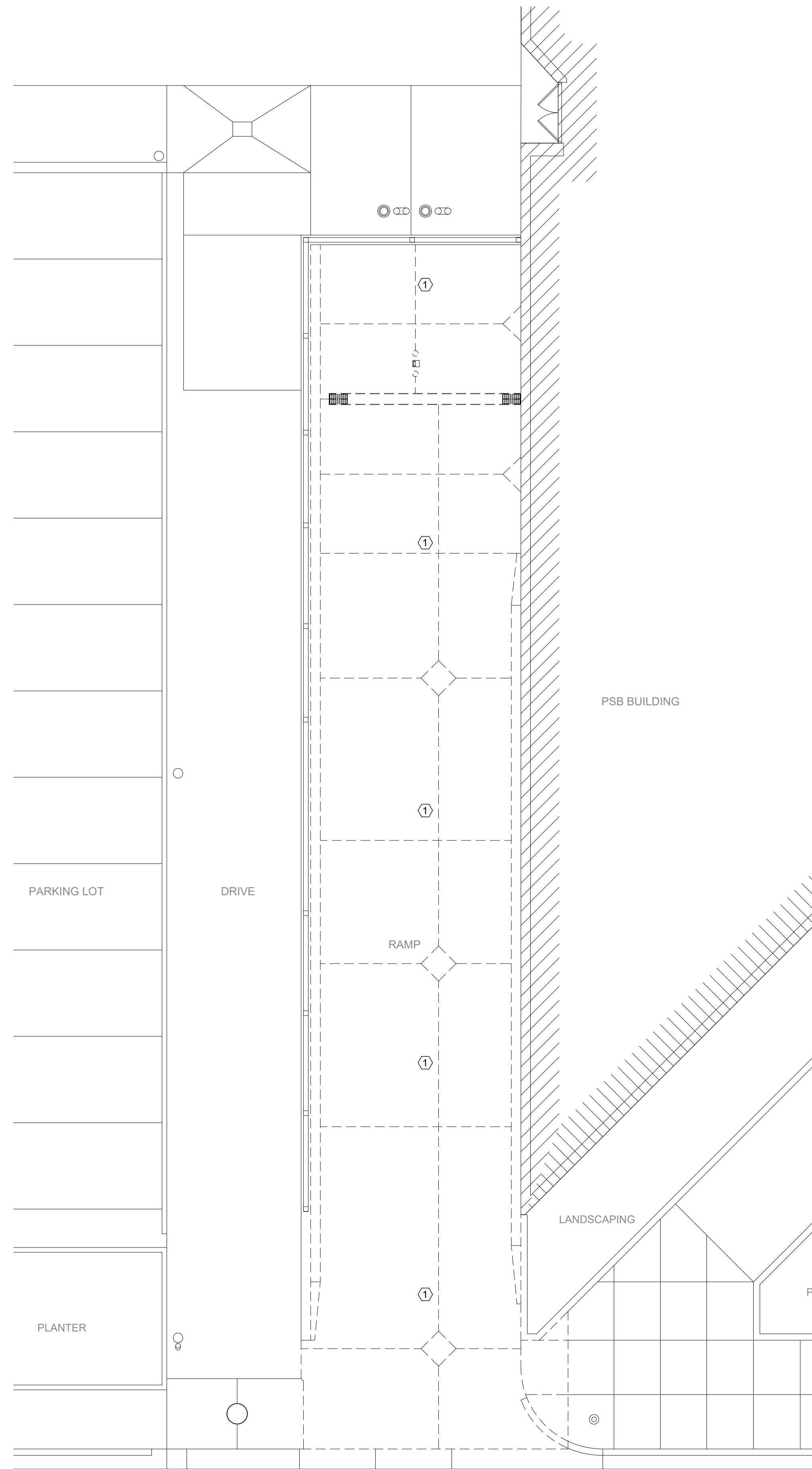
**WINNEBAGO COUNTY**  
ROCKFORD, ILLINOIS

**RICHARD L. JOHNSON**  
ASSOCIATES | ARCHITECTS

PROJECT INFORMATION  
Date: AUGUST 30 2024  
REV. #1: SEPTEMBER 13 2024  
Rev. #2: SEPTEMBER 13 2024  
Rev. #3: SEPTEMBER 13 2024  
Rev. #4: SEPTEMBER 13 2024  
Rev. #5: SEPTEMBER 13 2024  
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Rev. #98: SEPTEMBER 13 2024  
Rev. #99: SEPTEMBER 13 2024  
Rev. #100: SEPTEMBER 13 2024

SHEET IDENTIFICATION  
DETAILS AND CONCRETE / EARTHWORK NOTES

SHEET NUMBER  
**A103**  
OF  
**3**

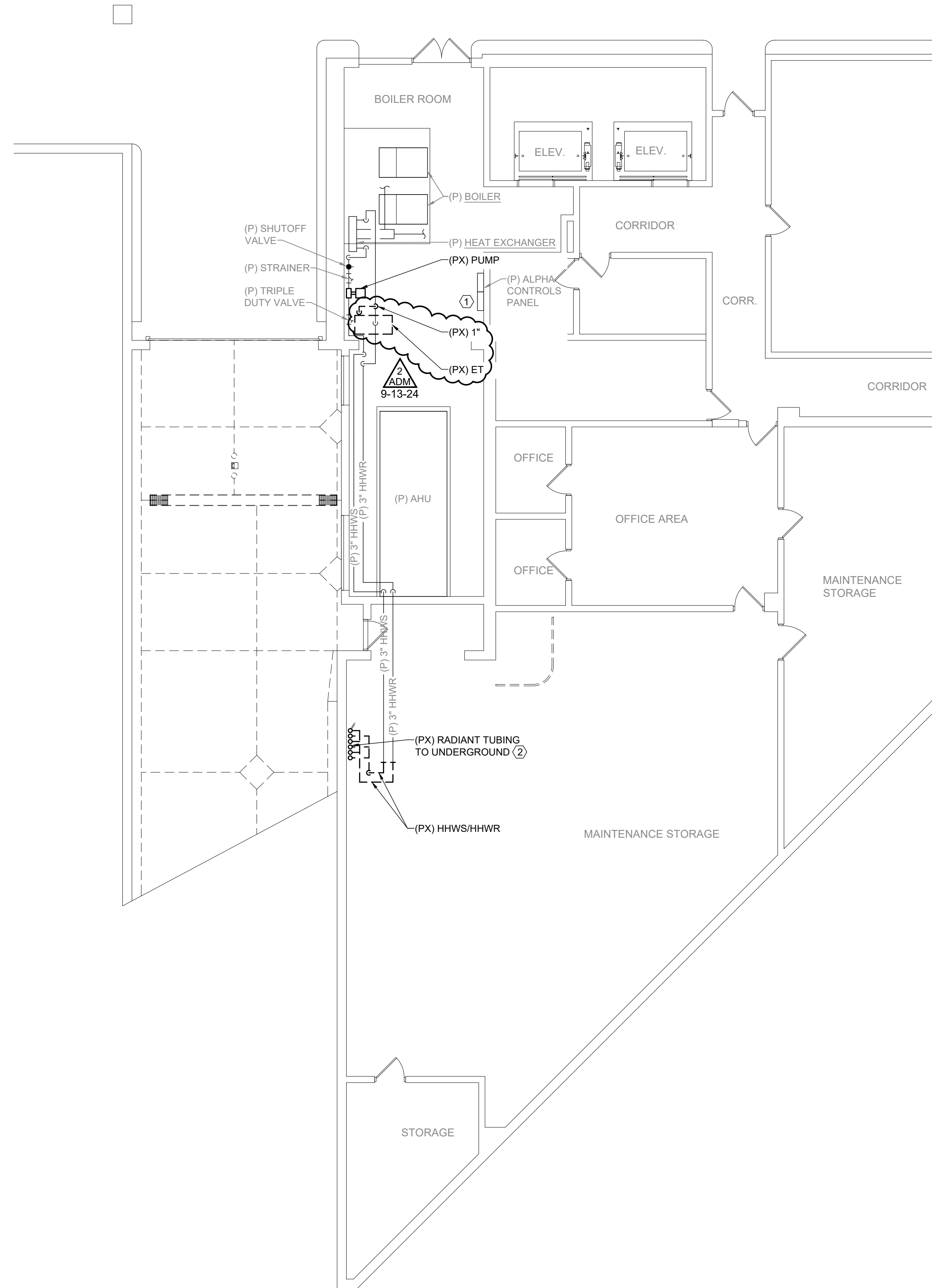
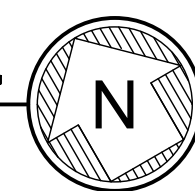


**DEMOLITION SITE PLAN - MECHANICAL**

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

**KEY NOTES:**

- ① REMOVE ALL EXISTING SNOW MELT UNDERGROUND (TWO SEPARATE SNOW MELT SYSTEMS EXIST AT DIFFERENT ELEVATIONS).

