# REMEDIAL ACTION

**CONTRACT DRAWINGS** 

# FOR WEST SIDE CORP. SITE OPERABLE UNIT 2 JAMAICA, NEW YORK NYSDEC SITE 241026 CONTRACT D009803, WA #14



Department of Environmental Conservation

### **Prepared for:**

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 Broadway, Albany, New York 12233

**Basil Seggos, Acting Commissioner** 

**DIVISION OF ENVIRONMENTAL REMEDIATION** 

JULY 2020
AECOM

257 West Genesee Street, Suite 400 Buffalo, New York 14202 (716)856-5636 phone - (716)856-2545 fax

New York

NEW YORK STATE OF OPPORTUNITY

Department of Environmental Conservation

JECT NAME:

# WEST SIDE CORP. SITE OPERABLE UNIT 2 JAMAICA, NY

CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202

Seal and Signature



REV. NO. DATE: REVISION:

Owner's Information:

NEW YORK STATE DEPARTMENT

OF ENVIRONMENTAL CONSERVATION
625 Broadway, Albany, New York 12233

Sheet title:

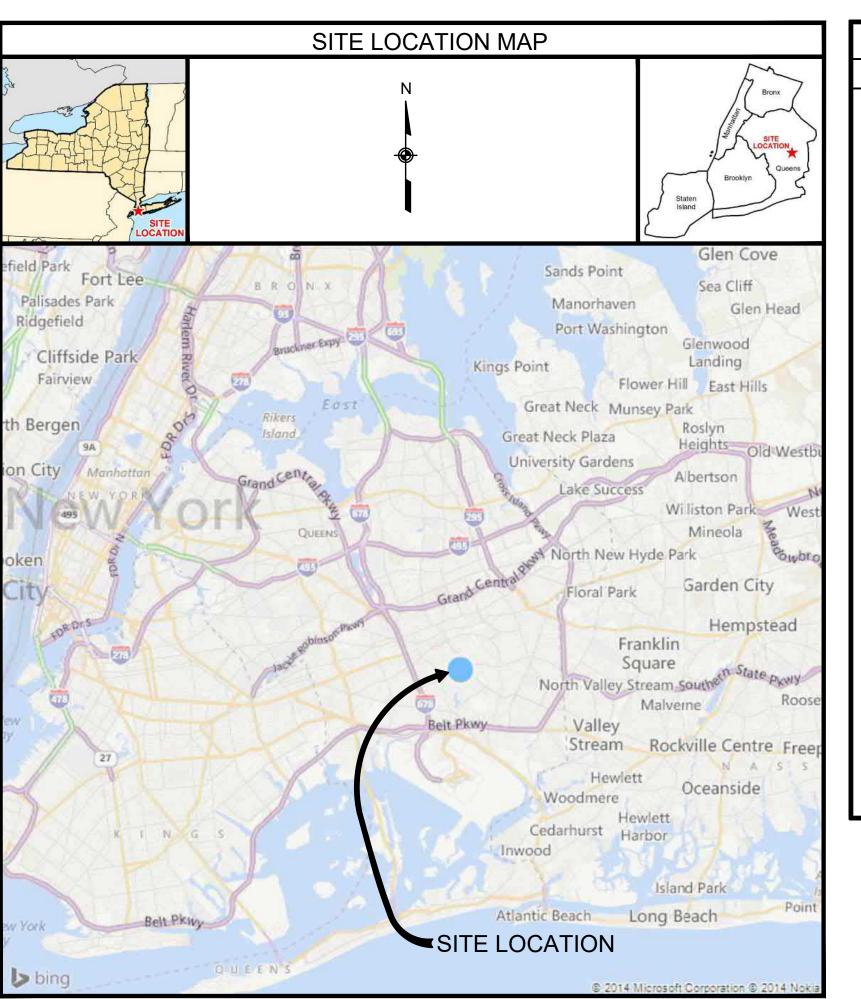
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Scale: NONE

Date: JULY 2020
Project No.: 60629262
Dwg By: RMC
Chk By: CED

Dwg No:

T-001



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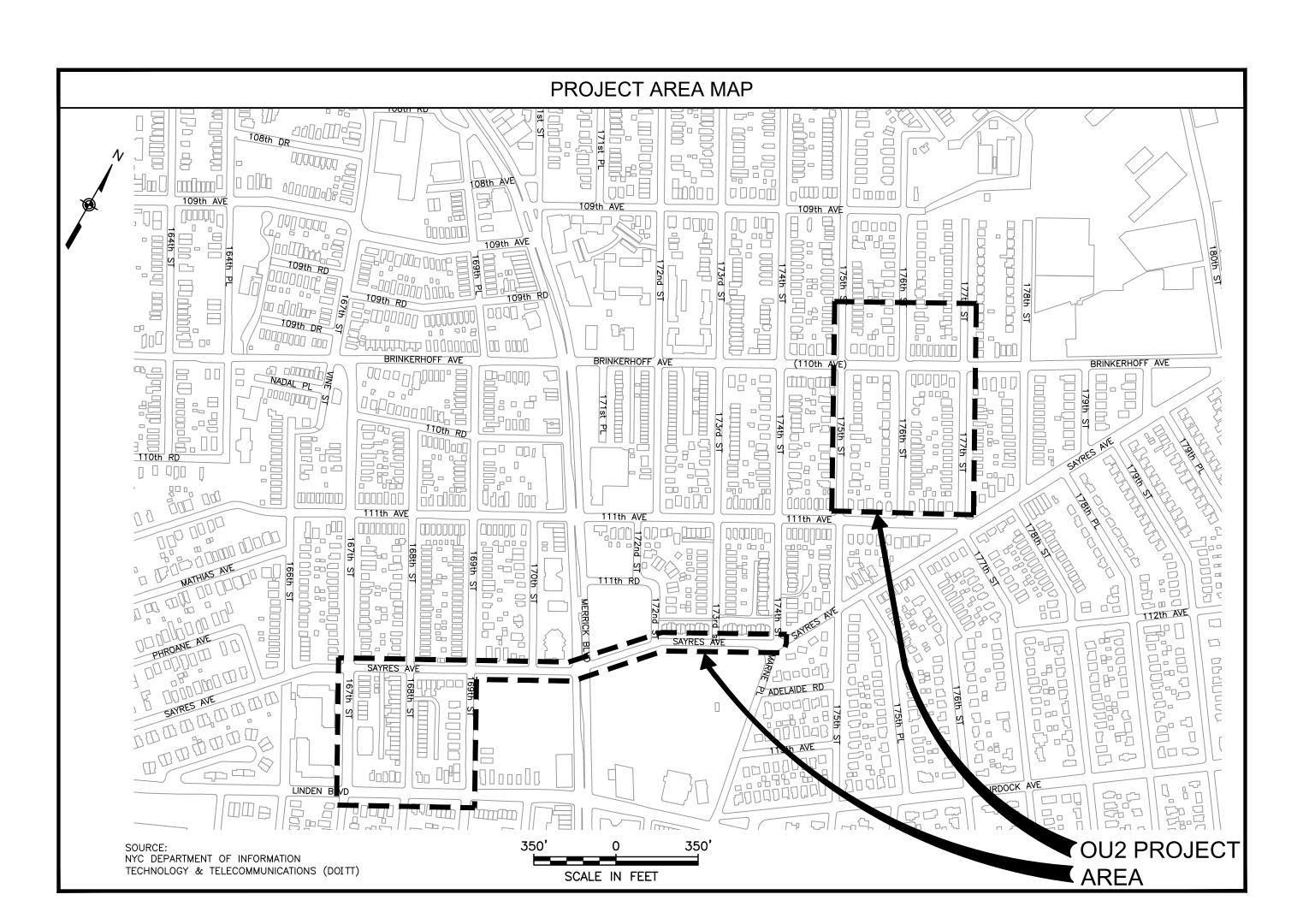
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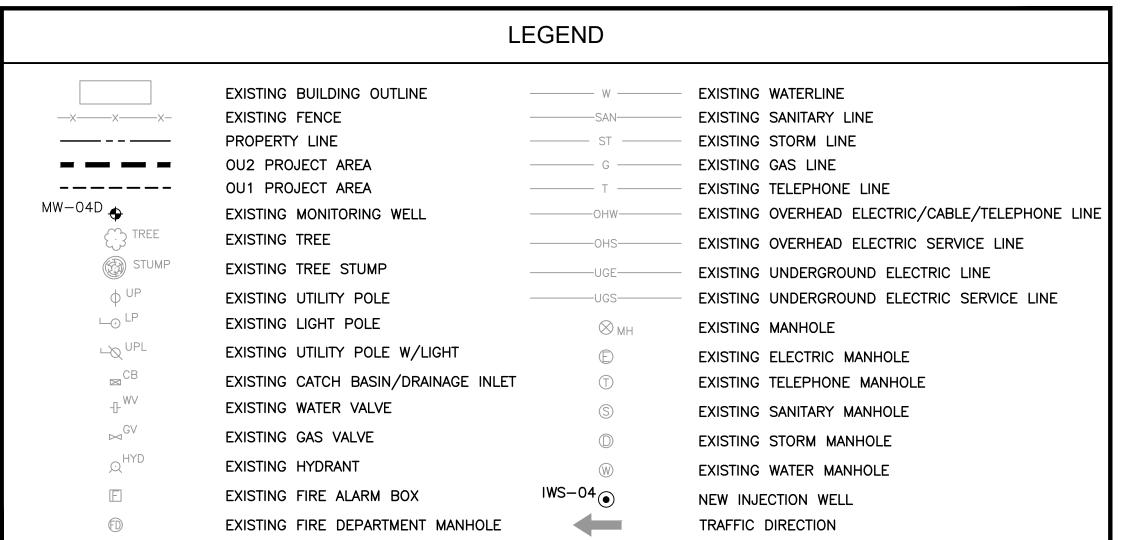
3 MILES

BING MAP, MICROSOFT CORPORATION

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	ABE	BREVIATI	ONS
AMSL	ABOVE MEAN SEA LEVEL	LP	LIGHT POLE
APPROX.	APPROXIMATE	LSDD	LIMITED SITE DATA DOCUMENT
ASCA	AMERICAN SOCIETY OF CONSULTING ARBORISTS	MAX.	MAXIMUM
ASP	ANALYTICAL SERVICES PROTOCOL	МН	MANHOLE
AVE.	AVENUE	MIN.	MINIMUM
BLDG.	BUILDING	M/WBE	MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISES
BLVD	BOULEVARD	MW	MONITORING WELL
BGS	BELOW GROUND SURFACE	MSDS	MATERIAL SAFETY DATA SHEET
СВ	CATCH BASIN	MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
CFATS	CHEMICAL FACILITY ANTI-TERRORISM STANDARDS	NYCDOT	NEW YORK CITY DEPARTMENT OF TRANSPORTATION
CFL	COMPACT FLUORESCENT LIGHTS	NYCDPR	NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION
CFR	CODE OF FEDERAL REGULATIONS	NYSDEC	NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CONC.	CONCRETE	NYSDOH	NEW YORK STATE DEPARTMENT OF HEALTH
DEA	DRUG ENFORCEMENT ADMINISTRATION	NYSDOT	NEW YORK STATE DEPARTMENT OF TRANSPORTATION
DEP	DEPARTMENT OF ENVIRONMENTAL PROTECTION	OHW	OVERHEAD WIRES
DER	DIVISION OF ENVIRONMENTAL REMEDIATION	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
DGR	DANGEROUS GOODS REGULATIONS	OU	OPERABLE UNIT
DOITT	NEW YORK CITY DEPARTMENT OF INFORMATION TECHNOLOGY & TELECOMMUNICATIONS	PCE	TETRACHLOROETHENE
ELAP	ENVIRONMENTAL LABORATORY APPROVAL PROGRAM	PPE	PERSONAL PROTECTIVE EQUIPMENT
EL., ELEV.	ELEVATION	PSI	POUNDS PER SQUARE INCH
EPA	ENVIRONMENTAL PROTECTION AGENCY	PVMT	PAVEMENT
EMI	ELECTROMAGNETIC INDUCTION	QA/QC	QUALITY ASSURANCE AND CONTROL
EXIST.	EXISTING	QAPP	QUALITY ASSURANCE PROJECT PLAN
FMCSA	FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION	ROD	RECORD OF DECISION
FT.	FOOT/FEET	R.O.W.	RIGHT OF WAY
GPM	GALLONS PER MINUTE	ST	STREET
GPR	GROUND PENETRATING RADAR	TBD	TO BE DETERMINED
GV	GAS VALVE	TYP.	TYPICAL
HAP	HAZARDOUS AIR POLLUTANTS	UIC	UNDERGROUND INJECTION CONTROL
HASP	HEALTH AND SAFETY PLAN	UP	UTILITY POLE
HOR	HORIZONTAL	UPL	UTILITY POLE W/LIGHT
HYD.	HYDRANT	VOC	VOLATILE ORGANIC COMPOUND
IATA	INTERNATIONAL AIR TRANSPORTATION ASSOCIATION	VTSR	VALIDATED TIME OF SAMPLE REPORT
ISA	INTERNATIONAL SOCIETY OF ARBORICULTURE	WV	WATER VALVE





### **GENERAL NOTES**

- HORIZONTAL COORDINATES REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, NEW YORK LONG ISLAND ZONE, AND REPORTED IN NORTH AMERICAN DATUM OF 1983/1996 (NAD 83/96). ELEVATION DATA REFERENCED TO THE NORTH AMERICAN DATUM OF 1988 (NAVD 88).
- 2. THE LOCATION OF ANY UTILITIES SHOWN ARE APPROXIMATE AND ALL UTILITIES MAY NOT BE SHOWN. PRIOR TO ANY CONSTRUCTION ACTIVITIES, ALL UTILITY COMPANIES SHALL BE NOTIFIED IN ORDER TO VERIFY OR AMEND THE SHOWN LOCATIONS AND/OR EXISTENCE OF UTILITIES. FOR ASSISTANCE CALL UFPO AT 1-800-962-7962. THE CALL OUT CONTRACTOR SHALL ALSO PERFORM A GEOPHYSICAL SURVEY TO LOCATED EXISTING UTILITIES.
- THE TYPES, LOCATIONS, SIZES AND /OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS WERE OBTAINED FROM VARIOUS SOURCES AND SHALL BE CONSIDERED THE BEST AVAILABLE INFORMATION WITH COMPLETENESS AND ACCURACY UNKNOWN. THE CONTRACTOR IS CAUTIONED THAT ONLY EXCAVATION WILL REVEAL THE ACTUAL TYPES, EXTENT, SIZE, LOCATIONS, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. OTHER BURIED OBJECTS OR UTILITIES MAY BE ENCOUNTERED WHICH ARE NOT SHOWN ON THESE DRAWINGS. UTILITY SOURCES INCLUDE, BUT NOT LIMITED TO, NATIONAL GRID, NEW YORK CITY FIRE DEPARTMENT, AT&T, TIME WARNER CABLE COMPANY, NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION, EMPIRE CITY SUBWAY/VERIZON, CONSOLIDATED EDISON CO. OF NEW YORK INC., AND BING MAPS STREET VIEW MICROSOFT CORPORATION.
- CONTRACT DOCUMENTS FOR THIS CALL OUT INCLUDE AECOM DRAWINGS T-001, G-001 THROUGH G-007, C-001 THROUGH C-011 AND THE CALL OUT CONTRACTOR'S NYSDEC CALL OUT CONTRACT.

**NEW YORK** 

STATE OF OPPORTUNITY Environmental Conservation

PROJECT NAME:

JAMAICA, NY

### **WEST SIDE CORP.** SITE OPERABLE UNIT 2

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

**AECOM** 257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

Seal and Signature:



REV. NO. DATE: REVISION:

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DRAWING INDEX, LEGEND ABBREVIATIONS AND MAPS

Scale: NONE

Date: JULY 2020 60629262 Project No.: RMC Dwg By: CED Chk By:

Dwg No:

G-001

- 3. THE CALL OUT CONTRACTOR SHALL IMPLEMENT, TO THE EXTENT PRACTICABLE, PRACTICES AND PROCEDURES TO MEET THE ENVIRONMENTAL PERFORMANCE GOALS OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) CONSISTENT WITH NYSDEC PROGRAM POLICY DER-31/GREEN REMEDIATION.
- 4. THE CALL OUT CONTRACTOR SHALL BE AWARE OF THE NYSDEC'S POLICY TO UTILIZE, AS APPROVED BY THE NYSDEC, RECYCLED CONTENT MATERIALS, LOCALLY MANUFACTURED MATERIALS AND LOW-EMITTING MATERIALS. LOCALLY MANUFACTURED SHALL MEAN MANUFACTURED WITHIN 150 MILES OF THE WORK.
- 5. THE CALL OUT CONTRACTOR SHALL ENSURE, TO THE EXTENT PRACTICABLE, THAT THE REQUIREMENTS RELATED TO THE GOALS OF THE NYSDEC AND AS DEFINED IN THE CONTRACT DOCUMENTS, ARE IMPLEMENTED TO THE FULLEST EXTENT.
- 6. THE CALL OUT CONTRACTOR, TO THE EXTENT PRACTICABLE, SHALL:
- MINIMIZE THE AMOUNT OF WASTE GENERATED FROM THE SITE AND MAXIMIZE THE USE OF RECYCLING/REUSE FACILITIES FOR DISPOSAL OF THE WASTE TO THE EXTENT PRACTICABLE AND AS APPROVED BY THE NYSDEC.
- MAXIMIZE USE OF ENERGY DERIVED FROM A RENEWABLE SOURCE. RENEWABLE ENERGY SOURCES INCLUDE SOLAR, WIND, GEOTHERMAL, BIOMASS AND BIOGAS.
- MINIMIZE ON-AND-OFF-SITE FUEL COMBUSTION.
- MINIMIZE USE OF WATER.
- MINIMIZE DISTURBANCE TO LAND AND ECOSYSTEMS.
- THE CALL OUT CONTRACTOR SHALL USE ENVIRONMENTALLY PREFERABLE PRODUCTS, WHERE APPROPRIATE AND AS APPROVED BY THE NYSDEC, INCLUDING, BUT NOT LIMITED TO: COMPACT FLUORESCENT LIGHTS (CFL) OR LIGHT EMITTING DIODE (LED), ENVIRONMENTALLY FRIENDLY ELECTRONICS (E.G., ENERGY STAR), AND ITEMS COMPOSED OF RECOVERED MATERIALS.
- 8. THE CALL OUT CONTRACTOR SHALL DESIGNATE AN EMPLOYEE WHO SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF GREEN REMEDIATION ELEMENTS, COORDINATE WORK OF SUBCONTRACTORS AND SUPPLIERS, INSTRUCT WORKERS RELATING TO ENVIRONMENTAL ISSUES, ENSURE THAT GREEN REMEDIATION METRICS ARE COLLECTED RECORDED ON FORM A - SUMMARY OF GREEN REMEDIATION METRICS AND SUBMITTED WITH THE CALL OUT CONTRACTOR'S APPLICATION FOR PAYMENT, AND OVERSEE PROJECT ENVIRONMENTAL GOALS. AN ELECTRONIC COPY OF FORM A WILL BE PROVIDED TO THE CALL OUT CONTRACTOR BY THE ENGINEER.

### **SUMMARY OF WORK:**

- 1. MAJOR WORK ELEMENTS OF THIS CALL OUT INCLUDE THE FOLLOWING:
- THE CALL OUT CONTRACTOR SHALL IDENTIFY AND INCORPORATE INTO THE DESIGN THE MEASURES NECESSARY TO PERFORM THE SPECIFIED WORK SAFELY.
- EXISTING FEATURES: THE CALL OUT CONTRACTOR SHALL PROTECT AND MAINTAIN NATURAL RESOURCES, SURVEY AND GRADE STAKES, ROADS, AND ADJACENT PROPERTIES AGAINST DAMAGE FROM CALL OUT CONTRACTOR'S EQUIPMENT AND VEHICULAR TRAFFIC. ANY SUCH DAMAGE SHALL BE REPAIRED BY THE CALL OUT PER THE CALL OUT CONTRACTOR'S NYSDEC CALL OUT CONTRACT.
- TEMPORARY FACILITIES AND UTILITIES: MOBILIZE TO THE SITE, PROVIDE AND MAINTAIN TEMPORARY SITE FACILITIES DURING THE PERFORMANCE OF THIS CALL OUT SUCH AS CALL OUT CONTRACTOR'S AND ENGINEER'S FIELD OFFICE, SECURITY AND COMMUNICATION OPERATIONS. PERSONNEL AND EQUIPMENT. DECONTAMINATION FACILITIES, AND REMOVAL OF THE SAME AT THE COMPLETION OF THE WORK. PROVIDE, OPERATE, AND MAINTAIN ALL TEMPORARY SITE UTILITIES INCLUDING TELEPHONE, ELECTRICITY, WATER AND SANITATION.
- PERFORM GEOPHYSICAL AND UTILITY SURVEY.
- INSTALL AND DEVELOP 48 INJECTION WELLS.
- INJECT CHEMICAL OXIDANT INTO WELLS AS PER INJECTION SCHEDULE.
- DISPOSAL OF INVESTIGATIVE DERIVED WASTE
- CONDUCT PERFORMANCE MONITORING OF THE REMEDIATION.
- DECOMMISSION ALL INJECTION POINTS AND REPLACE SIDEWALK FLAGS AND ROADWAY ASPHALT AT ALL LOCATIONS WHERE THE INJECTION POINTS WERE INSTALLED, AND ANY OTHER SIDEWALK FLAGS AND/OR ROADWAY ASPHALT IMPACTED BY WELL INSTALLATION OR DECOMMISSIONING. RESTORE OTHER SURFACES AND FACILITIES IMPACTED BY INJECTION WELL INSTALLATION AS NECESSARY.
- DEMOBILIZATION: REMOVE FROM SITE ALL CALL OUT CONTRACTOR EQUIPMENT, CONSTRUCTION FACILITIES AND TEMPORARY UTILITIES CONNECTIONS, AND RESTORE THE SITE TO ORIGINAL OR SPECIFIED CONDITIONS.
- PROTECT AND MAINTAIN THE WORK AS REQUIRED.
- PERFORM ALL WORK ASSOCIATED WITH CALL OUT CLOSEOUT.

### CALL OUT CONTRACTOR USE OF SITE AND DEP PROPERTY:

1. USE OR OCCUPATION OF THE WEST SIDE CORPORATION PROPERTY BY THE CALL OUT CONTRACTOR IS GENERALLY NOT PERMITTED. IT IS ANTICIPATED THAT AN ACCESS AGREEMENT WILL BE ABLE TO BE REACHED WITH DEP. OUTSIDE THE TRAILER SHOULD AN AGREEMENT BE REACHED, THE CALL OUT CONTRACTOR SHALL NOT USE ANY OF THE EXISTING BUILDINGS OR FACILITIES AT THE DEP PROPERTY WITHOUT THE PRIOR APPROVAL OF THE NYSDEC. CALL OUT CONTRACTOR USE SHALL BE RESTRICTED TO OPERATIONS ESSENTIAL TO THE REMEDIATION OF THE SITE. THE LIMITS OF THE REQUIRED WORK AREAS MAY BE ADJUSTED BY THE CALL OUT CONTRACTOR AS THE WORK PROGRESSES SUBJECT TO THE APPROVAL OF THE NYSDEC AND/OR ENGINEER. IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

### **HEALTH AND SAFETY:**

- 1. THE CALL OUT CONTRACTOR SHALL ADHERE TO ALL FEDERAL, STATE, AND LOCAL HEALTH AND WORK SITE REQUIREMENTS/PROTOCOLS RELATED TO THE NOVEL CORONAVIRUS (COVID-19). AS DISCUSSED IN NOTE 4 OF THIS SECTION, THE CALL OUT CONTRACTOR SHALL INCLUDE SECTIONS ADDRESSING THESE PRACTICES AND REQUIREMENTS IN THEIR HEALTH AND SAFETY PLAN (HASP). THE ENGINEER SHALL PROVIDE UPDATED COVID-19 GUIDELINES THAT SHALL ALSO BE INCORPORATED IN THE CALL OUT CONTRACTOR'S HASP.
- 2. THE CALL OUT CONTRACTOR SHALL BE RESPONSIBLE FOR HEALTH AND SAFETY OF THEIR EMPLOYEES. THIS INCLUDES ALL REQUIRED HEALTH AND SAFETY TRAINING, EQUIPMENT, PERSONAL PROTECTION EQUIPMENT (PPE), AND MEDICAL MONITORING.
- 3. THE CALL OUT CONTRACTOR SHALL SUBMIT AND MAINTAIN COPIES OF APPLICABLE TRAINING RECORDS FOR ALL ON-SITE WORKERS. THIS INCLUDES HAZWOPER AND MEDICAL MONITORING DOCUMENTATION.
- 4. THE CALL OUT CONTRACTOR SHALL PROVIDE A COMPREHENSIVE HASP TO THE ENGINEER FOR REVIEW AND APPROVAL. UPON RECEIPT OF COMMENTS FROM THE ENGINEER, THE CALL OUT CONTRACTOR SHALL REVISE THE HASP AS NEEDED AND SUBMIT FINAL COPIES TO THE ENGINEER AND THE NYSDEC. AT A MINIMUM THE PLAN SHALL INCLUDE:
- COVID—19 REQUIREMENTS AND PROCEDURES.
- DESCRIPTIONS OF PHYSICAL AND CHEMICAL HAZARDS.
- STANDARD OPERATING PROCEDURES AND ENGINEERING CONTROLS.
- SAFE WORK PLANS FOR EACH TYPE OF ACTIVITY.
- ROUTE TO HOSPITAL.
- EMERGENCY RESPONSE AND CONTINGENCY PLAN.
- MASTER CONTACT TELEPHONE LIST.
- PROCEDURES FOR COORDINATING WITH EMERGENCY SERVICES.
- APPROPRIATE PERSONNEL PROTECTIVE EQUIPMENT.
- HEALTH AND SAFETY COORDINATOR'S AND OFFICER'S RESUMES AND CERTIFICATIONS.
- EMPLOYEE ROSTER AND OSHA 1910.120 TRAINED WORKERS.
- PERSONAL HYGIENE REQUIREMENTS AND PROCEDURES.
- HEAT AND COLD STRESS PRACTICES AND RECOMMENDATIONS.
- DAILY SAFETY LOGS AND RECORD KEEPING.
- DIRECTIONS TO THE NEAREST HOSPITAL.
- COMMUNITY AIR MONITORING PROGRAM.
- 5. THE CALL OUT CONTRACTOR'S EQUIPMENT SHALL MEET ALL OSHA REQUIREMENTS AND SHALL BE INSPECTED DAILY FOR COMPLIANCE.
- 6. THE CALL OUT CONTRACTOR SHALL BE REQUIRED TO COORDINATE CONSTRUCTION ACTIVITIES WITH THE LOCAL FIRE DEPARTMENT/HAZARDOUS MATERIALS TEAM.

### **MEASUREMENT AND PAYMENT:**

- PAYMENT FOR THE WORK REQUIRED BY THE CONTRACT DOCUMENTS SHALL BE MADE IN ACCORDANCE WITH TERMS AND CONDITIONS OF THE NYSDEC CALL OUT CONTRACT UNDER WHICH THE WORK IS PERFORMED.
- 2. THE ENGINEER WILL REVIEW AND SIGN DAILY EQUIPMENT USE AND ON-SITE PERSONNEL LOGS.

### **PROJECT COORDINATION:**

- 1. THE CALL OUT CONTRACTOR SHALL COORDINATE WORK WITH ALL ENTITIES ASSOCIATED WITH OR AFFECTED BY THIS CALL OUT IN EVERY WAY REQUIRED TO ASSURE SATISFACTORY, EXPEDITIOUS COMPLETION OF THE WORK WITHIN THE CALL OUT TIME.
- THE CALL OUT CONTRACTOR SHALL COORDINATE ALL SUBCONTRACTORS, MANUFACTURERS, FABRICATORS, SUPPLIERS, DISTRIBUTORS, INSTALLERS, TESTING AGENCIES, AND ALL OTHERS WHOSE SERVICES, MATERIALS OR EQUIPMENT ARE REQUIRED TO ASSURE COMPLETION OF THE WORK WITHIN THE CALL OUT TIME.
- 3. THE CALL OUT CONTRACTOR SHALL REVIEW PROGRESS SCHEDULES AND INSTALLATION PROCEDURES WHICH MAY AFFECT THEIR WORK AND THE WORK OF THEIR SUBCONTRACTORS. THE CALL OUT CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL SUCH WORK WITH THE APPROPRIATE PARTY OR PARTIES.
- 4. WHEREVER WATER, SEWER, PETROLEUM, GAS MAINS, TELEPHONE LINES, CABLES, ELECTRIC, TELEPHONE POLES, OR OTHER UTILITIES ARE ENCOUNTERED, SHOWN, OR ANTICIPATED AND MAY BE IN ANY WAY INTERFERED WITH, THE CALL OUT CONTRACTOR SHALL KEEP THE APPLICABLE UTILITY COMPANY OR MUNICIPAL AGENCY FULLY INFORMED IN ADVANCE. THE CALL OUT CONTRACTOR SHALL COOPERATE WITH THE UTILITY COMPANY OR MUNICIPAL AGENCY IN THE PROTECTION, REMOVAL, RELOCATION, AND REPLACEMENT OF SUCH STRUCTURES AND FACILITIES.
- 5. THE CALL OUT CONTRACTOR SHALL CARRY OUT ALL OPERATIONS TO AVOID INTERFERENCE WITH ANY OPERATIONS ON OR NEAR THE PROJECT SITE, INCLUDING OU1 SITE AND ITS MONITORING WELLS.
- 6. THE CALL OUT CONTRACTOR SHALL COORDINATE ALL REMEDIATION ACTIVITIES WITH THE UTILITIES AND RESIDENTS IMPACTED BY WORK IN THE REMEDIATION AREA.
- 7. THE CALL OUT CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE COORDINATION OF SCHEDULES FOR ANY AND ALL OF THEIR SUBCONTRACTORS. THE ENGINEER SHALL BE AFFORDED SUFFICIENT REVIEW TIME FOR ALL SCHEDULES AND THE CALL OUT CONTRACTOR SHALL COORDINATE ALL TIME SCHEDULES TO BE USED FOR CONSTRUCTION.
- 8. THE CALL OUT CONTRACTOR SHALL SUBMIT A COMPLETE LIST OF PROPOSED SUBCONTRACTORS (INCLUDING TRANSPORTATION AND DISPOSAL FACILITIES) IDENTIFYING NAME, ADDRESS, TELEPHONE NUMBER, CONTACT, TYPE OF WORK TO BE SUBCONTRACTED, DOLLAR AMOUNT AND M/WBE STATUS. NO SUBCONTRACTORS MAY BEGIN WORK WITHOUT WRITTEN APPROVAL OF THE NYSDEC. THIS LIST SHALL BE UPDATED AND SUBMITTED EACH TIME A NEW SUBCONTRACTOR IS PROPOSED FOR EMPLOYMENT ON THE PROJECT.

### **SURVEY:**

1. THE SURVEY WORK INCLUDES, BUT SHALL NOT NECESSARILY BE LIMITED TO, STAKEOUT FOR CONSTRUCTION AND SUBSEQUENT SURVEY FOR RECORD DRAWINGS. SURVEY WORK SHALL BE PERFORMED UNDER A NEW YORK STATE LICENSED SURVEYOR WITH REGISTRATION CURRENT THROUGHOUT THE DURATION OF THE WORK. THE CALL OUT CONTRACTOR SHALL PREPARE AND SUBMIT THE REDLINE DRAWINGS.

