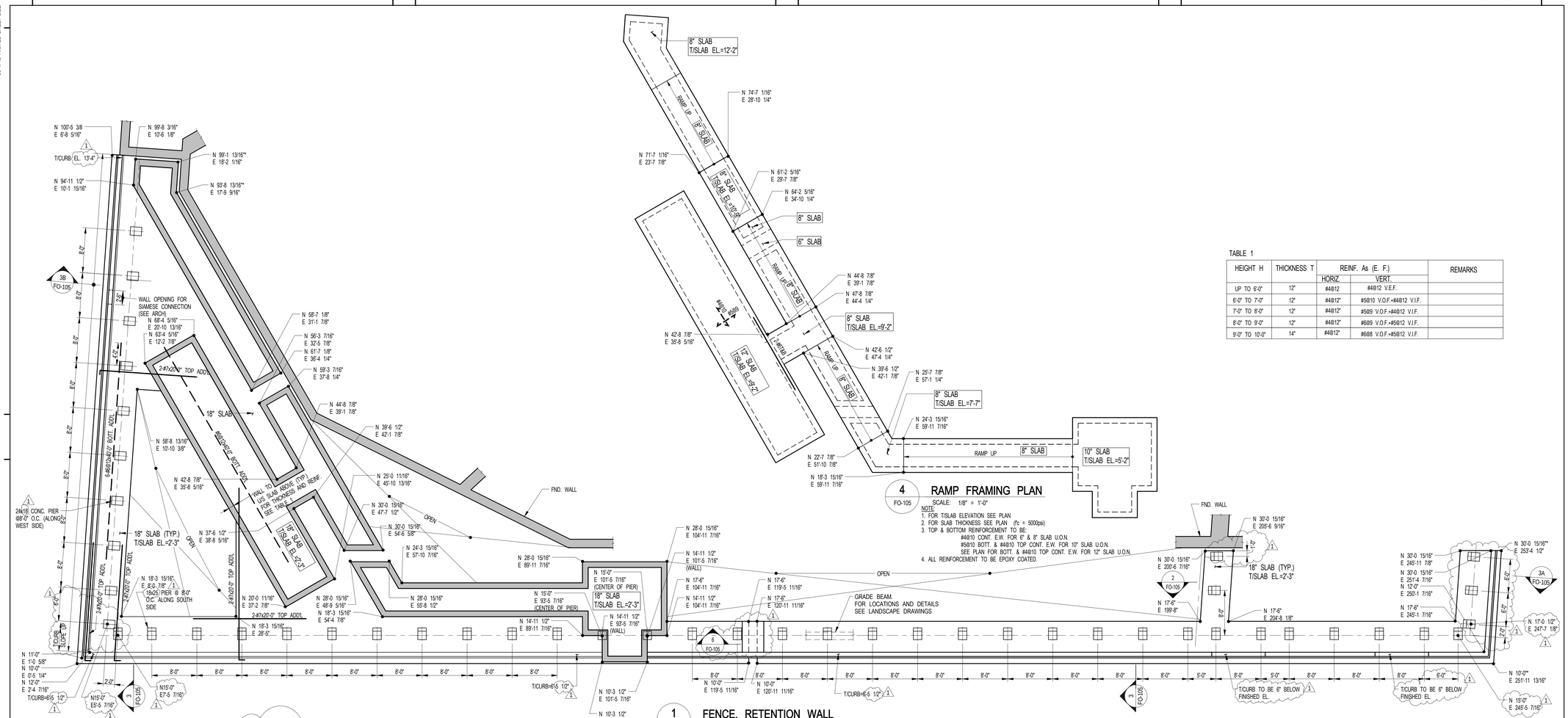
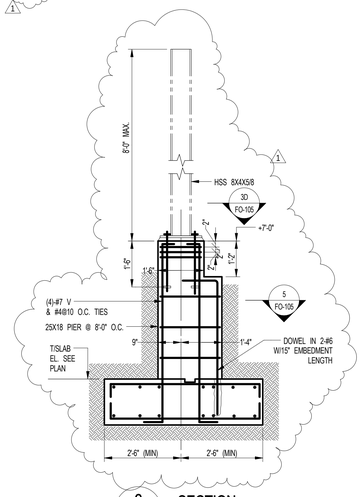


4 FO-105 **RAMP FRAMING PLAN**
SCALE: 1/8" = 1'-0"

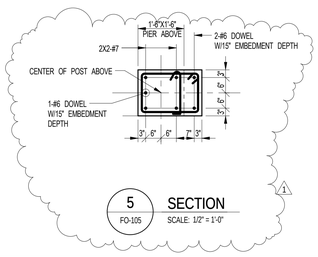
NOTE:
1. FOR T/SLAB ELEVATION SEE PLAN.
2. FOR SLAB THICKNESS SEE PLAN (f'c = 5000psi)
3. TOP & BOTTOM REINFORCEMENT TO BE:
#4@10 CONT. E.W. FOR 6" & 8" SLAB U.O.N.
#5@10 BOTT. & #4@10 TOP CONT. E.W. FOR 10" SLAB U.O.N.
SEE PLAN FOR BOTT. & #4@10 TOP CONT. E.W. FOR 12" SLAB U.O.N.
4. ALL REINFORCEMENT TO BE EPOXY COATED.

TABLE 1

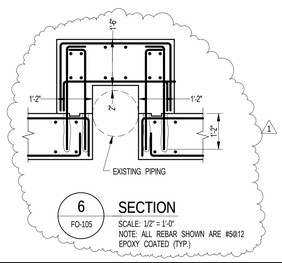
HEIGHT H	THICKNESS T	REINF. As (E. F.) HORIZ	REINF. As (E. F.) VERT.	REMARKS
UP TO 6'-0"	12"	#4@12	#4@12 V.E.F.	
6'-0" TO 7'-0"	12"	#4@12"	#5@10 V.O.F.+#4@12 V.I.F.	
7'-0" TO 8'-0"	12"	#4@12"	#5@9 V.O.F.+#4@12 V.I.F.	
8'-0" TO 9'-0"	12"	#4@12"	#6@9 V.O.F.+#5@12 V.I.F.	
9'-0" TO 10'-0"	14"	#4@12"	#6@8 V.O.F.+#5@12 V.I.F.	



2 FO-105 **SECTION**
SCALE: 1/2" = 1'-0"



5 FO-105 **SECTION**
SCALE: 1/2" = 1'-0"

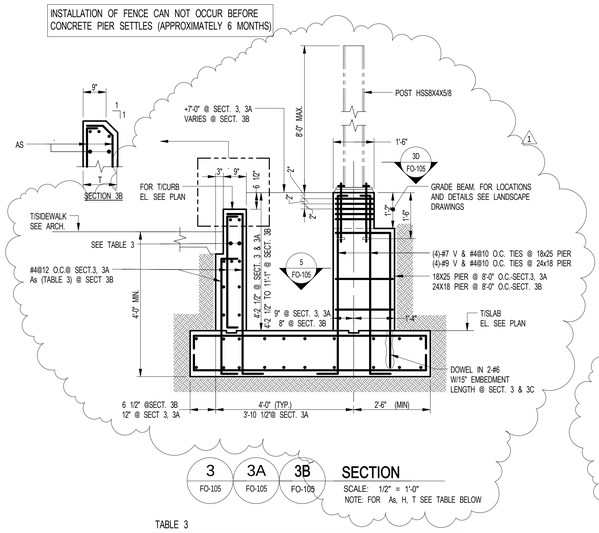


6 FO-105 **SECTION**
SCALE: 1/2" = 1'-0"
NOTE: ALL REBAR SHOWN ARE #5@12 EPOXY COATED (TYP.)

1 FO-105 **FENCE, RETENTION WALL**
SCALE: 1/8" = 1'-0"

NOTE:
1. SEE ARCH DRAWINGS FOR LOCATIONS OF FENCE.
2. TOP AND BOTTOM REINFORCEMENT TO BE : #6@12 CONT. E.W. FOR 18" .
FOR A60'L REINF. SEE PLAN.
3. ALL REINFORCEMENT TO BE EPOXY COATED

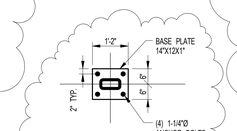
INSTALLATION OF FENCE CAN NOT OCCUR BEFORE CONCRETE PIER SETTLES (APPROXIMATELY 6 MONTHS)



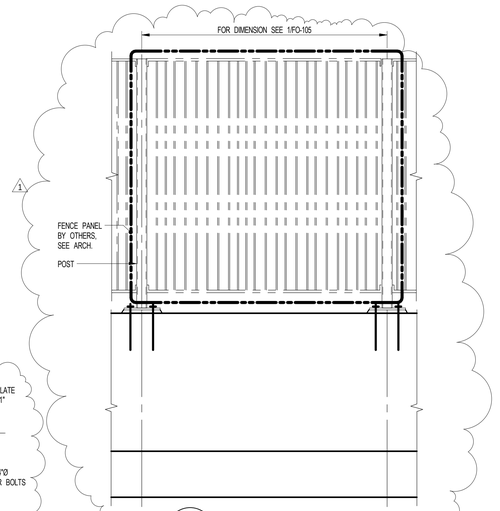
3 FO-105 3A FO-105 3B FO-105 **SECTION**
SCALE: 1/2" = 1'-0"
NOTE: FOR As, H, T SEE TABLE BELOW

TABLE 3

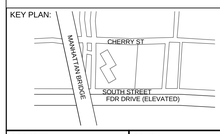
HEIGHT H	THICKNESS T	REINF. As (E. F.) HORIZ	REINF. As (E. F.) VERT	REMARKS
UP TO 5'-6"	9"	#4@16"	#4@10"	
6'-0" TO 7'-0"	12"	#4@16"	#5@12"	
7'-0" TO 8'-0"	12"	#4@16"	#6@12"	
8'-0" TO 9'-0"	16"	#4@12"	#6@12"	
9'-0" TO 11'-1"	16"	#4@12"	#6@10"	



3D FO-105 **DETAIL**
SCALE: 1/2" = 1'-0"



7 FO-105 **ELEVATION OF FENCE PANEL**
SCALE: 1/2" = 1'-0"

KEY PLAN:


PROJECT NORTH | TRUE NORTH

DEVELOPER:
EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

ARCHITECT OF RECORD:
AAI ARCHITECTS, P.C.
14 Wall Street, 2nd Floor
New York, NY 10005
TEL: 212-964-4040 FAX: 212-964-4090

INTERIOR DESIGNER:
MEYER DAVIS
180 Varick St, suite 404
New York, NY 10014
TEL: 212-627-5574

LANDSCAPE DESIGNER:
WEST 8 URBAN DESIGN & LANDSCAPE ARCHITECTURE P.C.
333 Hudson Street, Suite 905
New York, NY 10013
TEL: 212-285-0088 FAX: 212-285-0228

STRUCTURAL ENGINEERS:
WSP
228 East 45th Street
New York, NY 10017
TEL: 212-687-9888 FAX: 646-487-5501

MEP ENGINEERS:
ICOR ASSOCIATES, LLC
485 C Route 1 South, Suite 200
Iseline, NJ 08830
TEL: 908-272-3300 FAX: 908-272-4440

GEOTECHNICAL ENGINEERS:
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES
21 Penn Plaza - 360 West 31st Street, 8th Floor
New York, NY 10001
TEL: 212.479.5400 FAX: 212.479.5444

No.	DESCRIPTION:	DATE:
	ISSUED FOR FOUNDATION BID	07-25-14
	50% DD	08-01-14
	DESIGN DEVELOPMENT	10-07-14
	ISSUED FOR FOUNDATION BID	01-09-15
	ISSUED FOR FILING	07-28-15
	ADDENDUM #15	11-18-15
	ADDENDUM #16	02-04-16
	ASI #55	02-12-16
	ASI #56	02-19-16
	ASI #57	02-26-16
	ASI #58	03-04-16
	ISSUED FOR FILING	03-07-16
1	ASI #73	08-19-16

