SCOPE OF WORK

EV Charging Hub at Bank Street Parking Garage

18-45 Bank Street
Trenton, Mercer County, NJ

Project No. A1414-00

STATE OF NEW JERSEY

Honorable Philip D. Murphy, Governor
Honorable Tahesha L. Way, Lt. Governor

DEPARTMENT OF THE TREASURY

Elizabeth Maher Muoio, Treasurer

DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

Thomas A. Edenbaum, Director

Date: January 16, 2025

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I. OBJECTIVE

The objective of this project is to construct (197) dual port Level 2 charging stations and (1) single port Level 3 charging station to serve a total of 395 parking spaces at the Bank Street Parking Garage located in Mercer County in Trenton, New Jersey. A feasibility study for Electric Vehicle Charging Stations prepared by Gannett Fleming, dated July 2023, is included in **Exhibit 'E'**.

II. CONSULTANT QUALIFICATIONS

A. CONSULTANT & SUB-CONSULTANT PRE-QUALIFICATIONS

The Consultant shall be a firm pre-qualified with the Division of Property Management & Construction (DPMC) in the following discipline(s):

- **P002 Electrical Engineering**

The Consultant shall also have in-house capabilities or Sub-Consultants pre-qualified with DPMC in:

- **P003 Civil Engineering**
- **P007 Structural Engineering**
- **P025 Estimating/ Cost Analysis**

As well as, **any and all** other Architectural, Engineering and Specialty Disciplines necessary to complete the project as described in this Scope of Work (SOW).

III. PROJECT BUDGET

A. CONSTRUCTION COST ESTIMATE (CCE)

The initial Construction Cost Estimate (CCE) for this project is $7,157,329.

The Consultant shall review this Scope of Work and provide a narrative evaluation and analysis of the accuracy of the proposed project CCE in its technical proposal based on its professional experience and opinion.

B. CURRENT WORKING ESTIMATE (CWE)

The Current Working Estimate (CWE) for this project is $9,769,754.
The CWE includes the construction cost estimate and all consulting, permitting and administrative fees.

The CWE is the client agency's financial budget based on this project Scope of Work and shall not be exceeded during the design and construction phases of the project unless DPMC approves the change in Scope of Work through a Contract amendment.

C. CONSULTANT'S FEES

The construction cost estimate for this project ***shall not*** be used as a basis for the Consultant's design and construction administration fees. The Consultant's fees shall be based on the information contained in this Scope of Work document and the observations made and/or the additional information received during the pre-proposal meeting.

IV. PROJECT SCHEDULE

A. SCOPE OF WORK DESIGN & CONSTRUCTION SCHEDULE

The following schedule identifies the estimated design and construction phases for this project and the estimated durations.

PROJECT PHASE	ESTIMATED DURATION (Calendar Days)
1. Site Access Approvals & Schedule Design Kick-off Meeting	**14**
2. Investigation Phase	**42**
• *Project Team & DPMC Plan/Code Unit Review & Comment*	14
3. Design Development Phase	**42**
• *Project Team & DPMC Plan/Code Unit Review & Comment*	14
4. Final Design Phase	**42**
• *Project Team & DPMC Plan/Code Unit Review & Approval*	14
5. Final Design Re-Submission to Address Comments	**7**
• *Project Team & DPMC Plan/Code Unit Review & Approval*	14
6. DCA Submission Plan Review	**30**

7. Permit Application Phase • *Issue Plan Release*	**7**
8. Bid Phase	**42**
9. Award Phase	**28**
10. Construction Phase	**450***
11. Project Close Out Phase	**30**

*Equipment lead times, such as transformers and panel boards, are expected to be 12 to 15 months. Construction phase duration to be adjusted accordingly dependent upon equipment lead times.

B. CONSULTANT'S PROPOSED DESIGN & CONSTRUCTION SCHEDULE

The Consultant shall submit a project design and construction schedule with its technical proposal that is similar in format and detail to the schedule depicted in **Exhibit 'A'**. The schedule developed by the Consultant shall reflect its recommended project phases, phase activities, activity durations.

A written narrative shall also be included with the technical proposal explaining the schedule submitted and the reasons why and how it can be completed in the time frame proposed by the Consultant.

This schedule and narrative will be reviewed by the Consultant Selection Committee as part of the evaluation process and will be assigned a score commensurate with clarity and comprehensiveness of the submission.

V. PROJECT SITE LOCATION & TEAM MEMBERS

A. PROJECT SITE ADDRESS

The location of the project site is:

Bank Street Parking Garage
18-45 Bank Street
Trenton, NJ 08618

GPS Coordinates: 40.2232379° N, -74.7695888° W

See **Exhibit 'B'** for the project site location map.

B. PROJECT TEAM MEMBER DIRECTORY

The following are the names, addresses, and phone numbers of the Project Team members.

1. DPMC Representative:

Name:	William Golubinski, Manager Energy Initiatives Unit
Address:	Division of Property Management & Construction 20 West State Street, 3rd Floor P.O. Box 235 Trenton, NJ 08625
Phone No:	(609) 306-9854
E-Mail:	William.Golubinski@treas.nj.gov

2. Department of Treasury Representative:

Name:	Amanda Truppa, Director, Division of Administration
Address:	Department of Treasury Division of Administration P.O. Box 211 Trenton, NJ 08624-0211
Phone No:	(609) 633-2826
E-Mail:	Amanda.Truppa@treas.nj.gov

VI. PROJECT DEFINITION

A. BACKGROUND

On January 17, 2020, Governor Phil Murphy signed comprehensive legislation (S2252) that establishes goals and incentives for the increased use of plug-in electric vehicles and infrastructure in New Jersey. NJ Electric Vehicle (EV) Law will require 25% of state-owned non-emergency light duty vehicles to be plug in electric vehicles by 2025 and for 100% of vehicles to be plug in EV's by 2035. To meet these requirements the State of New Jersey has initiated several projects with infrastructure improvements including additional electrical distribution equipment and the installation of EV chargers at various locations. One of those locations is at the Bank Street Parking Garage at 18-45 Bank Street in Trenton, New Jersey.

The Bank Street Parking Garage is utilized by State employees and is typically full to capacity during standard work days. The proposed EV charging stations are to be used for fleet vehicles and personal employee vehicles.

The Division of Purchase and Property (DPP), under the State of New Jersey Treasury Department, has a working contract for the purchase of equipment with associated service contracts. Term Contract T3138 Electric Vehicle Service Equipment – Statewide is the title of the contract. The service agreement as part of the term contract with DPP enables the sharing of data even if a state vehicle uses a commercial charger (like the ones by eVgo or Chargepoint located throughout the State). Chargers shall be networked. "Dumb" chargers with no network capabilities will not be used. This project will be eligible for multiple EV incentives under programs by the utility company (PSEG) and the NJ DEP (Department of Environmental Protection).

The NJ Department of Property Management and Construction (DPMC) procured the services of Gannett Fleming to provide a concept for installing EV charging stations at the Bank Street Parking Garage (see **Exhibit 'E'** Feasibility Study). The Electric Vehicle Charging Stations Feasibility Study was completed in July 2023 and provides a concept for electric vehicle infrastructure to support proposed and future demand at the Bank Street Parking Garage. The electrical infrastructure improvements and installation of EV charging stations will require additional utility feed to support this project.

As the necessary improvements are made to the infrastructure and in order to comply with the Chapter 91 Act, C.52:34-6.9, the option of using fuel cells as a power source to satisfy this new electrical load will need to be explored (see **Exhibit 'F'** Fuel Cell Law).

B. FUNCTIONAL DESCRIPTION OF THE BUILDING

The Bank Street parking garage, built in 1989, is a seven tier precast concrete structure consisting of a ground level and six elevated parking levels. The garage has approximately 1,044 normal parking spaces. Currently, there aren't any vehicle charging stations on the garage site. The electrical feed distribution infrastructure at the garage cannot support the proposed EV layout to add 197 dual port Level 2 charging stations and 1 single port Level 3 charging station (see **Exhibit 'C'** Feasibility Study). The proposed EV charging stations will occupy 394 spaces inside the garage and 1 space in the exterior parking lot (see **Exhibit 'C'** Photos).

VII. CONSULTANT DESIGN RESPONSIBILITIES

A. INVESTIGATION PHASE

The Consultant shall conduct an investigation and make recommendations for increasing the building's utility in order to feed a medium voltage switchgear with a 3,390.2kVA connected load as outlined in the Gannett Fleming Feasibility Study shown in **Exhibit 'E'**. This load consists of the (197) dual port Level 2 EV charging stations, (1) single port Level 3 EV charging station, and related switchgear components to serve a total of 395 parking spaces at the Bank Street Parking Garage located in Trenton, New Jersey.

The utility company, PSE&G, has indicated that electrical upgrades of the existing substation are required to accommodate the power needed for the EV charging stations at the parking garage. In the event the substation costs are excessive, as part of the investigation, the Design Consultant will explore fuel cell generation (see **Exhibit 'F'** Fuel Cell Law), with cost estimates, as an alternative utility power source. The Consultant shall provide a report comparing and contrasting the two energy sources. The investigation will be used to determine if the existing electric utility infrastructure will be upgraded or fuel cell technology will be used.

B. DESIGN REQUIREMENTS

1. Utility Upgrade Requirements

As all chargers will not be installed on Day-1, the design shall allow for modular growth of the charging hub by adding additional fuel cells, if selected, and power distribution over time. However, the gas service would need to be sized to accommodate the full build-out.

<u>Utility Load Requirements</u>

The new medium voltage utility shall meet the requirements to feed the medium voltage switchgear (labeled rated 1200A, 4160V, 3PH, 3W)

(see **Exhibit 'D'** Site Plan**).**

The medium voltage switchgear shall distribute power to:

- (2) 3000kVA transformer to
- (2) 4000A, 480Y/277V, 3PH, 4W switchgear to
- (2) 1000kVA transformer and to
- (2) 4000A 208Y/120V switchgear.

The Level 3 charging stations will fed via:

- 4000A, 480Y/277V, 3PH, 4W switchgear.

The (15) local branch panelboards labeled "EV#" each rated 1200A, 208Y/120V, 3PH, 4W with a 1000A MCB will be fed via:

- 4000A 208Y/120V switchgear.

The (15) local branch panelboards will distribute power to the Level 2 charging stations.

The medium voltage switchgear will have a 3,390.2kVA connected load from all components with 1,224kVA spare capacity. The Consultant shall refer to **Exhibit 'E'** Feasibility Study - Appendix A for one-line diagrams and the proposed site layout of charging equipment. It is the responsibility of the Consultant to verify the proposed and conceptual design included in the referenced feasibility study.

The Consultant shall include in the design documentation to field coordinate the construction work with PSE&G. The design shall provide trenching, raceway, and transformer pad per PSE&G requirements, as applicable. The Consultant shall field coordinate final locations with PSE&G prior to construction.

2. EV Charging Stations, Switchgear, and Related Equipment

The Consultant shall provide the Design, Specification, Permit, Bid/Award, and Construction Administration for the installation of (197) dual port Level 2 charging stations, (1) single port Level 3 charging station, and related EV components. This will serve a total of 395 parking spaces at the Bank Street Parking Garage located in Trenton, New Jersey. The Consultant shall follow The Division of Purchase and Property (DPP) Term Contract T3138 Electric Vehicle Service Equipment – Statewide in order to provide the equipment and specifications in the design documentation.

The Consultant shall be responsible for the design and installation specifications of equipment and coordinate the recommended utility required to support the new electric charging stations. The Consultant shall review the line diagrams, electrical floor plans, and the site layout plan

from the Gannett Fleming feasibility study. The Consultant shall finalize the equipment requirements and verify the field location of the equipment. The Consultant shall be responsible for the load calculations for use in designing the load center, switchgear, distribution equipment, etc. of the below EV charging station equipment as listed in the feasibility study:

1. Provide and install (197) Level 2 dual port electric vehicle chargers, 8.3kW per port.
2. Provide and install (1) Level 3 single port electric vehicle charger, 120kW (each).
3. Provide and install (1) 1200A, 4160V, 3PH, 3W NEMA 3R enclosure switchgear with (1) 800A fused main switch section, utility meter section, and (2) 400A fused distribution switch.
4. Provide and install (2) 3000kVA NEMA 3R enclosure transformers 5kV to 480V.
5. Provide and install (2) 4000A, 480Y/277V, 3PH, 4W switchgear with 4000A LSIG main circuit breaker, 60A surge protection device, 200A Level 3 Charger, and (1)2000AF/1800AT 1000kVA.
6. Provide and install (2) 1000kVA NEMA 3R Enclosure transformers 480V to 208V.
7. Provide and install (2) 4000A, 208Y/120V, 3PH, 4W switchgear with 3500A LSIG main circuit breaker and (15) 1200AF/1000AT EV Panelboard.
8. Provide and install (15) 1200A, 208Y/120V, 3PH, 4W, NEMA 3R enclosure branch panelboards, 1000A MCB.
9. Provide and install (1) 200A, 600V, 3P, non-fused, NEMA 3R enclosure disconnect switches.
10. Provide and install (394) 40A, 240V, 3P, NEMA 3R motor rated switches.
11. Provide and install concrete equipment pads, concrete bases for strut, and stainless-steel strut support.
12. Provide and install bollards to protect all equipment that may be subjected to car damage.
13. New Utility Service as recommended by Consultant.

The design documentation shall also include:

- Pedestal details to support charging stations.
- Restriping of parking spaces as necessary.
- Appropriate signage indicating EV charging spaces.
- Site Restoration details.
- Bollard design for equipment protection.
- EV Charging and accessibility standards.

3. Charging Station Accessibility Guidelines

Not less than 5% of the vehicle spaces on the site served electrical vehicle charging systems, but not less than one of each type of electric vehicle charging system, shall be accessible.

Charging parking spaces to receive a level 2 charger shall also be made accessible for people with disabilities. One of the level 3 charging spots shall be made accessible.

Accessible vehicle spaces shall comply with the requirements for a van accessible parking space that is 132 inches minimum in width with and adjoining access aisle that is 60 inches minimum in width (see **Exhibit 'G'** Accessibility Guidelines).

The following link shall be used for guidelines:
https://dep.nj.gov/wp-content/uploads/drivegreen/ippi/accessibilityguidelines.pdf

C. DESIGN MEETINGS & PRESENTATIONS

1. Design Meetings:

Conduct the appropriate number of review meetings with the Project Team members during each design phase of the project so they may determine if the project meets their requirements, question any aspect of the contract deliverables, and make changes where appropriate. The Consultant shall describe the philosophy and process used in the development of the design criteria and the various alternatives considered to meet the project objectives. Selected studies, sketches, cost estimates, schedules, and other relevant information shall be presented to support the design solutions proposed. Special considerations shall also be addressed such as: Contractor site access limitations, utility shutdowns and switchover coordination, phased construction and schedule requirements, security restrictions, available swing space, material and equipment delivery dates, etc.

It shall also be the responsibility of the Consultant to arrange and require all critical Sub-Consultants to be in attendance at the design review meetings.

Record the minutes of each design meeting and distribute within three (3) calendar days to all attendees and those persons specified to be on the distribution list by the Project Manager.

2. Design Presentations:

The minimum number of design presentations required for each phase of this project is identified below for reference:

Design Development Phase: One (1) oral presentation at phase completion.
Final Design Phase: One (1) oral presentation at phase completion.

D. EXISTING DOCUMENTATION

Copies of the following documents will be provided to each Consulting firm at the pre-proposal meeting to assist in the bidding process.

- DBC Project# A0570-00 Bank Street Parking Garage, 1990-1991, Parking Directions, Inc.
- DPMC# A1263-00 Bank Steet Parking Garage Structural, Electrical, and Drainage Repairs, 01-2019 As-Builts, Gannett Fleming

Review these documents and any additional information that may be provided at a later date such as reports, studies, surveys, equipment manuals, as-built drawings, etc. The State does not attest to the accuracy of the information provided and accepts no responsibility for the consequences of errors by the use of any information and material contained in the documentation provided. It shall be the responsibility of the Consultant to verify the contents and assume full responsibility for any determination or conclusion drawn from the material used. If the information provided is insufficient, the Consultant shall take the appropriate actions necessary to obtain the additional information required.

All original documentation shall be returned to the provider at the completion of the project.

VIII. PERMITS & APPROVALS

A. NJ UNIFORM CONSTRUCTION CODE PLAN REVIEW AND PERMIT

The project construction documents must comply with the latest adopted edition of the NJ Uniform Construction Code (NJUCC).

The latest NJUCC Adopted Codes and Standards can be found at:

http://www.state.nj.us/dca/divisions/codes/codreg/

1. NJ Uniform Construction Code (NJUCC) Plan Review

Consultant shall estimate the cost of the NJUCC Plan Review by DCA and include that amount in their fee proposal line item entitled **"Plan Review and Permit Fee Allowance"**, refer to paragraph X.A.

Upon approval of the Final Design Phase Submission by DPMC, the Consultant shall submit the construction documents to the Department of Community Affairs (DCA), Bureau of Construction Project Review to secure a complete plan release.

As of July 25, 2022, the Department of Community Affairs (DCA) is only accepting digital signatures and seals issued from a third party certificate authority.

