THE SCHOOL DISTRICT OF PHILADELPHIA

Office of Capital Programs
440 North Broad Street, 3^{rd.} Floor – Suite 371
Philadelphia, PA 19130

TELEPHONE: (215) 400-4730

Addendum No. 02

Subject: Broad Street Charging Stations Project

SDP Contract No. B-043c 2020/21

Location: Broad Street Garage

2600 N. Broad Street Philadelphia PA 19132

This Addendum dated August 30, 2021 shall modify and become part of the Contract Documents for the work of this project. Any items not mentioned herein, or affected by, shall be performed strictly in accordance with the original documents.

NOTICE: BID OPENINING POSTPONED UNTIL THURSDAY, SEPTEMBER 2, 2021

Question #1:

E201 - Feeder Legend #3 - 2#4 & 1 #8 ground in 3/4" conduit. Is this a typo error? Number of wires does not fit per code. These conduits are underground with no junction boxes, suggest 1 1/2" PVC.

• REVISED Response: Revised Feeder Legend #3 on E201 - 100A - (2) #1, (1) #8GRD in 1 1/2".

DRAWING:

E101: Revised Sheet Keynotes #6 &, 7

E101: Revised Electrical Charging Station Elevation Detail #2.

E201: Revised Feeder Legend #3.

E201: Revised Electrical Single Line Diagram Disconnect switch fuse and Circuit Breaker sizes to 100A.

E201: Revised New Electric Vehicle Panel (EVP1) circuit breakers to 100/2.

End of Addendum

BROAD STREET GARAGE

2600 N. BROAD ST. PHILADELPHIA, PA 19132

ELECTRIC BUSES CHARGING UPGRADE

ELECTRICAL: SDP PROJECT NO. B-043(c) OF 2020/21

BID DOCUMENTS: 30 AUGUST 2021

GENERAL NOTES:

- 1. ALL CONTRACTORS SHALL BECOME FAMILIAR WITH THE EXISTING CONDITIONS AFFECTING THIS PROJECT AND COORDINATE WITH OTHER DISCIPLINES.
- 2. THE WORK IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS SHALL CONSIST OF PROVIDING ALL EQUIPMENT, MATERIALS, LABOR, SERVICES AND PERFORMED IN COMPLIANCE WITH THE APPLICABLE CODES AND STANDARDS.
- 3. ALL EQUIPMENT SHALL BE HANDLED, STORED, AND PROTECTED TO PREVENT DAMAGE BEFORE AND DURING INSTALLATION IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 4. ALL EQUIPMENT SHALL BE INSTALLED AND ADEQUATE CLEARANCES BE PROVIDED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND CODE.
- 5. ALL CONTRACTORS SHALL CHECK AND FIELD VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE PRIOR TO SUBMITTING BID AND BEFORE START OF CONSTRUCTION.
- 6. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF ALL EQUIPMENT SHOWN ON THE DRAWINGS, INCLUDING COORDINATION IF ANY EQUIPMENT OF ALTERNATE MANUFACTURER. THE CONTRACTOR SHALL PROVIDE COMPOSITE DRAWINGS AS REQUIRED FOR THE INSTALLATION OF EQUIPMENT AS SHOWN ON PLAN FOR APPROVAL BY ENGINEER.
- 7. ANY EQUIPMENT, MATERIALS, LABOR OR SERVICES NOT SPECIFICALLY MENTIONED HEREIN WHICH MAY BE NECESSARY TO COMPLETE OR PERFECT ANY PART OF INSTALLATION IN A SUBSTANTIAL MANNER SHALL BE FURNISHED WITHOUT EXTRA COST TO THE OWNER.
- 8. ALL WORK SHALL COMPLY WITH LOCAL AND NATIONAL CODES AND STANDARDS, UNDERWRITERS LABORATORY APPROVAL, AND ALL STATE AND FEDERAL OSHA SAFETY REQUIREMENTS.
- LOCAL CODES SHALL SUPERCEDE INTERNATIONAL BUILDING CODES WHERE CONFLICTS OCCUR.
 THE SCHOOL DISTRICT OF PHILADELPHIA MAY RESTRICT WORK

HOURS DURING THE SCHOOL DAY.