CONSULTANT:
WSP

PROJECT:
252 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
FENCE FOUNDATION PLAN AND DETAILS

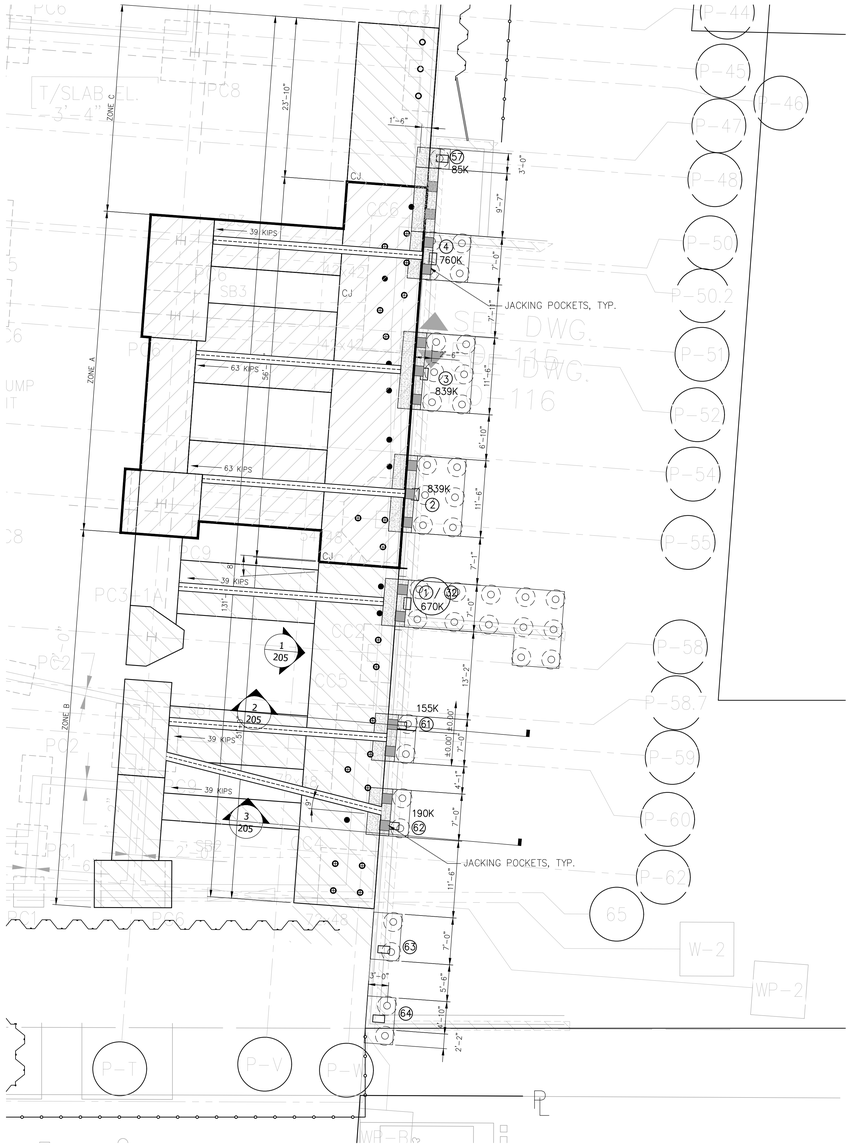
SEAL & SIGNATURE:
STATE OF NEW YORK — AHMAD RAHIMIAN — No. 085527 — LICENSED PROFESSIONAL ENGINEER

DATE: 07/25/14
PROJECT No: 1302510
DRAWN: CAD REV:
CHK: CL
SCALE: As indicated
DWG No: **FO-105.02**
DOB PAGE No: of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 09/23/2016
NYC Development Hub

DOB B-SCAN:

FILE NAME:
PLOT DATE:



1/101 PLAN
SCALE: 1/8"=1'-0"

SOE NOTES:

- WHILE LEAVING SOIL BERMED AGAINST ADJACENT BUILDING EXPOSURE. LOCALLY EXCAVATE FOR BACKSPAN PILE CAPS WITHIN "ZONE A", OR BUILDING LINES P50.2, P51, AND P55, ALONG PT.
- INSTALL RAKERS BETWEEN NEW PILE CAPS AND ADJACENT PILE CAPS AT COLUMNS 2, 3 AND 4.
- PROCEED WITH REMAINDER OF EXCAVATION FOR BUILDING LINE PILE CAPS AND GRADE BEAMS WITHIN "ZONE A" AND CONSTRUCT NEW .
- REPEAT SAME SEQUENCE FOR "ZONE B"
- COMPLETE OUT NEW WORK IN "ZONE C"

RAKERS TO REMAIN INSTALLED UNTIL AFTER COMPLETION OF ALL JACKING/SHIMMING/GROUTING OPERATION.

* TIMBER SHORING BOXES TO BE USED FOR SECTIONAL EXCAVATION, NOT SHOWN FOR CLARITY.

- ALL JACKING TO BE PERFORMED UPON COMPLETION OF NEW BUILDING CAP/KNEE WALLS, GRADE BEAMS AND BACK SPAN CAPS. SEE DWGS. BY WSP FOR ALL CONCRETE REINFORCEMENT.
- CONCRETE SHALL OBTAIN 70% OF DESIGN STRENGTH PRIOR TO JACKING.

LOADING SEQUENCE PROCEDURE:

1. USING A 2-JACK OR 3-JACK (200 TONS CAPACITY CYLINDERS EACH) SET UP, "DAISY CHAIN" SO THAT ALL CYLINDERS ARE TO BE LOADED FROM SAME PUMP SIMULTANEOUSLY.(EACH COLUMN/CAP TO BE LOADED SEPARATELY)
2. OPTICAL MONITORING PROGRAM SHALL BE ACTIVE DURING JACKING OPERATION.
3. TOTAL LOAD TO BE DEFINED AS 100% OF COLUMN LOAD INDICATED OR "P".
4. LOADING SHALL BE INCREMENTAL AS DEFINED BELOW. DOUBLE OR TRIPLE PAIRING OF JACK SET IS TO BE LOADED AT EACH COLUMN/CAP LOCATION INDIVIDUALLY. ONCE JACKING LOAD ACHIEVED AT EACH INCREMENT, DRIVE STEEL SHIMS TO HOLD/TRANSFER. REMOVE JACK SET AND MOVE TO THE NEXT COLUMN/CAP.
5. REPEAT INCREMENT LOAD AT COLUMN/CAP LOCATIONS AND SHIMMING. ALL COLUMN/CAP LOADING SHALL BE AT SAME INCREMENT STEP BEFORE PROCEEDING TO NEXT INCREMENT LOADING.
6. LOAD INCREMENT SHALL BE AS FOLLOWS:

   COLUMN 2- 0.33 P= 276.9 KIPS (138.4 TONS)

   COLUMN 1/32- 0.33P= 221.1 KIPS (110.6 TONS)

   COLUMN 3- 0.33P= 276.9 KIPS (138.4 TONS)

   COLUMN 4- 0.33P= 250.8 KIPS (125.4 TONS)

   COLUMN 61- 0.33P= 51.2 KIPS (25.6 TONS)

   COLUMN 62- 0.33P= 62.79 KIPS (31.4 TONS)

   COLUMN 2- 0.66P= 553.8 KIPS (276.8 TONS)

   COLUMN 1/32- 0.66P= 442.2 KIPS (221.2 TONS)

   COLUMN 3- 0.66P= 553.8 KIPS (276.8 TONS)

   COLUMN 4- 0.66P= 501.6 KIPS (250.8 TONS)

   COLUMN 61- 0.66P= 51.2 KIPS (25.6 TONS)

   COLUMN 62- 0.66P= 125.6 KIPS (62.8 TONS)

   COLUMN 2- 1.00P= 839 KIPS (419.4 TONS)

   COLUMN 1/32- 1.00P= 670 KIPS (335 TONS)

   COLUMN 3- 1.00P= 839 KIPS (419.4 TONS)

   COLUMN 4- 1.00P= 760 KIPS (380 TONS)

   COLUMN 61- 1.00P= 155 (72.5 TONS)

   COLUMN 62- 1.00P= 190 KIPS (80 TONS)

7. LOADING INCREMENTS MAY BE HALTED OR ADJUSTED BASED ON OBSERVED CONDITIONS IN FIELD.
8. UPON COMPLETION OF JACKING/SHIMMING OPERATION, CLOSE OUT JACK POCKETS AND VOID GAPS AROUND SHIMS W/ 8 KSI GROUT (NON SHRINK/ EXPANSIVE MIX, USE SIKA INTRAPLAST OR SIMILAR)

LEGEND:

- ● NEW 400 TON CAISSON
- ⊕ EXISTING 200 TON CAISSON

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
APPROVED WITH QUALIFICATION
Date: 03/08/2016
NYC Development Hub

NEW SHEET

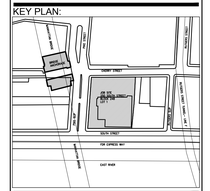
FNA associates, inc.
CONSULTING ENGINEERS
670 BERGEN BOULEVARD
RIDGEFIELD, NJ. 07657
O: 201-241-2444

227 CHERRY ST.-250 SOUTH ST.
NEW YORK, NY, 10018

No:	Revision:	Date:
12	DOB FILING	03-08-16
11	MBPD TO NAVD88 CONV.	01-13-15
10	D.O.B. RESUBMISSION	12-09-14
9	DESIGN REVISIONS	11-21-14
8	DESIGN REVISIONS	11-03-14
7	DESIGN REVISIONS	10-24-14
6	DESIGN REVISIONS	09-23-14
5	D.O.B. COMMENTS	08-04-14
4	T.A. COMMENTS	07-16-14
3	DESIGN UPDATE	07-09-14

N
SCALE: AS NOTED

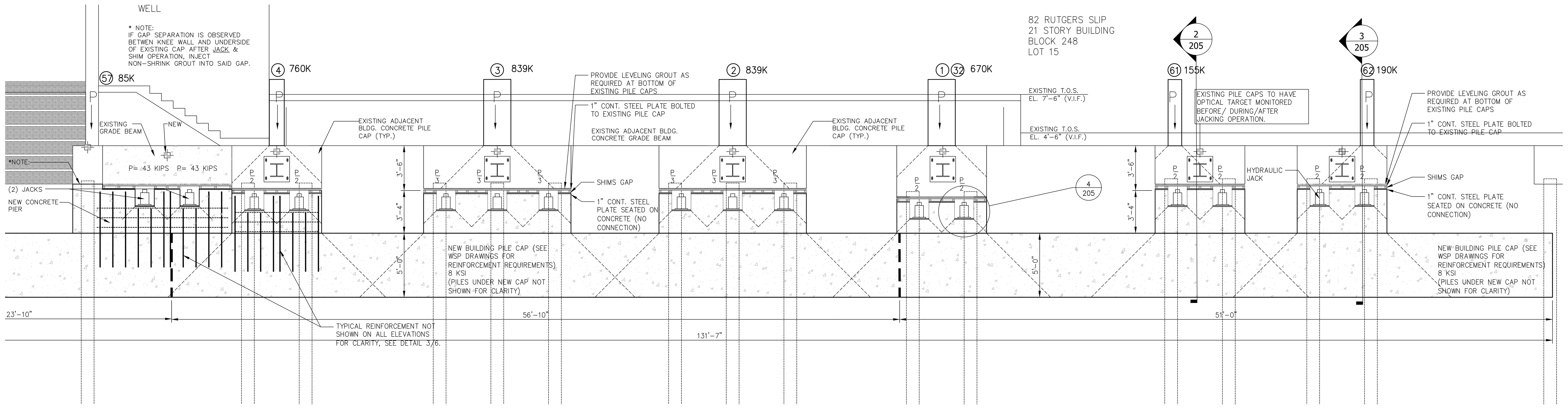
KEY PLAN:



DRAWING TITLE:
SUPPLEMENTARY SUPPORT OF ADJACENT BUILDING ADJOINING PILE CAPS

SEAL

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-101.00



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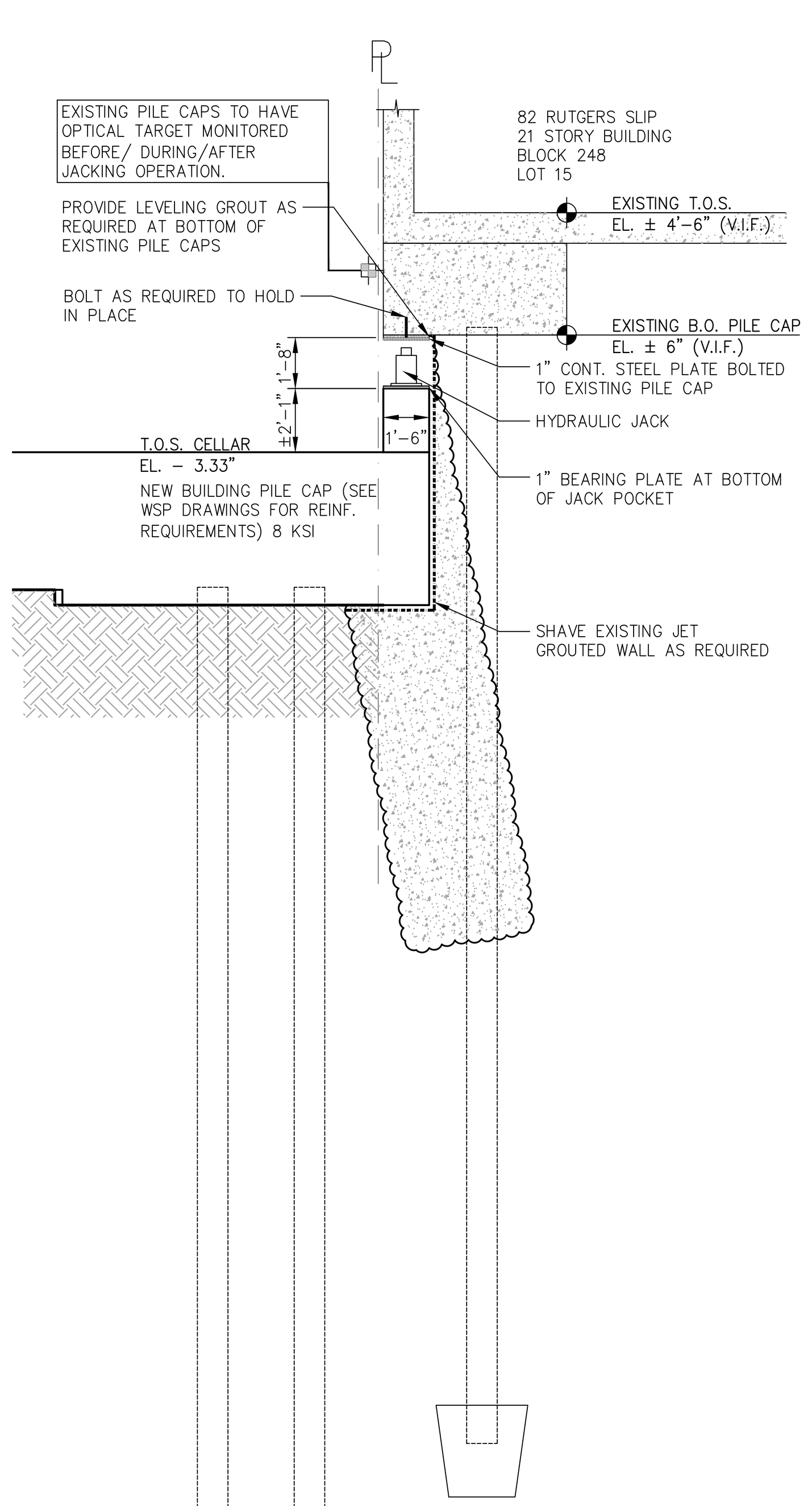

2/205 SECTION
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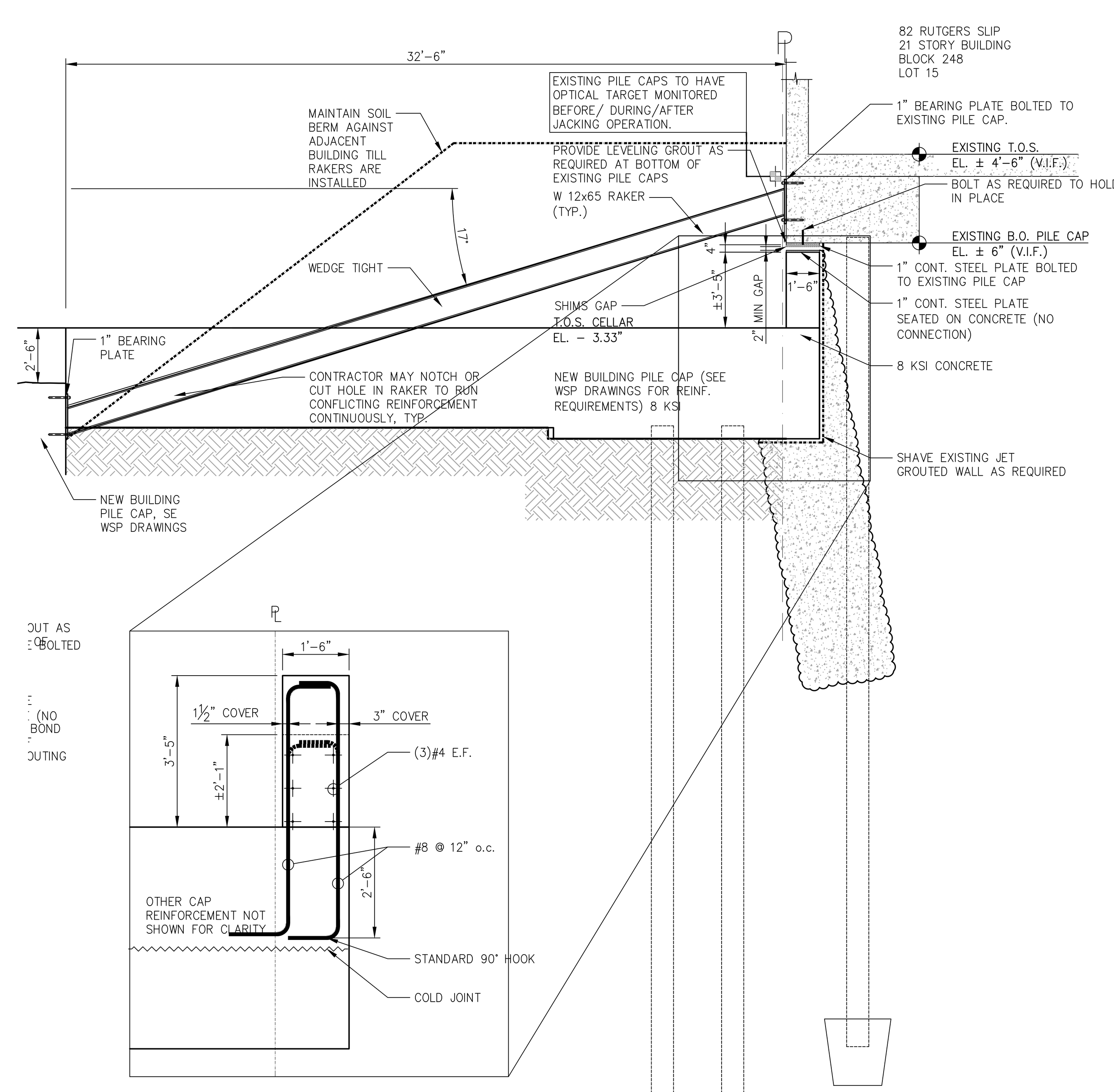

3/205 SECTION
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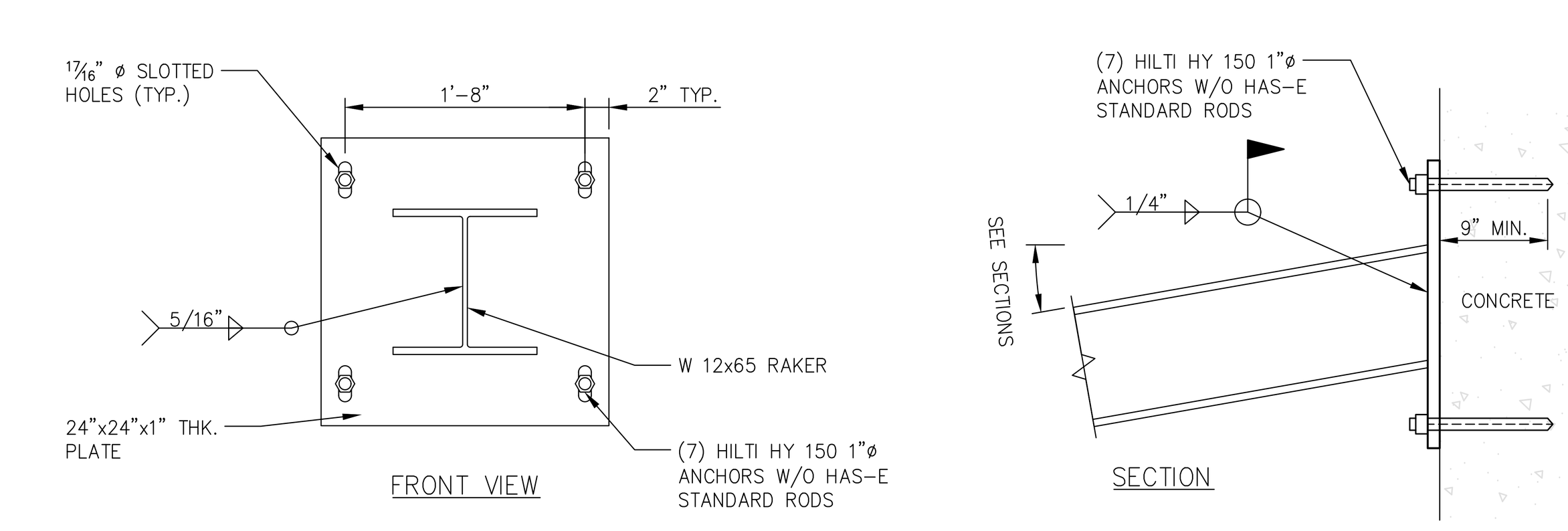
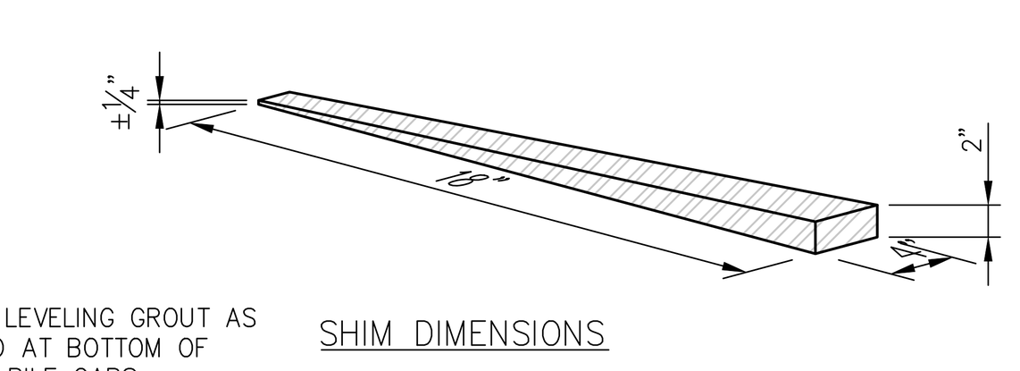
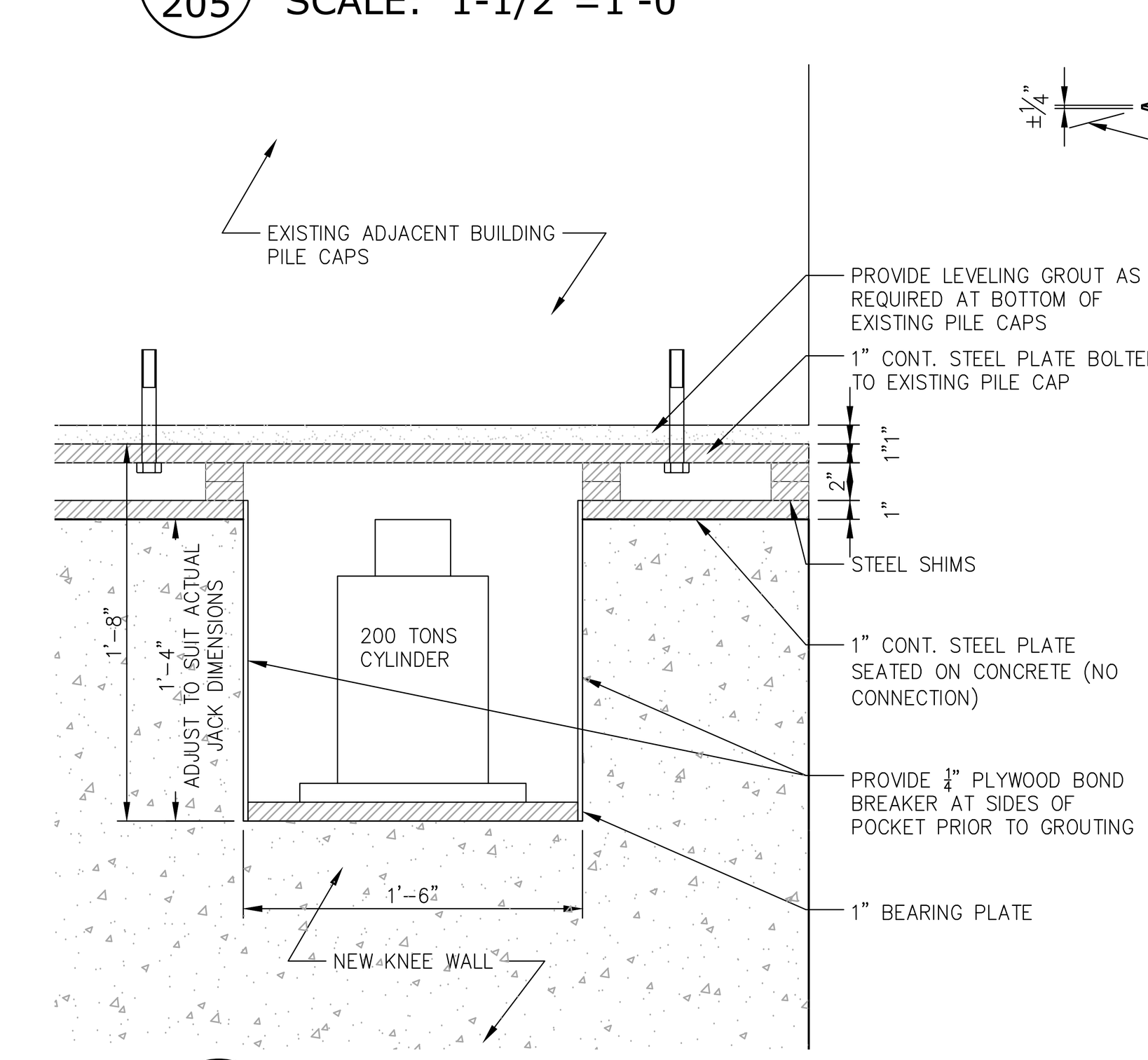