Procedures for submission to the DCA Plan Review Unit can be found at:

https://www.state.nj.us/dca/divisions/codes/forms/pdf_bcpr/pr_app_guide.pdf

Consultant shall complete the "Project Review Application" and include the following on Block 5 as the "Owner's Designated Agent Name":

Trevor M. Dittmar, DPMC
PO Box 235
Trenton, NJ 08625-0235
Trevor.Dittmar@treas.nj.gov 609-984-5529

The Consultant shall complete the NJUCC "Plan Review Fee Schedule", determine the fee due and pay the NJUCC Plan Review fees, refer to Paragraph X.A.

The NJUCC "Plan Review Fee Schedule" can be found at:

http://www.state.nj.us/dca/divisions/codes/forms/pdf_bcpr/pr_fees.pdf

2. NJ Uniform Construction Code Permit

Upon receipt of a complete plan release from the DCA Bureau of Construction Project Review, the Consultant shall complete the NJUCC permit application and all applicable technical sub-code sections. The "Agent Section" of the application and certification section of the building sub-code section shall be signed. These documents, with **six (6) sets of DCA approved, signed and sealed construction documents** shall be forwarded to the DPMC Project Manager.

The Consultant may obtain copies of all NJUCC permit applications at the following website:

https://www.nj.gov/dca/divisions/codes/resources/constructionpermitforms.html

All other required project permits shall be obtained and paid for by the Consultant in accordance with the procedures described in Paragraph VIII.B.

3. Prior Approval Certification Letters:

The issuance of a construction permit for this project may be contingent upon acquiring various "prior approvals" as defined by N.J.A.C. 5:23-1.4. It is the Consultant's responsibility to determine which prior approvals, if any, are required. The Consultant shall submit a general

certification letter to the DPMC Plan & Code Review Unit Manager during the Permit Phase of this project that certifies all required prior approvals have been obtained.

In addition to the general certification letter discussed above, the following specific prior approval certification letters, where applicable, shall be submitted by the Consultant to the DPMC Plan & Code Review Unit Manager: Soil Erosion & Sediment Control, Water & Sewer Treatment Works Approval, Coastal Areas Facilities Review, Compliance of Underground Storage Tank Systems with N.J.A.C. 7:14B, Pinelands Commission, Highlands Council, Well Construction and Maintenance; Sealing of Abandoned Wells with N.J.A.C. 7:9D, Certification that all utilities have been disconnected from structures to be demolished, Board of Health Approval for Potable Water Wells, Health Department Approval for Septic Systems. It shall be noted that in accordance with N.J.A.C. 5:23-2.15(a)5, a permit cannot be issued until the letter(s) of certification is received.

4. Multi-building or Multi-site Permits:

A project that involves many buildings and/or sites requires that a separate permit shall be issued for each building or site. The Consultant must determine the construction cost estimate for *each* building and/or site location and submit that amount where indicated on the permit application.

5. Special Inspections:

In accordance with the requirements of the New Jersey Uniform Construction Code N.J.A.C. 5:23-2.20(b), Bulletin 03-5 and Chapter 17 of the International Building Code, the Consultant shall be responsible for the coordination of all special inspections during the construction phase of the project.

Bulletin 03-5 can be found at:

http://www.state.nj.us/dca/divisions/codes/publications/pdf_bulletins/b_03_5.pdf

a. Definition:

Special inspections are defined as an independent verification by a certified special inspector for **Class I buildings and smoke control systems in any class building**. The special inspector is to be independent from the Contractor and responsible to the Consultant so that there is no possible conflict of interest.

Special inspectors shall be certified in accordance with the requirements in the New Jersey Uniform Construction Code.

b. Responsibilities:

The Consultant shall submit with the permit application, a list of special inspections and the agencies or special inspectors that will be responsible to carry out the inspections required for the project. The list shall be a separate document, on letter head, signed and sealed.

B. OTHER REGULATORY AGENCY PERMITS, CERTIFICATES AND APPROVALS

The Consultant shall identify and obtain all other State Regulatory Agency permits, certificates, and approvals that will govern and affect the work described in this Scope of Work. An itemized list of these permits, certificates, and approvals shall be included with the Consultant's Technical Proposal and the total amount of the application fees should be entered in the Fee Proposal line item entitled, **"Plan Review and Permit Fee Allowance."**

The Consultant may refer to the Division of Property Management and Construction "Procedures for Architects and Engineers Manual", Paragraph "**9. REGULATORY AGENCY APPROVALS"** which presents a compendium of State permits, certificates, and approvals that may be required for this project.

The Consultant shall determine the appropriate phase of the project to submit the permit application(s) in order to meet the approved project milestone dates.

Where reference to an established industry standard is made, it shall be understood to mean the most recent edition of the standard unless otherwise noted. If an industry standard is found to be revoked, or should the standard have undergone substantial change or revision from the time that the Scope of Work was developed, the Consultant shall comply with the most recent edition of the standard.

IX. ENERGY REBATE AND INCENTIVE PROGRAMS

The Consultant shall review any and all programs on the State and Federal level to determine if any proposed upgrades to the mechanical and/or electrical equipment and systems for this project qualify for approved rebates and incentives.

The Consultant shall review the programs available on the "New Jersey's Clean Energy Program" website at: http://www.njcleanenergy.com as well as federal websites and New Jersey electric and gas utility websites to determine if and how they can be applied to this project.

The Consultant shall identify all applicable rebates and incentives in their technical proposal and throughout the design phase.

The Consultant shall be responsible to complete the appropriate registration forms and applications, provide any applicable worksheets, manufacturer's specification sheets, calculations, attend meetings, and participate in all activities with designated representatives of the programs and utility companies to obtain the entitled financial incentives and rebates for this project.

All costs associated with this work shall be estimated by the Consultant and the amount included in the base bid of its fee proposal.

X. ALLOWANCES

A. PLAN REVIEW AND PERMIT FEE ALLOWANCE

The Consultant shall obtain and pay for all of the project permits in accordance with the guidelines identified below.

1. Permits:

The Consultant shall determine the various permits, certificates, and approvals required to complete this project.

2. Permit Costs:

The Consultant shall estimate the application fee costs for all of the required project permits, certificates, and approvals (excluding the NJ Uniform Construction Code permit) and include that amount in its fee proposal line item entitled **"Plan Review and Permit Fee Allowance"**. A breakdown of each permit and application fee shall be attached to the fee proposal for reference.

NOTE: The NJ Uniform Construction Code permit is excluded since it will be paid for by the State.

3. Applications:

The Consultant shall complete and submit all permit applications to the appropriate permitting authorities and the costs shall be paid from the Consultant's permit fee allowance. A copy of the application(s) and the original permit(s) obtained by the Consultant shall be given to the DPMC Project Manager for distribution during construction.

4. Consultant Fee:

The Consultant shall determine what is required to complete and submit the permit applications, obtain supporting documentation, attend meetings, etc., and include the total cost in the base bid of its fee proposal under the "Permit Phase" column.

Any funds remaining in the permit allowance will be returned to the State at the close of the project.

XI. SOW SIGNATURE APPROVAL SHEET

This Scope of Work shall not be considered a valid document unless all signatures appear in each designated area below.

The client agency approval signature on this page indicates that they have reviewed the design criteria and construction schedule described in this project Scope of Work (including the subsequent contract deliverables and exhibits) and verifies that the work will not conflict with the existing or future construction activities of other projects at the site.

SOW PREPARED BY: Alison F. Gottlieb 1/23/2025
ALISON F. GOTTLIEB, PROJECT MANAGER DATE
DPMC PROJECT PLANNING & INITIATION

SOW APPROVED BY: James Wright 1/23/2025
JAMES WRIGHT, MANAGER DATE
DPMC PROJECT PLANNING & INITIATION

SOW APPROVED BY: Jan 23, 2025
WILLIAM GOLUBINSKI, PROJECT MANAGER DATE
DPMC PROJECT MANAGEMENT GROUP

SOW APPROVED BY: 1/23/25
AMANDA TRUPPA, DIRECTOR DATE
DEPARTMENT OF TREASURY

SOW APPROVED BY: Jeanette M Barnard 2.21.25
JEANETTE M. BARNARD, DEPUTY DIRECTOR DATE
DIV PROPERTY MGT & CONSTRUCTION

XII. CONTRACT DELIVERABLES

The following are checklists listing the Contract Deliverables that are required at the completion of each phase of this project. The Consultant shall refer to the DPMC publication entitled "Procedures for Architects and Engineers," 3.0 Edition, dated September 2022 available at https://www.nj.gov/treasury/dpmc/Assets/Files/ProceduresforArchitectsandEngineers.pdf for a detailed description of the deliverables required for each submission item listed. References to the applicable paragraphs of the "Procedures for Architects and Engineers" are provided.

Note that the Deliverables Checklist may include submission items that are "S.O.W. Specific Requirements". These requirements will be defined in the project specific scope of work and included on the deliverables checklist.

This project includes the following phases with the deliverables noted as "Required by S.O.W" on the Deliverables Checklist:

- **INVESTIGATION PHASE**
- **DESIGN DEVELOPMENT PHASE**
- **FINAL DESIGN PHASE**
- **PERMIT APPLICATION PHASE**
- **BIDDING AND CONTRACT AWARD**
- **CONSTRUCTION PHASE**
- **PROJECT CLOSE-OUT PHASE**

XIII. EXHIBITS

A. SAMPLE PROJECT SCHEDULE FORMAT
B. PROJECT SITE LOCATION MAP
C. SITE PHOTOS
D. SITE PLAN
E. FEASIBILITY STUDY
F. FUEL CELL LAW
G. ACCESSIBLITY GUIDELINES

END OF SCOPE OF WORK

DPMC Project No.:A1414-00

Deliverables Checklist
Investigation Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
13.4.1.	A/E Statement of Site Visit						
13.4.2.	Narrative Description of Project						
13.4.3.	Building Code Information Questionnaire						
13.4.4.	Space Analysis						
13.4.5.	Special Features						
13.4.6.	Catalog Cuts						
13.4.7.	Site Evaluation						
13.4.8.	Subsurface Investigation						
13.4.9.	Surveys						
13.4.10.	Arts Inclusion						
13.4.11.	Design Rendering						
13.4.12.	Regulatory Approvals						
13.4.13.	Utility Availability						
13.4.14.	Drawings (6 Sets)						
13.4.15.	Specifications (6 Sets)						
13.4.16.	Current Working Estimate/Cost Analysis						
13.4.17.	Project Schedule						
13.4.18.	Formal Presentation						
13.4.19.	Scope of Work Compliance Statement						
13.4.20.	Schematic Design Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1414-00

Deliverables Checklist
Design Development Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
14.4.1.	A/E Statement of Site Visit						
14.4.2.	Narrative Description of Project						
14.4.3.	Building Code Information Questionnaire						
14.4.4.	Space Analysis						
14.4.5.	Special Features						
14.4.6.	Catalog Cuts						
14.4.7.	Site Evaluation						
14.4.8.	Subsurface Investigation						
14.4.9.	Surveys						
14.4.10.	Arts Inclusion						
14.4.11.	Design Rendering						
14.4.12.	Regulatory Approvals						
14.4.13.	Utility Availability						
14.4.14.	Drawings (6 Sets)						
14.4.15.	Specifications (6 Sets)						
14.4.16.	Current Working Estimate/Cost Analysis						
14.4.17.	Project Schedule						
14.4.18.	Formal Presentation						
14.4.19.	Plan Review/Scope of Work Compliance Statement						
14.4.20.	Design development Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1414-00

Deliverables Checklist
Final Design Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
15.4.1.	A/E Statement of Site Visit						
15.4.2.	Narrative Description of Project						
15.4.3.	Building Code Information Questionnaire						
15.4.4.	Space Analysis						
15.4.5.	Special Features						
15.4.6.	Catalog Cuts						
15.4.7.	Site Evaluation						
15.4.8.	Subsurface Investigation						
15.4.9.	Surveys						
15.4.10.	Arts Inclusion						
15.4.11.	Design Rendering						
15.4.12.	Regulatory Approvals						
15.4.13.	Utility Availability						
15.4.14.	Drawings (6 Sets)						
15.4.15.	Specifications (6 Sets)						
15.4.16.	Current Working Estimate/Cost Analysis						
15.4.17.	Project Schedule						
15.4.18.	Formal Presentation						
15.4.19.	Plan Review/Scope of Work Compliance Statement						
15.4.20.	Final Design Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1414-00

Deliverables Checklist
Permit Application Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
16.1.	N.J. UCC Permit Application						
16.4.	Drawings, Signed and Sealed (6 Sets)						
16.5.	Specifications, Signed and Sealed (6 Sets)						
16.6.	Current Working Estimate/Cost Analysis						
16.7.	Project Schedule						
16.8.	Plan Review/Scope of Work Compliance Statement						
16.9.	Permit Application Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC Project Manager the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1414-00

Deliverables Checklist
Bidding and Contract Award Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
17.1.1.	Notice of Advertising						
17.1.2.	Bid Proposal Form						
17.1.3.	Bid Clearance Form						
17.1.4.	Drawings (6 Sets)						
17.1.5.	Specifications (6 Sets)						
17.1.6.	Construction Schedule						
17.3	Pre-Bid Conference/Mandatory Site Visit						
17.3.1.	Meeting Minutes						
17.4	Bulletins						
17.5	Post Bid Meeting						
17.6.	Contract Award "Letter of Recommendation"						
17.8.	Bid Protests - Hearings						
17.9.	Bidding and Contract Award Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1414-00

Deliverables Checklist
Construction Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
18.2.	Pre-Construction Meeting						
18.3.	Submittal Log						
18.4.	Construction Schedule						
18.5.	Project Progress Meetings						
18.7.	Contractor's Invoicing and Payment Process						
18.8.	Contractor Submittals						
18.10.	Testing						
18.11.	Shop Drawings (6 Sets)						
18.12.	As-Built & Record Set Drawings (6 Sets)						
18.13.	Change Orders						
18.14.	Construction Photographs						
18.15.	Field Observations						
18.17.	Construction Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

DPMC Project No.: A1414-00

Deliverables Checklist
Project Close-Out Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
19.3.	Development of Punch List and Inspection Reports						
19.5.	Determination of Substantial Completion						
19.6.	Correction/Completion of Punch List						
19.7.	Submission of Close-Out Documentation						
19.7.1.	As-Built and Record Sets of Drawing (6 Sets)						
19.8.	Final Payment						
19.9.1.	Contractors Final Payment						
19.9.2.	A/E's Final Payment						
19.10.	Project Close-Out Phase Deliverables Checklist						
S.O.W. Reference	**S.O.W. Specific Requirements**						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ _____

Consultant Signature Date

February 7, 1997
Rev.: January 29, 2002

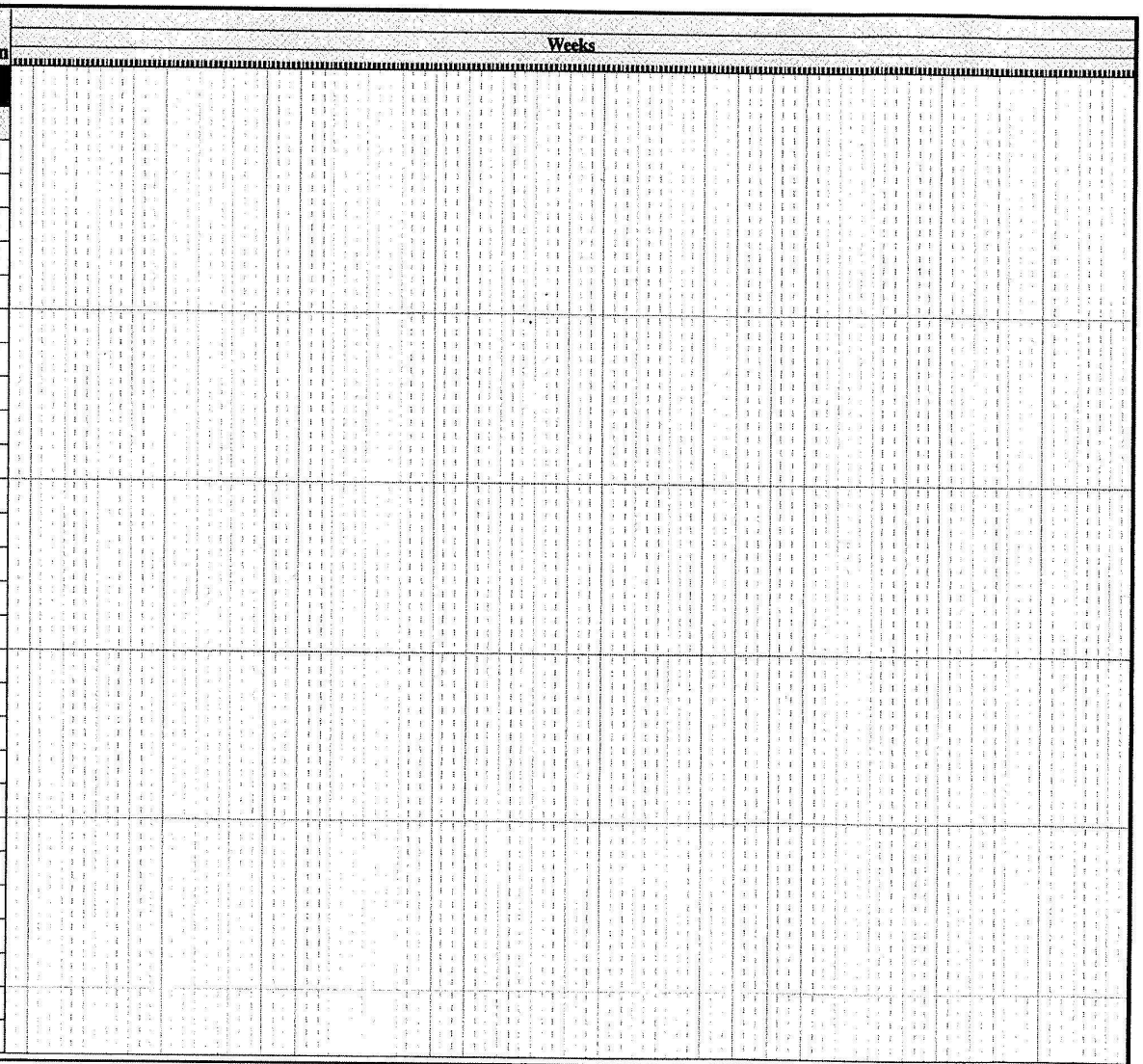
Responsible Group Code Table

The codes below are used in the schedule field "GRP" that identifies the group responsible for the activity. The table consists of groups in the Division of Property Management & Construction (DPMC), as well as groups outside of the DPMC that have responsibility for specific activities on a project that could delay the project if not completed in the time specified. For reporting purposes, the groups within the DPMC have been defined to the supervisory level of management (i.e., third level of management, the level below the Associate Director) to identify the "functional group" responsible for the activity.

