

**SHEET INDEX:**

**CIVIL**

- 1 COVER
- 2 NOTES
- 2A CONTROL POINT SURVEY
- 3 EXISTING CONDITIONS
- 4 LOCUS MAP
- 5 LOCATION PLAN
- 6 GENERAL PLAN
- 7 DRAINAGE AND UTILITY PLAN
- 8 SIGNING AND STRIPING PLAN
- 9 EV CABINET FOUNDATION
- 10 EV POLE FOUNDATION
- 11 - 17 DETAILS 1 - 7

**ELECTRICAL**

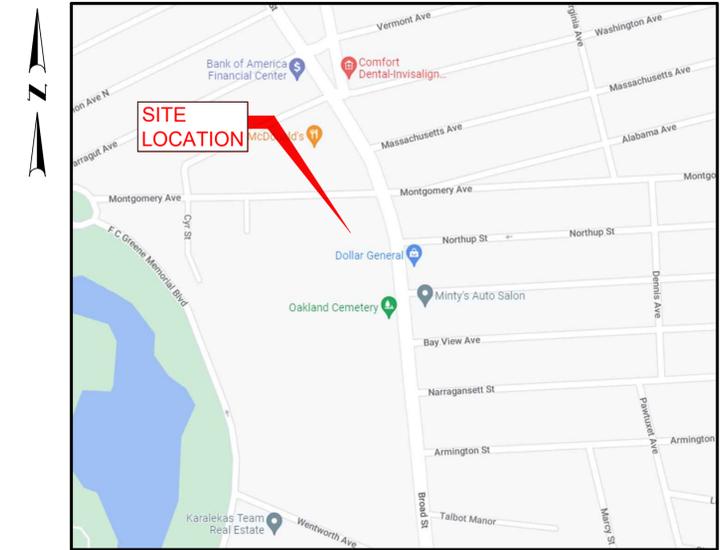
- E-001 ELECTRICAL NOTES
- E-002 ONELINE DIAGRAM
- E-100 ELECTRICAL SITE PLAN
- E-600 CONDUIT PLAN
- E-601 CONDUIT DETAILS
- E-800 GROUNDING DETAILS
- E-900 ABB REFERENCE SHEETS

**ARCHITECTURAL PLANS**

- A100 FLOOR PLAN ELEVATION
- A200 ELEVATION AND DETAILS

**LANDSCAPE**

- L01 LANDSCAPE PLANTING PLAN
- L02 LANDSCAPE DETAILS
- L03 LANDSCAPE PLANT MATERIAL PALETTE



**LOCATION MAP**  
NOT TO SCALE

# RIPTA BROAD CITY LINE STOP ELECTRIC BUS CHARGING STATION

1533 BROAD STREET CRANSTON, RHODE ISLAND  
MAP 2, BLOCK 4, LOTS 1581, 3373, 4020  
JUNE 2022

**OWNER / APPLICANT:**

RI PUBLIC TRANSIT AUTHORITY  
705 ELMWOOD AVE.  
PROVIDENCE, RI 02907

**ENGINEER:**

TODD RAVENELLE, PE  
BRETT NEILAN, PE  
GRA, A DIVISION OF GM2  
200 MAIN STREET, SUITE 300  
PAWTUCKET, RI 02860  
401-726-4084

**CONTRACTOR:**

ROBERT JOHNSON  
BOND CIVIL & UTILITY CONSTRUCTION, INC.  
10 CABOT ROAD, SUITE 300  
MEDFORD, MA 02155  
617-387-3400

**ELECTRICAL ENGINEER:**

ANTHONY MORREALE, PE  
LIG CONSULTANTS  
510 CHAPMAN STREET, SUITE 202  
CANTON, MA 02021  
508-381-3371

**LANDSCAPE ARCHITECT:**

ELENA PASCARELLA, PLA, ASLA  
LANDSCAPE ELEMENTS LLC  
3288 POST ROAD, SUITE 2C  
WARWICK, RI 02886  
401-773-4088



CITY OF CRANSTON  
DEVELOPMENT PLAN REVIEW COMMITTEE  
SUBMITTAL JUNE 2022

NOT FOR CONSTRUCTION

**GENERAL NOTES:**

- SPECIFICATIONS GOVERNING THIS PROJECT SHALL BE THE RIDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (AMENDED AUGUST 2013, INCLUDING ALL REVISIONS, ADDENDA AND SUPPLEMENTAL SPECIFICATIONS, AND THE "RHODE ISLAND STANDARD DETAILS" (1998, INCLUDING ALL REVISIONS. ALL PROJECT SITE IMPROVEMENTS SHALL CONFORM TO THE APPLICABLE STANDARDS SET FORTH IN THESE DOCUMENTS (AND THE SUB-REFERENCES INCORPORATED THEREIN) UNLESS OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS.
  - THE RIDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" IS VIEWABLE VIA THE FOLLOWING WEBSITE ADDRESS:  
http://www.dot.ri.gov/business/bluebook.php
  - THE RIDOT "STANDARD DETAILS" IS VIEWABLE VIA THE FOLLOWING WEBSITE ADDRESS:  
https://www.dot.ri.gov/documents/doingbusiness/RIDOT\_Std\_Details.pdf
- ANY DAMAGE TO EXISTING PAVEMENT, CONDUIT, UTILITIES, SIDEWALK, FENCES, ETC., CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT NO ADDITIONAL COST TO RIPTA.
- THE CONTRACTOR SHALL PLACE ALL EQUIPMENT AND MATERIAL AS FAR AWAY AS POSSIBLE FROM THE EDGE OF THE TRAVEL LANE SO AS NOT TO CAUSE A SAFETY HAZARD, IN ACCORDANCE WITH SECTION 106.06 OF THE R.I.D.O.T. STANDARD SPECIFICATION, LATEST EDITION. EQUIPMENT STORAGE SHALL BE COORDINATED WITH THE RIPTA PRIOR TO CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE EXISTING CONDITIONS ARE NOT OBLITERATED BEFORE CONTROL POINTS ARE LOCATED AND CONSTRUCTION LAYOUT IS ESTABLISHED.
- THE FREQUENCY AND APPLICATION RATES FOR THE DUST CONTROL ITEMS SHALL BE COMPLETED IN ACCORDANCE WITH THE PROJECTS SOIL EROSION AND SEDIMENT CONTROL (SESC) PLAN, OR AS DIRECTED BY THE OWNER AND/OR ENGINEER.
- ASPHALT EMULSION TACK COAT SHALL BE PLACED PRIOR TO PAVEMENT PLACEMENT ON THE CONCRETE BASE OR COLD PLANNED PAVEMENT, AND ON ANY NEW COURSE WHICH HAS BEEN OPEN TO TRAFFIC, OR ANY NEW COURSE WHICH HAS BEEN EXPOSED FOR MORE THAN 3 DAYS, AND/OR AS DIRECTED BY THE ENGINEER. IT SHALL ALSO BE APPLIED TO VERTICAL PAVEMENT FACES BETWEEN ADJOINING PAVEMENT SECTIONS. ALL APPLICATIONS ON BOTH HORIZONTAL AND VERTICAL SURFACES SHALL BE PAID FOR UNDER THE CONTRACT UNIT LUMP SUM PRICE FOR SITE WORK.
- THE LIMITS OF CLEARING AND SURFACE DISTURBANCE MUST BE STRICTLY ADHERED TO IN ALL AREAS.
- CLEANING AND SWEEPING SHALL BE DONE AT THE CONCLUSION OF EACH WORK DAY WITHIN THE CITY OF CRANSTON'S RIGHT-OF-WAY AND WITHIN THE RIPTA TURNING ACCESS, AS NEEDED.
- CLEANING AND SWEEPING OF PAVEMENT WILL INCLUDE REMOVAL OF ALL PAVEMENT DEBRIS PRIOR TO THE PLACEMENT OF EACH BITUMINOUS LIFT. ALL CLEANING AND SWEEPING SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER.
- PRIOR TO INSTALLATION, ALL SIGNS, MOUNTINGS AND LOCATIONS SHALL BE APPROVED OR MODIFIED BY THE RIPTA AND/OR ENGINEER.
- PAVEMENT OPERATIONS FOR CURBED SECTIONS: IN AREAS WHERE CURBING IS SET TO FINISH LINE AND GRADE, THE CONTRACTOR WILL NOT BE REQUIRED TO UTILIZE THE SENSOR AND SKY-TYPE DEVICE FOR AUTOMATIC GRADE CONTROL, BUT WILL BE ALLOWED TO MANUALLY ADJUST THE BITUMINOUS PAVER FOR CONTROLLING GRADE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ROADWAYS FREE OF DEBRIS RESULTING FROM THEIR CONSTRUCTION OPERATIONS. ALL DEBRIS SHALL BE REMOVED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
- NO FUEL STORAGE, VEHICLE REFUELING, OR EQUIPMENT STORAGE SHALL TAKE PLACE IN DESIGNATED WETLANDS, NOR WITHIN 100' OF ANY WATER BODY. THIS REQUIREMENT SHALL NOT SUPERSEDE ANY FEDERAL, STATE OR LOCAL LAW, ORDINANCE, RULE OR REGULATION THAT APPLIES TO THE SAME, UNLESS THIS REQUIREMENT IS MORE STRINGENT THAN SAID LAW, ORDINANCE, RULE OR REGULATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT AT THE END OF FINAL PAVING OPERATIONS, FLOW TO EXISTING DRAINAGE STRUCTURES HAS BEEN REESTABLISHED AND THAT NO ISOLATED DEPRESSIONS REMAIN. THERE SHALL BE NO SEPARATE PAYMENT FOR THIS PROVISION; IT SHALL BE CONSIDERED INCIDENTAL TO PAVING AND INCLUDED IN THE BID FOR SITE WORK.
- ALL EMBANKMENTS SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 12" (AFTER COMPACTION) AND SHALL BE COMPACTED AS SPECIFIED BEFORE THE NEXT LAYER IS PLACED. ALSO, EMBANKMENT CONSTRUCTION SHALL CONFORM TO SECTION 202.03.2 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
- THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE PROVISIONS, CONDITIONS, AND STIPULATIONS STATED IN THE ENVIRONMENTAL APPROVALS ISSUED FOR THE PROJECT FROM THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM), AND/OR THE ARMY CORPS OF ENGINEERS (ACOE), AND/OR THE COASTAL RESOURCES MANAGEMENT COUNCIL (CRM/C). COPIES OF APPLICABLE PERMITS ARE INCLUDED IN THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH THESE CONDITIONS SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND INCLUDED WITH THE BID FOR SITE WORK.
- THE CONTRACTOR SHALL COORDINATE THE PROJECT'S LOGISTICS BOTH PRIOR TO CONSTRUCTION, AND DURING CONSTRUCTION TO ENSURE ADEQUATE TURNING FOR RIPTA'S OPERATION.

**DRAINAGE AND EROSION CONTROL NOTES:**

- FOR ALL PROJECTS WITH AT LEAST ONE(1) ACRE OF SOIL DISTURBANCE, RIPTA IS REQUIRED TO DEVELOP AND ENFORCE A SITE SPECIFIC SOIL EROSION AND SEDIMENT CONTROL PLAN IN ORDER TO REMAIN IN COMPLIANCE WITH THE RIDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL READ, BECOME FAMILIAR WITH, AND ADHERE TO ALL OF THE PROVISIONS, CONDITIONS, AND STIPULATIONS OF THE GENERAL PERMIT AND THE SITE SPECIFIC SESC FOR THIS PROJECT. COPIES OF THESE DOCUMENTS ARE INCLUDED IN THE CONTRACT DOCUMENTS. ALL COSTS ASSOCIATED WITH ADHERENCE TO THE SESC SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND IS INCLUDED IN THE LUMP SUM PRICE FOR SITE WORK.
- NO UNDISTURBED AREAS SHALL BE CLEARED OF EXISTING VEGETATION AFTER OCTOBER 15 OF ANY CALENDAR YEAR OR DURING ANY PERIOD OF FULL OR LIMITED WINTER SHUTDOWN. ALL DISTURBED SOILS EXPOSED PRIOR TO OCTOBER 15 OF ANY CALENDAR YEAR SHALL BE SEEDED OR PROTECTED BY THAT DATE. ANY SUCH AREAS THAT DO NOT HAVE ADEQUATE VEGETATIVE STABILIZATION, AS DETERMINED BY THE RESIDENT ENGINEER OR ENVIRONMENTAL INSPECTOR, BY NOVEMBER 15 OF ANY CALENDAR YEAR, MUST BE STABILIZED THROUGH THE USE OF EROSION CONTROL MATTING OR HAY MULCH, IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK. IF WORK CONTINUES WITHIN ANY OF THESE AREAS DURING THE PERIOD FROM OCTOBER 15 THROUGH APRIL 15, CARE MUST BE TAKEN TO ENSURE THAT ONLY THE AREA REQUIRED FOR THAT DAY'S WORK IS EXPOSED, AND ALL ERODABLE SOIL MUST BE REESTABLISHED WITHIN 5 WORKING DAYS. ANY WORK TO CORRECT PROBLEMS RESULTING FROM FAILURE TO COMPLY WITH THIS PROVISION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THERE WILL BE NO SEPARATE PAYMENT FOR THIS PROVISION, IT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OPERATIONS. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 2 WEEKS OF FINAL GRADING.
- STOCKPILES SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES OF ERODABLE MATERIAL SHALL ALSO BE SEEDED AND RINGED WITH R.I. STD. 9.1.0 TO STABILIZE. STOCKPILES SHALL BE USED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- IF THE PLANS INCLUDE SPECIFIC AREAS FOR PLACEMENT OF CONSTRUCTION DEWATERING BASINS AND/OR EQUIPMENT AND MATERIALS STORAGE AND STOCKPILING, AND IF THE CONTRACTOR ELECTS TO UTILIZE ANY OTHER AREAS FOR THESE PURPOSES, THIS SHALL BE APPROVED BY THE ENGINEER ONLY AFTER OBTAINING ANY NECESSARY PERMITS AND/OR PERMIT MODIFICATIONS FROM THE APPROPRIATE REGULATORY AUTHORITY(IES). ANY PERMITTING REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED AT NO COST TO THE STATE. THE ENGINEER WILL COORDINATE SUBMISSION OF ANY REQUIRED PERMIT APPLICATION MATERIALS WITH THE RIPTA.
- SEEDING ON ALL SLOPES 3 TO 1 OR STEEPER SHALL CONSIST OF THE FOLLOWING APPLICATIONS UNLESS CHANGED IN THE CONTRACT.
  - SEEDING TYPE I.
  - ADHESIVE MULCH STABILIZER
- UNVEGETATED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR PERIODS IN EXCESS OF 2 WEEKS OR THROUGH THE INACTIVE WINTER SEASON.
- PRIOR TO DRAINAGE AND UTILITY CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING PIPES AND/OR STRUCTURES WHICH ARE TO BE CONNECTED. ANY VARIATION FOUND FROM THE PLANS MUST BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO DRAINAGE AND UTILITY CONSTRUCTION. WORK CAN COMMENCE ONLY UPON THE ENGINEER'S AUTHORIZATION.
- ALL DRAINAGE AND UTILITY STRUCTURES WITHIN THE PAVED ROADWAY SHALL BE ADJUSTED TO GRADE WITH THE SURROUNDING PAVEMENT PRIOR TO THE WINTER SHUTDOWN.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL THROUGHOUT THE WORK AREA. DURING CONSTRUCTION,
- APPROVED EROSION CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT SOIL EROSION AND SEDIMENT CONTROL (SESC) PLAN WHENEVER SUBBASE IS EXPOSED, AND CONTROLS SHALL REMAIN IN PLACE UNTIL THE ADJUTING GROUND SURFACES ARE STABILIZED.
- THE TOE OF ANY FILL SLOPE IS TO REMAIN AT LEAST 1' INSIDE OF ALL EROSION CONTROLS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR COVER ANY PORTION OF THE EROSION CONTROL MEASURES WITH MATERIAL. ANY MATERIAL THAT IS PLACED ON ANY EROSION CONTROLS BY THE CONTRACTOR, OR ANY AGENT OF THE CONTRACTOR, SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR, AND ANY NECESSARY REPAIRS TO THE EROSION CONTROLS ACCOMPLISHED.
- PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THOSE AREAS INDICATED ON THE PLANS. CLEARING MAY OCCUR PRIOR TO INSTALLATION OF SUCH CONTROLS, HOWEVER NO GRUBBING, GRADING, FILLING, OR OTHER SOIL DISTURBANCE SHALL OCCUR PRIOR TO INSTALLATION. THE LIMITS OF CLEARING AND SURFACE DISTURBANCE MUST BE STRICTLY ADHERED TO IN ALL AREAS.
- ALL APPROVED EROSION CONTROLS OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN HELP TO MINIMIZE EROSION. TEMPORARY SEED WILL CONFORM TO R.I.D.O.T. STANDARD TEMPORARY SEED MIX.
- THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE SPECIFIED IN SUBSECTION L.02.03 OF THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.

**UTILITY NOTES:**

- EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING THE BEST AVAILABLE INFORMATION AND ARE APPROXIMATE.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE AND UTILITIES BOTH UNDERGROUND AND OVERHEAD BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH CHAPTER 39-1.2 OF THE R.I. GENERAL LAWS ENTITLED "EXCAVATION NEAR UNDERGROUND UTILITY FACILITIES", WITH AMENDMENTS EFFECTIVE AS OF NOVEMBER 1, 2009 AND, WHEN NECESSARY, BY CONTACTING THE INDIVIDUAL UTILITY COMPANIES. EXCAVATION SHALL BE IN ACCORDANCE WITH ALL STATUTES, ORDINANCES, RULES AND REGULATIONS OF ANY APPLICABLE CITY, TOWN, STATE OR FEDERAL AGENCY. THE CONTRACTOR SHOULD UNDERSTAND THAT NOT ALL UTILITIES SUBSCRIBE TO THE DIG SAFE PROGRAM. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES AND ENSURE THAT ALL UTILITIES HAVE BEEN MARKED PRIOR TO COMMENCING THEIR WORK. ANY DAMAGE TO EXISTING UTILITIES MARKED IN THE FIELD, OR AS A RESULT OF FAILING TO CONTACT THE APPROPRIATE UTILITY COMPANY, SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE RIPTA.
- ANY/ALL PROPOSED VARIANCE TO THE DRAINAGE AND UTILITY PLAN, OR UTILITY DETAILS PROVIDED HEREIN SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

**MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:**

- ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS, CHANNELIZING DEVICES, ETC., SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
- ALL SIGN MOUNTINGS FOR TEMPORARY AND CONSTRUCTION SIGNS SHALL BE IN ACCORDANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS, LATEST EDITION.
- THE CONTRACTOR SHALL COVER ALL EXISTING AND/OR TEMPORARY SIGNS THAT ARE NOT RELEVANT TO THE TRAFFIC CONTROL REQUIRED DURING ANY PARTICULAR STAGE OF THE CONTRACT.
- TEMPORARY CONSTRUCTION SIGNS AND OTHER WORKZONE TRAFFIC CONTROL DEVICES THAT ARE DAMAGED OR REQUIRE RELOCATION SHALL BE REPLACED AND / OR RELOCATED AS REQUIRED. NO SEPARATE PAYMENT SHALL BE MADE FOR REPLACING OR RELOCATING SIGNS AS THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND INCLUDED IN THE LUMP SUM PRICE FOR SITE WORK.
- THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS SHALL NOT BE PARKED ON THE TRAVEL LANES OR SHOULDERS. PARKING SHALL BE COORDINATED WITH THE RIPTA AT ALL TIMES.
- TEMPORARY CONSTRUCTION SIGNS AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC, AND SHALL BE REMOVED AS SOON AS PRACTICAL WHEN THEY ARE NO LONGER APPROPRIATE.

**SURVEY NOTES:**

- SURVEY HAS BEEN COMPLETED BY CONTROL POINT ASSOCIATES, INC. AS FOUND IN THE ATTACHED DRAWING DATED APRIL 20, 2021. THE SURVEY WAS COMPLETED FOR FUSS & O'NEILL, INC. ON BEHALF OF RIPTA AS PART OF THE PROJECT'S DEVELOPMENT.
- CONTROL POINT ASSOCIATES, INC. UTILIZED THE NAVD 88 FOR THE VERTICAL CONTROL. GPS COORDINATES USING THE KEYSTONE VRS NETWORK (KEYNETGPS) WERE USED AS PART OF THIS SURVEY PER NOTE 7 OF THE SURVEY PLAN ATTACHED.
- FUSS & O'NEILL, INC. REPRESENTATIVE MR. BRIAN KORTZ ACKNOWLEDGED BOND CIVIL AND UTILITY CONSTRUCTION, INC. (BCU) CAN UTILIZE THE CONTROL POINT ASSOCIATES, INC. SURVEY VIA EMAIL DATED DECEMBER 2, 2021. THE COMPLETED SURVEY WAS DISTRIBUTED BY FUSS & O'NEILL, INC. VIA AUTOCAD AND PDF IN THE SAME EMAIL.
- ON BEHALF OF GRA, A DIVISION OF GM2, AND BOND CIVIL AND UTILITY CONSTRUCTION, INC. (BCU) ALPHA ASSOCIATES LTD REPRESENTATIVES DISCUSSED THE PROJECT WITH CONTROL POINT ASSOCIATES, INC. GRA WAS INFORMED ON FEBRUARY 3, 2022 THAT CONTROL POINT REPRESENTATIVES ACKNOWLEDGED THE RELEASE OF THE SURVEY SHOULD FUSS & O'NEILL, INC. AGREE.

**PAVEMENT TRENCH NOTES:**

- TRENCH BACKFILL AND PAVEMENT RESTORATION SHALL BE COMPLETED IN ACCORDANCE WITH THE CITY OF CRANSTON'S "SPECIFICATIONS FOR UTILITY COMPANY REPAIRS WITHIN THE CITY OF CRANSTON - SECTION 4. REQUIREMENTS AVAILABLE VIA THE "DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS FOR UTILITY COMPANY REPAIRS TO STREETS WITHIN THE CITY OF CRANSTON."
  - ALL PERMANENT TRENCH PAVEMENT REPAIRS ARE TO EXTEND TO A MINIMUM OF SIX (6) INCHES BEYOND EACH SIDE OF THE ORIGINAL TRENCH.
  - ALL FINAL TRENCH EDGES SHALL BE SAWN BY POWER TOOLS ALONG STRAIGHT LINES ESTABLISHED BY THE CITY. EXCEPTIONS TO THE SAW CUTTING POLICY MAY ONLY BE GRANTED BY THE DIRECTOR OF PUBLIC WORKS.
  - PERMANENT PAVEMENT REPLACEMENT SHALL BE THREE (3) INCHES IN THICKNESS AND PLACED IN TWO 1.5-INCH LAYERS. BITUMINOUS PAVING MATERIALS AND METHODS SHALL CONFORM TO RIDOT SPECIFICATION SECTION 400 AND SECTION M.03. COMPACTION SHALL BE BY A SELF-PROPELLED POWER ROLLER OF SUITABLE SIZE TO COMPACT THE MIXTURE PLACED.
  - SIDEWALK SURFACES SHALL BE REPLACED AS FOLLOWS:
    - FOUR (4) INCHES OF CONCRETE CONFORMING TO 300 PSI CLASS B (AE) WITH 3/4-INCH MAXIMUM SIZE AGGREGATE.
    - TWO AND A HALF (2-1/2) INCHES OF BITUMINOUS CONCRETE COMPACTED WITH A POWER ROLLER FOR ALL ASPHALT SIDEWALKS.
    - FULL WIDTH OF ALL SIDEWALKS MUST BE REPLACED IF UTILITY WORK IS LONGITUDINAL. TRAVERSE TRENCHES MUST BE REPLACED IN ACCORDANCE WITH PROCEDURES OUTLINED ABOVE AND ONLY REPLACEMENT OF FULL CONCRETE PANELS WILL BE ACCEPTABLE.

PROJECT

RIPTA BROAD CITY LINE STOP  
ELECTRIC BUS CHARGING STATION

1633 BROAD STREET CRANSTON, RHODE ISLAND

TODD A. RAVENELLE  
No. 5928  
REGISTERED PROFESSIONAL ENGINEER

CLIENT

RHODE ISLAND PUBLIC TRANSIT  
AUTHORITY



a division of GM2

DRAWING TITLE	<b>NOTES</b>	
	NO.	DATE
REVISIONS	BY	

PROJECT NO.: 40832

DATE: JUNE 2022

SCALE: NONE

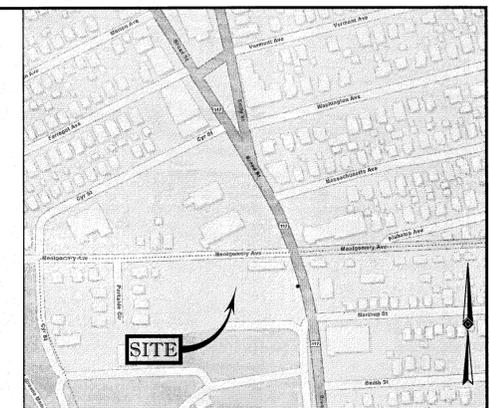
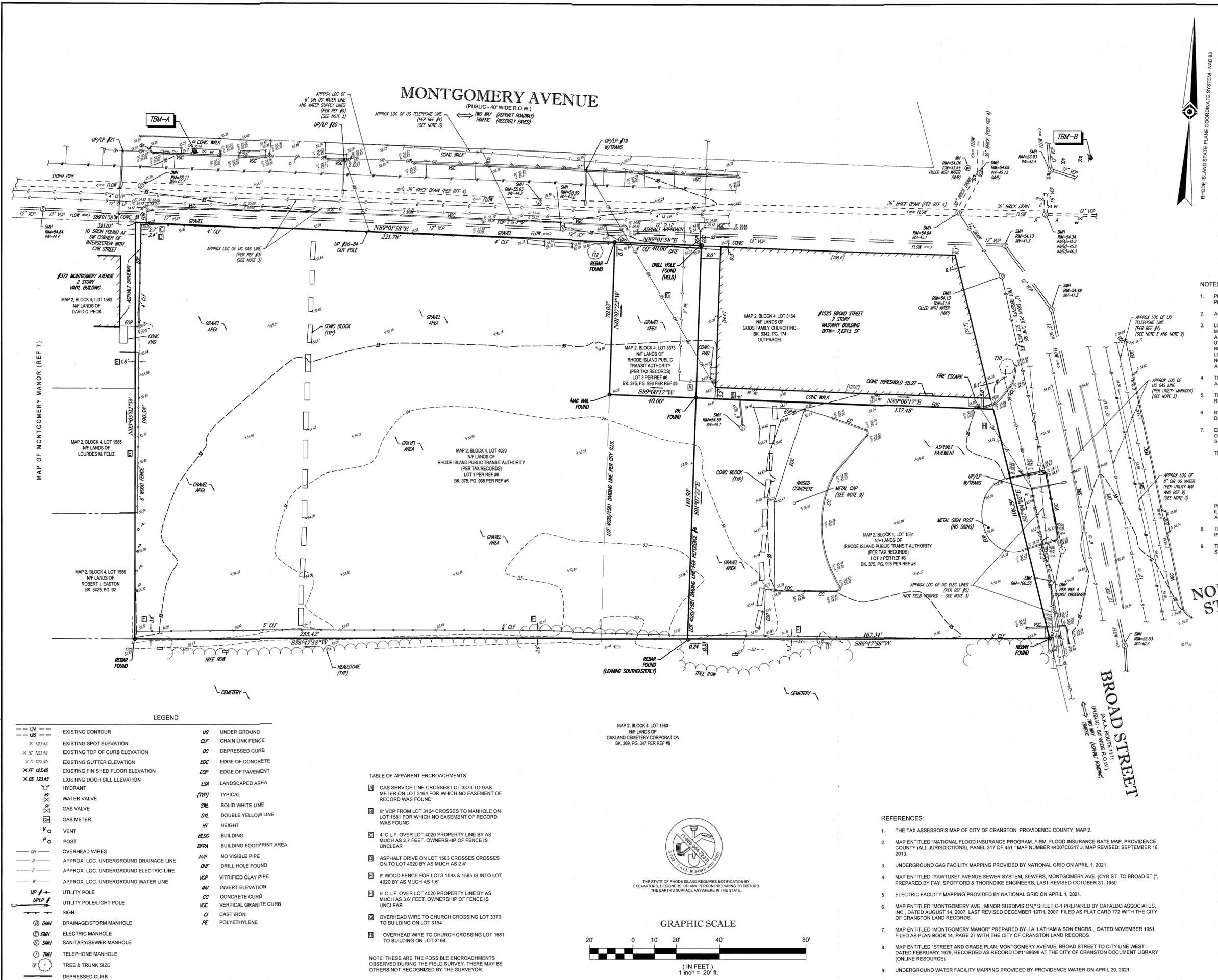
DRAWN BY: LBD

CHECKED BY: BDN

DRAWING NUMBER

**2**

SHEET 2 OF 17



- NOTES:**
- PROPERTY KNOWN AS LOTS 1581, 4020, AND 3373 OF BLOCK 4 AS SHOWN ON THE CITY OF CRANSTON, PROVIDENCE COUNTY, STATE OF RHODE ISLAND, MAP NO. 2.
  - AREA = 64,366 SQUARE FEET OR 1.477 ACRES
  - LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.
  - THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
  - THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
  - BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X UNSHADED (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER REF. #2
  - ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS) TAKEN AT THE TIME OF THE FIELD SURVEY.
- TEMPORARY BENCH MARKS SET:  
 TBM-A: HYDRANT ON THE NORTH SIDE OF MONTGOMERY AVENUE  
 BOLT OVER MAIN OUTLET  
 ELEVATION = 57.25  
 TBM-B: HYDRANT AT THE NORTHEAST CORNER OF MONTGOMERY AVENUE AND BROAD STREET  
 BOLT OVER MAIN OUTLET  
 ELEVATION = 56.39
- PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SKETCH HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION.
- THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
  - THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY.

NO.	REVISION PER COMMENTS	B.A.L.	S.P.P.	DATE
1	REVISED PER COMMENTS			04-29-21

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO 435-RICR-00-00-1, 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON APRIL 28, 2016 AS FOLLOWS:

- TYPE OF BOUNDARY SURVEY: MEASUREMENT SPECIFICATION  
 COMPREHENSIVE BOUNDARY SURVEY I
- OTHER TYPE OF SURVEY: MEASUREMENT SPECIFICATION:  
 DATA ACCUMULATION SURVEY III  
 (PLANIMETRIC SURVEY, TOPOGRAPHIC SURVEY)  
 VERTICAL CONTROL STANDARD V-3  
 TOPOGRAPHIC SURVEY ACCURACY T-2
- THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THIS PLAN IS AS FOLLOWS:  
 PREPARE BOUNDARY SURVEY AND OBTAIN TOPOGRAPHIC AND PLANIMETRIC INFORMATION FOR USE AS A BACKGROUND DOCUMENT FOR SITE PLAN PREPARATION.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL

**JOHN P. LYNCH**  
 PROFESSIONAL LAND SURVEYOR

**JOHN P. LYNCH** DATE: 4-20-2021  
 RHODE ISLAND PROFESSIONAL LAND SURVEYOR #1925  
 CERTIFICATE OF AUTHORIZATION #4355

**BOUNDARY & TOPOGRAPHIC SURVEY**  
**FUSS & O'NEILL, INC.**  
 1533 BROAD STREET  
 MAP 2, BLOCK 4, LOTS 1581, 3373, AND 4020  
 CITY OF CRANSTON, PROVIDENCE COUNTY  
 STATE OF RHODE ISLAND

**CONTROL POINT ASSOCIATES, INC.**  
 ALBANY, NY 518-217-5010  
 CHALFONT, PA 215-712-9800  
 HAUPPAUGE, NY 631-980-2645  
 MANHATTAN, NY 646-780-0411  
 MT LAUREL, NJ 609-857-2099  
 WARREN, NJ 908-668-0099

REVIEWED:	APPROVED:	DATE:	SCALE:	FILE NO.:	DWG. NO.:
S.P.P.	J.P.L.	04-20-2021	1"=20'	03-210110-00	1 OF 1

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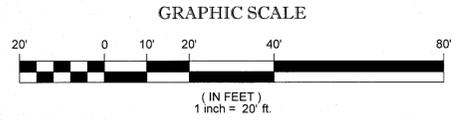
**LEGEND**

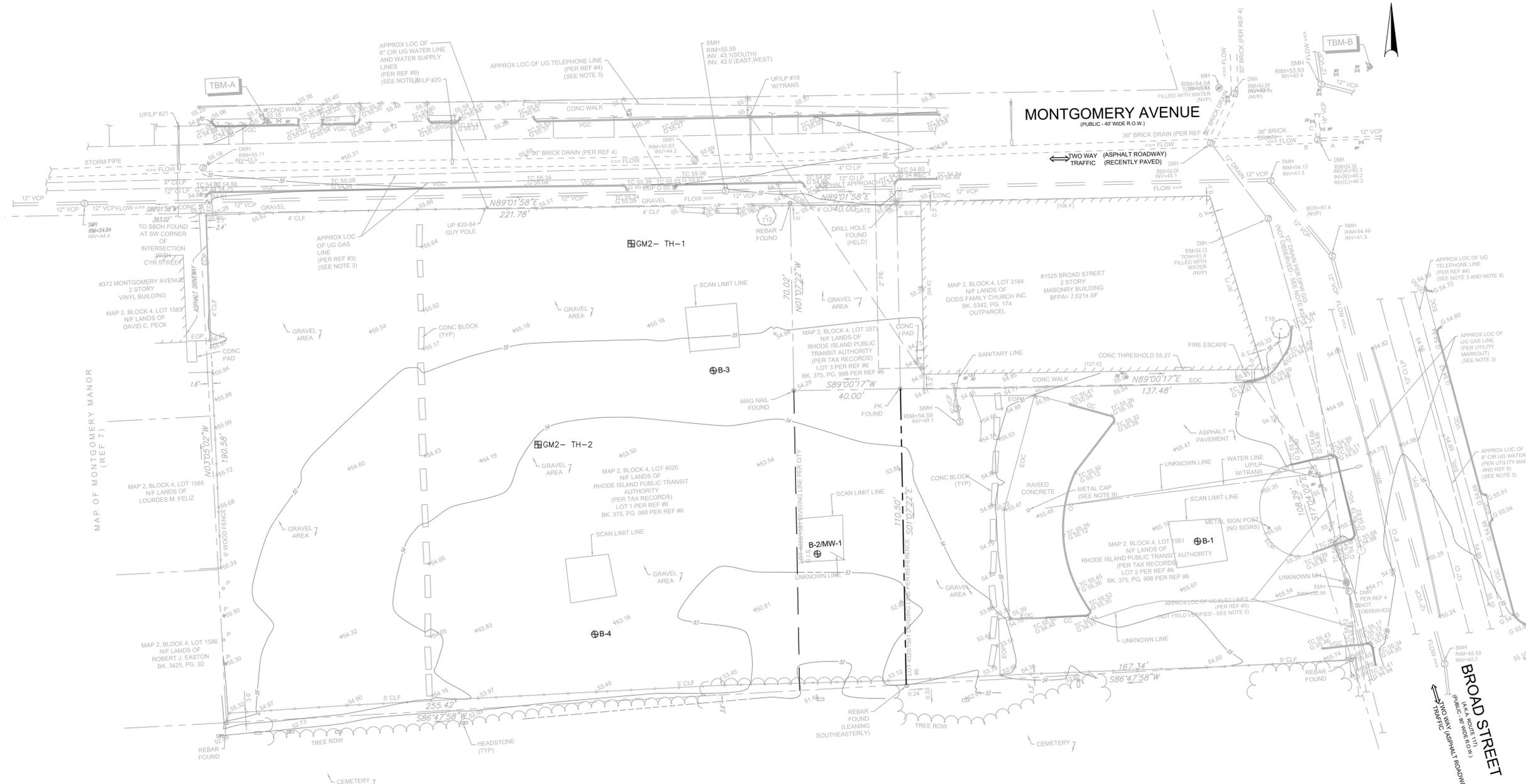
- |             |                                        |       |                       |
|-------------|----------------------------------------|-------|-----------------------|
| --- 124 --- | EXISTING CONTOUR                       | UC    | UNDER GROUND          |
| --- 125 --- | EXISTING SPOT ELEVATION                | CLF   | CHAIN LINK FENCE      |
| X TC 123.45 | EXISTING TOP OF CURB ELEVATION         | DC    | DEPRESSED CURB        |
| X G 122.95  | EXISTING GUTTER ELEVATION              | EDC   | EDGE OF CONCRETE      |
| X FF 123.45 | EXISTING FINISHED FLOOR ELEVATION      | EDP   | EDGE OF PAVEMENT      |
| X DS 123.45 | EXISTING DOOR SILL ELEVATION           | LSA   | LANDSCAPED AREA       |
| ○           | HYDRANT                                | (TYP) | TYPICAL               |
| ○           | WATER VALVE                            | SWL   | SOLID WHITE LINE      |
| ○           | GAS VALVE                              | DYL   | DOUBLE YELLOW LINE    |
| ○           | GAS METER                              | HT    | HEIGHT                |
| ○           | VENT                                   | BLDG  | BUILDING              |
| ○           | POST                                   | NVP   | NO VISIBLE PIPE       |
| ○           | OVERHEAD WIRES                         | DHF   | DRILL HOLE FOUND      |
| ○           | APPROX. LOC. UNDERGROUND DRAINAGE LINE | VCP   | VITRIFIED CLAY PIPE   |
| ○           | APPROX. LOC. UNDERGROUND ELECTRIC LINE | EW    | INVERT ELEVATION      |
| ○           | APPROX. LOC. UNDERGROUND WATER LINE    | CC    | CONCRETE CURB         |
| ○           | UTILITY POLE                           | VGC   | VERTICAL GRANITE CURB |
| ○           | UTILITY POLE/LIGHT POLE                | CI    | CAST IRON             |
| ○           | SIGN                                   | PE    | POLYETHYLENE          |
| ○           | DRAINAGE/STORM MANHOLE                 |       |                       |
| ○           | ELECTRIC MANHOLE                       |       |                       |
| ○           | SANITARY/SEWER MANHOLE                 |       |                       |
| ○           | TELEPHONE MANHOLE                      |       |                       |
| ○           | TREE & TRUNK SIZE                      |       |                       |
| ○           | DEPRESSED CURB                         |       |                       |

**TABLE OF APPARENT ENCROACHMENTS**

- GAS SERVICE LINE CROSSES LOT 3373 TO GAS METER ON LOT 3164 FOR WHICH NO EASEMENT OF RECORD WAS FOUND
- 6" VCP FROM LOT 3164 CROSSES TO MANHOLE ON LOT 1581 FOR WHICH NO EASEMENT OF RECORD WAS FOUND
- 4" C.L.F. OVER LOT 4020 PROPERTY LINE BY AS MUCH AS 2.7 FEET. OWNERSHIP OF FENCE IS UNCLEAR
- ASPHALT DRIVE ON LOT 1583 CROSSES CROSSES ON TO LOT 4020 BY AS MUCH AS 2.4'
- 6" WOOD FENCE FOR LOTS 1583 & 1585 IS INTO LOT 4020 BY AS MUCH AS 1.6'
- 5" C.L.F. OVER LOT 4020 PROPERTY LINE BY AS MUCH AS 3.6' FEET. OWNERSHIP OF FENCE IS UNCLEAR
- OVERHEAD WIRE TO CHURCH CROSSING LOT 3373 TO BUILDING ON LOT 3164
- OVERHEAD WIRE TO CHURCH CROSSING LOT 1581 TO BUILDING ON LOT 3164

NOTE: THESE ARE THE POSSIBLE ENCROACHMENTS OBSERVED DURING THE FIELD SURVEY. THERE MAY BE OTHERS NOT RECOGNIZED BY THE SURVEYOR.