### **SURVEY:** CONT'D

- 2. GEOPHYSICAL SURVEY REQUIREMENTS FOR UTILITY LOCATING IS DISCUSSED IN THE PROTECTION OF EXISTING FACILITIES NOTE SECTION.
- 3. DATA SUBMITTED SHALL USE THE FOLLOWING COORDINATE SYSTEM: HORIZONTAL COORDINATES REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM NEW YORK LONG ISLAND ZONE AND REPORTED IN NORTH AMERICAN DATUM OF 1983/1996 (NAD 83/96). ELEVATION DATA REFERENCED TO THE NORTH AMERICAN DATUM OF 1988 (NAD88).
- 4. ANY PERMANENT HORIZONTAL AND VERTICAL CONTROL POINTS AS PROVIDED BY THE ENGINEER, IF AVAILABLE, SHALL BE USED BY THE CALL OUT CONTRACTOR. OTHERWISE, THE CALL OUT CONTRACTOR SHALL ESTABLISH CONTROL POINTS THAT MAY BE REQUIRED OR THAT ARE DEEMED BY THE ENGINEER TO BE NECESSARY.
- 5. THE INJECTION WELL STAKE-OUT SURVEY SHALL PROCEED IMMEDIATELY FOLLOWING THE CALL OUT CONTRACTOR'S MOBILIZATION AND SHALL EXPEDITIOUSLY PROGRESS TO COMPLETION IN A SATISFACTORY MANNER. THE CALL OUT CONTRACTOR SHALL, AFTER APPROVAL OF ALL REQUIRED SUBMITTALS, TRIM TREES, BRUSH AND OTHER INTERFERING OBJECTS FROM SURVEY LINES IN ADVANCE OF ALL SURVEY WORK TO PERMIT ACCURATE AND UNIMPEDED WORK BY THE STAKE-OUT SURVEY CREW. THE EXACT POSITION OF ALL WORK SHALL BE ESTABLISHED FROM CONTROL POINTS OR OTHER APPROVED POINTS OF SIMILAR NATURE SHOWN ON THE DRAWINGS, DESIGNATED BY THE ENGINEER. OR OTHERWISE APPROVED. ANY ERROR. APPARENT DISCREPANCY, OR ABSENCE OF CONTROL SHOWN OR REQUIRED FOR ACCURATELY ACCOMPLISHING THE STAKE-OUT SURVEY, SHALL BE REFERRED TO THE ENGINEER FOR INTERPRETATION.
- 6. ENGINEER'S INSPECTION: THE ENGINEER MAY AT ANY TIME INSPECT ALL OR ANY PORTION OF THE STAKE-OUT SURVEY WORK OR NOTES MADE BY THE CALL OUT CONTRACTOR. ANY NECESSARY CORRECTIONS TO THE WORK SHALL BE MADE IMMEDIATELY BY THE CALL OUT CONTRACTOR AND CONSISTENT WITH THE CALL OUT CONTRACTOR'S NYSDEC CALL OUT CONTRACT. SUCH CHECKING BY THE ENGINEER SHALL NOT RELIEVE THE CALL OUT CONTRACTOR OF ANY RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE WORK.
- 7. SURVEY TOLERANCES: TOLERANCES FOR SURVEY CONTROL SHALL BE AS NOTED ABOVE. TOLERANCES FOR CONSTRUCTION LAYOUT SHALL BE  $\pm$  0.1 FEET HORIZONTAL, ± 0.05 FEET VERTICAL (0.02 FEET VERTICAL FOR PIPE WORK) AT A MINIMUM AND MORE STRINGENT AS REQUIRED TO PROVIDE PROPER INSTALLATION AS RECOMMENDED BY MATERIAL MANUFACTURERS, SUPPLIERS AND INDUSTRY STANDARDS.

### **REGULATORY REQUIREMENTS:**

- REMEDIAL WORK AT THE SITE SHALL PROCEED IN ACCORDANCE WITH NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW. THE SUBSTANTIVE REQUIREMENTS FOR ALL LOCAL AND STATE REGULATIONS SHALL BE MET BY THE CALL OUT CONTRACTOR.
- 2. THE CALL OUT CONTRACTOR SHALL CONFORM TO THE REQUIRED PROCEDURES AS IDENTIFIED WITHIN APPLICABLE REGULATIONS AS WELL AS OTHER LAWS IN CONDUCTING THE WORK. THE CALL OUT CONTRACTOR SHALL BE RESPONSIBLE FOR ALERTING THE APPLICABLE STATE AND LOCAL AGENCIES AS TO THE NATURE AND TIMING OF ACTIVITIES WHICH WILL BE OCCURRING AT THE WORK SITE. THE CALL OUT CONTRACTOR SHALL INFORM AND UPDATE THE ENGINEER ON STATUS OF REQUIRED PERMITS AND REGULATORY COMPLIANCE.
- 3. THE WORK SHALL CONFORM TO THE REQUIREMENTS OF NYSDEC DIVISION OF ENVIRONMENTAL REMEDIATION, GUIDANCE ON INJECTIONS FOR REMEDIATION, DATED APRIL 21, 2014 OR MOST CURRENT. UNDERGROUND INJECTION CONTROL (UIC) REGULATIONS SHALL APPLY INCLUDING IMPLEMENTATION OF USEPA'S INVENTORY OF INJECTION WELLS FORM.
- 4. REPORTING FORM, INVENTORY OF INJECTION WELLS UNDERGROUND INJECTION CONTROL (UIC): THIS EPA FORM 7520-16 WILL BE COMPLETED BY THE CALL OUT CONTRACTOR AND SUBMITTED TO THE NYSDEC, READY FOR EPA REVIEW AND APPROVAL AND CALL OUT CONTRACTOR IMPLEMENTATION PRIOR TO THE PROPOSED START OF CONSTRUCTION. THE CALL OUT CONTRACTOR SHALL SCHEDULE THE WORK ACCORDINGLY.
- 5. REPORTING FORM, COMPLETION FORM FOR INJECTION WELLS: THIS EPA FORM 7520-9 WILL BE COMPLETED BY THE CALL OUT CONTRACTOR AND SUBMITTED TO THE NYSDEC AFTER INJECTION WELL CONSTRUCTION, READY FOR EPA REVIEW AND APPROVAL PRIOR TO PROPOSED INJECTION ACTIVITIES. THE CALL OUT CONTRACTOR SHALL SCHEDULE THEIR WORK ACCORDINGLY. THE CALL OUT CONTRACTOR SHALL SUBMIT THE FORM TO USEPA.
- 6. STATE AND FEDERAL REPRESENTATIVES SHALL BE AFFORDED UNRESTRICTED ACCESS TO THE SITE SUBJECT TO REQUIREMENTS OF THE SITE HEALTH AND SAFETY PLAN.
- 7. DRUG ENFORCEMENT ADMINISTRATION (DEA): DEA REQUIREMENTS FOR SODIUM PERMANGANATE SHALL STRICTLY APPLY. NAMELY, 21 CFR PART 1310 CONTROL OF SODIUM PERMANGANATE AS A LIST II CHEMICAL AND 21 CFR PART 1313 IMPORTATION AND EXPORTATION OF LIST I AND LIST II CHEMICALS. AS A LIST II CHEMICAL, HANDLERS OF SODIUM PERMANGANATE (DEA CHEMICAL CODE NO. 6588) SHALL BE SUBJECT TO CONTROLLED SUBSTANCES ACT (CSA) CHEMICAL REGULATORY CONTROLS INCLUDING RECORDKEEPING, REPORTING, AND IMPORT/EXPORT REQUIREMENTS.
- 8. EXCEPT AS OTHERWISE NOTED, THE CALL OUT CONTRACTOR SHALL OBTAIN AND MAINTAIN AT THE SITE ALL PERMITS NECESSARY TO PERFORM THE WORK. THE CALL OUT CONTRACTOR SHALL PAY ALL FEES IN ASSOCIATION WITH OBTAINING THESE PERMITS. APPLICABLE PERMITS INCLUDE, BUT ARE NOT LIMITED TO, THOSE ASSOCIATED WITH OFF-SITE TRANSPORTATION OF CONTAMINATED MATERIAL. THESE PERMITS INCLUDE ALL LOCAL CONSTRUCTION PERMITS SUCH AS SIDEWALK AND ROADWAY PERMITS, NEW YORK STATE DEPARTMENT OF PARKS AND RECREATION (NYCDPR), ELECTRICAL PERMITS, WATER, GAS, TELEPHONE, CABLE, AND ALL OTHER UTILITY PERMITS AND APPLICATIONS.
- 9. THE CALL OUT CONTRACTOR SHALL ENSURE THAT OPERATIONS COMPLY WITH NEW YORK CITY NOISE MONITORING AND MITIGATION REQUIREMENTS.
- 10. WHEN REQUIRED, THE CALL OUT CONTRACTOR SHALL OBTAIN NEW YORK CITY DEP HYDRANT PERMITS.
- 11. THE SHIPPING OF SODIUM PERMANGANATE SHALL BE IN ACCORDANCE WITH:
- 49 CODE OF FEDERAL REGULATIONS, PARTS 171-180, SUBCHAPTER C - HAZARDOUS MATERIALS REGULATIONS.
- INTERNATIONAL AIR TRANSPORT ASSOCIATION DANGEROUS GOODS REGULATIONS (DGR), UPDATED AND ISSUED ANNUALLY.

INTERNATIONAL MARITIME DANGEROUS GOODS CODE. INTERNATIONAL MARITIME

- ORGANIZATION, AMENDMENT 29-98. • DEPARTMENT OF TRANSPORTATION (DOT) OFFICE OF HAZARDOUS MATERIALS
- SAFETY.

### PRE-CONSTRUCTION CONFERENCE AND PROGRESS MEETINGS:

1. THE ENGINEER SHALL SCHEDULE AND ADMINISTER PRE-CONSTRUCTION MEETINGS, PROGRESS MEETINGS, AND OTHER MEETINGS REQUIRED DURING THE PROGRESS OF THE WORK. REPRESENTATIVES OF THE CALL OUT CONTRACTOR, SUBCONTRACTORS, AND SUPPLIERS SHALL ATTEND MEETINGS AND SHALL BE QUALIFIED AND AUTHORIZED TO ACT ON BEHALF OF THE ENTITY EACH REPRESENTS.

### PRE-CONSTRUCTION CONFERENCE AND PROGRESS MEETINGS:

- 2. A SCHEDULE FOR REGULAR MEETINGS WILL BE ESTABLISHED AT THE PRE-CONSTRUCTION MEETING. MEETINGS WILL BE HELD AS PROGRESS OF THE WORK DICTATES, BUT AT MINIMUM FREQUENCY OF ONCE EVERY 2 WEEKS AT THE SITE
- 3. THE ENGINEER SHALL PREPARE THE MEETING AGENDAS, MAKE PHYSICAL ARRANGEMENTS FOR THE ENGINEER/NYSDEC TO ATTEND THE MEETINGS, PRESIDE AT THE MEETINGS, AND RECORD AND DISTRIBUTE THE MEETING MINUTES.

### CALL OUT CONTRACTOR SUBMITTALS:

- 1. DEFINITIONS:
- DEVELOP AND SUBMIT A REQUEST FOR INFORMATION (RFI) AND SUBMITTAL TRANSMITTAL FORM FOR REVIEW AND APPROVAL BY THE ENGINEER.
- ACTION SUBMITTALS: WRITTEN AND GRAPHIC INFORMATION SUCH AS PRODUCT DATA, SHOP DRAWINGS, AND SAMPLES THAT REQUIRE THE ENGINEER'S
- INFORMATIONAL SUBMITTALS: WRITTEN INFORMATION SUCH AS QUALIFICATIONS, CERTIFICATES, AND FIELD TEST REPORTS THAT DO NOT REQUIRE THE ENGINEER'S RESPONSIVE ACTION.
- 2. COORDINATION: PREPARATION AND PROCESSING OF SUBMITTALS SHALL BE COORDINATED WITH PERFORMANCE OF CONSTRUCTION ACTIVITIES. EACH SUBMITTAL SHALL BE COORDINATED WITH FABRICATION, PURCHASING, TESTING, DELIVERY, OTHER SUBMITTALS, AND RELATED ACTIVITIES THAT REQUIRE SEQUENTIAL ACTIVITY. TRANSMITTAL OF DIFFERENT TYPES OF SUBMITTALS FOR RELATED PARTS OF THE WORK SHALL BE COORDINATED SO PROCESSING WILL NOT BE DELAYED BECAUSE OF THE NEED TO REVIEW SUBMITTALS CONCURRENTLY FOR COORDINATION. THE ENGINEER RESERVES THE RIGHT TO WITHHOLD ACTION ON A SUBMITTAL REQUIRING COORDINATION WITH OTHER SUBMITTALS UNTIL RELATED SUBMITTALS ARE RECEIVED.
- 3. IDENTIFICATION: A PERMANENT LABEL OR TITLE BLOCK SHALL BE PLACED ON EACH SUBMITTAL FOR IDENTIFICATION. THE NAME OF THE FIRM OR ENTITY THAT PREPARED EACH SUBMITTAL SHALL BE INDICATED ON A LABEL OR TITLE BLOCK. A SPACE, APPROXIMATELY 6 X 6 INCHES, SHALL BE PROVIDED ON THE LABEL OR BESIDE THE TITLE BLOCK TO RECORD THE CALL OUT CONTRACTOR'S REVIEW AND APPROVAL MARKINGS AND ACTION TAKEN BY THE ENGINEER. THE FOLLOWING INFORMATION SHALL ALSO BE INCLUDED ON THE LABEL OR TITLE BLOCK TO PROCESS AND RECORD THE ACTION TAKEN:
- PROJECT NAME.
- NAME OF CALL OUT CONTRACTOR AND/OR NAME OF SUBCONTRACTOR.
- NAME OF SUPPLIER.
- NAME OF MANUFACTURER.
- SUBMITTAL NUMBER INCLUDING REVISION IDENTIFIER. SUBMITTAL NUMBER SHALL BE FOLLOWED BY A DECIMAL POINT AND THEN A SEQUENTIAL NUMBER (E.G., 15000.01, 15000.02, ETC.). RESUBMITTALS SHALL INCLUDE AN ALPHABET SUFFIX AFTER AND THE DECIMAL POINT (E.G., 15000.01A).
- DRAWING NUMBER AND DETAIL REFERENCES AS APPROPRIATE.
- LOCATION(S) WHERE PRODUCT IS TO BE INSTALLED, AS APPROPRIATE.
- OTHER NECESSARY IDENTIFICATION.
- 4. MANUFACTURER'S LITERATURE: WHEN PROVIDING MANUFACTURER'S LITERATURE, CUT SHEETS, CHARTS, ETC. THAT CONTAIN INFORMATION FOR MORE THAN ONE MAKE, MODEL, OR PRODUCT, THE CALL OUT CONTRACTOR SHALL MARK (HIGHLIGHT OR ENCIRCLE) THE MAKE, MODEL, OR PRODUCT BEING PROVIDED.
- 5. TRANSMITTAL: A TRANSMITTAL FORM SHALL ACCOMPANY EACH SUBMITTAL. SUBMITTALS SHALL BE FORWARDED ELECTRONICALLY VIA E-MAIL. A SINGLE TRANSMITTAL FORM MAY ACCOMPANY MULTIPLE SUBMITTALS IF THE SUBMITTALS PERTAIN TO THE SAME WORK ITEM. THE CALL OUT CONTRACTOR SHALL PROVIDE LOCATIONS ON THE TRANSMITTAL FORM FOR THE FOLLOWING INFORMATION: PROJECT NAME, DATE, DESTINATION (TO), SOURCE (FROM), NAMES OF CALL OUT CONTRACTOR, SUBCONTRACTOR, MANUFACTURER, AND SUPPLIER, DRAWING OR DETAIL REFERENCE, SUBMITTAL NUMBER, SUBMITTAL TITLE AND DESCRIPTION, AND NAME OF TRANSMITTER.
- 6. IF SUBMITTALS VARY FROM THE REQUIREMENTS OF THE CALL OUT, THE CALL OUT CONTRACTOR SHALL NOTE SUCH VARIATION(S) ON THE LETTER OF TRANSMITTAL.
- 7. RESUBMITTALS: RESUBMITTALS SHALL BE MADE IN THE SAME FORM AS THE INITIAL SUBMITTAL. THE DATE AND CONTENT OF PREVIOUS SUBMITTALS SHALL BE NOTED. THE DATE AND CONTENT OF REVISION SHALL ALSO BE NOTED IN LABEL OR TITLE BLOCK AND THE EXTENT OF REVISION SHALL BE INDICATED.
- 8. CALL OUT CONTRACTOR REVIEW: EACH SUBMITTAL WILL BE REVIEWED AND CHECKED FOR COORDINATION WITH OTHER WORK OF THIS CALL OUT CONTRACT AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE CALL OUT CONTRACTOR SHALL REVIEW SUBMITTALS FROM SUPPLIERS AND MANUFACTURERS BEFORE TRANSMITTING THEM TO THE ENGINEER TO ASSUME PROPER COORDINATION OF THE WORK. EACH SUBMITTAL SHALL BE MARKED WITH AN APPROVAL STAMP BEFORE IT IS SUBMITTED TO THE ENGINEER. THE PROJECT NAME AND LOCATION, SUBMITTAL NUMBER, NAME OF REVIEWER, DATE OF CALL OUT CONTRACTOR'S APPROVAL. AND A STATEMENT CERTIFYING THAT THE SUBMITTAL HAS BEEN REVIEWED, CHECKED AND APPROVED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS SHALL BE INCLUDED.
- 9. CALL OUT CONTRACTOR COORDINATION: ALL ASSOCIATED DRAWINGS OR OTHER SUBMITTALS RELATING TO A COMPLETE ASSEMBLY OF VARIOUS PARTS NECESSARY FOR A COMPLETE UNIT SHALL BE SUBMITTED AT THE SAME TIME, BUT EACH WITH ITS OWN SUBMITTAL NUMBER. SIMILARLY, ALL ITEMS OF ELECTRICAL AND MECHANICAL EQUIPMENT CONSTITUTING AN OPERATING SYSTEM SHALL BE SUBMITTED AT THE SAME TIME, AND SHALL INCLUDE DRAWINGS, DIAGRAMS OR OTHER INFORMATION SHOWING OR DESCRIBING HOW THE SYSTEM OPERATES AS A WHOLE, BUT EACH WITH ITS OWN SUBMITTAL NUMBER.
- 10. IN THE EVENT THAT THE CALL OUT CONTRACTOR OBTAINS APPROVAL FOR EQUIPMENT OR MATERIAL NOT SPECIFIED OR SHOWN IN THE CONTRACT DOCUMENTS, THE CALL OUT CONTRACTOR SHALL MAKE ALL CHANGES TO THE WORK NECESSARY TO ACCOMMODATE THE MATERIAL OR EQUIPMENT AS REQUIRED BY THE CALL OUT CONTRACTOR'S NYSDEC CALL OUT CONTRACT.
- 11. THE CALL OUT CONTRACTOR SHALL ASSUME THE RISK FOR ALL MATERIALS OR EQUIPMENT WHICH ARE FABRICATED AND/OR DELIVERED PRIOR TO APPROVAL OF CORRESPONDING REQUIRED SUBMITTALS FOR THE MATERIALS OR EQUIPMENT.
- 12. SUBMITTALS SHALL BE PROVIDED TO THE ENGINEER WELL IN ADVANCE OF THE NEED FOR MATERIAL OR EQUIPMENT FOR CONSTRUCTION WITH AMPLE ALLOWANCE FOR TIME REQUIRED TO MAKE DELIVERY OF THE MATERIAL OR EQUIPMENT AND AT LEAST 14 CALENDAR DAYS BEFORE THE SUBMITTAL REVIEW IS REQUIRED. LATE OR UNTIMELY SUBMITTAL OF INFORMATION SHALL NOT BE THE CAUSE TO REDUCE THE ENGINEER'S REVIEW TIME, TO ACCEPT LOWER QUALITY, OR TO DELAY THE PROJECT COMPLETION.

**NEW YORK** STATE OF OPPORTUNITY

Department of Environmental Conservation

PROJECT NAME:

### **WEST SIDE CORP.** SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636



REV. NO. DATE: REVISION:

Owner's Information: NEW YORK STATE DEPARTMENT

OF ENVIRONMENTAL CONSERVATION

625 Broadway, Albany, New York 12233

Sheet title:

**SPECIFICATIONS** (SHEET 1 OF 6)

Scale: NONE

Date: JULY 2020 60629262 Project No.: RMC Dwg By: CED Chk By:

Dwg No:

G-002

- SUBMITTAL LOG.
- SUBMITTAL SCHEDULE.
- WORK PLAN: THE CALL OUT CONTRACTOR SHALL PREPARE AND SUBMIT A WORK PLAN WITH A DESCRIPTION OF ALL ACTIVITIES RELATED TO THE CONSTRUCTION. WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
- ADEQUATE DIAGRAM OF THE WORK SITE WITH A LAYOUT SHOWING EXISTING SITE CONDITIONS AND THE LOCATION OF WORK AREAS, STORAGE/LAYDOWN/ STAGING AREAS, AIR MONITORING STATIONS, DRAINAGE CONTROLS, ACCESS TO THE SITE, DECONTAMINATION FACILITIES, SITE TRAILER, MATERIAL STORAGE, AND SUPPORT ZONE.
- IDENTIFICATION OF ALL PERMITS REQUIRED TO CONDUCT WORK.
- PROCEDURES FOR HANDLING CONTAMINATED MATERIALS.
- o PROCEDURES FOR COMPLETING ANY OTHER MAJOR ASPECT OF WORK.
- RESUMES OF KEY PERSONNEL.
- DESCRIPTION OF SECURITY OPERATIONS.
- LIST AND CONDITION OF EQUIPMENT TO BE USED ON-SITE.
- o IDENTIFICATION OF ANY PROPOSED DISPOSAL FACILITIES, APPLICABLE HAUL ROUTES, AND LOCATION OF SCALES.
- SPILL RESPONSE WORK PLAN.
- HASP.
- TRANSPORTATION PLAN.
- QUALITY ASSURANCE AND CONTROL (QA/QC) PLAN.
- SAMPLING PLAN.
- PROGRESS SCHEDULE.
- DECONTAMINATION PAD SHOP DRAWINGS.
- EROSION AND SEDIMENTATION CONTROL PLAN.
- NUISANCE CONTROL PLAN.
- SPILL RESPONSE PLAN/CONTINGENCY PLAN.
- COMMUNITY AIR MONITORING DATA.
- LIST OF SUBCONTRACTORS
- RECORD SURVEY DRAWINGS.
- SURVEY FIELD NOTES AND RECORDS.
- ANALYTICAL RESULTS.
- FIELD INSTRUMENTS/CALIBRATION CERTIFICATES.
- SPILL PLAN REPORT.
- FIRE INCIDENT REPORT.
- MAINTENANCE AND PROTECTION OF TRAFFIC.
- PROJECT RECORD DOCUMENTS.
- GEOPHYSICAL SURVEY PLAN.
- GEOPHYSICAL SURVEY REPORT.
- UTILITY LOCATION MAP.
- CALL OUT CONTRACTOR'S EXPERIENCE AND SHIPPER DOCUMENTS.
- CHEMICAL OXIDATION WORK PLAN.
- CHEMICAL OXIDATION QUALITY CONTROL REPORTS.
- PERFORMANCE MONITORING REPORTS—FIELD DATA.
- CHAIN OF CUSTODY FORMS.
- PERFORMANCE MONITORING REPORTS—LABORATORY ANALYTICAL.
- CERTIFICATES OF ANALYSIS.
- MATERIALS HANDLING AND TRANSPORTATION PLAN.
- WASTE MANIFESTS.
- WEIGH TICKETS.
- TREE PROTECTION AND TRIMMING WORK PLAN.
- RESTORATION PLAN.
- RESTORATION SCHEDULE.
- PHOTOGRAPH AND VIDEO DOCUMENTATION.
- INJECTION WELL CONSTRUCTION PLAN.
- WELL DRILLER AND GEOLOGIST QUALIFICATIONS.
- WELL CONSTRUCTION DIAGRAMS.
- BORING LOGS
- WELL DEVELOPMENT LOGS.
- DAILY INJECTION RECORDS.
- WELL DECOMMISSIONING PLAN.
- BACKFILL MATERIALS.
- CONCRETE.
- CONCRETE TEST RESULTS.

### CALL OUT CONTRACTOR SUBMITTALS: CONT'D

- PAVING RESTORATION MATERIALS.
- TEMPORARY PAVING MATERIALS.
- LANDSCAPING MATERIALS.

SUBCONTRACTOR'S QUALITY SUMMARY REPORT.

### **SAMPLING:**

- 1. ALL FIELD INSTRUMENTS SHALL BE CALIBRATED IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS AND RECOMMENDATIONS
- 2. THE CALL OUT CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAMPLING REQUIRED BY DISPOSAL FACILITIES, NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT), OR OTHER STATES FOR THE PROPER TRANSPORTATION AND DISPOSAL OF WASTE OR CONTAMINATED MATERIALS AND FOR ALL OTHER SAMPLING SPECIFIED IN THE CONTRACT DOCUMENTS. ANALYSIS SHALL BE CONDUCTED BY THE CALL OUT
- THE CALL OUT CONTRACTOR SHALL PROVIDE ALL REQUIRED SAMPLING AND SHIPPING CONTAINERS, FOR COLLECTING REPRESENTATIVE SAMPLES UNDER CHAIN-OF-CUSTODY AND FOR SHIPPING SAMPLES TO THE CALL OUT LABORATORY.
- 4. THE CALL OUT LABORATORY SHALL PROVIDE COMPLETE ANALYTICAL REPORTS.
- 5. THE CALL OUT CONTRACTOR SHALL PAY ALL COSTS ASSOCIATED WITH ANY REPEAT TESTS REQUIRED BECAUSE OF THE CALL OUT CONTRACTOR'S NEGLIGENCE OR FAILURE TO MEET CALL OUT REQUIREMENTS. RESAMPLING AND REANALYSIS REQUIRED DUE TO THE CALL OUT CONTRACTOR'S NEGLIGENCE OR FAILURE TO MEET THE CALL OUT DOCUMENT REQUIREMENTS SHALL NOT INCREASE THE TIME FOR COMPLETION OF THE
- 6. PASSIVE DIFFUSION BAGS: DO NOT USE PASSIVE DIFFUSION BAGS AS METHODOLOGY TO COLLECT SAMPLES. THIS METHODOLOGY IS NOT PERMITTED.
- 7. ALL ANALYSES SHALL BE IN ACCORDANCE WITH THE MOST CURRENT NYSDEC EDITION OF THE ANALYTICAL SERVICES PROTOCOL (ASP) FOR SOIL AND GROUNDWATER AND THE CALL OUT LABORATORY'S NYSDEC CALL OUT CONTRACT REQUIREMENTS.
- 8. ANALYTICAL PARAMETERS, METHODS, AMOUNT OF SAMPLE, AND TURNAROUND TIME USED FOR ANALYSIS SHALL BE AS PRESENTED ON THE SAMPLE SUMMARY TABLE
- 9. METALS SAMPLES SHALL BE FILTERED IN THE FIELD USING A 0.45 MICRON FILTER PRIOR TO SAMPLE PRESERVATION TO OBTAIN RESULTS FOR SOLUBLE METALS.
- 10. HOLD TIME FOR HEXAVALENT CHROMIUM, IN PROPERLY PRESERVED AQUEOUS SAMPLES, SHALL BE 24 HOURS.
- 11. QUALITY ASSURANCE AND CONTROL (QA/QC) SAMPLES SHALL BE COLLECTED BY MATRIX AT THE FREQUENCY REQUIRED BY THE NYSDEC ASP. ADDITIONAL QA/QC SAMPLES REQUIREMENTS SHALL BE AS FOLLOWS:
- TRIP BLANKS SHALL BE SENT WITH EACH SHIPMENT OF VOC VIALS FOR AQUEOUS SAMPLING. THE TRIP BLANKS SHALL ACCOMPANY THE VOC CONTAINERS SENT TO THE CALL OUT LABORATORY FOR ANALYSIS. TRIP BLANKS ARE NOT REQUIRED FOR SOIL SAMPLES.
- THE CALL OUT CONTRACTOR SHALL ALSO COLLECT AND ANALYZE ANY ADDITIONAL QA/QC SAMPLES REQUIRED BY DISPOSAL FACILITIES OR AS REQUIRED BY THE APPROVED QA/QC PLAN.
- 12. GROUNDWATER REPORT DELIVERABLES SHALL BE IN ACCORDANCE WITH ASP CATEGORY
- 13. THE CALL OUT LABORATORY SHALL SUBMIT ALL RESULTS PROVIDED IN EQUIS ELECTRONIC DATA DELIVERABLE (EEDD) FORMAT TO FACILITATE TRANSFER TO THE
- 14. DATA VALIDATION WILL BE PERFORMED BY THE ENGINEER.
- 15. TURNAROUND TIME IS DEFINED AS THE TIME BETWEEN THE VALIDATED TIME OF SAMPLE RECEIPT (VTSR) BY THE CALL OUT LABORATORY AND THE DATE THE ANALYTICAL RESULTS ARE RECEIVED BY THE ENGINEER. SAMPLES SHALL BE RECEIVED AT THE CALL OUT LABORATORY WITHIN 24 HOURS OF COLLECTION. TURNAROUND TIME SHALL BE AS SHOWN IN THE TABLE BELOW.

### **ENVIRONMENTAL PROTECTION:**

- 1. FOR THE PURPOSE OF THE CONTRACT DOCUMENTS, ENVIRONMENTAL PROTECTION IS DEFINED AS THE RETENTION OF THE ENVIRONMENT IN ITS NATURAL STATE TO THE GREATEST EXTENT POSSIBLE DURING ALL PROJECT ACTIVITIES AND TO PRESERVE THE NATURAL APPEARANCE IN ITS FINAL CONDITION. ENVIRONMENTAL PROTECTION REQUIRES CONSIDERATION OF AIR, WATER, AND LAND RESOURCES AND INVOLVES ELIMINATION OF NOISE. SOLID WASTE MANAGEMENT AND MANAGEMENT OF OTHER POLLUTANTS. IN ORDER TO PREVENT, AND TO PROVIDE FOR ABATEMENT AND CONTROL OF ANY ENVIRONMENTAL POLLUTION ARISING FROM ANY ACTIVITY IN PERFORMANCE OF THIS CALL OUT, THE CALL OUT CONTRACTOR AND THEIR SUBCONTRACTORS SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
- 2. SHOULD THE ENGINEER BECOME AWARE OF ANY APPARENT NON-COMPLIANCE WITH FEDERAL. STATE OR LOCAL ENVIRONMENTAL LAWS OR REGULATIONS. THE ENGINEER WILL NOTIFY THE CALL OUT CONTRACTOR IMMEDIATELY OF IT IN WRITING. THE CALL OUT CONTRACTOR SHALL, AFTER RECEIPT OF SUCH NOTICE, IMMEDIATELY INFORM THE ENGINEER OF THE PROPOSED CORRECTIVE ACTION AND SHALL TAKE SUCH ACTION AS MAY BE APPROVED. IF THE CALL OUT CONTRACTOR FAILS OR REFUSES TO COMPLY PROMPTLY, THE ENGINEER MAY ISSUE AN ORDER STOPPING ALL OR PART OF THE WORK UNTIL SATISFACTORY CORRECTIVE ACTION HAS BEEN TAKEN. NO PART OF THE TIME LOST DUE TO ANY SUCH STOP ORDERS SHALL BE USED BY THE CALL OUT CONTRACTOR TO APPLY FOR AND/OR JUSTIFY AN EXTENSION OF TIME OR REIMBURSEMENT FOR ADDITIONAL COSTS OR DAMAGES.
- 3. DISPOSAL IN OR ADJACENT TO THE PROJECT SITE OF ANY DEBRIS, WASTES, EFFLUENTS, TRASH, GARBAGE, OIL, GREASE, CHEMICALS, ETC. RESULTING FROM CALL OUT WORK WILL NOT BE PERMITTED. IF ANY WASTE MATERIAL IS DUMPED IN UNAUTHORIZED AREAS, THE CALL OUT CONTRACTOR SHALL REMOVE THE MATERIAL AND RESTORE THE AREA TO ITS ORIGINAL CONDITION AT THEIR OWN EXPENSE. IF NECESSARY, GROUND CONTAMINATED FROM SUCH UNAUTHORIZED DISPOSAL OPERATION SHALL BE EXCAVATED, DISPOSED AS DIRECTED BY THE ENGINEER, REPLACED WITH SUITABLE FILL MATERIAL, COMPACTED AND FINISHED WITH TOPSOIL OR COVER AS REQUIRED BY THE ENGINEER, ALL AT NO ADDITIONAL COST TO THE NYSDEC.
- 4. ALL WASTES RESULTING FROM CONSTRUCTION OPERATIONS DURING THIS CALL OUT SHALL BE REMOVED AND DISPOSED IN AN APPROVED LOCATION AT NO ADDITIONAL COST TO THE NYSDEC IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. SUCH MATERIALS SHALL BE REMOVED FROM EACH CALL OUT CONTRACTOR WORK AREA BEFORE REQUESTING FINAL ACCEPTANCE OF THE WORK.
- 5. THE CALL OUT CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES IN ADDITION TO THOSE REQUIRED BY FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS TO PREVENT THE MIGRATION OF DUST OFF-SITE DUE TO SITE ACTIVITIES.