CODE	DESCRIPTION	REPORTS TO ASSOCIATE DIRECTOR OF:
CM	Contract Management Group	Contract Management
CA	Client Agency	N/A
CSP	Consultant Selection and Prequalification Group	Technical Services
A/E	Architect/Engineer	N/A
PR	Plan Review Group	Technical Services
CP	Construction Procurement	Planning & Administration
CON	Construction Contractor	N/A
FM	Financial Management Group	Planning & Administration
OEU	Office of Energy and Utility Management	N/A
PD	Project Development Group	Planning & Administration

EXHIBIT 'A'

Activity ID	Description	Rspn
<PROJ>		
Design		
CV3001	Schedule/Conduct Predesign/Project Kick-Off Mtg.	CM
CV3020	Prepare Program Phase Submittal	AE
CV3021	Distribute Program Submittal for Review	CM
CV3027	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3022	Review & Approve Program Submittal	CA
CV3023	Review & Approve Program Submittal	PR
CV3024	Review & Approve Program Submittal	CM
CV3025	Consolidate & Return Program Submittal Comments	CM
CV3030	Prepare Schematic Phase Submittal	AE
CV3031	Distribute Schematic Submittal for Review	CM
CV3037	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3032	Review & Approve Schematic Submittal	CA
CV3033	Review & Approve Schematic Submittal	PR
CV3034	Review & Approve Schematic Submittal	CM
CV3035	Consolidate & Return Schematic Submittal Comment	CM
CV3040	Prepare Design Development Phase Submittal	AE
CV3041	Distribute D. D. Submittal for Review	CM
CV3047	Prepare & Submit Project Cost Analysis (DPMC-38)	CM
CV3042	Review & Approve Design Development Submittal	CA
CV3043	Review & Approve Design Development Submittal	PR
CV3044	Review & Approve Design Development Submittal	CM
CV3045	Consolidate & Return D.D. Submittal Comments	CM
CV3050	Prepare Final Design Phase Submittal	AE
CV3051	Distribute Final Design Submittal for Review	CM
CV3052	Review & Approve Final Design Submittal	CA
CV3053	Review & Approve Final Design Submittal	PR
CV3054	Review Final Design Submitl for Constructability	OCS



NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

DBCA - TEST

Sheet 1 of 3

Bureau of Design & Construction Services

EXHIBIT 'A'

Activity ID	Description	Rspn	Weeks
CV3055	Review & Approve Final Design Submittal	CM	
CV3056	Consolidate & Return Final Design Comments	CM	
CV3060	Prepare & Submit Permit Application Documents	AE	
CV3068	Prepare & Submit Bidding Cost Analysis (DPMC-38)	CM	
Plan Review-Permit Acquisition			
CV4001	Review Constr. Documents & Secure UCC Permit	PR	
CV4010	Provide Funding for Construction Contracts	CA	
CV4020	Secure Bid Clearance	CM	
Advertise-Bid-Award			
CV5001	Advertise Project & Bid Construction Contracts	CP	
CV5010	Open Construction Bids	CP	
CV5011	Evaluate Bids & Prep. Recommendation for Award	CM	
CV5012	Evaluate Bids & Prep. Recommendation for Award	AE	
CV5014	Complete Recommendation for Award	CP	
CV5020	Award Construction Contracts/Issue NTP	CP	
Construction			
CV6000	Project Construction Start/Issue NTP	CM	
CV6001	Contract Start/Contract Work (25%) Complete	CON	
CV6002	Preconstruction Meeting	CM	
CV6003	Begin Preconstruction Submittals	CON	
CV6004	Longest Lead Procurement Item Ordered	CON	
CV6005	Lead Time for Longest Lead Procurement Item	CON	
CV6006	Prepare & Submit Shop Drawings	CON	
CV6007	Complete Construction Submittals	CON	
CV6011	Roughing Work Start	CON	
CV6012	Perform Roughing Work	CON	
CV6010	Contract Work (50%+) Complete	CON	
CV6013	Longest Lead Procurement Item Delivered	CON	
CV6020	Contract Work (75%) Complete	CON	

NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

Bureau of Design & Construction Services

EXHIBIT 'A'

Activity ID	Description	Rspn	Weeks
CV6014	Roughing Work Complete	CON	
CV6021	Interior Finishes Start	CON	
CV6022	Install Interior Finishes	CON	
CV6030	Contract Work to Substantial Completion	CON	
CV6031	Substantial Completion Declared	CM	
CV6075	Complete Deferred Punch List/Seasonal Activities	CON	
CV6079	Project Construction Complete	CM	
CV6080	Close Out Construction Contracts	CM	
CV6089	Construction Contracts Complete	CM	
CV6090	Close Out A/E Contract	CM	
CV6092	Project Completion Declared	CM	

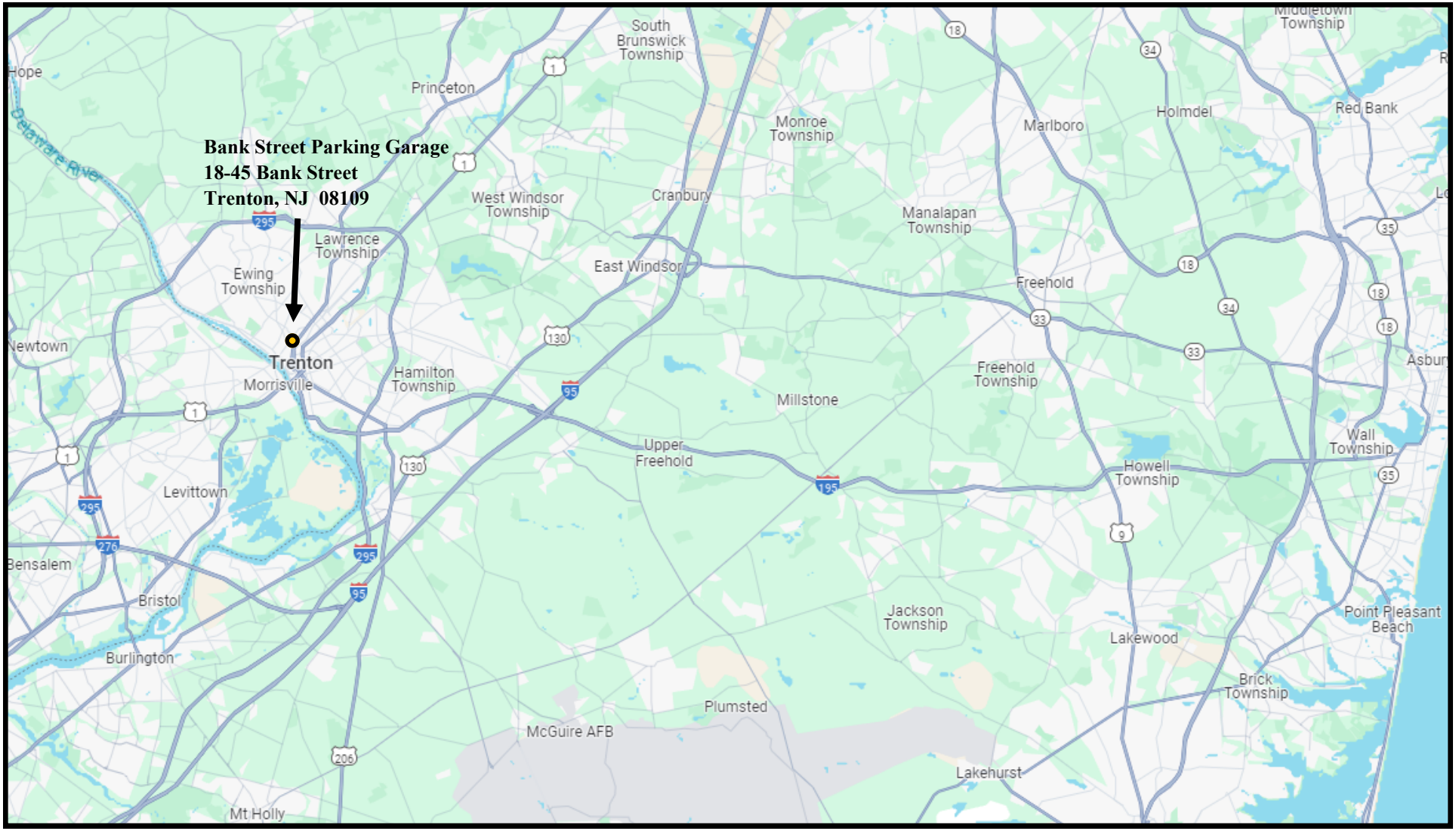
NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

DBCA - TEST

Sheet 3 of 3

Bureau of Design & Construction Services

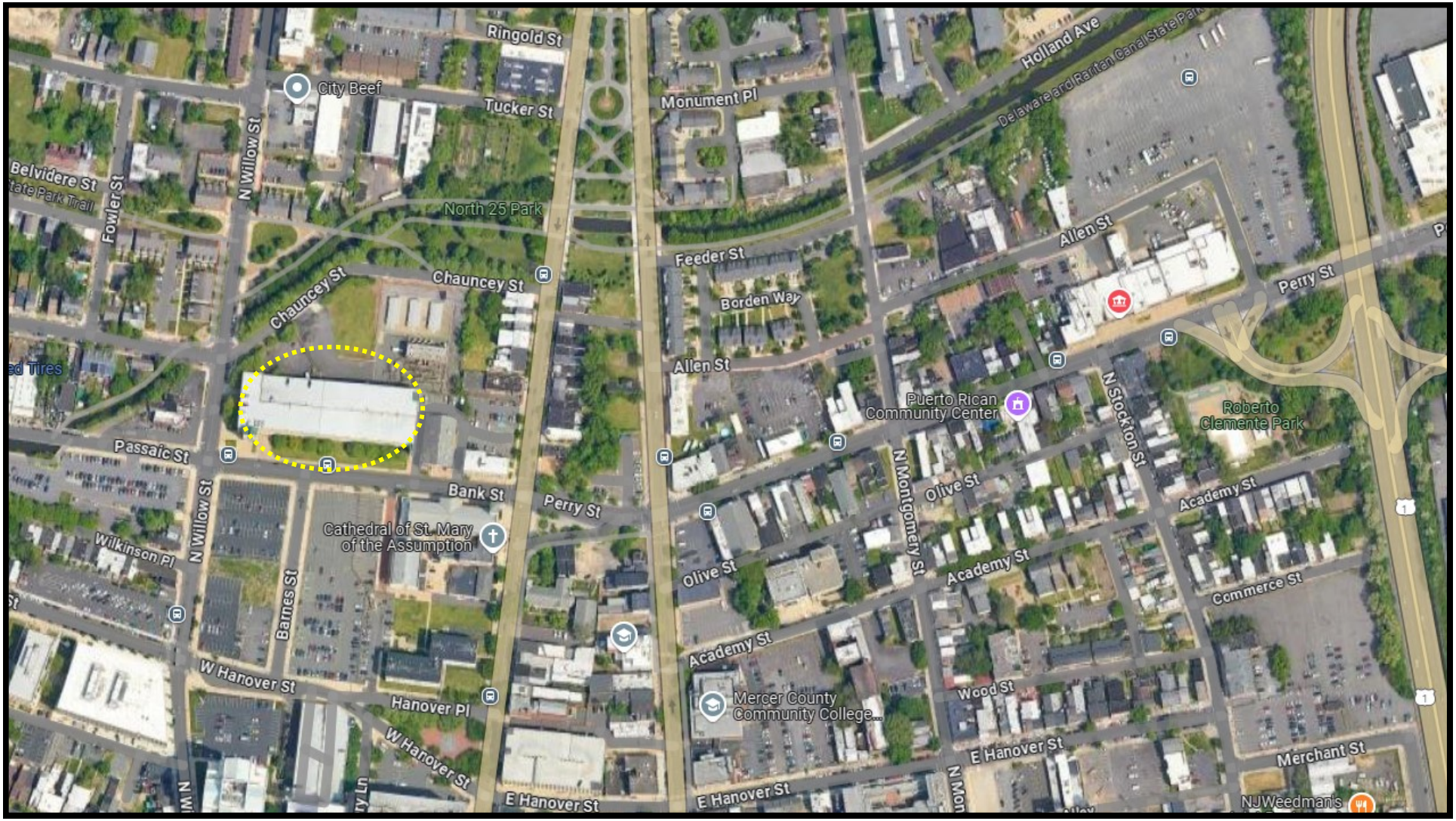
EXHIBIT 'A'



Project Site Location Map

Bank Street Parking Garage

EXHIBIT 'B'



Project Location

Bank Street Parking Garage

EXHIBIT 'B'

Project Site

Bank Street Parking Garage

EXHIBIT 'B'

Side View

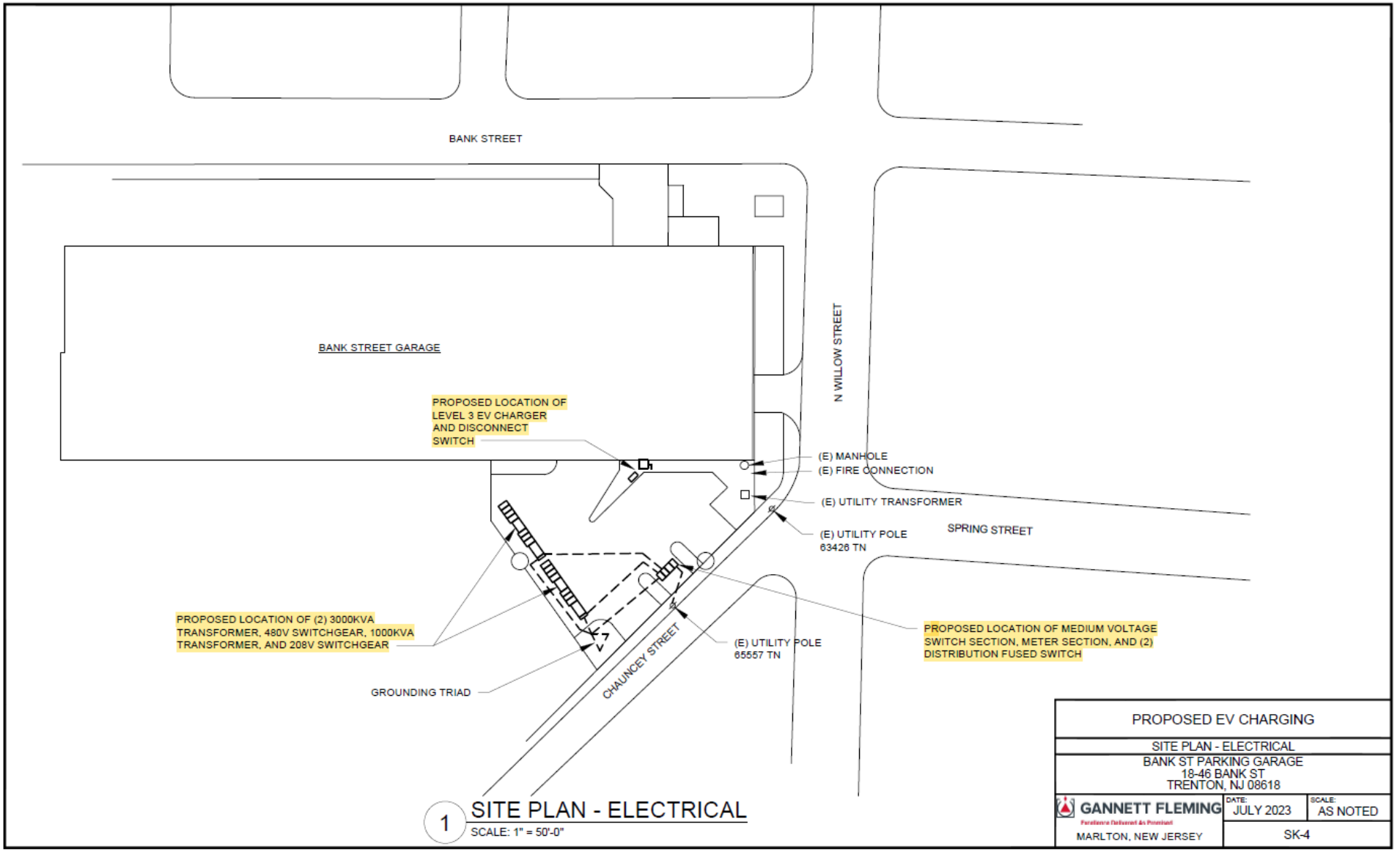
Bank Street Parking Garage

EXHIBIT ‘D’

Rear View

Bank Street Parking Garage

EXHIBIT 'G'



Site Plan – Electrical

Bank Street Parking Garage

EXHIBIT 'D'

Submitted to:

New Jersey Department of Treasury
Division of Property Management and Construction

NJDPMC No. J0390-00/TO 3
Electric Vehicle Charging Stations Feasibility Study

Bank St Parking Garage

18-45 Bank St
Trenton, NJ

Submitted by:

Gannett Fleming

*Excellence Delivered **As Promised***

July 2023

EXHIBIT 'E'

July 2023

EXHIBIT 'E'

TABLE OF CONTENTS

Contents

APPENDICES

EXHIBIT 'E'

1.0 INTRODUCTION

Bank St Parking Garage is located at 18-46 Bank Street Trenton, NJ 08618. The building has approximately 1,044 normal parking spaces in the building. NJDPMC is looking to add 197 dual port Level 2 charging stations and 1 single port Level 3 charging stations serving a total of 395 parking spaces. These spaces will have the potential to be used for fleet vehicles and personal employee vehicles. Currently there are no charging stations or infra-structure on site to support the charging of electric vehicles. The proposed EV layout will utilize 394 spaces inside the garage and 1 space in exterior parking lot. The intent is to bring in a new utility feed to support the EV charging stations.

