SOIL VAPOR REMEDIATION SYSTEM DESIGN 673 LIVONIA AVENUE, BROOKLYN, NEW YORK DECEMBER 2022





VICINITY MAP



PROPERTY LOCATION MAP

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673 Livonia Avenue, Brooklyn, NY 11207 NYSDEC SITE # 224352

CLIENT:

ENVIRONMENTAL

RA / PE SEAL & SIGNATURE



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NOT FOR CONSTRUCTION

DRAWING TITLE:

COVER AND INDEX

SCALE: AS NOTED

V-100

DATE: DECEMBER

PREPARED FOR: ELDER SERVE HEALTH, INC., 80 WEST 225TH STEET, BRONX, NEW YORK 10463

A. GENERAL

- 1. THE SOIL VAPOR REMEDIATION SYSTEM (SVRS) DESIGN, WHICH IS DEPICTED IN THESE DRAWINGS, HAS BEEN PREPARED ACCORDING TO THE STANDARD LEVEL OF CARE NORMALLY EXERCISED BY MEMBERS OF THE ENVIRONMENTAL CONSULTING PROFESSION PRACTICING IN THE UNITED STATES AT THIS TIME. THEY ASSUME THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR WHO HAS A WORKING KNOWLEDGE OF APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE.
- 2. NOT EVERY CONDITION OR ELEMENT IS OR CAN BE EXPLICITLY SHOWN ON THESE DRAWINGS; THEREFORE, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- 3. ALL WORK SHALL BE IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL BUILDING, FIRE, AND ELECTRICAL CODES, AND OTHER RELEVANT PERMITS.
- 4. THESE DRAWINGS REPRESENT THE PROPOSED SVRS FOR THE STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, ETC.
- 5. THE CONTRACTOR SHALL CONFER WITH 8&B ENGINEERS AND GECLOGISTS OF NEW YORK. F.C. (B&B) FOR THE FINAL LOCATIONS OF SVRS COMPONENTS, SUCH AS THE POINTS OF FOUNDATION PENETRATION, SOIL VAPOR EXTRACTION (SVE) WELLS, PIPE RUNS AND EXHAUST POINTS.
- 6. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES, PROVIDED THE NOTES AND DETAILS ARE IN ACCORDANCE WITH ALL APPLICABLE CODES.
- 7. ALL INSPECTIONS, IF REQUIRED BY BUILDING CODES, SHALL BE PROVIDED BY THE BUILDING DEPARTMENT OR AN INDEPENDENT INSPECTION COMPANY AS APPROPRIATE. SITE VISITS BY THE SYSTEM DESIGN ENGINEER (I.E. B&B) OR THEIR REPRESENTATIVE DO NOT CONSTITUTE AN INSPECTION.
- 8. BRACKETS SHALL BE INSTALLED IN A MANNER THAT PROVIDES THE NECESSARY SUPPORT FOR THE PIPE AND EQUIPMENT

B. INTENT AND BASIS - SOIL VAPOR REMEDIATION SYSTEM

- 1. ELEVATED LEVELS OF VOLATILE ORGANIC COMPOUNDS (VOCS), INCLUDING PERCHLORDETHENE (PCE) AND TRICHLOROETHENE (TCE), HAVE BEEN DETECTED IN SOIL VAPOR IN THE VICINITY OF AND
- 2. B&R HAS DESIGNED AN ACTIVE SVRS TO EXTRACT VOCS IN SOIL VAPOR BELOW THE RUILDING, AND TO PREVENT SOIL VAPOR CONTAINING PCE AND TCE FROM ENTERING THE BUILDING SPACE ABOVE LEVELS OF CONCERN AND FROM MIGRATING OFFSITE
- 3. THE INTENT OF THE SVRS IS TO CREATE A NEGATIVE AIR PRESSURE ACROSS THE PROPERTY AS DEMONSTRATED BY DIFFERENTIAL PRESSURE MEASUREMENTS IN REPRESENTATIVE AREAS OF THE SLAB AND SOIL VAPOR OUTSIDE THE BUILDING. BASED ON BUILDING-SPECIFIC CONDITIONS AND AS APPROVED BY THE ENGINEER. IT MAY BE NECESSARY TO VARY THE LOCATION, NUMBER, AND DEPTH OF THE SVE WE.LS FROM THOSE SHOWN ON THE DRAWINGS TO MEET THIS OBJECTIVE.
- 4. THE SVRS WILLBE INSTALLED IN THE MANNER DESCRIBED IN THESE DRAWINGS. SOIL VAPORS WILL BE EXTRACTED FROM SIX SVE WELLS AND CONVEYED THROUGH SCHEDULE 40 PVC PIPE THAT IS CONNECTED TO TWO ROOF MOUNTED ELECTRIC FANS. THREE SVE WELLS WILL BE CONNECTED TO FACH FAN
- 5. THE EXTRACTED AIR WILL BE EXHAUSTED ABOVE THE ROOF OF THE BUILDING AT A LOCATION AND IN A MANNER THAT PREVENTS THE AIR FROM ENTERING THE BUILDING, AS FURTHER DISCUSSED IN NOTE F.14.
- SVE WELLS WIL. BE INSTALLED AS SPECIFIED ON THE DRAWINGS.
- 7. ACTIVE VENTING WILL BE ACHIEVED USING THE FANS SPECIFIED ON THE DRAWINGS.

C. SVE WELLS

- 1. BOREHOLES FOR SVE WELLS SHALL BE CORED THROUGH THE FOUNDATION SLAB AND NORTHER DRIVEWAY AREA, AND UNDERLYING SUBSURFACE MATERIAL. NEW SVE WELLS SHALL BE INSTALLED IN 8 INCH DIAMETER BOREHOLES. BOREHOLES WILL BE INSTALLED USING A DRILL RIG, OPERATED BY A LICENSED DRILLING SUBCONTRACTOR.
- 2. BOREHOLES SHALL BE DRILLED TO A DEPTH OF APPROXIMATELY 20 FEET BELOW THE BUILDING'S SLAB AND WITHIN THE NORTHERN DRIVEWAY.
- 3. ONCE BOREHOLES HAVE BEEN DRILLED TO THE TARGET DEPTH, 2 INCH DIAMETER SCHEDULE 40 PVC PIPE SHALL BE INSTALLED INSIDE OF THE BOREHOLE.
- 4. THE BOTTOM 10 FOOT SECTION OF PVC PIPING SHALL BE 0.01 INCH SLOTTED SCREEN, AND TRANSITION TO SOLID WALL PVC AFTER THIS SECTION, EXTENDING UPWARDS TO APPROXIMATELY 0.5-1 FOOT BELOW THE BOTTOM OF THE BUILDING'S SLAB, FINSHED GRADE, OR DEMARCATION
- 5. THE ANNULAR SPACE OF THE BOREHOLE SURROUNDING THE INSTALLED SECTION OF 2 INCH PVC PIPING SHALL BE BACKFILLED WITH CLEAN SILICA SAND MATERIAL (OR EQUIVALENT) TO A DEPTH OF 1 FOOT ABOVE THE TOP OF THE SCREENED INTERVAL
- 6. THE REMAINING DEPTH OF THE BOREHOLE SHALL BE BACKFILLED WITH HYDRATED BENTONITE, TO A
- DEPTH 6 INCHES BELOW THE TOP OF THE VERTICAL PVC PIPE. 7. SVE WELL LOCATIONS ARE SHOWN ON THE DRAWINGS.

- 1. HORIZONTAL SVRS CONVEYANCE PIPING FROM SVE-05 AND SVE-06 WILL BE INSTALLED UNDERNEATH THE DRIVEWAY ASPHALT. SECTIONS OF THE DRIVEWAY WILL BE SAWCUT INTO APPROXIMA" ELY 8 TO 12 INCH WIDE TRENCHES AS SHOWN ON THE DRAWINGS AND EXCAVATED TO A DEPTH OF APPROXIMATELY 6 INCHES TO 1 FOOT BELOW THE BOTTOM OF THE ASPHALT. THE TOTAL DEPTH OF THE TRENCH WILL VARY DEPENDING ON PIPE SLOPE REQUIREMENTS (NOTE E.9).
- 2. CONVEYANCE FIPE FROM SVE-05 AND SVE-06 SHALL BE 4 INCH DIAMETER SCHEDULE 80 PVC PIPE AND CONNECTED TO SVE WELL PIPING USING 2 INCH TO 4 INCH SCHEDULE 80 PVC COUPLERS. PIPING SHALL RUN HORIZONTALLY IN THE EXCAVATED TRENCH TO THE BUILDING EXTERIOR WALL BEFORE RISING VERTICALLY, AS SHOWN ON THE DRAWINGS.
- 3. CONVEYANCE PIPES FROM SVE-05 AND SVE-06 WILL PENETRATE THE EXTERIOR BUILDING WALL HORIZONTALLY JUST ABOVE THE INTERIOR SLAB ELEVATION AND CONTINUE TO RUN VERTICALLY ALONG THE INTERIOR OF THE BUILDING WALL TO BELOW THE CEILING. THE EXTERIOR WALL

- PENETRATION WILL BE SEALED WITH A COMPRESSION SEAL (LNK SEAL *) ACCORDING TO THE
- 4 EXTERIOR CONVEYANCE PIPE EXPOSURE ABOVE THE TRENCH SHALL BE PAINTED BRIGHT VELLOW WITH AN EXTERIOR PAINT RATED FOR USE WITH PLASTICS.
- 5. MATERIAL EXCAVATED FROM SUB-SLAB TRENCHES WILL BE CONTAINERIZED IN 55-GALLON DRUMS FOR PROPER OFF-SITE DISPOSAL IN ACCORDANCE WITH THE CONTAINED IN DETERMINATION
- 6. EXCAVATED CONVEYANCE PIPE TRENCHES SHALL BE BACKFILLED USING FLOWABLE FILL, OR EQUIVALENT MATERIAL MEETING THE STRUCTURAL REQUIREMENTS TO PROVIDE AN APEQUATE BASE FOR PATCHING THE REMOVED SECTIONS OF THE ASPHALT, WHICH WILL BE REPLACED USING HOT ASPHALT OR IF NOT AVAILABLE AT THE TIME OF INSTALL, THEN ASPHALT COLD PATCH MAY BE

