



REQUEST FOR PROPOSALS

FOR

Battery Park City Community Center Leak Remediation

Construction Management Services

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I. SUMMARY

Battery Park City Authority d/b/a Hugh L. Carey Battery Park City Authority (“BPCA”) requests proposals (individually a “Proposal” and collectively the “Proposals”) from construction management firms (individually a “Proposer” and collectively the “Proposers”) to provide BPCA with proposals for construction management services for the Battery Park City Community Center Leak Remediation Project (the “Project”). A detailed scope of work for which the selected Proposer will be responsible is attached as Exhibit A (the “Work”), and detailed drawings and specifications for the Project (the “Construction Documents”) are attached hereto as Exhibit G.

Created in 1968, BPCA is a New York State public benefit corporation responsible for financing, developing, constructing, maintaining, and operating Battery Park City as a richly diversified mixed use community providing residential and commercial space, with related amenities such as parks, plazas, recreational areas, and a waterfront esplanade. A summary of BPCA’s structure, mission, and history, as well as the Battery Park City project area, may be viewed at: <http://bpca.ny.gov/>. Public information regarding BPCA’s finances, budget, internal controls, guidelines, and policies may be viewed at: <http://bpca.ny.gov/public-information/>. Information relating to the Battery Park City Parks Conservancy Corporation (“BPCPC”), BPCA’s affiliate, may be viewed at: <http://bpcparks.org/>.

New York State-certified Minority-Owned Business Enterprises (“MBE”), Women-Owned Business Enterprises (“WBE”) and Service-Disabled Veteran-Owned Businesses (“SDVOB”) are encouraged to submit Proposals.

II. GENERAL PROVISIONS

This request for Proposals, including attachments, exhibits, and any amendments or addenda (collectively, the “RFP”) is subject to the rights reserved by BPCA, including, but not limited to BPCA’s right to:

- withdraw and/or cancel this RFP at any time before final award of the contract;
- request clarification and/or additional information from any or all Proposers;
- amend any term or requirement of this RFP at any time before award of a contract (Proposers may amend their Proposals, as directed by BPCA, if BPCA materially alters or amends the RFP after submission of Proposals);
- alter any key dates or deadlines related to this RFP;
- award the Work, in whole or in part, to one or more Proposers with or without interviews;
- reject any Proposal that does not strictly conform to the requirements of this RFP;
- conduct an interview with any or all of the Proposers to aid the evaluation process;
- negotiate potential contract terms with any Proposer;

BPCA is not liable or responsible in any way for any expenses incurred in the preparation of a Proposal in response to this RFP. All information submitted in response to this RFP is subject to the Freedom of Information Law, Article 6 of the New York State Public Officers Law (“FOIL”), which requires public access to certain documents possessed by BPCA, unless a specific exemption applies. Proposers are responsible for identifying any information in their respective Proposals considered to be confidential and exempt from FOIL. BPCA, however, is obligated to disclose information consistent with the requirements of FOIL, New York State Public Authorities Law Section 87.

III. TIMETABLE & DESIGNATED CONTACT

A. Key Dates

Subject to change at BPCA’s discretion, the following are key dates for this RFP:

- RFP issued: September 10, 2018

- Pre-proposal meeting: September 18, 2018 at 10:00 AM at 200 Liberty St., New York, NY 24th floor
- Deadline to submit questions to BPCA: September 21, 2018 by 4:00 p.m. (by email only)

All questions regarding this RFP should be submitted in writing via email to Michael LaMancusa, Contract Administrator, at michael.lamancusa@bpca.ny.gov (the “Designated Contact”).

- BPCA’s response to substantive questions: September 27, 2018 (by email)
- PROPOSAL DUE DATE: October 4, 2018 by 3:00 p.m. (the “Due Date”)
- Contract start date: December 2018 (approximate)

B. Anticipated Contract Term

The anticipated term of the contract awarded pursuant to this RFP (the “Contract”) will be fifteen (15) months. BPCA reserves the right to terminate the Contract at any time, with or without cause, in accordance with the terms of the Contract. BPCA’s sample form of contract is attached as Exhibit C.

IV. GENERAL REQUIREMENTS

A. Minimum Qualification Requirements

The following are the minimum qualification requirements for this RFP. Proposals that fail to meet these requirements will be rejected.

- 1) Proposer must have an office in New York State (a New York City office is preferred).
- 2) Proposer must be lawfully authorized to do business in the State of New York.
- 3) Proposer must have at least 5 years of experience in providing Construction Management Services.

B. MBE/WBE/SDVOB Participation, Joint Ventures, and Sub-contracting Goals

Contractor requirements and procedures for business participation opportunities for New York State certified MBEs/WBEs/SDVOBs and equal employment opportunity requirements relating to minority group members and women are attached as Exhibit B. For questions relating to MBE/WBE/SDVOB participation, joint ventures and sub-contracting goals *only*, please contact Mr. Anthony Peterson at Anthony.peterson@bpca.ny.gov or 212-417-2337 (the “MBE/WBE/SDVOB Designated Contact”).

C. Restricted Period

New York State’s State Finance Law sections 139-j and 139-k apply to this RFP, restricting Proposers’ contacts with BPCA. Proposers are restricted from making any contact (defined as oral, written or electronic communications with BPCA under circumstances where a reasonable person would infer that a communication was intended to influence BPCA’s conduct or decision with respect to a procurement) relating to this RFP with anyone other than the Designated Contact, as specified in Section III.A., or MBE/WBE/SDVOB Designated Contact, as specified in Section IV.B., from the time of Proposer’s receipt of notice of this RFP through the date of the Final Award as defined in BPCA’s Procurement Guidelines (the “Restricted Period”). BPCA employees must record certain contacts during the Restricted Period, including, but not limited to, any oral or written communications that could reasonably be seen as intended to influence BPCA’s conduct or award of this RFP. Upon notice of an improper contact,

BPCA must make a determination regarding the Proposer's eligibility to continue participating in this RFP.

D. Submission of Proposals

Proposals must be received by BPCA no later than 3:00 p.m. on October 4, 2018

Each Proposer must submit eight (8) paper copies and a PDF version (via CD-ROM or flash drive) in a sealed package clearly marked "Proposal Enclosed – Battery Park City Community Center Leak Remediation Construction Management Services" to the Designated Contact by messenger, overnight courier or certified mail to the following address:

Battery Park City Authority
Attn: Michael LaMancusa
200 Liberty Street, 24th Floor
New York, NY 10281

BPCA is not responsible for late Proposals, no matter the cause. Proposals *must* arrive at the time and place specified herein and be time stamped by BPCA by the Due Date. Please leave ample time for building security. Late Proposals will NOT be accepted. Proposals submitted by fax or electronic transmission will NOT be accepted. A Proposer may, after submitting a Proposal, amend its Proposal by submitting an amended Proposal, clearly labeled "Amended Proposal – Battery Park City Community Center Leak Remediation Construction Manager Services," as long as the amended Proposal is submitted by the Due Date.

V. PROPOSAL FORMAT AND CONTENTS

A. Proposal Format

The Proposal must:

- Be printed on 8½" x 11" paper;
- Have numbered pages; and
- Be no longer than ten (10) single-sided pages, exclusive of the Cover Letter, Cost Proposal, and Required Attachments.

B. Proposal Content

In addition to the separately sealed Cost Proposal, described in Section VIII. Below, each Proposal must include the following in the order listed:

- 1) Cover Letter, signed by a person within the firm who is authorized to bind the Proposer, which includes representations that:
 - (a) Except as disclosed in the Proposal, no officer or employee of the Proposer is directly or indirectly a party to or in any other manner interested financially or otherwise in this RFP;
 - (b) Proposer satisfies all of the minimum qualification requirements in Section IV.A; and
 - (c) Proposer has reviewed BPCA's form of contract, attached as Exhibit C to this RFP, and either has no objections or has detailed their objections in an appendix to their Proposal.

- 2) Executive Summary.
- 3) Responses to the Questions as well as all of the Information Required (Sections VI.A. and B.).
- 4) Required Attachments (Section VI. C.).

BPCA reserves the right to reject any Proposals that fail to include any required item described in this Section V. B., including Cover Letters that are unsigned or fail to include each of the above representations (including an appendix if there are objections to BPCA's form of contract).

VI. INFORMATION REQUIRED:

A. Questions and Information Sought Relating to the Work

- 1) Describe your firm's background, services, size, and history as these factors are relevant to the Work, with an emphasis on construction management services for leak remediation and/or waterproofing projects in occupied buildings, especially in New York City.
- 2) Describe your experience providing construction management services for leak remediation and/or waterproofing projects involving public spaces, terraces and/or plazas.
- 3) Describe your experience providing construction management services for exterior restoration projects.
- 4) Describe your proposed approach and methodology, including scheduling, sequencing, staffing, and sub-consulting, for the construction management services associated with the Project.
- 5) Identify the person who will be the lead project manager (the "Lead PM") and primary contact in providing services to BPCA, and any other persons who will be listed as a "key person" in any contract with BPCA. For each listed individual, provide: (a) area(s) of specialization; (b) title and/or position within your firm; and (c) the services to be performed.
- 6) Identify any sub-consultants you intend to use for this engagement, and describe the services to be performed by each sub-consultant.
- 7) Describe your proposed team's experience with similar work for other public entities, with an emphasis on New York State public entities.
- 8) Clearly identify any information in your Proposal that you believe to be confidential and exempt from FOIL, and state the reasons. Please note that this question is for informational purposes only, and BPCA will determine whether information or materials are exempt from disclosure under FOIL in its sole discretion.
- 9) Identify any and all exceptions taken to BPCA's standard form of contract, attached as Exhibit C, explaining the reasons for such exceptions. Such exceptions must be detailed in an appendix to your Proposal labeled, "Appendix: Objections to BPCA Form of Contract." No exceptions to the Contract will be considered by BPCA after submission of the Proposals. BPCA maintains the right to reject Proposals based on non-conformance with the standard form of Contract.
- 10) Provide at least three (3) client references for whom your firm has performed similar work to that requested in this RFP. For each client, describe the project, the project's date, and services performed,

and provide the name, address, and telephone number for a person at client's firm familiar with such work.

B. Questions and Information Sought Relating to Proposer's Firm & Eligibility

- 11) Within the past three (3) years, have there been any significant developments in your firm such as changes in ownership or restructuring? Do you anticipate any significant changes in the near future? If so, please describe.
- 12) How does your firm identify and manage conflicts of interest?
- 13) Are there any potential conflict of interest issues posed by your firm's performance of the Work on behalf of BPCA?
- 14) Has your firm or have any of the firm's partners/employees been disciplined or censured by any regulatory body within the last five (5) years? If so, please describe the relevant facts.
- 15) Within the last five (5) years, has your firm, or a partner or employee in your firm, been involved in litigation or other legal proceedings relating to the provision of professional services? If so, please provide an explanation and the current status or disposition of the matter.
- 16) List any professional or personal relationships your firm's employees may have with BPCA's Board Members and/or employees. A list of which is attached as Exhibit E.
- 17) If selected, will your firm assign any person to this engagement who was previously an employee of BPCA or BPCPC? If so, please: i) identify when (month and year) that person's employment at BPCA/BPCPC terminated, and ii) describe that person's involvement, if any, with matters related to this RFP during his/her employment at BPCA/BPCPC.
- 18) In the past five (5) years, have any public sector clients terminated their working relationship with your firm? If so, please provide a brief statement of the reasons. Provide the name of the client and provide a contact person, address and telephone number.

C. Required Attachments

- 1) Mandatory Forms:

Each Proposal must include a completed copy of all "Mandatory Forms" found at: <http://bpca.ny.gov/wp-content/uploads/2015/03/Vendor-ResponsibilityQuestionnaire.pdf>. The Mandatory Forms include the following:

- a) NYS Standard Vendor Responsibility Questionnaire, notarized and signed by the individual(s) authorized to contractually bind the Proposer, indicating the signer's title/position within the firm.*
- b) State Finance Law § 139 Form 1, signed by the individual(s) authorized to contractually bind the Proposer.*
- c) W-9 form.
- d) Statement of Non-Collusion.

- e) MBE/WBE/SDVOB Utilization Plans. Please note that all such plans must be submitted even if Proposer is a MBE/WBE/SDVOB.

*In addition to the copy required to be included in each bound Proposal, Proposers must additionally provide one (1) unbound, completed original, with ink signatures, of the NYS Standard Vendor Responsibility Questionnaire and SFL 139 Form 1.

- 2) Response to the question regarding the use of New York State businesses set forth in Section XII.
- 3) Completed MBE/WBE and EEO Policy Statement and Diversity Practices Questionnaire (attached as part of Exhibit B).
- 4) Financial Statements:

Provide a copy of your firm's most recent Audited Financial Statements (within the last year). In the event you do not have audited financials you must provide a statement to that effect with your proposal, and summary financial information for the calendar year most recently ended.

- 5) Acknowledgement of Addenda:

Attach a completed and signed Acknowledgement of Addenda Form, attached as Exhibit D, acknowledging receipt of all addenda to this RFP, if any, issued by BPCA before the Due Date. Addenda are posted by BPCA as necessary and can be found on the BPCA website at www.bpca.ny.gov. It is the responsibility of each Proposer to check the BPCA website for addenda and to review addenda prior to submitting any proposal in response to this RFP.

- 6) Appendices:

- a) Attach professional biographies for all employees identified in your Proposal.
- b) Identify any and all exceptions taken to BPCA's standard form of contract.

VII. INSURANCE REQUIREMENTS

A. General Requirements

- 1) The selected Proposer (and subconsultant(s), if any) will be required to obtain and provide proof of the types and amounts of insurance listed below in Sections VII. B and VII. C. prior to the award of the Contract for the Project.
- 2) The total cost of the required insurance must be incorporated into the Cost Proposal.
- 3) The additional insured protection afforded BPCA, BPCPC and the State of New York must be on a primary and non-contributory basis.
- 4) All policies must include a waiver of subrogation in favor of BPCA, BPCPC, and the State of New York, and no policies may contain any limitations/exclusions for New York Labor Law claims, and cross liability coverage must be provided for BPCA, BPCPC and the State of New York.
- 5) All of the carriers that provide the required insurance must be rated "A-:VII" or better by A.M. Best and must provide direct written notice of cancellation or non-renewal to BPCA, BPCPC, and the

State of New York at least 30 days before such cancellation or non-renewal is effective, except for cancellations due to non-payment of premium, in which case 10 days written notice is acceptable.

B. Insurance Requirements for the Selected Proposer

- **Commercial General Liability Insurance**, written on ISO Form CG 00 01 or its equivalent and with no modification to the contractual liability coverage provided therein, shall be provided on an occurrence basis and limits shall not be less than:
 - \$1,000,000 per occurrence
 - \$2,000,000 general aggregate, which must apply on a per location / per project basis
 - \$2,000,000 products/completed operations aggregate

BPCA, BPCPC, and the State of New York must be protected as Additional Insureds on ISO Form CG 2010 (11/85) or its equivalent on policies held by the selected Proposer and any of its subcontractors. Should the Proposer's work include construction activities of any kind, then the Proposer must maintain Products/Completed Operations coverage for no less than three years after the construction work is completed, and continue to include Additional Insured protection for BPCA, BPCPC and the State of New York for the prescribed timeframe. When providing evidence of insurance, the Proposer must include a completed Acord 855 NY form.

- **Automobile Liability Insurance** with a combined single limit of not less than \$1,000,000. Coverage must apply to the Proposer's owned, hired, and non-owned vehicles and protect BPCA, BPCPC, and the State of New York as Additional Insureds.
- **Workers' Compensation, Employer's Liability, and Disability Benefits** shall not be less than statutory limits, including United States Longshore and Harbor Workers Act coverage as applicable to the operations of the Proposer.
- **Umbrella Liability Insurance** at a limit not less than \$5,000,000 per occurrence and in the aggregate. BPCA, BPCPC, and the State of New York must be protected as Additional Insureds on policies held by the selected Proposer and any of its subcontractors.

C. Insurance Requirements for all Subconsultants

Any subconsultant(s) utilized by the selected Proposer will be required to obtain all insurances listed in Section VII. B. prior to commencement of work unless otherwise approved in writing by BPCA.

VIII. COST PROPOSAL; FORMAT AND REQUIRED INCLUSIONS

The Cost Proposal (Exhibit F) must include the (i) not-to-exceed base proposal; (ii) reimbursable costs; and technical salary rates (Exhibit G) for the performance of all Work.

The Cost Proposal must be submitted in its own separate, sealed envelope within the sealed package containing all other Proposal documents. Please provide eight (8) copies of the Cost Proposal.

IX. SELECTION PROCESS

A. Evaluation

Each timely submitted Proposal will be reviewed for compliance with the form and content requirements of this RFP. A committee of BPCA employees selected by BPCA (the “Committee”) will then review and evaluate the Proposals in accordance with the evaluation criteria set forth below. While only Committee members will score the evaluation criteria, the Committee may consult an outside expert for advisement on the evaluation of matters requiring technical expertise. Before final selection, BPCA must determine that the proposed selected Proposer is responsible, in accordance with applicable law and BPCA’s Procurement Guidelines, which may be viewed at: <http://bpca.ny.gov/public-information/>.

B. Interviews

BPCA reserves the right to decide whether to interview any or all of the Proposers. The Committee may conduct interviews for many reasons, including to further assess a Proposer’s ability to perform the Work or provide specific services, or to seek information related to any other evaluation criteria. The proposed Lead PM, as well all other key personnel proposed to perform the Work, must be available to participate in the interview.

C. Evaluation Criteria for Selection

Selection will be based upon the following criteria:

1) Technical Evaluation:

- A) Construction management experience with leak remediation and/or waterproofing projects in occupied buildings, especially in New York City:25%
- B) Construction management experience with leak remediation and/or waterproofing projects in public spaces, terraces and/or plazas:15%
- C) Construction management experience with exterior restoration projects:15%
- D) Approach to Work, including scheduling, staffing and sub-consulting:35%
- E) Response to Diversity Practices Questionnaire:10%

2) Cost Proposal evaluation.

D. Basis for Contract Award

The Contract will be awarded to the highest technically rated Proposer whose Proposal is determined to be responsive and in the best interests of BPCA, subject to a determination that the Cost Proposal is fair, reasonable, and provides the best value to BPCA given the requirements of the Project.

X. NON-COLLUSION

By submitting a Proposal, each Proposer warrants and represents that any ensuing Contract has not been solicited or secured directly or indirectly in a manner contrary to the laws of the State of New York, and that said laws have not been violated and shall not be violated as they relate to the procurement or the performance of the Contract by any conduct, including the paying or giving of any fee, commission, compensation, gift, or gratuity or consideration of any kind, directly or indirectly, to any member of the board of directors, employee, officer or official of BPCA.

XI. IRAN DIVESTMENT ACT

By submitting a Proposal or by assuming the responsibility of any Contract awarded hereunder, each Proposer certifies that it is not on the “Entities Determined To Be Non-Responsive Bidders/Offerers Pursuant

to The New York State Iran Divestment Act of 2012” list (“Prohibited Entities List”) posted on the New York State Office of General Services website at: <http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf> and further certifies that it will not utilize any subcontractor/consultant that is identified on the Prohibited Entities List on this Contract. The selected Proposer agrees that should it seek to renew or extend any Contract awarded hereunder, it must provide the same certification at the time the Contract is renewed or extended. The selected Proposer also agrees that any proposed assignee of the Contract will be required to certify that it is not on the Prohibited Entities List before BPCA may approve a request for assignment of the Contract.

During the term of any Contract awarded hereunder, should BPCA receive information that a person (as defined in State Finance Law §165-a) is in violation of the above-referenced certifications, BPCA will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the New York State Iran Divestment Act of 2012 within 90 days after the determination of such violation, then BPCA shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not limited to, seeking compliance, recovering damages, or declaring the selected Proposer in default of the awarded Contract.

BPCA reserves the right to reject any request for renewal, extension, or assignment for an entity that appears on the Prohibited Entities List prior to the renewal, extension, or assignment of the Contract, and to pursue a responsibility review with the selected Proposer should it appear on the Prohibited Entities List hereafter.

XII. ENCOURAGING USE OF NEW YORK STATE BUSINESSES IN CONTRACT PERFORMANCE

New York State businesses have a substantial presence in State contracts and strongly contribute to the economies of the state and the nation. In recognition of their economic activity and leadership in doing business in New York State, Proposers for this Contract for commodities, services or technology are strongly encouraged and expected to consider New York State businesses in the fulfillment of the requirements of the Contract. Such partnering may be as subcontractors, suppliers, protégés or other supporting roles.

Proposers need to be aware that all authorized users of this Contract will be strongly encouraged, to the maximum extent practical and consistent with legal requirements, to use responsible and responsive New York State businesses in purchasing commodities that are of equal quality and functionality and in utilizing services and technology. Furthermore, Proposers are reminded that they must continue to utilize small, minority and women-owned businesses, consistent with current State law.

Utilizing New York State businesses in State contracts will help create more private sector jobs, rebuild New York’s infrastructure, and maximize economic activity to the mutual benefit of the contractor and its New York State business partners. New York State businesses will promote the contractor’s optimal performance under the Contract, thereby fully benefiting the public sector programs that are supported by associated procurements.

Public procurements can drive and improve the State’s economic engine through promotion of the use of New York businesses by its contractors. The State therefore expects bidders/proposers to provide maximum assistance to New York businesses in their contracts. The potential participation by all kinds of New York businesses will deliver great value to the State and its taxpayers.

Proposers can demonstrate their commitment to the use of New York State businesses by responding to the question below. Each proposer must include a response to this question with their proposal. Please note that a “yes” response requires supporting information. If yes, identify New York State businesses that will be used and attach identifying information.

Will New York State businesses be used in the performance of this contract? ☐ Yes ☐ No

EXHIBIT A

Scope of Work

A. Background and Context

In order to accommodate needed recreational resources, facilities and related public spaces for the Battery Park City community and in conjunction with adjacent private development, BPCA, from 2008 to 2013 constructed a community center, public ball fields and a public terrace on the parcels known as Sites 23 and 24 in Battery Park City. BPCA developed these facilities in concert and cooperation with the private development of the residential buildings located at 200 and 300 North End Avenue. The Battery Park City Ball Fields (the “Ball Fields”) were completed in 2011; the Ball Field Terrace (the “Terrace”), located to the west of the Ball Fields and between 200 and 300 North End Avenue, was completed in 2012; and the Community Center (the “CC Facility”), which is located within the first floor, cellar and sub-cellar levels of 200 North End Avenue, within the cellar and sub-cellar levels of 300 North End Avenue and in the cellar and sub-cellar levels between the buildings and beneath the Terrace, was completed and turned over to its operator Asphalt Green in 2013. A site plan reflecting the locations and configurations of the CC Facility, the Ball Fields and the Terrace is attached hereto as part of Exhibit H.

The envelope of the CC Facility was constructed by the Milstein Corporation, which is the developer and owner of the residential towers located at 200 and 300 North End Avenue. BPCA performed the construction of the Terrace, the construction of the Ball Fields and the fit-out construction of the CC Facility.

Since 2011, the cellar-level facade of the CC Facility has experienced leaking and water infiltration. Following the opening of the CC Facility by Asphalt Green in 2013, additional points of water infiltration have been discovered within the building. BPCA subsequently retained WJE Engineers & Architects, PC to investigate the cause of the infiltration and to recommend means of remediating the leak issues. In early 2018, following the discovery of an additional, previously unknown source of water infiltration into the CC Facility, WJE recommended a complete re-waterproofing of the Terrace, along with remediation at the vertical storefront on the cellar (Ball Field) level of the CC Facility. BPCA has retained Architectural Preservation Studio (“APS”) as its design architect to prepare drawings and specifications for the performance of the remedial excavation/demolition, waterproofing and restoration work necessary to remediate the leaks within the CC Facility.

Portions of the Project will be performed in accordance with the terms of a License and Access Agreement between BPCA and MP Freedom LLC and MP Liberty LLC (the “MP Properties”), the developers of the adjacent resident towers known as 200 and 300 North End Avenue (the “Access Agreement”). In accordance with terms of the Access Agreement, all construction activities must be performed between 8 AM and 5 PM, Monday through Friday.

B. General Responsibilities

The responsibilities of the selected Proposer will generally include overseeing and managing work to be performed by the general contractor for the Project (the “General Contractor”), which will be retained under a separate contract with BPCA. The remediation work will be performed in accordance with drawings and specifications prepared by APS and attached hereto as Exhibit G (the “Construction Documents”).

The selected Proposer shall provide full construction management services throughout all phases of the Project, including pre-construction, construction and post-construction/close-out. Those services shall include, but are not limited to constructability reviews, contracting assistance, overall management of the Project, office engineering and construction inspection services. Specifically, the selected Proposer shall, among other things:

1. Be responsible for monitoring Project performance and completion by the General Contractor and any Specialty Contractors (as defined below), with quality of workmanship and strict adherence to the Construction Documents, Project schedule and budget being of critical importance. The selected Proposer shall work with APS to facilitate the completion of all construction in accordance with these standards. The selected Proposer will manage the logistics of the Project including but not limited to phasing, weather factors, workforce requirements and staging.
2. Be responsible for Project coordination, preparation of overall Project schedule and review/tracking of contractor Critical Path Method (“CPM”) schedule.
3. Be responsible for managing the overall Project schedule along with pre-construction and construction milestone dates.
4. Collect and review all pertinent information pertaining to the CC Facility and the Terrace, as well as their immediate surroundings (the “Work Area”) to become familiar with any factors that could interfere with or affect the construction progress.
5. Be responsible for overseeing all financial aspects of the Project, including, but not limited to, budgets, cost estimates, change orders, pay applications and financial reporting as specified herein.
6. Ensure that all work performed on the Project adheres to all relevant codes and all Local, City, State, and Federal regulations and guidelines.
7. Be responsible for notices to and consultation/coordination with the MP Properties, as required by the Access Agreement.

C. Pre-Construction Responsibilities

1. The selected Proposer shall assist BPCA with questions or issues relating to the contract or scope of work of the General Contractor selected to perform the Project and any additional consultants or construction firms (“Specialty Contractors”) necessary to complete the Project.
2. The selected Proposer shall, at BPCA’s request, assist in all aspects of the selection and management of Specialty Contractors, if any, or any replacement of the General Contractor, if necessary, including but not limited to assisting in the preparation or refinement of work scopes and proposal requests, proposal review and comparison, attendance at related meetings, answering questions, evaluation of qualifications and reference review, and review and recommendation of proposals or quotes.
3. The selected Proposer shall familiarize itself with the access points and space constraints related to the Work Area in order to facilitate Project performance and completion with the fewest possible impacts to the surrounding areas, public convenience and the community in general. The selected Proposer shall review and approve the General Contractor’s logistics plan before submitting it to BPCA for approval and shall monitor construction activities to verify conformance with the approved logistics plan.

D. Responsibilities throughout Construction

1. The selected Proposer shall monitor and oversee the Project and the work of the General Contractor and ensure that the Project is completed in accordance with the Construction Documents, and in accordance with BPCA’s objectives, budget, schedule and specified quality standards. The selected Proposer shall coordinate with the General Contractor in order to perform the work with **minimal disruption** to the adjacent areas (public and private) and **minimal impact** on the community and general public.

2. Before construction commences, the selected Proposer is responsible for developing, implementing, and submitting for approval by BPCA, construction management procedures for managing the execution of the Project. This shall include, but not be limited to, general and special conditions, project directory, submittal processing procedures, tracking logs (for all Project costs, submittals, plan & specification changes, change orders, etc.), daily logs and field reports, Project management reports, Project summary reports, meeting minutes, change order requests, requisitions and site access procedures.
3. The selected Proposer is responsible for monitoring on-site work related to the Project during the pre-construction phase and for coordination of site access in accordance with BPCA's directives.
4. For the duration of the Project, at times when public access to the Terrace, the CC Facility, the Ballfield and/or the abutting residential buildings is closed or restricted, the selected Proposer will ensure that the General Contractor maintains adequate fencing, barricades, signage and safety precautions for the protection of the general public.
5. The selected Proposer shall be responsible for working with APS and arranging meetings with Specialty Contractors, equipment manufacturers and industry specialists in order to assist in the selection of technically viable solutions, determine the availability of material, and develop and prepare associated cost estimates.
6. The selected Proposer shall provide cost estimating services to BPCA to verify the construction budget and evaluate contractors' prices, unit costs and change orders.
7. The selected Proposer shall track the disposition of all General Contractor submittals including general requirements (bonds, insurance, etc.) schedule, procedures, materials, shop drawings, subcontractor and supplier qualification submittals in accordance with the Construction Documents.
8. The selected Proposer shall review and approve the General Contractor's payment applications before they are submitted to BPCA for approval and payment, and shall promptly advise BPCA whether those payment applications are complete (including required lien waivers) and accurately reflect work satisfactorily completed and are consistent with the terms of the contracted work. If necessary, the selected Proposer shall coordinate with the General Contractor to revise payment applications before they are submitted to BPCA.
9. The selected Proposer shall review and track the General Contractor's CPM schedule for conformance with contractual milestones and shall promptly notify BPCA and the General Contractor of any actual or anticipated failure to adhere to the CPM schedule. If the General Contractor proposes changes to the schedule, the selected Proposer shall review the proposed changes, recommend approval or denial of the revised schedule and, if approved, track the revised schedule and adjust its inspection schedule and staffing accordingly. The selected Proposer shall be prepared to review the General Contractor's proposed schedule in detail at the construction kickoff meeting.
10. The selected Proposer shall review all requests for change orders and provide recommendations for acceptance or rejection to BPCA, negotiating revisions, as appropriate, to the change order proposals, prior to their submission to BPCA.
11. The selected Proposer shall submit the General Contractor's trade payment breakdown for review and approval by BPCA.

E. Meetings and Reporting

1. The selected Proposer shall administer a construction kickoff meeting and shall be responsible for the prompt preparation and distribution of meeting minutes.

2. On a **daily basis**, the selected Proposer shall prepare reports reflecting daily activities, including but not limited to daily logs of the General Contractor's staffing and hours on-site, weather, deliveries, disposals, special occurrences, photo documentation of work, pre-construction conditions, job progress, contractor equipment, material testing and work performed and completed. The selected Proposer shall submit daily Project Management reports that reflect such information via email to BPCA's Director of Construction, who is responsible for managing the Project. Daily reports shall also be retained on site and be readily available to BPCA.
3. On a **weekly basis**, the selected Proposer shall schedule and conduct a weekly job progress meeting with BPCA and any other relevant parties (as identified by BPCA) in order to provide updates, address BPCA's concerns, describe logistics surrounding the Project and monitor the Project schedule. The selected Proposer shall be responsible for the prompt preparation and distribution of meeting minutes each week in advance of the following progress meeting.
4. On a **monthly basis**, the selected Proposer shall issue a Monthly Project Summary Report, which shall include a full description of the status of all aspects of the Project, including but not limited to a brief narrative of the work status and level of completion, an assessment of whether construction targets will be met, an update on any anticipated delays or issues, project financial status and cost estimates, and tracking reports. The selected Proposer shall also conduct a monthly review of the General Contractor's budget and expenditures and shall include such information in the Monthly Project Summary Report.

F. Post-Construction & Close-out

1. The selected Proposer shall provide project close-out services. The selected Proposer shall submit all project records, inspection reports, and a final project summary to BPCA at project completion.
2. The selected Proposer shall determine substantial completion of work required for the Project and coordinate a punch-list inspection. The selected Proposer will advise BPCA regarding the issuance of a certificate of substantial completion.

The selected Proposer shall conduct final inspection and approval of the Project and advise BPCA regarding the issuance of a certificate of final completion.

EXHIBIT B

CONTRACTOR REQUIREMENTS AND PROCEDURES FOR PARTICIPATION BY NEW YORK STATE-CERTIFIED MBEs/WBEs/SDVOBs AND EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND WOMEN

NEW YORK STATE LAW

Pursuant to New York State Executive Law Article 15-A and Parts 140-145 of Title 5 of the New York Codes, Rules and Regulations BPCA is required to promote opportunities for the maximum feasible participation of New York State-certified MBEs/WBEs (collectively, “MWBE(s)”) and the employment of minority group members and women in the performance of BPCA contracts. Pursuant to New York State Executive Law Article 17-B and 9 NYCRR §252, BPCA recognizes its obligation under the law to promote opportunities for maximum feasible participation of certified SDVOBs.

Business Participation Opportunities for MWBEs

For purposes of this solicitation, BPCA hereby establishes an overall goal of 30 percent for MWBE participation, 15 percent for New York State-certified Minority-owned Business Enterprise (“MBE”) participation and 15 percent for New York State-certified Women-owned Business Enterprise (“WBE”) participation (based on the current availability of MBEs and WBEs). A contractor (“Contractor”) on any contract resulting from this procurement (“Contract”) must document its good faith efforts to provide meaningful participation by MWBEs as subcontractors and suppliers in the performance of the Contract. To that end, by submitting a response to this RFP, the Proposer agrees that BPCA may withhold payment pursuant to any Contract awarded as a result of this RFP pending receipt of the required MWBE documentation. The directory of MWBEs can be viewed at: <https://ny.newnycontracts.com>. For guidance on how BPCA will evaluate a Contractor’s “good faith efforts,” refer to 5 NYCRR § 142.8.

The Proposer understands that only sums paid to MWBEs for the performance of a commercially useful function, as that term is defined in 5 NYCRR § 140.1, may be applied towards the achievement of the applicable MWBE participation goal. The portion of a contract with an MWBE serving as a broker that shall be deemed to represent the commercially useful function performed by the MWBE shall be 25 percent of the total value of the contract]

In accordance with 5 NYCRR § 142.13, the Proposer further acknowledges that if it is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in a Contract resulting from this RFP, such finding constitutes a breach of contract and BPCA may withhold payment as liquidated damages.

Such liquidated damages shall be calculated as an amount equaling the difference between: (1) all sums identified for payment to MWBEs had the Contractor achieved the contractual MWBE goals; and (2) all sums actually paid to MWBEs for work performed or materials supplied under the Contract.

By submitting a bid or proposal, a Proposer agrees to demonstrate its good faith efforts to achieve the applicable MWBE participation goals by submitting evidence thereof through the New York State Contract System (“NYSCS”), which can be viewed at <https://ny.newnycontracts.com>, provided, however, that a Proposer may arrange to provide such evidence via a non-electronic method by contacting Mr. Anthony Peterson at Anthony.peterson@bpca.ny.gov or 212-417-2337. Please note that the NYSCS is a one-stop solution for all of your MBE/WBE and Article 15-A contract requirements. For additional information on the use of the NYSCS to meet the Proposer’s MBE/WBE requirements, please see the attached MBE/WBE guidance from the New York State Division of Minority and Women’s Business Development, “Your MWBE Utilization and Reporting Responsibilities Under Article 15-A.”

Additionally, a Proposer will be required to submit the following documents and information as evidence of compliance with the foregoing:

- A. An MWBE Utilization Plan with their bid or proposal. Any modifications or changes to an accepted MWBE Utilization Plan after the Contract award and during the term of the Contract must be reported on a revised MWBE Utilization Plan and submitted to BPCA for review and approval.
- B. BPCA will review the submitted MWBE Utilization Plan and advise the Proposer of BPCA acceptance or issue a notice of deficiency within 30 days of receipt.
- C. If a notice of deficiency is issued, the Proposer will be required to respond to the notice of deficiency within seven (7) business days of receipt by submitting to Mr. Anthony Peterson at BPCA, by email at Anthony.peterson@bpca.ny.gov, a written remedy in response to the notice of deficiency. If the written remedy that is submitted is not timely or is found by BPCA to be inadequate, BPCA shall notify the Proposer and direct the Proposer to submit, within five (5) business days, a request for a partial or total waiver of MWBE participation goals. Failure to file the waiver form in a timely manner may be grounds for disqualification of the bid or proposal.
- D. BPCA may disqualify a Proposer as being non-responsive under the following circumstances:
 - 1) If a Proposer fails to submit an MWBE Utilization Plan;
 - 2) If a Proposer fails to submit a written remedy to a notice of deficiency;
 - 3) If a Proposer fails to submit a request for waiver; or
 - 4) If BPCA determines that the Proposer has failed to document good faith efforts.

The successful Proposer will be required to attempt to utilize, in good faith, any MBE or WBE identified within its MWBE Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to Contract Award may be made at any time during the term of the Contract to BPCA, but must be made no later than prior to the submission of a request for final payment on the Contract.

The successful Proposer will be required to submit a quarterly M/WBE Contractor Compliance & Payment Report to BPCA, by the 10th day following each end of quarter over the term of the Contract documenting the progress made toward achievement of the MWBE goals of the Contract.

Business Participation Opportunities for SDVOBs

For purposes of this solicitation, BPCA hereby establishes an overall goal of 6% for SDVOB participation. A Proposer must document good faith efforts to provide meaningful participation by SDVOBs as subcontractors or suppliers in the performance of the Contract and Proposer agrees that BPCA may withhold payment pending receipt of the required SDVOB documentation. The directory of New York State Certified SDVOBs can be viewed at: http://www.ogs.ny.gov/Core/docs/CertifiedNYS_SDVOB.pdf. For guidance on how BPCA will determine a Contractor's "good faith efforts," refer to 9 NYCRR §252.2(f) (2).

In accordance with 9 NYCRR §252.2(s), the Proposer acknowledges that if it is found to have willfully and intentionally failed to comply with the SDVOB participation goals set forth in the Contract, such finding constitutes a breach of Contract and Contractor shall be liable for damages as specified in the Contract.

Such damages shall be calculated based on the actual cost incurred by BPCA related to BPCA's expenses for personnel, supplies and overhead related to establishing, monitoring and reviewing certified SDVOB programmatic goals.

- A. Additionally, a Proposer agrees to submit a Utilization Plan with their bid or Proposal as evidence of compliance with the foregoing. Any modifications or changes to the Utilization Plan after the Contract award and during the term of the Contract must be reported on a revised Utilization Plan and submitted to BPCA.
- B. BPCA will review the submitted Utilization Plan and advise the Proposer of BPCA's acceptance or issue a notice of deficiency within 30 days of receipt.
- C. If a notice of deficiency is issued, Proposer agrees that it shall respond to the notice of deficiency within seven (7) business days of receipt by submitting to Mr. Anthony Peterson at BPCA, by email at Anthony.peterson@bpcanyc.gov, a written remedy in response to the notice of deficiency. If the written remedy that is submitted is not timely or is found by BPCA to be inadequate, BPCA shall notify the Proposer and direct the Proposer to submit, within five (5) business days, a request for a partial or total waiver of SDVOB participation goals. Failure to file the waiver form in a timely manner may be grounds for disqualification of the bid or Proposal.
- D. BPCA may disqualify a Proposer as being non-responsive under the following circumstances:
 - 1) If a Proposer fails to submit a Utilization Plan;
 - 2) If a Proposer fails to submit a written remedy to a notice of deficiency;
 - 3) If a Proposer fails to submit a request for waiver; or
 - 4) If BPCA determines that the Proposer has failed to document good faith efforts.

The successful Proposer shall attempt to utilize, in good faith, any SDVOB identified within its Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to the Contract award may be made at any time during the term of the Contract to BPCA, but must be made no later than prior to the submission of a request for final payment on the Contract.

The successful Proposer is required to submit a Contractor's SDVOB Contractor Compliance & Payment Report to BPCA on a monthly basis over the term of the Contract documenting the progress made toward achievement of the SDVOB goals of the Contract.

Equal Employment Opportunity Requirements

By submission of a bid or proposal in response to this solicitation, the Proposer agrees with all of the terms and conditions of the attached MWBE Equal Employment Opportunity Policy Statement. The Proposer is required to ensure that it and any subcontractors awarded a subcontract for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work"), except where the Work is for the beneficial use of the Proposer, undertake or continue programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, equal opportunity shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, and rates of pay or other forms of compensation. This requirement does not apply to: (i) work, goods, or services unrelated to the Contract; or (ii) employment outside New York State.

The Proposer will be required to submit a Minority and Women-owned Business Enterprise and Equal Employment Opportunity Policy Statement, Form # 4, to BPCA with its bid or proposal.

If awarded a Contract, Proposer shall submit a Workforce Utilization Report and shall require each of its Subcontractors to submit a Workforce Utilization Report, in such format as shall be required by BPCA on a monthly basis during the term of the Contract.

Further, pursuant to Article 15 of the Executive Law (the “Human Rights Law”), all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor and sub-contractors will not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

Please Note: Failure to comply with the foregoing requirements may result in a finding of non-responsiveness, non-responsibility and/or a breach of the Contract, leading to the withholding of funds, suspension or termination of the Contract or such other actions or enforcement proceedings as allowed by the Contract.



Your MBE/WBE Utilization and Reporting Responsibilities Under Article 15-A

The New York State Contract System (“NYSCS”) is your one stop tool compliance with New York State’s MBE/WBE Program. It is also the platform New York State uses to monitor state contracts and MBE/WBE participation.

GETTING STARTED

To access the system, please login or create a user name and password at <https://ny.newnycontracts.com/FrontEnd/VendorSearchPublic.asp?TN=ny&XID=7562>. If you are uncertain whether you already have an account set up or still need to register, please send an email to the customer service contact listed on the Contact Us & Support page, or reach out to Mr. Anthony Peterson at Anthony.peterson@bpca.ny.gov or 212-417-2337. For verification, in the email, include your business name and contact information.

VENDOR RESPONSIBILITIES

As a vendor conducting business with New York State, you have a responsibility to utilize minority- and/or women-owned businesses in the execution of your contracts, per the MBE/WBE percentage goals stated in your solicitation, incentive proposal or contract documents. NYSCS is the tool that New York State uses to monitor MBE/WBE participation in state contracting. Through the NYSCS you will submit utilization plans, request subcontractors, record payments to subcontractors, and communicate with your project manager throughout the life of your awarded contracts.

There are several reference materials available to assist you in this process, but to access them, you need to first be registered within the NYSCS. Once you log onto the website, click on the **Help & Support** >> link on the lower left hand corner of the Menu Bar to find recorded trainings and manuals on all features of the NYSCS. You may also click on the **Help & Tools** icon at the top right of your screen to find videos tailored to primes and subcontractors. There are also opportunities available to join live trainings, read up on the “Knowledge Base” through the Forum link, and submit feedback to help improve future enhancements to the system. Technical assistance is always available through the **Contact Us & Support** link on the NYSCS website (<https://ny.newnycontracts.com/FrontEnd/VendorSearchPublic.asp?TN=ny&XID=7562>).

For more information, contact Mr. Anthony Peterson at Anthony.peterson@bpca.ny.gov or 212-417-2337.

MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISES

EQUAL EMPLOYMENT OPPORTUNITY POLICY STATEMENT

MBE/WBE AND EEO POLICY STATEMENT

I, _____ (the "Contractor"), agree to adopt the following policies with respect to the project being developed at, or services rendered to, the Battery Park City Authority ("BPCA").

MBE/WBE

This organization will and will cause its contractors and subcontractors to take good faith actions to achieve the MBE/WBE contract participations goals set by the State for that area in which the State-funded project is located, by taking the following steps:

- (1) Actively and affirmatively soliciting bids for contracts and subcontracts from qualified State certified MBEs or WBEs, including solicitations to MBE/WBE contractor associations.
- (2) Requesting a list of State-certified MBEs/WBEs from BPCA and soliciting bids from these MBEs/WBEs directly.
- (3) Ensuring that plans, specifications, request for proposals and other documents used to secure bids will be made available in sufficient time for review by prospective MBEs/WBEs.
- (4) Where feasible, dividing the work into smaller portions to enhance participations by MBEs/WBEs and encourage the formation of joint venture and other partnerships among MBE/WBE contractors to enhance their participation.
- (5) Documenting and maintaining records of bid solicitation, including those to MBEs/WBEs and the results thereof. The Contractor will also maintain records of actions that its subcontractors have taken toward meeting MBE/WBE contract participation goals.
- (6) Ensuring that progress payments to MBEs/WBEs are made on a timely basis so that undue financial hardship is avoided, and that bonding and other credit requirements are waived or appropriate alternatives are developed to encourage MBE/WBE participation.

EEO

- (a) This organization will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing diversity programs to ensure that minority group members are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on State contracts.
- (b) This organization shall state in all solicitation or advertisements for employees that in the performance of the State contract all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex disability or marital status.
- (c) At the request of BPCA, this organization shall request that each employment agency, labor union, or authorized representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of this organization's obligations herein.
- (d) The Contractor shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. The Contractor and subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.
- (e) This organization will include the provisions of sections (a) through (d) of this agreement in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the State contract.

Battery Park City Authority Request For Proposals

Agreed to this _____ day of _____, 20____

By _____

Print: _____ Title: _____

_____ is designated as the Consultant's Minority Business Enterprise Liaison responsible for administering the Minority and Women-Owned Business Enterprises - Equal Employment Opportunity (MBE/WBE - EEO) program.

MBE/WBE Contract Goals

30% Minority and Women's Business Enterprise Participation

____% Minority Business Enterprise Participation

____% Women's Business Enterprise Participation

EEO Contract Goals (if applicable)

____% Minority Labor Force Participation

____% Female Labor Force Participation

(Authorized Representative)

Title: _____

Date: _____

Diversity Practices Questionnaire

I, _____, as _____ (title) of _____ company (the "Company"), swear and/or affirm under penalty of perjury that the answers submitted to the following questions are complete and accurate to the best of my knowledge:

1. Does your Company have a Chief Diversity Officer or other individual who is tasked with supplier diversity initiatives? Yes or No

If Yes, provide the name, title, description of duties, and evidence of initiatives performed by this individual or individuals.

2. What percentage of your Company's gross revenues (from your prior fiscal year) was paid to New York State certified MBEs/WBEs as subcontractors, suppliers, joint-ventures, partners or other similar arrangement for the provision of goods or services to your Company's clients or customers?

3. What percentage of your Company's overhead (i.e. those expenditures that are not directly related to the provision of goods or services to your Company's clients or customers) or non-contract-related expenses (from your prior fiscal year) was paid to New York State certified MBEs/WBEs as suppliers/contractors?¹

4. Does your Company provide technical training² to MBEs/WBEs? Yes or No

If Yes, provide a description of such training which should include, but not be limited to, the date the program was initiated, the names and the number of MBEs/WBEs participating in such training, the number of years such training has been offered and the number of hours per year for which such training occurs.

5. Is your Company participating in a government approved M/WBE mentor-protégé program?

If Yes, identify the governmental mentoring program in which your Company participates and provide evidence demonstrating the extent of your Company's commitment to the governmental mentoring program.

6. Does your Company include specific quantitative goals for the utilization of MBEs/WBEs in its non-government procurements? Yes or No

If Yes, provide a description of such non-government procurements (including time period, goal, scope and dollar amount) and indicate the percentage of the goals that were attained.

7. Does your Company have a formal M/WBE supplier diversity program? Yes or No

If Yes, provide documentation of program activities and a copy of policy or program materials.

8. Does your Company plan to enter into partnering or subcontracting agreements with New York State certified MBEs/WBEs if selected as the successful Proposer? Yes or No

If Yes, complete the attached Utilization Plan

¹ Do not include onsite project overhead.

² Technical training is the process of teaching employees how to more accurately and thoroughly perform the technical components of their jobs. Training can include technology applications, products, sales and service tactics, and more. Technical skills are job-specific as opposed to soft skills, which are transferable.

Battery Park City Authority Request For Proposals

All information provided in connection with the Diversity Practices Questionnaire is subject to audit and any fraudulent statements are subject to criminal prosecution and debarment.

Signature of
Owner/Official
Printed Name of
Signatory
Title

Name of Business

Address

City, State, Zip

STATE OF _____

COUNTY OF _____) ss:

On the _____ day of _____, 20____, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to this certification and said person executed this instrument.

Notary Public

EXHIBIT C

BPCA Sample Form of Contract

CONSULTANT AGREEMENT

between

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

and

[CONSULTANT]

Dated as of _____

Contract No. [CONTRACT #]

([PROJECT NAME])

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EXHIBIT A - SCOPE OF WORK

EXHIBIT B - RATES **[if applicable]**

EXHIBIT C - FORM OF TIME SHEET **[if applicable]**

EXHIBIT D - MBWE AND EEO POLICY STATEMENT

CONSULTANT AGREEMENT

AGREEMENT (the “Agreement”) made as of _____ by and between BATTERY PARK CITY AUTHORITY d/b/a HUGH L. CAREY BATTERY PARK CITY AUTHORITY, (the “Owner”), a body corporate and politic, constituting a public benefit corporation, having a place of business at 200 Liberty Street, 24th Floor, New York, New York 10281, and [COMPANY], formed under the laws of the State of [INCORP. STATE], having an office at [CITY, STATE AND ZIP] (the “Consultant”).

W I T N E S S E T H:

WHEREAS, Owner has fee title to certain real property located in the City, County and State of New York, generally known as Battery Park City; and

WHEREAS, Owner has developed Battery Park City, in individual parcels, with the goal of creating a richly diversified mixed use community providing residential and commercial space with related amenities such as parks, plazas, recreational areas and a waterfront esplanade; and

WHEREAS, Owner intends to retain the services of Consultant to perform **[describe services to be performed]** (the “Project”), and Consultant desires to perform such services for Owner.

NOW, THEREFORE, in consideration of the mutual promises herein contained, the parties hereby agree as follows:

1. Scope of Work

Consultant shall perform the services described in the Scope of Work attached hereto as Exhibit A (the “Work”). All Work shall be completed in accordance with the requirements furnished to Consultant by Owner, and shall be completed to Owner’s satisfaction.

2. Time for Performance

Consultant shall perform the Work as expeditiously as is consistent with professional skill and the orderly progress of the Work, and in accordance with any schedule set forth in the attached Scope of Work. If a schedule approved by Owner is incorporated into this Agreement, said schedule shall not be exceeded by Consultant, except for reasonable cause. The term of this Agreement shall begin **[DATE TERM BEGINS]** (the “Commencement Date”) and shall terminate not later than **[DATE TERM ENDS]** (the “Expiration Date”) (such period from the Commencement Date to the Expiration Date is referred to herein as the “Term”) unless this Agreement is otherwise terminated as hereinafter provided. Consultant shall complete the Scope of Work on or before **[DATE]**, unless the time for performance of the Work is extended by written agreement of Consultant and Owner.

3. Compensation

(a) Owner shall pay, and Consultant agrees to accept as full compensation for all Work performed under this Agreement, the not-to-exceed amount of **[\$\$\$\$\$]** (the “Fee”), paid in

accordance with the rates (the “Rates”) attached hereto as Exhibit B. The Fee includes any and all reimbursable expenses, which shall not exceed [\$\$\$\$\$] (the “Reimbursable Amount”), incurred by Consultant in performing the Work.

(b) Any reimbursable expenses shall be paid in accordance with Owner’s standard policies for reasonable expenses actually incurred by Consultant in connection with the performance of the Work. Consultant shall submit copies of receipts or other supporting documentation for any qualifying expenses incurred.

(c) Consultant shall submit monthly requests for payment to Owner that shall:

(i) include the name, address, and telephone number of Consultant;

(ii) be accompanied by time sheets, in substantially the form provided in Exhibit C (“Form of Time Sheet”), attached hereto and made part hereof, containing a description of the work performed and indicating hours worked in each billing category; and

(iii) reference the project for which services were rendered.

(d) Owner shall pay Consultant no later than the 30th calendar day (excluding holidays) following Owner’s receipt of a Proper Invoice (pursuant to, and as such term is defined in Owner’s Prompt Payment Policy, a copy of which can be found at <http://bpca.ny.gov/wp-content/uploads/2018/01/BPCA-Prompt-Payment-Policy-Fiscal-Year-2017.pdf>). Any item(s) of Work indicated in any Exhibit hereto as attributable to a specific phase of the Work that is not performed during the specified phase shall not be compensated by Owner, but payment for any such items of Work shall remain available to Consultant if, with Owner’s advance approval, such Work is actually performed during a subsequent phase of the Work, subject to the provisions of this Article 3 and Owner’s approval of any request for payment. Owner may withhold from any payment an amount equal to any costs or damages incurred by Owner as a result of Consultant’s negligence or breach of this Agreement.

(e) All requests for payment should be addressed as follows:

Office of the Treasurer
Battery Park City Authority
d/b/a Hugh L. Carey Battery Park City Authority
200 Liberty Street, 24th Floor
New York, NY 10281-1097
Attn.: Accounts Payable

A duplicate copy is to be sent to the attention of [PROJECT MANAGER, TITLE].

4. Increase and Decrease in the Scope of Consultant’s Work

Owner shall have the right to make changes to, increase or reduce the scope of Work, or extend the Term or any date set forth in the schedule referenced in Section 2 *supra*, at any time and for any reason, upon written notice to Consultant specifying the nature and extent of such changes. If Consultant believes that any work it has been directed to perform by Owner is beyond

the scope of Work set forth in this Agreement and constitutes extra work, Consultant shall so notify Owner within ten (10) business days. Owner shall determine whether or not such work is in fact beyond the scope of the Work and is considered extra work. If Owner determines that such work constitutes extra work to Consultant or any Subconsultant (as defined in Section 25 of this Agreement), Owner will pay Consultant any additional reimbursable expenses approved pursuant to Owner's policy for reimbursable expenses, and such additional compensation only as mutually agreed in writing by Owner and Consultant at the time of such change.

5. Consultant Cooperation

(a) Consultant shall work with such firms or individuals as Owner shall designate from time to time in connection with the Work, and agrees to meet with such firms or individuals at such times as Owner may require in order to maintain an ongoing review process so as to expedite determinations and approvals required to be made in connection with the Work.

(b) Consultant shall render any assistance that Owner may require with respect to any claim or action arising from or in any way relating to Consultant's services during or subsequent to the Term of this Agreement, including, but not limited to, review of claims, preparation of technical reports and participation in negotiations, both before and after Consultant has completed performance of the Work under this Agreement and without any additional compensation therefor.

6. Termination

(a) *Termination for Convenience.* Owner, at any time, may terminate this Agreement in whole or in part. Any such termination shall be effected by mailing or delivering to Consultant a written notice of termination specifying the extent to which performance of the Work under this Agreement is terminated and the date upon which such termination becomes effective. Upon receipt of the notice of termination, Consultant shall act promptly to minimize any expenses resulting from said termination. Owner shall pay Consultant the costs actually incurred by Consultant, including any Fee for Work actually and satisfactorily performed up to the effective date of the termination, but in no event shall Consultant be entitled to compensation in excess of the total consideration of this Agreement. In the event of such a termination, Owner may take over the Work and prosecute same to completion by contract or otherwise, and may take possession of and utilize such work product, materials, appliances, and plant as may be on the site and necessary or useful to complete the Work. Except as otherwise provided herein, all of Owner's liability hereunder shall cease and terminate as of the effective date specified in such notice of termination.

(b) *Termination for Cause.* Owner may terminate this Agreement for cause if:

(i) Consultant shall fail to diligently, timely and expeditiously perform any of its obligations as set forth in the Agreement;

(ii) Any representation or warranty made or deemed to have been made under this Agreement by Consultant shall prove to be untrue in any material respect;

(iii) Consultant shall make a general assignment for the benefit of its creditors, or a receiver or trustee shall have been appointed on account of Consultant's insolvency, or Consultant otherwise shall be or become insolvent, or an order for relief shall have been entered

against Consultant under Chapter 7 or Chapter 11 of Title 11 of the United States Code;

(iv) a breach of any covenant or agreement contained in Section 16 of this Agreement or any other section of this Agreement shall occur; or

(v) Consultant otherwise shall be in default hereunder;

by serving written notice upon Consultant of Owner's intention to terminate this Agreement. Such notice shall state: (1) the reason(s) for Owner's intention to terminate the Agreement, and (2) the effective date of termination, to be not less than three (3) calendar days after the date of the notice of termination. If Consultant shall fail to cure the reason(s) for termination or make arrangements satisfactory to Owner on or before the effective date of termination, this Agreement shall terminate on the date specified by Owner in the notice of termination. In the event of any such termination, Owner may take over the Work and prosecute same to completion by contract or otherwise, for the account and at the expense of Consultant, and Consultant shall be liable to Owner for all costs incurred by Owner by reason of said termination. In the event of such termination, Owner may take possession of and utilize such work product, materials, appliances, and plant as may be on the site and necessary or useful to complete the Work. Upon Owner's completion of the Work following a termination for cause, Consultant shall be entitled to such amount of the Fee that has not theretofore been paid to Consultant and that shall compensate Consultant for all Work actually and satisfactorily performed by it up to the date of termination, provided, however, that Owner shall deduct from any amount all additional costs and expenses that Owner may incur over those which Owner would have incurred in connection with the Work if Owner had not so terminated this Agreement for cause. Nothing contained in this Agreement shall limit in any manner any and all rights or remedies otherwise available to Owner by reason of a default by Consultant under this Agreement, including, without limitation, the right to seek full reimbursement from Consultant for all costs and expenses incurred by Owner by reasons of Consultant's default hereunder and which Owner would not have otherwise incurred if Consultant had not defaulted hereunder.

(c) Upon any termination of this Agreement in accordance with the provisions of this Section 6, Consultant shall, with respect to the Work which is the subject of such termination:

(i) discontinue all its services from and after the date of the notice of termination, except to attempt to cure any reason(s) for termination or as may be required to complete any item or portion or services to a point where discontinuance will not cause unnecessary waste of duplicative work or cost;

(ii) cancel, or if so directed by Owner, transfer to Owner all commitments and agreements made by Consultant relating to the Work, to the extent same are cancelable or transferable by Consultant;

(iii) transfer to Owner in the manner, to the extent, and at the time directed by Owner, all work product, supplies, materials and other property produced as a part of, or acquired in the performance of the Work; and

(iv) take other actions as Owner may reasonably direct.

(d) In the event that Consultant, having been terminated, thereafter obtains a

determination, in a judicial or other action or proceeding, that such termination was unwarranted, without basis, or invalid for any reason, then the termination shall be deemed to have been one for the convenience of Owner and Consultant shall be entitled to be reimbursed and paid as provided in Subsection 6(b) but to no other payments or damages.

7. Suspension

Owner may, at any time and for any reason, order Consultant in writing to suspend, delay or interrupt performance of all or any part of the Work for a reasonable period of time as the Owner may determine. Upon receipt of a suspension order, Consultant shall, as soon as practicable, cease performance of the Work as ordered and take immediate affirmative measures to protect such Work from loss or damage. Consultant specifically agrees that such suspension, delay or interruption of the performance of Work pursuant to this Section 7 shall not increase the cost of performance of the Work of this Agreement. Owner may extend the Term or any date set forth in schedule referenced in Section 2 *supra*, to compensate Consultant for lost time due to suspension, delay or interruption, and such time extension shall be Consultant's sole compensation for same. Consultant shall resume performance of such Work upon the date ordered by Owner.

8. Assignment

Consultant shall not assign the Agreement in whole or in part without Owner's prior written consent; however, Owner may assign the Agreement in whole or in part without Consultant's prior written consent.

9. Ownership of Documents

(a) All material specifically prepared for the Project and excluding any intellectual property already owned by Consultant that is furnished by Consultant or any Subconsultants (including but not limited to all film, video, or digital assets, Hypertext Markup Language ("HTML") files, JavaScript files, flash files, etc.) in connection with the Work shall be deemed Works Made for Hire and become the sole property of Owner. Consultant shall provide a tangible copy of the Work to Owner in any form(s) to be specified by Owner. Such materials may be used by Owner, in whole or in part, or in modified form, for any and all purposes Owner may deem desirable without further employment of, or payment of any additional compensation to Consultant. Consultant hereby acknowledges that whatever participation Consultant has, or will have, in connection with any copyrightable subject matter that is the subject of the Work is and shall be deemed Work Made for Hire on behalf of the Owner and that the Owner shall be the sole owner of the Work, and all underlying rights therein, worldwide and in perpetuity. In the event that the Work, or any portion thereof, does not qualify or is deemed not to be Work Made for Hire, Consultant hereby irrevocably transfers and assigns to the Owner all of Consultant's right, title and interest, throughout the world, in and to the Work, including, without limitation, all of Consultant's right, title and interest in the copyrights to the Work, including the unrestricted right to make modifications, adaptations and revisions to the Work and hereby waives any so-called "moral rights" with respect to the Work. Consultant grants to Owner a royalty free, worldwide perpetual, irrevocable, nonexclusive license to reproduce, modify, and publicly display the Work.

(b) Any plans, drawings, or specifications prepared by or on behalf of Consultant for

the Project shall become property of Owner, and Consultant may not use same for any purpose not relating to the Project without Owner's prior written consent. Consultant may retain such reproductions of plans, drawings or specifications as Consultant may reasonably require. Upon completion of the Work or the termination of this Agreement, Consultant shall promptly furnish Owner with a complete set of original record prints. All such original materials shall become property of Owner who may use them, without Consultant's permission, for any proper purpose including but not limited to additions or completion of the Project.

10. Insurance

(a) Consultant shall procure and maintain all of the insurance required under this Section 10 during the Term of this Agreement, except with respect to Completed Operations coverage, as described in Section 10(g) below.

(b) Consultant shall not commence performance of the Work until Consultant has obtained, and required each Subconsultant to obtain, all the insurance required under this Section 10 and until it has furnished to Owner the certificate or certificates of insurance required by Section 10(c) hereof.

(c) Consultant shall furnish to Owner, before or upon execution of this Agreement, attention: **[name]**, a certificate or certificates of the insurance required under this Section 10 and, upon Owner's request, certified copies of the original policies of insurance, within the time period required by Owner and before commencing performance of the Work. Such certificate or certificates shall be in form satisfactory to Owner, shall list the various coverages and shall contain, in addition to any other provisions required hereby, a provision that the policy shall not be changed, canceled or reduced and that it shall be automatically renewed upon expiration and continued in force until two years after the Work is completed unless Owner is given 90 days' written notice to the contrary. Such certificates shall also include riders providing that violation of any of the terms of any policy shall not by itself invalidate such policy. Such policies and certificates must name as additional insureds Owner, Battery Park City Parks Conservancy Corporation ("BPCPC") and the State of New York.

(d) All insurance required to be procured and maintained must be procured from insurance companies that have a financial rating by A.M. Best Company as published in the most current key rating guide of A-VII or better and which are authorized to do business in the State of New York.

(e) If at any time any of the required insurance policies should be canceled, terminated or modified so that insurance is not in effect as required, then Consultant shall suspend performance of the Work. If the Work is suspended then Owner may, at Owner's option, obtain insurance affording coverage equal to that required herein and the cost of such insurance shall be payable by Consultant to Owner.

(f) All additional insured protection afforded Owner, BPCPC, and the State of New York must be on a primary and non-contributory basis and all policies must include a waiver of subrogation in favor of Owner, BPCPC, and the State of New York.

(g) Consultant and Subconsultants shall secure in a form satisfactory to Owner the following:

(i) Worker's Compensation, Employer's Liability insurance (including United States Longshoreman & Harbor Workers and Jones Act coverages) and Disability Benefits during the Term for the benefit of such employees as are required to be insured by the applicable provisions of law and voluntary compensation for employees excluded from statutory benefits.

(ii) Commercial General Liability insurance, as follows:

(A) Coverage must be written on ISO Form CG 00 001 or its equivalent and with no modification to the contractual liability coverage provided therein, and shall be provided on an occurrence basis with limits not less than:

- \$1,000,000 per occurrence
- \$2,000,000 General Aggregate, which must apply on a per project basis
- \$2,000,000 Products/Completed Operations aggregate

(B) Owner, BPCPC and the State of New York must be protected as additional insureds with coverage at least as broad as the combination of the most recent editions of ISO Forms CG 20 26 and CG 20 37 on policies held by the Consultant and any of its Subconsultants. Subconsultants may not use blanket additional insured endorsements to provide additional insured protection to Owner, BPCPC, and the State of New York "by written contract" but must use ISO Form CG 20 38 or its equivalent. The policy must provide coverage for defense and indemnification of claims and/or lawsuits, including third party actions, claims and/or lawsuits for bodily injury to the employees of Consultant or Subconsultants arising from the injured worker's employment with the Consultant or any of its Subconsultants

(C) Consultant and any of its Subconsultants must maintain Products/Completed Operations coverage for no less than three years after the Work is completed and continue to include Additional Insured protection for Owner, BPCPC & the State of New York for the prescribed timeframe and coverage shall contain, in addition to any other provisions required hereby, a provision that the policy shall not be changed, canceled or reduced. As a condition precedent to the making of final payment, Consultant shall furnish Owner with a then current certificate of insurance that confirms the Completed Operations coverage is in effect.

(D) When providing evidence of this insurance the Consultant and any of its Subconsultants must include a completed Acord 855 NY form.

(iii) Automobile Liability insurance covering the use in connection with the Work of all owned, non-owned and hired vehicles. The coverage must protect Owner, BPCPC, and the State of New York as additional insureds under such policy and shall not be less than a \$1,000,000 Combined Single Limit

(iv) Professional Liability ("Errors and Omissions") insurance must be maintained at a limit of not less than \$1,000,000 per claim.

(v) Data Breach and Privacy/Cyber Liability Insurance including coverage for

failure to protect confidential information and failure of the security of Consultant's computer systems or Owner's/BPCPC's systems due to the actions of Consultant which results in unauthorized access to Owner's and/or BPCPC's data. The limit applicable to this policy shall be no less than \$1,000,000 per occurrence, and must apply to incidents related to the cyber theft of Owner's and BPCPC's property, including but not limited to, money and securities. Owner, BPCPC, and the State of New York must be protected as additional insureds on policies held by Consultant and any of its Subconsultants.

(vi) Technology Errors and Omissions insurance with a limit of not less \$1,000,000 for damages arising from computer-related services including, but not limited to, the following:

- Consulting;
- Data processing;
- Programming;
- System integration;
- Hardware or software development;
- Installation;
- Distribution or maintenance;
- Systems analysis or design;
- Training; and
- Staffing or other support services.

The policy shall include coverage for third party fidelity including cyber theft and protect Owner, BPCPC, and the State of New York as additional insureds.

(vii) Valuable Papers insurance insuring, for the benefit of Consultant and Owner, all plans, designs, drawings, specifications, and documents used under this Agreement by Consultant in a total amount of not less than **[amount]**. Consultant may furnish full coverage under one policy, or may submit separate policies from any Subconsultant(s) for their proportionate shares of such coverage.

(viii) Comprehensive Crime/Employee Dishonesty insurance in a reasonable amount or an amount which is customary in the applicable industry, trade or profession. Coverage must extend to Third Parties.

(ix) Umbrella Liability insurance in an amount of not less than **[amount]**. Owner, BPCPC, and the State of New York must be protected as additional insureds on policies held by the Consultant and any of its Subconsultants.

(h) The insurance required under subsections 10(g)(ii) and (iii) shall provide that the insurance company or an attorney approved and retained by the insurance company shall defend any suit or proceeding against Owner or any officers, agents or employees of Owner whether or not such suit is groundless, false or fraudulent. Notwithstanding the foregoing, Owner shall have the right to engage its own attorneys for the purpose of defending any suit or proceeding against it or its respective officers, agents or employees, and, in such event, Consultant shall, indemnify Owner for all attorneys' fees and disbursements and other costs incurred by it arising out of, or incurred in connection with, any such defense.

(i) Owner, at Owner's cost and expense, may, at its sole option, procure and maintain such insurance as shall in the opinion of Owner, protect Owner from contingent liability of Owner to others for damages arising from bodily injury, including death and property damages which may arise from operations under this Agreement. The procurement and maintenance of such insurance by Owner shall not in any way be construed or be deemed to relieve Consultant from, or to be a limitation on the nature or extent of, such obligations and risk.

11. Authority of Owner

The Work shall be subject to the general supervision, direction, control and approval of Owner or its authorized representative(s), whose decision shall be final and binding upon Consultant as to all matters arising in connection with or relating to this Agreement. Owner shall determine all matters relative to the fulfillment of this Agreement on the part of Consultant and such determination shall be final and binding on Consultant.

12. Entire Agreement

This Agreement, including all Exhibits hereto, constitutes the entire Agreement between Owner and Consultant, and any prior agreements or understandings between Owner and Consultant with respect to any portion of the Work are hereby merged into and with this Agreement.

13. Consultant as Independent Contractor

Notwithstanding any other provision of this Agreement, Consultant's status shall be that of an independent contractor and not that of a servant, agent or employee of Owner. Accordingly, Consultant shall not hold itself out as, nor claim to be acting in the capacity of, an officer, agent, employee or servant of Owner.

14. Maintenance, Audit and Examination of Accounts

Consultant shall, until the earlier of six (6) years after completion of the performance of the Work or six (6) years after termination of this Agreement, maintain, and require all Subconsultants to maintain, complete and correct books and records relating to all aspects of Consultant's obligations hereunder, including without limitation, accurate cost and accounting records specifically identifying the costs incurred in performing their respective obligations, and shall make such books and records available to Owner or its authorized representatives for review and audit at all such reasonable times as Owner may request. In the event that Consultant and/or any Subconsultants shall fail to comply with the provisions of this Section 14, and as a result thereof shall be unable to provide reasonable evidence of such compliance, Owner shall not be required to pay any portion of the Fee and Reimbursable Expenses then due or next becoming due, as the case may be, with respect to such items, and if such compensation has already been paid, Owner may require Consultant to refund any such payment made. Any excessive audit costs incurred by Owner due to Consultant's or any Subconsultant's failure to maintain adequate records shall be borne by Consultant.

15. Acceptance of Final Payment; Release and Discharge

Final payment shall be made to Consultant upon satisfactory completion and acceptance by Owner of the Work required under this Agreement, or all Work performed prior to the termination of this Agreement if terminated pursuant to Section 6 hereof, and upon submission of a certification that all Subconsultants have been paid their full and agreed compensation. The acceptance by Consultant of the final payment under this Agreement, or any final payment due upon termination of this Agreement under Section 6 hereof, shall constitute a full and complete waiver and release of Owner from any and all claims, demands and causes of action whatsoever that Consultant, and/or its successors and assigns have, or may have, against Owner under the provisions of this Agreement, unless a detailed and verified statement of claim is served upon Owner prior to the date final payment is tendered by Owner. It is expressly understood and agreed that Owner's or Consultant's termination of this Agreement pursuant to Section 6 hereof shall not give rise to any claim against Owner for damages, compensation or otherwise as a result of such termination, and that under such circumstances Owner's liability to make payments to Consultant on account of any and all Work shall be limited to the payments set forth in Section 6 hereof.

16. Covenants, Representations and Warranties

(a) Consultant represents and warrants to Owner that:

(i) no public official is directly or indirectly interested in this Agreement, or in the supplies, materials, equipment, work, labor or services to which it relates or in any of the profits thereof;

(ii) except as set forth in this Agreement, Consultant has, and shall have, no interest, direct or indirect, in the Project to which the Work relates; and

(iii) to the best of its knowledge, upon due inquiry, no officer, member, partner or employee of Consultant has, prior to the date of this Agreement, been called before a grand jury, head of a state agency, head of a city department or other city agency to testify in an investigation concerning any transaction or contract had with the State of New York, any political subdivision thereof, a public authority, or with any public department, agency or official of the State of New York or of any political subdivision thereof, and refused to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract.

(b) Consultant covenants and agrees that:

(i) recognizing that time for completion of the Work is of the essence, Consultant shall perform all of its obligations hereunder in a prompt and workmanlike manner and in accordance with the time periods for the Work set forth herein;

(ii) the personnel assigned and any Subconsultant(s) used by Consultant in the performance of the Work hereunder shall be qualified in all respects for such assignment, employment and use;

(iii) Consultant, in the performance of the Work, shall utilize the most efficient available methodology and technology for the purpose of reducing the cost and time of such performance;

(iv) Consultant shall comply with the provisions of all Federal, State and local statutes, laws, rules, ordinances and regulations that are applicable to the performance of this Agreement;

(v) should any claim be made or any action be brought against the Owner that is in any way related to the Work, Consultant shall diligently render to Owner any and all assistance specified in Section 5 of this Agreement that may be required by Owner as a result thereof; and

(vi) Consultant shall not commit its personnel to, nor engage in, any other projects during the term of this Agreement to the extent that such projects may adversely affect the quality or efficiency of the Work or would otherwise be detrimental to the conduct and completion of the Work, and Consultant shall provide sufficient numbers of qualified personnel as shall be required to perform the Work in the time requested by Owner. Consultant shall comply with any reasonable request by Owner to remove and/or replace any of Consultant's personnel from the Project.

(c) The parties make mutual representations that to the best of their knowledge that any materials provided by either party for inclusion in the Work shall not infringe upon the copyright or trademark of any third party.

17. Indemnity

To the fullest extent allowed by law:

(a) Consultant shall be liable to, and shall indemnify Owner, each Member, officer, agent and employee of Owner for, and shall hold each of the foregoing harmless from and against, any and all claims, losses, damages, expense, penalties, costs or other liabilities, including, without limitation, attorneys' fees, costs, disbursements and interest, arising out of the performance of the Work or Consultant's breach of this Agreement, including but not limited to any of the provisions set forth in Section 16 hereof, and Consultant agrees that it shall defend any suit or action brought against Owner or any Member, officer, agent or employees of Owner that is based on any loss or liability or alleged loss or liability indemnified herein.

(b) Consultant shall be liable to, and shall indemnify Owner and each of the Members, officers, agents and employees of Owner for, and shall hold each of the foregoing harmless from and against, any and all claims made against any of the foregoing for infringement of any copyright, trademark or patent arising out of the use of any plans, designs and specifications furnished by Consultant in the performance of this Agreement.

18. Confidentiality

Consultant hereby agrees that data, recommendations, reports and other materials developed in the course of the Work are strictly confidential between Consultant and Owner and except as specifically provided herein, Consultant may not at any time reveal or disclose such data, recommendations or reports in whole or in part to any third party without first obtaining written approval from Owner.

19. Modification

No modification, amendment, change, termination or attempted waiver of any of the provisions of this Agreement shall be binding unless in writing and signed by the party to be bound.

20. Waiver

Except as otherwise provided in Section 15 of this Agreement, the parties may waive any of their rights hereunder without invalidating this Agreement or waiving any other rights hereunder, provided, however, that no waiver of, or failure to enforce or exercise any provision of this Agreement shall affect the right of any party thereafter to enforce such provisions or to exercise any right or remedy in the event of any other breach or default, whether or not similar.

21. Severability

If any term or provision of this Agreement or the application thereof to any person or entity, or circumstance shall, to any extent, be determined to be invalid or unenforceable, the remaining provisions of this Agreement, or the application of such terms or provisions to persons, entities or circumstances other than those as to which it is held to be invalid or unenforceable, shall in no way be affected thereby and each term or provision of this Agreement shall be valid and binding upon the parties, and enforced to the fullest extent permitted by law.

22. New York Law/Forum Selection/Jurisdiction

This Agreement shall be construed under, and be governed by, the laws of the State of New York. All actions or proceedings relating, directly or indirectly, to this Agreement shall be litigated only in courts located within the County of New York. Consultant, any guarantor of the performance of its obligations hereunder (“Guarantor”) and their successors and assigns hereby subject themselves to the jurisdiction of any state or federal court located within such county, waive the personal service of any process upon them in any action or proceeding therein and consent that such process be served by certified or registered mail, return receipt requested, directed to the Consultant and any successor at Consultant’s address hereinabove set forth, to Guarantor and any successor at the address set forth in the instrument of guaranty, and to any assignee at the address set forth in the instrument of assignment. Such service shall be deemed made two days after such process is so mailed.

23. Provisions Required by Law

Each and every provision of law and clause required by law to be included in this Agreement shall be deemed to be included herein, and this Agreement shall read and shall be enforced as though such provision(s) and/or clause(s) were so included.

24. Notices

Any notice, approval, consent, acceptance, request, bill, demand or statement required or permitted to be given hereunder (a “Notice”) from either party to the other shall be in writing and shall be deemed given when received by overnight mail or when deposited with the United States Postal Service in a postage prepaid envelope, certified or registered mail, addressed to the other

party at the addresses set forth above. If to Owner, Notices shall be sent to the attention of **[HEAD OF DEPARTMENT]**, with copies to the **[the General Counsel]** and if to Consultant, Notices shall be sent to the attention of **[NAME]**, **[TITLE]**. Either party may at any time change such address or add additional parties to receive a Notice by mailing, as aforesaid, to the other party a Notice thereof.

25. Approval and Use of Subconsultants

(a) Except as specifically provided herein, Consultant shall not employ, contract with or use the services of any consultants, contractors or other third parties (collectively, “Subconsultants”) in connection with the performance of its obligations hereunder without the prior written consent of Owner to the use of each such Subconsultant, and to the agreement to be entered into between Consultant and any such Subconsultant. Consultant shall inform Owner in writing of any interest it may have in a proposed Subconsultant. No such consent by Owner, or employment, contract, or use by Consultant, shall relieve Consultant of any of its obligations hereunder.

(b) Consultant shall be responsible for the performance of the Work of any Subconsultants engaged, including the maintenance of schedules, coordination of their Work and resolutions of all differences between or among Consultant and any Subconsultants. It is expressly understood and agreed that any and all Subconsultants engaged by Consultant hereunder shall at all times be deemed engaged by Consultant and not by Owner.

(c) The fees of any Subconsultant retained by Consultant to perform any part of the Work required under this Agreement shall be deemed covered by the compensation stipulated in Section 3 above. Consultant shall pay its Subconsultants in full the amount due them from the proportionate share of each requisition for payment submitted by Consultant and paid by Owner. Consultant shall make payment to its Subconsultants no later than seven (7) calendar days after receipt of payment from Owner. Consultant shall indemnify, defend and hold Owner harmless with respect to any claims against Owner based upon Consultant’s alleged failure to make payments to Subconsultants for Work under this Agreement.

(d) Upon the request of Owner, Consultant shall cause any Subconsultant employed by the Consultant in connection with this Agreement to execute a copy of this Agreement, wherein such Subconsultant shall acknowledge that it has read and is fully familiar with the terms and provisions hereof and agrees to be bound thereby as such terms and provisions are or may be applicable to such Subconsultants.

26. Employment and Diversity

26.1 *Participation by Minority and Women-Owned Business Enterprises*

(a) General Provisions

(i) Owner is required to implement the provisions of New York State Executive Law Article 15-A and Parts 140-145 of Title 5 of the New York Codes, Rules and Regulations (“NYCRR”) for all contracts, as defined therein, with a value (1) in excess of \$25,000 for labor,

services, equipment, materials, or any combination of the foregoing or (2) in excess of \$100,000 for real property renovations and construction.

(ii) Consultant agrees, in addition to any other nondiscrimination provision herein and at no additional cost to Owner, to fully comply and cooperate with Owner in the implementation of New York State Executive Law Article 15-A and the regulations promulgated thereunder. These requirements include equal employment opportunities for minority group members and women (“EEO”) and contracting opportunities for New York State-certified minority and women-owned business enterprises (“MWBEs”). Consultant’s demonstration of “good faith efforts” pursuant to 5 NYCRR § 142.8 shall be a part of these requirements. These provisions shall be deemed supplementary to, and not in lieu of, the nondiscrimination provisions required by New York State Executive Law Article 15 (the “Human Rights Law”) and other applicable federal, state, and local laws.

(iii) Failure to comply with all of the requirements herein may result in a finding of non-responsiveness, non-responsibility and/or a breach of contract, leading to the assessment of liquidated damages pursuant to Section 26.1(g) and such other remedies as are available to Owner.

(b) Contract Goals

(i) For purposes of this Contract, Owner hereby establishes an overall goal of XX% for MWBE participation, XX% for New York State-certified minority-owned business enterprise (“MBE”) participation and XX% for New York State-certified women-owned business enterprise (“WBE”) participation (collectively, “MWBE Contract Goals”) based on the current availability of MBEs and WBEs.

(ii) For purposes of providing meaningful participation by MWBEs on the Agreement and achieving the MWBE Contract Goals established in Section 26.1(b)(i) hereof, Consultant should reference the directory of MWBEs at the following internet address: <https://ny.newnycontracts.com>.

(iii) Additionally, Consultant is encouraged to contact the Division of Minority and Women’s Business Development at (212) 803-2414 to discuss additional methods of maximizing participation by MWBEs on this Agreement.

(iv) Consultant understands that only sums paid to MWBEs for the performance of a commercially useful function, as that term is defined in 5 NYCRR § 140.1, may be applied towards the achievement of the applicable MWBE participation goal. [FOR CONSTRUCTION CONTRACTS – The portion of a contract with an MWBE serving as a supplier that shall be deemed to represent the commercially useful function performed by the MWBE shall be 60% of the total value of the contract. The portion of a contract with an MWBE serving as a broker that shall be deemed to represent the commercially useful function performed by the MWBE shall be the monetary value for fees, or the markup percentage, charged by the MWBE]. [FOR ALL OTHER CONTRACTS - The portion of a contract with an MWBE serving as a broker that shall be deemed to represent the commercially useful function performed by the MWBE shall be 25% of the total value of the contract.]

(v) Consultant must document “good faith efforts,” pursuant to 5 NYCRR § 142.8, to provide meaningful participation by MWBEs as Subconsultants and suppliers in the performance of this Agreement. Such documentation shall include, but not necessarily be limited to:

- (A) Evidence of outreach to MWBEs;
- (B) Any responses by MWBEs to Consultant’s outreach;
- (C) Copies of advertisements for participation by MWBEs in appropriate general circulation, trade, and minority or women-oriented publications;
- (D) The dates of attendance at any pre-bid, pre-award, or other meetings, if any, scheduled by Owner with MWBEs; and,
- (E) Information describing specific steps undertaken by Consultant to reasonably structure the Work to maximize opportunities for MWBE participation.

(c) Equal Employment Opportunity (“EEO”)

(i) The provisions of Article 15-A of the Executive Law and the rules and regulations promulgated thereunder pertaining to equal employment opportunities for minority group members and women shall apply to this Agreement.

(ii) In performing the Agreement, Consultant shall:

(A) Ensure that each Consultant and Subconsultant performing work on the Agreement shall undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, EEO shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation.

(B) Consultant shall submit an EEO policy statement to Owner within seventy-two (72) hours after the date of the notice by Owner to award the Agreement to Consultant.

(C) If Consultant, or any of its Subconsultants, does not have an existing EEO policy statement, Owner may require Consultant or Subconsultant to adopt a model statement (see Exhibit D – Equal Employment Opportunity Policy Statement).

(D) Consultant’s EEO policy statement shall include the following language:

(1) Consultant will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability, or marital status, will undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force.

(2) Consultant shall state in all solicitations or advertisements for employees that, in the performance of the contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

(3) Consultant shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of Consultant's obligations herein.

(4) Consultant will include the provisions of Sections 26.1(c)(ii)(D)(1) through (3), which provides for relevant provisions of the Human Rights Law, in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each Subconsultant as to the Work.

[PLEASE NOTE THAT THIS REQUIREMENT “C” IS ONLY APPLICABLE WHERE A STATE AGENCY EXPECTS TO ENTER INTO A STATE CONTRACT WITH A TOTAL EXPENDITURE IN EXCESS OF \$250,000. NOTE: THIS LANGUAGE SHOULD BE DELETED FROM THE FINAL CONTRACT]

(iii) Staffing Plan. To ensure compliance with this Section, Consultant shall submit a staffing plan to document the composition of the proposed workforce to be utilized in the performance of the Agreement by the specified categories listed, including ethnic background, gender, and Federal occupational categories. Consultant shall complete the staffing plan form (<https://www.ogs.ny.gov/MWBE/Docs/EEO100.docx>) and submit it as part of their bid or proposal or within a reasonable time, as directed by Owner.

WORKFORCE UTILIZATION REPORTS SHALL BE COLLECTED ON A MONTHLY BASIS FOR CONSTRUCTION CONTRACTS AND A QUARTERLY BASIS FOR ALL OTHER CONTRACTS. NOTE: THIS LANGUAGE SHOULD BE DELETED FROM THE FINAL CONTRACT]

(iv) Workforce Utilization Report

(A) Consultant shall submit a Workforce Utilization Report (https://its.ny.gov/sites/default/files/documents/eeo_workforce_utilization_report.xlsx) and shall require each of its Subconsultants to submit a Workforce Utilization Report, in such form as shall be required by Owner on a quarterly basis during the term of this Agreement.

(B) Separate forms shall be completed by Consultant and any Subconsultants.

(C) Pursuant to Executive Order #162, Consultants and Subconsultants are also required to report the gross wages paid to each of their employees for the work performed by such employees on the contract on a quarterly basis.

(v) Consultant shall comply with the provisions of the Human Rights Law, and all other State and Federal statutory and constitutional non-discrimination provisions. Consultant and its Subconsultants shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

(d) MWBE Utilization Plan

(i) Consultant represents and warrants that Consultant has submitted an MWBE Utilization Plan, or shall submit an MWBE Utilization Plan at such time as shall be required by Owner, through the New York State Contract System ("NYSCS"), which can be viewed at <https://ny.newnycontracts.com>, provided, however, that Consultant may arrange to provide such evidence via a non-electronic method to Owner, either prior to, or at the time of, the execution of the contract.

(ii) Consultant agrees to adhere to such MWBE Utilization Plan in the performance of the Work.

(iii) Consultant further agrees that failure to submit and/or adhere to such MWBE Utilization Plan shall constitute a material breach of the terms of the Agreement. Upon the occurrence of such a material breach, Owner shall be entitled to any remedy provided herein, including but not limited to, a finding that Consultant is non-responsive.

(e) Waivers

(i) If Consultant, after making good faith efforts, is unable to achieve the MWBE Contract Goals stated herein, Consultant may submit a request for a waiver through the NYSCS, or a non-electronic method provided by Owner. Such waiver request must be supported by evidence of Consultant's good faith efforts to achieve the maximum feasible MWBE participation towards the applicable MWBE Contract Goals. If the documentation included with the waiver request is complete, Owner shall evaluate the request and issue a written notice of approval or denial within twenty (20) business days of receipt.

(ii) If Owner, upon review of the MWBE Utilization Plan, quarterly MWBE Consultant Compliance Reports described in Section 26.1(c)(iv)(C), or any other relevant information, determines that Consultant is failing or refusing to comply with the MWBE Contract Goals, and no waiver has been issued in regards to such non-compliance, Owner may issue a notice of deficiency to Consultant. Consultant must respond to the notice of deficiency within seven (7) business days of receipt. Such response may include a request for partial or total waiver of MWBE Contract Goals.

(f) Consultant is required to submit a quarterly MWBE Consultant Compliance Report through the NYSCS, provided, however, that Consultant may arrange to provide such report via a non-electronic method to Owner by the 10th day following the end of each quarter during the term of the Agreement.

(g) Liquidated Damages - MWBE Participation

(i) Where Owner determines that Consultant is not in compliance with the requirements of this Section 26.1 and Consultant refuses to comply with such requirements, or if Consultant is found to have willfully and intentionally failed to comply with the MWBE participation goals, Consultant shall be obligated to pay to Owner liquidated damages.

(ii) Such liquidated damages shall be calculated as an amount equaling the difference between:

(A) All sums identified for payment to MWBEs had Consultant achieved the contractual MWBE goals; and

(B) All sums actually paid to MWBEs for work performed or materials supplied under the Agreement.

(iii) In the event a determination has been made which requires the payment of liquidated damages and such identified sums have not been withheld by Owner, Consultant shall pay such liquidated damages to Owner within sixty (60) days after they are assessed. Provided, however, that if Consultant has filed a complaint with the Director of the Division of Minority and Women's Business Development pursuant to 5 NYCRR § 142.12, liquidated damages shall be payable only in the event of a determination adverse to Consultant following the complaint process.

26.2 *Participation by Service-Disabled Veteran-Owned Businesses*

(a) General Provisions

Article 17-B of the New York State Executive Law provides for more meaningful participation in public procurement by New York State-certified Service-Disabled Veteran-Owned Businesses ("SDVOB"), thereby further integrating such businesses into New York State's economy. Owner recognizes the need to promote the employment of service-disabled veterans and to ensure that certified service-disabled veteran-owned businesses have opportunities for maximum feasible participation in the performance of Owner contracts.

In recognition of the service and sacrifices made by service-disabled veterans and in recognition of their economic activity in doing business in New York State, Consultants are expected to consider SDVOBs in the fulfillment of the requirements of the Agreement. Such participation may be as Subconsultants or suppliers, as protégés, or in other partnering or supporting roles.

(b) Contract Goals

(i) Owner hereby establishes an overall goal of ___% for SDVOB participation, based on the current availability of qualified SDVOBs. For purposes of providing meaningful participation by SDVOBs, the Consultant should reference the directory of New York State Certified SDVOBs found at: http://ogs.ny.gov/Core/docs/CertifiedNYS_SDVOB.pdf. Questions regarding compliance with SDVOB participation goals should be directed to Anthony Peterson at

anthony.peterson@bpca.ny.gov or (212) 417-2337. Additionally, following execution of this Agreement, Consultant is encouraged to contact the Office of General Services' Division of Service-Disabled Veterans' Business Development at 518-474-2015 or VeteransDevelopment@ogs.ny.gov to discuss additional methods of maximizing participation by SDVOBs on the Agreement.

(ii) Consultant must document "good faith efforts" to provide meaningful participation by SDVOBs as subcontractors or suppliers in the performance of the Contract (see Section 26.2(d) below).

(c) SDVOB Utilization Plan

(i) In accordance with 9 NYCRR § 252.2(i), Consultants are required to submit a completed SDVOB Utilization Plan on Form SDVOB 100 (https://ogs.ny.gov/Veterans/Docs/2016/SDVOB_100_Utilization_Plan.docx) with their bid.

(ii) The Utilization Plan shall list the SDVOBs that Consultant intends to use to perform the Work, a description of the Work that Consultant intends the SDVOB to perform to meet the goals on the Agreement, the estimated dollar amounts to be paid to an SDVOB, or, if not known, an estimate of the percentage of Work the SDVOB will perform. By signing the Utilization Plan, Consultant acknowledges that making false representations or providing information that shows a lack of good faith as part of, or in conjunction with, the submission of a Utilization Plan is prohibited by law and may result in penalties including, but not limited to, termination of a contract for cause, loss of eligibility to submit future bids, and/or withholding of payments. Any modifications or changes to the agreed participation by SDVOBs after the contract award and during the term of the Agreement must be reported on a revised SDVOB Utilization Plan and submitted to Owner.

(iii) Owner will review the submitted SDVOB Utilization Plan and advise the Consultant of Owner acceptance or issue a notice of deficiency within 20 days of receipt.

(iv) If a notice of deficiency is issued, Consultant agrees that it shall respond to the notice of deficiency, within seven business days of receipt, by submitting to Owner a written remedy in response to the notice of deficiency. If the written remedy that is submitted is not timely or is found by Owner to be inadequate, Owner shall notify Consultant and direct the Consultant to submit, within five business days of notification by Owner, a request for a partial or total waiver of SDVOB participation goals on Form SDVOB 200 (https://ogs.ny.gov/Veterans/Docs/2016/SDVOB_200_Waiver_Form.docx). Failure to file the waiver form in a timely manner may be grounds for disqualification of the bid or proposal.

(v) Owner may disqualify a Consultant's bid or proposal as being non-responsive under the following circumstances:

- (A) If Consultant fails to submit an SDVOB Utilization Plan;
- (B) If Consultant fails to submit a written remedy to a notice of deficiency;
- (C) If Consultant fails to submit a request for waiver; or

(D) If Owner determines that Consultant has failed to document good faith efforts.

(vi) Consultant certifies that it will follow the submitted SDVOB Utilization Plan for the performance of SDVOBs on the Agreement pursuant to the prescribed SDVOB contract goals set forth above.

(vii) Consultant further agrees that a failure to use SDVOBs as agreed in the Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, Owner shall be entitled to any remedy provided herein, including but not limited to, a finding of Consultant non-responsibility.

(d) Waivers

(i) Prior to submission of a request for a partial or total waiver, Consultant shall speak to Anthony Peterson at anthony.peterson@bpca.ny.gov or (212) 417-2337 for guidance.

(ii) In accordance with 9 NYCRR § 252.2(m), a Consultant that is able to document good faith efforts to meet the goal requirements, as set forth in Section 26.2(e) below, may submit a request for a partial or total waiver on Form SDVOB 200 (https://ogs.ny.gov/Veterans/Docs/2016/SDVOB_200_Waiver_Form.docx), accompanied by supporting documentation. Consultant may submit the request for waiver at the same time it submits its SDVOB Utilization Plan. If a request for waiver is submitted with the SDVOB Utilization Plan and is not accepted by Owner at that time, the provisions of Section 26.2(c)(iii), (iv) and (v) will apply. If the documentation included with the Consultant's waiver request is complete, Owner shall evaluate the request and issue a written notice of acceptance or denial within 20 days of receipt.