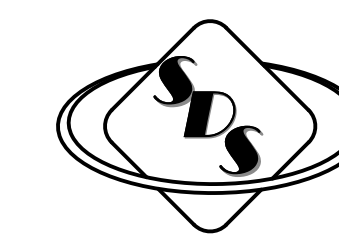
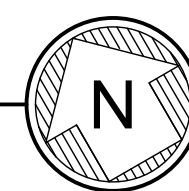


**DEMOLITION FLOOR PLAN - MECHANICAL**

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

**KEY NOTES:**

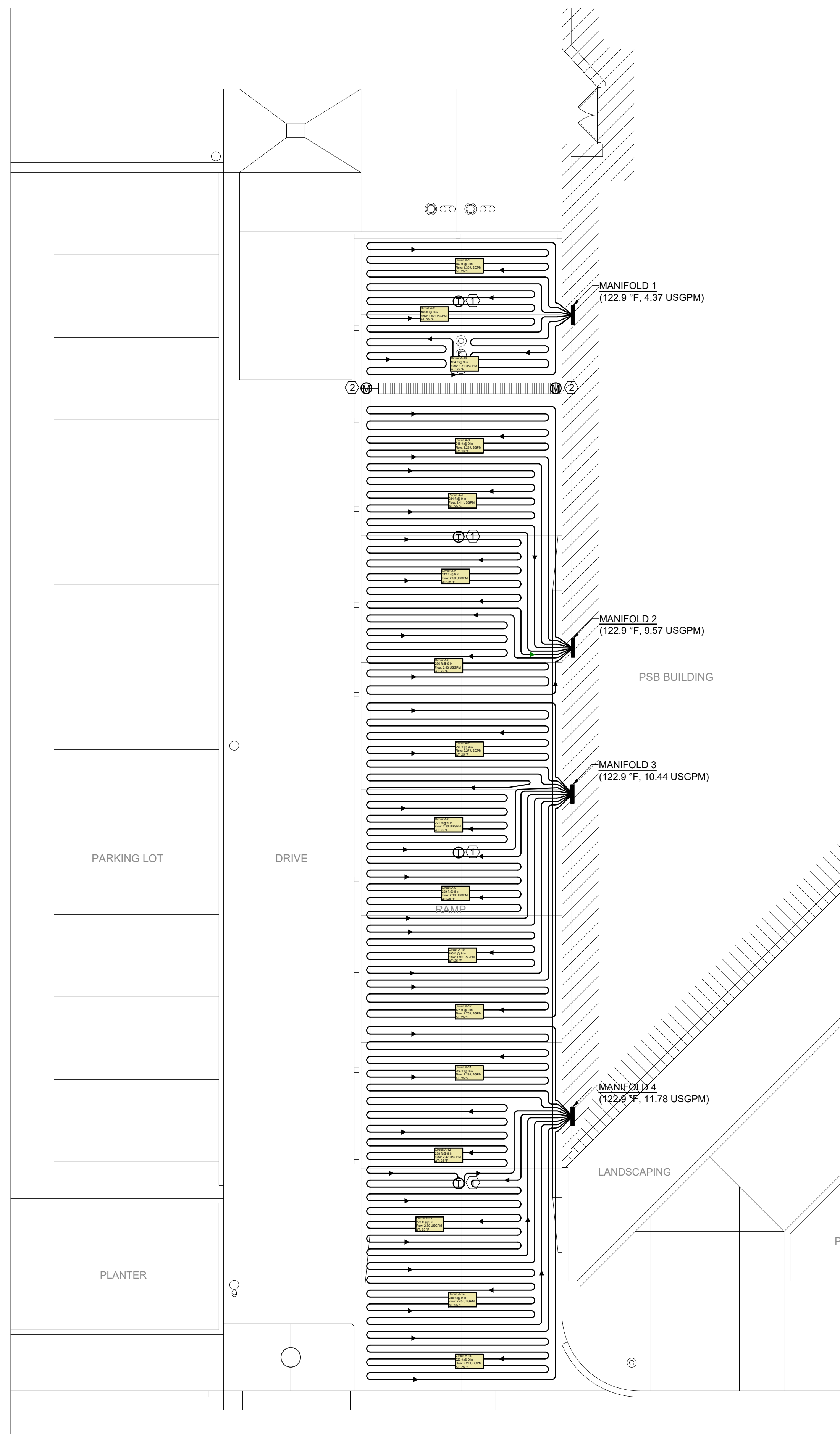
- ① REPLACE ALPHA CONTROLS CONTROLLER.
- ② CUT AND PATCH FLOOR AND WALL AS REQUIRED FOR REMOVAL OF PIPING.



**SYSTEMS DESIGN SERVICE**  
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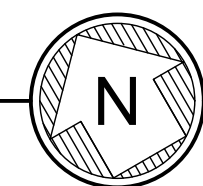
3600 EAST STATE STREET • SUITE 215 • ROCKFORD, ILLINOIS • 61108  
PHONE (815) 399-3381 FAX (815) 399-3383 WWW.SDSGROUP.COM  
IL PROF DESIGN FIRM #104,004999

PROJECT INFORMATION	
Date	AUGUST 30 2024
REV. #1	SEPTEMBER 13 2024
RLJA Proj	2024-027



**NEW WORK SITE PLAN - MECHANICAL**

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

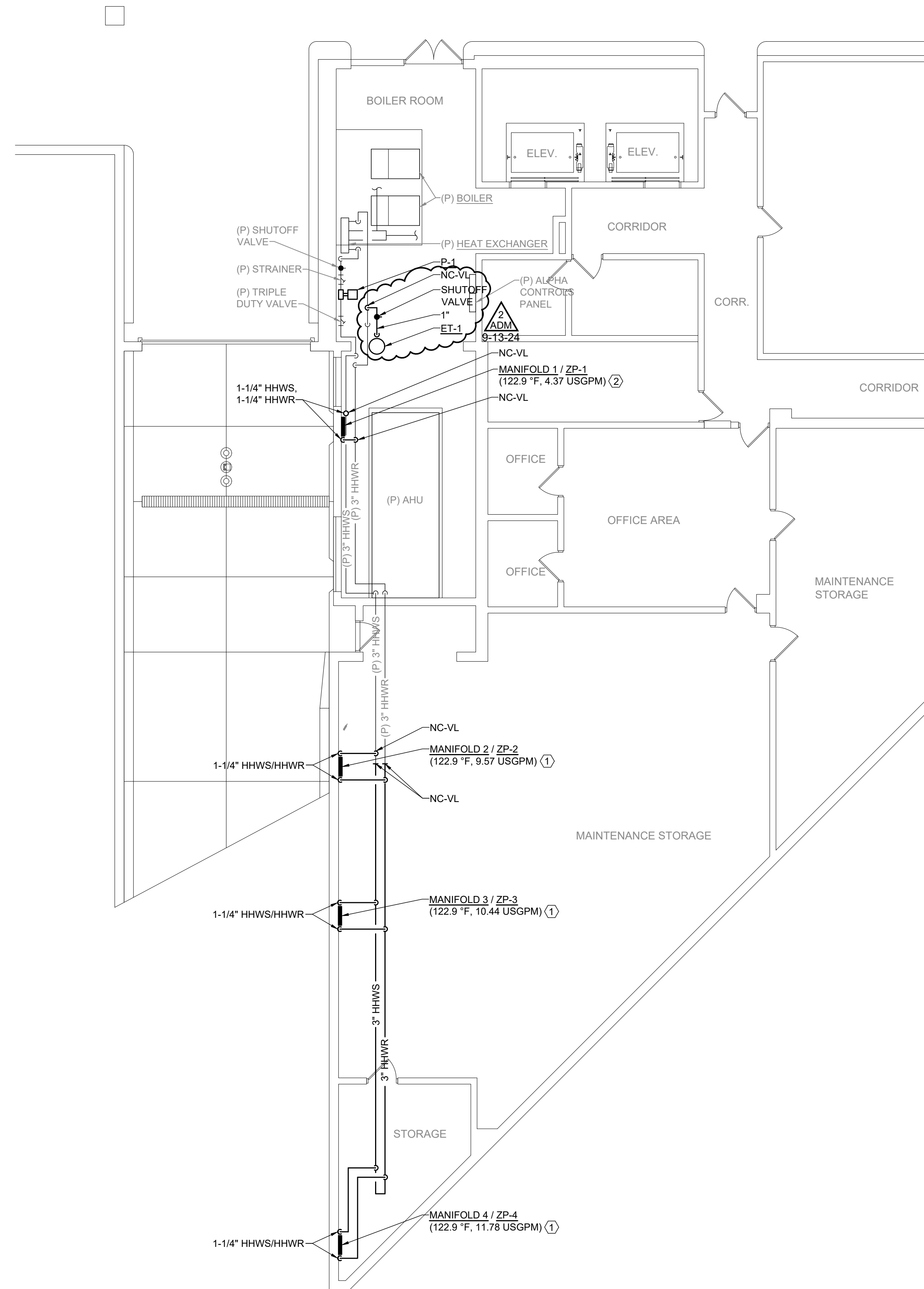


**KEY NOTES:**

- ① SLAB MOUNTED TEMPERATURE SENSOR (TEKMAR 073), EMBEDDED IN CONCRETE 1" BELOW SURFACE AND ENCASED IN 1" PVC. SENSOR SHALL BE LOCATED SUCH THAT IT IS CENTERED BETWEEN HEPEX PIPING AND CENTERED WITHIN THE ZONE SPACE.
- ② MOISTURE SENSOR (TEKMAR 095), INSTALLED ON 1/2" RIGID METAL CONDUIT APPROXIMATELY 12" ABOVE GRADE AND EXTENDED 12" OUT FROM WALL.

