ADDENDUM

Public Building Commission of Chicago | Richard J. Daley Center | 50 West Washington Street, Room 200 | Chicago, Illinois 60602 | (312) 744-3090 | pbcchicago.com

ADDENDUM NO.: 02

PROJECT NAME: Ernst Prussing Elementary School Annex & Renovations

PROJECT NO.: 05175

CONTRACT NO.: C1587

DATE OF ISSUE: November 21, 2017

NOTICE OF CHANGES, MODIFICATIONS, OR CLARIFICATIONS TO CONTRACT DOCUMENTS

The following changes, modifications, or clarifications are hereby incorporated and made an integral part of the Contract Documents. Unless clearly expressed otherwise by this Addendum, all terms and conditions defined in the original Contract Documents shall continue in full force and effect and shall have the same meaning in this Addendum. Issued Addenda represent responses/clarifications to various inquiries. Contractors shall be responsible for including all associated labor/material costs in its bid. Drawings/specifications corresponding to inquiry responses will be issued with the Issue for Construction Documents, upon issuance of building permit.

ITEM NO. 1: CHANGE TO KEY DATES
None.

ITEM NO. 2: REVISIONS TO BOOK 1 – PBC INSTRUCTIONS TO BIDDERS
None.

ITEM NO. 3: REVISIONS TO BOOK 2 – PBC STANDARD TERMS AND CONDITIONS
None.

ITEM NO. 4: REVISIONS TO BOOK 3 – TECHNICAL SPECIFICATIONS

Change 1 Book 3 – Volume 1 – Division 01 – General Requirements, ADD line after "01 14 11 – Construction Operations and Site Utilization Plan" to read as follows: "01 23 00 – Alternates…03_07/20/09."

Change 2 Book 3 – Volume 1 – Section 03 30 01 – Cast In Place Concrete: REPLACE Section WITH attached. Edited paragraphs 1.1 A and 1.5

Change 3 Book 3 – Volume 1 – Section 03 64 23 – Epoxy and Grout Injection: REPLACE Section WITH attached. Deleted paragraph 1.9.

Change 4 Book 3 – Volume 1 – Section 03 72 50 – Externally Bonded FRP Reinforcement: REPLACE Section WITH attached. Revised paragraph 3.6 D.3

Change 5 Book 3 – Volume 1 – Section 03 95 00 – Concrete Repair: REPLACE Section WITH attached. Revised paragraph 3.8 A and B.

Change 6 Book 3 – Volume 1 – Section 08 80 00 - Glazing: REPLACE Section WITH attached. Edited paragraphs: 1.2 Submittals, 1.6 Job Conditions, and 2.1 Materials.

Change 7 Book 3 – Volume 1 – Section 10 51 13 – Metal Lockers – Elementary Schools: ADD Paragraph 2.6.C to read as follows:

"C. Continuous Metal Base: Steel sheet, channel or zee profile for stiffness, fabricated in lengths as long as practicable to enclose the base and base ends of lockers without additional fastening devices.

1. Minimum Thickness: 0.0598 inch (1.5mm) (16 gauge)."

Change 8 Book 3 – Volume 1 – Section 12 93 00 – Site Furnishings: REVISE Paragraph 2.2.A to read as follows:

"2. Frame: Stainless steel, Type 304; not less than 1-5/8 inches OD; satin finish.

Change 9 Book 3 – Volume 1 – Section 12 93 00 – Site Furnishings: REVISE Paragraph 2.2.B.1 to read as follows: "Dero Bike Rack Company 'Round Rack' with similar characteristics as described above."

Change 10 Book 3 – Volume 1 – Section 12 93 00 – Site Furnishings: REVISE Paragraph 2.2.B.2 to read as follows: "Madrax 'Orion' Model ORN-2-SF-ES with similar characteristics as described above."

ITEM NO. 5: REVISIONS TO DRAWINGS

Change 1 REPLACE Sheet G4.1 WITH attached revised sheet.

Change 2 REPLACE Sheets C1.00, C2.01, C3.00, C3.02, C3.03, C4.00, C4.01, C5.00, C5.01, and C5.03 WITH attached revised sheets.

Change 3 REPLACE Sheets SR1.0, SR2.0, SR4.0, SR5.0, SR7.0, and SR8.0 WITH attached revised sheets.

Change 4 REPLACE Sheets S1.0 and S1.2 WITH attached revised sheets.

Change 5 REPLACE Sheet ASD.1 WITH attached revised sheet.

Change 6 REPLACE Sheets AD1.01, AD1.02, AD1.11, AD1.12, AD1.21, AD1.22, AD1.31, AD1.32, AD2.11, AD2.12, AD2.21 and AD2.22 WITH attached revised sheets.

Change 7 REPLACE Sheets, A1.13, A3.11, and A6.01 WITH attached revised sheets.

Change 8 REPLACE Sheet AF1.1 WITH attached revised sheet.

Change 9 REPLACE Sheets E1.3, E1.4, E1.5, E2.1, E2.2, and E3.5 WITH attached revised sheets.

Change 10 REPLACE Sheets MD1.0, MD1.1, MD1.2, and MD1.3 WITH attached revised sheets.

Change 11 REPLACE Sheet PD1.0 WITH attached revised sheet.

ITEM NO. 6: REQUESTS FOR INFORMATION

RFI-1.

Question: In the prebid meeting the Structural work, epoxy injection work, FRP Reinforcement was talked about. None of these are listed in the specifications.
03 01 30 Maintenance of Cast-In-Place Concrete is missing
03 20 00 Concrete Reinforcement is missing
03 30 01 Cast-In-Place Concrete for Structural Remediation is missing
03 37 13 Shotcrete is missing
03 60 30 Epoxied-in Anchors is missing
03 64 23 Epoxy injection is missing
03 72 50 Externally Bonded FRP Reinforcement- Laminates is missing
And 03 95 00 Concrete Repairs is missing from the specifications. These have always been part of CPS Bids in the past and without them, requirements, experience and product are not identified.

Response: Indicated specifications were provided as a part of Addendum #1. Section 03 01 30 is not provided as a part of this Project.

RFI-2.

Question: In spec section 04 20 00 (Masonry) section 2.1.A it calls to
"Match color and texture of samples on file. Obtain acceptance of Architect."

1. Where can I see the samples on file?
2. When I have a match to color and texture, who do I contact at the architects office to obtain acceptance?
3. The size of the brick is called out as face brick in some areas and utility size brick in others. Is the intent to do all new brick work in utility size, including the parapets on the existing building?

Response: Successful bidder will be provided access to samples to match in color and texture. Brick work at the Annex will be of Utility size, and brick work at the existing building will be sized to match existing, in accordance with the Contract Documents.

RFI-3.

Question: Are you looking to match existing size or utility brick?
Are you holding to the FBX requirement or will you accept FBS?

Response: Successful bidder will be provided access to samples to match in color and texture. Brick work at the Annex will be of Utility size, and brick work at the existing building will be sized to match existing, in accordance with the contract documents. See specification section 04 20 00 for requirements.

RFI-4.

Question: Due to the vagueness of the scope of work in the main building regarding the ductwork in the upper floors and classroom in terms of modifications (no duct shown) can an allowance be established? With ductwork being buried behind walls and an inaccessible attic it is difficult to quantify the scope of work.

Response: Mechanical Sheets MD1.0, MD1.1, MD1.2, and MD1.3 have been revised and are included in this addendum.

RFI-5.

Question: Drawing MD1.3 offers no information on roof equipment that requires replacement. The Drawings indicates to "replace in kind". The information to bid this properly should be supplied by the EOR.

Response: Drawing MD1.3 has been revised to include the following information:
(2) 2500 CFM, 1 HP, Belt-drive exhaust fans per provided specs and details
(1) Gravity vent w/ 28" dia throat opening
(1) Gravity vent w/ 46" dia throat opening
(1) Gravity vent w/ 60" dia throat opening
(1) Gravity vent w/ 65" dia throat opening
The revised drawing is included in this addendum.

RFI-6.

Question: Unit costs listed in the "Dever Beam Repairs Allowance Schedule" issued in Addendum #1 are considerably lower than previous CPS projects.
Please verify:
1. Unit prices provided are only to be used at locations shown on the drawings, as adds or deducts at that location.
2. If additional locations are added, will additional funding be provided for ceiling demo, shoring, scaffold set up, environmental remediation, HVAC relocation, electrical work etc.?
3. Will we need to supply a structural engineer to provide stamped drawings at every location that shoring is shown on drawings and additional allowance areas?

Response:

a. Sub question 1: Unit prices will be used for adds or deducts at locations shown on drawings. In addition, unit prices will be used for additional repair locations identified during construction as part of the allowance.

b. Sub question 2: For additional repair locations added, the related architectural, mechanical, shoring, and scaffolding scope will be addressed separately. Therefore, these unit costs shall not include ceiling/wall demo, shoring, scaffolding, environmental remediation, HVAC or electrical relocation. If additional repair locations are identified during construction, the costs (if any) associated with ceiling/wall demo, shoring, scaffolding, environmental remediation, HVAC or electrical relocation, beyond that required to perform the base scope of work illustrated on the drawings, will be addressed separately.

c. Sub question 3. Contractor responsible for preparing and submitting shoring drawings, stamped and sealed by an independent Illinois licensed structural engineer.

RFI-7.

Question: Please confirm that all existing limestone window heads & copings will be painted with an engineered coating.

Response: Confirmed. All existing limestone window heads and copings will be painted with an engineered coating.

RFI-8.

Question: Regarding Metal Lockers:

1. Do the lockers need metal bases? If so, are they to be 4" or 6"?
2. What is the size of the Staff lockers? Do they need a sloping hood?
3. Do the lockers need to be Galvanealed for dry corridor areas? If so, please see below:
   a. Metal Locker specification 105113 Part 2-Products, 2.2 Materials C. states "Electrolytic Zinc-Coated Steel Sheet. ASTM A 591/A 591M, with full zinc coating, mill phosphatized". Can a hot-dipped galvanized process be used instead?
4. Regarding the ADA designation for the lockers - Is it a number plate with the handicap symbol on it, pop riveted by the handle area?

Response: Yes, 4" metal bases with 4" vinyl base to be provided at metal lockers. Staff lockers are 1'-0" wide with flat hoods. Metal Lockers shall be provided in accordance with the specifications provided (CPS Standard specifications). Yes, provide manufacturer's standard sticker or metal plate with the handicap symbol on it, near the handle area. ADA symbol must comply with visual high-contrast requirements. Refer to revised drawing A3.11 and specification 10 51 13 included in this addendum.

RFI-9.

Question: Drawing E2.1 – There are (2) fixtures in Rm 039 marked LT5. LT5 is not on the fixture schedule.

Response: Correct. Light fixture tag is "LT1A" on Sheet E2.1 and is included in this addendum.

RFI-10.

Question: Drawings E2.1/E2.2 – There are fixtures marked LT1A, these fixtures are not listed on the fixture schedule.

Response: "LTA" in Lighting Fixture Schedule has been revised to LT1A on E2.1/E2.2 and is included in this addendum.

RFI-11.

Question: Drawings E2.1/E2.2 – Fixtures marked FT9E located in the stairways, are these suppose to be the LT9E's which are on the fixture schedule.

Response: Correct. The proper fixture tag is "LT9E", in accordance with the Contract Documents.

RFI-12.

Question: There are no specifications indicating what glass manufacturer they want to use, Will Oldcastle's Solarban 60 product work?

Response: Revised specification 08 80 00 has been revised and is included in this addendum.

RFI-13.

Question: Bikes racks- specify Stainless Steel, but then to be a dark grey color, which implies a powder coated finish. Typically standard metal is used for a powder coated finish, but not stainless steel. BIG difference in price.
What is required?

1. stainless steel to be powder coated
2. stainless steel no powder coat (would not be dark grey, would be silver)
3. standard metal frame with powder coat finish.

Response: Bike rack specification 12 93 00 is included in this addendum.

<u>List of Attachments and Drawings</u>:

This Addendum includes the following attached Specifications and/or Documents:

1. Section 03 30 01 – Cast In Place Concrete
2. Section 03 64 23 – Epoxy and Grout Injection
3. Section 03 72 50 – Externally Bonded FRP Reinforcement
4. Section 03 95 00 – Concrete Repair
5. Section 08 80 00 – Glazing
6. Section 10 51 13 – Metal Lockers – Elementary Schools
7. Section 12 93 00 – Site Furnishings

This Addendum includes the following attached Drawings:

1. Sheet G4.1
2. Sheet C1.00, C2.01, C3.00, C3.02, C3.03, C4.00, C4.01, C5.00, C5.01 and C5.03
3. Sheets SR1.0, SR2.0, SR4.0, SR5.0, SR7.0, and SR8.0
4. Sheets S1.0 and S1.2
5. Sheet ASD.1
6. Sheets AD1.01, AD1.02, AD1.11, AD1.12, AD1.21, AD1.22, AD1.31, AD1.32, AD2.11, AD2.12, AD2.21 and AD2.22,
7. Sheet A1.13, A3.11, and A6.01
8. Sheet AF1.1
9. Sheets E1.3, E1.4, E1.5, E2.1, E2.2, and E3.5
10. Sheets MD1.0, MD1.1, MD1.2, and MD1.3
11. Sheet PD1.0

END OF ADDENDUM NO. 02

SECTION 03 30 01

CAST-IN-PLACE CONCRETE FOR STRUCTURAL REMEDIATION

PART 1 GENERAL

1.1 DESCRIPTION

A. The Work of this Section includes furnishing, placing, finishing and curing of Portland Cement concrete at the full depth structural repairs, shear collar, and supplemental column locations.

B. Related sections:
   1. Section 03 20 00 - Concrete Reinforcement

1.2 REFERENCE STANDARDS

A. The most recent edition of standard shall apply.

B. American Concrete Institute (ACI)
   1. Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete (ACI 211.1)
   2. Specification for Structural Concrete (ACI 301)
   3. Guide for Concrete Floor and Slab Construction (ACI 302.1R)
   4. Guide for Measuring, Mixing, Transporting, and Placing Concrete (ACI 304R)
   5. Recommended Practice for Hot Weather Concreting (ACI 305R)
   6. Recommended Practice for Cold Weather Concreting (ACI 306R)
   7. Building Code Requirements for Structural Concrete (ACI 318)

C. American Society for Testing and Materials
   1. Standard Practice for Making and Curing Concrete Test Specimens in the Field (ASTM C31/C31M)
   2. Specification for Concrete Aggregates (ASTM C33)
   3. Test Method for Compressive Strength of Cylindrical Concrete Specimens (ASTM C39)
   4. Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete (ASTM C42)
   5. Specification for Ready-Mixed Concrete (ASTM C94)
   6. Test Method for Slump of Hydraulic Cement Concrete(ASTM C143)
   7. Specification for Portland Cement (ASTM C150)
   8. Specification for Sheet Materials for Curing Concrete (ASTM C171)
   9. Standard Practice for Sampling Freshly Mixed Concrete (ASTM C172)
   10. Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method (ASTM C231)
   11. Specification for Air-Entraining Admixtures for Concrete (ASTM C260)
   12. Specification for Liquid Membrane-Forming Compounds for Curing Concrete (ASTM C309)
   13. Specification for Chemical Admixtures for Concrete (ASTM C494)
   14. Specification for Concrete Made by Volumetric Batching and Continuous Mixing (ASTM C685)

15. Classification for Concrete Made by Volumetric Batching and Continuous Mixing (ASTM C685)
16. Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction (ASTM E329)

1.3 QUALIFICATIONS

A. Contractor performing the Work of this Section shall be capable of demonstrating experience in at least five projects, satisfactorily completed within the past five years, of similar scope and complexity to this Project.

1.4 SUBMITTALS

A. Delivery Tickets: Furnish copies of delivery tickets for each load of concrete delivered to the site.

B. Field Test Reports: Submit reports of concrete tests at the end of each day's testing, as described later in this section.

C. Laboratory Test Reports: Submit copies of laboratory test reports for concrete materials and mix design tests.

D. Product Data: Submit copies of manufacturer's specifications with application and installation instructions for propriety materials and items upon request.

E. Mill Certificates: Submit copies of steel producer's certificates of mill analysis, tensile and bend tests for reinforcing steel, upon request.

F. Shop Drawings: Submit shop drawings sealed by a registered engineer for fabrication, bending, and placement of concrete reinforcement. Comply with the ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures." Show bar schedules, stirrup spacing, diagrams of bent bars, arrangements and assemblies, as required for the fabrication and placement of concrete reinforcement.

G. LEED Submittals: Submit the following and such other data requested or required for LEED accounting purposes.
   1. Certification stating recycled steel content, including percentage of post-industrial and post-consumer content, demonstrating compliance with specification.
   2. Certification stating steel was manufactured within 500 miles of the Project.
   3. Certification stating the percentage and amount of recycled lightweight aggregate in the design mix and stating that such aggregate was manufactured within 500 miles of the Project.
   4. Certification stating the percentage and amount of replacement of Portland cement with Fly Ash and Pozzolan in each design mix.
   5. Certification stating ready-mix concrete was produced within 500 miles of the project.

PART 2 PRODUCTS

2.1 CONCRETE MIX REQUIREMENTS

A. Minimum 28-day design compressive strength shall be 4,000 psi.

B. Mix designs for normal weight concrete shall be proportioned in accordance with ACI 211 and this Specification. Mix designs proposed for use, when tested in a laboratory, shall have an average 28-day compressive strength in excess of design strength as required in Chapter 4 of ACI 318.

C. Maximum water-cement ratio shall not exceed 0.40 by weight of cement for structural repair concrete.

D. Slump
   1. Concrete to be mixed with a high range water-reducing admixture (superplasticizer) shall be delivered to the Project Site with a slump of not less than 2 in. and not more than 4 in. before addition of the superplasticizer. Slump after Project Site addition of superplasticizer shall not be less than 5 in or more than 7 in. Alternately, a high range water reducer with added retarder for reducing rate of slump loss may be used.
   2. Slump of non-superplasticized concrete shall not exceed 4 in. at the time of discharge from the truck.

E. The entrained air content shall be 6.0 percent by volume, plus or minus 1.5 percent, and shall be measured according to ASTM C231.

2.2 CONCRETE MATERIALS

A. Portland Cement shall conform to ASTM C150, Type I or Type II. Type III cement is not permitted.

B. The following types of admixtures may be used when approved by the Architect/Engineer.
   1. Air-entraining Admixtures ASTM C260
   2. Chemical Admixtures ASTM C494

C. Calcium Chloride shall not be permitted in the concrete as an intentional additive or as an unintended contaminant on aggregates or any other concrete materials.

D. Coarse aggregate shall be normal-weight crushed stone or gravel, unless otherwise noted. Fine aggregate shall be natural or manufactured sand. Aggregate particles shall be clean, hard, and angular, of uniform quality, and free from soft, thin elongated pieces, disintegrated stone, dirt, organic, or other injurious materials occurring either free or as a coating. Aggregates shall be supplied from a source approved by the Architect/Engineer. Aggregate gradation shall conform to ASTM C33 with the following limitations:
   1. Minimum percentage of coarse aggregate by weight of total aggregate shall be 55 percent.
   2. Maximum aggregate size shall be ¾ in. for structural repair concrete.

E. Mixing water shall be potable, clean and free of injurious quantities of substances known to be harmful to Portland Cement.

2.3 TESTING OF CONCRETE MIX DESIGNS

A. Mix designs of each separate mix shall be prepared and the following data shall be submitted to the Architect/Engineer for each mix design.
   1. Sieve analysis for fine and coarse aggregate
   2. Test for aggregate organic impurities
   3. Proportions of all materials

4. Mill certificates for cement
5. Slump , during laboratory tests
6. Air content, during laboratory tests
7. Three, 7 and 28-day laboratory compression test results (Minimum three cylinders for each test age for a total of nine cylinders)

B. A mix design previously used and which complies with specifications may be submitted for approval. Include all information listed above. During construction, tests will be made by an approved Testing Agency to determine if the concrete complies with the specified requirements. The Contractor shall cooperate in the making of such tests to the extent of allowing free access to the Work for the selection of samples and the storage of specimens, and in affording protection to specimens against injury or loss through his operations. The Contractor shall furnish all concrete for testing.

2.4 FORM MATERIALS

A. Forms: Construct formwork with plywood, metal, or metal-framed plywood-faced to provide continuous, straight, smooth as-cast surfaces. Minimum plywood grade shall be APA Plyform Class 1, B-B Exterior type. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on Drawings. Provide form material with sufficient thickness to withstand pressure of newly placed concrete without bow or deflection.

B. Form Ties:
1. Provide factory-fabricated, adjustable-length, removable or snap-off metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal.
2. Provide ties so that portion remaining within concrete after removal of exterior parts is at least 1/2 in. from the outer concrete surface where occupied space is below grade.
3. Unless otherwise specifically shown, provide stainless steel ties having cones 1 in. diameter at surface and minimum 1 in. deep where tie holes shown ungrouted.

C. Form Coatings: Provide commercial formulating form-coating compounds that will not bond with, stain, nor adversely affect concrete surfaces, and will not impair subsequent treatment of concrete surfaces requiring bond or adhesion nor impede the wetting of surfaces to be cured with water or curing compounds.

PART 3 EXECUTION

3.1 FORMWORK

A. The Contractor shall be responsible for the design and construction of all formwork. Forms shall conform to shape, lines, grade, and dimensions of existing members and shall be braced and tied together to maintain position and shape during placement of concrete. Seal between existing construction and forms to minimize bleeding at form edges and provide clean straight lines after form stripping.

B. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Brace temporary closures and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings in forms in as inconspicuous location as possible, consistent with Project requirements.

C. Form exposed corners with chamfers. Form chamfers with 3/4 in. x 3/4 in. strips, unless otherwise shown, accurately formed and surfaced to produce uniformly straight lines and tight edge joints. Miter chamfer strips at changes in direction.

D. Provide openings in concrete formwork to accommodate work of other trades, including those under separate prime contracts (if any). Size and location of openings, recesses and chases are the responsibility of the trade requiring such items. Accurately place and securely support items to be built into forms.

E. Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is to be placed. Retighten forms immediately after concrete placement as required to eliminate leaks.

F. Coat form contract surfaces with form-coating compound before reinforcement is placed. Do not allow excess form-coating material to accumulate in the forms or come into contact with surfaces which will be bonded to fresh concrete. Apply in compliance with Manufacturer's instructions.

3.2 FALSEWORK (SHORING)

A. Provide shores and struts with positive means of adjustment capable of taking up formwork settlement during concrete placing operations, using wedges or jacks or a combination thereof.

B. Provide camber in formwork as required for anticipated defections due to weight and pressures of fresh concrete and construction loads for long span members without intermediate supports.

C. Carefully inspect falsework and formwork during and after concrete placement operations to determine abnormal deflection or signs of failure; make necessary adjustments to produce work of required dimensions.

D. Remove shores and reshore in a planned sequence to avoid damage to partially cured concrete. Locate and provide adequate reshoring to safely support the work without excessive stress of deflection.

E. Shoring shall remain in place a minimum of 14 days after placing slab, and longer if required, until the concrete has attained its required minimum 28 day design compressive strength and heavy loads due to construction operations have been removed.

3.3 BATCHING AND MIXING

A. All concrete shall be delivered to the Project Site ready-mixed. Ready-mix concrete shall be batched, mixed, and transported in accordance with applicable provisions of ASTM C94. Batch plants used in production of ready-mixed concrete shall comply with standards set forth by Plant Manufacturers Bureau of National Ready-Mix Concrete Association. Truck mixers, agitators, and nonagitating units used to mix and transport ready-mix concrete production facilities shall comply with Standards of Truck Mixers Manufacturers Bureau of National Ready-Mixed Concrete Association. Ready-mix concrete production facilities shall be currently certified by National Ready-Mix Concrete Association and the Contractor shall submit a copy of that certification to the Owner's Representative.

B. Concrete shall be delivered to Project Site and discharged within 90 minutes or before 300 revolutions of mixer drum, after introduction of mixing water. Indiscriminate addition of water to increase slump is prohibited.
   1. When concrete arrives at Project Site with slump below that suitable for placing, water may be added providing the maximum permissible slump is not exceeded. In the event water is added at Project Site, it shall be incorporated by additional mixing equal to at least 30 revolutions of the drum at mixing speed recommended by manufacturer. If additional water is added, the amount added shall be noted on delivery ticket and ticket signed by person authorizing addition of water.
   2. Concrete to which water has been added in such amounts as to cause the water/cement ratio to exceed the specified maximum allowable value will be rejected. When concrete arrives at job Project Site with a slump exceeding maximum specified slump, concrete shall be rejected.
   3. All superplasticizing admixtures shall be added at the jobsite. The quantity of superplasticizer added shall be in accordance with the approved mix design and the recommendations of the manufacturer, and may be adjusted for variations in initial slump.
      a. Initial, or "water" slump shall be tested for each truckload prior to addition of superplasticizer.
      b. Where superplasticizer is added manually at the back of the drum, mixing vanes and sides of drum shall be washed by hose spray with a nominal amount of water prior to mixing.
      c. Following addition of superplasticizer, concrete shall be re-mixed for not less than 100 revolutions of the drum.
      d. Retempering of the mix with additional superplasticizer may be done only with the approval of the Architect/Engineer.

C. Plant-batched air-entraining and chemical admixtures, when used, shall be incorporated into the mix in amounts and manner recommended by the manufacturer and approved by the Architect/Engineer. Accuracy of measurement of any admixture shall be within plus or minus three percent. Two or more admixtures may be used in the same concrete provided such admixtures are added separately and that the combination is compatible and has no deleterious effect on the concrete.

D. The temperature of the concrete, when discharged, shall be not less than 65 deg F when the air temperature is below 40 deg F. If heated water or aggregates are used, the water shall be combined with the aggregates in the mixer before cement is added. Cement shall not be added to mixtures of water and aggregate when the temperature of the mixture exceeds 70 deg F.

E. The temperature of the concrete, when discharged, shall not exceed 85 deg F.

3.4 PLACING CONCRETE

A. Before placing concrete, all equipment for mixing and transporting concrete shall be cleaned, vibrators shall be checked for workability, all frost, ice, mud, debris, and water shall be removed from concrete surfaces and forms, forms shall be thoroughly wetted or oiled, and reinforcement shall be securely tied in place and thoroughly cleaned of ice and other coatings which may destroy or reduce bonding with concrete. No concrete shall be placed until the Architect/Engineer has approved the forms and the condition and placement of reinforcement.

B. Where new concrete is cast against existing concrete surfaces, thoroughly wet the existing surface between 4 to 12 hours prior to placement but do not allow puddles to form. Blow dry

any visible moisture 2 hours prior to placement with clean, dry air. At time of placement of concrete, existing concrete surfaces shall be in a saturated, surface dry condition, showing no visible moisture.

C. Conveying the concrete from the mixer to the place of deposit shall not cause separation or loss of materials.

D. Placing of concrete shall be such that it shall be deposited as nearly as possible to its final position to avoid segregation due to rehandling or flowing. Placing shall be at such a rate that at all times concrete shall be plastic and flow readily into corners of forms and into spaces between rebars. No concrete that has partially hardened or has been contaminated by foreign materials shall be deposited.

E. When concreting is commenced, it shall be carried on as a continuous operation until the section is completed. When being deposited, concrete shall not be allowed to fall a vertical distance greater than four feet from point of discharge to point of deposit.

F. Concrete placement shall not disturb or displace reinforcing bars, floor drains, or other embedments.

G. All newly placed concrete shall be consolidated by means of vibration. Generally, vibration shall be accomplished by means of an internal vibrator running at a minimum speed of 7000 rpm or higher, depending on the nature of the concrete being consolidated. Extra vibrators shall be kept at the Project Site to be used in case a vibrator does not work. When immersion-type vibrators are used to consolidate concrete around epoxy-coated reinforcing, the vibrators shall be equipped with rubber or non-metallic vibrator heads.

3.5 FINISHING

A. After screeding, fresh concrete surfaces shall be bullfloated. The concrete surface shall have a smooth trowel finish, followed by a medium broom drag.

B. Slope finished surfaces of topping as indicated on the Drawings.

C. The maximum variation in slab surface from planar shall be 3/16 inch in 10 ft using an approved ten foot straight edge as described in ACI 302.R-89. If variations greater than this exist, the Engineer may direct the Contractor to grind to bring the surface within requirements; patching of low spots shall not be permitted. Grinding shall be done as soon as possible, preferably within 3 days, but not until concrete is sufficiently strong to prevent dislodging coarse aggregate particles.

D. Control joints 1/4 the slab thickness shall be cut into the overlay as shown on the Drawings. Joints shall be made with a power blade within 4 to 12 hours after the slab has been placed and finished. Joints shall be cut as soon as the concrete surface is firm enough not to be torn or damaged by the blade, and before random shrinkage cracks can form in the concrete slab.

3.6 CONSTRUCTION JOINTS

A. Locate and install construction joints, which are not shown on the Drawings, so as not to impair strength and appearance of the structure. Construction joint placement is subject to submittal by Contractor and approved by Architect/Engineer.

B. Provide keyways at least 1-1/2 in. deep in all construction joists in walls, slabs and between walls and footings.

C. Place construction joints perpendicular to the main reinforcement.

3.7 CURING

A. Structural repair concrete shall be maintained above 55 deg F and in a moist condition for at least the first 7 days after placing. Curing shall be accomplished by burlap covers kept continuously wet and covered with 4 mil polyethylene sheets conforming to ASTM C171 with edges lapped and tightly sealed by sand, wood planks, pressure-sensitive tape, mastic, or glue.

B. Adequate protection shall be provided for concrete during freezing or near freezing weather. All concrete materials, reinforcement, forms, filler, and ground with which concrete is to come in contact shall be free of frost, ice, and snow. Whenever air temperature is below 40 deg F, the minimum temperature of concrete when discharged shall be 65 deg F, and concrete during the required curing period shall be maintained at a temperature not less than 50 deg F. Throughout heating period, concrete shall be kept moist as specified. The concrete temperature shall be monitored automatically or manually each half-hour during cold weather.

C. Placement and curing of concrete during hot weather shall be in conformance to the requirements of ACI 305R.

3.8 FIELD QUALITY CONTROL

A. Testing of concrete
   1. A set of six 6-in. diameter by 12-in. long test cylinders shall be made at a frequency of once per day, or once for each 20 cubic yards of ready-mixed concrete placed, whichever results in a larger number of tests. Four in. diameter by 8 in. long test cylinders may be substituted when the maximum aggregate size does not exceed ¾ in. or as allowed by ASTM specification.
   2. All cylinders shall be made and tested by a qualified approved Testing Agency which meets the requirements of ASTM E329, and their reports will be sent to the Architect/Engineer and Contractor. Costs for these tests shall be paid by the Owner, except where specifically indicated otherwise in this Section.
   3. Two cylinders from each set shall be tested at seven days, and an additional two cylinders at 28 days, in accordance with ASTM C31. The remaining cylinders shall be laboratory-cured and held in reserve for strength testing beyond 28 days, if necessary and if directed by Architect/Engineer. Additional cylinders may be made and tested at the Contractor's expense where it is desired to demonstrate 75 percent of specified 28-day strength earlier than seven days after placement, and where high early strength is expected. All cylinders to be tested earlier than 7 days shall be field-cured in the part of the structure in which the concrete is placed, and shall be removed from the structure not more than 24 hours before the time of the test.
   4. At the time each set of cylinders is made, the fresh concrete shall be tested for slump and air content in accordance with ASTM C143 and C231, respectively, and the concrete mix temperature and air temperature shall be measured and recorded.
   5. Concrete which fails to meet the slump or air content requirements shall be tested again using a different concrete test sample from the same source. If the second series of tests reveals the concrete does not meet the slump or air content requirements, the nonconforming concrete shall be rejected and properly disposed. A new batch of concrete shall be mixed or obtained at the Contractor's expense.

6. Unless directed otherwise by the Architect/Engineer, samples of concrete for test specimens shall be taken from the transport vehicle during discharge.
7. Test specimens shall be molded promptly after the sample is taken and then placed in Project Site storage provided by the Contractor. Storage shall be in a shed, box or other enclosure maintained at a temperature between 60 and 80 deg F. Specimens shall be stored for a minimum of 16 hours prior to removal from the sampling location.
8. Strength of concrete shall be considered satisfactory if:
   a. The average compressive strength results of two 28-day tests in each set of cylinders equals or exceeds the specified 28-day strength, and neither of the 28-day tests results is 500 psi or more below specified 28-day strength; or
   b. Compressive strength equals or exceeds the specified 28-day strength for each of two successive cylinder tests made before 28 days. In this case, additional scheduled tests may be waived.
9. Testing: The following information shall be recorded and reported in a test summary report.
   a. Individual test specimen strength, type of failure
   b. Slump
   c. Air content
   d. Concrete and air temperature
   e. Specimen number
   f. Concrete pour location
   g. Date cast
   h. Date tested
   i. Concrete properties specified
   j. Notice if tests indicate concrete is or is not in conformance with specifications.

B. Should results of cylinder tests, including testing of reserved cylinders after 28 days if directed by Architect/Engineer, not meet preceding strength requirements, the Contractor shall submit a revised mix design data for concrete which will conform to the specifications. In the event of failure of test cylinder specimens for any portion of work, the Contractor, at the Contractor's expense, shall have sample cores cut from that portion of structure represented by unsatisfactory test specimens. Three cores shall be taken from each area in question according to ASTM C42. Concrete in the area represented by core tests will be considered structurally adequate if the average of the three cores is equal to at least 85 percent of specified 28-day cylinder strength, and if no single core has a strength less than 75 percent of the 28-day strength. If these strength acceptance criteria are not met by core tests, the Contractor shall remove and replace all questionable areas of concrete at the Contractor's expense.

3.9 LIMITATIONS OF OPERATIONS

A. No vehicular or construction traffic shall be permitted in adjacent bays for at least 72 hours after a concrete pour.

B. No vehicular or construction traffic shall be permitted on a concrete deck pour for at least 3 days and until the concrete has achieved its specified 28-day compressive strength.

END OF SECTION

SECTION 03 64 23

EPOXY AND GROUT INJECTION

PART 1 GENERAL

1.1 DESCRIPTION

A. This work shall consist of providing the necessary labor, materials, equipment and supervision to inject epoxy into cracks as required by Section 03 72 50 – Externally Bonded FRP Reinforcement, and at other locations specified by Engineer. In addition, work shall include the injection of chemical grout into cracks and joints at locations specified by Engineer.

1.2 STANDARDS

A. American Society for Testing and Materials Standards (ASTM)
   1. Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading) (ASTM C78)
   2. Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (ASTM C109)
   3. Standard Test Method for Tensile Properties of Plastics (ASTM D638)
   4. Standard Test Method for Deflection Temperature of Plastics Under Flexural Load (ASTM D648)
   5. Standard Test Method for Compressive Properties of Rigid Plastics (ASTM D695)
   6. Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials (ASTM D790)
   7. Standard Test Method for Viscosity of Epoxy Resins and Related Components (ASTM D2393)
   8. Standard Test Method for Gel Time and Peak Exothermic Temperature of Reacting Thermosetting Resins (ASTM D2471)

B. American Association of State Highway and Transportation Officials (AASHTO)
   1. Test for Slant Shear Strength of Epoxy Bonding Agent (AASHTO 237)

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordinate Work to ensure that adjacent areas are not adversely affected and that fumes due to injection Work are not objectionable. Coordinate:
   1. With Owner's Representative.
   2. With other trades:
      a. To ensure that work done by other trades is complete and ready for injection Work.
      b. To avoid or minimize Work on, or in immediate vicinity of, injection Work in progress.

B. Pre-installation Meeting:
   1. Conduct meeting at Site.
   2. Review requirements for injection Work, including:
      a. Construction schedule.
      b. Availability of materials, Injection Subcontractor's personnel, equipment, and facilities needed to make progress and avoid delays.

c. Site use, access, staging, and set-up location limitations.
d. Cracks and joints to be injected, and condition of other construction that will affect injection Work.
e. Surface preparation and substrate condition and pretreatment.
f. Injection procedures.
g. Testing and inspection requirements.
h. Site protection measures.
i. Governing regulations.

3. Contractor's Site superintendent, injection-material manufacturer's technical representative, Injection Subcontractor's foreman, Owner's Representative, and Architect/Engineer shall attend.

C. Sequencing: For cracks and joints in areas of unsound concrete:
1. Remove unsound concrete per Section 03 95 00.
2. Prepare and inject cracks and joints.
3. Prepare and clean concrete removal areas per Section 03 95 00; install replacement material per Section 03 95 00.

1.4 QUALITY ASSURANCE

A. Application Qualifications
1. The Contractor shall have a minimum of three years of experience in performing epoxy injection work.
2. The Contractor shall submit a list of at least five projects in which epoxy injection was performed successfully. This list shall contain the following for each of the five projects:
a. Project name
b. Owner of project
c. Owner's Representative, address, and telephone number
d. Description of work
e. Cost of portion of work similar to that specified in this section
f. Total cost of project
g. Date of completion
3. The sum of the costs of the three or more projects provided in 2.e above shall be a minimum of $30,000.
4. A full-time on-site supervisor shall be provided by the Contractor for the duration of the epoxy injection work. This supervisor shall have had 2 years documented supervisory experience with the products to be used. The Contractor shall submit a list of projects the supervisor has worked on with the same information as required in Paragraph 2 above.
5. In addition, the Contractor shall meet all of the following requirements:
a. The manufacturer of the epoxy shall have a minimum of three years experience providing epoxies similar to those specified in this section.
b. Upon request, the manufacturer of the epoxy shall supply a representative who shall be present at the site for the duration of the epoxy injection work and who will supervise the Contractor's crew doing the epoxy injection. This representative shall have 3 years of field experience supervising the injection of epoxy. The Contractor shall submit a list of projects the representative has worked on with the same information as required in Paragraph 2 above.

B. Source Quality Control
1. The material supplier shall provide the following test data for each epoxy formulation to be used:

a. Tensile strength by ASTM D638
b. Elongation at break by ASTM D638
c. Flexural strength by ASTM D790
d. Flexural modulus by ASTM D790
e. Compressive yield strength by ASTM D695
f. Compressive modulus by ASTM D695
g. Heat deflection temperature by ASTM D648
h. Slant shear by AASHTO 237

1.5 SUBMITTALS

A. Product Data: Injection-material manufacturer's literature including written instructions for evaluating, preparing, and treating substrate; technical data including tested physical and performance properties; and mixing and injection instructions.
   1. Include temperature ranges for storage and application of materials, and special cold-weather application requirements or limitations.
   2. Include recommended Site protection measures.
   3. Include Globally Harmonized System (GHS) Safety Data Sheets or, if not yet available, Material Safety Data sheets for information only.

B. Certificates:
   1. Signed by injection-material manufacturer, certifying that products furnished comply with requirements and are recommended by manufacturer for uses indicated.
   2. Signed by injection-material manufacturer, certifying that Subcontractor is approved to install its products.

1.6 MOCK-UPS

A. Mockups: Install one crack for each injection product to demonstrate injection procedures and quality.
   1. Architect/Engineer will observe injection procedure and completed installation. Notify Architect/Engineer and Owner's Representative seven days in advance of mockup construction.
   2. If Architect/Engineer determines mockup does not comply with requirements, modify mockup or construct new mockup until mockup is approved.
   3. Approved mockup will be standard for judging completed Work.
   4. Approved mockups may become part of completed Work if undisturbed at time of Substantial Completion.

1.7 PRODUCT DELIVERY

A. The product shall be delivered and handled according to the Manufacturer's recommendations.

B. Damaged, open containers shall not be used.

C. All labels shall clearly indicate:
   1. Name of manufacturer
   2. Manufacturer's product name or product number
   3. Manufacturer's lot number
   4. Mix ratio
   5. Conformance with the injection adhesive specification
   6. SPI hazardous material rating and appropriate warnings for handling

D. Deliver materials to Site in original containers with seals unbroken, labeled with manufacturer's name; product brand name and type; date of manufacture; lot number; SPI hazardous rating and appropriate warnings for handling; and directions for storing and mixing.

E. Keep materials dry and do not allow materials to be exposed to moisture during transportation, storage, handling, or installation. Reject and remove from Site new materials which exhibit evidence of moisture during application, or have been exposed to moisture.

F. Store materials in original, undamaged containers in clean, dry, protected location on raised platforms with weather-protective coverings, within temperature range required by injection-material manufacturer.

G. Limit stored materials on structures to safe loading capacity of structure at time materials are stored, and to avoid permanent deck deflection.

H. Conspicuously mark damaged or opened containers or containers with contaminated materials, and remove from Site as soon as possible.

I. Remove materials that cannot be applied within stated shelf life from Site and replace with new materials.

1.8 JOB CONDITIONS

A. Existing and environmental conditions: The Contractor shall examine the condition of surfaces into which the epoxy is to be injected. Contractor shall follow the recommendations of the Manufacturer with regard to surface preparation and to limitations of the materials in various moisture and temperature levels.

B. Verify existing dimensions and details prior to start of injection Work. Notify Architect/Engineer of conditions found to be different than those indicated in the Contract Documents. Architect/Engineer will review situation and inform Contractor and Injection Subcontractor of changes.

C. Maintain adequate ventilation during preparation and injection Work.

1.9 WARRANTY

A. Joint and Several Warranty by Manufacturer, Contractor, and Injection Subcontractor:
   1. Written warranty, signed by injection-material manufacturer, Contractor, and Injection Subcontractor, including:
      a. Additional injection of injected cracks and joints that do not comply with requirements; that do not remain watertight; that fail in adhesion, cohesion, or general durability; or that deteriorate in manner not clearly specified by submitted injection-material manufacturer's data as inherent quality of material for application indicated. Warranty does not include deterioration or failure of injection material due to failure of substrate prepared according to requirements.
      b. Provide access to warranty work, including removal and replacement of overlying materials. Warranty includes replacement of overlying materials as necessary.
      c. Labor and materials to perform warranty work.
   2. Warranty Period: 5 years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MATERIALS

A. Epoxy Injection Resin: Injection resin shall be Kemko 038 Injection Resin as manufactured by Chemco Systems, Tyfo 103 as manufactured by Fyfo Co., LLC, or approved equal.

B. Epoxy Injection Surface seal: Surface seal shall be Kemko 046 Quickseal for dry or damp surface seal, or approved equal.

C. Chemical Grout: Grout shall be Deneef Flex LV Pure / SLV Pure Polyurethane, or approved equal.

2.2 PRESSURE INJECTION EQUIPMENT

A. Injection equipment shall be capable of continuously metering, mixing, and pumping injection material under pressure through crack injection ports; equipment shall be approved by injection-material manufacturer.
   1. Volumetric metering shall continuously dispense components in proportions specified by injection-material manufacturer, within tolerance of plus or minus 5 percent.
   2. Delivery shall be at constant, preset pressure recommended by injection-material manufacturer. Pressure loss in either line in 3 minutes, when stalled at 80 percent or higher of maximum possible discharge pressure, shall be less than 5 pounds per square inch.
   3. Pump shall be equipped with automatic shut-off device to prevent injection of unmixed components.

B. The pressure injection system shall be capable of filling cracks as small as .005 in. wide.

PART 3 EXECUTION

3.1 SURFACE PREPARATION, PLACEMENT OF INJECTION PORTS

A. In the event that unsound concrete is located in a zone along the crack, and this prevents the complete injection of the crack, that unsound concrete shall be removed prior to injection.

B. Surfaces adjacent to cracks or other areas of application shall be cleaned of dirt, dust, oil, efflorescence, paint or other foreign materials which may be detrimental to establishing a bond of the sealing material prior to epoxy injection.

C. Where cracks to be injected have sealant, waterproofing material, or other debris in the cracks, these cracks shall be cleaned using abrasive blasting and high-pressure air jet as appropriate. Grind the crack if mineral deposits are present that may inhibit proper injection.

D. The entry ports shall be located either on the crack surface or in a drilled hole intersecting the crack. Port setting shall be done in such a manner as not to plug the crack at that location and prevent subsequent adhesive injection.

E. Install injection ports to achieve complete filling of crack or joint.
   1. Number and spacing of injection ports shall be approved by representative of injection-material manufacturer.

a. Spacing shall not exceed lesser of 2 feet; thickness of member for full-depth cracks and joints; or depth of crack for partial-depth cracks.

2. As required drill holes along crack or joint.
3. Install injection ports on crack surface or in drilled holes in such manner that crack or joint is not plugged and injection Work is not adversely affected.

F. The surface seal material shall be applied to the face of the crack between and around the entry ports. For through cracks the surface seal shall be applied on both faces, where possible.

G. Adhesive injection shall not be started before the seal material has had adequate time to acquire sufficient strength to withstand injection pressures.

3.2 INJECTION

A. The Contractor shall notify the Engineer of the start of injection work.

B. Injection of the epoxy adhesive shall begin at the lowest entry port and continue until the adhesive emerges from the next adjacent (higher) port.

C. As soon as the adhesive emerges from the adjacent port, injection shall be stopped, the port sealed and the injection transferred to the adjacent port.

D. The process of injection, waiting for emergence of adhesive from the next adjacent port, sealing of the injection port and continuation of injection in the adjacent port shall continue until the crack is filled.

E. The process of injection described in 3.2B to 3.2D may be modified to the extent that injection at the original port may be continued after emergence of adhesive from the adjacent port by sealing that port and waiting for emergence at the next higher port or ports. This modification of the regular injection procedure may be used if the injection pressure does not substantially increase, the port seals remain in place and no leaks become apparent.

F. If port to port travel of the injection adhesive is not indicated, the work shall be stopped and remedial action shall be taken which may require resetting of surface ports or drilling holes which intersect with the cracks from a different angle. Such work shall only be done after authorization from the Engineer.

3.3 FINISHING

A. After the crack has been completely filled, the injection adhesive shall be given sufficient time to cure to a state which allows removal of the seal without any adhesive run-out or smearing of the adjacent surface.

B. All surface seal material and injection adhesive which runs or spills shall be carefully removed from the surface.

C. The face of the repaired crack shall be finished flush with the adjacent surface and indentations or protrusions caused by the placement of entry ports shall be removed.

D. After the work has been accepted by the Engineer, test core holes shall be filled using a two component epoxy grout mix, applied by hand trowel and thoroughly rodded and tamped in place. The surface finish shall match the color and texture of the adjacent surface to the

satisfaction of the Engineer. Materials and procedures for filling test core holes shall be submitted to and approved by the Engineer before proceeding with this work.

3.4 GROUTING

A. Perform initial injection Work in the presence of a representative of injection-material manufacturer. At conclusion of Site visit, representative shall prepare and furnish letter to Architect/Engineer, stating whether installation was completed in accordance with requirements. These services shall be provided at no additional cost to Owner.

B. Commence injection only after hydraulic cement or epoxy gel has developed sufficient strength to withstand injection pressure without debonding or rupture.

C. Maintain the concrete substrate and injection material at a suitable temperature for a suitable time period so that injection material will completely fill crack or joint and will achieve full cure.

D. Continuously inject material into crack or joint, as recommended by injection-material manufacturer.
   1. Use injection pressure of 200 to 3,000 pounds per square inch, depending on the crack or joint width, the thickness of the member, and the condition of the substrate.
   2. Start injection at lowest injection port and continue until injection material emerges from adjacent port.
   3. Remove injection nozzle and cap injection port immediately after injection material emerges from adjacent port.
      a. Alternately, cap adjacent port and continue injection until injection material emerges from next higher port; alternate procedure may be used if injection pressure does not substantially increase, port caps remain in place, and no leaks occur.
   4. Continue injection process upward from port to port, waiting for emergence of injection material from adjacent port and capping injection port, until crack or joint is filled.
   5. After injecting three or four ports, re-inject last three or four ports.
   6. If port-to-port travel does not occur, stop Work and modify injection setup to achieve port-to-port travel. Modifications may include resetting injection ports, installing injection ports at closer spacing, or drilling holes which intersect crack or joint at different angle. Modifications shall be approved in advance by representative of injection-material manufacturer and Architect/Engineer.

3.5 FIELD QUALITY ASSURANCE

A. Core testing to verify adhesive penetration and bond strength
   1. The Contractor shall obtain 1-2 in. diameter test core samples from the injected cracks at locations specified by the Engineer.
   2. Two test core samples shall be taken in the first one hundred lineal feet of repaired crack and one test core for each one hundred lineal feet thereafter. The test cores shall be taken from locations as selected by the Engineer.
   3. At the direction of and at locations identified by the Engineer, Contractor shall take two core samples of sound concrete, if its strength is not known or is subject of disagreement. The cores shall be tested in accordance with the method specified in 3.5 A.4 and their average compressive strength shall establish the minimum bond strength required for test cores to be acceptable.
   4. Methods of core testing and test requirements:
      a. Adhesive Penetration (Visual Inspection):

1) Observe penetration of injection material into crack or joint on side of core sample.
2) Injection Work is acceptable if 90 percent of crack or joint is filled with injection material.

b. Bond Strength/Compression Test (ASTM C42): Failure primarily in concrete before adhesive failure becomes apparent at 90% of the concrete or the sound concrete sample compressive strength. For concrete with a compressive strength of 6,500 psi or greater, the test cores shall not fail below 90% of the actual compressive strength or at 6,500 psi, whichever is lower.
1) Contractor shall patch core holes.

5. Test evaluation and acceptance:
a. Failed tests due to lack of adhesive penetration: The work in this area shall be stopped until the crack area represented by the failing test core has been re-injected, re-cored (verification cores), as directed by the Engineer and satisfactorily re-tested.
b. Failed tests due to lack of bond strength: The work shall be stopped in that area. Two additional tests cores (verification cores) shall be taken at the direction of the Engineer and tested. Compliance of the verification cores with the test requirements of 3.5 A.4 shall constitute permission to resume work. Upon failure of the verification cores to meet the test requirements of 3.5 A.4, the Engineer may authorize continuation of the work in the area, if in his judgment the actual bond strength of the verification cores is adequate, or he may order additional verification cores, both in the sound concrete and the work area or he may reject the work.

B. Injection Equipment Tests
1. To verify the performance of the injection equipment, pressure and ratio test shall be conducted by the method, in a frequency and with the results as set forth below.
2. Pressure/Ratio Test Equipment: The test equipment shall be a device with two independent sections, identical in design and function, one for each adhesive component, complete with proper fittings, pressure gauges (250 psi max. rating), in-line filters and needle valves with appropriate discharge nozzles. The device shall be capable of controlling flow rate and pressure of each adhesive component independently by opening or closing the needle valves.
3. Pressure Test
a. Test Method: The mix-head of the injection equipment, in the off-position for this purpose, shall be disconnected from the two adhesive component delivery hoses which are then re-connected to the appropriate section of the pressure/ratio test device. The valves of the test device shall be closed. The injection equipment shall then be started and allowed to operate until the pressure in the test device reaches and exceeds 160, but not more than 200 psi in both sections. The injection equipment shall then be turned off and the pressure shall be let down to 160 psi, the valves shall be closed and the pressure in the system observed for five minutes.
b. Test Result: During the five minute waiting period the pressure in each section of the pressure/ratio test device shall not fall to below 150 psi.
c. Frequency of Test: The pressure test shall be performed on the injection equipment at the beginning and the middle of each work shift it is used.
4. Ratio Test
a. Test Method: Employing the test device described in 3.5 B.2 and connecting it in the same manner as described in 3.5 B.3 to the injection equipment, the injection equipment is in operation and the adhesive components are being simultaneously discharged and collected in separate preweighed or volumetric calibrated containers. At least 100 g or 3 fluid ounces of the lesser volume component of the two

component adhesive shall be collected. For greater accuracy of the test, samples shall be obtained by simultaneously collecting the adhesive components while the equipment is running. To accomplish this, the sample containers shall be quickly and simultaneously moved into the stream of the adhesive components and removed when sufficient sample was collected.

b. Test Requirements: The test shall be conducted at atmospheric pressure and at 160 psi at the prevailing job site temperature and employing the adhesive to be used in the repair.

c. Test Results: The average error of at least three individual tests in the ratio of the two adhesive components collected shall not exceed ± 5%.

d. Test Frequency: The ratio test shall be conducted at the beginning and the middle of each shift the injection equipment is in use. The Engineer may direct the contractor/subcontractor to conduct additional ratio tests, if there is reason to believe that the equipment does not deliver the adhesive in the proper proportions.

END OF SECTION

SECTION 03 72 50

EXTERNALLY BONDED FRP REINFORCEMENT - LAMINATES

PART 1 GENERAL

1.1 DESCRIPTION

A. Furnish all labor, materials, tools, equipment, and supervision necessary for repairing and reinforcing selected concrete joists and girders with externally bonded fiber reinforced polymer (FRP) reinforcement, as shown on the Drawings and as specified herein.

B. Related sections:
   1. Section 03 64 23 - Epoxy Injection
   2. Section 03 95 00 - Concrete Repair

1.2 REFERENCE STANDARDS (MOST RECENT EDITITION SHALL APPLY)

A. American Concrete Institute (ACI):
   1. ACI 503R, Use of Epoxy Compounds with Concrete
   2. ACI 546R, Concrete Repair Guide
   3. ACI 440.2R, Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Concrete Structures

B. International Code Committee Evaluation Service (ICC-ES)
   1. ICC-ES AC125, Acceptance Criteria for Externally Bonded FRP Composite Systems
   2. ICC-ES AC178, Acceptance Criteria for Inspection of Externally Bonded FRP Composite Systems
   3. ICC-ES AC10, Acceptance Criteria for Quality Control Manual

C. American Society for Testing and Materials (ASTM):
   1. C 1583, Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)
   2. D 3039, Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials
   3. D 4541, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
   4. E 84, Standard Test Method for Surface Burning Characteristics of Building Materials

D. American National Standards Institute (ANSI)/Underwriters Laboratories (UL)
   1. ANSI/UL 263, Fire Resistance Ratings

E. International Concrete Repair Institute (ICRI)
   1. #03730 Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion
   2. #03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays
   3. #03733 Guide for Selecting and Specifying Materials for Repairs of Concrete Surfaces

1.3 SUBMITTALS

A. Submit product information and other data specified herein in accordance with submittal provisions.
   1. Manufacturer's product data sheets indicating product standards; technical specifications; material and section properties, and physical and chemical characteristics of all materials used in the FRP system; and limitations of all materials used in the FRP system.
   2. Certified independent test reports of ultimate tensile strength, rupture strain, modulus, and other evidence that the materials and system provided for this Project are in compliance with the physical properties published in the Manufacturer's currently available technical data sheets. Test reports shall include data from a minimum of 20 replicate test specimens, and shall describe the test method used, number of tests, mean values, and standard deviations.
   3. Installation of large scale structural testing of the composite system on representative test specimens, conducted and reported by an independent testing agency.

B. Complete shop drawings shall be submitted for each configuration of FRP system. The shop drawings shall contain details of the type, locations, dimensions, number and thickness of layers, orientations of all FRP materials, joint and end details, locations to be applied, finish coatings, and all other information required for the proper installation of the system. Shop drawings shall indicate specific reference to joist and girder repair identification marks, as shown on the Drawings.

C. Submit design calculations prepared by an engineer experienced in the design of FRP composite strengthening systems on behalf of the Contractor to determine the layout of the FRP materials to be installed. Submitted calculations shall be stamped by a structural engineer licensed in the State of Illinois. Design calculations shall conform to requirements set forth in ACI 440 and be based on the design modulus and area of the composite to be installed. The composite system shall be designed to achieve the structural performance shown on the Drawings.

D. System manufacturer's quality control manual in compliance with ICBO AC1O, "Acceptance Criteria for Quality Control Manuals."

E. Submit representative samples of the following items in accordance with submittal requirements.
   1. FRP fabric
   2. Cured FRP system laminate

F. Submit the following information within three days of submitting proposal.
   1. List of five (5) composite strengthening projects successfully completed by the composite system installer similar in size and scope of this project. The list should include at a minimum the dates of the work, type, description and amount of work performed, along with the name, current address, and phone number of project owner and engineer.
   2. Resume with relevant experience for the applicator's key personnel (project superintendent and assistant) proposed for this project. The superintendent shall have a minimum experience of 1 year in directing projects of this nature.
   3. Written verification from the system Manufacturer that the applicators have received the required certifications and training.

G. Submit a list of a minimum fifteen (15) similar composite strengthening projects using the Manufacturer's composite system. The list should include at a minimum the dates of the work, type, description and amount of work performed.

H. The Contractor shall organize and conduct a preconstruction meeting that shall be attended by the Contractor, the FRP installers, the technical representative of the FRP Manufacturer, and the Engineer. At this meeting, the Contractor and FRP installer shall present detailed descriptions of their proposed installation procedures. The Engineer may require installation procedures and details to be provided in writing for review.

1.4 QUALITY ASSURANCE

A. Manufacturer/Supplier Qualifications:
   1. The Manufacturer shall have a minimum of fifteen (15) documented successful field installations of product specified in this Section in similar applications over a minimum period of three (3) years.
   2. The Manufacturer shall support a training program to instruct applicators in the installation of the products specified in this Section.
   3. The Manufacturer shall provide a technical representative to be on site full time immediately prior to and during installation in the first five repairs. Designated technical representative shall have field experience with at least 10 similar installations of FRP systems, and shall observe work and provide necessary direction to installer to ensure that proper installation procedures are employed. Additional site visits shall be performed at the direction of the Engineer, or as required by field conditions.

B. Contractor Qualifications:
   1. Contractor shall be approved in writing by the Manufacturer.
   2. Contractor shall have a minimum of fifteen (15) successful installations of the specified materials during the previous three (3) years.
   3. A field representative who has completed the course of instruction (supported by the Manufacturer) in the installation of the products specified in this Section shall be present on site during installation of the FRP system.
   4. Contractor shall employ only experienced craftsmen trained in the installation of specified products. Contractor shall provide names of the foreman and those individuals properly trained for installation of the specified FRP systems. Only these individuals shall be permitted to install the FRP repairs.
   5. Foreman must have worked on five (5) successful installations of the specified materials during the previous three (3) years.

1.5 DELIVERY, STORAGE AND HANDLING

A. Delivery: The products shall be delivered and stored in original, unopened containers. Containers shall be clearly marked with legible and intact labels listing the Manufacturer's name, brand name, product identification, manufacturing date, expiration date, and batch number.

B. Storage
   1. Store, condition, and handle all products and materials as recommended by the Manufacturer to prevent damage or deterioration.
   2. Stored fiber reinforcement and epoxy resins shall be protected from dust, moisture, and chemical exposure.
   3. Do not expose epoxy or other liquid components to temperatures below 40 degrees F.

4. Store all products and materials under temperature and climatic conditions as recommended by product Manufacturer. Do not expose to direct sunlight, flame sources, extreme heat, or other hazards. Epoxy resins shall be stored separately from hardeners.
5. Fiber reinforcement shall not be folded. If remaining fiber reinforcement from an opened roll exists at the end of the work day, the fiber reinforcement must be either stored lying flat or re-rolled onto the existing fabric roll.

C. Handling
1. Exercise care during handling of fiber reinforcement.
2. Fiber reinforcement shall not be separated, unraveled, twisted, torn, or otherwise damaged during handling.
3. It is the responsibility of the certified personnel to identify substandard materials and eliminate them from the materials to be used.

1.6 PROJECT CONDITIONS

A. Precautions shall be taken to avoid damage to any surface near the work zone due to mixing, handling, and application of specified material. Any surfaces marred by preparations for or during installation of the repair shall be restored to the condition that existed prior to the Work at no cost to the Owner.

B. Contractor shall not damage any adjacent finishes. Contractor shall repair all damages.

C. Maintain control of concrete chips, dust, and debris in each area of work. Clean up and remove such material at the completion of each day.

D. Contractor shall not block means of egress required by local authorities or applicable building codes.

1.7 WARRANTY

A. The completed installation of FRP system shall be warrantied jointly and severally by the product Manufacturer and Contractor against defects in material and application, for a period of five (5) years from the completion of the application.

B. Any work proving defective within five (5) years from the date of acceptance shall be corrected at no cost to the Owner.

1.8 MOCK-UP

A. Provide an on-site mockup of a typical FRP repair on a joist and beam for purposes of evaluating repair procedures and finished appearance. Joist and beam used for mockup shall not be one of joists or beams designated on Drawings to receive repairs. Coordinate selection of appropriate joist or beam for mockup with Engineer. For bidding purposes only, assume that the size of the mockup repair shall be not greater than 50 sq ft.

B. Prepare a representative sample area within the mock-up in accordance with the requirements of Section 3.3 to be used as a reference standard depicting a satisfactorily prepared substrate.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS AND MATERIALS

A. The following FRP systems are considered to meet or exceed the requirements of this specification and are acceptable for use:
   1. Tyfo Fibrwrap Systems, as supplied by Fyfe Company LLC, San Diego, CA, Telephone: (858) 642-0694.
   2. V-Wrap FRP Composite Strengthening System, as supplied by Structural Technologies, 10150 Old Columbia Road, Columbia, MD, Telephone: 410-850-7000
   3. SikaWrap Composite Strengthening System, as supplied by Sika Corporation, 201 Polito Ave., Lyndhurst, NJ, Phone: 800-933-7452.

B. Composite fabrics:
   1. For shear repairs:
      a. Typical
         1) Tyfo SCH-41 carbon fiber
         2) V-Wrap C200H carbon fiber
         3) SikaWrap Hex 103C
      b. Bi-Directional (where indicated)
         1) Tyfo BCC carbon fiber
         2) V-Wrap C220B carbon fiber
         3) SikaWrap Hex 115C

   2. For flexure repairs:
      a. Tyfo SCH-41 carbon fiber
      b. V-Wrap C200H carbon fiber
      c. SikaWrap Hex 103C

C. Epoxy primer/saturant:
   1. Tyfo S epoxy
   2. V-Wrap 770
   3. Sikadur 300/330

D. Primer/filler: Thickened epoxy for protective final coating and filling voids or detailing.
   1. Tyfo WS
   2. V-Wrap PF
   3. Sikadur 30/330

E. Class 1(A) Smoke and Flame Spread Coating per ASTM E84
   1. Tyfo RR coating
   2. Equivalent product from V-Wrap
   3. Equivalent product from Sika

2.2 GENERAL SYSTEM REQUIREMENTS

A. FRP Composite System
   1. All FRP composite systems shall be proprietary systems consisting of all associated carbon or glass fiber reinforcement and polymer adhesives/epoxy resins. Combinations of FRP composites consisting of fiber reinforcement and polymers provided by more than one manufacturer are not allowed.
   2. Materials shall be suitable for overhead applications as shown on Drawings.

3. Materials used in the FRP system shall have had a history of satisfactory service in an environment similar to Chicago, Illinois.
4. Filler compound for epoxy leveling course (for filling localized concave conditions between 1/16 in. and 1/4 in. in depth) shall be clean, dry fine silica sand (such as fine masonry sand), or approved equal.
5. Putty and primer for use in preparing surfaces for composite application shall be proprietary systems and produced by the same manufacturer of the composite system.
6. Smoke and flame spread coating must have been tested as an assembly (composite and fire coating material) by UL, ASTM, or ANSI standards.

2.3 FABRICATION

A. FRP fabrics shall be fabricated in manufacturing plant to exact length and size indicated on Drawings and/or required by existing field conditions.

B. On-site fabrication of FRP fabric shall be permitted only under the following conditions:
   1. Contractor submits detailed description of techniques and equipment proposed for use in field fabrication.
   2. FRP Manufacturer reviews proposed field fabrication and certifies in writing that field fabrication will not negatively affect the performance of the FRP system.

C. Splices in the FRP fabric shall be avoided, unless approved by the Engineer. Where approved by the Engineer, splices in the strong fiber direction shall consist of a minimum 12 in. fabric overlap, and shall be staggered by a minimum of 24 in. with respect to splices in adjacent plies.

D. Laps in FRP fabric shall be permitted under the following conditions.
   1. Gap between adjacent sheets of fabric at side laps shall not exceed 1/2 in.
   2. No more than two side laps per ply shall occur over the repair width.

PART 3 EXECUTION

3.1 GENERAL

A. Screen off work zone as required to protect pedestrians, vehicles, and adjacent property.

B. Proper substrate surface preparation, epoxy adhesive application, and FRP laminate installation are critical elements of the Work. No deviations from the Specification requirements shall be permitted without review and approval by the Engineer.

C. Notify Engineer a minimum of 48 hours prior to commencing substrate preparation work on initial FRP repair.

D. Notify Engineer a minimum of 48 hours prior to installing repairs at each repair location.

3.2 EXAMINATION

A. Prior to submitting proposal and initiating work, contractor shall examine existing conditions to assess quality of concrete substrate, identify potential obstructions, and verify dimensions/geometry shown on Drawings. Particular attention shall be directed at the conditions of the surface profile and soundness as related to the degree of preparation that may

be required to bring the substrate into compliance with the requirements set forth in these specifications.

B. Identify all cracks in substrate wider than 0.01 in. Notify Engineer of crack locations.

C. Identify evidence of corrosion in existing steel reinforcement. Notify Engineer of any such evidence observed.

D. Identify all spalls and potentially debonded concrete locations. Notify engineer of any such evidence observed.

E. Conflicts with Existing Utilities
   1. Contractor shall determine the need for, and perform, all disconnection and/or temporary or permanent rerouting of existing utilities, in consultation with the Owner, to facilitate the FRP repair installation.
   2. Do not allow contact between installed FRP system and metallic objects.

3.3 PREPARATION

A. Environmental Conditions
   1. Do not install FRP if the concrete surface temperatures are below 45° F or the minimum temperature specified by the product manufacturer. The most stringent requirement shall apply.
   2. Do not install FRP if ambient temperatures are below 45° F or above 95° F or the minimum and maximum temperatures specified by the product manufacturer. The most stringent requirements shall apply.
   3. Do not install FRP when surface moisture is present on the substrate or when precipitation or condensation is anticipated in the work areas.
   4. Utilize fans, dehumidifiers, or other equipment as required to allow proper curing of epoxy in high humidity environments.

B. Concrete Repair
   1. Unsound areas of the concrete substrate (such as broken pieces, delaminated areas, etc.) shall be removed and repaired in accordance with Section 03 95 00.
   2. Repair mortar shall be allowed to cure for a minimum of 24 hours or as recommended by the manufacturer of the repair mortar for the specific environmental conditions that exist at the time of application and curing. The most stringent of these time criteria shall apply. After proper curing, the entire patch area shall be lightly abraded with 60-grit sandpaper or open weave 3M abrasive pads. The surface of applied repair mortars shall be prepared in accordance with item 3.03(C) of this Section.
   3. Cracks in the concrete substrate greater than 0.010 in. wide shall be pressure injected with epoxy in accordance with Section 03 60 23.

C. Surface Preparation
   1. Prior to proceeding with surface preparation for scheduled repairs, prepare a representative sample area within the mock-up repair. The sample area shall be prepared in accordance with the requirements of this Specification, and shall be used as a reference standard depicting a satisfactorily prepared substrate.
   2. Verify that concrete (new repair material) has cured and aged for minimum time period recommended by the FRP manufacturer.

3. Verify that concrete substrate (existing and new repair areas) is sound and is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263 or Delmhorst moisture meter or manufacturer recommended procedure.
4. For shear repairs, external corners of the beam shall be rounded off to a radius of 3/4 in. by grinding and internal corners shall be formed with thickened epoxy to a radius of 3/4 in.
5. Protrusions: Substrate shall be free of fine, sharp edges and other protrusions that will impair or prevent application of a uniform glue line between the substrate and FRP material. Concrete surface protrusions shall be ground and smoothed to less than 1/16 in.
6. Concave Conditions: Substrate shall be free of depressions, pits, and other concave conditions that will cause the FRP to deviate unacceptably from a linear profile after installation. Localized concave conditions exceeding 1/4 in. over a distance of 4 ft shall be filled with approved repair mortar, or approved equal, in accordance with the Manufacturer's recommendations for surface preparation, mixing, application, and finish.
7. The surface of the concrete shall be profiled using abrasive blasting and/or disc grinding to a minimum Concrete Surface Profile designation in CSP-3 as defined by the International Concrete Repair Institute (ICRI Guideline #03732).

8. All substrates shall be clean, sound, and free of surface moisture and frost. Surface contaminants (laitance, surface lubricants, broken mortar pieces, paint coatings, staining, etc.) shall be removed by abrasive blasting, disc grinding, and/or other equivalent mechanical means.
9. Dust generated from surface grinding shall be removed using a clean air blower or other suitable means. If the dust has been removed by means of water washing, the surface shall be thoroughly dried.

D. Surface Soundness
1. The surface soundness of the concrete, and if present, the adhesion of repair patches, shall be verified after preparation by pull-off testing in accordance with ASTM C1583. Testing shall consist of direct tension adhesion testing using an approved testing device.
2. Surface soundness testing shall be performed on 100 percent of the first five (5) beams to be repaired. Each beam shall be tested at four (4) locations along the substrate. Minimum average pull-off strength required is 250 psi, and with no single test result less than 200 psi. All tests shall create failure completely within the concrete substrate. Beams that exhibit unsatisfactory soundness shall be re-blasted or ground by the Contractor and retested until satisfactory substrate is attained.
3. The frequency of additional surface soundness testing will be determined by the Engineer based on the results of the initial testing. If satisfactory results are attained in 100 percent of the first five (5) beams tested for surface soundness, then no testing shall be required unless conditions in Paragraph 3.3 D.4 apply.
4. Additional surface soundness testing shall be required if a variation in concrete substrate or surface preparation technique exists.
5. Repair area of substrate affected by above testing as follows.
   a. Create shoulders around perimeter of affected area to a depth of 1/2 in. (± 1/8 in.) using a core barrel.
   b. Chip out neatly to attain a uniform nominal depth of 1/2 in.
   c. Repair area in accordance with Paragraph 3.3 B. of this Section.

3.4 INSTALLATION

A. Application of Primer and Putty

1. Primer: The FRP system primer shall be applied to all areas on the concrete surface where the FRP system is to be placed. The primer shall be placed uniformly on the prepared surface at the Manufacturer's specified rate of coverage. The primer shall be allowed to cure per the FRP Manufacturer's installation instruction before applying subsequent materials.
2. Putty or Filler: Where applicable, the FRP system putty or filler shall be used only to fill voids in the substrate (less than two (2) sq. in. in area and less than 1/4 in. in depth) and smooth surface discontinuities prior to application of other materials. Rough edges or trowel lines of cured putty shall be ground smooth prior to continuing the installation. The putty shall be allowed to cure per the FRP Manufacturer's installation instructions before applying subsequent materials. Application of subsequent materials shall be in accordance with Manufacturer's recommendations for proper adhesion.

B. Mixing of Polymer Resins and Adhesives
1. Resins (including primers and putties) shall be mixed according to the FRP system Manufacturer's installation instructions and under conditions that satisfy the ambient temperature requirements and the temperature requirements of epoxy components as written in this Section and in the approved product submittal.
2. The components of epoxy resin shall be mixed with a mechanical mixer.
3. Components that have exceeded their shelf life shall not be used.
4. Mix only that quantity of epoxy resin that can be used within 3/4 of pot life stated in Manufacturer's published literature.
5. Additives which are intended to extend the materials are not permitted.
6. Do not use epoxy resin that has been retempered or been previously applied to either substrate or FRP material and removed, regardless of epoxy workability or time elapsed since mixing.
7. Fiber Reinforcement and Saturating Resin: Both epoxy resin and fabric shall be measured accurately, combined, and deposited uniformly at the rates shown on the approved shop drawings and per Manufacturer's recommendations.

C. Application and Curing
1. The concrete substrate shall be cleaned using clean, oil free compressed air a maximum of four hours prior to application of the FRP fabric.
2. One sheet of FRP fabric may be applied at a time
3. Apply the mixed epoxy resin onto the concrete with a trowel or spatula to a nominal thickness of 1/16 in. If applied with a notched trowel, the applied resin should be "knocked down" so as to provide a more uniform thickness of resin and to minimize the possibility of entrapped air.
4. Clean the FRP laminate on side designated to receive epoxy resin using acetone or other solvent approved by the manufacturer with white rags until FRP residue cannot be seen on the rag. Dry the FRP laminate with a clean white rag and allow solvent to flash off.
5. Apply the mixed epoxy resin onto the FRP laminate with a device specially profiled to deposit a nominal thickness of 1/16 in.
6. Within the working time of the epoxy, place the FRP laminate onto the concrete surface. Press the laminate into the epoxy resin using a hard rubber roller until the adhesive is forced out a slight amount along all edges of the laminate. A uniform pressure should be applied so that a minimum contact area of 95 percent is achieved.
7. Thickness of the glue line shall be greater than 1/16 in. and less than 1/8 in.
8. The extruded epoxy adhesive shall be neatly tooled or removed so as to form a flush beveled surface around the perimeter of the FRP laminate.
9. The reinforcing fibers shall be placed with sufficient saturating resin to achieve full saturation of the fibers. Sufficient saturating resin shall be prescribed by the FRP system

Manufacturer. The fiber reinforcement shall be pressed onto the concrete surface using methods that produce a uniform, constant force that is distributed across the entire width of fabric. Splices and laps shall be installed in accordance with the approved shop drawings, the Manufacturer's recommendations, and Section 2.03(C) of this specification. The most stringent of these lap splice requirements shall apply.

10. Apply subsequent layers of fabric until specified number of layers is achieved, per Drawings.
11. Entrapped air between layers shall be released or rolled out before the epoxy sets.
12. Epoxy curing temperatures shall be maintained in the temperature range designated for the formulation used. Temperature cure ranges and times shall be in accordance with the approved product submittals and Manufacturer's recommendations. The cured composite shall have uniform thickness and density, bond between layers, and lack porosity.
13. Loading exceeding 500 lbs. shall not be permitted on the repaired member for a period of 48 hours following application of the FRP repair. If ambient temperatures are below 60° F for more than 12 hours during this 48-hour period, additional restrictions on loading may be required.

3.5 PROTECTIVE TOPCOATS

A. Subsequent to repair installation approval by Engineer, A Class 1(A) Smoke and Flame Spread Coating shall be applied to all FRP repairs in accordance with the manufacturer's recommendations.

3.6 FIELD QUALITY CONTROL

A. Contractor shall perform field quality control as required by this section.

B. A trained field supervisor shall observe all aspects of onsite preparation and material application including surface preparation, epoxy resin component mixing, application of primer, application of resin and fiber sheet, curing of composite materials, and the application of protective coatings.

C. Inspection for Voids/Delaminations
   1. After allowing at least 24 hours for initial resin cure to occur, perform a visual and acoustic tap test inspection of the layered surface.
   2. Voids requiring corrective action shall be marked and repaired in accordance with Paragraph 3.7 of this Section.

D. Bond Testing
   1. Direct tension pull-off testing shall be conducted per ASTM C1583.
   2. Direct tension pull-off tests shall be conducted under the following test conditions:
      a. The FRP system shall be allowed to cure a minimum of 24 hours before execution of the direct tension pull-off test.
      b. The locations of the pull-off test shall be representative and on flat surfaces. Pull-off tests shall be conducted on areas of the FRP system at a location of maximum ply thickness and within the end 2 ft of the outermost ply.
   3. Test Frequency
      a. Perform one direct tension pull-off test at 20 percent of the individual repair locations. Additional testing will be required if initial test results are not acceptable.
      b. In addition, at least one pull-off test shall be performed for each day's work.
      c. Pull-off tests shall be performed on each type of concrete substrate or for each surface preparation technique if variations in such conditions exist.

4. Conditions of Acceptance
   a. The failure mode must be cohesive failure within the concrete.
   b. Average tensile bond strength shall be in excess of 250 psi, with no single test result less than 200 psi.
5. Repair the tested areas in accordance with Paragraph 3.7 of this Section.

E. Report: The trained field supervisor shall submit a weekly quality control report to the Engineer describing the inspection of the completed installation. Daily reports shall contain locations of installation, temperature records, batch number of each product used, measured square footage of fiber reinforcement installed, amount of resin used, and results of bond testing. The bond test sample must be submitted to the engineer for review. Ambient temperatures shall be recorded a minimum of three times during each day that epoxy adhesives are mixed.

3.7 REPAIR OF DAMAGED OR DEFECTIVE AREAS

A. Repair of delaminated areas of installed FRP reinforcement.
   1. Small delaminations less than 2 sq in. each do not require corrective action, as long as the total delaminated area is less than 5 percent of the total laminate area and there are no more than five such delaminations per 10 sq ft.
   2. Moderate delaminations less than 25 sq in., but greater than 2 sq in. may be repaired by filling the delamination by low-pressure injection of the saturant or by the following procedure specified for large delaminations. Two small (maximum 1/8 in. diameter) holes shall be drilled in the delaminated FRP to allow injection of the saturant and escape of entrapped air.
   3. Large delaminations, greater than 25 sq in. shall be repaired by selectively cutting away the affected sheet, reapply primer and putty layers, and applying an overlapping FRP patch of equivalent plies and fiber orientations.

B. Repair procedures for conditions that are not specifically addressed shall be approved by the Engineer on a case-by-case basis.

3.8 TESTING FOR FRP SYSTEM MATERIAL PROPERTIES

A. Contractor shall prepare sample panels of 12 in. by 12 in. cured FRP laminate at intervals directed by Engineer, but not less than two sample panels per day. Record the lot number of fabric and resin used to fabricate the sample panels.

B. Mix samples of resin in accordance with Manufacturer's recommendations. On a smooth, flat, level surface covered with polyethylene sheeting, prepare sample by priming with epoxy resin and placing two layers of composite oriented in the same direction. Apply additional topping of epoxy and cover with sheeting. Remove all air bubbles from sample. Store samples in a sample box. Do not move samples for a minimum of 48 hours after casting.

C. A testing laboratory retained by the contractor shall perform tests in accordance with ASTM D3039. Prior to testing, sample panels shall be conditioned for 48 hours at 140 degrees F. Five coupons shall be removed from each 12 in by 12 in. sample panel and tested for their material properties in the longitudinal fiber direction. Each coupon shall be nominally 3/4 in. wide by 9 in. long in the fiber direction.

D. Testing results shall be made available to Engineer within three weeks of sample panel submission to the testing agency. The testing report shall include the following:

1. Ultimate tensile strength.
2. Tensile modulus
3. Percent elongation
4. Orientation of the FRP fabric fibers

E. Acceptable minimum values for ultimate tensile strength and percent elongation are defined as the average values characteristic of the installed system reduced by three standard deviations. Characteristic average values and the associated standard deviations are determined from Manufacturer's published test data or other data furnished to Engineer and used by Engineer in the design of the FRP repair.

F. Any test value below acceptable minimum values shall be considered non-compliant. Installed work represented by sample panel shall be reviewed by Engineer and may be subject to remedial measures.

END OF SECTION

SECTION 03 95 00

CONCRETE REPAIR

PART 1 GENERAL

1.1 DESCRIPTION

A. This work shall consist of performing concrete repairs including repair of spalled or missing concrete and voids using concrete repair material.

B. Spalls, Missing Concrete: Concrete repair work of spalled or missing concrete and voids includes:
   1. Exposing and undercutting reinforcing steel
   2. Repairing, cleaning, and treating reinforcing steel
   3. Edge and surface conditioning of concrete area to be patched
   4. Application of concrete repair mortar
   5. Finishing of concrete patch to match adjoining surfaces
   6. Curing the concrete repair areas

C. Related sections:
   1. Section 03 20 00 - Concrete Reinforcement
   2. Section 03 60 30 - Epoxied-In Anchors
   3. Section 03 37 13 - Shotcrete

1.2 REFERENCES

A. Definitions:
   1. Cementitious Materials: Portland cement alone or in combination with one or more of fly ash, silica fume, and other pozzolans, or slag cement.