(iii) Consultant shall attempt to utilize, in good faith, the SDVOBs identified within its SDVOB Utilization Plan, during the performance of the Work. Requests for a partial or total waiver of established goal requirements made subsequent to award of the Agreement may be made at any time during the term of the Agreement to Owner, but must be made no later than prior to the submission of a request for final payment.

(iv) If Owner, upon review of the SDVOB Utilization Plan and Monthly SDVOB Compliance Report determines that Consultant is failing or refusing to comply with the contract goals and no waiver has been issued in regards to such non-compliance, Owner may issue a notice of deficiency to the Consultant. The Consultant must respond to the notice of deficiency within seven business days of receipt. Such response may include a request for partial or total waiver of SDVOB contract goals. Waiver requests should be sent to Owner.

(e) Required Good Faith Efforts. In accordance with 9 NYCRR § 252.2(n), Consultants must document their good faith efforts toward utilizing SDVOBs on the Agreement. Evidence of required good faith efforts shall include, but not be limited to, the following:

(i) Copies of solicitations to SDVOBs and any responses thereto.

(ii) Explanation of the specific reasons each SDVOB that responded to Consultants' solicitation was not selected.

(iii) Dates of any pre-bid, pre-award or other meetings attended by Consultant, if any, scheduled by Owner with certified SDVOBs whom Owner determined were capable of fulfilling the SDVOB goals set in the Agreement.

(iv) Information describing the specific steps undertaken to reasonably structure the Work for the purpose of subcontracting with, or obtaining supplies from, certified SDVOBs.

(v) Other information deemed relevant to the waiver request.

(f) Monthly SDVOB Consultant Compliance Report

In accordance with 9 NYCRR § 252.2(q), Consultant is required to report Monthly SDVOB Consultant Compliance to Owner during the term of the Agreement for the preceding month's activity, documenting progress made towards achieving the SDVOB goals. This information must be submitted using form SDVOB 101 available at https://ogs.ny.gov/Veterans/Docs/2016/SDVOB_101_Monthly_Compliance%20Report.docx and should be completed by the Consultant and submitted to Owner, by the 10th day of each month during the term of the Contract, for the preceding month's activity to: Anthony Peterson at anthony.peterson@bpca.ny.gov.

(g) Breach of Contract and Damages

In accordance with 9 NYCRR § 252.2(s), any Consultant found to have willfully and intentionally failed to comply with the SDVOB participation goals set forth in this Agreement, shall be found to have breached the Agreement and Consultant shall pay damages as set forth therein.

27. Responsibility

(a) Consultant shall at all times during the Term of this Agreement remain responsible. Consultant agrees, if requested by Owner or Owner's designee, to present evidence of its continuing legal authority to do business in New York State, integrity, experience, ability, prior performance, and organizational and financial capacity.

(b) Owner or Owner's designee, in its sole discretion, reserves the right to suspend any or all activities under this Agreement, at any time, when it discovers information that calls into question Consultant's responsibility. In the event of such suspension, Consultant will be given written notice outlining the particulars of such suspension. Upon issuance of such notice, Consultant must comply with the terms of the suspension order. Activity under the Agreement may resume at such time as Owner or its designee issues a written notice authorizing a resumption of performance under the Agreement.

(c) Upon written notice to Consultant, and a reasonable opportunity to be heard with appropriate officials or staff of Owner, this Agreement may be terminated by Owner or Owner's designee at Consultant's expense where Consultant is determined by Owner or its designee to be

non-responsible. In such event, Owner or its designee may complete the contractual requirements in any manner it deems advisable, and pursue available legal or equitable remedies for breach.

28. Interest of Others

Nothing in this Agreement shall be construed to give any person other than Owner and Consultant any legal or equitable right, remedy or claim. This Agreement shall be held to be for the sole and exclusive benefit of Owner and Consultant.

29. Executory Contract

It is understood by and between the parties hereto that this Agreement shall be deemed executory to the extent of the monies available to Owner and no liability on account thereof shall be incurred by Owner beyond monies available for the purpose thereof. In no event shall any claim be asserted under this Agreement by Consultant or any Subconsultant against any member, officer, employee, lessee, consultant or agent of Owner or the State of New York. By execution of this Agreement, Consultant agrees to look solely to Owner with respect to any claim that may arise.

30. Participation in International Boycott Prohibited

Consultant agrees, as a material condition of this Agreement, that neither Consultant nor any substantially owned or affiliated person, firm, partnership or corporation has participated or is participating or shall participate in an international boycott in violation of the provisions of the United States Export Administration Act of 1969, as amended, or the United States Export Administration Act of 1979, as amended, or the Regulations of the United States Department of Commerce promulgated thereunder. This Agreement shall be rendered forfeited and void by the Comptroller of the State of New York if, subsequent to execution, such person, firm, partnership or corporation has been convicted of a violation of the provisions of either of such federal acts or such Regulations or has been found upon the final determination of the United States Commerce Department or any other appropriate agency of the United States to have violated the provisions of either of such federal acts or such Regulations.

31. MacBride Fair Employment Principles

If the amount payable to Consultant under this Agreement is greater than \$15,000, Consultant hereby certifies that it and/or any individual or legal entity in which it holds a 10% or greater ownership interest, and any individual or legal entity that holds a 10% or greater ownership interest in it, either have no business operations in Northern Ireland, or shall take lawful steps in good faith to conduct any business operations they have in Northern Ireland in accordance with the MacBride Fair Employment Principles relating to nondiscrimination in employment and freedom of workplace opportunity regarding such operations in Northern Ireland, as set forth in Section 165(5) of the New York State Finance Law, and shall permit independent monitoring of their compliance with such Principles.

32. Limitation Periods

Any legal action or proceeding against Owner must be commenced no later than one (1) year after the earlier of: (a) the termination of this Agreement, or (b) the last day Consultant

performed work physically at the site of the Work.

33. Iran Divestment Act

By signing this Agreement, each person and each person signing on behalf of any other party certifies, and in the case of a joint bid or partnership each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each person is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law.

34. Termination for Failure to Disclose Under NYS Finance Law §139k

Owner reserves the right to terminate this Agreement in the event it is found that the certification filed by Consultant pursuant to New York State Finance Law §139-k was intentionally false or intentionally incomplete. Upon such finding, Owner may exercise its termination right by providing written notification to the Consultant in accordance with the written notification terms of this contract.

35. Comptroller's Approval

If this contract is considered an eligible contract as defined by Title 2 of NYCRR Part 206, it is subject to the New York State Comptroller's approval, and therefore shall not be valid and enforceable until that approval has been obtained. A contract is considered "eligible" as defined by Title 2 of NYCRR Part 206, if it is not a specifically exempt contract, is executed by a state authority on or after March 1, 2010 where the aggregate consideration under the contract may reasonably be valued in excess of one million dollars, AND the contract is either (1) awarded on a single-source basis, sole-source basis or pursuant to any other method of procurement that is not a competitive procurement OR (2) supported in whole or part with funds appropriated from the Community Projects Fund (007).

36. Binding Contract

A binding contract between the parties shall exist only if and at such time as both parties have executed this document.

37. Counterparts

This Agreement may be executed in any number of counterparts, all of which taken together shall constitute one instrument, but the Agreement shall not be deemed effective unless signed by all parties.

38. Section Headings

Section headings contained in this Agreement are for convenience only and shall not be considered for any purpose in governing, limiting, modifying, construing or affecting the provisions of this Agreement and shall not otherwise be given legal effect.

39. Subordination of Terms in the Exhibits

In the event of a conflict of terms, the terms stated in Sections 1-39 herein, shall take precedence over and shall prevail over any printed, typed, or handwritten terms located in the Exhibits.

(SIGNATURE PAGE FOLLOWS)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

By: _____

Name: _____

Title: _____

[COMPANY]

By: _____

Name: _____

Title: _____

FEIN# [???

EXHIBIT A
SCOPE OF WORK

EXHIBIT B

RATES

EXHIBIT C

FORM OF TIME SHEET

Employee Name/Title	Date of Work	Time Work Began	Time Work Ended	# of Hours	Rate of Pay Per Contract	Summary of Work Performed*	Employee Signature

Total:

*For services and/or additional hours that are
extraordinary to scope

Supervisors Signature _____

Title _____

EXHIBIT D

M/WBE AND EEO POLICY STATEMENT

Consultant agrees to adopt the following policies with respect to the Work:

MBWE

Consultant will and will cause its Subconsultants to take good faith actions to achieve the M/WBE contract participations goals set by the Owner for that area in which the Owner-funded project is located, by taking the following steps:

(a) Actively and affirmatively solicit bids for contracts and subcontracts from qualified State-certified MBEs or WBEs, including solicitations to M/WBE consultant associations.

(b) Request a list of State-certified M/WBEs from Owner and solicit bids from them directly.

(c) Ensure that plans, specifications, request for proposals and other documents used to secure bids will be made available in sufficient time for review by prospective M/WBEs.

(d) Where feasible, divide the work into smaller portions to enhance participation by M/WBEs and encourage the formation of joint ventures and other partnerships among M/WBE consultants to enhance their participation.

(e) Document and maintain records of bid solicitation, including those to M/WBEs and the results thereof. Consultant will also maintain records of actions that its Subconsultants have taken toward meeting M/WBE contract participation goals.

(f) Ensure that progress payments to M/WBEs are made on a timely basis so that undue financial hardship is avoided, and that bonding and other credit requirements are waived or appropriate alternatives developed to encourage M/WBE participation.

EEO

(a) This organization will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing programs of affirmative action to ensure that minority group members are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on Owner contracts.

(b) Consultant shall state in all solicitation or advertisements for employees that in the performance of the Owner contract all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex disability or marital status.

(c) At the request of Owner, Consultant shall request each employment agency, labor union, or authorized representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of Consultant's obligations herein.

(d) Consultant shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. Consultant and Subconsultants shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

(e) Consultant will include the provisions of sections (a) through (d) above in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each Subconsultant as to work in connection with Owner's contract.

Agreed to this _____ day of _____, _____

By: _____

Print: _____ Title: _____

EXHIBIT D

Acknowledgement of Addenda

RFP TITLE: _____

Complete Part I <u>or</u> Part II, whichever is applicable, and sign your name in Part III.
--

Part I

Listed below are the dates of issue for each Addendum received in connection with this RFP:

Addendum # 1, Dated _____, ____

Addendum # 2, Dated _____, ____

Addendum # 3, Dated _____, ____

Addendum # 4, Dated _____, ____

Addendum # 5, Dated _____, ____

Addendum # 6, Dated _____, ____

Part II Acknowledgement of No Receipt

_____ No Addendum was received in connection with this RFP

Part III

Proposer's Name: _____

Proposer's Authorized Representative:

Name: _____

Title: _____

Signature: _____ Date: _____

EXHIBIT E

List of BPCA & BPCPC Board Members and Employees

(Attached)

LIST OF BOARD MEMBERS

George J. Tsunis

Donald Capoccia

Lester Petracca

Hector Batista

Louis J. Bevilacqua

Catherine McVay Hughes

Martha J. Gallo

Anthony Kendall

Employees:

Betzayda Abreu
Debbie Addison
Curtis Afzal
Elsa Alvarez
Dana Anders
Anthony Andriano
Stephen Arciold
Sharmila Baichu
Marie Baptiste
Brett Beecham
Freddy Belliard
Emily Birdseye
Nidia Blake-Reeder
LaToya Brooks-Jones
Nancy Buivid
Anthony Buquicchio
Peter Campbell
Frances Caperchi
Monica Centeno
Carlton Chotalal
Julissa Cooke
Gwen Dawson
Nicole Dawson
Gilbert DePadua
Paul Diaz-Larui
Tonesia Dopson
Patricia Ehlers
Abigail Ehrlich
Maria Ellison
Richard Faraino
Anitra Fauntleroy
Pamela Frederick
Joseph Ganci
James Gallagher
Abigail Goldenberg
Anastasia Gonzalez
Lenron Goode
Neresa Gordon
Sakina Graves
Ned Greenberg
Evelyn Gregg
Jonathan Gross
Robert Hansen
Nimisha Haribaran

Nicole Heater
Sankar Heerah
Sonia Henry
Stephanie Huayta
Craig Hudon
Amy Jogie
William John
Jasmine Johnson
Benjamin Jones
Roland Kemp
Ann Ketring
Susie Kim
Karl Koenig
Leandro Lafuente
Michael Lamancusa
Della Lee
Rene Lopcy
Robert Maggi
Evelin Maisonet
Jonathan McCain
Princess McNeill
Vanessa Mesine
Ronnie Mohammed
Dana Morgera
Lauren Murtha
Eric Munson
Bertha Narcisse
Robert Nesmith
Siu May NG
Yoshihiro Nishida
Anne O'Neill
Maril Ortiz
Bienvenido Osorio
Kevin O'Toole
Hector Oyola
Willem Paillant
Jonathan Parker
Gladys Pearlman
Dahlia Pena
Anthony Peterson
Bruno Pomponio
Katherine Powell
Sandra Power
Robert Quon
Jason Rachnowitz

Madelin Ramirez
Manual Rivera
Anthony Robinson
Nelson Rogers
Jose Rosado
Holly Ross
Carlos Santiago
Nicholas Sbordone
Jean Schwartz
Jesse Schwartz
Lindsey Senn
Rekha Sewraj
Sean Simon
Kemnarine Singh
Timothy Skipper
Sarah Smedley
Bruce Spierer
Nicole Stallworth-Roper
Shinay Stewart
Jerome Sturiano
Lance Super
John Tam
Alexis Torres
Ryan Torres
Douglas Van Horn
Noe Velasquez
Evangelio Villalobos
Jeffrey Vixamar
Sharon Wade
David Wallace
Eric White
Angela Whitehead
Dwight Williams
Kenneth Windman
Al Wright
Jouli Yohannes

EXHIBIT F

COST PROPOSAL

(Proposer to submit executed Cost Proposal on its letterhead)

Date:

Battery Park City Authority
One World Financial Center - 24th Floor
New York, New York 10281

Attention: Mr. Michael LaMancusa
Contract Administrator

Dear Mr. LaMancusa:

The undersigned (the "Proposer") hereby proposes to provide all specified work necessary to perform the work for the **Battery Park City Community Center Leak Remediation Construction Management Services Project**. The Proposer agrees to commence the Work immediately upon receipt of the Initial Letter of Intent or executed contract, in accordance with the terms stipulated in the following pages, for the sum written below.

A. Base Proposal

A total not-to-exceed amount of \$_____ (_____ Dollars and _____ Cents) to perform all work as described in, and associated with, Exhibit A ("Scope of Work").

B. Reimbursable

A total not-to-exceed amount of \$_____ (_____ Dollars and _____ Cents) for any reimbursable costs to be incurred in performing the work as described in Exhibit A of the RFP.

B. Itemized Proposal and Labor Rates

1. Enclosed with its Cost Proposal, Proposer has submitted a completed Form of Technical Salaries (Exhibit G), showing labor rates for all titles.

Name of Proposer:

By: _____

Title: _____

EXHIBIT G
TECHNICAL SALARY RATES

Proposers shall provide all appropriate persons necessary to ensure the highest quality work. Proposers must furnish the names and resumes of all Project personnel. The rates listed below represent contract unit rates for the personnel as listed within the assigned categories. Invoicing will be based on actual hours worked multiplied by the unit rate. The unit rate is the actual salary times an auditable multiplier indicated below. The auditable multiplier shall be limited to the direct payroll burden itemized below, overhead (allowances as defined in list below) and a reasonable profit percentage (not to exceed 15%).

Itemization of Direct Payroll Burden

- | | | |
|---|---|--|
| 1. F.I.C.A
2. Federal Unemployment Insurance
3. State Unemployment Insurance
4. Worker's Compensation
5. Life Insurance
6. Accidental death and Disbursement
7. NYS Disability Insurance
8. PL and PD Insurance
9. Group Hospitalization
10. Vacation time attributable to the Project | 11. Major Medical Insurance
12. Pension and Profit Sharing Plan
13. 401K Program (company contribution)
14. Medicare
15. Long Term Disability Insurance
16. Company Automobile Expenses
17. Tuition and Seminar Reimbursement
18. Company Training Program | 19. Employee Bonuses- non-principals and non- shareholders
20. Travel and Meal Allowances – overtime work only
21. Premium for Staff Overtime- support or clerical work
22. Sick Time and Personal Days for employees |
|---|---|--|

(Attach table(s) to the Proposal Form)

Title/Function	RATE Day / Hr (without Profit & Multiplier)	# OF DAYS / Hrs	Total

SUBTOTAL TECHNICAL SALARIES (w/o Multiplier) \$ _____

PROJECT MULTIPLIER = _____

TOTAL FEE = \$ _____

Proposer: _____ <Name of Company>

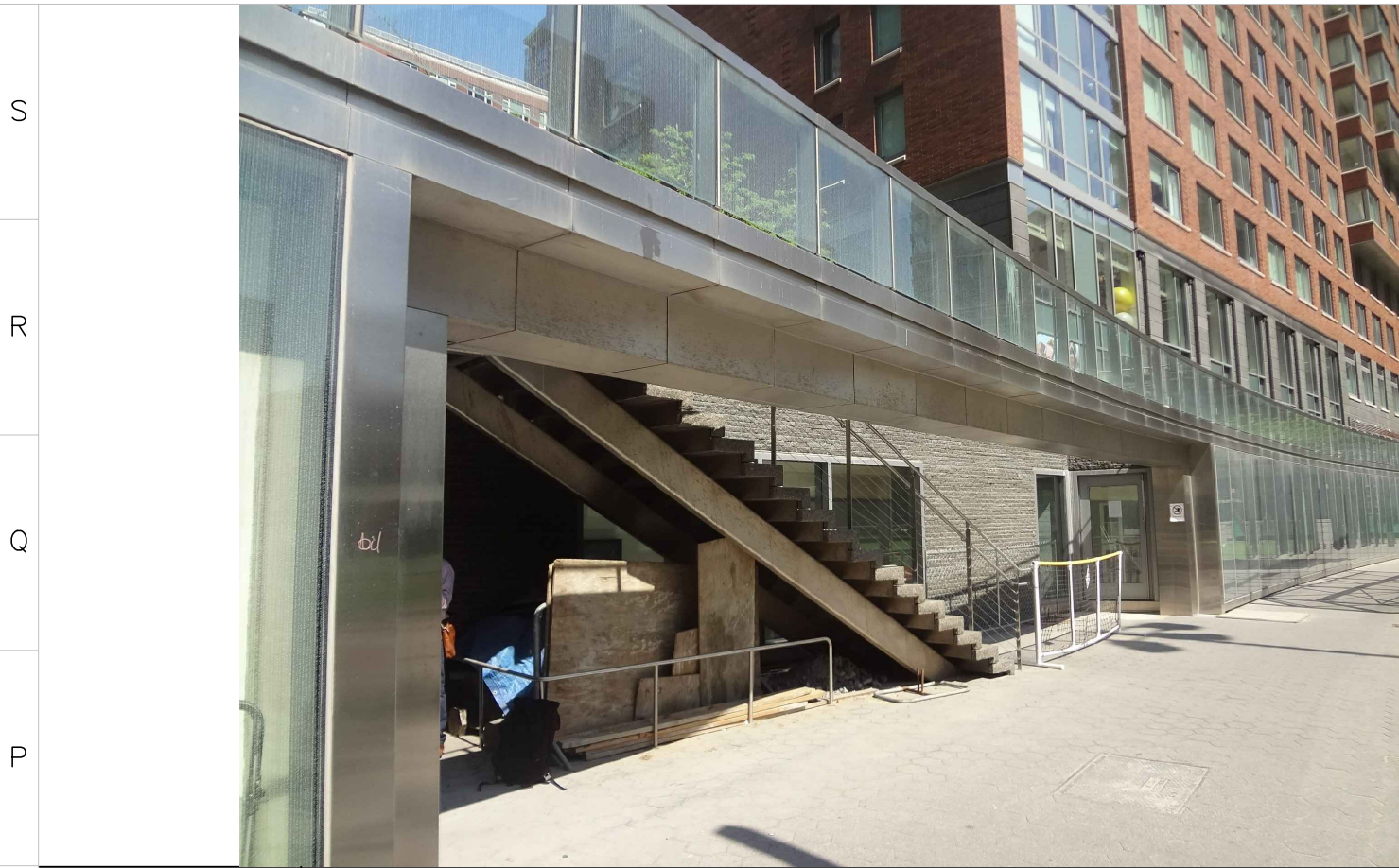
By: _____ <Printed Name of Executing Officer>

Title: _____

Signature: _____ Date _____

EXHIBIT H

Construction Documents



200-300 NORTH END AVE

LEAK REMEDIATION DESIGN

200-300 NORTH END AVE, NEW YORK, NY 10282

	1	GENERAL NOTES		2	TENANT SAFETY NOTES		3	BUILDING DEPARTMENT NOTES		4	DRAWING LIST						
					TENANT PROTECTION PLAN [BC 28-104.8.4]												
		<p>THE FOLLOWING NOTES SHALL APPLY THROUGHOUT. EXCEPTIONS ARE SPECIFICALLY NOTED ON EACH DRAWING.</p> <p>THE OWNER OF THE PROJECT SHALL MEAN THE BATTERY PARK CITY AUTHORITY.</p> <p>1. THE WORK SHALL BE IN CONFORMANCE WITH THE APPLICABLE CODES, AS WELL AS ALL AGENCIES HAVING JURISDICTION. ALL PERMITS WILL BE SECURED BY AND AT THE THE EXPENSE OF THE CONTRACTOR, WHO SHALL GIVE ALL NOTICES REQUIRED BY LAW. NO WORK SHALL START UNTIL NECESSARY PERMITS ARE ISSUED.</p> <p>2. THE CONTRACTOR SHALL VISIT THE PROJECT SITE TO FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND TO VERIFY ALL DIMENSIONS AND CONDITIONS OF EXISTING BUILDING AND SITE. IN CASE OF DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND ACTUAL FIELD CONDITIONS, THEY SHALL BE REPORTED TO THE ARCHITECT. IN WRITING, FOR CORRECTION. WORK PERFORMED AFTER THE DISCOVERY OF A DISCREPANCY AND PRIOR TO RECEIPT OF WRITTEN APPROVAL FOR CORRECTION SHALL BE AT THE CONTRACTOR'S RISK. NO ADDITIONAL COST WILL BE ADDED TO THE PROJECT DUE TO CONTRACTOR'S OVERSIGHT IN VERIFICATION OF EXISTING CONDITIONS.</p> <p>3. THE CONTRACTOR SHALL COOPERATE WITH ANY OTHER CONTRACTORS AND SHALL PERFORM HIS WORK AT SUCH A TIME AND IN SUCH A MANNER AS NOT TO DELAY OR INTERFERE WITH THE CARRYING FORWARD OF THE WORK OF OTHER CONTRACTORS.</p> <p>4. THE CONTRACTOR AND SUBCONTRACTORS SHALL CONSULT AND STUDY THE CONTRACT DOCUMENTS TO DETERMINE HOW THEIR WORK IS AFFECTED UNDER THIS CONTRACT.</p> <p>5. THE CONTRACTOR SHALL PERFORM THE WORK SO THAT A MINIMUM OF DISRUPTION IS CAUSED TO THOSE PORTIONS OF THE BUILDING WHERE THERE IS NO WORK.</p> <p>6. ACCESS TO ALL AREAS OF THE BUILDING SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. TWO WEEKS PRIOR NOTICE SHALL BE REQUIRED BEFORE ALTERATION OF ACCESS TO ANY AREAS.</p> <p>7. CONSTRUCTION OPERATIONS SHALL BE COORDINATED AT ALL TIMES WITH THE OWNER.</p> <p>8. ALL BUILDING EXITS SHALL BE KEPT READILY ACCESSIBLE AND UNOBSTRUCTED AT ALL TIMES.</p> <p>9. THE CONTRACTOR SHALL COORDINATE, SCHEDULE, AND EFFECT ANY REQUIRED UTILITY SHUTDOWNS IN COORDINATION WITH THE OWNER. TWO WEEKS PRIOR NOTICE SHALL BE REQUIRED.</p> <p>10. FIRE PREVENTION APPLICATIONS WILL BE FILED IF REQUIRED FOR ALL INSTALLATIONS.</p>	<p>11. THE TERM 'TO REMAIN' IS USED TO INDICATE THAT AN ITEM IS EXISTING AND NO MAJOR WORK IS REQUIRED. HOWEVER, THE TERM DOES NOT PRECLUDE PATCHING, RESTORING, REFINISHING, ETC.</p> <p>12. WHEN PATCHING AND RESTORING ARE CALLED FOR BY THE DOCUMENTS, IT IS NOT TO BE CONSTRUED THAT THESE ARE THE ONLY LOCATIONS WHERE SUCH WORK IS REQUIRED.</p> <p>13. ALL PATCHING AND RESTORING OF SURFACES IS TO BE DONE WITH MATERIAL AND WORKMANSHIP TO MATCH ADJACENT INTACT SURFACES. REMOVE AND PATCH EXISTING WORK AS REQUIRED TO ACCOMMODATE NEW WORK. ANY EQUIPMENT AND ASSOCIATED CONDUIT, PIPING, DUCTWORK, ETC. SCHEDULED TO REMAIN SHALL BE REMOVED, TEMPORARILY RELOCATED AND REINSTALLED AS REQUIRED TO PERFORM THE WORK.</p> <p>14. ANY EXISTING SERVICES UNCOVERED BY CUTTING OR REMOVAL OPERATIONS WHICH INTERFERE WITH THE NEW CONSTRUCTION AND WHICH ARE REQUIRED TO BE MAINTAINED AS AN INTEGRAL FUNCTION OF THE BUILDING SHALL BE RELOCATED TO CLEAR THE NEW CONSTRUCTION ALL RELOCATION'S SUBJECT TO APPROVAL.</p> <p>15. ALL CONSTRUCTION DEBRIS AND REFUSE SHALL BE REMOVED FROM THE BUILDING AT THE END OF EACH WORK DAY AND LEGALLY DISPOSED OF OFF THE PROPERTY. NO BURNING OF DEBRIS OR REFUSE IS PERMITTED.</p> <p>16. WHERE CONFLICTS OCCUR BETWEEN CONTRACT DRAWINGS, SPECIFICATIONS, AND APPLICABLE CODES, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.</p> <p>17. ON DRAWINGS, DIMENSIONS HAVE PREFERENCE OVER SCALE. ALL DRAWINGS TO BE FIELD VERIFIED.</p> <p>18. ALL WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE BEST ACCEPTED TRADE PRACTICES AND AS PER MANUFACTURER'S RECOMMENDATIONS.</p> <p>19. SUBMIT SHOP DRAWINGS AND SAMPLES FOR ALL ITEMS AS SPECIFIED IN THE CONTRACT DOCUMENTS. NO MATERIAL OF ANY MANUFACTURER OR PRODUCER SHALL BE ACCEPTED FOR THE USE INTENDED, UNLESS AND UNTIL THE MATERIAL HAS BEEN TESTED FOR COMPLIANCE WITH CODE REQUIREMENTS UNDER TEST METHODS PRESCRIBED BY THE BUILDING CODE.</p> <p>20. FINISH FACE OF NEW WORK SHALL ALIGN WITH FINISH FACE OF EXISTING WORK.</p> <p>21. COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS FOR HAZMAT REMOVAL AND DISPOSAL IF REQUIRED.</p>	<p>ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE AND WITH ALL REGULATIONS OF ANY OTHER AGENCY HAVING JURISDICTION.</p> <p>1. OCCUPANCY: THE BUILDING IS COMMERCIAL AND WILL BE CONTINUOUSLY OCCUPIED.</p> <p>2. CONSTRUCTION WORK WILL BE CONFINED TO WORK AREAS AND WILL NOT CREATE DUST AND OTHER SUCH INCONVENIENCES TO ROOMS WITHIN THE BUILDINGS.</p> <p>3. CONSTRUCTION WILL NOT BLOCK THE PLATFORM, CORRIDORS AND MEANS OF EGRESS FOR THE PUBLIC USING THE BUILDING.</p> <p>4. CONSTRUCTION OPERATIONS WILL BE CONFINED TO NORMAL WORKING HOURS; 8:30 AM - 5:30 PM (NOISE: 9:00 AM - 5:00 PM) , MONDAY THROUGH FRIDAY, EXCEPT LEGAL HOLIDAYS AND AS DIRECTED BY OWNER.</p> <p>5. REMOVAL - ALL DEBRIS AND PRODUCTS OF REMOVAL NOT DESIGNATED FOR REUSE SHALL BE REMOVED FROM THE PREMISES AND LEGALLY DISPOSED OFF.</p> <p>6. THE SITE SHALL BE LEFT BROOM CLEAN AT THE END OF EVERY WORKING DAY.</p> <p>7. EGRESS: ALL EXISTING MEANS OF EGRESS FROM THE BUILDING SHALL BE MAINTAINED CLEAR AND FREE OF ALL OBSTRUCTIONS, SUCH AS BUILDING MATERIALS, TOOLS, ETC.</p> <p>8. FIRE SAFETY: THE INTEGRITY OF ALL EXISTING FIREPROOFING SHALL BE MAINTAINED.</p> <p>9. ALL FLAMMABLE MATERIALS SHALL BE KEPT TIGHTLY SEALED IN THEIR RESPECTIVE MANUFACTURER'S CONTAINERS. SUCH MATERIALS SHALL BE KEPT AWAY FROM HEAT AND SHALL BE USED AND STORED IN AN ADEQUATELY VENTILATED SPACE.</p> <p>10. ALL ELECTRICAL POWER SHALL BE SHUT-OFF WHERE THERE IS EXPOSED CONDUIT.</p> <p>11. ALL ELECTRICAL POWER IN THE CONSTRUCTION AREA SHALL BE SHUT-OFF AFTER WORKING HOURS.</p> <p>12. THE CONTRACTOR SHALL MAKE SURE THERE IS NO LEAKAGE OF ANY FLAMMABLE GAS USED IN CONSTRUCTION.</p> <p>13. ALL BUILDING MATERIALS STORED AT THE CONSTRUCTION AREA, AND/OR IN ANY AREA OF THE BUILDING, ARE TO BE SECURED IN A LOCKED AREA. ACCESS TO SUCH AREAS SHALL BE CONTROLLED BY OWNER AND/OR GENERAL CONTRACTOR.</p> <p>14. HEALTH REQUIREMENTS: CONSTRUCTION OPERATIONS SHALL NOT INVOLVE INTERRUPTION OF HEATING, WATER OR ELECTRICAL SERVICES TO OTHER TENANTS OF THE BUILDING WITHOUT PRIOR NOTICE.</p> <p>15. DUST CONTROL: DEBRIS,DUST AND DIRT SHALL BE KEPT TO A MINIMUM AND BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA AND SHALL BE CLEARED FROM THE BUILDING PERIODICALLY TO AVOID EXCESSIVE ACCUMULATION.</p> <p>16. CONTRACTOR SHALL ISOLATE THE CONSTRUCTION AREA FROM OCCUPIED BUILDING AREAS BY MEANS OF TEMPORARY PARTITIONS OR HEAVY DROP CLOTHS.</p>	<p>1. ALL WORK SHALL COMPLY WITH THE 1968 BUILDING CODE OF THE CITY OF NEW YORK, 2014 FIRE CODE AND 2016 ENERGY CODE.</p> <p>2. SPECIAL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO ENSURE THAT THE WORK, INCLUDING ALL MATERIALS AND INSTALLATION, SHALL NOT AFFECT THE FOLLOWING:</p> <ul style="list-style-type: none">TENANT EGRESS TO AND FROM THE BUILDING.FIRE SAFETY, OR THE CREATION OF A FIRE HAZARD.STRUCTURAL SAFETY OF THE BUILDINGS.THE CONTRACTOR SHALL LEAVE THE WORK SITE BROOM CLEAN EACH DAY TO PREVENT THE ACCUMULATION OF DUST AND DEBRIS.THERE SHALL BE NO NOISY WORK OUTSIDE THE NORMAL HOURS OF 8:00 AM TO 5:00 PM.ELECTRICITY, GAS, WATER AND ANY OTHER UTILITIES WILL NOT BE INTERRUPTED DURING CONSTRUCTION. <p>3. ALL MATERIALS, ASSEMBLIES, FORMS, AND METHODS OF CONSTRUCTION, SHALL COME UNDER THE PROVISIONS OF THE NYC BUILDING CODE.</p> <p>4. ALL SERVICE EQUIPMENT AND MACHINERY AND DEVICES USED IN CONNECTION WITH THE WORK OF THIS CONTRACT, WHICH IN THEIR USE, COME UNDER THE PROVISIONS OF THE CODE, SHALL COMPLY WITH APPLICABLE SECTION(S). CONTRACTOR SHALL SECURE ALL INSPECTIONS FOR THE EQUIPMENT OPERATED ON THE JOB SITE IN CONNECTION WITH THIS CONTRACT.</p> <p>5. THE BUILDING AND THE WORK UNDER THIS CONTRACT AND ANY SERVICE EQUIPMENT THAT IS PART OF THE CARRYING OUT OF THE WORK OF THIS CONTRACT SHALL BE OPEN AND AVAILABLE FOR INSPECTION BY THE COMMISSIONER OR ITS REPRESENTATIVES AT ALL TIMES.</p> <p>6. ALL MATERIAL HANDLING AND HOISTING EQUIPMENT SHALL CONFORM WITH APPLICABLE SECTION OF THE NYC BUILDING CODE, AND SHALL BE OPERATED AND MAINTAINED SO AS TO PREVENT HARM TO THE PUBLIC OR PROPERTY.</p> <p>7. ALL TEMPORARY FACILITIES NEEDED IN THE CARRYING OUT OF THE WORK SHALL CONFORM TO THE NYC BUILDING CODE.</p> <p>8. ALL EXITS FROM THE BUILDINGS SHALL BE KEPT READILY ACCESSIBLE AND UNOBSTRUCTED AT ALL TIMES. NO LOOSE OBJECTS SHALL BE LEFT ON SCAFFOLDING. THE BUILDINGS ARE OCCUPIED 24 HOURS A DAY.</p> <p>9. NO CHANGE TO EGRESS, OCCUPANCY, ZONING OR USE UNDER THIS APPLICATION.</p> <p>10. FIRE PROTECTION - INSTALLATION OF ALL REQUIRED FIRE STOPPING SHALL COMPLY WITH SECTION C26-504.7G (IF APPLICABLE).</p> <p>11. SPECIAL AND PROGRESS INSPECTIONS AS REQUIRED BY THE NEW YORK CITY BUILDING CODE SHALL BE PERFORMED BY THE ARCHITECT FOR THE FOLLOWING ITEMS:</p> <ul style="list-style-type: none">FINAL INSPECTION AC 28-116.2.4.2, BC 109.5, DIRECTIVE 14 OF 1975, AND 1RCNY §101-10 <p>12. ENERGY CODE COMPLIANCE PROGRESS INSPECTIONS AS REQUIRED BY THE NYC EEC AND MANDATED BY SECTION BC 109.3.5 AND 1RCNY §5000-01 SHALL BE PERFORMED BY THE ARCHITECT FOR THE FOLLOWING ITEMS:</p> <ul style="list-style-type: none">AIR SEALING AND INSULATION - VISUAL (IAG) <p>NO OTHER ENERGY CODE COMPLIANCE PROGRESS INSPECTIONS ARE REQUIRED FOR THIS CONTRACT'S SCOPE OF WORK.</p>	<p>1. T-001.00 NOTES, LOCATION/ZONING MAP, ENERGY ANALYSIS, DWG. LIST</p> <p>2. T-002.00 SCOPE OF WORK, ALLOWANCES & NOTES</p> <p>3. T-003.00 FEMA NOTES & 2013 FEMA FLOOD ZONE MAP</p> <p>4. T-004.00 2013 FLOOD ZONE MAP</p> <p>5. A-101.00 EXISTING SITE PLAN</p> <p>6. A-102.00 PARTIAL PLANS @ UPPER LEVEL</p> <p>7. A-103.00 PARTIAL PLAN @ UPPER LEVEL</p> <p>8. A-104.00 PARTIAL PLAN @ UPPER LEVEL</p> <p>9. A-105.00 PARTIAL PLANS @ UPPER & CELLAR LEVEL</p> <p>10. A-201.00 COURTYARD ELEVATIONS</p> <p>11. A-301.00 BASE FLASHING DETAILS</p> <p>12. A-302.00 DETAILS</p> <p>13. A-303.00 DETAILS</p> <p>14. A-304.00 DETAILS</p> <p>15. A-305.00 PARAPET DETAILS</p> <p>16. A-306.00 STEEL STAIRS DETAILS</p> <p>17. A-307.00 DETAILS</p> <p>18. A-401.00 DETAILS</p> <p>19. A-402.00 DETAILS</p> <p>20. A-501.00 DRAIN DETAILS</p> <p>21. A-901.00 CELLAR PARTIAL PLAN & NORTH ELEV.</p> <p>22. A-902.00 DOOR & SILL DETAILS</p> <p>23. P-001.00 PLUMBING SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS</p> <p>24. P-002.00 PLUMBING SPECIFICATIONS & DETAILS</p> <p>25. P-101.00 PLUMBING DEMOLITION PLAN</p> <p>26. P-201.00 PLUMBING NEW WORK PLAN</p> <p>27. P-701.00 PLUMBING DETAILS</p>											
										5	SPECIAL INSPECTIONS						
											<p>SPECIAL AND PROGRESS INSPECTIONS REQUIRED IN ACCORDANCE WITH CHAPTER 17 AND THE APPLICABLE SECTIONS OF THE NYC CONSTRUCTION CODE ARE LISTED IN THE FOLLOWING TABLES.</p> <p>THE CONTRACTOR MUST NOTIFY THE ARCHITECT OR ENGINEER FOR SPECIAL AND PROGRESS INSPECTIONS AT LEAST 72 HOURS BEFORE THE SPECIFIC WORK COMMENCES.</p> <p>THE OWNER SHALL BE RESPONSIBLE FOR THE FOLLOWING SPECIAL OR PROGRESS INSPECTIONS:</p> <table><tr><td>ENERGY CODE COMPLIANCE INSPECTIONS</td><td>BC 110.3.5</td></tr><tr><td>MASONRY</td><td>BC 1704.5</td></tr><tr><td>FINAL</td><td>BC 109.5 AND 28.116.2.4.2</td></tr></table> <p>REQUIRED INSPECTIONS AND TESTS OF MATERIALS DESIGNATED FOR "SPECIAL INSPECTION" BY THE CONTRACTOR SHALL BE MADE UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER RETAINED BY OR ON THE BEHALF OF THE OWNER WHO SHALL BE ACCEPTABLE TO THE ARCHITECT OR ENGINEER WHO SUPERVISED THE PREPARATION OF THE PLANS.</p>	ENERGY CODE COMPLIANCE INSPECTIONS	BC 110.3.5	MASONRY	BC 1704.5	FINAL	BC 109.5 AND 28.116.2.4.2
ENERGY CODE COMPLIANCE INSPECTIONS	BC 110.3.5																
MASONRY	BC 1704.5																
FINAL	BC 109.5 AND 28.116.2.4.2																
										6	FEMA FLOOD INFORMATION						
											<p>THIS SITE IS WITHIN A "SPECIAL FLOOD ZONE AREA."</p>						

ARCHITECT

ARCHITECTURAL
PRESERVATION
STUDIO, DPC

Architecture, Historic Preservation, & Building Envelope Consulting

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OWNER

BATTERY PARK CITY AUTHORITY

200 LIBERTY STREET
NEW YORK, NY 10281

ENVIRONMENTAL SUB-CONSULTANTS

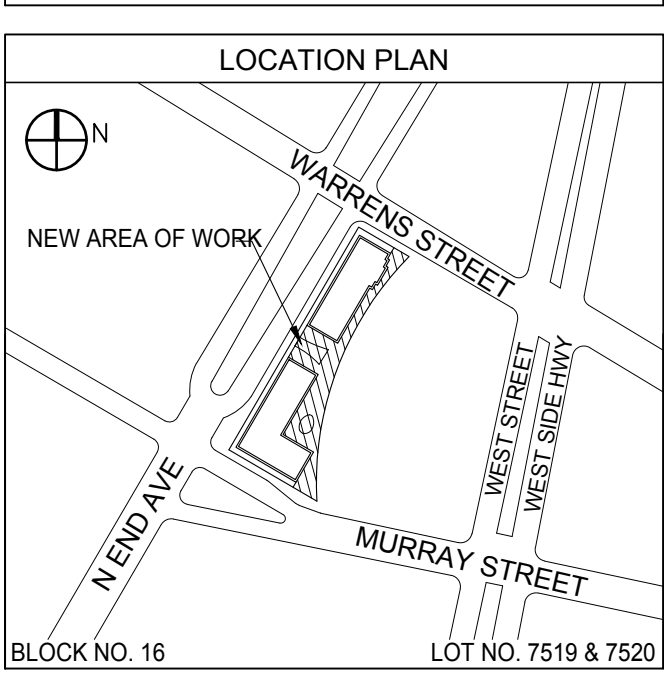
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30 WEST 26TH STREET, 4TH FLOOR
NEW YORK, NY 10010
TEL: (212) 420-8119



1	OWNER'S REVIEW	90%	5.16.2018
NO.	SUBMISSIONS/	REVISIONS	DATE

PROJECT NORTH

REFERENCE BAR
SEE DRAWINGS FOR
SCALE DESIGNATION

PROJECT

200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN

200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME

TITLE SHEET
GENERAL NOTES
LOCATION MAP

SEAL & SIGNATURE

DATE: 05.11.2018

PROJECT NO: P15-036

SCALE: AS NOTED

DRAWING BY: WB

CHECKED BY: PJVF

DWG NO: T-001.00

DWG COUNT: 1 OF 27

1

SCOPE OF WORK

THE SCOPE OF WORK INCLUDES ALL LABOR MATERIALS, EQUIPMENT, TRANSPORTATION, AND SUPERVISION NECESSARY FOR THE SUCCESSFUL COMPLETION OF THE PROJECT. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

ALL NOISE-GENERATING WORK SHALL BE COORDINATED WITH THE OWNER.

THE CONTRACTOR SHALL PROVIDE ALL REQUIRED PROTECTION TO THE EXISTING ROOFING MEMBRANE. PROTECTION MEASURES SHALL BE APPROVED BY THE ARCHITECT.

THE CONTRACTOR SHALL SECURE AND MAINTAIN ALL REQUIRED PERMITS TO UNDERTAKE THE WORK. IF THE SIDEWALK SHED INTERFACES WITH EXISTING STREET TREES, THE CONTRACTOR WILL NEED TO SECURE ALL REQUIRED PERMITS FROM THE NYC DEPARTMENT OF PARKS AND RECREATION.

THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE OWNER-RETAINED SPECIAL INSPECTION AGENCY.

THE CONTRACTOR SHALL PROVIDE ALL REQUIRED LADDERS, HOISTS, SIDEWALK SHEDS, FIXED PIPE SCAFFOLDING, AND OTHER SUPPORT DEVICES TO UNDERTAKE THE WORK OF THIS PROJECT. ALL INSTALLATIONS SHALL BE CODE COMPLIANT. THE CONTRACTOR SHALL RETAIN THEIR OWN LICENSED STRUCTURAL ENGINEER TO DESIGN HOISTS, SHEDS, FIXED AND SUSPENDED SCAFFOLDING.

THE CONTRACTOR SHALL PROVIDE ALL REQUIRED TEMPORARY UTILITIES INCLUDING POWER, WATER, HEAT, AND BATHROOMS. IF THE OWNER ALLOWS THE CONTRACTOR TO USE EXISTING UTILITIES, THE CONTRACTOR SHALL MAKE ALL REQUIRED CONNECTIONS AND UNDERTAKE REMOVALS AT THE END OF THE PROJECT.

THE SELECTED CONTRACTOR MAY CHOOSE TO STORE CONSTRUCTION MATERIALS AND CONSTRUCTION DEBRIS (DUMPSTERS) ON THE STREET. IF SO, A STREET-CLOSURE PERMIT SHALL BE SECURED BY THE CONTRACTOR FROM THE NYC DEPARTMENT OF TRANSPORTATION. TEMPORARY FENCING/BARRICADES WILL BE REQUIRED TO SECURE THIS AREA IN THE STREET. THE CONTRACTOR SHALL VERIFY IF THE STREETS AROUND THE SITE ARE CONSIDERED A RESTRICTED ACCESS ROAD BY THE DEPARTMENT OF TRANSPORTATION BETWEEN THE HOURS OF 4:00 PM AND 7:00 PM.

PROVIDE ALL REQUIRED MOCK-UPS, TEST PANELS, ETC REQUIRED BY THE TECHNICAL SPECIFICATIONS AND THE PROPER EXECUTION OF THE WORK. ALL SHALL BE APPROVED BY THE ARCHITECT AND OWNER PRIOR TO EXECUTING THAT SECTION OF WORK. IF REJECTED, PROVIDE NEW MOCK-UPS, TEST PANELS, ETC UNTIL APPROVED.

GENERAL CONDITIONS:
1. MOBILIZATION AND GENERAL ADMINISTRATIVE REQUIREMENTS.
2. REINSTALL EXISTING RAILINGS HANDRAILS, TRELLISES, ETC; REMOVE SITE FIXTURES AS REQUIRED TO ACCOMPLISH THE WORK, INCLUDING BUT NOT LIMITED TO RAILINGS/HANDRAILS, TRELLISES, BENCHES AND THEIR COMPONENTS, ETC., PROTECT, AND STORE FOR REINSTALLATION.
3. RAILING POSTS AND ANCHOR BOLT PENETRATIONS: POST PENETRATIONS AND ANCHOR BOLT PENETRATIONS TO MATCH EXISTING LOCATIONS. PREPARE CONCRETE AND EMBED POST AND/OR ANCHORS IN EPOXY AS INDICATED ON DRAWINGS. AT LOCATIONS, TO BE DETERMINED, WELD BASE PLATES TO EXISTING RAILINGS.
4. UPPER PLAZA - WATERPROOFING AND ASSEMBLY: CAREFULLY REMOVE AND SALVAGE EXISTING PAVERS, GRANITE PANELS AND METAL PANELS ALONG BUILDINGS' PERIMETER FOR REINSTALLATION. REMOVE ALL SUBSTRATE MATERIALS DOWN TO STRUCTURAL DECK. REPAIR DECK WITH MODIFIED REPAIR MORTAR (ASSUME 15%). PREPARE AND PRIME CONCRETE DECK AS REQUIRED TO RECEIVE 3-PLY TORCH DOWN BITUMINOUS WATERPROOFING MEMBRANE, REINFORCED LIQUID FLASHING ALONG ENTIRE PERIMETER OF HORIZONTAL TO VERTICAL BACKUP SURFACES. TERMINATE 8" MIN. ABOVE DECK (TYP.). INSTALL DRAINAGE MAT, INSULATION, FILTER FABRIC, GRAVEL AND PERVIOUS CONCRETE (SLOPED TO DRAINS), AND ASPHALT SETTING BED. REINSTALL EXISTING PAVERS IN RUNNING BOND PATTERN. INSTALL 1" MIN. CLOSED CELL COMPRESSIBLE BACKER ROD AND SEALANT AT PERIMETER BETWEEN PLANTER/PARAPET GRANITE AND PAVERS. ASSUME 20% OF PAVERS REQUIRE REPLACEMENT
5. PARAPET/LINTEL AND WINDOW/WALL WATERPROOFING: REMOVE AND DISPOSE GRANITE BRICKS. REBUILD WITH NEW GRANITE BRICKS TO MATCH EXISTING. REMOVE AND SALVAGE GRANITE AND COPING STONES FOR RE-INSTALLATION, AS NOTED ON DRAWINGS. TYPICAL. INSTALL VAPOR BARRIER UP BACK UP WALL, TURNED IN AT SILL AND JAMBS, EXTEND BEYOND THE LINTEL (FORM END DAMS) AND TERMINATE MEMBRANE BY OVERLAPPING THE LIQUID BASE FLASHING, AS PER DETAILS. PROVIDE STAINLESS STEEL BRICK TIES EVERY 2 SQ. FT., WEEPS EVERY 16" O.C., INSULATION AND MORTAR NET. REMOVE EXISTING WINDOW FRAMES AS REQUIRED TO ACCOMPLISH WORK.
6. PLANTER #1 - REINSTALL GRANITE PANELS: REINSTALL GRANITE STONE PANELS AT PLANTER #1AND WATERPROOF AT INBOARD (SOIL/FILL SIDE OF PLANTER).
7. PLANTER #2: PERMANENTLY REMOVE PLANTER #2.
8. PLANTER WATERPROOFINGS: AT PLANTERS #1, #3, #4, #5, #6, AND #7. REMOVE AND DISPOSE GRANITE BRICKS. REMOVE AND SALVAGE GRANITE COPING STONES FOR REINSTALLATION, AS NOTED ON DRAWINGS (TYP). REMOVE EXISTING WATERPROOFING AND SUBSTRATE MATERIALS TO STRUCTURAL DECK. REPAIR DECK WITH MODIFIED REPAIR MORTAR (ASSUME 15%). PREPARE AND PRIME DECK TO RECEIVE 3-PLY TORCH DOWN BITUMINOUS WATERPROOFING MEMBRANE. INSTALL REINFORCED LIQUID FLASHING UP INBOARD PLANTER WALL TO TERMINATE TOP OF PLANTER CURB, TYPICAL. INSTALL PEEL AND STICK WATERPROOFING MEMBRANE TO OVERLAP LIQUID MEMBRANE 4" MIN. AT TOP OF CURB AND BASE FLASHING. PREPARE LIQUID FLASHING AT ARE OVERLAP AS PER THE REQUIREMENTS THE MANUFACTURER. REBUILD BRICKWORK TO MATCH EXISTING.
9. PLANTER FILL AND PLANTINGS: REMOVE AND DISCARD SOIL AND SMALL PLANTINGS; SALVAGE AND RELOCATE TREES AND LARGER PLANTINGS TO BE REPLANTED IN WOOD CONTAINERS. PROVIDE PLYWOOD COVERS TO TEMPORARILY SEAL AND PROTECT PLANTER OPENINGS. COORDINATE W/ BPCA LANDSCAPE TEAM FOR REMOVAL, INCLUDING FURNISHING TEMPORARY WOOD PLANTERS & REINSTALLATION.
10. PLAZA DRAIN REPLACEMENT/REMOVAL/INSTALLATION: REMOVE EXISTING CONCRETE CATCH BASINS AND PLAZA DRAINS. INSTALL PLAZA DRAIN AND BODY AS SPECIFIED. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS. GRATES TO BE SLIP RESISTANT AND ADA COMPLAINT. RE-INSTALL EXISTING FRAME AND GRATES.
11. PLANTER DRAIN REPLACEMENT: REMOVE EXISTING CATCH BASINS AND PLANTER DRAINS. INSTALL PLANTER DRAIN AND BODY AS SPECIFIED. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS.
12. SCUPPER DRAIN REPLACEMENT: REMOVE EXISTING SCUPPERS AND CONCRETE CATCH BASINS AT SIDEWALL. INSTALL NEW SIDEWALL SCUPPER DRAINS AND BODY AS SPECIFIED. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. WATERPROOFING BELOW DRAIN BODY. SEE PLUMBING DRAWINGS.
13. REPLACE TRENCH DRAIN: REPLACE EXISTING TRENCH DRAIN AND GRATING AS SPECIFIED. WATERPROOF CONCRETE TROUGH WITH COLD LIQUID APPLIED WATERPROOFING. GRATING TO BE SLIP RESISTANT AND ADA COMPLAINT.
14. EXPANSION JOINT (TYPE 1): INSTALL EXPANSION JOINT AT LOT LINE, AS SPECIFIED.
15. EXPANSION JOINT (TYPE2): INSTALL 1 1/4" MINIMUM PRE-COMPRESSED EXPANSION JOINT SYSTEM, AS SPECIFIED, AT HORIZONTAL JOINTS BETWEEN METAL SKIRT AND PLAZA PAVERS (UPPER PLAZA).
16. EXPANSION JOINT (TYPE 3): INSTALL 1/2" MINIMUM COMPRESSIBLE EXPANSION JOINT SYSTEM, AS SPECIFIED AND SHOWN ON DRAWINGS TO CREATE SOFT-CONTROL JOINTS (UPPER PLAZA). SEALANT TO MATCH COLOR OF PAVERS.
17. MASONRY EXPANSION JOINT (TYPE 4): SAW CUT EXISTING CRACK, REPLACE BROKEN GRANITE BRICKS AS NEEDED. INSTALL JOINT STABILIZERS EVERY SIX COURSES. INSTALL BACKER ROD AND SEALANT.
18. BACKER-ROD AND SEALANT: INSTALL BACKER ROD AND SEALANT AT WINDOW AND DOOR FRAME PERIMETERS AT STOREFRONT (EAST CENTRAL STAIR COURTYARD), TRANSVERSE COPING JOINTS, AND AS NOTED ON DRAWINGS.
19. GRANITE STEPS AND RAMPS AT NORTH END AVE., WARREN AND MURRAY STREET: CAREFULLY REMOVE AND SALVAGE GRANITE STEP STONES FOR RE-SETTING. SECURE STONES AS PER DRAWINGS. CAREFULLY REMOVE AND SALVAGE EXISTING PAVERS, ASSOCIATED RAILINGS ETC. FOR REINSTALLATION; REMOVE EXISTING SUBSTRATE MATERIALS AND WATERPROOFING DOWN TO CONCRETE FOR REPAIR, WATERPROOFING AND FLASHING. TYPICAL. PREPARE AND PRIME DECK TO RECEIVE NEW WATERPROOFING SYSTEM. TERMINATE MEMBRANE AT PLANTER/PARAPET/BUILDING WALLS AND SIDEWALK INTERFACE.
20. PARTIAL LOWER PLAZA WATERPROOFING/ASSEMBLY: REMOVE 3'-0" OF EXISTING PAVERS AND SUBSTRATE MATERIALS TO STRUCTURAL DECK. MAINTAIN EXISTING WATERPROOFING ON STRUCTURAL DECK WHERE SOUNDLY ADHERED. PREPARE HORIZONTAL AND VERTICAL SURFACES AS REQUIRED FOR INSTALLATION OF REINFORCED LIQUID FLASHING. LIQUID FLASHING TO OVERLAP EXISTING SOUND WATERPROOFING SYSTEM AND EXTEND UP FOUNDATION WALL AND TURN IN AT SILL AND JAMBS. REMOVE AND REINSTALL METAL WALL PANELS. REPLACE DIRT AND POUR NEW CONCRETE SLAB ON GRADE. INSTALL HEXAGONAL PAVERS. REPLACE DRAINS AS NOTED ON DRAWINGS.
21. GROUT INJECTION AND CRACK REPAIR AT INTERIOR STAIR AND FOUNDATION WALL: INJECTION GROUTING AT INTERIOR SILL STAIR LANDING AND FOUNDATION WALL. AREA TO BE TREATED WITH CRYSTALLINE WATERPROOFING.
22. SIDEWALK REPLACEMENT: REPLACE CONCRETE SIDEWALK FLAGS ON WARREN AND MURRY ST, AS INDICATED ON DRAWINGS AND RESET BLUE STONE SIDEWALK AT NORTH END AVE.
23. TILED PIER AND FINISHES: REMOVE EXISTING TILE PANELS, PATCH AND WATERPROOFING AND REBUILD. REPAIR FINISHES DAMAGED BY WATER. REPAIR, PRIME AND PAINT INTERIOR PLASTER. REPLACE REMOVED INTERIOR FINISHES TO MATCH EXISTING.
24. INSTALL STEEL PLATE AND GALVANIZED STEEL ANGLES PER DRAWINGS AT METAL STAIR LANDING.

2

ALLOWANCES

THE FOLLOWING ITEMS ARE TO BE INCLUDED IN THE BID. THE QUANTITIES PROVIDED ARE IN ADDITION TO THOSE INDICATED ELSEWHERE IN THE DOCUMENTS. INCLUDE THE COST OF ALL MEANS (SCAFFOLDING, LIFTS, ETC.) TO INSTALL THE WORK AT VARIOUS LOCATIONS THROUGHOUT THE BUILDING.

ANY QUANTITY MORE OR LESS WILL BE AN EXTRA/CREDIT TO THE OWNER. PROVIDE SHOP DRAWINGS FOR APPROVAL OF INTENDED AREA OF WORK AFTER INSPECTION FROM THE SCAFFOLDING OR AS DIRECTED BY THE ENGINEER/ARCHITECT PRIOR TO PROCEEDING WITH WORK.

NO

ITEM

UNI TS

QTY./ AMOUNT

1

100% NEW ASPHALT UNIT BLOCK PAVERS

SF

15000

2

NEW HEXAGONAL ASPHALT PAVERS

SF

500

3

GRANITE BRICK MASONRY REPLACEMENT

SF

150

4

LINTEL REPLACEMENT

LF

50

5

BACKER ROD AND SEALANT

LF

200

6

EXPANSION JOINT #3- SOFT CONTROL JOINT

LF

1000

7

CONCRETE GROUT INJECTION

SF

300

8

CONCRETE CRACK REPAIR

LF

400

9

DOOR SADDLE REPLACEMENT

LF

25

10

STONE REPAIR - PINNING

EA

10

11

PLANTER #1 - CAST IN PLACE CONCRETE PLANTER CURB.

LF

70

12

NEW GRANITE COPING STONES. SECURE WITH THREADED EYEBOLT ROD AND DOWELS IN EPOXY.

LF

70

13

RAT MITIGATION

LS

TBD

5

UPPER PLAZA WATERPROOFING NOTES

1. PLAZA WATERPROOFING SYSTEM SHALL COMPLY WITH UL CLASS 'A' EXTERNAL FIRE RESISTANCE RATING.

2. FLOOD TEST ALL PLAZA AFTER INSTALLATION OF NEW WATERPROOFING SYSTEM AT UPPER PLAZA.

3. INSULATION FOR THIS PROJECT SHALL HAVE A MINIMUM AGED R-VALUE OF R=19. TO MATCH EXISTING.

4. PLAZA WATERPROOFING WORK SPECIFIED IN THIS CONTRACT SHALL NOT BE STARTED UNTIL ASBESTOS (IF FOUND) ABATEMENT IS COMPLETED.

5. PLAZA WATERPROOFING WORK SPECIFIED IN THIS CONTRACT SHALL NOT BE STARTED UNTIL ASBESTOS (IF FOUND) ABATEMENT WORK SPECIFIED IN THIS CONTRACT SHALL NOT BE STARTED UNTIL ASBESTOS ABATEMENT IS COMPLETED.

6

REMOVAL NOTES

THE FOLLOWING NOTES SHALL APPLY THROUGHOUT:

1. THE SCOPE OF WORK HAS GENERALLY BEEN INDICATED ON THE DRAWING FOR CONTRACTOR'S INFORMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE FULL SCOPE, EXTENT, NATURE, & MANNER OF REMOVAL REQUIRED.

2. ONLY WORKMEN SKILLED & KNOWLEDGEABLE IN THEIR RESPECTIVE TRADES SHALL BE EMPLOYED IN THE REMOVAL OF ANY WORK.

3. CONTRACTORS SHALL TAKE SPECIAL CARE TO DEMOLISH ONLY THAT WORK WHICH IS REQUIRED TO BE REMOVED & NOT TO DISTURB ANY WORK WHICH IS TO REMAIN. IF IN THE COURSE OF REMOVAL, CONTRACTOR DESTROYS OR DISTURBS ANY WORK WHICH IS TO REMAIN, THEN THEY SHALL, AT THEIR OWN EXPENSE, REPAIR OR REPLACE SUCH WORK AS NECESSARY.

4. ANY CUTS AND PENETRATIONS IN EXISTING WORK REQUIRED TO ACCOMPLISH NEW WORK SHALL BE KEPT TO AN ABSOLUTE MINIMUM.

5. ALL REMOVAL WORK TO BE DONE DURING THOSE HOURS DESIGNATED BY OWNER. REMOVED ITEMS, DEBRIS OR LOOSE MATERIAL SHALL NOT BE STORED ON THE ROOF OVERNIGHT. DISCARD ALL REMOVED ITEMS IN A MANNER FULLY APPROVED BY NYC & ANY OTHER GOVERNMENT AGENCY.

6. SALVAGE AND STORE GRANITE BLOCKS FROM THE PARAPET.

7. SALVAGE AND STORE GRANITE COPINGS & STONES, ALL RAILINGS, WOOD LATTICE.

7

PARAPET / MASONRY NOTES

1. ALL CELLS IN THE HOLLOW MASONRY WALLS AND ALL JOINTS IN SOLID, CAVITY OR MASONRY BONDED HOLLOW WALL CONSTRUCTION SHALL BE FILLED SOLID WITH MORTAR.

2. FACE GRANITE BLOCKS SHALL COMPLY WITH REQUIREMENTS OF ASTM C615. MORTAR SHALL COMPLY WITH ASTM C270 AND BIA M1-88. THE USE OF MASONRY CEMENT IS PROHIBITED.

3. PROTECT OPEN MASONRY AT PARAPETS AND OTHER AREAS OF MASONRY REMOVAL FROM WATER PENETRATION.

4. DO NOT REMOVE PARAPET MASONRY OR OTHER MASONRY UNTIL SALVAGED AND NEW GRANITE BLOCKS ARE ON SITE.

5. SUBMIT SHOP DRAWINGS FOR APPROVAL AT EACH AREA OF COPING REPLACEMENT, RAILING REMOVAL AND REINSTALLATION WORK LOCATIONS AND EXTENT OF WORK PRIOR TO START OF WORK.

6. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF RECORD 48 HOURS PRIOR TO INSPECT MASONRY.

3

SPECIAL & PROGRESS INSPECTIONS

TAKEN FROM NYC BUILDINGS TR1 AUGUST 2016

THE OWNER SHALL BE RESPONSIBLE FOR THE FOLLOWING SPECIAL OR PROGRESS INSPECTIONS:

SPECIAL INSPECTION CATEGORIES

INDICATES REPORT REQUIRED

Y N SPECIAL INSPECTIONS

CODE/SECTION

☐ STRUCTURAL STEEL - WELDING

BC 1704.3.1

☒ STRUCTURAL STEEL - DETAILS

BC 1704.3.2

☒ STRUCTURAL STEEL - HIGH STRENGTH BOLTING

BC 1704.3.3

☒ STRUCTURAL COLD-FORMED STEEL

BC 1704.3.4

☒ CONCRETE - CAST-IN-PLACE

BC 1704.4

☒ CONCRETE - PRECAST

BC 1704.4

☒ CONCRETE - PRESTRESSED

BC 1704.4

☒ MASONRY

BC 1704.5

☒ WOOD - INSTALLATION OF HIGH-LOAD-DIAPHRAMS

BC 1704.6.1

☒ WOOD - INSTALLATION OF METAL-PALTE-CONNECTED-TRUSSES

BC 1704.6.2

☒ WOOD - INSTALLATION OF PREFABRICATED I-JOISTS

BC 1704.6.3

☒ SUBGRADE INSPECTION

BC 1704.7.1

☒ SUBSURFACE CONDITIONS - FILL PLACEMENT & IN-PLACE DENSITY

BC 1704.7.2

☒ SUBSURFACE INVESTIGATION (BORINGS/TEST PITS)

BC 1704.7.3

☒ DEEP FOUNDATION ELEMENTS

BC 1704.8

☒ HELICAL PILES (BB # 2014-020)

BC 1704.8.5

☒ VERTICAL MASONRY FOUNDATION ELEMENTS

BC 1704.9

☒ WALL PANELS, CURTAIN WALLS, AND VENEERS

BC 1704.10

☒ SPRAYED FIRE-RESISTANT MATERIALS

BC 1704.11

☒ MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS

BC 1704.12

☒ EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)

BC 1704.13

☒ ALTERNATIVE MATERIALS - OTRC BUILDINGS BULLETIN #

BC 1704.14

☒ SMOKE CONTROL SYSTEMS

BC 1704.15

☒ MECHANICAL SYSTEMS

BC 1704.16

☒ FUEL-OIL STORAGE AND FUEL-OIL PIPING SYSTEMS

BC 1704.17

☒ HIGH-PRESSURE STEAM PIPING (WELDING)

BC 1704.18

☒ HIGH TEMPERATURE HOT WATER PIPING (WELDING)

BC 1704.18

☒ HIGH-PRESSURE FUEL-GAS PIPING (WELDING)

BC 1704.19

☒ STRUCTURAL STABILITY - EXISTING BUILDING

BC 1704.20.1

☒ EXCAVATIONS - SHEETING, SHORING, AND BRACING

BC 1704.20.2

☒ UNDERPINNING

BC 1704.20.3

☒ MECHANICAL DEMOLITION

BC 1814

☒ RAISING AND MOVING OF A BUILDING

BC 1704.20.4

☒ SOIL PERCOLATION TEST - PROVATE ON-SITE STORM WATER DRAINAGE DISPOSAL SYSTEMS, AND DETENTION FACILITIES

BC 1704.21.1.2

☒ PRIVATE ON-SITE STORM WATER DRAINAGE DISPOSAL SYSTEMS, AND DETENTION FACILITIES INSTALLATION

BC 1704.21.2

☒ INDIVIDUAL ON-SITE PRIVATE SEWAGE DISPOSAL SYSTEMS INSTALLATION

BC 1704.22

☒ SOIL PERCOLATION TEST - INDIVIDUAL ON-SITE PRIVATE SEWAGE DISPOSAL SYSTEMS

BC 1704.22

☒ SPRINKLER SYSTEMS

BC 1704.23

☒ STANDPIPE SYSTEMS

BC 1704.24

☒ HEATING SYSTEMS

BC 1704.25

☒ CHIMNEYS

BC 1704.26

☒ FIRE-RESISTANT PENETRATIONS AND JOINTS

BC 1704.27

☒ ALUMINUM WELDING

BC 1704.28

☒ FLOOD ZONE COMPLIANCE (ATTACH FEMA ELEVATION/DRY FLOODPROOFING CERTIFICATE WHERE APPLICABLE)

BC 1704.29

☒ LUMINOUS EGRESS PATH MARKINGS

BC 1704.30

☒ EMERGENCY AND STANDBY POWER SYSTEMS (GENERATORS)

BC 1024.8

☒ POST-INSTALLED ANCHORS (BB# 2014-018, 2014-019)

BC 1704.31

☒ SEISMIC ISOLATION SYSTEMS

BC 1704.32

☒ CONCRETE DESIGN MIX

BC 1707.8

☒ CONCRETE DESIGN MIX

BC 1905.3

☒ CONCRETE DESIGN MIX

BC 1913.5

☒ CONCRETE SAMPLING AND TESTING

BC 1905.6

☒ CONCRETE SAMPLING AND TESTING

BC 1913.10

PROGRESS INSPECTION CATEGORIES

INDICATES REPORT REQUIRED

Y N PROGRESS INSPECTIONS

CODE/SECTION

☐ PRELIMINARY

28-116.2.1, BC 110.2

☒ FOOTING AND FOUNDATION

BC 110.3.1

☒ LOWEST FLOOR ELEVATION

BC 110.3.2

☒ STRUCTURAL WOOD FRAME

BC 110.3.3

☒ ENERGY CODE COMPLIANCE INSPECTIONS

BC 110.3.5

☒ FIRE-RESISTANCE RATED CONSTRUCTION

BC 110.3.4

☒ PUBLIC ASSEMBLY EMERGENCY LIGHTING

BC 116.2.2

☒ FINAL*

28-116.2.4.2, BC 110.5

DIRECTIVE 14 OF 1975, AND 1-RCNY§101-10

SPECIAL AND PROGRESS INSPECTIONS REQUIRED IN ACCORDANCE WITH CHAPTER 17 AND THE APPLICABLE SECTIONS OF THE NYC CONSTRUCTION CODE ARE LISTED IN THE ABOVE TABLES.

THE CONTRACTOR MUST NOTIFY THE ARCHITECT OR ENGINEER FOR SPECIAL AND PROGRESS INSPECTIONS AT LEAST 72 HOURS BEFORE THE SPECIFIC WORK COMMENCES.

REQUIRED INSPECTIONS AND TESTS OF MATERIALS DESIGNATED FOR "SPECIAL INSPECTION" BY THE CONTRACTOR SHALL BE MADE UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER RETAINED BY OR ON THE BEHALF OF THE OWNER WHO SHALL BE ACCEPTABLE TO THE ARCHITECT OR ENGINEER WHO SUPERVISED THE PREPARATION OF THE PLANS.

8

STOREFRONT REPLACEMENT AND DOOR REINSTALLATION NOTES

1. PROVIDE SHOP DRAWINGS FOR REMOVAL AND REINSTALLATION OF ALUMINUM EXIT DOOR AND ASSOCIATED HARDWARE. ALSO INCLUDE SHOP DRAWING FOR REMOVAL AND REPLACEMENT OF DOOR FRAME AND FIXED GLAZING, FOR ARCHITECT TO REVIEW PRIOR TO MANUFACTURER AND INSTALLATION. INCLUDE ALL POSSIBLE NEW ANCHORAGE AND WATERPROOFING REQUIRED PER SITE CONDITIONS FOR ITS INSTALLATION AND MAKING IT WATERTIGHT.

4

LIST OF ABBREVIATIONS / LEGEND

A.F.F.

ABOVE FINISHED FLOOR

DIA.

DIAMETER

HR.

HOOR

ARCH.

ARCHITECTURAL

DOB.

DEPARTMENT OF BUILDINGS

I.D.

INSIDE DIAMETER

@

AT

J.S.

JOINT SEALANT

B.L.

BUILDING LINE

DIM.

DIMENSION

JT.

JOINT

BLDG.

BUILDING

DN

DOWN

LOCS.

LOCATIONS

BLK

BLOCK

DWG.

DRAWING

B.O.

BOTTOM OF

EA.

EACH

MTL.

METAL

CEM.

CEMENT

EQ.

EQUAL

C.B.

CATCH BASIN

EQUIP.

EQUIPMENT

N.I.C

NOT IN CONTRACT

CL

CENTER LINE

EXIST.

EXISTING

O.C

ON CENTER

COL.

COLUMN

EJ.

EXPANSION JOINT

P.C.S

PRE COMPRESSED FOAM SEALANT

CONC.

CONCRETE

FL.

FLOOR

ST.ST.

STAINLESS STEEL

COND.

CONDUIT

G.F.

GROUND FLOOR

V.I.F.

VERIFY IN FIELD

CONT.

CONTINUOUS

GL.

GLASS

W/

WITH

DET.

DETAIL

HORIZ.

HORIZONTAL

WP

WATERPROOFING

SECTION TAG

0

A000

0

A000

DETAIL TAG

0

A000

ELEVATION TAG

0

A000

ELEVATION LEVEL

REVISION NUMBER

0

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

ARCHITECT

ARCHITECTURAL PRESERVATION STUDIO, DPC

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BATTERY PARK CITY AUTHORITY

200 LIBERTY STREET

NEW YORK, NY 10281

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30 WEST 26TH STREET, 4TH FLOOR

NEW YORK, NY 10010

TEL: (212) 420-8119

LOCATION PLAN

NEW AREA OF WORK

WARREN STREET

MURRAY STREET

WEST SIDE HWY

WEST STREET

N END AVE

BLOCK NO. 16

LOT NO. 7519 & 7520

1

OWNER'S REVIEW

90%

5.16.2018

NO.

SUBMISSIONS/ REVISIONS

DATE

TRUE NORTH

PROJECT NORTH

REFERENCE BAR

SEE DRAWINGS FOR SCALE DESIGNATION

PROJECT

200-300 NORTH END AVE

LEAK REMEDIATION DESIGN

200-300 NORTH END AVE

NEW YORK, NY 10282

DRAWING NAME

SCOPE OF WORKS, ALLOWANCE AND NOTES

SEAL & SIGNATURE

DATE: 05.11.2018

PROJECT No: P15-036

SCALE: AS NOTED

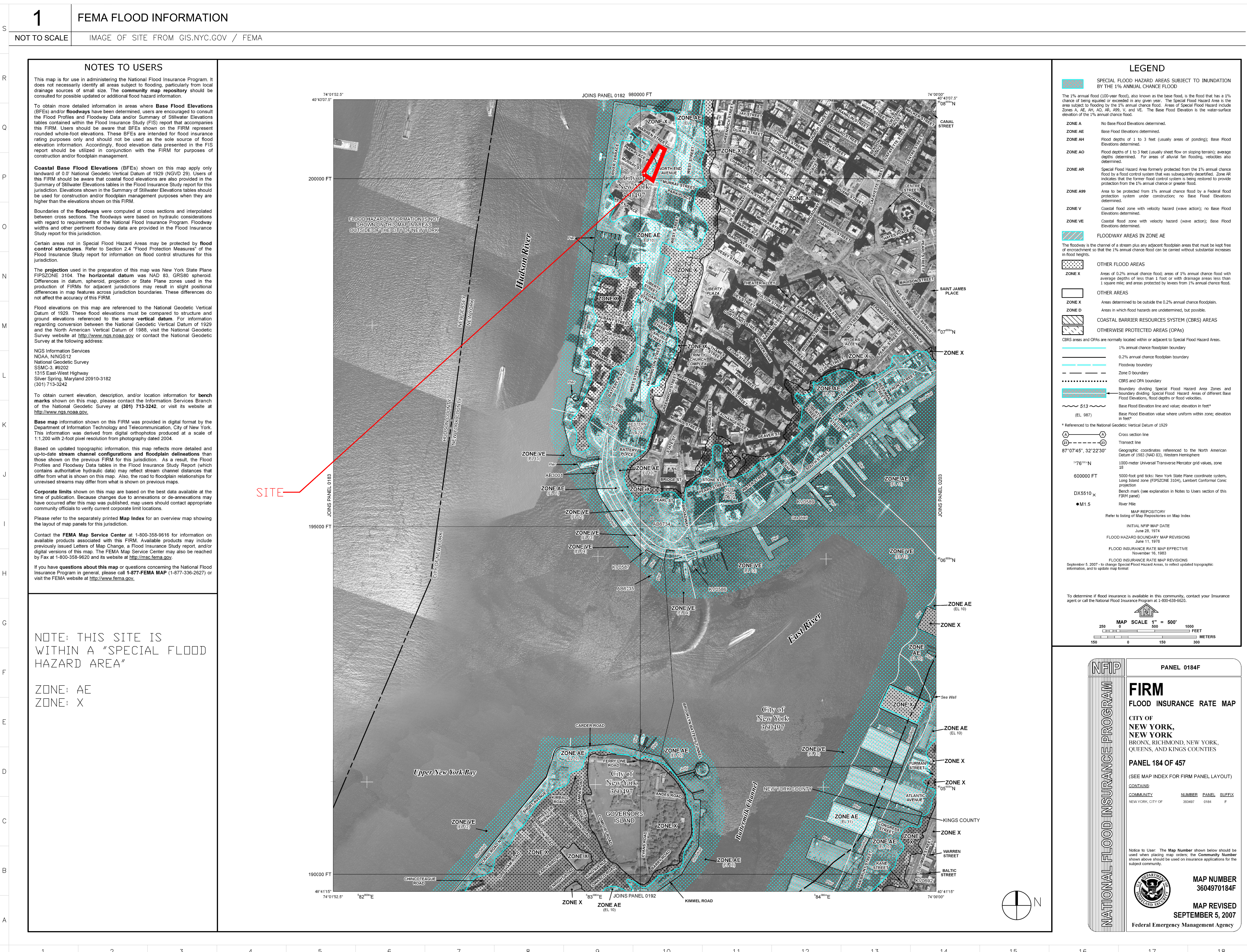
DRAWING BY: WB

CHECKED BY: PUJVF

DWG No: T-002.00

DWG COUNT: 2 OF 27

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NEW YORK, NY 10010
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LOCATION PLAN

NEW AREA OF WORK

WARRENS STREET

WEST STREET

WEST SIDE HWY

MURRAY STREET

BLOCK NO. 16

LOT NO. 7519 & 7520

1	OWNER'S REVIEW	90%	5.16.2018
NO.	SUBMISSIONS/	REVISIONS	DATE

PROJECT NORTH

0 12' 1"

REFERENCE BAR
SEE DRAWINGS FOR
SCALE DESIGNATION

PROJECT

**200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN**

200-300 NORTH END AVE
NEW YORK, NY 10282


DRAWING NAME

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAP NUMBER
3604970184F

MAP REVISED
SEPTEMBER 5, 2007

NOTICE TO USER: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.



DATE: 05.11.2018

PROJECT NO: P15-036

SCALE: AS NOTED

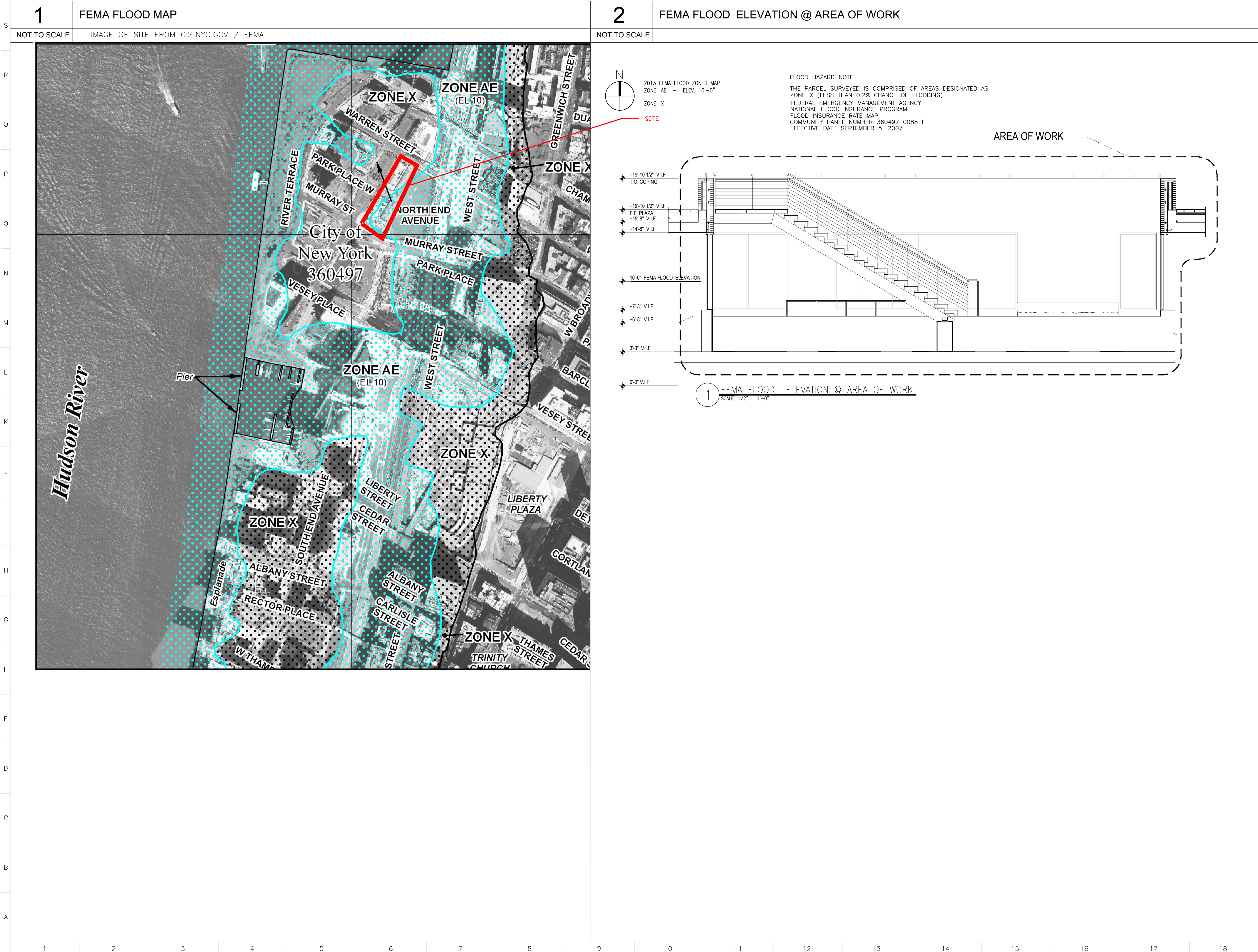
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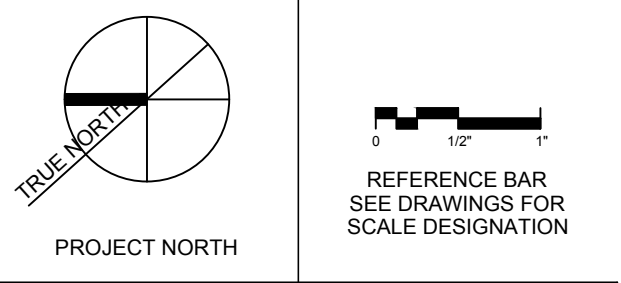
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DWG NO: **T-003.00**

DWG COUNT: 3 OF 27

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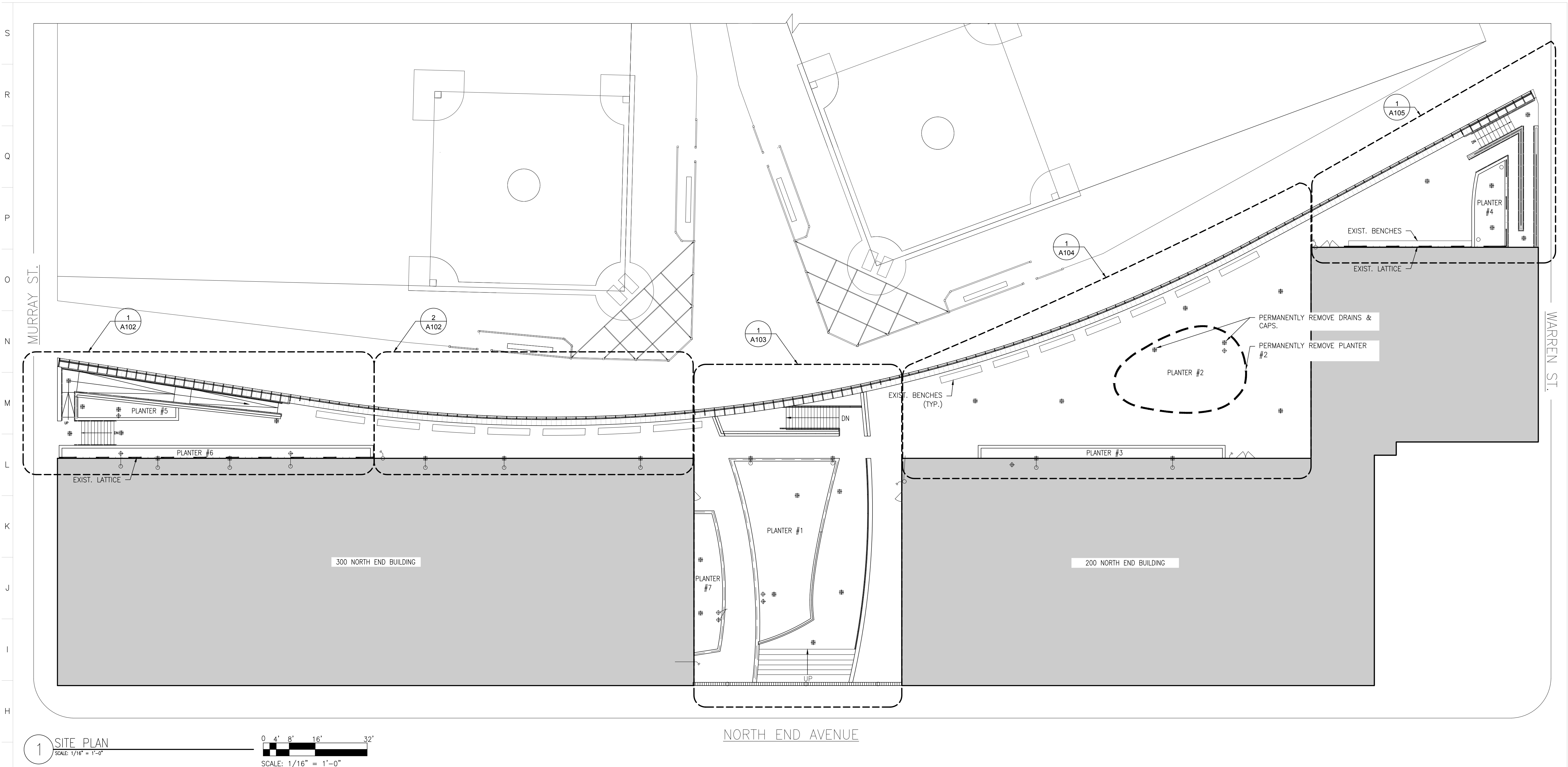




200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN
200-300 NORTH END AVE
NEW YORK, NY 10282


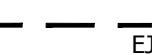
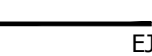


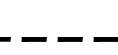
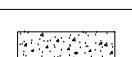
EXISTING SITE PLAN

DATE: 05.11.2018	PROJECT No:	P15-036
	SCALE:	AS NOTED
	DRAWING BY:	WB
	CHECKED BY:	PJ/JVF
	DWG No:	
	A-101.00	
	DWG COUNT:	5 OF 27



LEGEND		
F	PAV01	 <p>UPPER PLAZA – WATERPROOFING AND ASSEMBLY; CAREFULLY REMOVE AND SALVAGE EXISTING PAVERS, GRANITE PANELS AND METAL PANELS ALONG BUILDINGS' PERIMETER FOR REINSTALLATION. REMOVE ALL SUBSTRATE MATERIALS DOWN TO STRUCTURAL DECK. REPAIR DECK WITH MODIFIED REPAIR MORTAR (ASSUME 15%). PREPARE AND PRIME CONCRETE DECK AS REQUIRED TO RECEIVE 3-PLY TORCH DOWN BITUMINOUS WATERPROOFING MEMBRANE, REINFORCED LIQUID FLASHING ALONG ENTIRE PERIMETER OF HORIZONTAL TO VERTICAL BACKUP SURFACES, TERMINATE 8" MIN. ABOVE DECK (TYP.). INSTALL DRAINAGE MAT, INSULATION, FILTER FABRIC, GRAVEL AND PERVIOUS CONCRETE (SLOPED TO DRAINS), AND ASPHALT SETTING BED. REINSTALL EXISTING PAVERS IN RUNNING BOND PATTERN. INSTALL 1" MIN. CLOSED CELL COMPRESSIBLE BACKER ROD AND SEALANT AT PERIMETER BETWEEN PLANTER/PARAPET GRANITE AND PAVERS. ASSUME 20% OF PAVERS REQUIRE REPLACEMENT. SEE DET. 2/A301.</p>
E	PAV02	 <p>PARTIAL LOWER PLAZA WATERPROOFING/ASSEMBLY; REMOVE 3'-0" OF EXISTING PAVERS AND SUBSTRATE MATERIALS TO STRUCTURAL DECK. MAINTAIN EXISTING WATERPROOFING ON STRUCTURAL DECK WHERE SOUNDLY ADHERED. PREPARE HORIZONTAL AND VERTICAL SURFACES AS REQUIRED FOR INSTALLATION OF REINFORCED LIQUID FLASHING. LIQUID FLASHING TO OVERLAP EXISTING SOUND WATERPROOFING SYSTEM AND EXTEND UP FOUNDATION WALL AND TURN IN AT SILL AND JAMBS. REMOVE AND REINSTALL METAL WALL PANELS. REPLACE DIRT AND POUR NEW CONCRETE SLAB ON GRADE. INSTALL HEXAGONAL PAVERS. REPLACE DRAINS AS NOTED ON DRAWINGS. SEE DET. 2/A301 & 4-5/A307.</p>
D	PAR01	 <p>PARAPET/INTEL AND WINDOW WATERPROOFING; REMOVE AND DISPOSE GRANITE BRICKS. REBUILD WITH NEW GRANITE BRICKS TO MATCH EXISTING. REMOVE AND SALVAGE GRANITE AND COPING STONES FOR RE-INSTALLATION, AS NOTED ON DRAWINGS. TYPICAL INTEL BARRIER BACK UP BACK UP WALL, TURNED IN AT SILL AND JAMBS. EXTEND BEYOND THE LINTEL (FORM END DAMS) AND TERMINATE MEMBRANE BY OVERLAPPING THE LIQUID BASE FLASHING, AS PER DETAILS. PROVIDE STAINLESS STEEL BRICK TIES EVERY 2 SQ. FT., WEEPS EVERY 16" O.C., INSULATION AND MORTAR NET. REMOVE EXISTING WINDOW FRAMES AS REQUIRED TO ACCOMPLISH WORK. SEE DET. 1-2/A305.</p>
C	PAR02	 <p>PARAPET COPING, RESETTING, @ PLANTER; REMOVE AND RESET EXIST. GRANITE COPING OVER THROUGH-WALL METAL FLASHING. REMOVE AND REPLACE TWO COURSES OF BRICKWORK BELOW COPING. NEW MASONRY TO MATCH EXIST. SEE DET. 4/A303.</p>
B	PAR03	 <p>PARAPET COPING RESETTING W/ PARAPET BRICK WORK; REMOVE AND RESET EXIST. GRANITE COPING OVER THROUGH-WALL METAL FLASHING. REMOVE AND REPLACE GRANITE FACEBRICK COURSES AS SHOWN IN THE DWGS. NEW MASONRY TO MATCH EXIST. SEE DET. 3/A303.</p>
A		

PLA01		PLASTER WATERPROOFING; AT PLANTERS #1, #3, #4, #5, #6, AND #7. REMOVE AND DISPOSE GRANITE BRICKS. REMOVE AND SALVAGE GRANITE COPING STONES FOR REINSTALLATION, AS NOTED ON DRAWINGS (TYP). REMOVE EXISTING WATERPROOFING AND SUBSTRATE MATERIALS TO STRUCTURAL DECK. REPAIR DECK WITH MODIFIED REPAIR MORTAR (ASSUME 15%). PREPARE AND PRIME DECK TO RECEIVE 3-PLY TORCH DOWN BITUMINOUS WATERPROOFING MEMBRANE. INSTALL REINFORCED FLUID FLASHING UP INBOARD PLANTER WALL TO TERMINATE TOP OF PLANTER CURB. TYPICAL. INSTALL PEEL AND STICK WATERPROOFING MEMBRANE TO OVERLAP FLUID MEMBRANE 4" MIN. AT TOP OF CURB AND BASE FLASHING. PREPARE FLUID FLASHING AT ARE OVERLAP AS PER THE REQUIREMENTS THE MANUFACTURER. REBUILD BRICKWORK TO MATCH EXISTING. SEE DET. 3/A301.
PLA02		PLANTER FILL AND PLANTINGS. REMOVE; AND DISCARD SOIL AND SMALL PLANTINGS. SALVAGE AND RELOCATE TREES AND LARGER PLANTINGS TO BE REPLANTED AS PER THE REQUEST AT BPCA. PROVIDE PLYWOOD COVERS TO TEMPORARILY SEAL AND PROTECT PLANTER OPENINGS. COORDINATE W/ BPCA LANDSCAPE TEAM FOR REMOVAL; INCLUDING FURNISHING TEMPORARY WOOD PLANTERS & REINSTALLATION.
PZR01		PLAZA DRAIN REPLACEMENT/REMOVAL: REMOVE EXISTING CONCRETE CATCH BASINS AND PLAZA DRAINS. INSTALL PLAZA DRAIN AND BODY AS SPECIFIED. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS. GRATES TO BE SLIP RESISTANT AND ADA COMPLAINT. RE-INSTALL EXISTING FRAME AND GRATES. SEE DET. 2/A501.
PZR02		NEW PLAZA DRAIN INSTALLATION: PROVIDE NEW PLAZA DRAIN PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS. GRATES TO BE SLIP RESISTANT AND ADA COMPLAINT. RE-INSTALL EXISTING FRAME AND GRATES. SEE DET. 2/A501. (SIM.)
PTR01		PLANTER DRAIN REPLACEMENT: REMOVE EXISTING CATCH BASINS AND PLANTER DRAINS. INSTALL PLANTER DRAIN AND BODY AS SPECIFIED. SEE DET. 1/A501. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS.
SCR01		SCUPPER DRAIN REPLACEMENT: REMOVE EXISTING SCUPPERS AND CONCRETE CATCH BASINS AT SIDEWALL. INSTALL NEW SIDEWALL SCUPPER DRAINS AND BODY AS SPECIFIED. SEE DET. 4/A501. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. WATERPROOFING BELOW DRAIN BODY. SEE PLUMBING DRAWINGS.
TDR01		TRENCH DRAINS REPLACEMENT: REPLACE EXISTING TRENCH DRAIN AND GRATING AS SPECIFIED. WATERPROOF CONCRETE TROUGH WITH COLD LIQUID APPLIED WATERPROOFING. SEE DET. 3/A501. GRATING TO BE SLIP RESISTANT AND ADA COMPLAINT. SEE PLUMBING DRAWINGS.
EXP01		EXPANSION JOINT (TYPE 1): INSTALL EXPANSION JOINT AT LOT LINE, AS SPECIFIED. SEE DET. 4-6/A301.