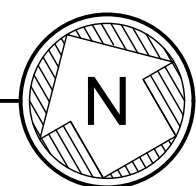
**NEW WORK GENERAL NOTES:**

1. ENGINEER MUST BE NOTIFIED PRIOR TO ANY CHANGES MADE TO THE DESIGN IF THE CONTRACTOR DESIRES TO CHANGE THE IN-SLAB PIPE ROUTING/LAYOUT.
2. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR DRAINING AND REFILLING SYSTEM AS REQUIRED FOR NEW PIPING INSTALLATION ON SNOW MELT SYSTEM. INCLUDE ALL GLYCOL, CHEMICALS (PER COUNTY STANDARDS), AND TETSING WHEN REFILLING SYSTEM.



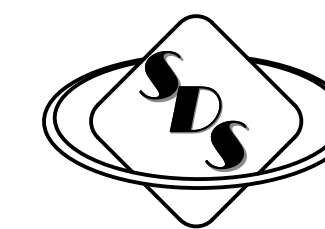
**NEW WORK FLOOR PLAN - MECHANICAL**

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



**KEY NOTES:**

- ① MANIFOLD SHALL BE MOUNTED AT AN ELEVATION TO PERMIT LOOP PIPING TO NEATLY ROUTE TO DRIVE RAMP. CORE THROUGH CONCRETE WALL AS REQUIRED FOR NEW PIPING PENETRATIONS TO EXTERIOR AND SEAL PENETRATIONS WEATHER TIGHT.
- ② MANIFOLD SHALL BE MOUNTED AT AN ELEVATION TO PERMIT MAINTENANCE ACCESS AND PERMIT LOOP PIPING TO ROUTE BELOW SLAB TO DRIVE RAMP. SAW CUT AND PATCH CONCRETE FLOOR AND SLEEVE UNDER CMU WALL TO MATCH EXISTING AS REQUIRED FOR NEW PIPING PENETRATIONS TO EXTERIOR.



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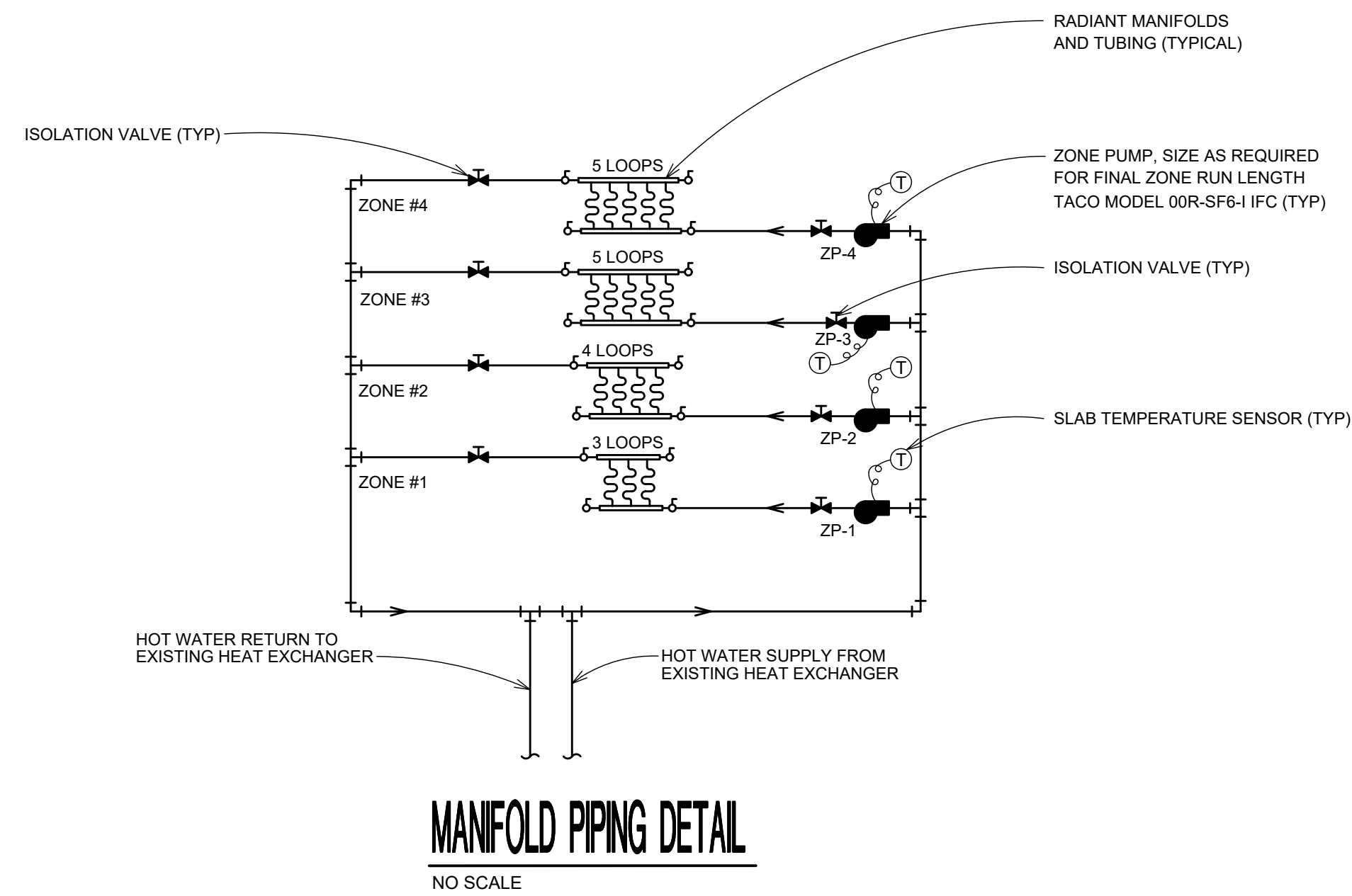
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Date	AUGUST 30, 2024	NEW WORK MECHANICAL PLANS	
REV. #1	SEPTEMBER 13, 2024	WINNEBAGO COUNTY	
RLJA Proj	2024-027	ROCKFORD, ILLINOIS	
SHEET NUMBER		RICHARD L. JOHNSON ASSOCIATES   ARCHITECTS	
M102		PUBLIC SAFETY BUILDING CONCRETE RAMP SNOW AND ICE MELT REPLACEMENT PROJECT	
OF		WINNEBAGO COUNTY	
6		ROCKFORD, ILLINOIS	

# SNOW MELT SYSTEM SCHEDULE:

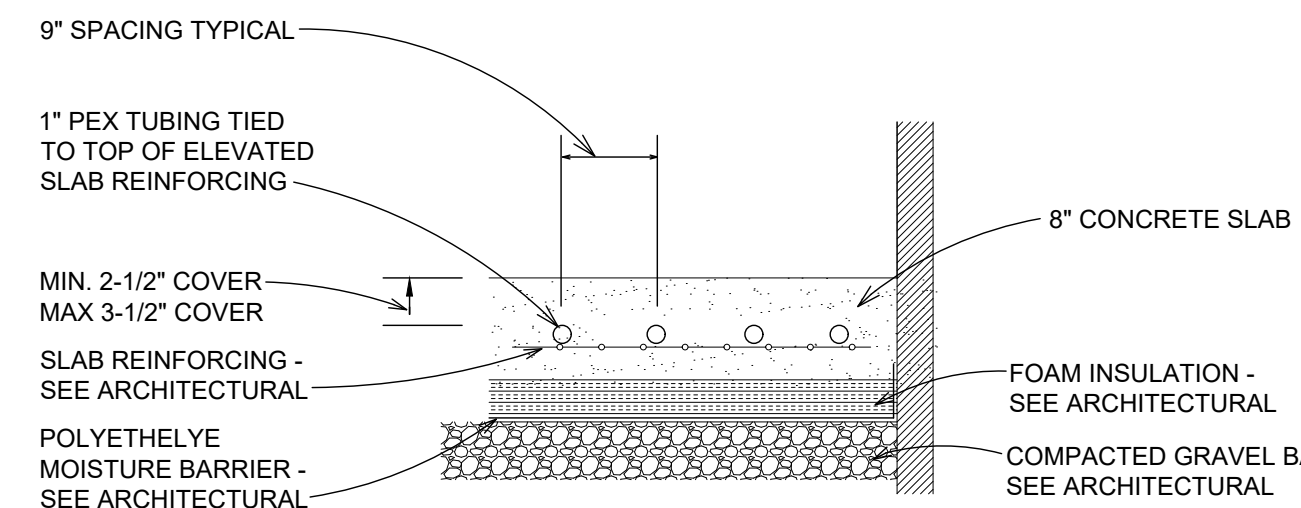
SYSTEM TOTAL HEATING LOAD	416,513 BTU/HR
SYSTEM TOTAL FLOW RATE	36,16 GPM
FLUID TYPE	WATER W/ 40% PROPYLENE GLYCOL
TUBE TYPE	1" HEPEX
TUBE SPACING	9"
# OF MANIFOLDS	4
# OF CIRCUITS	17
DESIGN TEMP (AVERAGE)	-5 DEG F OUTDOOR TEMP 35 DEG F SURFACE TEMP 123 DEG F LOOP TEMP
MANIFOLD	STAINLESS STEEL, 1-1/4", W/ METER, B&I, AND BALL VALVE
AREA SERVICED	2590 SQFT
CONTROLS	SLAB MOISTURE & TEMP SENSOR
NOTES	1-5

