

BATTERY PARK CITY AUTHORITY

REQUEST FOR PROPOSALS

FOR

RECTOR GRID STREET LIGHT ELECTRICAL SYSTEM MODIFICATION

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I. SUMMARY

Battery Park City Authority d/b/a Hugh L. Carey Battery Park City Authority (“BPCA”) requests proposals (each individually, a “Proposal” or collectively, the “Proposals”) from electrical contracting firms (each individually, a “Proposer” or collectively, the “Proposers”) to provide BPCA with electrical contracting services for the Rector Grid Street Light Electrical System Modification Project (the “Project” or the “Work”). The Project will encompass all street light electrical contractor services necessary for the completion of the Scope of Work attached hereto as Exhibit A, including but not limited to the: (i) removal of existing underground electrical feeder cables; and (ii) installation of new underground feeder cables.

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/>.

Minority-Owned Business Enterprises (“MBE”), Women-Owned Business Enterprises (“WBE”) and Service-Disabled Veteran-Owned Business Enterprises (“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;
- 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; and
- 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.

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 13, 2017
- Pre-proposal meeting: September 20, 2017 at 9:30 a.m. Meeting Location: BPCA Offices, 200 Liberty Street, 24th Floor, New York, NY 10281 (attendance is highly recommended).
- Deadline to submit questions to BPCA September 27, 2017 by 5:00 p.m. (by email only).
All questions regarding this RFP should be submitted in writing via email to the "Designated Contact":

Michael LaMancusa, Battery Park City Authority, at michael.lamancusa@bpca.ny.gov.
- BPCA's response to substantive questions: October 11, 2017 (via BPCA website).
- **PROPOSAL DUE DATE:**
- **October 23, 2017 by 5:00 p.m. (the "Due Date").**
- Selection and notification of successful Proposer: To be determined.
- Anticipated contract start date: December 2017.

B. Anticipated Contract Term

The anticipated term of the contract awarded pursuant to this RFP (the "Contract") is twelve (12) months (the "Term"); however, it is expected that the construction schedule for the Project will not exceed six (6) 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 comply with these requirements will be rejected.

- 1) The Proposer must be qualified to do business in the State of New York.
- 2) The Proposer must be an electrician licensed by the New York City Department of Buildings.
- 3) The Proposer (or one or more of its principals or partners) must have at least three (3) years of street light electrical system maintenance and/or construction experience.

B. MBE/WBE/SDVOB Participation, Joint Ventures and Subcontracting Goals:

Contractor requirements and procedures for business participation opportunities for New York State certified MBEs/WBEs/SDVOBs and equal employment opportunities for 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 “MBE/WBE/SDVOB Designated Contact” Mr. Anthony Peterson at anthony.peterson@bpca.ny.gov or 212.417.2337.

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 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 award and approval of the Contract by BPCA (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 responsibility.

D. Submission of Proposals

Proposals must be received by BPCA no later than 5:00 p.m. on October 23, 2017.

Each Proposer must submit six (6) paper copies of its Proposal and a PDF version (via CD-ROM or flash drive) in a sealed package clearly marked “**Proposal Enclosed- Rector Place Neighborhood Street Light Electrical System Modification**” to the Designated Contact **by messenger, overnight courier or certified mail** to the following address:

Michael LaMancusa
Battery Park City Authority
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 Enclosed – Rector Place Neighborhood Street Light Electrical System Modification**” 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 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 this 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.

Cover Letters must include each of these representations and be signed. Proposals with Cover Letters that are unsigned or that fail to include each of the above representations (including the required appendix if there are objections to BPCA's form of contract) will be rejected.

- 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).

VI. INFORMATION REQUIRED

A. Questions and Information Sought Relating to the Work

- 1) Describe your firm's background, services, experience, size and history as these factors are relevant to the Work, with an emphasis on experience with street light electrical installations and maintenance in New York City.
- 2) Discuss your proposed approach to and methodology for accomplishing the Work, including your proposed procedures, staffing, and logistics, as well as the safety measures that you will employ to protect the public during the performance of the Work.
- 3) Submit a Bar Chart Schedule detailing the manner in which the Work will be completed. This should include sequencing of all associated work tasks and phases, manpower staffing levels, work shifts, and specific notation of all Project milestones, including successful Project completion. Include consideration of all required permits, seasonal work considerations (if any) and cold weather contingencies.
- 4) 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 "key persons" in any contract with BPCA.
- 5) Describe your firm's "backup plan" in the event the Lead PM, or one or more of the key persons assigned to the Project, leaves your firm.

- 6) Identify any subcontractors you intend to use for this engagement and describe the services to be performed by each subcontractor.
- 7) 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 questions is for informational purposes only and BPCA will determine FOIL applicability in its sole discretion.
- 8) 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 that take exceptions to the standard form of Contract.
- 9) Please 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 service performed, and provide the name, address and telephone number for a person at client's firm familiar with such work.
- 10) Please provide any additional information that would serve to distinguish your firm from other firms and that you believe may be relevant to this RFP and your capability to perform the services requested.

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

- 11) Has your firm filed for bankruptcy or reorganization or had bankruptcy proceedings initiated against it within the last five (5) years? If so, please describe the relevant facts.
- 12) 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.
- 13) 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 contracting services? If so, please provide an explanation and the current status or disposition of the matter.
- 14) In the past five 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.
- 15) Are there any potential conflict of interest issues posed by your firm's performance of the Work on behalf of BPCA?
- 16) Are any of your employees or principals former employees of BPCA? If so, please list their names, current titles, and dates of employment with BPCA.
- 17) List any professional or personal relationships your firm's employees may have with BPCA's Board Members and/or employees. A current list of BPCA Board members and employees is attached to this RFP as Exhibit H.

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 such plans must be submitted even if Proposer is a MBE/WBE/SDVOB.

**In addition to the copy that must 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 in your proposal.
- 5) Acknowledgement of Addenda:
Attach a completed and signed Acknowledgement of Addenda Form, attached as Exhibit I, 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) Include professional biographies for all key management personnel at your firm, as well as for those individuals identified in response to question VI (A) (4), above.

VII. INSURANCE AND BONDING REQUIREMENTS

A. General Requirements

The selected Proposer will be required to obtain and provide proof of the types and amounts of insurance listed below: (i) as a condition precedent to the award of the contract for the Project; and (ii) continuing throughout the entire Term. The insurance policies listed below must also conform to the applicable terms of the Contract, as shown in BPCA's sample form of contract attached as Exhibit C.

The total cost of the required insurance listed in paragraphs 2) and 3) below, must be incorporated into the Cost Proposal. The additional insured protection afforded BPCA, BPCPC, and the State of New York must be on a primary and non-contributory basis. 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.

All of the carriers that provide the below required insurance 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 & 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 insured.
- **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 \$8,000,000 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 Subcontractors

Any subcontractor(s) utilized by the selected Proposer will be required to obtain the types and amounts of insurance listed below: (i) as a condition of commencing any Work; and (ii) continuing throughout the duration of the subcontractor's Work. The insurance policies listed below must also conform to the applicable terms of the Contract, as shown in BPCA's sample form of contract attached as Exhibit C.

- **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 all subcontractors. Should the subcontractor's work include construction activities of any kind then the subcontractor 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 & the State of New York for the prescribed timeframe. When providing evidence of insurance the subcontractor 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 subcontractor'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 subcontractor.
- **Subcontractors will also be required to obtain all other insurances listed in Section (2) unless otherwise approved in writing by BPCA prior to commencement of any Subcontractor's work.**

D. Bonding

Provide a letter from your surety(ies) stating that you are able to provide a payment and performance bond as required by the standard form of contract (Exhibit C). A bond is required for this project.

VIII. COST PROPOSAL; FORMAT AND REQUIRED INCLUSIONS

The Cost Proposal must state a lump-sum amount for the performance of the Work, with an itemized Schedule of Values for all services contemplated to be provided. To submit a complete Cost Proposal, Proposer must complete each of the following:

- 1) Cost Proposal in the form attached hereto as Exhibit D ("Form of Cost Proposal");
- 2) Labor Rates in the form attached hereto as Exhibit E ("Form of Labor Rates"); and,
- 3) A unit price schedule which shall be an itemized breakdown of your Cost Proposal Form in the form attached hereto as Exhibit F ("Unit Price Schedule").

The Cost Proposal must be submitted in its own separate sealed envelope within the sealed package containing all other Proposal documents. Please provide two (2) copies of the Cost Proposal in the sealed envelope.

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 provisionally 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) Expertise & experience with relevant electrical street lighting work in NYC	30%
B) Approach to work, including Project sequencing, access, troubleshooting, safety measures, and work site management	23%
C) Staffing, including any subcontractors	15%
D) Project schedule	10%
E) Response to Diversity Practices Questionnaire	10%
F) Proposed MBE/WBE utilization plan (the "Utilization Plan") or Proposer's MBE/WBE status	8%
G) Proposed SDVOB utilization plan or Proposer SDVOB status	2%
H) Anticipated New York State business usage in contract performance	2%

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, Proposers hereby certify that they are 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 certify that they will not utilize any subconsultant 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

The selected Proposer shall provide all materials, labor, equipment, and supervision for the modification and upgrade of the Rector Grid Street Light Electrical System in accordance with drawings and specifications prepared by McLaren Engineering Group dated May 22, 2017 and attached hereto as Exhibit G. The services to be provided by the selected Proposer shall include but not be limited to the following:

- Filing for and obtaining all necessary permits in connection with the Project;
- Tracing and identifying all circuits to be disconnected before commencement of physical removal and/or installation work;
- Submission of as built drawings to BPCA;
- Provision of and installation of temporary lighting in the area impacted by the Project;
- Disconnection and removal of all existing underground feeders in the Rector Grid Street Light Electrical system;
- Cleaning of and performance of a condition assessment on the existing conduits;
- Replacement of defective conduits;
- Cleaning of all existing roadway boxes, removing all debris and other materials;
- Installation of new main feeder cables throughout the system, including a 24 hour hot line;
- Installation of new stainless steel bolts and gaskets;
- Installation and attachment of new ground rods to existing hand holes;
- Refurbishment of hand holes with stainless steel parts;
- Grounding of the completed electrical system; and
- Testing and verification of the new electrical wiring, new replacement power and control equipment in the Second Place control panel, as well as the new grounding system.

EXHIBIT B

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

Pursuant to New York State Executive Law Article 15-A and 5 NYCRR §§140-145, BPCA recognizes its obligation under the law to promote opportunities for maximum feasible participation of certified MBEs/WBEs 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.

In 2006, the State of New York commissioned a disparity study to evaluate whether MBEs/WBEs had a full and fair opportunity to participate in state contracting. The findings of the study were published on April 29, 2010, under the title “The State of Minority and Women-Owned Business Enterprises: Evidence from New York” (the “Disparity Study”). The report found evidence of statistically significant disparities between the level of participation of MBEs/WBEs in state procurement contracting versus the number of MBEs/WBEs that were ready, willing and able to participate in state procurements. As a result of these findings, the Disparity Study made recommendations concerning the implementation and operation of the statewide certified MBEs/WBEs program. The recommendations from the Disparity Study culminated in the enactment and the implementation of New York State Executive Law Article 15-A, which requires, among other things, that BPCA establish goals for maximum feasible participation of New York State Certified MBEs/WBEs and the employment of minority groups members and women in the performance of New York State contracts.

Business Participation Opportunities for MBEs/WBEs

For purposes of this solicitation, BPCA hereby establishes an overall goal of 30% for MBE/WBE participation, 15% for MBE participation and 15% for WBE participation (based on the current availability of qualified MBEs and WBEs). A contractor (“Contractor”) on the Contract must document good faith efforts to provide meaningful participation by MBEs/WBEs as subcontractors or suppliers in the performance of the Contract and Contractor agrees that BPCA may withhold payment pending receipt of the required MBE/WBE documentation. The directory of New York State Certified MBEs/WBEs can be viewed at: <https://ny.newnycontracts.com/FrontEnd/VendorSearchPublic.asp?TN=ny&XID=7562>. For guidance on how BPCA will determine a Contractor’s “good faith efforts,” refer to 5 NYCRR §142.8.

In accordance with 5 NYCRR §142.13, Contractor acknowledges that if it is found to have willfully and intentionally failed to comply with the MBE/WBE participation goals set forth in the Contract, such finding constitutes a breach of Contract and BPCA may withhold payment from the Contractor as liquidated damages.

Such liquidated damages shall be calculated as an amount equaling the difference between: (1) all sums identified for payment to MBEs/WBEs had Contractor achieved the contractual MBE/WBE goals; and (2) all sums actually paid to MBEs/WBEs 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 its goals for the utilization of MBEs/WBEs by submitting evidence thereof through the New York State Contract System (the “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 BPCA. 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.”

Please note that a Proposer who is an MBE or WBE must still (1) submit a utilization plan; and, (ii) utilize the target percentage of WBEs or MBEs, respectively.

- 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 BPCA, at the address specified in this RFP, or by facsimile at 212-417-2279 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 MBE/WBE 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.
- E. Proposer shall attempt to utilize, in good faith, each MBE/WBE 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.
- F. The selected Proposer will be required to submit a Contractor's MBE/WBE Contractor Compliance & Payment Report to BPCA on a monthly basis over the term of the Contract, which will document the progress made toward achievement of the MBE/WBE 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 Contractor must document good faith efforts to provide meaningful participation by SDVOBs as subcontractors or suppliers in the performance of the Contract and Contractor 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), Contractor 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 BPCA, at the address specified in this RFP, or by facsimile at 212-417-2279 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.

Contractors 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.

Contractors are required to submit a Contractor's SDBVOB 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 RFP, the Proposer/Contractor agrees with all of the terms and conditions of the attached M/WBE – Equal Employment Opportunity Policy Statement. The Contractor is required to ensure that it shall and any subcontractors awarded a subcontract over \$25,000 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon, except where such work is for the beneficial use of the Contractor, 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 further agrees to submit a MBE/WBE and Equal Employment Opportunity Policy Statement, Form # 4, to BPCA with their Proposal.

To ensure compliance with Article 15-A, Proposer further agrees, where applicable, to submit with the Proposal, a staffing plan identifying the anticipated work force to be utilized on the Contract and if awarded a Contract, will, upon request, submit to BPCA a workforce utilization report identifying the workforce actually utilized on the Contract, if known, through the NYSCS; provided, however, that a Proposer may arrange to provide such report via a non-electronic method by contacting BPCA.

Further, pursuant to Article 15 of the Executive Law (the “Human Rights Law”), all other New York 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 are allowed by the Contract.

For questions on MBE/WBE/SDVOB participation, joint ventures and sub-contracting goals ONLY, please contact Mr. Anthony Peterson at 212.417.2337.



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 your contract’s project manager. 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 your project manager.

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 _____, 2016

By _____

Print: _____ Title: _____

_____ is designated as the Contractor'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 _____ firm or 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-venturers, 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 MBE/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 MBE/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 minority- and women-owned business enterprises if selected as the successful respondent? 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 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 _____, 201_, 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's standard form of contract

(Attached)

CONSTRUCTION AGREEMENT

between

**BATTERY PARK CITY AUTHORITY,
d/b/a HUGH L. CAREY BATTERY PARK CITY AUTHORITY**

and

CONTRACTOR COMPANY NAME

**Dated as of _____
Contract No. ????**

(PROJECT NAME)

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EXHIBITS

CONSTRUCTION AGREEMENT

AGREEMENT made as of the _____ day of _____, 2011, between BATTERY PARK CITY AUTHORITY, d/b/a HUGH L. CAREY BATTERY PARK CITY AUTHORITY, a body corporate and politic, constituting a public benefit corporation and having a place of business at One World Financial Center, 24th Floor, New York, New York 10281 ("Authority," "BPCA" or "Owner") and CONTRACTOR COMPANY NAME, a corporation incorporated under the laws of STATE, having an office at Street Address, City, Zip, Phone, ("Contractor").

W I T N E S S E T H:

WHEREAS, BPCA has fee title to certain real property located in the City, County and State of New York, generally consisting of approximately 92 acres of land located on the west side of lower Manhattan, bounded by Pier A to the South, the westerly extension of Reade Street to the North, the United States Bulkhead Line to the East and the United States Pierhead Line to the West (collectively, "Battery Park City"); and

WHEREAS, BPCA has caused the staged development of Battery Park City, in individual parcels, 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, BPCA intends to hire a contractor to perform type of services services, consisting of the Work, as hereinafter defined, for the location (the "Project"), located in and adjacent to location, in Battery Park City, in the Borough of Manhattan, County, City and State of New York (the "Site"); and

WHEREAS, Contractor has been selected to perform the Work, as hereinafter defined, upon the terms and conditions hereinafter provided; and

WHEREAS, Contractor and BPCA entered into a Letter of Intent, dated as of August 31, 2011 (the "Letter of Intent"), under which BPCA authorized Contractor to perform the Work, as hereinafter defined, up to a funding maximum of \$50,000. The terms and conditions of such Letter of Intent are hereby superseded by the terms and conditions set forth herein; (if there is no Letter of Intent, omit this Recital).

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, Contractor and BPCA hereby agree as follows:

ARTICLE 1 - DEFINITIONS

The following terms, wherever used in the Contract Documents, as defined herein, shall have the meanings set forth below or in the Section enumerated below next to each term:

- (a) Agreement - as defined in Section 2.2(a).
- (b) Agreement Termination Date - as defined in Section 3.1(a)
- (c) Architect - Name, address, etc. or n/a.
- (d) Artist - n/a.
- (e) Authority - as defined in the introductory clause of this Agreement.

(f) BPCA - as defined in the introductory clause of this Agreement. BPCA hereby designates BPCA Person and Title, Project Manager, as the representative of BPCA for the purpose of acting on behalf of BPCA whenever action is required to be taken hereunder by BPCA. Such designation may be revoked in writing at any time after notice given by BPCA to Contractor. In addition, such representative of BPCA shall have full power and authority to delegate in writing any or all of her responsibilities hereunder to any one or more persons after notice to Contractor.

- (g) Certificate of Substantial Completion - as defined in Section 8.6.
- (h) Change Order - as defined in Section 9.1(b).
- (i) Construction Manager - Name, address, etc. or n/a.
- (j) Contract Documents - as defined in Section 2.2.
- (k) Contract Price - as defined in Article 4.

(l) Contract Time - the duration of time during which Construction Manager schedules and coordinates the Work of Contractor pursuant to Section 7.2 hereof.

- (m) Contractor - as defined in the introductory clause of this Agreement.
- (n) Drawings - Project drawings comprising part of Exhibit B.
- (o) Engineer - Name, address, etc. or n/a.

(p) Extra Work - Any work in addition to the Work to be performed by Contractor pursuant to the Contract Documents.

(q) Field Order - as defined in Section 9.3.

(r) Final Acceptance - as defined in Section 8.7.

(s) Final Requisition - as defined in Section 5.2.

(t) Guarantor - as defined in Section 27.3.

(u) Joint Venture - an entity created pursuant to a written agreement among two or more contractors pursuant to which each shares in the direction and performance of the Work and shares in a stated percentage of profits or losses.

(v) Key Person/Personnel - as defined in Section 27.25.

(w) Letter of Intent - as defined in the fifth whereas clause of this Agreement.

(x) Materialman - Supplier of Materials.

(y) Materials - All products, materials, fixtures, tools, equipment, apparatus, and furnishings intended to form a part of the Work.

(z) Minority Business Enterprise or Minority Owned Business Enterprise or MBE - as defined in Article 26.

(aa) Minority or Minority Group Member - as defined in Article 26.

(bb) Payment Bond - as defined in Section 13.3.

(cc) Performance Bond - as defined in Section 13.3.

(dd) Preceding Covered Date - as defined in Section 5.5.

(ee) Product Data - Illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by Contractor to illustrate a material, product or system for some portion of the Work.

(ff) Progress Schedule - as defined in Section 3.1(a).

(gg) Project - as defined in the third Recital of this Agreement.

(hh) Purchase Order - as defined in Section 10.1(e).

(ii) Requisitions - as defined in Section 5.2.

(jj) Samples - Physical examples which illustrate Materials or workmanship and establish standards by which the Work will be judged.

- (kk) Site - as defined in the third whereas clause of this Agreement.
- (ll) Specifications - the specifications comprising part of Exhibit C.
- (mm) Subcontract - An Agreement between the Contractor and a Subcontractor (as defined in subSection (nn), below) for work on the Site.
- (nn) Subcontractor - A person, firm, partnership or corporation under contract with Contractor.
- (oo) Term - as defined in Section 3.1(i).
- (pp) Trade Payment Breakdown - as defined in Section 5.3.
- (qq) Women's Business Enterprise or Women Owned Business Enterprise or WBE - as defined in Article 26.
- (rr) Work - as defined in Section 2.1.
- (ss) Work Completion Date - as defined in Section 3.1(a).

ARTICLE 2 - SCOPE OF WORK, MATERIALS AND LABOR

2.1 Definition of Work

Contractor shall perform and complete (and shall cause all Subcontractors to perform and complete) for BPCA the work more particularly described in Exhibit A - Scope of Work annexed hereto and made a part hereof, required by and in conformity with the Contract Documents in connection with the construction of the Project on the Site. All Materials to be furnished and labor and work to be performed and completed by Contractor and/or Subcontractors as required in the Contract Documents and in conformity with all requirements applicable with respect thereto are herein collectively referred to as the "Work."

2.2 Contract Documents

The "Contract Documents" shall consist of the following:

(a) This instrument (the "Agreement"), which includes, in addition to the text comprising Articles 1 through 27, the following:

(1) Exhibit A:

(2) Exhibit B:

Etc.

- (b) The Payment and Performance Bonds (as defined in Section 13.3).
- (c) Change Orders adopted pursuant to Article 9.

The Contract Documents form the contract between BPCA and Contractor. References in the Contract Documents to “the Contract”, “this Contract” or “the Construction Contract” shall be deemed to include all of the Contract Documents. References to “this Agreement” or “the Agreement” shall refer to this instrument (including the Exhibits attached hereto), which is one of the Contract Documents.

2.3 Intent of Contract Documents

(a) The intent of the Contract Documents is to include in the Work all labor and materials, insurance, tools, equipment, permits, licenses, taxes, approvals, transportation, surveys, testing, field Engineering and other professional services (other than the services of BPCA’s Architect, Construction Manager, Engineers and attorneys, and the inspection, survey and testing services of BPCA) and any other items required to execute and complete the Work satisfactorily and in accordance with the Contract Documents. Contractor shall perform and complete the Work in accordance with the true intent and meaning of the Contract Documents and shall perform all Work incident thereto or as is usually performed in connection therewith or as is reasonably inferable therefrom, it being the intention that all work usually performed by the trade covered by this Agreement and necessary to produce the intended result be performed by Contractor whether or not specifically covered by the Contract Documents.

(b) The Contract Documents are complementary and what is called for by one shall be as binding as if called for by all.

(c) If any conflicts or ambiguities are found in or between the Drawings and Specifications, or among any of the Contract Documents, they shall be brought to the attention of Construction Manager immediately for resolution. Engineer and Construction Manager will interpret the Contract Documents so as to secure in all cases the most substantial and complete performance of the Work as is most consistent with the needs and requirements of the Work. In the event that Engineer and Construction Manager shall disagree as to the interpretation of the Contract Documents, such dispute shall be presented to BPCA, which shall have sole authority to resolve the dispute.

(d) Addenda to parts of the Contract Documents are for the purpose of varying, modifying, rescinding or adding to the affected portion of the Contract Documents. All addenda should be read together with the portions of the Contract Documents to which they pertain. Where an addendum modifies a portion of a paragraph or a Section, the remainder of the paragraph or Section shall remain in force unless otherwise stated in the addendum.

(e) Captions, headings, cover pages, tables of contents and footnote instructions contained in the Contract Documents are inserted only to facilitate reference and for

convenience and in no way define, limit or describe the scope, intent or meaning of any provision of the Contract.

(f) Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

(g) Drawings and Specifications are complementary. Anything shown in the Drawings and not mentioned in the Specifications, or mentioned in the Specifications and not shown in the Drawings, shall have the same effect as if shown or mentioned in both.

(h) A typical or representative detail indicated on the Drawings shall constitute the standard for workmanship and material throughout corresponding parts of the Work. Where necessary, and where reasonably inferable from the Drawings or Specifications, Contractor shall adapt such representative detail for application to such corresponding parts of the Work. The details of such adaptation shall be subject to prior approval by Engineer. Repetitive features shown in outline on the Drawings shall be in exact accordance with corresponding features completely shown.

(i) The layout of mechanical and electrical systems, equipment, fixtures, piping, ductwork, conduit, specialty items, and accessories indicated on the Drawings is diagrammatic, and all variations in alignment, elevation, and detail required to avoid interferences and satisfy Architectural and structural limitations are not necessarily shown. Actual layout of the Work shall be carried out without affecting the Architectural and structural integrity and limitations of the Work and shall be performed in such sequence and manner as to avoid conflicts, provide clear access to all control points, including valves, strainers, control devices, and specialty items of every nature related to such systems and equipment, obtain maximum headroom, and provide adequate clearances as required for operation and maintenance.

2.4 Completion of Drawings and Specifications

Contractor acknowledges that there are items of work which are not drawn or specified with complete detail in the Drawings and Specifications but which are required for the completion of the Work. Any such item, when identified as part of the reasonable development of the Work, shall be drawn or specified by Engineer in consultation with Contractor, in a manner consistent with contemplated kind and quality and customary standards. When such drawing or specification is approved by BPCA, the drawing or specification so approved shall thereupon be part of the Contract Documents and the item of work shall be performed by Contractor as part of the Work without further action or order of Construction Manager or BPCA and without any increase in the Contract Price (as hereinafter defined) as if such drawing and specification were originally included in the Contract Documents.

2.5 Title to Materials

Title to all Materials shall immediately vest in BPCA upon payment in respect of such Materials, whether or not then incorporated or installed into the Project. The Materials shall then become the sole property of BPCA subject to the right of BPCA, Construction

Manager or Engineer to reject same for failure to conform to the standards of any or all of the Contract Documents. Title to all Work and Materials shall be in BPCA, free and clear of all liens, claims, security interests or encumbrances. Contractor warrants that no Work or Materials shall be fabricated or delivered to the Site by Contractor or any Subcontractor or Materialman subject to any security interest, lien or similar encumbrance.

2.6 Contractor's Obligations

(a) Contractor shall in a good and workmanlike manner perform all the Work required by this Agreement in accordance with the best practice of Contractor's trade within the time specified herein. Contractor shall supervise and direct the Work using its best skill and attention. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures within the scope of Contractor's Work.

(b) Contractor shall furnish, erect, maintain, and remove such construction plant and such temporary Work as may be required for the performance of the Work. Contractor shall be responsible for the safety, efficiency and adequacy of Contractor's plant, appliances and methods, and for damage which may result from failure or improper construction, maintenance or operation of such plant, appliances and methods. Contractor shall comply with all terms of the Contract Documents, and shall do, carry on and complete the entire Work under the direction of and to the satisfaction of BPCA.

(c) Contractor shall provide all equipment, tools and materials and whatever else may be required for proper performance of the Work unless stated otherwise in the Contract Documents.

(d) Contractor shall deliver all Materials at such times and in such quantities as will insure the speedy and uninterrupted progress of the Work. All Materials shall be delivered to the Site in proper order and quantity and shall be stored at the Site, if storage space is available in Construction Manager's opinion, in such places as Construction Manager shall direct; provided, that no delivery of Materials shall be made to the Site without prior approval by Construction Manager. No Materials shall be removed from the Site without the consent of Construction Manager. Contractor shall handle and take care of all Materials used in performance of the Work whether furnished by Contractor or BPCA, as the same are delivered to the Site or to any applicable offsite storage location and shall be solely responsible for the security and condition of the same. After final completion and acceptance of the Work, or sooner if requested by Construction Manager, Contractor shall remove all surplus Materials and scaffolding furnished by it which have not been incorporated in the Work.

(e) Contractor shall follow and perform the Work in accordance with the Contract Documents as interpreted by Engineer, Construction Manager, and BPCA.

(f) Unless otherwise provided in the Contract Documents, Contractor shall secure and pay for all permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the Work. Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the

performance of the Work. If Contractor observes that any of the Contract Documents are at variance with any applicable laws in any respect, Contractor shall promptly notify Engineer and Construction Manager in writing, and any necessary changes shall be accomplished by appropriate modification. If Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to Engineer and Construction Manager, Contractor shall assume full responsibility therefor and shall bear all costs attributable thereto.

(g) Contractor shall be responsible for collecting all paper, cartons and other debris caused by its Work or personnel, placing the same in a location designated by Construction Manager and keeping the portion of the Site upon which Contractor is performing the Work free from all debris.

(h) Contractor shall attend meetings as directed by BPCA or Construction Manager.

2.7 “Or Equal” Clause

(a) The Materials of manufacturers referred to in the Specifications and on the Drawings are intended to establish the standard of quality and design required by Engineer; however, Materials of manufacturers, other than those specified, may be used if equivalent and approved by Engineer, Construction Manager and BPCA.

(b) It is deemed that the term “or approved equal” is included after all Materials referred to in the Specifications or on the Drawings.

(c) Engineer will initially judge the equivalency of proposed substitute Materials. Engineer will make written recommendation of acceptance or rejection to Construction Manager and/or BPCA. Construction Manager and/or BPCA will then authorize Engineer to issue to Contractor written approval or rejection of the substitution.

(d) If Contractor desires to use a substitute item, Contractor shall make application to Engineer in writing in sufficient time (with regard to the progress of the Work, the period of delivery of the goods concerned and adequate time for Engineer’s review) stating and fully identifying the proposed substitute, cost changes (if any), and submitting substantiating data, samples, brochures of the item proposed. It is Contractor’s responsibility to provide at its sole expense sufficient evidence by tests or other means to support any request for approval of substitutions.

(e) Prior to proposing any substitute item, Contractor shall satisfy itself that the item Contractor proposes is, in fact, equal to that specified and had been used satisfactorily in similar applications to the application proposed for the Work, for at least three years, that it will fit into the space allocated and within the load allocated for the same, that it affords comparable ease of operations, maintenance and service, that its appearance, longevity and suitability for the climate and use are comparable to that specified, and that the substitution requires no change in dimension or design of any other Work of Contractor, of any other contractor or in the time required for the performance thereof.

(f) The burden of proof that a proposed substitution is equal to a specified item shall be upon Contractor, who shall support its request with sufficient test data and other means to permit Engineer to make a fair and equitable decision on the merits of the proposal. Any item by the manufacturer other than those cited in the Contract Documents, or of brand name or model number or of generic species other than those cited in the Contract Documents, will be considered a substitution.

(g) Acceptance of substitutions shall not relieve Contractor from responsibility for compliance with all the requirements of the Contract Documents. If, notwithstanding the provisions of subSection (e) above, changes in other parts of the Work or the work of other contractors are required by its substitutions, Contractor shall be responsible for the costs of any such changes including the cost of all design and redesign services related thereto incurred by the Engineer and his consultants.

(h) The Contract Time shall not be extended by any circumstances resulting from a proposed substitution, nor shall Contractor be entitled to any compensation for any delay caused thereby or related thereto.

2.8 Quality and Labeling

All Materials furnished shall be new and the quality thereof shall be in accordance with the Contract Documents. When Materials are specified to conform to a given standard, the Materials delivered to the Site shall bear manufacturer's labels stating that the Materials meet such standard. The above requirements shall not restrict or affect BPCA's right to test Materials as provided in this Agreement.

ARTICLE 3 - COMMENCEMENT AND COMPLETION OF THE WORK

3.1 Commencement, Completion and Progress Schedule

(a) Contractor agrees to be bound by and comply with the Progress Schedule and the Work Completion Date and the progress schedule for completion and progress of the Work (with the original progress schedule, as the Progress Schedule shall be updated pursuant to subSection (b), below, being referred to herein as the "Progress Schedule") and waives any right to charge or claim damages or any increased cost, charges or expenses against BPCA, Construction Manager, or Engineer, for delays or disruptions from any cause whatsoever. Contractor's sole remedy as against BPCA, Construction Manager, or Engineer for any delays or disruptions shall be as provided in Section 3.4 hereof. Notwithstanding the foregoing, the Work shall be completed by no later than DATE (the "Work Completion Date") with time being of the essence in respect of said Work Completion Date, as more fully set forth in subSection (h) below; this Agreement shall terminate by DATE (the "Agreement Termination Date").

(b) Contractor has prepared a Progress Schedule detailing, without limitation, all

items of Work to be performed. Such Progress Schedule shall be updated weekly, or at any other time at the request of Construction Manager or BPCA, and submitted to Construction Manager and BPCA for review and approval. Failure to submit any requested update shall constitute a material breach of this Agreement. After submission of the Progress Schedule for the Work, Construction Manager shall coordinate the Progress Schedule for the Work in coordination with the Progress Schedule for the entire Project. The Progress Schedule for the Work may be revised by Construction Manager from time to time.

(c) Contractor (shall commence the Work upon receipt of a written notice to proceed signed by BPCA/commenced the Work pursuant to the Letter of Intent, and shall prosecute the Work diligently and in accordance with the time and place requirements of the Project as determined and directed by Construction Manager, by using such means and methods of construction as will assure that the Work will be performed hereunder in accordance with the Contract Documents and Progress Schedule, and to the satisfaction of BPCA, Engineer, and Construction Manager.

(d) If, in the opinion of Construction Manager, Contractor falls behind the Progress Schedule then in effect, Contractor shall take whatever steps may be necessary to improve its progress and shall, if requested by Construction Manager, submit operational plans to demonstrate the manner in which the lost time may be regained. It is the responsibility of Contractor to maintain its schedule so as not to delay the progress of the Project or the schedules of other contractors. If Contractor delays the progress of its Work or the work of other contractors, it shall be the responsibility of Contractor to increase the number of workers, the number of shifts, the days of Work and/or, to the extent permitted by law, to institute or increase overtime operations, all without additional cost to BPCA, in order to regain any time lost and maintain the Progress Schedule then in effect as established by Construction Manager.

(e) If Contractor shall fail to complete the Work by the Work Completion Date, or within the time to which such completion may have been extended, BPCA may, at its option, withhold from any sums otherwise due and owing to Contractor hereunder, so much of the balance thereof as BPCA shall deem necessary to secure it against any costs, expenses, or damages which may be incurred by BPCA as a result of said failure, but any such withholding shall not be deemed to be a waiver of any rights hereunder, and Contractor shall be liable to and shall indemnify and hold BPCA harmless from any and all cost, expense or damage incurred by BPCA by reason of such failure.

(f) If Contractor shall neglect, fail or refuse to complete the Work by DATE, or upon the expiration of any proper extension granted by Owner, Contractor agrees to pay to Owner \$1,000.00 (One Thousand Dollars), not as a penalty, **but as liquidated** damages, for each and every calendar day that the Contractor is in default. Default shall include abandonment of the Work by Contractor.

(g) Said amount of liquidated damages is agreed upon by and between Contractor and Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages which Owner would sustain in the event of delay in completion, and said amount is agreed to be the amount of damages sustained by Owner and said amount may be

retained from time to time by Owner.

(h) It is further agreed that time is of the essence for each and every portion of the Work. In any instance in which additional time is allowed for the completion of any Work, the new time of completion established by said extension shall be of the essence. Contractor shall not be charged with liquidated damages or any excess cost if BPCA determines that Contractor is without fault and that the delay in completion of the Work is due:

(1) to any preference, priority or allocation order duly issued by the Government of the United States or the State of New York;

(2) to an unforeseeable cause beyond the control and without the fault of, or negligence of Contractor, and approved by BPCA, including, but not limited to, acts of God or of public enemy, acts of BPCA, fires, epidemics, quarantine, strikes, freight embargoes and unusually severe weather; and

(3) to any delays of Subcontractors or Materialmen occasioned by any of the causes specified in SubSections 1 and 2 of this paragraph.

(i) Notwithstanding the foregoing, and whether or not, at any given time, a Progress Schedule, or update thereto (as appropriate) has been submitted, the Work shall be completed by the Work Completion Date (with the period between commencement of the Work and the Work Completion Date being referred to herein as the "Term").

3.2 Coordination with Other Contractors

Contractor shall coordinate the Work to be performed hereunder with the work of other contractors performing work for the Project in such manner as Construction Manager shall direct. Contractor shall indemnify and hold BPCA, Construction Manager and Engineer harmless from any and all claims or judgments for damages, costs and expenses to which BPCA, Construction Manager or Engineer may be subjected or which they may suffer or incur by reason of Contractor's failure to comply with Construction Manager's directions promptly. If Contractor notifies Construction Manager in writing that another contractor is failing to coordinate its work with the Work to be performed hereunder, Construction Manager shall promptly investigate the charge. If Construction Manager finds that charge to be true, it shall promptly issue such direction to the other contractor with respect thereto as the situation may require. BPCA, Construction Manager and Engineer shall not, however, be liable for any damages suffered by Contractor by reason of the other contractor's failure promptly to comply with the directions so issued by Construction Manager or by reason of another contractor's default in performance. Should Contractor sustain any damage through any act or omission of any other contractor, Contractor shall have no claim against BPCA, Construction Manager or Engineer for such damage but shall have a right to recover such damage from the other contractor, under a provision similar to a provision contained in the following sentence which is part of this Agreement and which has been or will be inserted in the contracts with the other contractors engaged in the Project.

Should any other contractor having or who shall hereafter have a contract with BPCA for the performance of work upon the Project sustain any damage through any act or omission of Contractor hereunder, Contractor agrees to reimburse such other contractor for all such damages and to indemnify and hold BPCA, Construction Manager and Engineer harmless from all such claims. Any claim against a performance bond surety made by any contractor shall be subordinated to any claim of BPCA then existing or that may arise in the future against such other contractor or its performance bond surety.

3.3 Notice of Delay

Should Contractor be or anticipate being delayed or disrupted in performing the Work hereunder for any reason, including, without limitation, its financial condition or Contractor's general nonpayment of its debts as such debts become due, it shall promptly and in no event more than three (3) days after the commencement of any condition which is causing or is threatening to cause such delay or disruption notify Construction Manager in writing of the effect of such condition upon BPCA's Progress Schedule, stating why and in what respects the condition is causing or is threatening to cause delay, provided, however, that notwithstanding the above, if such delay or disruption, or anticipated delay or disruption, should be the result of any change or anticipated change in Contractor's financial condition, Contractor shall notify Construction Manager forthwith of such cause or anticipated cause. Failure strictly to comply with this notice requirement shall be sufficient cause to deny Contractor a change in schedule and to require it to conform to the Progress Schedule then in effect established by Construction Manager.

3.4 Extension of Time

(a) An extension of time under the Progress Schedule then in effect may be granted by BPCA subject to the provisions hereof upon written application therefor by Contractor. An application for an extension of time under the Progress Schedule then in effect must set forth in detail the nature of each cause of delay in the performance of the Work, the date or dates upon which each cause of delay began and ended and the number of days delay attributable to each such cause. After the application is submitted, Contractor shall supply any other data that Construction Manager may request.

(b) Contractor shall be entitled to an extension of time under the Progress Schedule then in effect for delays in the performance of the Work, if caused:

- (1) solely by acts or omission of BPCA, Construction Manager or Engineer;
or
- (2) by the acts or omissions of other contractors or unforeseeable causes beyond the control and without the fault or negligence of Contractor including, but not limited to, acts of God, acts of public enemy, acts of any Government body, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of Subcontractors or Materialmen arising from unforeseeable causes

beyond the control and without the fault or negligence of both Contractor and such Subcontractors or Materialmen; provided, that Contractor shall have used its best efforts and diligently sought to have minimized any such period of delay, by taking whatever measures are necessary, including without limitation, if applicable, seeking alternate sources of Materials, other Subcontractors or other facilities in which to perform the required construction operations; and provided, further, that an application is made pursuant to the requirements of the immediately preceding paragraph.

ARTICLE 4 - CONTRACT PRICE

For the performance and completion of the Work, BPCA shall pay Contractor a lump sum amount of \$XXXXXXXXXXXXXXXX, (such sum is herein sometimes referred to as the "Contract Price"), which amount shall include any monies paid heretofore in accordance with the Letter of Intent, provided, that if the Contract Price shall be expressly revised by a Change Order in accordance with Article 9 hereof, the Contract Price shall thereafter mean the Contract Price as so revised. Contractor will submit appropriate Time Sheets in the form of Exhibit F.

ARTICLE 5 - METHOD, SCHEDULE AND TERMS OF PAYMENTS

5.1 Partial Payment

(a) In accordance with Requisitions (as defined in Section 5.2) submitted and approved as provided below for Work performed in accordance with this Agreement, Contractor shall be entitled to partial payment on account of the Contract Price in an amount equal to the value, as determined in accordance with the Trade Payment Breakdown (as defined in Section 5.3), of the portions of the Work completed and acceptable to BPCA and Construction Manager for purposes of such payment, less a retainage equal to ten percent (10%) of the total amount of all prior partial payments. Partial payments shall constitute advances against the Contract Price until final payment is made and accepted. No partial payment made, nor approval of a portion of the Work given for purposes of making a partial payment, shall constitute an acceptance of any Work not in accordance with the Contract Documents.

(b) Upon completion of fifty percent of the Work, Contractor may make written application to BPCA requesting reduction of the retainage set forth in Section 5.1(a) hereof. Approval of such reduction of retainage and the percentage to which the retainage shall be reduced is in the sole discretion of BPCA. If BPCA approves a reduction of retainage as herein described, BPCA shall so notify Contractor in writing. Any reduction of retainage pursuant to this paragraph (b) shall not be deemed to be a waiver of retainage requirements for future partial payments.

5.2 Requisitions

Applications for partial payments (“Requisitions”) and application for final payment (“Final Requisition”) shall be in the form previously supplied by BPCA and shall be submitted by Contractor to Construction Manager or its designee in five original copies in the manner hereinafter provided for the approval of BPCA and Construction Manager. Each Requisition shall be supported by such data substantiating Contractor’s right to payment as BPCA and Construction Manager may require.

5.3 Trade Payment Breakdown

Prior to the submission of the first Requisition, Contractor shall present to Construction Manager for approval a trade payment breakdown (the “Trade Payment Breakdown”) of the various portions of the Work, aggregating the Contract Price, prepared in such form as specified by BPCA and supported by such data to substantiate its correctness as Construction Manager may require. After approval by BPCA and Construction Manager, the Trade Payment Breakdown shall not be changed or revised in any way without the written consent of Construction Manager. The Trade Payment Breakdown, when approved by Construction Manager, shall be used only as a basis for Requisitions and shall not be considered as a basis for reducing or increasing the Contract Price.