**NOTES:**

- EXISTING CONDITIONS PLAN HAS BEEN GENERATED BASED UPON THE CONTROL POINT ASSOCIATES, INC. SURVEY PLAN, PROVIDED IN THESE PROJECT PLANS. SHEET 3 PROVIDES ADDITIONAL SURVEY NOTATION.
- NON-COMPLIANT SOILS HAVE BEEN IDENTIFIED AT THE PROJECT AREA AS SUMMARIZED IN THE PROJECT'S "REMEDIAL ACTION WORK PLAN" (RAWP) BOUND SEPARATELY. ALL SOILS SHALL BE MANAGED IN ACCORDANCE WITH THE RAWP AND THE PROJECT PLANS.

**SOIL EVALUATION NOTES:**

- THE FOLLOWING INFORMATION WAS PROVIDED BY A "SITE INVESTIGATION REPORT" PREPARED BY FUSS & O'NEILL, DATED JULY 2021.
  - SOIL BORINGS B-1, B-3, B-4 AND MONITORING WELL (MW-2) WERE COMPLETED BY FUSS & O'NEILL AS PART OF THE PROJECT'S INVESTIGATION IN JUNE 2021. THE BORINGS WERE ADVANCED RANGING FROM 22.0 TO 32.0 FEET BELOW GRADE. ACCORDING TO THE SOIL BORING LOGS, FILL WAS OBSERVED FROM THE EXISTING GRADE FROM 5 TO 10 FEET BELOW GRADE. FINE TO MEDIUM SAND WAS GENERALLY OBSERVED UNDER THE FILL.
  - CLAY AND SILT WAS OBSERVED IN THE LOCATION OF MW-2 FROM 7.0 TO 10.0 FEET BELOW GRADE.
- THE FOLLOWING INFORMATION WAS PROVIDED IN A "SOIL EVALUATION" DOCUMENT, PREPARED BY GRA, A DIVISION OF GM2, DATED APRIL 22, 2022.
  - GRAVELLY SAND WAS OBSERVED IN BOTH TEST HOLE LOCATIONS (GM2-TH-1, AND GM2-TH-2) ON MARCH 8, 2022.
  - SOILS WERE COLLECTED AND SUBMITTED FOR LABORATORY ANALYTICAL PER COORDINATION WITH THE RIDERS' OFFICE OF LAND REVITALIZATION AND SUSTAINABLE MATERIALS MANAGEMENT (OLRSM). THE SOIL ANALYTICAL DATA IS SUMMARIZED IN THE PROJECT'S RAWP.



PROJECT  
**RIPTA BROAD CITY LINE STOP  
 ELECTRIC BUS CHARGING STATION**  
 1633 BROAD STREET CRANSTON, RHODE ISLAND

TODD A. RAVENELLE  
 No. 5928  
 REG. PROFESSIONAL ENGINEER

CLIENT  
**RHODE ISLAND PUBLIC TRANSIT  
 AUTHORITY**  
 a division of GM2

DRAWING TITLE  
**EXISTING CONDITIONS PLAN**

NO.	DATE	BY

PROJECT NO.: 40832

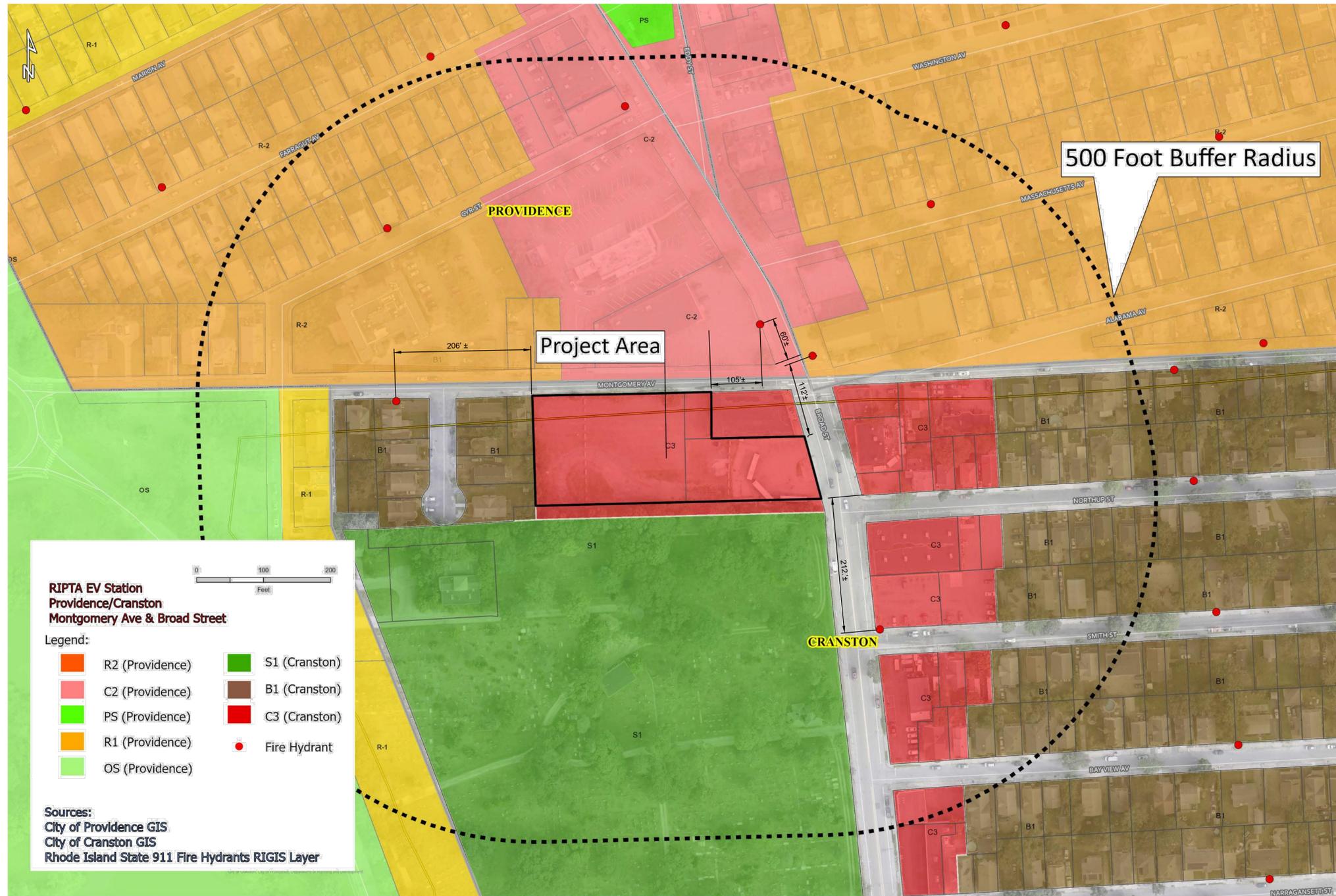
DATE: JUNE 2022

SCALE: 1" = 20'

DRAWN BY: LBD

CHECKED BY: BDN

DRAWING NUMBER  
**3**  
 SHEET 3 OF 17



**RIPTA EV Station  
Providence/Cranston  
Montgomery Ave & Broad Street**

Legend:

<span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span> R2 (Providence)	<span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> S1 (Cranston)
<span style="display:inline-block; width:15px; height:15px; background-color:lightcoral; border:1px solid black;"></span> C2 (Providence)	<span style="display:inline-block; width:15px; height:15px; background-color:lightgrey; border:1px solid black;"></span> B1 (Cranston)
<span style="display:inline-block; width:15px; height:15px; background-color:lightgreen; border:1px solid black;"></span> PS (Providence)	<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> C3 (Cranston)
<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> R1 (Providence)	<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black; border-radius:50%;"></span> Fire Hydrant
<span style="display:inline-block; width:15px; height:15px; background-color:lightgreen; border:1px solid black;"></span> OS (Providence)	

Sources:  
City of Providence GIS  
City of Cranston GIS  
Rhode Island State 911 Fire Hydrants RIGIS Layer

PROJECT  
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TODD A. RAVENELLE  
No. 5928  
5/21/22  
PROFESSIONAL ENGINEER

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AUTHORITY**  
a division of **GM2**

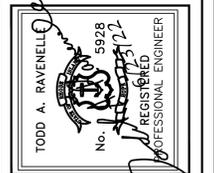
DRAWING TITLE  
**LOCUS MAP**

NO.	DATE	REVISIONS	BY

PROJECT NO.: 40832  
DATE: JUNE 2022  
SCALE: 1" = 1000'  
DRAWN BY: LBD  
CHECKED BY: BDN

DRAWING NUMBER  
**4**  
SHEET 4 OF 17

NOTE:  
1. THIS LOCUS MAP IS PROVIDED TO MEET THE MUNICIPAL REQUIREMENTS IN ACCORDANCE WITH THE CITY OF CRANSTON DEVELOPMENT PLAN REVIEW (DPR) COMMITTEE TO THE MAXIMUM EXTENT.  
2. THIS PLAN DOES NOT INDICATE PROPOSED CONSTRUCTION ACTIVITIES.



DRAWING TITLE  
**LOCATION PLAN**

NO.	DATE	REVISIONS	BY

PROJECT NO.: 40832

DATE: JUNE 2022

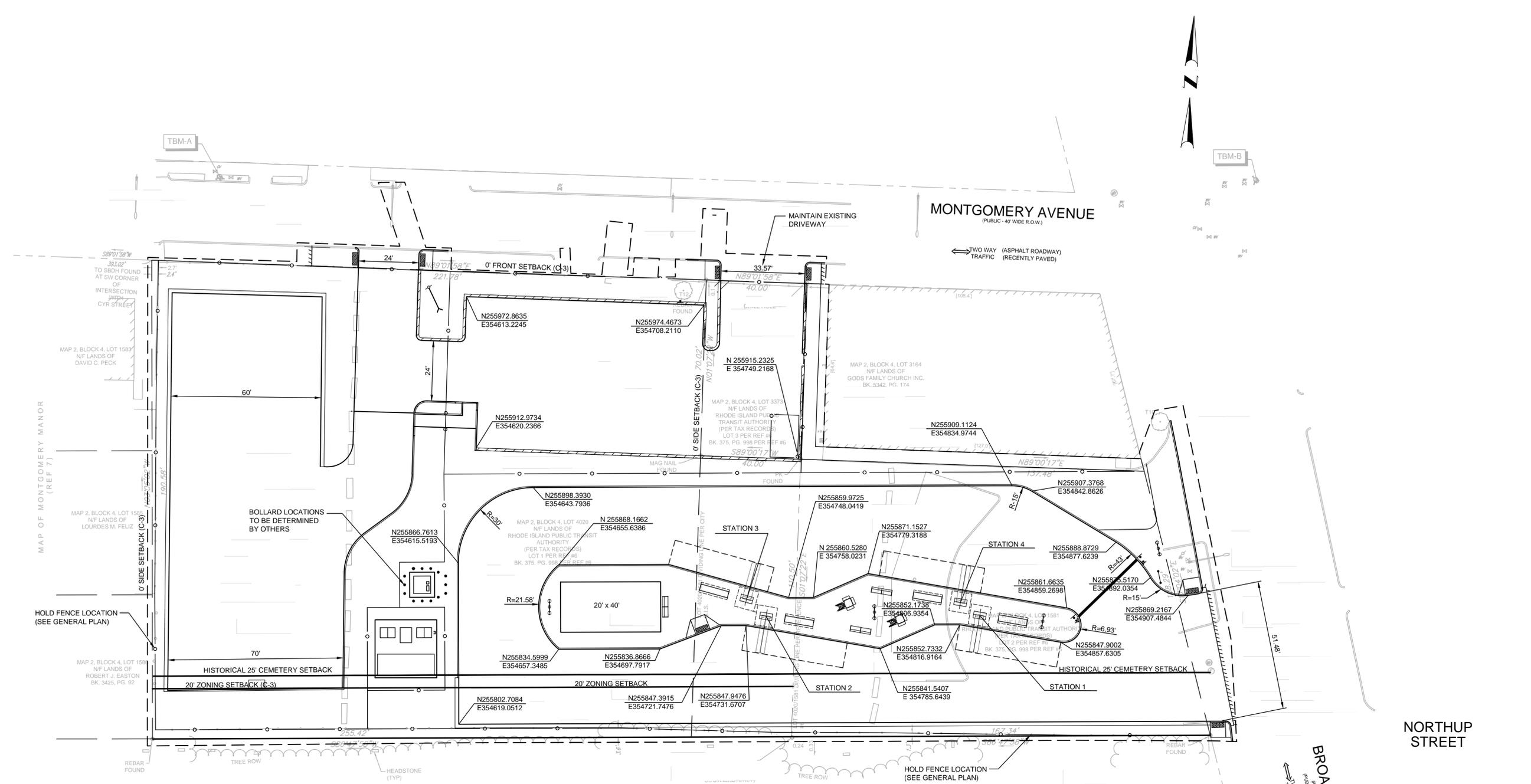
SCALE: 1" = 20'

DRAWN BY: LBD

CHECKED BY: BDN

DRAWING NUMBER

**5**  
 SHEET 5 OF 17



ZONING SUMMARY						
REQUIRED						
District	Minimum Lot Area	Minimum Lot Width & Frontage	Minimum Yards Front	Minimum Yards Rear	Minimum Yards Side	Maximum Lot Coverage
C-3	6,000	60	0	20	0	100
PROVIDED						
Parcel ID (MAP 2, BLOCK 4, LOT)	Minimum Lot Area	Minimum Lot Width & Frontage	Minimum Yards Front	Minimum Yards Rear	Minimum Yards Side	Maximum Lot Coverage
1581	N.C.	N.C.	---	---	---	< 100
3373	N.C.	N.C.	---	---	---	< 100
4020	N.C.	N.C.	0	20	0	< 35

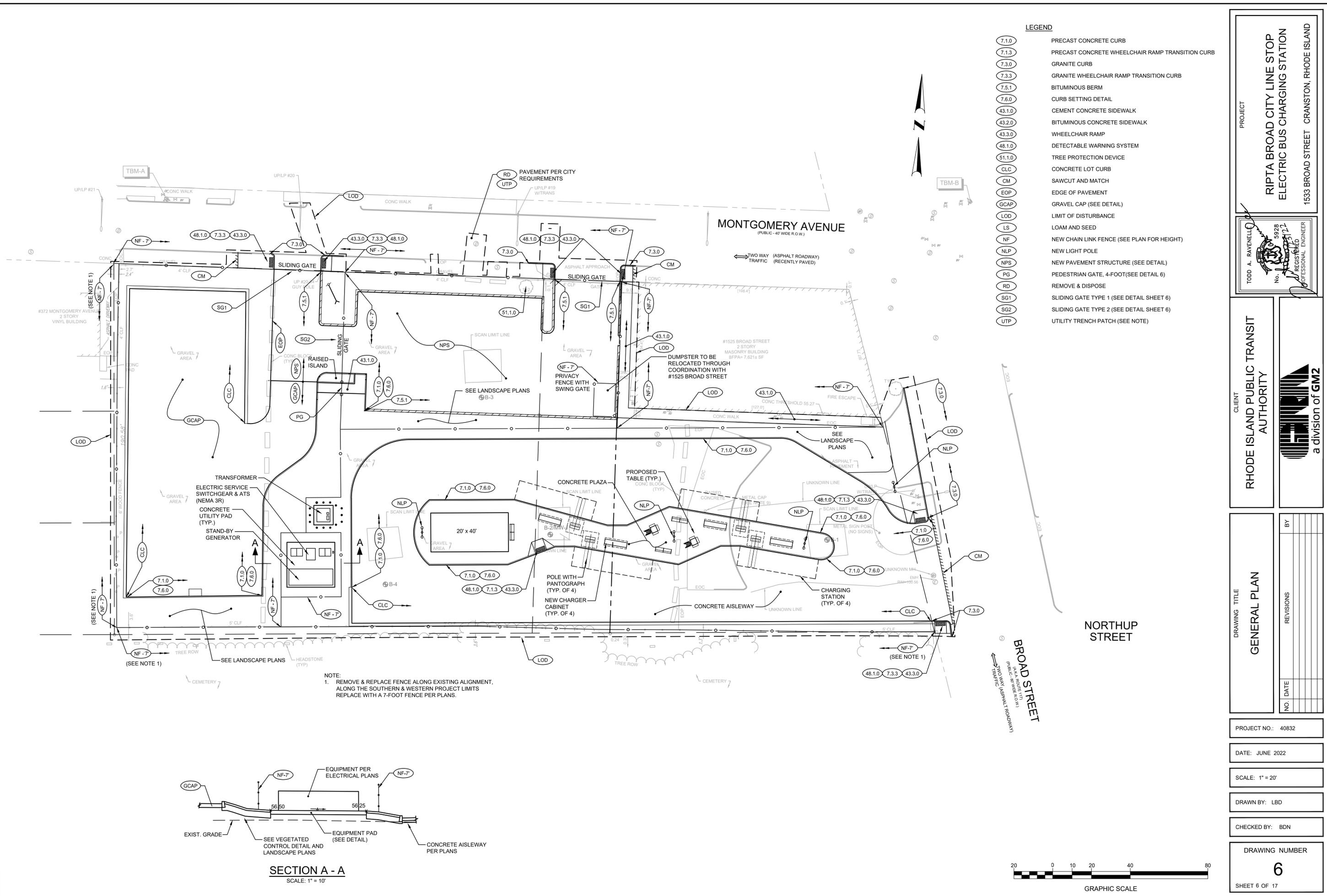
NOTES:  
 1. SETBACKS PROVIDED FOR LOT 4020 ARE CONSIDERED CONSERVATIVE BASED UPON CONTROL POINT ASSOCIATES, INC. REFERENCE #6  
 N.C. - NO CHANGE

BUILDING CORNER LOCATIONS	
COORDINATES	
NORTHWEST COR	N255861.3641 E354656.6942
NORTHEAST COR	N255863.6039 E354696.6314
SOUTHWEST COR	N255841.3955 E354657.8141
SOUTHEAST COR	N255843.6353 E354697.7514

PANTOGRAPH LOCATION SUMMARY		
CENTERLINE COORDINATES:		
STATION 1	N255856.8408	E354824.7300
STATION 2	N255852.0552	E354739.4843
STATION 3	N255858.5171	E354731.3298
STATION 4	N255861.6805	E354816.7566

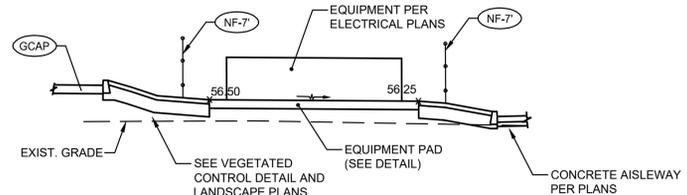
NOTES:  
 1. ACCORDING TO TITLE 17 - ZONING OF THE CITY OF CRANSTON MUNICIPAL CODE, THE SITE IS LOCATED WITHIN ZONING DISTRICT C-3, WHICH IS CLASSIFIED AS GENERAL BUSINESS.  
 2. A ZONING CERTIFICATION WAS APPROVED BY THE CITY OF CRANSTON ON JUNE 16, 2021 FOR THE PROPOSED PROJECT.





- LEGEND**
- (7.1.0) PRECAST CONCRETE CURB
  - (7.1.3) PRECAST CONCRETE WHEELCHAIR RAMP TRANSITION CURB
  - (7.3.0) GRANITE CURB
  - (7.3.3) GRANITE WHEELCHAIR RAMP TRANSITION CURB
  - (7.5.1) BITUMINOUS BERM
  - (7.6.0) CURB SETTING DETAIL
  - (43.1.0) CEMENT CONCRETE SIDEWALK
  - (43.2.0) BITUMINOUS CONCRETE SIDEWALK
  - (43.3.0) WHEELCHAIR RAMP
  - (48.1.0) DETECTABLE WARNING SYSTEM
  - (51.1.0) TREE PROTECTION DEVICE
  - (CLC) CONCRETE LOT CURB
  - (CM) SAWCUT AND MATCH
  - (EOP) EDGE OF PAVEMENT
  - (GCAP) GRAVEL CAP (SEE DETAIL)
  - (LOD) LIMIT OF DISTURBANCE
  - (LS) LOAM AND SEED
  - (NF) NEW CHAIN LINK FENCE (SEE PLAN FOR HEIGHT)
  - (NLP) NEW LIGHT POLE
  - (NPS) NEW PAVEMENT STRUCTURE (SEE DETAIL)
  - (PG) PEDESTRIAN GATE, 4-FOOT(SEE DETAIL 6)
  - (RD) REMOVE & DISPOSE
  - (SG1) SLIDING GATE TYPE 1 (SEE DETAIL SHEET 6)
  - (SG2) SLIDING GATE TYPE 2 (SEE DETAIL SHEET 6)
  - (UTP) UTILITY TRENCH PATCH (SEE NOTE)

NOTE:  
 1. REMOVE & REPLACE FENCE ALONG EXISTING ALIGNMENT, ALONG THE SOUTHERN & WESTERN PROJECT LIMITS REPLACE WITH A 7-FOOT FENCE PER PLANS.



**SECTION A - A**  
 SCALE: 1" = 10'



PROJECT  
**RIPTA BROAD CITY LINE STOP**  
**ELECTRIC BUS CHARGING STATION**  
 1533 BROAD STREET CRANSTON, RHODE ISLAND

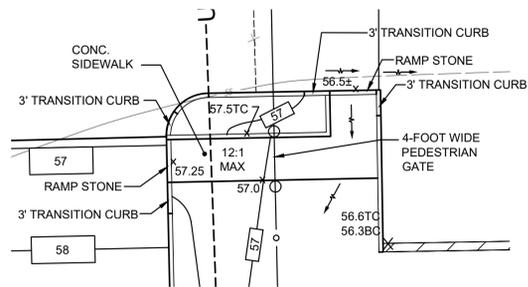
TODD A. RAVENELLE  
 No. 5928  
 REGISTERED PROFESSIONAL ENGINEER

CLIENT  
**RHODE ISLAND PUBLIC TRANSIT AUTHORITY**  
 a division of GM2

DRAWING TITLE  
**GENERAL PLAN**

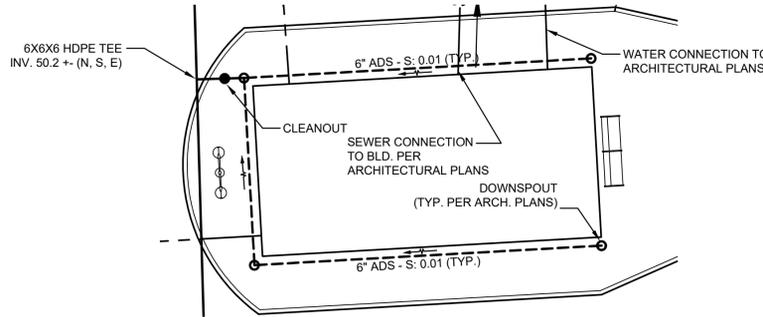
NO.	DATE	REVISIONS	BY

PROJECT NO.: 40832  
 DATE: JUNE 2022  
 SCALE: 1" = 20'  
 DRAWN BY: LBD  
 CHECKED BY: BDN  
 DRAWING NUMBER  
**6**  
 SHEET 6 OF 17



PEDESTRIAN WALKWAY & GATE

SCALE: 1" = 10'



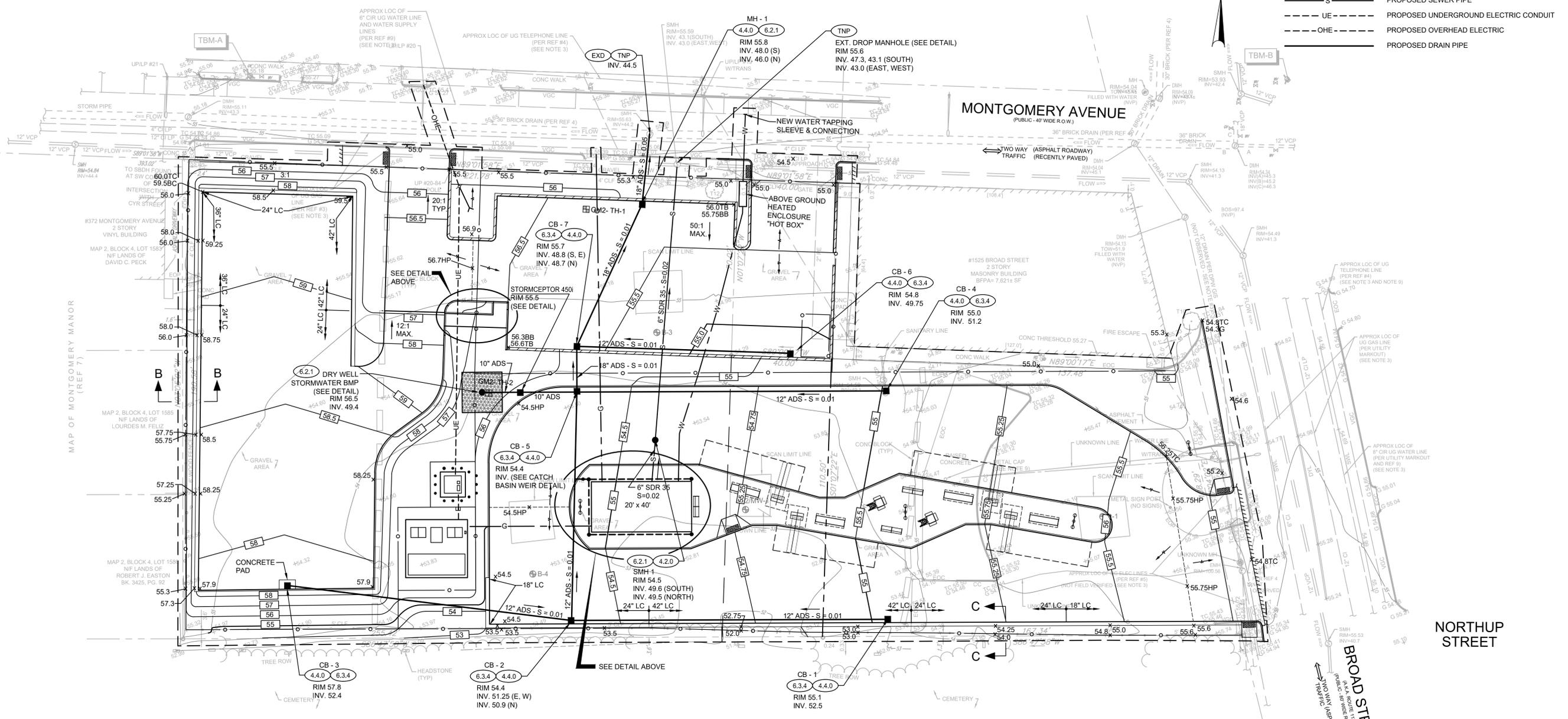
BUILDING UTILITY CONNECTIONS

SCALE: 1" = 10'

- NOTES:
- BUILDING ROOF LEADERS AND DOWNSPOUTS TO BE TIED INTO STORM DRAIN CONVEYANCE. LOCATIONS SHOWN ARE APPROXIMATE ONLY AND SHALL BE DETERMINED BASED UPON THE ARCHITECTURAL DRAWINGS.
  - STORMWATER CONVEYANCE SHALL BE SLOPED A MINIMUM OF 1%.
  - THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR ALL UTILITY CONNECTIONS.