NOTES: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

- BASIS OF DESIGN IS UPONOR/WIRSBO.
- ENGINEER MUST BE NOTIFIED PRIOR TO ANY CHANGES MADE TO THE DESIGN IF THE CONTRACTOR DESIRES TO CHANGE THE IN-SLAB PIPE ROUTING/LAYOUT.
- MECHANICAL CONTRACTOR SHALL DRAIN AND FLUSH SNOW MELT PIPING, CHECK OPERATION OF ALL VALVES AND NOTIFY ENGINEER OF FAILURES, REFILL SYSTEM WITH WATER AND 40% PROPYLENE GLYCOL SOLUTION.
- ALPHA CONTROLS (NO SUBSTITUTIONS) SHALL PROVIDE ALL DDC CONTROLS REQUIRED TO TIE INTO EXISTING ALPHA CONTROLS SYSTEM PER CONTROLS DIAGRAM ON SHEET M103 ALPHA CONTROLS (NO SUBSTITUTIONS) TO FURNISH AND INSTALL DDC CONTROLS FOR SNOW MELT SYSTEM; CONTROLLER, SYSTEM SENSORS, RELAYS, TRANSFORMERS, WIRING, PROGRAMMING, GRAPHICS, ETC. AS SHOWN IN SPECIFICATIONS AND CONTROLS DIAGRAMS. UNIT TO BE TIED INTO EXISTING ALPHA CONTROLS BUILDING MANAGEMENT SYSTEM.
- SEQUENCE OF OPERATIONS:
  - SNOW MELT SYSTEM SHALL ENABLE AUTOMATICALLY BASED ON FEEDBACK FROM MOISTURE SENSORS AND EXISTING OUTDOOR AIR TEMPERATURE SENSOR. ADDITIONALLY, SNOW MELT SYSTEM SHALL BE ABLE TO BE ENABLED MANUALLY THROUGH THE DDC SYSTEM.
    - WHEN SNOW MELT SYSTEM IS ENABLED, EXISTING 3 WAY CONTROL VALVE SHALL OPEN AND ALLOW FLOW THROUGH THE EXISTING HEAT EXCHANGER. SYSTEM PUMP (P-1) SHALL START FLOW THROUGH THE SNOW MELT LOOP.
    - SNOW MELT LOOP SHALL MAINTAIN LOOP TEMPERATURE OF APPROXIMATELY 125-150 DEG F VIA EXISTING MODULATING 3-WAY CONTROL VALVE.
      - EXISTING MODULATING 3-WAY CONTROL VALVE SHALL CLOSE ON HIGH WATER TEMPERATURE AT 150 DEG. TO STOP FLOW THROUGH THE HEAT EXCHANGER.
      - LOCAL ZONE PUMPS SHALL START BASED ON FEEDBACK FROM THE ASSOCIATED SLAB SENSOR TO START FLOW THROUGH THE SNOW MELT TUBING AND MAINTAIN A SLAB TEMPERATURE SETPOINT IN DDC SYSTEM (INITIALLY SET AT 35 DEG.)



**MANIFOLD PIPING DETAIL**  
NO SCALE



**SNOW MELT PIPING DETAIL**  
NO SCALE

# SNOW MELT CIRCUIT SCHEDULE:

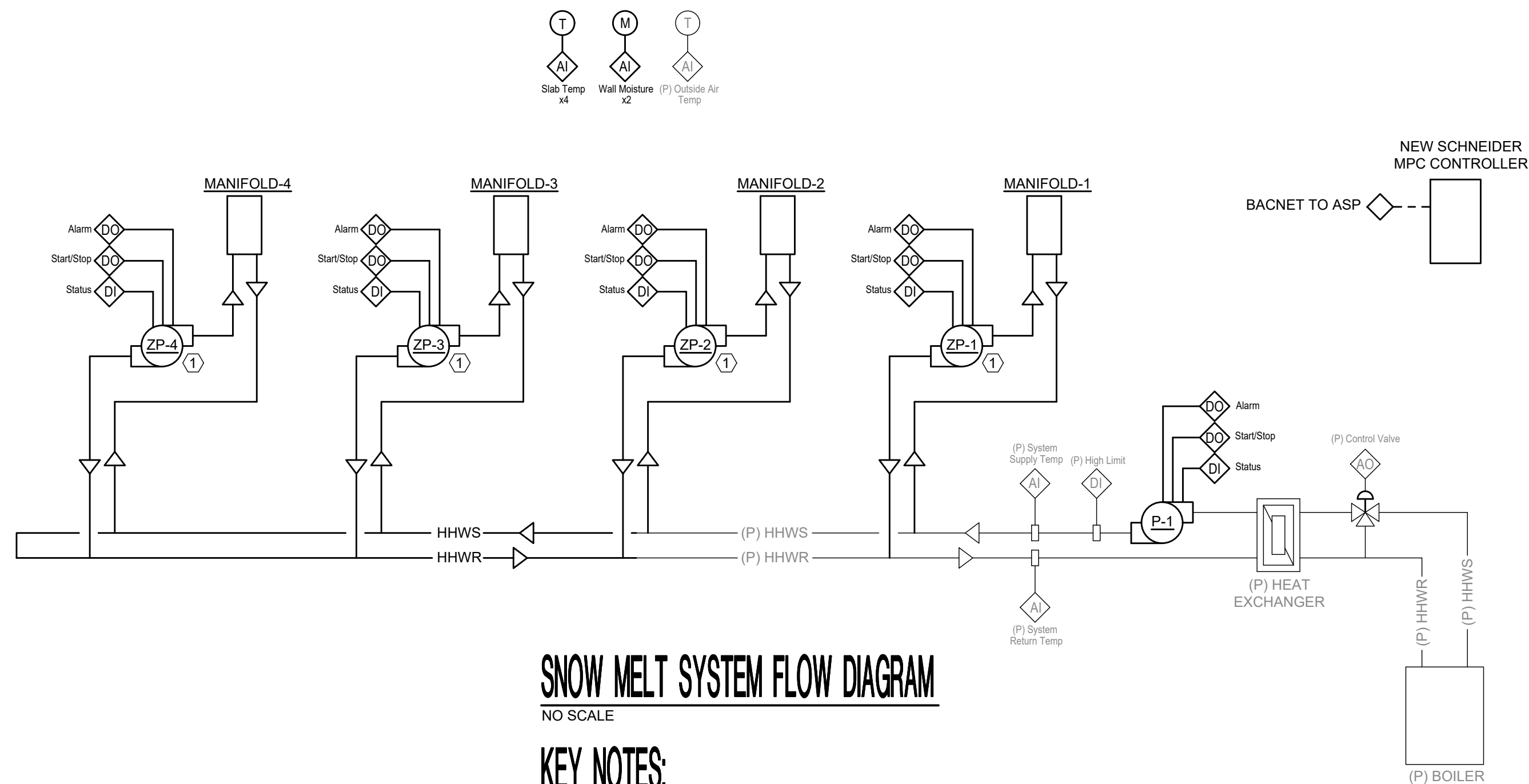
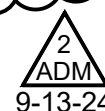
Circuit #	Length (ft)	Tube Type	Flow Rate (USGPM)	Head Loss (ft water)	Req. Water Temp (°F)	ΔT (°F)	Total Load (Btu/hr)
Water Temperature (122.9)			36.16	12.8	123		416,302
Manifold 1 (3 Circuits)			4.37	4.3	122		50,300
Circuit A-1	142	hePEX 1"	1.39	0.8	121	25	16,000
Circuit A-2	168	hePEX 1"	1.67	1.3	121	25	19,206
Circuit A-16	134	hePEX 1"	1.31	0.7	122	25	15,094
Manifold 2 (4 Circuits)			9.57	12.4	122		110,192
Circuit A-3	218	hePEX 1"	2.23	2.7	122	25	25,722
Circuit A-4	234	hePEX 1"	2.41	3.3	122	25	27,751
Circuit A-5	242	hePEX 1"	2.5	3.6	122	25	28,744
Circuit A-6	236	hePEX 1"	2.43	3.4	122	25	27,974
Manifold 3 (5 Circuits)			10.44	10.2	123		120,197
Circuit A-7	224	hePEX 1"	2.27	2.9	122	25	26,165
Circuit A-8	221	hePEX 1"	2.3	2.9	123	25	26,478
Circuit A-9	209	hePEX 1"	2.13	2.4	122	25	24,564
Circuit A-10	196	hePEX 1"	1.99	2	122	25	22,856
Circuit A-17	175	hePEX 1"	1.75	1.4	121	25	20,134
Manifold 4 (5 Circuits)			11.78	12.8	122		135,614
Circuit A-11	224	hePEX 1"	2.29	2.9	122	25	26,353
Circuit A-12	238	hePEX 1"	2.47	3.5	122	25	28,434
Circuit A-13	223	hePEX 1"	2.3	2.9	122	25	26,445
Circuit A-14	238	hePEX 1"	2.45	3.5	122	25	28,233
Circuit A-15	223	hePEX 1"	2.27	2.8	122	25	26,147