APPLICABLE CODES:

- PHILADELPHIA BUILDING CONSTRUCTION AND OCCUPANCY CODE
 (2018 ICC)
- SUBCODE "A": THE PHILADELPHIA ADMINISTRATIVE CODE
- SUBCODE "B": THE PHILADELPHIA BUILDING CODE
- SUBCODE "E": THE PHILADELPHIA ELECTRICAL CODE
- SUBCODE "EB": THE PHILADELPHIA EXISTING BUILDING CODE
- SUBCODE "EC": THE PHILADELPHIA ENERGY CONSERVATION CODE
- SUBCODE "F": THE PHILADELPHIA FIRE CODE
 SUBCODE "G": THE PHILADELPHIA FUEL GAS CODE
- SUBCODE "M": THE PHILADELPHIA MECHANICAL CODE
- SUBCODE "P": THE PHILADELPHIA PLUMBING CODE
 SUBCODE "PC": THE PHILADELPHIA CODE FOR BUILDINGS AND
- MAINTENANCE
- SUBCODE "PM": THE PHILADELPHIA PROPERTY MAINTENANCE CODE
 PHILADELPHIA CROSS CONNECTION CODE
- 2. NFPA 2017 NATIONAL ELECTRICAL CODE

DEMOLITION NOTES:

- THE CONTRACTORS SHALL OBTAIN ALL REQUIRED PERMITS AND TURN OFF ALL IMPACTED UTILITIES BEFORE STARTING WORK.
- ALL DEMOLITION/REMOVAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE STANDARDS AND REGULATIONS.
- 3. DEMOLITION WORK SHALL BE SCHEDULED AND IMPLEMENTED WITH MINIMAL DISRUPTION TO ADJACENT OCCUPIED AREAS.
- 4. REMOVE ALL MATERIALS IN A SAFE WORKMANLIKE MANNER AND DISPOSE OF PER ALL APPLICABLE CODES & SAFETY REQUIREMENTS.
- 5. CONSTRUCTION DEBRIS MUST BE REMOVED FROM OCCUPIED SPACES AT THE END OF EACH WORK SHIFT.

OWNER

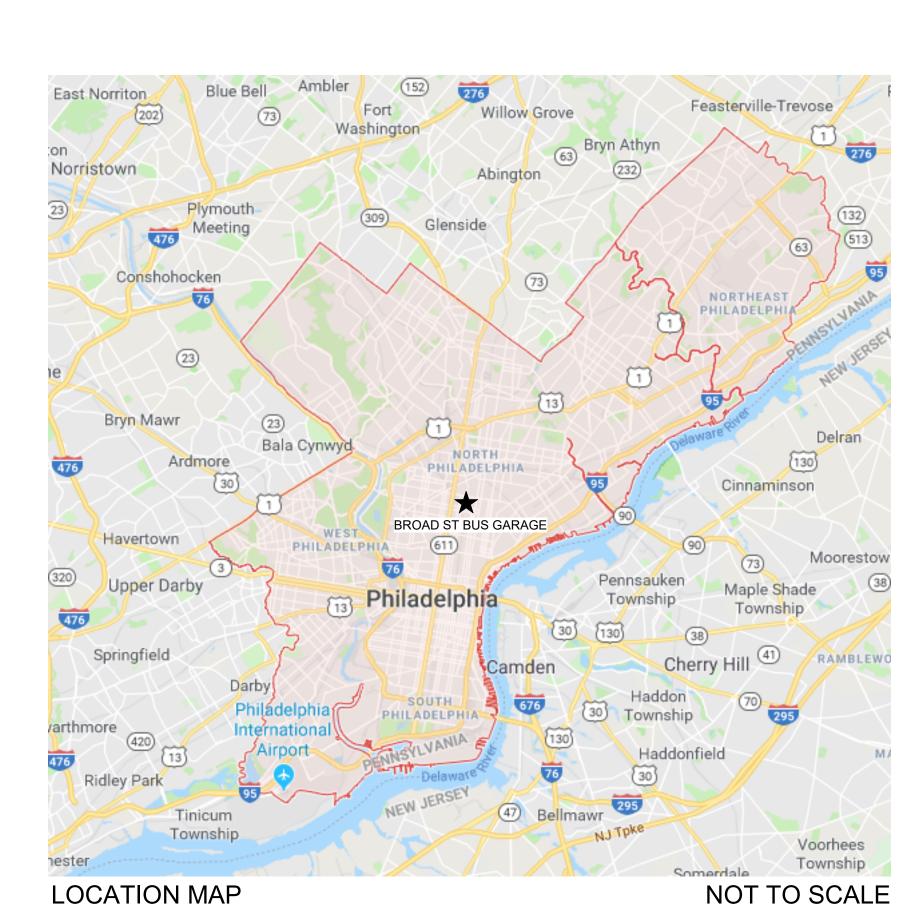
SCHOOL DISTRICT OF PHILADELPHIA 440 N. BROAD ST. PHILADELPHIA, PA 19130-4015 PHONE: 215-400-4740 FAX: 215-400-4731

