



# Office of General Services

DESIGN & CONSTRUCTION GROUP  
THE GOVERNOR NELSON A. ROCKEFELLER  
EMPIRE STATE PLAZA  
ALBANY, NY 12242

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## ADDENDUM NO. 9 TO PROJECT NO. 47331

### CONSTRUCTION WORK REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP NEW YORK STATE CAPITOL STATE STREET ALBANY, NY 12224

October 25, 2024

**NOTE:** This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

#### CONSTRUCTION WORK SPECIFICATIONS

1. SECTION 033000 CAST IN PLACE CONCRETE: Discard all previously issued versions of this Section and substitute the accompanying Section (pages 033000 – 1 through 033000 – 30) noted “REVISED 10/25/2024”.
2. SECTION 310000 EARTHWORK: Discard all previously issued versions of this Section and substitute the accompanying Section (pages 310000– 1 through 310000 – 22) noted “REVISED 10/25/2024”.

#### DRAWINGS

3. Revised Drawings:
  - a. Drawing Nos. G003, R103, A100, A203, A204, A205, A206, A207, A208, A209, A210, A211, A212, A213, A214, A215, A216, A217, A218, A219, A220, A221, A222, A223, A224, A225, A226, A227, A228, A229, A230, A231, A232, A301, A302, A517, A518, S-600, S-801, S-802 noted “REVISED 10/25/2024” accompany this Addendum and supersede the same numbered originally issued drawings.

#### END OF ADDENDUM

Brady M. Sherlock, P.E.  
Director, Division of Design  
Design & Construction

**SECTION 033000****CAST IN PLACE CONCRETE****PART 1 - GENERAL****1.1 SUMMARY**

A. Section includes but is not limited to the following as shown on the drawings and as specified herein:

1. Foundation systems including footings, walls, beams, piers, pilasters, pits and similar concrete.
2. Slabs on grade.
3. Cast-in-place slabs
4. Topping slabs
5. Stair pan fills.
6. Furnishing and installing all required anchors and inserts.
7. Placing in the forms all inserts, anchors, anchor bolts, bearing plates and the like furnished by other trades for casting into the concrete and cleaning of same after stripping of forms.
8. Protection of all inserts, anchors, hangers, sleeves and supports furnished and set by others for the attachment of other work to the concrete, or required to permit the passage of other work through the concrete.
9. Supply, fabricate and place all required reinforcing bars, mesh and other reinforcement for concrete where shown, called for, and/or required complete with proper supporting devices.
10. Erection and removal of all formwork required to properly complete the work.
11. Finishing of all concrete work as hereinafter specified.
12. Curing and protection of all concrete work.
13. Site concrete consisting of curbs, walls, pads, boxes and the like as shown on the drawings.
14. Cutting, patching, grouting, repairing and pointing up as required.
15. Vapor barrier system below slabs on grade.
16. Waterproofing.
17. Grouting of all beam bearing plates and column base plates.
18. Embedded plates in all foundation walls.
19. Equipment pads as required.
20. All other work and materials as may be reasonably inferred and needed to make the work of this section complete.
21. Waste Management

B. Related Requirements:

1. Division 01 Section "Construction Waste Management and Disposal"
2. Division 05 Section "Structural Steel"
3. Division 05 Section "Metal Fabrications"
4. Division 06 Section "Rough Carpentry"
5. Division 07 Section "Waterproofing"
6. Division 07 Section "Joint Sealants"

## 1.2 SUSTAINABLE DESIGN REQUIREMENTS

- A. The Contractor is to implement practices and procedures to meet the Project's Sustainable Design goals. The Contractor shall ensure that the requirements related to these goals, as defined in this Section and in Related Sections of the Contract Documents, are implemented. Substitutions, or other changes to the Work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the Project's Sustainable Design goals.
- B. The Contractor is to efficiently use resources and energy while executing the Work of this Section. Resource efficient aspects to be considered in completing this Project include the use of techniques that minimize waste generation, reuse of construction materials on site where possible, and recycling of waste generated during the construction process.
- C. Performance Requirements: The following criteria are required for the products included in this section
  - 1. Preference shall be given to cast-in-place concrete containing raw materials harvested or extracted within 500 miles of the project site.
  - 2. All reinforcing steel, steel anchors, welded wire reinforcement, and other steel items required by the work of this section shall contain a minimum of 50% (combined) pre-consumer/post-consumer recycled content.
  - 3. Adhesives, sealants, paints and coatings used for the work of this section shall meet the Volatile Organic Compound (VOC) limits where applicable.

## 1.3 SUBMITTALS

- A. Product Data: Submit data for proprietary materials and items, including the following:
  - 1. Reinforcement
  - 2. Supports for reinforcement
  - 3. Forming accessories
  - 4. Admixtures
  - 5. Patching compounds
  - 6. Waterstops
  - 7. Joint systems
  - 8. Curing compounds
  - 9. Dry-shake finish materials
  - 10. Other items as requested by Director's Representative.
- B. Shop Drawings; Reinforcement: Submit original shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Details and Detailing of Concrete Reinforcement" showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement. Include special reinforcement required for openings through concrete structures. The shop drawings shall be prepared only by competent detailers, checked by the contractor prior to submission.
  - 1. The shop drawings shall show construction, contraction and isolation joint locations and the added reinforcement required at same.

2. Obtain and coordinate information for sleeves and openings in concrete, which are required for the work of other trades. Make coordinated drawings showing size and location of openings and sleeves and incorporate this information on the reinforcing drawings.
  3. Only those splices indicated on the approved shop drawings will be permitted.
  4. Provide elevations of all foundation walls and other structural elements to a minimum 1/4" scale.
- C. Shop Drawings Formwork: Submit shop drawings for fabrication and erection of specific finished concrete surfaces. Show form construction including jointing, special form joint or reveals, location and pattern of form tie placement, and other items which affect exposed concrete visually. Director's Representatives' review is for general architectural applications and features only. Design of formwork for structural stability and efficiency is Contractor's responsibility, prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork.
1. Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and reshoring installation and removal.
- D. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
1. Location of construction joints is subject to approval of the Director's Representative.
- E. Contraction Joint Layout: Indicate proposed contraction joints required per applicable codes and drawings.
1. Location of contraction joints is subject to approval of the Director's Representative.
- F. The use of the Director's Representatives' electronic drawing files as a base for the reinforcement, formwork, and joint layout shop drawings will be permitted at the request of the detailer/designer upon completion and return of the waiver form. The use of the Director's Representative electronic drawing files as a base for shop drawing details will not be permitted. The detailer/designer will be responsible for compatibility of the files with his hardware or software. The electronic files are not to be considered the contract documents, the design team makes no representation regarding the accuracy or completeness of the electronic files given to detailer/designer and their use will be at the detailer/designer's sole risk and without liability to the design team. The detailer/designer shall remove the project title box and all references to the structural drawings including drawing numbers and structural drawing sections and details. The detailer/designer shall also remove all reference to work not included in the concrete contract.
- G. Scaling of the Director's Representatives' drawings is not permitted. This applies to hard paper, electronic, and all other versions.
- H. Samples: Submit samples of materials as requested by the Director's Representative, including names, sources and descriptions.
- I. Laboratory Test Reports: Submit laboratory test reports for concrete materials, mix design test and microwave test.
- J. Material Certificates: Provide materials certificates in lieu of materials laboratory test reports when permitted by Director's Representative. Manufacturer and Contractor, certifying that each

material item complies with, or exceeds, specified requirements shall sign material certificates. Provide certification from admixture manufacturers that chloride content complies with specification requirements.

- K. Cold Weather and Hot Weather Concreting Procedures: Submit written descriptions of contractor's proposed cold weather and hot weather concreting procedures, when applicable.
- L. Certification that pozzolanic materials conforms to ASTM C 618-01 (noting class C or class F), ASTM C 989 or ASTM C1240.
- M. Certified recycled steel content. Provide cut sheets clearly indicating whether the rebar used meets the minimums for post-consumer OR post-industrial recycled contents. Or, if cut sheets are not available, obtain a written affidavit from the manufacturer stating the recycled content percentage and if the recycled content is post-consumer or post-industrial.
- N. Formwork: Specify whether reusable, permanent, salvaged or new wood forms are to be used.
- O. Recycled Aggregate: Provide laboratory reports indicating that aggregate conforms to ASTM C33 for structural concrete or ASTM D1241-00 for sub-base material. Provide cut sheets clearly indicating the source, total weight and volume of the recycled aggregate. If aggregate provided is a mix of virgin and recycled aggregates obtain a written affidavit from the manufacturer stating the recycled content percentage
- P. VOC content for curing compounds, sealants and release agents: Provide a cut sheet and a Material Safety Data Sheet (MSDS) for each curing compound, sealant, hardener and release agent used highlighting VOC contents. VOC content must be less than or equal to limits stated under "PRODUCTS".

#### 1.4 **QUALITY ASSURANCE**

- A. Installer Qualifications: A qualified installer who employs Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- C. Codes and Standards: Comply with provisions of following codes, specifications, and standards, except where more stringent requirements are shown or specified:
  1. State of New York Building Code, Latest Edition
  2. ACI 117 "Standard Specifications for Tolerances for Concrete Construction and Materials and Commentary."
  3. ACI 211.1 "Standard Practice for Selecting Proportions for Normal, Heavyweight and mass concrete."
  4. ACI 214R, "Evaluation of Strength Test Results of Concrete."
  5. ACI 232.2R, "Use of Fly Ash in Concrete."
  6. ACI 233R, "Guide to Use of Slag Cement in Concrete and Mortar."
  7. ACI 234, "Guide for the Use of Silica Fume in Concrete."

8. ACI 301 "Specifications for Structural Concrete."
  9. ACI 302.1R "Guide for Concrete Floor and Slab Construction."
  10. ACI 304R, "Guide for Measuring, Mixing, Transporting and Placing Concrete."
  11. ACI 305R "Hot Weather Concreting."
  12. ACI 306.1-90 "Standard Specification for Cold Weather Concreting."
  13. ACI 308.1 "Standard Specification for Curing Concrete."
  14. ACI 309R, "Guide for Consolidation of Concrete."
  15. ACI 311.4R, "Guide for Concrete Inspections."
  16. ACI 315, "Details and Detailing of Concrete Reinforcement."
  17. ACI 318 "Building Code Requirements for Structural Concrete and Commentary."
  18. ACI 347 "Guide to Formwork of Concrete."
  19. Concrete Reinforcing Steel Institute, (CRSI) "Manual of Standard Practice."
  20. CRSI-WCRSI, "Placing Reinforcing Bars."
  21. The ACI Field Reference Manual, SP-15 shall be kept at the job site, and the practices set forth therein shall be strictly adhered to.
  22. ASTM Standards as applicable in the building code of the local jurisdiction and as noted in this specification.
- B. Concrete Testing Service: Owner will engage a testing laboratory acceptable to Director's Representative to perform material evaluation tests and to design concrete mixes.
- C. Materials and installed work may require testing and retesting at anytime during progress of work. Tests, including retesting of rejected materials for installed work, shall be done at Contractor's expense.
- D. Preconstruction Meeting:
1. At least 35 days prior to the start of the concrete construction schedule, the Contractor shall conduct a meeting to review the proposed mix designs and to discuss the required methods and procedures to achieve the required concrete construction. The Contractor shall send a pre-concrete conference agenda to all attendees 20 days prior to the scheduled date of the conference.
  2. The Contractor shall require responsible representatives of every party who is concerned with the concrete work to attend the conference, including but not limited to the following:
    - a. Contractor's superintendent
    - b. Laboratory responsible for the concrete design mix
    - c. Laboratory responsible for field quality control
    - d. Concrete subcontractor
    - e. Ready-mix concrete producer
    - f. Admixture manufacturer(s)
    - g. Concrete pumping equipment manufacturer.
  3. Minutes of the meeting shall be recorded, typed and printed by the contractor and distributed by the contractor to all parties concerned within 5 days of the meeting. One copy of the minutes shall also be transmitted to the following for information purposes: Director's Representative.
  4. The minutes shall include a statement by the concrete contractor indicating that the proposed mix design and placing can produce the concrete quality required by these specifications.

5. A minimum of a 4 cubic yard trial mixture containing all required admixtures shall be placed at the job site using the accepted methods of placing, finishing and curing. All applicable tests including slump, strength, air content, permeability, and air content will be performed. This shall occur at least four weeks before actual concreting operations with particular admixture begins. The admixture manufacturer(s) and inspectors shall be present. The same testing should be done in the laboratory at the same time for comparison. A test sample should be done for each condition that is to be placed.
6. The Director's Representatives' will be present at the conference. The Contractor shall notify the Director's Representative at least 10 days prior to the scheduled date of the conference.

## 1.2 PROJECT CONDITIONS

- A. The Contractor, before commencing work, shall examine all adjoining work on which this work is in any way dependent for proper installation and workmanship according to the intent of this specification, and shall report to the Director's Representative any condition which prevents this contractor from performing first class work.
- B. Protection of Footings Against Freezing: Cover completed work at footing level with sufficient temporary or permanent cover as required to protect footings and adjacent subgrade against possibility of freezing; maintain cover for time period as necessary.
- C. Protect adjacent finish materials against spatter during concrete placement.
- D. Provide all barricades and safeguards at all pits, holes, shaft and stairway openings, etc., to prevent injury to workmen and others within and about the premises. Also provide all safeguards as required by the Building Code, OSHA, or any other departments having jurisdiction. Take full responsibility for all safety precautions and methods.
- E. Procedure of Work: The contractor shall keep themselves constantly informed as to the progress of the work in the field, materials and workers ready to start work immediately when conditions of preceding work are available or ready, wholly or in part, so as not to delay the progress of building work or to interfere with the progress of work of other contractors, and in any event the contractor shall, within 24 hours after notice from the Owner, proceed with such work as directed to maintain the uninterrupted progress of the work.

## 1.3 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.
- B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

## PART 2 - PRODUCTS

### 2.1 FORM MATERIALS

- A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct of plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient strength and thickness to withstand pressure of newly placed concrete without bow or deflection.
  - 1. 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.
  
- B. Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or other acceptable material. Preference shall go to salvaged or re-used Dimensional Lumber. Provide lumber dressed on at least 2 edges and one side for tight fit.
  
- C. Sustainability Requirements For Wood Used For Formwork
  - 1. New Dimensional Lumber for Formwork: Provide wood certification documentation from the manufacturer/distributor, declaring conformance with Forest Stewardship Council (FSC) guidelines for certified wood building components The following independent certification organizations are accredited by the FSC and provide the manufacturer/distributor with documentation:
    - a. Scientific Certification Systems, Inc..
    - b. Smart Wood Certification Program: Rainforest Alliance
  - 2. Salvaged or re-used Dimensional Lumber for Formwork: Provide documentation certifying products are from salvaged wood sources. Provide grading certificate for structural applications. For wood salvage wood resources see GreenSpec.
  - 3. If new dimensional Lumber is neither Certified nor salvaged: select regionally grown lumber with the lowest grade that meets performance requirements.
  
- D. Form Coatings: Provide VOC compliant commercial formulation form- coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces. Use biodegradable form release agent listed below or equivalent made from soy or rapeseed oil.
 

1. “Bio-Release EF”	Dayton Superior
2. “Soy Form Away”	Cure & Seal by Natural Soy Products
3. “Bio-Form”	Leahy-Wolf Company
4. “Duogard II”	W. R. Meadows, Inc.
5. “Atlas Bio-Guard”	Atlas Construction Supply, Inc.
  
- E. Form Ties: Form ties and spreaders: prefabricated assemblies by Richmond; Superior, Dayton or approved equal. Wire ties shall not be used. Ties for foundation work shall be of snap design with removal cones and water seal washer.
  - 1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.
  - 2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.

3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

## 2.2 REINFORCING MATERIALS

### A. Reinforcing Bars:

1. Deformed Carbon Steel bars ASTM A 615/A 615 M, Grade 60(as noted on plan and/or in section).
2. Deformed Galvanized Steel bars ASTM A 767/A 767M Grade 60 (as noted on plan and/or in section)

### B. Steel Wire and Welded Wire Reinforcement: ASTM A 1064. Galvanized at exterior locations, conditions permanently exposed to weather and/or water, and where noted on drawings (plan and/or sections).

### C. Joint Dowel Bars: ASTM A 767/A 767M Grade 60, , plain-steel bars, cut true to length with ends square and free of burrs.

### D. Supports for Reinforcement: Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire reinforcement in place. Use wire bar type supports complying with CRSI specifications.

1. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class I) at a spacing not to exceed 4'-0" on center in either direction.

## 2.3 CONCRETE MATERIALS

### A. Portland cement: ASTM C 150, Types I, II, or I/II. Total percentage of Portland Cement is NOT to exceed 75% of the cementitious mix. Use one brand of cement throughout project, unless otherwise acceptable to the Director's Representative. Provide either fly ash or GGBF in mix per sections below.

- a. Fly Ash: Cast-in-place concrete shall incorporate fly ash as a replacement for at least 25% (by weight) of the Portland cement. All design mixes must be reviewed and approved by the Director's Representative. Fly Ash shall not be used in conjunction with Ground Granulated Blast Furnace Slag.
- b. Ground Granulated Blast Furnace Slag (GGBF): Cast-in-place concrete shall incorporate GGBF as a replacement for at least 40% (by weight) of the Portland cement. All design mixes must be reviewed and approved by the Director's Representative. GGBF shall not be used in conjunction with Fly Ash.
- c. Pozzolans and Slags: These must be completely accounted for in the design mix. Mix design must meet minimum design requirements set in the contract documents. Additional admixtures may be required to meet early strength requirements and alternative cementitious material goals. If a "blended cement" is used which already contains a certain percentage of Pozzolans or Slags this content may offset or entirely satisfy the minimum percentage required.

- 1) Coal Fly Ash: ASTM C 618 (Class C or Class F): ASTM C 618 (Note: Class F fly Ash will require higher amounts or air entraining ad-mixtures than class C).
- 2) Blast Furnace Slag: ASTM C989
- 3) Silica Fume: ASTM C 1240
- 4) Rice Hull (or “husk”) Ash: ASTM C 618 Blended hydraulic cement, as defined by ASTM C 595 or ASTM C 1157

B. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete.

1. Local aggregates not complying with ASTM C 33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to the Director’s Representative.
2. Normal weight Fine Aggregate: washed, inert, natural or manufactured or combination thereof, sand conforming ASTM C33 gradation.
3. Normal weight Coarse Aggregate: well graded crushed stone or washed gravel conforming to ASTM C33, sizes 57 for foundations and 67 for slabs and structure.
  - a. Recycled crushed concrete aggregate in concrete mixes is only to be used with approval of Director’s Representative. Recycled aggregate shall be used only as a substitute for coarse aggregate and must also be washed and well-graded, conforming to ASTM C33.
  - b. For sub-base, slabs on grade and non-structural applications and Recycled Aggregate Materials are NOT required to meet the ASTM C 33 standard. In addition to concrete rubble, glass, porcelain, and tire chips can be used as filler material. Any inert material conforming to ASTM D1241 is acceptable for the applications described in this paragraph.

C. Water: Free from oils, acids, alkali, organic matter and other deleterious material to conform to ASTM C94. ASTM C94 for gray water use in the production of ready mixed concrete per approval by the Director’s Representative.

D. Air-Entraining Admixture: ASTM C 260.

1. Liquid air-entrainment: Subject to compliance with requirements, provide one of the following or equal approved by Director’s Representative:
 

a.	“Airmix”	Euclid Chemical
b.	“Darex AEA”	W. R. Grace
c.	“MB-VR”	Master Builders

E. Water-Reducing Admixture: ASTM C 494.

1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director’s Representative:
 

a.	“MasterPolyheed 997”	Master Builders
b.	“Euclid MR”	Euclid Chemical
c.	“WRDA 64”	W. R. Grace.

- F. High-Range Water-Reducing Admixture (Superplasticizer): ASTM C 494, Type F or Type G and containing not more than 0.05 percent chloride ions.
  - 1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director's Representative:
    - a. "Eucon 37, 1037 or Plastol 5000" Euclid Chemical Co.
    - b. "Rheobuild 1000" Master Builders
    - c. "Glenium 7500" Master Builders
    - d. "Daracem-100" W. R. Grace
  
- G. Water-Reducing, Retarding Admixture: ASTM C 494, Type D, and contain not more than 0.05 percent chloride ions.
  - 1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director's Representative:
    - a. "Eucon Retarder 75" Euclid Chemical Co.
    - b. "Pozzolith 100XR" Master Builders.
    - c. "Plastiment" Sika Chemical Co.
    - d. "Daratard" W.R. Grace.
  
- H. Prohibited Admixtures: Calcium chloride, thiocyanates or admixtures containing more than 0.05 percent chloride ions are not permitted.
  
- I. Certification: Written conformance to the above-mentioned requirements and the chloride ion content of admixtures will be required from the admixture manufacturer prior to mix design review by the Director's Representative.
  
- J. Contractor will be required to provide information demonstrating successful use in prior placement involving all admixtures.

2.4 **WATERSTOPS**

- A. Flexible Rubber Waterstops: CE CRD-C 513, with factory-installed metal eyelets, for embedding in concrete to prevent passage of fluids through joints. Factory fabricate corners, intersections, and directional changes.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equal approved by Director's Representative:
    - a. Greenstreak
    - b. Williams Products, Inc.
  - 2. Profile: As indicated .
  - 3. Dimensions: As indicated; nontapered.
  
- B. Flexible PVC Waterstops: CE CRD-C 572, with factory-installed metal eyelets, for embedding in concrete to prevent passage of fluids through joints. Factory fabricate corners, intersections, and directional changes.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or equal approved by Director’s Representative:
    - a. BoMetals, Inc.
    - b. Greenstreak
    - c. Paul Murphy Plastics Company
    - d. Vinylex Corp.
  2. Profile: As indicated.
  3. Dimensions: As indicated; nontapered.
- C. Self-Expanding Butyl Strip Waterstops: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete, 3/4 by 1 inch.
1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director’s Representative:
 

<ol style="list-style-type: none"> <li>a. “MiraSTOP”</li> <li>b. “Waterstop-RX”</li> <li>c. “Conseal CS-231”</li> <li>d. “Swellstop”</li> <li>e. “Hydro-Flex”</li> <li>f. “Earth Shield Type 20”</li> </ol>	<ol style="list-style-type: none"> <li>Carlisle Coatings &amp; Waterproofing, Inc.</li> <li>CETCO</li> <li>Concrete Sealants Inc.</li> <li>Greenstreak</li> <li>Henry Company, Sealants Division</li> <li>JP Specialties, Inc.</li> </ol>
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**2.5 GROUT**

- A. Non-Shrink, Non-Metallic Grout: The non-shrink grout shall be a factory pre-mixed grout and shall conform to ASTM C1107, "Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-Shrink)." In addition, the grout manufacturer shall furnish test data from an independent laboratory indicating that the grout when placed at a fluid consistency shall achieve 95% bearing under a 4' x 4' base plate.
1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director’s Representative:
 

<ol style="list-style-type: none"> <li>a. "Euco-NS"</li> <li>b. "Five Star Grout"</li> <li>c. "Masterflow 713 Plus"</li> </ol>	<ol style="list-style-type: none"> <li>Euclid Chemical Co.</li> <li>U.S. Grout Corp.</li> <li>BASF</li> </ol>
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- B. High Flow Grout: Where high fluidity and/or increased placing time is required, use high flow grout. The factory pre-mixed grout shall conform to ASTM C1107, "Standard Specification for Packages Dry, Hydraulic-Cement Grout (Non-shrink)." In addition, the grout manufacturer shall furnish test data from an independent laboratory indicating that the grout when placed at a fluid consistency shall achieve 95% bearing under a 18" x 36" base plate.
1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director’s Representative:
 

<ol style="list-style-type: none"> <li>a. "Euco Hi-Flow Grout"</li> </ol>	<ol style="list-style-type: none"> <li>Euclid Chemical Co.</li> </ol>
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- b. "Masterflow 928" BASF
- c. "Five Star Fluid Grout 100" Five Star

**2.6 RELATED MATERIALS**

- A. Granular Fill: Clean mixture of crushed stone or crushed or uncrushed gravel; ASTM D 1241, Size 57, with 100 percent passing a 1-1/2 inch sieve and 0 to 5 percent passing a No. 8 sieve.
- A. Fine-Graded Granular Material: Clean mixture of crushed stone, crushed gravel, and manufactured or natural sand; ASTM D 1241, Size 10, with 100 percent passing a 3/8 inch sieve, 10 to 30 percent passing a No. 100 sieve, and at least 5 percent passing No. 200 sieve; complying with deleterious substance limits of ASTM C 33 for fine aggregates.
- B. Non-slip Aggregate Finish: Provide fused aluminum oxide grits, or crushed emery, as abrasive aggregate for non-slip finish with emery aggregate containing not less than 40% aluminum oxide and not less than 25% ferric oxide. Use material that is factory-graded, packaged, rustproof and non-glazing, and is unaffected by freezing, moisture, and cleaning materials.
- C. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 2.
- D. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Waterproof paper
    - b. Polyethylene film
    - c. Polyethylene-coated burlap
- E. Curing Compounds: The compound shall conform to ASTM C 309. Limit VOC content to 130 g/L. Use water-based curing compound. For surfaces receiving both a curing compound and additional flooring, verify that the curing compound and additional flooring are compatible.
  - 1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director’s Representative:
 

a. "SealTight 1100"	W.R. Meadows
b. "Kurez W VOX"	Euclid Chemical Co.
c. "Everclear VOX"	Euclid Chemical Co.
d. "VOCOMP-25"	W.R. Meadows
- F. Curing & Sealing Compounds: Only specify for slabs that will remain exposed, i.e. will not receive additional flooring. The compound shall conform to ASTM C1315. Limit VOC content to 130 g/L. Use water-based curing compound.
  - 1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director’s Representative:
 

a. "Everclear VOX"	Euclid Chemical Co.
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b. "VOCOMP-25" W.R. Meadows

G. Sealers/Hardeners: For use on concrete surfaces that will remain exposed. Slabs that will receive additional flooring do not require sealing or hardening. Sealers and hardeners must conform to ASTM D1546, not yellow under ultra violet light after 500 hours of test in accordance with and have a maximum moisture loss of 0.039 grams per sq. cm. when applied at a coverage rate of 250 sq. ft. per gallon. Limit VOC content to 130 g/L. Use water- or vegetable-based product.

1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director's Representative:

a. "Kure-N-Harden" BASF

H. Certify that all curing compounds, sealers and hardeners are compatible with all adhesive products intended for attaching co-lateral floor material. In conformance with ASTM F 710, coordination with flooring manufacturer is required to insure concrete coatings will not obstruct the bond between the concrete and the adhesive. Insure coatings and adhesives are "benignly compatible" -- in other words, do not combine substances whose constituents are reactive. Reactivity releases VOCs and /or other toxic fumes.

I. Crack Sealer: Elastomeric liquid crack sealer resistant to water, gasoline, oil and salts.

1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director's Representative:

a. "Eucolastic 1NS" Euclid Chemical Co.  
Maximum allowable depth of this product is 1/2".

J. Bonding Admixture: The compound shall be a latex, non-rewettable type.

1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director's Representative:

a. "Flex-Con" Euclid Chemical Co.  
b. "Daraweld C" W.R. Grace  
c. "SBR Latex" Euclid Chemical Co.

K. High Strength Polymer Repair Mortar: For form and pouring or large horizontal repairs, provide the flowable on-part, high strength repair mortar.

1. Products: subject to compliance with requirements, provide the following or equal approved by Director's Representative:

a. "Euconcrete" The Euclid Chemical Co.  
b. "Euco Speed MP" (Cold Weather) The Euclid Chemical Co.  
c. "Emaco R" Master Builders.

L. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

- M. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:
  - 1. Type IV for bonding hardened concrete to hardened concrete, and Type V for bonding freshly mixed concrete to hardened concrete.
  
- N. Expansion Joint Filler: ASTM D 1751.
  - 1. Products: Subject to compliance with requirements, provide one of the following or equal approved by Director's Representative:
 

a.	"Homex 300"	Homasote Company
b.	"Standard Cork Expansion Joint Filler"	APS Cork
c.	"Fibre Expansion Joint"	W.R. Meadows
d.	"X-Foam"	W. R. Meadows
  
- O. Water: Potable.

**2.7 PROPORTIONING AND DESIGN OF MIXES**

- A. Preparation of Design Mixes
  - 1. All mix designs shall be proportioned in accordance with Section 5.3, "Proportioning on the Basis of Field Experience and/or Trial Mixtures" of ACI 318 and prepared by a licensed testing laboratory approved by the owner, but paid for by the contractor. Submit mix designs on each class of concrete for review.
  - 2. If previously used mixes are submitted, all materials shall be from the same sources and with the same brand names as the previously utilized mix.
  - 3. If trial batches are used, the mix design shall be prepared by an independent testing laboratory and shall achieve an average compressive strength 1200 psi higher than the specified strength. This over-design shall be increased to  $1.10f'c+700$  psi when concrete strengths greater than 5000 psi are used.
  - 4. The proposed mix designs shall be accompanied by complete standard deviation analysis or trial mixture test data.
  
- B. Submit each proposed mix to the Director's Representative for review at least 5 days prior to the pre-concrete conference. Do not begin concrete production until the Director's Representative of Record has reviewed and approved mixes.
  - 1. Submit Test reports for any pozzolans or slags indicating compliance with ASTM C 618 or ASTM C 989, respectively.
  - 2. Provide cut sheets clearly indicating the percentages of pozzolans or slags used in the mix design as replacement for Portland cement. Or, if cut sheets are not available, obtain a written affidavit from the manufacturer stating the percentage.
  - 3. Test reports for recycled aggregate indicating compliance with ASTM C 33. Provide cut sheets clearly indicating the percentage of aggregates used that are recycled. Or, if cut sheets are not available, obtain a written affidavit from the manufacturer stating the recycled content percentage and source or sources of the material.

4. Provide cut sheets clearly indicating the percentage of sub-base and filler aggregate materials that are recycled. Or, if cut sheets are not available, obtain a written affidavit from the manufacturer stating the recycled content percentage and source or sources of the material.
- C. Design mixes to provide concrete with strength as indicated on drawings and schedules.
- D. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Director's Representative. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Director's Representative before using in work.
- E. Admixtures:
1. Use water-reducing admixture or high range water-reducing admixture (superplasticizer) in all concrete as required for placement and workability.
  2. Use non-corrosive, non-chloride accelerating admixture in concrete slabs placed at ambient temperatures below 50°F (10°C).  
Use high-range water-reducing admixture in pumped concrete, architectural concrete, parking structure slabs, fiber concrete, concrete required to be watertight, concrete with ultimate strength of 5,000 psi or more, and concrete with water/cement ratios below 0.50.
  3. Use air-entraining admixture in exterior exposed concrete, unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content with a tolerance of plus-or-minus 1-1/2 percent within following limits:
    - a. Concrete structures and slabs exposed to freezing and thawing or deicer chemicals.
      - 1) 4.5 percent (moderate exposure); 5.5 percent (severe exposure): 1-1/2" maximum aggregate
      - 2) 4.5 percent (moderate exposure); 6 percent (severe exposure): 1" maximum aggregate
      - 3) 5 percent (moderate exposure); 6 percent (severe exposure): 3/4" maximum aggregate
      - 4) 5.5 percent (moderate exposure); 7 percent (severe exposure): 1/2" maximum aggregate
      - 5) 6 percent (moderate exposure); 7.5 percent (severe exposure): 3/8" maximum aggregate
    - b. Other Concrete: (not exposed to freezing, thawing, or hydraulic pressure): 2 percent to 4 percent air.
  4. Use admixtures for water-reducing and set-control in strict compliance with manufacturer's directions.
- F. Water-Cement Ratio: Provide concrete for following conditions with maximum water-cement (W/C) ratios as follows:
1. Concrete for precast slabs, precast beams, structural topping slab, poured in place slabs and grade beams, columns and walls, over water, on ground or exposed to weather: W/C 0.40.
  2. "Quick Dry" Concrete: 0.40.

3. Subjected to freezing and thawing; W/C 0.45.
  4. Subjected to deicers/watertight: W/C 0.45.
  5. Reinforced concrete subjected to brackish water, salt spray or deicers; W/C 0.40.
- G. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:
1. Ramp slabs and sloping surfaces: Not more than 3".
  2. Reinforced foundation systems, including mud slabs below hydrostatic slabs: Not less than 1" and not more than 3".
  3. Concrete containing HRWR admixture (superplasticizer): Not more than 9" unless otherwise approved by the Director's Representative. The concrete shall arrive at the job site at a slump of 2" to 3" (3" to 4" for concrete receiving a "shake-on" hardener or lightweight concrete), be verified, then the high-range water-reducing admixture added to increase the slump to the approved level.
  4. Other Concrete: Not less than 1" or more than 4".
- H. Chloride Ion Level: Chloride ion content of aggregate shall be tested by the laboratory making the trial mixes. The total chloride ion content of the mix including all constituents shall not exceed the limitations set forth in Table 4.4.1 of ACI 318 for concrete subjected to deicers or exposed to chloride in service (0.15% chloride ions by weight of cement).

## 2.8 CONCRETE MIXING

- A. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified.
- B. Provide batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.
- C. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required. When air temperature is between 85°F (30°C) and 90°F (32°C), reduce maximum mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90°F (32°C), reduce maximum mixing and delivery time to 60 minutes.
- D. No water shall be added after mixing to concrete containing HRWR (Superplasticizer). If loss of slump occurs, the concrete treated with HRWR may be redosed as long as a "flash set" has not occurred. Redosage procedures must be discussed and approved by the Director's Representative and the manufacturer.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Coordinate the installation of joint materials and vapor retarders with placement of forms and reinforcing steel.

### 3.2 INSPECTION

- A. Examine all work prepared by others to receive work of this section and report any defects affecting installation to the Contractor for correction. Commencement of work will be construed as complete acceptance of preparatory work by others.

### 3.3 CONCRETE

- A. Concrete shall develop the minimum compressive strengths shown on drawings at 28 days when sampled and tested in accordance with ASTM C 31 and C 39 with the maximum slump in accordance with the approved mix design.
- B. Concrete shall be in accordance with the requirements and specifications of "Building Code Requirements for Structural Concrete" as modified by the building code noted above.
- C. Fly Ash Concrete & Slag Concrete: Concrete mixes containing high volumes of fly ash or Slag have slower set times and may take up to 56 days to reach full strength. The Director's Representative, agency responsible for concrete mix design, and the concrete subcontractor must coordinate to ensure that the form stripping schedule is consistent with the ability of the structure to support itself and all imposed construction loads.

### 3.4 FORMS

- A. Design formwork to maximize its reusability, reduce resources devoted to formwork construction and minimize waste generated. Where appropriate choose alternative formwork systems (refer to sections listed above).
- B. Design, erect, support, brace and maintain formwork to support vertical and lateral, static, and dynamic loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shapes, alignment, elevation and position. Maintain formwork construction tolerances complying with ACI 347. Provide Class A tolerances for concrete exposed to view. Provide Class C tolerances for other concrete surfaces.
- C. Design formwork to be readily removable without impact, shocks or damage to cast-in-place concrete surfaces and adjacent materials.
- D. Construct forms to size shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joints to prevent leakage of cement paste.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, recesses, and the like, to prevent swelling and for easy removal.

- F. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.
- G. Chamfer exposed corners and edges as indicated, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- H. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.
- I. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retightening forms and bracing after concrete placement is required to eliminate mortar leaks and maintain proper alignment.

### 3.5 VAPOR BARRIER INSTALLATION

- A. Examine the condition of porous fill and remedy any unsatisfactory portions prior to installing vapor barriers.
- B. Sub-base material to be per above sections.
- C. Following leveling and tamping of sub-base for slabs on grade, place vapor barrier sheeting with longest dimension parallel with direction of pour.
- D. Lap joints 6" and seal with appropriate tape.
- E. After placement of moisture barrier, cover with granular material and compact to depth as shown on drawings.
- F. Avoid cutting or puncturing vapor barrier during reinforcement placement and concreting operations.

### 3.6 PLACING REINFORCEMENT

- A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials, which reduce or destroy bond with concrete.
- C. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

- D. Place reinforcement to obtain at least minimum coverages for concrete protection. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire reinforcement in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

### 3.7 JOINTS

- A. Construction Joints: Locate and install construction joints as indicated, or if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Director's Representative.
- B. Provide keyways at least 1-1/2" deep in construction joints in walls, slabs and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.
- C. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints, except as otherwise indicated.
- D. Waterstops: Provide waterstops in construction joints as indicated. Install waterstops to form continuous diaphragm in each joint. Make provisions to support and protect exposed waterstops during progress of work. Fabricate field joints in waterstops in accordance with manufacturer's printed instructions, using manufacturer's specified welding irons.
- E. Contraction (Control) Joints in Slabs-on-Ground: Maximum joint spacing shall be 36 times the slab thickness unless otherwise noted on the drawings. The dry cut saw shall be used immediately after final finishing and to a depth of 1-1/4". A conventional saw shall be used as soon as possible without dislodging aggregate and to a depth of 1/4 slab thickness.
  - 1. Joint sealant material is specified in the section for "Related Materials".

### 3.8 INSTALLATION OF EMBEDDED ITEMS

- A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions and directions provided by suppliers of items to be attached thereto.
- B. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds.
- C. Embedded Plates at Foundation Walls: Install plate at top of forms so that exterior face of steel plate is level and plumb. Use construction documents for locations, sizes and elevations.

### 3.9 PREPARATION OF FORM SURFACES

- A. Clean re-used forms of concrete matrix residue, repair and patch as required to return forms to acceptable surface condition.
- B. If form-release compound is required, coat contact surfaces of forms with a form-coating compound *before* reinforcement is placed.
- C. Thin form-coating compounds only with thinning agent of type, and amount, and under conditions of form-coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with in- place concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.
- D. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel formwork is not acceptable.

### 3.10 CONCRETE PLACEMENT

- A. Ready-mix concrete shall comply with the requirements of ASTM C 94 and ACI 304. All plant and transporting equipment shall comply with the concrete plant standards and truck mixer and agitator standards of the National Ready Mix Concrete Association.
- B. Cold weather mixing procedures shall be submitted to the Director's Representative for approval.
- C. Notify Director's Representative and Owner's Inspector at least 36 hours (1 1/2 regular working days) before each pour so that forms and reinforcing may be examined. Do not place concrete until inspection has been made or waived.
- D. Preplacement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.
  - 1. Apply temporary protective covering to lower 2' of finished walls adjacent to poured floor slabs and similar conditions, and guard against spattering during placement.
- E. General: Comply with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete," and as herein specified.
  - 1. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.
- F. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 18" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints. Use internal vibrators penetrating both the top and preceding layers.

- G. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.
- H. Use and type of vibrators shall conform to ACI 309 "Recommended Practice for Consolidation of Concrete." Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.
- I. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.
- J. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
- K. Slabs: Bring slab surfaces to correct level with straightedge and strikeoff. Use highway straightedge, bull floats or darbies to smooth surface free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations. See also "MONOLITHIC SLAB FINISHES" below.
- L. Maintain reinforcing in proper position during concrete placement operations.
- M. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.
1. When air temperature has fallen to or is expected to fall below 40°F (4°C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50°F (10°C), and not more than 80°F (27°C) at point of placement.
  2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  3. Use only a non-corrosive, non-chloride accelerator. Calcium chloride, thiocyanates or admixtures containing more than 0.05% chloride ions are NOT permitted.
  4. Care must be taken to store water-based curing and sealing compounds where they will not freeze. In most cases, they cannot be reconstituted after thawing.
- N. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.
1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90°F (32°C). Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing water. Use of liquid nitrogen to cool concrete is Contractor's option.
  2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.
  3. Fog spray forms, reinforcing steel and subgrade just before concrete is placed.

**3.11 FINISH OF FORMED SURFACES**

- A. Concrete mixes containing pozzolans or slags do not set at the same rate or with the same bleed water characteristic as plain Portland cement. Therefore attention must be directed to the proper procedures. Refer to ACI 232.2R and ACI 301.
- B. Rough Form Finish: For formed concrete surface not exposed-to- view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4" in height rubbed down or chipped off.
- C. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, damp-proofing, painting or other similar system. This is as-cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed. Follow all requirements in ACI 301, Chapter 10 for smooth form finish. Surface preparation for surfaces receiving waterproofing must be approved by the waterproofing manufacturer prior to construction.

**3.12 FLOOR FLATNESS/LEVELNESS TOLERANCES**

- A. FF defines the maximum floor curvature allowed over 24 in. Computed on the basis of successive 12 in. (300 mm) elevation differentials, FF is commonly referred to as the "Flatness F-Number".
- B. FL defines the relative conformity of the floor surface to a horizontal plane as measured over a 10 ft. (3.05 m) distance commonly referred to as the "Levelness F-Number".
- C. All floors shall be measured within 72 hours of being poured and in accordance with ASTM E 1155 "Standard Test Method for Determining Floor Flatness and Levelness Using the "F Number" System (Inch-Pound Units).
- D. All slabs shall achieve the specified overall tolerance. The minimum local tolerance (1/2 bay or as designated by the Director's Representative shall be 2/3 of the specified tolerances.
- E. All elevated slabs shall achieve the specified FL tolerance before the removal of the forms.
- F. All slabs on metal deck shall achieve the specified FF.

**3.13 MONOLITHIC SLAB FINISHES**

- A. Float Finish: Apply float finish to slabs at crawl spaces, unless otherwise noted. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats, or by hand-floating if area is small or inaccessible to power units. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture. Surface shall achieve an FF 20 - FL 17 tolerance.

- B. Trowel Finish: Apply trowel finish to monolithic slab surfaces to be exposed-to-view, and slab surfaces to be covered with resilient flooring, carpet, ceramic or quarry tile, paint, or other thin film finish coating system, unless otherwise noted. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance and with a surface leveled to an FF 25/ FL 20 tolerance (FL17 for elevated slabs). Grind smooth surface defects, which would telegraph through applied floor covering system.
- C. Trowel and Fine Broom Finish: Where ceramic or quarry tile is to be installed with thin-set mortar, and slab surfaces which are to be covered with membrane or elastic waterproofing, or sand-bed terrazzo, and as otherwise indicated, apply single trowel finish as specified, then immediately follow with slightly scarifying surface by fine brooming. Surface preparation for surfaces receiving waterproofing must be approved by the waterproofing manufacturer prior to construction

### 3.14 CONCRETE CURING AND PROTECTION

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
  - 1. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.
  - 2. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.
  - 3. In order to avoid plastic or drying shrinkage cracks during warm, dry or windy weather, ACI 302 and ACI 308 shall be followed using wind breaks and sun shades when recommended. Evaporation retardant shall be as specified in Section 2.04.
  - 4. Care must be taken to store water based curing and sealing compounds where they will not freeze. In most cases, they cannot be reconstituted after thawing.
- B. Curing Methods: Perform curing of concrete by moisture curing, moisture-retaining cover curing, curing and sealing compound, and by combinations thereof, as herein specified.
  - 1. Provide moisture curing by following methods.
    - a. Keep concrete surface continuously wet by covering with water.
    - b. Continuous water-fog spray.
    - c. Covering concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4" lap over adjacent absorptive covers.
  - 2. Provide moisture-retaining cover curing as follows:
    - a. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3. Provide curing and sealing compound to exposed interior slabs not receiving additional flooring. A clear curing and sealing compound shall be used on exterior slabs, sidewalks and curbs not receiving a penetrating sealer.
  4. Use the specified curing compound on surfaces to be covered with finish or coating material applied directly to concrete, such as liquid densifier/sealer, waterproofing, dampproofing, membrane roofing, flooring, painting, and other coatings and finish materials. Apply compound in accordance with manufacturer's direction.
- C. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs and other similar surfaces by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.
- D. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs, floor topping, and other flat surfaces by application of the specified curing compound or a continuous moist curing method approved by the Director's Representative.
- E. Certify that all curing compounds, sealers and hardeners are compatible with all adhesive products intended for attaching co-lateral floor material. In conformance with ASTM F710, coordination with flooring manufacturer is required to insure concrete coatings will not obstruct the bond between the concrete and the adhesive. In addition, insure coatings and adhesives are "benignly compatible" -- in other words, do not combine substances whose constituents are reactive.

### 3.15 SHORES AND SUPPORTS

- A. Comply with ACI 347 for shoring and reshoring in multistory construction, and as herein specified.
- B. Extend shoring from ground to roof for structures 4 stories or less, unless otherwise permitted.

### 3.16 REMOVAL OF FORMS

- A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50°F (10°C) for 12 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.
- B. Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28-days. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members.
- C. Form facing material may be removed 4 days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

### 3.17 RE-USE OF FORMS

- A. Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.
- B. When forms are intended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joints to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Director's Representative.

### 3.18 MISCELLANEOUS CONCRETE ITEMS

- A. Filling-In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in- place construction. Provide other miscellaneous concrete filling shown or required to complete work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel-troweling surfaces to a hard, dense finish with corners, intersections and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment to template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.
- D. Grout base plates and foundations as indicated using specified free-flowing non-shrink grout. Use non-metallic grout for exposed conditions, unless otherwise indicated.
- E. Where high fluidity and/or increased placing time is required use the specified high flow grout. This grout shall be used for all base plates larger than 10 square feet.
- F. Steel Pan Stairs: Provide concrete fill for steel pan stair treads and landings and associated items. Cast-in safety inserts and accessories as shown on drawings. Screeds, tamp, and finish concrete surfaces as scheduled.
- G. Reinforced Masonry: Provide concrete grout for reinforced masonry lintels and bond beams where indicated on drawings and as scheduled. Maintain accurate location of reinforcing steel during concrete placement.

### 3.19 CONCRETE SURFACE REPAIRS

- A. Prior to all repairs, an as-built condition sketch and method of repair must be submitted to the Director's Representative for review and approval.
- B. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Director's Representative.
- C. Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by tie rods and bolts, down to solid concrete but, in no case to a depth of less than 1". Make edges of cuts

perpendicular to the concrete surface. Thoroughly clean, dampen with water, and brush-coat the area to be patched with a bonding grout containing the specified bonding admixture. Place patching mortar after while bonding grout is still tacky.

- D. For exposed-to-view surfaces, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.
- E. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Director's Representative. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discoloration's that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar, or pre-cast cement cone plugs secured in place with bonding agent.
- F. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.
- G. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for tureens of slope, in addition to smoothness, using a template having required slope.
- H. Repair finished unformed surfaces that contain defects, which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets, and other objectionable conditions.
- I. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days, except at hydrostatic slabs.
- J. Correct low areas in unformed surfaces during or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. The specified underlayment compound or repair topping may be used when acceptable to Director's Representative.
- K. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact and finish to blend with adjacent finished concrete. Cure in the same manner as adjacent concrete.
- L. Repair isolated random cracks and single holes not over 1" in diameter by dry-pack method. Groove top of cracks and cutout holes to sound concrete and clean of dust, dirt and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry-pack after bonding compound has

dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.

- M. **Structural Repair:** All structural repairs shall be made with prior approval of the Director's Representative as to method and procedure, using the specified polymer repair mortar and/or specified epoxy adhesive. Where epoxy injection procedures must be used, an approved low viscosity epoxy made by the manufacturers previously specified shall be used. In addition, all cracks shall be filled with the specified crack sealer or other method as approved by the Director's Representative. All garage slabs shall be repaired prior to the slab being treated with the specified penetrating anti-spalling sealer.
- N. **Underlayment Application:** Leveling of floors for subsequent finishes may be achieved by use of specified underlayment material. Underlayment application shall achieve the tolerances specified in "MONOLITHIC SLAB FINISHES" above.
- O. **Specified Polymer Horizontal Repair Mortar:** All exposed floors shall be leveled, where required, with the specified self-leveling repair topping.
- P. **Repair Methods not specified above** may be used, subject to acceptance of Director's Representative.

### 3.20 **FOUNDATION WALLS**

- A. The contractor shall form and leave openings in walls as shown on drawings and approved shop drawings for work of other contractors. These openings shall be temporarily closed and when so directed, the contractor shall point up in solid and neat manner with waterproofed cement.

### 3.21 **WORK IN CONNECTION WITH OTHER TRADES AND CONTRACTS**

- A. Sleeves, pockets, openings, etc., shall be set in the concrete walls and arches as required for the mechanical trades as shown on approved shop drawings; these shall be encased or built into the concrete work and shall be properly placed and secured in position in the forms before concrete is placed.
- B. Provide all chases, pipe slots, etc., required for the mechanical trades (see mechanical drawings), constructed as shown on the approved shop drawings.
- C. Leave temporary access panels where required to install mechanical equipment as required by trade affected. Panels shall be formed with construction joints as specified. Details for such panels shall be submitted to Director's Representative for approval.
- D. Coordinate all penetrations, cutting, and patching with waterproofing contractor.

### 3.22 **CUTTING AND PATCHING**

- A. Contractor for concrete work shall be responsible for all cutting, removing and patching work where concrete surfaces are not installed within the limits shown on the drawings or specified herein. All such work shall meet with the approval of the Director's Representative.

- B. Where cutting and patching is required to accommodate the work of other subcontractors, such cutting shall be done at the expense of said subcontractors but shall be performed by the contractor for concrete work.
- C. The location and extent of cutting in completed concrete work and the patching thereof shall meet with the approval of the Director's Representative.