# CIRCULATING PUMP SCHEDULE:

- ACCEPTABLE MANUFACTURERS: BELL & GOSSET, TACO, AND GRUNDFOS. CONFIRM/VERIFY SIZE WITH MANUFACTURER FOR PROJECT USAGE/SIZING.
- P-1: SYSTEM CIRCULATING PUMP, CLOSE COUPLED IN-LINE MOUNTED, B & G MODEL SERIES E-80, 2 5/2 5x7 1/2, VOLTAGE 480-3-80, 1.0 HP, 36 GPM, 10' HD., 2.5" SUCTION, 2.5" DISCHARGE, 14.5JM MOTOR FRAME, EXISTING MOTOR CONTROLLER TO BE REUSED BY ELECTRICAL CONTRACTOR, COORDINATE.
- ZP-1: ZONE CIRCULATING PUMP, IN-LINE MOUNTED, TACO MODEL 00R-SF6-1 IFC, 1-1/4" CONNECTION SIZE, FLANGED, STAINLESS STEEL, WITH INTEGRAL CHECK VALVE, VOLTAGE 120-1-60, 1/25 HP, 0-12.5 GPM, 0-15' HD.
- ZP-2: ZONE CIRCULATING PUMP, IN-LINE MOUNTED, TACO MODEL 00R-SF6-1 IFC, 1-1/4" CONNECTION SIZE, FLANGED, STAINLESS STEEL, WITH INTEGRAL CHECK VALVE, VOLTAGE 120-1-60, 1/25 HP, 0-12.5 GPM, 0-15' HD.
- ZP-3: ZONE CIRCULATING PUMP, IN-LINE MOUNTED, TACO MODEL 00R-SF6-1 IFC, 1-1/4" CONNECTION SIZE, FLANGED, STAINLESS STEEL, WITH INTEGRAL CHECK VALVE, VOLTAGE 120-1-60, 1/25 HP, 0-12.5 GPM, 0-15' HD.
- ZP-4: ZONE CIRCULATING PUMP, IN-LINE MOUNTED, TACO MODEL 00R-SF6-1 IFC, 1-1/4" CONNECTION SIZE, FLANGED, STAINLESS STEEL, WITH INTEGRAL CHECK VALVE, VOLTAGE 120-1-60, 1/25 HP, 0-12.5 GPM, 0-15' HD.
- ALPHA CONTROLS SHALL BE RESPONSIBLE FOR PROVIDING ALL CONTROLS, WIRING, PROGRAMMING, GRAPHICS, ETC. REQUIRED TO TIE THE NEW PUMPS INTO EXISTING ALPHA CONTROLS BUILDING MANAGEMENT SYSTEM.

# EXPANSION TANK SCHEDULE:

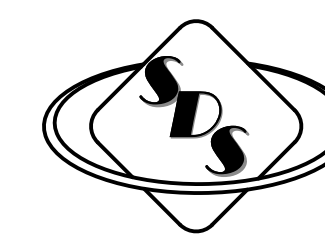
- ACCEPTABLE MANUFACTURERS: AMTROL, BELL & GOSSETT, OR APPROVED EQUAL. CONFIRM/VERIFY SIZE WITH MANUFACTURER FOR PROJECT USAGE/SIZING.
- ET-1: FLOOR MOUNTED, CARBON STEEL TANK WITH FULL ACCEPTANCE (REPLACEABLE), HEAVY DUTY BUTYL RUBBER PRE-CHARGED BLADDER SEPARATING AIR AND WATER RESERVOIRS, RIGID POLYPROPYLENE-LINED WATER RESERVOIR WITH RED OXIDE PRIMER EXTERIOR AND AIR CHARGING VALVE, 1" WATER INLET, 26 GALLON CAPACITY, MAX 125 PSI MAX WORKING PRESSURE, 320 LBS. B&G MODEL B100.



**SNOW MELT SYSTEM FLOW DIAGRAM**  
NO SCALE

# KEY NOTES:

- PROVIDE RELAY FOR PUMP CONTROL.



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IL PROF DESIGN FIRM #104,004999

PUBLIC SAFETY BUILDING CONCRETE RAMP SNOW AND ICE MELT  
REPLACEMENT PROJECT  
**WINNEBAGO COUNTY**  
ROCKFORD, ILLINOIS

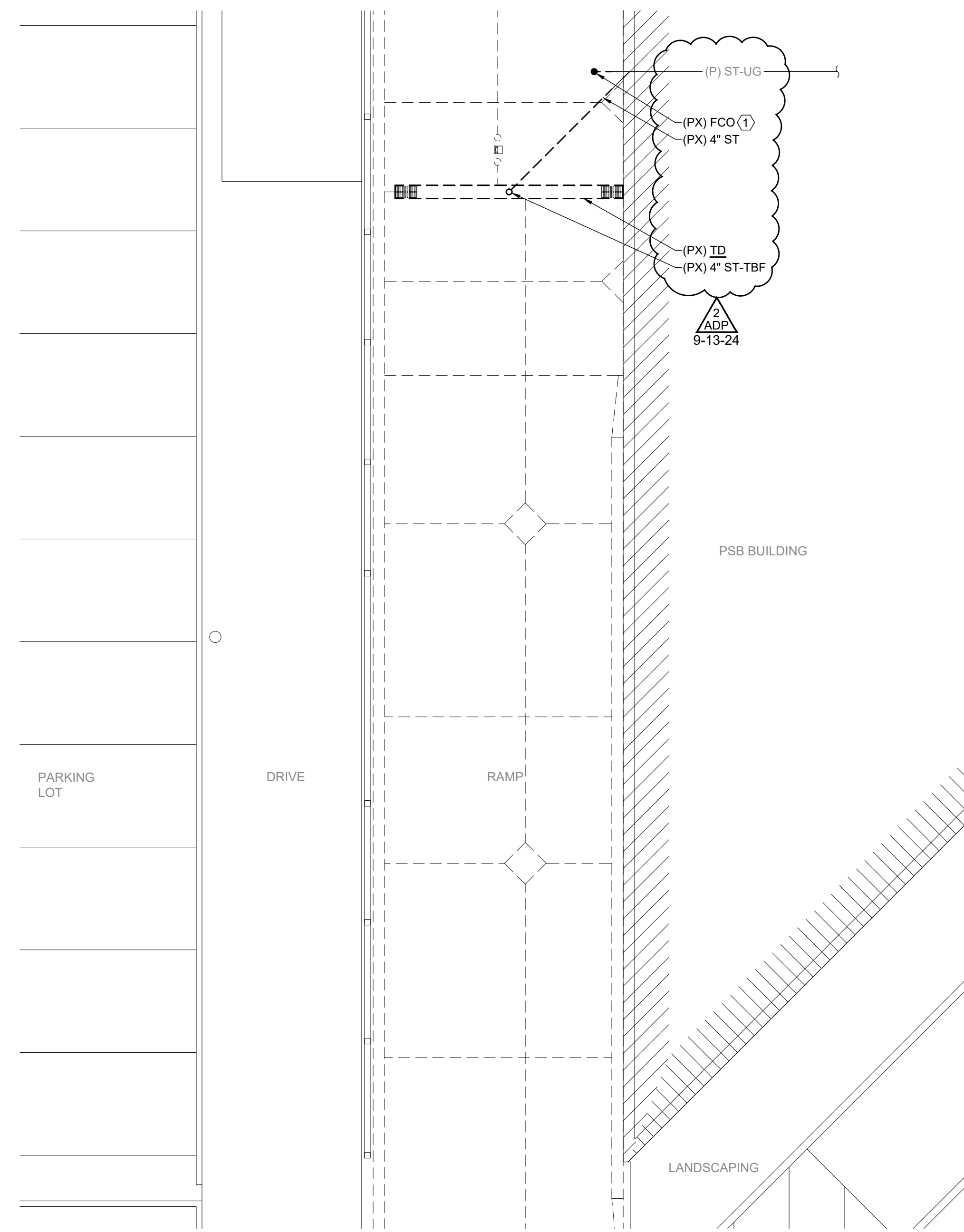
**RICHARD L. JOHNSON**  
ASSOCIATES | ARCHITECTS

SHEET IDENTIFICATION  
**MECHANICAL EQUIPMENT**  
SCHEDULES, DETAILS, AND  
CONTROLS

PROJECT INFORMATION	DATE	REV #1	REV #2
	AUGUST 30 2024	SEPTEMBER 13 2024	
PROJECT INFORMATION	DATE	REV #1	REV #2
PROJECT INFORMATION	DATE	REV #1	REV #2

