

Reviewed for Support of Excavation (SOE) and Foundation design intent
Subject to approval by Borough Engineer

GENERAL NOTES:

- ALL ELEVATIONS ARE REFERENCED TO BOROUGH PRESIDENT OF MANHATTAN DATUM (BPMO) WHICH IS 2.75 FEET ABOVE THE NATIONAL GEODETIC SURVEY VERTICAL DATUM OF 1929 (MEAN SEA LEVEL, SANDY HOOK, NEW JERSEY) + 100.0' FOR NEW YORK CITY TRANSIT AUTHORITY COORDINATION (EXAMPLE, BPMO EL. 65.0' = NYCTA 165.0').
- BASE PLANS AND SECTIONS ARE DEVELOPED FROM:
 - STRUCTURAL AND FOUNDATION DRAWINGS BY DESIMONE OF NY, NY, DATED 01.14.2014.
 - SURVEY DRAWING BY NYC LAND SURVEYORS P.C. OF STATEN ISLAND, NY, DATED 07.18.2013.
 - BORING/TEST PIT LOCATION PLAN BY LANGAN ENGINEERING, DATED 12.20.2013
- SOIL DATA OBTAINED FROM:

GEOTECHNICAL REPORT BY LANGAN ENGINEERING, DATED 12.20.2013, INCLUDING BORINGS AND TEST PITS.
- LOCATION OF EXISTING AND PROPOSED CONDITIONS INCLUDING BUT NOT LIMITED TO FOUNDATION WALL, FOOTINGS AND SLAB LOCATIONS AND ELEVATIONS WERE TAKEN FROM DRAWINGS AND INFORMATION REFERENCE ABOVE.
- LOCATIONS AND ELEVATIONS OF ALL STRUCTURAL BUILDING ELEMENTS SHOWN ON THIS DRAWING MAY BE APPROXIMATE AND SHALL BE SUPERSEDED BY FINAL STRUCTURAL AND ARCHITECTURAL DRAWINGS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITIES AND BELOW GROUND STRUCTURES IN THE AREA OF PRIORITY TO COMMENCEMENT OF WORK.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS IN THE FIELD. IF CONDITIONS OBSERVED IN THE FIELD DIFFER FROM THESE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO EVALUATE THE CONDITION. MODIFICATIONS TO THESE DRAWINGS MAY BE NECESSARY.
- THESE DRAWINGS DO NOT ADDRESS SAFETY ISSUES RELATED TO THE EXCAVATION AND SHORING WORK. OTHERS SHALL BE RESPONSIBLE FOR SITE SAFETY AND PROVIDE A SAFETY PLAN CONFORMING TO OSHA AND ALL APPLICABLE LAWS.
- BARRIERS AND FENCING AROUND SITE MUST BE PROVIDED BY CONTRACTOR IN ACCORDANCE WITH NEW YORK CITY DEPARTMENT OF BUILDINGS AND ALL APPLICABLE LAWS.
- IF THE CONDITIONS OBSERVED AS THE EXCAVATION ADVANCES ARE DIFFERENT THAN THE CONDITIONS SHOWN ON THE DESIGN DRAWINGS, THE CONTRACTOR SHALL STOP WORK AND NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER TO ADDRESS FIELD CONDITIONS.
- OBSERVED MOVEMENTS OF THE SUPPORT OF EXCAVATION OR OTHER STRUCTURES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER.
- LOOSE AREAS OF FOUNDATION WALL OR FOOTINGS THAT ARE DAMAGED OR LOOSE SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR EVALUATION AND REMEDIAL MEASURES BY THIS OFFICE OR AT DIRECTION OF FIELD PROFESSIONAL ENGINEER.
- PINS, WIRE MESH, AND PARGING MAY BE REQUIRED TO STABILIZE THE FOUNDATION WALL OR FOOTINGS NOT INDICATED IN THESE DRAWINGS.
- ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1 USING E-70 ELECTRODES.
- ALL STRUCTURAL STEEL SHALL BE GRADE 50, ASTM A-572.
- ALL PLATES OR MISCELLANEOUS STEEL SHALL BE GRADE 36, ASTM A36.
- 1-BAG MIX SHALL CONSIST OF 1-94 LB. BAG OF CEMENT TO 1 CY OF SAND. QUANTITY OF WATER SHALL BE ADEQUATE TO ALLOW THE MIX TO FLOW.
- THE DESIGNS ON THESE DRAWINGS ARE INTENDED FOR TEMPORARY SUPPORT OF EXCAVATION ONLY.
- NOTIFY DOB 24 TO 48 HOURS PRIOR TO EXCAVATION (RULE 52).

TIE BACKS AND STRESSED ANCHORAGES:

- CONTRACTOR IS FULLY RESPONSIBLE FOR THE VERIFICATION OF EXISTING UTILITIES AND OTHER EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF DRILLING OPERATIONS.
- STRESSED/LOADED TIE BACK ANCHORAGES SHALL BE GRADE 150ksi, ASTM A722 THREADED BARS SUPPLIED BY SAS STRESSTEEL, OR APPROVED EQUIVALENT. ALTERNATE HOLLOW CORE, SELF DRILLING ANCHORS ARE ALSO INDICATED IN THESE DRAWINGS, AS SUPPLIED BY SAS-BELLOLI, OR APPROVED EQUIVALENT.
- BAR DIAMETERS INDICATED IN THESE DRAWINGS SHALL BE THE MINIMUM SIZE USED. LARGER DIAMETERS MAY BE SUBSTITUTED WITHOUT PRIOR APPROVAL OF ENGINEER.
- DRILL HOLES INDICATED IN THESE DRAWINGS SHALL BE THE MINIMUM PROVIDED. A CHANGE IN DRILL HOLE DIAMETER WILL EFFECT THE REQUIRED BOND LENGTHS INDICATED.
- BOND LENGTHS INDICATED IN THESE DRAWINGS SHALL BE MINIMUM, AND MAY BE SUBJECT TO CHANGE AND/OR VERIFICATION AT DIRECTION OF FIELD PROFESSIONAL ENGINEER.
- THE FIRST TIE-BACK INSTALLED, AND 1% REMAINING ANCHORS SHALL BE SUBJECT TO PERFORMANCE TESTING, UNDER LATEST POST TENSIONING INSTITUTE (PTI) RECOMMENDATIONS FOR SOIL AND ROCK ANCHORS.
- THE BALANCE OF INSTALLED TIE-BACKS SHALL BE PROOF-TESTED TO LOAD VALUES INDICATED ON THESE DRAWINGS.
- ANCHORAGES SUPPORTING THE EXISTING FOUNDATION WALL MAY BE EXEMPT FROM TESTING TO AVOID UNNECESSARY OVERSTRESSING OF THE EXISTING WALL CONSTRUCTION, AT DIRECTION OF FIELD ENGINEER. THESE ANCHORAGES SHALL BE INSTALLED, AND STRESSED TO LOCK-OFF LOADING INDICATED.
- ALL ANCHORAGE STRESSING SHALL BE CONDUCTED USING A CALIBRATED CENTER HOLE HYDRAULIC JACK CAPABLE OF EXCEEDING MAXIMUM TESTING LOADS INDICATED IN THESE DRAWINGS.
- CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING SAFE ENVIRONMENT DURING TESTING, AND ALSO PROVIDING REQUIRED EQUIPMENT (INCLUDING, BUT NOT LIMITED TO, HYDRAULIC JACK, STEEL JACK CHAIRS, DIAL INDICATORS, INDEPENDENT TRI PODS) AS REQUIRED FOR FIELD MEASUREMENTS/VERIFICATION DURING TESTING.
- IF IN THE EVENT A TIE-BACK ANCHOR DOES NOT PASS TESTING, AT THE OPINION OF THE FIELD ENGINEER, ADDITIONAL ANCHORAGES MAY BE REQUIRED TO BE INSTALLED AT LARGER DIAMETERS, LARGER DRILL DIAMETERS, AND/OR LONGER LENGTHS AS REQUIRED TO PROVIDE ADEQUATE CAPACITY TO COMPENSATE FOR THE LOST ANCHORS.
- CONTRACTOR SHALL PROVIDE BOND-BREAK MATERIAL ALONG THE "FREE STRESSING LENGTH" AS INDICATED IN THESE DRAWINGS, UNLESS OTHERWISE INDICATED FOR A "FULL LENGTH BOND" ANCHOR, WHICH CASE THE THREADED BAR SHALL BE CONTINUOUSLY GROUTED ALONG FULL LENGTH.
- FOR SOLID, GRADE 150ksi THREADED BARS:
 - INSTALLATION SHALL BE VIA CASE DRILLING TO AVOID ANY LOSS OF SOILS.
 - DRILL FULL LENGTH AS INDICATED ON THESE DRAWINGS, MINIMALLY, UNLESS OTHERWISE DIRECTED BY FIELD ENGINEER.
 - INSERT BAR INTO PRE-DRILLED CASING.
 - PUMP CASING WITH GROUT. AS OF COMMON DRILLING PRACTICE, CONTINUE TO "PRESSURE GROUT" WHILE EXTRACTING CASING, AND CYCLE CASING REMOVAL IN-AND-OUT TO CREATE "GROUT BULBS". THIS WILL ENSURE BETTER ANCHOR PERFORMANCE (APPLICABLE TO SOIL BONDED ANCHORS, NEGLECT FOR ROCK BONDED ANCHORS)
 - ALLOW ADEQUATE GROUT CURE PRIOR TO TESTING. 5,000psi GROUT MIX (TYPICAL, 28-DAY) FOR ANCHORS SHALL CONSIST OF:
 - 1 BAG CEMENT, TYPE 1, 2, OR 3
 - 5 GALLONS POTABLE WATER
 - TESTING TYPICALLY CAN OCCUR WITHIN 3 DAYS OF INSTALLATION, OR AT DIRECTION OF FIELD ENGINEER.
- UPON TESTING OF ALL REQUIRED ANCHORS, A LIFT-OFF TEST MAY BE PERFORMED AT DIRECTION OF FIELD ENGINEER IN ORDER TO VERIFY PROPER LOAD TRANSFER AND TO COMPENSATE FOR ANY SEATING LOSSES. FINAL LOCK-OFF VALUE IS TO BE AT DIRECTION OF FIELD ENGINEER.

SUPPORT OF EXCAVATION NOTES:

- THE TEMPORARY SHEETING WALL (SUPPORT OF EXCAVATION) IS DESIGNED WITH AN ADDED ALLOWABLE SURCHARGE LOADING AT SIDEWALK GRADE AT A VALUE OF 300 POUNDS PER SQUARE FOOT (PSF). HEAVY EQUIPMENT OR MATERIAL STORAGE ANTICIPATED SHALL BE PLACED WITHIN A DISTANCE TO THE SHEETING WALL EQUAL TO THE EXCAVATION DEPTH, MUST BE EVALUATED BY THIS OFFICE FOR ACCEPTANCE PRIOR TO PLACING SAID HEAVY EQUIPMENT.
- STRUCTURAL CONCRETE FOR UNDERPINNING PIERS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000-PSI AT 28 DAYS, UNLESS OTHERWISE NOTED.
- CONCRETE PIERS AND DRY PACK SHALL BE ALLOWED TO CURE PRIOR TO EXCAVATING ADJACENT PIT, OR ADVANCING THE EXCAVATION IN FRONT OF THE PIT.
- DRY PACK SHALL CONSIST OF ONE PART CEMENT TO TWO PARTS SAND BY VOLUME. WATER SHALL BE ADDED TO PRODUCE A MIXTURE WHICH HOLDS ITS SHAPE WHEN FORMED INTO A BALL BY HAND.
- TIMBER LAGGING SHALL BE ROUGH CUT, FULL SIZE CONSTRUCTION GRADE, WITH A MINIMUM ALLOWABLE BENDING STRESS OF 1200-PSI. TIMBER SIZES SHOWN ARE ACTUAL SIZES.
- DEPTH OF EXCAVATION BELOW FOOTING AND PREVIOUSLY INSTALLED LAGGING BOARDS SHALL NOT EXCEED 36 INCHES, OR AT DIRECTION FIELD PROFESSIONAL ENGINEER. MAINTAIN TIGHT CONTACT BETWEEN SOIL AND LAGGING BOARDS. IF MATERIAL IS CAVING INTO EXCAVATION, DECREASE THE UNBRACED EXCAVATION DEPTH AND/OR GROUT THE MATERIAL TO MINIMIZE LOSS.
- IF MATERIAL BEHIND LAGGING HAS BEEN LOST OR DISTURBED, LEAVE A 1 TO 1 1/2-INCH SPACE BETWEEN LAGGING BOARDS TO IMMEDIATELY BACKFILL OR GROUT.
- EXCAVATION FOR UNDERPINNING PIERS MUST BE PERFORMED IN DRY CONDITIONS. DEWATERING MAY BE NECESSARY PRIOR TO EXCAVATION TO MAINTAIN WATER LEVELS A MINIMUM OF 1 FOOT BELOW THE PROPOSED SUBGRADE LEVEL OF THE PIER. HAY OR FILTER FABRIC SHALL BE USED TO MINIMIZE MIGRATION OF FINES INTO THE EXCAVATION.
- UNDERPINNING PIER SUBGRADE BEARING MATERIAL SHALL BE EQUAL OR BETTER CLASS THAN THE ORIGINAL BEARING MATERIAL.
- MAXIMUM PIT WIDTH IS 4 FEET UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- APPROACH PITS FOR UNDERPINNING PITS SHOULD CAUSE MINIMAL DISTURBANCE TO SOIL SUBGRADE BELOW THE FOOTING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DESIGN THE APPROACH PITS AND EXCAVATE PITS FOLLOWING OSHA AND LOCAL LAWS.
- EXCAVATE PITS SUCH THAT A MINIMUM OF 12 FEET OF UNDISTURBED SOIL OR CURED UNDERPINNING PIER IS MAINTAINED BETWEEN OPEN PITS UNTIL ALL UNDERPINNING IS COMPLETE.
- DO NOT LEAVE PITS OPEN OVERNIGHT OR DURING WEEKENDS OR HOLIDAYS.
- DO NOT START UNDERPINNING WITH A CORNER OR END UNDERPINNING PIER.
- UNDERPINNING PIER THICKNESS SHALL BE 2'-0" OR WIDTH OF FOOTING, WHICHEVER IS GREATER.
- UNDERPINNING SHALL BE CONSTRUCTED IN ONE VERTICAL LIFT, NO COLD JOINTS.
- ROCK BOLTS MAY BE REQUIRED BASED ON ROCK FACE OBSERVATIONS AT DIRECTION OF FIELD PROFESSIONAL ENGINEER.

ADJACENT PROPERTIES AGREEMENTS (INFORMATION PROVIDED BY OWNERSHIP):

NO DRILLING BEYOND PROPERTY LINES OR ON ADJACENT PROPERTIES SHALL BE PERFORMED BEFORE OBTAINING WRITTEN PERMISSION FROM PROPERTY OWNERS.