5/205 HEEL PLATE
SCALE: 1-1/2"=1'-0"





4/205 DETAIL
SCALE: 1-1/2"=1'-0"

GENERAL NOTES:

1.– ALL PLATES SHOWN A36
2.– CONCRETE FOR KNEE WALL TO MATCH NEW CAISSON CAP.
3.– ALL REBAR SHOWN Fy= 60 KSI

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 03/08/2016
NYC Development Hub

NEW SHEET

FNA associates, inc.
CONSULTING ENGINEERS
670 BERGEN BOULEVARD
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227 CHERRY ST.-250 SOUTH ST.
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No:	Revision:	Date:
12	DOB FILING	03-08-16
11	MBPD TO NAVD88 CONV.	01-13-15
10	D.O.B. RESUBMISSION	12-09-14
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7	DESIGN REVISIONS	10-24-14
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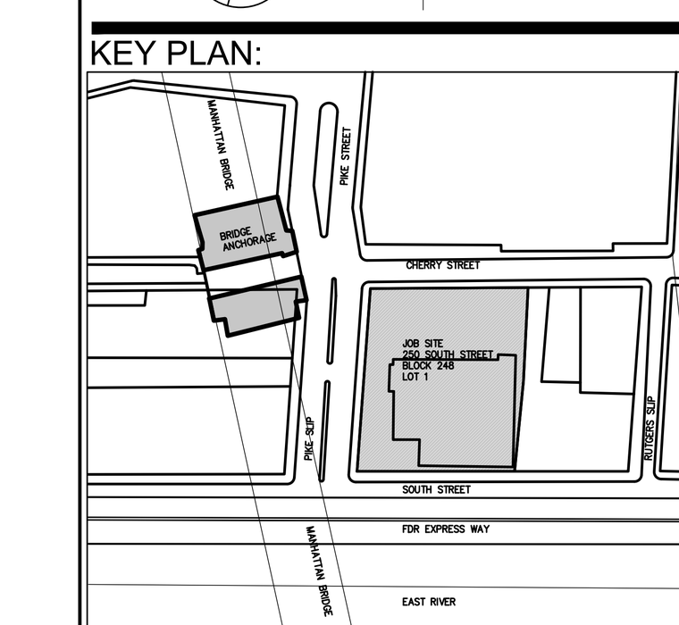
5	D.O.B. COMMENTS	08-04-14
4	T.A. COMMENTS	07-16-14
3	DESIGN UPDATE	07-09-14

N
SCALE: AS NOTED

KEY PLAN:



DRAWING TITLE:
SUPPLEMENTARY SUPPORT OF ADJACENT BUILDING ADJOINING PILE CAPS

SEAL
STATE OF NEW YORK
LICENSED PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-205.00
10 OF 11

1/5 PLAN
SCALE: 1/8"=1'-0"

SOE NOTES:

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LEGEND:

- ● NEW 400 TON CAISSON
- ⊕ EXISTING 200 TON CAISSON

Damian Titus
NYC Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 08/03/2015
NYC Development Hub

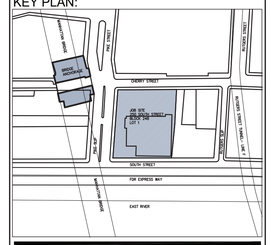
FNA associates, inc. CONSULTING ENGINEERS
670 BERGEN BOULEVARD
RIDGEFIELD, NJ. 07657
O: 201-241-2444

227 CHERRY ST.-250 SOUTH ST.
NEW YORK, NY, 10018

No:	Revision:	Date:
4	ENG. COMMENTS	07-28-15
3	ENG. COMMENTS	07-21-15
2	ENG. COMMENTS	07-16-15
1	FOR REVIEW	07-17-15

N
SCALE: AS NOTED

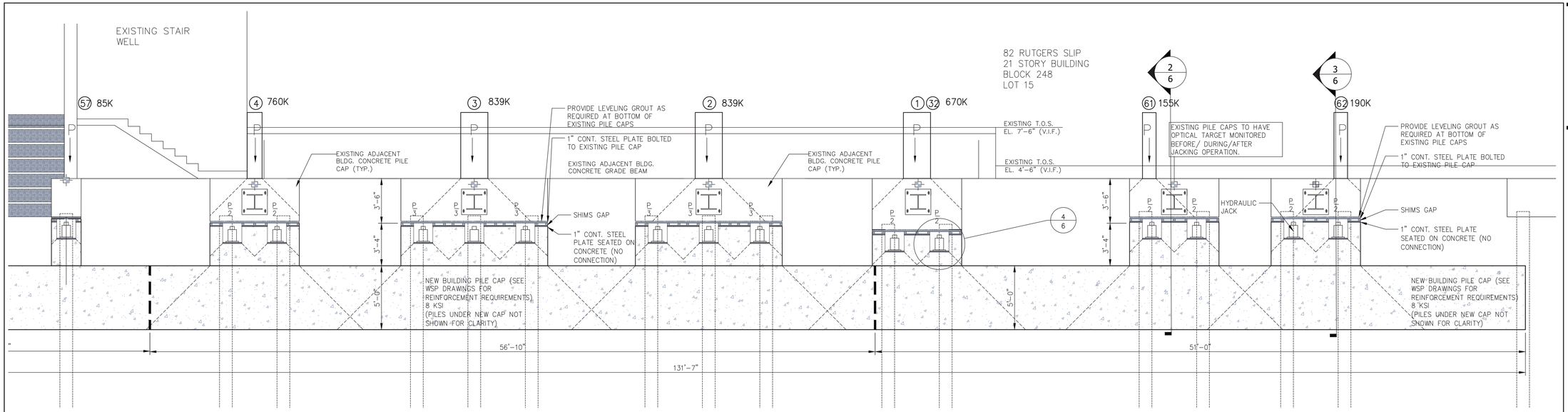
KEY PLAN:



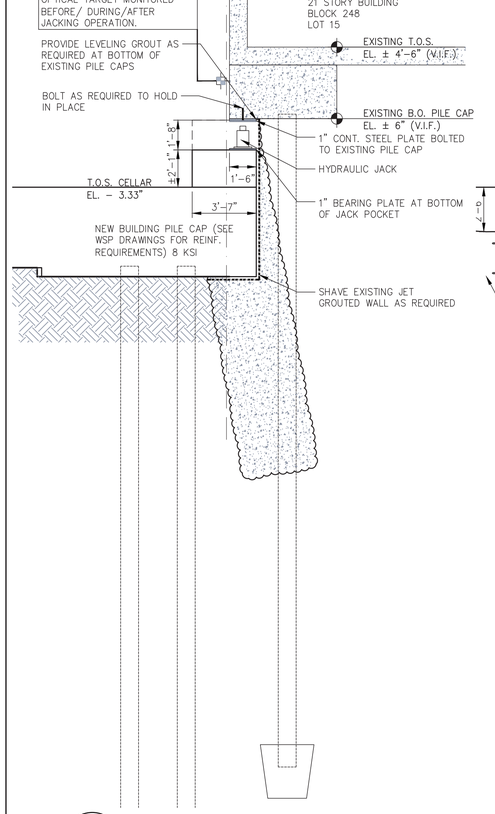
DRAWING TITLE:
SUPPLEMENTARY SUPPORT OF ADJACENT BUILDING ADJOINING PILE CAPS

SEAL

Date: 07-06-15
PROJECT No: 13046
Drawn By: AO/GD
DWG. No: SK-005
1 OF 1



1/6 ELEVATION
SCALE: 1/4"=1'-0"



2/6 SECTION
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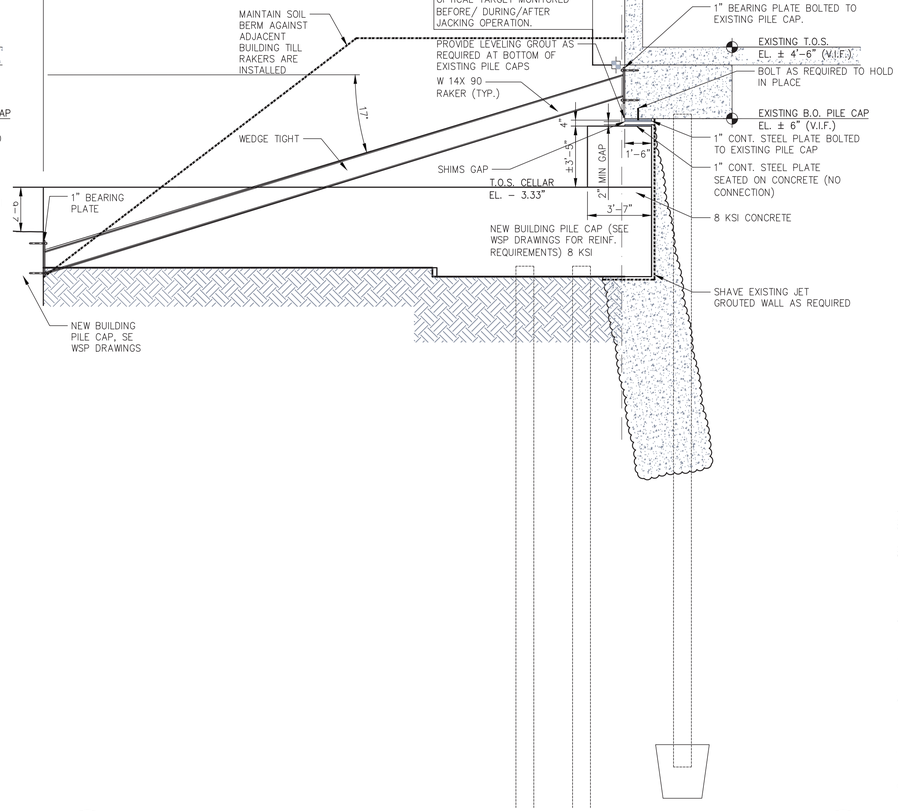

3/6 SECTION
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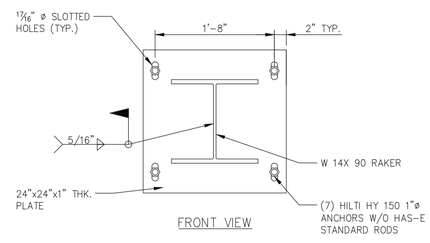