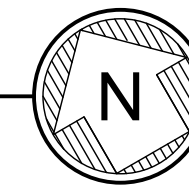
SHEET NUMBER

**M103**  
OF  
6



**DEMOLITION PLAN - SANITARY**

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

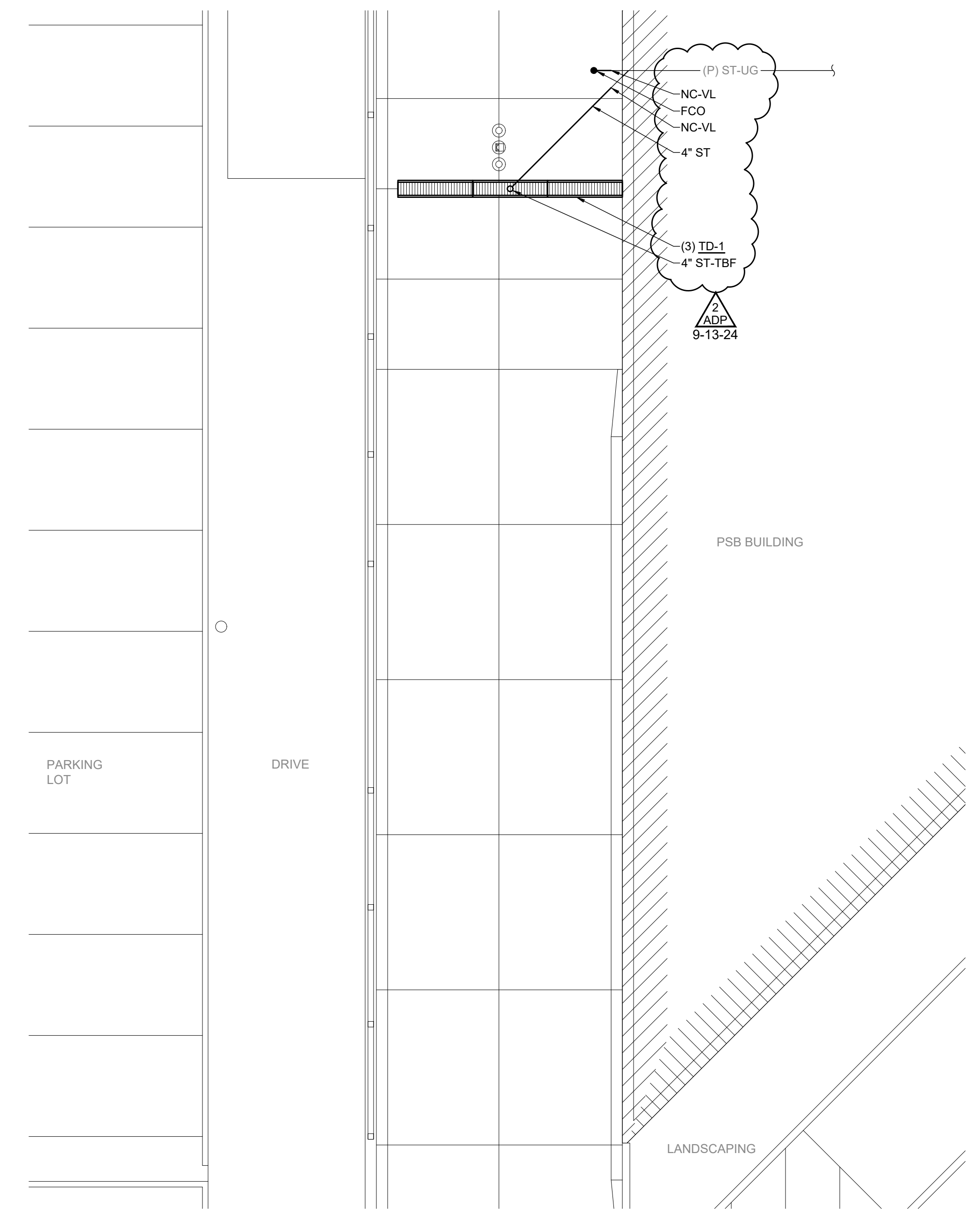


**DEMOLITION KEY NOTES:**

- ① VERIFY LOCATION OF FCO, POSSIBLY LOCATED UNDER CONCRETE SLAB.

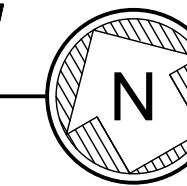
**GENERAL DRAWING NOTES: (APPLIES TO THIS SHEET)**

- 1. PIPING DRAWN FROM EXISTING DRAWINGS. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND SANITARY/VENT PIPING PRIOR TO STARTING WORK.



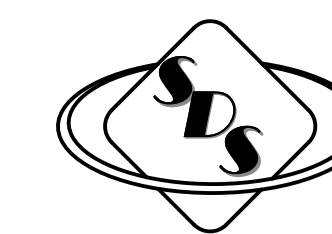
**NEW WORK PLAN - SANITARY**

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



**NEW WORK KEY NOTES:**

- ① DOMESTIC WATER PIPING IN SPACE BETWEEN JOISTS.



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PUBLIC SAFETY BUILDING CONCRETE RAMP SNOW AND ICE MELT  
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**WINNEBAGO COUNTY**  
ROCKFORD, ILLINOIS

**RICHARD L. JOHNSON**  
ASSOCIATES | ARCHITECTS

SHEET IDENTIFICATION  
**DEMOLITION AND NEW WORK**  
SANITARY PLANS

PROJECT INFORMATION	
Date	AUGUST 30, 2024
REV. #1	SEPTEMBER 13, 2024
RLJA Proj	2024-027

SHEET NUMBER

**P101**  
OF  
**3**

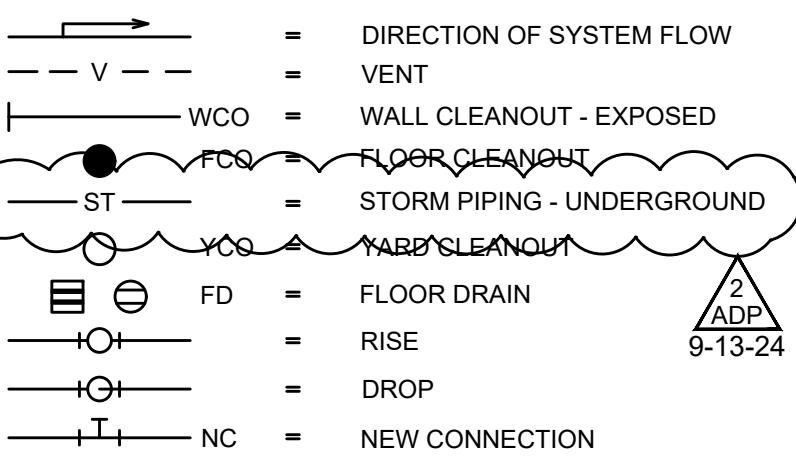
## BASIC ABBREVIATIONS

MARK	DESCRIPTION	MARK	DESCRIPTION
D	DROP	NC	NEW CONNECTION
DWV	DROP W/ WASTE, RISE W/ VENT	P	PRESENT TO REMAIN
FBF	FROM BELOW FLOOR	R	RISE
FBO	FURNISHED BY OTHERS	ST	STORM PIPING
FCO	FLOOR CLEANOUT	TB	TO BELOW FLOOR
FD	FLOOR DRAIN	UG	UNDER GROUND
FFE	FINISHED FLOOR ELEVATION	VL	VERIFY LOCATION
FGE	FINISH GRADE ELEVATION	W	WASTE PIPING
FV	FIELD VERIFY	YCO	YARD CLEANOUT

SEE SPECIFICATIONS FOR ADDITIONAL ABBREVIATIONS, PREFIXES, SUFFIXES, ETC.

## PLUMBING SYMBOLS:

(SEE SPECIFICATIONS FOR ADDITIONAL NOTES, SYMBOLS, ABBREVIATIONS, ETC.)



ALL VENTING AND PIPE SIZES ARE MINIMUMS. ADDITIONAL VENTS SHALL BE ADDED, AND/OR PIPE SIZES SHALL BE INCREASED AS REQUIRED BY APPLICABLE CODES, STATUTES, REGULATIONS, ETC., WITHOUT INCREASE IN CONTRACT PRICE.

PIPING STRAIGHT AND PARALLEL TO WALLS, FREE TO EXPAND AND CONTRACT. WATER LINES MUST DRAIN COMPLETELY THRU LOWER FIXTURE, UNION, BRASS CAP, BRASS PLUG AT LOW POINT, AND MUST VENT COMPLETELY THRU FIXTURE ABOVE OR AIR VENT.

EQUIPMENT, [EQUIPMENT] = EQUIPMENT NOTE, DESIGNATION, OR ITEM.