### **ENVIRONMENTAL PROTECTION: CONT'D**

- 6. THE CALL OUT CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES IN ADDITION TO THOSE REQUIRED BY FEDERAL, STATE AND LOCAL LAWS AND REGULATION AND REQUIREMENTS OF THE CONTRACT DOCUMENTS TO CONTROL ODORS AS APPROVED BY
- 7. THE CALL OUT CONTRACTOR SHALL NOT POLLUTE ANY PONDS, LAKES, MARSHES, WETLANDS, STREAMS, RIVERS (I.E., WATERWAYS) WITH FUELS, OILS, BITUMENS, CALCIUM CHLORIDE, ACIDS, INSECTICIDES, HERBICIDES OR OTHER HARMFUL MATERIALS. THE CALL OUT CONTRACTOR SHALL INVESTIGATE AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS CONCERNING POLLUTION OF WATERWAYS.
- 8. THE LAND RESOURCES WITHIN THE PROJECT SITE BOUNDARY AND OUTSIDE THE LIMITS OF PERMANENT WORK, PERFORMED UNDER THIS CALL OUT DESIGNATED TO REMAIN UNDISTURBED SHALL BE PRESERVED IN THEIR PRESENT CONDITIONS. IF SUCH AREAS ARE DISTURBED, THEY SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR AS OTHERWISE APPROVED.
- 9. THE CALL OUT CONTRACTOR SHALL NOT DEFACE, INJURE, OR DESTROY TREES OR SHRUBS, NOR REMOVE OR CUT THEM WITHOUT THE APPROVAL OF THE ENGINEER AND NYCDPR. ROPES, CABLES, OR GUYS SHALL NOT BE FASTENED TO OR ATTACHED EXISTING NEARBY TREES FOR ANCHORAGE. WHERE THE POSSIBILITY EXISTS, THAT TREES MAY BE DEFACED, BRUISED, INJURED, OR OTHERWISE DAMAGED BY THE CALL OUT CONTRACTOR'S EQUIPMENT OR OPERATIONS, THE CALL OUT CONTRACTOR SHALL ADEQUATELY PROTECT SUCH TREES. STONE, EARTH OR OTHER MATERIAL THAT IS DISPLACED INTO NON-CLEARED AREAS SHALL BE REMOVED.
- 10. ANY TREE, TURFED AREAS OR OTHER LANDSCAPE FEATURE SCARRED OR DAMAGED BY THE CALL OUT CONTRACTOR'S EQUIPMENT OR OPERATIONS SHALL BE RESTORED PER LOCAL REQUIREMENTS AND AS APPROVED BY NYCDPR AND THE ENGINEER. RESTORATION OF SCARRED AND DAMAGED TREES SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL REQUIREMENTS AND BY EXPERIENCED WORKMEN. TREES DAMAGED BEYOND RESTORATION SHALL BE REMOVED AND DISPOSED OF OFF-SITE. TREES THAT ARE TO REMOVED BECAUSE OF DAMAGE SHALL BE REPLACED AT THE CALL OUT CONTRACTOR'S EXPENSE BY NURSERY-GROWN TREES MEETING NYCDPR REQUIREMENTS AND NYCDPR'S AND THE ENGINEER'S APPROVAL. THE SPECIES, SIZE, AND QUALITY OF THE NURSERY-GROWN TREES SHALL ALSO BE APPROVED BY NYCDPR AND THE ENGINEER. ANY DISTURBED TURFED (GRASSED) AREAS SHALL BE SEEDED AND MULCHED.
- 11. THE CALL OUT CONTRACTOR'S STORAGE AND OTHER CONSTRUCTION FACILITIES, WHICH ARE REQUIRED IN THE PERFORMANCE OF THE WORK, SHALL BE LOCATED IN APPROVED AREAS OF THE OU1 SITE OR OTHER OFF-SITE LOCATIONS, AND SHALL REQUIRE THE WRITTEN APPROVAL OF THE ENGINEER. THE MIXING AND STORAGE OF PERMANGANATE WILL NOT BE PERMITTED ONSITE. THESE ACTIVITIES SHALL ONLY OCCUR AT THE ENVIRONMENTAL RESPONSE AND SPILLS CALL OUT CONTRACTOR'S YARD. THE PRESERVATION OF THE LANDSCAPE IS IMPERATIVE FOR CONSIDERATION IN THE SELECTION OF SUCH SITES AND IN THE CONSTRUCTION OF TEMPORARY STRUCTURES. MINOR LEVELING OF EARTH MAY BE PERMITTED, DEPENDING ON THE LOCATION OF THE PROPOSED FACILITY, PENDING ENGINEER'S APPROVAL.
- 12. THE ENTIRE SITE SHALL BE LEFT IN A CLEAN AND TIDY STATE PRIOR TO FINAL PAYMENT.

### SPILL CONTROL:

- 1. THE CALL OUT CONTRACTORS SHALL DEVISE METHODS, PROVIDE THE MEANS, AND TAKE ACTION TO PREVENT FURTHER CONTAMINATION AND SPREAD OF CONTAMINANTS AND/OR PERMANGANATE AND OTHER REMEDIATION REAGENTS TO SOIL. WATER. ATMOSPHERE, STRUCTURES, EQUIPMENT OR MATERIAL RESULTING FROM SPILLS GENERATED FROM OPERATIONS AT THE SITE. THIS INCLUDES OFF-SITE/TRANSPORTATION RELATED SPILLS.
- 2. THE CALL OUT CONTRACTOR SHALL MAINTAIN EQUIPMENT AND TRAINED PERSONNEL ON-SITE TO PERFORM EMERGENCY MEASURES NECESSARY TO CONTAIN, REMOVE AND
- 3. IN EVENT OF A SPILL, THE CALL OUT CONTRACTOR SHALL TAKE IMMEDIATE ACTION IN ACCORDANCE WITH THE APPROVED HASP, CONTINGENCY PLAN, SPILL RESPONSE PLAN, AND LOCAL, STATE, AND FEDERAL REGULATIONS. IN ADDITION, THE CALL OUT CONTRACTOR SHALL NOTIFY THE ENGINEER/NYSDEC IMMEDIATELY OF THE SPILL AND KEEP THE ENGINEER/NYSDEC INFORMED OF ACTION BEING TAKEN TO COMPLY WITH THESE REQUIREMENTS. THESE ACTIONS SHALL ALSO INCLUDE COORDINATING EFFORTS WITH THE ENVIRONMENTAL RESPONSE AND SPILLS CALL OUT CONTRACTOR.
- 4. ALL SPILL MATERIAL, ADSORBENTS, ETC. RESULTING FROM A SPILL SHALL BE REMOVED AND DISPOSED OF AS APPROPRIATE BY THE CALL OUT CONTRACTORS.

### FIRE PREVENTION AND CONTROL:

1. THE CALL OUT CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ACTIVITIES AT THE SITE WITH THE LOCAL FIRE DEPARTMENT. IN THE EVENT THAT A FIRE BREAKS OUT, OR ONE IS SUSPECTED, WHICH CANNOT BE CONTROLLED BY AVAILABLE ON-SITE EQUIPMENT, THE CALL OUT CONTRACTOR SHALL IMMEDIATELY INFORM THE LOCAL FIRE DEPARTMENT AND THEN THE ENGINEER, NYSDEC, AND NYSDOH. ALL WORK THAT WOULD ENDANGER HEALTH OR SAFETY OF ON-SITE OR OFF-SITE PERSONNEL SHALL BE STOPPED UNTIL THE FIRE HAS BEEN BROUGHT UNDER CONTROL AND THE DANGER HAS PASSED, AS DETERMINED BY THE CALL OUT CONTRACTOR AND ACCEPTED BY THE ENGINEER.

### MAINTENANCE AND PROTECTION OF TRAFFIC:

- 1. THE CALL OUT CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS RELATED TO THE MAINTENANCE AND PROTECTION OF TRAFFIC AND STREET OPENING OPERATIONS.
- 2. THE CALL OUT CONTRACTOR SHALL GIVE ADVANCE NOTICE OF START OF CONSTRUCTION TO THE NYSDEC AND ENGINEER AND TO APPLICABLE NEW YORK CITY AGENCIES. ADDITIONALLY, THE CALL OUT CONTRACTOR SHALL OFFER ASSISTANCE AS NEEDED TO THE NYSDEC FOR CONTACT WITH POTENTIALLY AFFECTED NEARBY COMMERCIAL BUSINESSES. IN THE EVENT THAT A CALL OUT CONTRACTOR'S OPERATIONS WILL REQUIRE DISRUPTION OF TRAFFIC FLOW; WRITTEN PERMISSION SHALL BE OBTAINED FROM THE NEW YORK CITY DOT (NYCDOT) AND THE ENGINEER AT LEAST FIVE DAYS IN ADVANCE OF BEGINNING THAT PORTION OF THE WORK.
- 3. EXCEPT AS OTHERWISE SPECIFIED OR INDICATED, ALL WORK AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE APPROPRIATE SECTIONS OF THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, NEW YORK STATE DOT WORK ZONE TRAFFIC CONTROL MANUAL, NEW YORK CITY DOT, AND FEDERAL HIGHWAY ADMINISTRATION, 23 CFR PART 655, SUBPART F, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD); MOST RESTRICTIVE SHALL APPLY.
- 4. THE UNLIMITED ACCESS OF EMERGENCY VEHICLES (FIRE APPARATUS, AMBULANCES, ETC.) SHALL TAKE PRIORITY OVER ALL OTHER VEHICLES AND/OR WORK OR OTHER OPERATIONS.
- 5. CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN A MANNER THAT ENSURES A MINIMUM OF TRAFFIC DELAY. BEFORE WORK IS STARTED, THE CALL OUT CONTRACTOR SHALL ARRANGE WITH THE NYCDOT AND THE NYSDEC FOR A PRIMARY MEANS OF ACCESS AND A SEQUENCE OR PROCEDURE FOR USE OF SITE ACCESS POINTS. OTHER POINTS OF SITE ACCESS MAY BE USED ONLY AFTER OBTAINING THE NYSDEC'S WRITTEN PERMISSION.
- 6. STREETS, WALKS, OR ADJACENT OCCUPIED OR USED FACILITIES SHALL NOT BE CLOSED OR OBSTRUCTED WITHOUT PERMISSION FROM THE APPLICABLE OWNER OR AUTHORITIES SHARING JURISDICTION. ALTERNATIVE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS SHALL BE PROVIDED IF REQUIRED BY AUTHORITIES HAVING JURISDICTION.
- 7. THE CALL OUT CONTRACTOR SHALL PROVIDE A SUFFICIENT NUMBER OF COMPETENT WELL-QUALIFIED FLAGMEN IN AREAS WHERE CONSTRUCTION EQUIPMENT IS OPERATING IN POTENTIAL CONFLICT WITH PUBLIC TRAFFIC, REGARDLESS OF VOLUME OF TRAFFIC OR THE SIGHT DISTANCE. FLAGMEN SHALL WEAR HIGH VISIBILITY COLOR CAPS OR HATS AND VESTS IN CONFORMANCE WITH THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AND SHALL DIRECT TRAFFIC IN CONFORMANCE WITH THOSE SPECIFICATIONS.
- 8. THE CALL OUT CONTRACTOR SHALL DEVOTE PARTICULAR ATTENTION TO ALL DRAINAGE FACILITIES, KEEPING THEM FULLY OPERATIVE AT ALL TIMES. PROVISIONS SHALL BE MADE AT ALL TIMES TO ADEQUATELY DRAIN THE TRAVELED WAY AND THE REMAINDER OF THE WORK AREAS.
- 9. THE CALL OUT CONTRACTOR SHALL PROVIDE AND MAINTAIN, AT ALL TIMES, SAFE AND ADEQUATE INGRESS AND EGRESS TO AND FROM INTERSECTING STREETS. BUSINESSES. AND COMMERCIAL ESTABLISHMENTS AT EXISTING OR NEW ACCESS POINTS, CONSISTENT WITH THE WORK.
- 10. THE CALL OUT CONTRACTOR SHALL FURNISH, ERECT, MOVE AND REMOVE DELINEATION AND GUIDING DEVICES AS REQUIRED AND AS DIRECTED BY THE ENGINEER. DRUMS OR CONTAINERS, 30 TO 55-GALLON CAPACITY, SET ON END, MAY BE USED AS DELINEATORS, PROVIDED THEY ARE PROPERLY PAINTED AND REFLECTORIZED IN ACCORDANCE WITH THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION MATERIALS; AND NYSDOT STANDARD SHEETS. THEY SHALL BE KEPT CLEAN AT ALL TIMES. OTHER MARKERS OR DELINEATORS MAY BE CIRCULAR OR RECTANGULAR IN SHAPE AND SHALL BE CONSTRUCTED OF REFLECTIVE SHEETING HAVING A MINIMUM AREA OF 20 SQUARE INCHES OR OF REFLECTIVE BUTTONS HAVING A MINIMUM DIAMETER OF THREE INCHES. ALL REFLECTIVE DELINEATORS OR MAKERS SHALL CONFORM TO THE REQUIREMENTS OF THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

### SAMPLING SUMMARY

SAMPLE DESCRIPTION	REPORTING DELIVERABLE	MATRIX	PARAMETERS	METHOD	TURN- AROUND TIME	NO. OF EVENTS	NO. SAMPLES PER EVENT	TOTAL NO. SAMPLES (QA-QC SAMPLES NOT INCLUDED)
LABORATORY		•						
MONITORING WELL	EEDD	GROUNDWATER	voc's	SW846 8260C	1 WEEK	3 EVENTS — PRIOR TO 2ND AND 3RD INJECTIONS AND POST—REMEDIATION	66	198
MONITORING WELL	EEDD	GROUNDWATER	DISSOLVED METALS	SW846 6010C	1 WEEK	3 EVENTS — PRIOR TO 2ND AND 3RD INJECTIONS AND POST—REMEDIATION	66	198
MONITORING WELL	EEDD	GROUNDWATER	HEXAVALENT CHROMIUM	SW846 7196A	1 WEEK	3 EVENTS — PRIOR TO 2ND AND 3RD INJECTIONS AND POST—REMEDIATION	66	198
MONITORING WELL	EEDD	GROUNDWATER	ALKALINITY	SM 2320B	1 WEEK	3 EVENTS — PRIOR TO 2ND AND 3RD INJECTIONS AND POST—REMEDIATION	66	198
DRILL CUTTINGS	EEDD	SOIL	TBD	TBD	TBD	DURING WELL INSTALLATION	TBD	TBD
CONSTRUCTION WATER	EEDD	WATER	TBD	TBD	TBD	DURING WELL DRILLING/DEVELOPMENT AND SAMPLING	TBD	TBD
FIELD								
INJECTION WELL	EEDD	GROUNDWATER	COLOR	SM 2120C	TBD	4 (5 IF NECESSARY)	48	192 (240 IF NECESSARY)
INJECTION WELL	EEDD	GROUNDWATER	PH, CONDUCTIVITY, DO, ORP	FIELD PARAMETERS	TBD	4 (5 IF NECESSARY)	48	192 (240 IF NECESSARY)

NOTE: THE CALL OUT CONTRACTOR SHALL ALSO PERFORM THE PRE-INJECTION SAMPLING EVENT DESCRIBED IN NOTE 28 (3RD BULLET) OF THE IN-SITU CHEMICAL OXIDATION NOTE SECTION.

**NEW YORK** STATE OF OPPORTUNITY

Department of Environmental Conservation

PROJECT NAME:

### **WEST SIDE CORP.** SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636



REV. NO. DATE: **REVISION:** 

Owner's Information: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

625 Broadway, Albany, New York 12233

Sheet title:

**SPECIFICATIONS** (SHEET 2 OF 6)

Scale: NONE

Date: JULY 2020 60629262 Project No.: RMC Dwg By: Chk By: CED

Dwg No:

G-003

- 12. ALL EXISTING STREET SIGNS, DELINEATORS, AND THEIR SUPPORTS WITHIN THE CALL OUT LIMITS SHALL BE MAINTAINED FOR THE DURATION OF THE CALL OUT BY THE CALL OUT CONTRACTOR. THE CALL OUT CONTRACTOR, WHEN DIRECTED, SHALL REMOVE EXISTING SIGNS, MARKERS AND DELINEATORS, AND THEIR SUPPORTS WHICH INTERFERE WITH CONSTRUCTION OPERATIONS; THE CALL OUT CONTRACTOR SHALL THEN STORE, PROTECT, CLEAN, AND IMMEDIATELY REPLACE THEM AS DIRECTED IN A LOCATION APPROVED BY THE ENGINEER. SIGNS, MARKERS, AND DELINEATORS LOST OR DAMAGED BECAUSE OF NEGLIGENCE ON THE PART OF THE CALL OUT CONTRACTOR SHALL BE REPLACED AT THE CALL OUT CONTRACTOR'S EXPENSE.
- 13. THE CALL OUT CONTRACTOR SHALL FURNISH AND ERECT, MOVE AND RE-MOVE, REFLECTORIZED CONSTRUCTION SIGNS AS DIRECTED BY THE ENGINEER. ANY SIGNS NOT AUTHORIZED BY THE ENGINEER SHALL BE REMOVED FROM THE WORK AREAS. SIGNS SHALL BE MOUNTED IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATIONS.
- 14. CONSTRUCTION SIGNS SHALL BE THE PROPERTY OF THE CALL OUT CONTRACTOR AND SHALL BE MAINTAINED IN GOOD CONDITION FOR THE DURATION OF THE CALL OUT. SIGNS SHALL BE REMOVED AT THE END OF THE CALL OUT AS DIRECTED BY THE ENGINEER.
- 15. CONSTRUCTION SIGNS SHALL BE KEPT CLEAN, MOUNTED AT THE REQUIRED HEIGHT ON ADEQUATE SUPPORTS, AND PLACED IN PROPER POSITION AND ALIGNMENT SO AS TO GIVE MAXIMUM VISIBILITY BOTH NIGHT AND DAY. ALL SIGNS AND MARKERS SHALL INDICATE ACTUAL EXISTING CONDITIONS AND SHALL BE MOVED, REMOVED, RELOCATED OR CHANGED IMMEDIATELY, AS DIRECTED BY THE ENGINEER.
- 16. THE CALL OUT CONTRACTOR SHALL FURNISH, ERECT, MOVE, AND REMOVE CONSTRUCTION BARRICADES AND LIGHTING FOR CONSTRUCTION BARRICADES, AS DIRECTED BY THE ENGINEER. WHERE INDICATED BY THE ENGINEER, CONSTRUCTION BARRICADES SHALL BE SUPPLEMENTED EITHER BY APPROVED FLASHING OR STEADY BURNING LIGHTS. STEADY BURNING OR FLASHING BARRICADE LIGHTS SHALL HAVE A MINIMAL NOMINAL DIAMETER OF SEVEN (7) INCHES AND SHALL EMIT YELLOW LIGHT. STEADY BURNING LIGHTS MAY BE USED TO SUPPLEMENT OTHER CHANNELIZING DEVICES TO DELINEATE THE TRAVELED WAY. FLASHING LIGHTS SHALL NOT BE USED FOR DELINEATION OR CHANNELIZING PURPOSES.
- 17. FREE ACCESS SHALL BE MAINTAINED AT ALL TIMES TO EVERY FIRE HYDRANT, FIRE ALARM BOX, AND STANDPIPE CONNECTION. WHEN REQUIRED, HYDRANTS SHALL BE EXTENDED BY SUITABLE TUBE OR PIPING TO AN ACCESSIBLE POINT AS APPROVED BY THE ENGINEER. NO OBSTRUCTION WILL BE ALLOWED AT ANY TIME WITHIN 15 FEET OF ANY FIRE HYDRANT. WHERE MATERIALS ARE PLACED IN THE VICINITY OF A FIRE HYDRANT OR A FIRE ALARM BOX, AND TO SUCH HEIGHT AS TO PREVENT THE SAME FROM BEING READILY SEEN, THE POSITION OF SUCH HYDRANT OR FIRE ALARM BOX SHALL BE INDICATED BY SUITABLE SIGNALS, BOTH DAY AND NIGHT.
- 18. PARKING AREAS SHALL BE DESIGNATED AND REGULATED TO INSURE FREE ENTRY TO AND EGRESS FROM THE SITE. THE CALL OUT CONTRACTOR SHALL CONTROL VEHICULAR TRAFFIC ON—SITE.

### PROJECT RECORD DOCUMENTS/CONTRACT CLOSE-OUT:

- 1. THE CALL OUT CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPREHENSIVE RECORDS OF ALL SITE ACTIVITIES, AS WELL AS ALL ADDITIONS, SUBSTITUTION OF MATERIALS, VARIATIONS IN WORK, AND ANY OTHER REVISIONS TO THE CONTRACT DOCUMENTS.
- 2. THE CALL OUT CONTRACTOR SHALL PROVIDE SAFE, ONSITE STORAGE FOR ALL PROJECT RECORD DOCUMENTS. THIS STORAGE SHALL BE AVAILABLE TO THE ENGINEER FOR INSPECTION. THE CALL OUT CONTRACTOR SHALL CLEARLY LABEL EACH DOCUMENT AS "PROJECT RECORD." THE CALL OUT CONTRACTOR SHALL KEEP ALL RECORD DOCUMENTS CURRENT AND DRAWINGS/DETAILS, SHALL BE CLEARLY AND LEGIBLY MARKED TO RECORD CALL OUT MODIFICATIONS, FIELD ORDERS AND OTHER MATTERS NOT ORIGINALLY SPECIFIED.
- 3. THE CALL OUT CONTRACTOR SHALL SUBMIT WITHIN 30 DAYS OF THE ACCEPTANCE OF WORK, ALL PROJECT RECORD DOCUMENTS. THE SUBMITTAL SHALL BE ACCOMPANIED BY A TRANSMITTAL LETTER CERTIFYING THAT EACH DOCUMENT, AS SUBMITTED, IS COMPLETE AND ACCURATE. DELIVERY SHALL BE A CONDITION OF FINAL PAYMENT. ITEMS TO BE SUBMITTED INCLUDE, BUT MAY NOT BE LIMITED TO:
- ITEMS DESCRIBED IN CALL OUT CONTRACTOR SUBMITTALS NOTE SECTION.
- A COVER LETTER SIGNED BY A RESPONSIBLE COMPANY OFFICIAL CERTIFYING THAT ALL SERVICES INVOLVED HAVE BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE CONTRACT DOCUMENTS AND REGULATORY REQUIREMENTS.
- DOCUMENTATION OF QUANTITY OF IMPACTED MATERIALS DISPOSED OF AT EACH DISPOSAL FACILITY.
- ANY SAMPLING LOCATIONS AND SAMPLING METHODS.
- SAMPLE COLLECTION DATA SUCH AS DATE, TIME OF COLLECTION, AND METHOD OF PRESERVATION.
- CHAIN-OF-CUSTODY FORMS.
- COPIES OF ALL CHEMICAL AND PHYSICAL TEST RESULTS.
- COPIES OF ALL WASTE MANIFESTS AND BILLS OF LADING.
- COPIES OF ALL CERTIFICATIONS OF FINAL DISPOSAL DOCUMENTS/MANIFESTS SIGNED BY THE RESPONSIBLE DISPOSAL FACILITY OFFICIAL.
- DISPOSAL CHARACTERIZATION SAMPLES SHALL BE COLLECTED, ANALYZED AND SUBMITTED IN ACCORDANCE WITH SAMPLING NOTE SECTION.
- PROJECT RECORD DOCUMENTS:
- RED-LINE (AS-BUILT) DRAWINGS SHOWING ALL VARIATIONS FROM THESE DRAWINGS.
- MODIFICATIONS TO THE CONTRACT DOCUMENTS.
- CALL OUT CONTRACTOR'S DAILY PROGRESS/ACTIVITY REPORTS INCLUDING RECORDS OF ALL SITE WORK, RECORDS OF ALL SITE INSPECTIONS, METEOROLOGICAL RECORDS, AND SAFETY AND ACCIDENT INCIDENT REPORTS.
- WAGE RECORDS AS REQUIRED FOR STATE FUNDED PROJECTS.
- SAMPLING AND ANALYSIS RECORDS AND RESULTS.
- HEALTH AND SAFETY DOCUMENTATION.

### PROJECT RECORD DOCUMENTS/CONTRACT CLOSE-OUT: CONT'D

- 4. A SUBSTANTIAL COMPLETE SITE INSPECTION SHALL BE MADE BY THE CALL OUT CONTRACTOR, NYSDEC, AND THE ENGINEER TO DETERMINE IF THE REQUIREMENTS OF THE CALL OUT HAVE BEEN MET. DURING THE SUBSTANTIAL COMPLETE SITE INSPECTION, THE CALL OUT CONTRACTOR AND ENGINEER SHALL DEVELOP A PUNCH LIST OF ITEMS THAT NEED TO BE COMPLETED BEFORE A CLOSEOUT CAN BE AWARDED. UPON COMPLETION OF THE PUNCH LIST WORK, A FINAL SITE INSPECTION SHALL BE MADE BY THE CALL OUT CONTRACTOR AND ENGINEER.
- 5. PROJECT CLOSEOUT SUBMITTALS: THE CALL OUT CONTRACTOR SHALL:
- OBTAIN ALL INSPECTIONS AND APPROVALS FROM THE GOVERNING AUTHORITIES AND SUBMIT TO THE NYSDEC AND ENGINEER.
- SUBMIT WRITTEN CERTIFICATION THAT CONTRACT DOCUMENTS HAVE BEEN REVIEWED, WORK HAS BEEN INSPECTED BY CALL OUT CONTRACTOR'S SUPERVISOR AND THAT WORK IS COMPLETE AND READY FOR ENGINEER'S REVIEW.
- PROVIDE A WRITTEN RECORD VIA RED-LINE DRAWINGS OF ACTUAL LOCATIONS OF ABANDONED UTILITIES, SUBSURFACE OBSTRUCTIONS REMAINING AFTER COMPLETION OF THE WORK.
- SUBMIT ALL PRIME CALL OUT CONTRACTOR AND SUBCONTRACTOR AFFIDAVITS TO THE DEPARTMENT.

### **WARRANTY OF CONSTRUCTION:**

. ALL CALL OUT CONTRACTOR INSTALLED INJECTION WELLS SHALL BE USABLE UPON COMPLETION, VERIFIED THROUGH DEVELOPMENT, AND VERIFIED BY THE ENGINEER.

### PROTECTION OF EXISTING UTILITIES:

- 1. PRIOR TO CONSTRUCTION, THE CALL OUT CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES AT THE PROJECT SITE WORK AREAS BY PERFORMING THE FOLLOWING:
- CONSULT WITH OWNERS OF UTILITIES AND PROPERTY OWNERS AND ARRANGE FOR FIELD STAKE—OUT OR OTHER MARKINGS TO SHOW LOCATIONS.
- PERFORM MANUAL PRE-CLEARING AT EACH PROPOSED WELL LOCATION AS DESCRIBED IN INJECTION WELL INSTALLATION NOTE SECTION.
- COMPLY WITH NEW YORK CITY ONE-CALL.
- PERFORM GEOPHYSICAL SURVEY INVESTIGATION AT EACH PROPOSED INJECTION WELL INSTALLATION LOCATION.
- 2. THE CALL OUT CONTRACTOR SHALL IMMEDIATELY REPORT FIELD STAKE—OUT FINDINGS AND RESULTS OF EXPLORATORY EXCAVATIONS TO THE ENGINEER IF POSSIBLE CHANGES IN WORK REQUIREMENTS ARE REQUIRED BECAUSE OF SUSPECTED INTERFERENCE(S) WITH EXISTING UTILITIES. ALLOW THE ENGINEER SUFFICIENT TIME TO DETERMINE MAGNITUDE OF CHANGES AND TO FORMULATE INSTRUCTIONS IN THAT REGARD.
- 3. THE CALL OUT CONTRACTOR SHALL APPLY CAREFUL EXCAVATION AND PROBING TECHNIQUES DURING MANUAL PRE—CLEARING TO LOCATE AND AVOID DAMAGE TO SAME.
- 4. GEOPHYSICAL FIELD SURVEY: THE WORK SHALL INCLUDE COMPLETING AN APPROPRIATE GEOPHYSICAL SURVEY IN THE FIELD, REDUCING DATA, AND PREPARING A REPORT THAT SUMMARIZES THE FINDINGS OF THE SURVEY. THE REPORT SHALL BE SUBMITTED WITHIN ONE WEEK AFTER THE GEOPHYSICAL SURVEY HAS BEEN COMPLETED. BOTH GROUND PENETRATING RADAR (GPR) AND ELECTROMAGNETIC CONDUCTIVITY (EMC) METHODS SHALL BE CONSIDERED: HOWEVER, METHOD(S) USED SHALL BE SUITABLE FOR ALL POTENTIAL FIELD CONDITIONS BEING INVESTIGATED. THE CALL OUT CONTRACTOR SHALL ALSO CONSIDER ALL POTENTIAL INTERFERENCE SOURCES INCLUDING, BUT NOT LIMITED TO, POWER LINES AND TRAFFIC SIGNALS. ALL ANOMALIES SHALL BE MARKED AND IDENTIFIED AS SOON AS THEY ARE LOCATED BY SPRAY-PAINTING THE OUTLINE. THE ENGINEER SHALL BE NOTIFIED AT LEAST ONE WEEK PRIOR TO THE PROPOSED FIELD SURVEY COMMENCING AND WILL BE PRESENT DURING THE INVESTIGATION TO PROVIDE ALTERNATE WELL INSTALLATION LOCATIONS THAT MAY BE NECESSARY DUE TO THE PRESENCE OF SUBSURFACE UTILITIES. THE SURVEY AREA SHALL BE SUFFICIENT TO COVER POTENTIAL WELL INSTALLATION LOCATIONS BEYOND THOSE SHOWN ON THE DRAWINGS, TO PRECLUDE ANY POTENTIAL ADDITIONAL GEOPHYSICAL MOBILIZATION BEYOND THE INITIAL EFFORT TO THE EXTENT
- 5. PRIOR TO CONSTRUCTION, THE CALL OUT CONTRACTOR SHALL NOTIFY OWNERS OF EXISTING UTILITIES AND RELATED FACILITIES, INCLUDING LOCAL POLICE AND FIRE DEPARTMENTS, OF GENERAL SCOPE, NATURE AND PLANNED PROGRESS SCHEDULE OF THE WORK.
- 6. WHEN EXISTING UTILITIES, SUCH AS SEWER, WATER, GAS, TELEPHONE, COMMUNICATION, OR ELECTRIC POWER, ARE DAMAGED OR DISTURBED DURING CONSTRUCTION, THE AFFECTED OWNERS, NYSDEC, AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED.
- 7. THE CALL OUT CONTRACTOR SHALL NOTIFY POLICE AND FIRE DEPARTMENTS, INCLUDING AFFECTED OWNERS, IMMEDIATELY IF HAZARDOUS CONDITIONS ARE CREATED OR HAVE THE POTENTIAL FOR OCCURRING, AS A RESULT OF DAMAGE TO EXISTING UTILITIES OR AS A RESULT OF OTHER ACTIVITIES AT THE PROJECT SITE. HAZARDOUS CONDITIONS COULD BE CREATED FROM FIRE, EXPLOSION, ESCAPE OF GAS, ESCAPE OF FUEL OIL, GASOLINE OR INDUSTRIAL FLUIDS, DOWNED ELECTRICAL WIRES, AND DISRUPTED UNDERGROUND ELECTRICAL CABLES.
- 8. THE CALL OUT CONTRACTOR SHALL COORDINATE WITH ALL UTILITY OWNERS AND COMPLY WITH ALL CONSTRUCTION REQUIREMENTS OF UTILITY OWNERS.
- 9. INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER FACILITIES SHALL BE MINIMIZED. THE CALL OUT CONTRACTOR SHALL NOT CLOSE OR OBSTRUCT FACILITIES WITHOUT PERMISSION FROM THE AFFECTED FACILITY OWNER AND THE NYSDEC.
- 10. THE CALL OUT CONTRACTOR SHALL PLAN AND CONDUCT CONSTRUCTION OPERATIONS SO THAT OPERATION OF EXISTING UTILITIES NEAR OR ADJACENT TO THE WORK, INCLUDING ELECTRIC, TELEPHONE, SEWER, WATER, GAS OR DRAINAGE UTILITIES, ARE SUSTAINED. EXISTING UTILITIES AND RELATED FACILITIES SHALL BE PROTECTED FROM DAMAGE OR MOVEMENT THROUGH INSTALLATION OF ADEQUATE SUPPORT SYSTEMS AND USE OF PROPER EQUIPMENT, INCLUDING APPLICATION OF CAREFUL INTRUSIVE TECHNIQUES IN SENSITIVE AREAS.
- 11. EXISTING UTILITIES AND OTHER FACILITIES THAT ARE DAMAGED BY THE CALL OUT CONTRACTOR'S CONSTRUCTION OPERATIONS SHALL BE PROMPTLY REPAIRED AT THE CALL OUT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE APPLICABLE FACILITY OWNER AND THE UTILITY COMPANY. REPAIR WORK SHALL BE PERFORMED BY THE OWNER OR UTILITY COMPANY OR, IF APPROVED BY THE ENGINEER, FACILITY OWNER OR UTILITY COMPANY, BY THE CALL OUT CONTRACTOR OR SUBCONTRACTOR WITH SUITABLE EXPERTISE. UNDER EITHER ARRANGEMENT, SUCH REPAIR WORK SHALL BE PERFORMED AT THE CALL OUT CONTRACTOR'S EXPENSE AND IN ACCORDANCE WITH THEIR NYSDEC CALL OUT CONTRACT REQUIREMENTS.