B. Reference Standards: Latest edition as of Specification date.
   1. American Concrete Institute (ACI):
      a. 117: Specification for Tolerances for Concrete Construction and Materials and Commentary.
      b. 301: Specifications for Structural Concrete.
      c. 305R: Guide to Hot Weather Concreting.
      d. 306R: Guide to Cold Weather Concreting.
      e. 347: Guide to Formwork for Concrete.
   2. ASTM International:
      a. A615/A615M: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
      b. A775/A775M: Standard Specification for Epoxy-Coated Steel Reinforcing Bars.
      c. A1064/A1064M: Standard Specification for Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
      d. C31/C31M: Standard Practice for Making and Curing Concrete Test Specimens in the Field.
      e. C33/C33M: Standard Specification for Concrete Aggregates.

f. C39/C39M: Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
g. C42/C42M: Standard Test Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
h. C94/C94M: Standard Specification for Ready-Mixed Concrete.
i. C143/C143M: Standard Test Method for Slump of Hydraulic-Cement Concrete.
j. C150/C150M: Standard Specification for Portland Cement.
k. C171: Standard Specification for Sheet Materials for Curing Concrete.
l. C172: Standard Practice for Sampling Freshly Mixed Concrete.
m. C231/C231M: Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
n. C260/C260M: Standard Specification for Air-Entraining Admixtures for Concrete.
o. C309: Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
p. C494/C494M: Standard Specification for Chemical Admixtures for Concrete.
q. C1064/C1064M: Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
r. C1077: Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation.
s. C1152/C1152M: Standard Test Method for Acid-Soluble Chloride in Mortar and Concrete.
t. C1218/C1218M: Standard Test Method for Water-Soluble Chloride in Mortar and Concrete.
u. C1260: Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method).
v. C1524: Standard Test Method for Water-Extractable Chloride in Aggregate (Soxhlet Method).
w. C1583/C1583M: Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method).
x. D3963/D3963M: Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Reinforcing Steel Bars.

3. Concrete Reinforcing Steel Institute (CRSI):
   a. Manual of Standard Practice.
4. International Concrete Repair Institute (ICRI):
   a. Guide for Using In-Situ Tensile Pull-off Tests to Evaluate Bond of Concrete Surface Materials.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordinate Work to ensure that adjacent areas are not adversely affected. Coordinate:
   1. With Owner’s Representative.
   2. With other trades:
      a. To ensure that work done by other trades is complete and ready for concrete replacement Work.
      b. To avoid or minimize work on, or in immediate vicinity of, concrete replacement Work in progress.
      c. To ensure that subsequent work will not adversely affect completed concrete replacements.

B. Pre-placement Meeting:
   1. Conduct meeting at Site.
   2. Review requirements for concrete replacement Work, including:
      a. Construction schedule.
      b. Availability of materials, personnel, equipment, and facilities needed to make progress and avoid delays.
      c. Site use, access, staging, and set-up location limitations.
      d. Concrete removal, surface preparation, and substrate condition.
      e. Placement procedures.
      f. Special details.
      g. Minimum cure period.
      h. Testing and inspection requirements.
      i. Temporary protection and repair of damaged concrete replacements.
      j. Structural loading limitations of deck.
      k. Government regulations.
   3. Contractor's Site superintendent, Owner's Representative, and Architect/Engineer shall attend.

1.4 SUBMITTALS

A. Product Data: Submit product data for proprietary materials and items, including patching materials and forming accessories, curing and coating compounds

B. Repair Procedures: Submit repair mortar manufacturer's narrative description of procedures and methods for removal of concrete, repairing and cleaning of reinforcing steel, and applying new repair mortar and coatings.

C. Steel Reinforcement Shop Drawings: Details of fabrication, bending, and placement, prepared according to ACI 315. Include material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports of concrete reinforcement. Include special reinforcement required for openings through concrete structures.

D. Statement of Application: Provide statement, signed by authorized representative of patching materials manufacturer, that manufacturer has reviewed contract documents and project conditions relating to concrete repair and that manufacturer's materials proposed for use are suitable for the applications indicated.

E. Certification: Submit manufacturer's certification that products provided comply with specified requirements.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Installer shall have not less than 5 years successful experience providing concrete repairs similar in size and complexity to that required for this project, and shall be approved by the repair material manufacturer.

B. Standards: Comply with provisions of the following Codes and Standards, except where more stringent requirements are shown or specified:
   1. ACI 318, "Building Code Requirements for Reinforced Concrete," latest edition.
   2. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice", latest edition.

C. Testing: The Owner may engage a testing laboratory to perform material evaluation tests.
   1. Materials and installed work may require testing and re-testing at any time during progress of the work. Re-testing of rejected materials for installed work, shall be done at the Contractor's expense.

D. Preparation: Field Sample: Provide a field sample of concrete prepared for application of repair mortar, including undercutting and preparation of reinforcing steel, for Engineer's review prior to proceeding with placement. Sample shall be an area approximately 1’-0" x 1'-0". Locate as determined by the Engineer.

E. Mockups: Construct mockups to demonstrate construction procedures, quality of Work, and aesthetic effects.
   1. Construct at least 10 square feet and 10 linear feet of replacements for each type of repair specified. Use equipment, materials, and procedures proposed for use on Project.
   2. Construct mockups on existing members, at locations designated by Architect/Engineer, under same weather conditions expected during Work. Provide access to mockup locations.
   3. Architect/Engineer will observe concrete removal and surface preparation work, prepared concrete removal areas, and installation of repair material. Notify Architect/Engineer and Owner’s Representative at least seven days in advance of when mockups will be constructed.
   4. Photograph concealed portions of approved mockup before concealing, and retain photographs at Site.
   5. Perform three pull-off tests in conformance with ASTM C1583/1583M and ICRI Guide for Using In-Situ Tensile Pull-off Tests to Evaluate Bond of Concrete Surface Materials and use average of test values to determine conformance with requirements. Repair test core holes with concrete.
   6. If Architect/Engineer or Owner’s Representative determines mockup does not comply with requirements, modify mockup or construct new mockup until mockup is approved. Remove and replace mockups that are not approved.
   7. Approved mockups shall be maintained in undisturbed condition throughout Project as basis for acceptance of completed work and may become part of completed Work if undisturbed at time of Substantial Completion.
   8. Do not order materials or proceed with repair Work until mockups have been approved by Architect/Engineer and Owner’s Representative.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle materials according to manufacturer’s recommendations and in such manner as to prevent damage to materials or structure.

B. Deliver, store, and handle reinforcing steel to prevent bending and damage.
   1. Avoid damaging reinforcement coating.
   2. Repair damaged reinforcement coating according to ASTM D3963/D3963M.

C. If concrete is to be site-batched:
   1. Store materials in dry condition and protect from dirt, dust, and other contaminants.
   2. Store cement bags on pallets.

3. Store aggregate stockpiles in manner to avoid segregation or contamination with foreign matter or other aggregates. Store away from normal drainage paths and cover with canvas or plastic if necessary to keep dry.

D. For proprietary materials:
1. Deliver materials to Site in original bags and containers with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, lot number, and directions for storing and mixing with other components.
2. Keep materials dry and do not allow materials to be exposed to moisture during transportation, storage, handling, or installation. Reject and remove from Site new materials which exhibit evidence of moisture during application, or have been exposed to moisture.
3. Store materials in original, undamaged bags or containers in a clean, dry, protected location on raised platforms with weather-protective coverings, within temperature range required by manufacturer. Manufacturer's standard packaging and covering is not considered adequate weather protection.

E. Limit stored materials on structures to safe loading capacity of structure at time materials are stored, and to avoid permanent deck deflection.

F. Conspicuously mark damaged or opened bags or containers or bags or containers with contaminated materials, and remove from Site as soon as possible.

G. Remove materials that cannot be applied within stated shelf life from Site and replace with new materials.

1.7 PROJECT CONDITIONS

A. Environmental Conditions: Perform concrete repairs only when weather and forecasted weather conditions comply with requirements of repair material manufacturer.

B. Verify existing dimensions and details prior to the start of concrete replacement Work. Notify Architect/Engineer of conditions found to be different than those indicated in the Contract Documents. Architect/Engineer will review situation and inform Contractor of changes.

C. Comply with Owner's limitations and restrictions for Site use and accessibility.

D. Handle and place materials in strict accordance with safety requirements required by material manufacturers; GHS or Material Safety Data Sheets; and local, state, and federal rules and regulations. Maintain GHS or Material Safety Data Sheets with materials in storage area and available for ready reference on Site.

PART 2 PRODUCTS

2.1 FORM MATERIALS

A. Forms for Exposed Concrete: Plywood panel materials, to provide continuous, straight, smooth, exposed surfaces.
1. Use overlaid plywood complying with U.S. Product Standard PS-1 "A-C or B-B High Density Overlaid Concrete Form", Class I.

2. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood", Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.

2.2 REINFORCING MATERIALS

A. Replacement Reinforcing Bars: ASTM A 615, Grade 60 deformed.

B. Supports for Reinforcement: Provide supports for replacement reinforcement as necessary including wire ties and spacers, and other devices for spacing, supporting, and fastening reinforcing bars in place.

2.3 REPAIR MATERIALS

A. Anti-Corrosion Coating: Multi-component, solvent-free, moisture-tolerant epoxy-modified cementitious product formulated as an anti-corrosion coating.
   1. Corrosion Inhibition: Material shall have been proven by independent laboratory testing to prevent corrosion of reinforcing steel when tested under procedures of the Federal Highway Administration Program Report FHWA/RD88/193.
   2. Product:
      a. Provide Sika Armatec 110 EpoCem; Sika Corp.
      b. Provide MasterProtect P 8100 AP; BASF Construction Chemicals, LLC.

B. Repair Mortar: Silica fume polymer-modified portland cement mortar intended for use as a patching mortar at thicknesses of 1/2" and greater, freeze-thaw resistant, compatible with coefficient of thermal expansion of concrete.
   1. Flowable Mortar:
      a. Bond Strength: 2200 psi at 28 days, per ASTM C-882 modified
      b. Flexural Strength: 720 psi min at 28 days, per ASTM C-293.
      c. Splitting Tensile Strength: 500 psi min. at 28 days, per ASTM C-496.
      d. Compressive Strength: 3000 psi at 1 day, 6500 psi at 28 days, per ASTM C-109.
      e. Product:
         1) Provide SikaTop 111 Plus; Sika Corp.
         2) Provide MasterEmaco S440 CI; BASF Construction Chemicals, LLC.
   2. Non-Sag Mortar:
      a. Bond Strength: 1000 psi at 28 days, per ASTM C-882 modified.
      b. Flexural Strength: 1000 psi min at 28 days, per ASTM C-293.
      c. Splitting Tensile Strength: 400 psi min. at 28 days, per ASTM C-496.
      d. Compressive Strength: 1500 psi at 1 day, 4300 psi at 28 days, per ASTM C-109.
      e. Product:
         1) Provide SikaTop 123 Plus; Sika Corp.
         2) Provide MasterEmaco N400; BASF Construction Chemicals, LLC.

C. Mixing water shall be potable, clean and free of injurious quantities of substances.

2.4 MIXING

A. Mix repair materials in accordance with Manufacturer's instructions. Mix multi-component products using equipment recommended by Manufacturer. Only mix quantities which can be used within its pot life.

PART 3 EXECUTION

3.1 GENERAL

A. Coordinate the work required for the removal of the loose and delaminated concrete, the repair and cleaning of the exposed reinforcing steel, the placement of forms, and the placement of repair mortar to minimize the time that reinforcing steel is exposed.

3.2 CONCRETE SURFACE PREPARATION

A. Remove delaminated concrete and remove additional concrete as required to provide minimum required thickness of repair material.

B. Edge Preparation: Make a minimum 1/2" deep sawcut along perimeter of repair areas. Make cut at right angle to surface. Avoid feather edges. Geometric configurations or repair patches shall be kept as simple as possible.

C. After removal and edge conditioning are complete, remove bond inhibiting materials (dirt, concrete slurry, loosely bonded aggregates) by abrasive blasting or high pressure waterblasting with or without abrasive. Check the surfaces after cleaning to insure that surface is free from additional loose aggregate, or that additional delaminations are not present.

D. If hydro demolition is used, cement and particulate slurry must be removed from the prepared surfaces before slurry hardens.

3.3 EXPOSING AND UNDERCUTTING REINFORCING STEEL

A. Remove damaged or unsound concrete. Use concrete removal procedures which will not structurally weaken the surrounding precast concrete.

B. Once initial concrete removal is made, undercut exposed oxidized (corroded) reinforcing. Undercutting shall provide clearance for cleaning, full bar circumference bonding to surrounding concrete, and securing the patch structurally.

C. Provide minimum 3/4" clearance between exposed reinforcement and surrounding concrete or 1/4" larger than largest aggregate in repair mortar, whichever is greater.

D. Concrete removal shall extend along the bars to locations along the bar free of bond inhibiting corrosion, and where the bar is well bonded to surrounding concrete.

E. If unoxidized reinforcing steel is exposed during the undercutting process, care shall be taken not to damage the bar's bond to surrounding concrete. If bond between bar and concrete is broken, undercutting of the bar shall be required.

F. Any reinforcement which is loose shall be secured in place by tying to other secured bars or by other approved methods.

3.4 REPAIRING AND CLEANING OF REINFORCING STEEL

A. After removal of concrete, notify Engineer for inspection of steel reinforcing.

B. If a reinforcing bar has lost more than 20% of its cross section, provide one of the following repair methods:
   1. Completely replace reinforcing, or
   2. Add supplemental reinforcing over the affected section. The new reinforcing bar may be mechanically spliced to the existing bar, or placed parallel to and approximately 3/4" from the existing bar. Lap length shall be in accordance with ACI 318.

C. Remove heavy oxides and scale from the exposed reinforcing bars, as necessary to insure maximum bond of the replacement material.

3.5 APPLYING REPAIR MORTAR

A. General: Perform repairs using flowable mortar or non-sag mortar as appropriate to conditions at each location.

B. Forms:
   1. Support, brace, and maintain forms as required to support loads that might be applied. Construct formwork so concrete repair patch is of correct size, shape, and alignment.
   2. Construct forms of one piece and to obtain accurate alignment, location, grades, and plumb work in finished repair.
   3. Fabricate forms for easy removal without hammering or prying against concrete surfaces.
   4. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive repair mortar. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Tighten forms and bracing before repair mortar placement to prevent mortar leaks and maintain alignment.

C. Preparation of Form Surfaces:
   1. Coat contact surfaces of forms with a nonresidual, form-coating compound.
   2. Do not allow excess form-coating material to accumulate on forms or to come into contact with existing concrete surfaces against which repair mortar will be placed. Apply in compliance with manufacturer's instructions.

D. Repair Mortar Placement:
   1. Apply a cementitious slurry coat to prepared concrete and reinforcing steel surfaces in compliance with manufacturer's instructions.
   2. Deposit repair mortar continuously in a manner to avoid segregation at its final location and in accordance with manufacturer's instructions.

3.6 FINISHING

A. Finish of Formed Surfaces: Provide an as-cast concrete surface to match the existing cast in place concrete surface, with a minimum of seams. Repair and patch defective areas including fins and other projections completely removed and smoothed. Match approved field sample.

3.7 CURING

A. Concrete shall be maintained above 55° F and in a moist condition for at least the first 7 days after placing.

B. Moist curing shall be accomplished by burlap covers kept continuously wet, or continuous waterproof paper, of four mil polyethylene sheeting conforming to ASTM C171-69 with

edges lapped and tightly sealed by sand bags, wood planks, pressure-sensitive tape, mastic, or glue.

3.8 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair defective areas designated by Architect/Engineer. Remove and replace concrete that cannot be repaired to Architect/Engineer's satisfaction.

B. Surface defects on exposed surfaces include
   1. Voids, such as spalls, air bubbles, honeycomb, rock pockets, and form-tie voids, more than 1/2 inch in any dimension in solid concrete but not less than 1 inch deep.
   2. Cracks at least 1/8 inch wide. Notify Architect/Engineer of cracks that penetrate through section.
   3. Fins and other projections exceeding 1/2 inch.
   4. High or low spots in repaired areas that create areas of standing water that are at least 1/2 inch deep and at least 9 square feet in area.

C. Repair defects on concealed surfaces that affect concrete's durability and structural performance as determined by Architect/Engineer.

D. As soon as possible, cut out spalls, air bubbles, honeycombs, rock pockets, and voids. Make edges of cuts perpendicular to concrete surface. Clean voids and fill with repair mortar according to the manufacturer’s recommendations. Use polymer- or silica fume-modified, cementitious, non-sag mortar that is specifically intended for this application. Use one of the following or approved equal:
   1. MasterEmaco N 400 manufactured by BASF Construction Chemicals, LLC.
   2. SikaTop 123 Plus manufactured by Sika Corporation.

E. After concrete has gained sufficient strength to be unaffected by grinding, grind off fins, other projections, and high areas.

F. Repair materials and installation not specified above may be used if approved by Architect/Engineer.

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to sample materials and perform tests during concrete placement.

B. Provide:
   1. Access to Work.
   2. Materials for sampling.
   3. Site facilities for sampling, testing, and storage of materials.
   4. Incidental labor.

C. Testing Services: Sampling and testing of composite samples of fresh concrete shall be performed according to the following requirements:
   1. Testing Frequency: Obtain one composite sample of each concrete mix for each day's pour.
   2. Take samples from transport vehicle or mixer during discharge according to ASTM C172. Take samples at other locations if directed by Architect/Engineer.

3. Slump: ASTM C143/C143M; one test for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change. If high-range, water-reducing admixture is used, perform one test prior to adding admixture.
4. Air Content: ASTM C231/C231M; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
5. Concrete Temperature: ASTM C1064/C1064M; one test for each composite sample; and one test hourly when air temperature is 40 degrees F and below or 80 degrees F and above.
6. Compression Test Specimens: ASTM C31/C31M.
   a. Cast four standard cylinder specimens for each composite sample, immediately after sample is taken. Store specimens at the Site for at least 16 hours at a temperature of 60 to 80 degrees F. Provide a temperature-controlled box or other enclosure if necessary. After at least 16 hours, but not more than 30 hours, transport the specimens to the laboratory and air cure at 73 degrees F and 50 percent relative humidity.
   b. If requested by Architect/Engineer, take three additional cylinder specimens and field cure in the vicinity of the area that they represent and in the same manner as that portion of the structure.
7. Compressive-Strength Tests: ASTM C39/C39M.
   a. Test one laboratory-cured specimen at seven days and two at 28 days. Hold the fourth specimen in reserve in case additional testing is required.
   b. Test one field-cured specimen at seven days and two at 28 days.
8. Test results shall be reported in writing to Owner’s Representative, Architect/Engineer, concrete supplier, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain:
   a. Name of concrete testing and inspecting agency.
   b. Project identification name.
   c. Date of concrete placement.
   d. Specific location of concrete batch in Work.
   e. Concrete mix number, design compressive strength at 28 days, design slump range, and design air content range.
   f. Specimen number, cylinder size, dates of compression tests, compressive breaking strengths and types of break for seven- and 28-day tests, and measured slump, air content, and air and concrete temperatures.
   g. Statement that indicates whether test results are in conformance with Specifications.
9. Concrete strength is satisfactory if the average of two 28-day compressive-strength tests in each set of specimens equals or exceeds the specified 28-day compressive strength and neither test value is more than 500 pounds per square inch less than the specified 28-day strength.
10. If any seven-day compressive-strength test result is less than 75 percent of the specified 28-day compressive strength, submit revised mix design data for concrete that will conform to Specifications.
11. When the compressive strength of field-cured specimens is less than 85 percent of the companion laboratory-cured cylinders, evaluate operations and provide corrective procedures for protecting and curing the in-place concrete. Pay the cost of sampling and testing non-conforming field-cured specimens. Owner will pay the cost of sampling and testing conforming field-cured specimens.
12. Non-Conforming Concrete:

a. If tests indicate that concrete is not in conformance with the Specification, remove and replace non-conforming concrete or perform additional testing, acceptable to Architect/Engineer, to verify conformance with the Specification, at no cost to Owner.
b. Procure core samples in accordance with ASTM C42/C42M.
c. If tests indicate that the slump, air entrainment, or other requirements have not been met, examine core samples petrographically, according to ASTM C856, to evaluate hardened concrete characteristics.
d. If compressive-strength tests do not meet the acceptance requirements, procure three core samples from each portion of the structure represented by the unsatisfactory tests, and test in compression. The strength of concrete in the area represented by core tests is satisfactory if the average of three compressive strength tests equals or exceeds 85 percent of the specified 28-day compressive strength and no compressive-strength test value is less than 75 percent of the specified 28-day compressive strength. If strength acceptance criteria are not met, remove and replace non-conforming concrete areas at no cost to Owner.
e. Perform additional inspection and testing, at no cost to the Owner, to determine the compliance of replaced or additional work with the specified requirements.

3.10 CLEANING

A. At the end of each workday, clean the Site and Work areas and place rubbish, empty cans, rags, and other discarded materials in appropriate containers.

B. After completing the concrete replacement Work:
1. Clean soiling from adjacent surfaces. Exercise care to avoid scratching or damage to surfaces.
2. Repair surfaces stained, marred, or otherwise damaged during concrete replacement Work.
3. Clean up debris and surplus materials and remove from Site.

END OF SECTION

SECTION 08 80 00

GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes glazing shown and required to complete the Work not specified in other sections.

1.2 SUBMITTALS

A. Product Data: 2

1. **Glass Types. Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements on each type of glazing product.**
2. **Glazing Compounds. Provide chemical, functional and environmental characteristics, limitations, special application requirements on each type of glazing compound. Identify available colors.**
3. **Certificates. Certify that products meet or exceed specified requirements.**
4. **Manufacturer's Certificate. Certify that glass meets or exceeds specified requirements.**

B. Samples: Submit minimum 6" square samples of each type of glazing product.

C. Certification: Submit letter from manufacturer stating that wired glass complies with ANSI 97.1, 1984 including impact requirements.

D. Glazing Schedule: submit a glazing schedule including elevations and glazing details utilizing the same designation as indicated on the drawings identifying types and thicknesses of glazing products and methods of installation.

E. LEED Submittal:

1. LEED Credit EQ 4: Submit manufacturers' product data proving that the mirror mastic meets the testing and product requirements of the California Department of Health Services *Standard Practice for the Testing of Volatile Organic Emissions from Various sources Using Small Scale Environmental Chambers,* including 2004 addenda.

1.3 QUALITY ASSURANCE

A. Installer: Experienced in installation of glazing required.

B. Safety Glass: Comply with ANSI Z97.1, the Safety Standard for Architectural Glazing Material Standard for Architectural Glazing Materials (16 CFR 1201) issued by the Consumer Product Safety Commission and requirements of authorities having jurisdiction.

C. Fire Resistance Rated glazing: Provide wire glass products that are identical to those tested per NFPA 80 and ASTM E 163 (UL 9) and are labeled and listed by UL or other testing and inspecting agency acceptable to authorities having jurisdiction.

1.4 DELIVERY, STORAGE AND HANDLING

A. Protect materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including condensation, of temperature changes, of direct exposure to sun, and from other causes.

1.5 PROJECT CONDITIONS

A. Condition of Other Work: The Glazier must examine the framing or glazing channel surfaces, backing, removable stop design, and the conditions under which the glazing is to be performed, and notify the Contractor of any conditions detrimental to the proper and timely completion of the Work. Start of work will evidence acceptance of conditions.

1.6 **JOB CONDITIONS**

A. **Do not install glazing when ambient temperature is less than 50 degrees Fahrenheit.**

B. **Maintain minimum ambient temperature before, during, and 24 hours after installation of glazing compounds.**

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PART 2 - PRODUCTS

2.1 MATERIALS

A. Primary Glass:

1. Wired Glass: ASTM C 1036, Type II (patterned and wired glass, flat), Class 1 (transparent), Quality q6 (glazing); complying with ANSI Z97.1; 1/4" thick, Form 1 (wired, polished both sides), complying with UL requirements for use in fire-rated doors.

   a. Provide Firelite Plus Clear Fire-Rated Ceramic by Technical Glass Products in lieu of wired glass in rated doors where wired glass cannot be certified as complying to ANSI Z97.1 1984.

2. Tempered Glass: ASTM C 1048, Condition A (uncoated surfaces), Type I (transparent glass, flat), Class 1. (clear), Quality q3 (glazing select), kind FT (fully tempered.

   a. **Float Glass Manufacturers**

      1) **Guardian Industries Corporation: www.guardian.com**
      2) **PPG Industries, Inc. www.ppgideascapes.com**
      3) **Viracon; www.viracon.com**

   b. **Sealed Insulating Glass Unit Manufacturers**

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1) **Any of the manufacturers specified for float glass.**
2) **Any fabricator by glass manufacturer for type of glass, coating, and treatment involved and capable of providing specified warranty, if any.**
3) **Cardinal Glass Industries: www.cardinalcorp.com.**
4) **Viracon, Apogee Enterprises, Inc: www.viracon.com.**

c. **Insulated Exterior Low E Tinted Units (Type E-1): double pane with silicone sealant edge seal.**

1) **Outer pane of 1/4 inch clear tempered glass; 1/2" air space; inner pane of 1/4" tinted tempered glass, Low E. Place Low E coating on No. 2 surface within the unit**
2) **Durability: Certified by an independent testing agency to comply with ASTM E 2190.**

a) **Visible Light Transmittance: 31 percent**
b) **Reflectance Out: 11 percent**
c) **Reflectance In: 12 percent**
d) **U-Value: 0.25**
e) **Shading Coefficient: 0.44**
f) **Solar Heat Gain Coefficient: 0.26**
g) **Light to Solar Gain LSG: 1.79**

3) **Comply with CPSC – Consumer Product Safety Commission – 16 CFR, 1201**
4) **Purge interpane space with dry hermetic air**

B. Clear Ceramic Glazing Material (**Types G-1 and G-2**): Firelite Plus Clear Fire Rated Ceramic by Technical Products, Inc.

1. **Provide at all interior glass locations unless noted otherwise.**
2. **Provide impact resistance at locations designated on drawings.**

a. **Comply with 16 CFR 1201 test requirements for Category II**

C. **Impact Rated Glazing Material (Type G-3): Float glass laminated in accordance with ASTM C 1172**

1. **Laminated Safety Glass: Comply with 16 CFR 1201 test requirements for Category II**
2. **Laminated with 1/16 inch thick interlayer; comply with ASTM C 1172**
3. **Total Glass Thickness: 9/16 inches, consisting of two units of clear 1/4 inch glass with plastic interlayer laminated between.**
4. **Comply with ASTM C1036, Type I, transparent flat, Class I clear, Quality Q3 (glazing select) and ASTM C 1048.**
5. **Comply with CPSC – Consumer Product Safety Commission – 16 CFR, Part 1201.**

D. Glazing Materials:

1. Compatibility: Select tapes of proven compatibility with other materials with which they will come into contact, including glass products and glazing channel substrates, under conditions of installation and service.

2. Cellular Elastomeric Preformed Gaskets (CE-PG): Extruded or molded closed cell, integral-skinned neoprene of profile and hardness required to maintain seal; complying with ASTM C 509, Type II; black.

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3. Polyvinyl Chloride Foam Glazing Tape (PVC-GT): PVC foam tape with adhesive one side and one peel paper liner; Norseal U780, Norton or equal.

E. **Plastic Films**

1. **Manufacturers**

a. **Flexvue Films: www.flexvuefilms.com**
b. **3M Window Film: www.3m.com/US/arch_construct/scpd/windowfilm**
c. **LLumar: www.llumar.com**

2. **Provide frosted film at exterior glazing as indicated on drawings (interior side of glazing).**

a. **Film to be selected by AOR from manufacturer's standards.**

F. Miscellaneous Glazing Materials:

1. Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.
2. Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.
3. Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.
4. Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.

2.2 FABRICATION

A. Cut to size in the shop and key to glazing schedule

B. Permanently mark each lite of safety glazing and fire resistive glazing where seen when installed on the lower right hand corner.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect glass from edge damage at all times during handling, installation and operation of the building. Glass breakage during the guarantee period will be considered a form of faulty material or workmanship (resulting from edge damage), unless known to result from vandalism or other causes not related to materials and workmanship.

B. Glazing channel dimensions must provide for necessary minimum bite on the glass, minimum edge clearance and adequate sealant thicknesses, with reasonable tolerances. The Glazier is

responsible for correct glass size for each opening, within the tolerances and necessary dimensions established.

3.2 INSTALLATION

A. Basic Requirements:

1. Comply with combined recommendations of glazing product manufacturer and manufacturer of sealants and other materials used in glazing, except where more stringent requirements are shown or specified, and except where manufacturers' technical representatives direct otherwise.
2. Inspect each piece immediately before installation. Do not use pieces which have observable edge damage or face imperfections.
3. Do not attempt to cut, seam, nip or abrade glass which is tempered.
4. Clean the glazing channel, or other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to the substrate.
5. Install setting blocks of proper size at quarter points of sill rabbet.
6. Provide spacers inside and out, and of proper size and spacing, for all glass sizes larger than 50 united inches, except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8" minimum bite of spacers on glass, and use thickness equal to sealant width; except with sealant tape, use thickness slightly less than final compressed thickness of tape.
7. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.
8. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
9. Install pressurized tapes and gaskets to protrude slightly out of the channel, so as to eliminate dirt and moisture pockets.

B. Glazing Systems:

1. Glaze lites in labeled assemblies in accordance with UL requirements.
2. Glaze balance of door lites and borrowed lights using setting blocks and PVC-GT or CE-PG having adhesive to stop between glass and stops both sides compressed 35 to 50%.

C. Install mirrors using Palmer mirror mastic in exact accordance with recommendations and bottom supports of aluminum or stainless steel. Do not use reglets.

3.3 CURE, PROTECTION AND CLEANING

A. Remove and replace glazing products which is broken, chipped, cracked, abraded or damaged in other ways during the construction period, including natural causes, accidents and vandalism.

B. Maintain in a reasonably clean condition during construction, so that it will not be damaged by corrosive action and will not contribute (by wash-off) to the deterioration of glazing materials and other work.

END OF SECTION

SECTION 10 51 13

METAL LOCKERS - ELEMENTARY SCHOOLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes lockers indicated and as specified.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's printed data including materials, accessories, construction, finishes, assembly, and installation instructions.

B. Shop Drawings: Submit layout and dimensions of metal lockers. Indicate relationship to adjoining surfaces. Show locker elevations and details, fillers, trim, base, sloping tops, and accessories. Include locker numbering sequence. Indicate installation and anchorage requirements.

C. Samples: Submit manufacturer's color charts showing a full range of custom colors.

D. LEED Submittals (see also LEED Project Plan on Sheet G4.2 of drawing set):

1. Credit MR 4: Submit product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.
2. Credit MR 5: Submit product data for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.

1.3 QUALITY ASSURANCE

A. Single-Source Responsibility: Obtain locker units and accessories from one manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver lockers until spaces to receive them are clean, dry, and ready for locker installation.

B. Protect lockers from damage during delivery, handling, storage, and installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: Subject to compliance with requirements, provide products by one of the following:

1. Art Metal Products, Div. of Fort Knox Storage Co.
2. De Bourgh Manufacturing Co.
3. Lyon Metal Products Inc.
4. Penco Products.
5. Republic Storage Systems Co., Inc.

2.2 MATERIALS

A. LEED Requirements: Maximize the percentage of recycled content of the steel sheet, but not less than 25%.

B. Steel Sheet: ASTM A 1008, commercial steel (CS) type B.

C. Electrolytic Zinc-Coated Steel Sheet: ASTM A 591/A 591M, with full zinc coating, mill phosphatized.

D. Fasteners: Zinc- or nickel-plated steel; slotless-type exposed bolt heads; self-locking nuts or lock washers for nuts on moving parts.

E. Equipment: Manufacturer's standard plated steel hooks or coat rods.

2.3 WARDROBE LOCKERS

A. Body: Form backs, tops, bottoms, sides, and intermediate partitions of flanged 0.0598 inch (1.5 mm) (16 gauge) minimum steel sheet.

1. End Panels: .0598 inch (1.5 mm) (16 gauge) minimum steel sheet.

B. Frames: Form channel frames of 0.0598 inch (1.5 mm) minimum steel sheet. Form continuous integral strike on vertical frame members or weld 0.0897 inch (2.3 mm) minimum latch hooks to latch strike frame.

1. Cross Frames: Form intermediate channel cross frames to double- or triple-tier lockers of 0.0598 inch (1.5 mm) (16 gauge) minimum steel sheet.

C. Shelf: Form 0.0598 inch (1.5 mm) (16 gauge) minimum steel sheet hat shelf in single-tier units.

D. Door: One-piece steel sheet, flanged at all edges, constructed to prevent springing when opening or closing. Fabricate to swing 180 degrees.

1. Thickness: 0.0747 inch (1.9 mm) (14 gauge) minimum.

E. Reinforcing Panels: Brace or reinforce inner face of doors with manufacturer's standard reinforcing stiffener panels.

F. Acoustical Treatment: Fabricate lockers for quiet operation with manufacturer's standard rattle-free latching mechanism and moving components isolated to prevent metal-to-metal contact.

G. Louvered Vents: Stamped, louvered vents in door face, as follows:

1. Single-Tier Lockers: No fewer than 6 louver openings top and bottom.
2. Double-Tier Lockers: No fewer than 3 louver openings top and bottom.

H. Continuous Hinges: Manufacturer's standard steel continuous hinge mounted to door and frame.

I. Recessed Handle and Latch: Manufacturers' standard housing to form recess for latch lifter and locking devices; nonprotruding latch lifter containing strike and eye for padlock; and automatic, prelocking, pry-resistant latch mechanism with latching action as follows:

1. Single-Tier Lockers: Not less than 3 point latching.
2. Double- and Triple-Tier Lockers: Not less than 2 point latching.

2.4 ACCESSIBLE LOCKERS

A. Provide single tier accessible lockers in quantity of 5% of total lockers to be installed. Accessible lockers shall have top and bottom shelves and coat hooks within the following reach ranges.

1. CPC, Pre-K, K:

a. Low shelf reach: 20 inches.
b. High shelf reach: 36 inches.

2. Grades 1 through 2:

a. Low shelf reach: 18 inches.
b. High shelf reach: 40 inches.

3. Grades 3 through 8:

a. Low shelf reach: 16 inches.
b. High shelf reach: 44 inches.

B. Hardware for accessible lockers shall comply with ADA Accessibility Guidelines 4.27.4 Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbs. The hardware shall be designed to provide resistance to overcome the closing device and not exceed 5 lbs. Touch latches, flush pulls, lever handles and U-shaped pulls are acceptable.

2.5 LOCKS

A. Fabricate lockers to receive the following locking devices:

1. Pad lock provided by Board.

2.6 LOCKER ACCESSORIES

A. Equipment: Furnish each locker with the following items, unless otherwise shown:

1. Single- and Double-Tier Units: 1 double-prong ceiling hook, and not fewer than 2 single-prong wall hooks.

B. Number Plates: Manufacturer's standard etched, embossed, or stamped, nonferrous-metal number plates with numerals not less than 3/8 inch (9 mm) high. Number lockers in sequence indicated. Attach plates to each locker door, near top, centered, with at least 2 fasteners of same finish as number plate.

2

C. **Continuous Metal Base: Steel sheet, channel or zee profiled for stiffness, fabricated in lengths as long as practicable to enclose base and base ends of lockers without additional fastening devices.**

1. **Minimum Thickness: 0.0598 inch (1.5 mm) (16 gauge).**

2.7 FABRICATION

A. Fabricate lockers square, rigid, and without warp, with metal faces flat and free of dents or distortion. Make exposed metal edges free of sharp edges and burrs, and safe to touch. Weld frame members together to form a rigid, 1-piece structure.

1. Form locker body panels, doors, shelves and accessories from 1-piece steel sheet unless otherwise indicated.
2. Preassemble lockers by welding all joints, seams, and connections. Grind exposed welds flush.

2.8 FINISHES, GENERAL

A. Comply with NAAMM "Metal Finishes Manual" for recommendations relative to applying and designating finishes.

B. Finish all steel surfaces and accessories, except prefinished stainless-steel and chrome-plated surfaces.

C. Protect mechanical finishes on exposed surfaces from damage by applying strippable, temporary protective covering prior to shipment.

D. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within 1/2 of the range of approved samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved samples and they are assembled or installed to minimize contrast.

2.9 STEEL SHEET FINISHES

A. Surface Preparation: Solvent-clean surfaces complying with SSPC-SP 1 to remove dirt, oil, grease, and other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel complying with SSPC-SP 5 (White Metal Blast Cleaning) or SSPC-SP 8 (Pickling), and phosphatize surfaces.

B. Baked-Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard baked-enamel finish consisting of a thermosetting topcoat. Comply with paint manufacturer's instructions for application and baking to achieve a minimum dry film thickness of 1.3 to 1.5 mils.

1. Color and Gloss: As indicated on drawings.

C. TGIC Polyester Powder Coating System: Immediately after cleaning and pretreating, apply manufacturer's standard TGIC polyester powder coating. Comply with paint manufacturer's instructions for application and baking to achieve a minimum dry film thickness of 2 to 3 mils.

D. Provide baked-enamel finish or powder coating system at manufacturer's option.

E. Color and Gloss: 2 custom colors and gloss as selected by Architect.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install metal lockers complete with accessories according to manufacturer's recommendations. Install plumb, level, rigid, and flush.

B. Connect together welded locker groups with standard fasteners according to manufacturer's recommendations, with no exposed fasteners on face frames.

C. Anchor lockers to floors and walls at intervals recommended by manufacturer but no greater than 36 inches (910 mm). Install anchors through back-up reinforcing plates where necessary to avoid metal distortion, using concealed fasteners.

D. Install recess trim to recessed lockers using concealed fasteners. Provide hairline joints and concealed splice plates.

E. Install end panels to conceal exposed ends of nonrecessed lockers.

3.2 ADJUSTING, CLEANING, AND PROTECTION

A. Adjust doors and latches to operate easily without binding. Verify that integral locking devices are operating properly.

B. Clean interior and exposed exterior surfaces and polish stainless-steel and nonferrous metal surfaces.

C. Protect lockers from damage, abuse, dust, dirt, stain, or paint. Do not permit locker use during construction.

D. Touch up marred finishes, or replace locker units that cannot be restored to factory-finished appearance to satisfaction of Architect. Use only materials and procedures recommended or furnished by locker manufacturer.

END OF SECTION

SECTION 12 93 00

SITE FURNISHINGS

PART 1 - GENERAL

1.1 WORK INCLUDES

A. Contractor shall furnish and install

1. bench units
2. bicycle racks
3. trash receptacles

1.2 RELATED WORK

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and all other Divisions of the Project Manual, apply to this Section.

1.3 SUBMITTALS

A. Submittals shall be in accordance with Division 1 specifications.

B. Prior to fabrication, Contractor shall submit for approvals four sets of prints for the following site furniture elements:

1. bench units
2. bicycle racks
3. trash receptacles

C. Prints shall indicate location, manufacturer, materials, finish, color, connection details, dimensions, and relationship to adjacent materials.

D. Contractor shall submit operation/maintenance recommendations, spare parts, manuals and warrantees to the Owner.

1.4 DELIVERY, STORAGE AND HANDLING

A. Provide blocking and lateral support during transport and storage of site furniture units which is clean, non-staining, and will not cause harm to exposed finishes.

B. Protect edges of exposed members to prevent staining, chipping, or spalling.

PART 2 - PRODUCTS

2.1 BENCH

A. Bench design based on Landscape Forms “Austin” bench with the following characteristics:

1. Style: Backed
   Depth: 24 inches
   Overall Height: 33 inches
   Arm Height: 25.5 inches
   Length: 72 inches

2. Mounting: Four-legged surface mount.

3. Arms: Benches shall have center arm only.

4. Seat and Back Panels: Extruded aluminum boards for the face and interior seats are clear anodized (202-R1) and powder coated.

5. Frame, Legs, and Arms: Leg support shall be cast ductile iron with end caps, back straps, and arm rests of 319 cast aluminum.

6. Color: Bench shall be powder coated in accordance with manufacturer's recommendations. Color shall be dark gray selected from manufacturer's standard colors.

B. Alternatives:

1. Victor Stanley “Lily” bench with similar characteristics as described above.

2. Forms+Surfaces “Trio” bench with similar characteristics as described above.

2.2 BICYCLE RACK

A. Bicycle rack design based on Landscape Forms “Ring” bike rack with model number RG999-06002 style with the following characteristics.

2

1. Mounting: Surface Mounted in accordance with manufacturer’s recommendations.

2. Frame: Stainless steel, Type 304; not less than 1-5/8 inches OD.Color shall be selected from manufacturer's standard colors.

B. Alternatives:

1. Dero Bike Rack Company “Round Rack” with similar characteristics as described above. Finish shall be powder coated in accordance with manufacturer's recommendations. Color shall be selected from manufacturer's standard colors.

2. Madrax “Orion” Model ORN-2-SF-ES with similar characteristics as described above. Finish shall be powder coated in accordance with manufacturer's recommendations. Color shall be selected from manufacturer's standard colors.

2.3 TRASH RECEPTACLE

A. Trash receptacle design based on Landscape Forms “Austin” style with the following characteristics.

1. Style: Side Opening
Outer Diameter: 24 inches
Height: 34-3/4” inches
Capacity: 34 gallons

2. Mounting: Surface Mounted- Base casting has two holes that can accommodate 3/8” diameter anchors.

3. Lid: 0.100-inch thickness with 1-inch by 1-inch by 1/4 – inch aluminum angle.

4. Liner: Molded low density polyethylene, 34 gallon capacity. Color – black.

5. Color: Powder coated in accordance with manufacturer's recommendations. Color shall be dark gray selected from manufacturer's standard colors.

B. Alternatives:

1. Victor Stanley "Sage" trash receptacle with similar characteristics as described above.

2. Forms+Surfaces "Dispatch" trash receptacle with similar characteristics as described above.

PART 3 - EXECUTION

3.1 PREPARATION

A. All surfaces shall be properly prepared and level prior to the installation and placement of site furniture. Contractor shall coordinate placement of site furnishings with work of other trades.

3.2 INSTALLATION OF FURNITURE

A. Each piece of site furniture shall be installed and placed in accordance with manufacturer's standards and specifications and in accordance with the plans. Any changes from manufacturer's specifications must be approved by the Owner's Representative.

B. Surface mounted furnishings shall be securely mounted to concrete paving with tamperproof anchorage assemblies.

C. All site furniture shall be installed plumb and level.

3.3 CLEAN-UP

A. The area shall be kept clean at all times, and following installation, all materials and debris shall be removed from the area.

B. Marred areas on metal finishes shall be touched-up with primer and two coats of paint.

C. Exposed mounting hardware shall be touched-up with primer and two coats of approved paint.

D. Acid solutions, steel or any other wool, or any other harsh abrasives shall not be used.

END OF SECTION

32'-0" 0'-0" 16'-0" 32'-0" 64'-0" 1/32" = 1'-0" | 16'-0" 0'-0" 8'-0" 16'-0" 32'-0" 1/16" = 1'-0" | 8'-0" 0'-0" 4'-0" 8'-0" 16'-0" 1/8" = 1'-0" | 4'-0" 0'-0" 2'-0" 4'-0" 8'-0" 1/4" = 1'-0" | 2'-0" 0'-0" 1'-0" 2'-0" 4'-0" 1/2" = 1'-0" | 1'-0" 0'-0" 0'-6" 1'-0" 2'-0" 1" = 1'-0" | 0'-0" 0'-6" 1'-0" 2'-0" 1-1/2" = 1'-0" | 0'-0" 0'-3" 0'-6" 0'-9" 1'-0" 3" = 1'-0" | 0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6" 6" = 1'-0"

LEED 2009 for Schools
LEED Project Plan
Prussing Elementary School Annex and Renovation
Project No. 05175
LEED Registration #: 1000087927
Green Permit Tier target: Benefit Tier II
Green Menu Item(s): Energy Effeciency, LEED Silver

Yes	?	No	Credit	Description	Points	Strategy to Achieve Credit - Project-Specific Narrative (How will prerequisite or credit reqirements be met by this specific project? Where are design or requirements shown or described in design documents; what have calculations shown about achievability; What has site or project research shown, and where in the design documents can that information be found?)
15	0	9		**Sustainable Sites**	24	
Y			Prereq 1	Construction Activity Pollution Prevention	Required	Civil drawing C3.03 shows perimeter controls and details for silt fence and catch basin protection. Specification section 01 35 62 delineates requirements for GC narrative Plan and for documentation during construction.
Y			Prereq 2	Environmental Site Assessment	Required	Phase I was performed and is documented in report dated May 3, 2017. No evidence of RECs was revealed to be associated with the project site.
1	0	0	Credit 1	Site Selection	1	Project research indicates the subject site does not meet the SS Credit 1 "do not develop on" criteria
4	0	0	Credit 2	Development Density & Community Connectivity	4	Option 2 – Community connectivity. Site is previously developed Site is within a ½ mile of a residential neighborhood with an average density of 10 units per acre net Site is within ½ mile of 10 basic services (bank, grocery, child care, restaurant, pharmacy, place of worship, salon, laundry, school, dental office) and has pedestrian access between the services.
0	0	1	Credit 3	Brownfield Redevelopment	1	
4	0	0	Credit 4.1	Alternative Transportation, Public Transportation Access	4	Building entrance is 0.1 miles from the bus stop at the corner of Lawrence and Menard, Bus Stop ID# 9677, serves the 81W and 91 bus lines
0	0	1	Credit 4.2	Alternative Transportation, Bicycle Storage & Changing Rooms	1	
2	0	0	Credit 4.3	Alternative Transportation, Low-Emitting & Fuel-Efficient Vehicles	2	Project will provide preferred parking for low-emitting and fuel efficient vehicles for 5% of the total vehicle parking capacity and 1 designated carpool drop-off area for low-emitting and fuel efficient vehicles. (59 x .05 = 2.95) 3 preferred parking spaces will be provided.
0	0	2	Credit 4.4	Alternative Transportation, Parking Capacity	2	
0	0	1	Credit 5.1	Site Development, Protect or Restore Habitat	1	
1	0	0	Credit 5.2	Site Development, Maximize Open Space	1	Case 3: Total non-open space = 47,874 SF (39%) to LEED Boundary Total Area = 121,540 SF. 39% > 25%121,540 SF total site are x 20% = 24,308 SF veg open space required at minimum to achieve the credit. Actual vegetated open space is 29,043 SF which exceeds credit requirements. However, the Project is also eligible for exemplary performance since SSc2 Is to be achieved: Actual pedestrian oriented open space, incl. vegetated open space, is 73,666 SF. This is 60.61% of the total site. 29,043 SF of that is vegetated. With SSc2 requirements, 25% of pedestrian oriented space must be vegetated. This is acheived: 29,043 SF is 39.4% of 73,666 SF.
1	0	0	Credit 6.1	Stormwater Design, Quantity Control	1	% Rate and Volume Reduction = 25.11% > 25% Required to achieve credit. See attached calculation sheet. Project will comply under Case 1 Option 1. the 20,384 SF of artificial turf serves as BMP, in addition to the 29,043 SF of pervious vegetated area.
0	0	1	Credit 6.2	Stormwater Design, Quality Control	1	
0	0	1	Credit 7.1	Heat Island Effect, Non-Roof	1	
1	0	0	Credit 7.2	Heat Island Effect, Roof	1	Option 1: roofing materials with SRI equal to or greater than (low-sloped roof) 78. Specification section 07 52 00 requires submittals for product data to comply with solar reflectance index under "Performance Requirements"
1	0	0	Credit 8	Light Pollution Reduction	1	Refer to site photometric plan E5.1 - no lightfall on property line
0	0	1	Credit 9	Site Master Plan	1	
0	0	1	Credit 10	Joint Use of Facilities	1	
6	0	5		**Water Efficiency**	10	
Y			Prereq 1	Water Use Reduction—20% Reduction	Required	Plumbing fixture schedule sheet P3.1 and specification section 22 40 00 require low-flow fixtures. Total Calculated fixture water use annual volume, baseline case = 100.1 kGal. Total caclulated fixture water use annual volume, performance case = 69.44 kGal. Reduction of water use in all fixtures = 30.63%.
4	0	0	Credit 1	Water Efficient Landscaping	2 to 4	No irrigation provided
			2	Reduce by 50%	2	
			4	No Potable Use or No Irrigation	4	
0	0	2	Credit 2	Innovative Wastewater Technologies	2	
2	0	2	Credit 3	Water Use Reduction	2 to 4	Plumbing fixture schedule sheet P3.1 and specification section 22 40 00 require low-flow fixtures. Total Calculated fixture water use annual volume, baseline case = 100.1 kGal. Total caclulated fixture water use annual volume, performance case = 69.44 kGal. Reduction of water use in all fixtures = 30.63%.
				30% Reduction	2	
				35% Reduction	3	
				40% Reduction	4	
0	0	1	Credit 4	Process Water Use Reduction	1	
13	0	20		**Energy & Atmosphere**	35	
Y			Prereq 1	Fundamental Commissioning of the Building Energy Systems	Required	Commissioning agent: Primera. PBC has confirmed Primera involvement and CAx specs provided. Contractor to provide schedule integrating commissioning requirements
Y			Prereq 2	Minimum Energy Performance	Required	Refer to energy model report - Currently reading 35.58% improvement over the baseline
Y			Prereq 3	Fundamental Refrigerant Management	Required	Zero use of chlorofluorocarbon (CFC)-based refrigerants in new base building heating, ventilating, air conditioning and refrigeration (HVAC&R) systems. For existing base building HVAC equipment, complete a comprehensive CFC phase-out conversion prior to project completion. Refrigerant schedule on M5.2 supports. Refrigerant weight, schedule, and specs have been provided.
9	0	10	Credit 1	Optimize Energy Performance	1 to 19	Refer to energy model report - as of 9/7/17 projecting energy use 35.58% improvement over the baseline
				Improve by 12% for New Buildings or 8% for Existing Building R	1	
				Improve by 14% for New Buildings or 10% for Existing Building F	2	
				Improve by 16% for New Buildings or 12% for Existing Building F	3	
				Improve by 18% for New Buildings or 14% for Existing Building F	4	
				Improve by 20% for New Buildings or 16% for Existing Building F	5	
				Improve by 22% for New Buildings or 18% for Existing Building F	6	
				Improve by 24% for New Buildings or 20% for Existing Building F	7	

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Project No. 05175
LEED Registration #: 1000087927
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Yes	?	No	Credit	Description	Points	Strategy to Achieve Credit - Project-Specific Narrative (How will prerequisite or credit reqirements be met by this specific project? Where are design or requirements shown or described in design documents; what have calculations shown about achievability; What has site or project research shown, and where in the design documents can that information be found?)
			9	Improve by 29% for New Buildings or 20% for Existing Building Renovations		
0	0	7	Credit 2	On-Site Renewable Energy	1 to 7	
2	0	0	Credit 3	Enhanced Commissioning	2	Commissioning agent: Primera. PBC has confirmed Primera involvement and CAx specs provided. Contractor to provide schedule integrating commissioning requirements
1	0	0	Credit 4	Enhanced Refrigerant Management	1	Average atmospheric impact [SUM(LCGWP + LCODP x 10^5)*Qunit]/Qtotal = 65 < 100 = complies with credit requirements
1		1	Credit 5	Measurement & Verification	2	Project team has agreed to use 3rd party reporting for whole building energy use, ie: Energy Star Portfolio Manager, 1 point. CPS will use Portfolio Manager regardless.
0	0	2	Credit 6	Green Power	2	
7	0	6		**Materials & Resources**	13	
Y			Prereq 1	Storage & Collection of Recyclables	Required	Architectural site plan shows over 300 SF. Narrative has been coordinated explaining refuse and recycling pick up, developed in conjunction with Owner.
0	0	2	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 2	
				Reuse 75%	1	
				Reuse 95%	2	
0	0	1	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elemer	1	
2	0	0	Credit 2	Construction Waste Management	1 to 2	Specification section 01 52 40 requires a Waste Management Plan, progress reports, calculations, submittals and records.
				50% Recycled or Salvaged	1	
			2	75% Recycled or Salvaged	2	
0	0	2	Credit 3	Materials Reuse	1 to 2	
				5% Reuse	1	
				10% Reuse	2	
2	0	0	Credit 4	Recycled Content	1 to 2	Each material specification section has MR requirements under LEED Submittals, typical for Divisions 3 through 32
				10% (post-consumer + ½ pre-consumer)	1	
			2	20% (post-consumer + ½ pre-consumer)	2	
2	0	0	Credit 5	Regional Materials	1 to 2	Each material specification section has MR requirements under LEED Submittals, typical for Divisions 3 through 32. Specification 01 35 60.1 states 20% required and 30% goal. LEED submittals required to document are required by many of the required tech spec sections with significant contribution (in Div 3-10, 32 and 32. ie: Steel spec sections require 90% plus of recycled content.
				10% Extracted, Processed & Manufactured Regionally	1	
			2	20% Extracted, Processed & Manufactured Regionally	2	
0	0	1	Credit 6	Rapidly Renewable Materials	1	
1	0	0	Credit 7	Certified Wood	1	Specification 01 35 60.1 states at least 50% required. Individual technical specification sections Div 6 specifically state there are submittal requirements for LEED for FSC wood.
9	0	9		**Indoor Environmental Quality**	19	
Y			Prereq 1	Minimum IAQ Performance	Required	LEED form calculation provided to demonstrate compliance with ASHRAE 62.1 ventilation rate procedure. Chicago code minimum ventilation rate and rates calculated based on building loads exceed ASHRAE 62.1.
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	Required	Refer to architectural site plan AS.1 for signage locations (TAG S.24) and AS.2 for signage type. Contractor to refer to Owner for exact signage type and review locations with architect prior to installation
Y			Prereq 3	Minimum Acoustical Performance	Required	Acoustical consultant has been engaged - final report has been provided, recommendations of acoustical consultant were integrated into the design
0	0	1	Credit 1	Outdoor Air Delivery Monitoring	1	
0	0	1	Credit 2	Increased Ventilation	1	
1	0	0	Credit 3.1	Construction IAQ Management Plan, During Construction	1	Specification section 01 35 60.1 requires submittal of a IAQ management plan, narrative descriptions, and product data for filtration media, as well as other product data submittals
1	0	0	Credit 3.2	Construction IAQ Management Plan, Before Occupancy	1	Specification section 01 35 60.1 requires submittal of a IAQ management plan, narrative descriptions, and product data for filtration media, as well as other product data submittals. Allows the 3 options which are acceptable to LEED. Contractor needs to develop, implement and document the Plan. EOR should plan to provide calcs for flushout duration, based on actual equipment.
4	0	0	Credit 4	Low-Emitting Materials	1 to 4	Each material specification section has IEQ requirements under LEED Submittals, typical for Divisions 3 through 32. Spec section 01 35 60.1 requires, and provide overarching requirements under LEED for Schools and alt compliance path - VOC's.
			1	4.1 - Adhesives & Sealants	1	
			1	4.2 - Paints & Coatings	1	
				4.3 - Flooring Systems	1	
			1	4.4 - Composite Wood & Agrifiber Products	1	
				4.5 - Furniture & Furnishings	1	
			1	4.6 - Ceiling & Wall Systems	1	
0	0	1	Credit 5	Indoor Chemical & Pollutant Source Control	1	
1	0	0	Credit 6.1	Controllability of Systems, Lighting	1	Lighting controls to comply with 2015 IECC code: all classrooms have been provided with occupancy sensors, day light harvesting and multi switched dimmable zones, general areas such as corridors, toilets, gym, dining room, kitchen are controlled based on time schedule via programmable automatic lighting relay panels with overwrite control switches located in designated areas.
1	0	0	Credit 6.2	Controllability of Systems, Thermal Comfort	1	Specification section 23 09 26 requires capability for users to adjust temperature levels. Individual controls have been provided in all spaces that require it.
1	0	0	Credit 7.1	Thermal Comfort, Design	1	Design complies with ASHRAE 55 2004 comfort criteria.
0	0	1	Credit 7.2	Thermal Comfort, Verification	1	
0	0	3	Credit 8.1	Daylight & Views, Daylight 75% of Spaces	1 to 3	
				75% of classrooms *(required for either points below)*	1	
				90% of classrooms	2	
				75% of other spaces	3	
0	1	0	Credit 8.2	Daylight & Views - Views	1	

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Yes	?	No	Credit	Description	Points	Strategy to Achieve Credit - Project-Specific Narrative (How will prerequisite or credit reqirements be met by this specific project? Where are design or requirements shown or described in design documents; what have calculations shown about achievability; What has site or project research shown, and where in the design documents can that information be found?)
0	0	1	Credit 9	Enhanced Acoustical Performance	1	
0	0	1	Credit 10	Mold Prevention	1	
5	0	1		**Innovation & Design Process**	6	
1	0	0	Credit 1.1	Innovation in Design: Exemplary Connectivity/Transit Access	1	Site is within ½ mile of 20 basic services
1	0	0	Credit 1.2	Innovation in Design: Exemplary Open Space	1	Actual vegetated open space is 29,043 SF which exceeds credit requirements. However, the Project is also eligible for exemplary performance since SSc2 is to be achieved: Actual pedestrian oriented open space, incl. vegetated open space, is 73,666 SF. This is 60.61% of the total site. 29,043 SF of that is vegetated. With SSc2 requirements, 25% of pedestrian oriented space must be vegetated. This is acheived: 29,043 SF is 39.4% of 73,666 SF.
1	0	0	Credit 1.3	Innovation in Design: Recycled Content	1	Each material specification section has MR requirements under LEED Submittals, typical for Divisions 3 through 32
1	0	0	Credit 1.4	Innovation in Design: Low Mercury Lamping	1	Low mercury lamping - all lights are LED in project
1	0	0	Credit 2	LEED® Accredited Professional	1	Architectural staff
	0	1	Credit 3	School As A Teaching Tool	1	
4	0	2		**Regional Priority**	4	
1	0	0	Credit 1.1	Regional Priority: SSc4.1 - Alternative Transportation - public transportation access	1	Building entrance is 0.1 miles from the bus stop at the corner of Lawrence and Menard, Bus Stop ID# 9677, serves the 81W and 91 bus lines
1	0	0	Credit 1.2	Regional Priority: SSc6.1 - Stormwater design - Quantity Control	1	% Rate and Volume Reduction = 25.11% > 25% Required to achieve credit. See attached calculation sheet Project will comply under Case 1 Option 1. the 20,384 SF of artificial turf serves as BMP, in addition to the 29,043 SF of pervious vegetated area.
1	0	1	Credit 1.3	Regional Priority: SSc7.2 - Heat Island Effect - Roof	1	Option 1: roofing materials with SRI equal to or greater than (low-sloped roof) 78. Specification section 07 52 00 requires submittals for product data to comply with solar reflectance index under "Performance Requirements"
1	0	1	Credit 1.4	Regional Priority SSc4.3 - Alternative Transportation - Low Emitting and Fuel Efficient Vehicles	1	Project will provide preferred parking for low-emitting and fuel efficient vehicles for 5% of the total vehicle parking capacity and 1 designated carpool drop-off area for low-emitting and fuel efficient vehicles. (59 x .05 = 2.95) 3 preferred parking spaces will be provided.

Yes	?	No			
59	0	50	**Project Totals** (pre-certification estimates)		110

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

Legat Architects

100% CD

GREEN PERMIT SUBMITTAL REQUIREMENTS
PBC CPS – Prussing Elementary School

100% Construction Documents
October 27, 2017
USGBC Project Registration Number: 1000087927

Green Permit Narrative:

The approach to the Green Permit process will be to fulfill the requirements for Benefit Tier II, and the project is categorized as a "Community Centers and Schools" Project Type. The project is tracking enough credits to reach LEED Silver, and the project will also be earning more than 4 points under EAc1, which fulfills the requirements for an additional menu item under "Exceptional Energy Performance". Refer to the Energy Model report for additional information – model is currently tracking 35.58% energy use reduction compared to the baseline.

LEFV preferred parking and Carpool Drop-off signage is a part of the site design strategy, a Site Photometric plan has been developed which indicates compliance with the LEED required light-fall levels, plumbing fixture calcs have been provided which show compliance with 30% or greater water use reduction.

The LEED workplan has been updated to reflect no points for SS7.1

DOB Green Permit Requirements

PROJECT TYPE	BENEFIT TIER I *Expedited permit† (goal <30 days)*	BENEFIT TIER II *Expedited permit† (goal <30 business days) Partial permit fee waiver, up to $25,000*
RESIDENTIAL: Market Rate Single Building (<10 units)	Not applicable	Chicago Green Homes★★ + 2 Menu Items
Market Rate Multiple Buildings (<10 units/building)	Not applicable	Chicago Green Homes★★ + 2 Menu Items
20% Affordable Multiple Buildings (<10 units/building)	Not applicable	Chicago Green Homes★★ + 2 Menu Items
Market Rate Multifamily, under 80 ft. (including hotels)	LEED Certified* + 2 Menu Items	LEED Silver* + 2 Menu Items
Market Rate Multifamily, over 80 ft. (including hotels)	LEED Silver* + 1 Menu Items	LEED Silver* + 2 Menu Items
20% Affordable Multifamily	Chicago Green Homes★★ + 2 Menu Items	Chicago Green Homes★★★ + 2 Menu Items
INSTITUTIONAL: Hospitals	LEED Certified* + 2 Menu Items	LEED Silver* + 2 Menu Items
Community Centers and Schools	LEED Certified* + 1 Menu Item	LEED Silver* + 1 Menu Item
INDUSTRIAL	Not applicable	LEED Certified* + EnergyStar Roof + 1 Menu Item
COMMERCIAL: Retail under 10,000 square feet (footprint)	LEED Silver + EnergyStar Roof + 1 Menu Item	LEED Silver* + 25% Green Roof + 2 Menu Items
Retail under 10,000 square feet (footprint)	LEED Certified* + 1 Menu Item	LEED Silver* + 1 Menu Item
Office over 80 feet	LEED Silver + 50% Green Roof + 1 Menu Item	LEED Silver* + 75% Green Roof + 2 Menu Items
Office under 80 feet	LEED Certified* + 2 Menu Items	LEED Silver* + 2 Menu Items

† Applicant must contact DCM at beginning of construction documents phase to fully benefit from expedited permit services.
* All LEED projects must earn a minimum of 2 points under Energy and Atmosphere Credit 1, Optimize Energy Performance.
** Projects consisting solely of installation of a green roof or renewable energy equipment on an existing building are also eligible for the Green Permit Program.

CHICAGO CRYSTAL LAKE MOLINE OAK BROOK WAUKEGAN
24 North Chapel Street Waukegan, Illinois 60085–4107 Tel 847.662.3535 Fax 847.249.0398 www.legat.com

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGATARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

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WEB: www.legat.com

Design Architect:
LEGATARCHITECTS
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Chicago, IL
Structural Engineers of Record

Terra Engineering LTD.
225 W. Ohio St, 4th Flr
Chicago, IL
Landscape/Civil Engineers of Record

CCJM Engineers, Ltd.
303 E. Wacker Dr, #303
Chicago, IL 60601
MEPFP Engineers of Record

Wiss, Janney, Elstner Associates
10 S. LaSalle St, #2600
Chicago, IL 60603
Structural Engineer - Dever Beam

Mackesy and Associates
321 N Clark St, #500
Chicago, IL
Food Service Consultant

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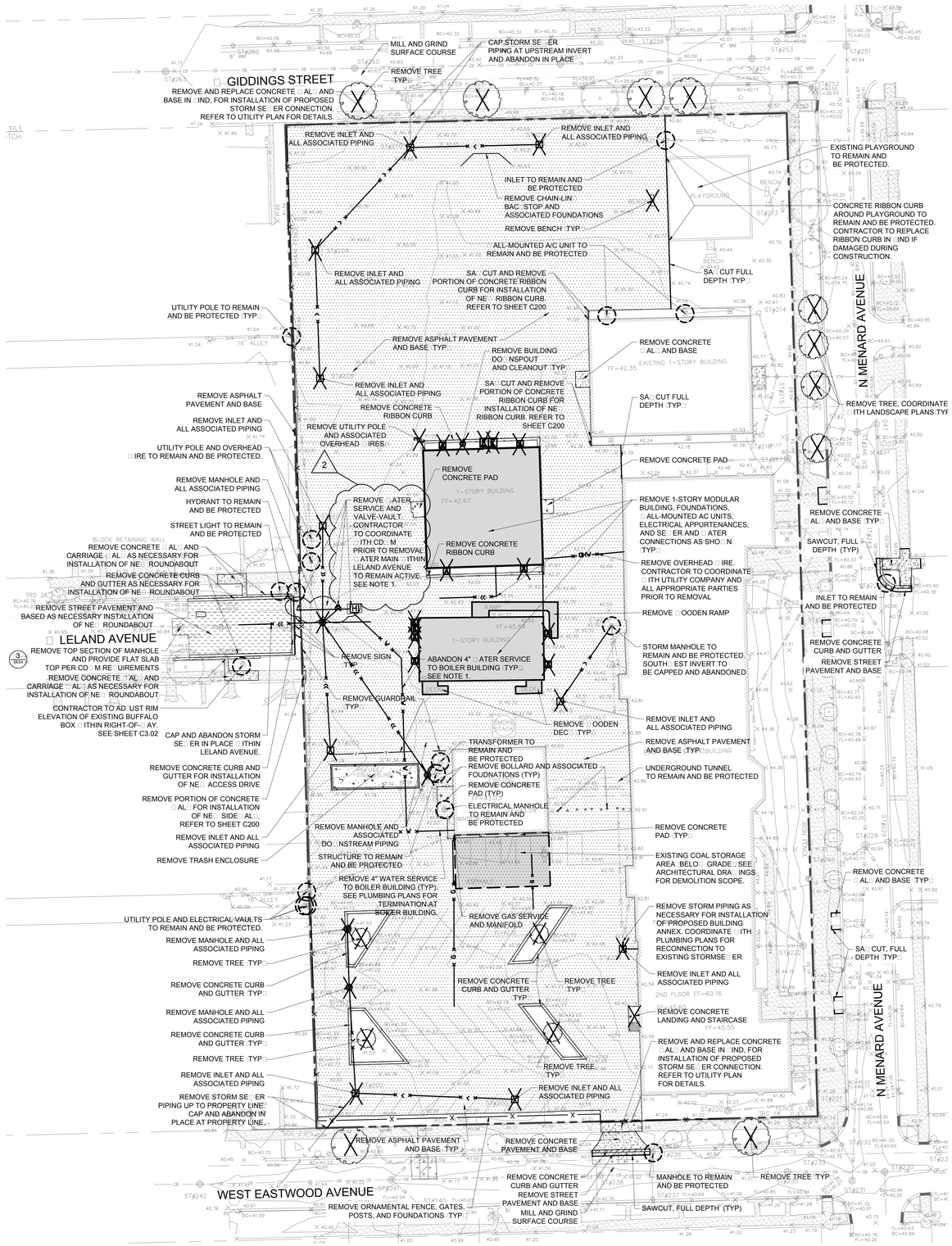
Issuance

MARK	DESCRIPTION	DATE
1 2	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
3	60% CONSTRUCTION DOCS	07/27/2017
4	90% CONSTRUCTION DOCS	09/07/2017
5	ISSUED FOR BIDDING	10/27/2017
1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS
PBC Contract No: 05175
Project No: 217102.00

Title
LEED WORKPLAN

Sheet
G4.1



N

Scale: 1 inch = 30 ft.

LEGEND:

- PROPERTY LINE
- EXISTING BUILDING
- REMOVE BUILDING AND APPURTENANCES
- REMOVE CONCRETE PAVEMENT AND BASE
- REMOVE CONCRETE CURB AND BASE
- REMOVE ASPHALT PAVEMENT AND BASE
- REMOVE STREET PAVEMENT AND BASE
- MILL AND GRIND EXISTING PAVEMENT
- REMOVE FENCE, POSTS GATES, AND FOUNDATIONS
- REMOVE CONCRETE CURB AND GUTTER
- REMOVE CONCRETE BARRIER CURB
- ABANDON STORM SEWER
- REMOVE STORM SEWER
- REMOVE ELECTRIC SERVICE
- REMOVE GAS SERVICE
- REMOVE OVER HEAD WIRE
- EXISTING CONTOUR
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- SAWCUT FULL DEPTH
- ITEM TO REMAIN AND BE PROTECTED
- ITEM TO BE REMOVED

2

NOTES:

1. CONTRACTOR TO TERMINATE AND REMOVE EXISTING VALVE-VAULT AT ENTRANCE TO LELAND AVENUE PER CITY OF CHICAGO STANDARDS, PRIOR TO CONSTRUCTION. WATERMAIN WITHIN LELAND AVENUE TO REMAIN ACTIVE AND BE PROTECTED DURING CONSTRUCTION. 8" DIP MECH CAP TO BE PROVIDED PER CDOM REQUIREMENTS.

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PBC Contract No: 05175

Project No: 217102.00

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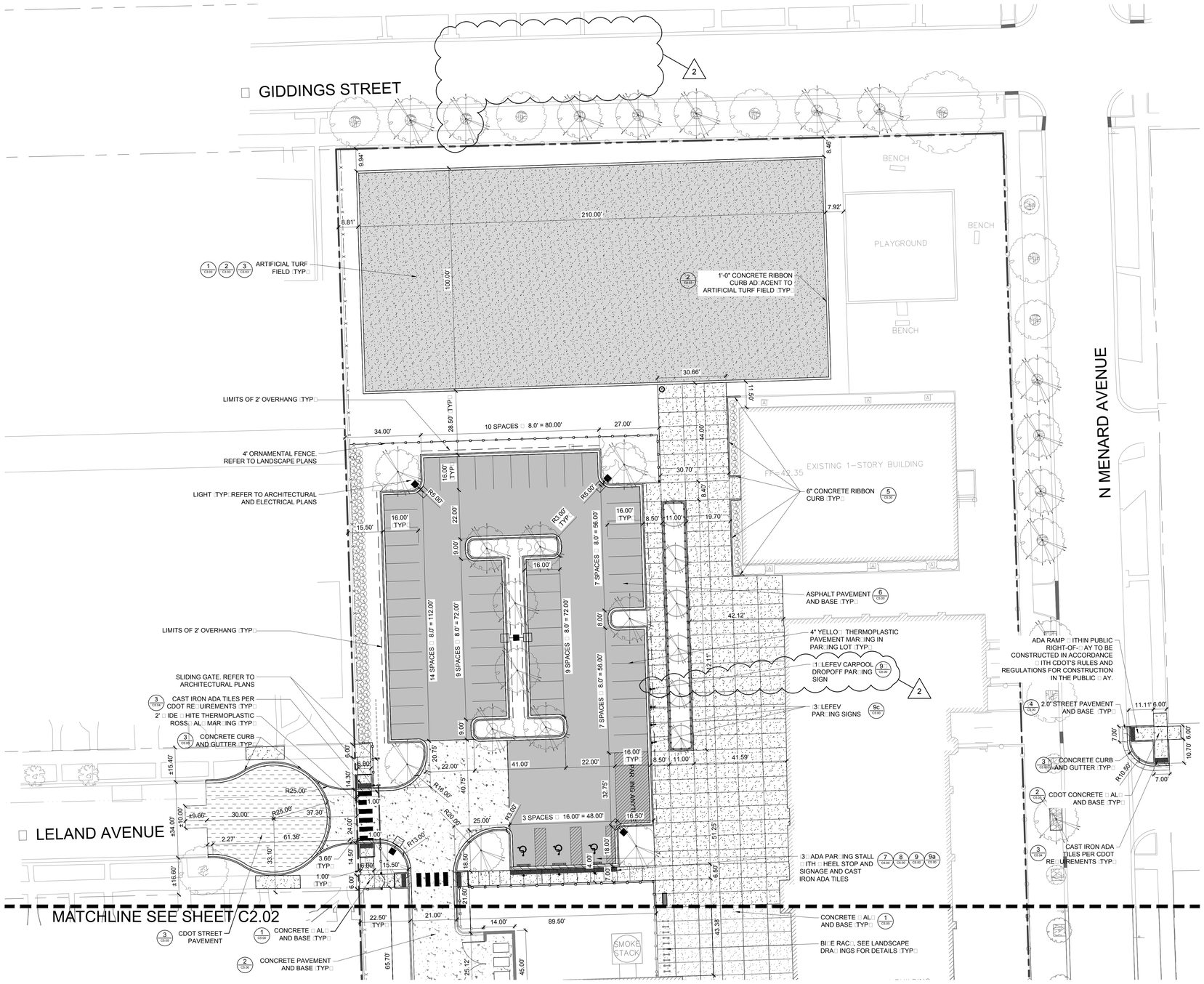
SITE DEMOLITION PLAN

Sheet

C1.00



Scale: 1 inch = 20 ft.