5.4 Payment for Stored Materials

If approved in advance of delivery by BPCA and Construction Manager, payments will be made on account of 80% of the value of Materials not incorporated in the Work but delivered and suitably stored at the Site or at some other offsite location agreed upon in writing by BPCA and Construction Manager. Such payments shall be conditioned upon submission by Contractor of bills of sale or other supporting documentation satisfactory to BPCA and Construction Manager to establish BPCA’s title to such materials including applicable insurance and transportation to the Site for those materials stored offsite. In the event that Contractor, with approval of BPCA, stores any materials offsite, the conditions for payment of material stored off-site shall include but not be limited to the following: (a) the material shall be properly stored in a secured location approved by the BPCA and/or Construction Manager; (b) the Material will be covered under the BPCA’s builder’s risk policy subject to policy limits and restrictions; and (c) the Material may be inspected by the BPCA and/or Construction Manager to assure compliance with Contract Documents.

5.5 Receipts and Releases of Liens

With each Requisition, Contractor shall furnish its affidavit of payment and waiver of lien for Work done and Materials furnished through the date covered by the last preceding partial payment (the “Preceding Covered Date”) and shall furnish its affidavit certifying that all Subcontractors and Materialmen have been paid for Work performed and Materials furnished through the Preceding Covered Date except for any permitted retainage. BPCA may also require Contractor to attach to each Requisition (i) affidavits of payment and waivers of lien from all Subcontractors and Materialmen dealing directly or indirectly with Contractor for Work performed and Materials furnished through the Preceding Covered Date

and/or (ii) the consent of the surety issuing the Payment Bond to such payment. BPCA may require Contractor to execute a waiver of lien at the time payment is made for a Requisition for all Work performed through the date of the Requisition in respect of which payment is being made.

In addition to the documents required to be furnished by the preceding paragraph, with the Final Requisition, Contractor shall furnish (y) its affidavit that there are no liens, claims or demands by, and that there is no indebtedness to, Subcontractors, Materialmen, laborers, other employees or third persons for which BPCA, Construction Manager, or Engineer might in any way be responsible and (z) releases from all Subcontractors and Materialmen dealing directly or indirectly with Contractor. Should any such Subcontractor or Materialman fail or refuse to furnish such release, Contractor may be required to furnish a bond satisfactory to BPCA to indemnify it against any such lien, claim or demand. If any such lien, claim or demand remains unsatisfied after all payments are made to Contractor, Contractor shall refund to BPCA all monies that BPCA may be compelled to pay in discharging such lien, claim or demand including all costs, expenses and attorneys' fees which BPCA may incur in connection therewith.

5.6 Time of Payment

Requisitions shall be submitted by Contractor to BPCA and Construction Manager by the seventh day of each calendar month for Work completed up to the last calendar day of the previous month or other day approved by BPCA, and payment shall be made on or about twenty days after BPCA receives the Requisition together with the documents required pursuant to Sections 5.2 and 5.5 hereof. Contractor shall be entitled to payment only in the amount approved by BPCA, and Construction Manager with respect to such Requisitions, each of which must be signed by BPCA, and Construction Manager before payment is made. The value of any Work included in a Requisition for partial payment which is found unacceptable by BPCA, or Construction Manager may be deducted from that or any subsequent Requisition.

5.7 Reduction of Retainage

Upon the issuance of a Certificate of Substantial Completion, as defined in Section 8.6, Contractor shall submit a Requisition in an amount equal to the Contract Price less an amount equal to two times the value of the Work on the punch list as determined by Construction Manager and less the total amount of all prior payments. Upon approval of the same by BPCA, BPCA shall pay to Contractor the amount approved less any amount which BPCA is entitled to withhold hereunder.

5.8 Final Payment

(a) The final balance due Contractor under this Agreement shall be payable to Contractor by BPCA, as final payment hereunder, within thirty days after all of the following have taken place:

(1) Contractor's Final Requisition has been submitted by Contractor and

approved by BPCA, and Construction Manager;

- (2) the affidavit provided for in Section 5.5 hereof has been submitted by Contractor, and any other documents or actions expressly specified in the Contract Documents as preconditions to final payment have been submitted or completed; and
- (3) any inspections or approvals with respect to any of the Work that BPCA deems legally required or appropriate by governmental authorities or by the applicable Board of Fire Underwriters have been performed or obtained.

(b) The acceptance of final payment shall constitute a waiver of all claims by Contractor.

5.9 Release and Consent of Surety

Notwithstanding any other provision of this Agreement, before final payment pursuant to Section 5.8 shall become due pursuant hereto or before reduction of retainage, Contractor shall submit to BPCA a consent of surety to final payment or reduction of retainage in a form and substance acceptable to BPCA.

5.10 BPCA's Right to Audit and Inspect Records

Contractor shall maintain and shall keep for a period of at least six years after the date of Final Acceptance of the Work, pursuant to Section 8.7, all records and other data relating to the Work. BPCA or its designee shall have the right to inspect and audit all records and other data of Contractor relating to the Work at any time and from time to time until the end of such six year period. Contractor shall promptly respond to any inquiries of BPCA or any representative of BPCA arising out of any such inspection or audit.

5.11 Withholding of Payments

(a) BPCA may withhold payment or, because of subsequently discovered evidence, may nullify the whole or any part of any previously approved Requisition to such extent as may, in the judgment of BPCA, be necessary:

- (1) to assure payment of just claims or liens of any persons supplying labor or Materials for the Work;
- (2) to protect BPCA from loss due to defective Work or to reimburse BPCA, Construction Manager and Engineer for fines on account of non-compliance with applicable laws, rules and regulations, including rules promulgated by the Office of Safety & Health Administration;

- (3) to protect BPCA from loss due to death or injury to persons or damage to the Work or property of BPCA, other contractors or others caused by the act or neglect of the Contractor;
- (4) in the event that there is reasonable evidence that the Work will not be completed for the unpaid balance of the Contract Price;
- (5) in the event that there is reasonable evidence that the Work will not be completed within the time provided; or
- (6) in the event that Contractor persistently fails to perform the Work in accordance with the Contract Documents.

In any of such events, BPCA shall have the right to apply any such amounts so withheld in such manner as BPCA may deem proper to satisfy such claims, to secure such protection, to complete the Work or to compensate BPCA for any loss suffered by reason of Contractor's delay. Such application shall be deemed payment for the account of Contractor. In the event that BPCA gives Contractor notice that it intends to make such application, Contractor shall be estopped from disputing liability or the amount of liability unless, within three days after receipt of such notice, it indicates to BPCA in writing that it is not liable or that the amount of its liability is different from that set forth in the notice.

(b) The provisions of this Section 5.11 are solely for the benefit of BPCA, and any action or non-action by BPCA shall not give rise to any liability on the part of BPCA. Failure to so act shall not be deemed a waiver of any present or future claims of BPCA.

ARTICLE 6 – CONTRACTOR

6.1 Superintendence by Contractor

Contractor shall provide a competent construction superintendent to be in charge of the Work. The construction superintendent shall devote full time to the Work, shall be present at the Site during the time the Work is required to be performed and shall have full authority to accept instructions, make decisions and act for Contractor at all times. If at any time the construction superintendent is not satisfactory to BPCA or Construction Manager, Contractor shall, if requested by BPCA, replace such superintendent with another satisfactory to BPCA. Contractor shall enforce strict discipline and good order at all times among Contractor's employees and all Subcontractors. Contractor shall not engage any employee not skilled in the task assigned.

6.2 Representations and Warranties

Contractor represents and warrants that:

- (a) Contractor is financially solvent and is experienced in, and competent to

perform, the Work and has the staff, manpower, equipment, Subcontractor, and suppliers available to complete the Work within the time specified in the Agreement for the Contract Price;

(b) Contractor is familiar with all Federal, State or other laws, ordinances, orders, rules and regulations, which may in any way affect the Work;

(c) any temporary and permanent Work required by this Agreement can be satisfactorily constructed, and such construction will not injure any person or damage any property; and

(d) Contractor has carefully examined the Contract Documents and the Site and, from Contractor's own investigations, is satisfied as to the nature and location of the Work, the character, quality and quantity of surface and subsurface materials likely to be encountered, the character of equipment and other facilities needed for the performance of the Work, the general and local conditions, and all other conditions or items which may affect the Work. Prior to submitting its bid for performance of the Work, Contractor notified BPCA or Construction Manager in writing of any discrepancies or errors in the Contract Documents.

6.3 Verifying Dimensions and Site Conditions

Before proceeding with the Work, Contractor will check all previous and surrounding work and determine the correctness of the same; failure on its part to detect or report discrepancies will relieve BPCA of liability from any and all claims to recover cost, expense, loss or damage resulting therefrom. Contractor shall take, determine, investigate and verify all field measurements, dimensions, field construction criteria and Site conditions for the performance of the Work and shall check and coordinate the information contained in the Contract Documents and the boring logs which shall be available for inspection with the requirements of the Work. Contractor shall be responsible for determining the exact location of and to verify the spatial relationships of all Work. If any conflicts or discrepancies are found in the Contract Documents or if Contractor has any questions concerning the foregoing, it shall immediately notify Construction Manager and shall thereafter perform the Work in accordance with the directions of Construction Manager.

6.4 Copies of Contract Documents for Contractor

BPCA shall furnish to Contractor, without charge, two sets of the Contract Documents. Any sets in excess of the number mentioned above may be furnished to Contractor at the cost of reproduction and mailing.

6.5 Meetings

Contractor shall attend all meetings as directed by BPCA or Construction Manager, including meetings set forth in Section 26.3, and shall be represented at such meetings by a person having knowledge of the Work and authorized to act for Contractor at all times. If at any time such person is not satisfactory to BPCA or Construction Manager,

Contractor shall, if requested by BPCA, be represented by another person satisfactory to BPCA, having knowledge of the Work and authorized to act for Contractor at all times.

6.6 Related Work

Contractor shall examine the Contract Documents for related work to ascertain the relationship of such work to the Work under the Contract Documents.

6.7 Surveys and Layout

Unless otherwise expressly provided in this Agreement, Owner shall furnish Contractor survey points necessary for the Work, but Contractor shall lay out the Work.

6.8 Reports and Access

Contractor shall furnish BPCA and Construction Manager with daily and monthly manpower reports on forms provided by Construction Manager and such other reports as may be required by BPCA or Construction Manager. BPCA, Construction Manager and Engineer shall have full and free access to the shops, plants and factories of Contractor, any Materialmen and Subcontractors to inform themselves as to the progress of the Work.

6.9 Financial Information

Until completion of the Work, Contractor agrees to notify BPCA forthwith in writing of any event which has caused or is reasonably anticipated to cause a material adverse change in Contractor's business or financial condition from that shown in the then most recent financial statements furnished by Contractor to BPCA. Contractor has furnished to BPCA financial statements regarding the period from January 1, 2010 through December 31, 2010. Contractor agrees to furnish to BPCA, at BPCA's request from time to time hereafter, quarterly, or annual financial statements (which shall be audited, if such is the practice of Contractor for financial statements covering the applicable period) and such additional information as BPCA shall deem necessary or desirable to satisfy itself of Contractor's continuing ability to complete the Work.

ARTICLE 7 - CONTRACT ADMINISTRATION

7.1 Engineer's Responsibilities and Functions

Contractor acknowledges that the role of Engineer with respect to the Work shall be as specified in this Agreement. Contractor will comply with the instructions of Engineer pursuant hereto.

Engineer's duties and services shall in no way supersede or dilute Contractor's

obligation to perform and complete the Work in conformity with the Contract Documents.

7.2 Construction Manager's Responsibilities and Functions

(a) Construction Manager shall coordinate and schedule construction to insure that the completion of the Project is on schedule and that the Project is well constructed in accordance with the Contract Documents. Contractor acknowledges that the role of Construction Manager with respect to the Work shall be as specified in this Agreement. Contractor hereby agrees to comply with the directions and instructions of Construction Manager.

(b) Construction Manager shall call for meetings of Contractor, other contractors, Subcontractors and Materialmen as necessary for the proper coordination of the Work. Such meetings shall be held at the Site on regular working days, during regular working hours, unless otherwise directed by BPCA. Attendance shall be mandatory for all parties notified to attend.

7.3 Scope of Responsibility of Engineer and Construction Manager

In no event shall any act or omission on the part of the Construction Manager or Engineer relieve Contractor of its obligation to perform the Work in full compliance with the Contract Documents. Neither Engineer nor Construction Manager will be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and neither will be responsible for Contractor's failure to carry out the Work in accordance with the Contract Documents or the failure to fulfill any of the requirements of this Agreement.

ARTICLE 8 - INSPECTION AND ACCEPTANCE

8.1 Access to the Work

BPCA, Construction Manager, Engineer or their authorized representatives shall at all times have access to and the right to observe the Work and all facilities where the Work or any part thereof is being fabricated or stored, and Contractor shall provide proper facilities for such access and observation.

8.2 Notice of Required Inspections and Tests

If the Contract Documents, or any laws, rules, ordinances or regulations, require that any Work be inspected or tested, Contractor shall give BPCA, Construction Manager and Engineer timely notice of readiness of the Work for inspection or testing and the date fixed for such inspection or testing.

8.3 Additional Inspections and Tests

(a) Whenever, in the opinion of BPCA, Construction Manager or Engineer, it is

desirable to require inspection or testing of the Work or its individual components in addition to any such testing which may be originally included in the Work, they shall have authority to do so whether or not such Work be then fabricated, installed, covered or completed. If such inspection or testing reveals a failure of the Work to comply (1) with the requirements of the Contract Documents, or (2) with respect to the performance of the Work, with laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, Contractor shall bear all costs thereof, including Engineer's and Construction Manager's additional services made necessary by such failure; otherwise BPCA shall bear such costs, and an appropriate Change Order shall be issued.

(b) In the event that any item of the Work fails inspection or testing, BPCA, Engineer or Construction Manager may require inspection or testing of any or all of the other items of the Work at Contractor's cost and expense.

8.4 Uncovering of Work

(a) If any Work shall be covered or concealed contrary to the request of BPCA, Engineer or Construction Manager, such Work shall, if required by BPCA, Engineer or Construction Manager, be uncovered by examination, inspection or testing. Any examination, testing or inspection shall not relieve Contractor of the responsibility to maintain quality control over the Work. If any test results are below specified minimums, BPCA may order additional testing. The cost of such additional examination, inspection or testing, any additional professional services required, and any other expenses incurred by BPCA as a result of such examination, inspection or testing shall be borne by Contractor.

(b) In the event that a typical detail fails inspection or testing, BPCA, Engineer or Construction Manager may require inspection or testing of any or all of other such typical details at Contractor's cost and expense.

8.5 Correction of Work

Any Work not approved by BPCA, Engineer and Construction Manager shall immediately be reconstructed, made good, replaced or corrected by Contractor including all Work of other contractors destroyed or damaged by such removal or replacement. Rejected material shall be removed immediately from the Site. Acceptance of material and workmanship by BPCA shall not relieve Contractor from Contractor's obligation to replace all Work which is not in full compliance with the Contract Documents.

8.6 Certificate of Substantial Completion

Upon their receipt of written notice from Contractor stating that in Contractor's estimation the Work has been substantially performed in conformity with the Contract Documents, Engineer and/or Construction Manager shall perform an inspection for the purposes of determining whether the Work has been so performed, commencing such inspection within ten (10) days of receipt of such notice and completing it with all due diligence. When Engineer and/or Construction Manager find upon inspection that, to the best

of their knowledge and belief, the Work is so performed, they shall prepare and deliver to BPCA for delivery to Contractor a certificate specifying the date of substantial completion of the Work for purposes of this Agreement ("Certificate of Substantial Completion") and a punch list of items of Work remaining to be completed prior to the completion of the Work.

The delivery of a Certificate of Substantial Completion shall not terminate or alter Contractor's obligation under this Agreement to complete the Work in conformity with the Contract Documents and to fulfill all terms and conditions of this Agreement.

8.7 Completion of Work and Acceptance

Upon their receipt of written notice from Contractor stating its belief that the Work has been fully performed in conformity with the Contract Documents, and confirming that Contractor has completed any items of Work previously noted to it by Engineer and Construction Manager as not having been acceptably completed in any punch list or otherwise, Engineer and Construction Manager shall perform an inspection for purposes of determining whether the Work has been so performed. Engineer and Construction Manager shall commence such inspection within ten (10) days of receipt of such notice and shall pursue and complete it with all due diligence. When BPCA and Construction Manager find upon inspection that, to the best of their knowledge and belief, the Work has been so performed, they shall prepare a certificate of final completion, and, upon delivery by BPCA to Contractor of said certificate, the Work shall be deemed to be finally accepted by BPCA (such delivery of the certificate of final completion to Contractor is hereinafter referred to as "Final Acceptance").

ARTICLE 9 - CHANGES IN THE WORK

9.1 Change Orders

(a) BPCA may, at any time, in any quantity or amount, without notice to the sureties and without invalidating or abandoning the contract, order Extra Work. Notwithstanding the terms of subSection 3.1(a) hereof, BPCA may, but shall be under no obligation to, change the manner, sequence or method of performance of the Work or direct acceleration of the Work and Contractor shall, therefor, be entitled to a Change Order (as defined in Section 9.1(b)) provided that such change or acceleration was not ordered to maintain the Progress Schedule or to coordinate the Work with the work of other contractors. Contractor shall not perform any Extra Work or change in the Work unless it has received a Change Order or Field Order (as defined in Section 9.3) duly signed as hereinafter provided. Contractor shall be obligated to perform changed Work promptly in conformity with any Change Order or Field Order issued in accordance herewith.

(b) "Change Order" shall mean a written order issued by the Authority to Contractor after execution of this Agreement, authorizing or requiring:

- (i) Extra Work,
- (ii) items which were erroneously deleted or omitted from the Work,

- (iii) items which were included in the Work but were subsequently deleted,
- (iv) an extension of time to complete Work,
- (v) an increase or reduction in the payment to Contractor;, or
- (vi) any other change in the Contract Documents or in the sequence of performing or phasing of the Work.

(c) All Change Orders shall be prepared, signed and issued by Construction Manager at the instruction of BPCA, and to be valid, must be countersigned by BPCA and Contractor.

9.2 Change in Contract Price and Time

(a) The Contract Price will not be revised due to any change of the Work except as and to the extent expressly provided in the Change Orders. The amount by which the Contract Price is to be increased or decreased by any Change Order shall be determined by BPCA and Construction Manager by one or more of the following methods:

- (1) by accepting an amount agreed upon by BPCA and Contractor;
- (2) by applying the applicable unit prices and alternates where the Work involved is covered by unit prices in this Agreement;
- (3) by receiving from Contractor a detailed breakdown satisfactory to BPCA and Construction Manager, including actual time slips and invoices, itemizing the direct cost of labor and material to perform the changed Work and adding thereto fifteen percent (15%) to cover profit and all indirect and overhead costs, except that where the changed Work is performed by a Subcontractor or Materialman, the direct cost of labor and material to perform the changed Work plus fifteen percent (15%) for profit and all indirect and overhead costs to Subcontractor or Materialman and an additional sum for profit and all indirect and overhead costs of Contractor equal to ten percent (10%) of the first \$100,000, five percent (5%) of the second \$100,000 and three percent (3%) of any cost in excess of \$200,000 to Contractor. No allowance shall be paid on the premium portion of overtime pay. Where the changed Work involves both an increase and a reduction in any contract Work, the above percentage override shall be applied only on the amount, if any, by which the cost of the increase exceeds the cost of the reduction.
- (4) by receiving from Contractor a true copy of its bid work sheets to determine the contract price for the elimination of any contract Work.

The amount of reduction shall not include the overhead or profit of Contractor for the eliminated Work. Should Contractor fail to furnish BPCA with such bid work sheets, then Construction Manager shall determine the amount of the reduction. The determination of Construction Manager shall be final and binding unless erroneously or fraudulently arrived at, or arbitrary and capricious;

- (5) by adding to the Contract Price only the amount of the premium portion of overtime pay resulting from an acceleration of the Work; or
- (6) by adding to the Contract Price, the actual incremental labor and equipment costs incurred by the Contractor resulting from a change in the manner, sequence or method of performing the Work.

(b) The compensation specified in a Change Order shall constitute a release and full payment for the Extra Work covered thereby and for any delay and disruption cost or expense occasioned by reason of said change in the Work.

(c) No time extension shall be granted Contractor by reason of the issuance of any Change Order unless it is expressly stated therein.

9.3 Field Orders

Construction Manager shall have the authority to order minor changes in the Work by the issuance of written field orders ("Field Orders"), which may be issued without prior approval by BPCA. Field Orders must be countersigned by Contractor. Minor changes in the Work for purposes of this Section shall mean only changes which do not necessitate or warrant any revision in the Contract Price in excess of \$5,000 or affect the time of performance of Contractor's Work, any change in the basic character or design of the Project, or deviation from design standards established for the Project. Except as otherwise provided in the preceding sentence relating to an increase in the Contract Price, no claim for an increase in the Contract Price may be based upon any Field Order. If Contractor, on a receipt of a Field Order, claims that the change of Work involved necessitates a Change Order, it shall proceed in accordance with the Field Order under protest and notify BPCA immediately of its claim for additional compensation for Extra Work pursuant to Article 14.

9.4 Changed Conditions

(a) Contractor shall promptly, and before such conditions are disturbed, notify Construction Manager of: (1) subsurface or latent physical conditions differing materially from those indicated in the Contract Documents, or (2) unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Agreement. Construction Manager shall promptly investigate the conditions, and if it finds that such conditions do materially so differ and cause an increase or decrease in Contractor's cost of, or the time required for, performance of any part of the Work under this Agreement, Contractor shall be paid in the manner provided

for payment with respect to any Change Order and receive, if warranted, a time extension.

(b) No claim of contractor under this clause shall be allowed unless Contractor has given the notice required in subSection (a) above.

ARTICLE 10 - SUBCONTRACTS AND PURCHASE ORDERS

10.1 Selection of Subcontractors and Materialmen and Approval of Subcontracts and Purchase Orders

(a) Contractor shall submit to Construction Manager, within 21 calendar days of notice to proceed, the names of all persons with whom it has contracted or intends to contract or hereafter contracts with respect to the Work.

(b) Except as specifically provided herein, Contractor shall not enter into any Subcontracts or issue any Purchase Orders (as hereinafter defined) to any Materialmen in connection with the performance of Contractor's obligations hereunder without the prior written consent of BPCA to the use of each such Subcontractor or Materialman, and to the agreement to be entered into between Contractor and any such Subcontractor or Materialman. Contractor shall inform BPCA in writing of any interest it may have in a proposed Subcontractor or Materialman. No such consent by BPCA, or employment, contract, or use by Contractor, shall relieve Contractor of any of its obligations hereunder.

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

(d) Upon the request of BPCA, Contractor shall cause any Subcontractor or Materialman employed by the Contractor in connection with this Agreement to execute a copy of the Agreement wherein such Subcontractor or Materialman 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 Subcontractors or Materialmen.

(e) Contractor shall submit to BPCA promptly following execution, three copies of every revision, amendment, modification or cancellation executed or issued by Contractor with respect to any Subcontractor or Materialman. BPCA is not obligated to make payment on account of Work performed or Materials furnished by a Subcontractor or a Materialman under a Subcontract or contract for construction supplies or Materials (hereinafter "Purchase Order(s)") unless there shall have been filed with BPCA prior to the submission of a Requisition for each payment, three copies of such Subcontract or Purchase Order containing the provisions required by this Agreement to be contained therein, except as may otherwise be specified by BPCA with respect to Purchase Orders for minor purchases.

10.2 Access by BPCA and Others

Contractor shall include a provision in all Subcontracts and Purchase Orders stating that, to permit verification of Contractor's costs, BPCA shall have the right to have its representatives inspect and audit the books of account and records of the Subcontractor and Materialmen, including the right to make excerpts from such books and records. All payments by Contractor to a Subcontractor or Materialman shall be by check specifically indicating that payment is attributable to this Agreement. Contractor shall include a provision in all Subcontracts and Purchase Orders that will enable representatives of the State of New York, Construction Manager and BPCA, as the case may be, to obtain access during working hours to the appropriate books of account and records of the Subcontractors or Materialmen relating to the Work to determine if there is compliance with the requirements of law or this Agreement.

10.3 Retainage

Contractor may provide for a retainage under any of its Subcontracts or Purchase Orders provided that where a Subcontract or Purchase Order provides for a retainage, the retainage shall be no greater in percentage than that provided for under Sections 5.1 or 5.7 hereof with respect to Contractor itself, unless otherwise approved in writing by BPCA. Contractor shall submit with each Requisition a statement setting forth the amounts of all retainage, if any, under its Subcontracts and Purchase Orders.

10.4 Miscellaneous

(a) Contractor shall be fully responsible for the work, acts and omissions of Subcontractors and Materialmen, and of persons either directly or indirectly employed by Subcontractors and Materialmen.

(b) Contractor's use of Subcontractors and Materialmen shall not diminish Contractor's obligation to complete the Work in accordance with the Contract Documents. Contractor shall control and coordinate the work of Subcontractors and Materialmen.

(c) Nothing contained in this Agreement shall create any contractual relationship between Subcontractors or Materialmen and BPCA, Construction Manager or Engineer. Nothing in this Section shall obligate BPCA to pay or to see to the payment of any sums to any Subcontractor or Materialmen.

(d) Contractor shall include a provision in all Subcontracts and Purchase Orders exceeding \$50,000, requiring the Subcontractor or Materialman, if requested by BPCA, until the Subcontractor or Materialman finishes its portion of the Work, to deliver to Contractor unaudited and, if available, audited financial statements of the Subcontractor or Materialman similar to the obligation of Contractor under Section 6.8 and promptly upon receipt thereof Contractor shall deliver copies thereof to BPCA.

ARTICLE 11 - ASSIGNMENT

11.1 No Assignment of Duties

Contractor shall not assign this Agreement or the performance of any obligations of Contractor under this Agreement, nor enter into any Subcontract in respect of the Work or any part thereof except in compliance with Article 10 hereof and with the prior written consent of BPCA, and each and every such assignment, Purchase Order and Subcontract without such compliance and consent shall be void and shall revoke and annul this Agreement.

11.2 No Assignment of Monies

Contractor shall not assign any monies payable hereunder nor execute and deliver any order for payment unless Contractor and the assignee shall have complied with the following terms and conditions:

(a) the assignee shall be a commercial bank or finance company regularly engaged in the business of provided financing to construction contractors and shall be providing such financing to Contractor;

(b) the assignee shall, simultaneously with the assignment, execute and deliver to BPCA an undertaking, in favor of BPCA, in form and substance satisfactory to BPCA, providing that:

(1) assignee will cause Contractor to apply for trust purposes, as defined in Article 3-A of the Lien Law of the State of New York (the "Lien Law"), all funds advanced by assignee to Contractor;

(2) assignee will file a copy of the assignment, containing the covenant required by the Lien Law, with the County Clerk of New York County;

(c) the assignee shall agree with BPCA in writing that BPCA and Contractor may modify any of the terms of this Agreement, including any of the terms of payment, without the consent of assignee;

(d) the assignee shall agree with BPCA in writing that after the effective date of the assignment, BPCA may make payment directly to any Subcontractor or Materialman without any liability to the assignee;

(e) the assignee shall agree with BPCA in writing that the assignee shall require and cause Contractor to keep his books and records in the form and manner described in Section 75 of the Lien Law; and

(f) the assignee shall agree with BPCA in writing that the assignee will indemnify and hold BPCA harmless from and against any loss, claim or expense incurred as a result of any failure of performance in accordance with the terms of such undertaking.

11.3 Assignment by BPCA

This Agreement or any rights of BPCA under this Agreement, including any guaranties or warranties of workmanship or material, may at any time be assigned by BPCA to the State of New York or any political subdivision, public corporation or agency of the State.

ARTICLE 12 - MECHANICS' LIENS AND CLAIMS

If any mechanic's lien or other claim shall be filed for or on account of the Work, Contractor shall promptly discharge such lien or claim.

ARTICLE 13 – INSURANCE AND CONTRACT SECURITY

13.1 Insurance

(a) Contractor shall procure and maintain all of the insurance required under this Article 13 until Final Acceptance of the Work, except with respect to Completed Operations Coverage, as described in 13.1(f)(3) below.

(b) Contractor shall not commence physical performance of the Work at the Site until Contractor has obtained, and required each Subcontractor to obtain, all the insurance required under this Article and until it has furnished to BPCA the certificate or certificates of insurance required by Section 13.1(c) hereof.

(c) Contractor shall furnish to BPCA, before or upon execution of this Agreement, attention: **XXXXXXXXXXXXXXXXXXXX**, a certificate or certificates of the insurance required under this Article and, upon BPCA's request, certified copies of the original policies of insurance, within the time period required by BPCA and before commencing physical performance of the Work at the Site. Such certificate or certificates shall be in form satisfactory to BPCA, 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 Final Acceptance unless BPCA is given 90 days' written notice to the contrary. Such policies and certificates should name as additional insureds BPCA, Battery Park City Parks Conservancy Corporation (the "Conservancy"), the State of New York, Construction Manager, and Engineer.

(d) All insurance required to be procured and maintained must be procured from insurance companies which have a financial rating by A.M. Best Company as published in the most current key rating guide of "A-X" 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, if BPCA shall so direct, Contractor shall suspend performance of the Work. If the Work is not suspended then BPCA may, at BPCA's option, obtain insurance affording coverage equal to that required, the cost of such insurance to be payable by Contractor to BPCA.

- (f) Contractor and each Subcontractor shall secure in form satisfactory to BPCA:
- (1) Worker's Compensation and Employer's Liability Insurance, including USL & H (United States Longshoreman & Harbor Workers) and Jones Act Coverages, 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. Employer's Liability Insurance and benefits resulting from disease shall not be less than an annual aggregate amount of \$1,000,000 for each consecutive 12-month period.
 - (2) Disability Benefit Insurance during the life of this Agreement for the benefit of such employees as are required to be insured by the applicable provisions of law.
 - (3) Commercial General Liability Insurance as follows:

Standard commercial general liability insurance policy with contractual, products and completed operations and explosion, blasting, collapse and underground damage liability coverages, under the occurrence policy format, issued to and covering the liability of Contractor for all the Work and operations relating thereto and all obligations assumed by Contractor under this Agreement in an amount which shall not be less than the following limits:

Combined Single Limits, Bodily Injury
and Property Damage Liability

\$XXXXXXXXXX per each occurrence and \$XXXXXXXXXX in the aggregate.

The completed operations coverage shall continue in force until three years after Final Acceptance of the Work and 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, Contractor shall furnish BPCA with a certified copy of the completed operations policy.

- (4) Automobile Liability Insurance as follows:

A policy covering the use in connection with the Work of all owned,

non-owned and hired vehicles bearing, or under the circumstances under which such vehicles are being used being required by the Motor Vehicle Laws of the State of New York to bear license plates. The coverage under such policy shall not be less than the following limits:

Combined Single Limits,
Bodily Injury and Property Damage Liability

\$XXXXXXXXXXXX per each occurrence.

- (5) Marine Protection and Indemnity ("P&I") insurance of not less than XXXXXXXXXXXXXXX per occurrence, if Contractor or any of its Subcontractors utilizes floating equipment, barges or floats, or performs marine-related construction, covering any and all claims for personal injury, death and property damage arising out of or in connection with this Agreement.
- (6) Pollution Liability Insurance, on an occurrence basis, providing coverage for bodily injury liability, property damage or environmental damage caused by pollution conditions with a limit of liability of not less than XXXXXXXXXXXXXXX per occurrence and in the aggregate. The policy shall include coverage for environmental clean-up on land, in air and on water. The policy shall include coverage for completed operations for two (2) years after the completion of the performance of the Work, gradual and sudden and accidental pollution coverage, with a time element of no less than seven (7) days' notice and thirty (30) days' reporting. The policy shall not contain a sunset provision, or any other provision, which would prohibit the reporting of a claim and the subsequent defense and indemnity that would normally be provided by the policy. The policy shall provide transportation coverage for the hauling of hazardous materials from the Project Site to the final disposition location.
- (7) Vessel Pollution Liability Insurance, on an occurrence basis, providing coverage for bodily injury liability, property damage or environmental damage caused by pollution conditions, emanating from any floating equipment, barges or floats, utilized by Contractor or SubContractors in the performance of Marine related construction, with a limit of liability of not less than XXXXXXXXXXXXXXX per occurrence and in the aggregate. The policy shall include coverage for environmental clean-up on land, in air and on water.
- (8) Umbrella Liability Insurance, excess of general liability, automobile liability, Protection and Indemnity ("Marine Liability"), vessel pollution and Employer's Liability, in an amount of not less than XXXXXXXXXX.

(g) The insurance required under subSections 13.1 (f) 3, 4 and 5 shall be of a type which shall protect Contractor and Subcontractors, respectively, against damage claims which may arise from operations under this Agreement, whether such operations be by the insured or by anyone directly or indirectly employed by the insured. Each of the aforesaid policies shall provide that the insurance company or an attorney approved and retained by the insurance company shall defend any suit or proceeding against BPCA or any officers, agents or employees of BPCA whether or not such suit is groundless, false or fraudulent. Notwithstanding the foregoing, BPCA 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, Contractor shall, indemnify BPCA for all attorneys' fees and disbursements and other costs incurred by it arising out of, or incurred in connection with, any such defense. The said insurance shall name BPCA, the Conservancy, the State of New York, Construction Manager and Engineer as additional insured as respects this location and shall, where applicable, be written on an occurrence basis and shall contain a provision that it is primary and that any similar insurance which BPCA, the Conservancy, the State of New York, Construction Manager, and Engineer Contractor or Subcontractor elect to carry for their own benefit is secondary or excess and not contributing insurance.

(h) BPCA, at BPCA's cost and expense, may, at its sole option, procure and maintain such insurance as shall in the opinion of BPCA, protect BPCA from contingent liability of BPCA 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 BPCA shall not in any way be construed or be deemed to relieve Contractor from, or to be a limitation on the nature or extent of, such obligations and risk.

(i) BPCA shall, at all times during the period of construction and until completion and Final Acceptance of the Work procure and maintain at the cost and expense of BPCA "Builders Risk" insurance, or its functional equivalent, against direct physical loss or damage to the Work and on all Materials to be made a part of the Work in the names of BPCA, Construction Manager, Contractor and Subcontractors, said amount of insurance to be procured and maintained on a one hundred percentage (100%) completed value basis on the insurable portion of the Work, which insurance shall contain a deductible provision for all losses except flood and earthquake in the amount of \$10,000 and a deductible provision for flood and earthquake in the amount of \$10,000. Owner recognizes that the deductible applicable to flood and earthquake may be greater than \$10,000 due to insurance market conditions and shall notify Contractor if such deductible is greater than \$10,000. Losses up to and including the amounts of such deductible provisions shall be borne by Contractor. The insurance specified above may, in certain instances, include other parties as named insureds, as the interests of such parties may appear. Loss, if any, is to be made adjustable with and payable to BPCA on behalf and for the named insureds as the interests of such insureds may appear. BPCA shall, in BPCA's sole discretion, have power to adjust and to settle with the insureds any loss or claim under such insurance. The above is not intended to be a complete, full or accurate description of the coverage provided by the policies of insurance, copies of which are on file with BPCA. This subSection (i) is not intended to create or give any rights to Contractor or Subcontractors other

than those which may be made available to such Contractors or Subcontractors under the terms of such policies. BPCA assumes no obligation to obtain insurance other than that evidenced by said policies. Contractor and Subcontractors shall not violate or permit to be violated any term or condition of such policies and shall at all times satisfy the safety requirements of BPCA and of the insurance companies issuing the aforementioned policies. The Contractor shall, upon notification by BPCA, obtain such insurance at BPCA's expense on a date determined by BPCA, which date shall not be less than (thirty) (30) days after notice to Contractor of such determination by the BPCA.

13.2 Effect of Procurement of Insurance

Neither the procurement nor the maintenance of any type of insurance by BPCA or Contractor shall in any way be construed or be deemed to limit, discharge, waive or release Contractor from any of the obligations and risks impressed upon Contractor by this Agreement or to be a limitation on the nature or extent of such obligations and risks.

13.3 Contract Security

Contractor shall, if it already has not done so, furnish to BPCA, with the execution of this Agreement, to BPCA, a bond in an amount at least equal to one hundred percent (100%) of the Contract Price for performance of the Work (the "Performance Bond") and also a labor and material payment bond in an amount at least equal to one hundred percent (100%) of the Contract Price for the payment of all persons performing labor or providing Materials in connection with the Work (the "Payment Bond").

13.4 Additional or Substitute Bond

If at any time BPCA shall be or shall become dissatisfied with any surety or sureties then obligated upon the Performance Bond or the Payment Bond, or if for any other reason such bonds shall cease to be adequate security to BPCA, Contractor shall within five (5) days after notice from BPCA to do so, substitute an acceptable bond or bonds in such form and sum and signed by such other surety or sureties as may be satisfactory to BPCA, except that the penal sum of said bond shall not exceed the Contract Price as adjusted by Change Orders. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished such an acceptable bond or bonds to BPCA.

ARTICLE 14 - CLAIMS FOR EXTRA WORK

(a) If Contractor is of the opinion that (i) any work which it has been ordered to perform is Extra Work and not Work as set forth in the Contract Documents, (ii) any action or omission of BPCA, Construction Manager or Engineer is contrary to the terms and provisions of the Contract Documents and will require the performance of Extra Work or will cause additional expense to Contractor or (iii) any determination, order or directive of BPCA, Construction Manager or Engineer is contrary to the terms of the Contract Documents and will require the performance of Extra Work or will cause additional expense to Contractor,

Contractor shall:

- (1) not suspend Work but promptly comply with each determination, order or directive and proceed diligently with the performance of the Work in accordance with BPCA's instructions,
- (2) notify BPCA, Construction Manager and Engineer in writing within 72 hours of such determination, order or directive of its reasons for its opinion and request a final determination thereon by BPCA, and
- (3) present to the Construction Manager for signature daily time and material tickets to confirm quantities of Material and hours of labor in cases where Contractor is performing the Work which it considers to be Extra Work.

If BPCA determines that (x) work is Work required to be performed hereunder and not Extra Work, (y) action or omission is proper or (z) a determination, order or directive is proper, Contractor, in order to reserve its right to claim compensation for or damages resulting from the performance of such work or the compliance with such determination, order or directive, must notify BPCA in writing within three (3) working days after receiving notice of BPCA's determination that it is performing such work or complying with such determination, order or directive under protest.

In addition to the foregoing, Contractor must submit to BPCA, Construction Manager and Engineer within thirty (30) days after it has performed such work or complied with such determination, order or directive, a detailed statement of the extra expense claimed to have been incurred and of any claimed damages resulting from the performance of such work or the compliance with such determination, order or directive.

(b) No claim for Extra Work shall be allowed unless the same was done pursuant to written order approved in writing by BPCA. Contractor's failure to comply with any provision of this Article:

- (1) shall constitute a conclusive and binding determination on the part of Contractor that such action, omission, determination, order or directive does not involve Extra Work, has not caused extra expense to Contractor, and is not contrary to the terms and provisions of the Contract Documents; and
- (2) shall constitute an irrevocable waiver by Contractor of any claim for compensation for or damages resulting from the performance of such work or the compliance with such determination, order or directive.

(c) The value of claims for Extra Work, if allowed, shall be determined by the methods described in Section 9.2.

ARTICLE 15 - TERMINATION

15.1 Termination for Cause

(a) If any of the following events shall occur (an “Event of Default”) then BPCA or Construction Manager may serve written notice upon Contractor and upon Contractor’s surety, if any, terminating this Agreement at a specified date. The notice shall contain the reasons for termination but shall not be effective to terminate this Agreement if Contractor cures all Events of Default stated in the notice prior to the date specified in the notice of termination.

- (1) Contractor shall violate any substantial provision of this Agreement, including, without limitation, by failing to maintain the Progress Schedule then in effect in accordance with, or failing to discharge any of its responsibilities under, Section 3.1(d) hereof, or by failing to indemnify and hold harmless BPCA (as required by Sections 3.1(e), 3.2, 17.5, 21.1, 21.2., 22(c) or any other provision of this Agreement) from and against any and all claims, liabilities, losses, costs or damages arising out of Contractor’s performance of, or failure to perform, its obligations under this Agreement in accordance with its terms; or
- (2) any material adverse change shall take place in the financial condition of the Contractor;
- (3) any action shall be taken by Contractor which would result in it becoming the subject of any insolvency proceeding. The term “insolvency proceeding” as used herein shall include the filing of a petition for relief under Title 11 of the United States Code by Contractor or the consent, acquiescence or taking of any action by Contractor, or the filing by or against Contractor of petition or action, looking to or seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution, or similar relief under any other regulation; or the appointment, with or without the consent of Contractor, of any trustee, custodian, receiver or liquidator of Contractor of any property or assets of Contractor; or Contractor’s making of an assignment for the benefit of creditors or its inability to pay its debts as they become due.
- (4) Contractor shall have misrepresented or omitted information in its submission of the Statement of Qualifications of Contractor submitted by Contractor to BPCA in connection with this Agreement; or
- (5) Any partner, principal, director, officer or shareholder owning in excess of five percent (5%) of the stock of Contractor shall have been convicted of a felony.

(b) Upon the occurrence of an Event of Default, at Owner's option exercised by written notice to Contractor, title to any or all of Contractor's Materials, equipment, work in process and dies and tools, whether on the Site or off site, which are necessary or useful in completing the Work shall vest in Owner and Owner may take possession of and utilize the same for completion of the Work; provided that title to such items shall revert to Contractor upon effectuation of a cure of the Event of Default prior to the termination of this Agreement. If no cure has been effected, this Agreement has been terminated and Owner has taken possession of the same, then after Owner has taken possession and the Work shall have been completed by or on behalf of Owner, Owner shall pay to Contractor, in respect to the items for which title has vested in Owner, an amount equal to the sum of:

- (1) the direct costs of Contractor for such materials and Work in progress, and
- (2) the depreciated book value of such tools and dies less, if Owner elects to return the tools and dies to Contractor, the salvage value thereof. Owner shall have the right to set off against such payment due to Contractor any amounts then due and payable by Contractor to Owner which may accrue as damages owing by Contractor to Owner under the terms of this Agreement. Contractor shall execute any further documents (including Form UCC-1 Financing Statements to give public notice of the potential ownership interest of Owner as set forth herein) required by Owner to confirm the terms of this subSection 15.1(b).

(c) Upon termination of this Agreement, BPCA shall have the right, in addition to all other rights and remedies, to complete or have the Work completed by such means and in such manner, by contract or otherwise, with or without public letting as permitted by law, as BPCA deems advisable. BPCA may deduct any loss it incurs thereby from any payment then or thereafter due to Contractor without prejudice to any other remedy BPCA may have.

(d) Immediately upon termination in accordance with the provisions of this Section, each and every Subcontract and Purchase Order entered into by Contractor shall, at BPCA's option, be automatically assigned to BPCA, and Contractor shall insert a provision to this effect in all Subcontracts and Purchase Orders. In the event that it shall be determined that a termination under this paragraph was wrongful or not justified, such termination shall be conclusively deemed to be a termination for convenience of BPCA under Section 15.2 hereof and the sole right, remedy and recourse of Contractor against BPCA shall be governed and determined by Section 15.2 hereof.