### PROTECTION OF EXISTING UTILITIES: CONT'D

- 12. WHEN ABOVEGROUND VISIBLE STRUCTURES SUCH AS POLES, WIRES, CABLES, FENCES, SIGNS OR OTHER STRUCTURES CONSTITUTE AN UNAVOIDABLE INTERFERENCE, THE CALL OUT CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPLICABLE UTILITY/FACILITY OWNER REGARDING TEMPORARY REMOVAL AND LATER RESTORATION OF THE INTERFERING ITEM. THE CALL OUT CONTRACTOR SHALL ARRANGE WITH THE ENGINEER AND SAID OWNER TO REMOVE AND LATER RESTORE THE INTERFERING ITEM TO THE SATISFACTION OF THE OWNER, SUBJECT TO APPROVAL OF THE OWNER, OR, ALLOW THE OWNER TO PERFORM SUCH WORK WITH THEIR FORCES. UNDER EITHER ARRANGEMENT, SUCH WORK SHALL BE PERFORMED AT CALL OUT CONTRACTOR'S EXPENSE AND IN ACCORDANCE WITH THEIR NYSDEC CALL OUT CONTRACT REQUIREMENTS.
- 13. THE CALL OUT CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT FIRES AT OR ADJACENT TO THE WORK, BUILDINGS, AND OTHER FACILITIES. NO BURNING OF TRASH OR DEBRIS IS PERMITTED.
- 14. IT WILL BE THE STRICT INTENT OF THIS CALL OUT TO LOCATE PROPOSED WELLS TO AVOID EXISTING UTILITIES AND PRECLUDE ANY POTENTIAL RELOCATING OF UTILITIES OR FACILITIES.
- 15. PROPERTY CORNER MARKERS, BOUNDARY MONUMENTS, ETC., DISTURBED OR MOVED BY THE CALL OUT CONTRACTOR'S OPERATION SHALL BE RESTORED, IN CONFORMANCE WITH THE PROPERTY DEED DESCRIPTION, BY A NEW YORK STATE LICENSED LAND SURVEYOR. RESTORATION OF THE PROPERTY CORNER MARKERS OR BOUNDARY MONUMENTS SHALL BE CERTIFIED BY SAID SURVEYOR ON A MAP THEY PREPARED WHICH SHOWS THE WORK ACCOMPLISHED. ONE COPY OF THE MAP SHALL BE GIVEN TO THE PROPERTY OWNER AND ONE COPY GIVEN TO THE ENGINEER.

### IN-SITU CHEMICAL OXIDATION:

- 1. THE CALL OUT CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT REQUIRED TO PERFORM (INCLUDING COST OF THE REAGENTS) AND MONITOR THE EFFECTS OF CHEMICAL OXIDATION AS REQUIRED BY THE CONTRACT DOCUMENTS. THE ENVIRONMENTAL RESPONSE AND SPILLS CALL OUT CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT REQUIRED TO TRANSPORT THE SODIUM PERMANGANATE TO THE INJECTION LOCATION ON A DAILY BASIS.
- 2. IT HAS BEEN REPORTED RECENTLY THAT MONITORING WELLS MW-7S, 7I, AND 7D HAVE BEEN PAVED OVER. THE CALL OUT CONTRACTOR SHALL LOCATE THESE WELLS, VERIFY EACH IS USABLE THROUGH DEVELOPMENT, AND INSTALL NEW LOCKING WELL BOXES BEFORE PROCEEDING WITH SCHEDULING INJECTION ACTIVITIES.
- 3. THE CALL OUT CONTRACTOR SHALL SUBMIT INFORMATION THAT DEMONSTRATES THAT THE CALL OUT CONTRACTOR'S COMPANY AND KEY PERSONNEL MEET THE DEPARTMENT'S QUALIFICATION REQUIREMENTS FOR THE WORK.
- KEY PERSONNEL SHALL HAVE EXPERIENCE ON CHEMICAL OXIDATION PROJECTS SIMILAR TO THIS PROJECT INCLUDING THE IMPLEMENTATION OF PERMANGANATE. KEY PERSONNEL SHALL BE ACCEPTABLE TO THE ENGINEER AND DEPARTMENT AND INCLUDE SYSTEM OPERATORS AND SUPERVISORY, ENGINEERING, AND TECHNICAL STAFF INVOLVED IN THE CHEMICAL OXIDATION OPERATION. PERSONNEL EXPERIENCE SHALL BE CURRENT AND EXPLICITLY DISPLAY KNOWLEDGE AND HANDS—ON EXPERTISE IN CURRENT TECHNOLOGIES AND CURRENT REGULATIONS SPECIFICALLY APPLICABLE TO THIS WORK.
- SUBMITTAL INFORMATION SHALL INCLUDE ALL SHIPPER DOCUMENTATION CLEARLY DISPLAYING COMPLIANCE WITH REGULATIONS FOR SHIPPING SODIUM PERMANGANATE SUCH AS TRAINING RECORDS, DOT HAZARDOUS MATERIALS CERTIFICATE OF REGISTRATION, HAZARDOUS MATERIALS SAFETY PERMITS, AND SHIPPING DOCUMENTATION PAPERS.
- 4. THE CALL OUT CONTRACTOR'S CHEMICAL OXIDATION WORK PLAN SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
- PROCEDURES AND METHODS: DESCRIPTION OF PROCEDURES AND METHODS SHALL INCLUDE BUT NOT BE LIMITED TO, CHEMICAL STORAGE AND HANDLING, SECONDARY CONTAINMENT, CHEMICAL MIXING, CHEMICAL INJECTION, INJECTION PRESSURES, CHEMICAL METERING, MONITORING, AND METHOD TO RAMP OVER HOSES TO PROTECT AGAINST ALL POTENTIAL TRAFFIC LOADS.
- EQUIPMENT: SPECIFICATIONS FOR PROPOSED EQUIPMENT TO BE USED FOR BATCHING, MIXING, INJECTION AND PROCESS CONTROL.
- DRAWINGS: SCALED DRAWINGS SHOWING DIMENSIONS AND LAYOUT FOR STORAGE AND OPERATIONS AREAS. INCLUDE PROPOSED SECONDARY CONTAINMENT. PROVIDE DETAIL OF PROPOSED WELLHEAD CONNECTION AND MANIFOLD.
- QUALITY CONTROL: DESCRIPTION OF PROPOSED PLAN FOR CONTROLLING MIX PROPORTIONS AND INJECTED QUANTITIES.
- PRODUCT DATA: REAGENT COMPOSITION, CERTIFICATE OF ANALYSIS, TRACE METAL ANALYSIS, MATERIAL SAFETY DATA SHEET (MSDS) DOCUMENTATION, AND OTHER RELEVANT PRODUCT LITERATURE.
- TESTING: DESCRIPTION OF METHODS AND PROCEDURES FOR DAILY PRESSURE TESTING OF THE INJECTION SYSTEM FOR LEAKS.
- RESTORATION: DRAWINGS SHOWING ANY AREAS OR FACILITIES THAT WILL BE RESTORED FOLLOWING INSTALLATION OF THE CHEMICAL OXIDATION SYSTEM.
- SPILL RESPONSE PLAN: DESCRIPTION OF READINESS AND IMPLEMENTATION PROVISIONS FOR SPILLS THAT COULD OCCUR DURING MIXING, HANDLING, AND INJECTION OF SODIUM PERMANGANATE.
- REAGENT TRANSFER AND INJECTION: REFER TO MAINTENANCE AND PROTECTION OF TRAFFIC NOTE SECTION FOR SUBMITTAL REQUIREMENTS TO MINIMIZE THE IMPACT ON THE AFFECTED COMMUNITIES.
- 5. THE CALL OUT CONTRACTOR'S CHEMICAL OXIDATION QUALITY CONTROL (QC) REPORTS: THE CALL OUT CONTRACTOR SHALL SUBMIT QC REPORTS IN ACCORDANCE WITH THE FOLLOWING. A QC REPORT SHALL BE PROVIDED FOR EACH DAY OF INJECTION ACTIVITY. THE REPORT SHALL:
- BE SUBMITTED NO LATER THAN NOON OF THE NEXT BUSINESS DAY FOLLOWING THE INJECTION.
- BE IN MICROSOFT EXCEL FORMAT.
- BE E-MAILED TO THE ENGINEER AND THE NYSDEC.
- INCLUDE, AT A MINIMUM, THE DATE OF INJECTION, A LIST OF ALL PERSONNEL IMPLEMENTING THE INJECTION, AND FOR EACH IDENTIFIED INJECTION POINT, THE FOLLOWING: GROUNDWATER LEVEL MEASUREMENT, RATE OF INJECTION, BEGINNING AND ENDING TIME FOR EACH INJECTION, INJECTION PRESSURE, AND AMOUNT OF OXIDANT INJECTED.
- DESCRIBE ANY SPILLS, SURFACING OR ANY OTHER LOSS OF OXIDANT DURING THE INJECTION ACTIVITIES, AND THE ESTIMATED AMOUNT OF OXIDANT LOST.

### IN-SITU CHEMICAL OXIDATION: CONT'D

- 6. PERFORMANCE MONITORING FIELD PARAMETERS DATA MONITORING REPORTS: THE CALL OUT CONTRACTOR SHALL SUBMIT FIELD DATA MONITORING REPORTS IN ACCORDANCE WITH THE FOLLOWING. A REPORT SHALL BE PROVIDED FOR EACH MONITORING EVENT. THE REPORT SHALL:
- BE SUBMITTED NO LATER THAN TWO BUSINESS DAYS FOLLOWING THE COMPLETION OF THE MONITORING EVENT.
- BE IN MICROSOFT EXCEL FORMAT.
- BE E-MAILED TO THE ENGINEER AND THE NYSDEC.
- INCLUDE, AT A MINIMUM, THE DATE(S) OF SAMPLING, NAME(S) OF SAMPLERS, AND A VALUE FOR PH, CONDUCTIVITY, TEMPERATURE, DO, ORP, COLOR, AND GROUNDWATER ELEVATION FOR EACH WELL MONITORED, PURGE LOGS, AND WELL DEVELOPMENT LOGS.
- FIELD NOTES AND RAW DATA FROM THE FIELD SHALL BE SCANNED AND APPENDED TO THE REPORT.
- 7. PERFORMANCE MONITORING REPORTS LABORATORY ANALYTICAL DATA: THE CALL OUT CONTRACTOR SHALL SUBMIT LABORATORY ANALYSIS REPORTS IN ACCORDANCE WITH THE FOLLOWING. A REPORT SHALL BE PROVIDED FOR EACH MONITORING EVENT. THE REPORT SHALL:
- BE SUBMITTED NO LATER THAN TWO BUSINESS DAYS FOLLOWING THE RECEIPT OF DATA BY THE CALL OUT CONTRACTOR.
- BE IN MICROSOFT EXCEL FORMAT.
- BE E-MAILED TO THE ENGINEER AND THE NYSDEC.
- INCLUDE, AT A MINIMUM, THE DATE(S) OF SAMPLING, NAME(S) OF SAMPLERS, AND A VALUE FOR EACH VOC DETECTED, EACH METAL DETECTED, AND ALKALINITY FOR EACH WELL MONITORED. LABORATORY REPORTS SHALL BE SCANNED AND APPENDED.
- 8. SHIPPING SODIUM PERMANGANATE: U.S. DOT REGULATIONS FOR HAZARDOUS MATERIALS SHIPPING (BY AIR, GROUND, OR WATER) AND THE INTERNATIONAL AIR TRANSPORTATION ASSOCIATION (IATA) REGULATIONS FOR DANGEROUS GOODS SHIPPING (BY AIR) PROHIBIT THE SHIPMENT OF CERTAIN MATERIALS UNLESS THEY ARE PACKAGED, MARKED, LABELED, AND ACCOMPANIED WITH SHIPPING DOCUMENTATION IN A SPECIFIED MANNER. FAILURE TO ADHERE TO THESE SHIPPING REQUIREMENTS MAY RESULT IN FINES TO THE COMPANY AND DISCIPLINARY ACTION TO THE EMPLOYEE(S) INVOLVED IN THE SHIPMENT.
- 9. EVERY EMPLOYEE AND DRIVER INVOLVED WITH SHIPPING SODIUM PERMANGANATE IS TRAINED AND CERTIFIED, AND RECORDS ARE MAINTAINED IN ACCORDANCE WITH 49 CODE OF FEDERAL REGULATIONS (CFR) 172.704.
- 10. EVERY DRIVER OF A TRUCK THAT HAS A GROSS VEHICLE WEIGHT RATING EXCEEDING 26,000 POUNDS, OR AS MANDATED BY STATE, OR HAULING A PLACARDABLE QUANTITY OF HAZMAT HAS A COMMERCIAL DRIVER'S LICENSE (CDL) WITH PROPER ENDORSEMENTS (E.G., HAZMAT, TANK, ETC.) IN ACCORDANCE WITH 49 CFR 383.91 AND 383.93, AND HAS CURRENT DOT HAZMAT TRAINING IN ALL REQUIRED AREAS, IN ACCORDANCE WITH 49 CFR 172.704 AND 177.816.
- 11. EVERY TRUCK HAULING HAZMAT IN REGULATED QUANTITIES CARRIES A CURRENT DOT HAZARDOUS MATERIALS CERTIFICATE OF REGISTRATION; AND IF REQUIRED, A FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION (FMCSA) HAZARDOUS MATERIALS SAFETY PERMIT AND ANY OTHER STATE—MANDATED REGISTRATION.
- 12. INSURANCE COVERAGE MUST INCLUDE TRANSPORTATION OF HAZARDOUS MATERIALS OVER COMMERCIAL ROADS (49 CFR 387.9).
- 13. EVERY TRUCK HAULING HAZMAT HAS THE PROPER DOCUMENTATION, INCLUDING SHIPPING PAPER, EMERGENCY RESPONSE INFORMATION, 24—HOUR EMERGENCY RESPONSE TELEPHONE NUMBER, AND THE DOT HAZARDOUS MATERIALS REGISTRATION (IF REQUIRED). IN ADDITION, WHEN USING A THIRD—PARTY EMERGENCY RESPONSE PROVIDED SUCH AS CHEMTREC, A CUSTOMER CONTRACT NUMBER (CCN#) SHALL APPEAR ON THE SHIPPING PAPER.
- 14. SODIUM PERMANGANATE SHALL BE REMEDIATION GRADE REMOX L ISCO REAGENT AS MANUFACTURED BY THE CARUS CHEMICAL COMPANY, OR APPROVED EQUAL. THE SODIUM PERMANGANATE SHALL BE INJECTED AS A 6% BY WEIGHT SOLUTION INTO THE REMEDIATION AREA.
- 15. THE MIXING OF SODIUM PERMANGANATE WILL NOT BE PERMITTED, SODIUM PERMANGANATE SHALL BE PRE-MIXED AND SHALL BE STORED AT THE ENVIRONMENTAL RESPONSE AND SPILLS CALL OUT CONTRACTOR'S YARD. THE REAGENT SHALL BE TRANSPORTED DAILY VIA TANKER TRUCK BY THE ENVIRONMENTAL RESPONSE AND SPILLS CALL OUT CONTRACTOR TO THE INJECTION LOCATION. ON—SITE STORAGE IS STRICTLY PROHIBITED. CERTIFICATES OF ANALYSIS THAT SPECIFY THE DENSITY (LB/GAL) AND THE PERCENT BY WEIGHT OF SODIUM PERMANGANATE, THAT INCLUDE THE METHODS USED TO OBTAIN VALUES FOR THESE PARAMETERS, FOR EACH BATCH OF SODIUM PERMANGANATE DELIVERED TO THE SITE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- 16. THE CALL OUT CONTRACTOR SHALL PROVIDE EQUIPMENT WITH CAPACITIES TO MEET THE SCHEDULE REQUIREMENTS AND CONTROL THE RATE OF INJECTION. CONSTRUCTION MATERIALS FOR ALL EQUIPMENT SHALL BE SATISFACTORY FOR USE WITH SODIUM PERMANGANATE IN ACCORDANCE WITH STANDARD INDUSTRIAL PRACTICE. ALL EQUIPMENT THAT WILL BE IN CONTACT WITH, OR POTENTIAL CONTACT SUCH AS SECONDARY CONTAINMENT, SHALL BE COMPLETELY COMPATIBLE WITH SODIUM PERMANGANATE AND EXHIBIT NO DEGRADATION OR OTHER DELETERIOUS EFFECT FROM SUCH CONTACT.
- 17. FLOW METER/FLOW TOTALIZER: METERS SHALL BE USED TO ACCURATELY DETERMINE THE VOLUME OF SODIUM PERMANGANATE SOLUTION INJECTED INTO THE INJECTION WELLS. METERS SHALL BE TURBINE TYPE OR OTHER APPROVED TYPE WITH LOCAL DISPLAY MOUNTED DIRECTLY TO THE METER BODY DISPLAYING TOTAL FLOW IN GALLONS AND FLOW RATE IN GALLONS PER MINUTE. THE CALL OUT CONTRACTOR MAY USE AN ALTERNATIVE METHOD OF FLOW MEASUREMENT THAT MEETS THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND IS APPROVED BY THE ENGINEER. METER FEATURES SHALL INCLUDE THE FOLLOWING: A NOMINAL FLOW RANGE OF 0-10 GPM, SODIUM PERMANGANATE COMPATIBILITY, AND AN ACCURACY OF 2.0% OF READING.

NEW YORK STATE OF OPPORTUNITY

Department of Environmental Conservation

PROJECT NAME:

# WEST SIDE CORP. SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

and Cianatura



REV. NO. DATE: REVISION:

Owner's Information:
NEW YORK STATE DEPARTMENT

OF ENVIRONMENTAL CONSERVATION

625 Broadway, Albany, New York 12233

Sheet title:

SPECIFICATIONS (SHEET 3 OF 6)

Scale: NONE

Date: JULY 2020
Project No.: 60629262
Dwg By: RMC

Dwg No:

Chk By:

G-004

CED

5 of 19

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- PUNCTURE PROTECTION: SECONDARY CONTAINMENT EQUIPMENT SHALL BE PROPERLY PROTECTED TO PREVENT PUNCTURE. AN EXAMPLE OF PUNCTURE PREVENTION FOR VEHICLE TIRES MAY BE LOAD RESISTANT PLYWOOD BOARDS PLACED END-TO-END THROUGHOUT A SECONDARY CONTAINMENT PAD UNDERNEATH TIRE PATHS.
- VOLUME: SECONDARY CONTAINMENT SHALL BE PROPERLY SIZED FOR THE PROPOSED STORAGE VOLUMES AND TRANSFER AND INJECTION RATES. NOTE THAT NYCRR REGULATIONS INCLUDE A REQUIREMENT FOR A MINIMUM SECONDARY CONTAINMENT VOLUME OF AT LEAST ONE HUNDRED TEN (110) PERCENT OF THE LIQUID TO BE CONTAINED. SECONDARY CONTAINMENT VOLUME SHALL BE COMPUTED BASED ON CONTAINED LIQUID AT A LEVEL TOP SURFACE WITH APPLICABLE VOLUME DEDUCT FOR CONTAINMENT SYSTEM ON SLOPING GROUND.
- MANUFACTURE: CONTAINMENT PLATFORMS, BERMS, AND RELATED EQUIPMENT SHALL BE MANUFACTURED BY LAB SAFETY SUPPLY, INC., OR APPROVED EQUAL. ANY TRIP HAZARD DUE TO CONTAINMENT, SIDEWALL, OR BERM SHALL BE RECTIFIED WITH RAMP MEETING OSHA STANDARDS.
- NO PORTION OF TRANSFER TRUCKS SHALL EXTEND BEYOND THE SECONDARY CONTAINMENT PLACED ON THE GROUND IF THE TRANSFER STORAGE TANK ITSELF IS NOT CONSTRUCTED WITH SECONDARY CONTAINMENT.
- IF DEEMED NECESSARY BY THE ENGINEER TO PREVENT TRANSFER HOSE CONNECTIONS FROM MOVING OUTSIDE OF THEIR SECONDARY CONTAINMENT, DUE TO REAGENT FLUID PRESSURE, SAND BAGS OR OTHER APPROVED RESTRAINING METHODS SHALL BE IMPLEMENTED.
- 19. THE CALL OUT CONTRACTOR SHALL PROVIDE TEMPORARY MANIFOLDS FOR INJECTION OF SODIUM PERMANGANATE. MATERIALS OF CONSTRUCTION SHALL BE PVC AND/OR OTHER MATERIALS SUITABLE FOR SERVICE WITH SODIUM PERMANGANATE. THE CALL OUT CONTRACTOR SHALL USE TEMPORARY MANIFOLD(S) AS NECESSARY TO EXPEDITE INJECTION AND MEET SCHEDULE REQUIREMENTS.
- 20. THE CALL OUT CONTRACTOR SHALL USE HOSES AND TRAFFIC RAMPS AS NECESSARY DURING INJECTION TO MINIMIZE DISRUPTION TO TRAFFIC AND INTERFERENCE WITH ON-SITE OR OFF-SITE ACTIVITIES.
- 21. THE CALL OUT CONTRACTOR SHALL OBTAIN APPROVAL BY THE ENGINEER BEFORE EACH INJECTION EVENT OF SODIUM PERMANGANATE. INJECTION ACTIVITIES SHALL COMMENCE NO LATER THAN ONE WEEK FOLLOWING APPROVAL FROM THE ENGINEER THE INJECTIONS SHALL COMPLY WITH NYSDEC DIVISION OF ENVIRONMENTAL REMEDIATION (DER), GUIDANCE ON INJECTIONS FOR REMEDIATION, APRIL 21, 2014 OR MOST CURRENT. GROUNDWATER LEVELS SHALL BE MONITORED BY THE CALL OUT CONTRACTOR DURING INJECTION ACTIVITIES.
- 22. THREE INJECTION EVENTS ARE SPECIFIED. THE TIME PERIOD BETWEEN THE COMPLETION OF AN INJECTION AND INITIATION OF THE NEXT INJECTION SHALL BE AS DIRECTED BY THE ENGINEER. THE ESTIMATED MONITORING PERIOD AFTER EACH INJECTION EVENT IS EIGHT (8) WEEKS UNLESS A THIRD MONTH IS DETERMINED NECESSARY. MONITORING RESULTS COLLECTED AFTER EACH INJECTION EVENT WILL BE EVALUATED BY THE ENGINEER TO DETERMINE THE EXACT TIME FRAME BETWEEN INJECTION EVENTS. THE CALL OUT CONTRACTOR SHALL HAVE APPROVAL FROM THE ENGINEER BEFORE PROCEEDING WITH THE NEXT INJECTION EVENT.
- 23. THE VOLUME OF 6% BY WEIGHT SOLUTION OF SODIUM PERMANGANATE SHALL BE INJECTED INTO EACH INJECTION WELL PER THE DELIVERY WELL AND OXIDANT INJECTION SCHEDULE BELOW.
- 24. THE CALL OUT CONTRACTOR SHALL INITIATE INJECTIONS AT A NOMINAL PRESSURE BETWEEN 3 AND 15 PSIG. THE PRESSURE MAY BE INCREASED OR DECREASED BASED ON FIELD CONDITIONS, AS APPROVED BY THE ENGINEER. THE CALL OUT CONTRACTOR SHALL INITIATE INJECTIONS AT A NOMINAL INJECTION RATE OF 8 GALLONS PER MINUTE. THE INJECTION RATE MAY BE INCREASED OR DECREASED BASED ON FIELD CONDITIONS, AS APPROVED BY THE ENGINEER.
- 25. DURING EACH INJECTIONS EVENT, THE CALL OUT CONTRACTOR SHALL TEST THE INJECTION SYSTEM EACH DAY BEFORE COMMENCING INJECTION ACTIVITIES. THE SYSTEM SHALL BE TESTED UNDER PRESSURE TO DETERMINE IF THERE ARE ANY LEAKS IN THE SYSTEM. PROCEDURES FOR THE TESTING SHALL BE INCLUDED IN THE CHEMICAL OXIDATION WORK PLAN AS APPROVED BY THE ENGINEER.
- 26. DURING EACH INJECTION EVENT, THE CALL OUT CONTRACTOR SHALL REMOVE ALL INJECTION EQUIPMENT FROM THE REMEDIATION AREA AT THE COMPLETION OF EACH DAY OF INJECTION ACTIVITIES. ALL LINES AND EQUIPMENT SHALL BE PROPERLY DRAINED BEFORE REMOVING THE INJECTION EQUIPMENT.
- 27. PERFORMANCE MONITORING LABORATORY ANALYSIS: THE FOLLOWING REQUIREMENTS SHALL BE MET BY THE CALL OUT CONTRACTOR:
- MONITORING WELLS: GROUNDWATER MONITORING WELLS SHALL BE SAMPLED, AND SAMPLES SHALL BE ANALYZED BY THE CALL OUT LABORATORY TO EVALUATE THE PERFORMANCE OF THE REMEDIATION. MONITORING WELL LOCATIONS ARE SHOWN ON THESE DRAWINGS AND WELL CONSTRUCTION DATA IS INCLUDED IN THE WELL CONSTRUCTION SCHEDULE ON DWG. NO. G-007. THE CALL OUT CONTRACTOR SHALL SAMPLE THE WELLS IN ACCORDANCE WITH THE PERFORMANCE MONITORING SCHEDULE ON DWG. NO. G-007.
- LABORATORY ANALYTICAL PARAMETERS: ALL GROUNDWATER SAMPLES COLLECTED FROM THE MONITORING WELLS AND INJECTION WELLS SHALL BE ANALYZED FOR VOCS, ALKALINITY AND DISSOLVED METALS IN ACCORDANCE WITH SAMPLING NOTE SECTION.
- PERFORMANCE MONITORING SCHEDULE: THE PERFORMANCE MONITORING SCHEDULE IS PROVIDED ON DWG. NO. G-007. ALL SAMPLES SHALL BE SHIPPED TO THE CALL OUT LABORATORY THE SAME DAY THAT THEY ARE COLLECTED, AND THE TURNAROUND TIME FOR ALL SAMPLES SHALL BE A MAXIMUM OF ONE WEEK.
- REPORTING: THE CALL OUT CONTRACTOR SHALL SUBMIT A REPORT FOR EACH SAMPLING EVENT IN ACCORDANCE WITH NOTE 7 OF THIS SECTION.

### IN-SITU CHEMICAL OXIDATION: CONT'D

- 28. PERFORMANCE MONITORING FIELD ANALYSIS: THE FOLLOWING REQUIREMENTS SHALL BE MET BY THE CALL OUT CONTRACTOR:
- WELLS: INJECTION WELLS AND GROUNDWATER MONITORING WELLS SHALL BE SAMPLED AND ANALYZED FOR FIELD PARAMETERS TO EVALUATE THE PERFORMANCE OF THE REMEDIATION. LOCATIONS USED FOR FIELD ANALYSIS SHALL BE IN ACCORDANCE WITH THE MONITORING SCHEDULE. WELL LOCATIONS ARE SHOWN ON THESE DRAWINGS.
- FIELD PARAMETERS: FIELD PARAMETERS SHALL INCLUDE THE FOLLOWING: TEMPERATURE, PH. CONDUCTIVITY, DISSOLVED OXYGEN (DO), OXIDATION-REDUCTION POTENTIAL (ORP), COLOR, AND WATER LEVEL. THE CALL OUT CONTRACTOR SHALL CONTINUE PUMPING UNTIL ALL MEASURED PARAMETERS STABILIZE. THE CALL OUT CONTRACTOR SHALL PUMP A MINIMUM OF ONE WELL VOLUME. PARAMETERS SHALL BE MEASURED CONTINUOUSLY USING A FLOW CELL COLOR SHALL BE USED TO ESTIMATE THE RESIDUAL CONCENTRATION OF PERMANGANATE AND SHALL BE MEASURED BY USING A STANDARD COLOR CHART APPROVED BY THE ENGINEER.
- PERFORMANCE MONITORING SCHEDULE: ALL INJECTION WELLS AND ALL MONITORING WELLS LISTED ON THE PERFORMANCE MONITORING SCHEDULE SHALL BE MONITORED FOR FIELD PARAMETERS ONCE BEFORE INJECTIONS BEGIN. AFTER EACH INJECTION, ALL INJECTION WELLS AND ALL MONITORING WELLS SHALL BE MONITORED AT THE FREQUENCY AND FOR THE TIME PERIOD SPECIFIED ON THE PERFORMANCE MONITORING SCHEDULE PROVIDED ON DWG. NO. G-007, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- REPORTING: THE CALL OUT CONTRACTOR SHALL SUBMIT A REPORT AFTER EACH MONITORING EVENT IN ACCORDANCE WITH NOTE 6 OF THIS SECTION.
- 29. IF SODIUM PERMANGANATE IS NOT USED UPON DELIVERY, IT SHALL BE STORED AND HANDLED IN ACCORDANCE WITH NFPA CODE 430, NYSDEC HAZARDOUS SUBSTANCE REGULATIONS (CHAPTER V. SUBPART D AND RELATED SECTIONS), AND THE U.S. DEPARTMENT OF HOMELAND SECURITY CHEMICAL FACILITY ANTI-TERRORISM STANDARDS (CFATS). AFTER EACH INDIVIDUAL INJECTION EVENT, ALL STORAGE TANKS SHALL BE THOROUGHLY AND COMPLETELY CLEANED, NEUTRALIZED, AND EMPTIED. SECONDARY CONTAINMENT AND OTHER STORAGE AND HANDLING PROCEDURES SHALL COMPLY WITH NYSDEC HAZARDOUS SUBSTANCE REGULATIONS. ON-SITE STORAGE IS STRICTLY
- 30. ALL SPILLED MATERIAL SHALL BE CONTAINED AND, IF POSSIBLE, REUSED. SPILLED MATERIALS SHALL BE HANDLED AND TREATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. NEUTRALIZATION MATERIALS SHALL BE READILY AVAILABLE IN ALL WORK AREAS. IF REUSE IS NOT POSSIBLE, PERMANGANATE SOLUTION SHALL BE NEUTRALIZED USING EITHER A SOLUTION OF DILUTE PEROXIDE AND ACETIC ACID (E.G., VINEGAR) OR DISSOLVED SODIUM THIOSULFATE. PERMANGANATE SHALL BE DILUTED AND DECOMPOSED USING SODIUM METABISULFITE OR SODIUM SULFITE.
- 31. OXIDANT MATERIALS SHALL BE STORED AND HANDLED SUCH THAT CONTACT WITH COMBUSTIBLE MATERIALS IS PREVENTED.
- 32. PRIOR TO DISPOSAL OR REMOVAL FROM THE PROJECT SITE, ALL EQUIPMENT AND STORAGE CONTAINERS SHALL BE THOROUGHLY AND COMPLETELY CLEANED AND NEUTRALIZED.

### TRANSPORTATION AND DISPOSAL

- 1. THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY FOR THE TRANSPORTATION AND DISPOSAL, AS REQUIRED FOR WASTE GENERATED BY THE WORK, THE CALL OUT CONTRACTOR SHALL COORDINATE THE TRANSPORT AND DISPOSAL OF GENERATED WASTE WITH THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR.
- 2. THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL PERMITS RELATED TO THE TRANSPORTATION AND DISPOSAL OF WASTE GENERATED BY THE WORK.
- 3. FOR OFF-SITE TRANSPORTATION, THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR SHALL COMPLY WITH THE REGULATIONS OF THOSE STATES THROUGH WHICH THE CALL OUT CONTRACTOR PLANS TO TRANSPORT THE MATERIALS.
- 4. NO OU-2 ON-SITE STORAGE OF WASTE MATERIALS IS ALLOWED
- 5. FOR TRANSPORTATION OF SODIUM PERMANGANATE, REFER TO IN-SITU CHEMICAL OXIDATION NOTE SECTION.
- 6. THE CALL OUT CONTRACTOR'S MATERIALS HANDLING AND TRANSPORTATION PLAN SHALL. AT A MINIMUM, INCLUDE THE FOLLOWING PROPOSED METHODOLOGY FOR APPROVAL. THE CALL OUT CONTRACTOR SHALL COORDINATE WITH THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR AS NEEDED TO PREPARE THIS PLAN.
- METHODS AND PROCEDURES FOR SAMPLING AND ANALYZING CONTAMINATED MATERIALS.
- PROCEDURES FOR SAFELY HANDLING CONTAMINATED MATERIALS.
- THE LOCATION AND LAYOUT OF THE CALL OUT CONTRACTOR'S STAGING AREAS FOR TEMPORARILY HOLDING HAZARDOUS MATERIALS.
- THE LOCATION AND LAYOUT OF THE CALL OUT CONTRACTOR'S STAGING AREAS. FOR TEMPORARILY HOLDING AND/OR STORAGE OF NON-HAZARDOUS MATERIALS.
- LAYOUT DRAWING SHOWING DETAILS OF ON—SITE VEHICLE DECONTAMINATION STATION AND PROPOSED METHODS OF DECONTAMINATING VEHICLES AND EQUIPMENT, AND OF PREVENTING THE TRACKING OF CONTAMINATED MATERIALS FROM CONTAMINATED AREAS TO NON-CONTAMINATED AREAS.
- THE IDENTIFICATION OF THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR, INCLUDING A COPY OF THE LICENSE ISSUED TO THE HAULER/TRANSPORTER(S). PLAN SHALL ALSO INCLUDE ADDITIONAL INFORMATION AS FOLLOWS:
- NAME AND EPA IDENTIFICATION NUMBER.
- ADDRESS.
- NAME OF RESPONSIBLE CONTACT FOR THE HAULER.
- TELEPHONE NUMBER FOR THE CONTACT.
- LIST OF TYPES AND SIZES OF ALL TRANSPORT VEHICLES AND EQUIPMENT TO BE USED.
- A DESCRIPTION OF PROPOSED TRANSPORTATION METHODS AND PROCEDURES FOR HAULING WASTE MATERIAL, INCLUDING TYPE OF VEHICLES THAT WILL BE USED FOR EACH TYPE OF WASTE.
- ANY AND ALL NECESSARY PERMIT AUTHORIZATIONS FOR EACH TYPE OF WASTE
- PREVIOUS EXPERIENCE IN PERFORMING THE TYPE OF WORK SPECIFIED
- PROPOSED ACCIDENT PREVENTION POLICY.