- 210 CENTRAL PARK SOUTH: UNDERPINNING CONSENT HAS BEEN GIVEN
- 222 CENTRAL PARK SOUTH: UNDERPINNING CONSENT HAS BEEN GIVEN
- 230 CENTRAL PARK SOUTH: UNDERPINNING CONSENT HAS BEEN GIVEN
- 240 CENTRAL PARK SOUTH: UNDERPINNING CONSENT HAS BEEN GIVEN

SURVEY AND MONITORING NOTES:

- A PRE-CONSTRUCTION (PRE-CONDITION) SURVEY OF THE ADJACENT STRUCTURES SHALL BE COMPLETED PRIOR TO CONSTRUCTION COMMENCEMENT. THE CONTRACTOR SHALL REVIEW AND FAMILIARIZE HIMSELF WITH THE RESULTS OF THE SURVEY. THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE ADJACENT STRUCTURES (INSIDE AND OUT) PRIOR TO STARTING THE WORK.
- MONITOR THE ADJACENT BUILDINGS AT 50-FT INTERVALS FOR VERTICAL AND LATERAL MOVEMENT. NOTE THAT MONITORING LOCATIONS ARE NOT SHOWN ON THE SUPPORT OF EXCAVATION PLAN.
- OBTAIN BASELINE READINGS OF THE MONITORING POINTS PRIOR TO AND DURING EXCAVATION AND NEW CONSTRUCTION. BASELINE SURVEY SHALL INCLUDE ESTABLISHING VERTICAL AND HORIZONTAL BENCHMARKS OF ALL ADJACENT BUILDINGS. IN ADDITION TO BENCHMARKS, "TELL-TALES" SHALL BE INSTALLED ON ANY OBSERVED EXISTING CRACKS AND OTHER CRITICAL/SENSITIVE AREAS.
- FREQUENCY OF MONITORING WILL VARY DURING PROGRESS OF WORK. PERFORM OPTICAL SURVEYS (BY OTHERS) AT LEAST ONCE PER DAY DURING INITIAL/CRITICAL EXCAVATIONS. DURING GENERAL EXCAVATIONS, FREQUENCY SHALL BE AT LEAST ONCE PER WEEK. IF MOVEMENTS OCCUR, INCREASE THE FREQUENCY OF THE READINGS AS DIRECTED BY THE ENGINEER. ALL SURVEY/MONITORING REPORTS SHALL BE PROVIDED TO THIS OFFICE DAILY OR UPON COMPLETION OF THAT DAY'S READINGS.
- VIBRATION MONITORS (SEISMOGRAPHS-BY OTHERS) SHALL BE PLACED ADJACENT TO AREAS WHERE WORK IS BEING PERFORMED. NOTE THAT SEISMOGRAPH LOCATIONS ARE NOT SHOWN ON THE SUPPORT OF EXCAVATION PLAN FOR CLARITY (NYCTA MONITORING BY OTHERS)
- BUILDING MOVEMENT AND VIBRATION CRITERIA: (NOTE: THE FOLLOWING DOES NOT APPLY TO LANDMARK STRUCTURES, REFER TO OTHER NOTES)
 - IF THE VERTICAL OR LATERAL BUILDING MOVEMENT REACHES 1/4-INCH IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER.
 - IF THE BUILDING EXCEEDS 1/4-INCH, IMMEDIATELY INFORM THE CONSTRUCTION MANAGER AND ENGINEER AND STOP WORK. THE WORK SHALL RESUME UPON APPROVAL BY THE CONSTRUCTION MANAGER AND APPROVED REMEDIAL MEASURES AND/OR MODIFIED CONSTRUCTION PROCEDURES BY THE ENGINEER.
 - IF THE VIBRATIONS REACH 1-INCHES PER SECOND (IPS) THE CONSTRUCTION MANAGER AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
 - IF THE VIBRATIONS EXCEED 2-IPS, IMMEDIATELY INFORM THE CONSTRUCTION MANAGER AND ENGINEER AND STOP WORK. THE WORK SHALL RESUME UPON APPROVAL BY THE CONSTRUCTION MANAGER AND APPROVED REMEDIAL MEASURES AND/OR MODIFIED CONSTRUCTION PROCEDURES BY THE ENGINEER.
- VIBRATION MONITORS SHALL TAKE REAL TIME READINGS UNDER DIRECTION OF VIBRATION CONTRACTOR/CONSULTANT.
- ALL MONITORING DATA SHALL BE PRESENTED TO THE CONSTRUCTION MANAGER AND ENGINEER AT THE END OF EACH DAY AS APPLICABLE.
- LOCATIONS OF ALL SURVEY POINTS AND VIBRATION STATIONS ARE NOT SPECIFIED UNDER THESE DRAWINGS AND SHALL BE BY SURVEYOR/MONITORING CONTRACTOR.

LANDMARK STRUCTURE NOTES:

- LANDMARK STRUCTURES ARE WITHIN 90'-0" OF THE CONSTRUCTION SITE.
- AS SUCH, THE RULES OF TECHNICAL POLICY AND PROCEDURE (TPPL) NOTICE #10/88 SHALL BE ADHERED TO AND GOVERN.
- CONTRACTOR MUST TAKE CARE AND PRECAUTION DURING EXCAVATION IMMEDIATELY ADJACENT TO LANDMARK STRUCTURES. MEANS AND METHODS IMPLEMENTED MUST ENSURE MINIMAL VIBRATIONS ARE TRANSFERRED TO THESE STRUCTURES.
- MINIMALLY LINE DRILLING OPERATIONS MUST BE PERFORMED FOR ROCK REMOVAL. IF ROCK IS FOUND TO BE VERY HARD, CHANNEL DRILLING MAY BE REQUIRED TO BE IMPLEMENTED TO AVOID EXCESSIVE CHIPPING OF ROCK FACE.
- VIBRATION MONITORS/SEISMOGRAPHS SHALL BE INSTALLED ADJACENT TO AREAS WHERE WORK IS TO BE PERFORMED. LANDMARK STRUCTURES SHALL BE:
 - THE MAXIMUM PERMISSIBLE PEAK PARTICLE VELOCITY (PPV) SHALL BE 0.5 IN/SEC. SENSITIVITY OF SEISMOGRAPHS SHALL BE SET TO 0.4 IN/SEC FOR NOTIFICATION IN ORDER TO PROPERLY ADDRESS OR MODIFY MEANS AND METHODS AS NECESSARY.
 - MAX PPV MAY BE REDUCED IF MOVEMENTS AND/OR CRACKING IS DETECTED IN ADJ. BUILDING.
- IF THE MOVEMENT OF THE BUILDING IN ANY OF THE 3-AXIS REACHES 3/16 INCH, NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER (REGULAR SURVEY MONITORING DATA SHALL BE AVAILABLE TO DESIGN TEAM REGULARLY). LICENSED SURVEYOR MUST DETERMINE IF MEASURED MOVEMENT IS NOT ATTRIBUTED TO SURVEYING TOLERANCES PRIOR TO ALERT NOTIFICATIONS.
- THE MAXIMUM PERMISSIBLE MOVEMENT IN ANY OF 3-AXIS SHALL BE 1/4 INCH.
- FREQUENCY OF MONITORING WILL VARY DURING PROGRESS OF WORK, HOWEVER SURVEY MEASURES ON LANDMARK STRUCTURES SHALL BE MADE AT MINIMUM TWO (2) TIMES PER WEEK.

LANDMARK NOTES:

TO THE BEST OF OUR OFFICE'S KNOWLEDGE, THERE ARE FIVE DESIGNATED LANDMARK STRUCTURES THAT ARE WITHIN 90 FEET OF THE EXTENTS OF THE PROJECT SITE LIMITS.

- ENGINE COMPANY NUMBER 23
LOCATED BLOCK 1030, LOT 23
ADDRESS: 215 W 58TH STREET
LP NUMBER: LP-01563
- 240 CENTRAL PARK SOUTH APARTMENTS
LOCATED BLOCK 1030, LOT 58
ADDRESS: 240 CENTRAL PARK SOUTH
LP NUMBER: LP-02116
- FORMER HELEN MILLER GOULD STABLE
LOCATED BLOCK 1030, LOT 24
ADDRESS: 213 W 58TH STREET
LP NUMBER: LP-01564
- GAINSBOROUGH STUDIOS
LOCATED BLOCK 1030, LOT 46
ADDRESS: 222 CENTRAL PARK SOUTH
LP NUMBER: LP-01423
- UNITED STATES RUBBER COMPANY BUILDING
LOCATED BLOCK 1029, LOT 53
ADDRESS: 1784 BROADWAY
LP NUMBER: LP-02078

COORDINATION NOTE:

ALL WORK TO BE PERFORMED SHALL BE COORDINATED BETWEEN THE CONTRACTOR AND APPLICABLE UTILITY COMPANIES AND/OR CITY DEPARTMENTS AS REQUIRED.

SPECIAL INSPECTIONS REQUIRED UNDER THESE DRAWINGS:

- EXCAVATION: SHEETING, SHORING, BRACING (BC 1704.19, BC 3304.4.1)
- UNDERPINNING (BC 1704.9.1)

ENERGY CODE:

TO THE BEST OF THIS OFFICE'S KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, ALL WORK UNDER THIS APPLICATION IS IN COMPLIANCE WITH THE NYCECC 2010.

FNA
associates, inc.
CONSULTING ENGINEERS

670 BERGEN BOULEVARD
RIDGEFIELD, NJ, 07657
O: 201-241-2444

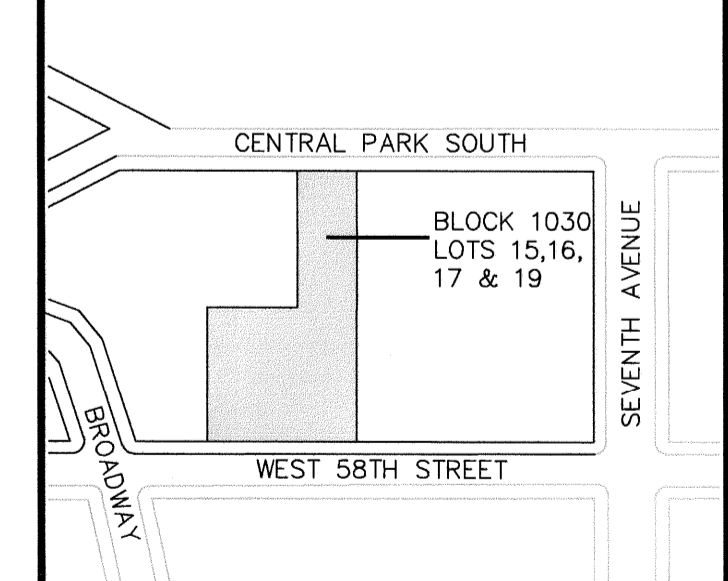
220 CENTRAL PARK SOUTH
NEW YORK, NY.

4. EXC. UNIT COMMENTS	03/18/14
3. EXC. UNIT COMMENTS	03/13/14
2. EXC. UNIT COMMENTS	03/11/14
1. FOR D.O.B. FILING	02/20/14

No: Revision: _____ Date: _____

SCALE: AS NOTED

KEY PLAN:

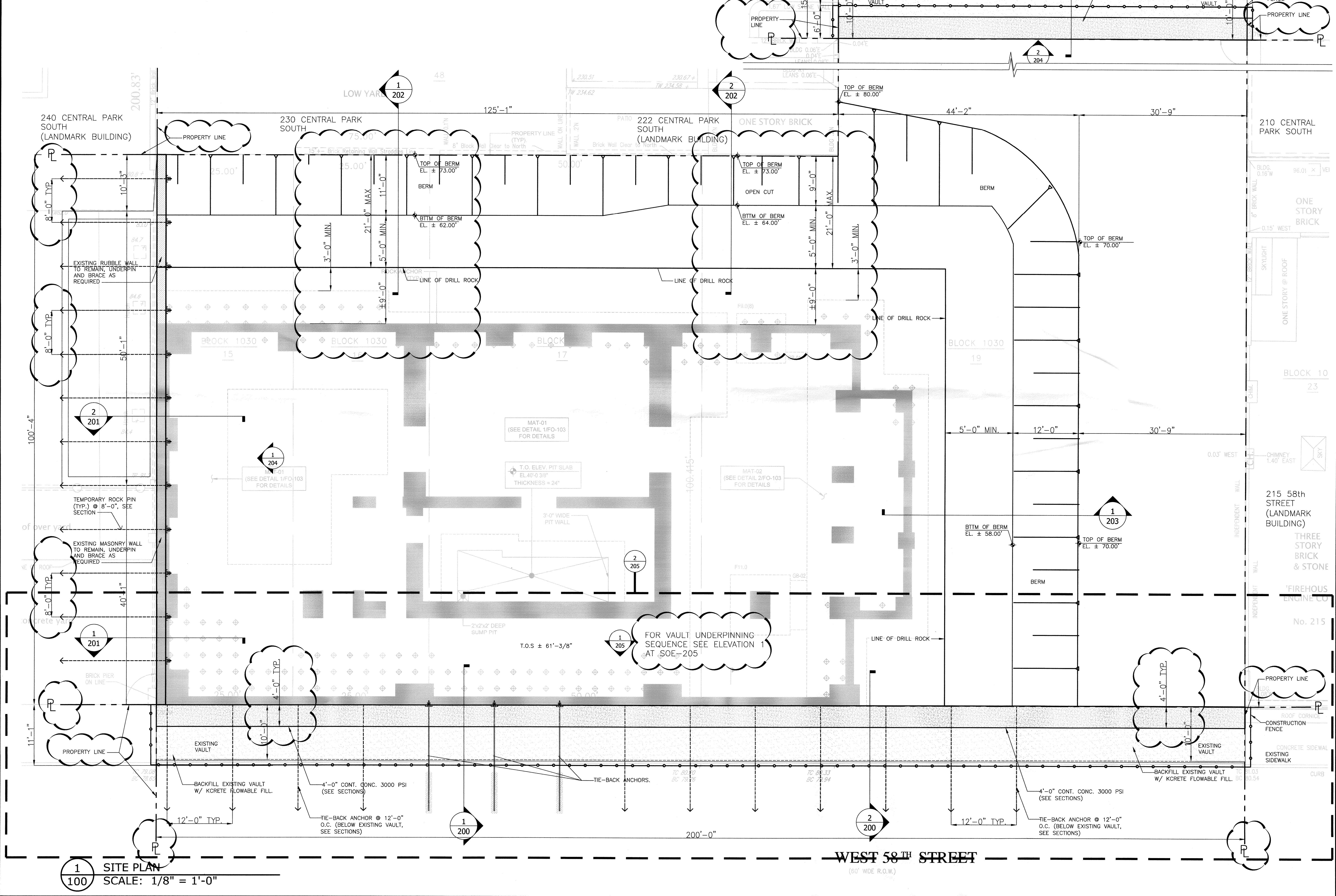


DRAWING TITLE:

GENERAL NOTES

SEAL

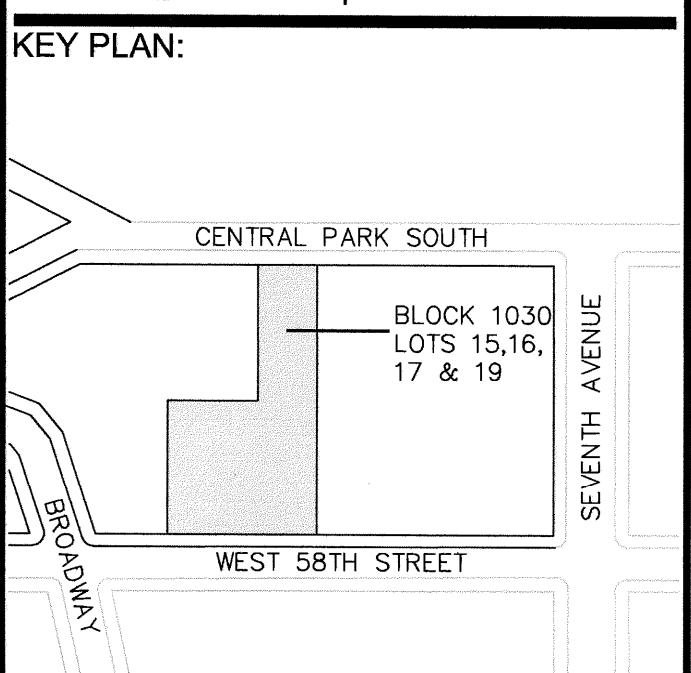
Date: 12-09-13
PROJECT No: 14014
Drawn By: GD
DWG. No: SOE-001.00
1 of 9



220 CENTRAL PARK SOUTH
 NEW YORK, NY.

4. EXC. UNIT COMMENTS	03/18/14
3. EXC. UNIT COMMENTS	03/13/14
2. EXC. UNIT COMMENTS	03/11/14
1. FOR D.O.B. FILING	02/20/14
No. Revision:	Date:

N	SCALE:
	AS NOTED



DRAWING TITLE:

SITE PLAN	
SEAL	Date: 12-09-13
	PROJECT No: 14014
	Drawn By: GD
	DWG. No: SOE-100.02
	2 OF 9

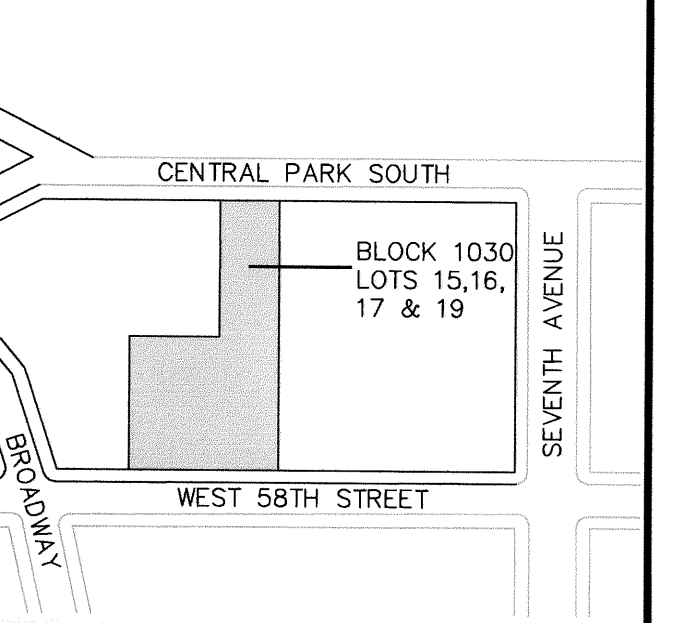
220 CENTRAL PARK SOUTH
NEW YORK, NY.