(e) Contractor shall, upon the date when such termination shall take effect, promptly notify the union or unions, if any, having jurisdiction over the work by its employees that it releases the Project and consents that the Work be performed by others and Contractor expressly authorizes BPCA to notify the union or unions of such release in the name of Contractor. The failure, neglect or refusal of Contractor to issue such release or the disclaimer by it of the effectiveness of the release issued by BPCA shall subject Contractor to all damages sustained by BPCA.

(f) If this Agreement shall have been terminated by BPCA pursuant to this Section 15.1 and it shall be finally determined by a court of competent jurisdiction that adequate grounds for such termination did not exist, then such termination shall be deemed a termination for convenience as provided hereunder.

15.2 Termination for Convenience of BPCA

(a) BPCA, at any time, may terminate this Agreement for its own convenience. Any such termination shall be effected by delivering to Contractor a notice of termination specifying the extent to which performance of Contractor's Work under the Contract is terminated and the date upon which such termination becomes effective. Upon receipt of the notice of termination, Contractor shall:

- (1) stop work under this Agreement on the date specified in the notice of termination;
- (2) place no further Purchase Orders or Subcontracts for Materials, services or facilities;
- (3) unless directed otherwise by BPCA, terminate all Purchase Orders and Subcontracts;
- (4) assign to BPCA, in the manner, at the times, and to the extent directed by Construction Manager, all of the right, title and interest of Contractor under the Purchase Orders and Subcontracts so terminated, in which case BPCA shall have the right, in its sole discretion, to settle or pay any or all claims arising out of the termination of such Purchase Orders and Subcontracts;
- (5) to the extent required by Construction Manager, settle all outstanding liabilities and all claims arising out of such termination of Purchase Orders and Subcontracts, with the approval or ratification of Construction Manager, which approval or ratification shall be final for all the purposes of this Section 15.2;
- (6) transfer title to BPCA and deliver in the manner, at the time, and to the extent, if any, directed by the Construction Manager (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the Work terminated by the notice of termination, and (ii) the completed or partially completed plans, drawings, information and other property, which if this Agreement had been completed, would have been required to be furnished to BPCA;
- (7) take such action as may be necessary, or as the Construction Manager

may direct, for the protection and preservation of the property related to this Agreement which is in the possession of Contractor and in which BPCA has or may acquire an interest.

(b) In the event of a termination of this Agreement pursuant to this Section 15.2, Contractor shall be paid by BPCA only the apportioned Contract Price for Work installed, the fair and reasonable value of Materials stored on the Site and under order for which Contractor is responsible for payment, less any sums properly deductible by BPCA, except that in no event shall Contractor be entitled to compensation in excess of the total Contract Price.

15.3 Suspension of Work

(a) BPCA may at any time and for any reason direct Contractor to suspend, stop, or interrupt the Work or any part thereof for a period of time. Such direction shall be in writing and shall specify the period during which the Work is to be stopped. Upon receipt of a direction of suspension, Contractor shall, as soon as practicable, cease performance of the Work as ordered and take immediate affirmative measures to protect the Work from loss or damage. Contractor shall resume the Work upon the date specified in such direction or upon such other date as BPCA may thereafter specify in writing.

(b) The period during which the Work shall have been suspended, stopped or interrupted may, if warranted, be added to the time fixed for performance. A suspension, stoppage or interruption of the Work pursuant to this provision shall not give rise to any claim against BPCA for additional compensation.

ARTICLE 16 - COMPOSITE DRAWINGS AND COOPERATION

Where Contractor shall perform Work in close proximity to work of other contractors or subcontractors, or where there is evidence that Contractor's Work may interfere with work of other contractors, or subcontractors, Contractor shall assist in arranging space conditions to make satisfactory adjustment for the performance of such work and the Work. Contractor shall prepare composite scale working drawings and Sections as directed by Construction Manager, clearly showing how Contractor's Work is to be performed in relation to work of other contractors or Subcontractors. Such direction may include the following: the scale of the drawings, where the drawings are to be drafted, the number of prints or reproducibles, and the requirement of attendance at meetings. The determination as to who shall provide the composite drawings and the contents of the same shall rest exclusively with Construction Manager. Upon request by Construction Manager, Contractor shall sign and be bound by such composite drawings. Such signature shall indicate Contractor's acknowledgment that such drawing is acceptable as related to its Work covered or included in such drawing. If Contractor performs work in a manner which causes interference with the work of other contractors, or subcontractors, Contractor shall make the changes necessary to correct the condition as directed by Construction Manager.

ARTICLE 17 - PROTECTION OF RIGHTS, PERSONS AND PROPERTY

17.1 Accident Prevention

Contractor shall at all times take every precaution against injuries to persons or damage to property and for the safety of persons engaged in the performance of the Work.

17.2 Safety Programs

Contractor shall be responsible for the initiation, maintenance and supervision of safety precautions and programs as prescribed by Construction Manager in connection with the Work.

17.3 Protection of Work and Property

(a) Contractor shall at all times guard BPCA's property from injury or loss in connection with the Work. Contractor shall at all times guard and protect the Site, the Work and adjacent property. Contractor shall replace or make good any such loss or injury unless such loss or injury is caused directly by BPCA.

(b) Contractor shall have full responsibility to install, protect and maintain all Materials in proper condition and forthwith repair, replace and make good any damage thereto until Final Acceptance of the Work.

(c) No provision is included for stresses or loads imposed by construction operations. If Contractor desires to place such loads in excess of the design load (as shown on the Drawings or Specifications), Contractor shall submit to Engineer drawings and calculations prepared by, and bearing the seal of a professional engineer, showing the proposed method for supporting such loads, for Engineer's review and approval. No loading of any kind in excess of design loads shall be placed on any part of the Project prior to Engineer's approval of such submitted drawings and calculations. The costs of the Engineer's review shall be reimbursed to BPCA by Contractor.

(d) Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work, to make its several parts fit together properly and to make the Work fit together properly with previous and surrounding work. The requirement to cut, fit or patch shall be determined by Construction Manager; provided, that structural elements of the Project shall not be cut, patched, or otherwise altered or repaired without prior authorization by BPCA. Authorization to proceed with remedial operation on any damaged or defective element or portion of the Project shall not constitute a limitation or a waiver of BPCA's, Construction Manager's or Engineer's right to require the removal and replacement of any Work which fails to fulfill the requirements of the Contract Documents.

17.4 Adjoining Property

Contractor shall protect all adjoining property and shall repair or replace any

such property damaged or destroyed during the progress of the Work.

17.5 Risks Assumed by Contractor

(a) Contractor solely assumes the following risk whether such risk arises from acts or omissions (whether negligent or not and whether supervisory or otherwise) of BPCA, Construction Manager, of Engineer or Contractor, of any Subcontractor, of any Materialman, of third persons or from any other cause, including unforeseen obstacles and difficulties which may be encountered in the prosecution of the Work, whether such risk is within or beyond the control of Contractor and whether such risk involves any legal duty, primary or otherwise, imposed upon BPCA:

the risk of loss or damage, direct or indirect, of whatever nature, to the Work or to any Materials furnished, used, installed or received by BPCA, Contractor or any Subcontractor, Materialmen or workmen performing services or furnishing Materials for the Work, whether such Work or Materials are stored at the Site or at an offsite location in accordance with Section 5.4 hereof. Contractor shall bear such risk of loss or damage until Final Acceptance of the Work by BPCA or until completion or removal of such Materials from the Site and the vicinity thereof, whichever event occurs last. A portion of the risk of such loss or damage may be insured against under the terms of a "builder's risk" insurance policy maintained in the name of Contractor, among others, as described in Section 13.1(i). Notwithstanding the status of any actual or potential recovery or claim under the said "builder's risk" insurance policy, in the event of any loss or damage, Contractor immediately shall repair, replace or make good any such loss or damage.

(b) Contractor shall not, without obtaining express advance permission of BPCA, raise any defense involving in any way jurisdiction of any court in which BPCA brings an action arising under this Agreement, governmental nature of BPCA or the provisions of any statutes respecting suits against BPCA.

(c) Contractor's obligations under this Article 17 shall not be deemed waived, limited or discharged by the enumeration or procurement of any insurance for liability for damages.

(d) Neither Final Acceptance of the Work nor any payment made hereunder shall release Contractor from Contractor's obligations under this Article 17. The enumeration elsewhere in this Agreement of particular risks assumed by Contractor or of particular claims for which Contractor is responsible shall not be deemed to limit the effect of the provisions of this Article 17 or to imply that Contractor assumes or is responsible for only risks or claims of the type enumerated; and neither the enumeration in this Article nor the enumeration elsewhere in this Agreement of particular risks assumed by Contractor of particular claims for which Contractor is responsible shall be deemed to limit the risks which Contractor would assume or the claims for which Contractor would be responsible in the absence of such enumerations.

(e) The Contractor is advised that the Work under this Agreement may impose certain obligations and requirements mandated by the U.S. Department of Labor Occupational Safety and Health Administration regulations, Title 29 CFR Part 1926.62 Lead Exposure in Construction, relative to the potential exposure to lead by its employees. The Contractor assumes entire responsibility and liability for complying fully in all respects with these regulations.

(f) Contractor agrees that any unsatisfied claims of the BPCA arising from Contractor's obligations under this Article 17 or Article 13 (Insurance) may be offset or deducted by BPCA from any payments due to Contractor hereunder.

ARTICLE 18 - USE PRIOR TO ACCEPTANCE BY BPCA

(a) If before Final Acceptance of Work, BPCA desires to use the Site or any part thereof which is completed or partly completed, or to place or install therein or thereon equipment, BPCA shall have the right to do so, and Contractor shall in no way interfere with or object to such use by BPCA.

(b) Such use (1) shall not constitute acceptance of space, systems, Materials or elements of the Work, nor shall such use affect the start of any guaranty period and (2) shall not affect the obligations of Contractor for work which is not in accordance with the requirements of this Agreement or other obligations of Contractor under the Contract Documents.

(c) Contractor shall continue the performance of the Work in a manner which shall not unreasonably interfere with such use by BPCA.

ARTICLE 19 - EXEMPTION FROM SALES AND COMPENSATING USE TAXES

19.1 BPCA Exempt

BPCA is exempt from payment of sales and compensating use taxes of the State of New York and of cities and counties thereof on all Materials which will become an integral component of the completed Project pursuant to this Agreement.

19.2 Certificates

Contractor, Subcontractors and Materialmen shall obtain any and all necessary certificates or other documentation from the appropriate governmental agency or agencies, and use such certificates or other documentation as required by law, rule or regulations to obtain said tax exemption.

ARTICLE 20 - WARRANTIES AND GUARANTIES

20.1 In General

(a) Contractor guarantees that all Work performed and all Materials furnished will conform to the Contract Documents as to kind, quality, functions, design and characteristics of material and workmanship. Contractor shall remove, replace and repair, at its sole cost and expense, all defects in workmanship, Materials, ratings, capacities, or design characteristics occurring in or to the Work including, without limitation, any portion of the Work furnished or performed by any Subcontractor or Materialman, within one year from the date of Final Acceptance. Contractor guarantees that all Work performed and all Materials furnished will conform to the Contract Documents as to kind, quality, functions, design and characteristics of material and workmanship. Contractor hereby acknowledges that BPCA may be required to incur substantial expense if correction of the Work is required particularly if such correction involves the uncovering, removal or replacement of concrete, wiring and piping installed at the Site. If Contractor shall fail to reimburse BPCA for any such expense which may become payable as provided in this paragraph, BPCA shall be entitled to deduct such expense from any payments required to be made by BPCA to Contractor pursuant to this Agreement. Contractor, upon demand, shall pay for all damage to all other work resulting from such defects and all expenses necessary to remove, replace and repair such other work which may be damaged in removing, replacing or repairing such defects.

(b) The benefits of this Article 20 shall inure to the benefit of BPCA and its respective successors and assigns. In addition, any bond or guaranty which may be required of Contractor or any Subcontractor or Materialman under the Contract Documents shall inure to the benefit of BPCA and its respective successors and assigns.

(c) The rights and remedies afforded BPCA under this Section are in addition to and not in lieu of and do not in any way affect, change, alter, modify, vary or prejudice any right, remedy or recourse which BPCA may have under other provisions of this Agreement or pursuant to Law.

20.2 Additional Guaranties

In addition to the general guaranty set forth in Section 20.1, any other guaranties set forth in the Contract Documents shall be applicable.

20.3 Repair by Another

If BPCA has requested Contractor to correct any Work and Contractor shall not have completed any correction of the Work as shall be required pursuant to this Article 20 within ten (10) working days after receipt of written notice from BPCA specifying the defect or damage required to be removed, replaced or repaired, or if such defect or damage is of such a nature that it cannot be completely removed, repaired and replaced within such ten (10) day period and Contractor shall not have diligently commenced removing, repairing and replacing such defect and damage within such ten (10) day period or shall not thereafter with reasonable diligence and in good faith proceed to do such work, BPCA may employ such other person, firm or corporation as it may choose, to perform such removal, replacement and repair, and

Contractor shall, upon demand, pay to BPCA all amounts which BPCA expends for such removal, replacement and repair.

ARTICLE 21 - INDEMNITY

21.1 Delay or Failure

Contractor and its sureties shall be responsible for and pay to BPCA, all loss, damage and additional cost incurred by reasons or on account of (i) the unexcused delays of Contractor (determined as set forth in Section 3.1 hereof) or (ii) Contractor's failure to fully and completely carry out the terms of this Agreement.

21.2 Inventions

In addition to the indemnity set forth in Section 17.5(a), Contractor shall indemnify and hold BPCA harmless from all claims, demands or liabilities of any kind or nature, including costs and expenses, for or on account of any patented or unpatented plan, design, invention, article, arrangement, appliance, Material, or preparation, manufactured, used or followed in the performance of or incident to the Work hereunder, and shall defend any and all actions arising out of the same. In the event of any injunction or legal action by reason thereof, which shall operate to stop or retard the Work, BPCA shall have the right to substitute such other articles of like kind as will enable it to complete the Project, and all costs and expenses occasioned thereby shall be borne by Contractor.

21.3 Liability

Contractor shall hold BPCA, the Conservancy, the State of New York, Construction Manager and Engineer and their servants, agents and employees harmless from and shall indemnify them against any and all liability, loss, cost, damage or expense, including attorneys' fees, by reason of claims of its employees or employees of its Subcontractors or Materialmen for injuries or death or by reason of claims of any other person or persons, including BPCA, the Conservancy, the State of New York, Construction Manager, and Engineer and their servants, agents or employees, for injuries to person or property or for death occasioned in whole or in part by any act or omission of Contractor, its Subcontractors and Materialmen and their servants, agents and employees whether or not it is contended that BPCA contributed thereto or was responsible therefor by reason of nondelegable duty. If, however, this indemnification is limited by applicable law, then the said indemnification hereby shall be similarly limited to conform with such law, it being the intention that this indemnification shall be as permitted by applicable law. BPCA may retain any monies due or to become due hereunder sufficient to indemnify BPCA, the Conservancy, the State of New York, Construction Manager, and Engineer and their servants, agents and employees against such injuries, claims, suits, actions, costs or damages should any such claim arise. Contractor shall, at the sole option of BPCA and upon written demand of BPCA, assume the defense in behalf of BPCA, the Conservancy, the State of New York, Construction Manager, and Engineer or their servants, agents or employees of any action or proceeding commenced against them whether or not Contractor is named as a party therein as part of Contractor's aforementioned obligation to

indemnify and hold them harmless.

ARTICLE 22 - PATENTS AND ROYALTIES

(a) In the prosecution of the Work, Contractor will not use or furnish any patented appliance, article, device or method of construction unless it has authorization for such use. Contractor shall pay all royalty and license fees.

(b) Any approval of Materials by Engineer shall be construed merely as an approval of their adequacy for the Work.

(c) Contractor will be responsible for all claims against BPCA for the infringement of any patents. Contractor shall defend all suits and claims for infringement of any patent rights and shall indemnify and hold BPCA harmless from loss on account thereof. Any expenses incurred by Contractor in connection with suits and claims will not offset the Contract Price.

(d) Contractor hereby and presently grants to BPCA an irrevocable and non-exclusive license to utilize all of the Contractor's rights in and to:

- (1) all United States patents and patents registered in any other foreign country;
- (2) all proprietary knowledge, data and trade secrets; and
- (3) all Engineering data and information necessary in connection with and solely in connection with, all work performed by BPCA or other contractors hired by BPCA to complete the work after termination of this Agreement pursuant to Section 15.1.

Each Purchase Order and Subcontract shall contain a similar clause with respect to the rights of Subcontractor and Materialman in and to the foregoing, in form and substance acceptable to BPCA, granting BPCA the aforesaid license. BPCA shall not be obligated to pay any royalties, license fees or any other consideration to Contractor or any Subcontractor or Materialman for this license. Contractor and each Subcontractor and Materialman shall execute a separate license agreement, in form and substance satisfactory to BPCA, concurrently with the execution of this Agreement, or any Subcontract or Purchase Order, or within ten (10) days thereafter, embodying the terms of this Section. On request, Contractor and each Subcontractor and Materialman shall furnish BPCA with copies of all related Engineering and technical data required to complete the work.

ARTICLE 23 - AS-BUILT DRAWINGS

(a) Contractor shall be furnished by BPCA, at BPCA's expense, with one physical

set and two electronic copies (on disk) of 48" x 36" Drawings, on which Contractor, where applicable, shall record the installation of underground utilities, concealed piping, concealed valves and control equipment and record changes in the Work. Such recording shall be kept current and include final and actual sizes as well as the location and elevation of the above figures and offset distances in feet and inches to permanent surface improvements such as buildings, retaining walls or curbs. During the progress of the Work, at the request of Construction Manager and prior to the approval of any Requisition of Contractor, Contractor shall provide a 48" x 36" PDF to BPCA of the up to-date Drawings showing the Work as installed. At completion of the Work, Contractor shall complete, sign and date the 48" x 36" physical set of Drawings and deliver it to Engineer.

(b) After review by Engineer and return to Contractor for any required changes, Contractor shall furnish to BPCA, at Contractor's expense, at least one physical set and two electronic copies (on disk) of 48" x 36" final Drawings.

ARTICLE 24 - SHOP DRAWINGS AND SAMPLES

24.1 Contractor Submittal

Contractor shall submit to Construction Manager the shop drawings, Product Data and Samples required by the Contract Documents and shall adhere to all submittal and scheduling requirements with respect thereto. After review of such shop drawings, Product Data and Samples by Construction Manager and their approval by Engineer, each of such items shall be returned in accordance with the procedures established therefor.

24.2 Contractor's Responsibility

Engineer's approval of shop drawings, Product Data and Samples shall not relieve Contractor of responsibility for and deviation from the requirements of the Contract Documents. Contractor shall be responsible for the accuracy of the shop drawings, Product Data and Samples and for the conformity of Documents unless Contractor has notified Engineer of the deviation in writing at the time of submission and has received from Engineer written approval by separate letter of the specified deviations. Engineer's approval shall not relieve Contractor of responsibility for errors or omissions in the shop drawings, Product Data or Samples.

ARTICLE 25 – NOTICES

Whenever it is provided herein that notice, demand, request, consent, approval or other communication shall or may be given to, or served upon, either of the parties by the other, or whenever either of the parties desires to give or serve upon the other any notice, demand, request, consent, approval or other communication with respect hereto, each such notice, demand, request, consent, approval or other communication shall be in writing and shall be effective for any purpose only if given or served by hand with proof of delivery, by delivery

by an overnight courier service which obtains receipts, or by mailing the same by express or certified mail, postage prepaid, return receipt requested, addressed to:

(a) If to BPCA:

Name & Title of BPCA Person, Battery Park City Authority, One World Financial Center, 24th floor, New York, NY 10281

with a copy to: General Counsel, at the same address

or to such other address as BPCA may from time to time designate in the manner set forth above.

(b) If to Contractor:

Name, address & Company

or to such other addresses as Contractor may from time to time designate in the manner set forth above.

(c) if to Construction Manager

Name, Company and Address (if there is a CM).

or to such other addresses as the Construction Manager may from time to time designate in the manner set forth above.

(d) if to Engineer/Architect/etc.

Name, Company, Address.

or to such other addresses as Engineer may from time to time designate in the manner set forth above.

(e) Every notice, demand, request, consent, approval or other communication hereunder shall be deemed to have been given or served (i) in the case of express or certified mail, on the date the receipt is dated by the Post Office or express mail carrier, as the case may be, and (ii) in the case of notice by hand or by overnight courier service, upon delivery, as evidenced by a signed receipt.

ARTICLE 26 - EMPLOYMENT AND DIVERSITY

26.1 Definitions

The following terms shall have the meanings set forth below for the purposes of this Article 26:

(a) “Certified Business.” A business verified as a minority or women-owned business enterprise by the Division or such other New York State agency authorized to make such certification.

(b) “Diversity Program.” The program by which Owner shall monitor Contractor’s compliance with the requirements set forth in (i) the MBE/WBE Required Participation Plan and (ii) the Utilization Plan.

(c) “Division.” The Division of Minority and Women’s Business Development of the New York State Department of Economic Development.

(d) “Director.” The Director or the Executive Director of the Division.

(e) “Directory.” The directory of certified businesses prepared by the Director for use by Owner and contractor in complying with the provisions of the Executive Law of the State of New York, Article 15-A.

(f) “MBE/WBE Required Participation Plan.” The plan previously submitted by a Consultant to Owner listing the certified MBEs and/or WBEs which the Contractor intends to use in the performance of this agreement in order to ensure that MBEs and WBEs are awarded a fair share of the total dollar value that is to be paid for the Work.

(g) “Minority” or “Minority Group Member.” A United States citizen or permanent resident alien who is and can demonstrate membership in one of the following groups:

(1) Black persons having origins in any of the Black African racial groups;

(2) Hispanic persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American descent of either Indian or Hispanic origin, regardless of race;

(3) Native American or Alaskan native persons having origins in any of the original peoples of North America; or

(4) Asian and Pacific Islander persons having origins in any of the Far East countries, South East Asia, the Indian subcontinent or the Pacific Islands.

(h) “Minority-owned Business Enterprise” (“MBE”). A business enterprise, including a sole proprietorship, partnership or corporation that is:

- (1) at least 51 percent owned by one or more Minority Group Members;
- (2) an enterprise in which such Minority ownership is real, substantial and continuing;
- (3) an enterprise in which such Minority ownership has and exercises the authority to control and operate, independently, the day-to-day business decisions of the enterprise; and
- (4) an enterprise authorized to do business in the State of New of New York and is independently owned and operated.

(i) “Subcontract.” An agreement providing for a total expenditure in excess of \$25,000 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon between a contractor or consultant and any individual or business enterprise, including a sole proprietorship, partnership, corporation, or not-for-profit corporation, in which a portion of a contractor’s obligation is undertaken or assumed, but shall not include any construction, demolition, replacement, major repair, renovation, planning or design or real property or improvements thereon for the beneficial use of the contractor.

(j) “Utilization Plan.” A plan previously submitted by Contractor to Owner which sets forth the proposed percentages of employees who are either Minority Group Members or women and who will be used by Contractor to perform the Work.

(k) “Women-owned Business Enterprise” (“WBE”). A business enterprise, including a sole proprietorship, partnership or corporation that is:

- (1) at least 51 percent owned by one or more United States citizens or permanent resident aliens who are women;
- (2) an enterprise in which the ownership interest of such women is real, substantial and continuing;
- (3) an enterprise in which such women ownership has and exercises the authority to control and operate, independently, the day-to-day business decisions of the enterprise; and
- (4) an enterprise authorized to do business in the State of New York and which is independently owned and operated.

26.2 Equal Employment Opportunities for Minority Group Members and Women

(a) During the performance of the Work, Contractor agrees as follows:

- (1) Contractor shall not discriminate against any employee or applicant for

employment because of race, creed, color, national origin, sex, age, disability or marital status; shall undertake or continue existing 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; and shall make and document its good faith effort to achieve prompt and full utilization of Minority Group Members and women at all levels and in all segments of its work force where deficiencies exist.

- (2) At the request of Owner, Contractor 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 Contractor's obligations herein.
- (3) Contractor shall state in all solicitations or advertisements for employees that in the performance of the Work, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.
- (4) Contractor and any Subcontractor shall be required to submit compliance reports in accordance with this Section 26 relating to their operations and the implementation of the Diversity Program in effect as of the date of execution of this Agreement.
- (5) Contractor shall submit an EEO policy statement to Owner within seventy-two hours of notice from Owner of the awarding of this contract to Contractor. If Contractor does not have an existing EEO policy statement, Owner may provide to Contractor a model statement.

(b) Contractor shall include the provisions of Section 26.2(a) in every Subcontract in such a manner that the provisions will be binding upon each Subcontractor as to the Work in connection with this contract's execution.

(c) Contractor shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. 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

(d) Miscellaneous

- (1) The provisions of this Section shall not be binding upon Contractor or its Subcontractors in the performance of Work or the providing of services, or any other activities that are unrelated, separate or distinct from this Agreement as expressed by its terms.
- (2) The requirements of this Section shall not apply to any employment outside New York State, or application for employment outside such state, or solicitations, or advertisements therefore, or any existing programs of diversity regarding employment outside New York State and the effect of contract provisions required by this section shall be so limited.

(e) Enforcement

The parties agree to be bound by provisions of Article 15-A of the Executive Law of the State of New York and by the regulations adopted thereunder.

26.3 Workforce Participation

(a) Contractor is required to make and document good faith efforts to achieve the participation of _____ or n/a % Minority Group Members and _____ or n/a % women in the workforce for each trade or services utilized by Contractor in the Work as set forth in the Utilization Plan.

(b) To ensure compliance with this Section, Contractor shall submit a staffing plan to document the composition of the proposed workforce to be utilized in the performance of this contract by the specified categories listed, including ethnic background, gender, and Federal occupational categories. Contractors shall complete the Staffing plan form and submit it as part of their bid or proposal or within a reasonable time, but no later than the time of award of the contract.

(c) The participation for Minority Group Members and women employees must be substantially uniform throughout the work.

(d) Contractor shall not participate in the transfer of Minority Group Member employees or women employees from employer to employer or from project to project for the sole purpose of satisfying the participation goals above set forth.

(e) In achieving such participation, Contractor is required to make good faith efforts to find and employ qualified Minority Group Members and women supervisory personnel and journeymen.

(f) Contractor shall meet with Owner, and such other persons as Owner may invite, on a periodic basis as required by Owner to discuss issues relating to Minority Group Members

and women workforce participation. At such meetings, Contractor shall report on the names of its Subcontractors then engaged in construction on the project to which the Work relates or which within 60 days are scheduled to be engaged in construction of such project, on the nature of the work and anticipated construction schedule of Contractor and Subcontractors, on the anticipated hiring needs of Contractors and Subcontractors, on the names of the responsible foremen directly employed by Contractor, and such information requested by Owner that will then promote the employment of Minority Group Members and women. Contractor shall use its best efforts to obtain the above information and shall, upon Owner's request, cause its Subcontractors to attend said meetings and provide the above information.

(g) Compliance reports with respect to the Utilization Plan ("Utilization Compliance Reports") which shall be submitted to Owner's Diversity officer on a monthly basis and shall be in accordance with the following:

- (1) Owner may require that Contractor submit Utilization Compliance Reports for the duration of this contract to Owner regarding Contractor's operation and implementation of the Utilization Plan portion of the Diversity Program in effect as of the date of execution of this Agreement.
- (2) The Utilization Compliance Reports shall include information on any Subcontractor involved in the performance of the contract with regard to the Subcontractor's compliance with the Diversity Program.
- (3) The Utilization Compliance Reports shall include, but are not limited to the following:
 - (i) a breakdown of the Subcontractors by ethnic background, gender or such other categories as may be required by Owner;
 - (ii) the actions the Contractor and Subcontractors have taken to meet the components of the Diversity Program;
 - (iii) how Contractor and Subcontractors intend to utilize participation of Minority Group Members and women in their workforce in connection with the performance of the Work and timetables therefor during the remainder of their performance of the Work.

(h) Any failure by Consultant to submit a required Utilization Compliance Report, including information on any of its Subcontractor's compliance, may be deemed a breach of contract with respect to this agreement.

(i) Contractor shall include the provisions in Section 26.3 in every Subcontract, and such provisions shall be binding upon each Subcontractor.

26.4 Minority Business Enterprise (MBE) Participation and Women's Business Enterprise Participation

(a) Contractor shall make good faith efforts to attain the participation of _____ % MBE and _____ % WBE in the total dollar value of the Work.

(b) The total dollar value of the Work for purposes of determining compliance with the MBE/WBE Required Participation Plan shall be calculated as follows:

- (1) if an MBE and WBE is not the Contractor -- the dollar value of the Work subcontracted to MBEs and WBEs; provided, however, that where materials are purchased from an MBE and WBE which acts merely as a conduit for goods manufactured or produced by a non-MBE and non-WBE, only that portion of the price paid for such materials which will accrue as profit to the MBE or WBE and/or the Fee received by the MBE and WBE shall be included;
- (2) if Contractor is a joint venture including one or more MBEs and WBEs as joint venturers -- the Fee multiplied by the percentage of the joint venture's profits (or losses) which are to accrue to the MBE and WBE joint venturer(s) under the joint venture agreement; and
- (3) if an MBE and WBE is Contractor or where Contractor is a joint venture consisting entirely of MBEs and WBEs -- the Fee.

(c) Compliance reports with respect to the MBE/WBE Required Participation Plan ("MBE/WBE Compliance Reports") shall be required as follows:

- (1) MBE/WBE Compliance Reports shall be submitted to Owner on a monthly basis and shall include information with respect to:
 - (i) dividing the Work to be subcontracted into smaller portions, where economically and technically feasible;
 - (ii) actively and affirmatively making a good faith effort to solicit bids for subcontracts from qualified MBEs and WBEs identified in the directory of certified businesses available at the office of the Owner's Diversity Officer, including the circulation of solicitations to Minority contractor associations. Contractor shall maintain records detailing the efforts made to provide for meaningful MBE and WBE participation in the Work, including the names and addresses of all MBEs and WBEs contacted and, if any such MBE or WBE is not selected as a joint venture or subcontractor, the reasons for such decision;
 - (iii) making plans and specifications for prospective work

available to MBEs and WBEs in sufficient time for review;

(iv) utilizing the services and cooperating with those organizations providing technical assistance to Owner in connection with the participation of MBEs and WBEs in the project to which the Work relates;

(v) encouraging the formation of joint ventures, partnerships or other similar arrangements among subcontractors where appropriate;

(vi) ensuring that provision is made to provide progress payments to MBEs and WBEs on a timely basis; and

(vii) not requiring bonds from and/or providing bonds and insurance for MBEs and WBEs where appropriate, and/or assisting in obtaining bonds and insurance for MBEs and WBEs where feasible.

(2) MBE/WBE Compliance Reports which shall be submitted to the Diversity Department on a monthly basis.

(3) MBE/WBE Compliance Reports shall also include, but not be limited to, the following information:

(i) the name, address and telephone number of each certified MBE and WBE which Contractor is using or intends to use to comply with the MBE/WBE Required Participation Plan.

(ii) a brief description of the contract scope of work to be performed for the Contractor by each certified MBE and WBE and the scheduled dates for performance;

(iii) a statement of whether the Contractor has a written agreement with each certified MBE and WBE which Contractor is using or intends to use, and if requested, copies of such agreements;

(iv) the actual total cost of the contract scope of work to be performed by each certified MBE and WBE for this Agreement; and

(v) The actual amounts of any payments made by Contractor to each certified MBE and WBE as of the date the MBE/WBE Compliance Report was submitted.

(d) Contractor shall provide Owner with Monthly M/WBE and Workforce Utilization Reports, by the last calendar day of each month, **in the form of “Exhibit ????”** hereto. Failure to provide such reports shall be an event of default of contractor’s obligations pursuant to Article 15.1 (a) (1) hereof. **(IF NO GOALS, JUST WRITE, “M/WBE and**

Workforce Utilization Reports – n/a”).

(e) Contractor shall provide proof of payment to all subcontractors and materialmen in the form of a waiver of lien or cancelled check, with each request for payment. Failure to provide such proof of payment shall be an event of default of contractor’s obligations pursuant to Article 15.1 (a) (1) hereof. **(IF NO GOALS, JUST WRITE, “Contractor Proof of Payment – n/a”).**

26.5 Failure to Comply

(a) In accordance with 5 NYCRR §142.13, Contractor acknowledges that if it is found to have willfully and intentionally failed to comply with the M/WBE participation goals set forth herein or any other requirements set forth in this Article 26, such finding constitutes a breach of contract and Owner may withhold payment from the Contractor as liquidated damages.

(b) Such liquidated damages shall be calculated based on the actual cost incurred by Owner related to Owner’s expenses for personnel, supplies and overhead related to establishing, monitoring, and reviewing certified M/WBE programmatic goals and Diversity and Equal Opportunity compliance.

ARTICLE 27 - STANDARD PROVISIONS

27.1 Provision Required by Law Deemed Inserted

Each and every provision of law and governmental regulation required by law to be inserted in the Contract Documents shall be deemed to be inserted therein and this Agreement shall read and shall be enforced as though so included therein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, this Agreement shall be deemed to be amended to make such insertion or correction. If this Agreement contains any unlawful provision, the same shall be deemed of no effect and shall, upon the application of either party, be deemed stricken from this Agreement without affecting the binding force of the remainder.

27.2 Compliance with Laws, Rules and Regulations

Contractor and each Subcontractor and Materialman shall comply fully with all applicable laws, rules and regulations pertaining to the Project or the Work.

27.3 Applicable Law, Forum and Jurisdiction

This Agreement shall 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. Contractor, any guarantor of the performance of its obligations hereunder (including sureties for Payment and Performance Bonds)

("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 Contractor and any successor at Contractor'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 as of the date of the return receipt.

27.4 No Third Party Rights

Nothing in this Agreement shall create or shall give to third parties any claim or right of action against BPCA, Construction Manager, or Engineer beyond such as may legally exist irrespective of this Agreement.

27.5 Exculpation; Limitation of Liability

In no event shall any claim be asserted under this Agreement by Contractor or any Subcontractor or Materialman against any member, officer, employee, lessee, consultant or agent of BPCA, Construction Manager, or Engineer. By execution of this Agreement, Contractor agrees to look solely to BPCA with respect to any claim which may arise. It is hereby understood by and between the parties hereto that BPCA shall only be liable to the extent of monies available to BPCA.

27.6 Protection of Lives and Health

(a) Contractor's, Subcontractor's and Materialman's attention is specifically called to the rules and regulations, codes and bulletins of the New York State Department of Labor. Attention is also directed to the standards imposed under the Federal Occupational Safety and Health Act of 1970, as amended.

(b) Contractor shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under this Agreement, and shall immediately notify BPCA in writing of any injury which results in hospitalization or death.

(c) Contractor alone shall be responsible for the safety, efficiency and adequacy of contractor's work, plant, appliances and methods, and for any damage which may result from the failure, or the improper construction, maintenance, or operation of such work, plant, appliances and methods.

27.7 Waiver of Immunity Clause

Contractor hereby agrees to the provisions of Section 2875 of the Public Authorities Law of the State of New York which require that upon the refusal of a person, when called before a grand jury, head of a State department, temporary State commission, or other

State agency, the Organized Crime Task Force in the State Department of Law, head of a department or other City agency, which is empowered to compel the attendance of witnesses and examine them under oath, to testify in an investigation concerning any transaction or contract had with the State, any political subdivision thereof, or with any public department, agency or official of the State, a public authority or with any public department, agency or official of the State or of any political subdivision thereof or of a public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant questions concerning such transaction or contract:

(a) such person, and any firm, partnership or corporation of which such person is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any public authority or official thereof, for goods, work or services, for a period of five (5) years after such refusal; and

(b) any and all contracts made with any public authority or official thereof, by such person, and by any firm, partnership or corporation of which such person is a member, partner, director or officer may be canceled or terminated by the public authority without incurring any penalty or damages on account of such cancellation or termination, but any monies owing by the public authority for goods delivered or work done prior to the cancellation or termination shall be paid.

27.8 Prohibited Interests

No official of BPCA who is authorized in such capacity and on behalf of BPCA to negotiate, make, accept, or approve, or take part in negotiating, making, accepting, or approving any Architectural, Engineering, inspection, Purchase Order or any Subcontract in connection with the work, shall become directly or indirectly interested personally in the Agreement. Contractor is advised that no official or employee of BPCA is permitted to indirectly solicit, accept, or receive gifts whether in the form of money, service, loan, travel, entertainment, hospitality, thing or promise, or in any other form. No officer, employee, architect, attorney, engineer, inspector or consultant of or for BPCA who is authorized in such capacity and on behalf of BPCA to exercise any legislative, executive, supervisory or other similar functions in connection with the Work, shall become directly or indirectly interested personally in the Agreement, any Purchase Order, Subcontract, insurance contract, or any other contract pertaining to the Work.

27.9 Labor Provisions

(a) It is hereby agreed that all applicable provision of the Labor Law of the State of New York shall be carried out in the performance of the Work.

(b) Contractor specifically agrees, as required by Labor Law, Sections 220 and 220-d as amended, that:

- (1) no laborer, workman or mechanic, in the employ of Contractor, Subcontractor, Materialman or other person doing or contracting to do the whole or any part of the Work contemplated by the Contract

Documents shall be permitted or required to work more than eight (8) hours in any one calendar day or more than five (5) days in any one week, except in the emergencies set forth in the Labor Law.

- (2) the wages paid for a legal day's work shall be not less than the prevailing rate of wages as defined by law;
- (3) the minimum hourly rate of wage to be paid shall be not less than that stated in the Contract Documents and as shall be designated by the Industrial Commissioner of the State of New York; and
- (4) Contractor shall post at appropriate conspicuous points at the Site, a schedule showing all determined minimum wage rates for the various classes of laborers and mechanics to be engaged in the Work and all deductions, if any, required by law to be made from unpaid wages actually earned by the laborers and mechanics so engaged.

(c) The minimum wage rates, if any, herein specified for apprentices shall apply only to persons working with the tools of the trade which such persons are learning under the direct supervision of journeymen mechanics. Except as otherwise required by law, the number of apprentices in each trade or occupation employed by Contractor or any Subcontractor or Materialman shall not exceed the number permitted by the applicable standards of the New York State Department of Labor, or, in the absence of such standards, the number permitted under the usual practice prevailing between the unions and the employers' association of the respective trades or occupations.

(d) All employees of Contractor and each Subcontractor and Materialman shall be paid in accordance with the provisions of the Labor Law.

(e) Contractor agrees that, in case of underpayment of wages to any worker engaged in the Work by Contractor or any Subcontractor or Materialman, BPCA shall withhold from Contractor out of payments due an amount sufficient to pay such worker the difference between the wages actually paid such worker for the total number of hours worked, and that BPCA may disburse such amount so withheld by BPCA for and on account of Contractor to the employee to whom such amount is due. Contractor further agrees that the amount to be withheld pursuant to this paragraph may be in addition to the percentages to be retained by BPCA pursuant to other provisions of the Contract Documents.

(f) The Labor Law provides that this Agreement may be terminated for cause and no sum paid for any Work done thereunder upon a second conviction for willfully paying less than:

- (1) the stipulated wage scale as set forth in Labor Law, Section 220, subdivision 3, as amended, or
- (2) less than the stipulated minimum hourly wage scale as specified in Labor

Law, Section 220-d, as amended.

(g) Contractor specifically agrees, as required by the Labor Law, Section 220-e, as amended, that:

- (1) in the hiring of employees for the performance of Work under this Agreement or any Subcontract or Purchase Order hereunder, or for the manufacture, sale or distribution of Materials, equipment or supplies hereunder, but limited to operations performed within the territorial limits of the State of New York, no Contractor, Subcontractor, Materialman or any person acting on behalf of such Contractor or Subcontractor, or Materialman, shall by reason of race, creed, color, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates;
- (2) no Contractor, Subcontractor, Materialman, or any person on behalf of such Contractor, Subcontractor or Materialman shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this Agreement on account of race, creed, color, sex or national origin;
- (3) there may be deducted from the amount payable to Contractor, by BPCA under this Agreement, a penalty of \$50.00 for each person for each calendar day during which such person was discriminated against or intimidated in violation of the terms of this Agreement; and
- (4) this Agreement may be canceled or terminated for cause by BPCA and all monies due or to become due hereunder may be forfeited for a second or any subsequent violation of the terms or conditions of this Section of this Agreement.

(h) Where applicable, Contractor agrees to settle labor disputes in accordance with the provisions of The New York Plan For The Settlement of Jurisdictional Disputes Between The Building And Construction Trades Council Of Greater New York And The Building Trades Employers' Association Of The City of New York.

27.10 Disputes Resolution Procedure

(a) The provisions of this Article shall constitute Contractor's sole means for challenging any determination, order or other action of BPCA or otherwise asserting against BPCA any claim of whatever nature arising under, or in any way relating to, this Agreement (any such challenge or assertion by Contractor being herein referred to as a "Dispute(s)"). Exhaustion of these dispute resolution procedures, including the judicial review set forth below, shall be the parties' sole remedy in connection with any Dispute.

(b) The parties to this Agreement hereby authorize and agree to the resolution of all Disputes arising out of, under or in connection with, this Agreement in accordance with the following and pursuant to the procedures set forth in paragraph (c) of this Section 27.10. With respect to any Dispute which relates in whole or primary part to technical issue(s) under this Agreement including, without limitation, determinations as to the acceptability or fitness of any Work, the meaning or interpretation of the Contract Documents, the question of whether any Work falls within the scope of the Specifications set forth in the Contract Documents, the acceptability of any proposed substitutions, modifications or other submission under this Agreement, the disapproval of proposed Subcontractors or Materialmen (to the extent such disapproval is related to technical issues), the extension of time to the extent related to a technical matter, the question of whether substantial completion or final completion has been achieved, the parties hereby authorize the General Counsel of BPCA, or his/her designee, (hereinafter referred to as the "Arbiter"), acting personally, to render a final and binding decision.

(c) All Disputes shall be initiated through a written submission by either party (such submission to be hereinafter referred to as the "Dispute Notice") to the Arbiter within ten (10) days of the determination which is the subject of the Dispute. Within ten (10) days after the submission of such Dispute Notice, the party initiating the Dispute shall provide the Arbiter with all evidence and other pertinent information in support of the party's position and/or claim. Within thirty (30) days from the date of the Dispute Notice, the party against whom the Dispute Notice was filed shall submit any and all materials which it deems pertinent to the Arbiter. Upon submission of a Dispute Notice to the Arbiter, the Arbiter shall render its decision in writing and deliver a copy of same to the parties within a reasonable time not to exceed sixty (60) days after the receipt of all materials. In rendering such decision, the Arbiter may seek such technical or other expertise as it shall deem necessary or appropriate (notifying both parties to the Dispute when he/she so seeks such other information or expertise) and seek any such additional oral and/or written argument or materials from either or both parties to the Dispute as he/she deems fit. The Arbiter shall have the discretion to extend the time for submittals required hereunder. The Arbiter's ability to render and the effect of a decision hereunder shall not be impaired or waived by any negotiations or settlement offers in connection with the matter presented, whether or not the Arbiter participated therein, or by any prior decision of others, or by any termination or cancellation of this Agreement. The decision of the Arbiter shall be final and binding on both parties to this Agreement.