### TRANSPORTATION AND DISPOSAL: CONT'D

- THE IDENTIFICATION OF THE PROPOSED TREATMENT, STORAGE AND DISPOSAL (TSDF) FACILITY(IES). THE PLAN SHALL INCLUDE THE FOLLOWING INFORMATION REGARDING THE PROPOSED OFF-SITE DISPOSAL FACILITY OR FACILITIES WHERE THE MATERIALS REMOVED FROM THE SITE WILL BE TAKEN.
- FACILITY NAME AND EPA IDENTIFICATION NUMBER, IF APPLICABLE.
- FACILITY LOCATION.
- NAME OF RESPONSIBLE CONTACT FOR THE FACILITY.
- FACILITY TELEPHONE NUMBER FOR CONTACT.
- A LISTING OF ALL PERMITS, LICENSES, LETTERS OF APPROVAL, AND OTHER AUTHORIZATIONS TO OPERATE, WHICH ARE CURRENTLY HELD AND VALID FOR THE PROPOSED FACILITY AS THEY PERTAIN TO RECEIPT AND MANAGEMENT OF WASTES DERIVED FROM THIS CALL OUT.
- O ALL PROPOSED OFF-SITE DISPOSAL FACILITIES SHALL BE ACCEPTABLE TO THE NYSDEC AND SHALL BE APPROVED IN WRITING, PRIOR TO SHIPMENT OF ANY WASTE MATERIALS OFF-SITE.
- THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE CONTACT FOR THE CALL OUT LABORATORY.
- THE NAME AND EXPERIENCE OF THE CALL OUT CONTRACTOR'S SAMPLING TECHNICIAN.
- MAPS SHOWING TRANSPORTATION ROUTES FOR HAULING WASTE MATERIALS OFF-SITE.
- 7. EXECUTED COPIES OF MANIFESTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN 24-HOURS OF RECEIPT.
- 8. WEIGHT TICKETS FROM CERTIFIED TRUCK SCALE FOR EACH LOAD OF WASTE BEING REMOVED SHALL BE SUBMITTED TO THE ENGINEER WITHIN 24-HOURS OF RECEIPT.
- 9. ALL EQUIPMENT SUPPLIED SHALL BE IN GOOD WORKING CONDITION. EQUIPMENT AND MACHINERY DELIVERED TO THE SITE, INCLUDING DRILL RIGS AND HAUL TRUCKS, THAT HAVE VISIBLE OIL OR HYDRAULIC FLUID LEAKS WILL NOT BE ALLOWED ON-SITE UNTIL SATISFACTORILY REPAIRED. THE CALL OUT CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANUP OF ANY FLUID SPILLS.
- 10. FOR OFF-SITE DISPOSAL, THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR SHALL MEET THE REQUIREMENTS OF TRANSPORTATION AND DISPOSAL INCLUDED IN THE CONTRACT DOCUMENTS. VEHICLES USED TO HAUL WASTE MATERIALS BOTH ON AND OFF-SITE SHALL BE DESIGNED, EQUIPPED, OPERATED AND MAINTAINED TO PREVENT LEAKAGE, SPILLAGE OR AIRBORNE EMISSIONS DURING TRANSPORT. ALL VEHICLES LEAVING THE EXCLUSION ZONE SHALL BE DECONTAMINATED IN THE CONTAMINATION REDUCTION ZONE PRIOR TO LEAVING THE SITE, AND A DECONTAMINATION CERTIFICATE, SIGNED BY THE CALL OUT CONTRACTOR'S HEALTH AND SAFETY OFFICER OR DESIGNATED REPRESENTATIVE, SHALL BE PROVIDED TO THE ENGINEER STATING THE FOLLOWING:
- NO SOIL OR OTHER MATERIAL IS ADHERING TO THE VEHICLE BODY, TIRES OR UNDERCARRIAGE.
- THE VEHICLE IS NOT LEAKING OR DRIPPING LIQUIDS.
- THE CONTENTS OF THE VEHICLE ARE COVERED OR COMPLETELY ENCLOSED SO AS NOT TO PERMIT POTENTIALLY FUGITIVE PARTICULATE MATTER TO BECOME AIRBORNE.
- 11. THE CALL OUT CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAMPLING, AND THE CALL OUT LABORATORY RESPONSIBLE FOR ALL ANALYSES, AS MAY BE REQUIRED BY DISPOSAL FACILITIES FOR DISPOSAL OF ALL MATERIALS UNDER THIS CALL OUT. ALL SAMPLING SHALL BE CONDUCTED WITH THE ENGINEER PRESENT.
- 12. DRILL CUTTINGS RESULTING FROM THE INSTALLATION OF INJECTION WELLS SHALL BE SAMPLED. ANALYZED AND TRANSPORTED OFF-SITE TO AN APPROVED FACILITY FOR DISPOSAL IN ACCORDANCE WITH THE APPLICABLE STATE AND FEDERAL REGULATIONS. PROCEDURES SHALL BE DETAILED IN THE CALL OUT CONTRACTOR'S MATERIALS HANDLING AND TRANSPORTATION PLAN.
- 13. DECON PAD MATERIALS AND PPE SHALL BE SAMPLED AND ANALYZED AS REQUIRED AND TRANSPORTED OFF-SITE TO AN APPROVED FACILITY FOR DISPOSAL IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL REGULATIONS. PROCEDURES SHALL BE DETAILED IN CALL OUT CONTRACTOR'S MATERIALS HANDLING AND TRANSPORTATION PLAN.
- 14. CONSTRUCTION WATER, WATER RESULTING FROM DECONTAMINATION AND WATER USED TO INSTALL OR DEVELOP WELLS, SHALL BE DRUMMED OR PUT IN TANKS, OR APPROVED EQUIVALENT. WATER SHALL BE SAMPLED, ANALYZED AND TRANSPORTED OFF-SITE TO AN APPROVED FACILITY FOR DISPOSAL IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS. PROCEDURES SHALL BE DETAILED IN THE CALL OUT CONTRACTOR'S MATERIAL HANDLING AND TRANSPORTATION PLAN.

### TRANSPORTATION AND DISPOSAL: CONT'D

- 15. ALL WELL WASTE MATERIALS SHALL BE SAMPLED AND ANALYZED AS REQUIRED AND TRANSPORTED OFF-SITE TO AN APPROVED FACILITY FOR DISPOSAL IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL REGULATIONS. PROCEDURES SHALL BE DETAILED IN THE CALL OUT CONTRACTOR'S MATERIAL HANDLING AND TRANSPORTATION PLAN. WELL MATERIALS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING: SAND, BENTONITE, PVC RISER PIPE, WELL BOXES, ETC. REMOVED FROM THE SITE AS REQUIRED FOR WELL DECOMMISSIONING.
- 16. ALL CONCRETE AND RELATED MATERIALS SHALL BE SAMPLED AND ANALYZED AS REQUIRED AND TRANSPORTED OFF-SITE TO AN APPROVED FACILITY IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL REGULATIONS. PROCEDURES SHALL BE DETAILED IN THE CALL OUT CONTRACTOR'S MATERIAL HANDLING AND TRANSPORTATION PLAN. CONCRETE INCLUDES BUT IS NOT LIMITED TO CONCRETE AND MATERIALS RESULTING FORM THE REPLACEMENT OF SIDEWALK FLAGS OR OTHER STRUCTURES IMPACTED BY WELL DECOMMISSIONING.
- 17. THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR SHALL PROPERLY TRANSPORT AND DISPOSE OF ALL ITEMS DAILY, INCLUDING SOLID AND LIQUID HAZARDOUS AND NONHAZARDOUS WASTES REMOVED FROM THE SITE, TO APPROPRIATE DISPOSAL FACILITIES AS DISCUSSED ABOVE. THIS INCLUDES EXISTING WASTES, AS WELL AS THE WASTES GENERATED BY THE CALL OUT CONTRACTOR. THE CALL OUT CONTRACTORS SHALL BE RESPONSIBLE AND WILL BE HELD ACCOUNTABLE FOR ASSURING THAT ALL SAMPLING, ANALYSIS, TRANSPORTATION, AND DISPOSAL REQUIREMENTS OF THE TSDF, RECLAMATION OR SALVAGE FACILITIES, DISCHARGE PERMIT, FEDERAL, STATE, AND LOCAL GOVERNMENTS ARE COMPLIED WITH AND PROPERLY DOCUMENTED.
- 18. THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING TRANSPORTATION AND DISPOSAL OF HAZARDOUS AND NONHAZARDOUS MATERIAL. THESE INCLUDE. BUT ARE NOT LIMITED TO THE FOLLOWING:
- TRUCKS USED FOR TRANSPORTATION OF MATERIAL FOR DISPOSAL OFF—SITE SHALL BE PERMITTED PURSUANT TO 6 NYCRR PART 364.
- VEHICLE OPERATOR POSSESSION OF A COMMERCIAL DRIVER'S LICENSE WITH HAZARDOUS MATERIALS ENDORSEMENT (IF APPLICABLE).
- REGISTRATION OF VEHICLE AS A HAZARDOUS WASTE CARRIER (IF APPLICABLE).
- UTILIZATION OF SHIPPING PAPERS AND/OR HAZARDOUS WASTE MANIFEST (6 NYCRR PART 372).
- PROPER MARKING AND PLACARDING OF VEHICLES.
- PLACEMENT OF EMERGENCY RESPONSE PROCEDURES AND EMERGENCY TELEPHONE NUMBERS IN VEHICLE, AND OPERATOR FAMILIARITY WITH EMERGENCY RESPONSE PROCEDURES.
- COMPLIANCE WITH LOAD HEIGHT AND WEIGHT REGULATIONS.
- 20. THE CALL OUT CONTRACTORS SHALL NOT ALLOW SOIL TO BE TRACKED OFF-SITE AT ANY TIME DURING THE PROJECT. VISIBLE SOIL TRACKS ON STREETS WILL NOT BE ALLOWED. THE CALL OUT CONTRACTOR SHALL TAKE SUFFICIENT PRECAUTIONS TO PREVENT LOOSE SOILS FROM ADHERING TO TIRE TREADS, WHEEL WELLS, ETC.
- 21. TRUCKS USED FOR TRANSPORTATION OF MATERIAL FOR OFF-SITE DISPOSAL SHALL BE WATERTIGHT AND PERMITTED PURSUANT TO 6NYCRR PART 364. ALL TRUCKS SHALL BE COVERED PRIOR TO LEAVING THE SITE.
- 22. TRANSPORT VEHICLES SHALL BE DECONTAMINATED AT THE DECONTAMINATION STATION UPON LEAVING THE EXCLUSION ZONE AT THE SITE AND AGAIN AT THE DISPOSAL FACILITY AS REQUIRED.
- 23. A PRINTED TICKET VERIFIED BY THE DISPOSAL FACILITY WITH THE TIME, DATE, AND NET WEIGHT OF MATERIAL BEING DISPOSED SHALL BE GIVEN DIRECTLY TO THE ENGINEER.
- 24. MATERIALS SHALL BE TRANSPORTED ONLY AT THE TIMES AND BY THE ROUTES INDICATED IN THE APPROVED MATERIALS HANDLING AND TRANSPORTATION PLAN. UNLESS PERMISSION IS RECEIVED BY THE ENGINEER TO DO OTHERWISE. THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR SHALL OBSERVE THE LEGAL LOAD LIMITS.
- 25. PRIOR TO SHIPMENT OF WASTES OFF-SITE, THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR SHALL CONFIRM BY WRITTEN COMMUNICATION FROM THE DESIGNATED FACILITY THAT IT IS AUTHORIZED, HAS THE CAPACITY, AND WILL PROVIDE OR ASSURE THAT THE ULTIMATE DISPOSAL METHOD IS FOLLOWED FOR THE PARTICULAR HAZARDOUS WASTE ON THE MANIFEST.
- 26. THE EMERGENCY RESPONSE AND SPILLS CALL OUT CONTRACTOR SHALL COMPLETE ALL REQUIRED MANIFEST FORMS AND BILL OF LADING FORMS FOR THE NYSDEC FOR PROPER TRANSPORTATION AND DISPOSAL OF MATERIALS OFF-SITE. THE EPA-REQUIRED GENERATOR IDENTIFICATION NUMBER IS NYD987031564. THE NYSDEC (OR AGENTS THEREOF) SHALL SIGN ALL MANIFESTS FOR PROPER SHIPPING. HOWEVER, THE CALL OUT CONTRACTORS SHALL BE RESPONSIBLE AND WILL BE HELD ACCOUNTABLE FOR ASSURING THAT ALL SAMPLING, ANALYSIS, TRANSPORTATION, AND DISPOSAL REQUIREMENTS OF THE DISPOSAL FACILITIES, FEDERAL, STATE, AND LOCAL GOVERNMENTS ARE COMPLIED WITH AND PROPERLY DOCUMENTED. ALL WORK SHALL COMPLY WITH APPLICABLE PROVISIONS OF OSHA, USDOT, AND ALL OTHER FEDERAL, STATE, AND LOCAL REGULATIONS.

### DELIVERY WELL AND OXIDANT INJECTION SCHEDULE

PCE PLUME AREA	SHALLOW OVERBURDEN INTERMEDIATE IN 100 PPB PLUME			INTERMEDIATE DOWNGRADIENT					
	1ST EVENT	2ND EVENT	3RD EVENT	1ST EVENT	2ND EVENT	3RD EVENT	1ST EVENT	2ND EVENT	3RD EVENT
NUMBER OF INJECTION LOCATIONS	22	22	0	16	16	16	10	10	10
TOTAL VOLUME 6% NaMnO4 SOLUTION (GAL)		19,360			118,560			74,100	
TOTAL VOLUME 6% NaMnO₄ SOLUTION (GAL) PER INJECTION EVENT	9,680	9,680	0	39,520	39,520	39,520	24,700	24,700	24,700
TOTAL VOLUME 6% NaMnO₄ SOLUTION (GAL) PER INJECTION WELL	440	440	0	2,470	2,470	2,470	2,470	2,470	2,470
AT POTENTIAL INJECTION RATE - 8 GPM DURATION OF INJECTION PER WELL PER EVENT (HRS)	0.9	0.9	0.0	5.1	5.1	5.1	5.1	5.1	5.1

**NEW YORK** STATE OF OPPORTUNITY

PROJECT NAME:

Department of Environmental Conservation

**WEST SIDE CORP.** SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

REV. NO. DATE:



REVISION:

Owner's Information: NEW YORK STATE DEPARTMENT

OF ENVIRONMENTAL CONSERVATION

625 Broadway, Albany, New York 12233

Sheet title:

**SPECIFICATIONS** (SHEET 4 OF 6)

Scale: NONE

Date: JULY 2020 60629262 Project No.: RMC Dwg By: Chk By: CED

Dwg No:

G-005

6 of 19 Pg No:

- 3. DEFINITION OF TREE PROTECTION ZONE: AREA SURROUNDING INDIVIDUAL TREES OR GROUPS OF TREES TO REMAIN DURING CONSTRUCTION AND DEFINED BY THE DRIP LINE OF INDIVIDUAL TREES OR THE PERIMETER DRIP LINE OF GROUPS OF TREES, UNLESS OTHERWISE INDICATED OR APPROVED.
- 4. TREE SERVICE FIRM QUALIFICATIONS: AN EXPERIENCED TREE SERVICE FIRM THAT HAS SUCCESSFULLY COMPLETED TREE PROTECTION AND TRIMMING WORK SIMILAR TO THAT REQUIRED FOR THIS CALL OUT AND SHALL ASSIGN AN EXPERIENCED, QUALIFIED ARBORIST TO THE SITE DURING EXECUTION OF TREE PROTECTION AND TRIMMING.
- 5. ARBORIST QUALIFICATIONS: CONSULTING ARBORIST SHALL POSSESS CERTIFICATION FROM THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) WITH THE MINIMUM CREDENTIAL OF "CERTIFIED ARBORIST" OR MUST BE A "REGISTERED CONSULTING ARBORIST" BY THE AMERICAN SOCIETY OF CONSULTING ARBORISTS (ASCA). NYCDPR WILL TYPICALLY REQUEST THE CONSULTING ARBORIST'S PROFESSIONAL CREDENTIALS FOR REVIEW AND APPROVAL PRIOR TO THE APPROVAL AND ISSUANCE OF TREE WORK PERMITS.
- 6. THE WORK SHALL COMPLY WITH LOCAL REQUIREMENTS (INCLUDING BUT NOT LIMITED TO NYCDPR REQUIREMENTS) AND ANSI A300 (PART 1), TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE - STANDARD PRACTICES (PRUNING).
- 7. BEFORE TREE PROTECTION AND TRIMMING OPERATIONS BEGIN, THE CALL OUT CONTRACTOR SHALL MEET WITH REPRESENTATIVES OF AUTHORITIES HAVING JURISDICTION, THE NYSDEC, THE ENGINEER, AND OTHER CONCERNED ENTITIES TO REVIEW TREE PROTECTION, TRIMMING PROCEDURES, AND RESPONSIBILITIES.
- 8. THE CALL OUT CONTRACTOR'S TREE PROTECTION AND TRIMMING WORK PLAN SHALL ADDRESS ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND INCLUDE. BUT NOT NECESSARILY BE LIMITED TO, THE FOLLOWING:
- PRODUCT DATA: FOR EACH TYPE OF PRODUCT PROPOSED FOR USE.
- TREE PRUNING SCHEDULE: WRITTEN SCHEDULE FROM AN ARBORIST DETAILING SCOPE AND EXTENT OF PRUNING OF TREES TO REMAIN THAT WOULD OTHERWISE INTERFERE WITH OR ARE AFFECTED BY CONSTRUCTION.
- QUALIFICATION DATA: FOR TREE SERVICE FIRM AND FOR ARBORIST.
- CERTIFICATIONS: FROM ARBORIST, CERTIFYING THAT TREES INDICATED TO REMAIN HAVE BEEN PROTECTED DURING CONSTRUCTION ACCORDING TO RECOGNIZED STANDARDS AND THAT TREES WERE PROMPTLY AND PROPERLY TREATED AND REPAIRED WHEN DAMAGED.
- MAINTENANCE RECOMMENDATIONS: FROM ARBORIST, FOR CARE AND PROTECTION OF TREES AFFECTED BY CONSTRUCTION DURING AND AFTER COMPLETING THE
- REPLACEMENT TREE INFORMATION: IF ANY TREE(S) REQUIRES REPLACEMENT, PROVIDE DETAILED INFORMATION ON PROPOSED REPLACEMENT TREE(S) AND PROPOSED INSTALLATION METHODS REQUIRED BY QUALIFIED ARBORIST AND TREE NURSERY.
- 8. TEMPORARY FENCING FOR TREE PROTECTION IS NOT EXPECTED TO BE REQUIRED. IT WOULD ONLY BE REQUIRED IF THE CALL OUT CONTRACTOR'S CONSTRUCTION/DRILLING METHODS CANNOT ADEQUATELY PRESERVE TREES. IF DIRECTED BY THE ENGINEER, THE CALL OUT CONTRACTOR SHALL INSTALL TEMPORARY FENCING AROUND TREE PROTECTION ZONES TO PROTECT TREES AND VEGETATION FROM CONSTRUCTION DAMAGE. TEMPORARY FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND REMOVED WHEN CONSTRUCTION IS COMPLETE. FENCING SHALL BE INSTALLED AT A MINIMUM OF FIVE FEET AWAY FROM THE TREE, UNLESS OTHERWISE SPECIFIED BY THE NYSDEC OR THE ENGINEER, OR REQUIRED FOR CONSTRUCTION. FENCING SHALL NOT BE LESS THAN FOUR FEET IN HEIGHT. TEMPORARY FENCING, IF USED, SHALL BE STANDARD NYSDOT ORANGE PLASTIC BARRIER FENCE. FENCING SHALL BE SECURED TO THE GROUND USING STEEL POSTS, DRIVEN INTO THE GROUND /ONE-THIRD OF THE TOTAL POST LENGTH, AND AT EACH CORNER, THE MIDPOINT OF EACH SIDE, OR AT SIX (6)-FOOT INTERVALS, WHICHEVER IS LESS. FENCING SHALL BE SECURED TO POSTS WITH WIRE TIES AT THE TOP, MIDDLE, AND BOTTOM OF EACH POST.
- 9. THE CALL OUT CONTRACTOR SHALL PROTECT TREE ROOT SYSTEMS FROM DAMAGE CAUSED BY RUNOFF OR SPILLAGE OF NOXIOUS MATERIALS WHILE MIXING, PLACING, OR STORING CONSTRUCTION MATERIALS. THE CALL OUT CONTRACTOR SHALL PROTECT ROOT SYSTEMS FROM PONDING, ERODING, OR EXCESSIVE WETTING CAUSED BY ANY DEWATERING OPERATIONS.
- 10. MULCH SHALL BE APPLIED INSIDE THE TREE PROTECTION ZONES, AND WITHIN DRIP LINES OF TREES THAT ARE TO REMAIN IN PLACE. MULCH SHALL BE APPLIED AT AN AVERAGE THICKNESS OF TWO TO THREE INCHES. MULCH IS NOT TO BE PLACED WITHIN SIX (6) INCHES OF TREE TRUNKS. ORGANIC MULCH SHALL BE SHREDDED HARDWOOD, GROUND OR SHREDDED BARK, OR WOOD AND BARK CHIPS FREE OF DELETERIOUS MATERIAL.
- 11. CONSTRUCTION MATERIALS, DEBRIS, OR EXCAVATED MATERIAL SHALL NOT BE STORED INSIDE TREE PROTECTION ZONES. VEHICLES OR FOOT TRAFFIC IS NOT PERMITTED WITHIN TREE PROTECTION ZONES. SOIL COMPACTION OVER ROOT ZONES WILL NOT BE PERMITTED.
- 12. THE CALL OUT CONTRACTOR SHALL MAINTAIN TREE PROTECTION ZONES FREE OF WEEDS AND TRASH.
- 13. FIRES WILL NOT BE PERMITTED WITHIN TREE PROTECTION ZONES.
- 14. EXCAVATION WILL NOT BE PERMITTED WITHIN TREE PROTECTION ZONES, UNLESS OTHERWISE INDICATED OR APPROVED. WHERE EXCAVATION FOR NEW CONSTRUCTION IS REQUIRED WITHIN A TREE PROTECTION ZONE, THE CALL OUT CONTRACTOR SHALL HAND CLEAR AND EXCAVATE TO MINIMIZE DAMAGE TO ROOT SYSTEMS. NARROW-TINE SPADING FORKS SHALL BE USED TO COMB SOIL TO EXPOSE ROOTS.

### TREE PROTECTION AND TRIMMING: CONT'D

- 15. THE CALL OUT CONTRACTOR SHALL ADHERE TO THE FOLLOWING PROCEDURES FOR ROOT CLEARING:
- REDIRECT ROOTS IN BACKFILL AREAS WHERE POSSIBLE. IF ENCOUNTERING LARGE, MAIN LATERAL ROOTS, EXPOSE ROOTS BEYOND EXCAVATION LIMITS AS REQUIRED TO BEND AND REDIRECT THEM WITHOUT BREAKING. IF ENCOUNTERED IMMEDIATELY ADJACENT TO LOCATION OF NEW CONSTRUCTION AND REDIRECTION IS NOT PRACTICAL, CUT ROOTS APPROXIMATELY THREE INCHES BACK FROM NEW
- DO NOT ALLOW EXPOSED ROOTS TO DRY OUT BEFORE PLACING PERMANENT BACKFILL. PROVIDE TEMPORARY EARTH COVER OR PACK WITH PEAT MOSS AND WRAP WITH BURLAP. WATER AND MAINTAIN IN A MOIST CONDITION. TEMPORARILY SUPPORT AND PROTECT ROOTS FROM DAMAGE UNTIL THEY ARE PERMANENTLY RELOCATED AND COVERED WITH SOIL.
- THE CALL OUT CONTRACTOR SHALL NOT CUT MAIN LATERAL ROOTS OR TAPROOTS: ONLY SMALLER ROOTS THAT INTERFERE WITH INSTALLATION OF UTILITIES MAY BE CUT. THE CALL OUT CONTRACTOR SHALL CUT ROOTS WITH SHARP PRUNING INSTRUMENTS, WITHOUT BREAKING OR CHOPPING.
- 16. TREE PRUNING SHALL BE DONE IN A MANNER AS TO PRESERVE THE NATURAL SHAPE AND INTEGRITY OF THE TREE ACCORDING TO ITS SPECIES AND ACTUAL GROWING ENVIRONMENT AND NOT ENDANGER THE HEALTH OF THE TREE. PRUNING SHALL NOT TAKE PLACE DURING THE TREE'S NORMAL GROWTH PERIOD. BETWEEN APRIL 15TH AND SEPTEMBER 15TH UNLESS OTHERWISE DIRECTED BY THE NYSDEC OR THE ENGINEER. THE CALL OUT CONTRACTOR SHALL CARRY OUT ANY PRUNING OR SELECTIVE THINNING OPERATIONS IN ACCORDANCE WITH SECTION 614 OF THE "NEW YORK STATE DOT STANDARD SPECIFICATIONS," LATEST EDITION.
- 17. THE CALL OUT CONTRACTOR SHALL PROMPTLY REPAIR TREES DAMAGED BY CONSTRUCTION OPERATIONS WITHIN 24 HOURS OF THE DAMAGING EVENT. THE CALL OUT CONTRACTOR SHALL TREAT DAMAGED TRUNKS, LIMBS, AND ROOTS ACCORDING TO ARBORIST'S WRITTEN INSTRUCTIONS AND LOCAL REQUIREMENTS.
- 18. THE CALL OUT CONTRACTOR, AT THEIR OWN EXPENSE, SHALL REMOVE AND REPLACE TREES THAT DIE OR ARE DAMAGED DURING CONSTRUCTION OPERATIONS THAT THE ARBORIST, THE NYSDEC, AND THE ENGINEER DETERMINES ARE INCAPABLE OF RESTORING TO NORMAL GROWTH PATTERN. THE CALL OUT CONTRACTOR SHALL PROVIDE NEW TREES OF THE SAME SPECIES AS THOSE BEING REPLACED; PLANT AND MAINTAIN AS REQUIRED.
- 19. THE CALL OUT CONTRACTOR SHALL REMOVE FROM THE SITE EXCESS MATERIAL, DISPLACED TREES, RUBBISH, AND ANY OTHER DEBRIS AND DISPOSE OF. BURNING IS NOT PERMITTED.

### **RESTORATION OF SURFACES:**

- 1. ALL TYPES OF SURFACES, STREETS, DRIVEWAYS, SIDEWALKS, CURBS, GUTTERS CULVERTS AND OTHER FEATURES DISTURBED, DAMAGED OR DESTROYED DURING THE PERFORMANCE OF THE WORK UNDER OR AS A RESULT OF THE OPERATIONS OF THE CALL OUT, SHALL BE RESTORED AND MAINTAINED BY THE CALL OUT CONTRACTOR AT THE CALL OUT CONTRACTOR'S EXPENSE.
- 2. THE QUALITY OF MATERIALS AND THE PERFORMANCE OF WORK USED IN THE RESTORATION SHALL PRODUCE A SURFACE OR FEATURE EQUAL TO OR BETTER THAN THE CONDITION OF EACH BEFORE THE WORK BEGAN. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE AGENCY OR MUNICIPALITY WITH PRIOR APPROVAL.
- 3. SIDEWALK FLAGS SHALL BE REPLACED IMMEDIATELY AFTER WELL CONSTRUCTION AND IMMEDIATELY AFTER INJECTION WELLS ARE REMOVED, AND WHEN THE PROJECT DAMAGES THE SIDEWALK IN ANY WAY.
- 4. MATERIALS AND PROCEDURES SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS - CONSTRUCTION AND MATERIALS.
- 5. THE CALL OUT CONTRACTOR SHALL SUBMIT ALL REQUIRED APPLICATIONS, FORMS, PLANS AND CERTIFICATIONS IN ACCORDANCE WITH THE NYCDOT'S INSTRUCTIONS FOR FILING PLANS AND GUIDELINES FOR THE DESIGN OF SIDEWALKS, CURBS, ROADWAYS AND OTHER INFRASTRUCTURE COMPONENTS.
- 6. THE CALL OUT CONTRACTOR'S RESTORATION PLAN SHALL, AT A MINIMUM, INCLUDE THE FOLLOWING:
- DATA AND INFORMATION FOR ALL MATERIALS USED INCLUDING THE SOURCE. GRADATIONS, DENSITIES, JOB-MIX FORMULAS AND OTHER PERTINENT DATA.
- FOR ALL NYCDOT/NYSDOT MATERIALS, CERTIFICATES THAT THE MATERIALS MEET THE NYCDOT/NYSDOT STANDARD SPECIFICATIONS MATERIAL REQUIREMENTS.
- DETAILED DESCRIPTION OF THE CALL OUT CONTRACTOR'S METHODS AND EQUIPMENT USED FOR RESTORATION.
- 7. NO LATER THAN TWO WEEKS PRIOR TO ANY RESTORATION, THE CALL OUT CONTRACTOR SHALL SUBMIT TO THE ENGINEER A SCHEDULE OF RESTORATION OPERATIONS FOR REVIEW AND APPROVAL. AFTER AN ACCEPTED SCHEDULE HAS BEEN AGREED IT SHALL BE ADHERED TO UNLESS OTHERWISE REVISED WITH THE REVIEW AND APPROVAL OF THE ENGINEER.
- 8. EXCAVATION AREAS: IN GENERAL, PERMANENT RESTORATION OF PAVED SURFACES WILL NOT BE PERMITTED UNTIL ONE MONTH'S TIME HAS ELAPSED AFTER EXCAVATIONS HAVE BEEN COMPLETELY BACKFILLED. A GREATER LENGTH OF TIME, BUT NOT MORE THAN NINE (9) MONTHS MAY BE ALLOWED TO ELAPSE BEFORE PERMANENT RESTORATION OF STREET SURFACES IS UNDERTAKEN, IF ADDITIONAL TIME IS REQUIRED FOR SHRINKAGE AND SETTLEMENT OF THE BACKFILL. THE REPLACEMENT OF SURFACES AT ANY TIME, AS SCHEDULED OR AS DIRECTED, SHALL NOT RELIEVE THE CALL OUT CONTRACTOR OF RESPONSIBILITY FOR REPAIR OF DAMAGES RESULTING FROM SETTLEMENT OR OTHER FAILURES.
- 9. IMMEDIATELY UPON COMPLETION OF REFILLING OF A TRENCH, EXCAVATION, OR BORE HOLE, THE CALL OUT CONTRACTOR SHALL PLACE A TEMPORARY PAVEMENT OVER ALL DISTURBED AREAS OF STREETS, DRIVEWAYS, SIDEWALKS, AND OTHER TRAVELED PLACES WHERE THE ORIGINAL SURFACE HAS BEEN DISTURBED AS A RESULT OF THEIR OPERATIONS. UNLESS OTHERWISE SPECIFIED OR DIRECTED, THE TEMPORARY PAVEMENT SHALL CONSIST OF COMPACTED CRUSHED STONE OR CRUSHED GRAVEL NYSDOT SIZE DESIGNATION 1 TO SUCH A DEPTH AS REQUIRED TO WITHSTAND THE TRAFFIC TO WHICH IT WILL BE SUBJECTED. WHERE CONCRETE PAVEMENTS ARE REMOVED, THE TEMPORARY PAVEMENT SHALL BE SURFACED WITH COLD PATCH. THE SURFACE OF THE TEMPORARY PAVEMENT SHALL CONFORM TO THE SLOPE AND GRADE OF THE AREA BEING RESTORED. FOR DUST PREVENTION, THE CALL OUT CONTRACTOR SHALL TREAT ALL SURFACES NOT COVERED WITH COLD PATCH AS FREQUENTLY AS MAY BE REQUIRED. THE TEMPORARY PAVEMENT SHALL BE MAINTAINED BY THE CALL OUT CONTRACTOR IN A SAFE AND SATISFACTORY CONDITION UNTIL SUCH TIME AS THE PERMANENT PAVING IS COMPLETED. THE CALL OUT CONTRACTOR SHALL IMMEDIATELY REMOVE AND RESTORE ALL PAVEMENT THAT IS UNSATISFACTORY.