FAX: 215-400-4731 EMAIL: NWARD@PHILASD.ORG ATTN: NICOLE WARD, DESIGN MANAGER OFFICE OF CAPTIAL PROGRAMS WWW.PHILASD.ORG

ENGINEER OF RECORD

GANNETT FLEMING, INC. 1010 ADAMS AVENUE VALLEY FORGE, PA 19403 PHONE: 610.650.8101 FAX: 610.650.8190 EMAIL: BWEISSER@GFNET.COM

ATTN: BRIAN M. WEISSER, P.E.



DRAWING LIST		
SHEET#	DRAWING #	SHEET NAME
1	G001	PROJECT COVER SHEET
2	E001	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
3	E101	ELECTRICAL POWER PLAN
4	E201	ONE-LINE DIAGRAM, PANEL SCHEDULE AND DETAILS

PHILADELPHIA

OFFICE OF CAPITAL PROGRAMS

440 NORTH BROAD STREET
PHILADELPHIA, PA 19130 - 4015
(215) 400 - 4730 | (215) 400 - 4731 (fax)

SEA

ENGINEER OF RECORD

GANNETT FLEMING
1010 ADAMS AVENUE
VALLEY FORGE, PA 19403
Phone: 610.783.3862
Email: BWEISSER@GFNET.COM
Attn: BRIAN WEISSER

BID DOCUMENTS 30 AUGUST 2021

NO DATE REVISION

SCHOOL & LOCATION

BROAD STREET GARAGE

2600 N. Broad Street

Philadelphia, PA 19132

PROJECT TITLE

ELECTRIC BUSES CHARGING UPGRADE

DRAWING SCALE

PROJECT COVER SHEET

DCATION NO. FILE NO.
230 068625

RAWN BY CHECKED BY
R CJG

B-043(c) OF 2020/21

DRAWING NO.

SHEET 1 OF 04

Project Number: 068625

ABOVE FINISH FLOOR AFG ABOVE FINISH GRADE AMPERE INTERRUPTING CAPACITY AMMETER SELECTOR SWITCH AMMETER SELECTOR SWITCH AUTOMATIC TRANSFER SWITCH AUTO AUTOMATIC AMERICAN WIRE GAUGE AWG

BUILDING CONDUIT CP CONTROL PANEL CPT

CONTROL POWER TRANSFORMER DISCONNECT DIVISION DISCONNECT SWITCH

ELECTRICAL CONTRACTOR ECH ELECTRIC CABINET HEATER EXHAUST FAN EXPLOSION PROOF ELECTRIC UNIT HEATER

FEED THROUGH FAAP FIRE ALARM ANNUNCIATOR PANEL FIRE ALARM CONTROL PANEL FACP FRE FIBERGLASS REINFORCED EPOXY FUSE

GRD GROUND HID HIGH INTENSITY DISCHARGE HORSEPOWER HPS HIGH PRESSURE SODIUM

GROUND FAULT INTERRUPTER

HEATING - VENTILATION - AIR CONDITIONING ISOLATED GROUND INDUSTRIAL

JOINT INDUSTRIAL COUNCIL KILOVOLT KILOVOLT AMPERE KVA

KILOWATT LIGHTNING ARRESTOR LIGHTING CONTACTOR LTG LIGHTING

MOTOR CONTROL CENTER MAIN LUG ONLY MULTI OUTLET ASSEMBLY MOTOR OPERATED DAMPER MOTOR STARTER MOUNTED MEDIUM VOLTAGE

NOT APPLICABLE NORMALLY CLOSED NORMALLY OPEN NUMBER

PMT PAD MOUNTED TRANSFORMER PNL POTENTIAL TRANSFORMER POLYVINYL CHLORIDE (CONDUIT)

RECP RECEPTACLE RGS RIGID GALVANIZED STEEL(CONDUIT) RVAT REDUCED VOLTAGE AUTOTRANSFORMER REDUCED VOLTAGE SOLID STATE **RVSS**