INTERIOR RISER PIPES AND CONVEYANCE PIPING

- 1. VERTICAL RISER PIPES SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON DRAWING V-300 ACCORDING TO THE DETAILS ON DRAWINGS V-400, V-401, AND V-402.
- 2. VERTICAL RISER PIPES SHALL BE CONNECTED DIRECTLY TO SVE WELL PIPING USING 2 INCH TO 4 INCH SCHEDULE 40 PVC COUPLERS. AS SHOWN ON THE DRAWINGS AND ACCORDING TO THE DETAILS.
- 3. INTERIOR RISER PIPES SHALL RISE VERTICALLY TO THE CEILING, TRANSITIONING TO HORIZONTAL USING 4 INCH SCHEDULE 40 PVC 90 DEGREE ELBOWS, AND MERGING WITH ADJACENT SECTIONS OF RISER PIPE USING A 4 INCH TO 6 INCH COUPLER CONNECTED TO 6 INCH SCHEDULE 40 PVC TEE FITTINGS. MERGED SECTIONS OF 6 INCH PVC RISER PIPES WILL CONTINUE TO RUN HORIZONTALLY TO THE ROOF PENETRATION POINT, WHERE THE PIPES SHALL BE CONNECTED WITH A TEE FITTING TO A SINGLE VERTICAL RISER THAT PENETRATES AND EXTENDS ABOVE THE ROOF, AND CONNECTS TO THE FAN, AS SHOWN ON THE DRAWING.
- 4. SRVS CONVEYANCE PIPE FROM SVE WELLS SVE-01D, SVE-03, AND SVE-04 WILL COMBINE AND PENETRATE THE ROOF TO CONNECT WITH ONE FAN WHILE SVRS CONVEYANCE PIPE FROM SVE WELLS SVE-02, SVE-05, AND SVE-06 WILL COMBINE AND PENETRATE THE ROOF TO CONNECT WITH A SECOND FAN AT ANOTHER LOCATION, AS SHOWN ON THE DRAWINGS AND ACCORDING TO THE DETAILS.
- 5. THE TOTAL LENGTH OF PIPE AND NUMBER OF FITTINGS BETWEEN THE SVE WELL AND THE ROOF EXHAUST POINT SHALL BE MINIMIZED TO THE EXTENT PRACTICAL TO REDUCE FRICTION LOSSES IN THE PIPE.
- a SCHEDULE 40 PVC
- b. ALL PVC PIPING CONNECTIONS SHALL BE SOLVENT CEMENTED AND PERMANENTLY SEALED USING A PRIMER MEETING THE REQUIREMENTS OF ASTM F656 AND A SOLVENT MEETING THE REQUIREMENTS OF ASTM D2564. THE PRIMER AND SOLVENT SHALL NOT CONTAIN TCE, PCE, OR OTHER VOCS IDENTIFIED AS COMPOUNDS OF CONCERN AT THE SITE. JOINTS SHALL BE MADE WHILE THE SOLVENT IS WET AND SHALL BE IN ACCORDANCE WITH ASTM D2855 AND ASTM F402.
- 7. THE RISER PIPES SHALL BE INSTALLED IN COMPLIANCE WITH ALL APPLICABLE BUILDING AND FIRE CODES, AT A MINIMUM:
- a. VERTICAL PIPE RUNS SHALL BE SUPPORTED AT LEAST EVERY 10 FEET AND AT EVERY PENETRATION THROUGH SLAES, CEILINGS, OR ROOF DECKS EXCEPT AS NOTED BELOW
- b. HORIZONTAL BLINS SHALL BE SLIPPORTED AT LEAST EVERY 6 FFFT WITH CODE APPROVED HANGERS. HORZONTAL RUNS SHALL BE SUPPORTED WITHIN TWO FEET OF EACH FITTING.
- 8. VERTICAL RISERAT SVE-01D AND SVE-02 SHALL BE SUPPORTED BY BOLT-DOWN BOLLARDS INSTALLED ADJACENT TO EACH RISER PIPE AS SHOWN IN THE DRAWINGS, BOLLARDS SHALL BE 4.5" DIAMETER STANDARD SAFETY BOLLARDS MADE OF STEEL AND AT LEAST 4 FEET TALL. BOLLARDS SHALL BE FIXED TO THE CONCRETE SLAB USING THREADED CONCRETE ANCHOR BOLTS AND CONNECT TO THE RISER PIPE USING PIPE CLAMPS AND THREADED ROD.
- 9. HORIZONTAL SECTIONS OF CONVEYANCE AND RISER PIPES SHALL SLOPE A MINIMUM OF 1/8" PER FOOT RUN SO CONDENSATION OR MOISTURE IN THE PIPE WILL DRAIN TOWARD THE VERTICAL RISERS
- 10. ABOVE SLAB VERTICAL AND HORIZONTAL SECTIONS OF RISER PIPE MUST BE MARKED OR LABELED "SOIL VAPOR VENT PIPE - DO NOT BLOCK OR DAMAGE" IN 2 INCH DECAL TO ALLOW FOR PROPER IDENTIFICATION OF THE PIPES.
- 11. CONTRACTOR WILL USE LONG OR SHORT SWEEP ELBOWS WHERE POSSIBLE BASED ON FIELD CONDITIONS, ALL ELBOWS AND BEND FITTINGS SHALL BE DRAIN WASTE VENT (DWV), ALL TEE FITTINGS SHALL BE SANITARY INSTALLED IN THE DIRECTION OF AIRMOVEMENT TO REDUCE FRICTION
- 12. GATE VALVES (VALTERRA 6401, OR EQUIVALENT) SHALL BE INSTALLED IN INDIVIDUAL RISER PIPE
- 13. TEST PORTS SHALL BE INSTALLED ON IN INDIVIDUAL RISER PIPES AT LEAST 1-FOOT UPSTREAM OF THE GATE VALVE AND CONSIST OF 3/8-INCH TAPPED AND PLUGGED HOLES AS SHOWN IN THE DRAWINGS.
- 14. THE EXHAUST POINT OF THE RISER PIPE ABOVE THE ROOF SHALL BE AT LEAST a. 10 FEET HORIZONTALLY FROM ANY HVAC AIR INTAKES OR OTHER OPENINGS INTO THE BUILDING, AND ADJACENT BUILDINGS:
- b. FIVE FEET ABOVE FLAT ROOF, AND 18 INCHES ABOVE IMMEDIATELY ADJACENT PITCHED ROOFS;
- c. 12 INCHES ABOVE ADJACENT PARAPET WALLS: AND
 d. TWO FEET ABOVE HVAC AIR INTAKES WITHIN 25 FEET OF THE EXHAUST POINT
- 15. ALL ROOF FLASHING AND RELATED ROOF WORK SHALL BE MADE BY THE CONTRACTORS ROOFER THAT IS CERTIFIED BY THE ROOFING MATERIAL MANUFACTURER AND IS PERMITTED BY MANUFACTURER TO PERFORM ROOF WORK ON WARRANTED ROOFS, ROOFER MUST CERTIFY THE WORK MEETS MANUFACTURERS WARRANTY AFTER THE WORK IS COMPLETE
- 16. A SCREENED CAP (E.G. VARMINT GUARD) SHALL BE INSTALLED ON THE TOP OF THE FAN EXHAUST

ELECTRIC FANS

1. AN OBAR SYSTEMS, INC.® GBR 89 HA FAN SHALL BE INSTALLED AT THE LOCATIONS INDICATED ON the DRAWINGS, THE FAN WILL BE MOUNTED AS PER THE MANUFACTURER'S INSTRUCTIONS AND IN ACCORDANCE WITH THE DETAILS.

- 2. FAN (AND PIPING) SHALL BE MOUNTED IN A WAY THAT MINIMIZES SOUND AND THE TRANSFER OF VIBRATIONS TO THE BUILDING, AS RECOMMENDED BY THE FAN MANUFACTURER. PIPING SHALL NOT COME IN DIRECT CONTACT WITH THE FAN HOUSING, FANS SHOULD BE INSTALLED IN SUCH A MANNER THAT VIBRATION CONTROLS ARE NOT NECESSARY.
- 3. EACH FAN WILLBE PROVIDED WITH ITS OWN DISCONNECT SWITCH
- 4. PROVIDE 220 VOLT ELECTRIC SERVICE WITH A DEDICATED 20 AMP CIRCUIT BREAKER FOR THE GBR89 SOE FAN WITHIN THREE (3) FEET OF EACH FAN LOCATION.

MONITORS AND ALARM

- 1. AN ALARM PANEL CONSISTING OF TWO LOW-PRESSURE MONITORS AND TWO MAGNEHELIC GAUGES SHALL BE INSTALLED AT A LOCATION READILY VISIBLE IN THE AREA INDICATED ON THE DRAWINGS. VACUUM MONITORING TURING, CONSISTING OF REINFORCED % INCH INSIDE DIAMETER POLYETHYLENE TUBING, SHALL BE RUN FROM THE ALARM PANEL AND CONNECT TO THE R SER PIPE FOR EACH FAN AT A LOCATION JUST UPSTREAM OF THE FAN AND INSIDE THE BUILDING AS SHOWN ON THE DRAWINGS, AT THE ALARM PANEL THE VACUUM MONITORING TUBING FROM EACH FAN SHALL BE SPLIT USING AN INLINE TUBING ADAPTER AND EACH CONNECTED TO ONE LOW-PRESSURE MONITOR AND ONE MAGNEHELIC GAUGE ACCORDING TO THE DETAILS.
- 2. LOW-PRESSURE MONITORS WILL BE RADONAWAY CHECKPOINT IIA MITIGATION SYSTEM ALARMS (RADONAWAY #28001-2), OR FOLITVALENT AS APPROVED BY BER, AND SHALL BE INSTALLED AS INDICATED ON DRAWING V-300 AND IN DETAIL 9 ON DRAWING V-402.
- 3. A 120 VOLT ELECTRIC SERVICE WITH A DEDICATED 15 AMP CIRCUIT BREAKER AT AN ELECTRICAL JUNCTION BOX SHALL BE PROVIDED WITHIN THREE (3) FEET OF THE SVRS MONITOR. A TIE N TO AN EXISTING CIRCUIT IS ACCEPTABLE. AS LONG AS THE ADDITION DOES NOT OVERLOAD THE CIRCUIT. THE ALARM SHALL BE ON A SEPARATE CIRCUIT FROM THE SVRS FAN.
- 4. A PLACARD SHALL BE POSTED ADJACENT TO THE SYSTEM ALARM INDICATING A PHONE NUVIBER TO CONTACT IN THE EVENT OF AN ALARM CONDITION, AND INSTRUCTIONS FOR SILENCING THE ALARM.
- 5. ALARM PANEL MAGNEHELIC GAUGES SHALL BE DWYER MODELS 2015 WITH MOUNTING BRACKET (0-INCH TO 15-INCH WATER COLUMN SCALE) AND INSTALLED IN THE LOCATION SPECIFIED ON ERAWING V-300, AND AS SHOWN ON THE DRAWINGS.
- TEST PORTS SHALL BE INSTALLED AT EACH ELECTRIC FAN IMMEDIATELY UPSTREAM OF THE FAN AND OUTSIDE THE EUILDING. TEST PORTS SHALL CONSIST OF 3/8-INCH TAPPED AND PLUGGED HOLES THROUGH THE PVC PIPE AS SHOWN IN THE DRAWINGS.
- 7. IN THE EVENT ONE OR MORE OF THE SVRS ALARMS IS TRIGGERED, THE SVRS OPERATION MONITORING AND MAINTENANCE PLAN (OMM PLAN) CAN BE CONSULTED FOR FURTHER

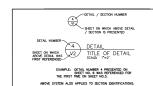
SEALING OF JOINTS, CRACKS, AND OPENINGS IN THE SLAE

- 1. THE INTENT OF SEALING IS TO MINIMIZE LEAKAGE OF SOIL VAPOR FROM THE SUB-SLAB SPACE INTO INDOOR AIR SPACE OF THE BUILDING, AND TO REDUCE THE VOLUME OF INDOOR AIR THAT IS DRAWN INTO THE SUB-SLAB SPACE BELOW THE BUILDING WHILE THE SYSTEM IS OPERATING, INCREASING SYSTEM OPERATING EFFICIENCY.
- 2. ACCESSIBLE DISCONTINUITIES IN THE FLOOR SLAB, INCLUDING, BUT NOT LIMITED TO, EXPANSION JOINTS, CONTROL JOINTS, CONSTRUCTION JOINTS, ISOLATION JOINTS, OPEN CRACKS IN THE FLOOR SLAB, IN THE VICINITY OF THE SVE WELLS SHALL BE SEALED AT THE FINISHED CONCRETE FLOOR SURFACE USING URETHANE CAULK ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- 3. THE ANNULUS OF ALL UTILITIES, PIPES, AND OTHER CONDUITS THAT PENETRATE THE FLCOR SLAB WITHIN 10 FEET OF EACH SVE WELL SHALL BE SEALED WITH URETHANE CAULK ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND IN A MANNER MEETING APPLICABLE FIRE CODES.
- 4. ACCESSIBLE OPENINGS IN THE FLOOR SLAB (NEARBY SVE WELLS) GREATER THAN 0.5 INCH SHALL BE SEALED USING EXPANDING FOAM SEALANTS.
- 5. URETHANE CAULK SHALL COMPLY WITH FEDERAL SPECIFICATION TT-5-00230C AND FIRE CODES AS APPLICABLE.
- 6. SEALANTS, CAULKS, AND OTHER MATERIALS USED FOR THE TASKS DESCRIBED IN THIS SECTION SHALL NOT CONTAIN TCE, PCE, OR OTHER VOCS IDENTIFIED AS COMPOUNDS OF CONCERN AT THE SITE.

1. SHOP DRAWINGS AND OTHER SUBMITTALS ARE REVIEWED BY B&B ONLY FOR GENERAL COMPLIANCE WITH THESE SVRS DRAWINGS. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR. NOTE THAT THE DRAWINGS AND SPECIFICATIONS HEREIN TAKE PRECEDENCE OVER SHOP DRAWINGS OR OTHER SUBMITTALS PROVIDED BY THE CONTRACTOR, REQUESTS TO PERFORM MODIFICATIONS SHALL BE SUBMITTED SEPARATELY FOR B&B'S REVIEW

SOIL VAPOR REMEDIATION SYSTEM INSPECTION AND MAINTENANCE

- 1. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE ROUTINE OPERATION, INSPECTION, AND MONITORING OF THE SVRS ACCORDING TO MANUFACTURER RECOMMENDATIONS. AS APPLICABLE. AND AS OUTLINED IN THE OMM PLAN INCLUDING:
- INSPECTION AND REPAIR OF SEALS IN THE SLAB, AND SEALING OF ANY NEW CRACKS OR OPENINGS IN THE SLAB THAT OCCUR: AND
- IF THE SYSTEM ALAKM SUUNUS DUKING ACTIVE OPEKATION, THE CAUSE OF THE ALAKM SHALL BE DETERMINED AND CORRECTED.
- 2. THE PROPERTY OWNER SHOULD DESIGNATE A PERSON RESPONSIBLE FOR THE OPERATION, INSPECTION, MONITORING, AND AS NECESSARY, REPAIR OF THE SVRS DESCRIBED IN THESE DRAWINGS. THIS PERSON SHOULD BE FAMILIAR WITH THESE DRAWINGS AND THE OPERATION OF THE FANS AND MONITORING EQUIPMENT.
- 3. AT THE TIME OF SYSTEM COMMISSIONING, THE CONTRACTOR SHALL DEMONSTRATE HOW TO OPERATE, MONITOR, AND MAINTAIN THE SYSTEM, ADDITIONAL DETAILS RELATED TO DOCUMENTATION OF SYSTEM OPERATION FOLLOWING STARTUP ARE SPECIFIED IN THE OMM PLAN.