LEGEND:

- PROPOSED BUILDING
- EXISTING BUILDING
- CONCRETE PAVEMENT AND BASE
- CONCRETE WALK AND BASE
- ASPHALT PAVEMENT AND BASE
- STREET PAVEMENT AND BASE
- ASPHALT SURFACE COURSE
- ARTIFICIAL TURF
- CONCRETE CURB AND GUTTER
- 6" CONCRETE RIBBON CURB
- DEPRESSED CURB
- 1' CONCRETE RIBBON CURB
- 4' ORNAMENTAL FENCE
- 6' WOOD SCREEN FENCE
- BIKE RACKS
- TRASH RECEPTACLE
- BENCH
- LIGHT
- ADA TILE
- SIGN

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PBC Contract No: 05175

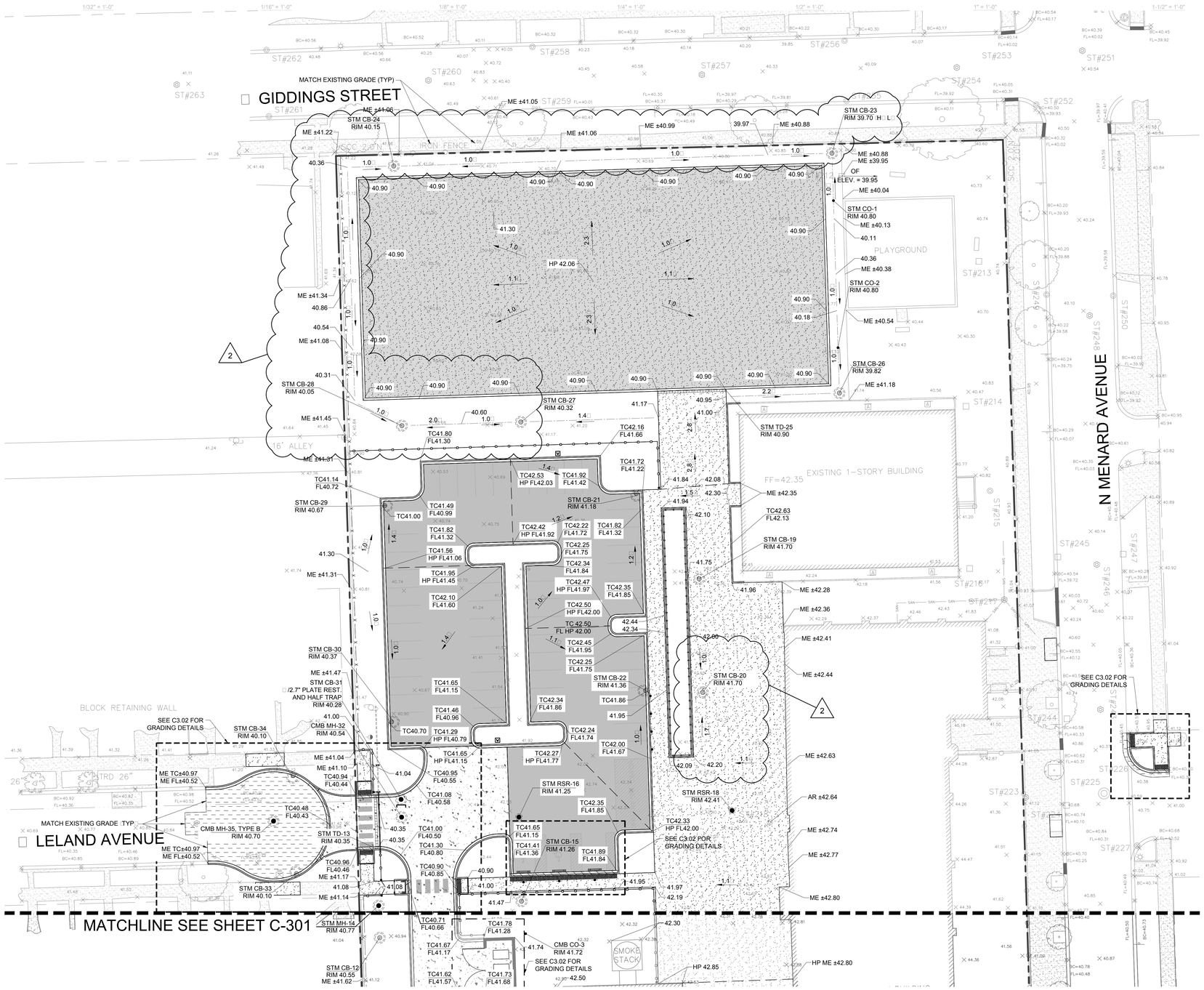
Project No: 217102.00

Title

SITE DIMENSION PLAN - NORTH

Sheet

C2.01



LEGEND:

OF ELEV.	OVERFLOW ELEVATION
TC18.89 FL18.89	TOP OF CURB ELEVATION / FLOW LINE ELEVATION
18.89	SPOT ELEVATION
1.0%	SLOPE ARROW
ME	MATCH EXISTING
DC	DEPRESSED CURB
HWL	HIGH WATER LEVEL
CCD	CHICAGO CITY DATUM
FFE	FINISHED FLOOR ELEVATION
HP	HIGH POINT
AR	ADJUST RIM ELEVATION
	PAVEMENT RIDGE BREAK LINE
	DRAINAGE SWALE
	PROPOSED BUILDING
	CONCRETE PAVEMENT AND BASE
	CONCRETE WALK AND BASE
	ASPHALT PAVEMENT AND BASE
	STREET PAVEMENT AND BASE
	ASPHALT SURFACE COURSE
	ARTIFICIAL TURF
	4'Ø CATCH BASIN (CB)
	4'Ø MANHOLE (MH)
	TRIPLE GREASE BASIN (GB)
	ACCESS RISER (AR) OPEN GRATE
	ACCESS RISER (AR) CLOSED GRATE
	AREA DRAIN (AD)
	CLEAN OUT (CO)

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PBC Contract No: 05175

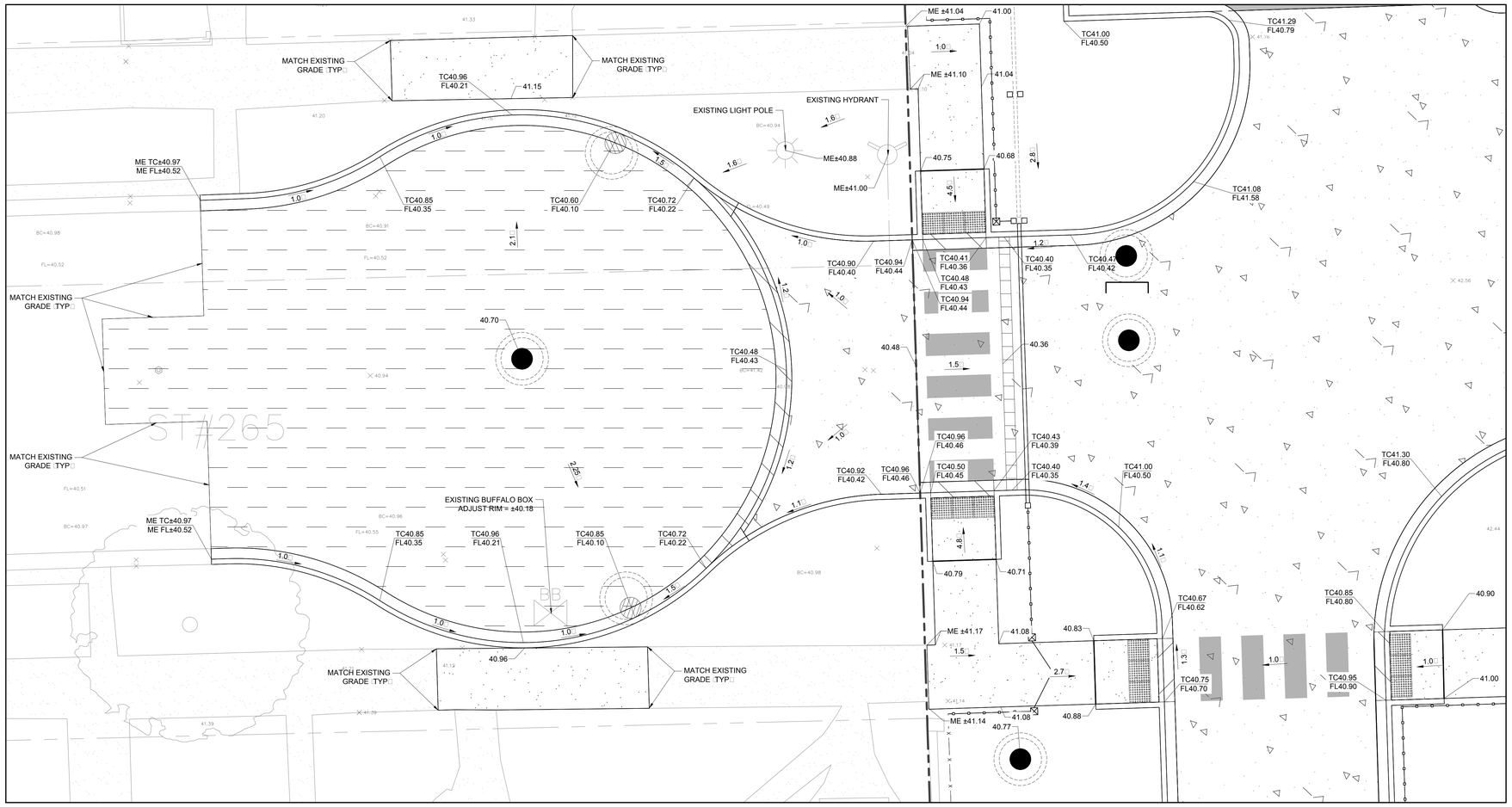
Project No: 217102.00

Title

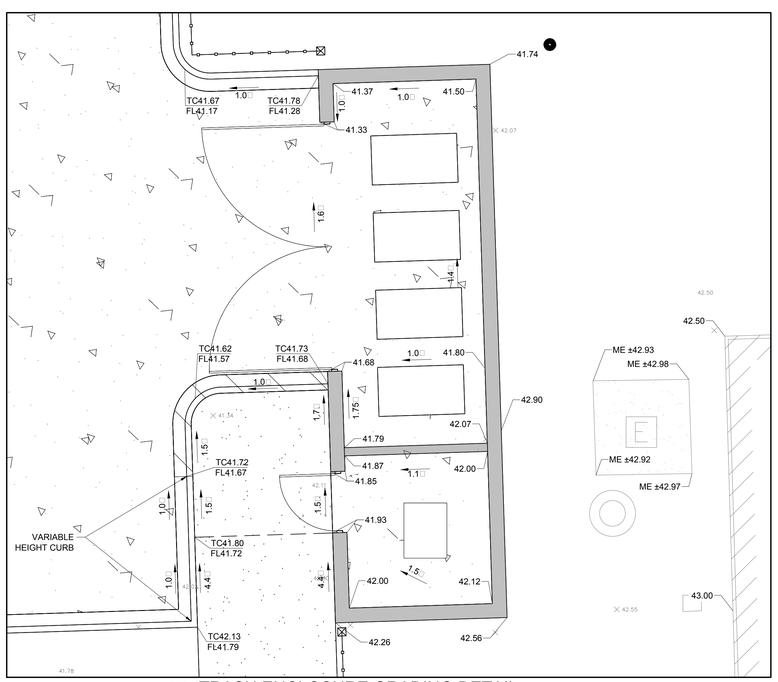
SITE GRADING PLAN - NORTH

Sheet

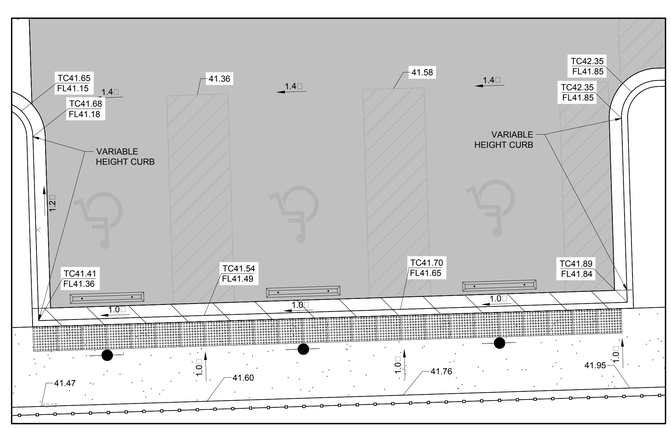
C3.00



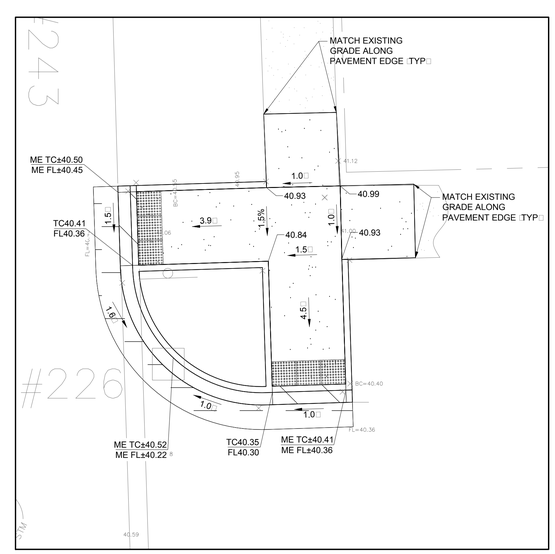
1 RIGHT-OF-WAY ROUND-ABOUT GRADING DETAIL
SCALE: 1" = 5'



2 TRASH ENCLOSURE GRADING DETAIL
SCALE: 1" = 5'



3 ADA PARKING STALL GRADING DETAIL
SCALE: 1" = 5'



4 ADA RAMP RECONSTRUCTION GRADING DETAIL
SCALE: 1" = 5'

N

LEGEND:

OF ELEV.	OVERFLO ELEVATION
TC18.89 / FL18.89	TOP OF CURB ELEVATION / FLO LINE ELEVATION
18.89	SPOT ELEVATION
1.0	SLOPE ARRO
ME	MATCH EXISTING
DC	DEPRESSED CURB
H L	HIGH ATER LEVEL
CCD	CHICAGO CITY DATUM
FFE	FINISHED FLOOR ELEVATION
HP	HIGH POINT
	PAVEMENT RIDGE BREA LINE
	DRAINAGE S ALE
	PROPOSED BUILDING
	CONCRETE PAVEMENT AND BASE
	CONCRETE AL AND BASE
	ASPHALT PAVEMENT AND BASE
	STREET PAVEMENT AND BASE
	ASPHALT SURFACE COURSE
	ADA TILE
	SIGN

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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Architect of Record:
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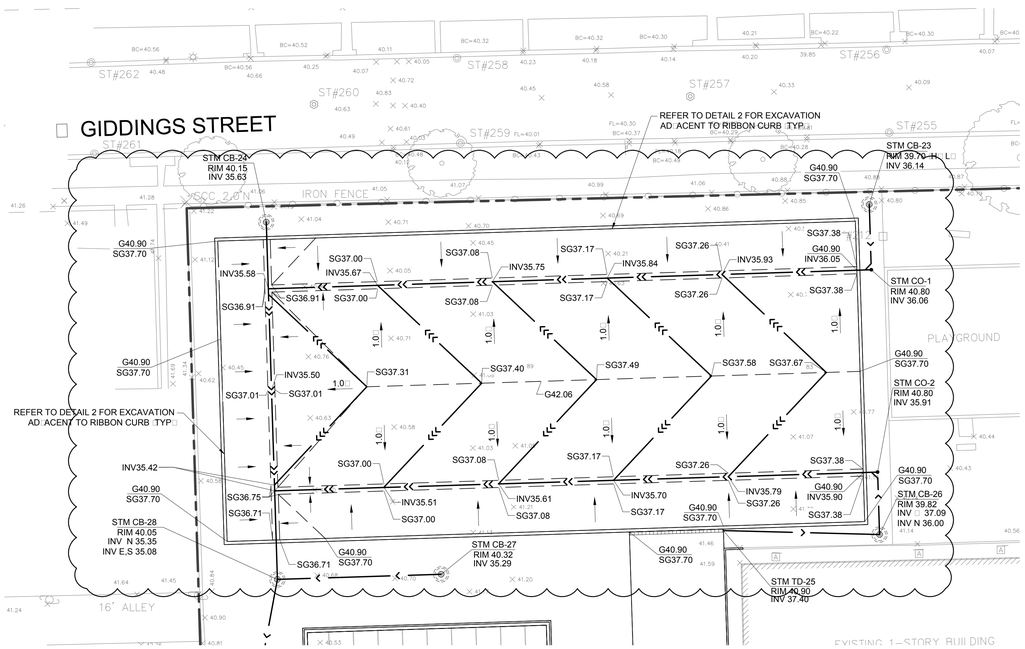
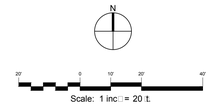
PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS
PBC Contract No: 05175
Project No: 217102.00

Title
SITE GRADING DETAILS

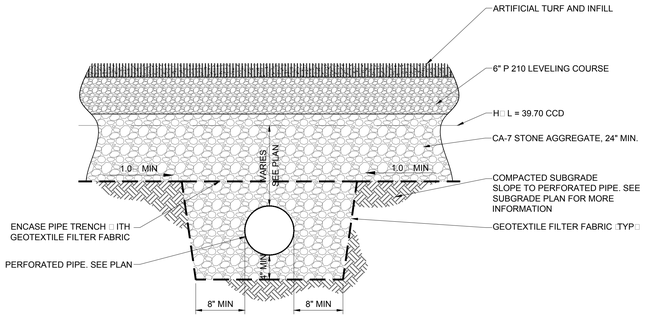
Sheet
C3.02





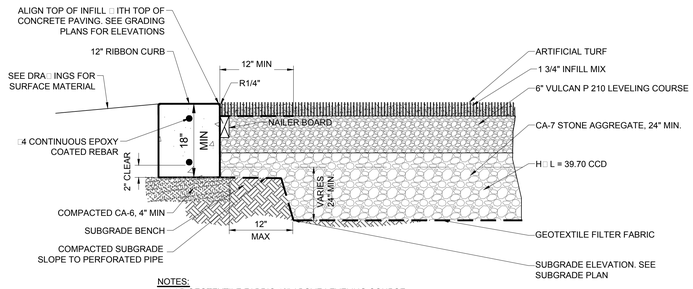
LEGEND:

18.89	SPOT ELEVATION
1.0	SLOPE ARRO
G	ELEVATION AT GRADE
SG	ELEVATION AT SUBGRADE
INV	ELEVATION AT PIPE INVERT
	SUBGRADE BREA LINE
	4'Ø CATCH BASIN (CB)
	4'Ø MANHOLE (MH)
	CLEAN OUT CO
	RESTRICTOR REST
	STORM SE ER
	PERFORATED PIPE
	HDPE FLAT DRAIN



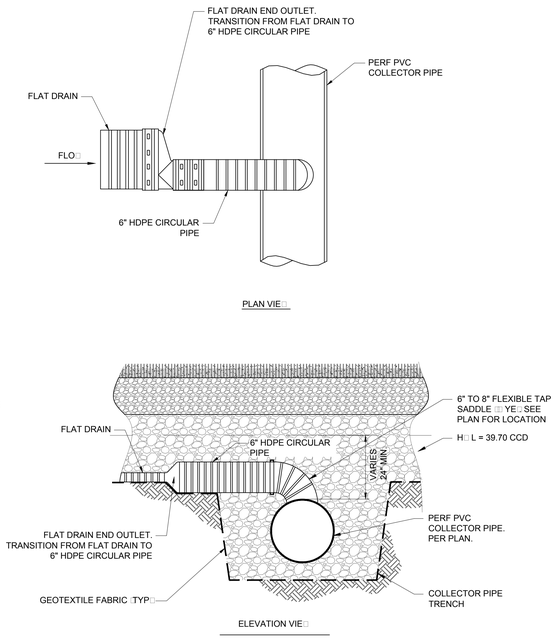
NOTES:
1. REFER TO SITE UTILITY PLAN FOR PIPE INFORMATION LOCATIONS, INVERTS, SLOPES, DIAMETER, MATERIAL, ETC.
2. INSTALL PERFORATED PIPES ITH PERFORATIONS SET DO N.

1 ARTIFICIAL TURF FIELD
SCALE: NTS



NOTES:
1. LAP GEOTEXTILE FABRIC 12" ABOVE LEVELING COURSE.
2. REFER TO C3.1 FOR FINISHED GRADE INFORMATION.
3. NAILER BOARD SHALL BE PRESSURE TREATED 2": 4" TIMBER, UNLESS OTHER ISE NOTED. FASTEN SECURELY TO CURB ITH ¾"Ø ANCHORS 24" O.C.
4. CONCRETE SHALL BE 3500 PSI A/E ITH LIGHT BROOM FINISH AT TOP OF RIBBON.

2 ARTIFICIAL TURF FIELD AND RIBBON CURB
SCALE: NTS



3 FLAT DRAIN TO COLLECTOR PIPE CONNECTION
SCALE: NTS

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PBC Contract No: 05175

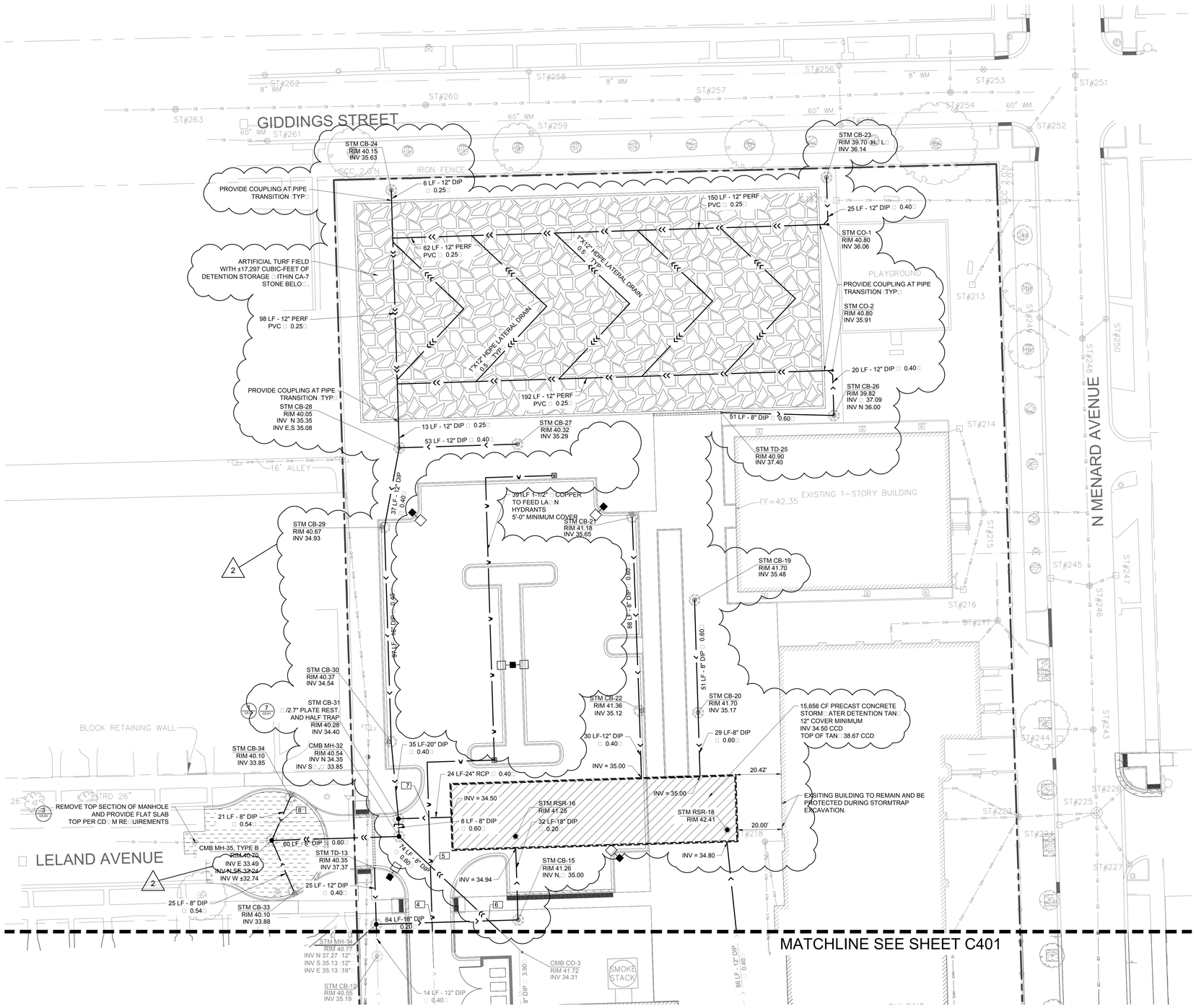
Project No: 217102.00

Title

TURF FIELD SUBGRADE PLAN

Sheet

C3.03



N

Scale: 1 inch = 20 ft.

LEGEND:

- RESTORE PER CITY REQUIREMENTS. AREA SHOWN SCHEMATIC ONLY.
- DETENTION TANK
- STORMWATER BMP
- STORM SEWER
- SANITARY SEWER
- COMBINED SEWER
- PERFORATED PIPE
- HDPE FLAT DRAIN
- WATER SERVICE
- HOSE BIB
- ELECTRIC SERVICE
- GAS SERVICE
- TRENCH DRAIN
- 4'Ø CATCH BASIN (CB)
- 4'Ø MANHOLE (MH)
- 5'Ø CATCH BASIN (CB)
- 5'Ø MANHOLE (MH)
- TRIPLE GREASE BASIN (GB)
- ACCESS RISER (AR) OPEN GRATE
- ACCESS RISER (AR) CLOSED GRATE
- AREA DRAIN (AD)
- CLEAN OUT (CO)
- RESTRICTOR (REST)

UTILITY CROSSINGS:

1. BOT (EX. WATER) = 34.83
   TOP (SAN) = 34.33
2. BOT (STORM) = 36.50
   TOP (SAN) = 34.62
3. BOT (STORM) = 39.30
   TOP (WATER) = 37.80
4. BOT (STORM) = 35.10
   TOP (WATER) = 33.60
5. BOT (COMBINED) = 34.00
   TOP (WATER) = 32.50
6. BOT (STORM) = 35.01
   TOP (COMBINED) = 34.87

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Design Architect:
LEGAT ARCHITECTS
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KMI Engineering
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Terra Engineering LTD.
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CCJM Engineers, Ltd.
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Chicago, IL 60601
MEPFP Engineers of Record

Wiss, Janney, Elstner Associates
10 S. LaSalle St, #2600
Chicago, IL 60603
Acoustics Consultant

Mackesy and Associates
321 N Clark St, #500
Chicago, IL
Food Service Consultant

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Issuance

MAR	DESCRIPTION	DATE
1	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
3	60% CONSTRUCTION DOCS	07/27/2017
4	90% CONSTRUCTION DOCS	09/07/2017
5	ISSUED FOR BIDDING	10/27/2017
1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

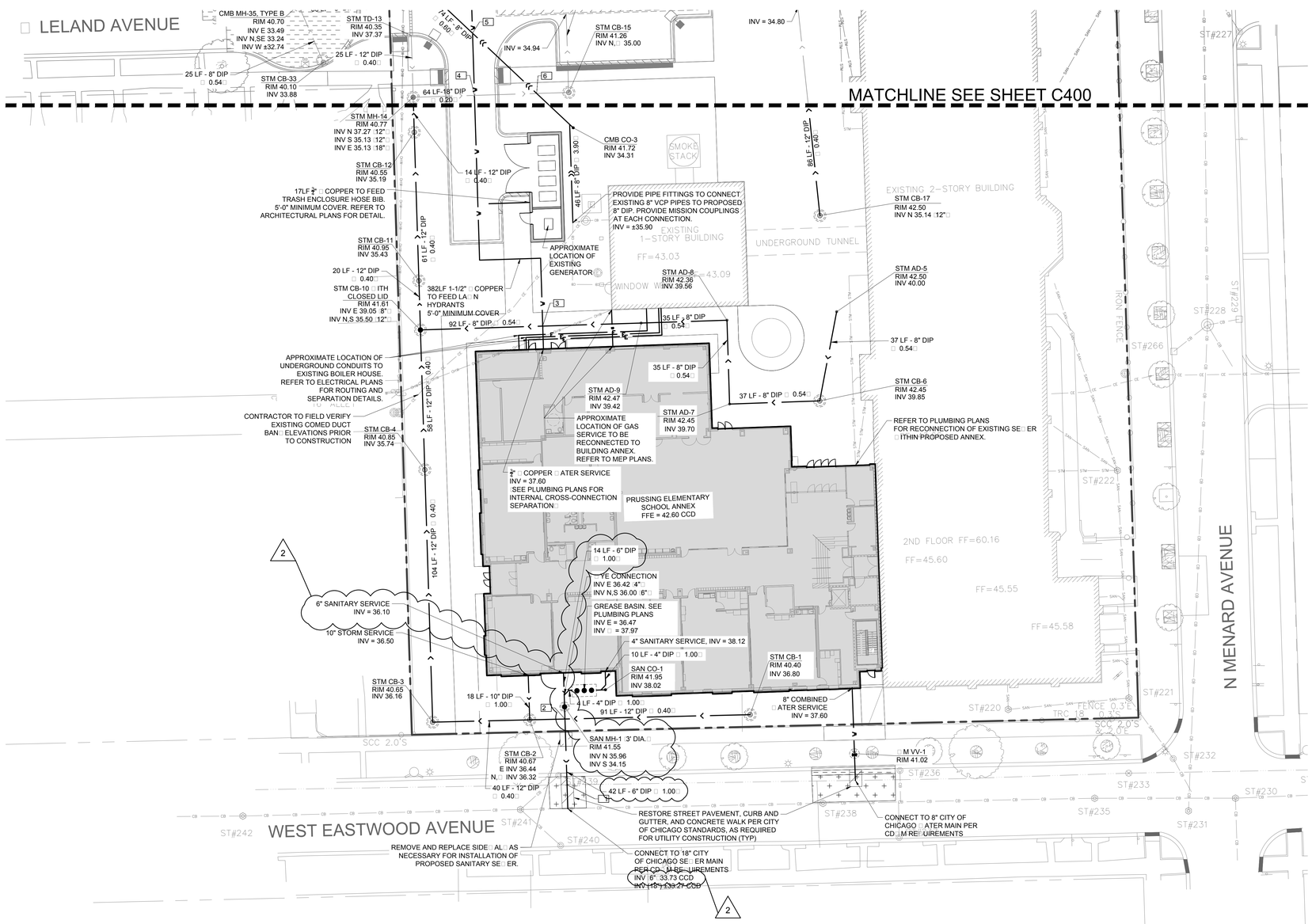
Project No: 217102.00

Title

SITE UTILITY PLAN - NORTH

Sheet

C4.00



N

Scale: 1 inch = 20 ft.

LEGEND:

- RESTORE PER CITY REQUIREMENTS. AREA SHOWN SCHEMATIC ONLY.
- DETENTION TANK
- STORMWATER BMP
- STORM SEWER
- SANITARY SEWER
- COMBINED SEWER
- PERFORATED PIPE
- HDPE FLAT DRAIN
- WATER SERVICE
- ELECTRIC SERVICE
- GAS SERVICE
- OVER HEAD WIRE
- TRENCH DRAIN
- WATER LINE VALVE VAULT (WVV)
- 4'Ø CATCH BASIN (CB)
- 5'Ø CATCH BASIN (CB)
- 5'Ø MANHOLE (MH)
- TRIPLE GREASE BASIN (GB)
- ACCESS RISER (AR) OPEN GRATE
- ACCESS RISER (AR) CLOSED GRATE
- AREA DRAIN (AD)
- CLEAN OUT (CO)
- RESTRICTOR (REST)

UTILITY CROSSINGS:

1. BOT (EX. WATER) = 34.83
   TOP (SAN) = 34.33
2. BOT (STORM) = 36.50
   TOP (SAN) = 34.62
3. BOT (STORM) = 39.30
   TOP (WATER) = 37.80
4. BOT (STORM) = 35.10
   TOP (WATER) = 33.60
5. BOT (COMBINED) = 34.00
   TOP (WATER) = 32.50
6. BOT (STORM) = 35.01
   TOP (COMBINED) = 34.87

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
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Project No: 217102.00

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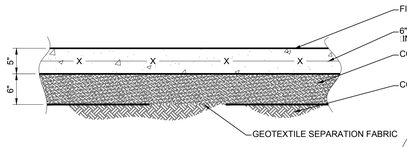
SITE UTILITY PLAN - SOUTH

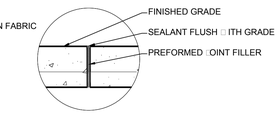
Sheet

C4.01

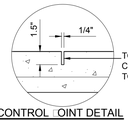


GENERAL NOTES:

1. □ ELDED □ IRE FABRIC TO BE INSTALLED □ ITHIN SCHOOL PROPERTY ONLY.
2. SET □ ELDED □ IRE FABRIC □ □ F□2-1/2" BELO□ FINISHED SURFACE.
3. CONCRETE SHALL BE 3,500 PSI, A/E. LIGHT BROOM FINISH.
4. PROVIDE ½" PREFORMED EXPANSION □OINT □ HERE PAVEMENT ABUTS RIGID STRUCTURES.
5. MAINTAIN 1□ MINIMUM SLOPE ON FINISH SURFACE FOR POSITIVE DRAINAGE A□ AY FROM BUILDINGS TO DRAINAGE STRUCTURES/SYSTEMS.
6. SET ½" PREFORMED EXPANSION □OINTS 50' O.C. RECESS PREFORMED □OINT FILLER ½" TO ALLO□ FOR APPLICATION OF SEALANT.
7. SEALANT SHALL BE □ATER RESISTANT AND APPLICABLE TO TEMPERATURES BET□ EEN -30 DEGREES TO 110 DEGREES FARENHEIT□. COLOR TO BE SELECTED BY ARCHITECT/ENGINEER. SUBMIT PRODUCT DATA TO ARCHITECT/ENGINEER □ ITH STANDARD COLOR CHART FOR REVIE□ AND APPROVAL.
8. PROVIDE CONTROL □OINTS 5' O.C. □ HERE CURB ABUTS CONCRETE PAVEMENT, ALIGN □OINTS □ ITH AD□ACENT CONCRETE PAVEMENT □OINTS.
9. UPON INSTALLATION OF POURED CONCRETE, VERIFY PLANARITY AND ENSURE NO DEPRESSIONS OR BIRD BATHS □ ILL RESULT.

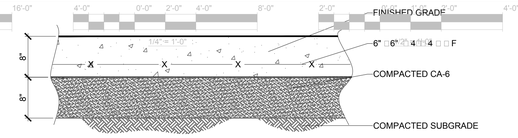


EXPANSION □OINT DETAIL
N.T.S.



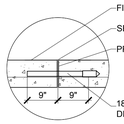
CONTROL □OINT DETAIL
N.T.S.

1 5" SIDEWALK PAVEMENT AND BASE
SCALE: NTS

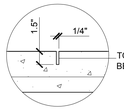


GENERAL NOTES:

1. SET □ ELDED □ IRE FABRIC □ □ F□2-1/2" FROM BOTTOM OF SLAB.
2. REFER TO DRA□ INGS FOR PAVEMENT □LOCATIONS AND ELEVATIONS.
3. CONCRETE SHALL BE 3,500 PSI, A/E. LIGHT BROOM FINISH.
4. PROVIDE ½" PREFORMED EXPANSION □OINT □ HERE PAVEMENT ABUTS RIGID STRUCTURES.
5. MAINTAIN 1□ MINIMUM SLOPE ON FINISH SURFACE FOR POSITIVE DRAINAGE A□ AY FROM BUILDINGS TO DRAINAGE STRUCTURES/SYSTEMS.
6. SET ½" PREFORMED EXPANSION □OINTS 30' O.C. RECESS PREFORMED □OINT FILLER ½" TO ALLO□ FOR APPLICATION OF SEALANT.
7. SEALANT SHALL BE □ATER RESISTANT AND APPLICABLE TO TEMPERATURES BET□ EEN -30 DEGREES TO 110 DEGREES FARENHEIT□. COLOR TO BE SELECTED BY ARCHITECT/ENGINEER. SUBMIT PRODUCT DATA TO ARCHITECT/ENGINEER □ ITH STANDARD COLOR CHART FOR REVIE□ AND APPROVAL.
8. UPON INSTALLATION OF POURED CONCRETE, VERIFY PLANARITY AND ENSURE NO DEPRESSIONS OR BIRD BATHS □ ILL RESULT.
9. REFER TO DRA□ INGS FOR □OINTING LAYOUT.

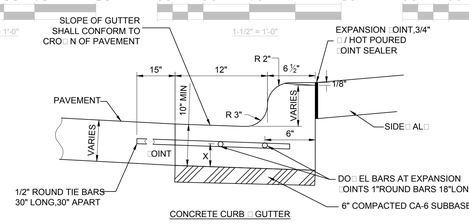


EXPANSION □OINT DETAIL
N.T.S.

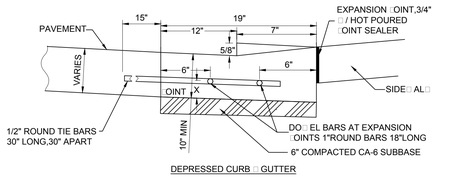


CONTROL □OINT DETAIL
N.T.S.

2 8" CONCRETE PAVEMENT AND BASE
SCALE: NTS



CONCRETE CURB □ GUTTER



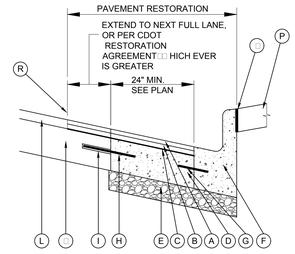
DEPRESSED CURB □ GUTTER

X = ONE HALF THE THIC□NESS OF CONCRETE PAVEMENT

□ NOTES:

1. TRANSVERSE □OINTS OF A TYPE SIMILAR TO THAT USED IN THE AD□ACENT PAVEMENT SHALL BE INSTALLED AND ALIGNED □ ITH THE □OINTS IN THE AD□ACENT PAVEMENT.
2. 1" THIC□ EXPANSION □OINTS COMPOSED OF BITUMINOUS PREFORMED □OINT FILLER SHALL BE INSTALLED IN THE CURB AND/OR GUTTER AT POINTS OF CURVATURE AND AT CONSTRUCTION □OINTS.
3. □ HEN CURB □ GUTTER IS CONSTRUCTED AD□ACENT TO A FLEXIBLE BASE, TRACTION □OINTS SHALL ALSO BE PLACED BET□ EEN EXPANSION □OINTS AT DISTANCES NOT EXCEEDING 20 FEET.
4. ALL TIE BARS SHALL BE CORRUGATED AND ALL DO□ EL BARS SHALL BE SMOOTH.
5. ALL TIE BARS AND DO□ EL BARS SHALL BE EPOXY COATED.
6. ALL EXPANSION □OINTS IN CURBING SHALL BE SEALED □ ITH □OINT SEALER.

3 CONCRETE CURB AND GUTTER
SCALE: NTS



LEGEND:

- (A) SEE TABLE 4.3.1-1
- (B) SEE TABLE 4.3.1-1
- (C) BITUMINOUS MATERIAL □PRIME COAT□□ AGGREGATE □PRIME COAT□
- (D) SEE TABLE 4.3.1-1
- (E) SUB - BASE GRANULAR MATERIAL, TYP B, 6"
- (F) TYPE 3 CURB □ GUTTER / TYPE 4 CURB □ GUTTER
- (G) TIE - BAR - SEE CURB □ GUTTER STANDARD DETAILS
- (H) TIE BAR - □5 DO□□EL BARS - 18" LONG □ 18" OC□DRILL □ GROUT
- (I) BORE □ GROUT
- (J) 3/4" PREFORMED □OINT FILLER
- (K) EXISTING CONCRETE BASE
- (L) EXISTING BITUMINOUS SURFACE
- (P) □ AL□ OR PAR□□ AY
- (R) SA□ CUT EXISTING MATERIAL □FULL DEPTH□

Table 4.3.1-1 Asphalt and Concrete Pavement Specifications

Street Classification	Agg Sub-base, Type B (Inches) Note 1	P.C. Concrete Base Course (Inches) Note 2	HMA Binder (Inches) (Mix Design) Note 3	HMA Surface (Inches) (Mix Design) Note 3	Total Pavement Thickness
Composite Pavement					
Residential	6	7 3,500 psi, Type PV	1.5 (Mix D, N 50)	1.5 (Mix D, N 50)	16
Primary Arterial	6	10 3,500 psi, Type PV	0.75 (Polymerized, IL-4.75, N 50)	1.75 (Polymerized Mix E, N 70)	18.5
Secondary Arterial and Collector	6	9 3,500 psi, Type PV	0.75 (Polymerized, IL-4.75, N 50)	1.5 (Mix D, N 70)	17.25
Concrete Pavement					
Residential	6	8 3,500 psi, Type PV			14
Primary Arterial	6	12 3,500 psi, Type PV			18
Secondary Arterial and Collector	6	10 3,500 psi, Type PV			16

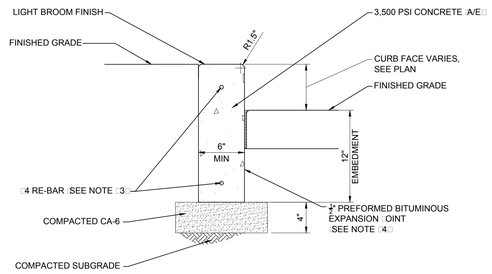
Notes:

1. Aggregate Sub-Base, Type B: Construction in accordance with SSRBC Section 311 & Art. 420.04; Material in accordance with Section 1003 and 1004.
2. Portland Cement Concrete Base Course: Construction in accordance with SSRBC Section 353 & 354; Material in accordance with Section 1020.
3. Bituminous Surface Treatment: Construction in accordance with SSRBC Section 403; Material in accordance with Section 1004 & 1032.

NOTE:

1. □GIDDINGS ST.□ EAST□OOD AVE.□ LELAND AVE AND MENARD AVE ARE RESIDENTIAL STREETS.
2. SEE CDOT TABLE 4.3.1-1 ABOVE FOR PAVEMENT AND BASE THIC□NESS IN □ LELAND AVENUE.

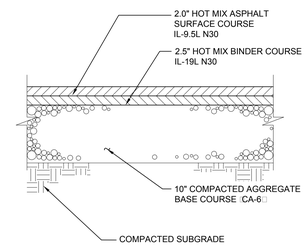
4 STREET PAVEMENT RESTORATION FOR NEW CONSTRUCTION
SCALE: NTS



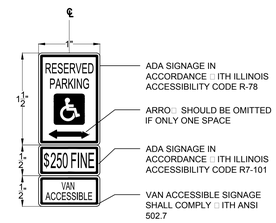
GENERAL NOTES:

1. PROVIDE FLUSH TRANSITION BET□ EEN TOP OF CURB AND AD□ACENT □ AL□□ AY SURFACES, UNLESS INDICATED OTHER□ ISE.
2. SOILS/ENGINEERED FILL SHALL BE COMPACTED TO 95□ MODIFIED PROCTOR DENSITY □ASTM D1557□.
3. RE-BAR SHALL BE SET CENTERED AND 3" CLEAR FROM FROM TOP AND BOTTOM OF CURB.
4. INSTALL PREFORMED EXPANSION □OINT FULL DEPTH □ HERE CURB ABUTS STRUCTURES, CONCRETE PAVEMENT, AND RIGID STRUCTURES. EXPANSION □OINTS SHALL BE SEALED PER IDOT RE□UIREMENTS.
5. VIBRATE POURED CONCRETE ADE□UATELY FOR PROPER CONSOLIDATION.
6. CONTROL □OINTS ALONG CURB LINE SHALL BE AT 10' O.C. AND ALIGNED □ ITH AD□ACENT PAVEMENT CONTROL □OINTS □ HERE APPLICABLE. EXPANSION □OINTS SHALL BE 30' O.C. AND ALIGNED □ ITH AD□ACENT PAVEMENT EXPANSION □OINTS □ HERE APPLICABLE.

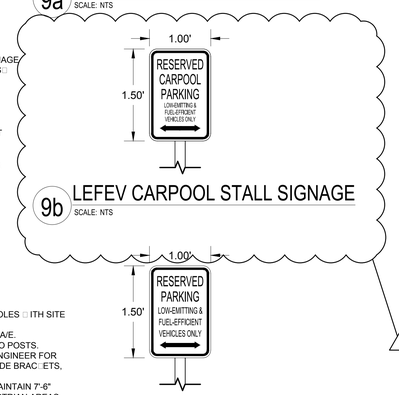
5 CONCRETE BARRIER CURB
SCALE: NTS



6 ASPHALT PAVEMENT AND BASE
SCALE: NTS

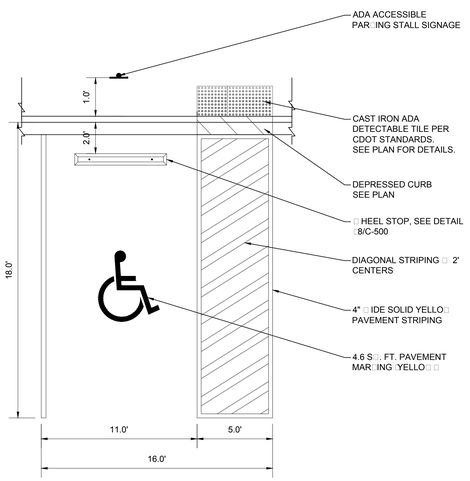


9a ACCESSIBLE STALL SIGNAGE
SCALE: NTS

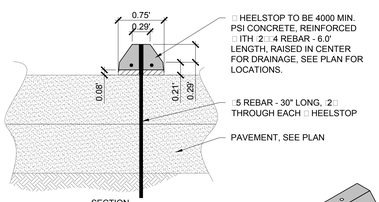


9b LEFEV CARPOOL STALL SIGNAGE
SCALE: NTS

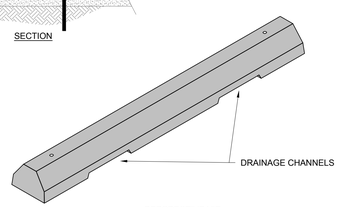
9c LEFEV STALL SIGNAGE
SCALE: NTS



7 ACCESIBLE PARKING STALL AND SIGN
SCALE: NTS

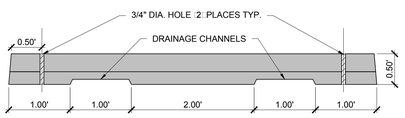


SECTION



PERSPECTIVE VIE□

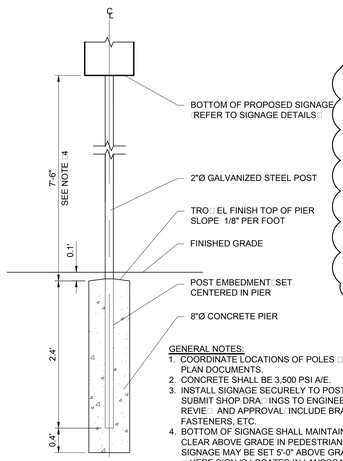
8 CONCRETE WHEEL STOP
SCALE: NTS



ELEVATION

GENERAL NOTES:

1. REFER TO PLAN FOR LOCATIONS.
2. REFER TO DETAILS FOR AD□ACENT PAVEMENT SECTIONS DETAILS.



GENERAL NOTES:

1. COORDINATE LOCATIONS OF POLES □ ITH SITE PLAN DOCUMENTS.
2. CONCRETE SHALL BE 3,500 PSI A/E.
3. INSTALL SIGNAGE SECURELY TO POSTS. SUBMIT SHOP DRA□INGS TO ENGINEER FOR REVIE□ AND APPROVAL□INCLUDE BRAC□ETS, FASTENERS, ETC.
4. BOTTOM OF SIGNAGE SHALL MAINTAIN 7'-6" CLEAR ABOVE GRADE IN PEDESTRIAN AREAS. SIGNAGE MAY BE SET 5'-0" ABOVE GRADE □ HERE SIGN IS LOCATED IN LANDSCAPE AREAS NOT SUB□ECT TO PEDESTRIAN TRAFFIC.
5. POST DETAIL FOR SIGNAGE UP TO 900 S□□INCHES IN SI□E.
6. PROVIDE 24"Ø PLASTIC □ANE DETECTOR COLUMN FOR SIGNAGE LOCATED IN PAVED PATH□□AY'S SUB□ECT TO PEDESTRIAN TRAFFIC.

9 SIGNAGE POST
SCALE: NTS

NOTES:

1. COORDINATE LOCATION OF POLES □ SIGNAGE □ ITH SITE PLAN DOCUMENTS
2. SIGNAGE SHALL CONFORM TO MUTCD □CURRENT EDITION□.
3. SUBMIT SHOP DRA□INGS TO ENGINEER FOR REVIE□ AND APPROVAL□INCLUDE SIGNAGE MATERIAL, REFLECTIVITY INFORMATION, FASTENERS, ETC.
4. INSTALL SIGNAGE SECURELY TO POSTS.

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
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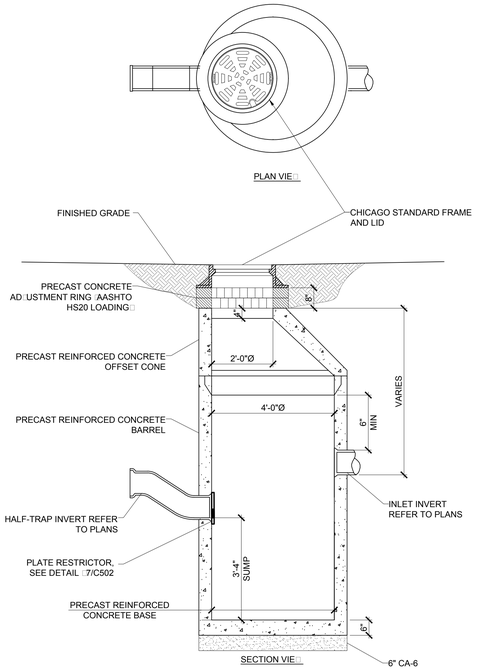
Title

SITE DETAILS

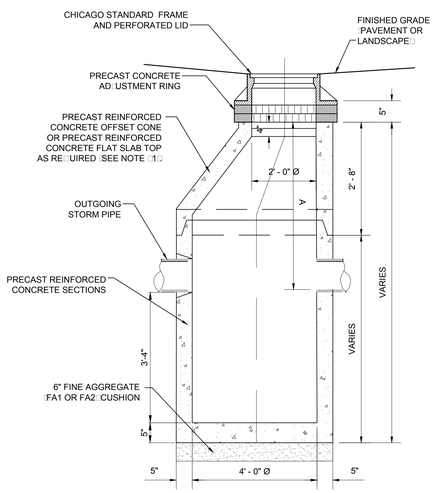
Sheet

C5.00



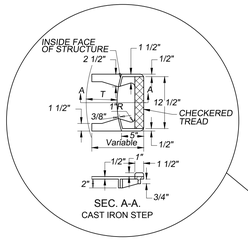
NOTES:
1. INLET INVERT FOR PRIVATE DEVELOPMENT MUST BE AT OR ABOVE HALF-TRAP ELEVATION
2. CATCH BASIN TO CATCH BASIN CONNECTIONS ARE ALLOWED IN PRIVATE SITE. ONLY THE DOWNSTREAM CATCH BASIN IS REQUIRED TO HAVE A HALF-TRAP.
3. TOP OF INVERT TO BE 6" BELOW BARREL AND CONE CONNECTION, IF LESS PROVIDE FLAT TOP.

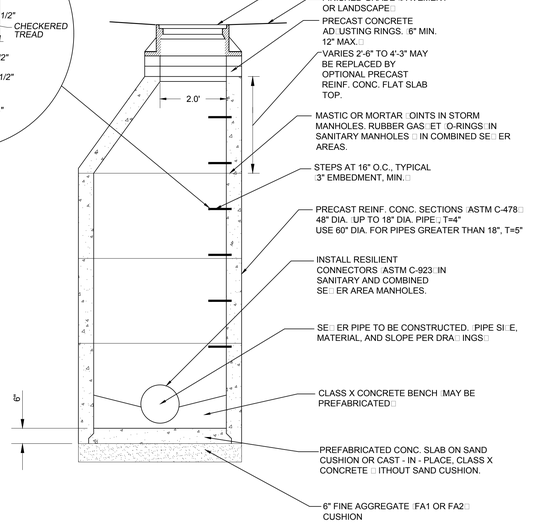
1 STORM CATCH BASIN W/ RESTRICTOR
SCALE: NTS



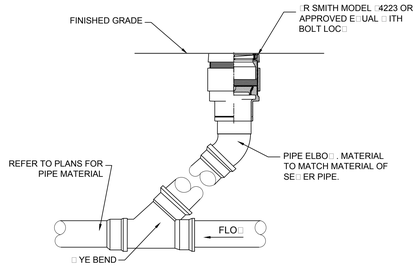
NOTE:
1. IF A>4 FEET, THEN USE FLAT SLAB TOP CATCH BASIN.

2 STORM CATCH BASIN WITHOUT RESTRICTOR
SCALE: NTS



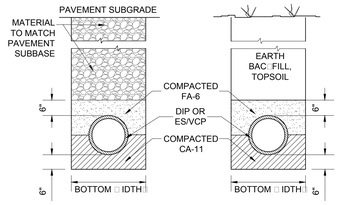


3 MANHOLE
SCALE: NTS



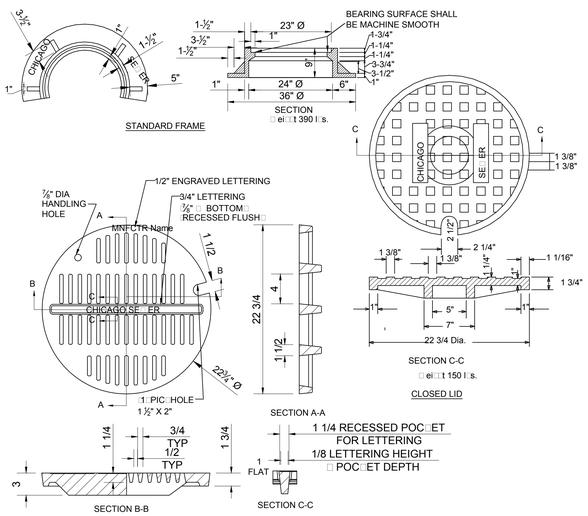
NOTES:
1. CLEANOUT FRAME AND LID SHALL BE ADJUSTABLE (R SMITH MODEL #4223 OR APPROVED EQUAL.
2. ALL LIDS SHALL BE SET FLUSH (WITH FINISHED GRADE.

4 CLEANOUT
SCALE: NTS



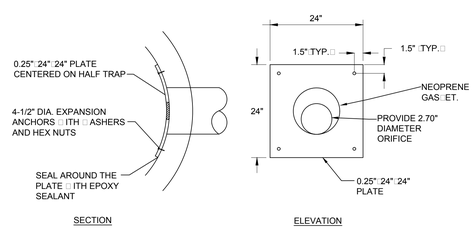
(*) BOTTOM (WIDTH): PIPE SIZES UP TO 24", USE I.D. PLUS 20" OVER 24", USE O.D. PLUS 24"

5 SEWER TRENCH BEDDING AND BACKFILL
SCALE: NTS



MATERIAL: GRATE-GRAY IRON
ASTM A48 CL35B
DESIGN LOAD: HEAVY DUTY
COATING: UNDIPPED
OPEN AREA: 88.6 SQ. IN.

6 SEWER FRAME AND LID
SCALE: NTS



NOTES:

1. PLATE SHALL BE CURVED TO MATCH THE INSIDE RADIUS OF THE CATCH BASIN.
2. THE RESTRICTOR PLATE AND FASTENERS SHALL BE FABRICATED IN STAINLESS STEEL OR DUCTILE IRON.
3. THE INVERT OF ORIFICE SHALL ALIGN WITH THE BOTTOM INVERT OF THE HALF TRAP

7 PLATE RESTRICTOR
SCALE: NTS

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

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CCJM Engineers, Ltd.
303 E. Wacker Dr, #303
Chicago, IL 60601
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Wiss, Janney, Elstner Associates
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Chicago, IL 60603
Acoustics Consultant

Mackesy and Associates
321 N Clark St, #500
Chicago, IL
Food Service Consultant

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Issuance

MAR#	DESCRIPTION	DATE
1	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
3	60% CONSTRUCTION DOCS	07/27/2017
4	90% CONSTRUCTION DOCS	09/07/2017
5	ISSUED FOR BIDDING	10/27/2017
1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017

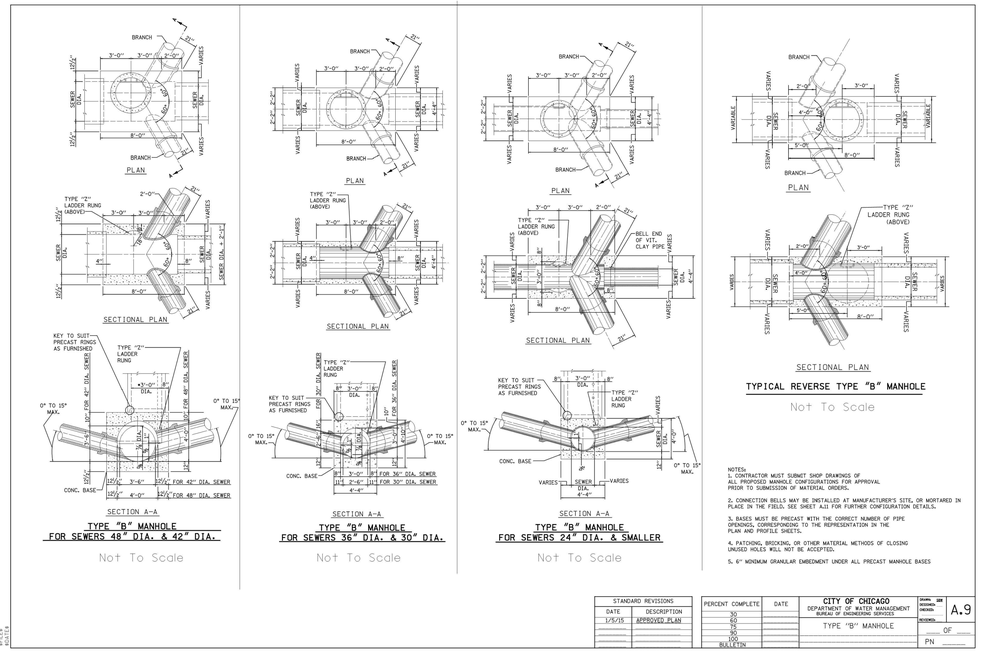
PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

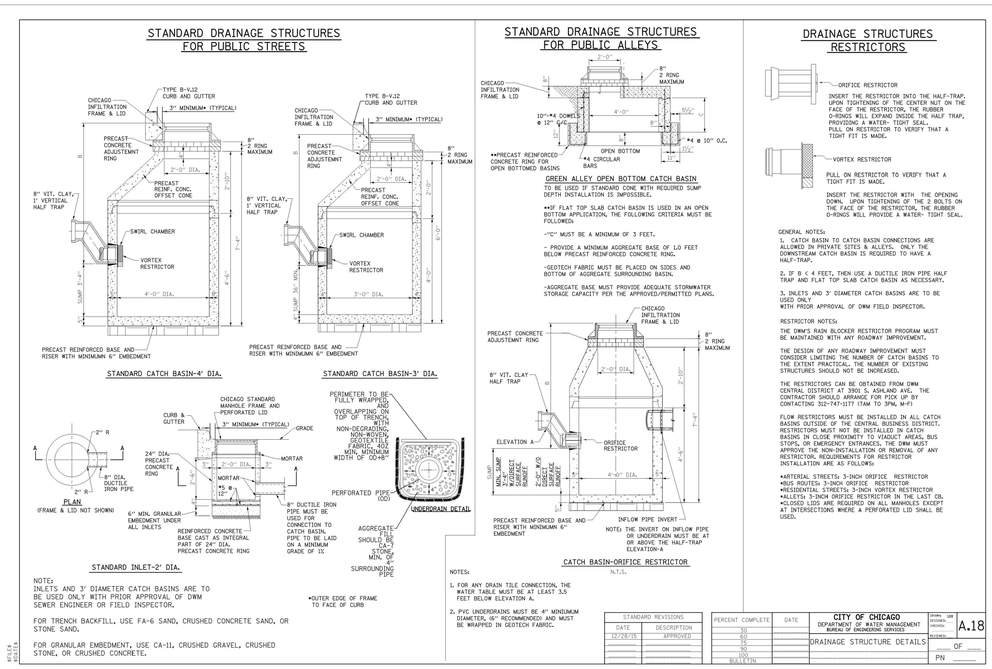
Title
UTILITY DETAILS

Sheet
C5.01



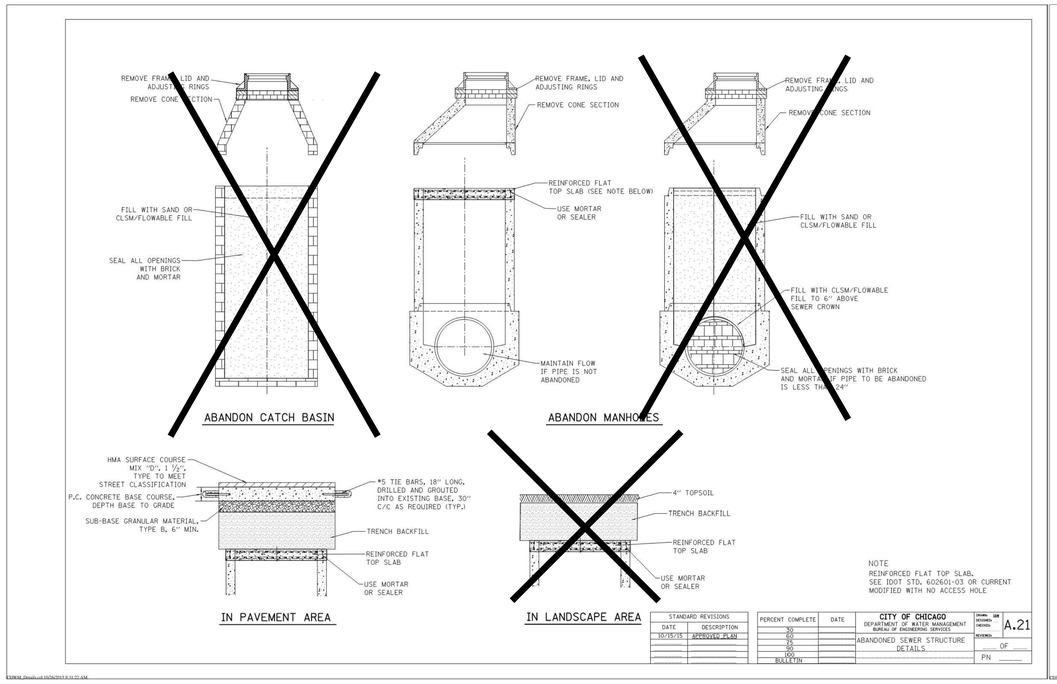
1 CDWM TYPE "B" MANHOLE DETAIL

SCALE: NTS



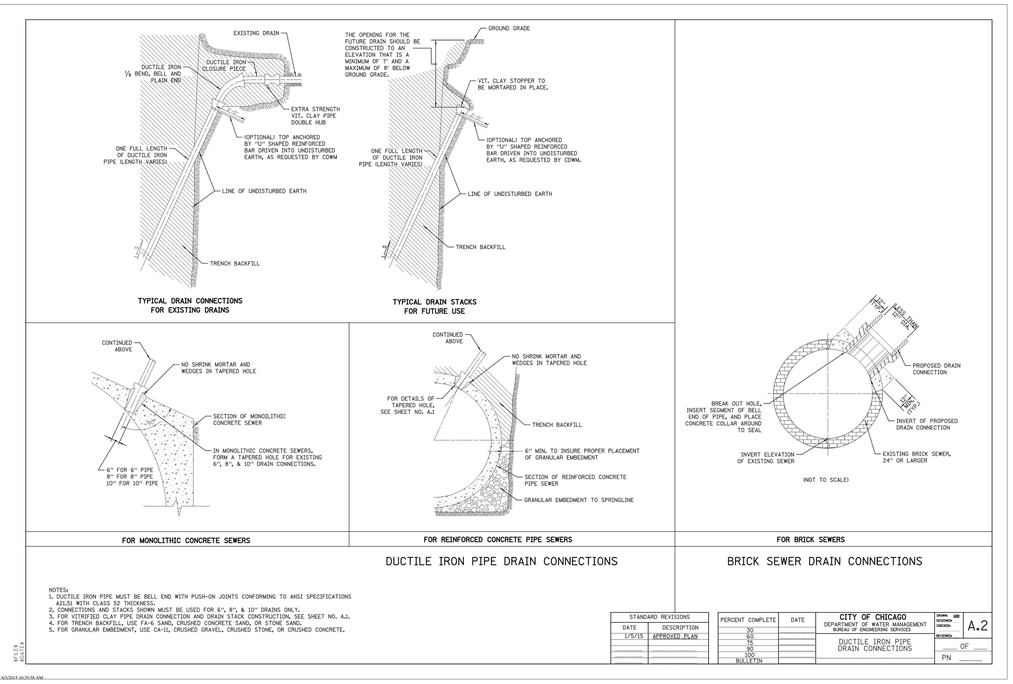
2 CDWM DRAINAGE STRUCTURE IN THE PUBLIC WAY DETAIL

SCALE: NTS



3 CDWM ABANDONED SEWER STRUCTURE DETAIL

SCALE: NTS



7 DUCTILE IRON PIPE DRAIN CONNECTIONS

SCALE: 1"=1'

PUBLIC BUILDING COMMISSION

Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title

CDWM DETAILS

Sheet

C5.03

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"
16'-0" 0'-0" 8'-0" 16'-0" 32'-0"
1/16" = 1'-0"
8'-0" 0'-0" 4'-0" 8'-0" 16'-0"
1/8" = 1'-0"
4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"
2'-0" 0'-0" 1'-0" 2'-0" 4'-0"
1/2" = 1'-0"
1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"
0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"
0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"
0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"

SCOPE OF WORK

1. INSTALL FIBER-REINFORCED POLYMER (FRP) REPAIRS ON CONCRETE GIRDERS AND JOISTS AS INDICATED ON THE REPAIR PLANS AND SCHEDULES. (SEE SHEETS SR2.0 THROUGH SR4.0 AND SR8.0)

2. PERFORM EPOXY AND POLYURETHANE GROUT INJECTION OF CRACKED CONCRETE MEMBERS AT LOCATIONS NOTED ON DRAWINGS AND AT LOCATIONS TO BE SELECTED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION. REFER TO EPOXY AND POLYURETHANE GROUT INJECTION NOTES ON THIS SHEET FOR REQUIREMENTS. ALSO PERFORM EPOXY INJECTION AS REQUIRED AT FRP REPAIR LOCATIONS. REFER TO FRP NOTES ON THIS SHEET FOR REQUIREMENTS. REFER TO ESTIMATED REPAIR QUANTITIES TABLE ON THIS SHEET FOR EPOXY INJECTION QUANTITIES TO BE INCLUDED AS PART OF THE BASE SCOPE OF WORK.

2 3. PERFORM CONCRETE REPAIRS TO EXISTING CONCRETE JOISTS, COLUMNS, GIRDERS, WALLS, AND SLABS AT LOCATIONS NOTED ON SHEETS SR2.0 THROUGH SR4.0, AT OTHER LOCATIONS TO BE SELECTED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION, AND ALSO AS REQUIRED AT FRP REPAIR LOCATIONS. CONTRACTOR TO PROVIDE SHORING AND BRACING AS REQUIRED AT REPAIR LOCATIONS. THE ANTICIPATED REPAIR LOCATIONS THAT WILL REQUIRE SHORING ARE NOTED ON THE DRAWINGS, REFER TO THE NOTES ON SHEETS SR2.0-SR4.0 AND SR8.0. REFER TO NOTE 13 OF THE GENERAL NOTES ON THIS SHEET FOR ADDITIONAL SHORING REQUIREMENTS AND INFORMATION. REFER TO ESTIMATED REPAIR QUANTITIES TABLE ON THIS SHEET FOR CONCRETE REPAIR QUANTITIES TO BE INCLUDED AS PART OF THE BASE SCOPE OF WORK.

4. INSTALL NEW CONCRETE SHEAR COLLARS AND SUPPLEMENTAL COLUMNS AT LOCATIONS INDICATED ON PLANS.

5. REMOVE AND DISPOSE OF THE EXISTING SUPPLEMENTAL STEEL SUPPORTING THE ROOF GIRDERS ALONG THE MAIN CORRIDOR, INCLUDING ALL STEEL BEAMS, CHANNELS, AND ACCESSORIES ABOVE THE ROOF SLAB AND IN THE ATTIC SPACE BETWEEN THE SECOND FLOOR CEILING AND THE ROOF SLAB. COORDINATE REMOVAL OF EXISTING STEEL FRAMING WITH INSTALLATION OF FRP REINFORCEMENT AND OTHER REPAIRS. ALL REPAIRS AND REINFORCEMENT SHALL BE COMPLETED PRIOR TO REMOVAL OF EXISTING STEEL BEAMS. SUBMIT PROPOSED SEQUENCE OF WORK TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO REMOVING EXISTING STEEL FRAMING.

6. REPAIR CONCRETE ROOF DECK AT ALL STEEL TIE ROD PENETRATIONS AFTER REMOVAL OF STEEL BEAMS AND HANGER RODS.

7. INSTALL NEW STEEL PLATE FLEXURAL REINFORCEMENT ON THE TOP SIDE OF THE ROOF STRUCTURE AT THE LOCATIONS IDENTIFIED ON SHEETS SR4.0 AND SR8.0.

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF CHICAGO BUILDING CODE, 2017 EDITION.

2. REPAIR DESIGN LOADS:

ROOF SNOW LOAD	25 PSF, PLUS DRIFTING
FLOOR LIVE LOADS	
CLASSROOMS	40 PSF
CORRIDORS, 2ND FLOOR	80 PSF
1ST FLOOR	100 PSF
GYMNASIUM	100 PSF
AUDITORIUM (FIXED SEATS)	60 PSF

3. CONTRACTOR SHALL NOT USE THE EXISTING PLASTER CEILING AS A STAGING AREA FOR THE WORK OR FOR STORAGE OF MATERIALS.

4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS IN THE FIELD. DO NOT SCALE DRAWINGS. DIMENSIONS SHOWN ON THE DRAWINGS ARE PROVIDED FOR INFORMATION ONLY. THE CONTRACTOR SHALL REPORT ANY INCONSISTENCIES OR VARIANCES TO THE ENGINEER/ARCHITECT BEFORE PROCEEDING WITH THE WORK.

5. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, LICENSES AND GOVERNMENT FEES AS REQUIRED. THE CONTRACTOR SHALL COMPLY WITH CODES, ORDINANCES, RULES, REGULATIONS, ORDERS AND OTHER LEGAL REQUIREMENTS OF PUBLIC AUTHORITY, WHICH BEAR ON THE PERFORMANCE OF THE WORK.

6. THE EXISTING BUILDING WILL REMAIN IN OPERATION FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CONTROLS AS NECESSARY TO ALLOW FOR THE BUILDING OPERATIONS.

7. CONTRACTOR SHALL PROVIDE AND MAINTAIN REQUIRED DUST BARRIERS, BARRICADES, PROTECTION AND WARNING LIGHTS IN GOOD WORKING CONDITION UNTIL COMPLETION OF THE WORK REQUIRING SUCH PROTECTION AND THEN REMOVE THE SAME. ALL SIGNS, BARRIERS AND BARRICADES SHALL COMPLY WITH FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

8. THE CONTRACTOR SHALL MAINTAIN PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIAL AND RUBBISH. PRECAUTIONS SHOULD BE TAKEN TO MINIMIZE DUST FROM ENTERING THE BUILDING. ALL DUST AND DEBRIS CREATED BY THE WORK WITHIN THE BUILDING SHALL BE REMOVED AND THE WORK AREAS CLEANED, INCLUDING THE FINISHED AND UNFINISHED ATTIC AND BASEMENT AREAS.

9. CONTRACTOR SHALL REMOVE AND REPLACE PORTIONS OF EXISTING SUSPENDED CEILING, PLASTER CEILING, AND EXISTING PARTITION WALLS AS NECESSARY TO ACCESS REPAIR LOCATIONS AND INSTALL SHORING. AFTER COMPLETION OF THE REPAIR WORK IN EACH AREA, CONTRACTOR SHALL REPLACE ALL REMOVED PORTIONS OF THE CEILING AND PARTITION WALLS TO MATCH THE ORIGINAL. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

10. CONTRACTOR SHALL DETERMINE THE NEED FOR, AND PERFORM, ALL DISCONNECTION AND/OR TEMPORARY OR PERMANENT REROUTING OF EXISTING UTILITIES, INCLUDING ELECTRICAL, HVAC, AND PLUMBING, IN CONSULTATION WITH THE OWNER, SCHOOL, AND CONSTRUCTION MANAGER, TO FACILITATE THE INSTALLATION OF REPAIRS. THE ARCHITECTURAL AND MECHANICAL DRAWINGS INDICATE THE LOCATIONS OF SOME OF THE KNOWN INTERFERENCES. HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXISTING UTILITIES AND RELATED INTERFERENCES AT ALL REPAIR LOCATIONS. UPON COMPLETION OF THE REPAIR WORK AT EACH AREA, CONTRACTOR SHALL REINSTALL ALL UTILITIES TO MATCH EXISTING. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS.

2 11. THE CONTRACTOR SHALL AT ALL TIMES PROTECT THE BUILDING EXTERIOR AND INTERIOR FINISHES AGAINST DAMAGE RESULTING FROM THE WORK PERFORMED. CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY PROTECTION AND ROOFING AS REQUIRED TO PROTECT BUILDING ELEMENTS AND FINISHES FROM WATER INFILTRATION OR OTHER ELEMENTS DURING THE COURSE OF THE WORK. ANY DAMAGE CAUSED TO THE EXISTING BUILDING ELEMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.

12. FIBER-REINFORCED POLYMER (FRP) REPAIRS SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH ACI 440.2R-17 *GUIDE FOR THE DESIGN AND CONSTRUCTION OF EXTERNALLY BONDED FRP SYSTEMS FOR STRENGTHENING CONCRETE STRUCTURES*.

2 13. CONTRACTOR SHALL INSTALL TEMPORARY SHORING AND BRACING WHERE REQUIRED AT ALL CONCRETE REPAIR LOCATIONS, INCLUDING JOIST, COLUMN, SLAB AND GIRDER REPAIR LOCATIONS. THE ANTICIPATED REPAIR LOCATIONS THAT WILL REQUIRE SHORING ARE NOTED ON THE DRAWINGS, REFER TO THE NOTES ON SHEETS SR2.0-SR4.0 AND SR8.0. THE CONTRACTOR SHALL PROVIDE SHORING, BRACING, AND SUPPORT AS REQUIRED TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE NEW OR EXISTING CONSTRUCTION DURING THE WORK. CONSTRUCTION DEBRIS SHALL BE REMOVED IN A MANNER THAT AVOIDS OVERLOADING ADJACENT STRUCTURAL MEMBERS. SHORING SHALL BE INSTALLED PRIOR TO CONCRETE REMOVAL AT ALL REPAIR LOCATIONS. WHERE SHORING IS REQUIRED, ASSUME SHORING WILL NEED TO EXTEND DOWN TO GRADE, WITH SHORING ON THE 2ND FLOOR, 1ST FLOOR, AND BASEMENT LEVEL. CONTRACTOR SHALL SUBMIT PROPOSED SHORING TO ENGINEER FOR REVIEW PRIOR TO INSTALLING SHORING. SHORING SUBMITTAL SHALL INCLUDE DRAWINGS AND CALCULATIONS STAMPED BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER.

FRP REPAIR NOTES

1. THE CONTRACTOR SHALL INSTALL THE FRP SYSTEM IN ACCORDANCE WITH ACI 440.2R-17 *GUIDE FOR THE DESIGN AND CONSTRUCTION OF EXTERNALLY BONDED FRP SYSTEMS FOR STRENGTHENING CONCRETE STRUCTURES*, THE MANUFACTURER'S REQUIREMENTS AND INSTRUCTIONS, AND SPECIFICATION *SECTION 03 72 50 - EXTERNALLY BONDED FRP REINFORCEMENT*.

2. SUBMIT DESIGN CALCULATIONS PREPARED BY AN ENGINEER EXPERIENCED IN THE DESIGN OF FRP COMPOSITE STRENGTHENING SYSTEMS ON BEHALF OF THE CONTRACTOR TO DETERMINE THE DESIGN AND LAYOUT OF THE FRP MATERIALS TO BE INSTALLED. SUBMITTED CALCULATIONS SHALL BE STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF ILLINOIS. DESIGN CALCULATIONS SHALL CONFORM TO REQUIREMENTS SET FORTH IN ACI 440.2R-17 *GUIDE FOR THE DESIGN AND CONSTRUCTION OF EXTERNALLY BONDED FRP SYSTEMS FOR STRENGTHENING CONCRETE STRUCTURES*, AND BE BASED ON THE DESIGN MODULUS AND AREA OF THE COMPOSITE TO BE INSTALLED. THE COMPOSITE SYSTEM SHALL BE DESIGNED TO ACHIEVE THE STRUCTURAL PERFORMANCE SHOWN ON THE DRAWINGS. THE ADDITIONAL CAPACITY REQUIRED TO BE PROVIDED BY THE FRP IS SHOWN IN THE REPAIR SCHEDULES ON SHEET SR8.0. THE FRP SYSTEM SHALL BE CAPABLE OF PROVIDING THE ADDITIONAL CAPACITY REQUIRED WHILE ACCOUNTING FOR THE AS-BUILT GEOMETRY OF THE JOISTS AND GIRDERS, INCLUDING THE BUMP-OUT ON THE VERTICAL FACE OF THE GIRDERS. THE FRP DESIGN ENGINEER AND MANUFACTURER SHALL SPECIFY THE REQUIRED INSTALLATION AND ANCHORAGE OF THE FRP REINFORCEMENT TO ACCOMMODATE THE AS-BUILT GEOMETRY, INCLUDING ALL ASSOCIATED DETAILING, ANCHORAGE, SUPPLEMENTAL FIBER ANCHORS, OR OTHER ITEMS/WORK AS REQUIRED, AND THE CONTRACTOR SHALL INCLUDE THIS WORK AS PART OF THE INSTALLATION.

2 3. ~~CARBON FIBER REINFORCED POLYMER (CFRP) SYSTEM SHALL HAVE A MINIMUM ELASTIC MODULUS OF 8,500 KSI AND ALLOWED THICKNESS OF 0.04 IN. THE CFRP SYSTEM SHALL BE USED FOR ALL SHEAR REPAIRS.~~

4. THE FRP SYSTEM SHALL BE DESIGNED FOR A MAXIMUM ULTIMATE STRAIN OF 0.002 FOR SHEAR.

5. MATERIAL WITNESS PANELS OF EACH COMPOSITE TYPE SHALL BE MANUFACTURED ON SITE TO BE TESTED BY AN INDEPENDENT LAB IN ACCORDANCE WITH ASTM D3039 AND SPECIFICATION *SECTION 03 72 50 - EXTERNALLY BONDED FRP REINFORCEMENT* TO VERIFY THE PROPERTIES USED FOR DESIGN.

6. CONCRETE SURFACES TO RECEIVE FRP SHALL BE SOUNDED BY THE CONTRACTOR. ANY UNSOUND CONCRETE SHALL BE REMOVED AND REPAIRED IN ACCORDANCE WITH SPECIFICATION *SECTION 03 95 00 - CONCRETE REPAIR*.

7. BEFORE INSTALLING FRP, ALL CRACKS IN THE REPAIR AREA GREATER THAN 0.010 INCH SHALL BE EPOXY INJECTED IN ACCORDANCE WITH THE SPECIFICATION *SECTION 03 64 23 - EPOXY INJECTION*.

8. WHERE FIBERS WILL BE WRAPPED AROUND THE CORNERS OF RECTANGULAR CROSS SECTIONS, THE CORNERS SHOULD BE ROUNDED TO PROVIDE A MINIMUM RADIUS OF 3/4 IN.

9. UNEVEN CONCRETE SURFACES SHALL BE GROUND OR FILLED WITH APPROVED FILLER MATERIALS IN ACCORDANCE WITH FRP MANUFACTURER'S REQUIREMENTS AND SPECIFICATION *SECTION 03 72 50 - EXTERNALLY BONDED FRP REINFORCEMENT*.

10. PREPARE SUBSTRATE CONCRETE SURFACES TO RECEIVE FRP BY ABRASIVE BLASTING OR OTHER EQUIVALENT MECHANICAL MEANS TO REMOVE ALL LAITANCE, GREASE, CURING COMPOUNDS, WAXES, AND OTHER BOND INHIBITING MATERIALS. THE SURFACE OF THE CONCRETE SHALL BE PROFILED USING ABRASIVE BLASTING AND/OR DISC GRINDING TO A MINIMUM CONCRETE SURFACE PROFILE DESIGNATION OF CSP-3 AS DEFINED BY ICRI GUIDELINE 03732.

11. SPLICES IN THE FRP MATERIAL SHALL BE AVOIDED, UNLESS APPROVED BY THE ENGINEER.

12. WHERE SPLICES ARE APPROVED BY THE ENGINEER, MINIMUM LAP LENGTH IN THE STRONG FIBER DIRECTION OF THE FRP MATERIAL SHALL BE 12 IN.

13. THE MANUFACTURER'S TECHNICAL REPRESENTATIVE SHALL BE PRESENT TO INSPECT THE SURFACE PREPARATION WORK BEFORE THE FRP IS APPLIED AND TO OBSERVE THE INITIAL FRP INSTALLATION IN ITS ENTIRETY.

14. CURE FRP RESINS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATION *SECTION 03 72 50 - EXTERNALLY BONDED FRP REINFORCEMENT*.

15. APPLY A CLASS 1 (A) SMOKE AND FLAME SPREAD COATING TO ALL FRP REPAIRS, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

EPOXY AND POLYURETHANE GROUT INJECTION NOTES

1. REFER TO SCOPE OF WORK NOTE 2 FOR DESCRIPTION OF INJECTION SCOPE.

2. REFERENCE SPECIFICATION SECTION 03 64 23 - *EPOXY AND GROUT INJECTION* FOR REPAIR MATERIALS AND PROCEDURES.

3. TUNNEL WALL CRACKS TO BE INJECTED SHALL BE FILLED USING DENEEF FLEX LV PURE / SLV PURE POLYURETHANE, OR APPROVED EQUAL. INJECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

CONCRETE REPAIR NOTES

1. THE CONCRETE REPAIRS SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTIONS *03 20 00 CONCRETE REINFORCEMENT, 03 30 01 - CAST IN PLACE CONCRETE, 03 95 00 - CONCRETE REPAIR, AND 03 37 13 SHOTCRETE*.

2. CONTRACTOR SHALL INSTALL SHORING AND BRACING WHERE REQUIRED PRIOR TO REMOVING CONCRETE. REFER TO NOTE 13 OF THE GENERAL NOTES ON THIS SHEET.

3. ALL UNSOUND CONCRETE SHALL BE REMOVED TO SOUND CONCRETE, EXTENDING A MINIMUM OF 3/4 IN. BEYOND EXPOSED REINFORCEMENT.

4. EXPOSED REINFORCING SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING TO REMOVE ALL RUST AND UNSOUND CONCRETE.

5. ARCHITECT/ENGINEER SHALL BE ALLOWED A MINIMUM OF 24 HOURS FOR THE INSPECTION OF PROPERLY PREPARED CONCRETE SURFACES AND REINFORCEMENT BEFORE BEGINNING THE CONCRETE PLACEMENT.

6. INSTALL NEW SUPPLEMENTAL STEEL DOWELS OR BARS AT THE DIRECTION OF THE ENGINEER AT THE CONCRETE REPAIR LOCATIONS.

7. CONCRETE SHALL BE PLACED AND CURED IN ACCORDANCE WITH SPECIFICATION SECTIONS *03 30 01 - CAST IN PLACE CONCRETE AND 03 95 00 - CONCRETE REPAIR*. SHOTCRETE SHALL BE PLACED AND CURED IN ACCORDANCE WITH SECTION *03 37 13 - SHOTCRETE*. RECAST CONCRETE REPAIR AREAS TO MATCH EXISTING GIRDER AND JOIST SECTIONS INCLUDING TAPERED AREAS (HORIZONTAL AND VERTICAL) ON JOISTS, AND BUMP-OUTS ON GIRDERS.

8. THE CONCRETE REPAIR AREAS WILL BE MEASURED AND QUANTIFIED PER SQUARE FOOT OR PER LINEAR FOOT FOR THE VARIOUS REPAIR TYPES AS INDICATED ON THE DRAWINGS AND IN THE ESTIMATED REPAIR QUANTITIES TABLE. AREAS WILL BE ROUNDED UP TO THE NEAREST 1/2 SQUARE FOOT.

SHEAR COLLAR AND COLUMN NOTES

1. NEW SHEAR COLLAR AND COLUMN WORK SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTIONS 03 20 00 AND 03 30 01.

2. HANGER RODS SUPPORTING CONCRETE GIRDERS AT SHEAR COLLAR LOCATIONS SHOULD BE TENSIONED TO ENSURE EXISTING SHORING IS TIGHT TO UNDERSIDE OF GIRDER AND DEAD LOAD IS TRANSFERRED TO STEEL BEAM ABOVE ROOF.

3. ROUGHEN ALL SURFACES OF CONCRETE COLUMNS AND WALLS AT LOCATION OF NEW SHEAR COLLARS AND COLUMNS TO A FULL AMPLITUDE OF 1/4 IN.