### 3.23 **QUALITY CONTROL TESTING DURING CONSTRUCTION**

- A. The Owner will employ a testing laboratory to perform tests and to submit test reports.
- B. Provide special inspections per the applicable Building Code and the requirements of all applicable ACI standards.
- C. At locations previously indicated in this specification and on the contract drawings, verify the use of non-magnetic materials. No magnetic materials are permitted in locations where prohibited by this specification or the contract drawings.
- D. Sampling and testing for quality control during placement of concrete may include the following, as directed by Director's Representative.
  - 1. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.
  - 2. Slump: ASTM C 143; one test at point of discharge for each truck; additional tests when concrete consistency seems to have changed.
  - 3. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231 pressure method for normal weight concrete; one for each truck of air-entrained concrete.
  - 4. Concrete Temperature: Test hourly when air temperature is 40°F (4°C) and below, and when 80°F (27°C) and above; and each time a set of compression test specimens made.
  - 5. Compression Test Specimen: ASTM C 31; one set of 5 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.
  - 6. Compressive Strength Tests: ASTM C 39; one set for each day's pour exceeding 25 cu. yds. plus additional sets for each 50 cu. yds. over and above the first 25 cu. yds. of each concrete class placed in any one day; one specimens tested at 7 days, three specimens tested at 28 days, and one specimens retained in reserve for later testing if required.
    - a. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.
    - b. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
    - c. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.

7. Water Cement Ratio Test: Check water content of concrete in accordance with ‘Standard Method of Test for Water Content of Freshly Mixed Concrete Using Microwave Oven Drying, AASHTO DESIGNATION: TP 23, SHRP DESIGNATION: 2027’ for testing procedure. Frequency of this test shall be the same as that of compressive strength tests, noted above.
8. Floor Preparation to Receive Resilient Flooring: For any concrete that receives resilient flooring, test concrete in accordance with ASTM F 710 prior to acceptance by owner.
9. Test results will be reported in writing to Director’s Representative, and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day tests.
  - a. Non Compliance: All test reports indicating non-compliance shall be faxed immediately to all parties on the test report distribution list and the hard copies submitted on different colored paper.
  - b. Nondestructive Testing: Windsor probes, sonoscope, or other non-destructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
10. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Director’s Representative. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Contractor shall pay for such tests when unacceptable concrete is verified.

### 3.24 WASTE MANAGEMENT

- A. Separate and recycle waste materials to the maximum extent feasible.
- B. Collect cut off steel and discarded reinforcement steel and place in area for recycling.
- C. Place materials defined as hazardous or toxic waste in designated containers.
- D. Use trigger operated spray nozzles for water hoses and closed loop system to reduce water consumption.
- E. Reusable forms should be cleaned immediately after removal and non-reusable forms recycled to the maximum extent economically feasible.
- F. Incorporate crushed concrete or masonry materials in sub-base to the maximum extent feasible in accordance with sub-base specifications.
- G. Before concrete pours, designate location or uses for excess concrete. Options include:
  1. Additional paving
  2. Post footing anchorage
  3. Landscaping -- site concrete features

4. Flowable fill
- H. To avoid contamination of the local landscape, before concrete pours, designate a location for cleaning out concrete trucks where run-off can be contained, reused or incorporated. Options include:
1. Company owned site for that purpose
  2. On-site area to be paved later in project

**END OF SECTION**

**SECTION 310000****EARTHWORK****PART 1 GENERAL****1.01 SCOPE OF WORK**

- A. Work of this Section includes conducting unclassified excavation in bulk and in trenches/pits, filling and backfilling with specified soil materials, compacting, grading, and the following:
1. Earthwork shall occur within, around, and for site conditions as required to provide foundation elements, appurtenant structures, sub-bases and base courses, site landscaping and improvements, utility lines, and other miscellaneous elements of respective work. Earthwork shall further include:
    - a. Protection of excavations, utilities, adjacent conditions, and previously installed work of the Project to remain.
    - b. It shall be the responsibility of the contractor to locate all existing utilities whether shown hereon or not, and to protect them from damage. The contract drawings are not inclusive of all utilities that may be present within the project work area. If damaged, the contractor shall bear all expense of repair or replacement of any utility damaged.
    - c. Over excavation shall be filled with lean concrete or approved compacted structural fill material.
    - d. Designing, furnishing, installing, and removing temporary excavation supports, dewatering, and other temporary protection including erosion control required for and incidental to performing and maintaining earthwork.
    - e. Preparing sub-grades and placing base / sub-base courses for utility structures and related distribution lines, wall systems, pavement systems, and site drainage systems.
    - f. Placing fill/backfill materials including, but not limited to, the following:
      1. Coarse Sand material and Washed Gravel material as indicated at and around foundation areas of structures and for utility trenches.
      2. Washed Gravel drainage material for filling vertical drains/weeps at drain units.

3. Flowable fill material at and around existing sub-basement foundations, prior to placement of interior slab-on-grade construction
- g. Grading and compacting of site filled and backfilled areas to design grades with allowance for design thicknesses of planting soils, paving systems, and the like, and allowing for even flow of grade transitions to adjacent site areas.
- h. Perform Soil Material Testing as specified herein.
2. Use of soil materials properly segregated during excavation operations shall be only as approved by the Director's Representative.
3. Obtaining imported (borrow) material from off-site sources to extent required and of materials specified and tested for approved use in earthwork operations.
  - a. Soil materials specified in this Section include the following:
    1. Washed Gravel material for use as sub-base course on grade, and at other conditions indicated.
    2. Aggregate for use as base course over Washed Gravel sub-base course at pavement conditions as indicated.
    3. Sand used for base course at pavement.
    4. Stone Screenings used as base course under sand setting beds.
    5. Sand Based Structural Soil
4. Providing accessory materials including items related to other work of Contract and respective Sections of Work. Accessories include but may not be limited to the following:
  - a. Filter and soil separation fabrics.
5. Field survey / layout work including staking out lines and grades, topographic surveys, verification of job site elevations, and other identification of site work locations.
6. Providing Field Samples/Mock-ups for filling, grading, and compaction of different fill soil installations and for other conditions as specified including mock-up installations for paving systems.
7. Preservation and protection of existing and concurrently installed site work and structures including related structures, curbs, walls, decorative surfaces and pavements, in-place soil materials, and utilities.

8. Perform hand excavation and hand backfilling within new and existing to remain planting and paving areas and at other conditions as required to limit damage and protect adjacent finishes.
9. Disposal of excess and unsuitable soil or other materials resulting from earthwork operations.
10. Coordinating this work between and together with related work of Contract and with adjacent work of separate contractors, including sequencing and scheduling of construction operations and use of site areas.

**1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Site Restoration: Section 310101.
- B. Site Clearing – Section 311000
- C. Selective Tree Removal and Trimming – Section 311300
- D. Trenching – Section 312316
- E. Erosion and Sediment Control – Section 312513
- F. Pavement Repair and Resurfacing – Section 320117
- G. Asphalt Paving – Section 321216
- H. Concrete Walks – Section 321300
- I. Concrete Paving Joint Sealants – Section 321373
- J. Portland Cement Concrete Curb – Section 321613
- K. Topsoiling – Section 329120
- L. Seeding – Section 329219
- M. Manholes and Drainage Structures with Frames and Covers – Section 333913
- N. Drainage Pipe (Storm Drainage) – Section 334103

**1.03 DEFINITIONS**

- A. The following terms have the meanings ascribed to them in this Article, wherever they appear in this Section.
  1. Backfill: General reference for soil materials to be used and the operation to fill an excavation.

- a. Initial backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
  - b. Final backfill: Backfill placed over initial backfill to fill a trench
- 2. Base Course: Layer placed between the compacted subgrade and structure or paving system.
- 3. Bedding Course: Layer placed over the excavated subgrade in a trench before laying pipe and/or conduit.
- 4. Borrow: Suitable soil or washed gravel imported from off-site for use as fill or backfill material.
- 5. Bulk Excavation: Excavation of soils and unclassified or classified materials in any areas not defined as trench or pit excavation.
- 6. Unclassified Earth Excavation: The excavation and disposal of all surface and subsurface materials of any description necessary to perform the work of this contract. This will include:
  - a. All soil deposits of any description both above and below groundwater levels. These may be naturally deposited or placed by previous construction operations.
  - b. Boulders of any size.
  - c. Any materials of man-made origin.
- 7. Subgrade Surface: Surface upon which subbase or topsoil is placed.
- 8. Subbase: Select granular material or subbase course Type 2 which is placed immediately beneath pavement or concrete slabs.
- 9. Foundation Bearing Grade: Grade/elevation at which the bottom-of-footings are constructed.
- 10. Maximum Density: The dry unit weight in pounds per cubic foot of the soil at “Optimum Moisture Content” when determined by ASTM D 698 (Standard Proctor).
- 11. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- 12. Landscaped Areas: Areas not covered by structures, walks, roads, paving, or parking.
- 13. Unauthorized Excavation: The removal of material below required elevation indicated on the Drawings or beyond lateral dimensions

indicated or specified without specific written direction by the Director's Representative.

14. Grading Limit Line or Limit of Disturbance (Shown on Drawings): Limits of grading, excavations and filling required for the work of this contract. Unless specifically noted otherwise, the Grading Limit Line and Contract Limit Line and Limit of Disturbance will be considered the same.

#### **1.04 SUBMITTALS**

##### **A. Product Data:**

1. Permanent Sheeting, Shoring, and Bracing: Specifications for materials and accessories.
2. Filter Fabric: Manufacturer's catalog sheets, specifications, and installation instructions.
3. Geogrid: Manufacturer's catalog sheets, specifications, and installation instructions.

##### **B. Samples: Submit samples as follows. Take the samples in the presence of the Director's Representative, and submit to the Director's Representative the laboratory test results for gradation, proctors and soundness tests, when required. These tests will be performed in accordance with ASTM standards, will be performed and signed by a certified soils laboratory, and will be submitted as part of the original submittal. At a minimum the samples taken will be of the following quantities:**

1. Select Granular Material: 50 - 60 lb. (Two Samples).
2. Subbase Course Type 2: 50 - 60 lb. (Two Samples).
3. Selected Fill: 40 - 50 lb.
4. Cushion Material: 30 lb.
5. Item B-12: 30lb, each gradation.
6. Crushed Stone: 30 lb.
7. Underdrain Filter Material: 40 - 50 lb.

##### **C. Quality Control Submittals:**

1. Subbase Materials: Name and location of source and the DOT Source Number. If the material is not being taken from an approved DOT Source the results of the gradation and soundness tests performed by an ASTM certified soils laboratory will be required.

2. Other Aggregates: Name and location of source and soil laboratory test results.
3. Dewatering Procedure: Submit a lay out drawing or detailed outline of intended dewatering procedure for the Director's Representative information. Provide necessary dewatering permit approvals prior to dewatering.
4. Excavation Procedure: Submit a lay out drawing or detailed outline of intended excavation procedure for the Director's Representative information. This submittal will not relieve the Contractor of responsibility for the successful performance of intended excavation methods.
5. Sheeting, Shoring, and Bracing (Not shown on the Drawings): Submit a detailed plan of intended sheeting, shoring and bracing, signed by a New York State licensed Professional Engineer, for the Director's Representative information. This submittal will not relieve the Contractor of responsibility for the successful performance of the intended sheeting, shoring and bracing methods.

**1.05 DELIVERY, STORAGE, AND HANDLING**

- A. Protect filter fabric from sunlight during transportation and storage.

**1.06 PROJECT CONDITIONS**

- A. Reference the project's Geotechnical Engineering Report prepared by MFS Consulting Engineers & Surveyor, DPC dated April 21, 2023 for existing subsurface information and additional earthwork construction considerations.
- B. Protect existing trees and plants during performance of the Work unless otherwise indicated. Box trees and plants indicated to remain within the limit of disturbance with temporary steel fencing or solidly constructed wood barricades as required. Protect root systems from smothering. If any machinery is operated within the Critical Root Zone of trees requiring protection, the affected area shall be covered with mulch to a depth of at least 12 inches and covered with plywood or metal plates to distribute weight in order to protect roots from damage caused by heavy equipment. Such covering shall be maintained during the course of construction and removed by hand. Do not store excavated material or allow vehicular traffic or parking within the critical root zone or as indicated on the plans. Restrict foot traffic to prevent excessive compaction of soil over root systems.
- C. Cold Weather Requirements:
  1. Excavation: When freezing temperatures are anticipated, do not excavate to final required elevations for concrete work unless concrete can be placed immediately.

2. Backfilling: If backfill is being placed during freezing temperatures the backfilling operations will be monitored by the Director’s Representative and the following procedures will be followed:
  - a. Frozen ground will be removed in its entirety from beneath and five feet beyond the area of fill placement.
  - b. The fill material placed will consist of Selected Fill and will be free of all frozen chunks that exceed four inches in size. The material transported to the project site will only consist of material excavated from below the frost depth.
  - c. At the end of the work day, the area of fill placement will be covered with insulated blankets, or left unprotected. Other means of protection (hay, wood chips, etc.) may also be used for protection provided it is approved by the Director’s Representative.
  - d. Following work day - Remove the insulated blankets and/or strip the area of all frozen material as specified previously.
  - e. Upon establishing the subgrade elevations, protect the grades with insulated blankets or place additional material that will adequately insulate the exposed earth surface from frost. This additional fill or protective material will be stripped just prior to pouring concrete.
  
- D. Thru-traffic or fill placement with heavy construction vehicles or equipment which causes rutting or weaving to occur within the perimeter of a building will not be permitted. If rutting or weaving occurs during placement of fill, place specified fill in a stable area outside building perimeter and spread with tracked equipment to specified layer thickness.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Select Granular Material: Stockpiled, sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with the gradation and material requirements specified below:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
2 inch	50.8	100
1/4 inch	6.35	30-65
No. 40	0.425	5-40
No. 200	0.075	0-10

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after four test cycles.

2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve will not exceed 5.0.
  3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve will consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than three times its least dimension.
- B. Subbase Course Type 2: Stockpiled, crushed ledge rock or approved blast furnace slag. Comply with the gradation and material requirements specified below:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
2 inch	50.8	100
1/4 inch	6.35	25-60
No. 40	0.425	5-40
No. 200	0.075	0-10

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after four test cycles.
  2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve will not exceed 5.0.
  3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve will consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than three times its least dimension.
- C. Selected Fill: Sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with the gradation requirements specified below:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
4 inch	101.6	100
No. 40	0.425	0-70
No. 200	0.075	0-15

- D. Suitable Material (Fill and Backfill for Landscaped Areas): Material consisting of mineral soil (inorganic), blasted or broken rock and similar materials of natural or man-made origin, including mixtures thereof. Maximum particle size will not exceed 2/3 of the specified layer thickness prior to compaction. NOTE: Material containing cinders, industrial waste, sludge, building rubble, land fill, muck, and peat will be considered unsuitable for fill and backfill, except topsoil and organic silt may be used as suitable material in landscaped areas provided it is placed in the top layer of the subgrade surface.

- E. Cushion Material: Will consist of clean, hard, durable, uncoated particles, free from lumps of clay and all deleterious substances and will meet the following gradation requirements:

Sieve Size		Percent Passing
Sieve Size	Size opening (mm)	
1/4 inch	6.35	100
No. 60	0.25	0-35
No. 100	0.15	0-10

- F. Item B-12: Equal Blend of No.1 and No. 2 Crushed Stone that complies with material requirements of DOT Article 703-02, crushed stone only.

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1-1/2 inch	38.1	100
1 inch	25.4	95-100
1/2 inch	12.7	45-60
1/4 inch	6.35	0-15

- G. No. 1 Coarse Aggregate: Crushed Stone that complies with material requirements of DOT Article 703-02 and meets the following gradation.

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1 inch	25.4	100
1/2 inch	12.7	90-100
1/4 inch	6.35	0-15

- H. No. 2 Coarse Aggregate: Crushed Stone that complies with material requirements of DOT Article 703-02 and meets the following gradation.

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1-1/2 inch	38.1	100
1 inch	25.4	90-100
1/2 inch	12.7	0-15

- I. Rip Rap: Light Stone Filling that complies with DOT Article 620-2.02 for stone filling.

- J. Pea Gravel: Comply with DOT Article 703-02 for screened gravel.

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1/2 inch	12.7	100
1/4 inch	6.35	90-100
1/8 inch	3.17	0-15

No. 200 Sieve	0.075	0-1
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K. Flowable Fill: Shall consist of a mixture of Portland cement, sand, water and admixtures proportioned to provide a non-segregating, free-flowing, self-consolidating material that will result in a hardened, dense backfill.

1. Shall have a 28-day compressive strength between 40 and 100 psi.

**2.02 GEOTECHNICAL FABRICS**

A. Filter Fabric (GeoTextile):

1. Drainage and Erosion Control: Amoco 1199 & 2019, Maccaferri MacTex MX140 & MX155, Mirafi 140N & 160N, Fiberweave 403 & 404 or equivalent.
2. Separation for foundation drains, underdrains, undercuts: Amoco 2002 & 2004, Contech Construction Products Inc. C-180, Synthetic Industries Geotex 250ST & 315ST, Mirafi Geolon HP570 & HP1500 or equivalent.
3. Separation/Stabilization beneath pavements: GeoTex 801, Bonded Fibers Products PN080, Maccaferri Gabions MacTex MX275 & 340, Mirafi 160N & 180N or equivalent. *(Note: Although filter fabric does offer some additional strength to the existing subgrade, the strength it offers is usually temporary and it is not the intended use of fabrics. If a subgrade soil is very soft, the designer shall incorporate a thicker subbase course or shall place a geogrid type material in addition to the fabric. Consult Director’s Representative if soft subgrade conditions exist.)*

B. Geogrids:

1. Segmental Retaining Walls.
2. Subgrade Stabilization.

**PART 3 EXECUTION**

**3.01 CLEARING AND GRUBBING**

A. Clear and grub the Site within the limit of work disturbance of trees, shrubs, brush, other prominent vegetation, debris, and obstructions except for those items indicated to remain. Completely remove stumps and roots protruding through the ground surface.

1. Use only hand methods for grubbing inside the drip line of trees indicated to be left standing.
2. Where roots and branches of trees indicated to be saved interfere with new construction, carefully and cleanly cut them back to point of branching.

- B. Fill depressions caused by the clearing and grubbing operations in accordance with the requirements for filling and backfilling, unless further excavation is indicated.

**3.02 REMOVAL OF TOPSOIL**

- A. Remove existing topsoil from areas within the Grading Limit Line where excavation or fill is required.
- B. Stockpile approved topsoil where directed until required for use. Place, grade, and shape stockpiles for proper drainage.
  - 1. Topsoil will be tested prior to stockpiling. Stockpile only quantities of topsoil approved in writing for re-use.

**3.03 UNDERGROUND UTILITIES**

- A. Locate existing underground utilities prior to commencing excavation work. Determine exact utility locations by hand excavated test pits. Support and protect utilities to remain in place.
- B. Do not interrupt existing utilities that are in service until temporary or new utilities are installed and operational.
- C. Utilities to remain in service: Will be re-routed as shown on the Contract Drawings, if it is known that existing underground utilities exist beneath the footprint of the existing structure. In addition, Director’s Representative shall show the rerouting of utilities to remain in service on the contract drawings.
- D. Utilities abandoned beneath and five feet laterally beyond the structure’s existing footprint will be removed in their entirety. Excavations required for their removal will be backfilled and compacted as specified herein.
- E. Utilities extending outside the five feet limit specified above may be abandoned in place provided their ends are adequately plugged as described below.
  - 1. Permanently close open ends of abandoned underground utilities exposed by excavations, which extend outside the limits of the area to be excavated.
  - 2. Close open ends of metallic conduit and pipe with threaded galvanized metal caps or plastic plugs or other approved method for the type of material and size of pipe. Do not use wood plugs.
  - 3. Close open ends of concrete and masonry utilities with concrete or flow-able fill.

**3.04 EXCAVATION**

- A. Excavate earth as required for the Work.

- B. Install and maintain all erosion and sedimentation controls during all earthwork operations as specified on the Contract Drawings or as directed by local officials. If the erosion and sedimentation controls specified by the local officials are more stringent than those specified on the Contract Drawings contact the Director's Representative.
- C. Maintain sides and slopes of excavations in a safe condition until completion of backfilling. Comply with Code of Federal Regulations Title 29 - Labor, Part 1926 (OSHA).
  - 1. Trenches: Deposit excavated material on one side of trench only. Trim banks of excavated material to prevent cave-ins and prevent material from falling or sliding into trench. Keep a clear footway between excavated material and trench edge. Maintain areas to allow free drainage of surface water.
- D. Stockpile excavated materials classified as suitable material where directed, until required for fill. Place, grade, and shape stockpiles for proper drainage as approved by the Director's Representative.
- E. Excavation for Structures: Conform to elevations, lines, and limits indicated. Excavate to a vertical tolerance of plus or minus 1 inch. Extend excavation a sufficient lateral distance to provide clearance to execute the Work.
- F. Footings and Foundations: The foundation bearing grade will be established just prior to constructing the concrete foundations when concrete is to bear on undisturbed soil.
  - 1. Stepping Footings: Cut sloping surfaces under footings, foundations, steps, and where required for other Work as indicated.
  - 2. Pile Foundations: Stop excavations 6 to 12 inches above the bottom of pile cap elevation before the piles are placed. After pile installation, remove loose and displaced material and excavate to final grade, leaving a solid base to receive concrete pile caps.
  - 3. Where footings and other Work requiring similar soil support will rest entirely on rock, remove loose soil and loose rock and place concrete to the required elevations. Where footings and other Work requiring similar soil support will rest partially on rock and partially on soil, immediately notify the Director before any backfilling or concrete placement occurs; the Director will determine the correct foundation treatment for the Work.
- G. Slabs and Floors: Excavate to the following depths below bottom of concrete for addition of select granular material:
  - 1. Interior Floors: 6 inches unless otherwise indicated.
  - 2. Exterior Slabs and Steps: 12 inches unless otherwise indicated.

- H. Pipe Trenches: Open only enough trench length to facilitate laying pipe sections. Unless otherwise indicated on the Drawings, excavate trenches approximately 24 inches wide plus the outside pipe diameter, equally divided on each side of pipe centerline. Cut trenches to cross section, elevation, profile, line, and grade indicated. Accurately grade and shape trench bottom for uniform bearing of pipe in undisturbed earth. Excavate at bell and coupling joints to allow ample room for proper pipe connections.
  - 1. Trench in Rock: Excavate an additional 6 inches below bottom of pipe for bed of cushion material under the piping.
- I. Open Ditches: Cut ditches to cross sections and grades indicated.
- J. Pavement: Excavate to subgrade surface elevation.
- K. Unauthorized Excavations: Unless otherwise directed, backfill unauthorized excavation under footings, foundation bases, and retaining walls with compacted select granular material without altering the required footing elevation. Elsewhere, backfill and compact unauthorized excavation as specified for authorized excavation of the same classification, unless otherwise directed by the Director.
  - 1. Unauthorized excavations under structural Work such as footings, foundation bases, and retaining walls will be reported immediately to the Director before any concrete or backfilling Work commences.
- L. Notify the Director's Representative upon completion of excavation operations. Do not proceed with the Work until the excavation is inspected and approved. Inspection of the excavation by the Director's Representative will be made on three working days notice.
- M. Removal of Unsuitable Material Beneath Structures and Other Improvements: Excavate encountered unsuitable materials, which extend below required elevations, to additional depth as directed by the Director. Have cross sections taken, under the supervision of an independent Land Surveyor, to determine the quantity of such excavation. Do not backfill this excavation prior to quantity measurement.
  - 1. Such additional excavation and backfilling, not due to error, fault or neglect of the Contractor and exceeding the numeric quantities indicated on the Drawings, will be paid for at the unit prices specified in this Section.

### **3.05 DEWATERING**

- A. Prior to the performance of any excavations provide dewatering methods such that the groundwater table is maintained at an elevation that is beneath the excavated depth.

- B. Prevent surface and subsurface water from flowing into excavations and trenches and from flooding the site and surrounding area.
- C. Do not allow water to accumulate in excavations or trenches. Remove water from all excavations immediately to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to the stability of subgrades and foundations. Furnish and maintain pumps, sumps, suction and discharge piping systems, and other system components necessary to convey the water away from the Site.
- D. Convey water removed from excavations, and rain water, to collecting or run-off area. Cut and maintain temporary drainage ditches and provide other necessary diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.
- E. Provide temporary controls to restrict the velocity of discharged water as necessary to prevent erosion and siltation of receiving areas. Dewatered groundwater shall be discharged into a sediment holding tank and properly disposed.
- F. No groundwater shall be discharged to any storm, sanitary or combined sewers prior to obtaining all proper permits from the New York State Department of Environmental Conservation and any other local governing agency.

**3.06 SETTLEMENT DETECTION**

- A. Excavating beneath the bearing grades of an existing structure: Establish a settlement detection method approved by the Director’s Representative for structures subject to settlement from excavation, sheeting or sheetpiling operations. Maintain surveillance to detect any settlement.
- B. Surcharging: Establish a settlement monitoring plan to accurately determine the settlements that have occurred and the rate that they occurred to adequately determine when settlement caused by surcharge is complete.

**3.07 SHEETING, SHORING, AND BRACING**

- A. Temporary Sheeting: Install temporary sheeting or sheetpiling with shoring and bracing as required to create a safe working environment and prevent settlement or other damage to adjacent grounds and structures resulting from excavation operations. Shore and brace sheeting in a manner which will not interfere with progress of other Work or related contracts (if any) on this project. Check shoring and bracing for settlement, and adjust for settlement. Promptly remove temporary sheeting, shoring, and bracing when no longer required.
- B. Permanent Sheeting: Install permanent steel sheetpiling where shown. Cut off top of permanent sheeting 12 inches below finish grade.

**3.08 PLACING FILTER FABRIC**

- A. Place and overlap filter fabric in accordance with the manufacturer’s installation instructions, unless otherwise shown.
- B. Cover tears and other damaged areas with additional filter fabric layer extending three feet beyond the damage.
- C. Do not permit traffic or construction equipment directly on filter fabric.
- D. Backfill over filter fabric within two weeks after placement. Backfill in accordance with the fabric manufacturer’s instructions and in a manner to prevent damage to the fabric.

**3.09 PLACING FILL AND BACKFILL**

- A. Surface Preparation of Fill Areas: Strip topsoil, remaining vegetation, and other deleterious materials prior to placement of fill. Remove all asphalt pavement in its entirety from areas requiring the placement of fill. The exposed subgrade surface should be level and free of loose soil, debris, organics, standing water, or other unsatisfactory material. Prior to construction, the subgrade should be compacted with at least five (5) passes of a 2-ton smooth-drum vibratory roller. Any areas exhibiting excessive weaving, rutting, or pumping should be removed and replaced with compacted fill. The exposed subgrade condition should be verified and approved by the Director’s Representative for subgrade and fill placement.
- B. Excavations: Backfill as promptly as Work permits, but not until completion of the following:
  - 1. Acceptance by the Director’s Representative of construction below finish grade including, where applicable, dampproofing, waterproofing, perimeter insulation, and bearing capacity of supporting soil.
  - 2. Inspection, testing, approval, and recording locations of underground utilities.
  - 3. Removal of concrete formwork.
  - 4. Removal of temporary sheeting or sheetpiling and backfilling of voids caused by removals.
  - 5. Cutting off top of permanent sheeting or sheetpiling.
  - 6. Removal of trash and debris.
  - 7. Installation of permanent or temporary bracing on horizontally supported walls.
- C. Place backfill and fill materials in layers not more than 12 inches thick in loose depth unless otherwise specified. Before compaction, moisten or aerate each layer as necessary to facilitate compaction to the required density. Do not place backfill or fill material on surfaces that are muddy, frozen, or covered with ice.

1. Place fill and backfill against foundation walls, and in confined areas such as trenches not easily accessible by larger compaction equipment, in maximum six inch thick loose depth layers.
2. For large fill areas, the layer thickness may be modified by the Director's Representative, at the Contractor's written request, if in the Director's Representative's judgment, the equipment used is capable of compacting the fill material in a greater layer thickness. This request will include the type and specifications of compaction equipment intended for use.
3. For Open Graded Stone/Clean Stone (Item B-12, No. 1 crushed stone, No. 2 crushed stone, etc.) in excess of six inches: Material must be wrapped in separation fabric.

D. Concrete walls:

1. Do not place fill or backfill against concrete walls until the walls have attained 70 percent of their design strength. Place backfill against walls of structures containing basements or crawl spaces only after the first floor structural members are in place and any concrete components of the first floor structural system have attained 70 percent of their concrete design strength.
2. Prevent wedging action of backfill against structures backfilled on both sides, by placing backfill uniformly around structure so that the elevation on each side never differs by more than 24 inches.

E. Foundation Drains:

1. Line pipe trench loosely with filter fabric. Lap successive sheets 18 inches.
2. Place underdrain filter material a minimum of 4 inches deep under pipe and 6 inches on both sides and over top of drain pipe.
3. Completely wrap underdrain filter material with filter fabric.
4. Within two weeks complete balance of backfill with selected fill extending 2 feet out from foundation wall and up to 6 inches below finished grade.

F. Perimeter Insulation: Before the insulation is installed, place and tamp specified backfill to a smooth plane even with the required elevation of the lower surface of the insulation.

G. Under Exterior Concrete Slabs and Steps:

1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.

2. Subbase Material: Place 12 inches of select granular material over subgrade surface.
- H. Under Interior Concrete Slabs:
1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
  2. Subbase Material: Place six inches of select granular material over subgrade surface.
- I. Under Pavements and Walks:
1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
  2. Subbase Material: Place as indicated.
- J. Landscaped Areas: Place suitable material when required to complete fill or backfill areas up to subgrade surface elevation. Do not use material containing rocks over four inches in diameter within the top 12 inches of suitable material.
- K. Pipe Tunnels: Place selected fill a minimum of 12 inches on both sides and over top of tunnel.
- L. Plastic Pipe in Trenches: Place cushion material a minimum of six inches deep under pipe, 12 inches on both sides, and 12 inches above top of pipe. Complete balance of backfill as specified.
1. Trench in Rock: Place a minimum six inch deep bed of cushion material under pipe.
- M. Copper Tubing and Steel Gas Pipe in Trenches: Place cushion material a minimum of six inches deep under pipe, 12 inches on both sides, and 12 inches above top of pipe. Complete balance of backfill as specified.
- N. Backfilling Excavation Resulting From Removal of Unsuitable Material Beneath Structures and Other Improvements: Backfill the excavation with compacted select granular material.
1. Such additional backfilling, exceeding the numeric quantities indicated on the Drawings, is included in the unit prices specified in this Section.

**3.10 ADDITIONAL REQUIREMENTS FOR PLACING FILL TO SUPPORT STRUCTURES**

- A. Place fill within the entire area enclosed by a line ten feet outside the perimeter of the structure to be constructed as follows:
1. Strip the area in accordance with the requirements for Surface Preparation of Fill Areas.

2. Compact the stripped surface to 95 percent of maximum density.
  3. Place fill in horizontal layers not exceeding 12 inches loose depth and compact layers as specified.
- B. Place fill within the entire area enclosed by a line 10 feet outside the perimeter of the structure to be constructed as follows:
1. Strip the area in accordance with the requirements for Surface Preparation of Fill Areas.
  2. Proof roll the stripped surface with at least five passes of a vibratory drum compactor having a minimum unsprung drum weight of seven tons. Notify the Director's Representative of the proposed date for beginning proof rolling at least seven working days prior to commencing proof rolling.
  3. Excavate unsuitable materials (soft and unstable earth) disclosed by the proof rolling operation and replace with compacted Selected Fill material.
  4. Place fill in horizontal layers not exceeding 12 inches loose depth and compact layers as specified.
- C. Obtain written approval of fill area compaction before excavating for footing.
- D. Excavate for footing width plus one foot on each side.
- E. Excavate one foot below footing elevations where bottom of footings are two feet or less above or four feet or less below original ground surface.
1. Compact footing bottom and place a one foot bed of select granular material. Compact select granular material in six inch layers.
  2. Omit excavation and select granular material below bottom of footings where footing elevations are more than two feet above or more than 4 feet below original ground surface.

### 3.11 COMPACTION

- A. All materials with exception of open graded stone (No. 2 Coarse aggregate, No. 1 Coarse aggregate, Item B-12, etc.):
1. Compact each layer of fill and backfill for the following area classifications to the percentage of maximum density specified below and at a moisture content suitable to obtain the required densities, but at not less than three percent drier or more than two percent wetter than the optimum content as determined by ASTM D 698 (Standard Proctor) or 1557 (Modified Proctor).

- a. Structures (entire area within ten feet outside perimeter): 95 percent.
  - b. Concrete Slabs and Steps: 95 percent.
  - c. Landscaped Areas: 90 percent.
  - d. Pavements and Walks: 95 percent.
  - e. Pipes and Tunnels: 95 percent.
  - f. Pipe Bedding: 95 percent.
2. When the existing ground surface to be compacted has a density less than that specified for the particular area classification, break up and pulverize, and moisture condition to facilitate compaction to the required percentage of maximum density.
3. Moisture Control:
- a. Where fill or backfill must be moisture conditioned before compaction, uniformly apply water to the surface and to each layer of fill or backfill. Prevent ponding or other free water on surface subsequent to, and during compaction operations.
  - b. Remove and replace, or scarify and air dry, soil that is too wet to permit compaction to specified density. Soil that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing, until moisture content is reduced to a value which will permit compaction to the percentage of maximum density specified.
4. If a compacted layer fails to meet the specified percentage of maximum density, the layer will be recompacted and retested. If compaction cannot be achieved the material/layer will be removed and replaced. No additional material may be placed over a compacted layer until the specified density is achieved.
- B. Open graded Stone: Place material in maximum twelve inch lifts. Each lift shall be raked smooth and compacted through several passes of a walk behind vibratory roller. Compaction Testing is **not** required.

### 3.12 ROUGH GRADING

- A. Interior Grading: Trim unexcavated spaces within the building to levels indicated.
  - 1. Subgrade for Interior Slabs: Compact as specified to receive fill material. Finish subgrade surface within 1 inch above or below level specified for fill required.

- B. Exterior Grading: Trim and grade area within the Grading Limit Line and excavations outside the limit line, required by this Contract, to a level of 4 inches below the finish grades indicated unless otherwise specified herein or where greater depths are indicated. Provide smooth uniform transition to adjacent areas.
1. Slope cut and fill in transition areas, outside of the grading limit line, to meet corresponding levels of existing grades at a slope of 1 vertical to 2 horizontal unless otherwise indicated.
  2. Landscaped Areas: Provide uniform subgrade surface within 1 inch of required level to receive topsoil thickness specified. Compact fill as specified to within three inches of subgrade surface. Remove objectionable material detrimental to proper compaction or to placing full depth of topsoil. If the top three inches of subgrade has become compacted before placement of topsoil, harrow or otherwise loosen rough graded surface to receive topsoil to a depth of three inches immediately prior to placing topsoil.

### **3.13 SUBGRADE SURFACE FOR WALKS AND PAVEMENT**

- A. Shape and grade subgrade surface as follows:
1. Walks: Shape the surface of areas under walks to required line, grade and cross section, with the finish surface not more than 1 inch above or below the required subgrade surface elevation.
  2. Pavements: Shape the surface of areas under pavement to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subgrade surface elevation.
- B. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.
- C. Thoroughly compact subgrade surface for walks and pavement by mechanical rolling, tamping, or with vibratory equipment as approved to the density specified.
- D. Shoulders: Place shoulders along edges of filled subgrades to prevent lateral movement. Construct shoulders of selected fill material, placed in such quantity to compact to thickness of each subgrade course layer. Compact and roll at least a 2'-0" wide additional layer of each subgrade course.

### **3.14 FINISH GRADING**

- A. Uniformly grade rough graded areas within limits of the Grading Limit Line to finish grade elevations indicated.

- B. Grade and compact to smooth finished surface within tolerances specified, and to uniform levels or slopes between points where finish elevations are indicated or between such points and existing finished grade.
- C. Grade areas adjacent to building lines so as to drain away from structures and to prevent ponding.
- D. Finish surfaces free from irregular surface changes, and as follows:
  - 1. Grassed Areas: Finish areas to receive topsoil to within one inch above or below the required subgrade surface elevations.
  - 2. Walks: Place and compact subbase material as specified. Shape surface of areas under walks to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subbase elevation.
  - 3. Pavements: Place and compact subbase material as specified. Shape surface of areas under pavement to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subbase elevation.
  - 4. Building Slabs: Grade subbase material smooth and even, free of voids, compacted as specified, and to required subbase elevation. Finish final grades within a tolerance of 1/4 inch when tested with a ten foot straightedge.
  - 5. Surfaces To Receive Vapor Barrier: Provide smooth surfaces graded, tamped and/or rolled, entirely free of obstructions or protruding objects.

**3.15 MAINTENANCE AND RESTORATION**

- A. Restore grades to indicated levels where settlement or damage due to performance of the Work has occurred. Correct conditions contributing to settlement. Remove and replace improperly placed or poorly compacted fill materials.
- B. Restore pavements, walks, curbs, lawns, and other exterior surfaces damaged during performance of the Work to match the appearance and performance of existing corresponding surfaces as closely as practicable.
- C. Topsoil and seed or sod damaged lawn areas outside the GLL and new lawn areas inside the GLL. Water as required until physical completion of the Work.

**3.16 DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS**

- A. Remove from State property and dispose of excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements.

- B. Transport excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements, to spoil areas on State property designated by the Director's Representative, and dispose of such materials as directed.
- C. Transport excess topsoil to areas on State property designated by the Director's Representative. Smooth grade deposited topsoil.

**3.17 FIELD QUALITY CONTROL**

- A. Compaction Testing: Notify the Director's Representative at least three working days in advance of all phases of filling and backfilling operations. Compaction testing will be performed by the Director's Representative to ascertain the compacted density of the fill and backfill materials. Compaction testing will be performed on certain layers of the fill and backfill as determined by the Director's Representative. If a compacted layer fails to meet the specified percentage of maximum density, the layer will be recompact and will be retested. No additional material may be placed over a compacted layer until the specified density is achieved.

**3.18 PROTECTION**

- A. Protect graded areas from traffic and erosion and keep them free of trash and debris.

**END OF SECTION**

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
2	10/25/2024	APPENDUM 9
1	08/24/2024	APPENDUM 3
	08/21/2024	BID SET

PROJECT NUMBER: 47331 - C  
 DESIGNED BY:  
 DRAWN BY:  
 FIELD CHECK:  
 APPROVED:  
 SHEET TITLE:

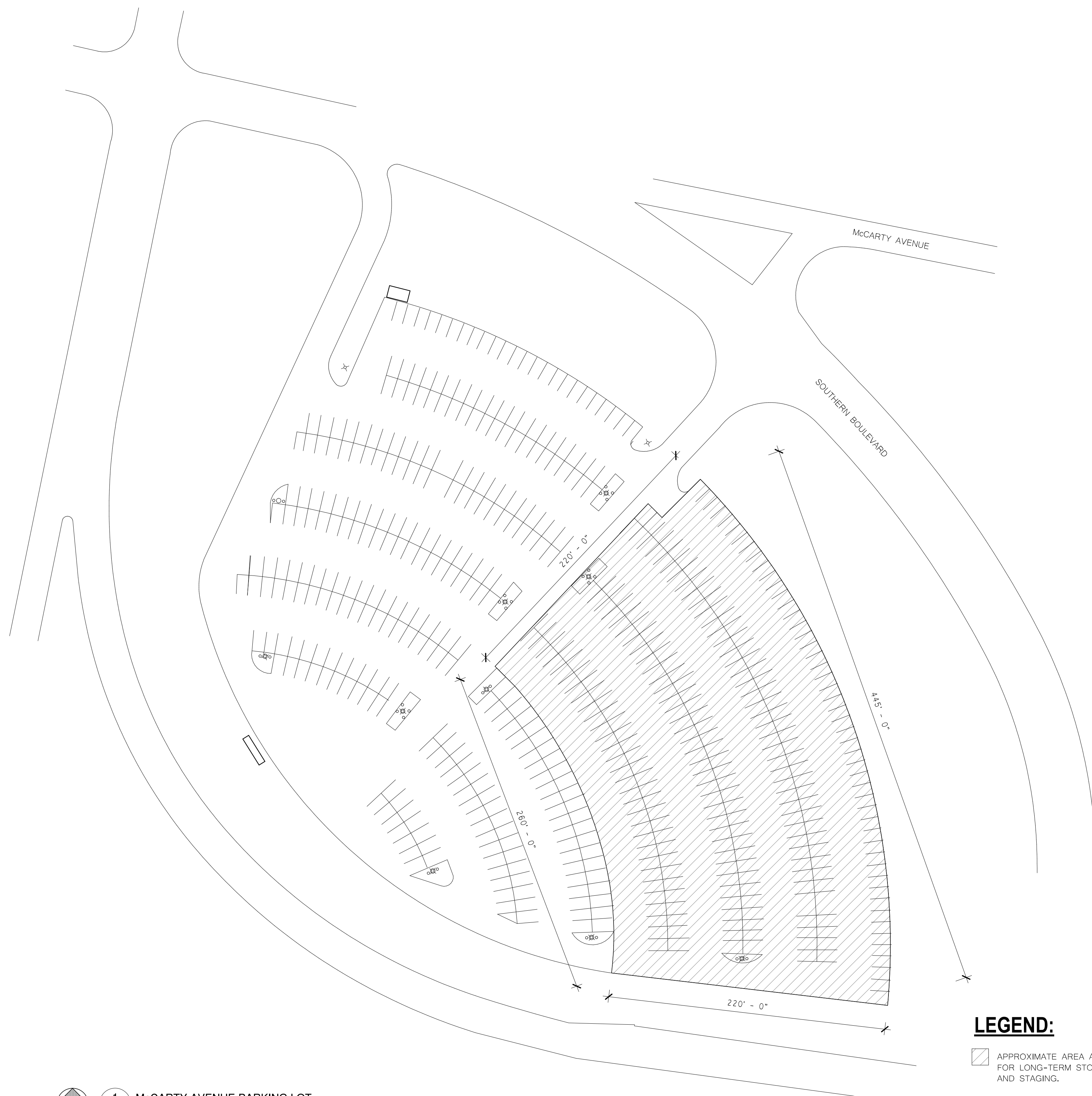
OFF-SITE STORAGE

DRAWING NUMBER: G003

**OFF-SITE STORAGE:**

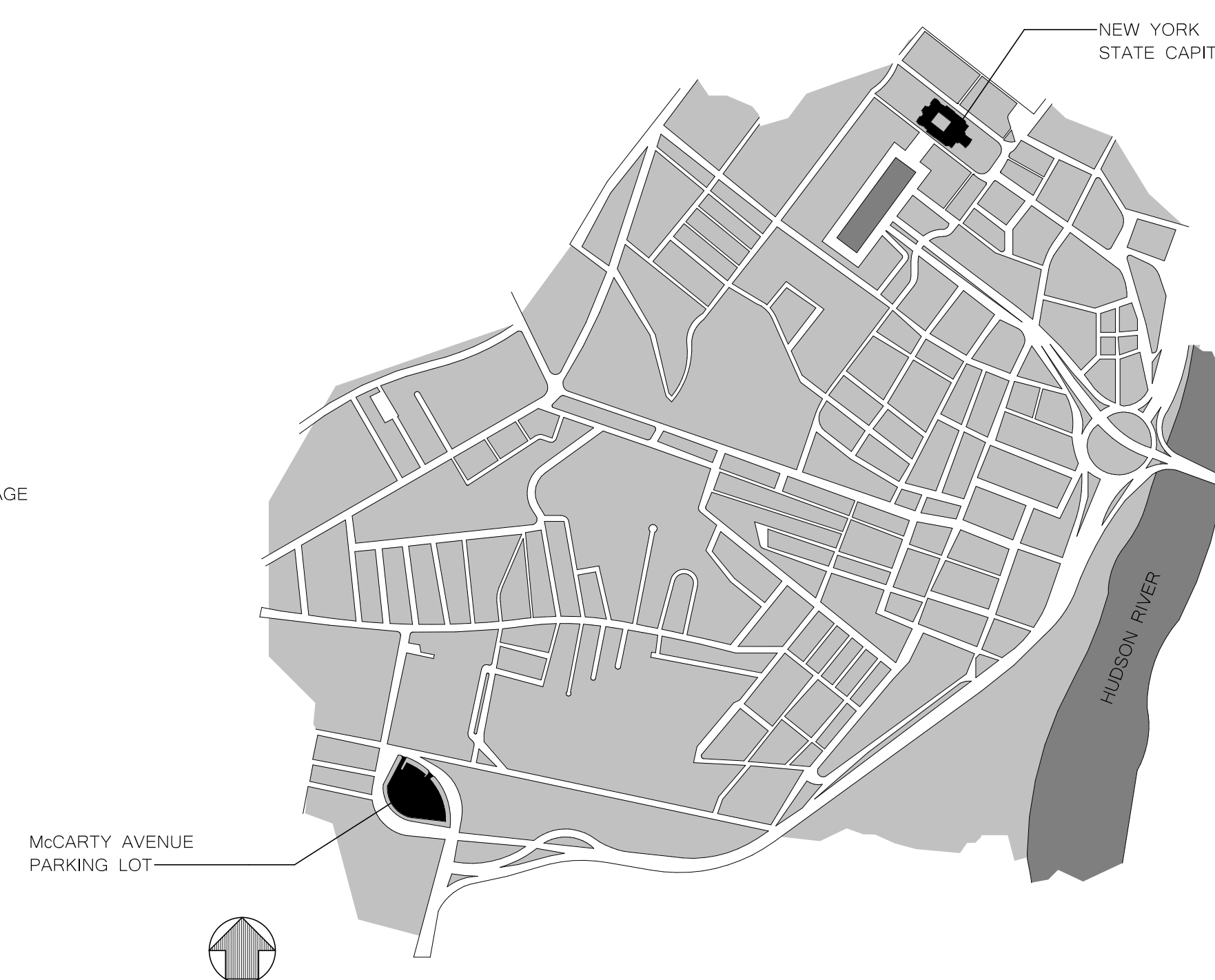
1. McCARTY AVENUE PARKING LOT IS AVAILABLE FOR OFF-SITE LONG-TERM STONE STORAGE. CONTRACTOR RESPONSIBLE FOR PROVIDING SECURITY FENCE, GATES, TEMPORARY LIGHTING, AND OTHER SECURITY MEASURES. USE OF PARKING LOT IS NOT REQUIRED. ALTERNATE SECURED LOCATION TO BE SUBMITTED FOR APPROVAL BY DIRECTOR'S REPRESENTATIVE. PUBLIC UTILITIES ARE AVAILABLE TO THE PARKING LOT FOR CONNECTION AND COORDINATION THROUGH THE SERVICE PROVIDER TO BE COMPLETED BY THE CONTRACTOR. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.

2



**LEGEND:**

APPROXIMATE AREA AVAILABLE FOR LONG-TERM STONE STORAGE AND STAGING.

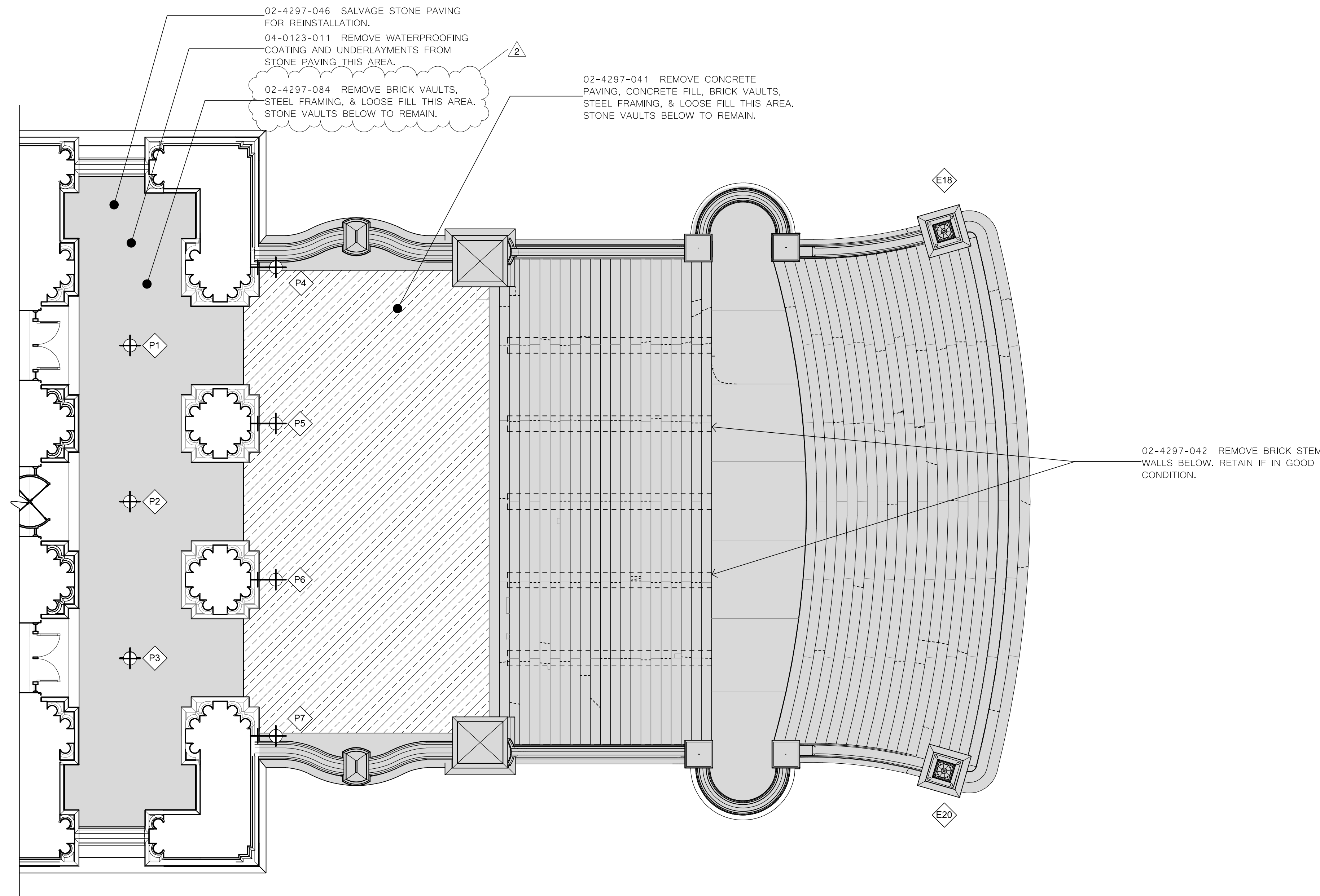


1 McCARTY AVENUE PARKING LOT  
 G003 1" = 50'-0"

FOR INFORMATION ONLY.