(d) It is expressly understood and agreed that the pendency of a Dispute hereunder shall at no time and in no respect constitute a basis for any modification, limitation or suspension of Contractor's obligation to fully perform in accordance with this Agreement and that Contractor shall remain fully obligated to perform the Work notwithstanding the existence of any such Dispute.

27.11 Additional Provisions Relating to the Prosecution of Claims for Money Damages

(a) Except as otherwise provided in this Agreement, if Contractor claims or intends to claim compensation for any damage or loss sustained by reason of any act, neglect, fault or

default of BPCA, Contractor shall furnish a written notice to the Arbiter setting forth the nature of the claim and the extent of the damage sustained within seven (7) days of the occurrence of such loss or damages. This written notice shall constitute Contractor's submission to the Arbiter for the purposes of requesting the Arbiter's determination in accordance with Section 27.10 above. Any such claim shall state as fully as then possible all information relating thereto and shall be supported by any then available documentation, including daily records showing all costs incurred. Such information shall be supplemented with any and all further information, including information relating to the quantum of losses or damages sustained, as soon as practicable after it becomes or reasonably should become known to the Contractor.

(b) Any claim for compensation or monetary damages, the successful prosecution of which necessarily depends upon a technical determination favorable to Contractor, may not proceed unless and until Contractor first obtains such a favorable determination with respect to the technical issue and must be made within five (5) business days of such determination; moreover, Contractor must submit to the Arbiter any documentation or proof in support of the monetary claim within fifteen (15) days of such determination in order to proceed with such a claim.

(c) Compliance with the provisions hereof shall constitute a condition to the Contractor's submission of a Dispute pursuant to Section 27.10 with respect to any claim for compensation and the Contractor shall be deemed to have waived any claim not submitted in accordance herewith.

(d) Any final determination of the Arbiter with respect to a Dispute initiated pursuant to this Article 27 shall be subject to review solely in the form of a challenge following the decision by the Arbiter in a Court of competent jurisdiction of the State of New York, County of New York, under Article 78 of the New York Civil Practice Law and Rules or a United States Court located in New York City under the procedures and laws applicable in that court, it being understood the review of such Court shall be limited to the question of whether or not the Arbiter's determination is arbitrary, capricious or lacks a rational basis. No evidence or information shall be introduced or relied upon in such proceeding which has not been duly presented to the Arbiter in accordance with this Article 27.

27.12 Limitation on Actions

(a) Subject to the provisions of Section 27.11, no action or proceeding shall lie or shall be maintained by Contractor against BPCA, Construction Manager, or Engineer unless (i) such action or proceeding shall be commenced within six (6) months of the date of the issuance of the Certificate of Substantial Completion to Contractor; or (ii) in the case of an action or proceeding for moneys due pursuant to Section 5.7 hereof, or arising exclusively from or pertaining exclusively to work performed after the date of issuance of the Certificate of Substantial Completion, unless such action or proceeding is commenced no later than six (6) months after the issuance of the certificate of final completion to Contractor; or (iii) if this Agreement is terminated by BPCA prior to the issuance of the Certificate of Substantial Completion, unless such action or proceeding is commenced within six (6) months after the date of such termination.

(b) Nothing in this Section 27.12 shall be construed to modify or lengthen a shorter limitations period provided by applicable law.

(c) No action or proceeding shall be commenced by Contractor against BPCA, Construction Manager, or Engineer except in the Supreme Court of the State of New York, County of New York.

(d) Nothing in this Section 27.12 shall be construed to suggest that Contractor, under any circumstances, may bring an action or proceeding against Construction Manager, or Engineer.

27.13 Waiver of Remedies

Contractor acknowledges that it can be compensated adequately by money damages for any breach of this Agreement which may be committed by BPCA, Construction Manager, or Engineer. Contractor agrees that no default, act or omission of BPCA, Construction Manager, or Engineer shall constitute a material breach of contract entitling Contractor to cancel or rescind this Agreement or to suspend or abandon performance thereof, other than the failure of BPCA to make a payment of the Contract Price in accordance with the terms hereof solely because sufficient funds to pay the Contract Price have not been appropriated or will otherwise not be made available to BPCA. Except as provided in this Section 27.13, Contractor hereby waives any and all rights and remedies to which Contractor might otherwise be or become entitled to because of any wrongful act or omission of BPCA, Construction Manager, or Engineer saving only Contractor's right to money damages.

27.14 Modification of Agreement

No change in or modification, termination or discharge of this Agreement in any form whatsoever shall be valid or enforceable unless it is in writing and signed by the party to be charged therewith or its duly authorized representative, provided, however, that any change in or modification, termination or discharge of this Agreement expressly provided for in this Agreement shall be effective as so provided.

27.15 Signs and Parking

Contractor agrees that it shall not display on or about the Site any sign, trademark or other advertisement without the approval of BPCA and Construction Manager. Contractor shall not and shall not permit any of its Subcontractors or Materialmen to park any vehicles on the Site.

27.16 Entire Agreement

The Contract Documents constitute the entire Agreement between the parties and incorporate all prior understandings in connection with the subject matter hereof.

27.17 Rights and Remedies

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by BPCA, Construction Manager, or Engineer or Contractor including, but not limited to, the making of any payment or permitting Contractor to continue with the performance of the Work shall constitute a waiver of any right or duty afforded any of them under this Agreement, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

27.18 Participation in International Boycott Prohibited

Contractor agrees, as a material condition of this Agreement, that neither Contractor 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 forfeit 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.

27.19 Compliance with "Buy-American" Statutes

Contractor and any substantially owned or affiliated person, firm, partnership or corporation agrees to comply with the New York State Public Authorities Law, Section 2603-A as amended (affects steel or steel products).

27.20 Permitted Successors

References to parties and entities herein shall be deemed to include their permitted successors.

27.21 MacBride Fair Employment Principles

If the amount payable to Contractor under this agreement is greater than \$15,000, Contractor 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 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 New York's State Finance Law, and shall permit independent monitoring of their compliance with such Principles.

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

BPCA reserves the right to terminate this contract in the event it is found that the certification filed by Contractor pursuant to New York State Finance Law §139-k was intentionally false or intentionally incomplete. Upon such finding, BPCA may exercise its termination right by providing written notification to the Contractor in accordance with the written notification terms of this contract. If a contract is terminated in accordance with State Finance Law §139k(5), BPCA, its subsidiaries and affiliates, will include a statement in BPCA's procurement record describing the basis for any action taken under the termination provision.

27.23 Labor Peace

The Contractor and its Subcontractors and Materialmen shall not employ on the Work any labor, materials or means whose employment, or utilization during the course of this Agreement, may tend to or in any way cause or result in strikes, Work stoppages, delays, suspension of Work or similar troubles by workers employed by the Contractor or its Subcontractors, Materialmen, or by any of the trades working in or about the buildings and premises where Work is being performed under this Agreement, or by other contractors or their subcontractors pursuant to other agreements, or on any other building or premises owned or operated by BPCA, its contractors or affiliates. Any violation by the Contractor of this requirement may be considered as proper and sufficient cause for declaring the Contractor to be in default, and for BPCA to take action against Contractor as set forth in Article 15 of this Agreement, or such other Section of this Agreement as BPCA may deem proper.

27.24 Comptroller's Approval

If this Agreement is considered an "eligible contract," as defined by Title 2 of NYCRR Part 206.2, 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 an "eligible contract," as defined by Title 2 of NYCRR Part 206.2, 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 (A) awarded on a single-source basis, sole-source basis or pursuant to any other method of procurement that is not a competitive procurement OR (B) shall be paid in whole or in part with monies appropriated by the State, either directly to a state authority or to a state agency which pays the money to a state authority.

27.25 Key Person/Personnel

The parties understand that in entering into this Agreement, BPCA has relied upon Contractor's representation that Name, Title, Company and Name, Title, Company

(hereinafter the “Key Personnel”) will be directly and consistently involved in supervising the Work and actively engaged in the day-to-day management of the Work, which shall include attending mandatory Project meetings. If the Key Personnel are not available as described herein, or if the Key Personnel depart from the firm or severs their relationship with the Contractor, or for whatever other reason are not available to work on the Project, then BPCA shall have the right to terminate this Agreement. The parties also agree that at any time during the course of the Work, BPCA may designate additional or substitute key personnel to perform the Work. Contractor agrees to make the additional or substituted key personnel available under the same conditions set forth herein.

27.26 Form of Agreement Not an Offer

Notwithstanding anything herein to the contrary, the submission of this form of Agreement by BPCA to Contractor shall not constitute an offer, and execution hereof by Contractor shall not be considered acceptance of an offer. A binding contract between the parties shall exist only if and at such time as both parties have executed this document.

SIGNATURE PAGE FOLLOWS

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

BATTERY PARK CITY AUTHORITY, d/b/a
HUGH L. CAREY BATTERY PARK CITY AUTHORITY

By: _____

Name: _____

Title: _____

CONTRACTOR NAME

By: _____

Name: _____

Title: _____

Battery Park City Authority Request for Proposals

EXHIBIT D
COST PROPOSAL

(Proposer to submit executed Cost Proposal on its letterhead)

Date:

Battery Park City Authority
200 Liberty Street - 24th Floor
New York, New York 10281

Attention: Mr. Michael LaMancusa
Contracts Administrator

Dear Mr. LaMancusa,

The undersigned (the "Proposer") hereby proposes to provide all specified work necessary to perform the work for the Rector Grid Street Light Electrical System Modification in accordance with the terms stipulated in the following pages, for the sum written below.

A. Base Proposal

A total lump sum amount of \$_____ (_____ Dollars and _____ Cents) to perform all Work as described in the Scope of Work in Exhibit A of BPCA's Request for Proposals for the Rector Grid Street Light Electrical System Modification Project (the "RFP"), excluding the cost for replacement of any existing underground conduits determined to be defective following testing.

Allowance for Defective Conduits

The contract awarded to the successful Proposer shall include an allowance of a not to exceed amount of \$100,000 to cover the cost, as approved in advance by BPCA and in keeping with the labor rates and unit prices attached as Exhibits E and F to the RFP, of replacing any existing underground conduits determined and confirmed to be defective by the selected Proposer and BPCA following testing.

B. Itemized Proposal and Labor Rates

1. The Proposer has submitted with its proposal, labor rates for all trades, including all costs except overhead and profit, in the form attached as Exhibit E to the RFP. Prices shown include base hourly rate, overtime rate, insurance and benefits.
2. The Proposer has submitted with its proposal a unit price schedule which shall be an itemized breakdown of your Cost Proposal Form in the form attached as Exhibit F to the RFP.

Name of Proposer:

By: _____

Title: _____

EXHIBIT E

LABOR RATES

The following labor rates are to be listed by craft and classification (Foreman, Journeyman, etc.) and are to include base wages, benefits, taxes, insurance and payroll costs complete. Overhead and profit are not to be included:

<u>CRAFT</u>	<u>CLASSIFICATION</u>	<u>HOURLY RATES</u>	<u>OVERTIME</u>
<u>LABORER</u> <u>CONCRETE</u>	_____	_____	_____
<u>CARPENTER</u>	_____	_____	_____
<u>IRON WORKER</u>	_____	_____	_____
<u>LABORER</u>	_____	_____	_____
<u>LABORERS - LESS</u> <u>SKILLED</u>	_____	_____	_____
<u>OPERATING</u> <u>ENGINEER</u>	_____	_____	_____
<u>FIELD SUPERVISOR</u>	_____	_____	_____
<u>FOREMAN</u>	_____	_____	_____
<u>TEAMSTER</u>	_____	_____	_____
<u>ELECTRICIAN</u>	_____	_____	_____
<u>PLUMBER</u>	_____	_____	_____

<Name of Company>

<Name of Proposer>

Signed

Date

By: <Printed Name>

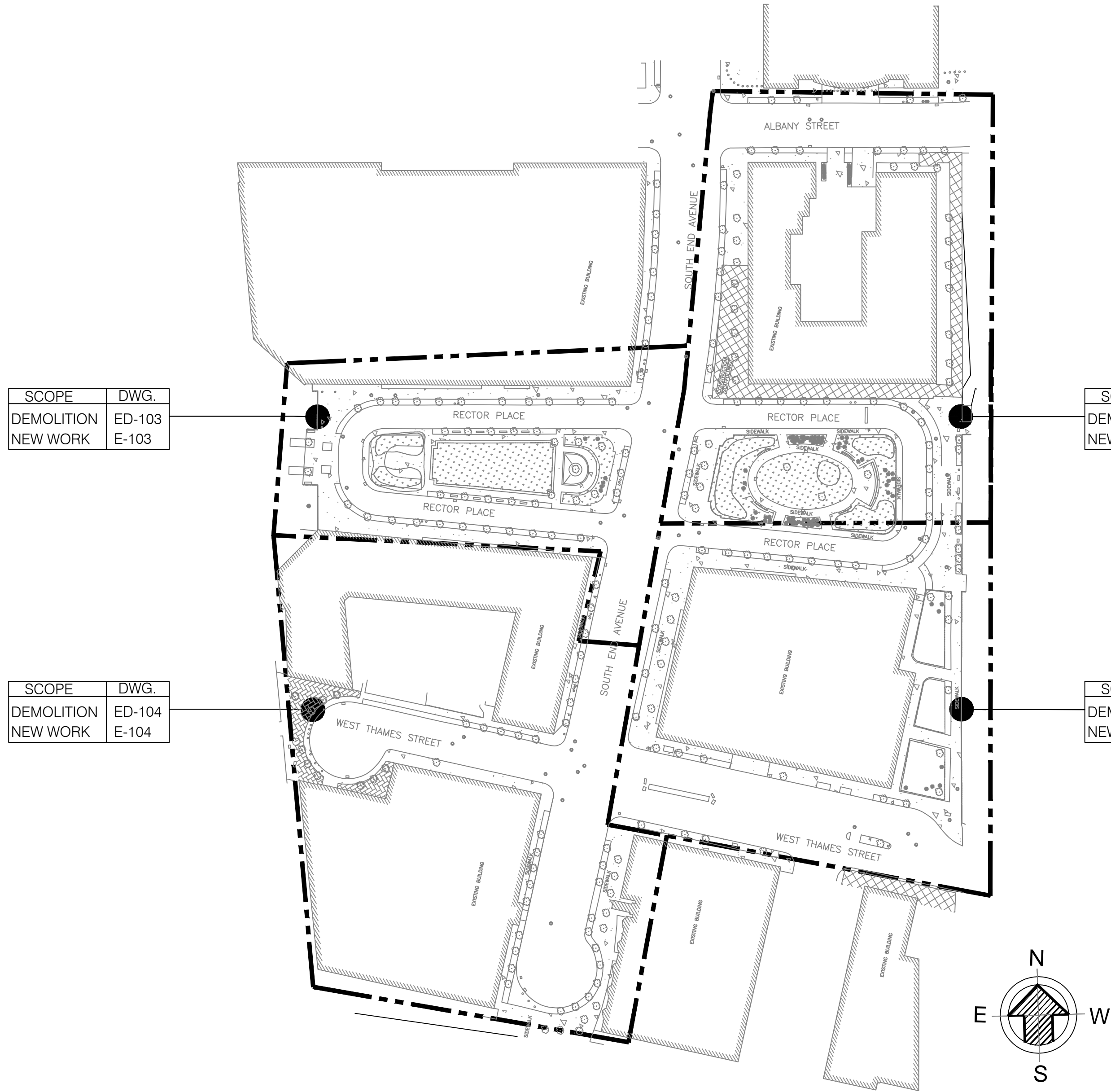
EXHIBIT F
UNIT PRICE SCHEDULE

Item Description	Unit	Quantity	Price \$ Per Unit	Total \$ Per Item
Mobilization	L.S.			
File and obtain all NYC DOT Street opening permits.	L.S.			
Tracing and identification of the existing to be disconnected and removed branch circuit wiring and identification of the load/branch circuit assignments	L.S.			
DEMOLITION WORK				
Provide and install temporary feed to pedestrian lights	L.S.			
Provide and install temporary Lighting	L.S.			
Provisions for continuous power supply for 24 Hour loads during construction.	L.S.			
Disconnection and removal of wiring from the existing damaged conduits. Conduits to be left in the ground and capped.	L.S.			
Cleaning of the existing conduits to remain	L.S.			
Removal and replacement with new of the existing damaged hardware in hand holes	L.S.			
Removal and replacement with new of the existing damaged pull boxes and junction boxes	L.S.			
Disconnection and removal of the existing wiring supplying all lighting poles in the area of Work	CLF			
Disconnection and removal of the existing In-Line Fuseholders and Fuses installed in existing poles, to be rewired in those lighting poles.	EA			
Disconnection and removal of the existing pole mounted receptacles	EA			
Disconnection and Removal of the existing grounding hardware in existing electrical handholes	L.S.			
Removal of the existing cable mounting hardware in existing electrical handholes	L.S.			
NEW CONSTRUCTION WORK				
Reconfigure load box to the original wiring	L.S.			
Label and identify all circuits in the Load Box	L.S.			
Rewire all poles with new wiring with XHHW-2, 600V Type	L.S.			
New replacement In-Line Fuseholders and Fuses installed in poles having existing fuses and fuse holders	EA.			
Replace main feeders as shown on the drawings	L.S.			
Refurbish handholes with stainless steel parts	L.S.			

Run new branch feeders from hand holes to poles	EA.			
Connect branch circuits to main feeders and waterproof the joints	EA.			
Provide and install new ground rod to existing hand holes. Ground the hand holes. Connect grounding straps from box to covers with lugs	EA			
Replacement of the existing damaged underground conduits with new conduits	L.F.			
Provide and install all new stainless steel hardware in the hand holes for cable support	L.S.			
Drill and tap hand holes to bolt on covers. Provide waterproof gasket and theft proof stainless steel screws	L.S.			
Provide and Install stainless steel mounting hardware for cables in existing electrical handholes	L.S.			
Installation of new grounding lugs on existing metal covers in existing electrical handholes and man holes	EA			
Installation of new grounding hardware in existing electrical handholes including new grounding rod	EA			
Testing of the new electrical wiring (megger test)	L.S			
Testing of the new replacement power and control equipment in the Rector Place Load/Control Cabinet	L.S.			
Testing of the new grounding system	L.S.			
Total Construction Cost				
Allowance				
Allowance for the removal of underground conduits found defective to be removed and replace with new conduits.				\$100,000.00

EXHIBIT G

DRAWINGS AND SPECIFICATIONS
(Attached)



KEY PLAN

SCOPE	DWG.
DEMOLITION	ED-103
NEW WORK	E-103

SCOPE	DWG.
DEMOLITION	ED-104
NEW WORK	E-104

SCOPE	DWG.
DEMOLITION	ED-101
NEW WORK	E-101

SCOPE	DWG.
DEMOLITION	ED-102
NEW WORK	E-102

ELECTRICAL GENERAL NOTES		SCOPE OF WORK NOTES		ABBREVIATIONS	
				NOTE: ALL ABBREVIATIONS MAY NOT APPEAR ON THE DRAWINGS	
1.	CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING FOR THE ENTIRE PROJECT AREA DAILY FROM SUNSET UNTIL SUNRISE A MINIMUM ILLUMINATION OF 0.5 FOOT-CANDLE AT SIDEWALK SHALL BE MAINTAINED. CONTRACTOR SHALL SUBMIT A TEMPORARY LIGHTING PLAN TO OWNER DETAILING QUANTITY AND LOCATION OF LIGHTS FOR APPROVAL. CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS AND MONITORING TEMPORARY LIGHTING UNTIL THE EXISTING LIGHTING HAS BEEN REWIRED, TESTED AND APPROVED BY BPCA AND NYC DIVISION OF STREET LIGHTING.	1.	WORK SHOWN ON THESE DRAWINGS IS LIMITED TO STREET LIGHTING UPGRADE.	AWG	AMERICAN WIRE GAUGE
2.	FOR THE EXISTING HANDHOLES WITHIN THE PROJECT AREA THE CONTRACTOR SHALL VERIFY THE SIZE OF GASKETS, QUANTITY OF BOLTS REQUIRED, ETC.	a.	ALL EXISTING HAND HOLE COVERS SHALL BE GROUNDED AS SHOWN ON THESE DWGS.	BPCA	BATTERY PARK CITY AUTHORITY
3.	ALL WIRE SHALL BE STRANDED COPPER WITH XLP INSULATION UL LISTED AS TYPE XHHW-2, SIZE AS INDICATED ON THE DRAWINGS.	b.	ANY EXISTING LIGHT POLE MOUNTED WITH RECEPTACLES SHALL BE REPLACED WITH GFCI, WEATHERPROOF IN-USE RECEPTACLES.	RGS	RIGID GALVANIZED STEEL
4.	ALL REPLACEMENT CONDUITS SHALL BE PVC COATED HEAVY WALL, RIGID GALVANIZED STEEL, SIZE AS REQUIRED TO MATCH EXISTING.	c.	MODIFICATIONS OF THE EXISTING TO REMAIN GRID AS PER FIELD CONDITIONS, USING NEW CONNECTORS, CONDUITS AND WIRING TO SUPPLY EXISTING TO REMAIN STREET LIGHTING FROM THE ADJACENT LOAD BOX FOLLOWING THE NEW CONFIGURATION OF THE REFURBISHED LOAD BOX.	AC	ALTERNATING CURRENT
5.	THE CONTRACT DRAWINGS ARE DIAGRAMMATIC IN NATURE AND MAY NOT REFLECT THE EXACT ROUTING OF EXISTING UNDERGROUND CONDUITS. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL FURNISH TO THE ENGINEER A SET OF CERTIFIED AS-BUILT DRAWINGS DETAILING THE LAYOUT OF THE EXISTING CONDUIT SYSTEM, LIGHTING CIRCUITING AND CONTROL SCHEMATICS. ALL CONDUIT AND WIRE TAGS SHALL BE INDICATED ON THE AS-BUILT DRAWINGS.	2.	RECTOR STREET NEIGHBORHOOD STREET LIGHTING UPGRADE CONSISTS OF THE FOLLOWING:	SP	SPARE
6.	THE EXISTING CON ED POWER FEEDER TO THE POWER/CONTROL PEDESTAL SHALL BE DISCONNECTED AND THE ENDS SHALL BE TAPED TO RENDER THE INSIDE OF THE PEDESTAL SAFE FOR WORKING. BEFORE THE PROCESS OF REFURBISHING/REBUILDING OF THE RECTOR ST LOAD BOX BEGINS, CONTRACTOR SHALL COORDINATE PHASING OF THE WORK WITH CON ED AND BPCA.	a.	UPGRADE OF WIRING SERVING STREET AND PARK LIGHT POLES AS SHOWN ON THE DRAWINGS.	DWG	DRAWING
7.	ALL SPLICES AND WIRE TAPS SHALL BE COMPRESSION TYPE. ALL SPLICES AND TAPS INSTALLED WITHIN THE STREET LIGHTING ROADWAY BOXES SHALL UTILIZE SCOTCHCAST RESIN-FILLED SPLICES AS MANUFACTURED BY 3M, OR EQUAL.	b.	RELABELING OF STREET AND PARK LIGHT POLES	CKT	CIRCUIT
8.	IN ALL EXISTING STREET OR GRASSY AREA LIGHTING HANDHOLES, WHERE WATER IS PRESENTLY ON A REGULAR BASIS, CONTRACTOR SHALL USE TYPE SLWB/SLOWB SUBMERSIBLE STREET LIGHT CONNECTORS AS MANUFACTURED BY POLARIS OR APPROVED EQUAL. COORDINATE WITH BPCA.	c.	FEEDERS FOR LINES L1, L2, L3, L4, L5 AND 24-HOUR SHALL BE REPLACED. ALL WIRES SUPPLYING POWER TO THE STREET AND PARK LIGHT POLES FROM HAND HOLES OR POLE TO POLE SHALL BE REPLACED.	TPV	TYPICAL
9.	ALL WORK SHALL BE IN ACCORDANCE WITH N.Y.C. DIVISION OF STREETS LIGHTING (BUREAU OF ELECTRICAL CONTROL) STANDARDS. UPON COMPLETION OF THIS CONTRACT, WORK IS TO BE ACCEPTED BY B.P.C.A. & N.Y.C. DIVISION OF STREET LIGHTING.	d.	CLEANING AND CONDITION VERIFICATION OF THE EXISTING CONDUITS SERVING STREET LIGHTS.	PVC	POLYVINYL CHLORIDE PLASTIC
10.	ALL MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF N.Y.C. DIVISION OF STREET LIGHTING.	e.	REPLACEMENT OF EXISTING DEFECTIVE CONDUITS.	NYCEC	NEW YORK CITY ELECTRICAL CODE
11.	ALL NEW REPLACEMENT MOUNTING HARDWARE SHALL BE STAINLESS STEEL.	f.	INSTALLATION OF NEW WIRING TO SUPPLY EXISTING TO REMAIN STREET AND PARK LIGHT POLES IN THE PROJECT AREA.	N.T.S.	NOT TO SCALE
12.	ALL TAGS SHALL BE STAINLESS STEEL ATTACHED WITH STAINLESS STEEL WIRES.	g.	REMOVAL AND REPLACEMENT OF EXISTING IN LINE FUSES AND FUSE HOLDERS AS INDICATED ON DRAWINGS.	NEC	NATIONAL ELECTRICAL CODE
13.	ALL CONDUCTORS INSTALLED INSIDE THE REFURBISHED LOAD BOX SHALL BE FLAMEPROOF.	h.	REFURBISHMENT OF EXISTING HANDHOLES AND MAN HOLES.	DOT	DEPARTMENT OF TRANSPORTATION
14.	ITEM DESIGNATED AS TYPICAL IS TYPICAL FOR ALL ITEMS OF THE SAME KIND UNLESS OTHERWISE NOTED.	i.	INSTALLATION OF GROUND ROD FOR EACH HAND HOLE. GROUNDING OF EXISTING HAND HOLES AND HAND HOLE COVERS.	NYCDOT	NEW YORK CITY DEPARTMENT OF TRANSPORTATION.
		j.	VERIFICATION OF GROUNDING CONTINUITY.		
		k.	TEMPORARY LIGHTING.		
		l.	EXCAVATION AND REPAVING WHERE CONDUIT REPLACEMENT APPLIES.		



3040 WILLIAMS DRIVE, SUITE 600
FAIRFAX, VIRGINIA 22031
P. 703-691-2115

ME/PE/PP DESIGN ENGINEERING • PROJECT MANAGEMENT
ENERGY MANAGEMENT SERVICES • DESIGN-BUILD SERVICES
CONSTRUCTION MANAGEMENT • COMMISSIONING
DISTRICT OF COLUMBIA • MARYLAND
NEW YORK • VIRGINIA
www.SETTY.com
PROJECT NUMBER: SAP16652.00

NOTE:DRAWING MAY BE PRINTED AT REDUCED SCALE. REFER TO GRAPHIC SCALE.

No.	Date	Revision

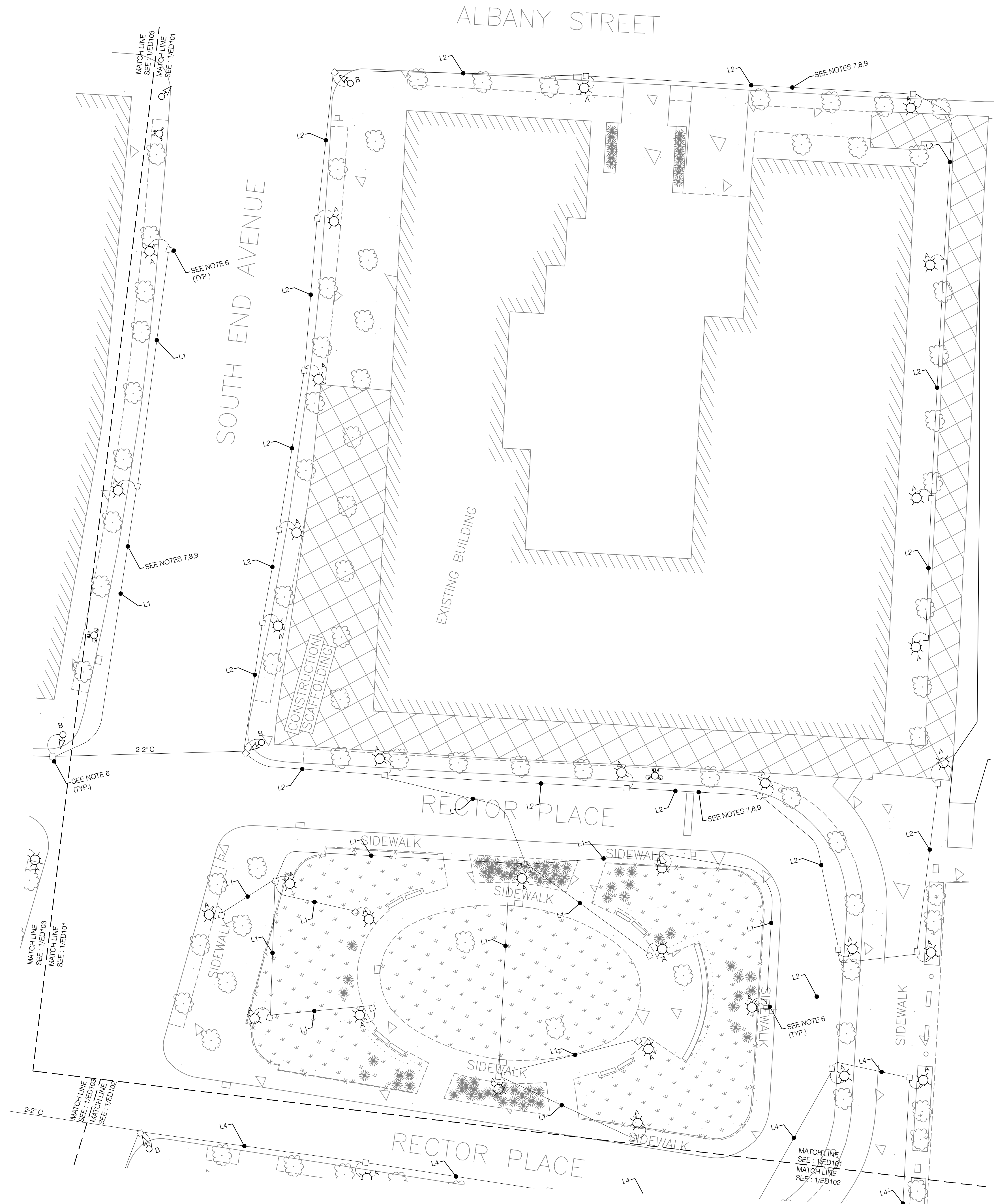
1	05.22.2017	100 % CONSTRUCTION DOCUMENTS
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No.	Date	Submittal

Key Plan: SHADED AREA = AREA OF WORK

Project Engineer: _____
Designer: _____
Drawn by: _____
Checked by: _____

Project: SOUTH NEIGHBORHOOD STREET LIGHT UPGRADE Battery Park City Authority	
Address: NEW YORK, NY	
Drawing Title: ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS	
Drawing No.:	E001.00
	Sheets in Contract:



- DEMOLITION NOTES
1.

PRIOR TO COMMENCING THE DEMOLITION WORK CONTRACTOR SHALL COORDINATE PHASING OF THE WORK WITH BPCA, CON ED AND NYC DOT.
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4.

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5.

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6.

CONTINUITY OF THE GROUNDING CONDUCTOR AND THE INTEGRITY OF THE GROUNDING SYSTEM SHALL BE MAINTAINED AT ALL TIMES DURING THE PROCESS OF CONSTRUCTION.
7.

CONTRACTOR SHALL TRACE AND IDENTIFY ALL BRANCH CIRCUIT WIRING TO BE DISCONNECTED AND REMOVED PRIOR TO THEIR DISCONNECTION AND REMOVAL. IN THE EVENT THAT LOADS OTHER THAN THIS PROJECT LOADS ARE FOUND TO BE SUPPLIED BY WIRING INSTALLED IN CONDUITS WHERE THIS PROJECT WIRING IS TO BE DISCONNECTED AND REMOVED, CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE LOADS, MAINTAIN THE CONTINUITY OF THE RESPECTIVE CIRCUITS DURING THE CONSTRUCTION AND INFORM BPCA.
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10.

IN EACH EXISTING BPCA ELECTRICAL HANDHOLE, CONTRACTOR SHALL CHECK THE GROUNDING ROD, GROUNDING CONDUCTOR AND EXISTING HARDWARE FOR CORROSION AND SHALL DISCONNECT AND REMOVE CORRODED ITEMS FOR REPLACEMENT. CONTRACTOR SHALL MAINTAIN AT ALL TIMES CONTINUITY OF GROUNDING SYSTEM.



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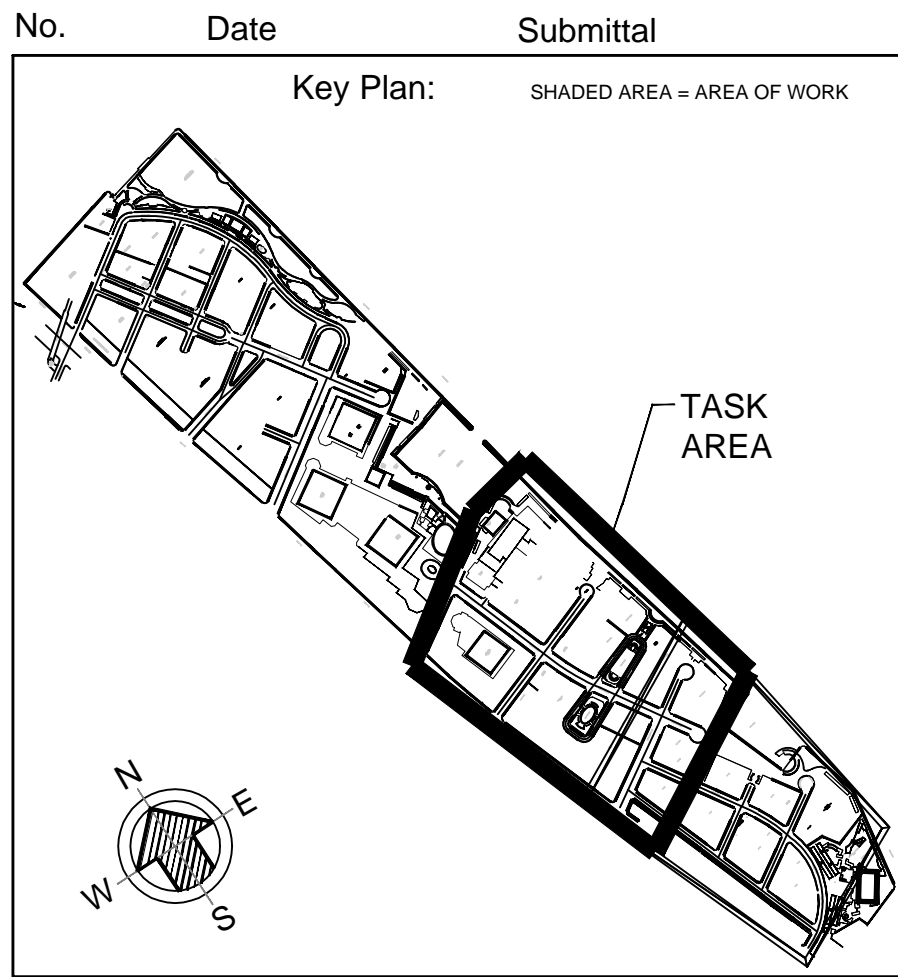
DISTRICT OF COLUMBIA • MARYLAND
NEW YORK • VIRGINIA

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PROJECT NUMBER: SAP16652.00

NOTE:DRAWING MAY BE PRINTED AT REDUCED SCALE. REFER TO GRAPHIC SCALE.

No.	Date	Revision
1	05.22.2017	100 % CONSTRUCTION DOCUMENTS



Project Engineer: _____
Designer: _____
Drawn by: _____
Checked by: _____

Project: **SOUTH NEIGHBORHOOD
STREET LIGHT UPGRADE**
Battery Park City Authority

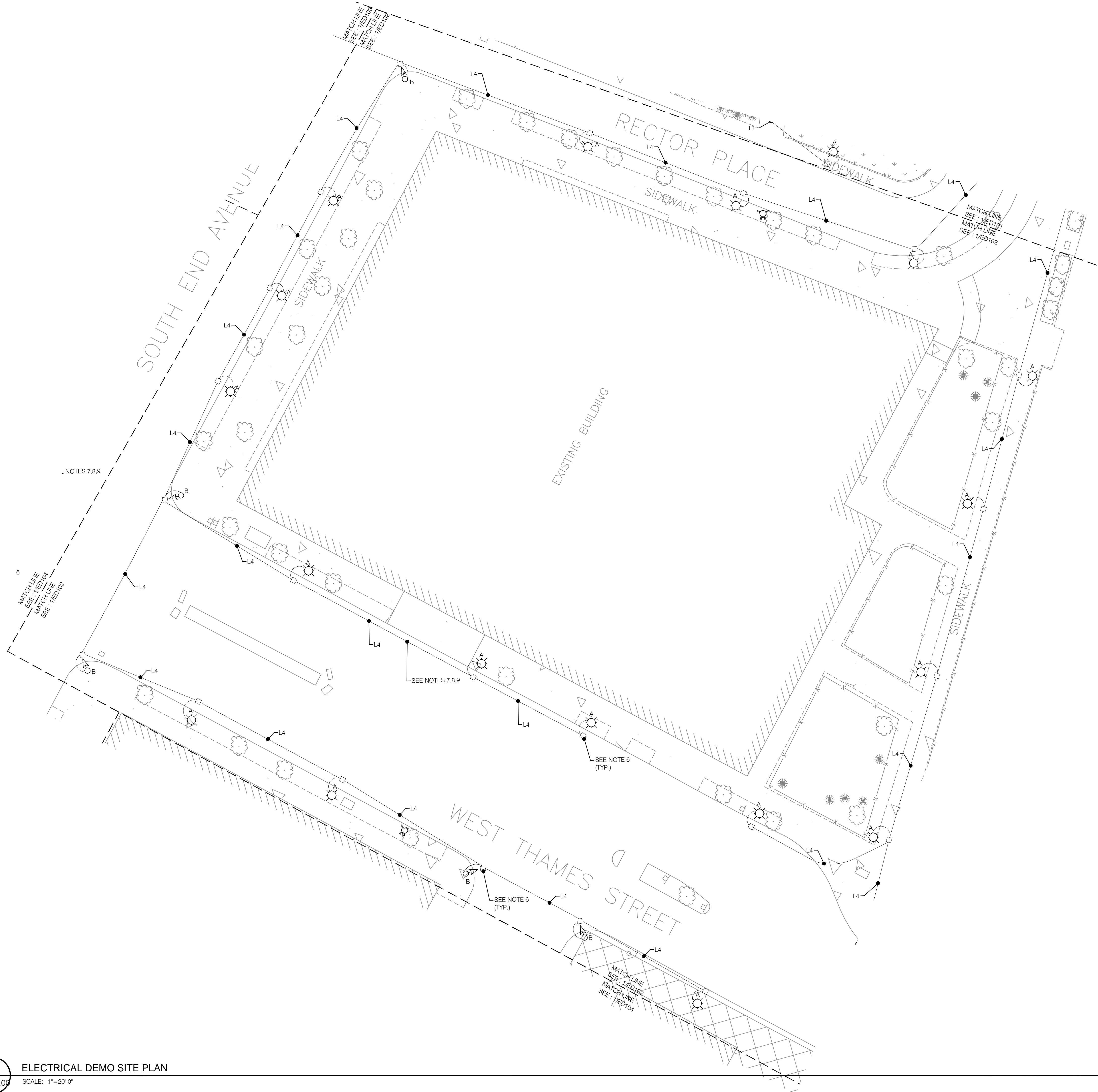
Address: NEW YORK, NY

Drawing Title:
ELECTRICAL DEMO SITE PLAN

Drawing No.:

ED101.00

Sheets in Contract:



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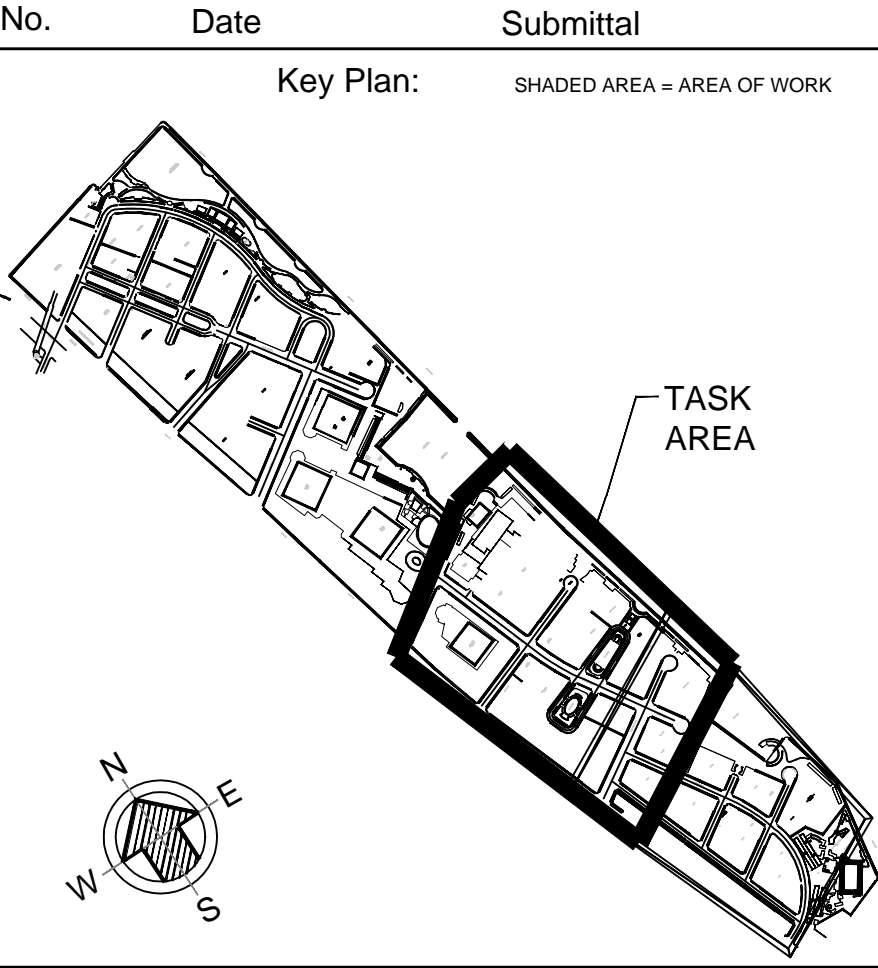
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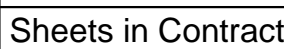
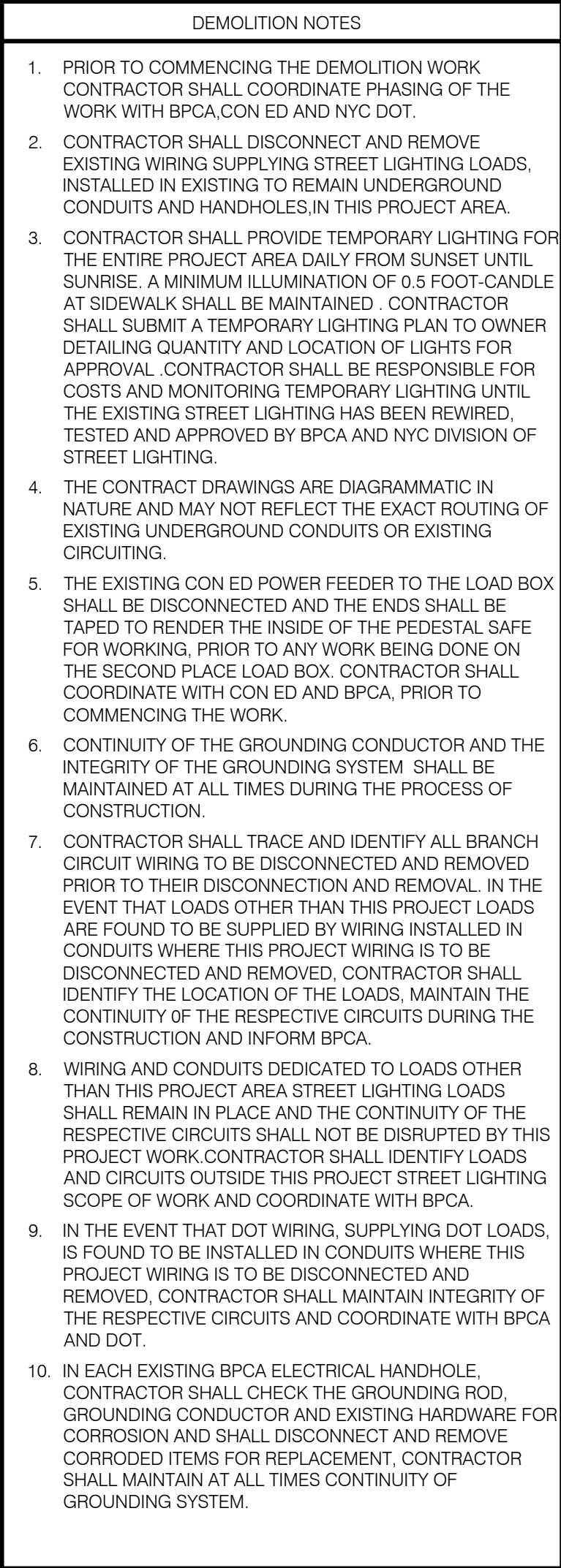
Project Engineer: _____
Designer: _____
Drawn by: _____
Checked by: _____

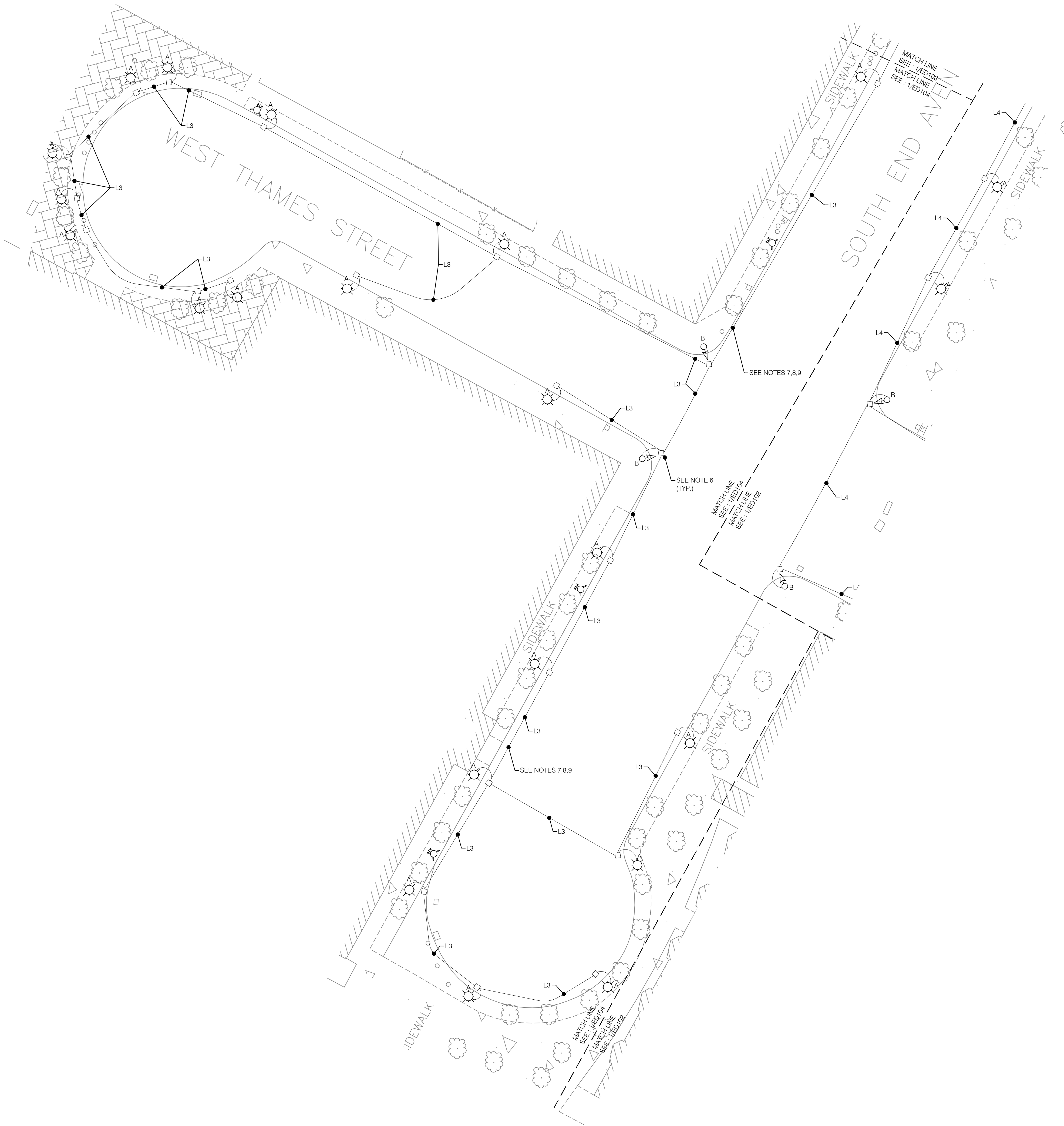
Project: **SOUTH NEIGHBORHOOD STREET LIGHT UPGRADE**
Battery Park City Authority

Address: NEW YORK, NY

Drawing Title:
ELECTRICAL DEMO SITE PLAN

Drawing No.:
ED102.00
Sheets in Contract:





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CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING FOR THE ENTIRE PROJECT AREA DAILY FROM SUNSET UNTIL SUNRISE. A MINIMUM ILLUMINATION OF 0.5 FOOT-CANDLE AT SIDEWALK SHALL BE MAINTAINED. CONTRACTOR SHALL SUBMIT A TEMPORARY LIGHTING PLAN TO OWNER DETAILING QUANTITY AND LOCATION OF LIGHTS FOR APPROVAL. CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS AND MONITORING TEMPORARY LIGHTING UNTIL THE EXISTING STREET LIGHTING HAS BEEN REWIRED, TESTED AND APPROVED BY BPCA AND NYC DIVISION OF STREET LIGHTING.
4.

THE CONTRACT DRAWINGS ARE DIAGRAMMATIC IN NATURE AND MAY NOT REFLECT THE EXACT ROUTING OF EXISTING UNDERGROUND CONDUITS OR EXISTING CIRCUITING.
5.

THE EXISTING CON ED POWER FEEDER TO THE LOAD BOX SHALL BE DISCONNECTED AND THE ENDS SHALL BE TAPED TO RENDER THE INSIDE OF THE PEDESTAL SAFE FOR WORKING. PRIOR TO ANY WORK BEING DONE ON THE SECOND PLACE LOAD BOX, CONTRACTOR SHALL COORDINATE WITH CON ED AND BPCA, PRIOR TO COMMENCING THE WORK.
6.

CONTINUITY OF THE GROUNDING CONDUCTOR AND THE INTEGRITY OF THE GROUNDING SYSTEM SHALL BE MAINTAINED AT ALL TIMES DURING THE PROCESS OF CONSTRUCTION.
7.

CONTRACTOR SHALL TRACE AND IDENTIFY ALL BRANCH CIRCUIT WIRING TO BE DISCONNECTED AND REMOVED PRIOR TO THEIR DISCONNECTION AND REMOVAL. IN THE EVENT THAT LOADS OTHER THAN THIS PROJECT LOADS ARE FOUND TO BE SUPPLIED BY WIRING INSTALLED IN CONDUITS WHERE THIS PROJECT WIRING IS TO BE DISCONNECTED AND REMOVED, CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE LOADS, MAINTAIN THE CONTINUITY OF THE RESPECTIVE CIRCUITS DURING THE CONSTRUCTION AND INFORM BPCA.
8.

WIRING AND CONDUITS DEDICATED TO LOADS OTHER THAN THIS PROJECT AREA STREET LIGHTING LOADS SHALL REMAIN IN PLACE AND THE CONTINUITY OF THE RESPECTIVE CIRCUITS SHALL NOT BE DISRUPTED BY THIS PROJECT WORK. CONTRACTOR SHALL IDENTIFY LOADS AND CIRCUITS OUTSIDE THIS PROJECT STREET LIGHTING SCOPE OF WORK AND COORDINATE WITH BPCA.
9.

IN THE EVENT THAT DOT WIRING, SUPPLYING DOT LOADS, IS FOUND TO BE INSTALLED IN CONDUITS WHERE THIS PROJECT WIRING IS TO BE DISCONNECTED AND REMOVED, CONTRACTOR SHALL MAINTAIN INTEGRITY OF THE RESPECTIVE CIRCUITS AND COORDINATE WITH BPCA AND DOT.
10.

IN EACH EXISTING BPCA ELECTRICAL HANDHOLE, CONTRACTOR SHALL CHECK THE GROUNDING ROD, GROUNDING CONDUCTOR AND EXISTING HARDWARE FOR CORROSION AND SHALL DISCONNECT AND REMOVE CORRODED ITEMS FOR REPLACEMENT, CONTRACTOR SHALL MAINTAIN AT ALL TIMES CONTINUITY OF GROUNDING SYSTEM.

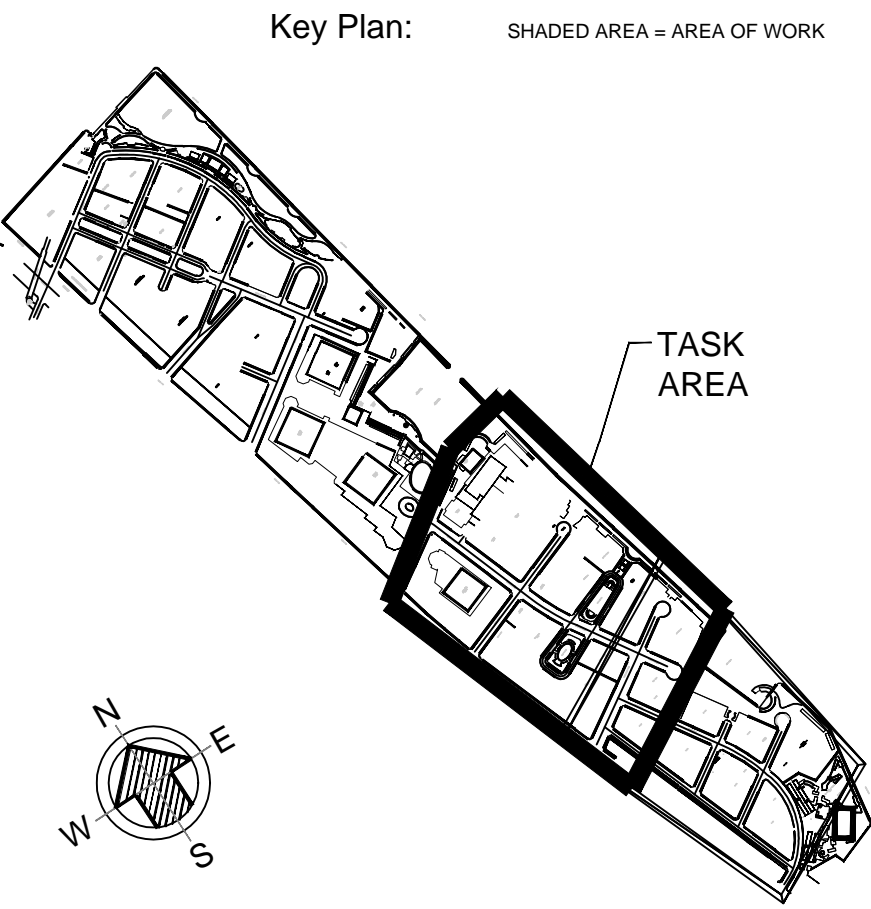


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PROJECT NUMBER: SAP16652.00

NOTE: DRAWING MAY BE PRINTED AT REDUCED SCALE. REFER TO GRAPHIC SCALE.

No.	Date	Revision
1	05.22.2017	100 % CONSTRUCTION DOCUMENTS

No.	Date	Submittal



Project Engineer:

Designer:

Drawn by:

Checked by:

Project:

SOUTH NEIGHBORHOOD STREET LIGHT UPGRADE

Battery Park City Authority

Address: NEW YORK, NY

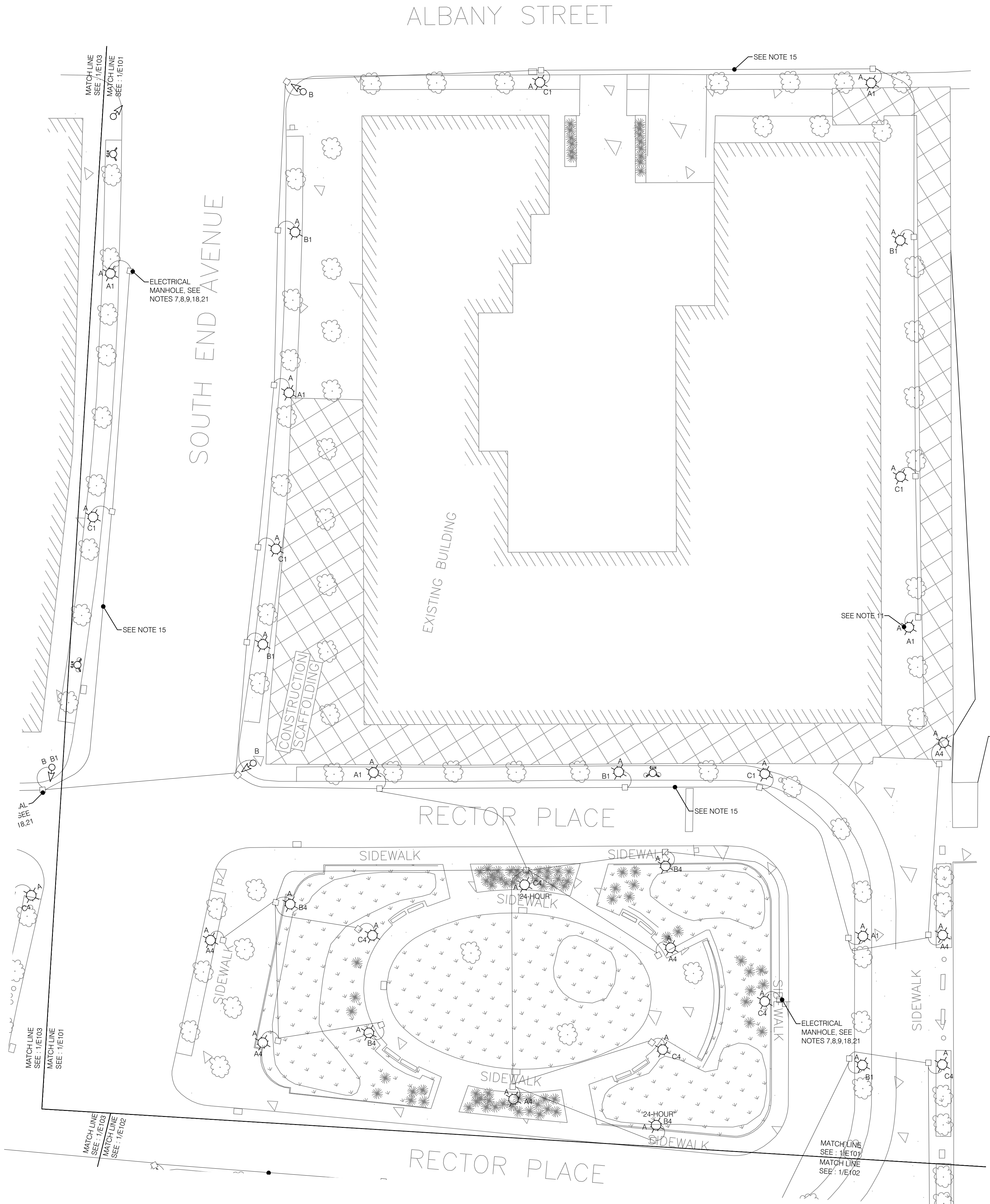
Drawing Title:

ELECTRICAL DEMO SITE PLAN

Drawing No.:

ED104.00

Sheets in Contract:



- SEQUENCE OF CONSTRUCTION - NOTES
1. AFTER THE DISCONNECTION AND REMOVAL OF THE EXISTING CONDUIT INSTALLED CONDUCTORS, THE CONTRACTOR SHALL CLEAN THE CONDUITS BY PULLING THROUGH A WIRE BRUSH.
 2. TEST CONDUIT BY PULLING THROUGH CONDUIT A CYLINDRICAL MANDREL NOT LESS THAN TWO PIPE INSIDE DIAMETERS LONG, HAVING AN OUTSIDE DIAMETER EQUAL TO 90 PERCENT OF THE INSIDE DIAMETER OF THE CONDUIT.
 3. NOTIFY ENGINEER IF CONDUIT FOUND TO BE BLOCKED OR OTHERWISE DAMAGED. DAMAGED CONDUITS SHALL BE REPLACED UNDER THE SUPERVISION OF THE BPCA. CONTRACTOR SHALL EXCAVATE THE GROUND OR THE PAVED GROUND AS REQUIRED FOR THE INSTALLATION OF THE REPLACEMENT CONDUIT AND SHALL RESTORE THE PAVEMENT TO THE ORIGINAL CONDITIONS IN ACCORDANCE WITH THE LATEST DOT STANDARDS. PROVIDE UNIT PRICE FOR INSTALLATION OF 10' LENGTHS OF CONDUIT.
 4. IN THE EVENT THAT LOADS OTHER THAN BPCA LOADS ARE FOUND TO BE SUPPLIED BY WIRES INSTALLED IN EXISTING CONDUITS WHICH ARE TO BE REWIRED CONTRACTOR SHALL:
 - 4.1. IDENTIFY SUCH LOADS
 - 4.2. EXTEND WIRING TO SUCH LOADS TO MAINTAIN CONTINUITY OF THE CIRCUITS
 - 4.3. COORDINATE WITH PROJECT ENGINEER AND BPCA.
 5. REMOVE ALL EXISTING GASKETING MATERIAL FROM THE RIM AND COVER OF LIGHTING PULL/DISTRIBUTION HANDHOLE.
 6. CLEAN AND RE-TAP EACH OF THE EXISTING FRAME BOLT HOLES.
 7. CLEAN EACH OF THE LIGHTING PULL/DISTRIBUTION HAND HOLE OF ALL SOIL, DEBRIS, CONCRETE RUNOFF, WATER, ETC.
 8. TAG ALL CONDUITS AT THE ENDS AND IN ALL INTERMEDIATE BOXES, HANDHOLES AND OTHER ENCLOSURES USING STAINLESS STEEL TAGS ATTACHED WITH STAINLESS STEEL WIRE.
 9. FURNISH AND INSTALL A NEW 1/8" THICK NEOPRENE GASKET FOR EACH BOX. GASKET SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS.
 10. NEW LIGHTING CONDUCTORS SHALL BE INSTALLED AS DETAILED ON THE DRAWINGS. IDENTIFY ALL CONDUCTORS BY CIRCUIT NUMBER AND PHASE ON THE WIRE NUMBER, AT EACH TERMINAL OR SPLICE LOCATION AND IN ALL INTERMEDIATE BOXES, HANDHOLES AND OTHER ENCLOSURES USING WATERPROOF TAGS.
 11. FURNISH AND INSTALL AN IN-LINE FUSE HOLDER ON THE HOT LEG INSIDE EACH LIGHT POLE. FUSE HOLDERS SHALL BE RATED FOR 600 VOLTS AC AND SHALL BE SUITABLE FOR #6 AWG STRANDED COPPER LINE AND LOAD CRIMPED CONNECTIONS. FUSE HOLDERS SHALL BE FERRAZ SHAWMUT MODEL 'FEB' OR EQUAL. FURNISH AND INSTALL A 5-AMPERE FERRAZ SHAWMUT TYPE 'TRM' TIME-DELAY MIDGET FUSE IN EACH HOLDER. FURNISH BPCA WITH ONE HUNDRED (100) SPARE FUSES AND TWENTY (20) SPARE IN-LINE FUSE HOLDERS.
 12. RE-INSTALL EXISTING LIGHTING HANDHOLE COVERS USING NEW 3/8" DIAMETER STAINLESS STEEL HEX HEAD SHOULDER BOLTS. ALL MOUNTING DEVICES SHALL BE TAMPER RESISTANT TO PREVENT UNAUTHORIZED ACCESS TO LIVE PARTS. PROVIDE BONDING JUMPER FOR GROUNDING OF THE COVER AS PER NYCEC.
 13. IN EACH STREET LIGHTING HANDHOLE & MANHOLE CONTRACTOR SHALL WELD A GROUNDING LUG ON THE UNDERSIDE OF EACH HANDHOLE & MANHOLE COVER FOR CONNECTION TO THE HANDHOLE & MANHOLE GROUND ELECTRODE (ROD).
 14. CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF THE GROUNDING CONDUCTOR AND THE INTEGRITY OF THE GROUNDING SYSTEM AT ALL TIMES DURING THE PROCESS OF CONSTRUCTION.
 15. INSIDE EXISTING LIGHT POLES, NEW WIRING SHALL BE 3#6 AWG.
 16. WHERE APPLICABLE ADDITIONAL PENETRATIONS OF THE LIGHTING POLE BASE SHALL BE PERFORMED AS REQUIRED, FOR CONFORMANCE TO NYCDOT STANDARDS.
 17. CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE EXISTING TO REMAIN WIRING.
 18. DRAWINGS ARE DIAGRAMMATIC AND IDENTIFY THE BRANCH CIRCUITS ASSIGNED FOR EACH PARTICULAR AREA. THE DRAWINGS SHOW THAT ALL LIGHT POLES SHALL BE ALTERNATELY WIRED PER PHASE LEG. EXACT WIRING SHALL BE AS PER EXACT LAYOUT OF THE UNDERGROUND CONDUITS. THE LOADS SHALL BE BALANCED PER PHASE LEG AND THE CONTRACTOR SHALL SUBMIT AS-BUILTS SHOWING THE EXACT WIRING OF THE LIGHT POLES.
 19. IN ALL EXISTING BPCA ELECTRICAL HANDHOLES & MANHOLES WHERE CORRODED GROUNDING HARDWARE AND CONDUCTORS MOUNTING HARDWARE HAVE BEEN REMOVED, UNDER THE DEMOLITION WORK, CONTRACTOR SHALL PROVIDE NEW REPLACEMENT GROUNDING HARDWARE AND CONDUCTORS MOUNTING HARDWARE. IN ADDITION, CONTRACTOR SHALL PROVIDE NEW CONDUCTORS MOUNTING HARDWARE IN ALL EXISTING HANDHOLES AND MANHOLES AS REQUIRED TO SUPPORT THE NEW CONDUCTORS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS. CONTRACTOR SHALL MAINTAIN AT ALL TIMES CONTINUITY OF THE GROUNDING SYSTEM.
 20. INSIDE EXISTING LIGHT POLES, CONTRACTOR SHALL EXISTING GROUNDING LUG AND REPLACE IF FOUND CORRODED. NEW GROUND ROD TYPE SHALL MATCH EXISTING.
 21. CONTRACTOR TO PERFORM SURVEY TO ESTABLISH UNDERGROUND ROUTES AND VERIFY INFORMATION ISSUED. REPORT FINDINGS TO PROJECT ENGINEER AND BPCA.

SYMBOLS	
NEW WORK	
LAMP POST TYPE 'A'	A' ⚡
LAMP POST TYPE 'B'	B' ⚡
ELECTRICAL HANDHOLE	Ⓜ
ELECTRICAL MANHOLE	Ⓜ
RELAY LIGHTING CONTROL PEDESTAL	Ⓜ
PHASE A LINE 1	A1
PHASE B LINE 1	B1
PHASE C LINE 1	C1

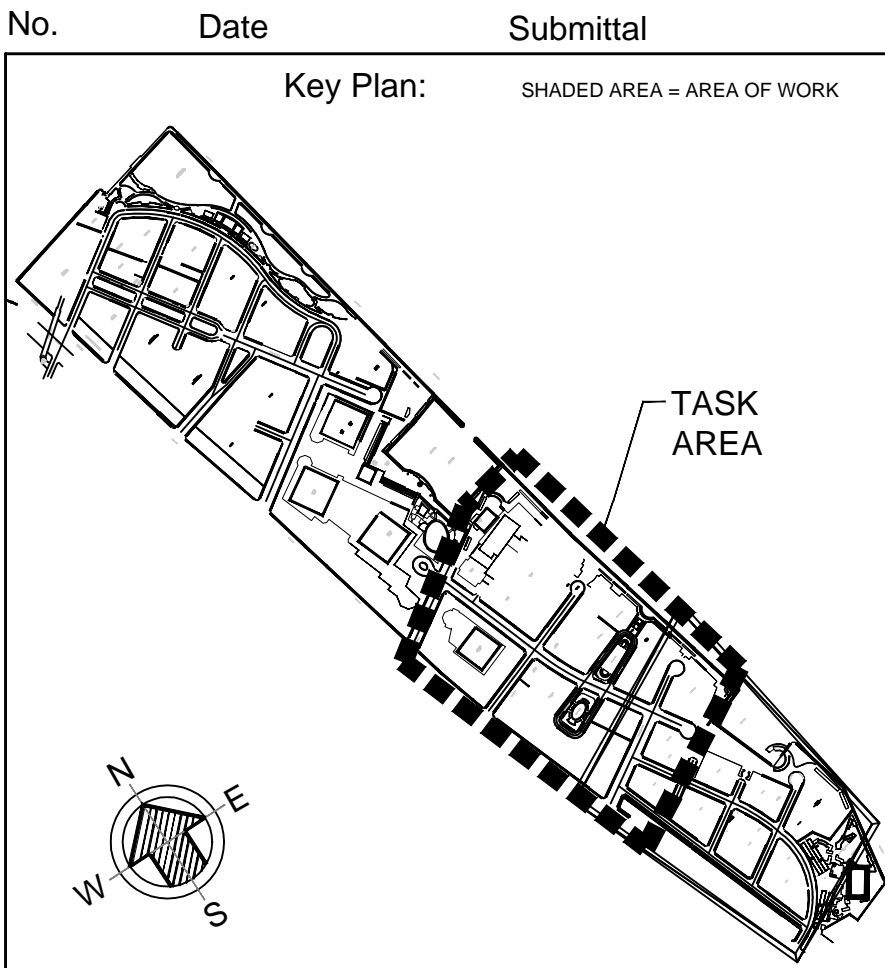


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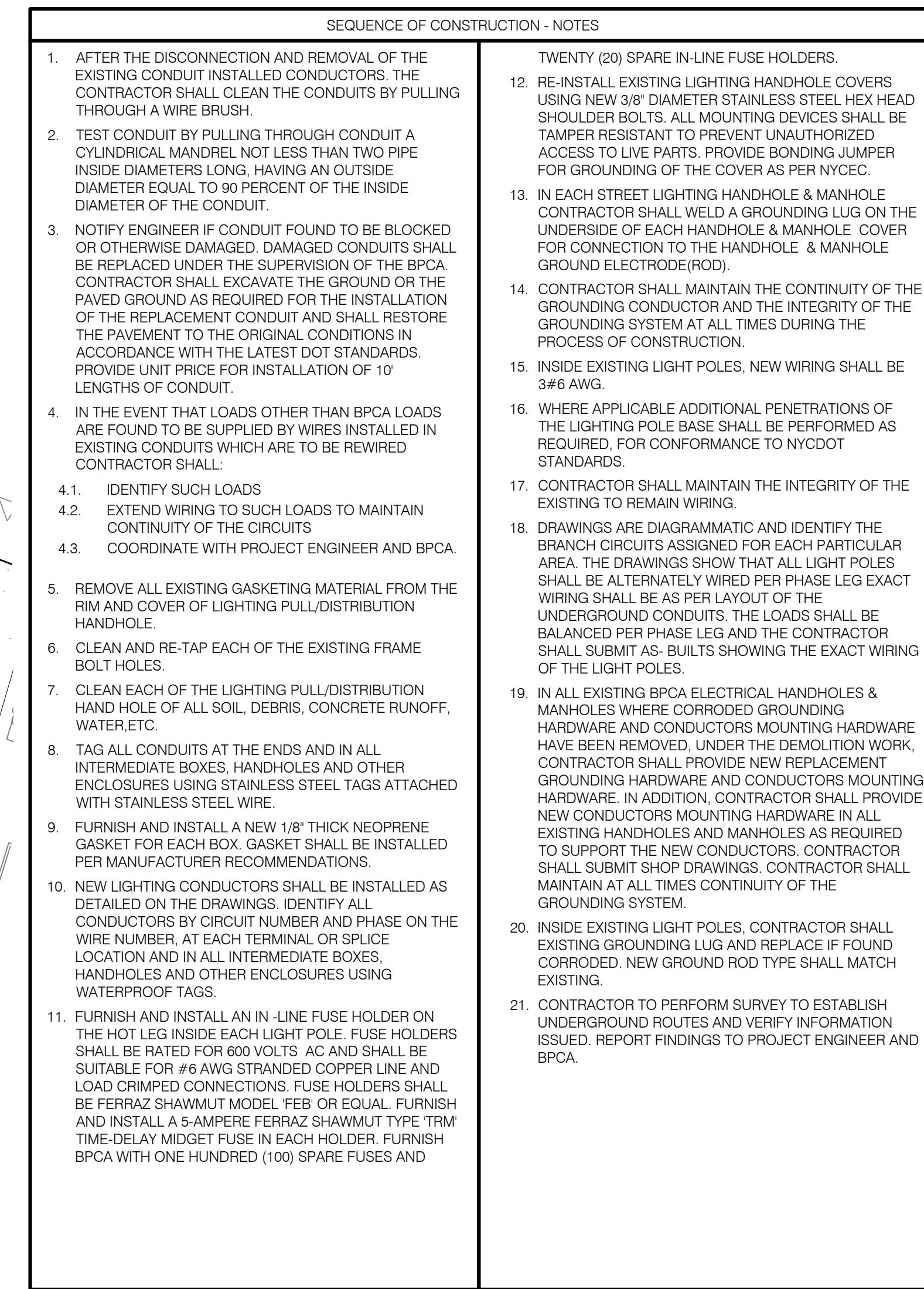
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Designer: _____
Drawn by: _____
Checked by: _____




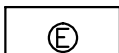
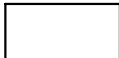
Project: **SOUTH NEIGHBORHOOD STREET LIGHT UPGRADE**
Battery Park City Authority

Address: NEW YORK, NY

Drawing Title: **ELECTRICAL SITE PLAN**

Drawing No.: **E101.00**
Sheets in Contract: _____

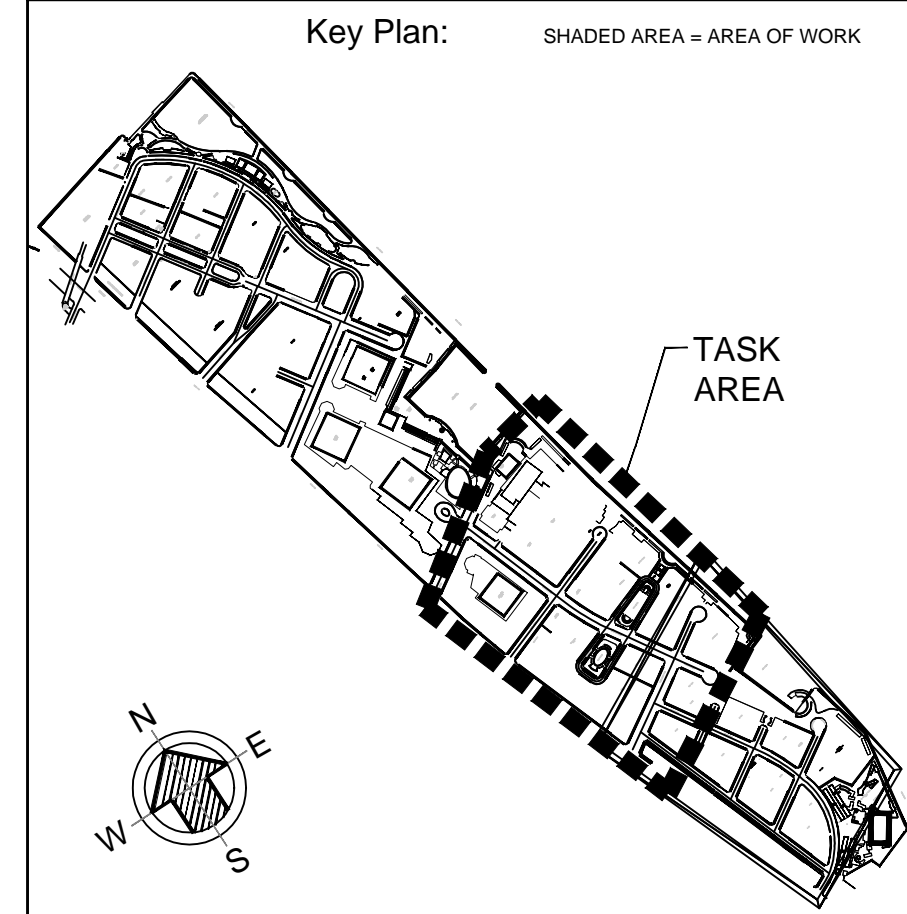


SYMBOLS	
NEW WORK	
LAMP POST TYPE 'A'	'A' 
LAMP POST TYPE 'B'	'B' 
ELECTRICAL HANDHOLE	
ELECTRICAL MANHOLE	
RELAY LIGHTING CONTROL PEDESTAL	
PHASE A LINE 1	A1
PHASE B LINE 1	B1
PHASE C LINE 1	C1



No.	Date	Revision

No.	Date	Submittal
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Project Engineer: _____
 Designer: _____
 Drawn by: _____
 Checked by: _____

Project: **SOUTH NEIGHBORHOOD
STREET LIGHT UPGRADE**
Battery Park City Authority

Address: NEW YORK, NY

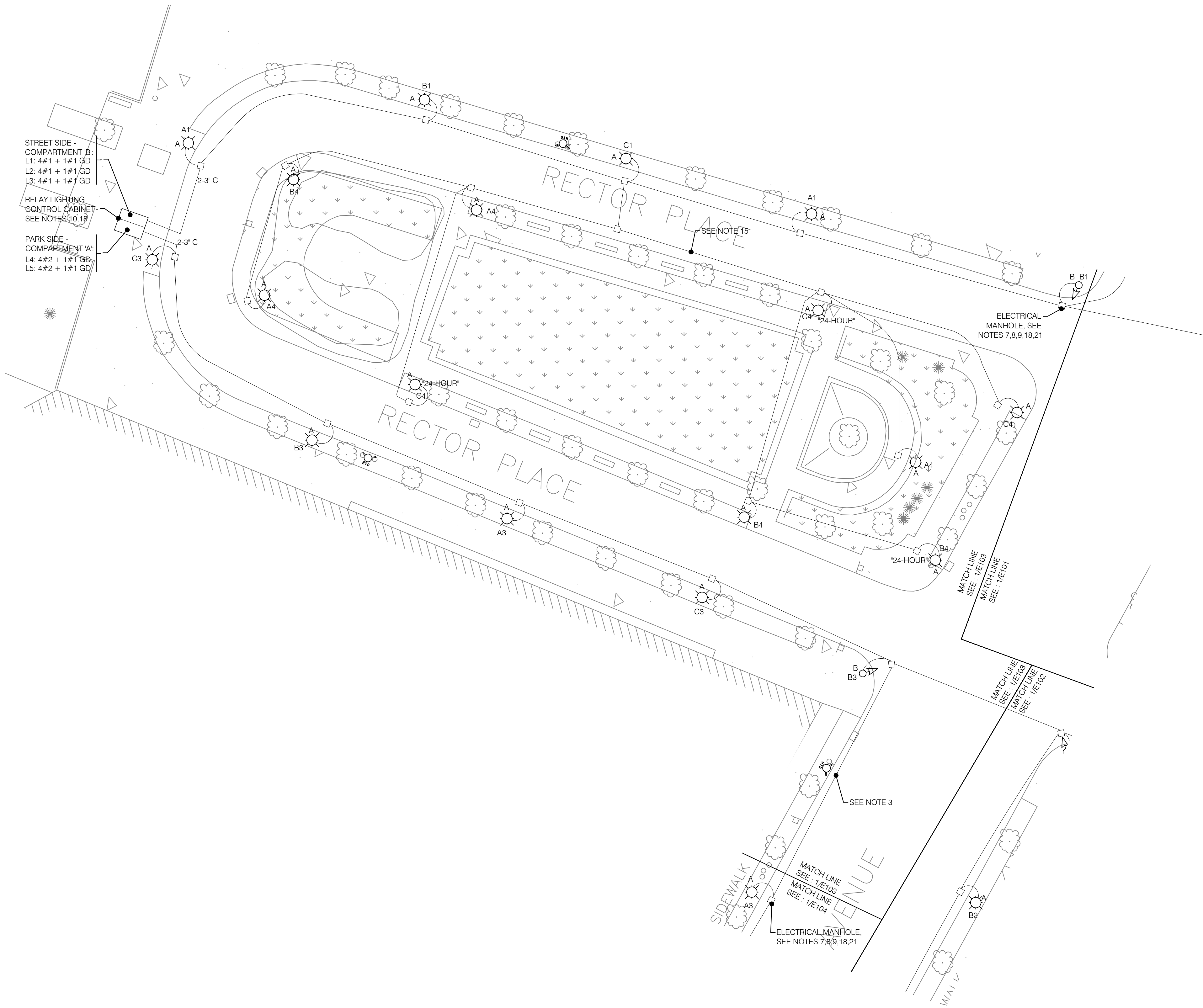
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ELECTRICAL SITE PLAN

	Drawing No.: <div style="text-align: center; font-size: 2em;">E102.00</div>
	Sheets in Contract:



Sheets in Contract:



SEQUENCE OF CONSTRUCTION - NOTES	
1. AFTER THE DISCONNECTION AND REMOVAL OF THE EXISTING CONDUIT INSTALLED CONDUCTORS. THE CONTRACTOR SHALL CLEAN THE CONDUITS BY PULLING THROUGH A WIRE BRUSH.	TIME-DELAY MIDGET FUSE IN EACH HOLDER. FURNISH BPCA WITH ONE HUNDRED (100) SPARE FUSES AND TWENTY (20) SPARE IN-LINE FUSE HOLDERS.
2. TEST CONDUIT BY PULLING THROUGH CONDUIT A CYLINDRICAL MANDREL NOT LESS THAN TWO PIPE INSIDE DIAMETERS LONG, HAVING AN OUTSIDE DIAMETER EQUAL TO 90 PERCENT OF THE INSIDE DIAMETER OF THE CONDUIT.	12. RE-INSTALL EXISTING LIGHTING HANDHOLE COVERS USING NEW 3/8" DIAMETER STAINLESS STEEL HEX HEAD SHOULDER BOLTS. ALL MOUNTING DEVICES SHALL BE TAMPER RESISTANT TO PREVENT UNAUTHORIZED ACCESS TO LIVE PARTS. PROVIDE BONDING JUMPER FOR GROUNDING OF THE COVER AS PER NYCEC.
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4. IN THE EVENT THAT LOADS OTHER THAN BPCA LOADS ARE FOUND TO BE SUPPLIED BY WIRES INSTALLED IN EXISTING CONDUITS WHICH ARE TO BE REWIRED CONTRACTOR SHALL:	14. CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF THE GROUNDING CONDUCTOR AND THE INTEGRITY OF THE GROUNDING SYSTEM AT ALL TIMES DURING THE PROCESS OF CONSTRUCTION.
4.1. IDENTIFY SUCH LOADS	15. INSIDE EXISTING LIGHT POLES, NEW WIRING SHALL BE 3#6 AWG.
4.2. EXTEND WIRING TO SUCH LOADS TO MAINTAIN CONTINUITY OF THE CIRCUITS	16. WHERE APPLICABLE ADDITIONAL PENETRATIONS OF THE LIGHTING POLE BASE SHALL BE PERFORMED AS REQUIRED, FOR CONFORMANCE TO NYCDOT STANDARDS.
4.3. COORDINATE WITH PROJECT ENGINEER AND BPCA.	17. CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE EXISTING TO REMAIN WIRING.
5. REMOVE ALL EXISTING GASKETING MATERIAL FROM THE RIM AND COVER OF LIGHTING PULL/DISTRIBUTION HANDHOLE.	18. DRAWINGS ARE DIAGRAMMATIC AND IDENTIFY THE BRANCH CIRCUITS ASSIGNED FOR EACH PARTICULAR AREA. THE DRAWINGS SHOW THAT ALL LIGHT POLES SHALL BE ALTERNATELY WIRED PER PHASE LEG. EXACT WIRING SHALL BE AS PER EXACT LAYOUT OF THE UNDERGROUND CONDUITS. THE LOADS SHALL BE BALANCED PER PHASE LEGS AND THE CONTRACTOR SHALL SUBMIT AS-BUILTS SHOWING THE EXACT WIRING OF THE LIGHT POLES.
6. CLEAN AND RE-TAP EACH OF THE EXISTING FRAME BOLT HOLES.	19. IN ALL EXISTING BPCA ELECTRICAL HANDHOLES & MANHOLES WHERE CORRODED GROUNDING HARDWARE AND CONDUCTORS MOUNTING HARDWARE HAVE BEEN REMOVED, UNDER THE DEMOLITION WORK, CONTRACTOR SHALL PROVIDE NEW REPLACEMENT GROUNDING HARDWARE AND CONDUCTORS MOUNTING HARDWARE. IN ADDITION, CONTRACTOR SHALL PROVIDE NEW CONDUCTORS MOUNTING HARDWARE IN ALL EXISTING HANDHOLES AND MANHOLES AS REQUIRED TO SUPPORT THE NEW CONDUCTORS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS. CONTRACTOR SHALL MAINTAIN AT ALL TIMES CONTINUITY OF THE GROUNDING SYSTEM.
7. CLEAN EACH OF THE LIGHTING PULL/DISTRIBUTION HAND HOLE OF ALL SOIL, DEBRIS, CONCRETE RUNOFF, WATER,ETC.	20. INSIDE EXISTING LIGHT POLES, CONTRACTOR SHALL EXISTING GROUNDING LUG AND REPLACE IF FOUND CORRODED. NEW GROUND ROD TYPE SHALL MATCH EXISTING.
8. TAG ALL CONDUITS AT THE ENDS AND IN ALL INTERMEDIATE BOXES, HANDHOLES AND OTHER ENCLOSURES USING STAINLESS STEEL TAGS ATTACHED WITH STAINLESS STEEL WIRE.	21. CONTRACTOR TO PERFORM SURVEY TO ESTABLISH UNDERGROUND ROUTES AND VERIFY INFORMATION ISSUED. REPORT FINDINGS TO PROJECT ENGINEER AND BPCA.
9. FURNISH AND INSTALL A NEW 1/8" THICK NEOPRENE GASKET FOR EACH BOX. GASKET SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS.	
10. NEW LIGHTING CONDUCTORS SHALL BE INSTALLED AS DETAILED ON THE DRAWINGS. IDENTIFY ALL CONDUCTORS BY CIRCUIT NUMBER AND PHASE ON THE WIRE NUMBER, AT EACH TERMINAL OR SPLICE LOCATION AND IN ALL INTERMEDIATE BOXES, HANDHOLES AND OTHER ENCLOSURES USING WATERPROOF TAGS.	
11. FURNISH AND INSTALL AN IN-LINE FUSE HOLDER ON THE HOT LEG INSIDE EACH LIGHT POLE. FUSE HOLDERS SHALL BE RATED FOR 600 VOLTS AC AND SHALL BE SUITABLE FOR #6 AWG STRANDED COPPER LINE AND LOAD CRIMPED CONNECTIONS. FUSE HOLDERS SHALL BE FERRAZ SHAWMUT MODEL 'FEB' OR EQUAL. FURNISH AND INSTALL A 5-AMPERE FERRAZ SHAWMUT TYPE TRM	