4. CONSTRUCT NEW CONCRETE SHEAR COLLAR AND COLUMN AS SPECIFIED. CLEAN ROUGHENED CONCRETE SURFACES OF DUST AND LAITANCE IMMEDIATELY PRIOR TO CONCRETE PLACEMENT.

5. ALLOW ALL CONCRETE TO CURE 28 DAYS OR UNTIL CONCRETE CYLINDER TESTS VERIFY THE CONCRETE HAS ACHIEVED ITS DESIGN STRENGTH BEFORE REMOVING STEEL SHORING AT SHEAR COLLAR LOCATIONS.

BEARING PADS

1. BEARING PADS AT CONCRETE SHEAR COLLARS AND SUPPLEMENTAL COLUMNS SHALL BE MASTICORD TYPE AS MANUFACTURED BY AVI, OR APPROVED EQUAL. BEARING PAD THICKNESS SHALL BE 1/2 IN.

2 2. INSTRUCT MANUFACTURER TO REMOVE WAX COATING OF MASTICORD PAD PRIOR TO DELIVERING. MASTICORD CANNOT BE INSTALLED WITH WAX COATING.

3. ADHERE BEARING PAD TO CONCRETE SURFACES WITH WITROBOND 1-2-OK EPOXY, OR APPROVED EQUAL

a. SURFACE PREPARATION
   i. CLEAN BONDING SURFACE TO REMOVE ANY DUST, DIRT, GREASE, OILS, OR WAXES.
   ii. DRY SURFACES PRIOR TO APPLICATION OF EPOXY.

b. GENERAL BINDING PROCEDURE
   i. MIX EPOXY 1:1 RATIO BY WEIGHT
   ii. TROWEL EPOXY TO ONE SURFACE AND PLACE BEARING PAD ON EPOXY.
   iii. USE CLAMPS TO APPLY PRESSURE TO THE BEARING PAD AND AID IN THE CURING PROCESS.
   iv. ALLOW 24 HOURS FOR INITIAL SET OF EPOXY, AND 7 DAYS FOR FULL CURE.

CONCRETE ANCHORS AND DOWELS

1. ANCHORS SHALL BE AS NOTED ON DRAWINGS.

2. EPOXY USED TO SET DOWELED-IN REINFORCING STEEL BARS SHALL BE HILTI HIT-RE 500 OR HIT-HY 200 EPOXY ADHESIVE AS NOTED ON THE DRAWINGS. MINIMUM EMBEDMENT DEPTH AS SHOWN ON DRAWINGS. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.

3. POST INSTALLED ANCHORS MUST BE INSTALLED USING THE SPACING AND EDGE DISTANCES GIVEN ON THE PLANS OR DETAILS. IF FIELD CONDITIONS DICTATE THAT THE ANCHORS SPACING OR EDGE DISTANCES BE MODIFIED, THE CONTRACTOR SHALL SUBMIT A FIELD SKETCH TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO MAKING ANY MODIFICATIONS.

ESTIMATED REPAIR QUANTITIES

2

Item	Description	Detail	Unit	Total Quantity Shown on Sheets SR2.0-SR4.0 at Specified Repair Locations	Total Quantity from Roof Joist Concrete Repair Tables on Sheet SR8.0	Overall Total
1	Perform epoxy injection of cracks on underside, top, and/or sides of concrete slabs, joists, and beams	N/A	Lin. Ft.	1461	392	1853
2	Repair spalled or delaminated concrete on underside surface or vertical surface of concrete beam, column, or joist(1)	2/SR6.0	Sq. Ft.	153	0	153
3	Repair spalled or delaminated concrete at bottom of a joist stem(2)	1/SR6.0	Lin. Ft.	39	13	52
4	Perform full depth concrete joist repair	4-6/SR6.0	Lin. Ft.	0	20	20
5	Perform full depth concrete repair at joist slab between joist stems	3/SR6.0	Sq. Ft.	111	0	111
6	Repair spalled or delaminated concrete on underside surface of concrete slab	3/SR7.0	Sq. Ft.	80	0	80
7	Repair spalled or delaminated concrete on vertical surface of tunnel walls	2/SR7.0	Sq. Ft.	80	0	80
8	Install supplemental epoxy dowel shear reinforcement into concrete beam	7/SR6.0	Ea.	0	0	0
9	Perform polyurethane grout injection of cracks in tunnel walls	N/A	Lin. Ft.	70	0	70
10	Install new concrete shear collars	6-7/SR5.0	Ea.	5	0	5
11	Install new supplemental concrete columns	8/SR5.0	Ea.	2	0	2
12	Repair spalled or delaminated concrete on top surface of concrete spandrel beam on exterior of building	4/SR7.0	Sq. Ft.	0	0	0
13	Repair spalled or delaminated concrete on vertical surface of concrete spandrel beam on exterior of building	5/SR7.0	Sq. Ft.	0	0	0

2 Notes:
1. Repair height varies. Assume 5 inch repair height/depth unless noted otherwise on Sheets SR2.0 through SR4.0.
2. Repair height varies. Assume 6 inch repair height unless noted otherwise on Sheets SR2.0 through SR4.0.
3. The estimated repair quantities listed do not include the concrete slab repairs required at all existing tie rod penetrations through the roof slab. Refer to Detail 1/SR7.0. Contractor to verify quantity and locations on site during removal of roof level steel beams and tie rods.
4. The estimated repair quantities listed do not include FRP or steel plate reinforcement. Refer to Sheet SR8.0 for FRP and steel plate reinforcement quantities.

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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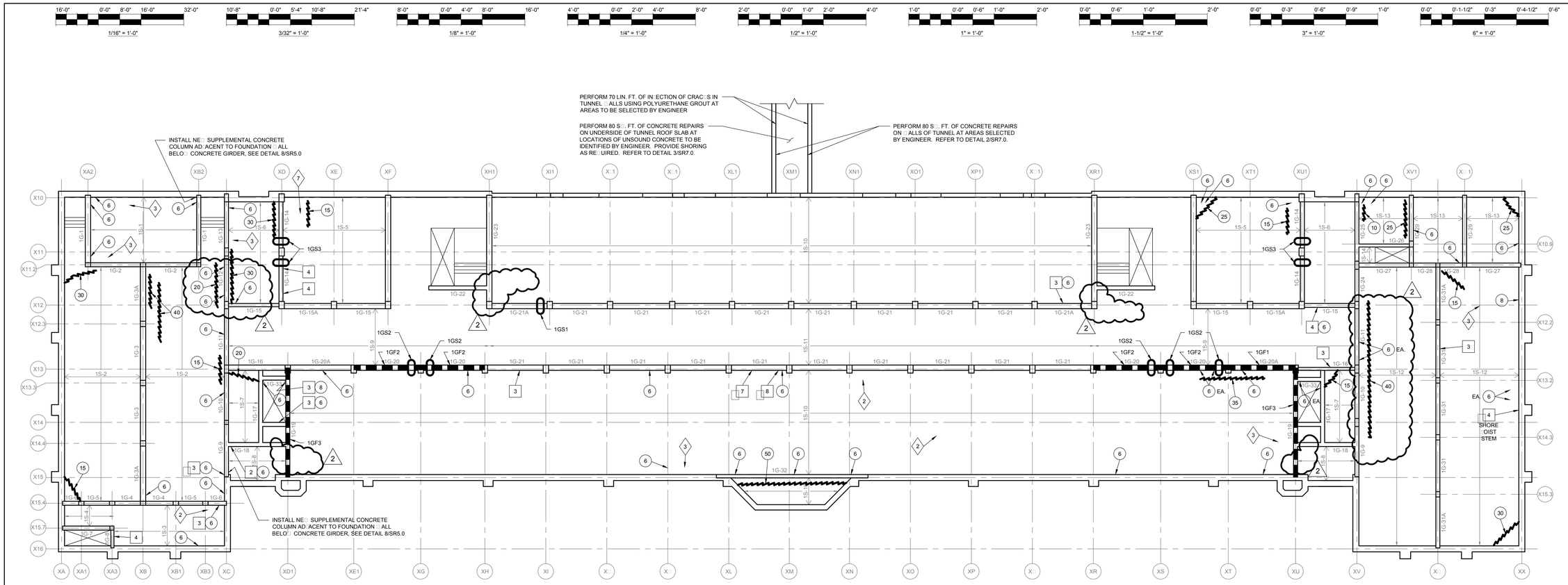
PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS
PBC Contract No: 05175
Project No: 217102.00

Title
NOTES

Sheet
SR1.0



1 FIRST FLOOR PLAN
SCALE: 3/32" = 1'-0"

LEGEND:

- GIRDER SHEAR REINFORCEMENT - REF. DETAILS 1 AND 2 ON SHEET SR5.0 AND REPAIR SCHEDULE ON SHEET SR8.0
- GIRDER FLEXURAL REINFORCEMENT - REF. DETAILS 4 AND 5 ON SHEET SR5.0 AND REPAIR SCHEDULE ON SHEET SR8.0
- SHEAR COLLAR - REF. DETAILS 6 AND 7 ON SHEET SR5.0 AND REPAIR SCHEDULE ON SHEET SR8.0
- EPOXY IN□ECT CRAC□ □APPROXIMATE LIN. FT.□
- GIRDER CONCRETE REPAIR □APPROXIMATE S□□. FT.□ SEE DETAIL 2 ON SHEET SR6.0. ASTERIS□ □□INDICATES THAT SHORING IS RE□UIRED AT REPAIR LOCATION PRIOR TO CONCRETE REMOVAL.
- □OIST CONCRETE REPAIR □APPROXIMATE LIN. FT.□ SEE DETAIL 1 ON SHEET SR6.0. ASTERIS□ □□INDICATES THAT SHORING IS RE□UIRED AT REPAIR LOCATION PRIOR TO CONCRETE REMOVAL.
- FULL DEPTH □OIST SLAB REPLACEMENT - SEE DETAIL 3 ON SHEET SR6.0. INSTALL SHORING PRIOR TO CONCRETE REMOVAL.

NOTES:

1. BASEMENT IS ONLY PARTIALLY EXCAVATED AT SOME LOCATIONS. EXCAVATE SOIL AS RE□UIRED TO ACCESS REPAIR LOCATIONS.
2. EXISTING FRAMING LAYOUT INCLUDING GIRDER AND □OIST MEMBER DESIGNATIONS □ AS REPRODUCED FROM ORIGINAL 1925 DESIGN DRA□ INGS PRODUCED BY □OHN C. CHRISTENSEN.

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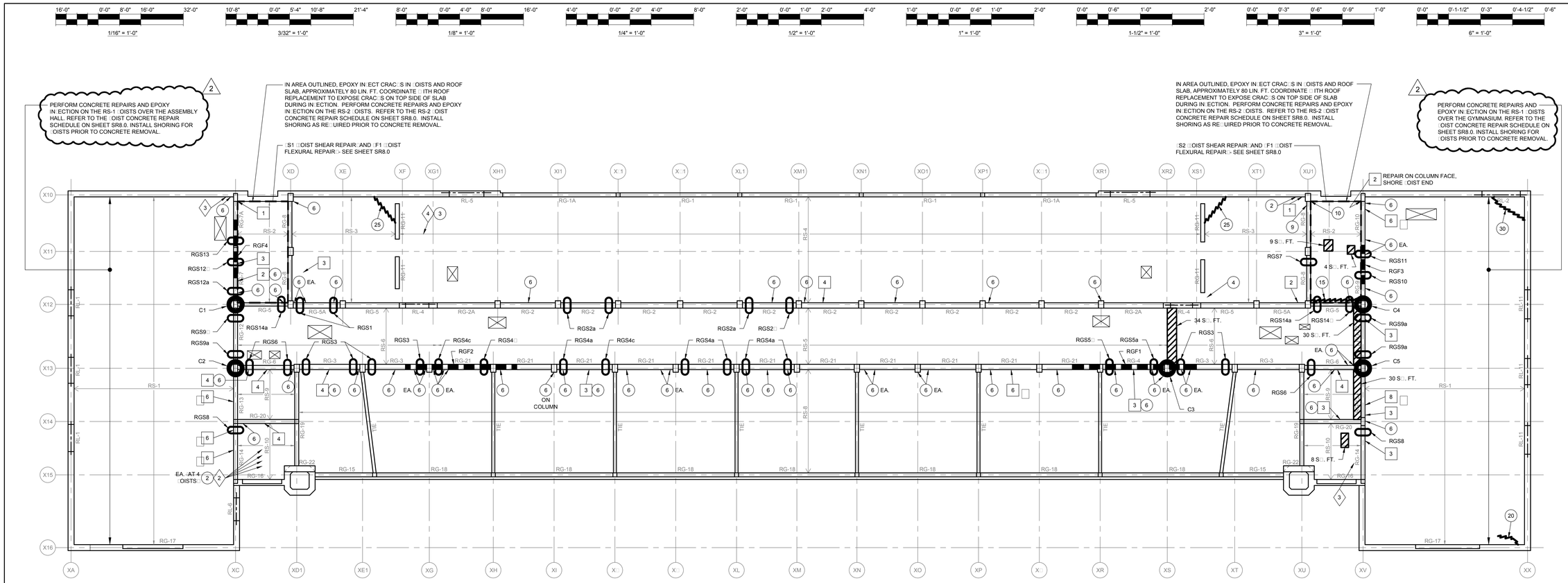
PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS
PBC Contract No: 05175
Project No: 217102.00

Title
FIRST FLOOR PLAN

Sheet
SR2.0



1 ROOF PLAN
SCALE: 3/32" = 1'-0"

N

LEGEND:

- GIRDER SHEAR REINFORCEMENT - REF. DETAILS 1 AND 2 ON SHEET SR5.0 AND REPAIR SCHEDULE ON SHEET SR8.0
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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

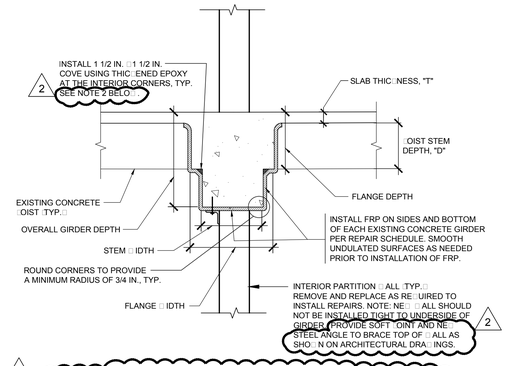
PBC Contract No: 05175

Project No: 217102.00

Title
ROOF PLAN

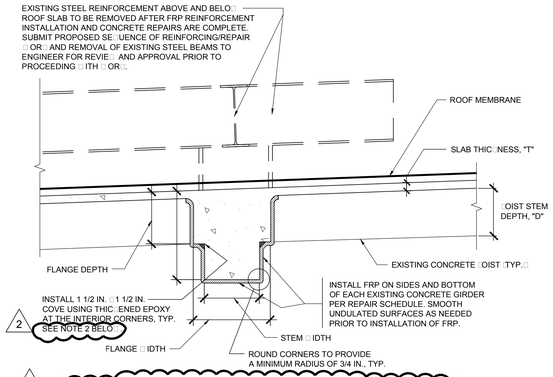
Sheet
SR4.0

32'-0" 0'-0" 16'-0" 32'-0" 64'-0" 1/32" = 1'-0" | 16'-0" 0'-0" 8'-0" 16'-0" 32'-0" 1/16" = 1'-0" | 8'-0" 0'-0" 4'-0" 8'-0" 16'-0" 1/8" = 1'-0" | 4'-0" 0'-0" 2'-0" 4'-0" 8'-0" 1/4" = 1'-0" | 2'-0" 0'-0" 1'-0" 2'-0" 4'-0" 1/2" = 1'-0" | 1'-0" 0'-0" 0'-6" 1'-0" 2'-0" 1" = 1'-0" | 0'-0" 0'-6" 1'-0" 2'-0" 1-1/2" = 1'-0" | 0'-0" 0'-3" 0'-6" 0'-9" 1'-0" 3" = 1'-0" | 0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6" 6" = 1'-0"



2 NOTES:
1. REMOVE EXISTING METAL FORMING PANS AT REPAIR AREAS ON EACH LEVEL AS RE□UIRED TO INSTALL SPECIFIED REPAIRS.
2. REFER TO NOTE 2 OF THE FRP REPAIR NOTES ON SHEET SR1.0 □ITH REGARD TO INTERIOR CORNERS. INCLUDE ALL ASSOCIATED DETAILING, ANCHORAGE, OR OTHER □OR□RE□UIRED TO ACCOMMODATE THE AS-BUILT GEOMETRY, INCLUDING THE BUMP-OUT/INTERIOR CORNERS.

1 GIRDER SHEAR REINFORCEMENT - FIRST FLOOR
NOT TO SCALE



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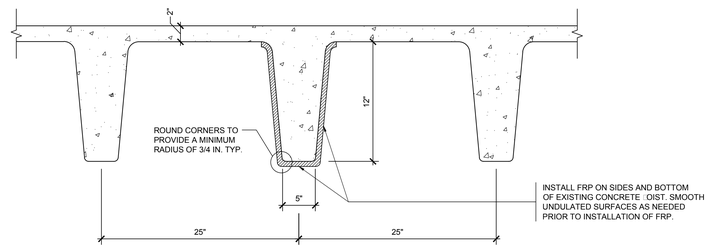
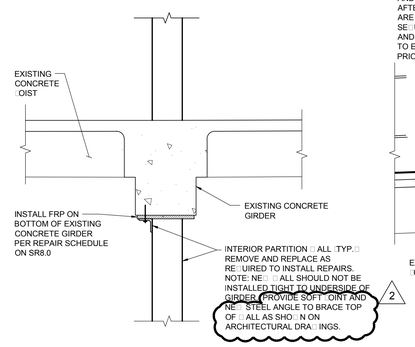
2 GIRDER SHEAR REINFORCEMENT - ROOF LEVEL
NOT TO SCALE



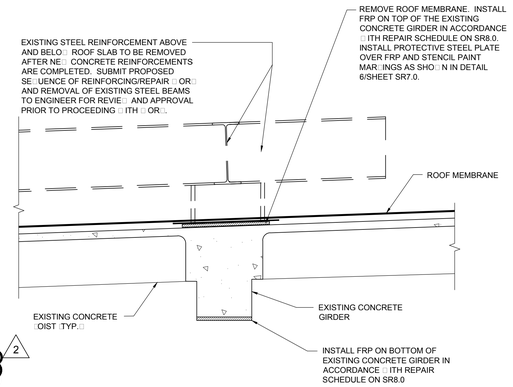
NOTE: REMOVE ALL EXISTING METAL FORMING PANS AT REPAIR AREAS ON EACH LEVEL AS RE□UIRED TO INSTALL SPECIFIED REPAIRS.

3 □OIST SHEAR REINFORCEMENT
NOT TO SCALE

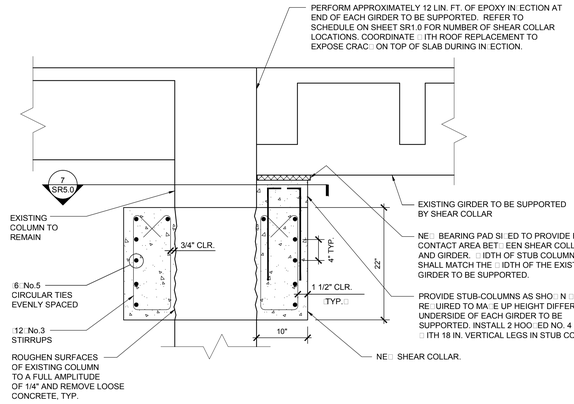


NOTE: FOR FLEXURAL FRP REINFORCEMENT, STOP LAYERS 1/2 IN. SHORT OF END OF BEAM SO THE NUMBER OF LAYERS CAN BE VERIFIED VISUALLY.

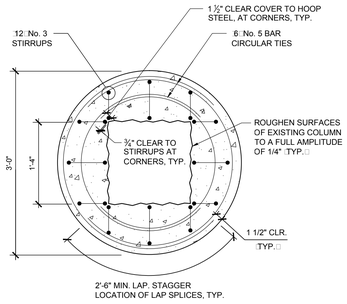
4 FLEXURAL REINFORCEMENT- FIRST AND SECOND FLOORS
NOT TO SCALE



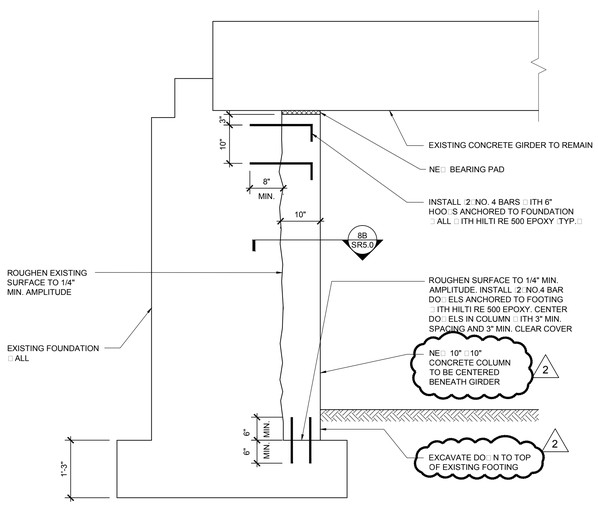
5 FLEXURAL REINFORCEMENT- ROOF LEVEL
NOT TO SCALE



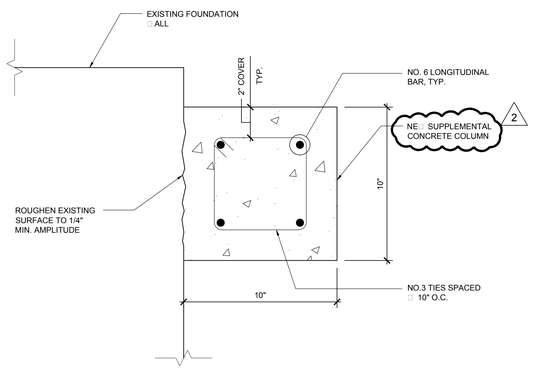
6 SHEAR COLLAR DETAIL
NOT TO SCALE



7 PLAN - TOP OF SHEAR COLLAR
NOT TO SCALE



A. ELEVATION



B. SECTION

8 NE□ SUPPLEMENTAL COLUMN
NOT TO SCALE

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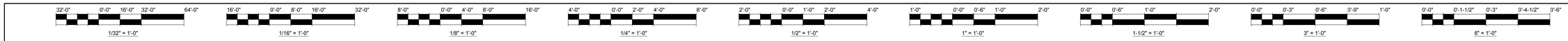
PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

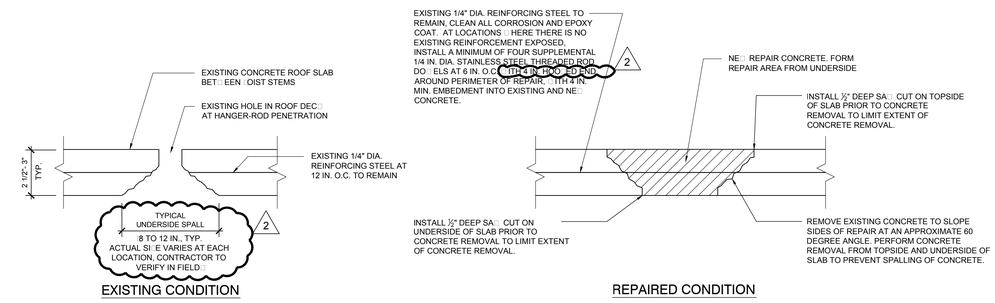
PBC Contract No: 05175

Project No: 217102.00

Title
REPAIR DETAILS

Sheet
SR5.0

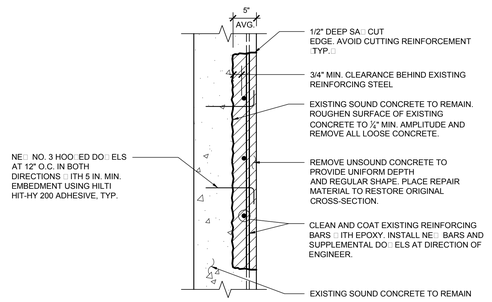




1 ROOF DEC□ REPAIR AT HANGER ROD PENETRATIONS

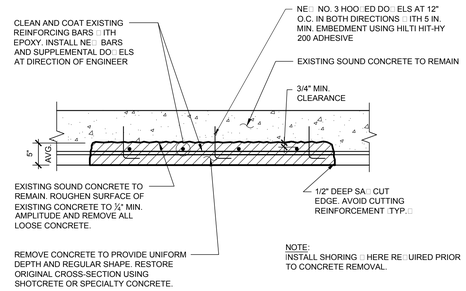
NOT TO SCALE

NOTE: CONTRACTOR TO VERIFY LOCATIONS AND ACTUAL SI□E OF SLAB REPAIR AREAS FOLLO□ING THE REMOVAL OF THE EXISTING ROOF LEVEL SHORING BEAMS AND TIE RODS. ACTUAL SI□E OF SLAB REPAIR AREAS □ILL VARY BASED ON ACTUAL SI□E OF EXISTING SPALLS AT ALL HANGER ROD LOCATIONS. 2



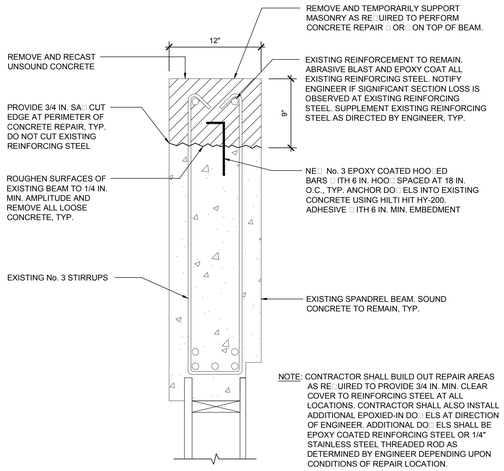
2 VERTICAL SURFACE CONCRETE REPAIR

NOT TO SCALE



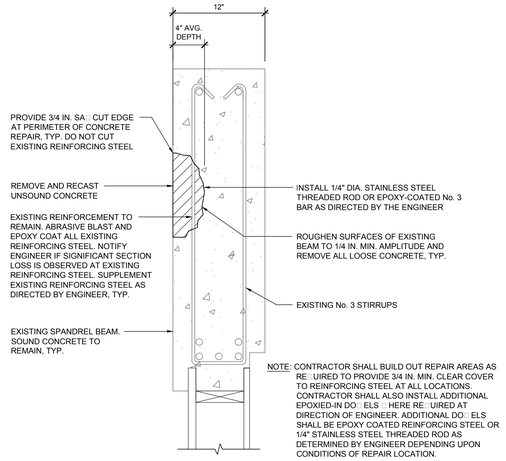
3 OVERHEAD CONCRETE REPAIR

NOT TO SCALE



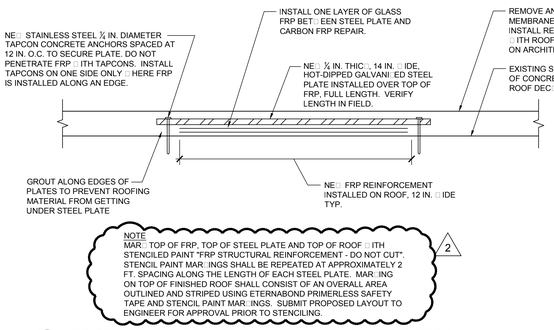
4 TOP OF SPANDREL BEAM CONCRETE REPAIR

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



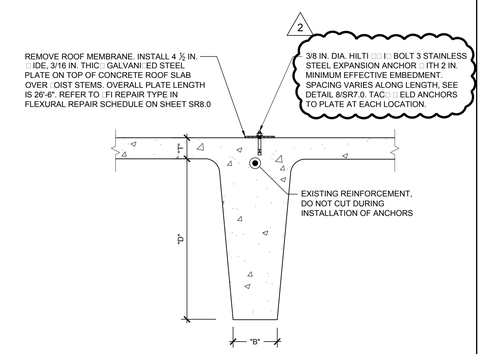
5 VERTICAL FACE CONCRETE REPAIR ON SPANDREL BEAM

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



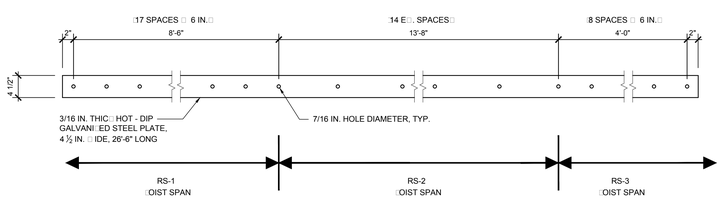
6 PROTECTION FOR FRP INSTALLED ON ROOFTOP

NOT TO SCALE



7 □OIST FLEXURAL REINFORCEMENT

NOT TO SCALE

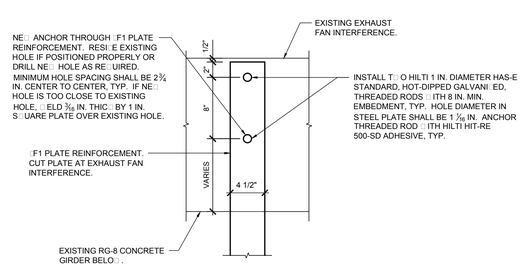


NOTE
1. PLATE CONFIGURATION SHO□N IS FOR PLATES TO BE INSTALLED AT RS-2 □OISTS AT SOUTH END OF SCHOOL. PLATES AT NORTH END OF SCHOOL ARE SIMILAR BUT A MIRROR IMAGE.
2. MAR□ TOP OF STEEL PLATE AND TOP OF ROOF □ITH STENCILED PAINT "STRUCTURAL STEEL PLATE REINFORCEMENT - DO NOT CUT". STENCIL PAINT MAR□INGS SHALL BE SPACED AT APPROXIMATELY 1 FT. ALONG LENGTH OF EACH STEEL PLATE. MAR□ING ON TOP OF FINISHED ROOF SHALL CONSIST OF AN OVERALL AREA OUTLINED AND STRIPED USING ETERNABOND PRIMERLESS SAFETY TAPE AND STENCIL PAINT MAR□INGS. SUBMIT PROPOSED LAYOUT TO ENGINEER FOR APPROVAL PRIOR TO STENCILING.
3. REFER TO DETAILS 9 AND 10/SR7.0 FOR END TERMINATION DETAILS AT INTERFERENCE LOCATIONS.
4. REFER TO DETAIL 7/SR7.0 FOR ANCHOR DETAIL.

2

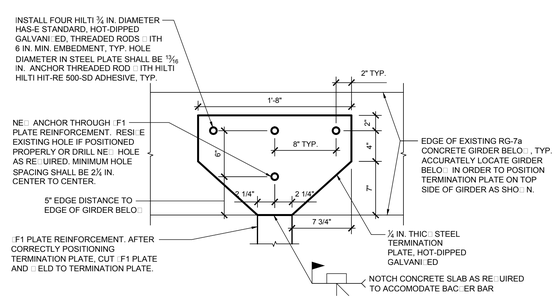
8 □OIST FLEXURAL REINFORCEMENT - PLAN VIE□

NOT TO SCALE



9 □F1 ANCHORAGE AT EXHAUST FAN

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



10 □F1 TERMINATION PLATE

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

NOTES: □FOR DETAILS 9 AND 10□

2

1. FABRICATE AND INSTALL 4 TERMINATION PLATES IN CONFORMANCE □ITH DETAIL 10/SR7.0 TO □OISTS 1-4 □OISTS NUMBERED □ITH □OIST 1 TO THE □EST, INTEGRAL □ITH THE □ALL□ PLATES TO BE INSTALLED AT LOCATION OF ABANDONED S□YLIGHT INTERFERENCE.
2. MODIFY 2 PLATES AT NORTH □F1 REPAIRS AND 2 PLATES AT SOUTH □F1 REPAIRS AT EXHAUST FAN INTERFERENCE IN CONFORMANCE □ITH DETAIL 9/SR7.0.
3. LOCATE EXISTING REINFORCING STEEL IN CONCRETE BEAM PRIOR TO DRILLING HOLES IN STEEL PLATE. DO NOT CUT OR DRILL THROUGH EXISTING REINFORCING STEEL. NOTIFY ENGINEER IF ANCHOR BOLT LAYOUT MUST BE MODIFIED DUE TO EXISTING REINFORCING STEEL.
4. REMOVE GALVANI□ING ON PLATE AD□ACENT TO □OINT BEFORE □ELDING. TOUCH-UP GALVANI□ING USING COLD GALVANI□ING COMPOUND AFTER □ELDING IS COMPLETE □RC OR APPROVED E□UAL□

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
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Chicago, IL
Food Service Consultant

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Issuance

MARK	DESCRIPTION	DATE
1	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
3	60% CONSTRUCTION DOCS	07/27/2017
4	90% CONSTRUCTION DOCS	09/07/2017
5	ISSUED FOR BIDDING	10/27/2017
1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/17/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title
REPAIR DETAILS

Sheet
SR7.0

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"

16'-0" 0'-0" 8'-0" 16'-0" 32'-0"
1/16" = 1'-0"

8'-0" 0'-0" 4'-0" 8'-0" 16'-0"
1/8" = 1'-0"

4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"

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

1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"

0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"

0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"

0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"

GYM AND ASSEMBLY HALL ROOF JOIST CONCRETE REPAIR SCHEDULE

AREA	JOIST NO.(1)	FULL DEPTH JOIST REPLACEMENT (LIN. FT.)(2)	CRACK INJECTION AT NORTH SUPPORT (LIN. FT.)	CRACK INJECTION AT MIDSPAN (LIN. FT.)	CRACK INJECTION AT SOUTH SUPPORT (LIN. FT.)	TOTAL CRACK INJECTION (LIN. FT.)	UNDERSIDE CONCRETE REPAIR (LIN. FT.)(3)	NOTES
ASSEMBLY HALL (RS-1 JOISTS)	1	0	5		5	10	1	
	2	0	5			5	0	
	3	0	5		5	10	0	
	4	0				0	0	
	5	0				0	0	
	6	0	5		5	10	0	
	7	0	3		5	8	0	
	8	0	3		5	8	0	
	9	0	5		12	17	0	
	10	0	5		12	17	0	
	11	0		6	12	18	0	
	12	0			5	5	0	
	13	0			5	5	0	
	14	0			5	5	0	
	15	0			5	5	0	
	16	0			5	5	0	
	17	0			5	5	0	
	18	0			5	5	0	
	19	0			5	5	0	
	20	0				0	0	
	21	0				0	0	
	22	0				0	0	
	23	0				0	0	
	24	0				0	4	PROVIDE SHORING PRIOR TO CONCRETE REMOVAL
	25	0				0	0	
	26	0				0	0	
	27	0				0	0	
	28	0				0	0	
	29	0				0	0	
	30	0				0	0	
GYM (RS-1 JOISTS)	1	0	10			10	0	
	2	0	10			10	2	
	3	0	10			10	0	
	4	0				0	1	
	5	0				0	0	
	6	0				0	0	
	7	0				0	0	
	8	0				0	0	
	9	0				0	0	
	10	0	3			3	0	
	11	0	3			3	0	
	12	0				0	0	
	13	0	3			3	0	
	14	0				0	0	
	15	0	3			3	0	
	16	0	3			3	0	
	17	0	6			6	0	
	18	0				0	0	
	19	0	3			3	0	
	20	0	6			6	0	
	21	0	3			3	0	
	22	0				0	0	
	23	0				0	0	
	24	0	3			3	0	
	25	0	5		6	11	0	
	26	0				0	0	
	27	0				0	0	
	28	0	5			5	0	
	29	0	6			6	0	
	30	0	15			15	0	
	TOTALS:	0				246	8	

NOTES:
(1) - JOIST NUMBERING BEGINS WITH JOIST 1 TO THE WEST FOR THE RS-1 JOISTS OVER THE GYM AND ASSEMBLY HALL.
(2) - REFER TO DETAILS 4-6/SR6.0 FOR FULL-DEPTH CONCRETE REPAIR DETAILS.
(3) - REFER TO DETAIL 1/SR6.0 FOR UNDERSIDE CONCRETE REPAIR DETAIL (FOR THE BOTTOM OF STEM CONCRETE JOIST REPAIRS).
(4) - RECAST JOISTS TO MATCH EXISTING JOIST SECTION, INCLUDING TAPERED AREAS (VERTICAL AND HORIZONTAL) AND ATYPICAL FRAMING WHERE EXISTING.

ROOF RS-2 JOIST CONCRETE REPAIR SCHEDULE

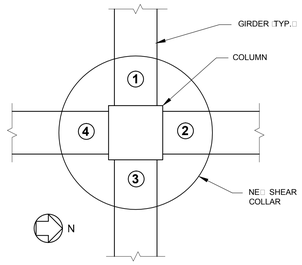
AREA	JOIST NO.(1)	FULL DEPTH JOIST REPLACEMENT (LIN. FT.)(2)	CRACK INJECTION AT NORTH SUPPORT (LIN. FT.)	CRACK INJECTION AT MIDSPAN (LIN. FT.)	CRACK INJECTION AT SOUTH SUPPORT (LIN. FT.)	TOTAL CRACK INJECTION (LIN. FT.)	UNDERSIDE CONCRETE REPAIR (LIN. FT.)(3)	NOTES
NORTH END OF ROOF LEVEL	1		2	4	1	7	2	
	2		4	4		8		
	3		5	4		9		
	4		4	4		8		
	5		3	8		11		
	6		3	4		7		
	7		3	4		7		
	8		3	4		7		
	9		3	4		7		
	10		3	4		7	2	
	11		3	4		7		
	12			4	2	6		
	13			4	2	6	1	
SOUTH END OF ROOF LEVEL	1		2	2	1	5		
	2		5	4		9		
	3			5	4	9		
	4			5	4	9		
	5				4	4		
	6				4	4		
	7				3	3		
	8				3	3		
	9				3	3		
	10	4						PROVIDE SHORING PRIOR TO CONCRETE REMOVAL.
	11	4						PROVIDE SHORING PRIOR TO CONCRETE REMOVAL.
	12	4						INCLUDE 4 SQ. FT. OF ADDITIONAL FULL-DEPTH REPLACEMENT OF JOIST SLAB BETWEEN JOISTS 12 AND 13 BEYOND FULL-DEPTH JOIST REPLACEMENT AREA. REFER TO DETAIL 3/SR6.0. PROVIDE SHORING PRIOR TO CONCRETE REMOVAL.
	13	4						PROVIDE SHORING PRIOR TO CONCRETE REMOVAL.
	14	4						PROVIDE SHORING PRIOR TO CONCRETE REMOVAL.
	TOTALS:	20				146	5	

NOTES:
(1) - JOIST NUMBERING BEGINS WITH JOIST 1 TO THE WEST, INTEGRAL WITH THE WALL.
(2) - REFER TO DETAILS 4-6/SR6.0 FOR FULL-DEPTH CONCRETE REPAIR DETAILS.
(3) - REFER TO DETAIL 1/SR6.0 FOR UNDERSIDE CONCRETE REPAIR DETAIL (FOR THE BOTTOM OF STEM CONCRETE JOIST REPAIRS).
(4) - RECAST JOISTS TO MATCH EXISTING JOIST SECTION, INCLUDING TAPERED AREAS (VERTICAL AND HORIZONTAL) AND ATYPICAL FRAMING WHERE EXISTING.

SHEAR COLLAR - REPAIR SCHEDULE

REPAIR MARK	GIRDER MARK	REPAIR DETAIL	GIRDER LOCATION(S) TO BE SUPPORTED(A)	GIRDER STEM WIDTH (IN)	GIRDER REACTION (KIPS)
C1	RG-7, RG-5, RG-12	6-7/SR5.0	1, 2, 3	10, 8, 8	42.0, 9.1, 33.8
C2	RG-12, RG-6, RG-13	6-7/SR5.0	1, 2, 3	8, 12, 8	32.4, 16.2, 28.3
C3	RG-3, RG-4	6-7/SR5.0	2, 4	12, 12	40.1, 35.8
C4	RG-9, RG-12, RG-5	6-7/SR5.0	1, 3, 4	10, 8, 8	30.1, 31.8, 9.1
C5	RG-12, RG-13, RG-6	6-7/SR5.0	1, 3, 4	8, 8, 12	34.2, 29.0, 16.1

NOTES:
A. REFER TO DETAIL 1/SR8.0 FOR GIRDER LOCATION TO BE SUPPORTED.



1 SHEAR COLLAR GIRDER LOCATIONS
NOT TO SCALE

JOISTS - SHEAR REPAIR SCHEDULE

REPAIR MARK	JOIST MARK	FRP REINFORCEMENT: DEPTH, D (IN.)	SLAB THICKNESS, T (IN.)	WIDTH, B (IN.)	SPACING, S (IN.)	START DIST. FROM GIRDER FACE	LENGTH OF EACH REPAIR	APPROX. NO. OF JOISTS REPAIRED	APPROX. TOTAL REPAIR LENGTH (FT.)	SHEAR CAPACITY (KIPS/JOIST)	SHEAR DEMAND (KIPS/JOIST)	DEMAND/ CAPACITY RATIO	ADD'L CAP. REQUIRED (KIPS/JOIST)	ESTIMATED NO. OF LAYERS	COMMENTS
JS1	RS-2	10	2.5	5	25	0'-0"	3'-0"	4	12	-	-	-	1.21	1***	INSTALL AT SOUTH END OF 4 RS-2 JOISTS TO BE SELECTED BY ENGINEER. ***USE BI-DIRECTIONAL CARBON FIBER, WITH FIBERS AT 45 DEGREES TO CRACK.
JS2	RS-2	10	2.5	5	25	0'-0"	3'-0"	10	30	-	-	-	1.21	1***	INSTALL ADJACENT TO NORTH END OF 10 RS-2 JOISTS TO BE SELECTED BY ENGINEER. ***USE BI-DIRECTIONAL CARBON FIBER, WITH FIBERS AT 45 DEGREES TO CRACK.

NOTES:
1. REFER TO DETAIL 3/SR5.0 FOR JOIST SHEAR REPAIR DETAIL.
2. TABLE LISTS TYPICAL JOIST DIMENSIONS. ACTUAL JOIST DIMENSIONS MAY VARY TO INCLUDE TAPERED AREAS (VERTICAL AND HORIZONTAL) AT ENDS, DOUBLE WIDE JOISTS, ETC.
3. THE ESTIMATED NUMBER OF FRP LAYERS SHOWN IS BASED ON THE FOLLOWING DESIGN VALUES FOR THE COMPOSITE GROSS LAMINATE PROPERTIES: ULTIMATE TENSILE STRENGTH = 81 KSI, ULTIMATE ELONGATION = 0.0119, MODULUS OF ELASTICITY = 5,900 KSI, LAMINATE THICKNESS = 0.034 IN.

GIRDERS - SHEAR REPAIR SCHEDULE(1)

REPAIR MARK	GIRDER MARK (2)	NO. OF LOCATIONS	GIRDER STEM WIDTH (IN.)	OVERALL GIRDER DEPTH (IN.)	IN-FRAMING JOISTS/SLAB: NORTH (EAST) SIDE: T, SLAB (IN.)	NORTH (EAST) SIDE: DEPTH, D (IN.)	NORTH (EAST) SIDE: SPACING (IN.)	SOUTH (WEST) SIDE: T, SLAB (IN.)	SOUTH (WEST) SIDE: DEPTH, D (IN.)	SOUTH (WEST) SIDE: SPACING (IN.)	REPAIR DIMENSIONS: START DIST. FROM COL. FACE	REPAIR DIMENSIONS: LENGTH OF REPAIR	FRP REINFORCEMENT: SHEAR CAPACITY (KIPS)	SHEAR DEMAND (KIPS)	DEMAND/ CAPACITY RATIO	ADD'L CAP. REQUIRED (KIPS)	ESTIMATED NO. OF CFRP LAYERS	REMARKS
RGS1	RG-5A	2	8	17	2.5	12	25	2.5	-	-	2'-0"	1'-6"	-	-	-	4.2(3)	1	
RGS2a	RG-2	3	12	20	2.5	10	25	2.5	10	25	4'-0"	1'-6"	-	-	-	7.7(3)	1	
RGS2b	RG-2	1	12	20	2.5	10	25	2.5	10	25	3'-0"	2'-6"	-	-	-	7.7(3)	1	
RGS3	RG-3	6	12	20	2.5	10	25	2.5	12	25	5'-0"	1'-6"	-	-	-	7.7(3)	1	
RGS4a	RG-21	5	12	20	2.5	10	25	2.5	10	25	3'-6"	1'-6"	-	-	-	7.7(3)	1	
RGS4b	RG-21	1	12	20	2.5	10	25	2.5	10	25	1'-0"	4'-0"	-	-	-	7.7(3)	1	
RGS4c	RG-21	2	12	20	2.5	10	25	2.5	10	25	2'-6"	2'-6"	-	-	-	7.7(3)	1	
RGS5a	RG-4	1	12	20	2.5	10	25	2.5	10	25	3'-6"	2'-6"	-	-	-	7.6(3)	1	
RGS5b	RG-4	1	12	20	2.5	10	25	2.5	10	25	2'-0"	4'-0"	-	-	-	7.8(3)	1	
RGS6	RG-6	3	12	22	2.5	8	25	2.5	12	25	3'-6"	2'-6"	-	-	-	8.6(3)	1	
RGS7	RG-8	1	12	20	2.5	10	25	2.5	10	25	0'-0"	5'-0"	18.3	19.5	1.07	7.7(3)	1	
RGS8	RG-14	2	10	30	2.5	-	-	3	18	36	3'-0"	2'-0"	-	-	-	10.1(3)	1	
RGS9a	RG-12	3	8	25	2.5	-	-	3	18	36	4'-0"	2'-0"	-	-	-	6.6(3)	1	
RGS9b	RG-12	1	8	25	2.5	-	-	3	18	36	2'-6"	3'-6"	-	-	-	6.6(3)	1	
RGS10	RG-9	1	10	24	3	18	36	2.5	10	25	3'-0"	1'-6"	-	-	-	7.9(3)	1	
RGS11	RG-10	1	10	30	3	18	36	2.5	10	25	4'-6"	2'-6"	-	-	-	10.1(3)	1	
RGS12a	RG-7	1	10	25	2.5	10	25	3	18	36	4'-0"	1'-0"	-	-	-	8.3(3)	1	
RGS12b	RG-7	1	10	25	2.5	10	25	3	18	36	1'-6"	3'-6"	-	-	-	8.3(3)	1	
RGS13	RG-7A	1	12	24	2.5	10	25	3	18	36	4'-0"	2'-0"	-	-	-	9.5(3)	1	
RGS14a	RG-5	1	8	17	2.5	12	25	2.5	-	-	1'-6"	3'-0"	-	-	-	4.2(3)	1	
RGS14b	RG-5	1	8	17	2.5	12	25	2.5	-	-	0'-6"	2'-0"	-	-	-	4.2(3)	1	
2GS1	2G-14	2	8	21	2.5	12	25	2.5	6	25	3'-6"	3'-6"	12.9	18.4	1.43	5.4(3)	1	
1GS1	1G-21A	1	12	22	2.5	12	25	2.5	12	25	4'-6"	2'-6"	20.4	22.9	1.12	8.6(3)	1	
1GS2	1G-20	5	12	20	2.5	12	25	2.5	10	25	4'-6"	2'-6"	18.2	21.6	1.19	7.7(3)	1	
1GS3	1G-14	4	12	23	3	14	25	2.5	12	25	0'-0"	6'-0"	21.4	37.1	1.73	15.8	1	

(1) REFER TO DETAILS 1 AND 2/SR5.0 FOR GIRDER SHEAR REPAIR DETAILS. SHEAR REPAIRS WILL BE MODFIIED WHERE OBSTRUCTIONS EXIST AT ISOLATED LOCATIONS. NOTIFY ENGINEER WHERE INTERFERENCES EXIST.
(2) GIRDER MARK REFERS TO MEMBER DESIGNATION SHOWN ON REPAIR PLANS, AND IS THE SAME MEMBER DESIGNATION SHOWN ON THE ORIGINAL DESIGN DRAWINGS PREPARED BY JOHN C. CHRISTENSEN.
(3) ADDITIONAL CAPACITY REQUIRED IS GOVERNED BY THE MINIMUM SHEAR REINFORCEMENT PROVISIONS OF ACI 318.
(4) THE ESTIMATED NUMBER OF CFRP LAYERS SHOWN IS BASED ON THE FOLLOWING DESIGN VALUES FOR THE COMPOSITE GROSS LAMINATE PROPERTIES: ULTIMATE TENSILE STRENGTH = 121 KSI, ULTIMATE ELONGATION = 0.0085, MODULUS OF ELASTICITY = 11,900 KSI, LAMINATE THICKNESS = 0.04 IN.

GIRDERS AND JOISTS - FLEXURAL REPAIR SCHEDULE(1)

REPAIR MARK	GIRDER/JOIST MARK(2)	NO. OF LOCATIONS	STEM WIDTH (IN)	OVERALL DEPTH (IN)	FRP FLEXURAL REINFORCEMENT: POS/NEG BENDING	FRP PLACEMENT	REPAIR LENGTH	FLEXURAL CAPACITY (KIP-FT)	FLEXURAL DEMAND (KIP-FT)	DEMAND/ CAPACITY RATIO	ADD'L CAP. REQUIRED (KIP-FT)	ESTIMATED NO. OF CFRP LAYERS	COMMENTS
RGF1	RG-4	1	12	20	POS	BOTTOM	15'-6"	86	119	1.39	33	1	
					NEG	TOP	(2) 14'-0"	14	88	6.21	74	2	14'-0" REPAIR LENGTH CENTERED OVER COL XR-X13 AND COL XS-X13
RGF2	RG-21	1	10	20	NEG	TOP	(2) 12'-0"	54	84	1.54	30	1	12'-0" REPAIR LENGTH CENTERED OVER COL XG-X13 AND COL XH-X13
RGF3	RG-9	1	10	24	NEG	TOP	17'-6"	67	95	1.41	28	1	REPAIR LENGTH EXTENDS FULL RG-9 SPAN, 2' BEYOND COL XV-X12 AND 5'-0" BEYOND COL XV-X11
RGF4	RG-7	1	10	25	NEG	TOP	13'-0"	63	91	1.44	28	1	13'-0" REPAIR LENGTH CENTERED OVER COL XC-X11
2GF1	2G-9,2G-9A	6	12	17	POS	BOTTOM	12'-4"	45	62	1.37	17	1	
1GF1	1G-20A	1	12	22	POS	BOTTOM	15'-6"	160	187	1.16	27	1	
1GF2	1G-20	4	12	20	POS	BOTTOM	15'-7"	142	189	1.33	47	2	
1GF3	1G-19	1	16	33	POS	BOTTOM	26'-0"	327	400	1.22	73	1	
JF1	RS-2	27	5	12.5	NEG	TOP	26'-6"	5.7	25.0	4.39	19.3	N/A	STEEL PLATES TO BE INSTALLED OVER TOP OF EACH JOIST. SEE DETAILS 7 AND 8 / SHEET SR7.0. PLATES SHALL BE 3/16 IN. THICK, 4 1/2 IN. WIDE, 26'-6" IN. LONG WITH ANCHOR BOLT SPACING SPECIFIED ON DETAILS. NO FRP AT THIS LOCATION.

(1) REFER TO DETAILS 4 AND 5/SR5.0 AND 6/SR7.0 FOR FRP FLEXURAL REPAIR DETAILS. REFER TO DETAILS 7-10/SR7.0 FOR JF1 FLEXURAL REPAIR DETAILS.
(2) GIRDER AND JOIST MARKS REFER TO MEMBER DESIGNATIONS SHOWN ON REPAIR PLANS, AND ARE THE SAME MEMBER DESIGNATIONS SHOWN ON THE ORIGINAL DESIGN DRAWINGS PREPARED BY JOHN C. CHRISTENSEN.
(3) THE ESTIMATED NUMBER OF CFRP LAYERS SHOWN IS BASED ON THE FOLLOWING DESIGN VALUES FOR THE COMPOSITE GROSS LAMINATE PROPERTIES: ULTIMATE TENSILE STRENGTH = 121 KSI, ULTIMATE ELONGATION = 0.0085, MODULUS OF ELASTICITY = 11,900 KSI, LAMINATE THICKNESS = 0.04 IN.

NOTES:

1. MINIMUM SHEAR REINFORCEMENT PROVIDED PER ACI 11.4.6
2. EXISTING CONCRETE COMPRESSIVE STRENGTH = 3,520 PSI. CONCRETE CORES WERE REMOVED FROM THE GIRDERS ON THE ROOF LEVEL AND FIRST FLOOR AND ESTIMATED IN-PLACE COMPRESSIVE STRENGTH WAS DETERMINED IN ACCORDANCE WITH ACI 214.
3. EXISTING REINFORCING STEEL YIELD STRENGTH ASSUMED TO BE 50 KSI BASED ON TENSILE TESTING OF REINFORCING STEEL REMOVED FROM THE BUILDING AND NOTES ON THE ORIGINAL DESIGN DRAWINGS.
4. SHEAR CAPACITIES PROVIDED ARE PER ACI 318-14 CHAPTERS 10 AND 11, AND INCLUDE APPLICABLE RESISTANCE, OR PHI, FACTORS FOR CONVENTIONAL REINFORCED CONCRETE ELEMENTS.
5. SHEAR DEMANDS PROVIDED ARE FOR FACTORED LOAD CONDITIONS, USING DEAD AND LIVE LOAD FACTORS OF 1.2 AND 1.6, RESPECTIVELY.
6. UNLESS NOTED OTHERWISE IN REPAIR SCHEDULE, CARBON FIBER-REINFORCED POLYMER (CFRP) SYSTEM SHALL BE USED FOR ALL REPAIRS.
7. THE "ESTIMATED NO. OF LAYERS" IS FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL SUBMIT CALCULATIONS SEALED BY A LICENSED STRUCTURAL ENGINEER IN ACCORDANCE WITH SPECIFICATION SECTION 03 72 50 - EXTERNALLY BONDED FRP REINFORCEMENT - LAMINATES.

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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Structural Engineer - Dever Beam

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Food Service Consultant

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Issuance

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1	100% SCHEMATIC DESIGN	04/24/2017
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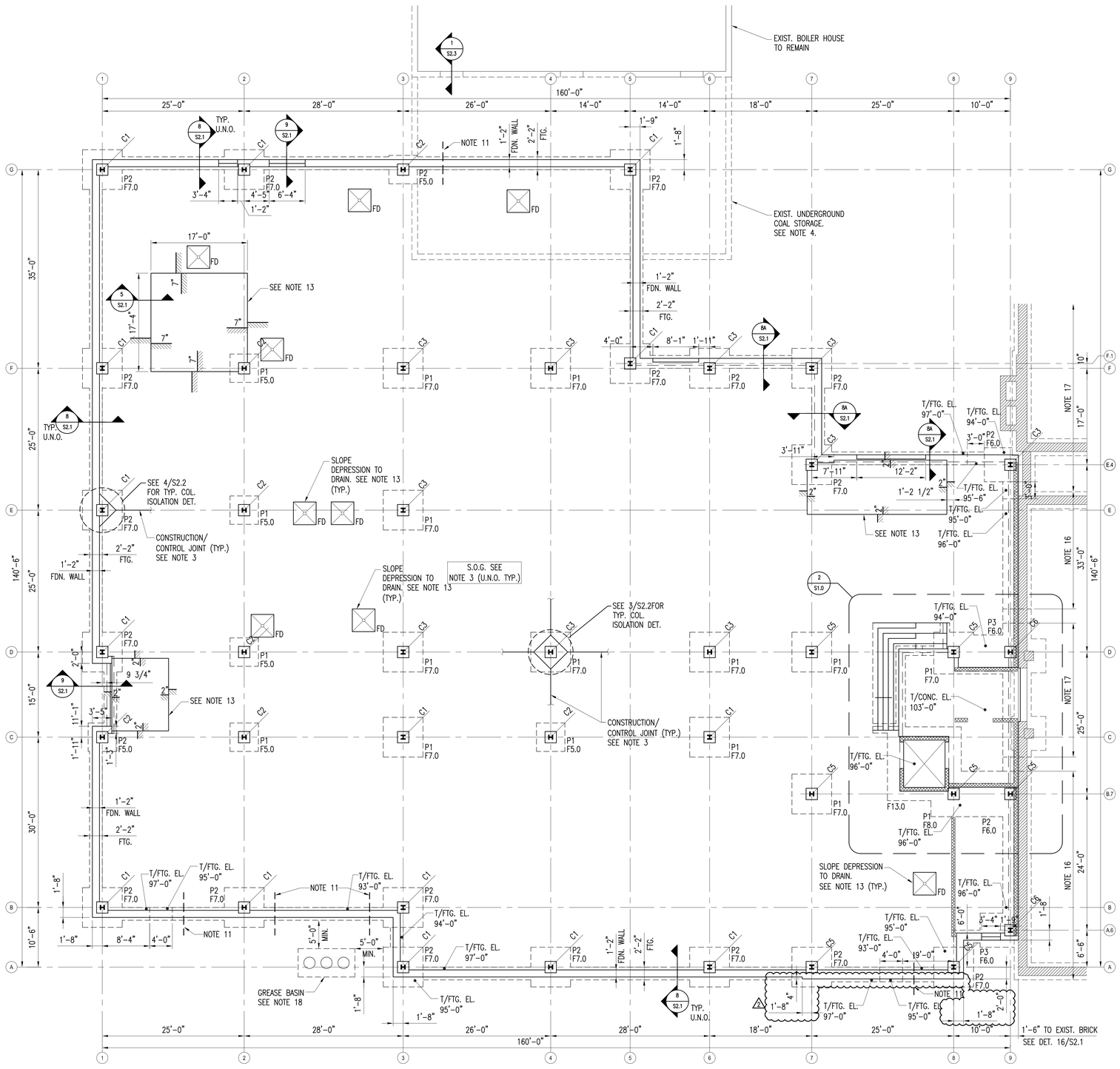
3	60% CONSTRUCTION DOCS	07/27/2017
4	90% CONSTRUCTION DOCS	09/07/2017
5	ISSUED FOR BIDDING	10/27/2017
1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/17/2017

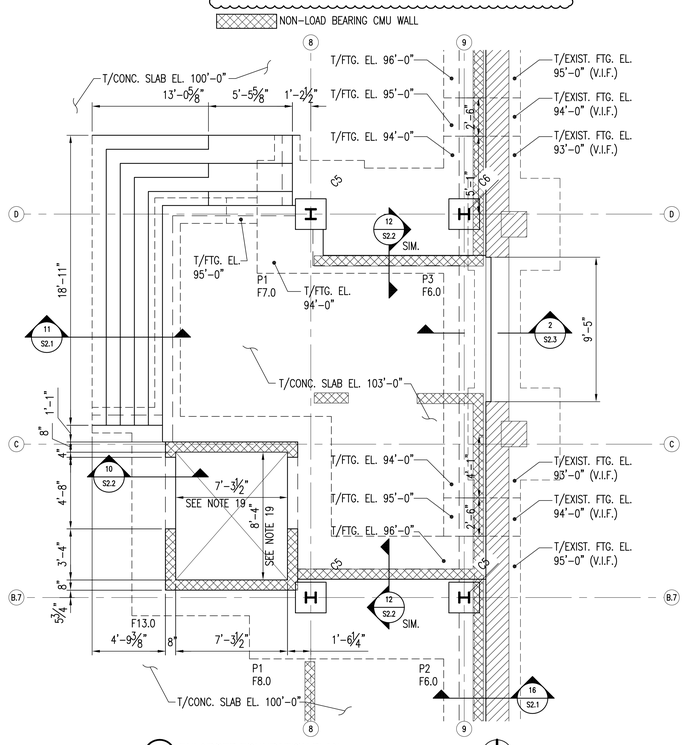
PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS
PBC Contract No: 05175
Project No: 217102.00

Title
SCHEDULES

Sheet
SR8.0



1 FOUNDATION PLAN
1/8" = 1'-0"
S1.0



2 ENLARGED FOUNDATION PLAN
1/4" = 1'-0"
S1.0

FOUNDATION NOTES:

1. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCH. DWGS. PRIOR TO CONSTRUCTION.
2. SEE S0.1 FOR GENERAL STRUCTURAL NOTES.
3. SLAB-ON-GRADE (S.O.G.) SHALL BE 6" THICK CONCRETE W/6x6-W2.9xW2.9 WWF OVER VAPOR BARRIER OVER 6" GRANULAR FILL OVER ENGINEERED FILL. SEE TYPICAL DETAILS 1/S2.1, 2/S2.1 AND 3/S2.1. T/SLAB EL. 100'-0" (U.N.O.) T/FND. WALL EL. 100'-0" (U.N.O.) PROVIDE CONSTRUCTION/CONTROL JOINTS AT 15'-0" MAXIMUM IN EA. DIRECTION (TYP.). COORDINATE CONTROL JOINT LOCATIONS WITH ARCHITECTURAL DRAWINGS. SUBMIT JOINT LAYOUT FOR REVIEW PRIOR TO PLACING SLAB-ON-GRADE.
4. EXISTING UNDERGROUND COAL STORAGE CONCRETE ROOF SLAB, COLUMNS AND WALLS TO BE REMOVED TO ELEVATION 94'-0". LEGALLY DISPOSE OF CONCRETE DEBRIS OFF SITE. FULL EXTENT OF REMOVAL TO BE FIELD VERIFIED PRIOR TO BIDDING. BACKFILL TO PROJECT ELEVATION WITH 30 PSI CLSM FILL. REFER TO CIVIL AND ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
5. "FX" INDICATES CONCRETE FOOTING. SEE SCHEDULE ON SHEET S2.2. T/ FTG. EL. 97'-0" U.N.O.
6. "PX" INDICATES CONCRETE PIER. SEE TYPICAL DETAILS 5/S2.2 AND PIER SCHEDULE ON S2.2. T/PIER EL. 99'-0" U.N.O.
7. "CX" INDICATES STEEL COLUMN. SEE SCHEDULE ON SHEET S2.2.
8. SEE DETAILS 1/S2.2, 7/S2.2 AND 8/S2.2 FOR TYPICAL CONCRETE WALL REINF. INFORMATION.
9. THICKEN SLAB-ON-GRADE AS INDICATED IN DETAIL 4/S2.1 AT ALL NON-LOAD BEARING MASONRY WALLS. SEE ARCH. DWGS. FOR WALL LOCATIONS. SEE DETAIL 1/S3.3 FOR TYPICAL BRACING OF TOP OF NON-LOAD BEARING MASONRY WALLS.
10. PROVIDE 2-#4 x 4'-0" TOP AND BOTTOM OF CONCRETE SLAB-ON-GRADE AT ALL RE-ENTRANT CORNER LOCATIONS (TYP.).
11. SEE M.E.P. DRAWINGS FOR LOCATIONS AND ELEVATIONS OF WALL PENETRATIONS. SEE DETAIL 2/S2.2 FOR ADD'L REINF. REQUIREMENT.
12. SEE M.E.P. DRAWINGS FOR MECHANICAL EQUIP. PADS SEE DETAIL 7/S2.1, FINAL LOCATIONS & SIZES SHALL BE COORDINATED W/M.E.P. EQUIP. MFR. ALL DIMENSIONS SHOWN ARE FOR BID PURPOSES ONLY.
13. COORDINATE SIZE AND LOCATION OF SLAB DEPRESSIONS WITH ARCHITECTURAL DRAWINGS.
14. NOT USED
15. COORD. SIZE AND LOCATION OF FLOOR/ROOF OPENINGS W/ARCH. AND MEP DRAWINGS.
16. T/ EXIST. FTG. EL. 95'-0" (V.I.F.)
17. T/ EXIST. FTG. EL. 93'-0" (V.I.F.)
18. VERIFY SIZE AND LOCATION OF THE GREASE BASIN WITH CIVIL AND PLUMBING DRAWINGS.
19. COORDINATE DIMENSIONS AND ELEVATIONS W/ELEVATOR MANUFACTURER.
20. PROVIDE 10" METAL STUD WALL BETWEEN COLUMN LINES A-7 AND A-8. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL DETAILS. (Δ2)

NON-LOAD BEARING CMU WALL

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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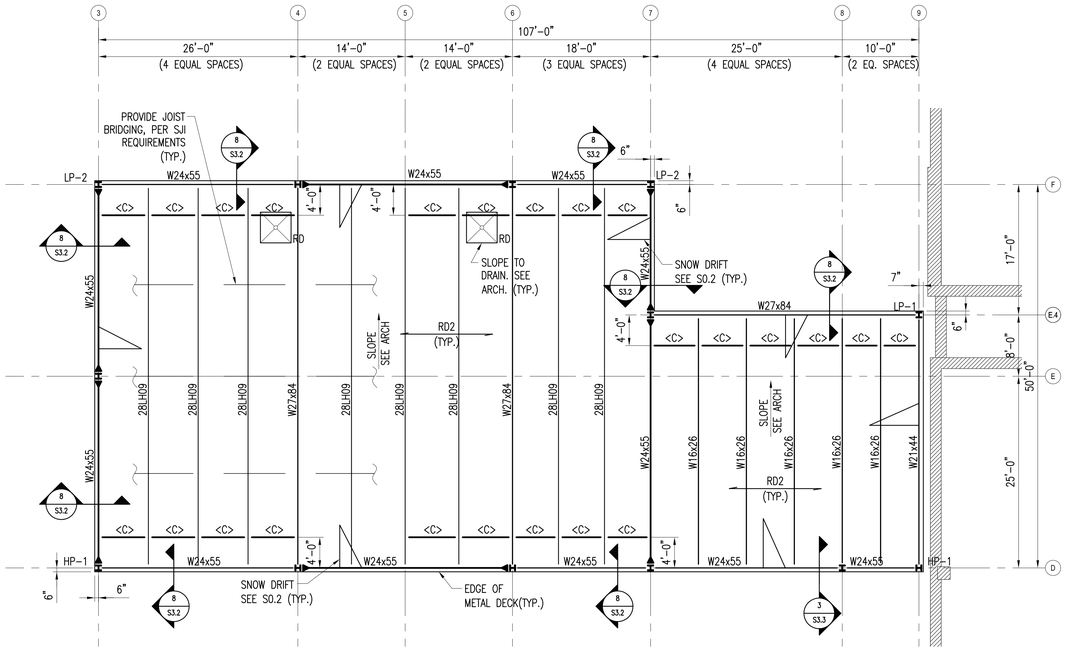
5	ISSUED FOR BIDDING	10/27/2017
Δ2	ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS
PBC Contract No: 05125
Project No: 217102.00

Title
FOUNDATION PLAN

Sheet
S1.0

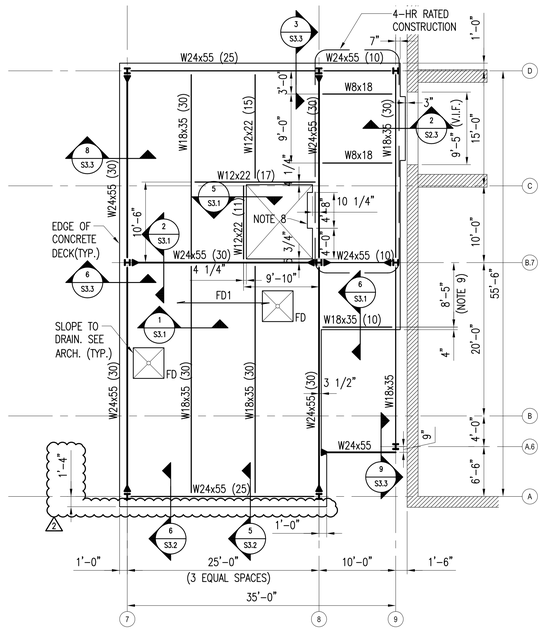
1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



2 DINING HALL ROOF FRAMING PLAN
1/8" = 1'-0" S1.2

DINING HALL ROOF NOTES:

1. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCH. DWGS. PRIOR TO CONSTRUCTION.
2. SEE S0.1 FOR GENERAL STRUCTURAL NOTES.
3. HP-1: T/STEEL EL. 128'-0"
4. LP-1: T/STEEL EL. 127'-4"
5. LP-2: T/STEEL EL. 127'-0"
6. SEE 10/S3.2 FOR TYPICAL FRAMING OF ROOF OPENINGS. COORDINATE SIZE AND LOCATION OF ALL ROOF PENETRATIONS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
7. RD2 1 1/2"x16 GA. GALV. WIDE RIB METAL ROOF DECK. CONT. OVER THREE SPANS MINIMUM. ATTACH TO ALL SUPPORTING MEMBERS WITH 5/8"ø PUDDLE WELDS AT 12" O.C. (6" O.C. AT PERIMETER). PROVIDE MIN. (3) #10 TEK SCREW SIDELAP FASTENER PER DECK SPAN.
8. <C> INDICATES L5x5x5/16 WELDED TO TOP CHORD @ WINDOWS ONLY. SEE DETAIL 8/S3.2 FOR ADDITIONAL INFORMATION.

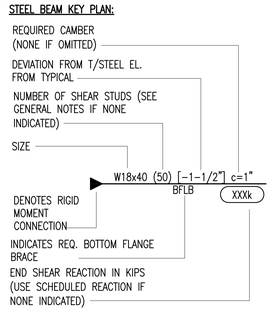


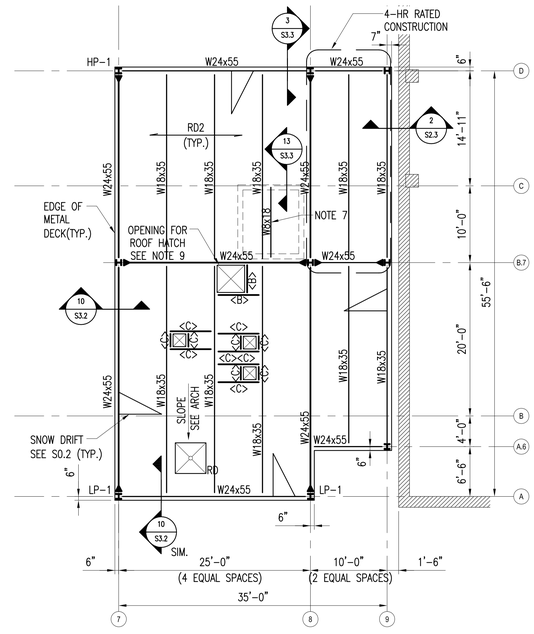
1 SECOND FLOOR FRAMING PLAN
1/8" = 1'-0" S1.2

SECOND FLOOR NOTES:

1. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCH. DWGS. PRIOR TO CONSTRUCTION.
2. SEE S0.1 FOR GENERAL STRUCTURAL NOTES.
3. FD1 1 1/2"x18 GA. GALV. COMPOSITE FLOOR DECK W/3 1/2" THICK CONCRETE (5" TOTAL THICKNESS) W/6x6 W1.4xw1.4 WWF. T/SLAB EL. +117'-6" (MATCH EXIST. SECOND FLOOR ELEVATION).
4. T/STEEL EL. +117'-1" (U.N.O.)
5. COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENING WITH STAIR MANUFACTURER TO ACCOMMODATE CLEARANCES AS INDICATED ON ARCH. DWGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. CONNECT STAIR SUPPORT TO STEEL BEAM AS PIN CONNECTION (BY STAIR MANUFACTURER).
6. IN CASES WHERE MECHANICAL AND ELECTRICAL EQUIPMENT LOADING LISTED ON THE MANUFACTURER'S PRODUCT DATA EXCEEDS DESIGN LOADS INDICATED ON DESIGN DRAWINGS, CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER AND ARCHITECT PRIOR TO PROCEEDING WITH WORK.
7. CONC. ROOF DECK AREA DESIGNATED FOR ROOFTOP MECHANICAL EQUIPMENT.
8. EDGE OF CONCRETE DECK. COORDINATE EXACT DIMENSIONS WITH ELEVATOR MANUFACTURER.
9. COORDINATE DIMENSION WITH STAIR CONTRACTOR PRIOR TO STEEL FABRICATION.
10. PROVIDE 10" METAL STUD WALL BETWEEN COLUMN LINES A-7 AND A-8. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL DETAILS.

STEEL BEAM KEY PLAN:





3 HIGH ROOF FRAMING PLAN
1/8" = 1'-0" S1.2

HIGH ROOF NOTES:

1. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCH. DWGS. PRIOR TO CONSTRUCTION.
2. SEE S0.1 FOR GENERAL STRUCTURAL NOTES.
3. HP-1: T/STEEL EL. 134'-2"
4. LP-1: T/STEEL EL. 133'-0"
5. SEE 10/S3.2 FOR TYPICAL FRAMING OF ROOF OPENINGS. COORDINATE SIZE AND LOCATION OF ALL ROOF PENETRATIONS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
6. RD2 1 1/2"x16 GA. GALV. WIDE RIB METAL ROOF DECK. CONT. OVER THREE SPANS MINIMUM. ATTACH TO ALL SUPPORTING MEMBERS WITH 5/8"ø PUDDLE WELDS AT 12" O.C. (6" O.C. AT PERIMETER). PROVIDE MIN. (3) #10 TEK SCREW SIDELAP FASTENER PER DECK SPAN.
7. T/W8 BEAM EL. 131'-0". COORDINATE T/BEAM W/ ELEVATOR CONTRACTOR/ MANUFACTURER.
8. <B> INDICATES W12x19 NON-COMPOSITE STEEL BEAM. SEE DETAIL 3/S3.2 FOR ADDITIONAL INFORMATION.
9. <C> INDICATES L5x5x5/16. SEE DETAIL 3/S3.2 FOR ADDITIONAL INFORMATION.
10. NOT ALL ROOF PENETRATIONS ARE SHOWN. CONTRACTOR SHALL PROVIDE AND COORDINATE SIZE AND LOCATION OF ALL ROOF PENETRATIONS WITH ALL DOCUMENTS INCLUDING ARCHITECTURAL AND MECHANICAL DRAWINGS.
11. PROVIDE 10" METAL STUD WALL BETWEEN COLUMN LINES A-7 AND A-8. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL DETAILS.

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2	ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

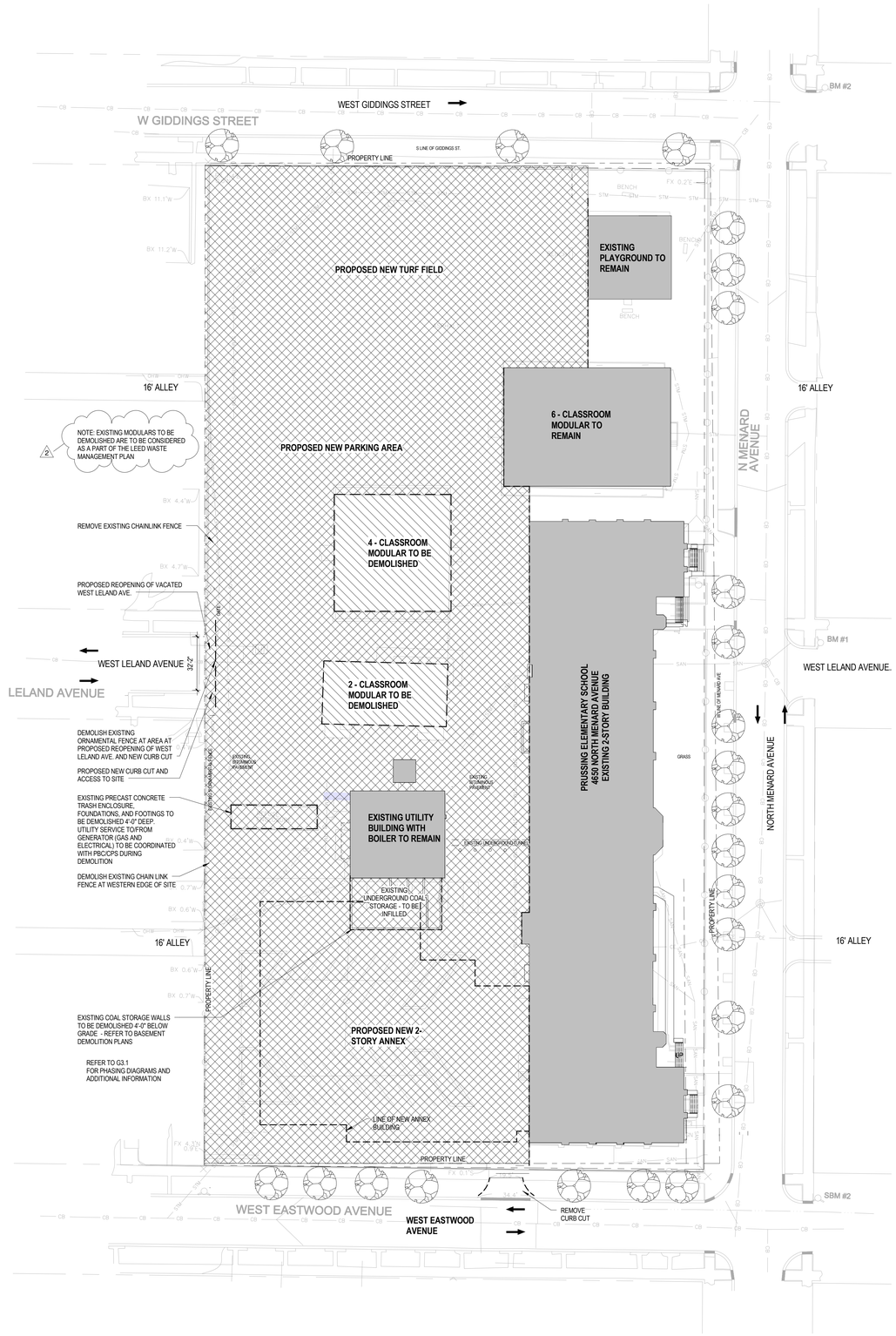
PBC Contract No: 05125

Project No: 217102.00

Title
SECOND FLOOR & ROOF FRAMING PLANS

Sheet
S1.2

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



1 ARCHITECTURAL SITE DEMO PLAN
1/32" = 1'-0" A2.01

DEMOLITION PLAN GENERAL NOTES

1. REFERENCED DEMOLITION NOTES REFER TO THE MINIMUM AMOUNT OF DEMOLITION REQUIRED TO ACCOMMODATE THE NEW CONSTRUCTION. TRADE CONTRACTORS SHALL VISIT PROJECT SITE TO BECOME FAMILIAR WITH COMPLETE SCOPE OF REMOVALS/DEMOLITIONS AND FIELD VERIFY THE EXTENT OF DEMOLITION.
2. EXISTING DIMENSIONS AND HATCHED AREAS ARE FOR GENERAL REFERENCE AND BIDDING PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD. THE ACTUAL AREA OF DEMOLITION SHOULD BE KEPT TO THE MINIMUM REQUIRED TO PROPERLY EXECUTE THE CONTRACT REQUIREMENTS.
3. IN THE EVENT THAT AN EXISTING ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM.
4. ALL UTILITIES SHALL REMAIN IN SERVICE FOR OTHER OCCUPANCIES. ANY SHUTDOWNS OF BUILDING MUST BE APPROVED BY OWNER AND OCCUR AT OFF HOURS AS DEFINED BY OWNER.
5. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL MATERIAL OR EQUIPMENT IDENTIFIED TO BE REMOVED. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
6. REFER TO DRAWINGS FOR LOCATIONS OF ALL ITEMS TO BE REINSTALLED. ALL ITEMS NOT SPECIFICALLY INDICATED FOR REINSTALLATION ON DRAWINGS ARE TO BE TURNED OVER TO THE OWNER. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
7. ALL REMOVED ITEMS IDENTIFIED FOR REINSTALLATION OR TO BE TURNED OVER TO THE OWNER SHALL BE PROTECTED UNTIL TIME OF REINSTALLATION OR OWNER POSSESSION. DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED BY THE RESPONSIBLE TRADE CONTRACTOR.
8. THROUGHOUT DEMOLITION AND CONSTRUCTION, PROTECT ITEMS SCHEDULED TO REMAIN AND/OR ALL ADJACENT MATERIALS AND EQUIPMENT, ETC. INDICATED TO REMAIN. COORDINATE REMOVAL AND PROTECTIONS WITH OWNER.
9. DO NOT COMMENCE DEMOLITION UNTIL OWNER HAS REMOVED ALL ARTWORK AND DISPLAYS FROM AREAS OF DEMOLITION.
10. COORDINATE WITH OWNER ACCESS AND LOCATIONS OF TEMPORARY PARTITION. TEMPORARY PARTITION MUST BE DUSTPROOF, AND ACT AS SMOKE AND FIRE BARRIER.
11. AT REMOVAL OF SELECTED DEMOLITION ITEMS WHERE NO NEW CONSTRUCTION IS IDENTIFIED, PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
12. AT ITEMS TO BE REMOVED, ALSO REMOVE ALL ASSOCIATED BRACKETS, SUPPORTS, FASTENERS, ANCHORS, ETC. PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
13. PATCH ALL CEILINGS, WALLS AND FLOORS WHERE MECHANICAL, ELECTRICAL, TECHNOLOGY, PLUMBING AND FIRE PROTECTION COMPONENTS ARE TO BE REMOVED IN AN EXISTING CEILINGS, WALLS OR FLOORS TO REMAIN.
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22. IN THE EVENT HAZARDOUS MATERIALS ARE UNCOVERED GENERAL CONTRACTOR IS NOTIFY THE OWNER AND THE APPROPRIATE AUTHORITIES. THE ARCHITECT IS NOT RESPONSIBLE FOR REMOVAL / ABATEMENT OF HAZARDOUS MATERIALS. CONTRACTOR TO PROVIDE REMOVAL / ABATEMENT AT LOCATIONS NECESSARY.
23. REFER TO THE CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, AND TECHNOLOGY DRAWINGS FOR THE DEMOLITION WORK SPECIFIC TO THOSE DISCIPLINES.
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25. ALL DEMOLITION WORK MUST BE COORDINATED AND VERIFIED WITH VARIOUS TRADES AND OTHER DRAWINGS.