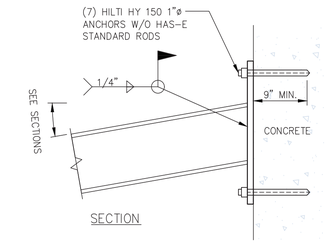

5/6 HEEL PLATE
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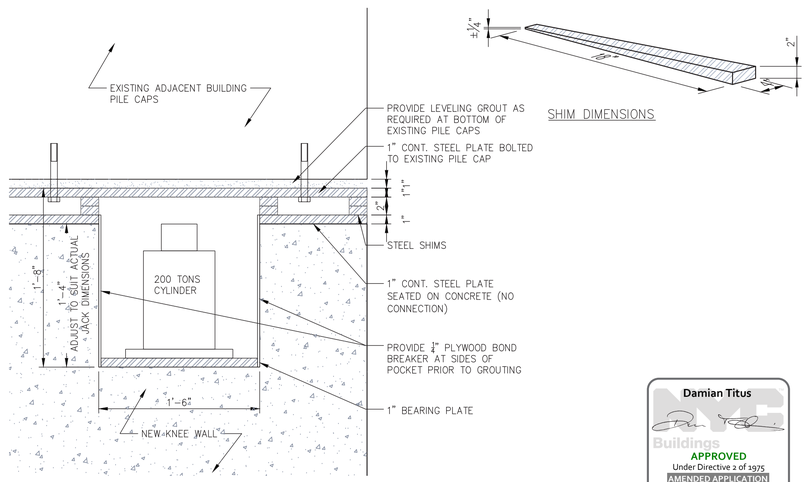

4/6 DETAIL
SCALE: 1-1/2"=1'-0"

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 08/03/2015
NYC Development Hub

FNA associates, inc.
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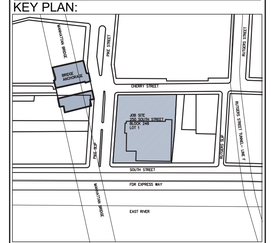
670 BERGEN BOULEVARD
RIDGEFIELD, NJ. 07657
O: 201-241-2444

227 CHERRY ST.-250 SOUTH ST.
NEW YORK, NY, 10018

No:	Revision:	Date:
4	ENG. COMMENTS	07-28-15
3	ENG. COMMENTS	07-21-15
2	ENG. COMMENTS	07-16-15
1	FOR REVIEW	07-06-15

N
SCALE: AS NOTED

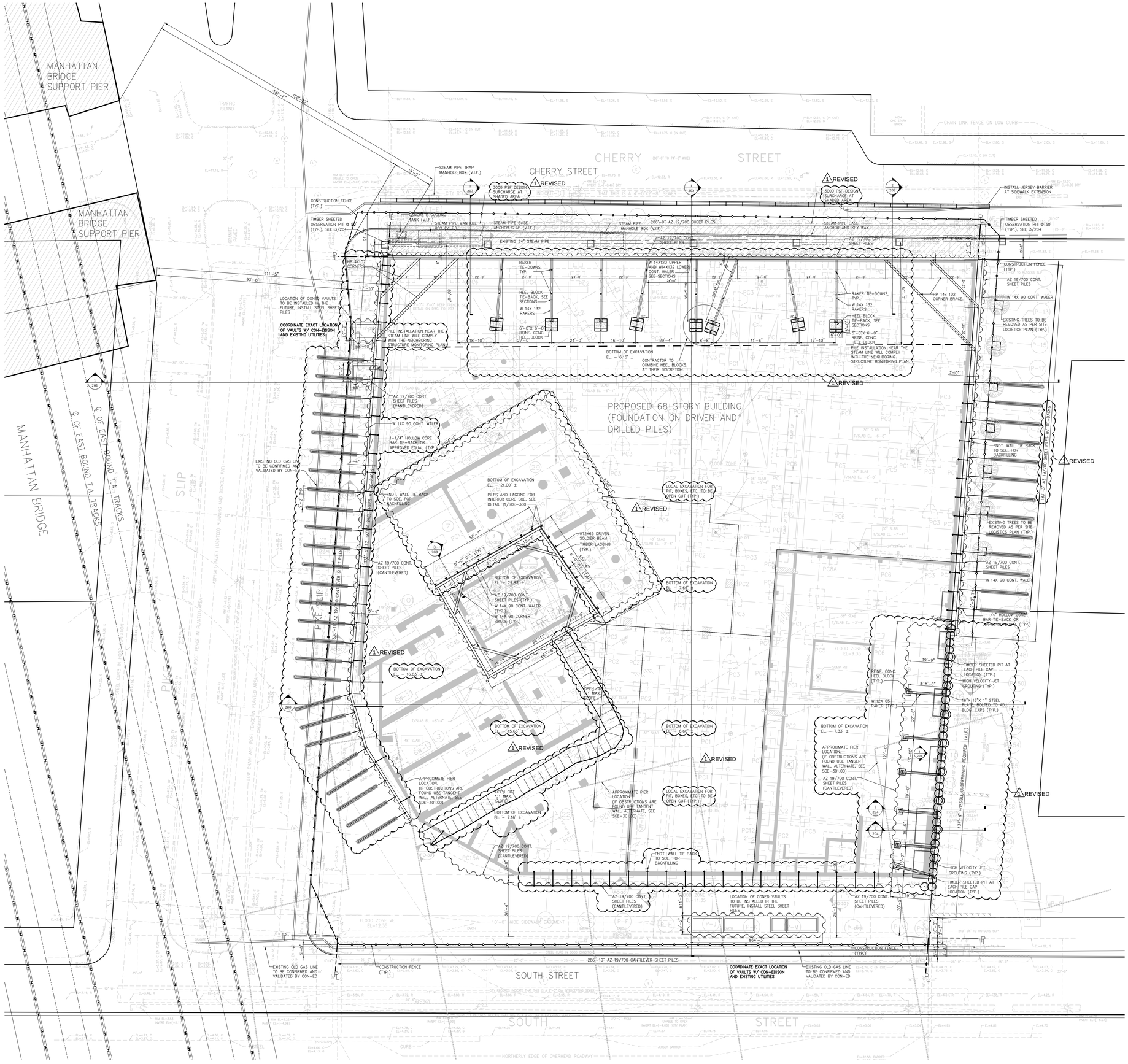
KEY PLAN:



DRAWING TITLE:
SUPPLEMENTARY SUPPORT OF ADJACENT BUILDING ADJOINING PILE CAPS

SEAL

Date: 07-06-15
PROJECT No: 13046
Drawn By: GD
DWG. No: SK-006
2 OF 2



1/100 SUPPORT OF EXCAVATIONPLAN
SCALE: 1/16"=1'-0"

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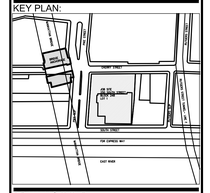
No:	Revision:	Date:
10	D.O.B. RESUBMISSION	12-09-14
9	DESIGN REVISIONS	11-21-14
8	DESIGN REVISIONS	11-03-14
7	DESIGN REVISIONS	10-24-14
6	DESIGN REVISIONS	09-23-14
5	D.O.B. COMMENTS	08-04-14
4	T.A. COMMENTS	07-16-14
3	DESIGN UPDATE	07-09-14
2	T.A. COMMENTS	05-30-14
1	T.A. FILING	04-03-14

N
SCALE: AS NOTED

KEY PLAN:

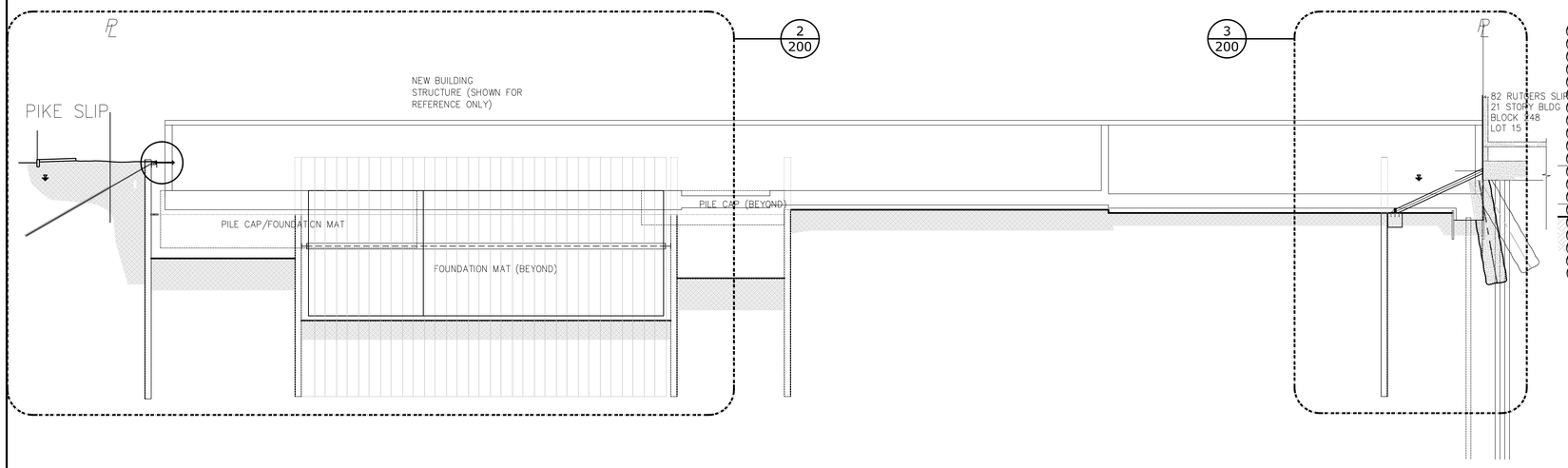


DRAWING TITLE:
SUPPORT OF EXCAVATION PLAN

Damian Titus
DOB Buildings APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 01/15/2015
NYC Development Hub

SEAL

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-100.01
3 OF 9



1/200 SECTION
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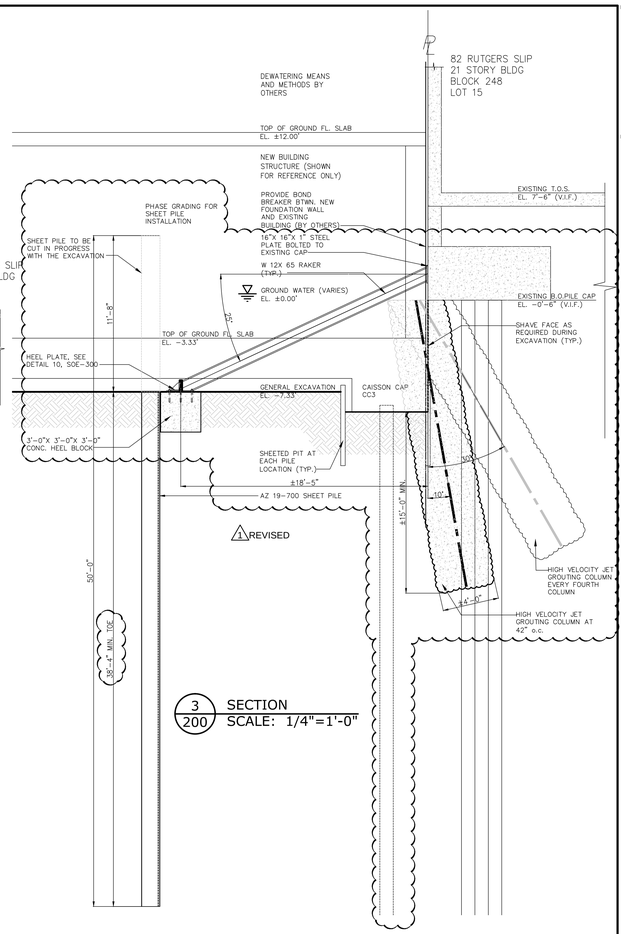