DETAIL / SECTION IDENTIFICATION LEGEND

673 Livonia Avenue, Brooklyn, NY 11207 NYSDEC SITE # 224352

CLIENT

ENVIRONMENTAL

B&B ENGINEERS AND GEOLOGISTS OF NEW YORK, P. 289 GREAT ROAD, SUITE 202 ACTON, MASSACHUSETTS 01720 USA

RA / PE SEAL & SIGNATURE



LICENSE NO.: 103910

JOB NO : MEM2083-07



DOB BSCAN STICKER

DEVICION 0 ISSUE FOR REVIEW

75% CONSTRUCTION DOCUMENTS

NOT FOR CONSTRUCTION DRAWING TITLE:

GENERAL NOTES

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THE PROJECT OR THE RESPONSIBLE NEW YORK CITYSTATE AGENCY.

2. ALL ROCK EXCAVATION ADJACENT TO THE TRANSIT STRUCTURE SHALL BE CHANNEL DRILLED TWO FEET BELOW SUBGRADE.

3. IF TOP OF ROCK IS FOUND BELOW SUBWAY STRUCTURE, THE SUBWAY STRUCTURE

SHALL BE LINDERPINNED IN ACCORDANCE WITH DRAWINGS SUBMITTED TO NYCT FOR REVIEW AND APPROVAL. UNDERPINNING DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK.

4. IF THE ROCK STRATUM QUALITY IS SOFT OR SEAMY, LATERAL SUPPORTS SHALL BE PROVIDED BELOW THE SUBWAY STRUCTURE IN ACCORDANCE WITH DRAWINGS AND CALCULATIONS SUBMITTED TO NYCT FOR REVIEW AND APPROVAL. LATERAL SUPPORT SYSTEM DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK.

5. BLASTING WITH LIGHT CHARGES ONLY SHALL BE PERMITTED SUBJECT TO THE APPROVAL OF NYCT'S ENGINEER AND IN ACCORDANCE WITH THE REGULATIONS OF THE APPROVAL OF NOT 3 ENGINEER AND IN ACCORDANCE WITH THE RESOLUTIONS OF THE FIRE DEPARTMENT. THE CONTRACTOR SHALL PROVIDE A DETAILED MONITOFING PLAN, PROVIDING FOR MEASUREMENTS OF BOTH PARTICLE VELOCITY AND DISPLACEMENTS AT CRITICAL LOCATIONS OF THE NYCT STRUCTURE. THE MONITORING PLAN SHALL INCLUDE CRITIAAL LOCATIONS OF THE NTCL STRUCTURE. THE WONLINKING PLAN SHALL INCLUDE THRESHOLD AND UPSET LEVELS OF BOTH PARTICLE VELOCITY AND SETTLEMENT TOGETHER WITH AN ACTION PLAN FOR THEIR IMPLEMENTATION. THE CONTRAC'OR SHALL SECURE AN APPROVED SEISMOLOGIST TO INSTALL AND OPERATE SUITABLE VELOCITY GAUGES TO CONTINUOUSLY MONITOR PARTICLE VELOCITY AND AN INDEPENDENT LICENSED SURVEYOR TO MONITOR DISPLACEMENTS. A QUALIFIED TECHNICIAN FROM THE MONITORING COMPANY SHALL BE ON SITE TO PROVICE VIBRATION READINGS UPON THE REQUEST OF A NYCT ENGINEER. THE THRESHOLD MAXIMUM PARTICLE VELOCITY ABOVE THE AMBIENT CAUSED BY THE BLASTING SHALL BE 0.5 INCH PER SECOND, VALUES EXCEDING THIS LEVEL SHALL BE REVIEWED AND EVALUATED BY NYCT'S ENGINEER MEASURED PARTICLE VELOCITIES UNDER THE BLASTING WORK

SHALL NOT EXCEED THE UPSET LEVEL OF 2.0 INCHES PER SECOND AT ANY TIME. BEFORE PLACING CONCRETE. THE SUBGRADE OF THE FOUNDATIONS IN THE VICINITY

THE SUBWAY STRUCTURE SHALL BE INSPECTED AND APPROVED BY NYCT'S ENGINEER.

ANY DAMAGE TO NYCT STRUCTURES OR ARCHITECTURAL ELEMENTS SHALL BE REPAIRED AND/OR REPLACED WITH THE SAME IN KIND, SUBJECT TO THE APPROVAL OF THE NYCT ENGINEER AT THE EXPENSE OF THE PROJECT

THE NYCT ENGINEER AT THE EXPENSE OF THE PROJECT.

8. EXCAVATION EMBANKMENTS SHALL BE SHORED AND BRACED. DRAWINGS INDICATING
A SUGGESTED METHOD OF CONSTRUCTION SHALL BE SUBMITTED TO NYCT FOR REVIEW
AND APPROVAL IN CONJUNCTION WITH THE PROJECT'S CONTRACT DRAWINGS. IF IT IS DETERMINED THAT EXCAVATION MAY UNDERMINE NYCT'S STRUCTURAL FOUNDATION. UNDERPINNING SHALL BE REQUIRED. DRAWINGS AND CALCULATIONS FOR THE UNDERPINNING SHALL BE SUBMITTED TO NYCT FOR REVIEW AND APPROVAL PRIOR TO ONDERPINNING SHALL BE SUBMITTED TO N'CT I POR REVIEW AND APPROVAL PRIOR TO EXCAVATION. DAWNINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK. 9. TEMPORARY SHORING MAY BE PLACED IN DIRECT CONTACT WITH NYCT STRUCTURES

ONLY IF THE NYCT STRUCTURE IS SHOWN TO BE ABLE TO SUPPORT ALL ANTICIPATED ONL! IF THE NICT STROUTURE IS SHOWN TO BE ABLE TO SUPPORT ALL ANTICIPATIES (EXISTING AND TEMPORARY) LADAS THAT CAN BE TRANSFERRED THROUGH THE TEMPORARY STRUCTURES WITHOUT DAMAGING OR ALTERING THE EXISTING STRUCTURE. ALL CALCULATIONS AND DRAWINGS FOR THE TEMPORARY SHORING INSTALLATION AND REMOVAL SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK, THE CALCULATIONS AND DRAWINGS SHALL BE SUBMITTED TO THE STATE OF NEW TORK. THE OKLOUDITIONS AND DISWININGS STALL BE SUBMITTED INVICT FOR REVIEW AND APPROVAL. AT THE COMPLETION OF THE PROJECT, THESE TEMPORARY SHORING AND BRACING SYSTEMS SHALL BE REMOVED. OR CUT-OFF AS APPROVED BY MYCT ANY DAVAGES INCURRED DURING THE INSTALLATION AND REMOVAL OF THE TEMPORARY SHORING SHALL BE REPAIRED AND/OR REPLACED TO THE SATISFACTION OF THE NYCT ENGINEER AT THE EXPENSE OF THE CONTRACTOR

10. WHEN PILES ARE DRIVEN OR DRILLED ADJACENT TO THE SUBWAY STRUCTURE, BORING DATA, PILE LAYOUTS, SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL RE SUBMITTED TO NYCT FOR APPROVAL, VELOCITY METERS SHALL BE INSTALLED IN THE SUBWAY TUNNEL AT CRITICAL LOCATIONS TO MONITOR INDUCED VIBRATIONS, INDUCED DISPACEMENTS ALONG THE TUNNEL STRUCTURE AND TRACK INVERT SHALL BE MONITORED DURING DRIVING OR DRILLING. THE THRESHOLD MAXIMUM PARTICLE VELOCITY ABOVE THE AMBIENT CAUSED BY THE DRIVING OR DRILLING SHALL BE 0.5 INCH PER SECOND. VALUES EXCEEDING THIS LEVEL SHALL BE REVIEWED AND EVALUATED BY THE MYCT ENGINEER. MEASURED PARTICLE VELOCITIES DUE TO DRIVING OR DRILLING PILE WORK SHALL NOT EXCEED THE UPSET LEVEL OF 2.0 INCHES PER SECOND AT ANY

11. NO PILES SHALL BE INSTALLED BY ANY METHOD WITHIN THREE FEET OF SUBWAY STRUCTURE, MEASURED FROM THE EDGE OF THE PILE OR CASING TO THE WALL. CLOSED-END PILES SHALL NOT BEDRIVEN WITHIN TEN FEET OF THE SUBWAY STRUCTURE.

12. ALL PILES SHALL BE PLACED WITHIN A PRE-ALIGERED CASED HOLE TO THE INFLUENCE 12. ALL PILES SHALL BE PLACED WITHIN A PRE-AUGERED CASED HOLE TO THE IN-LIGENCE. LINE: THE CASING SHALL BE CLEANED WITHOUT DISTURBING THE SOIL OUTSIDE THE CASING AND THE PILE SHALL BE PLACED WITHIN THE CASING FOR INSTALLATION. THE PILES MAY THEN BE DRIVEN BEYOND THE INFLUENCE LINE WITHIN THE CASING.

13. THE INFLUENCE LINE SHALL START AT THE BOTTOM OF THE SUBWAY STRUCTURE AND EXTEND FROM 1H:1V TO 2H:1VSLOPE DEPENDING ON THE SOIL PROPERTIES AND GROUND WATER TABLE. FOR PILES INSTALLED WITHIN TEN FEET OF THE SUBWAY STRUCTURE, THE CASING SHALL EXTEND TO THE BOTTOM OF THE SUBWAY STRUCTURE.

14. ALL PILES SHALL BE DRIVEN OR DRILLED A MINIMUM OF TEN FEET BELOW THE INTERSECTION OF THE PILE CENTERLINE AND THE INFLUENCE LINE OF THE SUBWAY

15. THE USE OF "DOWN-THE-HOLE-HAMMERS" FOR INSTALLATION OF PILES THROUGH OVERBURDEN AND FILL SHALL BE PERMITTED ONLY TO REMOVE BOULDERS. THIS METHOD SHALL NOT BE PERMITTED AS A MATTER OF COURSE TO ADVANCE THE HOLE. FURTHERMORE, THIS METHOD USED TO CONSTRUCT ROCK SOCKETS SHALL NOT BE ALLOWED WITHIN 5 FEET OF THE NYCT STRUCTURE. THE USE OF MACHINE UTLIZING AIR FOR SOIL REMOVAL SHALL NCT BE ALLOWED.

16 VIRRATORY HAMMERS SHALL NOT BE PERMITTED WITHIN 75 FEET OF SLIBWAY STRUCTURES. HOE RAMS SHALL NOT BE PERMITTED WITHIN 25 FEET OF SUBWAY

17. DYNAMIC COMPACTION METHODS USING DROPPED HEAVY WEIGHTS SHALL NOT BE CONDUCTED WITHIN 1000 FEET OF ANY NYCT STRUCTURE UNLESS IT IS SHOWN THAT INDUCED SETTI EMENTS AND VIRRATIONS WILL NOT DAMAGE THESE STRUCTURES A SUITABLE MONITORING PLAN INCLUDING SETTLEMENT AND VIBRATION MEASUREMENTS SHALL BE APPROVED BY THE NYCT ENGINEER FOR ALL SUCH OPERATIONS WITHIN THESS DISTANCES PRIOR TO WORK.

18. THERE SHALL BE NO MACHINE EXCAVATION WITHIN 3 FEET OF NYCT STRUCTURES. POWER DUCT LINES, OR ANY OTHER FACILITIES UNTIL THEY HAVE BEEN CAREFULLY EXPOSED BY HAND EXCAVATION.

19. ALL DEWATERING OPERATIONS CONDUCTED WITHIN 500 FEET OF THE MYOF

STRUCTURE SHALL BE PERFORMED IN ACCORDANCE WITH DRAWINGS, CALCULATIONS AND PROCEDURES SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE AND PROJECUTIVES SIGNED AND SPALLED TO PROVISSIONAL ENGINEER LICENSESS IN THE STATE OF NEW YORK. THESE DRAWINGS, CALCULATIONS AND PROCEDURES SHALL BE SUBMITTED TO NYCT FOR REVIEW AND APPROVAL. THE DISTANCE FROM THE STRUCTURE TO THE DEWATERION OPERATION MAY BE REDUCED PROVIDED THAT SOIL (CONDITIONS AT THE SITE INDICATE THAT THE RADIUS OF INFLUENCE OF THE DEWATERING IS LESS THAN 500 FEET. FOR DEWATERING WITHIN THE RADIUS OF INFLUENCE, THE DÉWATERING PROGRAM SHALL BE SHOWN TO HAVE NEGLIGIBLE INFLUENCE ON SETTLEMENTS OF THE YCT STRUCTURE.