SURGE CAPACITOR SPD SURGE PROTECTION DEVICE SWITCH SWBD SWITCHBOARD

CABLE TRAY - CABLE TTB TELEPHONE TERMINAL BOARD TTC TELEPHONE TERMINAL CABINET

UNIT HEATER UNDERWRITER LABORATORIES UON UNLESS OTHERWISE NOTED UPS UNINTERRUPTIBLE POWER SUPPLY

VOLTMETER SELECTOR SWITCH WIRE

WEATHERPROOF XFMR TRANSFORMER

SINGLE PHASE THREE PHASE

GENERAL POWER

DENOTES MOUNTED 6" ABOVE COUNTER TOP SINGLE RECEPTACLE ⇒ DUPLEX RECEPTACLE, NEMA 5-20R GF RECEPTACLE WIRED TO GROUND FAULT CIRCUIT BREAKER GFCI GROUND FAULT CIRCUIT INTERRUPTER S - SWITCHED ISOLATED GROUND S SWITCHED TAMPER RESISTANT WEATHER RESISTANT RECEPTACLE W/IN-USE COVER (WET LOCATION) WEATHER RESISTANT RECEPTACLE W/NON-IN-USE COVER (DAMP LOCATION) ⇒ DUPLEX RECEPTACLE, NEMA 5-20R TV——— RECEPTACLE FOR TV MONITOR ■ DOUBLE DUPLEX RECEPTACLE DUPLEX RECEPTACLE DEDICATED FOR UPS POWER SPECIAL PURPOSE RECEPTACLE (AMPACITY AS NOTED)

A - 30A, 2 POLE + GROUND, 208VAC, 1-PHASE, NEMA 4X, IP66/IP67 B - 30A, 1POLE + NEUTRAL + GROUND, 125VAC, NEMA 4X, IP66/IP67 C - 30A, 3 POLE + GROUND, 208VAC, 3-PHASE, NEMA 4X, IP66/IP67 D - 60A, 3 POLE + GROUND, 208VAC, 3-PHASE, NEMA 4X, IP66/IP67 E - 30A, 2 POLE + GROUND, 250VAC, 1-PHASE, TWISTLOCK F - 30A, 1 POLE + NEUTRAL + GROUND, 125VAC, TWISTLOCK DUPLEX RECEPTACLE FLOOR MOUNTED

SPECIAL PURPOSE RECEPTACLE FLOOR MOUNTED (AMPACITY AS NOTED) SURFACE MOUNTED RACEWAY B10 SURFACE MOUNTED RACEWAY
LETTER INDICATES TYPE (SEE E600)

NUMBER INDICATES LENGTH JUNCTION BOX NON FUSED DISCONNECT SWITCH

FUSED DISCONNECT SWITCH

MOTOR STARTER COMBINATION MOTOR STARTER

CONTACTOR TIME CLOCK SWITCH CONTROL

MANUAL MOTOR STARTER SWITCH WITHOUT **OVERLOADS** S MT MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOADS

MANUAL MOTOR STARTER SWITCH WITHOUT S MF OVERLOADS WITH PILOT LIGHT

PANELBOARD PUSHBUTTON STATION TYPE AS NOTED

MUSHROOM SWITCH MOTOR (HORSEPOWER INDICATED ON PLANS)

TRANSFORMER GENERATOR

MOD MOTOR OPERATED DAMPER

THERMOSTAT

UPS UNINTERRUPTIBLE POWER SUPPLY SPD SURGE PROTECTION DEVICE

UNIT HEATER

VFD VARIABLE FREQUENCY DRIVE

ONE LINE DIAGRAM

CAPACITOR

480-120 RATIO

POLARITY MARK

600/5 MR

C/200

DPM

SPD

600A_ 3P

VARIABLE FREQUENCY DRIVE

POWER TRANSFORMER

VOLTAGE TRANSFORMER

NUMBER REQUIRED

CURRENT TRANSFORMER

-ACCURACY CLASS

(CORE BALANCE)

GENERATOR

FUSE

GROUND

METER

A - AMMETER

V - VOLTMETER W - WATT METER

WH - WATT HOUR METER

KWH - KILOWATT HOUR

KVAR - KILOVAR METER

HZ - FREQUENCY METER

PF - POWER FACTOR METER

MANUAL TRANSFER SWITCH WITH CONNECTION FOR PERMANENT

BANK (CAM CONNECTIONS)