LEGEND

- 4.2.0 PRECAST 4'-0" ROUND MANHOLE
- 4.4.0 PRECAST 4'-0" ROUND CATCH BASIN
- 6.2.1 HEAVY-DUTY ROUND FRAME AND COVER
- 6.3.4 HIGH CAPACITY FRAME AND GRATE (BICYCLE SAFE)
- EXD SEWER MANHOLE EXTERIOR DROP (SEE DETAIL)
- TNP TIE NEW PIPE INTO EXISTING MANHOLE
- 54.9TC SPOT GRADE - TOP OF CURB
- 54.9BC SPOT GRADE - BOTTOM OF CURB
- 54.9HP SPOT GRADE - HIGH POINT
- 54.9TB SPOT GRADE - TOP OF BERM
- 54.9BB SPOT GRADE - BOTTOM OF BERM
- 55 PROPOSED CONTOUR
- G PROPOSED GAS LINE
- W PROPOSED WATER LINE
- S PROPOSED SEWER PIPE
- UE PROPOSED UNDERGROUND ELECTRIC CONDUIT
- OHE PROPOSED OVERHEAD ELECTRIC
- PROPOSED DRAIN PIPE



MAP OF MONTGOMERY MANOR (REF 7)

MAP 2, BLOCK 4, LOT 1589  
NF LANDS OF  
ROBERT J. EASTON  
BK. 3425, PG. 92

MAP 2, BLOCK 4, LOT 1580  
NF LANDS OF  
OAKLAND CEMETERY CORPORATION  
BK. 309, PG. 347 PER REF #6

PROJECT  
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CLIENT  
**RHODE ISLAND PUBLIC TRANSIT  
AUTHORITY**  
a division of GM2

DRAWING TITLE  
**DRAINAGE AND UTILITY PLAN**

NO.	DATE	REVISIONS	BY

PROJECT NO.: 40832

DATE: JUNE 2022

SCALE: 1" = 20'

DRAWN BY: LBD

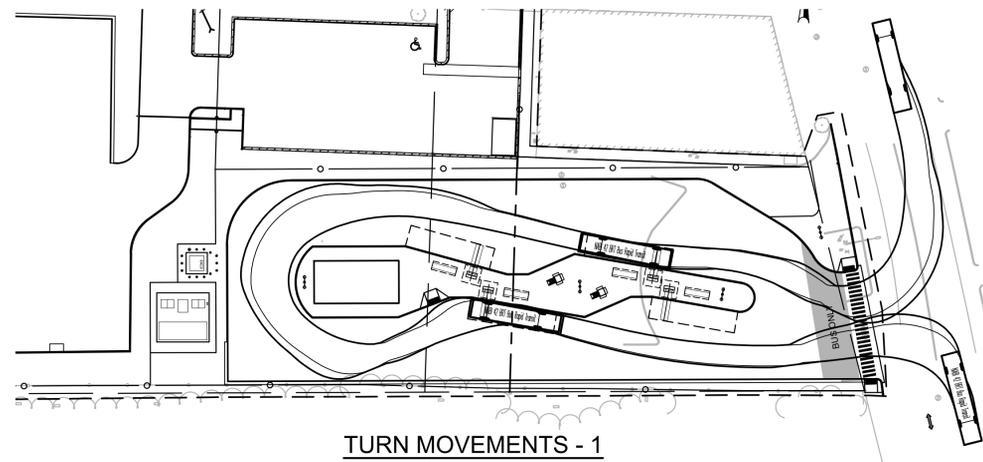
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DRAWING NUMBER

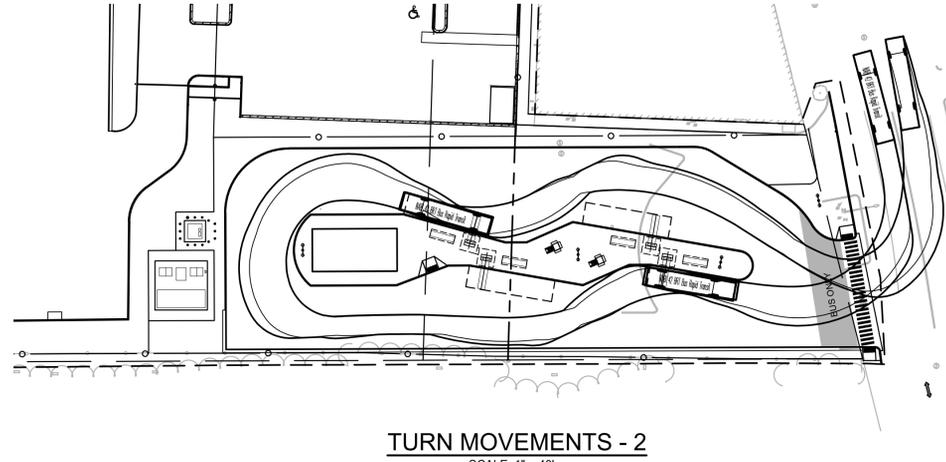
**7**

SHEET 7 OF 17



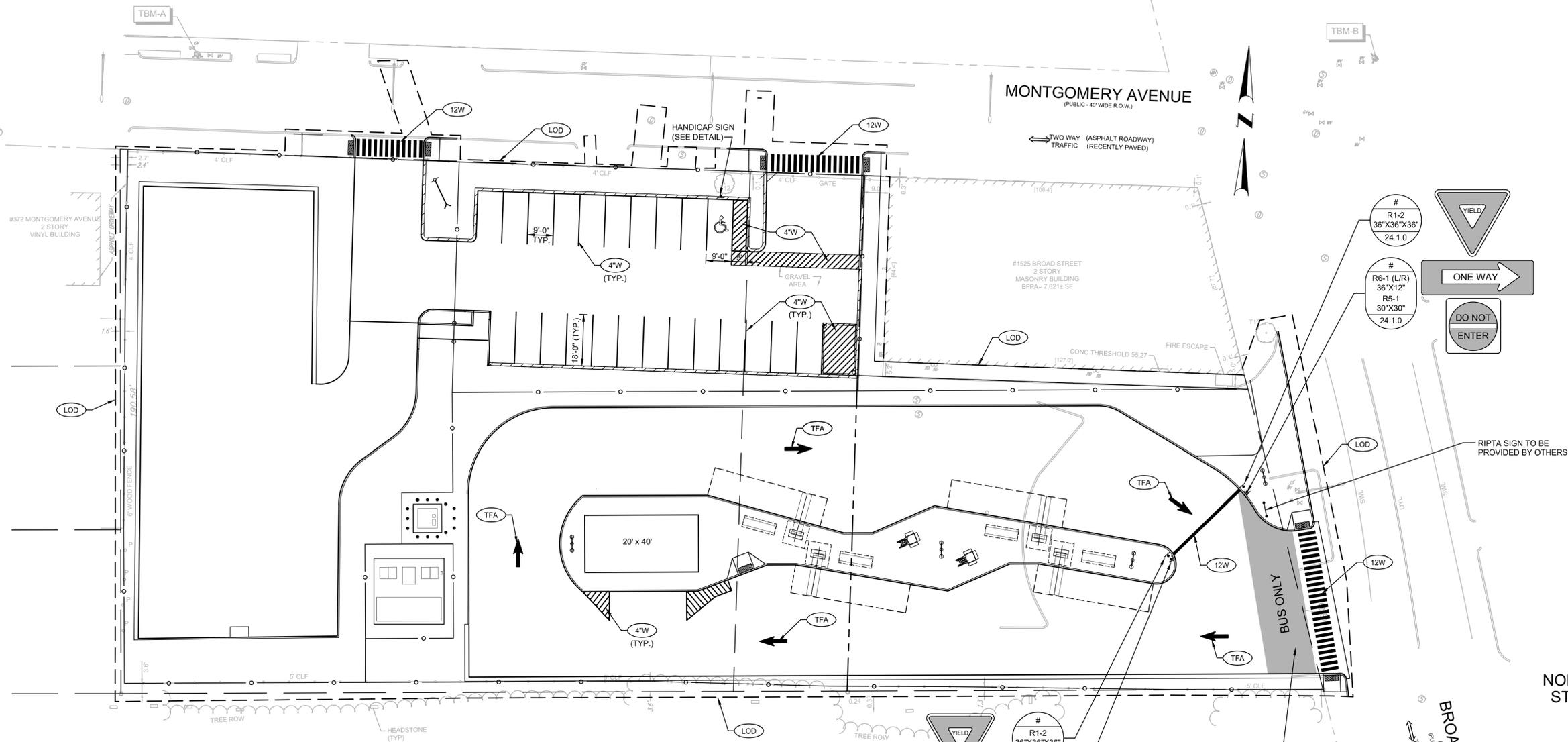


**TURN MOVEMENTS - 1**  
SCALE: 1" = 40'

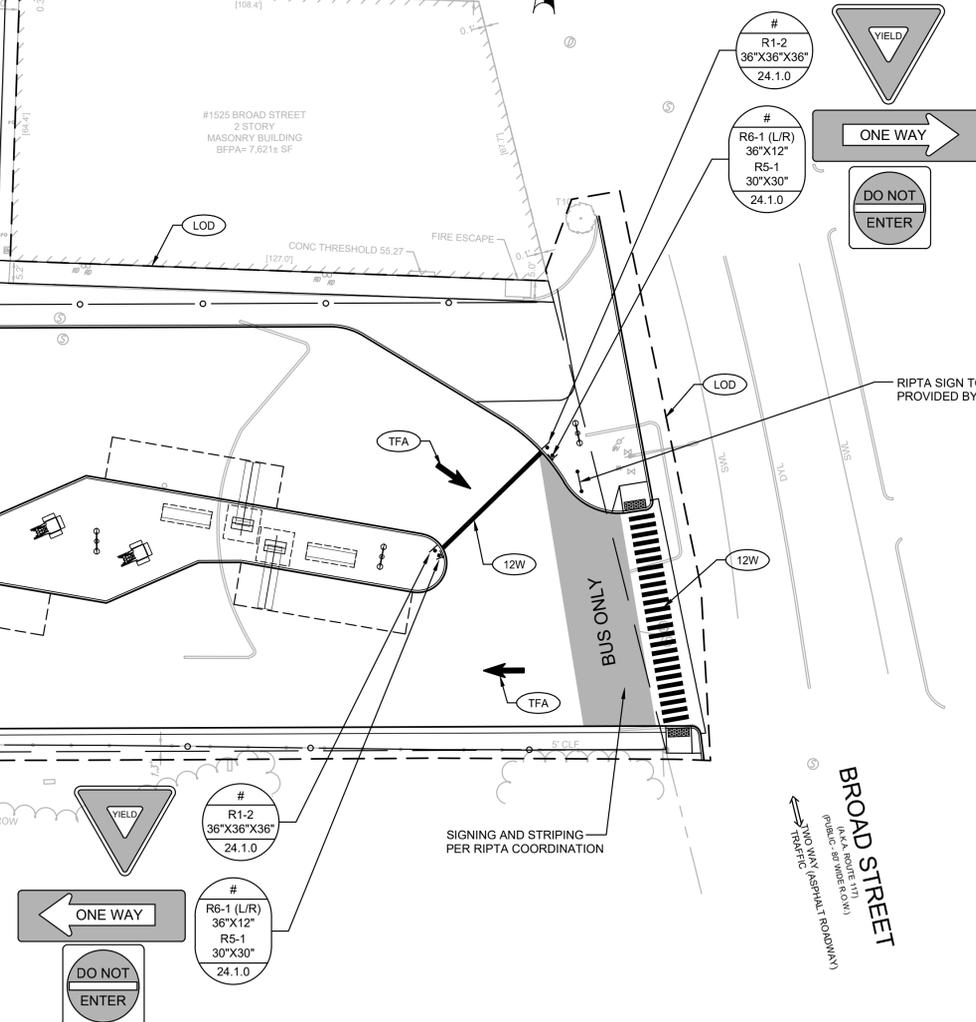


**TURN MOVEMENTS - 2**  
SCALE: 1" = 40'

- NOTE:
1. MODEL NABI 42 BRT BUS RAPID TRANSIT WAS USED FOR ALL TURN-MOVEMENTS.
  2. THIS MODEL IS SIMILAR TO THE NEWFLYER VEHICLES THOUGH NOT EXACT.
  3. VEHICLES ROUTES MAY VARY BASED ON INDIVIDUAL DRIVER AND ARE SHOWN AS A REPRESENTATION ONLY.



- LEGEND**
- 4W 4" WHITE EPOXY RESIN PAVEMENT MARKINGS
  - 12W 12" WHITE EPOXY RESIN PAVEMENT MARKINGS
  - LOD LIMIT OF DISTURBANCE
  - TFA TRAFFIC FLOW ARROW



PROJECT  
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No. 5928  
REGISTERED PROFESSIONAL ENGINEER

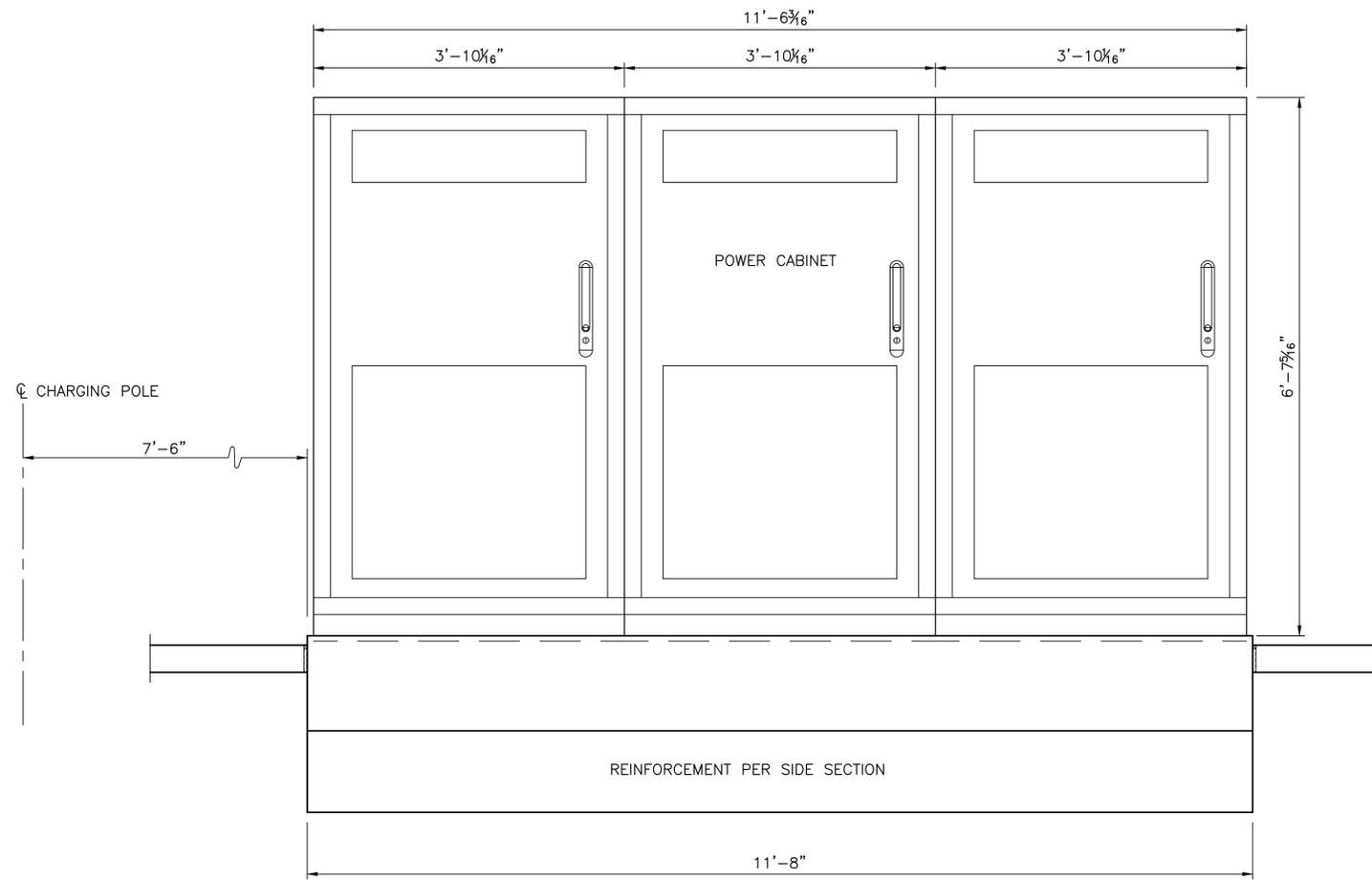
CLIENT  
**RHODE ISLAND PUBLIC TRANSIT AUTHORITY**  
a division of GM2

DRAWING TITLE  
**SIGNING AND STRIPING PLAN**

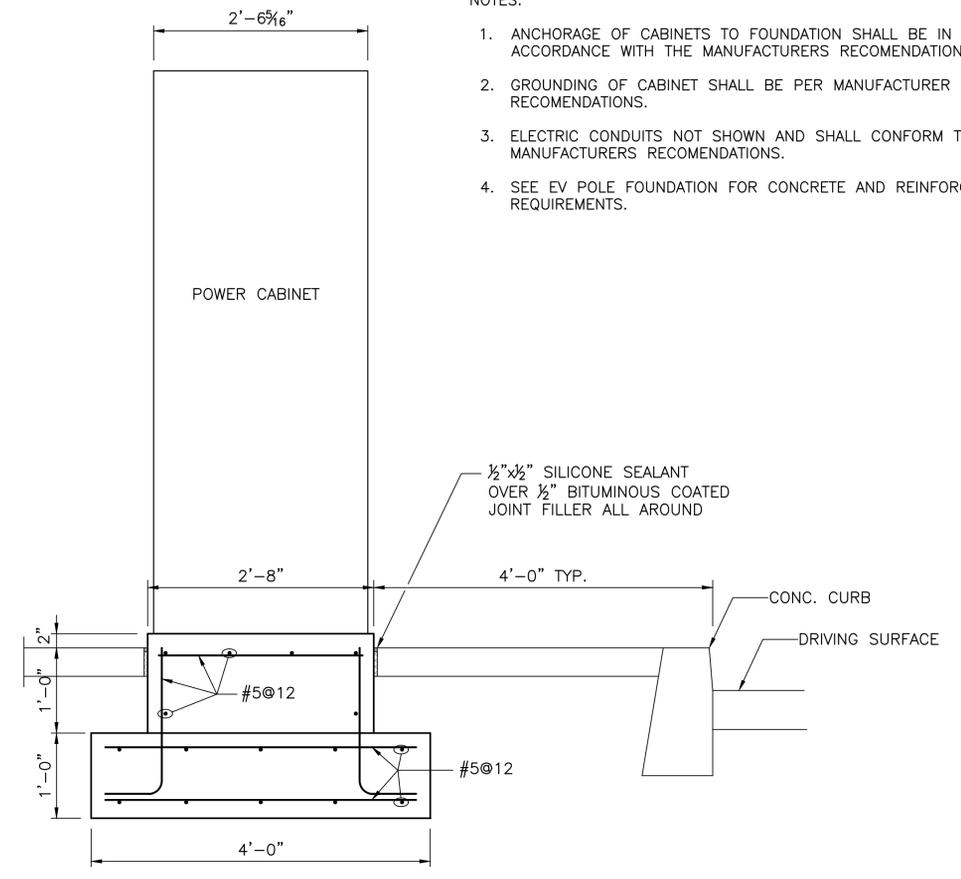
NO.	DATE	REVISIONS	BY

PROJECT NO.: 40832  
DATE: JUNE 2022  
SCALE: 1" = 20'  
DRAWN BY: LBD  
CHECKED BY: BDN

DRAWING NUMBER  
**8**  
SHEET 8 OF 17



**CABINET FOUNDATION FRONT SECTION**  
SCALE: 1"=1'-0"

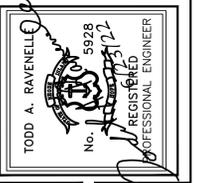


**CABINET FOUNDATION SIDE SECTION**  
SCALE: 1"=1'-0"

NOTES:

1. ANCHORAGE OF CABINETS TO FOUNDATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMENDATIONS.
2. GROUNDING OF CABINET SHALL BE PER MANUFACTURER RECOMENDATIONS.
3. ELECTRIC CONDUITS NOT SHOWN AND SHALL CONFORM TO MANUFACTURERS RECOMENDATIONS.
4. SEE EV POLE FOUNDATION FOR CONCRETE AND REINFORCING REQUIREMENTS.

PROJECT  
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CLIENT  
**RHODE ISLAND PUBLIC TRANSIT AUTHORITY**



DRAWING TITLE  
**EV CABINET FOUNDATION**

NO.	DATE	REVISIONS	BY

PROJECT NO.: 40832

DATE: JUNE 2022

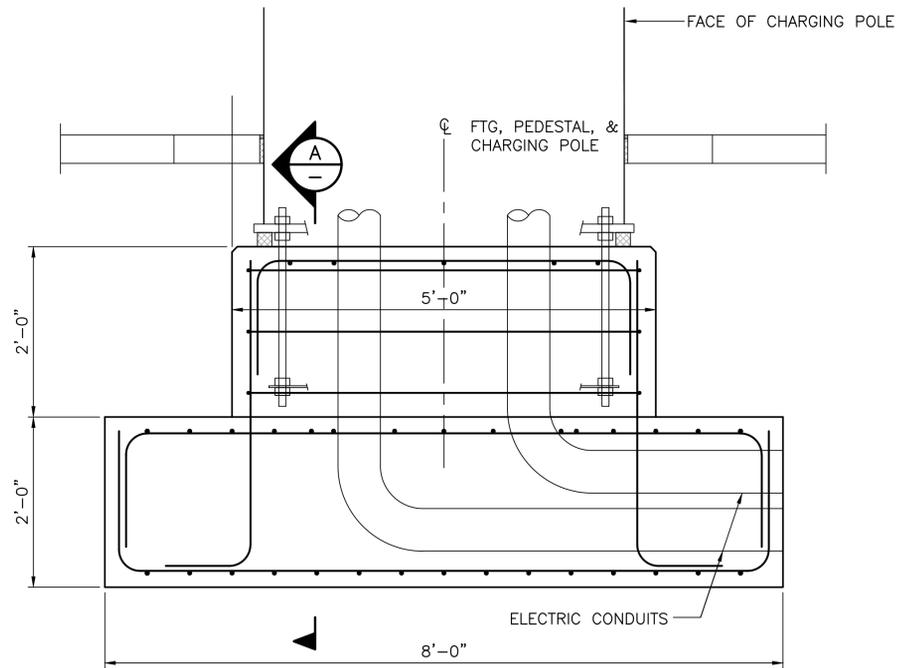
SCALE: AS NOTED

DRAWN BY: LBD

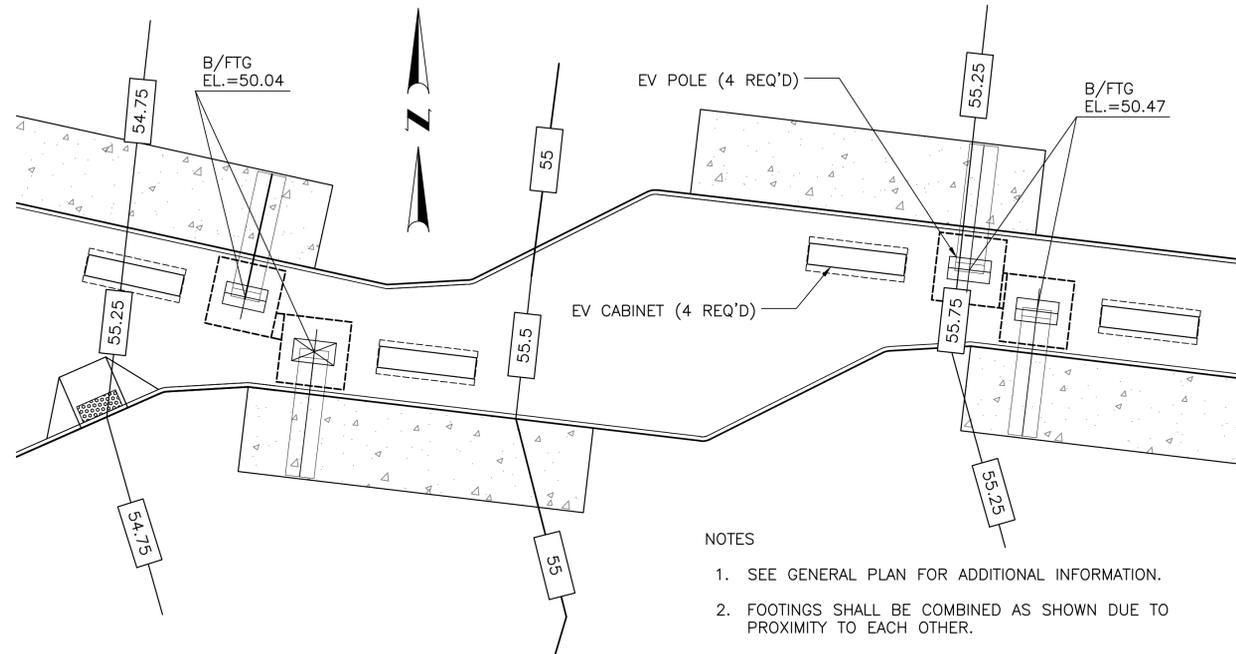
CHECKED BY: BDN

DRAWING NUMBER

**9**  
 SHEET 9 OF 17



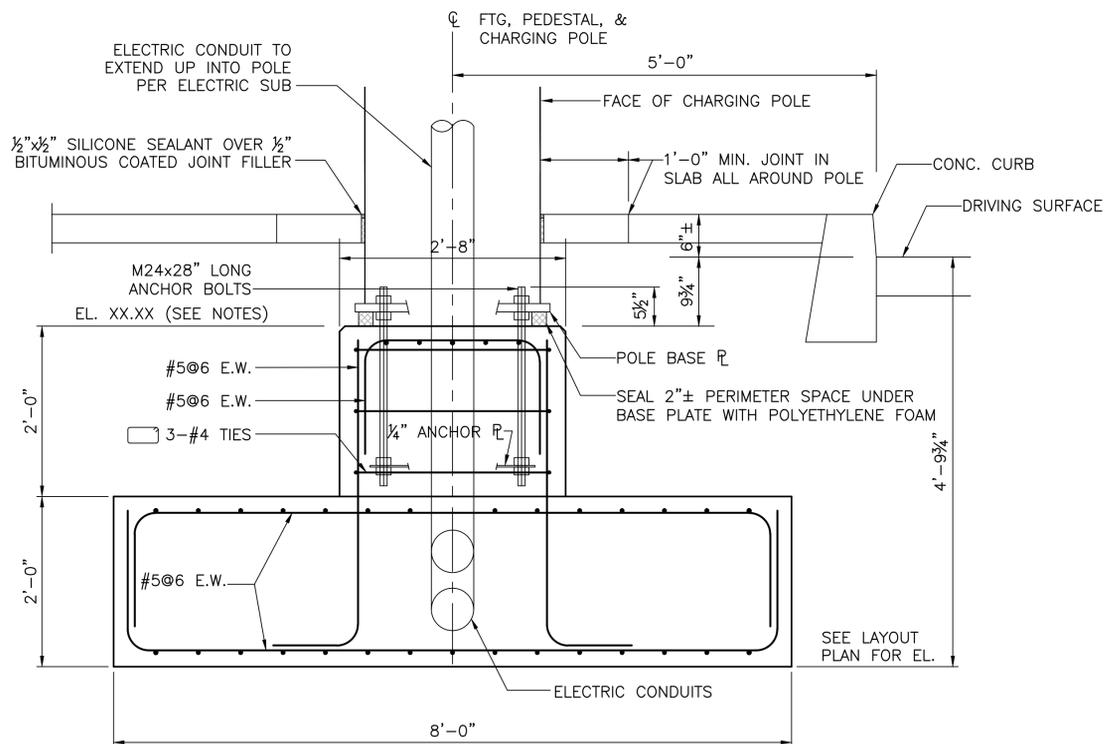
**FOOTING SECTION**  
SCALE: 1"=1'-0"



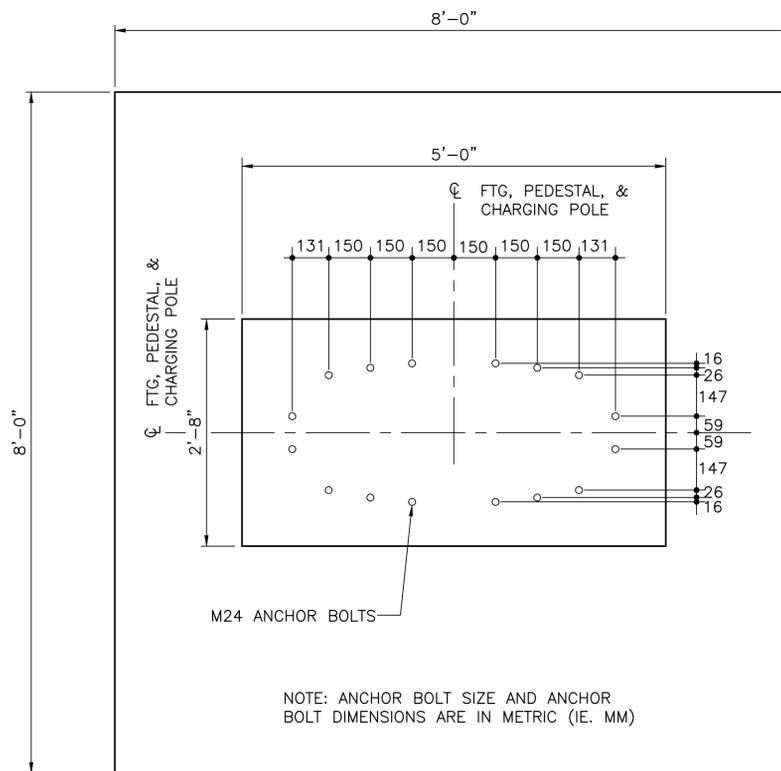
**FOOTING LAYOUT PLAN**  
SCALE: 1"=10'

NOTES

1. SEE GENERAL PLAN FOR ADDITIONAL INFORMATION.
2. FOOTINGS SHALL BE COMBINED AS SHOWN DUE TO PROXIMITY TO EACH OTHER.
3. FOOTINGS SHALL BE CONNECTED WITH 4#5x8' LONG T&B.
4. BOTT/EV POLE FOUNDATION SHOWN.



**SECTION**  
NOT TO SCALE



**FOOTING PLAN**  
SCALE: 1"=1'-0"

NOTES:

1. ALL WORK SHALL CONFORM TO THE RI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (RI STD. SPEC.).
2. CONCRETE SHALL BE CLASS XX, 3/4" f'c=4,000 PSI CONFORMING TO SECTION 601 OF THE RI STD. SPEC.
3. REINFORCING SHALL BE GRADE 60 GALVANIZED CONFORMING TO SECTION 810 OF THE RI STD. SPEC.
4. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153. EACH ANCHOR BOLT SHALL INCLUDE 2 NUTS AND 2 WASHERS.
5. ELECTRIC CONDUITS ARE GRAPHIC ONLY AND SHALL BE COORDINATED WITH ELECTRIC SUB.

PROJECT  
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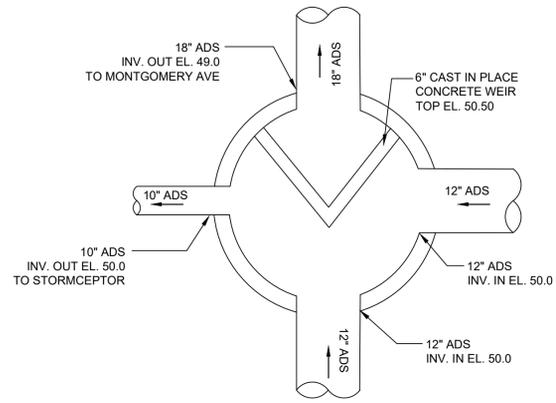
DRAWING TITLE  
**EV POLE FOUNDATION**

NO.	DATE	REVISIONS	BY

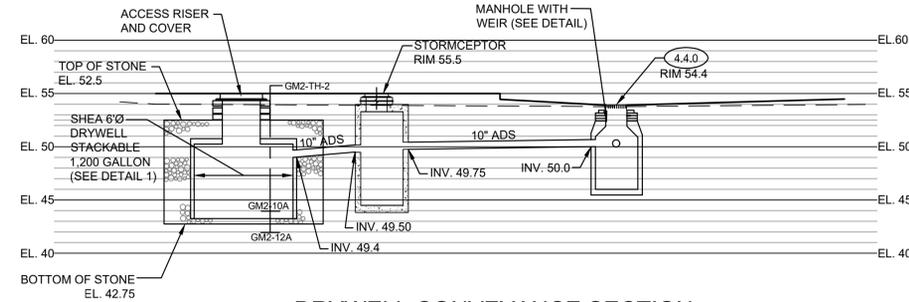
PROJECT NO.: 40832  
DATE: JUNE 2022  
SCALE:  
DRAWN BY: LBD  
CHECKED BY: BDN

DRAWING NUMBER  
**10**  
SHEET 100F 17

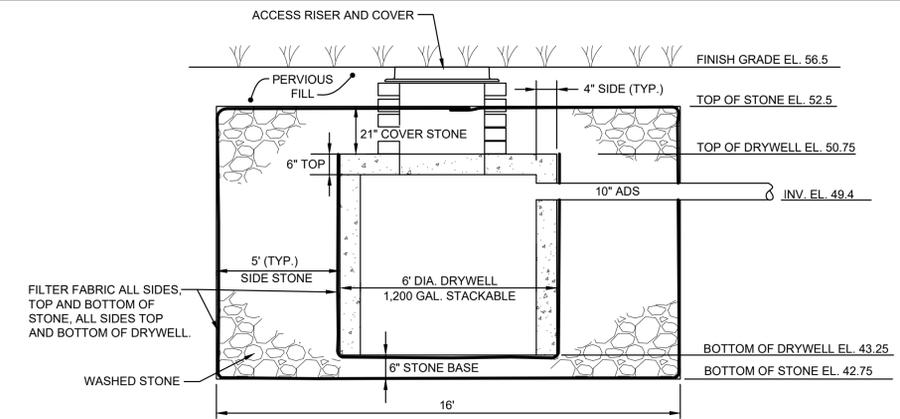




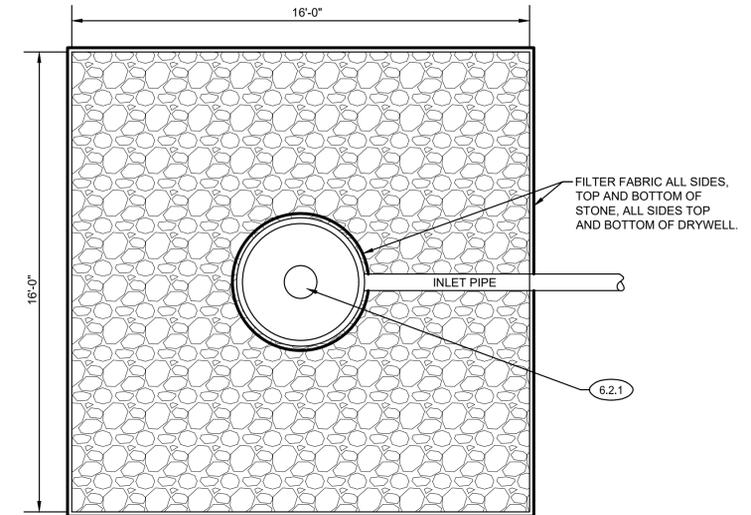
**CATCH BASIN WITH WEIR DETAIL**  
NOT TO SCALE



**DRYWELL CONVEYANCE SECTION**  
SCALE: 1" = 8"

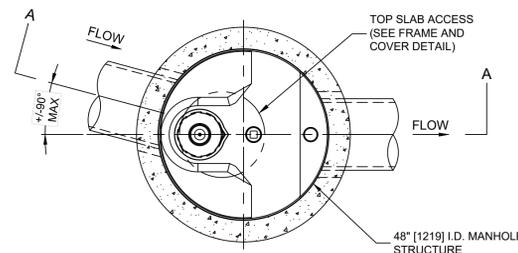


**DRYWELL SECTION VIEW**  
NOT TO SCALE



**DRYWELL PLAN VIEW**  
NOT TO SCALE

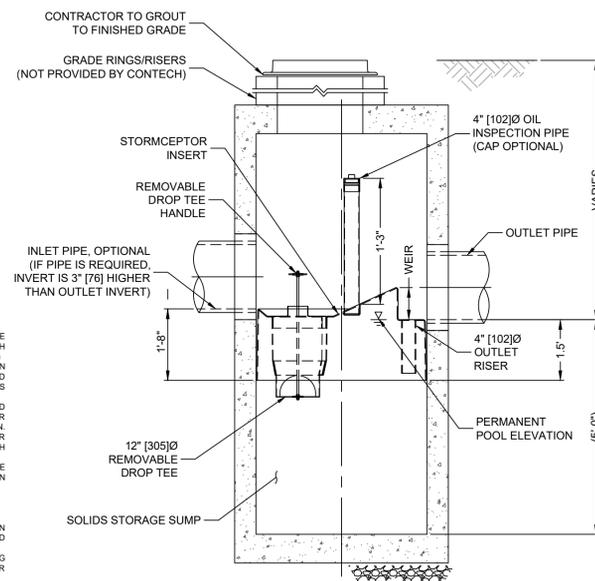
- NOTES:
1. FILTER FABRIC SHALL BE MIRAFI 140N OR APPROVED EQUAL.
  2. STONE SHALL BE WASHED CRUSHED STONE MEETING THE REQUIREMENTS OF THE "RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" SECTION M.01.09 TABLE I.