-P = EXISTING OR PRESENT EQUIP./DEVICE/ SERVICE/ LINE

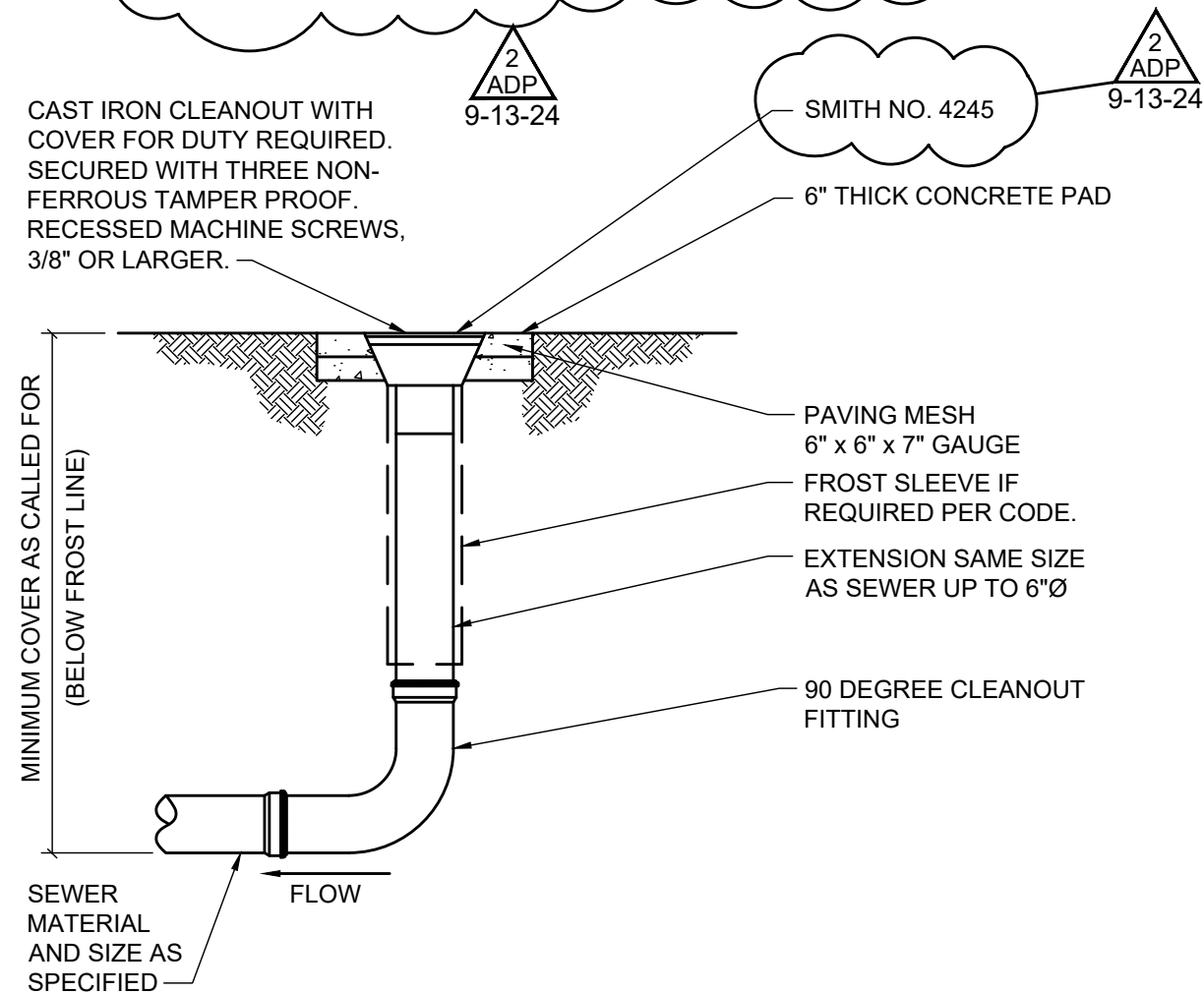
PX = PX OF EXISTING OR PRESENT EQUIP./ DEVICE/ SERVICE/ LINE

## CLEANOUT SCHEDULE:

- ACCEPTABLE MANUFACTURERS: JOSAM, OATEY, SMITH, WADE, WATTS, ZURN.
- CONCRETE FLOOR CLEANOUT: CAST IRON, THREADED OR INSIDE CAULK AT GRADE ADJUSTABLE HOUSING, FERRULE WITH PLUG, MEDIUM DUTY CAST IRON SECURED SCORED COVER, VANDAL PROOF. SMITH NO. 4245.

## TRENCH DRAIN SCHEDULE:

- ACCEPTABLE MANUFACTURERS: MILFAB, JOSAM, OATEY, POLYCAST, POLYDRAIN, SMITH, WADE, WATTS, ZURN.
- TD-1: 18" WIDE x 80" LONG INTERLOCKING CHANNELS, CORROSION RESISTANT POLYPROPYLENE PRECAST TRENCH DRAIN WITH INTEGRAL REBAR CLIPS, HEAVY DUTY FRAME OPTION FOR DYNAMIC LOADS (WISKERS ANCHORS), GALVANIZED DUCTILE IRON GRATE, LOCKING DEVICES, 4" DIA. BOTTOM OUTLET WITH OPTIONAL DOME STRAINER. HEAVY DUTY DUCTILE IRON GRATE SECTIONS SHALL BE SUPPLIED IN NOMINAL 20' LENGTHS. CHANNELS SHALL HAVE A BUILT-IN SLOPE OF 1.04%. QUANTITY OF CHANNELS SHALL BE BASED ON LENGTH OF TRENCH DRAIN SHOWN ON DRAWINGS. ZURN-Z874-18-HDG-GDC-DB.



## FLOOR CLEANOUT (FCO) DETAIL

NO SCALE

## PLUMBING GENERAL NOTES:

- DRAWINGS ARE GENERALLY DIAGRAMMATIC. EACH CONTRACTOR SHALL MAKE DRAWINGS GENERALLY DIAGRAMMATIC. EACH CONTRACTOR SHALL MAKE WITH THE WORK OF OTHER TRADES AND THE BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER, FOR PRESENT CONSTRUCTION. VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING TO AVOID CONFLICT. IT IS INTENDED THAT ALL EQUIPMENT, MATERIAL, DEVICES, ETC., SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLARITY OF PRESENTATION.

CONTRACTOR IS ALLOWED TO MAKE MINOR CHANGES TO THE PIPING TO AVOID FIELD CONFLICTS AT NO ADDITIONAL COST TO THE OWNER AND AS LONG AS THE RELOCATION DOES NOT AFFECT THE PERFORMANCE OF THE SYSTEM.

EACH CONTRACTOR SHALL CHECK DRAWINGS OF THE OTHER CONTRACTORS TO VERIFY SPACES IN WHICH THEIR WORK WILL BE INSTALLED IS CLEAR OF OBSTRUCTIONS. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION.

FURNISH ALL TRADES ADVANCE INFORMATION ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS NEEDED FOR WORK, AND ALSO FURNISH INFORMATION AND SHOP DRAWINGS TO PERMIT TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.

WHERE THERE IS EVIDENCE THAT WORK OF ONE CONTRACTOR WILL INTERFERE WITH THE WORK OF OTHER CONTRACTORS, EACH SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE SATISFACTORY ADJUSTMENTS.

CONTRACTOR TO REVIEW, PRIOR TO BIDDING, ALL DRAWINGS TO COORDINATE VARIOUS WORK AS CALLED FOR. CONTRACTOR SHALL CAREFULLY CHECK ALL DRAWINGS FOR ALL TRADES, AND ANY LACK OF COORDINATION BETWEEN HIS WORK AND DRAWINGS FOR JOB CONDITIONS SHALL BE IMMEDIATELY REPORTED TO ARCHITECT.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING, INCLUDING CORE DRILLING, SAW CUTTING, ETC., AS REQUIRED TO ACCOMMODATE HIS WORK. CUTTING AND PATCHING AND PAYMENT OF SAID WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR REQUIRING THE DISTURBANCE.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF PRESENT CEILINGS, LIGHT FIXTURES, DIFFUSERS, DUCTWORK, PIPING, CONDUIT, ETC., AS REQUIRED FOR THE INSTALLATION OF HIS WORK. REMOVAL, REPLACEMENT AND PAYMENT FOR MECHANICAL/ELECTRICAL ITEMS SHALL BE THE RESPONSIBILITY OF THE APPLICABLE PLUMBING CONTRACTOR. REMOVAL AND REPLACEMENT OF PRESENT CEILINGS, ETC., SHALL BE THE RESPONSIBILITY OF CONTRACTOR MAKING THE DISTURBANCE.

- THE INSTALLATION OF ALL PIPING SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS IT PERTAINS WITH CLEARANCE OF PIPING IN RELATIONSHIP TO ELECTRICAL EQUIPMENT, SWITCHGEAR, PANELS, ETC. PIPING SHALL NOT CROSS OVER THE TOP OR IMPINGE UPON THE ELECTRICAL EQUIPMENT.
- ALL WATER LINES SHALL DRAIN COMPLETELY THROUGH LOWER FIXTURES, UNIONS, BRASS CAP OR PLUG AT LOW POINTS AND MUST VENT COMPLETELY THROUGH FIXTURE ABOVE AIR VENT.
- PROVIDE ALL REQUIRED CLEANOUTS AS REQUIRED BY CODE. UNDERGROUND CLEANOUTS TO HAVE WYE FITTINGS AND ALL HORIZONTAL DRAINS TO HAVE CLEANOUTS.
- NO UNDERGROUND SANITARY PIPING IS TO BE LESS THAN 2". CONFIRM WITH LOCAL CODE REQUIREMENTS. INSTALL AS REQUIRED.
- PROVIDE TRAP REQUIREMENTS AS REQUIRED BY CODE.
- BACKFLOW PREVENTERS FOR DISHWASHER, ICE MAKER, COFFEE MACHINE, VENDING EQUIPMENT, WATER SOFTENER, ETC., TO BE LINE SIZE AND EQUIVALENT TO FBCCO MODEL 850, WATTS SERIES 007 ASSE-1015 DOUBLE CHECK ASSEMBLY OR WATTS SERIES 7, WILKINS 700 SERIES DUAL CHECK VALVE. BACKFLOW PREVENTERS FOR CARBONATOR/SODA MACHINES TO BE STAINLESS STEEL DUAL CHECK VALVES WITH ATMOSPHERIC VENT EQUIVALENT TO WILKINS MODEL 740, WATTS SERIES SD-3. BACKFLOW PREVENTERS FOR CHILLER, BOILER, BLOW DOWN SEPARATOR, CONDENSATE RETURN, AND OTHER SIMILAR HAZARD CATEGORIES SHALL BE LINE SIZE AND EQUAL TO WATTS SERIES 009 ASSE-1013 RPZ ASSEMBLIES. VERIFY/CONFIRM WITH LOCAL CODE REQUIREMENTS FOR INSTALLATIONS.
- PROVIDE WATER HAMMER ARRESTORS AND INSTALL AS REQUIRED PER CODE. ARRESTORS TO BE LINE SIZE AND EQUIVALENT TO ZURN-1700 SERIES.
- PROVIDE LINE SIZE THERMOSTATIC MIXING VALVE(S) PER ANSI/ASSE 1016-1990 SINGLE USE AND/OR 1017-1990 MULTIPLE USE AND/OR 1071 EMERGENCY FIXTURES. VALVE(S) MUST CONTAIN MANUFACTURER'S STAMP SHOWING COMPLIANCE WITH APPLICABLE ANSI/ASSE STANDARDS. VALVE(S) TO BE USED AT LAVATORIES, HAND SINKS, ETC. WHERE DOMESTIC HOT WATER EXCEEDS 120 DEGREES F. INSTALL AS RECOMMENDED BY MANUFACTURER. UNIT IS ADJUSTABLE AND IS TO BE FIELD SET AT 105 DEGREES F OR AS PER LOCAL CODE. EQUIVALENT TO LEONARD TYPE TM FOR HIGH FLOW GREATER THAN 9 GPM OR MODEL 210 FOR LOW FLOW LESS THAN 9 GPM, BRADLEY, SYMMONS, MAXLINE, WILKINS OR EQUIVALENT.
- ALL VENT CONNECTIONS TO HORIZONTAL DRAIN PIPING SHALL BE AT A POINT ABOVE CENTER LINE ON THE DRAIN PIPING AS REQUIRED PER CODE.
- CROSS CONNECTION CONTROL DEVICES SHALL BE USED AND INSTALLED AS REQUIRED BY CODE.
- UNUSED OPENINGS IN DUCTS, SEWERS, MANHOLES, ETC., SHALL BE CAPPED; THOSE IN PIPING SHALL BE CAPPED OR PLUGGED; THOSE IN CONDUITS, BOXES, CABINETS AND PANELS SHALL BE FILLED. STRUCTURAL MEMBRANES AND SUPPORTS SHALL NOT BE CUT UNLESS AUTHORIZED BY ARCHITECT, IN WRITING.
- PRESENT PAINTED CONSTRUCTION WHICH IS MARRED SHALL BE REPAINTED SAME AS NEW CONSTRUCTION.
- THE ENGINEER IS NOT PROVIDING PROJECT ADMINISTRATION OR ANY FORM OF PROJECT MANAGEMENT FOR THE CONSTRUCTION OF THIS BUILDING. THE USE OF THESE DRAWINGS BY ANY CONTRACTOR, SUB-CONTRACTOR, BUILDERS, TRADESMEN OR WORKER SHALL INSTIGATE A HOLD HARMLESS AGREEMENT BETWEEN THE DRAWING USER AND THE ENGINEER.
- THE USER OF THESE DRAWINGS AGREES TO HOLD THE ENGINEER HARMLESS FOR ANY RESPONSIBILITY IN REGARD TO CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES AND FOR ANY SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK AND FURTHER SHALL HOLD THE ENGINEER HARMLESS FOR COST AND PROBLEMS ARISING FROM THE NEGLIGENCE OF CONTRACTOR, SUB-CONTRACTOR, TRADESMEN OR WORKMEN. THE USE OF THESE DRAWINGS ALSO IMPLIES THAT THE ENGINEER SHALL TAKE NO RESPONSIBILITY FOR THE PLANNED USER'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE DRAWINGS CONTRACT DOCUMENTS.
- SEE SPECIFICATIONS FOR ADDITIONAL NOTES, SYMBOLS, ABBREVIATIONS, PREFIXES AND SUFFIXES.