ON SUBWAY ENTRANCES, VENTILATORS, VAULTS AND ANY NYCT APPURTENANCES AT THE SIDEWALK SHALL BE UNDERPINNED OR SHORED AND BRACED IF DIRECTED BY NYCT'S

21 NYCT, AT ITS DISCRETION, RESERVES THE RIGHT TO REQUIRE THE PROJECT TO CLOSE OR MAINTAIN AND PROTECT EXISTING SUBWAY ENTRANCES, VENTILATORS, STRUCTURES AND PROPERTY A DAJACENT TO THE PROJECT DURING CONSTRUCTION, SUCH CONSTRUCTION MAY INCLUDE UNDERPINNING, SHARING, BRACING AND EFECTION OF SUITABLE BARRICADES AND/OR CANOPIES AND SHIELDS. SUCH PROTECTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND CALCULATIONS SUBMITTED TO NYCT FOR REVIEW AND APPROVAL ALL DRAWINGS AND CALCULATIONS SUBMITTED TO NYCT SHALL SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW

22. TEMPORARY AND PERMANENT SHIELD INSTALLATION PLANS AND CALCULATIONS PROTECTING NYCT FACILITIES AND/OR THE PUBLIC SHALL BE SUBMITTED TO NYCT FOR APPROVAL THE PLANS SHALL INCLUDE THE LOCATION, DESIGN LOAD, TYPE AND METHOD OF ATTACHMENT TO THE TRANSIT STRUCTURE. THESE PLANS AND CALCULATIONS SUBMITTED TO NYCT SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK.

23. ALL LUMBER AND PLYWOOD USED FOR PROTECTION OF SUBWAY FACILITIES SHALL BE

FIRE HE IANDANI.

24. SUBWAY EMERGENCY EXITS SHALL BE KEPT CLEAR AT ALL TIMES.

25. SPECIAL CARE SHALL BE EXERCISED WHEN EXCAVATING OVER OR NEAR THE SUBWAY
ROOF SO THAT THE THIN CONCRETE PROTECTION OF THE SUBWAY WATERPROOFING IS NOT DAMAGED, REPAIR PLANS FOR DAMAGE TO THE WATER PROTECTION WATERPROOFING LAYER DURING EXCAVATION SHALL BE SUBMITTED FOR NYCI APPROVAL REPAIR WORK SHALL BE PERFORMED BEFORE EXCAVATED AREA IS FILLED, CLOSED OR COVERED UP AT NO EXPENSE TO NYCT.

23. BURNING OF, WELDING TO OR DRILLING THROUGH EXISTING STEEL STRUCTURES SHALL NOT BE PERMITTED EXCEPT AS SHOWN ON DRAWINGS APPROVED BY NYCT.

27- HORIZONTAL AND VERTICAL CONTROL SURVEY DATA OF THE EXISTING NYCT STRUCTURE SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR TO MONITOR ANY MOVEMENTS THAT OCCUR DURING CONSTRUCTION AND TO CERTIFY THAT THE INDUCED MOVEMENTS ARE WITHIN THE LIMITS NOTED BELOW. IF ANY MOVEMENTS RECUIRE WORK TO BE STOPPED BASED ON THE VALUES BELOW, A REMEDIATION PLAN SHALL BE SUBMITTED TO NYCT FOR APPROVAL BY NYCT PRIOR TO THE REHABILITATION AND REPAIR

WORK.		
STRUCTURE TYPE	MONITORED & MEASURED	ACTION TO TAKE
	MOVEMENT	
ELEVATED	1/8 INCH OR MORE	NOTIFY NYCT ENGINEER
ELEVATED	1/4 INCH OR MORE	STOP WORK
SJBWAY	1/4 INCH OR MORE	NOTIFY NYCT ENGINEER
SJBWAY	1/2 INCH OR MORE	STOP WORK

28. BUS ROUTES AFFECTED BY THE PROJECT MAY REQUIRE BUS DIVERSIONS. THESE ARRANGEMENTS SHALL BE MADE THROUGH:

MS. SARAH WYSS

SENIOR DIRECTOR OPERATIONS PLANNING

NEW YORK CITY TRANSIT 2 BROADWAY, ROOM A17.82 NEW YORK, NEW YORK 10(04

TELEPHONE NUMBER (646) 252-5517

WHEN IMPACTING ANY RUS STOP, SPECIAL OPERATIONS SHALL BE NOTIFIED TWO WEEKS

29. DUCT LINES SHALL BE MAINTAINED AND PROTECTED DURING CONSTRUCTION. ANY INTERFERENCE WITH DUCT LINES SHALL BE REPORTED TO THE NYCT ENGINEER. WHEN A EUCT LINE CONTAINING CABLES IS TO BE REMOVED, OR WHEN MASONRY ADJACENT THERETO IS TO BE REMOVED, PENETRATED, OR DRILLED, THE WORK SHALL BEDONE WITH HAND LABOR ENTIRELY, USING HAMMER AND CHISEL, JACKHAMMERS, BULL POINTS OR OTHER POWER EQUIPMENT SHALL NOT BE USED.

3), WHERE MANHOLES ARE ENCOUNTERED: 3), THERE MANHOLES ARE ENCOUNTERED: 3)A. THEY SHALL BE PROTECTED AND RAISED OR LOWERED AS REQUIRED, TO MATCH

THE NEW STREET GRADE. 30.B. IF MANHOLE COVERS ARE RAISED OR LOWERED, PROTECT CABLES IN MANHOLE BY

WOOD SHEETING OF 2" NOMINAL THICKNESS.
30.C. PRIOR TO THE START OF CONSTRUCTION OPERATIONS AFFECTING MANHOLES AND LCCT LINES, SEVEN DAY'S NOTICE MUST BE GIVEN TO MR. LIONEL SAINT LOUIS P.E. ASSISTANT CHIEF OFFICER, INSPECTIONS AND EMERGENCY RESPONSE. MOW ENGINEERING, AT 347-672-2448, LIONEL.SAINTLOUIS@NYCT.COM.

1 CONSTRUCTION WORK DONE NEAR VENT GRATINGS AND HATCHES SHALL BE AS

31.A. UNLESS APPROVED BY THE NYCT ENGINEER, ALL VENT GRATINGS AND HATCHES

STAN UNICES APPROVED BY THE INTERNOINEER, ALL VEHT GRATINGS AND PRIORIS SHALL REMAIN OUTSIDE THE CONSTRUCTION SITE, SEFARATED BY A CONSTRUCTION FENCE, PROTECTIVE SHIELDS SHALL BE PROVIDED OVER VENT GRATINGS AS REQUIRED BY THE NYCT ENGINEER.

ONATIONS AS ACCOUNTED IT THE THY TENSIVEER.

19. NO BUILDING MATERIAL, VEHICLES OR CONSTRUCTION EQUIPMENT SHALL RESTORED OR COVER OVER YENT, GRATINGS, HATCHES OR EMERGENCY EXITS

31. C. DETAILS OF SIDEWALK RECONSTRUCTION AROUND VENT GRATINGS, ENTRANCES, HATCHES AND EMERGENCY EXITS SHALL BE

SUBMITTED TO NYCT FOR APPROVAL.

32 TRACTORS CRANES EXCAVATORS AND ANY HEAVY FOLIPMENT LISED IN THE VICINITY 32. INACTORS, CRANES, EXCAVATORS, AND ANY HEAVY EQUIPMENT USED IN HE VICINITY OF THE ELEVATED STRUCTURES SHALL BE ISOLATED FROM THE GROUND, SINCE THE ELEVATED STRUCTURE IS USED AS A NEGATIVE RETURN PATH, WITH A CONSEQUENT POTENTIAL BETWEEN IT AND THE GROUND, ANY CONTACT BETWEEN THE STRUCTURE AND GROUNDED EQUIPMENT COULD RESULT IN BURNING OF THE STEEL.

33. TEMPORARY CONSTRUCTION SHEDS, BARRICADES OR PLYWOOD PARTITIONS SHALL 33. TEMPORARY CONSTRUCTION SHEDS, BARRICADES OR PLYWOOD PARTH ONS SHALL BE AMINIMUM OF 50° FROM EDGE OF FINISHED PLATFORM ALL BARRICADE PLANS SHALL BE SUBMITTED TO NYCT'S DEFICE OF STATION PROGRAMS FOR REVIEW AND APPROVAL 34. THE GENERAL REQUIREMENTS FOR NYCT STATION AREAS OR STAIRWAY/GLOSINGS

34 A. ONLY ONE STAIRWAY AT EACH STATION SHALL 3E PERMITTED TO BE CLOSED AT THE SAME TIME. APPROVALS FOR CLOSING ANY STAIRWAY SHALL BE OBTAINED FROM THE

DIVISION OF STATION PROGRAMS AT LEAST THREE WEEKS IN ADVANCE.

34.B. MS. SUSANIVAH HARRINGTON, DIRECTOR, OFFICE OF STATION PROGRAMS:
TELEPHONE 718-694-4991; EMBAL SUSANIVAH.HARRINGTON@NYCT.COM OF THE DIVISION OF STATIONS SHALL BE NOTIFIED THREE WEEKS PRIOR TO THE ACTUAL CLOSING AND REODENING OF THE ENTRANCE

REOPENING OF THE ENTRANCE.

34.C. SIGNAGE SHALL BE SUPPLIED AND POSTED AT LEAST TWO WEEKS IN ADVANCE.
ADVISING THE PUBLIC OF THE PROPOSED SUBWAY STAIR CLOSING. HOWEVER, IF IT IS IN
ENTIRE ENTRANCE CLOSING, SIGNAGE SHALL BE PCSTED TWO WEEKS IN ADVANCE. 34.D. THE STREET ENTRANCE STAIRWAY SHALL NOT BE CLOSED UNLESS MANPOWER AND

MATERIALS ARE AVAILABLE TO COMMENCE WORK ON DATES PERMITTED.

MATERIALS ARE AVAILABLE TO COMMENCE WORK ON DATES PERMITTED.

3.4E. ONCE THE CLOSING IS FEFECTIVE, CONSTRUCTION SIGNS SHALL BE PLACED AT APPROPRIATE LOCATIONS ON THE BARRICADES AT THE STREET AND MEZZANNE LEVELS, STATING THE CONTRACTOR'S NAME, 24 HOUR EMERGENCY TELEPHONE NUMBER, CONTRACT NUMBER, THE DURATION OF THE CLOSING, DIRECTION TO AN ALTERNATE ENTRANCE/EXIT AND AN APOLOGY FOR THE INCONVENIENCE TO OUR CUSTOMERS 4.F. EXISTING STATION SIGNAGE SHALL BE ADJUSTED TO REFLECT ANY CHANGES N

34.G. BARRICADES SHALL BE PAINTED FEDERAL ELUE AND BE MADE OF FIRE RATED

MATERIAL. BARRICADES SHALL BE KEPT GRAFFITI FREE AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN THE BARRICADED AREA CLEAN OF ALL DEBRIS. 34.H. ALL MATERIALS SHALL BE PROPERLY STORED AND SECURED AWAY FROM

CUSTOMER TRAFFIC.

24.I. THE CONTRACTOR SHALL REMOVE ALL WASTE MATERIAL AND BARRICADES FROM ALL

STATION AREAS WHEN CONSTRUCTION IS COMPLETED. 34 L INSPECTION OF THE AREA LINDER CONSTRUCTION BY AUTHORIZED NYCT STATION.

SEARCH CONSTRUCTION OF THE AREA UNDESCRIPTION OF A CHORIZED NYOT STATION DEPARTMENT EMPLOYEES SHALL NOT BE INHIBITED.

34.K. IF STREETLIGHTS ON THE SIDEWALKS ARE AFFECTED, TEMPORARY LIGHTS SHALL

BE PROVIDED. 5. IF NEW CONCRETE CONSTRUCTION IS DESIGNED TO JOIN TO EXISTING CONCRETE

DOWELS. LAP SPLICES AND KEYWAYS SHALL BE USED IN ACCORDANCE WITH NYCT STANDARDS. OTHERWISE, COLD JOINTS SHALL BE DESIGNED IN ACCORDANCE WITH NYCT

36. IF THE PROJECT INVOLVES CONSTRUCTION OR ALTERATION OF A SUBWAY FACILITY ON PRIVATE PROPERTY, THE PROPERTY OWNERS SHALL ENTER INTO AN AGREEMENT WITH NYCT PERTAINING TO ALL WORK AFFECTING THE TRANSIT FACILITIES WITH CLEARLY DEFINED LIMITS AND RESPONSIBILITY FOR MAINTENANCE AND LIABILITY.