**PLAN VIEW**  
TOP SLAB NOT SHOWN



**FRAME AND COVER**  
(MAY VARY)  
NOT TO SCALE



**SECTION A-A**

**STORMCEPTOR MANHOLE - STORMCEPTOR STC 450i**  
NOT TO SCALE

**SHEA** Concrete Products  
1200 GALLON STACKABLE DRY WELL CYLINDRICAL

ITEM NO. WEIGHT  
1200GALLON 1200GALLON 7.200  
3" 30430001155 1200GALLON 7.200

PROJ. NO. SHEA 2000-040  
DATE: 06/01/18  
SCALE: 1/4" = 1'-0"

- GENERAL NOTES**
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.ContechES.com](http://www.ContechES.com)
  3. STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
  4. STORMCEPTOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. GRA. A DIVISION OF GM2, TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
  5. STORMCEPTOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
  6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].
- INSTALLATION NOTES**
- A. ANY SUB-BASE, BACKFILL, DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY GRA. A DIVISION OF GM2.
  - B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMCEPTOR MANHOLE STRUCTURE.
  - C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLY STRUCTURE.
  - D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
  - E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

PROJECT  
**RIPTA BROAD CITY LINE STOP**  
**ELECTRIC BUS CHARGING STATION**  
1533 BROAD STREET CRANSTON, RHODE ISLAND

TODD A. RAVENELLE  
No. 5928  
PROFESSIONAL ENGINEER

CLIENT  
**RHODE ISLAND PUBLIC TRANSIT AUTHORITY**  
a division of **GM2**

DRAWING TITLE  
**DETAILS 2**

NO.	DATE	BY

PROJECT NO.: 40832

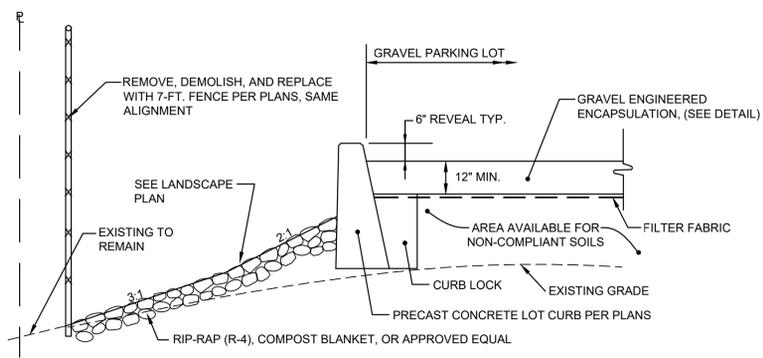
DATE: JUNE 2022

SCALE: AS NOTED

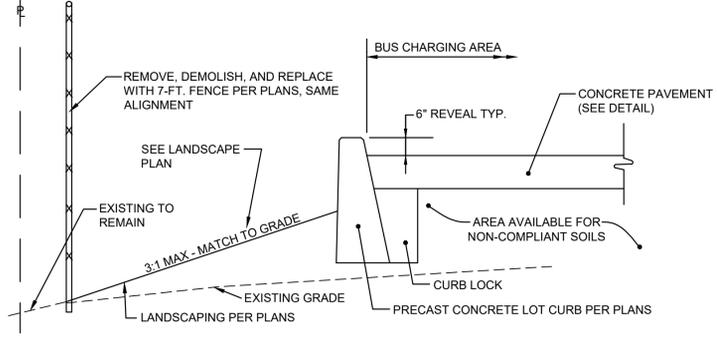
DRAWN BY: LBD

CHECKED BY: BDN

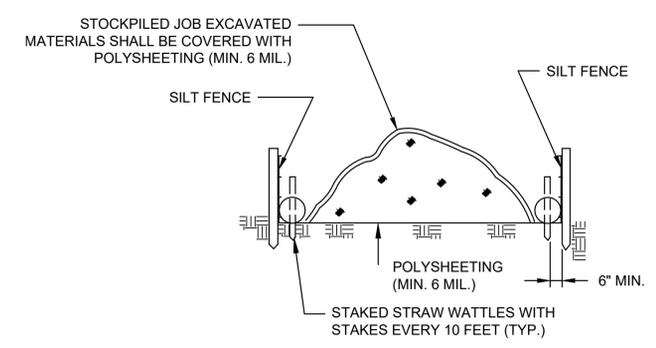
DRAWING NUMBER  
**12**  
SHEET 12 OF 17



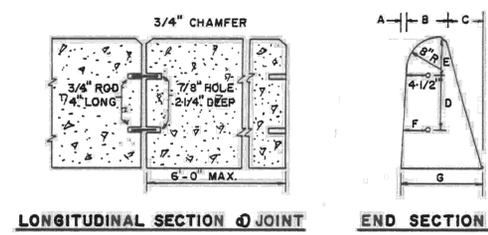
**TYPICAL SECTION B-B  
LOT CURB AT GRAVEL PARKING**  
NOT TO SCALE



**TYPICAL SECTION C-C  
LOT CURB AT CHARGING STATION**  
NOT TO SCALE



**ELEVATION  
STOCKPILED MATERIAL**  
NOT TO SCALE

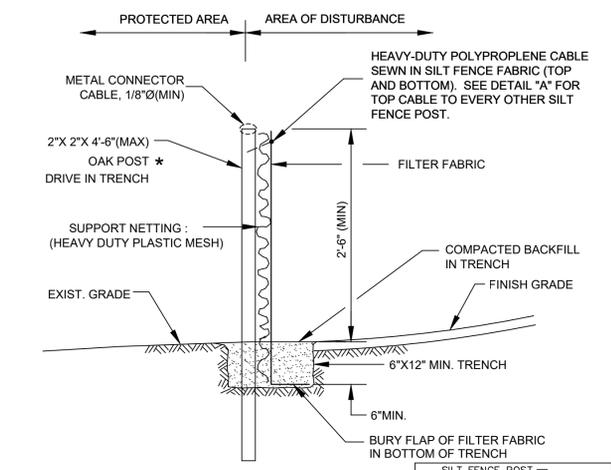


**LONGITUDINAL SECTION & JOINT      END SECTION**

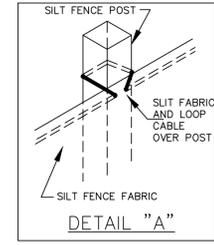
	A	B	C	D	E	F	G	H
Precast Cem. Conc. Lot Curb 18"	1"	8"	1"	-	12"	-	10"	8"
" " " " 24"	1"	8"	1"	-	12"	-	10"	12"
" " " " 30"	1"	8"	3"	-	12"	-	12"	15"
" " " " 36"	1"	8"	5"	18"	12"	5"	14"	20"
" " " " 42"	1"	8"	9"	18"	12"	5"	18"	24"

**MIX**  
CLASS B OR (AE).  
**JOINTS**  
1/8" JOINTS DOWELED WITH 3/4" DIA. ROD - 4" LONG.  
**FINISH**  
TOP & EXPOSED SURFACES TO H+2" TO HAVE A SPONGE FLOATED FINISH.

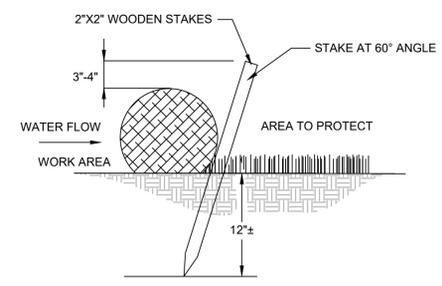
**PRECAST CEMENT CONCRETE LOT CURB**  
NOT TO SCALE



- NOTES:
- 2"x2"x4'-6" (MAX) OAK POSTS FOR SILT FENCE SHALL BE LOCATED ON 8'-0" CENTERS IN WETLAND AREAS AND LOCATED ON 4'-0" (MAX) CENTERS IN WETLAND RAVINE, GULLY OR DROPOFF AREAS AS SHOWN ON PLANS.  
\* 1"x1"x4'-6" (MIN.) POSTS PERMITTED FOR PREFABRICATED SILT FENCE.
  - SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

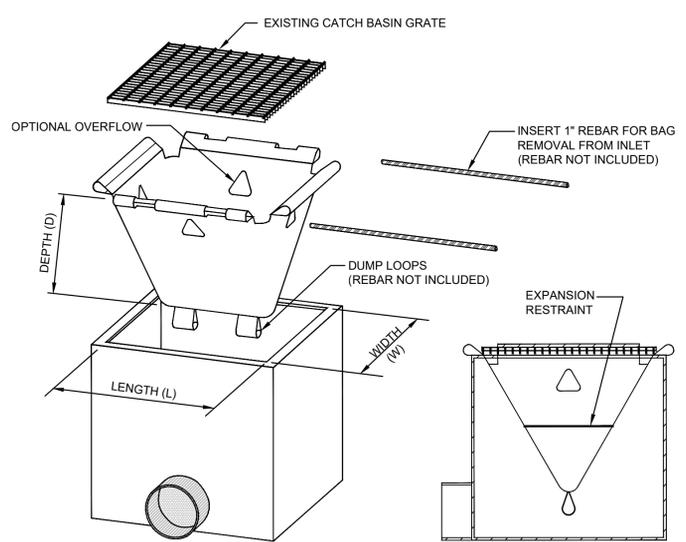


**SILT FENCE DETAIL**  
NOT TO SCALE

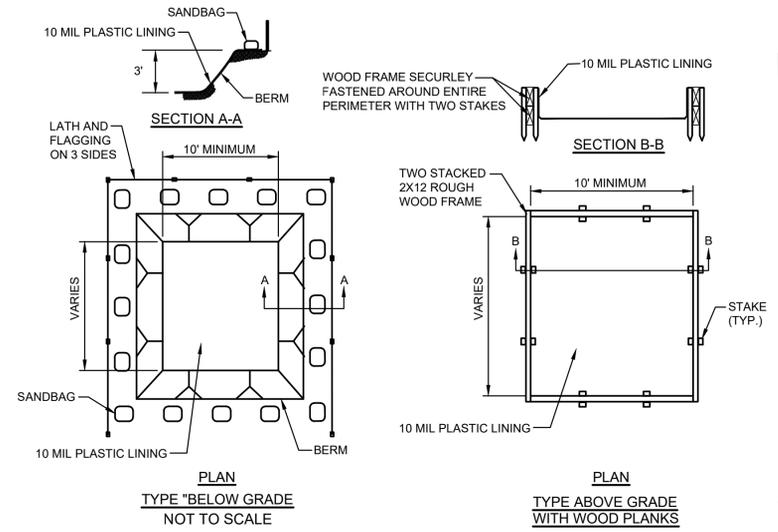


- NOTES:
- COMPOST FILTER SOCK MAY BE REPLACED WITH STRAW WATTLE OR APPROVED EQUAL. ALL EQUALS SHALL MEET-, INSTALLED AND MAINTAINED WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, ALL ADDENDUM. APPROVED EQUALS TO BE SUBMITTED TO THE ENGINEER PRIOR TO INSTALLATION.

**8-INCH COMPOST FILTER SOCK**  
NOT TO SCALE



SIZE = L' X W' X D'  
**CATCH BASIN INLET PROTECTION TYPE A (CBP)**  
NOT TO SCALE



- SELF-INSTALLED ABOVE GRADE WASHOUTS ON LARGER SITES MUST BE AT LEAST 10 FEET BY 10 FEET LONG AND SIZED TO CONTAIN ALL LIQUID AND SOLID WASTE EXPECTED TO BE GENERATED IN BETWEEN CLEANOUT PERIODS. WASHOUTS AT SMALLER SITES CAN BE SMALLER ACCORDING TO THE EXPECTED CAPACITY NEEDED. INCLUDE A MINIMUM OF 12-INCH FREEBOARD IN THE SIZING CALCULATIONS. ONE CAN MAKE THE STRUCTURES FROM STAKED STRAW BALES OR SANDBAGS DOUBLE OR TRIPLE-LINED WITH PLASTIC SHEETING OF AT LEAST 10-MIL THICKNESS THAT HAS NO HOLES OR TEARS.
- SELF-INSTALLED BELOW-GRADE WASHOUTS SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAILS AT THE END OF THIS MEASURE, WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FT. THEY MUST BE SIZED TO CONTAIN ALL LIQUID AND SOLID WASTE EXPECTED TO BE GENERATED IN BETWEEN CLEANOUT PERIODS.
  - LATH AND FLAGGING SHOULD BE COMMERCIAL TYPE.
  - PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

**TEMPORARY CONCRETE WASHOUT**  
NOT TO SCALE

PROJECT  
**RIPTA BROAD CITY LINE STOP  
ELECTRIC BUS CHARGING STATION**  
1533 BROAD STREET CRANSTON, RHODE ISLAND

TODD A. RAVENELLE  
No. 5928  
REGISTERED PROFESSIONAL ENGINEER

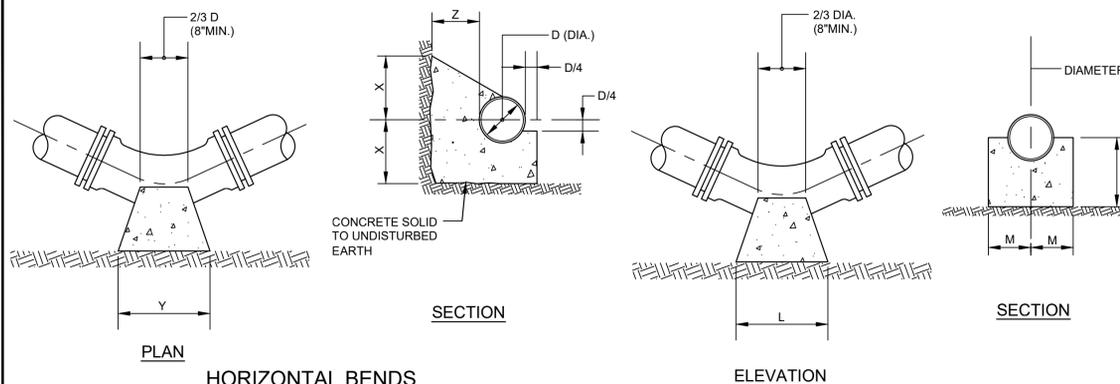
CLIENT  
**RHODE ISLAND PUBLIC TRANSIT  
AUTHORITY**  
a division of GM2

DRAWING TITLE  
**DETAILS 3**

NO.	DATE	BY

PROJECT NO.: 40832  
DATE: JUNE 2022  
SCALE: AS NOTED  
DRAWN BY: LBD  
CHECKED BY: BDN

DRAWING NUMBER  
**13**  
SHEET 13 OF 17

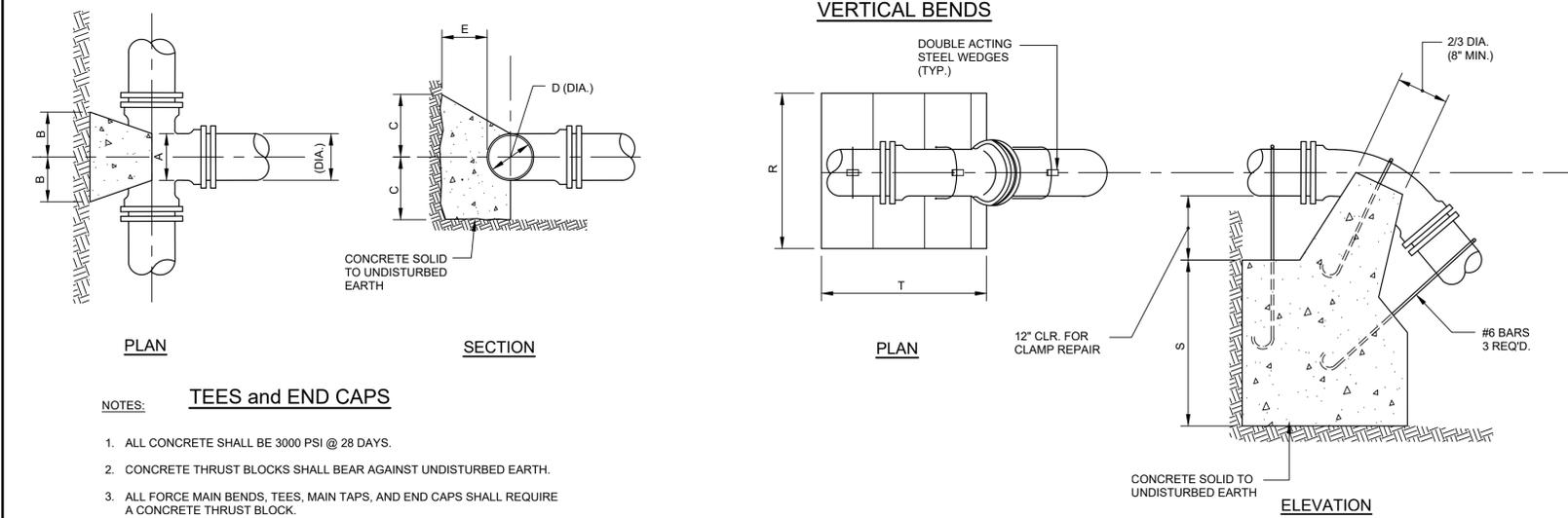


TEES		PIPE SIZE-D (DIA.)				
		6"	8"	12"	16"	20"
A	8"	10"	1-0"	1-3"	1-6"	
B	8"	10"	1-2"	1-4"	1-6"	
C	10"	1-0"	1-3"	1-6"	1-8"	
E	8"	10"	1-2"	1-6"	1-10"	

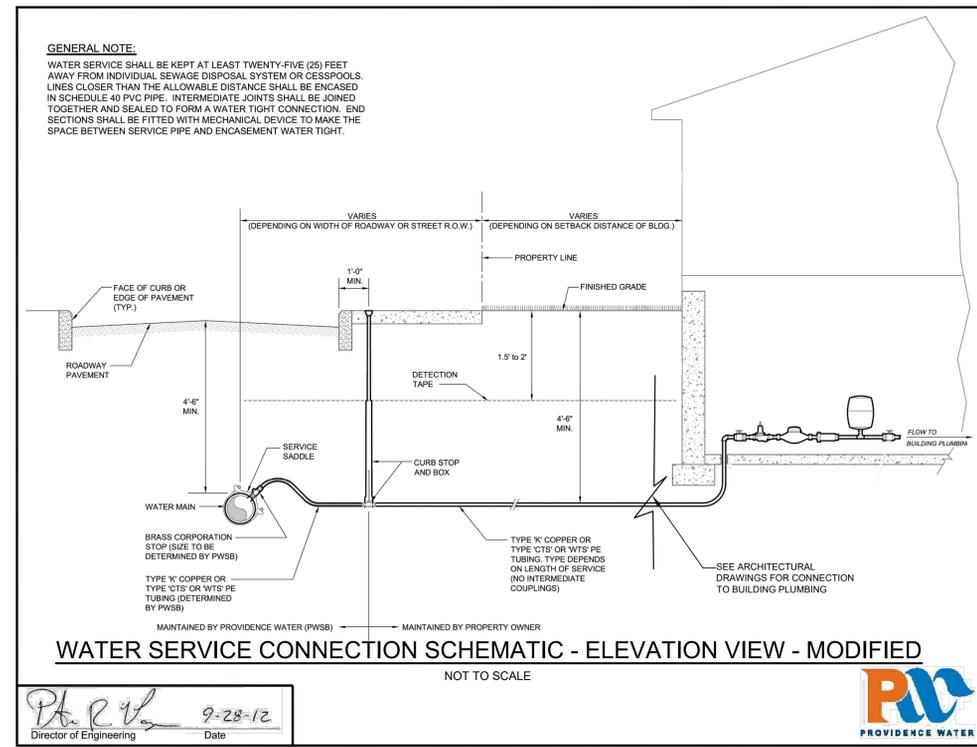
HORIZONTAL BENDS		PIPE SIZE-D (DIA.)				
BEND		6"	8"	12"	16"	20"
1/8	X	1-0"	1-0"	1-0"	1-3"	1-6"
	Y	1-0"	1-6"	2-0"	2-6"	3-0"
	Z	8"	10"	1-2"	1-4"	1-6"
1/16	X	1-0"	1-0"	1-0"	1-3"	1-6"
	Y	1-0"	1-4"	1-6"	1-9"	2-6"
	Z	8"	10"	1-2"	1-4"	1-6"
1/32	X	1-0"	1-0"	1-0"	1-2"	1-4"
	Y	1-0"	1-0"	1-2"	1-4"	1-6"
	Z	8"	10"	1-2"	1-4"	1-6"

VERTICAL BENDS		PIPE SIZE-D (DIA.)				
BEND		6"	8"	12"	16"	20"
1/8	L	1-3"	1-8"	2-6"	3-6"	4-8"
	M	7"	8"	11"	1-4"	1-6"
	N	7"	8"	11"	1-4"	1-6"
1/16	L	9"	1-0"	1-9"	2-6"	3-0"
	M	7"	7"	10"	1-0"	1-2"
	N	7"	7"	8"	10"	1-0"
1/32	L	6"	8"	1-0"	1-4"	1-9"
	M	7"	7"	10"	1-0"	1-2"
	N	7"	7"	8"	10"	1-0"

ANCHORAGES		PIPE SIZE-D (DIA.)				
BEND		6"	8"	12"	16"	20"
1/8	R	2-6"	3-0"	4-6"	5-4"	6-0"
	S	2-6"	2-9"	3-6"	2-6"	5-6"
	T	3-0"	4-0"	4-9"	7-0"	9-6"
1/16	R	2-0"	2-8"	4-0"	4-6"	5-0"
	S	1-9"	2-3"	2-6"	3-2"	3-8"
	T	2-6"	3-4"	4-0"	6-0"	8-6"
1/32	R	1-6"	2-0"	3-0"	3-8"	4-3"
	S	1-3"	1-9"	2-0"	2-4"	2-6"
	T	2-0"	2-6"	3-0"	4-6"	5-9"



- NOTES:**
- ALL CONCRETE SHALL BE 3000 PSI @ 28 DAYS.
  - CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.
  - ALL FORCE MAIN BENDS, TEES, MAIN TAPS, AND END CAPS SHALL REQUIRE A CONCRETE THRUST BLOCK.



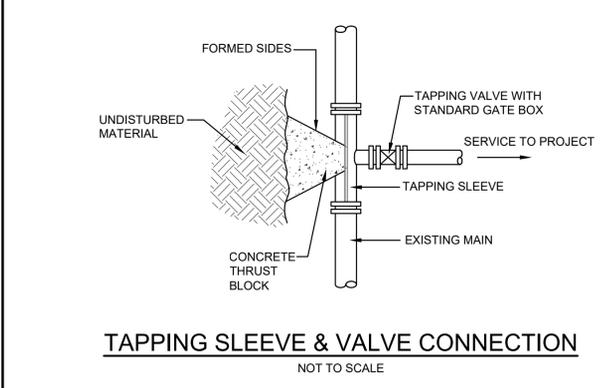
PROJECT  
**RIPTA BROAD CITY LINE STOP**  
**ELECTRIC BUS CHARGING STATION**  
 1633 BROAD STREET CRANSTON, RHODE ISLAND

CLIENT  
**RHODE ISLAND PUBLIC TRANSIT AUTHORITY**  
 a division of **GM2**

DRAWING TITLE  
**DETAILS 4**

NO.	DATE	BY

PROJECT NO.: 40832  
 DATE: JUNE 2022  
 SCALE: AS NOTED  
 DRAWN BY: LBD  
 CHECKED BY: BDN  
 DRAWING NUMBER  
**14**  
 SHEET 14 OF 17

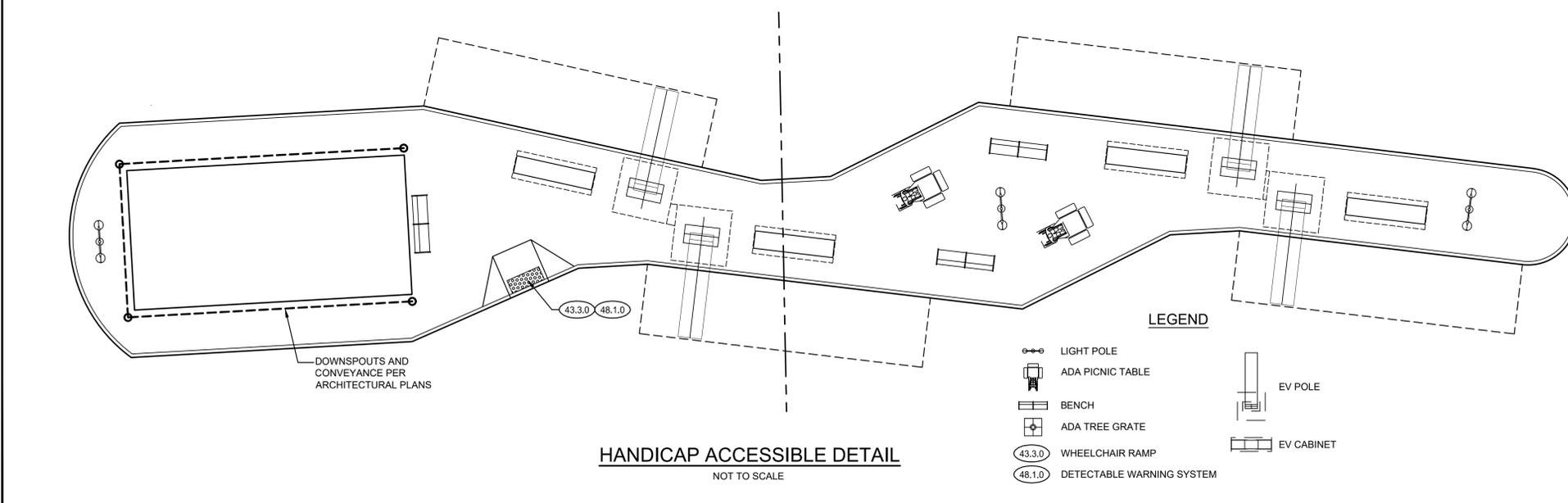


**THRUST BLOCKS**  
 NOT TO SCALE

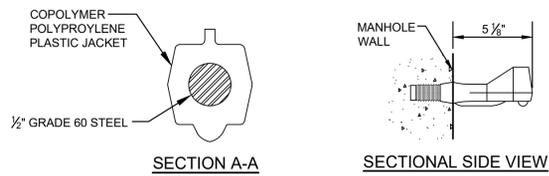
**CONCRETE ANCHORAGE**

**LIST OF APPLICABLE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN**

- 302 Floor and Ground Surfaces**
  - 302.3 Openings. Openings in floor or ground surfaces shall not allow passage of a sphere more than 1/2 inch diameter. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.
- 304 Turning Space**
  - 304.3.1 Circular Space. The turning space shall be a space of 60 inches diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.
  - 304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60 inch square minimum with arms and base 36 inches wide minimum. Each arm of the T shall be clear of obstructions 12 inches minimum in each direction and the base shall be clear of obstructions 24 inches minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.
  - The T shape space is 36 inches wide at the top and stem within a 60 inch by 60 inch square.
- 305 Clear Floor or Ground Space**
  - 305.3 Size. The clear floor or ground space shall be 30 inches minimum by 48 inches minimum.
- 306 Knee and Toe Clearance**
  - 306.1 General. Where space beneath an element is included as part of clear floor or ground space or turning space, the space shall comply with 306. Additional space shall not be prohibited beneath an element but shall not be considered as part of the clear floor or ground space or turning space.
  - Advisory 306.1 General. Clearances are measured in relation to the usable clear floor space, not necessarily to the vertical support for an element. When determining clearance under an object for required turning or maneuvering space, care should be taken to ensure the space is clear of any obstructions.
  - 306.2 Toe Clearance.
    - 306.2.1 General. Space under an element between the finish floor or ground and 9 inches above the finish floor or ground shall be considered toe clearance and shall comply with 306.2.
    - 306.2.2 Maximum Depth. Toe clearance shall extend 25 inches maximum under an element.
    - 306.2.3 Minimum Required Depth. Where toe clearance is required at an element as part of a clear floor space, the toe clearance shall extend 17 inches minimum under the element.
    - 306.2.4 Additional Clearance. Space extending greater than 6 inches beyond the available knee clearance at 9 inches above the finish floor or ground shall not be considered toe clearance.
    - 306.2.5 Toe clearance at an element, as part of clear floor space, shall extend 17 to 25 inches under the element. The clear floor space is 30 inches wide minimum.
  - 306.3 Knee Clearance
    - 306.3.1 General. Space under an element between 9 inches and 27 inches above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.
    - 306.3.2 Maximum Depth. Knee clearance shall extend 25 inches maximum under an element at 9 inches above the finish floor or ground.
    - 306.3.3 Minimum Required Depth. Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches deep minimum at 9 inches above the finish floor or ground, and 8 inches deep minimum at 27 inches above the finish floor or ground.
    - 306.3.4 Clearance Reduction. Between 9 inches and 27 inches above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch in depth for each 6 inches in height.
    - 306.3.5 Width. Knee clearance shall be 30 inches wide minimum.
- 303 Walking Surfaces**
  - 403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.
  - 403.5.1 Clear Width. The clear width of walking surfaces shall be 36 inches minimum.
- 406 Curb Ramps**
  - 406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
  - In cross section, a curb ramp with a maximum slope of 1:12 adjoins a surface at the bottom that has a maximum counter slope of 1:20.
  - 406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.
  - A curb ramp with triangular flared sides is shown. The flared sides have a maximum 1:10 slope, measured at the curb face.
  - 406.4 Landings. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.
  - The required top landing has a length of 36 inches minimum in the direction of the ramp run and is at least as wide as the ramp.
  - 406.5 Location. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.
- 902 Dining Surfaces and Work Surfaces**
  - 902.3 Height. The tops of dining surfaces and work surfaces shall be 28 inches minimum and 34 inches maximum above the finish floor or ground.
- 903 Benches**
  - 903.2 Clear Floor or Ground Space. Clear floor or ground space complying with 305 shall be provided and shall be positioned at the end of the bench seat and parallel to the short axis of the bench.
  - 903.3 Size. Benches shall have seats that are 42 inches long minimum and 20 inches deep minimum and 24 inches deep maximum.
  - 903.4 Back Support. The bench shall provide for back support or shall be affixed to a wall. Back support shall be 42 inches long minimum and shall extend from a point 2 inches maximum above the seat surface to a point 18 inches minimum above the seat surface. Back support shall be 2 1/2 inches maximum from the rear edge of the seat measured horizontally.
  - The bottom edge of the back is 2 inches maximum above the seat surface and the top edge of the back is 18 inches above the seat surface. The distance between the rear edge of the seat and the front face of the back support is 2 1/2 inches maximum.
  - 903.5 Height. The top of the bench seat surface shall be 17 inches minimum and 19 inches maximum above the finish floor or ground.
  - 903.6 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds is applied at any point on the seat, fastener, mounting device, or supporting structure.
  - 903.7 Wet Locations. Where installed in wet locations, the surface of the seat shall be slip resistant and shall not accumulate water.