EXP02		EXPANSION JOINT (TYPE 2): INSTALL 1 1/4" MINIMUM PRE-COMPRESSED EXPANSION JOINT SYSTEM, AS SPECIFIED, AT HORIZONTAL JOINTS BETWEEN METAL SKIRT AND PLAZA PAVERS (UPPER PLAZA). SEE DET. 3/A402.
EXP03		EXPANSION JOINT (TYPE 3): INSTALL 1/2" MINIMUM COMPRESSIBLE EXPANSION JOINT SYSTEM, AS SPECIFIED AND SHOWN ON DRAWINGS TO CREATE SOFT-CONTROL JOINTS (UPPER PLAZA). SEALANT TO MATCH COLOR OF PAVERS. SEE DET. 1/A403.
EXP04		MASONRY EXPANSION JOINT (TYPE 4): SAW CUT EXISTING CRACK, REPLACE BROKEN GRANITE BRICKS AS NEEDED. INSTALL JOINT STABILIZERS EVERY SIX COURSES. INSTALL BACKER ROD AND SEALANT. SEE DET. 2/A402.
GSR01		GRANITE STEPS AND RAMPS AT NORTH END AVE., WARREN AND MURRAY STREET: CAREFULLY REMOVE AND SALVAGE GRANITE STEP STONES FOR RE-SETTING. SECURE STONES AS PER DRAWINGS. CAREFULLY REMOVE AND SALVAGE EXISTING PAVERS, ASSOCIATED IRONS ETC. FOR REINSTALLATION; REMOVE EXISTING SUBSTRATE MATERIALS AND WATERPROOF DOWN TO CONCRETE FOR REPAIR, WATERPROOFING AND FLASHING, TYPICAL. PREPARE AND PRIME DECK TO RECEIVE NEW WATERPROOFING SYSTEM. TERMINATE MEMBRANE AT PLANTER/PARAPET/BUILDING WALLS AND SIDEWALK INTERFACE. SEE DET. 8/A301.
INJ01		GROUT INJECTION AND CRACK REPAIR AT INTERIOR STAIR AND FOUNDATION WALL; INJECTION GROUTING AT INTERIOR SILL STAND LANDING AND FOUNDATION WALL. AREA TO BE TREATED WITH CRYSTALLINE WATERPROOFING. SEE DET. 2/A401.
SEA01		SEALANT REPLACEMENT; SEALANT JOINT: REMOVE EXISTING JOINT SEALER(S). PREPARE JOINT CAVITY AND PROVIDE NEW BACKER ROD AND SEALANT (OR FLEXIBLE MASONRY JOINT). SEE DET. 1/A402.
RAA01		RAILING POST ANCHORAGE AT GRANITE STONE: RAILING POSTS AND ANCHOR BOLT PENETRATIONS: POST PENETRATIONS AND ANCHOR BOLT PENETRATIONS TO MATCH EXISTING LOCATIONS. PREPARE CONCRETE AND EMBED POST AND/OR ANCHORS IN EPOXY AS INDICATED ON DRAWINGS. AT LOCATIONS, TO BE DETERMINED, WELD BASE PLATES TO EXISTING RAILINGS. SEE DET. 4/A304.
RAA02		RAILING POST ANCHORAGE AT PLAZA: WELD 4" x 4" BASE PLATES TO EXISTING RAILING POST (TBD). EPOXY ANCHOR BOLTS INTO CONC. TOPPING. SEE DET. 3/A304.
SFR01		SIDEWALK FLAGS REPLACEMENT: REPLACE CONCRETE SIDEWALK FLAGS ON WARREN AND MURRAY ST, AS INDICATED ON DRAWINGS. SEE DET. 9/A301.
SFR02		SIDEWALK FLAGS RESET: REMOVE, SALVAGE AND RESET BLUESTONE FLAGS AT NORTH END AVE. SEE DET. 9/A301.

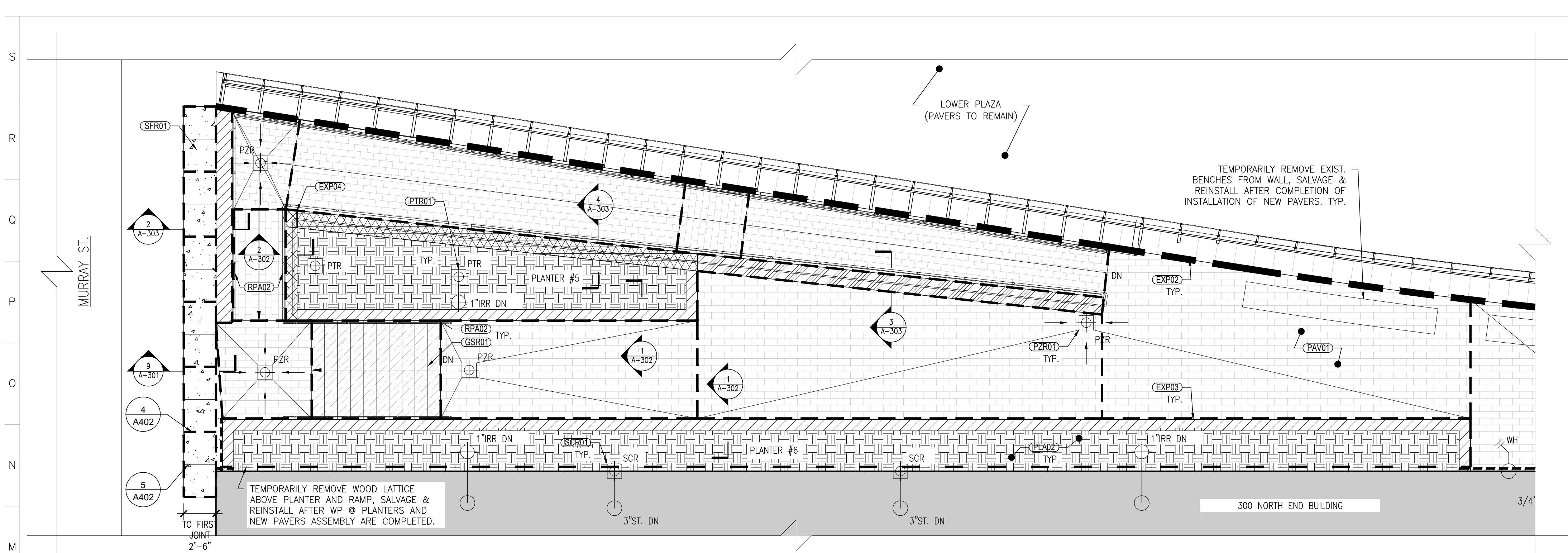
NOTES:

1. THE CONTRACTOR SHALL PROTECT THE PROPERTY AT ALL TIMES OF CONTRACT. PROTECT ALL EXISTING PLAZA-MOUNTED RAILINGS AND PLAZA ROOF PENETRATIONS TO REMAIN; SUPPORT AND PROTECT DURING CONSTRUCTION WORK AS NEEDED. ALL EXISTING PIPING, AND RELATED ITEMS TO REMAIN UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL EXISTING AND NEW WORK, FACILITIES, AND IMPROVEMENTS WITHIN THE AREA OF THE WORK. ALL EXISTING AREAS TO REMAIN AFFECTED BY REMOVAL OR NEW CONSTRUCTION WORK THAT ARE DAMAGED SHALL BE PATCHED AS REQUIRED TO MATCH IMMEDIATE EXISTING ADJACENT AREAS IN MATERIALS, FIRE RATING, FINISH AND COLOR, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL PROVIDE DECK REPAIR PER DETAIL 1/A401.00.
3. THE CONTRACTOR IS TO SUBMIT PAVING LAYOUT SHOP DRAWINGS, INCLUDING EXISTING SLAB ELEVATIONS, SLOPE AND LOCATION OF DRAINS. PROVIDE SURVEY OF EXISTING CONDITIONS AND ELEVATIONS OF EXISTING DECK. CONTRACTOR TO VERIFY AND SURVEY EXISTING DECK AND SLOPES FOR SURVEY SHOP DRAWINGS. PROVIDE SURVEY TO ARCHITECT FOR REVIEW PRIOR TO THE PREPARATION OF DRAWINGS. SUBMIT TAPERED PREVIOUS CONCRETE TOPPING SLAB LAYOUT DRAWINGS SHOWING EXISTING AND PROPOSED PITCH & SLOPE.
4. TEST AND CLEAN PLAZA AND COURTYARD DRAINS AND PIPES, BEFORE AND AFTER INSTALLATION OF THE DRAIN & SNAKE OUT FOR 20'-0".
5. FLOOD-TEST PLAZA AND COURTYARD DRAINS BEFORE & AFTER INSTALLATION.
6. THE CONTRACTOR SHALL PERFORM ALL REMOVAL AND RELATED WORK SHOWN ON THE DRAWINGS, DESCRIBED IN THESE NOTES, AND REASONABLY INFERRED AS NECESSARY TO COMPLETE SCOPE OF WORK.

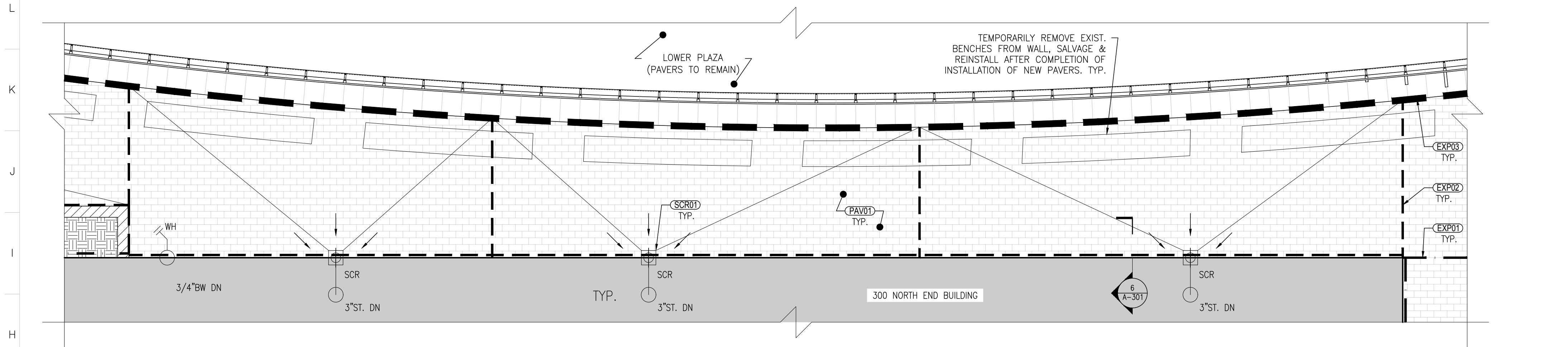
SCOPE OF WORK:

1. REMOVE & RESET PAVERS AT UPPER PLAZA. INSTALL SAND SETTING BED WITH POLYMERIC LIQUID STABILIZER AT JOINTS OF PAVERS. ASSUME 20% REPLACEMENT.
2. REMOVE AND REINSTALL IRRIGATION SYSTEM AND RECONNECT TO MAIN SUPPLY IN KIND AFTER COMPLETION OF WATERPROOFING OF THE PLANTER. SEE PLUMBING DRAWINGS.

7. THE CONTRACTOR SHALL DISPOSE OF REMOVED NON-SALVAGED MATERIAL AND DEBRIS DAILY.
8. PROVIDE TEMPORARY COVERS FOR PROTECTION AS NEEDED. PROTECT ALL THE EQUIPMENT AND COORDINATE WITH BUILDING MANAGEMENT.
9. TEMPORARILY REMOVE ELECTRICAL CONDUIT AND LIGHT FIXTURES AFFECTED DUE TO PLAZA REPAIR. REINSTALL THE CONDUIT AND FIXTURES AFTER REPAIRS. THE CONTRACTOR IS REQ'D TO REPLACE INTERIOR PLASTER, PAINT, AND ANY OTHER FINISHES DAMAGED DURING WORK.
10. THE CONTRACTOR IS TO VERIFY IN FIELD THE HEIGHT OF ALL THE EXISTING PARAPETS TO BE REPAIRED AND MAINTAIN 42-INCH HEIGHT FOR NEW YORK CITY BUILDING CODE.
11. THE CONTRACTOR IS TO PERFORM MISCELLANEOUS ELECTRICAL WORK ASSOCIATED WITH THE SCOPE OF WORK INCLUDING BUT NOT LIMITED TO DISCONNECT/ RECONNECTION OF EXISTING CONDUIT AND FIXTURES AND PROVISION OF TEMPORARY POWER TO FIXTURES INCLUDING SECURITY AND PARAPET RAILING LIGHTING DURING CONSTRUCTION.
12. CONTRACTOR TO SURVEY THE AREA OF WORK AFTER REMOVAL OF PARGE COAT AND PROVIDE SHOP DRAWINGS INDICATING THE EXACT LOCATION OF THE INJECTION PORTS AS PER THE FIELD CONDITIONS.
13. REPAIR DAMAGED INTERIOR FINISHES AT LOWER LEVEL. AREA OF WORK TO MATCH EXIST.
14. TEMPORARILY REMOVE & REINSTALL EX. IRRIGATION SYSTEM AS REQUIRED TO ACCOMPLISH THE WORK.
15. LEVEL OF FINISH WORK TO MEET EXIST. STAIR & RAMP LANDING LEVELS.



1 PARTIAL PLAN @ UPPER PLAZA
SCALE: 3/16" = 1'-0"



2 PARTIAL PLAN @ UPPER PLAZA
SCALE: 3/16" = 1'-0"

NOTES:

- THE CONTRACTOR SHALL PROTECT THE PROPERTY AT ALL TIMES OF CONTRACT. PROTECT ALL EXISTING PLAZA-MOUNTED RAILINGS AND PLAZA ROOF PENETRATIONS TO REMAIN; SUPPORT AND PROTECT DURING CONSTRUCTION WORK AS NEEDED. ALL EXISTING PIPING, AND RELATED ITEMS TO REMAIN UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL EXISTING AND NEW WORK, FACILITIES, AND IMPROVEMENTS WITHIN THE AREA OF THE WORK. ALL EXISTING AREAS TO REMAIN AFFECTED BY REMOVAL OR NEW CONSTRUCTION WORK THAT ARE DAMAGED SHALL BE PATCHED AS REQUIRED TO MATCH IMMEDIATE EXISTING ADJACENT AREAS IN MATERIALS, FIRE RATING, FINISH AND COLOR, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE DECK REPAIR PER DETAIL 1/A401.00.
- THE CONTRACTOR IS TO SUBMIT PAVING LAYOUT SHOP DRAWINGS, INCLUDING EXISTING SLAB ELEVATIONS, SLOPE AND LOCATION OF DRAINS. PROVIDE SURVEY OF EXISTING CONDITIONS AND ELEVATIONS OF EXISTING DECK. CONTRACTOR TO VERIFY AND SURVEY EXISTING DECK AND SLOPES FOR SURVEY SHOP DRAWINGS. PROVIDE SURVEY TO ARCHITECT FOR REVIEW PRIOR TO THE PREPARATION OF DRAWINGS. SUBMIT TAPERED PERVIOUS CONCRETE TOPPING SLAB LAYOUT DRAWINGS SHOWING EXISTING AND PROPOSED PITCH & SLOPE.
- TEST AND CLEAN PLAZA AND COURTYARD DRAINS AND PIPES, BEFORE AND AFTER INSTALLATION OF THE DRAIN & SNAKE OUT FOR 20'-0".
- FLOOD-TEST PLAZA AND COURTYARD DRAINS BEFORE & AFTER INSTALLATION.
- THE CONTRACTOR SHALL PERFORM ALL REMOVAL AND RELATED WORK SHOWN ON THE DRAWINGS, DESCRIBED IN THESE NOTES, AND REASONABLY INFERRED AS NECESSARY TO COMPLETE SCOPE OF WORK.
- THE CONTRACTOR SHALL DISPOSE OF REMOVED NON-SALVAGED MATERIAL AND DEBRIS DAILY.
- PROVIDE TEMPORARY COVERS FOR PROTECTION AS NEEDED. PROTECT ALL THE EQUIPMENT AND COORDINATE WITH BUILDING MANAGEMENT.
- TEMPORARILY REMOVE ELECTRICAL CONDUIT AND LIGHT FIXTURES AFFECTED DUE TO PLAZA REPAIR. REINSTALL THE CONDUIT AND FIXTURES AFTER REPAIRS. THE CONTRACTOR IS REQ'D TO REPLACE INTERIOR PLASTER, PAINT, AND ANY OTHER FINISHES DAMAGED DURING WORK.
- THE CONTRACTOR IS TO VERIFY IN FIELD THE HEIGHT OF ALL THE EXISTING PARAPETS TO BE REPAIRED AND MAINTAIN 42-INCH HEIGHT FOR NEW YORK CITY BUILDING CODE.

- THE CONTRACTOR IS TO PERFORM MISCELLANEOUS ELECTRICAL WORK ASSOCIATED WITH THE SCOPE OF WORK INCLUDING BUT NOT LIMITED TO DISCONNECT/ RECONNECTION OF EXISTING CONDUIT AND FIXTURES AND PROVISION OF TEMPORARY POWER TO FIXTURES INCLUDING SECURITY AND PARAPET RAILING LIGHTING DURING CONSTRUCTION.
- CONTRACTOR TO SURVEY THE AREA OF WORK AFTER REMOVAL OF PARGE COAT AND PROVIDE SHOP DRAWINGS INDICATING THE EXACT LOCATION OF THE INJECTION PORTS AS PER THE FIELD CONDITIONS.
- REPAIR DAMAGED INTERIOR FINISHES AT LOWER LEVEL. AREA OF WORK TO MATCH EXIST.
- TEMPORARILY REMOVE & REINSTALL EX. IRRIGATION SYSTEM AS REQUIRED TO ACCOMPLISH THE WORK.
- LEVEL OF FINISH WORK TO MEET EXIST. STAIR & RAMP LANDING LEVELS.

SCOPE OF WORK:

- REMOVE & RESET PAVERS AT UPPER PLAZA. INSTALL SAND SETTING BED WITH POLYMERIC LIQUID STABILIZER AT JOINTS OF PAVERS. ASSUME 20% REPLACEMENT.

LEGEND	
PAV01	UPPER PLAZA - WATERPROOFING AND ASSEMBLY; CAREFULLY REMOVE AND SALVAGE EXISTING PAVERS, GRANITE PANELS AND METAL PANELS ALONG BUILDINGS' PERIMETER FOR REINSTALLATION. REMOVE ALL SUBSTRATE MATERIALS DOWN TO STRUCTURAL DECK. REPAIR DECK WITH MODIFIED REPAIR MORTAR (ASSUME 15%). PREPARE AND PRIME CONCRETE DECK AS REQUIRED TO RECEIVE 3-PLY TORCH DOWN BITUMINOUS WATERPROOFING MEMBRANE, REINFORCED LIQUID FLASHING ALONG ENTIRE PERIMETER OF HORIZONTAL TO VERTICAL BACKUP SURFACES, TERMINATE 8" MIN. ABOVE DECK (TYP.). INSTALL DRAINAGE MAT, INSULATION, FILTER FABRIC, GRAVEL AND PERVIOUS CONCRETE (SLOPED TO DRAINS), AND ASPHALT SETTING BED. REINSTALL EXISTING PAVERS IN RUNNING BOND PATTERN. INSTALL 1" MIN. CLOSED CELL COMPRESSIBLE BACKER ROD AND SEALANT AT PERIMETER BETWEEN PLANTER/PARAPET GRANITE AND PAVERS. ASSUME 20% OF PAVERS REQUIRE REPLACEMENT. SEE DET. 2/A301.
PAV02	PARTIAL LOWER PLAZA WATERPROOFING/ASSEMBLY; REMOVE 3'-0" OF EXISTING PAVERS AND SUBSTRATE MATERIALS TO STRUCTURAL DECK. MAINTAIN EXISTING WATERPROOFING ON STRUCTURAL DECK WHERE SOUNDLY ADHERED. PREPARE HORIZONTAL AND VERTICAL SURFACES AS REQUIRED FOR INSTALLATION OF REINFORCED LIQUID FLASHING. LIQUID FLASHING TO OVERLAP EXISTING SOUND WATERPROOFING SYSTEM AND EXTEND UP FOUNDATION WALL AND TURN IN AT SILL AND JAMBS. REMOVE AND REINSTALL METAL WALL PANELS. REPLACE DIRT AND POUR NEW CONCRETE SLAB ON GRADE. INSTALL HEXAGONAL PAVERS. REPLACE DRAINS AS NOTED ON DRAWINGS. SEE DET. 2/A301 & 4-5/A307.
PAR01	PARAPET/LINTEL AND WINDOW WATERPROOFING; REMOVE AND DISPOSE GRANITE BRICKS. REBUILD WITH NEW GRANITE BRICKS TO MATCH EXISTING. REMOVE AND SALVAGE GRANITE AND COPING STONES FOR RE-INSTALLATION, AS NOTED ON DRAWINGS. TYPICAL. INSTALL VAPOR BARRIER UP BACK UP WALL, TURNED IN AT SILL AND JAMBS, EXTEND BEYOND THE LINTEL (FORM END DAMS) AND TERMINATE MEMBRANE BY OVERLAPPING THE LIQUID BASE FLASHING, AS PER DETAILS. PROVIDE STAINLESS STEEL BRICK TIES EVERY 2 SQ. FT., WEEPS EVERY 16" O.C., INSULATION AND MORTAR NET. REMOVE EXISTING WINDOW FRAMES AS REQUIRED TO ACCOMPLISH WORK. SEE DET. 1-2/A305.
PAR02	PARAPET COPING RESETTING @ PLANTER; REMOVE AND RESET EXIST. GRANITE COPING OVER THROUGH-WALL METAL FLASHING. REMOVE AND REPLACE TWO COURSES OF BRICKWORK BELOW COPING. NEW MASONRY TO MATCH EXIST. SEE DET. 4/A303.
PAR03	PARAPET COPING RESETTING W/ PARTIAL BRICK WORK; REMOVE AND RESET EXIST. GRANITE COPING OVER THROUGH-WALL METAL FLASHING. REMOVE AND REPLACE GRANITE FACEBRICK COURSES AS SHOWN IN THE DWGS. NEW MASONRY TO MATCH EXIST. SEE DET. 3/A303.
PLA01	PLANTER WATERPROOFING; AT PLANTERS #1, #3, #4, #5, #6, AND #7; REMOVE AND DISPOSE GRANITE BRICKS. REMOVE AND SALVAGE GRANITE COPING STONES FOR REINSTALLATION, AS NOTED ON DRAWINGS (TYP.). REMOVE EXISTING WATERPROOFING AND SUBSTRATE MATERIALS TO STRUCTURAL DECK. REPAIR DECK WITH MODIFIED REPAIR MORTAR (ASSUME 15%). PREPARE AND PRIME DECK TO RECEIVE 3-PLY TORCH DOWN BITUMINOUS WATERPROOFING MEMBRANE. INSTALL REINFORCED LIQUID FLASHING UP INBOARD PLANTER WALL TO TERMINATE TOP OF PLANTER CURB, TYPICAL. INSTALL PEEL AND STICK WATERPROOFING MEMBRANE TO OVERLAP LIQUID MEMBRANE 4" MIN. AT TOP OF CURB AND BASE FLASHING. PREPARE LIQUID FLASHING AT ARE OVERLAP AS PER THE REQUIREMENTS THE MANUFACTURER. REBUILD BRICKWORK TO MATCH EXISTING. SEE DET. 3/A301.
PLA02	PLANTER FILL AND PLANTINGS REMOVAL; REMOVE AND DISCARD SOIL AND SMALL PLANTINGS; SALVAGE AND RELOCATE TREES AND LARGER PLANTINGS TO BE REPLANTED AS PER THE REQUEST AT BPCA. PROVIDE PLYWOOD COVERS TO TEMPORARILY SEAL AND PROTECT PLANTER OPENINGS. COORDINATE W/ BPCA LANDSCAPE TEAM FOR REMOVAL; INCLUDING FURNISHING TEMPORARY WOOD PLANTERS & REINSTALLATION.
PZR01	PLAZA DRAIN REPLACEMENT/REMOVAL; REMOVE EXISTING CONCRETE CATCH BASINS AND PLAZA DRAINS. INSTALL PLAZA DRAIN AND BODY AS SPECIFIED. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS. GRATES TO BE SLIP RESISTANT AND ADA COMPLAINT. RE-INSTALL EXISTING FRAME AND GRATES. SEE DET. 2/A501.
PZR02	NEW PLAZA DRAIN INSTALLATION; PROVIDE NEW PLAZA DRAIN PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS. GRATES TO BE SLIP RESISTANT AND ADA COMPLAINT. RE-INSTALL EXISTING FRAME AND GRATES. SEE DET. 2/A501. (SIM.)
PTR01	PLANTER DRAIN REPLACEMENT; REMOVE EXISTING CATCH BASINS AND PLANTER DRAINS. INSTALL PLANTER DRAIN AND BODY AS SPECIFIED. SEE DET. 1/A501. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS.
SCR01	SCUPPER DRAIN REPLACEMENT; REMOVE EXISTING SCUPPERS AND CONCRETE CATCH BASINS AT SIDEWALL. INSTALL NEW SIDEWALL SCUPPER DRAINS AND BODY AS SPECIFIED. SEE DET. 4/A501. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. WATERPROOFING BELOW DRAIN BODY. SEE PLUMBING DRAWINGS.
TDR01	TRENCH DRAINS REPLACEMENT; REPLACE EXISTING TRENCH DRAIN AND GRATING AS SPECIFIED. WATERPROOF CONCRETE TROUGH WITH COLD LIQUID APPLIED WATERPROOFING. SEE DET. 3/A501. GRATING TO BE SLIP RESISTANT AND ADA COMPLAINT. SEE PLUMBING DRAWINGS.
EXP01	EXPANSION JOINT (TYPE 1); INSTALL EXPANSION JOINT AT LOT LINE, AS SPECIFIED. SEE DET. 4-6/A301.
EXP02	EXPANSION JOINT (TYPE 2); INSTALL 1 1/4" MINIMUM PRE-COMPRESSED EXPANSION JOINT SYSTEM, AS SPECIFIED, AT HORIZONTAL JOINTS BETWEEN METAL SKIRT AND PLAZA PAVERS (UPPER PLAZA). SEE DET. 3/A402.
EXP03	EXPANSION JOINT (TYPE 3); INSTALL 1/2" MINIMUM COMPRESSIBLE EXPANSION JOINT SYSTEM, AS SPECIFIED AND SHOWN ON DRAWINGS TO CREATE SOFT-CONTROL JOINTS (UPPER PLAZA). SEALANT TO MATCH COLOR OF PAVERS. SEE DET. 1/A403.
EXP04	MASONRY EXPANSION JOINT (TYPE 4); SAW CUT EXISTING CRACK, REPLACE BROKEN GRANITE BRICKS AS NEEDED. INSTALL JOINT STABILIZERS EVERY SIX COURSES. INSTALL BACKER ROD AND SEALANT. SEE DET. 2/A402.
GSR01	GRANITE STEPS AND RAMPS AT NORTH END AVE., WARREN, AND MURRAY STREET; CAREFULLY REMOVE AND SALVAGE GRANITE STEP STONES FOR RE-SETTING. SECURE STONES AS PER DRAWINGS. CAREFULLY REMOVE AND SALVAGE EXISTING PAVERS, ASSOCIATED RAILINGS ETC. FOR REINSTALLATION; REMOVE EXISTING SUBSTRATE MATERIALS AND WATERPROOFING DOWN TO CONCRETE FOR REPAIR. WATERPROOFING AND FLASHING, TYPICAL. PREPARE AND PRIME DECK TO RECEIVE NEW WATERPROOFING SYSTEM. TERMINATE MEMBRANE AT PLANTER/PARAPET/BUILDING WALLS AND SIDEWALK INTERFACE. SEE DET. 6/A301.
INJ01	GROUT INJECTION AND CRACK REPAIR AT INTERIOR STAIR AND FOUNDATION WALL; INJECTION GROUTING AT INTERIOR SILL STAIR LANDING AND FOUNDATION WALL. AREA TO BE TREATED WITH CRYSTALLINE WATERPROOFING. SEE DET. 2/A401.
SEA01	SEALANT REPLACEMENT; SEALANT JOINT; REMOVE EXISTING JOINT SEALER(S). PREPARE JOINT CAVITY AND PROVIDE NEW BACKER ROD AND SEALANT (OR FLEXIBLE MASONRY JOINT). SEE DET. 1/A402.
RPA01	RAILING POST ANCHORAGE AT GRANITE STONE; RAILING POSTS AND ANCHOR BOLT PENETRATIONS; POST PENETRATIONS AND ANCHOR BOLT PENETRATIONS TO MATCH EXISTING LOCATIONS. PREPARE CONCRETE AND EMBED POST AND/OR ANCHORS IN EPOXY AS INDICATED ON DRAWINGS. AT LOCATIONS, TO BE DETERMINED, WELD BASE PLATES TO EXISTING RAILINGS. SEE DET. 4/A304.
RPA02	RAILING POST ANCHORAGE AT PLAZA; WELD 4" X 4" BASE PLATE TO EXISTING RAILING POST (TBD). EPOXY ANCHOR BOLTS INTO CONC. TOPPING. SEE DET. 3/A304.
SFR01	SIDEWALK FLAGS REPLACEMENT; REPLACE CONCRETE SIDEWALK FLAGS ON WARREN AND MURRAY ST, AS INDICATED ON DRAWINGS. SEE DET. 9/A301.
SFR02	SIDEWALK FLAGS RESET; REMOVE, SALVAGE AND RESET BLUESTONE FLAGS AT NORTH END AVE. SEE DET. 9/A301.

ARCHITECT

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Architecture, Historic Preservation, & Building Envelope Consulting

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NEW YORK, NY 10281

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JLC ENVIRONMENTAL CONSULTANTS, INC.

30 WEST 26TH STREET, 4TH FLOOR
NEW YORK, NY 10010
TEL: (212) 420-8119

LOCATION PLAN

NEW AREA OF WORK

WARRENS STREET

MURRAY STREET

WEST SIDE HWY

LOT NO. 7519 & 7520

BLOCK NO. 16

1	OWNER'S REVIEW	90%	5.16.2018
NO.	SUBMISSIONS/	REVISIONS	DATE

PROJECT NORTH

REFERENCE BAR
SEE DRAWINGS FOR
SCALE DESIGNATION

PROJECT

200-300 NORTH END AVE
LEAK REMEDIATION DESIGN

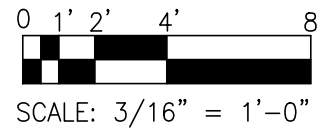
200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME

PARTIAL PLANS @ UPPER LEVEL

SEAL & SIGNATURE

DATE: 05.11.2018
PROJECT NO: P15-036
SCALE: AS NOTED
DRAWING BY: WB
CHECKED BY: PJW/F
DWG NO: A-102.00
DWG COUNT: 6 OF 27

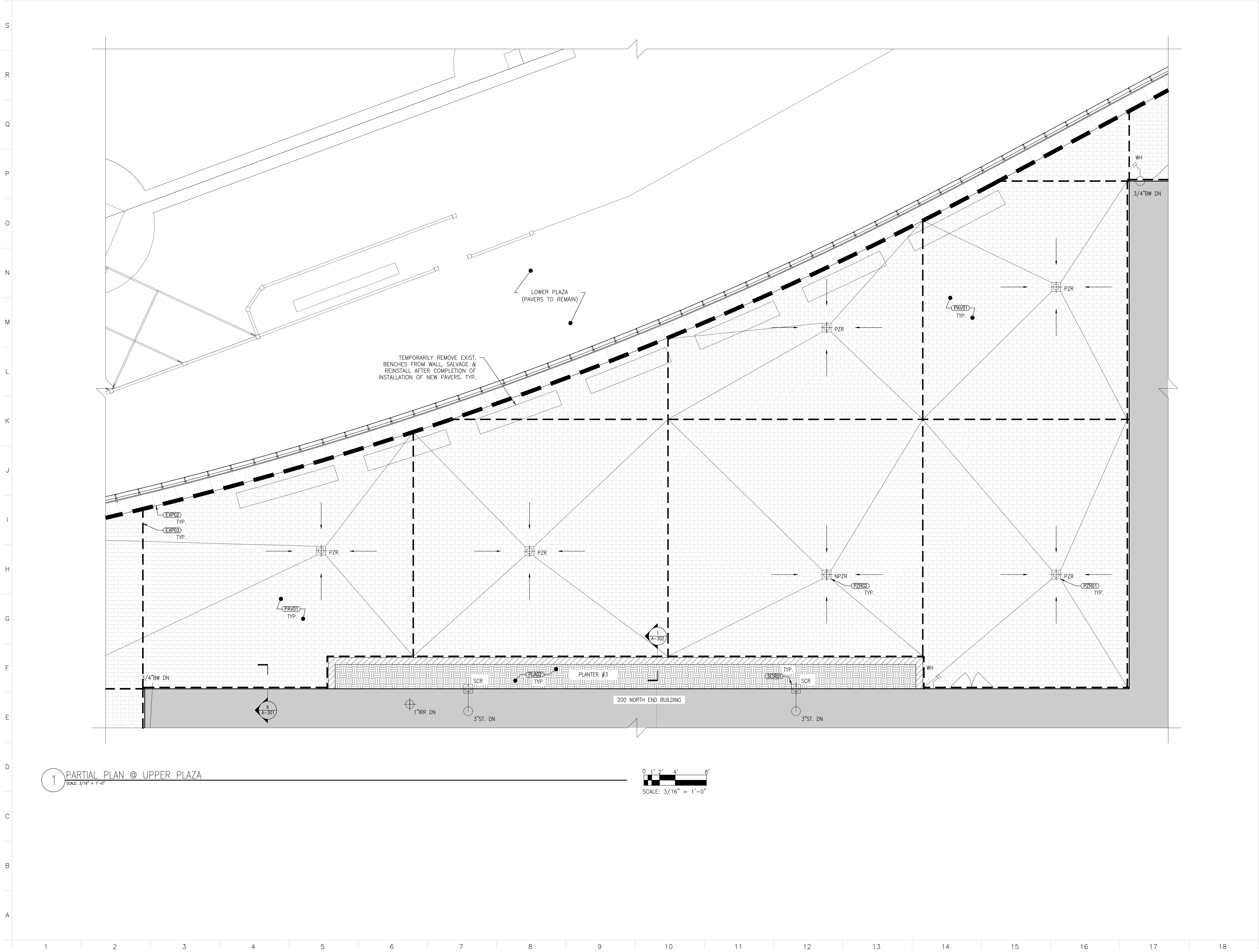


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4. TEST AND CLEAN PLAZA AND COURTYARD DRAINS AND PIPES, BEFORE AND AFTER INSTALLATION OF THE DRAIN & SNAKE OUT FOR 20'-0".
5. FLOOD-TEST PLAZA AND COURTYARD DRAINS BEFORE & AFTER INSTALLATION.
6. THE CONTRACTOR SHALL PERFORM ALL REMOVAL AND RELATED WORK SHOWN ON THE DRAWINGS, DESCRIBED IN THESE NOTES, AND REASONABLY INFERRED AS NECESSARY TO COMPLETE SCOPE OF WORK.
7. THE CONTRACTOR SHALL DISPOSE OF REMOVED NON-SALVAGED MATERIAL AND DEBRIS DAILY.
8. PROVIDE TEMPORARY COVERS FOR PROTECTION AS NEEDED. PROTECT ALL THE EQUIPMENT AND COORDINATE WITH BUILDING MANAGEMENT.
9. TEMPORARILY REMOVE ELECTRICAL CONDUIT AND LIGHT FIXTURES AFFECTED DUE TO PLAZA REPAIR. REINSTALL THE CONDUIT AND FIXTURES AFTER REPAIRS. THE CONTRACTOR IS REQ'D TO REPLACE INTERIOR PLASTER, PAINT, AND ANY OTHER FINISHES DAMAGED DURING WORK.
10. THE CONTRACTOR IS TO VERIFY IN FIELD THE HEIGHT OF ALL THE EXISTING PARAPETS TO BE REPAIRED AND MAINTAIN 42-INCH HEIGHT FOR NEW YORK CITY BUILDING CODE.
11. THE CONTRACTOR IS TO PERFORM MISCELLANEOUS ELECTRICAL WORK ASSOCIATED WITH THE SCOPE OF WORK INCLUDING BUT NOT LIMITED TO DISCONNECT/ RECONNECTION OF EXISTING CONDUIT AND FIXTURES AND PROVISION OF TEMPORARY POWER TO FIXTURES INCLUDING SECURITY AND PARAPET RAILING LIGHTING DURING CONSTRUCTION.
12. CONTRACTOR TO SURVEY THE AREA OF WORK AFTER REMOVAL OF PARGE COAT AND PROVIDE SHOP DRAWINGS INDICATING THE EXACT LOCATION OF THE INJECTION PORTS AS PER THE FIELD CONDITIONS.
13. REPAIR DAMAGED INTERIOR FINISHES AT LOWER LEVEL. AREA OF WORK TO MATCH EXIST.
14. TEMPORARILY REMOVE & REINSTALL EX. IRRIGATION SYSTEM AS REQUIRED TO ACCOMPLISH THE WORK.
15. LEVEL OF FINISH WORK TO MEET EXIST. STAIR & RAMP LANDING LEVELS.

SCOPE OF WORK:

1. REMOVE & RESET PAVERS AT UPPER PLAZA. INSTALL SAND SETTING BED WITH POLYMERIC LIQUID STABILIZER AT JOINTS OF PAVERS. ASSUME 20% REPLACEMENT.
2. REMOVE AND REINSTALL IRRIGATION SYSTEM AND RECONNECT TO MAIN SUPPLY IN KIND AFTER

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LOCATION PLAN

NEW AREA OF WORK

BLOCK NO. 16

LOT NO. 7519 & 7520

1	OWNER'S REVIEW	90%	5.16.2018
NO.	SUBMISSIONS/	REVISIONS	DATE

PROJECT NORTH

REFERENCE BAR
SEE DRAWINGS FOR
SCALE DESIGNATION

PROJECT

200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN

200-300 NORTH END AVE
NEW YORK, NY 10282

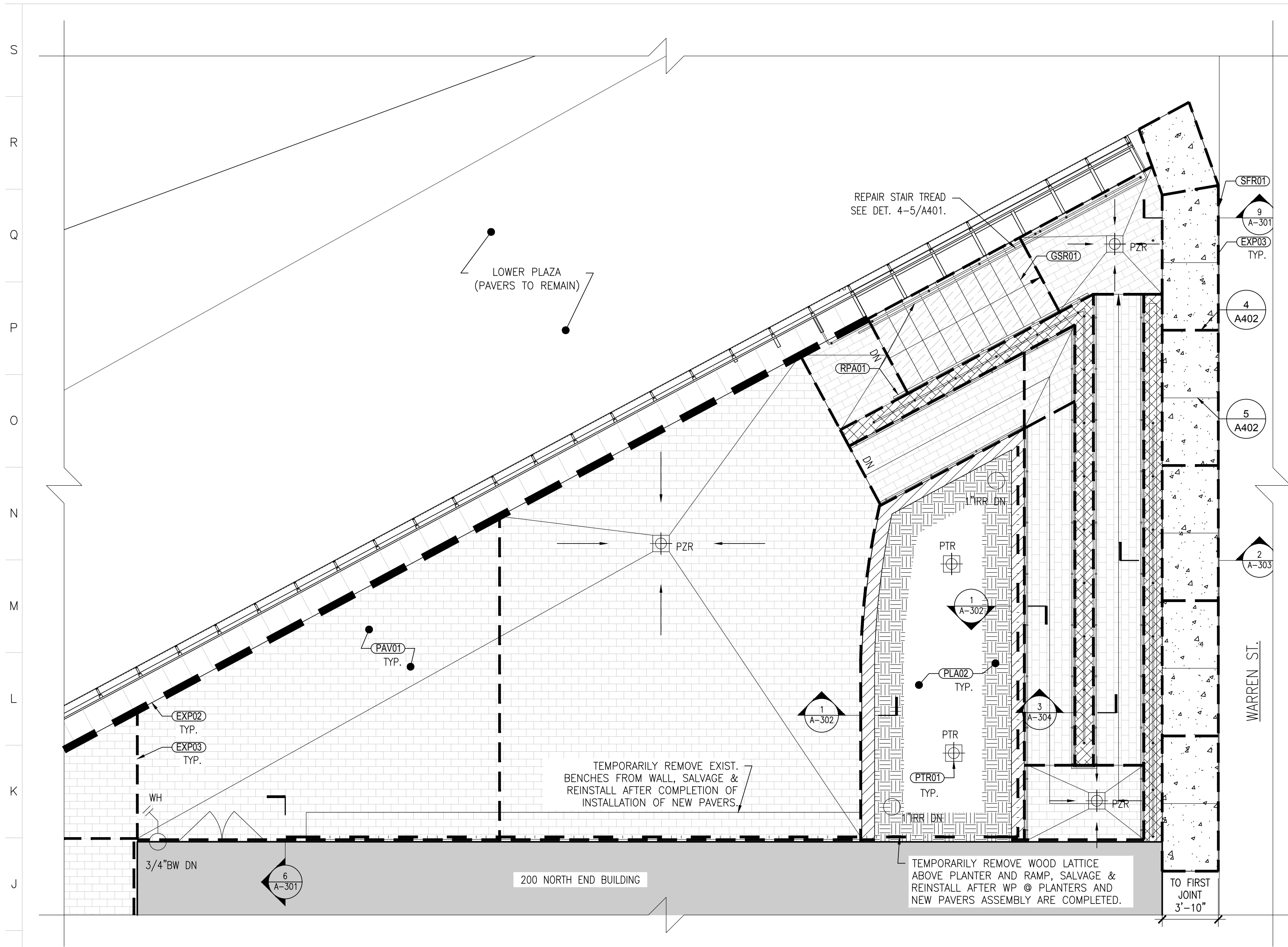
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PARTIAL PLAN @ UPPER
LEVEL

SEAL & SIGNATURE

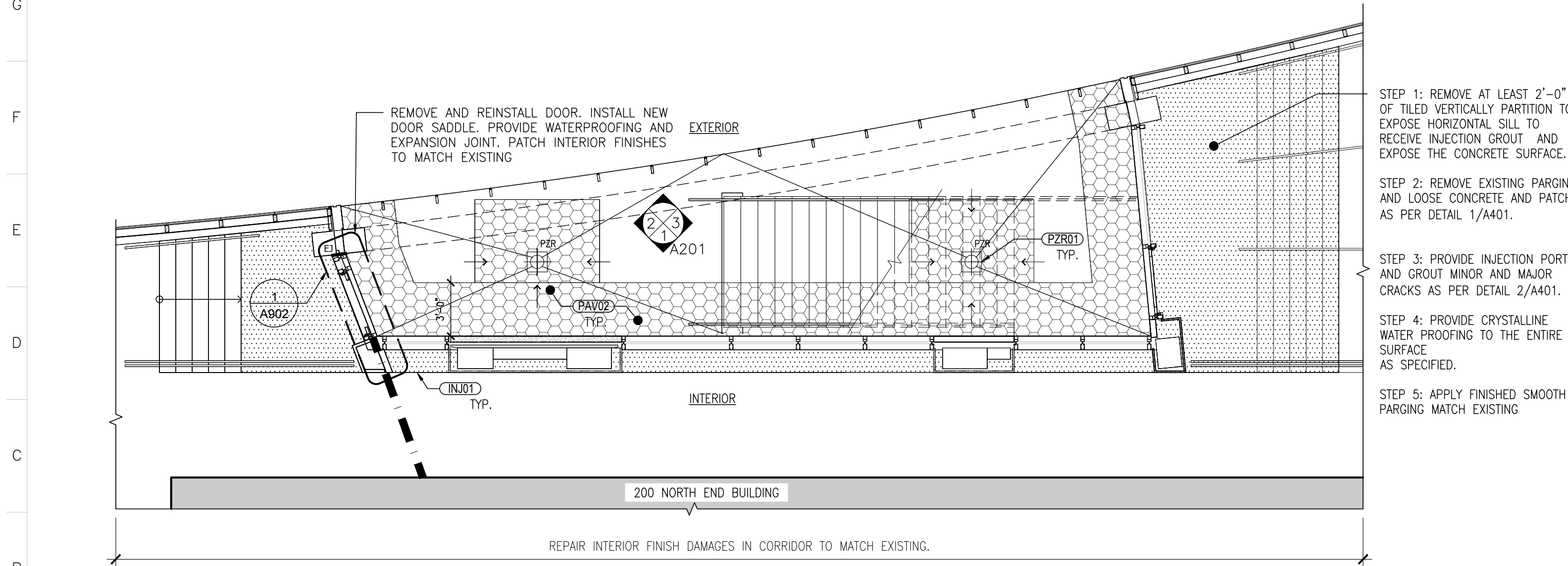
DATE: 05.11.2018
PROJECT NO: P15-036
SCALE: AS NOTED
DRAWING BY: WB
CHECKED BY: PJWF
DWG NO: A-104.00
DWG COUNT: 8 OF 27

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1 PARTIAL PLAN @ UPPER PLAZA
SCALE: 3/16" = 1'-0"

0 1' 2' 4' 8'
SCALE: 3/16" = 1'-0"



2 PARTIAL PLAN @ LOWER PLAZA
SCALE: 3/16" = 1'-0"

0 1' 2' 4' 8'
SCALE: 3/16" = 1'-0"

LEGEND	
PAV01	UPPER PLAZA – WATERPROOFING AND ASSEMBLY: CAREFULLY REMOVE AND SALVAGE EXISTING PAVERS, GRANITE PANELS AND METAL PANELS ALONG BUILDINGS' PERIMETER FOR REINSTALLATION. REMOVE ALL SUBSTRATE MATERIALS DOWN TO STRUCTURAL DECK. REPAIR DECK WITH MODIFIED REPAIR MORTAR (ASSUME 15%). PREPARE AND PRIME CONCRETE DECK AS REQUIRED TO RECEIVE 3-PLY TORCH DOWN BITUMINOUS WATERPROOFING MEMBRANE, REINFORCED LIQUID FLASHING ALONG ENTIRE PERIMETER OF HORIZONTAL TO VERTICAL BACKUP SURFACES, TERMINATE 8" MIN. ABOVE DECK (TYP.). INSTALL DRAINAGE MAT, INSULATION, FILTER FABRIC, GRAVEL AND PERVIOUS CONCRETE (SLOPED TO DRAINS), AND ASPHALT SETTING BED. REINSTALL EXISTING PAVERS IN RUNNING BOND PATTERN. INSTALL 1" MIN. CLOSED CELL COMPRESSIBLE BACKER ROD AND SEALANT AT PERIMETER BETWEEN PLANTER/PARAPET GRANITE AND PAVERS. ASSUME 20% OF PAVERS REQUIRE REPLACEMENT. SEE DET. 2/A301.
PAV02	PARTIAL LOWER PLAZA WATERPROOFING/ASSEMBLY: REMOVE 3'-0" OF EXISTING PAVERS AND SUBSTRATE MATERIALS TO STRUCTURAL DECK. MAINTAIN EXISTING WATERPROOFING ON STRUCTURAL DECK WHERE SOUNDLY ADHERED. PREPARE HORIZONTAL AND VERTICAL SURFACES AS REQUIRED FOR INSTALLATION OF REINFORCED LIQUID FLASHING. LIQUID FLASHING TO OVERLAP EXISTING SOUND WATERPROOFING SYSTEM AND EXTEND UP FOUNDATION WALL AND TURN IN AT SILL AND JAMBS. REMOVE AND REINSTALL METAL WALL PANELS. REPLACE DIRT AND POUR NEW CONCRETE SLAB ON GRADE. INSTALL HEXAGONAL PAVERS. REPLACE DRAINS AS NOTED ON DRAWINGS. SEE DET. 2/A301 & 4-5/A307.
PAR01	PARAPET/LINTEL AND WINDOW WATERPROOFING: REMOVE AND DISPOSE GRANITE BRICKS. REBUILD WITH NEW GRANITE BRICKS TO MATCH EXISTING. REMOVE AND SALVAGE GRANITE AND COPING STONES FOR RE-INSTALLATION, AS NOTED ON DRAWINGS, TYPICAL. INSTALL VAPOR BARRIER UP BACK UP WALL, TURNED IN AT SILL AND JAMBS. EXTEND BEYOND THE LINTEL (FORM END DAMS) AND TERMINATE MEMBRANE BY OVERLAPPING THE LIQUID BASE FLASHING, AS PER DETAILS. PROVIDE STAINLESS STEEL BRICK TIES EVERY 2 SO. FT., WEEPS EVERY 16" O.C. INSULATION AND MORTAR NET. REMOVE EXISTING WINDOW FRAMES AS REQUIRED TO ACCOMPLISH WORK. SEE DET. 1-2/A305.
PAR02	PARAPET COPING RESETTING @ PLANTER: REMOVE AND RESET EXIST. GRANITE COPING OVER THROUGH-WALL METAL FLASHING. REMOVE AND REPLACE TWO COURSES OF BRICKWORK BELOW COPING. NEW MASONRY TO MATCH EXIST. SEE DET. 4/A303.
PAR03	PARAPET COPING RESETTING W/ PARTIAL BRICK WORK: REMOVE AND RESET EXIST. GRANITE COPING OVER THROUGH-WALL METAL FLASHING. REMOVE AND REPLACE GRANITE FACERICK COURSES AS SHOWN IN THE DWGS. NEW MASONRY TO MATCH EXIST. SEE DET. 3/A303.
PLA01	PLANTER WATERPROOFING: AT PLANTERS #1, #3, #4, #5, #6, AND #7, REMOVE AND DISPOSE GRANITE BRICKS. REMOVE AND SALVAGE GRANITE COPING STONES FOR REINSTALLATION, AS NOTED ON DRAWINGS (TYP.). REMOVE EXISTING WATERPROOFING AND SUBSTRATE MATERIALS TO STRUCTURAL DECK. REPAIR DECK WITH MODIFIED REPAIR MORTAR (ASSUME 15%). PREPARE AND PRIME DECK TO RECEIVE 3-PLY TORCH DOWN BITUMINOUS WATERPROOFING MEMBRANE. INSTALL REINFORCED LIQUID FLASHING UP INBOARD PLANTER WALL TO TERMINATE TOP OF PLANTER CURB, TYPICAL. INSTALL PEEL AND STICK WATERPROOFING MEMBRANE TO OVERLAP LIQUID MEMBRANE 4" MIN. AT TOP OF CURB AND BASE FLASHING. PREPARE LIQUID FLASHING AT ARE OVERLAP AS PER THE REQUIREMENTS THE MANUFACTURER. REBUILD BRICKWORK TO MATCH EXISTING. SEE DET. 3/A301.
PLA02	PLANTER FILL AND PLANTINGS REMOVAL: REMOVE AND DISCARD SOIL AND SMALL PLANTINGS; SALVAGE AND RELOCATE TREES AND LARGER PLANTINGS TO BE REPLANTED AS PER THE REQUEST AT BPCL. PROVIDE PLYWOOD COVERS TO TEMPORARILY SEAL AND PROTECT PLANTER OPENINGS. COORDINATE W/ BPCL LANDSCAPE TEAM FOR REMOVAL; INCLUDING FURNISHING TEMPORARY WOOD PLANTERS & REINSTALLATION.
PZR01	PLAZA DRAIN REPLACEMENT/REMOVAL: REMOVE EXISTING CONCRETE CATCH BASINS AND PLAZA DRAINS. INSTALL PLAZA DRAIN AND BODY AS SPECIFIED. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS. GRATES TO BE SLIP RESISTANT AND ADA COMPLAINT. RE-INSTALL EXISTING FRAME AND GRATES. SEE DET. 2/A501.
PZR02	NEW PLAZA DRAIN INSTALLATION: PROVIDE NEW PLAZA DRAIN PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS. GRATES TO BE SLIP RESISTANT AND ADA COMPLAINT. RE-INSTALL EXISTING FRAME AND GRATES. SEE DET. 2/A501. (SIM.)
PTR01	PLANTER DRAIN REPLACEMENT: REMOVE EXISTING CATCH BASINS AND PLANTER DRAINS. INSTALL PLANTER DRAIN AND BODY AS SPECIFIED. SEE DET. 1/A501. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. SEE PLUMBING DRAWINGS.
SCR01	SCUPPER DRAIN REPLACEMENT: REMOVE EXISTING SCUPPERS AND CONCRETE CATCH BASINS AT SIDEWALL. INSTALL NEW SIDEWALL SCUPPER DRAINS AND BODY AS SPECIFIED. SEE DET. 4/A501. PROVIDE NEW PIPED CONNECTIONS TO EXISTING PLUMBING LINES. WATERPROOFING BELOW DRAIN BODY. SEE PLUMBING DRAWINGS.
TDR01	TRENCH DRAINS REPLACEMENT: REPLACE EXISTING TRENCH DRAIN AND GRATING AS SPECIFIED. WATERPROOF CONCRETE TROUGH WITH COLD LIQUID APPLIED WATERPROOFING. SEE DET. 3/A501. GRATING TO BE SLIP RESISTANT AND ADA COMPLAINT. SEE PLUMBING DRAWINGS.
EXP01	EXPANSION JOINT (TYPE 1): INSTALL EXPANSION JOINT AT LOT LINE, AS SPECIFIED. SEE DET. 4-6/A301.
EXP02	EXPANSION JOINT (TYPE 2): INSTALL 1 1/4" MINIMUM PRE-COMPRESSED EXPANSION JOINT SYSTEM, AS SPECIFIED, AT HORIZONTAL JOINTS BETWEEN METAL SKIRT AND PLAZA PAVERS (UPPER PLAZA). SEE DET. 3/A402.
EXP03	EXPANSION JOINT (TYPE 3): INSTALL 1/2" MINIMUM COMPRESSIBLE EXPANSION JOINT SYSTEM, AS SPECIFIED AND SHOWN ON DRAWINGS TO CREATE SOFT-CONTROL JOINTS (UPPER PLAZA). SEALANT TO MATCH COLOR OF PAVERS. SEE DET. 1/A403.
EXP04	MASONRY EXPANSION JOINT (TYPE 4): SAW CUT EXISTING CRACK, REPLACE BROKEN GRANITE BRICKS AS NEEDED. INSTALL JOINT STABILIZERS EVERY SIX COURSES. INSTALL BACKER ROD AND SEALANT. SEE DET. 2/A402.
GSR01	GRANITE STEPS AND RAMPS AT NORTH END AVE., WARREN AND MURRAY STREET: CAREFULLY REMOVE AND SALVAGE GRANITE STEP STONES FOR RE-SETTING. SECURE STONES AS PER DRAWINGS. CAREFULLY REMOVE AND SALVAGE EXISTING PAVERS, ASSOCIATED RAILINGS ETC. FOR REINSTALLATION; REMOVE EXISTING SUBSTRATE MATERIALS AND WATERPROOFING DOWN TO CONCRETE FOR REPAIR, WATERPROOFING AND FLASHING, TYPICAL. PREPARE AND PRIME DECK TO RECEIVE NEW WATERPROOFING SYSTEM. TERMINATE MEMBRANE AT PLANTER/PARAPET/BUILDING WALLS AND SIDEWALK INTERFACE. SEE DET. 8/A301.
INOJ1	GROUT INJECTION AND CRACK REPAIR AT INTERIOR STAIR AND FOUNDATION WALL: INJECTION GROUTING AT INTERIOR SILL STAIR LANDING AND FOUNDATION WALL. AREA TO BE TREATED WITH CRYSTALLINE WATERPROOFING. SEE DET. 2/A401.
SEA01	SEALANT REPLACEMENT: SEALANT JOINT: REMOVE EXISTING JOINT SEALER(S). PREPARE JOINT CAVITY AND PROVIDE NEW BACKER ROD AND SEALANT (OR FLEXIBLE MASONRY JOINT). SEE DET. 1/A402.
RPA01	RAILING POST ANCHORAGE AT GRANITE STONE: RAILING POSTS AND ANCHOR BOLT PENETRATIONS: POST PENETRATIONS AND ANCHOR BOLT PENETRATIONS TO MATCH EXISTING LOCATIONS. PREPARE CONCRETE AND EMBED POST AND/OR ANCHORS IN EPOXY AS INDICATED ON DRAWINGS. AT LOCATIONS, TO BE DETERMINED, WELD BASE PLATES TO EXISTING RAILINGS. SEE DET. 4/A304.
RPA02	RAILING POST ANCHORAGE AT PLAZA: WELD 4" X 4" BASE PLATES TO EXISTING RAILING POST (TBD). EPOXY ANCHOR BOLTS INTO CONC. TOPPING. SEE DET. 3/A304.
SFR01	SIDEWALK FLAGS REPLACEMENT: REPLACE CONCRETE SIDEWALK FLAGS ON WARREN AND MURRAY ST, AS INDICATED ON DRAWINGS. SEE DET. 9/A301.
SFR02	SIDEWALK FLAGS RESET: REMOVE, SALVAGE AND RESET BLUESTONE FLAGS AT NORTH END AVE. SEE DET. 9/A301.

- NOTES:
- THE CONTRACTOR SHALL PROTECT THE PROPERTY AT ALL TIMES OF CONTRACT. PROTECT ALL EXISTING PLAZA-MOUNTED RAILINGS AND PLAZA ROOF PENETRATIONS TO REMAIN; SUPPORT AND PROTECT DURING CONSTRUCTION WORK AS NEEDED. ALL EXISTING PIPING, AND RELATED ITEMS TO REMAIN UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL EXISTING AND NEW WORK, FACILITIES, AND IMPROVEMENTS WITHIN THE AREA OF THE WORK. ALL EXISTING AREAS TO REMAIN AFFECTED BY REMOVAL OR NEW CONSTRUCTION WORK THAT ARE DAMAGED SHALL BE PATCHED AS REQUIRED TO MATCH IMMEDIATE EXISTING ADJACENT AREAS IN MATERIALS, FIRE RATING, FINISH AND COLOR, UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL PROVIDE DECK REPAIR PER DETAIL 1/A401.00.
 - THE CONTRACTOR IS TO SUBMIT PAVING LAYOUT SHOP DRAWINGS, INCLUDING EXISTING SLAB ELEVATIONS, SLOPE AND LOCATION OF DRAINS, PROVIDE SURVEY OF EXISTING CONDITIONS AND ELEVATIONS OF EXISTING DECK; CONTRACTOR TO VERIFY AND SURVEY EXISTING DECK AND SLOPES FOR SURVEY SHOP DRAWINGS. PROVIDE SURVEY TO ARCHITECT FOR REVIEW PRIOR TO THE PREPARATION OF DRAWINGS. SUBMIT TAPERED PERVIOUS CONCRETE TOPPING SLAB LAYOUT DRAWINGS SHOWING EXISTING AND PROPOSED PITCH & SLOPE.
 - TEST AND CLEAN PLAZA AND COURTYARD DRAINS AND PIPES, BEFORE AND AFTER INSTALLATION OF THE DRAIN & SNAKE OUT FOR 20'-0".
 - FLOOD-TEST PLAZA AND COURTYARD DRAINS BEFORE & AFTER INSTALLATION.
 - THE CONTRACTOR SHALL PERFORM ALL REMOVAL AND RELATED WORK SHOWN ON THE DRAWINGS, DESCRIBED IN THESE NOTES, AND REASONABLY INFERRED AS NECESSARY TO COMPLETE SCOPE OF WORK.
 - THE CONTRACTOR SHALL DISPOSE OF REMOVED NON-SALVAGED MATERIAL AND DEBRIS DAILY.
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 - THE CONTRACTOR IS TO PERFORM MISCELLANEOUS ELECTRICAL WORK ASSOCIATED WITH THE SCOPE OF WORK INCLUDING BUT NOT LIMITED TO DISCONNECT/ RECONNECTION OF EXISTING CONDUIT AND FIXTURES AND PROVISION OF TEMPORARY POWER TO FIXTURES INCLUDING SECURITY AND PARAPET RAILING LIGHTING DURING CONSTRUCTION.
 - CONTRACTOR TO SURVEY THE AREA OF WORK AFTER REMOVAL OF PARGE COAT AND PROVIDE SHOP DRAWINGS INDICATING THE EXACT LOCATION OF THE INJECTION PORTS AS PER THE FIELD CONDITIONS.
 - REPAIR DAMAGED INTERIOR FINISHES AT LOWER LEVEL. AREA OF WORK TO MATCH EXIST.
 - TEMPORARILY REMOVE & REINSTALL EX. IRRIGATION SYSTEM AS REQUIRED TO ACCOMPLISH THE WORK.
 - LEVEL OF FINISH WORK TO MEET EXIST. STAIR & RAMP LANDING LEVELS.

- SCOPE OF WORK:
- REMOVE & RESET PAVERS AT UPPER PLAZA. INSTALL SAND SETTING BED WITH POLYMERIC LIQUID STABILIZER AT JOINTS OF PAVERS. ASSUME 20% REPLACEMENT.
 - REMOVE AND REINSTALL IRRIGATION SYSTEM AND RECONNECT TO MAIN SUPPLY IN KIND AFTER

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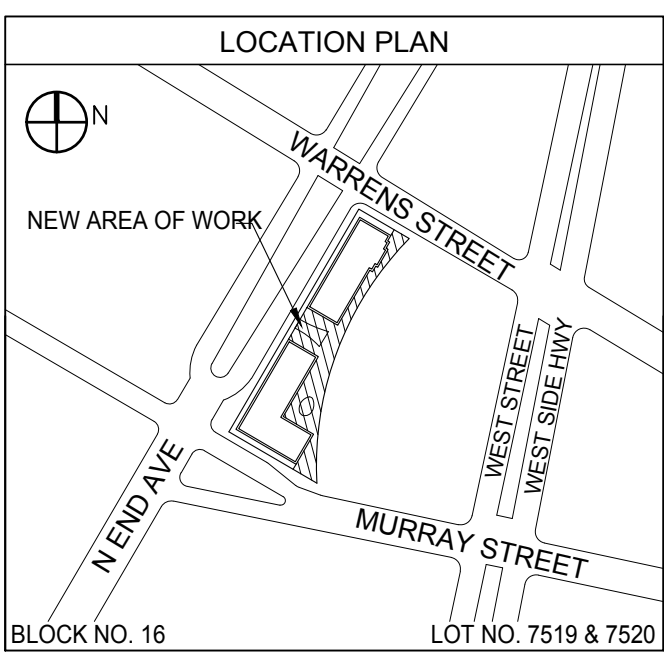
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NO.	OWNER'S REVIEW	90%	5.16.2018
1	SUBMISSIONS/	REVISIONS	DATE

PROJECT NORTH

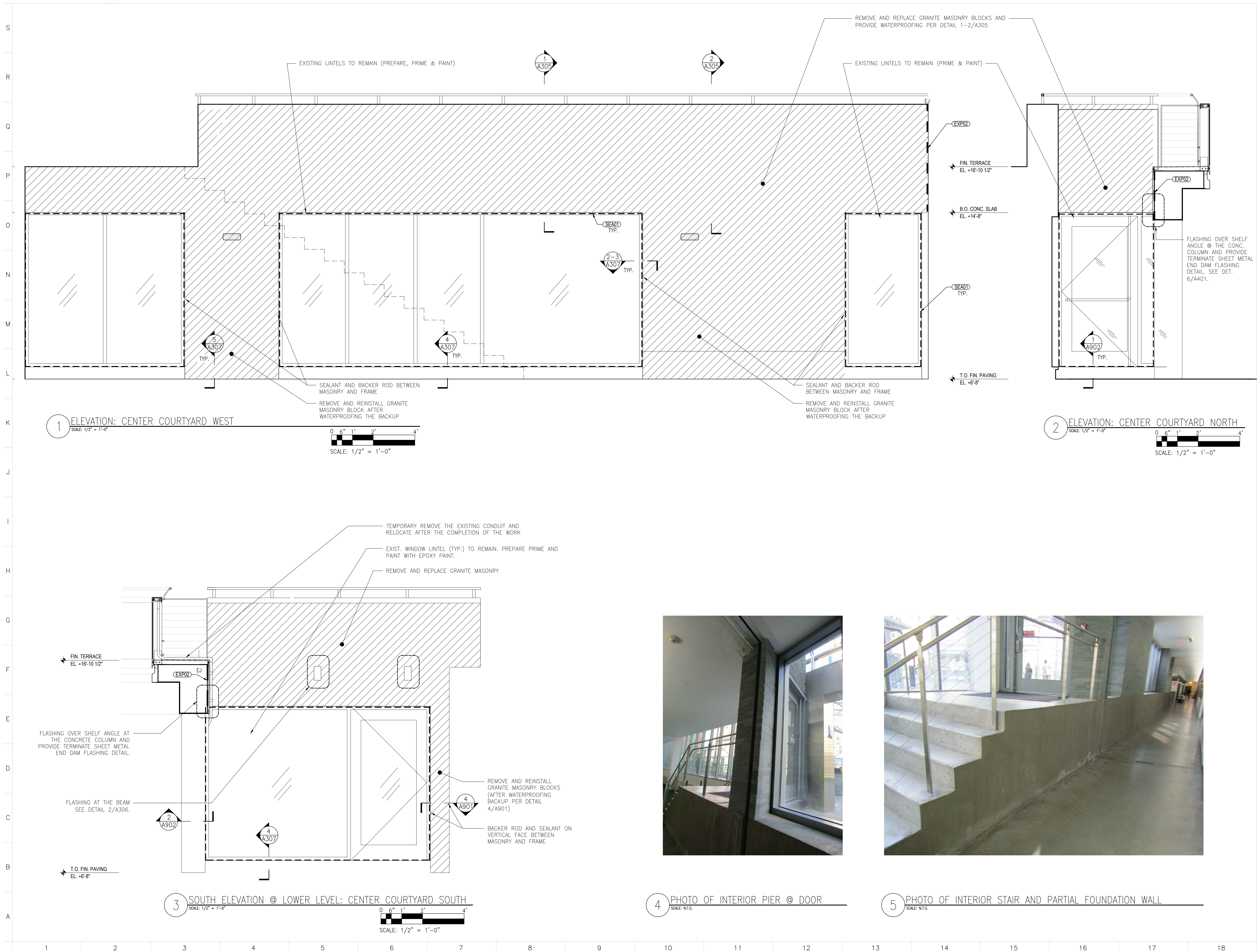
REFERENCE BAR
SEE DRAWINGS FOR SCALE DESIGNATION

PROJECT
**200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN**
200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME
**PARTIAL PLANS @ UPPER &
CELLAR LEVEL**

SEAL & SIGNATURE

DATE: 05.11.2018
PROJECT NO: P15-036
SCALE: AS NOTED
DRAWING BY: WB
CHECKED BY: PJV/F
DWG NO: **A-105.00**
DWG COUNT: 100F 27



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LOCATION PLAN

NEW AREA OF WORK

WARREN STREET

WEST STREET

WEST SIDE HWY

MURRAY STREET

N END AVE

BLOCK NO. 16

LOT NO. 7519 & 7520

1	OWNER'S REVIEW	90%	5.16.2018
NO.	SUBMISSIONS/	REVISIONS	DATE

PROJECT NORTH

REFERENCE BAR
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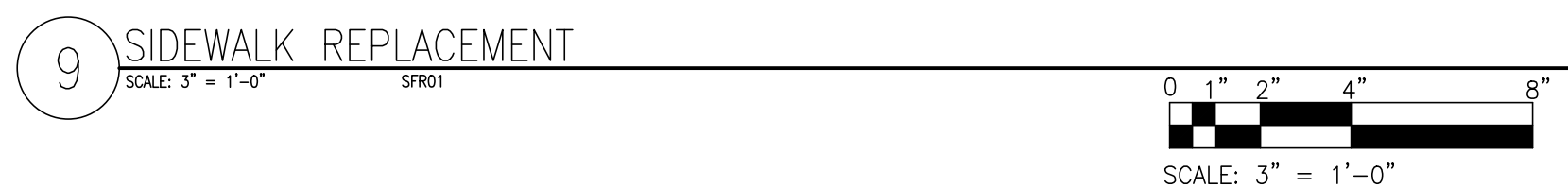
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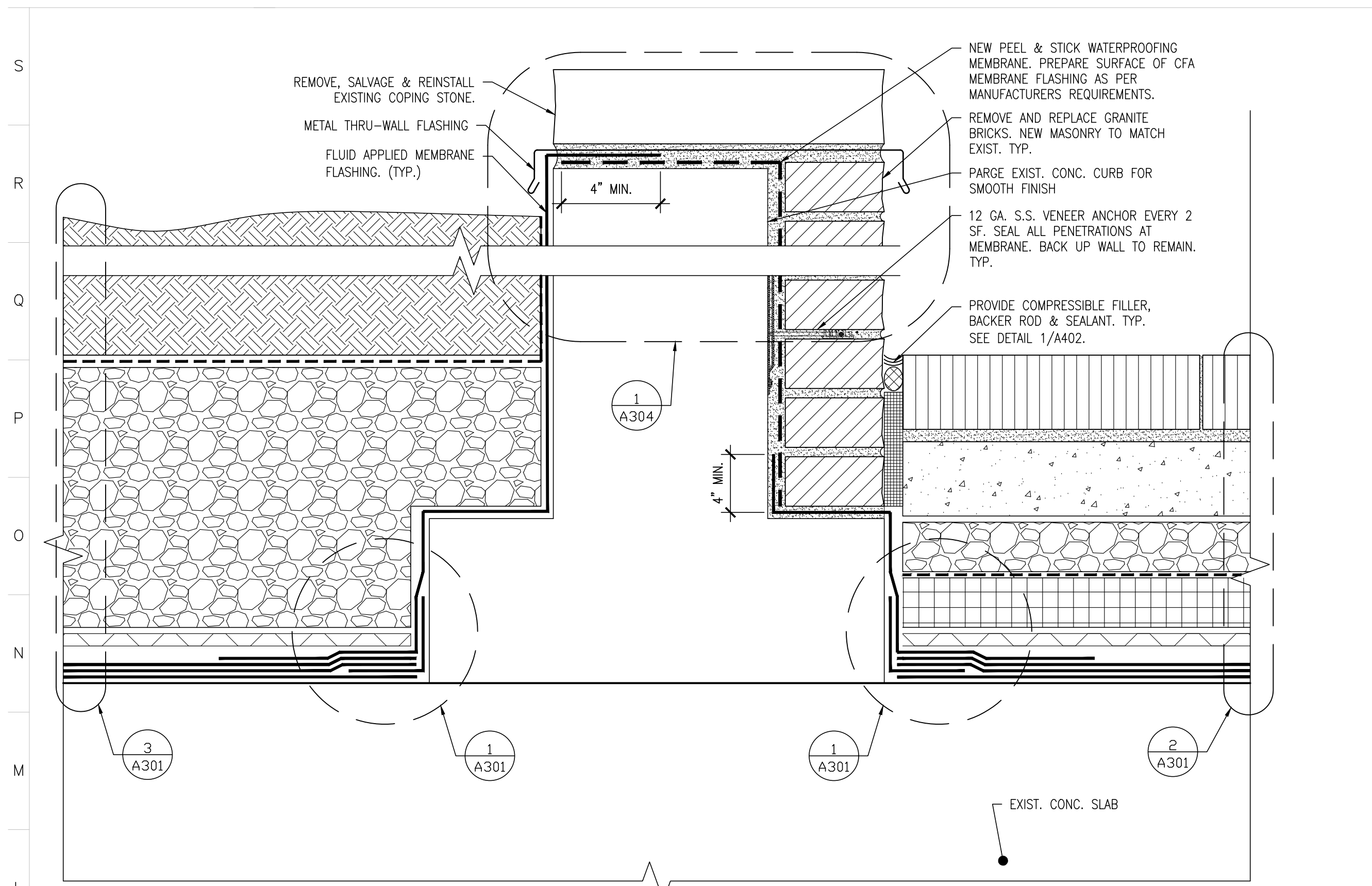
DRAWING NAME

COURTYARD ELEVATIONS

SEAL & SIGNATURE

DATE: 05.11.2018
PROJECT No: P15-036
SCALE: AS NOTED
DRAWING BY: WB
CHECKED BY: PJ/VF
DWG No: **A-201.00**
DWG COUNT: 10 OF 27

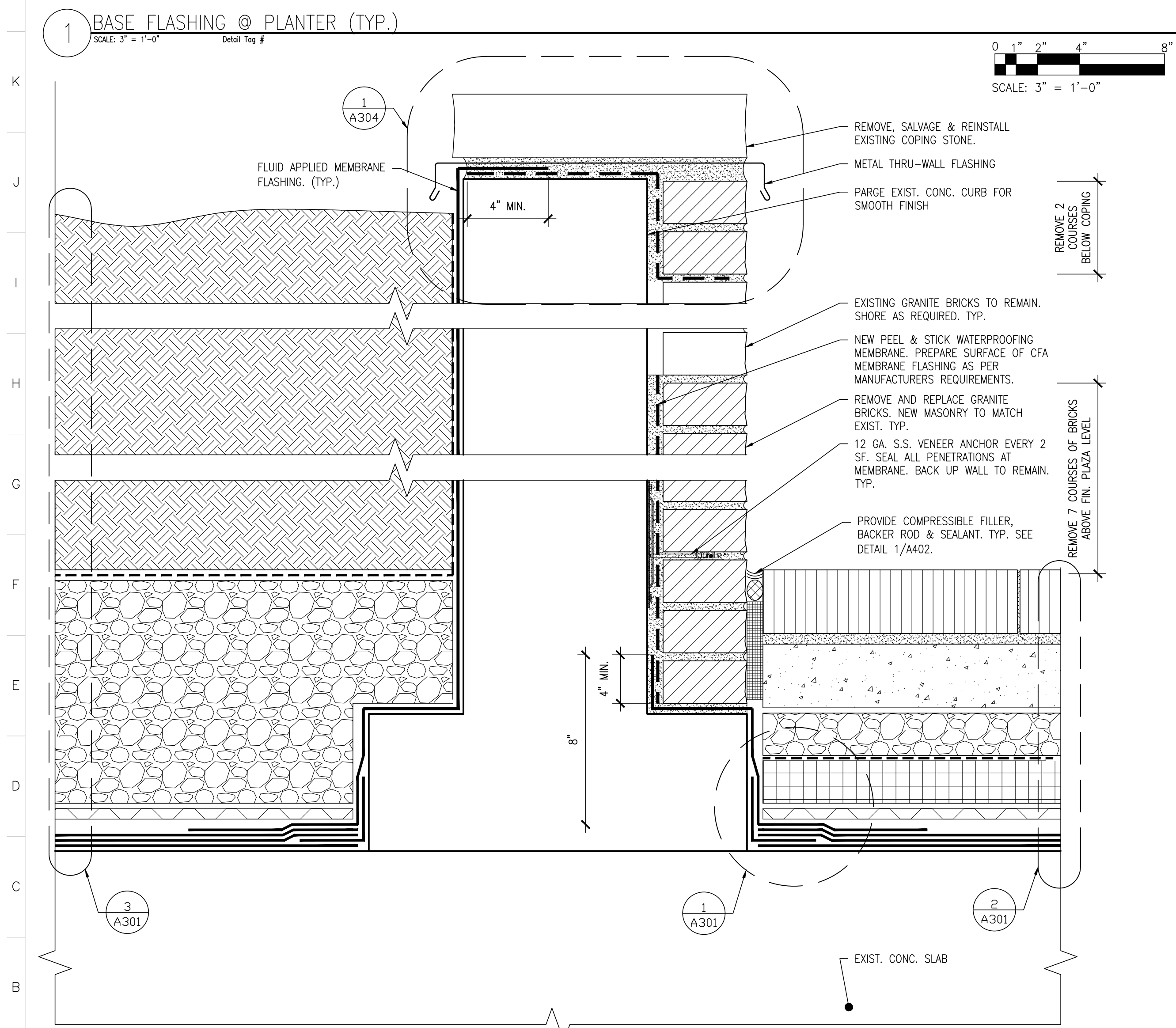




EL. +16'-10 1/2"
T.O. FIN. PLAZA
AT UPPER LEVEL

EL. +15'-10"
T.O. CONC. SLAB

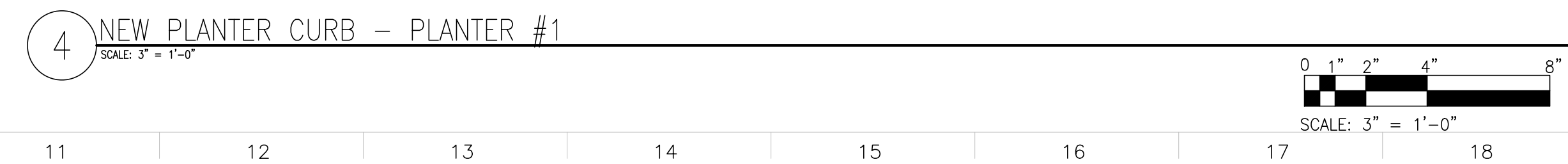
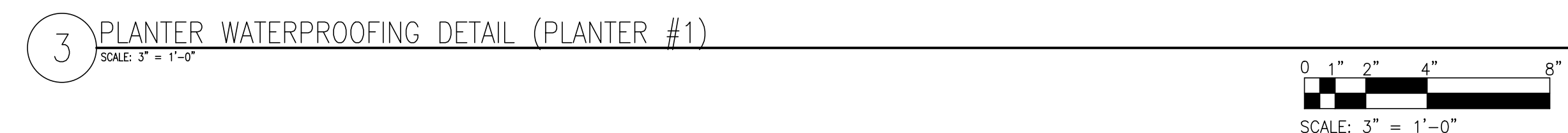
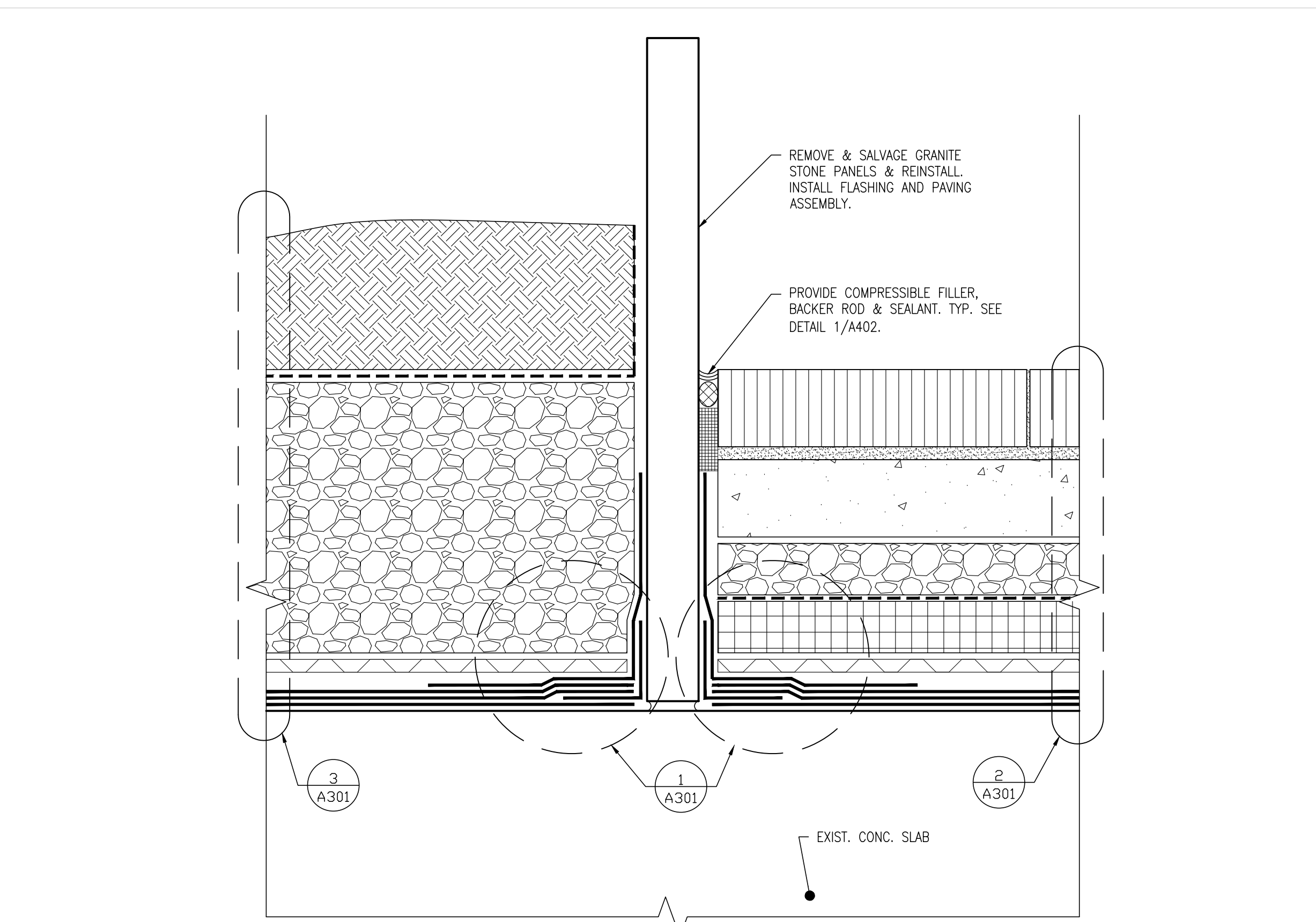
EL. +14'-8"
B.O. CONC. SLAB



EL. +16'-10 1/2"
T.O. FIN. PLAZA
AT UPPER LEVEL

EL. +15'-10"
T.O. CONC. SLAB

EL. +14'-8"
B.O. CONC. SLAB



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LOCATION PLAN

BLOCK NO. 16 LOT NO. 7519 & 7520

1	OWNER'S REVIEW	90%	5.16.2018
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PROJECT

**200-300 NORTH END AVE
LEAK REMEDIATION
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200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME

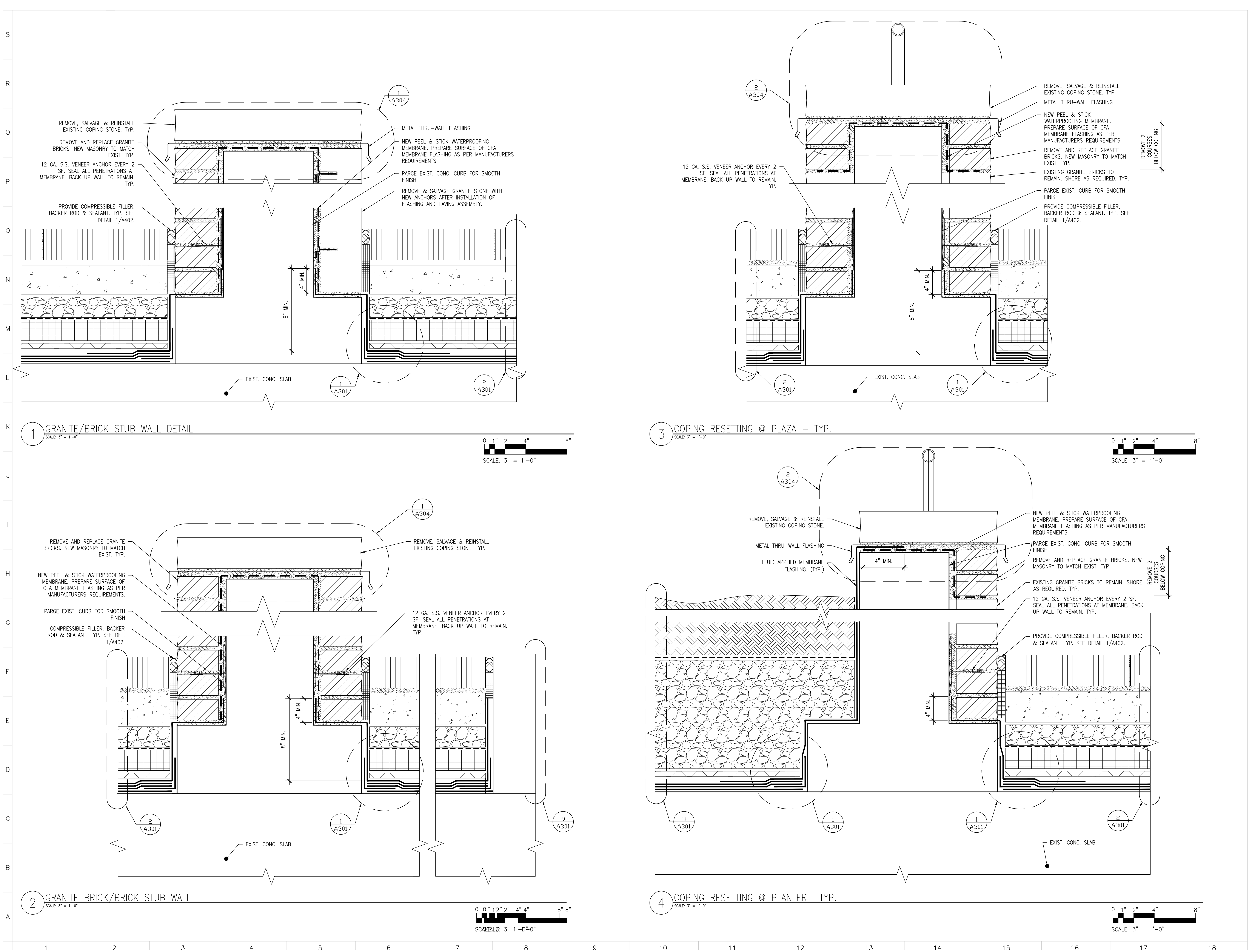
DETAILS

SEAL & SIGNATURE

DATE: 05.11.2018
PROJECT No: P15-036
SCALE: AS NOTED
DRAWING BY: WB
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DWG No: **A-302.00**
DWG COUNT: 12 OF 27

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LOCATION PLAN

NEW AREA OF WORK

WARREN'S STREET

WEST SIDE HWY

MURRAY STREET

N END AVE

BLOCK NO. 16

LOT NO. 7519 & 7520

1	OWNER'S REVIEW	90%	5.16.2018
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TRUE NORTH

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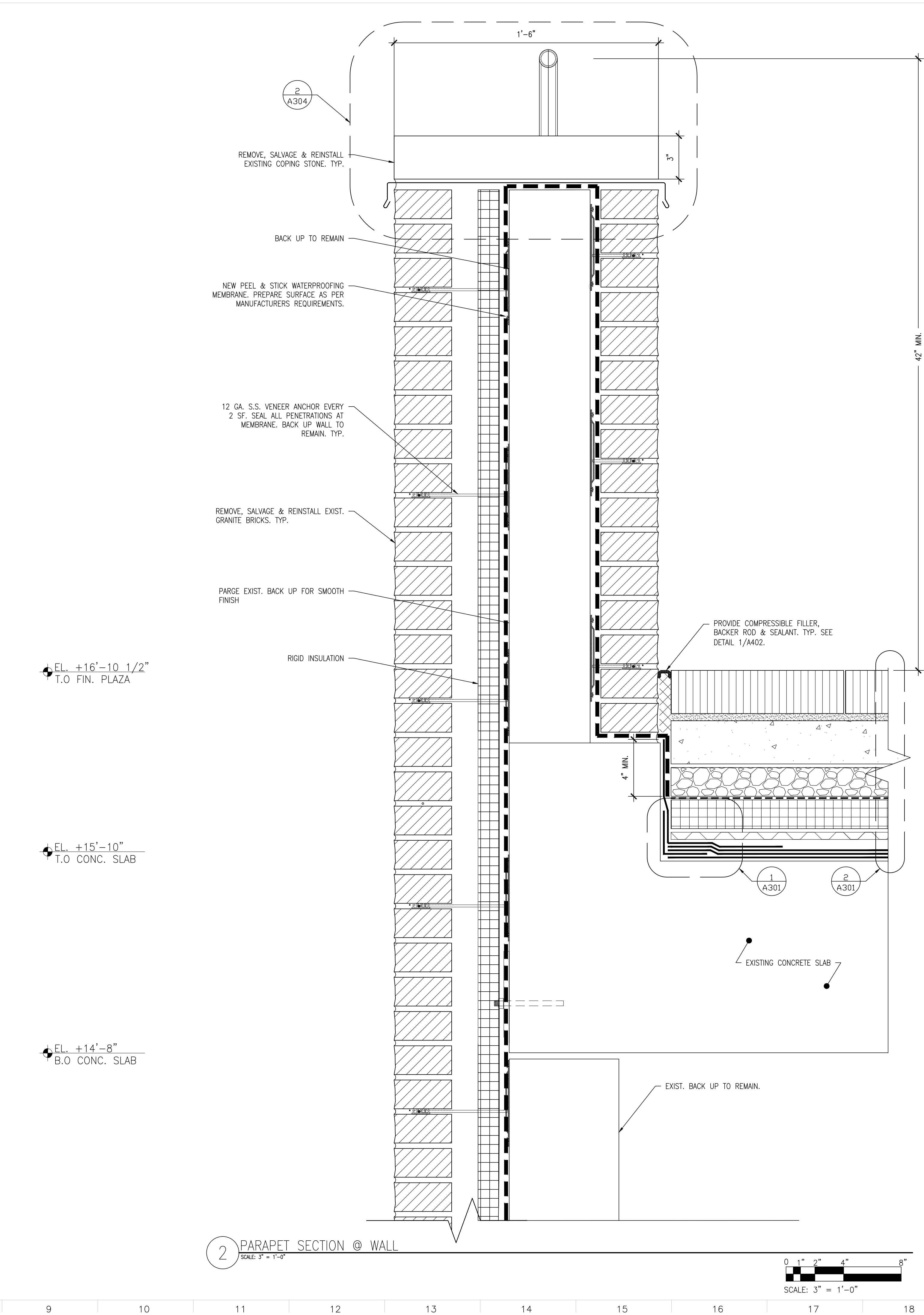
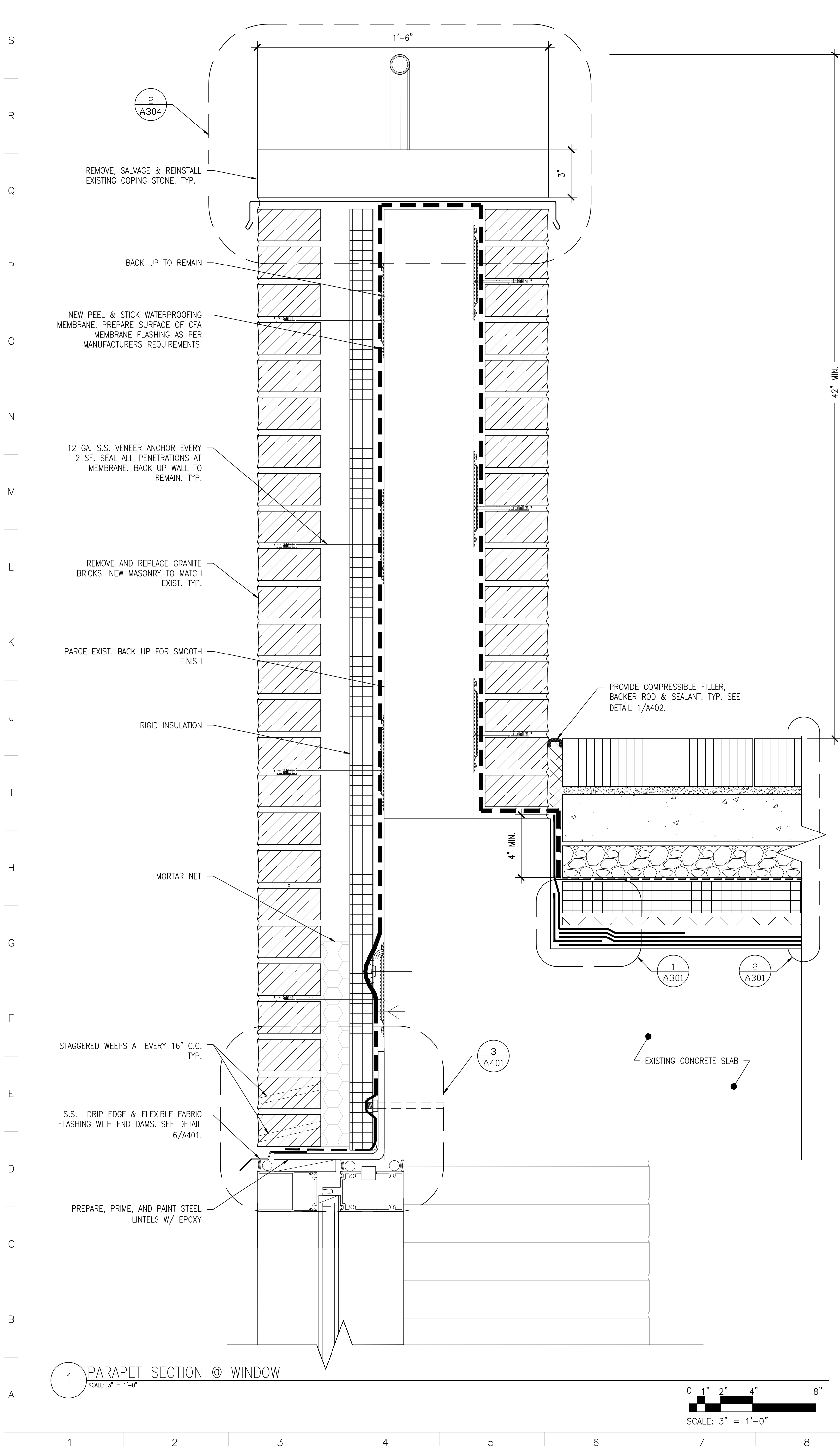
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LEAK REMEDIATION
DESIGN**
200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME

DETAILS

SEAL & SIGNATURE

DATE: 05.11.2018
PROJECT No: P15-036
SCALE: AS NOTED
DRAWING BY: WB
CHECKED BY: PJ/VF
DWG No: **A-303.00**
DWG COUNT: 13 OF 27



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212.477.7976 / info@preservationstudio.com

OWNER

BATTERY PARK CITY AUTHORITY

200 LIBERTY STREET
NEW YORK, NY 10281

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LOCATION PLAN

NEW AREA OF WORK

WARRENS STREET

WEST STREET

MURRAY STREET

N END AVE

WEST SIDE HWY

BLOCK NO. 16

LOT NO. 7519 & 7520

1	OWNER'S REVIEW	90%	5.16.2018
NO.	SUBMISSIONS/ REVISIONS		DATE

PROJECT NORTH

REFERENCE BAR
SEE DRAWINGS FOR
SCALE DESIGNATION

PROJECT

**200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN**
200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME

PARAPET DETAILS

SEAL & SIGNATURE

DATE: 05.11.2018

PROJECT NO: P15-036

SCALE: AS NOTED

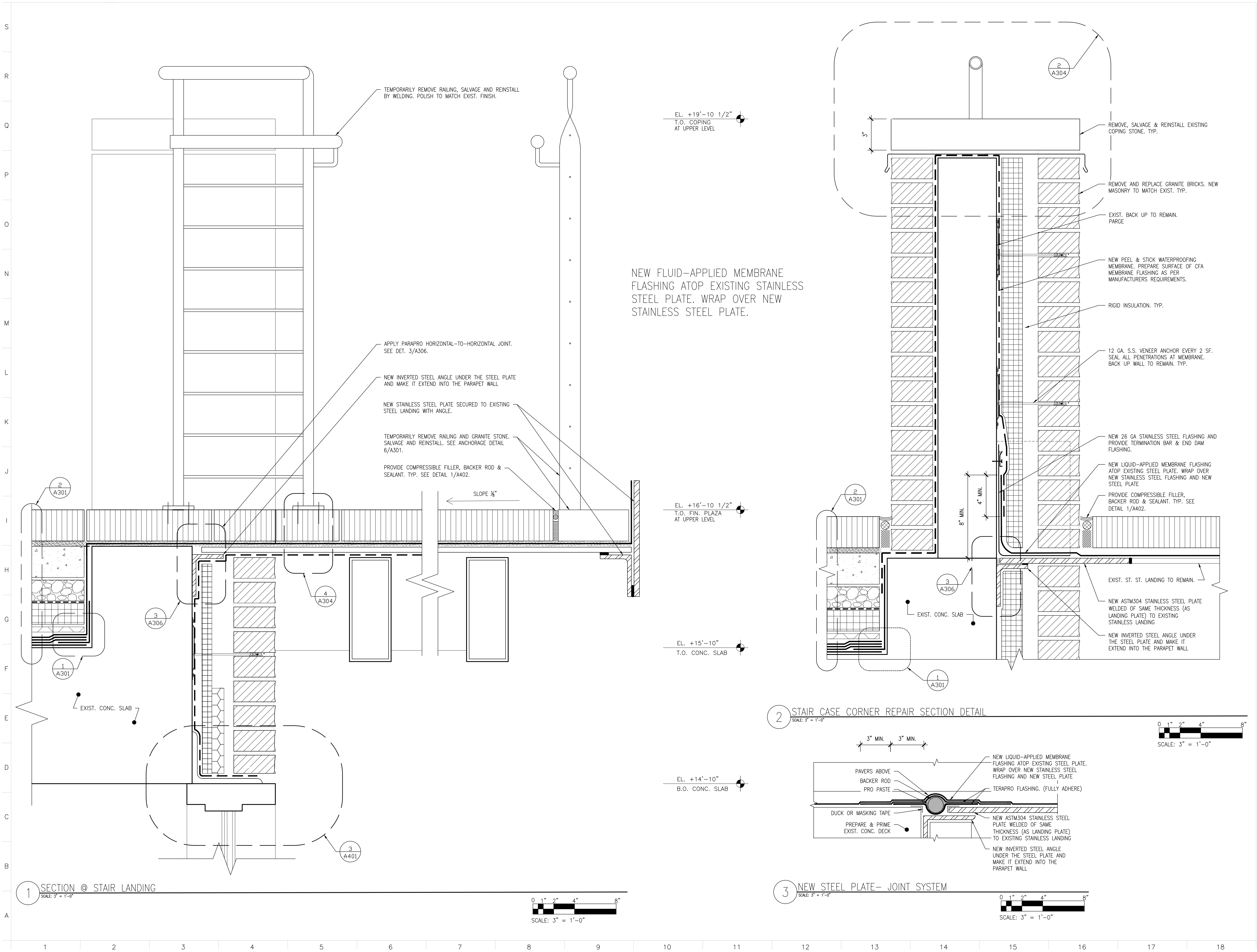
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DWG NO: **A-305.00**

DWG COUNT: 15 OF 27

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WEST SIDE HWY

MURRAY STREET

N END AVE

BLOCK NO. 16

LOT NO. 7519 & 7520

1	OWNER'S REVIEW	90%	5.16.2018
NO.	SUBMISSIONS/	REVISIONS	DATE

TRUE NORTH

PROJECT NORTH

0 1" 2" 4" 8"

SCALE: 3" = 1'-0"

REFERENCE BAR
SEE DRAWINGS FOR
SCALE DESIGNATION

PROJECT

200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN

200-300 NORTH END AVE
NEW YORK, NY 10282

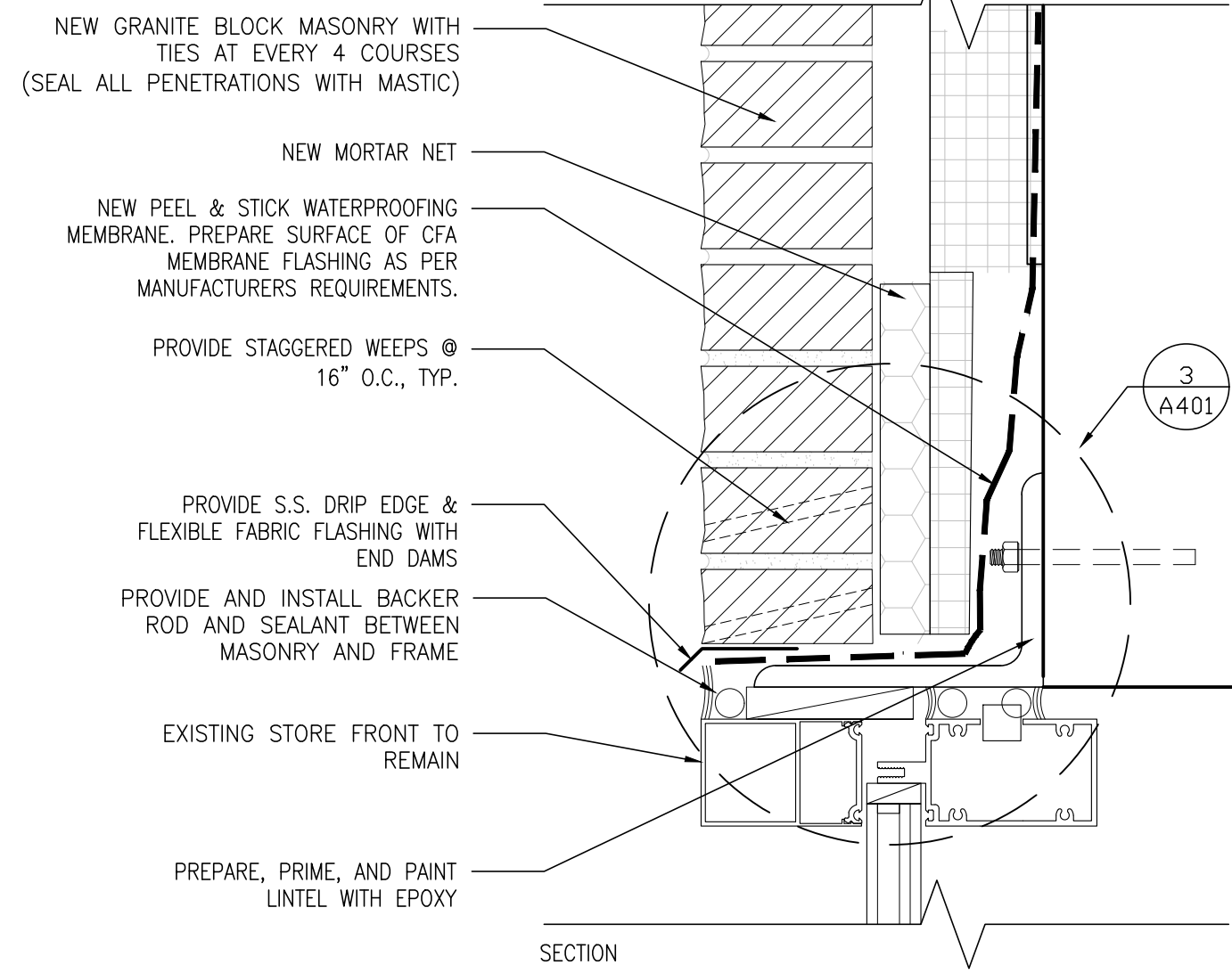
DRAWING NAME

STEEL STAIRS DETAILS

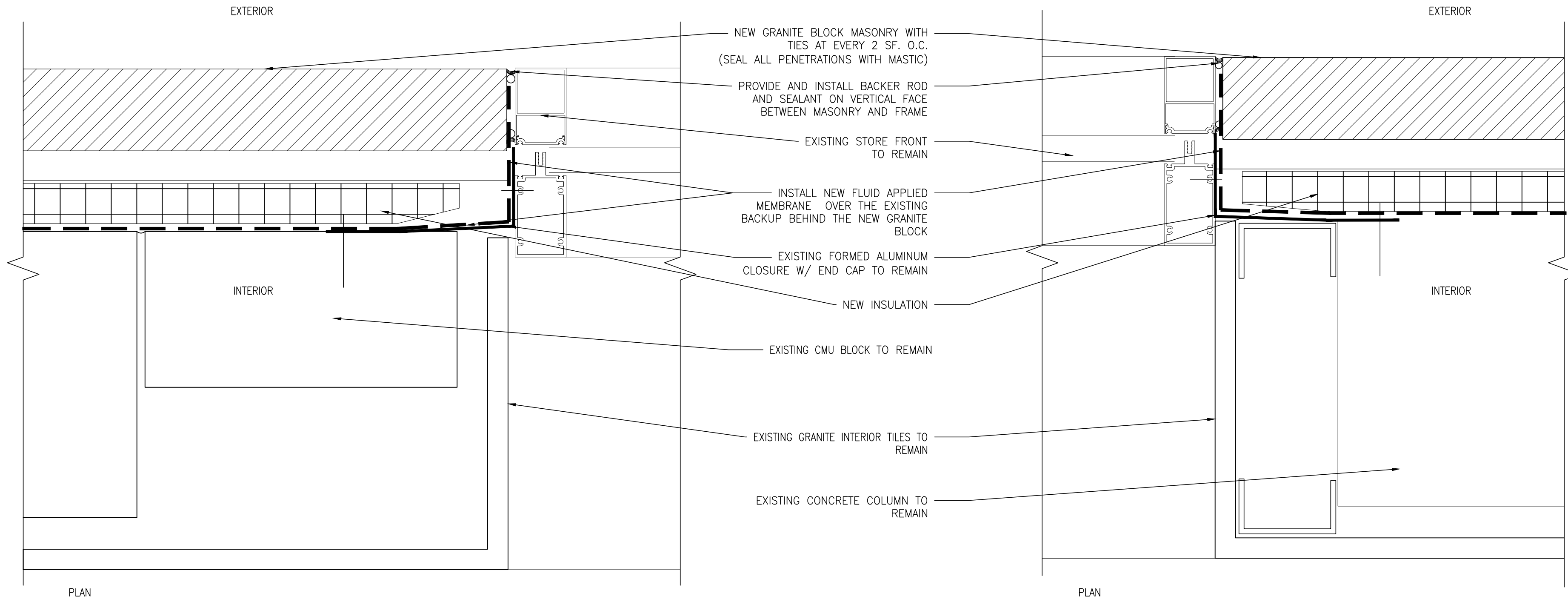
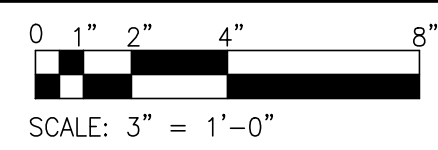
SEAL & SIGNATURE

DATE: 05.11.2018
PROJECT NO: P15-036
SCALE: AS NOTED
DRAWING BY: WB
CHECKED BY: PJ/VF
DWG No: A-306.00
DWG COUNT: 16 OF 27

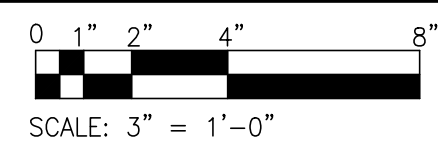
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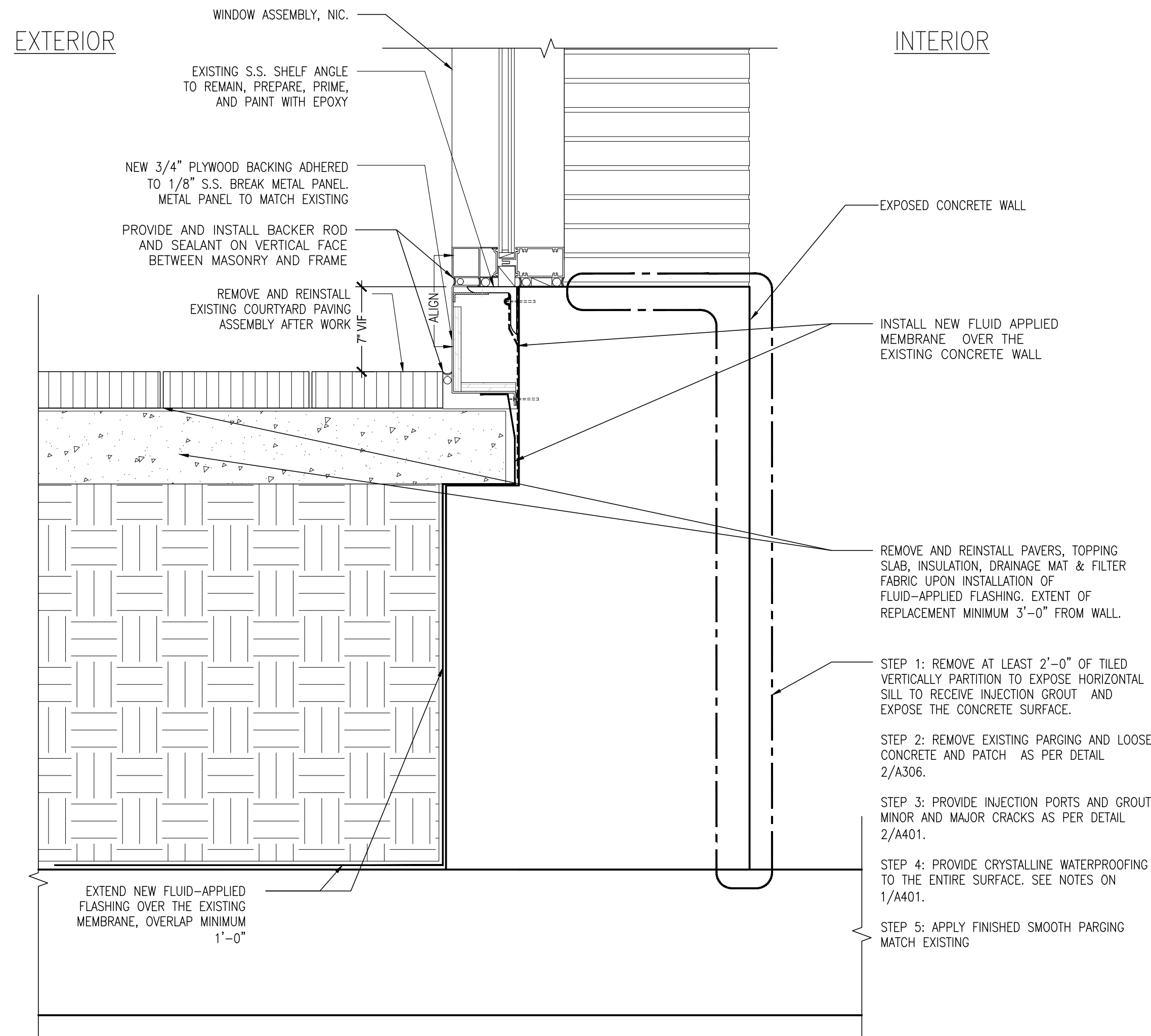
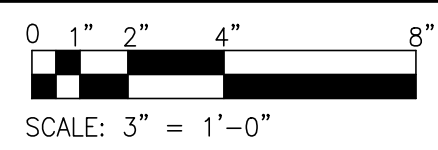
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SCALE: 3" = 1'-0"



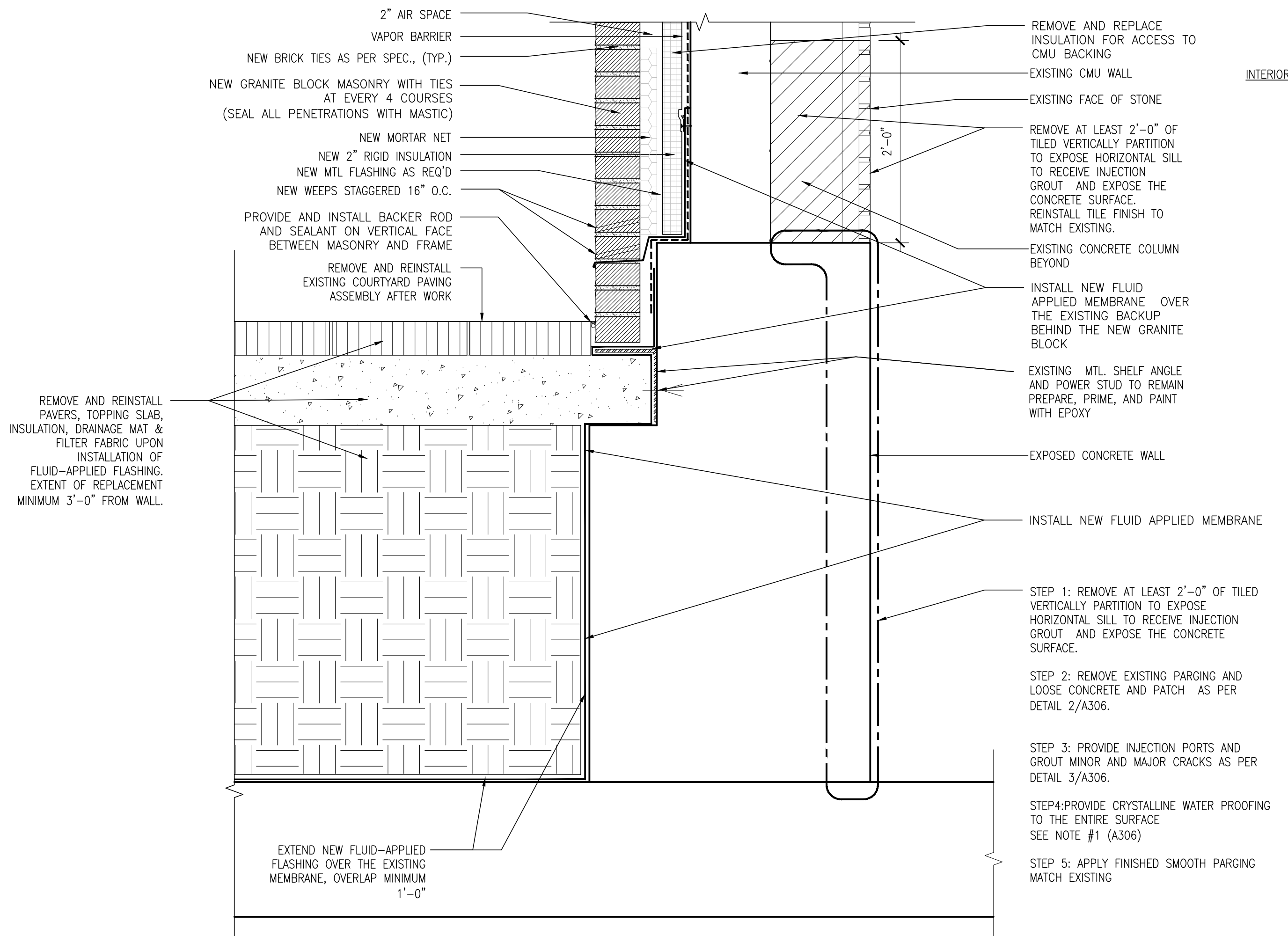
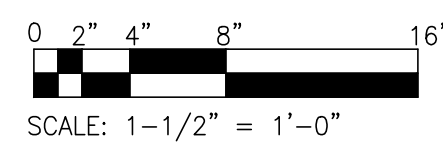
2 DETAIL @ WINDOW JAMB
SCALE: 3" = 1'-0"



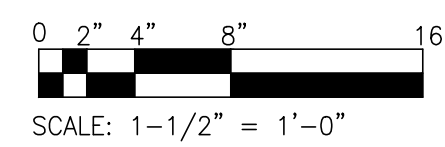
3 DETAIL @ WINDOW JAMB
SCALE: 3" = 1'-0"



4 DETAIL @ LOWER PLAZA WINDOW SILL
SCALE: 1-1/2" = 1'-0"



5 DETAIL @ LOWER PLAZA BLDG. WALL
SCALE: 1-1/2" = 1'-0"



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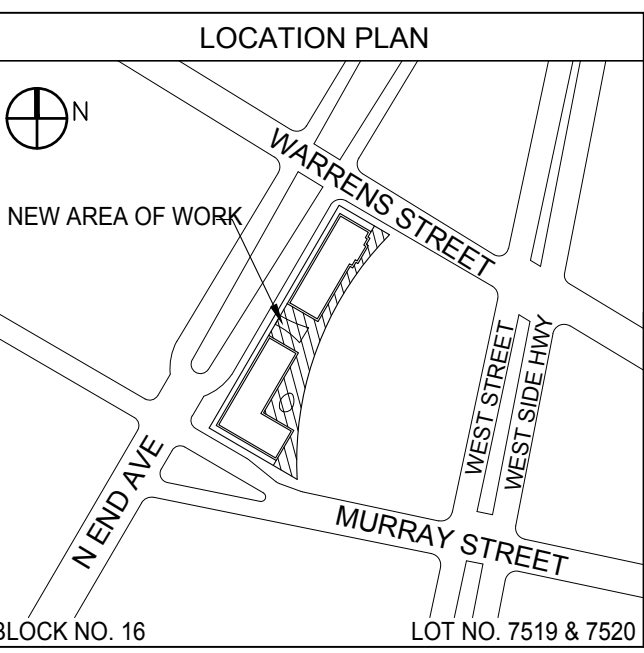
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PROJECT NORTH

TRUE NORTH

REFERENCE BAR
SEE DRAWINGS FOR
SCALE DESIGNATION

PROJECT

**200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN**

200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME

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DATE: 05.11.2018
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SCALE: AS NOTED
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DWG COUNT: 17 OF 27

MODIFIED REPAIR MORTAR APPLICATION

SATURATE CAVITY SURFACE USING POTABLE WATER. SUBSTRATE SHOULD BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.

AT 50° F, CAVITY TO BE SSD 1.5 HOURS PRIOR TO RESTORATION

AT 70° F, CAVITY TO BE SSD 1.0 HOURS PRIOR TO RESTORATION

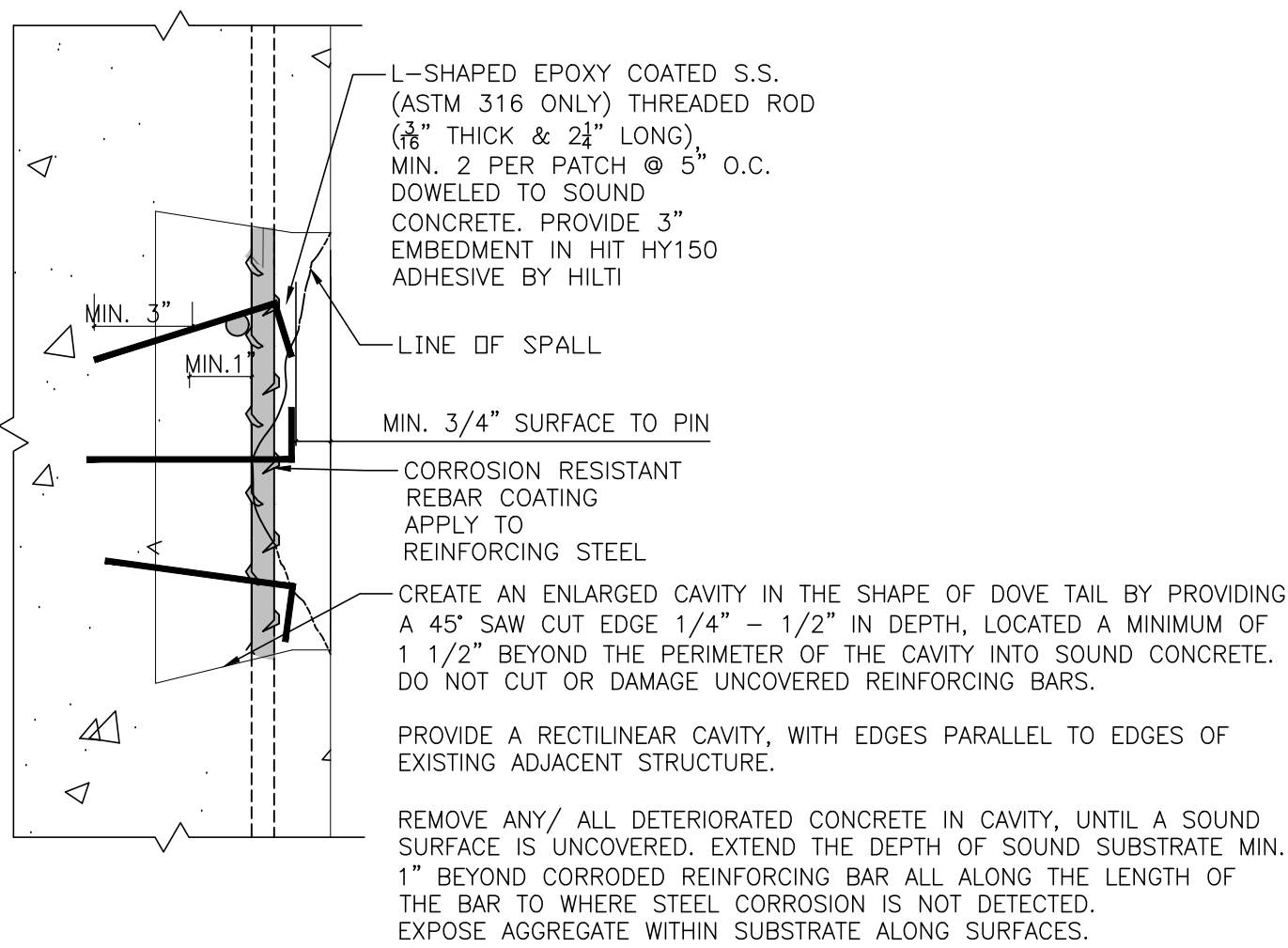
AT 90° F, CAVITY TO BE SSD 0.5 HOURS PRIOR TO RESTORATION

APPLY BONDING AGENT TO CONCRETE.

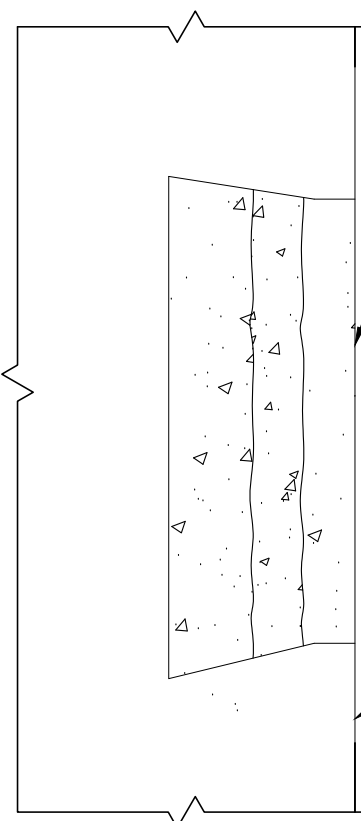
APPLY MODIFIED REPAIR MORTAR AS RECOMMENDED BY MANUFACTURER.

MODIFIED REPAIR MORTAR TO BE APPLIED IN LIFTS, IF REQUIRED, BASED ON THE DEPTH OF THE CAVITY. MAXIMUM THICKNESS OF LIFT AS RECOMMENDED BY MANUFACTURER. IF RESTORATION IS PERFORMED USING MULTIPLE LIFTS, SCORE THE SURFACE OF EACH LIFT TO PRODUCE A ROUGHENED SURFACE TO RECEIVE THE NEXT LIFT.

AT COMPLETION OF INSTALLATION, SURFACE OF REPAIR MORTAR TO MATCH PROFILE OF ADJACENT CONCRETE SURFACES. FINISH THE SURFACE SMOOTH WITH WOOD OR SPONGE FLOAT. AVOID FEATHERING WITH ADJACENT CONCRETE TO REMAIN.



SECTION THROUGH VERTICAL AND HORIZONTAL OVERHEAD SURFACE SURFACE PREPARATION AND INSTALLATION OF PINS



SECTION THROUGH VERTICAL AND HORIZONTAL OVERHEAD SURFACE INSTALLATION OF REPAIR MORTAR

SATURATE CAVITY SURFACE USING POTABLE WATER. SUBSTRATE SHOULD BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.

APPLY BONDING AGENT TO CONCRETE.

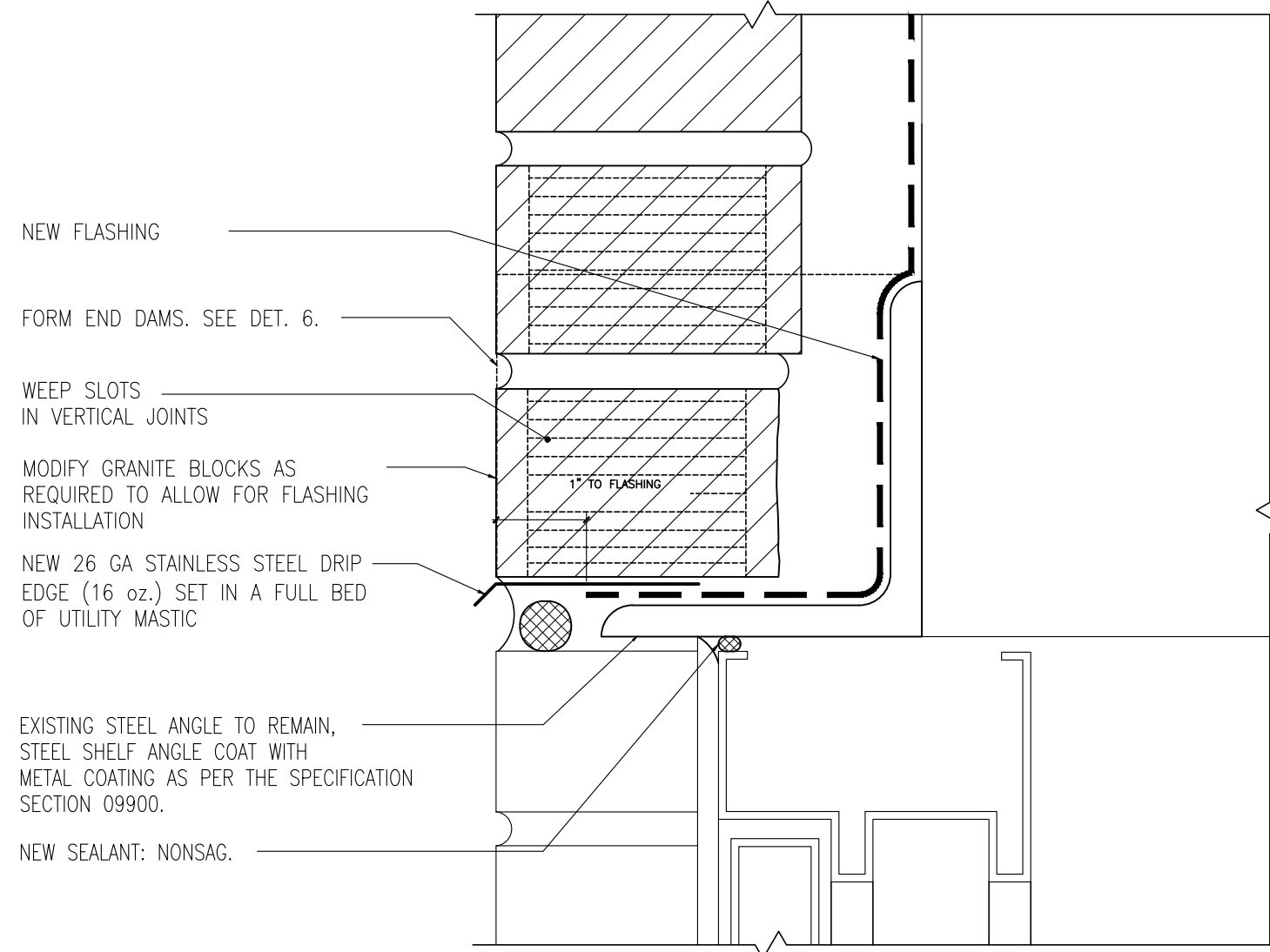
APPLY MODIFIED REPAIR MORTAR AS RECOMMENDED BY MANUFACTURER.

MODIFIED REPAIR MORTAR TO BE APPLIED IN LIFTS, IF REQUIRED, BASED ON THE DEPTH OF THE CAVITY. MAXIMUM THICKNESS OF LIFT AS RECOMMENDED BY MANUFACTURER. IF RESTORATION IS PERFORMED USING MULTIPLE LIFTS, SCORE THE SURFACE OF EACH LIFT TO PRODUCE A ROUGHENED SURFACE TO RECEIVE THE NEXT LIFT.

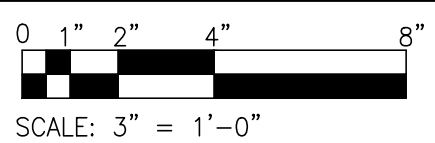
AT COMPLETION OF INSTALLATION, SURFACE OF REPAIR MORTAR TO MATCH PROFILE OF ADJACENT CONCRETE SURFACES. FINISH THE SURFACE SMOOTH WITH WOOD OR SPONGE FLOAT. AVOID FEATHERING WITH ADJACENT CONCRETE TO REMAIN.

AVOID FEATHERING

NOTE: CURING: MOIST CURE WITH FOG SPRAY OR WATER ABSORBENT MATERIALS FOR EXAMPLE BURLAP WITH PORTABLE WATER WHERE MOIST CURE IS NOT FEASIBLE USE POLYETHYLENE FILM SHEETS. COVER ENTIRE REPAIR USING SHEETS OF MAXIMUM 4 SF SURFACE AREA EACH. FULLY TAPE DOWN ALL EDGES OF EACH POLYETHYLENE SHEET TO ENSURE AIR-TIGHTNESS AND TO CREATE SUFFICIENT BOND WITH CONCRETE. DO NOT LAP SHEETS, CURE MODIFIED REPAIR MORTAR FOR NUMBER OF DAYS RECOMMENDED BY MANUFACTURER. REMOVE ALL CURING ACCESSORIES AFTER RECOMMENDED CURING TIME.

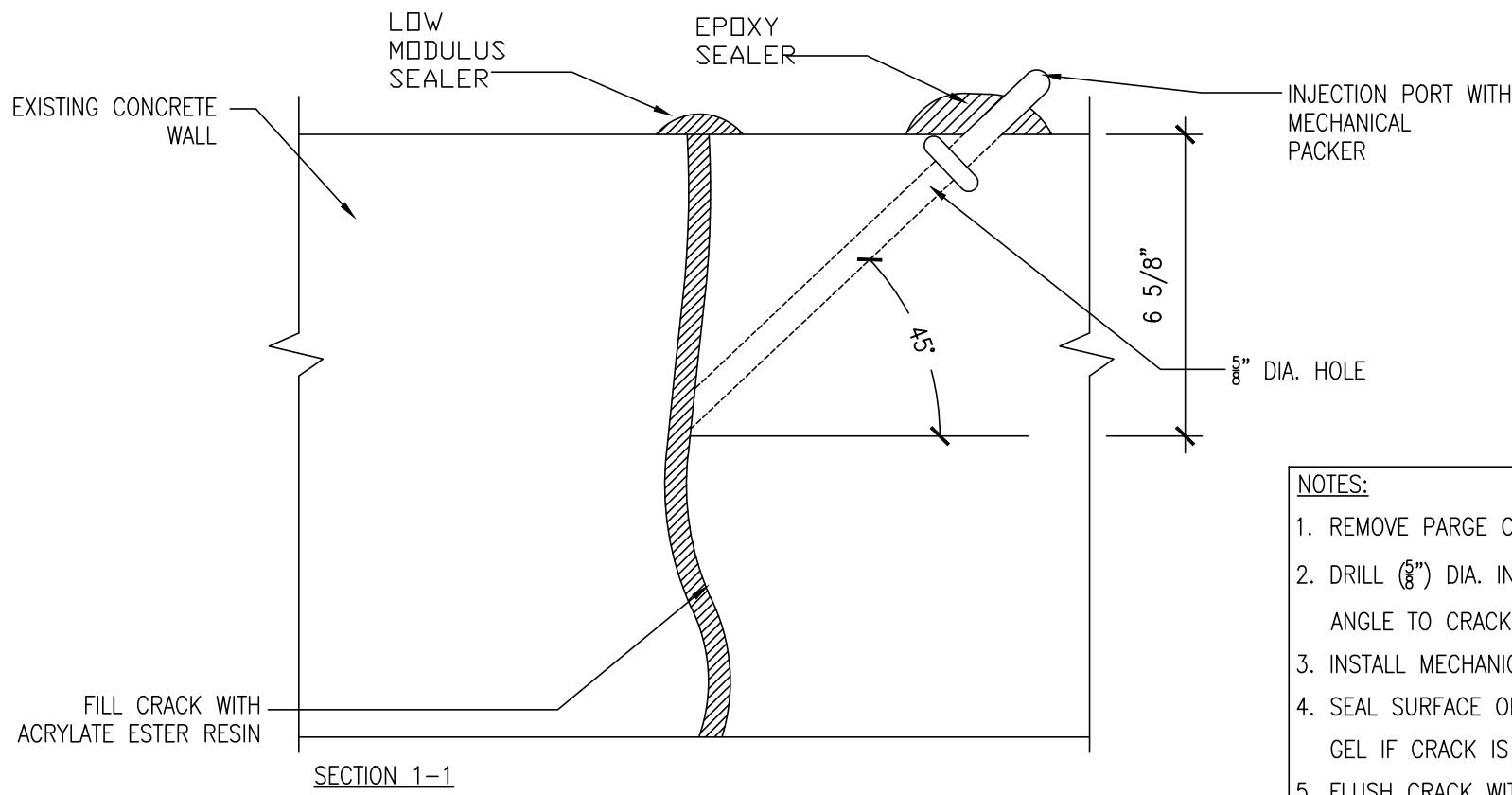


TOE OF LINTEL: FLASHING DETAILS @ WINDOW



TYP. CONCRETE PATCHING DETAIL

SCALE: 3" = 1'-0"



NOTES:

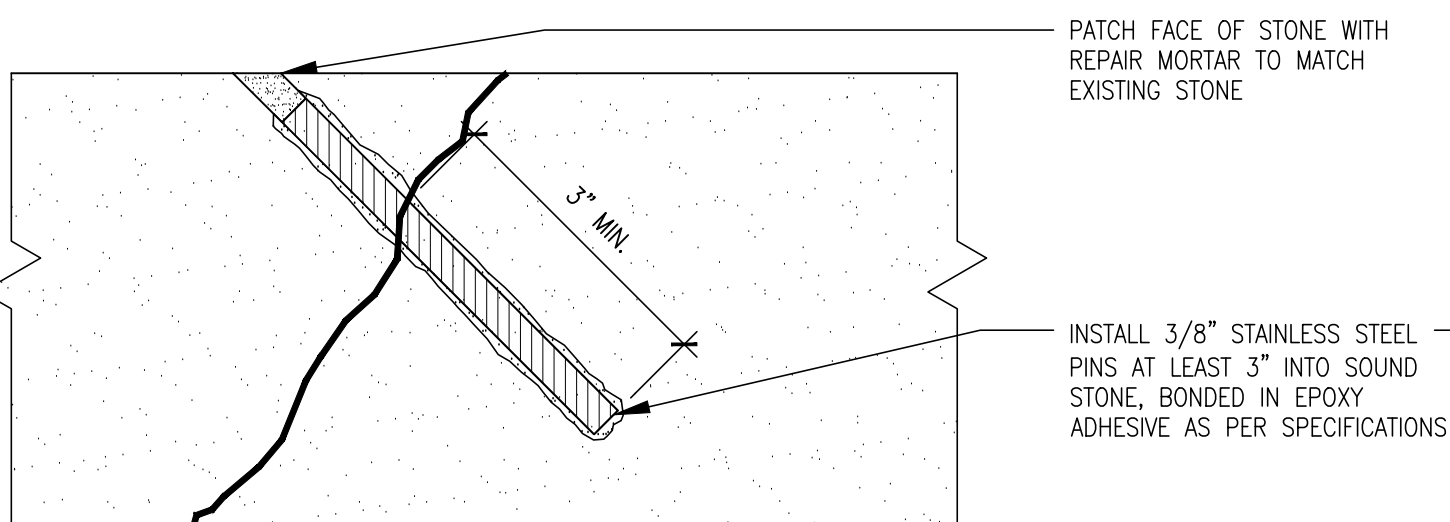
1. REMOVE PARGE COAT AND PARTIAL PARTITION.
2. DRILL (5/8") DIA. INJECTION PORTS AT 45 DEGREE ANGLE TO CRACKS, ALTERNATING SIDES.
3. INSTALL MECHANICAL PACKER IN INJECTION PORT.
4. SEAL SURFACE OF CRACK WITH LOW MODULUS GEL IF CRACK IS ACTIVELY LEAKING.
5. FLUSH CRACK WITH CLEAN WATER.
6. INJECT ACRYLATE ESTER RESIN INTO LOWEST MECHANICAL PACKER WITH HAND OPERATED HYDRAULIC PUMP UNTIL GROUT CAN BE SEEN AT THE NEXT INJECTION PORT UP.
7. REPEAT PROCESS UNTILL ENTIRE CRACK IS INJECTED.
8. REGROUTING SHOULD BE PERFORMED FOR UP TO A WEEK AFTER INITIAL GROUTING.
9. REPAIR FLOOR FINISH AFTER INJECTION GROUTING TO MATCH EXISTING.

CRYSTALLINE WATERPROOFING NOTES:

1. STEP 1: SURFACE PREPARATION
 - CRYSTALLINE WATERPROOFING CAN ONLY BE APPLIED AFTER THE FINAL SETTING OF INJECTION GROUTS.
 - MAKE THE MASONRY SURFACE ROUGH USING WIRE BRUSH AND CHISEL TO RECEIVE AND BETTER ADHEARANCE OF CRYSTALLINE WATER PROOFING SLURRY. DO NOT DAMAGE THE GROUTED AREA.
 - MASONRY WALL SURFACE TO RECEIVE CRYSTALLINE WATERPROOFING TREATMENT MUST BE SOUND, CLEAN AND FREE OF CONTAMINANTS OR DEBRIS.
 - OVER SPRAY OR DUST SHOULD BE REMOVED BY AN AIR/WATER BLAST.
2. STEP 2: WATERPROOFING TREATMENT
 - MIX TREATMENT TO SLURRY CONSISTENCY AS PER THE MANUFACTURER'S SPECIFICATION.
 - APPLY TREATMENT TO COAT THE AREA INDICATED ON THE DRAWING USING A MASONRY BRUSH. FOR MAXIMUM ADHESION AND PENETRATIONS FOLLOW THE MANUFACTURER'S INSTRUCTIONS.
 - PROTECT THE APPLICATION FROM DAMAGE BY RAIN OR RAPID DRYING.

TYPICAL STONE SPALL PATCH REPAIR

SCALE: 3" = 1'-0"



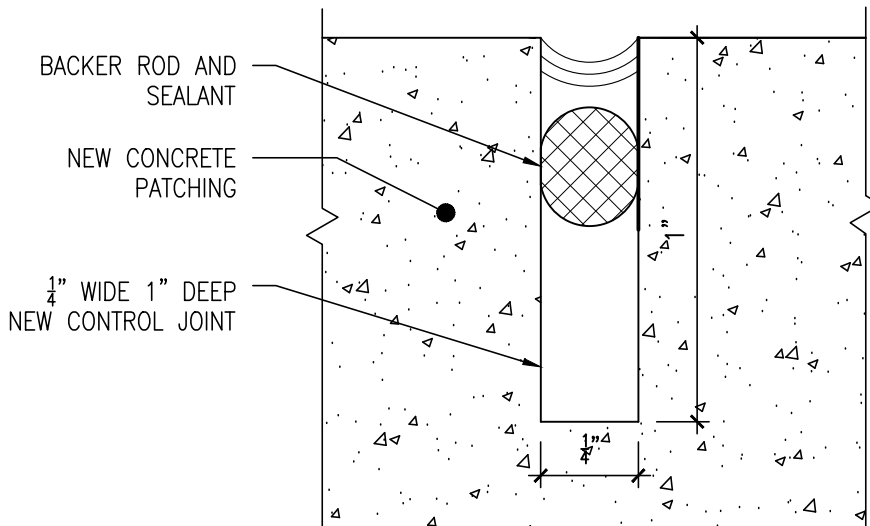
NOTES:

1. REPAIRS TO MATCH EXISTING STONE IN COLOR, SHAPE AND TEXTURE.
2. APPLY THE MORTAR MIX USING A TROWEL TO A MAXIMUM THICKNESS OF 3".
3. BUILD UP PATCHING MATERIAL SLIGHTLY ABOVE ADJACENT MASONRY SURFACE.
4. FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

SECTION

TYPICAL STONE CRACK 'STITCH' REPAIR

SCALE: 3" = 1'-0"

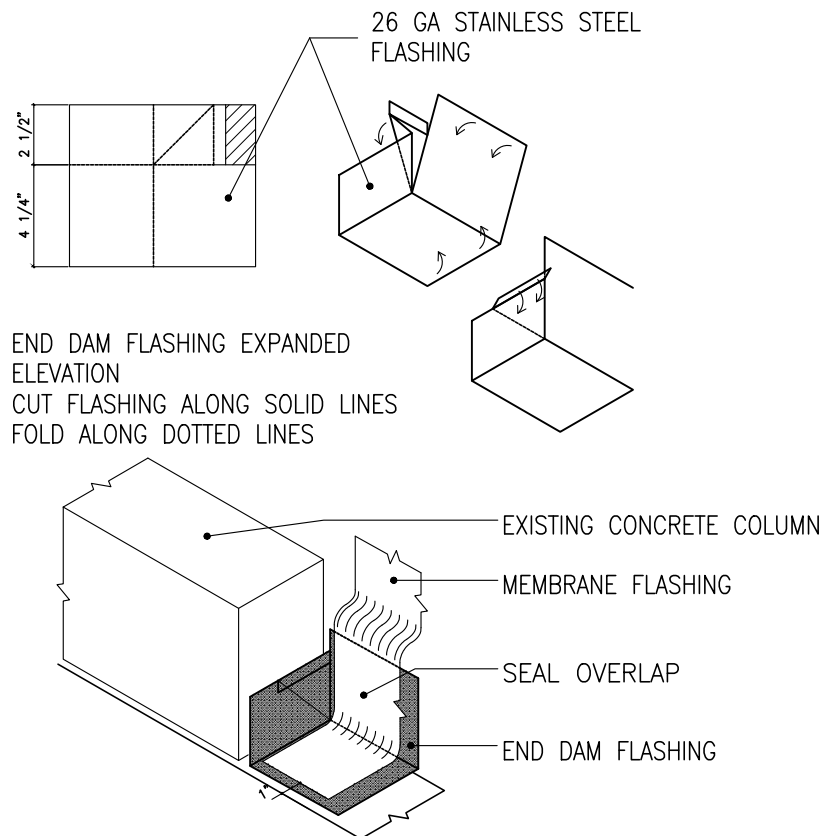


CONTROL JOINTS DETAIL -- TYPICAL

N.T.S. SC001

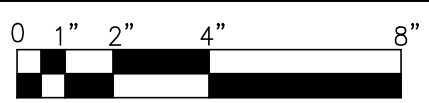
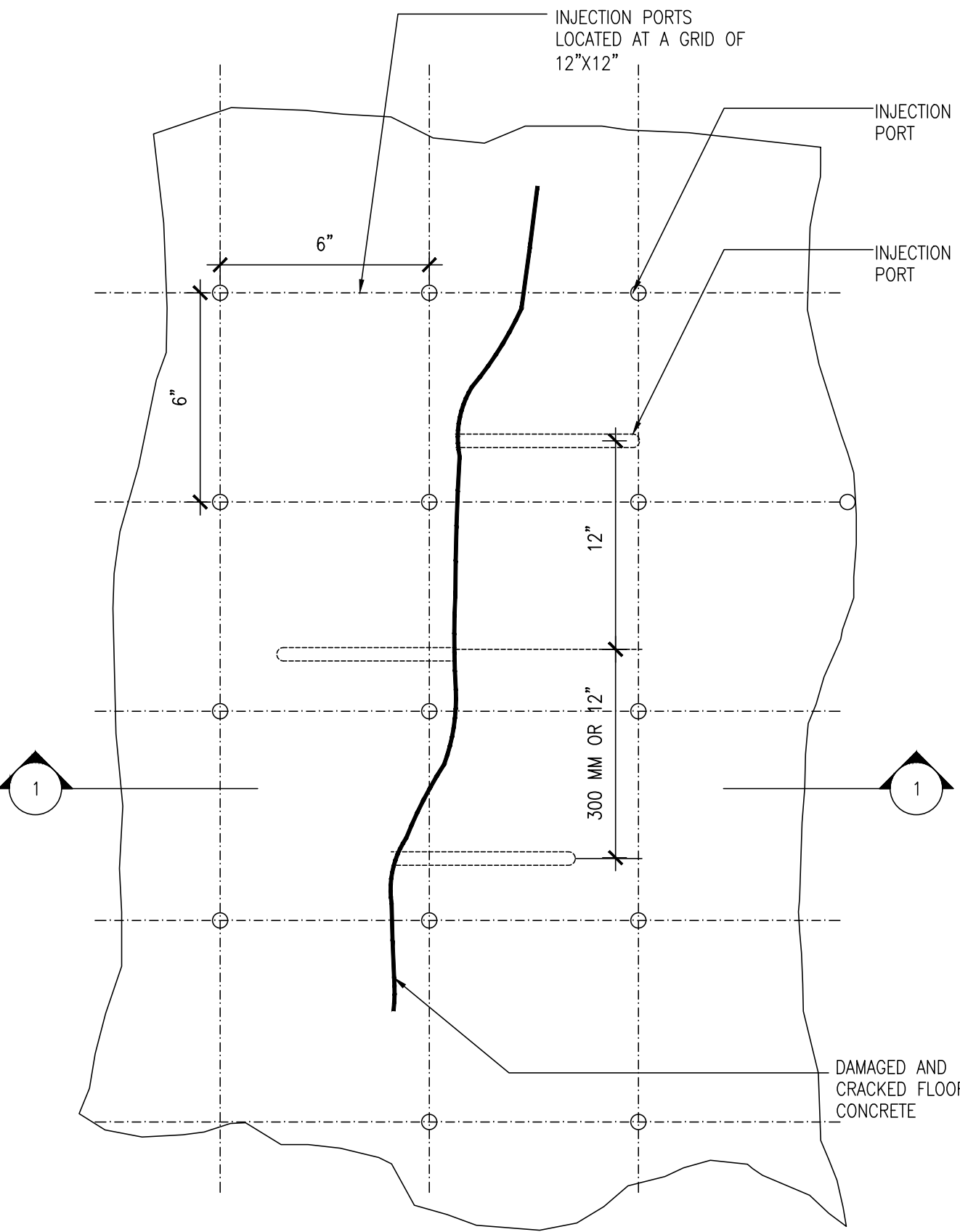
END-DAM FLASHING DETAIL

SCALE: NTS



TYPICAL INJECTION GROUTING DETAIL AT SILL, LANDING AND WALL FACE

SCALE: 3" = 1'-0"



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LOCATION PLAN

NEW AREA OF WORK

WARRENS STREET
WEST STREET
MURRAY STREET
N END AVE
WEST SIDE HWY

BLOCK NO. 16 LOT NO. 7519 & 7520

1	OWNER'S REVIEW	90%	5.16.2018
NO.	SUBMISSIONS/	REVISIONS	DATE

TRUE NORTH

PROJECT NORTH

0 1' 2' 4'

REFERENCE BAR
SEE DRAWINGS FOR
SCALE DESIGNATION

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200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN

200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME

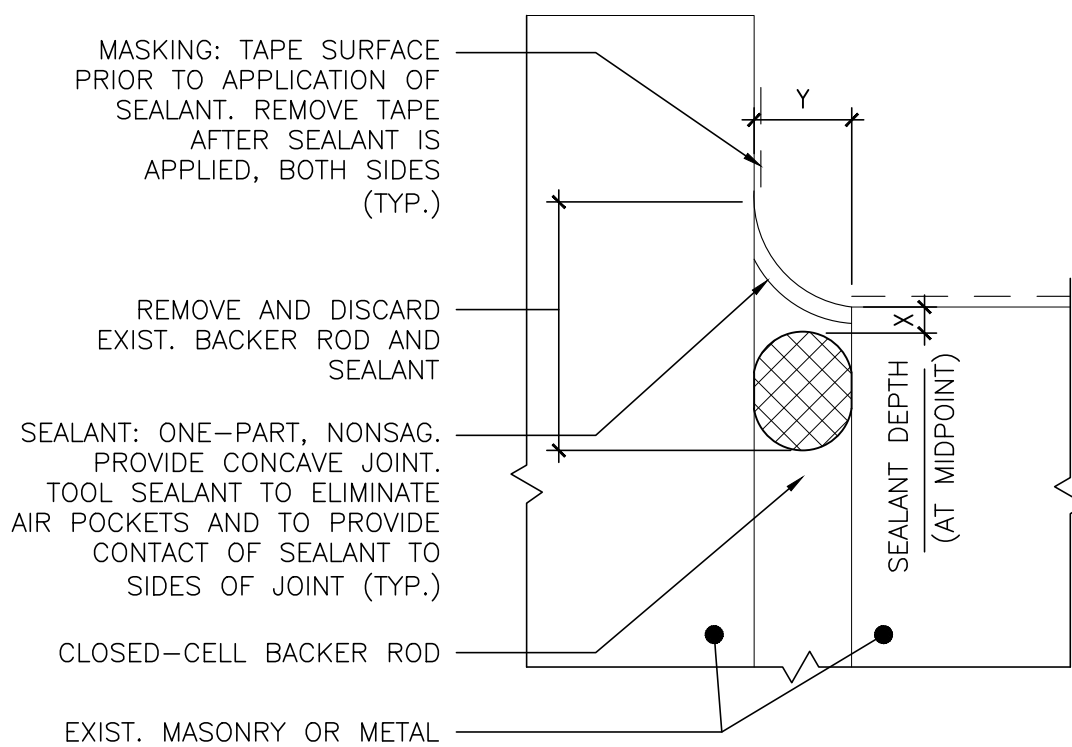
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DWG No: A-401.00
DWG COUNT: 18 OF 27

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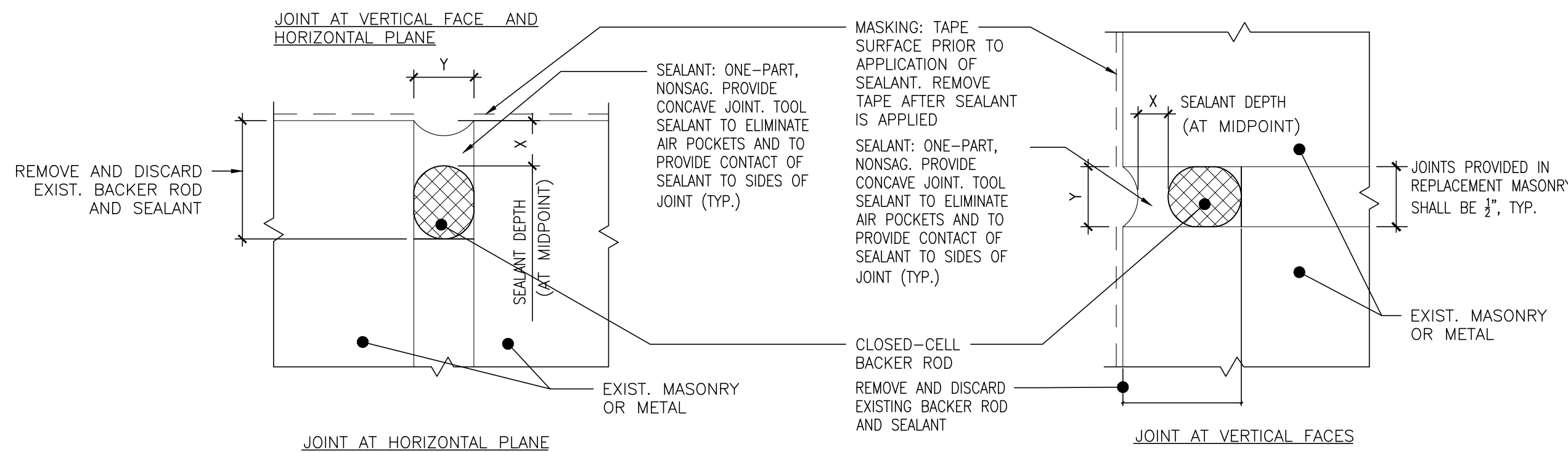
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- NOTES:
1. RAKE OUT EXISTING SEALANT AND BACKER ROD MATERIAL TO DEPTH REQUIRED FOR REPLACEMENT PER CHART BELOW. COORDINATE WITH HAZARDOUS MATERIALS DOCUMENTS.
 2. CLEAN OFF FACES OF JOINT WITH NON-DESTRUCTIVE SOLVENT PER MANUFACTURER'S RECOMMENDATIONS.
 3. PROVIDE THESE DETAILS IN APPLICABLE CONFIGURATIONS, AT WINDOW PERIMETERS JOINTS, NEW AND RESTORED LINTELS, COPING STONE JOINTS, MASONRY EXPANSION JOINTS AND ANY OTHER LOCATIONS AS INDICATED ON DRAWINGS.

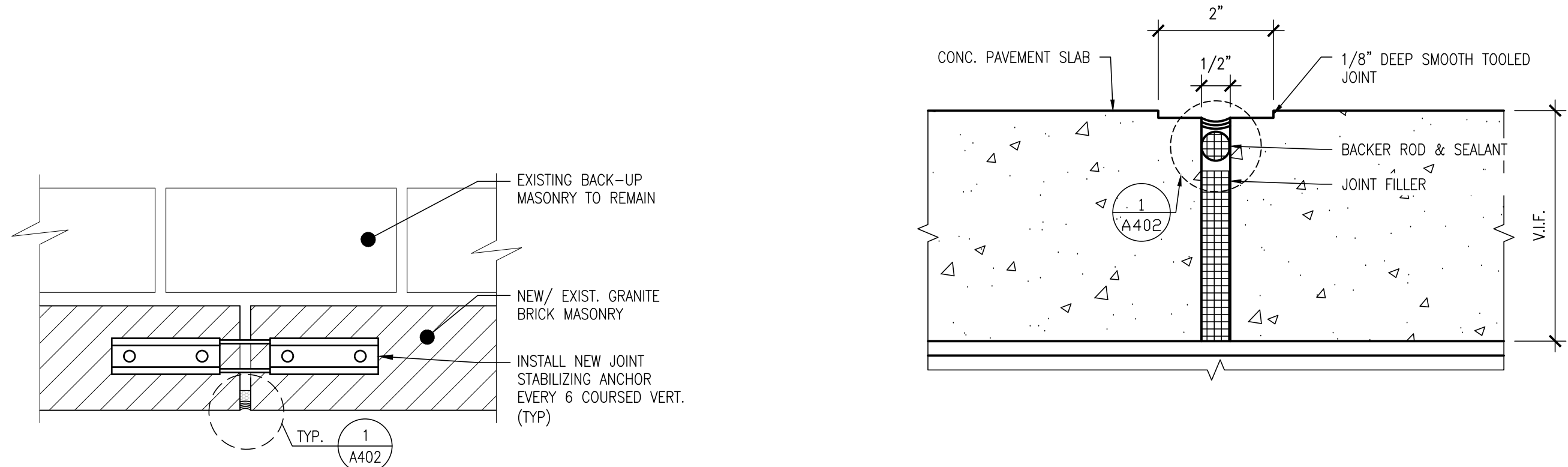
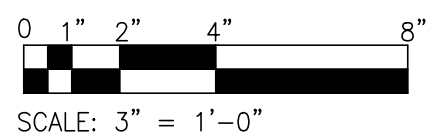
EXISTING JOINT SCHEDULE:

JOINT WIDTH (Y)	1/4"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	1 1/2"
SEALANT DEPTH (X)	3/16"	1/4"	1/4"-3/8"	3/8"-1/2"	3/8"-1/2"	3/8"-1/2"	1/2"	1/2"
BACKER ROD DIAMETER	3/8"	5/8"	3/4"	1"	1 1/4"	1 1/4"	1 1/2"	2"



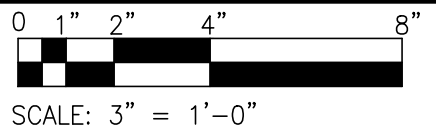
1 TYPICAL SEALANT REPLACEMENT

SCALE: 3" = 1'-0"



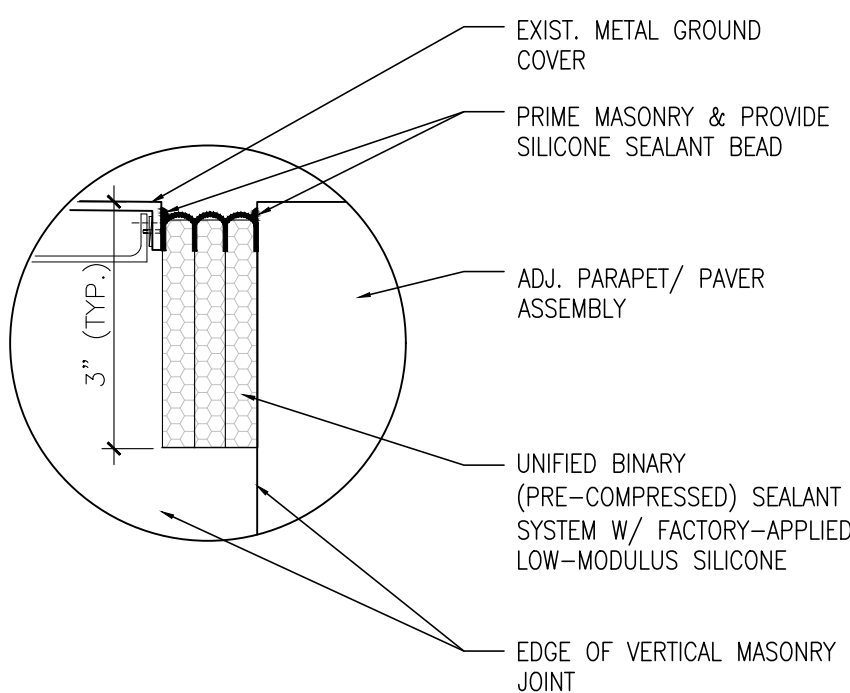
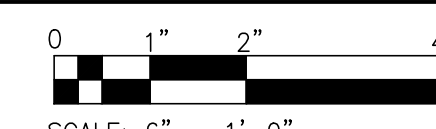
2 PLAN SECTION AT MASONRY EXPANSION JOINT

SCALE: 3" = 1'-0"



4 SECTION AT CONC. SIDEWALK EXPANSION JOINT

SCALE: 6" = 1'-0"

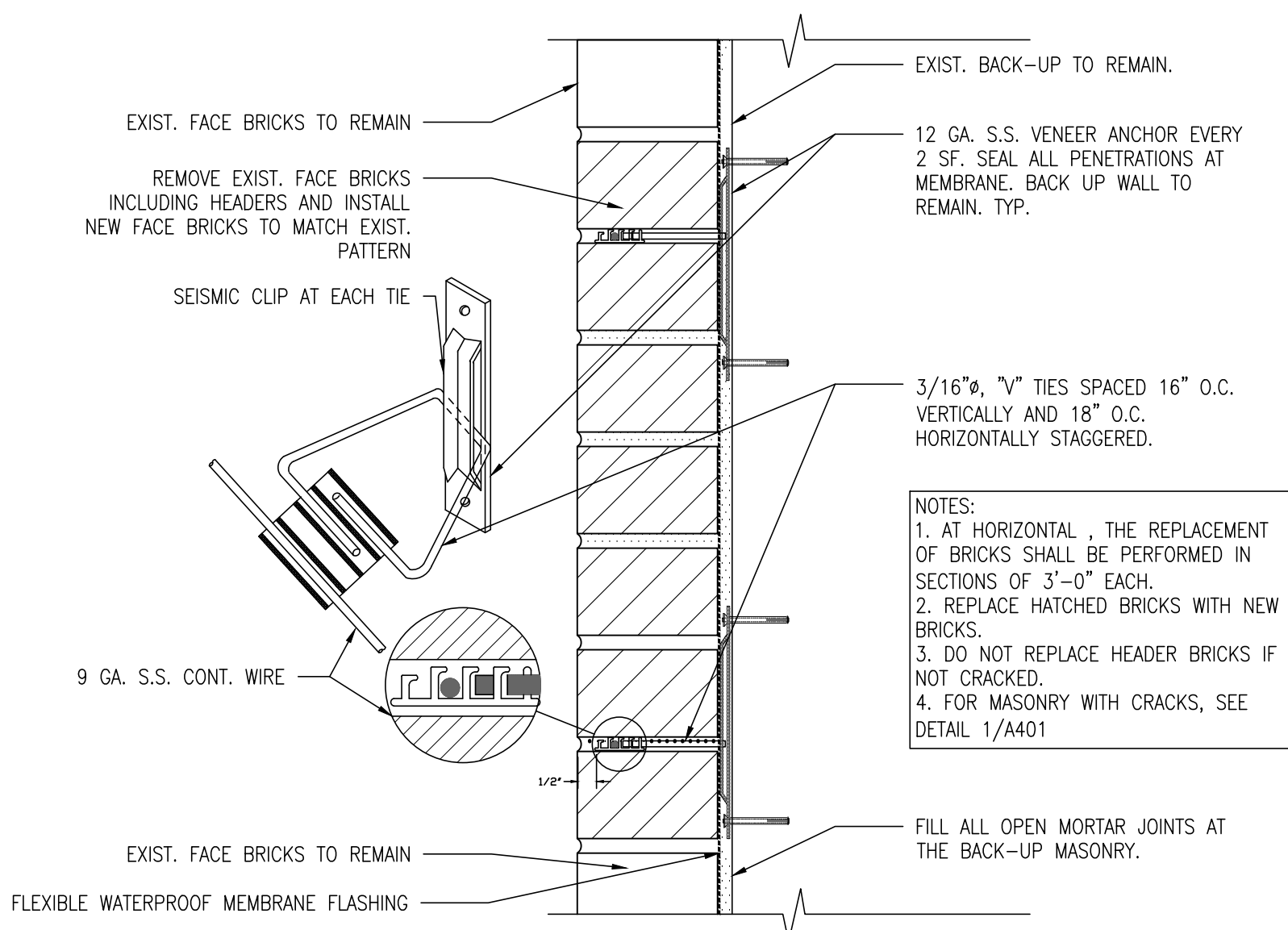
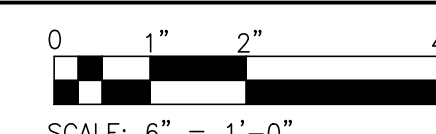


3 TYP. EXPN. JOINT SEALANT DETAIL

SCALE: NTS

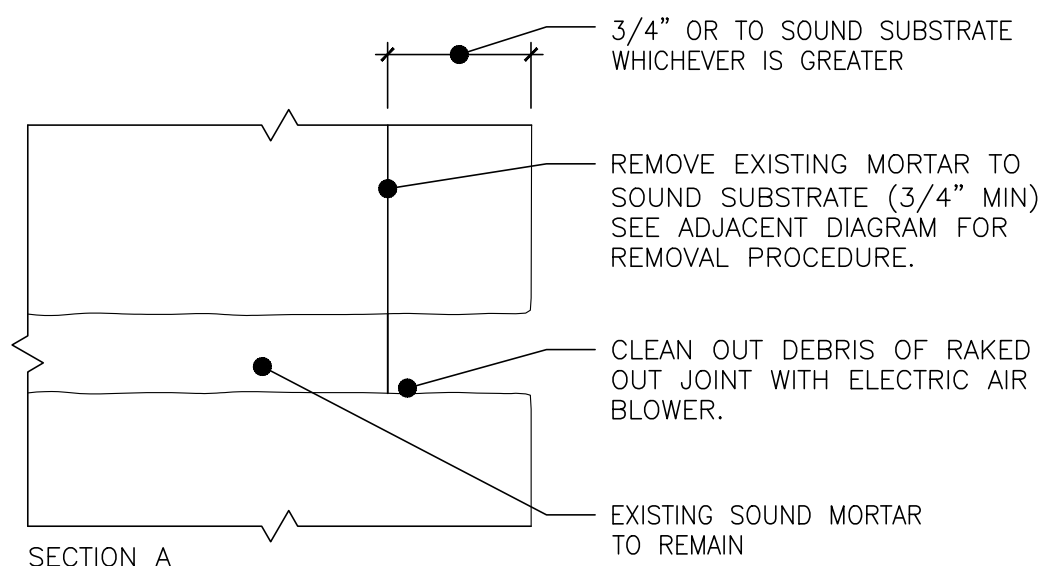
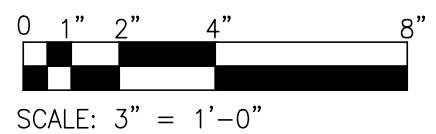
5 SECTION AT CONC. SIDEWALK CONTROL JOINT

SCALE: 6" = 1'-0"

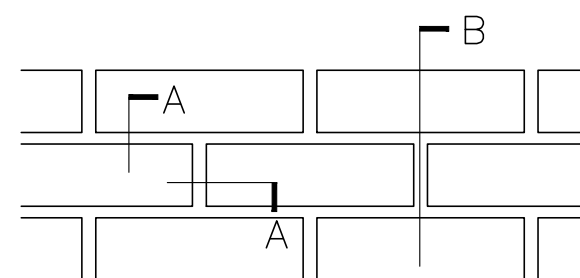


6 BRICK MASONRY REPLACEMENT FOR SINGLE WYTHE WALL

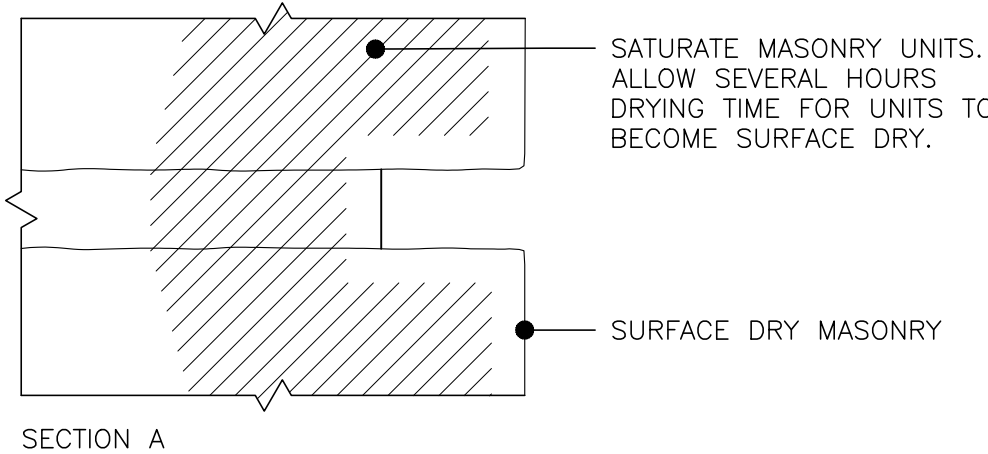
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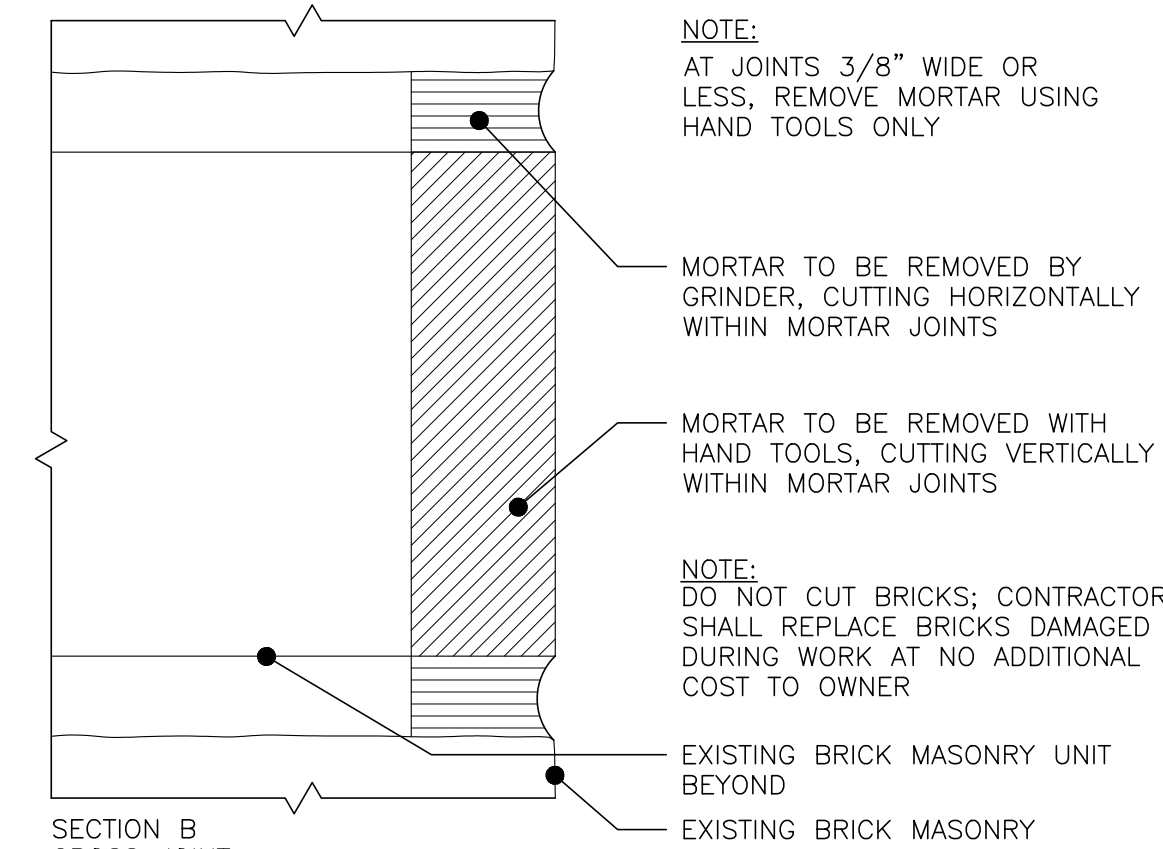
STEP 1: MORTAR REMOVAL



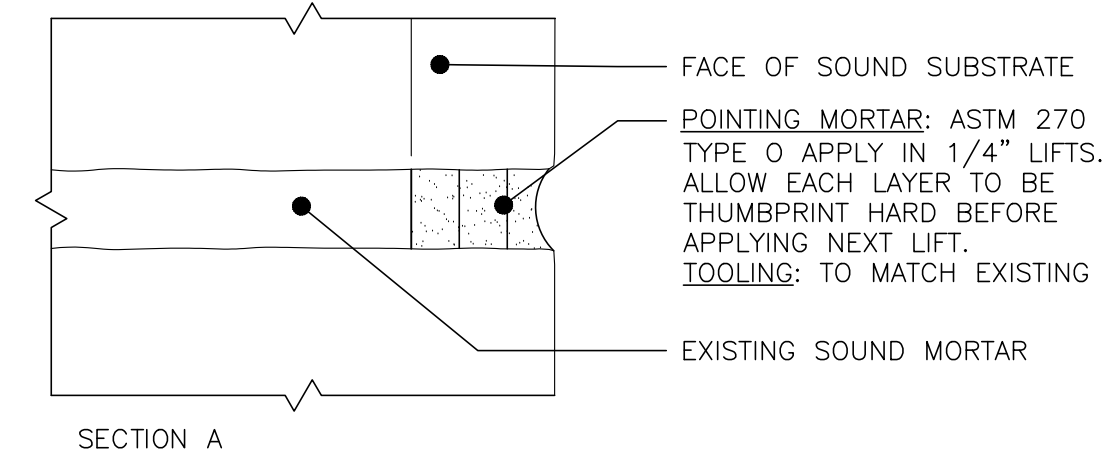
REPAIR KEY



STEP 2: PRE-WETTING OF MASONRY UNITS



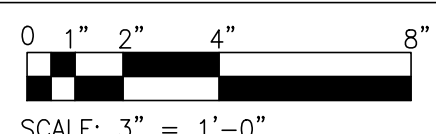
STEP 1: MORTAR REMOVAL



STEP 3: APPLICATION OF MORTAR

7 BRICK REPOINTING

SCALE: 3" = 1'-0"



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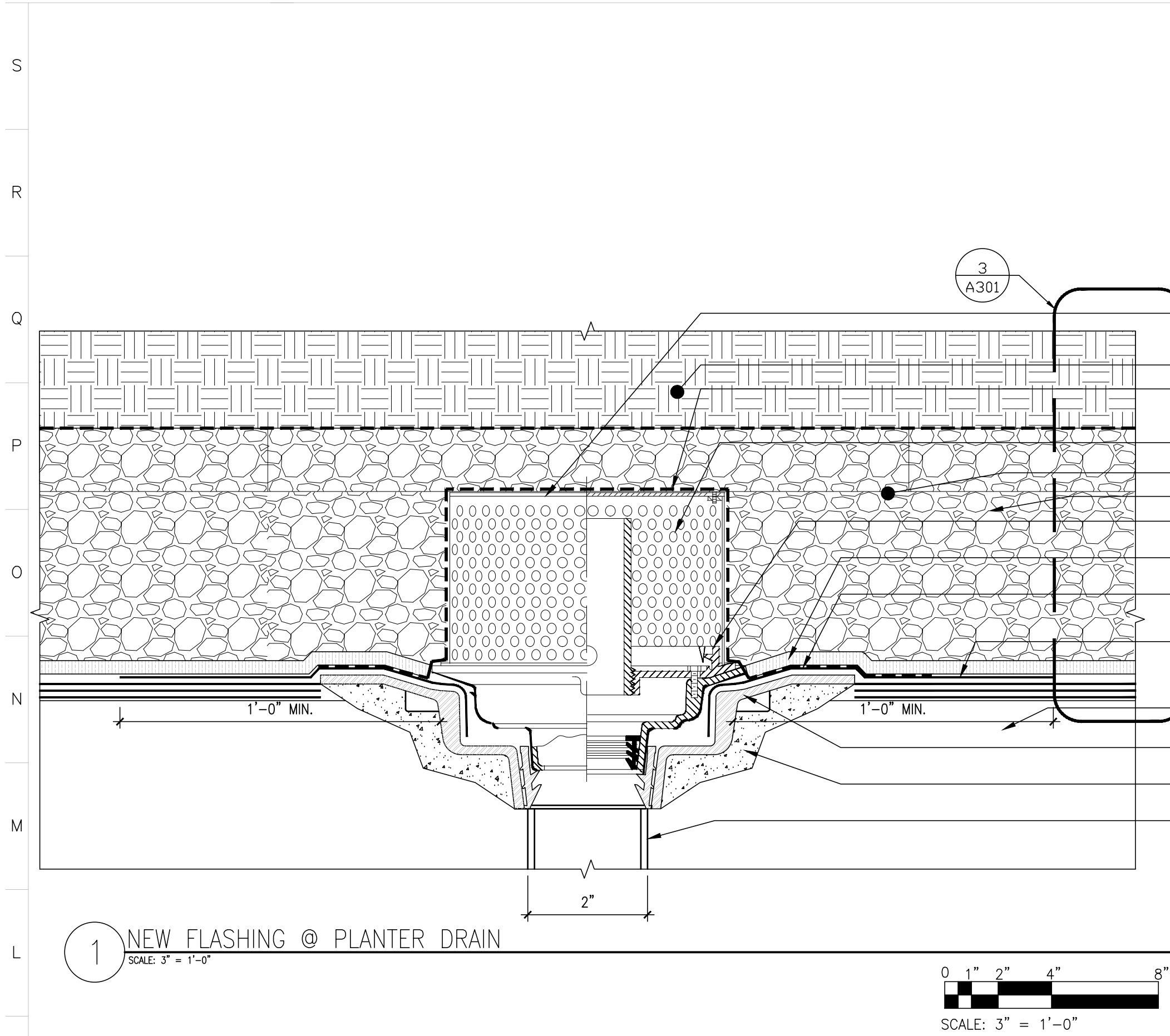
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200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME

DETAILS

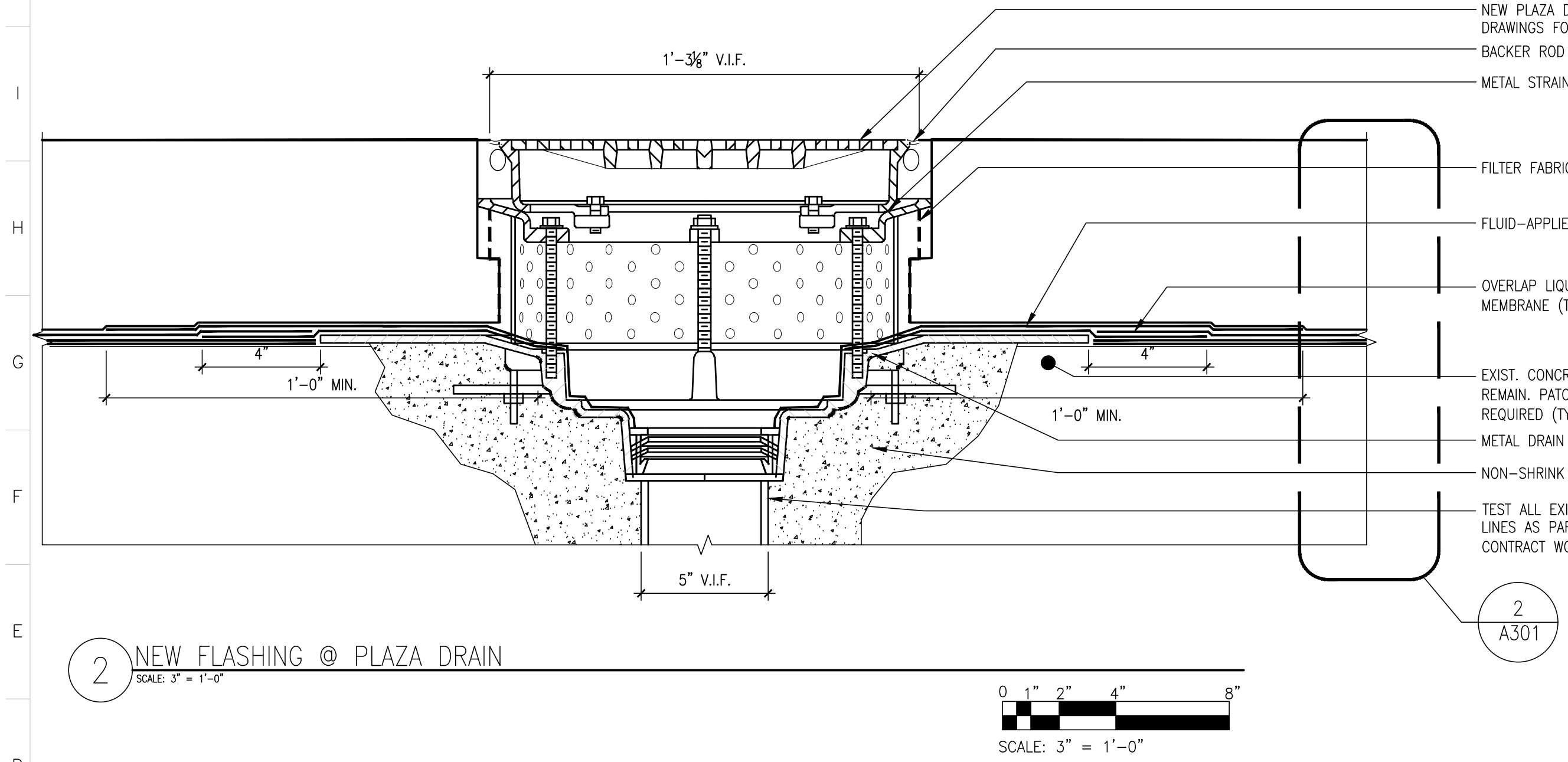
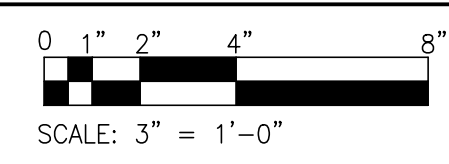
SEAL & SIGNATURE

DATE: 05.11.2018
PROJECT No: P15-036
SCALE: AS NOTED
DRAWING BY: WB
CHECKED BY: PJ/VF
DWG No: **A-402.00**
DWG COUNT: 19 OF 27

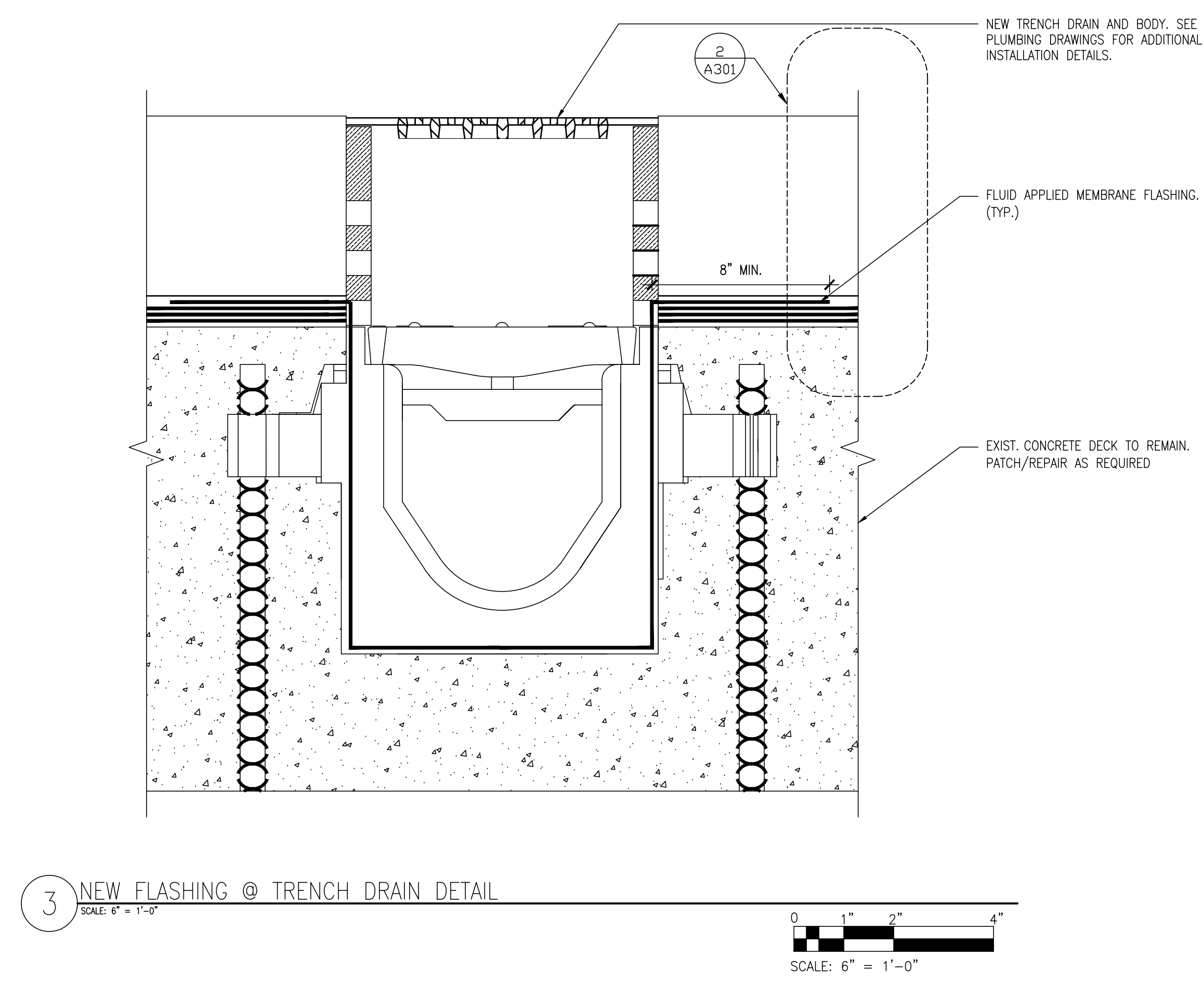
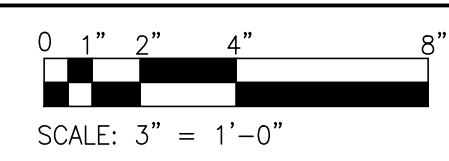


- NEW PLANTER DRAIN AND BODY. SEE PLUMBING DRAWINGS FOR ADDITIONAL INSTALLATION DETAILS.
- INSTALL NEW SOLID TOP (TYP.)
- INSTALL NEW FILTER FABRIC (TYP.)
- STAINLESS STEEL PERFORATED GRAVEL STOP (TYP.)
- INSTALL NEW GRAVEL (TYP.)
- INSTALL NEW SOIL (TYP.)
- METAL CLAMPING RING (TYP.) COMBINATION FLASHING CLAMP AND GRAVEL STOP
- FILTER FABRIC & DRAINAGE MAT (TYP.)
- FLUID-APPLIED FLASHING, EXTEND TILL B.O. DRAIN BODY (TYP.)
- FLUID-APPLIED WATERPROOFING AT PLANTER, EXTEND TILL B.O. DRAIN BODY (TYP.)
- EXIST. CONCRETE DECK TO REMAIN. PATCH/REPAIR AS REQUIRED (TYP.)
- EXIST. METAL DRAIN BODY TO REMAIN (TYP.)
- NON-SHRINK GROUT (TYP.)
- TEST ALL EXIST. PLUMBING LINES AS PART OF BASE CONTRACT WORK (TYP.)