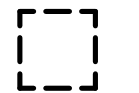



# GENERAL NOTES - REMOVALS

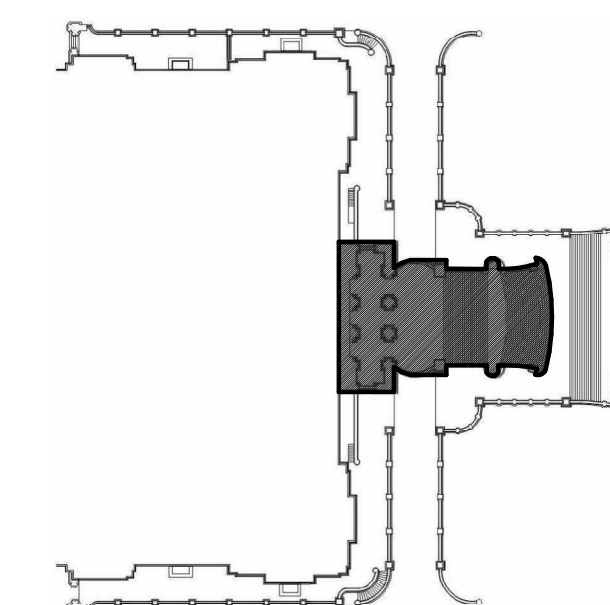
1. REMOVE BIRD EXCREMENT.



1 EASTERN APPROACH - SECOND FLOOR REMOVALS PLAN  
R103 1/8" = 1'-0"

### LEGEND:

-  REMOVE FEATURES.
-  SALVAGE HISTORIC STONE FOR REINSTALLATION.
-  SALVAGE LIGHT FIXTURES FOR RESTORATION. REFER TO ELECTRICAL.
-  EXISTING STONE CRACK.



DESIGN & CONSTRUCTION

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION  
TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP  
LOCATION: NEW YORK STATE CAPITOL ALBANY, NY  
CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
2	10/25/2024	ADDENDUM 9
1	09/21/2024	ADDENDUM 5
		BID SET
PROJECT NUMBER:	47331 - C	
DESIGNED BY:		
DRAWN BY:		
FIELD CHECK:		
APPROVED:		
SHEET TITLE:	EASTERN APPROACH - SECOND FLOOR REMOVALS PLAN	
DRAWING NUMBER:	R103	
SHEET:	56	OF 257

CONSULTANT:

Architects  
John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

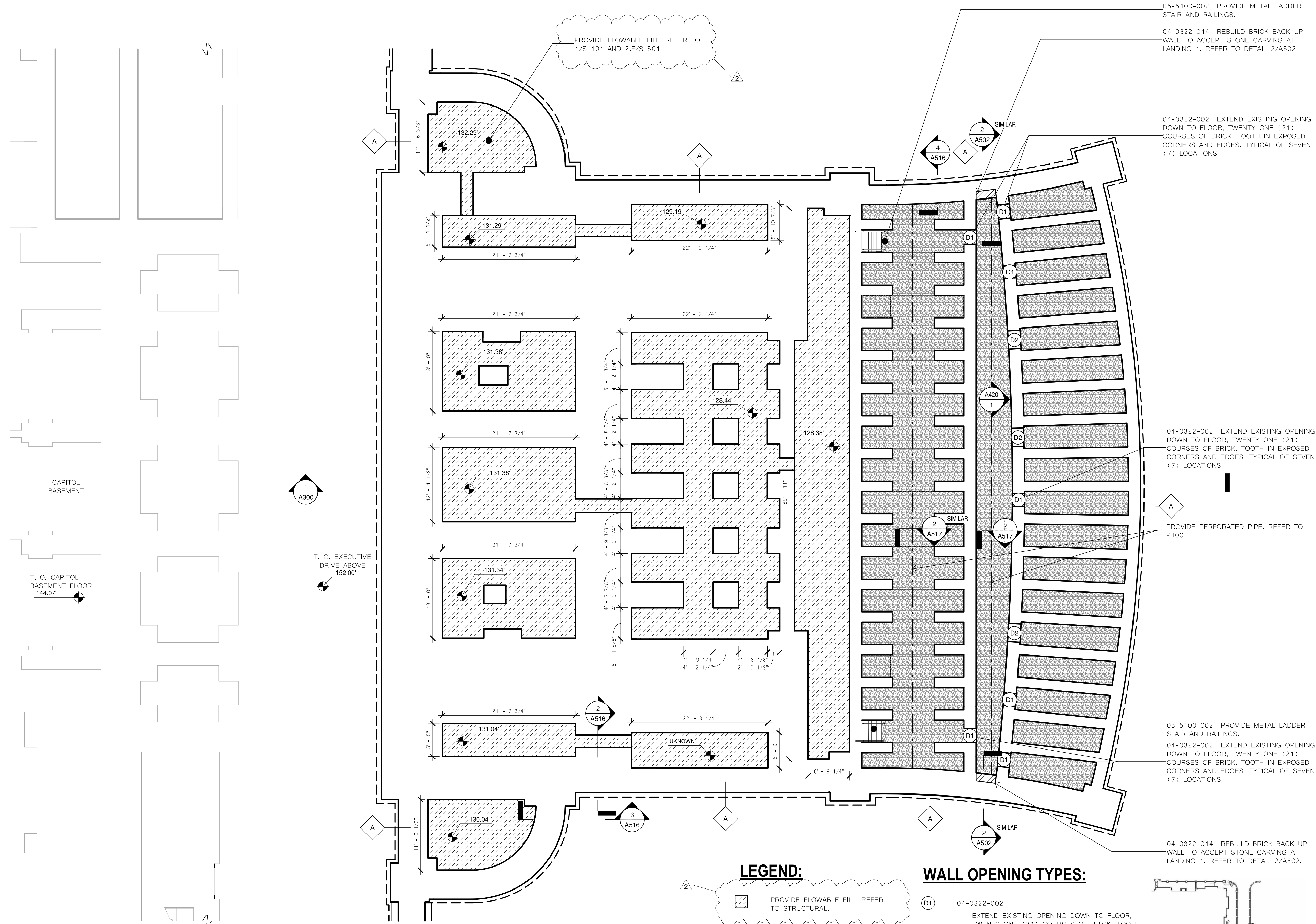
REVISED 10/25/2024

MARK	DATE	DESCRIPTION
2	10/25/2024	ADDENDUM 9
1	10/11/2024	ADDENDUM 5
	09/21/2024	BID SET

PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

SUBBASEMENT FLOOR PLAN

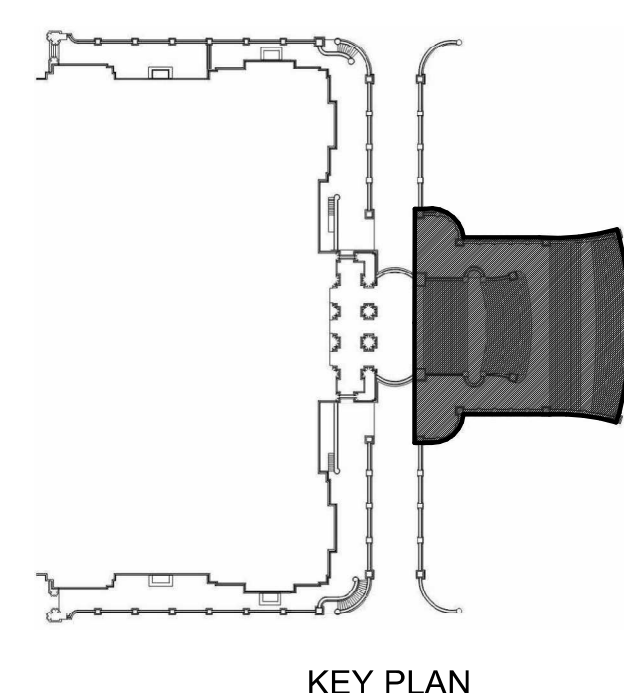
DRAWING NUMBER: A100



1 SUBBASEMENT FLOOR PLAN  
A100 1/8" = 1'-0"

**LEGEND:**  
 PROVIDE FLOWABLE FILL. REFER TO STRUCTURAL.  
 07-1326-014 PROVIDE WATERPROOFING AT MASONRY FOUNDATION WALLS. REFER TO SUBBASEMENT DETAILS ON A516.  
 REBUILD BRICK BACK-UP WALL.  
 31-0000-003 PROVIDE 2'-0" +/- GRAVEL OVER EXISTING FILL LAYER.  
 SPOT ELEVATION AT BOTTOM OF SUB-BASEMENT CHAMBER UNLESS NOTED OTHERWISE.

**WALL OPENING TYPES:**  
 D1 04-0322-002 EXTEND EXISTING OPENING DOWN TO FLOOR, TWENTY-ONE (21) COURSES OF BRICK, TOOTH IN EXPOSED CORNERS AND EDGES. TYPICAL OF SEVEN (7) LOCATIONS.  
 D2 04-0322-003 CREATE 5'-0" X 3'-0" OPENING IN BRICK WALL, TOOTH IN EXPOSED CORNERS AND EDGES. REFER TO STRUCTURAL FOR LINTEL. TYPICAL OF THREE (3) LOCATIONS.



C:\Users\mjorden\Documents\2022-14C NYS Eastern Approach\_mjorden\INGY\J\10/25/2024 1:54:26 AM 38x48 FLOOR SHEET

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITION 9 BID SET
	09/21/2024	

PROJECT NUMBER: 47331 - C  
 DESIGNED BY:  
 DRAWN BY:  
 FIELD CHECK:  
 APPROVED:  
 SHEET TITLE:

EASTERN APPROACH - EAST DETAIL ELEVATIONS

DRAWING NUMBER: A203

SHEET: 90 OF 257

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- SALVAGE AND RESET EXISTING STONE.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- TOOL STONE SURFACE TO PRODUCE SMOOTH AND LEVEL TOP SURFACE.



1 EASTERN APPROACH - EAST ELEVATION FLIGHT 3  
1/4" = 1'-0"

04-0342-341 REMOVE EXISTING MORTAR PATCH. PROVIDE 4" X 4" DUTCHMAN REPAIR.



2 EASTERN APPROACH - EAST ELEVATION FLIGHTS 1 AND 2  
1/4" = 1'-0"

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT:

CONSTRUCTION

TITLE:  
REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION:  
NEW YORK STATE CAPITOL  
ALBANY, NY

CLIENT:  
OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET

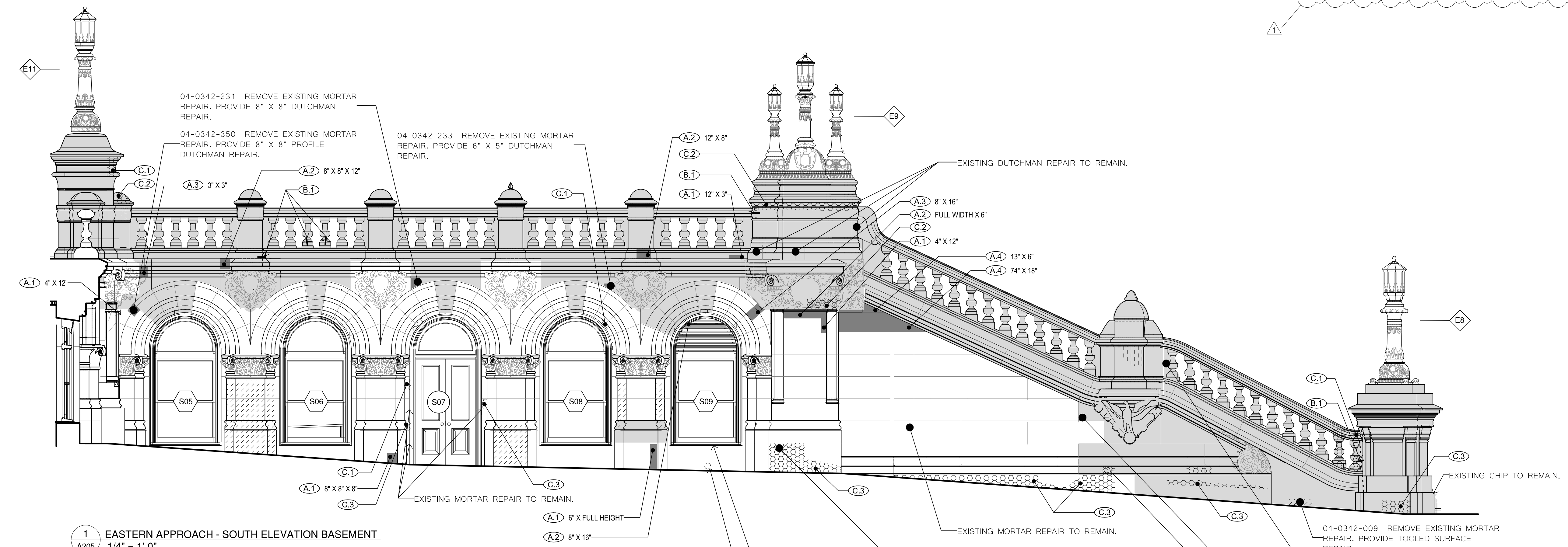
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

**EASTERN APPROACH - SOUTH ELEVATION BASEMENT**

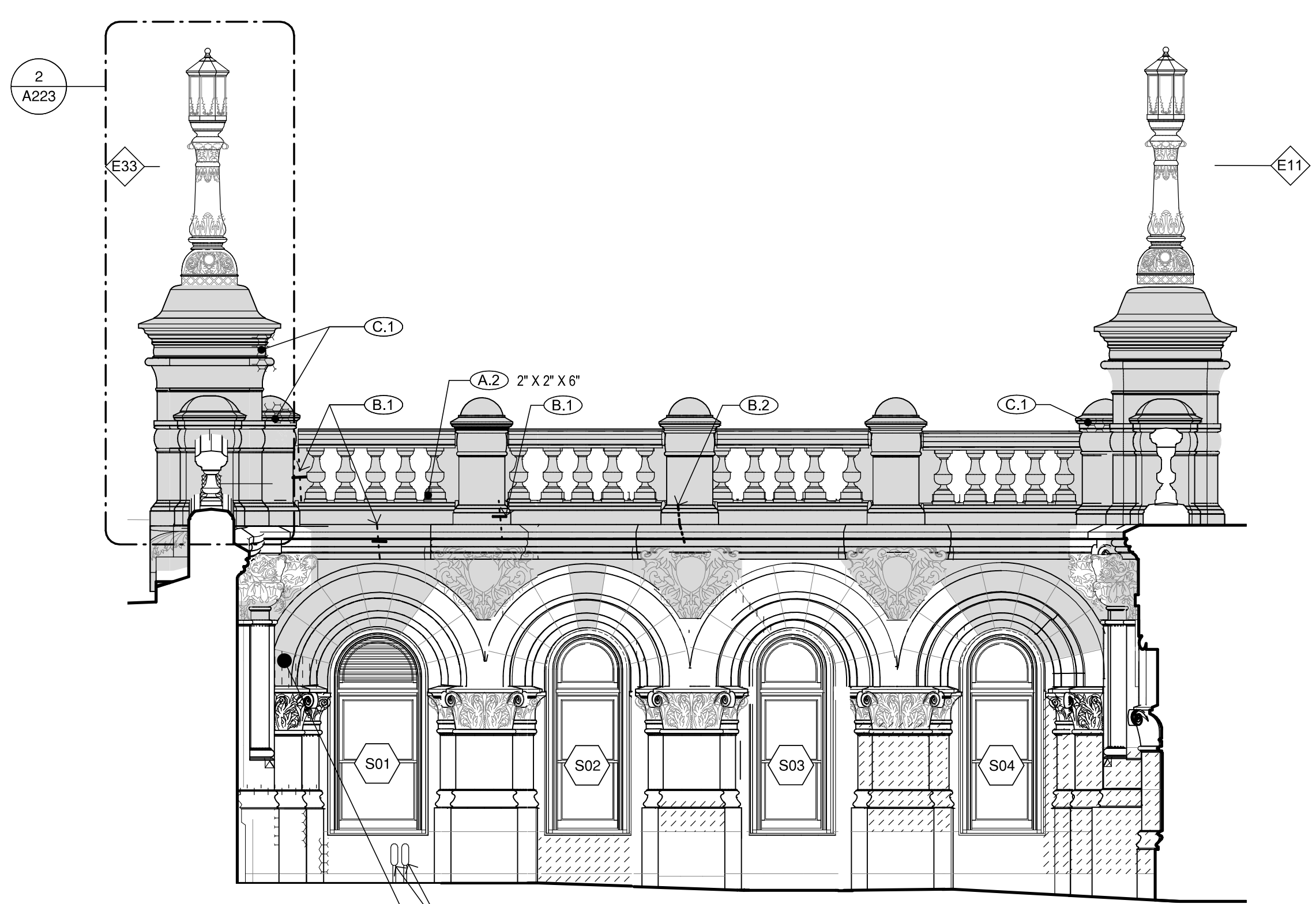
DRAWING NUMBER:  
**A205**

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



**1 EASTERN APPROACH - SOUTH ELEVATION BASEMENT**  
A205 1/4" = 1'-0"



**2 EASTERN APPROACH - SOUTH ELEVATION CURVED BASEMENT**  
A205 1/4" = 1'-0"

**LEGEND:**

- |       |  |       |   |               |  |
|-------|--|-------|---|---------------|--|
| (A.1) | 04-0342-200 PROVIDE DUTCHMAN REPAIR.                                 | (B.2) | 04-0342-006 PROVIDE MORTAR CRACK REPAIR.                    | [Hatched Box] | EXISTING STONE TO BE SALVAGED AND RESET.   |
| (A.2) | 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED. | (C.1) | 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED. | [Hatched Box] | REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.  |
| (A.3) | 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.                | (C.2) | 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.   | [Hatched Box] | PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE. |
| (A.4) | 04-0342-600 PROVIDE REPLACEMENT STONE.                               | (C.3) | 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.     | (1001)        | DOOR NUMBER. REFER TO SCHEDULE.  |
| (B.1) | 04-0342-005 PROVIDE PIN REPAIR.                                      | (C.4) | 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.    | (X001)        | WINDOW NUMBER. REFER TO SCHEDULE.  |

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT:

CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
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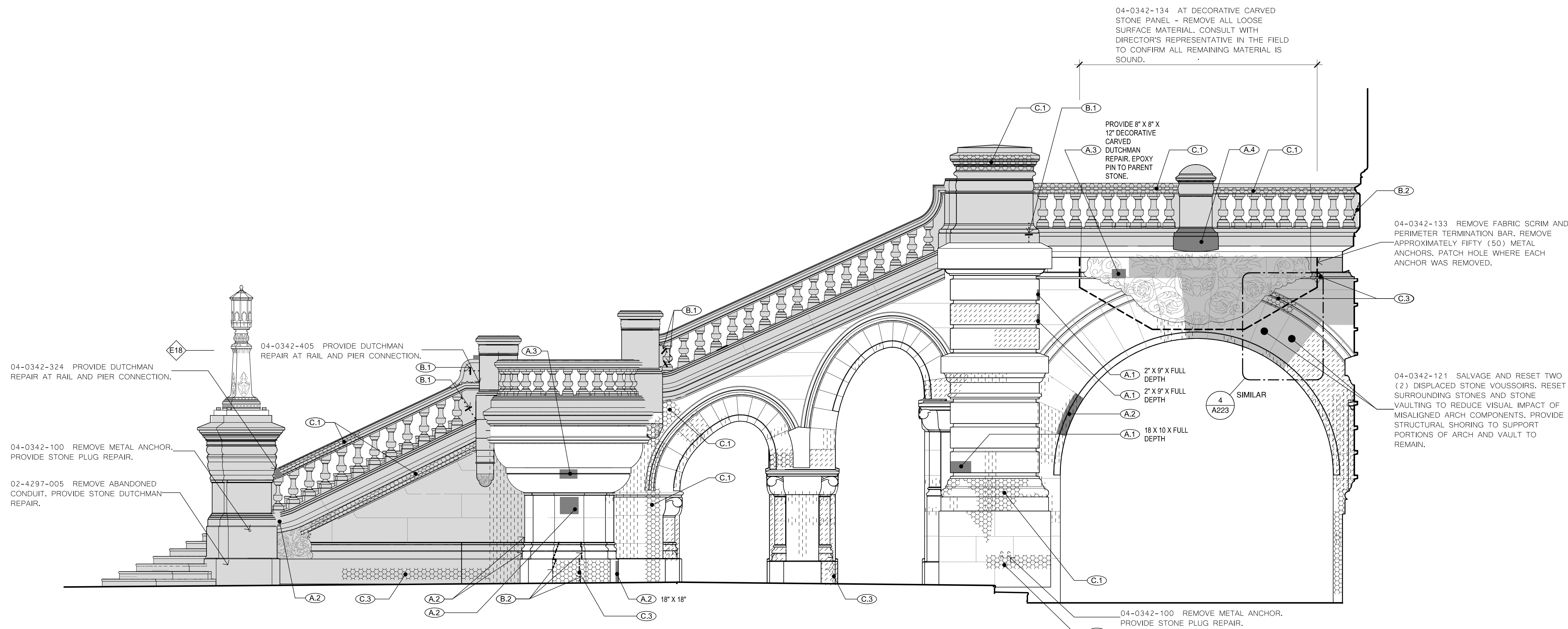
PROJECT NUMBER: 47331 - C  
DESIGNED BY:  
DRAWN BY:  
FIELD CHECK:  
APPROVED:  
SHEET TITLE:

EASTERN APPROACH - NORTH ELEVATION LANDING 2

DRAWING NUMBER: A206

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



1 EASTERN APPROACH - NORTH ELEVATION LANDING 2  
A206 1/4" = 1'-0"

**LEGEND:**

- (A.1) 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- (A.2) 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- (A.3) 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- (A.4) 04-0342-600 PROVIDE REPLACEMENT STONE.
- (B.1) 04-0342-005 PROVIDE PIN REPAIR.
- (B.2) 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- (C.1) 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- (C.2) 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- (C.3) 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- (C.4) 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.

CONSULTANT:

Architects  
John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BIDS SET

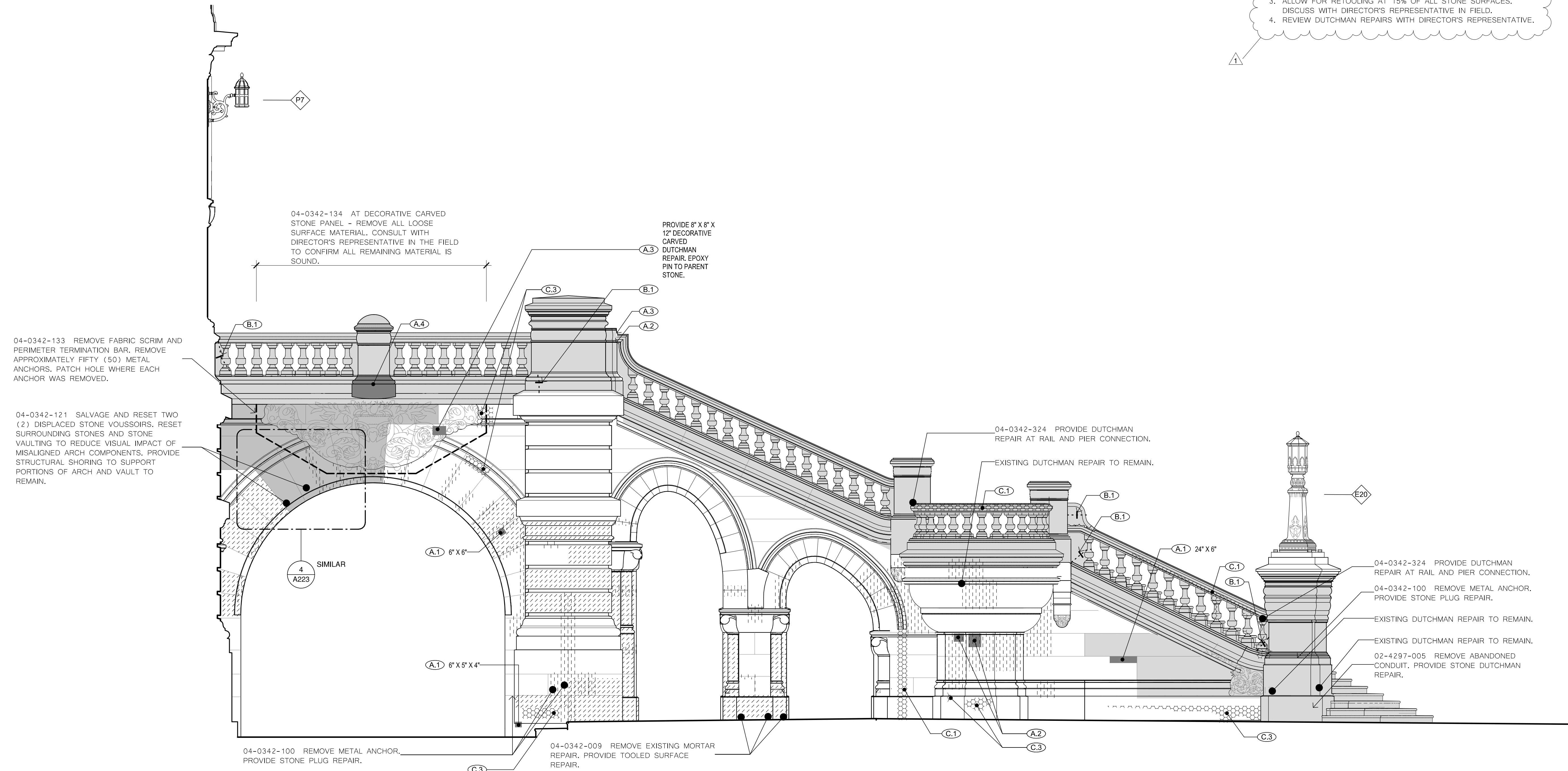
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

**EASTERN APPROACH - SOUTH ELEVATION LANDING 2**

DRAWING NUMBER: **A207**

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



1 EASTERN APPROACH - SOUTH ELEVATION LANDING 2  
A207 1/4" = 1'-0"

**LEGEND:**

- (A.1) 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- (A.2) 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- (A.3) 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- (A.4) 04-0342-600 PROVIDE REPLACEMENT STONE.
- (B.1) 04-0342-005 PROVIDE PIN REPAIR.
- (B.2) 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- (C.1) 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- (C.2) 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- (C.3) 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- (C.4) 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET

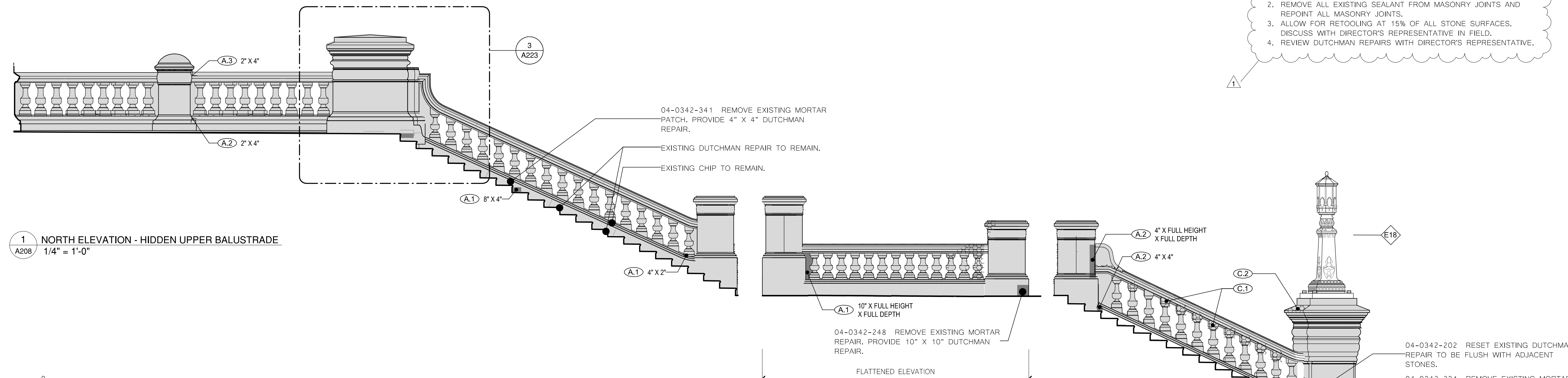
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

EASTERN APPROACH - NORTH HIDDEN ELEVATIONS

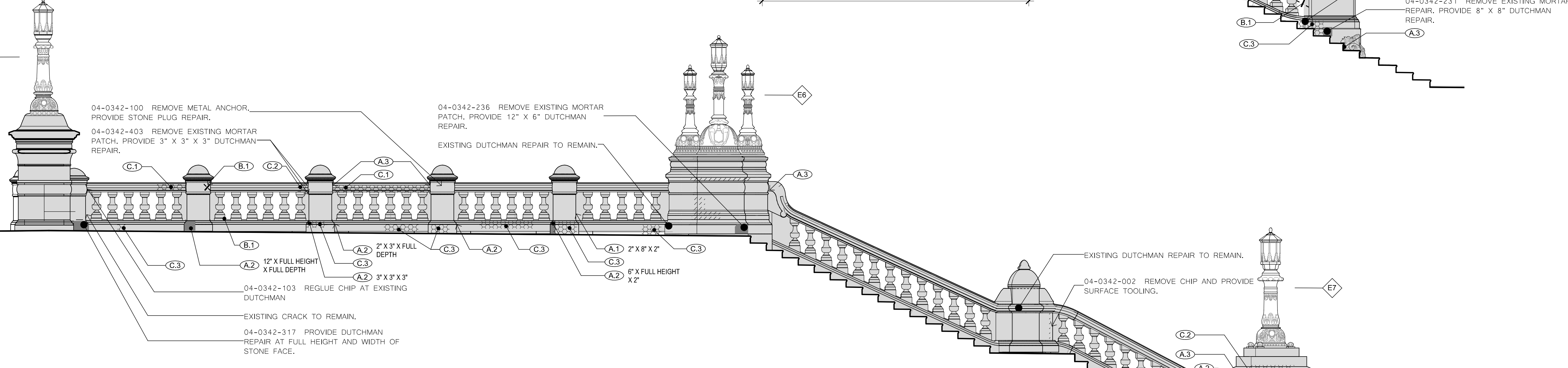
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**GENERAL NOTES:**

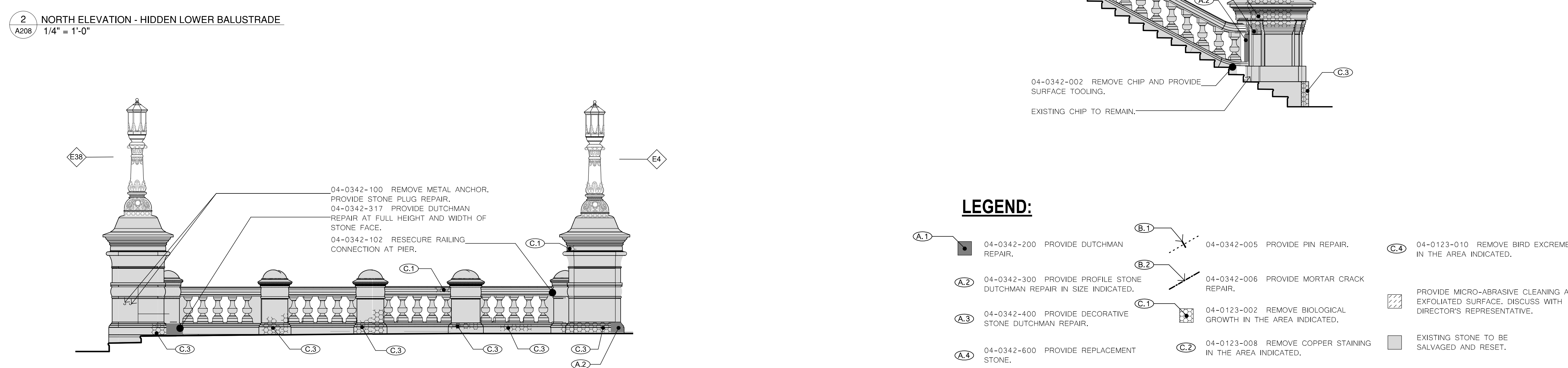
1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



1 NORTH ELEVATION - HIDDEN UPPER BALUSTRADE  
A208 1/4" = 1'-0"



2 NORTH ELEVATION - HIDDEN LOWER BALUSTRADE  
A208 1/4" = 1'-0"



3 NORTH ELEVATION - HIDDEN CURVED BALUSTRADE  
A208 1/4" = 1'-0"

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE, DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET
2	09/21/2024	

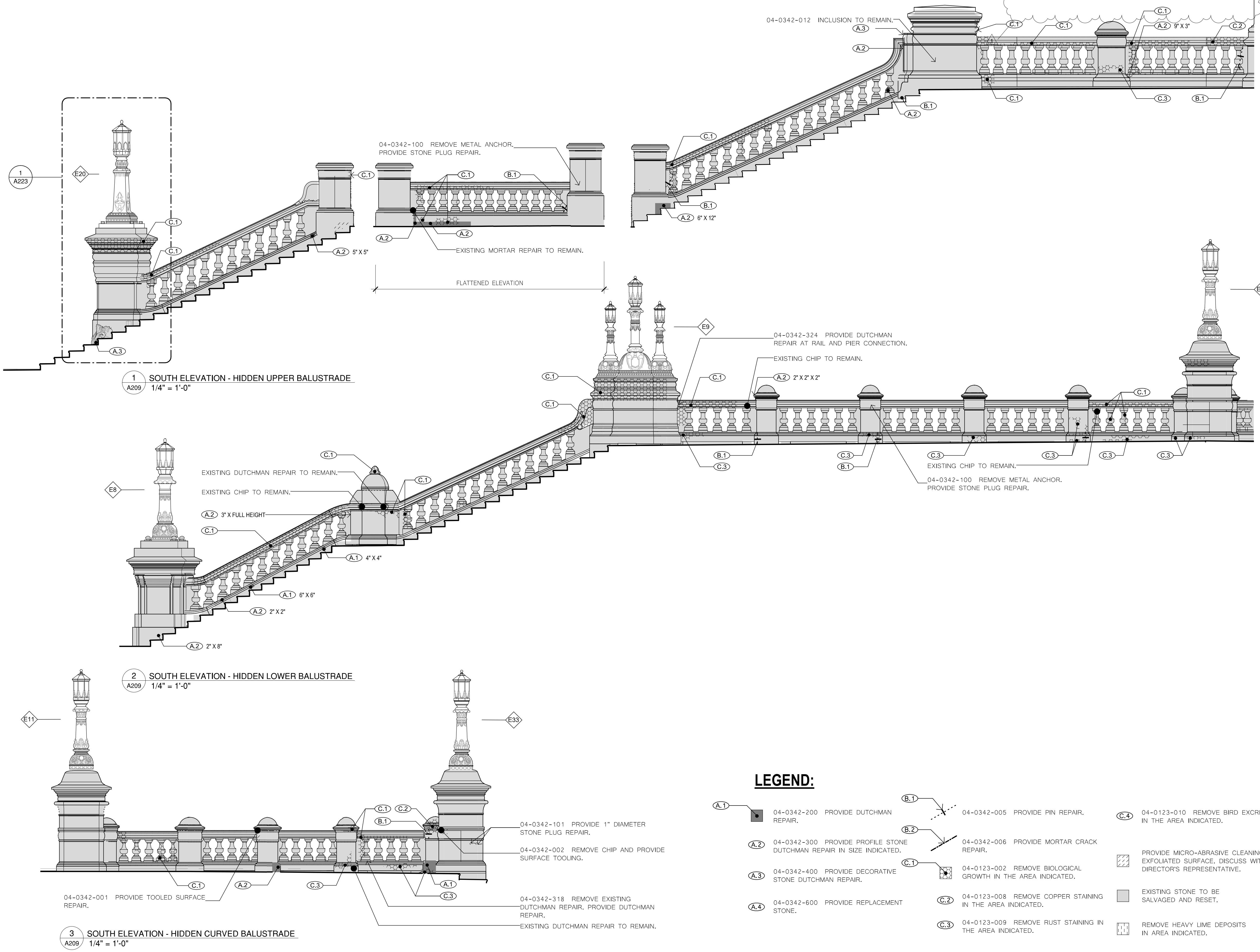
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

**EASTERN APPROACH - SOUTH HIDDEN ELEVATIONS**

DRAWING NUMBER: **A209**

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



C:\Users\mjorden\Documents\2022-14C NYS Eastern Approach\_mjorden\_JG\J.dwg 10/24/2024 11:14:26 AM 38x24 PLOT SHEET

CONSULTANT:

John G. Waite Associates, PLLC

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CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

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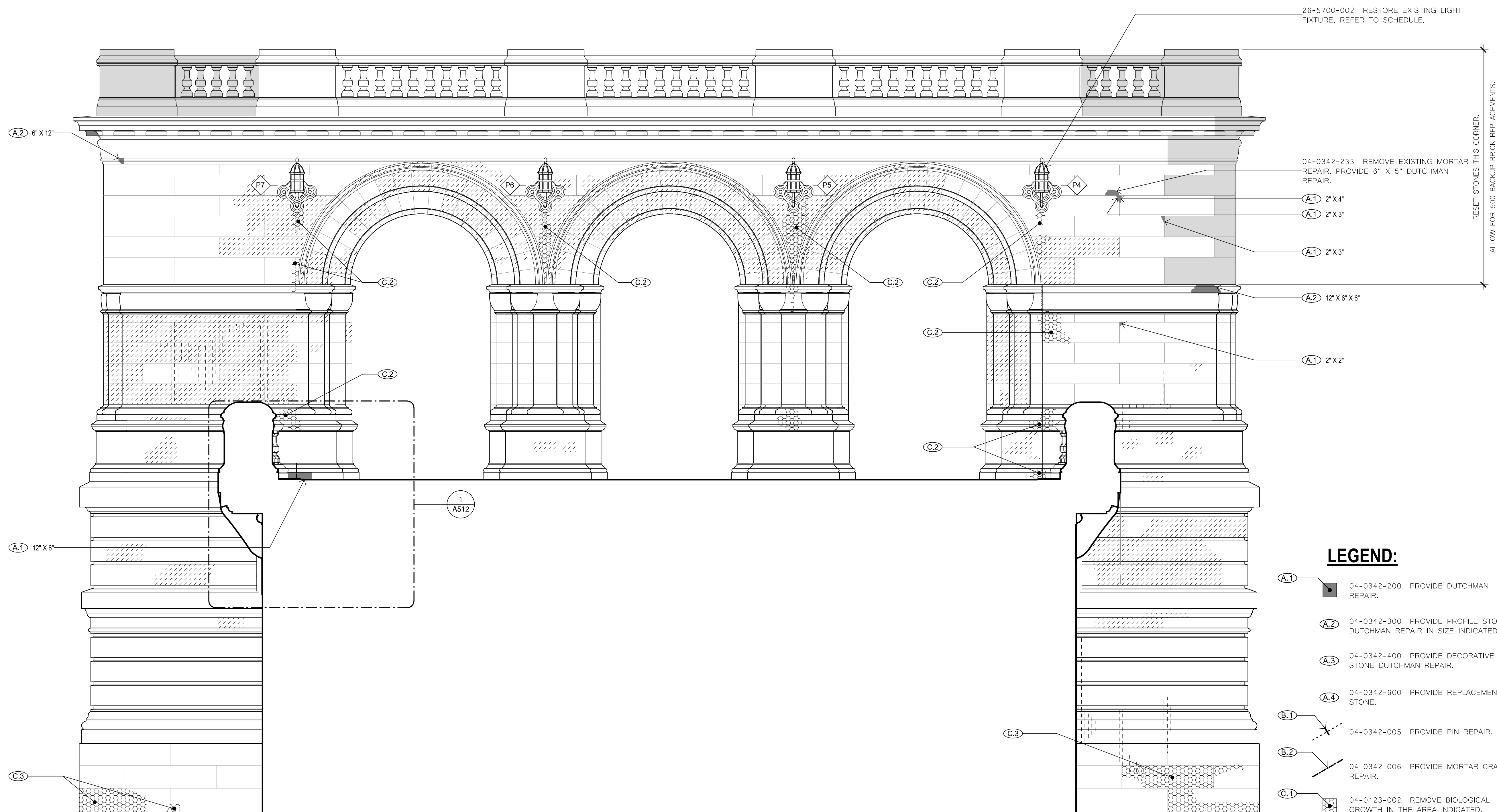
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

PORTICO - EAST ELEVATION

DRAWING NUMBER: A210

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



26-5700-002 RESTORE EXISTING LIGHT FIXTURE. REFER TO SCHEDULE.

04-0342-233 REMOVE EXISTING MORTAR REPAIR, PROVIDE 6" X 5" DUTCHMAN REPAIR.

A.1 2' X 4'

A.1 2' X 3'

A.1 2' X 3'

A.2 12' X 6' X 6"

A.1 2' X 2'

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- SALVAGE AND RESET EXISTING STONE.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- TOOL STONE SURFACE TO PRODUCE SMOOTH AND LEVEL TOP SURFACE.

1 PORTICO - EAST ELEVATION  
A210 1/4" = 1'-0"

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT:

CONSTRUCTION

TITLE:  
REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION:  
NEW YORK STATE CAPITOL  
ALBANY, NY

CLIENT:  
OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
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PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

PORTICO - ELEVATIONS

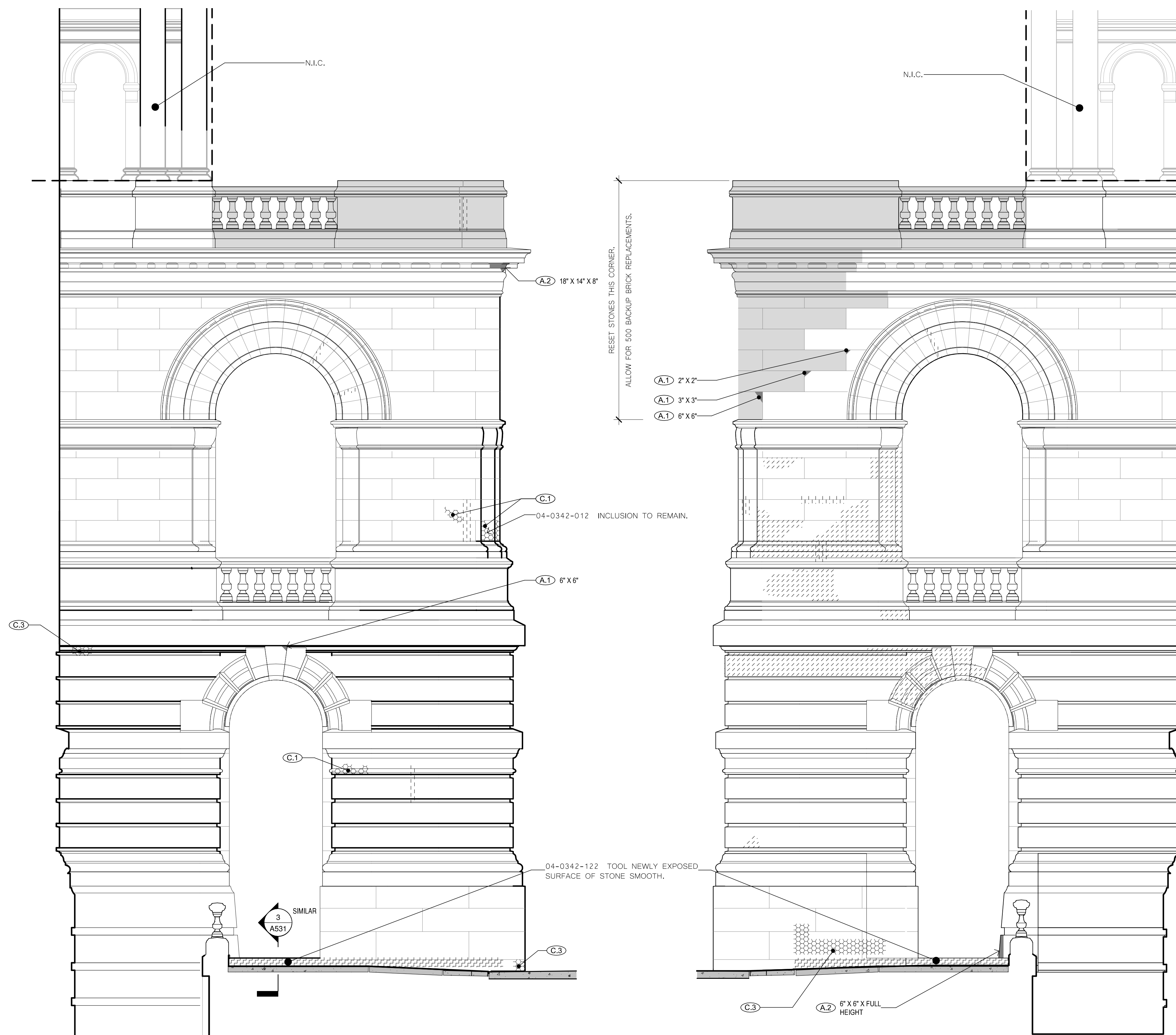
DRAWING NUMBER:

A211

SHEET: 98 OF 257

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



1 PORTICO - SOUTH ELEVATION  
A211 1/4" = 1'-0"

2 PORTICO - NORTH ELEVATION  
A211 1/4" = 1'-0"

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- SALVAGE AND RESET EXISTING STONE.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- TOOL STONE SURFACE TO PRODUCE SMOOTH AND LEVEL TOP SURFACE.