4. EXC. UNIT COMMENTS	03/18/14
3. EXC. UNIT COMMENTS	03/13/14
2. EXC. UNIT COMMENTS	03/11/14
1. FOR D.O.B. FILING	02/20/14

No: Revision: _____ Date: _____

N	SCALE:
	AS NOTED

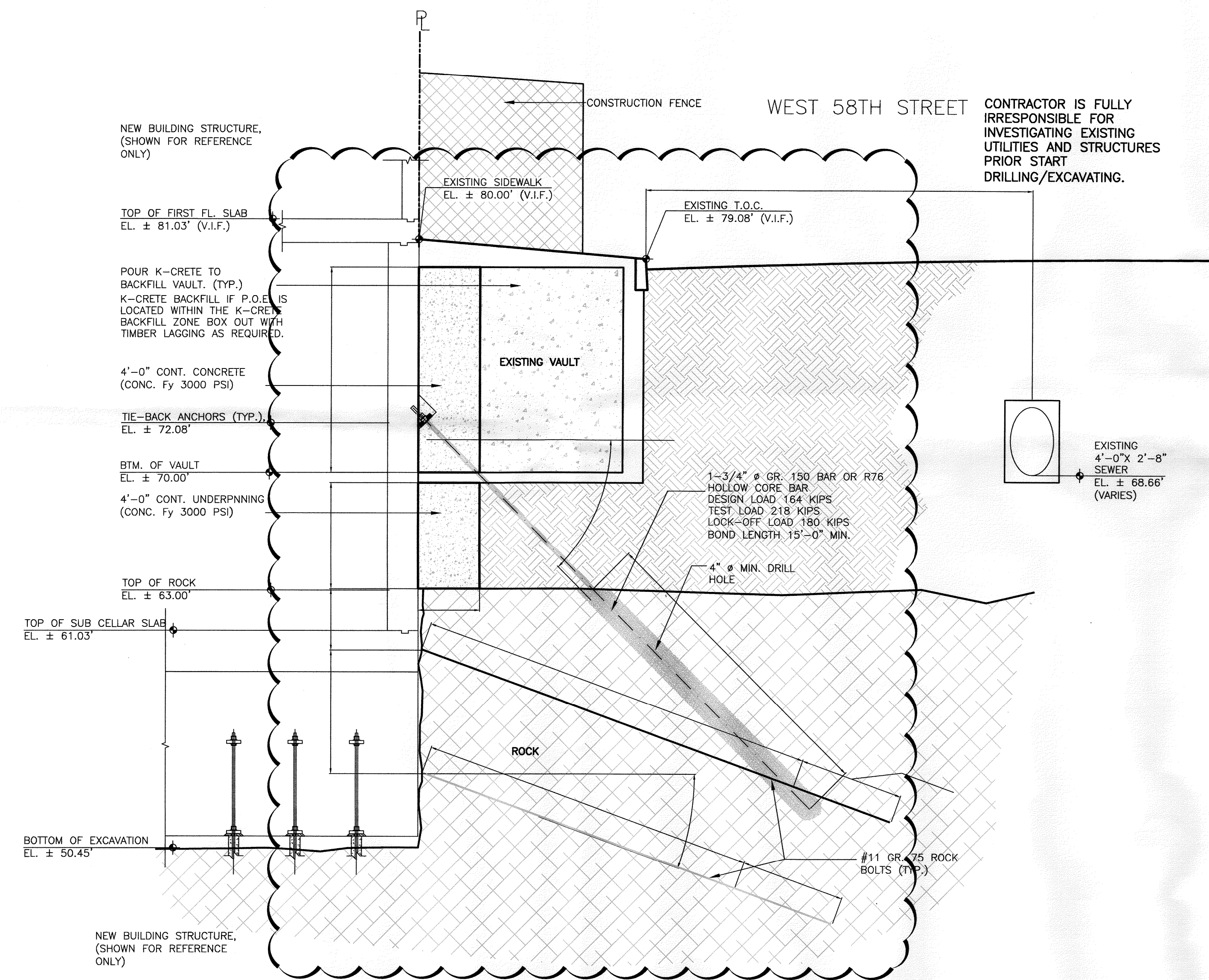
KEY PLAN:



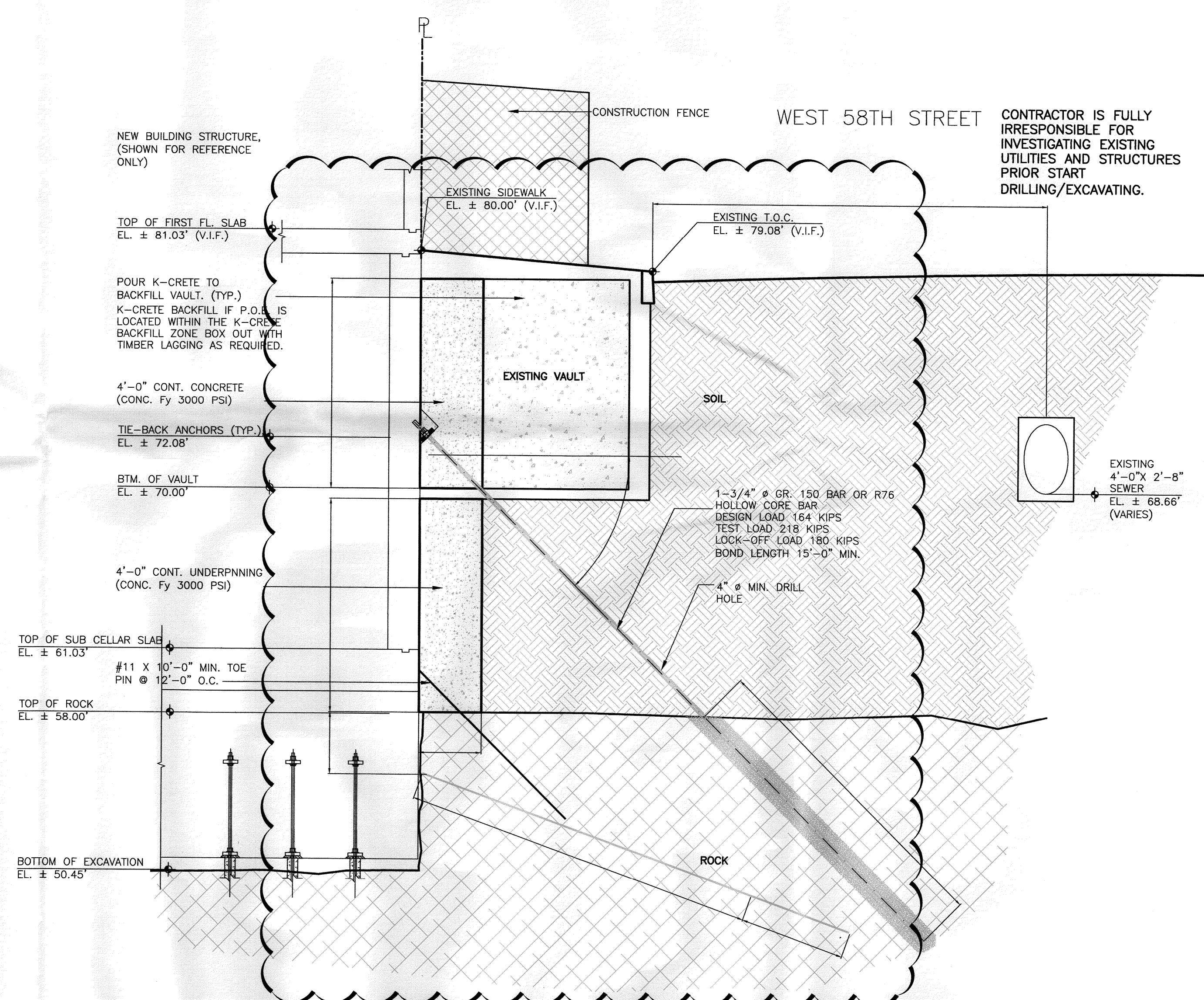
DRAWING TITLE:

SOE SECTIONS

SEAL 	Date	12-09-13
	PROJECT No:	14014
	Drawn By:	GD
	DWG. No:	SOE-200.01
		3 OF 9