37. WHEREVER A NEW SIDEWALK IS BEING PLACED ADJACENT TO NYCT STRUCTURES THE

FOLLOWING SHALL BE REQUIRED: 37.A. THE TOP OF THE NEW SIDEWALK SHALL BE FLUSH WITH THE SUBWAY VENT

GRATINGS. HATCHES AND EMERGENCY EXITS. 37.B. THE SLOPE OF THE NEW SIDEWALK SHALL BE SUCH THAT THE DRAINAGE BE AWAY

37.5. HE SLOPE OF THE NEW SIDEWALK SHALL BE SUCH THAT THE DRAINAGE BE AWAY FROM THESE STRUCTURES.

37.C. A 1/2" PREMOLDED FILLER SHALL BE INSTALLED BETWEEN THE NEW SIDEWALK AND THE NYCT STRUCTURE. 37.D. WHERE SIDEWALK ELEVATIONS ARE BEING CHANGED. DETAILS OF PROPOSED WORK

AROUND NYCT STRUCTURES SHALL BE SUBMITTED FOR APPROVAL.

3. BEFORE ENTERING NYCT PROPERTY, CONTRACTOR OR SUBCONTRACTOR'S PERSONNEL SHALL HAVE ATTENDED NYCT TRACK SAFETY TRAINING AND EXPECT TO

FOLLOW NYCT RULES AND REGULATIONS AS PER TRAINING AND INSTRUCTIONS.

POLICY WITCH ROLES AND RESOLUTIONS AS PER HARMAN AND INSTITUTIONS.

30. BEFORE THE START OF ANY WORK, THE CONTRACTOR SHALL MAKE AN EXAMINATION, IN THE PRESENCE OF NYCTS ENGINEER, OF THE INTERIOR AND EXTERIOR OF NYCT SUBWAY OR OTHER STRUCTURE ADJACENT TO THE PROPOSED WORK. THE PERSON OR PERSON OR DESCRIPTION OF THE PROPOSED WORK THE PERSON OR PERSON SAUTHORIZED BY THE CONTRACTOR TO MAKE THESE EXAMINATIONS SHALL BE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE ALL PHOTOGRAPHS AS MAY BE NECESSARY OR ORDERED TO INDICATE THE EXISTING CONDITION OF NYC STRUCTURE ANY STRUCTURALLY DEFICIENT CONDITION SHALL BE MADE SAFE PRIOR TO STRUCTURE. ANY STRUCTURALLY DEFICIENT CONDITION SHALL BE MADE SAFE PRIOR TO THE COMMENCEMENT OF THE WORK. A COPY OF THE FIELD REPORT WITH PHOTOS SHALL BE SUBMITTED TO MR. LIONEL SAINT LOUIS, P.E., ASSISTANT CHIEF OFFICER, INSPECTIONS AND EMERGENCY RESPONSE, MCW ENGINEERING, 130 LIVINGSTON STREET, ROOM 8046, BROOKLYN, NEW YORK 11201, TELEPHONE 347-672-2448, EMAIL

LIONEL.SAINT.LOUIS@NYCT.COM BEFORE THE START OF CONSTRUCTION.
40. ALL ARCHITECTURAL DETAILS (SERVICE BOOTHS, RAILINGS, DOORS, ETC.) SHALL
CONFORM TO THE LATEST NYCT STANDARDS. THESE STANDARDS ARE AVAILABLE AT

41. STANDARD NYCT INSURANCE CLAUSES SHALL BE MADE PART OF THE PROJECT'S CONTRACT DRAWINGS. PROOF THAT THE NECESSARY INSURANCE IS IN EFFECT SHALL BE RECOMMENDE. 42. AT THE CLOSE OF ANY PROJECT INVOLVING CONSTRUCTION OR ALTERATIONS TO

TRANSIT FACILITIES. A PDF AND ELECTRONIC COPIES COMPLYING TO MICROSTATION.DGN FORMAT OF "APPROVED AS BUILTS" MUST BE PROVIDED TO NYCT FOR ITS RECORDS. FOR 673 Livonia Avenue, Brooklyn, NY 11207 NYSDEC SITE # 224352

CLIENT

CETAILS OF SPECIFIC REQUIREMENTS, CONTACT MTA CONSTRUCTION AND CEVELOPMENT EXTERNAL PARTNER PROGRAM.
4. AT LEAST THREE WEEKS PRIOR TO THE START OF CONSTRUCTION OPERATIONS,

NOTIFICATION SHALL REGIVEN TO MR LIONEL SAINT LOUIS P.E. ASSISTANT CHIEF ADTHICATION SHALL BE GIVEN TO MR. LIONEL SAINT LOUIS, P.E., ASSIS ANT CHIEF-OFFICER, INSPECTIONS AND EMERGENCY RESPONSE, MOW ENGINEERING. 44. IF CHANGED FIELD CONDITIONS ARE FOUND OR DEVIATIONS ARE MADE FROM THE APPROVED DRAWINGS, REVISED DRAWINGS SHALL BE RESUBMITTED FOR MTA

Approval

ENVIRONMENTAL

B&B ENGINEERS AND GEOLOGISTS OF NEW YORK, P. 289 GREAT ROAD, SUITE 202 ACTON, MASSACHUSETTS 01720 USA

RA / PE SEAL & SIGNATURE



LICENSE NO.: 103910

JOB NO : MEM2083-07



DOB BSCAN STICKER

DEVICION 0 ISSUE FOR REVIEW

75% CONSTRUCTION DOCUMENTS

NOT FOR CONSTRUCTION DRAWING TITLE:

NYCT NOTES

SCALE: AS NOTED

V-201

DATE: DECEMBER

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SECTION A. INSURANCE COVERAGES

THE PERMITTEE AT ITS SOLE COST AND EXPENSE SHALL ORTAIN AND MAINTAIN AT ALL TIMES DURING THE PERFORMANCE OF THE WORK SUCH POLICIES OF INSURANCE AS SET FORTH BELOW

1. WORKERS' COMPENSATION INSURANCE AS REQUIRED BY STATUTE IN THE STATE IN WHICH THE WORK WILL BE PERFORMED. EMPLOYER'S LIABILITY INSURANCE WITH LIMITS OF NOT LESS THAN \$1,000,000 BODILY INJURY PER ACCIDENT; \$1,000,000 BODILY INJURY PER DISEASE; AND \$1,000,000 ANNUAL AGGREGATE, FOR WORK CONDUCTED OUTSIDE THE STATE OF NEW YORK, EMPLOYER'S LIABILITY INSURANCE REQUIRES LIMITS OF NOT LESS THAN \$2,000,000 BODILY INJURY PER ACCIDENT; \$2,000,000 BODILY INJURY PER ACCIDENT; \$2,000,000 BODILY INJURY PER ACCIDENT; \$4,000,000 ANNUAL AGGREGATE AND MUST PROVIDE PROOF THAT ITS WORKERS' COMPENSATION INSURANCE POLICY HAS BEEN ENDORSED TO INCLUDE "OTHER STATES COVERAGE." IF THE REQUESTING PARTY LEASES ONE OR MORE EMPLOYEES THROUGH THE USE OF A PAYROLL, EMPLOYEE MANAGEMENT, OR OTHER SIMILAR COMPANY, THEN THE PERMITTEE MUST PROCURE WORKER'S COMPENSATION INSURANCE WRITTEN ON AN "IF ANY" POLICY FORM, INCLUDING AN ENDORSEMENT PROVIDING COVERAGE FOR ALTERNATE EMPLOYER/LEASED EMPLOYEE LIABILITY.

2 COMMERCIAL GENERAL HABILITY ("CGI") INSURANCE. COVERING CLAIMS FOR PERSONAL AND ADVERTISING INJURY, BOOLLY INJURY (INCLUDING DEATH) AND PROPERTY DAMAGE ARISING OUT OF THE WORK AND IN A FORM PROVIDING COVERAGE NO LESS BROAD THAN THAT OF THE CURRENT ISO COMMERCIAL GENERAL LIABILITY INSURANCE POLICY (OCCURRENCE FORM, NUMBER CG 00 01). SUCH INSURANCE SHALL PROVIDE COVERAGE FOR ALL OPERATIONS INCLUDING THE PRODUCTS-COMPLETED OPERATIONS HAZARD, AND SHALL BE MAINTAINED FOR A PERIOD OF AT LEAST THREE (3) YEARS AFTER FINAL COMPLETION, SUBJECT TO THE LIMITATION OF ANY APPLICABLE STATUTE. THE LIMITS OF SUCH INSURANCE SHALL RENEW ANNUALLY AND NOT BE LESS THAN \$2,000,000 EACH OCCURRENCE \$4,000,000 PRODUCTS AND COMPLETED CPERATIONS AGGREGATE; AND \$4,000,000 PER PROJECT GENERAL AGGREGATE. THIS REQUIREMENT MAY BE SATISFIED BY A COMBINATION OF A PRIMARY CGL POLICY COVERAGE WITH LIMITS OF NOT LESS THAN \$1,000,000 PER OCCURRENCE, AND FOLLOWIN FORM EXCESS OR UMBRELLA LIABILITY INSURANCE POLICY(IES) WHICH EQUAL THE TOTAL LIMITS REQUIRED ABOVE AND FOR EXCESS OR UMBRELLA LIABILITY INSURANCE IN SECTION 4 BELOW. THE CGI AND EXCESS OR UMBRELLA LIABILITY INSURANCE POLICIES MUST BE WRITTEN AN OCCURRENCE BASIS RM, AND MUST COMPLY WITH THE FOLLOWING PROVISIONS

2.1. THE POLICY SHALL INCLUDE INDEPENDENT CONTRACTOR AND CONTRACTUAL LIABILITY COVERAGES. 2.2. THE POLICY SHALL NOT CONTAIN ANY CONTRACTUAL EXCLUSION RELATIVE TO LABOR LAWS OR ANY OTHER EXCLUSIONS OR LIMITATIONS DIRECTED TOWARD ANY TYPES OF PROJECTS, MATERIALS OR PROCESSES INVOLVED IN THE WORK:

2.3. THE POLICY SHALL NOT CONTAIN ANY OF THE FOLLOWING EXCLUSIONS: SUBCONTRACTOR'S EXCLUSION;

2.4. CONSTRUCTION DEFECT EXCLUSION:

2.5. LEASED WORKER EXCLUSION; CROSS LIABILITY EXCLUSION; CRANE EXCLUSION; AND DEMOLITION EXCLUSION OR "EXPLOSION, COLLARS AND UNDERGROUND" EXCLUSION;
2.6. CONSTRUCTION WORK TAKING PLACE WITHIN 50 FEET OF A RAILROAD MUST INCLUDE:

2.6.1 OR "EXPLOSION, COLLAPSE AND UNDERSROUND" EXCLUSION; COVERAGE FOR CLAIMS FOR BODILY

2.6.2. BY A RAILROAD EMPLOYEE OF AN ADDITIONAL INSURED AND ANY EMPLOYER'S LIABILITY EXCLUSION WHICH MAY OTHERWISE OPERATE TO EXCLUDE SUCH COVERAGE SHALL BE REMOVED 3. BUSINESS AUTOMOBILE LIABILITY INSURANCE, IF ANY OWNED, NON-OWNED OR HIRED VEHICLES ARE USED BY THE PERMITTEE WHETHER ON OR OFF-SITE, COVERING THE LIABILITY OF THE PERMITTEE ARISING OUT OF ANY VEHICLE THAT BEARS, OR IS REQUIRED TO BEAR, LICENSE PLATES ACCORDING TO THE LAWS OF THE JURISDICTION IN WHICH THEY ARE OPERATED, AND WHICH ARE NOT COVERED BY THE PERMITTEE'S COMMERCIAL GENERAL LIABILITY, SUCH INSURANCE SHALL PROVIDE COVERAGE AT LEAST PERMIT LES COMMITTACIALS CREMENT LIBIBILITY SOUT INSTANDANCE STRALL PROVIDE COVERNICA AT LEAST AS BROAD AS THE STANDARD ISO COMPREHENSIVE AUTOMOBILE LIBIBILITY POLICY (CA 00 01.C. a. 00 ns. CA 00 12, CA 0020), WITH LIMITS NOT LEAST IN NA \$2,000,000 LACH ACCIDENT ON A COMMITTED SINGEL BASIS. IF THE WORK INVOLVES TRANSPORTATION OF HAZARDOUS OR REQUIRED STANCES, HAZARDOUS OR REGULATED WASTES AND/OR HAZARDOUS OR REGULATED MATERIALS. THE PERMITTEE SHALL PROVIDE POLLUTION AUTO COVERAGE EQUIVALENT TO THAT PROVIDED UNDER THE ISO TION LIABILITY-BROADENED COVERAGE FOR COVERED AUTOS ENDORSEMENT (CA 99 48), AND THE

4. UMBRELLA/EXCESS LIABILITY INSURANCE. WITH LIMITS NOT LESS THAN \$3,000,000 PER OCCURRENCE IN EXCESS OF THE LIMITS FOR COMMERCIAL SENERAL LIABILITY, EMP. OYER'S LIABILITY, AND BUSINESS AUTOMOBILE LIABILITY INSURANCE WHICH IS AT LEAST AS BROAD AS EACH OF THE UNDERLYING POLICIES. THE UMBRELLA/EXCESS LIABILITY POLICIES SHALL BE WRITTEN ON A "DROP-DOWN" AND "FOLLOWING FORM" BASIS, WITH ONLY SUCH EXCEPTIONS EXPRESSLY APPROVED BY THE AUTHORITY/MTA.