3/200 SECTION
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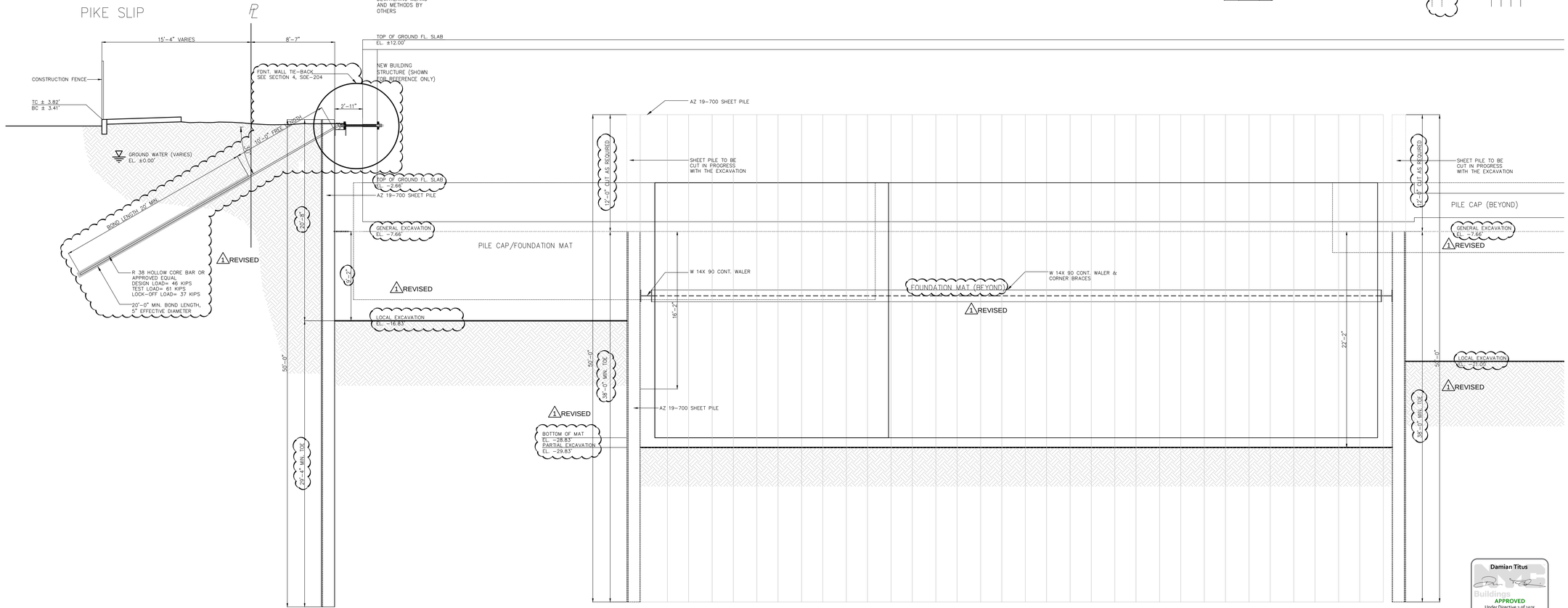

2/200 SECTION
SCALE: 1/4"=1'-0"

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 01/15/2015
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No:	Revision:	Date:
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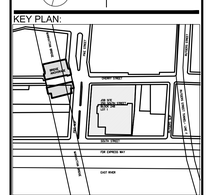
5	D.O.B. COMMENTS	08-04-14
4	T.A. COMMENTS	07-16-14
3	DESIGN UPDATE	07-09-14
2	T.A. COMMENTS	05-30-14
1	T.A. FILING	04-03-14

SCALE: AS NOTED

KEY PLAN:



DRAWING TITLE:
SOE SECTIONS

SEAL

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-200.01

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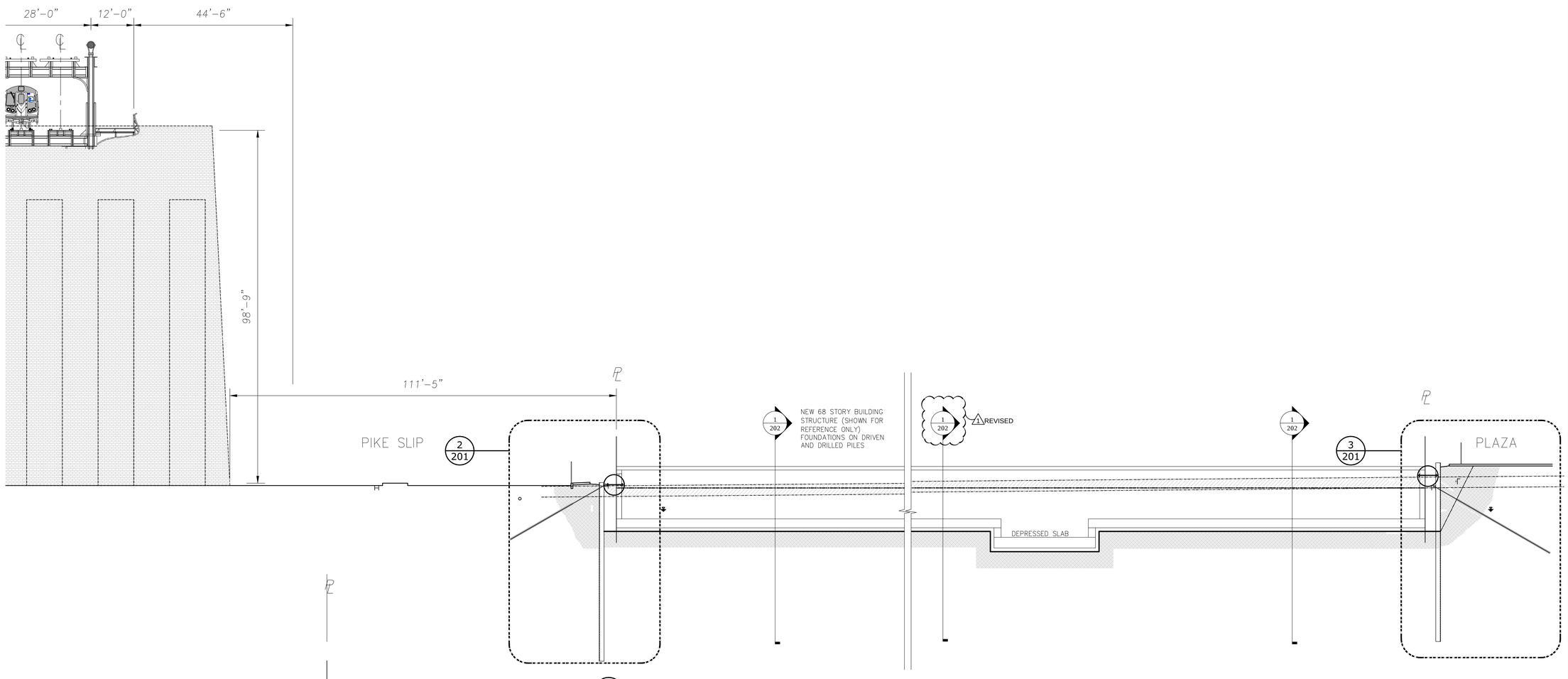

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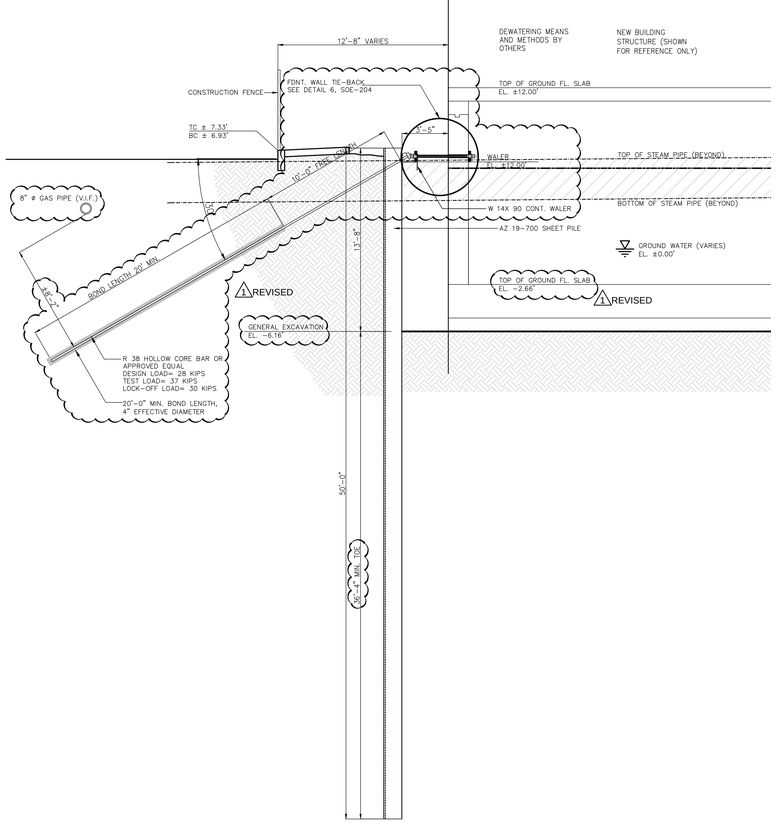

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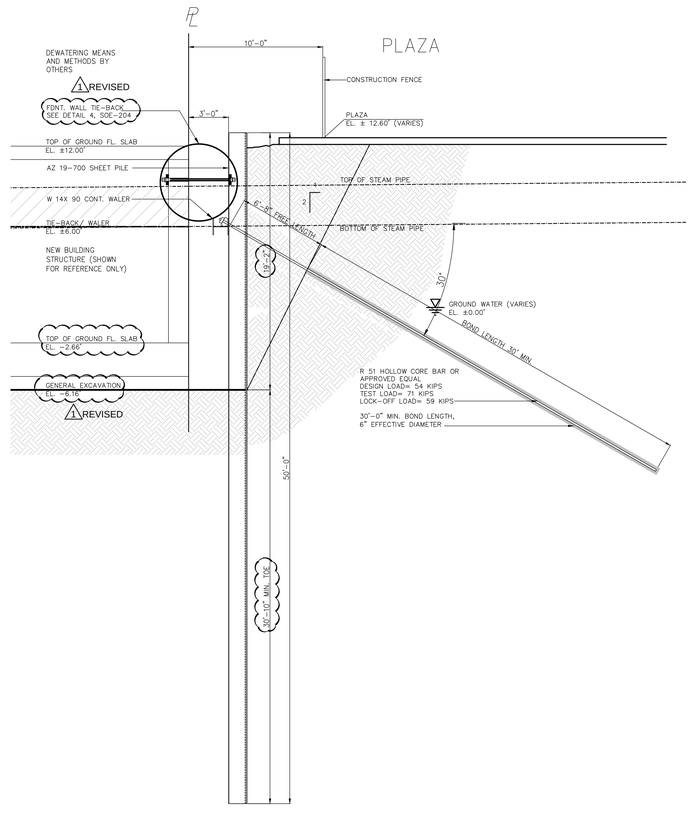

3/201 SECTION
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10	D.O.B. RESUBMISSION	12-09-14
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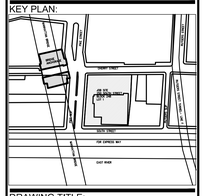
N
SCALE: AS NOTED

KEY PLAN:



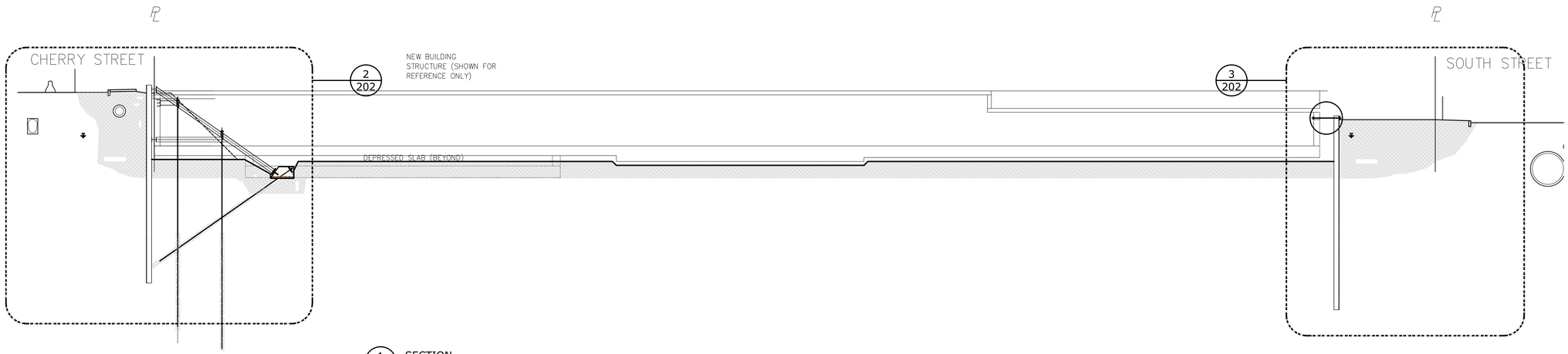
DRAWING TITLE:
SOE SECTIONS

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975,
AMENDED APPLICATION
Date: 01/15/2015
NYC Development Hub