## PRESENT EQUIPMENT AND DEMOLITION NOTES:

- THE FOLLOWING REMOVED PRESENT EQUIPMENT AND MATERIALS WHICH ARE IN GOOD OPERATING CONDITION (OR ARE PLACED IN GOOD CONDITION), SUITABLE, MEETING THE REQUIREMENTS OF THESE SPECIFICATIONS, AND ARE APPROVED IN WRITING BY ENGINEER, OR CALLED FOR MAY BE REUSED (PXR, PXN, AND PNI).
- REMOVED PIPING MUST NOT BE REUSED.
- ANY OF ABOVE EQUIPMENT WHICH IS NOT REUSED AND FOLLOWING REMOVED PRESENT EQUIPMENT SHALL BECOME PROPERTY OF CONTRACTOR, AND SHALL BE REMOVED FROM PREMISES (PX).
  - EQUIPMENT SO DESIGNATED ON DRAWINGS.
- CONTRACTOR SHALL:
  - PROVIDE NEW FLOORS UNDER REMOVED PRESENT EQUIPMENT AND WHERE CALLED FOR.
  - REPAIR FLOORS UNDER AND WALLS ADJACENT TO REMOVED EQUIPMENT, TO MATCH ADJACENT CONSTRUCTION.
  - FILL IN PRESENT CHASES WHICH ARE NO LONGER REQUIRED AND NEATLY PATCH TO MATCH ADJACENT CONSTRUCTION.
  - CUT OPENINGS REQUIRED FOR:
    - HIS WORK
    - ADMISSION OF NEW EQUIPMENT
    - REMOVAL OF PRESENT EQUIPMENT
    - NEW CONNECTION TO PRESENT CONSTRUCTION
      - PATCH AND REPAIR UNUSED PRESENT HOLES AND OPENINGS, AND THOSE LEFT BY THE REMOVAL OF PRESENT EQUIPMENT AND ADMISSION OF NEW EQUIPMENT.
      - PATCH AND REPAIR PRESENT EQUIPMENT, AND BUILDING CONSTRUCTION WHICH HAS NOT BEEN CUT, REMOVED, DISTURBED OR MARRED, AS REQUIRED, TO RESTORE IT TO ORIGINAL CONDITION BEFORE BEING DISTURBED.
    - UNUSED OPENINGS IN EQUIPMENT, WALLS, CEILING, FLOOR, ETC. SHALL BE FILLED.
    - PRESENT PAINTED CONSTRUCTION WHICH IS MARRED SHALL BE REPAINTED SAME AS NEW CONSTRUCTION.
- CERTAIN ABBREVIATIONS OR SYMBOLS, WHEN APPLIED TO PRESENT (TO EXISTING) LINE, DEVICE OR EQUIPMENT, SHALL HAVE THE FOLLOWING MEANINGS:
  - NC = NEW CONNECTIONS TO PRESENT PIPING, DEVICE WIRING, EQUIPMENT, ETC. INSTALL, TEST, COVER, PAINT, ETC., SAME AS NEW WORK.
  - P = TO REMAIN UNCHANGED, IF CHANGE CANNOT BE AVOIDED, CHANGE "P" TO "PXR", AT NO INCREASE IN CONTRACT PRICE. VERIFY LOCATION.
  - PX = TO BE COMPLETELY REMOVED, INCLUDING UNNEEDED CONNECTIONS, PIPING, DUCTS, WIRING, BASES, ETC., OF EVERY KIND, UNUSED OPENINGS PLUGGED OR CAPPED, TESTED, COVERED, PAINTED SAME AS NEW WORK. OTHER DISTURBED WORK OF EVERY KIND RESTORED, PATCHED, TESTED, COVERED, PAINTED, ETC., TO EQUAL ORIGINAL CONDITION. REMOVED MATERIAL MUST NOT BE REUSED UNLESS OTHERWISE SPECIFIED OR DIRECTED BY ENGINEER.

- WORK OF EVERY DIVISION SHALL BE COORDINATED WITH ALL OTHER WORK AND PRESENT CONDITIONS, SO THAT ELECTRICAL SERVICES TO PRESENT BUILDINGS OR PORTIONS OF BUILDING WILL NOT BE INTERRUPTED DURING PERIODS WHEN THOSE SERVICES ARE NEEDED.
  - SPECIAL SYSTEMS SUCH AS FIRE ALARM, SOUND, ETC., OF EVERY KIND TO PRESENT BUILDINGS WILL NOT BE INTERRUPTED DURING WORKING AND/OR OCCUPIED HOURS, EXCEPT AS APPROVED BY THE OWNER.
- NEW PIPING SERVING NEW AND/OR PRESENT EQUIPMENT IN FINISHED PRESENT ROOMS OR SPACES SHALL BE CONCEALED IN FINISHED ROOMS, WHERE POSSIBLE OR SHALL BE RUN IN ADJOINING UNFINISHED ROOMS, SHAFTS, CHAMBERS, CLOAK ROOMS, ETC., EXCEPT WHERE EXPOSED PIPING IS PERMITTED IN FINISHED PRESENT ROOMS BY ARCHITECT IN WRITING.
- UNNEEDED EQUIPMENT, PIPING, ETC., SHALL BE COMPLETELY REMOVED; AND CONSTRUCTION PATCHED AS PER NOTE "PX", NEW CONNECTIONS TO PRESENT EQUIPMENT, SHALL BE MADE, TESTED, COVERED, PAINTED, ETC., SAME AS NEW EQUIPMENT. PRESENT EQUIPMENT, AND OTHER COVERING DISTURBED BY CONTRACTOR SHALL BE REPAIRED TO EQUAL NEW CONDITION AND PAINTED SAME AS NEW COVERING.
- WORK SHALL BE COORDINATED SO THAT HEATING, PLUMBING, ELECTRICAL, INTERNET AND TELEPHONE SERVICES TO THE PRESENT BUILDING WILL NOT BE INTERRUPTED, EXCEPT AS APPROVED BY THE OWNER/ARCHITECT.

PUBLIC SAFETY BUILDING CONCRETE RAMP SNOW AND ICE MELT  
 REPLACEMENT PROJECT  
**WINNEBAGO COUNTY**  
 ROCKFORD, ILLINOIS

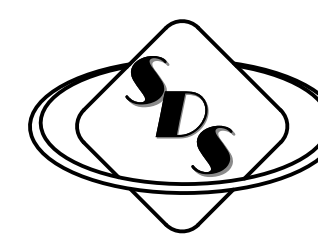
**RICHARD L. JOHNSON**  
 ASSOCIATES | ARCHITECTS

SHEET IDENTIFICATION  
**PLUMBING ABBREVIATIONS,  
 SYMBOLS, NOTES, DETAILS, AND  
 SCHEDULES**

PROJECT INFORMATION	
Date	AUGUST 30, 2024
REV. #1	SEPTEMBER 13, 2024
RLJA Proj	2024-027

SHEET NUMBER

**P102**  
OF  
**3**



**SYSTEMS DESIGN SERVICE**  
Engineering

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