CONSULTANT:

John G. Waite Associates PLLC

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CONTRACT: CONSTRUCTION

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LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

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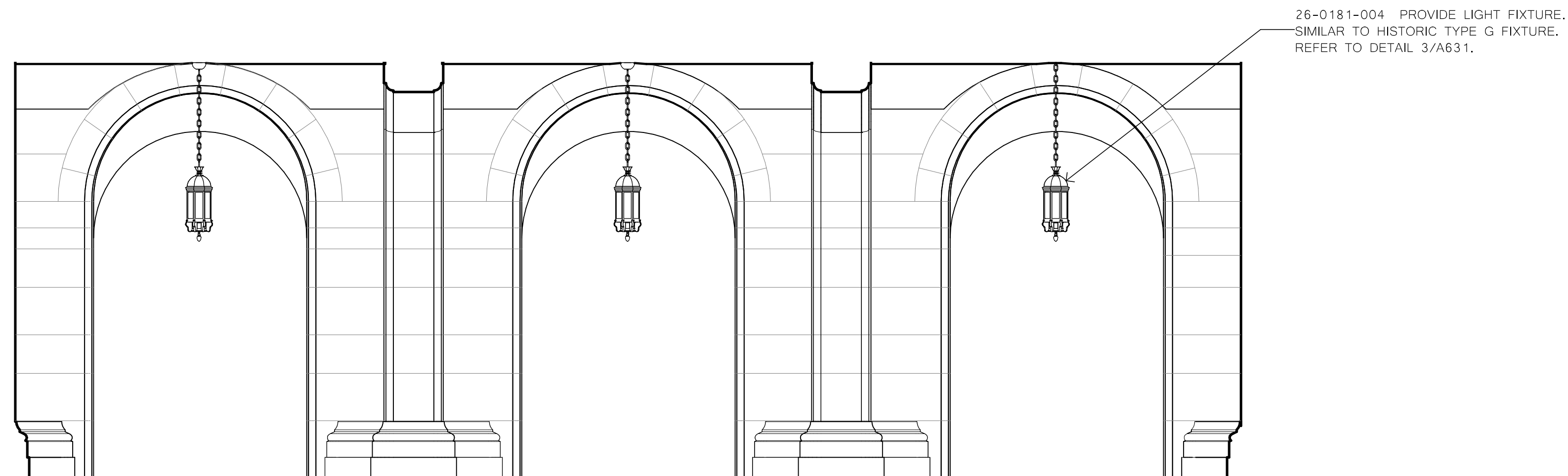
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

PORTICO AND ARCADE - HIDDEN ELEVATIONS

DRAWING NUMBER: A212

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



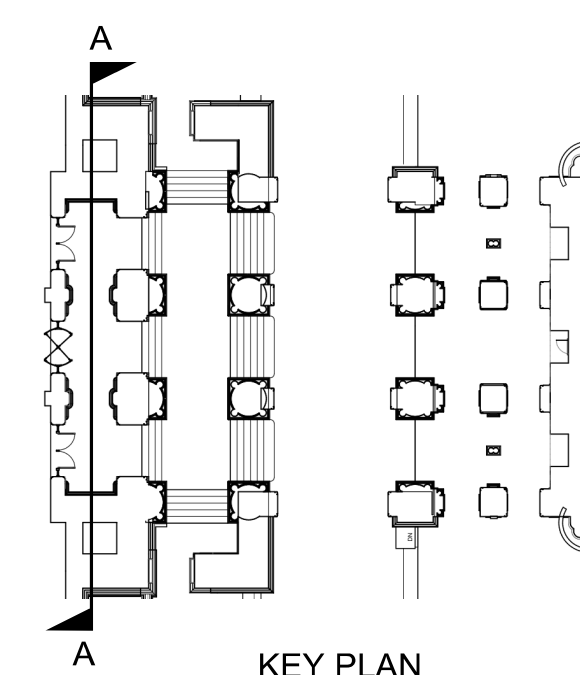
1 PORTICO ELEVATION A - EAST  
A212 1/4" = 1'-0"



2 PORTICO ELEVATION A - WEST  
A212 1/4" = 1'-0"

**LEGEND:**

- |  |   |  |  |
|--|---|--|--|
| 04-0342-200 PROVIDE DUTCHMAN REPAIR.                                 | 04-0342-005 PROVIDE PIN REPAIR.                             | 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.  | EXISTING STONE TO BE SALVAGED AND RESET.               |
| 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED. | 04-0342-006 PROVIDE MORTAR CRACK REPAIR.                    | 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.                                       | REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.          |
| 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.                | 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED. | PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE, DISCUSS WITH DIRECTOR'S REPRESENTATIVE. | 10-8113-007 PROVIDE POST AND WIRE BIRD CONTROL SYSTEM. |
| 04-0342-600 PROVIDE REPLACEMENT STONE.                               | 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.   |  |  |



CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT:

CONSTRUCTION

TITLE:  
REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION:  
NEW YORK STATE CAPITOL  
ALBANY, NY

CLIENT:  
OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL BID SET
	09/21/2024	

PROJECT NUMBER: 47331 - C  
DESIGNED BY:  
DRAWN BY:  
FIELD CHECK:  
APPROVED:  
SHEET TITLE:

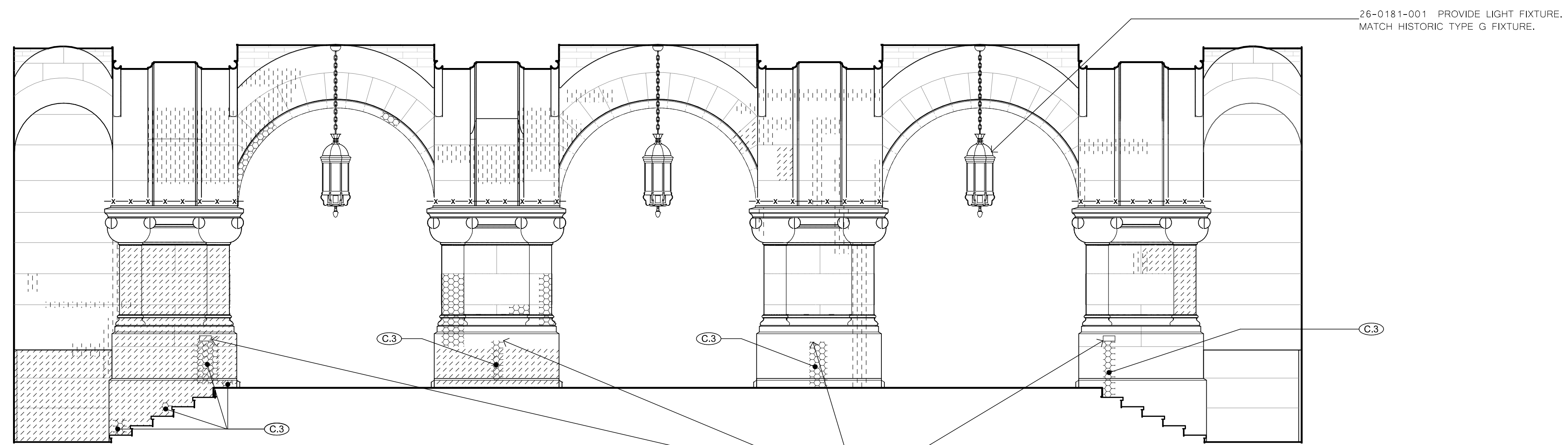
PORTICO AND ARCADE - HIDDEN ELEVATIONS

DRAWING NUMBER:  
A213

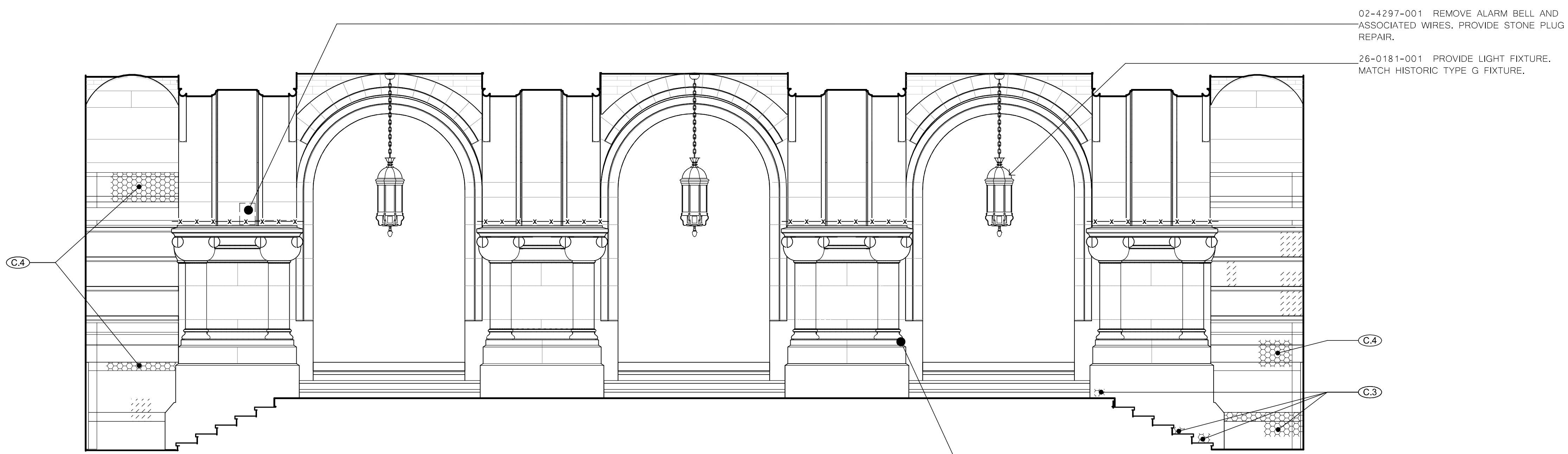
SHEET: 100 OF 257

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



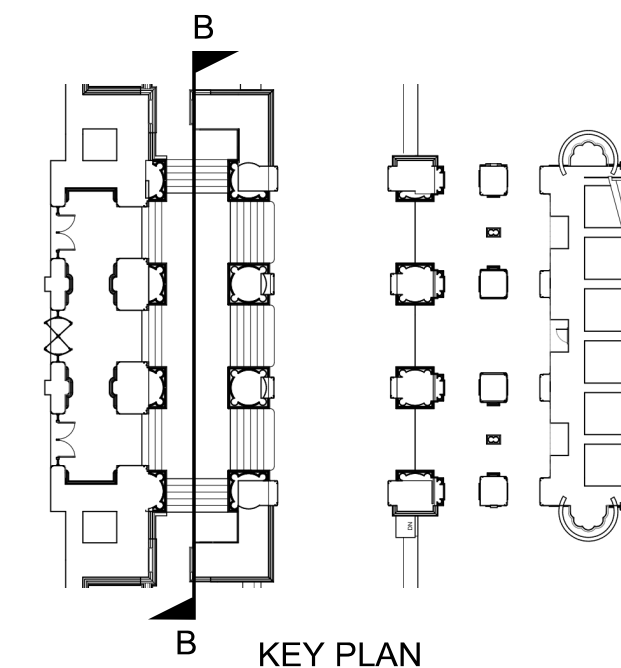
1 PORTICO ELEVATION B - EAST  
A213 1/4" = 1'-0"



2 PORTICO ELEVATION B - WEST  
A213 1/4" = 1'-0"

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- 10-8113-007 PROVIDE POST AND WIRE BIRD CONTROL SYSTEM.



CONSULTANT:

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET
	09/21/2024	

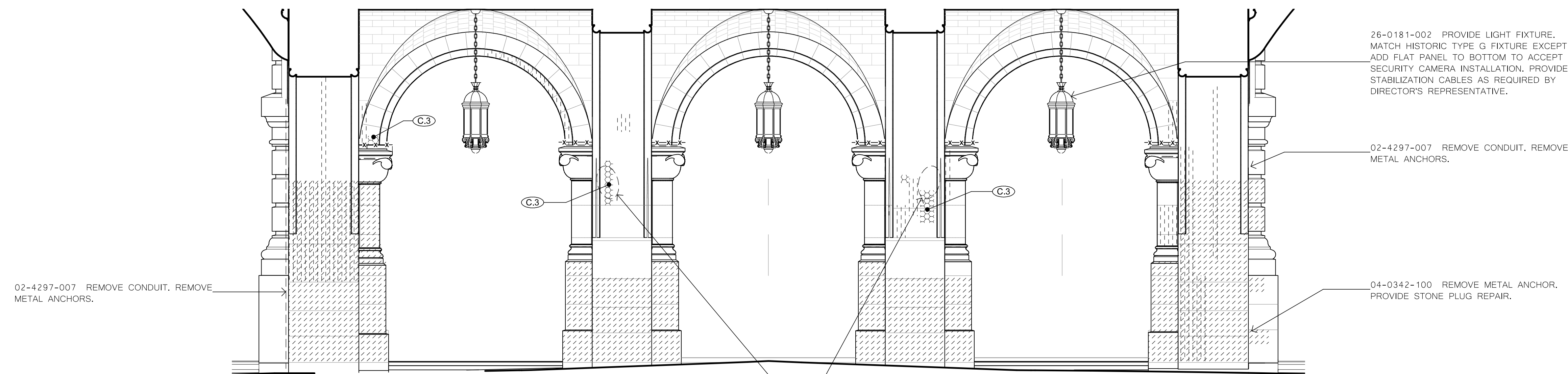
PROJECT NUMBER: 47331 - C  
DESIGNED BY:  
DRAWN BY:  
FIELD CHECK:  
APPROVED:  
SHEET TITLE:

PORTICO AND ARCADE - HIDDEN ELEVATIONS

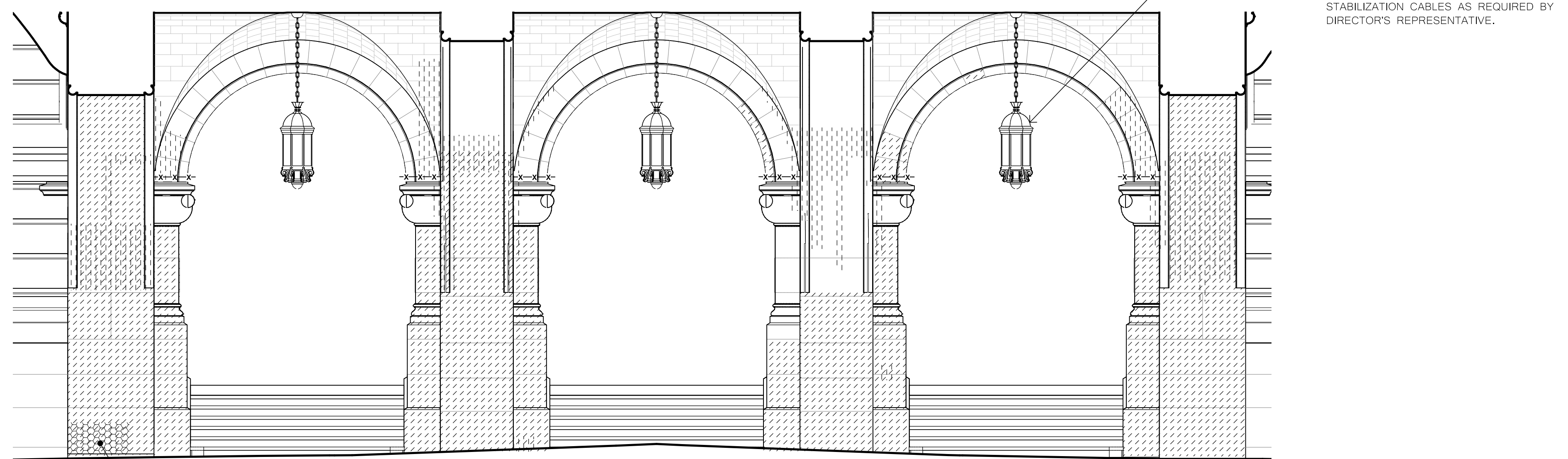
DRAWING NUMBER: A214

GENERAL NOTES:

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



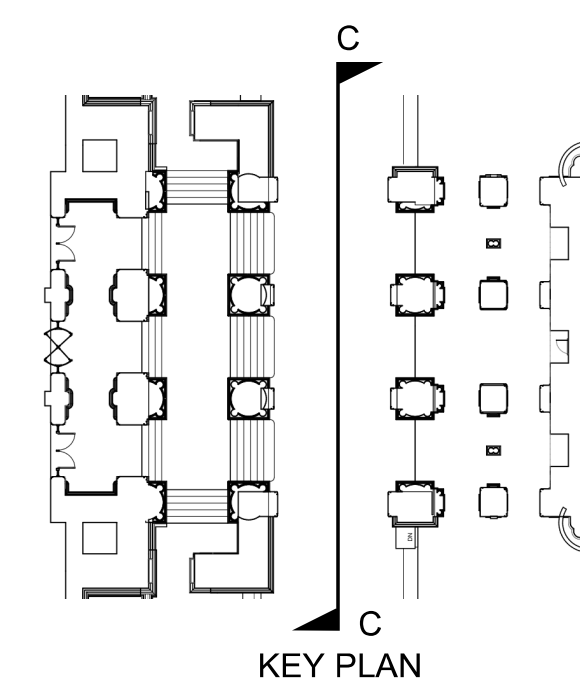
1 ARCADE ELEVATION C - EAST  
A214 1/4" = 1'-0"



2 ARCADE ELEVATION C - WEST  
A214 1/4" = 1'-0"

LEGEND:

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- 10-8113-007 PROVIDE POST AND WIRE BIRD CONTROL SYSTEM.



CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION  
TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP  
LOCATION: NEW YORK STATE CAPITOL ALBANY, NY  
CLIENT: OFFICE OF GENERAL SERVICES

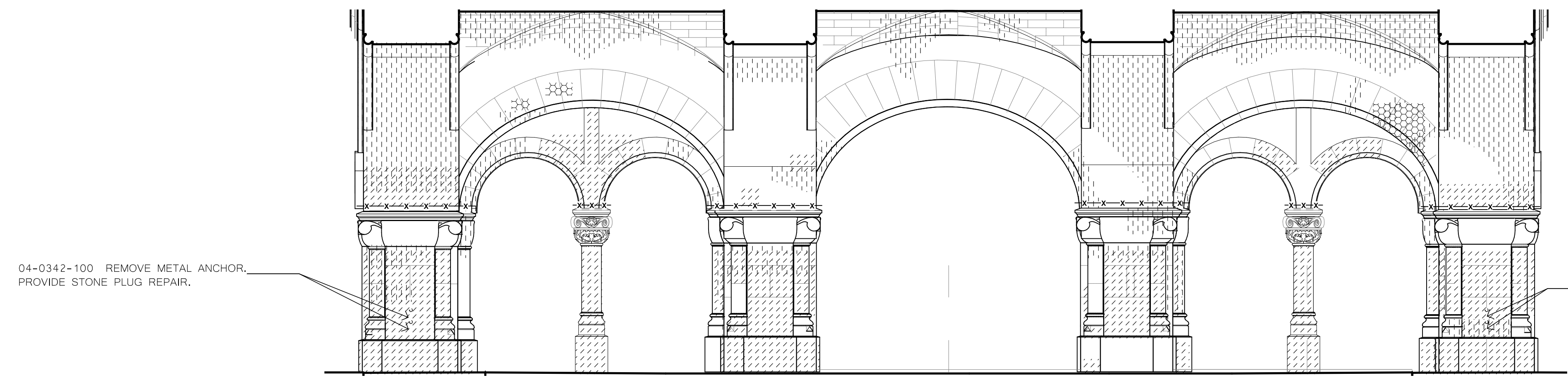
REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL BID SET

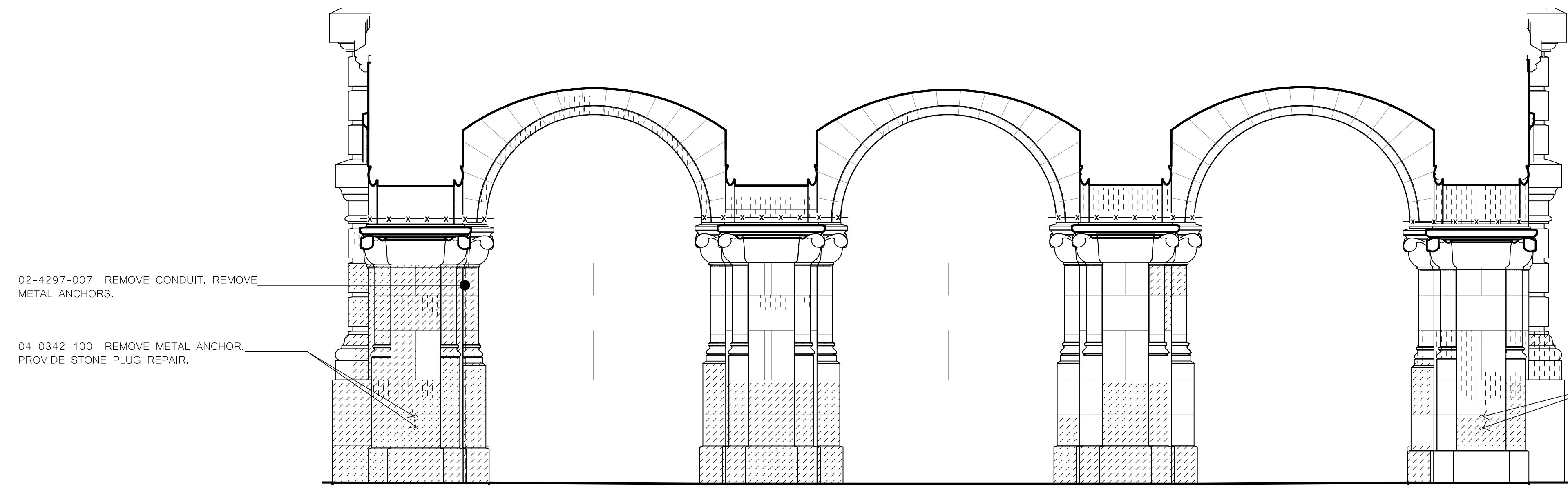
PROJECT NUMBER: 47331 - C  
DESIGNED BY:  
DRAWN BY:  
FIELD CHECK:  
APPROVED:  
SHEET TITLE: PORTICO AND ARCADE - HIDDEN ELEVATIONS  
DRAWING NUMBER: A215  
SHEET: 102 OF 257

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



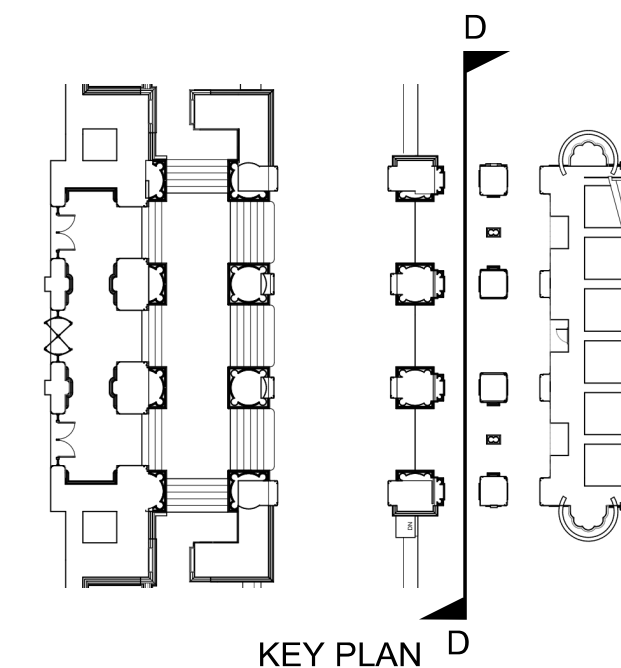
1 ARCADE ELEVATION D - EAST  
A215 1/4" = 1'-0"



2 ARCADE ELEVATION D - WEST  
A215 1/4" = 1'-0"

**LEGEND:**

- |  |   |   |   |
|--|---|---|---|
| <b>A.1</b> [Symbol] 04-0342-200 PROVIDE DUTCHMAN REPAIR.                                 | <b>B.1</b> [Symbol] 04-0342-005 PROVIDE PIN REPAIR.                             | <b>C.3</b> [Symbol] 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.                             | [Symbol] EXISTING STONE TO BE SALVAGED AND RESET.               |
| <b>A.2</b> [Symbol] 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED. | <b>B.2</b> [Symbol] 04-0342-006 PROVIDE MORTAR CRACK REPAIR.                    | <b>C.4</b> [Symbol] 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.                            | [Symbol] REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.          |
| <b>A.3</b> [Symbol] 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.                | <b>C.1</b> [Symbol] 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED. | [Symbol] PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE. | [Symbol] 10-8113-007 PROVIDE POST AND WIRE BIRD CONTROL SYSTEM. |
| <b>A.4</b> [Symbol] 04-0342-600 PROVIDE REPLACEMENT STONE.                               | <b>C.2</b> [Symbol] 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.   |   |   |





CONSULTANT:

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

1	10/25/2024	ADDITION 9
	09/21/2024	BID SET

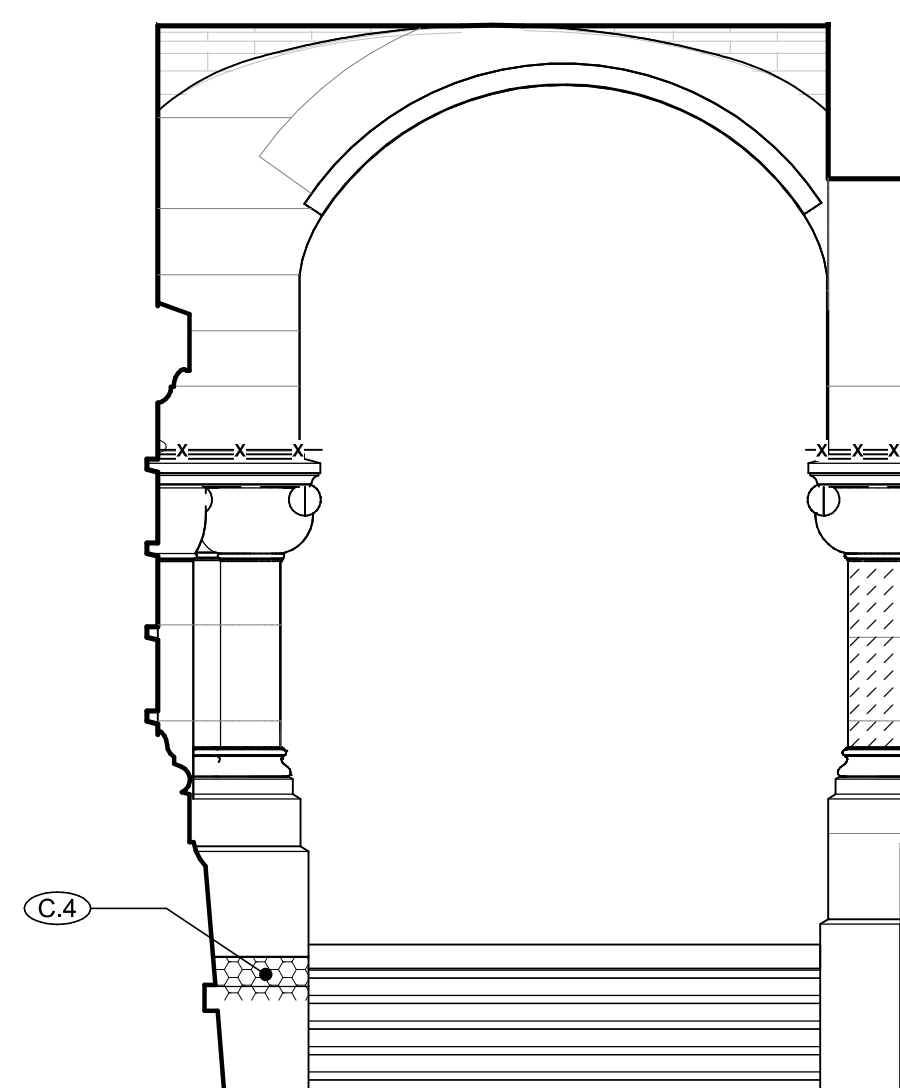
MARK	DATE	DESCRIPTION
PROJECT NUMBER:		47331 - C
DESIGNED BY:		
DRAWN BY:		
FIELD CHECK:		
APPROVED:		
SHEET TITLE:		

PORTICO AND ARCADE - HIDDEN ELEVATIONS

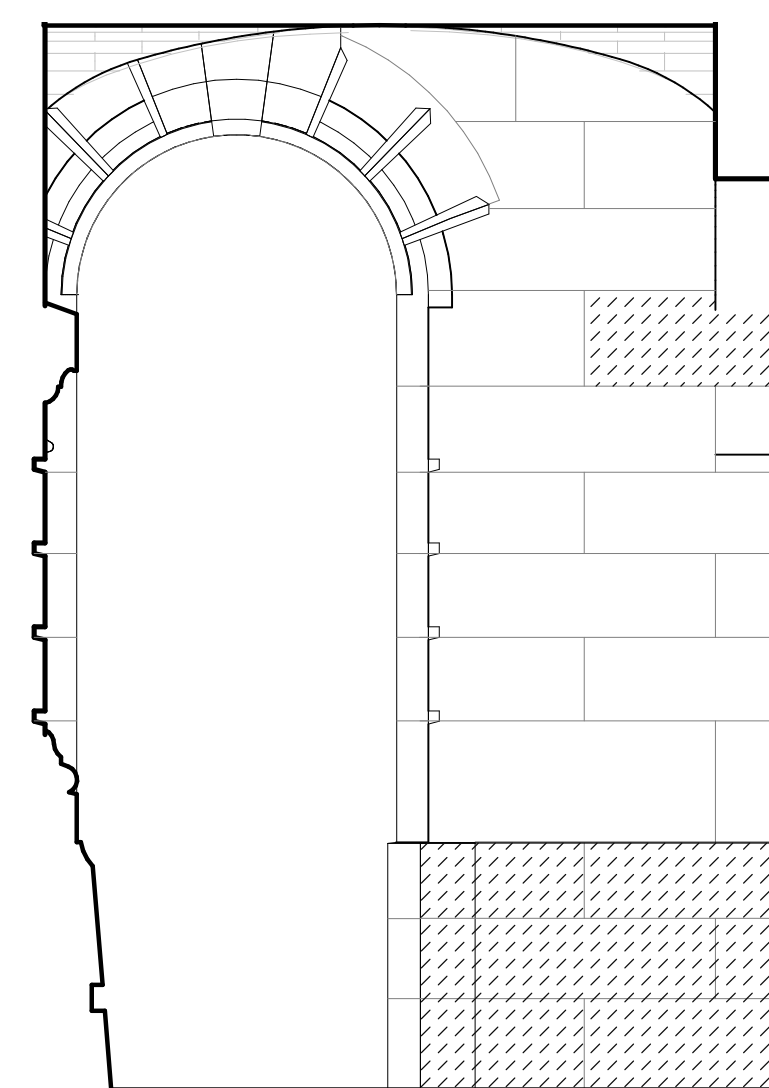
DRAWING NUMBER: A217

**GENERAL NOTES:**

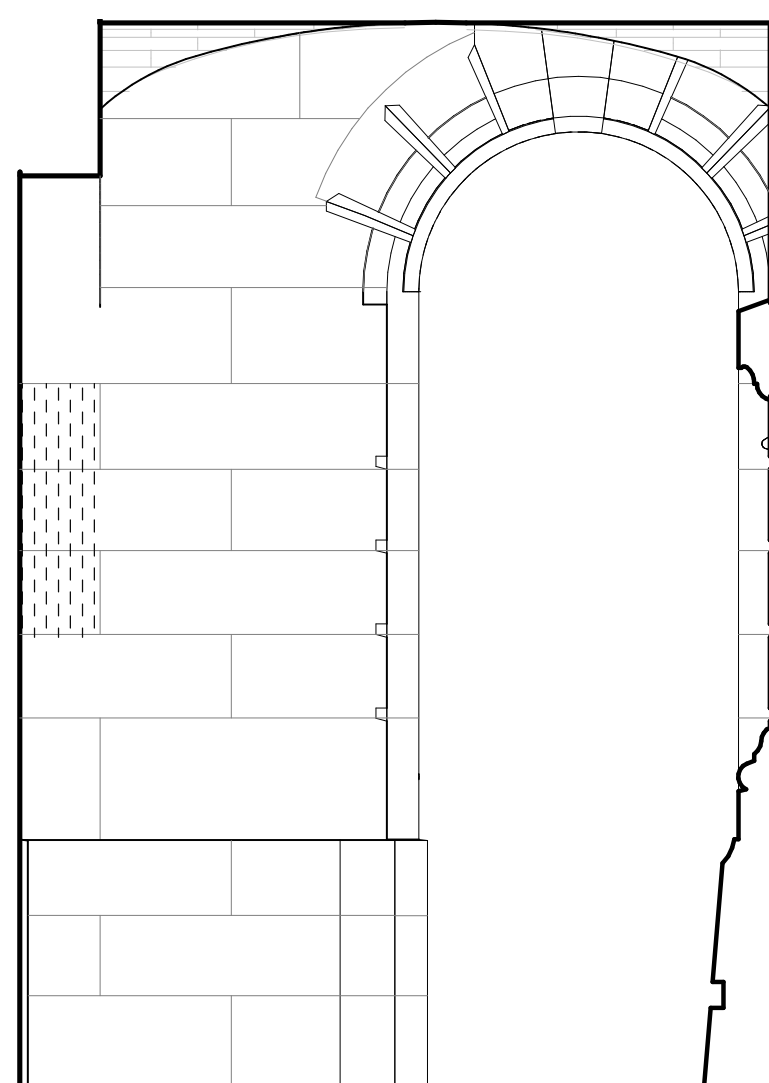
1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



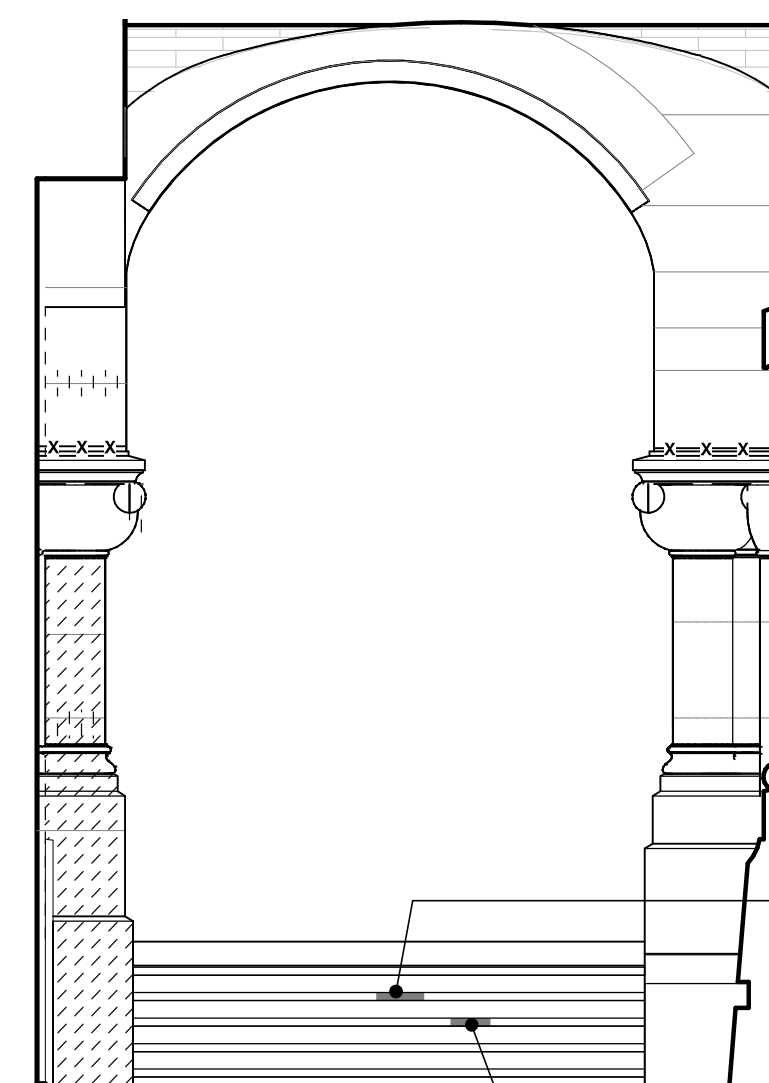
1 PORTICO ELEVATION F - NORTH  
A217 1/4" = 1'-0"



3 PORTICO ELEVATION J - NORTH  
A217 1/4" = 1'-0"



2 PORTICO ELEVATION F - SOUTH  
A217 1/4" = 1'-0"

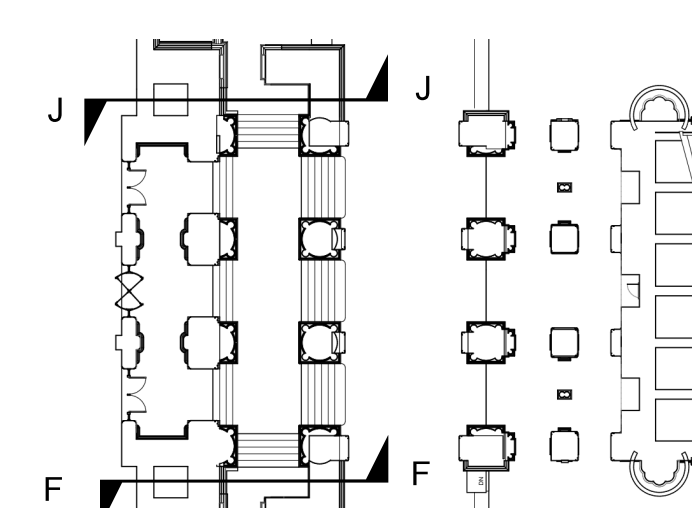


4 PORTICO ELEVATION J - SOUTH  
A217 1/4" = 1'-0"

**LEGEND:**

- (A.1) 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- (A.2) 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- (A.3) 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- (A.4) 04-0342-600 PROVIDE REPLACEMENT STONE.
- (B.1) 04-0342-005 PROVIDE PIN REPAIR.
- (B.2) 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- (C.1) 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- (C.2) 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- (C.3) 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- (C.4) 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- SALVAGE AND RESET EXISTING STONE.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- 10-8113-007 PROVIDE POST AND WIRE BIRD CONTROL SYSTEM.

REMOVE EXISTING MORTAR REPAIR. PROVIDE 12" X 3" X 3" PROFILE DUTCHMAN REPAIR. REMOVE EXISTING MORTAR REPAIR. PROVIDE 12" X 3" X 3" PROFILE DUTCHMAN REPAIR.



KEY PLAN

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET

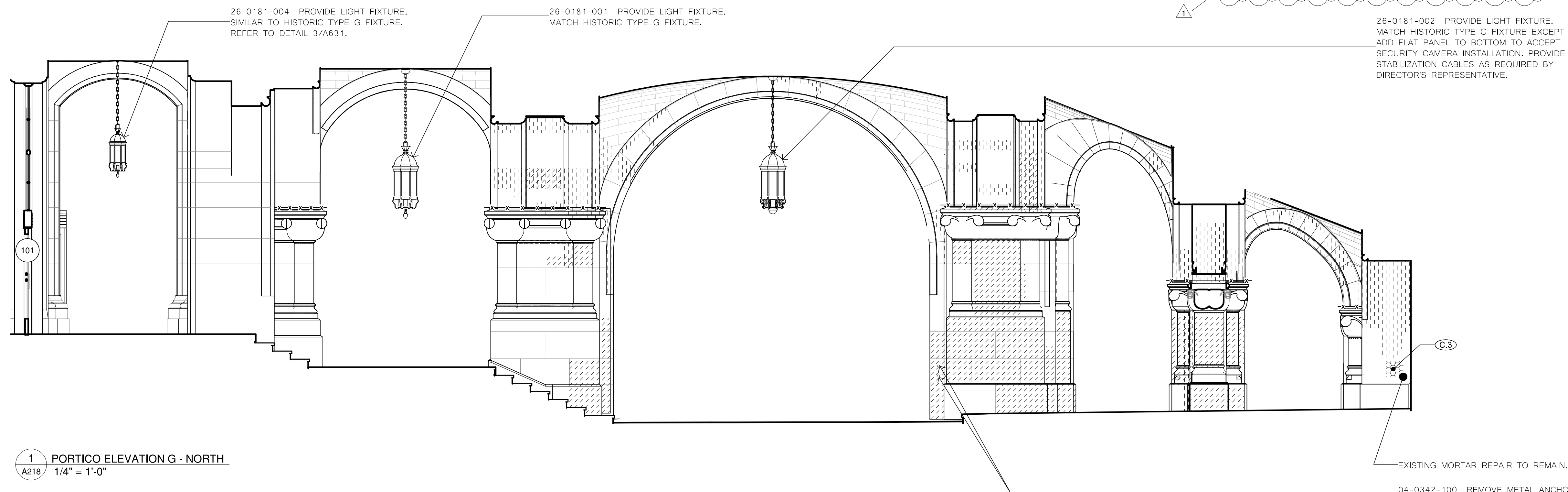
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

PORTICO AND ARCADE - HIDDEN ELEVATIONS

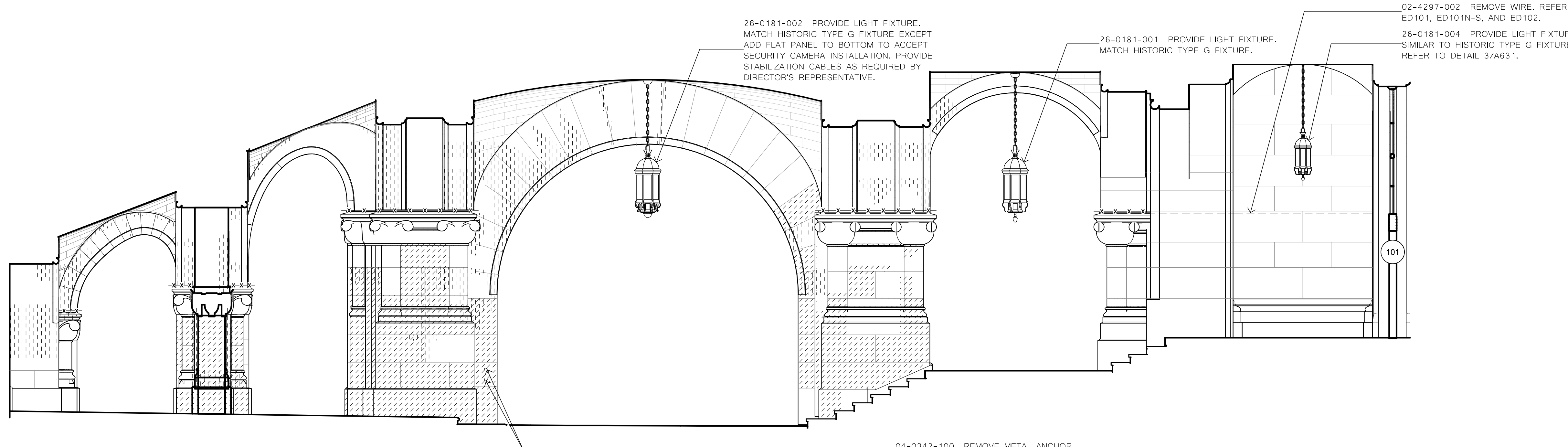
DRAWING NUMBER: A218

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



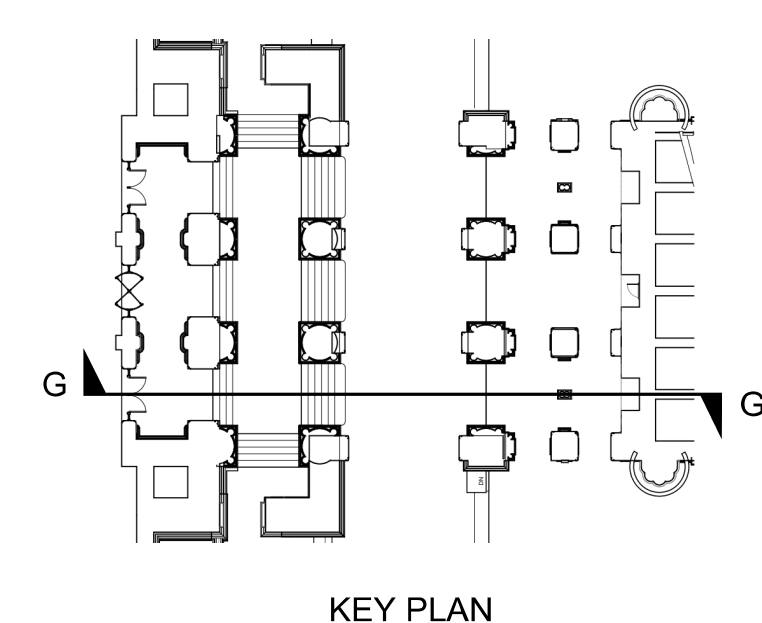
1 PORTICO ELEVATION G - NORTH  
A218 1/4" = 1'-0"



2 PORTICO ELEVATION G - SOUTH  
A218 1/4" = 1'-0"

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- 10-8113-007 PROVIDE POST AND WIRE BIRD CONTROL SYSTEM.



CONSULTANT:

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CONTRACT: CONSTRUCTION  
TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP  
LOCATION: NEW YORK STATE CAPITOL ALBANY, NY  
CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET
	09/21/2024	

PROJECT NUMBER: 47331 - C  
DESIGNED BY:  
DRAWN BY:  
FIELD CHECK:  
APPROVED:  
SHEET TITLE:

PORTICO AND ARCADE - HIDDEN ELEVATIONS

DRAWING NUMBER:

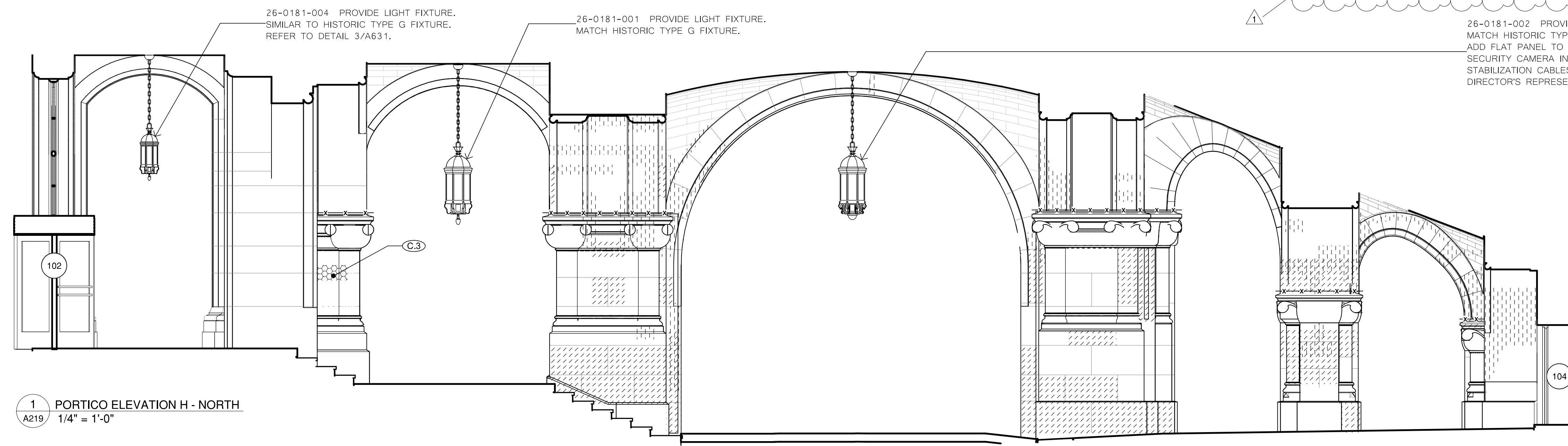
A219

SHEET: 106 OF 257

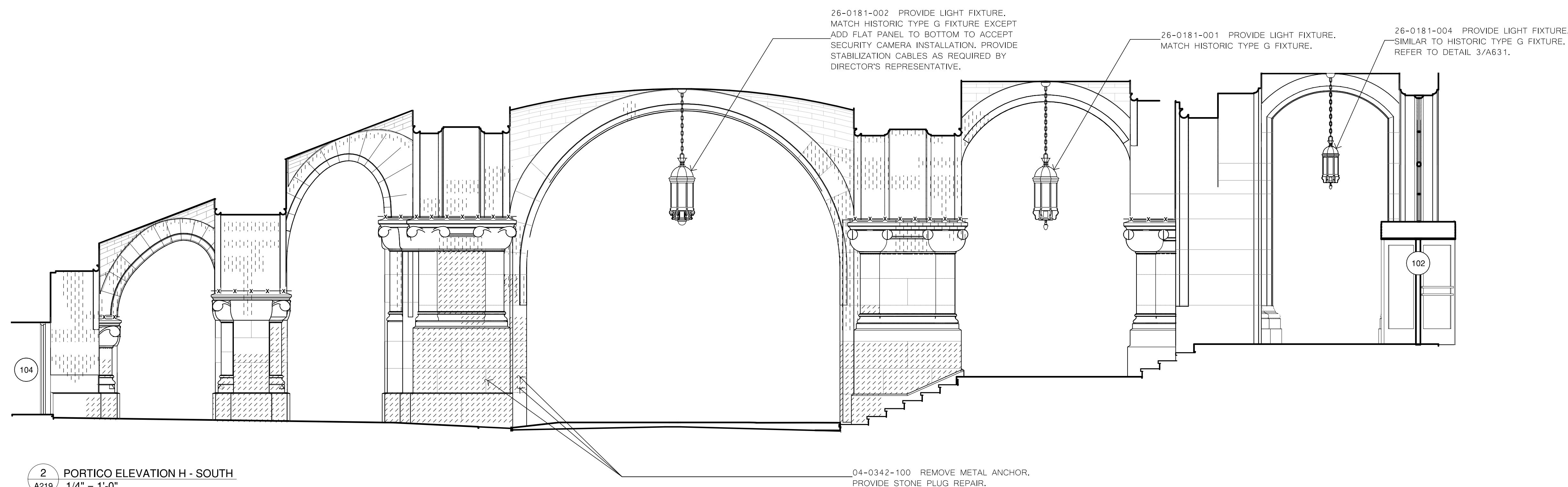
**GENERAL NOTES:**

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3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.

26-0181-002 PROVIDE LIGHT FIXTURE. MATCH HISTORIC TYPE G FIXTURE EXCEPT ADD FLAT PANEL TO BOTTOM TO ACCEPT SECURITY CAMERA INSTALLATION. PROVIDE STABILIZATION CABLES AS REQUIRED BY DIRECTOR'S REPRESENTATIVE.