### RESTORATION OF SURFACES: CONT'D

- 10. THE PERMANENT AND FINAL REPAVING OF ALL STREETS, DRIVEWAYS AND SIMILAR SURFACES WHERE PAVEMENT HAS BEEN REMOVED, DISTURBED, SETTLED OR DAMAGED BY OR AS A RESULT OF PERFORMANCE OF THE CALL OUT SHALL BE REPAIRED AND REPLACED BY THE CALL OUT CONTRACTOR WITH A NEW AND SIMILAR PAVEMENT. THE TOP SURFACE SHALL CONFORM WITH THE GRADE OF EXISTING ADJACENT PAVEMENT AND THE ENTIRE REPLACEMENT SHALL MEET THE CURRENT SPECIFICATIONS OF THE NYCDOT AND ANY OTHER APPLICABLE LOCAL COMMUNITY REQUIREMENTS FOR THE PARTICULAR TYPES OF PAVEMENT. WHERE THE LOCAL COMMUNITY HAS NO SPECIFICATION FOR THE TYPE OF PAVEMENT, THE WORK SHALL BE DONE IN CONFORMITY WITH THE STATE AND NYCDOT STANDARDS WHICH CONFORMS THE CLOSEST TO THE TYPE OF SURFACING BEING REPLACED, AS DETERMINED BY THE
- 11. PREPARATION FOR PERMANENT PAVEMENT: WHEN SCHEDULED AND WITHIN THE TIME SPECIFIED. THE TEMPORARY PAVEMENT SHALL BE REMOVED AND A BASE PREPARED. TO THE DEPTH REQUIRED BY THE LOCAL COMMUNITY OR HIGHWAY PERMIT, TO RECEIVE THE PERMANENT PAVEMENT.
- THE BASE SHALL BE BROUGHT TO THE REQUIRED GRADE AND CROSS SECTION AND THOROUGHLY COMPACTED BEFORE PLACING THE PERMANENT PAVEMENT.
- ANY BASE MATERIAL WHICH HAS BECOME UNSTABLE FOR ANY REASON SHALL BE REMOVED AND REPLACED WITH COMPACTED BASE MATERIALS.
- PRIOR TO PLACING THE PERMANENT PAVEMENT, ALL SERVICE BOXES, MANHOLE FRAMES AND COVERS AND SIMILAR STRUCTURES WITHIN THE AREA SHALL BE ADJUSTED TO THE ESTABLISHED GRADE AND CROSS-SECTION.
- THE EDGES OF EXISTING ASPHALT PAVEMENT SHALL BE CUT A MINIMUM OF ONE FOOT BEYOND THE EXCAVATION OR DISTURBED BASE WHICHEVER IS GREATER. ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO THE CENTERLINE OF THE
- 12. ASPHALT PAVEMENT REQUIREMENTS: THE PERMANENT ASPHALT PAVEMENT REPLACEMENT FOR STREETS, DRIVEWAYS AND PARKING AREA SURFACES SHALL BE REPLACED WITH BITUMINOUS MATERIALS OF THE SAME DEPTH AND KIND AS THE EXISTING UNLESS OTHERWISE SPECIFIED. PRIOR TO PLACING OF ANY BITUMINOUS PAVEMENT, A SEALER SHALL BE APPLIED TO THE EDGES OF THE EXISTING PAVEMENT AND OTHER FEATURES. THE FURNISHING, HANDLING AND COMPACTION OF ALL BITUMINOUS MATERIALS SHALL BE IN ACCORDANCE WITH THE NYSDOT AND NYCDOT STANDARDS.
- 13. CONCRETE PAVEMENT AND PAVEMENT BASE REQUIREMENTS: CONCRETE PAVEMENTS AND CONCRETE BASES FOR ASPHALT, BRICK OR OTHER PAVEMENT SURFACES SHALL BE REPLACED WITH 4,000 PSI CONCRETE, AIR-ENTRAINED. PAVING SLABS OR CONCRETE BASES SHALL BE CONSTRUCTED TO EXTEND ONE FOOT BEYOND EACH SIDE OF THE TRENCH AND BE SUPPORTED ON UNDISTURBED SOIL. WHERE SUCH EXTENSION OF THE PAVEMENT WILL LEAVE LESS THAN TWO FEET OF ORIGINAL PAVEMENT SLAB OR BASE, THE REPAIR OF THE PAVEMENT SLAB OR BASE SHALL BE EXTENDED TO REPLACE THE SLAB TO THE ORIGINAL EDGE OF THE PAVEMENT OR BASE. WHERE THE EDGE OF THE PAVEMENT SLAB OR CONCRETE BASE SLAB FALLS WITHIN THE EXCAVATION, THE EXCAVATION SHALL BE BACKFILLED WITH CRUSHED STONE OR CRUSHED GRAVEL, NYSDOT SIZE DESIGNATION 1 COMPACTED TO 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698, UP TO THE BASE OF THE CONCRETE. THE NEW CONCRETE SHALL BE OF THE SAME THICKNESS AS THE SLAB BEING REPLACED AND SHALL CONTAIN REINFORCEMENT EQUAL TO THE OLD PAVEMENT. NEW CONCRETE SHALL BE PLACED AND CURED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE NYSDOT AND NYCDOT STANDARDS.
- 14. STONE OR GRAVEL PAVEMENT RESTORATION REQUIREMENTS: ALL PAVEMENT AND OTHER AREAS SURFACED WITH STONE OR GRAVEL SHALL BE REPLACED BY THE CALL OUT CONTRACTOR WITH MATERIAL TO MATCH THE EXISTING SURFACE UNLESS OTHERWISE SPECIFIED. THE DEPTH OF THE STONE OR GRAVEL SHALL BE AT LEAST EQUAL TO THE EXISTING. AFTER COMPACTION, THE SURFACE SHALL CONFORM TO THE SLOPE AND GRADE OF THE AREA BEING REPLACED.
- 15. CONCRETE WALKS, DRIVEWAYS, CURBS AND GUTTERS REMOVED OR DAMAGED IN CONNECTION WITH OR AS A RESULT OF THE CONSTRUCTION OPERATIONS SHALL BE REPLACED BY THE CALL OUT CONTRACTOR WITH NEW CONSTRUCTION IN ACCORDANCE WITH NYCDOT SPECIFICATIONS AND WITH THE SPECIFICATIONS GIVEN BELOW. IN THE EVENT OF A CONFLICT, PRECEDENCE SHALL BE GIVEN TO THE NYCDOT REQUIREMENTS.
- THE MINIMUM REPLACEMENT SHALL BE A FLAG OR BLOCK OF SIDEWALK.
- WALKS SHALL BE CONSTRUCTED OF 3,200 PSI CONCRETE ON A 6-INCH BASE OF COMPACTED CRUSHED STONE OR CRUSHED GRAVEL, NYCDOT SIZE NO. 3 BROKEN STONE.
- WALK THICKNESS SHALL BE NOT LESS THAN FOUR INCHES IN ALL CASES, NOT LESS THAN SEVEN (7) INCHES IN DRIVEWAYS AND CORNER QUADRANTS, AND NOT LESS THAN THE THICKNESS OF THE REPLACED WALK. THE WALK SHALL BE CONSTRUCTED IN SLABS BETWEEN EXPANSION JOINTS SPACED NOT MORE THAN 20 FEET APART AND SHALL BE SLOPED AT RIGHT ANGLES TO THE LONGITUDINAL CENTERLINE.
- WALKS SHALL BE HAND-FLOATED AND BROOM-FINISHED, EDGED AND GROOVED AT CONSTRUCTION JOINTS AND AT INTERMEDIATE INTERVALS MATCHING THOSE INTERVALS OF THE WALK BEING REPLACED.
- ONE-HALF INCH EXPANSION JOINT MATERIAL SHALL BE PLACED AROUND ALL OBJECTS WITHIN THE SIDEWALK AREA AS WELL AS OBJECTS TO WHICH THE NEW CONCRETE WILL ABUT, SUCH AS VALVE BOXES, MANHOLE FRAMES, CURBS, BUILDINGS AND OTHERS.
- INTERMEDIATE GROOVES SHALL BE SCORED A MINIMUM OF ONE—FOURTH OF THE DEPTH OF THE WALK.
- THE LENGTHS OF BLOCKS FORMED BY THE GROOVING TOOL, AND DISTANCES BETWEEN CONSTRUCTION AND EXPANSION JOINTS SHALL BE UNIFORM THROUGHOUT THE LENGTH OF THE WORK IN ANY ONE LOCATION.
- THE MINIMUM LENGTH OF CURB OR GUTTER TO BE LEFT IN PLACE OR REPLACED. SHALL BE FIVE FEET. WHERE A FULL SECTION IS NOT BEING REPLACED, THE EXISTING CURB OR GUTTER SHALL BE SAWCUT TO PROVIDE A TRUE EDGE.
- THE RESTORED CURB OR GUTTER SHALL BE THE SAME SHAPE, THICKNESS AND FINISH AS BEING REPLACED AND SHALL BE BUILT OF THE SAME CONCRETE AND HAVE CONSTRUCTION AND EXPANSION JOINTS AS STATED ABOVE FOR SIDEWALKS.
- 16. LAWNS AND IMPROVED AREA RESTORATION REQUIREMENTS: THE AREA TO RECEIVE TOPSOIL SHALL BE GRADED TO A DEPTH OF NOT LESS THAN FOUR INCHES OR AS SPECIFIED, BELOW THE PROPOSED FINISHED SURFACE. IF THE DEPTH OF EXISTING TOPSOIL PRIOR TO CONSTRUCTION WAS GREATER THAN FOUR INCHES. TOPSOIL SHALL BE REPLACED TO THAT DEPTH. THE FURNISHING AND PLACING OF TOPSOIL, SEED AND MULCH SHALL BE AS DIRECTED BY THE ENGINEER. WHEN REQUIRED TO OBTAIN GERMINATION, THE SEEDED AREAS SHALL BE WATERED IN SUCH A MANNER AS TO PREVENT WASHING OUT OF THE SEED. ANY WASHOUT OR DAMAGE WHICH OCCURS SHALL BE REGRADED AND RESEEDED. THE CALL OUT CONTRACTOR SHALL MAINTAIN THE NEWLY SEEDED AREAS, INCLUDING REGRADING, RESEEDING, WATERING AND MOWING, IN GOOD CONDITION TO THE END OF THE CALL OUT.

### **RESTORATION OF SURFACES: CONT'D**

- 17. TREES, SHRUBS AND LANDSCAPE ITEMS DAMAGED OR DESTROYED AS A RESULT OF THE CONSTRUCTION OPERATIONS SHALL BE REPLACED BY THE CALL OUT CONTRACTOR IN LIKE SPECIES AND SIZE AND IN ACCORDANCE WITH ALL APPLICABLE PERMIT REQUIREMENTS. ALL PLANTING AND CARE THEREOF SHALL MEET THE STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
- 18. THE FINISHED PRODUCTS OF RESTORATION SHALL BE MAINTAINED BY THE CALL OUT CONTRACTOR IN AN ACCEPTABLE CONDITION FOR AND DURING A PERIOD OF ONE YEAR FOLLOWING THE DATE OF COMPLETION OR OTHER SUCH DATE AS SET FORTH ELSEWHERE IN THE CONTRACT DOCUMENTS.

### INJECTION WELL INSTALLATION:

- 1. THE CALL OUT CONTRACTOR SHALL PROVIDE THE LABOR, EQUIPMENT, MATERIALS, TOOLS, AND SUPPLIES REQUIRED TO INSTALL 48 INJECTION WELLS. WELLS SHALL BE CONSTRUCTED TO THE DIMENSIONS, DETAILS, AND DEPTHS SHOWN ON THESE CALL OUT DRAWINGS, AND APPROVED BY THE ENGINEER. THE CALL OUT CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL STATUTES REGARDING THE INSTALLATION OF THESE SUBSURFACE STRUCTURES.
- 2. PRIOR TO WELL CONSTRUCTION, THE CALL OUT CONTRACTOR SHALL SUBMIT THE FOLLOWING:
- WELL CONSTRUCTION PLAN: THE WELL CONSTRUCTION PLAN SHALL INCLUDE, AT A MINIMUM. VENDOR PRODUCT DATA FOR EACH WELL COMPONENT. SKETCHES SHOWING THE PROPOSED WELL CONSTRUCTION, AND A DESCRIPTION OF THE METHODS AND EQUIPMENT USED TO INSTALL THE WELLS AND STAGE ANY DRILL CUTTINGS AND WATER. INCLUDE PROPOSED WELL LOCATION MAP THAT SHOWS PROPOSED WELL LOCATIONS IN RELATION TO UNDERGROUND AND OVERHEAD UTILITIES AND FACILITIES. WELL LOCATION MAP SHALL BE COORDINATED WITH AND SHOWN ON THE UTILITY MAPPING DESCRIBED IN PROTECTION OF EXISTING UTILITIES NOTE SECTION. INCLUDE PROPOSED SOFT DIG METHOD NECESSARY FOR MANUAL PRE-CLEARING AS SPECIFIED BELOW IN NOTE 9.
- PROPOSED WELL DRILLER AND GEOLOGIST QUALIFICATIONS. PROVIDE RESUMES THAT DISPLAY EXPERIENCE DIRECTLY APPLICABLE TO THE REQUIRED WORK.
- 3. AFTER WELL CONSTRUCTION, THE CALL OUT CONTRACTOR SHALL SUBMIT THE FOLLOWING:
- WELL CONSTRUCTION DIAGRAM: THE WELL CONSTRUCTION DIAGRAM SHALL BE SUBMITTED IN THE FORMAT SHOWN ON DRAWING NO. C-011.
- BORING LOGS: THE BORING LOGS SHALL BE SUBMITTED IN THE FORMAT SHOWN ON DRAWING NO. C-011.
- WELL DEVELOPMENT LOGS: WELL DEVELOPMENT LOGS SHALL BE SUBMITTED IN THE FORMAT SHOWN ON DRAWING NO. C-011.
- 4. CEMENT/BENTONITE GROUT SHALL CONSIST OF A MIXTURE OF 2 TO 5 POUNDS OF PURE BENTONITE POWDER PER 94 POUND BAG OF PORTLAND CEMENT TYPE I OR II; WITH 7 TO 8 GALLONS OF WATER.
- 5. WELL CASING SHALL BE AS SHOWN ON DRAWING NO. C-011.
- 6. THE CALL OUT CONTRACTOR SHALL PROVIDE ALL-WEATHER KEYED LOCKS.
- 7. THE CALL OUT CONTRACTOR SHALL PROVIDE A QUALIFIED GEOLOGIST, APPROVED BY THE ENGINEER, TO OVERSEE DRILLING ACTIVITIES AT THE SITE.
- 8. WELLS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THESE DRAWINGS, OR AS APPROVED BY THE ENGINEER. SOME FIELD ADJUSTMENT TO SHOWN NEW WELL LOCATIONS MAY BE REQUIRED PENDING ACTUAL LOCATIONS OF UTILITIES, TREES, HYDRANTS AND ANY OTHER SITE CONSTRAINTS.
- 9. INCREMENTAL SOFT DIG (I.E., MANUAL PRE-CLEAR) METHOD SHALL BE EMPLOYED FOR THE UPPERMOST FIVE FEET TO PROTECT ANY POTENTIAL BURIED UTILITIES NOT DISCOVERED OR PRECISELY IDENTIFIED BY THE UTILITY LOCATING DESCRIBED IN PROTECTION OF EXISTING UTILITIES NOTE SECTION.
- 10. WELLS SHALL BE INSTALLED USING SONIC DRILLING METHODS, MUD ROTARY METHODS, OR OTHER METHODS APPROVED BY THE ENGINEER.
- 11. THE BOREHOLES SHALL NOT BE LOGGED CONTINUOUSLY BUT SHALL BE LOGGED AT 2-FOOT INTERVALS AS THEY APPROACH THE WATER TABLE TO SET THE WELL SCREENS AT THE APPROPRIATE DEPTH AND TO IDENTIFY LOCALIZED GEOLOGIC CONDITIONS.
- 12. CASINGS SHALL BE SET PLUMB AND SHALL NOT DEVIATE FROM VERTICAL BY MORE THAN ONE PERCENT FOR THE FULL DEPTH OF CASING.
- 13. ANY TEMPORARY CASING USED SHALL HAVE SUFFICIENT THICKNESS TO RETAIN ITS SHAPE AND MAINTAIN A SECTION THROUGHOUT ITS DEPTH
- 14. THE CALL OUT CONTRACTOR SHALL PROVIDE WELL BOXES FOR WELLS AS SHOWN ON THESE DRAWINGS. EACH WELL BOX SHALL BE EQUIPPED WITH A FLUSH/TRAFFIC LOAD RATED MANHOLE COVER.
- 15. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 PSI AT 28 DAYS.
- 16. WELLS SHALL BE LABELED AND MARKED WITH PERMANENT METALLIC PLATES OR LABELS, USING THE WELL DESIGNATIONS AS INDICATED ON THESE DRAWINGS. PAINTED WELL LABELS WILL NOT BE ACCEPTED.
- 17. THE CALL OUT CONTRACTOR SHALL PERFORM WELL DEVELOPMENT FOR ALL WELLS ONLY AFTER THE GROUT SEAL HAS SET FOR A MINIMUM OF 24 HOURS. THE STATIC WATER LEVEL AND TOTAL WELL DEPTH FROM THE TOP OF CASING SHALL BE MEASURED INITIALLY. THE WELLS SHALL BE PUMPED TO REMOVE SEDIMENT. THIS WELL EVACUATION SHALL BE ACCOMPLISHED USING A POSITIVE DISPLACEMENT PUMP AND DEDICATED POLYETHYLENE TUBING EQUIPPED WITH A FOOT VALVE, OR A SUBMERSIBLE PUMP. DEDICATED TUBING SHALL BE USED TO ELIMINATE THE NEED FOR DECONTAMINATION AND REDUCE THE RISK OF CROSS CONTAMINATION. THE CALL OUT CONTRACTOR SHALL DEVELOP THE WELLS FOR AT LEAST FIVE WELL VOLUMES AND ATTEMPT TO ACHIEVE STABILIZED PH, CONDUCTIVITY, AND TEMPERATURE READINGS, AND TURBIDITY READINGS OF 50 NTU OR LESS. RECOVERY TIMES FOR WELLS WHICH ARE PUMPED OR BAILED DRY SHALL ALSO BE NOTED. UPON COMPLETION OF WELL DEVELOPMENT, THE DEVELOPMENT WATER SHALL BE DISPOSED OF IN ACCORDANCE WITH TRANSPORTATION AND DISPOSAL NOTE SECTION.
- 18. IF AT ANY TIME DURING THE INSTALLATION OF A WELL THE ENGINEER/GEOLOGIST DETERMINES THAT THE WELL HAS NOT BEEN PROPERLY INSTALLED, THE CALL OUT CONTRACTOR OR THEIR SUBCONTRACTOR SHALL ABANDON THE HOLE AND SLURRY GROUT ITS FULL DEPTH AS DIRECTED BY THE ENGINEER/GEOLOGIST AND INITIATE CONSTRUCTION OF A NEW WELL AT A LOCATION DETERMINED BY THE ENGINEER/GEOLOGIST AS REQUIRED BY THEIR NYSDEC CALL OUT CONTRACT.

**NEW YORK** STATE OF OPPORTUNITY

Department of Environmental

Conservation

PROJECT NAME:

**WEST SIDE CORP.** SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

Seal and Signature:



REV. NO. DATE:

REVISION:

Owner's Information: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

625 Broadway, Albany, New York 12233

Sheet title:

**SPECIFICATIONS** (SHEET 5 OF 6)

Scale: NONE

Date: JULY 2020 60629262 Project No.: RMC Dwg By:

Dwg No:

Chk By:

G-006

CED

### INJECTION WELL INSTALLATION: CONT'D FROM G-006

- 19. UPON COMPLETION OF A WELL, THE CALL OUT CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER/GEOLOGIST THAT THE FULL DEPTH OF THE WELL IS FREE FROM ANY OBSTRUCTIONS AND CLEAR OF ANY FORMATION MATERIALS, OR THE WELL SHALL BE DEEMED UNACCEPTABLE AND SHALL BE ABANDONED AND RE-DRILLED BY THE CALL OUT CONTRACTOR IN ACCORDANCE WITH THEIR NYSDEC CALL OUT CONTRACT.
- 20. THE GEOLOGIST SHALL RECORD ALL DRILLING ACTIVITIES ON A LOG. THE LOG SHALL CONTAIN THE FOLLOWING INFORMATION:
- A RECORD OF THE SOIL MATERIALS PENETRATED AND THE DEPTH TO WHICH THEY WERE ENCOUNTERED IN ACCORDANCE WITH 6 NYCRR 360-2.11(A)(10).
- A RECORD SHOWING LENGTHS OF EACH DIAMETER OF CASING AND SCREEN USED AND THE LOCATION OF PACKERS, PLUGS AND SEALS.
- STATIC GROUNDWATER LEVEL, IN THE NEW WELL AND THE LEVELS AT WHICH WATER WAS ENCOUNTERED DURING DRILLING.
- 21. VERTICAL AND HORIZONTAL COORDINATES OF NEWLY INSTALLED WELLS (AND ANY ABANDONED BORINGS) SHALL BE DETERMINED BY A STATE-LICENSED LAND SURVEYOR. EACH WELL SHALL BE SURVEYED FROM THE PERMANENT MEASURING POINT SCRIBED ONTO THE WELL RISER. VERTICAL MEASUREMENTS (ELEVATIONS) SHALL BE MEASURED TO WITHIN +/-0.01 FEET AND HORIZONTAL MEASUREMENTS WITHIN 0.1 FEET. MEASUREMENTS SHALL BE TIED INTO THE HORIZONTAL AND VERTICAL CONTROL ESTABLISHED FOR THE SITE. SURVEYING SHALL BE PROVIDED BY THE CALL OUT CONTRACTOR IN ACCORDANCE WITH SURVEY NOTE SECTION.
- 22. THE CALL OUT CONTRACTOR SHALL NOT USE, REUSE, OR REMOVE ANY EQUIPMENT, MATERIALS, SAMPLES, OR OTHER GOODS AT OR FROM THE SITE UNTIL THEY ARE CERTIFIED TO BE UNCONTAMINATED. DECONTAMINATION SHALL CONSIST OF WASHING AND STEAM CLEANING ALL EQUIPMENT AND MATERIALS THAT MAY BE REQUIRED AS SPECIFIED ABOVE OR AT THE REQUEST OF THE ENGINEER/GEOLOGIST. THE DRILLING CREW SHALL UNDERTAKE THE DECONTAMINATION OF THE GIVEN EQUIPMENT OR MATERIALS UNDER THE ENGINEER/GEOLOGISTS' SUPERVISION. THE CALL OUT CONTRACTOR SHALL COMPLY WITH ALL REQUEST AND PROCEDURES OF THE ON-SITE ENGINEER/GEOLOGIST REGARDING DECONTAMINATION DURING THE COURSE OF THE WORK, CLOSE OF THE WORKDAY, AND UPON COMPLETION OF THE PROJECT.
- GENERAL DECONTAMINATION PROCEDURES AND REQUIREMENTS:
- ALL DRILLING EQUIPMENT SHALL BE INSPECTED FOR INTEGRITY OF HYDRAULIC AND OIL FLUID HANDLING SYSTEMS AND GENERAL OVERALL CLEANLINESS. LEAKING HOSES, TANKS, HYDRAULIC LINES, ETC., SHALL BE REPLACED OR REPAIRED PRIOR TO BEGINNING WORK.
- ALL WELL CASING, SCREENS, AND OTHER CONSTRUCTION MATERIALS SHALL BE IN NEW CONDITION. USED MATERIALS WILL NOT BE PERMITTED IN WELL CONSTRUCTION.
- INITIAL CLEANING REQUIREMENTS ALL DRILLING EQUIPMENT AND ASSOCIATED TOOLS SHALL BE STEAM CLEANED UPON ARRIVAL AT THE SITE. EQUIPMENT SHALL INCLUDE AT A MINIMUM, BUT NOT BE LIMITED TO:
- DRILLING RODS AND BITS.
- AUGERS (CLIPS, PINS, AND ASSOCIATED HARDWARE).
- SAMPLERS (I.E. SPLIT SPOON, HYDROPUNCH).
- CASING MATERIALS (BOTH TEMPORARY AND PERMANENT).
- WRENCHES.
- HAMMERS.
- OTHER HAND TOOLS AND TOOLBOXES.
- HOSES AND TANKS.
- CABLE CLAMPS AND OTHER HOLDING DEVICES IN DIRECT CONTACT WITH DRILLING RODS.
- O DRILL RIG AND UNDERCARRIAGE, WHEEL WELLS, AND CHASSIS.
- ON—SITE CLEANING REQUIREMENTS:
- FOLLOWING USE, ALL EQUIPMENT WITH THE EXCEPTION OF THE CARRIER TRUCK AND UNDERCARRIAGE, SHALL BE STEAM-CLEANED BETWEEN BORINGS.
- O DOWN HOLE SAMPLING EQUIPMENT SHALL BE WASHED IN LABORATORY GRADE DETERGENT AND WATER, AND RINSED IN CLEAN, POTABLE MUNICIPAL WATER BETWEEN CONSECUTIVE SAMPLES AND/OR EACH BORING, AS APPROPRIATE.
- o IF IMMISCIBLE PRODUCTS ARE ENCOUNTERED DURING DRILLING, THE DRILLING AND SAMPLING EQUIPMENT SHALL BE CLEANED.
- 23. DURING AND FOLLOWING CLEANING, EQUIPMENT SHALL BE HANDLED ONLY WITH CLEAN-GLOVES. A NEW SET OF GLOVES SHALL BE UTILIZED BETWEEN EACH LOCATION. CLEANED MATERIALS SHALL BE PROTECTED FROM CONTAMINATION BY SUCH MEANS A THE SUPERVISING GEOLOGIST DEEMS NECESSARY.
- 24. DECONTAMINATION WATER SHALL BE TREATED PER TRANSPORTATION AND DISPOSAL NOTE SECTION.
- 25. DRILLING WATER SHALL BE DISPOSED IN ACCORDANCE WITH TRANSPORTATION AND DISPOSAL NOTE SECTION.

### INJECTION WELL DECOMMISSIONING:

- 1. THE CALL OUT CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT FOR DECOMMISSIONING WELLS AS REQUIRED BY THE CONTRACT DOCUMENTS.
- 2. THE CALL OUT CONTRACTOR'S WELL DECOMMISSIONING PLAN SHALL IDENTIFY THE CALL OUT CONTRACTOR'S PROPOSED METHODS AND MATERIALS FOR WELL DECOMMISSIONING.
- 3. EXCEPT AS OTHERWISE SPECIFIED OR INDICATED, ALL PROCEDURES AND MATERIALS SHALL COMPLY WITH CP-43, NYSDEC GROUNDWATER MONITORING WELL DECOMMISSIONING PROCEDURES, NOVEMBER 2009, OR LATEST REVISION.
- 4. GROUT: GROUT MIXTURE SHALL BE AS FOLLOWS: ONE 94 POUND BAG TYPE I PORTLAND CEMENT. 3.9 POUNDS POWDERED BENTONITE. AND 7.8 GALLONS POTABLE
- 5. AT THE CONCLUSION OF THE WORK AND ONLY WHEN SPECIFICALLY AUTHORIZED IN WRITING BY THE ENGINEER OR NYSDEC, THE CALL OUT CONTRACTOR SHALL DECOMMISSION ALL INJECTION WELLS THAT THE CALL OUT CONTRACTOR INSTALLED UNDER THIS CALL OUT.
- 6. WELLS SHALL BE GROUTED IN PLACE UNLESS OTHERWISE APPROVED OR DIRECTED BY THE ENGINEER. THE CALL OUT CONTRACTOR SHALL CUT THE WELL CASING AT A 5-FOOT DEPTH AND REMOVE ALL WELL MATERIALS.
- 7. THE CALL OUT CONTRACTOR SHALL DECONTAMINATE DRILL RIGS AND TOOLS IN ACCORDANCE WITH THE CALL OUT DOCUMENT HEALTH AND SAFETY REQUIREMENTS AND CP-43. NYSDEC GROUNDWATER MONITORING WELL DECOMMISSIONING PROCEDURES, NOVEMBER 2009, OR LATEST VERSION. SAMPLING AND DOWNHOLE EQUIPMENT SHALL BE DECONTAMINATED BEFORE USE ON THE SITE.
- 8. WASTE MATERIALS ANTICIPATED TO BE GENERATED DURING WELL DECOMMISSIONING INCLUDE DECONTAMINATION FLUIDS, PERSONAL PROTECTIVE EQUIPMENT, DRILL CUTTINGS. AND WELL CONSTRUCTION MATERIALS. DISPOSAL OF WASTE MATERIALS SHALL BE IN ACCORDANCE WITH TRANSPORTATION AND DISPOSAL NOTE SECTION.
- 9. THE CALL OUT CONTRACTOR SHALL RESTORE ALL SURFACES IMPACTED BY WELL DECOMMISSIONING IN ACCORDANCE WITH RESTORATION OF SURFACES NOTE SECTION.

		PE	RFORMA	ANCE M	ONITORI	NG SCHEDULI	Ξ	
	ACTIVITY	X X X X X X X X X X X X X X X X X X X	SAMPLE COLLECTION AND LABORATOR ANALYSIS FOR EVALUATION					
		FOLL	OWING 1ST	, 2ND AND	3RD INJE	CTION EVENTS	PRIOR TO 2ND AND 3RD INJECTION EVENT	POST-REMEDIATION
	FREQUENCY	MON	ITH 1	MON	TH 2			FOLLOWING 3RE INJECTION EVEN
		WEEK 2	WEEK 4	WEEK 6	WEEK 8	WEEK 12	ONCE	ANNUAL
	GROUNDWATER MWs  VOCs BY SW846 8260C  DISSOLVED METALS BY SW846 6010C  HEXAVALENT CHROMIUM BY SW846 7196A  ALKALINITY BY SM 2320B  INJECTION WELLS  COLOR BY SM 2120C  GROUNDWATER ELEVATION  GROUNDWATER MWs  COLOR	X	x	X	x	Х	x x x x	x x x x
	GROUNDWATER ELEVATION FIELD PARAMETERS: pH, CONDUCTIVITY, DO, ORP							
<b>S</b>			PLING AND	ANALYSIS				ELLS FOR FIELD TOTAL OF 48)
	W-01S/1I/1D W-02S/2I/2D		· ·	•		•	IWS-01 THI	ROUGH IWS-22
	W-03S/3I/3D W-04S/4I/4D W-05		W-14S/1	4I/14D	MW-24-6	S/6I/6D	IWI—101 THI	ROUGH IWI-126
	W-06S/6I/6D W-07S/7I/7D W-08S/8I/8D W-09S/9I/9D		W-16S/1 W-17S/1 W-18I W-19S/1	61/16D 71 91/19D				
	W-10S/10I/10D		W-205/2	.UI				

NOTE: THE CALL OUT CONTRACTOR SHALL ALSO PERFORM THE PRE-INJECTION SAMPLING EVENT DESCRIBED IN NOTE 28 (3RD BULLET) OF THE IN-SITU CHEMICAL OXIDATION NOTE SECTION.

W-21S/21I/21D

### EXISTING MONITORING WELL CONSTRUCTION DATA SCHEDULE

		L CONSTRUCTION DATA	A SOMEDOLE
WELL ID	DEPTH TO WATER (FEET)*	WELL DEPTH PER WELL CONSTRUCTION LOG (FEET)	WELL DIAMETER (INCHES)
MW-24-4D	13.60	72	2
MW-24-41	13.65	48	2
MW-24-4S MW-24-5D	13.65	25 75	2
MW-24-5I	11.60	46	2
MW-24-5S	11.60	23	2
MW-24-6D	10.24	67	2
MW-24-6I	10.22	43	2
MW-24-6S	10.20	19	2
W-01D	8.85	70	2
W-01I	8.75	45	2
W-01S	8.72	22	2
W-02D	9.44	73	2
W-02I	9.44	40.75	2
W-02S W-03D	9.44	21.30 70.50	2
W-03I	11.38	45	2
W-03S	7.35	22	2
W-04D	10.86	60	2
W-04I	10.81	45	2
W-04S	8.25	22	2
W-05S	11.00	22	2
W-06D	11.95	69	1
W-06I	12.25	24	1
W-06S	11.95	21.60	2
W-07D	12.49	85	2
W-07I W-07S	12.62	40	2
W-073	12.58	75	2
W-08I	13.25	40	2
W-08S	13.90	22	2
W-09D	10.35	70	2
W-09I	15.12	45	2
W-09S	10.55	22	2
W-10D	11.75	76.25	1
W-10I	11.75	42.75	1
W-10S	11.80	13.50	1
W-11D	12.90	80.76	1
W-11I	13.20	42.68	1
W-11S W-12D	13.20 21.12	14.60	1
W-12D	21.36	55	1
W-12S	20.10	26.70	1
W-13D	7.90	93.10	1
W-13I	8.22	50.40	1
W-13S	8.10	13.70	1
W-14D	14.65	104	1
W-14I	14.60	53.3	1
W-14S	14.52	20.80	1
W-15D	7.12	83	1
W-15I	7.45	50.5	1
W-15S W-16D	7.32 9.45	14.35 89.90	2
W-16D W-16I	9.45	60.10	2
W-16S	10.42	16.2	2
W-17I	10.35	49.90	2
W-17S	10.42	16.20	2
W-18I	12.82	59.5	2
W-19D	8.31	87	2
W-19I	8.40	45.70	2
W-19S	8.65	13.90	2
W-20I	9.43	50.71	2
W-20S	9.15	14.55	2
W-21D	9.05	85.10	2
W-211	9.10	46.70 15.55	2
W-21S	9.35	15.55	2

NOTE: INFORMATION IN THE ABOVE SCHEDULE WAS TAKEN FROM URS CORPORATION 2019 PLUME DELINEATION LETTER REPORT, DATED DECEMBER 2019.