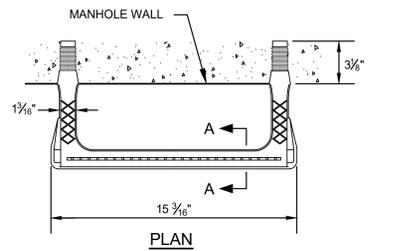


**HANDICAP ACCESSIBLE DETAIL**  
 NOT TO SCALE



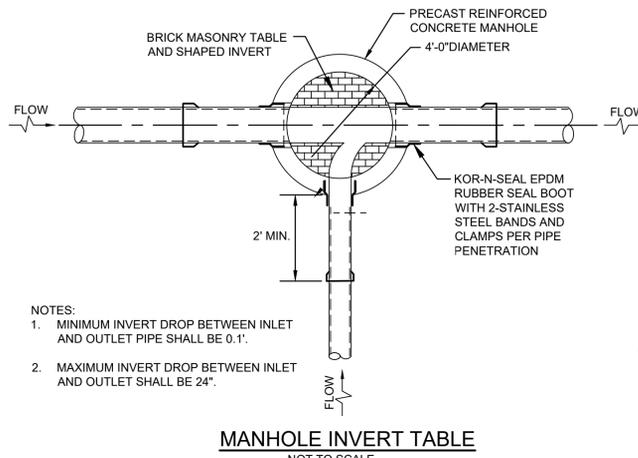
SECTION A-A

SECTIONAL SIDE VIEW



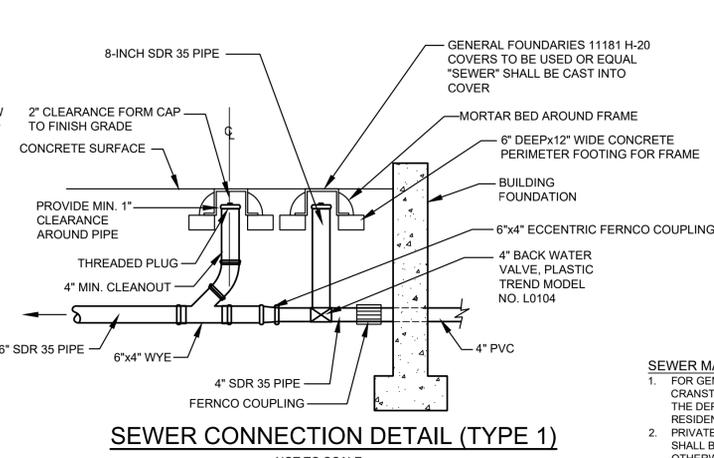
MANHOLE STEP DETAIL

NOT TO SCALE



MANHOLE INVERT TABLE

NOT TO SCALE



SEWER CONNECTION DETAIL (TYPE 1)

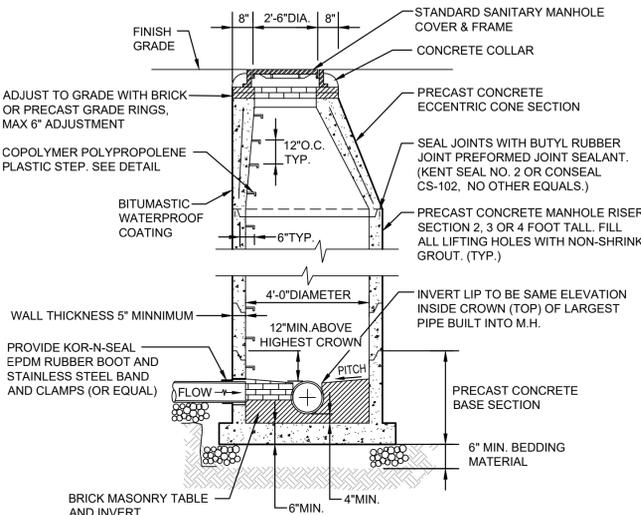
NOT TO SCALE

**SEWER MAIN CONSTRUCTION NOTES:**

- FOR GENERAL SPECIFICATIONS REGARDING SANITARY SEWERS, THE CONTRACTOR SHALL REFERENCE THE CITY OF CRANSTON'S BOOK, "THE CODE OF THE CITY OF CRANSTON RHODE ISLAND", CHAPTER 26, SEWERS, SPECIFICATIONS, AND THE DEPARTMENT OF PUBLIC WORKS ANNEX A-DESIGN OF SEWERS (PROMULGATED 8/15/02) FOR HIGHWAYS COVERING RESIDENTIAL AND INDUSTRIAL PLAT DEVELOPMENTS, CHAPTER 27.
- PRIVATE SEWERS AND SEWER EXTENSION INTO ADJACENT COMMUNITIES, WHICH CONNECT TO THE CITY SEWER SYSTEM, SHALL BE INSTALLED IN CONFORMANCE WITH THE CITY SEWER USE ORDINANCE AND THESE REGULATIONS UNLESS OTHERWISE APPROVED BY THE CITY PUBLIC WORKS DIRECTOR.
- ALL SANITARY SEWER CONSTRUCTION SHALL BE INSPECTED BY THE VEOLIA WATER NORTH AMERICA COLLECTIONS SYSTEM DEPARTMENT. (VEOLIA-CRANSTON WPCF).
- NO PERSON SHALL MAKE A CONNECTION OF ROOF DOWNSPOUTS, FLOOR DRAINS, SUMP PUMPS, EXTERIOR FOUNDATION DRAINS, AREAWAY DRAINS, OR OTHER SOURCES OF SURFACE RUNOFF OR GROUNDWATER TO ANY COMPONENT OF THE SANITARY SEWER SYSTEM.
- GRAVITY SEWER PIPE SHALL BE ASTM RIGID SDR-35 PVC OR HEAVIER PVC PIPE FOR SEWER USE CONFORMING TO ASTM SPECIFICATIONS D-3034, OR CEMENT LINED DUCTILE IRON MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C151/A21.51, C111/A21.11, AND C150/A21.50, OR AS APPROVED BY THE CITY PUBLIC WORKS DIRECTOR. ALL PIPES SHALL HAVE COMPRESSION JOINTS WITH AN ELASTOMERIC GASKET TYPE CONFORMING TO ASTM D-3212, OR AS APPROVED BY THE CITY PUBLIC WORKS DIRECTOR.
- MAIN GRAVITY SEWER PIPE SHALL BE INSTALLED BY USING A LASER INVERT THAT SETS UP IN AN INVERT IN THE DOWNSTREAM MANHOLE. A TARGET WILL BE PLACED AT THE END OF EACH PIPE THAT IS INSTALLED TO ENSURE PROPER ALIGNMENT AND SLOPE.
- ALL SANITARY SEWER CONNECTIONS SHALL BE GASKETED TIGHT.
- THE MINIMUM COVER SHALL BE FOUR (4) FEET OVER THE CROWN OF THE PIPE FOR ALL MAINS AND LATERALS EXCEPT THAT INSULATION MAY BE PROVIDED FOR SEWERS THAT CANNOT BE PLACED AT A DEPTH SUFFICIENT TO PREVENT FREEZING UPON THE APPROVAL OF THE PUBLIC WORKS DIRECTOR.
- UNDERGROUND DETECTABLE TAPE STATING "CAUTION: BURIED SEWER BELOW" WILL BE PLACED IN THE TRENCH BETWEEN THE TOP OF PIPE AND 12" FROM FINISHED GRADE.
- SEWER LATERALS SHALL BE 6" SDR-35 PVC AND BE INSTALLED AT THE MINIMUM SLOPE OF AT LEAST ONE-QUARTER INCH PER FOOT (2.1 cm/m). ALL PIPES SHALL HAVE COMPRESSION JOINTS.
- WHERE PRACTICAL, SEWER LATERALS SHALL BE TIED INTO A MANHOLE. A BORING MACHINE SHALL BE USED TO MAKE A HOLE THROUGH ANY MANHOLE STRUCTURE. A FLEXIBLE WATERTIGHT GASKET SHALL BE USED TO CONNECT THE STRUCTURE TO THE PIPE OR AN APPROVED WATERTIGHT FLEXIBLE SLEEVE. THE PIPE SHALL BE PARGED ON THE INSIDE OF THE MANHOLE TO MAKE THE INVERT CLEAN.
- NO LATERAL MAY SERVICE MORE THAN ONE BUILDING OR PRIVATELY OWNED BUILDING UNITS.
- MINIMUM BEDDING MATERIAL REQUIREMENTS FOR SEWER PIPE INSTALLATION SHALL BE CLASS "B" AS DESCRIBED IN ASTM C-12, WITH A MINIMUM DEPTH OF SIX (6) INCHES.
- BEDDING MATERIAL SHALL BE COMPACTED EVENLY UNDER AND ON BOTH SIDES OF THE PIPE SO THAT THE PIPE REMAINS ALIGNED AND TRUE.
- BACKFILL SHALL BE INSTALLED IN LAYERS NO MORE THAN 8" THICK AFTER COMPACTION AND SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY ACCORDING TO AASHTO T180.
- BACKFILL MATERIAL SHALL NOT CONTAIN FROZEN MATERIAL, LARGE DIRT CLODS, STONES, ORGANIC MATTER, OR UNSUITABLE MATERIALS. ADDITIONAL BACKFILL DETAILS, FOR CITY STANDARDS CR-10/S-1, WHICH ARE AVAILABLE IN THE DIVISION OF ENGINEERING.
- MANHOLES SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, ASTM DESIGNATION: C-478, LATEST EDITION; OR AS APPROVED BY THE DIRECTOR, AND SHALL HAVE O-RINGS OR BITUMINOUS BASED GASKETED JOINTS. A TWELVE-INCH (12") BEDDING OF COMPACTED 3/4" WASHED STONE SHALL BE PLACED UNDERNEATH ALL MANHOLE STRUCTURES. THE MINIMUM INTERNAL DIAMETER SHALL BE FORTY-EIGHT INCHES (48") (1.2m). ALL MANHOLE JOINTS AND PINHOLES SHALL BE PARGED FROM THE OUTSIDE AND INSIDE TO PREVENT INFILTRATION. FOLLOWING WHICH, A BITUMINOUS COATING SHALL BE INSTALLED ON THE ENTIRE EXTERIOR. INLET AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A GASKETED, FLEXIBLE WATERTIGHT CONNECTION OR WITH ANOTHER WATERTIGHT CONNECTION ARRANGEMENT THAT ALLOWS FOR DIFFERENTIAL SETTLEMENT OF THE PIPE AND THE MANHOLE. ALL INVERTS AND TABLES SHALL BE CONSTRUCTED WITH SMOOTH RED SEWER BRICKS. AT LEAST ONE ROW OF RED SEWER BRICKS SHALL BE INSTALLED BETWEEN THE MANHOLE STRUCTURE AND THE SEWER COVERS FRAME, BUT NOT TO EXCEED A (MAX OF 12" HIGH) THE BRICKS SHALL BE WELL CEMENTED BUT NO CEMENT IS ALLOWED ON THE FACE OF THE BRICKS.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE. DEVIATIONS OR CHANGES WILL NOT BE ALLOWED UNLESS APPROVED BY THE CITY PUBLIC WORKS DIRECTOR.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

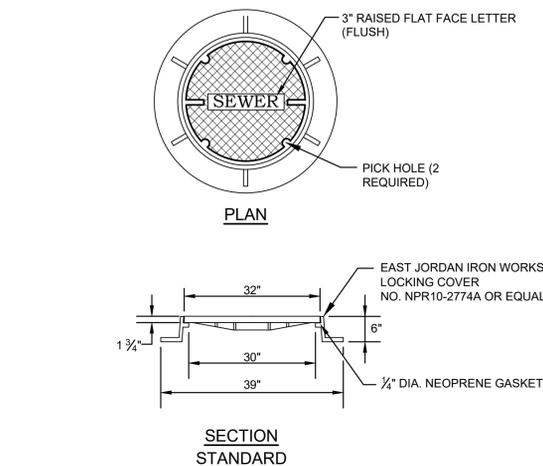
**SEWER MAIN ORDER OF PROCEDURE:**

- THE OWNER OR THE DEVELOPER SHALL SUBMIT TO THE CITY OF CRANSTON'S DIRECTOR OF PUBLIC WORKS THE NAME OF THE QUALIFIED SEWER CONTRACTOR THAT WILL BE RESPONSIBLE FOR THE INSTALLATION OF THE SANITARY SEWER SYSTEM, TOGETHER WITH A BREAKDOWN OF ITEMS, QUANTITIES AND UNIT PRICES FOR THE PROJECT.
- NO WORK CAN COMMENCE OF ANY SEWER INSTALLATION WITHOUT THE DIRECTOR'S APPROVAL OF THE PLANS AND CONTRACTOR.
- THE CONTRACTOR THAT WAS APPROVED SHALL NOTIFY VEOLIA WATER OF NORTH AMERICA COLLECTIONS SYSTEM DEPARTMENT AND THE DIRECTOR OF PUBLIC WORKS PRIOR TO COMMENCING ANY SEWER RELATED EXCAVATION. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION: COMPANY NAME, PHONE NUMBER AND ADDRESS OF BOTH THE DEVELOPER AND CONTRACTOR ALONG WITH THE NAME AND PHONE NUMBER OF THE SEWER CONTRACTOR'S FOREMAN.
- VEOLIA WATER SHALL INSPECT THE NEW PLAT CONSTRUCTION CONSISTING OF EXCAVATION, INSTALLATION OF SEWER MAINS AND STREET LATERALS, INSTALLATION OF MANHOLES, AND BACKFILLING TO THE ELEVATION OF THE EXISTING GROUND. THE PIPES WILL BE CAMERA INSPECTED, PRESSURE TESTED AND FLOW TESTED. THE CONTRACTOR, AT HIS CHOICE AND EXPENSE, HAS THE OPTION OF USING A PRIVATE CONTRACTOR OR HIRING VEOLIA WATER TO CAMERA AND VIDEOTAPE THE SEWER SYSTEM. IF THE CONTRACTOR CHOOSES TO USE A PRIVATE CAMERA CONTRACTOR TO VIDEOTAPE THE SEWER SYSTEM, AN INSPECTOR FROM VEOLIA WATER SHALL BE PRESENT FOR THE VIDEOTAPEING.
- AFTER THE SEWER SYSTEM HAS BEEN INSTALLED, THE CONTRACTOR SHALL HAVE ALL THE MANHOLES VACUUM TESTED AT TEN-INCHES (10") OF VACUUM FOR SIXTY (60) SECONDS. THE GRAVITY SEWER PIPES SHALL BE TESTED FOR FIVE (5) LBS OF PRESSURE FOR TEN (10) MINUTES. VEOLIA'S INSPECTOR SHALL BE PRESENT FOR ALL TESTING OF MANHOLES AND PIPES.
- AFTER THE TESTING OF THE MANHOLES AND PIPES, THE CONTRACTOR SHALL HAVE THE ENTIRE SEWER SYSTEM FLUSHED AND CLEANED.
- THE ENTIRE SYSTEM SHALL BE CAMERA INSPECTED AND VIDEOTAPE.
- VEOLIA WATER SHALL REVIEW THE VIDEOTAPES AND PRODUCE A PUNCH LIST OF ALL OR ANY ITEMS THAT REQUIRE ATTENTION.
- AS A CONDITION OF THE FINAL ACCEPTANCE OF THE SANITARY SEWER SYSTEM, THE CONTRACTOR SHALL FORMALLY REQUEST, THROUGH THE CITY ENGINEERING DIVISION, A FINAL INSPECTION BY VEOLIA.
- BEFORE FINAL APPROVAL OF THE SEWER SYSTEM CAN BE GRANTED AND CERTIFICATES OF OCCUPANCY ARE ISSUED, THE CONTRACTOR SHALL SUBMIT TO VEOLIA TWO (2) SETS OF SEWER AS-BUILT PLANS WITH GIS COORDINATES FOR EACH MANHOLE. THE AS-BUILT'S SHALL BE ON "COPY-THUFF" MEDIA AND IN COMPUTER .dxf OR AUTOCAD R14 OR AUTOCAD LT 2002 VERSION FILE FORMAT AND MEET THE FOLLOWING CRITERIA.
  - ALL RECORD PLANS ARE REQUIRED TO BE THE UNIFORM SIZE OF 20" x 40".
  - SCALE FOR THE PLANS: HORIZONTAL 1" = 40' AND VERTICAL 1" = 10'.
  - STATION FIGURES ARE TO BE SHOWN ON ALL MANHOLES AND WYE LATERALS.
  - DISTANCES OF LATERALS ARE TO BE SHOWN WITH DEPTHS OF THE END OF THE PIPE AT THE STREET LINE.
  - TIES TO THE 1 1/2" MANHOLES, AND ENDS OF LATERALS ARE TO BE SHOWN FROM PERMANENT STRUCTURES.
  - LEDGE AND SELECT MATERIALS ARE TO BE SHOWN ON THE PROFILE.
  - SLOPE, SIZE, LENGTH, AND TYPE OF PIPE ARE TO BE SHOWN ON THE PLAN AND PROFILE VIEW.
  - ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE TO BE SHOWN ON THE PROFILE.
  - SEWER RECORD AND STORM DRAIN PLANS ARE TO BE DRAWN SEPARATELY.
  - THE RECORD PLAN SHALL BE DRAWN SO THAT THE NORTH DESIGNATION IS POINTING IN THE UPPER QUADRANT. AN ID TABLE NEEDS TO BE PROVIDED ON THE PLANS.
  - THE X AND Y COORDINATE SHALL BE THE NAD 83 RI STATE PLANE FEET COORDINATES AND THE COORDINATES WILL BE WITHIN ONE-FOOT (1'). ALL X AND Y COORDINATES ARE TO BE LABELED AT EACH MANHOLE ON BOTH THE PLAN AND PROFILE VIEW. IN ADDITION, A TABLE WITH THE SAME INFORMATION IS TO BE PLACED ON EACH AS-BUILT SHEET. ELEVATIONS SHALL BE BASED ON THE CITY OF CRANSTON'S MEAN HIGH WATER (MHW) DATA FOR THE VERTICAL COORDINATES.
- FINAL APPROVAL AND ISSUANCE OF THE CERTIFICATES OF OCCUPANCY ARE CONTINGENT UPON THE OWNER/DEVELOPER'S SUBMISSION OF AN ACCEPTABLE, PERPETUAL OPERATION AND MAINTENANCE PLAN TO THE CITY AND VEOLIA FOR THE PRIVATE SEWAGE SYSTEM.



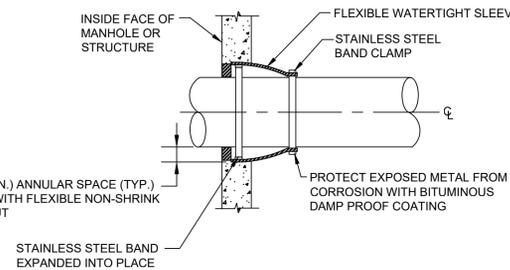
SANITARY SEWER MANHOLE DETAIL

NOT TO SCALE



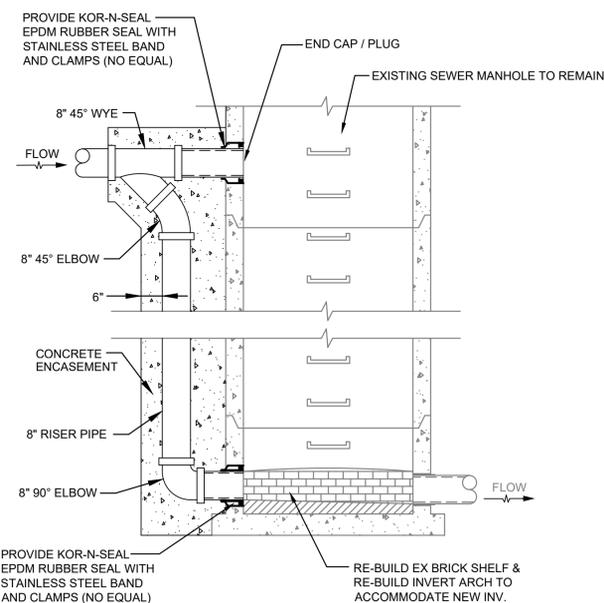
SANITARY MANHOLE COVER DETAILS

NOT TO SCALE



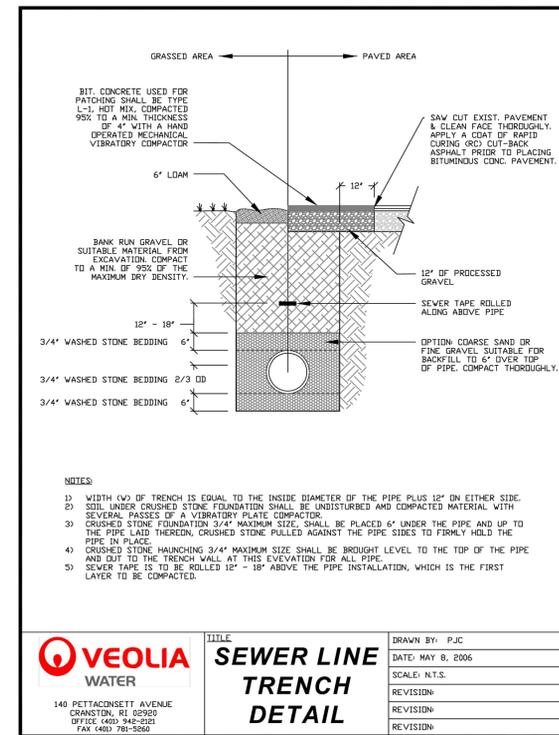
FLEXIBLE SLEEVE CONNECTION DETAIL

NOT TO SCALE



EXTERIOR DROP MANHOLE DETAIL

NOT TO SCALE



<p>140 PETAQUONNET AVENUE CRANSTON, RI 02920 OFFICE: 400-781-2521 FAX: 400-781-5260</p>	TITLE	SEWER LINE TRENCH DETAIL	DRAWN BY: PJC
	DATE:	MAY 8, 2006	SCALE: N.T.S.
	REVISION:		REVISION:
	REVISION:		REVISION:
	REVISION:		REVISION:

PROJECT

RIPTA BROAD CITY LINE STOP  
ELECTRIC BUS CHARGING STATION

1533 BROAD STREET CRANSTON, RHODE ISLAND

TODD A. RAVENELLE  
No. 5928  
Professional Engineer

CLIENT

RHODE ISLAND PUBLIC TRANSIT  
AUTHORITY

a division of GM2

DRAWING TITLE

DETAILS 5

NO.	DATE	REVISIONS	BY

PROJECT NO.: 40832

DATE: JUNE 2022

SCALE: AS NOTED

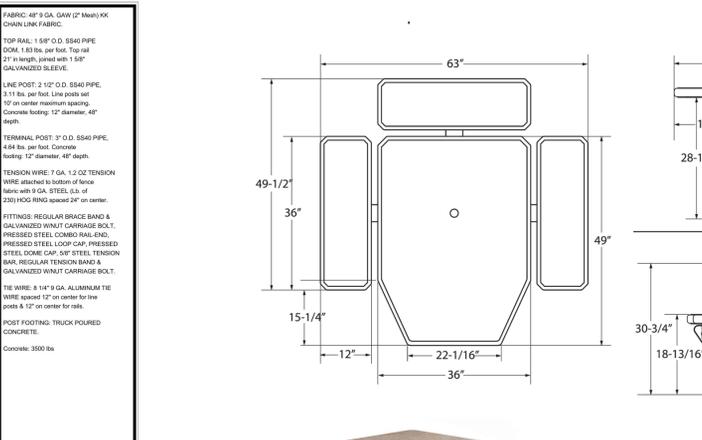
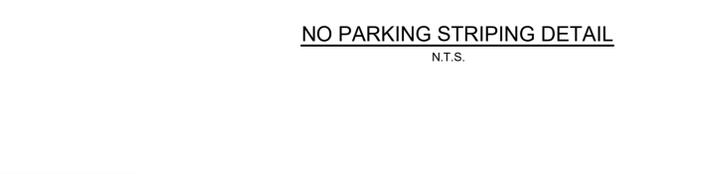
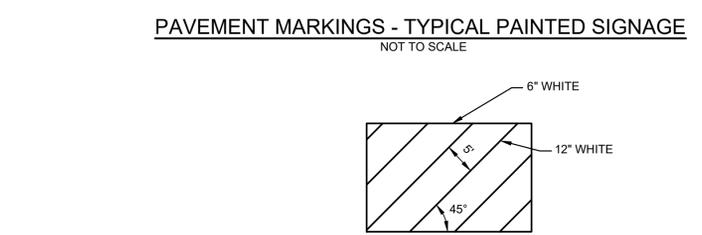
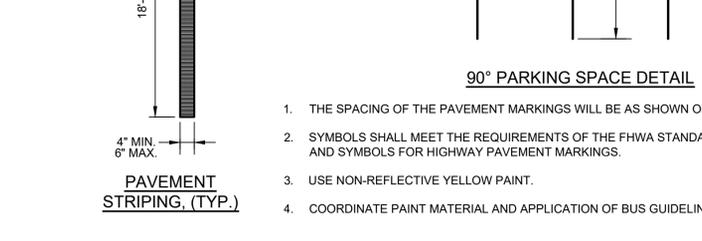
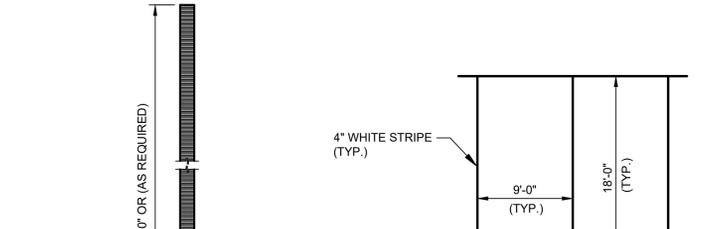
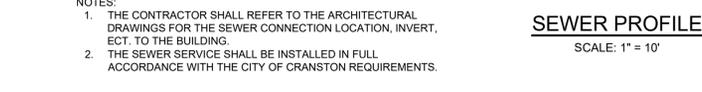
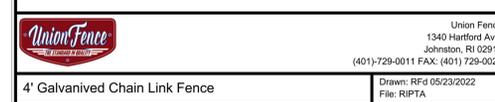
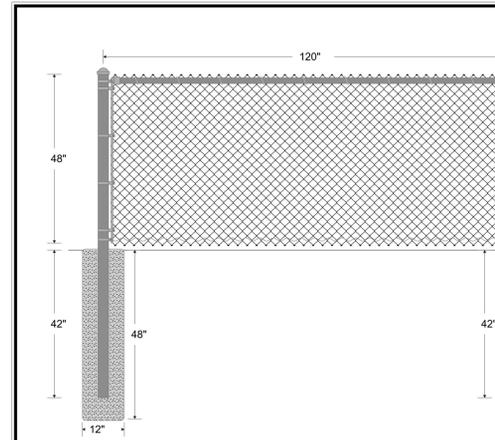
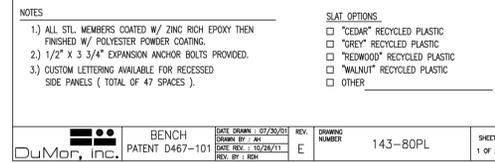
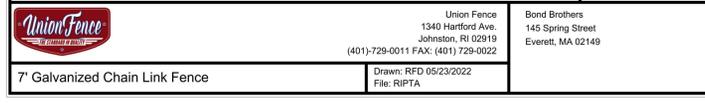
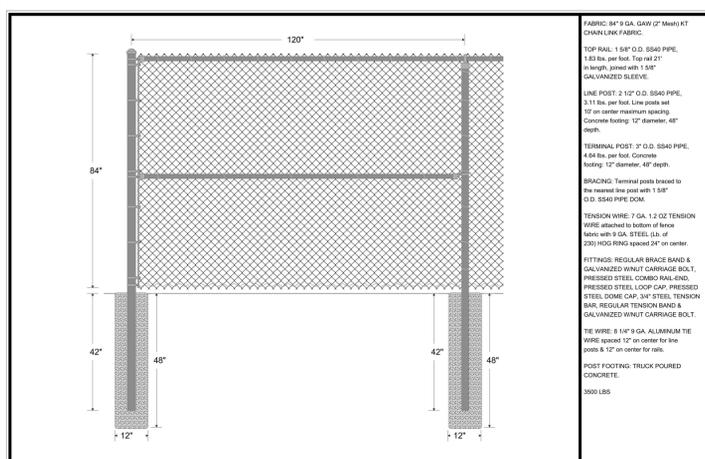
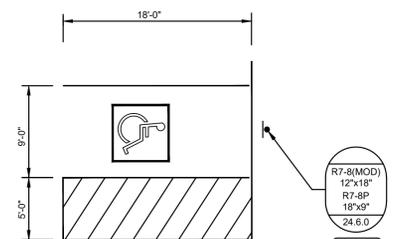
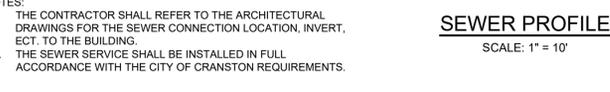
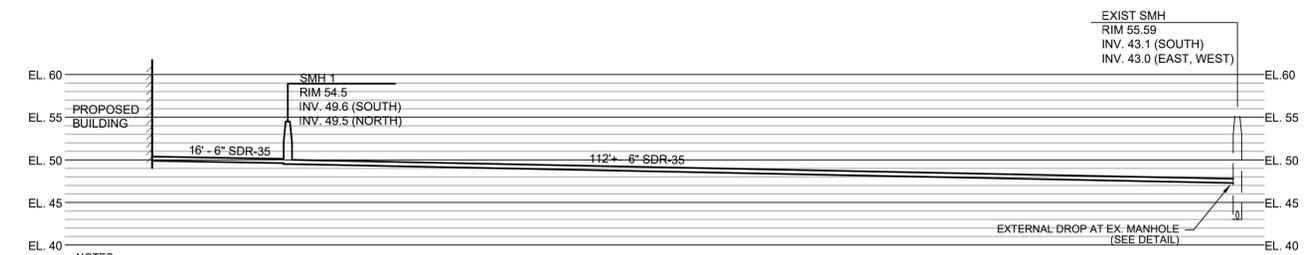
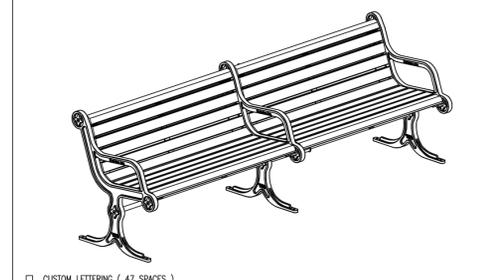
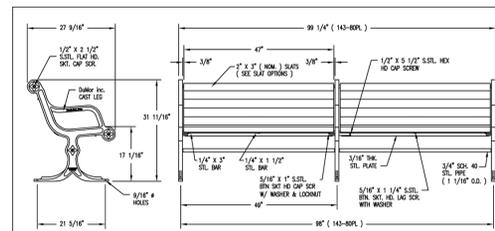
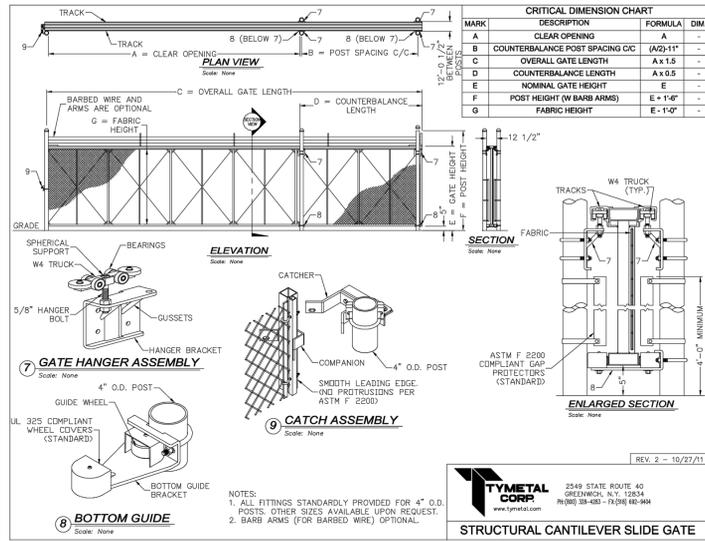
DRAWN BY: LBD

CHECKED BY: BDN

DRAWING NUMBER

15

SHEET 15 OF 17



PROJECT

**RIPTA BROAD CITY LINE STOP**  
**ELECTRIC BUS CHARGING STATION**

1533 BROAD STREET CRANSTON, RHODE ISLAND

TODD A. RAVENELLE  
No. 5928  
Professional Engineer

CLIENT

**RHODE ISLAND PUBLIC TRANSIT AUTHORITY**

**GM**  
a division of GM2

DRAWING TITLE

**DETAILS 6**

NO.	DATE	BY

PROJECT NO.: 40832

DATE: JUNE 2022

SCALE: AS NOTED

DRAWN BY: LBD

CHECKED BY: BDN

DRAWING NUMBER

**16**

SHEET 16 OF 17



ROW OF NIGRA ARBORVITAE TREES THAT PROVIDE A DENSE EVERGREEN SCREEN AT 6-8 FT MATURE HEIGHT.

LOAM & SEED FROM CURB TO BACK OF SIDEWALK.

BED OF MIXED EVERGREEN AND DECIDUOUS PLANTINGS

AREA BETWEEN PARKING AND BUS CHARGING TO BE MULCHED PLANTING BED

PLANT SCHEDULE											
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS	WATER USE	MATURE HEIGHT	MATURE WIDTH	SEASON OF BLOOM
	GF	2	Ginkgo biloba Fastigiate	Fastigiate Maidenhair Tree	2' Cal.	86B		Medium	25-60 Ht.		Non-blooming
	TS	60	Thuja occidentalis 'Emerald'	Emerald Green Arborvitae	2' Ht.	86B		Medium	6-12 Ht.	3'-6' w.	Non-blooming
	TT	20	Thuja occidentalis 'Teebry'	Teebry Arborvitae	2' Ht.	86B		Medium	10-15 Ht.	6'-10' w.	Non-blooming
		3	Ulmus x 'Homestead'	Homestead Elm	2' Cal.	86B					
	ZS	1	Zakovia serrata 'Green Vein'	Green Vein Saxeol Zakovia	2' Cal.	86B		Medium	~ 60 Ht.	40'-60' w.	Early Spring, Mid-spring

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS	WATER USE	MATURE HEIGHT	MATURE WIDTH	SEASON OF BLOOM
	IM	36	Thuja virginica 'Mentor' TM	Mentor Dwarf Thuja	3 gal.	100		Medium-High	3'-6' Ht.	1'-3' w.	Early Summer
	SD	10	Spiraea x bumalda 'Dobricia'	Dobricia Spirea	3 gal.	100		Medium	18-30' Ht.	3'-6' w.	
	TH	31	Thuja x media 'Hickel'	Hickel Anglo-Japanese Thuja	3' Ht.	86B		Medium	6-20' Ht.	3-10' w.	Non-blooming
	VC	20	Viburnum carlesii 'Compactum'	Compact Koreanopsea Viburnum	3' Ht.	86B		Medium	18'-6' Ht.	1'-6' w.	
	VM	7	Viburnum dentatum 'Blue Muffin'	Blue Muffin Arrowwood Viburnum	3' Ht.	86B		Medium	6-10' Ht.	6-10' w.	Mid-spring

- LEGEND**
- PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN
  - HEAVY-DUTY ROUND FRAME AND COVER
  - HIGH CAPACITY FRAME AND GRATE (BICYCLE SAFE)
  - TIE NEW PIPE INTO EXISTING MANHOLE
  - TIE NEW PIPE INTO EXISTING MANHOLE
  - SPOT GRADE - TOP OF CURB
  - SPOT GRADE - GUTTER
  - SPOT GRADE - HIGH POINT
  - SPOT GRADE - TOP OF BERM
  - SPOT GRADE - BOTTOM OF BERM
  - PROPOSED CONTOUR
  - PROPOSED GAS LINE
  - PROPOSED WATER LINE
  - PROPOSED SEWER PIPE
  - PROPOSED ELECTRIC CONDUIT
  - PROPOSED DRAIN PIPE

PROJECT  
**RIPTA BROAD CITY LINE STOP**  
**ELECTRIC BUS CHARGING STATIONS**  
 1533 BROAD STREET CRANSTON, RHODE ISLAND

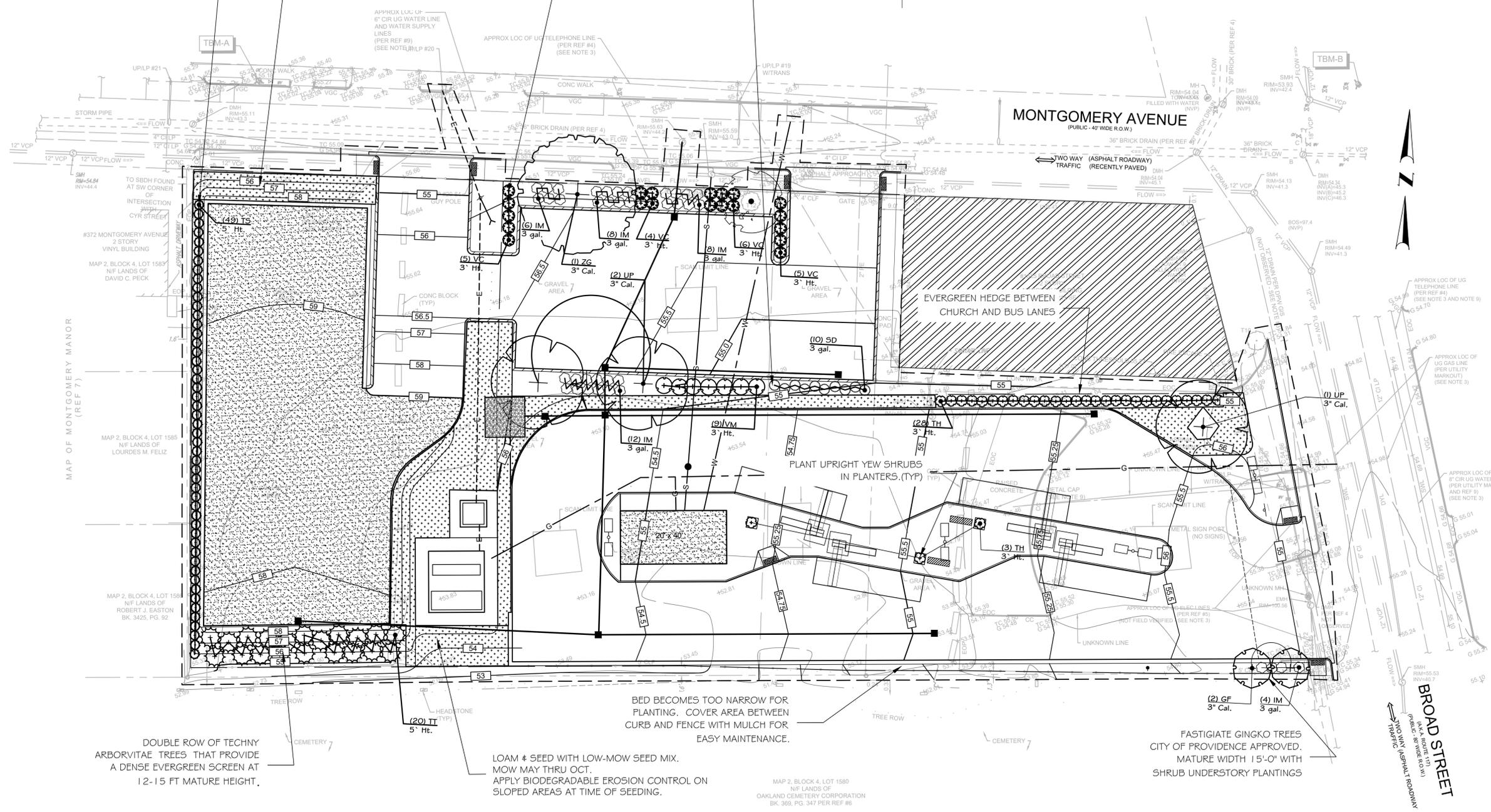
CLIENT  
**RHODE ISLAND PUBLIC TRANSIT**  
**AUTHORITY**  
  
 a division of **GM2**

DRAWING TITLE  
**LANDSCAPE PLANTING PLAN**

NO.	DATE	REVISIONS	BY

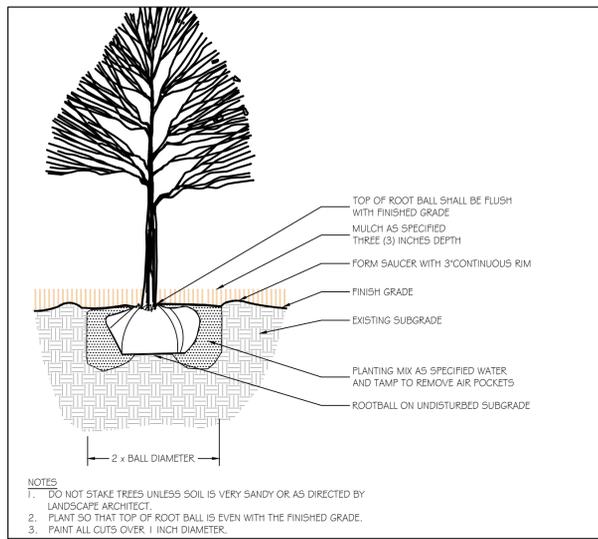
PROJECT NO.: 40832  
 DATE: JUNE 9, 2022  
 SCALE: 1" = 20'  
 DRAWN BY: EMP  
 CHECKED BY: EMP

DRAWING NUMBER  
**L001**  
 SHEET OF



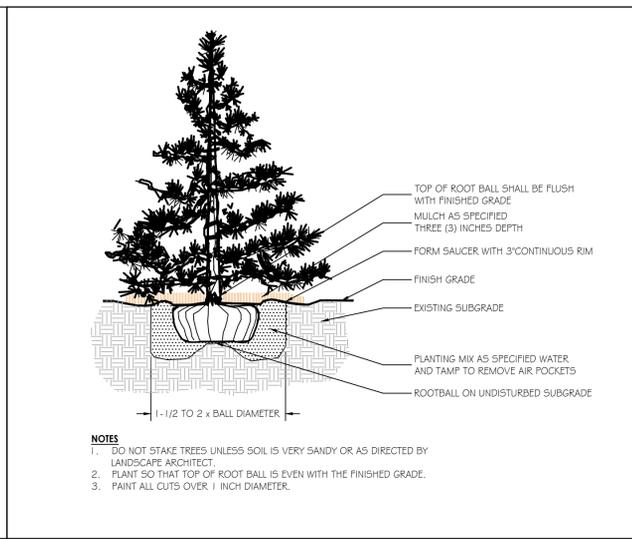
**NOTES:**  
 1. THIS PLAN IS FOR LANDSCAPE REQUIREMENTS ONLY. REFER TO PROJECT PLANS FOR SITE CONDITIONS, FURNISHINGS, FIXTURES, AND CALLOUTS.