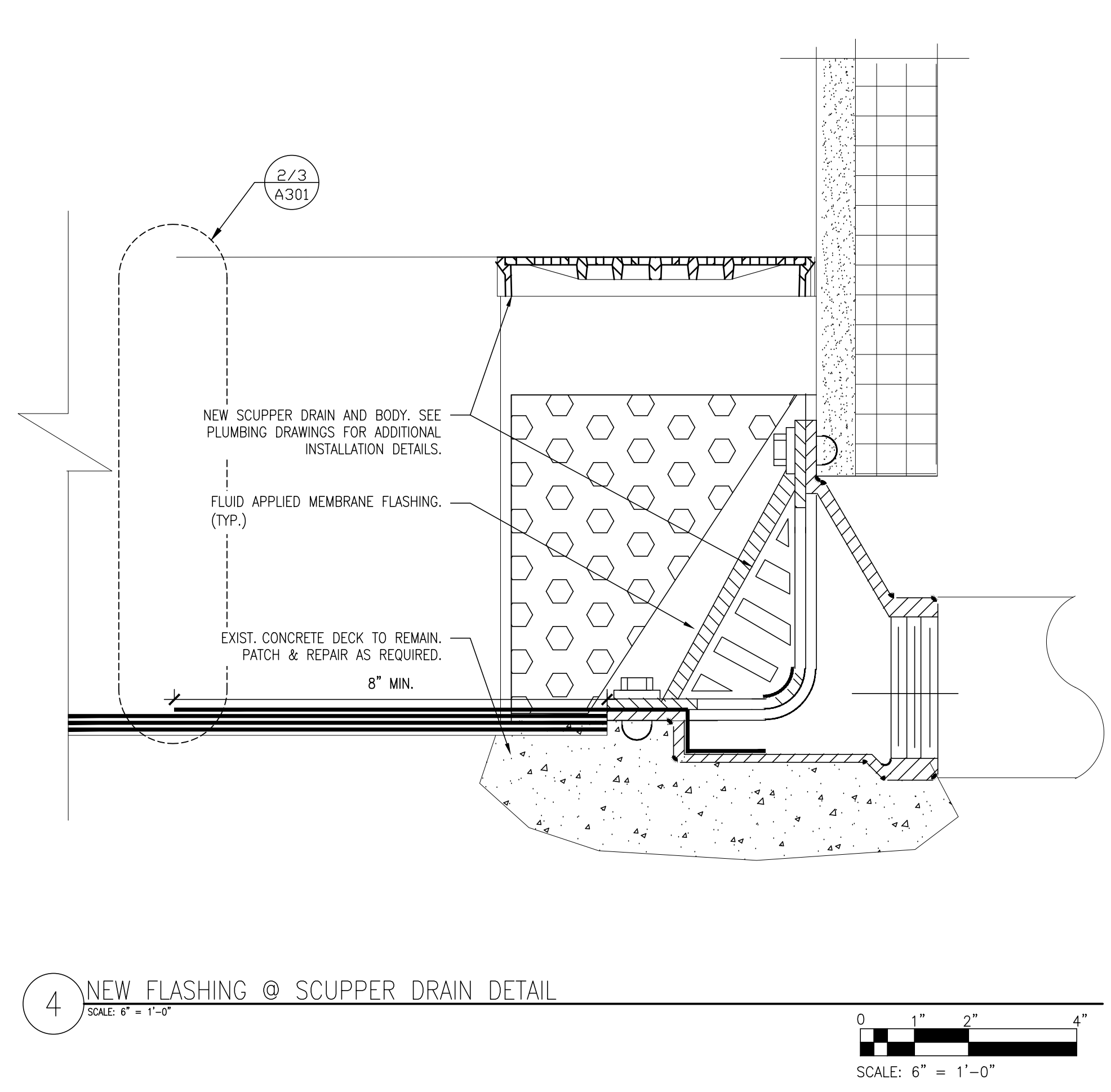
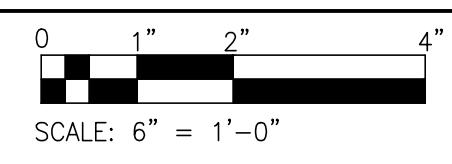
1 NEW FLASHING @ PLANTER DRAIN
SCALE: 3" = 1'-0"



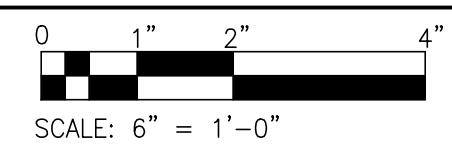
2 NEW FLASHING @ PLAZA DRAIN
SCALE: 3" = 1'-0"



3 NEW FLASHING @ TRENCH DRAIN DETAIL
SCALE: 6" = 1'-0"



4 NEW FLASHING @ SCUPPER DRAIN DETAIL
SCALE: 6" = 1'-0"



ARCHITECT

ARCHITECTURAL
PRESERVATION
STUDIO, DPC

Architecture, Historic Preservation, & Building Envelope Consulting

594 Broadway, Suite 919, New York, NY 10012
212.477.7976 / info@preservationstudio.com

OWNER

BATTERY PARK CITY AUTHORITY

200 LIBERTY STREET
NEW YORK, NY 10281

ENVIRONMENTAL SUB-CONSULTANTS

OLA CONSULTING ENGINEERS

50 BROADWAY SUITE 2
HAWTHORNE, NY 10832
TEL: (914) 747-2800

ENVIRONMENTAL SUB-CONSULTANTS

**JLC ENVIRONMENTAL
CONSULTANTS, INC.**

30 WEST 26TH STREET, 4TH FLOOR
NEW YORK, NY 10010
TEL: (212) 420-8119

LOCATION PLAN

BLOCK NO. 16LOT NO. 7519 & 7520

1	OWNER'S REVIEW	90%	5.16.2018
NO.	SUBMISSIONS/	REVISIONS	DATE

PROJECT NORTH

REFERENCE BAR
SEE DRAWINGS FOR
SCALE DESIGNATION

PROJECT

**200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN**

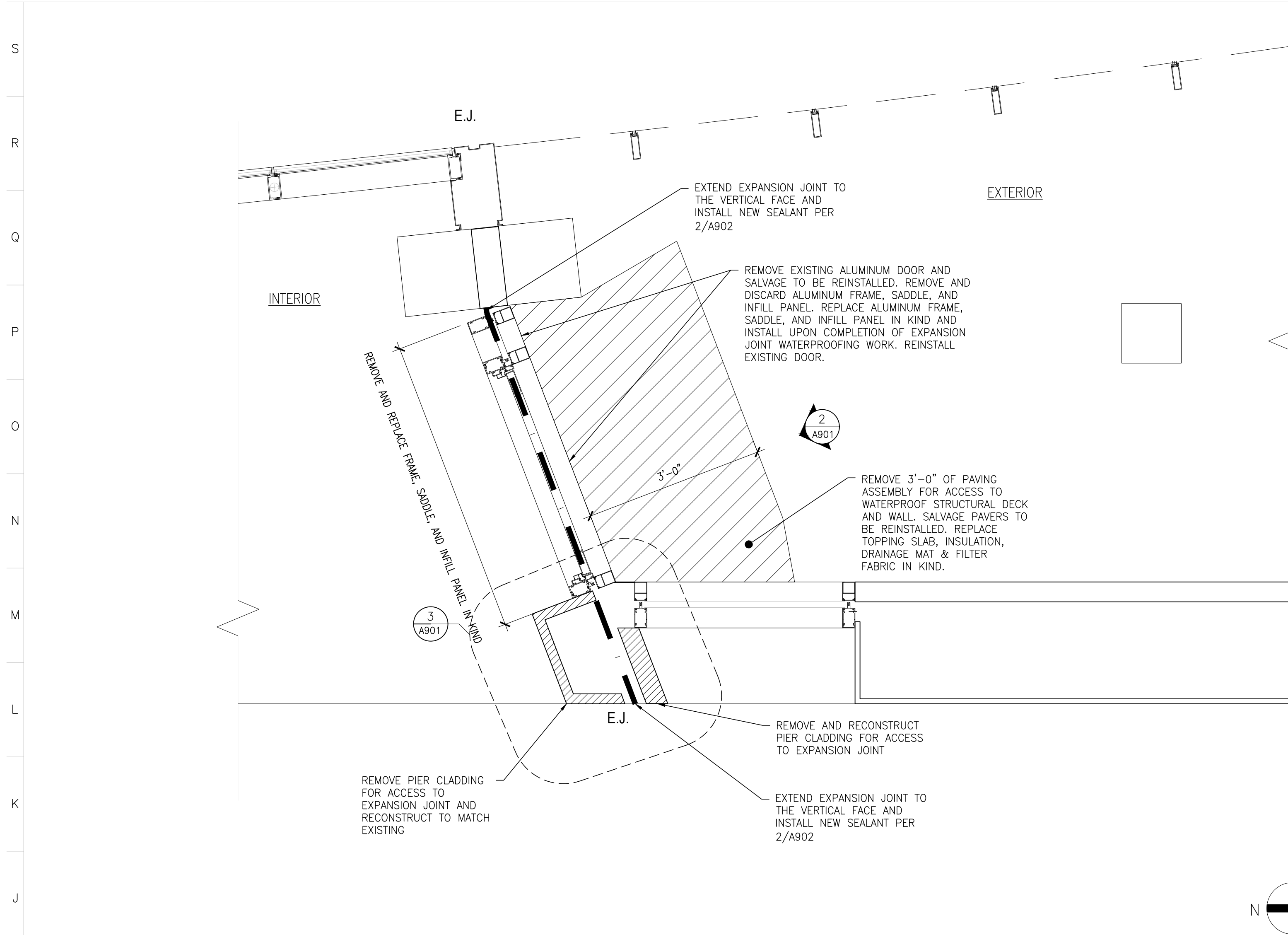
200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME

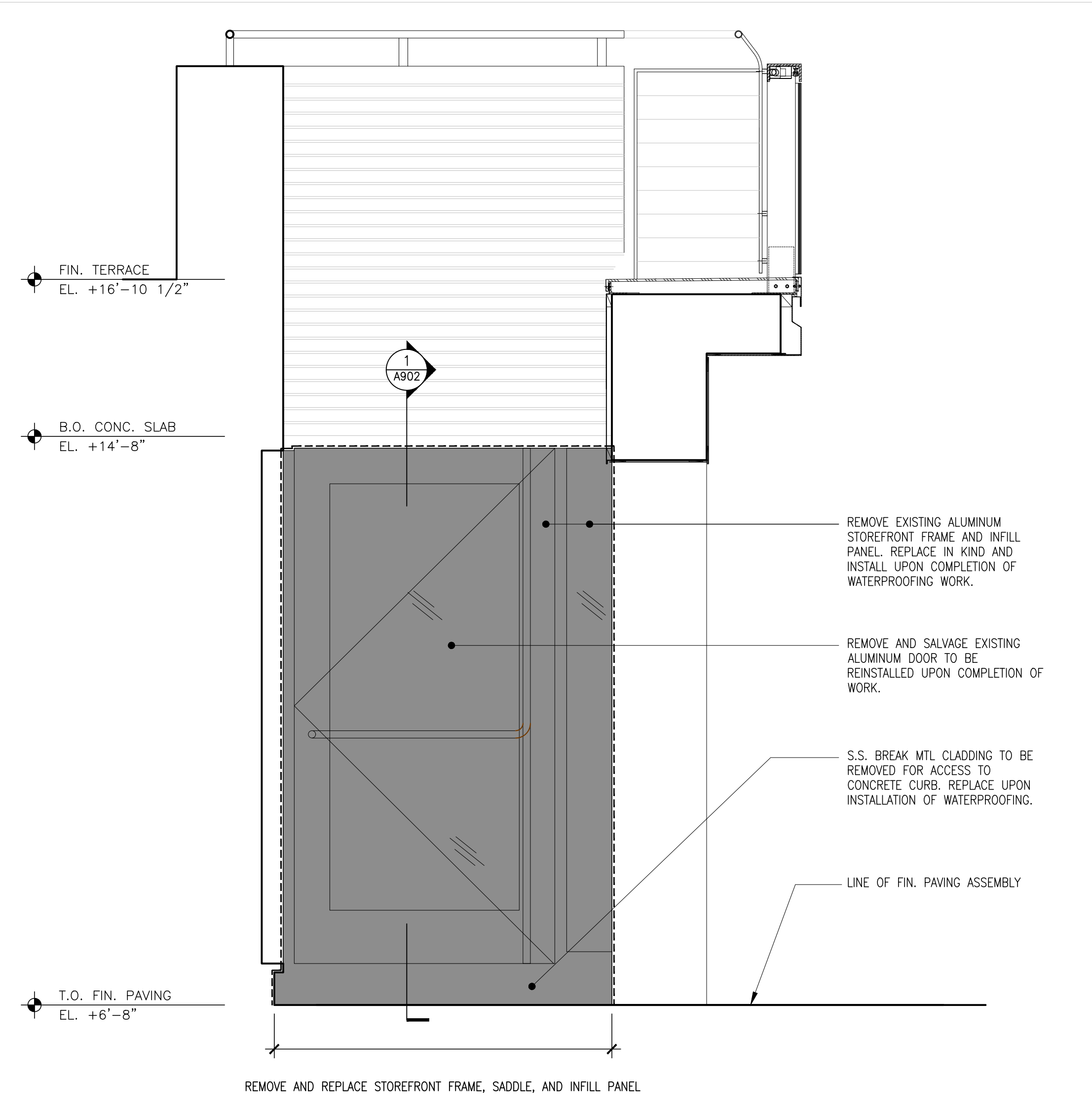
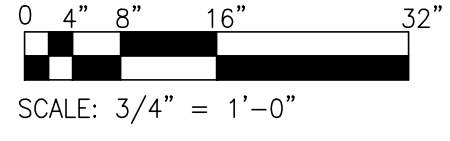
DRAIN DETAILS

SEAL & SIGNATURE

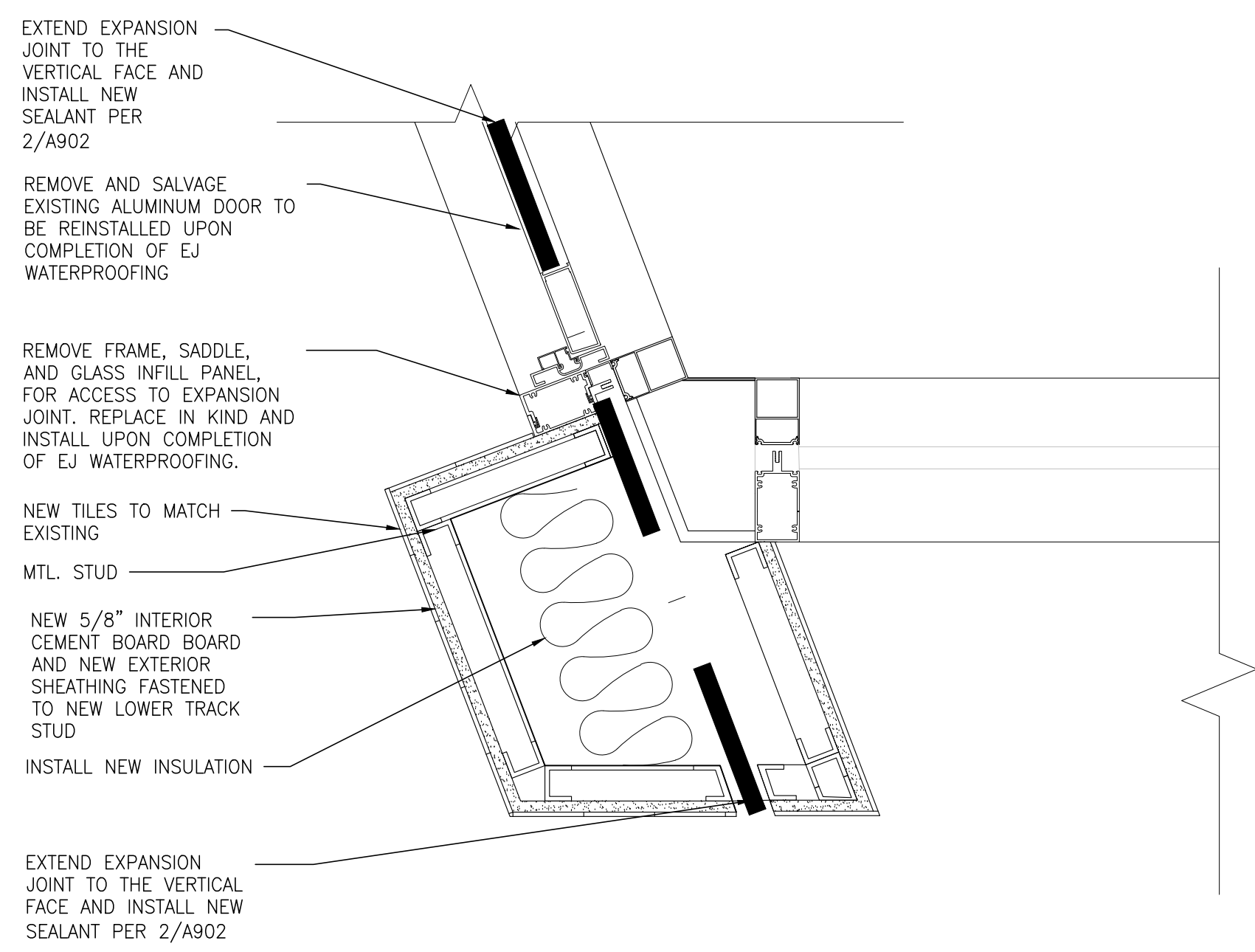
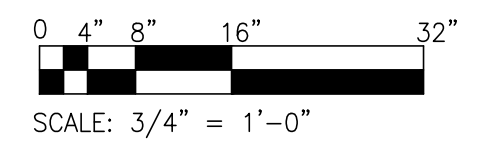
DATE: 05.11.2018
PROJECT No: P15-036
SCALE: AS NOTED
DRAWING BY: WB
CHECKED BY: PJJ/VF
DWG No: **A-501.00**
DWG COUNT: 20 OF 27



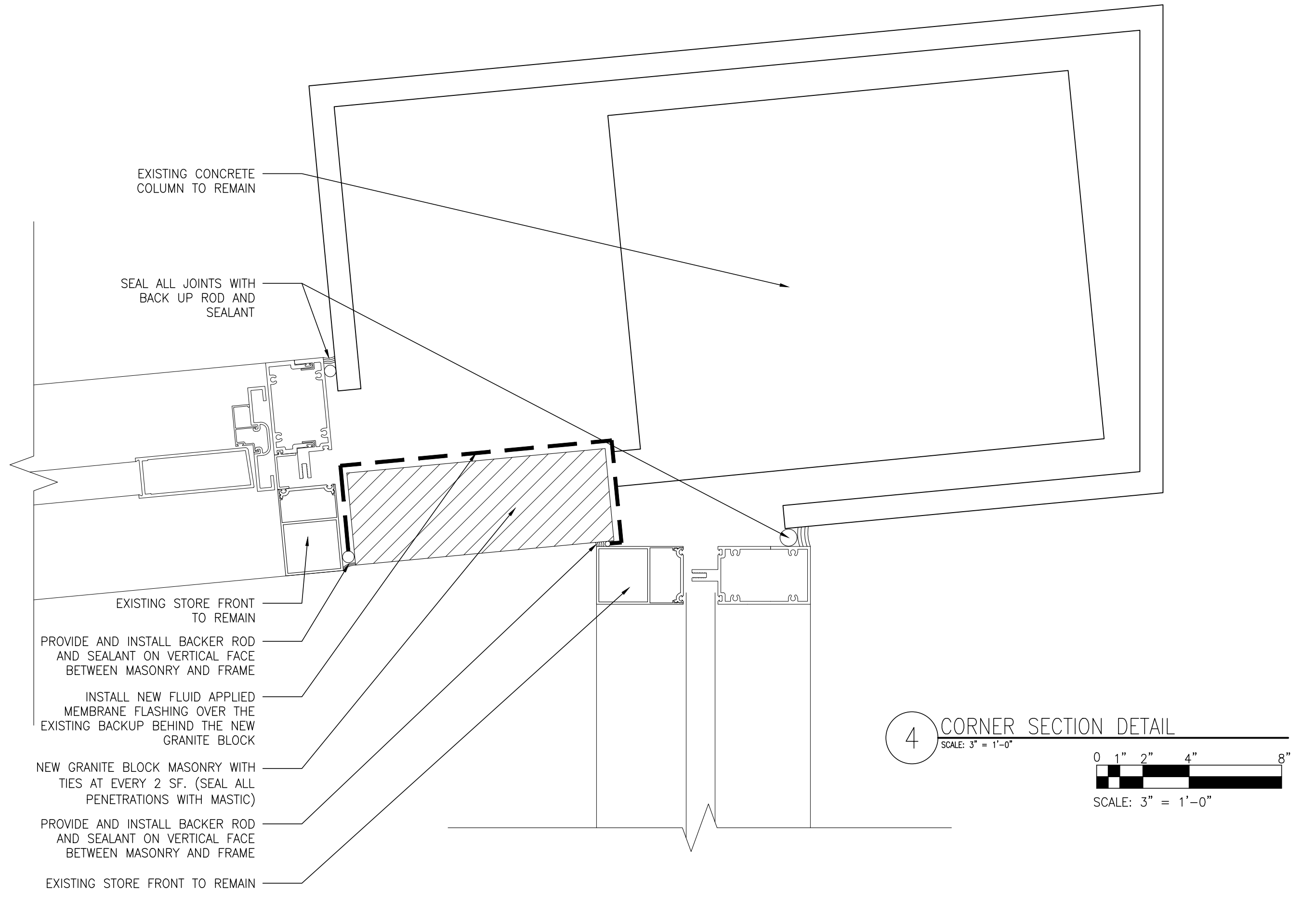
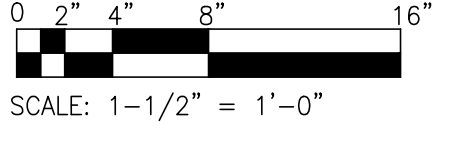
1 PART PLAN AT CENTER COURTYARD
3/4" = 1'-0"



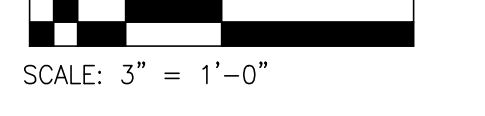
2 NORTH ELEVATION, CENTER COURTYARD
3/4" = 1'-0"



3 COLUMN CLADDING DETAIL
SCALE: 1-1/2" = 1'-0"



4 CORNER SECTION DETAIL
SCALE: 3" = 1'-0"



ARCHITECT

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PRESERVATION
STUDIO, DPC

Architecture, Historic Preservation, & Building Envelope Consulting
594 Broadway, Suite 919, New York, NY 10012
212.477.7976 / info@preservationstudio.com

OWNER

BATTERY PARK CITY AUTHORITY

200 LIBERTY STREET
NEW YORK, NY 10281

ENVIRONMENTAL SUB-CONSULTANTS

OLA CONSULTING ENGINEERS

50 BROADWAY SUITE 2
HAWTHORNE, NY 10532
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ENVIRONMENTAL SUB-CONSULTANTS

**JLC ENVIRONMENTAL
CONSULTANTS, INC.**

30 WEST 26TH STREET, 4TH FLOOR
NEW YORK, NY 10010
TEL: (212) 420-8119

LOCATION PLAN

NEW AREA OF WORK

WARRENS STREET

WEST STREET

WEST SIDE HWY

MURRAY STREET

BLOCK NO. 16

LOT NO. 7519 & 7520

1	OWNER'S REVIEW	90%	5.16.2018
NO.	SUBMISSIONS/	REVISIONS	DATE

PROJECT NORTH

REFERENCE BAR
SEE DRAWINGS FOR
SCALE DESIGNATION

PROJECT

**200-300 NORTH END AVE
LEAK REMEDIATION
DESIGN**
200-300 NORTH END AVE
NEW YORK, NY 10282

DRAWING NAME

**CELLAR PARTIAL PLAN &
NORTH ELEVATION**

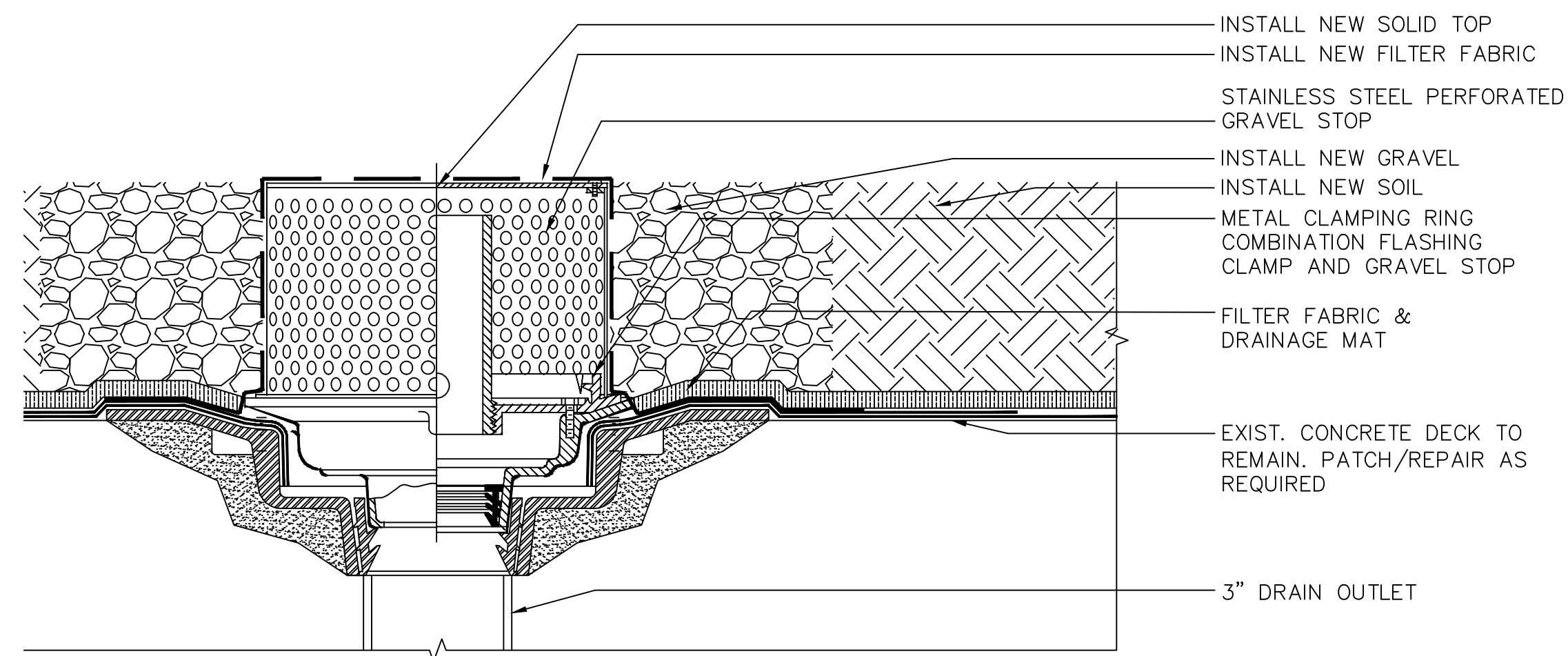
SEAL & SIGNATURE

DATE: 05.11.2018
PROJECT No: P15-036
SCALE: AS NOTED
DRAWING BY: WB
CHECKED BY: PJJ/VF
DWG No: **A-901.00**
DWG COUNT: 21 OF 27

DATE: PROJECT No: SCALE: DRAWING BY: CHECKED BY: DWG No: DWG COUNT:	05.11.2018
	P15-036
	AS NOTED
	WB
	PJ/VF
	A-902.00
22 OF 27	

0 1" 2" 4" 8"

SCALE: 3" = 1'-0"

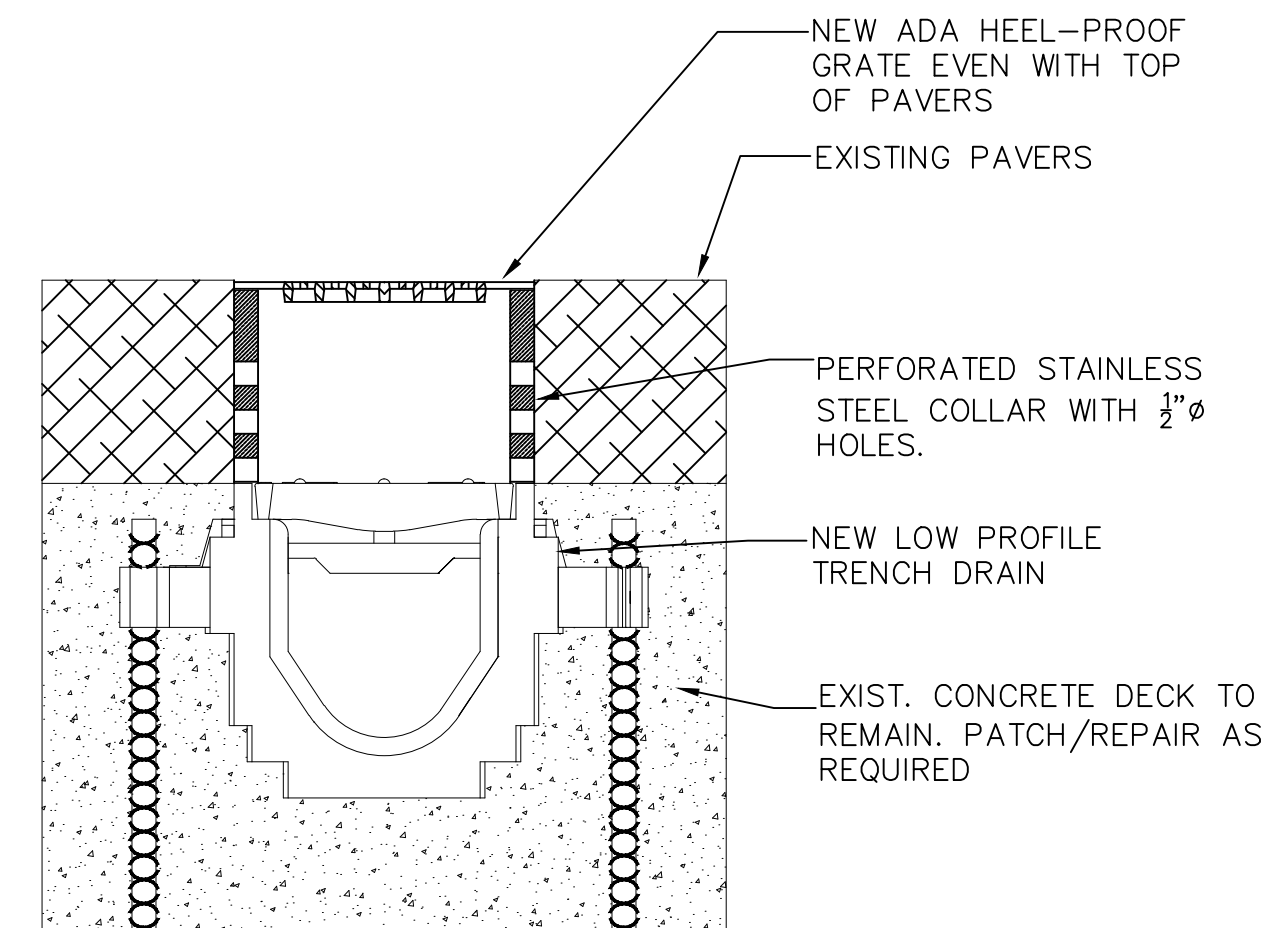


ROOF DRAIN NOTES:

1.) COORDINATE ALL ROOF DRAINS WITH ROOF CONSTRUCTION IN AREA OF WORK.

2.) SEE ARCHITECTURAL PLANS FOR FLASHING AND WATERPROOFING INSTALLATION

4 PLANTER DRAIN DETAIL
SCALE: NONE



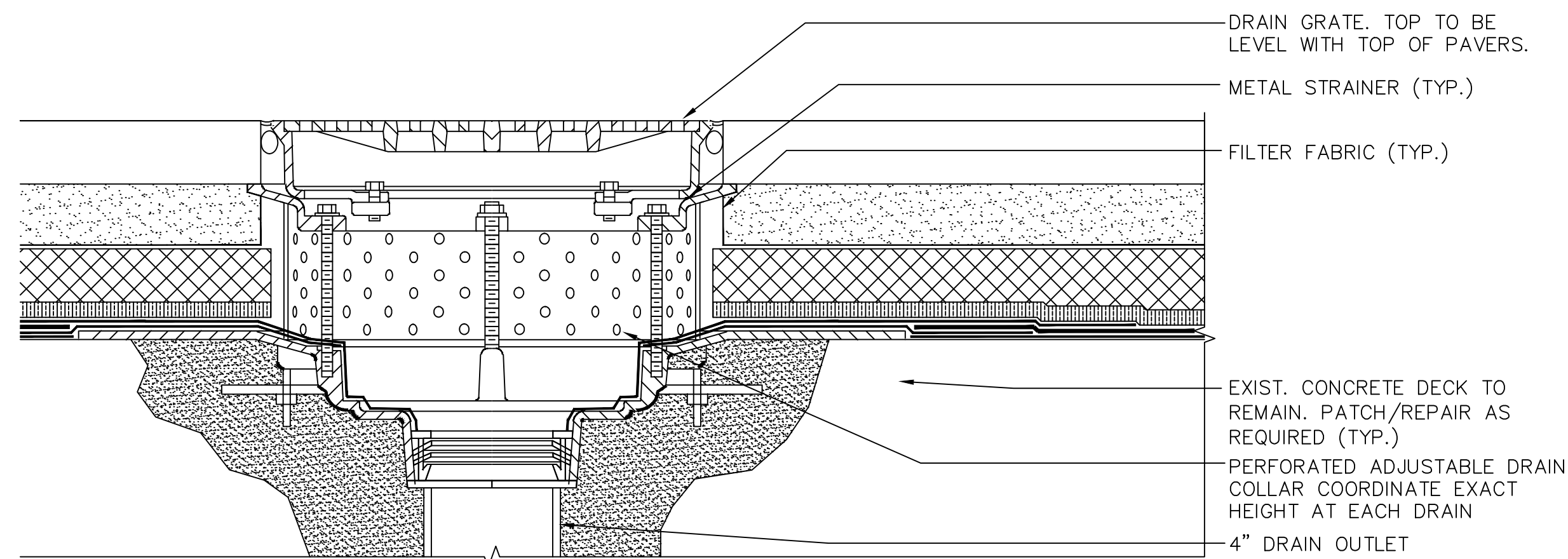
ROOF DRAIN NOTES:

1.) COORDINATE ALL ROOF DRAINS WITH ROOF CONSTRUCTION IN AREA OF WORK.

2.) SEE ARCHITECTURAL PLANS FOR FLASHING AND WATERPROOFING INSTALLATION

2 TRENCH DRAIN DETAIL

SCALE: NONE



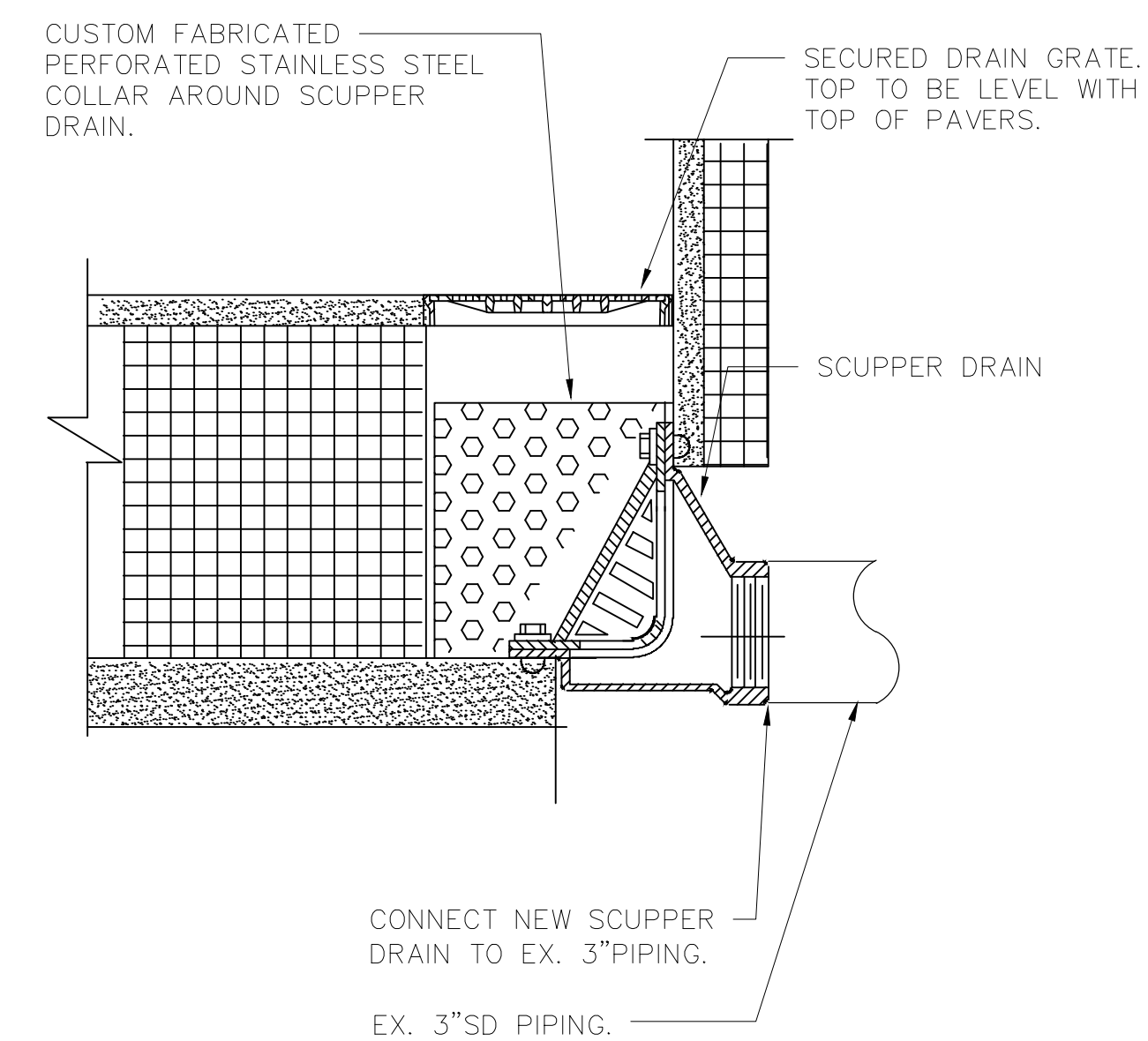
ROOF DRAIN NOTES:

1.) COORDINATE ALL ROOF DRAINS WITH ROOF CONSTRUCTION IN AREA OF WORK.

2.) SEE ARCHITECTURAL PLANS FOR FLASHING AND WATERPROOFING INSTALLATION

3 PLAZA DRAIN DETAIL

SCALE: NONE



ROOF DRAIN NOTES:

1.) COORDINATE ALL ROOF DRAINS WITH ROOF CONSTRUCTION IN AREA OF WORK.

2.) SEE ARCHITECTURAL PLANS FOR FLASHING AND WATERPROOFING INSTALLATION

1 SCUPPER DRAIN DETAIL
SCALE: NONE

PROJECT MANUAL

LEAK REMEDIATION DESIGN

**PROJECT LOCATION:
BATTERY PARK CITY AUTHORITY
200- 300 NORTH END AVENUE
NEW YORK, NY 10280**

**OWNER:
BATTERY PARK CITY AUTHORITY
200- 300 NORTH END AVENUE
NEW YORK, NY 10280**

**ISSUED:
MAY 16, 2018
APS PROJECT # P15-036**

ARCHITECT:



**ARCHITECTURAL PRESERVATION STUDIO, DPC
594 BROADWAY, SUITE 919
NEW YORK, NY 10012
212.477.7976**

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SECTION 00 01 03 - PROJECT DIRECTORY

OWNER: Battery Park City Authority

Anthony Buquicchio
Senior Project Manager
Battery Park City Authority
200 Liberty Street
New York, NY 10281
Tel: 212.417.4337
Anthony.Buquicchio@bpca.ny.gov

ARCHITECT: Architectural Preservation Studio, DPC

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William Bisono
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Architectural Preservation Studio, DPC
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bisonow@preservationstudio.com

END OF SECTION 00 01 03 - PROJECT DIRECTORY

SECTION 00 10 10 - TABLE OF CONTENTS

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SECTION 00 01 15	INDEX TO DRAWINGS
SECTION 00 10 00	INSTRUCTIONS TO BIDDERS
SECTION 00 11 00	INVITATION TO BID
SECTION 00 30 00	BID FORM
SECTION 00 45 13	CONTRACTOR QUALIFICATION FORM
SECTION 00 45 19	NON-COLLUSIVE AFFIDAVIT

TECHNICAL SPECIFICATIONS

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SECTION 01 29 73	SCHEDULE OF VALUES
SECTION 01 31 13	PROJECT COORDINATION
SECTION 01 32 13	SCHEDULING OF WORK
SECTION 01 29 73	SUBMITTALS
SECTION 01 35 00	HEALTH AND SAFETY ENVIRONMENT
SECTION 01 41 00	REGULATORY REQUIREMENTS
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SECTION 01 43 00	QUALITY ASSURANCE
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SECTION 01 52 00	CONSTRUCTION FACILITIES
SECTION 01 74 19	CONSTRUCTION-WASTE MANAGEMENT
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SECTION 03 13 00	PERVIOUS CONCRETE
SECTION 03 30 53	CAST-IN-PLACE CONCRETE

DIVISION 04, MASONRY

SECTION 04 43 00	STONE MASONRY
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DIVISION 05, MASONRY

SECTION 05 12 00	STRUCTURAL STEEL
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DIVISION 06, CARPENTRY

SECTION 06 10 00 ROUGH CARPENTRY

DIVISION 07, THERMAL AND MOISTURE PROTECTION

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SECTION 07 15 00 CHEMICAL RESIN INJECTION GROUTING
SECTION 07 51 13 BUILT UP ROOFING
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SECTION 07 92 00 JOINT SEALERS

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SECTION 09 30 00 TILES
SECTION 09 90 00 PAINTING AND COATINGS

DIVISION 22, FACILITY STOR DRAINAGE

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NO.	DESCRIPTION	DATE	REV. DATE
TITLE AND COVER SHEETS			
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T-002.00	Scope of Work, Allowances & Notes	2018-05-16	
T-003.00	FEMA Notes & 2013 Fema Flood Zone Map	2018-05-16	
T-004.00	2013 Flood Zone Map	2018-05-16	
ARCHITECTURAL			
A-101.00	Existing Site Plan	2018-05-16	
A-102.00	Partial Plans @ Upper Level	2018-05-16	
A-103.00	Partial Plan @ Upper Level	2018-05-16	
A-104.00	Partial Plan @ Upper Level	2018-05-16	
A-105.00	Partial Plans @ Upper & Cellar Level	2018-05-16	
A-201.00	Courtyard Elevations	2018-05-16	
A-301.00	Base Flashing Details	2018-05-16	
A-302.00	Details	2018-05-16	
A-303.00	Details	2018-05-16	
A-304.00	Details	2018-05-16	
A-305.00	Parapet Details	2018-05-16	
A-306.00	Steel Stairs Details	2018-05-16	
A-307.00	Details	2018-05-16	
A-401.00	Details	2018-05-16	
A-402.00	Details	2018-05-16	
A-501.00	Drain Details	2018-05-16	
A-901.00	Cellar Partial Plan & North Elev.	2018-05-16	
A-902.00	Door & Sill Details	2018-05-16	
PLUMBING			
P-001.00	Plumbing Symbols, Abbreviations, Notes & Specifications	2018-05-16	
P-002.00	Plumbing Specifications & Details	2018-05-16	
P-101.00	Plumbing Demolition Plan	2018-05-16	
P-102.00	Plumbing New Work Plan	2018-05-16	
P-701.00	Plumbing Details	2018-05-16	

END OF SECTION 00 01 15 - INDEX OF DRAWINGS

SECTION 00 11 00 - INVITATION TO BID

1. Battery Park City Authority is soliciting proposals from qualified Contractors for the roof replacement of the residential property located at 200-300 North End Ave.
2. 200-300 North End Ave. is located in Battery Park City in New York City between Warren and Murray Streets. 200 and 300 North End Avenue was originally constructed in 2009. The property includes 200 North End Ave (32 floors) and 300 North End Ave (22 floors), an upper plaza and lower plaza which extends into a ball field. The scope of work on this project is limited to the plaza and elements of the plaza, including re-waterproofing of the main plaza level and portion of the lower plaza level, parapets, planter walls, and partial facades at the lower plaza level.
3. Electronic copies (PDF format) of the Bid Documents may be obtained from the office of the Architect between 9:00 AM and 5:00 PM on: _____
4. A pre-bid meeting will be scheduled with Contractors. The purpose of the pre-bid meeting is to assist Contractors in understanding the intent of the Bid Documents, and to provide an opportunity for a visual examination of the existing structure. The Contractor shall examine the structure to determine the extent of work and the quantities of materials required, and request at that time interpretations of any ambiguities, inconsistencies, errors, or omissions found in the Contract Documents. No proposals will be accepted from any Contractor who does not attend the mandatory pre-bid conference. The proposal will be returned unopened to the Contractor.
5. All **Requests for Information (RFIs)** during the bidding period must be received in writing by the office of the Architect no later than : _____
6. All proposals must be clearly labeled with "200-300 North End Avenue, New York, NY 10282 - Leak Remediation Design" The Contractor Qualification Statement, Non-Collusion Statement, bid bond, and any additional relevant marketing materials must be included with the sealed Form of Proposal.
7. **Sealed Bid Proposals from Contractors** will be received by Architect's office until **5:00pm on:**
8. The Owner will accept the lowest responsible bid. Additionally, the Owner reserves the right to reject any or all bids, or to waive any informality in the bidding. The Owner may hold all bids for technical review and to further investigate bidder(s) qualifications.

END OF SECTION 00 11 00 - INVITATION TO BID

SECTION 00 21 13 - INSTRUCTIONS TO BIDDERS

1.00 OBTAINING DOCUMENTS

1.01 Copies of the Bidding Documents are available from:

Victoria Feliciano
Architectural Preservation Studio, DPC
594 Broadway, Suite 919
New York, NY 10012
Tel: 212.477.7976, Ext: 549

1.02 Invited bidders may obtain one (1) set of the Bidding Documents at no cost. Additional complete or partial sets may be obtained upon payment to the Architect for the cost of reproduction. All Bidding Documents must be returned to the Owner at the time Bids are received.

2.00 DEFINITIONS

2.01 The Bidding Documents form the proposed Contract and are as listed in the "Index", in addition to any addenda issued up to the time fixed for delivery of bids.

2.02 All definitions set forth in the General Conditions of the Contract, or in other Contract Documents are applicable to the Bidding Documents.

2.03 A Bid is a complete and properly signed proposal to do the Work or designated portion thereof for the sums stipulated therein, submitted in accordance with the Bidding Documents.

3.00 BID FORM

3.01 These Bidding Documents include a complete set of bidding and contract forms, for the convenience of bidders.

3.02 In order to receive consideration, make all Bids in accordance with the following:

1. Make Bids upon the forms provided thereof, properly executed and with all items filled out. Do not change the wording of, nor add words to, the Bid Form. Unauthorized conditions, limitations, or provisions attached to the proposal may be cause for rejection of the proposal. Alterations by erasure must be explained or noted in the Bid over the signature of the Bidder.
2. Bids shall not contain any recapitulation of the work to be done.
3. No oral, telegraphic or telephonic Bid will be considered.
4. No Bids received after the time fixed for the receipt of Bids will be considered. Late bids will be returned to the sender unopened.

4.00 METHOD OF SUBMISSION

- 4.01 To be considered, Proposals on the form included herein, must be in accordance with these Instructions to Bidders. All bids must be submitted in duplicate on Bidder's letterhead or prescribed forms as bound herein and returned intact as specified herein. All blank spaces for bid prices must be filled in, in both words and figures, either typed or in ink. Proposals that contain any omissions, erasures, alterations, additions or items not called for in itemized Proposal, or those containing irregularities of any kind, may constitute sufficient cause for rejection of the bid. In case of any discrepancy in the price or amount bid in the Proposal, the price, as expressed in words, shall govern. All bids must be submitted in sealed envelopes addressed to the following parties:

**Senior Project Manager
Battery Park City Authority
200 Liberty Street
New York, NY 12081
Tel: 212.417-4337
Attn: Anthony Buquicchio
Anthony.Buquicchio@bpca.ny.gov**

- 4.02 Proposals shall be clearly identified with (1) Project Name, (2) Name of Bidder and Address. Proposals shall be signed with name typed below signature. The Bidder's seal, if any, shall be affixed under the Bidder's signature. It is the sole responsibility of the Bidder to see that his Bid is received on time.

- 4.04 **Bids must be delivered by:** _____

- 4.05 All visits to the site shall be coordinated with the Owner's Representative,

5.00 BID OPENING

- 5.01 Bids will be opened in private by Owner.
- 5.02 The Owner reserves the right to postpone the date and time of receipt of Bids at any time prior to the date and time announced in this Instruction to Bidders or amendments thereto.

6.00 BID SECURITY

- 6.01 No bid security will be required.

7.00 MODIFICATION OR WITHDRAWAL OF BIDS

- 7.01 A Bid may not be modified, withdrawn or canceled by the Bidder following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting his Bid.
- 7.02 Prior to the time and date designated for the receipt of Bids, any Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be writing over the signature of the Bidder or by telegram; if by telegram, written confirmation over the signature of the Bidder shall be mailed and postmarked on or before the date and time set for receipt of Bids, and it shall be worded so as not to reveal the amount of the original Bid

8.00 AWARD OF CONTRACT - REJECTION OF BIDS

- 8.01 The Bidder to whom the award is made will be notified at the earliest possible date.
- 8.02 The Owner reserves the right to reject any and all bids or waive any informality or irregularity in Bids received whenever such rejection or waiver is in the interest of the Owner. The Owner may or may not consider any Bid on which there is an alteration of or departure from the Bid Form, the Instruction to Bidders, or other Contract Documents.
- 8.03 The Owner has the right to accept the Bid or Bids which, in his judgment, is in his own best interests.
- 8.04 The Owner reserves the right to reduce or increase the Scope of Work of the project throughout the course of the work using the Base Bids and Unit Prices provided by the Contractor to reduce or increase the Total Contract Sum. The Contractor shall be notified in writing of any reduction or increase in the scope of work at least four weeks before the planned start of that work according to the Progress Schedule submitted by the Contractor at the beginning of the project.

9.00 BONDS

- 9.01 Prior to signing the Contract, the Owner may, at its option, require the selected Contractor to secure and post a Performance and Payment Bond in the amount of 100% of the Contract Price, in a form approved by the Owner. All such bonds shall be issued by a surety acceptable to the Owner. Include the costs of all such bonds as a separate item.
- 9.02 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his power of attorney.

10.00 QUALIFICATION OF BIDDER

- 10.01 Any Bidder is required to furnish evidence satisfactory to the Owner that he and his proposed subcontractors have sufficient means and experience in the types of work called for to assure completion of the Contract in a satisfactory manner.
- 10.02 The Bidder is required to submit, with this Bid, two references stating two completed projects of similar comparative type as examples of his work.
- 10.03 Any Bidder shall comply promptly with all requests for information or to appear for examination, and shall actively cooperate with the Owner in its efforts to determine whether the Bidder is qualified to receive an award.
- 10.04 The Bidder shall include the name of the foreman who will be responsible for this project. The Owner reserves the right to accept or reject the foreman.
- 10.05 All bids must be performed at prevailing wages.

11.00 EXAMINATION

- 11.01 Each Bidder shall visit the Site of the proposed Work, fully familiarize himself with existing conditions and the character of the operations to be performed under the proposed Contract,

- and make such investigations as he shall find necessary so as to fully understand the facilities, physical conditions and restrictions relating to the Work under the Contract.
- 11.02 Each Bidder shall thoroughly examine and become familiar with the proposed Contract Documents.
- 11.03 By submitting a Bid, the Bidder covenants and affirms that (i) he has carefully examined the Work Site and the Drawings, Specifications, associated Bid Documents, and any Addenda or Bulletins, (ii) from his own investigation he has satisfied himself of the location and the nature of the Work, the general and local conditions, and all matters which may affect the Work or its performance, and (iii) as a result of such examination and investigation, he fully understands the conditions of bidding and will not make any claim for, and waives any right to, damages because of misinterpretation or misunderstanding of the Bid Documents and the conditions of bidding.

12.00 INTERPRETATION OF CONTRACT DOCUMENTS

- 12.01 If any Bidder is in doubt as to the meaning of any part of the proposed Contract Documents, or finds discrepancies in or omissions from any part of the proposed Contract Documents, he may submit to the Owner and Architect a written request for interpretation thereof, not later than seven days before Bids will be opened.
- 12.02 The person submitting the request shall be responsible for its prompt delivery.
- 12.03 Interpretation or corrections of proposed Contract Documents will be made only by Addendum, which will be mailed or delivered to each Bidder of record.
- 12.04 The Owner will not be responsible for any other explanations or interpretations of the proposed Contract Documents.

13.00 TAXES

- 13.01 Bidders shall include all applicable taxes in Bids, if applicable.
- 13.02 The Work described in these Specifications constitutes a Capital Improvement, and is subject to all regulations pertaining to such work.

14.00 SUBCONTRACTORS

- 14.01 Each Bidder shall include with his Bid a list of all subcontractors to whom he proposes to let portions of the Work. Such list shall include the name, address and principals of the proposed subcontracting firm.
- 14.02 The Owner reserves the right to reject any proposed subcontractor and the successful Bidder (the Contractor) shall not contract with any person or entity to whom the Owner objects.
- 14.03 Prior to the execution of the Contract, the successful Bidder shall meet with the Owner and Architect to review the list of proposed subcontractors. The successful Bidder agrees to substitute for the proposed subcontractors such subcontractors as the Owner may request, to which the successful Bidder has no reasonable objection. Should a substitution requested by the Owner involve a change in the subcontract amount, the Contract Price will be adjusted as mutually agreed between the successful Bidder and the Owner.

END OF SECTION 00 10 00 - INSTRUCTIONS TO BIDDERS

SECTION 00 30 00 - BID FORM

Submitted by: _____

Date: _____

To: _____

Gentlemen:

The Undersigned _____
(Name of Bidder)

a _____
(Type of Firm, State of Incorporation, if applicable)

of _____
(Address)

Having carefully examined the drawings, the Scope of Work and associated bid documents dated May 16, 2018 as prepared by Architectural Preservation Studio, DPC, Architecture, Historic Preservation & Building Envelope Consultants, 594 Broadway, Suite 919, New York, NY 10012, as well as the premise and conditions affecting the work, propose to furnish all material, equipment, labor, plant, machinery, tools, supplies, services, applicable taxes and specified insurance necessary to perform the entire work, as set forth in, and in accordance with said documents for the following considerations.

BID BREAKDOWN

The following figures provided by the Contractor shall include demolition, labor, materials, equipment, insurances, taxes, overhead and profit necessary to perform the full extent of the work as described in Section 01 01 00, the Technical Specifications and in the Drawings.

The Owner reserves the right to **reduce or increase the Scope of Work** of the project throughout the course of work using the **Base Bids and Unit Prices** provided by the Contractor to reduce or increase the Total Contract Sum. The Contractor shall be notified in writing of any reduction or increase in the Scope of Work at least four (4) weeks before the planned start of that work according to the Progress Schedule submitted by the Contractor at the beginning of the project.

A - BASE BID – Plaza leak remediation work as described in Section 01 01 00, and as indicated in the Drawings and Technical Specification Sections, including but not limited to the following:

<u>DESCRIPTION</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>QTY</u>	<u>TOTAL</u>
A. <u>GENERAL CONDITIONS, MOBILIZATION, AND ADMINISTRATIVE SERVICES:</u>				
1. Mobilization and general administrative requirements	LS	_____	_____	\$ _____
2. Remove and reinstall railings handrails, trellises, etc: Remove site fixtures as required to accomplish the work, including but not limited to railings/handrails, trellises, benches, irrigation systems, and associated components.	LS	_____	_____	\$ _____
3. Removal and reinstallation of existing electrical junction boxes, and conduit as required in order to accomplish the work.	LS	_____	_____	\$ _____
4. Coordination with Owner's Landscaping team to carefully remove mature trees and bushes to be temporarily planted in wood containers constructed by the contractor to be located per Owner's instruction.	LS	_____	_____	\$ _____
B. <u>PLAZA WATERPROOFING@ UPPER PLAZA</u>				
1. Carefully remove and salvage metal and granite base panels for reinstallation along buildings perimeters.	EA	_____	_____	\$ _____
2. Pavers: Carefully remove and salvage existing asphalt pavers (plaza, ramps, landings, etc.). Reinstall in running bond pattern (as existing) over ¾" min. pourable asphalt setting bed. Assume 20% of paver replacement.	SF	_____	_____	\$ _____
3. Plaza/planter deck waterproofing: Remove existing waterproofing, prepare and prime concrete decks and planter decks and install new waterproofing system.	SF	_____	_____	\$ _____
4. Remove and dispose of existing granite bricks. Replace granite bricks at planters and parapets to match existing.	SF	_____	_____	\$ _____
5. Planter #1 - granite panels: Remove, salvage and reinstall stone panels, to be waterproofed.	LF	_____	_____	\$ _____
6. Reinforced Liquid Membrane:				
a. Flashing: Prepare and prime backup and install reinforced liquid membrane flashing at all vertical to horizontal transitions.				
b. Planter Curb Waterproofing: At planters #1, #3, #4, #5, #6, and #7, continue membrane up inboard planter wall and over curb.	LF	_____	_____	\$ _____

<u>DESCRIPTION</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>QTY</u>	<u>TOTAL</u>
7. Parapet waterproofing (east central stair): Remove granite bricks down to lintel. Waterproof lintel and continue waterproofing up and over concrete backup. Terminate min. of 4" over fluid applied flashing (plaza). Install mortar net, insulation and staggered weeps above lintel. Install granite bricks to match.	LF	_____	_____	\$ _____
8. Reset granite coping stones: Remove and salvage all granite coping stones at existing planter and parapet walls and re-install on thru-wall metal flashing. Secure with threaded eyebolt rods and dowels set in epoxy.	LF	_____	_____	\$ _____
9. Existing overburden removal (plaza): Remove existing asphalt setting bed, concrete topping slab, insulation, drainage mat and waterproofing down to structural concrete deck.	SF	_____	_____	\$ _____
9. Soil removal at planters: Remove existing soil, overburden, deck at all planters. Replace soil and gravel bed. Coordinate work with BPCA landscaping team.	LS	_____	_____	\$ _____
10. Reset granite step stones and landing stones at N. End Ave.: Carefully remove and salvage granite step stones for re-setting. Maintain concrete substructure, waterproof and secure stones as per drawings.	EA	_____	_____	\$ _____
11. Reset granite steps stones at Warren Street: Carefully remove and salvage granite step stones for re-setting. Maintain concrete substructure, waterproof and secure stones as per drawings.	EA	_____	_____	\$ _____
12. Reset granite step stones at Murray Street: Carefully remove and salvage granite step stones for re-setting. Maintain concrete substructure, waterproof and secure stones as per drawings.	EA	_____	_____	\$ _____
13. Concrete repairs at deck, and planter walls: Repair concrete with modified repair mortar as per drawings (assume 15%).	SF	_____	_____	\$ _____
14. Install drainage mat, insulation and filter fabric	SF	_____	_____	\$ _____
15. Topping slab: Form and pour porous/pervious concrete (slope to drains) over gravel bed.	CY	_____	_____	\$ _____

<u>DESCRIPTION</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>QTY</u>	<u>TOTAL</u>
16. Remove and replace plaza and planter drains: Remove all existing plaza and planter drain bodies at upper plaza at locations indicated on drawings, replace, connect to piping and waterproof. Snake back piping to 20'.	EA	_____	_____	\$ _____
17. Replace scupper drains: Remove all existing scupper drain bodies at upper plaza at locations indicated on drawings, replace, connect to piping and waterproof. Snake back piping to 20'.	EA	_____	_____	\$ _____
18. Trench drain: Replace trench drain and waterproof. Grating to be slip resistant and ADA complaint. Snake back piping to 20'.	LF	_____	_____	\$ _____
19. Expansion joint (Type 1) – Install split slab expansion system	LS	_____	_____	\$ _____
20. Expansion joint (Type 2): Install 1 1/4" minimum pre-compressed expansion joint system with factory applied silicone (between metal cover - plaza edge and pavers).	LF	_____	_____	\$ _____
21. Expansion joint (Type 3): Compressible filler and sealant at soft control joints and paver to masonry interface as indicated on drawings.	LF	_____	_____	\$ _____
22. Masonry expansion joints (Type 4): Replace cracked granite bricks Install stabilizers every 6 courses. Install compressible filler and sealant.	LF	_____	_____	\$ _____
23. Backer rod and sealant: Install backer rod and sealant at window and door frame perimeters at storefront (east central courtyard), transverse coping joints, and as noted on drawings.	LF	_____	_____	\$ _____
24. <u>Planter #2</u> : Permanently remove planter #2.	LS	_____	_____	\$ _____
25. Protection at planters (to remain): Provide temporary plywood to seal and protect planter openings until refilled with soil.	LS	_____	_____	\$ _____
26. Install galvanized steel plate at steel stair landing to parapet connection plate (assume 1/2" x 1'-0")	LF	_____	_____	\$ _____
27. Install/replace galvanized steel angle (assume 3/8" x 3" x 4")	LF	_____	_____	\$ _____
28. Railing Posts: Weld 4" x 4" base plates to existing handrail posts and epoxy adhere anchor bolts into topping slab.	EA	_____	_____	\$ _____

DESCRIPTION	UNIT	UNIT PRICE	QTY	TOTAL
C. LOWER PLAZA				
1. <u>Lower plaza waterproofing (area of metal stair/courtyard):</u> Remove metal panels, 3'-0" width of topping pavers, slab on grade, and dirt down to footing/structural slab. Remove existing waterproofing as required to adhere new fluid-applied waterproofing membrane onto existing adhered waterproofing membrane. Terminate over window and door sills as per drawings.	LS	_____	_____	\$ _____
2. <u>Drains:</u> Replace drain bodies and waterproof, as indicated on drawings. Snake associated drain piping back 20'.	EA	_____	_____	\$ _____
3. <u>Exterior back-up wall waterproofing (location of central courtyard w/metal stair):</u> Install vapor barrier up at back-up wall/columns at north, south, and west elevations, lap vapor barrier a min. of 4" over new fluid-applied membrane. Replace granite bricks to match existing.	LF	_____	_____	\$ _____
4. Temporarily remove aluminum door and salvage for reinstallation. Install temporary enclosure or infill.	LS	_____	_____	_____
D. INTERIOR:				
1. <u>Grout Injection and Crack Repair at Interior Stair and Foundation Wall:</u> Injection grouting at interior stair landing and foundation wall. Area to be treated with crystalline waterproofing.	SF	_____	_____	\$ _____
2. <u>Tiled pier and finishes:</u> Remove existing tile panels. Patch and waterproofing and rebuild. Repair finishes damaged by water. Repair, prime and paint interior plaster. Replace removed interior finishes to match existing.	LS	_____	_____	\$ _____
E. SIDEWALK:				
1. Murray Street and Warren St: Replace concrete sidewalk as indicated on drawings	CY	_____	_____	\$ _____
2. North End Ave: Remove bluestone paving for waterproofing of trench drain and reset.	SF	_____	_____	\$ _____
BASE-BID SUBTOTAL				\$ _____

B- ALLOWANCES

The following items are to be included in the bid. The quantities provided are in addition to those indicated elsewhere in the documents. Include the cost of all means (scaffolding, lifts, etc.) to install the work at various locations throughout the building. Any quantity, more or less, will be an extra/credit to the owner. Provide shop drawings for approval of intended area of work after inspection from the scaffolding or as directed by the engineer/architect of record prior to proceeding with work.

<u>DESCRIPTION</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>QTY</u>	<u>TOTAL</u>
1. 100% New asphalt unit block pavers	SF		15,000	\$
2. New hexagonal asphalt pavers	SF		500	\$
3. Granite brick masonry replacement	SF		150	\$
4. Lintel Replacement	LF		50	\$
5. Backer rod and sealant	LF		200	\$
6. Expansion joint #3- soft control joint	LF		1,000	\$
7. Concrete grout injection	SF		300	\$
8. Concrete Crack Repair	LF		400	\$
9. Door saddle replacement	LF		25	\$
10. Stone repair - pinning	EA		10	\$
11. Planter #1 - cast in place concrete planter curb.	LF		70	\$
12. New granite coping stones. Secure with threaded eyebolt rod and dowels in epoxy.	LF		70	\$
13. Rat Mitigation	LS			\$
ALLOWANCES SUBTOTAL				\$

D - ALTERNATES

If accepted by the Owner, in writing, the following work shall be performed as Alternates. Alternate bids provided by the Contractor shall include all labor, materials, insurances, taxes, overhead and profit necessary to perform the full extent of the work as described herein and in the Drawings. Work to be performed as Alternates includes but shall not be limited to the following:

N/A

E - UNIT PRICES

If approved in writing by the Owner and Architect, additional items of work shall be performed on a Unit Price basis. All Unit Price work shall be performed in accordance with contract requirements. No Unit Price work shall be performed before Contractor is in possession of an approved Change Order which specifically requests the performance of that work. Unit Prices shall include all labor, materials, equipment, taxes, insurances, overhead and profit. The Owner reserves the right to **increase or reduce the Scope of Work** using the Unit Prices provided by the Contractor in the Bid Form.

F - TIME AND MATERIALS RATES

The Contractor agrees to perform additional work, not described in the Base Bids or Unit Prices, on a Time and Materials basis, at the hourly rates for workers provided by the Contractor below. Materials shall be marked-up according to the percentage provided by the Contractor below. Profit and overhead mark-ups shall be based upon a percentage (provided by Contractor below) of the total labor and materials cost. No Time and Materials work shall be performed before Contractor is in possession of an approved Change Order, which specifically requests the performance of that work. Contractor shall include original itemized receipts for materials used in work with invoices for Time and Materials work. Contractor will not be reimbursed by Owner for materials if the purchase of the materials is not documented by receipts.

Mechanic - per day \$ _____

Laborer - per day \$ _____

Welder - per day \$ _____

Foreman - per day \$ _____

Superintendent per day \$ _____

Materials Mark-Up * _____ %

Profit & Overhead Mark-Up ** _____ %

* Percentage of total materials cost

** Percentage of total materials and labor cost

G - PRINCIPAL SUBDIVISIONS OR ELEMENTS OF THE WORK TO BE PERFORMED BY CONTRACTOR'S FORCES

If awarded a Contract, we will perform the following portions of the work with forces directly employed by the undersigned:

PRINCIPAL SUBCONTRACTORS

If awarded a Contract, we will employ the following subcontractors for portions of work not performed directly by the undersigned:

FOREMAN

If awarded a Contract, we will employ the following foreman to supervise the work:

ESTIMATED COMPLETION TIME IN WORK DAYS

If awarded a Contract, we estimate the completion time in work days to be:

SCHEDULE OF VALUES

The undersigned agrees, prior to the award of a construction contract and upon the request of the Architect or Owner, to submit a complete, itemized and detailed "Schedule of Values," showing the amount allocated to the various trades and subdivisions of the work, aggregating the total Contract Sum.

ADDENDUM RECEIPT

Receipt of the following addenda to the Terms and Conditions, Drawings or Specifications is acknowledged:

Addendum No. _____

Dated _____

Addendum No. _____

Dated _____

(Bidder)

By _____

(Title)

(Business Address)

Dated _____

SECTION 00 45 13 - CONTRACTOR QUALIFICATION STATEMENT

1. Company Name _____
2. Principal Office: _____
3. Mailing Address: _____
4. Telephone: _____
5. Facsimile: _____

6. Organizational Information, please check the appropriate box:

☐ Corporation ☐ Joint Venture ☐ Individual
☐ Partnership ☐ Other _____

- A. If a corporation, the corporation is organized under the laws of the State _____.
Provide the name and address of the President and date of incorporation:

Name of President: _____

Address: _____

Date of Incorporation: _____

- B. If a partnership, please list the names and addresses of the general partners, type of partnership, and date of organization:

Names of Partners

Address:

(i.) _____

(ii.) _____

(iii.) _____

Type of Partnership:

(iv.) _____

Date of Organization:

(v.) _____

7. How many years has your organization been in business under its present business name?

8. Under what other or former names has your organization operated and associated years:

9. Will you subcontract any part of the work? ☐ Yes (If yes, list subcontractors, and their trade(s) below.)

☐ No

A. Name: Address: Telephone:

_____ ()

Trade:

B. Name: Address: Telephone:

_____ ()

Trade:

C. Name: Address: Telephone:

_____ ()

Trade:

D. Name: Address: Telephone:

_____ ()

Trade:

10. List comparable exterior restoration projects that your firm has executed in the past five (5) years:

A. Project Name:	Project Address:	Contract Amount:
_____	_____	\$ _____ .00
Contact Name:	Contact's Address:	Telephone:
_____	_____	() _____

Architect's Name:	Architect's Address:	Telephone:
_____	_____	() _____

Date of Completion:	Percentage of Work Completed with Your Own Forces:	
_____	% _____	
Provide a Brief Description of The Work:		

B. Project Name:	Project Address:	Contract Amount:
_____	_____	\$ _____ .00
Contact Name:	Contact's Address:	Telephone:
_____	_____	() _____

Architect's Name:	Architect's Address:	Telephone:
_____	_____	() _____

Date of Completion:	Percentage of Work Completed with Your Own Forces:	
_____	% _____	
Provide a Brief Description of The Work:		

C. Project Name: _____ Project Address: _____ Contract Amount: \$ _____ .00

Contact Name: _____ Contact's Address: _____ Telephone: () _____

Architect's Name: _____ Architect's Address: _____ Telephone: () _____

Date of Completion: _____ Percentage of Work Completed with Your Own Forces: % _____

Provide a Brief Description of The Work:

D. Project Name: _____ Project Address: _____ Contract Amount: \$ _____ .00

Contact Name: _____ Contact's Address: _____ Telephone: () _____

Architect's Name: _____ Architect's Address: _____ Telephone: () _____

Date of Completion: _____ Percentage of Work Completed with Your Own Forces: % _____

Provide a Brief Description of The Work:

11. List any additional projects that your firm has executed in the past five (5) years:

A. Project Name: _____ Project Address: _____ Contract Amount: \$ _____ .00

Contact Name: _____ Contact's Address: _____ Telephone: () _____

Architect's Name: _____ Architect's Address: _____ Telephone: () _____

Date of Completion: _____ Percentage of Work Completed with Your Own Forces: % _____

Provide a Brief Description of The Work:

B. Project Name: _____ Project Address: _____ Contract Amount: \$ _____ .00

Contact Name: _____ Contact's Address: _____ Telephone: () _____

Architect's Name: _____ Architect's Address: _____ Telephone: () _____

Date of Completion: _____ Percentage of Work Completed with Your Own Forces: % _____

Provide a Brief Description of The Work:

C. Project Name: _____ Project Address: _____ Contract Amount: \$ _____ .00

Contact Name: _____ Contact's Address: _____ Telephone: () _____

Architect's Name: _____ Architect's Address: _____ Telephone: () _____

Date of Completion: _____ Percentage of Work Completed with Your Own Forces: % _____

Provide a Brief Description of The Work:

D. Project Name: _____ Project Address: _____ Contract Amount: \$ _____ .00

Contact Name: _____ Contact's Address: _____ Telephone: () _____

Architect's Name: _____ Architect's Address: _____ Telephone: () _____

Date of Completion: _____ Percentage of Work Completed with Your Own Forces: % _____

Provide a Brief Description of The Work:

12. State the annual dollar amount of construction work performed during the last five years:

- A. 2012 \$ _____ .00
B. 2013 \$ _____ .00
C. 2014 \$ _____ .00
D. 2015 \$ _____ .00
E. 2016 \$ _____ .00

13. Names of key people who will be working on this project. If necessary please attach separate sheets.

	Name:	Capacity:	Jobs Worked On:
A.	_____	_____	_____
B.	_____	_____	_____
C.	_____	_____	_____
D.	_____	_____	_____
E.	_____	_____	_____
F.	_____	_____	_____

14. Claims and Suits:

- A. Has your organization ever failed to complete any work awarded to it?

- B. Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

- C. Have any judgments, claims, arbitration proceedings or suits been filed against your organization or its officers for failure to complete a construction contract within the last five years?

- D. Has your organization filed a law suit or requested arbitration with regard to construction contracts within the last five years?

- E. Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract?

☐ Yes (If yes please attach details.)

☐ No

15. References:

A. Trade References:

	Name:	Company:	Address:	Telephone:
(i.)	_____	_____	_____	_____
(ii.)	_____	_____	_____	_____
(iii.)	_____	_____	_____	_____

B. Bank References:

	Name:	Company:	Address:	Telephone:
(i.)	_____	_____	_____	_____
(ii.)	_____	_____	_____	_____
(iii.)	_____	_____	_____	_____

16. Surety:

A. Name of Bonding Company: _____

B. Name and Address of Agent: _____

17. Financing:

A. Attach a financial Statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

- (i.) Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses)
- (ii.) Net Fixed Assets
- (iii.) Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries, and accrued payroll taxes)
- (iv.) Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares per values, earned surplus, and retained earnings)
- (v.) Name and Address of firm preparing attached financial statement, and date thereof:
- (vi.) Is the attached financial statement for the identical organization named on page one?
- (vii.) If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidary)

18. The undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

Dated this _____ day of _____ 2017

Name of Organization: _____

By: _____

Title: _____

Signature: _____

Notary Public:

Subscribed and sworn before me this _____ day of _____ 2017

Notary Public:

My Commission Expires:

END OF SECTION 00 45 13- CONTRACTOR QUALIFICATION STATEMENT

SECTION 00 45 19 – NON-COLLUSIVE AFFIDAVIT

By submission of this Form of Proposal, the Contractor certifies that:

- A. This bid or proposal has been independently arrived at without collusion with any other bidder or with any competitor or potential competitor;
- B. This bid or proposal has not been knowingly disclosed and will not be knowingly disclosed, prior to the opening of bids or proposals for this project, to any other bidder, competitor, or potential competitor;
- C. No attempt has been or will be made to induce any other person, partnership, or corporation to submit or not to submit a bid or proposal or to fix overhead, profit, or cost element of said bid price, or that of any other or to secure any advantage against Mount Sinai West;
- D. The person, signing this bid or proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the bidder as well as to the person signing in its behalf;

Dated this _____ day of _____ 2018

Name of Organization: _____

By: _____

Title: _____

Signature: _____

Notary Public:

Subscribed and sworn before me this _____ day
of _____ 2018

Notary Public:

My Commission Expires:

END OF SECTION 00 45 19 - NON-COLLUSIVE AFFIDAVIT

SECTION 01 01 00 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Project consists of leak remediation including complete re-waterproofing and repaving of the plaza at 200-300 North End Avenue, New York, NY 10282, as shown on Contract Documents prepared by Architectural Preservation Studio dated May 16, 2018.
- B. Summary by Reference: Work of the Contract can be summarized by reference to the Contract, Specification Sections as listed in the "Index", and Drawings as listed in the "Schedule of Drawings" bound herewith, Addenda and modifications to the Contract Documents issued subsequent to the initial printing of this project manual, and including but not necessarily limited to printed matter referenced by any of these.

1.03 WORK SUMMARY

- A. The following, in conjunction with the Drawings and Technical Specification Sections, shall identify the items of work for this project. Base Bids provided by the Contractor shall include all labor, materials, permits, insurances, taxes, overhead and profit necessary to perform the full extent of the work as described herein and in the Drawings:
 - 1. The Contractor shall secure and maintain all required permits to undertake the work. If the sidewalk shed interfaces with existing street trees, the Contractor will need to secure all required permits from the NYC Department of Parks and Recreation.
 - 2. The Contractor shall coordinate all required inspections with the Owner-retained special inspection agency.
 - 3. Provide all required ladders, hoists, sidewalk sheds, fixed pipe scaffolding, and other support devices to undertake the work of this project. All installations shall be code compliant. The Contractor shall retain their own licensed structural engineer to design hoists, sheds, fixed and suspended scaffolding.
 - 4. The Contractor shall provide all required temporary utilities including power, water, heat, and bathrooms. If the Owner allows the Contractor to use existing utilities, the Contractor shall make all required connections and undertake removals at the end of the project.
 - 5. The selected Contractor may choose to store construction materials and construction debris (dumpsters) on the street. If so, a street-closure permit shall be secured by the Contractor from the NYC Department of Transportation. Temporary fencing/barricades will be required to secure this area in the street. The Contractor shall verify if the streets around the site are considered a restricted access road by the Department of Transportation between the hours of 4:00 PM and 7:00 PM.
 - 6. Provide all required mock-ups, test panels, etc required by the Technical Specifications and the proper execution of the work. All shall be approved by the Architect and Owner prior to executing that section of work. If rejected, provide new mock-ups, test panels, etc until approved.

1.04 BASE BID

1. Mobilization and general administrative requirements.
2. Reinstall existing railings handrails, trellises, etc.: Remove site fixtures as required to accomplish the work, including but not limited to railings/handrails, trellises, benches and their components, etc., protect, and store for reinstallation.
3. Railing Posts and Anchor Bolt Penetrations: Post penetrations and anchor bolt penetrations to match existing locations. Prepare concrete and embed post and/or anchors in epoxy as indicated on drawings. At locations, to be determined, weld base plates to existing railings.
4. Upper Plaza – Waterproofing and Assembly: Carefully remove and salvage existing pavers, granite panels and metal panels along buildings' perimeter for reinstallation. Remove all substrate materials down to structural deck. Repair deck with modified repair mortar (assume 15%). Prepare and prime concrete deck as required to receive 3-ply torch down bituminous waterproofing membrane, reinforced liquid flashing along entire perimeter of horizontal to vertical backup surfaces, terminate 8" min. above deck (typ.). Install drainage mat, insulation, filter fabric, gravel and pervious concrete (sloped to drains), and asphalt setting bed. Reinstall existing pavers in running bond pattern. Install 1" min. closed cell compressible backer rod and sealant at perimeter between planter/parapet granite and pavers. Assume 20% of pavers require replacement.
5. Parapet/Lintel and Window/Wall Waterproofing: Remove and dispose granite bricks. Rebuild with new granite bricks to match existing. Remove and salvage granite and coping stones for re-installation, as noted on drawings, typical. Install vapor barrier up back up wall, turned in at sill and jambs, extend beyond the lintel (form end dams) and terminate membrane by overlapping the liquid base flashing, as per details. Provide stainless steel brick ties every 2 sq. ft., weeps every 16" o.c., insulation and mortar net. Remove existing window frames as required to accomplish work.
6. Planter #1 – Reinstall Granite Panels: Reinstall granite stone panels at planter #1 and waterproof at inboard (soil/fill side of planter).
7. Planter #2: Permanently remove planter #2.
8. Planter Waterproofing: At planters #1, #3, #4, #5, #6, and #7, remove and dispose granite bricks. Remove and salvage granite coping stones for reinstallation, as noted on drawings (typ). Remove existing waterproofing and substrate materials to structural deck. Repair deck with modified repair mortar (assume 15%). Prepare and prime deck to receive 3-ply torch down bituminous waterproofing membrane. Install reinforced liquid flashing up inboard planter wall to terminate top of planter curb, typical. Install peel and stick waterproofing membrane to overlap liquid membrane 4" min. at top of curb and base flashing. Prepare liquid flashing at are overlap as per the requirements the manufacturer. Rebuild brickwork to match existing.
9. Planter Fill and Plantings: Remove and discard soil and small plantings; salvage and relocate trees and larger plantings to be replanted in wood containers. Provide plywood covers to temporarily seal and protect planter openings. Coordinate w/ BPCA landscape team for removal; including furnishing temporary wood planters & reinstallation.

10. Plaza Drain Replacement/Removal/Installation: Remove existing concrete catch basins and plaza drains. Install plaza drain and body as specified. Provide new piped connections to existing plumbing lines. See plumbing drawings. Grates to be slip resistant and ADA complaint. Re-install existing frame and grates.
11. Planter Drain Replacement: Remove existing catch basins and planter drains. Install planter drain and body as specified. Provide new piped connections to existing plumbing lines. See plumbing drawings.
12. Scupper Drain Replacement: Remove existing scuppers and concrete catch basins at sidewall. Install new sidewall scupper drains and body as specified. Provide new piped connections to existing plumbing lines. Waterproofing below drain body. See plumbing drawings.
13. Replace trench drain: Replace existing trench drain and grating as specified. Waterproof concrete trough with cold liquid applied waterproofing. Grating to be slip resistant and ADA complaint.
14. Expansion joint (Type 1): Install expansion joint at lot line, as specified.
15. Expansion Joint (Type2): Install 1 1/4" minimum pre-compressed expansion joint system, as specified, at horizontal joints between metal skirt and plaza pavers (upper plaza).
16. Expansion Joint (Type 3): Install 1/2" minimum compressible expansion joint system, as specified and shown on drawings to create soft-control joints (upper plaza). Sealant to match color of pavers.
17. Masonry expansion Joint (Type 4): Saw cut existing crack, replace broken granite bricks as needed. Install joint stabilizers every six courses. Install backer rod and sealant.
18. Backer-rod and sealant: Install backer rod and sealant at window and door frame perimeters at storefront (east central stair courtyard), transverse coping joints, and as noted on drawings.
19. Granite Steps and Ramps at North End Ave., Warren and Murray Street: Carefully remove and salvage granite step stones for re-setting. Secure stones as per drawings. Carefully remove and salvage existing pavers, associated railings etc. for reinstallation; remove existing substrate materials and waterproofing down to concrete for repair, waterproofing and flashing, typical. Prepare and prime deck to receive new waterproofing system. Terminate membrane at planter/parapet/building walls and sidewalk interface.
20. Partial Lower Plaza Waterproofing/Assembly: Remove 3'-0" of existing pavers and substrate materials to structural deck. Maintain existing waterproofing on structural deck where soundly adhered. Prepare horizontal and vertical surfaces as required for installation of reinforced liquid flashing. Liquid flashing to overlap existing sound waterproofing system and extend up foundation wall and turn in at sill and jambs. Remove and reinstall metal wall panels. Replace dirt and pour new concrete slab on grade. Install hexagonal pavers. Replace drains as noted on drawings.
21. Grout Injection and Crack Repair at Interior Stair and Foundation Wall: Injection grouting at interior sill stair landing and foundation wall. Area to be treated with crystalline waterproofing.

22. Sidewalk replacement: Replace concrete sidewalk flags on Warren and Murry St, as indicated on drawings and reset blue stone sidewalk at North End Ave.
23. Tiled pier and finishes: Remove existing tile panels. Patch and waterproofing and rebuild. Repair finishes damaged by water. Repair, prime and paint interior plaster. Replace removed interior finishes to match existing.
24. Install steel plate and galvanized steel angles per drawings at metal stair landing.

1.05 UNIT PRICES

- A. If approved in writing by the Owner and Architect, additional items of work shall be performed on a Unit Price basis. No Unit Price work shall be performed before Contractor is in possession of an approved Change Order, which specifically requests the performance of that work. Unit Prices shall include all labor, materials, insurances, taxes, overhead and profit. The Owner reserves the right to increase or reduce the Scope of Work using the Unit Prices provided by the Contractor in the Bid Form.

1.06 TIME AND MATERIALS

- A. The Contractor agrees to perform additional work, not described in the Base Bids or Unit Prices, on a Time and Materials basis, at the hourly rates for workers provided by the Contractor in the Bid Form. No Time and Materials work shall be performed before Contractor is in possession of an approved Change Order which specifically requests the performance of that work. Contractor shall include original itemized receipts for materials used in work with invoices for Time and Materials work. Contractor will not be reimbursed by Owner for materials if the purchase of the materials is not documented by receipts. Additional work may also be performed on a Lump Sum basis when requested by Owner.

1.07 WORK SUMMARY

SEQUENCING

Coordinate scheduling with Owner's requirements.

1.08 WORK SUMMARY

PRE-CONSTRUCTION CONDITION SURVEY

- A. The Contractor, at his option, shall document the pre-construction condition of the interior of the exterior walls in each space in the building where contract work may impact the integrity of the interior, using photographs or video. Copies of all documentation shall be provided to the Owner before the exterior work begins. Access to all these spaces will be provided to the Contractor so that the interior of every exterior wall as well as the flooring and ceilings of adjacent spaces can be documented. The Contractor is also encouraged to document any exterior damage at the building, prior to construction, which shall not be repaired as part of the work. Interior and exterior damage observed during the work will be compared to the pre-construction documentation in order to determine if the damage was pre-existing or was caused by the work of the Contractor. If Contractor fails to record prior conditions, he shall be responsible to repair damage if so requested without requiring proof that same was caused as a consequence of this work.

1.08 PAYMENT APPLICATION

- A. Applications for payment shall be submitted for approval by the Contractor to the Architect at the end of each month. Contractor shall include a set of blueprints graphically indicating the location and extent of work performed that month. (Contractor shall be provided with sepia for reproduction purposes.

1.09 INTERPRETATIONS

- A. Site Visit: The Contractor shall visit the site during the bidding process to familiarize himself with all existing conditions. The Contractor shall be responsible for verifying the existing conditions and laying out the work as indicated on Drawings, and informing the Architect, in writing, of any discrepancies, and shall not proceed with any work affected until receiving written instructions from the Architect.
- B. Information: All information relating to this contract shall be obtained at the office of the Architect.
- C. Discrepancies: During the course of the work, should any ambiguities or discrepancies be found on the Drawings or in the Specifications, or should any discrepancies be found between the Drawings and the Specifications, the Contractor shall apply to the Architect, in writing, with a copy to the Owner, for an interpretation and determination of the intent of the Drawings and Specifications. No verbal statement regarding the Contract by any person shall be authoritative.
- D. Drawings: Figures and dimensions on all Drawings are approximate and shall be checked by the Contractor, who shall note any discrepancies and shall bring them to the attention of the Architect. The Contractor shall not alter the Specifications, Drawings or figures, nor make alterations or additions to the quantity, character or arrangement of materials or work, whether same shall involve additional work or not, unless same shall be agreed upon first in writing, as provided for by the Contract; this provision however, shall not abridge, in any way, the Architect's rights as to the interpretation of the Specifications, Drawings or figures thereon, as described in the General Conditions.

1.10 CONTRACTOR USE OF PREMISES

- A. Use of the Existing Building: Maintain the existing building in a weathertight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.
- B. Full Owner Occupancy: The building will be occupied at the time of construction. All work must be phased so that access to building is unobstructed and all surfaces are constantly protected from the weather. Access to all spaces within the building shall be coordinated with the Owner. The Contractor shall provide safe, free and easy access at all times to all exits, walks and stairs in and around the building. Work hours shall be 8:00 AM. to 5:00 P.M., Monday through Friday.
- C. All demolition debris shall be removed using methods agreed upon with the Owner.

1.11 GENERAL

- A. Restoration Specialist: Work must be performed by a firm having not less than five (5) years successful experience in comparable masonry and waterproofing work and employing personnel skilled in the processes and operations indicated.

- B. Regulatory Requirements: Work shall be carried out in accordance with all applicable Federal, State and local codes and requirements of other agencies having jurisdiction. In all cases, the more restrictive limitation of any applicable requirements shall be followed.
- C. Materials and Methods: All materials and methods of construction shall comply with the requirements of the New York City Building Code (NYCBC) and the Uniform Construction Code.
- D. Workmanship: The work shall be conducted in accordance with pertinent trade-association standards and practices for materials and installation.
- E. Permits, Etc.: Permits, inspections and certificates required by work under this contract, shall be obtained and paid for by Contractor.
- F. Demolition: Demolition and removal shall proceed in an orderly manner minimizing noise or other disturbances to the operations of adjacent facilities. All debris and refuse shall be removed from building at end of each working day and properly disposed of off the Owner's property. All hazardous-containing materials shall be properly disposed of in accordance with the requirements of the regulatory agencies having jurisdiction.
- G. Condition of Structure: Owner assumes no responsibility for the actual condition of the building, and conditions existing at time of inspection for bidding purposes will be maintained by Owner in so far as practicable.
- H. Coordination: Work performed by others shall be properly coordinated.
- I. Fires: Fires for burning rubbish and debris or for any other purposes are forbidden.
- J. Protection:
 - 1. Protection of Existing Work: Protect streets, private roads, and sidewalks, including overhead protection where required, and make necessary repairs for damage thereto during course of the Work at no additional expense to Owner. Do not leave building, or portion thereof, open to weather, nor inadequately protected when work is not actually in progress. Place temporary roll plastic material or other membrane taped or otherwise completely sealed before any rain or snow begins. Any damage occurring due to lack of protection shall be repaired at the Contractor's expense to the satisfaction of the Owner and Architect. Take all measures necessary to protect all persons and property from damage and harm caused by the work of all sections.
 - 2. Protection of Adjacent Property: Provide necessary protection for adjacent properties and lateral support thereof. Any adjacent existing surfaces or material damaged in the sequence of work shall be repaired or replaced to match original condition at no cost to the Owner.
 - 3. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and reduce possibility that air, waterways, and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near site.
 - 4. Provide protection against weather (rain, winds, storms, frost, or heat) to maintain all work, materials, apparatus, and fixtures free from injury or damage. At end of day's work, cover new work likely to be damaged from exposure.

- K. Clean-Up: Upon completion of the work, Contractor shall thoroughly clean up all dirt and waste resulting from his work as required to restore work areas to the state of cleanliness existing before work began. In general, cleaning requirements are limited to the removal of rubbish, spatters, stains, smears, foot tracks, dust, etc.
1. Contractor shall clean all affected adjacent areas to remain above or below, including of adjacent property roofs, as required to restore areas to the same cleanliness existing before work began.
- L. Foreman: The foreman for the work of all sections shall be on site daily during the course of construction, shall speak the English language fluently, and shall have had a minimum of five (5) years experience working on similar restoration projects.
- M. Workmen: In acceptance or rejection of work no allowance will be made for lack of skill or competence on the part of workmen.
- N. Access: Access shall be provided to all areas of the site, including scaffolding, when requested by Architect.
- O. Fire Extinguishers: Provide fire extinguishers as would be reasonably effective in extinguishing fires during scope of work.
- P. Temporary Power: Provide weatherproof, grounded, power distribution system sufficient to accommodate construction operations requiring power, use of power tools, etc. Provide overload protection. Locate multiple outlets (not less than 4-gang) at each level of construction, spaced so that entire area of construction can be reached by power tools on a single extension cord of 100' maximum length.
- Q. Temporary Covering: Cover stored material exposed to weather with tarpaulins with UL label and flame spread of 15 or less.
- R. Temporary Water: Water connection to the Owner's existing system at approved locations with equipment supplied by the Contractor will be permitted.
- S. Temporary Toilets: Coordinate with Owner's Representative as to use of existing toilet facilities.
- T. Job Conferences: Job conferences will be set up only by the Architect. These conferences will be on a regular schedule for the purpose of discussing work, procedures, coordination and other matters pertinent to this work. Attendance, when requested, will be mandatory for the Contractor and his primary Subcontractors.

1.12 CONSTRUCTION DOCUMENTS

- A. The Contractor will be required to maintain within the field office a complete and current set of Contract Documents, including Addenda, Change Orders and Modifications thereto, approved shop drawings, samples, color schedules, and other data pertinent to the project.

1.13 SUBMITTALS

- A. General: Should the Contractor propose any substitutions, a note shall be made on the submission notifying the Architect of a request for review of a proposed substitution.
- B. Products: Submit Product Data and samples of all specified products to Architect.