MOTOR CARRIER ACT ENDORSEMENT (MCS 9C), ANY STATUTORILY REQUIRED "NO-FAULT" BENEFITS AND

UNINSURED/UNDERINSURED MOTORIST COVERAGE SHALL BE INCLUDED.

5. RAILROAD PROTECTIVE LIABILITY INSURANCE (ISO-RIMA OR EQUIVALENT FORM), IF ANY WORK WILL BE TAKING PLACE WITHIN 50 FEET OF A RAILROAD, SUBWAY OR SIMILAR TRACKED CONVEYANCE OR REQUIRES ELAG OR EROTECTIVE MEASURES BY THE AUTHORITY OR ITS AFEILIATES OR THEIR RESPECTIVE REMPLOYEES, COVERING THE WORK TO BE PERFORMED AT THE DESIGNATED JOB SITE AND AFFORDING PROTECTION FOR DAMAGES ARISING OUT OF BODILY INJURY OR DEATH, PHYSICAL DAMAGE TO OR DESTRUCTION OF PROPERTY, INCLUDING DAMAGE TO THE INSURED'S OWN PROPERTY AND

5.1 THE POLICY SHALL BE ISSUED TO AND SHALL NAME AS THE "NAMED INSUREDS" EACH OF THE INDEMNIFIED PARTIES LISTED LINDER SECTION DIRELOW

5.2. THE LIMIT OF LIABILITY SHALL BE NOT LESS THAN \$2,000,000 FER OCCURRENCE, SUBJECT TO A

\$6,000,000 ANNUAL AGGREGATE; 5.3. POLICY MUST BE ENDORSED TO PROMDE COVERAGE FOR CLAIMS ARISING FROM INITIRY TO

EMPLOYEES COVERED BY FEDERAL EMPLOYER'S LIABILITY ACT (FELA), WHEN APPLICABLE 5.4. INDICATE THE NAME AND ADDRESS OF THE DESIGNATED CONTRACTOR, LOCATION OF THE WORK, THE CONTRACT

DESCRIPTION AND CONTRACT NUMBER. IF APPLICABLE.

6. CONTRACTOR'S POLLUTION LIABILITY INSURANCE, IF DISPOSAL OF HAZARDOUS MATERIALS FROM THE DESIGNATED JOB SITE IS UNDERTAKEN OR IF THE WORK BEING PERFORMED IN THE IMPACT AREA INVOLVES ENVIRONMENTAL OR POLLUTION EXPOSURES, WITH LIMITS NOT LESS THAN \$2,000,000 PER OCCURRENCE AND GENERAL AGGREGATE ON A PER PROJECT BASIS INCLUDING COMPLETED OPERATIONS COVERAGE TO BE MAINTAINED FOR AT LEAST THREE (3) YEARS AFTER COMPLETION OF THE WORK POLICY SHALL COVERENVIRONMENTAL DAMAGE RESULTING FROM POLLUTION CONDITIONS THAT ARISE FROM THE OPERATIONS OF THE PERMITTEE AND DESCRIBED UNDER THE SCOPE OF SERVICES OF THIS AGREEMENT COVERAGE MUST APPLY TO SUDDEN AND NON-SUDDEN POLITICAL CONDITIONS AGREEMENT. COPENSE MOST APPEL TO SOUDEN AND NON-SOUDEN POLICITION CONDITIONS INCLUDING THE DISCHARGE, DISPERSAL, RELEASE OR ESCAPE OF SMOKE, VAPORS, SOOT, FUMES, ACIDS, ALKALIS, TOXIC CHEMCALS, LIQUIDS OR GASES, WASTE MATERIALS OR OTHER

IRRITANTS CONTAMINANTS OR POLITIANTS SILT OR SEDIMENT INTO OR LIPON LAND. THE

ATMOSPHERE OR ANY WATERCOLLESS OR BODY OF WATER PROVIDED SLICH CONDITIONS ARE NOT ATMOSPHERE OF ANY WATERCOURSE OR BOOT OF WATER, PROVIDED SUCH CONDITIONS ARE NOT NATURALLY PRESENT IN THE ENVIRONMENT IN THE CONCENTRATION OR AMOUNTS DISCOVERED, UNLESS SUCH NATURAL CONDITION(S) ARE RELEASED OR DISPERSED AS A RESULT OF THE PERFORMANCE OF COVERED OPERATIONS, SUCH INSURANCE SHALL INCLUDE BUT NOT BE LIMITED TO

OF COVERED DESCRIPTIONS, SOCIETING INSURANCE SPARL INCLODE BUT NOT BE LIMITED TO:

(6.1. BODIN', INJURY, SICKNESS, DISEASE, MENTAL ANGUISH OR SHOCK SUSTAINED BY ANY PERSON,
INCLUDING DEATH; MEDICAL MONITORING;

6.2. PHYSICAL INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY OF PARTIES OTHER THAN THE INSURED INCLUDING THE RESULTING LOSS OF USE AND DIMINUTION IN VALUE THEREOF; LOSS OF USE BUT NOT PIMINUTION IN VALUE, OF TANGBLE PROPERTY OF PARTIES OTHER THAN THE INSURED THAT HAS NOT FEEN PHYSICALLY INJURED OR DESTROYED;

6.3. NATURAL RESOURCE DAMAGES: 6.4. CLEANUP COSTS:

TRANSPORTATION AND NON-OWNED DISPOSAL SITE COVERAGE (WITH NO SUNSET CLAUSE/RESTRICTED COVERAGE TERM) IF THE PERMITTEE IS DISPOSING OF CONTAMINATED

6.6. NO EXCLUSIONS FOR ASBESTOS, LEAD PAINT, SILICA OR MOLD/FUNGUS/LEGIONELLA;

6.7. DEFENSE INCLUDING COSTS, CHARGES AND EXPENSES INCURRED IN THE INVESTIGATION, ADJUSTMENT OR DEFENSE OF CLAIMS FOR SUCH COMPENSATORY DAMAGES.

SECTION B. GENERAL INSURANCE REQUIREMENTS

THE FOLLOWING REQUIREMENTS ARE APPLICABLE TO ALL INSURANCE COVERAGES REQUIRED DURING THE PERFORMANCE OF THE WORK, EXCEPTTO THE EXTENT OTHERW SE INDICATED:

1. INSURER REQUIREMENTS. ALL POLICIES OF INSURANCE SHALL BE PLACED WITH INSURERS ACCEPTABLE

ALITHORITY/MTA. THE INSURANCE LINDERWRITER(S) MUST BE DULLY LICENSED OR APPROVED SURPLUS AGINOTHYMIA THE INSURANCE ONDERWALLENGS MUST BE DUELT LICENSED ON APPROVED SORPLUS

LINES INSURER TO DO BUSINESS IN THE STATE WHERE THE WORK IS TO BE PERFORMED AND MUST HAVE

A FINANCIAL RATING OF A-/VII OR BETTER IN THE MOST RECENT EDITION OF BEST'S KEY RATING GUIDE OR OTHERWISE SATISFACTORY TO THE AUTHORITY/MTA

2. RIGHT TO REQUEST ADDITIONAL INSURANCE. THE PERMITTEE SHALL INCREASE REQUIRED INSURANCE AMOUNTS UPON DIRECTION BY THE AUTHORITY/MTA.

3. ADDITIONAL INSUREDS. ALL INSURANCE REQUIRED UNDER SECTION A (EXCEPT FOR WORKERS COMPENSATION, PROFESSIONAL LIABILITY OR OTHERWISE NOTED). SHALL NAME THE PARTIES LISTED IN SECTION D. AS. ADDITIONAL INSUREDS AND SHALL INCLUDE THEIR RESPECTIVE SUBSIDIARY AND AFFILIATED COMFANIES, THEIR BOARDS OF DIRECTORS, OFFICERS, EMPLOYEES, REPRESENTATIVES, AND AGENTS (HEREINAFTER, COLLECTIVELY THE "ADDITIONAL INSUREDS"), FOR THE COMMERCIAL GENERAL HABILITY INSURANCE ADDITIONAL INSURED COVERAGE MUST BE PROVIDED ON ISO EORMS OR THEIR ENDORSEMENT WILL BE ACCEPTED UNLESS APPROVED BY THE AUTHORITY/MTA.

I. PRIMARY AND NON-CONTRIBUTORY. EACH POLICY REQUIRED IN SECTION A, INCLUDING PRIMARY EXCESS, AND/OR UMBRELLA, SHALL PROVIDE THAT THE INSURANCE PROVIDED TO THE ADDITIONAL INSUREDS IS PRIMARY AND NON-CONTRIBUTORY, SUCH THAT NO OTHER INSURANCE OR SELF-INSURED RETENTION CARRIED OR HELD BY THE AUTHORITY /MTA SHALL BE CALLED UPON TO CONTRIBUTE TO A LOSS COVERED BY INSURANCE FOR THE NAMED INSURED.

5. WAIVER OF SUBROGATION. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE AUTHORITY WILL REQUIRE ALL INSURANCE POLICIES REQUIRED IN SECTION A TO INCLUDE CLAUSES STATING EACH INSURER WILL WAIVE ALL RIGHTS OF RECOVERY. ALL WAIVERS PROVIDED HEREIN SHALL BE EFFECTIVE AS TO ANY INDIVIDUAL OR ENTITY EVEN IF SUCH INDIVIDUAL OR ENTITY (A) WOULD OTHERWISE HAVE A DUTY OF INDEMNIFICATION CONTRACTUAL OR OTHERWISE OR (8) DID NOT PAY THE INSURANCE PREMIUM DIRECTLY OR INDIRECTLY, AND WHETHER OR NOT SUCH INDIVIDUAL OR ENTITY HAS AN INSURABLE INTEREST IN ANY PROPERTY DAMAGED.

6. SELF-INSURED RETENTIONS. NONE OF THE INSURANCE REQUIRED IN SECTION A SHALL BE SUBJECT TO ANY SELF-INSURED RETENTION GREATER THAN \$100,000 WITHOUT THE AUTHORITY/MTA WRITTEN APPROVAL

7. SUBCONTRACT AGREEMENTS. THE PERMITTEE SHALL BY APPROPRIATE WRITTEN AGREEMENTS FLOW DOWN THE

DECLUIREMENTS FOR (A) THE WAIVER OF SURROGATION FOR ALL REQUIRED INSURANCE (R) ADDITIONAL INSURED COVERAGE FOR ALL REQUIRED INSURANCE, AND (C) OTHER REQUIREMENTS OF THIS SECTION TO ALL TIERS OF CONTRACTORS, FOR ALL INSURANCE REQUIRED OF SUCH CONTRACTORS BY THE PERMITTEE FOR THE WORK.

8. NO LIMITATION. NOTHING IN THIS SECTION SHALL BE CONSTRUED AS LIMITING IN ANY WAY THE EXTENT TO WHICH THE PERMITTEE MAY BE HELD RESPONSIBLE FOR PAYMENT OF DAMAGES RESULTING FROM THEIR OPERATIONS. THE PERMITTEE'S/CONTRACTOR'S OBLIGATIONS TO PROCURE INSURANCE ARE SEPARATE AND INDEPENDENT OF, AND SHALL NOT LIMIT THE PERMITTEE'S CONTRACTUAL DEMNITY AND DEFENSE OBLIGATIONS. THE AUTHORITY/MTA DOES NOT REPRESENT THAT COVERAGES AND LIMITS REQUIRED IN THIS ENTRY PERMIT WILL NECESSARILY BE ADEQUATE TO PROTECT THE

9. NOTICE OF CANCELLATION OR NON-RENEWAL. THE PERMITTEE AGREES TO NOTIFY THE AUTHORITY/MTA THIRTY DAYS PRIOR TO ANY CANCELLATION, NON-RENEWAL OR MATERIAL CHANGE TO ANY INSURANCE POLICIES REQUIRED IN SECTION A NOTICE SHALL BE SENT ELECTRONICALLY TO THE CONTRACT-SPECIFIC EMAIL ADDRESS PROVIDED TO THE PERMITTEE VIA MTA CERTIFICATE OF INSURANCE MANAGEMENT SYSTEM (CIMS), COMPLIANZ™.

10. NOTICE OF OCCURRENCE. THE PERMITTEE SHALL IMMEDIATELY FILE WITH THE AUTHORITY'S TORT DIVISION (WITH A COPY TO THE AUTHORITY'S ENGINEER), 130 LIVINGSTON STREET, 11TH FLOOR, BROOKLYN, NY 11201. A NOTICE OF ANY CCCURRENCE LIKELY TO RESULT IN A CLAIM AGAINST THE AUTHORITY /MTA, AND SHALL AND FILE WITH THE TORTS DIVISION DETAILED SWORN PROOF OF INTEREST AND LOSS WITH THE CLAIM. THIS PARAGRAPH SHALL SURVIVE THE EXPIRATION OR EARLIER

TERMINATION OF THE PERMIT AGREEMENT/ENTRY PERMIT.