The objective of this study is to provide a concept for electric vehicle charging stations and determine what is required to construct the associated electrical infrastructure to support proposed and future demand. This study also provides installation costs for the conceptual design. The goal is to provide the owner with a safe and transparent system which efficiently delivers energy for staff and visitors to utilize. The summary below lists the proposed overall scope and requirements:

1. Provide and install (197) Level 2 dual port electric vehicle chargers, 8.3kW per port.
2. Provide and install (1) Level 3 single port electric vehicle chargers, 120kW (each).
3. Provide and install (1) 1200A 4160V, 3PH, 3W NEMA 3R enclosure switchgear with (1) 800A fused main switch section, utility meter section, and (2) 400A fused distribution switch.
4. Provide and install (2) 3000kVA NEMA 3R enclosure transformers 5kV to 480V.
5. Provide and install (2) 4000A, 480Y/277V, 3PH, 4W switchgear with 4000A LSIG main circuit breaker, 60A surge protection device, 200A Level 3 Charger, and (1) 2000AF/1800AT 1000kVA.
6. Provide and install (2) 1000kVA NEMA 3R enclosure transformers 480V to 208V.
7. Provide and install (2) 4000A, 208Y/120V, 3PH, 4W switchgear with 3500A LSIG main circuit breaker and (15) 1200AF/1000AT EV Panelboard.
8. Provide and install (15) 1200A, 208Y/120V, 3PH, 4W, NEMA 3R enclosure branch panelboards, 1000A MCB.
9. Provide and install (1) 200A, 600V, 3P, non-fused, NEMA 3R enclosure disconnect switches.
10. Provide and install (394) 40A, 240V, 3P, NEMA 3R motor rated switches.
11. Provide and install concrete equipment pads, concrete bases for strut, and stainless-steel strut support.
12. Provide and install bollards to protect all equipment that may be subjected to car damage.
13. New utility service.

EXHIBIT 'E'

2.0 BACKGROUND

EV charging stations for commercial applications are available in Level 2 and level 3 options with either single port or dual port to charge one or two electric vehicles. Level 2 charging stations are designed for lower power draw and slower charging speeds. Level 3 stations, also called DCFC or fast charging stations are designed for higher power draw and faster charging speeds. Typically, each charging stations will require a dedicated circuit breaker per port. Some dual port stations can use a single circuit breaker to power both ports but the total charging availability will be split between the 2 ports. A Level 2 single port EV charging station typically ranges from 40A to 80A charging capacity based on manufacturer and model. A Level 2 dual port EV charging station typically ranges from 40A to 60A in charging capacity based on manufacturer and model. A Level 3 single and dual port EV charging station typically ranges from 100A to 300A in charging capacity based on manufacturer and model. Refer to Appendix B for more information on typical EV charging stations approved for installation by the state.

Charging times may vary greatly depending on the electric vehicle, battery charge (availability and total capacity), and EV charging station. Charging a battery from empty to full could range anywhere between a couple hours to over 24 hours, but since most users are just looking to top off their battery typically 1 to 4 hours can usually fully charge a battery.

3.0 PROPOSED ELECTRIC VEHICLE CHARGING FEEDER DISTRIBUTION

A new medium voltage utility feed shall feed a medium voltage switchgear labeled rated for 1200A, 4160V, 3PH, 3W. The medium voltage switchgear shall distribute power to (2) 3000kVA transformer, to (2) 4000A, 480Y/277V, 3PH, 4W switchgear, to (2) 1000kVA transformer, and to (2) 4000A 208Y/120V switchgear. The Level 3 charging stations will be fed via 4000A, 480Y/277V, 3PH, 4W switchgear. (15) local branch Panelboards labeled "EV#" each rated 1200A, 208Y/120V, 3PH, 4W with a 1000A MCB will be fed via 4000A 208Y/120V switchgear. The local branch panelboards will distribute power to the Level 2 charging stations. Refer to appendix A for suggested one-line diagram and site layout of charging equipment.

The medium voltage switchgear will have 3,390.2kVA connected load with 1,224kVA spare capacity.

Coordinate scope and requirements of work with PSE&G. Provide trenching, raceway, and transformer pad per PSE&G requirements. Field coordinate final locations with PSE&G prior to work starting.

4.0 COST ESTIMATE

Based on all the new utility service and associated ancillary equipment required as mentioned above, a summary of construction costs is provided in the table below.

Table 1. – Summary of Construction Costs	
	Construction Cost Estimate (CCE)
Option	$8,588,795.08

A breakdown of the above costs is included within this report in Appendix C.

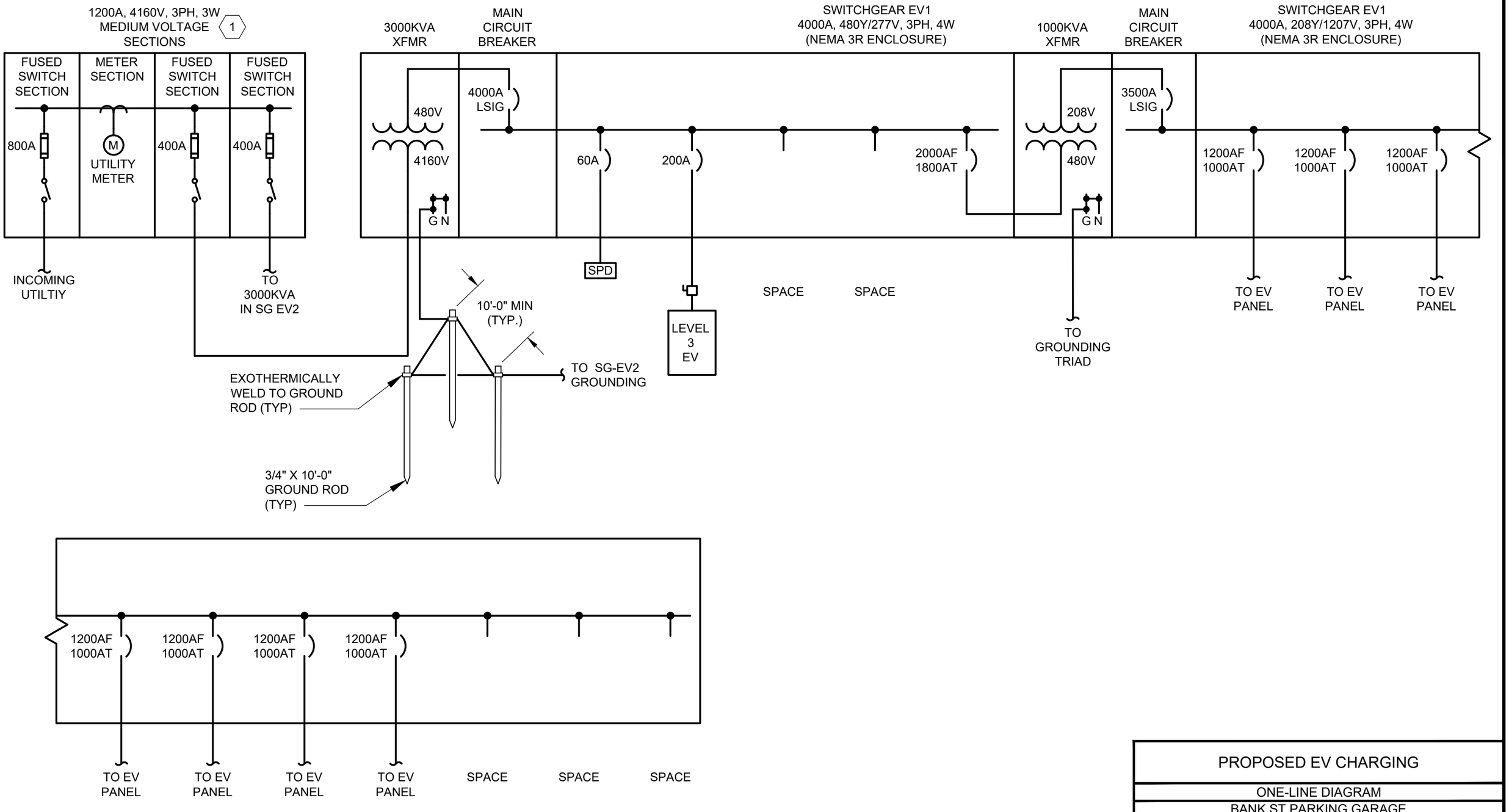
5.0 CONCLUSIONS

In accordance with the NJ Electric Vehicle Law, NJ is committed to electrifying 25% of the non-emergency fleet vehicles owned by the state by 2025. The non-emergency fleet shall be 100% electric by year end 2035. To meet this objective; infrastructure improvements including additional electrical distribution equipment and electrical vehicle charging stations are required.

This project will help meet the plan goals by providing charging for 100 vehicles through a combination of Level 2 and Level 3 chargers. The chargers will be made available for personal and fleet vehicle charging. To meet the power demands from the charging units, Gannett recommends a new utility serviced connection be brought to the site. Gannett reviewed the proposed installation with PSE&G and they are supportive of the project.

Appendix A
Drawings

EXHIBIT 'E'



DRAWING NOTES:

1. MEDIUM VOLTAGE SWITCHES AND METER SECTION PER UTILITY REQUIREMENTS.

PROPOSED EV CHARGING

ONE-LINE DIAGRAM

BANK ST PARKING GARAGE
18-46 BANK ST
TRENTON, NJ 08618

GANNETT FLEMING
Excellence Delivered As Promised
MARLTON, NEW JERSEY

DATE: JULY 2023

SCALE: AS NOTED

SK-1

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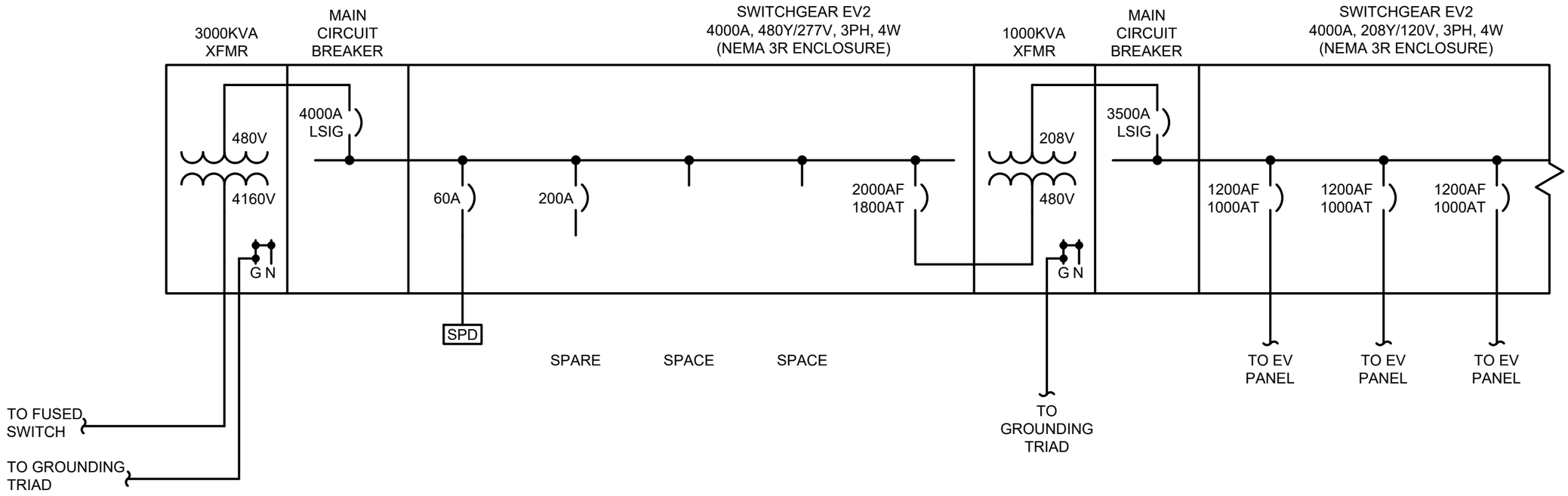
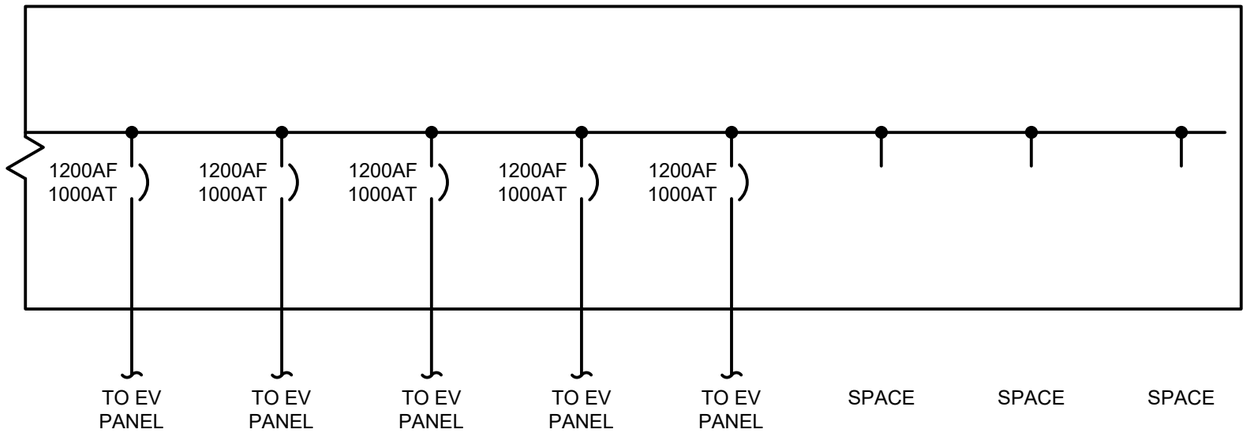
EXHIBIT 'E'





PROPOSED EV CHARGING

ONE-LINE DIAGRAM

BANK ST PARKING GARAGE
18-46 BANK ST
TRENTON, NJ 08618

GANNETT FLEMING
Excellence Delivered As Promised
MARLTON, NEW JERSEY

DATE: JULY 2023

SCALE: AS NOTED

SK-2

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EXHIBIT 'E'

PANEL DESIGNATION	TYPE: I-LINE	LOCATION: EXTERIOR
EV	NUMBER OF POLES: 48	VOLTAGE: 208Y/120V, 3-PHASE, 4-WIRE
	MAIN BUS RATING: 1200A	PANEL MOUNTING: SURFACE
	MAIN RATING: 1000A MCB	PANEL ENCLOSURE (NEMA): 3R
		SHORT CIRCUIT: 42kA