- C. Samples: Submit cured samples of each type of mortar, caulking materials and sealants, expansion joint material, showing range of color and texture which can be expected in finished work. Submit samples of each type of masonry, including brick units and cast stone, which are intended for use. Submit samples of metal and membrane flashings.
- D. Shop Drawings: Submit shop drawings for all items where required in the individual Sections of the Specifications. Before proceeding with the fabrication of materials or equipment requiring shop drawings, prepare and submit complete assembly, setting and detail drawings giving all information necessary for installation of such equipment and materials, and for demonstrating that it complies with the Specifications.
- E. A transparency (Ozalid) and two (2) black and white prints of each shop drawing shall be submitted to the Architect for approval at the earliest possible date.
- F. Drawings shall be drawn to the following or a larger scale:
 - 1. Plans and Sections: 1/4-inch scale.
 - 2. Details: 3-inch scale.
- G. Check all shop drawings for conformance with contract requirements before submitting the drawings to the Architect for approval. A note shall be made on the drawings indicating that the Contractor has made this check.
- H. The Architect will, within ten (10) working days after his receipt of drawings, return to the Contractor the transparency with notations "Approved", "Approved with Corrections, as Noted", or "Returned for Correction".
- I. Make necessary corrections and revisions on transparencies marked "Approved with Corrections as Noted", or "Returned for Correction" and resubmit transparencies and prints for approval in the same routine as for the original approval. Time required for such revision and resubmitting will not entitle the Contractor to any extension of time, but the Architect will examine and return such transparencies as promptly as possible.
- J. The Architect will keep two (2) black and white print of drawings noted "Approved as Noted" or "Returned for Correction" for their records.
- K. Have prints made and distribute shop drawings to all concerned as required for proper coordination. One copy of all shop drawings marked "Approved" shall be forwarded to the Owner.
- L. Any work done, material ordered or delivered by the Contractor prior to the receipt of transparency marked "Approved with Corrections as Noted", or "Approved" by the Architect, shall be at the Contractor's risk. When the corrections have been made on transparencies marked "Approved with Corrections as Noted", prints of such transparencies may be used for fabrication unless specifically stated otherwise by the Architect.
- M. If, at any time before the completion of the work, changes are made necessitating the revision of approved drawings, make such revisions and proceed in the same routine as for the original approval.
- N. If additional copies of shop drawings are required by the Architect, they shall be furnished by the Contractor without additional cost.
- O. Sample requirements shall be as listed in individual Specification Sections.

1.14 MATERIAL STORAGE, PLACEMENT AND REMOVALS, MOBILIZATION PLAN, PROGRESS SCHEDULE

- A. Mobilization Plan: Contractor shall, within ten (10) days of award of Contract prepare for approval, in writing, a Mobilization Plan and Progress Schedule to include: (a) Distribution Plan for materials for installation describing method for transporting materials from ground level to appropriate locations for storage and installation. Include locations where materials will be temporarily stored; (b) Disposal Plan for debris, etc., describing method for transporting all debris (old materials, etc.) to ground level, proposed location of debris containers, cartage locations; (c) All other information as required for proper execution of project.
- B. Debris Removal and Material Placement: (Refer to article 1.10, C above.) No debris shall be removed through the building, unless otherwise agreed upon with Owner. Contractor is responsible to provide the means required for disposal of debris, unless a method of debris removal is provided/approved by the owner. Contractor is responsible for all hoists required for material transport. All debris shall be removed from the site each day. Rubbish shall not be allowed to accumulate. Containers shall be emptied at end of each day. Location shall be approved by Owner before placement. Any hazardous-containing materials shall be properly removed from the site and disposed of in conformance with the regulatory agencies having jurisdiction.

1.15 JOB CONDITIONS

- A. Contractor must review installation procedures and coordinate with other work.
- B. Protect mortar materials and masonry accessories from weather, moisture and contamination by earth and other foreign materials.
- C. Prevent grout or mortar from staining adjacent masonry. Remove immediately grout or mortar in contact with masonry.
- D. Protect ground and projections from droppings of mortar. Clean up all mortar droppings the day they are dropped.
- E. Protect areas affected by the work of this project at all times, including adjacent property and areas accessible to pedestrian traffic. Contractor is responsible to keep plaza watertight during all phases of construction. Any water damage due to improper protection is the Contractor's responsibility. Any damage to areas, where work will not be performed, is the Contractor's responsibility.
- F. Contractor shall arrange with the appropriate representative of the building Owner for means of access to premises and necessary utilities, space for storage of materials and equipment, etc.
- G. Weather Protection: Ambient-weather conditions of moisture, temperature, humidity and wind can adversely affect the application, setting, curing, etc. of the specified products. The Contractor shall take positive actions to offset any unfavorable state of one or more of these conditions as specified or recommended by the product(s) manufacturers.
 - 1. Do not use frozen materials or materials mixed or coated with ice or frost. Do not use salt to thaw ice in anchor holes or slots or for any other purpose. Do not lower the freezing point of mortar or concrete by use of admixtures or anti-freeze agents, and do not use any chlorides in mortar, grout or concrete.
 - 2. Do not build on frozen work; remove and replace masonry work damaged by frost or freezing.

3. Proceed with waterproofing work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturers' recommendations and warranty requirements. Do not apply membrane flashing and liquid membrane during adverse weather or below 30 degrees F without taking precautionary measures recommended by manufacturers.
4. Protect mortar from direct sunlight and wind using protection measures submitted and approved when ambient air temperature exceeds 75 degrees F. Do not use or prepare mortar when ambient air temperature is above 90 degrees F at the location of work.

H. Quality Assurance:

1. Pointing: Prepare two sample areas of approximately two (2) linear feet for repointing of each material required and for each type of masonry. One sample will be for quality of work in removal of mortar joints, and the other will be for quality of materials and workmanship in pointing mortar joints. The samples, upon Architect's approval, will be the standard for the entire job.
2. Sealant Installation: If sealant installation is called for, the Contractor shall prepare a sample area of approximately two (2) linear feet for each type of sealant installation required. The samples, upon the Architect's approval, will be the standard for the entire job.

1.16 CUTTING AND PATCHING

- A. It shall be the responsibility of the Contractor to patch all openings created by either himself or his subcontractors. All patching work must be approved by Architect and Owner.
- B. The Contractor shall at his own expense do all cutting, fitting or patching of his work in a neat and competent manner, and to the satisfaction of the Architect.

1.17 GUARANTEES

- A. Contractor's Guarantee: The Contractor shall extend the guarantee in writing to five (5) years for all work and materials. The Contractor guarantees to the Owner that said Contractor shall be responsible for any defective materials and workmanship incorporated for a period of five (5) years. The period of guarantee shall start from the date of the Owner's acceptance of the work. The Contractor further guarantees to make permanent repairs forthwith to restore the defective areas, and to make permanent repairs without reference to or consideration of the cause of any defects in the work.
- B. Manufacturer's Guarantee: Guarantees as provided by the manufacturers shall apply. Refer to Technical Specification Sections.

1.18 MISCELLANEOUS

- A. Inspection: Contractor must examine supporting structure and conditions under which granite and stone is to be installed, and notify Owner and Architect in writing of any conditions detrimental to proper and timely completion of work. Do not proceed with repairs to masonry until conditions have been corrected in a manner acceptable to Owner and Architect.

END OF SECTION 01 01 00 - SUMMARY OF WORK

SECTION 01 21 00 – ALLOWANCES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. Selected materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.

1.03 SELECTION AND PURCHASE

- A. Allowances are for use at the sole discretion of the Owner.
- B. At the earliest practical date after award of the Contract, advise the Architect of the date when the final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- C. At the Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- D. Purchase products and systems selected by the Architect from the designated supplier.
- E. Lump-Sum Allowances: The amounts herein specified are the amounts available for purchase of the materials specified, including taxes (if any), and each change order amount shall be based thereon. All other costs associated with the performance of the work under the allowance, including but not limited to installation, insurance, storage, handling, overhead, profit, etc., are a part of the allowance, and shall be included in the allowance amount.
 - 1. In the event the actual purchase amount of the actual work exceeds the specified allowance, the Owner will pay the excess; should the actual amount of the work, be

less than the specified allowance, the Contractor shall credit the Owner with the difference.

1.04 SUBMITTALS

- A. Submit invoices or delivery slips to show the actual quantities of materials delivered to the site for use in fulfillment of each allowance.

1.05 UNUSED MATERIALS

- A. Return unused materials to the manufacturer or supplier for credit to the Owner, after installation has been completed and accepted.
 - 1. When requested by the Architect, prepare unused material for storage by Owner where it is not economically practical to return the material for credit. When directed by the Architect, deliver unused material to the Owner's storage space. Otherwise, disposal of unused material is the Contractor's responsibility.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine products covered by an allowance promptly upon delivery for damage or defects.

3.02 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.03 SCHEDULE OF ALLOWANCES

END OF SECTION 01 21 00 - ALLOWANCES

SECTION 01 29 73 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 DESCRIPTION

- A. This section pertains to the Contractor's preparation and submission of a Schedule of Values including the format, details, and content and the preparation and submittal of his periodic applications for payment.

1.03 SUBMISSION OF SCHEDULE OF VALUES

- A. Schedule of Values for the total work is to be a summary of all amounts and the General Conditions.
- B. At least ten (10) days prior to submission by the Contractor of his first Application for and Certificate for Payment, he shall submit a Schedule of Values for his work, which shall be subject to review and approval of the Contractor and the Architect and acceptance of the Owner.
- C. The first Schedule of Values shall be submitted with the first Application and Certificate for Payment for any work.
- D. Such Schedule of Values shall be amended each month to add the amounts of subcontracts closed in the previous month and/or to show adjustment in subcontract amounts by Change Order and/or back charges.
- E. Upon request of the Owner, the Contractor shall support all values presented with substantiating data and shall submit quantities for designated materials. Payment for materials stored either on or off the job site will be limited to those materials scheduled.
- F. The Schedule of Values shall be used only as a basis for the Applications for Payment.
- G. The Schedule of Values and all subsequent submissions and Applications for Payment shall be typewritten in a format acceptable to the Owner and the Architect.

1.04 REVIEW AND RESUBMITTAL

- A. Any submission of the Schedule of Values or a portion thereof which is not acceptable to the Owner will be returned. The Contractor shall revise, substantiate, and resubmit within five (5) days.
- B. No Application for Payment from the Contractor will be considered until all requirements for their Schedules of Values have been met and are acceptable to the Owner.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

(No execution is required by this Section.)

END OF SECTION 01 29 73 - SCHEDULE OF VALUES

SECTION 01 31 13 - PROJECT COORDINATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 CONTRACT ADMINISTRATION

- A. The Contractor shall refer all communications and documents specifically regarding the Architectural Drawings and Specifications, Change Orders, Submittals, or any other issue related to the product of the Work, to the Architect. The Contractor shall also copy the Owner's designated project representative(s).
- B. The Contractor shall refer all communications and documents regarding all contractual or administrative issues not directly related to the product of the Work, to the Owner. The Contractor shall also copy the Architect.
- C. The Contractor shall keep and provide a complete set of Construction Drawings and Construction Specifications on site at all times during construction until the Project is complete. Absolutely no Bid Documents are permitted on site once construction begins.
- D. The Contractor shall be responsible for ensuring that all sub-contractors are performing their respective trade work as drawn and specified in the Construction Documents.

1.03 MATERIAL AND EQUIPMENT LEAD TIMES

- A. The Contractor shall determine lead-times for all materials and equipment required for the Work, and shall arrange for purchase and delivery of said items through a Sub-Contractor or on his own, so as not to adversely affect the schedule or sequencing of the Work.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

(No execution is required by this Section.)

END OF SECTION 01 31 13 - PROJECT COORDINATION

SECTION 01 32 13 – SCHEDULING OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 WORK SUMMARY

- A. This Section includes all labor, materials, equipment, and services necessary to complete progress schedule as specified herein, including but not limited to the following:
 - 1. Format
 - 2. Content
 - 3. Revisions to schedules
 - 4. Submittals

1.03 WORK SPECIFIED ELSEWHERE

- A. Division 01, General Requirements
- B. Section 01 33 00 – Submittals

1.04 BASIC REQUIREMENTS

- A. Time is of the essence in the performance of this Contract.
- B. Work shall commence as directed by the Owner.
- C. All work must be substantially complete as determined by the Owner and/or Owner's Designed Representative(s).

1.05 FORMAT

- A. Prepare Schedules as a horizontal bar chart with separate bar for each major portion of Work or operation, identify first workday of each week.
- B. Sequence of Listings: The chronological order of the start of each item of Work.
- C. Scale and Spacing: To provide space for notations and revisions.

1.06 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- C. Identify work of separate stages and other logically grouped activities.
- D. Provide sub-schedules to define critical portions of the entire Schedule.
- E. Show accumulated percentage of completion of each item, and total percentages of Work completed, as of the first day of each month.
- F. Provide separate schedule of submittal dates for shop drawings, product data, and samples, including Owner furnished products, and dates reviewed submittals will be required from the Architect.
- G. Provide a separate schedule for when access to individual apartments is required.

1.07 REVISIONS TO SCHEDULES

- A. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
- B. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
- C. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken, or proposed, and its effect including the effect of changes on schedule of separate contractors.

1.08 SUBMITTALS

- A. Submit initial schedules within ten (10) days after the date of an executed agreement between the Owner and Contractor. After review, resubmit required revised data within five (5) days.
- B. At a minimum, every two weeks after initial approval of the Construction Schedule, submit updated schedules as required, accurately depicting progress to first day of each month. Updated schedules shall be submitted with monthly requests for payment as required.
- C. Distribute copies of the approved schedules to the Owner, Architect, other Contractors and other concerned parties. Instruct each recipient to report any inability to comply and provide detailed explanation with suggested remedies.

1.09 DISTRIBUTION

- A. Distribution: Following response to the initial submittal, correct, print, and distribute copies to the Architect, Owner, Sub-Contractors, and other parties required to comply with scheduled dates.
1. Revise and update the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each bi-monthly progress meeting.
 2. When the revisions and updates are made distribute to the same parties. The Contractor may delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
 3. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in Schedules.

1.10 CONSTRUCTION SCHEDULE

- A. It is the intent that all operating systems, such as heating, ventilating, air-conditioning, sprinkler systems, plumbing and drainage, electric power and lighting, shall be maintained in operating condition to serve the needs of the existing building during alterations and construction of the new work. Prior to the start of work on any of these systems, the Contractor shall consult with the Owner to establish a mutually satisfactory schedule for cut over, cutoff, or other changes in operation of the system. When established, such schedules shall be adhered to, except as mutually adjusted by the Contractor and the Owner.
- B. For any areas required to be vacated by Owner for the work to be performed under this Contract, Contractor shall submit a notification not less than twenty-one (21) days prior to the time such areas are required for construction operations. The notifications shall indicate the length of time the area will be unavailable for Owner's use, and the work shall not proceed until the Owner approves the proposed length of time the space will be out of service.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

(No execution is required by this Section.)

END OF SECTION 01 32 13 - SCHEDULING OF WORK

SECTION 01 33 00 - SUBMITTALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 WORK SUMMARY

- A. General: This Section includes procedural requirements for non-administrative submittals including Shop Drawings, Product Data, Samples, and other miscellaneous work related submittals.
 - 1. Work-related submittals are required to be submitted by the Contractor to amplify, expand, and coordinate the information contained in the Contract Documents. These include but are not limited to:
 - a. Condition of Site Report
 - b. Contractor's Construction Schedule
 - c. Contractor's Submittal Schedule
 - d. Product Data
 - e. Shop Drawings
 - f. Integrated Drawings
 - g. Samples and Option Selections
 - h. Field Reports
 - i. Certificates of Compliance
 - j. Project Photographs
 - k. "As built" drawings
 - 2. Workmanship Bonds, Warranties, and Maintenance Agreements are included in Section 01 78 00, Closeout Submittals.
 - 3. Refer to other sections of the Specifications, and other Contract Documents, for administrative, non-work-related submittals.

1.03 SUBMITTAL PROCEDURES

- A. Where two or more kinds, types, brands, manufacturers, or materials are named in these specifications, they are to be regarded as the required standard of quality and are presumed to be equal. The contractor may select one of these items or, if the contractor desires to use any kind, type, brand, manufacturer, or materials other than those named in the specifications, the contractor shall indicate in writing, when requested, and prior to the award of contract, what kind, type, brand, manufacturer or material is included in the base bid for the specified item."

- B. General: Except as otherwise specifically directed by the Architect, the basic procedures for submittal handling are as specified herein.
- C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 - 2. Coordinate transmittal of different units of submittals for related elements of the Work so processing will not be delayed by the need to review a related submittal.
 - 3. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- D. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to properly process submittals; including sufficient time(s) for resubmittal(s) if necessary. Allow additional time if processing must be delayed to permit coordination with subsequent submittals.
 - 1. Allow five (5) calendar days for initial review.
 - 2. If intermediate submittals are necessary, process the same as the initial submittal.
 - 3. Contractor shall advise the Architect on each submittal transmittal, when processing time is critical to the progress of the work.
 - 4. The Architect will attempt to process submittals as expeditiously as is practicable. Considering that processing time, at any point, is directly dependent on the quality, quantity, and coordination of the Contractor's submission, it will be the responsibility of the Contractor to transmit submittals in advance of the Work to permit adequate processing.
 - 5. No extension of Contract time will be authorized because of the failure to transmit submittals to the Architect sufficiently in advance of the Work to permit adequate processing.
 - 6. Except for submittals for the record, information and similar purposes, where action and return on submittals is required or requested, the Architect will review each submittal; mark with a uniform, self-explanatory action stamp appropriately executed.
- E. Preparation: Place a permanent label or title block on each submittal for identification. Include the following spaces and information on the label for processing and recording action to be taken.

1. Name of the Entity that prepared the submittal.
2. Project name.
3. Date.
4. Name and address of Architect.
5. Name and address of Contractor.
6. Name and address of Sub-Contractor.
7. Name and address of supplier.
8. Name of Manufacturer.
9. Number of the applicable Specification section.
10. Contractor's review and approval markings.
11. A 4X5" clear space, abutting the top of the title block, for the Architect's stamp, and Owner's stamp.

F. Submittal-Number Description

1. A three-part identification number shall be assigned by the Contractor to each individual Shop Drawing, sets of Product Data, or Samples required to be submitted by the Specifications. An example of a number is: 05 12 00-014B. The information relayed by the three parts is as follows:
 - a. 05 12 00-14B The first five digits identify the CSI Specification Section. This number refers to Specification Section 05 12 00 Structural Steel.
 - b. 05 12 00-14B The next three digits identify individual submittals within the same Specification Section. This number indicates that this is the 14th individual submittal related to the Structural Steel section.
 - c. 05 12 00-14B The last letter indicated the number of times an individual item has been submitted for review. "A" identifies the initial submittal, "B" indicates the first resubmittal, "C" indicates the second resubmittal and so on.
2. The submittal number should be noted or attached to all individual submittals and on the accompanying transmittal. In addition, the transmittal should also include the following information for each submittal number: drawing originator (sub-contractor, fabricator, or manufacturer), name or brief description of each submittal, and the originator's number. For example:

<u>Submittal No.</u>	<u>Originator</u>	<u>Description</u>	<u>Drawing No.</u>
05 12 00-14B	Titan Steel	Erection Dwgs: Upper Level	E-5

- G. Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will not be recorded for processes.
1. On the transmittal form record relevant information and requests for date. On the form, or a separate sheet attached to the form, record deviations from Contract Document requirements, including minor deviations and limitations.
 2. Provide on the transmittal form places for the following information:
 - a. Project Name:
 - b. Date:
 - c. To:
 - d. From:
 - e. Names of Sub-Contractors, Manufacturer, and Supplier.
 - f. References.
 - g. Category and Type of Submittal.
 - h. Submittal Purpose and Description.
 - i. Submittal and Transmittal Distribution Record.
 - j. Signature of Transmitter
 - k. Contractor certification stating that the information submitted complies with the requirements of the Contract Documents, with a place for the Contractor's signature.
 3. Transmittals should be numbered numerically beginning with No. 001. Each transmittal should be limited to one Specification Section only; however, multiple submittals within one Specification Section are acceptable on a single transmittal.
 4. Transmittals should describe each submittal by its unique submittal number and a brief description including name of the drawing originator (sub-contractor), name of drawing, and originator's drawing number.

1.04 CONTRACTOR'S SUBMITTAL SCHEDULE

- A. Concurrently with the Contractor's Construction Schedule, submit a complete Schedule of Submittals. Coordinate Submittal Schedule with the list of sub-contractors, as well as the Contractor's Construction Schedule.
- B. Prepare the schedule in chronological order. Provide the following information:
1. Related Specification Section number.
 2. Related Drawings and Detail number.
 3. Name of Sub-Contractor, Manufacturer, or Supplier.
 4. Number of Drawings or Items in the Submittal.
 5. Submittal Category.

6. Name and/or Description of the Item.
 7. Requested Turn Around Time for Critical Items.
 8. Scheduled Dates for First and Subsequent Submittals.
 9. Target Date for Release or Approval of Final Submission.
 10. Manufacturing Lead Time.
- C. Distribution: Following response to initial submittal, correct, print, and distribute copies to the Architect, Owner, Sub-Contractors, and any other parties required to comply with submittal dates indicated.
1. Revise and update the schedule when required; where revisions have been recognized or made. Distribute the updated schedule.
 2. When revision and updates are made, distribute to the same parties. Contractor may delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

1.05 PRODUCT DATA

- A. General: Information required specifically as product Data includes manufacturer's standard printed recommendations for application and use, compliance with recognized trade associates and testing agency standards, application of testing agency labels and seals, special notation of dimensions verified by field measurements, notation of coordination requirements for interfacing the material, product, or system with other work; where applicable, input and performance data.
1. Submittal of Product Data is primarily to confirm the product purchased and related general information.
 2. Review is only for conformance with the design concept and information given in the Contract Documents; it is not intended to imply that Product Data submittals have been reviewed for technical details.
- B. Preparation: Collect required Product Data in a single submittal for each unit of Work or system.
1. Mark each copy to show which choices and options are applicable to the Project.
 2. Where Product Data has been printed to include information on several similar products, some of which are not required for use on the project or are not included in this submittal, mark the copies to show clearly that such information is not applicable.
 3. Where Product Data must be specifically prepared for required products, materials, equipment, or systems, because standard printed data is not suitable for use submit data as "Shop Drawings" and not as "product Data."

C. Submittals

1. Do not submit Product Data until compliance with the requirements of the Contract Documents has been confirmed by the Contractor.
2. Unless otherwise instructed, all submittals shall be made electronically in PDF format to the Office of the Architect with copies to the Owner's designated representative(s).
3. Provide as many additional sets; of re-submittals as may be required.
4. When finalized, furnish copies of Product Data to Sub-Contractors, Suppliers, Fabricators, Manufacturers, Installers, Governing Authorities, and others as required for proper performance of the Work.
5. Do not proceed with installation of materials, products, equipment, and systems until a finalized copy of Product Data applicable to the installation is in the possession of the Installer. Do not permit the use of unmarked copies of Product Data in connection with the performance of the Work.

1.06 SHOP DRAWINGS

- A. General: Information required specifically as Shop Drawings and Erection Drawings include newly prepared information, drawn to accurate scale with dimensions verified by field measurements, identification of products and materials included, compliance with specific standards, coordination requirements; including fabrication and installation, setting diagrams, schedules, patterns, templates, and similar drawings.
1. Erection drawings must be submitted showing details of layout/components of each element of the job.
 2. Highlight, encircle, or otherwise indicate deviations from the Contract Documents on Shop Drawings to bring them to the Architect's attention.
 3. Include detailed indication of adjacent materials and interfaces, and provide notation of coordination requirements for interfacing the materials, products, or systems with other Work.
 4. Review is only for conformance with the design concept and information given in the Contract Documents; it is not intended to imply that Shop Drawings submittals have been reviewed for technical details.
 5. The Architect reserves the right to reject, without action, any submission that appears to be sub-standard, incomplete, uncoordinated, or unchecked by the Contractor. The

Contractor shall have no claims upon the Architect or Owner for any costs or delays resulting from such rejection.

B. Preparation: Shop Drawings shall be drawn to accurate scale; sufficiently large to show all the pertinent aspects of the item and its method of connection to the Work.

1. Drawings shall be on sheets not less than 8.5" x 11"; except for actual patterns or templates, the maximum size shall be a multiple of 8.5" x 11".
2. Indicate the name of the entity that prepared each Shop Drawing and provide appropriate project identification in the title block. Provide a space not less than 3" x 4" besides the title block for marking the record of the review process and the Architect's stamp and Owner's approval. Indicate applicable Specification Sections and numbers of applicable Drawings and Details.
3. Do not reproduce Contract Documents or reproduce standard printed information as the basis of Shop Drawings.
4. Prior to submittals the Contractor shall review Shop Drawings for completeness, accuracy, confirmation of field dimensions, and where applicable coordination of trades. Incomplete submissions and resubmissions resulting in numerous reviews (more than three) shall become the Contractor's responsibility. The Contractor will bear the cost of review by the Architect and the Architect's Consultants.

C. Submittals

1. Do not submit Shop Drawings until compliance with the requirements of the Contract Documents have been confirmed by the Contractor.
2. Unless otherwise instructed, all submittals shall be made electronically in PDF format to the Office of the Architect with copies to the Owner's designated representative(s).
3. Provide as many additional sets of re-submittals as may be required.
4. When finalized, furnish prints of the reproducible Shop Drawings to Sub-Contractors, Suppliers, Fabricators, Manufacturers, Installers, Governing Authorities, and others as required for proper performance of the Work.
5. Do not proceed with Work unless a finalized copy of Shop Drawings applicable to the Work is in possession of the Fabricators and Installers when they are working. Do not use Shop Drawings without an appropriate stamp indicating final action to be taken in connection with construction.

1.07 SAMPLES AND OPTION SELECTION SUBMITTALS

- A. General: Samples and Option Selection Materials are submitted for the Architect's visual review of general generic kind, color, pattern, and texture, and for final check of the coordination of these characteristics with other related elements of the Work. Refer to individual Sections of these Specifications for additional Sample requirements, which may be intended for examination or testing of additional characteristics.
1. Documentation required for Samples includes a generic description of the Sample, the Sample source or the product name or Manufacturer; compliance with governing regulations and recognized standards.
 2. Samples for materials which are to be installed in Mock-Ups shall be submitted for processing sufficiently in advance of construction of Mock-Ups to allow review and approval of Sample prior to Construction of Mock-Ups.
 3. Indicate limitations in terms of availability, sizes, delivery time, and similar limiting characteristics, if any.
- B. Preparation: Prepare and submit full-scale, fully fabricated, units which have been cured and finished in the manner specified. Samples shall be physically identical with the proposed material or product to be incorporated in the Work.
1. Where variations in color, pattern, or texture are inherent in the material or product represented by the Sample, submit not less than two (2) units, which show the approximate limits of potential extremities of variations.
 2. Where Samples are for the Architect's selection of color, texture, or pattern, submit a full set of available choices for the material or product.
 3. Mount, display, or package Samples in the manner specified to facilitate the review of indicated qualities.
- C. Option Selection Submittals: Where Samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit three (3) full sets of choices for the material or product. Submittals will be reviewed and one (1) set returned with the Architect's stamp indicating selection or other action. When making submittals send Owner and User a copy of the transmittal (only).
- D. Sample Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit three (3) sets; one will be returned marked with the action taken. When making submittal send Owner and User a copy of the transmittal (only).

- E. Re-Use of Samples: Unless otherwise specified in other Sections, the Architect's retained samples will not be available for use in the construction of the installed items. Where reuse is allowed by Specification, the Architect retained samples will only be available for use in construction when it is, in the opinion of the Architect, undamaged.

1.08 MOCK-UPS

- A. Mock-Ups: Prior to start of work, prepare samples/mock-ups where directed by Architect for each material, assembly, installation, etc., as specified in individual specification Sections. Obtain Architect's acceptance of visual qualities and label mock-ups before proceeding with the work. Retain approved panels during construction in undisturbed condition, suitably marked, as standard for judging completed work. For each submission, show range of possible color, texture and other qualities of appearance.
1. Mock-ups shall be prepared by the Contractor using the same workers, methods and materials that will be employed for the remainder of the work.

1.09 MISCELLANEOUS SUBMITTALS

- A. Daily Construction Reports: Prepare a Daily Construction Report, recording the following information concerning events at the site; and submit duplicate copies to the Architect:
1. List of Sub-Contractors at the Site.
 2. Approximate Count of Personnel at the Site.
 3. High and Low Temperatures; General Weather Conditions
 4. Summary of Work Done.
 5. Meetings and Significant Decisions.
 6. Stoppages, Delays, Shortages, and Losses.
 7. Meter Readings and Similar Recordings.
 8. Emergency Procedures.
 9. Orders and Request of Governing Authorities.
 10. Change Orders Received; Implemented.
 11. Services Connected; Disconnected.
 12. Equipment or Systems Tests and Start-Ups.
 13. Partial Completions Authorized.
 14. List of Accidents and Unusual Events.
 15. Substantial Completions Authorized.
- B. Certificates of Compliance: Certify that all materials used in the Work comply with all Specified provisions thereof. Certifications shall not be construed as relieving the Contractor from furnishing satisfactory materials if the material is later found to not meet Specified requirements.
1. Show on each certification the name and location of the Work, name and address of Contractor, quantity and date or dates of shipment or delivery to which the certificate

applies, and the name of the manufacturing or fabricating company. Certification shall be in the form of a letter or company-standard forms containing all required data. Certificates shall be signed by a duly authorized officer of the manufacturing or fabricating company.

2. In addition to the above information, all laboratory test reports submitted with Certificates of Compliance shall show the date or dates of testing, the specified requirements for which testing was performed, and results of the test or tests.
 3. Furnish two (2) executed copies of such certificates, with back-up data. Provide two (2) additional copies where required for maintenance manuals.
- C. Reporting Accidents: The Contractor shall immediately advise the Owner and Architect in the event of an accident; then prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

1.10 CONSTRUCTION PHOTOGRAPHS

- A. During the progress of the Work, have digital photographs taken twice a month, consisting of twelve (12) views, all taken at the direction of the Architect. At the completion of all Work, twelve (12) final photographs shall be taken at the direction of the Architect.
- B. At the completion of all Work, provide the Owner and Architect with a compact disk containing all digital photographs.

1.11 PROJECT RECORD DOCUMENTS

- A. As the work progresses, keep a complete and accurate record of changes or deviations from the Contract Documents and the Shop Drawings, indicating the Work as actually installed.
1. Changes shall be neatly and correctly shown on the respective portions of the affected documents, using reproducible Mylar's of the drawings affected, or the Specifications, with appropriate supplementary notes.
 2. The records above shall be arranged in order, in accordance with the various Sections of the Specifications, and properly indexed.
 3. This record set of Drawings, Shop Drawings, and Specifications shall be kept at the job site for inspection by the Architect and Owner.
- B. At the completion of the Work, certify by endorsement thereof that each of the revised Drawings and Specifications is complete and accurate.

- C. Prior to application of final payment, and as a condition to its approval by the Architect and Owner, deliver the record Drawings and Specifications, arranged in proper order, indexed, and endorsed as herein before specified. Provide suitable transfer causes and deliver the records therein, indexed and marked for each division of the Work.
- D. No review or receipt of such records by the Architect or Owner shall be a waiver of any deviation from the Contract Documents or the Shop Drawings, or in any way relieve the Contractor from its responsibility to perform the work in accordance with the Contract Documents and the Shop Drawings to the extent that they are in accordance with the Contract Documents.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

(No execution is required by this Section.)

END OF SECTION 01 33 00 - SUBMITTALS

SECTION 013500 – HEALTH AND SAFETY AND ENVIRONMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. References: In addition to publications referenced in the Construction Contract Clauses, the following Code of Federal Regulations (CFR) publications designate and define hazardous materials and conditions, and establish procedures for handling these materials and conditions.
 - 1. 29 CFR, Part 1910: Occupational Safety and Health Administration (OSHA) General Industry and Health Standards.
 - 2. 29 CFR, Part 1926: OSHA Construction Industry Standards.
 - 3. 40 CFR, Part 61: National Emission Standards for Hazardous Air Pollutants.
 - 4. 40 CFR, Part 261: Environmental Protection Agency (EPA) Characteristics of Hazardous Waste.
 - 5. 40 CFR, Part 761, EPA Polychlorinated Biphenyls (PCBs), Manufacturing, Processing, Distribution in Commerce and Use Prohibitions.
 - 6. 40 CFR, Part 763: EPA Asbestos.
- B. Hazardous Materials: Some hazardous and toxic materials and substances are included in 29 CFR Part 1910, subparts H and Z, and in 29 CFR Part 1926. Commonly encountered hazardous materials include but are not limited to asbestos, PCBs, explosives and radioactive material.
 - 1. Asbestos may be found in sealant, insulation, flashings, pipe coverings and other materials.
 - 2. PCBs may be contained in transformers, capacitors, voltage regulators, oil switches, mechanical insulation and other materials.
- C. Acquisition of Publications: Referenced CFR publications may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

1.2 SAFETY MEETING

- A. Prior to commencing construction, representatives of the Contractor, including the principal on-site project representative and one or more safety representatives, shall meet with designated representatives of the Contracting Officer for the purpose of reviewing the Contract's safety and health requirements.
- B. The Contractor's safety and health program shall be reviewed, and implementation of safety and health provisions pertinent to the Work shall be discussed.

1.3 COMPLIANCE WITH REGULATIONS

- A. The Work, including contact with or handling of hazardous materials, disturbance or dismantling of structures containing hazardous materials, and disposal of hazardous materials, shall comply with the applicable requirements of 29 CFR Parts 1910 and 1926, and 40 CFR Parts 61, 261, 761 and 763.
 - 1. Work involving disturbance or dismantling of asbestos or asbestos containing materials, demolition of structures containing asbestos and removal of asbestos, shall comply with NYC, NYS and 40 CFR Part 61, Subparts A and M, and 40 CFR Part 763, as applicable
 - 2. Work shall additionally comply with applicable state and local safety and health regulations.
 - 3. In case of a conflict between applicable regulations, the more stringent requirements shall apply.
- B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for compliance with all applicable codes, standards and regulations pertaining to the health and safety of personnel during execution of the Work, and shall hold the Government harmless for any action on the Contractor's part, or that of the Contractor's employees or subcontractors, that results in illness, injury or death.
 - 1. The Contractor shall have written safety and health programs in compliance with 29 CFR Parts 1910 and 1926.

1.4 SUBMITTALS

- A. Safety and Health Programs: The Contractor shall submit, for approval, copies of the project safety and health programs, as applicable to the work scope, or required as a result of the safety meeting, including but not necessarily limited to the following:
 - 1. Occupational Noise Exposure.
 - 2. Fall Protection.
 - 3. Personnel Protective Equipment.
 - 4. Control of Hazardous Energy.
 - 5. Electrical Safety Related Work Practices.
 - 6. Lead.
 - 7. Asbestos.
 - 8. Respirator Protection.
 - 9. Confined spaces.
- B. Contractor's Safety Plan: In addition to specific safety and health programs applicable to the project, Contractor shall submit firm's general safety plan listing emergency procedures and contact persons with home addresses and telephone numbers.
- C. Permits: If hazardous materials are disposed of off-site, submit copies of shipping manifests and permits from applicable federal, state or local authorities and disposal facilities, and submit certificates that the material has been disposed of in accordance with regulations.

- D. Accident Reporting: Submit a copy of each accident report that the Contractor or Subcontractors submits to their insurance carriers, within seven calendar days after the date of the accident.

PART 2 - PRODUCTS

2.1 PERSONNEL PROTECTIVE EQUIPMENT

- A. Special facilities, devices, equipment and similar items used by the Contractor in execution of the Work shall comply with 29 CFR Part 1910, Subpart I and other applicable regulations.

2.2 HAZARDOUS MATERIALS

- A. The Contractor shall bring to the attention of the Contracting Officer, or the Contracting Officer's authorized representative, any material encountered during execution of the Work that the Contractor suspects is hazardous.
- B. The Contracting Officer shall determine whether the Contractor shall perform tests to determine if the material is hazardous.
- C. If the Contracting Officer directs the Contractor to perform tests and the material is found to be hazardous, or if the material is found to be hazardous without Contractor testing, a change to the Contract price may be provided, subject to the applicable provisions of the Contract.

PART 3 - EXECUTION

3.1 EMERGENCY SUSPENSION OF WORK

- A. When the Contractor is notified by the Contracting Officer, or the Contracting Officer's authorized representative, of non-compliance with the safety or health provisions of the Contract, the Contractor shall immediately, unless otherwise instructed, correct the unsafe or unhealthy condition.
 - 1. If the Contractor fails to comply promptly, all or part of the Work will be stopped by notice from the Contracting Officer or the Contracting Officer's authorized representative.
 - 2. When, in the opinion of and by notice given by the Contracting Officer or the Contracting Officer's authorized representative, satisfactory corrective action has been taken by the Contractor, work shall resume.
 - 3. The Contractor shall not be allowed any extension of time or compensation for damages in connection with a work stoppage for an unsafe or unhealthy condition.

3.2 PROTECTION OF PERSONNEL

- A. The Contract shall take all necessary precautions to prevent injury to the public, occupants, or damage to property of others. The public and occupants includes all persons not employed by the Contractor or a subcontractor.
- B. Wherever practical, the work area shall be fenced, barricaded or otherwise blocked off from the public or occupants to prevent unauthorized entry into the work area.
 - 1. Provide traffic barricades and traffic control signage where construction activities occur in vehicular areas.
 - 2. Corridors, aisles, stairways, doors and exit ways shall not be obstructed or used in a manner to encroach upon routes of ingress or egress utilized by the public or occupants, or to present an unsafe or unhealthy condition to the public or occupants.
 - 3. Store, position and use equipment, tools, materials, scraps and trash in a manner that does not present a hazard to the public or occupants by accidental shiftings, ignition or other hazardous activity.
 - 4. Store and transport refuse and debris in a manner to prevent unsafe and unhealthy conditions for the public and occupants. Cover refuse containers, and remove refuse on a frequent regular basis acceptable to the Contracting Officer. Use tarpaulins or other means to prevent loose transported materials from dropping from trucks.

3.3 ENVIRONMENTAL PROTECTION

- A. Dispose of solid, liquid and gaseous contaminants in accordance with local codes, laws, ordinances and regulations.
- B. Comply with applicable federal, state and local noise control laws, ordinances and regulations, including but not limited to 29 CFR 1910.95 and 29 CFR 1926.52.

END OF SECTION 01 35 00

SECTION 01 41 00 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 ORDINANCES, PERMITS, FEES, ETC.

- A. All necessary permits from the municipal or other public authorities shall be secured by and at the cost and expense of the Contractor who shall give all notices required by law, municipal ordinances, or the rules and regulations of the various municipal bureaus or departments, and also as a part of the Contract, and without extra charge or compensation, shall comply with all Federal and State laws and all municipal ordinances or regulations that may be applicable to this work, together with all orders of the Department of Buildings, Department of Health, Department of Environmental Protection for water, Con Edison for Gas and Electricity, Fire Department, etc., which shall be issued (in compliance with ordinances or regulations existing at the time of Notice to Proceed) by any or all of said departments as applying to the work of the Contract.
- B. The Contractor shall secure, pay for and maintain during construction all of the insurance policies required by the Owner and by law. Insurance certificates shall be supplied to the Owner on or before the date of the pre-construction conference. Insurance certificates shall name the Owner and shall include a right of notice no less than thirty (30) days prior to cancellation or any material change in coverage.
- C. Wherever in these specifications the name of a city official, bureau or department is mentioned, it is intended to mean the Official, Bureau or Department having jurisdiction.
- D. Attention is called to certain provisions of the Building Code regarding safety of public and property during construction operations, particularly obstruction of sidewalks and streets, support of walls adjoining excavations, sidewalk sheds, scaffolding, hoists and material handling equipment, protection of floor openings, overloading, demolition operations, structures to be carried up, which provisions shall be complied with.
- E. The Contractor shall deliver to the Owner all permits or Certificates of Approval and Controlled Inspections issued by the municipal agencies having jurisdiction in connection with this work, before the certificate for final payment is issued.

1.03 COMPENSATION AND LABOR LAWS

- A. The Contractor shall comply with all applicable Workmen's Compensation Laws.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

(No execution is required by this Section.)

END OF SECTION 01 41 00 - REGULATORY REQUIREMENTS

SECTION 01 42 16 – REFERENCES - DEFINITIONS

PART 1 - GENERAL

1.01 Related Documents

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 Definitions

- A. American Society for Testing and Materials (ASTM) Standard E 631 Standard Terminology of Building Constructions and Compilation of ASTM Standard Definitions provide consensus definitions for many terms used in this document. Definitions are also included in The Secretary of the Interior's Standards for the Treatment of Historic Properties published by the National Park Service (NPS), as well as the Construction Specifications Institute (CSI) Manual of Practice. The sources for the following definitions are identified parenthetically as ASTM, NPS, and CSI.

- | | | |
|-----|----------------------------|---|
| 1. | adapt | v. in building, to make suitable for a particular purpose by means of change or modification. (ASTM) |
| 2. | adaptive reuse | n. (1) the appropriate level of treatment for spaces in historic buildings that are not in themselves significant (CSI); (2) rehabilitation is used instead of this term (NPS), |
| 3. | add | v. in building, to extend by means of new construction, or enclosure of an existing structure. (ASTM) |
| 4. | addenda | n. written or graphic documents issued to clarify, revise, delete, or add to information in the original bidding documents or in previous addenda. (CS1) |
| 5. | allowance | n. an amount (cash allowance) or quantity (quantity allowance) that each bidder is required to include in the bid to cover specific work that has not been fully defined. (CSI) |
| 6. | alter | v. in building, to make different, or to rearrange the layout. (ASTM) |
| 7. | alternate | n. a defined portion of the work that is priced separately and thus provides an option for the owner in selecting the final scope of the project. The alternate can simply be a choice between two products or can be the addition or deletion of a portion of the work. (CSI) |
| 8. | bidding documents | n. all the construction documents issued to bidders before the signing of an owner-contractor agreement. This package includes all the bidding requirements and contract documents except modifications (which are issued after the construction agreement is signed). (CSI) |
| 9. | bidding requirements | n. used to attract bidders and explain the procedures to be followed in preparing and submitting bids. Bidding requirements include the bid solicitation, instructions to bidders, information available to bidders, bid forms and supplements, and addenda, but do not contain contracting requirements. (CSI) |
| 10. | conditions of the contract | n. define basic rights, responsibilities, and relationships of the entities involved in the performance of the contract. (CSI) |
| 11. | construction documents | n. the written and graphic documents prepared or assembled by the Architect/Engineer for communicating the design of the project and |

		administering the contract for its construction. (CSI)
12.	contract documents	n. the agreement between the owner and contractor, conditions of the contract, drawings, specifications, addenda issued before execution of the agreement, other documents listed in the agreement, and contract modifications issued after execution of the agreement. (CSI)
13.	contract modifications	n. after the construction agreement has been signed, additions to, deletions from, or modifications of the work to be done are accomplished by change orders, construction change directives, work change directives, architect's supplemental instructions, written amendments, and field orders. (CSI)
14.	general requirements	n. sections of Division 01 of the specifications. (CSI)
15.	improve	v. to enhance the quality or value of land or property. (ASTM)
16.	maintain	v. to keep in working order, or to preserve from decline or failure. (ASTM)
17.	modernize	v. in building, to adapt to current needs, tastes, or usage by remodeling or repair. (ASTM)
18.	project manual	n. the volume or volumes assembled for the work that usually include the bidding requirements, sample forms, conditions of the contract, and specifications. (CSI)
19.	protection	n. the act or process of applying measures designed to affect the physical condition of a building, structure, or artifact by guarding it from deterioration, loss, or attack; or, to cover or shield it from damage. (ASTM)
20.	rebuild	v. to return a building to its previous state or condition. (ASTM)
21.	reconstruct	v. to reproduce in the exact form and detail a building, structure, or artifact as it appeared at a specific period in time. (ASTM)
22.	reconstruction	n. (1) the act or process of reproducing by new construction the exact form and detail of a vanished building, other structure, or artifact as it appeared at a specific period in time (ASTM); (2) the act or process of reproducing by new construction the exact form and detail of a vanished building, structure, or object, or a part thereof, as it appeared at a specific period of time (NPS).
23.	rehabilitation	n. (1) of a structure, the act or process of returning a structure to a state of utility through repair or alteration which makes possible an efficient contemporary use. (Rehabilitation of a historic structure will include preservation of features and elements of the structure that are of historical, architectural, and cultural significance) (ASTM); (2) the act or process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historic, architectural, and cultural values (NPS).
24.	remodel	v. (1) to replace or improve structure or its parts (ASTM); (2) not used as it is not considered historic preservation (NPS).
25.	renovation	n. refer to rehabilitation.
26.	repair	v. (1) to replace or correct damaged or faulty components or subsystems of a building to maintain operating capability (ASTM); (2) to patch, piece-in, splice, consolidate, or otherwise reinforce or upgrade deteriorated or missing parts of a feature or element when there are surviving prototypes; also includes limited replacement in kind or with compatible substitute materials. (NPS)
27.	replace	v. to replace an entire feature or element with new material (in kind or with compatible substitute materials) when the level of deterioration or damage

- | | | |
|-----|----------------|--|
| 28. | restoration | to existing materials precludes repair. (NPS)
n. (1) the act or process of reestablishing accurately the form and details of a structure, site, or artifact as it appeared at a particular period in time, by means of removal of later work or by the reconstruction of missing earlier work (ASTM); (2) the act or process of accurately recovering the form and details of a property and its setting as it appeared at a particular period of time by means of the removal of later work or by the replacement of missing earlier work (NPS). |
| 29. | retrofit | v. in building, to add new materials or equipment not provided at the time of original construction. (ASTM) |
| 30. | specifications | n. define the qualitative requirements for products, and workmanship upon which the construction contract is based. (CSI) |
| 31. | stabilization | n. the act or process of applying measures designed to reestablish a weather-resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present. (NPS) |

PART 2 - MATERIALS

- 2.01 No materials are required by this Section.

PART 3 - EXECUTION

- 3.01 No execution is required in this Section.

END OF SECTION 014216 – REFERENCES

SECTION 01 43 00 - QUALITY ASSURANCE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 MINIMUM STANDARDS

- A. As a minimum, all work shall comply with all prevailing codes including, but not limited to, the latest editions of the local/state Building Code, the local/state Energy Conservation Code, the Uniform Building Code, the N.F.P.A. National Electrical Code, the N.F.P.A. Life Safety Code, and all related Standards referenced by these Codes.
- B. As a minimum, all work shall comply with all generally recognized means and methods of good building and construction practice.
- C. All work shall be performed as required whether or not indicated by the Contract Documents, so as to create a complete and fully functioning project.

1.03 INSPECTIONS

- A. The Contractor shall comply with the inspection requirements cited in each Section of this Specification.
- B. The Contractor shall notify the inspecting party a minimum of five working days prior to a proposed date of inspection.

1.04 VERIFY IN FIELD

- A. Contractor or Sub-Contractors shall verify all dimensions, existing conditions and all other conditions on site prior to commencement of their work and at the time of the uncovering of new conditions.
- B. The Contractor shall notify the Architect immediately of any discrepancies between field conditions and the Contract Documents or the execution of the intent of the Contract Documents.
- C. No work shall proceed until discrepancies between the field conditions and the Contract Documents have been resolved by the Owner and Architect by Change Order or other written method, as required by the General Conditions.

- D. Commencement of work, or continuation of work on newly uncovered conditions, shall imply acceptance of said conditions and their consequences by the Contractor.

1.05 SOURCE OF MATERIALS

- A. Manufacturers supplying specialty products shall have been regularly engaged and specialized for the preceding ten (10) years.

1.06 PROJECT CONDITIONS

- A. Cold-Weather Conditions:
 - 1. Do not use frozen materials or materials mixed or coated with ice or frost. Do not use salt to thaw ice in anchor holes or slots or for any other purpose. Do not build on frozen work; remove and replace masonry construction damaged by frost or freezing.
 - 2. Do not lower freezing point of mortar by use of anti-freeze, calcium chloride, or other additives.
- B. Hot-Weather Protection: The work shall be protected during hot weather from premature or rapid drying or curing by the use of dampened fabric coverings.
- C. Protect materials from weather, moisture and contamination by earth and other foreign materials.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

(No execution is required in this Section.)

END OF SECTION 01 43 00 - QUALITY ASSURANCE

SECTION 01 51 00 - TEMPORARY UTILITIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 DESCRIPTION

- A. This Section pertains to the provision, maintaining, and removal of all temporary utilities and services and related items required completing the work.

1.03 TEMPORARY UTILITIES

- A. Temporary-utility connections and distribution lines shall be installed and maintained by the Contractor in accordance with Municipal Codes and ordinances having jurisdiction of the trades involved; contractor shall pay all costs for fees and permits pertaining thereto. When the temporary-service lines are no longer required, they shall be removed prior to final inspection. Any part of the permanent service lines or grounds disturbed or damaged by the installation and use of the temporary-utility lines shall be restored to acceptable condition at no additional cost to the Owner.

1.04 TEMPORARY LIGHTING AND POWER

- A. Provide immediately upon the start of work, electric power for use by all trades engaged in the construction, and provide sufficient lighting for the proper execution of all work. In no case shall work be performed, when the light level on the work surface is less than 50-foot candles.
 - 1. Electric power from Owner's existing systems will be available for Contractor's use during construction.
 - 2. Should there be any wastage or misuse of this privilege, in the opinion of the Owner, which impairs the operation of the existing building, permission to use Owner's power supply will be withdrawn, and Contractor will be required to provide electric power from other sources at his own expense.
 - 3. The Contractor will be required to provide alternate power supplies if the existing building service is not adequate or if power is not available in all work areas at his own expense.

1.05 TEMPORARY WATER

- A. Provide, immediately upon the start of work, adequate temporary water for construction use, fire protection, and adequate drinking water for site personnel. All temporary-water supply lines shall be properly valved, maintained, protected, and kept tight and free from leaks and freezing conditions.
1. Water from Owner's existing systems will be available for Contractor's use during construction.
 2. Consult Owner for location and method of connection to Owner's water supply. Maintain temporary-water service in operating condition until the new construction is completed and usable.
 3. Protect water service from damage or freezing and be responsible for repairs necessitated through negligence or carelessness in this respect.
 4. Should there be any wastage of water or misuse of this privilege, in the opinion of the Owner, which impairs the operation of the existing building, permission to use Owner's water supply will be withdrawn, and Contractor will be required to provide water from other sources at his own expense.

1.06 TEMPORARY HEAT

- A. The Contractor shall provide all required temporary heating required to suit the project schedule. Temporary heat will be supplied by the Contractor. When the temporary-heating system is ready for operation, it may be used for temporary heating, but only with the permission of the Owner.
- B. Every precaution must be taken to maintain uniform temperature and prevent shrinkage, cracking or swelling of floors, trim and other work in building due to varying conditions.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

(No execution is required by this Section.)

END OF SECTION 01 51 00 - TEMPORARY UTILITIES

SECTION 01 52 00 - CONSTRUCTION FACILITIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 DESCRIPTION

- A. This Section pertains to the provisions, maintaining, and removal of all temporary construction and facilities and similar related work.

1.03 TEMPORARY SHEDS

- A. Provide and maintain a suitable temporary storage sheds and other temporary buildings as required at the job site.
- B. Materials stored in the open on the job site shall be stored on planks or other dunnage as necessary to keep materials from contact with ground and shall be covered with tarpaulins to protect them from the weather.

1.04 TEMPORARY TOILETS

- A. If the Owner agrees, the Contractor will have access to designated toilets; otherwise, the Contractor shall provide and maintain temporary toilets through the construction phase of the project

1.05 TEMPORARY HOISTWAYS, LADDERS, BARRICADES AND PROTECTIONS

- A. Any use of hoists, ladders, barricades and safety protection shall comply with all applicable local, state, and federal codes.
- B. Contractor shall provide adequate equipment for performance of all parts of his work. Equipment is to be located at sufficient distance (at least 3'-0") from the exterior walls and be so protected as to prevent damage, staining or marring any permanent work. Platforms and gangways shall not slope or drain toward the building.
- C. The Contractor shall provide all ladders required for his work. Ladders shall comply with all Labor Law requirements.

1.06 RESPONSIBILITY, SECURITY, ETC.

- A. Hours of Responsibility: Contractor shall be responsible at all times for the loss, theft, or damage of all material, construction, or equipment stored at the Job Site or incorporated in the work until final acceptance by the Owner.
- B. The Contractor shall provide an outdoor security system for the bridge scaffolding that complies with the Owner's requirements for site security.

1.07 TEMPORARY ENCLOSURES

- A. Contractor shall provide temporary enclosures for the protection of the interiors of the existing building during the work involved in demolition and removal within the existing building.
- B. Temporary enclosures shall be insulated and constructed of such materials and in such manner and extent that the interior of the existing premises shall be kept free of the elements and occupants of the building are protected. The enclosures shall consist of plywood on suitable frames covered with heavy-duty polyethylene-film barrier or tarpaulins, or other suitable protection of adequate size for the purpose intended. Insulation shall be minimum full thick foil-covered fiberglass-batt insulation with stapling flanges.

1.08 TEMPORARY PARTITIONS

- A. Contractor shall provide temporary dust-tight partitions or barricades as required to seal off connections within existing buildings, as well as to isolate areas of work from occupied portions of the existing building. Enclosures shall be installed around all cutting operations such as floors, walls or ceilings to prevent dust from spreading. Where holes are cut in ceiling, or roof, the underside shall be dustproofed to catch any debris and dust which may result from these operations and to protect personnel from damage or injuries.
- B. Temporary dust-tight partitions shall be substantially constructed to Owner's satisfaction. Joints in the partitions, including joints at walls, floor and ceilings shall be sealed dustproof with 1-½-inch wide pressure-sensitive tape. Provide dust-tight doors of similar construction where necessary, including hinges and a first-quality padlock and hasp on each door.
- C. Temporary partitions shall be erected over a layer of 30-lb roofing felt for protection of existing floors.
- D. Temporary partitions shall be relocated as necessitated by the work and shall be removed only when directed by the Architect. Patch and repair any damage resulting from temporary work.
- E. Contractor shall verify that all occupied spaces adjacent to the areas of demolition are completely secured and rendered dustproof prior to the commencement of demolition.

1.09 POSTERS AND SIGNS ON SHEDS OR BUILDINGS

- A. No posters, advertising billboard or signs of any nature shall be placed on any part of any post, fence, bridge, railing, shed, existing and new buildings or structures of any kind about the premises, except such as may be necessary in connection with the work under this Contract to identify the Contractor and his work.

1.10 "NO SMOKING" SIGNS

- A. Signs with the words "NO SMOKING" painted or stenciled thereon, with letters 2-inches high shall be furnished by the Contractor and hung in conspicuous places as directed, and kept in position until the completion of all work.

1.11 PROTECTION OF WINDOWS

- A. All necessary precautions shall be taken by mechanics and workmen performing the work of masonry repairs, painting, caulking, cleaning, etc., against marring, soiling or defacing any part of the windows. All dirt, residue, etc., on the window resulting from the work of such mechanics and workmen shall immediately be cleaned off leaving the window and entrance assemblies in a clean, operating condition ready for final cleaning and adjustment as required by the specifications.

1.12 EXITWAYS

- A. Contractor shall maintain all existing exits as required by prevailing Codes throughout the construction period.

1.13 REMOVAL OF RUBBISH

- A. The Contractor shall at all times keep the building, premises and surrounding sidewalks and streets clean and free from his rubbish and discarded or surplus materials; he shall provide suitable receptacles of adequate size and number, in handy locations about the premises to receive his own rubbish and discarded or surplus materials and also that of his various subcontractors, and shall direct his subcontractors, to deposit their rubbish and surplus materials in the receptacles provided for this purpose, or in orderly piles in locations as he may designate; also he shall provide all labor required to remove said rubbish and discarded or surplus materials from the various floors and yards, and shall cart it from the premises.
- B. Rubbish shall not be thrown out of windows. Rubbish shall not be allowed to pile against the building and thus mar its appearance.
- C. Should the Contractor fail to keep the building, premises and surrounding streets and walks shovel clean and free from his rubbish at all times, then the Owner shall employ such parties as he pleases, in the open market, to remove the rubbish and shall withhold from any payment

due the Contractor such sums as may be required to pay for the removal of the rubbish or materials, and such sums shall be deducted from the amount of the Contract.

1.14 REMOVAL OF TEMPORARY WORK

- A. All temporary work such as guards, shoring, scaffolding, etc., provided or erected by the Contractor shall be removed and shall become the property of the Contractor when such temporary work is no longer required, or when directed, or at completion of the Contract.
- B. Repair any finishes damaged by temporary construction facilities to match existing to the approval of the Architect and Owner.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

(No execution is required by this Section.)

END OF SECTION 01 52 00 - CONSTRUCTION FACILITIES

SECTION 01 74 19 - CONSTRUCTION-WASTE MANAGEMENT

PART 1 - GENERAL

1.01 MANAGEMENT

- A. The Contractor shall take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors and suppliers to participate in the effort. Construction and demolition waste includes products of demolition or removal, excess or unusable construction materials, packaging material for construction products, and other materials generated during the construction process but not incorporated into the work. In the management of waste consideration shall be given to the availability of viable markets, the condition of the material, the ability to provide the material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates. The contractor shall be responsible for implementation of any special programs involving rebates or similar incentives related to recycling of waste. Revenues or other savings obtained for salvage, or recycling shall accrue to the Contractor. Firms and facilities used for recycling, reuse, and disposal shall be appropriately permitted for the intended use to the extent required by federal, state, and local regulations.

1.02 PLAN

- A. A waste-management plan shall be submitted to the Architect and Owner's Representative within 15 days after contract award and before initiating any site preparation work. The plan shall include the following:
1. Name of individuals on the Contractor's staff responsible for waste prevention and management.
 2. Actions that will be taken to reduce solid-waste generation.
 3. Description of the specific approaches to be used in recycling/reuse of the various materials generated, including the areas and equipment to be used for processing, sorting, and temporary storage of the waste.
 4. Characterization, including estimated types and quantities, of the waste to be generated.
 5. Name of landfill and/or incinerator to be used and the estimated costs for use, assuming that there would be no salvage or recycling on the project.
 6. Identification of local and regional reuse programs, including non-profit organizations such as schools, local housing agencies and organizations that accept used materials, such as materials exchange networks and Habitat for Humanity.

7. List of specific waste materials that will be salvaged for resale, salvaged and reused or recycled. Recycling facilities that will be used shall be identified.
8. Identification of materials that cannot be recycled/reused with an explanation or justification.
9. Anticipated net-cost savings determined by subtracting Contractor program-management costs and the cost of disposal from the revenue generated by sale of the materials and the incineration- and /or landfill-cost avoidance.

1.03 RECORDS

- A. Records shall be maintained to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill or incineration. The records shall be made available to the Architect and Owner during construction, and a copy of the records shall be delivered to the Owner upon completion of the construction.

1.04 COLLECTION

- A. The necessary containers, bins, and storage areas to facilitate effective waste management shall be provided and shall be clearly and appropriately identified. Recyclable materials shall be handled to prevent contamination of materials from incompatible products and materials and separated by one of the following methods:
 1. Source-separated method: Waste products and materials that are recyclable shall be separated from trash, sorted into appropriately marked separate containers, and then transported to the respective recycling facility for further processing.
 2. Co-mingled method: Waste products and recyclable materials shall be placed into a single container and then transported to a recycling facility where the recyclable materials are sorted and processed.
 3. Other Methods: Other methods proposed by the Contractor may be used when approved by the Owner and Architect.
 4. Disposal: Except as otherwise specified in other Sections of the specifications, disposal shall be in accordance with the following:
 - a. Reuse: First consideration shall be given to salvage for reuse since little or no reprocessing is necessary for this method, and less pollution is created when items are reused in their original form. Sale or donation of waste suitable for reuse shall be considered. Salvaged materials, other than those specified in other sections to be salvaged and reinstalled, shall not be used in this project.

- b. Recycle: Waste materials not suitable for reuse, but having value, as being recyclable, shall be made available for recycling whenever economically feasible.
- c. Waste: Materials with no practical use or economic benefit shall be disposed at a landfill or incinerator.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

(No execution is required by this Section.)

END OF SECTION 01 74 19 - CONSTRUCTION-WASTE MANAGEMENT

SECTION 01 78 00 – CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 SUBSTANTIAL COMPLETION

- A. At Substantial Completion the Contractor shall contact the Owner and Architect at least five working days in advance for an inspection.
- B. Following the inspection the Architect shall determine whether or not Substantial Completion has been achieved as per the General Conditions.
- C. If the Project is determined to be Substantially Complete, the Architect shall prepare certification of same, and a punch list of minor items to complete, and deliver these to the Contractor for execution, and to the Owner.

1.03 FINAL COMPLETION

- A. At Final Completion the Contractor shall contact the Owner and Architect at least five (5) working days in advance for an inspection.
- B. Following the inspection, the Architect shall determine whether or not Final Completion has been achieved as per the General Conditions.
- C. If the Project is determined to be complete, the Contractor shall deliver to the Owner, if not previously delivered, the originals of the following items in addition to those required by the General Conditions.
 - 1. Equipment and product operations data, warranties, and spare parts for material and equipment permanently incorporated into the Project.
 - 2. Affidavit of legal hazardous waste disposal if required.
 - 3. Any other regulatory paperwork related to the Project.
 - 4. The Contractor shall supply the Architect and Owner with an inventory list of all salvaged building and landscape materials.
 - 5. Affidavit of Debts and Claims and Affidavit of Release of Liens.

- D. When the Architect has determined that all of the above conditions have been met, he will promptly issue certification of Final Completion, as per the General Conditions, to the Contractor and the Owner.

1.04 GUARANTEE

- A. The Contractor, upon Final Completion, guarantees all work of the Contractors and Subcontractors to be first quality, free from faulty materials, equipment, workmanship, and installation and in conformance with the Contract Documents and each section of the Technical Specification.
- B. This guarantee shall be provided in addition to, and not as a replacement of, manufacturer's warranties on materials and equipment permanently incorporated into the Project.

PART 2 - PRODUCTS

(No materials are required by this Section.)

PART 3 - EXECUTION

(No execution is required by this Section.)

END OF SECTION 01 78 00 - CLOSEOUT SUBMITTALS

END OF DIVISION 01

SECTION 02 17 30 – WATERPROOFING REMOVAL

PART ONE – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Work Included: The work of this Section includes, but is not limited to, the following:
 - 1. Selective removal of existing paving assembly (pavers to be salvaged for reinstallation unless otherwise requested by owner) and other overburden including setting bed, topping slab, insulation, drainage mat and associated fasteners, existing deck waterproofing assembly including flashings down to structural deck. Remove existing sidewall scuppers; cut and cap two (2) planter drains at planter #2.
 - 2. Remove existing granite stone bricks and copings (copings to be salvaged for reinstallation) for removal of underlying waterproofing on vertical concrete backup surfaces
 - 3. Coordinate waterproofing removals with new repairs for protection of decks to receive new waterproofing system.
 - 4. Coordinate system removals and for protection of stone surfaces to remain
 - 5. Provide miscellaneous removals associated with new work, including, removal of railings, planter soil, irrigation system in planters for incorporation of new work. Dispose of planter soil.
 - 6. Coordinate temporary removal of railings, trellises, benches, etc. for installation of waterproofing system and flashing.

1.03 RELATED SECTIONS

- A. 01 33 00, Submittals
- B. 02 41 19, Selective Demolition
- C. 07 51 13, Mod- Bitumen Waterproofing System
- D. 32 12 00, Pavers
- E. 22 14 26, Plumbing/Drains
- F. 04 43 00, Stone Masonry

1.04 SUBMITTALS

- A. Submit written description in a timely manner, of the intended method of ensuring that the area affected by removals, including all penetrations and perimeters, is complete and watertight at the end of each work day.
- B. Prior to the start of work submit, date marked, photographs of existing conditions of structures, surfaces, equipment, and adjacent work that might be misconstrued as damage related to removal operations. Submit copies to the Construction Manager prior to the start of work.

- C. As appropriate, submit hazardous materials and asbestos management proposal, including all requirements for staging, containment, removals, handling and disposal of materials.

1.05 QUALITY ASSURANCE

- A. Foreman Qualifications: The foreman of the crew performing roof removals shall be a qualified roofer or waterproofing journeyman with at least five (5) years experience in roofing removals similar in nature and scope to the Work of this Section.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before starting roof removals and related selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
 - 1. All removal and demolition work shall comply with requirements of State and Local Building Codes, OSHA, EPA, other local governing authorities having jurisdiction and Owner's requirements.
- C. Pre-Waterproofing Removal Conference: Conduct conference at Project site to comply with requirements. Review methods and procedures relating to roof removal and related selective demolition including, but not limited to, the following:
 - 1. Inspect and discuss condition of waterproofing and related construction.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize waterproofing removal schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed by waterproofing-removals demolition operations.
 - 5. Review protections and environmental-containment procedures.
 - 6. Review hazardous-materials issues and containment procedures.
- D. As appropriate, notify agencies of any hazardous materials found on the site. Do not proceed with removal of said substance until so instructed.

1.06 PROJECT CONDITIONS

- A. No representation is made that the assembly exists uniformly throughout the area to be removed.
- B. Protections: Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to adjacent portions of the building, structure, utilities, other facilities, and to the public and other persons.
 - 1. Protect from damage existing work that is to remain in place and becomes exposed during demolition operations.
 - 2. As required, provide protective enclosures and bridges at areas surrounding the building perimeter. As required, provide protective devices over areas that have operable windows.

3. Containment: Provide containment of existing materials during removals and demolition. The Work of this Section shall include preventing dislodgment and blow-off of materials being removed, debris production and other hazardous conditions.
 - a. Fully coordinate containment with the requirements for ACM removals and waste management as specified elsewhere.
 4. Containment procedures and protections shall be constructed and secured in a secure manner that does not harm the public and other persons and does not damage or compromise the building envelop and associated waterproof membranes to remain, adjacent structures/building structure and adjacent facilities.
- C. Damages: Promptly repair damages caused to adjacent materials and equipment by demolition work at no cost to the Owner. All remedial work to be done by the Contractor shall first be approved by the Construction Manager and the Architect.
1. Any dust and debris falling into the interior of the building due to the work of this Section shall be removed by the Contractor.
- D. Traffic: Conduct removal operations and removal of debris to ensure minimum interference with streets, walks, and other adjacent or used facilities.
1. Do not enclose or obstruct streets or other occupied or used facilities without permission from the Construction Manager, Owner, and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- E. Partial RemovalS: Items indicated to be removed but not saved are of salvageable to Contractor may be removed from the structure as work progresses. Transport salvaged items from site as they are removed.
1. Storage or sale of removed items will not be permitted on the site.
- F. Damages: Promptly repair damages caused to adjacent facilities by demolition operations.
- G. Flame Cutting: Use of torches is strictly forbidden. However, methods utilizing torches must maintain portable fire suppression devices during removal operations and as required by the FDNY.
- H. Utility Services: Maintain existing utilities indicated to stay in services and protect against damage during demolition operations.
1. Do not interrupt existing utilities serving occupied or used facilities, except when authorized by the Owner and other authorities having jurisdiction. Provide temporary services during interruption to existing utilities, as acceptable to governing authorities.
 2. Arrange for disconnecting and sealing utilities serving structures to be demolished, prior to start of removal and demolition work.

3. Do not start removal and demolition work until utility disconnections have been completed and verified in writing.
- I. Environmental Controls: Use temporary enclosures, water sprinkling, and other methods to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection.
 1. Do not use water when it may create hazardous or objectionable conditions such as damage to finishes, flooding, and pollution.
 - a. Fully coordinate environmental controls with the requirements for ACM removals and waste management as specified in the Contract Documents.
- J. Provide tarping or other types of temporary waterproofing as removals and related demolition of exterior building elements and waterproofing is underway. Completely protect structure from water damage. Provide anchoring to protect temporary roofing from wind damage or dislocation, anchoring methods shall not impair building water tightness nor bring harm to persons or property.

PART 2 – PRODUCTS

2.01 REPAIR MATERIALS

- A. Use repair materials identical to existing materials.
 1. Where identical materials are unavailable or cannot be used for exposed surface, use materials that visually match adjacent surfaces to the fullest extent possible.
 2. Use a material whose installed performance equals or surpasses that of existing materials.
- B. Repair work, of structures or waterproofing damaged prior to selective demolition/demolition shall be specified within the applicable Sections(s), as indicated.

PART 3 - EXECUTION

3.01 GENERAL

- A. General: The removal work is to be coordinated with the installation new pervious concrete, masonry, flashing, waterproofing and overburden systems and related construction.
 1. General: Execute removal work carefully. Minimize interference with existing building and site operations, inconvenience to building tenants, building staff, the public, danger to persons, and damage to existing building materials from the upper plaza.
 2. Do not throw removed materials in area other than where required for daily disposal.
- B. Coordination: Coordinate work of trades and schedule elements of removal work by procedures and methods to expedite completion of work.

- C. Noise Control: Maintain noise levels of removal work and equipment at a minimum level as to avoid disturbance to building tenant and adjacent building occupants. Comply with governing regulations pertaining to environmental protection and OSHA.
- D. Pollution Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air. Comply with governing regulations pertaining to environmental protection.
 - 1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.
 - 2. Provide duct-proof barriers for interior removals and demolition, prevent uptake of duct and debris into air-handling system.
 - 3. Clean adjacent structures and improvements of duct, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to start of work.
- E. Demolition: Demolish structures completely and remove from site. Use such methods as required to complete work within limitations of governing regulations.
 - 1. Proceed with demolition in systematic manner, from top of an item to be removed or demolished to bottom. Complete demolition work above each level or tier before disturbing supporting members on lower levels.
- F. If unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit a report to the Architect in written, accurate detail. Pending receipt of directive from the Architect, rearrange selective demolition schedule as necessary to continue overall job progress without undue delay.
- G. Prior to removal work, check all drains and leaders and document any plugged or non-working drains and leaders and notify the Architect.
 - 1. Provide protection of site and planter drains from becoming obstructed and clogged.
- H. Promptly remove debris to avoid imposing excessive loads on the roof and supporting walls, floors or framing. Do not exceed 20-psf of deck loading.
- I. Ensure that removed waterproofing is coordinated with the new waterproofing work, where required so that all penetrations and perimeter are completed and watertight at the end of each work day.
- J. In cutting the existing waterproofing ensure that cutting tools do not penetrate into the structural slab intended to remain.

1. If cutting machines are used in the performance of the Work, set the blade depth high enough to prevent penetration into the substrate intended to remain.
- K. Where waterproofing removal is required remove existing waterproofing materials complete, down to the existing structural deck.
- L. Substrate Observation: During roof removals and demolition, the contractor shall observe roofing substrates and decks, if unacceptable conditions of substrates and structural decks including but not limited to; deterioration, and detrimental conditions that will affect both waterproofing removals and placement of new waterproofing are observed, promptly make the building watertight and notify the Construction Manager and Architect. Maintain protection until the disposition of the condition is resolved.
1. If in addition to the above other conditions are uncovered that vary substantially from those indicated to the extent that modifications to the work may be required, promptly make the building watertight and notify the Architect and Construction Manager. Maintain protection until the disposition of the condition is resolved.
- M. The work of this Section includes removal of damaged substrates and decking as required for repairs.
1. If damaged waterproofing substrates and decking are identified by the Architect and Construction Manager, Contractor shall proceed as directed by the Architect and Construction Manager. Where removals are directed, properly remove damaged substrate and decking, provide supports, shoring and bracing, refer to selective demolition for additional requirements for removals and demolition work, coordinate removals with requirements of repair work. Provide protection of adjacent structures, finishes, and interior spaces from damage during the Work of this Section. Provide temporary secure watertight protection of interior spaces as the Work progresses.
- N. Sweep or vacuum all surfaces, remove loose aggregate and foreign substances. Provide at the end of the Work of this Section an existing waterproofing system free of loose materials or conditions objectionable to the installation of new waterproofing.
- O. Remove existing equipment and curbs as indicated, existing structural framing is to remain. Provide protection of adjacent structures, finishes, and interior spaces from damage during the Work of this Section. Provide temporary secure watertight protection of interior spaces at existing openings as the Work progresses.

3.02 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove debris, rubbish and other materials resulting from demolition operations from building site. Do not let products of demolition accumulate.
- B. Transport waste materials resulting from demolition work and legally dispose of off-site. Cost of transportation and disposal of all waste materials shall be included in the base bid. Hazardous

materials shall be handled and disposed of in accordance with all State, City, and Federal regulations.

3.03 CLEAN-UP AND REPAIR

- A. Upon completion of demolition work, remove tools, equipment and demolished materials from site.
- B. Repair demolition performed in excess if that required. Return structures and surfaces to remain to condition prior to demolition. Repair adjacent construction or surfaces soiled or damaged b this demolition work.

END OF SECTION 021735 – WATERPROOFING REMOVAL

END OF DIVISION

SECTION 02 41 19 - SELECTIVE REMOVAL

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Work by Subcontractors: Contractor is responsible for the coordination of any removal work to be performed by subcontractors. Contractor is responsible for the coordination between removal masonry, shoring and permanent installation of masonry, so that the emergency evacuation route is fully operable at all times. Contractor shall coordinate all hazardous materials abatement.
- B. Demolition & Disposal: Items to be demolished and properly disposed of include but shall not be limited to the following:
1. All plaza components as required to complete the full extent of the work indicated in Drawings and Specifications.
 - a. Contractor is responsible for all asbestos abatement, if any, including monitoring of air quality, as required and in conformance with all federal, state and local agencies having jurisdiction. All asbestos-containing materials shall be legally disposed of in accordance with the law.
 - b. Contractor will remove and re-install as necessary any electrical and lighting attached to the area of work.
- C. Salvage Items: Items to be salvaged, stored and reused may include, but shall not be limited to, the following:
1. Granite Coping Stones
 2. Stone Steps
 3. Dimensional stone panels at exterior walls, planter walls and walls to receive new waterproofing
 4. Railings
 5. Benches, Trellises and irrigation system
 6. Mature trees and shrubs
 7. Aluminum panels
 8. Undamaged pavers
 9. Blue stone pavers
 10. Interior Tiles (unless contractor can match existing)

1.03 SUBMITTALS

- A. Schedule: Submit schedule indicating proposed methods and sequence of operations for selective demolition work to Owner's Representative for review prior to commencement of work. Include details for dust and noise control and protection.
- B. Building Access: Provide detailed sequence of demolition and removal work to ensure uninterrupted access for the occupants to all entrances of the building.

1.04 JOB CONDITIONS

- A. Sequencing: The work is to be performed from the top downwards or as otherwise agreed upon with Owner. Coordinate scheduling with Owner's requirements.
- B. Occupancy: The building will be continuously occupied during selective demolition. Conduct selective demolition work in manner that will minimize need for disruption of occupant's normal operations. Provide minimum of 72 hours advance notice to Owner of demolition activities, which will impact occupant's normal operations. Coordinate demolition schedule with Owner.
- C. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.
- D. Existing Conditions: Conditions existing at time of commencement of Contract will be maintained by Owner insofar as practicable.
- E. Partial Demolition and Removal: Items indicated to be removed but of salvageable value to Contractor may be removed from structure as work progresses. Transport salvaged items from site as they are removed. Storage or sale of removed items on site will not be permitted.
- F. Protections: Provide temporary sidewalk bridges, above ground level protective measures, barricades and other forms of protection as required by authorities having jurisdiction and as required to protect the occupants and general public from injury due to selective demolition work. Provide protection for areas to remain as necessary.
- G. Shoring: Provide interior and exterior shoring, bracing, or support if necessary to prevent movement, settlement, or collapse of structure or element to be demolished, and adjacent facilities or work to remain.
- H. Protection - Finishes: Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
- I. Protection - Floors: Protect floors with suitable coverings when necessary.
- J. Protection - Drains: Protect all site drains with screens, and as required to prevent the passage of debris caused by selective demolition and construction work.
- K. Protection - Weather: Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces, and installation of new construction to insure that

no water leakage or damage occurs to structure or interior areas of existing building.

- L. Protection - Removal: Remove protections at completion of work.
- M. Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner.
- N. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
- O. Obstruction: Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- P. Explosives: Use of explosives will not be permitted.
- Q. Environmental Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
- R. Water: Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

3.01 INSPECTION

- A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph existing conditions of structure surfaces, equipment or surrounding properties, which could be misconstrued as damage resulting from selective demolition work. File with Owner's Representative prior to starting work.

3.02 PREPARATION

- A. Removals: Coordinate asbestos-abatement removals, if any, so that building remains watertight at all times.
- B. Shoring: Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain if required.
- C. Dangerous Conditions: Cease operations and notify the Owner's representative immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made

for continuing operations.

- D. Partitions: Erect and maintain dust-proof partitions and closures as required prevent spread of dust or fumes to occupied portions of the building.
- E. Weather Protection: Provide weatherproof closures for exterior openings resulting from demolition work.
- F. Window Protection: Provide adequate protection for windows in affected areas.
- G. Protection: Provide adequate protection in areas affected and below affected areas, and on adjacent properties if affected.
- H. Mechanical Equipment, Etc: Provide adequate protection for mechanical equipment, etc where affected by work of this contract. Coordinate with Owner's Representative

3.03 DEMOLITION

- A. Performance: Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
- B. Cutting: Demolish masonry in small sections. Cut masonry at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.
 - 1. Carefully saw cut railings where necessary to accomplish scope of work. When reinstalling, weld and burnish as required to return to like new condition.
- C. Debris Removal: Locate demolition equipment throughout structure and promptly remove debris to avoid imposing excessive loads on supporting walls, floors or framing.
- D. Pollution Control: Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
- E. Unforeseen Conditions: If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Architect in written, accurate detail. Pending receipt of directive from Architect, rearrange selective demolition schedule as necessary to continue overall job progress without delay.

3.04 SALVAGE MATERIALS

- A. Return salvaged materials to original locations. Coordinate with Owner regarding salvaged mature trees and shrubs.

3.05 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove debris, rubbish and other materials resulting from demolition operations from building site. Transport and legally dispose of materials off site.
- B. Hazardous Materials: If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.
- C. Burning: Burning of removed materials is not permitted on project site.

3.06 CLEAN-UP AND REPAIR

- A. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave areas broom clean.
- B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 02 41 19

SECTION 030100 - CONCRETE REPAIR

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Perform work in accordance with requirements of General Conditions and Division 01 - General Requirements as well as provisions of all applicable laws, codes, ordinances, rules and regulations. If applicable, all regulations regarding the transportation, handling, storage and removal of hazardous materials shall be strictly adhered to.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

- 1. Section 07 51 13 - Siplast Waterproofing System
- 2. Section 07 92 00 - Joint Sealers

1.3 SUMMARY

- A. Extent of concrete restoration work is as indicated on Drawings, as specified herein, and as required by conditions and regulatory authorities, for the proper completion of the work.
- B. Briefly, and without force and effect upon Contract Documents, work of this Section includes, but is not limited to, the following:
 - 1. Visual inspection and sounding of all exposed concrete 100%
 - 2. Remove spalls, loose and deteriorated concrete until sound concrete is met.
 - 3. Trowel-applied patches:
 - a. The concrete should be square and undercut to provide a mechanical key. Install additional 3/16" diameter threaded stainless steel ASTM 316 rods bedded in epoxy spaced as detailed. Install new properly formulated patching material, mechanically secured and keyed into the sound adjacent concrete. Install flush with adjacent sound concrete or per details on Drawings.
- C. Extent and Location: Work of this Section shall be performed where indicated on Drawings, as specified herein, and include, but not be limited to, the following:
 - 1. All exposed concrete on decking and vertical concrete surfaces.

1.4 QUALITY ASSURANCE

A. System Approach:

1. The Contractor shall install a “system-oriented” restoration of the concrete. The “system” shall consist of the coordinated use of Architect-approved repair products and techniques.
2. The Contractor shall ensure that all products used in the restoration shall be fully compatible with each other. The Contractor must submit for each proposed product a manufacturer’s written certification that the product is compatible with the other products in the system, and that the use of multiple manufacturers’ products shall not in any way infringe on any of the manufacturers’ warranties.
3. Any manufacturer’s system or products must conform to the requirements of this specification in order to be considered acceptable, and to receive the approval of the Architect.

B. Qualifications: Work must be performed by a firm having not less than five (5) years regular, successful, experience in comparable concrete restoration projects and employing personnel skilled in the restoration processes and operations indicated. Comply with all requirements set forth in Division 1 of these specifications.

The concrete restoration contractor or subcontractor must submit documentation of being approved or trained by the manufacturer(s) of the selected concrete patching.

In evaluation of work offered for the acceptance of the Architect, no allowance will be made for lack of skill or competence on the part of workers.

C. Pre-Installation Conference: A pre-installation conference shall be held prior to commencement of field operations to establish procedures, to maintain optimum working conditions and to coordinate this work with related and adjacent work. Agenda for meeting shall include special details and flashings. Attendees shall include manufacturer's representative, representative of the approved Contractor, Owner's Representative and the Architect/Engineer.

D. Materials: Manufacturer shall be a Company specializing in manufacturing of polymer-modified Portland cement mortar with a minimum of ten years’ experience. As deemed necessary to warranty the installation, the manufacturer shall supply a technical representative on the job site during the course of the work to approve the application.

1. Work specified herein shall be performed by and be the responsibility of the installation contractor. The installation contractor shall be certified by the manufacturer of the materials used to be a qualified installer of their product and to have the necessary equipment and facilities to fulfill the requirements of the manufacturer and of this section.

2. The installation contractor shall submit a list of three (3) projects in which similar work to that specified was successfully completed. The list shall contain the following for each project: Project name, Property owner, Owner's representative's name and phone number, Scope or work, Date of completion, Total square footage of work.
3. Field-Constructed Mock-Ups: Prior to start of general concrete restoration, prepare the following sample panels on building where directed by Engineer/Architect. Obtain Owner and Engineer/Architect's acceptance of visual qualities and Manufacturer's representative acceptance of technical qualities before proceeding with the work. Retain acceptable panels in undisturbed condition, suitably marked, during construction as a standard for judging completed work.
 - a. Concrete Patch: Prepare sample panels of size indicated for each type of masonry material indicated. Erect mock-up panels into an existing wall, unless otherwise indicated, to demonstrate quality of materials and workmanship.
 - b. Perform mock ups of concrete removal and surface preparation for approval of Architect and Manufacturer.
 - c. Provide 3 concrete repair mocks up approximately 8" by 6" wide with new replacement patch and approved color installed in dismantled area.
4. Coating: Prepare 3 separate color sample areas of approximately 1' high by 1' wide over the approved patches.

E. Coordination:

1. Coordinate concrete restoration work and coating work to ensure that patching and treatment compounds have cured, as required by water repellent manufacturers, prior to application of the water repellent.
2. All concrete patching work must take place and have cured before water repellent work may proceed on repaired concrete.

1.5 SUBMITTALS

- A.** Data and Sample Submittal Schedule: Submit 2 copies of shop drawings, brochures certifications, samples and maintenance data to Owner or Owner's representative prior to any work and leaving sufficient time for their review prior to schedule site work.
- B.** Methods: The contractor shall submit a detailed description of the methods he will use to accomplish the façade repair work. Specified methods of the following are required.
 1. Storage and protection of material.
 2. Hoisting material.
 3. Cutting material.
 4. Shoring material.

5. Movement of material.
6. Disposal of debris.
7. Distribution of material.
8. Dust and noise control.
9. Movement of personnel.
10. Protection of existing surfaces and adjacent property including netting installation.
11. All weather masonry construction including hot and cold weather protections.
12. Protection for exposed and unfinished work areas.
13. A detailed logistic plan showing work schedule, scaffold locations, method of rigging (other than outriggers), special rigging, demolition plan, and protection of adjacent property.

All such operations must be approved by the Owner and its representative, who will provide information governing access to work areas, use of elevators, etc. All rules, regulations and directions concerning noise, removal of debris, storage of materials and tools, etc., as issued by the Owner must be strictly obeyed.

All Submittals: Comply with General Provisions of the Contract and Division 1 Specification Sections.

- C. Product Data:** Submit selected manufacturers' technical data for each manufactured product offered for inclusion in the work. Include manufacturer's recommendations for use, and instructions for handling, storage, installation and protection of each product. Include test reports and certifications substantiating that products comply with specified requirements.
- D. Shop Drawings:** No shop drawings are required.
- E. Samples:** Submit for verification purposes samples of all materials required for the work of this Section, whether specified or not. Minimum size of powder and liquid samples shall be 250 ml (1 cup) of each. The following samples must be included:
 1. Patching compounds.
 2. Steel primer.
 3. Epoxy bonding agent/grout adhesives.
 4. Stainless steel fasteners, anchors and threaded rod.
 5. Water-repellent coating.
- F. Test Results:** Manufacturer of patching compound shall provide recent independent test results verifying that patching material shows a length change of less than 500 microstrains when tested in accordance with ASTM C 157 using the air-cured method. Provide a notarized certificate stating that the materials specified herein meet the specified requirements.

As part of the submittals contractor shall submit the test results for selection of concrete patch repair material.

- G. Affidavit:** Provide affidavit certifying materials meet specified requirements and issuance of certification for use in City of Paterson, NJ.
- H. Warranty:** Submit a copy of the manufacturer's warranty describing type and period of coverage.

1.6 SCOPE OF WORK

- A.** Furnish all labor, materials, tools, and equipment required to perform the work of this section as shown on the drawings and as specified herein. In general, the work shall include, but not necessarily be limited to, the following:
 - 1. Selective removal of concrete, including cutting, chipping, and removing of all deteriorated, unsound concrete on horizontal, vertical, and overhead surfaces, as directed in the drawings or by the Engineer.
 - 2. Proper surface preparation of the concrete area, in accordance with the instruction material of the manufacturer of the repair material.
 - 3. Preparation and coating of all exposed reinforcement steel.
 - 4. Placement of appropriate repair material to horizontal and vertical surfaces.
 - 5. Matching concrete aggregate finish.
 - 6. Proper surface preparation of the patch concrete substrate according to the manufacturer's instructions before installation of coating.
 - 7. Apply two coats of the acrylic, anti-carbonation protective coating to vertical and overhead surfaces at a minimum dry film thickness of 5 mils.

1.7 DELIVERY, STORAGE, AND HANDLING

- A.** Deliver the specified material in original, unopened containers with the manufacturer's name, labels, product identification, batch numbers, and expiration date.
- B.** Store material in conditions as recommended by the manufacturer.

1.8 PROJECT CONDITIONS

- A. Local Climate:** Ambient weather conditions of moisture, temperature, humidity and wind can adversely affect the application, setting, curing, etc. of the products specified herein for concrete restoration. The Contractor shall take positive actions to offset any unfavorable state of one or more of these conditions as specified or recommended by the restoration product(s) manufacturers.

1. Temperature: Do not use concrete restoration products and materials unless air temperatures are between 40 degrees F and 80 degrees F. and will remain so for at least 48 hours after completion of work. Do not install concrete restoration products and materials on substrates that are frozen or have been below 40 degrees F. for at least 48 hours prior to installation.
 2. If air temperatures are between 70 and 80 degrees F and the building is in direct sunlight apply patching compound only as follows:
 - a. Wet surfaces of area to be patched with cool water before patching.
 - b. Cover new patches with opaque fabric or membrane immediately after completion of patch. Keep patch covered for 8 hours or until facade is out of direct sunlight.
 - c. Do **not** apply patching compound on the south facade at any time when the air temperature is between 70 and 80 degrees F and the building is in direct sunlight.
 3. Protect newly applied materials from rain and other precipitation.
 4. Provide moist curing immediately after finishing. **No curing compounds shall be permitted**, as these may inhibit the subsequent application of the water repellent stain, unless specifically approved by the manufacturer in writing.
- B.** Protect sills, ledges, window frames, glazing and projections from droppings and spills.
- C.** Protect persons, motor vehicles, surrounding surfaces of building whose concrete surfaces are being restored, building site, and surrounding buildings from damage or injury which could result from the performance of the work.
- D.** Site shall be left broom clean at the end of each workday.

PART 2 - PRODUCTS

1.8 MATERIALS

- A.** Polymer-modified Portland cement mortar for horizontal, vertical and overhead repairs shall meet the following requirements.
1. The material shall not contain asbestos, chlorides, nitrates, added gypsum, added lime, or high aluminum cements.
 2. The material shall be non-combustible, both before and after cure.
 3. The mortar shall be supplied in factory proportioned units.
- B.** The steel reinforcement protective coating shall be an epoxy-cementitious coating that will not create a bond barrier between the polymer-modified Portland cement mortar used for concrete repair and the steel reinforcement.

1.9 ACCEPTABLE PRODUCTS

A. Polymer-modified Portland cement mortar for vertical and overhead repairs:

1. SIKAREPAIR SHB with Latex R, Manufactured by Sika Corporation, 201 Politi Avenue, Lyndhurst, New Jersey 07071 .
2. Sikatop 123 Plus Manufactured by Sika Corporation, 201 Politi Avenue, Lyndhurst, New Jersey 07071 .
3. HB2 Repair Mortar manufactured by BASF Construction Chemicals LLC 889 Valley Park Drive Shakopee, MN 55379

Selection of repair material will depend on the test results of the existing concrete.

B. Steel reinforcement protective coating:

1. Sika Armatec 110 Epocem, Manufactured by Sika Corporation, 201 Politi Avenue, Lyndhurst, New Jersey 07071.

2.3 MISCELLANEOUS MATERIALS

A. **Stainless Steel Rods:** Bend 3/16" diameter threaded stainless steel rods, ASTM A-316, or approved equal.

B. **Epoxy:**

1. For bedding rods: Sikadur 32 Hi-Mod Epoxy, high-modulus, two-component, solvent-free, moisture-insensitive, structural epoxy adhesive conforming to current ASTM C 881, as manufactured by Sika Corporation (201) 933-8800, or approved equal.

C. **Abrasive Blasting Aggregate (If Required):** Use only aggregate which does not release free silica into the air.

D. **Water:** Potable, free of deleterious amounts of oils, rust, acids, alkalies and organic matter.

2.5 SUBSTITUTIONS:

The use of other than the specified product will be considered providing the contractor requests its use in writing to the Engineer. This request shall be accompanied by (a): A certificate of compliance from an approved independent testing laboratory that the proposed substitute product meets or exceeds the specified performance criteria, tested in accordance with the specified test standards; and (b): Documented proof that the proposed substitute product has a five year proven record of performance, confirmed by actual field tests and five successful installations that the Engineer can investigate.

PART 2 - EXECUTION

3.01 GENERAL PROCEDURES

- A. It is the Contractor's responsibility to locate and remove all defective exposed concrete on all deck surfaces exposed for waterproofing. In general, all deteriorated concrete must be removed until sound concrete is reached. Follow manufacturer's instructions and methods for patch preparation and installation for selected concrete patching products.
- B. The Contractor is advised that the Drawings and Specifications do not undertake to illustrate or describe every item, detail or location of work necessary to complete this Project. The Documents intend to convey quantities of work insofar as they have been determined visually prior to full access to the building, and these quantities at a minimum shall be included in the Base Bid.
- C. **Previous Coatings:** Prior to commencement of patching, remove all previous coatings, waterproofing, etc. that may interfere with the compatibility and integrity of the patching and mortar products. Shot-blasting shall be an acceptable means of removing previous coatings.
- D. **Survey Mark-Ups:** Mark all areas of hollowness or losses on the deck and on copies of the Drawings supplied by the Architect.
- E. **Architect's Verification of Survey:** After marking locations of hollowness and losses, inform Architect to come to the site to inspect these areas. Architect will inspect the areas and confirm the removals and quantities for repair.
- F. **Coordination:** Coordinate all concrete repairs with waterproofing installation to maintain watertight conditions.

3.02 PREPARATION

- A. **Inspection:** Visually inspect and sound all exposed concrete 100% on deck and exposed vertical concrete surfaces.
- B. **Removals:** Remove all eminent spalls, cracked, loose, rust-stained and deteriorated concrete. Prepare all defective locations as specified. All rebar exposed by sounding or spalling must be fully exposed (360°) as described below:

1. Length of deteriorated concrete areas to be removed on vertical surfaces: Remove concrete as specified from around 100% of the circumference of rebars in both directions along length of bar until minimum 1" of clean, un-corroded rebar is exposed.
 2. Depth of deteriorated concrete areas to be removed: Voids containing rebar must be deep enough to provide 1" minimum clearance between the back of rebar and the back of the void. Voids which do not contain rebar must be a minimum of 3" deep.
 3. Surface width of deteriorated concrete areas to be removed: Voids containing rebar must be wide enough to provide 4" of clearance on each side of rebar. Width of voids not containing rebar shall have concrete removed a minimum of 3" across in all directions.
- C. Cutting:** At locations where the reinforcing steel is back far enough from the surface of the concrete to allow for proper patching (3" min), use grinders to square and undercut the outline of patch openings. Grinder should be held on a minimum 10 degree angle when cutting concrete to form an undercut void, allowing for a keyed patch. Do not cut into or through rebars with grinders.
- D. Removals:** Remove concrete from within patch outline. A minimum depth of 3/8 inches shall be provided at all edges of the patch. Do **not** hit rebars with hammers, chisels or power tools during removal process. The bond between unexposed rebar and concrete will be broken if rebar is hit or vibrated.
- F.** At all locations where spalls have occurred, the spalls shall be removed adequately to expose the condition of the reinforcing bars and the extent of deterioration. Reinforcing bars that have lost more than 10% of their section shall be reinforced by splicing with additional bars as required and as recommended by the Architect on a case-by-case basis.
- G.** The Contractor shall clean 100% circumference of exposed rebars to bright, white metal. Conform to Specification #SSPC-SPG-63 - Commercial Blast Cleaning. Pay special attention to cleaning the back of the rebar. The contractor shall also clean any exposed steel sleeves for railing post system encountered.
1. Abrasive blasting is preferred, provided the Contractor follows local code restrictions and employs equipment that provides full containment of abrasive grit and residues, or retains such materials by vacuum in a closed cycle.
 2. Power wire brushing will be acceptable, provided the Contractor meets the requirements of this specification and the requirements of manufacturers whose products depend on this preparation.
- H.** The surface must be mechanically prepared. Areas to be patched must be clean and sound. All loose and deteriorated concrete shall be removed by mechanical means approved by the Engineer. Chip concrete substrate to obtain a surface profile of + 1 inch min, with fractured aggregate surface. Be sure the area to be patched is not less than 1 in. in depth. Scrape and sandblast reinforcing steel to remove all contaminants and rust. Where reinforcing steel is encountered, the following procedures will be used. If reinforcing bar is exposed, chip out behind the reinforcing bar. The distance chipped behind the reinforcing bar shall equal or

exceed the diameter of the reinforcing bar. Expose corroded rebar 4 in. beyond end of corrosion to expose sound uncorroded steel.