11. INSURANCE NOT IN EFFECT: IF AT ANY TIME DURING THE PERFORMANCE OF THE WORK. INSURANCE AS REQUIRED IS NOT IN EFFECT OR PROOF THEREOF IS NOT PROVIDED, THE AUTHORITY /MTA SHALL HAVE THE OPTIONS TO: (A) DIRECT THE PERMITTEE TO SUSPEND WORK OR OPERATION WITH NO ADDITIONAL COST OR EXTENSION OF TIME DUE ON ACCOUNT THEREOF: OR (B) TERMINATE THE PERMISSION GRANTED TO THE PERMITTEE TO PERFORM THE WORK.

12 CONFORMANCE TO LAW. IF APPLICABLE LAW LIMITS THE ENFORCEABILITY OF ANY OF THE TO CONFORMATION OF A PROPERTY THE PROVISIONS OF INSURANCE SHALL BE LIMITED ONLY TO THE EXTENT REQUIRED TO CONFORM TO

SECTION C. EVIDENCE OF INSURANCE

1. SUBMISSION OF INSURANCE: THE PERMITTEE MUST SUBMIT EVIDENCE OF ALL REQUIRED INSURANCE
TO THE MTA C&D EXTERNAL PARTNER PROGRAM VIA THE ASITE PORTAL. ADDITIONAL INFORMATION

AND INSTRUCTIONS CAN BE FOLIND AT: HTTPS://NEW MTA INFO/AGENCY/CONSTRUCTION/AND

A. ACCEPTABLE FORMS OF INSURANCE:

- ACORD 25: CERTIFICATE OF INSURANCE
 ACORD 855: NY CONSTRUCTION CERTIFICATE OF LIABILITY ADDENDUM
- ACORD 28: CERTIFICATE OF COMMERCIAL PROPERTY INSURANCE - ACORD BINDER OR INSURANCE POLICY

C-105.2 - CERTIFICATE OF WORKERS' COMPENSATION INSURANCE; OR U-26.3 - CERTIFICATE OF WORKERS' COMPENSATION FROM THE STATE INSURANCE FUND: OR GSI-105/SI-12 - CERTIFICAT OF WORKERS' COMPENSATION SELF INSURANCE, OR E-200 — ATTESTATION OF EXEMPTION WHEN CONTRACTOR MEETS THE REQUIREMENTS (E.G.) SOLE PROPRIETOR B. CERTIFICATE OF INSURANCE - THE FOLLOWING MINIMUM DETAILS MUST BE REFERENCED ON THE

CERTIFICATE POLICY COVERAGE DETAILS (E.G.) POLICY TERM, PER OCCURRENCE/PER PROJECT; LIMITS/SUBLIMITS

AGGREGATE LIMITS. DEDUCTIBLES. SELF-INSURED RETENTIONS. AND INSURANCE CARRIER NAME AND CORRESPONDING NAIC #

CONTRACT IDENTIFIER (E.G.) CONTRACT #, RFP #, OR ENTRY PERMIT #

LOCATION AND DESCRIPTION OF WORK

INDEMNIFIED PARTIES AS AN ADDITIONAL INSURED INCLUDING FRIMARY AND NONCONTRIBUTORY COVERAGE AND WAIVER OF SURROGATION IN FAVOR OF THE AUTHORITY/MTA

- CERTIFICATE HOLDER MUST LIST THE AUTHORITY/MTA NAME AND ADDRESS
- CERTIFICATE OF INSURANCE MUST BE SIGNED BY AN AUTHORIZED INSURANCE REPRESENTATIVE

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- CERTIFICATE BY THE SIGNED BY AN AUTHORIZED BY AND AUTHORIZED B

C. ENDORSEMENTS (WHERE APPLICABLE):

C. ENDONSEMENTS (WHERE APPLICABLE):
- GENERAL LIABILITY ADDITIONAL INSURED [CG 20 26]
- GENERAL LIABILITY - PRIMARY AND NON-CONTRIBUTORY CG 2001 OR EQUIVALENT
- GENERAL LIABILITY – PER PROJECT AGGREGATE, WHERE APPLICABLE

GENERAL LIABILITY - INDEMNIFIED PARTY

AUTOMOBILE LIABILITY - MCS 90 AND CA 99 48

CONTRACTOR'S POLLUTION - NON-OWNED DISPOSAL SITE AND TRANSPORTATION COVERAGE

WAIVER OF SUBROGATION (MOST RECENT NCCI/ISO OR EQUIVALENT AS APPLICABLE)

JOINT VENTURE (JV) — IF THE CONTRACTOR/CONSULTANT IS A JOINT VENTURE, GENERAL LIABILITY INSURANCE MUST BE PROVIDED IN THE NAME OF THE JOINT VENTURE. ALTERNATIVELY,

A NAMED INSURED ENDORSEMENT LISTING THE JOINT VENTURE MAY BE ACCEPTED. D. INSURANCE BINDER/POLICY (APPLICABLE TO RAILROAD PROTECTIVE LIABILITY AND BUILDER'S RISK/INSTALLATION FLOATER). IF A POLICY S NOT SUBMITTED, THE INSURANCE BINDER MUS" INCLUDE THE FOLLOWING MINIMUM DETAILS:

POLICY COVERAGES AND DETAILS (F.G.) POLICY TERM LIMITS/SUB-LIMITS. AGGREGATE LIMITS

POLICY COVERNOES AND DETAILS (E.G.) POLICY TERM, LIMITS/SDE-LIMITS, AGGREGATE LIMITS, DEDUCTIBLES, SELF-INSURED RETERTIONS, INSURANCE CARRIER HAME AND APPLICABLE NAIC # CONTRACT NUMBER OR ENTRY PERMIT NUMBER; DESIGNATED CONTRACTOR; LOCATION AND DESCRIPTION OF WORK

INDEMNIFIED PARTIES AS EITHER A NAMED INSURED OR ADDITIONAL NAMED INSURED

BINDER MUST BE ISSUED AND SIGNED BY THE AUTHORIZED INSURANCE COMPANY OR THEIR AUTHORIZED INSURANCE AGENT

BINDER MAY BE ACCEPTED PENDING ISSUANCE OF THE POLICY, POLICY MUST BE SUBMITTED WITHIN 30 DAYS FROM BINDER EFFECTIVE DATE.

2. INSURANCE COMPLIANCE: THE PERMITTER WILL BE NOTIFIED WHEN INSURANCE IS COMPLIANT THROUGH THE ASSIGNED "CONTRACT SPECIFIC" EMAIL ADDRESS VIA THE MTA CERTIFICATE OF INSURANCE MANAGEMENT SYSTEM (CIMS) COMPLIANZ".

3. RENEWAL INSURANCE: THE PERMITTEE WILL BE NOTIFIED VIA CIMS TWO (2) WEEKS PRICE TO THE 5. REWALL INSURANCE: THE PERMITTEE WILL BE NOTIFIED VIA CIVIS TWO (2) WEEKS PRICE TO EXPIRATION OF THEIR INSURANCE AND SHALL ENDEAVOR TO PROVIDE RENEWAL OR REPLACEMENT POLICIES OF INSURANCE WITH TERMS AND CONDITIONS NO LESS FAVORABLE THAN THE EXPIRING COVERAGES. THE PERMITTEE MUST SUBMIT EVIDENCE OF RENEWALTINGURANCE USING THE "CONTRAC SPECIFIC" EMAIL ADDRESS ASSIGNED TO THIS AGREEMENT.

DO NOT USE THE ASSIGNED "CONTRACT SPECIFIC" EMAIL ADDRESS FOR OTHER AGREEMENTS. EACH INSURANCE SUEMISSION MUST BE SENT SEPARATELY AND MAY NOT BE COMBINED WITH OTHER

4 FAILURE OF THE AUTHORITY/MTA TO DEMAND SUCH COIS OR OTHER EVIDENCE OF FULL COMPLIANCE WITH THESE INSURANCE REQUIREMENTS, OR FAILURE OF THE AUTHORITY/MTA TO IDENTIFY A
DEFICIENCY FROM EVIDENCE PROVIDED, WILL NOT BE CONSTRUED AS A WAIVER OF THE PERMITTEE'S OBLIGATION TO MAINTAIN SUCH INSURANCE, THE AUTHORITY/MTA ACCEPTANCE OF ANY COL EVIDENCING THE REQUIRED COVERAGES AND LIMITS DOES NOT CONSTITUTE APPROVAL OR AGREEMENT BY THE AUTHORITY/MTA THAT THE INSURANCE REQUIREMENTS HAVE BEEN MET OR THAT THE INSURANCE POLICIES SHOWN IN THE COLARE IN COMPLIANCE WITH THE REQUIREMENTS.

5 THE AUTHORITY/MTA HAS THE RIGHT BUT NOT THE ORLIGATION OF PROHIBITING THE PERMITTEE FROM ENTÉRING THE AUTHORITY PROPERTY UNTIL THE AUTHORITY/MTA RECEIVES ALL COIS OR OTHER EVIDENCE THAT INSURANCE HAS BEEN PLACED IN COMPLETE COMPLIANCE WITH THESE REQUIREMENTS

SECTION D. REQUIRED ADDITIONAL INSUREDS/INDEMNIFIED PARTIES.

THE NEW YORK CITY TRANSIT AUTHORITY ("NYCT"), THE MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY ("MABSTOA"), THE STATEN ISLAND RAPID TRANSIT OPERATING AUTHORITY ("SINITIA"), THE METROPOLITAN TRANSPORTATION AUTHORITY ("MTA") INCLUDING ITS SUSSIDIARIES AND AFFILIATES, MTA CONSTRUCTION & DEVELOPMENT COMPANY ("MTA C&O"), MTA BUS COMPANY ("MTA CAO"), MTA BUS COMPANY ("MTA BUS"), AND THE CITY OF NEW YORK ("CITY" AS OWNER) AND THE RESPECTIVE AFFILIATES AND SUBSIDIARIES EXISTING CURRENTLY OR IN THE FUTURE OF AND SUCCESSORS TO EACH INDEMNIFIED

GUIDELINES FOR SURMISSION OF INSURANCE

1. INSURANCE REQUIREMENTS:
REFER TO YOUR AGREEMENT FOR REQUIRED INSURANCE COVERAGES, LIMITS, AND ENDORSEMENTS AND
REVIEW WITH YOUR AUTHORIZED INSURANCE BROKER FOR COMPLIANCE.

ACCEPTABLE FORMS OF INSURANCE: - ACORD 25: CERTIFICATE OF INSURANCE

- ACORD 25: CERTIFICATE OF INSURANCE

- ACORD 855: NYCONSTRUCTION CERTIFICATE OF LIABILITY ADDENDUM

ACORD 28: CERTIFICATE OF COMMERCIAL PROPERTY INSURANCE

ACORD BINDER OR INSURANCE POLICY - WORKERS' COMPENSATION (ALTERNATIVE OPTIONS):

C-105. 2 - CERTIFICATE OF WORKERS' COMPENSATION INSURANCE: OR

U-26.3 – CERTIFICATE OF WORKERS' COMPENSATION FROM THE STATE INSURANCE FUND; OR GSI-105/SI-12 – CERTIFICATE OF WORKERS' COMPENSATION SELF INSURANCE; OR

CE-200 - ATTESTATION OF EXEMPTION WHEN CONTRACTOR MEETS THE REQUIREMENTS (E.G.)