CIR. No.	CIR. BKR.	DESCRIPTION	WIRE	GROUND	CONDUIT	LOAD - KVA ΦA	ΦB	ΦC	LOAD - KVA ΦA	ΦB	ΦC	WIRE	GROUND	CONDUIT	DESCRIPTION	CIR. BKR.	CIR. No.
1	50/2	EV STATION 1A (LEVEL 2)	6	10	1"	4.15			4.15			6	10	1"	EV STATION 1B (LEVEL 2)	50/2	2
3							4.15			4.15							4
5	50/2	EV STATION 2A (LEVEL 2)	6	10	1"			4.15			4.15	6	10	1"	EV STATION 2B (LEVEL 2)	50/2	6
7						4.15			4.15								8
9	50/2	EV STATION 3A (LEVEL 2)	6	10	1"		4.15			4.15		6	10	1"	EV STATION 3B (LEVEL 2)	50/2	10
11								4.15			4.15						12
13	50/2	EV STATION 4A (LEVEL 2)	6	10	1"	4.15			4.15			6	10	1"	EV STATION 4B (LEVEL 2)	50/2	14
15							4.15			4.15							16
17	50/2	EV STATION 5A (LEVEL 2)	6	10	1"			4.15			4.15	6	10	1"	EV STATION 5B (LEVEL 2)	50/2	18
19						4.15			4.15								20
21	50/2	EV STATION 6A (LEVEL 2)	6	10	1"		4.15			4.15		6	10	1"	EV STATION 6B (LEVEL 2)	50/2	22
23								4.15			4.15						24
25	50/2	EV STATION 7A (LEVEL 2)	6	10	1"	4.15			4.15			6	10	1"	EV STATION 7B (LEVEL 2)	50/2	26
27							4.15			4.15							28
29	50/2	EV STATION 8A (LEVEL 2)	6	10	1"			4.15			4.15	6	10	1"	EV STATION 8B (LEVEL 2)	50/2	30
31						4.15			4.15								32
33	50/2	EV STATION 9A (LEVEL 2)	6	10	1"		4.15			4.15		6	10	1"	EV STATION 9B (LEVEL 2)	50/2	34
35								4.15			4.15						36
37	50/2	EV STATION 10A (LEVEL 2)	6	10	1"	4.15			4.15			6	10	1"	EV STATION 10B (LEVEL 2)	50/2	38
39							4.15			4.15							40
41	50/2	EV STATION 11A (LEVEL 2)	6	10	1"			4.15			4.15	6	10	1"	EV STATION 11B (LEVEL 2)	50/2	42
43						4.15			4.15								44
45	50/2	EV STATION 12A (LEVEL 2)	6	10	1"		4.15			4.15		6	10	1"	EV STATION 12B (LEVEL 2)	50/2	46
47								4.15			4.15						48
49	50/2	EV STATION 13A (LEVEL 2)	6	10	1"	4.15			4.15			6	10	1"	EV STATION 13B (LEVEL 2)	50/2	50
51							4.15			4.15							52
53	50/2	EV STATION 14A (LEVEL 2)	6	10	1"			4.15			4.15	6	10	1"	EV STATION 14B (LEVEL 2)	50/2	54
55						4.15			4.15								56
57	50/2	EV STATION 15A (LEVEL 2)	6	10	1"		4.15			4.15		6	10	1"	EV STATION 15B (LEVEL 2)	50/2	58
59								4.15			4.15						60
61	50/2	EV STATION 16A (LEVEL 2)	6	10	1"	4.15			4.15			6	10	1"	EV STATION 16B (LEVEL 2)	50/2	62
63							4.15			4.15							64
X															SPACE		66
X															SPACE		68
					TOTAL	**45.65**	**45.65**	**41.50**	**45.65**	**45.65**	**41.50**	*TOTAL*					

PANEL CONNECTED LOAD

ΦA 91.30
ΦB 91.30
ΦC 83.00
265.60 *TOTAL*

TOTAL CONNECTED AMPS 737

X SOLID NEUTRAL BUS
X EQUIPMENT GROUND BUS
___ EXTERNAL 120KA SPD

PROPOSED EV CHARGING

TYPICAL EV PANELBOARD

BANK ST PARKING GARAGE
18-46 BANK ST
TRENTON, NJ 08618

GANNETT FLEMING
Excellence Delivered As Promised
MARLTON, NEW JERSEY

DATE: JULY 2023
SCALE: AS NOTED

SK-3

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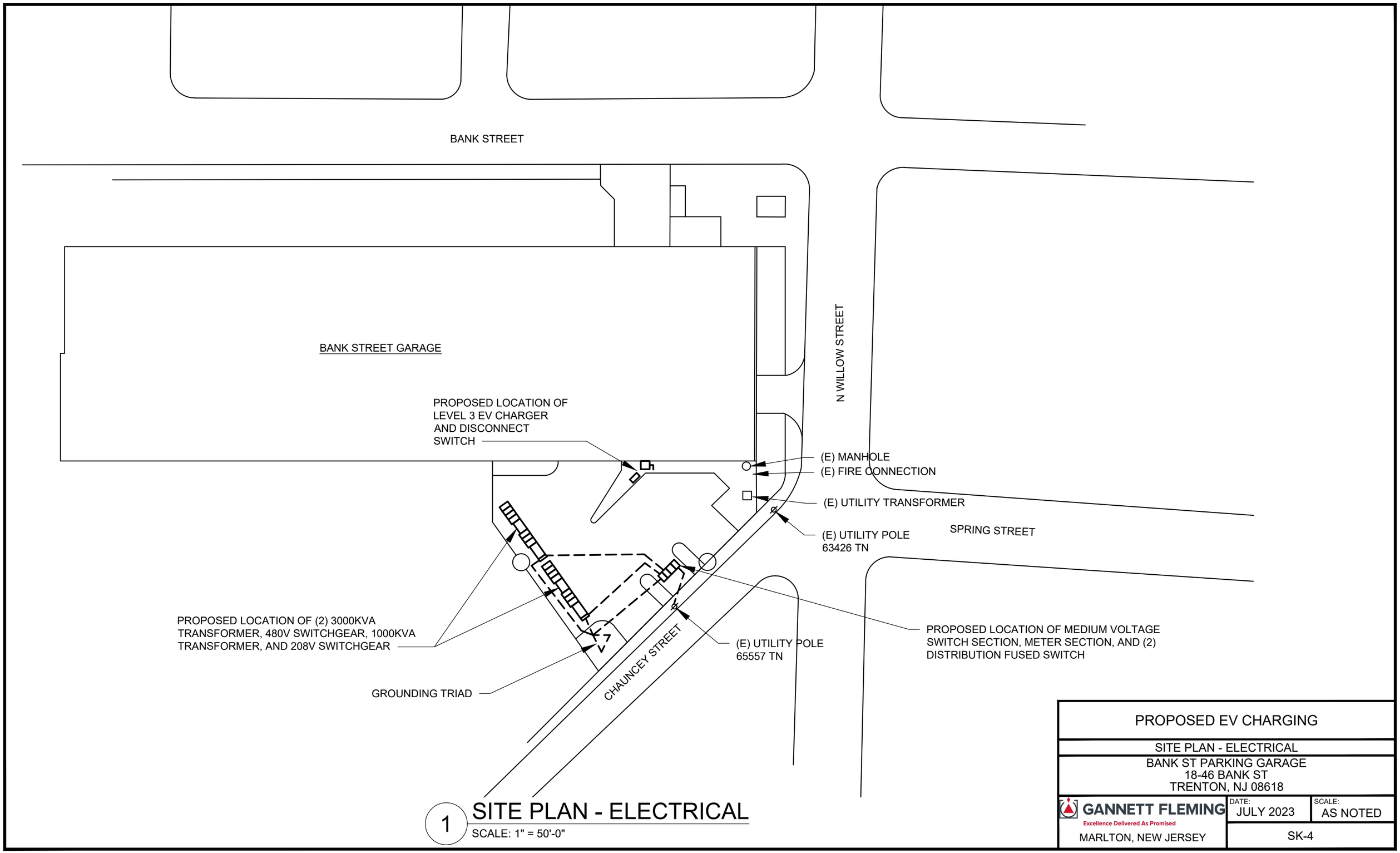
EXHIBIT 'E'



1 SITE PLAN - ELECTRICAL

SCALE: 1" = 50'-0"

PROPOSED EV CHARGING

SITE PLAN - ELECTRICAL

BANK ST PARKING GARAGE
18-46 BANK ST
TRENTON, NJ 08618

GANNETT FLEMING
Excellence Delivered As Promised

MARLTON, NEW JERSEY

DATE: JULY 2023

SCALE: AS NOTED

SK-4

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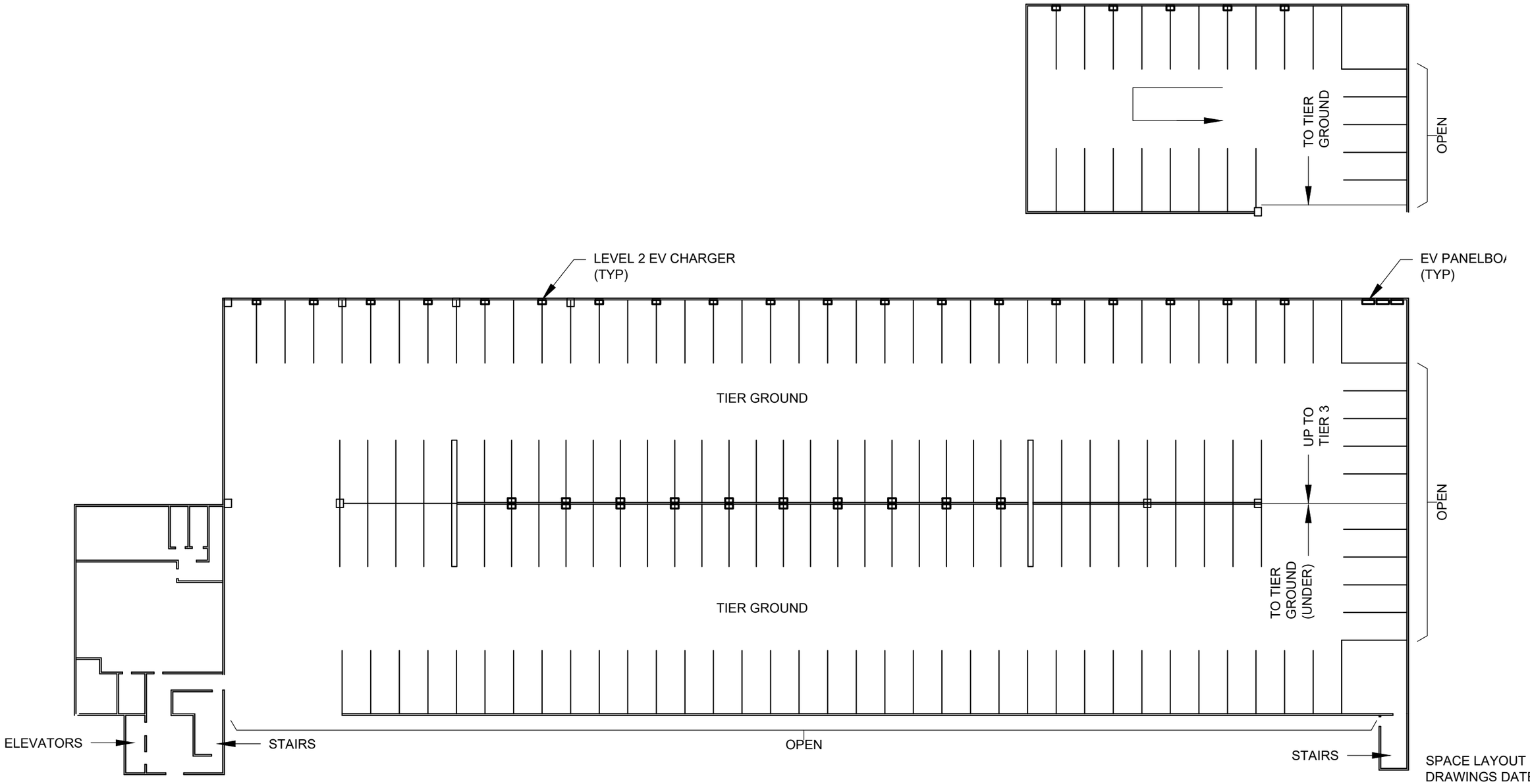
EXHIBIT 'E'



SPACE LAYOUT IS BASED ON
DRAWINGS DATED 5/22/2015

1 TIER GROUND FLOOR PLAN - ELECTRICAL

SCALE: 1" = 30'-0"

PROPOSED EV CHARGING

TIER GROUND FLOOR PLAN - ELECTRICAL

BANK ST PARKING GARAGE
18-46 BANK ST
TRENTON, NJ 08618

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MARLTON, NEW JERSEY

DATE: JULY 2023

SCALE: AS NOTED

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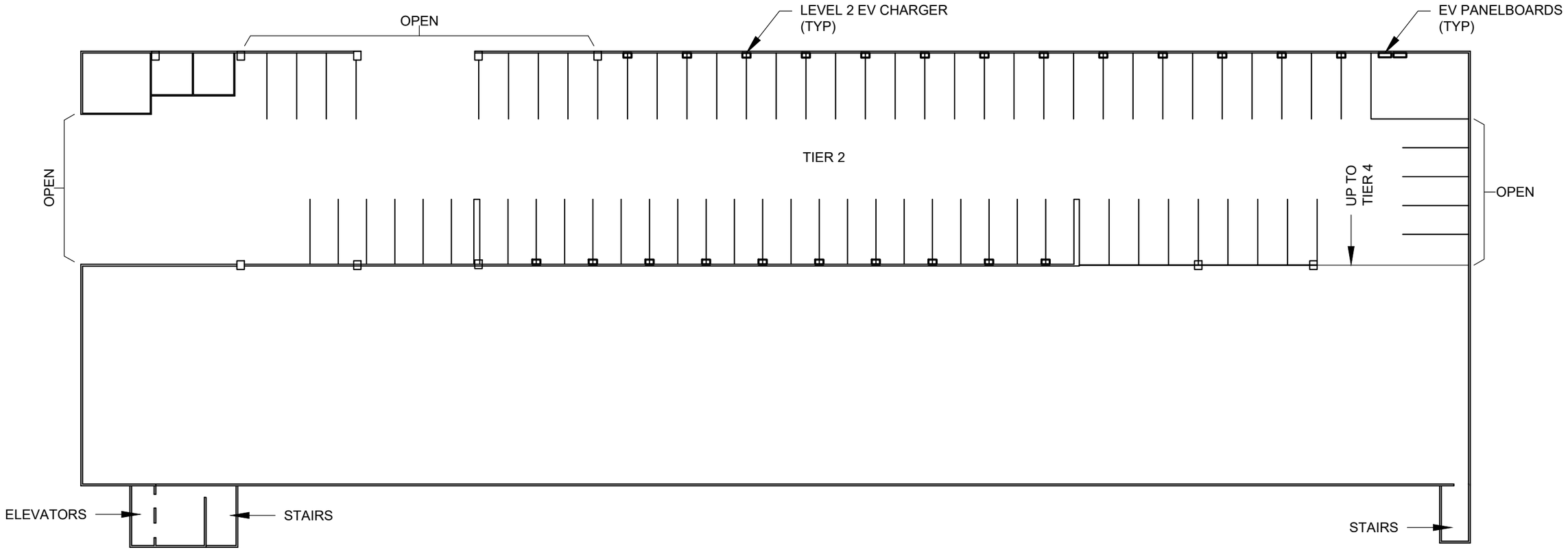

1 TIER 2 FLOOR PLAN - ELECTRICAL

SCALE: 1" = 30'-0"

SPACE LAYOUT IS BASED ON
DRAWINGS DATED 5/22/2015

PROPOSED EV CHARGING

TIER 2 FLOOR PLAN - ELECTRICAL

BANK ST PARKING GARAGE
18-46 BANK ST
TRENTON, NJ 08618

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DATE: JULY 2023

SCALE: AS NOTED

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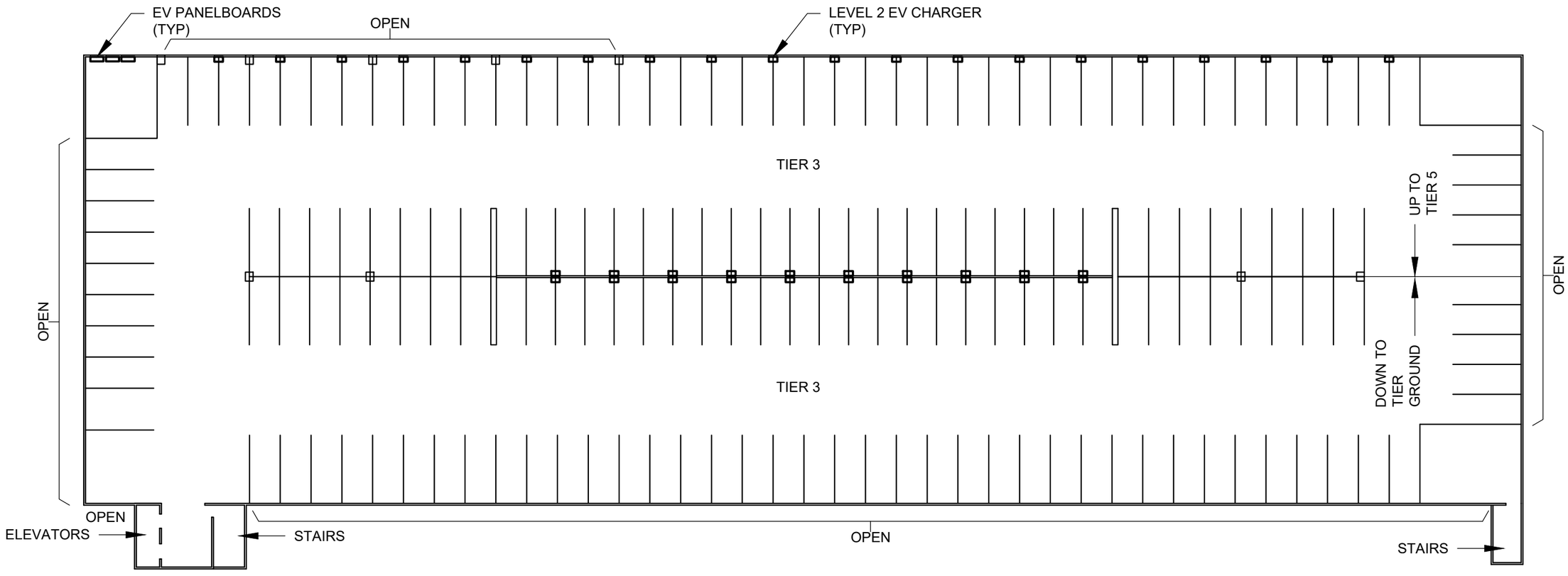