DEMOLITION NOTES

NOTE	DESCRIPTION
7D	

SITE PLAN LEGEND

- EXISTING BUILDING AND FOUNDATIONS TO BE REMOVED
- EXISTING ASPHALT TO BE REMOVED

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

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Chicago, Illinois 60661
PHONE: 312.258.9595
FAX: 312.258.1555
WEB: www.legat.com

Design Architect:
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SUSTAINABILITY | PERFORMANCE | DESIGN

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Structural Engineers of Record

Terra Engineering LTD.
225 W. Ohio St, 4th Flr
Chicago, IL
Landscape/Civil Engineers of Record

CCJM Engineers, Ltd.
303 E. Wacker Dr, #303
Chicago, IL 60601
MEPFP Engineers of Record

Wiss, Janney, Elstner Associates
10 S. LaSalle St, #2600
Chicago, IL 60603
Structural Engineer - Dever Beam

Mackesy and Associates
321 N Clark St, #500
Chicago, IL
Food Service Consultant

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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title
ARCHITECTURAL SITE DEMO PLAN

Sheet
ASD.1

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"

16'-0" 0'-0" 8'-0" 16'-0" 32'-0"
1/16" = 1'-0"

8'-0" 0'-0" 4'-0" 8'-0" 16'-0"
1/8" = 1'-0"

4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"

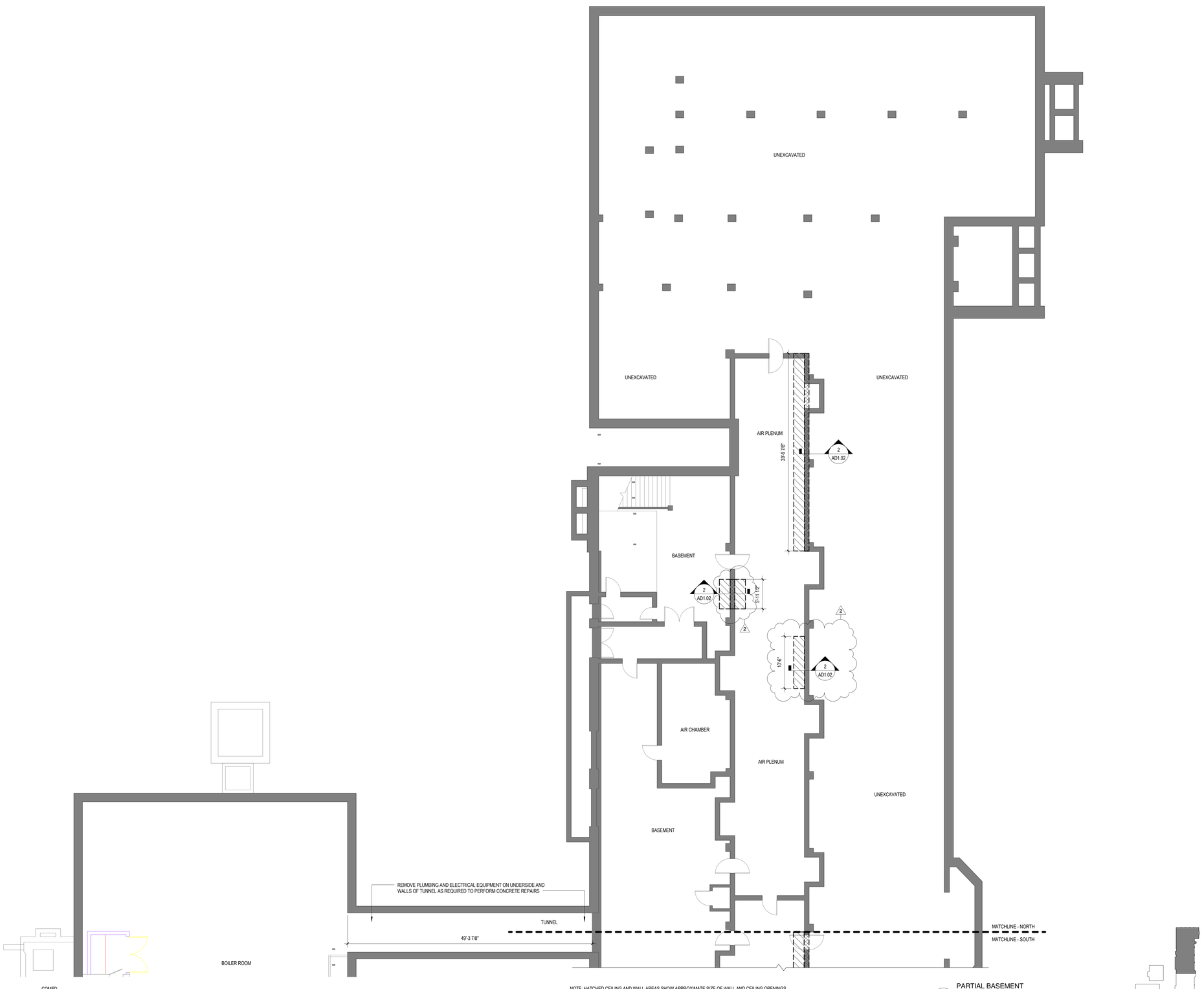
2'-0" 0'-0" 1'-0" 2'-0" 4'-0"
1/2" = 1'-0"

1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"

0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"

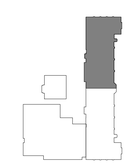
0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"

0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"



NOTE: HATCHED CEILING AND WALL AREAS SHOW APPROXIMATE SIZE OF WALL AND CEILING OPENINGS REQUIRED TO ACCESS STRUCTURAL REPAIR LOCATIONS SPECIFIED ON SR SERIES DRAWINGS AND STEEL BEAMS IN ATTIC SPACE. CONTRACTOR TO SIZE OPENINGS AS REQUIRED TO PERFORM SPECIFIED WORK.

1 PARTIAL BASEMENT DEMOLITION PLAN - NORTH
1/8" = 1'-0"



N
KEY PLAN

DEMOLITION PLAN GENERAL NOTES

1. REFERENCED DEMOLITION NOTES REFER TO THE MINIMUM AMOUNT OF DEMOLITION REQUIRED TO ACCOMMODATE THE NEW CONSTRUCTION. TRADE CONTRACTORS SHALL VISIT PROJECT SITE TO BECOME FAMILIAR WITH COMPLETE SCOPE OF REMOVALS/DEMOLITIONS AND FIELD VERIFY THE EXTENT OF DEMOLITION.
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3. IN THE EVENT THAT AN EXISTING ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM.
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5. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL MATERIAL OR EQUIPMENT IDENTIFIED TO BE REMOVED. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
6. REFER TO DRAWINGS FOR LOCATIONS OF ALL ITEMS TO BE REINSTALLED. ALL ITEMS NOT SPECIFICALLY INDICATED FOR REINSTALLATION ON DRAWINGS ARE TO BE TURNED OVER TO THE OWNER. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
7. ALL REMOVED ITEMS IDENTIFIED FOR REINSTALLATION OR TO BE TURNED OVER TO THE OWNER SHALL BE PROTECTED UNTIL TIME OF REINSTALLATION OR OWNER POSSESSION. DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED BY THE RESPONSIBLE TRADE CONTRACTOR. ALL FOOD SERVICE EQUIPMENT IDENTIFIED FOR DEMOLITION OR REMOVAL TO MAINTAIN IN OWNER POSSESSION. COORDINATE WITH CPS NUTRITION AND SUPPORT SERVICES.
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25. ALL DEMOLITION WORK MUST BE COORDINATED AND VERIFIED WITH VARIOUS TRADES AND OTHER DRAWINGS.
26. THIS DRAWING IS BASED ON ORIGINAL, HISTORIC DRAWINGS OF THE BUILDING. SOME INTERIOR PARTITIONS AND ROOM NAME CHANGES MAY HAVE OCCURRED. VERIFY CURRENT USAGE AND PARTITION PLACEMENT.
27. ALL EXISTING WALLS, CEILINGS, AND FLOORS SHALL BE PATCHED TO MATCH ADJACENT SURFACES AT REMOVAL OF ITEMS SCHEDULED FOR DEMOLITION.
28. THE LIST OF "REFERENCED DEMOLITION NOTES" IS STANDARD FOR ALL AD.100 SHEETS. NOT ALL NOTES REFERENCED ON THIS SHEET.

DEMOLITION PLAN LEGEND

XX	ALL EXISTING EQUIPMENT AND CONDUIT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
	AREA OF WATER DAMAGED WALL AND CEILING TO BE REMOVED
	PORTION OF TOP OF EXISTING CLAY TILE WALL TO BE REMOVED 2'-0" DOWN FROM BOTTOM OF CONCRETE STRUCTURE AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT. CONTRACTOR TO SHORE / BRACE EXISTING WALL TO REMAIN. REFER TO 2/AD.112 AND 3/AD.112. FOR WORK AT 1ST AND 2ND FLOORS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.
	PORTION OF EXISTING CEILING TO BE REMOVED AND REPLACED AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT / REPAIRS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.

NOTE: THE GENERAL CEILING / WALL AREAS ADJACENT TO THE SPECIFIED REPAIRS ARE NOTED ON THE DRAWING. AREAS SHOWN CORRESPOND TO REPAIR WORK TO BE PERFORMED ON THE UNDERSIDE OF THE FLOOR AND ROOF STRUCTURES. CEILING AND WALL REMOVAL AREAS SHOWN ARE REQUIRED TO ACCESS THE UNDERSIDE OF THE STRUCTURE. THE ACTUAL **LOCATIONS**, EXTENT AND SIZE OF THE REQUIRED OPENINGS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THEIR REQUIRED ACCESS, MEANS, AND METHODS.

2

MD	EXISTING WALL-MOUNTED MOTION DETECTOR.	FP	EXISTING WALL-MOUNTED FIRE ALARM PULL STATION
FS	EXISTING WALL-MOUNTED FIRE ALARM / STROBE	BE	EXISTING WALL-MOUNTED BELL
WI	EXISTING WALL-MOUNTED WIFI ROUTER / WIRELESS ACCESS POINT	FL	EXISTING WALL-MOUNTED FLOOD LIGHT
PO	EXISTING WALL-MOUNTED POWER OUTLET	TS	EXISTING WALL-MOUNTED THERMOSTAT
SP	EXISTING WALL-MOUNTED SPEAKER	DS	EXISTING WALL-MOUNTED DEFRIBILLATOR SIGNAGE
FE	EXISTING WALL-MOUNTED FIRE EXTINGUISHER	SK	EXISTING SINK
REF	EXISTING COMMERCIAL REFRIGERATOR	KE	EXISTING COMMERCIAL KITCHEN EQUIPMENT
KT	EXISTING COMMERCIAL KITCHEN TABLE/STORAGE	PB	EXISTING POWER BOX
JB	EXISTING JUNCTION BOX	EX	EXISTING EXIT SIGN
VT	EXISTING VENT	CL	EXISTING CLOCK
DC	EXISTING ELECTRICAL DEVICE AND CONDUIT	PL	EXISTING PENDANT LIGHT
ACT	EXISTING CEILING TYPE	CL	EXISTING CEILING LIGHT

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

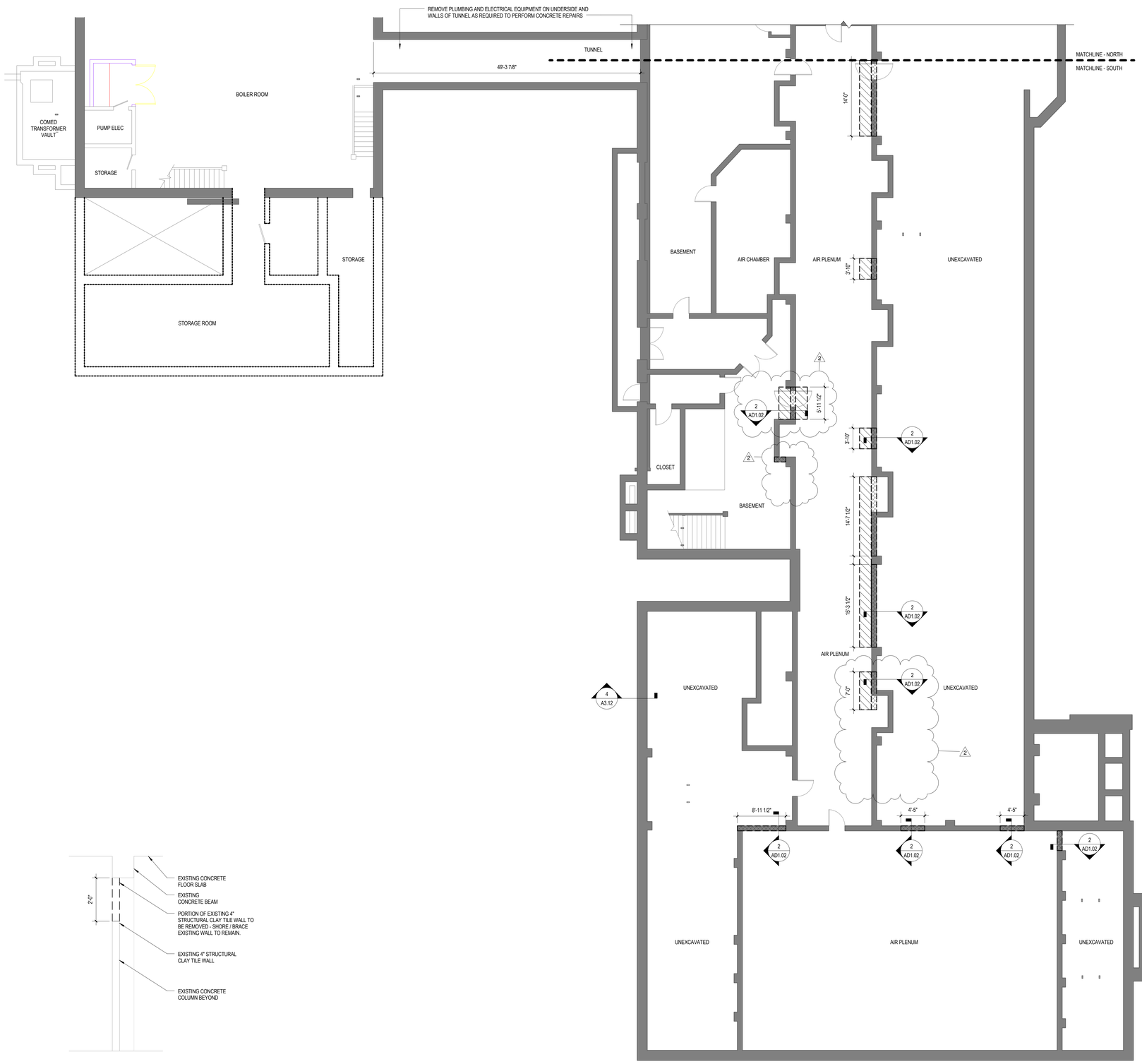
Title

PARTIAL BASEMENT DEMOLITION PLAN - NORTH

Sheet

AD1.01

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



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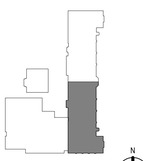
1 PARTIAL BASEMENT DEMOLITION PLAN - SOUTH
1/8" = 1'-0"

2 TYPICAL DEVER BEAM WALL REMOVAL - BASEMENT
1/2" = 1'-0" AD1.01



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22. IN THE EVENT HAZARDOUS MATERIALS ARE UNCOVERED GENERAL CONTRACTOR IS NOTIFY THE OWNER AND THE APPROPRIATE AUTHORITIES. THE ARCHITECT IS NOT RESPONSIBLE FOR REMOVAL / ABATEMENT OF HAZARDOUS MATERIALS. CONTRACTOR TO PROVIDE REMOVAL / ABATEMENT AT LOCATIONS NECESSARY.
23. REFER TO THE CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, AND TECHNOLOGY DRAWINGS FOR THE DEMOLITION WORK SPECIFIC TO THOSE DISCIPLINES.
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DEMOLITION PLAN LEGEND

XX	ALL EXISTING EQUIPMENT AND CONDUIT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
	AREA OF WATER DAMAGED WALL AND CEILING TO BE REMOVED
	PORTION OF TOP OF EXISTING CLAY TILE WALL TO BE REMOVED 2'-0" DOWN FROM BOTTOM OF CONCRETE STRUCTURE AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT. CONTRACTOR TO SHORE / BRACE EXISTING WALL TO REMAIN. REFER TO 2/AD.112 AND 3/AD.112. FOR WORK AT 1ST AND 2ND FLOORS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.
	PORTION OF EXISTING CEILING TO BE REMOVED AND REPLACED AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT / REPAIRS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.

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2

MD	EXISTING WALL-MOUNTED MOTION DETECTOR.	FP	EXISTING WALL-MOUNTED FIRE ALARM PULL STATION
FS	EXISTING WALL-MOUNTED FIRE ALARM / STROBE	BE	EXISTING WALL-MOUNTED BELL
WI	EXISTING WALL-MOUNTED WIFI ROUTER / WIRELESS ACCESS POINT	FL	EXISTING WALL-MOUNTED FLOOD LIGHT
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SP	EXISTING WALL-MOUNTED SPEAKER	DS	EXISTING WALL-MOUNTED DEFRIBILLATOR SIGNAGE
FE	EXISTING WALL-MOUNTED FIRE EXTINGUISHER	SK	EXISTING SINK
REF	EXISTING COMMERCIAL REFRIGERATOR	KE	EXISTING COMMERCIAL KITCHEN EQUIPMENT
KT	EXISTING COMMERCIAL KITCHEN TABLE/STORAGE	PB	EXISTING POWER BOX
JB	EXISTING JUNCTION BOX	EX	EXISTING EXIT SIGN
VT	EXISTING VENT	CL	EXISTING CLOCK
DC	EXISTING ELECTRICAL DEVICE AND CONDUIT	PL	EXISTING PENDANT LIGHT
ACT	EXISTING CEILING TYPE	CL	EXISTING CEILING LIGHT

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

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Design Architect:
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Terra Engineering LTD.
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Chicago, IL
Landscape/Civil Engineers of Record

CCJM Engineers, Ltd.
303 E. Wacker Dr, #303
Chicago, IL 60601
MEPFP Engineers of Record

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Structural Engineer - Dever Beam

Mackesy and Associates
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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

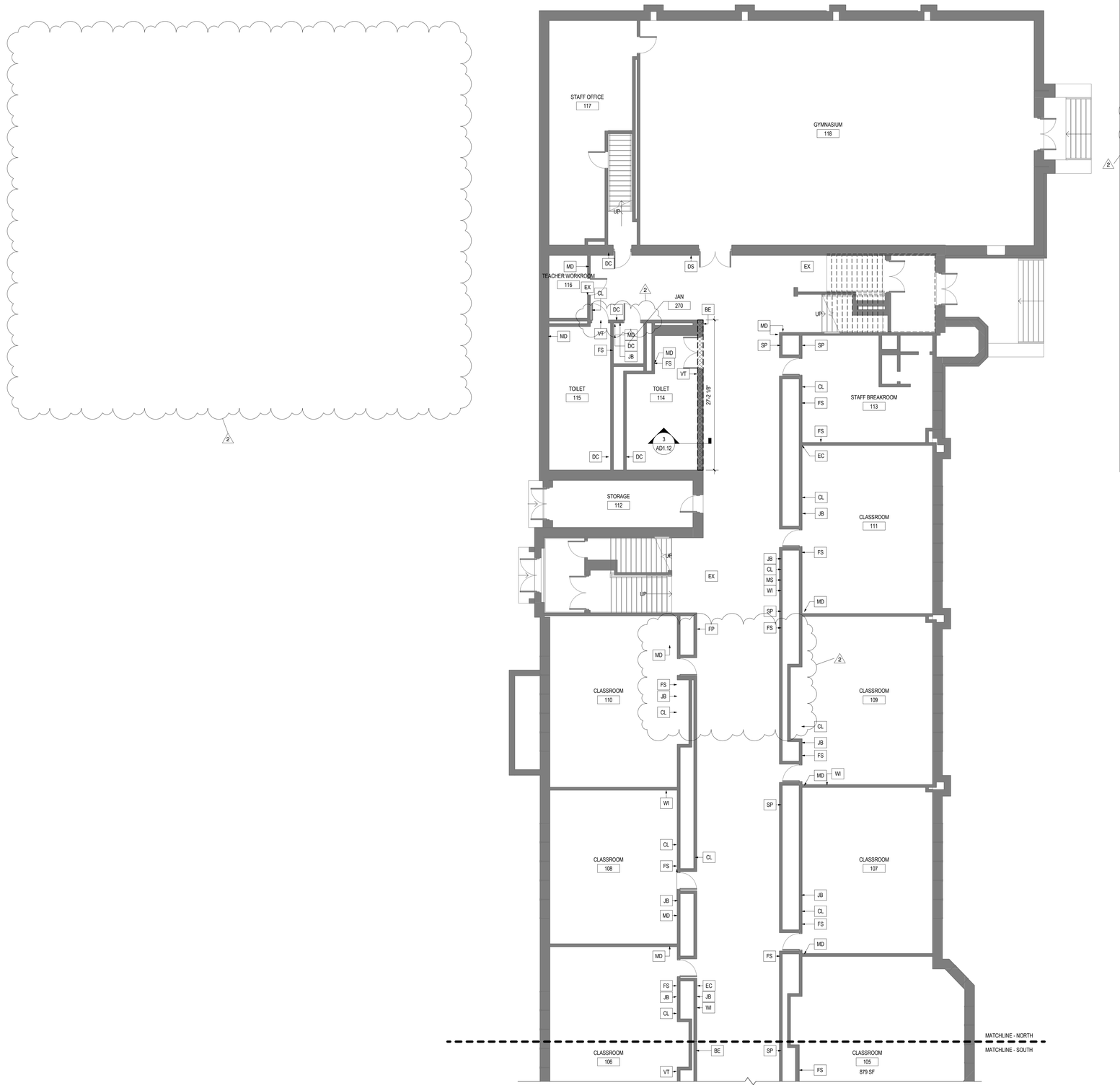
PBC Contract No: 05175

Project No: 217102.00

Title
PARTIAL BASEMENT DEMOLITION PLAN - SOUTH

Sheet
AD1.02

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



NOTE: HATCHED CEILING AND WALL AREAS SHOW APPROXIMATE SIZE OF WALL AND CEILING OPENINGS REQUIRED TO ACCESS STRUCTURAL REPAIR LOCATIONS SPECIFIED ON SR SERIES DRAWINGS AND STEEL BEAMS IN ATTIC SPACE. CONTRACTOR TO SIZE OPENINGS AS REQUIRED TO PERFORM SPECIFIED WORK.

1 PARTIAL FIRST FLOOR DEMOLITION PLAN - NORTH
1/8" = 1'-0" A2.01

DEMOLITION PLAN LEGEND

XX	ALL EXISTING EQUIPMENT AND CONDUIT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
	AREA OF WATER DAMAGED WALL AND CEILING TO BE REMOVED
	PORTION OF TOP OF EXISTING CLAY TILE WALL TO BE REMOVED 2'-0" DOWN FROM BOTTOM OF CONCRETE STRUCTURE AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT. CONTRACTOR TO SHORE / BRACE EXISTING WALL TO REMAIN. REFER TO 2/AD.112 AND 3/AD.112. FOR WORK AT 1ST AND 2ND FLOORS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.
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DC	EXISTING ELECTRICAL DEVICE AND CONDUIT	PL	EXISTING PENDANT LIGHT
ACT	EXISTING CEILING TYPE	CL	EXISTING CEILING LIGHT

DEMOLITION PLAN GENERAL NOTES

1. REFERENCED DEMOLITION NOTES REFER TO THE MINIMUM AMOUNT OF DEMOLITION REQUIRED TO ACCOMMODATE THE NEW CONSTRUCTION. TRADE CONTRACTORS SHALL VISIT PROJECT SITE TO BECOME FAMILIAR WITH COMPLETE SCOPE OF REMOVALS/DEMOLITIONS AND FIELD VERIFY THE EXTENT OF DEMOLITION.
2. EXISTING DIMENSIONS AND HATCHED AREAS ARE FOR GENERAL REFERENCE AND BIDDING PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD. THE ACTUAL AREA OF DEMOLITION SHOULD BE KEPT TO THE MINIMUM REQUIRED TO PROPERLY EXECUTE THE CONTRACT REQUIREMENTS.
3. IN THE EVENT THAT AN EXISTING ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM.
4. ALL UTILITIES SHALL REMAIN IN SERVICE FOR OTHER OCCUPANCIES. ANY SHUTDOWNS OF BUILDING MUST BE APPROVED BY OWNER AND OCCUR AT OFF HOURS AS DEFINED BY OWNER.
5. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL MATERIAL OR EQUIPMENT IDENTIFIED TO BE REMOVED. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
6. REFER TO DRAWINGS FOR LOCATIONS OF ALL ITEMS TO BE REINSTALLED. ALL ITEMS NOT SPECIFICALLY INDICATED FOR REINSTALLATION ON DRAWINGS ARE TO BE TURNED OVER TO THE OWNER. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
7. ALL REMOVED ITEMS IDENTIFIED FOR REINSTALLATION OR TO BE TURNED OVER TO THE OWNER SHALL BE PROTECTED UNTIL TIME OF REINSTALLATION OR OWNER POSSESSION. DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED BY THE RESPONSIBLE TRADE CONTRACTOR. ALL FOOD SERVICE EQUIPMENT IDENTIFIED FOR DEMOLITION OR REMOVAL TO MAINTAIN IN OWNER POSSESSION. COORDINATE WITH CPS NUTRITION AND SUPPORT SERVICES.
8. THROUGHOUT DEMOLITION AND CONSTRUCTION, PROTECT ITEMS SCHEDULED TO REMAIN AND/OR ALL ADJACENT MATERIALS AND EQUIPMENT, ETC. INDICATED TO REMAIN. COORDINATE REMOVAL AND PROTECTIONS WITH OWNER.
9. DO NOT COMMENCE DEMOLITION UNTIL OWNER HAS REMOVED ALL ARTWORK AND DISPLAYS FROM AREAS OF DEMOLITION.
10. COORDINATE WITH OWNER ACCESS AND LOCATIONS OF TEMPORARY PARTITION. TEMPORARY PARTITION MUST BE DUSTPROOF, AND ACT AS SMOKE AND FIRE BARRIER.
11. AT REMOVAL OF SELECTED DEMOLITION ITEMS WHERE NO NEW CONSTRUCTION IS IDENTIFIED, PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
12. AT ITEMS TO BE REMOVED, ALSO REMOVE ALL ASSOCIATED BRACKETS, SUPPORTS, FASTENERS, ANCHORS, ETC. PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
13. PATCH ALL CEILINGS, WALLS AND FLOORS WHERE MECHANICAL, ELECTRICAL, TECHNOLOGY, PLUMBING AND FIRE PROTECTION COMPONENTS ARE TO BE REMOVED IN AN EXISTING CEILINGS, WALLS OR FLOORS TO REMAIN.
14. ALL WALL DEMOLITION SHALL HAVE CLEAN, VERTICAL, SMOOTH CUTS. PATCH, REPLACE AND/OR FILL VOIDS IN WALLS TO REMAIN TO PROVIDE A SMOOTH SURFACE/EDGE FOR THE APPLICATION OF NEW FINISH MATERIAL.
15. WHEN REMOVING EXISTING WALL TILE, FLOOR TILE, RUBBER BASE OR CEILING TILE, REMOVE FINISHES TO THE NEAREST JOINT WHICH ABUTS TILE NOT AFFECTED BY THE CONSTRUCTION. PROTECT THE SURFACES AND EDGES OF EXISTING FINISHES TO REMAIN.
16. AT AREAS WHERE DEMOLITION OF THE FLOORING EXPOSES THE CONCRETE SUBSTRATE: COMPLETELY REMOVE THE MASTIC, SHOT BLAST THE EXISTING CONCRETE TO REMAIN, AND FILL ALL CRACKS AND SPALLED AREAS IN PREPARATION FOR NEW FLOORING MATERIAL. REMOVAL OF FLOORING MATERIAL INCLUDES REMOVAL OF ADJACENT WALL BASE MATERIAL.
17. AT IDENTIFIED AREAS OF SPALLED, UNEVEN AND/OR SEPARATED CONCRETE SLABS; REMOVE ALL LOOSE MATERIAL; GRIND CONCRETE TO ACHIEVE A LEVEL SURFACE AND FILL CRACKS AND SPALLED AREAS IN PREPARATION FOR INSTALLATION OF FINISHED FLOORING.
18. CONTRACTOR SHALL REMOVE EXISTING PLUMBING, MECHANICAL, ELECTRICAL OR OTHER MISCELLANEOUS ITEMS REQUIRED TO COMPLETE NEW WORK BUT NOT REQUIRED TO REMAIN.
19. WHEN REMOVING INTERIOR OR EXTERIOR WALL ASSEMBLIES, CONTRACTOR SHALL ALSO REMOVE ALL ASSOCIATED POWER AND DATA RECEPTACLES, SWITCHES, ETC. REROUTE CONCEALED MEPFP WHERE REQUIRED TO MAINTAIN FUNCTIONING SYSTEMS; REMOVE ABANDONED MEPFP SYSTEMS TO SOURCE AND CAP APPROPRIATELY. REFER TO MECHANICAL, ELECTRICAL, TECHNOLOGY, LOW VOLTAGE, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
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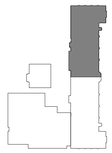

KEY PLAN

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

ADDRESS: 651 W Washington Blvd. #1
Chicago, Illinois 60661
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Design Architect:
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Chicago, IL
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Chicago, IL 60603
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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

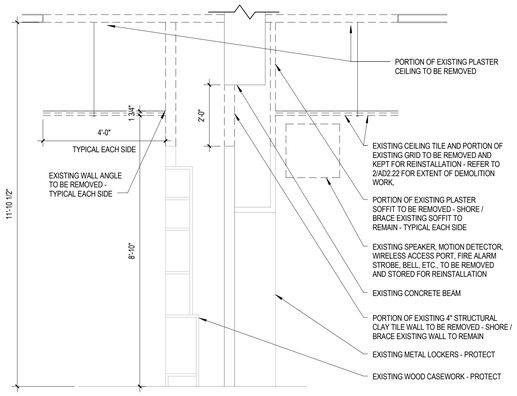
PBC Contract No: 05175

Project No: 217102.00

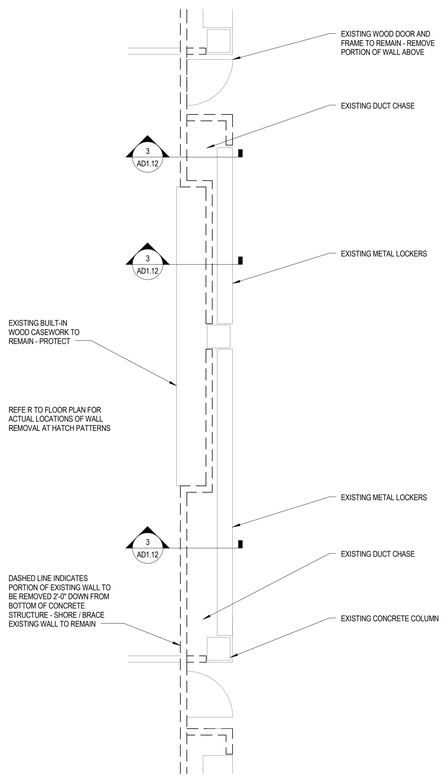
Title
PARTIAL FIRST FLOOR DEMOLITION PLAN - NORTH

Sheet
AD1.11

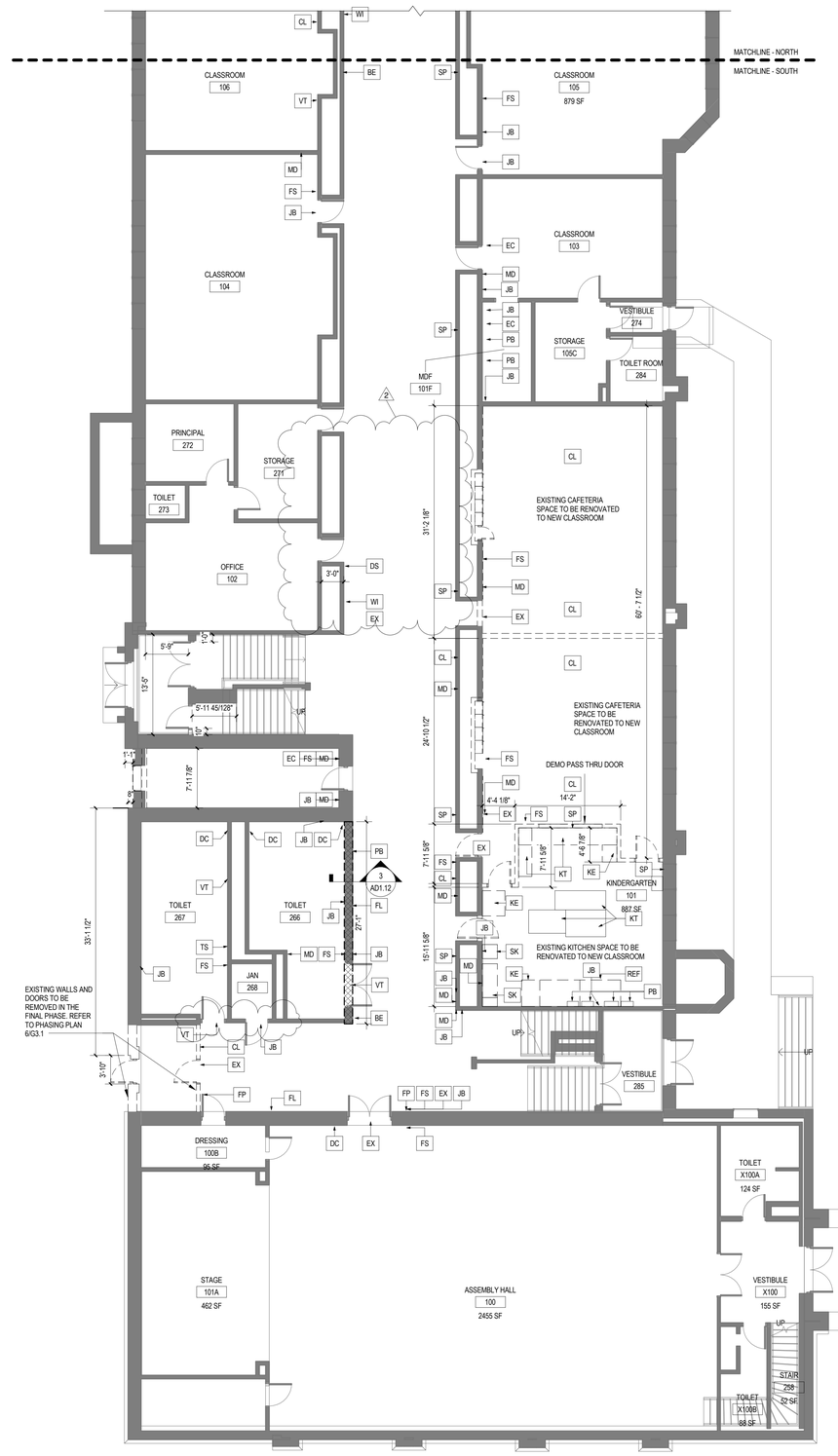
1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



3 ENLARGED DEMOLITION WALL SECTION
1/2" = 1'-0" AD1.11



2 ENLARGED PLAN - TYPICAL CLASSROOM / CORRIDOR WALL
1/4" = 1'-0" AD1.11



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1 PARTIAL FIRST FLOOR DEMOLITION PLAN - SOUTH
1/8" = 1'-0" A2.01

DEMOLITION PLAN LEGEND

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9. DO NOT COMMENCE DEMOLITION UNTIL OWNER HAS REMOVED ALL ARTWORK AND DISPLAYS FROM AREAS OF DEMOLITION.
10. COORDINATE WITH OWNER ACCESS AND LOCATIONS OF TEMPORARY PARTITION. TEMPORARY PARTITION MUST BE DUSTPROOF, AND ACT AS SMOKE AND FIRE BARRIER.
11. AT REMOVAL OF SELECTED DEMOLITION ITEMS WHERE NO NEW CONSTRUCTION IS IDENTIFIED, PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
12. AT ITEMS TO BE REMOVED, ALSO REMOVE ALL ASSOCIATED BRACKETS, SUPPORTS, FASTENERS, ANCHORS, ETC. PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
13. PATCH ALL CEILINGS, WALLS AND FLOORS WHERE MECHANICAL, ELECTRICAL, TECHNOLOGY, PLUMBING AND FIRE PROTECTION COMPONENTS ARE TO BE REMOVED IN AN EXISTING CEILINGS, WALLS OR FLOORS TO REMAIN.
14. ALL WALL DEMOLITION SHALL HAVE CLEAN, VERTICAL, SMOOTH CUTS. PATCH, REPLACE AND/OR FILL VOIDS IN WALLS TO REMAIN TO PROVIDE A SMOOTH SURFACE/EDGE FOR THE APPLICATION OF NEW FINISH MATERIAL.
15. WHEN REMOVING EXISTING WALL TILE, FLOOR TILE, RUBBER BASE OR CEILING TILE, REMOVE FINISHES TO THE NEAREST JOINT WHICH ABUTS TILE NOT AFFECTED BY THE CONSTRUCTION. PROTECT THE SURFACES AND EDGES OF EXISTING FINISHES TO REMAIN.
16. AT AREAS WHERE DEMOLITION OF THE FLOORING EXPOSES THE CONCRETE SUBSTRATE: COMPLETELY REMOVE THE MASTIC, SHOT BLAST THE EXISTING CONCRETE TO REMAIN, AND FILL ALL CRACKS AND SPALLED AREAS IN PREPARATION FOR NEW FLOORING MATERIAL. REMOVAL OF FLOORING MATERIAL INCLUDES REMOVAL OF ADJACENT WALL BASE MATERIAL.
17. AT IDENTIFIED AREAS OF SPALLED, UNEVEN AND/OR SEPARATED CONCRETE SLABS; REMOVE ALL LOOSE MATERIAL; GRIND CONCRETE TO ACHIEVE A LEVEL SURFACE AND FILL CRACKS AND SPALLED AREAS IN PREPARATION FOR INSTALLATION OF FINISHED FLOORING.
18. CONTRACTOR SHALL REMOVE EXISTING PLUMBING, MECHANICAL, ELECTRICAL OR OTHER MISCELLANEOUS ITEMS REQUIRED TO COMPLETE NEW WORK BUT NOT REQUIRED TO REMAIN.
19. WHEN REMOVING INTERIOR OR EXTERIOR WALL ASSEMBLIES, CONTRACTOR SHALL ALSO REMOVE ALL ASSOCIATED POWER AND DATA RECEPTACLES, SWITCHES, ETC. REROUTE CONCEALED MEPFP WHERE REQUIRED TO MAINTAIN FUNCTIONING SYSTEMS; REMOVE ABANDONED MEPFP SYSTEMS TO SOURCE AND CAP APPROPRIATELY. REFER TO MECHANICAL, ELECTRICAL, TECHNOLOGY, LOW VOLTAGE, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
20. CONTRACTOR SHALL REMOVE ALL DEBRIS AND TRASH RESULTING FROM CONSTRUCTION ON A DAILY BASIS.
21. GENERAL CONTRACTOR SHALL RECYCLE DEMOLITION CONSTRUCTION DEBRIS IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION AND SUSTAINABLE BEST PRACTICES.
22. IN THE EVENT HAZARDOUS MATERIALS ARE UNCOVERED GENERAL CONTRACTOR IS NOTIFY THE OWNER AND THE APPROPRIATE AUTHORITIES. THE ARCHITECT IS NOT RESPONSIBLE FOR REMOVAL / ABATEMENT OF HAZARDOUS MATERIALS. CONTRACTOR TO PROVIDE REMOVAL / ABATEMENT AT LOCATIONS NECESSARY.
23. REFER TO THE CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, AND TECHNOLOGY DRAWINGS FOR THE DEMOLITION WORK SPECIFIC TO THOSE DISCIPLINES.
24. STRUCTURAL ITEMS SHOWN AS 'TO BE REMOVED' ARE FOR REFERENCE ONLY. VERIFY APPROPRIATE SHORING OR REINFORCEMENT CONDITION WITH STRUCTURAL DRAWINGS.
25. ALL DEMOLITION WORK MUST BE COORDINATED AND VERIFIED WITH VARIOUS TRADES AND OTHER DRAWINGS.
26. THIS DRAWING IS BASED ON ORIGINAL, HISTORIC DRAWINGS OF THE BUILDING. SOME INTERIOR PARTITIONS AND ROOM NAME CHANGES MAY HAVE OCCURRED. VERIFY CURRENT USAGE AND PARTITION PLACEMENT.
27. ALL EXISTING WALLS, CEILINGS, AND FLOORS SHALL BE PATCHED TO MATCH ADJACENT SURFACES AT REMOVAL OF ITEMS SCHEDULED FOR DEMOLITION.
28. THE LIST OF "REFERENCED DEMOLITION NOTES" IS STANDARD FOR ALL AD.100 SHEETS. NOT ALL NOTES REFERENCED ON THIS SHEET.

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

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Design Architect:
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Chicago, IL 60603
Structural Engineer - Dever Beam

Mackesy and Associates
321 N Clark St, #500
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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title
PARTIAL FIRST FLOOR DEMOLITION PLAN - SOUTH

Sheet
AD1.12

N
KEY PLAN

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"

DEMOLITION PLAN LEGEND

XX	ALL EXISTING EQUIPMENT AND CONDUIT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
	AREA OF WATER DAMAGED WALL AND CEILING TO BE REMOVED
	PORTION OF TOP OF EXISTING CLAY TILE WALL TO BE REMOVED 2'-0" DOWN FROM BOTTOM OF CONCRETE STRUCTURE AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT. CONTRACTOR TO SHORE / BRACE EXISTING WALL TO REMAIN. REFER TO 2/AD.112 AND 3/AD.112. FOR WORK AT 1ST AND 2ND FLOORS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.
	PORTION OF EXISTING CEILING TO BE REMOVED AND REPLACED AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT / REPAIRS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.

NOTE: THE GENERAL CEILING / WALL AREAS ADJACENT TO THE SPECIFIED REPAIRS ARE NOTED ON THE DRAWING. AREAS SHOWN CORRESPOND TO REPAIR WORK TO BE PERFORMED ON THE UNDERSIDE OF THE FLOOR AND ROOF STRUCTURES, CEILING AND WALL REMOVAL AREAS SHOWN ARE REQUIRED TO ACCESS THE UNDERSIDE OF THE STRUCTURE. THE ACTUAL ***LOCATIONS***, EXTENT AND SIZE OF THE REQUIRED OPENINGS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THEIR REQUIRED ACCESS, MEANS, AND METHODS. 2

MD	EXISTING WALL-MOUNTED MOTION DETECTOR.	FP	EXISTING WALL-MOUNTED FIRE ALARM PULL STATION
FS	EXISTING WALL-MOUNTED FIRE ALARM / STROBE	BE	EXISTING WALL-MOUNTED BELL
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VT	EXISTING VENT	CL	EXISTING CLOCK
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ACT	EXISTING CEILING TYPE	CL	EXISTING CEILING LIGHT

DEMOLITION PLAN GENERAL NOTES

1. REFERENCED DEMOLITION NOTES REFER TO THE MINIMUM AMOUNT OF DEMOLITION REQUIRED TO ACCOMMODATE THE NEW CONSTRUCTION. TRADE CONTRACTORS SHALL VISIT PROJECT SITE TO BECOME FAMILIAR WITH COMPLETE SCOPE OF REMOVALS/DEMOLITIONS AND FIELD VERIFY THE EXTENT OF DEMOLITION.
2. EXISTING DIMENSIONS AND HATCHED AREAS ARE FOR GENERAL REFERENCE AND BIDDING PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD. THE ACTUAL AREA OF DEMOLITION SHOULD BE KEPT TO THE MINIMUM REQUIRED TO PROPERLY EXECUTE THE CONTRACT REQUIREMENTS.
3. IN THE EVENT THAT AN EXISTING ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM.
4. ALL UTILITIES SHALL REMAIN IN SERVICE FOR OTHER OCCUPANCIES. ANY SHUTDOWNS OF BUILDING MUST BE APPROVED BY OWNER AND OCCUR AT OFF HOURS AS DEFINED BY OWNER.
5. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL MATERIAL OR EQUIPMENT IDENTIFIED TO BE REMOVED. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
6. REFER TO DRAWINGS FOR LOCATIONS OF ALL ITEMS TO BE REINSTALLED. ALL ITEMS NOT SPECIFICALLY INDICATED FOR REINSTALLATION ON DRAWINGS ARE TO BE TURNED OVER TO THE OWNER. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
7. ALL REMOVED ITEMS IDENTIFIED FOR REINSTALLATION OR TO BE TURNED OVER TO THE OWNER SHALL BE PROTECTED UNTIL TIME OF REINSTALLATION OR OWNER POSSESSION. DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED BY THE RESPONSIBLE TRADE CONTRACTOR. ALL FOOD SERVICE EQUIPMENT IDENTIFIED FOR DEMOLITION OR REMOVAL TO MAINTAIN IN OWNER POSSESSION. COORDINATE WITH CPS NUTRITION AND SUPPORT SERVICES.
8. THROUGHOUT DEMOLITION AND CONSTRUCTION, PROTECT ITEMS SCHEDULED TO REMAIN AND/OR ALL ADJACENT MATERIALS AND EQUIPMENT, ETC. INDICATED TO REMAIN. COORDINATE REMOVAL AND PROTECTIONS WITH OWNER.
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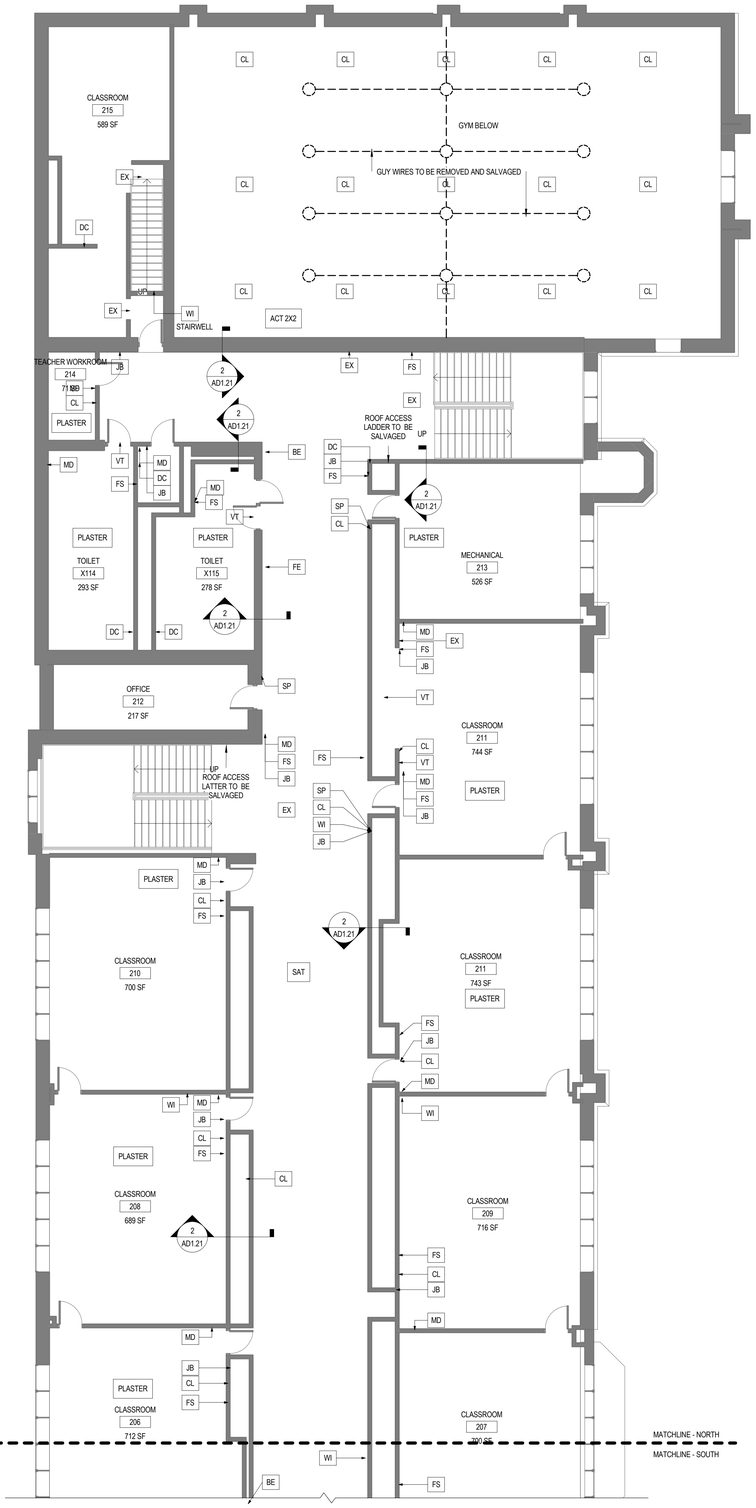
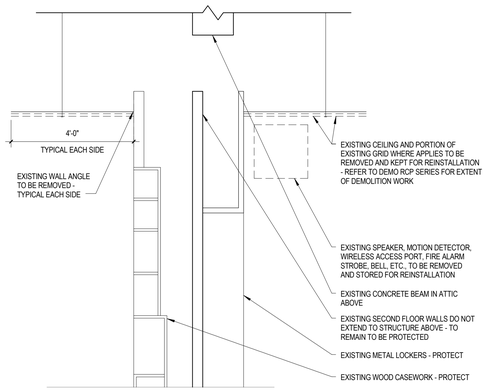
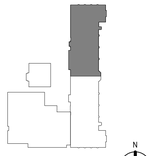


NOTE: HATCHED CEILING AND WALL AREAS SHOW APPROXIMATE SIZE OF WALL AND CEILING OPENINGS REQUIRED TO ACCESS STRUCTURAL REPAIR LOCATIONS SPECIFIED ON SR SERIES DRAWINGS AND STEEL BEAMS IN ATTIC SPACE. CONTRACTOR TO SIZE OPENINGS AS REQUIRED TO PERFORM SPECIFIED WORK.

1 PARTIAL SECOND FLOOR PLAN - NORTH
1/8" = 1'-0" AD2.01



2 ENLARGED DEMOLITION WALL SECTION - SECOND FLOOR PLAN
1/2" = 1'-0" AD1.21



PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

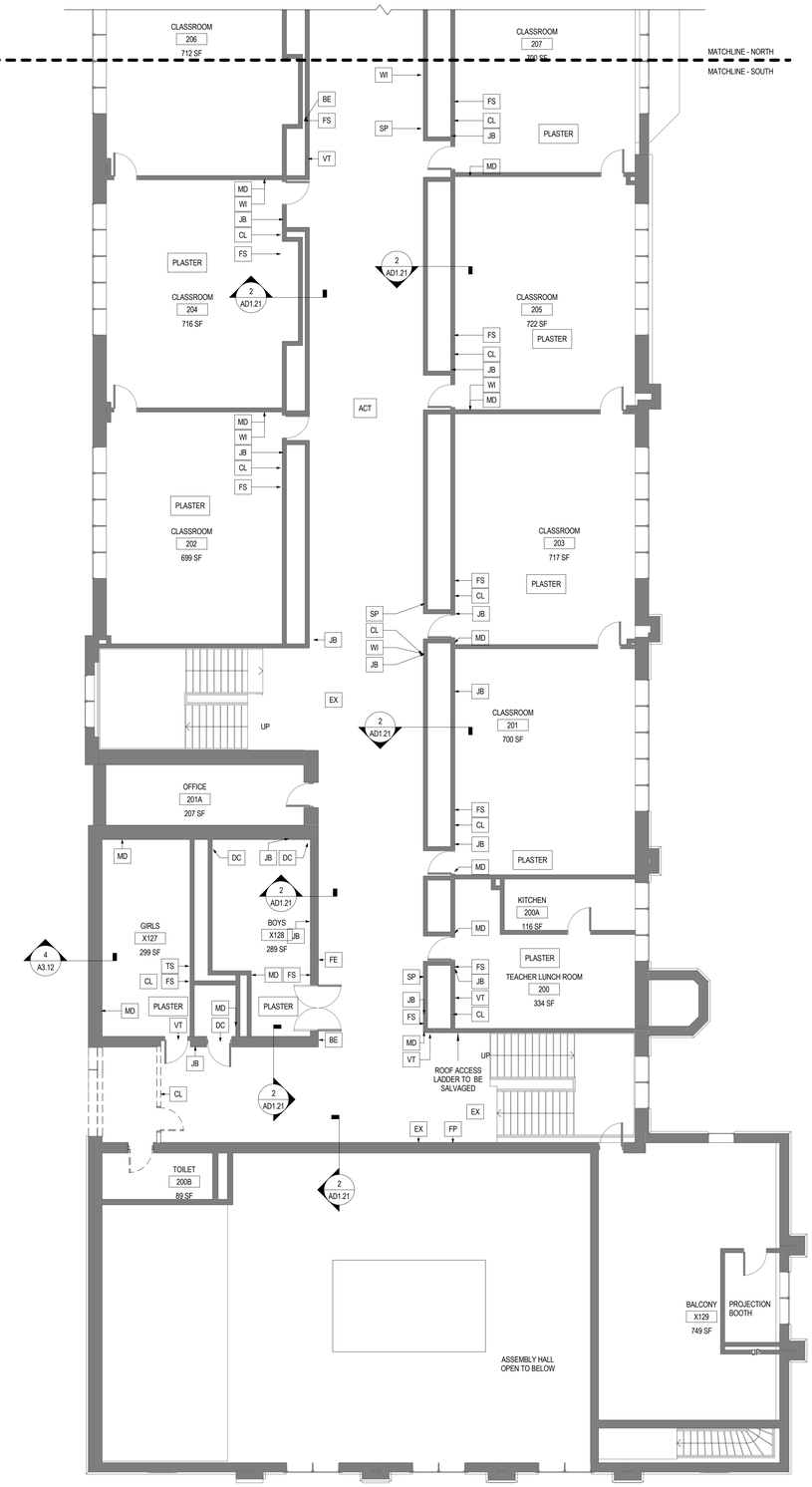
Title

PARTIAL SECOND FLOOR DEMOLITION PLAN - NORTH

Sheet

AD1.21

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



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1 PARTIAL SECOND FLOOR DEMOLITION PLAN - SOUTH
1/8" = 1'-0" A2.01

DEMOLITION PLAN LEGEND

XX	ALL EXISTING EQUIPMENT AND CONDUIT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
	AREA OF WATER DAMAGED WALL AND CEILING TO BE REMOVED
	PORTION OF TOP OF EXISTING CLAY TILE WALL TO BE REMOVED 2'-0" DOWN FROM BOTTOM OF CONCRETE STRUCTURE AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT. CONTRACTOR TO SHORE / BRACE EXISTING WALL TO REMAIN. REFER TO 2/AD.112 AND 3/AD.112. FOR WORK AT 1ST AND 2ND FLOORS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.
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2

MD	EXISTING WALL-MOUNTED MOTION DETECTOR.	FP	EXISTING WALL-MOUNTED FIRE ALARM PULL STATION
FS	EXISTING WALL-MOUNTED FIRE ALARM / STROBE	BE	EXISTING WALL-MOUNTED BELL
WI	EXISTING WALL-MOUNTED WIFI ROUTER / WIRELESS ACCESS POINT	FL	EXISTING WALL-MOUNTED FLOOD LIGHT
PO	EXISTING WALL-MOUNTED POWER OUTLET	TS	EXISTING WALL-MOUNTED THERMOSTAT
SP	EXISTING WALL-MOUNTED SPEAKER	DS	EXISTING WALL MOUNTED DEFRIBILLATOR SIGNAGE
FE	EXISTING WALL-MOUNTED FIRE EXTINGUISHER	SK	EXISTING SINK
REF	EXISTING COMMERCIAL REFRIGERATOR	KE	EXISTING COMMERCIAL KITCHEN EQUIPMENT
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VT	EXISTING VENT	CL	EXISTING CLOCK
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ACT	EXISTING CEILING TYPE	CL	EXISTING CEILING LIGHT

DEMOLITION PLAN GENERAL NOTES

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11. AT REMOVAL OF SELECTED DEMOLITION ITEMS WHERE NO NEW CONSTRUCTION IS IDENTIFIED, PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
12. AT ITEMS TO BE REMOVED, ALSO REMOVE ALL ASSOCIATED BRACKETS, SUPPORTS, FASTENERS, ANCHORS, ETC. PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
13. PATCH ALL CEILINGS, WALLS AND FLOORS WHERE MECHANICAL, ELECTRICAL, TECHNOLOGY, PLUMBING AND FIRE PROTECTION COMPONENTS ARE TO BE REMOVED IN AN EXISTING CEILINGS, WALLS OR FLOORS TO REMAIN.
14. ALL WALL DEMOLITION SHALL HAVE CLEAN, VERTICAL, SMOOTH CUTS. PATCH, REPLACE AND/OR FILL VOIDS IN WALLS TO REMAIN TO PROVIDE A SMOOTH SURFACE/EDGE FOR THE APPLICATION OF NEW FINISH MATERIAL.
15. WHEN REMOVING EXISTING WALL TILE, FLOOR TILE, RUBBER BASE OR CEILING TILE, REMOVE FINISHES TO THE NEAREST JOINT WHICH ABUTS TILE NOT AFFECTED BY THE CONSTRUCTION. PROTECT THE SURFACES AND EDGES OF EXISTING FINISHES TO REMAIN.
16. AT AREAS WHERE DEMOLITION OF THE FLOORING EXPOSES THE CONCRETE SUBSTRATE: COMPLETELY REMOVE THE MASTIC, SHOT BLAST THE EXISTING CONCRETE TO REMAIN, AND FILL ALL CRACKS AND SPALLED AREAS IN PREPARATION FOR NEW FLOORING MATERIAL. REMOVAL OF FLOORING MATERIAL INCLUDES REMOVAL OF ADJACENT WALL BASE MATERIAL.
17. AT IDENTIFIED AREAS OF SPALLED, UNEVEN AND/OR SEPARATED CONCRETE SLABS; REMOVE ALL LOOSE MATERIAL; GRIND CONCRETE TO ACHIEVE A LEVEL SURFACE AND FILL CRACKS AND SPALLED AREAS IN PREPARATION FOR INSTALLATION OF FINISHED FLOORING.
18. CONTRACTOR SHALL REMOVE EXISTING PLUMBING, MECHANICAL, ELECTRICAL OR OTHER MISCELLANEOUS ITEMS REQUIRED TO COMPLETE NEW WORK BUT NOT REQUIRED TO REMAIN.
19. WHEN REMOVING INTERIOR OR EXTERIOR WALL ASSEMBLIES, CONTRACTOR SHALL ALSO REMOVE ALL ASSOCIATED POWER AND DATA RECEPTACLES, SWITCHES, ETC. REROUTE CONCEALED MEPFP WHERE REQUIRED TO MAINTAIN FUNCTIONING SYSTEMS; REMOVE ABANDONED MEPFP SYSTEMS TO SOURCE AND CAP APPROPRIATELY. REFER TO MECHANICAL, ELECTRICAL, TECHNOLOGY, LOW VOLTAGE, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
20. CONTRACTOR SHALL REMOVE ALL DEBRIS AND TRASH RESULTING FROM CONSTRUCTION ON A DAILY BASIS.
21. GENERAL CONTRACTOR SHALL RECYCLE DEMOLITION CONSTRUCTION DEBRIS IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION AND SUSTAINABLE BEST PRACTICES.
22. IN THE EVENT HAZARDOUS MATERIALS ARE UNCOVERED GENERAL CONTRACTOR IS NOTIFY THE OWNER AND THE APPROPRIATE AUTHORITIES. THE ARCHITECT IS NOT RESPONSIBLE FOR REMOVAL / ABATEMENT OF HAZARDOUS MATERIALS. CONTRACTOR TO PROVIDE REMOVAL / ABATEMENT AT LOCATIONS NECESSARY.
23. REFER TO THE CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, AND TECHNOLOGY DRAWINGS FOR THE DEMOLITION WORK SPECIFIC TO THOSE DISCIPLINES.
24. STRUCTURAL ITEMS SHOWN AS 'TO BE REMOVED' ARE FOR REFERENCE ONLY. VERIFY APPROPRIATE SHORING OR REINFORCEMENT CONDITION WITH STRUCTURAL DRAWINGS.
25. ALL DEMOLITION WORK MUST BE COORDINATED AND VERIFIED WITH VARIOUS TRADES AND OTHER DRAWINGS.
26. THIS DRAWING IS BASED ON ORIGINAL, HISTORIC DRAWINGS OF THE BUILDING. SOME INTERIOR PARTITIONS AND ROOM NAME CHANGES MAY HAVE OCCURRED. VERIFY CURRENT USAGE AND PARTITION PLACEMENT.
27. ALL EXISTING WALLS, CEILINGS, AND FLOORS SHALL BE PATCHED TO MATCH ADJACENT SURFACES AT REMOVAL OF ITEMS SCHEDULED FOR DEMOLITION.
28. THE LIST OF "REFERENCED DEMOLITION NOTES" IS STANDARD FOR ALL AD.100 SHEETS. NOT ALL NOTES REFERENCED ON THIS SHEET.

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
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1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

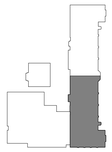
Project No: 217102.00

Title

PARTIAL SECOND FLOOR DEMOLITION PLAN - SOUTH

Sheet

AD1.22



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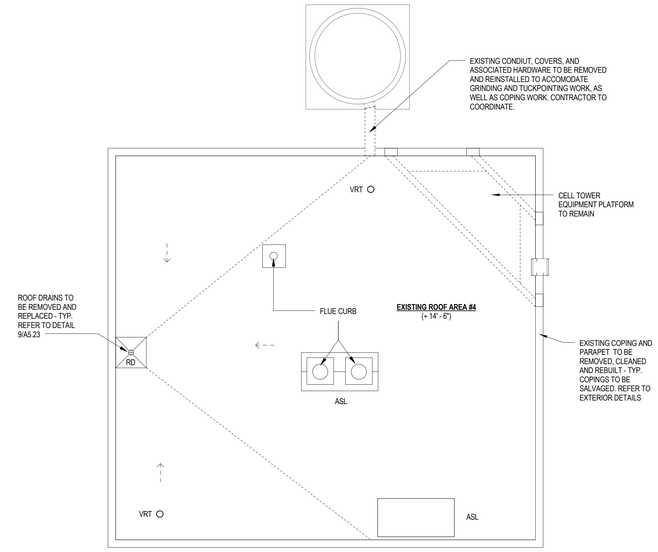
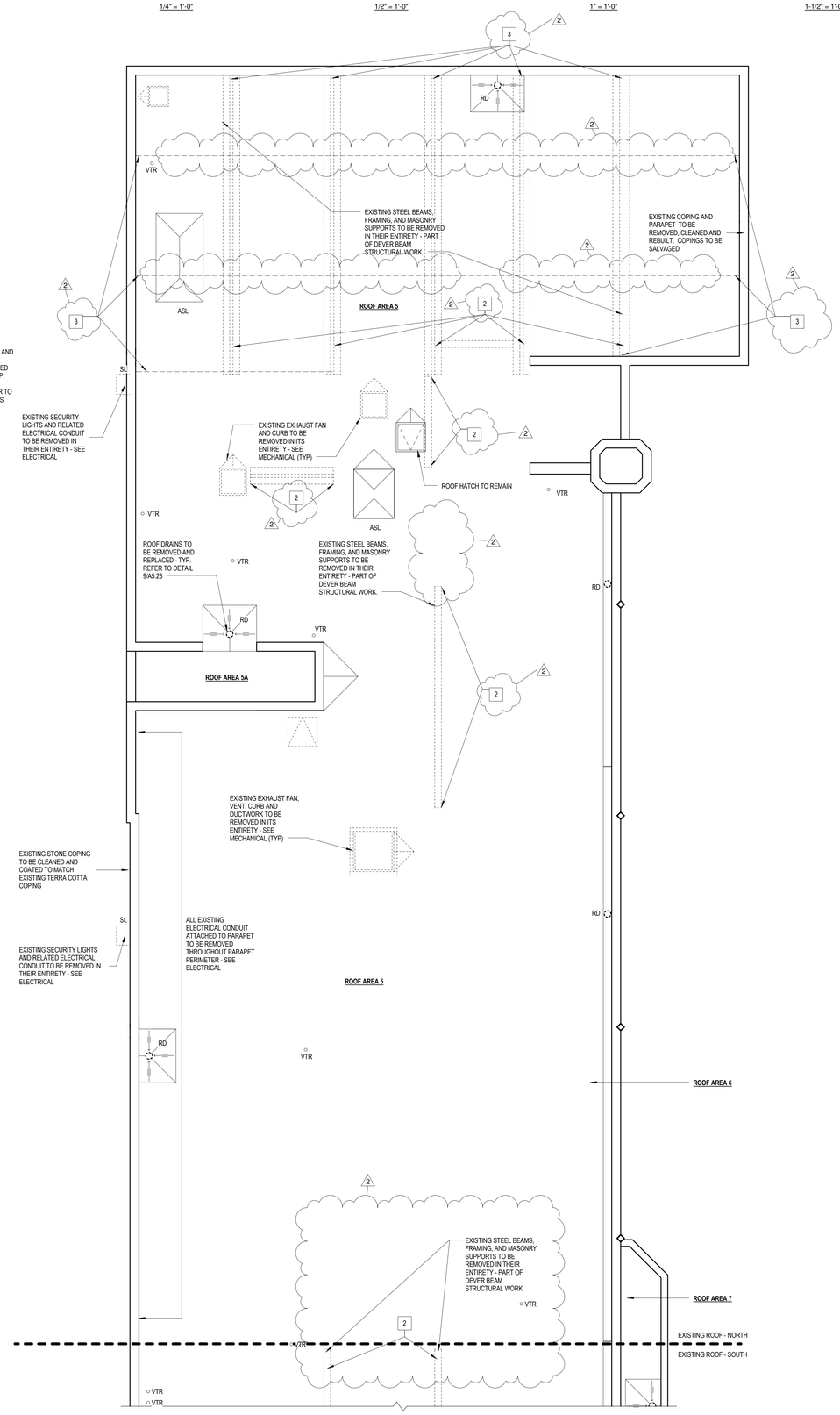
KEY PLAN

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



2 ROOF PLAN - BOILER HOUSE
1/8" = 1'-0" A2.01



GENERAL NOTE: COORDINATE INSTALLATION OF FRP / STEEL PLATE STRUCTURAL REINFORCEMENT AND EPOXY INJECTION ON TOP SIDE OF ROOF SLAB WITH ROOFING REPLACEMENT WORK. REFER TO SR SERIES DRAWINGS FOR LOCATIONS AND DETAILS. INSTALL TEMPORARY ROOFING AS REQUIRED TO KEEP AREAS WATER TIGHT DURING STRUCTURAL REPAIR WORK.

1 ROOF PLAN - EXISTING BLDG. NORTH
1/8" = 1'-0" A2.01

DEMO ROOF PLAN LEGEND

- AREA OF 1/4" PER FOOT TAPERED INSULATION
- AREA OF 1/2" PER FOOT TAPERED INSULATION
- AREA OF 1/4" PER FOOT STRUCTURAL SLOPE
- RD — ROOF DRAIN TO BE REMOVED AND REPLACED
- ROOF CURB, 14" ABOVE FINISHED ROOF SURFACE TYP.
- ROOF HATCH - REFER TO DETAILS FOR ADDITIONAL INFORMATION
- SL — SECURITY LIGHT
- DEMOLITION ITEM
- VRT — VENT PIPE ROOF PENETRATION
- 5.00 — HEIGHT OF INSULATION (INCHES)
- 2 — EXISTING STEEL SHORING DEVER BEAM ABOVE THE ROOF TO BE REMOVED. REFER TO NOTE 1 OF THE ROOF REMOVAL NOTES FOR DETAILS
- 3 — EXISTING STEEL SHORING DEVER BEAM IN THE ATTIC TO BE REMOVED. REFER TO NOTE 1 OF THE ROOF REMOVAL NOTES FOR DETAILS

ROOF REMOVAL NOTES

DISCLAIMER:
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1. REMOVE AND DISPOSE OF EXISTING STEEL BEAMS SUPPORTING THE CONCRETE ROOF STRUCTURE INCLUDING ALL STEEL BEAMS, CHANNELS, ANGLES AND ACCESSORIES ABOVE THE ROOF SLAB AND IN THE ATTIC SPACE BETWEEN THE 2ND FLOOR CEILING AND THE ROOF SLAB. COORDINATE REMOVAL OF EXISTING STEEL WITH INSTALLATION OF FRP REINFORCEMENT, CONCRETE REPAIRS, AND SHEAR COLLARS AS SHOWN ON STRUCTURAL DRAWINGS. AT EACH LOCATION REQUIRING REPAIR, INSTALL REPAIR PRIOR TO REMOVING EXISTING STEEL FRAMING. SUBMIT PROPOSED SEQUENCE OF WORK TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO REMOVING STEEL FRAMING. EXISTING TIE ROD PENETRATIONS THROUGH ROOF DECK SHALL BE REPAIRED IN ACCORDANCE WITH STRUCTURAL DRAWINGS. AT ALL LOCATIONS.
2. DEMOLISH EXISTING STUB COLUMNS AT STEEL BEAM BEARING LOCATIONS ON ROOF. NOTIFY ENGINEER IF THE ROOF SLAB IS FOUND TO BE DETERIORATED ADJACENT TO THE STUB COLUMNS FOLLOWING REMOVAL.
3. PROVIDE SUPPORT AND SHORING OF EXISTING MASONRY AS REQUIRED DURING STEEL REMOVAL. REBUILD MASONRY WALLS TO MATCH EXISTING AT ALL AREAS WHERE STEEL BEAMS AFFECT MASONRY WALLS. REFER TO ARCHITECTURAL DETAILS FOR WALL REBUILD AREAS.

ROOF AREAS 4, 5A, 5B, AND 5
+/-2,750 SF, +/-210 SF, +/-210 SF, +/-25,900 SF

1. REMOVE SMOOTH SURFACED MODIFIED BITUMEN CAP SHEET.
2. REMOVE MODIFIED BITUMEN BASE SHEET.
3. REMOVE TWO (2) PLIES OF FIBERGLASS FELT.
4. REMOVE EXISTING ROOF SYSTEM TO DECK.
5. REMOVE ALL PERIMETER TERMINATION BARS, SHEET METAL FLASHING AND FASTENERS.

ROOF AREA 6
+/-2,600 SF

1. REMOVE ASPHALT SHINGLES
2. REMOVE UNDERLAYMENT
3. REMOVE SHEET METAL FLASHING

ROOF AREA 7
+/-160 SF

1. REMOVE FLAT SEAM COPPER ROOF SYSTEM
2. REMOVE UNDERLAYMENT
3. REMOVE PERIMETER SHEET METAL FLASHING

NOTE: REMOVE AREAS OF ROOFING AS REQUIRED TO PERFORM STRUCTURAL REPAIRS. INSTALL TEMPORARY ROOFING AS REQUIRED PRIOR TO INSTALLATION OF PERMANENT ROOF.

PUBLIC BUILDING COMMISSION
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ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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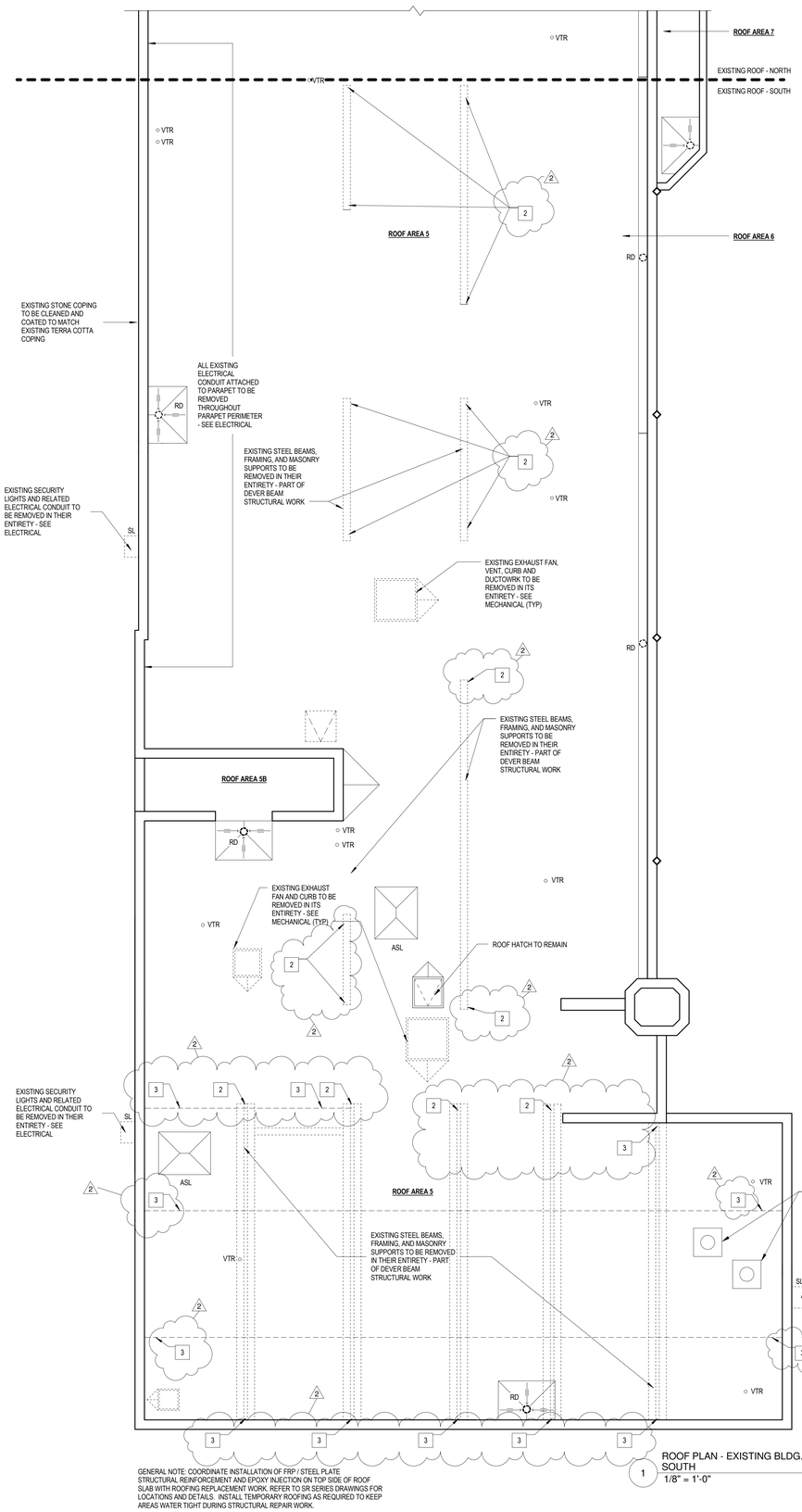
PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS
PBC Contract No: 05175
Project No: 217102.00

Title
PARTIAL ROOF DEMOLITION PLAN - NORTH

Sheet
AD1.31

KEY PLAN

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



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1 ROOF PLAN - EXISTING BLDG. SOUTH
1/8" = 1'-0"
A2.01

DEMO ROOF PLAN LEGEND

- AREA OF 1/4" PER FOOT TAPERED INSULATION
- AREA OF 1/2" PER FOOT TAPERED INSULATION
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- SL — SECURITY LIGHT
- DEMOLITION ITEM
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- 5.00 — HEIGHT OF INSULATION (INCHES)
- 2 — EXISTING STEEL SHORING DEVER BEAM ABOVE THE ROOF TO BE REMOVED. REFER TO NOTE 1 OF THE ROOF REMOVAL NOTES FOR DETAILS
- 3 — EXISTING STEEL SHORING DEVER BEAM IN THE ATTIC TO BE REMOVED. REFER TO NOTE 1 OF THE ROOF REMOVAL NOTES FOR DETAILS

ROOF REMOVAL NOTES

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1. REMOVE AND DISPOSE OF EXISTING STEEL BEAMS SUPPORTING THE CONCRETE ROOF STRUCTURE INCLUDING ALL STEEL BEAMS, CHANNELS, ANGLES AND ACCESSORIES ABOVE THE ROOF SLAB AND IN THE ATTIC SPACE BETWEEN THE 2ND FLOOR CEILING AND THE ROOF SLAB. COORDINATE REMOVAL OF EXISTING STEEL WITH INSTALLATION OF FRP REINFORCEMENT, CONCRETE REPAIRS, AND SHEAR COLLARS AS SHOWN ON STRUCTURAL DRAWINGS. AT EACH LOCATION REQUIRING REPAIR, INSTALL REPAIR PRIOR TO REMOVING EXISTING STEEL FRAMING. SUBMIT PROPOSED SEQUENCE OF WORK TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO REMOVING STEEL FRAMING. EXISTING TIE ROD PENETRATIONS THROUGH ROOF DECK SHALL BE REPAIRED IN ACCORDANCE WITH STRUCTURAL DRAWINGS. AT ALL LOCATIONS.
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3. PROVIDE SUPPORT AND SHORING OF EXISTING MASONRY AS REQUIRED DURING STEEL REMOVAL. REBUILD MASONRY WALLS TO MATCH EXISTING AT ALL AREAS WHERE STEEL BEAMS AFFECT MASONRY WALLS. REFER TO ARCHITECTURAL DETAILS FOR WALL REBUILD AREAS.