GENERATOR (HARDWIRED) PORTABLE

GENERATOR (CAM CONNECTIONS) & LOAD

(TRIPLE SWITCH OR APPROVED EQUAL)

VAR - VAR METER

SURGE PROTECTION DEVICE

NON FUSED SAFETY SWITCH

DIGITAL POWER METER

LIGHTNING ARRESTOR

FUSED SAFETY SWITCH

GROUND FAULT CURRENT TRANSFORMER

MOTOR, NUMBER INDICATES HORSE POWER

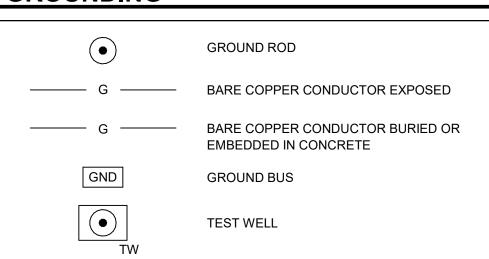
ATS - AUTOMATIC TRANSFER SWITCH

MTS - MANUAL TRANSFER SWITCH

-MULTI RATIO

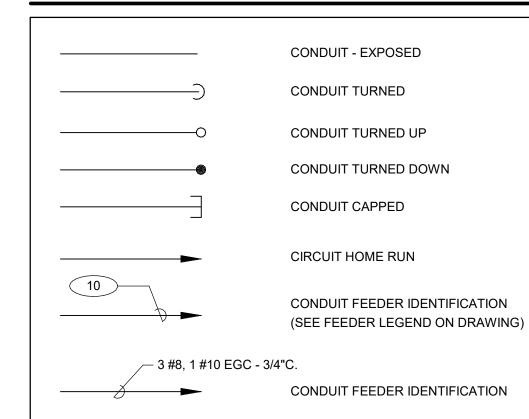
NEW WORK LINEWEIGHT LOW VOLTAGE DRAWOUT CIRCUIT BREAKER AF ——AMP FRAME o∕ AT——AMP TRIP DEMOLITION WORK LINEWEIGHT -----Ÿ EO **~**___ EXISTING WORK LINEWEIGHT —ELECTRICALLY OPERATED LISG TRIP ELEMENTS **FUTURE WORK LINEWEIGHT** L- LONG TIME -----S- SHORT TIME I- INSTANTANEOUS POINT OF CONNECTION G GROUND FAULT —SHUNT TRIP TERMINATION POINT OF DEMOLITION LOW VOLTAGE CIRCUIT BREAKER POINT OF FUTURE CONNECTION SHEET NOTE REFERENCE CURRENT TRANSFORMER/METER COMBINATION REVISION REFERENCE ST - SHUNT TRIP GF - GROUND FAULT EO - ELECTRICALLY OPERATED E-1 **EQUIPMENT TAG** MEDIUM VOLTAGE ISOLATION SWITCH **NORTH ARROW** - INDICATES PLAN/DETAIL NUMBER **FUSED CUTOUT** —PLAN/DETAIL TITLE VIEW TITLE SCALE: -SCALE (AS REQUIRED) FUSED LOAD BREAK SWITCH -INDICATES PLAN/DETAIL NUMBER CONTACTOR T₇ NEMA SIZE -INDICATES DRAWING ON WHICH MAGNETIC MOTOR STARTER. NUMERAL INDICATES DRAWING SECTION APPEARS NEMA SIZE (FVNR UNLESS OTHERWISE NOTED)