1 SECTION
200 SCALE: 1/4" = 1'-0"

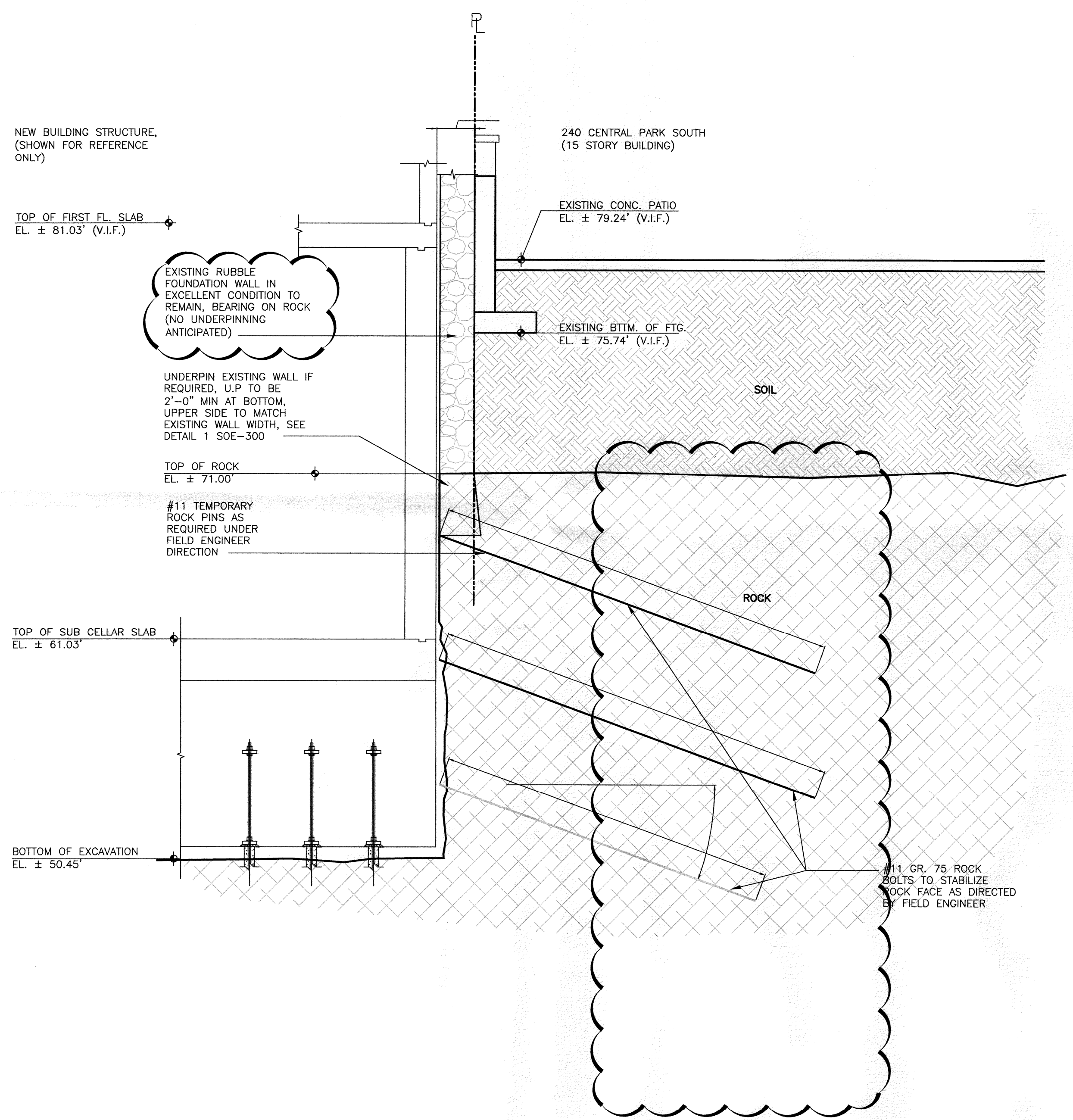


2 SECTION
200 SCALE: 1/4" = 1'-0"

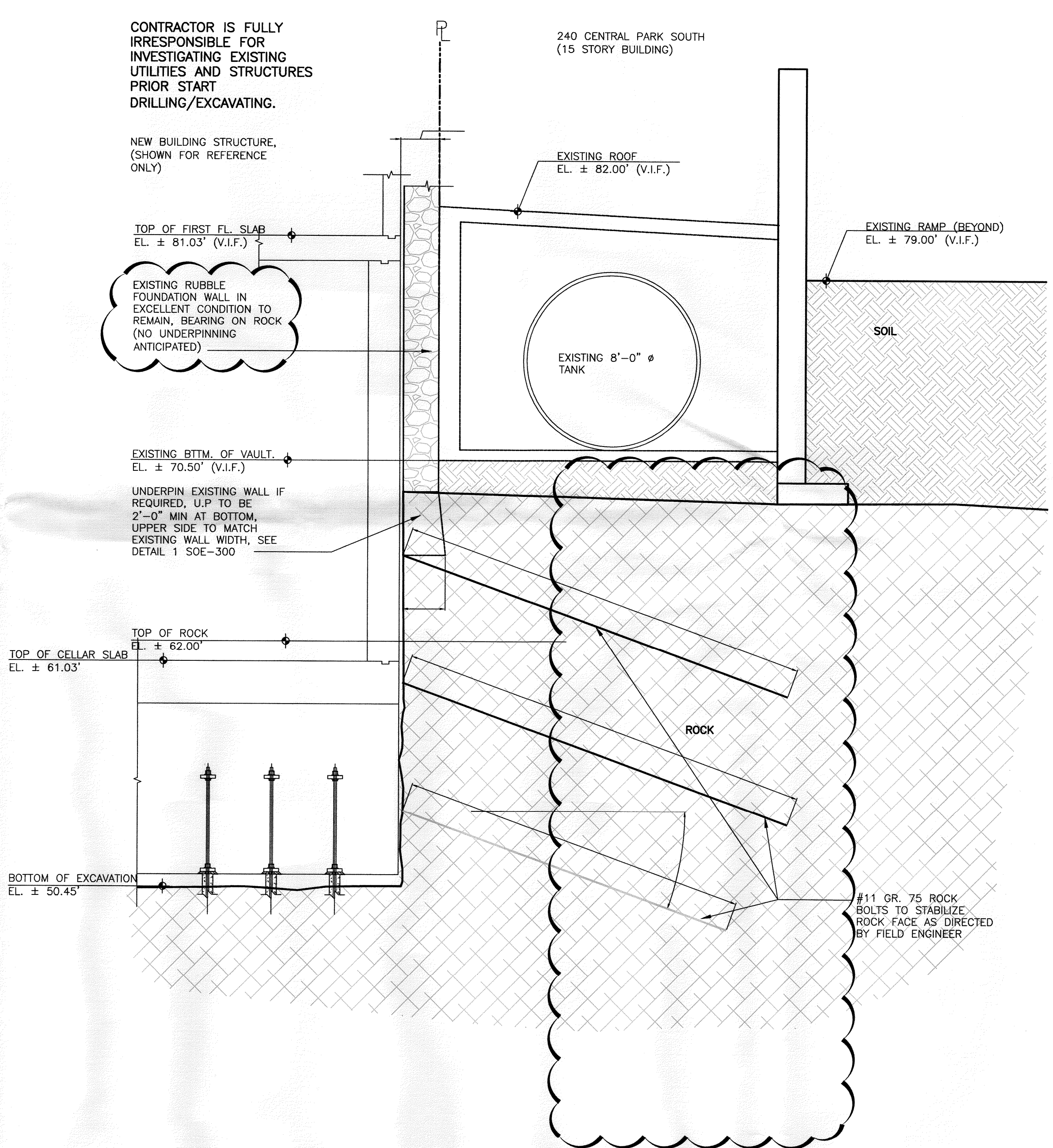
New York City Department of Buildings
 SEP Excavation Unit
 Reviewed for Support of Excavation (SOE) and
 Excavation design listed only.
 Subject to approval by Borough Office.
 Drawn By: GL Date: 03/19/14

FNA
 associates, inc.
 CONSULTING ENGINEERS
 670 BERGEN BOULEVARD
 RIDGEFIELD, N.J. 07657
 O: 201-241-2444

220 CENTRAL PARK SOUTH
 NEW YORK, N.Y.



1 SECTION
 201 SCALE: 1/4" = 1'-0"

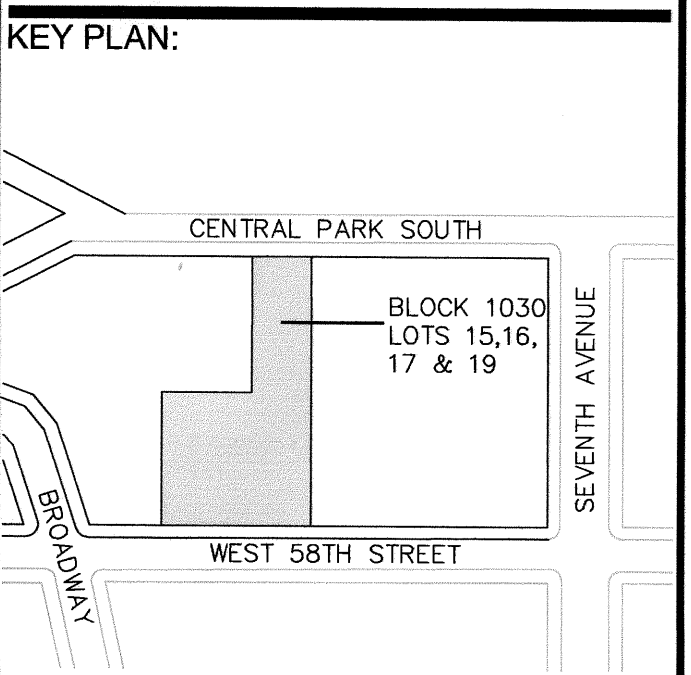


2 SECTION
 201 SCALE: 1/4" = 1'-0"

CONTRACTOR IS FULLY
 IRRESPONSIBLE FOR
 INVESTIGATING EXISTING
 UTILITIES AND STRUCTURES
 PRIOR START
 DRILLING/EXCAVATING.

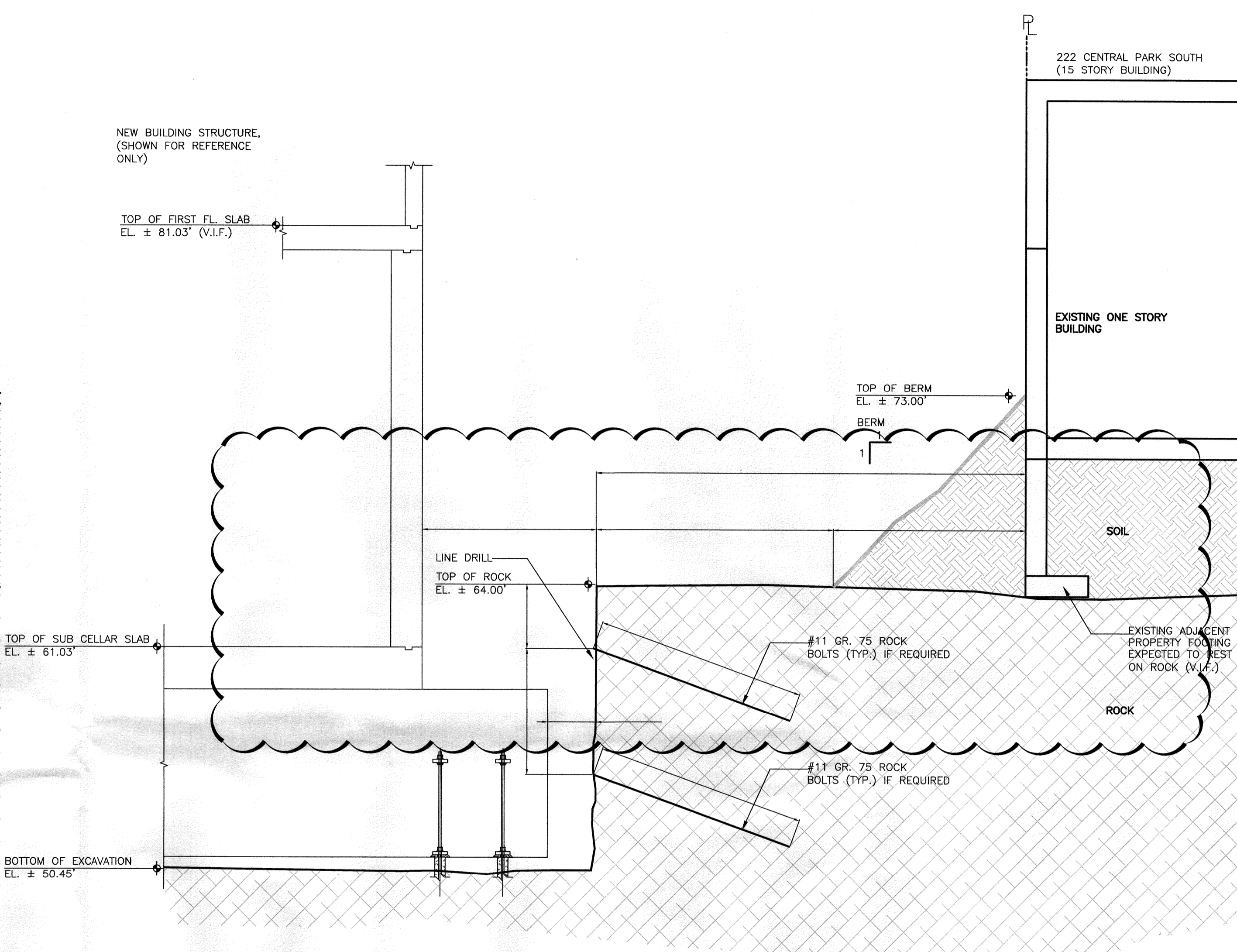
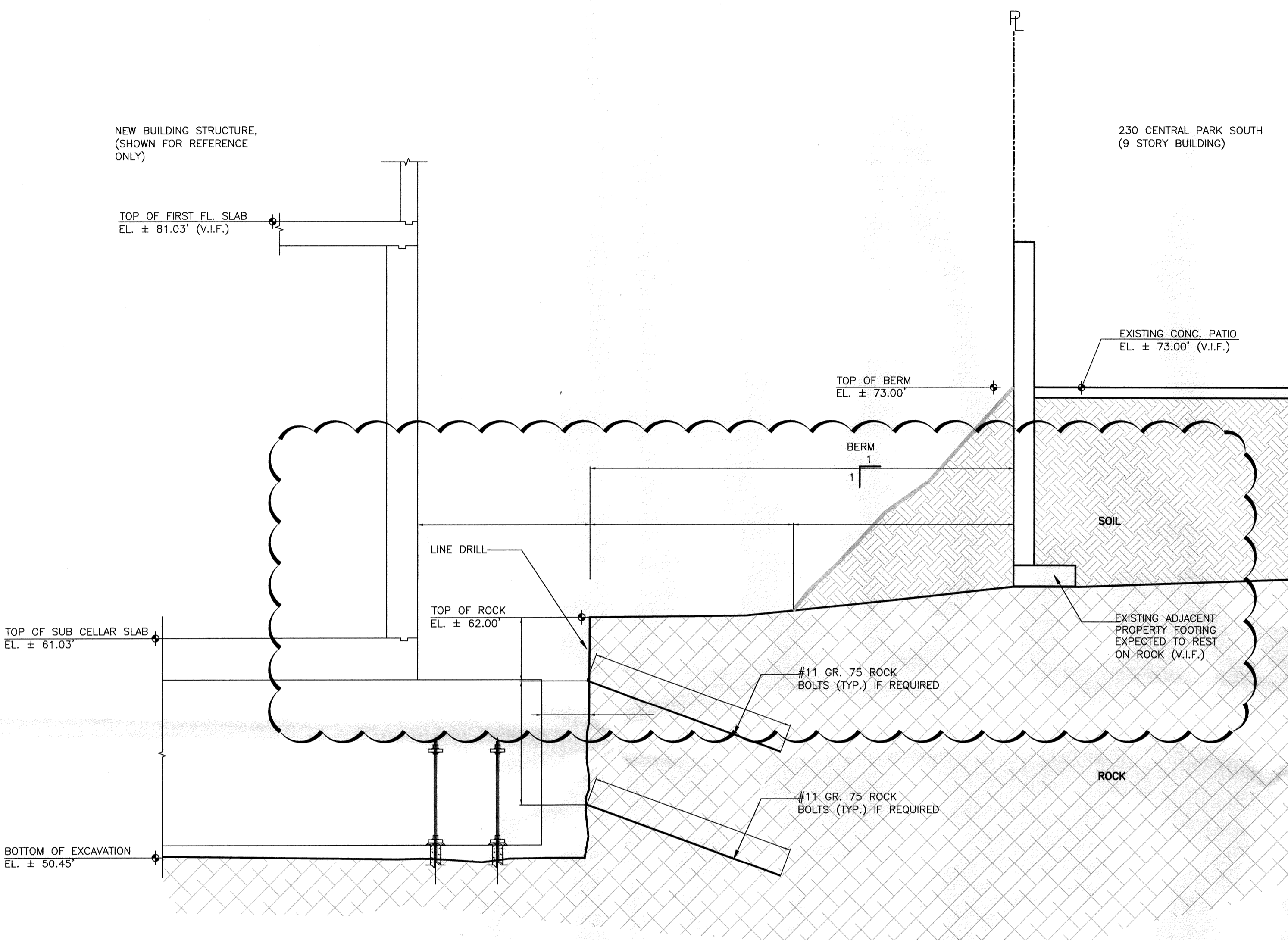
4. EXC. UNIT COMMENTS	03/18/14
3. EXC. UNIT COMMENTS	03/13/14
2. EXC. UNIT COMMENTS	03/11/14
1. FOR D.O.B. FILING	02/20/14
No. Revision:	Date:

SCALE: AS NOTED



DRAWING TITLE:
SOE SECTIONS

SEAL	Date	12-09-13
	PROJECT No:	14014
	Drawn By:	GD
	DWG. No:	SOE-201.02
		4 OF 9

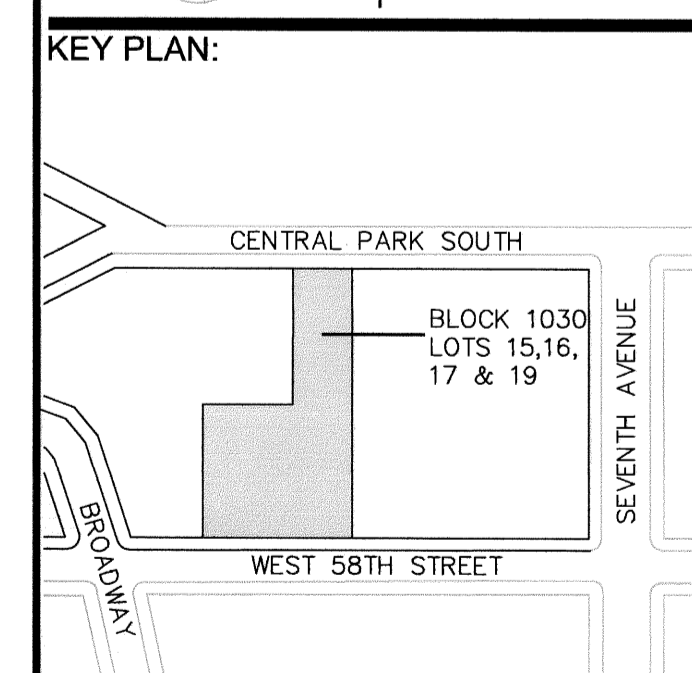


220 CENTRAL PARK SOUTH
NEW YORK, N.Y.

4. EXC. UNIT COMMENTS	03/18/14
3. EXC. UNIT COMMENTS	03/13/14
2. EXC. UNIT COMMENTS	03/11/14
1. FOR D.O.B. FILING	02/20/14

No. Revision: _____ Date: _____

N ↑	SCALE: AS NOTED
--------	--------------------



DRAWING TITLE:
SOE SECTIONS

	Date	12-09-13
	PROJECT No:	14014
	Drawn By:	GD
	DWG. No:	SOE-202.01
		5 OF 9

1 SECTION
202 SCALE: 1/4" = 1'-0"

2 SECTION
SCALE: 1/4" = 1'-0"

New York City Department of Buildings
 SEP Excavation Unit
 Reviewed for Support of Excavation (SOE) and
 foundation design (see note)
 Subject to approval by Borough office
 Prepared By: GI Date: 03/19/14

FNA
 associates, inc.
 CONSULTING ENGINEERS
 670 BERGEN BOULEVARD
 RIDGEFIELD, N.J. 07657
 O: 201-241-2444