- I. Cracks in the substrate in the area of the patching or overlay work must be treated as directed by the Engineer.
- J. Extend all existing control and expansion joints through any patch or overlay. Install new joints as directed by the Engineer. Fill all joints as directed by the Engineer.
- K. **Rebar Coating and installation of pins:** Prime rebar and sleeves as soon as possible, but preferably within three (3) hours of cleaning, using specified primer and following manufacturer's instructions. Apply two (2) coats of primer. The second application should be of a slightly different shade to differentiate the two (2) coats. Make sure that the primer coats 100% of the exposed rebar surface. Allow primer to cure properly before proceeding. Avoid spilling or over-brushing primer on back or sides of void in concrete substrate unless manufacturer recommends the primer's use, and the Contractor uses it, as a bonding agent. (Any bonding agent must be overlaid with patching compound while still tacky.) Follow manufacturer's recommendations for curing of rebar coating. Provide and install pins as described in the drawings details.

3.03 TROWEL-APPLIED PATCH APPLICATION

- A. **Mixing:** Mix and apply specified patching compound following manufacturer's instructions. Match texture and profile of surrounding concrete.
 - 1. Do not apply patching compound when ambient temperatures are below 40 degrees F. or above 80 degrees F. or are predicted to be either within 48 hours of installation. Do not apply patching compound on substrates with ice or frost or which have been below 40 degrees F. for at least 48 hours prior to installation. Contractor shall install thermometer on each facade of building to monitor temperatures as work progresses.
 - 2. At all locations the area of concrete removed on the backside of the any/all steel to allow for proper cleaning and painting of the steel shall be fully patched. Do not patch areas of damaged concrete smaller than 3"x 3" but remove any loose concrete and prepare surface to same as for patching and enlarge void to minimum size for patching.
 - 3. At all areas of damaged concrete to receive trowel-applied patch, form a squared opening with keyed edges, as wide as is required and with minimum depth of 1".
 - 4. **Patches are applied in lifts of 1/2" or as directed by the manufacturer's representative for complete warranty**

3.04 CURING PATCHES

- A. **General:** Protect freshly placed patching compound from premature drying and excessive cold or hot temperatures. Follow manufacturer's directions for curing fresh patches.
- B. **Formwork Removal:** Formwork shall be left in place no less than seven (7) days to provide a proper cure. Formwork shall be stripped only after recasting concrete is sufficiently hard to

not be damaged by formwork removal operations.

- C.** Repair and patch defective areas of recast concrete with cement mortar immediately after removal of forms. Follow manufacturer's recommendations.
- D.** **Start of Curing:** Start curing process immediately after installation of patching/recasting compound.
- E.** **Curing:** A combination of wet burlap and polyethylene sheet or a pre-combined product called "Burlene" shall be secured tightly over the fresh concrete. Smooth the wet burlap and polyethylene tightly over the surface. Secure with duct tape or other approved means that will not cause damage to the concrete. Material must be held in tight contact with the concrete surface, especially at edges. Burlap must be continuously moist. Keep finished repair moist for a period of seven (7) days minimum. Refer to ACI 308, "Standard Practice for Curing Concrete." In cold weather conditions, the finished repair must be protected from freezing.
- E.** **Architect's Inspection:** Inform Architect when patching is complete and has cured. Architect will inspect completed patching from Contractor's scaffold.

3.05 CLEANING

- A.** The applicator shall promptly remove all temporary coverings and protections of adjacent work areas and will clean these areas of all foreign materials resulting from their work.
- B.** The uncured polymer-modified Portland cement mortar can be cleaned from tools with water. The cured polymer-modified Portland cement mortar can only be removed mechanically.
- C.** Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

END OF SECTION 03 01 00

SECTION 03 13 00 – PERVIOUS CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The Work to be completed includes the furnishing of all labor, materials and equipment necessary for construction of Portland Cement Pervious Concrete topping slabs conforming with the plans and specifications

1.02 RELATED SECTIONS

- A. Section 02 41 19 – Selective Demolition
- B. Section 04 43 00 – Stone Masonry
- C. Section 05 12 00 - Structural Steel
- D. Section 22 14 26 - Drains
- E. Section 32 12 00 – Asphalt Paving
- F. Section 07 51 13 – Built Up Modified Bitumen Roofing

1.03 REFERENCES

References and industry standards listed in this Section are applicable to the Work. Unless more restrictive criteria or differing requirements are explicitly stated in the Specifications, or mandated by governing codes or regulations, the recommendations, suggestions, and requirements described in the referenced standards shall be deemed mandatory and applicable to the Work.

- A. American Concrete Institute
 - 1. Concrete Field Testing Technician Grade I
- B. American Society for Testing and Materials
 - 1. ASTM C 29 “Test for Bulk Density (Unit Weight) and Voids in Aggregate ASTM C33 “Specification for Concrete Aggregates”
 - 2. ASTM C 33 “Specification for Concrete Aggregates”
 - 3. ASTM C 94 “Specification for Ready-Mixed Concrete”
 - 4. ASTM C 150 “Specification for Portland Cement”
 - 5. ASTM C 260 “Specification for Air-Entraining Admixtures for Concrete”
 - 6. ASTM C 494 “Specification for Chemical Admixtures for Concrete”
 - 7. ASTM C 595 “Specification for Blended Hydraulic Cements”
 - 8. ASTM C 618 “Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.”
 - 9. ASTM C 685 “Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing”

10. ASTM C 989 "Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars."
11. ASTM C 1438 "Standard Specification for Latex and Powder Modifiers for Hydraulic Cement Concrete and Mortar."
12. ASTM C 1602 "Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete"
13. ASTM C 1688 "Standard Test Method for Density and Void Content of Freshly Mixed Pervious Concrete"
14. ASTM C 1701/C1701M "Standard Test Method for Infiltration Rate of In Place Pervious Concrete"
15. ASTM C 1751 "Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)"
16. ASTM C 1752 "Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction."
17. ASTM D 994 "Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type)"
18. ASTM E 329 "Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction."

C. National Ready Mixed Concrete Association

1. Text Reference for Pervious Concrete Contractor Certification

1.04 QUALITY ASSURANCE

A. The Contractor or Pervious Concrete Subcontractor:

1. Shall Submit:
 - a. Evidence of two successful pervious concrete pavement projects including: the project name and address, owner's name, contact information and size of each project.
 - b. Verification of current NRMCA Certification requirements described below:
2. Shall meet, at the time of bidding: one of the following criteria for the minimum certification for each placement crew and submit verification of NRMCA Pervious Concrete Certification with the bid.
 (http://www.nrmca.org/Education/Certifications/Pervious_Contractor.htm)
 - a. The pervious concrete subcontractor shall employ no less than one (1) NRMCA Certified Pervious Concrete Craftsman who must be onsite, actively

guiding and working with each placement crew during all pervious concrete placement.

- b. The pervious concrete subcontractor shall employ no less than three (3) NRMCA Certified Pervious Concrete Installers who must be onsite, actively guiding and working with pervious concrete for projects.
 - c. The pervious concrete subcontractor shall employ no less than three (3) NRMCA Pervious Concrete technicians and one (1) Pervious Installer who shall be onsite, actively guiding and working with each placement crew during all pervious concrete placement.
- B. Performance: Upon completion of the initial curing, the pervious concrete shall be tested for initial baseline infiltration in accordance with ASTM C1701. The rate shall be a minimum of 100 inches per hour.

1.05 SUBMITTALS

Before starting work, submit the following:

- A. Product Data – Concrete Materials
 - 1. Proposed concrete mixture proportions including all material weights, volumes, density (unit weight), water / cementitious ratio, and void content. The mix design shall not specify a compressive or flexural strength.
 - 2. Aggregate type, source and gradation.
 - 3. Cement, fly ash, ground granulated blast-furnace slag and admixture manufacturer certifications.
 - 4. Cured weight
- B. Qualifications: Evidence of qualifications listed under Quality Assurance.
- C. Project details: Specific plans, details, schedule, construction procedures and quality control plan.
- D. Test Panel:
 - 1. Construct Test panel(s) to meet requirements of contract documents. Place a minimum one 225 sq. ft panel. Provide joints and curing using materials, equipment, and personnel proposed for the project as described in Section 1.02.B. Coordinate location of test panels with Owner and Architect/Engineer.
 - 2. The test panel shall be tested for acceptance in accordance with section 3.08 Quality Control.
 - 3. An approved test panel will be used as quality control for the project and may be incorporated into the project if of acceptable quality.
 - 4. Remove and legally dispose of all materials used for test panels not approved and all excess materials.
 - 5. Provide shop drawing signed and sealed by NY licensed structural engineer confirming weight is adequate for plaza loading.

PART 2 - MATERIALS

2.01 Materials:

- A. Cement: Portland cement Type II or V conforming to ASTM C150 or Portland cement Type IP or IS conforming to ASTM C595.
- B. Supplementary Cementitious Materials:
 - 1. Class F Fly Ash: ASTM C618
 - 2. Ground Granulated Blast-Furnace Slag: ASTM C989
- C. Chemical Admixtures: 1. Air entraining agents shall comply with ASTM C260. 2. Chemical Admixtures shall comply with ASTM C494. 3. Latex bonding agents shall comply with ASTM C1438.
- D. Aggregates: Coarse lightweight Aggregate: ASTM C33. The maximum size and gradation shall meet the project criteria for surface appearance and void content.
- E. Water: ASTM C 1602. F. Isolation Joint Material: Shall comply with ASTM D994, D1751, or D1752

2.02 Mixture Proportions:

The composition of the proposed concrete mixtures shall be submitted to Architect representative for review and shall comply with the following provisions unless an alternative composition is demonstrated to comply with the project requirements. Conform to all requirements for pavements and walkways.

- A. Cementitious Content: Comply with the approved mix design.
 - 1. Supplementary cementitious content:
 - a. Fly ash: 25% maximum of the total cementitious material or in accordance with approved mix design.
 - b. Slag: 40% maximum of the total cementitious material or in accordance with approved mix design.
- B. Water / Cementitious Ratio Shall range between 0.27 lb/lb and 0.31 lb/lb. or in accordance with approved mix design.
- C. Aggregate Content: As appropriate for approved mix design.
- D. Admixtures: Use in accordance with approved mix design.
- E. Mix Water: as appropriate for approved mix design.
- F. Color: Pigments to be selected by the architect.

PART 3 - EXECUTION

3.01 Subgrade: Verify subgrade preparation, grade, and conduct permeability and density and density tests for conformance to project requirements and is acceptable for installation of pervious concrete.

3.02 Recharge Basin (Detention Basin): When base material is used under pervious concrete for water recharge, it shall be composed of uniform sized aggregate conforming to ASTM C33, minimum size 6. For minimum void content, refer to civil or geotechnical contract documents. **3.03 Formwork:** Form materials: any material permitted by AHJ and of sufficient strength and stability to support mechanical equipment without deformation of plan profiles following spreading, strike-off and compaction operations.

3.03 Formwork: Form materials: any material permitted and of sufficient strength and stability to support mechanical equipment without deformation of plan profiles following spreading, strike-off and compaction operations.

3.04 Mixing and Hauling:

- A. Production: Pervious concrete shall be manufactured and delivered in accordance with applicable sections of ASTM C 94 or ASTM C 685. B. Mixing: Pervious concrete shall be produced in central mixers, transit mixers or in volumetric mixers.
- B. Delivery: Deliver pervious concrete directly from the mixer by means of conveyer as close as possible to final position.
- C. Discharge: Each truckload will be visually inspected for consistency of concrete mixture. Job site water additions are permitted to obtain and maintain the required mix consistency throughout the discharge. Discharge shall be a continuous operation. Concrete shall be deposited as close to its final position as practical and such that discharged concrete is incorporated into previously placed plastic concrete.

3.05 Placing and Finishing: Shall comply with the content of the National Ready Mixed Concrete Association's 'Text Reference for Pervious Concrete Contractor Certification' with the following provisions:

- A. Internal vibration shall not be permitted. Use mechanical screed equipment. Do not use hand screeds except in confined and small areas. Cross roll compacted concrete to remove any screeding and compaction marks on the concrete surface.
- B. Compact to the required cross-section and shall not deviate more than + 3/8 inch in 10 feet from profile grade.
- C. Slope to drains at a minimum of 1/8" per/ft.

3.06 Jointing

- A. Joints shall be installed at locations and to depths shown on the project plans.
- B. Control (contraction) joints shall be installed at regular intervals not to exceed 1.5 times the width of the placement or 20 feet, or in accordance with approved joint placement plan. The control joints shall be 6 installed at 1/4 the thickness of the pavement but not to exceed 1-1/2".

These joints can be installed in the plastic concrete or saw cut after the concrete has hardened. New joints in plastic concrete or recently hardened concrete shall align with joints in older concrete. Joints abutting curbs and other fixed concrete shall be installed within 10 degrees of perpendicular to the older concrete as possible.

1. Control joints to match those in reset asphalt pavers
 2. Expansion joints to match existing locations.
- C. Install joints to match approved sample.
- D. Transverse construction joints: Install whenever placing is suspended for 20 minutes or whenever concrete is no longer workable.
- E. Do not dowel longitudinal joints between successive placements.
- F. Isolation joints: Use when abutting fixed vertical structures. Place isolation material before concrete is placed and to the depth of the pavement section.

3.07 Curing

- A. Final curing procedures shall begin no later than 20 minutes after the concrete has been discharged from the mixer. The pavement surface shall be covered with a minimum of six (6) mil thick white or clear polyethylene sheet or other approved covering material. In cold weather black plastic may be used to aid in heat retention. The cover shall prevent air infiltration to the fresh concrete and shall overlap all exposed edges and shall be secured to prevent dislocation due to winds or adjacent traffic conditions.
- D. The curing cover shall remain securely in place for a minimum of 7 days.

3.08 Quality Control

- A. The contractor shall employ a testing laboratory that conforms to the requirements of ASTM E329 and ASTM C1077. All personnel engaged in testing shall be certified by the American Concrete Institute as ACI Concrete Field Technicians or equivalent and shall be certified by NRMCA as a Pervious Concrete Technician.
- B. Prior to each placement, the formed thickness shall be at least the design thickness testing within -0" to +3/4".
- C. Plastic concrete shall be sampled in accordance with ASTM C 172 and density (unit weight) measured in accordance with ASTM C 1688. The density (unit weight) of the delivered concrete shall be +/- 5 pcf of the design density (unit weight).
- D. Plastic void content shall be calculated as per ASTM C1688 Gravimetric Air Determination and compared to the void percentage required by the hydraulic design. E. Upon completion of initial curing, the pervious concrete shall be tested for a baseline infiltration rate using ASTM C1701.

END OF SECTION 03 13 00 – PERVIOUS CONCRETE

SECTION 033053 - MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes.
- B. Extent of new concrete curbs is as indicated on Drawings, as specified herein, and as required by conditions and regulatory authorities, for the proper completion of the work.
- C. Briefly, and without force and effect upon Contract Documents, work of this Section includes, the following:
 - 1. Concrete curb construction at planter #1
 - 2. Sidewalk flag reconstruction

1.3 RELATED WORK SPECIFIED ELSEWHERE

Section 02 41 19 - Selective Demolition
Section 06 10 00 - Rough Carpentry
Section 04 43 00 - Stone Masonry

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Provide shop drawings of new curbs designed, signed and sealed by a NYC licensed structural engineer.
- C. Builders Pavement Plan

1.5 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. Comply with the following sections of ACI 301 (ACI 301M) unless modified by requirements in the Contract Documents:
 - 1. "General Requirements."
 - 2. "Formwork and Formwork Accessories."
 - 3. "Reinforcement and Reinforcement Supports."
 - 4. "Concrete Mixtures."
 - 5. "Handling, Placing, and Constructing."
 - 6. "Lightweight Concrete."
- B. Comply with ACI 117 (ACI 117M).

2.2 STEEL REINFORCEMENT

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
- B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- C. Plain-Steel Wire: ASTM A 1064/A 1064M, as drawn.
- D. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.
- E. Deformed-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, flat sheet.

2.3 CONCRETE MATERIALS

- A. Regional Materials: Concrete shall be manufactured within 500 miles of Project site from aggregates and cementitious materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
- 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. Cementitious Materials:
 - 1. Portland Cement: ASTM C 150/C 150M, Type I
 - 2. Fly Ash: ASTM C 618, Class C or F.
 - 3. Slag Cement: ASTM C 989/C 989M, Grade 100 or 120.
 - 4. Blended Hydraulic Cement: ASTM C 595/C 595M

Normal-Weight Aggregate: ASTM C 33/C 33M, 1-1/2-inch nominal maximum aggregate size.

- E. Lightweight Aggregate: ASTM C 330/C 330M, 1-inch nominal maximum aggregate size.

- F. Air-Entraining Admixture: ASTM C 260/C 260M.
- G. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
 - 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
 - 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.
- H. Water: ASTM C 94/C 94M.

2.4 FIBER REINFORCEMENT

- A. Synthetic Micro-Fiber: fibrillated polypropylene micro-fibers engineered and designed for use in concrete, complying with ASTM C 1116/C 1116M, Type III, 1/2 to 1-1/2 inches long.

2.5 RELATED MATERIALS

- A. Vapor Retarder: Plastic sheet, ASTM E 1745, Class A or B.
- B. Vapor Retarder: Polyethylene sheet, ASTM D 4397, not less than 40 mils thick; or plastic sheet, ASTM E 1745, Class C.
- C. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

2.6 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth or cotton mats.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- F. Clear, Waterborne Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.
 - 1. VOC Content: 200 g/L or less.

2.7 CONCRETE MIXTURES

- A. Comply with ACI 301 (ACI 301M).
- B. Normal-Weight Concrete:
 - 1. Minimum Compressive Strength: 4000 psi at 28 days.
 - 2. Maximum W/C Ratio: 0.50
 - 3. Cementitious Materials: Use fly ash, pozzolan, slag cement, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.
 - 4. Slump Limit: 5 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch.
 - 5. Air Content: Maintain within range permitted by ACI 301 (ACI 301M). Do not allow air content of trowel-finished floor slabs to exceed 3 percent.
- C. Structural Lightweight Concrete Mix: ASTM C 330/C 330M, proportioned to produce concrete with a minimum compressive strength of 3000 psi at 28 days and a calculated equilibrium unit weight of 110 lb/cu. ft. plus or minus 3 lb/cu. ft. as determined by ASTM C 567/C 567M. Concrete slump at point of placement shall be the minimum necessary for efficient mixing, placing, and finishing.
 - 1. Limit slump to 5 inches (125 mm) for troweled slabs and 4 inches (100 mm) for other slabs.
- D. Synthetic Fiber: Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than a rate of 1.0 lb/cu. yd. (0.60 kg/cu. m).

2.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116, and furnish batch ticket information.
 - 1. When air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
 - 1. For mixer capacity of 1 cu. yd. (0.76 cu. m) or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
 - 2. For mixer capacity larger than 1 cu. yd. (0.76 cu. m), increase mixing time by 15 seconds for each additional 1 cu. yd. (0.76 cu. m).
 - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

- A. Design, construct, erect, brace, and maintain formwork according to ACI 301 (ACI 301M).

3.2 EMBEDDED ITEM INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 VAPOR-RETARDER INSTALLATION

- A. Install, protect, and repair vapor retarders according to ASTM E 1643; place sheets in position with longest dimension parallel with direction of pour.
 - 1. Lap joints 6 inches (150 mm) and seal with manufacturer's recommended adhesive or joint tape.

3.4 STEEL REINFORCEMENT INSTALLATION

- A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
 - 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.5 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:
 - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
 - 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.

3.6 CONCRETE PLACEMENT

- A. Comply with ACI 301 (ACI 301M) for placing concrete.
- B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 (ACI 301M).
- C. Do not add water to concrete during delivery, at Project site, or during placement.
- D. Consolidate concrete with mechanical vibrating equipment according to ACI 301 (ACI 301M).
- E. Equipment Bases and Foundations:
 - 1. Coordinate sizes and locations of concrete bases with actual equipment provided.
 - 2. Construct concrete bases 8 inches and 6 inches high unless otherwise indicated; and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.
 - 3. Minimum Compressive Strength: 4000 psi at 28 days.
 - 4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 12-inch (450-mm) centers around the full perimeter of concrete base.
 - 5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base, and anchor them into structural concrete substrate.
 - 6. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 7. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.7 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections exceeding 1/2 inch
 - 1. Apply to concrete surfaces not exposed to public view.

3.8 FINISHING UNFORMED SURFACES

- A. General: Comply with ACI 302.1R for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on surface.
 - 1. Do not further disturb surfaces before starting finishing operations.
- C. Scratch Finish: Apply scratch finish to surfaces indicated and surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, portland cement terrazzo, and other bonded cementitious floor finishes unless otherwise indicated.
- D. Float Finish: Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, fluid-applied or direct-to-deck-applied membrane roofing, or sand-bed terrazzo.

- E. Trowel Finish: Apply a hard trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.
- F. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either thickset or thinset methods. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.
- G. Slip-Resistive Broom Finish: Apply a slip-resistive finish to surfaces indicated and to exterior concrete platforms, steps, and ramps. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.

3.9 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 301 (ACI 301M) for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- D. Curing Methods: Cure formed and unformed concrete for at least seven days by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - 4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Tests: Perform according to ACI 301 (ACI 301M).

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
2. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. (76 cu. m) or fraction thereof of each concrete mixture placed each day.

END OF SECTION 033053

SECTION 04 43 00 – STONE MASONRY

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

1.2 SUMMARY

- A. Work: Briefly and without force and effect upon Contract
 - 1. Granite bricks at plaza planter, parapet and selective exterior wall locations
 - 2. Coping stones to be reinstalled
 - 3. New copings (allowance)
 - 4. Metal anchors and accessories
 - 5. Vapor Barrier installation and insulation if any
- A. Documents, work of this Section shall include furnishing all labor and materials for, but not be limited to, the following:

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02 41 19 – Selective Demolition
- B. Section 07 92 00 – Joint Sealers
- C. Section 02 51 20 – Asphalt Paving
- D. Section 03 30 53 – Cast-In-Place Concrete
- E. Section 07 51 13 – Waterproofing
- F. Section 07 62 00 – Flashing and Sheet Metal

1.4 REFERENCE STANDARDS

- ASTM C 270 - Standard Specification for Mortar for Unit Masonry
- ASTM C 615 - Standard Specification for Granite Dimension Stone
- BSI - Building Stone Institute
- IMIAWC (CW) - Recommended Practices & Guide Specifications for Cold Weather Masonry Construction; International Masonry Industry All-Weather Council
- NBGQA - National Building Granite Quarries Association.

1.5 QUALITY ASSURANCE

- A. Source of Materials: A. Stone Fabricator Qualifications: Company specializing in fabricating cut stone with minimum ten years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type required by this section, with minimum five years of documented experience.
- C. The Architect reserves the right to visit the fabricating facilities of the Subcontractor at any time

when the work is in progress. All shop and field materials and workmanship shall be subject to inspection by the Architect at all times. Such inspections do not relieve the Contractor from obligations to provide materials conforming to all requirements of the Contract Documents. Battery Park City Leak Remediation Design BID ISSUE May 11, 2018

- D. The Contractor, by commencing the work of this Section, assumes overall responsibility, as part of his warranty of the work, to assure that all assemblies, components and parts shown or required within the work of this Section, comply with the Contract Documents. The Contractor shall further warrant:
1. That all components, specified or required to satisfactorily complete the installation, are compatible with each other and with the conditions of installation and expected use.
 2. The overall effective integration and correctness of individual parts and the whole of the systems.
 3. Compatibility with adjoining substrates, materials and work of other trades.
 4. There shall be no premature material failure due to improper design and fabrication of the stone. All materials are to fully perform to their normal life expectancy.
 5. Each and every piece of stone shall be subject to the Architect's approval, and any piece or pieces which may be rejected after having been set shall be carefully cut out and replaced with new suitable stone without delay, and without cost to the Owner. Any piece or pieces damaged in the removal and resetting of the defective pieces shall also be removed, and suitable, approved pieces provided and set.
- E. Architect's inspection of the stone does not relieve the Contractor from his responsibility to provide all stonework in accordance with the approved samples and shop drawings.
- B. Guarantee: In accordance with the Article of "GUARANTEES" in the "General Conditions", the Contractor guarantees that the assembly shall be watertight and free from defects as to materials, installation and/or workmanship, for a period of five (5) years from the date of acceptance of the completed project by the Owner.

During the five year guarantee period, the Contractor agrees to promptly repair, replace, restore or rebuild, as the Owner may determine, any finished Work in which defects of materials or workmanship may appear or to which damage may occur because of such defects at no cost to the Owner.

1.6 SUBMITTALS

- A. Product Data: Submit product data for all materials used in the work of this Section, whether specified or not.
- B. Material Samples: Submit for verification purposes samples of all materials used in the work of this Section, whether specified or not. Samples shall include, but or not limited to, the following:
1. Bricks/Cut Stone: Provide full range of granite bricks.
Submit samples of all materials and finishes and details. Samples include standard submission samples, visual mock-up samples, sample slabs, production samples, and additional samples as described below.
 - a. Submit two stone samples illustrating minimum and maximum stone sizes, color

range, texture, and markings.

- b. Samples shall demonstrate the complete range of visual properties of the material and finish as specified.
 - c. Samples shall represent the single exposed surface grain, i.e. head, rift or lift, as proposed by the Contractor and approved by the Architect.
 - 2. Mortar: Provide cured mortar samples to match existing for color verification purposes.
- C. Samples: Prior to ordering the below listed materials, submit representative samples to Architect for selection and approval as follows. Do not order materials until Architect's approval has been obtained. Delivered materials shall closely match the approved samples. Submit duplicate samples of each type listed below showing full range of color variation, finish and texture that can be expected in the permanent work:
- 1. Granite Bricks: Six samples minimum, 2"x12"x4" thick samples showing the full range of color and finish expected in the final work. Label each sample with job name, supplier, color, and finish.
 - 2. Sand: (2) one-pint bags.
 - 3. Expansion Joint Material: 6" length.
 - 4. Mortar: Color Sample, 6" length.
 - 5. Joint Filler Material: (2) one-pint bags.
 - 6. Additional Samples: The Contractor for the Work of this Section shall have available an adequate quantity of matching approved samples as in Item a. above to be provided in order to enable the Architect to coordinate the construction and finishes of other trades
- D. In-Place Samples: Retain acceptable panel during construction as a standard for judging completed work. The samples upon the Architect's approval, will be standard for the entire job.
- 1. Masonry Installation: Prepare a 2 sq ft sample panel for new masonry installation. Use masonry units, mortar, bonding, type of joint and workmanship required for masonry in project. Provide range of color, texture and workmanship expected in completed work.
 - 2. Repointing: Prepare two (2) sample areas of approximately 2'-0" high by 2'-0" wide for type of repointing required, one for demonstrating methods and quality of workmanship expected in removal of mortar from joints, and the other for demonstrating quality of materials and workmanship expected in pointing mortar joints.
 - 3. Sealant Installation: The Contractor shall prepare a sample area of approximately two (2) linear feet for each type of sealant installation required. Refer to section 07 92 00—Joint Sealers.

E. Shop Drawings:

1. Submit detailed shop drawings as specified in Division 1 for any items required by the Architect.
2. Three (3) black and white prints of each shop drawing shall be submitted to the Architect for approval at the earliest possible date.
3. Drawings shall be drawn to the following or a larger scale:
 - a. Plans and Sections: 1/4 inch scale
 - b. Details: 3 inch scale.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Shipping: Carefully pack, handle and ship masonry units and accessories strapped together in suitable packs or pallets. Unload and handle to prevent chipping and breakage.
- B. Delivery: Deliver materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and names of products and manufacturers. Sand and lime shall be delivered to the job site in unopened bags marked with proper ASTM designations. No unmarked materials will be permitted on the site.
- C. Storage: Protect grout, mortar and other materials from deterioration by moisture and temperature. Store in dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

1.7 PROJECT CONDITIONS

- A. Coordination: Coordinate work of this Section with interfacing and adjoining work.
- B. Staining: Prevent grout or mortar from staining adjacent masonry. Remove grout or mortar in contact with masonry immediately. Prevent grout or mortar used in repair work from staining the face of surrounding masonry and other surfaces. Protect sills, ledges and projections from droppings. The use of acid pH cleaners will not be permitted.
- C. Cold Weather Protection: Do not use frozen materials, or materials mixed or coated with ice or frost. Do not use salt to thaw ice in anchor holes or slots or for any other purposes. Do not lower the freezing point of mortar by use of admixtures or anti-freeze agents, and do not use any chlorides in mortar or grout. Do not build on frozen work; remove and replace masonry damaged by frost or freezing. No masonry work shall be performed when:
 - A. Air and substrate temperature is at or below 40 degrees F prior to, during, and for 48 hours after completion of work.
 2. Air and substrate temperature is above 40 degrees F and is predicted to fall lower

within 72 hours.

- D. Hot Weather Protection: Protect mortar from direct sunlight and wind using protection measures submitted and approved when ambient air temperature exceeds 75 degrees F. Do not use or prepare restoration mortar when ambient air temperature is above 90 degrees F at the location of work.
- E. Damage: Damage occurring to the building as a result of work of this Section or Contractor's failure to protect against such damage shall be the Contractor's responsibility. The Contractor shall restore damaged areas to the complete satisfaction of the Architect at no additional expense to the Owner.
- F. Protection: Protect all openings in building wall surfaces during construction with overlapping tarps, for size greater than repair area. Overlap tarps $\frac{1}{4}$ of length; anchor tarps with stainless steel removable anchors set into mortar joints only. No damage to surrounding masonry to remain will be allowed.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Unit Masonry/Granite bricks:
 - 1. Replacement granite masonry to match existing, Olympic Green Granite, Split Face Finish, and to comply with ASTM C615/C615M, *Standard Specification for Granite Dimension Stone*.
 - 2. Replacement granite brick and stone to match color, texture, dimensions and profiles of existing unless otherwise specified.
- B. Stone Quarriers:
 - 1. Vermont Stone Art, 15 North Main Street, Suite 2010, Barre, VT 06841, (802) 476-4480 www.VermontStoneArt.com
 - 2. Trowel Trades Supply, (802) 655-3166
 - 3. Champlain Stone, Ltd; Product Warrensburg, NY 12885, 518.623.2903;; www.champlainstone.com.
 - 4. Approved equal
- C. Surface Textures: Split face wall units with sawn horizontal setting surfaces, honed finish copings , with split faces
 - 1. Stone/granite bricks for walls: Split face, sawn horizontal bed surfaces.
 - 2. Diminiesional stone and copings: All exposed surfaces honed.
- D. Color: Gray-green to match exisiting

E. Mortar Materials

1. Portland Cement: ASTM C 150, Type I - Normal; color as required to produce approved color sample. Minimum of 25% by weight recycled content such as fly ash or silica fume.
2. Packaged Dry Mortar: ASTM C 387/C 387M, Type N, using gray color cement.
3. Hydrated Lime: ASTM C 207, Type S.
4. Quicklime: ASTM C 5, non-hydraulic type.
5. Mortar Aggregate: ASTM C 144.
6. Grout Aggregate: ASTM C 404.
7. Water: Clean and potable.
8. Accelerating Admixture: Nonchloride type for use in cold weather.
 - a. or approved equal
9. Moisture-Resistant Admixture: Water repellent compound designed to reduce capillarity.
 - a. or approved equal
10. Bonding Agent: Latex type.

F. Mortar Mixes

1. Mortar for Unit Masonry: ASTM C 270, Property Specification.
2. Setting Mortar: ASTM C 270, Type S
3. Pointing Mortar: Type N using the Property Method in ASTM C 270.
 - a. Color: 88A CHARCOAL
 - b. Provide mortar manufactured by:
Lehigh Heidelberg Cement Group, 66 Demarest Road, Sparta NJ, 973-579-2111

2.3 MASONRY TIES AND REINFORCEMENT

- A. Metal Components - General: All metal components required for the work of this Section shall be made of stainless steel type 302/304 unless specifically stated otherwise in the Drawings or the Specifications.
- B. Brick Ties for Anchoring New Brick to Back-UP: # HB 213 Adjustable veneer anchor manufactured by Hohmann & Barnard Inc. (800-645-0616), or approved equal. Secure with Metal Hit Anchors, stainless steel, minimum 2" long, as manufactured by Hilti.
- C. Brick Ties for Anchoring New Bricks to Columns: D/A-F/P and D/A-F/RA Column Flange Anchors, 1/4" diameter, stainless steel, length as required, as manufactured by Dur-O-Wal or approved equal..
- D. Expansion-Joint Reinforcement: DA 2200 Joint Stabilizing Anchor, stainless steel, as manufactured by Hohmann & Barnard Inc

2.4 COPING STONE INSTALLATION

- A. Rods for Securing Coping Stones: 6" by 1/4" diameter threaded stainless steel eyebolts and 4" stainless steel dowels.
- B. New Coping Stone Setting: Provide new granite coping stone to match existing. Finished height of parapet including coping stones shall match all existing heights from finished plaza surface unless otherwise noted.
- C. Flashing: Install copper thru-wall flashing on top of rebuilt parapet. Provide adequate galvanic protection between dissimilar metals. Seal all penetrations through flashing.
- D. Anchoring: Drill 3/8" diameter by 2" deep holes in the ends of all stones.
- E. Installation: Set coping stones in mortar on top of copper thru-wall flashing. Insert eyebolts and dowels at the transverse joints in two-part epoxy and as shown on Drawings. Leave transverse joints free of mortar.
- F. Joint Treatment: Install backer rod, sealant and lead joint cap in transverse coping stone joints as specified in Section 07900 – Joint Sealers.

2.5 COPING STONE RESETTING

- A. Removal: Carefully remove existing coping stones designated for resetting. Removal of stone shall be performed taking care not to damage stones or adjacent materials. Original stones shall be carefully cleaned of old mortar, caulk, soil and other materials which might inhibit their reuse. Unobtrusively label each coping stone so that stones can be reset in the same location from which they were removed
- B. Flashing: Install copper thru-wall flashing on top of parapet set in mortar. Seal all penetrations through flashing. Provide adequate galvanic protection between dissimilar metals. Integrate into adjacent masonry and provide end dams where coping stones abut vertical masonry. Overlap if necessary where coping stone levels vary.
- C. Anchoring: Drill 3/8" diameter x 3" deep holes in the ends of stones abutting masonry.
- D. Installation: Reset coping stones in mortar on top of copper thru-wall flashing. Insert stainless steel eyebolts at transverse joints in two-part epoxy. Seal all penetrations through flashing. Insert dowels through eyebolts into edges of coping stones. Refer to Drawings.
- E. Transverse Joint Treatment: Back point transverse joints at copings before sealant is installed. Install backer rod, sealant and lead joint cap in transverse coping stone joints as specified in Section 07900 – Joint Sealers

2.6 MISCELLANEOUS MATERIALS/ACCESSORIES

- A. Weeps: Quadro-Vent's honeycomb design by H& B Standard size: 3/8" x 2 1/2" x 3 3/8" Jumbo size: 3/8" x 3 1/2" x 3 1/2" (grey)
- B. Inner-Wall Flashing Membrane: As specified on the drawings or otherwise PERM-A-BARRIER Wall Flashing, as manufactured by Grace Construction Products (800-444-6459) or approved equal.
- C. Inner-Wall Flashing Mastic/Sealant: As specified on the drawings or otherwise "EM-3000" Bituthene Mastic, as manufactured by Grace Construction Products (800-444-6459) or approved equal.
- D. Inner-Wall Flashing Primer: As specified on the drawings or otherwise PERM-A-BARRIER Surface Conditioner, as manufactured by Grace Construction Products (800-444-6459) or approved equal.
- E. Termination Bar: 1/8" natural anodized aluminum break-formed at top edge to receive sealant. Refer to Section 07 60 00 – Flashing and Sheet Metal.
- F. Metal Flashing: 20-oz lead-coated copper. Refer to Section 07 60 00 – Flashing and Sheet Metal.
- G. Sealant: Refer to Section 07 92 00 – Joint Sealer.
- H. Backer Rod: As manufactured by BASF or approved equal. Refer to Section 07 92 00 – Joint Sealers or approved equal.
- I. Compressible Filler: As manufactured by BASF or approved equal. Refer to Section 07 92 00 – Joint Sealers or approved equal.
- J. Epoxy: Sikadur 32, Hi-Mod, as manufactured by Sika Corporation (201-933-8800) or approved equal.
- K. Lintels (if needed): Hot Dipped Galvanized; Comply with ASTM A 36 Standard Specification for Carbon Structural Steel and ASTM A 53. Size shall and shape shall match existing.
- L. Dowels: 1/4" – 1/2" stainless steel
- M. Drip Edge: Stainless steel drip edge. Refer to section 07 62 00, Flashing and Sheet Metal
- N. Steel Primer and Finish Paint: Refer to Section 09 91 00 – Painting.

PART 3 - EXECUTION

3.1 GENERAL

- A. Brick Ties: New brickwork installation shall be tied to adjacent masonry with a minimum of one (1) stainless steel tie per two (2) square feet.

- B. Lintel and shelf angel Flashing: Flashing membrane shall be installed over new lintels. Flashing shall be adhered to back-up material. Flashing membrane shall be secured at top edge to back-up material with aluminum termination bar.
- C. Weep: If the brickwork to be rebuilt is directly above flashing, weep shall be installed and staggered on 16" horizontal centers in the course of brickwork sitting directly on flashing as well as the second course above flashing.
- D. Galvanic Separation: Provide adequate galvanic separation between dissimilar metals. Seal flashing at all penetrations.
- E. Steel: All steel exposed during the course of the work shall be scraped, cleaned with wire brushes, primed and flashed. Contractor shall inspect all exposed steel scheduled to remain and bring steel that has lost more than 10% of its thickness to the attention of the Architect.
- F. Shoring: Provide adequate temporary shoring as necessary to perform the work described herein. Remove and dispose of temporary shoring when completed.

3.2 REMOVAL

- A. Removal: Removal shall proceed in an orderly manner minimizing noise or other disturbances to the operations of adjacent facilities. All debris and refuse to be removed from building at end of each working day.
- B. Shoring: Adequate shoring must be provided by the contractor, and designed by the contractor or an engineer retained by the contractor, for all masonry demolition work. The shoring must be designed to prevent any movement or damage to adjacent masonry. Remove and dispose of temporary shoring when completed.
- C. Disposal: All construction debris must be disposed of legally.

1.3 MORTAR MIXING

- A. General: Mix mortar materials in the specified proportions to mach appearance of existing mortar. Do not adjust proportions without prior written approval of the Architect.
- B. Measurement and Mixing: Measure cementitious and aggregate material in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer for 3 to 5 minutes.
 - 1. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Add remaining water in small portions until reaching mortar of a workable consistency. A mortar is workable if its consistency allows it to be spread with little effort and if it will readily adhere to vertical masonry surfaces. Do not make mixture too wet – avoid bleeding of water and segregation of constituents.
 - 2. Water content for setting bed mortar shall contain minimum amount of water

necessary to produce a workable consistency.

3. Let mortar set for 20 minutes prior to use to allow for initial shrinkage. Place mortar within 2 hours of mixing. Do not re-temper or use partially hardened material.
- C. Mortar Pointing Mix: Shall be 1:1:5 (cement/lime/sand) for all brick joints.
- Cement: $\frac{3}{4}$ part White Portland Cement, Type 1 and $\frac{1}{4}$ part Saylor Cement, Type 1
 - Lime: 1 part Hydrated Lime, Type S
 - Aggregate: 5 parts composed of 3 parts Schofield 181 and 2 parts Imperia Brothers Mason Sand.
 - Pigment: Rainbow Dry Colors, color to match existing mortar
- D. Mortar Setting Mix: Shall be 1:1:5 (cement/lime/sand)
- Cement -- $\frac{1}{2}$ part white and $\frac{1}{2}$ Grey Portland Cement, Type 1
 - Lime -- 1 part hydrated lime, Type S
 - Aggregate -- 5 parts sand
- E. Keep mortar damp (80-90% RH) for 72 hours or until mortar is set.
- F. The use of admixtures will not be permitted without prior written approval of the Architect.

3.4 REPOINTING

- A. Extent and Location: After review with Architect and approval, repoint all defective joints in designated area of work.
- B. Cutting: Joints shall be cut and raked back to sound, solid, back-up material, a minimum depth of $\frac{3}{4}$ ", but not more than 1-1/2" in depth. Loose and deteriorated mortar joints in the brickwork shall be raked out using a masonry blade narrower than the joint. Do not widen the joint. Clean all mortar from the joint so that the new pointing mortar bonds to the masonry, not old mortar. Do not spall or chip the masonry edges. Do not cut through bricks at the ends of head joints. Do not cut through adjacent masonry to remain.
- C. Joint Depth: Reinstalled mortar joint depth shall be at least $\frac{3}{4}$ ". Joints shall be raked out deep as the deterioration goes to expose sound mortar. All joints shall be pointed a minimum depth of twice the joint width.
- D. Cleaning: Brush, vacuum, blow out or flush joints to remove dirt and loose debris.
- E. Preparation: Wet surface of masonry adjacent to joint prior to pointing. Maintain a five (5) gallon pressure sprayer filled and on the scaffold at all times that masonry work is in progress. Soak joints thoroughly before pointing. Surface of masonry should be damp but not flooded with water.
- F. Pointing: Place repointing mortar in layers no thick than $\frac{1}{2}$ ". Roughen surface of each layer to provide a key for next.

- G. Tooling: Tool all joints to match historic original joint profile. Do not allow mortar to extend over the edges of the masonry (featheredging). Remove excess mortar from edge of joint or crack by brushing.
- H. Curing: Keep mortar damp (80 - 90% RH) for 72 hours or until set. This shall be accomplished by thoroughly soaking the pointed and patched areas at the beginning and end of each working day until 72 hours have passed.

3.5 STONE BRICK REPLACEMENT:

- A. Extent and Location: Remove as much masonry as necessary to perform repairs, and where directed by the Architect.
- B. Removal: Carefully remove brick by hand. It is the sole responsibility of the Contractor to protect all bricks to remain surrounding cracked bricks or brickwork scheduled for rebuilding. If necessary, the Contractor shall replace other bricks damaged by removal operations.
- C. Shoring: Support and protect remaining masonry which surrounds removal area.
- D. Cleaning: Clean remaining brick at edges of removal areas by removing mortar, dust and loose debris in preparation for rebuilding.
- E. Flashing: Refer to Drawings. Seal all penetrations through flashing. Provide adequate galvanic separation where necessary. Provide staggered weeps as described in Part 3.1 C.
- F. Brick Ties to Spandrel: Install brick ties to spandrels on top of new inner-wall membrane flashing following methods recommended by manufacturer. Seal all penetrations through flashing .
- G. Brick Ties – Back-Up Masonry: Fasten brick ties to back-up masonry with “Metal Hit Anchors” inserted in drilled holes.
- H. Brick Unit Installation: Install new brick to replace and match removed brick. Fit replacement units into bonding and coursing pattern of existing brick. If cutting is required, use motor driven saw designed to cut masonry with clean, sharp, unchipped edges. Lay replacement brick with completely filled bed, head and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet bricks so that units are nearly saturated but surface dry when laid. Maintain joint width for replacement units to match existing.
- I. Tooling: Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
- J. Repointing: Repoint new mortar joints in repaired area to comply with requirements for repointing existing masonry, except rake out joints before mortar sets.

3.6 DIMENSIONAL STONE REINSTALLATION:

- A. Carefully dismantle and non-destructively label stone panels and treads/risers to be dismantled so that they can be returned to their original location.

- B. Following waterproofing installation reinstall dimensional stone in original location.
 - 1. Install stainless steel anchors if required to support panels.
 - 2. Provide 4 stainless steel threaded rods bedded in epoxy at each tread.

3.7 LINTEL AND SHELF ANGLE REPLACEMENT (IF REQUIRED)

- A. Extent and Location: Extent and location of lintel replacement shall be as indicated on Drawings.
- B. Shoring: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made.
- C. Removal: Carefully dismantle distressed brickwork above lintels as required to remove existing lintel and install new lintel. Remove existing corroding lintels.
- D. Replacement Lintels: Install new lintels in size specified for a minimum bearing of 8" at each bearing point. New lintels shall be galvanized steel.
- E. Flashing: Install inner-wall membrane flashing by adhering to back-up material. Flashing shall rise a minimum of 6" up the back of the opening. Top edge shall be secured with an aluminum termination bar and caulked with sealant. Provide end dams. All new membrane flashing shall extend 1" beyond face of rebuilt masonry, and then be cut flush with masonry once it has been reinstalled. Rebuild masonry to match existing.
- F. Weeps: Install weeps in two (2) courses directly above flashing staggered on 16" centers.
- G. Touch-Up Painting: Touch-up paint at exposed area of lintel as necessary.

3.8 FINAL CLEANING

- A. Cleaning: After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water spray applied at low pressure. Clean brickwork and ledges and surfaces below work area at the completion of work.
- B. Scrapers: Use of metal scrapers or brushes will not be permitted.

END OF SECTION 04 43 00 – MASONRY RESTORATION

SECTION 051200 - STRUCTURAL STEEL

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Furnish and erect all structural steel as shown on Drawings. Provide shop painting and galvanizing as specified.

1.02 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

- A. Anchor Bolts for Structural Steel for Anchoring into Concrete
- B. Base Plates and Steel plates for Structural Steel

1.04 RELATED SECTIONS

Section 04 43 00 – Stone Masonry
Section 03 13 00- Pervious Concrete

1.05 REFERENCES

References and industry standards listed in this Section are applicable to the Work. Unless more restrictive criteria or differing requirements are explicitly stated in the Specifications, or mandated by governing codes or regulations, the recommendations, suggestions, and requirements described in the referenced standards shall be deemed mandatory and applicable to the Work.

- A. American Society of Testing and Materials (ASTM) standards, latest editions.
 - A6 Standard Specification for General Requirements for Rolled Steel Bars, Plates, Shapes, and Sheet Piling.
 - A29 Standard Specification for Steel Bars, Carbon and Alloy, Hot-Wrought, General Requirements for
 - A36 Standard Specification for Carbon Structural Steel.
 - A53 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - A108 Standard Specification for Steel Bars, Carbon, Cold-Finished, Standard Quality.
 - A123 Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - A153 Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - A194 Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High-Temperature Service, or Both.

- A307 Standard Specification for Carbon Steel Bolts and Studs, 60000 psi Tensile Strength.
- A325 Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
- A490 Standard Specification for Structural Bolts, Alloy Steel, Heat Treated, 150 ksi Minimum Tensile Strength.
- A500 Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- A563 Standard Specification for Carbon and Alloy Steel Nuts.
- A780 Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coating.
- A992 Standard Specification for Steel for Structural Shapes for Use in Building Framing
- F436 Standard Specification for Hardened Steel Washers
- F1554 Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
- F1852 Standard Specification for "Twist Off" Type Tension Control Structural Bolt/Nut/Washer Assemblies, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
- F2280 Standard Specification for "Twist Off" Type Tension Control Structural Bolt/Nut/Washer Assemblies, Steel, Heat Treated, 150 ksi Minimum Tensile Strength
- B. "Specification for Structural Steel Buildings" - American Institute of Steel Constructors (AISC 360-05).
- C. "Seismic Provisions for Structural Steel Buildings, including Supplement No. 1 dated 2005 (AISC 341-05).
- D. "Code of Standard Practice for Steel Buildings and Bridges" (AISC 303).
- E. "Standard Welding Symbols - A2.0" - American Welding Society (AWS).
- F. "Specification for Mild Steel Covered Arc-Welding Electrodes - A5.1" - AWS.
- G. "Specification for Low-Alloy Steel Covered Arc-Welding Electrodes - A5.5" - AWS.
- H. "Structural Welding Code - D1.1" - AWS.

- I. "Solvent Cleaning - SP1" - Steel Structures Painting Council (SSPC).
- J. "Hand Tool Cleaning - SP2" - SSPC.
- K. "Power Tool Cleaning - SP3" - SSPC.
- L. "Commercial Blast Cleaning - SP6" - SSPC.
- M. "Pickling - SP8" - SSPC.
- N. "Near-white Blast Cleaning – SP10" - SSPC.

1.06 DEFINITIONS

A. Structural Steel

Structural Steel consists of the steel elements of the structural steel frame essential to support the design loads. These elements consist of material as shown on the structural steel plan and listed in Article 2.1 of the AISC "Code of Standard Practice for Steel Buildings and Bridges."

B. Other Steel

Structural steel does not apply to those elements listed in Article 2.2 of the AISC "Code of Standard Practice for Steel Buildings and Bridges."

1.07 SUBMITTALS

A. Product Data

Submit manufacturers' specifications for the following products:

- 1. Expansion anchors and adhesive anchors
- 2. Steel plates

B. Shop Drawings

- 1. Provide shop drawings prepared by NYC licensed structural engineer.
- 2. All connections shall be designed by and all drawings shall be prepared under supervision of a Professional Engineer licensed in the State of New York. Do not submit unchecked shop drawings. First submissions of all job standards, shop drawings of connections not shown on, or that are in deviation of, the job standards, and calculations shall have one set sealed and signed by the Engineer. After final approval of all shop drawings, submit a final set sealed and signed by the Professional Engineer.

3. Shear connections (framed beam, seated beam, single plate, etc.) shall be designed by the detailer's licensed engineer and detailed by the structural steel detailer, unless otherwise shown on Drawings. All wind and seismic connections (moment connections, bracing, etc.) are generally detailed on the Drawings. Based on the indicated loads (axial force, moment, etc.), the structural steel detailer's engineer shall design the connections. Those not detailed shall be detailed by the structural steel detailer.
4. Immediately after award of Contract and before preparing steel shop drawings, submit for review a set of job standards showing all necessary joint details with full particulars of connection pieces, shop and field welds, and holes for erection bolts and permanent bolts. These shall include any moment and shear connection designed by the Engineer of Record as well as those designed by the detailer. Appropriate marks for designating all types and sizes of joint details shall be included. Submit all calculations pertaining to the job standards. After approval of these job standards, the erection plans are to be submitted and shall be marked to indicate unmistakably the type and size of joint to be used for every beam connection. Do not order steel in advance of approval of the job standards and the erection plans with joint marks, except at own risk.
5. Prepare remainder of steel shop drawings after approval of job standards and erection plans. Drawings submitted prior to approval of job standards will be returned without review. Submit drawings gradually and not all at the same time so that sufficient time is allowed for checking and approval. No more than 100 drawings are to be submitted within a 14-day period to allow for checking and approval of package before submittal of next package. Shop Drawings for MEP equipment dunnage and access platforms shall not be submitted until after approval of the submitted MEP units. Ensure shop drawings submitted for MEP equipment dunnage and access platforms are coordinated and based on unit approved, which may vary substantially from the Basis of Design. The Contractor shall take into account in their schedule the potential time impact in the sequencing of the steel drawings.
6. Steel shop drawings shall include framing plans, bolted and welded work, and details such as camber and other pertinent data not shown on job standards. Detail openings and reinforcement due to other Work. Coordinate with Drawings of other Work.
7. Indicate welds by standard AWS symbols and show size, length, and type of each weld in accordance with AWS A2.0.
8. Identify columns using same identification system shown on Drawings.
9. Provide setting drawings, templates, and directions for installation of anchor bolts and other anchorages to be installed under other Sections.
10. Shop drawings will be checked for size of material and strength of connection by the Engineer of Record, which shall not render the Engineer of Record responsible for any errors in construction dimensions, etc. that have been made in preparation of shop

drawings. The Contractor shall assume full responsibility for the correctness of dimensions and fit.

11. Submit calculations for design of connections on job standard and all other connections such as moment, brace, and trusses.
12. After shop drawings are 100% complete and approved and all field changes have been made, a CD rom of the as-built drawings are to be submitted to the Authority in an AutoCad format.

C. Quality Control Submittals

1. Certificates and Affidavits

- a. Furnish bolt manufacturer's test reports, covering physical and chemical tests, for each lot of high strength bolts submitted.
- b. Furnish steel manufacturer's certificate certifying welders employed on the Work are current with their AWS qualifications (including having their required maintenance forms from their employer) and for work performed in the field are NYC licensed welders as per Section §28-407.1 of the NYC Administrative Code.
- c. Furnish complete listing of ASTM's of materials listed in Part 2 of this Section and certification that materials supplied meet those listed.
- d. For mechanical and adhesive anchors installed in concrete, submit ICC certification for use in cracked concrete.

2. Contractor Qualifications

- a. Provide proof of Fabricator, Erector, Detailer/Engineer, and Adhesive Anchor Installer specified under "Quality Assurance".

1.08 QUALITY ASSURANCE

A. Qualifications

1. Fabricator: Company specializing in the fabrication of steel products to be used in this Contract shall have a minimum of five years experience. The fabricator is to be AISC certified.
2. Erector: Company specializing in performing the Work of this Section shall have a minimum of three years experience and have done at least three projects with similar quantity of material.
3. Detailer: Company shall be specialized in the detailing and design of structural steel shop drawings with a minimum of three years experience. Connections shall be

designed by and shop drawings prepared under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed by the State of NY engaged.

4. Adhesive Anchor Installer: Installer for adhesive anchors installed in a horizontal or upwardly inclined position supporting sustained tension loads shall be certified per ACI Appendix D9.2.2 as per Section BC 1912 of the 2014 NYC Building Code.

B. Regulatory Requirements

1. Building Code: Work of this Section shall conform to all requirements of the 2014 NYC Building Code and all applicable regulations of governmental authorities having jurisdiction, including safety, health, noise, and anti-pollution regulations. Where more severe requirements than those contained in the Building Code are given in this Section, the requirements of this Section shall govern.
2. New York City Board of Standards and Appeals (BSA): Rules for Arc and Gas Welding and Oxygen Cutting and Steel Covering the Specifications for Design, Fabrication, and Inspection of Arc and Gas Welded Steel Structures and Qualification of Welders and Supervisors.
3. Industry Standards: Standards specified herein apply to Work of this Section. Where more severe requirements than those contained in the Standards are given in this Section or the Building Code, requirements of this Section or the Building Code shall govern.
 - a. "Code of Standard Practice for Steel Buildings and Bridges" – AISC 303-05. Modification to the code shall be as follows:
 - 1) Paragraph Glossary Definitions:
 - a) "Structural Engineer of Record" representative for the preparation of the plans and specifications."
 - b) "Owner's designated representative for construction" to read "The Authority's designated representative for construction of the structure."
 - c) "Owner" to read "The Owner for the purpose of construction of the proposed stair roof. In Section 7.2 through 7.16, the owner shall mean the Contractor.
 - 2) Paragraph 3.1.1: Add to the end of the sentence the words "unless otherwise noted."
 - b. AISC 360 as modified by the 2014 NYC Building Code.
 - c. Seismic Provisions for Structural Steel Buildings AISC 341-05.

- d. "Specifications for Structural Joints using ASTM A325 or A490 Bolts" approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation (RCRBSJ) – AISC-2000.
 - e. "Structural Welding Code" - AWS.
 - 4. Recommendations or suggestions in the codes and references listed in this Article and under "References" shall be deemed to be mandatory unless they are in violation of the Building Code.
- C. Certifications
 - 1. Structural steel shall conform to the material acceptance, certification, and inspection requirements of Section BC 1701.
 - 2. Qualify welding processes and welding operators in accordance with AWS "Standard Qualification Procedure".

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the site at such intervals as to insure uninterrupted progress of Work.
- B. Deliver anchor bolts and other anchorage devices, which are to be embedded in cast-in-place concrete or masonry, in ample time so as not to delay Work.
- C. Store materials to permit easy access for inspection and identification.
 - 1. Shop-primed steel. (Painted or galvanized): Primed steel stored in the field or shop shall be kept off ground (using pallets, platforms, or other supports) and so positioned as to minimize water-holding pockets, dust, and other contamination of the primer. Repair damage to primed surfaces due to improper storage in a manner approved by the Authority.
 - 2. Unpainted Steel: Steel stored in field or shop shall be kept off ground (using pallets, platforms or other supports), kept clean and in general protected against damage and corrosion.
- D. Do not store materials on erected structure in a manner that might cause distortion or damage to the members or supporting structures. Repair or replace damaged materials or structures as directed by the Authority.

1.10 FIELD MEASUREMENTS

- A. Take field measurements as required by Drawings. Where possible take field measurements of existing conditions prior to fabrication. Verify that field measurements are the same as those shown on Drawings and shop drawings. Report all deviations to the Authority in writing.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Expansion/Screw/Adhesive Anchors, Fasteners

1. Hilti, Inc.

2.02 MATERIAL

A. Structural Steel Shapes, Plates, and Bars

1. Structural steel shall conform to ASTM A316 or A304.

B. Headed Stud-Type Shear Connectors

C. Bolts

1. Anchor Bolts (Anchor Rods): Shall conform to the provisions of ASTM F1554, Grade 36, unless different grade is specified elsewhere. Size and detailing indicated on Drawings.
2. Unfinished Bolts: Shall conform to the provision of ASTM A307.
3. High-Strength Bolts: Shall conform to the requirements of ASTM A325 or F1852 unless otherwise indicated on Drawings.
4. Expansion/Screw/Adhesive Anchors: Provide types as indicated on Drawings. The anchor specified shall be considered the basis of design.
 - a. As a minimum, all anchors exposed to weather or embedded in masonry are to be Type 316 stainless steel.
 - b. Anchors installed in concrete shall have current ICC-ES listing for performance in cracked concrete as per Section BC 1912.
 - 1) Wedge Expansion and Undercut Anchors/ expansion bolts shall have an ICC-ES Evaluation Service Report (ESR) issued in accordance with ACI 355.2 or ICC-ES AC 193 for use in cracked concrete, including seismic applicability loading, and pursuant to the Office of Technical Certification and Research (OTCR) Building Bulletin 2014-018. Anchors installed in grouted masonry shall have a report issued in accordance with AC 01.
 - 2) Adhesive anchors in concrete shall have an ICC-ES Evaluation Service report (ESR) issued in accordance with ACI 355.4 or ICC-ES AC 308 for use in cracked concrete, including seismic applicability loading, and pursuant to the Office of Technical Certification and Research

(OTCR) Building Bulletin 2014-018. Anchors installed in grouted masonry shall have a report issued in accordance with AC 58.

- 3) Concrete Screw Anchors shall have an ICC-ES Evaluation Service report (ESR) issued in accordance with ICC-ES AC193 for use in cracked concrete and seismic loading and pursuant to the Office of Technical Certification and Research (OTCR) Building Bulletin 2014-019. Anchors installed in grouted masonry shall have a report issued in accordance with AC 106.

- c. Design and installation provisions shall be based on current ICC-ES ESR report and ACI 318 Appendix D.

D. Hardware

1. Nuts for anchor bolts and unfinished bolts shall conform to the requirements of ASTM A563.
2. Nuts for high-strength bolts shall conform to the provisions of ASTM A194 or ASTM A563.
3. Washers shall conform to the provisions of ASTM F436.

E. Filler Metal for Welding

1. Welding electrode shall conform to E70XX classification of AWS A5.1, except as described below.
2. Welding electrode shall be compatible with existing steel where connections are made to steel of existing building. Electrode shall be E7018 unless determined otherwise. E7018 are low hydrogen electrodes that must be kept extremely dry.

F. Structural Steel Primer Paint

Provide type of primer indicated on steel under the following application conditions.

1. General application: Acrylic rust-inhibitive type containing no lead equal to Tnemec 115 Unibond. Paint must meet SCAQMD standards for VOC emissions.
2. Cavity wall (including steel within the exterior block back-up or not separated from the cavity by a full block), exterior application, and as a primer after zinc metallizing: Epoxy paint equal to Tnemec Co. Series FC27 Typoxy or Carboline Carboguard 888.
3. Touch-up primer for cavity wall and exterior application: High adhesion high-solids epoxy coating equal to Tnemec Co. Series 135 Chembuild or Carboline Carboguard.

2.03 SHOP ASSEMBLY - FABRICATION

A. General

1. Do not fabricate until shop drawings have been approved.
2. Fabricate items and assemblies in accordance with AISC Specifications and the shop drawings.
3. Properly mark members for field assembly. Fabricate items in order to match delivery sequence that will expedite erection.
4. Mill column ends at base plates, cap plates, and splices to a common plane by means of an approved milling machine.

B. Shop Connections

1. Weld or high-strength bolt shop connections as indicated on Drawings.
2. High-strength bolt connections are friction (slip-critical) connections. Install high-strength bolts in accordance with "Specification for Structural Joints using ASTM A325 or A490 Bolts" (RCRBSJ). Utilize Class A connections. If steel surface of connection area is prepared to SSPC-SP5 surface preparation, Class B may be utilized pending inspection by the Authority's Special Inspection lab that surface meets the required preparation. Pay all costs to the Authority incurred for this inspection.
3. Welding: Comply with "Structural Welding Code" for procedures, appearance, and quality of welds and methods used in correcting welded work.
4. Holes for other Work
 - a. Provide holes and openings required for securing other Work to steel framing and for passage of other Work through framing members. Coordinate with Drawings of other Work.
 - b. Provide threaded nuts welded to framing, and other specialty items as indicated to receive other Work.
 - c. Cut, drill, flame cut, or punch holes perpendicular to metal surfaces. Method of cutting must not produce a roughness of over 1000 microinches. Surfaces exceeding these limits must be repaired by machine grinding.
 - d. Reinforce all openings with steel shapes as shown on shop drawings.

2.05 GALVANIZING

A. General

Galvanize the following members:

1. All angles supporting exterior masonry or exposed to the weather, including shelf, arch, relieving angles.
2. All connections between the above angles and the supporting structural member, including WT's, hangers, clip angles, hardware, etc.
3. All exterior steel supporting mechanical equipment (dunnage steel) and any other steel members indicated on Drawings.

B. Cleaning and Surface Preparation

1. Hardware (bolts, nuts, etc.): Clean and leave free of mill scale before galvanizing.
3. Clean all steel first in accordance with SSPC-SP1 if needed.
3. Steel members: Clean in accordance with SSPC-SP8 before hot-dip galvanizing.
4. Steel members: Clean in accordance with SSPC-SP10 before zinc metallizing. Surface shall have a 3-4 mil anchor pattern. Moisture cannot be present on steel and temperature cannot be less than 5°F above the dew point. Thermal spray must be applied within 4 hours of blasting.

2.06 SOURCE QUALITY CONTROL

A. Testing

1. General

- a. Structural steel work is subject to all tests required by the Special Inspection requirements of the 2014 NYC Building Code.
- b. Cooperate with the Testing Laboratory in making all required tests.

2. Tests: To be performed by the Authority's Testing Laboratory.

- a. Shop bolted connections: Tested in accordance with AISC specifications.
- b. Shop welding: The laboratory will perform the following functions:
 - 1) Certify welders.

- 2) Visually inspect all welds, record type and locations of defects, and perform tests if necessary. Check all corrected work.
- 3) Perform following non-destructive tests if necessary or as required by the Special Inspector. Tests used shall be at the Special Inspector's option:
 - a) Liquid Penetrant Inspection: ASTM E165.
 - b) Magnetic Particle Inspection: ASTM E709. Perform on roof pass and on finished weld.
 - c) Radiographic Inspection: ASTM E94 or E149. Minimum quality level 2-2T.
 - d) Ultrasonic Inspection: ASTM E164.

3. Welding of Critical Joints

- a. All welded joints that are critical to the integrity of the structure, and require non-destructive testing to assure the adequacy of the critical weld, are indicated on the Drawings.
- b. To insure general weld quality of less critical groove and butt welds, a quality control program may be required to check the welds by non-destructive testing. The Drawings specify whether non-destructive testing is required and, if necessary, the method of inspection.
- c. Requirements of critical welds and non-destructive testing shall be in conformance with NYC BSA Rules for Arc and Gas Welding, Rules 16.5 through 16.5.3, and Rule 17.

B. Inspection

1. Testing Laboratory

- a. The Authority will engage a Testing Laboratory or Special Inspection Agency to assist in the inspection of steel fabrication and conduct tests at the mill, shop, or foundry. The laboratory will assist in checking erection tolerances and provide shop and field testing required for all structural steel work, including metal deck and studs.
- b. The Testing Laboratory will be responsible to and under the supervision of a Special Inspector.

2. Special Inspector

The Authority will assign, under the requirements of Section BC 1704.3, a Special Inspector to supervise the Work listed above under "Testing Laboratory".

3. Notification: Notify the Authority before beginning fabrication of the structural steel and supply laboratory with copies of agreements, approved drawings, approved prints of all shop details, etc., and all necessary information relating thereto. Do not ship material to job site until after inspection and approval by the Testing Laboratory.
4. Discretionary Inspections: No mill, shop, foundry, or field inspection, such as is above provided for, shall be held to prohibit or preclude inspection of such materials during delivery and erection at the building by such other persons as the Authority shall direct.
5. Reports: Shop and field reports, including shipments, will be submitted by the Testing Laboratory to the Authority as the work proceeds at the shop or job site. A final report will be submitted by the Testing Laboratory when work is completed at the shop, and again when work is completed in the field. The Special Inspector reserves right to reject material not in compliance with specified requirements at any time.
6. Corrections: Correct deficiencies in work which inspections and tests have indicated to not be in compliance with requirements. Pay for additional tests, at own expense, necessary to reconfirm any non-compliance of original work and as necessary to show compliance of corrected work.
7. Contractor's Responsibility: Inspection and acceptance or failure to inspect shall in no way relieve the Contractor or the mill and shops from their responsibility to furnish satisfactory material strictly in accordance with Drawings and Specifications.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and that erection may proceed. Notify the Authority in writing of conditions that adversely affect the Work. Do not proceed with erection until conditions have been corrected. Beginning of installation means the erector accepts existing conditions.

3.02 ERECTION

A. General

1. Erection shall conform to Sections BC 2205.6.3 and BC 3305.2.
2. All work shall be erected plumb, square, and true to lines and levels in strict accordance with the structural requirements of the building.

3. Provide all machinery, apparatus, and staging required for the erection of steelwork in a thoroughly safe and efficient manner. Install, maintain and remove, without injury to other Work, such temporary bracing, scaffolding, etc. as may be necessary or required. Care shall be taken that no part of the structure is overloaded during construction.
4. Arrange for deliveries of material to facilitate the rapid and continuous progress of operation, but the site or streets adjacent to same shall not be used for the storage of material unless absolutely necessary and then only with special permission of the Authority and other authorities having jurisdiction.
5. Employ a Licensed Professional Engineer and Land Surveyor to ensure accurate erection of the steel.
6. Do not alter or cut structural members without written approval of the Engineer of Record.

B. Temporary Shoring and Bracing

Provide temporary shoring and bracing members with connections of sufficient strength to bear erection loads and guy wires to maintain structure plumb and in true alignment until completion of erection. Remove temporary work when permanent members and bracing are in place and final connections are made.

C. Anchors Bolts

1. Furnish to the concrete and brick masons anchor bolts and other connectors required for securing structural steel to the foundation and other in-place concrete work, together with instructions, templates, etc. necessary for setting them. Anchor bolts are to be surveyed and any approved modifications made prior to placement of columns.
2. Tighten anchor bolts after support members have been positioned and plumbed. Cut off protruding edges of wedges or shims flush with edge of base or bearing plate prior to packing with grout.

D. Base and Bearing Plates

1. Clean concrete and masonry bearing surfaces of loose and bond-reducing materials.
2. Set loose and attached base plates and bearing plates for structural members on shims and other adjusting devices, such as leveling plates, within specified tolerances. Elevations of shims and leveling plates shall be surveyed and adjusted to correct elevation prior to placement of column or beam. Plates are to have grout holes.

E. Field Assembly

1. Erect structural frames accurately to lines and elevations indicated. Align and adjust members forming a part of a complete frame or structure before permanently fastening.
2. Clean bearing surfaces and other surfaces that will be in permanent contact before assembly.
3. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
4. Level and plumb individual members of the structure within specified tolerances. Do not tighten structure until surveys verify that structure is within allowable tolerances.
5. Establish required leveling and plumbing measurements on mean operating temperature of structure. Make allowances for difference between temperature at time of erection and mean temperature at which structure will be when completed and in service.
6. Splice members only where indicated and accepted on shop drawings.

F. Connections

1. Field connections shall be welded or bolted, except where welding is specifically called for on the Drawing.
 - a. Provide high-strength bolts for bolted connections except where unfinished bolts are indicated on the Drawings. High-strength bolt connections are friction (slip-critical) connections. Install high-strength bolts in accordance with "Specification for Structural Joints using ASTM A325 or A490 Bolts."
 - b. Provide unfinished bolts where indicated on Drawings. Lock nuts by upsetting bolt end or by similar method when unfinished bolts are not encased in concrete. Tighten all bolts and nuts fully.
 - c. For ASTM A307 bolts, hardened washer shall be installed under the turned element. For ASTM A325, F1852, A490 and F2280 bolts, hardened washer shall be installed under the head and nut. This washer is not required under the head for oversized or short-slotted holes for bolts conforming to F1852 bolts (from 1/2" to 1½" in diameter) and for bolts conforming to F2280 bolts when the bolt diameter is $\leq 1"$.
 - d. Expansion/screw/adhesive anchors shall be installed in accordance with the manufacturer's installation instructions. Holes shall be cleaned completely using wire brush and compressed air following manufacturer's guidelines. Tighten to the torque values specified by the manufacturer. For installation in existing substrates not installed as part of the Work, have bolt manufacturer

perform pullout test in each substrate to verify capacity and quality of substrate prior to final approval of anchor to be utilized.

2. Holes

- a. The size of boltholes shall be in accordance with AISC "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings."
- b. Ream holes that must be enlarged to admit bolts. Burning or use of drift pins is not permitted.

G. Erection Holes

Fill erection bolt holes on exposed to view members with plug welds and grind smooth.

H. Lintels and Relieving Angles

1. Erect all exterior steel lintels and relieving angles connected (by hangers, clips, bolts or otherwise) to the structural steel work.
2. Loose lintels (interior and exterior) and lintels secured to concrete are part of the Work Section 05700.

I. Flame Cutting

Flame cutting in field of members to correct fabrication errors is to be avoided and to be done only upon approval of the Engineer of Record based on the method proposed. Roughness cannot exceed 1000 microinches. Repair of surfaces shall be by mechanical grinding.

J. Field Touch-Up

1. Painted Members: After erection, clean all damaged areas in shop coat, exposed surfaces of bolts, bolt heads, nuts and washers, abrasions, and all field welds and unpainted areas adjacent to field welds to the same standards as the shop coat and paint with primer paint to same thickness as the shop coat. Finish painting is specified in Section 09900.
2. Galvanized Members: After erection, clean and paint all damaged areas to the galvanizing, welds, and areas adjacent to welds with the galvanizing repair paint. For galvanized members to be painted, finish painting is specified in Section 09900 and shall be the final two coats of the epoxy paint system.

3.03 TOLERANCES

- A. Erection tolerances shall be in accordance with "Code of Standard Practice for Steel Buildings and Bridges", except as indicated in B below.
- B. The following overall maximum deviations (tolerances) from theoretical are permitted:

200-300 NORTH END AVENUE
PLAZA WATERPOOFING

FLASHING AND SHEET METAL
05 12 00 - PAGE 16

- a. Column location @ base plate: 1/2"
- b. Base Plate, bearing plate and column splice elevation: $\pm 1/8"$
- c. Column Plumbness: in or out 3/4" in column length, 1 1/4" for total building height
- d. Beam or girder elevation: $\pm 1/2"$
- e. Beam camber: 1/8"
- f. Lintel elevation: $\pm 1/16"$
Lintel location: $\pm 1/4"$

3.04 FIELD QUALITY CONTROL

- A. The Contractor shall cooperate with the Special Inspector and the Testing Laboratory performing Special Inspection testing by providing adequate notification for when work is performed that will require the inspection and provide all required access and means for the laboratory to perform the inspection and testing.
- B. As per Section BC 1704.3, the Special Inspector will inspect erection of the structural framework and test field bolting and welding as listed in Part 2 of this Section. The Special Inspector will also check the welding of deck and metal studs described in Section 05300. Where post-installed anchors are utilized, the Special Inspector will perform Special Inspection on post-installed anchors as per Section BC 1704.32. Adhesive anchors installed in concrete in a horizontal or upwardly inclined position supporting sustained tension loads shall be installed under continuous Special Inspection as required by paragraph D9.2.4 of ACI 318-11.
- C. The Contractor shall engage an engineer licensed in the state of New York to check tolerances and inspect the erection.
- D. Contractor's Surveys

Provide surveys of items listed below. Surveys are to indicate the actual location and elevation and the deviation from theoretical. Highlight those numbers that exceed permissible tolerances. Surveys are to be submitted in a timely manner in order for corrections to be made prior to installation of the next item in sequence (e.g. anchor bolt and base plate survey prior to column installation), including placement of concrete. The following items are to be surveyed:

- 1. Anchor bolt location
- 2. Elevation of bottom of base plates (top of shims or leveling plate).
- 3. Elevation of lowest column splice.
- 4. Location (x,y, & radial) and plumbness of columns.

5. Elevation of steel members taken at approximately 20 members from each floor for those members not cambered.
6. Elevations of cambered members taken at each end and in center. The average of the two ends subtracted from the center will be the measured camber. Approximately 20 members will be selected by the Engineer of Record to be surveyed. Survey is to be done prior to and after placing concrete.
7. Elevation and location of lintels prior to installation of masonry.

3.05 CLEANING

- A. Structural steel or portions of such to receive sprayed fireproofing shall be clean of dust, grease, oils, loose material, and any other matter which would impair the adhesion of the fireproofing material to the steel.

END OF SECTION

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Provide rough carpentry Work as indicated on the Drawings, as required for the completed Work of this Contract, and as specified herein, including, but not limited to, the following:
1. Wood Grounds, nailing strips, blocking, furring, nailers, and framing.
 2. Rough hardware, including nails, screws, anchors, brackets, braces, bolts, nuts, fittings, and other devices required for the proper fitting, connecting, and erecting of the Work.
 3. Rough frames for windows and for other items, if required.
 4. Formwork for concrete pour
 5. Protection of exterior stonework and ornamental work.

1.02 REFERENCES

- A. References and industry standards listed in this Section are applicable to the Work. Unless more restrictive criteria or differing requirements are explicitly stated in the Specifications, or mandated by governing codes or regulations, the recommendations, suggestions, and requirements described in the referenced standards shall be deemed mandatory and applicable to the Work.
1. U.S. Department of Commerce.
American Softwood Lumber Standard PS 20
Product Standard PS 1 for Softwood Plywood
 2. APA Engineered Wood Association. APA Design/Construction Guide
 3. Western Wood Product Association (WWPA).
Grading Rules
 4. Southern Pine Inspection Bureau (SPIB).
Grading Rules
 5. Redwood Inspection Service (RIS).
Grading Rules
 6. American Wood Preservers' Association (AWPA).
Standard C2 (Lumber and Timber)
Standard C9 (Plywood)

7. American Society for Testing and Materials (ASTM).
E84 Standard Test Method for Surface Burning Characteristics of Building Materials

D226 Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
8. Underwriters Laboratories, Inc. (UL).
UL Test 723
9. Federal Specifications (FS).
10. American Lumber Standards Committee (ALSC).
11. West Coast Lumber Inspection Bureau (WCLIB).
Grading Rules
12. National Fire Protection Association (NFPA).
Test 255 Method of Test of Surface Burning Characteristics of Building Materials

1.03 SUBMITTALS

A. Quality Control Submittals

1. Certificates: Certification for the following wood treatments:
 - a. Dip Treatment: Certification by treating plant stating chemical solutions used, submersion period, and conformance with applicable standards.
 - b. Pressure Treatment: Certification by treating plant stating chemicals and process used, net amount of chemical preservative retained, and conformance with specified standards.
 - c. Waterborne Preservatives: Certified written statement that moisture content of treated materials was reduced to a maximum of 19 percent prior to shipment to Project site.
 - d. Fire-Retardant Treatment: Certification by treating plant stating treated material complies with specified standards and treatment will not bleed through specified finishes. Submit BS/A and MEA approval certification.

1.04 QUALITY ASSURANCE

A. Mill and Producers Mark

Each piece of lumber and plywood shall be grade stamped indicating type, grade, mill, and grading agency certified by the Board of Review of the American Lumber Standards Committee. Mark shall appear on unfinished surface, or ends of pieces with finished surfaces.

1. Pressure Preservative Treated Material: Accredited agency quality mark on each piece of wood including treatment.
2. Fire-Retardant Treated Material: Accredited testing agency mark on each piece of wood indicating compliance with the fire hazard classification.

B. Standards

Comply with the following unless otherwise specified or indicated on the Drawings:

1. Lumber: American Softwood Lumber Standard PS 20 by the U.S. Department of Commerce. Comply with applicable provisions by each indicated use.
2. Plywood: Product Standard PS 1 for Softwood Plywood, Construction and Industrial by the U.S. Department of Commerce.
3. Plywood Installation: APA Design/Construction Guide, by the American Plywood Association (APA), except as indicated otherwise.
4. Grading Rules:
 - a. Douglas Fir, Hem-Fir, Idaho White Pine, and other Western Woods: Western Wood Products Association (WWPA) or West Coast Lumber Inspection Bureau (WCLIB).
 - b. Southern Pine: Southern Pine Inspection Bureau (SPIB).
 - c. Redwood: Redwood Inspection Service (RIS).
5. Preservative Treatment: American Wood Preservers' Association (AWPA) Standards, quality control methods, and inspection requirements
6. Fire-Retardant Treatment: American Wood Preservers' Association (AWPA) Standards.

C. Regulatory Agencies

1. NYC Board of Standards and Appeals (BS/A).
2. NYC Materials and Equipment Acceptance (MEA).

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Keep materials dry during delivery. Store materials 6" minimum above ground surface. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and plywood, and provide air circulation between stacks.
- B. Cover stored materials until ready for use for protection from moisture. Place and anchor covering in a manner which will assure good ventilation under the covering.

1.06 PROJECT CONDITIONS

- A. Correlate location of supporting members to allow proper attachment of other Work as specified in this Section.

PART 2 - PRODUCT

2.01 LUMBER

- A. General

Furnish seasoned dimensional lumber dressed to nominal sizes indicated with 19 percent maximum moisture content at time of dressing, marked "S-DRY". Comply with dry size requirements of PS 20.

- 1. Dress: Surfaced 4 sides (S4S) unless otherwise indicated.

- B. Framing Lumber

Species: Douglas Fir (WWPA or WCLIB), or Southern Pine (SPIB), unless otherwise indicated.

Refer to Drawings

- 1. Light Framing; 2" through 4" thick, less than 6" wide:

- a. Stud Framing Grade: Construction Grade.

- b. Other Light Framing Grade: No. 2.

- 2. Structural Framing; 2" through 4" thick, 6" and wider:

- a. Grade: No. 1.

- C. Board Lumber; less than 2" thick:

- 1. (Not Used)

2. (Not Used)
3. Concealed Board Lumber: Southern Pine No. 3 (SPIB), any species No. 4 (WWPA) or any species Standard (WCLIB), or Redwood Merchantable (RIS).

D. Miscellaneous Lumber

Standard grade, No. 3 grade, or better grade of the following species unless otherwise indicated:

1. Nailers and Blocking: Douglas Fir, Hem-Fir, Idaho White Pine or Southern Pine.
2. Furring: Douglas Fir or Southern Pine.
3. Plaster Grounds:
 - a. Interior Use: Douglas Fir or Southern Pine.
 - b. Exterior Use: Western Red Cedar or Redwood.
4. Door and window Bucks: Western Red Cedar or Redwood.

2.02 **PLYWOOD**

- A. Roof and Wall Sheathing and Subflooring: APA RATED SHEATHING, EXPOSURE 1. Furnish APA PS 1 veneered panels, with span ratings for the required thicknesses as listed below unless otherwise indicated.

<u>Thickness</u>	<u>Span Rating</u>
3/8"	24/0
1/2"	32/16
5/8"	40/20
3/4"	48/24

- B. Underlayment

APA UNDERLAYMENT, EXPOSURE 1.

2.03 **MISCELLANEOUS MATERIALS**

- A. Underlayment Patching Compound

Hardsetting, quicksetting type with latex or polyvinyl acetate binder.

- B. Asphalt Felt

Asphalt-saturated felt, No. 15, without perforations, complying with ASTM D226.

C. Rosin Paper

Commercial, rosin-sized building paper, 0.010" thick.

D. Hardboard

PS 58, Class "Tempered, S1S, plainboard.

E. Adhesive

APA Specification AFG-01.

2.04 PRESERVATIVE TREATMENT

A. Treat lumber and plywood where indicated and as specified. Comply with applicable AWPA Standards and quality control and inspection requirements.

1. Fasteners and anchoring devices to be used with wood treated with waterborne preservatives shall be hot-dip galvanized or stainless steel if the wood will be exposed to moisture.

B. Complete fabrication of items to be treated to the greatest extent possible, prior to treatment. Where items must be cut after treatment, coat cut surfaces with heavy brush coat of the same chemical used for treatment or other solution recommended by AWPA Standards for the treatment.

C. Inspect wood after treating and drying. Discard warped or twisted items.

D. Pressure Treatment (Above Ground Use)

Treat the following wood items with waterborne preservatives for above ground use, complying with . AWPA Standards C2 & C9 Redry wood to a maximum moisture content of 19 percent after treatment.

1. Nailers, blocking, cants, shim stock, and similar members used in conjunction with roofing (including related flashings, trim and vapor barrier), coping, and waterproofing.
2. Nailers, blocking, furring, stripping, and similar concealed members in contact with exterior masonry and concrete (including interior wythe of exterior walls), and all sills for framing.
3. Wood items indicated or scheduled on the Drawings to be preservative treated.

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2.05 FIRE-RETARDANT TREATMENT

- A. Where lumber is indicated or required to be fire-retardant treated, provide "FR-S" lumber, complying with AWWPA Standards for pressure impregnation with fire-retardant chemicals to achieve a flamespread rating of 25 or less, when tested in accordance with UL Test 723, ASTM E84 or NFPA Test 255.
 - 1. Where treated items are indicated to receive a transparent or paint finish, use a fire-retardant treatment which will not bleed through or adversely affect bond of finish.
 - 2. Provide UL label or identifying mark on each piece of fire-retardant lumber.
 - 3. Redry treated items to a maximum moisture content of 19 percent after treatment.
- B. Fire-retardant Treated Plywood

 Comply with APA requirements.

2.06 FRAMING HARDWARE

- A. Fasteners and Anchoring Devices

Provide items of type, size, style, grade, and class as required for secure installation of the Work. Items shall be galvanized for exterior use. Unless shown or specified otherwise, comply with the following:

- 1. Nails and Staples: FS FF-N-105.
- 2. Wood Screws: FS FF-S-111.
- 3. Bolts and Studs: FS FF-B-575.
- 4. Nuts: FS FF-N-836.
- 5. Washers: FS FF-W-92.
- 6. Lag Bolts or Lag Screws: S FF-B-561.
- 7. Masonry Anchoring Devices: Expansion shields, masonry nails and drive screws: FS FF-S-325.
- 8. Toggle Bolts: FS FF-B-588.
- 9. Bar or Strap Anchors: ASTM A575 carbon steel bars.
- 10. (Not Used)
- 11. (Not Used)

12. Metal Hangers and Framing Anchors: Size and type for intended use, galvanized finish, manufacturer's recommended fasteners.
13. Buck Anchors: Corrugated type, galvanized steel not lighter than 12 USS gage min, 4" wide (except where partitions are less than 4" thick) by 8" long, punched for two 5/16" carriage bolts at buck end.
14. Sleeper Anchors: Approved type, galvanized steel not lighter than 20 USS gage min, not less than 1-1/4" wide, designed to anchor into concrete not less than 1-1/2" and permit height adjustment of sleeper.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verification of Conditions

Examine substrate and supporting structure on which rough carpentry is to be installed for defects that will adversely affect the execution and quality of the Work. Do not proceed with installation until unsatisfactory conditions are corrected.

3.02 INSTALLATION - GENERAL

- A. Do not use units of material with defects which impair the quality of the Work and units which are too small to fabricate the Work with minimum joints or with optimum joint arrangement.
- B. Install Work accurately to required lines and levels with members plumb and true, accurately cut and fitted and securely fastened. Closely fit rough carpentry to other associated construction.
- C. Securely attach carpentry Work to substrates by anchoring and fastening as indicated, or, if not indicated, as required by the referenced standards. Select fasteners of size that will not penetrate through members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; predrill as required. Set nail heads in exposed Work which is to be painted or stained and fill resulting holes.
- D. Fire-retardant Treated Wood
 1. Do not rip or mill; only end cuts, drilling holes and joining cuts shall be permitted.
 2. Where material is cut to length, shaped or grooved after treatment, surfaces thereby exposed shall be protected by tightly butting them against noncombustible or fire-retardant treated material, in accordance with the NYC Building Code. Drilled holes shall be covered with tightly fitting noncombustible cover plates.

3.03 WOOD FRAMING

- A. Install framing members of nominal sizes indicated or of units built-up to dimensions indicated, at spacings shown. Construct required openings for installation of related work. Do not splice structural members between supports.
- B. Anchor and nail members as indicated. If not included, comply with recommendations of the NFPA.
- C. Install miscellaneous blocking and framing indicated and as required for attachment and support of facing materials, fixtures, specialty items, and trim.

3.04 WOOD NAILERS, BLOCKING, AND GROUNDS

- A. Install required items where indicated and where required for support, attachment or screeding of other Work. Form to shapes indicated or required. Coordinate locations and cut and shim as required to provide items at true and level planes to receive Work to be attached. Install closure strips to nailers at all edges.
 - 1. Attach to substrates as indicated; if not indicated, size and space fasteners as required to support applied loading. Maximum spacing of fasteners shall not exceed 16". Unless otherwise shown on the Drawings, install and secure material to non-wood construction as follows:
 - a. To Concrete: Attach material less than 1-1/2" thick with screws and non-ferrous metal expansion shields. Attach materials 1-1/2" and thicker with machine bolts and non-ferrous metal compound type anchors.
 - b. (Not Used)
 - c. To Brick Masonry: Attach material to new masonry with annular ring nails driven into wall plugs. Attach material to existing masonry with machine screws and non-ferrous metal expansion shields.
 - d. To Steel: Attach material with galvanized bolts and nuts or stainless steel machine screws tapped into the metal, as required by conditions.
 - e. To Non-Ferrous Metal: Attach material with stainless steel or other approved non-ferrous metal bolts and nuts or self-tapping screws, as required by conditions.
 - 2. Counter-sink bolts and nuts flush with surfaces, unless otherwise shown. Build into masonry during installation of masonry Work. Where possible, anchor to formwork before concrete placement. Bevel both edges of members to be anchored in concrete. Shims shall be cedar shingles or redwood wedges.

3.05 PLYWOOD SHEATHING, SUBFLOORING, AND UNDERLAYMENT

A. Comply with printed installation requirements of the APA Design/Construction Guide, for plywood application required, unless otherwise indicated.

B. (Not Used)

C. Roof Sheathing

Install panels with face grain across supports. Provide supports at edges by use of clips, wood blocking, or T. & G. panels. Allow 1/16" spacing at panel ends; 1/8" spacing at edges.

Nail 6" o.c along edges and 12" o.c at intermediate supports.

D. Wall Sheathing

Allow 1/16" spacing at panel ends and 1/8" spacing at edges.

Nail 6" o.c along panel edges and 12" o.c at intermediate supports.

E. Nails

Common.

For plywood thickness to 1/2": 6d.

For plywood thickness greater than 1/2": 8d.

3.06 (Not Used)

3.07 WOOD FURRING

A. Install members plumb and level with closure strips at all edges. Shim with wood as required to achieve tolerance specified.

1. Fastening: Attach to substrates as indicated; if not indicated, attach material as specified for nailers and blocking.

2. Tolerance: Shim and level wood furring to a tolerance of 1/8" in 10'.

3. Furring to Receive Plywood Paneling: Unless otherwise indicated, 1" x 3" furring at 2' o.c, horizontally and vertically.

3.08 (Not Used)

3.09 (Not Used)

3.10 (Not Used)

3.11 PROTECTION OF STONWORK

- A. The top surfaces, projections, door jambs, sills, steps, ornamental work, of exterior stonework, where liable to damage, shall be protected by temporary boxing. Furnish and set boxing, using only galvanized nails, as soon as the stonework is set and maintain the boxing until the stonework is cleaned down. No material shall be used which will stain or damage the stonework.

3.12 ROUGH HARDWARE

- A. Furnish and install all rough hardware, such as nails, bolts, buck anchors, clips, (including expansion and carriage bolts for wall seats, wardrobe brackets, etc.), and all other rough hardware required to secure the carpentry work in place, unless otherwise specified.

END OF SECTION 06 10 00

* * *

LIST OF SUBMITTALS

SUBMITTAL DATE SUBMITTED

DATE APPROVED

Quality Control Certificates:

1. Dip Treatment- Certification by treating plant stating chemical solutions used, submersion period, and conformance with applicable standards.
2. Pressure Treatment- Certification by treating plant stating chemicals and process used, net amount of chemical preservative retained, and conformance with specified standards.
3. Waterborne Preservatives- Certified written statement that moisture content of treated materials was reduced to a maximum of 19 percent prior to shipment to Project site.
4. Fire-Retardant Treatment- Certification by treating plant stating treated material complies with specified standards and treatment will not bleed through specified finishes. Submit BS/A and MEA approval certification.

* * *

SECTION 07 14 70 - CRYSTALLINE WATERPROOFING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Provide labor, materials, equipment, services to install crystalline waterproofing on walls and slabs as indicated.

1.02 RELATED SECTIONS

- A. Section 02 41 19 Selective Demolition

1.03 REFERENCES

References and industry standards listed in this Section are applicable to the Work. Unless more restrictive criteria or differing requirements are explicitly stated in the Specifications, or mandated by governing codes or regulations, the recommendations, suggestions, and requirements described in the referenced standards shall be deemed mandatory and applicable to the Work.

- A. International Concrete Repair Institute (ICRI)
- B. American Society of Testing and Materials (ASTM)
 - ASTM C109 Standard Test Methods for compressive Strength of Hydraulic Cements
- C. US Army Corp of Engineers
 - CRD-C 48-92 Method of Test for Water Permeability

1.04 SUBMITTALS

- A. Product Data
 - Provide manufacturer's information on the waterproofing material, including application instructions.
- B. Quality Control Submittals
 - 1. Certificates: Furnish manufacturer's certification that materials meet or exceed specification requirements.

2. Procedure: Submit written description of water-proofing procedures and operations sequencing based on manufacturer's requirements prior to commencing the Work.
3. Submit intent to warranty document from manufacturer of waterproofing with a performance guarantee against water penetration through waterproofing system for 5 years with any necessary replacement material and labor supplied at no cost to Owner.
4. Contractor Qualifications: Provide proof of installer qualifications specified under "Quality Assurance".

C. Warranty

Submit manufacturer's warranty and installer's guarantee.

D. Mock-up

Provide mock-up as indicated under Quality Assurance.

1.05 QUALITY ASSURANCE

A. Qualifications

Waterproofing Installer: Company specializing in the installation of crystalline waterproofing shall have a minimum of five years successful experience and at least three similar installations of equal magnitude that have proven successful in all respects for a period of at least three years. Contractor shall be trained by the waterproofing manufacturer and shall have a certificate of training on file from the manufacturer.

B. Manufacturer's Representative

All work of this Section shall be performed under the supervision of the waterproofing material manufacturer's representative.