SYMBOLS	
NEW WORK	
LAMP POST TYPE 'A'	A'
LAMP POST TYPE 'B'	B'
ELECTRICAL HANDHOLE	
ELECTRICAL MANHOLE	
RELAY LIGHTING CONTROL PEDESTAL	
PHASE A LINE 1	A1
PHASE B LINE 1	B1
PHASE C LINE 1	C1

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No.	Date	Revision

No.	Date	Revision
1	05.22.2017	100 % CONSTRUCTION DOCUMENTS

No.	Date	Submittal

Key Plan:

SHADED AREA = AREA OF WORK

Project Engineer:

Designer:

Drawn by:

Checked by:

Project:

SOUTH NEIGHBORHOOD STREET LIGHT UPGRADE
Battery Park City Authority

Address: NEW YORK, NY

Drawing Title:

ELECTRICAL SITE PLAN

Drawing No.:

E103.00

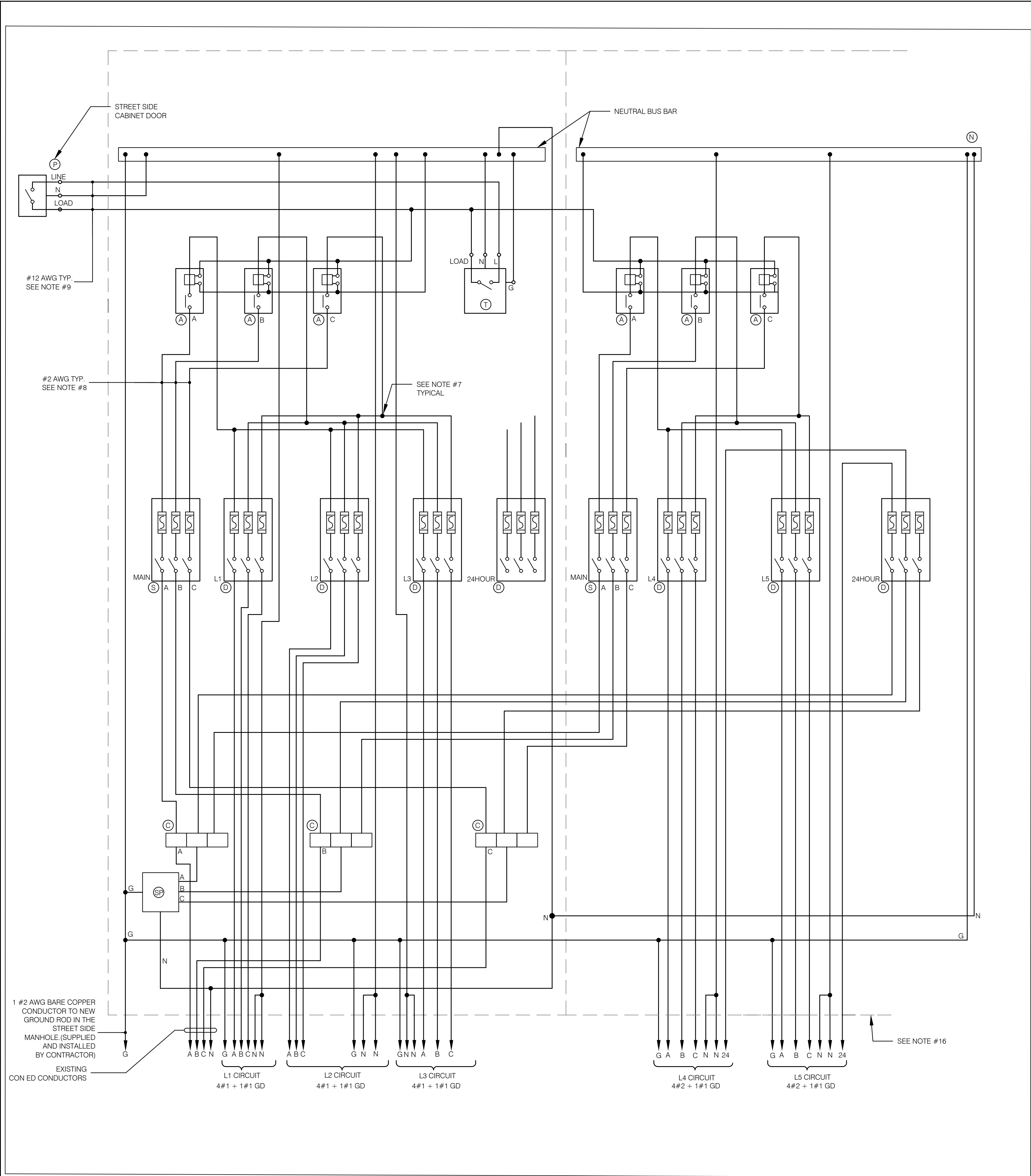
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E101.00

ELECTRICAL SITE PLAN

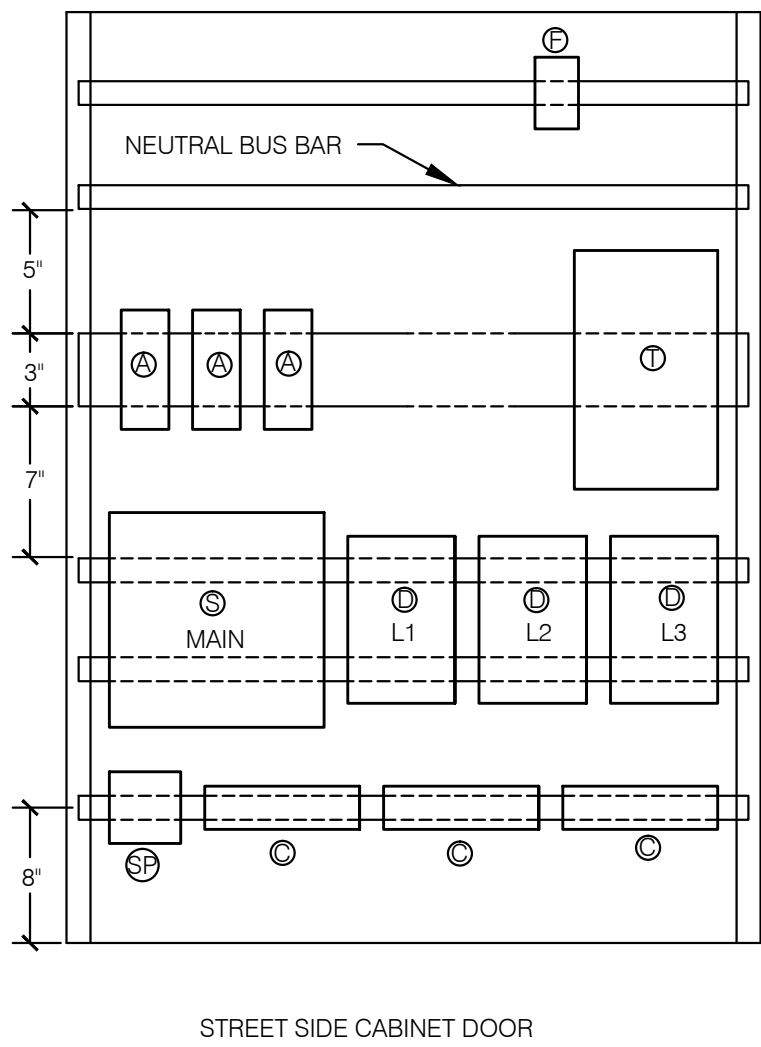
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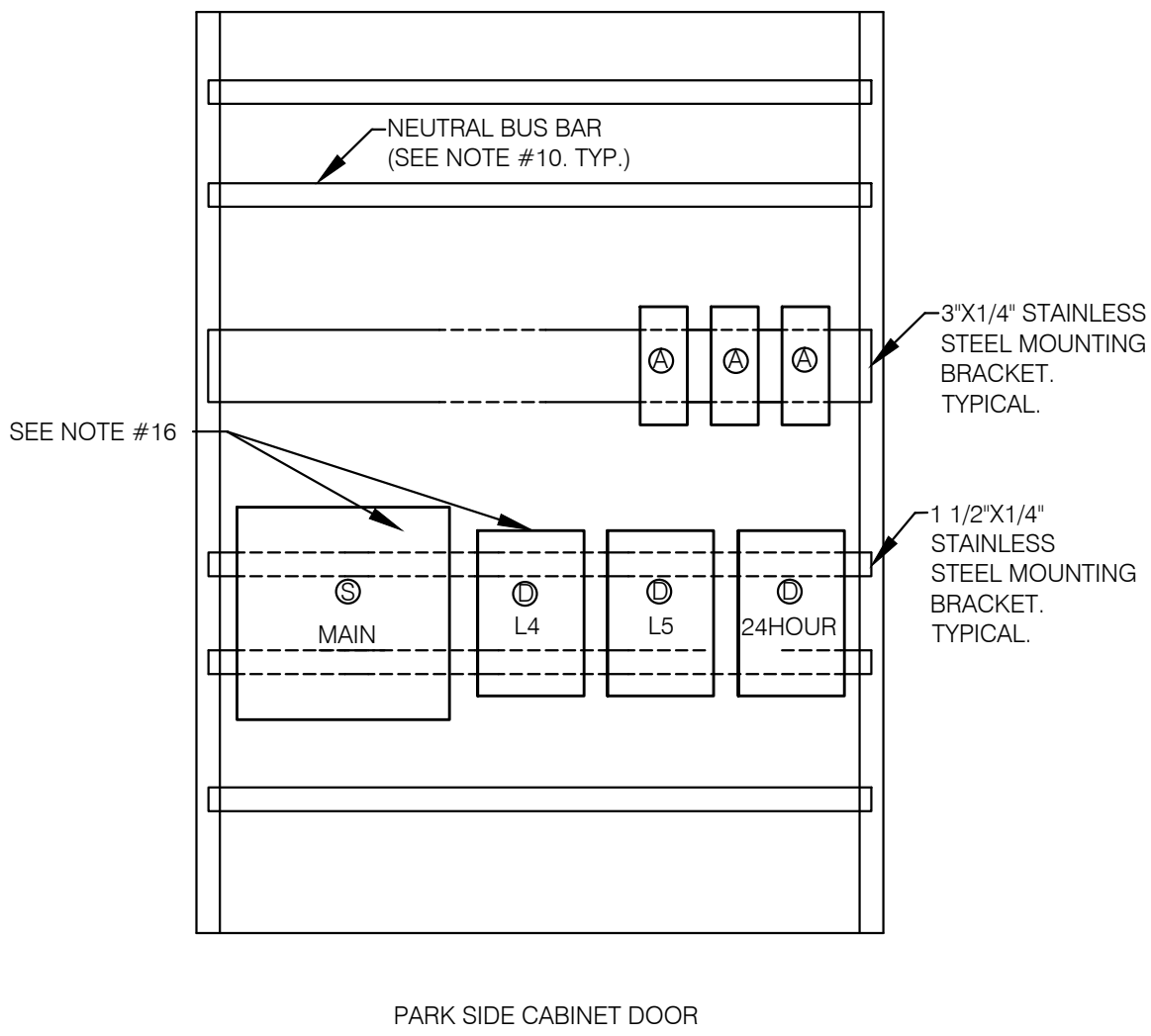
1 POWER AND CONTROL WIRING DIAGRAM FOR THE RECTORY PLACE LOAD CABINET
E302.00 SCALE: NTS

NOTES	
1. THE NEW RECTORY PLACE POWER AND CONTROL LOAD BOX SHALL BE MODIFIED AS PER WIRING DIAGRAM SHOWN ON THIS DRAWING.	LAYOUT OF THE EQUIPMENT SHALL BE AS PER APPROVED EQUIPMENT AND AS PER FIELD CONDITIONS AND SHALL TAKE INTO ACCOUNT MINIMUM BENDING RADIUS OF THE WIRING.
2. ALL NEW EQUIPMENT MOUNTING BRACKETS ANGLE AND FLAT SHALL BE STAINLESS STEEL.	
3. ALL FASTENING HARDWARE SHALL BE STAINLESS STEEL MOUNTING AND ACCESS HARDWARE SHALL BE TAMPER RESISTANT TO PREVENT UNAUTHORIZED ACCESS TO ELECTRICITY OR LIVE PARTS.	
4. PROVIDE FLAME PROOF IDENTIFICATION NAME PLATES ON ALL EQUIPMENT INSTALLED INSIDE THE POWER AND CONTROL CABINET ON EITHER SIDE.	
5. CONTRACTOR SHALL CLEAN THE INSIDE OF CABINET OF DEBRIS, ETC.	
6. FOR ALL CONNECTION POINTS SHOWN ON THE POWER AND CONTROL WIRING DIAGRAM ON THIS DRAWING, CONTRACTOR SHALL USE MULTI-CONNECTORS AS MANUFACTURED BY BURNDY OR APPROVED EQUAL.	
7. ALL INTERIOR LOAD BOX POWER INTERCONNECTING WIRES SHALL BE #2 AWG, UNLESS OTHERWISE NOTED.	
8. ALL INTERIOR LOAD BOX CONTROL INTERCONNECTING WIRES SHALL BE #12AWG, UNLESS OTHERWISE NOTED.	
9. NEUTRAL BUS BAR SHALL BE BOUNDED TO ALL CONDUITS IN THE LOAD BOX WITH #6 AWG BARE, TINNED, STRANDED, COPPER WIRE.	
10. ELECTRICAL CONTRACTOR SHALL PROVIDE STAINLESS STEEL MOUNTING HARDWARE AS REQUIRED. EXACT SPACING OF HARDWARE SHALL BE SUITABLE FOR THE APPROVED EQUIPMENT. EXACT	
11. CIRCUITS DESIGNATED L1, L2, L3 SHOWN SUPPLIED FROM THE STREET SIDE OF THE LOAD BOX/CABINET ARE ASSIGNED FOR STREET LIGHTING WITH EACH CIRCUIT ASSIGNED TO A DEFINED AREA AS SHOWN ON LAYOUT DRAWINGS.	12. CIRCUITS DESIGNATED L4, L5 SUPPLIED FROM THE SIDEWALK SIDE OF THE LOAD BOX/CABINET ARE ASSIGNED FOR PARK LIGHTING.
12. CIRCUITS DESIGNATED L4, L5 SUPPLIED FROM THE SIDEWALK SIDE OF THE LOAD BOX/CABINET ARE ASSIGNED FOR PARK LIGHTING.	
13. CONTRACTOR SHALL SEPARATE EXISTING TO REMAIN PARK WIRING FROM THE NEW STREET WIRING AND SHALL PROVIDE AS REQUIRED NEW CONNECTORS, WIRING AND CONDUIT TO CONNECT EXISTING PARK LIGHTING TO THE SIDEWALK PANEL OF THE LOAD BOX. CONTRACTOR SHALL MODIFY EXISTING TO REMAIN GRID AS PER FIELD CONDITIONS BY USING NEW CONNECTORS, WIRING AND CONDUIT SO AS TO FOLLOW THE CONFIGURATION OF THE REFURBISHED LOAD BOX WITH 3 (3 PHASE) CIRCUITS (L4, L5) ASSIGNED FOR PARK LIGHTING. THE NEW CONFIGURATION OF THE REFURBISHED LOAD BOX IS FOR SELECTIVITY.	
14. THE QUANTITY OF THE GROUNDING CONDUCTORS (ONE PER CIRCUIT) IS SHOWN ON THE WIRING DIAGRAM IN THIS DRAWING. DESIGNATE THAT EACH CIRCUIT ASSIGNED AREA WILL HAVE A GROUNDING CONDUCTOR RUN WITH ITS CIRCUIT CONDUCTORS.	
15. ALL POWER FUSES SHOWN ON THIS DWG. SHALL BE BY ONE MANUFACTURER.	

SYMBOL	TYPE	QUANTITY/LOCATION
(A)	EXISTING MERCURY DISPLACEMENT CONTACTOR, 1 POLE, 120V AC, 60HZ, 100 AMPS, SINGLE THROW-NORMALLY OPEN	
(C)	EXISTING MULTITAP CONNECTORS	
(D)	EXISTING 30AMPS, 3 POLE, FUSIBLE PULLOUT SWITCH 200,000 RMS SYMMETRICAL AMPERES.	
(F)	EXISTING 1 POLE, 30AMPS, 250VAC, CLASS R FUSE HOLDER BLOCK	
(P)	EXISTING FIXED POSITION PHOTOCELL	
(S)	EXISTING 100AMPS, 600VAC, 3 POLE, CLASS J HEAVY DUTY FUSIBLE DISCONNECT SWITCH,	
(SP)	EXISTING SURGE PROTECTIVE DEVICE	
(T)	EXISTING ASTRONOMIC DIAL TIME SWITCH WITH 'SKIPPER' AND 'CARRYOVER' FEATURES	



2 EXISTING REFURBISHED RECTORY PLACE LOAD BOX(CABINET) STREET SIDE
E302.00 SCALE: NTS



3 EXISTING REFURBISHED RECTORY PLACE LOAD BOX(CABINET) PARK SIDE
E302.00 SCALE: NTS

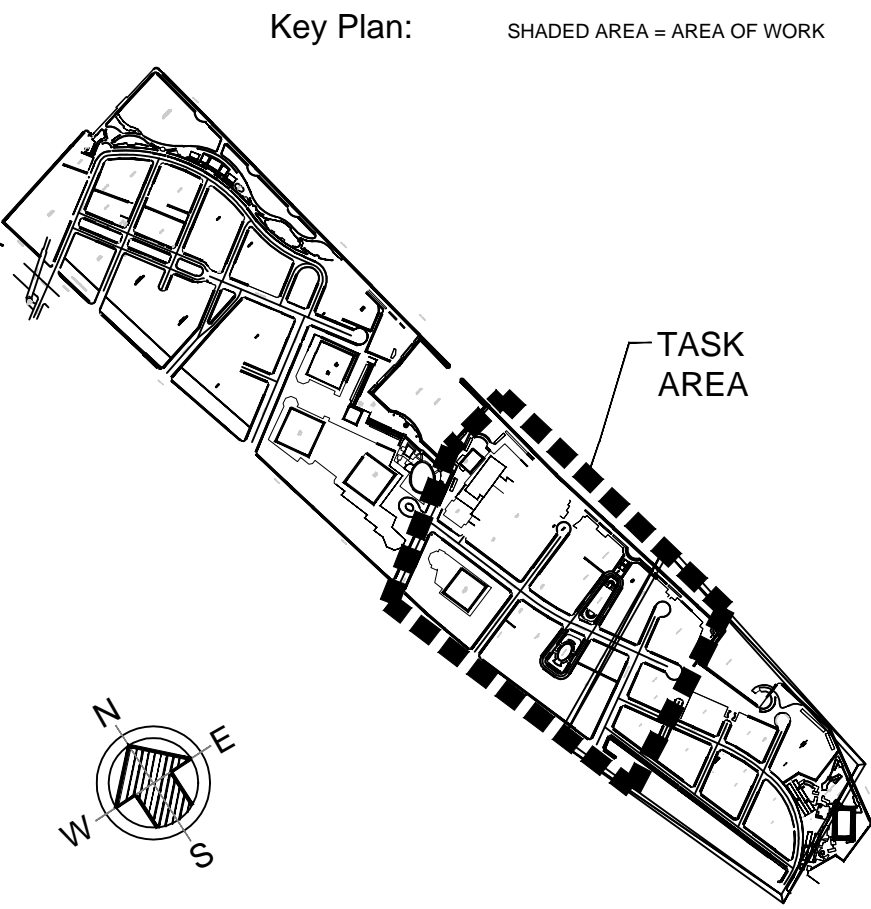


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No.	Date	Revision

1	04.17.2017	100 % CONSTRUCTION DOCUMENTS
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No.	Date	Submittal



Project Engineer: _____
Designer: _____
Drawn by: _____
Checked by: _____

Project: **SOUTH NEIGHBORHOOD STREET LIGHT UPGRADE**
Battery Park City Authority

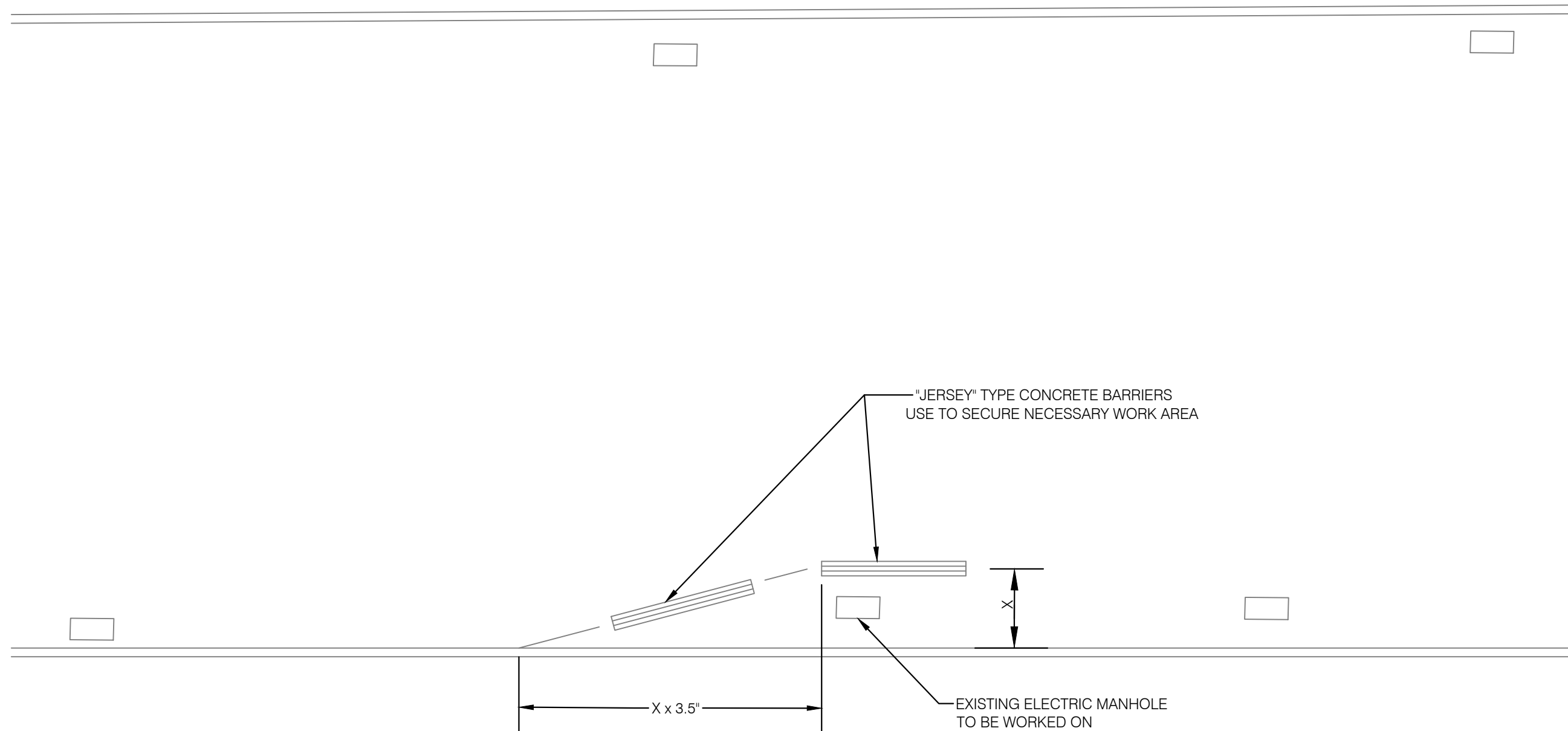
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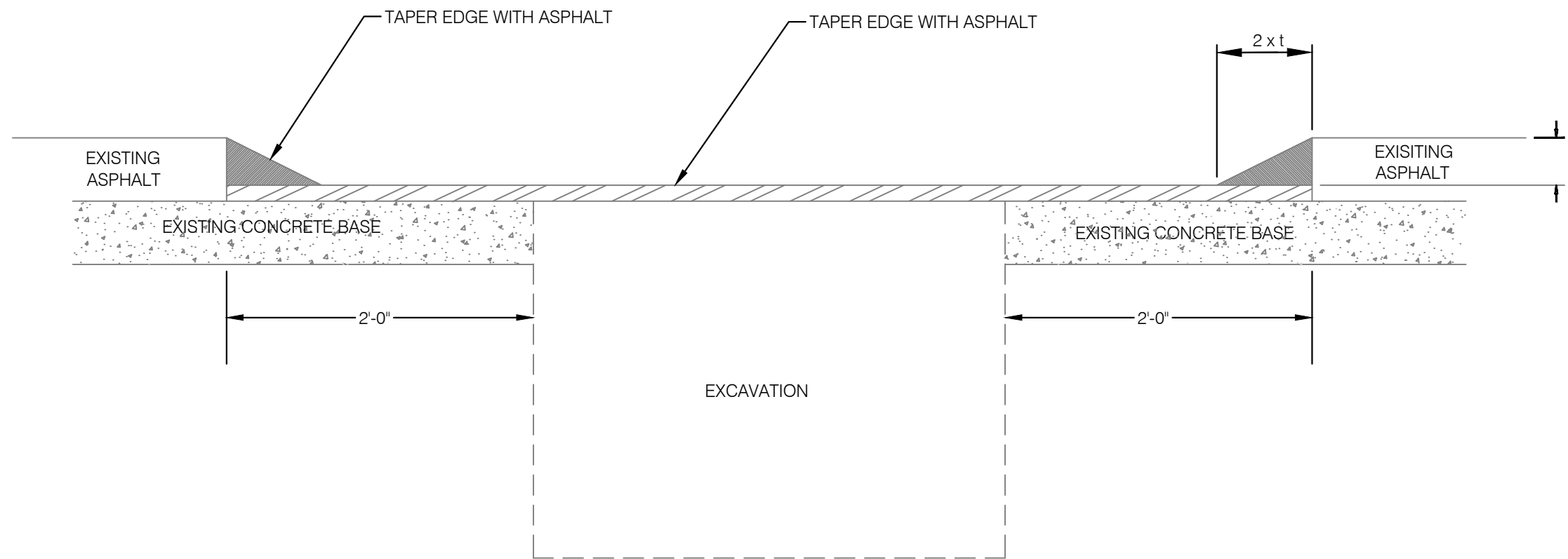
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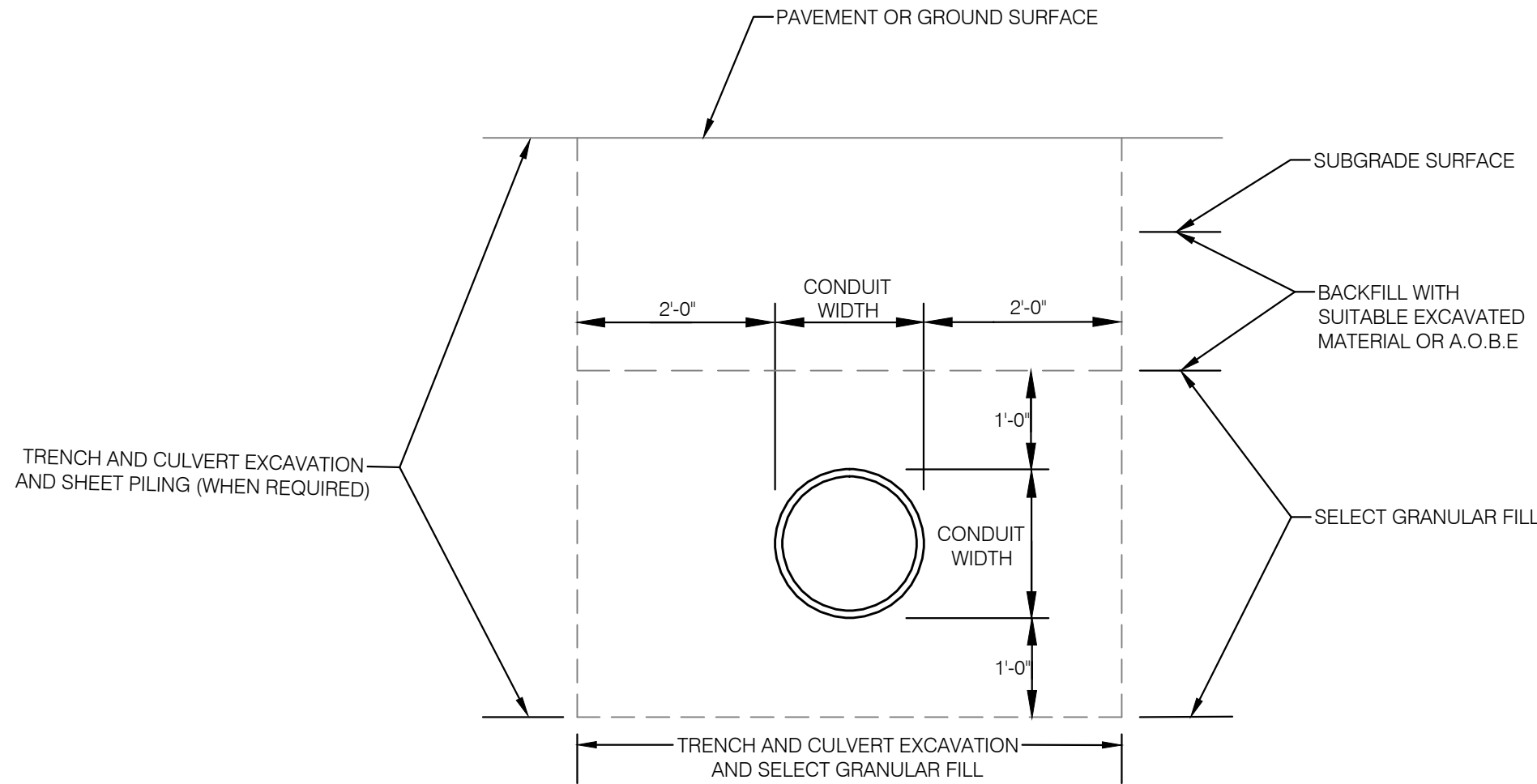


NOTE:
CONCRETE BARRIERS MUST BE PLACED AT WORK LOCATION IN ADVANCE TO ENSURE NO CARS WILL BE PARKED WITHIN WORK AREA.

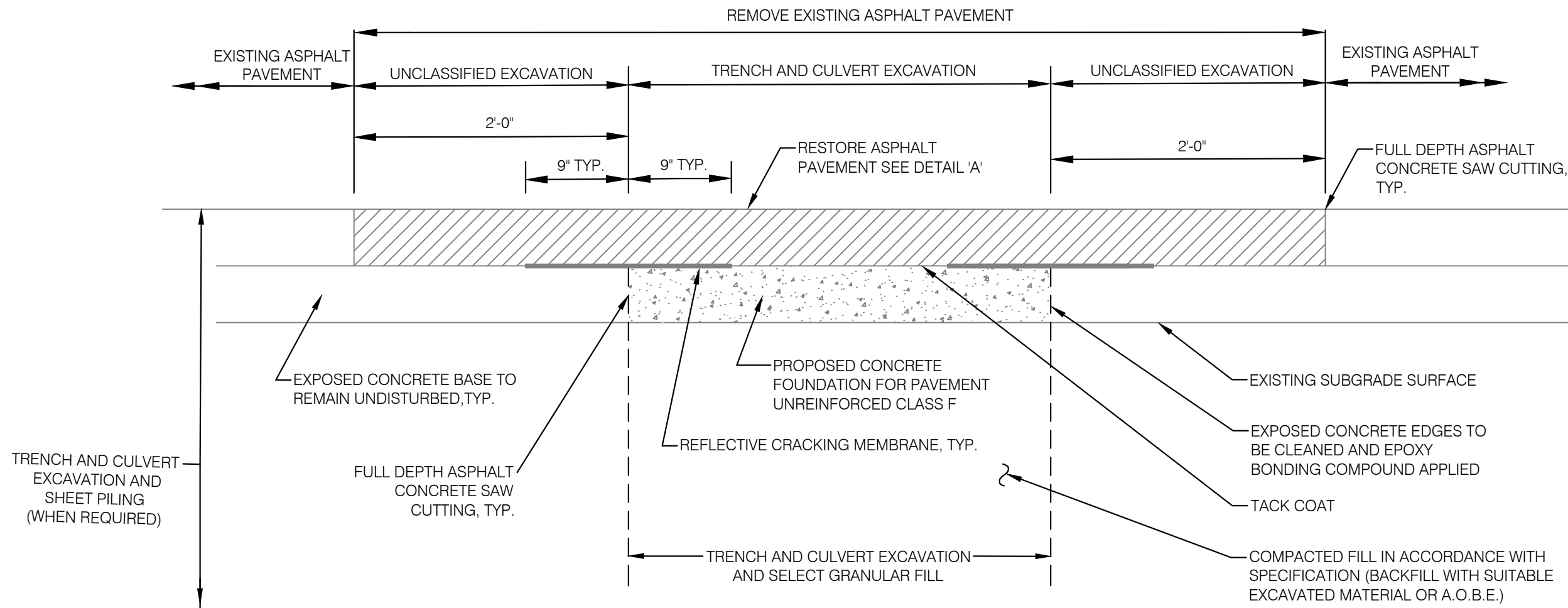
4
E601
TRAFFIC PROTECTION DETAIL
SCALE: 1" = 10"



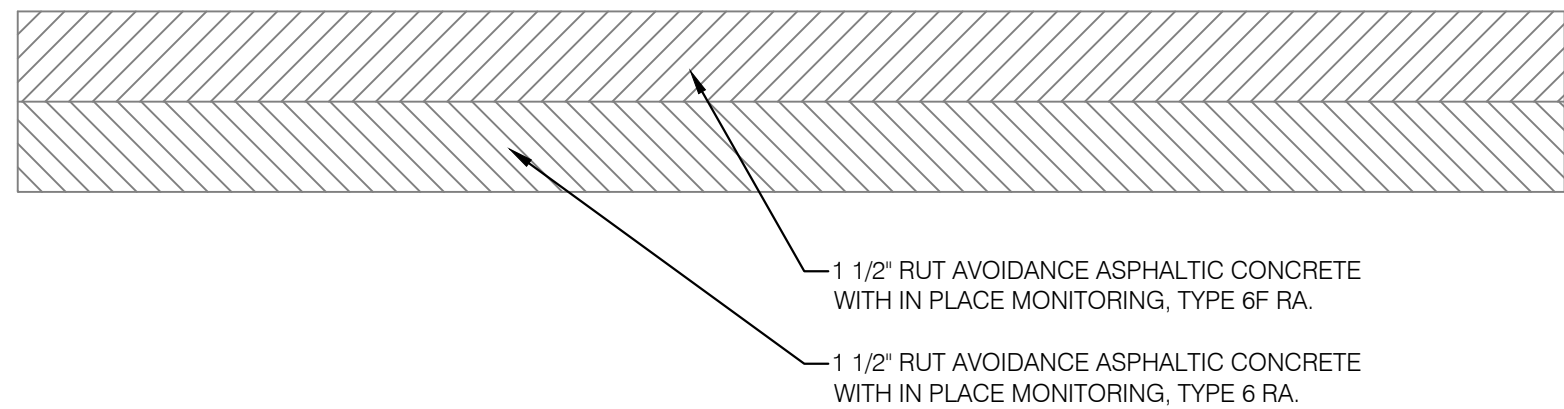
5
E601
TEMPORARY PLATING DETAIL
SCALE: NTS



1
E601
CONDUIT ON BEDDING MATERIAL
SCALE: NTS



2
E601
PAVEMENT RESTORATION
SCALE: NTS



NOTES:

- ALL CONSTRUCTION DETAILS SHOWN ON THE DRAWING SHALL COMPLY WITH NYCDOT STANDARDS AND BE SUBJECT TO APPROVAL BY SAME NYCDOT AND BATTERY PARK CITY AUTHORITY.
- REQUIRED STREET CLOSING SHALL BE COORDINATED AND APPROVED BY NYCDOT AND BATTERY PARK CITY AUTHORITY.

3
E601
DETAIL 'A' ASPHALT PAVEMENT
SCALE: NTS



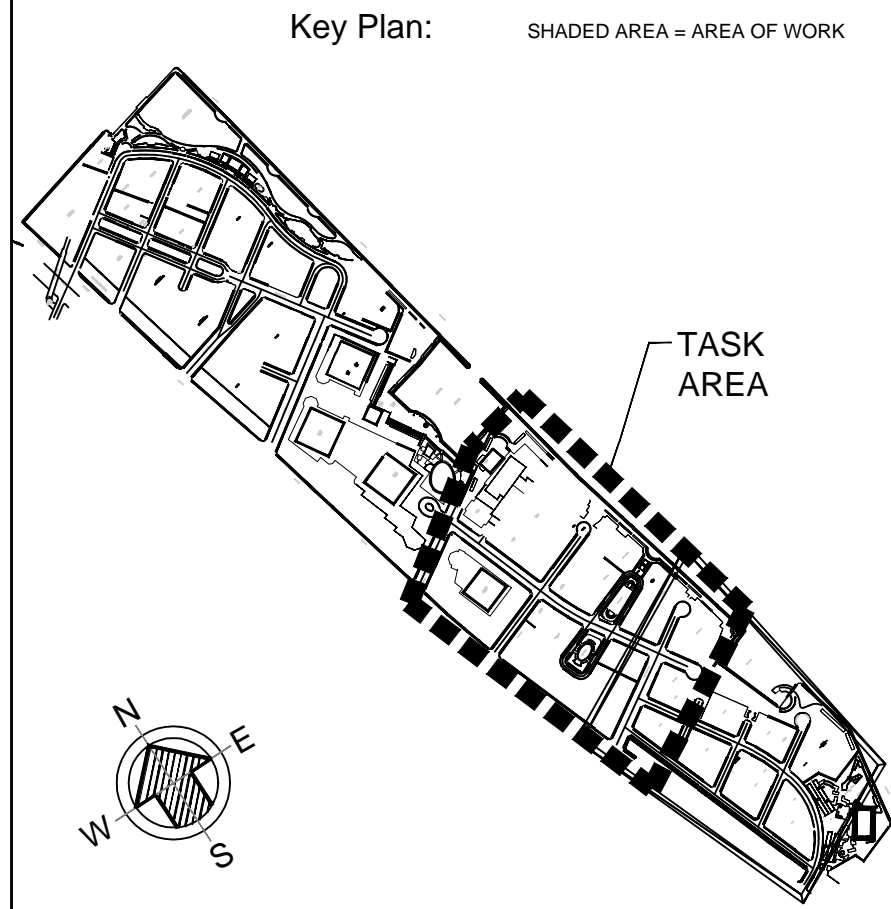
3040 WILLIAMS DRIVE, SUITE 600
FAIRFAX, VIRGINIA 22031
P: 703-691-2115
MEP/FP DESIGN ENGINEERING • PROJECT MANAGEMENT
ENERGY MANAGEMENT SERVICES • DESIGN-BUILD SERVICES
CONSTRUCTION MANAGEMENT • COMMISSIONING
DISTRICT OF COLUMBIA • MARYLAND
NEW YORK • VIRGINIA
www.SETTY.com
PROJECT NUMBER: SAP16652.00

NOTE: DRAWING MAY BE PRINTED AT REDUCED SCALE. REFER TO GRAPHIC SCALE.

No.	Date	Revision

1	05.22.2017	100 % CONSTRUCTION DOCUMENTS
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No.	Date	Submittal
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Project Engineer: _____
Designer: _____
Drawn by: _____
Checked by: _____

Project: **SOUTH NEIGHBORHOOD STREET LIGHT UPGRADE**
Battery Park City Authority

Address: NEW YORK, NY

Drawing Title:
ELECTRICAL DETAILS

Drawing No.:

E601.00

Sheets in Contract:

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SECTION 02201 - EARTHWORK

GENERAL

1.01 DESCRIPTION OF WORK

- A. Remove all items designated to be removed and excavate for new construction, fill and backfill as required, prepare subgrades and place aggregate bases for slabs, walks, and pavements. Protect existing vegetation and all adjoining properties and existing structures from damage.