**Landscape Elements, LLC**  
 Landscape Architecture  
 Landscape Ecology  
 Cultural Landscape Preservation  
 3288 Post Road, Warwick, RI 02886  
 T 401.773.4098 F 401.773.7666  
 www.landscapeelementsllc.com



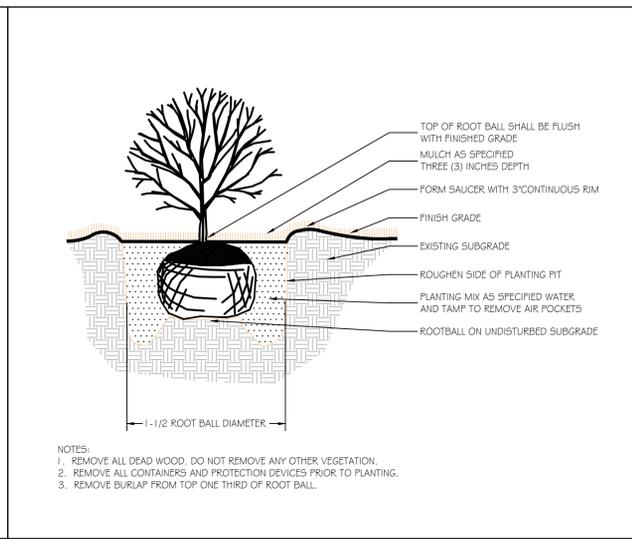
DECIDUOUS TREE

SCALE: 1/2" = 1'-0"



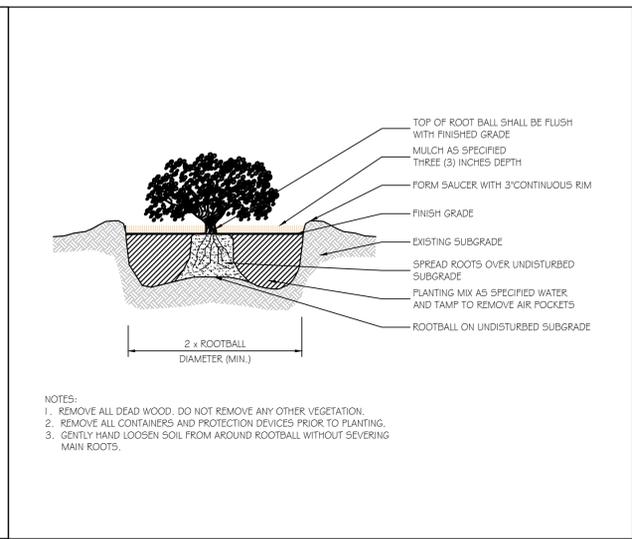
EVERGREEN TREE

SCALE: 1/2" = 1'-0"



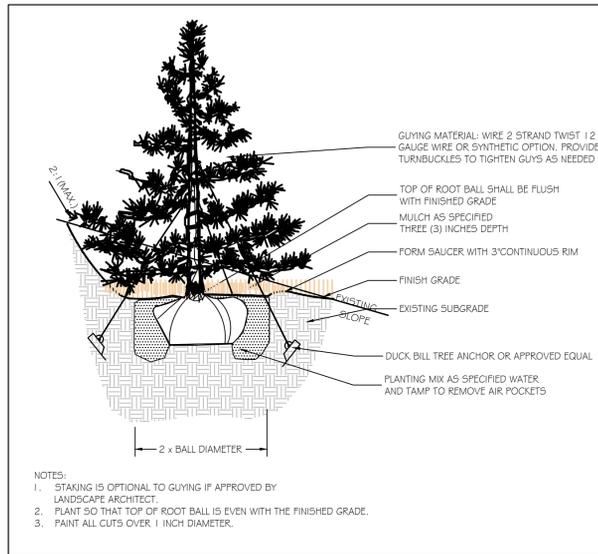
SHRUB BALLED & BURLAPPED

SCALE: 1/2" = 1'-0"



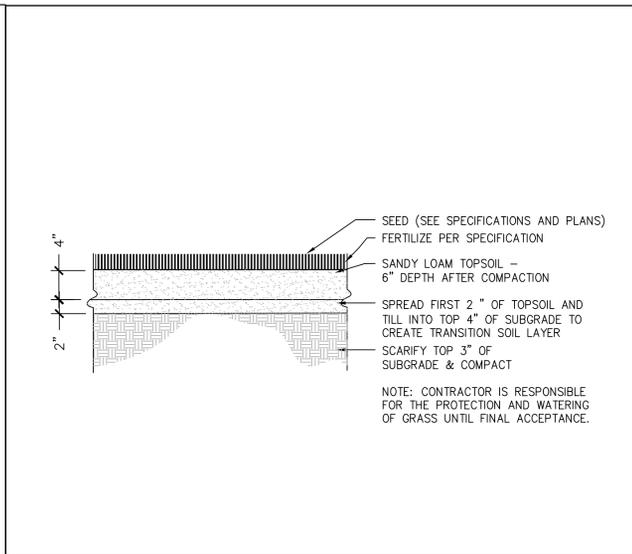
SHRUB CONTAINER GROWN

SCALE: 1/2" = 1'-0"



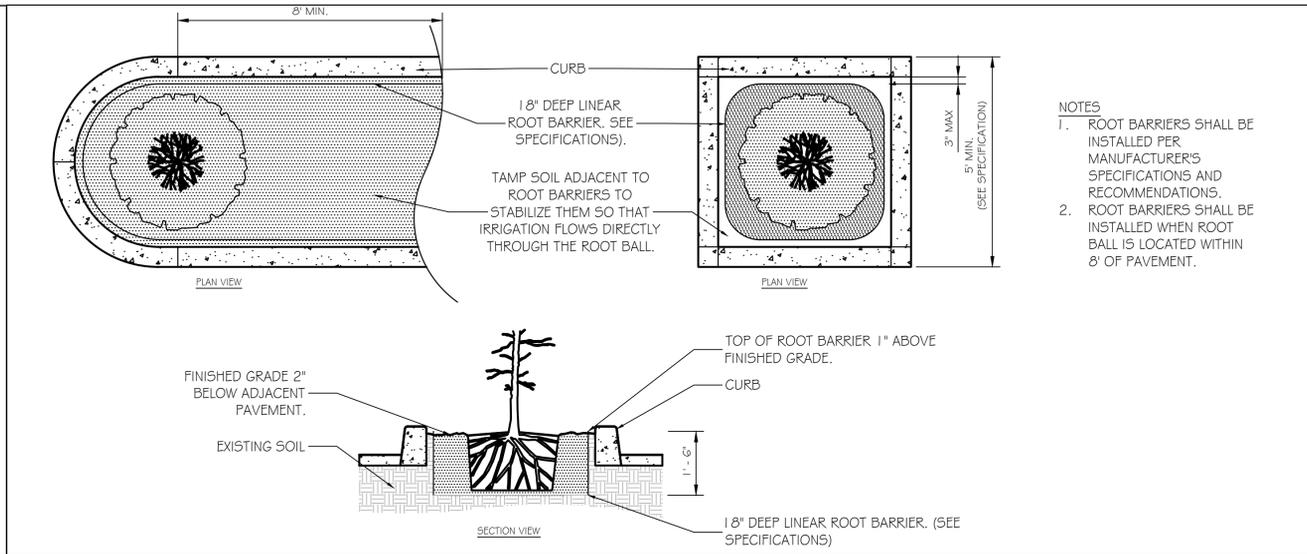
EVERGREEN TREE ON SLOPE

SCALE: 1/2" = 1'-0"



LAWN- TOPSOIL PLANTING

SCALE: 1/2" = 1'-0"



ROOT BARRIER FOR TREES TO WITHIN 5 FEET OF PAVEMENTS

SCALE: 1/2" = 1'-0"

NOTES:  
1. REFER TO PROJECT REQUIREMENTS FOR NON-COMPLIANT SOILS AND THE ENGINEER ENCAPSULATION PER THE REMEDIAL ACTION WORK PLAN (RAWP).

PROJECT  
**RIPTA BROAD CITY LINE STOP  
ELECTRIC BUS CHARGING STATIONS**  
1533 BROAD STREET CRANSTON, RHODE ISLAND

CLIENT  
**RHODE ISLAND PUBLIC TRANSIT  
AUTHORITY**  
  
a division of **GM2**

DRAWING TITLE  
**LANDSCAPE DETAILS**

NO.	DATE	REVISIONS	BY

PROJECT NO.: 40832  
DATE: JUNE 9, 2022  
SCALE: AS SHOWN  
DRAWN BY: OG  
CHECKED BY: EMP

DRAWING NUMBER  
**L002**  
SHEET OF

**LARGE DECIDUOUS TREES FOR SHADE**



GF – GINKGO BILOBA “FASTIGIATA”  
UPRIGHT GINKGO TREE



UH- ULMUS X “HOMESTEAD”  
HOMESTEAD ELM



ZG – ZELCOVA SERRATA “GREEN VASE”  
SAWLEAF ZELKOVA

**EVERGREEN TREES FOR LANDSCAPE BUFFERS**



TSD- THUJA OCCIDENTALIS “SMARAGD”  
EMERALD GREEN ARBORVITAE



TT – THUJA OCCIDENTALIS “TECHNY”  
TECHNY ARBORVITAE

**PLANTINGS ALONG SOUTH PROPERTY LINE**



SD – SPIREA X BUMALDA ‘DOLCHICA’  
DOLCHICA SPIREA



TH- TAXUS MEDIA “HICKSII”  
HICKS ANGLO-JAPANESE YEW



TT – THUJA OCCIDENTALIS “TECHNY”  
TECHNY ARBORVITAE

**SHRUB PLANTINGS ALONG MONTGOMERY STREET.**



VC – VIBURNUM CARLIESII “COMPACTUM”  
DWARF KOREANSPICE VIBURNUM



IM – ITEA VIRGINICA “MERLOT”  
MERLOT SWEETSPIRE

**SHRUB PLANTINGS BETWEEN PROPERTIES**



IM – ITEA VIRGINICA “MERLOT”  
MERLOT SWEETSPIRE



SD – SPIREA X BUMALDA ‘DOLCHICA’  
DOLCHICA SPIREA



TH- TAXUS MEDIA “HICKSII”  
HICKS ANGLO-JAPANESE YEW



VC – VIBURNUM CARLIESII “COMPACTUM”  
DWARF KOREANSPICE VIBURNUM



VM – VIBURNUM DENTATUM “BLUE MUFFIN”  
BLUE MUFFIN ARROWWOOD VIBURNUM

**CRITERIA FOR PLANT MATERIAL SELECTION**

- TREES MEET CITY PLANT LIST
- HIGH RESISTANCE TO DISEASES AND INSECTS
- LOW MAINTENANCE AND LOW TO MEDIUM WATER REQUIREMENTS
- SEASONAL INTEREST IN PLANTING PALETTE WITH FLOWERING SHRUBS, EVERGREENS AND FALL COLOR.
- TREES ARE PLACED SO THAT BUSES WILL NOT HIT CANOPY.

**LANDSCAPE PLANT MATERIAL PALETTE**

**RIPTA BUS CHARGING STATION – CRANSTON, RHODE ISLAND**

Landscape Architecture  
Landscape Ecology  
Cultural Landscape Preservation



Landscape Elements, LLC  
3288 Post Road, Ste 2C, Warwick, RI 02886  
[www.landscapeelementsllc.com](http://www.landscapeelementsllc.com)

DRAWING NUMBER

L003

**GENERAL:**

- THE ELECTRICAL CONTRACTOR SHALL INDICATE TO THE ENGINEER OF RECORD OF ANY DISCREPANCIES WITH THE DRAWING PACKAGE WITH REGARDS TO THE SITE LAYOUT, NATIONAL ELECTRICAL CODE, AND MANUFACTURER RECOMMENDATIONS. THESE DISCREPANCIES SHALL BE PRESENTED TO THE ENGINEER OF RECORD (EOR) FOR REVIEW.
- THESE CONTRACT DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE INTENDED TO CONVEY THE SCOPE OF WORK, THE GENERAL ARRANGEMENT OF EQUIPMENT, CONDUITS, PANELS, FIXTURES, ETC.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL EQUIPMENT AND ACCESSORIES TO MAKE THIS A COMPLETE AND OPERABLE SYSTEM.
- THE ELECTRICAL CONTRACTOR SHALL FOLLOW ALL EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND ADHERE TO ALL MANUFACTURER'S REQUIREMENTS FOR INSTALLATION.
- ALL DOCUMENTATION PERTAINING TO THE MAJOR PIECES OF EQUIPMENT SHALL BE PROVIDED TO THE OWNER AND BE PART OF THE TURNOVER DOCUMENTATION.
- THIS PROJECT SHALL BE IN ACCORDANCE WITH THE 2020 NATIONAL ELECTRICAL CODE (NFPA 70) AND ALL OTHER LOCAL AND STATE LAWS AS WELL AS THE AUTHORITY HAVING JURISDICTION (AHJ) INCLUDING THE MASSACHUSETTS AMENDMENTS TO NFPA 70.
- INSPECTIONS BY THE AHJ AND EOR SHALL TAKE PLACE PRIOR TO ANY WORK THAT WILL BE PERMANENTLY COVERED.
- THE EQUIPMENT AND ACCESSORIES THAT MAKE UP THIS SYSTEM SHALL BE UL LISTED AND BE USED FOR THEIR INTENDED PURPOSE.
- CONTRACTOR TO CONFIRM EXISTING FIELD CONDITIONS AND VERIFY ALL DIMENSIONS.
- ALL OUTDOOR EQUIPMENT SHALL BE RATED FOR OUTDOOR USE (NEMA 3R OR BETTER).
- ALL MATERIALS PROVIDED BY THE INSTALLING CONTRACTOR SHALL BE NEW AND FREE OF DEFECTS AND DAMAGE. ALL ELECTRICAL MATERIALS AND INSTALLATIONS SHALL MEET THE INDUSTRY STANDARDS IDENTIFIED OF THE NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE), AND UNDERWRITER'S LABORATORIES, INC. (UL).
- IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO PROVIDE AND INSTALL THE EQUIPMENT AND ACCESSORIES THAT WILL LAST THE LIFETIME OF THE SYSTEM.
- ALL EQUIPMENT AND ACCESSORIES SHALL BE INSTALLED IN A NEAT AND WORK LIKE MANNER. ALL ENCLOSURES SHALL BE CLEANED OF ANY DEBRIS FROM INSTALLATION AND THE SURROUNDING AREA SHALL BE CLEANED AS WELL.
- THE ELECTRICAL CONTRACTOR SHALL OBTAIN THE PROPER PERMITS FOR THE INSTALLATION AND DISPLAY THEM AT THE JOBSITE OR AS REQUIRED BY THE AHJ.
- THE ELECTRICAL CONTRACTOR SHALL PERFORM INSULATION RESISTANCE TESTING ON ALL WIRING TO ENSURE THE INTEGRITY OF THE INSULATION IS GOOD FOR IN SERVICE USE. DOCUMENTATION SHALL BE PROVIDED WITH THE RESULTS OF THIS TESTING.
- ALL EQUIPMENT AND MATERIALS SHALL BE MAINTAINED AND PROTECTED FROM DAMAGE UNTIL FINAL ACCEPTANCE BY THE OWNER.
- ENERGIZING THE SITE SHALL NOT BE DONE UNTIL ALL PARTIES HAVE REVIEWED THE INSTALLATION AND ARE SATISFIED WITH THE PRODUCT.
- ALL EQUIPMENT OPENINGS SHALL BE SEALED TO PREVENT THE INGRESS OF WATER OR RODENTS.
- SUBMITTALS SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT AND MATERIALS THAT WILL BE USED FOR THE INSTALLATION.
- PRIOR TO ANY EXCAVATION DIG SAFE MUST BE CONTACTED.
- ALL EQUIPMENT SHALL BE INSTALLED TO MAINTAIN PROPER WORKING DISTANCES.

**SAFETY:**

- PROPER ELECTRICAL SAFETY SHALL BE EMPLOYED BY THE ELECTRICAL CONTRACTOR.
- THE ELECTRICAL CONTRACTOR SHALL USE THEIR OWN COMPANY SAFETY PROGRAM IN ADDITION TO ANY SPECIFIC REQUIREMENTS FROM THE OWNER.
- DURING AND AFTER COMMISSIONING THE CONTRACTOR SHALL MAINTAIN CONTROL OF THE SITE ELECTRICAL SYSTEM UNTIL THE PROJECT HAS BEEN FORMAL TURNED OVER TO THE OWNER.
- PROPER PROCEDURES AND SAFETY MEASURES SHALL BE TAKEN TO PREVENT ANY WORKER FROM COMING IN CONTACT WITH ANY LIVE ELECTRICAL PARTS.
- ALL FUSES, DISCONNECTS, AND CIRCUIT BREAKERS SHALL BE LEFT IN THE OPEN POSITION DURING CONSTRUCTION OR SHALL BE IN COMPLIANCE WITH THE ELECTRICAL CONTRACTORS SAFETY PROGRAM.

**LABELS:**

- ALL LABELS SHALL BE IN ACCORDANCE WITH THE 2020 NEC AND MEET ALL SAFETY CODES.
- ALL LABELS SHALL BE MADE OF DURABLE AND WATERPROOF MATERIALS.
- LABELS SHALL BE INSTALLED ON THE APPROPRIATE EQUIPMENT. IF SPACE IS LIMITED A NEW LOCATION SHALL BE DISCUSSED WITH THE OWNER AND ENGINEER OR RECORD.
- LABELS SHALL BE SECURELY FASTENED TO THE EQUIPMENT.
- ALL LABELS SHALL BE LEGIBLE, PRINTED, AND OF APPROPRIATE FONT SIZE.
- DANGER LABELS SHALL BE RED, WARNING LABELS SHALL BE ORANGE, AND CAUTION LABELS SHALL BE YELLOW.

**TESTING:**

- ALL TESTING SHALL BE IN COMPLIANCE WITH NETA 2017 ACCEPTANCE TESTING.
- ALL TESTING SHALL BE COMPLETED PRIOR TO ENERGIZING THE SYSTEM.
- A VISUAL INSPECTION SHALL BE PERFORMED ON ALL THE ELECTRICAL EQUIPMENT AND MUST BE DOCUMENTED.
- ELECTRICAL CONTRACTOR TO PERFORM INSULATION RESISTANCE AND CONTINUITY TESTS FOR ALL CONDUCTORS. INSULATION RESISTANCE TEST SHALL NOT TEST LESS THAN 100 MEGOHMS FOR CABLES RATED 600V. TEST VALUES SHALL BE 1000VDC OR AS REQUIRED BY THE MANUFACTURER. TEST SHALL BE IN ACCORDANCE WITH NETA 2017.
- ELECTRICAL CONTRACTOR SHALL VERIFY PROPER PHASE ROTATION ONCE THE SITE IS ENERGIZED.
- CHARGING SYSTEM SHALL BE ENERGIZED BY A CERTIFIED REPRESENTATIVE UNLESS PRIOR NOTICE FROM THE MANUFACTURER HAS BEEN PROVIDED STATING THE ELECTRICAL CONTRACTOR CAN COMMISSION AND START UP THE SYSTEM.
- ALL TEST RESULTS AND DOCUMENTATION SHALL BE PROVIDED TO THE OWNER AND ENGINEER OR RECORD FOR APPROVAL PRIOR TO THE SITE BEING ENERGIZED.

**GROUNDING:**

- ALL GROUNDING SHALL BE IN COMPLIANCE WITH THE 2020 NEC ARTICLE 250.
- ALL GROUNDING SHALL BE LISTED FOR ITS PURPOSE.
- GROUND RODS, IF REQUIRED, SHALL HAS A MINIMUM DIAMETER OF 5/8 INCH AND HAVE A MINIMUM LENGTH OF 8 FEET. GROUND RODS SHALL BE COPPER COATED WITH A HIGH STRENGTH STEEL CORE.
- USE IRREVERSIBLE CRIMP FOR PERMANENTLY CONCEALED AND INACCESSIBLE CONNECTIONS.
- EQUIPMENT GROUNDING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AS WELL AS THE NEC.
- GROUND ALL EXPOSED NON-CURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, RACEWAY SYSTEMS, AND EQUIPMENT STRUCTURES IN ACCORDANCE WITH THE NEC, STATE, AND OTHER APPLICABLE LAWS AND REGULATIONS.
- ELECTRICAL CONTRACTOR SHALL TEST THE GROUNDING ELECTRODE SYSTEM TO ENSURE THAT THE GROUND RESISTANCE IS LESS THAN 25 OHMS. AN EARTH RESISTANCE TESTER SHALL BE USED FOR THIS TEST. TEST RESULTS TO BE SUBMITTED TO THE OWNER AND ENGINEER OF RECORD FOR REVIEW AND APPROVAL.

**WIRE AND CABLE**

**LOW VOLTAGE (AC)**

- ALL LOW VOLTAGE CABLES SHALL BE 75°C AND HAVE A MINIMUM 600V RATING.
- CABLES SHALL BE RATED FOR THE SYSTEM VOLTAGE.
- ALL CABLES SHALL BE LISTED FOR WET LOCATIONS.
- ALL CABLES SHALL BE LISTED FOR THEIR INTENDED USE.
- ALL CONDUCTORS SHALL BE INSTALLED NEATLY AND DRESSED INTO THE EQUIPMENT SO THAT THEY DO NOT OBSTRUCT OR PREVENT OPERATION OF THE EQUIPMENT. CABLE TIES SHALL BE USED TO SECURE THE CONDUCTORS.
- ALL EXPOSED CABLES SHALL BE UV RESISTANT AND OUTDOOR RATED.
- CONDUCTORS SHALL BE SIZED FOR THE AMPACITY OF THE CIRCUIT. THESE VALUES SHALL BE DETERMINED USING THE NEC.
- CONDUITS SHALL BE FREE OF ANY DEBRIS PRIOR TO PULLING THE CABLES. ALL CABLES SHALL BE PULLED USING THE PROPER PULLING LUBRICANTS. LUBRICANTS SHALL NOT BE DESTRUCTIVE TO THE OUTER JACKET OF THE CABLE. THE PULLING LUBRICANT SHALL BE CONFIRMED WITH THE CABLE MANUFACTURER THAT IT IS APPROVED FOR USE.
- IRREVERSIBLE, TWO HOLE, LONG BARREL, DOUBLE CRIMPED LUGS SHALL BE USED ON ALL LOW VOLTAGE TERMINATIONS. IF A TWO HOLE LUG CANNOT BE INSTALLED SINGLE HOLE LUGS CAN BE USED WITH THE PERMISSION OF THE ENGINEER OF RECORD.
- TERMINATIONS THAT ARE SUPPLIED WITH THE MANUFACTURED EQUIPMENT SHALL BE USED AND PROPER TORQUE VALUES MUST BE FOLLOWED.
- ALL ELECTRICAL CONNECTIONS SHALL BE TORQUE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. IF THE MANUFACTURER DOES NOT HAVE RECOMMENDATIONS STANDARD INDUSTRY PRACTICE SHOULD BE FOLLOWED FOR TORQUE VALUES.
- DOCUMENTATION SHALL BE PROVIDED DETAILING THE TORQUE VALUES OF THE ELECTRICAL CONNECTIONS. THESE CONNECTIONS SHALL BE MARKED WITH TORQUE MARKING PAINT OR EQUIVALENT.
- ALL CABLES SHALL BE SUPPORTED WITHIN EQUIPMENT TO PROPERLY DISTRIBUTE THE WEIGHT OF THE CABLES AND TO PREVENT STRESS ON THE TERMINATION POINTS.
- SPLICING OF ANY WIRES IS NOT ALLOWED UNLESS APPROVED BY THE OWNER AND ENGINEER OF RECORD.
- ALL WIRING SHALL BE FACTORY COLOR CODED. OTHERWISE FEEDER AND BRANCH CIRCUIT CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:

208V	PHASE	480V	PHASE
BLACK	A	BROWN	A
RED	B	ORANGE	B
BLUE	C	YELLOW	C
WHITE	NEUTRAL	WHITE	NEUTRAL
GREEN	GROUND	GREEN	GROUND

- THE WIRE SIZE IS BASED ON THE ESTIMATED CONDUCTOR LENGTH AS SHOWN IN THIS DRAWINGS SET. SHOULD THE CONDUIT ROUTING CHANGE AND THE OVERALL LENGTH INCREASED, THE CONDUIT AND WIRE MAY NEED TO BE RESIZED TO MAINTAIN THE DESIGN VOLTAGE DROP. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD PRIOR TO MAKING ANY FIELD CHANGES.
- SUFFICIENT LENGTH OF CABLE SHALL BE PROVIDED TO FACILITATE REPLACEMENTS IF A REPLACEMENT IS NEEDED.

**LOW VOLTAGE (DC)**

- ALL LOW VOLTAGE CABLES SHALL BE 75°C AND HAVE A MINIMUM 1500V RATING.
- CABLES SHALL BE RATED FOR THE SYSTEM VOLTAGE.
- ALL CABLES SHALL BE LISTED FOR WET LOCATIONS.
- ALL CABLES SHALL BE LISTED FOR THEIR INTENDED USE.
- ALL CONDUCTORS SHALL BE INSTALLED NEATLY AND DRESSED INTO THE EQUIPMENT SO THAT THEY DO NOT OBSTRUCT OR PREVENT OPERATION OF THE EQUIPMENT. CABLE TIES SHALL BE USED TO SECURE THE CONDUCTORS.
- ALL EXPOSED CABLES SHALL BE UV RESISTANT AND OUTDOOR RATED.
- CONDUCTORS SHALL BE SIZED FOR THE AMPACITY OF THE CIRCUIT. THESE VALUES SHALL BE DETERMINED USING THE NEC.
- CONDUITS SHALL BE FREE OF ANY DEBRIS PRIOR TO PULLING THE CABLES. ALL CABLES SHALL BE PULLED USING THE PROPER PULLING LUBRICANTS. LUBRICANTS SHALL NOT BE DESTRUCTIVE TO THE OUTER JACKET OF THE CABLE. THE PULLING LUBRICANT SHALL BE CONFIRMED WITH THE CABLE MANUFACTURER THAT IT IS APPROVED FOR USE.
- IRREVERSIBLE, TWO HOLE, LONG BARREL, DOUBLE CRIMPED LUGS SHALL BE USED ON ALL LOW VOLTAGE TERMINATIONS. IF A TWO HOLE LUG CANNOT BE INSTALLED SINGLE HOLE LUGS CAN BE USED WITH THE PERMISSION OF THE ENGINEER OF RECORD.
- TERMINATIONS THAT ARE SUPPLIED WITH THE MANUFACTURED EQUIPMENT SHALL BE USED AND PROPER TORQUE VALUES MUST BE FOLLOWED.
- ALL ELECTRICAL CONNECTIONS SHALL BE TORQUE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. IF THE MANUFACTURER DOES NOT HAVE RECOMMENDATIONS STANDARD INDUSTRY PRACTICE SHOULD BE FOLLOWED FOR TORQUE VALUES.
- DOCUMENTATION SHALL BE PROVIDED DETAILING THE TORQUE VALUES OF THE ELECTRICAL CONNECTIONS. THESE CONNECTIONS SHALL BE MARKED WITH TORQUE MARKING PAINT OR EQUIVALENT.
- ALL CABLES SHALL BE SUPPORTED WITHIN EQUIPMENT TO PROPERLY DISTRIBUTE THE WEIGHT OF THE CABLES AND TO PREVENT STRESS ON THE TERMINATION POINTS.
- SPLICING OF ANY WIRES IS NOT ALLOWED UNLESS APPROVED BY THE OWNER AND ENGINEER OF RECORD.
- DC WIRING SHALL BE RED FOR POSITIVE, BLACK FOR NEGATIVE, AND GREEN FOR GROUND. WIRING SHALL BE MARKED SUNLIGHT RESISTANT.
- THE WIRE SIZE IS BASED ON THE ESTIMATED CONDUCTOR LENGTH AS SHOWN IN THIS DRAWINGS SET. SHOULD THE CONDUIT ROUTING CHANGE AND THE OVERALL LENGTH INCREASED, THE CONDUIT AND WIRE MAY NEED TO BE RESIZED TO MAINTAIN THE DESIGN VOLTAGE DROP. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD PRIOR TO MAKING ANY FIELD CHANGES.
- SUFFICIENT LENGTH OF CABLE SHALL BE PROVIDED TO FACILITATE REPLACEMENTS IF A REPLACEMENT IS NEEDED.

**RACEWAYS:**

- CONDUITS IN THE DRAWING SET ARE SHOWN DIAGRAMMATICAL. THE ELECTRICAL CONTRACTOR SHALL ROUTE THE CONDUITS TO AVOID ANY OBSTRUCTIONS AND MAINTAIN PROPER CLEARANCES.
- ABOVE GROUND CONDUIT SHALL BE GALVANIZED RIGID STEEL CONDUIT, THREADED, MINIMUM 3/4 INCH IN SIZE OR AS NOTED IN THE DRAWING SET.
- USE CONDUIT HUBS OR SEALING LOCKNUTS TO FASTEN CONDUIT TO BOXES IN DAMP AND WET LOCATIONS.
- ALL CONDUIT AND FITTINGS SHALL BE WATER TIGHT. MYERS HUBS SHALL BE USED FOR CONDUIT ENTRY INTO METAL ENCLOSURES.
- SUPPORT CONDUIT USING STEEL OR MALLEABLE IRON SINGLE OR DOUBLE HOLE CONDUIT STRAPS, LAY-IN ADJUSTABLE HANGERS, CLEVIS HANGERS AND SPLIT HANGERS AS REQUIRED. DISTANCE BETWEEN SUPPORTS SHALL BE IN COMPLIANCE WITH THE NEC AND MANUFACTURER'S RECOMMENDATIONS.
- EXPANSION FITTINGS SHALL BE PROVIDED AS REQUIRED PER THE NEC OR AS NOTED IN THE DRAWING SET.
- ALL CONDUITS SHALL BE INSTALLED AT THE DEPTHS SHOWN IN DRAWINGS. IF FIELD CONDITIONS DO NOT ALLOW DEPTHS AS SHOWN, CONTRACTOR SHALL FOLLOW NEC TABLE 300.5.
- ALL METALLIC CONNECTORS AND FITTINGS SHALL BE NON-CORRODING (PVC, ALUMINUM, STAINLESS STEEL OR GALVANIZED STEEL).
- CONDUIT BENDING SHALL NOT DAMAGE THE RACEWAY OR SIGNIFICANTLY CHANGE THE INTERNAL DIAMETER OF RACEWAY.
- CONDUIT RUNS SHALL NOT EXCEED 360 DEGREES OF BENDS.
- ALL FIELD CUT CONDUITS SHALL BE CUT SQUARE AND DEBURRED TO PREVENT DAMAGE TO THE CABLES.
- ALL CONDUITS SHALL BE FREE OF ANY OBSTRUCTIONS BEFORE WIRE IS PULLED. ALL SPARE CONDUITS SHALL HAVE PULL STRINGS INSTALLED.
- ALL JUNCTION BOXES, DISCONNECTS, AND EQUIPMENT SHALL BE PROVIDED WITH PAD LOCKING PROVISIONS.
- ALL CONDUIT THAT HAS BEEN CUT AND THREADED SHALL BE CLEANED AND COATED WITH A ZINC RICH GALVANIZING COMPOUND.
- ALL CONDUITS SHALL BE SEALED USING DUCT SEAL OR AN APPROVED SPRAY FOAM.
- WHERE WIRE AND CABLE ROUTING IS NOT SHOWN, AND DESTINATION ONLY IS INDICATED, CONTRACTOR SHALL DETERMINE EXACT ROUTING AND LENGTHS REQUIRED. A SHOP DRAWING OF PROPOSAL INSTALLATION SHALL BE SUPPLIED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- CONDUIT SHALL BE FASTEN SECURELY IN PLACE. CONDUITS SHALL BE RUN AT RIGHT ANGLES AND IN PARALLEL LINES.