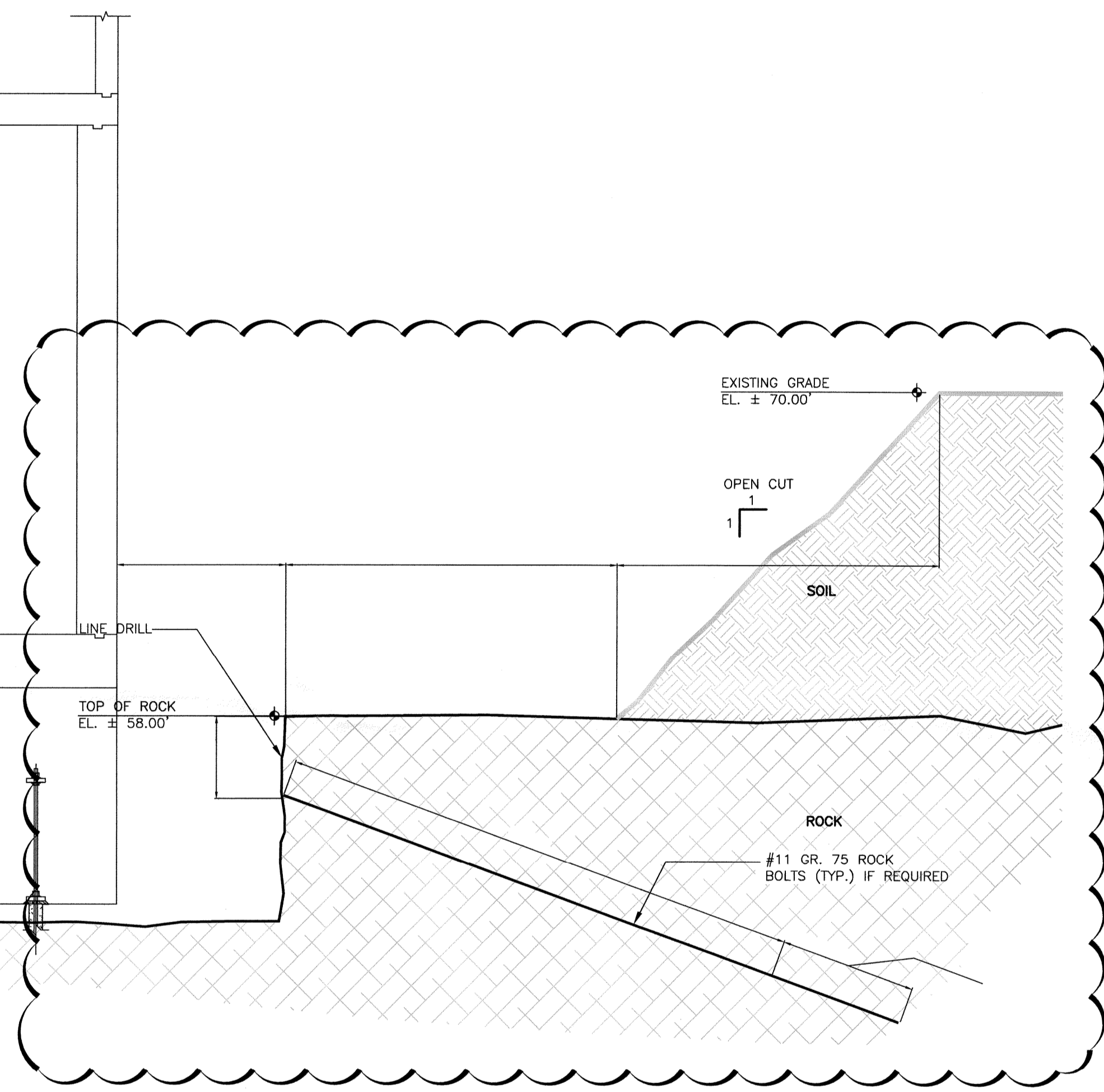
220 CENTRAL PARK SOUTH
 NEW YORK, N.Y.

NEW BUILDING STRUCTURE,
 (SHOWN FOR REFERENCE
 ONLY)

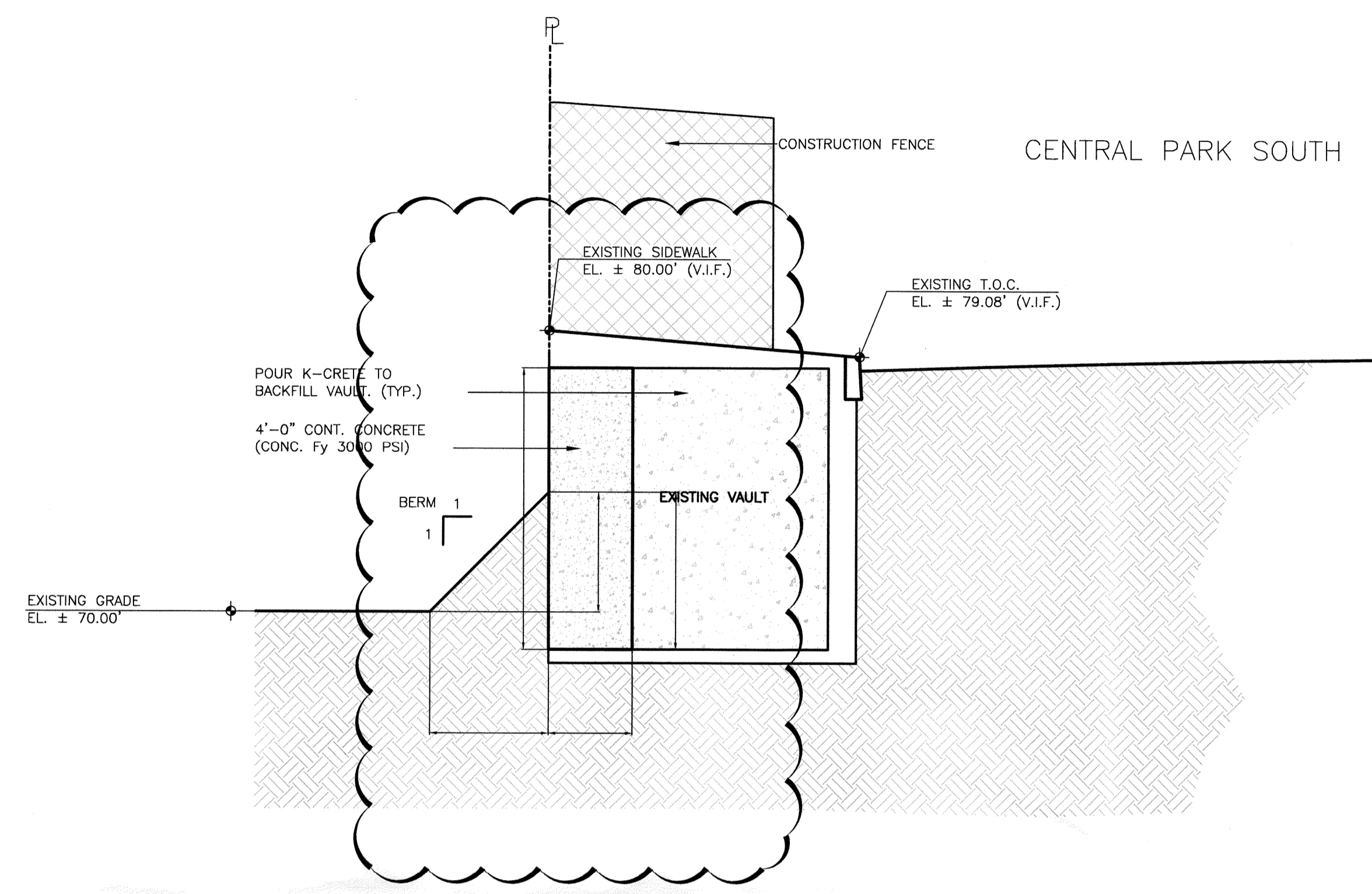
TOP OF FIRST FL. SLAB
 EL. ± 81.03' (V.I.F.)

TOP OF SUB CELLAR SLAB
 EL. ± 61.03'

BOTTOM OF EXCAVATION
 EL. ± 50.45'



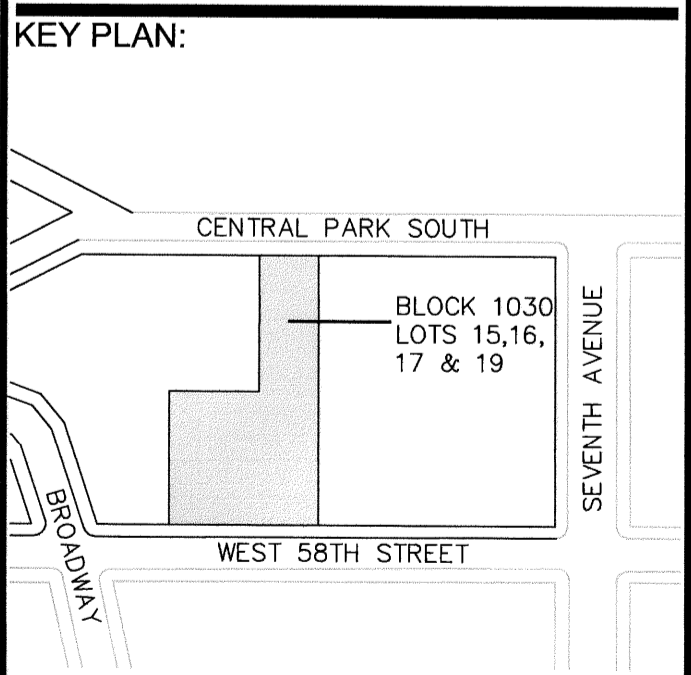
1 SECTION
 203 SCALE: 1/4" = 1'-0"



2 SECTION
 203 SCALE: 1/4" = 1'-0"

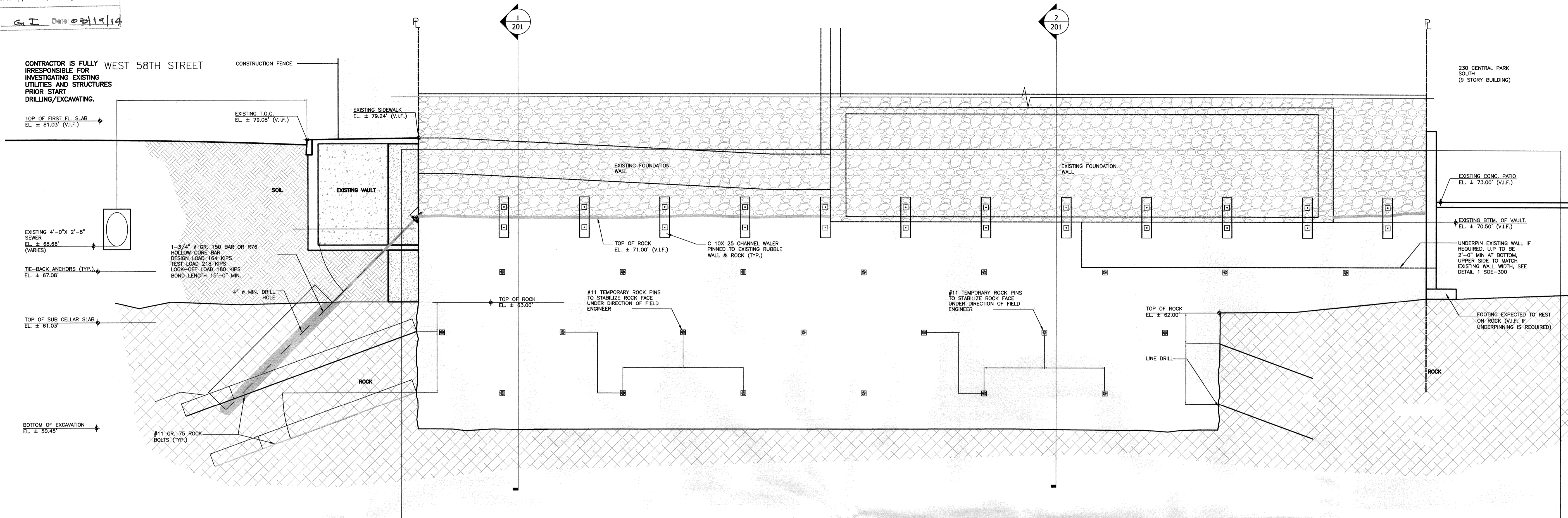
4. EXC. UNIT COMMENTS	03/18/14
3. EXC. UNIT COMMENTS	03/13/14
2. EXC. UNIT COMMENTS	03/11/14
1. FOR D.O.B. FILING	02/20/14
No: Revision:	Date:

N	SCALE:
	AS NOTED



DRAWING TITLE:
SOE SECTIONS

SEAL	Date
	12-09-13
	PROJECT No:
	14014
	Drawn By:
	GD
DWG. No:	
SOE-203.01	
	6 OF 9

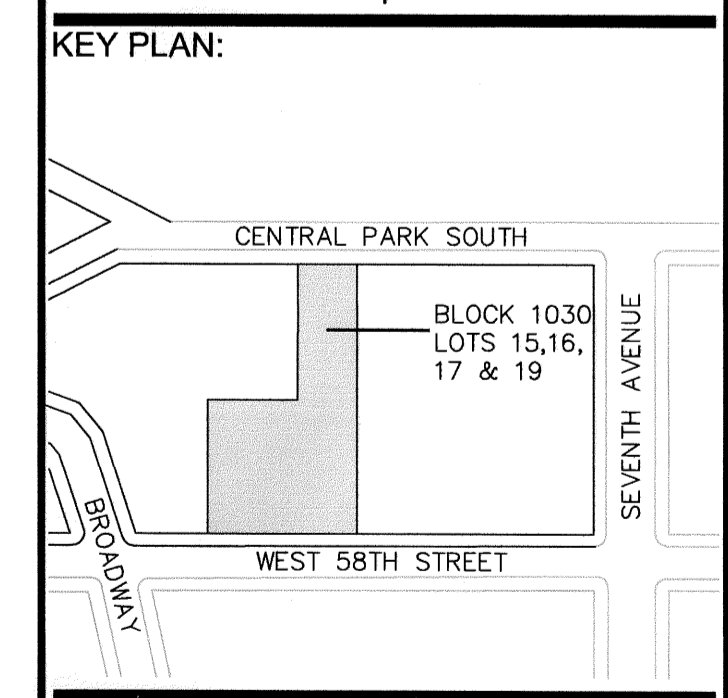


1
204 ELEVATION
SCALE: 3/16" = 1'-0"

220 CENTRAL PARK SOUTH
NEW YORK, N.Y.

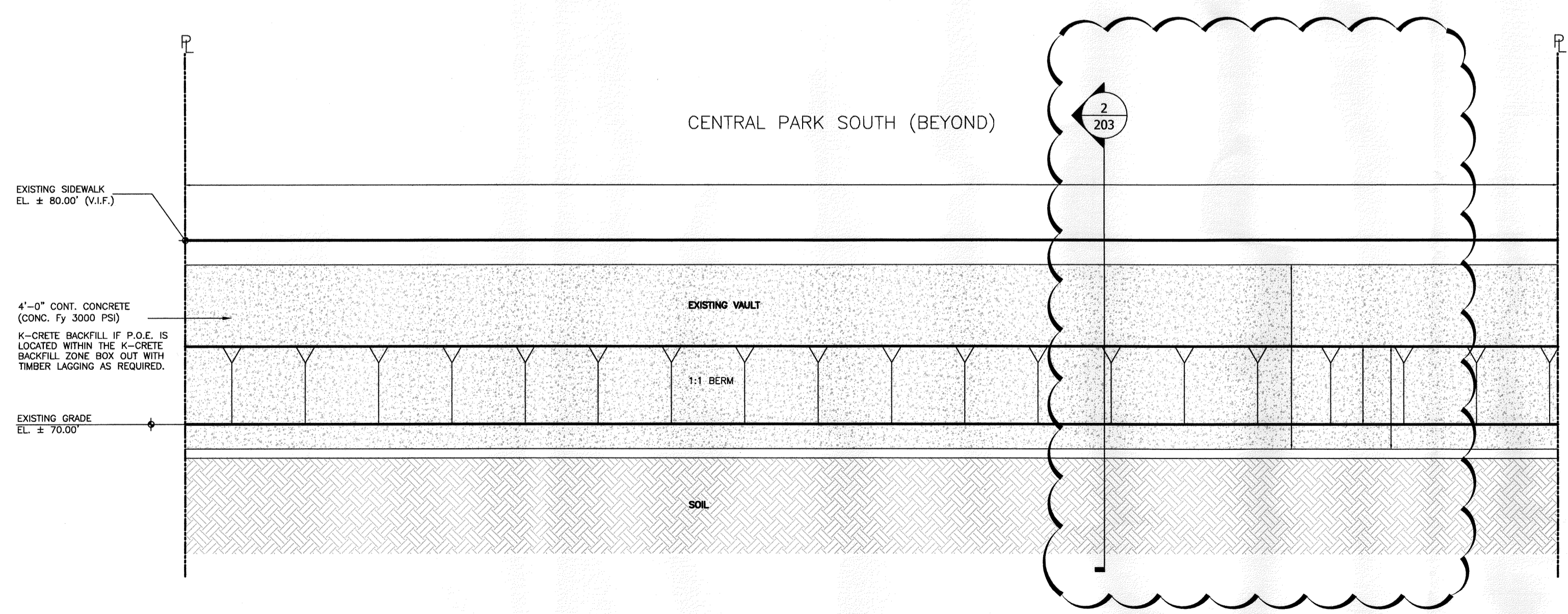
4.	EXC. UNIT COMMENTS	03/18/14
3.	EXC. UNIT COMMENTS	03/13/14
2.	EXC. UNIT COMMENTS	03/11/14
1.	FOR D.O.B. FILING	02/20/14
No:	Revision:	Date:

N	SCALE:
AS NOTED	



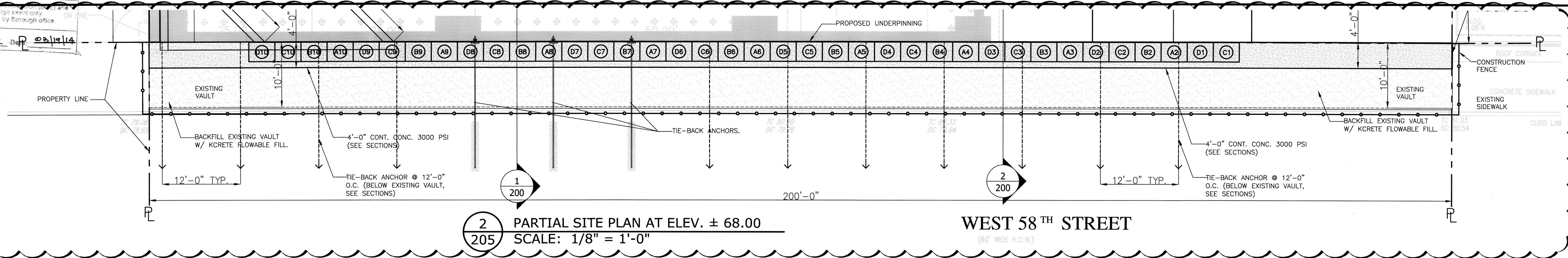
DRAWING TITLE:
SOE ELEVATION

SEAL	Date	12-09-13
	PROJECT No:	14014
	Drawn By:	GD
	DWG. No:	SOE-204.02
		7 OF 9



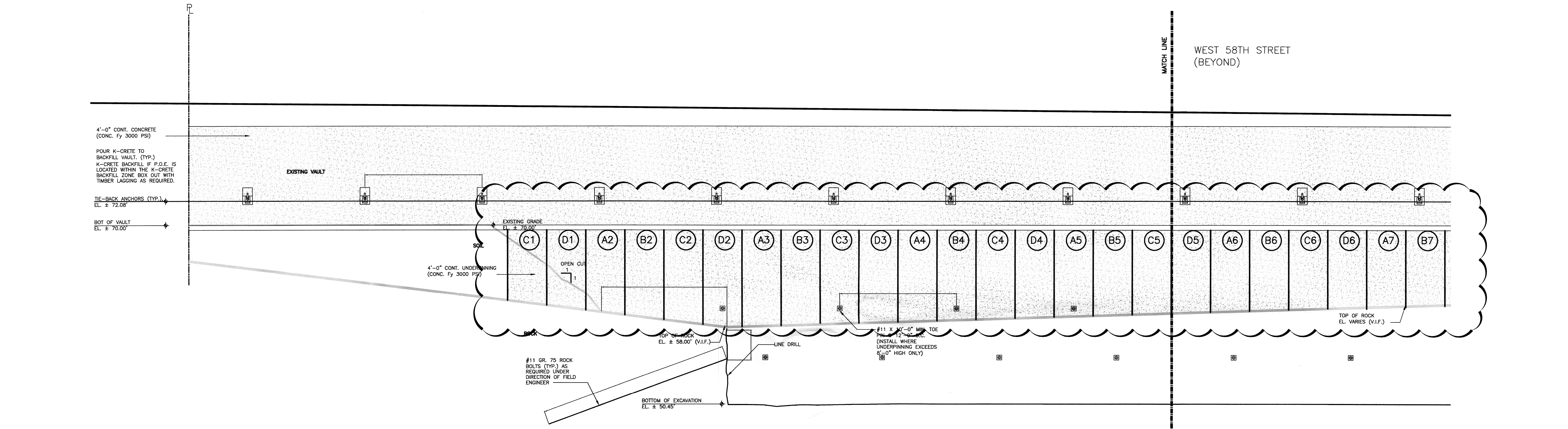
2
204 ELEVATION
SCALE: 3/16" = 1'-0"

220 CENTRAL PARK SOUTH
NEW YORK, N.Y.



2
205 PARTIAL SITE PLAN AT ELEV. ± 68.00
SCALE: 1/8" = 1'-0"

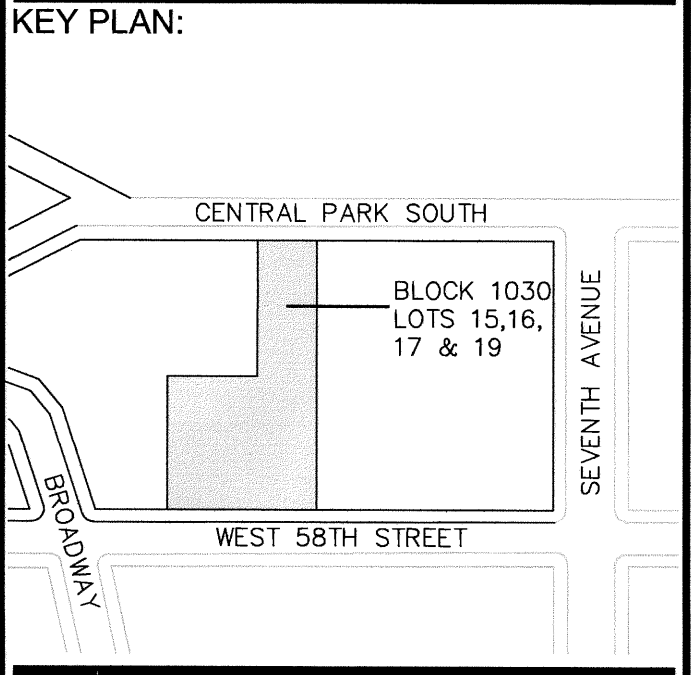
WEST 58TH STREET
(60' WIDE R.O.W.)



1
205 ELEVATION
SCALE: 3/16" = 1'-0"

4. EXC. UNIT COMMENTS	03/18/14
3. EXC. UNIT COMMENTS	03/13/14
2. EXC. UNIT COMMENTS	03/11/14
1. FOR D.O.B. FILING	02/20/14
No: Revision:	Date:

N	SCALE: AS NOTED
---	--------------------



DRAWING TITLE:
SOE ELEVATION

SEAL	Date 12-09-13
PROJECT No: 14014	Drawn By: GD
DWG. No: SOE-205.01	8 OF 9

NEW SHEET

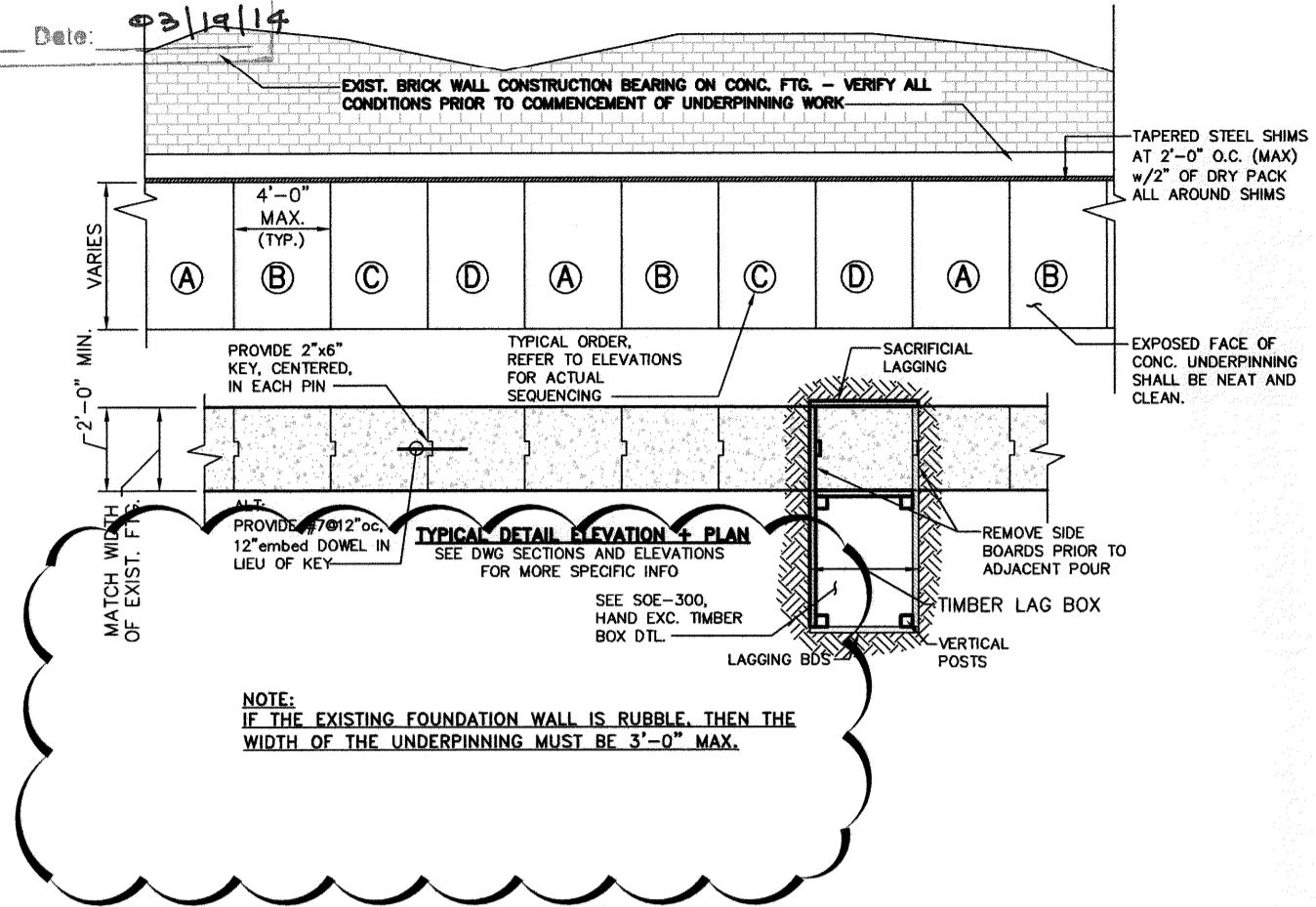
CONTRACTOR IS FULLY
IRRESPONSIBLE FOR
INVESTIGATING EXISTING
UTILITIES AND STRUCTURES
PRIOR START
DRILLING/EXCAVATING.

#11 TEMPORARY ROCK PINS
TO STABILIZE ROCK FACE
UNDER DIRECTION OF FIELD
ENGINEER

#11 GR. 75 ROCK
BOLTS TO STABILIZE
ROCK FACE AS DIRECTED
BY FIELD ENGINEER

Reviewed for Support of Excavation (SOE) and
 Foundation design by East City
 Subject to approval by Borough office

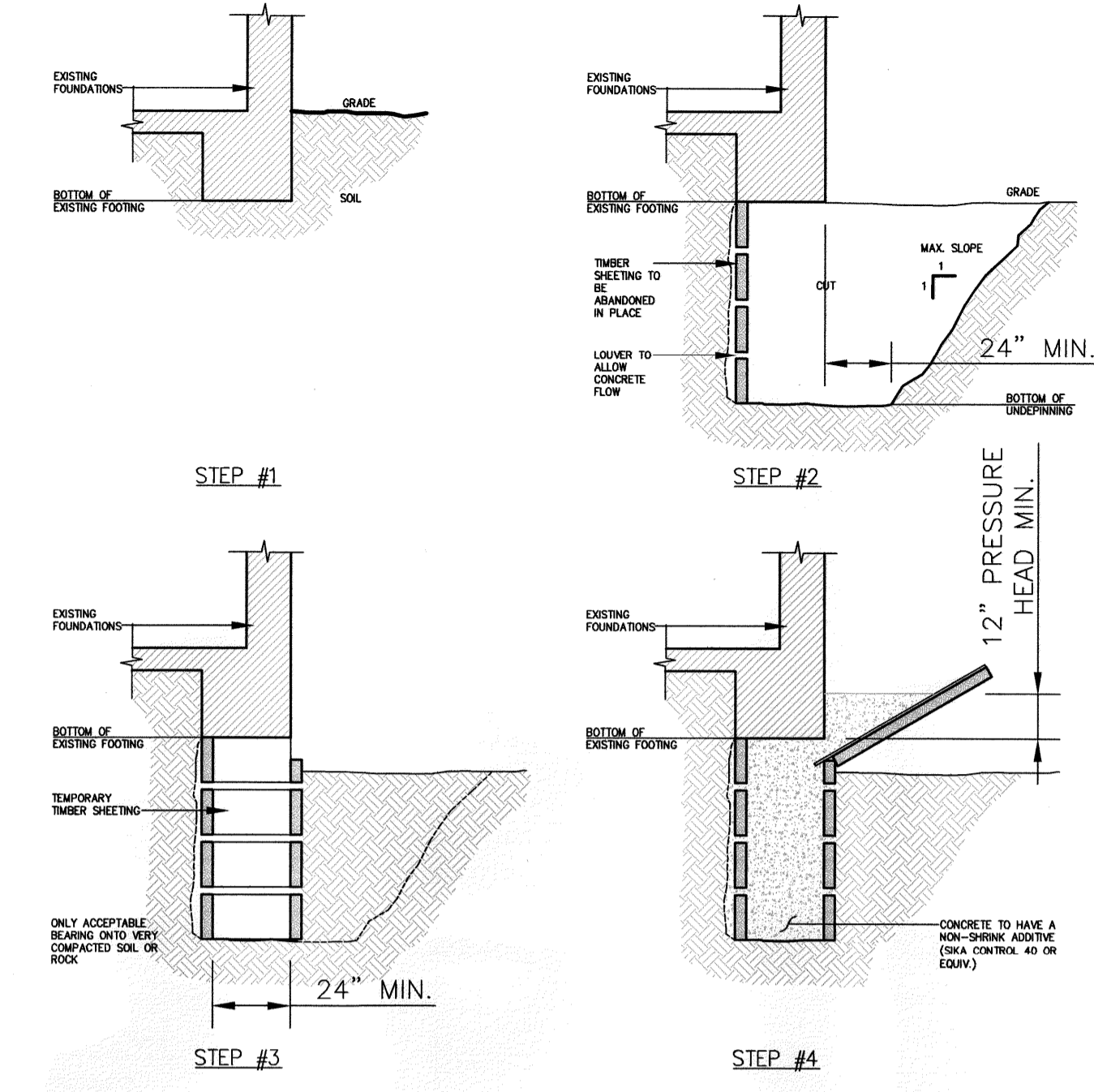
Approved By: [Signature] Date: 03/11/14



NOTE:
 IF THE EXISTING FOUNDATION WALL IS RUBBLE, THEN THE
 WIDTH OF THE UNDERPINNING MUST BE 3'-0" MAX.