SEAL

Date	11-08-13
PROJECT No:	13046
Drawn By:	GD
DWG. No:	SOE-201.01

5 OF 9



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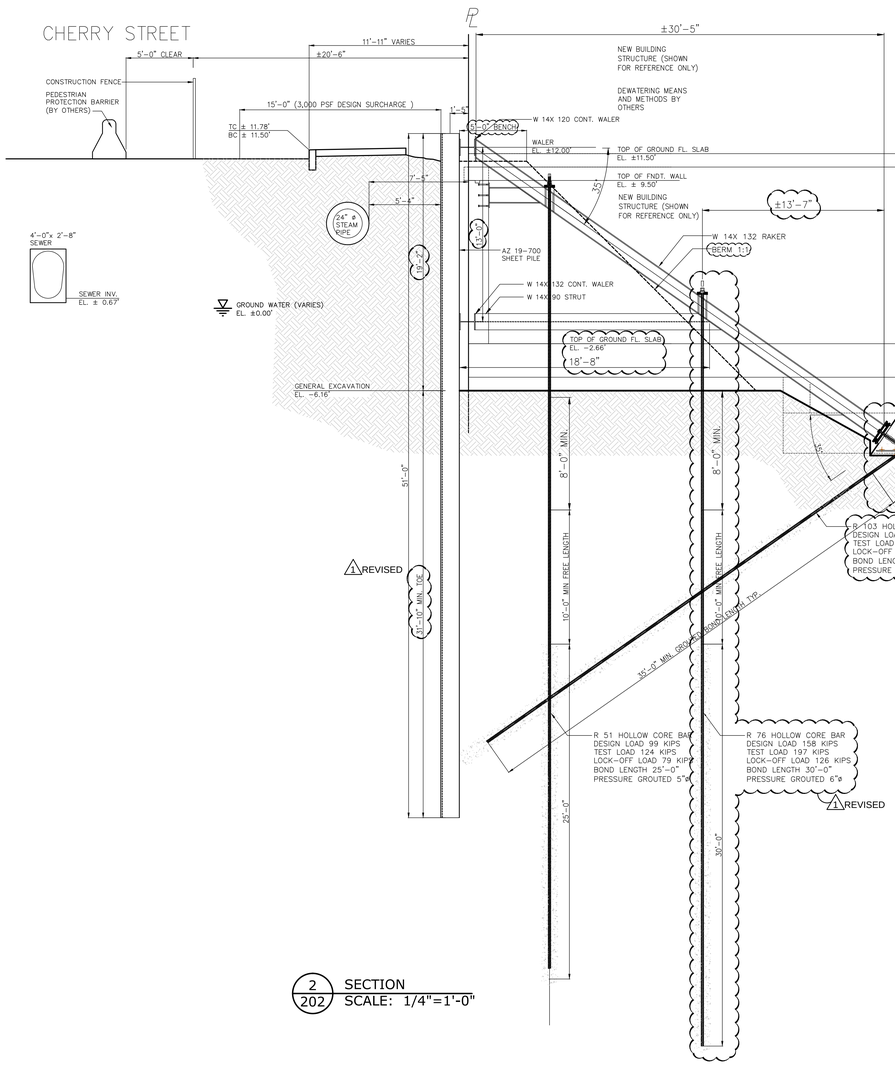

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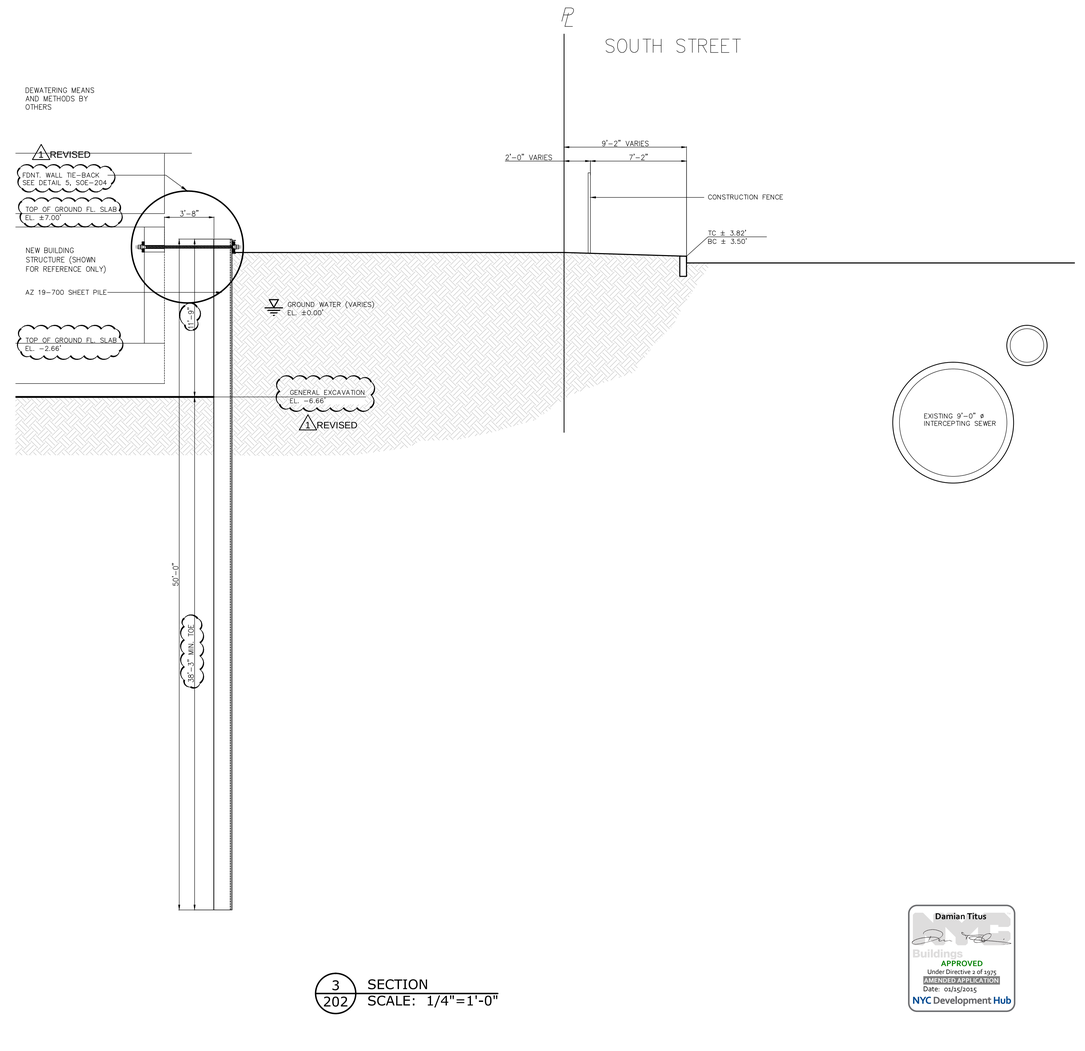

3 / 202 SECTION
SCALE: 1/4"=1'-0"

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 01/15/2015
NYC Development Hub

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227 CHERRY ST.-250 SOUTH ST.
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No:	Revision:	Date:
10	D.O.B. RESUBMISSION	12-09-14
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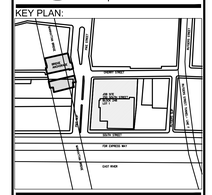
2	T.A. COMMENTS	05-30-14
1	T.A. FILING	04-03-14

N
SCALE: AS NOTED

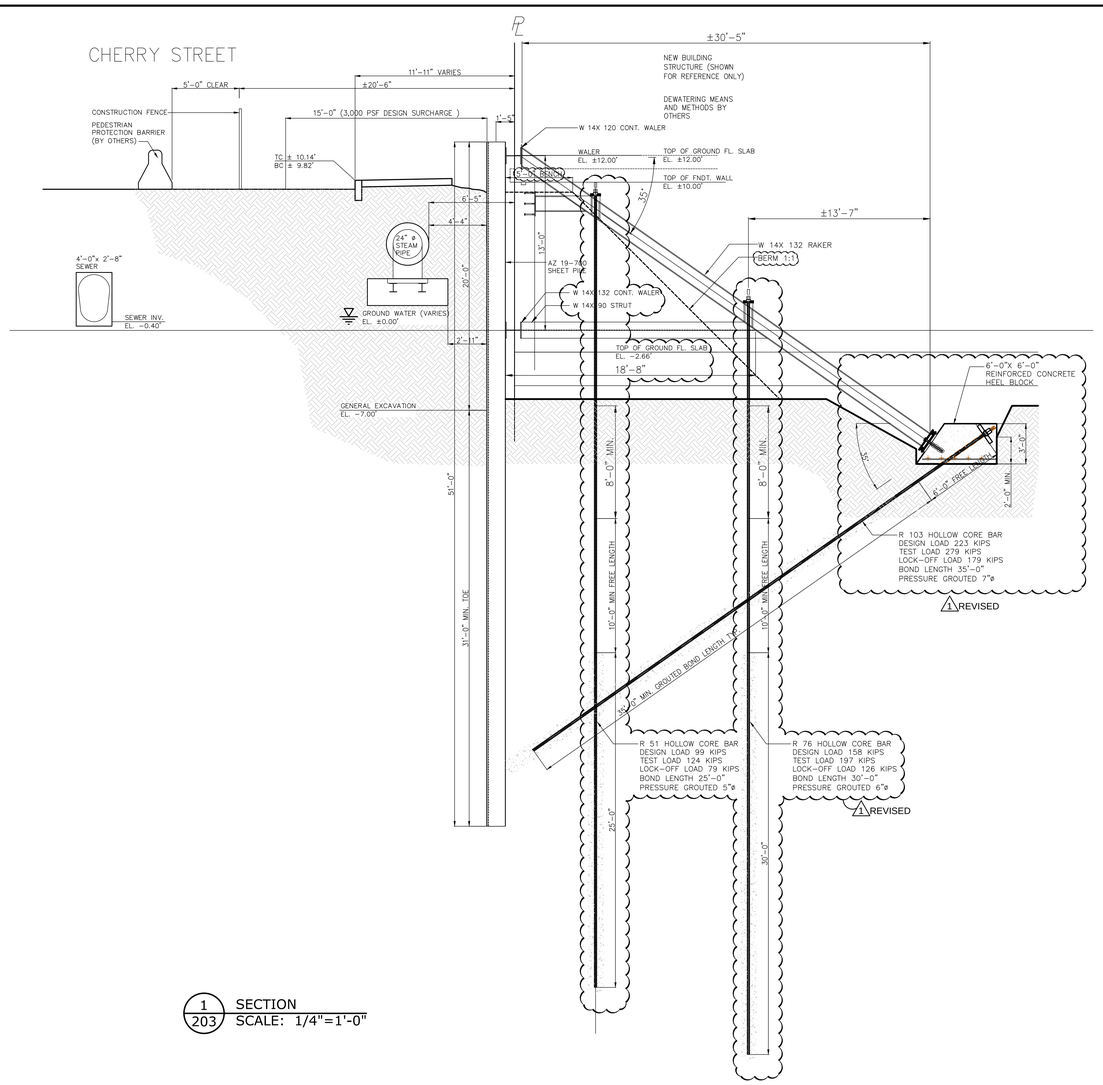
KEY PLAN:



DRAWING TITLE:
SOE SECTIONS

SEAL: STATE OF NEW YORK · QUANTIFICATION · PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-202.01
6 OF 9