1 TIER 3 FLOOR PLAN - ELECTRICAL

SCALE: 1" = 30'-0"

SPACE LAYOUT IS BASED ON
DRAWINGS DATED 5/22/2015

PROPOSED EV CHARGING

TIER 3 FLOOR PLAN - ELECTRICAL

BANK ST PARKING GARAGE
18-46 BANK ST
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DATE: JULY 2023

SCALE: AS NOTED

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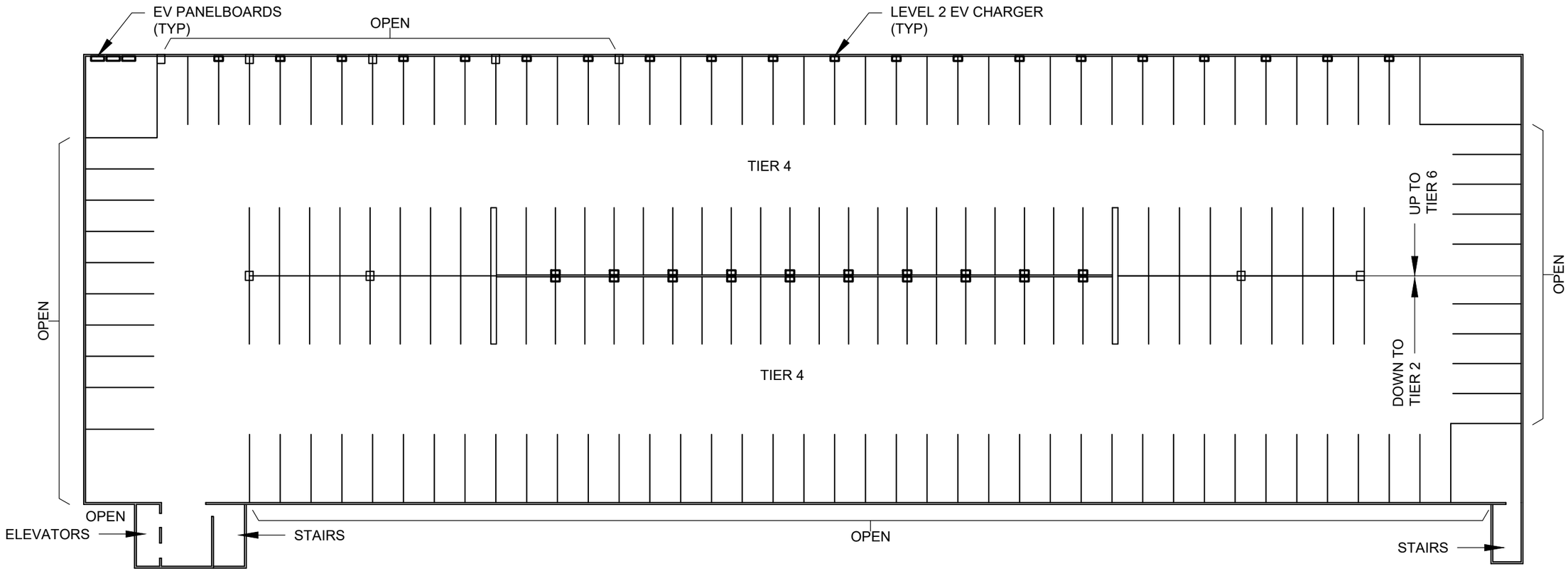

1 TIER 4 FLOOR PLAN - ELECTRICAL

SCALE: 1" = 30'-0"

SPACE LAYOUT IS BASED ON
DRAWINGS DATED 5/22/2015

PROPOSED EV CHARGING

TIER 4 FLOOR PLAN - ELECTRICAL

BANK ST PARKING GARAGE
18-46 BANK ST
TRENTON, NJ 08618

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MARLTON, NEW JERSEY

DATE: JULY 2023

SCALE: AS NOTED

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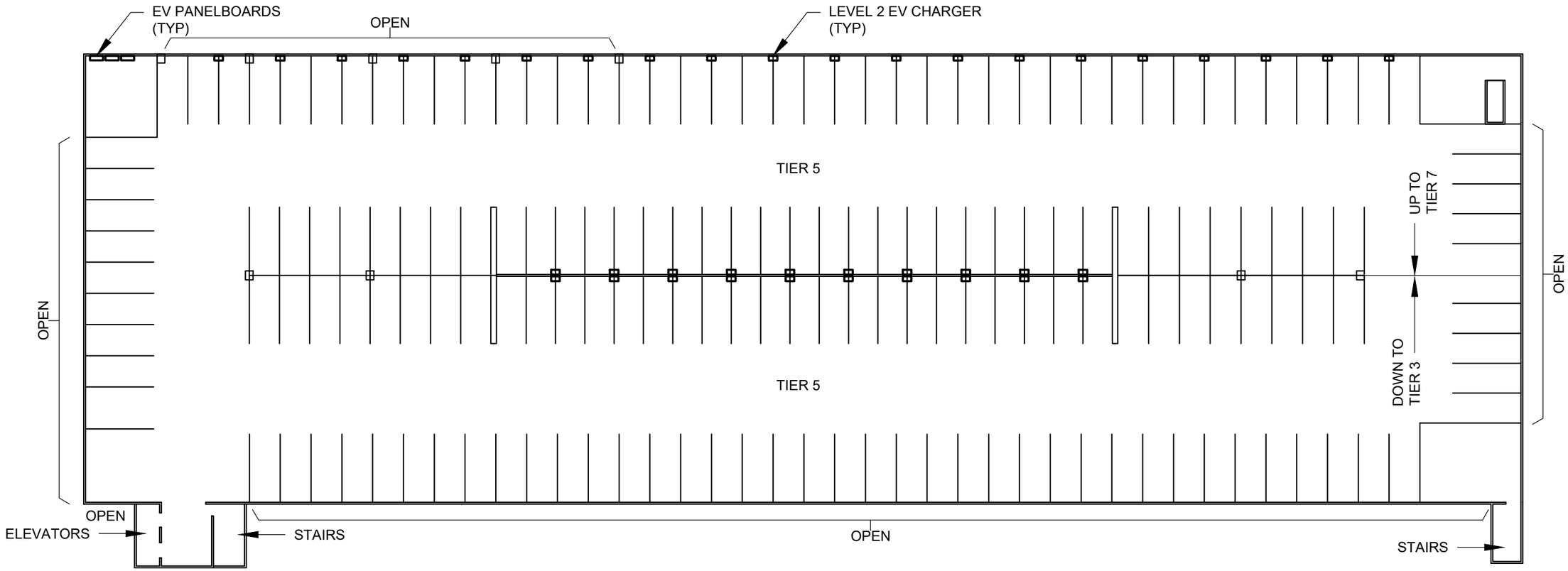

1 TIER 5 FLOOR PLAN - ELECTRICAL

SCALE: 1" = 30'-0"

SPACE LAYOUT IS BASED ON
DRAWINGS DATED 5/22/2015

PROPOSED EV CHARGING

TIER 5 FLOOR PLAN - ELECTRICAL

BANK ST PARKING GARAGE
18-46 BANK ST
TRENTON, NJ 08618

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MARLTON, NEW JERSEY

DATE: JULY 2023

SCALE: AS NOTED

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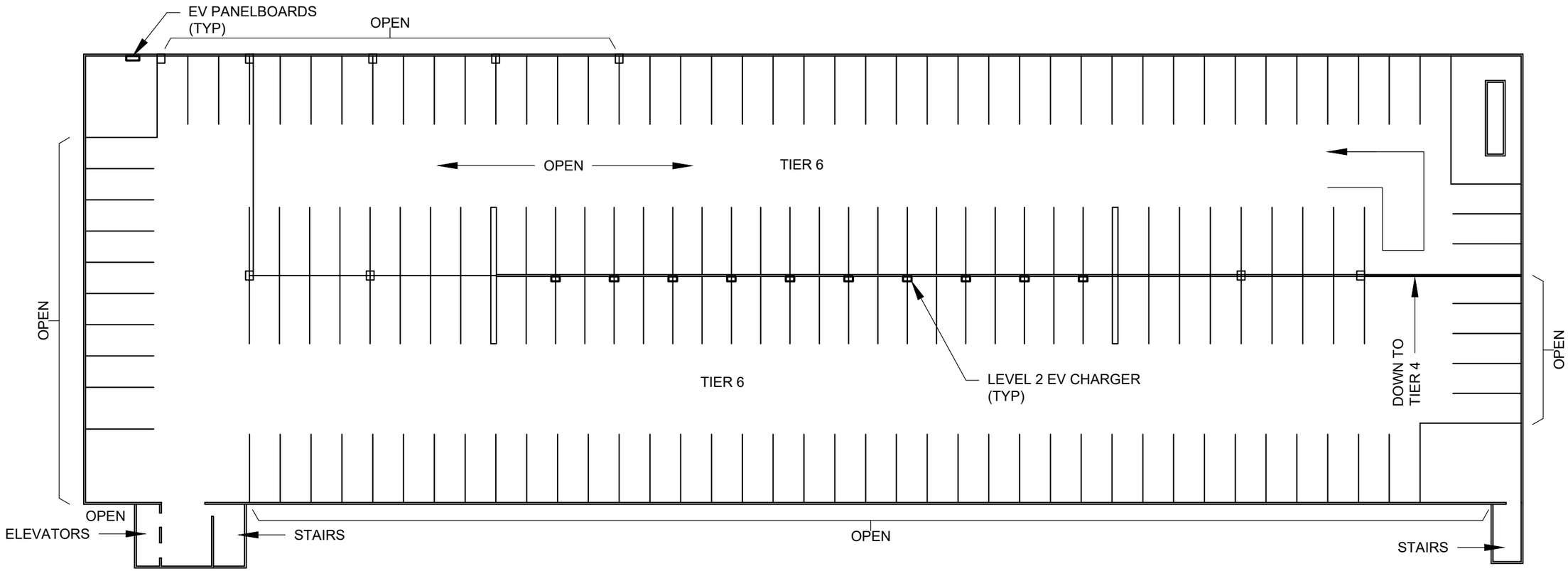

1 TIER 6 FLOOR PLAN - ELECTRICAL

SCALE: 1" = 30'-0"

SPACE LAYOUT IS BASED ON
DRAWINGS DATED 5/22/2015

PROPOSED EV CHARGING		
TIER 6 FLOOR PLAN - ELECTRICAL		
BANK ST PARKING GARAGE 18-46 BANK ST TRENTON, NJ 08618		
GANNETT FLEMING Excellence Delivered As Promised MARLTON, NEW JERSEY	DATE: JULY 2023	SCALE: AS NOTED
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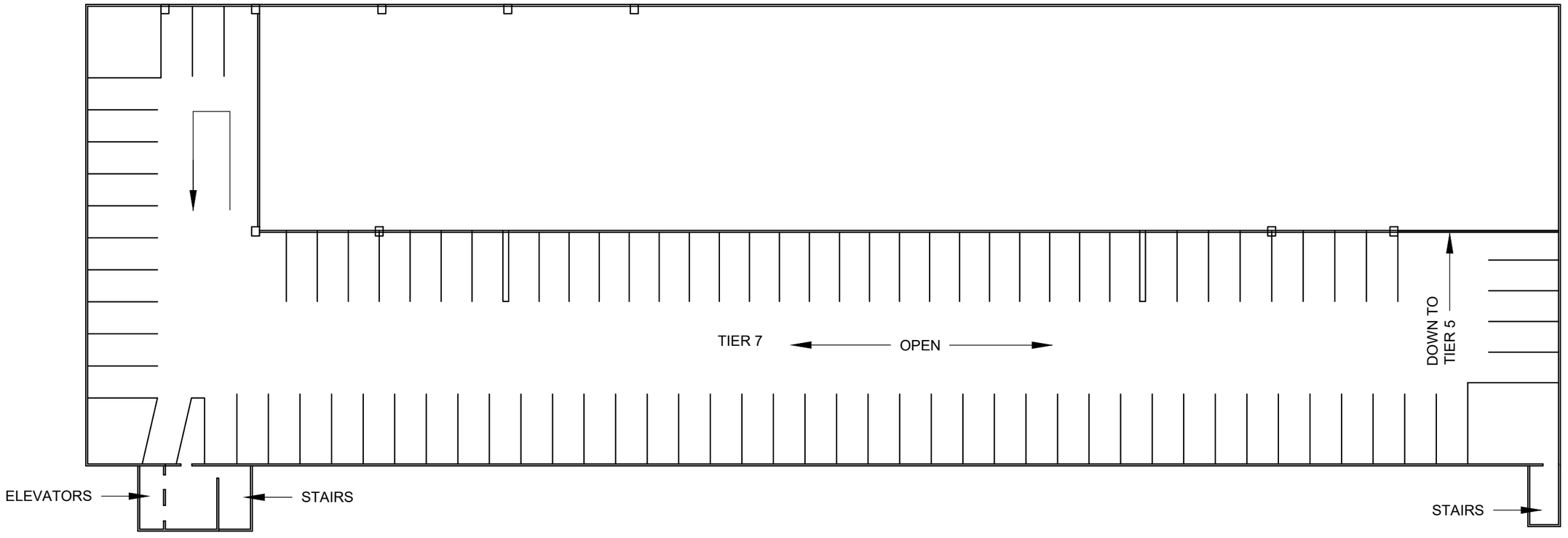

1 TIER 7 FLOOR PLAN - ELECTRICAL

SCALE: 1" = 30'-0"

SPACE LAYOUT IS BASED ON
DRAWINGS DATED 5/22/2015

PROPOSED EV CHARGING

TIER 7 FLOOR PLAN - ELECTRICAL

BANK ST PARKING GARAGE
18-46 BANK ST
TRENTON, NJ 08618

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MARLTON, NEW JERSEY

DATE: JULY 2023

SCALE: AS NOTED

SK-11

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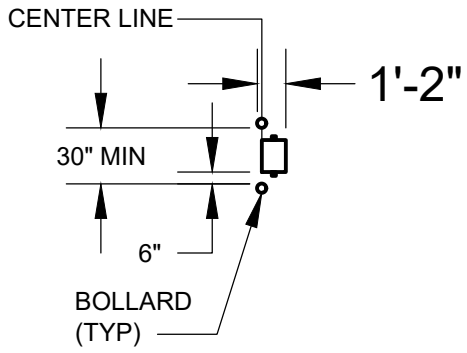
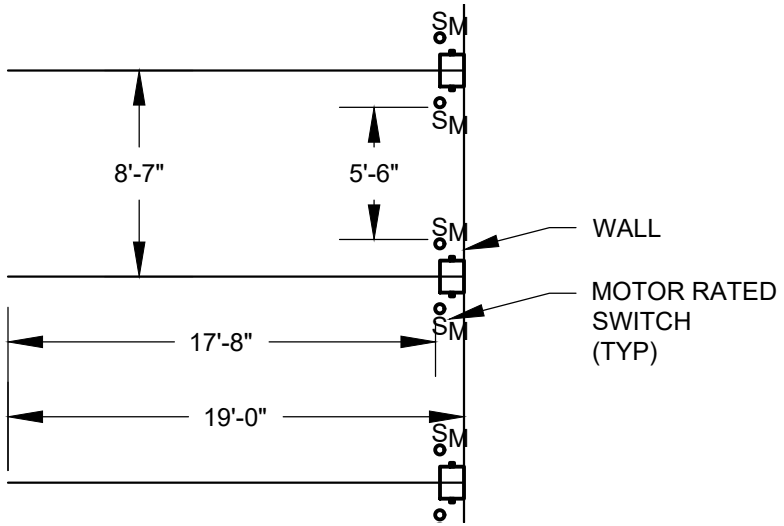


1 TYPICAL LEVEL 2 BOLLARD LAYOUT

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



2 TYPICAL WALL PARKING SPACE LAYOUT

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

SPACE DIMENSION ARE BASED ON DRAWINGS DATED 5/22/2015

PROPOSED EV CHARGING	
TYPICAL PARKING SPACE LAYOUT	
BANK ST PARKING GARAGE 18-46 BANK ST TRENTON, NJ 08618	
GANNETT FLEMING Excellence Delivered As Promised MARLTON, NEW JERSEY	DATE: JULY 2023 SCALE: AS NOTED SK-12

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EXHIBIT 'E'

Appendix B
EV Charging Station Cut Sheets

EXHIBIT 'E'