ROOF AREAS 4, 5A, 5B, AND 5
+/-2,750 SF, +/-210 SF, +/-210 SF, +/-25,900 SF

1. REMOVE SMOOTH SURFACED MODIFIED BITUMEN CAP SHEET.
2. REMOVE MODIFIED BITUMEN BASE SHEET.
3. REMOVE TWO (2) PLIES OF FIBERGLASS FELT.
4. REMOVE EXISTING ROOF SYSTEM TO DECK.
5. REMOVE ALL PERIMETER TERMINATION BARS, SHEET METAL FLASHING AND FASTENERS.

ROOF AREA 6
+/-2,600 SF

1. REMOVE ASPHALT SHINGLES
2. REMOVE UNDERLAYMENT
3. REMOVE SHEET METAL FLASHING

ROOF AREA 7
+/-160 SF

1. REMOVE FLAT SEAM COPPER ROOF SYSTEM
2. REMOVE UNDERLAYMENT
3. REMOVE PERIMETER SHEET METAL FLASHING

NOTE: REMOVE AREAS OF ROOFING AS REQUIRED TO PERFORM STRUCTURAL REPAIRS. INSTALL TEMPORARY ROOFING AS REQUIRED PRIOR TO INSTALLATION OF PERMANENT ROOF.

N
KEY PLAN

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

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CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title

PARTIAL ROOF DEMOLITION PLAN - SOUTH

Sheet

AD1.32

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"

16'-0" 0'-0" 8'-0" 16'-0" 32'-0"
1/16" = 1'-0"

8'-0" 0'-0" 4'-0" 8'-0" 16'-0"
1/8" = 1'-0"

4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"

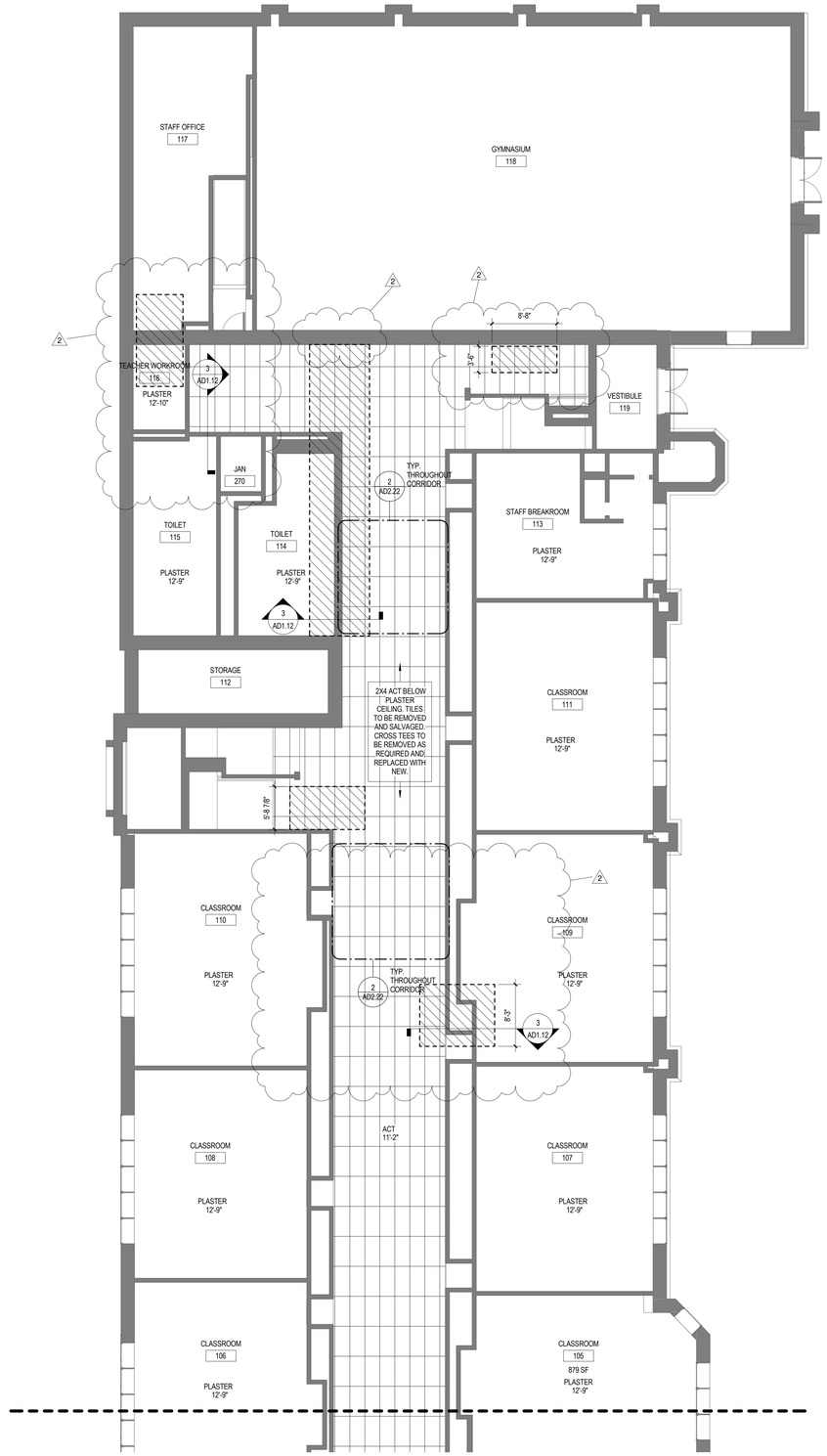
2'-0" 0'-0" 1'-0" 2'-0" 4'-0"
1/2" = 1'-0"

1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"

0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"

0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"

0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"



1 PARTIAL FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN - NORTH
1/8" = 1'-0" A2.01

DEMOLITION PLAN LEGEND

XX	ALL EXISTING EQUIPMENT AND CONDUIT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
	AREA OF WATER DAMAGED WALL AND CEILING TO BE REMOVED
	PORTION OF TOP OF EXISTING CLAY TILE WALL TO BE REMOVED 2'-0" DOWN FROM BOTTOM OF CONCRETE STRUCTURE AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT. CONTRACTOR TO SHORE / BRACE EXISTING WALL TO REMAIN. REFER TO 2/AD.112 AND 3/AD.112. FOR WORK AT 1ST AND 2ND FLOORS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.
	PORTION OF EXISTING CEILING TO BE REMOVED AND REPLACED AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT / REPAIRS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.

NOTE: THE GENERAL CEILING / WALL AREAS ADJACENT TO THE SPECIFIED REPAIRS ARE NOTED ON THE DRAWING. AREAS SHOWN CORRESPOND TO REPAIR WORK TO BE PERFORMED ON THE UNDERSIDE OF THE FLOOR AND ROOF STRUCTURES. CEILING AND WALL REMOVAL AREAS SHOWN ARE REQUIRED TO ACCESS THE UNDERSIDE OF THE STRUCTURE. THE ACTUAL ***LOCATIONS***, EXTENT AND SIZE OF THE REQUIRED OPENINGS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THEIR REQUIRED ACCESS, MEANS, AND METHODS.

2

MD	EXISTING WALL-MOUNTED MOTION DETECTOR.	FP	EXISTING WALL-MOUNTED FIRE ALARM PULL STATION
FS	EXISTING WALL-MOUNTED FIRE ALARM / STROBE	BE	EXISTING WALL-MOUNTED BELL
WI	EXISTING WALL-MOUNTED WIFI ROUTER / WIRELESS ACCESS POINT	FL	EXISTING WALL-MOUNTED FLOOD LIGHT
PO	EXISTING WALL-MOUNTED POWER OUTLET	TS	EXISTING WALL-MOUNTED THERMOSTAT
SP	EXISTING WALL-MOUNTED SPEAKER	DS	EXISTING WALL-MOUNTED DEFRIBILLATOR SIGNAGE
FE	EXISTING WALL-MOUNTED FIRE EXTINGUISHER	SK	EXISTING SINK
REF	EXISTING COMMERCIAL REFRIGERATOR	KE	EXISTING COMMERCIAL KITCHEN EQUIPMENT
KT	EXISTING COMMERCIAL KITCHEN TABLE/STORAGE	PB	EXISTING POWER BOX
JB	EXISTING JUNCTION BOX	EX	EXISTING EXIT SIGN
VT	EXISTING VENT	CL	EXISTING CLOCK
DC	EXISTING ELECTRICAL DEVICE AND CONDUIT	PL	EXISTING PENDANT LIGHT
ACT	EXISTING CEILING TYPE	CL	EXISTING CEILING LIGHT

DEMOLITION RCP NOTES

1. THE GENERAL CEILING/WALL AREAS ADJACENT TO THE SPECIFIED REPAIRS ARE NOTED ON THE DRAWING. AREAS SHOWN CORRESPOND TO REPAIR WORK TO BE PERFORMED ON THE UNDERSIDE OF THE ATTIC. CEILING AREAS SHOWN ARE REQUIRED TO ACCESS THE UNDERSIDE OF THE ROOF STRUCTURE ASSUMING THE WORK IS NOT PERFORMED FROM THE ATTIC CEILING. THE ACTUAL EXTENT AND SIZE OF THE REQUIRED OPENINGS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THEIR REQUIRED ACCESS, MEANS, AND METHODS.
2. AT LOCATIONS WHERE THE EXISTING SECOND FLOOR CEILING LOCATED BELOW THE ATTIC SPACE WILL BE REMOVED AND REPLACED, THE REPLACEMENT CEILING (INCLUDING ALL FRAMING, MEMBERS, TIE RODS, ETC.) SHALL BE DESIGN WITH SUFFICIENTY CAPACITY TO SUPPORT A 25 PSF UNIFORM, OR 200 LB CONCENTRATED, LIVE LOAD IN ACCORDANCE WITH THE CHICAGO BUILDING CODE REQUIREMENTS FOR AN ACCESSIBLE ATTIC. THE NEW CEILING INSTALLATION SHALL ALSO INCLUDE AN APPROVED PLANKING LAYOUT AS REQUIRED ON TOP OF THE CEILING FRAMING MEMBERS IN THE ATTIC TO CREATE A WALKING SURFACE TO DISTRIBUTE THE LOADS TO THE CEILING SUPPORT FRAMING. THE CONTRACTOR SHALL ALSO SUBMIT STRUCTURAL DESIGN CALCULATIONS AND DRAWINGS, SIGNED AND SEALED BY AN IL LICENSED STUCTURAL ENGINEER, FOR THE REPLACEMENT CEILING STRUCTURE.

2

DEMOLITION PLAN GENERAL NOTES

1. REFERENCED DEMOLITION NOTES REFER TO THE MINIMUM AMOUNT OF DEMOLITION REQUIRED TO ACCOMMODATE THE NEW CONSTRUCTION. TRADE CONTRACTORS SHALL VISIT PROJECT SITE TO BECOME FAMILIAR WITH COMPLETE SCOPE OF REMOVALS/DEMOLITIONS AND FIELD VERIFY THE EXTENT OF DEMOLITION.
2. EXISTING DIMENSIONS AND HATCHED AREAS ARE FOR GENERAL REFERENCE AND BIDDING PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD. THE ACTUAL AREA OF DEMOLITION SHOULD BE KEPT TO THE MINIMUM REQUIRED TO PROPERLY EXECUTE THE CONTRACT REQUIREMENTS.
3. IN THE EVENT THAT AN EXISTING ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM.
4. ALL UTILITIES SHALL REMAIN IN SERVICE FOR OTHER OCCUPANCIES. ANY SHUTDOWNS OF BUILDING MUST BE APPROVED BY OWNER AND OCCUR AT OFF HOURS AS DEFINED BY OWNER.
5. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL MATERIAL OR EQUIPMENT IDENTIFIED TO BE REMOVED. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
6. REFER TO DRAWINGS FOR LOCATIONS OF ALL ITEMS TO BE REINSTALLED. ALL ITEMS NOT SPECIFICALLY INDICATED FOR REINSTALLATION ON DRAWINGS ARE TO BE TURNED OVER TO THE OWNER. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
7. ALL REMOVED ITEMS IDENTIFIED FOR REINSTALLATION OR TO BE TURNED OVER TO THE OWNER SHALL BE PROTECTED UNTIL TIME OF REINSTALLATION OR OWNER POSSESSION. DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED BY THE RESPONSIBLE TRADE CONTRACTOR.
8. THROUGHOUT DEMOLITION AND CONSTRUCTION, PROTECT ITEMS SCHEDULED TO REMAIN AND/OR ALL ADJACENT MATERIALS AND EQUIPMENT, ETC. INDICATED TO REMAIN. COORDINATE REMOVAL AND PROTECTIONS WITH OWNER.
9. DO NOT COMMENCE DEMOLITION UNTIL OWNER HAS REMOVED ALL ARTWORK AND DISPLAYS FROM AREAS OF DEMOLITION.
10. COORDINATE WITH OWNER ACCESS AND LOCATIONS OF TEMPORARY PARTITION. TEMPORARY PARTITION MUST BE DUSTPROOF, AND ACT AS SMOKE AND FIRE BARRIER.
11. AT REMOVAL OF SELECTED DEMOLITION ITEMS WHERE NO NEW CONSTRUCTION IS IDENTIFIED, PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
12. AT ITEMS TO BE REMOVED, ALSO REMOVE ALL ASSOCIATED BRACKETS, SUPPORTS, FASTENERS, ANCHORS, ETC. PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
13. PATCH ALL CEILINGS, WALLS AND FLOORS WHERE MECHANICAL, ELECTRICAL, TECHNOLOGY, PLUMBING AND FIRE PROTECTION COMPONENTS ARE TO BE REMOVED IN AN EXISTING CEILINGS, WALLS OR FLOORS TO REMAIN.
14. ALL WALL DEMOLITION SHALL HAVE CLEAN, VERTICAL, SMOOTH CUTS. PATCH, REPLACE AND/OR FILL VOIDS IN WALLS TO REMAIN TO PROVIDE A SMOOTH SURFACE/EDGE FOR THE APPLICATION OF NEW FINISH MATERIAL.
15. WHEN REMOVING EXISTING WALL TILE, FLOOR TILE, RUBBER BASE OR CEILING TILE, REMOVE FINISHES TO THE NEAREST JOINT WHICH ABUTS TILE NOT AFFECTED BY THE CONSTRUCTION. PROTECT THE SURFACES AND EDGES OF EXISTING FINISHES TO REMAIN.
16. AT AREAS WHERE DEMOLITION OF THE FLOORING EXPOSES THE CONCRETE SUBSTRATE: COMPLETELY REMOVE THE MASTIC, SHOT BLAST THE EXISTING CONCRETE TO REMAIN, AND FILL ALL CRACKS AND SPALLED AREAS IN PREPARATION FOR NEW FLOORING MATERIAL. REMOVAL OF FLOORING MATERIAL INCLUDES REMOVAL OF ADJACENT WALL BASE MATERIAL.
17. AT IDENTIFIED AREAS OF SPALLED, UNEVEN AND/OR SEPARATED CONCRETE SLABS; REMOVE ALL LOOSE MATERIAL; GRIND CONCRETE TO ACHIEVE A LEVEL SURFACE AND FILL CRACKS AND SPALLED AREAS IN PREPARATION FOR INSTALLATION OF FINISHED FLOORING.
18. CONTRACTOR SHALL REMOVE EXISTING PLUMBING, MECHANICAL, ELECTRICAL OR OTHER MISCELLANEOUS ITEMS REQUIRED TO COMPLETE NEW WORK BUT NOT REQUIRED TO REMAIN.
19. WHEN REMOVING INTERIOR OR EXTERIOR WALL ASSEMBLIES, CONTRACTOR SHALL ALSO REMOVE ALL ASSOCIATED POWER AND DATA RECEPTACLES, SWITCHES, ETC. REROUTE CONCEALED MEPFP WHERE REQUIRED TO MAINTAIN FUNCTIONING SYSTEMS; REMOVE ABANDONED MEPFP SYSTEMS TO SOURCE AND CAP APPROPRIATELY. REFER TO MECHANICAL, ELECTRICAL, TECHNOLOGY, LOW VOLTAGE, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
20. CONTRACTOR SHALL REMOVE ALL DEBRIS AND TRASH RESULTING FROM CONSTRUCTION ON A DAILY BASIS.
21. GENERAL CONTRACTOR SHALL RECYCLE DEMOLITION CONSTRUCTION DEBRIS IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION AND SUSTAINABLE BEST PRACTICES.
22. IN THE EVENT HAZARDOUS MATERIALS ARE UNCOVERED GENERAL CONTRACTOR IS NOTIFY THE OWNER AND THE APPROPRIATE AUTHORITIES. THE ARCHITECT IS NOT RESPONSIBLE FOR REMOVAL / ABATEMENT OF HAZARDOUS MATERIALS. CONTRACTOR TO PROVIDE REMOVAL / ABATEMENT AT LOCATIONS NECESSARY.
23. REFER TO THE CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, AND TECHNOLOGY DRAWINGS FOR THE DEMOLITION WORK SPECIFIC TO THOSE DISCIPLINES.
24. STRUCTURAL ITEMS SHOWN AS 'TO BE REMOVED' ARE FOR REFERENCE ONLY. VERIFY APPROPRIATE SHORING OR REINFORCEMENT CONDITION WITH STRUCTURAL DRAWINGS.
25. ALL DEMOLITION WORK MUST BE COORDINATED AND VERIFIED WITH VARIOUS TRADES AND OTHER DRAWINGS.

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
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SUSTAINABILITY | PERFORMANCE | DESIGN

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Design Architect:
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SUSTAINABILITY | PERFORMANCE | DESIGN

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CCJM Engineers, Ltd.
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Chicago, IL 60603
Structural Engineer - Dever Beam

Mackesy and Associates
321 N Clark St, #500
Chicago, IL
Food Service Consultant

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1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

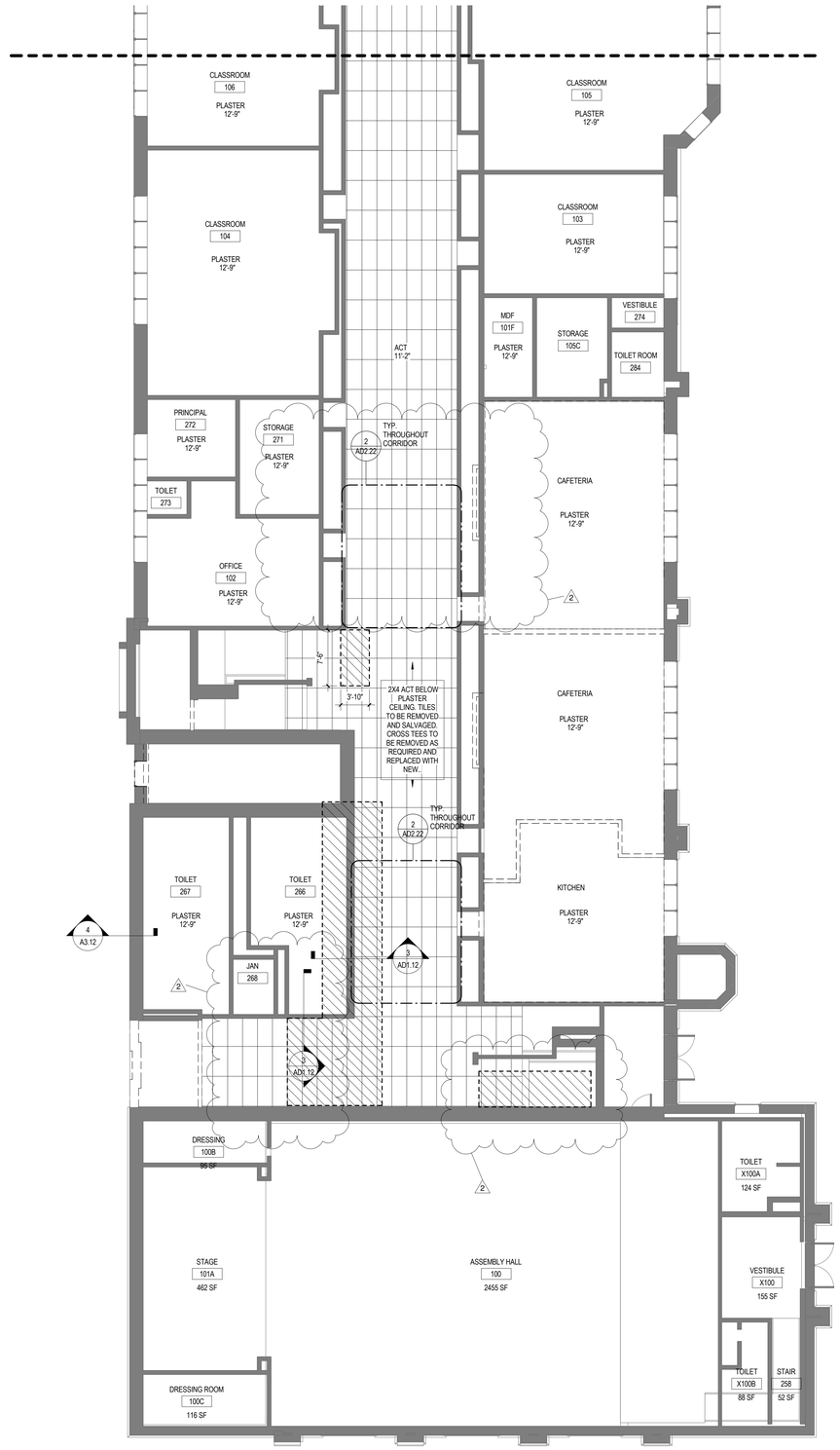
PBC Contract No: 05175

Project No: 217102.00

Title
PARTIAL FIRST FLOOR DEMOLITION REFLECTED CEILING PLAN - NORTH

Sheet
AD2.11

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



1 PARTIAL FIRST FLOOR REFLECTED CEILING DEMOLTION PLAN - SOUTH
1/8" = 1'-0" A2.01

DEMOLITION PLAN LEGEND

XX	ALL EXISTING EQUIPMENT AND CONDUIT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
	AREA OF WATER DAMAGED WALL AND CEILING TO BE REMOVED
	PORTION OF TOP OF EXISTING CLAY TILE WALL TO BE REMOVED 2'-0" DOWN FROM BOTTOM OF CONCRETE STRUCTURE AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT. CONTRACTOR TO SHORE / BRACE EXISTING WALL TO REMAIN. REFER TO 2/AD.112 AND 3/AD.112. FOR WORK AT 1ST AND 2ND FLOORS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.
	PORTION OF EXISTING CEILING TO BE REMOVED AND REPLACED AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT / REPAIRS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.

NOTE: THE GENERAL CEILING / WALL AREAS ADJACENT TO THE SPECIFIED REPAIRS ARE NOTED ON THE DRAWING. AREAS SHOWN CORRESPOND TO REPAIR WORK TO BE PERFORMED ON THE UNDERSIDE OF THE FLOOR AND ROOF STRUCTURES. CEILING AND WALL REMOVAL AREAS SHOWN ARE REQUIRED TO ACCESS THE UNDERSIDE OF THE STRUCTURE. THE ACTUAL ***LOCATIONS***, EXTENT AND SIZE OF THE REQUIRED OPENINGS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THEIR REQUIRED ACCESS, MEANS, AND METHODS.

2

MD	EXISTING WALL-MOUNTED MOTION DETECTOR.	FP	EXISTING WALL-MOUNTED FIRE ALARM PULL STATION
FS	EXISTING WALL-MOUNTED FIRE ALARM / STROBE	BE	EXISTING WALL-MOUNTED BELL
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SP	EXISTING WALL-MOUNTED SPEAKER	DS	EXISTING WALL-MOUNTED DEFRIBILLATOR SIGNAGE
FE	EXISTING WALL-MOUNTED FIRE EXTINGUISHER	SK	EXISTING SINK
REF	EXISTING COMMERCIAL REFRIGERATOR	KE	EXISTING COMMERCIAL KITCHEN EQUIPMENT
KT	EXISTING COMMERCIAL KITCHEN TABLE/STORAGE	PB	EXISTING POWER BOX
JB	EXISTING JUNCTION BOX	EX	EXISTING EXIT SIGN
VT	EXISTING VENT	CL	EXISTING CLOCK
DC	EXISTING ELECTRICAL DEVICE AND CONDUIT	PL	EXISTING PENDANT LIGHT
ACT	EXISTING CEILING TYPE	CL	EXISTING CEILING LIGHT

DEMOLITION RCP NOTES

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14. ALL WALL DEMOLITION SHALL HAVE CLEAN, VERTICAL, SMOOTH CUTS. PATCH, REPLACE AND/OR FILL VOIDS IN WALLS TO REMAIN TO PROVIDE A SMOOTH SURFACE/EDGE FOR THE APPLICATION OF NEW FINISH MATERIAL.
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16. AT AREAS WHERE DEMOLITION OF THE FLOORING EXPOSES THE CONCRETE SUBSTRATE: COMPLETELY REMOVE THE MASTIC, SHOT BLAST THE EXISTING CONCRETE TO REMAIN, AND FILL ALL CRACKS AND SPALLED AREAS IN PREPARATION FOR NEW FLOORING MATERIAL. REMOVAL OF FLOORING MATERIAL INCLUDES REMOVAL OF ADJACENT WALL BASE MATERIAL.
17. AT IDENTIFIED AREAS OF SPALLED, UNEVEN AND/OR SEPARATED CONCRETE SLABS; REMOVE ALL LOOSE MATERIAL; GRIND CONCRETE TO ACHIEVE A LEVEL SURFACE AND FILL CRACKS AND SPALLED AREAS IN PREPARATION FOR INSTALLATION OF FINISHED FLOORING.
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CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

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Design Architect:
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MEPFP Engineers of Record

Wiss, Janney, Elstner Associates
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Chicago, IL 60603
Structural Engineer - Dever Beam

Mackesy and Associates
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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

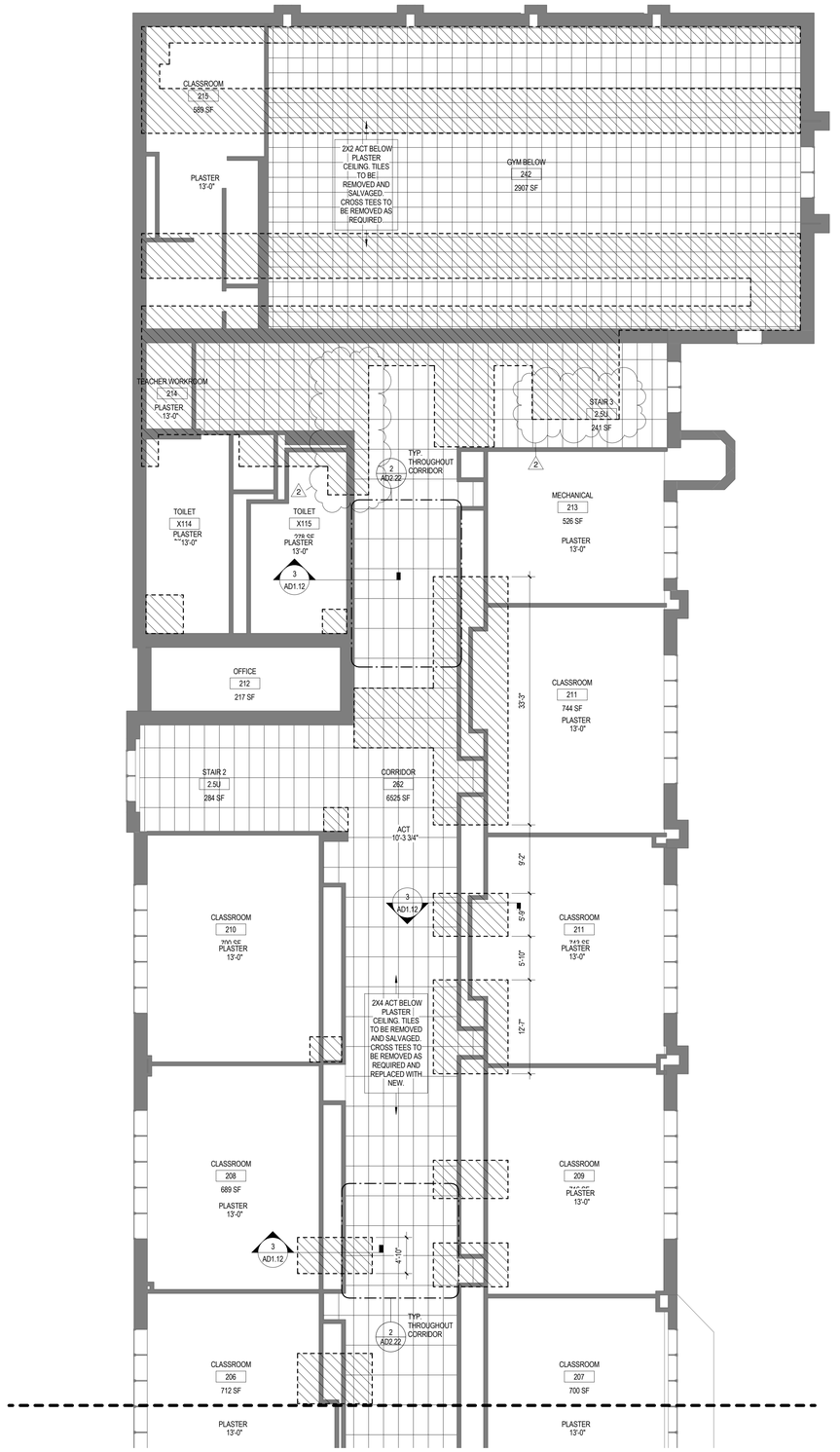
PBC Contract No: 05175

Project No: 217102.00

Title
PARTIAL FIRST FLOOR DEMOLITION REFLECTED CEILING PLAN - SOUTH

Sheet
AD2.12

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"
16'-0" 0'-0" 8'-0" 16'-0" 32'-0"
1/16" = 1'-0"
8'-0" 0'-0" 4'-0" 8'-0" 16'-0"
1/8" = 1'-0"
4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"
2'-0" 0'-0" 1'-0" 2'-0" 4'-0"
1/2" = 1'-0"
1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"
0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"
0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"
0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"



1 PARTIAL SECOND FLOOR DEMOLITION REFLECTED CEILING PLAN - NORTH
1/8" = 1'-0" A2.01

DEMOLITION PLAN LEGEND

XX	ALL EXISTING EQUIPMENT AND CONDUIT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
	AREA OF WATER DAMAGED WALL AND CEILING TO BE REMOVED
	PORTION OF TOP OF EXISTING CLAY TILE WALL TO BE REMOVED 2'-0" DOWN FROM BOTTOM OF CONCRETE STRUCTURE AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT. CONTRACTOR TO SHORE / BRACE EXISTING WALL TO REMAIN. REFER TO 2/AD.112 AND 3/AD.112. FOR WORK AT 1ST AND 2ND FLOORS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.
	PORTION OF EXISTING CEILING TO BE REMOVED AND REPLACED AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT / REPAIRS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.

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2

MD	EXISTING WALL-MOUNTED MOTION DETECTOR.	FP	EXISTING WALL-MOUNTED FIRE ALARM PULL STATION
FS	EXISTING WALL-MOUNTED FIRE ALARM / STROBE	BE	EXISTING WALL-MOUNTED BELL
WI	EXISTING WALL-MOUNTED WIFI ROUTER / WIRELESS ACCESS POINT	FL	EXISTING WALL-MOUNTED FLOOD LIGHT
PO	EXISTING WALL-MOUNTED POWER OUTLET	TS	EXISTING WALL-MOUNTED THERMOSTAT
SP	EXISTING WALL-MOUNTED SPEAKER	DS	EXISTING WALL-MOUNTED DEFRIBILLATOR SIGNAGE
FE	EXISTING WALL-MOUNTED FIRE EXTINGUISHER	SK	EXISTING SINK
REF	EXISTING COMMERCIAL REFRIGERATOR	KE	EXISTING COMMERCIAL KITCHEN EQUIPMENT
KT	EXISTING COMMERCIAL KITCHEN TABLES/STORAGE	PB	EXISTING POWER BOX
JB	EXISTING JUNCTION BOX	EX	EXISTING EXIT SIGN
VT	EXISTING VENT	CL	EXISTING CLOCK
DC	EXISTING ELECTRICAL DEVICE AND CONDUIT	PL	EXISTING PENDANT LIGHT
ACT	EXISTING CEILING TYPE	CL	EXISTING CEILING LIGHT

DEMOLITION RCP NOTES

1. THE GENERAL CEILING/WALL AREAS ADJACENT TO THE SPECIFIED REPAIRS ARE NOTED ON THE DRAWING. AREAS SHOWN CORRESPOND TO REPAIR WORK TO BE PERFORMED ON THE UNDERSIDE OF THE ATTIC. CEILING AREAS SHOWN ARE REQUIRED TO ACCESS THE UNDERSIDE OF THE ROOF STRUCTURE ASSUMING THE WORK IS NOT PERFORMED FROM THE ATTIC CEILING. THE ACTUAL EXTENT AND SIZE OF THE REQUIRED OPENINGS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THEIR REQUIRED ACCESS, MEANS, AND METHODS.
2. AT LOCATIONS WHERE THE EXISTING SECOND FLOOR CEILING LOCATED BELOW THE ATTIC SPACE WILL BE REMOVED AND REPLACED, THE REPLACEMENT CEILING (INCLUDING ALL FRAMING, MEMBERS, TIE RODS, ETC.) SHALL BE DESIGN WITH SUFFICIENTY CAPACITY TO SUPPORT A 25 PSF UNIFORM, OR 200 LB CONCENTRATED, LIVE LOAD IN ACCORDANCE WITH THE CHICAGO BUILDING CODE REQUIREMENTS FOR AN ACCESSIBLE ATTIC. THE NEW CEILING INSTALLATION SHALL ALSO INCLUDE AN APPROVED PLANKING LAYOUT AS REQUIRED ON TOP OF THE CEILING FRAMING MEMBERS IN THE ATTIC TO CREATE A WALKING SURFACE TO DISTRIBUTE THE LOADS TO THE CEILING SUPPORT FRAMING. THE CONTRACTOR SHALL ALSO SUBMIT STRUCTURAL DESIGN CALCULATIONS AND DRAWINGS, SIGNED AND SEALED BY AN IL LICENSED STUCTURAL ENGINEER, FOR THE REPLACEMENT CEILING STRUCTURE.

2

DEMOLITION PLAN GENERAL NOTES

1. REFERENCED DEMOLITION NOTES REFER TO THE MINIMUM AMOUNT OF DEMOLITION REQUIRED TO ACCOMMODATE THE NEW CONSTRUCTION. TRADE CONTRACTORS SHALL VISIT PROJECT SITE TO BECOME FAMILIAR WITH COMPLETE SCOPE OF REMOVALS/DEMOLITIONS AND FIELD VERIFY THE EXTENT OF DEMOLITION.
2. EXISTING DIMENSIONS AND HATCHED AREAS ARE FOR GENERAL REFERENCE AND BIDDING PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD. THE ACTUAL AREA OF DEMOLITION SHOULD BE KEPT TO THE MINIMUM REQUIRED TO PROPERLY EXECUTE THE CONTRACT REQUIREMENTS.
3. IN THE EVENT THAT AN EXISTING ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, CONTACT THE ARCHITECT PRIOR TO REMOVAL OF THAT ITEM.
4. ALL UTILITIES SHALL REMAIN IN SERVICE FOR OTHER OCCUPANCIES. ANY SHUTDOWNS OF BUILDING MUST BE APPROVED BY OWNER AND OCCUR AT OFF HOURS AS DEFINED BY OWNER.
5. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL MATERIAL OR EQUIPMENT IDENTIFIED TO BE REMOVED. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
6. REFER TO DRAWINGS FOR LOCATIONS OF ALL ITEMS TO BE REINSTALLED. ALL ITEMS NOT SPECIFICALLY INDICATED FOR REINSTALLATION ON DRAWINGS ARE TO BE TURNED OVER TO THE OWNER. ALL ITEMS NOT TURNED OVER TO THE OWNER SHALL BE DISPOSED OF PROPERLY AND LAWFULLY.
7. ALL REMOVED ITEMS IDENTIFIED FOR REINSTALLATION OR TO BE TURNED OVER TO THE OWNER SHALL BE PROTECTED UNTIL TIME OF REINSTALLATION OR OWNER POSSESSION. DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED BY THE RESPONSIBLE TRADE CONTRACTOR.
8. THROUGHOUT DEMOLITION AND CONSTRUCTION, PROTECT ITEMS SCHEDULED TO REMAIN AND/OR ALL ADJACENT MATERIALS AND EQUIPMENT, ETC. INDICATED TO REMAIN. COORDINATE REMOVAL AND PROTECTIONS WITH OWNER.
9. DO NOT COMMENCE DEMOLITION UNTIL OWNER HAS REMOVED ALL ARTWORK AND DISPLAYS FROM AREAS OF DEMOLITION.
10. COORDINATE WITH OWNER ACCESS AND LOCATIONS OF TEMPORARY PARTITION. TEMPORARY PARTITION MUST BE DUSTPROOF, AND ACT AS SMOKE AND FIRE BARRIER.
11. AT REMOVAL OF SELECTED DEMOLITION ITEMS WHERE NO NEW CONSTRUCTION IS IDENTIFIED, PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
12. AT ITEMS TO BE REMOVED, ALSO REMOVE ALL ASSOCIATED BRACKETS, SUPPORTS, FASTENERS, ANCHORS, ETC. PATCH, CLEAN, PREPARE, AND PAINT SURFACES TO MATCH FINISH COLOR, TEXTURE AND SHEEN OF ADJACENT SURFACES.
13. PATCH ALL CEILINGS, WALLS AND FLOORS WHERE MECHANICAL, ELECTRICAL, TECHNOLOGY, PLUMBING AND FIRE PROTECTION COMPONENTS ARE TO BE REMOVED IN AN EXISTING CEILINGS, WALLS OR FLOORS TO REMAIN.
14. ALL WALL DEMOLITION SHALL HAVE CLEAN, VERTICAL, SMOOTH CUTS. PATCH, REPLACE AND/OR FILL VOIDS IN WALLS TO REMAIN TO PROVIDE A SMOOTH SURFACE/EDGE FOR THE APPLICATION OF NEW FINISH MATERIAL.
15. WHEN REMOVING EXISTING WALL TILE, FLOOR TILE, RUBBER BASE OR CEILING TILE, REMOVE FINISHES TO THE NEAREST JOINT WHICH ABUTS TILE NOT AFFECTED BY THE CONSTRUCTION. PROTECT THE SURFACES AND EDGES OF EXISTING FINISHES TO REMAIN.
16. AT AREAS WHERE DEMOLITION OF THE FLOORING EXPOSES THE CONCRETE SUBSTRATE: COMPLETELY REMOVE THE MASTIC, SHOT BLAST THE EXISTING CONCRETE TO REMAIN, AND FILL ALL CRACKS AND SPALLED AREAS IN PREPARATION FOR NEW FLOORING MATERIAL. REMOVAL OF FLOORING MATERIAL INCLUDES REMOVAL OF ADJACENT WALL BASE MATERIAL.
17. AT IDENTIFIED AREAS OF SPALLED, UNEVEN AND/OR SEPARATED CONCRETE SLABS; REMOVE ALL LOOSE MATERIAL; GRIND CONCRETE TO ACHIEVE A LEVEL SURFACE AND FILL CRACKS AND SPALLED AREAS IN PREPARATION FOR INSTALLATION OF FINISHED FLOORING.
18. CONTRACTOR SHALL REMOVE EXISTING PLUMBING, MECHANICAL, ELECTRICAL OR OTHER MISCELLANEOUS ITEMS REQUIRED TO COMPLETE NEW WORK BUT NOT REQUIRED TO REMAIN.
19. WHEN REMOVING INTERIOR OR EXTERIOR WALL ASSEMBLIES, CONTRACTOR SHALL ALSO REMOVE ALL ASSOCIATED POWER AND DATA RECEPTACLES, SWITCHES, ETC. REROUTE CONCEALED MEPFP WHERE REQUIRED TO MAINTAIN FUNCTIONING SYSTEMS; REMOVE ABANDONED MEPFP SYSTEMS TO SOURCE AND CAP APPROPRIATELY. REFER TO MECHANICAL, ELECTRICAL, TECHNOLOGY, LOW VOLTAGE, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
20. CONTRACTOR SHALL REMOVE ALL DEBRIS AND TRASH RESULTING FROM CONSTRUCTION ON A DAILY BASIS.
21. GENERAL CONTRACTOR SHALL RECYCLE DEMOLITION CONSTRUCTION DEBRIS IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION AND SUSTAINABLE BEST PRACTICES.
22. IN THE EVENT HAZARDOUS MATERIALS ARE UNCOVERED GENERAL CONTRACTOR IS NOTIFY THE OWNER AND THE APPROPRIATE AUTHORITIES. THE ARCHITECT IS NOT RESPONSIBLE FOR REMOVAL / ABATEMENT OF HAZARDOUS MATERIALS. CONTRACTOR TO PROVIDE REMOVAL / ABATEMENT AT LOCATIONS NECESSARY.
23. REFER TO THE CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, AND TECHNOLOGY DRAWINGS FOR THE DEMOLITION WORK SPECIFIC TO THOSE DISCIPLINES.
24. STRUCTURAL ITEMS SHOWN AS 'TO BE REMOVED' ARE FOR REFERENCE ONLY. VERIFY APPROPRIATE SHORING OR REINFORCEMENT CONDITION WITH STRUCTURAL DRAWINGS.
25. ALL DEMOLITION WORK MUST BE COORDINATED AND VERIFIED WITH VARIOUS TRADES AND OTHER DRAWINGS.

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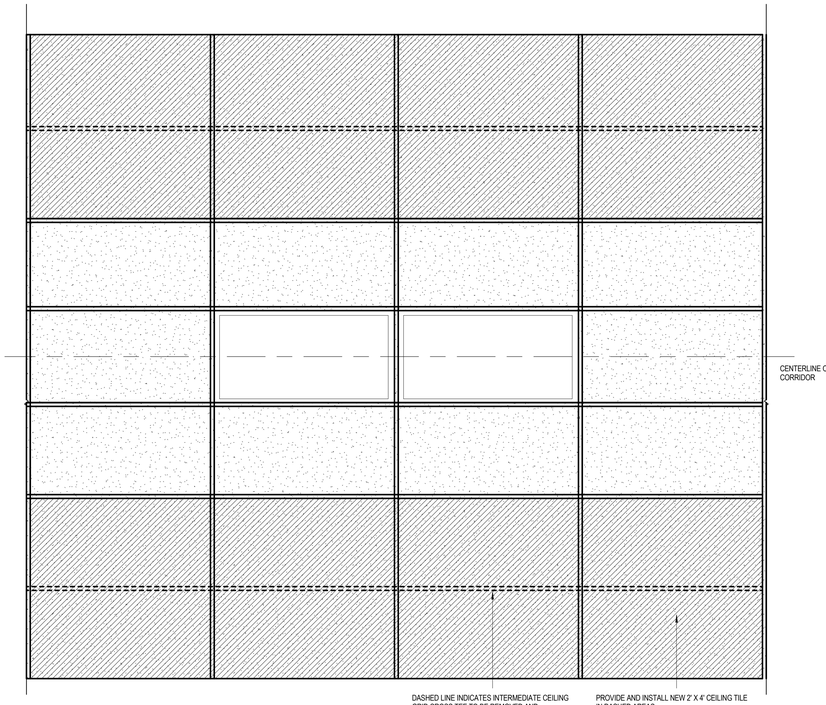
PBC Contract No: 05175

Project No: 217102.00

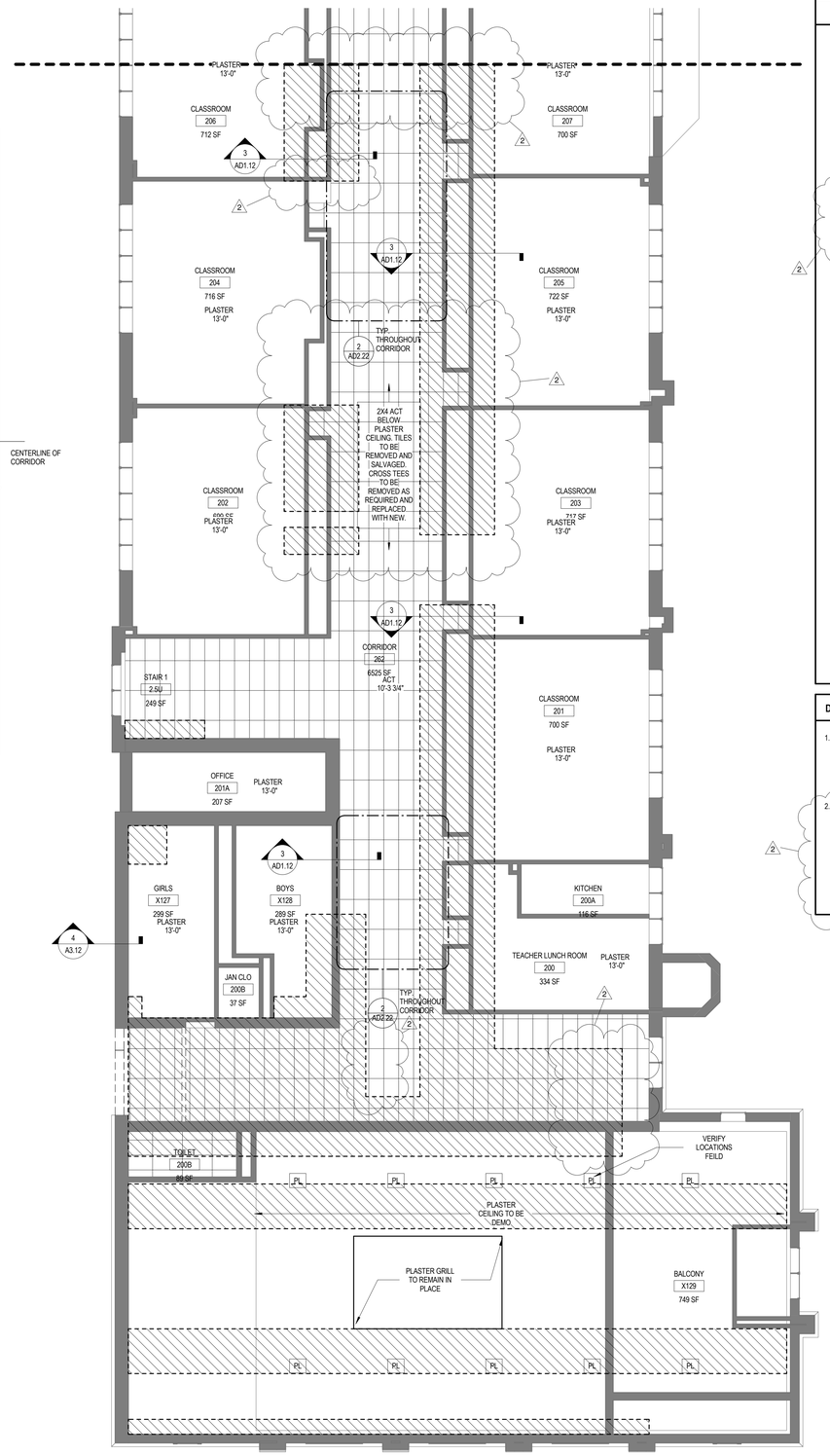
Title
PARTIAL SECOND FLOOR DEMOLITION REFLECTED CEILING PLAN - NORTH

Sheet
AD2.21

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



2 TYPICAL DEMOLITION REFLECTED CEILING PLAN IN CORRIDORS
3/4" = 1'-0" AD2.11



1 PARTIAL SECOND FLOOR DEMOLITION REFLECTED CEILING PLAN - SOUTH
1/8" = 1'-0" A2.01

DEMOLITION PLAN LEGEND

XX	ALL EXISTING EQUIPMENT AND CONDUIT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
	AREA OF WATER DAMAGED WALL AND CEILING TO BE REMOVED
	PORTION OF TOP OF EXISTING CLAY TILE WALL TO BE REMOVED 2'-0" DOWN FROM BOTTOM OF CONCRETE STRUCTURE AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT. CONTRACTOR TO SHORE / BRACE EXISTING WALL TO REMAIN. REFER TO 2/AD.112 AND 3/AD.112. FOR WORK AT 1ST AND 2ND FLOORS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.
	PORTION OF EXISTING CEILING TO BE REMOVED AND REPLACED AS REQUIRED FOR INSTALLATION OF STRUCTURAL REINFORCEMENT / REPAIRS. REFER TO SR DRAWINGS FOR LOCATIONS OF STRUCTURAL REPAIRS.

NOTE: THE GENERAL CEILING / WALL AREAS ADJACENT TO THE SPECIFIED REPAIRS ARE NOTED ON THE DRAWING. AREAS SHOWN CORRESPOND TO REPAIR WORK TO BE PERFORMED ON THE UNDERSIDE OF THE FLOOR AND ROOF STRUCTURES. CEILING AND WALL REMOVAL AREAS SHOWN ARE REQUIRED TO ACCESS THE UNDERSIDE OF THE STRUCTURE. THE ACTUAL ***LOCATIONS***, EXTENT AND SIZE OF THE REQUIRED OPENINGS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THEIR REQUIRED ACCESS, MEANS, AND METHODS.

MD	EXISTING WALL-MOUNTED MOTION DETECTOR	FP	EXISTING WALL-MOUNTED FIRE ALARM PULL STATION
FS	EXISTING WALL-MOUNTED FIRE ALARM / STROBE	BE	EXISTING WALL-MOUNTED BELL
WI	EXISTING WALL-MOUNTED WIFI ROUTER / WIRELESS ACCESS POINT	FL	EXISTING WALL-MOUNTED FLOOD LIGHT
PO	EXISTING WALL-MOUNTED POWER OUTLET	TS	EXISTING WALL-MOUNTED THERMOSTAT
SP	EXISTING WALL-MOUNTED SPEAKER	DS	EXISTING WALL-MOUNTED DEFRIBILLATOR SIGNAGE
FE	EXISTING WALL-MOUNTED FIRE EXTINGUISHER	SK	EXISTING SINK
REF	EXISTING COMMERCIAL REFRIGERATOR	KE	EXISTING COMMERCIAL KITCHEN EQUIPMENT
KT	EXISTING COMMERCIAL KITCHEN TABLE/STORAGE	PB	EXISTING POWER BOX
JB	EXISTING JUNCTION BOX	EX	EXISTING EXIT SIGN
VT	EXISTING VENT	CL	EXISTING CLOCK
DC	EXISTING ELECTRICAL DEVICE AND CONDUIT	PL	EXISTING PENDANT LIGHT
ACT	EXISTING CEILING TYPE	CL	EXISTING CEILING LIGHT

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PBC Contract No: 05175

Project No: 217102.00

Title

PARTIAL SECOND FLOOR DEMOLITION REFLECTED CEILING PLAN - SOUTH

Sheet **AD2.22**

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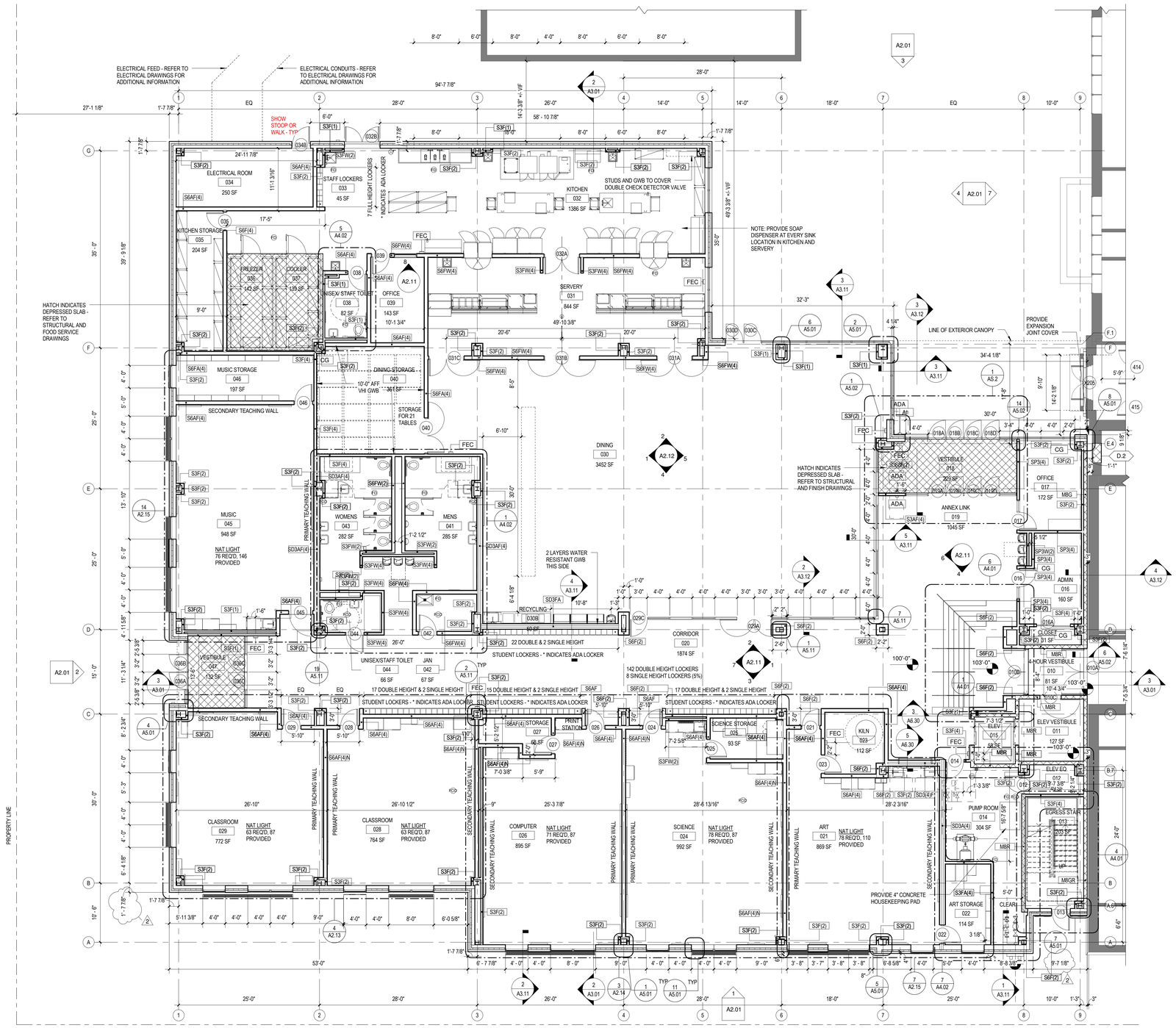
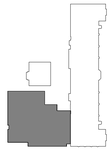
GENERAL NOTES

1. ALL INTERIOR WALLS TO BE OF TYPE S3FA(4) UNLESS NOTED OTHERWISE.
2. ALL INTERIOR WALLS ON A COLUMN ENCLOSURE TO BE OF TYPE S6F(2) UNLESS NOTED OTHERWISE.
3. G-1 REFERS TO SAFETY TEMPERED GLASS ON INTERIOR AND EXTERIOR GLAZING.
4. NOTE: FOR ALL EXPANSION JOINT LOCATIONS (EJ) - REFER TO DETAIL 5 / A5.02 FOR ADDITIONAL INFORMATION - TYPICAL.
5. REFER TO A6.01 FOR WINDOW AND DOOR SCHEDULE.
6. REFER TO SAFETY REFERENCE PLANS FOR FIRE RATINGS FOR EXTERIOR WALLS - 1 HOUR RATING = (1) LAYER INTERIOR TYPE X GWB
   2 HOUR RATING = (2) LAYERS INTERIOR TYPE X GWB



1 PARTIAL FIRST FLOOR PLAN - ANNEX
1/8" = 1'-0" A2.01



KEY PLAN

PUBLIC BUILDING COMMISSION
Chicago Public Schools

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Issuance

MARK		DESCRIPTION	DATE
1	2	100% SCHEMATIC DESIGN	04/24/2017
2		100% DESIGN DEVELOPMENT	06/15/2017
3		60% CONSTRUCTION DOCS	07/27/2017
4		90% CONSTRUCTION DOCS	09/07/2017
5		ISSUED FOR BIDDING	10/27/2017
1		ADDENDUM 01	11/09/2017
2		ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title
PARTIAL FIRST FLOOR PLAN - ANNEX

Sheet
A1.13

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"

16'-0" 0'-0" 8'-0" 16'-0" 32'-0"
1/16" = 1'-0"

8'-0" 0'-0" 4'-0" 8'-0" 16'-0"
1/8" = 1'-0"

4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"

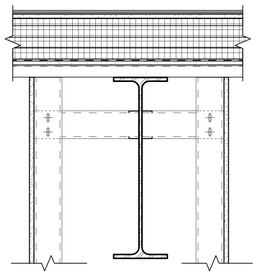
2'-0" 0'-0" 1'-0" 2'-0" 4'-0"
1/2" = 1'-0"

1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"

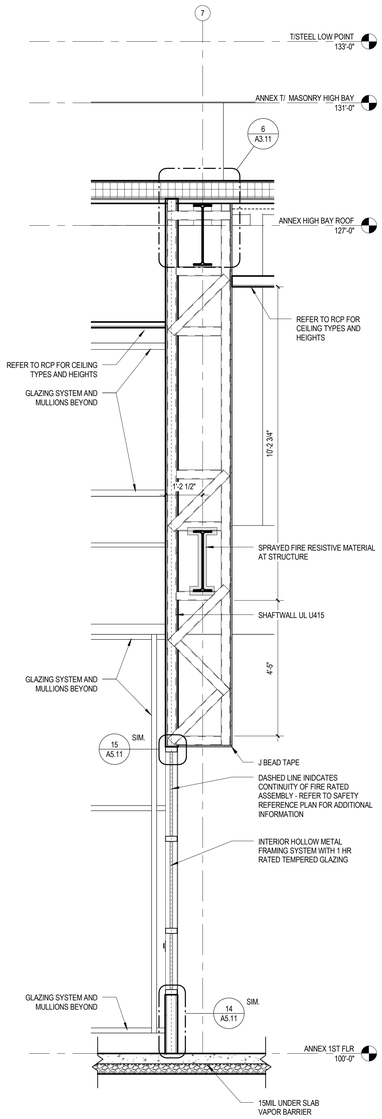
0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"

0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"

0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"



6 WALL SECTION - E/7 - TOP OF WALL DETAIL
1 1/2" = 1'-0" A3.11



5 WALL SECTION
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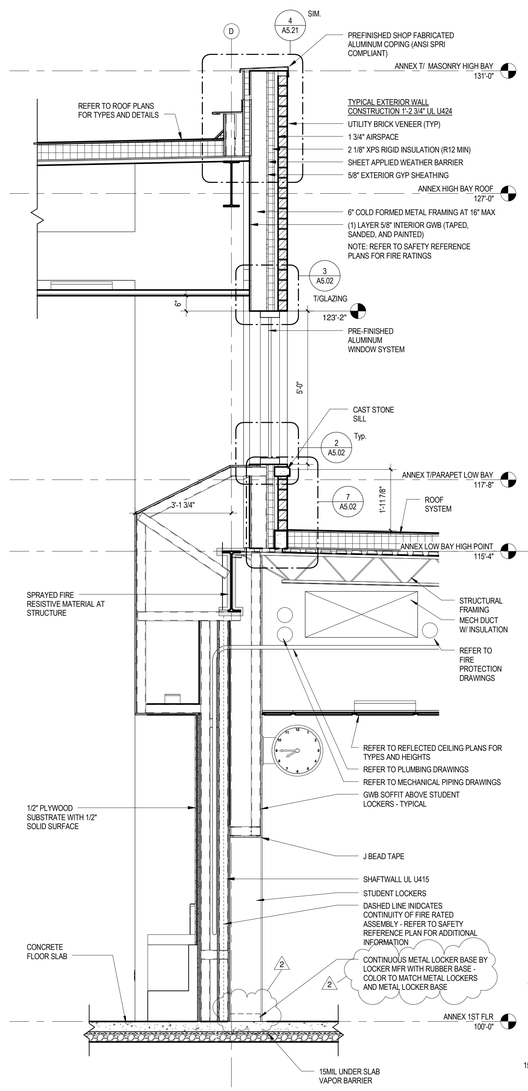
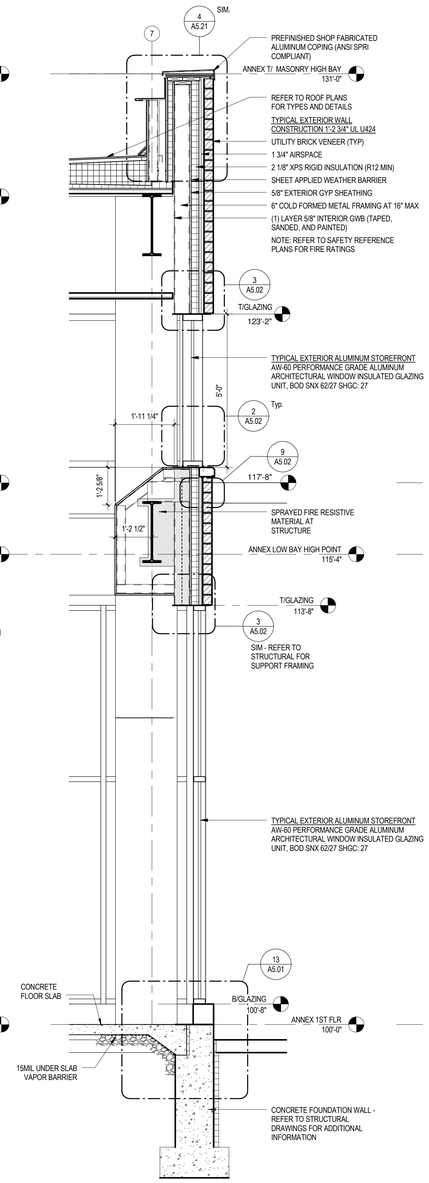
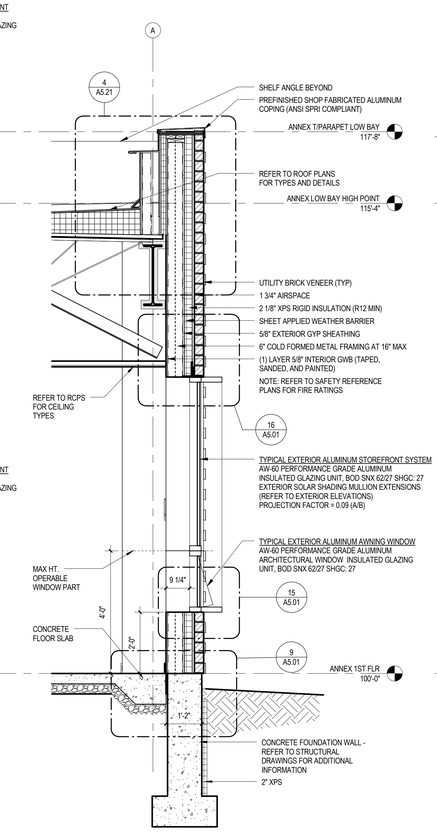


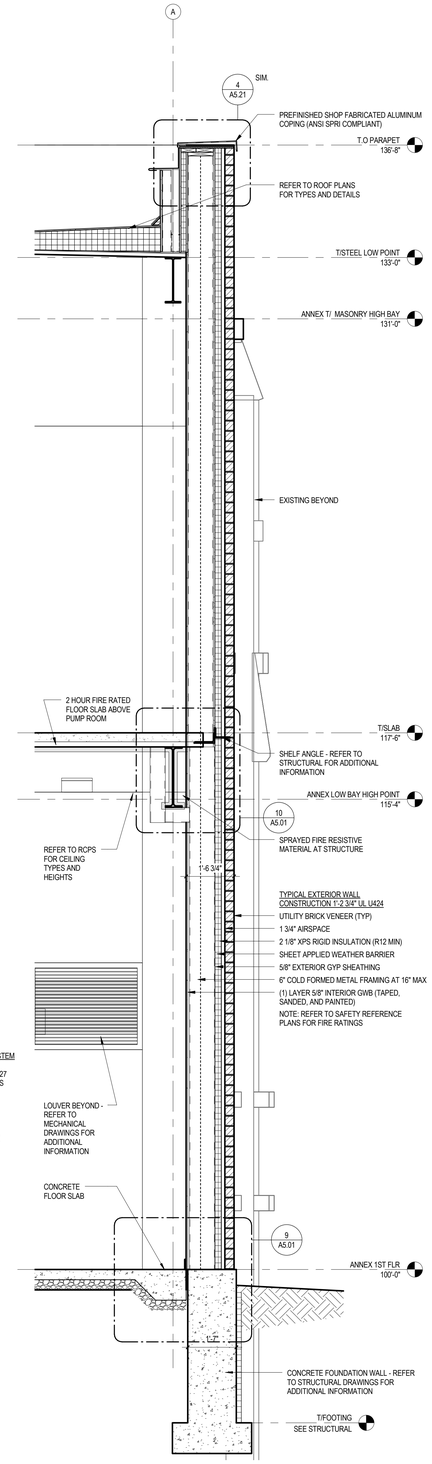
4 WALL SECTION
1/2" = 1'-0" A1.13



3 WALL SECTION
1/2" = 1'-0" A1.11



2 WALL SECTION
1/2" = 1'-0" A1.13



1 WALL SECTION
1/2" = 1'-0" A1.13

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

ADDRESS: 651 W Washington Blvd. #1
Chicago, Illinois 60661
PHONE: 312.258.9595
FAX: 312.258.1555
WEB: www.legat.com

Design Architect:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

KMI Engineering
223 W. Jackson Blvd, #1010
Chicago, IL
Structural Engineers of Record

Terra Engineering LTD.
225 W. Ohio St, 4th Flr
Chicago, IL
Landscape/Civil Engineers of Record

CCJM Engineers, Ltd.
303 E. Wacker Dr, #303
Chicago, IL 60601
MEPFP Engineers of Record

Wiss, Janney, Elstner Associates
10 S. LaSalle St, #2600
Chicago, IL 60603
Structural Engineer - Dever Beam

Mackesy and Associates
321 N Clark St, #500
Chicago, IL
Food Service Consultant

WARNING:
ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS-MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH SPECIFICATIONS CONTAINED IN THE PROJECT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS

Issuance

MARK		DESCRIPTION	DATE
1	2	100% SCHEMATIC DESIGN	04/24/2017
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2		ADDENDUM 02	11/21/2017

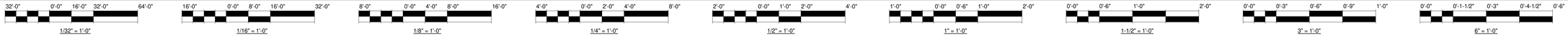
PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

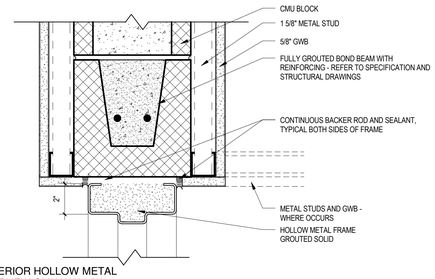
PBC Contract No: 05175

Project No: 217102.00

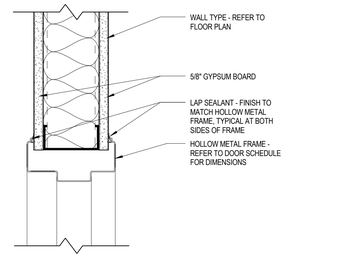
Title
WALL SECTIONS

Sheet
A3.11

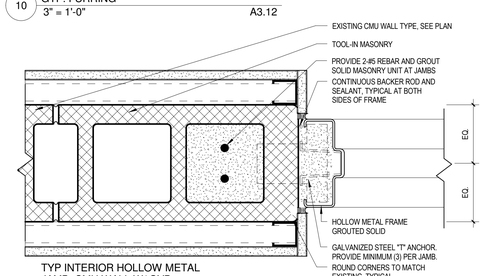




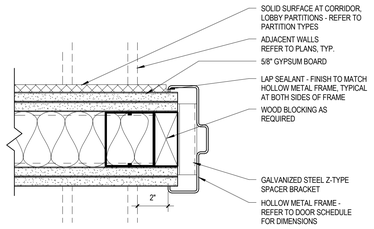
10 TYP INTERIOR HOLLOW METAL HEAD AT NEW CMU WALL W/ GYP. FURRING
3" = 1'-0"
A3.12



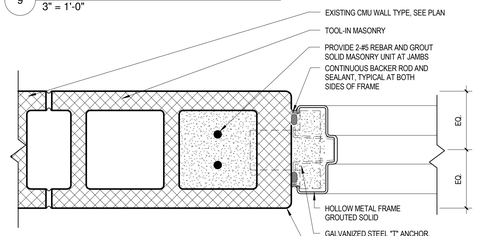
4 TYP INTERIOR HOLLOW METAL HEAD IN STUD WALL
3" = 1'-0"



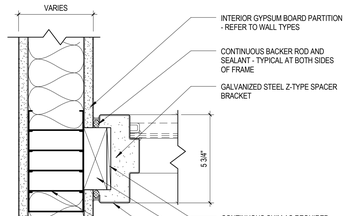
9 TYP INTERIOR HOLLOW METAL JAMB CMU WALL W/ GYP. FURRING
3" = 1'-0"



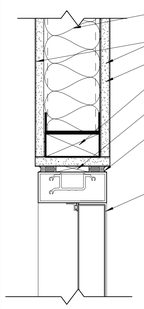
3 TYP INTERIOR HOLLOW METAL JAMB IN STUD WALL
3" = 1'-0"



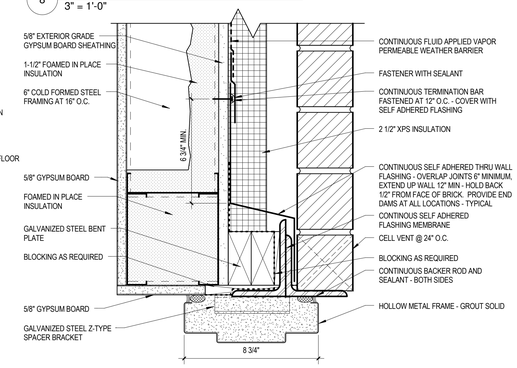
8 TYP INTERIOR HOLLOW METAL JAMB CMU WALL
3" = 1'-0"



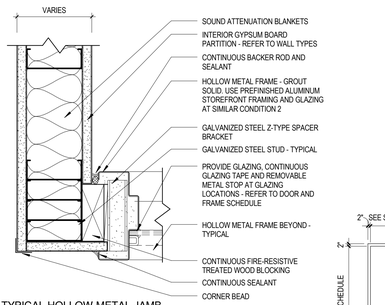
2 TYPICAL HOLLOW METAL JAMB CONDITION AT METAL STUD FRAMING
3" = 1'-0"



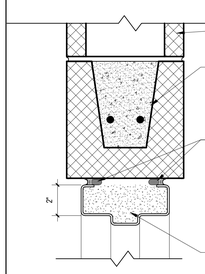
12 TYP INTERIOR ALUMINUM HEAD IN STUD WALL
3" = 1'-0"



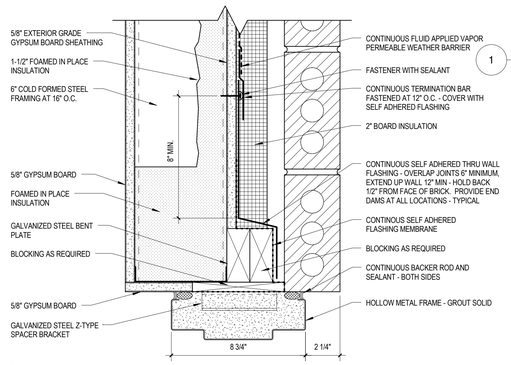
6 DOOR FRAME DETAIL - HEAD
3" = 1'-0"



1 TYPICAL HOLLOW METAL JAMB CONDITION AT METAL STUD FRAMING
3" = 1'-0"



11 TYP INTERIOR HOLLOW METAL HEAD AT NEW CMU WALL
3" = 1'-0"



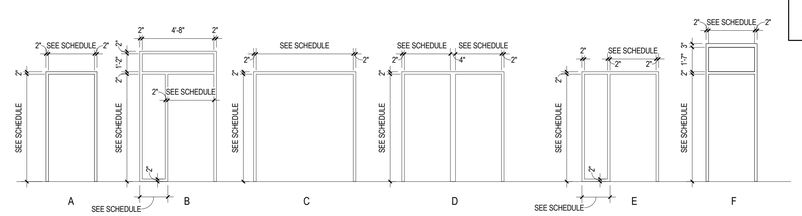
5 DOOR FRAME DETAIL - JAMB
3" = 1'-0"

DOOR AND FRAME SCHEDULE

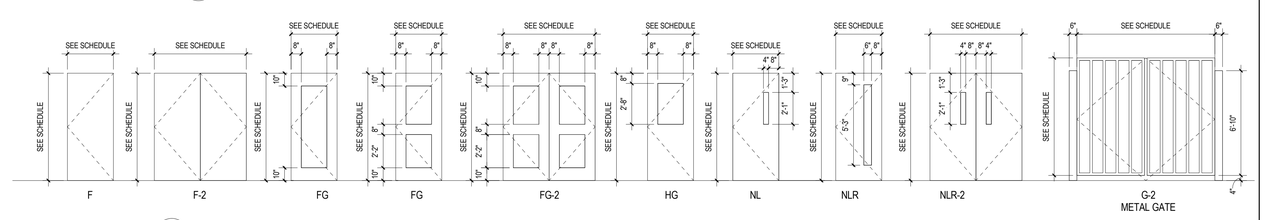
DOOR #	DOOR TYPE	DOOR MATERIAL	DOOR WIDTH	DOOR HEIGHT	DOOR THICK	FRAME TYPE	FRAME MATERIAL	FIRE RATING	HDWR	FRAME DETAILS HEAD	FRAME DETAILS JAMB	FRAME DETAILS JAMB	FRAME DETAILS SILL	*PROVIDE SWEEPS - ALL DOORS REFERENCED NOTES
010A	F-2	HM	6'-0"	6'-0"	1 3/4"	Frame - A : A	HM	180	65	10/A6.01	9/A6.01	9/A6.01		PANIC HARDWARE AND HOLD OPENS
010B	NLR-2	WD	7'-10"	7'-0"	1 3/4"	Frame - A : A	HM	180	65	11/A6.01	8/A6.01	8A6.01		PANIC HARDWARE AND HOLD OPENS
010C	F	HM	3'-6"	7'-0"	1 3/4"	A	HM	180	71	8/A6.01	8/A6.01	8A6.01		
012	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	n/a	58	4/A6.01	3/A6.01	3/A6.01		KNURLED KNOB
013	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	90	67	6/A6.01	5/A6.01	5/A6.01		PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
014	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	n/a	57	4/A6.01	3/A6.01	8A6.01		KNURLED KNOB
016	NL	HM	3'-0"	7'-0"	1 3/4"	B	HM	45	72	4/A6.01	3/A6.01			DOOR GLAZING = 0.69 SF,SIDELITE GLAZING = 12.22 SF
016A	SLIDING	WD	6'-0"	7'-0"	2"		AL	n/a						
017	NL	HM	3'-0"	7'-0"	1 3/4"	B	HM	45	72	4/A6.01		3/A6.01		DOOR GLAZING = 0.69 SF,SIDELITE GLAZING = 12.22 SF
018A	FG	AL	3'-0"	7'-11"	1 3/4"		AL	90	51					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
018B	FG	AL	3'-0"	7'-11"	1 3/4"				50					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
018C	FG	AL	3'-0"	7'-11"	1 3/4"				50					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
018D	FG	AL	3'-0"	7'-11"	1 3/4"				50					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
019A	FG	AL	3'-0"	7'-11"	1 3/4"		AL	n/a	73	11/A6.01				PANIC HARDWARE
019B	FG	AL	3'-0"	7'-11"	1 3/4"		AL	n/a	52	11/A6.01				PANIC HARDWARE
019C	FG	AL	3'-0"	7'-11"	1 3/4"		AL	n/a	52	11/A6.01				PANIC HARDWARE
019D	FG	AL	3'-0"	7'-11"	1 3/4"		AL	45	52	11/A6.01				PANIC HARDWARE
021	NL	WD	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	60	4/A6.01	3/A6.01	3/A6.01		
022	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	90	74	4/A6.01	3/A6.01	3/A6.01		
023	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	57	4/A6.01	3/A6.01	3/A6.01		
024	NL	WD	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	60	4/A6.01	3/A6.01	3/A6.01		
025	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	n/a	74	4/A6.01	3/A6.01	3/A6.01		
026	NL	WD	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	60	4/A6.01	3/A6.01	3/A6.01		
027	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	n/a	74	4/A6.01	3/A6.01	3/A6.01		
028	NL	WD	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	60	4/A6.01	3/A6.01	3/A6.01		
029	NL	WD	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	60	4/A6.01	3/A6.01	3/A6.01		
029A	FG	HM	3'-0"	8'-0"	1 3/4"	A	HM		70					PAIR OF DOORS
029C	FG	HM	3'-0"	8'-0"	1 3/4"	A	HM		69					
030C	FG	AL	3'-0"	7'-11"	1 3/4"		AL	45	50	6/A6.01	5/A6.01	5/A6.01		PANIC HARDWARE
030D	FG	AL	3'-0"	7'-11"	1 3/4"		AL	45	50	6/A6.01	5/A6.01	5/A6.01		PANIC HARDWARE
031A	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	n/a	64	4/A6.01	3/A6.01	3/A6.01		
031B	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	n/a	64	4/A6.01	3/A6.01	3/A6.01		
031C	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	n/a	64	4/A6.01	3/A6.01	3/A6.01		
032A	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	n/a	66	4/A6.01	3/A6.01	3/A6.01		
032B	F-2	HM	6'-0"	7'-0"	1 3/4"	Frame - A : A	HM	90	68	4/A6.01	3/A6.01	3/A6.01		PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
034B	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	90	63	6/A6.01	5/A6.01	5/A6.01		WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
035	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	n/a	74	4/A6.01	3/A6.01	3/A6.01		PANIC HARDWARE
036A	FG	AL	3'-0"	7'-11"	1 3/4"		AL	45	50					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
036B	FG	AL	3'-0"	7'-11"	1 3/4"		AL	45	62					PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)
036C	FG	AL	3'-0"	7'-9"	1 3/4"		AL	n/a	52	11/A6.01				PANIC HARDWARE
036D	FG	AL	3'-0"	7'-9"	1 3/4"		AL	n/a	52	11/A6.01				PANIC HARDWARE
038	F	HM	3'-0"	7'-0"	1 3/4"	A	HM	n/a	76	4/A6.01	3/A6.01	3/A6.01		
039	F	HM	3'-0"	7'-0"	1 3/4"	A	HM	n/a	61	4/A6.01	3/A6.01	3/A6.01		
040	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	90	55	4/A6.01	3/A6.01	3/A6.01		
042	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	n/a	57	4/A6.01	3/A6.01	3/A6.01		
044	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	n/a	76	4/A6.01	3/A6.01	3/A6.01		
045	NL	WD	4'-0"	7'-0"	1 3/4"	Frame - A : A	HM	45	75	4/A6.01	3/A6.01	3/A6.01		
046	F	HM	3'-0"	7'-0"	1 3/4"	Frame - A : A	HM	90	74	4/A6.01	3/A6.01	3/A6.01		
201C	F-2	HM	8'-0"	8'-0"	1 3/4"	Frame - A : A	HM	120	65	10/A6.01	9/A6.01	9/A6.01		
201D	F-2	HM	8'-0"	8'-0"	1 3/4"	A	HM	180	53	11/A6.01	8/A6.01	8A6.01		KNURLED KNOB
201E	F	HM	3'-0"	7'-0"	1 3/4"	A	HM	180	59	4/A6.01	3/A6.01	3/A6.01		PANIC HARDWARE
217	F	HM	3'-6"	7'-0"	1 3/4"	A	HM	120	56	11/A6.01	8/A6.01	8A6.01		PANIC HARDWARE
218	F	HM	3'-0"	7'-0"	1 3/4"	A	HM		57	4/A6.01	3/A6.01	3/A6.01		
219	F-2	HM	6'-0"	7'-0"	1 3/4"	A	HM	90	54	6/A6.01	3/A6.01	3/A6.01		PANIC HARDWARE, WEATHER SEALS (INCL DRIP EDGES, SWEEPS, AND SEALS)

EXTERIOR WINDOW SCHEDULE

TYPE MARK	HEIGHT	WIDTH	COUNT	DESCRIPTION
1	5'-8"	4'-0"	21	WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
2	2'-0"	4'-0"	14	WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
3	2'-0"	4'-0"	7	ADA OPERABLE EXTERIOR WINDOW - WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
4	5'-8"	4'-0"	2	WINDOW WITH TRANSLUCENT FILM ON GLASS - WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
5	2'-0"	4'-0"	2	WINDOW WITH TRANSLUCENT FILM ON GLASS - WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
6	5'-8"	4'-0"	2	WINDOW WITH TRANSLUCENT FILM ON GLASS
7	5'-8"	3'-8"	3	WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
8	2'-0"	3'-8"	2	WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
10	2'-0"	4'-0"	2	WINDOW WITH TRANSLUCENT FILM ON GLASS - WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
11	2'-0"	3'-8"	1	ADA OPERABLE EXTERIOR WINDOW - WINDOW TO CONTAIN PERFORATED METAL WINDOW GUARD
12	4'-0"	4'-0"	1	



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



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

GENERAL NOTES

GENERAL:

1. ALL DOOR AND FRAME TYPES ARE SHOWN AS EXTERIOR VIEW.
2. FRAME WIDTHS ARE INDICATED ON THE FLOOR PLANS. FRAME HEIGHTS ARE INDICATED ON THE FRAME TYPES. DOOR DIMENSIONS ARE INDICATED ON THE DOOR AND FRAME SCHEDULE.
3. DIMENSIONS ARE INDICATED FOR BIDDING PURPOSES ONLY AND SHALL BE FIELD VERIFIED PRIOR TO PREPARATION OF SHOP DRAWINGS AND FABRICATION.
4. THE MANUFACTURER(S) SHALL BE RESPONSIBLE FOR THE ENGINEERING AND STRUCTURAL INTEGRITY OF THEIR FRAME SYSTEMS.
5. ALL FRAMES IN MASONRY OPENINGS REQUIRE A LINTEL. REFER TO DOOR AND FRAME SCHEDULE AND/OR STRUCTURAL DRAWINGS.
6. ALL OPENINGS IN FRAMES REQUIRE GLAZING PANELS OR INFILL PANELS EXCEPT FOR DOOR OPENINGS. GLAZING TYPES FOR EXTERIOR FRAMES ARE INDICATED ON THE FRAME TYPES. GLAZING TYPES FOR INTERIOR FRAMES ARE INDICATED ON THE DOOR AND FRAME SCHEDULE OR HEREIN.
7. ALL OPENINGS IN DOORS REQUIRE GLAZING PANELS UNLESS NOTED OTHERWISE. GLAZING TYPES FOR DOORS ARE INDICATED ON THE DOOR AND FRAME SCHEDULE OR HEREIN.
8. HARDWARE SETS AND GLAZING TYPES ARE SPECIFIED IN THE PROJECT MANUAL.
9. ALL INTERIOR DOOR SHALL RECIEVE SWEEPS
10. FRAMES SHALL BE DESIGNED, CUT, AND FABRICATED TO MINIMIZE JOINTS:
    A. JOINTS IN HOLLOW METAL FRAMES SHALL RECEIVE METAL FILLER, BE GROUND SMOOTH AND SHOP/FIELD PRIMED PRIOR TO FINISH PAINT.
    B. JOINTS IN EXTERIOR ALUMINUM FRAMES SHALL BE AIR AND WATER TIGHT IN ACCORDANCE WITH THE REQUIREMENTS IDENTIFIED IN THE PROJECT MANUAL. LAP AND SEAL ALL JOINTS. ALLOW FOR EXPANSION IN THE TRIM AND AT JOINTS AND INTERSECTIONS OF ADJACENT FRAMES.
11. COORDINATE WITH CARPENTER TO PROVIDE NECCESSARY BLOCKING AND FIRE TREATED BLOCKING AND ANCHORAGE FOR DOORS AND WALL STOPS
12. AT ALL HOLD-OPENS AT FIRE RATED DOORS SHALL BE MAGNETIC HOLD-OPENS THAT ARE TO RELEASE UPON NOTIFICATION BY FIRE/SMOKE ALARM.