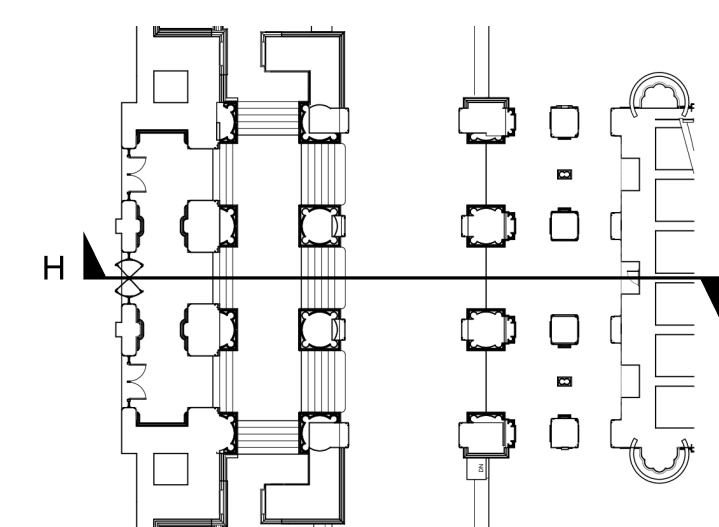
1 PORTICO ELEVATION H - NORTH  
A219 1/4" = 1'-0"



2 PORTICO ELEVATION H - SOUTH  
A219 1/4" = 1'-0"

**LEGEND:**

- |  |   |  |  |
|--|---|--|--|
| (A.1) 04-0342-200 PROVIDE DUTCHMAN REPAIR.                                 | (B.1) 04-0342-005 PROVIDE PIN REPAIR.                             | (C.3) 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.                                  | EXISTING STONE TO BE SALVAGED AND RESET.               |
| (A.2) 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED. | (B.2) 04-0342-006 PROVIDE MORTAR CRACK REPAIR.                    | (C.4) 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.                                 | REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.          |
| (A.3) 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.                | (C.1) 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED. | PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE. | 10-8113-007 PROVIDE POST AND WIRE BIRD CONTROL SYSTEM. |
| (A.4) 04-0342-600 PROVIDE REPLACEMENT STONE.                               | (C.2) 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.   |  |  |



KEY PLAN

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL BID SET
2	09/21/2024	

PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

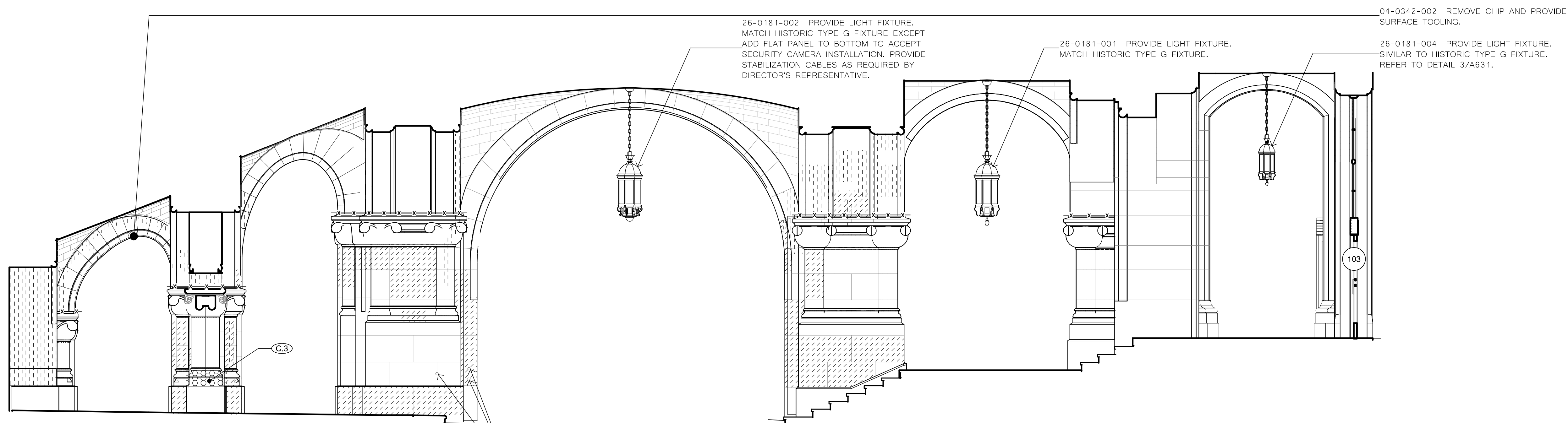
PORTICO AND ARCADE - HIDDEN ELEVATIONS

DRAWING NUMBER: A220

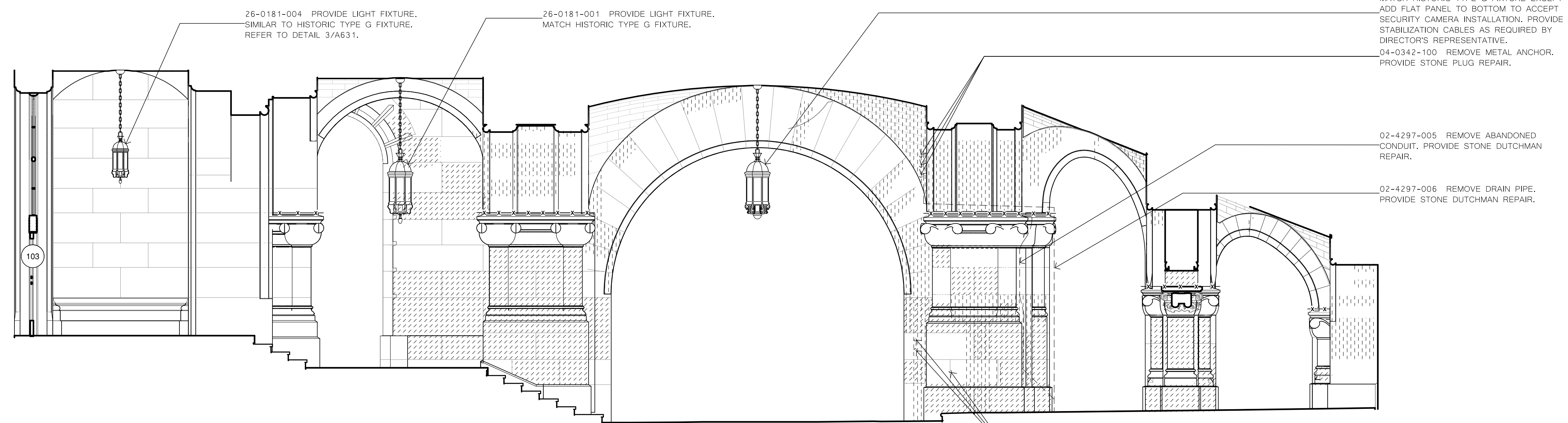
SHEET: 107 OF 257

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



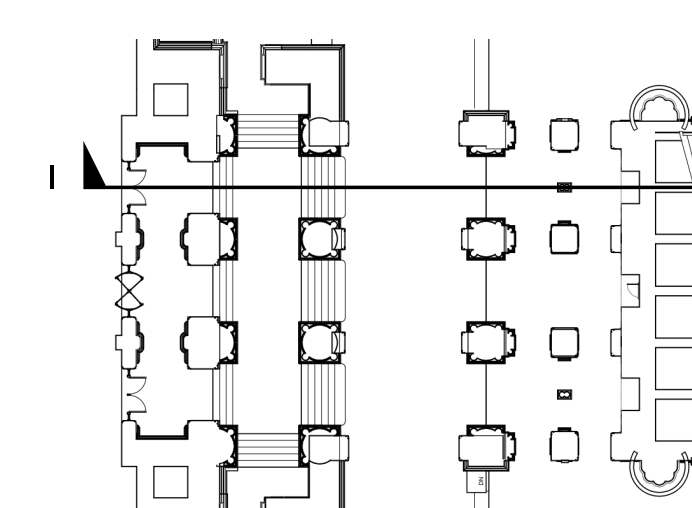
1 PORTICO ELEVATION I - SOUTH  
A220 1/4" = 1'-0"



2 PORTICO ELEVATION I - NORTH  
A220 1/4" = 1'-0"

**LEGEND:**

- |  |   |  |  |
|--|---|--|--|
| (A.1) 04-0342-200 PROVIDE DUTCHMAN REPAIR.                                 | (B.1) 04-0342-005 PROVIDE PIN REPAIR.                             | (C.3) 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.                                  | EXISTING STONE TO BE SALVAGED AND RESET.               |
| (A.2) 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED. | (B.2) 04-0342-006 PROVIDE MORTAR CRACK REPAIR.                    | (C.4) 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.                                 | REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.          |
| (A.3) 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.                | (C.1) 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED. | PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE. | 10-8113-007 PROVIDE POST AND WIRE BIRD CONTROL SYSTEM. |
| (A.4) 04-0342-600 PROVIDE REPLACEMENT STONE.                               | (C.2) 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.   |  |  |



KEY PLAN

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT:

CONSTRUCTION

TITLE:  
REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION:  
NEW YORK STATE CAPITOL  
ALBANY, NY

CLIENT:  
OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BIDS SET

PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

PORTICO - SECOND FLOOR ELEVATIONS

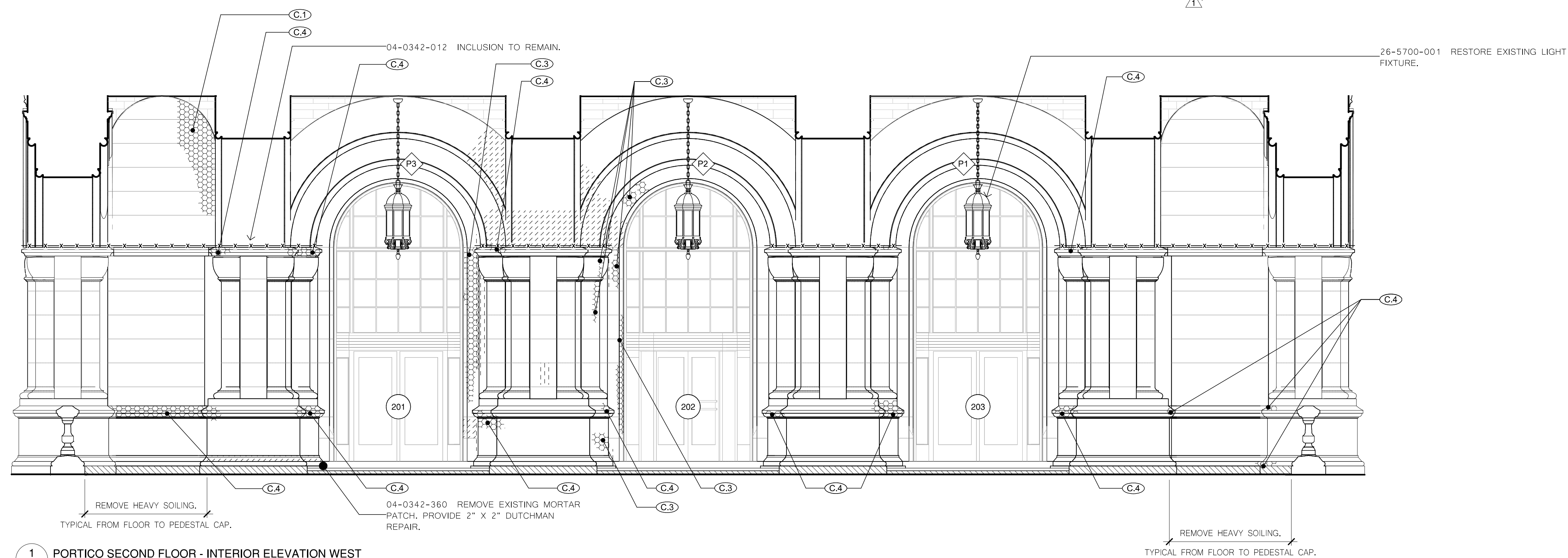
DRAWING NUMBER:

A221

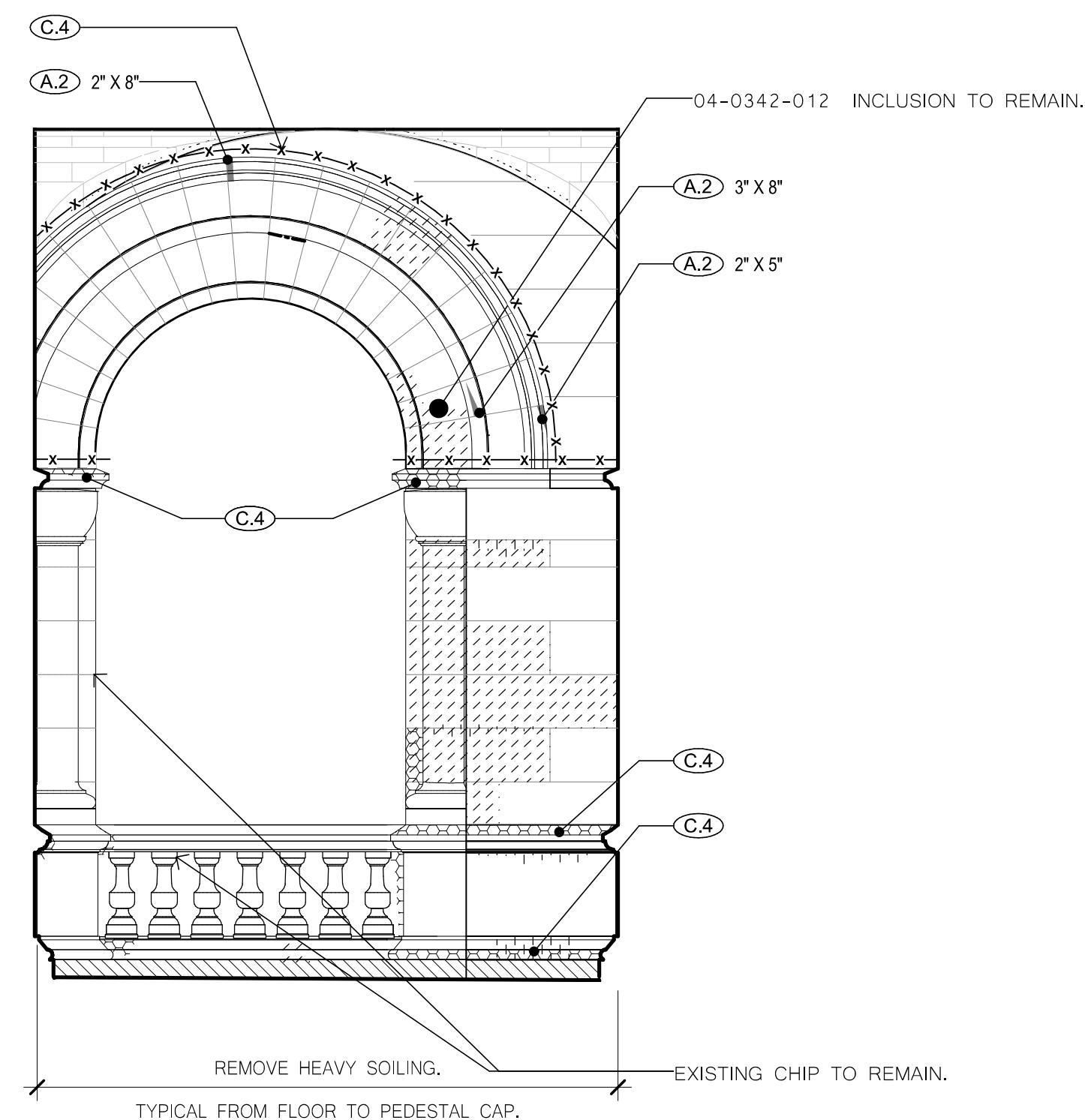
SHEET: 108 OF 257

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



1 PORTICO SECOND FLOOR - INTERIOR ELEVATION WEST  
1/4" = 1'-0"



2 PORTICO SECOND FLOOR - INTERIOR ELEVATION NORTH  
1/4" = 1'-0"

**LEGEND:**

- |  |   |  |
|--|---|--|
| 04-0342-200 PROVIDE DUTCHMAN REPAIR.                                 | 04-0342-006 PROVIDE MORTAR CRACK REPAIR.                    | PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE. |
| 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED. | 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED. | EXISTING STONE TO BE SALVAGED AND RESET.   |
| 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.                | 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.   | REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.  |
| 04-0342-600 PROVIDE REPLACEMENT STONE.                               | 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.     | REMOVE WATERPROOFING COATING IN AREA INDICATED.  |
| 04-0342-005 PROVIDE PIN REPAIR.                                      | 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.    | 10-8113-007 PROVIDE POST AND WIRE BIRD CONTROL SYSTEM.   |

CONSULTANT:

Architects  
John G. Waite Associates, PLLC

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CONTRACT:

CONSTRUCTION

TITLE:  
REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION:  
NEW YORK STATE CAPITOL  
ALBANY, NY

CLIENT:  
OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET
	09/21/2024	

PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

PORTICO - SECOND FLOOR ELEVATIONS

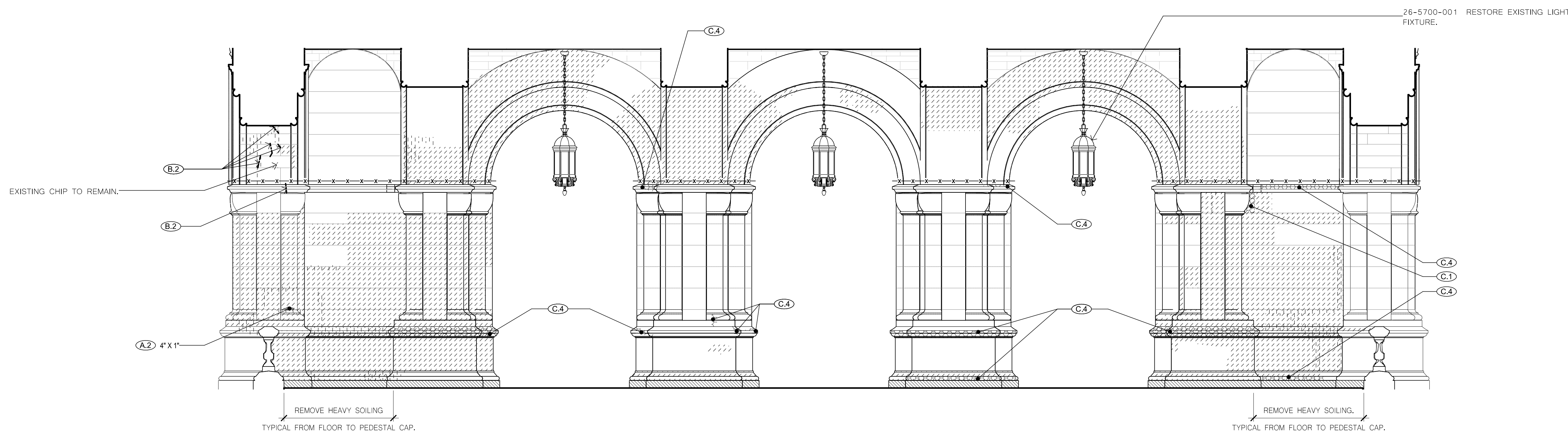
DRAWING NUMBER:

A222

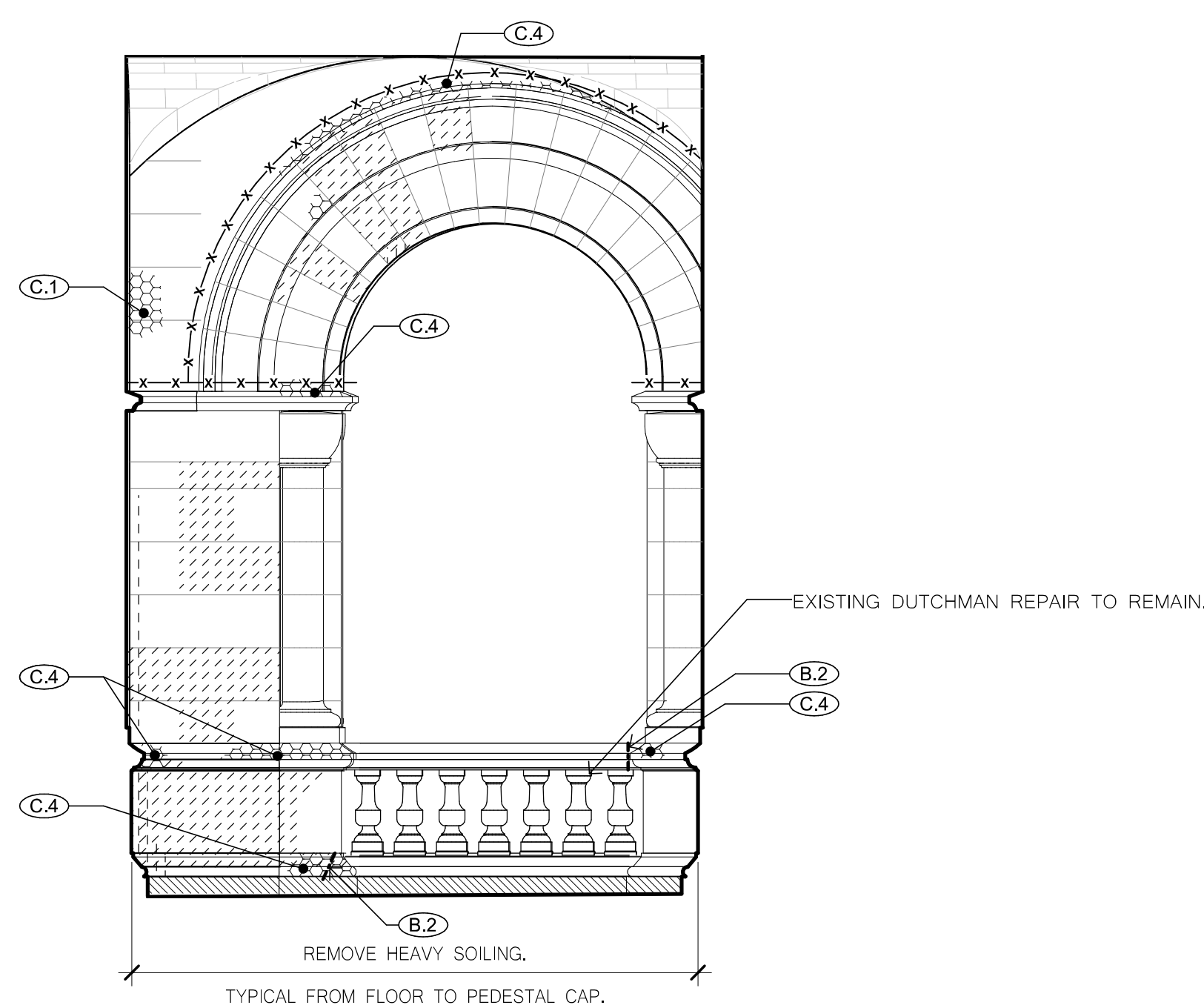
SHEET: 109 OF 257

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



1 PORTICO SECOND FLOOR - INTERIOR ELEVATION EAST  
1/4" = 1'-0"



2 PORTICO SECOND FLOOR - INTERIOR ELEVATION SOUTH  
1/4" = 1'-0"

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- 10-8113-007 PROVIDE POST AND WIRE BIRD CONTROL SYSTEM.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- REMOVE WATERPROOFING COATING IN AREA INDICATED.

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET
	09/21/2024	

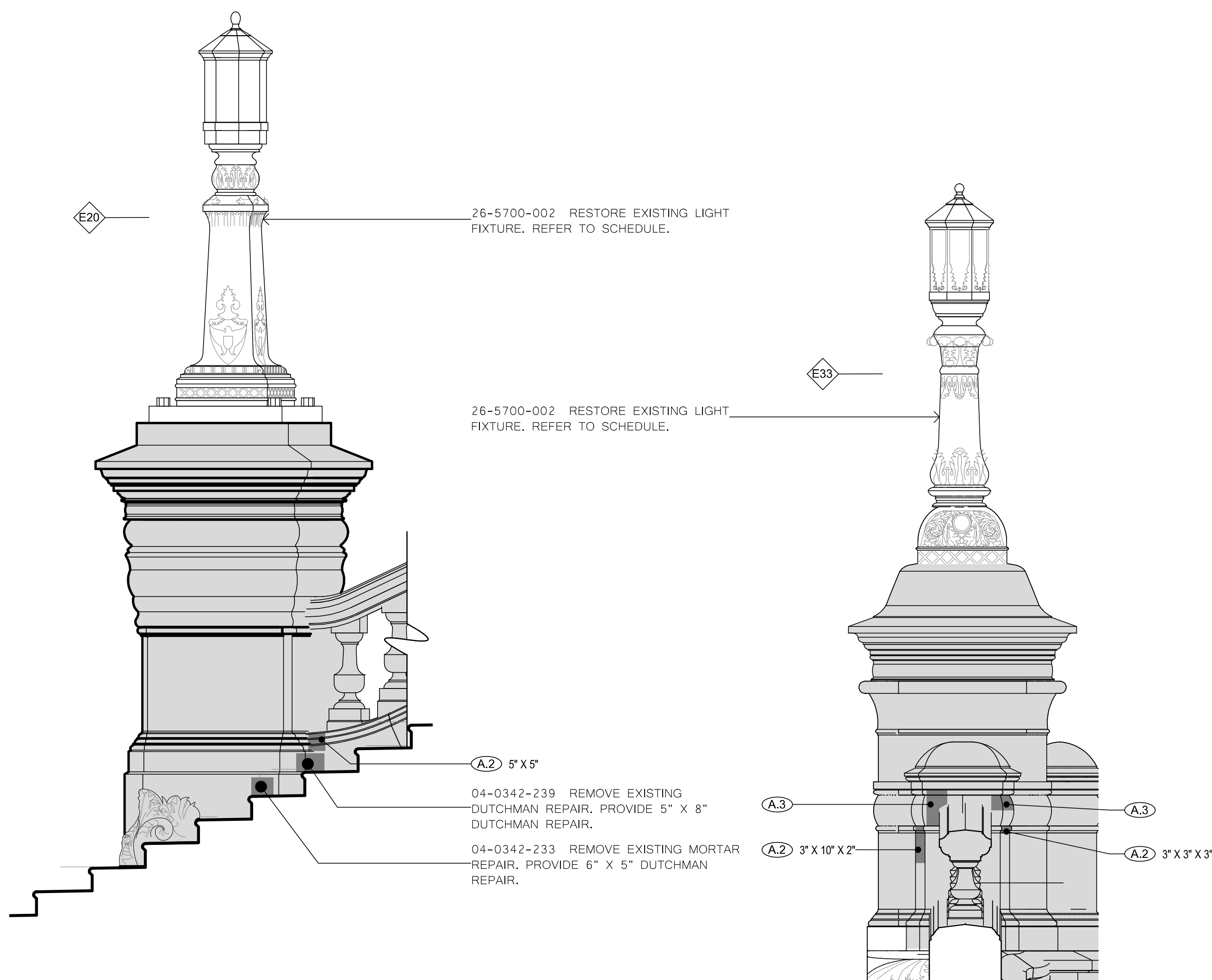
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

EASTERN APPROACH DETAIL ELEVATIONS

DRAWING NUMBER: A223

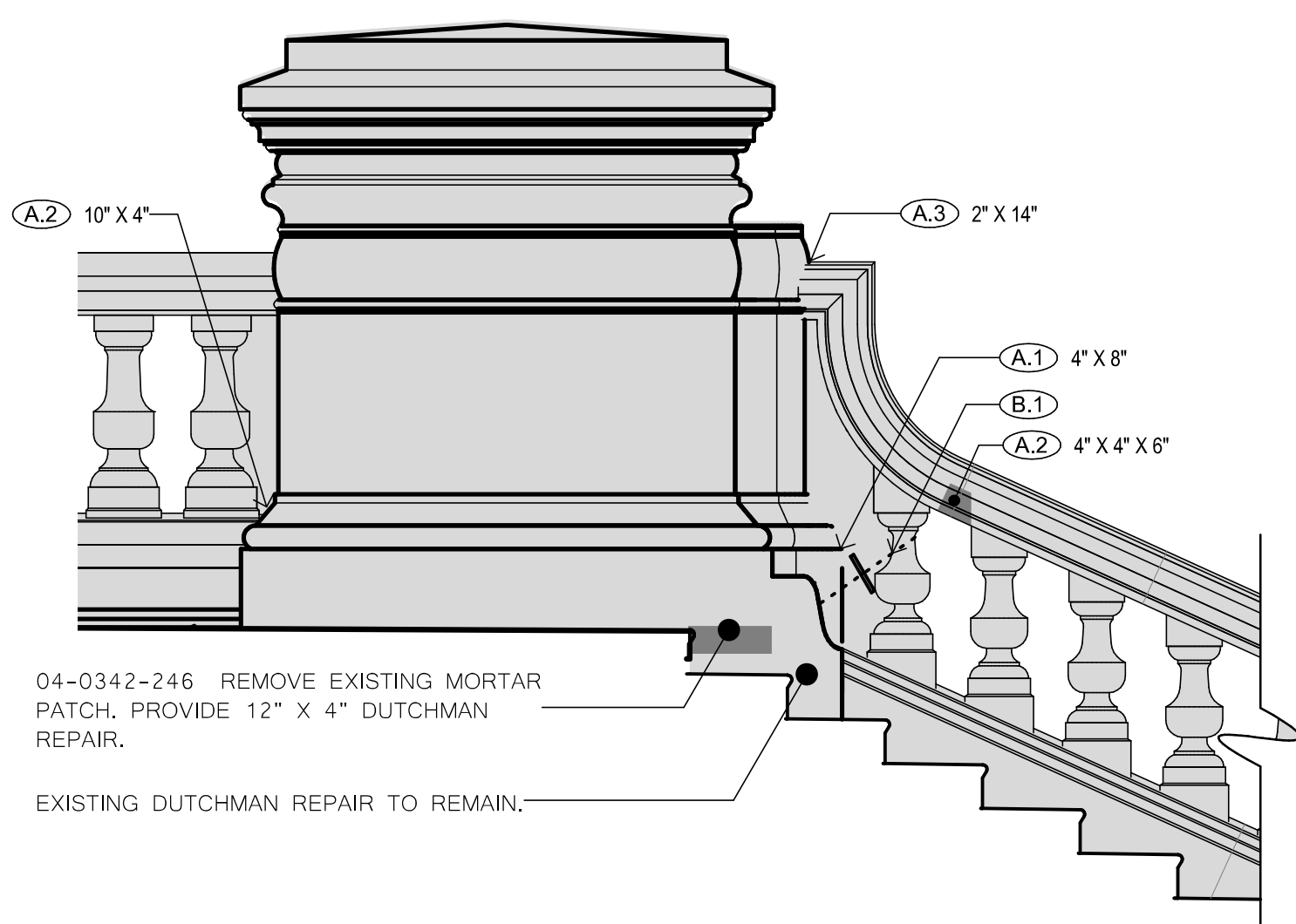
**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



1 SOUTH ELEVATION - HIDDEN UPPER BALUSTRADE  
A223 1/2" = 1'-0"

2 SOUTH ELEVATION BASEMENT PIER DETAIL  
A223 1/2" = 1'-0"



3 NORTH ELEVATION - HIDDEN UPPER BALUSTRADE  
A223 1/2" = 1'-0"



4 RESET VOUSOIRS DETAIL  
A223 1 1/2" = 1'-0"

04-0342-121 SALVAGE AND RESET TWO (2) DISPLACED STONE VOUSOIRS. RESET SURROUNDING STONES AND STONE VAULTING TO REDUCE VISUAL IMPACT OF MISALIGNED ARCH COMPONENTS. PROVIDE STRUCTURAL SHORING TO SUPPORT PORTIONS OF ARCH AND VAULT TO REMAIN.

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE, DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.

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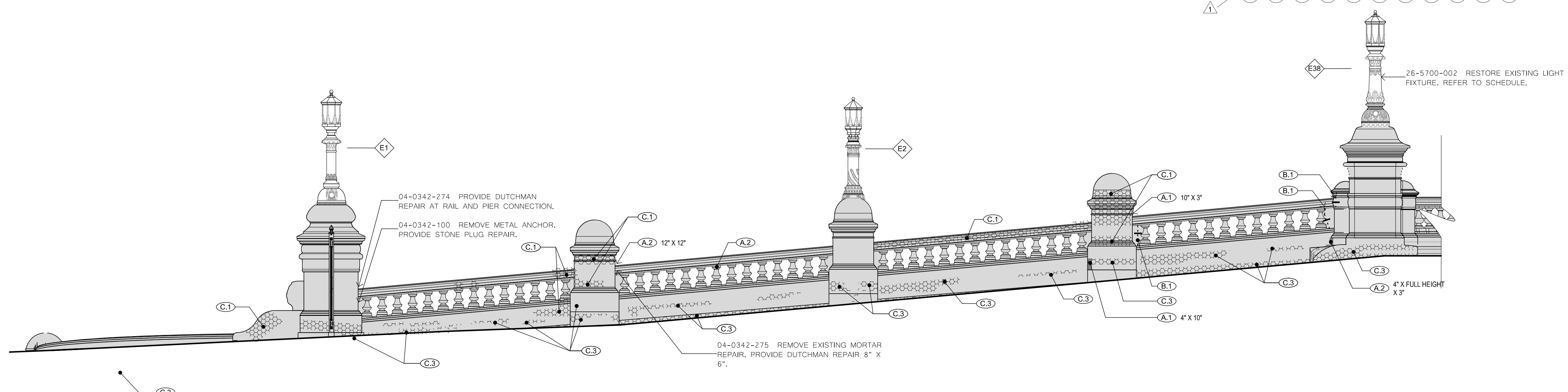
REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET
PROJECT NUMBER:		47331 - C
DESIGNED BY:		
DRAWN BY:		
FIELD CHECK:		
APPROVED:		
SHEET TITLE:		

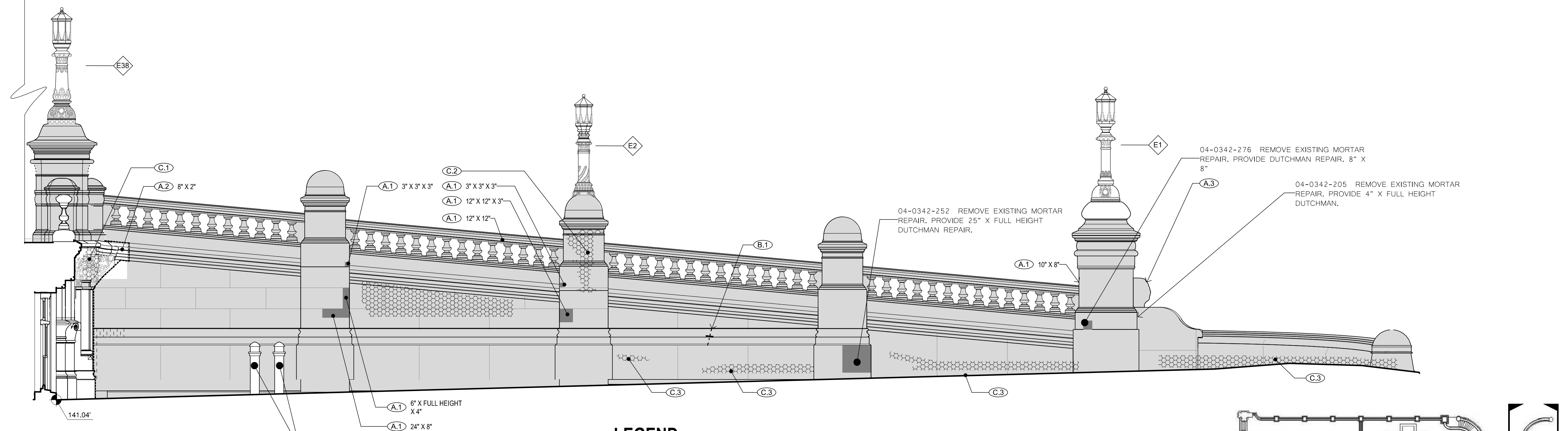
NORTH EXECUTIVE RAMP ELEVATIONS

GENERAL NOTES:

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



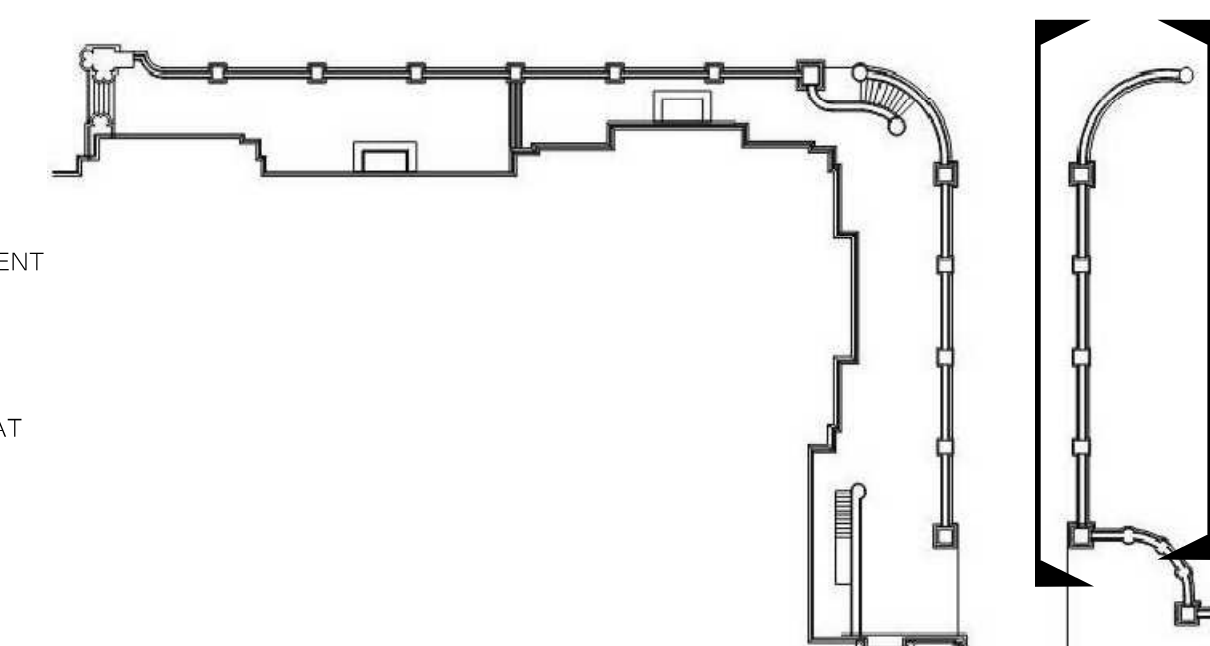
1 NORTH EXECUTIVE RAMP - WEST ELEVATION  
A224 1/4" = 1'-0"



2 NORTH EXECUTIVE RAMP - EAST ELEVATION  
A224 1/4" = 1'-0"

LEGEND:

- (A.1) 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- (A.2) 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- (A.3) 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- (A.4) 04-0342-600 PROVIDE REPLACEMENT STONE.
- EJ ..... PROVIDE EXPANSION JOINT.
- (B.1) 04-0342-005 PROVIDE PIN REPAIR.
- (B.2) 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- (C.1) 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- (C.2) 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- (C.3) 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- (C.4) 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE, DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.



KEY PLAN



CONSULTANT:

Architects  
John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

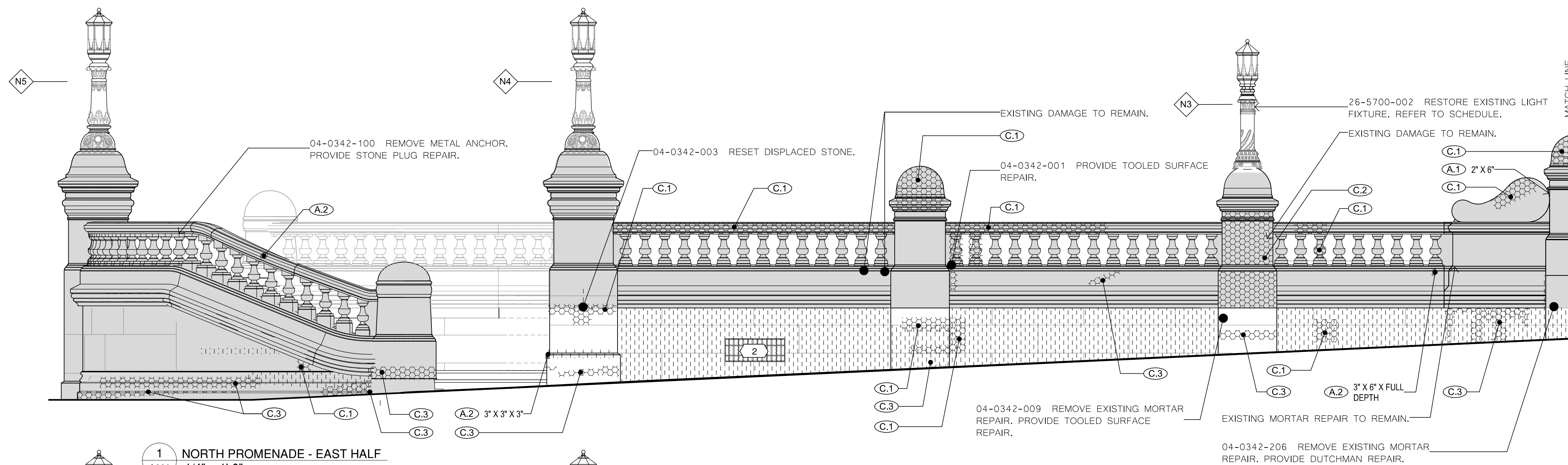
MARK	DATE	DESCRIPTION
1	10/25/2024	ADDENDUM 9 BID SET

PROJECT NUMBER: 47331 - C  
DESIGNED BY:  
DRAWN BY:  
FIELD CHECK:  
APPROVED:  
SHEET TITLE:

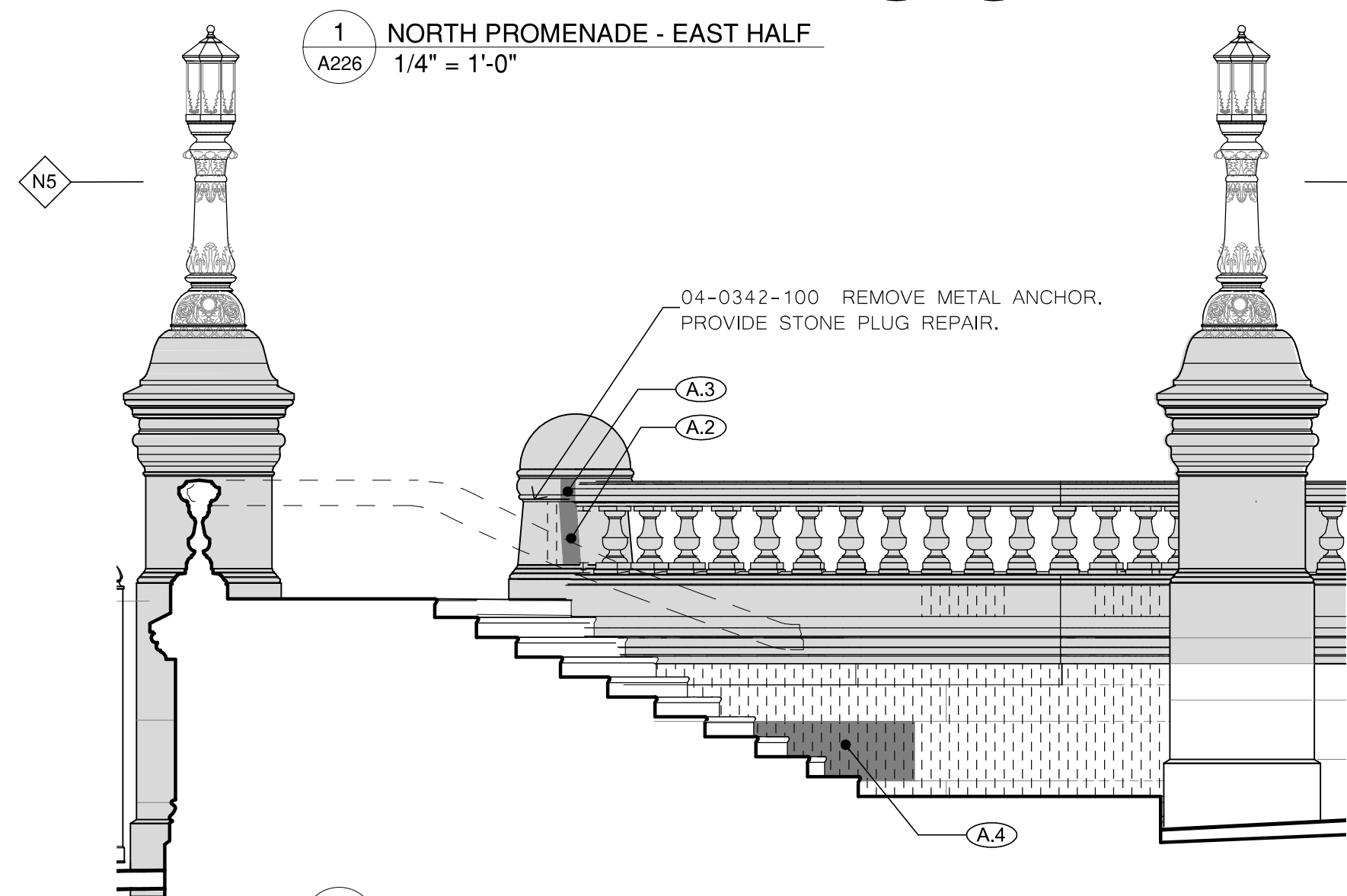
NORTH PROMENADE ELEVATIONS

DRAWING NUMBER: A226

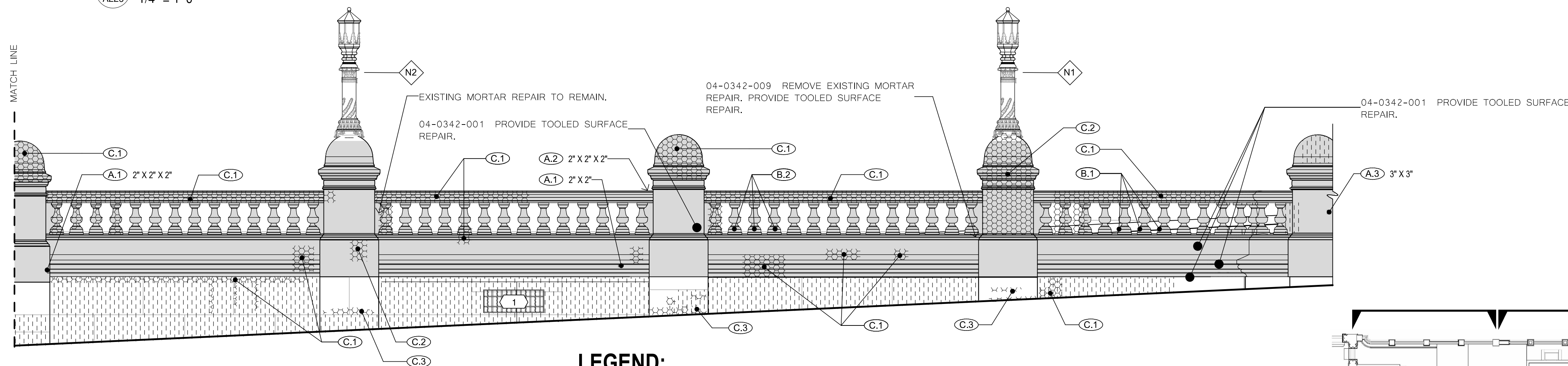
SHEET: 113 OF 257



1 NORTH PROMENADE - EAST HALF  
A226 1/4" = 1'-0"



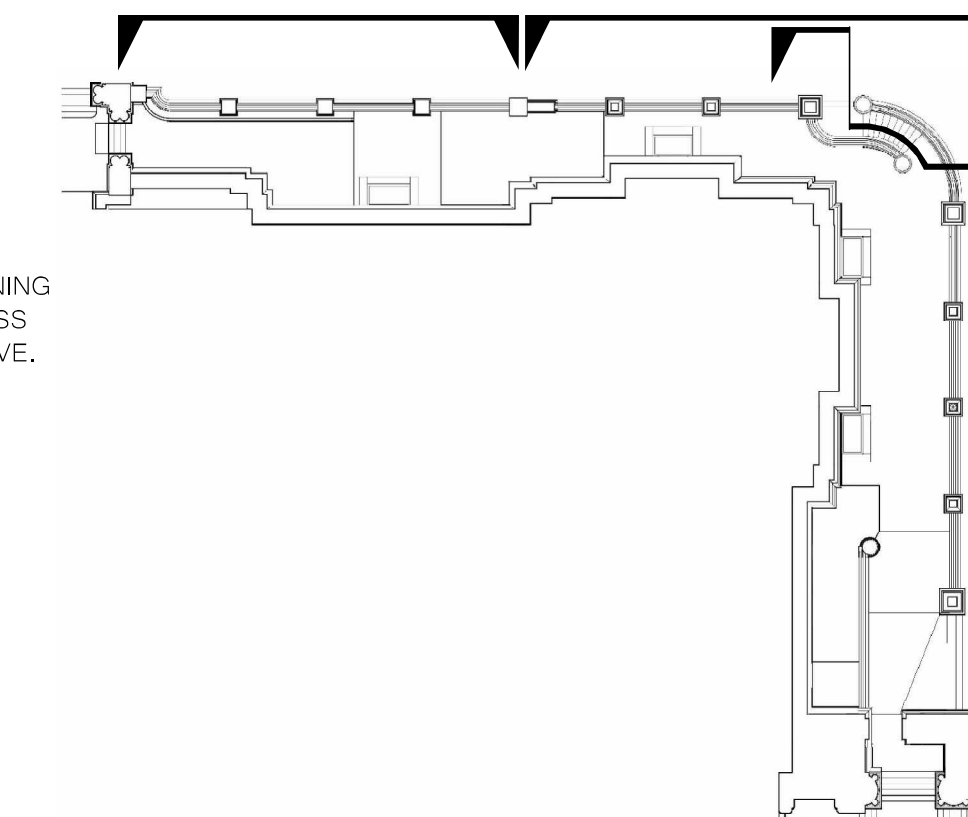
2 01 - NORTH ELEVATION - NORTH PROMENADE STAIRS  
A226 1/4" = 1'-0"



3 NORTH PROMENADE - WEST HALF  
A226 1/4" = 1'-0"

LEGEND:

- A.1** 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2** 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3** 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4** 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1** 04-0342-005 PROVIDE PIN REPAIR.
- B.2** 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1** 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2** 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3** 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4** 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- GRILLE NUMBER. REFER TO SCHEDULE.
- TOOL STONE SURFACE TO PRODUCE SMOOTH AND LEVEL TOP SURFACE.



GENERAL NOTES:

- PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
- REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
- ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
- REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.