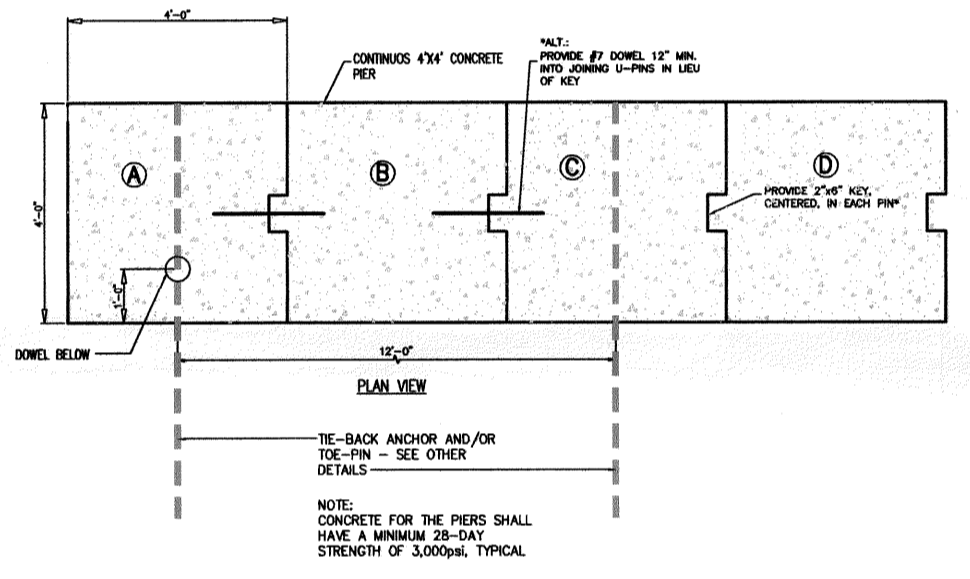
- GENERAL UNDERPINNING NOTES**
- THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT PROVISIONS OF THE NYC BUILDING CODE.
 - ALL FOUNDATIONS AND EARTHWORK OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NYC BUILDING CODE. ALL LOTS, BUILDINGS AND SERVICES ADJOINING THE FOUNDATION AND EARTHWORK AREAS SHALL BE PROTECTED AND PROPERLY SUPPORTED.
 - ALL TEST PITS, BORINGS, EXCAVATION WORK AND UNDERPINNING OPERATIONS ARE SUBJECT TO CONTROLLED INSPECTIONS.
 - THE OWNER SHALL RETAIN A LICENSED SURVEYOR TO SURVEY ALL LOAD BEARING WALLS, PIERS AND COLUMNS TO BE UNDERPINNED (UNLESS CONTRACTUALLY DEFINED OTHERWISE). THE SURVEYOR SHALL CHECK THE DATUM OF SUCH STRUCTURAL ELEMENTS EVERY TWO WEEKS FOR THE DURATION OF THE WORK.
 - THERE SHALL BE A PRE-CONSTRUCTION MEETING WITH THE OWNER, ARCHITECT, ENGINEER OF RECORD, GENERAL CONTRACTOR AND FOUNDATION SUB-CONTRACTOR(S) PRIOR TO WORK COMMENCING.
 - ALL ADJACENT PROPERTIES, INCLUDING BUT NOT LIMITED TO EXISTING WALLS AND FOOTINGS ARE TO BE OBSERVED BY THE ENGINEER OF RECORD AND ENGINEER RESPONSIBLE FOR THE CONTROLLED INSPECTIONS PRIOR TO WORK COMMENCING.
 - THE CONTRACTOR SHALL REQUEST PERMISSION TO ENTER BUILDINGS DIRECTLY ADJACENT TO THE AREAS OF PROPOSED UNDERPINNING.
 - NO FOUNDATION OR EARTHWORK PERMIT SHALL BE ISSUED UNTIL AT LEAST FIVE DAYS AFTER A WRITTEN NOTICE OF THE PERMIT APPLICATION HAS BEEN PROVIDED BY THE APPLICANT TO THE OWNER OF ALL ADJACING LOTS, BUILDINGS AND SERVICE FACILITIES, WHO MAY BE AFFECTED BY THE PROPOSED FOUNDATION WORK OR EARTHWORK OPERATIONS.
 - THE UNDERPINNING FOUNDATIONS SHALL BEAR ON SUBGRADE HAVING A BEARING CAPACITY EQUAL TO OR GREATER THAN THE SUBGRADE OF THE EXISTING FOUNDATION. THE SUBGRADE AT THE LEVEL OF THE EXISTING FOUNDATION SHALL BE INSPECTED BY A LICENSED PROFESSIONAL ENGINEER RETAINED BY THE OWNER (UNLESS CONTRACTUALLY DEFINED OTHERWISE) TO VERIFY THE BEARING CAPACITY, AND DEFICIENCIES BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD.
 - DO NOT TRANSFER THE BUILDING LOAD ONTO NEW UNDERPINNING WALLS UNTIL ALL WALLS HAVE ATTAINED 50% OF THE CONCRETE DESIGN STRENGTH, AS CONFIRMED BY THE CYLINDER TESTS, OR 96 HOURS.
 - DO NOT PLACE BACKFILL AGAINST NEW UNDERPINNING WALLS UNTIL CONFIRMED BY THE CYLINDER TEST, OR 96 HOURS.
 - ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
 - ALL GROUT SHALL BE NONSHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
 - ALL DRYPACK SHALL BE A MIXTURE OF 1 PART CEMENT AND 2 PARTS DAMP SAND, WITH 0-INCH SLUMP.
 - ALL UNDERPINNING SHEETING AND BRACING TO REMAIN SHALL BE PRESSURE TREATED LUMBER AND/OR OTHER APPROVED MATERIAL.
 - EXCAVATION BELOW THE WATER TABLE SHOULD BE AVOIDED, IF POSSIBLE. DEWATER THE SITE PRIOR TO EXCAVATION. EXCAVATION MAY ONLY PROCEED AFTER REVIEW BY THE ENGINEER OF RECORD.
 - IF WATER IS ENCOUNTERED IN THE PIT, PROVIDE LOCAL PUMPING TO REMOVE WATER FROM THE PIT.
 - ALL SIDES OR SLOPES OF EXCAVATIONS OR EMBANKMENTS SHALL BE INSPECTED AFTER RAINSTORMS.
 - THE UNDERPINNING SHALL BE CONSTRUCTED IN A MANNER SUCH THAT THE EXPOSED FACE OF THE CONCRETE IS VERTICAL (OR AS OTHERWISE SPECIFIED), CLEAN AND NEAT.

- UNDERPINNING NOTES & PROCEDURES**
- STARTING WITH SEGMENTS "A" ONLY, DIG PITS 4'-0" WIDE MAXIMUM, SIMULTANEOUSLY PLACING REQUIRED SHEETING AND BRACING ALL PITS TO BE SHEETED ON ALL FOUR SIDES. PACK VOIDS BETWEEN SHEETING AND SOIL WITH SOIL CEMENT, LEAVE A MINIMUM OF 12"-0" OF EXISTING SOIL BETWEEN PITS.
 - CLEAN BOTTOM OF EXISTING FOOTING AND RECOMPACT DISTURBED SOIL AT BOTTOM OF PIT WITH TAMPERS (APPLICABLE TO SOIL ONLY). COMPACT TO 95% OF MAXIMUM DENSITY OF SOIL. LOSS OF GROUND SHOULD BE KEPT TO A MINIMUM BY BACK FILLING BEHIND THE BOARDS WHERE AND WHEN POSSIBLE WITH GROUT PUMPED INTO VOIDS.
 - THE CONTRACTOR SHALL INSTALL ADEQUATE LATERAL BRACING SYSTEMS TO PREVENT MOVEMENT IN THE EXISTING STRUCTURE(S) AND IN THE NEW UNDERPINNING IF NECESSARY.
 - POUR NEW CONCRETE UNDERPINNING FOR SEGMENTS "A", AFTER CONCRETE ATTAINS 50% OF DESIGN STRENGTH, OR 96 HOURS, DRIVE 2"x4" TAPERED STEEL WEDGES AT 2'-0" ON CENTER MAXIMUM, THEN PACK VOID WITH DRYPACK (MIXTURE 1 PART CEMENT, 2 PARTS DAMP SAND, WITH 0-INCH SLUMP) INTO SPACE BETWEEN TOP OF UNDERPINNING AND BOTTOM OF EXISTING FOOTING TO TRANSFER LOAD. ENSURE THAT THE BACK OF VOID IS FORMED SO THAT DRYPACK IS NOT LOST WHEN RAMMED INTO THE GAPS.
 - ALTERNATE TO #4: "HIGH-POUR METHOD" - POUR NEW CONCRETE UNDERPINNING FOR EACH SEGMENT UP TO THE BOTTOM OF EXISTING FOOTING OF THE BUILDING PROMPTED IN LIEU OF DRY PACK. STONE CONCRETE POURED MINIMUM STRENGTH 4,000 PSI AND VIBRATED UP TO THE BOTTOM OF EXISTING FOOTING OF THE BUILDING AT THE SAME TIME OF UNDERPINNING CONCRETE TO REMOVE ALL VOIDS. OPTION #4 MUST ALSO INCLUDE INTERPLAST BY SIBU AD-MIX OR OTHER EXPANSIVE AGGREGATE IN CONCRETE MIXTURE. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR MIXING QUANTITIES.
 - FOR SEGMENTS "B" ONLY, DIG PITS 4'-0", MAXIMUM WIDTH, WITH REQUIRED SHEETING AND BRACING.
 - FOR SEGMENTS "B" REPEAT CONCRETING, CLEANING, COMPACTION, STEEL WEDGES AND DRYPACKING AS DESCRIBED IN NOTES 2, 3 AND 4.
 - FOR SEGMENTS "C", DIG PITS 4'-0" MAXIMUM WIDE, WITH REQUIRED SHEETING AND BRACING, AS INDICATED ON DETAILS.
 - FOR SEGMENTS "C" REPEAT CONCRETING, CLEANING, COMPACTION, STEEL WEDGES AND DRYPACKING AS DESCRIBED IN NOTES 2, 3 AND 4.
 - FOR SEGMENTS "D", DIG OUT SOIL BETWEEN COMPLETED SEGMENTS C & A. PROVIDE SHEETING AND BRACING, AS INDICATED ON DETAILS.
 - FOR SEGMENTS "D" REPEAT CONCRETING, CLEANING, COMPACTION, STEEL WEDGES AND DRYPACKING AS DESCRIBED IN NOTES 2, 3 AND 4.
 - WHERE BOTTOM OF ADJACENT UNDERPINNING PITS ARE AT DIFFERENT ELEVATIONS, DEEPER PIT SHALL BE INSTALLED FIRST.
 - UNDERPINNING PITS CLOSER THAN 12 FEET APART SHALL NOT BE EXCAVATED AT THE SAME TIME.
 - WHEN UNDERPINNING ROCK MATERIAL, CONTRACTOR SHALL TAKE PRECAUTIONS SO AS NOT TO FRACTURE ROCK UNDER ADJOINING SECTION OR DAMAGE CONCRETE ALREADY POURED IN PLACE.