Department of Environmental Conservation

PROJECT NAME:

### **WEST SIDE CORP.** SITE OPERABLE UNIT 2 **JAMAICA, NY**

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802. 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

### Seal and Signature:



REV. NO. DATE: | REVISION:

Owner's Information: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

625 Broadway, Albany, New York 12233

Sheet title:

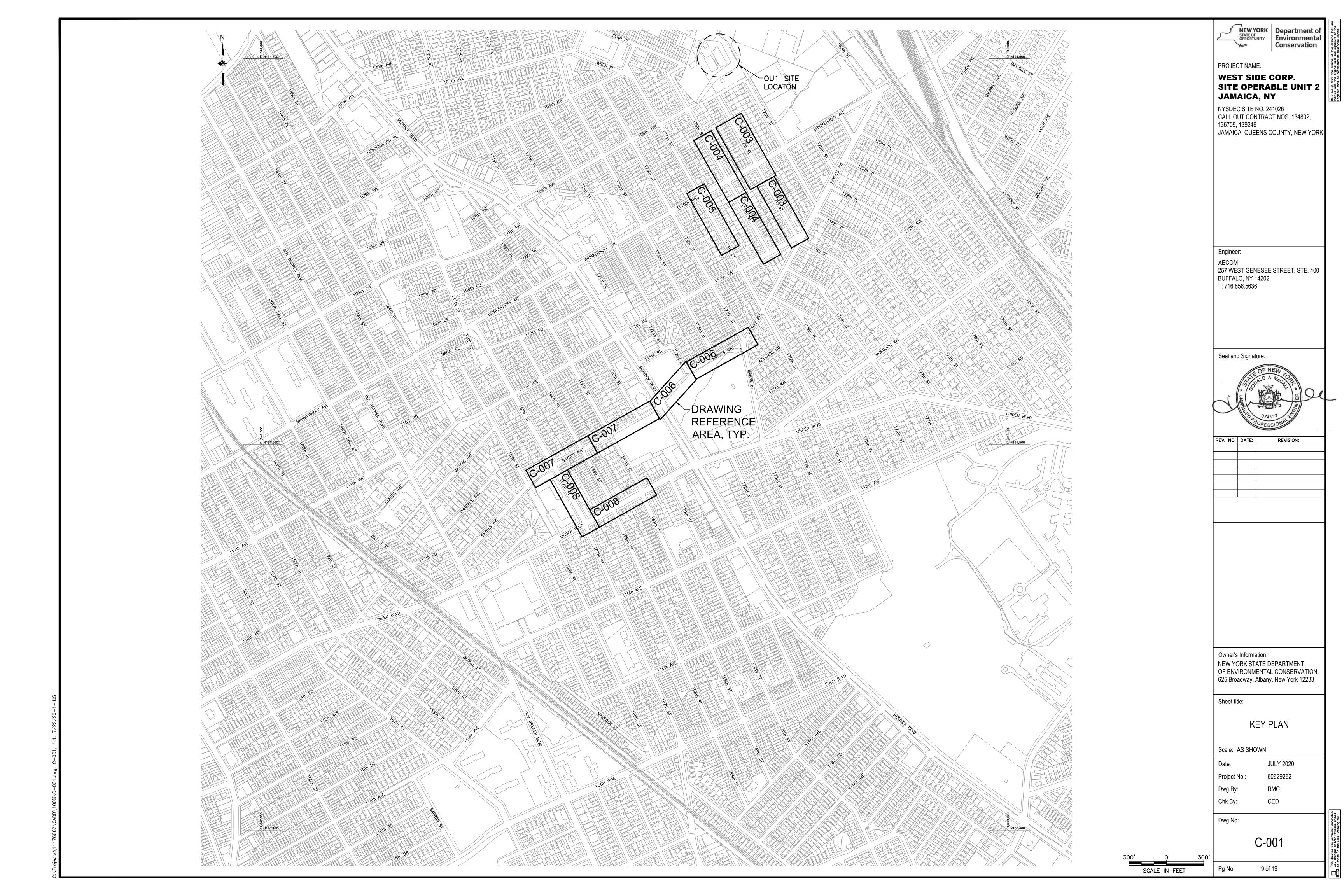
SPECIFICATIONS (SHEET 6 OF 6)

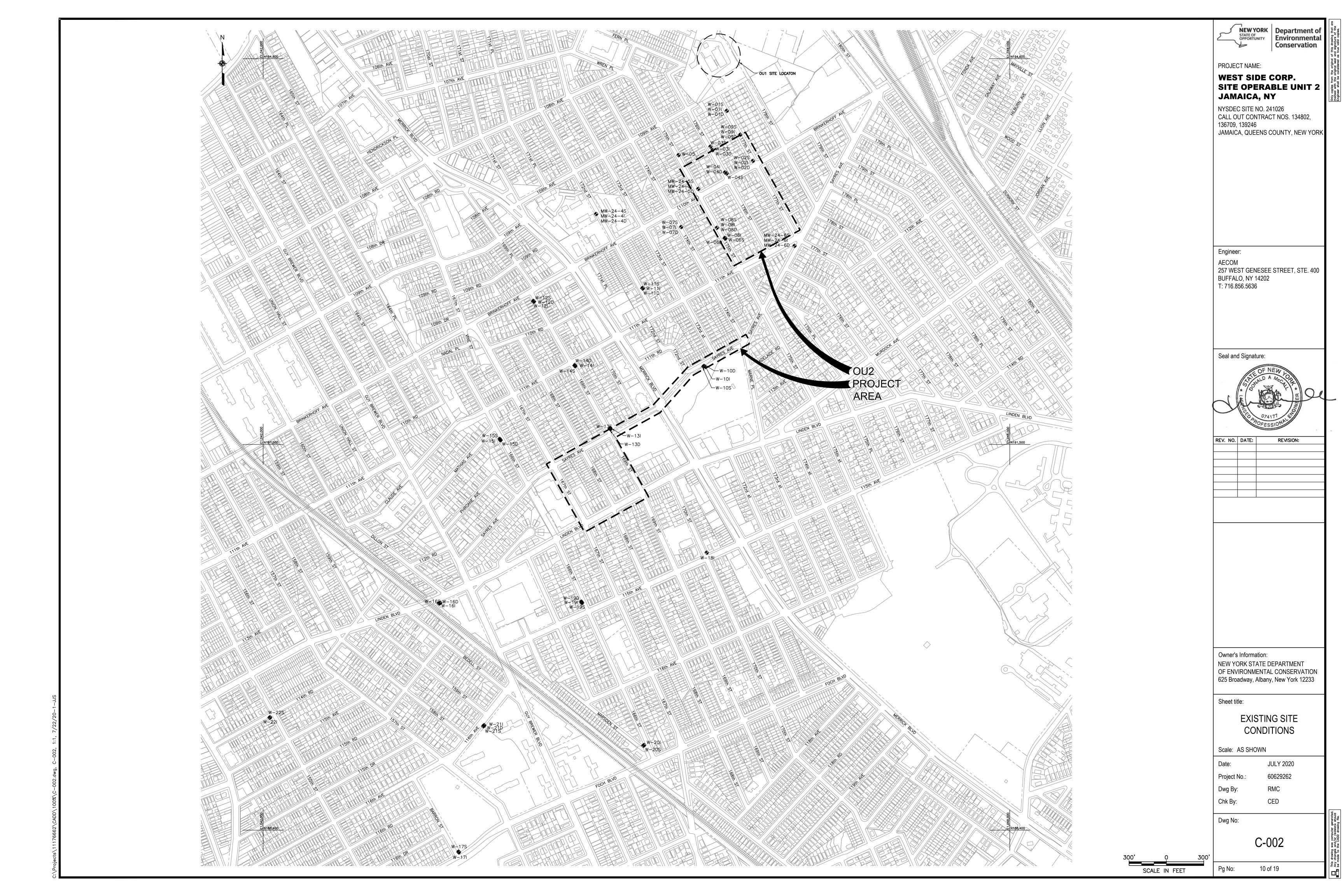
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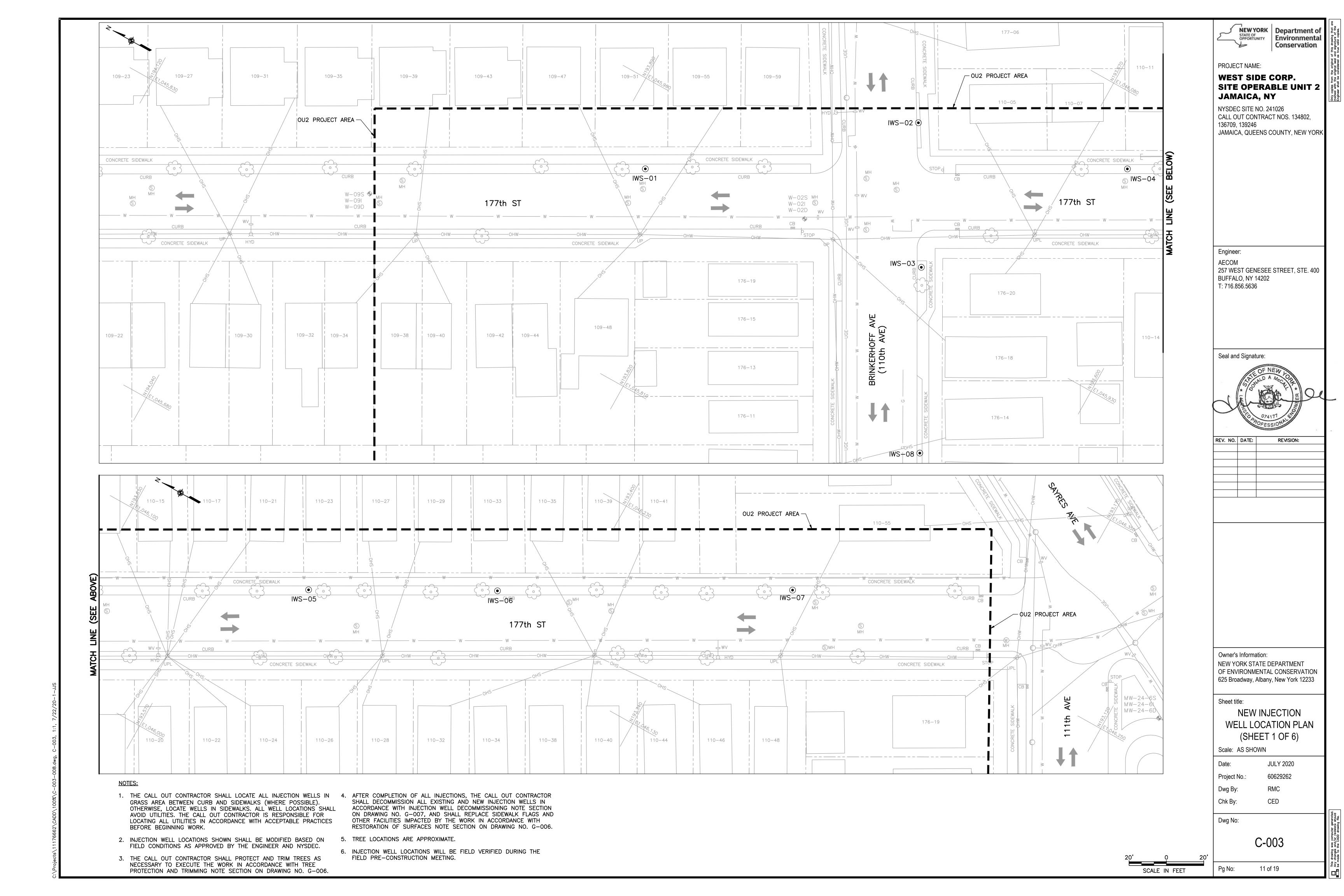
Date: JULY 2020 60629262 Project No.: RMC Dwg By: Chk By: CED

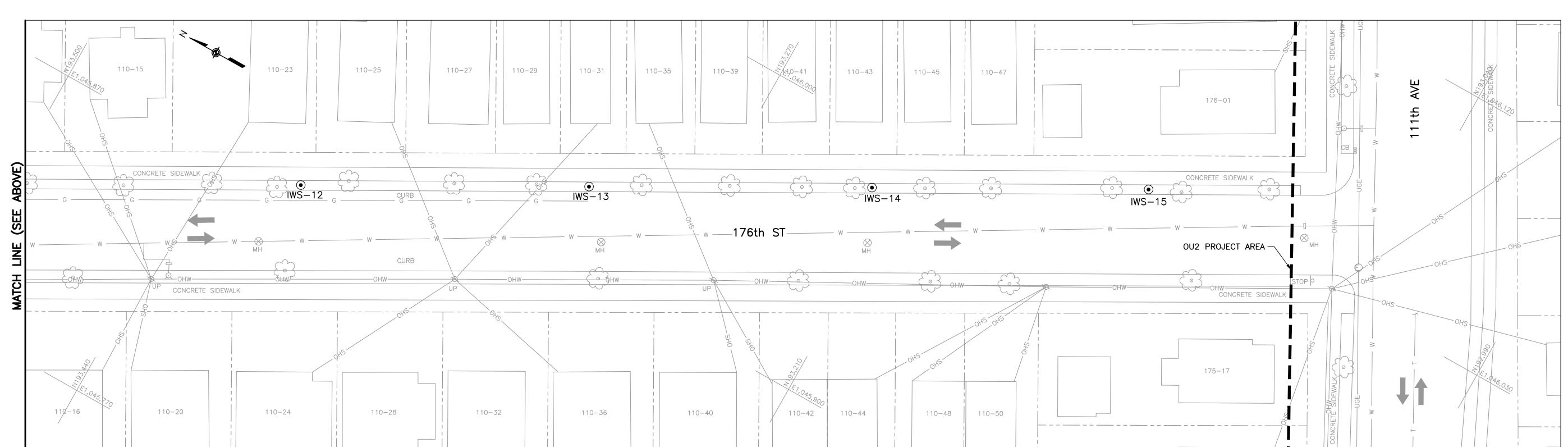
Dwg No:

G-007









- 1. THE CALL OUT CONTRACTOR SHALL LOCATE ALL INJECTION WELLS IN 4. AFTER COMPLETION OF ALL INJECTIONS, THE CALL OUT CONTRACTOR GRASS AREA BETWEEN CURB AND SIDEWALKS (WHERE POSSIBLE). OTHERWISE, LOCATE WELLS IN SIDEWALKS. ALL WELL LOCATIONS SHALL AVOID UTILITIES. THE CALL OUT CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES IN ACCORDANCE WITH ACCEPTABLE PRACTICES BEFORE BEGINNING WORK.
- 2. INJECTION WELL LOCATIONS SHOWN SHALL BE MODIFIED BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER AND NYSDEC.
- 3. THE CALL OUT CONTRACTOR SHALL PROTECT AND TRIM TREES AS NECESSARY TO EXECUTE THE WORK IN ACCORDANCE WITH TREE PROTECTION AND TRIMMING NOTE SECTION ON DRAWING NO. G-006.
- SHALL DECOMMISSION ALL EXISTING AND NEW INJECTION WELLS IN ACCORDANCE WITH INJECTION WELL DECOMMISSIONING NOTE SECTION ON DRAWING NO. G-007, AND SHALL REPLACE SIDEWALK FLAGS AND OTHER FACILITIES IMPACTED BY THE WORK IN ACCORDANCE WITH RESTORATION OF SURFACES NOTE SECTION ON DRAWING NO. G-006.
- 5. TREE LOCATIONS ARE APPROXIMATE.
- 6. INJECTION WELL LOCATIONS WILL BE FIELD VERIFIED DURING THE FIELD PRE-CONSTRUCTION MEETING.

NEW YORK | Department o

STATE OF OPPORTUNITY Environmenta Conservation

PROJECT NAME:

### **WEST SIDE CORP.** SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

**AECOM** 257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

Seal and Signature:



REV. NO. DATE: REVISION:

Owner's Information: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 Broadway, Albany, New York 12233

Sheet title:

**NEW INJECTION** WELL LOCATION PLAN (SHEET 2 OF 6)

Scale: AS SHOWN

JULY 2020 Date: Project No.: 60629262 RMC Dwg By: CED Chk By:

Dwg No:

C-004

Pg No: 12 of 19

- 1. THE CALL OUT CONTRACTOR SHALL LOCATE ALL INJECTION WELLS IN 4. AFTER COMPLETION OF ALL INJECTIONS, THE CALL OUT CONTRACTOR GRASS AREA BETWEEN CURB AND SIDEWALKS (WHERE POSSIBLE). OTHERWISE, LOCATE WELLS IN SIDEWALKS. ALL WELL LOCATIONS SHALL AVOID UTILITIES. THE CALL OUT CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES IN ACCORDANCE WITH ACCEPTABLE PRACTICES BEFORE BEGINNING WORK.
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NEW YORK
STATE OF OPPORTUNITY
Department of Environmental

Conservation

PROJECT NAME:

### WEST SIDE CORP. SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

**AECOM** 257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

Seal and Signature:



REV. NO. DATE: REVISION:

Owner's Information: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 Broadway, Albany, New York 12233

Sheet title:

**NEW INJECTION** WELL LOCATION PLAN (SHEET 3 OF 6)

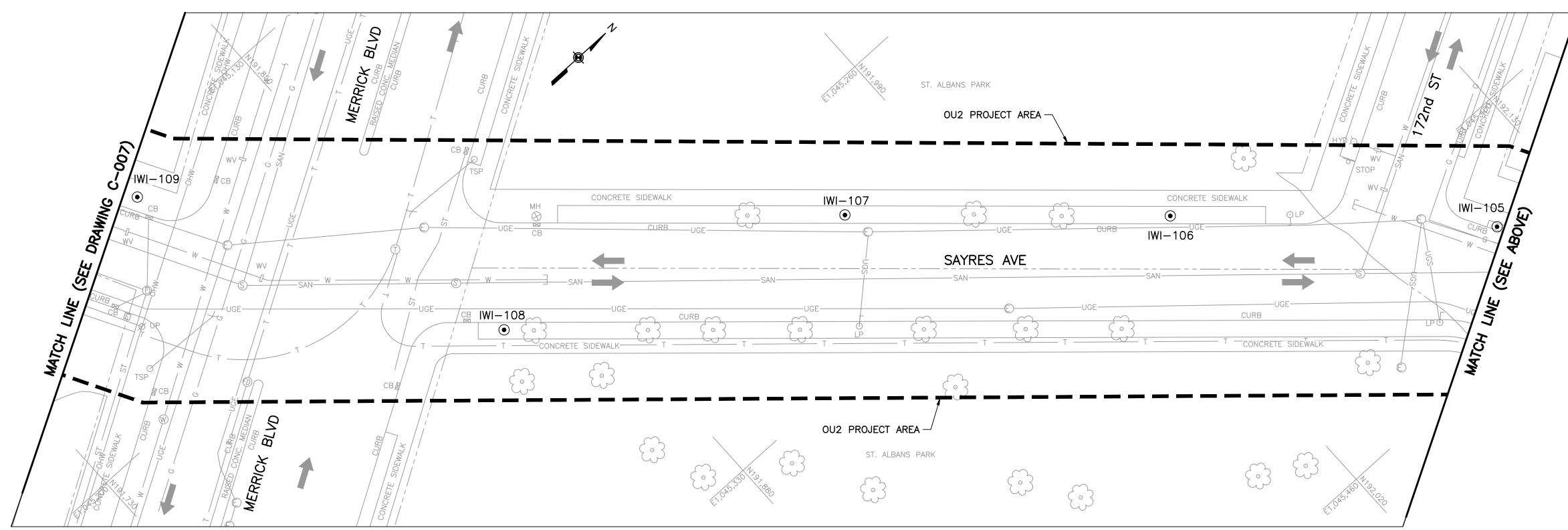
Scale: AS SHOWN

JULY 2020 60629262 Project No.: Dwg By: CED Chk By:

Dwg No:

C-005

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- 1. THE CALL OUT CONTRACTOR SHALL LOCATE ALL INJECTION WELLS IN 4. AFTER COMPLETION OF ALL INJECTIONS, THE CALL OUT CONTRACTOR GRASS AREA BETWEEN CURB AND SIDEWALKS (WHERE POSSIBLE). OTHERWISE, LOCATE WELLS IN SIDEWALKS. ALL WELL LOCATIONS SHALL AVOID UTILITIES. THE CALL OUT CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES IN ACCORDANCE WITH ACCEPTABLE PRACTICES BEFORE BEGINNING WORK.
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- 3. THE CALL OUT CONTRACTOR SHALL PROTECT AND TRIM TREES AS NECESSARY TO EXECUTE THE WORK IN ACCORDANCE WITH TREE PROTECTION AND TRIMMING NOTE SECTION ON DRAWING NO. G-006.
- SHALL DECOMMISSION ALL EXISTING AND NEW INJECTION WELLS IN ACCORDANCE WITH INJECTION WELL DECOMMISSIONING NOTE SECTION ON DRAWING NO. G-007, AND SHALL REPLACE SIDEWALK FLAGS AND OTHER FACILITIES IMPACTED BY THE WORK IN ACCORDANCE WITH RESTORATION OF SURFACES NOTE SECTION ON DRAWING NO. G-006.
- 5. TREE LOCATIONS ARE APPROXIMATE.
- 6. INJECTION WELL LOCATIONS WILL BE FIELD VERIFIED DURING THE FIELD PRE-CONSTRUCTION MEETING.

**NEW YORK** 

STATE OF OPPORTUNITY Environmenta Conservation

PROJECT NAME:

### WEST SIDE CORP. SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

**AECOM** 257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

Seal and Signature:



REV. NO. DATE: **REVISION:** 

Owner's Information: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 Broadway, Albany, New York 12233

Sheet title:

**NEW INJECTION** WELL LOCATION PLAN (SHEET 4 OF 6)

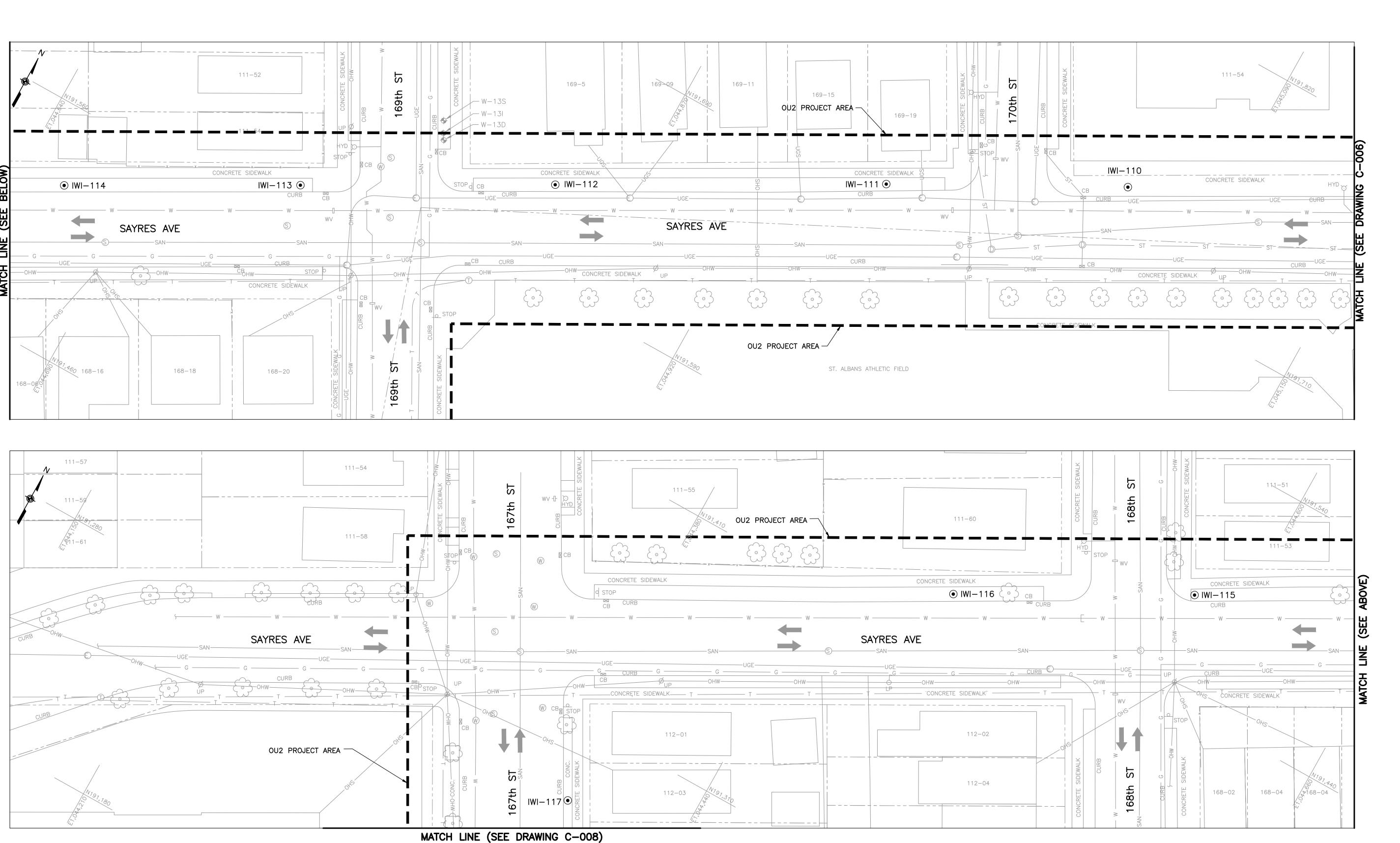
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JULY 2020 Date: Project No.: 60629262 Dwg By: RMC CED Chk By:

Dwg No:

C-006

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- 1. THE CALL OUT CONTRACTOR SHALL LOCATE ALL INJECTION WELLS IN 4. AFTER COMPLETION OF ALL INJECTIONS, THE CALL OUT CONTRACTOR GRASS AREA BETWEEN CURB AND SIDEWALKS (WHERE POSSIBLE). OTHERWISE, LOCATE WELLS IN SIDEWALKS. ALL WELL LOCATIONS SHALL AVOID UTILITIES. THE CALL OUT CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES IN ACCORDANCE WITH ACCEPTABLE PRACTICES BEFORE BEGINNING WORK.
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- 3. THE CALL OUT CONTRACTOR SHALL PROTECT AND TRIM TREES AS NECESSARY TO EXECUTE THE WORK IN ACCORDANCE WITH TREE PROTECTION AND TRIMMING NOTE SECTION ON DRAWING NO. G-006.
- SHALL DECOMMISSION ALL EXISTING AND NEW INJECTION WELLS IN ACCORDANCE WITH INJECTION WELL DECOMMISSIONING NOTE SECTION ON DRAWING NO. G-007, AND SHALL REPLACE SIDEWALK FLAGS AND OTHER FACILITIES IMPACTED BY THE WORK IN ACCORDANCE WITH RESTORATION OF SURFACES NOTE SECTION ON DRAWING NO. G-006.
- 5. TREE LOCATIONS ARE APPROXIMATE.
- 6. INJECTION WELL LOCATIONS WILL BE FIELD VERIFIED DURING THE FIELD PRE-CONSTRUCTION MEETING.

Environmenta Conservation

PROJECT NAME:

### **WEST SIDE CORP.** SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer: **AECOM** 

257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

Seal and Signature:



REV. NO. DATE: REVISION:

Owner's Information: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

625 Broadway, Albany, New York 12233

Sheet title:

**NEW INJECTION** WELL LOCATION PLAN (SHEET 5 OF 6)

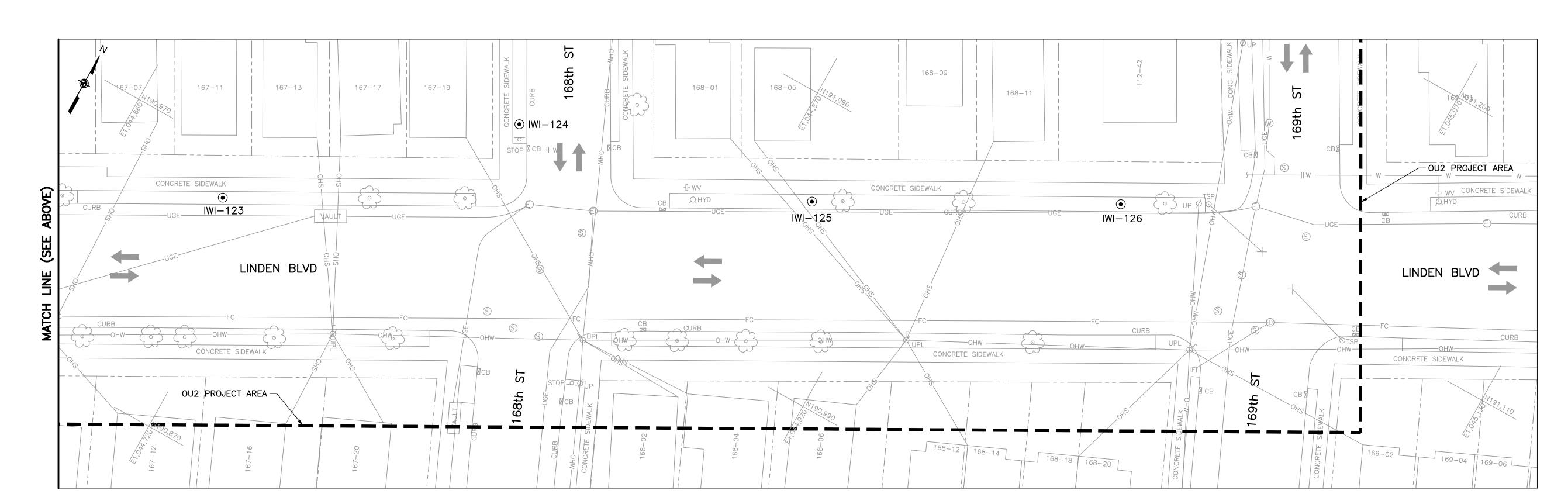
Scale: AS SHOWN

JULY 2020 Date: 60629262 Project No.: RMC Dwg By: CED Chk By:

Dwg No:

C-007

15 of 19



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- 3. THE CALL OUT CONTRACTOR SHALL PROTECT AND TRIM TREES AS NECESSARY TO EXECUTE THE WORK IN ACCORDANCE WITH TREE PROTECTION AND TRIMMING NOTE SECTION ON DRAWING NO. G-006.
- 1. THE CALL OUT CONTRACTOR SHALL LOCATE ALL INJECTION WELLS IN 4. AFTER COMPLETION OF ALL INJECTIONS, THE CALL OUT CONTRACTOR SHALL DECOMMISSION ALL EXISTING AND NEW INJECTION WELLS IN ACCORDANCE WITH INJECTION WELL DECOMMISSIONING NOTE SECTION ON DRAWING NO. G-007, AND SHALL REPLACE SIDEWALK FLAGS AND OTHER FACILITIES IMPACTED BY THE WORK IN ACCORDANCE WITH RESTORATION OF SURFACES NOTE SECTION ON DRAWING NO. G-006.
  - 5. TREE LOCATIONS ARE APPROXIMATE.
  - 6. INJECTION WELL LOCATIONS WILL BE FIELD VERIFIED DURING THE FIELD PRE-CONSTRUCTION MEETING.