CONSULTANT:

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CONTRACT:

CONSTRUCTION

TITLE:  
REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION:  
NEW YORK STATE CAPITOL  
ALBANY, NY

CLIENT:  
OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BIDS SET

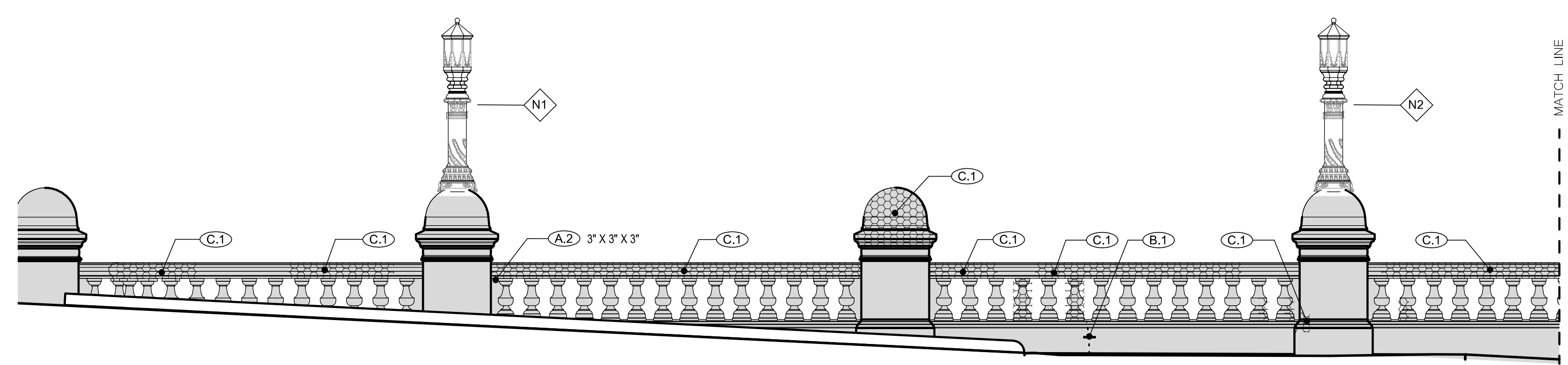
PROJECT NUMBER: 47331 - C  
DESIGNED BY:  
DRAWN BY:  
FIELD CHECK:  
APPROVED:  
SHEET TITLE:

NORTH PROMENADE ELEVATIONS

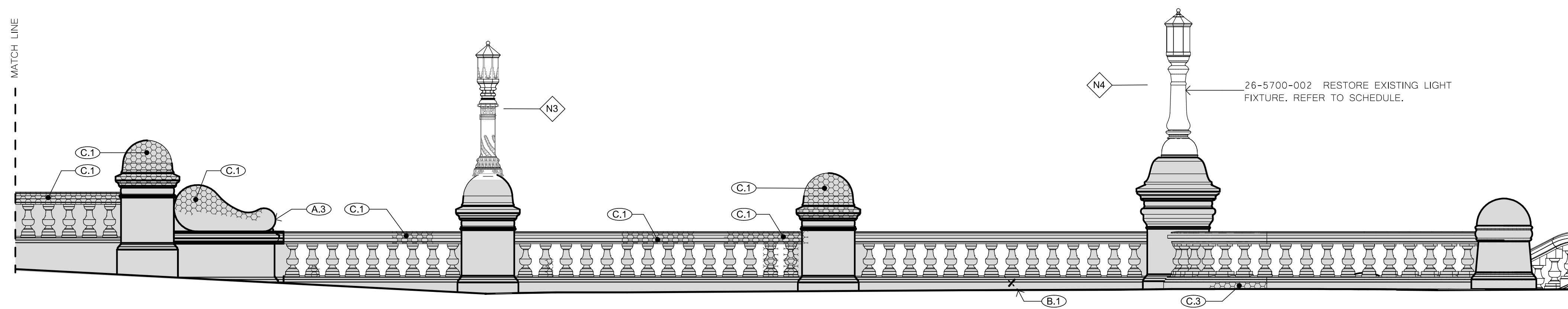
DRAWING NUMBER: A227

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



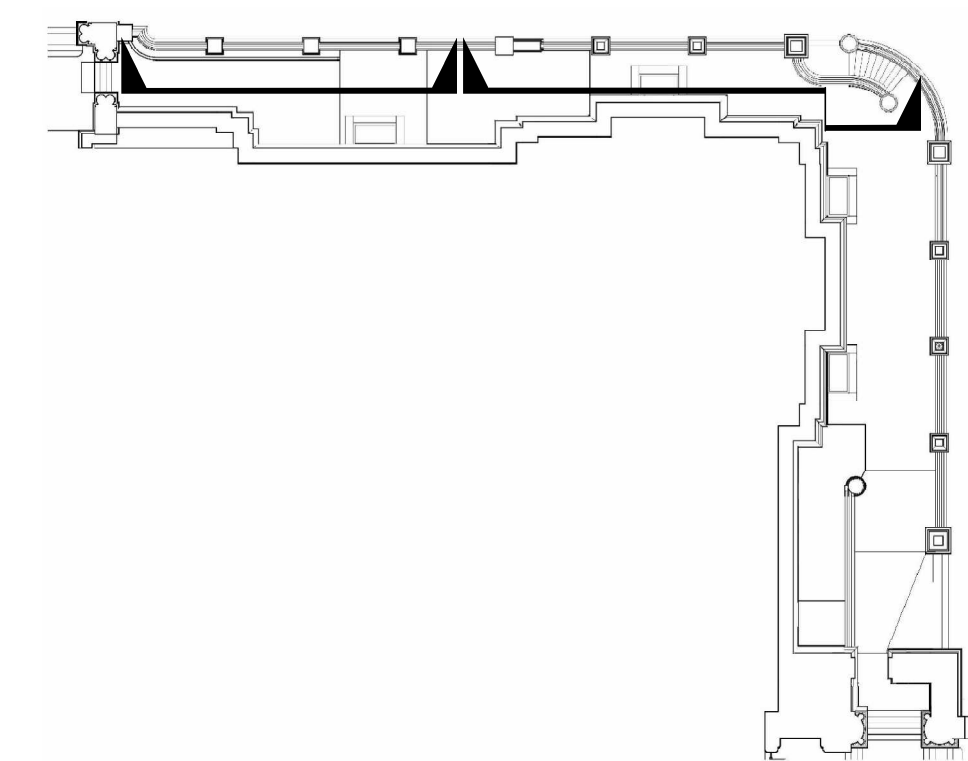
1 NORTH PROMENADE  
A227 1/4" = 1'-0"



2 NORTH PROMENADE  
A227 1/4" = 1'-0"

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.



KEY PLAN

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT:

CONSTRUCTION

TITLE:  
REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION:  
NEW YORK STATE CAPITOL  
ALBANY, NY

CLIENT:  
OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET

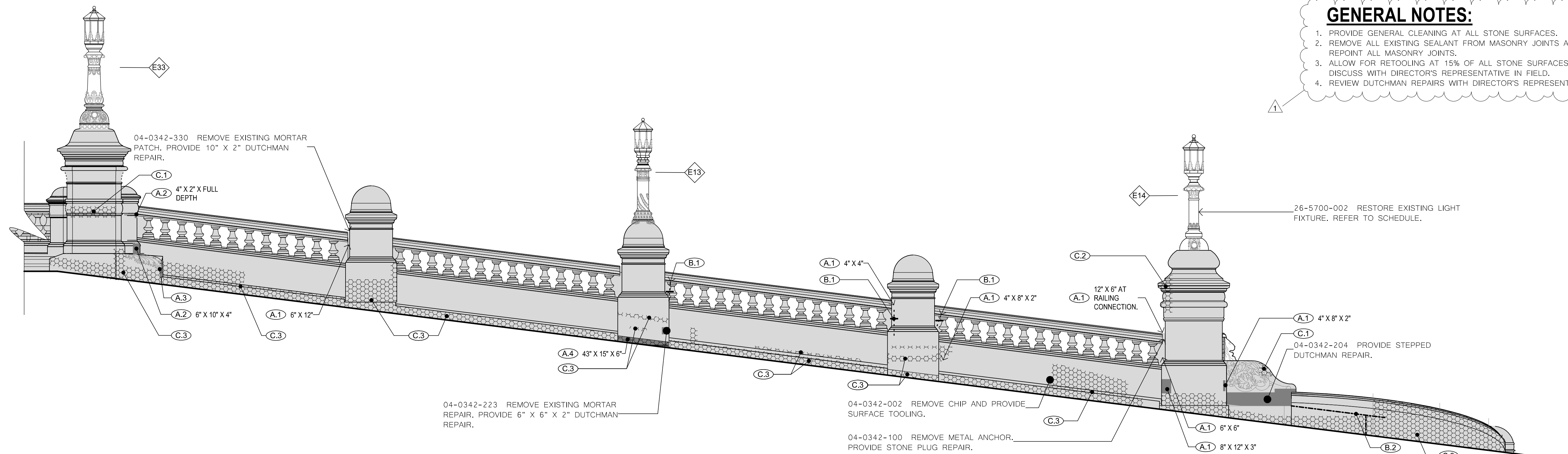
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

SOUTH EXECUTIVE RAMP ELEVATIONS

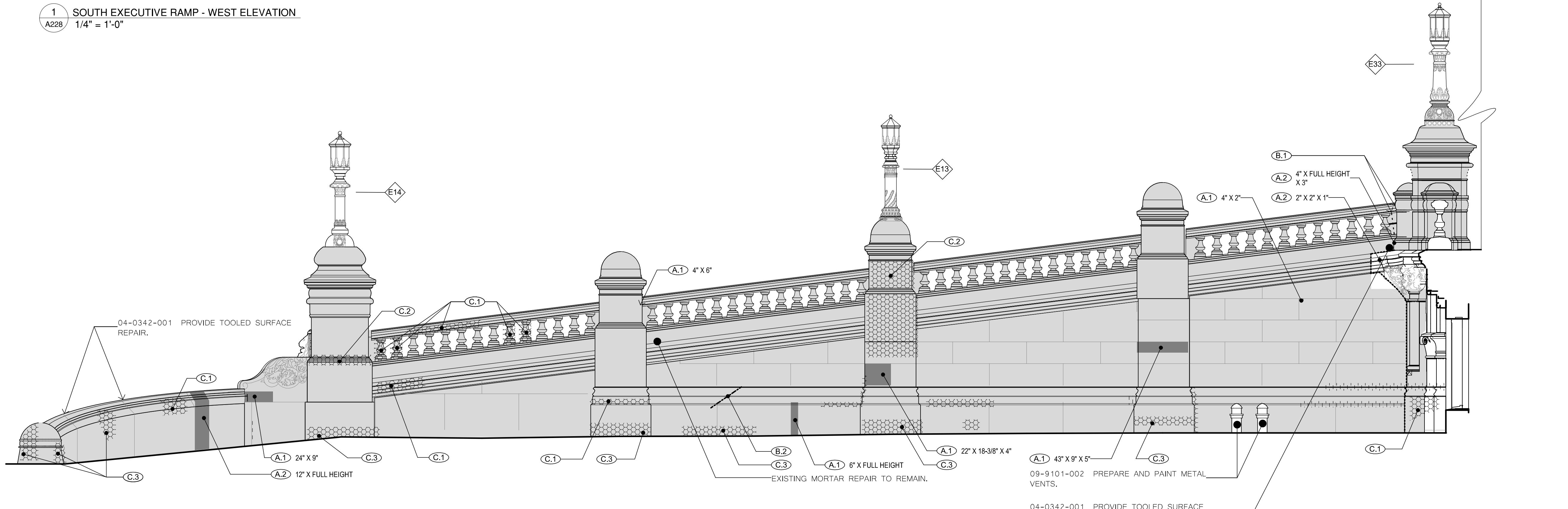
DRAWING NUMBER:  
A228

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



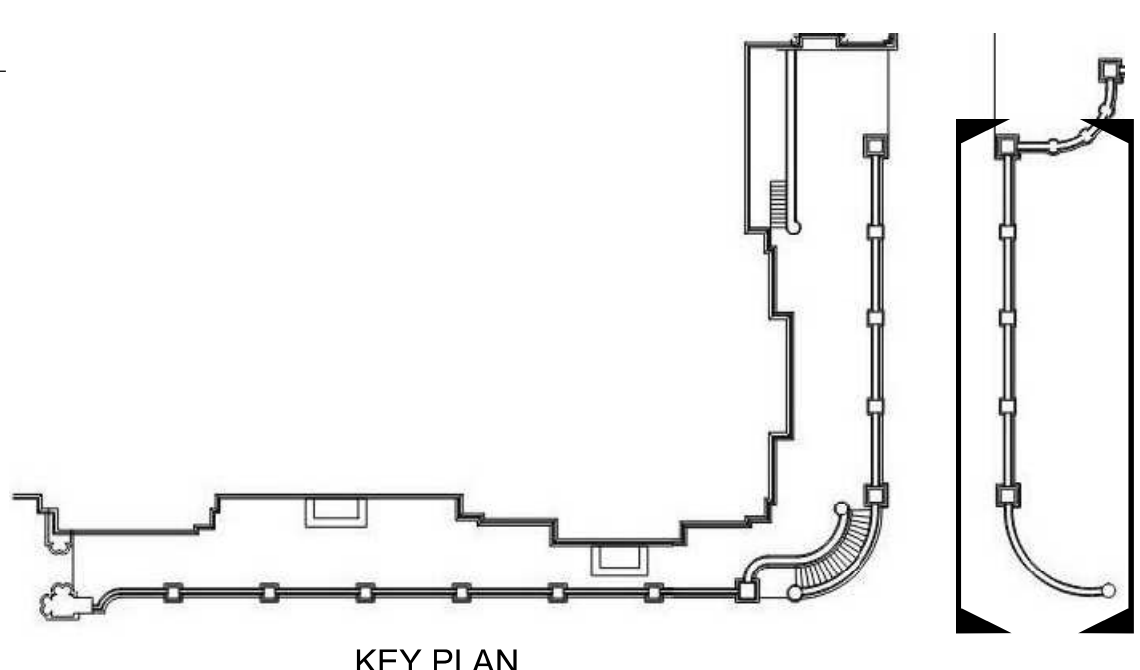
1 SOUTH EXECUTIVE RAMP - WEST ELEVATION  
1/4" = 1'-0"



2 SOUTH EXECUTIVE RAMP - EAST ELEVATION  
1/4" = 1'-0"

**LEGEND:**

- A.1** 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2** 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3** 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4** 04-0342-600 PROVIDE REPLACEMENT STONE.
- EJ** PROVIDE EXPANSION JOINT.
- B.1** 04-0342-005 PROVIDE PIN REPAIR.
- B.2** 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1** 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2** 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3** 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4** 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.



CONSULTANT:

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDENDUM 9 BID SET
PROJECT NUMBER:	47331 - C	
DESIGNED BY:		
DRAWN BY:		
FIELD CHECK:		
APPROVED:		
SHEET TITLE:	SOUTH PROMENADE ELEVATIONS	

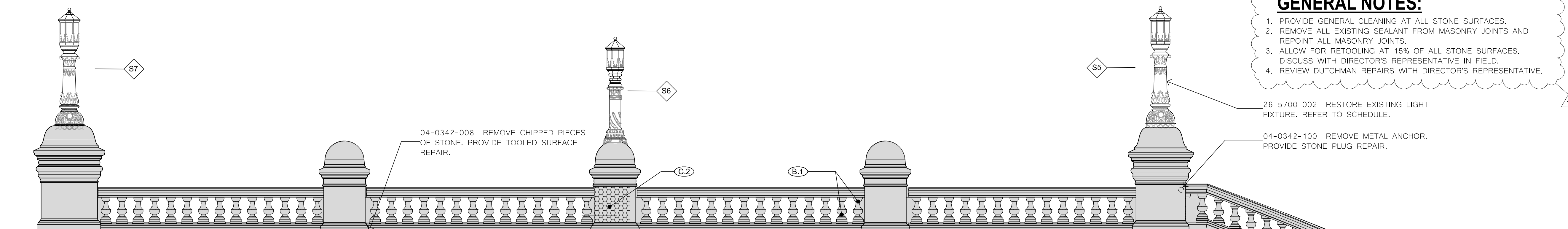
DRAWING NUMBER:

A229

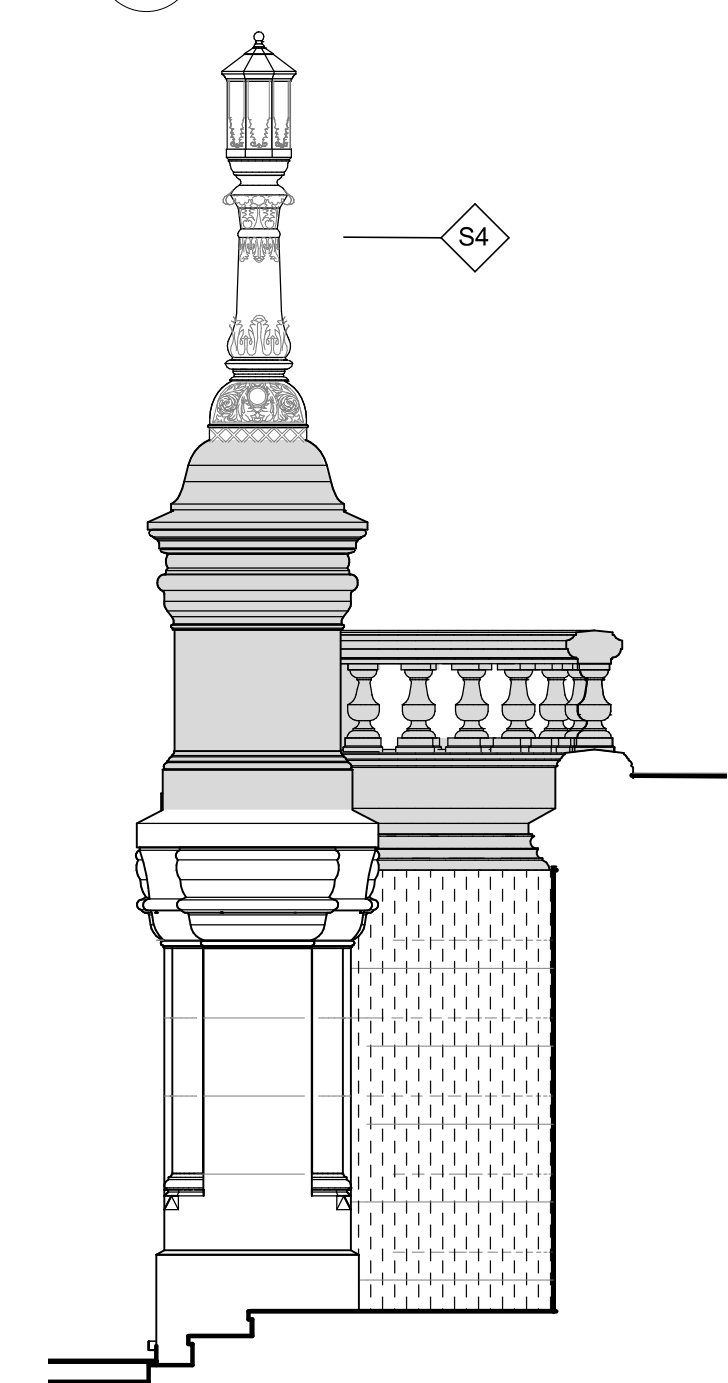
SHEET: 116 OF 257

**GENERAL NOTES:**

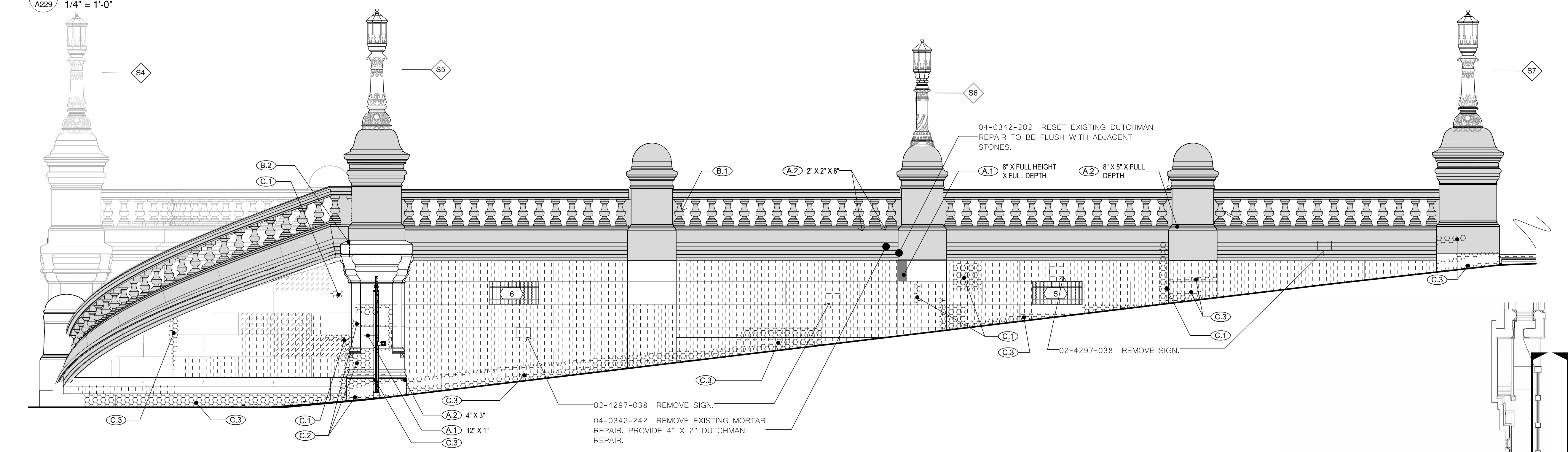
1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



1 SOUTH PROMENADE - WEST ELEVATION  
1/4" = 1'-0"



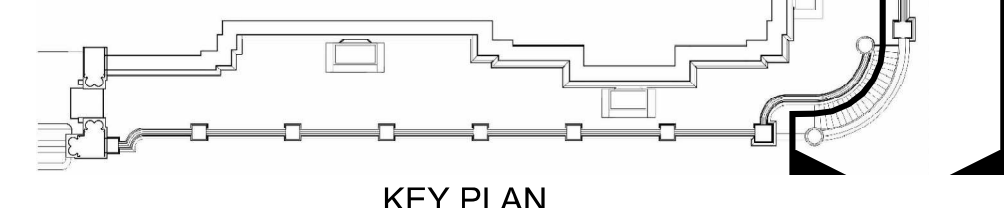
2 SOUTH PROMENADE - EAST ELEVATION HIDDEN WALL  
1/4" = 1'-0"



3 SOUTH PROMENADE - EAST ELEVATION  
1/4" = 1'-0"

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- C.1 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.
- C.2 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.
- C.3 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.
- C.4 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.
- PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- GRILLE NUMBER. REFER TO SCHEDULE.
- TOOL STONE SURFACE TO PRODUCE SMOOTH AND LEVEL TOP SURFACE.



KEY PLAN

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

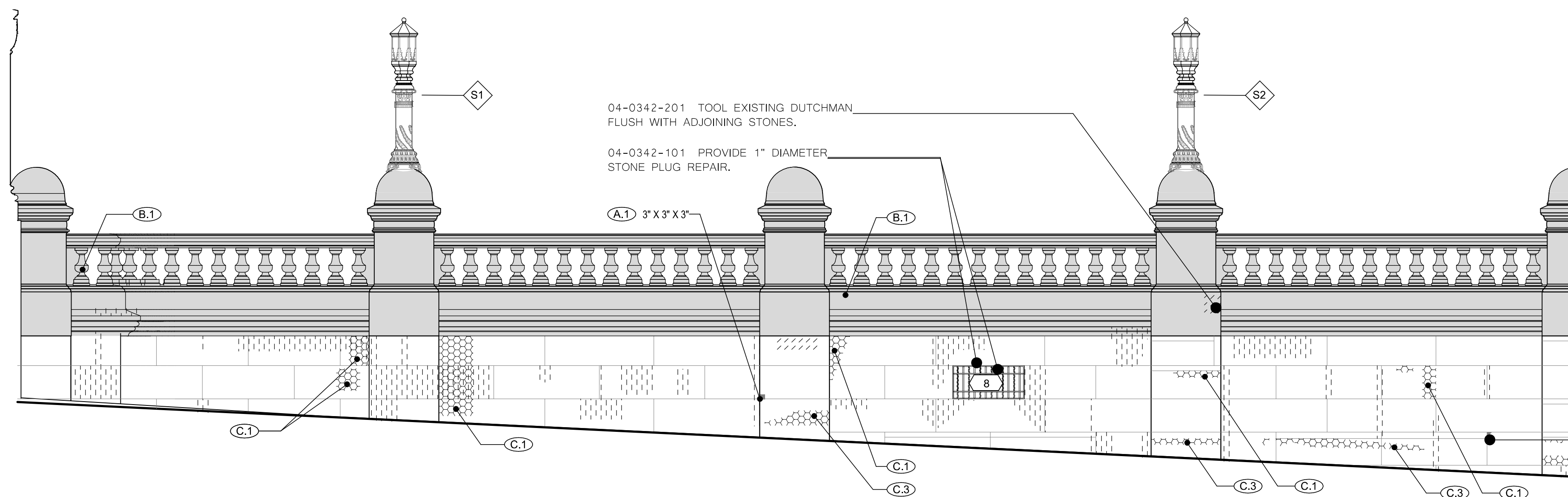
MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET
	09/21/2024	
PROJECT NUMBER:	47331 - C	
DESIGNED BY:		
DRAWN BY:		
FIELD CHECK:		
APPROVED:		
SHEET TITLE:	SOUTH PROMENADE ELEVATIONS	

DRAWING NUMBER: A230

SHEET: 117 OF 257

**GENERAL NOTES:**

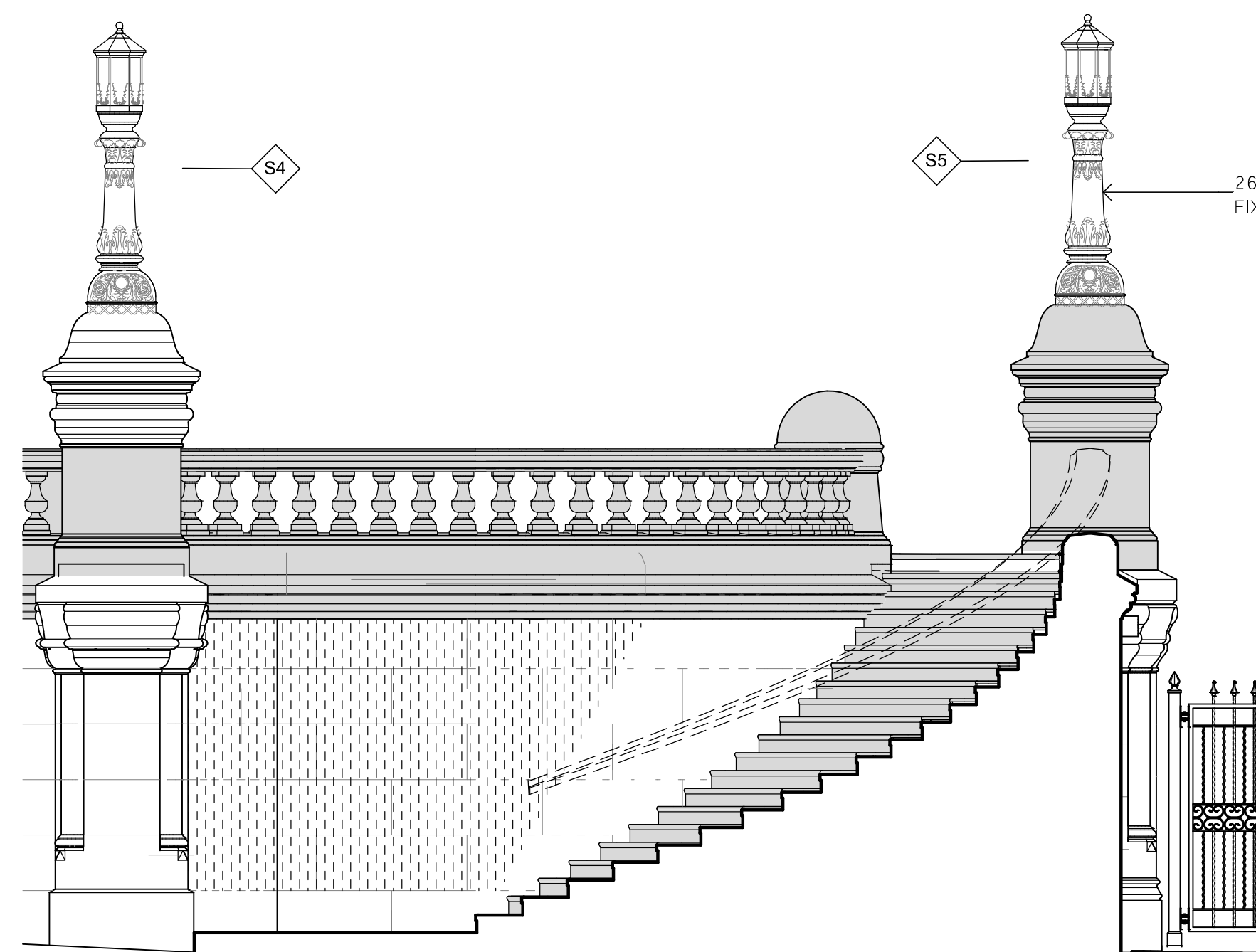
1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



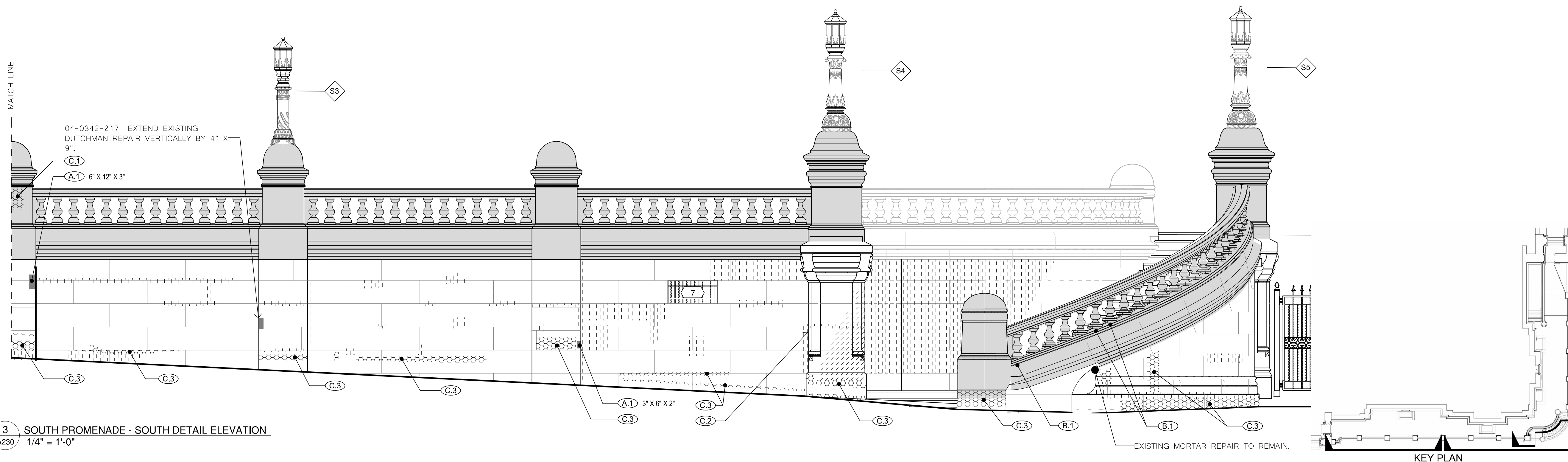
1 SOUTH PROMENADE - SOUTH DETAIL ELEVATION  
A230 1/4" = 1'-0"

**LEGEND:**

- |  |   |  |
|--|---|--|
| (A.1) 04-0342-200 PROVIDE DUTCHMAN REPAIR.                                 | (B.2) 04-0342-006 PROVIDE MORTAR CRACK REPAIR.                    | [Hatched] PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE. |
| (A.2) 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED. | (C.1) 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED. | [Solid Grey] EXISTING STONE TO BE SALVAGED AND RESET.  |
| (A.3) 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.                | (C.2) 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.   | [Dotted] REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.   |
| (A.4) 04-0342-600 PROVIDE REPLACEMENT STONE.                               | (C.3) 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.     | [Cross-hatched] GRILLE NUMBER. REFER TO SCHEDULE.  |
| (B.1) 04-0342-005 PROVIDE PIN REPAIR.                                      | (C.4) 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.    | [Stippled] TOOL STONE SURFACE TO PRODUCE SMOOTH AND LEVEL TOP SURFACE.                                   |



2 SOUTH PROMENADE - DETAIL SOUTH ELEVATION - STAIRS ONLY  
A230 1/4" = 1'-0"



3 SOUTH PROMENADE - SOUTH DETAIL ELEVATION  
A230 1/4" = 1'-0"

KEY PLAN

CONSULTANT:

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CONTRACT:

CONSTRUCTION

TITLE:  
REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION:  
NEW YORK STATE CAPITOL  
ALBANY, NY

CLIENT:  
OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9 BID SET
	09/21/2024	

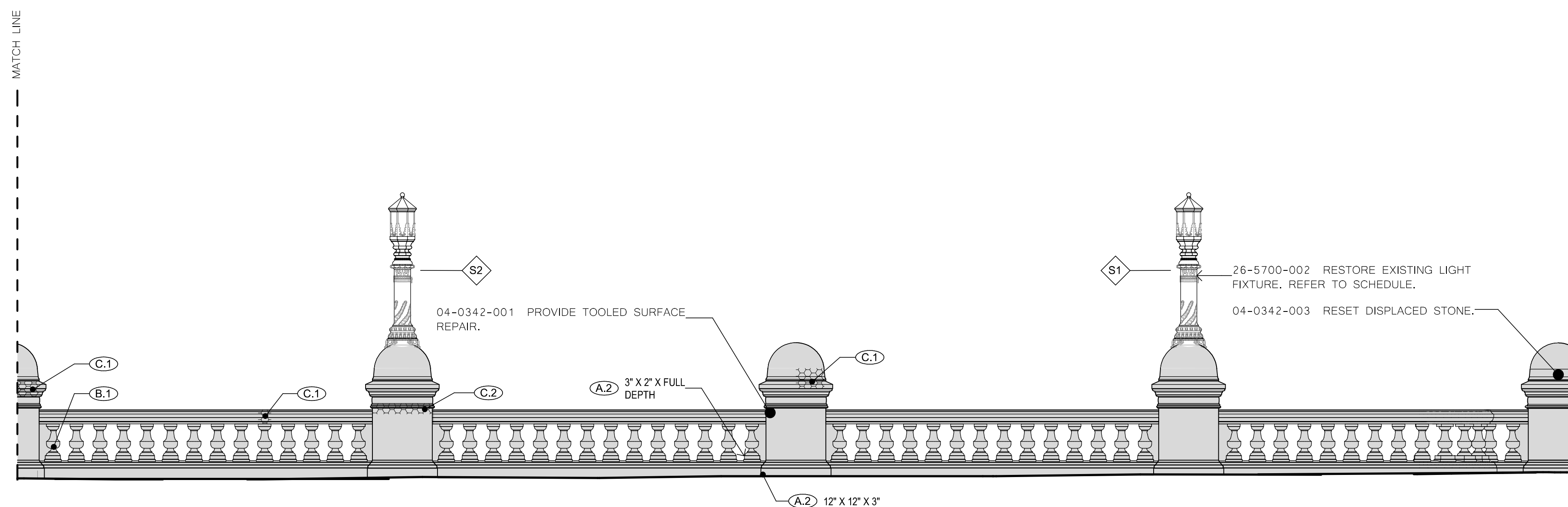
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

SOUTH PROMENADE ELEVATIONS

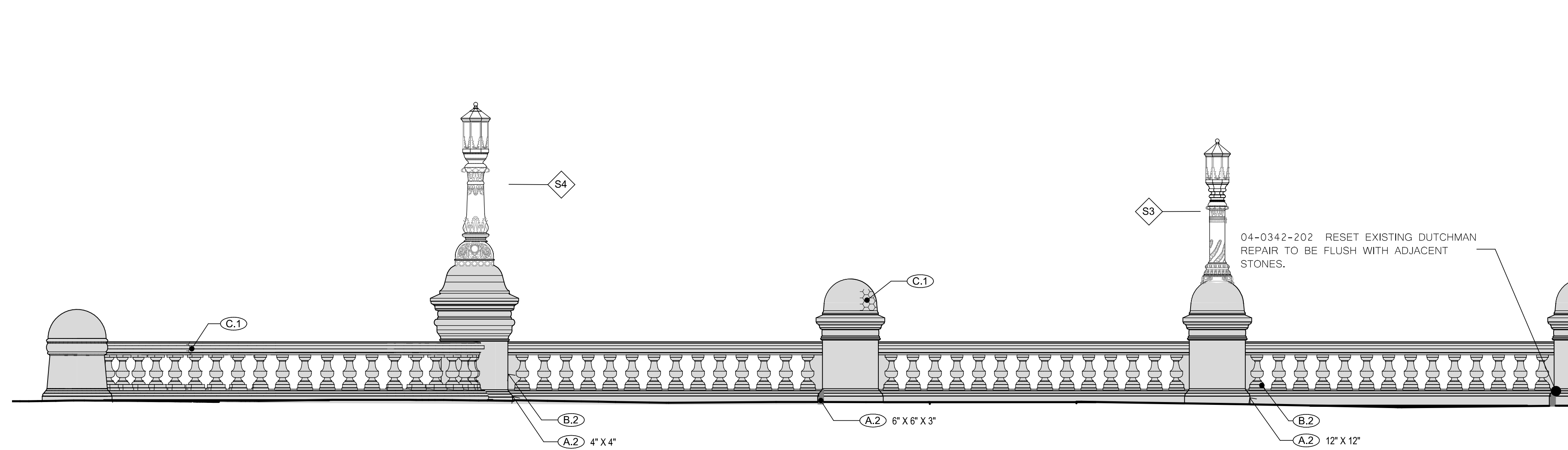
DRAWING NUMBER:  
A231

**GENERAL NOTES:**

1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



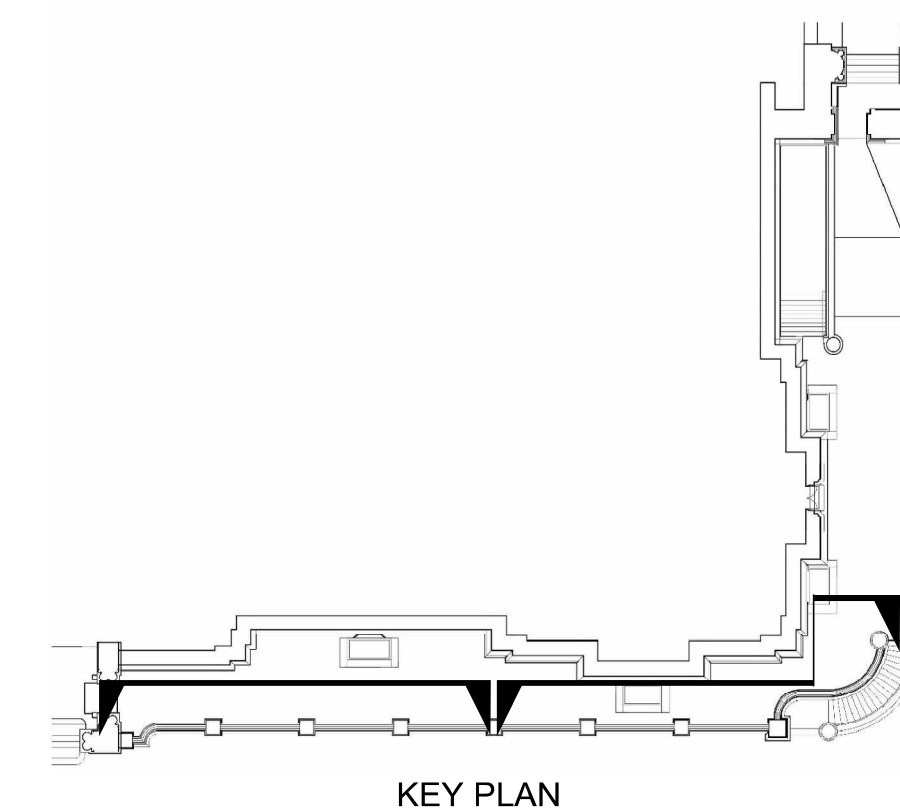
1 SOUTH PROMENADE - NORTH DETAIL ELEVATION  
A231 1/4" = 1'-0"



2 SOUTH PROMENADE - NORTH DETAIL ELEVATION  
A231 1/4" = 1'-0"

**LEGEND:**

- |  |   |  |
|--|---|--|
| 04-0342-200 PROVIDE DUTCHMAN REPAIR.                                 | 04-0342-005 PROVIDE PIN REPAIR.                             | 04-0123-010 REMOVE BIRD EXCREMENT IN THE AREA INDICATED.                                       |
| 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED. | 04-0342-006 PROVIDE MORTAR CRACK REPAIR.                    | 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED.                                    |
| 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.                | 04-0123-002 REMOVE BIOLOGICAL GROWTH IN THE AREA INDICATED. | PROVIDE MICRO-ABRASIVE CLEANING AT EXFOLIATED SURFACE. DISCUSS WITH DIRECTOR'S REPRESENTATIVE. |
| 04-0342-600 PROVIDE REPLACEMENT STONE.                               | 04-0123-008 REMOVE COPPER STAINING IN THE AREA INDICATED.   | EXISTING STONE TO BE SALVAGED AND RESET.   |
|  | 04-0123-009 REMOVE RUST STAINING IN THE AREA INDICATED.     | REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.  |



KEY PLAN

CONSULTANT:

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

MARK	DATE	DESCRIPTION
1	10/25/2024	ADDITIONAL 9
	08/21/2024	BID SET

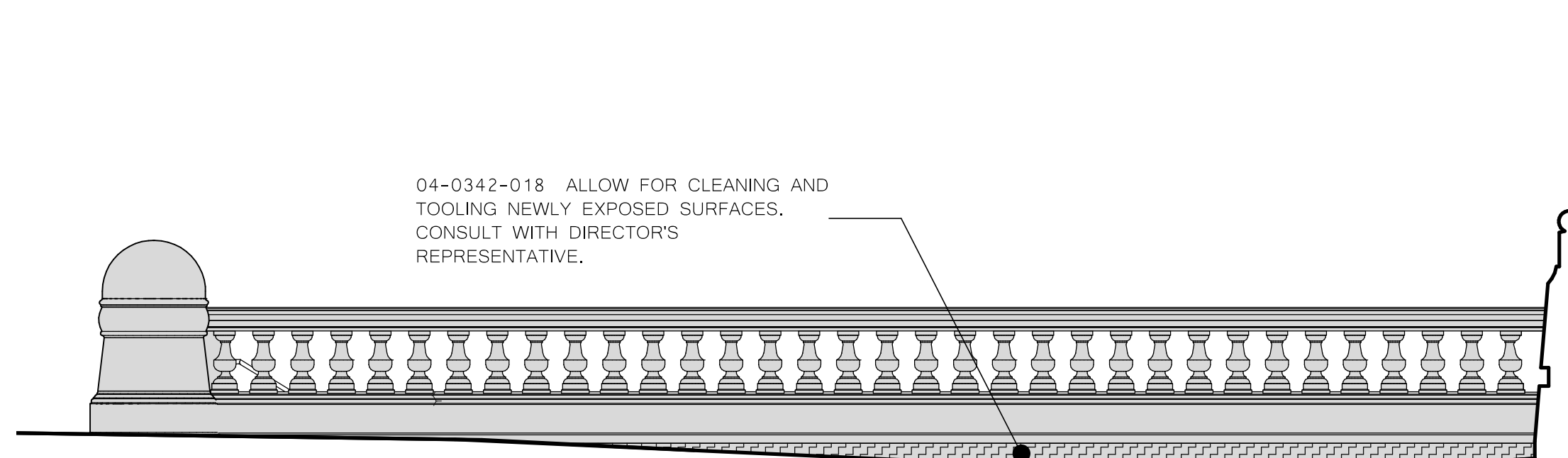
PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

PROMENADE AREAWAY ELEVATIONS

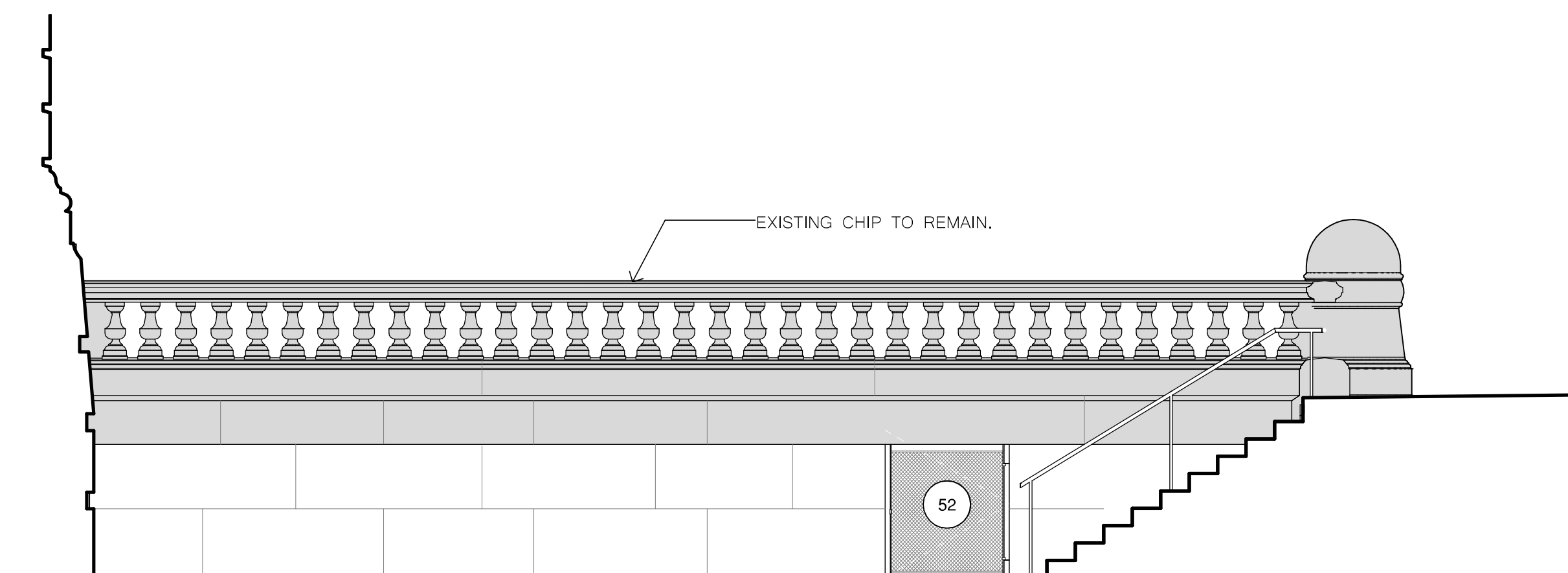
DRAWING NUMBER: A232

**GENERAL NOTES:**

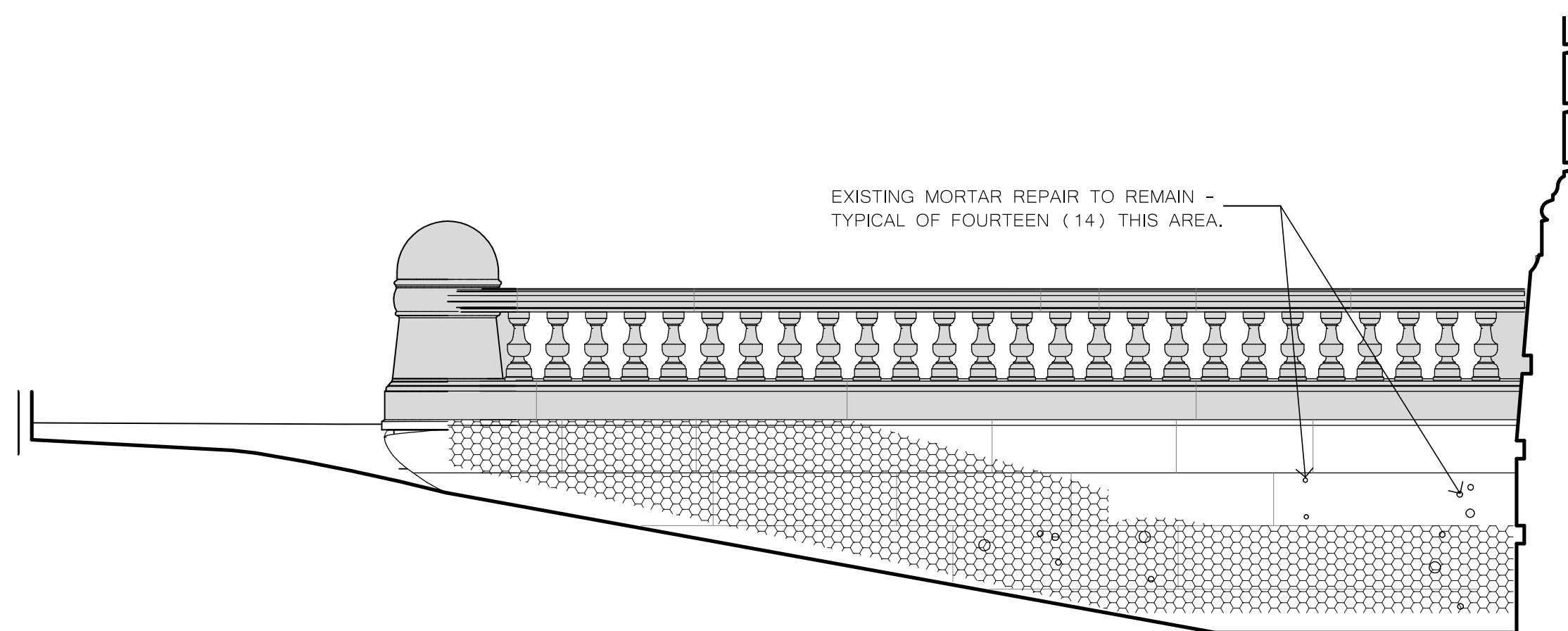
1. PROVIDE GENERAL CLEANING AT ALL STONE SURFACES.
2. REMOVE ALL EXISTING SEALANT FROM MASONRY JOINTS AND REPOINT ALL MASONRY JOINTS.
3. ALLOW FOR RETOOLING AT 15% OF ALL STONE SURFACES. DISCUSS WITH DIRECTOR'S REPRESENTATIVE IN FIELD.
4. REVIEW DUTCHMAN REPAIRS WITH DIRECTOR'S REPRESENTATIVE.