GROUNDING

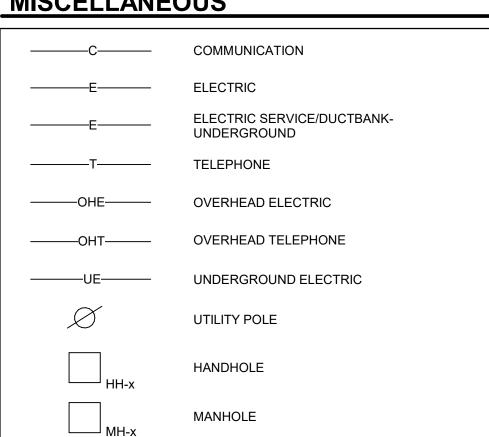


LINES & REFERENCE SYMBOLS

CONDUIT FEEDERS & BRANCH CIRCUITS



MISCELLANEOUS



GENERAL NOTES

- 1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NFPA-70) AS ADOPTED AND AMMENDED BY PHILADELPHIA ELECTRICAL CODE AND THE THE COMMONWEALTH OF PENNSYLVANIA.
- 2. ALL ELECTRICAL WORK SHALL BE PROPERLY GROUNDED AND SHALL MEET ALL REQUIREMENTS OF THE APPLICABLE SECTION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ANY AUTHORITIES HAVING JURISDICTION.
- 3. DRAWINGS ARE DIAGRAMMATIC IN NATURE, THE CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER DIVISIONS TRADES TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM. CONTRACTOR SHALL COORDINATE LOCATION OF FIXTURES, DEVICES, ETC WITH OTHER TRADES IN ORDER TO AVOID INTERFERENCES.
- 4. ARCHITECTURAL FEATURES SHOWN ON THESE DRAWINGS ARE FOR BACKGROUND INFORMATION ONLY.
- 5. EXACT CONDUIT STUB-UP LOCATIONS ARE TO BE DETERMINED BY THE ELECTRICAL CONTRACTOR BASED ON THE CERTIFIED MANUFACTURER'S DRAWINGS OF RESPECTIVE EQUIPMENT. CONDUITS SHALL BE INSTALLED TO AGREE WITH EQUIPMENT FURNISHED.

WIRING METHODS

UNDERGROUND

A. UNLESS OTHERWISE NOTED ON THE DRAWINGS CONCRETE ENCASED AND DIRECT BURIED CONDUIT SHALL BE SCHEDULE 40 PVC. WHERE CONDUITS PASS THROUGH GRADE, THROUGH CONCRETE PADS, OR THROUGH BUILDING FOUNDATION WALLS OR FLOOR SLABS CONDUIT SHALL BE PVC COATED.

A. IN FINISHED AREAS, ALL RACEWAY AND WIRING SHALL BE INSTALLED IN GALVANIZED

B. IN UNFINISHED AREAS SUCH AS MECHANICAL AND ELECTRICAL ROOMS WIRING SHALL BE INSTALLED IN GALVANIZED RIGID STEEL.

OFFICE OF CAPITAL PROGRAMS

THE SCHOOL DISTRICT OF

440 NORTH BROAD STREET PHILADELPHIA, PA 19130 - 4015 (215) 400 - 4730 | (215) 400 - 4731 (fax)

> www.philasd.org SEAL:

ENGINEER OF RECORD:

ELECTRICAL ENGINEER:

GANNETT FLEMING 1010 ADAMS AVENUE VALLEY FORGE, PA 19403 Phone: 610.783.3862 Email: BWEISSER@GFNET.COM Attn: BRIAN WEISSER