**EQUIPMENT:**

- ALL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS AND SHALL MAINTAIN PROPER CLEARANCES FROM ANY OTHER EQUIPMENT.
- ALL EQUIPMENT SHALL BE MOUNTED LEVEL AND PLUMB.
- EQUIPMENT SHALL BE ANCHORED USING HILTI DROP IN ANCHORS OR APPROVED EQUALS OR AS DIRECTED BY THE MANUFACTURER.
- DISCONNECTS SHALL BE MOUNTED USING UNISTRUT AND ASSOCIATED HARDWARE OR WALL ANCHORS.
- ALL OUTDOOR EQUIPMENT SHALL BE NEMA 3R OR BETTER.

PROJECT  
**RIPTA BROAD CITY LINE STOP  
 ELECTRIC BUS CHARGING STATION**  
 1533 BROAD STREET CRANSTON, RHODE ISLAND

**DRAFT  
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 CONSTRUCTION**

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 AUTHORITY**

**LIG Consultants**  
 a division of GM2

DRAWING TITLE		REVISIONS		BY
ELECTRICAL NOTES		NO.	DATE	AMM
		A	4/29/22	AMM
		B	6/6/22	AMM

PROJECT NO.: 40832

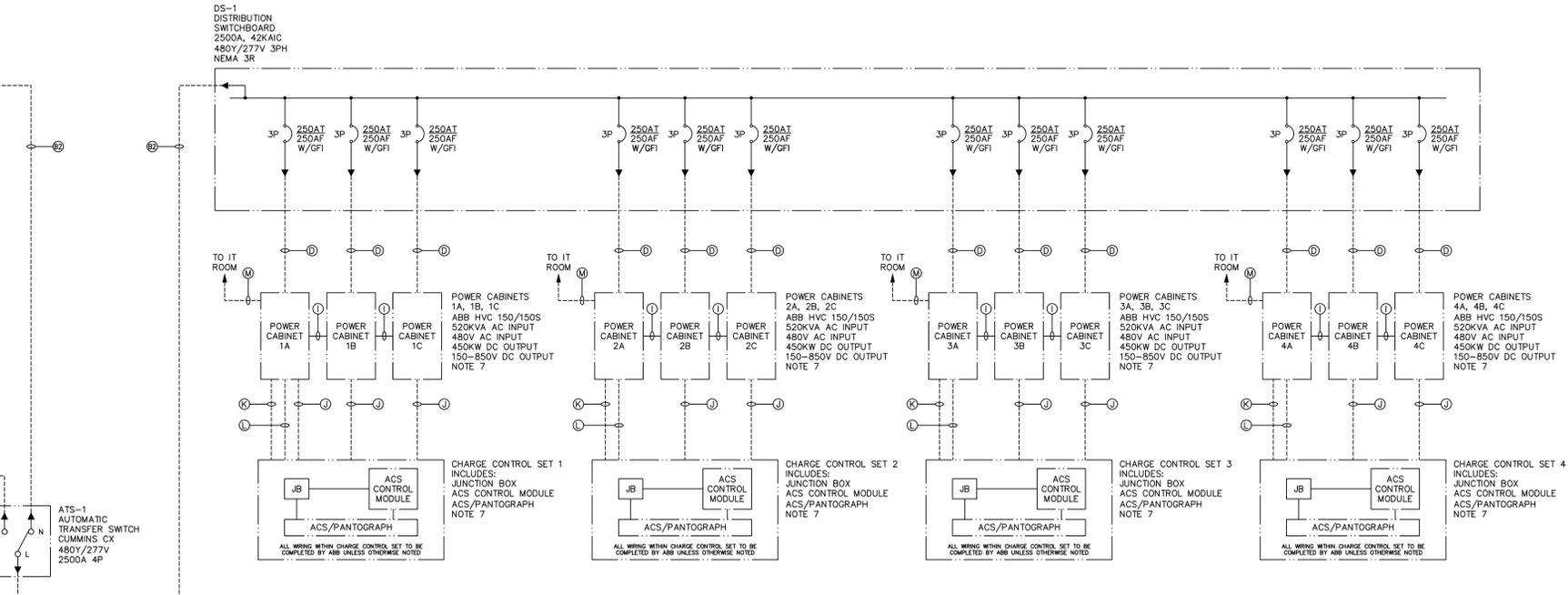
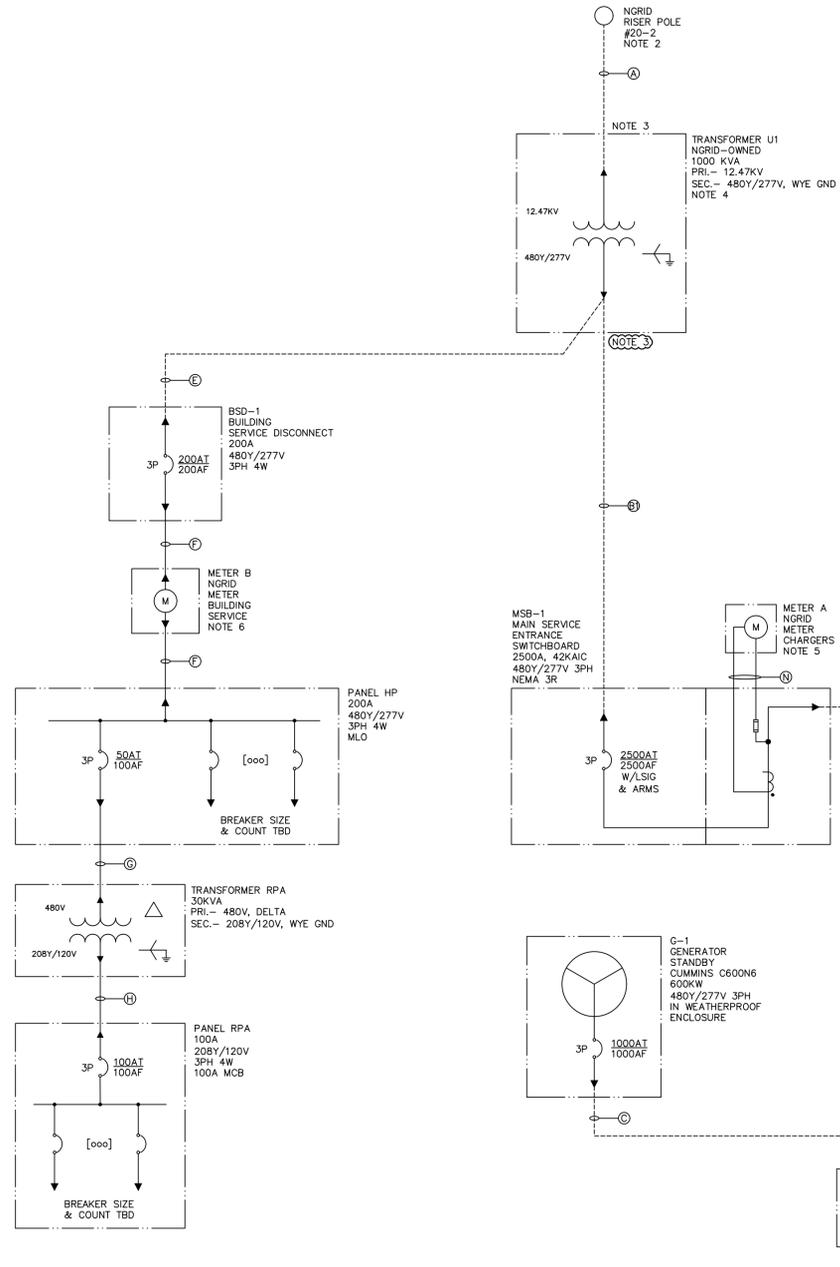
DATE: MAY 2022

SCALE: NTS

DRAWN BY: AMM

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DRAWING NUMBER  
**E-001**  
 SHEET 1 OF 1



CABLE AND CONDUIT SCHEDULE				
ID	VOLTAGE	SETS	CABLE	CONDUIT
A	15KV	2	CABLE SIZED & INSTALLED BY NGRID	2-4" PVC CONCRETE ENCASED
B1	600V	6	(4) 600 KCMIL CU, (1) 350 KCMIL AWG CU GND	6-4" PVC
B2	600V	6	(4) 600 KCMIL CU, (1) 350 KCMIL AWG CU GND	6-4" PVC
C	600V	3	(4) 400 KCMIL CU, (1) #2/0 AWG CU GND	3-3" PVC
D	600V	1	(3) 250 KCMIL CU, (1) 4 KCMIL CU GND	1-2 1/2" PVC
E	600V	1	(4) #5/0 AWG CU, (1) #2 AWG CU GND	1-2" PVC
F	600V	1	(4) #3/0 AWG CU, (1) #2 AWG CU GND	1-2" RMC
G	600V	1	(3) #6 AWG, (1) #10 AWG CU GND	1-1" RMC
H	600V	1	(4) #2 AWG, (1) #8 AWG CU GND	1-1 1/4" RMC
I	600V	1	(1) #2 AWG CU GND	1-3/4" PVC
J	1500V	1	(2) 350 KCMIL CU, (1) 350 KCMIL CU GND	1-3" PVC
K	600V	-	AC POWER: (4) #14 AWG CU	1-1/2" PVC
L	600V	-	GROUND: (1) #2 AWG CU INTERLOCK: (2X2) TWISTED PAIR #14 AWG	1-1 1/2" PVC
M	-	-	SPARE FOR FUTURE ETHERNET	1-3/4" PVC
N	-	-	FOR NGRID METERING USE	1-1 1/2" RMC

- NOTES:**
- ALL NGRID-RELATED INSTALLATION WORK SHALL BE IN ACCORDANCE WITH NGRID ESB 759B.
  - CONTRACTOR TO INSTALL RISER ON NGRID POLE. SEE NGRID ESB 759B SECTION 17 FOR ADDITIONAL DETAIL.
  - NGRID TO INSTALL AND TERMINATE PRIMARY CABLES ON TRANSFORMER U1. CONTRACTOR-INSTALLED CONDUIT. CONTRACTOR TO INSTALL SECONDARY CONDUIT AND CABLE. SEE NGRID ESB 759B SECTION 20, 21, 22, & 30 FOR ADDITIONAL DETAIL.
  - NEW PADMOUNT TRANSFORMER TO BE INSTALLED BY NGRID. CONTRACTOR TO INSTALL PAD AND GROUNDING. SEE NGRID ESB 759B SECTIONS 12, 14, & 15 AND FIGURE 27.0-2 FOR ADDITIONAL DETAIL.
  - CHARGING EQUIPMENT METER TO BE INSTALLED BY NGRID. METER SOCKET ENCLOSURE TO BE FURNISHED BY NGRID AND INSTALLED BY CONTRACTOR. CONTRACTOR TO FURNISH AND INSTALL NGRID-APPROVED INSTRUMENT TRANSFORMERS. APPROVAL TO BE OBTAINED FROM NGRID BEFORE PURCHASING INSTRUMENT TRANSFORMERS.
  - BUILDING SERVICE SELF CONTAINED METER TO BE INSTALLED BY NGRID. SELF CONTAINED METER SOCKET ENCLOSURE TO BE FURNISHED AND INSTALLED BY CONTRACTOR. METER SOCKET ENCLOSURE TO MEET REQUIREMENTS OF NGRID ESB 750 SECTION 7.
  - SEE DRAWING E-900 (FUTURE) FOR MANUFACTURER WIRING DIAGRAM.

PROJECT  
**RIPTA BROAD CITY LINE STOP  
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DRAWING TITLE  
**ONLINE DIAGRAM**

NO.	DATE	REVISIONS	BY
A	4/29/22	60% REVIEW/DRAWINGS	AMM
B	6/6/22	90% REVIEW/DRAWINGS	AMM

PROJECT NO.: 40832

DATE: MAY 2022

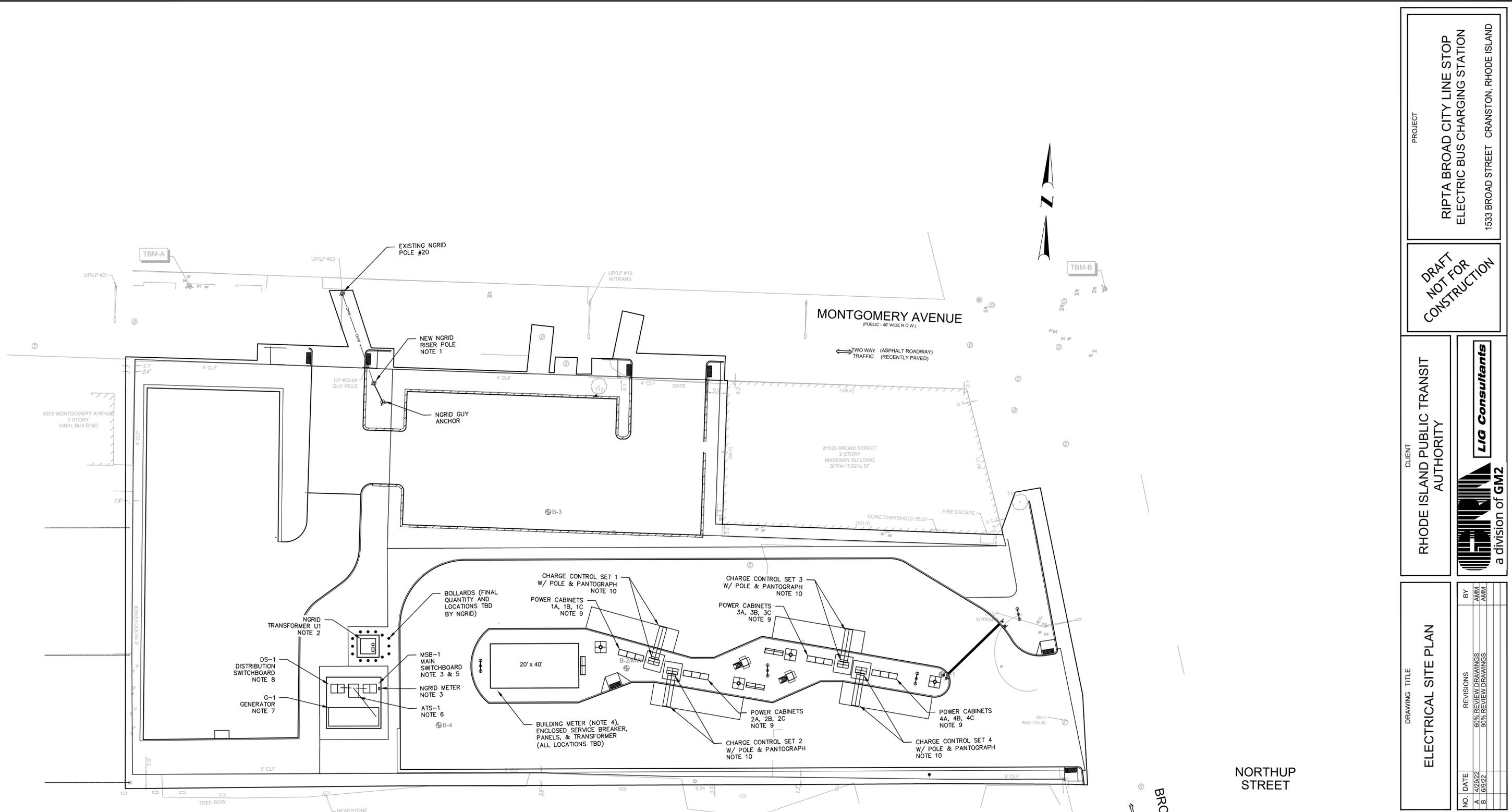
SCALE: NTS

DRAWN BY: AMM

CHECKED BY: AMM

DRAWING NUMBER  
**E-002**

SHEET 1 OF 1



- NOTES**
1. NEW POLE INSTALLED BY NATIONAL GRID. CONTRACTOR TO INSTALL RISER ON NGRID POLE. SEE NGRID ESB 759B SECTION 17 FOR ADDITIONAL DETAIL.
  2. NEW 1000KVA PADMOUNT TRANSFORMER TO BE INSTALLED BY NGRID. CONTRACTOR TO INSTALL PAD AND GROUNDING. SEE NGRID ESB 759B SECTIONS 12, 14, & 15 AND FIGURE 27.0-2 FOR ADDITIONAL DETAIL.
  3. CHARGING EQUIPMENT METER TO BE INSTALLED BY NGRID. METER SOCKET ENCLOSURE TO BE FURNISHED BY NGRID AND INSTALLED BY CONTRACTOR. CONTRACTOR TO FURNISH AND INSTALL NGRID-APPROVED INSTRUMENT TRANSFORMERS. APPROVAL TO BE OBTAINED FROM NGRID BEFORE PURCHASING INSTRUMENT TRANSFORMERS.
  4. BUILDING SERVICE SELF CONTAINED METER TO BE INSTALLED BY NGRID. SELF CONTAINED METER SOCKET ENCLOSURE TO BE FURNISHED AND INSTALLED BY CONTRACTOR. METER SOCKET ENCLOSURE TO MEET REQUIREMENTS OF NGRID ESB 750 SECTION 7.
  5. MAIN SERVICE ENTRANCE SWITCHBOARD (MSB-1) TO BE 2500A, 42KAIC, 480Y/277V 3PH 4W, NEMA 3R WITH ONE 2500A MAIN BREAKER AND NGRID INSTRUMENT TRANSFORMER METERING SECTION.
  6. AUTOMATIC TRANSFER SWITCH (ATS-1) TO BE 2500A, 4P, 480Y/277V, CUMMINS CX, NEMA 3R ENCLOSURE.
  7. GENERATOR (G-1) TO BE 600KW, 480Y/277V 3PH, IN WEATHERPROOF ENCLOSURE, WITH 1000A OUTPUT BREAKER, CUMMINS C600N6.
  8. DISTRIBUTION SWITCHBOARD (DS-1) TO BE 2500A, 42KAIC, 480Y/277V 3PH 4W, NEMA 3R WITH TWELVE (12) 250A FEEDER BREAKERS.
  9. POWER CABINETS TO BE ABB HVC 150/150S, 520KVA AC TOTAL INPUT, 480V AC INPUT, 450KW DC TOTAL OUTPUT, 150-850V DC OUTPUT.
  10. CHARGE CONTROL SETS TO BE ABB AND INCLUDE JUNCTION BOX, ACS CONTROL MODULE, & ACS/PANTOGRAPH.

PROJECT  
**RIPTA BROAD CITY LINE STOP**  
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DRAWING TITLE  
**ELECTRICAL SITE PLAN**

NO.	DATE	BY	REVISIONS
A	4/29/22	AMM	60% REVIEW DRAWINGS
B	6/6/22	AMM	90% REVIEW DRAWINGS

PROJECT NO.: 40832

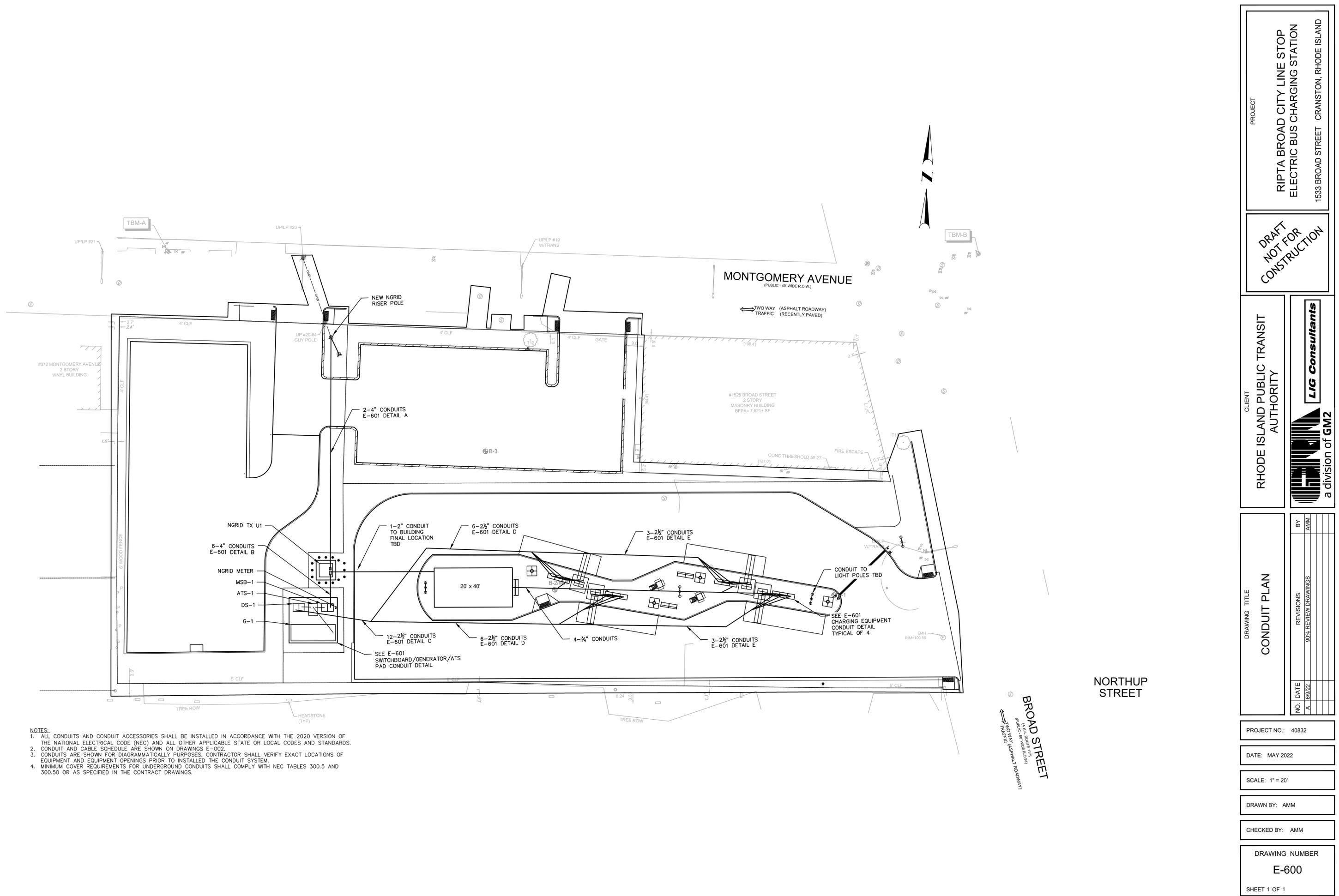
DATE: MAY 2022

SCALE: 1" = 20'

DRAWN BY: AMM

CHECKED BY: AMM

DRAWING NUMBER  
**E-100**  
 SHEET 1 OF 1



- NOTES:**
1. ALL CONDUITS AND CONDUIT ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH THE 2020 VERSION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE STATE OR LOCAL CODES AND STANDARDS.
  2. CONDUIT AND CABLE SCHEDULE ARE SHOWN ON DRAWINGS E-002.
  3. CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF EQUIPMENT AND EQUIPMENT OPENINGS PRIOR TO INSTALLING THE CONDUIT SYSTEM.
  4. MINIMUM COVER REQUIREMENTS FOR UNDERGROUND CONDUITS SHALL COMPLY WITH NEC TABLES 300.5 AND 300.50 OR AS SPECIFIED IN THE CONTRACT DRAWINGS.

PROJECT  
**RIPTA BROAD CITY LINE STOP**  
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<b>CONDUIT PLAN</b>		NO.	DATE	AMM
		A	05/02/22	

PROJECT NO.: 40832

DATE: MAY 2022

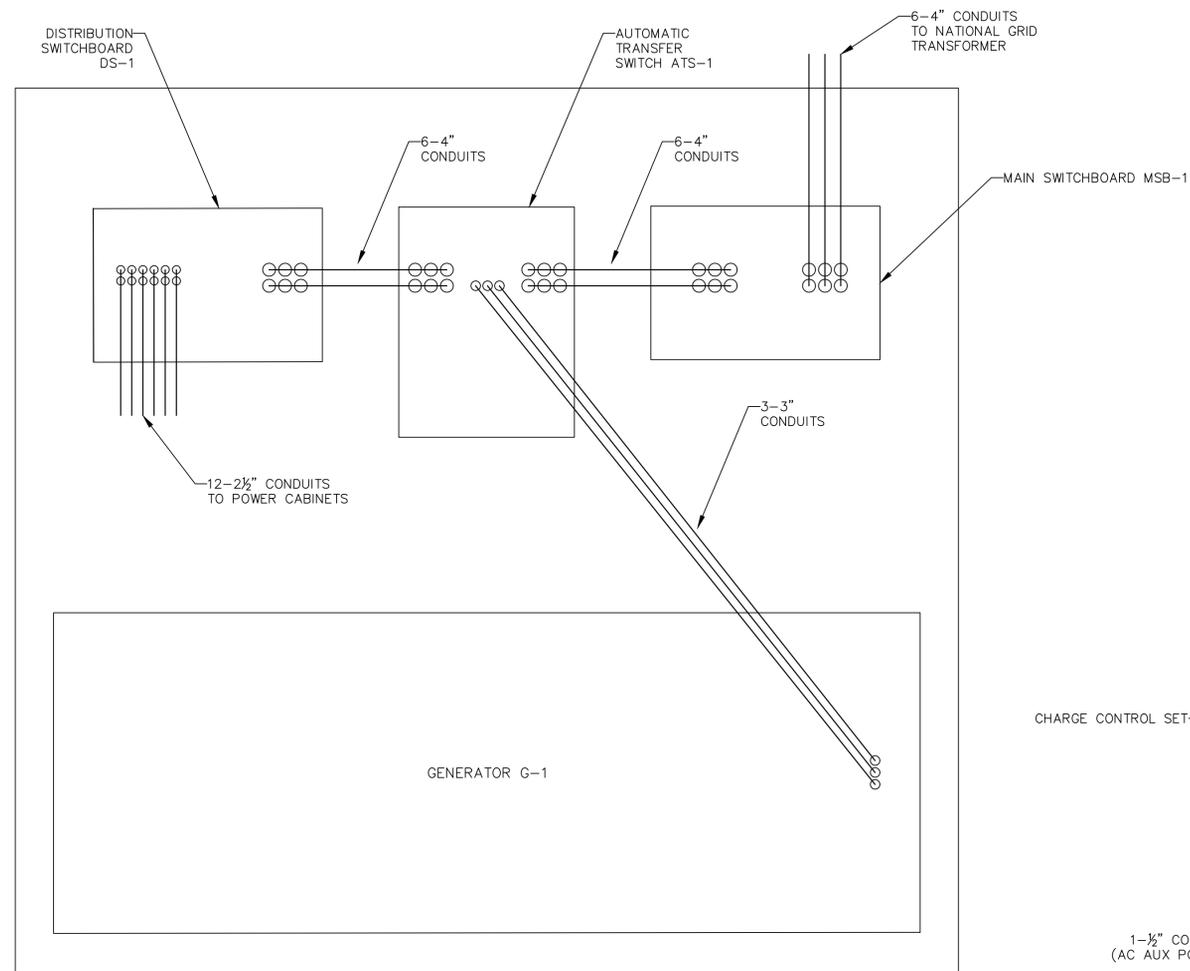
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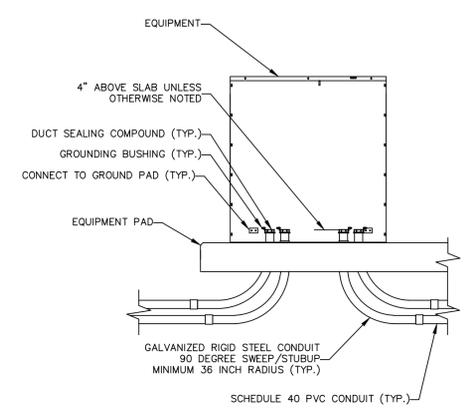
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DRAWING NUMBER  
**E-600**

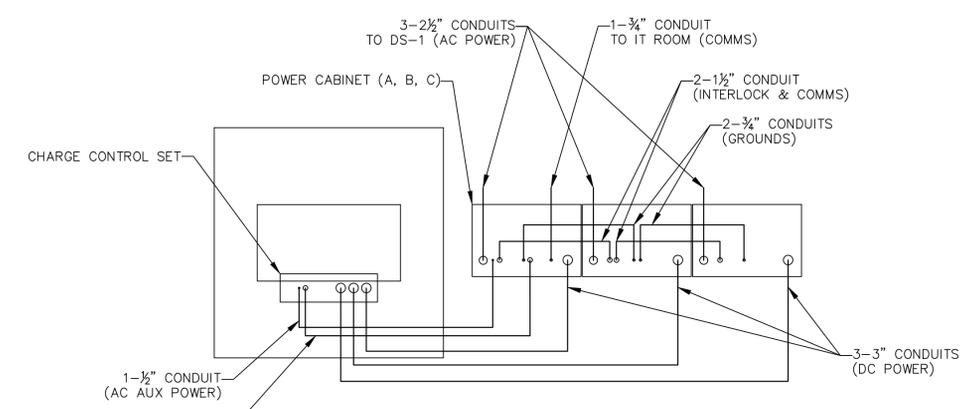
SHEET 1 OF 1



- NOTES:**
1. ALL CONDUITS AND CONDUIT ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT VERSION OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL ELECTRICAL SAFETY CODE (NESC) AND ALL OTHER APPLICABLE STATE OR LOCAL CODES AND STANDARDS.
  2. CONTRACTOR SHALL FURNISH AND INSTALL ALL MISC. CONNECTORS TO PROVIDE A COMPLETE AND OPERABLE SYSTEM. CONTRACTOR SHALL PROVIDE ALL NUTS, BOLTS, WASHERS, UNISTRUT, UNISTRUT FITTINGS AND MISC. HARDWARE FOR INSTALLING EQUIPMENT.
  3. CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF EQUIPMENT AND EQUIPMENT OPENINGS PRIOR TO INSTALLED THE CONDUIT SYSTEM.
  4. ALL HARDWARE AND STRUT FITTINGS SHALL BE HOT DIPPED GALVANIZED (HDG) OR STAINLESS STEEL.
  5. ALL FIELD CUTS ON GALVANIZED STRUT SHALL BE TREATED WITH ZINC RICH PAINT.
  6. CONTRACTOR SHALL MOUNT ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
  7. CONTRACTOR SHALL ENSURE ALL WIRE WAY CONNECTIONS ARE WATER TIGHT PREVENTING THE INGRESS OF MOISTURE.
  8. CONTRACTOR SHALL SUPPORT ALL CABLES AS NECESSARY AT EACH LOCATION TO REDUCE THE MECHANICAL STRESS OF THE ELECTRICAL CONNECTIONS DUE TO THE WEIGHT OF THE CABLES.
  9. SEAL ALL CONDUITS WITH DUCT SEAL COMPOUND/PUTTY.
  10. ABOVE GROUND CONDUIT SHALL BE GALVANIZED RIGID STEEL CONDUIT, THREADED, MINIMUM 3/4 INCH IN SIZE.
  11. ALL 90 DEGREE BENDS SHALL BE GALVANIZED RIGID STEEL (GRS).
  12. ALL 90 DEGREE SWEEPS AND STUBUPS SHALL BE RIGID GALVANIZED STEEL CONDUIT AND HAVE A MINIMUM RADIUS OF 24" UNLESS OTHERWISE NOTED.
  13. ALL CONDUIT STUBUPS THAT ENTER EQUIPMENT ENCLOSURES SHALL HAVE INSULATED GROUNDING BUSHINGS.
  14. MINIMUM COVER REQUIREMENTS SHALL FOR UNDERGROUND CONDUITS SHALL COMPLY WITH NEC TABLES 300.5 AND 300.50 OR AS SPECIFIED IN THE CONTRACT DRAWINGS.
  15. ALL FIELD CUT CONDUITS SHALL BE CLEANED AND DEBURRED TO PREVENT DAMAGE TO CABLES WHEN BEING PULLED. THE CONDUIT THREADS SHALL BE COATED WITH A ZINC RICH GALVANIZING COMPOUND.
  16. ALL CONDUITS SHALL BE FREE OF ANY OBSTRUCTIONS BEFORE WIRE IS PULLED. ALL SPARE CONDUITS SHALL HAVE FULL STRINGS INSTALLED.