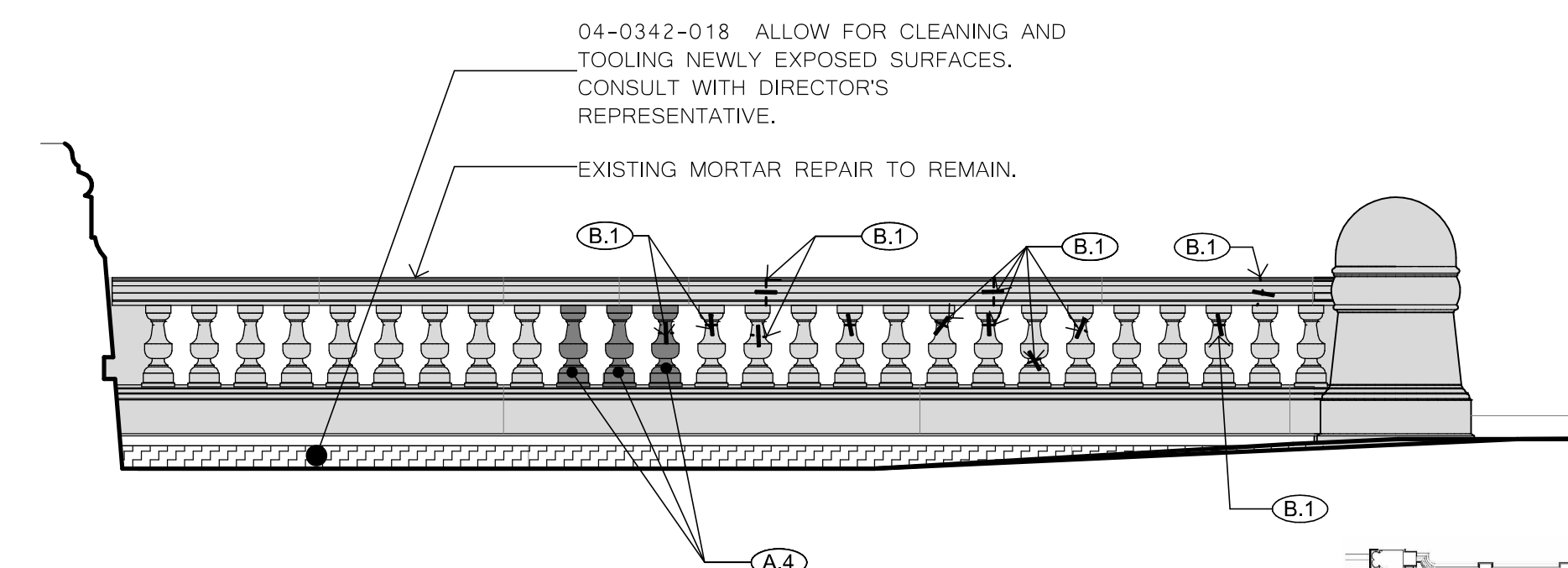
1 EAST ELEVATION - S. PROMENADE AREAWAY  
A232 1/4" = 1'-0"



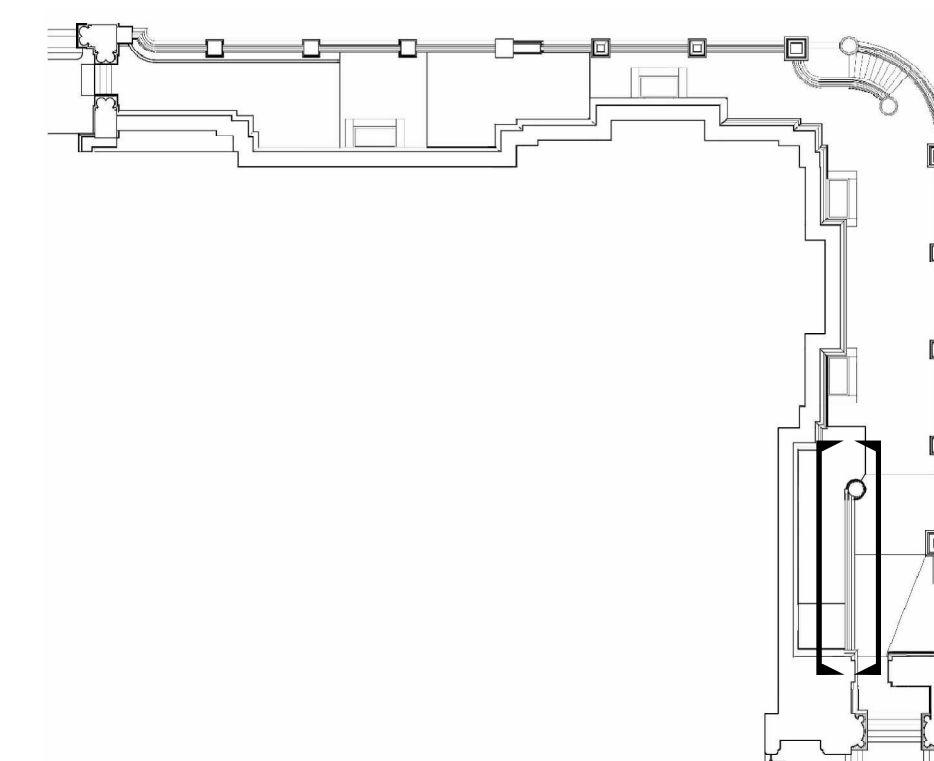
2 WEST ELEVATION - S. PROMENADE AREAWAY  
A232 1/4" = 1'-0"



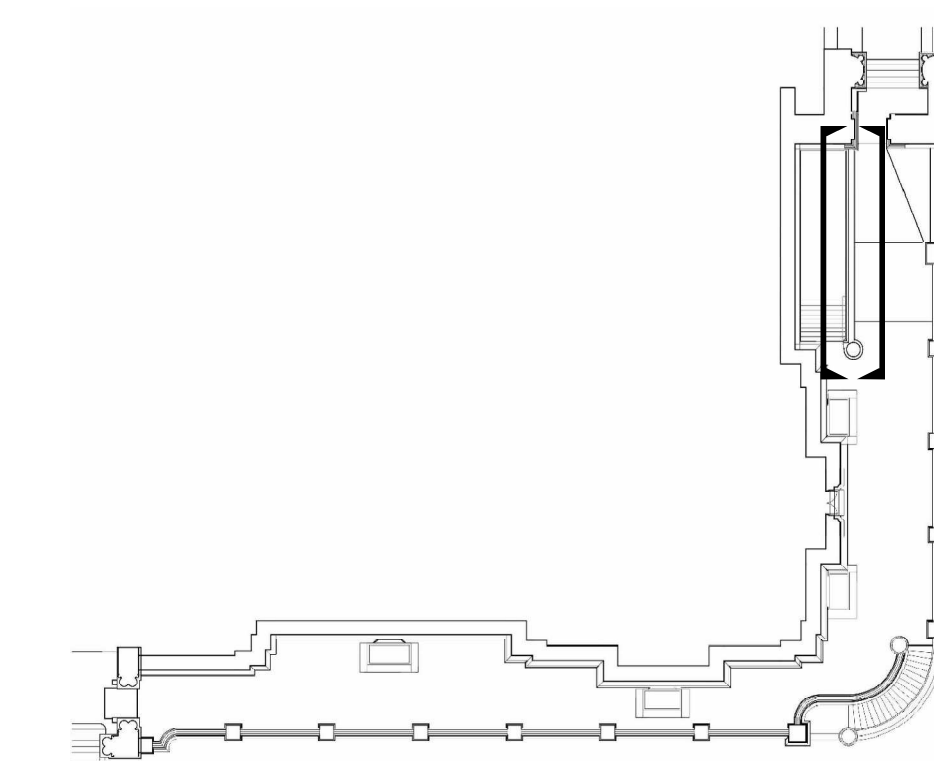
3 WEST ELEVATION - N. PROMENADE AREAWAY  
A232 1/4" = 1'-0"



4 EAST ELEVATION - N. PROMENADE AREAWAY  
A232 1/4" = 1'-0"



KEY PLAN



KEY PLAN

**LEGEND:**

- A.1 04-0342-200 PROVIDE DUTCHMAN REPAIR.
- A.2 04-0342-300 PROVIDE PROFILE STONE DUTCHMAN REPAIR IN SIZE INDICATED.
- A.3 04-0342-400 PROVIDE DECORATIVE STONE DUTCHMAN REPAIR.
- A.4 04-0342-600 PROVIDE REPLACEMENT STONE.
- B.1 04-0342-005 PROVIDE PIN REPAIR.
- B.2 04-0342-006 PROVIDE MORTAR CRACK REPAIR.
- TOOL STONE SURFACE TO PRODUCE SMOOTH AND LEVEL TOP SURFACE.
- EXISTING STONE TO BE SALVAGED AND RESET.
- PROVIDE SPECIAL CLEANING IN AREA INDICATED.
- REMOVE HEAVY LIME DEPOSITS IN AREA INDICATED.
- 1001 DOOR NUMBER, REFER TO SCHEDULE.

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

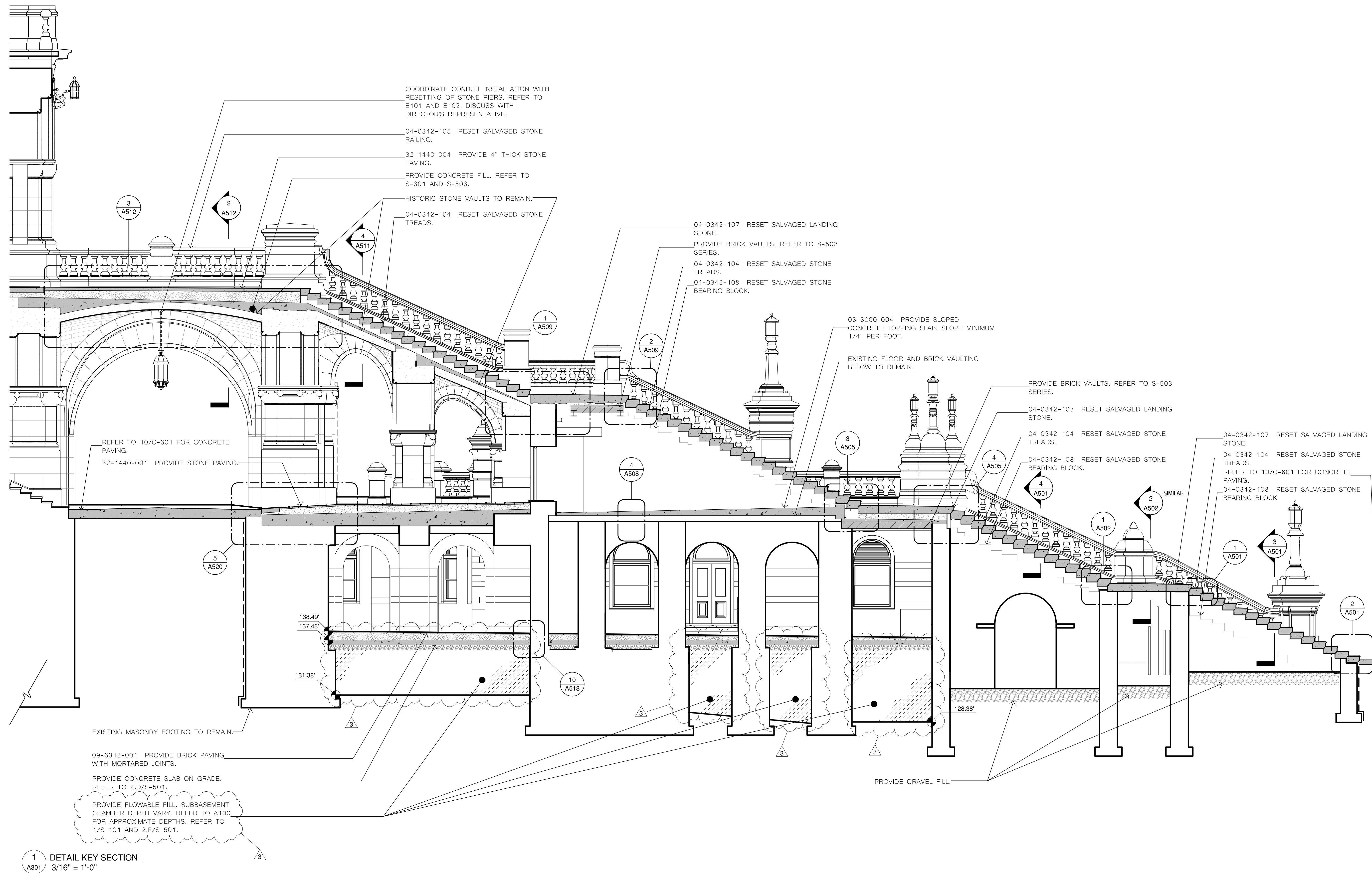
REVISED 10/25/2024

MARK	DATE	DESCRIPTION
3	10/25/2024	ADDENDUM 9
2	10/17/2024	ADDENDUM 6
1	10/11/2024	ADDENDUM 5
	09/21/2023	BID SET

PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

DETAIL KEY SECTION

DRAWING NUMBER: A301



1 DETAIL KEY SECTION  
A301 3/16" = 1'-0"

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REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION:  
NEW YORK STATE CAPITOL  
ALBANY, NY

CLIENT:  
OFFICE OF GENERAL SERVICES

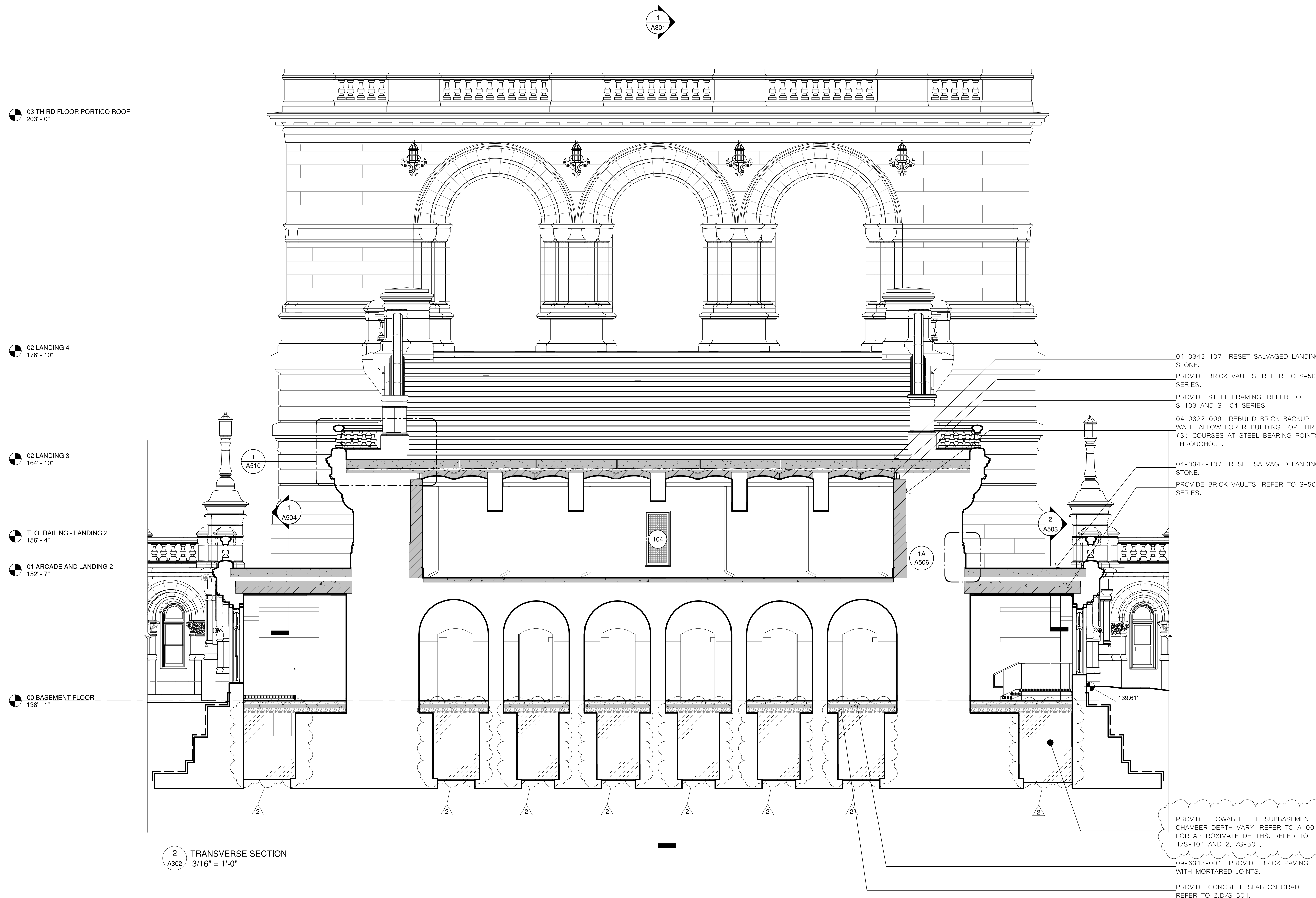
REVISED 10/25/2024

MARK	DATE	DESCRIPTION
2	10/25/2024	APPENDUM 9
1	10/17/2024	APPENDUM 8
	09/21/2023	BID SET

PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

TRANSVERSE SECTION

DRAWING NUMBER:  
A302



2 TRANSVERSE SECTION  
A302  
3/16" = 1'-0"

PROVIDE FLOWABLE FILL. SUBBASEMENT CHAMBER DEPTH VARY, REFER TO A100 FOR APPROXIMATE DEPTHS. REFER TO 1/S-101 AND 2.F/S-501.

09-6313-001 PROVIDE BRICK PAVING WITH MORTARED JOINTS.

PROVIDE CONCRETE SLAB ON GRADE. REFER TO 2.D/S-501.

CONSULTANT:

John G. Waite Associates, PLLC

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

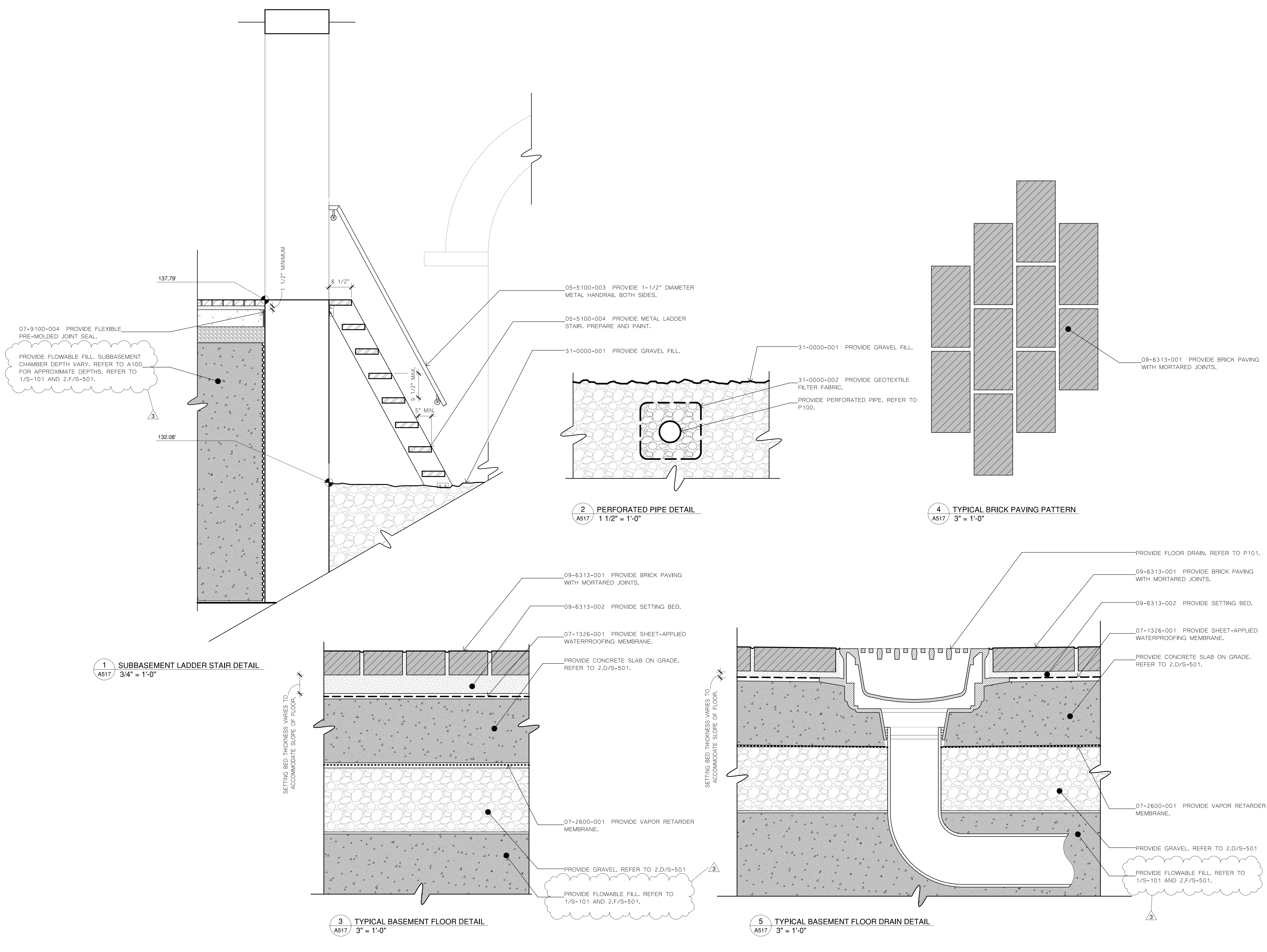
REVISED 10/25/2024

MARK	DATE	DESCRIPTION
3	10/25/2024	ADDENDUM 9
2	10/17/2024	ADDENDUM 8
1	10/11/2024	ADDENDUM 5
	09/21/2024	BID SET

PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

BASEMENT & SUBBASEMENT DETAILS

DRAWING NUMBER: A517



CONSULTANT:

John G. Waite Associates, PLLC

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE DRAWINGS ARE IN CONFORMANCE WITH THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.

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CONTRACT: CONSTRUCTION

TITLE: REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICO, AND EXECUTIVE RAMP

LOCATION: NEW YORK STATE CAPITOL ALBANY, NY

CLIENT: OFFICE OF GENERAL SERVICES

REVISED 10/25/2024

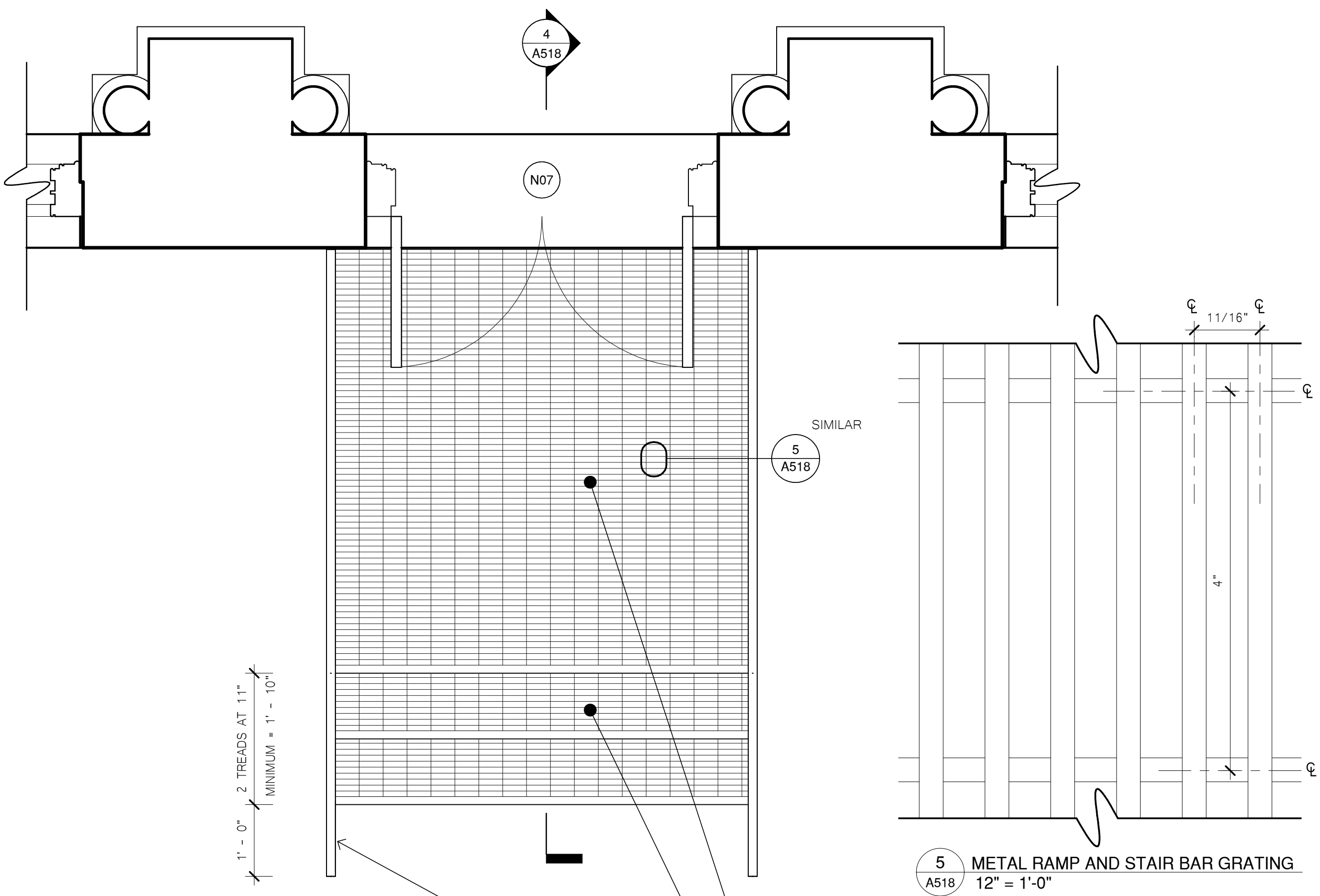
MARK	DATE	DESCRIPTION
2	10/25/2024	ADDENDUM 9
1	10/11/2024	ADDENDUM 5
	09/23/2024	ISS SET

PROJECT NUMBER:	47331 - C
DESIGNED BY:	
DRAWN BY:	
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	

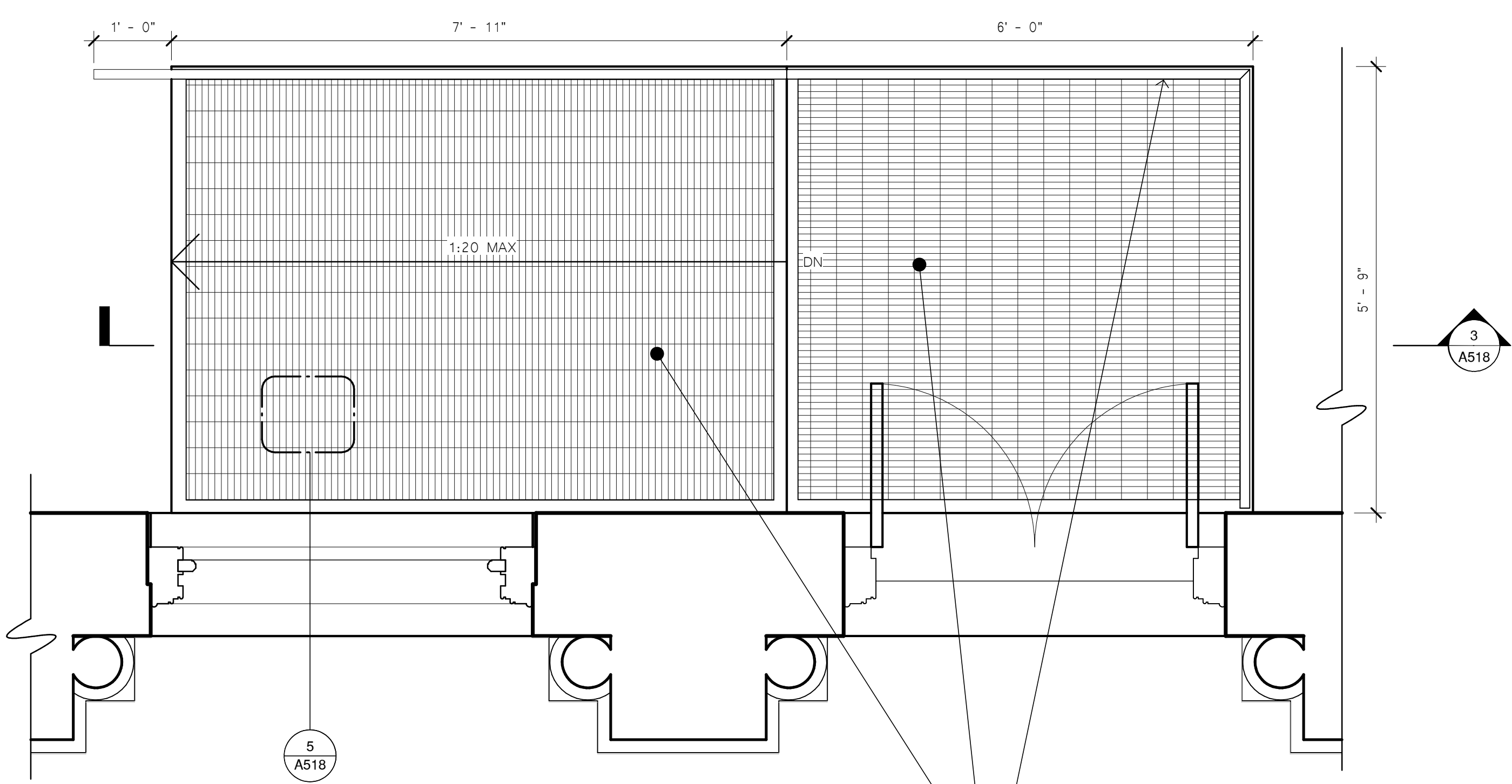
BASEMENT DETAILS

DRAWING NUMBER:

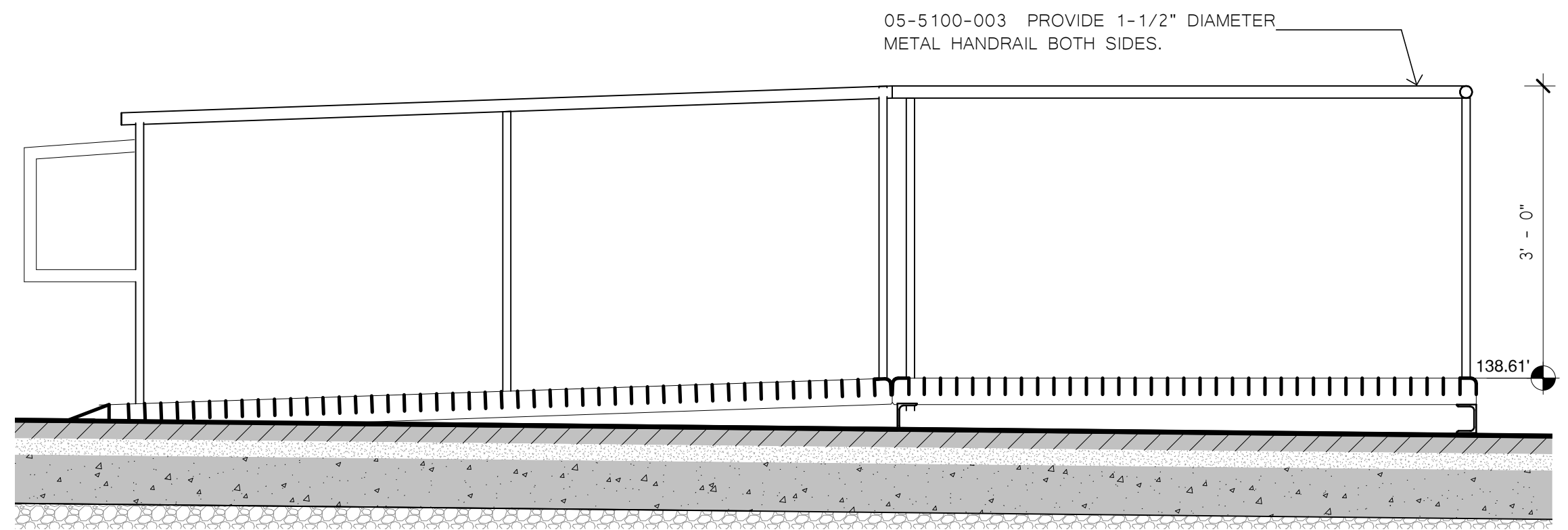
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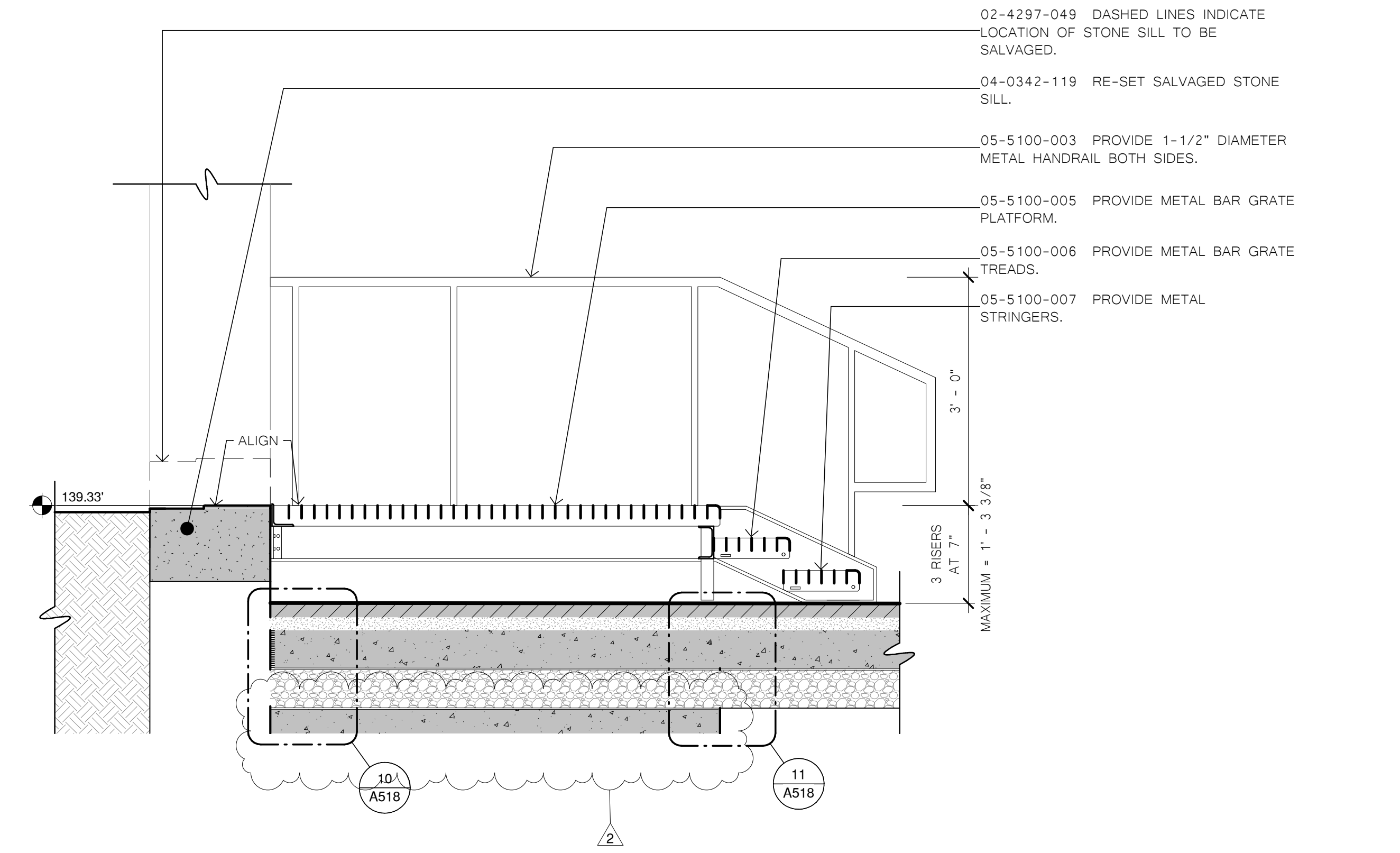
1 STAIR DETAIL PLAN  
3/4" = 1'-0"



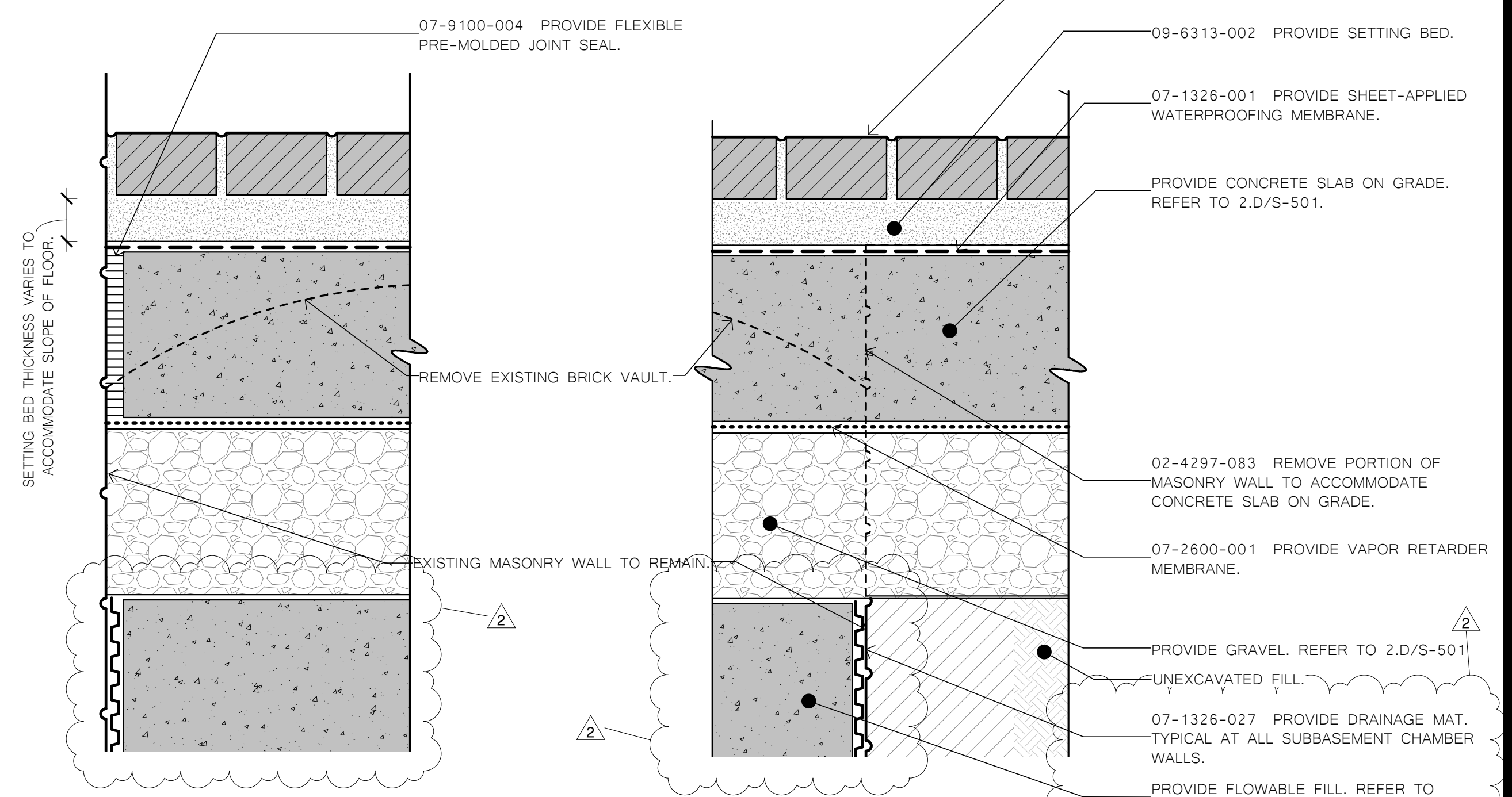
2 RAMP DETAIL PLAN  
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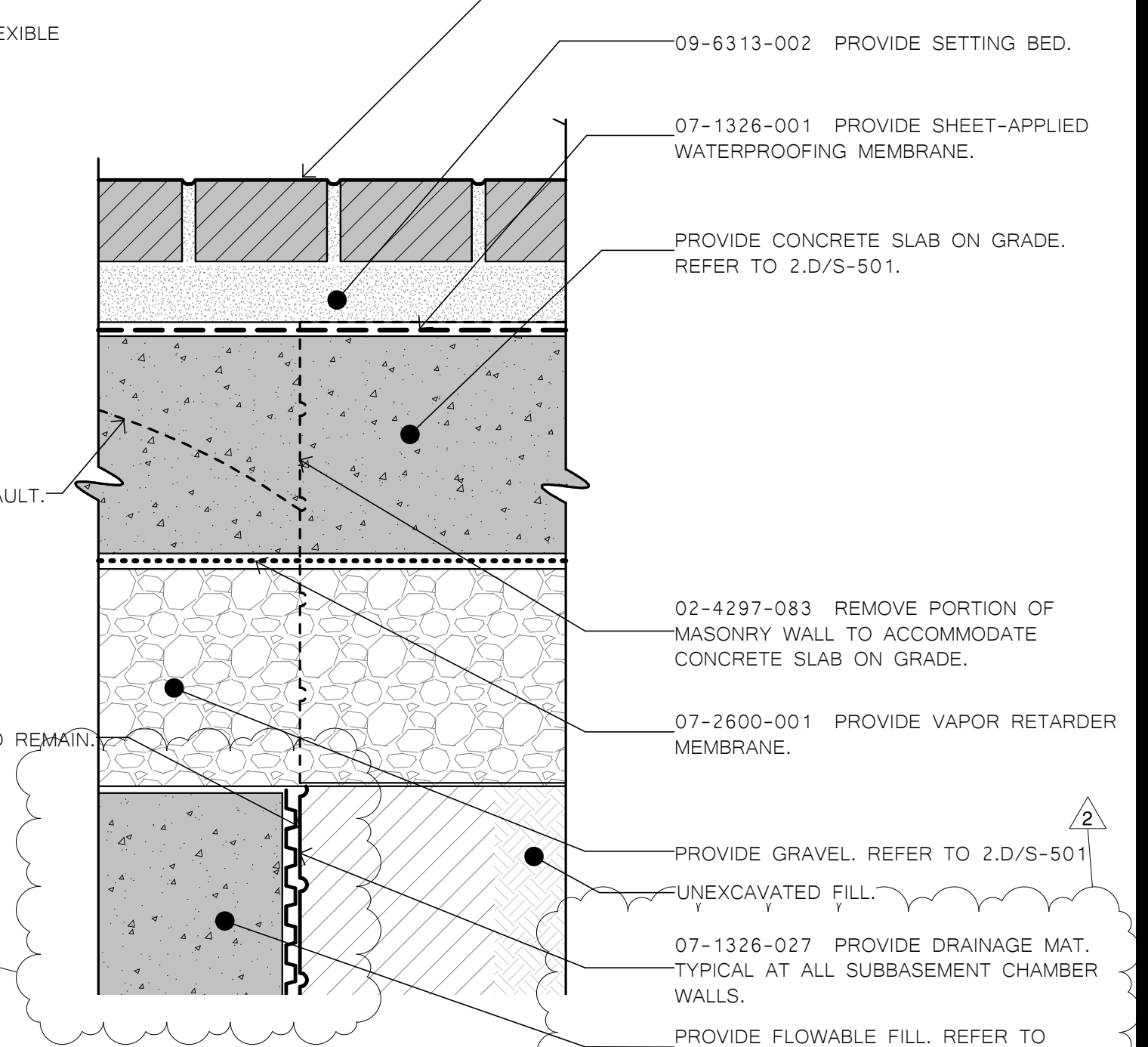
3 RAMP DETAIL SECTION  
3/4" = 1'-0"



4 STAIR DETAIL SECTION  
3/4" = 1'-0"



10 BASEMENT FLOOR DETAILS WALLS TO REMAIN  
3" = 1'-0"



11 BASEMENT FLOOR DETAIL AT INTERIOR  
3" = 1'-0"

**GENERAL NOTES:**

- ALL STRUCTURAL WORK TO BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND WILL CONFORM TO THE PROJECT SPECIFICATIONS, INCLUDING THE NEW YORK STATE BUILDING CODE 2020.
- PROVIDE TEMPORARY SHORING, BRACING, SHEETING AND MAKE SAFE ALL SLABS, WALLS AND ADJACENT PROPERTY AS PROJECT CONDITIONS REQUIRE. SHORING AND SHEETING WILL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE PROJECT JURISDICTION HIRED BY THE CONTRACTOR WHO WILL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR THE OWNER'S REVIEW.
- DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION GIVEN IN STRUCTURAL DRAWINGS ARE BASED ON INFORMATION CONTAINED IN VARIOUS ORIGINAL DESIGN AND CONSTRUCTION DOCUMENTS PROVIDED BY THE OWNER, AND LIMITED FIELD OBSERVATIONS AND MEASUREMENTS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION PERTAINING TO EXISTING CONDITIONS BY ACTUAL MEASUREMENT AND OBSERVATION AT THE SITE. ALL DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN IN THE CONTRACT DOCUMENTS WILL BE REPORTED TO THE ENGINEER OF RECORD FOR EVALUATION BEFORE THE AFFECTED CONSTRUCTION IS PUT IN PLACE.
- THE CONTRACT DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. THESE NOTES HIGHLIGHT RATHER THAN REPLACE THE SPECIFICATIONS CONTAINED IN THE PROJECT MANUAL. CONTRACTOR WILL NOTIFY THE ARCHITECT AND ENGINEER OF ANY CONFLICTS FOR GUIDANCE.
- SUBMIT SIGNED AND SEALED DRAWINGS FOR THE TEMPORARY BRACING OF THE EXISTING WALLS TO REMAIN DURING THE REMOVAL AND REPLACING OF THE PROMENADES.

**DESIGN LOADS:**

MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR THE PROMENADES AND RAMPS IN ACCORDANCE WITH ASCE 7-16 SECTION 1603.10.

**GRAVITY LOADS:**

**DEAD LOADS**

8" NORMAL WEIGHT CONCRETE	100PSF
4" NORMAL WEIGHT CONCRETE TOPPING SLAB	50 PSF
EXTRUDED POLYSTYRENE INSULATION	5 PSF
PAVING TOPPING	45 PSF
LIVE LOADS AT PROMENADES:	100PSF
GROUND SNOW LOADS:	50 PSF
DESIGN LOAD BEARING VALUES OF SOIL FOR RETAINING WALLS	1000 PSF
FOR VEHICULAR GATES AND BARRICADES	700 PSF

**SPECIAL INSPECTIONS:**

- SPECIAL INSPECTIONS REQUIRED BY THE NEW YORK STATE SHALL BE PERFORMED BY A TESTING AGENCY PROVIDED BY THE OWNER FOR THE FOLLOWING ITEMS:
  - STRUCTURAL STEEL (BCNYS 1705.2, 1705.2.1)
  - CONCRETE CONSTRUCTION (BCNYS 1705.3)
  - REINFORCING STEEL (BCNYS 1705.3, 1908.4)
  - SUBGRADE INSPECTION (BCNYS 1705.6)
  - CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS (BCNYS 1705.6)
  - EXCAVATION - SHEETING, SHORING, AND BRACING (BCNYS 1705.8, 1804.1)
  - POST-INSTALLED ANCHORS (BCNYS 1705.3)
  - CONCRETE DESIGN MIX - (BCNYS 1705.3, 1904.1, 1908.2, 1908.3)
  - CONCRETE SAMPLING AND TESTING - (BCNYS 1705.3, 1908.10)

THE TESTING AGENCY FOR THE INSPECTIONS SHALL FILE ALL APPROPRIATE FORMS WITH AHJ.

**FOUNDATIONS:**

- RETAINING WALL FOUNDATIONS WILL BEAR ON UNDISTURBED SOIL OF VARIED BEARING CAPACITY, BUT WITH THE BEARING CAPACITY AS SPECIFIED BY MFS ENGINEERS & SURVEYOR, DPC. IN THEIR REPORT DATED 21 APRIL, 2023. ADEQUACY OF BEARING STRATUM SHALL BE VERIFIED IN FIELD PRIOR TO PLACING CONCRETE. ALL NECESSARY ADJUSTMENTS TO THE BOTTOM OF FOOTINGS TO BE REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
- ALL EXTERIOR FOOTINGS SHALL BE PLACED A MINIMUM OF 4'-0" BELOW FINAL GRADE.
- CONCRETE SHALL BE POURED IN DRY EXCAVATIONS. CONTRACTOR SHALL NOTE SOIL AND WATER CONDITIONS AS SHOWN BY BORINGS AND DEPTHS OF FOOTING AS SHOWN ON FOUNDATION PLANS.
- SHALLOW FOUNDATIONS AT BOLLARDS IN RAMPS SHALL BE CONSTRUCTED ON A MINIMUM 12 INCHES OF CLEAN CRUSHED STONE. THIS LAYER OF CRUSH STONE MUST BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION AS PROTECTION AGAINST SUB-GRADE DETERIORATION. PRIOR TO POURING CONCRETE FOR THE FOUNDATIONS, ALL WATER, ORGANICS, AND DEBRIS WILL NEED TO BE REMOVED FROM THE FOOTING SUB-GRADE. ANY UNPROTECTED SUB-GRADE EXPOSED TO RAIN OR SNOW EVENTS SHOULD BE RE-INSPECTED BY THE GEOTECHNICAL ENGINEER RESPONSIBLE FOR SPECIAL INSPECTIONS PRIOR TO CONCRETE PLACEMENT. SEE GEOTECHNICAL ENGINEERING REPORT REV. 1:29 JUNE 2023.
- ALL IMPORTED FILL USED TO ESTABLISH THE FINISH SUB-GRADE BENEATH NEW VEHICULAR GATE AND BARRICADE FOUNDATIONS AND BEHIND RETAINING WALLS (NOT WITHIN THE DRAINAGE MEDIA AREA) SHOULD BE SELECT GRANULAR MATERIAL AS DEFINED BY THE NYSOGS MASTER SPECIFICATIONS (MF04) FOR EARTHWORK.