ALUMINUM FRAMING SYSTEMS:

10. ALUMINUM STOREFRONT AND INTERIOR ALUMINUM FRAMES SHALL HAVE THE FOLLOWING CHARACTERISTICS UNLESS NOTED OTHERWISE:
    A. FACE WIDTH: 2"
    B. FRAME DEPTH: 4-1/4"
11. ALUMINUM CURTAIN WALL FRAMES SHALL HAVE THE FOLLOWING CHARACTERISTICS UNLESS NOTED OTHERWISE:
    A. FACE WIDTH: 2-1/2"
    B. FRAME DEPTH: 5-1/2", 7-1/2", 9-1/2"
12. ANCHORAGE AT ALUMINUM STOREFRONT AND WINDOW SYSTEMS:
    A. PROVIDE ANCHORAGE IN ACCORDANANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO MEET THE REQUIRED DESIGN LOADS BUT NOT LESS THAN THREE (3) ANCHORS PER JAMB LOCATION.
    B. PROVIDE ALUMINUM FASTENERS, NON-MAGNETIC STAINLESS STEEL FASTENERS, OR OTHER FASTENER TYPES WARRANTED BY THE SYSTEM MANUFACTURER TO BE NON-CORROSIVE, NON-CORRODIBLE, AND COMPATIBLE WITH OTHER BUILDING COMPONENTS.
    C. PROVIDE REINFORCEMENT WHERE FASTENERS ARE SCREWED INTO ALUMINUM COMPONENTS LESS THAN 1/8" THICK.
    D. DO NOT USE EXPOSED FASTENERS AT BUILDING EXTERIOR. AT BUILDING INTERIOR FASTENERS ARE TO MATCH THE FINISH OF THE FRAME.
    E. INTERNALLY REINFORCE MULLIONS AS REQUIRED TO MEET SPANS AS INDICATED IN THE DRAWINGS AND PROJECT MANUAL.
    F. NO EXPOSED FASTERNERS.

HOLLOW METAL DOORS AND FRAMES:

13. ALL HOLLOW METAL FRAMES SHALL HAVE THE FOLLOWING CHARACTERISTICS UNLESS NOTED OTHERWISE:
    A. FACE WIDTH: 2"
    B. FRAME DEPTH: 5-3/4" UNLESS NOTED OTHERWISE
    C. THROAT: 4-7/8"
    D. RETURN: 7/16"
14. ANCHORAGE AT HOLLOW METAL FRAMES:
    A. PROVIDE FASTENERS AT 18" ON CENTER AND MINIMALLY THREE (3) ANCHORS PER JAMB.
    B. AT FRAMES INSTALLED PRIOR TO MASONRY INSTALLATION PROVIDE GALVANIZED STEEL "T" ANCHORS.
    C. AT FRAMES INSTALLED AFTER MASONRY INSTALLATION OR AT EXISTING MASONRY OPENINGS PROVIDE GALVANIZED STEEL SPACER BRACKETS, ANCHOR SLEEVES WELDED TO THE INTERIOR OF THE FRAME, AND COUNTERSUNK 3/8" FLATHEAD EXPANSION ANCHORS. COVER HEAD OF FASTENERS WITH METAL FILLER, GRIND SMOOTH, PRIME AND FINISH PAINT.
    D. AT FRAMES INSTALLED IN STUD PARTITIONS PROVIDE GALVANIZED STEEL Z-TYPE SPACE BRACKETS.
15. JAMBS OF FRAMES INSTALLED IN EXTERIOR WALLS AND WHERE INDICATED SHALL BE GROUTED SOLID. COVER GROUT HOLES WITH METAL FILLER, GRIND SMOOTH, PRIME AND FINISH PAINT.

GLAZING:

16. GLAZING AT INTERIOR DOORS AND FRAMES SHALL BE TYPE I-1 UNLESS NOTED OTHERWISE
17. GLAZING AT FIRE RATED INTERIOR DOORS AND FRAMES SHALL BE TYPE I-2 UNLESS NOTED OTHERWISE.

GLAZING TYPES

GLAZING TYPES

EXTERIOR:

E-1 1" INSULATED CLEAR GLAZING UNIT 2

INTERIOR:

G-1 IMPACT SAFETY AND FIRE RATED GLAZING UNIT (REFER TO G1.2 FOR UL ASSEMBLIES)
G-2 FIRE RATED GLAZING UNIT (REFER TO G1.2 FOR UL ASSEMBLIES)
G-3 IMPACT SAFETY RATED GLAZING UNIT

REFERENCED NOTES

1. PROVIDE CARD READER AND ELECTRIC LATCH
2. REFER TO ALUMINUM FRAME TYPES FOR ADDITIONAL INFORMATION. ALUMINUM STOREFRONT AND CURTAIN WALL ELEVATION TAGS ARE SHOWN ON FLOOR PLANS.
3. DOOR ASSEMBLY TO MEET FULL RATING.

WARNING:
ASBESTOS-CONTAINING BUILDING MATERIALS ARE OR MAY BE PRESENT IN THIS BUILDING. AN ASBESTOS-MANAGEMENT PLAN IS AVAILABLE IN THE SCHOOL FOR REVIEW UPON REQUEST. NO PERSON MAY DISTURB ASBESTOS-CONTAINING MATERIALS UNLESS THAT PERSON IS A LICENSED ASBESTOS WORKER OR CONDUCTS SUCH WORK IN ACCORDANCE WITH SPECIFICATIONS CONTAINED IN THE PROJECT DOCUMENTS AND IN COMPLIANCE WITH ILLINOIS DEPARTMENT OF HEALTH RULES AND REGULATIONS

Issuance

MARK	DESCRIPTION	DATE
1	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
3	60% CONSTRUCTION DOCS	07/27/2017
4	90% CONSTRUCTION DOCS	09/07/2017
5	ISSUED FOR BIDDING	10/27/2017
1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title

DOOR AND FRAME DETAILS

Sheet

A6.01

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGATARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

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Structural Engineers of Record

Terra Engineering LTD.
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Chicago, IL
Landscape/Civil Engineers of Record

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303 E. Wacker Dr, #303
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MEPFP Engineers of Record

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10 S. LaSalle St, #2600
Chicago, IL 60603
Structural Engineer - Dever Beam

Mackesy and Associates
321 N Clark St, #500
Chicago, IL
Food Service Consultant

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"

16'-0" 0'-0" 8'-0" 16'-0" 32'-0"
1/16" = 1'-0"

8'-0" 0'-0" 4'-0" 8'-0" 16'-0"
1/8" = 1'-0"

4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"

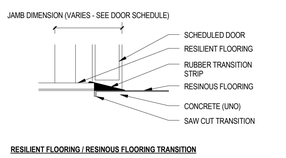
2'-0" 0'-0" 1'-0" 2'-0" 4'-0"
1/2" = 1'-0"

1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"

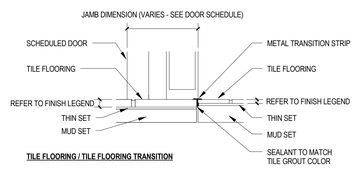
0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"

0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"

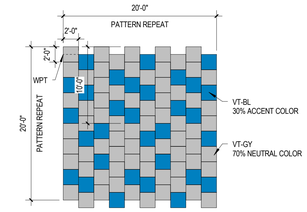
0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"



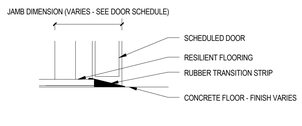
RESILIENT FLOORING / RESINOUS FLOORING TRANSITION



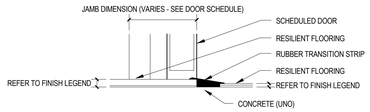
TILE FLOORING / TILE FLOORING TRANSITION



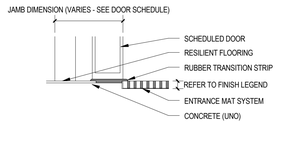
3 CLASSROOM FLOORING TILE PATTERN REPEAT B
1/8" = 1'-0"



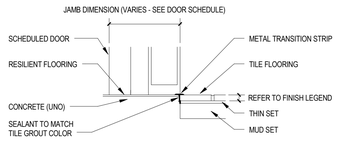
RESILIENT FLOORING / SEALED CONCRETE FLOORING TRANSITION



RESILIENT FLOORING / RESILIENT FLOORING TRANSITION

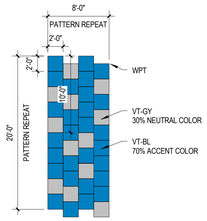


RESILIENT FLOORING / RECESSED EMS TRANSITION

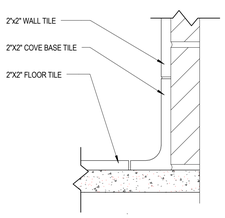


RESILIENT FLOORING / TILE FLOORING TRANSITION

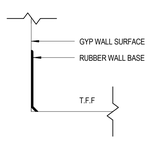
5 FLOOR TRANSITION TYPES
3" = 1'-0"



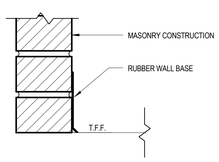
2 CLASSROOM FLOORING TILE PATTERN REPEAT A
1/8" = 1'-0"



COVED PORCELAIN WALL BASE

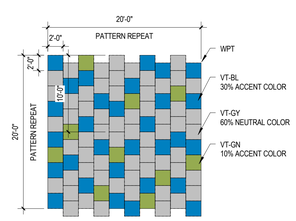


COVED RUBBER WALL BASE



COVED RUBBER BASE ON CMU WALL

4 COVE BASE DETAIL
3" = 1'-0"



1 CORRIDOR, DINING & OFFICE FLOORING TILE PATTERN REPEAT
1/8" = 1'-0"

FINISH LEGEND

ACOUSTICAL PANEL FABRIC	BASIS OF DESIGN MANUF: CARNEGIE STYLE: METEOR 6427 COLOR:706	
CORNER GUARDS 90 DEGREE FLUSH MOUNTED	MANUF: INPRO STYLE: 160F FLUSH MOUNT COLOR: FEATHER 0238 SIZE: 2" WING, 8'-0" HIGH MANUF: C/S ACROVYN STYLE: SFS-20N COLOR: WHITE 949 SIZE: 2" WING, 8'-0" HIGH MANUF: PAWLING STYLE: CG-72 COLOR: WHITE 10 SIZE: 2" WING, 8'-0" HIGH	
CTW-W GLAZED CERAMIC WALL TILE	MANUF: DALTILE STYLE: PERMABRITES COLOR: ARCTIC WHITE 6470 SIZE: 2" X 2" MANUF: AMERICAN OLEAN STYLE: SATINBRITES COLOR: ICE WHITE Y25 SIZE: 2" X 2"	
EMS ENTRANCE MAT SYSTEM - FOOT GRILLES	MANUF: BALCO STYLE: SSMR ULTRAGIRD FRAME: RECESSED FRAME COLOR: STAINLESS STEEL SYSTEM THICKNESS: 1-1/8" MANUF: MATS INC STYLE: METROSTEEL GRATE FRAME: RECESSED FRAME COLOR: STAINLESS STEEL PANEL THICKNESS: 1-1/8" MANUF: JL INDUSTRIES STYLE: JL-500 SERIES FRAME: RECESSED JLSBSS FRAME COLOR: STAINLESS STEEL PANEL THICKNESS: 1-1/8"	
FRP WALL PANELS NOTE: REFER TO DRAWINGS FOR PANEL HEIGHT	MANUF: MARLITE STYLE: STANDARD FRP COLOR: PEBBLED WHITE P-100 FIRE RATING: CLASS A SIZE: 4'W X 3'32" THICK MANUF: CRANE COMPOSITES STYLE: GLASBORD COLOR: EMBOSSED WHITE 85 FIRE RATING: CLASS A SIZE: 4'W X .09" THICK MANUF: NUDO STYLE: FIBERLITE FRP LP-F9-FRCOLOR: EMBOSSED WHITE 50 FIRE RATING: CLASS A SIZE: 4'W X .09" THICK	
CERAMIC / PORCELAIN FLOOR AND WALL TILE GROUT	MANUF: LATICRETE COLOR: 78 STERLING SILVER MANUF: BOSTIK COLOR: H144 MISTY GRAY MANUF: MAPEI COLOR: 02 PEWTER	
QUARRY TILE FLOOR TILE GROUT	MANUF: LATICRETE COLOR: 24 NATURAL GREY MANUF: BOSTIK COLOR: H160 DELOREAN GRAY MANUF: MAPEI COLOR: 11 SAHARA BEIGE	
METAL LOCKERS	MANUF: DEBOURGH COLOR: COOL WHITE MANUF: LYON COLOR: WHITEWASH-WH395-11 MANUF: PENCO COLOR: JANUARY WHITE 848	
PLAM-1 PLASTIC LAMINATE	MANUF: WILSONART STYLE: STANDARD COLOR: HARVEST MAPLE FINISH: FINE VELVET MANUF: PIONITE STYLE: STANDARD COLOR: HONEY MAPLE FINISH: SUEDE MANUF: ARBORITE STYLE: STANDARD COLOR: RIFT NATURAL OAK FINISH: CASHMERE	
PLAM-C PLASTIC LAMINATE	MANUF: WILSONART STYLE: CHEMSURF COLOR: HARVEST MAPLE FINISH: MATTE MANUF: PIONITE STYLE: CHEMGUARD COLOR: HONEY MAPLE FINISH: SUEDE	
PLAM-2 PLASTIC LAMINATE	MANUF: WILSONART STYLE: STANDARD COLOR: SHADOW ZEPHYR FINISH: MATTE MANUF: PIONITE STYLE: STANDARD COLOR: PEARL OF THE ORIENT FINISH: SUEDE MANUF: ARBORITE STYLE: STANDARD COLOR: GREY XABIA FINISH: CASHMERE	
PTF-GY PORCELAIN TILE FLOOR (FIELD)	MANUF: DALTILE STYLE: KEYSTONE COLOR: SUEDE GRAY SPECKLE D208 SIZE: 2" X 2" MANUF: AMERICAN OLEAN STYLE: UNGLAZED COLORBODY PORCELAIN COLOR: STORM GRAY SPECKLED A06 SIZE: 2" X 2"	
PTF-BL PORCELAIN TILE FLOOR (ACCENT)	MANUF: DALTILE STYLE: KEYSTONES COLOR: OCEAN BLUE D159 SIZE: 2" X 2" MANUF: AMERICAN OLEAN STYLE: UNGLAZED COLORBODY PORCELAIN COLOR: PEACOCK BLUE A08 SIZE: 2" X 2"	
PTF-GN PORCELAIN TILE FLOOR (ACCENT)	MANUF: DALTILE STYLE: KEYSTONES COLOR: LIME SHERBET D619 SIZE: 2" X 2" MANUF: AMERICAN OLEAN STYLE: UNGLAZED COLORBODY PORCELAIN COLOR: KEY LIME R97 SIZE: 2" X 2"	
PTB-GY PORCELAIN TILE BUILT UP BASE (FIELD)	MANUF: DALTILE STYLE: KEYSTONE COLOR: SUEDE GRAY SPECKLE D208 SIZE: 2" X 2"	
PTB-GY PORCELAIN TILE BUILT UP BASE (FIELD)	MANUF: AMERICAN OLEAN STYLE: UNGLAZED COLORBODY PORCELAIN COLOR: STORM GRAY SPECKLED A06 SIZE: 2" X 2"	
PTB-BL PORCELAIN TILE BUILT UP BASE (ACCENT)	MANUF: DALTILE STYLE: KEYSTONES COLOR: OCEAN BLUE D159 SIZE: 2" X 2"	
	MANUF: AMERICAN OLEAN STYLE: UNGLAZED COLORBODY PORCELAIN COLOR: PEACOCK BLUE A08 SIZE: 2" X 2"	
PTB-GN PORCELAIN TILE BUILT UP BASE (ACCENT)	MANUF: DALTILE STYLE: KEYSTONES COLOR: LIME SHERBET D619 SIZE: 2" X 2"	
	MANUF: AMERICAN OLEAN STYLE: UNGLAZED COLORBODY PORCELAIN COLOR: KEY LIME R97 SIZE: 2" X 2"	
PTW-LGY PORCELAIN TILE WALL (FIELD)	MANUF: DALTILE STYLE: KEYSTONES COLOR: DESERT GRAY D014 SIZE: 2" X 2"	
	MANUF: AMERICAN OLEAN STYLE: UNGLAZED COLORBODY PORCELAIN COLOR: LIGHT SMOKE A43 SIZE: 2" X 2"	
PTW-BL PORCELAIN TILE WALL (ACCENT)	MANUF: DALTILE STYLE: KEYSTONES COLOR: OCEAN BLUE D159 SIZE: 2" X 2"	
	MANUF: AMERICAN OLEAN STYLE: UNGLAZED COLORBODY PORCELAIN COLOR: PEACOCK BLUE A08 SIZE: 2" X 2"	
PTW-GN PORCELAIN TILE WALL (ACCENT)	MANUF: DALTILE STYLE: KEYSTONES COLOR: LIME SHERBET D169 SIZE: 2" X 2"	
	MANUF: AMERICAN OLEAN STYLE: UNGLAZED COLORBODY PORCELAIN COLOR: KEY LIME R97 SIZE: 2" X 2"	
PNT-W FIELD PAINT	MANUF: SHERWIN WILLIAMS COLOR: SNOWBOUND SW7004 MANUF: BENJAMIN MOORE COLOR: TO MATCH SHERWIN WILLIAMS COLOR SNOWBOUND SW7004 MANUF: PPG PAINTS COLOR: TO MATCH SHERWIN WILLIAMS COLOR SNOWBOUND SW7004	
PNT-F FRAME PAINT	MANUF: SHERWIN WILLIAMS COLOR: ELLIE GRAY SW7650 MANUF: BENJAMIN MOORE COLOR: TO MATCH SHERWIN WILLIAMS COLOR ELLIE GRAY SW7650 MANUF: PPG PAINTS COLOR: TO MATCH SHERWIN WILLIAMS COLOR ELLIE GRAY SW7650	
PNT-BL ACCENT PAINT	MANUF: PPG PAINTS COLOR: HARBOR SKY PPG1238-4 MANUF: SHERWIN WILLIAMS COLOR: TO MATCH PPG PAINTS COLOR HARBOR SKY PPG1238-4 MANUF: BENJAMIN MOORE COLOR: TO MATCH PPG PAINTS COLOR HARBOR SKY PPG1238-4	
PNT-GN ACCENT PAINT	MANUF: PPG PAINTS COLOR: GOLDEN GRASS PPG1119-6 MANUF: SHERWIN WILLIAMS COLOR: TO MATCH PPG COLOR GOLDEN GRASS PPG1119-6 MANUF: BENJAMIN MOORE COLOR: TO MATCH PPG COLOR GOLDEN GRASS PPG1119-6	
QT QUARRY FLOOR TILE	MANUF: DALTILE STYLE: QUARRY TEXTURES COLOR: ASHEN GRAY 0T03 SIZE: 6" X 6" EDGE: SQUARE TEXTURE: ADDED ABRASIVE GRAIN SURFACE MANUF: AMERICAN OLEAN STYLE: QUARRY NATURALS COLOR: SHADOW GRAY N46 SIZE: 6" X 6" EDGE: SQUARE TEXTURE: ADDED ABRASIVE GRAIN SURFACE MANUF: METROPOLITAN STYLE: QUARRY BASICS XA ABRASIVE COLOR: PURITAN GRAY 57XA SIZE: 6" X 6" EDGE: SQUARE	
QTB QUARRY WALL BASE TILE	MANUF: DALTILE STYLE: QUARRY TEXTURES COVE TRIM COLOR: ASHEN GRAY 0T03 SIZE: 5" X 6" MANUF: AMERICAN OLEAN STYLE: QUARRY NATURALS COVE TRIM COLOR: SHADOW GREY N46 SIZE: 5" X 6" MANUF: METROPOLITAN STYLE: QUARRY BASICS XA ABRASIVE COVE TRIM COLOR: PURITAN GRAY 57XA SIZE: 5" X 6"	
RB RUBBER BASE	MANUF: JONHSONITE STYLE: BASEWORKS COLOR: 20 CHARCOAL SIZE: 4" MANUF: ROPPE STYLE: PINNACLE COLOR: 123 CHARCOAL SIZE: 4" MANUF: ARMSTRONG STYLE: COLOR INTERGRATED WALL BASE COLOR: 12 SHADOW GRAY SIZE: 4"	
RB-BL RUBBER BASE	MANUF: JONHSONITE STYLE: BASEWORKS COLOR: 192 TIDEWATER SIZE: 4" TO CORRELATE WITH JOHNSONITE VT-BL MANUF: ROPPE STYLE: PINNACLE COLOR: 154 SALEM BLUE SIZE: 4" TO CORRELATE WITH GERFLOR VT-BL MANUF: ARMSTRONG STYLE: COLOR INTERGRATED WALL BASE COLOR: 12 SHADOW GRAY SIZE: 4"	
RBCK RUBBER CORK TACKABLE WALL SURFACE	BASIS OF DESIGN MANUF: CAPRI CORK STYLE: AND/OR RUBBER CORK FOR WALLS COLOR: DOVE AD2006 ROLL THICKNESS: 9MM INSTALLATION: VERTICAL	
RBST RUBBER STAIR TREAD WITH INTEGRATED RISER	MANUF: JOHNSONITE STYLE: HAMMERED SURFACE TO INCLUDE VISUALLY IMPAIRED STRIPS COLOR: 20 CHARCOAL MANUF: ARMSTRONG STYLE: HAMMERED SURFACE TO INCLUDE VISUALLY IMPAIRED STRIPS COLOR: 12 SHADOW GRAY MANUF: ROPPE STYLE: HAMMERED SURFACE TO INCLUDE VISUALLY IMPAIRED STRIPS COLOR: 123 CHARCOAL	
RES RESINOUS FLOORING	MANUF: STONHARD SYSTEM: STONCLAD GS / STONKOTE GS4 COLOR: PEWTER FINISH: LIGHT TEXTURE (TXT 2) MANUF: DEX-O-TEX SYSTEM: CHEMINERT "K" COLOR: 402 DARK GRAY FINISH: W/ POSITRED "O" (FINE) MANUF: GENERAL POLYMERS SYSTEM: TPM 115 U-4 COLOR: STEEL GRAY #54 FINISH: NON SKID	
RESB RESINOUS INTEGRAL BASE	MANUF: STONEHARD STYLE: STONCLAD GS / STONKOTE GS4 COLOR: PEWTER FINISH: LIGHT TEXTURE (TXT 2) SIZE: 4" H MANUF: DEX-O-TEX SYSTEM: CHEMINERT K COLOR: 402 DARK GRAY FINISH: W/ POSITRED "O" (FINE) SIZE: 4" H MANUF: GENERAL POLYMERS SYSTEM: TPM 115 U-4 COLOR: STEEL GRAY #54 FINISH: NON SKID SIZE: 4" H	
RFT-GY-2 RUBBER FLOOR TILE	MANUF: JOHNSONITE STYLE: ROUNDEL SOLID COLOR COLOR: 20 CHARCOAL SIZE: 24" X 24" X 3MM TEXTURE: HAMMERED MANUF: ARMSTRONG STYLE: STAIR RUBBER TILE COLOR: 12 SHADOW GRAY SIZE: 24" X 24" X 3MM TEXTURE: HAMMERED MANUF: ROPPE STYLE: RAISED DESIGN COLOR: 123 CHARCOAL SIZE: 24" X 24" X 3MM TEXTURE: HAMMERED	
RSFAB ROLLER SHADE VINYL FABRIC	MANUF: MECHOSHADE STYLE: ECOVEIL OPENNESS: 3% OPEN FABRIC COLOR: WHITE 1551 FASCIA COLOR: WHITE MANUF: DRAPER STYLE: SHEERWEAVE INFINITY 2 OPENNESS: 3% OPEN FABRIC COLOR: COTTON PG1 FASCIA COLOR: WHITE MANUF: HUNTER DOUGLAS STYLE: SHEERWEAVE INFINITY 2 OPENNESS: 3% OPEN FABRIC COLOR: COTTON PG1 FASCIA COLOR: WHITE	
RT RUBBER TRANSITIONS	MANUF: JONHSONITE COLOR: 20 CHARCOAL MANUF: ROPPE COLOR: 123 CHARCOAL MANUF: ARMSTRONG COLOR: 12 SHADOW GRAY	
SDVT STATIC DISSIPATIVE VINYL TILE	MANUF: JOHNSONITE STYLE: IQ GRANIT SD COLOR: SIDEWALK 726 SIZE: 24" X 24" MANUF: VPI STYLE: ESD TILE COLOR: PLATINUM 17 SIZE: 24" X 24"	
SSF-W SOLID SURFACE STANDARD FINISH	BASIS OF DESIGN MANUF: ARRAY SOLID SURFACE COLOR: BRIGHT WHITE A001	
SSF-GY SOLID SURFACE STANDARD FINISH	BASIS OF DESIGN MANUF: ARRAY SOLID SURFACE COLOR: EVENTIDEA518	
SSF-GN SOLID SURFACE STANDARD FINISH	BASIS OF DESIGN MANUF: ARRAY SOLID SURFACE COLOR: CUSTOM COLOR TO MATCH PNT-GN	
TC TOILET COMPARTMENTS	MANUF: ASI ACCURATE STYLE: PHENOLIC COLOR: GRAY MIST MANUF: BOBRICK STYLE: PHENOLIC COLOR: GRAPHITE GRAFIX MANUF: BRADLEY STYLE: PHENOLIC COLOR: GRAPHITE GRAFIX	
VT-GY VINYL FLOOR TILE	MANUF: JOHNSONITE STYLE: IQ GRANIT COLOR: YOGA 382 SIZE: 24" X 24" MANUF: GERFLOR STYLE: MIPOLAM ACCORD COLOR: PECAN 0343 SIZE: 24" X 24"	
VT-BL VINYL FLOOR TILE	MANUF: JOHNSONITE STYLE: IQ GRANIT COLOR: CATALINA 749 SIZE: 24" X 24" MANUF: GERFLOR STYLE: MIPOLAM ELEGANCE COLOR: BILBERRY 0341 SIZE: 24" X 24"	
VT-GN VINYL FLOOR TILE	MANUF: JOHNSONITE STYLE: IQ GRANIT COLOR: BEXLEY 750 SIZE: 24" X 24" MANUF: GERFLOR STYLE: MIPOLAM ELEGANCE COLOR: KIWI 0338 SIZE: 24" X 24"	
WOOD DOORS	SPECIES: TO BE DETERMINED FINISH: TO MATCH PLAM-1	

GENERAL FINISH NOTES

1. REFER TO THE FINISH PLAN LEGEND FOR MATERIAL AND COLOR INFORMATION. ALSO REFER TO THE PROJECT MANUAL.
2. REFER TO REFLECTED CEILING PLANS FOR CEILING MATERIALS AND CEILING HEIGHTS.
3. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO PROPERLY PREPARE ALL SURFACES IDENTIFIED TO RECEIVE NEW FINISHES IN ACCORDANCE WITH THE FINISH MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE WINDOW SHADE SYSTEM AT ALL NEW EXTERIOR WINDOWS EXCEPT THOSE IN CORRIDORS AND STAIRS AND UNLESS NOTED OTHERWISE.
5. REFER TO FINISH PLANS FOR FLOOR AND WALL PATTERNS.
6. REFER TO FINISH LEGEND AND SPECIFICATIONS FOR MATERIAL AND COLOR INFORMATION.
7. NUMBERS/LETTERS REFER TO COLOR. REFER TO FINISH LEGEND AND/OR SPECIFICATIONS.
8. IN ALL RENOVATED AREAS ALL WALLS SHALL BE PAINTED PNT-W U.N.O. ALL NEW WALLS SHALL BE PAINTED PNT-W U.N.O.
9. BRICK WALLS SHALL NOT BE PAINTED. U.N.O.
10. REFER TO INTERIOR ELEVATIONS AND/OR FINISH PLANS FOR PORCELAIN TILE WALL PATTERN INFORMATION.
11. USE VERTICAL METAL EDGE TRANSITIONS IN PORCELAIN TILE WALL OUTSIDE CORNERS AND/OR IN PORCELAIN TILE WALL EXPOSED EDGES.
12. DO NOT INSTALL RUBBER BASE ON TOP OF PORCELAIN TILE WALL. (U.N.O.)
13. REFER TO INTERIOR ELEVATIONS AND FINISH PLANS FOR APPLIED PANEL PATTERN INFORMATION
14. ALL HOLLOW METAL DOOR FRAMES AND HOLLOW METAL WINDOW FRAMES TO BE PAINTED PNT-F (IPS-X) U.N.O. IN FINISH DRAWINGS
15. ALL ACCESS DOORS TO BE PAINTED. COLOR TO MATCH ADJACENT SURFACE.
16. ELECTRICAL PANELS, MECHANICAL GRILLES, LOUVERS, AND ANY OTHER MISCELLANEOUS, UNFINISHED ITEMS INSTALLED IN WALL SURFACES OF CORRIDORS AND OCCUPIED SPACES SHALL BE PAINTED TO MATCH ADJACENT WALL COLOR.
17. METAL ACCESS LADDERS TO BE PAINTED PNT-F U.N.O.
18. REFER TO FINISH PLANS FOR PLASTIC LAMINATE (PLAM) AND SOLID SURFACE (SSF) COLOR DESIGNATIONS
19. 4"H COVED RUBBER BASE TO BE USED FOR ALL RESILIENT FLOORING LOCATIONS (U.N.O.)
20. INSTALL RUBBER COVE BASE AT CASEWORK, TOE KICKS, INSIDE OF FLOORLESS CASEWORK, VERTICAL SUPPORTS AND OVER NEW FLOOR MATERIAL (U.N.O.)
21. REFER TO SPECIFICATIONS FOR RESILIENT TRANSITIONS (RT) PROFILES.
22. ALL REDUCERS TO BE COORDINATED APPROPRIATELY WITH ABUTTING MATERIAL HEIGHTS.
23. AT BUILDING CONSTRUCTION JOINTS DO NOT BRIDGE THE FLOORING MATERIALS. INSTALL MATCHING MATERIAL WITHIN.
24. REFER TO ARCHITECTURAL DRAWINGS FOR FLOOR SLOPES TO FLOOR DRAINS. COORDINATE ACCORDINGLY WITH INTENDED FLOOR MATERIAL.
25. PROVIDE VAPOR BARRIER SEALER, MOISTURE MITIGATION ON CONCRETE SURFACES AT ALL AREAS TO RECEIVE CARPET, RESILIENT FLOORING AND/OR RUBBER TREADS.
26. PRIOR TO THE INSTALLATION OF NEW ADHESIVES OVER CONCRETE SUBSTRATES PRIOR TO THE INSTALLATION OF FLOOR COVERING SYSTEMS. APPLY A LIGHT-COLORED HIGH STRENGTH ACRYLIC POLYMER COMPOUND (AQUEOUS FLOOR SEALER) TO ISOLATE AND CUT BACK OLD ADHESIVE FLOOR RESIDUES. ACRYLIC POLYMER COMPOUND TO BE SOLVENT FREE AND TO CONTAIN "ZERO" CALCULATED VOC'S. BASIS OF DESIGN XL BRANDS "TRISEAL". FOLLOW MANUFACTURERS RECOMMENDATION FOR INTENDED APPLICATION.
27. IT IS THE RESPONSIBILITY OF ALL TRADES TO COORDINATE PREPARATION OF SURFACES TO RECEIVE FINISH PRODUCT. CONSULT WITH MANUFACTURERS RECOMMENDED PRACTICES.
28. WHERE "PATCH AND REPAIR" IS REQUIRED DUE TO NEW CONSTRUCTION IN EXISTING AREAS WHERE NO WORK IS SCHEDULED TO BE PERFORMED "PATCH AND REPAIR" FINISHES TO MATCH ADJACENT EXISTING FINISH, COLOR, TEXTURE AND SHEEN.
29. IN ALL EXISTING AREAS SCHEDULED TO BE RENOVATED, REPLACE ALL EXISTING ELECTRICAL WALL COVER PLATES AND DEVICES. ALL NEW ELECTRICAL COVER PLATES AND DEVICES TO BE STAINLESS STEEL.
30. ANY DAMAGE TO EXISTING SURFACES DUE TO SCHEDULED DEMOLITION AND/OR TO ACCOMMODATE DIVISION 22, 23, 26, 27 & 28 SCOPE OF WORK INCLUDED IN THIS PACKAGE SHALL BE REPAIRED. THOUGH NOT EXPRESSLY NOTED "PATCH AND REPAIR", IT IS INTENDED THAT THE WORK BE PERFORMED.
31. "PATCH AND REPAIR" WALLS AS REQUIRED WHERE EXISTING JUNCTION BOXES AND/OR OUTLETS ARE REMOVED. PREPARE WALLS FOR NEW PAINT FINISH.
32. REFER TO SPECIFICATIONS FOR ELEVATOR FINISHES.
33. ALL SOLID SURFACE JOINTS TO HAVE INVISIBLE SEAMS. EXPOSED SOLID SURFACE CORNERS TO HAVE EASED EDGES.
34. AT ALL METAL LOCKER LOCATIONS, INSTALL RUBBER BASE, COLOR: RB (U.N.O). REFER TO FINISH LEGEND FOR COLOR INFORMATION. 2

GENERAL FLOOR FINISH NOTES

1. AT ALL AREAS OF NEW FLOORING:
   - A. PROVIDE RUBBER TRANSITION STRIPS BETWEEN DISSIMILAR FLOORING MATERIALS.
   - B. PROVIDE 4-INCH RUBBER BASE ON ALL VERTICAL SURFACES ABUTTING FLOORING MATERIALS.
   - C. GRIND ANY HIGH SPOTS AND FILL ANY LOW SPOTS IN CONCRETE SUBSTRATE PRIOR TO BEGINNING ANY WORK.
   - D. PREPARE CRACKS AND OTHER SURFACE DEFECTS IN CONCRETE SUBSTRATE IN ACCORDANCE WITH FLOORING MANUFACTURER'S RECOMMENDATIONS PRIOR BEGINNING ANY WORK.
2. AT ALL AREAS OF NEW FLOORING IN EXISTING BUILDING:
   - A. EXISTING FLOORING AS INDICATED ON DRAWINGS MAY BE ASBESTOS CONTAINING AND SHALL BE REMOVED UNDER SEPARATE CONTRACT.
   - B. SHOT BLAST EXISTING CONCRETE SUBSTRATE PRIOR TO BEGINNING ANY WORK.
   - C. GRIND ANY HIGH SPOTS AND FILL ANY LOW SPOTS IN CONCRETE SUBSTRATE RESULTING FROM DEMOLITION PRIOR TO BEGINNING ANY WORK.
   - D. PROVIDE CEMENTITIOUS SELF-LEVELING FLOORING UNDERLAYMENT. PROVIDE TWO COATS WITH A COMBINED AVERAGE THICKNESS OF ¼-INCH.
   - E. UNDERCUT EXISTING WOOD DOORS LOCATED ON OR ADJACENT TO AREAS OF NEW FLOORING AS REQUIRED TO ENSURE PROPER OPERATION OF THE DOOR(S).
   - F. EXISTING THRESHOLDS TO REMAIN SHALL BE REMOVED AND REINSTALLED SO NEW FLOORING CAN BE INSTALLED UNDER THE EDGE OF THRESHOLDS.
3. AT EVERY STAIR GOING DOWN FROM FLOOR LEVELS PROVIDE 36" WIDE RUBBER TACTILE WARNING STRIP FOR FULL WIDTH OF STAIR. TACTILE WARNING STRIP NOT REQUIRED AT INTERMEDIATE LANDINGS UNLESS NOTED OTHERWISE.

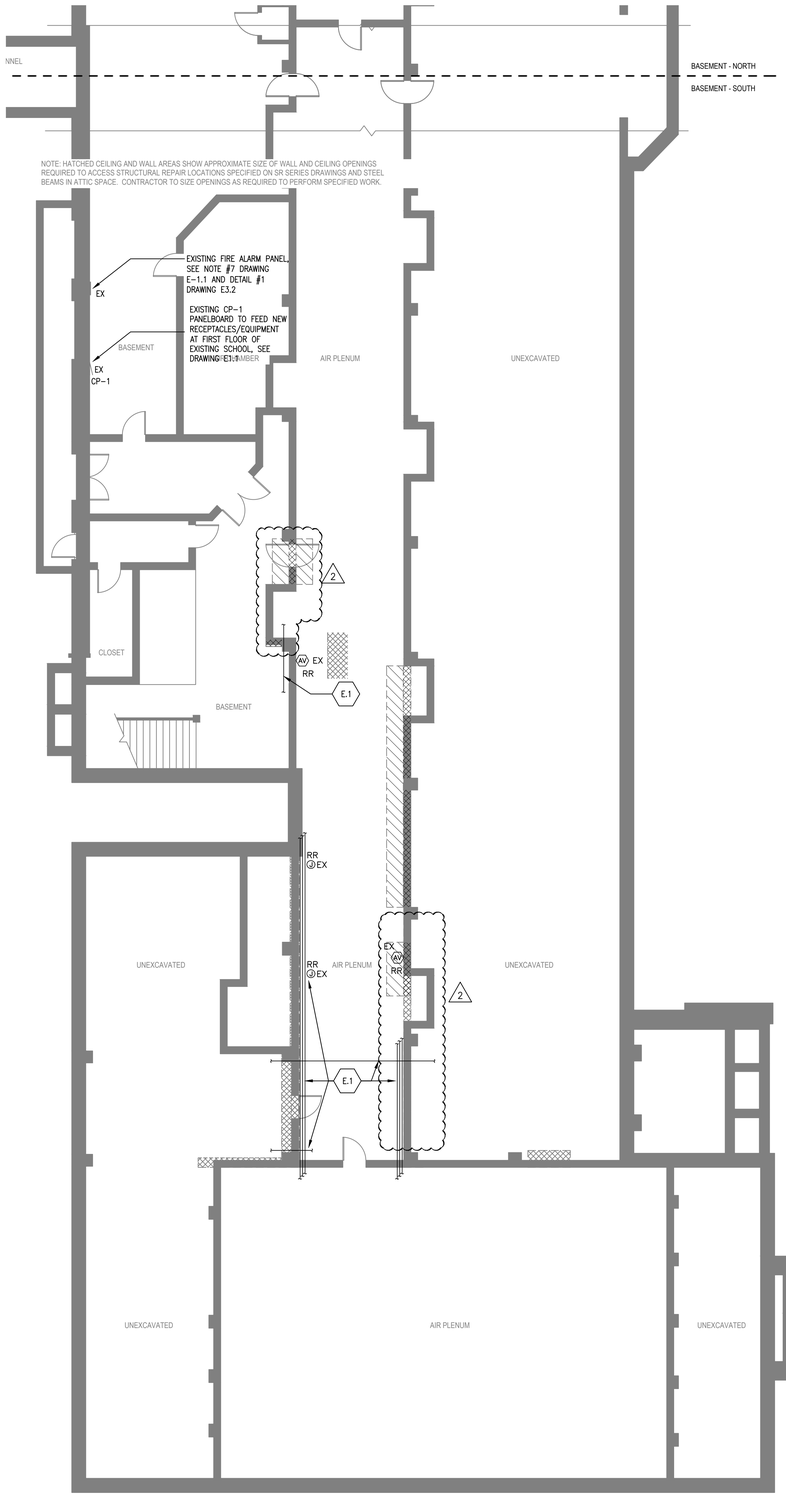
GENERAL PAINTING NOTES

1. ALL NEW CONSTRUCTION AND IDENTIFIED EXISTING CONSTRUCTION TO REMAIN SHALL BE PRIME AND FINISH PAINTED UNLESS MATERIALS ARE PRE-FINISHED. REFER TO THE PROJECT MANUAL.
   - A. NEW PARTITIONS ARE TO BE PRIME PAINTED FOR FULL HEIGHT OF PARTITION UNLESS NOTED OTHERWISE.
   - B. SIGHT-EXPOSED SURFACES OF NEW PARTITIONS ARE TO BE FINISHED PAINTED.
   - C. SIGHT-EXPOSED SURFACES OF SOFFITS SHALL BE PRIME AND FINISHED PAINTED.
2. ALL WALLS IN EXISTING ROOMS IN WHICH WORK IS OCCURRING:
   - A. REPAIR HOLES, DEFECTS, ETC. IN EXISTING WALLS.
   - B. AT REPAIRS AND UNPAINTED CONCRETE BLOCK PROVIDE BLOCK FILL PAINT AND TWO FINISH COATS OF PAINT.
   - C. AT REPAIRS AND UNPAINTED GYPSUM BOARD AND/OR PLASTER PROVIDE PRIMER AND TWO FINISH COATS OF PAINT.
   - D. PROVIDE ONE FINISH COAT OF PAINT OVER EXISTING PAINTED WALLS.
3. IN OCCUPIED SPACES IN AREAS OF NEW CONSTRUCTION, ALL SIGHT-EXPOSED MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION, AND TECHNOLOGY COMPONENTS INCLUDING, BUT NOT LIMITED TO, DUCTWORK, PIPING, FITTINGS, CONDUIT, BOXES, HANGERS, ETC SHALL BE PAINTED. DATA CABLING SHALL NOT BE PAINTED.
4. AT AREAS OF EXPOSED ROOF STRUCTURE IDENTIFIED TO BE PAINTED, ALL SIGHT-EXPOSED ITEMS SHALL BE PAINTED INCLUDING, BUT NOT LIMITED TO, ROOF DECK, STRUCTURE, DUCTWORK, PIPING, FITTINGS, CONDUIT, BOXES, HANGERS, ETC.
5. ALL WALLS TO BE FINISH PAINTED PNT-W WITH EGGSHELL FINISH UNLESS NOTED OTHERWISE.
6. AT STEEL DOORS AND STEEL FRAMES:
   - A. INTERIORS TO BE PAINTED PNT-F WITH SEMI-GLOSS FINISH UNLESS NOTED OTHERWISE.
   - B. ALL EXTERIOR TO BE PAINTED WITH COLOR TO BE SELECTED BY ARCHITECT WITH SEMI-GLOSS FINISH UNLESS NOTED OTHERWISE.

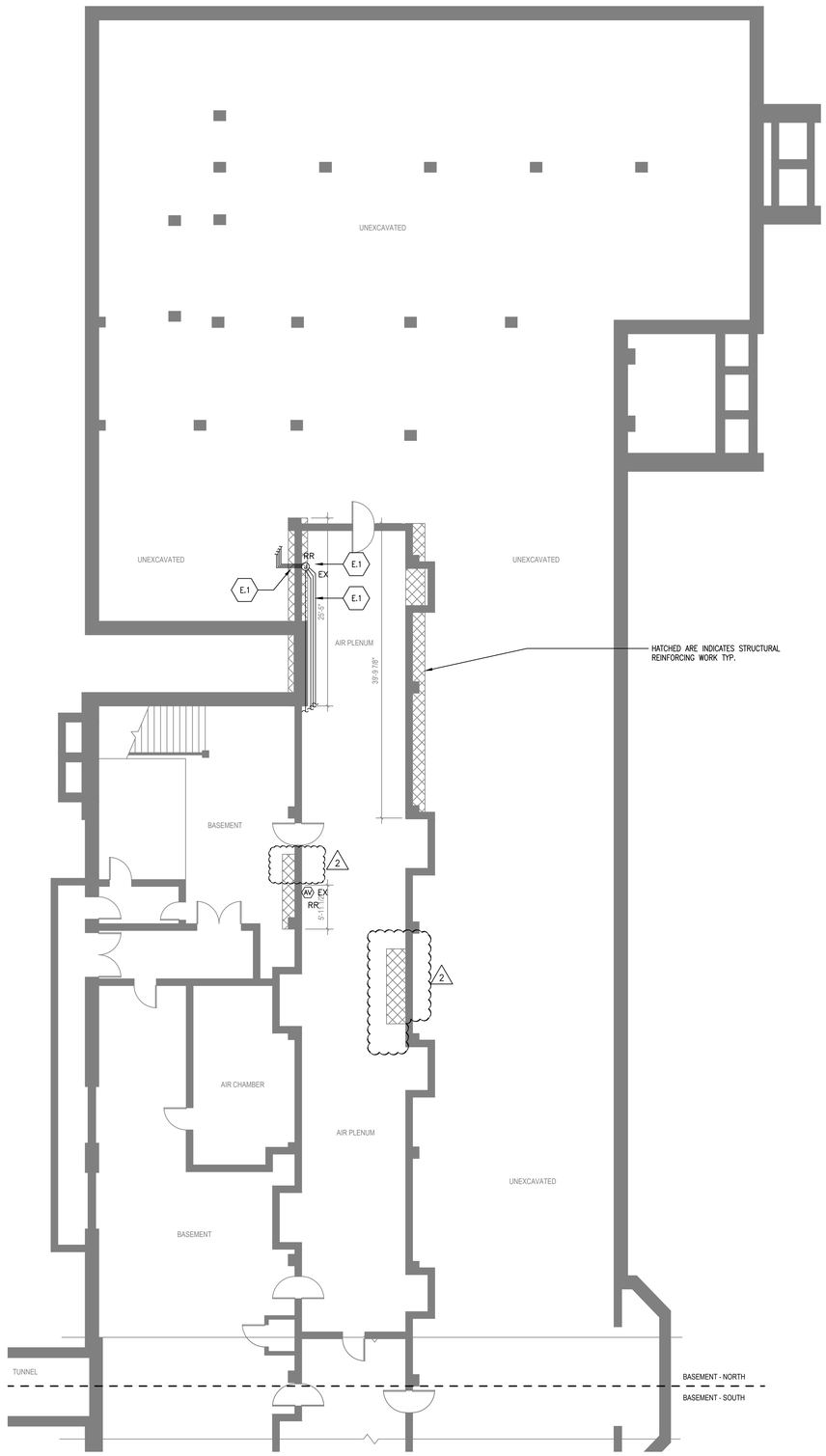
GENERAL CEILING FINISH NOTES

1. REFER TO PAINT SPECIFICATIONS, FINISH DRAWINGS AND CEILING PLANS FOR CEILING AND SOFFI

32'-0" 0'-0" 16'-0" 32'-0" 64'-0" 1/32" = 1'-0" | 16'-0" 0'-0" 8'-0" 16'-0" 32'-0" 1/16" = 1'-0" | 8'-0" 0'-0" 4'-0" 8'-0" 16'-0" 1/8" = 1'-0" | 4'-0" 0'-0" 2'-0" 4'-0" 8'-0" 1/4" = 1'-0" | 2'-0" 0'-0" 1'-0" 2'-0" 4'-0" 1/2" = 1'-0" | 1'-0" 0'-0" 0'-6" 1'-0" 2'-0" 1" = 1'-0" | 0'-0" 0'-6" 1'-0" 2'-0" 1-1/2" = 1'-0" | 0'-0" 0'-3" 0'-6" 0'-9" 1'-0" 3" = 1'-0" | 0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6" 6" = 1'-0"



2 BASEMENT PLAN - EXISTING BLDG. SOUTH
1/8" = 1'-0"



1 BASEMENT PLAN - EXISTING BLDG. NORTH
1/8" = 1'-0"

NOTES:

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2. ELECTRICAL POWER AND LIGHTING, FIRE ALARM, SECURITY AND TECHNOLOGY DEVICES ARE AFFECTED FOR PROPOSED DEVER WORK, ALL CONTRACTORS TO COORDINATE THE WORK WITHIN DISCIPLINES.
3. IN AREAS WHERE WORK TO BE PERFORMED CONTRACTORS TO DISCONNECT AND REMOVE DEVICES/EQUIPMENT AND ASSOCIATED INFRASTRUCTURE TO ALLOW STRUCTURAL WORK TO BE PERFORMED, AND REINSTALL IN PLACE. AFTER INSTALLATION ALL SYSTEMS TO MUST BE TESTED.
4. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

KEYED NOTES: E.X

E.1 EXISTING CONDUIT(S) TO BE TEMPORARILY REMOVED AND REINSTALLED WHEN STRUCTURAL AND ARCHITECTURAL WORK COMPLETED (TYP.)

E.2 EXISTING CONDUIT(S) (3-1"C) TO BE TEMPORARILY REMOVED AND REINSTALLED WHEN STRUCTURAL AND ARCHITECTURAL WORK COMPLETED.

LEGEND:

EX – EXISTING

RR – REMOVED AND REINSTALLED

N
KEY PLAN

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

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Chicago, Illinois 60661
PHONE: 312.258.9595
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Design Architect:
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Structural Engineers of Record

Terra Engineering LTD.
225 W. Ohio St, 4th Flr
Chicago, IL
Landscape/Civil Engineers of Record

CCJM Engineers, Ltd.
303 E. Wacker Dr, #303
Chicago, IL 60601
MEPFP Engineers of Record

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Chicago, IL 60603
Acoustics Consultant

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Issuance

MARK	DESCRIPTION	DATE
1	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
3	60% CONSTRUCTION DOCS	07/27/2017
4	90% CONSTRUCTION DOCS	09/07/2017
5	ISSUED FOR BIDDING	10/27/2017
1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

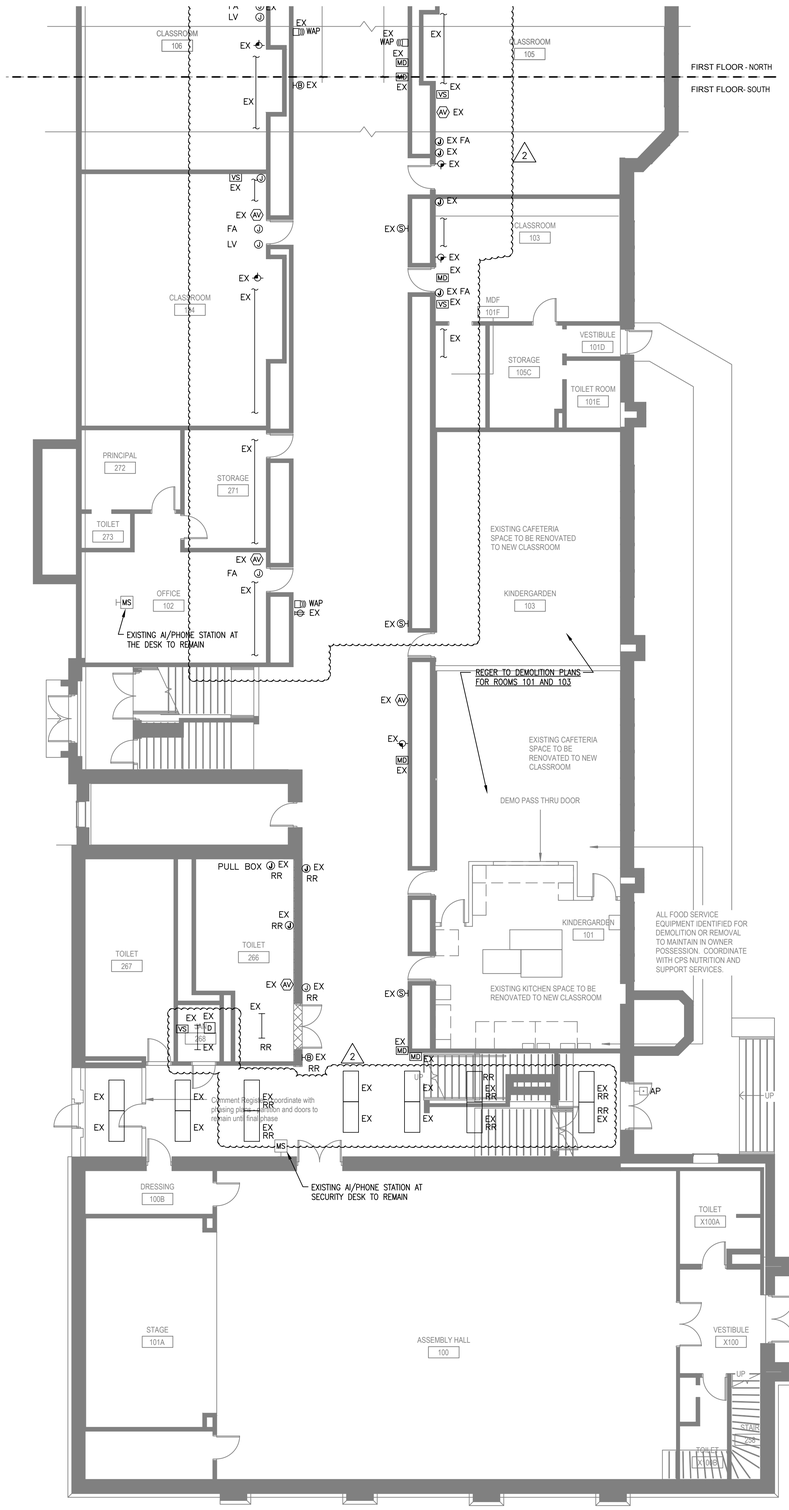
Title

ELECTRICAL BASEMENT PLAN - EXISTING BLDG

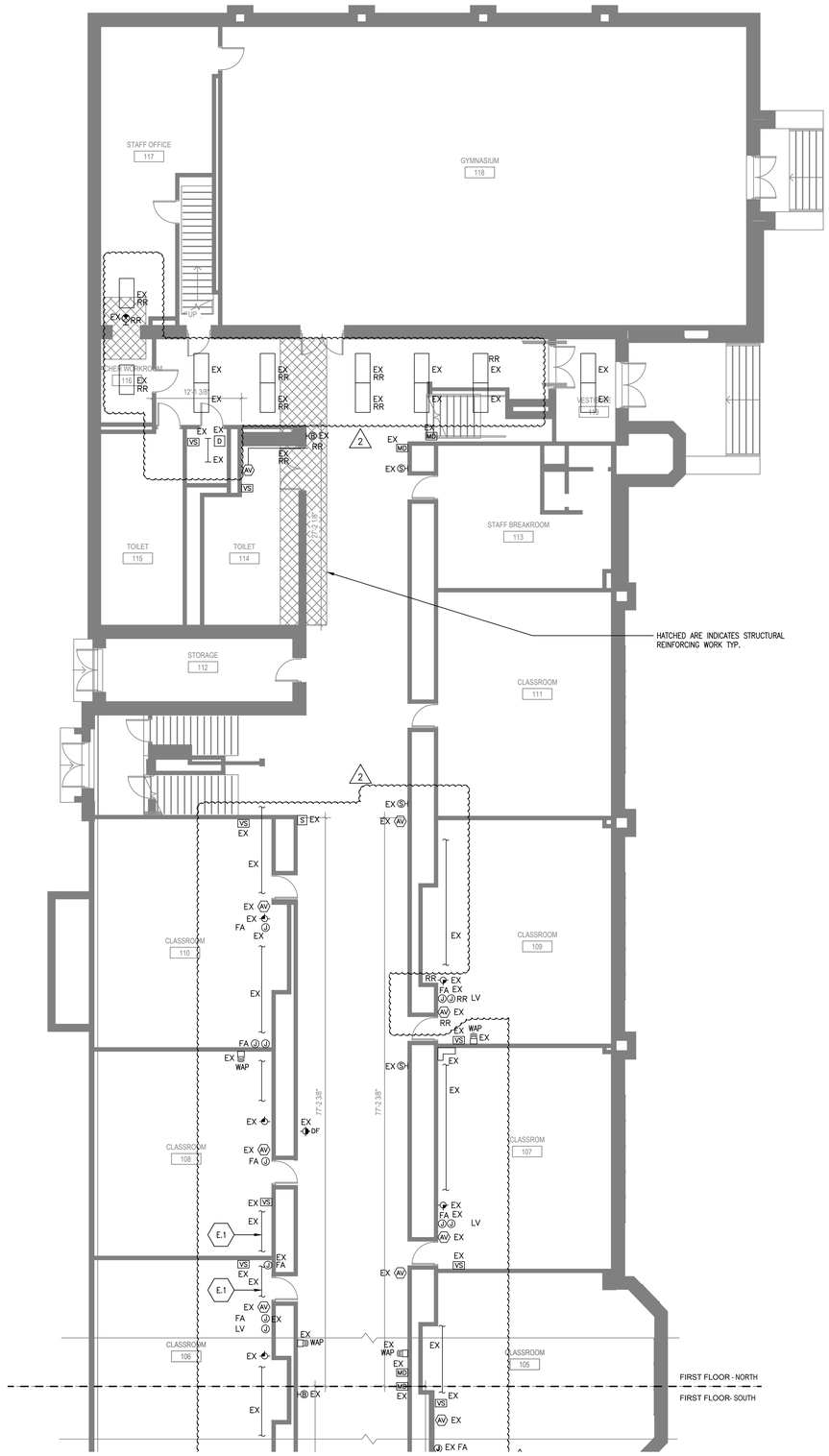
Sheet

E1.3

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



2 FIRST FLOOR - EXISTING BLDG. SOUTH
1/8" = 1'-0"



1 FIRST FLOOR PLAN - EXISTING BLDG. NORTH
1/8" = 1'-0"

NOTES:

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4. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

KEYED NOTES: EX

E.1 EXISTING CONDUIT(S) TO BE TEMPORARILY REMOVED AND REINSTALLED WHEN STRUCTURAL AND ARCHITECTURAL WORK COMPLETED (TYP.)

E.2 EXISTING WIREMOLD(S) INFRASTRUCTURE (POWER/LOW VOLTAGE TO BE TEMPORARILY REMOVED AND REINSTALLED WHEN STRUCTURAL AND ARCHITECTURAL WORK COMPLETED (TYP.)

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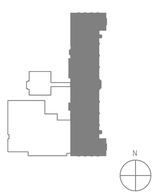

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PBC Contract No: 05175

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Title
ELECTRICAL FIRST FLOOR PLAN - EXISTING BLDG

Sheet
E1.4

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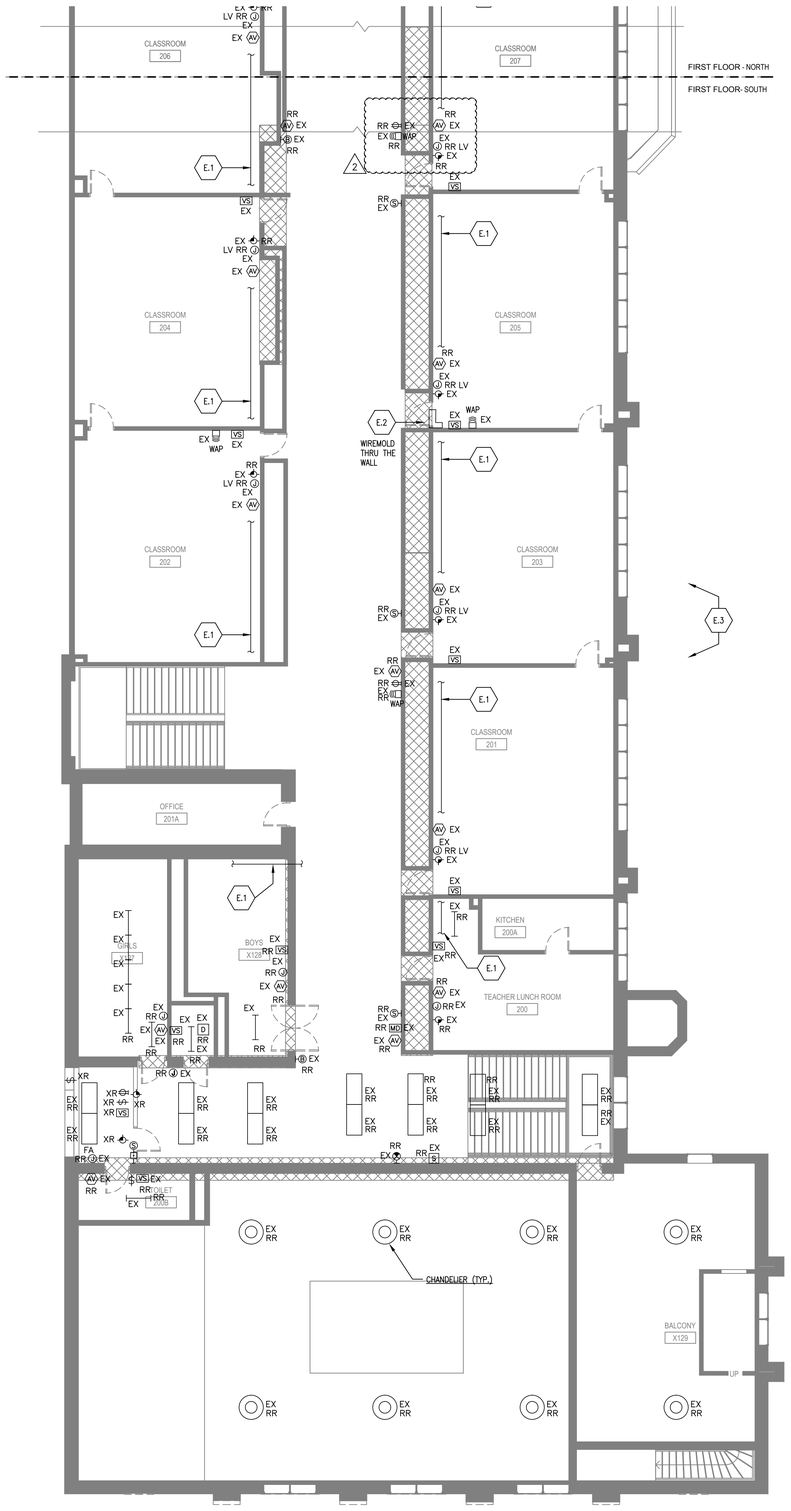

2 SECOND FLOOR - EXISTING BLDG. SOUTH
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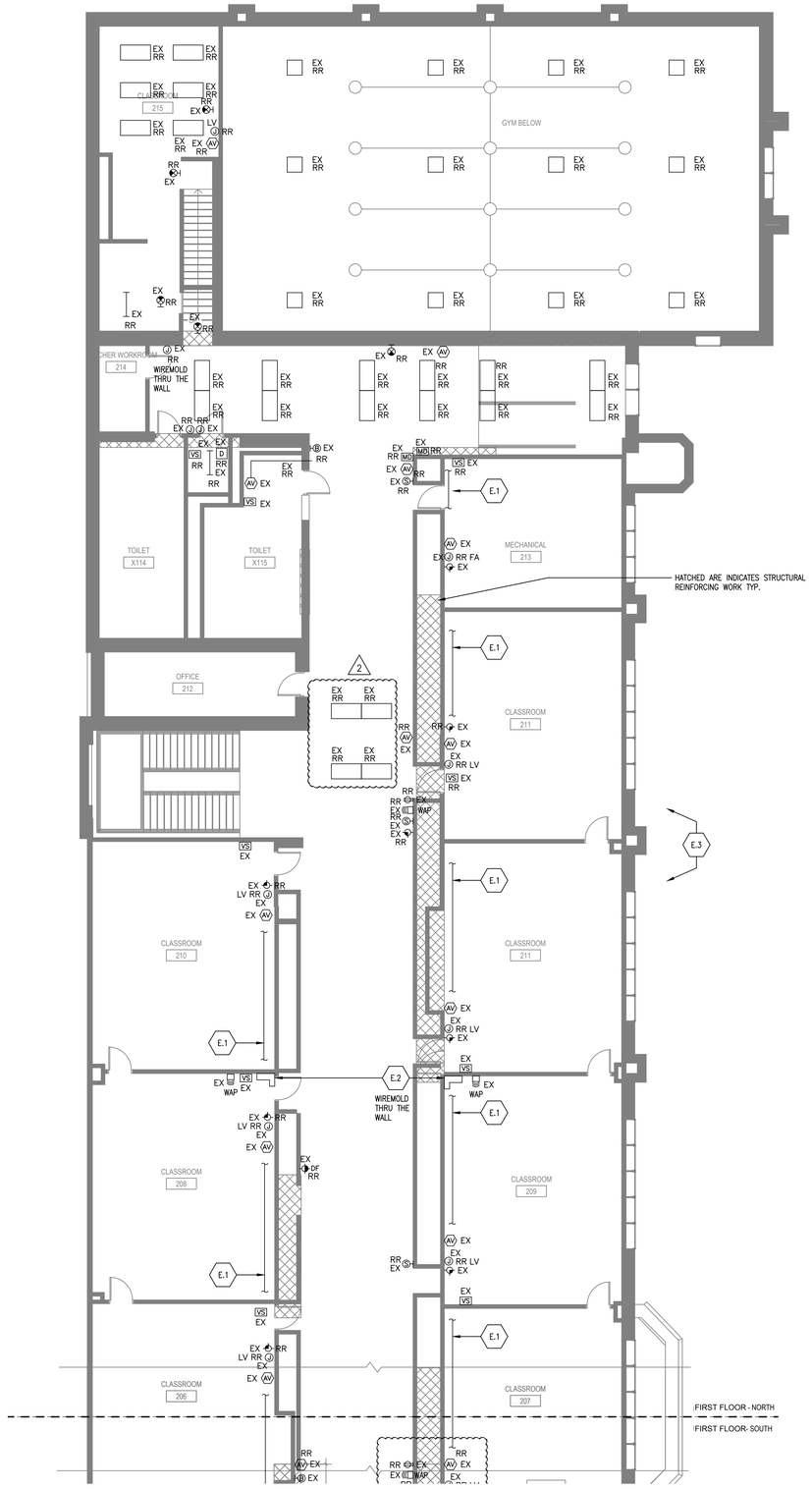

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E.1 EXISTING CONDUIT(S) TO BE TEMPORARILY REMOVED AND REINSTALLED WHEN STRUCTURAL AND ARCHITECTURAL WORK COMPLETED (TYP.)

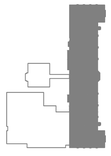
E.2 EXISTING WIREMOLD(S) INFRASTRUCTURE (POWER/LOW VOLTAGE TO BE TEMPORARILY REMOVED AND REINSTALLED WHEN STRUCTURAL AND ARCHITECTURAL WORK COMPLETED (TYP.)

E.3 ATTIC NOT ACCESSIBLE DUE TO DANGEROUS WALKING CONDITIONS AND RESTRICTION BY SCHOOL STAFF. CONTRACTOR TO FIELD VERIFY ALL ELECTRICAL POWER, LIGHTING, SECURITY AND LIFE SAFETY FIRE ALARM SYSTEMS THAT WILL BE AFFECTED BY STRUCTURAL WORK. TEMPORARILY REMOVE AND REPLACE AT AFFECTED AREAS IN ORDER FOR STRUCTURAL TO BE REINFORCED. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED.

LEGEND:

EX – EXISTING

RR – REMOVED AND REINSTALLED



KEY PLAN

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGATARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

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Chicago, IL 60601
MEPFP Engineers of Record

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Chicago, IL 60603
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1	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
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1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

PBC Contract No: 05175

Project No: 217102.00

Title
ELECTRICAL SECOND FLOOR PLAN - EXISTING BLDG

Sheet
E1.5

1 ELECTRICAL FIRST FLOOR PLAN LIGHTING

1/8" = 1'-0"

X LIGHTING CONTROL SCHEME – CLASSROOMS:

1. ZONE 1 – DIM1 (AV)
2. ZONE 2 – DIM 2
3. ZONE 3 – DIM 1, DAYLIGHT 1
4. ZONE 4 – DIM2, DAYLIGHT 2

EMERGENCY LIGHTING NOTES:

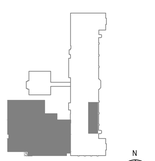
1. ALL CIRCUITS FOR EXIT AND EMERGENCY FIXTURES SHALL BE ROUTED WITH SEPARATE RACEWAYS, NO GENERAL LIGHTING CIRCUITS ARE ALLOWED TO SHARE THE EMERGENCY RACEWAYS.
2. REFER TO E1.0 DRAWING FOR CHICAGO APPROVED EXIT–DIRECTIONAL SIGN SCHEDULE.
3. PROVIDE LOCKABLE DEVICE ON ALL CIRCUIT BREAKERS SERVING EXIT SIGNS, NIGHT LIGHTS AND EMERGENCY LIGHTS, REFER TO PANELBOARD SCHEDULES.
4. EMERGENCY FIXTURES IN INDIVIDUAL ROOMS (SUCH AS: TOILETS, MECHANICAL, ELECTRICAL ROOMS ETC.) SERVED BY SINGLE LIGHTING CIRCUIT TO BE CONNECTED TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHING DEVICES (EBU TYPE OF FIXTURE).

NOTES:

1. ALL NEW RACEWAYS AND BACK BOXES SHALL BE CONCEALED IN CEILING AND WALLS FOR ALL NEW CONSTRUCTED WALLS. SURFACE MOUNTED TWO CHANNEL RACEWAYS ALLOWED IN EXISTING BUILDING ONLY WHERE CONCEALED INSTALLATION IS NOT FEASIBLE. REFER TO DETAILS AND SPECIFICATIONS.
2. SPACE ABOVE CEILING IS A PLENUM RATED CEILING (EXCEPT DINING ROOM AND LINK CLEAR STORY AREAS), ALL DEVICES, FIXTURES, J–BOXES AND PULL BOXES TO BE PLENUM RATED.
3. EXTERIOR LIGHTING FIXTURES SHALL BE CONTROLLED VIA RELAY PANEL ON TIMER SCHEDULE AND PHOTOCELL.
4. ALL LIGHTING FIXTURES SHALL BE FED FROM LP–1A VIA RELAY LIGHTING PANEL. EXCEPT EMERGENCY LIGHT FIXTURES AND EXIT SIGNS THAT TO BE FED FROM EXISTING EM–B IN BOILER HOUSE (EMERGENCY SYSTEM BACKED BY EXISTING DIESEL GENERATOR), ROUTE CIRCUITS VIA EMERGENCY RELAY LIGHTING PANEL.

KEYED NOTES:

E.1 EMERGENCY FIXTURES (EBU) TO BE CONNECTED TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHING DEVICES



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PBC Contract No: 05175

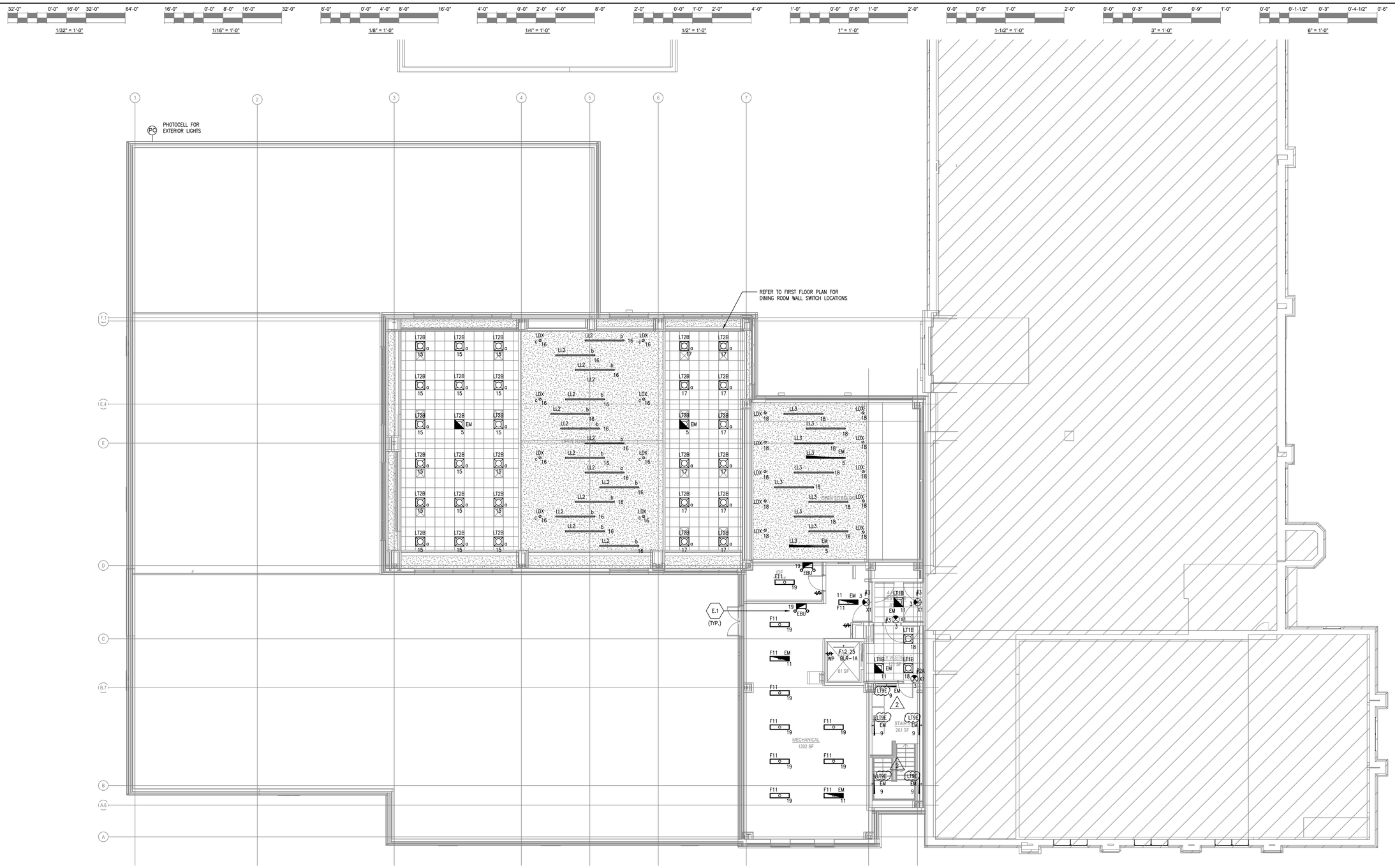
Project No: 217102.00

Title

ELECTRICAL FIRST FLOOR PLAN LIGHTING

Sheet

E2.1



1 **ELECTRICAL SECOND FLOOR PLAN LIGHTING**
1/8" = 1'-0"

EMERGENCY LIGHTING NOTES:

1. ALL CIRCUITS FOR EXIT AND EMERGENCY FIXTURES SHALL BE ROUTED WITH SEPARATE RACEWAYS, NO GENERAL LIGHTING CIRCUITS ARE ALLOWED TO SHARE THE EMERGENCY RACEWAYS.
2. REFER TO E1.0 DRAWING FOR CHICAGO APPROVED EXIT–DIRECTIONAL SIGN SCHEDULE.
3. PROVIDE LOCKABLE DEVICE ON ALL CIRCUIT BREAKERS SERVING EXIT SIGNS, NIGHT LIGHTS AND EMERGENCY LIGHTS, REFER TO PANELBOARD SCHEDULES.
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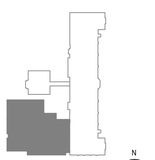
KEYED NOTES:

E.1 EMERGENCY FIXTURES (EBU) TO BE CONNECTED TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHING DEVICES



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PBC Contract No: 05175

Project No: 217102.00

Title

ELECTRICAL SECOND FLOOR PLAN LIGHTING

Sheet

E2.2

32'-0" 0'-0" 16'-0" 32'-0" 64'-0" 1/32" = 1'-0"
16'-0" 0'-0" 8'-0" 16'-0" 32'-0" 1/16" = 1'-0"
8'-0" 0'-0" 4'-0" 8'-0" 16'-0" 1/8" = 1'-0"
4'-0" 0'-0" 2'-0" 4'-0" 8'-0" 1/4" = 1'-0"
2'-0" 0'-0" 1'-0" 2'-0" 4'-0" 1/2" = 1'-0"
1'-0" 0'-0" 0'-6" 1'-0" 2'-0" 1" = 1'-0"
0'-0" 0'-6" 1'-0" 2'-0" 1-1/2" = 1'-0"
0'-0" 0'-3" 0'-6" 0'-9" 1'-0" 3" = 1'-0"
0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6" 6" = 1'-0"

COMMERCIAL OCCUPANCY LOAD CALCULATIONS

PROJECT NAME: PRUSSING SCHOOL
ADDRESS: CHICAGO, ILLINOIS
AREA SERVED: 21,800
EQUIPMENT NAME: DP-1A
SIZE (AMPS): 1200 AMP
VOLTAGE: ☐ 480Y/277V, 3P, 4W ☒ 208/120V, 3P, 4W ☐ 480V, 3P, 3W ☐ 208V, 3P, 3W
FEEDER TYPE: ☒ SERVICE ☐ DISTRIBUTION ☒ BRANCH ☐ OTHER:
LOAD TYPE: ☒ LIGHTING ☒ APPLIANCE ☐ HEAT ☒ EMERG./EXIT LTG. ☒ MOTORS ☒ RECEPTACLE ☐ OTHER: ☐ MLO ☒ MAIN C/B ☐ MAIN SWITCH/FUSE VIA A ☐ C/B ☐ SWITCH/FUSE
OVERCURRENT PROTECTION: 1200A
SUBFED FROM: UTILITY METER
FEEDER SIZE: REFER TO SINGLE LINE

LOAD CALCULATIONS

GENERAL LIGHTING — FEEDER NO. SERVICE
LIGHTING:
FLOORS SERVED: 2 x AREA PER FLR: VARY (SQ. FT.) = 21,800 (SQ. FT.)