1.02 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.
- B. United States Department of Labor (USDOL), Occupational Safety and Health Administration (OSHA):

29 CFR 1910, Occupational Safety and Health Standards
- C. All Applicable New York City Department of Environmental Protection (NYCDEP) Rules and Regulations
- D. All applicable New York City Department of Transportation (NYCDOT), Department of Sanitation (NYCDOS), Department of Buildings (NYCDOB) Rules and Regulations

1.04 DEFINITIONS

- A. Excavation

Excavation is considered unclassified and consists of removal of material encountered to contract level, stockpiling, testing, loading, handling, transporting and subsequent legal disposal of such.

- B. Improvements

Man-produced items such as concrete, brick, asphalt, piping, etc. Those items not naturally occurring.

- C. Non-Hazardous Excavated Material

Material that may include or contain mixtures of the following: soil (including, but not limited to, natural undisturbed material), debris, concrete and concrete products (including steel or fiberglass reinforcing rods that are embedded in the concrete), asphalt pavement,

brick, glass, rock, municipal solid waste, refuse, and incidental ash. This material includes material defined in Title 6 New York Code of Rules and Regulations 360-7.1(b)(1)(i) and will exceed 6 NYCRR 375-6 Unrestricted Use and Restricted Use Soil Cleanup Objectives and NYSDEC CP-51: Soil Cleanup Guidance Supplemental Soil Cleanup Objectives.

All material excavated from the site is assumed to meet the definition of non-hazardous excavated material.

D. Environmentally Clean Fill and Backfill

1. For fill and backfill proposed for use as cover material (landscaped areas of the site within 2 vertical feet of the final surface grade elevation), environmentally clean fill is defined as soil that has been tested utilizing methods which yield laboratory reporting limits that are below the regulatory comparison criteria and found to contain:
 - a. No detectable concentrations of volatile organic compounds;
 - b. No other organic compounds or inorganic analytes at concentrations above 6 NYCRR 375-6 Unrestricted Use Soil Cleanup Objectives; and
 - c. No other organic compounds or inorganic analytes at concentrations above the lower of the NYSDEC CP-51: Soil Cleanup Guidance Residential Use, Protection of Ecological Resources, and Protection of Groundwater Supplemental Soil Cleanup Objectives.
 - d. For sites with no ecological resources (as described in CP-51, Section V.C.) the Supplemental Soil Cleanup Objectives for Ecological Resources shall not apply. The determination regarding whether ecological resources are present shall be made by the IEH Division of the Authority.

1.05 SUBMITTALS

A. Product Data

Provide manufacturer's information on the compaction equipment to be used on each type of material for review.

B. Shop Drawings

Submit shop drawings and associated calculations for sheeting, shoring, and bracing. Shop drawings and calculations shall be signed and sealed by a New York State licensed professional

C. Quality Control Submittals

1. Contractor Qualifications

Provide proof of Contractor and Professional Engineer qualifications specified under "Quality Assurance".

1.06 QUALITY ASSURANCE

A. Qualifications

1. Company specializing in performing the Work of this Section shall have a minimum of 3 years experience and shall have worked on 3 projects of similar size.
2. Preparation of details of sheeting, shoring, and bracing as well as monitoring plans shall be under the direct supervision of and bear the seal of a Licensed Professional Engineer of the State of New York experienced in the design of such work, who shall also be responsible for filing such documents and the construction supervision of such.

B. Regulatory Requirements

1. Work of this Section shall conform to all requirements of the NYC Building Code and all applicable regulations and guidelines of all governmental authorities having jurisdiction, including, but not limited to, safety, health, and anti-pollution regulations. Where more stringent requirements than those contained in the Building Code or other applicable regulations are given in this Section, the requirements of this Section shall govern.
2. Work outside the street line shall conform to the requirements of the governmental authorities or utilities having jurisdiction (i.e. DOT, DEP, etc.). Where more stringent requirements than those provided by the applicable governmental authority are given in this Section, the requirements of this Section shall govern.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Imported fill and aggregate materials to be used for project are to be stockpiled separately at the producer's facility and shall be accessible to inspection and quality control (QC) testing by the Authority.
- B. Stockpile material brought to the site prior to placing in order to allow for testing by the Authority's testing laboratory. Stockpile material in such a manner as to prevent erosion and dust. Provide silt curbs if necessary.

1.08 PROJECT/SITE CONDITIONS

- A. Obtain all Building Department data available on the lot and those adjacent lots affecting or being affected by the project construction.
- B. Prior to clearing and removal or abandonment of improvements, ascertain the exact locations of all existing underground utilities. Protect these during subsequent operations.
 1. Demolish and remove underground utilities designated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

2. Consult immediately with the utility owner for directions should uncharted or incorrectly charted piping or other utilities be encountered during excavation. Cooperate with the utility owner, the Board of Education, and owners of lots serviced by the utilities in keeping their respective services and facilities in operation. Repair damaged utilities to the satisfaction of the Utility Owner.
3. Do not interrupt existing utilities serving facilities occupied and used by the Board of Education or others during occupied hours, except when permitted in writing by the Department of Education and the affected lot owners, and only after acceptable temporary utility service has been provided. Do not proceed with interruption of services without providing a minimum of 48 -hours notice to the affected parties and receiving their written approval.

C. Coordination

Examine drawings to determine sequence of operations, and relation to work of other trades. Start of work will signify acceptance of field conditions and will acknowledge coordination with other trades.

1.09 SEQUENCING AND SCHEDULING

- A. Perform work in such a manner to ensure a minimum interference with roads, walks, adjacent properties, and facilities to remain open. Do not close or obstruct these items without obtaining permits from the agencies having jurisdiction or the permission of the adjacent owners.
- B. There shall be no petroleum-contaminated material and/or hazardous waste excavation and handling activities performed when the existing building is in use by the Department of Education or others during occupied hours, except when permitted in writing by the Authority.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Restricted Excavated Material

Remove all debris not explicitly designated to be salvaged (to remain) from improvements and soil excavated during construction from premises and legally dispose of away from premises as part of the base bid. Any environmentally clean fill (as defined in Paragraph 1.04F of this Section and tested to meet such requirement) meeting the gradation requirements of Paragraph B below may be reused on the site pending credit to the Authority.

B. Fill and Backfill

Only environmentally clean fill (as defined in Paragraph 1.04F of this Section) shall be used as fill and backfill. All fill and backfill shall be material classified as controlled fill by the New York City Building Code. Composition shall consist of a mixture of angular sands and gravels. Flat structured material such as mica (the main component of "mole" rock) falling into the acceptable gradation or other material affecting the permeability and structural

characteristics of the sand material shall be no more than .4% of the total material. Material shall not contain salts or foreign materials of any kind and the material shall show a percentage of wear by the Los Angeles wear test (ASTM C131) of not more than 35%. These fill materials shall contain no particles exceeding 3" in the largest dimension. No more than 30% of the material by weight shall be retained on a 3/4" sieve. No more than 10% shall pass the No. 200 sieve by weight. The Contractor shall provide the Authority with laboratory data on material proposed for use as fill/backfill. Samples shall be collected from imported material and material proposed for reuse on-site. The Contractor shall collect and analyze one representative sample of each material for every 500 cubic yards of imported fill/backfill brought to the site or material proposed for reuse on site for the complete list of 6 NYCRR Part 375 and NYSDEC CP-51 Supplemental Soil Cleanup Objectives Parameters as defined in Paragraph 1.04F.

2.02 EQUIPMENT

- A. Provide proper compaction equipment to properly compact subgrade, fill and backfill, aggregate base, crushed stone and broken stone base. Subgrade compaction requirements are indicated in those sections. Employ a Licensed Professional Engineer to determine soil type and which equipment will give the proper compaction.

2.03 SOURCE QUALITY CONTROL

- A. Contractor's Responsibility

Inspections and testing performed by the Authority's agent(s) shall not relieve the Contractor of responsibility for performing all other testing and inspection specified herein or otherwise necessary to meet the quality control and quality assurance requirements of this Section.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions

Verify existing site conditions match those of the Drawings and pre-bid inspections. Notify the Authority in writing prior to commencement of Work of any discrepancies.

- B. Preparation

1. Before starting any excavation work for new construction, ascertain the exact locations of all existing underground drain lines, piping, and conduits. Consult with the Mechanical Trades.
2. At location where any of the above services interfere with the excavation work, notify the Authority and Mechanical Trade under whose jurisdiction such work falls before continuing with any more excavation.

3.02 PREPARATION AND PROTECTION

A. General

1. Provide adequate protection measures to protect workmen and pedestrians at the site.
2. Prevent damage to existing improvements designated to remain. If they are damaged during construction, restore improvements to their original condition.
3. Prevent damage to improvements on adjoining properties. Restore damaged improvements to their original condition to the satisfaction of their owner. Restore grades and vegetation to their original condition or better.
4. Hire a qualified horticulturist or arborist to supervise the protection of and the repair or replacement of damaged trees or other vegetation, including those of adjacent properties. Vegetation damaged during construction shall be replaced with same size and type.
5. Salvable Improvements
 - a. Carefully remove and protect all items to be saved and reused. Replace any items which are damaged by removal at own cost.
 - b. Notify the Authority in writing of any item which is damaged prior to removal so that they may ascertain the item's condition.

B. Condition Survey

1. General: The Contractor shall perform a condition survey of the adjoining properties and existing school building prior to beginning excavation. Note damage to existing structures.

C. Shoring, Sheeting, and Bracing

1. General

- a. Inspect site, examine existing conditions and make all necessary preparations for the safe and proper sequence of work.
- b. Properly guard and protect excavations so as to prevent them from becoming dangerous to person or property.
- c. Properly slope sides of excavation or provide shoring, sheeting and bracing to prevent caving, erosion, or gullyng of sides of excavations. The sides of all excavations that are 5 feet or greater in depth measured from adjacent ground surface to the deepest point, shall be protected to prevent the sides from caving in. Alternatively, excavation sides may be sloped not steeper than 45 degrees.

- d. Brace, shore, and protect existing structures when excavations are made adjacent to the existing structures or within a distance that they will be affected by the excavation.
- e. Maintain sides and slope of excavation in safe condition until backfilling or other work is complete. Maintain shoring and bracing in place till completion of work. Ensure that after all rainstorms all sides or slopes of excavations are inspected as per Section BC 3304.5.1 and safe conditions restored.
- f. Provide materials for work in good serviceable order.
- g. All shoring, bracing, sheet piling, etc. is to be removed upon completion of the work where they are installed, including any portion thereof, outside of street and lot lines. Within the lot, remove all wood and cut steel elements at a minimum to 4 feet below grade. Where they interfere with new work and utilities, remove elements in their entirety.

D. Workability of Excavation Subgrade

- 1. Take all steps necessary to prepare or improve existing conditions for proposed foundation work, including general excavation throughout the project site.
- 2. Properly grade site and perform operations to avoid disturbing the existing subgrade and any intermediate subgrade.
- 3. If subgrade conditions are disturbed that prevent earthwork operations or safe operation of foundation installation equipment, the Contractor shall take steps to improve subgrade conditions at own expense. Many types of soils are sensitive to disturbances such as water saturation or construction traffic and become unworkable.

3.03 EXCAVATION - GENERAL

- A. No additional compensation will be allowed for excavation or foundation work carried below the levels shown on Drawings unless same has been authorized in writing by the Authority. Contractor is responsible for all remedial work due to unauthorized excavation.
- D. For pavements and slabs on grade, excavate to depths required for installation of aggregate base or pavement as specified herein or shown on Drawings.
- G. Remove all excavated material from the site and legally dispose of away from the premises, in accordance with the requirements specified in this section. Burning of material on the site is not permitted.

3.07 FILLING AND GRADING

- A. Placement and Compaction of Aggregate Bases and Crushed Stone
 - 1. Provide aggregate base under all exterior pavements and wherever else indicated on the Drawings or specified herein. Provide crushed stone under all interior slabs. Provide 6" minimum unless specified otherwise elsewhere.
- B. Inspection
 - 1. Contractor's Responsibility: The Contractor shall notify the Authority at least 48 hours prior to filling operations, pouring of footings, and installation of excavation support to allow for the Authority to have the appropriate personnel at the site.
 - 2. Contractor's Inspections: Inspections and testing performed by the Authority shall not relieve the Contractor of responsibility for performing all other testing and inspection specified herein or otherwise necessary to meet the quality control and quality assurance requirements of this Section.
- C. Responsibility
 - 1. All required testing and/or analysis not specifically defined as being provided by the Authority shall be provided by the Contractor as part of the included Work and costs of this Project.
 - 2. No testing and/or analysis by the Authority shall relieve the Contractor of the responsibility of conforming to the requirements of these specifications.
 - 3. Time for conducting the tests and/or inspections defined in these specifications shall be considered as part of the Work of this Project and neither extension of time nor additional costs shall be accepted as a result.

3.10 PROTECTION

- A. Protect graded and compacted areas from traffic and erosion. Keep free of trash and debris.
- B. When completed compacted areas are disturbed by subsequent construction or weather, scarify surface, re-shape, and compact to required density prior to further construction.
- C. Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.
- D. A guardrail or solid enclosure at least 3'-6" high shall be provided along the open sides of excavations, except if the side slopes are one vertical to three horizontal or flatter.

END OF SECTION

SECTION 03733 - CONCRETE REPAIR WORK

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Provide labor, materials, equipment, and services to provide for the structural repair of concrete members with manufactured structural repair concrete/mortar as shown on Drawings and as specified herein. Work includes removing spalled concrete and cleaning and coating of exposed steel reinforcement.

1.02 REFERENCE STANDARDS

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)
- B. Steel Structures Painting Council (SSPC)
 - 1. "Hand Tool Cleaning - SP2"
 - 2. "Power Tool Cleaning - SP3"
- C. International Concrete Restoration Institute (ICRI)

1.04 SUBMITTALS

- A. Product Data

Provide manufacturer's information on the anti-corrosion coating and structural repair concrete/mortar, including application instructions and specifications.
- B. Quality Control Submittals
 - 1. Certificates:
 - a. Furnish manufacturer's certification that materials meet or exceed Specification requirements.
 - b. Manufacturer's training certificate: Furnish letter from manufacturer stating personnel performing work have been instructed on the proper usage of the material.

2. Repair Procedure: Furnish written description of repair procedures and operations sequencing based on manufacturer's requirements prior to commencing the Work.
3. Manufacturer's Field Reports: Submit field report from manufacturer of repair mortar indicating areas of surface preparation and mortar placement inspected.
4. Qualifications

Provide proof of Installer and Manufacturer qualifications specified under "Quality Assurance".
5. Mock-up: Provide mock-ups as indicated under Quality Assurance.

1.05 QUALITY ASSURANCE

A. Qualifications

1. Installer: Company specializing in the Work of this Section shall have a minimum of three years experience and at least two projects with similar quantity of materials. Contractor shall be trained by the repair mortar manufacturer and shall have a certificate of training on file from the manufacturer.
2. Manufacturer: Company specializing in the manufacture of concrete repair mortars to be used in this Contract shall have a minimum of ten years experience.

B. Manufacturer's Representative

All work of this Section shall be performed under the overall supervision of the repair material manufacturer's representative. The representative shall attend pre-construction meetings to instruct the contractor on the proper usage of the material and to make regular visits during the course of construction to ensure that surface preparation and method of installation is acceptable.

C. Job Mockups

Prior to performing the work of this Section, prepare a sample panel of not less than 12 sq. ft. of concrete repair work, including a separate mock-up of the surface preparation. For formed repairs, provide mockup of pour to ensure that material will be properly vibrated and finish will be without voids. Do not proceed further

with the work until the Authority's representative has approved the sample panel. Sample shall be a portion of the area to be restored and may be kept if approved.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Materials specified shall be delivered to the site in sealed, properly labeled containers. Containers shall indicate manufacturer's name, trade name of product, lot number, shelf life of product, and mix ratio (if applicable).
- B. Keep containers tightly closed when not in use. Comply with manufacturer's printed instructions for storing and protecting materials.
- C. Do not store liquid material in hot sun. Keep material from freezing.

1.07 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.
- B. Do not use frozen materials or materials coated with ice or frost.
- C. Do not apply when there is expectation of rain within 24 hours.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Sika Corp, Lyndhurst, NJ 07071
- B. Strongwall Industries, Ridgewood, NJ 07451
- C. Mapei Corp, Deerfield Beach, FL 33442
- D. Kaufman Products Inc. Baltimore MD 21226

2.02 MATERIALS

- A. Structural Repair Concrete - Non-formed/overhead Application
 - 1. Shall have non-shrink characteristics and be of high compressive and bond strength. Material shall be non-sag, capable of being troweled in place for vertical and overhead applications without the need

of formwork and conform to the following properties:

- a. Compressive strength of 5000 psi in 28 days when tested in accordance with ASTM C109.
- b. Bond strength of 1700 psi in 28 days when tested in accordance with ASTM C882 (modified). Results of tests showing failure of base material is acceptable alternative.
- c. Flexural strength of 1100 psi in 28 days when tested in accordance with ASTM C78 or ASTM C293 or 1400 psi when tested in accordance with ASTM C348.
- d. Maximum linear length change shall be 0.080% when tested in accordance with ASTM C157 (dry cure).
- e. Modulus of elasticity shall be between 3.0 and 3.5×10^6 when tested in accordance with ASTM C469.

2. Repair concrete/mortar shall be:

- a. Sikatop 123 Plus as manufactured by Sika.
- b. SWI-88 as manufactured by Strongwall Industries.
- c. Planitop 23 by Mapei.
- d. Patchwell VO or Duracrete II VOFT by Kaufman Products Inc.

B. Structural Repair Concrete/Mortar - Horizontal Application

1. Shall have non-shrink characteristics and be of high compressive and bond strength. Material shall be capable of being poured or troweled in place for horizontal applications and for formed applications of sufficient dimensions to allow for proper placement of material and conform to the following properties:
 - a. Compressive strength of 5000 psi in 28 days when tested in accordance with ASTM C109.
 - b. Slant/shear bond strength of 1700 psi in 28 days when tested in accordance with ASTM C882 modified). Results of tests showing failure of base material is acceptable alternative.

- c. Flexural strength of 1100 psi in 28 days when tested in accordance with ASTM C78 or ASTM C293 or 1400 psi when tested in accordance with ASTM C348.
 - d. Maximum linear length change shall be maximum of 0.08% at 28 days when tested in accordance with ASTM C157.
 - e. Modulus of elasticity shall be between 3.0 and 3.5×10^6 when tested in accordance with ASTM C469.
- 2. Repair concrete/mortar shall be:
 - a. Sikatop 122 Plus as manufactured by Sika.
 - b. SWI-81 as manufactured by Strongwall Industries.
 - c. Mapecem 202 by Mapei - only 1450 for C882.
 - d. Duracrete II, Duracrete II FT, Patchwell or Patchwell Deep by Kaufman Products Inc.
- C. Structural Repair Concrete/Mortar - Formed Application
 - 1. Shall have non-shrink characteristics and be of high compressive and bond strength. Material shall be flowable, capable of being poured in formed repairs of small dimensions without forming voids and conform to the following properties:
 - a. Compressive strength of 5000 psi in 28 days when tested in accordance with ASTM C109.
 - b. Bond strength of 1700 psi in 28 days when tested in accordance with ASTM C882 modified). Results of tests showing failure of base material is acceptable alternative.
 - c. Flexural strength of 1100 psi in 28 days when tested in accordance with ASTM C78 or ASTM C293 or 1400 psi when tested in accordance with ASTM C348.
 - d. Maximum linear length change shall be maximum of 0.08% at 28 days when tested in accordance with ASTM C157.
 - e. Modulus of elasticity shall be between 3.0 and 3.5×10^6 when tested in accordance with ASTM C469.

2. Repair concrete/mortar shall be:

- a. Sikatop 111 Plus as manufactured by Sika.
- b. SWI-81 as manufactured by Strongwall Industries.
- c. Planitop 15 SCC by Mapei.

D. Anti-corrosion Coating

1. Corrosion-inhibiting, epoxy/acrylic resin, protective coating for steel reinforcing bars that will not form a vapor barrier or bond break with the repair mortar with the following properties:

- a. Bond strength of 1500 psi in 2 hours when tested in accordance with ASTM C882.
- b. Flexural strength of 2000 psi in 28 days when tested in accordance with ASTM C78.
- c. Tensile strength of 600 psi in 28 days when tested in accordance with ASTM C496

2. Anti-corrosion coating shall be:

- a. Arimatec 110 as manufactured by Sika.
- b. Planibond 3C by Mapei.
- c. Surepoxy HM24 by Kaufman Products Inc.

E. Miscellaneous Materials

- 1. Water: Potable water, ASTM C94
- 2. J hooks: 1/4" diameter threaded rod, Type 316 stainless steel
- 2. Epoxy paste adhesive: ASTM C882
- 4. Coarse aggregate: Clean, washed crushed stone, 3/8" maximum size, conforming to ASTM C33.

2.03 PRE-INSTALLATION MEETING

- A. At least 15 days prior to the start of the concrete repair work construction schedule, the Contractor shall conduct a meeting to review the proposed repair and to discuss the required methods and procedures to achieve the required quality. The meeting shall include, at a

minimum, the repair mortar installer, repair mortar manufacturer, Architect/Engineer of Record, and the Authority's Construction Manager and CID Inspector. The Contractor shall send a conference agenda to all attendees prior to the scheduled date of the conference.

The Contractor shall schedule a test placement to verify proper bond and hardened properties.

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 Authority any conditions that prevent the performance of this Work.
- B. The Contractor shall determine the most suitable material indicated in Part 2 of this Specification to be used for each application to achieve the most structural sound repair with appropriate finish, unless specifically indicated on the Drawings. As an example, the Contractor may decide to form an application on a vertical surface in lieu of using the overhead repair mortar. The contractor shall include in the repair work procedure what materials will be used where and how the repair will be achieved for both the structural integrity of the patch and the correct finish.

3.02 PREPARATION AND PROTECTION

A. Protection

Protect adjacent surfaces not to be restored. Protect sills, ledges, and projections from material droppings.

B. Surface Preparation

- 1. Remove spalled and weak concrete and remove all loose and foreign material. Chip substrate by bush hammering or other mechanical means acceptable to the repair concrete/mortar manufacturer to obtain a minimum aggregate-fractured surface profile of 1/8+" conforming to an ICRI CSP 7 or greater surface preparation. Minimum depth of repair shall be 1/2", with the perimeter of the repair having a minimum of 1/8" in depth. Feather edging is not permitted.

2. If steel reinforcing is exposed, chip out behind the reinforcing steel. Chip a minimum of 1/2" behind the bar and 3" past the point where the bar is exposed. Concrete behind bars shall be removed enough to allow for the entire circumference of the bar to be cleaned. Remove concrete to the point past where sound material begins.
3. Exposed steel reinforcement and steel beams shall be free of all rust, scale, oil, paint, grease, loose mill scale, and all other foreign matter that will prevent bonding with the repair concrete. Use power chipping or power driven brushes and clean to an SSPC-SP2 or SP3 surface preparation.
4. Where additional reinforcement is not shown to be anchored in and for patches greater than 1 1/2" in depth and overhead patches, install stainless steel threaded J hooks set in epoxy paste adhesive. Anchor is to be 3/4" clear minimum from finished face of repair. Hooks are to be embedded a minimum of 3" into concrete, installed diagonally to plane of concrete surface. Holes are to be drilled 1/8" larger than rod diameter and shall be cleaned thoroughly. Space hooks at 16" o.c.

3.03 ANTI-CORROSION COATING APPLICATION

- A. Mix anti-corrosion coating in accordance with manufacturer's instructions. Apply to dry reinforcing steel using a stiff bristle brush. Brush in well to ensure continuous coverage. Apply in two coats of approximately 10 mils each or as per manufacturer's latest recommendations.
- B. Protect coated steel from weather and allow to dry a minimum of 30-45 minutes between coats or repair concrete/mortar application. However, apply repair material within 20 hours after last coating. If a 20 hour period elapses, reapply bonding agent and allow to dry as above.

3.04 REPAIR CONCRETE/MORTAR APPLICATION

- A. Mix structural repair concrete in accordance with manufacturer's instruction. Follow time limits set by manufacturer to prevent hardening of material prior to placement. For material requiring extension with aggregate due to depth of repair, provide 3/8" aggregate of proportions specified by the repair mortar manufacturer.
- B. Prior to application of material, thoroughly saturate surface with water. Remove any standing water prior to patching.
- C. Apply a scrub coat of the repair material of proportions determined by manufacturer (indicate in written repair procedure). While still damp, apply repair concrete/mortar.
- D. Apply material behind and around rebars first to completely fill void.
- E. Overhead/Vertical Repairs - Apply repair concrete/mortar, non-formed/overhead application, on vertical and overhead members with a trowel or other such device, all in accordance with the manufacturer's recommendations. Apply in lifts of up to 2" or as determined by material manufacturer at a consistency that the material will not slump. Follow manufacturer's instructions for scoring, curing, priming, and approximate time between layers. Do not leave voids. Trowel exposed surface smooth and to same shape and finish as the adjacent existing surface.
- F. Horizontal Repairs - Pour or trowel repair concrete/mortar, horizontal application, into hole until it is to the same level and at the same pitch as the surrounding slab. For deep repairs, extend mortar with clean aggregate by the amount recommended by the manufacturer. Provide finish as follows:
 1. Surfaces to receive bonded applied cementitious applications such as full-set terrazzo and vitreous ceramic tile: Darby and float surface and follow with a rough broom finish.

2. Surfaces to receive floor coverings such as resilient flooring, thin-set terrazzo and vitreous ceramic tile, carpeting, wood floors, or surfaces which are intended as walking surfaces such as exposed or painted (cement finish), unless specified otherwise: Steel trowel surface to a smooth plane finish, free of score marks, grooves, depressions and ripples with a tolerance no greater than +1/8" in ten feet.
3. Surfaces intended to receive roofing, waterproofing membranes: Darby and float surface. Leave surface free from depressions, bulges, rough spots, and other defects.
4. Ramps, Exterior Concrete Steps: Level surface with wood float and follow with a broom finish perpendicular to direction of traffic.

G. Formed Repairs

1. Apply repair concrete, horizontal application, on vertical members where formwork can be utilized to confine the concrete and the width of repair permits its proper installation.
2. Apply flowable repair mortar for repairs to be formed, especially for thin repairs.
3. Place so as not to leave voids. Vibrate forms with pencil vibrator to removed air bubbles. Remove formwork as soon as possible and trowel exposed surface smooth and to same shape and finish as the adjacent existing surface.

3.05 CURING

- A. As soon as surface of patch has hardened, cure patch a minimum of 48 hours by applying water-based acrylic curing compounds conforming to ASTM C309 or C1315, misting, wet burlap, etc. For patches to be covered with other material, only use curing compounds acceptable to the finish material manufacturer, unless the compound is removed prior to placing the finish material in a manner acceptable to the finish manufacturer.
- B. Follow manufacturer's latest recommendations for any other recommendations. The curing provision of A above shall not be waved unless manufacturer does not permit it.

3.06 PROTECTION AND CLEANING

- A. Clean all adjacent areas of excess material and clean all floors and walls of powder and droppings. Remove misplaced materials from surfaces immediately.
- B. Protect material from freezing and from rainfall prior to final set.

3.07 FIELD QUALITY CONTROL

- A. The Authority will inspect surfaces and reject any that contain cracks or other defects. The repair will be tested for soundness and structural integrity. Any defective areas shall be fixed at Contractor's expense. Notify the Authority's representative in advance of the concrete repairs. The Authority's representative will review the mixing, surface preparation and proper application of all materials.
- B. Engage the services of the material manufacturer's representative to inspect the surface preparation,

instruct in the proper usage of the material and to inspect the work throughout the project. Pay for all required fees.

- C. The Authority's testing laboratory will perform bond tests in accordance with ASTM C158, "Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)" at a rate of 2 per session. The Contractor is to repair all test areas. Areas not meeting the requirements will have further tests performed. Remove all non-conforming areas.

END OF SECTION

SECTION 09900 - PAINTING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. This Section includes surface preparation and field painting of the following:
 - 1. Exposed exterior items and surfaces.
- B. Paint exposed surfaces, except where the paint schedules indicate that a surface or material is not to be painted or is to remain natural.
 - 1. Painting includes field painting of exposed steel and iron work, and primed metal surfaces of electrical equipment.
- C. When removing or disturbing existing paint on surfaces that have not been tested by the Authority for lead content, assume that the existing paint contains lead. Take necessary precautions to protect workers.

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. Federal Specifications (FS)
 - 2. American Society of Testing and Materials (ASTM)
 - 3. N.Y.S. Department of Environmental Conservation
 - 4. U.S. Department of Labor
 - 5. Occupational Safety and Health Administration (OSHA)
 - 6. Steel Structures Painting Council (SSPC)
 - 7. Department of Defense (DOD)

1.03 DEFINITIONS

- A. The term "Painting" as used in this Section, means the application of all coatings such as paint, primer, enamel, varnish, shellac, oil, etc. as listed in the Painting Schedules.
- B. The term "Painting" also includes preparation of surfaces for such applications, and the clean-up as hereinafter specified.
- C. Touching-up bare spots specified for previously primed or painted surfaces is in addition to the coats specified for the paint system.
- D. The term "exposed" refers to any item which is not concealed.
 - 1. The term "exposed to public view" means situated so that it can be seen from eye level from a public location. A public location is that which is accessible to persons not responsible for operation or maintenance of the building.

1.04 SUBMITTALS

A. Product Data

Provide manufacturers' product literature for all materials specified and material manufacturer's printed directions and recommendations for environmental conditions, surface preparation, priming, mixing, reduction, spreading rate, application, storage and VOC content, as applicable for each of the materials specified.

B. Samples

1. Initial Selection

Submit manufacturer's color charts for each type of finish for approval by the Project Architect. Verify colors specified with manufacturers' color charts for availability and notify the Project Architect if any discrepancies should occur.

2. Verification prior to installation

- a. Contractor shall furnish color chips for surfaces to be painted.
 - b. Submit two samples of each color and finish selected on 12" x 12" hardboard.
 - c. Two samples of finish on concrete masonry and metal surfaces.
3. Submit samples of stained and varnished wood in triplicate for approval. Samples shall be 4" x 8" samples of the species of wood specified, stained and varnished as required and clearly labeled with type of coating, number of coats applied, etc.
 4. All samples shall be labeled; and include the following information:
 - a. Manufacturer's name
 - b. Type of paint/stain/hardener
 - c. Manufacturer's stock number
 - d. Color: name and number
 - e. Federal Specification number, as specified
 - f. Federal regulations for amount of lead in paint.
 - g. VOC content

C. Quality Assurance

1. Certification that materials for each system are obtained from a single manufacturer.
2. Certification that Work shall be performed by personnel with a minimum of three years experience who meet the qualifications set forth in OSHA, 29 CFR 1926.62 (Lead In Construction Standard).
3. Certification that material meets or exceeds the performance requirements of Federal Specifications.

4. Certification that materials comply with N.Y.C. and N.Y.S. regulations for Volatile Organic Compounds.

E. Guarantee

Provide Guarantee per Article 1.08.

F. Low Emitting Materials Compliance Submittals:

1. Provide documentation for each coating to be used on the building interior indicating that the coatings comply with low V.O.C. requirements as stated in Specification Section G01600.

1.05 QUALITY ASSURANCE

A. General

1. All painting materials shall arrive at the job ready-mixed.
2. Varnish containers shall not exceed 5 gallon capacity.
3. Remove all rejected materials from the premises immediately.
4. All thinning and tinting materials shall be as recommended by the manufacturer. Generally, all paints shall not require additional thinning.
5. Verify that the specified shop prime paint for each applicable item in this Project is compatible with the total coating system, prior to application.
6. Materials selected for each system type shall be products of a single manufacturer.

B. Qualifications

1. Work of this Section shall be performed by personnel with a minimum of three years experience in performing this type of Work.

2. The Contractor shall ensure that all employees meet the qualifications set forth in OSHA, 29 CFR 1926.62 (Lead In Construction Standard).
- C. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.
- D. Regulatory Requirements
1. N.Y.C. Building Code, latest edition
 2. N.Y.S. Department of Environmental Conservation - Part 205 on "Architectural Surface Coatings" - for (VOC) Volatile Organic Compounds.
 3. Steel Structures Painting Council (SSPC).
 4. U.S. Department of Labor, Occupational Safety and Health Administration, Construction Industry Standards (29 CFR 1926/1910) Revised 10/1/79, Washington, D.C.
 5. Occupational Safety and Health Administration (OSHA) 29 CFR 1926.62 (Lead In Construction Standard).
 6. New York State Department of Environmental Conservation regulations, 6 NYCRR part 364.
 7. New York City Department of Environmental Protection Waste water disposal permitting requirements.
- E. Certifications

Federal Specifications: When materials are specified to comply with Federal Specifications, products will be accepted which meet or exceed the performance requirements of such Federal Specifications and comply with all regulations currently in effect.

1. Indicate that material complies with Federal Specifications by including the Federal Specifications number on the container label or on the product literature, or submit a statement with the Product Data stating that material meets or exceeds the performance requirements of the Federal Specifications.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Delivery

Deliver materials to the site in original, unopened containers bearing manufacturers name and label containing the following information:

1. Product name or title of material
2. Manufacturer's stock number, batch number, VOC content in grams per liter and date of manufacture.
3. Manufacturer's name
4. Federal Specification number, if applicable.
5. Federal regulations for amount of lead in paint (less the 0.06% lead in non-volatile ingredients)
6. Contents by volume for major pigment and vehicle constitutions
7. Thinning instructions
8. Application instructions
9. Color name and number

B. Storage

1. Authority's Representative will designate space on premises for storage of materials. Contractor shall restrict storage in this area to paint materials and related equipment, and provide the following:
 - a. Provide one (1) approved chemical dry fire extinguisher equal to 20 lb. CO₂ rating in all assigned rooms or locations where painting materials are stored. Fire extinguisher shall bear the label of the National Board of Fire Underwriters and tag of most recent inspection.

- b. Provide three (3) standard size red fire pails with clean sand in above locations. At the completion of project, fire extinguishers and pails shall become property of Contractor.
2. Maintain storage area in clean condition, store materials not in use in tightly covered containers. Remove oily rags, waste and empty containers from site each night.
3. Provide Authority's Representative with one key for each space if spaces are to be kept locked when not in use.
4. Protect all materials from freezing.

1.07 PROJECT CONDITIONS

A. Environmental Requirements

1. Comply with manufacturer's recommendations as to environmental conditions under which coatings and coating systems can be applied.
2. Do not apply finish in areas where dust is being generated or will be generated while the material is drying.
3. Provide paint and coating products to comply with applicable environmental regulations, VOC requirements and local authorities.
4. In all areas, spaces and rooms being painted, the Contractor shall ensure that there is adequate ventilation to ensure proper paint drying, along with minimizing paint odors. See Section S01900 also for requirements regarding fumes, ventilation and Material Safety Data Sheets.
5. The Contractor shall ensure that all requirements of OSHA 29 CFR 1926.62 (Lead in Construction Standard) are adhered to during the project. In addition, the Contractor shall ensure that proper work area protection and clean-up procedures (as described in this Section) are strictly adhered to during all phases on the project.

1.08 GUARANTEES

- A. Adherence of workmanship and materials to Specifications requirements shall be maintained for the one year Contract guarantee period. These requirements shall include the following:
 - 1. There shall be no evidence of blistering, peeling, crazing, alligatoring, streaking, staining, or chalking.
 - 2. Dirt shall be removed without blemishing the finish by washing with mild soap and water.
 - 3. Colors of surfaces shall remain free from serious fading; the variation, if any, shall be uniform.
- B. Correct all defects, appearing within the guarantee period, by removal of the defective work and replacement as directed.
- C. All corrective measures shall be the Contractor's responsibility, and shall be made at no extra cost to the Authority. The requirements set forth in Part 3 of these Specifications shall be strictly adhered to.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Subject to compliance with specified requirements, provide "First Line" or "Top Quality" products of one of the following manufacturers:
 - 1. Glidden Coatings and Resins.
 - 2. PPG Industries, Pittsburgh Paints Inc.
 - 3. Pratt and Lambert
 - 4. Thnemec Company, Inc.
 - 5. MAB Paints
 - 6. Carboline

2.02 MATERIALS

- A. Provide products which meet all N.Y.S. Part 205-VOC requirements for applications outlined herein and comply with low V.O.C. requirements as stated in Specification Section G01600.
- B. Provide products which meet all Federal regulations for amount of lead in paint (less than 0.06% lead in non-volatile ingredients).
- C. Provide best quality grade of various types of coatings as regularly manufactured by the paint materials manufacturers. Materials not displaying manufacturers' identification as a standard, best-grade product will not be acceptable.
- D. Use only thinners approved by paint manufacturers for applications intended and use only within recommended limits.

2.03 REFERENCE STANDARDS

- A. Paint materials shall meet or exceed the requirements of the following standards:

Federal Specifications

1. Primers, Sealers, Undercoats

- a. Metal Primer for Galvanized surfaces:
 - FS TT-P-001984
 - FS TT-P-650-C
- b. Metal Primer Aluminum or Steel surfaces:
 - FS TT-P-57B
- c. Primer Sealer, Latex Base: FS TT-P-650C
- d. Alkyd Primer (Corrosion Inhibiting)
 - Lead and Chromate Free, FS TT-P664C
 - VOC Complying
- e. Acrylic Primer TT-P-650-C
- f. Wood Primer, Exterior: FS TT-P-25

2. Finish Paints

- a. Exterior Alkyd Modified Paint; Gloss:
FS TT-P-102E,
Type II and
Type III
- b. Ext. Acrylic Latex Paint; Flat: FS TT-P-19
- c. Gloss Acrylic Latex Enamel: FS TT-P-1511-B
- d. Flat Vinyl Acrylic Latex
Interior: TT-P-29J
- e. Semi-Gloss Vinyl Acrylic
Latex Enamel, Interior: TT-P-1511-B
- f. Alkyd Odorless Semi-Gloss FS TT-E-529
Enamel: FS TT-E-509C for white
and tints; Class A for deep colors.
- g. Aluminum Paint (Ready Mixed): FS TT-P-38D.
- h. Heat Resistant Semi-Gloss FS TT-E-496
Enamel (400°F max. surface
temperature):
- i. Asphalt Varnish: FS TT-V-51
- j. Smokestack Black Paint: FS TT-E-496

3. Transparent and Semi Transparent Finishing Systems

- a. Spar Varnish: FS TT-V-121, Water Resisting
- b. Spar Varnish: FS TT-V-119, Phenolic Resin
- c. Stain; Interior Oil Type: FS TT-S-711
- d. Polyurethane Coating (Satin Finish)
FS TT-C-001951
- e. Gloss Varnish

4. Lettering Enamel: Interior/Exterior full gloss
enamel: FS TT-E-489

5. Miscellaneous Materials:

- a. Mineral Spirits (Petroleum Paint Thinner):

FS TT-T-291

- b. Color Pigments: Pure, non-fading, finely ground pigments, at least 99 percent passing a 325 mesh sieve. Color pigments that are to be used on masonry, concrete and plaster shall be lime proof - FS-TT-P-381.
- c. Putty: Linseed-Oil type for Wood Sash Glazing -FS-TT-P-791B.
- d. Shellac: Two pound cut shellac, FS TT-S-300
- e. Paste Wood Filler: FS TT-F-336
- f. Plastic Wood Filler: FS TT-F-340C.
- g. Surface Sealer: Pigmented Oil for Plaster & Wallboard - FS-TT-S-179.
- h. Linseed Oil: (Boiled) FS A-A-371A
- i. Linseed Oil: aw) FS A-A-379A
- j. Lacquer (Brushing) Clear and Pigmented: FS-TT-L-26C.
- k. Lacquer, Rubbing, Clear: FS-TT-L-57C
- l. Lacquer, Spraying Clear and Pigmented for Interior and Exterior Use: FS-TT-L-58E.

B. Miscellaneous Standards and Requirements

- 1. Turpentine: ASTM D13.
- 2. Cold Galvanizing Compound: Single component material conforming to ASTM A780 giving 96% pure zinc in the dried film.
- 3. Cleaning Solvents: Low toxicity; flash point in excess of 100°F.
- 4. Spackling Compound: ASTM C475.
- 5. Polyester Filler: Polyester resin base autobody filler standard weight or finishing grade required by conditions; Marson's "White Lightning" and "Topcoat."

2.04 COLORS

A. Selection

1. Paint colors, surface treatments and finishes will be selected in coordination with the Authority having jurisdiction.
2. Color Schedule will be issued to the Contractor after award of the Contract.
 - a. Final acceptance of colors will be from actual job applications.

2.07 EXTERIOR PAINT SYSTEMS

A. New Ferrous Metal

Structural steel, all ferrous metals, and steel window trim.

1st Coat - Touch up with epoxy Polyamide
Paint

2nd Coat - Polyamide Epoxy Paint
applied at the rate of -- 4.0 to 6.0
Mils DFT.
SSPC-PS
Guide 13.01

3rd Coat (Top Coat) - Acrylic Aliphatic
Polyurethane applied at rate of -- 1.5 to 2.0
Mils DFT.
SSPC-PS
Guide 17.00
Type 5.

B. Zinc Coated Metal Exposed to Public View

Provide for all galvanized surfaces (Zinc metallizing) exposed to public view (not just on the exposed face), except chain link fences:

1st Coat - Epoxy polyamide -- 4.0 Mils DFT

2nd Coat - Exterior Aliphatic polyurethane semi-gloss
enamel -- 4.0 Mils DFT

C. Zinc Coated Metal

Exterior basketball backstops, scoreboard mounting posts, bleachers.

1st Coat - Epoxy polyamide -- 4.0 Mils DFT

2nd Coat - Exterior Aliphatic polyurethane semi-gloss
enamel -- 4.0 Mils DFT

D. Existing steel members embedded in masonry or concrete.

1st Coat - Epoxy polyamide equal to Tnemec Series 135
Chembuild (capable of painting on an SSPC-SP3 surface
prep. -- 7 to 9 Mils DFT

E. Existing steel members exposed to view or the elements.

Provide the epoxy coat system, except the first coat shall be an Epoxy polyamide equal to Tnemec Series 135 Chembuild (capable of painting on an SSPC-SP3 surface prep.

F. Epoxy Coat System

1st Coat (Primer) - Epoxy organic zinc
rich Primer with 85% zinc
applied at rate of -- 2.0 to 4.0
Mils DFT.
SSPC - PS
Guide 12.00
(Organic
Zinc Rich).

2nd Coat - Polyamide Epoxy Paint
applied at the rate of -- 4.0 to 6.0
Mils DFT.
SSPC-PS
Guide 13.01

3rd Coat (Top Coat) - Acrylic Aliphatic
Polyurethane applied at rate of -- 1.5 to 2.0
Mils DFT.
SSPC-PS
Guide 17.00
Type 5.