C. Job Mockups

Prior to performing the work of this Section, prepare a sample panel of not less than 25 sq. ft. of waterproofing work. Do not proceed further with the work until the sample panel has been approved by the Architect and Owner's representative. Sample shall be a portion of the area to be restored and may be kept if approved.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver the specified product in original, unopened containers with the manufacturer's name, labels, product identification and batch numbers.
- B. Store and condition the specified product as recommended by the manufacturer.
- C. Do not store liquid material in hot sun. Keep material from freezing.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply if the temperature unless surface temperature and ambient temperatures are 45-50°F and rising and below 85°F unless the material manufacturer is consulted for recommendations.
- B. Do not use frozen materials or materials coated with ice or frost.
- C. Protect from rain until material is completely dry.

1.08 WARRANTY

- A. Furnish both manufacturer's and installer's warranty/guarantee in a form satisfactory to the Owner that guarantees all Work for a period of five (5) years from the date of the acceptance of the building by the Owner against any defects in workmanship or material and that this work will remain absolutely watertight for the entire period of the guarantee.
- B. Should any defects develop or any leaks occur in the Work within the guarantee period, such defects or leaks shall at once be remedied and made good without cost or expense to the Owner.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Xypex Chemical Corporation, Richmond, BC, Canada
- B. Aquafin, Inc, Elkton, MD
- C. Kryton International, Inc, Vancouver, BC, Canada
- D. Vandex USA, Morrisville, PA

2.02 MATERIAL

A. Crystalline Waterproofing

1. Chemically reactive material that when placed on concrete or masonry creates a crystalline structure preventing the passage of water.
 - a. Compressive strength 3000 psi @ 28 days
ASTM C109
 - b. Permeability
CRD-C48 or acceptable
test by other agency
 - No measurable leakage
when tested at 65 psi
Positive or negative
2. Product
 - a. Xypex Concentrate by Xypex
 - b. Vandex Super White by Vandex Corp.
 - c. Aquafin IC by Aquafin
 - d. Krystol T1 and T2 by Kryton International

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Do not begin surface preparation and application of waterproofing compound until all cracks, joints, and surface defects are repaired. Verify that all reglets have been formed at joints to receive the material.

3.02 SURFACE PREPARATION

- A. All substrates shall be clean and sound, free of frost, dust, laitance, grease, curing compounds, waxes, impregnations, foreign particles, other coatings, and disintegrated materials. All projections, rough spots, etc., shall be dressed off.
- B. Rout out faulty joints or cracks exceeding .02" to 3/4" wide by 1" deep minimum, as well as honey combs. Repair defects according to manufacturer's instructions with manufacturer's repair product, which shall be included in the written procedure.
- C. Roughen form tie holes.

- D. Mechanically prepare surface by high-pressure waterblasting, shot blasting, or mechanical means to clean surface and provide the required surface profile. Provide an ICRI CSP 3 surface preparation (light shot blasting).
- E. Do not damage previously repaired surfaces and cracks.
- F. Rinse surfaces to be waterproofed several times so that concrete or masonry is thoroughly saturated. Remove any standing water, as surface is to be surface-saturated dry.

3.03 APPLICATION

- A. At all reglets, tie holes, and prepared cracks, mix material to consistency required by manufacturer and fill out with manufacturer's waterproofing patch product flush with adjacent surface, leaving a brush finish. Apply a slurry coat of material around the joint if required. Entire procedure is to be included in the Contractor's submittals. Follow manufacturer's instructions.
- B. Mix components in accordance with manufacturer's instructions and in correct proportions to a slurry consistency. Mixing of the components shall be done mechanically, using a low-speed (400-600 rpm) drill and jiffy paddle. Mix components in a clean, dry mixing container. Do not add water to mixture.
- C. Coating shall be applied only to approved prepared surfaces with trowels, high-quality brushes, rollers, or "hopper type" spray equipment. Immediately trowel the product level. Surface shall be saturated surface dry prior to application. For hot surfaces in direct sunlight, wet down surface with clean water then allow to surface dry prior to coating. Coating shall be applied at ambient and substrate temperatures between 45°F and 85°F.
- D. Apply material for slabs at a rate of 2 lb/sq.yd. (or as required by specific manufacturer) in one or two coats as recommended by manufacturer. For walls, apply in two coats. Base coat shall be applied at a rate of 1.25-1.4 lb/sq.yd (or as required by specific manufacturer). After initial set but while still "green", apply finish coat at a rate of 1.25-1.4 lb/sq.yd. Leave strokes in a parallel, uniform direction. Use light pre-watering between coats when rapid drying conditions occur.

3.04 TESTING

- A. After manufacturer's recommended curing period, fill tanks and pits with water and let stand for a week. Do not fill at a rate of greater than 6.5' in 24 hours. Should leakage occur, drain tanks and to perform repairs.
- B. Repair leaks by routing out large joints and cracks and installing manufacturer's water plug material. Apply additional applications of slurry at areas of fine cracks or seepage.

3.05 PROTECTION AND CLEANING

- A. Protect material from extreme heat and cold during the curing process using tarps or other means as recommended by the materials manufacturer.
- B. Clean material from adjacent surfaces not to be protected as well as residue from the protective measures (i.e. tape residue)
- C. Clean surface with 100 ppm chlorine water solution.

3.06 FIELD QUALITY CONTROL

- A. The Architect will inspect surfaces and reject any that contain cracks or other defects. These areas shall be fixed at Contractor's expense.
- B. Engage the services of the material manufacturer's representative to instruct in the proper usage of the material and to inspect the work throughout the project.

END OF SECTION 07 14 70 - CRYSTALLINE WATERPROOFING

SECTION 07 15 00 - CHEMICAL RESIN INJECTION GROUTING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Seal wet and dry fine cracks and joints in concrete and masonry by pressure injecting chemical resin into the walls and floor slab of the area indicated to prevent water leakage into the areas. Work includes, but not limited to, the following:
 - 1. Removal of all deposits of chemicals, oil and other foreign materials from walls and floor by solvents and steam cleaning from areas to be waterproofed.
 - 2. Injection of chemical resin to seal all the cracks and joints in all the areas indicated. Inject construction joints between slabs and walls as well as all other cracks and joints in slab and walls. Inject chemical grout through the slab and walls to create a positive side water barrier where indicated. Include all associated dewatering needed to perform the work.
 - 3. Clean all the work areas after completion.

1.02 RELATED SECTIONS

- A. N/A

1.03 REFERENCES

- A. New York City Board of Standard and Appeals (BSA)
- B. American Society for Testing and Materials (ASTM)
- C. American National Standard Institute (ANSI)

1.04 SUBMITTALS

- A. Product Data
 - 1. Provide manufacturer's information and technical data on the waterproofing materials.
- B. Samples
 - 1. Injection sealant materials, 1 each type.
 - 2. Packers

C. Quality Control Submittals

1. Certificates: Furnish manufacturer's certification that materials meet or exceed Specification requirements, including certified test laboratory reports as necessary for compliance with the requirements.
2. Manufacturer's Instructions: Furnish manufacturer's literature, specifications, and application instructions.
3. Procedure: Submit written description of water-proofing procedures and operations sequencing based on manufacturer's requirements prior to commencing the Work.
4. Submit intent to guarantee and warranty document with a performance guarantee against water penetration through waterproofing system for 5 years with any necessary replacement material and labor supplied at no cost to Owner.
5. Quantity of material: At the beginning of injection work, provide a list of batch numbers for the product shipped to the site and save lids/labels showing the quantity used to the designer and manufacturer's representative.
6. Contractor Qualifications: Provide proof of Manufacturer and Applicator qualifications specified under "Quality Assurance".

D. As-built Drawing: Provide drawing indicating all areas and specific joint/cracks injected. Also include all void areas injected.

E. Guarantee

Submit applicators guarantee and manufacturer's warranty.

1.05 QUALITY ASSURANCE

A. Qualifications: Company specializing in the waterproofing repair of cracks and barrier membrane injection shall have a minimum of three years experience and at least three similar installations of equal magnitude and installation techniques (two part acrylate injection, crack and barrier) that have proven successful in all respects for a period of at least three years. Contractor shall also be trained by the waterproofing manufacturer and certified in order to obtain the manufacturer's warranty.

B. Manufacturer's Representative

All work of this Section shall be performed under the supervision of the waterproofing material manufacturer's representative. The representative shall attend pre-construction

meetings and make regular visits during the course of construction to ensure that method of installation is acceptable so that warranty will be obtained.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all materials in the manufacturer's sealed original container's bearing the manufacturer's name and product identification in a manner to prevent damage by breakage, water or moisture.
- B. Store and handle all products of this section in a strict compliance with the manufacturer's instructions.

1.07 PROJECT CONDITIONS

- A. Do not execute the Work of this section unless the Owner's Representative and/or Architect is present, or unless the Owner Representative directs that the Work be performed during the Representative's absence.
- B. Execute the work of the section in presence of the product manufacturer's representative.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply if the temperature is below 50°F or above 85°F unless the material manufacturer is consulted for recommendations.

1.09 GUARANTEE AND WARRANTY

- A. Contractor's Guarantee

Two-year written guarantee covering defects in materials and workmanship. Maintenance Bond shall be provided for the entire two-year period and shall be equal to the original cost of installation.

- B. Manufacturer's Warranty

In addition to the Contractor's guarantee, furnish the grout manufacturer's printed 5-year warranty for the Work of this Section. The warranty shall include but not be limited to, repair of leakage caused by defects in materials or workmanship at areas of repair. The monetary value of the warranty shall be at least equal to the original material cost of the installation.

- C. Should any defects develop or any leaks occur in the Work within the guarantee/warranty period, such defects or leaks shall at once be remedied and made good without cost or expense to the Owner.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. BBZ, USA, Greenstreak
3400 Treecourt Ind. Blvd.
St. Louis, MO 63129
(1-800-814-4498)
- B. DeNeef Construction Chemicals
5610 Brystone Dr
Houston Tx 77041
713-896-0123
- C. Aquafin, Inc.
505 Blue Ball Rd., No.160
Elkton, MD 21921
(1-866-278-2346)

2.02 MATERIALS

- A. General
 - 1. Chemical resins are to be used for sealing concrete cracks and joints to prevent current or future water seepage. The selection of a particular material for use at a specific location shall be based on the nature of the crack or joints in relation to the materials properties.
 - 2. The non-foaming polyurethane gel and expanding polyurethane grout are intended for use in running water conditions or where moderate to large joints and cracks with active leakage are encountered, and otherwise as directed by the Architect/Engineer. They are injected prior to the installation of the acrylate-ester resin at the same location.
 - 3. The acrylate-ester water-swelling resin is intended for use in filling small to moderate sized cracks in concrete with little or minimal running water. It can also be used to create a positive side water barrier under slabs where numerous hairline cracks (40 mils or less) are present in a given area, making it impractical to inject into each individual hairline crack.
 - 4. The expanding polyurethane is also intended for use in filling voids behind slabs and walls prior to injection to create a barrier with the acrylate ester resin.

B. Products

1. Non-foaming polyurethane gel

- a. Two-component polyurethane resin capable of sealing large cracks and active leaks. Material shall be chemically resistant. Viscosity shall be less than 700 cp.
- b. Material shall be:
 - 1) Duro-Rapid by BBZ
 - 2) Rapidflex-213 by Aquafin

2. Acrylate-ester water-swelling resin

- a. Hydrophilic acrylate-ester resin, approximately 50% solids by weight prior to mixing, capable of infinite number of wet-dry cycles used for sealing small to moderate sized cracks with little or none active water. Viscosity shall be less than 5 cp.
- b. Material shall be:
 - 1) Duroseal Inject 215 by BBZ
 - 2) Superflex by DeNeef
 - 3) PM3811 by Aquafin

3. Expanding Polyurethane Grout

- a. Hydrophobic closed cell urethane expanding to at least 10 times its volume capable of sealing medium to large cracks and active leaks as well as filling voids, depending on product recommended by manufacturer. Material shall be compatible with the acrylate-ester water swelling resin and be acceptable to the acrylate ester manufacturer to ensure warranty will be attained.
- b. Material shall be:
 - 1) Cut PUn by DeNeef
 - 2) Flex LV PUn by DeNeef

2.03 PRE-INJECTION GROUTING CONFERENCE

- A. Before the injection grouting Work is scheduled to commence, a conference will be called by the Architect and the Owner's Representative at the site for the purpose of reviewing the Drawings and the Specifications and discussing requirements for the Work. The conference shall be attended by the Contractor, the injection applicator, the injection resin manufacturer's Company Field Advisor, the Owner's CID inspector and the Architect/Engineer of Record.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine all adjoining work on which this Work is in anyway dependent for proper installation and workmanship. Report to the Owner and Architect any conditions that prevent the performance of this Work.
- B. Prior to beginning injection for barrier wall work, Contractor shall drill test holes through slab/wall to determine if void spaces are noted (ensure holes are repairs such they don't leak). If void spaces are found, notify the Architect/Engineer of Record for inspection and drill holes in their presence for verification.

3.02 SURFACE PREPARATION AND PROTECTION

- A. Remove paint, oil, and foreign material off all concrete surfaces of area to be waterproofed prior to injection using solvents and steam cleaning. Remove water to map cracks and allow inspection by the Architect/Engineer of Record.
- B. Protect adjacent areas from chemicals.
- C. Keep area dry by mopping and pumping in order to place material and determine crack location.
- D. Clean surface of injection area to locate crack.
- E. Preparatory Work
 - 1. Joint/Crack injection
 - a. Drill holes diagonally at a 45° angle to intersect crack or joint. Hole diameter shall suit injection packer size. Injection packer shall be acceptable to the grout manufacturer.

- b. Distance from starting of hole to crack or joint shall be equal to one-half the thickness of the structural slab or wall. This will be usually be determined by trial and error.
- c. If the repair is at a crack, holes should be spaced on both sides and alternating to ensure that at least one-half of the total number of holes shall intersect the crack.
- d. Spacing of holes shall be dependent upon crack width and chemical grout material viscosity to ensure continuity of seal within the crack or joint. Spacing of holes should not exceed 1'-6" on center, unless demonstrated to be effective at a greater spacing.

2. Barrier Injection

- a. Drill holes perpendicular to surface through the wall/slab. If there are obstructions to the pattern, holes may be drilled at an angle to ensure complete coverage.
- b. Spacing of holes should not exceed 1'-6" on center with each line of holes offset from those rows above and below by one half the distance between the holes (creating a diamond pattern). Wider spacing may only be used if it is demonstrated to be effective at producing port to port continuity in the presence of the Owner, Architect and manufacturer's representative.
- c. When injecting through masonry, install a tube or extended packer, depending on the quality of the masonry, through the wall to ensure that the resin is getting to the soil behind and not into the void spaces in the masonry. Another option is to use expanding polyurethane grout injected into the drill hole to fill the hole and any immediate voids surrounding the hole and then the holed re-drilled through the grout to create a path for the resin injection to get to the exterior.

3.03 INJECTION WORK

- A. For barrier injection work, if preconstruction drill holes indicate voids, inject expanding polyurethane grout or cement grout as determined by the Architect/Engineer of Record prior to injection of the acrylate ester. Drill holes at appropriate spacing to fill voids (beyond provisions included in the contract for such).
- B. Prepare components as per manufacturer's instructions. Add accelerator to suit field conditions, including, but not limited to, water flow, surface being injected, ambient temperature, crack or joint width, etc. Process chemical resin materials using appropriate

protective gear including gloves, mask or goggles, and appropriate clothing. Follow manufacturer's recommendation for product safety guidelines.

- C. For cracks and construction/cold joints, flush the crack with clean water prior to injection of the resin. Typical pressure needed to flush a crack shall be between 200 and 300 psi. The flushing may reveal blind drill holes, voids, cavities, honeycombs that require special treatment. Modify application procedure as required. After flushing is completed at one injector, the Contractor shall repeat the procedure at the next injector until all have been flushed.
- D. Using suitable power stainless steel pumping equipment acceptable to the manufacturer, pump components through a suitable static mixer to ensure homogeneous blending of the components. Static mixer shall be firmly coupled to injection packer to make sure residue does not clog. During pumping operations, take proper precautions against loose or spalled concrete dislodging and falling.
- E. If injection packers have been left out of holes to verify material travels, once material is observed at the next hole, a packer shall be securely placed in that hole. Begin pumping at that next packer. If all packers have been installed prior to pumping, when material flow has been observed exiting crack or joint adjacent to another packer, begin pumping at that packer. Packers that have removable zerks, such as SealBoss S-type, allow applicator to fully install packers and observe material flowing through the adjacent packer. The zerk connector is then inserted to inject that packer.
- F. If water is actively flowing, use the two-component non-foaming polyurethane gel or expanding polyurethane grout to prevent water from flowing. After the water is stopped, reinject the same crack/joint with the acrylate-ester resin. Other cracks and joints shall be repaired by using the acrylate-ester resin to create a barrier.
- G. Should set time need to be hastened, accelerator may be added in accordance with manufacturer's recommendation and Injection Contractor's experience.
- H. When work is either complete or temporarily halted, flush static mixer with manufacturer's recommended solvent to prevent clogging.
- I. Injection pressures shall be kept as low as possible to allow material to thoroughly permeate the full depth of the crack or joint or to fill the interstitial void spaces in the soil behind the wall/slab.
- J. Inject all packers until no further chemical resin can be pumped.
- K. If during the barrier injection process the Injection Contractor suspects that a void exists behind and/or beneath the wall/slab substrate after pumping more than five (5) gallons of mixed injection resin into an injection port installed in a vertical wall and/or seven (7)

gallons into a floor slab, he/she should cease all pumping activities and immediately notify the Owner's Representative and the Architect/Engineer of Record.

1. This contact and notification must take place within 24 hours of the work stoppage.
 2. A jobsite meeting should be organized to include all parties involved, i.e., General Contractor, injection sub-contractor, Authorities Representative, Architect/Engineer of Record, and manufacturer's representative.
 3. During this meeting, the area in question should be identified and investigated, which may not have been found during the preconstruction drilling. A detailed plan will be discussed and formulated to ascertain what steps may be necessary to remediate the problem. Remedial work may require the void space to be filled with expanding polyurethane grout or cement grout by injection to fill the void prior to injecting the area further. The Contractor will be paid extra for the work in the area requiring the remedial grout injection work (beyond provisions included in the contract for such).
- J. If crack or joint continues to leak, drill hole(s) in accordance with above procedures at the leaking segment(s) and repeat procedures for injection.
- K. Remove the ports after work is complete. Remove at least 1" of injection material from the top 1" of the hole and fill hole with hydraulic cement, matching the texture of the existing concrete surface.

3.04 CLEANING AND PROTECTION

- A. Clean all adjacent areas of excess material; powder, resin, and droppings.

3.05 FIELD QUALITY CONTROL

- A. The Architect representative will inspect the work to verify the drill pattern and determine if testing is required to verify to drill holes penetrated the required distance and grouting was performed. The Contractor shall include in the bid the cost of mobilization, labor and material for one day to drill and re-grout approximately 10 to 20 holes. If holes are determined to not have been properly done and thus the grouting incomplete, additional test holes at the contractor's expense shall be performed, including all remedial work.
- B. All work is to be done under the supervision of the manufacturer's representative. Manufacturer's representative shall make regular inspections during the work in addition to preconstruction meeting.

END OF SECTION 07 15 00 - CHEMICAL RESIN INJECTION GROUTING

SECTION 07 51 13 - MODIFIED BITUMEN MEMBRANE WATERPROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. PREPARATION OF EXISTING DECK AND ROOF SYSTEM SELECTIVE AREAS TO RECEIVE ROOFING MATERIALS
- B. ROOF MEMBRANE APPLICATION
- C. ROOF FLUID APPLIED FLASHING APPLICATION
- D. ROOF PROTECTION SYSTEM APPLICATION
- E. INCORPORATION OF SHEET METAL FLASHING COMPONENTS AND ROOFING ACCESSORIES INTO THE ROOF SYSTEM

1.02 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

- A. SHEET METAL FLASHING AND TRIM
- B. SHEET METAL ROOFING SPECIALTIES

1.03 RELATED SECTIONS

- A. SECTION 06 10 00 - ROUGH CARPENTRY
- B. SECTION 03 01 00 – CONCRETE REPAIR
- C. SECTION 07 92 00 – JOINT SEALERS
- D. SECTION 22 14 26 - DRAINS

1.04 REFERENCE STANDARDS

References in these specifications to standards, test methods, codes etc., are implied to mean the latest edition of each such standard adopted. The following is an abbreviated list of associations, institutions, and societies which may be used as references throughout these specifications.

ASTM	American Society for Testing and Materials Philadelphia, PA (215) 299-5585
BOCA	Building Officials and Code Administrators International, Inc. Country Club Hills, IL (708) 799-2300
FM	Factory Mutual Engineering and Research Norwood, MA (617) 762-4300

ICBO	International Conference of Building Officials Whittier, CA (562) 699-0541
NRCA	National Roofing Contractors Association Rosemont, IL (847) 299-9070
OSHA	Occupational Safety and Health Administration Washington, DC (202) 523-1452
SMACNA	Sheet Metal and Air Conditioning Contractors National Association Chantilly, VA (703) 803-2980
UL	Underwriters Laboratories Northbrook, IL (708) 272-8800

1.05 DESCRIPTION OF WORK

The basic work descriptions (components, layering and attachment methods) required in this specification are referenced below. See also Parts 2 & 3 for specific products, preparation, application and details.

PROJECT TYPE: Tear-off

DECK: Concrete

SLOPE: Less than 1/2 inch

SUBSTRATE PREPARATION: Prime with asphalt primer, at a rate of 100 square feet per gallon.

VAPOR BARRIER: Siplast Irex 40, torch applied;

ROOF SYSTEM: Paradiene 20TG, torch applied;
Teranap 1m Sanded Finish, torch applied.

FLASHING SYSTEM: Siplast Parapro 123 fluid applied reinforced flashing system.

PROTECTION LAYER: Siplast Paradrain Drainage Mat, loose laid.

INSULATION: Extruded polystyrene insulation, having a minimum thickness of 2 inches, loose laid.

PAVERS (RE-USE): Asphalt Paver system over pourous asphalt setting bed, installed in strict accordance with the requirements of paver manufacturer.

SPECIFIED GUARANTEE: Twenty Five year Teranap Waterproofing Guarantee.

1.06 SUBMITTALS

All submittals which do not conform to the following requirements will be rejected.

A. SUBMITTALS OF EQUALS. Submit primary roof systems to be considered as equals to the specified roof system no less than 10 days prior to bid date. Primary roof systems which have been reviewed and accepted as equals to the specified roof system will be listed in an addendum prior to bid date; only then will equals be accepted at bidding. Include the following submittals of equals prior to bid:

1. Two 3 inch x 5 inch samples of the primary roofing and flashing sheets.
2. Latest edition of the roofing system manufacturer's specifications and installation instructions.
3. Descriptive list of the materials proposed for use.
4. Letter from the proposed primary roofing manufacturer confirming the number of years it has directly manufactured the proposed primary roofing system under the trade name and/or trademarks as proposed.
5. List of three (3) of the manufacturer's projects, located in the United States, of equal size and degree of difficulty which have been performing successfully for a period of at least five (5) years.
6. Complete list of material physical and mechanical properties for each sheet including: weights and thicknesses; low temperature flexibility; breaking load; ultimate elongation; dimensional stability; compound stability; granule embedment and resistance to thermal shock (foil faced products).
7. Sample copy of the specified guarantee.

B. SUBMITTALS PRIOR TO CONTRACT AWARD:

1. Letter from the proposed primary roofing manufacturer confirming that the bidder is an acceptable Contractor authorized to install the proposed system.
2. Letter from the primary roofing manufacturer stating that the proposed application will comply with the manufacturer's requirements in order to qualify the project for the specified guarantee.

C. SUBMITTALS PRIOR TO PROJECT CLOSE-OUT:

1. Manufacturer's printed recommendations for proper maintenance of the specified roof system including inspection frequencies, penetration addition policies, temporary repairs, and leak call procedures.

1.07 QUALITY ASSURANCE

A. ACCEPTABLE PRODUCTS. Primary roofing products, including each type of sheet, all manufactured in the United States, shall be supplied by a single manufacturer which has been successfully producing the specified types of primary products for not less than 10 years. Secondary or accessory products shall be acceptable to the manufacturer of the primary roofing products.

B. ACCEPTABLE CONTRACTOR. Contractor shall have a minimum of 2 years experience in successfully installing the same or similar roofing materials and be certified in writing by the roofing materials manufacturer to install the primary roofing products.

- C. **SCOPE OF WORK.** The work to be performed under this specification shall include but is not limited to the following: Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the roof installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary roofing products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the Handbook of Accepted Roofing Knowledge (HARK) as published by the National Roofing Contractor's Association, amended to include the acceptance of a phased roof system installation.
- D. **LOCAL REGULATIONS.** Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.
- E. **MANUFACTURER REQUIREMENTS.** Ensure that the primary roofing materials manufacturer provides direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conducts a final inspection upon successful completion of the project.

1.08 PRODUCT DELIVERY STORAGE AND HANDLING

- A. **DELIVERY.** Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.
- B. **STORAGE.** Store materials out of direct exposure to the elements. Store roll goods on a clean, flat and dry surface. All material stored on the roof overnight shall be stored on pallets. Rolls of roofing must be stored on ends. Store materials on the roof in a manner so as to preclude overloading of deck and building structure. Store materials such as solvents, adhesives and asphalt cutback products away from open flames, sparks or excessive heat. Cover all material using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings are not acceptable.
- C. **HANDLING.** Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.
- D. **DAMAGED MATERIAL.** Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, removed and replaced at the Contractor's expense.

1.09 PROJECT/SITE CONDITIONS

- A. **REQUIREMENTS PRIOR TO JOB START**
 - 1. **NOTIFICATION.** Give a minimum of 5 days notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.
 - 2. **PERMITS.** Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.

3. SAFETY. Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

B. ENVIRONMENTAL REQUIREMENTS

1. PRECIPITATION: Do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied roofing, and building interiors are protected from possible moisture damage or contamination.

C. PROTECTION REQUIREMENTS

1. MEMBRANE PROTECTION. Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.
2. TORCH SAFETY: Designate one person on each crew to perform a daily fire watch. The designated crew member shall watch for fires or smoldering materials on all areas of roof construction. Continue the fire watch for one hour after roofing material application has been suspended for the day.
3. LIMITED ACCESS. Prevent access by the public to materials, tools and equipment during the course of the project.
4. DEBRIS REMOVAL. Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.
5. SITE CONDITION. Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.

1.10 GUARANTEE/WARRANTY

- A. ROOF MEMBRANE GUARANTEE. Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the Manufacturer's twenty five (25) year labor and materials membrane guarantee. The guarantee shall be a term type, without deductibles or limitations on coverage amount.

> Siplast twenty five year Teranap Waterproofing Guarantee

PART 2 PRODUCTS

2.01 ROOFING SYSTEM ASSEMBLY/PRODUCTS

- A. VAPOR BARRIER PLY SHEET. A fiberglass reinforced specially oxidized asphalt coated sheet having an minimum weight of 70 lb./square. Type: Siplast Irex 40.
- B. ROOFING MEMBRANE SYSTEM. A roof membrane system consisting of two (2) plies of a prefabricated, torch grade Styrene-Butadiene-Styrene (SBS) copolymer modified asphalt system secured to a prepared substrate. The modified bitumen base ply and modified bitumen finish ply shall be prefabricated using a

fiberglass mat reinforcement. Both reinforcement mats shall be impregnated and coated each side with a high quality SBS modified bitumen blend. Both modified bitumen sheets shall be coated on one side with a high quality torch grade SBS bitumen blend. The adhesive layer shall be manufactured using a process that embosses the surface with a grooved pattern to provide optimum burn-off of the plastic film and to maximize application rates. The modified bitumen base sheet shall possess waterproofing capability, such that a phased roof application, with only the modified bitumen base ply in place, can be achieved for prolonged periods of time without detriment to the watertight integrity of the entire roof system.

> Siplast Paradiene 20 TG/Teranap - torchable roof system

1. MODIFIED BITUMEN BASE PLY, STRIPPING PLY AND FLASHING REINFORCING SHEET

- a) Thickness (avg.): 114 mils - 2.9 mm
- b) Weight (avg. per 100 ft² of coverage) - 80 lbs - 3.9 kg/m²
- c) Low temperature flexibility @ 13° F (-25° C) - PASS (ASTM D 5147)
- d) Breaking Load (avg.) @ 73° F - 30 lbf/inch (ASTM D 5147)
- e) Ultimate Elongation (avg.) @ 73° F - 50% (ASTM D 5147)
- f) Compound Stability (min.) - 248° F (120° C)
- g) Approvals - UL Class listed, FM Approved (products shall bear seals of approval)
- h) Reinforcement - fiberglass mat

> Siplast Paradiene 20TG

2. MODIFIED BITUMEN FINISH PLY

- a) Thickness (avg.): 160 mils - 4.0 mm
- b) Weight (per 100 ft²) - 90 lbs - 4.4 kg/sq m
- c) Low temperature flexibility @ -13° F (-25° C) - PASS (ASTM D 5147)
- d) Breaking Load (avg.) @ 73° F - 70 lbf/inch (ASTM D 5147)
- e) Ultimate Elongation (avg.) @ 73° F - 90% (ASTM D 5147)
- f) Compound Stability (min.) - 248° F (120° C)
- h) Reinforcement - non woven polyester geotextile
- l) Surfacing – Sanded Surface

> Siplast Teranap 1M Sand/Sand

- C. FLASHING MEMBRANE ASSEMBLY. Resin for Flashing Applications: A multi-component, flexible, polymethylmethacrylate (PMMA) based resin combined with a thixotropic agent for use in combination with fleece fabric to form a monolithic, reinforced flashing membrane.

> Parapro 123 fluid reinforced flashing system

1. REINFORCED FLUID APPLIED PMMA FLASHING SYSTEM

- a) Catalyst: A reactive agent used to induce curing of polymethylmethacrylate (PMMA) resins.

> Pro Catalyst by Siplast; Irving, TX

- b) Fleece for Membrane and Flashing Reinforcement: A non-woven, 110 g/m², needle-punched polyester fabric reinforcement as supplied by the membrane system manufacturer.

- > Pro Fleece by Siplast; Irving, TX

- c) Resin for Flashing Applications: A multi-component, flexible, polymethylmethacrylate (PMMA) based resin combined with a thixotropic agent for use in combination with fleece fabric to form a monolithic, reinforced flashing membrane.

- > Parapro Flashing Resin by Siplast; Irving, TX

D. PROTECTION SYSTEM. A protection system consisting of the following components:

- 1. PREFABRICATED DRAINAGE PANEL. A multi directional core, geotextile covered, high flow capacity, interlocking, high compression strength prefabricated drainage panel.

- > Paradrain manufactured by Siplast – 1-800-922-8800

- 2. INSULATION

- a) EXTRUDED POLYSTYRENE. (XEPS) A continuous closed-cell polystyrene foam panel conforming to ASTM C 578-87 TYPE IV and ICBO 2257, BOCA 86-98, or SBCCI 8774. Thickness shall be minimum two (2”).

- > The acceptable XEPS type is PlazaMate brand by the Dow Chemical.

2.02 ROOFING ACCESSORIES

A. ROOFING ADHESIVES

- 1. FLASHING ADHESIVE. A slump resistant, asphalt cutback flashing adhesive, reinforced with non-asbestos fibers, conforming to ASTM D 4586 Type II requirements.

- > Siplast PA-828 Flashing Cement

B. BITUMINOUS CUTBACK MATERIALS

- 1. PRIMER. A high flash, quick drying, asphalt low solvent blend which meets or exceeds ASTM D 41 requirements.

- > Siplast PA-917LS Asphalt Primer

- 2. MASTICS. An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D 4586 Type II requirements.

- > Siplast PA-1021 Plastic Cement

C. PMMA Primers

1. PMMA Primer for Concrete/Masonry/Wood/Plywood Substrates: A two component, PMMA based primer for use over concrete, concrete repair materials, masonry substrates and wood/plywood substrates.

- > Pro Primer W by Siplast; Irving, TX

2. PMMA Primer for Asphaltic Substrates: A two component, fast-curing, PMMA based primer for use over asphaltic materials.

- > Pro Primer R by Siplast; Irving, TX

- D. Preparation Paste: A multi-component, fast curing, PMMA based paste used for remediation of depressions in substrate surfaces or other irregularities.

- > Pro Paste Resin by Siplast; Irving, TX

- E. CAULKING/SEALANTS. A single component, high performance, elastomeric sealant conforming to ASTM D 232, ASTM C 920, or ASTM C 920. Acceptable types are as follows:

- > Tremseal by TREMCO; Cleveland, OH (216) 292-5000

- > Sonolastic NP 1 by Sonneborn Building Products; Minneapolis, MN (612) 922-7090

- > Black Jack No. 1010 by Gibson-Homans; Twinsburg, OH (216) 425-3255

- F. Preparation Paste: A multi-component, fast curing, PMMA based paste used for remediation of depressions in substrate surfaces or other irregularities.

- > Pro Paste Resin by Siplast; Irving, TX

- G. CAULKING/SEALANTS. A single component, high performance, elastomeric sealant conforming to ASTM D 232, ASTM C 920, or ASTM C 920. Acceptable types are as follows:

- > Tremseal by TREMCO; Cleveland, OH (216) 292-5000

- > Sonolastic NP 1 by Sonneborn Building Products; Minneapolis, MN (612) 922-7090

PART 3 EXECUTION

3.01 PREPARATION

- A. GENERAL. Sweep or vacuum all surfaces, removing all loose aggregate and foreign substances prior to commencement of roofing.

B. REMOVE ALL EXISTING:

- Roof membrane
- Base flashings
- Edge metal
- Flanged metal flashings
- Cants, wood blocking
- Walkways
- Non functional penetrations/curbs
- Drain assemblies
- Metal trim, counterflashing, etc.

3.02 SUBSTRATE PREPARATION

- A. PREPARATION OF THE EXISTING MEMBRANE SURFACE. Prime the surface of the existing roof membrane using PA-917LS Primer at the rate of 1 gallon per 100 square feet of surface.
- B. VAPOR BARRIER APPLICATION. Torch apply the ply sheets directly to the prepared surface lapping sides and ends a minimum of three (3) inches. Apply the sheets free of wrinkles, creases or fishmouths and exert sufficient pressure on the roll during application to ensure the prevention of air pockets. Seal each penetration and termination using fiberglass tape and the specified plastic cement to ensure that the temporary roof configuration is completely water-tight.

3.03 ROOF MEMBRANE INSTALLATION

- A. MEMBRANE APPLICATION. Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements. Application of roofing membrane components shall immediately follow application of base sheet and/or insulation as a continuous operation.
- B. AESTHETIC CONSIDERATIONS. An aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize recommended application techniques, apply the specified materials (i.e. granules, metallic powder, etc.), and exercise care in ensuring that the finished application is acceptable to the Owner.
- C. PRIMING. Prime metal flanges (all jacks, edge metal, lead drain flashings, etc.) and concrete and masonry surfaces with a uniform coating of ASTM D 41 asphalt primer.
- D. BITUMEN CONSISTENCY. Cutting or alterations of bitumen, primer, and sealants will not be permitted.
- E. ROOFING APPLICATION. Apply all layers of roofing free of wrinkles, creases or fishmouths. Exert sufficient pressure on the roll during application to ensure prevention of air pockets. Stagger the lap seams between the base ply layer and the finish ply layer. Stagger the courses to ensure this.
1. Apply all layers of roofing perpendicular to the slope of the deck.

2. Fully bond the base ply to the prepared substrate, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the torch applicator. Stagger end laps a minimum of 3 feet.
 3. Fully bond the finish ply to the base ply, utilizing minimum 6 inch side and end laps. Apply each sheet directly behind the torch applicator. Stagger end laps of the finish ply a minimum 3 feet. Stagger side laps of the finish ply a minimum 12 inches from side laps in the underlying base ply. Stagger end laps of the finish ply a minimum 3 feet from end laps in the underlying base ply.
 4. Maximum sheet lengths and special fastening of the specified roof membrane system may be required at various slope increments where the roof deck slope exceeds 1/2 inch per foot. The manufacturer shall provide acceptable sheet lengths and the required fastening schedule for all roofing sheet applications to applicable roof slopes.
- F. FLASHING APPLICATION -MIXING OF RESIN PRODUCTS. Preparation/Mixing/Catalyzing Resin Products: Pour the desired quantity of resin into a clean container and using a spiral mixer or mixing paddle, stir the liquid for the time period specified by the resin manufacturer. Calculate the amount of catalyst powder needed using the manufacturers guidelines and add the pre-measured catalyst to the primer. Mix again for the time period specified by the resin manufacturer, ensuring that the product is free from swirls and bubbles. It is imperative that air is not entrained into the product during the mixing process. To avoid aeration, do not use a spiral mixer unless the spiral section of the mixer can be fully contained in the liquid during the mixing process. Mix only enough product to ensure that it can be applied before expiration of resin pot life.
- G. REINFORCED FLUID APPLIED PMMA FLASHING APPLICATION
1. Using masking tape, mask the perimeter of the area to receive the flashing system. Apply resin primer to substrates requiring additional preparation and allow primer to set. Prepare surface of Teranap finish ply to receive fluid applied flashing by removing protective polyester resin with open flame torch.
 2. Pre-cut fleece to ensure a proper fit at transitions and corners prior to membrane application.
 3. Apply an even, generous base coat of flashing resin using a roller at the rate of 19 kg/sq (2.0 kg/m²) to prepared surfaces requiring flashing coverage. Work the fleece into the wet, catalyzed resin using a brush or roller to fully embed the fleece in the resin and remove trapped air. Lap fleece layers a minimum of 2 inch (5 cm) and apply an additional coat of catalyzed resin between layers of overlapping fleece. Again using a roller, apply an even top coat of catalyzed resin at the rate of 12 kg/sq (1.3 kg/m²) immediately following embedment of the fleece, ensuring full saturation of the fleece. Ensure that the flashing resin is applied to extend a 0.25 inch (6 mm) beyond the fleece. Remove the tape before the catalyzed resin sets. Make allowances for saturation of roller covers and application equipment.
 4. Should work be interrupted for more than 12 hours or the surface of the catalyzed resin becomes dirty or contaminated by the elements, wipe the surface to be lapped with new flashing resin using the specified cleaner/solvent. Allow the surface to dry for a minimum 20 minutes and a maximum 60 minutes before continuing work.

- H. **WATER CUT-OFF.** At end of day's work, or when precipitation is imminent, construct a water cut-off at all open edges. Cut-offs can be built using asphalt or plastic cement and roofing felts, constructed to withstand protracted periods of service. Cut-offs must be completely removed prior to the resumption of roofing.

3.04 ROOF SYSTEM INTERFACE WITH RELATED COMPONENTS

The following is a list of verbal descriptions for correct installation of components integrated into the roof membrane assembly. In all cases, unless otherwise approved, incorporate flanged components into the system between the application of the base ply and the finish ply. The flange must be primed with a uniform coating of approved ASTM D 41 asphalt primer and allowed to dry thoroughly; all flanges must be set in approved mastic.

- A. **EDGE METAL.** Completely prime metal flanges and allow to dry prior to installation. Turn the base ply down 2 inches past the roof edge and over the nailer. After the base ply and continuous cleat (if applicable) have been installed, set the flange in mastic and stagger nail every 3 inches on center. Strip-in the flange using the stripping-ply material, extending a minimum of 4 inches beyond the edge of the flange. Terminate the finish ply at the gravel-stop rise of the edge metal. SEE ITEM: SEALANT, for finish of this detail.
- B. **LEAD PIPE FLASHINGS.** Completely prime the lead flanges and allow to dry prior to installation. After the base ply has been applied, set the flange in mastic and strip-in the flange using the stripping-ply material, extending a minimum of 4 inches beyond the edge of the flange. Terminate the finish ply at the flange-sleeve juncture of the pipe flashing. SEE ITEM: SEALANT for finish of this detail.
- C. **LEAD DRAIN FLASHINGS.** Completely prime the lead drain flashing and allow to dry prior to installation. After the base ply has been applied, set the lead flashing sheet in mastic and form to turn down inside of the drain bowl. Ply-in the perimeter of the lead flashing using an additional layer of the base ply material, overlapping the perimeter of the lead a minimum of 4 inches. Terminate the finish ply to extend beneath the clamping ring seal. Install the clamping ring with all clamps, bolts etc., in place.
- D. **METAL PIPE FLASHINGS.** Completely prime the metal pipe flanges and allow to dry prior to installation. After the base ply has been applied, set the flanges in mastic and strip-in the flange using the stripping-ply material, extending a minimum of 4 inches beyond the edge of the flange. Terminate the finish ply at the flange-sleeve juncture of the pipe flashing. Install a watertight umbrella to the penetration, completely covering the opening of the pipe flashing. SEE ITEM: SEALANT for finish of this detail.
- E. **SEALANT.** Caulk all exposed finish ply edges at gravel stops, waste stacks, pitch pans, vent stacks, etc..., with a smooth continuous bead of approved sealant.

3.05 MEMBRANE PROTECTION - APPLICATION

<p>* NOTE: The roof membrane system must be inspected by the manufacturer's representative prior to installation of the protection system. The manufacturer's representative will compile required punchlist items indicating any deficiencies in the roof membrane and flashing membrane system that shall be corrected before the installation will be accepted.</p>
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- A. **GENERAL.** All application of roofing, detailing, shall be completed; all surfaces shall be clean, free of debris, etc.

- B. MEMBRANE PROTECTION LAYER. Place the specified drainage mat unadhered directly over all areas of the newly applied membrane, extending to walls, curbs, and other related junctures. Lap the utilizing factory applied selvage side and end.
- C. INSULATION. Install of the specified insulation unadhered directly over the membrane protection layer, in strict accordance with the insulation manufacturer's requirements and the following recommendations.
 - 1. All end joints must be staggered.
 - 2. Install the panels to fit tightly; leaving a maximum acceptable opening between panels of three-eighths (3/8) inch.
 - 3. Closely abut walls, penetrations and projections with the panels; leave a maximum opening between insulation panels and projections of three-quarter (3/4) inch.
 - 4. Where insulation is installed in multi-layer configurations, use the following modifications.
 - a) The bottom layer must be a minimum two (2) inches in thickness;
 - b) The lower layer must be the thickest;
 - c) Stagger all joints in relation to underlying layers;
 - d) Install all layers unadhered.

3.06 FIELD QUALITY CONTROL AND INSPECTIONS

- A. SITE CONDITION. Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.
- B. NOTIFICATION OF COMPLETION. Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.
- C. FINAL INSPECTION
 - 1. POST-INSTALLATION MEETING. Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the Contractor and the manufacturer's representative. Complete, sign, and mail the punch list form to the manufacturer's headquarters.
 - 2. DRAIN VERIFICATION. At final inspection of all work, verify that all drains, scuppers, etc., are functioning properly. Ensure that roof drains have adequate strainers.
- D. ISSUANCE OF THE GUARANTEE. Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

SECTION 07600 - FLASHING AND SHEET METAL

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

1.02 SUMMARY

- A. Work: Work described in this Section includes the following:
 - 1. Lead coated copper drip edges at copings where shown in Project Drawings.
 - 2. Stainless steel drip edges at lintels and sills where shown in Project Drawings.
 - 3. Fluid-applied flashings as shown in Project Drawings.
 - 4. Miscellaneous sheet-metal accessories.
- B. Extent and Location: Extent and location of flashing work is indicated in the Drawings and herein, and includes but is not limited to the following:
 - 1. Lead coated copper cap, base, inner-wall and thru-wall flashing installation at the perimeter of below coping stones.
 - 2. Exterior door thresholds and window sills

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 07900 - Joint Sealers
- B. Section 04 43 00 – Stone Masonry

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's technical product data for flashing, sheet metal and accessories including installation instructions and general recommendations for each specified sheet material and fabricated product.
- B. Shop Drawings: Submit shop drawings where required for work of this Section.
- C. Samples: Provide 8 inch square samples of all specified flashings, materials, as well as other accessory items and materials.

1.05 PROJECT CONDITIONS

- A. Coordination: Coordinate work of this Section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of work and protection of materials and finishes.

PART 2 - PRODUCTS

2.01 SHEET METAL FLASHING AND TRIM MATERIALS

- A. Lead Coated Copper: Cold-rolled, 20 oz. Copper shall be coated on both sides with lead weighing 0.06 to 0.075 lbs/sq ft for each side. Lead coated sheet shall conform to ASTM B 101, Type 1, Class A.
- B. Copper: Temper H00 (cold-rolled), 16 oz, to conform with ASTM B 370.
- C. Termination Bars: 1/8" natural anodized aluminum break formed at top edge to receive sealant. Termination bar shall be approved by roofing manufacturer.
- J. Threshold Plates: 1/8" Type 302/304 stainless steel.
- K. Stainless Steel Drip Edges: 22 gauge Type 302/304 stainless steel.

2.02 MISCELLANEOUS MATERIALS AND ACCESSORIES

- A. Solder:
 - 1. Lead coated copper: Provide 60 - 40 tin/lead solder.
 - 2. Copper: Provide 50 - 50 tin/lead solder (ASTM B 32).
- B. Flux: Flux shall be rosin, muriatic acid neutralized with zinc, or approved equal. Acid shall be thoroughly washed off after soldering is completed.
- C. Fasteners: Same metal as flashing/sheet metal or other non-corrosive metal as recommended by sheet manufacturer and as noted on Drawings or in Specifications. Match finish of exposed heads with material being fastened.
- D. Paper Slip Sheet: 5-lb rosin-sized building paper.
- E. Metal Accessories: Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, non-corrosive, size and gauge required for performance.

PART 3 - EXECUTION

3.01 INSTALLATION REQUIREMENTS

- A. General: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations, and with SMACNA "Architectural Sheet Metal Manual". Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints and seams which will be permanently watertight and weatherproof. Provide adequate galvanic protection between dissimilar metals. Seal all penetrations through flashing.

- B. Drip Edges Beneath Coping Stones: Install lead coated copper drip edges at refurbished steel lintels as indicated on Drawings. Provide 4" minimum overlap with continuous sealant. Set drip edge in sealant.
- C. Coordination: Coordinate installation of flashing and sheet metals with work done by others. Coordinate with Roofing Contractor.
- D. Expansion Joint Provisions: All flashing shall be unrestrained every 20'-0" at 2" overlap.
- E. Sill Inner-Wall Flashing: Install stainless steel inner-wall flashing below and behind window frames at sill level. Provide end dams. Seal all penetrations through inner-wall flashing. Provide adequate galvanic protection between dissimilar metals.
- F. Termination Bars: Aluminum termination bars shall be secured every 8" OC minimum with stainless steel expansion bolts. Provide neoprene washers. Seal all penetrations. Install sealant bead at top edge. Refer to Section 07900 - Joint Sealers.
- G. Threshold Plates: Remove and discard existing steel or aluminum plates at exterior door thresholds. Install new continuous stainless steel plate. Plate shall turn up under existing threshold. Remove and reinstall existing threshold if necessary to accomplish this. Coordinate with base flashing installation. Refer to Section 07530 - Protected Roof Membrane Assembly. Secure with stainless steel countersunk flat head screws every 24" OC, minimum two (2) per sill. Seal all penetrations.
- H. Drip Edges: Install stainless steel drip edges at steel lintels as indicated on Drawings. Provide 4" minimum overlap with continuous sealant. Set drip edge in sealant.

3.02 CLEANING AND PROTECTION

- A. Exposed Flashing: Clean exposed metal surfaces, removing substances which might cause corrosion of metal or deterioration of finishes. Do not use any solvents that might damage the waterproofing membrane.
- B. Protection: Contractor shall follow manufacturer's recommendations and required procedures for surveillance and protection of flashings and sheet metal work during construction, to ensure that work will be without damage or deterioration, other than natural weathering at time of substantial completion.

END OF SECTION 07600 - FLASHING AND SHEET METAL

SECTION 07 90 00 – EXTERIOR JOINT SEALERS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Work: Joint sealing work described herein includes the following:
1. Exterior joint preparation and installation of sealants as shown on drawings, including but not limited to:
 - Sealant at backer rod installation
 - Sealant at sheet metal and penetrations in masonry, etc.
 - Sealant at horizontal plaza joints with compressible fillers
 - Sealant at masonry joints, where noted
 - Sealant at transverse horizontal coping joints
 - Sealant at railing posts
 - Sealant at top of termination bars
 - Sealant at perimeter aluminum windows and doors

1.04 SUBMITTALS

- A. Product Data: Product Data from manufacturers for each type of expansion control system indicated, including instructions for joint preparation and joint sealer application.
- B. Installation: Submit samples of all materials that will contact or affect joint sealers to joint sealer manufacturers for:
1. Samples
 - Compatibility and adhesion testing
 - Color sampling: Provide color(s) of exposed joint sealers as selected by Architect from manufacturer's standard colors.
 - Primer
- C. In-Place Samples: Provide 1'-0" long in-place samples of each type of joint sealer for Architect's review and approval.
- D. Elastomeric Sealant Testing: The Contractor shall conduct periodic testing at a frequency of every 2,000 LF.
1. Adhesion-in-Peel of Elastomeric Joint Sealants, as per ASTM C 794.
 2. Recovery Test using a durometer, as described in ASTM C 794.

3. Test Method of Adhesion and Cohesion of Elastomeric Joint Sealants under Cyclical Movement, as per ASTM C 719.

a. Contractor shall arrange for independent testing laboratory to be present to administer tests. The Contractor shall submit for Architect's review the results of the testing. If the results of the tests are unsatisfactory, the Contractor shall remove and restore defective joints at no additional cost to the Owner.

E. Provide letter from sealant manufacturer that joint sealers, joint fillers and other related materials are totally compatible with one another and with joint substrates under conditions of service and application.

1.05 QUALITY ASSURANCE

A. Installers Qualifications: Engage an installer who has successfully completed within the last five (5) years at least three (3) joint sealer applications of each type as required for this project.

B. Single Source Responsibility for Joint Sealer Materials: Obtain joint sealer materials from a single manufacturer for each different product required.

C. Standards: Sealant installation shall comply with ASTM C 962-86 "Standard Guide for Use of Elastomeric Sealants".

1.06 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials to project site in original unopened containers or bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multi-component materials.

B. Storage: Store and handle materials in compliance with manufacturers' recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1. Emseal DMS shall be stored indoors at room temperature. Recovery is quicker when warm and slower when cold.

1.07 PROJECT CONDITIONS

A. Environmental Conditions: Do not proceed with installation of joint sealers under the following conditions:

1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturers.

2. When joint substrates are wet due to rain, frost, condensation, or other causes.

B. Joint Width Conditions: Do not proceed with installation of joint sealers where joint widths are less than allowed by joint sealer manufacturer for application indicated.

C. Joint Substrate Conditions: Do not proceed with installation of joint sealers until contaminants

capable of interfering with their adhesion are removed from joint substrates.

- D. Prior to the work of this contract, the Contractor shall remove existing joint material to confirm compatibility of existing sealant with new specified sealant, as well as adherence of new sealant to existing joints at typical areas for each specified installation.
- E. General: Provide expansion control systems of design, basic profile, materials, and operation indicated. Provide units with capability to accommodate variations in adjacent surfaces.
 - i. Furnish units in longest practicable lengths to minimize field splicing. Install with hairline mitered corners where expansion control systems change direction or abut other materials.
 - ii. Include factory-fabricated closure materials and transition pieces, T-joints, corners, curbs, cross-connections, and other accessories as required to provide continuous expansion control systems.

1.08 WARRANTY

- A. Installer's [7] [Seven]-year workmanship warranty.
- B. Manufacturer's 20-year material warranty for properly installed silicone sealant.
- C. Manufacturer's 5-year minimum material warranty for properly installed polyurethane sealant.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Dow Corning Corporation, P.O. Box 994, Midland, MI 48686-0994; (800) 248-2481; www.dowcorning.com/construction.
- B. Sika Corporation, 201 Polito Avenue, Lyndhurst, NJ 07071, 1-800-933-7452
- C. Requests to use equivalent products of other manufacturers shall be submitted in accordance with Section 01330 – Submittals.

2.1 SEALANT

- A. *Dow Corning*® 795 Silicone Building Sealant, as manufactured by Dow Corning Corporation for masonry joints, or approved equal.
- B. *Dow Corning*® 995 Silicone Structural Glazing Sealant, as manufactured by Dow Corning Corporation for sealant application around the window frames, or approved equal.
- C. SikaSil 728 SL, Self-leveling for expansion joints at the plaza deck, or approved equal.

- D. SikaFlex15LM, Low Modulus High performance, 1 component, polyurethane base, non-sag elastomeric sealant
- E. Emseal DSM – DS System, Watertight Joint System for decks stadiums and Below Grade Walls
- F. Compliance: Sealant shall meet or exceed requirements of these standards.
 - 1. ASTM C920, Type S, Grade NS, Class 50, Use NT, G, A, and O.
 - 2. ASTM C1184, Type S, Use G, A, and O.
 - 3. GSA CID A-A-272A - Sealing Compound: Silicone Rubber Base (For Caulking, Sealing, and Glazing in Buildings and Other Structures).
 - 4. GSA CID A-A-1556 -Sealing Compound Elastomeric Type, Single Component (For Caulking, Sealing, and Glazing in Buildings and Other Structures).
- G. Color: Custom color to be approved by the Architect. Contractor to make submittals as required for color approval prior to its application.
- H. Shelf life: 12 months.
- I. Tack-free time: 3 hours.
- J. Working time: 20 to 30 minutes.
- K. Curing time: 7 to 14 days.
- L. Full adhesion time: 14 to 21 days.
- M. Flow, sag, or slump: [0.1 inch] [2.5 mm], tested in accordance with ASTM C639.
- N. Volatile organic compound (VOC) content: 28 grams/liter.
- O. Cured sealant properties after 21 days at [77 degrees F] [25 degrees C] and 50 percent relative humidity.
 - 1. Joint movement capability: Plus and minus 50 percent, tested in accordance with ASTM C719.
 - 2. Hardness: 35-durometer hardness, Shore A, tested in accordance with ASTM D2240.
 - 3. Tear strength, Die B: [49 ppi] [8.74 kg/cm], tested in accordance with ASTM D624.
 - 4. Maximum peel strength: [40 ppi] [7.14 kg/cm], tested in accordance with ASTM C794.
 - 5. Ultimate tension adhesion: [170 ppi] [1.2 MPa], tested in accordance with ASTM C1135.

6. Staining: None on concrete, marble, granite, limestone, and brick, when tested in accordance with ASTM C1248.
7. Service temperature range: [Minus 40 to plus 300 degrees F] [Minus 40 to plus 149 degrees C].
8. Weathering after 10,000 hours, tested in accordance with ASTM C1135 using QUV Weatherometer:
 - a. At 25 percent extension: [35 psi.] [0.24 MPa.]
 - b. At 50 percent extension: [50 psi.] [0.35 MPa.]
9. Elongation: 5252 percent, tested in accordance with ASTM D412.
- P. Backer Rod and Filler: Sonolastic closed cell backer rod as manufactured by Sonneborn, (612) 835-3434, and as approved by sealant manufacturer.
- Q. Joint Primer: Provide type recommended by joint sealer manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from pre-construction joint sealer/substrate tests and field tests.
 1. Silicone sealant primer: Use appropriate primer prior to installation of pre-compressed sealant and edge sealant.
- R. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.
- S. Cleaners for Non-Porous Surfaces: Provide non-staining, chemical cleaners of type which are acceptable to manufacturers of sealants and sealant backing materials, which are not harmful to substrates and adjacent non-porous materials, and which do not leave oily residues or otherwise have a detrimental effect on sealant adhesion or in-service performance.

PART 3 – EXECUTION

1.1 SYSTEM DESCRIPTION

- A. General: Provide expansion control systems of design, basic profile, materials, and operation indicated. Provide units with capability to accommodate variations in adjacent surfaces.

Furnish units in longest practicable lengths to minimize field splicing. Install with hairline mitered corners where expansion control systems change direction or abut other materials. Include factory-fabricated closure materials and transition pieces, T-joints, corners, curbs, cross-connections, and other accessories as required to provide continuous expansion control systems.

- B. Coordination: Coordinate installation of all exterior expansion control systems to ensure that wall transitions are watertight. Roof expansion joint assemblies are specified elsewhere.

3.01 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:
 - 1. Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealers, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, or mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
 - 3. Clean metal, glazed surfaces of brick and other non-porous surfaces by chemical cleaners or other means, which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.
 - 4. Cleaning of all surfaces shall be performed on the same day in which the sealant is applied. Use only solvents recommended by the manufacturer. Cleaning solvents shall not be allowed to air dry or evaporate without wiping. Solvents, when used, shall be wiped dry with a clean cloth or lintless paper towels.
- B. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on pre-construction joint sealer-substrate tests or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact, or by cleaning methods required to remove sealant smears. Masking tape is also recommended where appropriate to ensure a neat job. Remove tape immediately after tooling and before the sealant begins to cure without disturbing joint seal.

3.02 INSTALLATION PROCEDURES

- A. General: Comply with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
- B. Elastomeric Sealant Installation Standard: Comply with recommendations of ASTM C 962 for use of joint sealants as applicable to materials, applications and conditions indicated.
- C. Installation of Sealant Backings: Install sealant backings to comply with the following requirements:

1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths which allow optimum sealant movement capability.
 2. Do not leave gaps between ends of joint fillers.
 3. Do not stretch, twist, puncture, or tear joint fillers.
 4. Remove absorbent joint fillers, which have become wet prior to sealant application and replace with dry material.
 5. Install bond breaker tape between sealants and joint fillers, compression seals, or back of joints where adhesion of sealant to surfaces at back of joints would result in sealant failure.
 6. Install compressible seals serving as sealant backings to comply with requirements indicated above for joint fillers.
- D. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
- F. Masking Tape: Use masking tape to protect adjacent surfaces of recessed tooled joints.

3.04 PRE-COMPRESSED SEALANT INSTALLATION

- A. Rake out all deteriorated parapet expansion joints removing existing cementitious mortar, pre-compressed sealant, silicone caulking, backer rod, etc. as specified in item 3.01 of this Section. Joint surfaces must be free from gross irregularities, loose particles, foreign matter such as dirt, dust, ice, snow, water, etc, and coatings such as grease, oil, release agents, lacquers, etc, that may be detrimental to adhesion of the sealant.
1. Primer surfaces as required to receive edge finishing silicone sealant.
- B. Remove expanding foam sealant from protective packaging. Expose self-adhesive side by removing release liner. Insert material into joint and secure adhesive face against joint side using putty knife. Material will then expand to fill joint. (At cooler temperatures, recovery can be accelerated by heating.) Join consecutive lengths of material with a 45-degree miter.
- C. Install in accordance with fully detailed installation instructions as provided by Emseal.

3.05 CLEANING

- A. Excess Sealant: Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

3.06 PROTECTION

- A. Contamination: Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and installations with repaired areas indistinguishable from original work.

END OF SECTION 07 92 00 - JOINT SEALERS

SECTION 09 29 00 – GYPSUM WALLBOARD

1.1 RELATED DOCUMENTS

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

The work consists of replacement of removed and water-damaged gypsum board and substrate materials along interior corridor in cellar, as needed.

1.2 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum wallboard.
- B. Related Requirements:
 - Section 02 41 19 – Selective Demolition
 - Section 09 30 00 – Tile
 - Section 09 90 00- Painting

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For the following products:
 - 1. Gypsum Board Finish
 - 2. Gypsum veneer base and accessories

1.4 QUALITY ASSURANCE

- A. Mockups: Before beginning gypsum wallboard and veneer panel installation, install mockups of at least 4 sq. ft. in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Install mockups for the following:
 - a. Finished gypsum board at cellar level.
 - 2. Apply or install final decoration indicated, including painting on exposed surfaces for review of mockups.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
 - 4. Shop Drawings: Indicate arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.
- C. Low-Emitting Materials: For ceiling and wall assemblies, provide materials and construction identical to those tested in assembly and complying with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.2 GYPSUM WALLBOARD, GENERAL

- A. Regional Materials: Gypsum panel products shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
- B. Regional Materials: Gypsum panel products shall be manufactured within 500 miles of Project site.
- C. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with existing support system.

2.3 INTERIOR GYPSUM WALLBOARD

- A. Abuse-Resistant Gypsum Board: ASTM C 1629/C 1629M, Level 2.
 - 1. Core: 5/8 inch, Type X
 - 2. Long Edges: Tapered.
 - 3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
- B. Gypsum Ceiling Board: ASTM C 1396/C 1396M.
 - 1. Thickness: 1/2 inch.
 - 2. Long Edges: Tapered.

2.4 CEMENTITIOUS BACKER BOARD

- A. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or 1325, with manufacturer's standard edges.
- B. Water-Resistant Gypsum Backing Board: ASTM C 1396/C 1396M, with manufacturer's standard edges.

2.6 Gypsum Board/Plaster Manufacturers:

- A. Georgia-Pacific Gypsum LLC; Product DensArmor Cote Interior Veneer Plaster: www.gp.com/gypsum.
- B. National Gypsum Company; Product Kal-Kote Basecoat and Kal-Kote Smooth Finish Plaster: www.nationalgypsum.com.
- C. USG; Product Diamond Interior Finish Plaster: www.usg.com.
- D. or approved equal

2.5 TRIM ACCESSORIES – GYPSUM BOARD

- A. Interior Trim: ASTM C 1047.
 - 1. Material: Paper-faced galvanized steel sheet
 - 2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - f. Expansion (control) joint.
 - g. Curved-Edge Cornerbead: With notched or flexible flanges.

2.6 MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 - 1. Interior Gypsum Board: Paper.
 - 2. Exterior Gypsum Soffit Board: Paper.
 - 3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
 - 4. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Prefilling: At open joints, tapered, square edges, and damaged surface areas, use setting-type taping compound.
 - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 - 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
 - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
 - 5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION - INTERIOR GYPSUM BOARD

- A. Place acoustical insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions, and tight to items passing through partitions.
- B. Install gypsum base in accordance with ASTM C 844.
- C. Install gypsum base in accordance with ASTM C844 and GA-216.
- D. Use drywall screws to fasten gypsum base to framing substrate.
- E. Single Layer Base at all interior location indicated to receive gypsum veneer plaster:

1. Install gypsum board base vertical, with ends and edges occurring over firm bearing.
2. At furred partition faces, place 4 inch wide strip of gypsum board, same thickness as furring, at perimeter of wall openings and partition.

F. Double Layer Base at locations indicated:

1. Erect first layer of gypsum board, perpendicular to framing or furring members.
2. Place second layer of gypsum board, perpendicular to first layer. Ensure end joints of second layer do not occur over joints of first layer.
3. Secure second layer with adhesive and sufficient support to hold in place. Apply adhesive in accordance with manufacturer's instructions.

G. Install accessories.

H. Tape, fill, and sand filled joints, edges, corners, openings, and trim to produce surface ready to receive veneer finish.

I. Feather coats onto adjoining surfaces so that joint camber is maximum 1/32 inch.

J. Install acoustical sealant within partition assembly in accordance with manufacturer's instructions.

K. Install acoustical sealant at gypsum board perimeter at:

1. Metal Framing: One bead.
2. Perimeter interruptions.
3. Seal all penetrations of partitions by conduit, pipe, ducts, and rough-in boxes.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - b. At high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.
4. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
5. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.3 INSTALLATION - VENEER PLASTER

A. Install gypsum veneer plaster in accordance with ASTM C 843 and manufacturer's instructions.

B. At All Locations: Two Coat Application:

1. Apply base coat to a thickness of 1/8 inches
2. Apply final coat over slightly green, almost dry base coat, to a thickness of 1/16 inch.
3. Total Thickness: 3/16 inch.

C. Finish surface to flat, smooth, hard trowel finish.

3.4 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 09 29 00 – GYPSUM WALLBOARD

SECTION 09 30 00 - TILE

1.1 GENERAL

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

The work consists of replacement of removed veneer tile panels and substrate materials along interior corridor in cellar, as needed.

1.2 SUMMARY

- A. Section Includes:

- 1. Veneer stone tile panel

- B. Related Requirements:

Section 02 41 19 – Selective Demolition
Section 09 29 00 – Gypsum Wall Board

- C. ACTION SUBMITTALS

- D. Product Data: For each type of product.

- E. Samples: For the following products:

- 1. Veneer stone tile panel to match existing at wall applications

1.4 QUALITY ASSURANCE

- A. Maintain one copy of TCA Handbook and ANSI A108 Series/A118 Series on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum 5 years of documented experience.
- C. Replacement Tile Manufacturer: Company regularly engaged in manufacturing glazed ceramic tile similar to the tile required for this project that can demonstrate that their tile have been installed in similar exposed exterior locations for a period of 5 years or more with a record of successful in-service performance.
- D. Installer Qualifications: Company specializing in performing tile installation, with minimum of 5 years of documented experience.

1.5 MOCK-UP

- A. Construct a 2' x 2' tile mock-up where indicated on the drawings, incorporating all components specified for the location.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions. Tiles must match existing.

1.7 FIELD CONDITIONS

- A. Do not install adhesives in an unventilated environment.
- B. Maintain ambient and substrate temperature of 50 degrees F during installation of mortar materials.

PART 2 - PRODUCTS

2.1 TILE

- A. Manufacturers: All products of each type by the same manufacturer.
 - 1. Dal-Tile Corporation: www.daltile.com
 - 2. Or approved equal
- B. Stone Mosaic Tile Type ST-1: ANSI A137.1, and as follows:
 - 1. Natural Bluestone Supplied by Trowel Trades Supply, Inc., 802.655.3166:
 - 2. Size and Shape: 2 x 6 to 24 inches x ½ inch thick
 - 3. Edges: Square sawn edges.
 - 4. Surface Finish: Honed.
 - 5. Colors: Blue-gray.

2.2 MORTAR MATERIALS

- A. Manufacturers:
 - 1. Custom Building Products; Product MegaFlex mortar: www.custombuildingproducts.com.
 - 2. Laticrete International, Inc.; Product Laticrete 3701 Mortar Admix / 226 Thick Bed Mortar.
 - 3. Mapei Products; Product Keribond/Keralastic: www.mapei.com.
 - 4. Or approved equal.
- B. Mortar Bed Materials: Portland cement, sand, latex additive, and water.
- C. Mortar Bond Coat Materials:
 - 1. Dry-Set Portland Cement type: ANSI A118.1.
 - 2. Latex-Portland Cement type: ANSI A118.4.
 - 3. Epoxy: ANSI A118.3.

2.3 GROUT MATERIALS

- A. Manufacturers:
 - 1. Custom Building Products; Product Polyblend Sanded or Unsanded Grout: www.custombuildingproducts.com.
 - 2. Laticrete; Product Laticrete 1500 Sanded Grout or 1600 Unsanded Grout, mixed with

- Laticrete 1776 Grout Admix.
3. Mapei; Product Ultra/Color, Fast-Curing, High Early Strength, Polymer Modified Sanded Tile Grout.
 4. Star Quartz Industries; 866.220.4500, Product Quartz-Lock Grout: www.starquartz.com.
 5. Or approved equal

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.

3.2 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- C. Install cementitious backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of dry-set mortar to a feather edge.
- E. Install tile backer board in strict accordance with manufacturer's instructions, using galvanized roofing nails or corrosion-resistant bugle head drywall screws. Bed fiberglass self-adhesive tape at all joints and corners with material used to set tiles.

3.3 INSTALLATION - WALL TILE

- A. Over cementitious backer units on studs, install in accordance with TCA Handbook Method W244, using membrane at toilet rooms and showers.
- B. Over cementitious backer units install in accordance with TCA Handbook Method W223, organic adhesive.
- C. Over coated glass mat backer board on studs, install in accordance with TCA Handbook Method W245.
- D. Over gypsum wallboard on wood or metal studs install in accordance with TCA Handbook Method W243, thin-set with dry-set or latex-portland cement bond coat, unless otherwise indicated.
- E. Over interior concrete and masonry install in accordance with TCA Handbook Method W202, thin-set with dry-set or latex-portland cement bond coat.

3.4 CLEANING

- A. Clean tile and grout surfaces.

END OF SECTION 09 30 00 - TILE

SECTION 09 90 00 - PAINTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General Contract Provisions and the General Requirements of Division 01 apply to the work of this Section.

1.02 WORK SUMMARY

- A. This Section pertains to the provision of all field painting and finishing:
 - 1. All interior plaster wall and ceiling surfaces as indicated on the Drawings.
- B. Color Schemes
 - 1. At interior surfaces the Contractor shall match the existing color scheme.

1.03 RELATED SECTIONS

- A. Section 09 29 00 - Gypsum Wall Board

1.04 QUALITY ASSURANCE

- A. Paint
 - 1. The Contractor shall submit a representative sample of interior surfaces with primer and 2 coats of paint to the Architect for approval.
 - 2. Product Data
 - a. Manufacturer's Information: Provide manufacturers technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.
 - b. Certification by the manufacturer that products supplied comply with local regulations controlling the use of volatile organic compounds (VOC's)
 - 3. The Contractor is to provide a Paint Schedule. Paint Schedule will identify all colors of all paints and finishes to match existing.
- B. Reference Standards
 - 1. Benjamin Moore and Company, Architect's Specifications.
 - 2. Steel Structures Painting Council "*Surface Preparation Specifications*" ANSI 159.1 1972.

3. U.S. National Park Service, Preservation Brief No. 10, "Exterior Paint Problems on Historic Wood Work"

C. Inspections

1. The Contractor shall notify the Architect to inspect immediately before and after the application of paints and finishes.

D. Applicator Qualifications

1. Engage an experienced applicator who has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.

- E. Maintenance Stock: At time for substantial completion, deliver stock of maintenance material to the Owner. Furnish five (5) gallons each of each color specified.

1.05 DELIVERY AND STORAGE

- A. Deliver all materials to the job site in original, new and unopened packages and containers bearing manufacturer's name and label.

- B. Provide labels on each container with the following information:

1. Name or title of material.
2. Manufacturer's stock number.
3. Manufacturer's name.
4. Contents by volume, for major pigment and vehicle constituents.
5. Thinning instructions.
6. Application instructions.

- B. Storage: Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F (7 degrees C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.

- C. Protection: Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary precautions to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing and application.

1.06 JOB CONDITIONS

- A. Do not apply water-base paints when the temperature of surfaces to be painted and the surrounding air temperatures are below 50 degrees F, unless otherwise permitted by the paint manufacturer's printed instructions.

- B. Do not apply solvent-thinned paints or varnishes when the temperature of surfaces to be painted or varnished and the surrounding air temperatures are below 45 degrees F, unless otherwise permitted by the paint or varnish manufacturers' printed instructions.
- C. Do not apply paint or varnish in snow, rain, fog or mist; or when the relative humidity exceeds 85 percent; or to damp or wet surfaces; unless permitted by the paint and varnish manufacturers' printed instructions. Painting and varnishing may be continued during inclement weather only if the areas and surfaces to be painted or varnished are enclosed and heated within the temperature limits specified by the paint or varnish manufacturer during application and drying periods.

PART 2 - MATERIALS

2.01 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in the paint schedules.
- B. Products: Subject to compliance with requirements, provide one of the products in the paint schedules.
- C. Manufacturers Names: The following manufacturers are referred to in the paint schedules by use of shortened versions of their names, which are shown in parentheses:
 - 1. Devoe & Raynolds Co. (Devoe).
 - 2. Fuller-O'Brien Paints (Fuller).
 - 3. Glidden Co. (The) (Glidden).
 - 4. Benjamin Moore & Co. (Moore).
 - 5. PPG Industries, Inc. (PPG).
 - 6. Pratt & Lambert, Inc. (P & L).
 - 7. Sherwin-Williams Co. (S-W).

2.02 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.

- C. Colors: Provide custom colors of the finished paint systems to match existing or Architect's samples as required.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.
 - 1. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
 - 2. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
 - 1. Notify the Architect about anticipated problems using the materials specified over substrates primed by others.

3.02 PREPARATION, GENERAL

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
 - 2. The Contractor shall inspect the premises for areas of paint that are still well adhered to the substrate.
- C. Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various new coatings. Remove oil and grease before cleaning.
 - 1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- D. General Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
- E. Materials Preparation: Mix and prepare paint materials according to manufacturer's written instructions.

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 3. Use only thinners approved by paint manufacturer and only within recommended limits.
- F. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.03 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
1. Paint colors, surface treatments, and finishes are indicated in the schedules.
 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 3. Provide finish coats that are compatible with primers used.
 4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, covers for finned-tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
 5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 6. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 7. Sand lightly between each succeeding enamel or varnish coat.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 2. Omit primer on metal surfaces that have been shop primed and touchup painted.

3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller or other applicators according to manufacturer's written instructions, and in accordance with local work rules.
1. Brushes: Use brushes best suited for the type of material applied. Use brush of appropriate size for the surface or item being painted.
 2. Historic Appearance:
 - a. Rollers may be used for initial paint application to surfaces only if each wet coat is immediately brushed out to eliminate all evidence of roller use. Final effect should be of paint applied only by brush.
 - b. Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and in occupied spaces.
- F. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing.
- I. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- L. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.04 FIELD QUALITY CONTROL

- A. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary during the period when paint is being applied:

1. The Owner will engage the services of an independent testing agency to sample the paint material being used. Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.
 2. The testing agency will perform appropriate tests for the following characteristics as required by the Architect:
 - a. Quantitative material analysis.
 - b. Abrasion resistance.
 - c. Apparent reflectivity.
 - d. Flexibility.
 - e. Washability.
 - f. Absorption.
 - g. Accelerated weathering.
 - h. Dry opacity.
 - i. Accelerated yellowness.
 - j. Recoating.
 - k. Skinning.
 - l. Color retention.
 - m. Alkali and mildew resistance.
 3. The Architect may direct the Contractor to stop painting if test results show material being used does not comply with specified requirements. The Contractor shall remove noncomplying paint from the site, pay for testing, and repaint surfaces previously coated with the rejected paint. If necessary, the Contractor may be required to remove rejected paint from previously painted surfaces if, on repainting with specified paint, the 2 coatings are incompatible.
- B. Special Paint Removal: If the specified methods and/or materials fail to perform as intended, in general or in particular, the Contractor shall cease working on the area(s) in question, immediately notify the Architect and Owner of the problem, and request direction on how to proceed with the work. Pending receipt of written direction from the Architect, rearrange painting schedule as necessary to continue overall job progress without delay.

3.05 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

3.06 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

- B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
 - 1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.07 INTERIOR PAINT SCHEDULE

- A. Provide an interior paint schedule per the recommendation of the manufacturer.
- B. Gypsum Plaster Substrates:
 - Institutional: Low-Odor/VOC Latex System:
 - Prime Coat: Primer sealer, interior, institutional low odor/VOC, MPI #149.
 - Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - Topcoat: Latex, interior, institutional low odor/VOC, (Gloss Level 3), MPI #145.

END OF SECTION 09 90 00 - PAINTING

SECTION 221423 - STORM DRAINAGE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

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

1.2 RELATED WORK SPECIFIED ELSEWHERE

Section 02 41 19 – Selective Demolition
Section 03 41 00 - Concrete Repair
Section 03 13 00 – Pervious Concrete
Section 07 51 13 – Built-Up-Waterproofing
Section 32 12 00 – Asphalt Paving

1.3 SUMMARY

- A. Extent of plumbing work is as indicated on Drawings, as specified herein, and as required by condition and regulatory authorities for the proper completion of work.
- B. Briefly, and without force and effect upon Contract Documents, work of this Section includes, but is not limited to, the following:
 - 1. Selective demolition and repair of concrete for removal and installation of drain assemblies
 - 2. Permanent removal and capping of two (2) plaza drains.
 - 3. Installation of one (1) new plaza drain assembly and associated piping, as noted on drawings.
 - 4. Replacement of all plaza drain assemblies, as noted on drawings.
 - 5. Replacement of all scupper drain assemblies.
 - 6. Replacement of all planter drain assemblies.
 - 7. Replacement of trench drain assembly.
 - 8. Miscellaneous storm drainage piping replacement as needed
 - 9. Snaking of all drain piping to 20'

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.5 QUALITY ASSURANCE

- A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.

PART 2 - PRODUCTS

2.1 METAL ROOF DRAINS

A. Cast-Iron, 3", 4", and 5" Promenade Plaza Drains

1. Based on Jay R. Smith Model 1409
2. Standard: ASME A112.6.4.
3. Body Material: Cast iron.
4. Dimension of Body: 11" diameter.
5. Combination Flashing Ring and Gravel Stop: Required.
6. Outlet: Bottom.
7. Outlet Type: No hub.
8. Secured Solid Cover: Required.
9. Underdeck Clamp: Required.
10. Expansion Joint: Required.
11. Perforated Gravel Guard: Stainless steel.

B. Cast Iron, Plaza Scupper Drains:

1. Based on Jay R. Smith Model 1510
2. Standard: ASME A112.6.4.
3. Body Material: Cast iron.
4. Outlet: Back.
5. Outlet Type: Threaded.
6. Grate Material: Bronze.
7. Wire Mesh: Stainless steel or brass over grate.
8. Vandal-Proof Grate: Required.
9. Perforated Gravel Guard: Stainless steel.

C. Cast Iron, Planter Drain:

1. Based on Jay R. Smith Model 1930
2. Standard: ASME A112.6.4.
3. Body Material: Cast iron.
4. Dimension of Body: Nominal 11" diameter.
5. Dimension of Frame and Grate: Nominal 20".
6. Outlet: Bottom.
7. Outlet Type: No hub.
8. Grate Material: Stainless Steel.
9. Vandal-Proof Grate: Required.
10. Extension Collars: Required.
11. Underdeck Clamp: Required.
12. Expansion Joint: Required.
13. Sump Receiver Plate: Required.

2.2 CHANNEL DRAINAGE SYSTEMS

A. Sloped-Invert, Polymer-Concrete, Channel Drainage Systems (Trench Drain):

1. Based on Jay R. Smith Model 9930
2. Description: Modular system of channel sections, grates, and appurtenances; designed so grates fit into channel recesses without rocking or rattling to be modified for drainage of water from plaza, as per drawings.
 - a. Channel Sections: Narrow, interlocking-joint, sloped-invert, polymer-concrete modular units with end caps.
 - 1) Include rounded bottom, with built-in invert slope of 0.6 percent and with outlets in number, sizes, and locations indicated.
 - 2) Include extension sections necessary for required depth.
 - 3) Dimensions: To match existing. Include number of units required to form total lengths indicated.
 - 4) Frame: Stainless steel or cast iron for grates.
 - b. Grates: Manufacturer's designation "medium duty," with slots or perforations, and of width and thickness that fit recesses in channel sections.
 - 1) Material: Stainless steel.
 - 2) Locking Mechanism: Manufacturer's standard device for securing grates to channel sections.
 - c. Covers: Solid ductile or cast iron, of width and thickness that fit recesses in channel sections, and of lengths indicated.
 - d. Supports, Anchors, and Setting Devices: Manufacturer's standard unless otherwise indicated.
 - e. Channel-Section Joining and Fastening Materials: As recommended by system manufacturer.

PART 3 - EXECUTION

3.1 Pre-Construction Testing

- A. Prior to start of construction, test drain by inserting a hose in the drain. Run test for a minimum of 15 minutes at a rate of 5 gallons per minute to determine flow capacity. If drain flow is inadequate (due to blockage or undersized plumbing line), notify Architect in writing immediately.

3.2 Installation

- A. Install roof drains at low points of roof areas according to roof membrane manufacturer's written installation instructions. Install drains as per manufacturer's instructions. All work shall be performed by a Plumber licensed in New York City. Set, plane, level and rigid.

- B. Replacement of the drain will be required if existing drain is improperly installed, deteriorated or height needs to be adjusted. Replacement of the drains will be determined during the construction.
- C. Maintain integrity of waterproof membrane, where penetrated.
- D. Field verify type and size of pipe connections required to assure a water-tight connection at roof or terrace.
- E. Exercise caution to minimize damage to deck, and to ceiling below drains
- F. Patch opening surrounding drain body to provide a level surface for setting new drain.
- G. Install trench drains at low points of surface areas to be drained. Set grates of drains flush with finished surface unless otherwise indicated.
- H. Assemble channel drainage system components according to manufacturer's written instructions. Install on support devices so that top will be flush with adjacent surface.
- I. Install through-penetration firestop assemblies for penetrations of fire- and smoke-rated assemblies.
 - 1. Comply with requirements in Section 078413 "Penetration Firestopping."

3.3 CONNECTIONS

- A. Comply with requirements for piping specified in Section 221413 "Facility Storm Drainage Piping." Drawings indicate general arrangement of piping, fittings, and specialties.

3.4 FLASHING INSTALLATION

- A. Fabricate flashing from single piece of metal unless large pans, sumps, or other drainage shapes are required.
- B. Install sheet flashing on pipes, sleeves, and specialties passing through or embedded in floors and roofs with waterproof membrane.
- C. Set flashing on decks in solid coating of bituminous cement.
- D. Secure flashing into sleeve and specialty clamping ring or device.

3.5 PROTECTION

- A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 22 14 23

SECTION 32 12 00– FLEXIBLE ASPHALT PAVING

PART 1 – GENERAL

1.01 SUMMARY.

A. Section Includes:

1. New and salvaged asphalt pavers and joint sand
2. Bitumen setting bed
3. Asphalt tack coat
4. Cleaning and sealing

1.02 REFERENCES.

A. American Society for Testing Materials (ASTM)

1. C33 – Specification for Aggregates.
2. C136 – Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
3. C140 – Standard Test Methods for Sampling and Testing Masonry Units and Related Units.
4. C144 – Standard Specification for Aggregate for Masonry Mortar.
5. C920 – Specification for Elastomeric Joint Sealants.
6. C979 – Standard Specification for Pigments for Integrally Colored .
7. D977 – Standard Specification for Emulsified Asphalt.
8. C1645 – Standard Test Method for Freeze-Thaw and De-Icing Salt Durability of Solid Interlocking Paving Units.
9. D3381 – Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction.

1.03 RELATED SECTIONS

- A. Section 01 33 00, Submittals
- B. Section 02 41 19, Selective Demolition
- C. Section 22 14 26, Plumbing/Drains
- D. Section 04 43 00, Stone Masonry
- E. Section 07 92 00, Joint Sealers
- F. Section 03 13 00, Pervious Concrete

1.04 SUBMITTALS.

- A. Manufacturer's drawings and details: Indicate perimeter conditions, relationship to adjoining materials and assemblies, expansion and control joints, asphalt paver layout, [patterns, color arrangement, installation and setting] details, and pitch to location of drains in builders pavement plan.
- B. Neoprene modified asphalt adhesive product catalog sheets with specifications.

- C. Bituminous setting bed: Asphalt cement mix design to be used in the bituminous setting bed conforming to ASTM D3381.
- D. Sieve analysis per C136 for sand mixed with bitumen and sand for joints between asphalt pavers.
- E. Pavers:
 - 1. Two representative full-size samples of each paver type, thickness, color, finish that indicates the range of color variation and texture expected in the finished installation. Color(s) selected by Engineer and Owner from manufacturer's available colors.
 - 2. Accepted samples become the standard of acceptance for the work.
 - 4. Manufacturer's certification of pavers as having met applicable ASTM standards.
 - 5. Manufacturer's catalog product data, installation instructions, and material safety data sheets for the safe handling of the specified materials and products.
- F. Paver Installation Subcontractor:
 - 1. A copy of Subcontractor's current certificate from the Interlocking Pavement Institute Paver Installer Certification Program.
 - 2. Job references from projects of a similar size and complexity. Provide Owner/Client/General Contractor names, postal address, phone, fax, and e-mail address.

1.04 QUALITY ASSURANCE.

- A. Paving Subcontractor Qualifications:
 - 1. Utilize an installer having successfully completed paver installation similar in design, material, and extent indicated on this project.
 - 2. Utilize an installer holding a current certificate from the Interlocking Pavement Institute Paver Installer Certification program.
- B. Mock-Ups:
 - 1. Install a 7 foot by 7 foot paver area.
 - 2. Use this area to determine surcharge of the bitumen-sand layer and adhesive, joint sizes, lines, laying pattern(s), color(s) and texture of the job.
 - 3. This area will be used as the standard by which the work will be judged.
 - 4. Subject to acceptance by owner, mock-up may be retained as part of finished work.
 - 5. If mock-up is not retained, remove and properly dispose of mock-up.

1.05 DELIVERY, STORAGE AND HANDLING.

- A. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers packaging with identification labels intact.

1. Coordinate delivery and paving schedule to minimize interference with normal use of buildings adjacent to paving.
 2. Deliver pavers to the site in steel banded, plastic banded or plastic wrapped packaging capable of transfer by forklift or clamp lift.
 3. Unload pavers at job site in such a manner that no damage occurs to the Product.
- C. Storage and Protection: Store materials protected such that they are kept free from mud, dirt, and other foreign materials. Store paver cleaners and sealers per manufacturer's instructions].
1. Cover joint sand with waterproof covering if needed to prevent exposure to rainfall or removal by wind. Secure the covering in place.

1.06 PROJECT/SITE CONDITIONS.

A. Environmental Requirements:

1. Do not install bitumen setting bed or pavers during heavy rain or snowfall.
2. Do not install bitumen setting bed and pavers over frozen base materials.
3. Do not install frozen bitumen setting bed materials.
4. Do not install pavers on frozen bitumen setting bed materials.

1.07 MAINTENANCE.

- A. Extra Materials: Provide an additional 100 pavers of each color group for use by owner for maintenance and repair.
- B. Pavers shall be from the same production run as installed materials.

PART 2 PRODUCTS.

2.01 INTERLOCKING PAVERS

A. Manufacturer:

1. Hanover Architectural Products
Contact: Rick Masemer
(717)637-0500

B. Interlocking Paver Units to match existing salvaged pavers, Including the following:

1. Paver Type: Brickstone – 12" x 6" x 3" Asphalt Block, Matrix # A80014, Natural Finish
2. Paver Type: Hexagonal - 8" Hexagonal Asphalt Block, Matrix #14, Ground Finish
 - a. Material Standard: Comply with material standard set forth in ASTM C936.

- b. Color and Finish: To be determined at time of shop drawing submittal.
- c. Color Pigment Material Standard: Comply with ASTM C979.
- d. Average Compressive Strength (ASTM C140): 8000 psi with no individual unit under 7200 psi.
- e. Average Water Absorption (ASTM C140): 5% with no unit greater than 7%.
- f. Freeze/Thaw Resistance (ASTM C1645): Resistant to 50 freeze/thaw while immersed in a 3% saline solution. Freeze-thaw testing requirements shall be waived for applications not exposed to freezing conditions.

2.02 PRODUCT SUBSTITUTIONS.

- A. Substitutions: No substitutions permitted.

2.03 BITUMEN SETTING BED MATERIALS.

- A. Primer for Base: Anionic asphalt emulsion SS-1h, per ASTM D977.
- B. Sand for Asphalt Bed
 - 1. Clean, non-plastic, free from deleterious or foreign matter, symmetrically shaped, natural or manufactured from crushed rock.
 - 2. Do not use limestone screenings, stone dust, or sand in the bedding material that does not conform to the grading requirements.
 - 3. Graded according to ASTM C136.
 - 4. Bedding Sand Material Requirements: Conform to the grading requirements of ASTM C33 with modifications as shown in Table 1.

Table 1
Grading Requirements for Bedding Sand
ASTM C33

<u>Sieve Size</u>	<u>Percent Passing</u>
No. 4	100
No. 8	85 to 100
No. 16	50 to 85
No. 30	25 to 60
No. 50	10 to 30
No. 100	2 to 10
No. 200	2 to 10

- C. Asphalt Cement: Heated to 300°F, 7% asphalt mixed with 93% sand in batches 145 pounds asphalt to 1855 pounds sand. Exact proportions to be determined by the contractor.
- D. Neoprene modified asphalt adhesive: Karnak 230 2% neo-asphalt paving block adhesive.

2.04 JOINT MATERIALS.

- A. Joint Sand: Grading for conforming to ASTM C144.
- B. Sealant and Backer Materials: Section 07 92 00

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Acceptance of Site Verification of Conditions:
 - 1. General Contractor shall inspect, accept and certify in writing to the paver installation subcontractor that site conditions meet specifications for the following items prior to installation of interlocking pavers:
 - a. Verify that base materials, thickness, surface tolerances and elevations conform to specified requirements.
 - b. Verify location of 2 inch diameter weep holes at spacing shown on plans. Verify holes filled with washed pea gravel. Provide temporary plugs for holes to prevent ingress of sand-asphalt setting bed or neoprene adhesive during construction. Remove plugs when paving adjacent to drain holes.
 - c. Verify that surfaces to receive the bitumen bedding material are free of dust, oil, grease, paint, wax, curing compounds, primer, sealers, form release agents, from cracks over 3/16 inch in width, or any deleterious substances and debris which may prevent or reduce bonding.
 - d. Conduct moisture tests to verify that surfaces are cured, free from hydrostatic pressure and having a moisture content of less than 5%.
 - e. Verify location, type, and elevations of edge restraints, [collars around] utility structures, and drainage inlets.
 - f. Do not proceed with installation of bedding sand and interlocking pavers until base conditions are corrected by the General Contractor or designated subcontractor.

3.02 PREPARATION.

- A. Verify base is dry, certified by General Contractor as meeting material, installation and grade specifications.
- B. Verify that base is clean, dry, and ready to accept tack coat, bitumen setting bed, pavers, and imposed loads.

3.03 INSTALLATION.

- A. Base Preparation.
 - 1. Fill any cracks under 3/16 inches wide with mortar.
 - 2. Sweep the surface clean.

- B. Asphalt Primer.
1. Emulsified: Apply at a rate of 0.9 to 1.3 gal/100 square feet.
 2. Cutback: Apply at a rate of 1.2 to 1.5 gal/100 square feet.
- C. Once applied the tack coat should not be disturbed and should be allowed to cure or break before covering with the setting bed material.
- D. Bituminous Setting Bed.
1. Place in panels between 3/4 inches high screed rails spaced approximately 12 feet. Rake and screed smooth with strike board.
 2. Use screed rails to achieve a level setting bed conforming to elevations and slope shown on the drawings. After one panel is complete, advance screed rails to the next position in readiness for screeding adjacent panels with strike board. Fill depressions left from removed screed rails and smooth to height consistent with panel.
 3. Place an area in size that will remain at least 270°F during compaction.
 4. Compact the setting bed with a powered roller compactor to an even, nominal thickness of 3/4 inch after compaction.
 5. Re-heat, fill, and compact low areas with setting bed materials to conform to slope and elevation shown on the drawings.
 6. Re-heat, remove, level, and compact setting bed in high areas to conform to slope and elevation shown on the drawings.
 7. Irregularities or evenness in the grade of the base surface may be corrected with setting bed materials only with approval of the Engineer.
- E. Neoprene Modified Asphalt Adhesive.
1. Apply to cold asphalt setting bed with notched trowel with serrations not exceeding 1/16 inch. Do not apply pavers to adhesive until dry skin forms on surface of adhesive.
- F. Pavers.
1. Free from dust, dirt, and stains. Do not use soiled, cracked, or broken units.
 2. Place paving units firmly onto adhesive with joints not to exceed 1/8 inch or as recommended in manufacturer's literature. Maintain straight pattern lines, joint lines and coursing per the drawings.
 3. Cut pavers to fit edges with a masonry saw. No cut paver shall be smaller than 1/3 of a whole unit if exposed to vehicular traffic. Firmly place all edge units on adhesive.
- G. Joint Filler and Sealant.
1. Extend control and structural joints through full depth of paving units. Do not extend joints through bituminous bedding materials from joints in base that control shrinkage cracking.
 2. Install joints at all building facades or other vertical surfaces.
 3. Install pre-molded joint filler as units are set in bituminous bed. Maintain top of filler 3/8 inch below exposed faces of paving units for insertion of sealant.
 4. Install joint sealant per manufacturer's recommendations.

H. Joint Sand.

1. After the pavers, joint filler, and sealant are installed, spread dry joint sand and fill joints between the slabs.
2. Sweep surface clean.

3.04 FIELD QUALITY CONTROL.

- A. The final surface tolerance from grade elevations shall not deviate more than 3/8 inch under a 10 foot straight edge.
- B. Check final surface elevations for conformance to drawings.
- C. The surface elevation of pavers shall be 1/8 inch to 1/4 inch above adjacent drainage inlets, collars or channels.
- D. Lippage: No greater than 1/8 inch difference in height between adjacent pavers.
- E. Finish level of pavers to be flush with stair and ramp landings.

3.05 JOINT SAND STABILIZATION.

- A. Apply joint sand stabilization materials between pavers in accordance with the manufacturer's written recommendations.

3.06 REINSTALLATION OF SALVAGED ITEMS

- A. Reinstall all trellises, benches, railings, and site furnishings to match existing.

3.07 PROTECTION.

- A. After work in this section is complete, the General Contractor shall be responsible for protecting work from damage due to subsequent construction activity on this site.

END OF SECTION 32 12 00