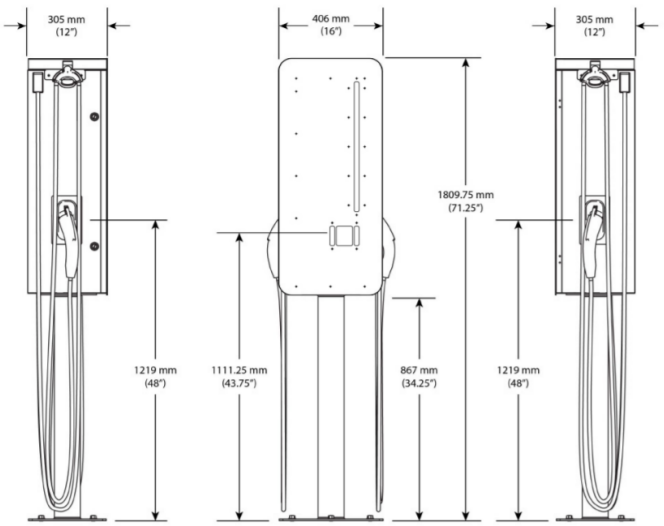
JuiceBar
FIRST CHOICE IN EV CHARGING

evconnect

info@evconnect.com
(866) 780-0062

400 SERIES: 40A LEVEL 2

JuiceBar Gen 3 Technical Specifications



Model #	Description
JB3.0-401 JB3.0-402	Single Connector Charger Dual Connector Charger

Certifications

TUV Rheinland
UL 2231-1, UL 2231-2, UL 2594

AC Input

Voltage: 208/240 VAC
Breaker: Rating 50A
Single Connector: 3 Wire (L1, L2 & G)
Double Connector: 5 Wire (L1, L1, L2, L2 & G)
Voltage: 208/240 VAC
Breaker: Rating 100A
Double Connector: 3 Wire (L1, L2 & G)

AC Input Per Connector

9.6 kW at 240VAC
8.3 kW at 208VAC

Operating Temperature

- 25° C to +50° C
- 13° F to +122° F

Communications

Cellular

Protocol

OCPP 1.6J

Dimensions

71.25" Total Height with Pedestal
36.5" Total Height w/out Pedestal
16" Width Without Connectors
12" Depth

Cord Length

18 feet (standard)

Connectors

SAE J1772 Type 1

Enclosure

Type 3R Aluminum

Options

Wall Bracket
Pedestal Mount
Branded Door Graphics
GFCI Outlet & Bike Lock Loop

User Interface

LED Indicators
RFID Card Reader

EXHIBIT 'E'

evconnect
info@evconnect.com
(866) 780-0062

Terra 94 / 124 / 184 UL

DC Fast Charging Station

ABB's Terra all-in-one DC fast chargers offer power up to 180 kW, with convenient charging times for every EV -including those with HV batteries.

The compact, modular design makes it perfect for retail, highway or fleet use, with power sharing to further optimize utilization. All Terra chargers feature connectivity for remote services and OCPP enablement.

The Terra 94/124/184 is available with CCS-only, CCS-dual and CCS+CHAdeMO dual outlets. Cable management options enhance reliability and usability.

Flexible Configuration

ABB's Terra DC Fast chargers from 50 kW to 180 kW are designed for the most compact, reliable and future-proof demands. In addition to a range of power selections, Terra chargers can be configured with CCS and CHAdeMO connector cables, in single or dual outlet format. Cable management, payment enablement and connectivity choices also offer owners, operators and site hosts options tailored to the needs of every charging site, from public to fleet needs.

The Most Reliable, Scalable Choice

ABB's Terra chargers offer redundant power architecture for the highest uptime in the EV infrastructure industry. Additionally, Terra chargers can meet the needs of high voltage BEVs up to 920V, making these systems fully compatible with all current and future EVs. With a host of configuration options, Terra DC fast chargers are ready to support EV market growth over time.

Power Sharing for High Utilization

Enabling every business model is critical for EV charging infrastructure. With this goal in mind, ABB has designed the Terra 124 and Terra 184 models with power sharing technology, which is capable of charging two vehicles at the same time. Simultaneous charging can deliver higher utilization for every charging asset, a major key to public and fleet electrification success.

ABB Terra 11all in one" chargers are offered from up to 180 kW.

The Terra 124 and 184 models can charge two vehicles at the same time.

Terra 94
one EV up to
90 kW

Terra 124
one EV up to
120 kW

Terra 124
one EV up to
60 kW

Terra 184
one EV up to
180 kW

Terra 184
one EV up to
90 kW

EXHIBIT 'E'

evconnect

Key Features

- A compact, all-in-one charger from 90 kw to 180 kW
- Terra 124 and Terra 184 can fast-charge two vehicles at the same time
- Paralleled power module topology with automatic failover offers high uptime through redundancy
- Delivers output power continuously and reliably over its lifetime
- Flexible configurations include CCS-single, CCSdual and CCS+CHAdeMO-dual outlets
- Up to 920 VDC for every passenger or fleet EV
- Bright, daylight readable touchscreen display with graphic visualization of charging session
- High short circuit current rating
- EMC Class B certified for safe use at fuel stations, retail centers, offices, and residential-adjacent sites
- Design enables ADA compliant installations
- RFID authorization modes
- Always connected, enabling remote services, updates and upgrades
- Robust all-weather powder-coated stainless-steel enclosure
- Quick and easy installation as well as serviceability

Optional Features

- Reliable cable management system available as ordered or field upgrade
- Customizable user interface
- Integrated payment terminal
- Web tools for statistics and PIN access management
- Integration with OCPP networks, payment platforms and energy management
- Autocharge and ISO 15118 enabled

Why Charging Operators and Fleets Prefer ABB

- ABB offers the most advanced, safe and reliable EV infrastructure and grid connected technologies
- ABB Connected Services enable every business and remote services model
- ABB's decade of EV charging experience and close cooperation with EV OEMs, networks and fleets

Specifications	Terra 94	Terra 124	Terra 184
Electrical			
Maximum Output Power	90 kW	120 kW or 60 kW x 2	180 kW or 90 kW x 2
AC Input Voltage	480Y / 277 VAC +/- 10% (60 Hz)		
AC Input Connection	3-phase: Ll, L2, L3, GND (no neutral)		
Nominal Input Current and Input Power Rating	115 A, 96 kVA	153 A, 128 kVA	230 A, 192 kVA
Recommended Upstream Circuit Breaker(s)	150 A	200 A	300 A
Power Factor*	>0.96		
Current THD*	<5%		
Short Circuit Current Rating	65k A		
DC Output Voltage	CCS-1: 150 - 920 VDC; CHAdeMO : 150 - 500 VDC		
DC Output Current	CCS-1: 200 A; CHAdeMO : 200 A		
Efficiency*	95%		
Interface and Control			
Charging Protocols	CCSl and CHAdeMO 1.2		
User Interface	7" high brightness full color touchscreen display		
RFID System	I5O/IEC 14443A/B, I5O/IEC 15393, FeliCa™ 1, NFC reader mode, Mifare, Calypso, (option: Legic)		
Network Connection	GSM/3G/4G modem; 10/100 Base-T Ethernet		
Communication	OCPP 1.6 Core and Smart Charging Profiles; Autocharge		
Supported Languages	English (others available on request)		
Environment			
Operating Temperature	-35 ·c to +55 ·c / -31 "F to +131 "F (de-rating characteristics apply at extreme temperatures)		
Recommended Storage	-10 •c to +70 •c / 14 "F to +158 •c (dry environment)		
Protection	IP54, NEMA 3R; indoor and outdoor rated		
Humidity	5% to 95%, non-condensing		
Altitude	2000 m (6560 ft)		
General			
Charge Cable	6 m (19.6 ft)		
Dimensions	1900 x 565 x 880 mm/ 74.8 x 22.2 x 34.6 in		
Weight	350 kg / 775 lbs	365 kg/ 800 lbs	395 kg / 870 lbs
Compliance and Safety	UL 2202, CSA No. 107.1-16; UL 2231-1, UL 2231-2, CSA STD C22.2 No. 107.1; NEC Article 625, EN 61851, EN 62196; CHAdeMO 1.2; DIN 70121, ISO 15118; IEC 61000-6-3; EMC Class B, FCC Part 15		

EXHIBIT 'E'

Appendix C
DPMC-38 and Cost Estimate

EXHIBIT 'E'

Contract No.:	**J0390-00/TO 3**	**BANK ST PARKING GARAGE**		Discipline:	Electrical	Sheet:	1
Charge Code:	68597	**18-45 BANK STREET**		Prepared by:	RLP	Date:	7/7/2023
Project Mgr:	Teresa Peterson	**TRENTON, NJ 08618**		Checked by:		Date:	7/7/2023
Project Title:	**EV CHARGING STATION INSTALLATION**						
	Consultant Name:	Gannett Fleming Inc.		Consultant Contact:	856-396-2226		

Item #	Description	Quantity	Unit	Unit Price $		Total $		Total $	Remarks
				Material	Labor	Material	Labor		
1	Mobilization	1	LS	2500.00	2500.00	$2,500.00	$2,500.00	$5,000.00	
2	New Utility	1	LS	$25,000.00	$0.00	$25,000.00	$0.00	$25,000.00	
3	1200A, 4160V, 3PH, 3W Switchgear	1	EA	$174,558.72	$5,000.00	$174,558.72	$5,000.00	$179,558.72	
4	3000kVA transformer	2	EA	$192,445.00	$2,500.00	$384,890.00	$5,000.00	$389,890.00	
5	4000A, 480Y/277V, 3PH, 4W Switchgear	2	EA	$220,222.27	$5,000.00	$440,444.54	$10,000.00	$450,444.54	
6	1000kVA transformer	2	EA	$138,962.55	$2,500.00	$277,925.10	$5,000.00	$282,925.10	
7	4000A, 208Y/120V, 3PH, 4W Switchgear	2	EA	$308,726.59	$5,000.00	$617,453.18	$10,000.00	$627,453.18	
5	I-Line Panelboard 1200A, 208Y/120V, 3PH, 4W, 1000A	15	EA	$28,325.88	$2,650.00	$424,888.20	$39,750.00	$464,638.20	
6	Surge Protection Device	2	EA	$3,550.00	$132.00	$7,100.00	$264.00	$7,364.00	
7	Conductors	1	LS	$200,000.00	$100,000.00	$200,000.00	$100,000.00	$300,000.00	
8	Raceway	1	LS	$100,000.00	$75,000.00	$100,000.00	$75,000.00	$175,000.00	
9	Trenching	1	LS	$5,000.00	$10,000.00	$5,000.00	$10,000.00	$15,000.00	
10	Surface Repair	1	LS	$20,000.00	$10,000.00	$20,000.00	$10,000.00	$30,000.00	
11	Concrete Pads and Footers	1	LS	$7,500.00	$5,000.00	$7,500.00	$5,000.00	$12,500.00	
12	Supports and Misc	1	LS	$7,000.00	$3,000.00	$7,000.00	$3,000.00	$10,000.00	
13	Grounding	1	LS	$3,000.00	$2,000.00	$3,000.00	$2,000.00	$5,000.00	
14	EV Charging Station: Level 2, Dual Port	197	EA	$8,000.00	$1,000.00	$1,576,000.00	$197,000.00	$1,773,000.00	
15	EV Charging Station: Level 3, Dual Port	1	EA	$45,000.00	$1,500.00	$45,000.00	$1,500.00	$46,500.00	
16	EV Charging Station Software	198	EA	$250.00	$250.00	$49,500.00	$49,500.00	$99,000.00	
17	Disconnect Switch: 200A, 600V, 3P, NF, NEMA 3R ENCLOSURE.	1	EA.	$890.25	$440.00	$890.25	$440.00	$1,330.25	
18	Motor Rated Swtich: 50A, 240V, 2P, NEMA 3R ENCLOSURE	394	EA.	$297.00	$241.00	$117,018.00	$94,954.00	$211,972.00	
19	Bollards	396	EA	$950.00	$950.00	$376,200.00	$376,200.00	$752,400.00	
20	Traffic Striping, Signage, Space Repair	1	LS	$2,500.00	$5,000.00	$2,500.00	$5,000.00	$7,500.00	
	SUB TOTALS					**$1,071,837.65**	**$1,007,108.00**		
	TOTAL BARE COST							**5,871,475.99**	
	OVERHEAD	**15%**						**$880,721.40**	
	SUBTOTAL							**$6,752,197.39**	
	PROFIT	**6%**						**$405,131.84**	
	SUBTOTAL							**$7,157,329.23**	
	CONTINGENCY	**20%**						**$1,431,465.85**	
	TOTAL TASK							**$8,588,795.08**	

Note: Equipment cost is included under Labor column when a separate column for equipment is not used.

This cost estimate assumes that all work is performed on regular work hours.

Gannett Fleming

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www.gannettfleming.**com**

5 Eves Drive
Suite 200
Marlton, NJ 08053
t: 856.396.2226
f: 856.596.8143

Offices Worldwide

EXHIBIT 'E'

CHAPTER 91

AN ACT requiring State agencies that award contracts for the purchase of items that require a power source to consider items powered by fuel cells and supplementing Title 52 of the Revised Statutes.

BE IT ENACTED *by the Senate and General Assembly of the State of New Jersey:*

C.52:34-6.9 State agency contracts, consideration of items powered by fuel cells.

1. A State agency that seeks to purchase any item requiring the use of a power source, including but not limited to motor vehicles, material and cargo-handling equipment such as forklifts, harbor craft, generators, power systems, portable floodlights, microgrids, and telecommunications equipment, shall include in the request for proposals provisions that allow for the consideration of items that are powered by fuel cells.

As used in this section:

“fuel cell” means a device or system that is designed to provide heating or cooling, or electrical or mechanical power, by converting the chemical energy of a fuel and an oxidant into electricity through a non-combustive electrochemical process; and

"State agency" means any of the principal departments in the Executive Branch of the State Government, and any division, board, bureau, office, commission or other instrumentality within or created by such department and any independent State authority, commission, instrumentality or agency which is authorized by law to award contracts.

2. This act shall take effect immediately.

Approved May 12, 2021.

EXHIBIT 'F'

New Jersey Department of Environmental Protection (DEP)
It Pay$ to Plug In (IPPI) EV Charging Grant Program

Compliance and Best Practices Guidelines for Accessible EV Charger Installation

I. Introduction

The purpose of this document is to provide IPPI applicants with guidance on how applicants can accommodate current Electric Vehicle Charging and Accessibility standards as they relate to Charging Station siting, design, and installation. As Electric Vehicle Charging technology continues to advance, the legislation addressing Electric Vehicle Charging and Accessibility may be subject to future change. As such, the IPPI Program's Compliance and Best Practices Guidelines for Accessible EV Charger installation may also be subject to change to accurately reflect the most recent legislation.

II. EV Charging and Accessibility Standards: Background

The New Jersey State Uniform Construction Code (UCC) Act authorizes the Commissioner of the Department of Community Affairs to adopt and enforce rules pertaining to construction codes and provides for the administration and enforcement of those rules throughout the State. The accessible provisions of the UCC are found within the barrier free subcode (N.J.A.C. 5:23-7) and Chapter 11 of the building subcode (N.J.A.C. 5:23-3.14) and provide a standard for the State of New Jersey. These subcodes include requirements for accessible parking spaces, their design and location. The requirements are limited to the State of New Jersey and can in some instances exceed the ADA Standards for parking.

The Americans with Disabilities Act (ADA) is a federal civil rights law that prohibits discrimination in public places against individuals with disabilities. The ADA Standards for Parking explain federal requirements for accessible parking, including the minimum number of required accessible spaces, and their design and location. In the state of New Jersey, the ADA Standards are largely superseded by the UCC. However, street parking, parking lots not associated with nor serving a building or structure are not covered under the UCC and therefore must meet the requirements of the ADA.

Neither the ADA nor the UCC currently provide standards specific to charging station-equipped parking spots. However, the standards from both documents as they pertain to parking and equipment operation may be applied to charging station-equipped parking spots. This document will provide requirements and guidance based on these prior standards in addition to several industry studies and planning guides that contain best practices for installing charging stations that service accessible parking spaces.

EXHIBIT 'G'

III. DEP's IPPI Grants Program: ADA-Compliance Requirements

This document describes Accessibility compliance and best practices for entities that receive funding from *It Pay$ to Plug In* (IPPI), DEP's grant program for electric vehicle charging infrastructure.

The DEP's IPPI Program Overview and Instructions must be adhered to in order to receive funding from the program. The following requirement applies to Level 1, Level 2, and DC Fast charging stations that are funded by IPPI. (See Section 3.3 Charging Station Eligibility):

Charging station installation must meet Americans with Disabilities (ADA) compliance guidelines and the New Jersey Uniform Construction Code (UCC) requirements and follow all applicable laws, ordinances, regulations and standards.

All applicants must also check the corresponding box on the Certification Checklist acknowledging that they read this document (Compliance and Best Practices Guidelines for Accessible EV Charger Installation). The checklist must be dated and signed by the applicant.

IV. Definitions

Listed below are words and phrases that are referred to throughout this document. These words and phrases are defined in relation to their use within this document and may not have universal application.

> *"**Accessible EVSE Parking Space**"* - for the purposes of this document, an Accessible EVSE Parking Space refers to a charging station in an accessible parking space that is constructed with the express purpose of adhering to guidelines and best practices for installing an accessible option for EV charging. Refer to Figure 1 for an example of an Accessible EVSE Parking Space.