For factory painted items, Manufacturer/Fabricator shall provide touch-up paint in sufficient amount for Project. -- 5.0 Mils DFT

G. Aluminum - Mill Finished

1st Coat - Aluminum metal primer -- 3.0 Mils DFT

2nd and 3rd Coats - Enamel gloss paint -- 2.0 Mils
DFT/each
Coat

H. Copper, Exposed

Except roof and flashing.

1st Coat - 1 coat linseed oil rubbed dry.

I. Copper, exposed (where indicated to be painted)

1st Coat - Modified Alkyd Primer -- 2.0 Mils DFT

2nd and 3rd Coats - Exterior Alkyd
Gloss Enamel -- 2.0 Mils
DFT/each
Coat

2.08 LETTERING (Inscriptions)

A. Use "Normal Block" letters on all inscriptions.

B. Inscriptions shall have letter heights as indicated below.

1. Gas Valve: On doors to gas control valve enclosures. (2"high)

2. On all doors to pupils' stair enclosures, doors across corridors and doors between stairs and passages, there shall be painted on the lock stile on the side opposite the pull (both sides of double acting doors), and at the same height as the pull, a black panel full width of stile and 18" high on paneled doors and 5" wide on flush doors. The painting at top and bottom edge of plate shall be extended as is necessary in order to surround the hardware which otherwise will be partly in and partly out of painted area. These

painted push plates shall terminate in straight edges.

C. Stencil Number and Letter Work

1. Provide black stenciled numbers at all coat and hat hooks in gymnasiums, dressing rooms, wardrobes or closets, as directed.
2. Squad markings of numerals and letters shall be painted on walls of Girls' and Boys' Gymnasiums in Intermediate Schools and High Schools. Numerals and letters shall be black, 6" high, spaced 3'-0" apart, 7'-0" above floors. Where gym bleachers are higher than 7'-0", markings shall be 12' above bleachers; where sill height is less than 7'-0" markings shall be immediately below sill. Numerals, beginning with "1" located 3'-0" from side wall, and running consecutively as far as length of wall permits, shall be painted on front wall; letters beginning with "A" located 3'-0" from front wall, running alphabetically as far as length of wall permits, shall be painted on the two (2) side walls. No markings required on folding partition.
3. Shuffleboard: Numbers stenciled, 1" wide lines with porch & deck latex base type paint.

D. Music Room, Instrument Classrooms (Staves & Clefs)

1. Paint two music staves with treble and base clefs on chalkboard where indicated on Drawings.
2. Each staff 10 ft. long; in center of panel
3. Top line 4" from top of board; lines 1³/₄" apart; 4" space between staves.
4. Paint white, with heavy distinct lines of uniform width.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verification of Conditions

1. The application of painter's finish to any surface shall be taken to indicate that the Contractor considers such surfaces suitable for a first-class finish.
2. Do not apply painter's finish in any locations until the Work of other Contractors that might damage the new finish is completed.
3. Notify the Authority in writing regarding Work by others that does not provide a suitable surface for the new finish.
4. In case of dispute regarding the suitability of any surface, the Authority's decision shall be final and conclusive upon all concerned.
5. Contractor shall check the compatibility of previously painted surface with the new coating by applying a test panel 4 foot wide x wall height. Allow test panel to dry thoroughly; verify proper adhesion before proceeding with painting Work.

3.04 APPLICATION

A. General

1. No Work shall be performed where cement or plaster is being applied or is in the process of drying.
2. No Work shall be performed in spaces that are not broom clean and free of dust and waste.
3. Apply paint materials to produce smooth finished surfaces, free of brush or roller marks, drops, runs, or sags.
4. Paint materials shall be kept at a proper and uniform consistency.
5. Thin only when necessary to achieve best results.
6. Thinners shall be material recommended by manufacturer of paint, and in quantity as recommended.
7. Excessive use of thinner as indicated by variation in absorption, lack of "hide", thickness of dry

film, mottled or streaky coat, shall be cause for rejection. Correct as directed.

8. Thinning of varnish or aluminum paint prohibited.
9. Apply all coats with brush or roller, varying slightly the color of succeeding coats. Spraying will not be permitted.
 - a. If recommended by manufacturer, 100% acrylic resin concrete block filler may be spray applied and shall be backrolled as necessary to work material into substrate surface.
10. Brush out or roll on first or prime coat; work well into surface.
11. Each coat shall be inspected, approved and dry before proceeding with additional coats.
12. Allow at least 48 hrs for enamels and exterior oil paint to dry.
13. The surfaces of interior woods and metals shall be sanded or rubbed between coats to assure smooth finish and proper adhesion of subsequent coats.
18. Do not paint over any code-required labels, such as Underwriter's Laboratories and Factory Mutual, or any equipment identification, performance rating, name or nomenclature plate.

3.06 FIELD QUALITY CONTROL

- A. The Authority reserves the right to require the following material testing procedures at any time, and any number of times during period of field painting:
 1. Measurement of dry film thickness (DFT) by use of a dry film thickness gauge in accordance with use and calibration requirements of Structural Steel Painting Council [SSPC], "Method of Measurement of Dry Paint Thickness with Magnetic Gauges".
 2. Engage services of an independent testing laboratory, recommended by the Authority, to sample paint being used. Samples of materials delivered to construction site will be taken,

identified and sealed, and certified in presence of Contractor

3. Testing laboratory will perform appropriate tests for any or all of the following characteristics: Abrasion resistance, apparent reflectivity, flexibility, washability, absorption, accelerated weathering, dry opacity, accelerated yellowness, recoating, skinning, color retention, alkali resistance and quantitative materials analysis.
4. If test results show that material being used does not comply with specified requirements, Contractor shall be directed to stop painting Work, and remove non-complying paint; repaint surfaces coated with rejected paint; remove rejected paint from previously painted surfaces if, upon repainting with specified paint, the two coatings are non-compatible.
 - a. If the samples do not comply with requirements of the Specifications, costs of testing and remediation of rejected work shall be borne by Contractor.
 - b. If the tests find that the samples do comply with the requirements of the Specifications, the cost of the testing will be borne by the Authority.

3.07 CLEANING

A. General

Contractor shall clean-up behind each paint crew such that painting and clean-up will be a continuous uninterrupted operation. The practice of one general clean-up after completion of all painting will be strictly prohibited. This clean-up will include, but not be limited to the following:

1. Remove spots or defacement resulting from Work of this Section.
2. Retouch all damaged surfaces to leave Work in perfect finished condition.

3. If spots or defacement cannot be satisfactorily removed and retouched, re-finish the surfaces as directed.
4. Within the three foot work area created for removal and painting where existing paint is known or assumed to be lead-based all objects and surfaces shall be thoroughly HEPA vacuumed, wet-cleaned and HEPA vacuumed again. In rooms where the ceiling has been painted all surfaces and objects in the room shall be cleaned in this manner.
5. The contractor shall ensure that the objects and surfaces under protective covering are free of any dust or debris created during painting activities. If necessary, these objects and surfaces shall be wet cleaned and HEPA vacuumed.
6. The contractor shall conduct any cleaning deemed necessary by the independent environmental consultant.
7. Free all operating units of painted materials and leave them clean and in proper working order.
8. Remove from premises all surplus paint materials, debris and any other rubbish resulting from the Work.
9. Leave storage space clean and in condition required for equivalent spaces in project.

3.08 PROTECTION

- A. Provide caution tape and/or locked entryways during paint removal activities in existing buildings to prevent access to the work area from unauthorized personnel.
- B. Provide "Wet Paint" signs to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their Work after completion of painting operations.
- C. At the completion of Work of other trades, touch-up and restore all damaged or defaced painted surfaces as directed by the Authority.

3.09 DISPOSAL OF PAINTED WASTE AND DEBRIS FROM EXISTING BUILDINGS

A. Testing

Perform Toxicity Characteristic Leaching Procedure (TCLP) testing of all painted waste and debris generated from existing painted objects and surfaces.

B. Storage and Disposal

Storage and disposal shall be in accordance with Specifications Section S01900 - Existing Premises Work, Article titled "Disposal of Painted Waste and Debris".

END OF SECTION

LIST OF SUBMITTALS

<u>SUBMITTAL</u>	<u>DATE SUBMITTED</u>	<u>DATE APPROVED</u>
Product Data:	_____	_____
1. Manufacturer's product literature for all materials with directions and recommendations for environmental conditions, surface preparation, priming, mixing, reduction, spreading rate, application, storage and VOC content.		
Samples:	_____	_____
1. Initial selection: manufacturer's color charts for each type of finish.		
2. Verification prior to installation: color chips for surfaces to be painted.		
3. Verification prior to installation: two samples of each color and material on 12" x 12" hard-board.		
4. Verification prior to installation: Two samples of finish on concrete masonry and metal surfaces.		
5. Samples of stained and varnished wood in triplicate on 4" x 8" samples of the species of wood specified, and clearly labeled.		
Quality Assurance:	_____	_____
1. Certification that materials for each system are obtained from a single manufacturer.		
2. Certification that Work shall be performed by personnel with a minimum of three years experience who meet the qualifications set forth		

in OSHA, 29 CFR 1926.62 (Lead
In Construction Standard.

3. Certification that material
meets or exceeds the
performance requirements of
Federal Specifications.
4. Certification that materials
comply with N.Y.C. and N.Y.S.
regulations for Volatile
Organic Compounds.

Testing:

1. Toxicity Characteristic Leaching
Procedure (TCLP) test results.

Guarantees

Low Emitting Materials:

1. Documentation of VOC content
for each coating to be
used inside the building to show
compliance with Section G01600.

* * *

SECTION 16010 - GENERAL PROVISIONS FOR ELECTRICAL WORK

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Provide labor, materials, tools, machinery, equipment, and services necessary to complete the Electrical Work under this Contract. All systems and equipment shall be complete in every aspect and all items of material, equipment and labor shall be provided for a fully operational system and ready for use. Coordinate the work with the work of the other trades in order to resolve all conflicts without impeding the job progress.
- B. When an item of equipment is indicated on a floor plan and not shown on associated riser diagram or vice-versa, the Contractor shall provide said item and all required conduit and wiring connections for a complete system as part of the Contract.
- C. All penetrations made into other trades work (e.g. wires, electrical boxes penetrating ductwork, etc) are to be sealed to air tight/watertight condition. Penetrations through insulated systems, such as refrigerated rooms/equipment, etc, shall be insulated and sealed on both sides of penetration. Sealant on interior side of such insulated spaces/equipment shall be silicone recommended by manufacturer.
- D. The electrical contractor shall comply with the Commissioning Requirements of Section S01660 for the following systems:
 - 1. Lighting and Daylighting Controls.
 - 2. Emergency generators
 - 3. Renewable energy and energy storage systems.

Testing of the electrical systems as listed in each technical Specification Section in Division 16 shall be completed prior to commencement of the commissioning process, as written tests results and sign-offs by the Authority must be submitted to the Commissioning Agent prior to starting the commissioning process.

1.02 EXAMINATION OF SITE

- A. The Contractor shall be held to have examined the site and to have compared it with the Drawings and Specifications, and deemed to have been satisfied as to

the conditions existing at the site, as relating to the actual conditions of the site at the time estimating the Work, the storage and handling of materials, and all other matters as may be incidental to the Work under the Contract, before bidding, and no allowance will subsequently be made to the Contractor by reason of any error due to the Contractor's neglect to comply with the requirements of this clause.

1.03 RELATED DOCUMENTS

- A. Drawings and General Provisions of the Contract.

1.04 ELECTRICAL EQUIPMENT AND INSTALLATIONS

- A. All electrical equipment shall be the latest of the current year in design, material and workmanship, and shall be the type or model called for in these Specifications.
- B. If the type or model specified has been superseded by a later type or model, the latest shall be submitted for approval and shall be provided as part of the Contract.
- C. Coordinate the installation of HVAC materials and equipment above ceilings with suspension system, light fixtures, and all other installations and accessories.
- D. Provide all rigging, disassembly and reassembly of equipment including the furnishing and installation of dunnage and all other required and necessary accessories. Supports for conduit runs/etc. supported by the roof deck shall utilize manufactured supports or pipes that will permit effective roofing. Use of irregular shaped units such as strut channels is not permitted.
- E. For purposes of clearness and legibility, electrical Drawings are essentially diagrammatic and size and location of equipment are drawn to scale wherever possible. The Drawings indicate size, connection points and routes of conduit. It is not intended, however, that all offsets, rises and drops are shown. Provide conduit runs as required to fit structure, avoid obstruction, and retain clearances, headroom openings and passageways. Conduits installed over any means of egress and access passageways must be 7'-6" clear inclusive of insulation.

1. Location of items passing through roofing/waterproofing membranes shall be in strict accordance with recommendations of the NRCA (National Roof Contractors Association) Manual to allow for proper flashing of items, including, but not limited to, the following:
 - a. No penetrations shall be made within 12" of any walls, parapets, roof curbs, expansion joints or any other projections (clear distance between penetration or equipment curb face shall be 12" minimum).
 - b. Provide manufactured curb chases where multiple conduits enter at one location.
 - c. Conduit/equipment supports that penetrate membranes shall be round or square/rectangular to allow proper flashing. Use of "kindorf" type supports is not permitted to penetrate membranes.
2. Conduits at equipment must be done in a manner such that access around equipment is not impeded, such as at equipment platforms.

1.05 SUBMITTALS

Provide as outlined in each individual section of these Specifications, including but not limited to:

- A. Product Data: Submit manufacturer's product data for equipment including capacity, performance charts, test data, materials, dimensions, weights, and installation instructions.
- B. Shop Drawings: Submit manufacture's shop drawings indicating dimensions, weight loading, required clearances, location, and method of assembly of components.
Submittals are mandatory as noted in the respective specifications. Schedules, installation instructions, startup manuals, operation and maintenance manuals, and shop drawings are always required to be submitted.
- C. Samples
- D. Special Warranty
- E. Quality Assurance submittals

- F. Operation and Maintenance Manuals
- G. Test results and certificates
- H. Manuals

1.06 COORDINATION DRAWINGS

- A. Coordination Drawings: The Electrical contractor shall cooperate with the HVAC, P&D, and Fire Protection Systems contractors in the development of the coordination drawings. The drawings, indicating ductwork, steam, hydronic & fuel piping, etc. shall be generated by the HVAC contractor, who in turn is to provide them to the Electrical contractor for the inclusion of electrical work in this coordination set. This is after the P&D and Fire Protection Systems contractors have entered their information in the set. The specified order in which the trade contractors impose their work on the coordination drawings is not intended to grant priority to any one trade contractor in the allocation of space. At the completion of this phase, hold a coordination meeting to eliminate any interference among the trades that the drawings indicate and to avoid any conflicts in installing the Work.

1.07 NYC DEPARTMENT OF BUILDINGS ELECTRICAL DIVISION

- A. Drawings and Specifications:
 - 1. The Contract Drawings and Specifications shall be submitted by the Contractor to the Department of Building's Electrical Division to facilitate any inspections that may be made by that agency.
 - 2. It is the intent of these Specifications that all electric work shall be done in strict accordance with the rules of the Electrical Division and with the 2011 NYC Electrical Code (NYC amendments to the 2008 National Electrical Code - NFPA 70-08). Where the requirement of the Drawings or Specifications exceeds the requirements of the Electrical Code, the requirements of the Drawings and Specifications shall be binding upon the Contractor.
 - 3. Should the Electrical Division inspect the work and issue a violation, the Contractor shall correct the Work and eliminate the violation as part of the Contract.

B. Interpretation

1. The electric work detailed in these Specifications and shown on Drawings shall be under the jurisdiction of the Authority, subject to the approval of the Electrical Division.
2. The Authority shall be the sole source for interpretation of the Contract Documents. Any discrepancies or conflicts shall be brought to the attention of the Authority for clarification.

- C. Materials and Appliance: All materials and appliance shall be approved by the Authority's Representative and installed in accordance with the rules and regulations of the Building Department, Electrical Division; certificates of approval including the temporary light and power wiring, shall be obtained by the Contractor and delivered to the Authority's Representative before the Work is finally accepted.

1.08 DEMOLITION WORK

A. Removals, Replacements, Adjustments

1. The Contractor shall remove, relocate, replace, adjust or adapt, all existing conduit, wiring and other electric equipment or apparatus, as required, to provide a complete installation.
2. The Work shall include, providing all materials, all necessary extensions, connections, cuttings, repairing, adapting and other Work incidental thereto, together with such temporary connections as may be required to maintain service pending the completion of the permanent Work. All Work shall be left in good working order and in a condition equal to the adjacent new or existing Work.

B. Care in Removing Existing Conductors

1. The Contractor shall use due care and diligence in removing existing conductors from existing conduits in order to prevent conductors from breaking and becoming an irretrievable obstruction within the conduits.

C. Cutting and Repairing

1. Whenever the cutting, or drilling, or removal of any part of the structure (ceilings, walls,

floors, shelving, bookcases, partitions, etc.), is required in order to remove, relocate, alter or install any article of electrical equipment (including conduits, boxes, fittings, etc.), the Contractor shall perform all cutting, drilling, etc., and remove the section of structure required. After removal and installation of the electric equipment, the Contractor shall repair the section of structure, as directed by the Authority's Representative, with new materials, equal to that of adjacent structure of the same type.

Note that in general, all holes through existing structures for conduit installation shall be core drilled, unless prior written approval is provided by the Authority.

Contractor shall use extreme care when core drilling to avoid damaging the existing infrastructure.

2. Whenever holes are cut in fire-rated walls or floor slabs in order to permit the installation of conduit or electrical equipment, these holes shall be repaired with material that will restore the fire rating of the wall or floor slab to its original condition.
 3. The Contractor shall paint all repaired areas of the building. The paint shall match the paint of adjacent surface areas, or extend to the nearest architectural break-line, as directed.
 4. Wherever any part of the structure is marred or damaged, the Contractor shall repair the damaged or marred areas of the structure.
 5. Where a piece of electrical equipment is removed, the Contractor shall finish that part of the surface to match surroundings.
- D. Damaged Apparatus: Should any damage, due to the execution of this Contract, occur to the furniture, fixtures, or any equipment or apparatus, such damage shall be properly repaired and/or replaced by the Contractor without charge.

1.09 TESTS

- A. The Contractor shall demonstrate to the Authority operation of all equipment and systems. All tests shall be completed to the satisfaction of the Authority. Each test shall be performed as indicated in the individual specification section.

1.10 GUARANTEES, WARRANTIES, BONDS, AND MAINTENANCE CONTROL

- A. Refer to Section G01740 for procedures and submittal requirements for warranties. Refer to individual equipment specifications for warranty requirements.
 - 1. Compile and assemble the warranties specified for Electrical work into a separated set of documents, tabulated and indexed for easy reference.
 - 2. Provide complete warranty information for each item to include product or equipment including duration of warranty or bond; and names, addresses, and telephone numbers and procedures for filing a claim and obtaining warranty services.
 - 3. Warranties for the equipment, workmanship and materials should be provided for the period of one year with the exception of the warranty on the refrigeration compressors. Five (5) years warranty shall be provided for the refrigeration compressors.
 - 4. Manufacturers', in addition to Contractors' warranties, shall be provided for all Electrical equipment and accessories.
 - 5. All warranties are to start from the date of Substantial Completion.

1.11 OPERATIONS, TRAINING, AND MAINTENANCE MANUALS

- A. General
 - 1. Refer to Section S01730, Systems Operation and Maintenance Manual, for procedures and requirements for preparation and submittal of operation and maintenance manuals for each **piece of** equipment. Refer to individual equipment specifications for maintenance manual additional

requirements. In addition, include the following information:

2. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of all replaceable parts.
 3. Manufacturer's printed operating procedures to include start-up, break-in, routine and normal operating instructions; regulation, control, stopping, shut-down, and emergency instructions; and summer and winter operating instructions.
 4. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassemble; aligning and adjusting instructions.
 5. Servicing instructions and lubrication charts and schedules.
- B. Bind all the other Sections maintenance manuals in a single final Operating and Maintenance Manual with the requirements of Section S01730, Systems Operation and Maintenance Manual.
- C. Refer to Section S01650, Facility Start-Up, Demonstration and Training, for procedures and requirements for training on each piece of equipment. Refer to individual equipment specifications for the additional training requirements.

1.12 CLEANING AND REPAIR

- A. On completion of installation, inspect interior and exterior of installed equipment. Remove paint splatters and other spots. Vacuum dirt and debris; do not use compressed air to assist in cleaning. Repair exposed surfaces to match original finish.
- B. Contractor shall not leave sharp exposed metal edges (bottom of threaded rods, electrical equipment supports, etc.) that could otherwise present safety hazards to the building's occupants/work staff.

1.13 SEISMIC RESTRAINT

- A. The NYC Building Code classifies schools as Structural Occupancy/Risk Category III in BC Table 1604.5 of the 2014 NYC Building Code. Seismic requirements of the

New York City Building code apply to New Buildings, Additions, and retrofit work on Existing Buildings constructed after LL 17/1995 became effective.

1. Refer to Section 16013, Vibration Isolation and Seismic Controls, Electrical Systems for the bracing requirements of equipment and appurtenances.
2. Calculations (including the combining of tensile and shear loadings) to seismic bracing designs shall be stamped by Contractor's Registered Professional Engineer with at least five years of seismic design experience in non-structural building components in New York State. The Contractor shall retain a registered professional engineer who shall provide all required shop drawings (signed and sealed). Contractor's engineer shall also field inspect all installations of vibration isolators and seismic bracing and shall submit affidavit that all isolators/bracing have been installed in accordance with the signed/sealed coordinated shop drawings.

END OF SECTION

SECTION 16130 - RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Metal conduits, tubing, and fittings.
 - 2. Nonmetal conduits, tubing, and fittings.
 - 3. Boxes, enclosures, and cabinets.

1.3 DEFINITIONS

- A. GRC: Galvanized rigid steel conduit.
- B. IMC: Intermediate metal conduit.

1.4 ACTION SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
- B. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

1.5 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
 - 1. Structural members in paths of conduit groups.

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. AFC Cable Systems, Inc.
 - 2. Allied Tube & Conduit; a Tyco International Ltd. Co.
 - 3. Anamet Electrical, Inc.
 - 4. Electri-Flex Company.
 - 5. O-Z/Gedney; a brand of EGS Electrical Group.
 - 6. Wheatland Tube Company; a division of John Maneely Company.
- B. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. GRC: Comply with ANSI C80.1 and UL 6.
- D. ARC: Comply with ANSI C80.5 and UL 6A.
- E. IMC: Comply with ANSI C80.6 and UL 1242.
- F. Comply with NEMA RN 1.
- G. Coating Thickness: 0.040 inch, minimum.
- H. EMT: Comply with ANSI C80.3 and UL 797.

2.2 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Cooper B-Line, Inc.
 - 2. Hoffman; a Pentair company.
 - 3. Mono-Systems, Inc.
 - 4. Square D; a brand of Schneider Electric.
- B. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 1 and Type 3R unless otherwise indicated, and sized according to NFPA 70.
 - 1. Metal wireways installed outdoors shall be in NEMA 3R enclosure and shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- D. Finish: Manufacturer's standard enamel finish.

2.3 BOXES, ENCLOSURES, AND CABINETS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Cooper Technologies Company; Cooper Crouse-Hinds.
 - 2. Hoffman; a Pentair company.
 - 3. Hubbell Incorporated; Killark Division.
 - 4. Thomas & Betts Corporation.
 - 5. Wiremold / Legrand.
- B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
- C. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- D. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.
- E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- F. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, galvanized, cast iron with gasketed cover.
- G. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- H. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 1 and Type 3R with continuous-hinge cover with flush latch unless otherwise indicated.
 - 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
 - 2. Nonmetallic Enclosures: Plastic.
 - 3. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.
- I. Cabinets:
 - 1. NEMA 250, Type 1, Type 3R, and Type 12 galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 - 2. Hinged door in front cover with flush latch and concealed hinge.
 - 3. Metal barriers to separate wiring of different systems and voltage.
 - 4. Accessory feet where required for freestanding equipment.
 - 5. Nonmetallic cabinets shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below unless otherwise indicated:
 - 1. Exposed Conduit: GRC.
 - 2. Concealed Conduit, Aboveground: GRC.
 - 3. Underground Conduit: RNC, Type EPC-40-PVC or Type EPC-80-PVC, concrete encased.
 - 4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
 - 5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R or Type 4, as noted on plans
- B. Minimum Raceway Size: 3/4-inch trade size.
- C. Raceway Fittings: Compatible with raceways and suitable for use and location.
 - 1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
 - 2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
 - 3. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10.
 - 4. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- D. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- E. Install surface raceways only where indicated on Drawings.
- F. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

3.2 INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this specification are stricter. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- E. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- F. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- H. Support conduit within 12 inches of enclosures to which attached.
- I. Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure raceways to reinforcement at maximum 10-foot intervals.

2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
3. Arrange raceways to keep a minimum of 1 inch of concrete cover in all directions.
4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.
5. Change from ENT to GRC before rising above floor.
- J. Stub-ups to Above Recessed Ceilings:
 1. Use EMT, IMC, or RMC for raceways.
 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
- K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.
- M. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
- N. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch trade size and insulated throat metal bushings on 1-1/2-inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
- O. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- P. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
- Q. Cut conduit perpendicular to the length. For conduits 2-inch trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.
- R. Install pull wires in empty raceways regardless whether or not shown on drawings. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- S. Comply with manufacturer's written instructions for solvent welding RNC and fittings.
- T. Expansion-Joint Fittings:
 1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F and that has straight-run length that exceeds 25 feet. Install in each run of aboveground RMC conduit that is located where environmental temperature change may exceed 100 deg F and that has straight-run length that exceeds 100 feet.
 2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:
 - a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.
 - b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
 - c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F temperature change.
 - d. Attics: 135 deg F temperature change.
 3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F of temperature change for metal conduits.

4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.
- U. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- V. Locate boxes so that cover or plate will not span different building finishes.
- W. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- X. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

3.3 INSTALLATION OF UNDERGROUND CONDUIT

- A. Direct-Buried Conduit:
 1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Division 31 for pipe less than 6 inches in nominal diameter.
 2. Install backfill as specified in Division 31.
 3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Division 31.
 4. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.
 - a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete for a minimum of 12 inches on each side of the coupling.
 - b. For stub-ups at equipment mounted on outdoor concrete bases and where conduits penetrate building foundations, extend steel conduit horizontally a minimum of 60 inches from edge of foundation or equipment base. Install insulated grounding bushings on terminations at equipment.
 5. Warning Planks: Bury warning planks approximately 12 inches above direct-buried conduits but a minimum of 6 inches below grade. Align planks along centerline of conduit.
 6. Underground Warning Tape: Comply with requirements in Section 260553 "Identification for Electrical Systems."

3.4 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

- A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
- B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.
- C. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade.
- D. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables but short enough to preserve adequate working clearances in enclosure.

- E. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.5 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.6 FIRESTOPPING

- A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Division 07.

3.7 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 260533

SECTION 16140 - WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Receptacles, receptacles with integral GFCI, and associated device plates.
 - 2. Receptacles with integral surge-suppression units.
 - 3. Isolated-ground receptacles.
 - 4. Weather-resistant receptacles.
 - 5. Cord and plug sets.

1.3 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. GFCI: Ground-fault circuit interrupter.
- C. Pigtail: Short lead used to connect a device to a branch-circuit conductor.
- D. RFI: Radio-frequency interference.
- E. TVSS: Transient voltage surge suppressor.
- F. UTP: Unshielded twisted pair.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Receptacles for Owner-Furnished Equipment: Match plug configurations.
 - 2. Cord and Plug Sets: Match equipment requirements.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: List of legends and description of materials and process used for premarking wall plates.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Cooper Wiring Devices; Division of Cooper Industries, Inc. (Cooper).
 - 2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
 - 3. Leviton Mfg. Company Inc. (Leviton).
 - 4. Legrand/Pass & Seymour; Wiring Devices & Accessories(Pass & Seymour).
- B. Source Limitations: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

2.2 GENERAL WIRING-DEVICE REQUIREMENTS

- A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.

2.3 RECEPTACLES

- A. Weather-Resistant Convenience Receptacles, 125V, 20A: Comply with NEMA WD1, NEMA WD6 configuration 5-20R, UL498 and Federal Specification W-C-596. Prewired pigtail connectors that accommodate Fed Spec receptacles are approved. Must be crimped and welded terminal right angle application connector.
 - 1. Available Products: Subject to compliance with requirements, provide by one of the following:
 - a. Pass & Seymour; WR5362 (duplex).
 - b. Approved Equal

2.4 FINISHES

- A. Device Color: As directed by the Authority.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.
- B. Coordination with Other Trades:
 - 1. Protect installed devices and their boxes. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of boxes.
 - 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 - 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
 - 4. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:
 - 1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
 - 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
 - 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
 - 4. Existing Conductors:
 - a. Cut back and pigtail, or replace all damaged conductors.
 - b. Straighten conductors that remain and remove corrosion and foreign matter.
 - c. Pigtail existing conductors is permitted, provided the outlet box is large enough.
- D. Device Installation:
 - 1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
 - 2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
 - 3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
 - 4. Connect devices to branch circuits using pigtails that are not less than 6 inches in length.

5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two-thirds to three-fourths of the way around terminal screw.
 6. Use a torque screwdriver when a torque is recommended or required by manufacturer.
 7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
 8. Tighten unused terminal screws on the device.
 9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.
- E. Receptacle Orientation:
1. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the right.
 2. Install hospital-grade receptacles in patient-care areas with the ground pin or neutral blade at the top.
- F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

3.2 IDENTIFICATION

- A. Comply with requirements in other sections.
- B. Identify each receptacle with panelboard identification and circuit number. Use hot, stamped, or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

3.3 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
 1. Test Instruments: Use instruments that comply with UL 1436.
 2. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated digital-display indicators of measurement.
- B. Wiring device will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 16140

SECTION 16452 - GROUNDING AND BONDING

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: Grounding systems and equipment.
- B. Section includes grounding systems and equipment, plus the following special applications:
 - 1. Ground bonding common with lightning protection system.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 INFORMATIONAL SUBMITTALS

- A. Informational Submittals: Plans showing dimensioned as-built locations of grounding features specified in "Field Quality Control" Article, including the following:
 - 1. Ground rods.
- B. Qualification Data: For qualified testing agency and testing agency's field supervisor.
- C. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For grounding to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 include the following:
 - 1. Instructions for periodic testing and inspection of grounding features at test wells ground rings grounding connections for separately derived systems based on NETA MTS NFPA 70B.
 - a. Tests shall determine if ground-resistance or impedance values remain within specified maximums, and instructions shall recommend corrective action if values do not.
 - b. Include recommended testing intervals.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Member company of NETA or an NRTL.
 - 1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. Bare Copper Conductors:
 - 1. Solid Conductors: ASTM B 3.
 - 2. Stranded Conductors: ASTM B 8.
 - 3. Tinned Conductors: ASTM B 33.
 - 4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch in diameter.
 - 5. Bonding Conductor: No. 4 AWG, stranded conductor.
 - 6. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
- C. Bare Grounding Conductor and Conductor Protector for Wood Poles:
 - 1. No. 4 AWG minimum, soft-drawn copper.
 - 2. Conductor Protector: Half-round PVC or wood molding; if wood, use pressure-treated fir, cypress, or cedar.
- D. Grounding Bus: Predrilled rectangular bars of annealed copper, 1/4 by 4 inches in cross section, with 9/32-inch holes spaced 1-1/8 inches apart. Stand-off insulators for mounting shall comply with UL 891 for use in switchboards, 600 V.

2.2 CONNECTORS

- A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
- B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, pressure type with at least two bolts.

1. Pipe Connectors: Clamp type, sized for pipe.
- C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- D. Bus-bar Connectors: Mechanical type, cast silicon bronze, solderless exothermic-type wire terminals, and long-barrel, two-bolt connection to ground bus bar.

2.3 GROUNDING ELECTRODES

- A. Ground Rods: Copper-clad steel, sectional type; 3/4 inch by 10 feet in diameter.
- B. Chemical-Enhanced Grounding Electrodes: Copper tube, straight or L-shaped, charged with nonhazardous electrolytic chemical salts.
 1. Termination: Factory-attached No. 4/0 AWG bare conductor at least 48 inches long.
 2. Backfill Material: Electrode manufacturer's recommended material.

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger unless otherwise indicated.
- B. Underground Grounding Conductors: Install bare copper conductor, No. 2/0 AWG minimum.
 1. Bury at least 24 inches below grade.
- C. Isolated Grounding Conductors: Green-colored insulation with continuous yellow stripe. On feeders with isolated ground, identify grounding conductor where visible to normal inspection, with alternating bands of green and yellow tape, with at least three bands of green and two bands of yellow.
- D. Grounding Bus: Install in main electrical, telephone equipment, and IT rooms and where required by the code.
 1. Install bus on insulated spacers 2 inches minimum from wall, 6 inches above finished floor unless otherwise indicated.
 2. Where indicated on both sides of doorways, route bus up to top of door frame, across top of doorway, and down to specified height above floor; connect to horizontal bus.
- E. Conductor Terminations and Connections:
 1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
 2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.
 3. Connections to Ground Rods at Test Wells: Bolted connectors.

4. Connections to Structural Steel: Welded connectors.

3.2 GROUNDING OVERHEAD LINES

- A. Comply with IEEE C2 grounding requirements.
- B. Install multiple parallel ground rods if resistance to ground by a single, ground-rod electrode exceeds 25 ohms.
- C. Drive ground rods until tops are 12 inches below finished grade in undisturbed earth.
- D. Ground-Rod Connections: Install bolted connectors for underground connections and connections to rods.
- E. Lightning Arrester Grounding Conductors: Separate from other grounding conductors.
- F. Secondary Neutral and Transformer Enclosure: Interconnect and connect to grounding conductor.
- G. Protect grounding conductors running on surface of wood poles with molding extended from grade level up to and through communication service and transformer spaces.

3.3 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.
- B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 1. Feeders and branch circuits.
 2. Lighting circuits.
 3. Flexible raceway runs.
 4. Armored and metal-clad cable runs.
- C. Metal Poles Supporting Outdoor Lighting Fixtures: Install grounding electrode and a separate insulated equipment grounding conductor in addition to grounding conductor installed with branch-circuit conductors.

3.4 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Ground Bonding Common with Lightning Protection System: Comply with NFPA 780 and UL 96 when interconnecting with lightning protection system. Bond electrical power system ground directly to lightning protection system grounding conductor at closest point to electrical

service grounding electrode. Use bonding conductor sized same as system grounding electrode conductor, and install in conduit.

- C. Ground Rods: Drive rods until tops are 2 inches below finished floor or final grade unless otherwise indicated.
 - 1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating if any.
 - 2. For grounding electrode system, install at least three rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes, and connect to the service grounding electrode conductor.
- D. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
 - 3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.
- E. Grounding and Bonding for Piping:
 - 1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange by using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
 - 2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
 - 3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.
- F. Bonding Interior Metal Ducts: Bond metal air ducts to equipment grounding conductors of associated fans, blowers, electric heaters, and air cleaners. Install copper bonding jumper to bond across flexible duct connections to achieve continuity.

3.5 LABELING

- A. Comply with requirements in Section 260553 "Identification for Electrical Systems" for instruction signs. The label or its text shall be green.
- B. Install labels at the telecommunications bonding conductor and grounding equalizer and at the grounding electrode conductor where exposed.

1. Label Text: "If this connector or cable is loose or if it must be removed for any reason, notify the facility manager."

3.6 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- C. Perform tests and inspections.
 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- D. Tests and Inspections:
 1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
 2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
 3. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal, at ground test wells, and at individual ground rods. Make tests at ground rods before any conductors are connected.
 - a. Measure ground resistance no fewer than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
 - b. Perform tests by fall-of-potential method according to IEEE 81.
 4. Prepare dimensioned Drawings locating each test well, ground rod or ground-rod assembly, and other grounding electrodes. Identify each by letter in alphabetical order, and key to the record of tests and observations. Include the number of rods driven and their depth at each location, and include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results.
- E. Grounding system will be considered defective if it does not pass tests and inspections.
- F. Prepare test and inspection reports.
- G. Report measured ground resistances that exceed the following values:
 1. Power and Lighting Equipment or System with Capacity of 500 kVA and Less: 10 ohms.
 2. Power and Lighting Equipment or System with Capacity of 500 to 1000 kVA: 5 ohms.

3. Power and Lighting Equipment or System with Capacity More Than 1000 kVA:
3 ohms.
 4. Power Distribution Units or Panelboards Serving Electronic Equipment: 3 ohm(s).
 5. Substations and Pad-Mounted Equipment: 5 ohms.
- H. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance.

END OF SECTION 260526

SECTION 16475 - FUSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Cartridge fuses rated 600-V ac and less for use in *control circuits* and enclosed switches

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material, dimensions, descriptions of individual components, and finishes for spare-fuse cabinets. Include the following for each fuse type indicated:
 - 1. Ambient Temperature Adjustment Information: If ratings of fuses have been adjusted to accommodate ambient temperatures, provide list of fuses with adjusted ratings.
 - a. For each fuse having adjusted ratings, include location of fuse, original fuse rating, local ambient temperature, and adjusted fuse rating.
 - b. Provide manufacturer's technical data on which ambient temperature adjustment calculations are based.
 - 2. Dimensions and manufacturer's technical data on features, performance, electrical characteristics, and ratings.
 - 3. Current-limitation curves for fuses with current-limiting characteristics.
 - 4. Time-current coordination curves (average melt) and current-limitation curves (instantaneous peak let-through current) for each type and rating of fuse
 - 5. Coordination charts and tables and related data.
 - 6. Fuse sizes for elevator feeders and elevator disconnect switches.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fuses to include in emergency, operation, and maintenance manuals. In addition to items specified in other sections, include the following:
 - 1. Ambient temperature adjustment information.
 - 2. Current-limitation curves for fuses with current-limiting characteristics.
 - 3. Coordination charts and tables and related data.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain fuses, for use within a specific product or circuit, from single source from single manufacturer.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with NEMA FU 1 for cartridge fuses.
- D. Comply with NFPA 70.

1.6 PROJECT CONDITIONS

- A. Where ambient temperature to which fuses are directly exposed is less than 40 deg F (5 deg C) or more than 100 deg F (38 deg C) >, apply manufacturer's ambient temperature adjustment factors to fuse ratings.

1.7 COORDINATION

- A. Coordinate fuse ratings with utilization equipment nameplate limitations of maximum fuse size and with system short-circuit current levels.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cooper Bussmann, Inc.
 - 2. Edison Fuse, Inc.
 - 3. Ferraz Shawmut, Inc.
 - 4. Littelfuse, Inc.

2.2 CARTRIDGE FUSES

- A. Characteristics: NEMA FU 1, nonrenewable cartridge fuses with voltage ratings consistent with circuit voltages.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fuses before installation. Reject fuses that are moisture damaged or physically damaged.
- B. Examine holders to receive fuses for compliance with installation tolerances and other conditions affecting performance, such as rejection features.
- C. Examine utilization equipment nameplates and installation instructions. Install fuses of sizes and with characteristics appropriate for each piece of equipment.
- D. Evaluate ambient temperatures to determine if fuse rating adjustment factors must be applied to fuse ratings.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FUSE APPLICATIONS

- A. Cartridge Fuses:
 - 1. Service Entrance: Class L, time delay.
 - 2. Feeders: Class L, time delay.
 - 3. Motor Branch Circuits: Class RK1, time delay.
 - 4. Other Branch Circuits: Class RK1, time delay.
 - 5. Control Circuits: Class CC, fast acting.

3.3 INSTALLATION

- A. Install fuses in fusible devices. Arrange fuses so rating information is readable without removing fuse.

3.4 IDENTIFICATION

- A. Install labels complying with requirements for identification specified in other sections and indicating fuse replacement information on inside door of each fused switch and adjacent to each fuse block, socket, and holder.

END OF SECTION 16475

EXHIBIT H

LIST OF BPCA BOARD MEMBERS AND EMPLOYEES

BOARD MEMBERS

Dennis Mehiel
Donald Cappocia
Louis J. Bevilacqua
Lester Petracca
Hector Batista
Catherine McVay Hughes
George Tsunis

EMPLOYEES

Curtis Afzal
Elsa Alvarez
Dana Anders
Anthony Andriano
Stephen Arciold
Kathleen Bailey
Marie Baptiste
Brett Beecham
Freddy Belliard
Olivia Biller
Emily Birdseye
Nidia Blake-Reeder
Lauren Bruggess
Nancy Buivid
Anthony Buquicchio
Peter Campbell
Monica Centeno
Adam Choper
Carlton Chotolal
Deshay Crabb
Gwendolyn Dawson
Gilbert DePadua
Paul Diaz-LaRui
Tonesia Dopson
Abigail Ehrlich
Maria Ellison
Richard Faraino
Anitra Fauntleroy
Joseph Ganci
Julissa Garcia
Lenron Goode
Abigail Goldenberg
Yasmin Gonsalves
Neresa Gordon
Ned Greenberg

Evelyn Gregg
Kelly Grogan
Robert Hansen
Nicole Heater
Sankar Heerah
Sonia Henry
Hector Herrera
Craig Hudon
Shari Hyman
Kendall Jinwright
Amy Jogie
Benjamin Jones
Joan Kanarkiewicz
Roland Kemp
Susie Kim
Karl Koenig
Betzayada Laboy
Leandro Lafuente
Michael LaMancusa
Della Lee
Triny Lima
Renee Lopcy
Luis Lopez
Robert Maggi
Evelin Maisonet
Kevin McCabe
Jonathan McCain
Brenda McIntyre
Princess McNeill
Shinay McNeill
Vanessa Mesine
Ronnie Mohammed
Bertha Narcisse
Robert Nesmith
Siu May NG
Yoshihiro Nishida
Anne O'Neill
Kevin O'Toole
Hector Oyola
Willem Paillant
Jonathan Parker
Gladys Pearlman
Dahlia Pena
Churaman Persaud
Anthony Peterson

Bruno Pomponio
Katherine Powell
Sandra Power
Alix Pustilnik
Robert Quon
Jason Rachnowitz
Madelin Ramirez
Manuel Rivera
Anthony Robinson
Andrea Rodriguez
Nelson Rogers
Jose Rosado
Holly Ross
Vincent Rossi
Carlos Santiago
Nicholas Sbordone
Jean Schwartz
Lindsey Senn
Robert Serpico
Rekha Sewraj-Kumar
Sean Simon
Kemnarine Singh
Timothy Skipper
Sarah Smedley
Linda Soriero
Bruce Spierer
Nicole Stallworth-Roper
Jerome Sturiano
Brian Sutton
John Tam
Alexis Torres
Ryan Torres
Douglas VanHorn
Noe Velasquez
Evangelio Villalobos
Sharon Wade
David Wallace
Peter Wheelwright
Eric White
Angela Whitehead
Dwight Williams
Kenneth Windman
Al Wright
Jouli Yohannes
Julian Zapata

EXHIBIT I

Acknowledgement of Addenda

RFP TITLE: _____

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