TOTAL AREA: 21,800 (SQ. FT.) x 1.0 (W/SQ. FT.) = 21,800 (VA) (A)

RECEPTACLE*:
TOTAL AREA OR ADDED RECEPT.: 180 (# OF RECEPT.) x 180 (VA/RECEPT.) = 32,400 (VA) (B)
10,000 (WATTS) @ 100% DEMAND = 10,000 (VA) (C)
REMAINING @ 50% DEMAND = 22,400 (WATTS) (B) - (WATTS) (C) x 60% = 13,440 (WATTS) (D)

TOTAL LOAD = 21,800 (VA) (A) + 23,440 (WATTS) (D) + (C) = 45,240 (TOTAL VA)

LOAD AMPS: 35,500 (TOTAL VA) / 208 VOLTS x SQ RT.[3] X 0.85 (VOLTS) = 148 (LOAD AMPS)
COMPUTER LOAD: = INCLUDED ABOVE

MECHANICAL LOADS:
TOTAL DESIGN HP (LESS LARGEST MOTOR): 440 AMPS
25% LARGEST MOTOR AMPS: 32.0 x 1.25 60.0 AMPS
500.0 MOTOR AMPS

APPLIANCE KITCHEN EQUIPMENT LOADS: 160 AMPS
TOTAL DESIGN (KW): INCLUDED

25% OF CONTINUOUS LOADS: (LIGHTING) 15 AMPS
TOTAL DESIGN (KW): LTG x 1.25=5450VA

823.0 TOTAL AMPS

TOTAL AMPS: 148 INCLUDED 675
TOTAL AMPS = (LTG & RP AMPS + COMPUTER AMPS + EQUIPMENT AMPS) x 1.15 SPARE = 946.0 TOTAL AMPS

GENERAL NOTES:

A REFERENCED PRODUCTS ARE INCLUDED HEREIN, OF MANUFACTURERS & PRODUCTS, THAT GENERALLY CONFORM TO THE LUMINAIRE DESIGN INTENTS ESTABLISHED HEREIN, & IN THE PROJECT MANUAL. EQUIVALENT PRODUCTS BY OTHER MANUFACTURERS MAY BE CONSIDERED, PRIOR TO BID.

B DETERMINE SPECIFIC LUMINAIRE PART NUMBERS BASED ON THE REFERENCED PRODUCT SERIES, WRITTEN DESCRIPTIONS & PROJECT MANUAL SPECIFICATIONS.

C INCLUSION HEREIN OF MANUFACTURER'S SERIES &/OR MODEL NUMBERS DOES NOT IMPLY UNCONDITIONAL PRODUCT APPROVAL – MANUFACTURER'S STANDARD PRODUCTS MAY REQUIRE CUSTOM MODIFICATIONS TO MEET THE REQUIREMENTS SPECIFIED HEREIN & IN THE PROJECT MANUAL.

D LISTED SIZES, LAMPING, & TYPES OF LUMINAIRES MAY NOT BE STANDARD PRODUCTS PRODUCED FROM ANY GIVEN MANUFACTURER OR SERIES LISTED. MANUFACTURER'S STANDARD PRODUCTS MAY REQUIRE CUSTOM MODIFICATIONS TO MEET THE DESIGN CRITERIA, DESCRIPTIONS, & REQUIREMENTS SPECIFIED HEREIN & IN THE PROJECT MANUAL.

E ALERT ARCHITECT TO DISCREPANCIES PRIOR TO BID.

ABBREVIATIONS:

CONC	CONCRETE	PPC	POLYESTER POWDER COAT FINISH
DW	DRYWALL	PRISM	89
D/I	DIRECT/INDIRECT	REFL'T	REFLECTOR/REFLECTANCE
EFF	EFFICIENCY/EFFICACY	SP	SPLINE CEILING SYSTEM
ELBD	EMERG. LTG. BYPASS DEVICE	SPEC	SPECULAR
EXP	EXPOSED	P-RS	PENDANT RIGID STEM
LG	LAY-IN GRID	S'SP...	SEMI-SPECULAR
LO-IRI	LOW IRRIDESCENT	SS	STAINLESS STEEL
LU	LUMENS	TBS	TO BE SELECTED BY ARCH
LU/FT	LUMENS PER LINEAR FOOT	UNIV	UNIVERSAL 120-277VAC
LU/W	LUMENS PER WATT	WH	WHITE
NT	NARROW TEE GRID		
PAF	PAINT AFTER FABRICATION		
PARA	PARABOLIC		
PL	PLASTER		
P-AC	PENDANT AIR-CRAFT		

NOTES:
1 CONTRACTOR TO CORDINATE THE LOCATIONS OF PIT LIGHTS WITH ELEVATOR EQUIPMENT VENDOR.
2 THE DIMMING BALLAST OR TRANSFORMER, OR LED DRIVER AND DIMMER SWITCH OR MODULE MUST BE TESTED AS A PAIR AND LISTED AS COMPATIBLE.
3 SEE ARCH ELEVATIONS FOR MOUNTING HEIGHT OF THE FIXTURES.
4 SEE ARCH. DETAILS FOR FIXTURE MOUNTING.
5 PROVIDE RED LETTERS ON WHITE BACKGROUND. PROVIDE UNIVERSAL MOUNTING, SINGLE OR DOUBLE FACES AS INDICATED ON DRAWINGS.PROVIDE RED LETTERS ON WHITE BACKGROUND. PROVIDE UNIVERSAL MOUNTING, SINGLE OR DOUBLE FACES AS INDICATED ON DRAWINGS
6 MOUNT FIXTURES TYPE "F11" AT 10FT AFF TO BOTTOM OF THE FIXTURES (UNLESS OTHERWISE INDICATED ON PLANS). LENGTH OF RIGID STEM TBD BY CONTRACTOR.
7 SEE POLE BASE DETAIL
8 BATTERY BACKUP SYSTEM AND ENCLOSURE SHALL MEET CITY OF CHICAGO REQUIREMENT (MINIMUM 90 MIN. BACKUP TIME, TEST SWITCH & INDICATOR).

LUMINAIRE SCHEDULE

TAG	DESCRIPTION	INSTALLATION METHOD	DEPTH	LIGHT SOURCE SPEC	LIGHT SOURCE QTY	BALLAST/DRIVER SPEC	BALLAST/DRIVER VOLT	INPUT WATTS	MIN. EFF.	SHIELDING/OPTICS	FEATURES/OPTIONS	REFERENCED PRODUCTS	NOTES
F11	4 FT LED STRIP (DATA ROOMS, MECHANICAL, ELECTRICAL, BACK OF HOUSE SPACES)	P-RS	2-3/4"	LED 3500K 3000 LUM	–	INTERNAL LED	120	43	–	CONTOURED FROSTED ACRYLIC LENS.	RUGGED 100% FROST ACRYLIC LENS SHIELDS LEDS FROM DIRECT VIEW. SHIFT AND LOCK OPTICAL TRAY FOR SECURE AND EASY ACCESS TO THE ELECTRICAL COMPARTMENT. UL DAMP LOCATION	DAY-BRITE – LF4EZ3830ULAG METALUX – SERIES LITHONIA – SERIES	1,3,4,6
F12	4 FT FLUORESCENT VAPOR TIGHT LUMINARIES	WALL MOUNT	6"	F32T8 EXTENDED LAMP LIFE 62,000h 3500K	2	ELEC/T8 PROGRAM START	120	56	77%	HIGH IMPACT DIFFUSER	IMPACT-RESISTANT, FIBERGLASS-REINFORCED POLYESTER FULLY GASKETED HOUSING, CORROSION RESISTANT LATCHES, UL WET LABEL, MOUNTED HORIZONTALLY, U.N.O.	METALUX – VT3-EM DAY-BRITE – V2-EM LITHONIA – DMW-EM	1,3,4
LD2	4" APERTURE LED DOWNLIGHT	RECESSED V	6-1/8"	LED... 3500K 1300 LUM	–	INTERNAL LED 0-10V	120	20	50 LPW	COMFORT CLEAR DIFFUSE REFLECTOR	SELF-FLANGE, PAINTED WHITE, U.N.O., CHICAGO PLENUM RATED	GOTHAM -EVO4-CP PRESCOLITE – LF4LEDG4-CP PHILIPS LIGHTOLIER – C4L15DL-CP PORTFOLIO – LD4A09-CP	2,3,4
LDX	6" APERTURE LED DOWNLIGHT	RECESSED V	6-3/8"	LED... 3500K 2500 LUM	–	INTERNAL LED 0-10V	120	23	–	COMFORT CLEAR DIFFUSE REFLECTOR	SELF-FLANGE, PAINTED WHITE, U.N.O., CHICAGO PLENUM RATED	PHILIPS LIGHTOLIER – C6RNLC / C6L25835NZ10U / C6RDLCL PRESCOLITE – SERIES GOTHAM -SERIES PORTFOLIO – SERIES	2,3,4
LL2	8' LONG HIGH OUTPUT DIMMABLE LED (DINING)	RECESSED, LG	3-3/4"	LED 3500K 500 LUM PER 1FT	–	INTERNAL LED DRIVER 10% DIM 0-10V	120	70 W	–	FROSTED WH SNAP-IN LENS	MATTE WH FINISH	LUMENWERX – VA5RRHLOLED8050035-8'-120D11TB9W FOCAL POINT – SERIES PINNACLE – SERIES LEDALITE – SERIES	2,3,4
LL3	8' LONG HIGH OUTPUT DIMMABLE LED (DINING)	RECESSED, LG	3-3/4"	LED 3500K 500 LUM PER 1FT	–	INTERNAL LED DRIVER 10% DIM 0-10V	120	69 W	–	FROSTED WH SNAP-IN LENS	MATTE WH FINISH	LUMENWERX – VA3RRHLOLED8050035-8'-120D11TB9W FOCAL POINT – SERIES PINNACLE -SERIES LEDALITE – SERIES	2,3,4
LT1	2' X 4' LED VOLUMETRIC DIMMABLE TROFFER (CLASSROOMS)	RECESSED LG	4-3/8"	LED 3500K 7000 LUM	–	INTERNAL LED DRIVER 10% DIM 0-10V	120	70		ACRYLIC PRISMATIC FROSTED LENSED REFRACTORS	RUGGED, ONE-PIECE COLD-ROLLED STEEL COATED POLYESTER HOUSING, PAF, CHICAGO PLENUM RATED	LITHONIA – 2RTL4 LED – CP METALUX – 2ACLED – CP PHILIPS DAYBRITE – 2STGLED – CP FINELITE – HPR-DCO –CP COLUMBIA – LEPC –CP	2,3,4
2 LT1A	2' X 4' LED VOLUMETRIC DIMMABLE TROFFER (CLASSROOMS)	RECESSED LG	4-3/8"	LED 3500K 5500 LUM	–	INTERNAL LED DRIVER 10% DIM 0-10V	120	52		ACRYLIC PRISMATIC FROSTED LENSED REFRACTORS	RUGGED, ONE-PIECE COLD-ROLLED STEEL COATED POLYESTER HOUSING, PAF, CHICAGO PLENUM RATED	LITHONIA – 2RTL4 LED – CP METALUX – 2ACLED – CP PHILIPS DAYBRITE – 2STGLED – CP FINELITE – HPR-DCO –CP COLUMBIA – LEPC –CP	2,3,4
LT2B	2' X 2' LED VOLUMETRIC DIMMABLE TROFFER HIGH BAY (DINNING)	RECESSED LG	5-9/16"	LED 3500K 10000 LUM	–	INTERNAL LED DRIVER 10% DIM 0-10V	120	91		WHITE TRANSLUCENT POLYCARBONATE LENS	SOLID METAL WELDED FABRICATED HOUSING WITH INTEGRAL VENTILATION SLOTS AND FINNED ALUMINUM HEATSINK. HINGED AND LATCHED DOOR FRAME.	VISCOR – LHBR2x2-LED835K100LUNV METALUX – SERIES LITHONIA – SERIES	2,3,4
LT1B	2' X 2' LED VOLUMETRIC DIMMABLE TROFFER (CORRIDORS)	RECESSED LG	4-3/8"	LED 3500K 3300 LUM	–	INTERNAL LED DRIVER 10% DIM 0-10V	120	35.4		ACRYLIC PRISMATIC FROSTED LENSED REFRACTORS	RUGGED, ONE-PIECE COLD-ROLLED STEEL COATED POLYESTER HOUSING, PAF WITH EMBOSSED FACETS. CHICAGO PLENUM RATED	LITHONIA – 2RTL2 LED –CP METALUX – 2ACLED – CP PHILIPS DAYBRITE – 2STGLED – CP FINELITE – HPR-DCO –CP COLUMBIA – LEPC – CP	2,3,4
LT3	1' X 4' LED VOLUMETRIC TROFFER (CLOSETS)	RECESSED LG	4-3/8"	LED 3500K 3000 LUM	–	INTERNAL LED DRIVER 0-10V	120	31		ACRYLIC PRISMATIC FROSTED LENSED REFRACTORS	RUGGED, ONE-PIECE COLD-ROLLED STEEL COATED POLYESTER HOUSING, PAF, CHICAGO PLENUM RATED	LITHONIA – RTL4 LED – CP METALUX – ACLED – CP PHILIPS DAYBRITE – STGLED – CP FINELITE – HPR-DCO –CP COLUMBIA – LEPC – CP	2,3,4
LT3A	4" APERTURE x 4FT LED SLOT (TOILETS)	RECESSED LG	4"	LED 3500K 600 LUM PER 1FT		INTERNAL LED DRIVER 0-10V	120	4.75 W/LF	80.44 LMW	FROSTED WH SNAP-IN LENS	MATTE WH FINISH, PROVIDE FOR GYPSUM BOARD INSTALLATION AS SELECTED BY ARCHITECT, CHICAGO PLENUM RATED	LEDALITE – 39S1-L-B-GQ-CP LUMENWERX -VIA 4-CP FOCAL POINT – SEEM 4-CP PINNACLE -EDGE 4-CP	2,3,4
LT7	2' X 4' WET LOCATION, GASKETED LED TROFFER, (KITCHEN)	RECESSED LG	≤ 6 IN	LED 3500K 4600 LUM	–	INTERNAL LED DRIVER 0-10V	120	70	71 LM/W	IMPACT-RESISTANT ACRYLIC LENS, FDA APPROVED FOOD ZONE LENS	NIRTRILE GASKET SEAL, NSF2 FOOD ZONE/NON-CONTACT LISTING, WET LABEL, PROVIDE FOR 15/16' GRID, CHICAGO PLENUM RATED	FAIL-SAFE- ENW -CP KENALL – CSEDO – CP KURTZON – FP-LED -V5 -CP	2,3,4
LT8	2' X 4' LED VOLUMETRIC TROFFER (STORAGE)	RECESSED LG	4-3/8"	LED 3500K 3000 LUM	–	INTERNAL LED DRIVER 0-10V	120	31		ACRYLIC PRISMATIC FROSTED LENSED REFRACTORS	RUGGED, ONE-PIECE COLD-ROLLED STEEL COATED POLYESTER HOUSING, PAF, CHICAGO PLENUM RATED	LITHONIA – 2RTLED – CP METALUX – 2ACLED – CP PHILIPS DAYBRITE – 2STGLED – CP FINELITE – HPR-DCO –CP COLUMBIA – LEPC – CP	2,3,4
LT9E	4FT HORIZONTALLY WALL MOUNT LED LUMINAIRE WITH INTEGRAL EMERGENCY BATTERY PACK TEST SWITCH AND INDICATOR LIGHT, CHICAGO APPROVED (STAIR)	SURFACE EXP	3-3/4"	LED 3500K 4748 LUM	–	INTERNAL LED DRIVER	120	45		PEARLESCENT POLYCARBONATE LENS	EXTRUDED ALUMINIUM HOUSING, VANDAL RESISTANT CONSTRUCTION, FINISH WHITE, FLAT ENDCAPS	KENALL – MLH45-F-MW-PP-45L35K-PEL-EM LITHONIA – WL4 FAIL-SAFE – HVSL4	2,3,4
LT10	DISPLAY CASE TRACK LIGHT WITH 4 HEADS	SURFACE	–	LED 3500K	–	INTERNAL LED DRIVER	120	12		BEAM SPREAD FLOOD	DIE-CAST ALUMINIUM	LYTESPAN, BASIC, 1 CIRCUIT TRACK LIGHTOLIER – 6002WH SERIES POINT SOURCE TRACK HEAD – LIGHTOLIER OMNISPOT LED LC10B35WTE / LLMRF	2,3,4
S3	EXTERIOR LED WALL PACK UNIT, BUILDING MOUNTED WITH BATTERY PACK TYPE II DISTRIBUTION 4000K, 7000LM	WALL	9.5" PROJ.	21 LED 4000K 4300 LUM	–	INTERNAL LED DRIVER	120	50	82 LM/W	SHARP CUTOFF DISTRIBUTION, TYPE II MEDIUM WIDE DISTRIBUTION.	DIE-CAST ALUMINUM HOUSING, FUSED, WET LABEL, FINISH STANDARD TBS	McGRAW-EDISON – IST-F02-BL2-703O-CWB120V LITHONIA – WST-E7WC PHILIPS GARDCO – 101L-EBPC	3
S11	LED EXTERIOR POLE COBRA HEAD LUMINAIRE, FULL CUT OFF, STANDARD FINISH AS SELECTED BY ARCHITECT TYPE III DISTRIBUTION 4000K, 12500LM	ROOF ARM	23-1/2" PROJ.	LED 4000K 4300 LUM	–	INTERNAL LED DRIVER	120	146		SHARP CUTOFF DISTRIBUTION, TYPE III MEDIUM WIDE DISTRIBUTION.	DIE-CAST ALUMINUM HOUSING, FUSED, WET LABEL, FINISH STANDARD TBS	LUMARK – OVF 21 LED PHILIPS-HADCO – RX2-120 BETALED – CREE-STR-LWY-08 WIDELITE – ASA-80G1	7
XP1	20FT LIGHT POLE WITH SINGLE HEAD LUMINAIRE	POLE BASE	23-1/2" PROJ.	LED 4000K		INTERNAL LED	208	134	89LPW	PRECISION MOLDED ACRYLIC LENSES, TYPE 3 DISTRIBUTION, HOUSE SIDE SHEILD	SINGLE PIECE DIE CAST HOUSING, HOUSESIDE SHIELD, FINISH TBS, MOUNT ON 20FT SQUARE STRAIGHT STEEL POLE AND 36" H x 24" DIA CONCRETE BASE	LITHONIA – CXS1LED-60C-700-T3 HS--SPASSS205G LUMARK – SERIES PHILIPS – SERIES BETA LED – SERIES	7
EBU	CHICAGO CODE- SELF CONTAINED, STANDBY/EMERG. LIGHTING BATTERY UNIT	SURFACE WALL		12V,18W PAR-36, SEALED BEAM	2	–	120/ 277V	18 EA.			STEEL SURFACE HOUSING-WHITE, PPC-ADJUSTABLE LAMP HEADS-12VDC NICKEL CADMIUM BATTERY-RATED ≥50W ❶ 120 MIN.-SELF-TESTING DIAGNOSTICS	SURE-LITES – XR-9-C SERIES DUAL-LITES – AS-BX SERIES EMERGI-LITE – LSM SERIES LITHONIA – ETL SERIES PHILIPS – CHLORIDE CU12 SERIES	8
EBU-1	CHICAGO CODE- SELF CONTAINED, STANDBY/EMERG. LIGHTING BATTERY UNIT WITH EXTERIOR REMOTE HEADS	SURFACE WALL		6V, 10W LED	2		120/ 277V	10 EA.		GLASS LENS	STEEL SURFACE HOUSING-WHITE, REMOTE LAMP HEADS-6VDC LEAD CALCIUM BATTERY-RATED ≥20W ❶ 90 MIN.-SELF-TESTING DIAGNOSTICS	DUAL-LITE – CRH02 (EXTERIOR DUAL HEADS) DUAL-LITE – CRH0 (EXTERIOR ONE HEAD) PHILIPS – CHLORIDE CEF1RBZ20WF	8
X1	CHICAGO CODE-ILLUMINATED EDGE-LIT "EXIT" SIGN-AC/DC TYPE	CEILING, WALL, PENDANT, OR EXT'D WALL M'T'D AS SHOWN		LED	≤ 5W PER FACE		120/ 277V			CLEAR ACRYLIC FACE-MYLAR/MIRROR SEPARATOR FOR DOUBLE FACE SIGNS-CHICAGO CODE "EXIT" LETTERS & DIRECTIONAL ARROWS	CHICAGO CODE, SHEET STEEL CONCEALED HOUSING-FACE(S) & DIRECTIONAL ARROWS AS SHOWN IN PLAN-PPC TRIM FINISH-COLOR TBS	ALKCO – RGLO-LED SERIES SURE LITES – ECHX SERIES LITHONIA – EDGC SERIES	5, 8

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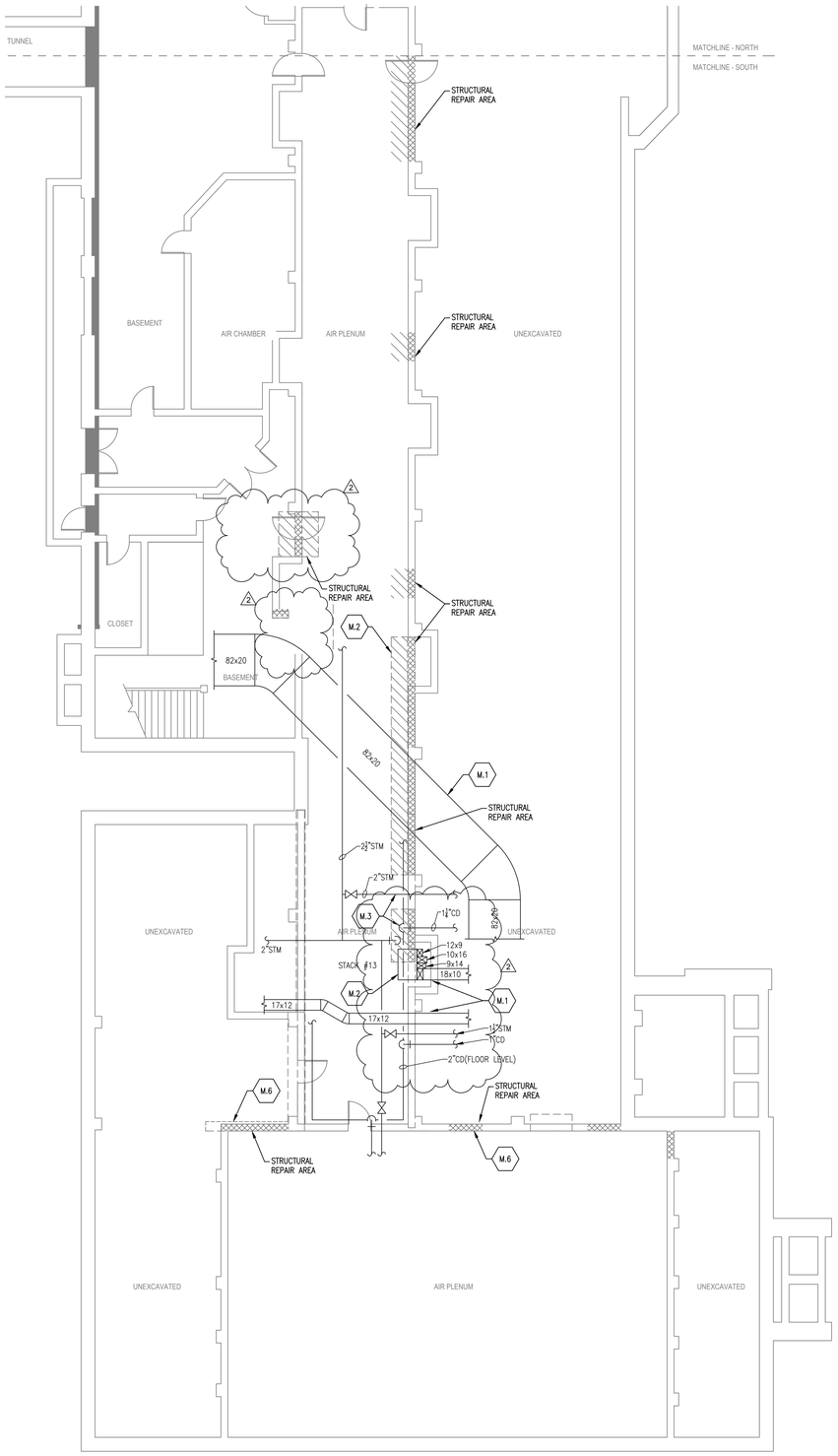
PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS
PBC Contract No: 05175
Project No: 217102.00

Title
LIGHTING FIXTURE SCHEDULE

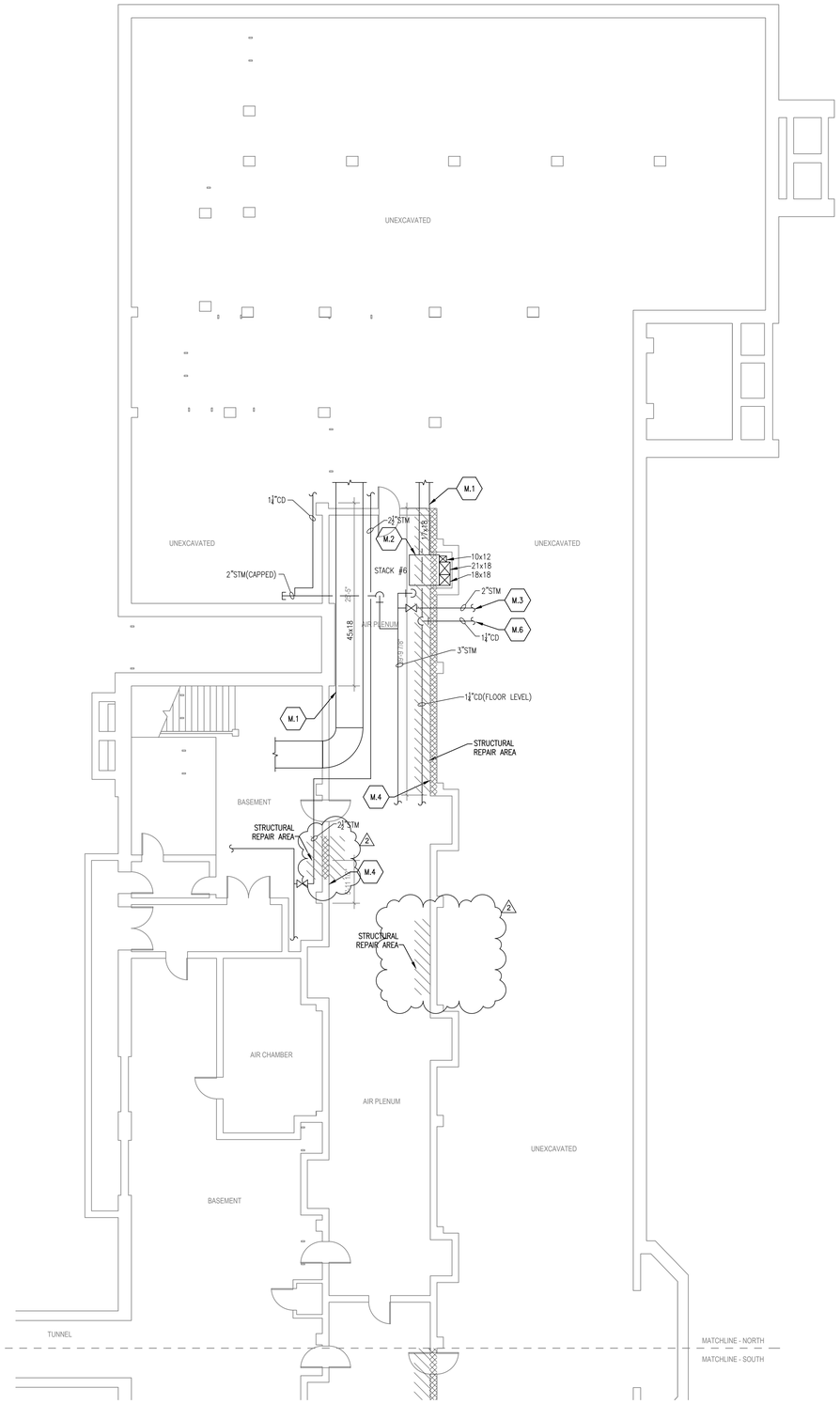
Sheet
E3.5

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



NOTE: HATCHED CEILING AND WALL AREAS SHOW APPROXIMATE SIZE OF WALL AND CEILING OPENINGS

1 BASEMENT PLAN - EXISTING BLDG. SOUTH
1/8" = 1'-0"



NOTE: HATCHED CEILING AND WALL AREAS SHOW APPROXIMATE SIZE OF WALL AND CEILING OPENINGS REQUIRED TO ACCESS STRUCTURAL REPAIR LOCATIONS SPECIFIED ON SR SERIES DRAWINGS AND STEEL BEAMS IN ATTIC SPACE. CONTRACTOR TO SIZE OPENINGS AS REQUIRED TO PERFORM SPECIFIED WORK.

2 BASEMENT PLAN - EXISTING BLDG. NORTH
1/8" = 1'-0"

GENERAL NOTES:

1. WHERE STEAM PIPING IS NOTED TO BE REMOVED AND/OR REINSTALLED, DEMOLISH PIPING BACK TO EXISTING VALVE AND CAP. IF THERE IS NO EXISTING VALVE, HOT TAP AREA SO WORK CAN BE ISOLATED.

KEYED NOTES: M.X

M.1 MECHANICAL DUCTWORK TO BE TEMPORARILY REMOVED AND REINSTALLED OR PARTIALLY DEMOLISHED AND REPLACED WITH NEW IN ORDER FOR THE STRUCTURAL TO BE REINFORCED. VERIFY SIZE IN FIELD. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED. DUCTWORK SHALL BE SUPPORTED AND SEALED PER CPS SPECIFICATIONS AND SMACNA STANDARDS. REUSE EXISTING DUCT SUPPORT WHERE POSSIBLE. DUCTWORK SYSTEM TO BE CLEANED, TESTED AND BALANCED AFTER THE WORK IS COMPLETE. PROVIDE NEW DUCT INSULATION WHERE EXISTING INSULATION IS REMOVED OR DAMAGED. ALL HVAC APPURTENANCES INCLUDING DAMPERS, CONTROLS, COILS, ETC. REMOVED WITH DUCTWORK SHALL BE TEMPORARILY REMOVED AND REINSTALLED IN WORKING CONDITION.

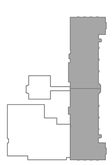
M.2 MECHANICAL REHEAT BOX AND ASSOCIATED STEAM PIPING AND DUCTS IN AIR TUNNEL SHALL BE TEMPORARILY REMOVED AND REINSTALLED IN ORDER FOR THE STRUCTURAL TO BE REINFORCED. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED. REHEAT BOX TO BE REINSTALLED WITH TOP OF THE BOX NO LESS THAN 2" BELOW THE NEW STRUCTURAL REINFORCEMENT. MODIFY TOP OF THE BOX PER DETAIL OR MODIFY THE SUPPORT LEGS OF THE BOX AS REQUIRED TO ACHIEVE THE CORRECT HEIGHT. EXTEND OR SHORTEN DUCTWORK CONNECTIONS AS REQUIRED. REFURBISH ALL EXISTING PNEUMATIC DAMPERS (VOLUME, MIXING, BYPASS) AND LINKAGES. REHEAT BOX TO BE CLEANED, TESTED AND BALANCED AFTER THE WORK IS COMPLETE. PROVIDE NEW ACTUATOR WITH NEW THERMOSTAT IN CLASSROOM FOR EACH ZONE THAT DOES NOT PASS TESTING. REFER TO KEYNOTE M.1, M.3, AND M.4 FOR RELATED DUCTWORK AND PIPING REQUIREMENTS.

M.3 MECHANICAL STEAM AND/OR CONDENSATE PIPING TO BE TEMPORARILY REMOVED AND REINSTALLED OR PARTIALLY DEMOLISHED AND REPLACED WITH NEW IN ORDER FOR THE STRUCTURAL TO BE REINFORCED. VERIFY SIZE IN FIELD. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED. PIPING SHALL BE SUPPORTED AND CONSTRUCTED PER CPS SPECIFICATIONS. REUSE EXISTING PIPE SUPPORT WHERE POSSIBLE. PIPING SYSTEM SHALL BE DRAINED, FLUSHED, AND TESTED AFTER WORK IS COMPLETE. PROVIDE NEW PIPING INSULATION WHERE EXISTING INSULATION IS REMOVED OR DAMAGED. DEMO AND REPLACE ALL NON-FUNCTIONAL VALVES AND STEAM ACCESSORIES IN AREA OF WORK.

M.4 PNEUMATIC CONTROL PIPING TO BE DEMOLISHED AND REPLACED WITH NEW IN ORDER FOR THE STRUCTURAL TO BE REINFORCED. VERIFY SIZE IN FIELD. WHERE NOTED ON PLANS, PNEUMATIC PIPING TYPICALLY RUNS TIGHT TO THE TOP OF THE AIR TUNNEL ALONG THE ENTIRE LENGTH OF THE STRUCTURAL REINFORCEMENT AREA, AND CONNECTS TO MECHANICAL REHEAT BOXES AND THERMOSTATS IN THE LEVELS ABOVE. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED. PNEUMATIC PIPING SYSTEM TO BE FLUSHED, TESTED AND BALANCED AFTER THE WORK IS COMPLETE. ALL DEVICES SHALL BE RECONNECTED TO NEW PIPING AND TESTED.

M.5 CAPPED STEAM PIPE SHALL BE DEMOLISHED BACK TO MAIN IN AIR TUNNEL. ASSOCIATED CONDENSATE PIPING SHALL BE DEMOLISHED BACK TO MAIN IN UNEXCAVATED AREA.

M.6 NO REMOVAL SCOPE WAS NOTED WHERE INDICATED DURING SITE VISIT. CONTRACTOR TO VERIFY IN FIELD. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED.



N
KEY PLAN

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Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
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CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGAT ARCHITECTS
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PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

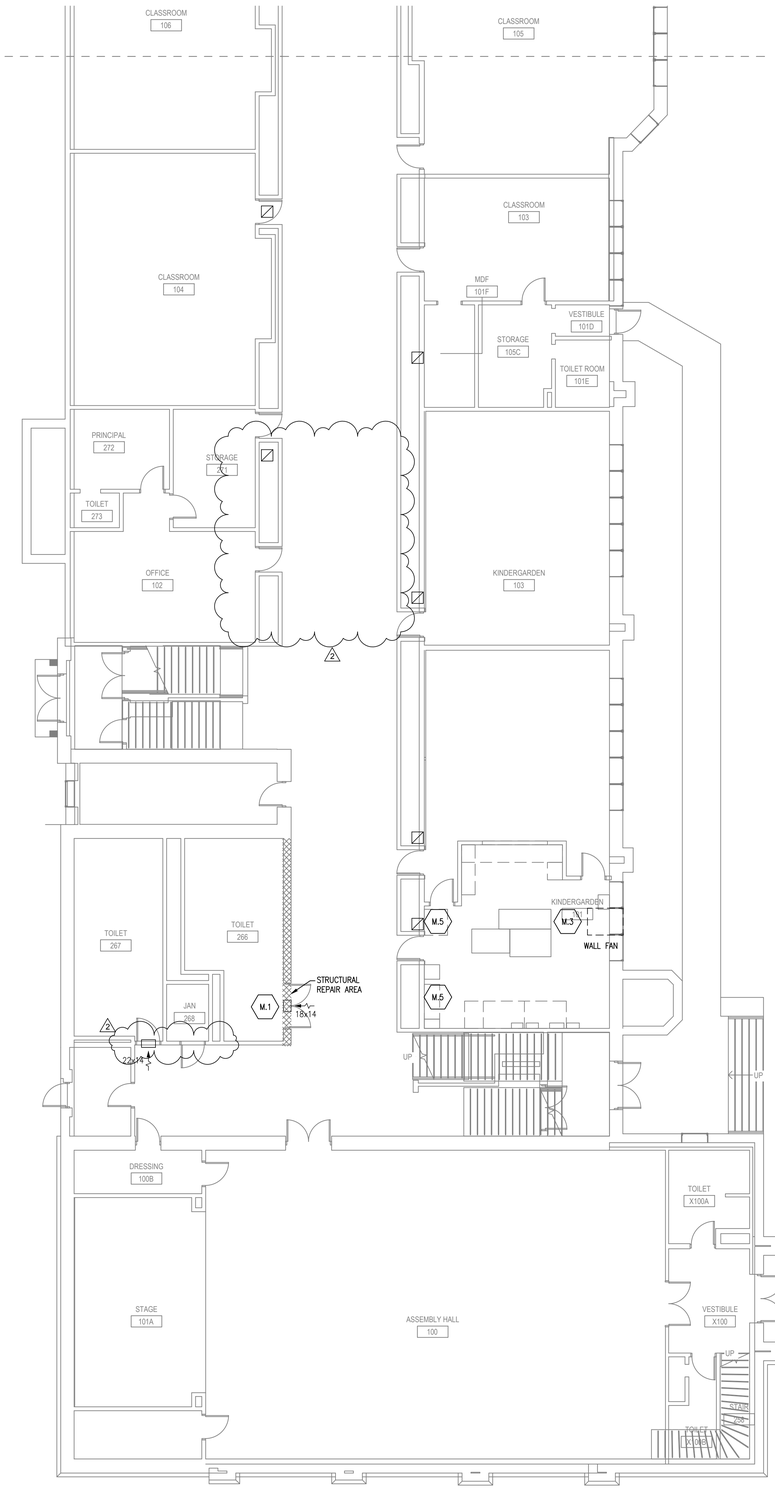
PBC Contract No: 05175

Project No: 217102.00

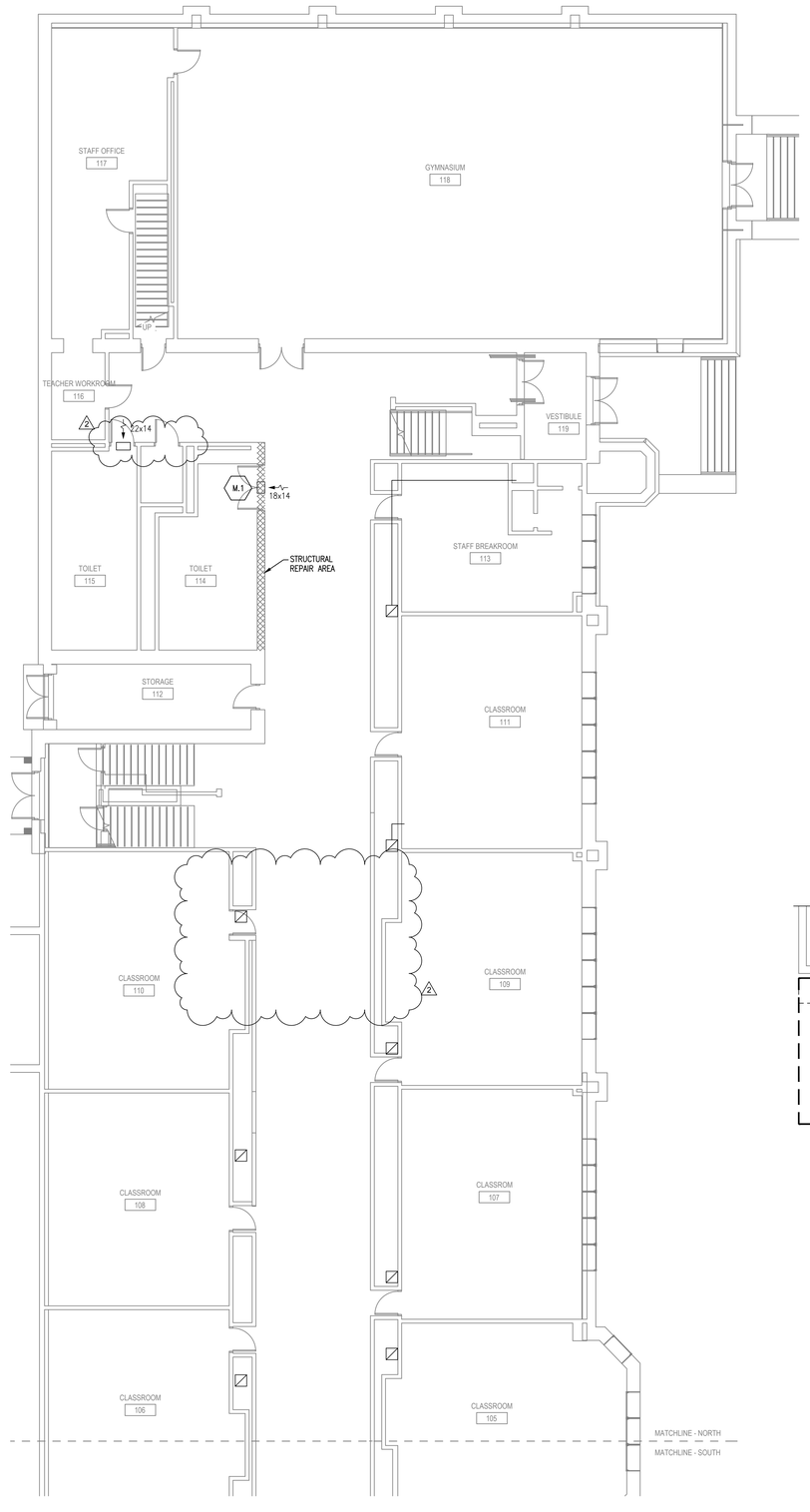
Title
MECHANICAL BASEMENT DEMOLITION PLAN

Sheet
MD1.0

1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



1 FIRST FLOOR PLAN - EXISTING BLDG. SOUTH
1/8" = 1'-0"



2 FIRST FLOOR PLAN - EXISTING BLDG. NORTH
1/8" = 1'-0"

KEYED NOTES: M.X

M.1 DEMOLISH EXISTING RESTROOM TRANSFER DUCT AND (2) WALL GRILLES. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED. PROVIDE NEW TRANSFER DUCT AND (2) NEW STEEL EGG-CRATE TRANSFER GRILLES SAME SIZE AS EXISTING.

M.2 WALL MOUNTED VENTILATION GRILLE AND ASSOCIATED BRANCH DUCTWORK SHALL BE TEMPORARILY REMOVED AND REINSTALLED IN ORDER FOR STRUCTURAL TO BE REINFORCED. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED.

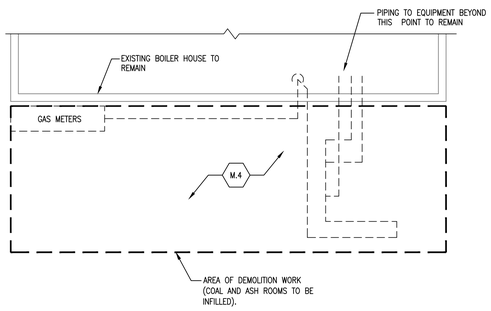
M.3 DEMO EXISTING EXHAUST FAN MOUNTED IN WINDOW FRAME. ELECTRICAL CONTRACTOR TO DISCONNECT POWER. COORDINATE WITH ARCHITECT FOR RECONSTRUCTION OF WINDOW PANEL.

M.4 DEMO EXISTING GAS SERVICE SERVING BOILERS, WATER HEATER, AND UNIT HEATERS WITHIN BOILER HOUSE. COORDINATE TIMING OF REMOVAL WITH NEW GAS SERVICE TO LIMIT DOWNTIME TO MECHANICAL EQUIPMENT. OBTAIN APPROVAL FROM PBC BEFORE REMOVING SERVICE.

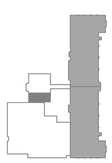
M.5 DEMO HIGH 18x18 WALL SUPPLY GRILLE AND LOW 14x18 WALL RETURN OPENING. ARCHITECTURAL TRADES SHALL PATCH WALL OPENINGS. EXISTING 1ST FLOOR RISER DUCTS SHALL BE REUSED FOR NEW WORK. CAP DUCT OPENINGS.

LEGEND:

	OR (E)	EXISTING DEVICE OR EQUIPMENT TO REMAIN
	OR (R)	EXISTING DEVICE OR EQUIPMENT TO BE RELOCATED
	OR (X)	EXISTING DEVICE OR EQUIPMENT TO BE REMOVED



3 PARTIAL BOILER HOUSE PLAN
1/8" = 1'-0"



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Project No: 217102.00

Title
MECHANICAL FIRST FLOOR DEMOLITION PLAN

Sheet
MD1.1

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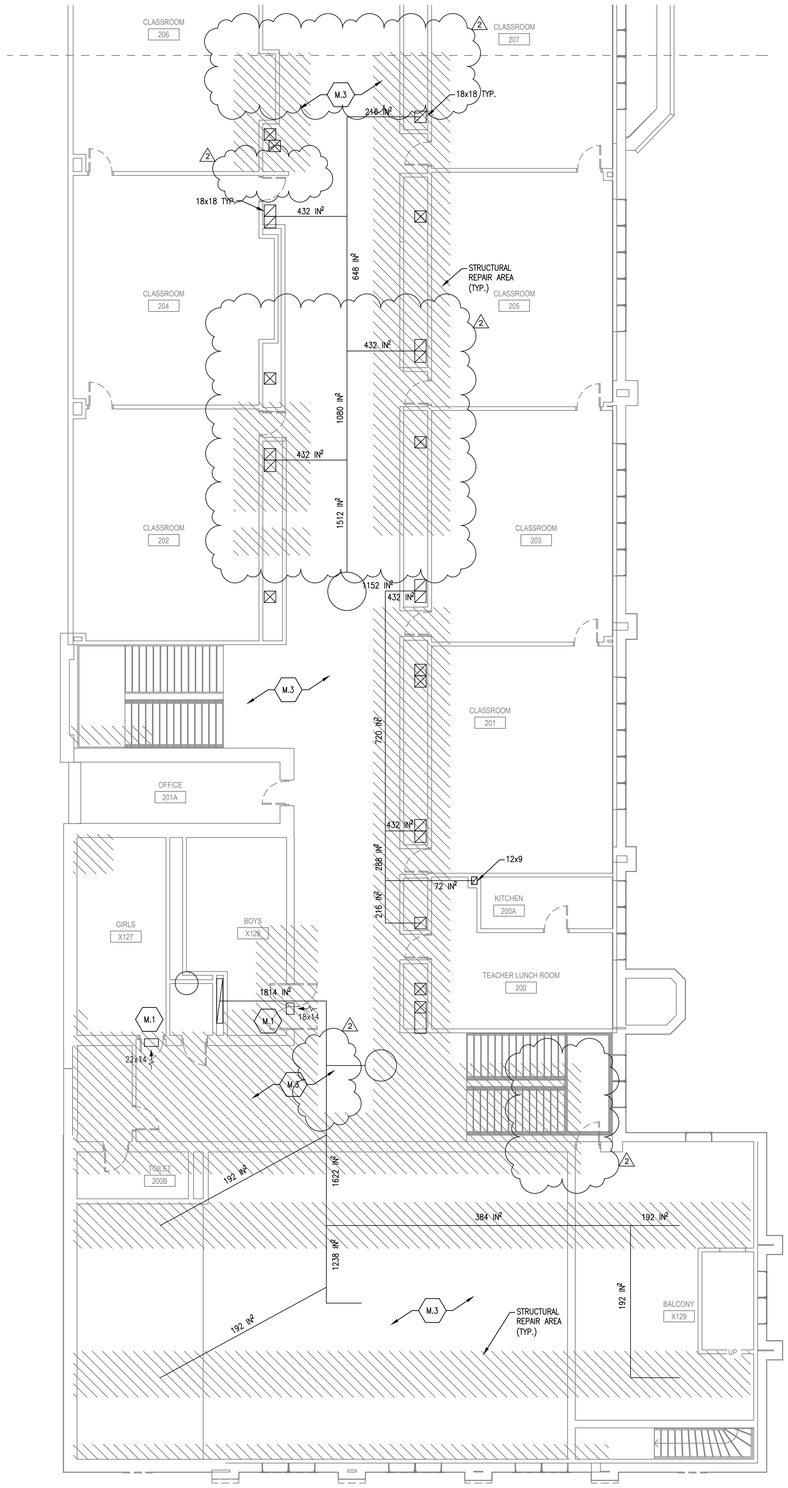

1 SECOND FLOOR PLAN - EXISTING BLDG. SOUTH
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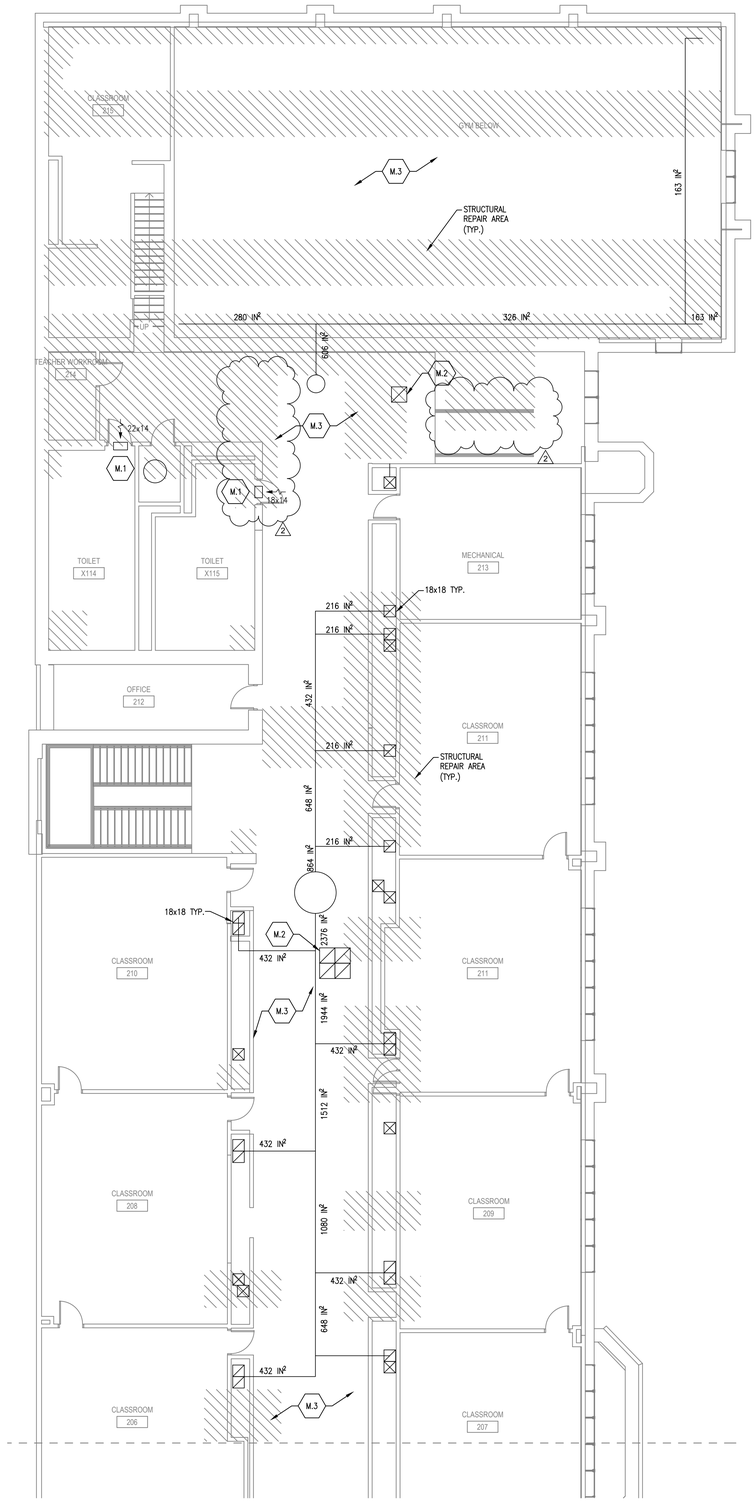


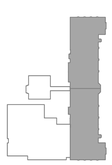
2 SECOND FLOOR PLAN - EXISTING BLDG. NORTH
1/8" = 1'-0"

KEYED NOTES: M.X

M.1 DEMOLISH EXISTING RESTROOM TRANSFER DUCT AND (2) WALL GRILLES. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED. PROVIDE NEW TRANSFER DUCT AND (2) NEW STEEL EGG-CRATE TRANSFER GRILLES SAME SIZE AS EXISTING.

M.2 WALL MOUNTED OR CEILING MOUNTED VENTILATION GRILLE AND ASSOCIATED BRANCH DUCTWORK SHALL BE TEMPORARILY REMOVED AND REINSTALLED IN ORDER FOR STRUCTURAL TO BE REINFORCED. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED.

M.3 ATTIC NOT ACCESSIBLE DUE TO DANGEROUS WALKING CONDITIONS AND RESTRICTION BY SCHOOL STAFF. CONTRACTOR TO FIELD VERIFY ALL SUPPLY AND EXHAUST RISERS AND HORIZONTAL DUCTWORK IN ATTIC THAT WILL BE AFFECTED BY STRUCTURAL WORK. TEMPORARILY REMOVE AND REINSTALL DUCTWORK IN ORDER FOR STRUCTURAL TO BE REINFORCED. COORDINATE WITH STRUCTURAL DRAWINGS FOR DETAIL OF STRUCTURAL REINFORCEMENT, LOCATIONS OF STRUCTURAL REPAIR WORK, AND HORIZONTAL AND VERTICAL CLEARANCES REQUIRED.



KEY PLAN

PUBLIC BUILDING COMMISSION
Chicago Public Schools

ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

4650 N MENARD AVE
CHICAGO IL 60630

CHICAGO PUBLIC SCHOOLS
CITY OF CHICAGO, MAYOR RAHM EMANUEL

Architect of Record:
LEGAT ARCHITECTS
SUSTAINABILITY | PERFORMANCE | DESIGN

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Issuance

MARK	DESCRIPTION	DATE
1	100% SCHEMATIC DESIGN	04/24/2017
2	100% DESIGN DEVELOPMENT	06/15/2017
3	60% CONSTRUCTION DOCS	07/27/2017
4	90% CONSTRUCTION DOCS	09/07/2017
5	ISSUED FOR BIDDING	10/27/2017
1	ADDENDUM 01	11/09/2017
2	ADDENDUM 02	11/21/2017

PBC Project Name: ERNST PRUSSING ELEMENTARY SCHOOL ANNEX & RENOVATIONS

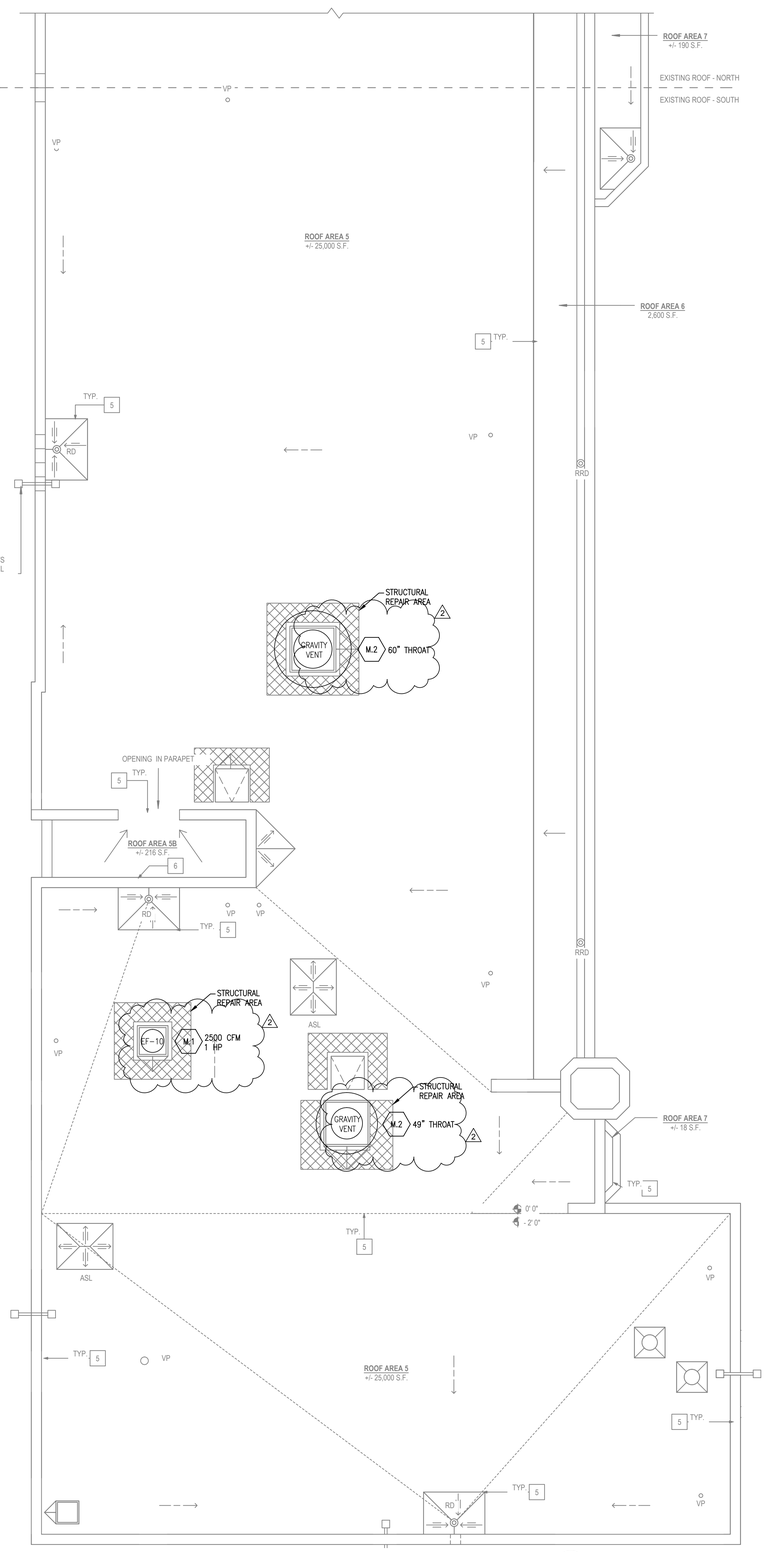
PBC Contract No: 05175

Project No: 217102.00

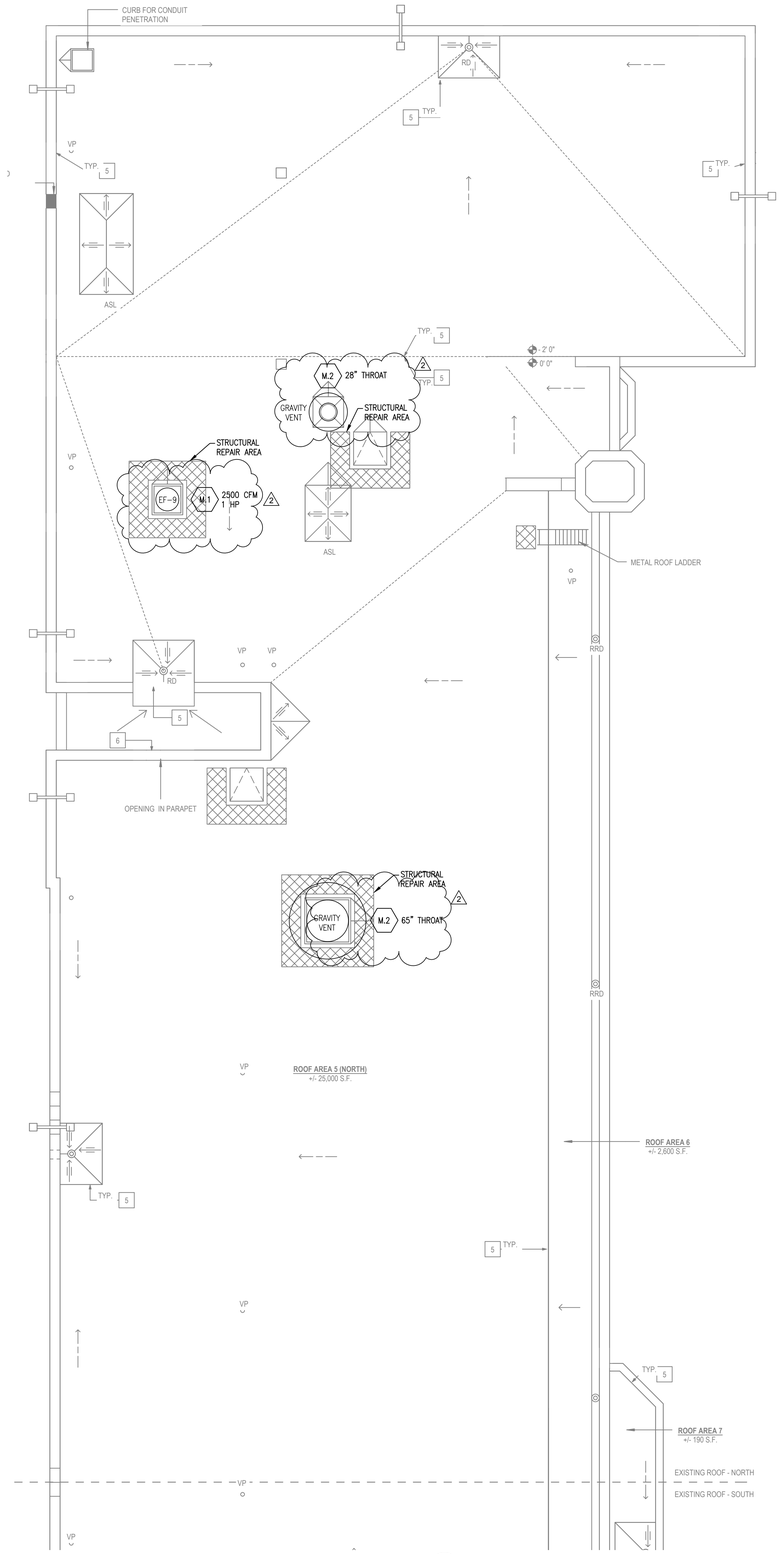
Title
MECHANICAL SECOND FLOOR DEMOLITION PLAN

Sheet
MD1.2

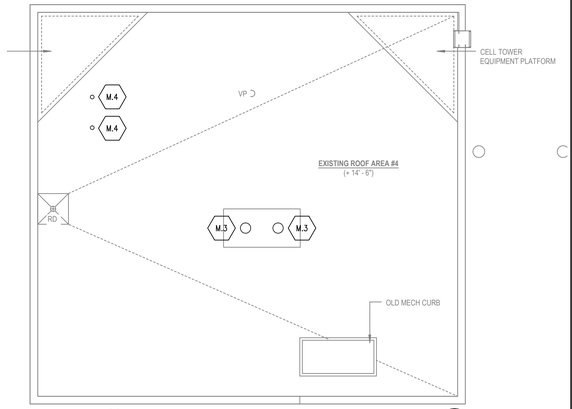
1/32" = 1'-0" | 1/16" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 1" = 1'-0" | 1-1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"



1 ROOF PLAN - EXISTING BLDG. SOUTH
1/8" = 1'-0"



2 ROOF PLAN - EXISTING BLDG. NORTH
1/8" = 1'-0"



3 ROOF PLAN - EXISTING BLDG. BOILER RM - DEMOLITION
1/8" = 1'-0"

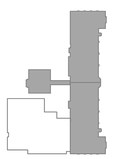
KEYED NOTES: M.X

M.1 DEMOLISH EXISTING EXHAUST FAN AND BACKDRAFT DAMPER AND DISPOSE. DISCONNECT CONTROLS AND DUCTWORK FOR RECONNECTION TO NEW EQUIPMENT. REPLACE IN KIND WITH DOWNBLAST EXHAUST FAN WITH SIMILAR DIMENSIONS, PERFORMANCE, AND ELECTRICAL CHARACTERISTICS. NEW FAN SHALL MEET CPS EXHAUST FAN SPECIFICATION AND INCLUDE ALL REQUIRED ACCESSORIES. PROVIDE NEW BACKDRAFT DAMPER. INSTALL AT EXISTING ROOF OPENING ON NEW ROOF CURB AT MINIMUM 14" ABOVE NEW ROOF LINE PER EXHAUST FAN DETAIL. EXTEND CONTROL WIRING AND DUCTWORK AS REQUIRED TO MEET NEW CURB HEIGHT. TEST AND BALANCE NEW FAN TO EXISTING AIRFLOW REQUIREMENTS. REFER TO ELECTRICAL DRAWINGS FOR POWER SCOPE OF WORK.

M.2 DEMOLISH EXISTING RELIEF HOOD/GRAVITY VENT AND BACKDRAFT DAMPER AND DISPOSE. REPLACE IN KIND WITH NEW RELIEF HOOD/GRAVITY VENT AND BACKDRAFT DAMPER WITH SIMILAR FREE AREA AND THROAT VELOCITY. INSTALL AT EXISTING ROOF OPENING ON NEW ROOF CURB AT MINIMUM 14" ABOVE NEW ROOF LINE. EXTEND DUCTWORK AS REQUIRED TO MEET NEW CURB HEIGHT.

M.3 REMOVE AND REPLACE 16"ø BOILER FLUE THRU ROOF. DISCONNECT BELOW ROOF. SUPPORT PER MANUFACTURER'S REQUIREMENTS AND EXTEND MINIMUM 3'-0" ABOVE ROOF. PROVIDE RAIN HOOD WITH WIRE MESH BIRD SCREEN TACK WELDED TO SUPPORTS.

M.4 REMOVE AND REPLACE 6"ø FLUE THRU ROOF. DISCONNECT BELOW ROOF. SUPPORT PER MANUFACTURER'S REQUIREMENTS AND EXTEND MINIMUM 3'-0" ABOVE ROOF. TERMINATE WITH RAIN CAP.



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PBC Contract No: 05175

Project No: 217102.00

Title
MECHANICAL ROOF DEMOLITION PLAN

Sheet
MD1.3

32'-0" 0'-0" 16'-0" 32'-0" 64'-0"
1/32" = 1'-0"

16'-0" 0'-0" 8'-0" 16'-0" 32'-0"
1/16" = 1'-0"

8'-0" 0'-0" 4'-0" 8'-0" 16'-0"
1/8" = 1'-0"

4'-0" 0'-0" 2'-0" 4'-0" 8'-0"
1/4" = 1'-0"

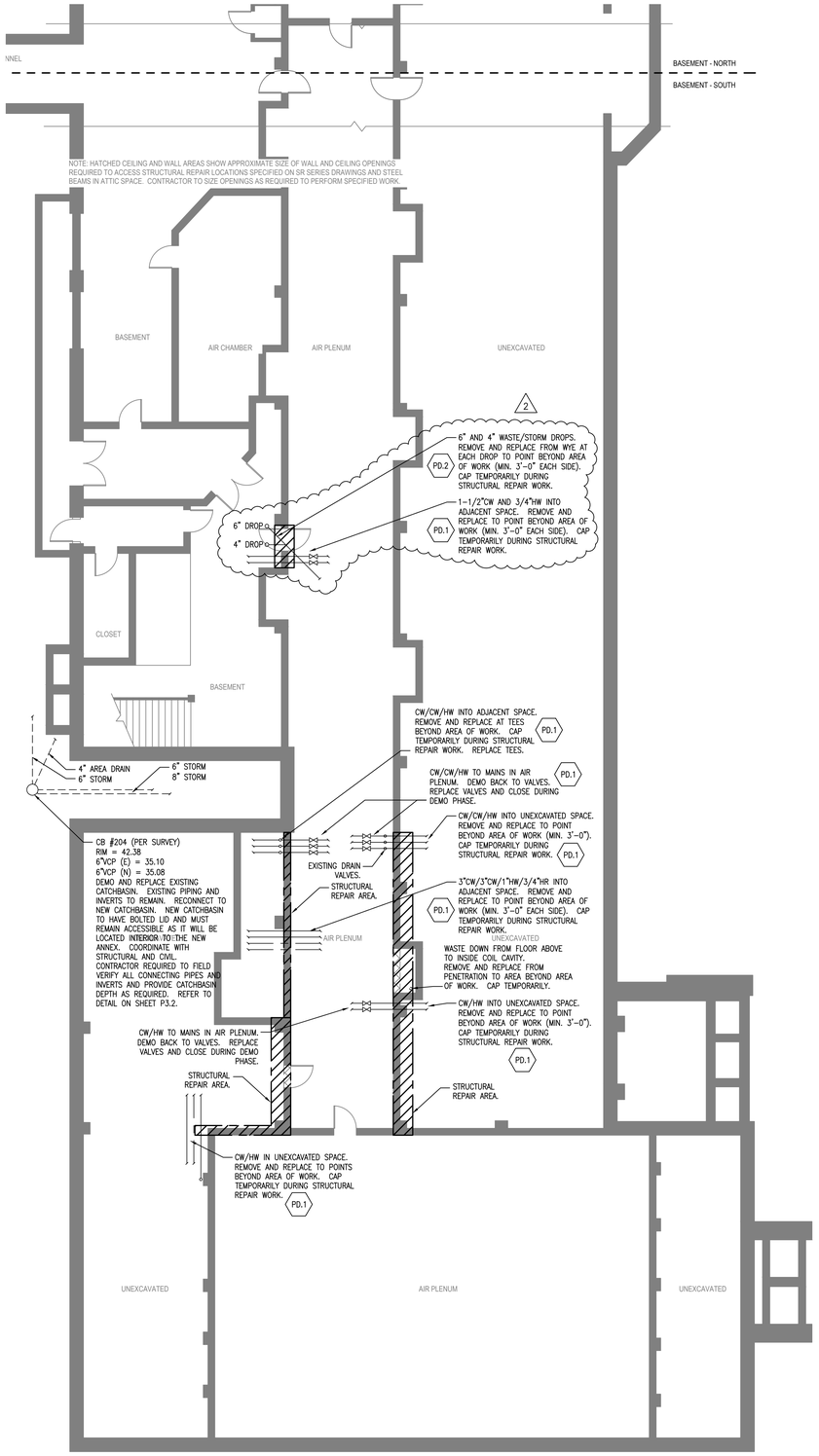
2'-0" 0'-0" 1'-0" 2'-0" 4'-0"
1/2" = 1'-0"

1'-0" 0'-0" 0'-6" 1'-0" 2'-0"
1" = 1'-0"

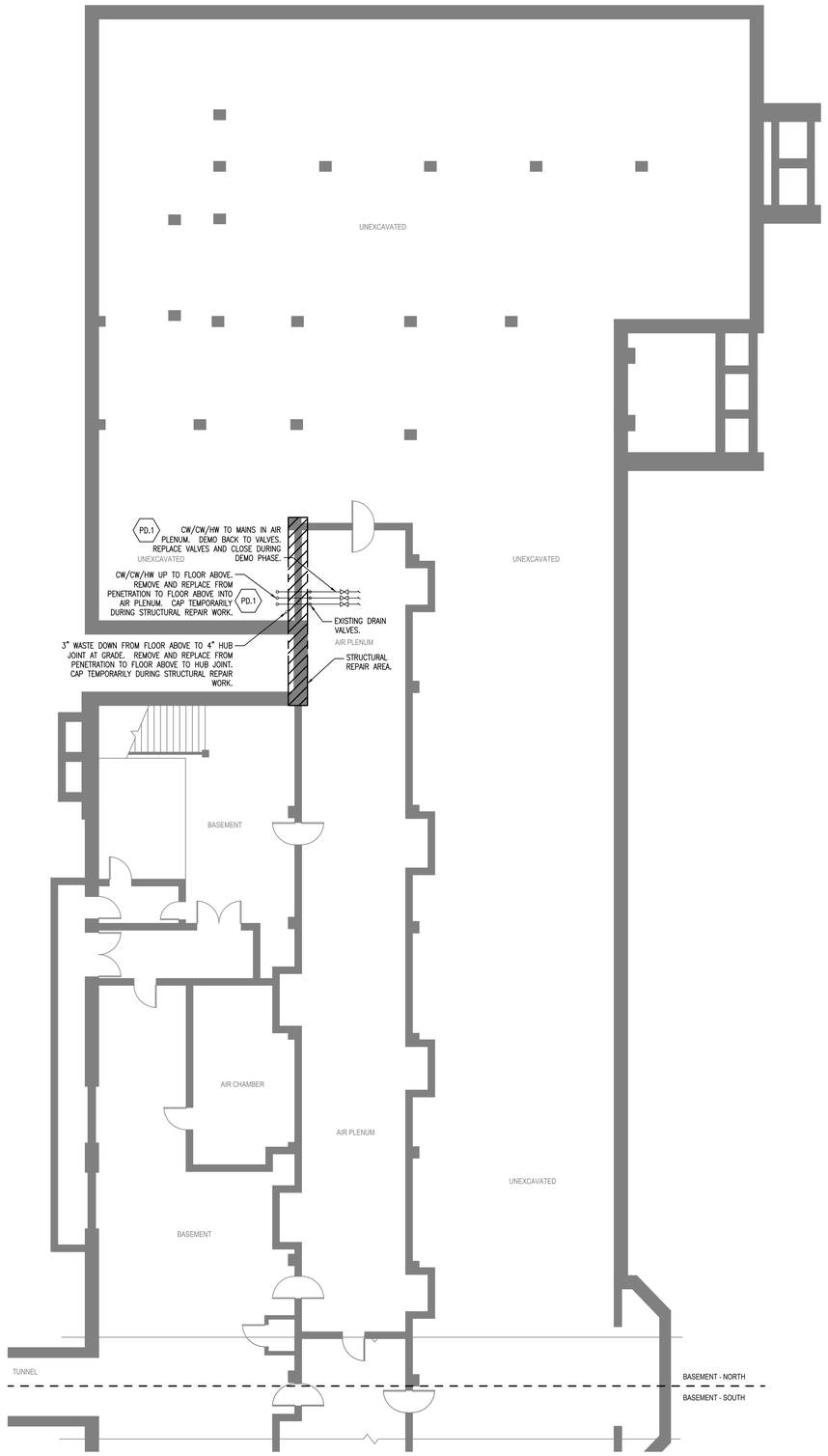
0'-0" 0'-6" 1'-0" 2'-0"
1-1/2" = 1'-0"

0'-0" 0'-3" 0'-6" 0'-9" 1'-0"
3" = 1'-0"

0'-0" 0'-1-1/2" 0'-3" 0'-4-1/2" 0'-6"
6" = 1'-0"



2 BASEMENT PLAN - EXISTING BLDG. SOUTH
1/8" = 1'-0"



1 BASEMENT PLAN - EXISTING BLDG. NORTH
1/8" = 1'-0"

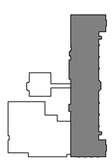
GENERAL RENOVATION NOTES:

1. ANY DEMOLITION WORK WHERE REQUIRED SHALL INCLUDE REMOVAL OF ALL PIPING AND OTHER EQUIPMENT AND MATERIALS BY TRADE AFFECTED. ALL MATERIAL SHALL BE REMOVED TO DUMPSTER PROVIDED BY GENERAL CONTRACTOR. UNUSED PIPING CONCEALED IN WALLS, CEILINGS AND FLOORS SHALL BE CAPPED AND SEALED AT THEIR TERMINATION POINTS.
2. CONTRACTOR SHALL EXERCISE CARE TO AVOID DAMAGING EXISTING WORK WHICH IS TO REMAIN AS PART OF THE REMODELED SPACE. DAMAGE SHALL BE REPAIRED AT CONTRACTORS EXPENSE.

KEYED NOTES:

PD.1 REPLACEMENT OF DOMESTIC WATER PIPING REQUIRES REPLACEMENT OF HANGERS, INSULATION, DRAIN VALVES AND THE ADDITION OF DIELECTRIC FITTINGS AT POINT OF CONNECTING TO EXISTING BETWEEN NEW COPPER AND EXISTING GALVANIZED STEEL PIPE. CONTRACTOR TO MATCH THE EXISTING PIPE SIZES IN THE FIELD. SIZES SHOWN MAY NOT BE ENTIRELY ACCURATE.

PD.2 REPLACEMENT OF CAST IRON WASTE AND STORM PIPING REQUIRES REPLACEMENT OF HANGERS AND MUST BE FROM HUB TO HUB POINTS.
2



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Title
PLUMBING BASEMENT DEMOLITION PLAN

Sheet
PD1.0