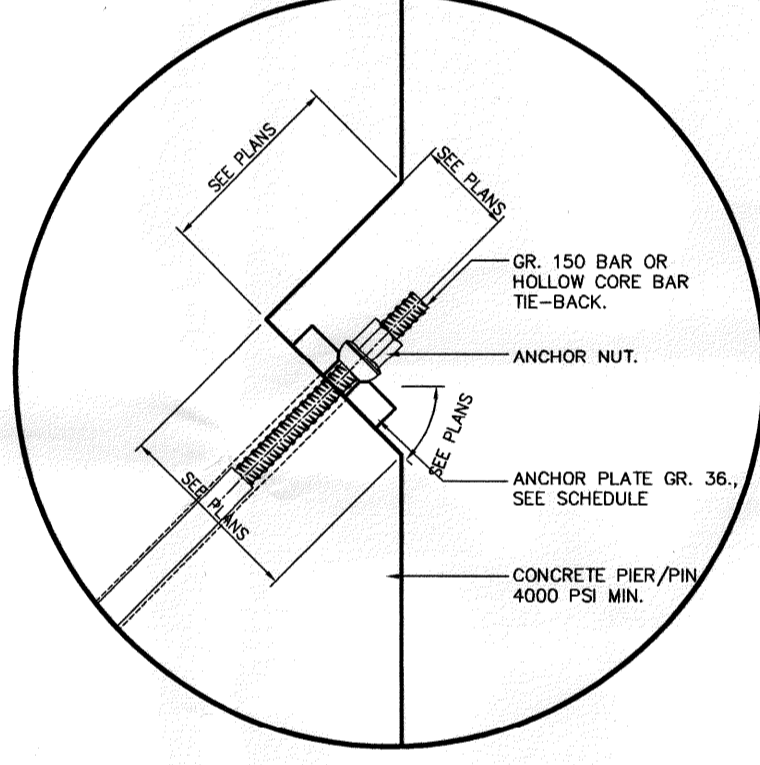


2 300 ALTERNATE UNDERPINNING METHOD
 NOT TO SCALE

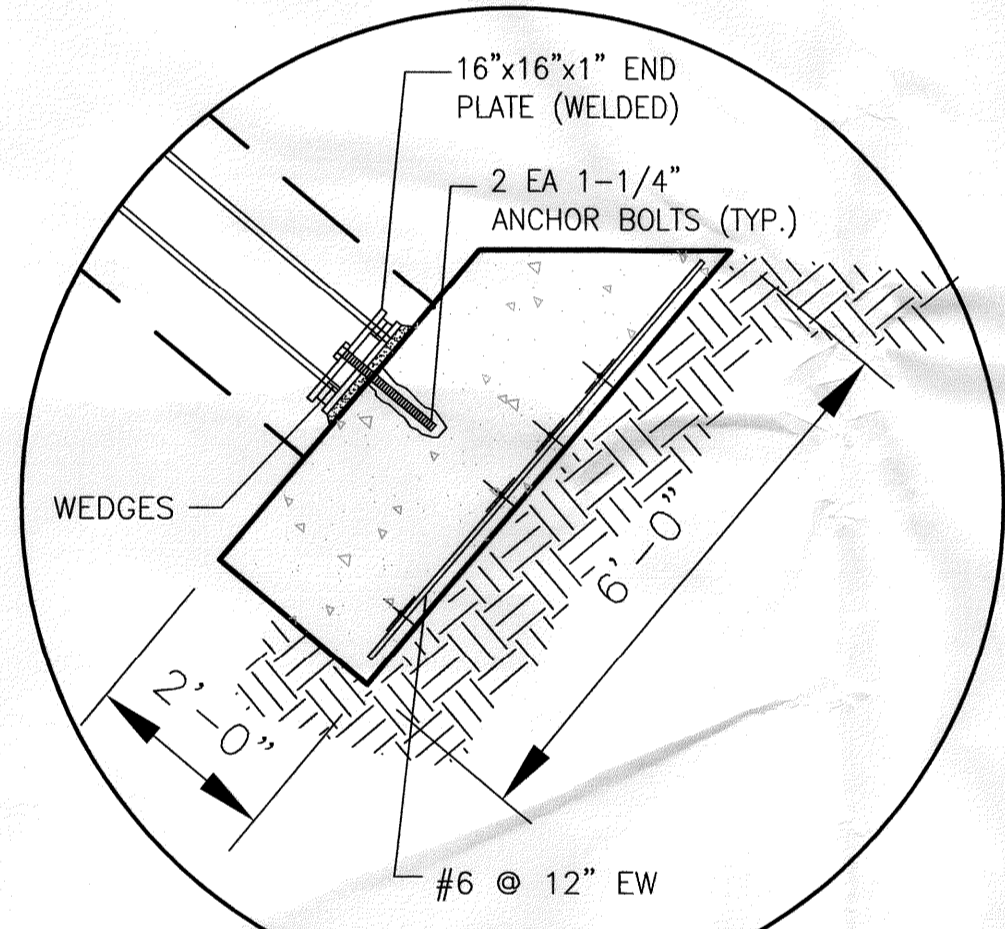
1 300 UNDERPINNING PROCEDURES AND DETAILS
 NOT TO SCALE



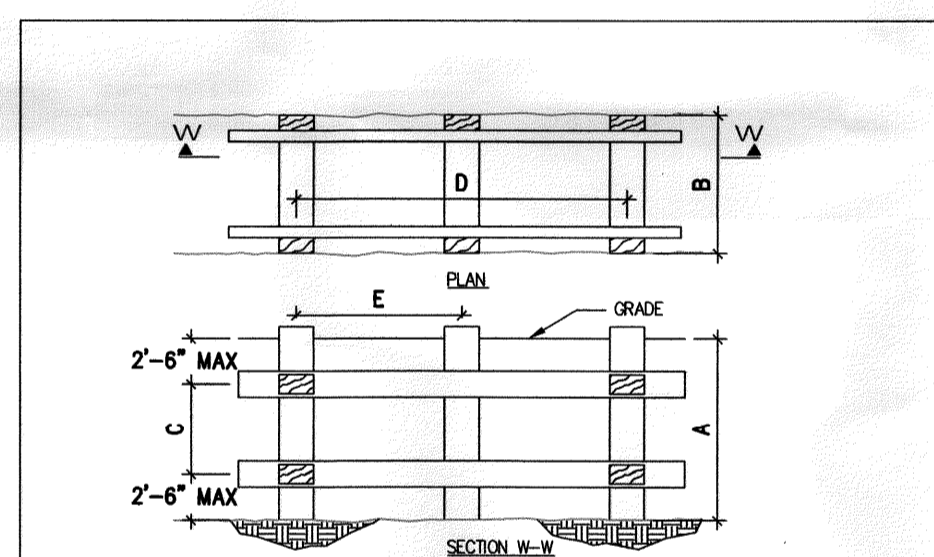
TYPICAL CONTINUOUS PIER DETAIL
 1-CONTINUOUS PIER SHALL BE DESIGNED IN SECTIONS OF MAXIMUM 10'-0" IN LENGTH. CONNECTIONS OF ADJACENT SECTIONS SHALL HAVE AT LEAST 12" OF CLEAR SPACING BETWEEN THEM.
 2- EXCAVATION SHALL BE FIRST "B" SECOND "C" THIRD AND "D" FOURTH.



DETAIL A
 N.T.S.



5 300 CONC. HEEL BLOCK DETAIL
 NOT TO SCALE

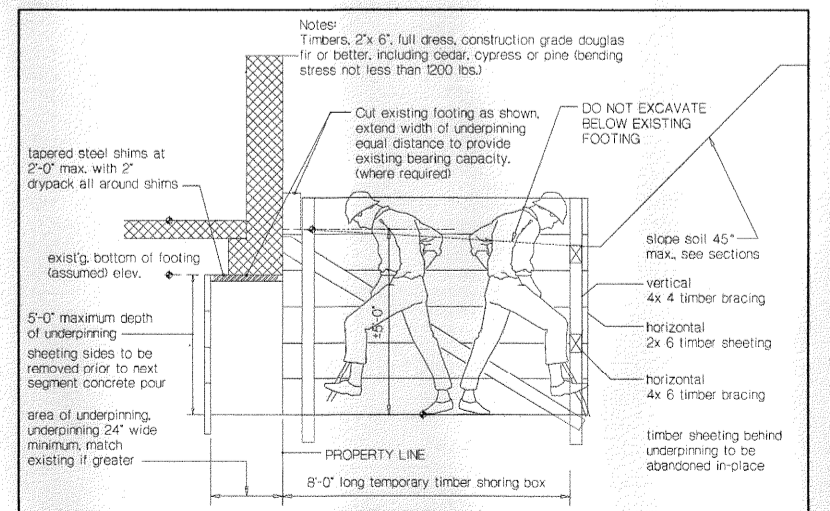


TRENCH SHORING - MINIMUM REQUIREMENTS

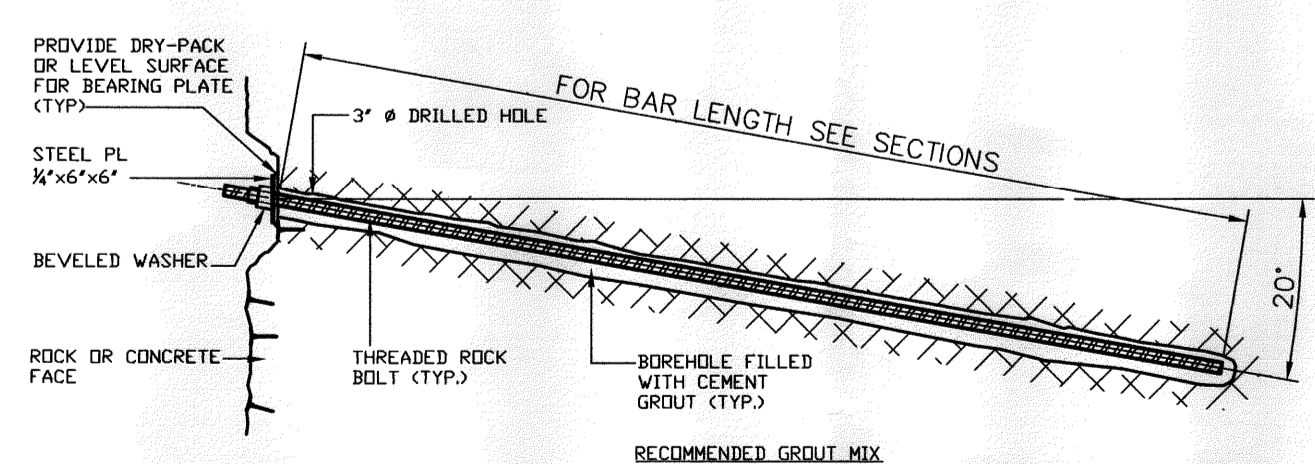
DEPTH OF TRENCH	JOB OR CONDITION OF EARTH	LIMBS (SHEETING)		STRUTS (BRACES)		WEDGES OR BRIDGES		TIE SPACING	
		MAX. FT.	MAX. INCH.	MAX. FT.	MAX. INCH.	MAX. FT.	MAX. INCH.	MAX. FT.	MAX. INCH.
5	FAVORABLE	6	6	2 X 6	4 X 4	4 X 6	6 X 6	4	6
5	UNFAVORABLE	6	6	2 X 6	4 X 4	4 X 6	6 X 6	4	6
10	FAVORABLE	6	6	4 X 6	4	4 X 4	6 X 6	6 X 6	4
10	UNFAVORABLE	6	6	4 X 6	4	4 X 4	6 X 6	6 X 6	4
10	FAVORABLE	6	6	4 X 6	4	4 X 4	6 X 6	6 X 6	4
10	UNFAVORABLE	6	6	4 X 6	4	4 X 4	6 X 6	6 X 6	4
15	FAVORABLE	6	6	4 X 6	4	4 X 4	6 X 6	6 X 6	4
15	UNFAVORABLE	6	6	4 X 6	4	4 X 4	6 X 6	6 X 6	4
15 TO 20	ALL KINDS OF CONCRETING	3 X 6	SHIELDING	4 X 12	4	4 X 12	6 X 6	6 X 10	4

- NOTES:**
- TRENCH LIMBS, PIPE JACKS OR SCREW JACKS OF ADEQUATE CAPACITY MAY BE USED IN LIEU OF OR IN COMBINATION WITH TIMBER CROSS BRACES.
 - SHORING IS NOT REQUIRED IN ROCK, HARD SHALE OR HARD SLATE UNLESS REQUIRED FOR FROST DAMAGE OR OTHER SPLITTING IN THE ROCK SHELF BRACE OR SHOE SUPPORTED AREAS.
 - WHERE DESIRABLE, STEEL SHEET PILING AND BRACING OF EQUAL STRENGTH MAY BE SUBSTITUTED FOR WOOD.
 - TRENCHES SHALL BE SOUND AND FREE FROM LARGE OR LOOSE KNOTS.
 - SHORING MAY BE REQUIRED AT LESS THAN 5 FEET IF SOFT RUNNING SOIL CONDITIONS ARE DISCOVERED.

SHEETING FOR PITS AND TRENCHES

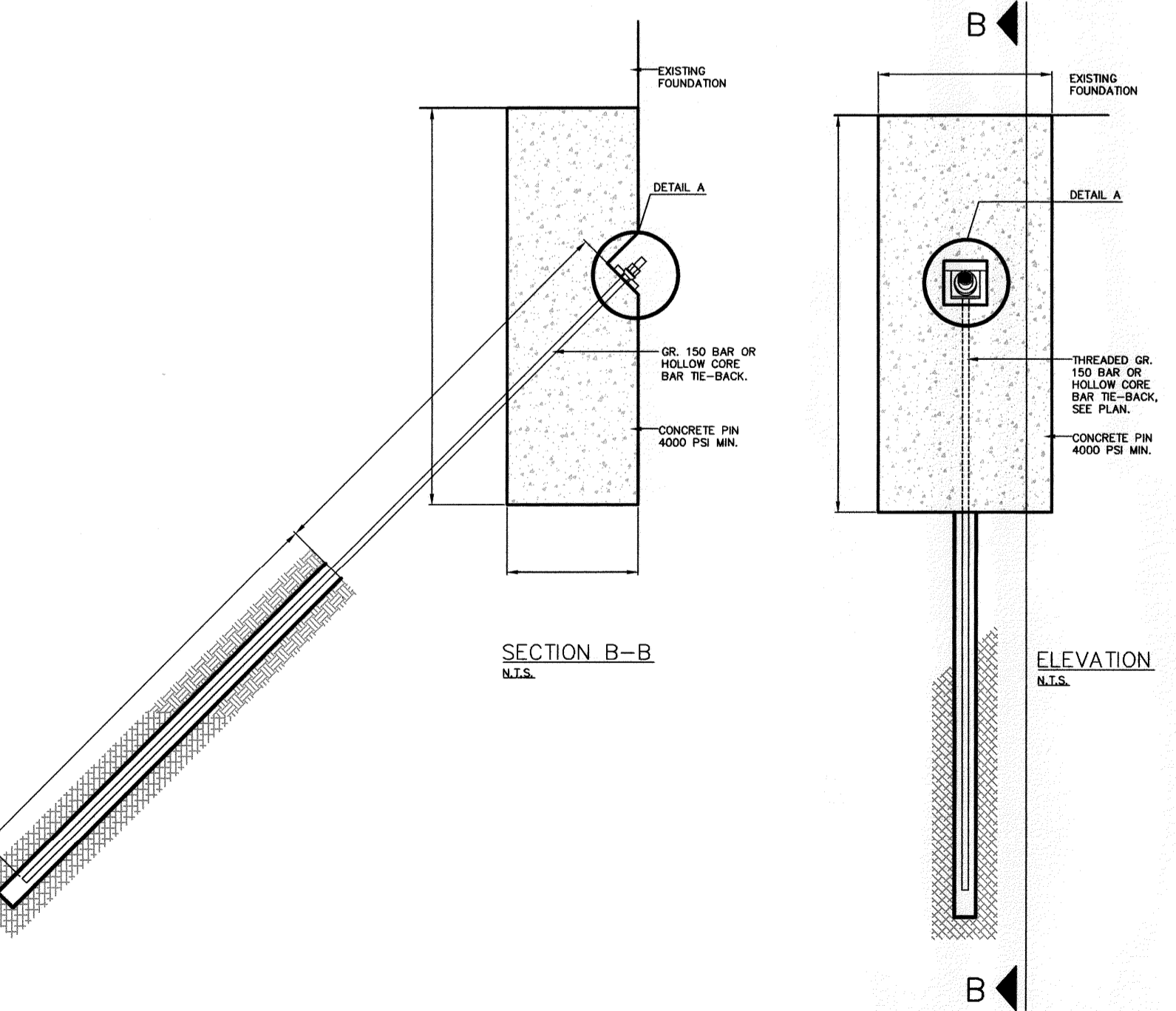


7 300 TIMBER BOX
 NOT TO SCALE



- NOTE: FINAL ROCK BOLT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD WHEN THE ROCK FACE IS EXPOSED AND BASED ON EVALUATION OF ACTUAL ROCK CONDITIONS.
- RECOMMENDED GROUT MIX:
 1. (3) BAG (94#) - PORTLAND CEMENT TYPE 1, 2, OR 3
 2. (5) GALLONS POTABLE WATER

6 300 ROCK BOLTS DETAIL
 NOT TO SCALE



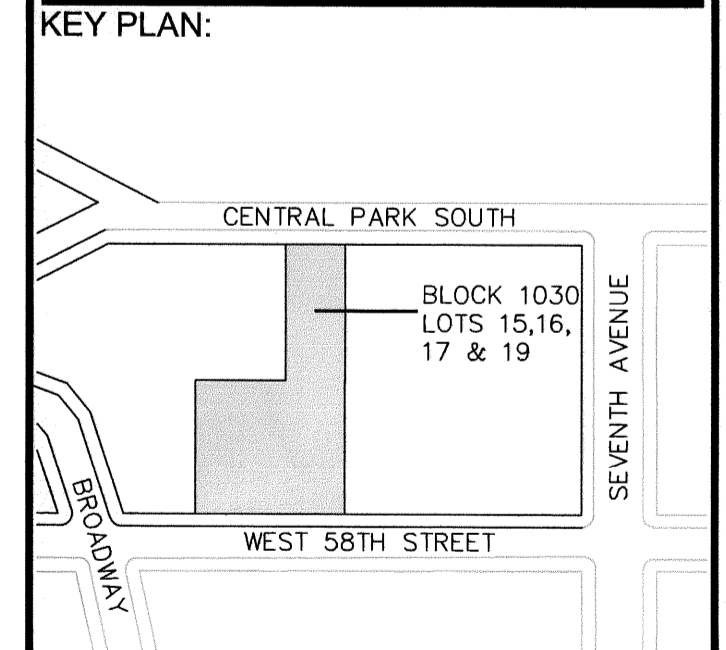
3 300 TIE-BACK THRU UNDERPINNING/ PIER
 NOT TO SCALE

670 BERGEN BOULEVARD
 RIDGEFIELD, NJ, 07657
 201-241-2444

220 CENTRAL PARK SOUTH
 NEW YORK, NY.

4. EXC. UNIT COMMENTS 03/18/14
 3. EXC. UNIT COMMENTS 03/13/14
 2. EXC. UNIT COMMENTS 03/11/14
 1. FOR D.O.B. FILING 02/20/14

No. Revision: Date:
 SCALE: AS NOTED



DRAWING TITLE:

SOE DETAILS

SEAL: [Professional Engineer Seal]
 Date: 12-09-13
 PROJECT No.: 14014
 Drawn By: GD
 DWG. No.: SOE-300.02
 9 OF 9