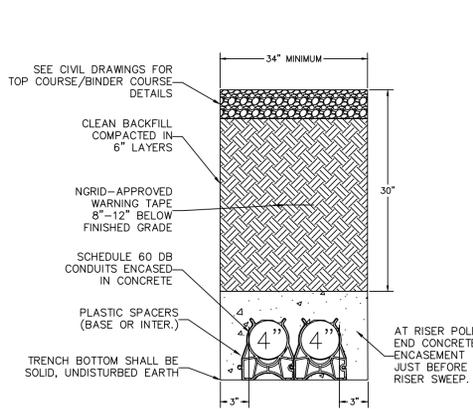


TYPICAL CONDUIT RISER DETAIL  
NOT TO SCALE

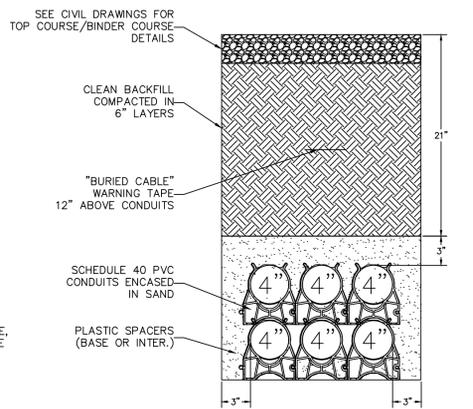


CHARGING EQUIPMENT CONDUIT DETAIL  
NOT TO SCALE

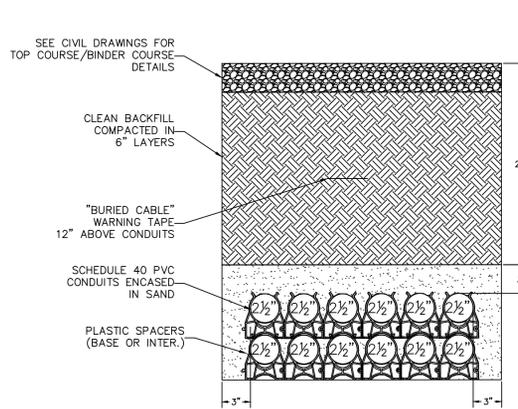
SWITCHBOARD/GENERATOR/ATS PAD CONDUIT DETAIL  
NOT TO SCALE



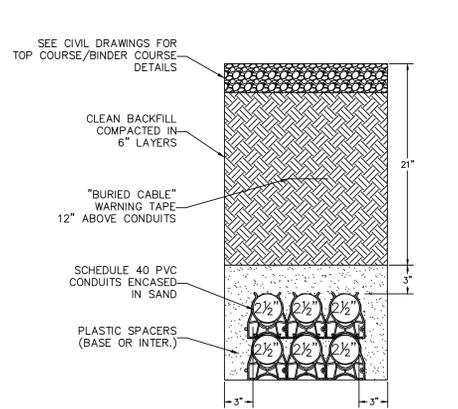
**A** MEDIUM VOLTAGE DUCT BANK  
E-600 NOT TO SCALE



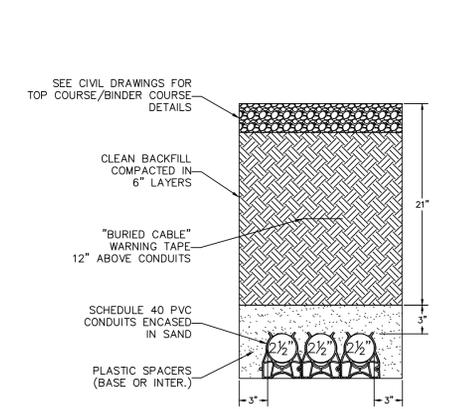
**B** LOW VOLTAGE DUCT BANK  
E-600 NOT TO SCALE



**C** LOW VOLTAGE DUCT BANK  
E-600 NOT TO SCALE



**D** LOW VOLTAGE DUCT BANK  
E-600 NOT TO SCALE



**E** LOW VOLTAGE DUCT BANK  
E-600 NOT TO SCALE

PROJECT  
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ELECTRIC BUS CHARGING STATION**  
1533 BROAD STREET CRANSTON, RHODE ISLAND

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PROJECT NO.: 40832

DATE: MAY 2022

SCALE: NTS

DRAWN BY: AMM

CHECKED BY: AMM

DRAWING NUMBER  
**E-601**

SHEET 1 OF 1

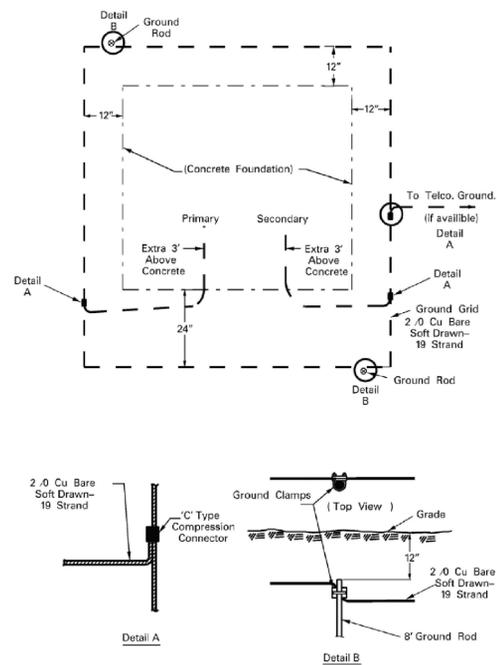
**NOTES:**

1. ALL GROUNDING MATERIAL SHALL BE LISTED FOR THE PURPOSE.
2. ALL GROUNDING AND BONDING SHALL BE PERFORMED IN ACCORDANCE WITH THE 2020 VERSION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE STATE OR LOCAL CODES AND STANDARDS.
3. MANUFACTURERS AND CAT. #'S ARE FOR REFERENCE ONLY. ENGINEER APPROVED EQUALS WILL BE ACCEPTABLE.
4. CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF EQUIPMENT. EQUIPMENT LOCATIONS ARE SHOWN FOR DIAGRAMMATIC PURPOSES ONLY.
5. CONTRACTOR TO INSTALL TRANSFORMER PAD GROUNDING PER APPLICABLE NATIONAL GRID STANDARDS. SEE NGRID ESB 759B SECTION 15 BELOW.

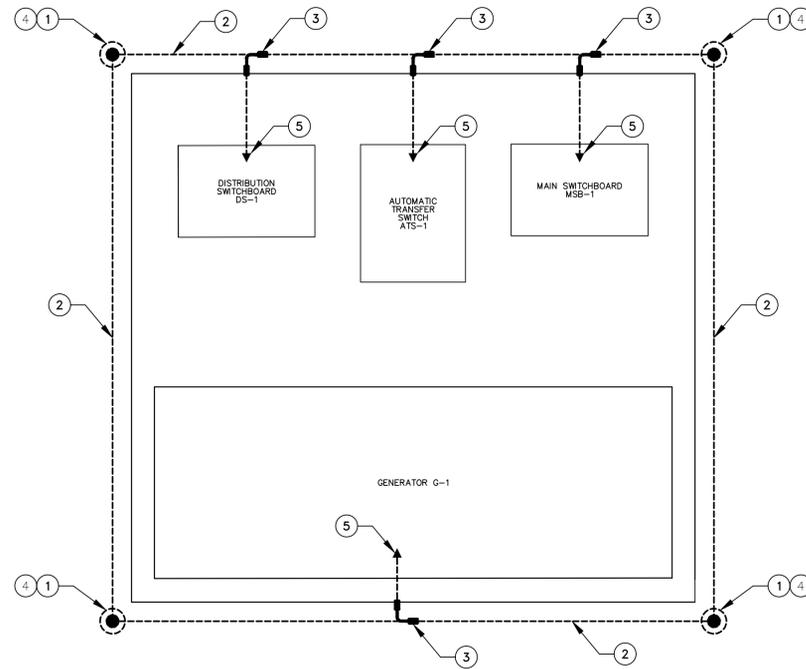
**15.0 Transformer Grounding and Bonding**

The ground grid shall be 2/0, bare, soft drawn, 19 strand copper wire. The wire shall be installed 12 inches below finished grade and located around the transformer pad as shown on page 17. Bond to all exposed metallic conduit and leave 3 feet of wire above pad for grounding transformer, one lead in the primary conduit window opening and the other lead in the secondary conduit window opening.

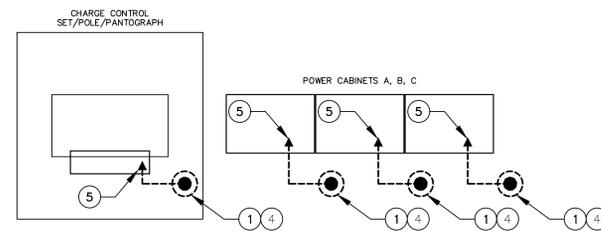
Two 5/8 inch diameter, 8 feet long copper weld ground rods and approved connectors shall be installed to 12" below finished grade. Leave the ground rods and grid exposed until inspected by the Company. The ground grid is to be complete and backfilled prior to energizing the transformer. Connections to ground grid to be made as shown on Details A and B below, except that exothermic welding ("cad weld") shall be an acceptable alternative to a compression connection. Bolted connectors are only acceptable for the ground grid connections to the ground rods. The company will install the ground taps onto the transformer.



**NATIONAL GRID TRANSFORMER GROUNDING**  
NOT TO SCALE



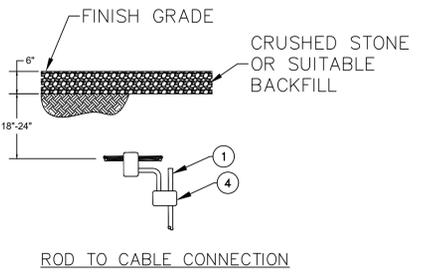
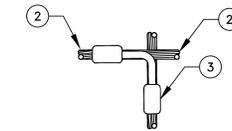
**SWITCHBOARD/GENERATOR/ATS PAD GROUNDING DETAIL**  
NOT TO SCALE



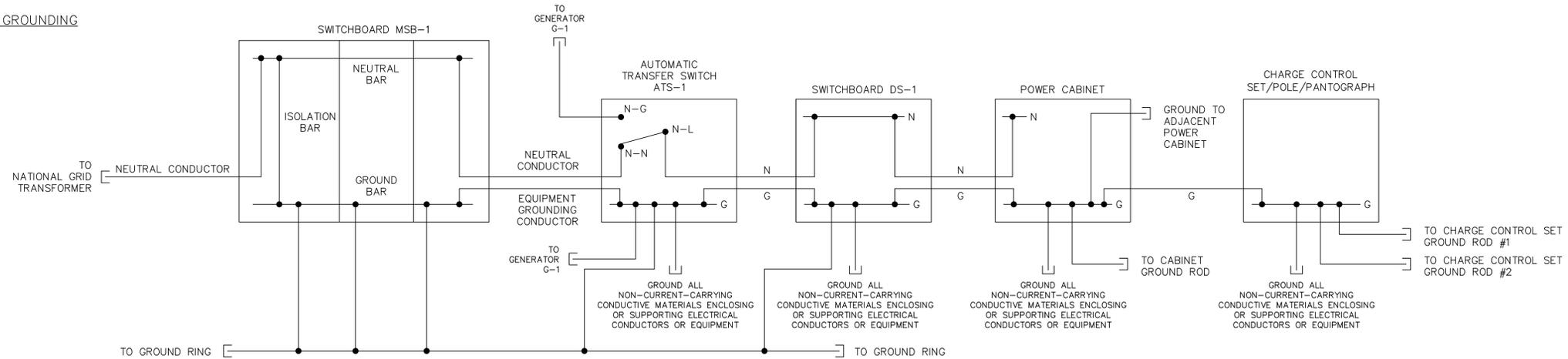
**CHARGING EQUIPMENT GROUNDING DETAIL**  
NOT TO SCALE

**GROUNDING LEGEND**

- #4/0 AWG COPPER, BARE, BURIED 18"-24" BELOW GRADE.
- └─┘ GRID AND PIGTAIL CONNECTION NODES
- ┆ #4/0 AWG COPPER PIGTAIL
- ⊙ 5/8" x 8' COPPER CLAD GROUND ROD



GROUNDING MATERIAL LIST			
ID	MANUFACTURER	CATALOG NUMBER	DESCRIPTION
1	ERICO	615880	5/8" X 8' COPPER CLAD GROUND ROD
2	-----	-----	#4/0 AWG BARE COPPER STRANDED CONDUCTOR
3	BURNDY	YGL29C29	CROSS CONNECTOR CABLE TO CABLE
4	BURNDY	YGLR29C34	GROUND GRID CONNECTOR CABLE TO GROUND ROD
5	BURNDY	YGA28-2N	#4/0 AWG TWO HOLE COMPRESSION CONNECTOR



**TYPICAL SYSTEM GROUNDING DETAIL**  
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DRAWING TITLE  
**GROUNDING DETAILS**

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A	06/02/22	AMM	90% REVIEW DRAWINGS

PROJECT NO.: 40832

DATE: MAY 2022

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DRAWN BY: AMM

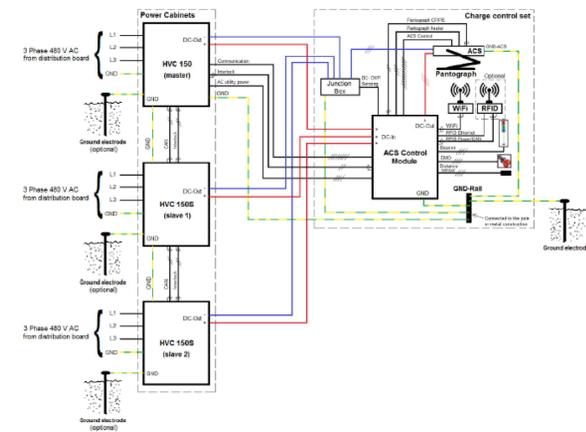
CHECKED BY: AMM

DRAWING NUMBER  
**E-800**

SHEET 1 OF 1



4.4.2. Charge system configuration



4.4.3. AC power cable

- Cable type: 3P+GND (optional shielded).
- The cable shielding must be attached to the GND Rail at both ends of the cable.
- The diameter of the cable conductor must be determined by your contractor.
- The maximum diameter of the cable conductor is 240 mm<sup>2</sup> (= 500 MCM)
- The GND conductor of the power cable must have the same diameter as the phase conductors.

4.4.4. Cables between the Power Cabinets and the ACS Control Module

The following cables are not in the scope of supply of ABB.

- 6x DC power cables,
- 1x DC- OVP Sensing cable (between Junction Box and ACM)
- 1x GND cable,
- 1x AC utility power cable,
- 1x Interlock cable,
- 4x communication cables; 8x glass fiber (4 fibers are required, 4 are for spare).
  - The 8x glass fiber cable is a special cable that will be supplied by ABB.

Revision: 1.3  
Date released: 30-08-2018

COMPANY CONFIDENTIAL  
Page 47 of 128

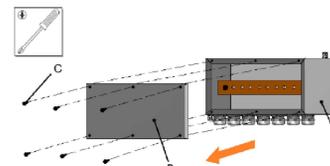


14. Place the protection cover back on the DC contactors.
15. Hand tighten the screws of the protection cover.
16. Tighten the cable gland's nut to secure the DC power cables.

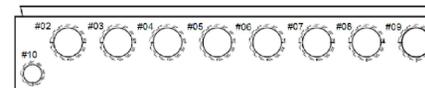
5.16.4. Connect the DC- power in- and output cables in Junction Box

Preconditions:

- Tools: wire cutter, wire stripper pliers, cable lugs (eg. Cembre A48-M12 cable lug, when using 500 MCM cables) (6x), spanner (size 18), torque wrench (size 18), cross-head screwdriver.



1. Loosen the screws (C) (6x) of the Junction Box (A).
2. Remove the cover (B) from the Junction Box (A).



Bottom view

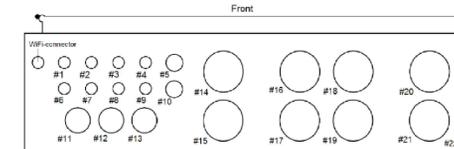
3. Loosen and remove the cable gland's (#03 - #08) nuts for the DC power cables.
4. Slide the cable gland's nuts over the DC power cables.
5. Strip the insulation on the required length specified by the used lug from the end of the DC power cables.
6. Insert the DC- input power cables into the cable gland (#03, #04 and #05, see picture above).

Revision: 1.3  
Date released: 30-08-2018

COMPANY CONFIDENTIAL  
Page 95 of 128



5.16.1. Gland layout of the ACS Control Module

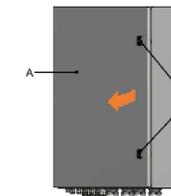


Gland #	Clamping range ØF	Cable
1	5 – 10 mm	AC utility power
2	5 – 10 mm	Pantograph heater
3	5 – 10 mm	Interlock
4	5 – 10 mm	Pantograph CP/PE
5	10 -17 mm	RFID Ethernet
6	5 – 10 mm	EMO switch
7	5 – 10 mm	Beacon
8	5 – 10 mm	Distance sensor
9	5 – 10 mm	Temperature sensor
10	10 -17 mm	RFID Power cable
11	13 – 21 mm	Communication (fibers)
12	13 – 21 mm	ACS Control
13	13 – 21 mm	GND
14	27 – 35 mm	DC+ In (from HVC 150, master)
15	27 – 35 mm	DC+ In (from HVC 150S, slave 1)
16	27 – 35 mm	DC+ Out (to pantograph)
17	27 – 35 mm	DC+ Out (to pantograph)
18	27 – 35 mm	DC+ Out (to pantograph)
19	27 – 35 mm	Not used
20	27 – 35 mm	DC+ In (from HVC 150S, slave 2)
21	27 – 35 mm	Not used
22	10 -17 mm	DC- OVP Sensing

5.16.2. Open the door of the ACS Control Module

Preconditions:

- Key



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COMPANY CONFIDENTIAL  
Page 92 of 128

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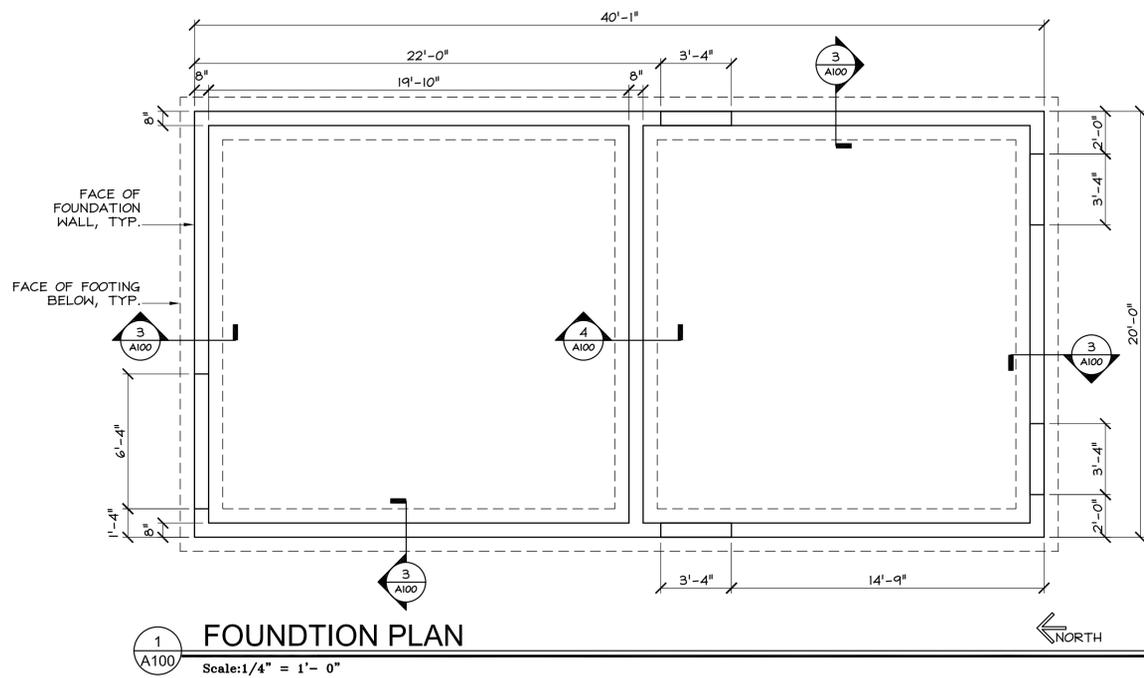
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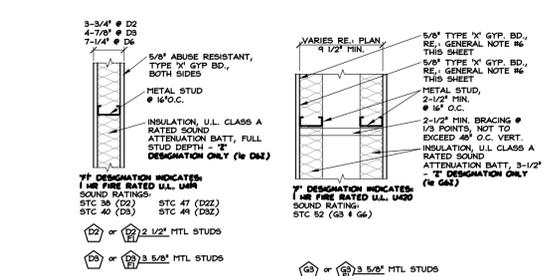
DRAWING NUMBER  
**E-900**

SHEET 1 OF 1

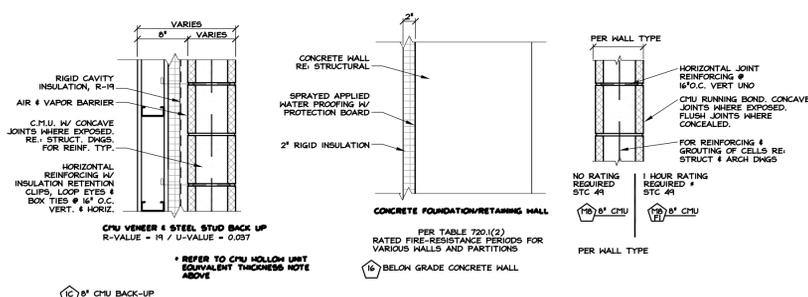
SHEETS PROVIDED FOR REFERENCE ONLY.  
CONTRACTOR SHALL CONSULT WITH ABB FOR LATEST  
INFORMATION. CONTRACTOR SHALL FOLLOW ALL EQUIPMENT  
MANUFACTURER'S RECOMMENDATIONS AND ADHERE TO ALL  
MANUFACTURER'S REQUIREMENTS FOR INSTALLATION.



**1 FOUNDATION PLAN**  
Scale: 1/4" = 1'- 0"



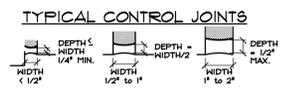
**1 INTERIOR WALL CONSTRUCTION TYPES**  
Scale: 1 1/2" = 1'-0"



**2 EXTERIOR WALL CONSTRUCTION TYPES**  
Scale: 1 1/2" = 1'-0"

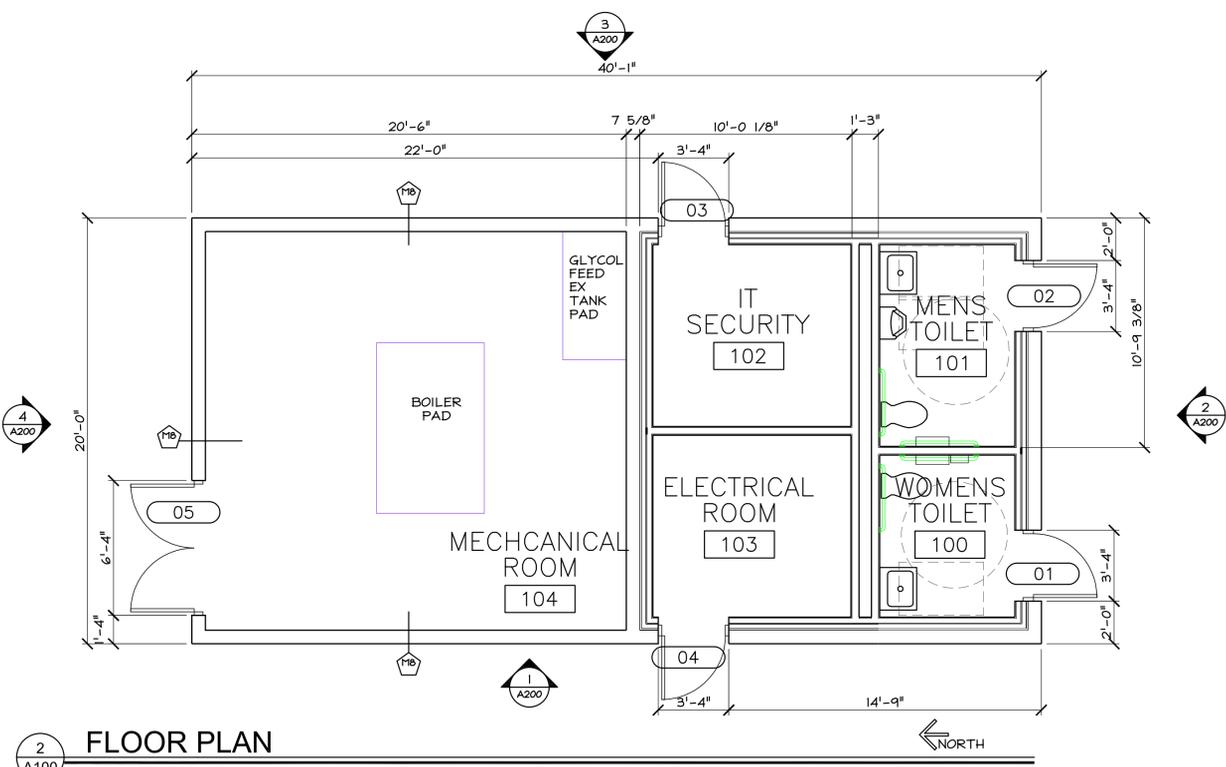
**INTERIOR WALL DESIGNATIONS:**

HALL TYPE STUD/BLOCK SIZE DESIGNATION INDICATES INSULATION PER HALL TYPE DESCRIPTION  
 HALL TYPE DESIGNATION  
 "F" DESIGNATION INDICATES FIRE RATED ASSEMBLY RATED ASSEMBLY  
 "M" INDICATES MASONRY WALL  
 EXAMPLE - HALL TYPE "M4" "A" - MASONRY WALL "4" - CMU THICKNESS  
 "2" - STUD THICKNESS  
 METAL STUDS 2 = 2 1/2" STUDS 3 = 3 5/8" STUDS  
 MASONRY WALLS 8" = 8" BLOCK



**GENERAL NOTES:**

- ALL GYPSUM SHEATHING AND/OR HALL BOARD IS TYPE 'X'.
- PROVIDE METAL STUD GAUGE AS RECOMMENDED BY STUD MFG. FOR HALL LIVE LOAD OF 5 psf FOR HEIGHT OF THE UNBRACED WALL VERTICAL SPAN. MAXIMUM DEFLECTION 1/360 OF THE SPAN.
- FOR NON-LOAD BEARING WALLS THAT SEAL TO ROOF STRUCTURE ABOVE, PROVIDE SUITABLE STUD TRACK TO ALLOW FOR MINIMUM ROOF DEFLECTION OF 1" WITHOUT TRANSFERRING LOAD TO METAL STUDS RE. STRUCTURAL DWGS FOR MORE STRINGENT DEFLECTION INFORMATION (NOT REQUIRED @ PERIMETER EXTERIOR WALLS UNLESS NOTED OTHERWISE).
- HOLD BOTTOM OF GNB @ 1/4" ABOVE CONCRETE FLOOR TYPICAL (TO PREVENT MOISTURE MICKING)
- PROVIDE TYPE 'X' MOISTURE RESISTANT GYPSUM HALL BOARD AT ALL TOILET ROOMS, SPRINKLER ROOMS AND JANITOR CLOSETS UNLESS NOTED OTHERWISE.
- ALL WALLS WITHIN THE SHOWER STALL TO RECEIVE CEMENT BOARD.
- PROVIDE FIRE RATED CAULKING AT TOP OF ALL FIRE RATED WALLS THAT SEAL TO UNDERSIDE OF STRUCTURE. (i.e. BETWEEN METAL DECK FLUTES.)
- ALL EXPOSED INTERIOR MASONRY WALLS TO HAVE 1" BULLNOSE CORNERS @ EXTERIOR CORNERS AND WINDOW/DOOR JAMB'S UNLESS NOTED OTHERWISE.
- STC RATINGS FOR HALL CONSTRUCTION TYPES ARE BASED ON USG CORPORATION SELECTOR GUIDE TO SOUND-RATED PARTITIONS (SA100).
- ALL HALL SYSTEM "R" & "U" WALLS ARE BASED ON:  
 -4" METAL STUD  
 -8" NORMAL HEIGHT CMU  
 -8" NORMAL HEIGHT CONCRETE
- AT ALL WALLS DESIGNATED WITH SOUND ATTENUATION BATT - GYP BD TO EXTEND TO UNDERSIDE OF STRUCTURE. PROVIDE SEALANT AT INTERSECTION OF GYP BD AND STRUCTURE.



**2 FLOOR PLAN**  
Scale: 1/4" = 1'- 0"

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E-mail: rgbinfo@rgb.net  
www.rgb.net



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Project

RIPTA  
BUS HUB REST ROOM



BROAD CITY LINE  
Cranston, RI

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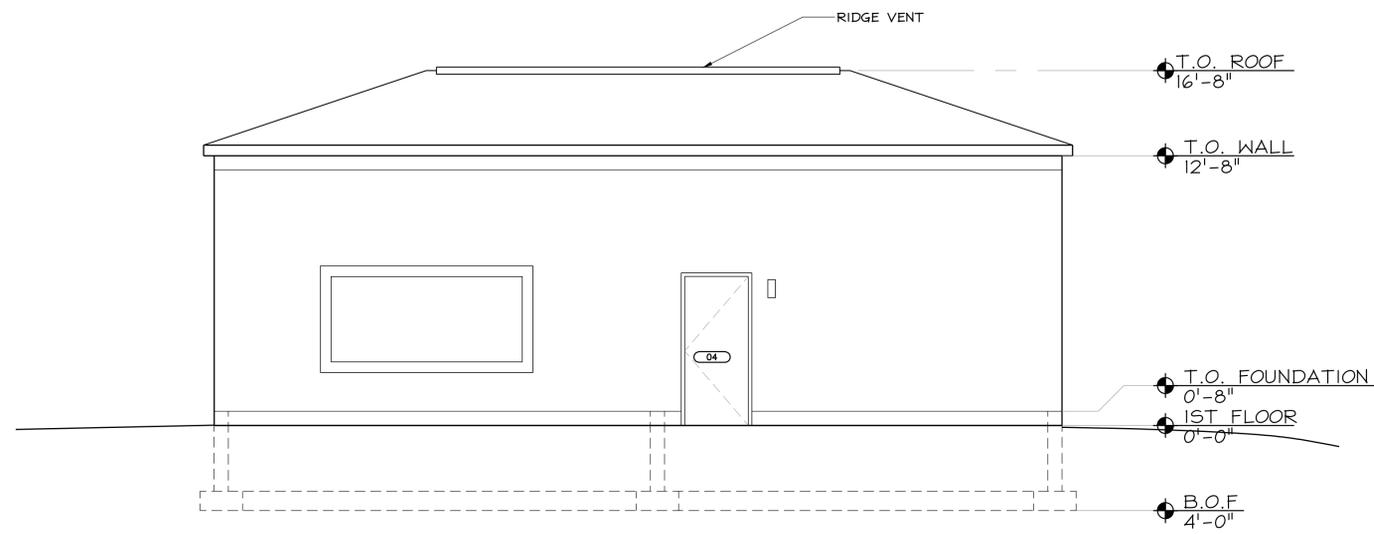
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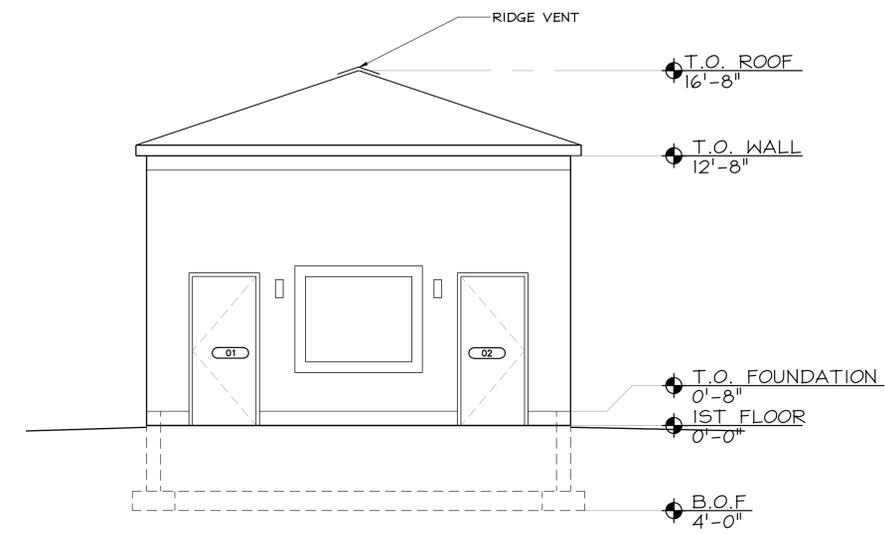
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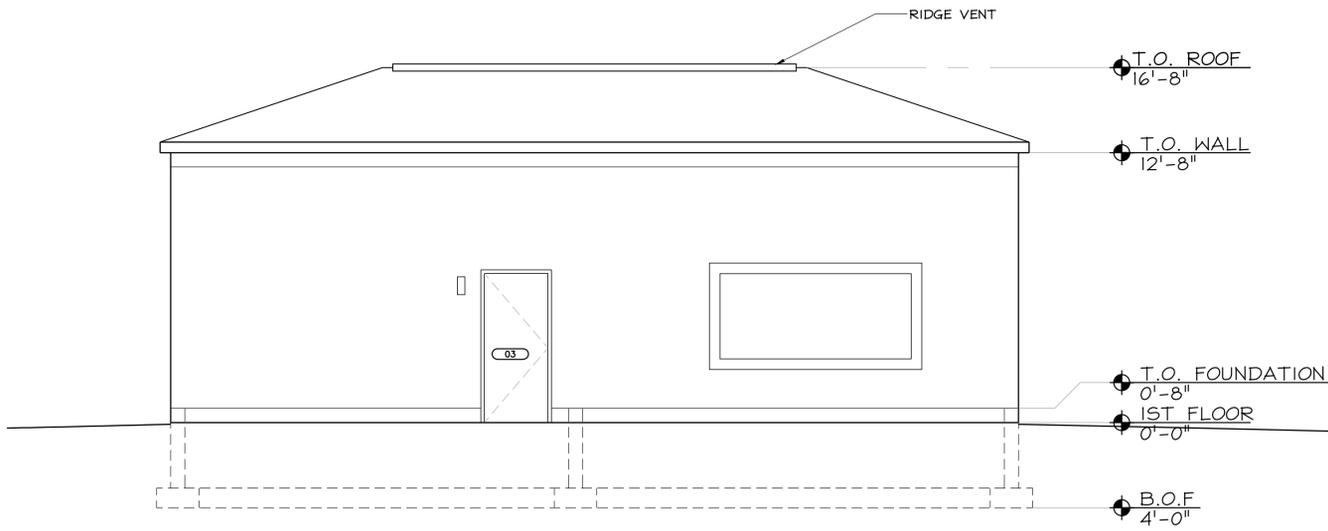
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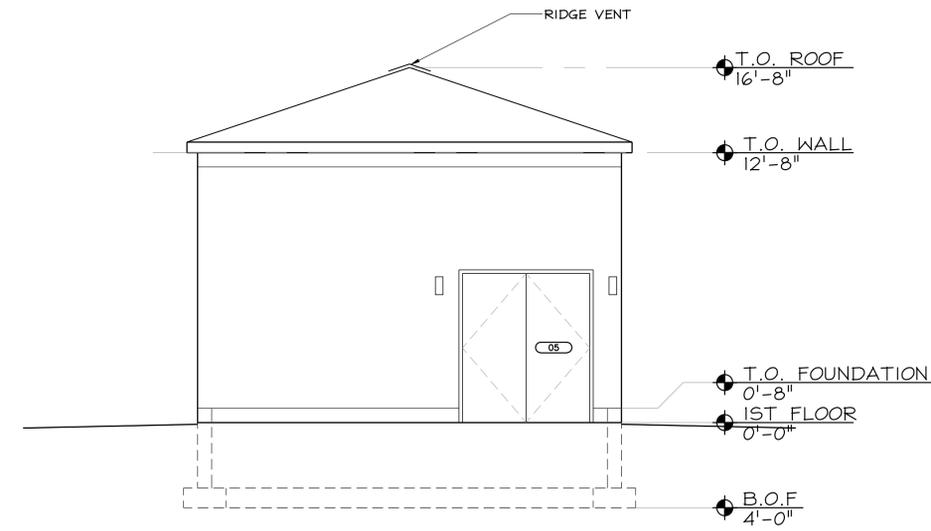
1 WEST ELEVATION  
Scale: 1/4" = 1'-0"



2 NORTH ELEVATION  
Scale: 1/4" = 1'-0"



3 EAST ELEVATION  
Scale: 1/4" = 1'-0"



4 SOUTH ELEVATION  
Scale: 1/4" = 1'-0"

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