> **BID DOCUMENTS** 30 AUGUST 2021

NO DATE SCHOOL & LOCATION

BROAD STREET GARAGE 2600 N. Broad Street Philadelphia, PA 19132

PROJECT TITLE

ELECTRIC BUSES CHARGING UPGRADE

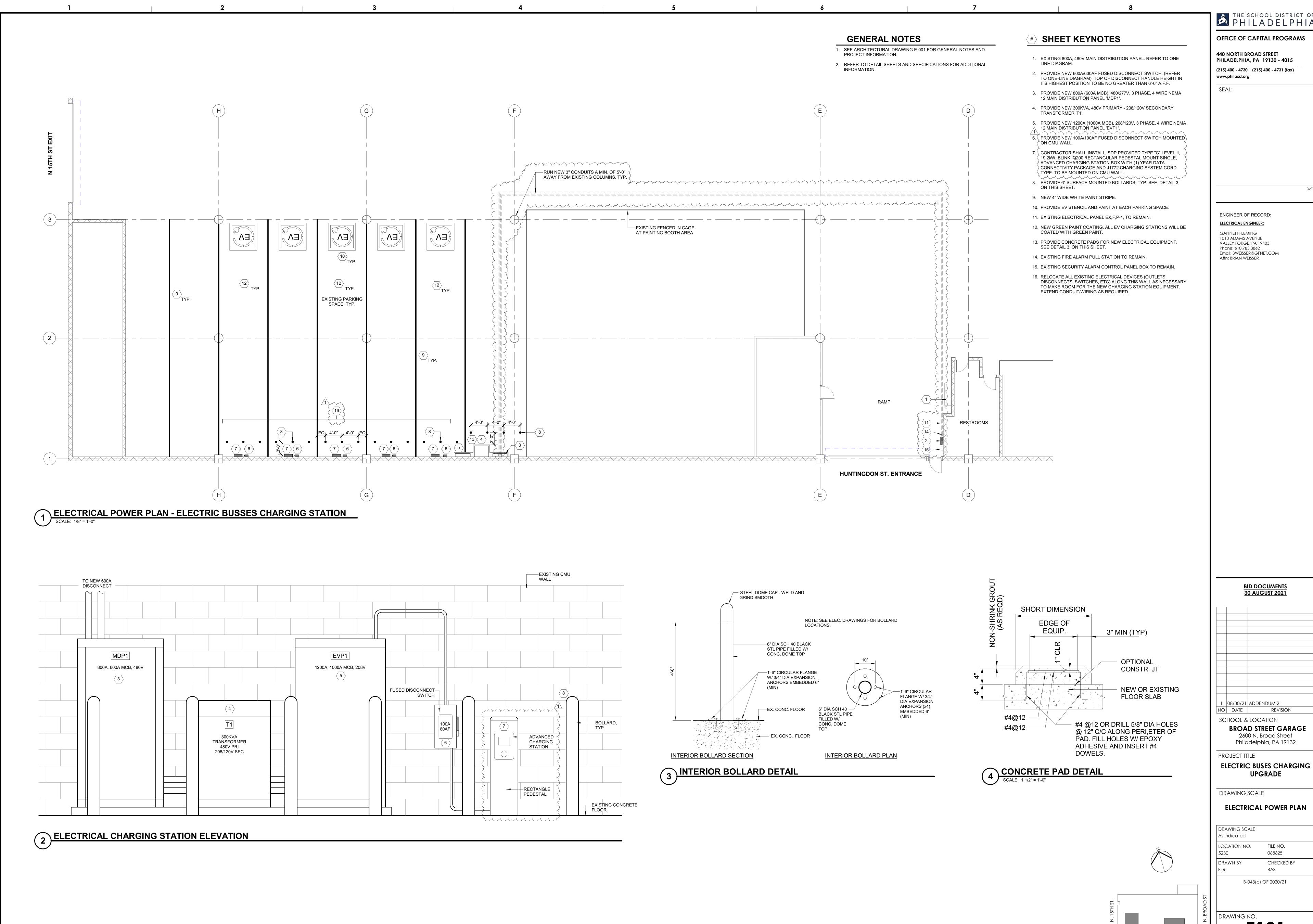
DRAWING SCALE

GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

12" = 1'-0" LOCATION NO. FILE NO. CHECKED BY DRAWN BY B-043(c) OF 2020/21

DRAWING NO.

SHEET 2 OF 04



THE SCHOOL DISTRICT OF PHILA DELPHIA

OFFICE OF CAPITAL PROGRAMS

440 NORTH BROAD STREET PHILADELPHIA, PA 19130 - 4015 (215) 400 - 4730 | (215) 400 - 4731 (fax)

SEAL:

ENGINEER OF RECORD: **ELECTRICAL ENGINEER:**

GANNETT FLEMING 1010 ADAMS AVENUE VALLEY FORGE, PA 19403

BID DOCUMENTS 30 AUGUST 2021

1 | 08/30/21 | ADDENDUM 2 NO DATE

SCHOOL & LOCATION **BROAD STREET GARAGE** 2600 N. Broad Street Philadelphia, PA 19132