**CONCRETE:**

- ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING GOVERNING STANDARDS.
  - AMERICAN CONCRETE INSTITUTE (ACI) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318-14), LATEST EDITION PER GOVERNING BUILDING CODE.
  - ACI "MANUAL OF CONCRETE PRACTICE" LATEST EDITION
  - CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE" LATEST EDITION
- ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED.
- REINFORCING STEEL SHALL BE GALVANIZED STEEL DEFORMED BARS CONFORMING TO ASTM A 767/A 767M GRADE 60. REINFORCING STEEL SHALL BE DETAILED ACCORDING TO THE ACI "DETAILS AND DETAILING OF REINFORCEMENT", (ACI 315), LATEST EDITION.
- WELDED WIRE REINFORCEMENT SHALL BE GALVANIZED AND CONFORM TO ASTM A1064, WITH A MINIMUM YIELD STRENGTH OF 65,000 PSI.
- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE60 FOR GATE SUPPORT AND FOUNDATION OF CRASH RATED BARRIER BEAM.
- COORDINATE SIZE AND LOCATION OF ALL OPENINGS AND PIPE SLEEVES WITH ALL OTHER DISCIPLINES. MINIMUM CONCRETE BETWEEN SLEEVES SHALL BE 6".
- ALL GROUT SHALL BE NONSHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI.
- PROVIDE CLEARANCE FROM FACE OF CONCRETE TO REINFORCEMENT AS FOLLOWS:
  - SLAB TOP: 2"
  - SLAB BOTTOM: 1"
  - RETAINING WALL: 2"
  - FOUNDATION BOTTOM: 3"
- SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. NO CONCRETE WORK SHALL COMMENCE WITHOUT APPROVED SHOP DRAWINGS.
- CLEAN AND ROUGHEN TO 1/8" AMPLITUDE ALL EXISTING CONCRETE SURFACES TO RECEIVE NEW CONCRETE PRIOR TO PLACEMENT.
- SEE OTHER DRAWINGS IN THIS PROJECT FOR SIZE AND LOCATIONS OF EQUIPMENT PADS, INSERTS AND EMBEDDED ITEMS.
- REINFORCING DOWELS, WATERSTOPS AND OTHER EMBEDDED ITEMS SHALL BE INSTALLED AND SECURED PRIOR TO CONCRETE PLACEMENT. "WET-SETTING" OF EMBEDDED ITEMS IS NOT PERMITTED.
- ALL CONCRETE FOR THE FOUNDATION OF THE RETAINING WALL, VEHICULAR GATE AND BARRICADE WILL BE AIR ENTRAINED.

**POST INSTALLED ADHESIVE AND MECHANICAL ANCHORS:**

- POST INSTALLED ANCHORAGE SHALL BE INSTALLED PER MANUFACTURER TECHNICAL DATA TO INTACT BASE MATERIAL. NOTIFY ENGINEER OF RECORD PRIOR TO INSTALLATION IF BASE MATERIAL CONDITION DEVIATES FROM STRUCTURAL DRAWINGS OR MANUFACTURER TECHNICAL DATA.
- MANUFACTURER DATA FOR ALTERNATE ANCHORAGE PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. SUBMITTAL SHALL INCLUDE THE ICC EVALUATION SERVICE REPORT WITH ICC TESTED CAPACITY MEETING OR EXCEEDING CAPACITY OF ANCHORAGE SPECIFIED IN CONTRACT DOCUMENTS.
- UNLESS OTHERWISE INDICATED, POST INSTALLED ANCHORAGE SHALL BE ADHESIVE TYPE HILTI HIT-HY200 INTO CONCRETE OR HILTI-HIT HY70 INTO BRICK MASONRY OR GROUT FILLED CMU OR UNGROUTED CMU BASE MATERIAL.
- EXISTING REINFORCING BARS IN THE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE EXISTING REBARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS BY A MEANS APPROVED BY THE ENGINEER OF RECORD.

STRUCTURAL CONSULTANT:  
CERTIFICATE OF AUTHORIZATION #: 019008

**Gedeon GRC Consulting**  
6901 Jericho Turnpike, Suites 216 and 217  
Syosset, NY 11791  
T. 516-873-7010  
info@gedeongrc.com

ARCHITECT CONSULTANT:

**John G. Waite Associates, PLLC**

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE DRAWINGS ARE IN CONFORMANCE WITH THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.

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CONTRACT:

TITLE:  
REHABILITATE THE EASTERN APPROACH STAIRCASE, PROMENADES, PORTICOS, AND EXECUTIVE RAMP

LOCATION:  
NEW YORK STATE CAPITOL  
ALBANY, NY

CLIENT:  
OFFICE OF GENERAL SERVICES



REVISED 10/25/2024

REVISION 2	10/25/2024	ADDENDUM 09
REVISION 1	10/11/2024	ADDENDUM 06
	02/1/2024	BID SET

MARK	DATE	DESCRIPTION
PROJECT NUMBER:	47331-C	
DESIGNED BY:	CO	
DRAWN BY:	CO	
FIELD CHECK:	MG	
APPROVED:	MG	

**STRUCTURAL NOTES**

DRAWING NUMBER:  
S-600

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE DRAWINGS ARE IN CONFORMANCE WITH THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.

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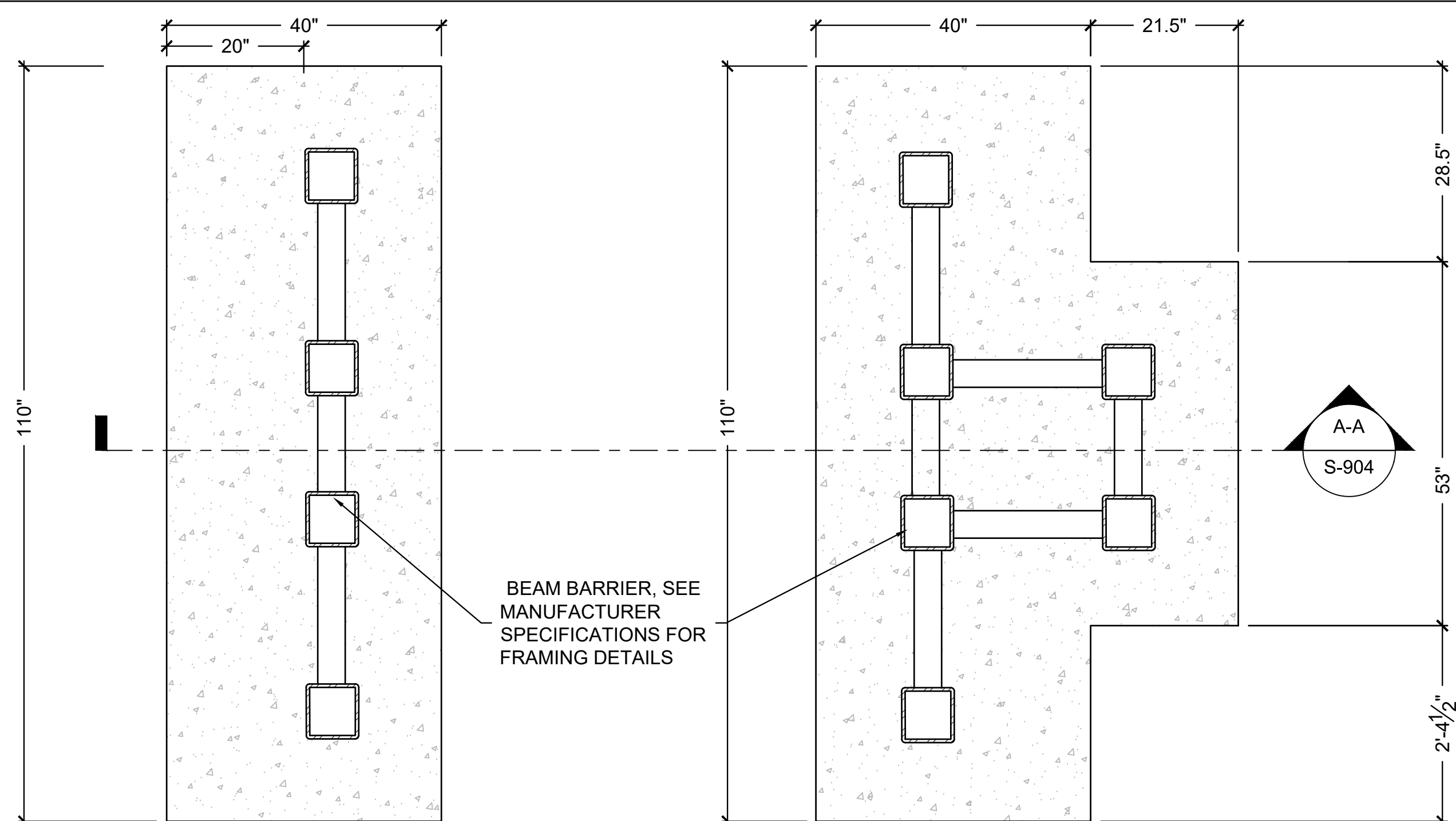
REVISED 10/25/2024

REVISION	DATE	DESCRIPTION
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REVISION 1	10/11/2024	ADDENDUM 06
	02/12/2024	BID SET

MARK	DATE	DESCRIPTION
PROJECT NUMBER:		47331-C
DESIGNED BY:		CO
DRAWN BY:		CO
FIELD CHECK:		MG
APPROVED:		MG

TYPICAL DETAILS

DRAWING NUMBER:  
**S-801**

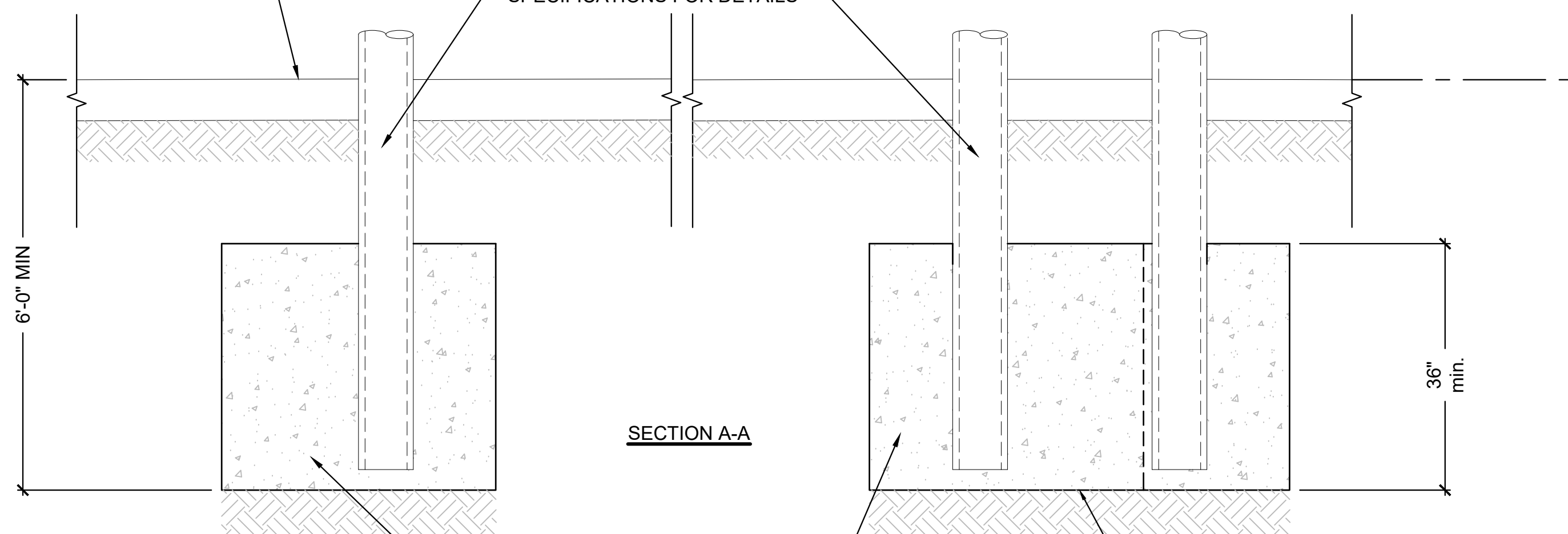


BEAM BARRIER, SEE MANUFACTURER SPECIFICATIONS FOR FRAMING DETAILS

PLAN VIEW

NEW RAMP-ON-GRADE, SEE C-500 SERIES DRAWINGS FOR ADDITIONAL INFORMATION

SEE BEAM BARRIER SPECIFICATIONS FOR DETAILS



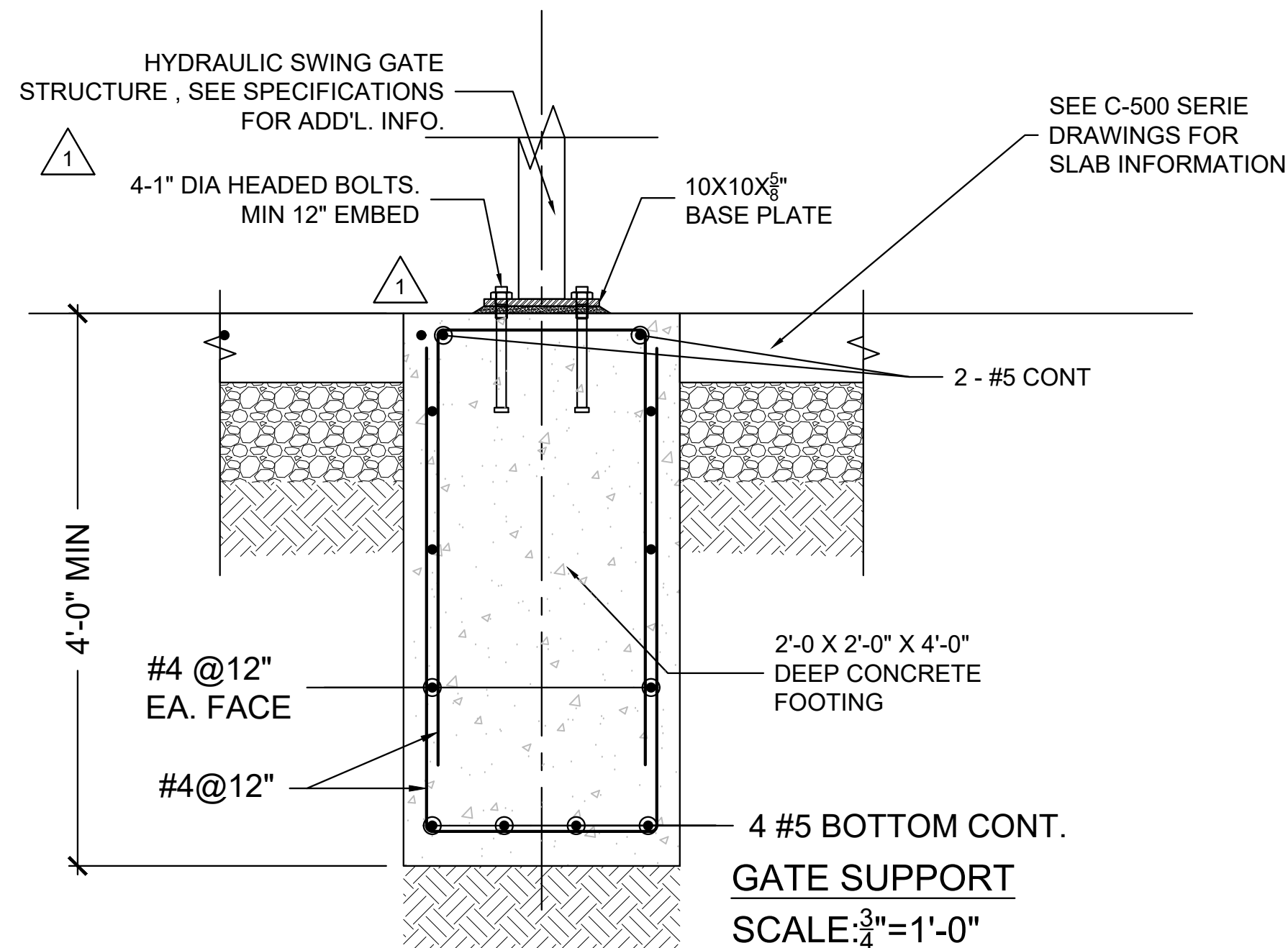
SECTION A-A

FINAL SUBGRADE CONDITIONS AND BEARING STRENGTH MUST BE COORDINATED WITH THE MANUFACTURER SPECIFICATIONS

**CRASH RATED BARRIER BEAM FOUNDATION DETAIL**

SCALE: 3/4"=1'-0"

SEE MANUFACTURERS DATA FOR ADDITIONAL INFO



GATE SUPPORT  
 SCALE: 3/4"=1'-0"

SIZE	HOOKED TENSION DEVELOPMENT LENGTHS 'Ldh' (in)			HOOKED BAR STRAIGHT EXTENSION 'Lext' (in)		
	4000 PSI	5000 PSI	6000 PSI	4000 PSI	5000 PSI	6000 PSI
#3	8	7	6	6	6	6
#4	10	9	8	8	8	8
#5	12	11	10	10	10	10
#6	15	13	12	12	12	12
#7	17	15	14	14	14	14
#8	19	17	16	15	15	15
#9	22	20	18	1	19	19

**STANDARD HOOK GEOMETRY FOR DEVELOPMENT OF DEFORMED BARS IN TENSION**

TYPE OF STANDARD HOOK	BAR SIZE	MINIMUM INSIDE BEND DIAMETER, in.	STRAIGHT EXTENSION (1) Last, in.	TYPE OF STANDARD HOOK
90-DEGREE HOOK	NO. 3 THROUGH NO. 8	6 d <sub>b</sub>	12 d <sub>b</sub>	
	NO. 9 THROUGH NO. 11	8 d <sub>b</sub>		
	NO. 14 AND NO. 18	10 d <sub>b</sub>		
180-DEGREE HOOK	NO. 3 THROUGH NO. 8	6 d <sub>b</sub>	GREATER OF 4 d <sub>b</sub> AND 2.5 ft.	
	NO. 9 THROUGH NO. 11	8 d <sub>b</sub>		
	NO. 14 AND NO. 18	10 d <sub>b</sub>		

[1] A STANDARD HOOK FOR DEFORMED BARS IN TENSION INCLUDES THE SPECIFIC INSIDE BEND DIAMETER AND STRAIGHT EXTENSION LENGTH. IT SHALL BE PERMITTED TO USE A LONGER STRAIGHT EXTENSION AT THE END OF A HOOK. A LONGER EXTENSION SHALL NOT BE CONSIDERED TO INCREASE THE ANCHORAGE CAPACITY OF THE HOOK.

**DEFORMED BAR TENSION LAP SPLICE - CLASS B FOR NORMAL WEIGHT STONE CONCRETE & UNCOATED BARS**

BAR SIZE	3000 PSI CONCRETE		4000 PSI CONCRETE		5000 PSI CONCRETE		6000 PSI CONCRETE	
	CASE I	CASE II	CASE I	CASE II	CASE I	CASE II	CASE I	CASE II
#3	22	33	19	28	17	25	16	23
#4	29	43	25	37	23	34	21	31
#5	36	54	31	47	28	42	26	38
#6	43	65	37	56	34	50	31	46
#7	63	94	54	81	49	73	45	67
#8	72	107	62	93	56	83	51	76
#9	81	121	70	105	63	94	57	86

**DEFORMED BAR TENSION DEVELOPMENT LENGTH FOR NORMAL WEIGHT STONE CONCRETE & UNCOATED BARS**

BAR SIZE	3000 PSI CONCRETE		4000 PSI CONCRETE		5000 PSI CONCRETE		6000 PSI CONCRETE	
	CASE I	CASE II	CASE I	CASE II	CASE I	CASE II	CASE I	CASE II
#3	17	25	15	22	13	20	12	18
#4	22	33	19	29	17	26	16	24
#5	28	42	24	36	22	32	20	30
#6	33	50	29	43	26	39	24	35
#7	48	72	42	63	38	56	34	51
#8	55	83	48	72	43	64	39	59
#9	62	93	54	81	48	72	44	66

**DEFORMED TENSION BAR NOTES:**

- FOR HORIZONTAL REINFORCEMENT WITH 12 INCH OR MORE FRESH CONCRETE CAST BELOW IT, TENSION DEVELOPMENT LENGTH/ TENSION LAP SPLICE LENGTH SHALL BE 1.3x THE VALUES GIVEN.
- GALVANIZED CORRUGATED BARS CONFORMING WITH ASTM A 767/A767M GRADE 60 SHALL BE USED FOR ALL REINFORCEMENT EXCEPT AS NOTED IN NOTE 3
- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE60 FOR GATE SUPPORT AND FOUNDATION OF CRASH RATED BARRIER BEAM

CASE I: CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN BAR DIAMETER, CLEAR COVER NOT LESS THAN BAR DIAMETER, AND STIRRUPS OR TIES THROUGHOUT DEVELOPMENT LENGTH NOT LESS THAN THE CODE MINIMUM OR CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN 2x BAR DIAMETER AND CLEAR COVER NOT LESS THAN BAR DIAMETER.

CASE II: OTHER CASES

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REVISED 10/25/2024

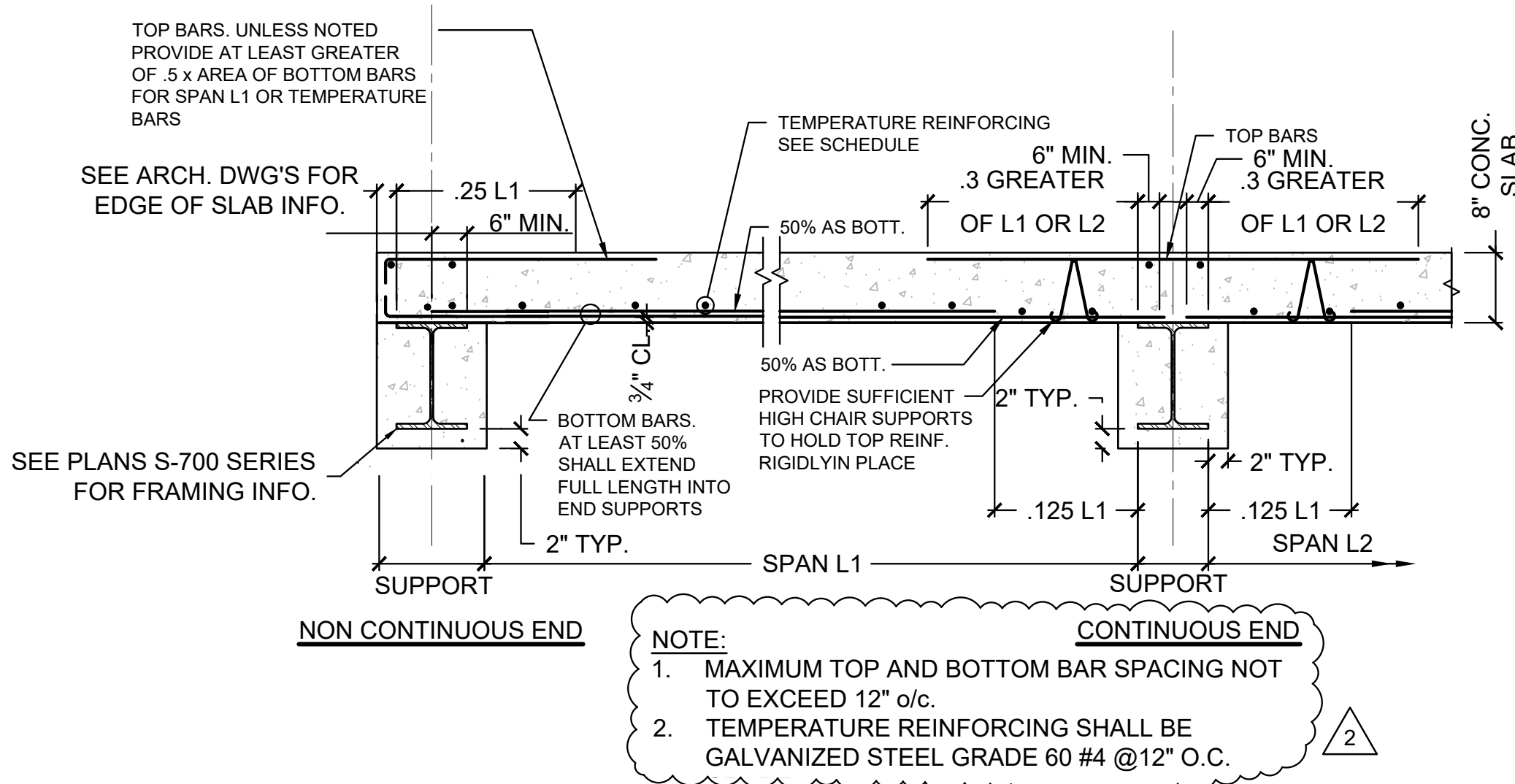
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REVISION 1	10/11/2024	ADDENDUM 06
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FIELD CHECK:		MG
APPROVED:		MG

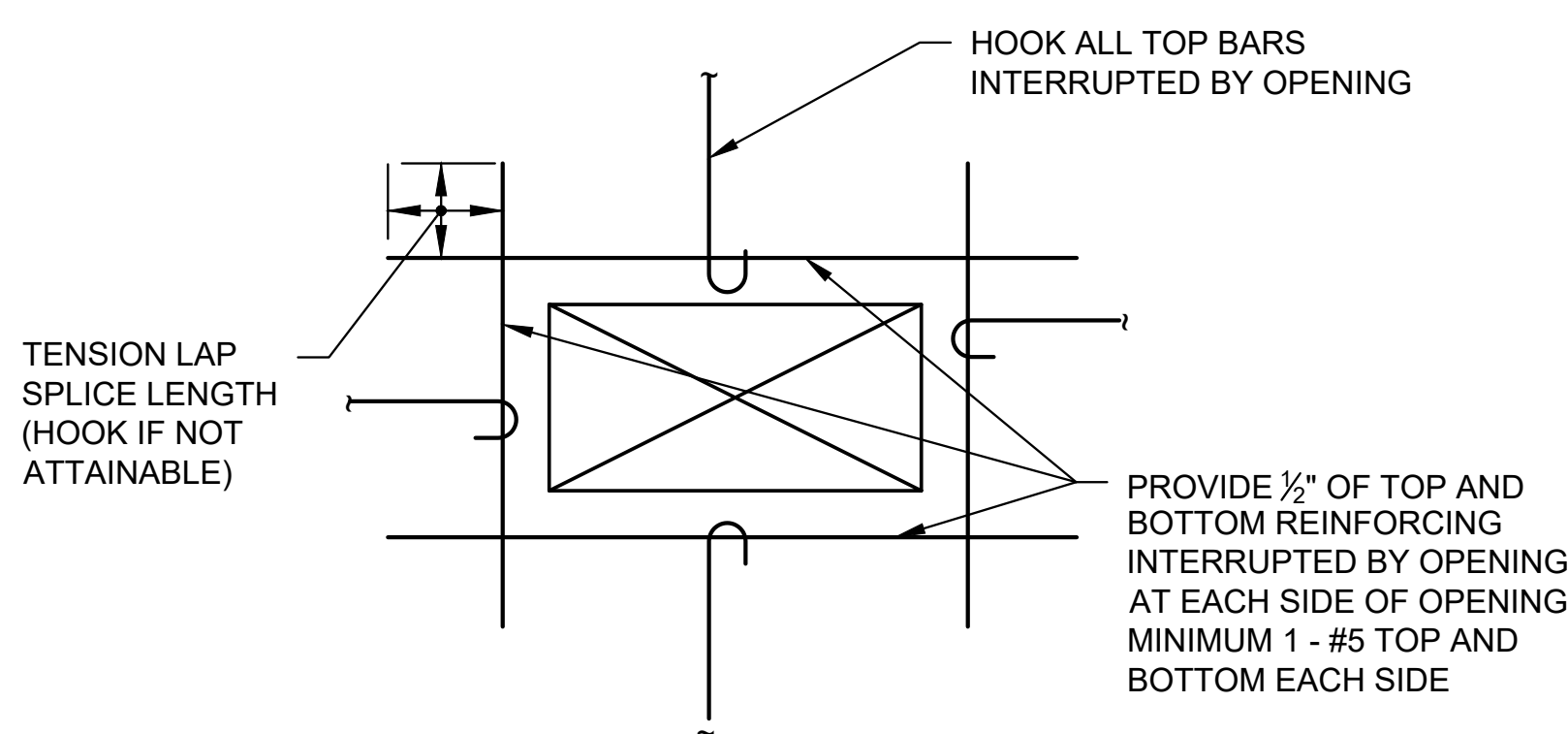
TYPICAL DETAILS

DRAWING NUMBER:

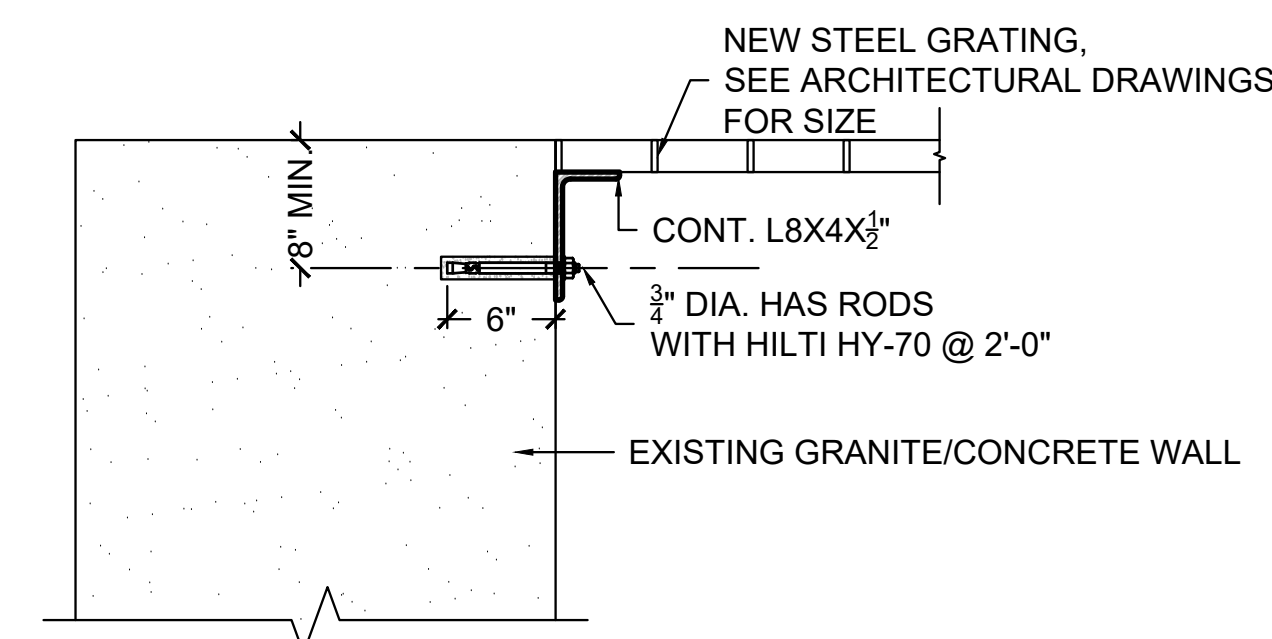
**S-802**



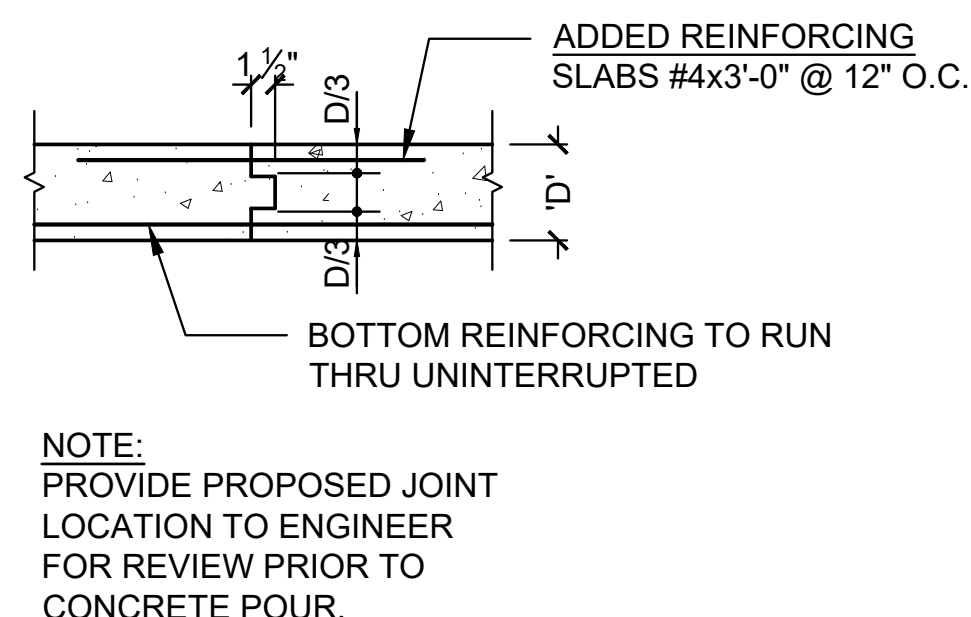
**1 TYPICAL REINFORCED CONCRETE SLAB**  
S-802 SCALE: 3/4"=1'-0"



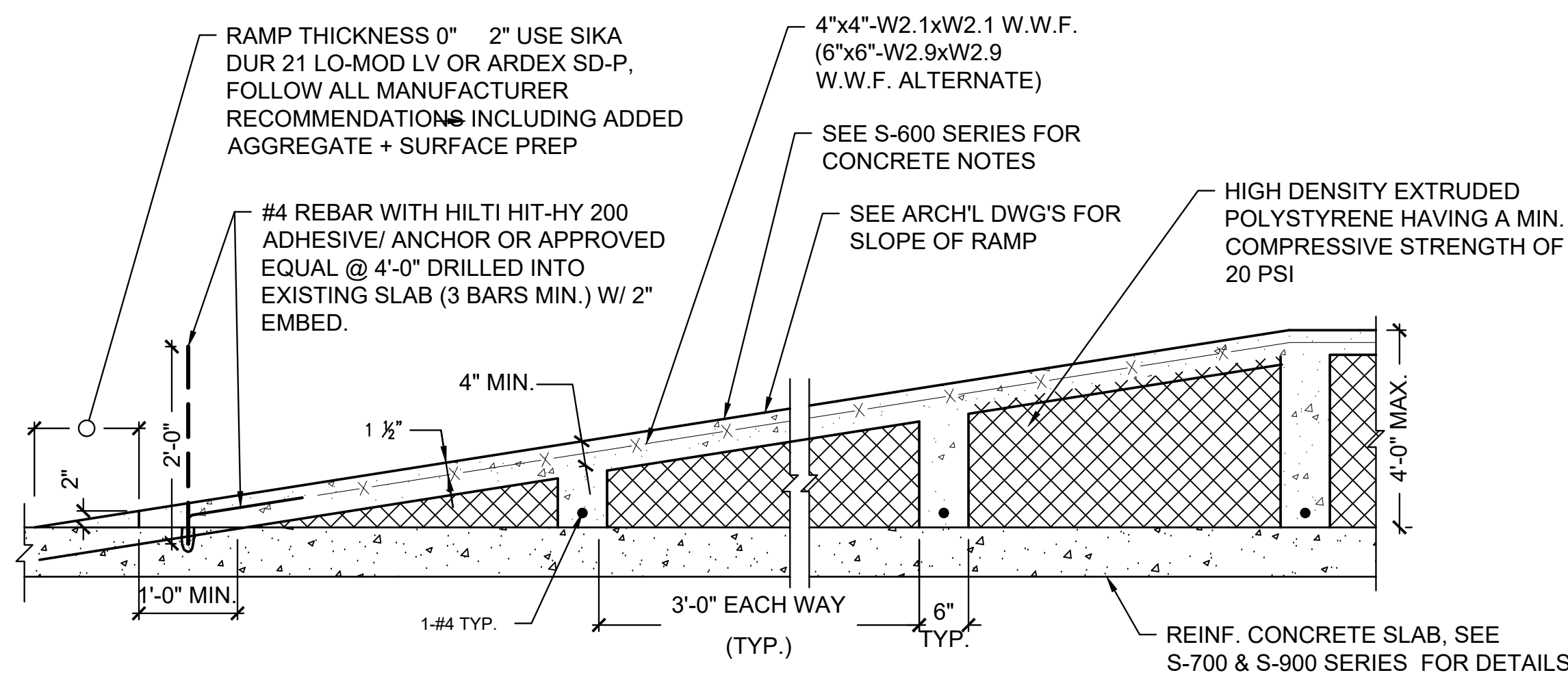
**2 TYPICAL DETAIL ADDITIONAL REINFORCEMENT AT OPENING IN FRAMED SLABS**  
S-802 SCALE: 3/4"=1'-0"



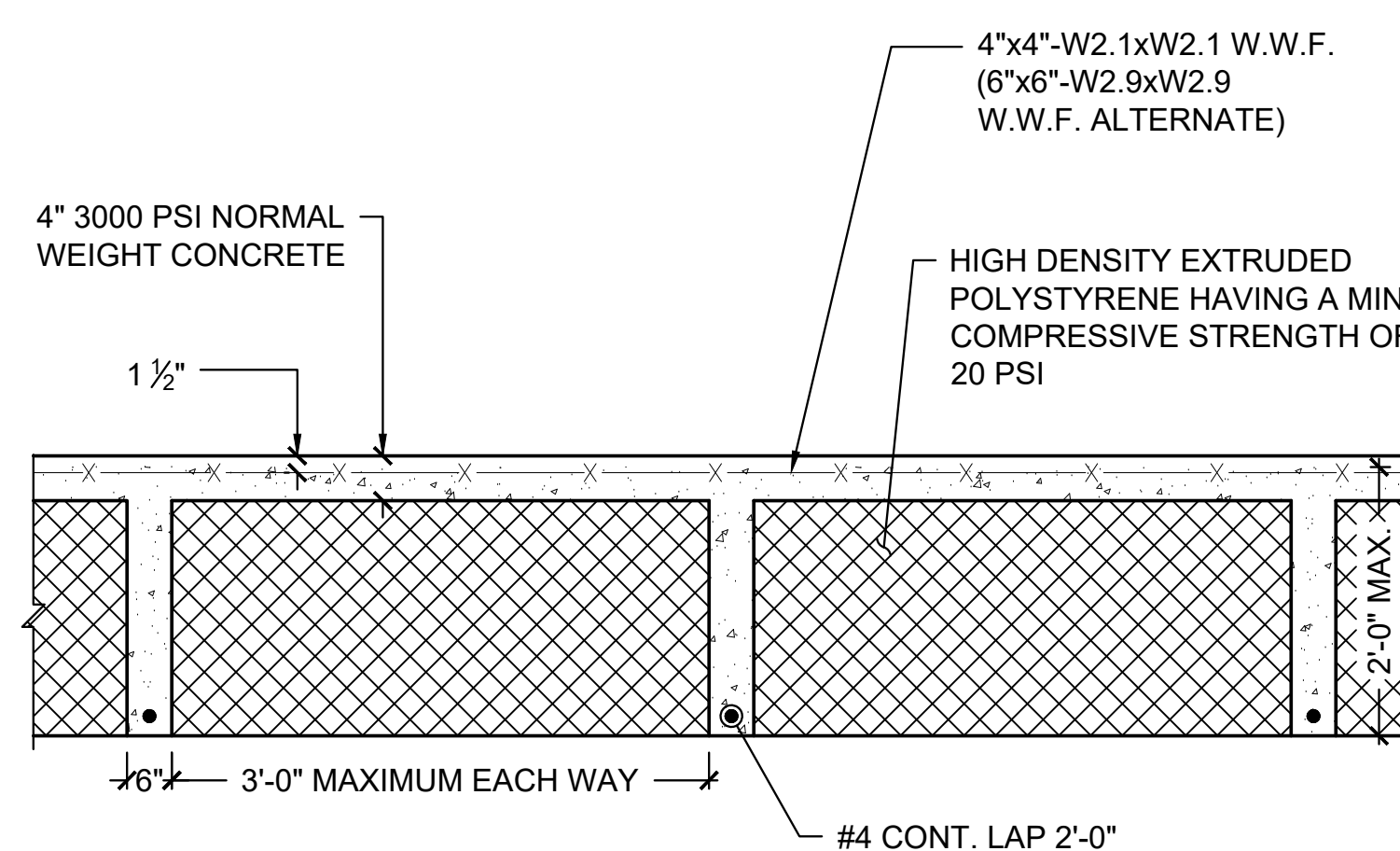
**3 TYPICAL DETAIL OF GRATING SUPPORT**  
S-802 SCALE: 1"=1'-0"



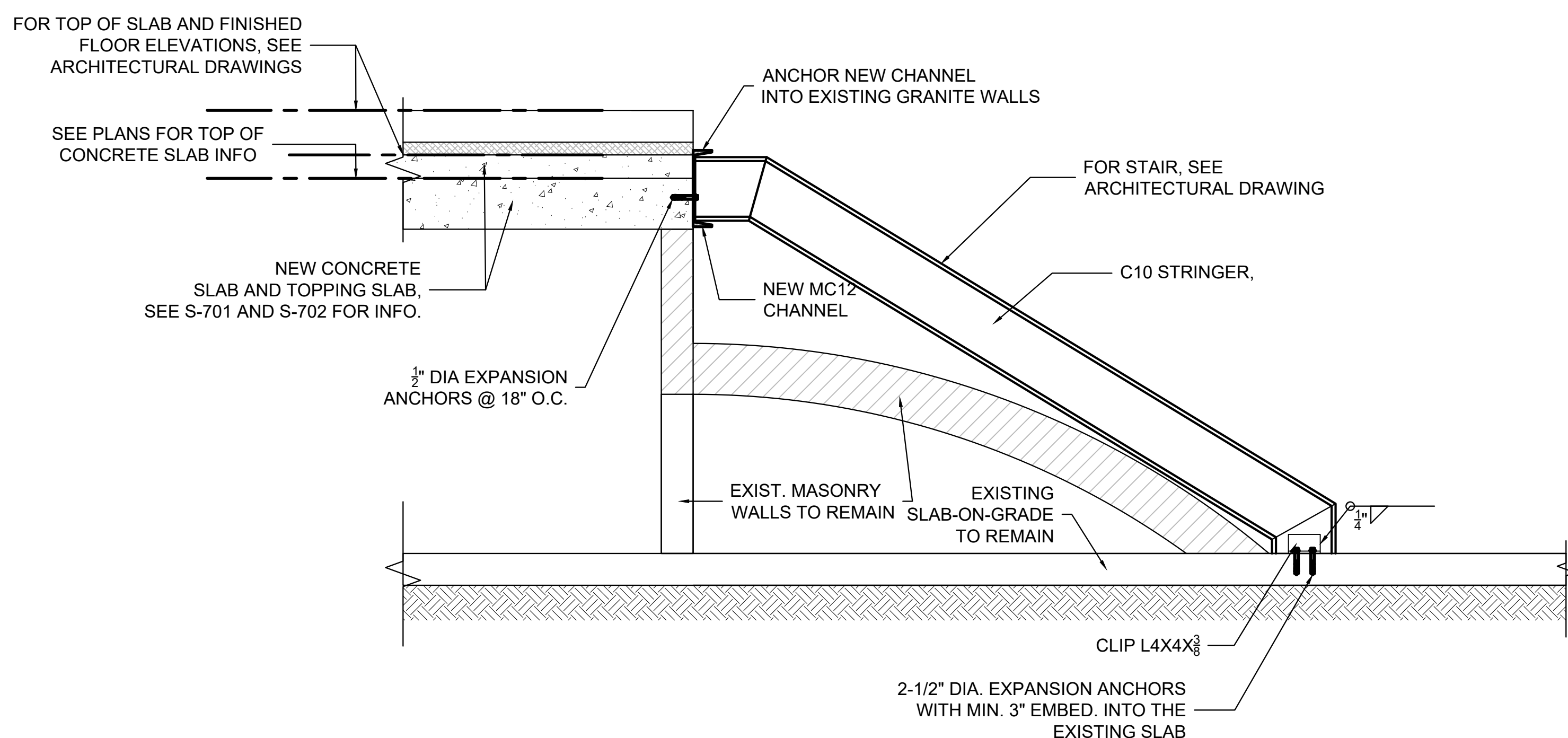
**4 TYPICAL DETAIL CONSTRUCTION JOINT IN FRAMED SLAB**  
S-802 SCALE: 1"=1'-0"



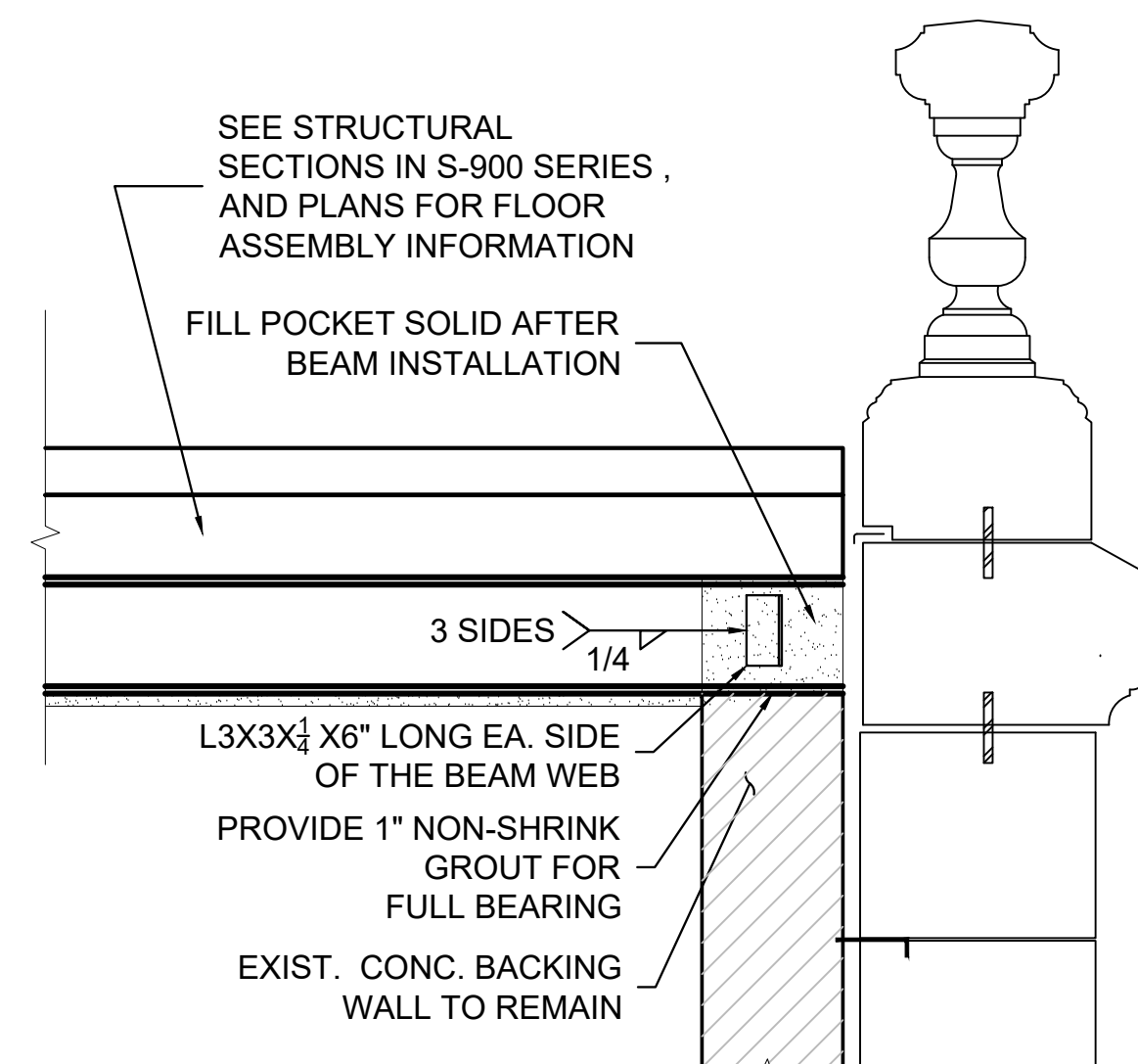
**5 TYPICAL DETAIL OF SLOPED RAISED SLAB**  
S-802 SCALE: 3/4"=1'-0"



**6 TYPICAL DETAIL RAISED SLAB**  
S-802 SCALE: 3/4"=1'-0"



**7 DETAIL OF STRINGER CONNECTION**  
S-802 SCALE: 3/4"=1'-0"



**8 TYPICAL BEAM POCKET DETAIL**  
S-802 SCALE: 3/4"=1'-0"