NEW YORK STATE OF OPPORTUNITY

Environmental Conservation

PROJECT NAME:

### **WEST SIDE CORP.** SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer: **AECOM** 

257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

Seal and Signature:



REV. NO. DATE: **REVISION:** 

Owner's Information: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 Broadway, Albany, New York 12233

Sheet title:

**NEW INJECTION** WELL LOCATION PLAN (SHEET 6 OF 6)

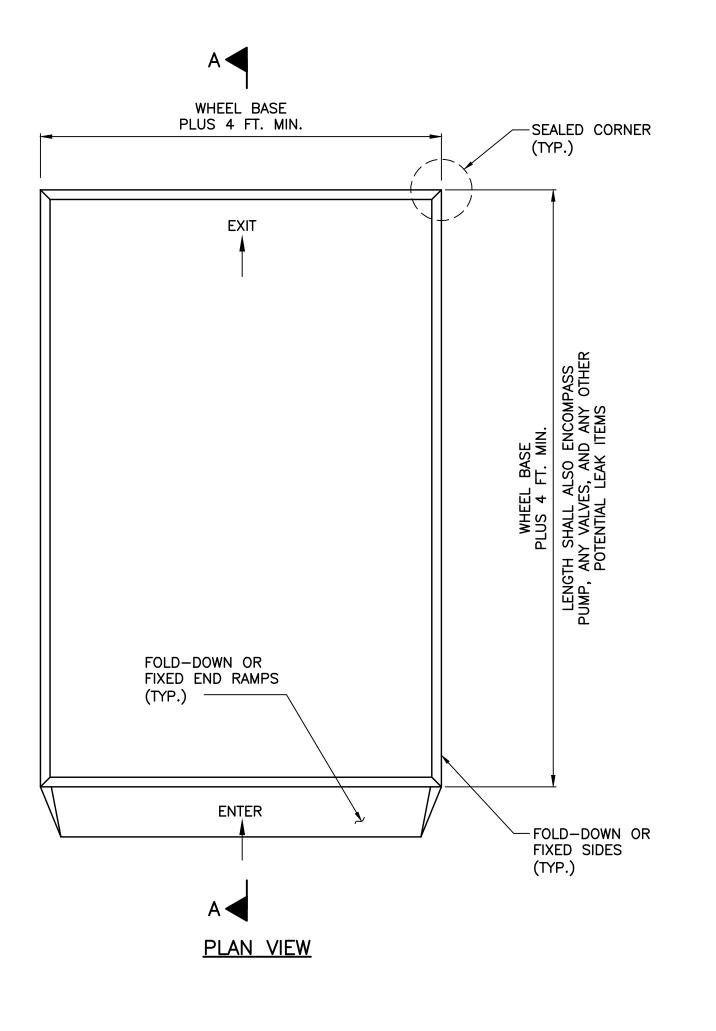
Scale: AS SHOWN

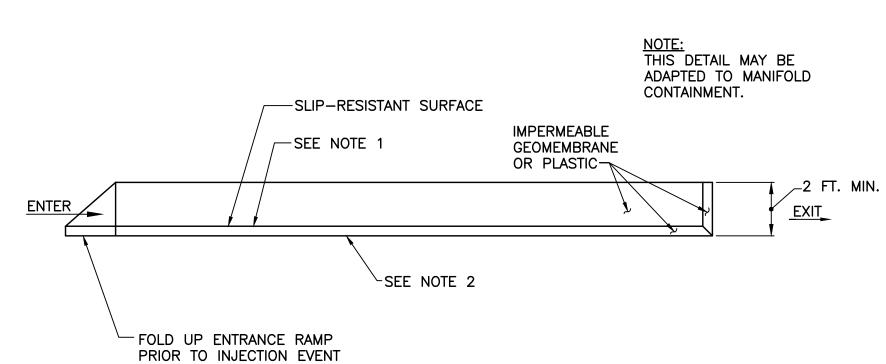
JULY 2020 Date: Project No.: 60629262 RMC Dwg By: CED Chk By:

Dwg No:

C-008

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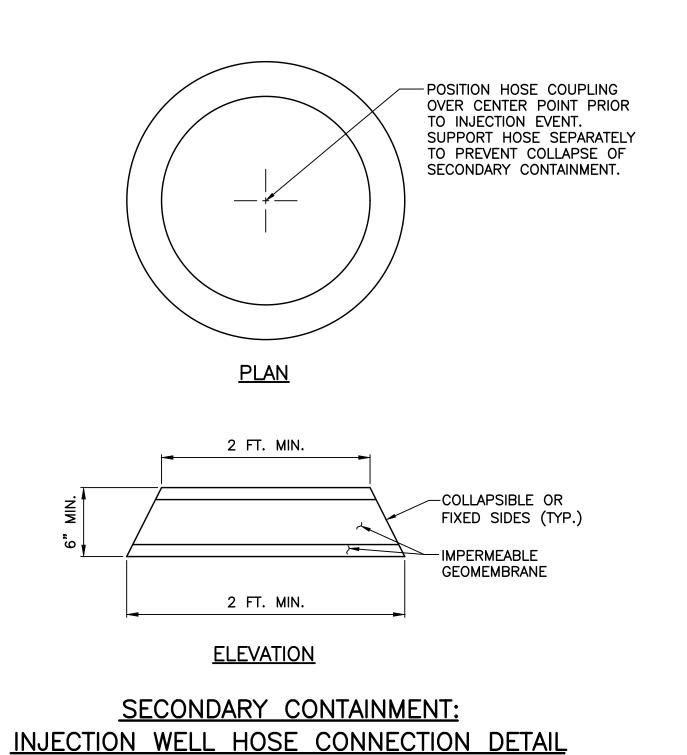
### SECTION A-A

### **SECONDARY CONTAINMENT:** VEHICLE AND TANK PAD DETAIL

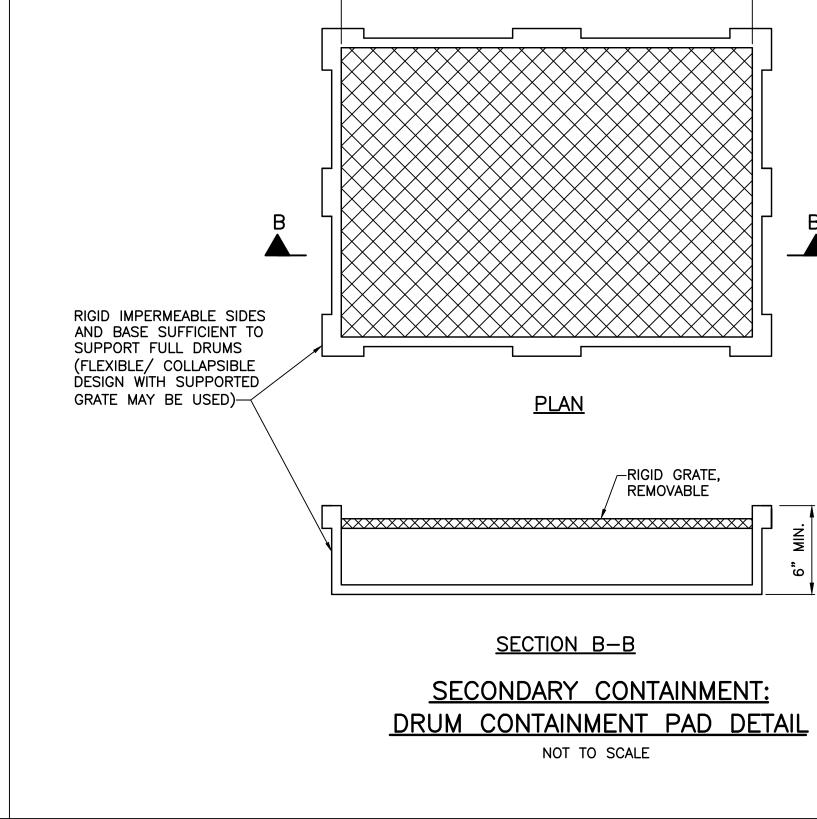
NOT TO SCALE

### NOTES:

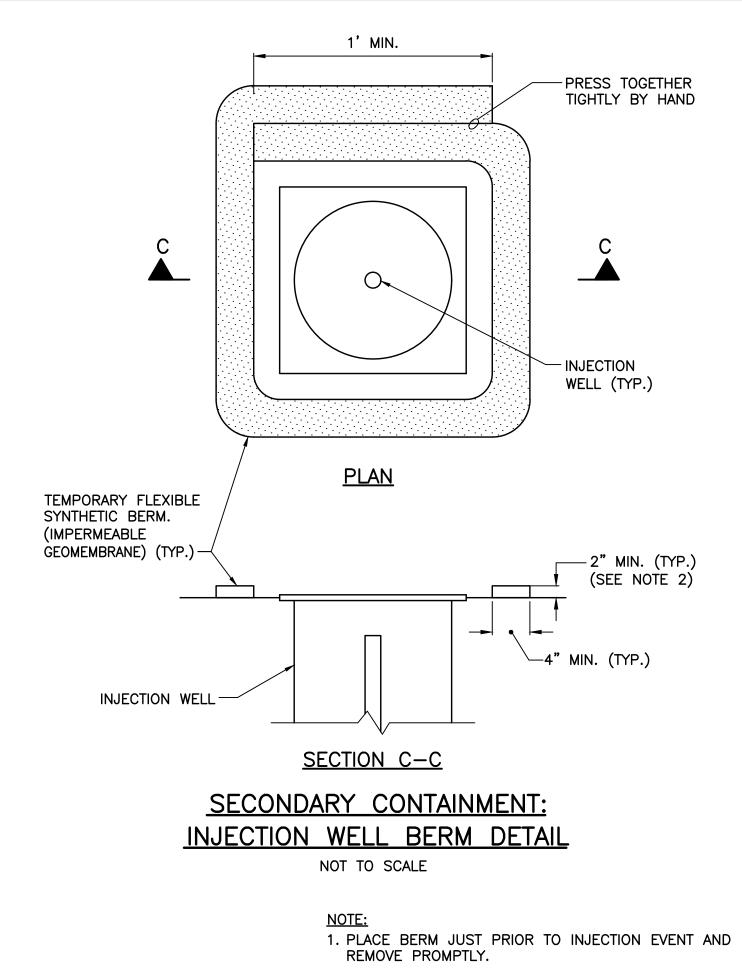
- 1. INTERIOR SURFACE: PLACE HEAVY-DUTY MAT ON TRUCK PAD TO PREVENT PUNCTURE. OTHERWISE, REMOVE STONES FROM TRUCK TIRES.
- 2. SUBGRADE PREPARATION: REMOVE STONES LARGER THAN 1/4 INCH FROM SUBGRADE PRIOR TO TRUCK PAD PLACEMENT, OR USE HEAVY-DUTY MAT OR PLACE 3 INCHES OF
- 3. GROUND SLOPE UNDER PAD SHALL BE MAXIMUM FOUR (4) PERCENT. ANY VOLUME REDUCTION IN CONTAINMENT CAPACITY SHALL BE EXCLUDED FROM LEVEL-GROUND VOLUME COMPUTATIONS.

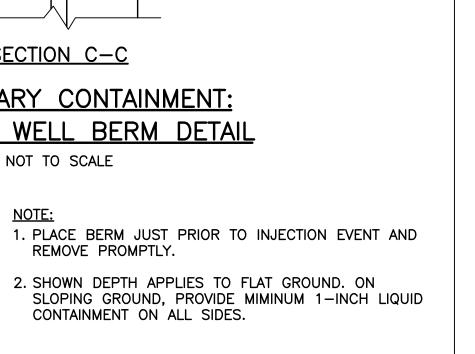


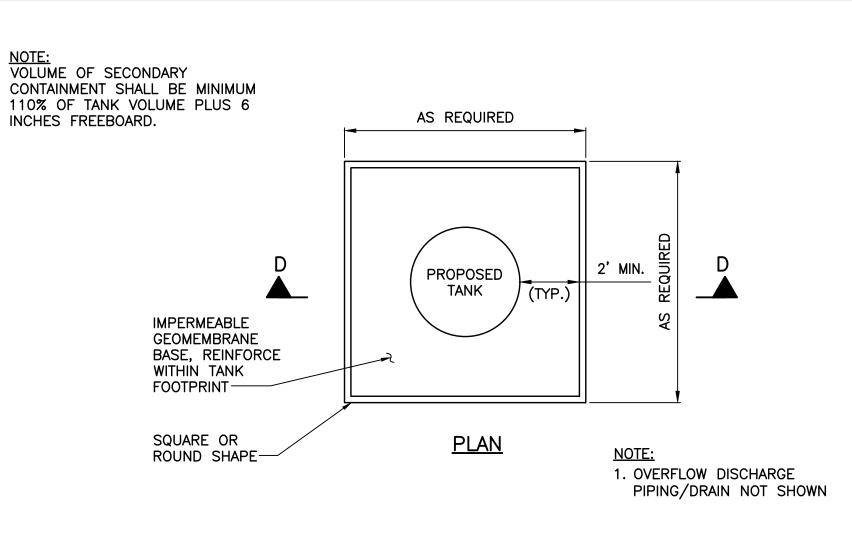
NOT TO SCALE

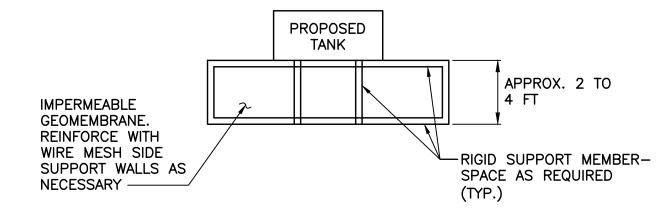


VARIES, SUFFICIENT FOR TWO DRUMS, MIN. (TYP.)









SECTION D-D

**SECONDARY CONTAINMENT:** TANK DETAIL

NOT TO SCALE

**NEW YORK** STATE OF OPPORTUNITY

Environmental Conservation

PROJECT NAME:

### **WEST SIDE CORP.** SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

**AECOM** 257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

Seal and Signature:



REV. NO. DATE: REVISION:

Owner's Information: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

625 Broadway, Albany, New York 12233

Sheet title:

CONSTRUCTION **DETAILS** (SHEET 1 OF 2)

Scale: AS SHOWN

Date: JULY 2020 60629262 Project No.: RMC Dwg By: CED Chk By:

Dwg No:

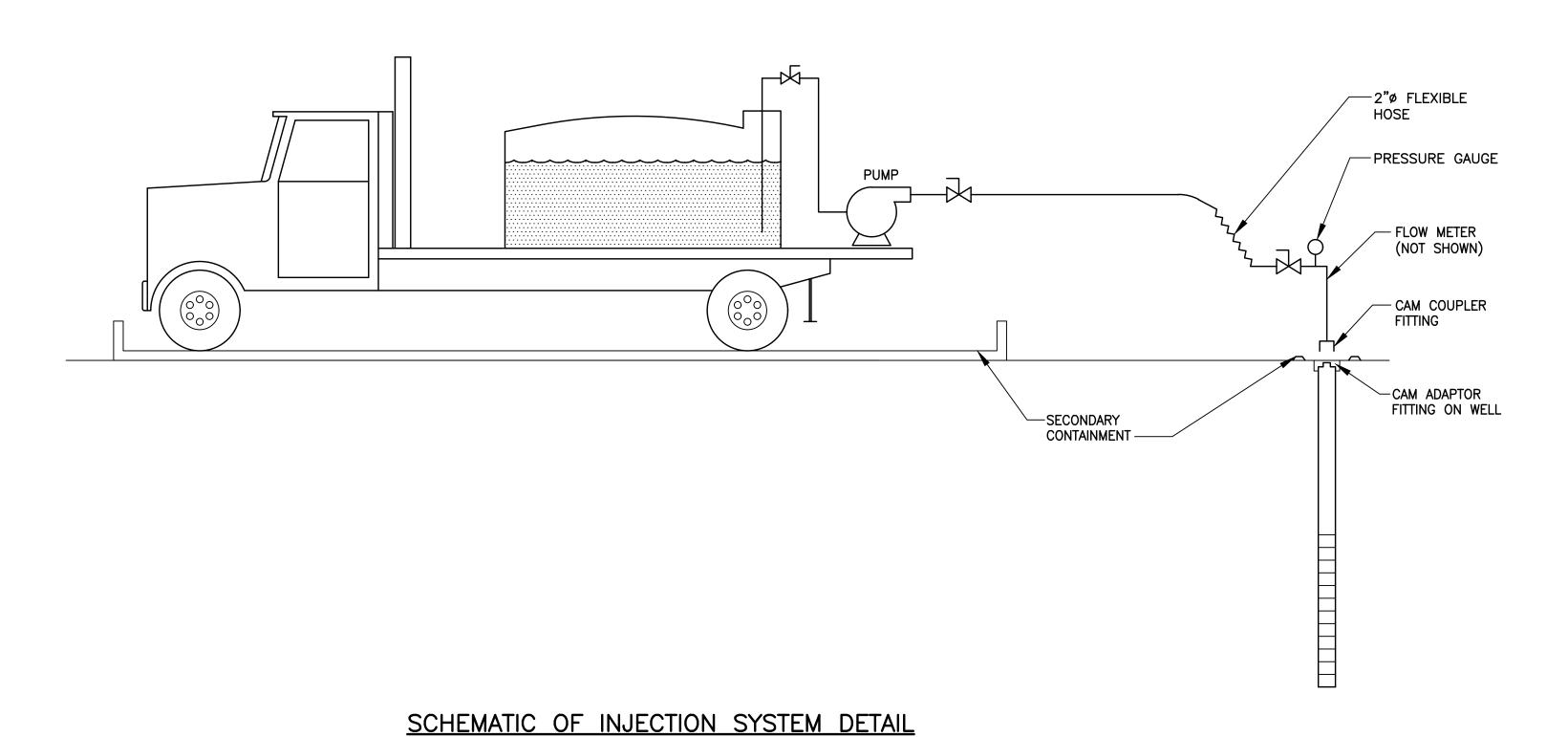
C-009

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WELLHEAD

### NOTES:

- SECURELY ATTACH MANIFOLD TO RIGID FRAMING (NOT SHOWN) FOR DURABILITY AND EASE OF TRANSPORT, EXCEPT AT POINTS WHERE ANY FLEXIBLE HOSES MAY PREVENT SUCH.
- 2. MANIFOLD SHALL BE POSITIONED SO THAT FLOW OUT OF FLOW INDICATOR/TOTALIZER SHALL BE UPWARD.
- 3. PROVIDE RIGID PIPE OR FLEXIBLE HOSE BETWEEN MALE/FEMALE CAM CONNECTIONS, OF LENGTH(S) TO SUIT FIELD CONDITIONS.



NOT TO SCALE

MANIFOLD DETAIL NOT TO SCALE

NEW YORK
STATE OF OPPORTUNITY
Department of Environmental Conservation

PROJECT NAME:

### **WEST SIDE CORP.** SITE OPERABLE UNIT 2 JAMAICA, NY

NYSDEC SITE NO. 241026 CALL OUT CONTRACT NOS. 134802, 136709, 139246 JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:

257 WEST GENESEE STREET, STE. 400 BUFFALO, NY 14202 T: 716.856.5636

Seal and Signature:



REV. NO. DATE: REVISION:

Owner's Information:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 Broadway, Albany, New York 12233

Sheet title:

CONSTRUCTION **DETAILS** (SHEET 2 OF 2)

Scale: NONE

Date: JULY 2020 Project No.: 60629262 Dwg By: RMC CED Chk By:

Dwg No:

C-010

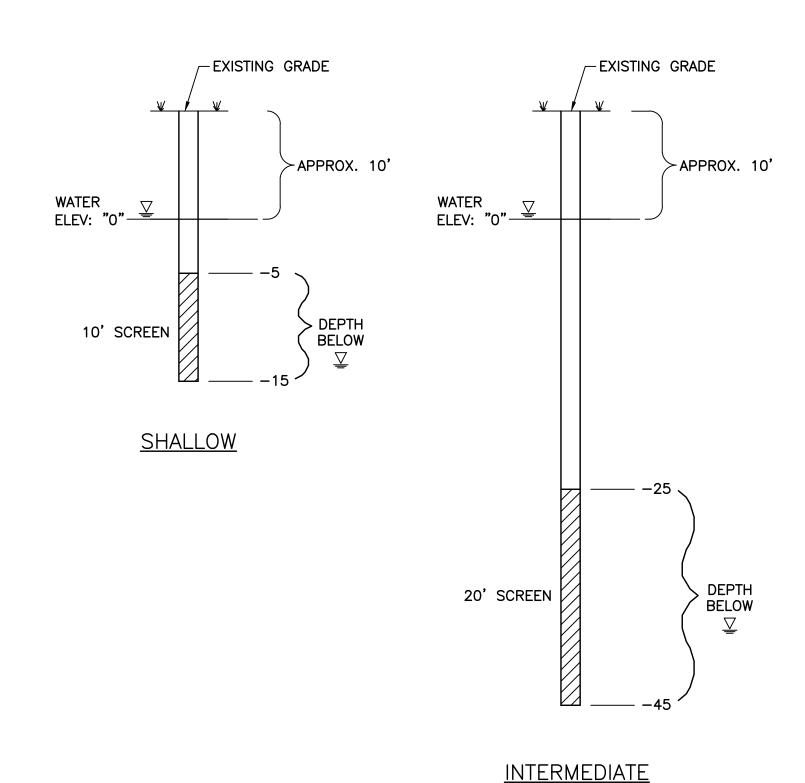
Pg No: 18 of 19

SHAI	LLOW DELIVE	RY WELL SC	HEDULE
WELL #	WATER DEPTH (FEET BGS)	TOP SCREEN DEPTH (FEET BGS)	BOTTOM SCREEN DEPTH (FEET BGS)
IWS-01	9.40	14.40	24.40
IWS-02	9.40	14.40	24.40
IWS-03	9.40	14.40	24.40
IWS-04	9.40	14.40	24.40
IWS-05	9.40	14.40	24.40
IWS-06	9.40	14.40	24.40
IWS-07	10.20	15.20	25.20
IWS-08	9.40	14.40	24.40
IWS-09	8.25	13.25	23.25
IWS-10	8.25	13.25	23.25
IWS-11	8.25	13.25	23.25
IWS-12	8.25	13.25	23.25
IWS-13	11.95	16.95	26.95
IWS-14	11.95	16.95	26.95
IWS-15	10.20	15.20	25.20
IWS-16	8.25	13.25	23.25
IWS-17	11.60	16.60	26.60
IWS-18	11.60	16.60	26.60
IWS-19	13.90	18.90	28.90
IWS-20	13.90	18.90	28.90
IWS-21	11.95	16.95	26.95
IWS-22	11.95	16.95	26.95

### NOTE

- 1. ALL SHOWN ELEVATIONS AND DEPTHS SHALL BE CONSIDERED APPROXIMATE, ESTIMATED FROM INFORMATION AVAILABLE TO THE ENGINEER.
- 2. CALL OUT CONTRACTOR SHALL CONFIRM ELEVATIONS AND DEPTHS SHOWN ABOVE, AND/OR MODIFY BASED ON ACTUAL FIELD CONDITIONS, PRIOR TO CONSTRUCTING AFFECTED WELLS, WITH CLOSE COORDINATION AND REVIEW SCHEMATIC BY ENGINEER. THE INJECTION WELL SCHEMATICS (THIS SHEET) SHALL THEN BE ACHIEVED.
- 3. SHOWN WATER DEPTH INFORMATION WAS TAKEN FROM URS CORPORATION 2019 PLUME DELINEATION LETTER REPORT, DATED DECEMBER 2019.

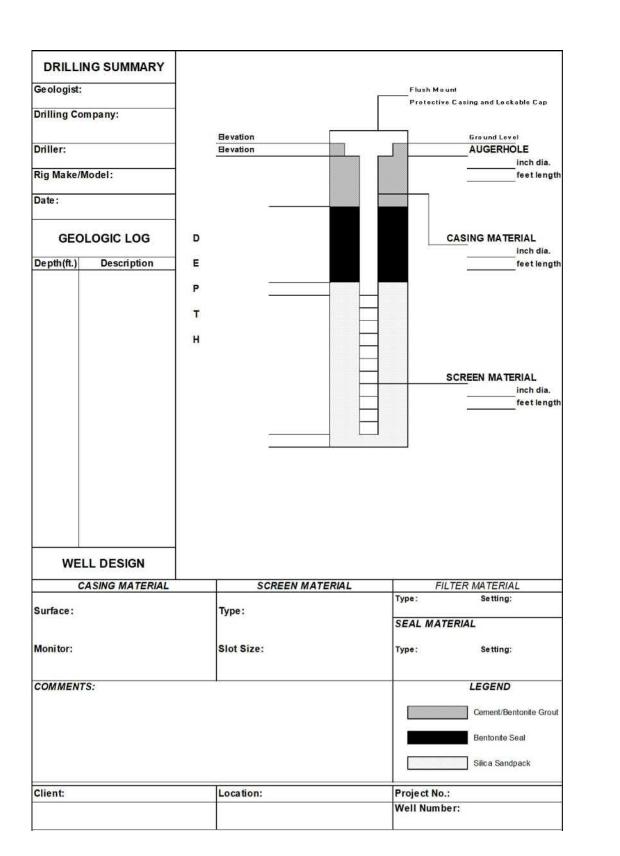
INTERM	MEDIATE DELI	VERY WELL	SCHEDULE
WELL #	WATER DEPTH (FEET BGS)	TOP SCREEN DEPTH (FEET BGS)	BOTTOM SCREEN DEPTH (FEET BGS)
IWI-101	11.75	36.75	56.75
IWI-102	11.75	36.75	56.75
IWI-103	11.75	36.75	56.75
IWI-104	11.75	36.75	56.75
IWI-105	11.75	36.75	56.75
IWI-106	11.75	36.75	56.75
IWI-107	11.75	36.75	56.75
IWI-108	11.75	36.75	56.75
IWI-109	8.22	33.22	53.22
IWI-110	8.22	33.22	53.22
IWI-111	8.22	33.22	53.22
IWI-112	8.22	33.22	53.22
IWI-113	8.22	33.22	53.22
IWI-114	8.22	33.22	53.22
IWI-115	8.22	33.22	53.22
IWI-116	8.22	33.22	53.22
IWI-117	8.22	33.22	53.22
IWI-118	7.45	32.45	52.45
IWI-119	8.22	33.22	53.22
IWI-120	8.22	33.22	53.22
IWI-121	8.40	33.40	53.40
IWI-122	8.40	33.40	53.40
IWI-123	8.40	33.40	53.40
IWI-124	8.22	33.22	53.22
IWI-125	8.22	33.22	53.22
IWI-126	8.22	33.22	53.22

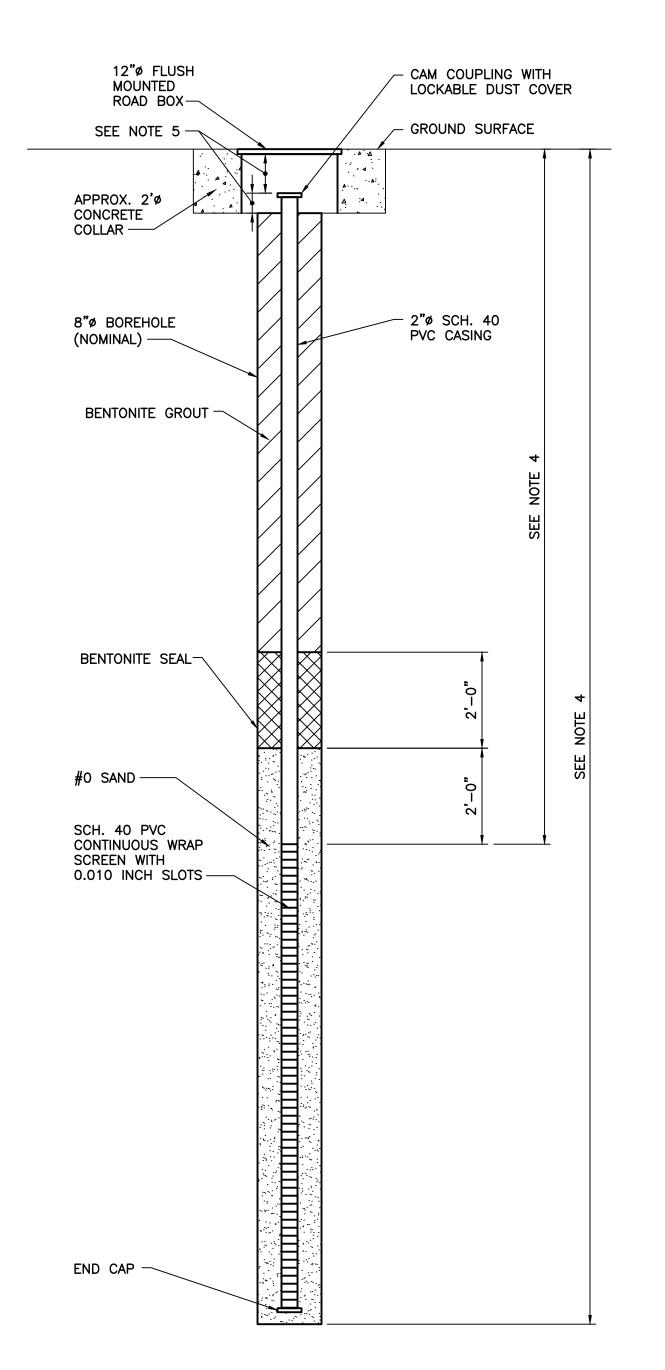


INJECTION WELL SCHEMATICS
NOT TO SCALE

### **TEST BORING LOG** CONTRACTOR NAME BORING NO: BORING CONTRACTOR: BORING LOCATION: CAS. SAMPLER CORE TUBE GROUND ELEVATION: GROUNDWATER: DATE STARTED: DATE TIME LEVEL TYPE TYPE GEOLOGIST: \* POCKET PENETROM ETER READING REVIEWED BY: SAMPLE CONSISTENCY FEET TIME NO. TYPE PER 6" ROD% COLOR HARDNESS DESCRIPTION REMARKS COMMENTS: PROJECT NO. BORING NO.

PROJECT TITLE:					WELL NO.:			
PROJECT NO.:								
DATE(S):								
1. TOTAL CASING AND SC	REEN LENGTH	(FT.)	=	_		WELL ID. 1"	VOL. (GAL/FT) 0.04	
2. WATER LEVEL BELOW	=		=======================================	2"	0.17			
3. NUMBER OF FEET STA	NDING WATER	(#1 - #2)	=			3"	0.38	
4. VOLUME OF WATER/FO	OT OF CASING	(GAL.)	=	_		4"	0.66	
5. VOLUME OF WATER IN	CASING (GAL.)(	#3 x #4)	=			5"	1.04	
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x)			=		17.	6"	1.50	
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)			=			8"	2.60	
						V=0.0408 x (CAS	OR SING DIAMETER) <sup>2</sup>	
			ACCUMUL	ATED VOL	UME PURGED	(GALLONS)		
PARAMETERS								
рН						1		
SPEC. COND. (umhos)								
APPEARANCE								
PROJECT NO.:  STAFF:  DATE(S):  TOTAL CASING AND SCI  WATER LEVEL BELOW TO  NUMBER OF FEET STAN  VOLUME OF WATER IN CO  VOLUME OF WATER TO  VOLUME OF WATER ACT  PARAMETERS  DH  SPEC. COND. (umhos)  APPEARANCE  TEMPERATURE (°C)								
COMMENTS:								





## TYPICAL INJECTION WELL CONSTRUCTION DETAIL NOT TO SCALE

### NOTES:

- 1. WELL DIMENSIONS ARE APPROXIMATE AND MAY BE ALTERED BASED ON CONDITIONS ENCOUNTERED IN THE FIELD. THE CALL OUT CONTRACTOR SHALL COORDINATE WITH THE ENGINEER REGARDING MODIFICATIONS AND ALL SUCH MODIFICATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO WELL CONSTRUCTION.
- 2. THE WATER TABLE FLUCTUATES SEASONALLY AND BY PROPOSED WELL LOCATION. WELL CONSTRUCTION SHALL BE BASED ON WATER TABLE AT THE TIME OF WELL CONSTRUCTION.
- 3. PROPOSED INJECTION WELL LOCATIONS ARE SHOWN ON DRAWINGS C-003 THROUGH C-008.
- 4. INJECTION WELL CONSTRUCTION SCHEDULES ARE SHOWN HEREIN.
- 5. PVC CASING STICK-UP DIMENSION INSIDE ROAD BOX SHALL BE SUITABLE FOR INJECTION EQUIPMENT AND SHALL NOT HINDER OPENING OR CLOSING OF ROAD BOX COVER.
- 6. THE CALL OUT CONTRACTOR SHALL FURNISH AND INSTALL LOCKS WHICH SHALL BE KEYED ALIKE.

PROJECT NAME:

WEST SIDE CORP.
SITE OPERABLE UNIT 2
JAMAICA, NY

NYSDEC SITE NO. 241026
CALL OUT CONTRACT NOS. 134802, 136709, 139246
JAMAICA, QUEENS COUNTY, NEW YORK

Engineer:
AECOM
257 WEST GENESEE STREET, STE. 400
BUFFALO, NY 14202
T: 716.856.5636

Seal and Signature:



REV. NO. DATE: REVISION:

Owner's Information:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 Broadway, Albany, New York 12233

Sheet title:

INJECTION WELL
CONSTRUCTION SCHEDULES
FORMS AND DETAILS

Scale: NONE

Date: JULY 2020
Project No.: 60629262
Dwg By: RMC
Chk By: CED

Dwg No:

C-011

: 19 of 19

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be made to the CADD drawing file.