PROJECT TITLE

UPGRADE

ELECTRICAL POWER PLAN

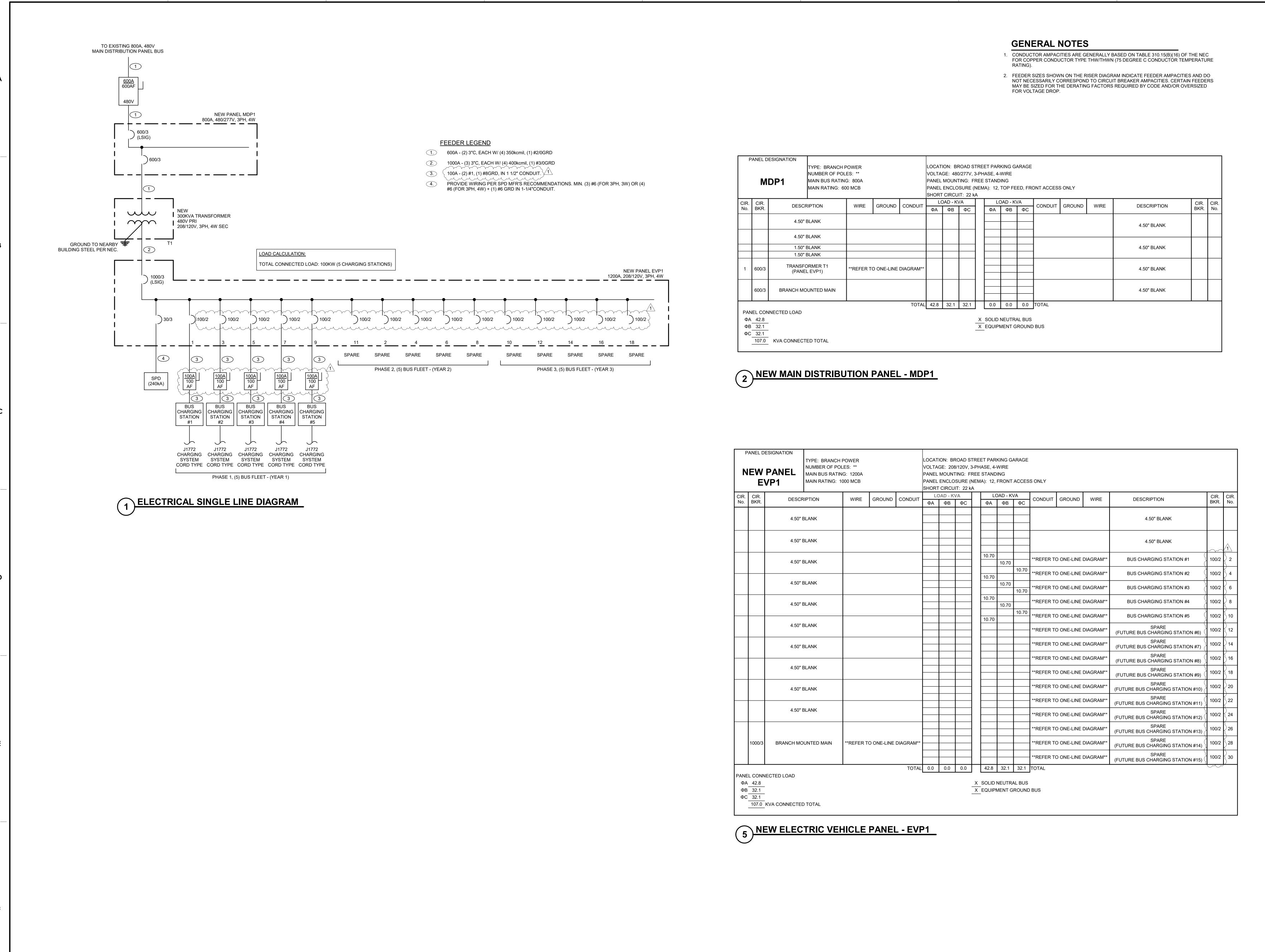
DRAWING SCALE As indicated LOCATION NO. FILE NO. CHECKED BY DRAWN BY B-043(c) OF 2020/21

DRAWING NO.

W. HUNTINGDON ST.

<u>KEYPLAN</u>

E101 SHEET 3 OF 04



THE SCHOOL DISTRICT OF PHILADELPHIA

OFFICE OF CAPITAL PROGRAMS

440 NORTH BROAD STREET
PHILADELPHIA, PA 19130 - 4015
(215) 400 - 4730 | (215) 400 - 4731 (fax)
www.philasd.org

SEAL:

DATE

ENGINEER OF RECORD:

ELECTRICAL ENGINEER:

GANNETT FLEMING 1010 ADAMS AVENUE VALLEY FORGE, PA 19403 Phone: 610.783.3862 Email: BWEISSER@GFNET.COM Attn: BRIAN WEISSER

BID DOCUMENTS
30 AUGUST 2021

SCHOOL & LOCATION

1 | 08/30/21 | ADDENDUM 2

BROAD STREET GARAGE 2600 N. Broad Street Philadelphia, PA 19132

Philadelphia, PA 19
PROJECT TITLE

ELECTRIC BUSES CHARGING UPGRADE

ONE-LINE DIAGRAM, PANEL

DRAWING SCALE
12" = 1'-0"

12" = 1'-0"

LOCATION NO. FILE NO.
5230 068625

DRAWN BY CHECKED BY
FJR BAS

B-043(c) OF 2020/21

DRAWING NO.

E201

SHEET 4 OF 04