Figure 1: Accessible EVSE Parking Space

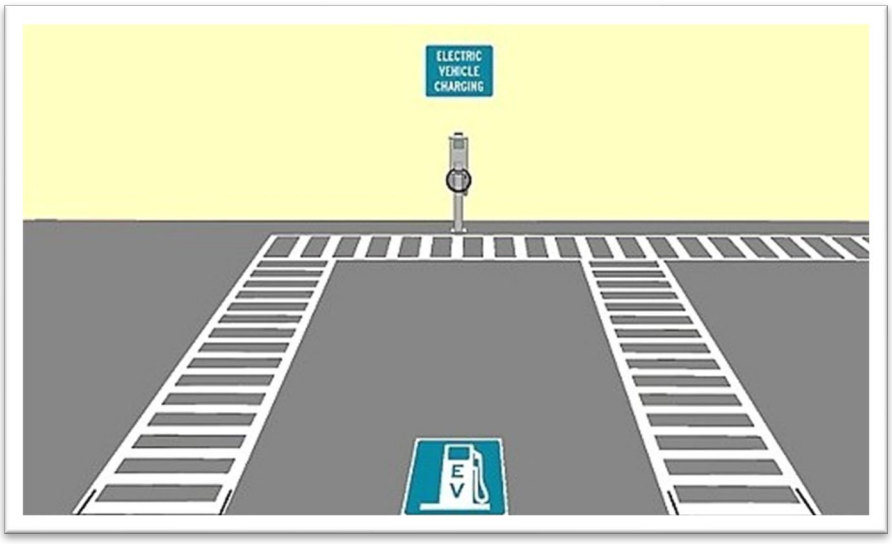

Image Source:
https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/184-ada-standards/guide/1798-chapter-5-parking

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"***Accessible Parking Space***" – The UCC and the 2010 Americans with Disabilities Act requires that accessible car parking spaces be at least 96 inches (8 feet) wide. Accessible van parking spaces be at least 132 inches wide (11 feet). If the adjacent access isle is at least 96 inches wide, the van parking space shall be at least 96 inches wide. *Refer to Figure 2 for an example of an Accessible Parking Space.*

Figure 2: Accessible Parking Space

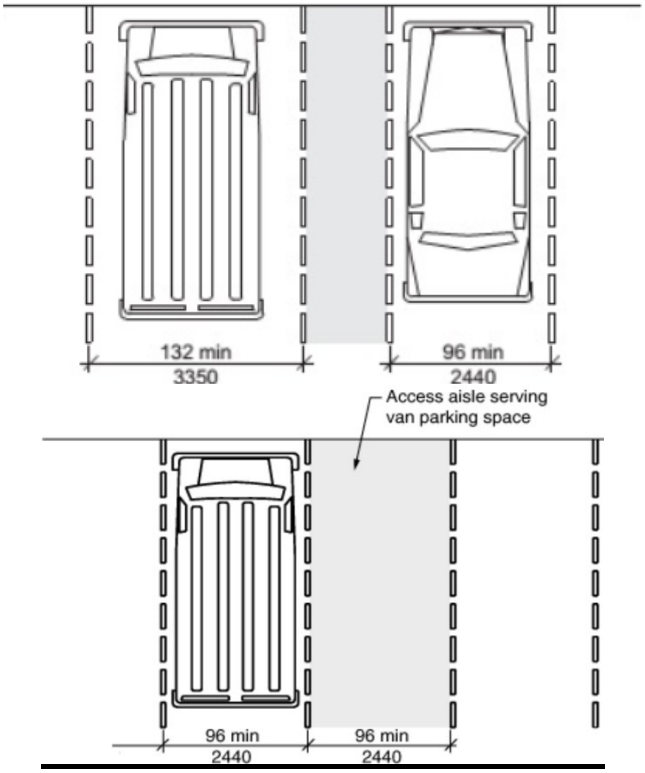

Image Source:
https://codes.iccsafe.org/content/ICCA11712017P2/chapter-5-general-site-and-building-elements

"***Access Aisle***" - Side access aisle of 60 inches wide (minimum) to allow space for wheelchairs and other mobility equipment to be maneuverable in and out of the parking space. *Refer to Figure 3 for an example of an Access Aisle.*

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Figure 3: Access Aisle

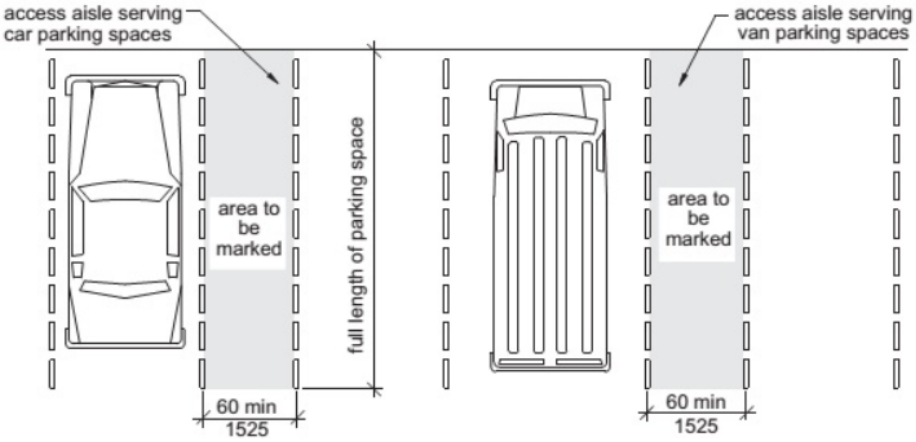

Image Source:
https://codes.iccsafe.org/content/ICCA11712017P2/chapter-5-general-site-and-building-elements

"***Reach Range***" - All operable parts of the charging stations, including payment mechanism if present, shall be within 48 inches (4 ft) maximum measured from the surface of the parking space where charging stations are installed. This means that the highest operable part of the equipment can be no higher than 42-inches from the base of the dispenser if mounted on a six- inch curb. Additionally, no object in the surrounding area can be allowed to physically inhibit an individual from accessing the charging equipment from the accessible parking space. This includes any curbs, wheel stops, sign poles, setbacks, bumper guards, and/or bollards. *Refer to Figure 4 for an example of reach range consideration and measurements*.

Figure 4: Reach Range

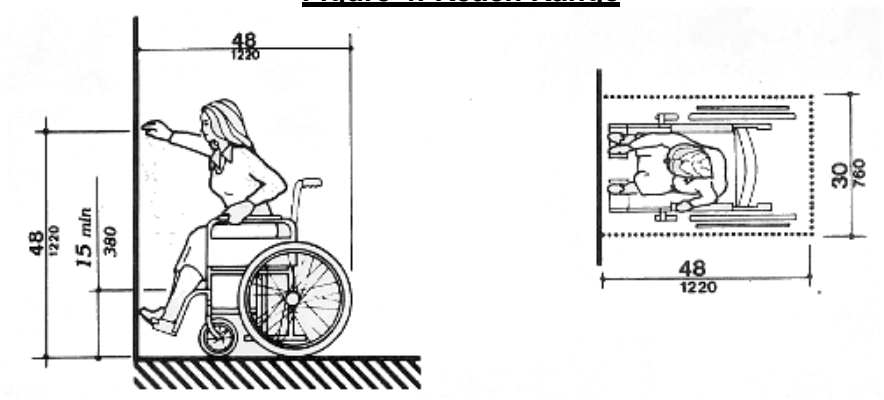

Image Source:
Fig. 5a High Forward Reach Limit (ada.gov)

"***Non-Accessible EVSE Parking Space***" - for the purposes of this document, a Non-Accessible EVSE Parking Space refers to a charging station that is not constructed with the express purpose of adhering to guidelines and best practices for installing an accessible EVSE Parking Space. A Non-Accessible EVSE Parking Space cannot be marked as accessible.

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V. DEP's IPPI Grants Program: Accessibility Compliance Guidelines and Best Practices

The DEP produced this guideline document to ensure each applicant is aware that federal, state, and local accessibility regulations exist and may be applied to the installation and servicing of an Accessible EVSE Parking Space. Should an applicant choose or otherwise be required to install and service an EV charging station in an accessible parking stall, it is recommended that the applicant adhere to the following guidelines.

V(a). Installing an Accessible EVSE Parking Space

While there is no common national standard for Accessible EVSE Parking Spaces, many concepts are addressed within existing Federal guidelines and/or required within State or municipal codes. When installing an Accessible EVSE Parking Space, general requirements often found within these existing guidelines and/or codes indicate that the following must be provided or adhered to:

Signage and Markings - DEP's IPPI Program Overview and Instructions require signage and floor paint designating the parking space for Electric Vehicles only. All signs must be visible and mounted near the Charging Station. The UCC and ADA Standards for Accessible Design have specific signage and marking requirements for accessible parking spaces BUT don't necessarily apply to charging stations. If the facility has multiple compliant Accessible EVSE Parking Spaces, it is required that each Accessible EVSE Parking space must display a sign indicating the parking stall is sized to accommodate accessible vehicles and that priority should be preserved for such users unless all other stalls are in use. *Refer to Figure 5 for an example of signage for an Accessible EVSE Parking Space.*

Required Minimum Number of Accessible Parking Spaces - Because an EVSE Parking Space must be used for EV charging only, the parking space associated with the charging station is not considered to be an UCC/ADA- compliant accessible parking space by UCC/ADA Standards and cannot count towards the minimum number of required UCC/ADA-compliant accessible parking spaces under the UCC and the 2010 Americans with Disabilities Act. **Before creating an Accessible EVSE Parking Space, ensure that the associated parking facility will continue to meet all ADA and UCC requirements for minimum number of accessible parking spaces once installation is complete.**

Electric Vehicles Only – As per the IPPI Program Overview and Instructions, each charging station must be located at a parking space that is designated for electric vehicles only. A dual-port charging station must have two EV-only parking spaces.

Figure 5: Signage

This figure illustrates the proper presentation of Accessible EV Charging Signage. The top sign indicates the space is accessible and the bottom is an EV Charging Designation sign.

Accessible Parking Space – An accessible parking space for the vehicle must be provided with an adjacent side access aisle to allow space for wheelchairs and mobility equipment. The dimensions of the parking space and adjacent side aisles must meet the UCC/ADA standards. *Refer to Figure 2 for an example of an Accessible Parking Space.*

Van Accessible Parking - As per New Jersey's reference standard A117.1-2009, the first accessible parking space installed at a facility must be van accessible and have a minimum width of 132 inches. For every SIX or fraction of six accessible parking spaces, at least one shall be a van-accessible parking space.

Connecting Equipment - Equipment cords must be retractable or have a place to hang the connector and cord a safe and sufficient distance above the ground or pavement surface. Any cords connecting the charger to a vehicle shall be configured so that they do not cross a driveway, sidewalk, or passenger unloading area.

Unobstructed Pathway - The location of the charging station and the position of bollards and wheel stops must be carefully considered to ensure there is an unobstructed path to the charging station, and that Reach Range is ensured.

Reach Range - Reach range must always be considered to ensure all operable parts of the charging equipment are accessible to all persons, including wheelchair users.

Listed below are additional considerations for differing Accessible EVSE Parking Space installation scenarios:

A. Installation of charging equipment at an existing accessible parking space. The existing accessible parking stall should have a properly sized parking stall in addition to a barrier free aisle access under UCC and ADA requirements. The resulting charging station must retain aisle access as well as provide a barrier free route to the charging equipment. Considerations should be taken to ensure cords or other pieces of charging equipment do not block pedestrian paths or adjacent accessible routes when plugged into a vehicle.

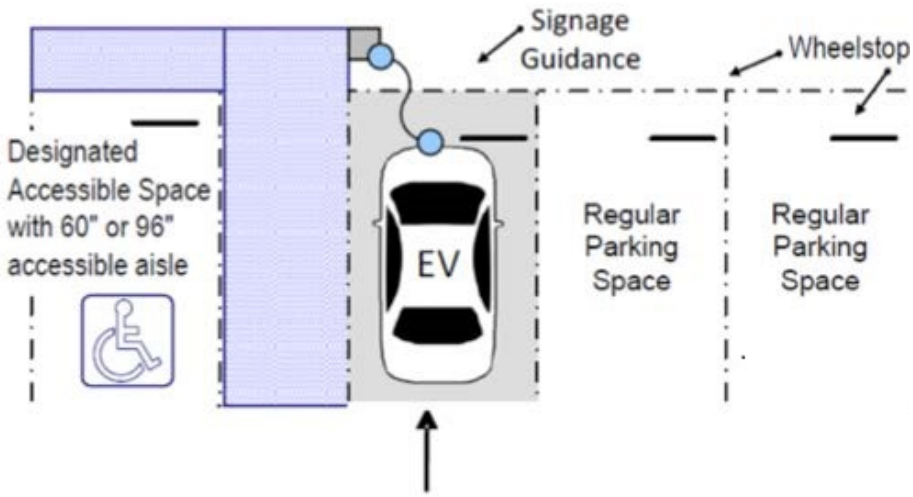
B. Installation at an existing non-accessible parking space, with the intent to make the final parking space accessible. Ensure that the resulting Accessible EVSE Parking Space will provide an appropriately sized accessible parking space and aisle access with a route to the charging equipment. This may require the initial parking space to be expanded to accommodate accessible parking space requirements. Ensure that the initial parking space area can accommodate the area requirements of an Accessible EVSE Parking Space prior to beginning installation.

C. Construction of an entirely new parking space for the sole purpose of housing an Accessible EVSE Parking Space. It is recommended that access aisles are included on both sides of the Parking Space to provide appropriate user mobility. The constructed Parking Space must be accessible, providing the appropriate minimum amount of parking area for cars or vans. When subsequently installing an Accessible EVSE Parking Space at the entirely new parking space, ensure that it will be accessible along

the aisle pathway. *Refer to Figure 1 (pg. 2) for an example of a properly constructed parking space housing an Accessible EVSE Parking Space.*

D. Installation of a Dual-Port EV Charger to support both an Accessible EVSE Parking Space and a Non-Accessible EVSE Parking Space. A Dual-Port EV Charger may be installed in between an accessible parking space and regular parking space to create both an Accessible EVSE Parking Space and a Non-Accessible EVSE Parking Space. Only Dual-Port charging equipment may be used in this scenario so that both EVSE Parking Spaces can be used independently. *Refer to Figure 6 for an example of properly constructed parking spaces servicing both accessible and non-Accessible EVSE Parking Spaces.*

Figure 6: Dual-Port EV Charger Servicing an Accessible EVSE Parking Space and a Non-Accessible EVSE Parking Space



Accessible EV Charging Station

- Includes pedestal mounted charging station, signage, and barrier free routes to charging equipment and the building.
- The barrier free area adjacent to the Designated Accessible Space shall be striped in blue and be 60" or 96" wide.

Image Source:
https://afdc.energy.gov/files/u/publication/WPCC_complyingwithADArequirements_1114.pdf

V(b). Installing a Non-Accessible EVSE Parking Space

When installing a Non-Accessible EVSE Parking Space, we recommend as best practice that each station meet general reach range requirements to the greatest extent possible. We also recommend that applicants check local ordinances to see if there are any additional EVSE Parking Space requirements.

VI. Reporting UCC/ADA Compliance-Related Project Updates to the IPPI Grants Program

If an application is submitted for charging equipment that would not initially be servicing an Accessible EVSE Parking Space, but the project is then subsequently requested or otherwise required by another entity to service an Accessible EVSE Parking Space, the applicant must notify the IPPI grants program. This is important because a grant modification may be necessary, particularly if the equipment and/or charger location must be changed as a result. Failure to provide this notification may result in the cancellation of the application or grant.

VII. Additional Resources

Listed in this section are additional resources that provide a wealth of information on accessibility compliance and best practices as it relates to parking and/or EV charging. Please note that this is not a comprehensive list. Applicants are recommended to review these documents.

2010 ADA Standards for Accessible Design:
(https://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm#pgfId-1008283)

Accessible and Usable Buildings and Facilities, ICC A117.1-2017: Chapter 5. General Site and Building Elements:

*(*https://codes.iccsafe.org/content/ICCA11712017P2/chapter-5-general-site-and-building-elements*)*

DCA Model Statewide Municipal EV Ordinance
(https://www.nj.gov/dca/dlps/home/modelEVordinance.shtml)

New Jersey Barrier Free Subcode:
(https://www.nj.gov/dca/divisions/codes/codreg/pdf_regs/njac_5_23_7.pdf)

New Jersey Division of Codes and Standards, 2018 International Building Code, New Jersey Edition, Chapter 11 – Accessibility:
(https://codes.iccsafe.org/content/NJBC2018PA2/chapter-11-accessibility)

New Jersey Guide to Accessible Parking:
(https://www.state.nj.us/humanservices/dds/documents/BROCHURES/2020/New_Jersey_Guide_to_Accessible_Parking_Booklet_2019.pdf)

United States Access Board – ADA Guide - Chapter 5: Parking Spaces:
(https://www.access-board.gov/ada/guides/chapter-5-parking/)

United Stated Department of Energy - ADA Requirements for Workplace Charging Installation:
(https://afdc.energy.gov/files/u/publication/WPCC_complyingwithADArequirements_1114.pdf)

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