SOLE PROPRIETOR

2. CERTIFICATE OF INSURANCE MUST INCLUDE AT A MINIMUM

3. CERTIFICATE OF INSURANCE MOST INCLUDE AT A MINIMUM:
- POLICY COVERAGE DETAILS (E.G.) POLICY TERM, PER OCCURRENCE/PER PROJECT; LIMITS/SUB-LIMITS,
AGGREGATE LIMITS, DEDUCTIBLES, SELF-INSURED RETENTIONS, AND INSURANCE CARRIER NAME AND CORRESPONDING NAIC #

CONTRACT IDENTIFIER (F.G.) CONTRACT # REP.# OR ENTRY PERMIT #

- LOCATION AND DESCRIPTION OF WORK

I NOEMMIFED PARTIES AS AN ADDITIONAL INSURED INCLUDING PRIMARY AND NONCONTRIBUTORY COVERAGE AND WAIVER OF SUBROGATION IN FAVOR OF THE MTA AGENCY CERTIFICATE HOLDER MUST LIST THE MTA AGENCY'S NAME AND ADDRES

- CERTIFICATE OF INSURANCE MUST BE SIGNED BY AN AUTHORIZED INSURANCE REPRESENTATIVE

4. INSURANCE BINDER / POLICY MUST INCLUDE AT A MINIMUM:

APPLICABLE FOR RAILROAD PROTECTIVE LIABILITY AND BUILDER'S RISK/INSTALLATION FLOATER)
POLICY COVERAGES AND DETAILS (E.G.) POLICY TERM, LIMITS/SUB-LIMITS, AGGREGATE LIMITS, DEDUCTIBLES, SELF INSURED RETENTIONS, INSURANCE CARRIER NAME AND APPLICABLE NAIC# CONTRACT NUMBER OR ENTRY PERMIT NUMBER: DESIGNATED CONTRACTOR: LOCATION AND

DESCRIPTION OF WORK INIFIED PARTIES AS EITHER A NAMED INSURED OR ADDITIONAL NAMED INSURED

BINDER MUST BE ISSUED AND SIGNED BY THE AUTHORIZED INSURANCE COMPANY OR THEIR AUTHORIZED INSURANCE AGENT

(EVIDENCE OF ALL REQUIRED INSURANCE MUST BE SENT TO YOUR AGENCY OR PROCUREMENT REDRESENTATIVE

ACORD CERTIFICATE OF INSURANCE

- ADDITIONAL INSURED ENDORSEMENTS (E.G.) CG 20 26

- PRIMARY AND NON-CONTRIBUTORY ENDORSEMENTS - WAIVER OF SURROGATION ENDORSEMENTS

- WAVER OF JORGOST FOR ENDOSEMENTS (E.C.) MCS 90 AND CA 99 48, AND OR NODS, WHEN APPL CABLE - INSURANCE POLICY - A BINDER MAY BE ACCEPTED PENDING ISSUANCE OF THE POLICY. POLICY MUST BE

SUBMITTED WITHIN 30 DAYS FROM BINDER EFFECTIVE DATE. IOINT VENTURE (IV) - IE THE CONTRACTOR/CONSULTANT IS A IOINT VENTURE GENERAL HABILITY

INSURANCE MUST BE PROVIDED IN THE NAME OF THE JOINT VENTURE, ALTERNATIVELY, A NAMED INSURED ENDORSEMENT LISTING THE JOINT VENTURE. ALTERNATIVELY, A NAMED

6 INSURANCE COMPLIANCE:

THE PERMITTEE WILL BE NOTIFIED WHEN INSURANCE IS COMPLIANT THROUGH THE ASSIGNED "CONTRACT SECURIC" EMAIL ADDRESS.

673 Livonia Avenue, Brooklyn, NY 11207 NYSDEC SITE # 224352

CLIENT

NVIRONMENTAL 88B ENGINEERS AND GEOLOGISTS OF NEW YORK, P. 289 GREAT ROAD, SUITE 202 ACTON, MASSACHUSETTS 01720 USA

RA / PE SEAL & SIGNATURE



LICENSE NO.: 103910

JOB NO : MEM2083-07



DOB BSCAN STICKER

DEVICION 0 ISSUE FOR REVIEW

75% CONSTRUCTION DOCUMENTS

NOT FOR CONSTRUCTION DRAWING TITLE:

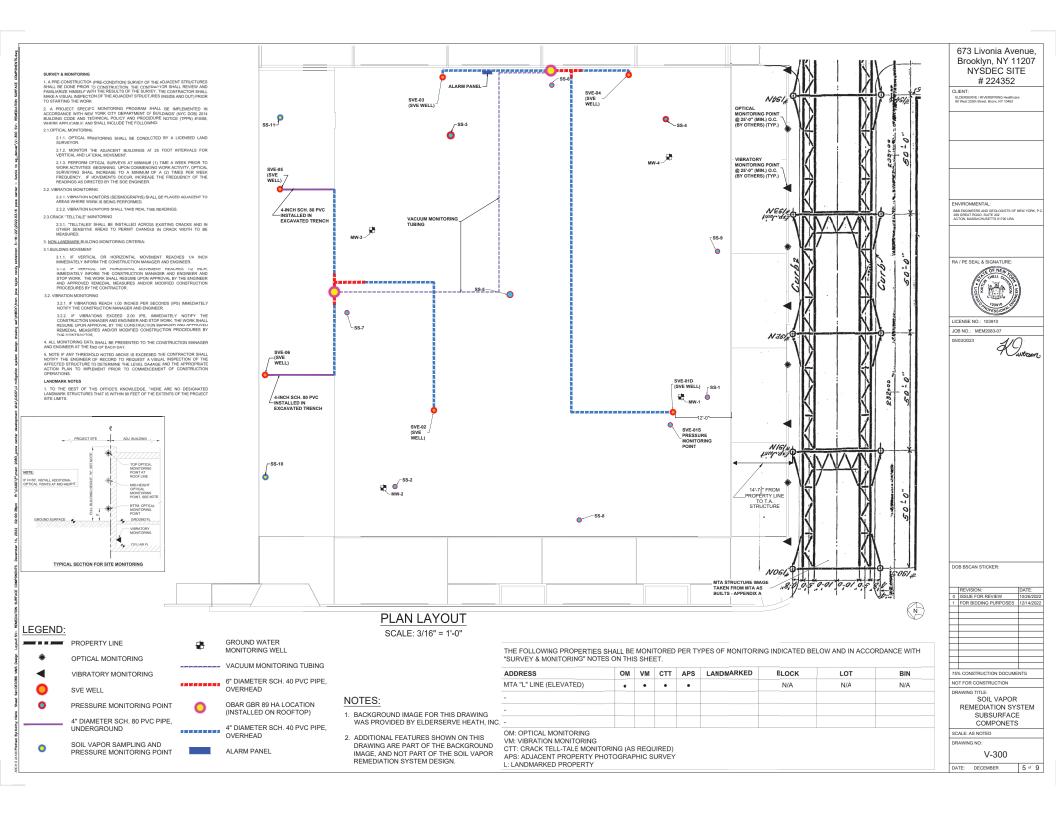
MTA INSURANCE NOTES

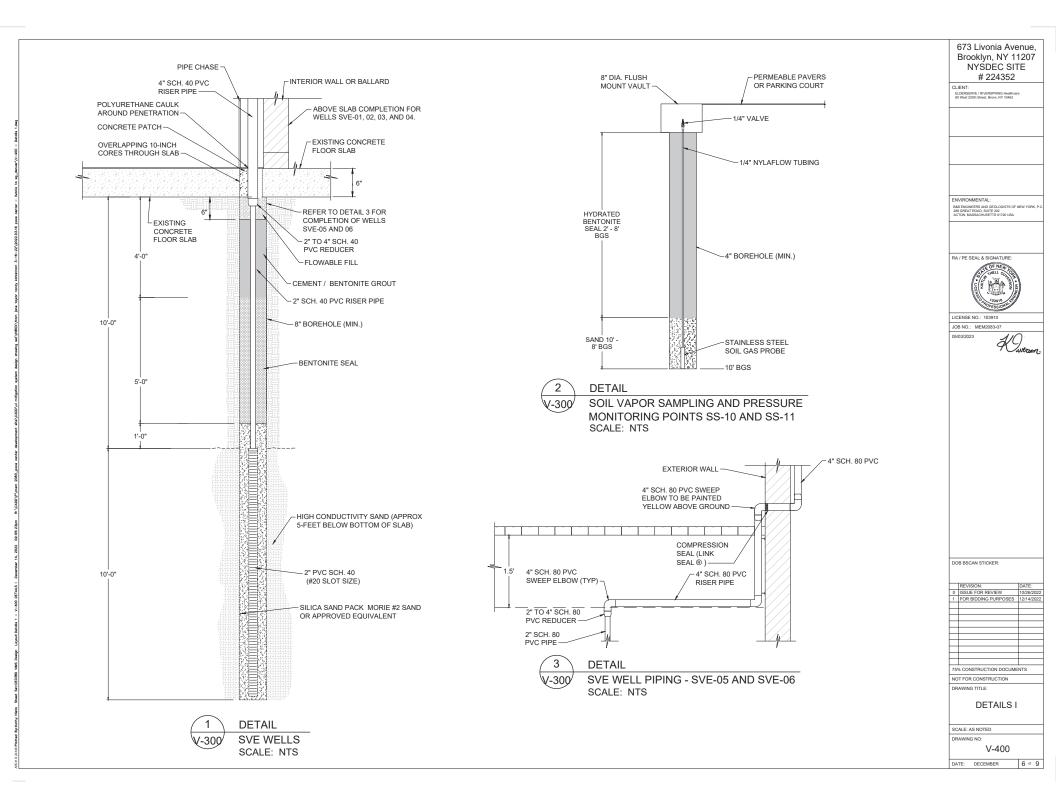
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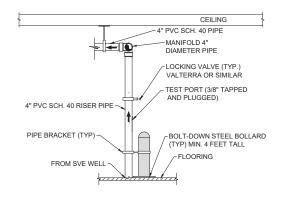
DRAWING NO: V-202

DATE: DECEMBER

4 of 9







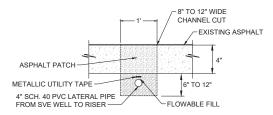
CEILING -4" PVC SCH. 40 MANIFOLD 4" DIAMETER PIPE LOCKING VALVE (TYP.) VALTERRA OR SIMILAR - TEST PORT (3/8" TAPPED AND PLUGGED) EXTERIOR 4" PVC SCH. 40 RISER PIPE WALL --PIPE BRACKET (TYP) -FROM SVE WELL

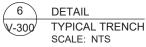
DETAIL

TYPICAL RISER TO LATERAL PIPING SVE-01D AND SVE-02 SCALE: NTS

DETAIL V-300

TYPICAL RISER TO LATERAL PIPING SVE-03 THROUGH SVE-06 SCALE: NTS





673 Livonia Avenue, Brooklyn, NY 11207 NYSDEC SITE # 224352

CLIENT:

ENVIRONMENTAL

B&B ENGINEERS AND GEOLOGISTS OF NEW YORK, P. 289 GREAT ROAD, SUITE 202 ACTON, MASSACHUSETTS 01720 USA

RA / PE SEAL & SIGNATURE:



LICENSE NO.: 103910

JOB NO.: MEM2083-07

05/03/2023



DOB BSCAN STICKER:

0 ISSUE FOR REVIEW

75% CONSTRUCTION DOCUMENTS

NOT FOR CONSTRUCTION

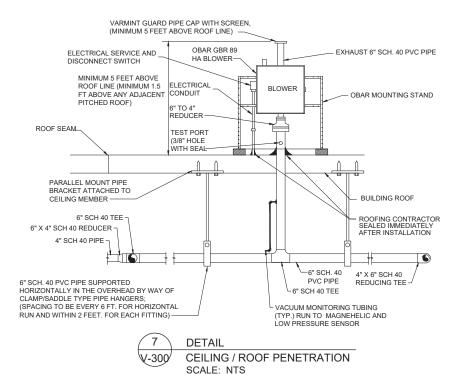
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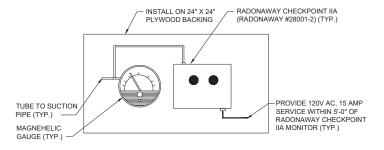
DETAILS II

SCALE: AS NOTED

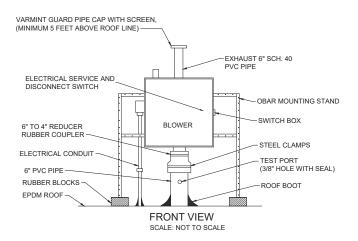
V-401

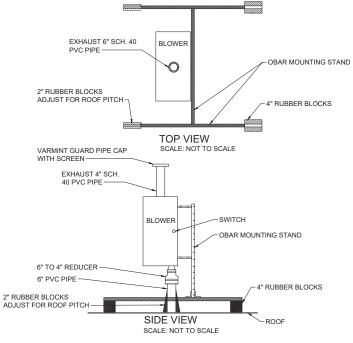
DATE: DECEMBER











9 DETAIL
V-300 ROOF BLOWER MOUNTING
SCALE: NTS

673 Livonia Avenue, Brooklyn, NY 11207 NYSDEC SITE # 224352

CLIENT: ELDERSERVE / RIVERSPRING Healthca 80 West 205th Street Brown NY 10483

ENVIRONMENTAL:

B&B ENGINEERS AND GEOLOGISTS OF NEW YORK, P. 289 GREAT ROAD, SUITE 202 ACTON, MASSACHUSETTS 01720 USA

RA / PE SEAL & SIGNATURE:

LICENSE NO.: 103910

JOB NO.: MEM2083-07

05/03/2023



DOB BSCAN STICKER:

REVISION: DATE:
0 ISSUE FOR REVIEW 1050:
1 FOR BIDDING PURPOSES 12/14/2
1 FOR BIDDING PURPOSES 12/14/2
75% CONSTRUCTION DOCUMENTS
NOT FOR CONSTRUCTION
DATE:

DETAILS III

DRAWING NO: V-402

DATE: DECEMBER