1/203 SECTION
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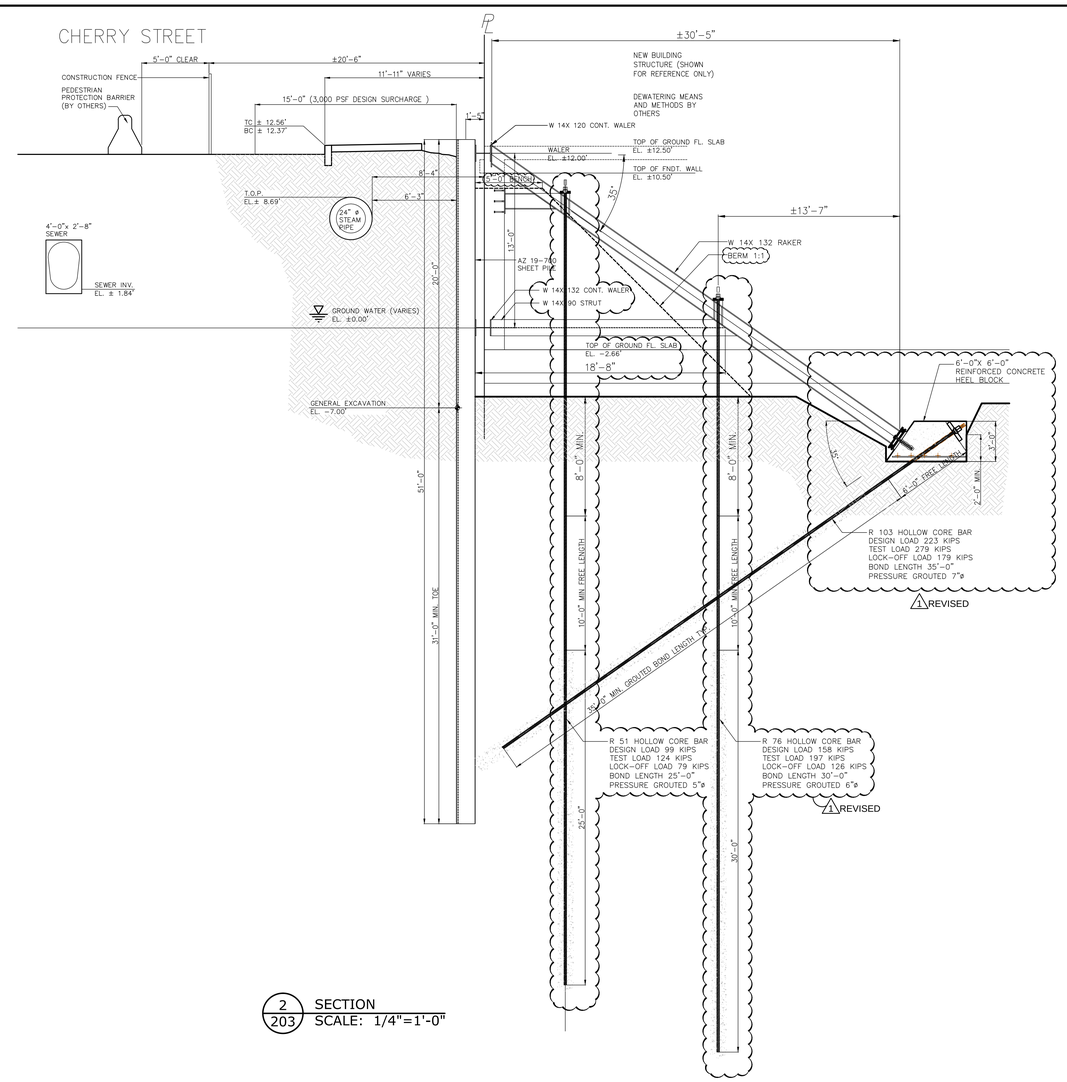
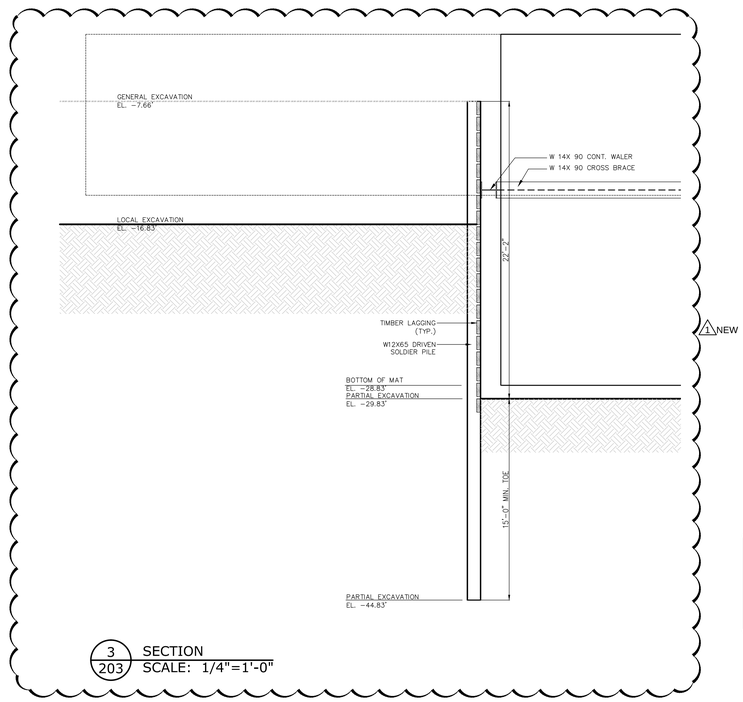


2/203 SECTION
SCALE: 1/4"=1'-0"

CONSTRUCTION SEQUENCE AT CHERRY ST. SIDE:

1. INSTALL VIBRATION MONITORS ON STEAM PIPE (REFER TO MONITORING PLAN BY LANGAN).
2. INSTALL CONSTRUCTION FENCE AND PEDESTRIAN PROTECTION..
3. INVESTIGATE EXISTING STEAM PIPE STRUCTURE AND LOCATION BY EXCAVATING OBSERVATION TIMBER SHEETED PIT AT 50 FEET. INTERVALS MAX. ALONG STEAM PIPE PROFILE, SEE DETAILS.
4. INVESTIGATE EXISTING UTILITIES ALONG CHERRY STREET. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO START OF EXCAVATION.
5. LAY-OUT SHEET PILE WALL PROFILE AS SHOWN ON DWG. PERFORM PRE-TRENCH EXCAVATION TO INITIALLY REMOVE DEBRIS TO ALLOW FREE INSTALLATION.
6. PRE-TRENCH EXCAVATION SHALL BE PERFORMED IN SECTIONS, NO MORE THAT 20 FEET IN LENGTH AND NO DEEPER THAT ADJACENT STEAM LINE.
7. BACK FILL TRENCH WITH CLEAN SAND FILL.
8. INSTALL SHEET PILES AT THE PREPARED AREA USING A HIGH FREQUENCY, VARIABLE SPEED VIBRATORY HAMMER.



3/203 SECTION
SCALE: 1/4"=1'-0"

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
EXTENDED APPLICATION
Date: 01/15/2015
NYC Development Hub

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227 CHERRY ST.-250 SOUTH ST.
NEW YORK, NY, 10018

No:	Revision:	Date:
10	D.O.B. RESUBMISSION	12-09-14
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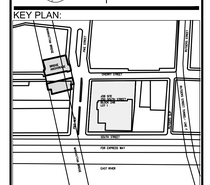
SCALE: AS NOTED

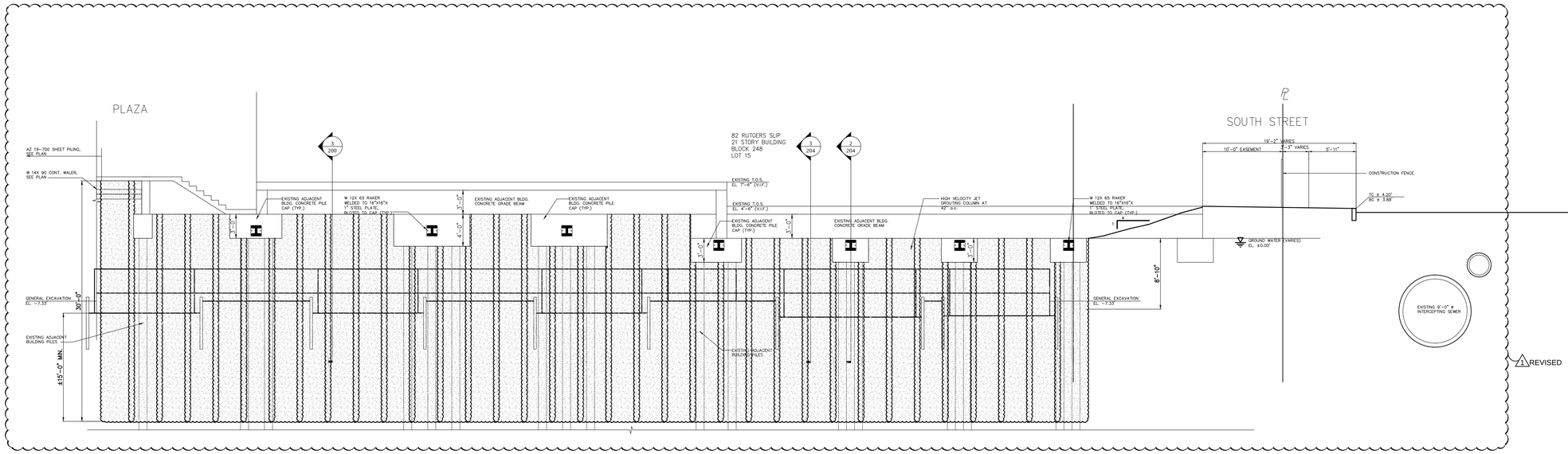
KEY PLAN:



DRAWING TITLE:
SOE SECTIONS

SEAL

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-203.01
7 OF 9



1/204 ELEVATION
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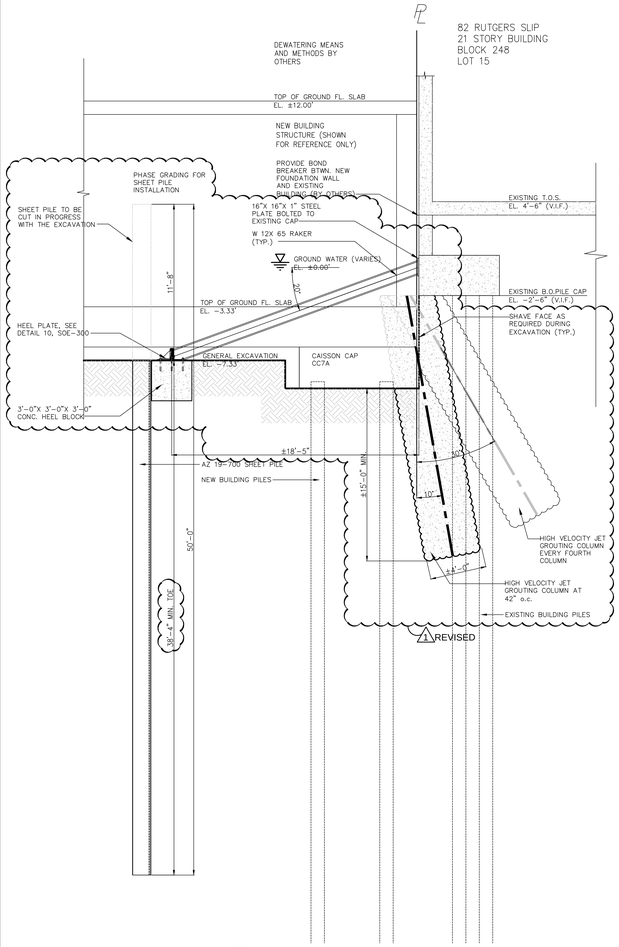

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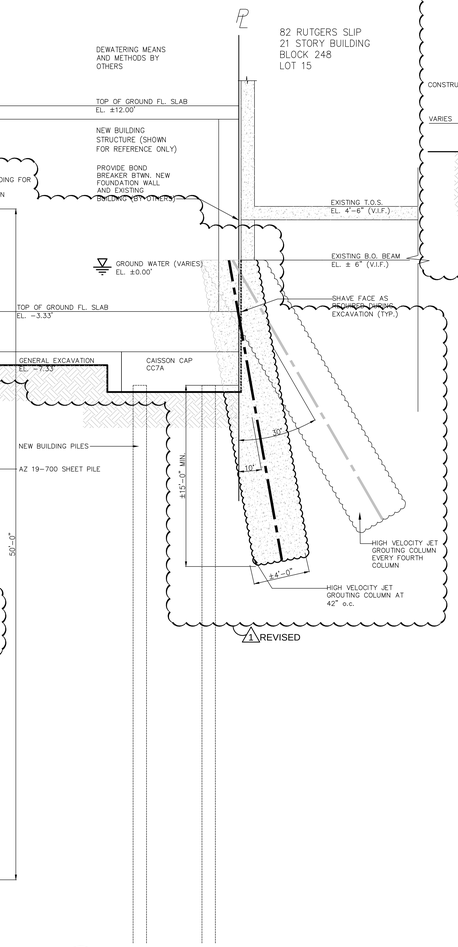

3/204 SECTION
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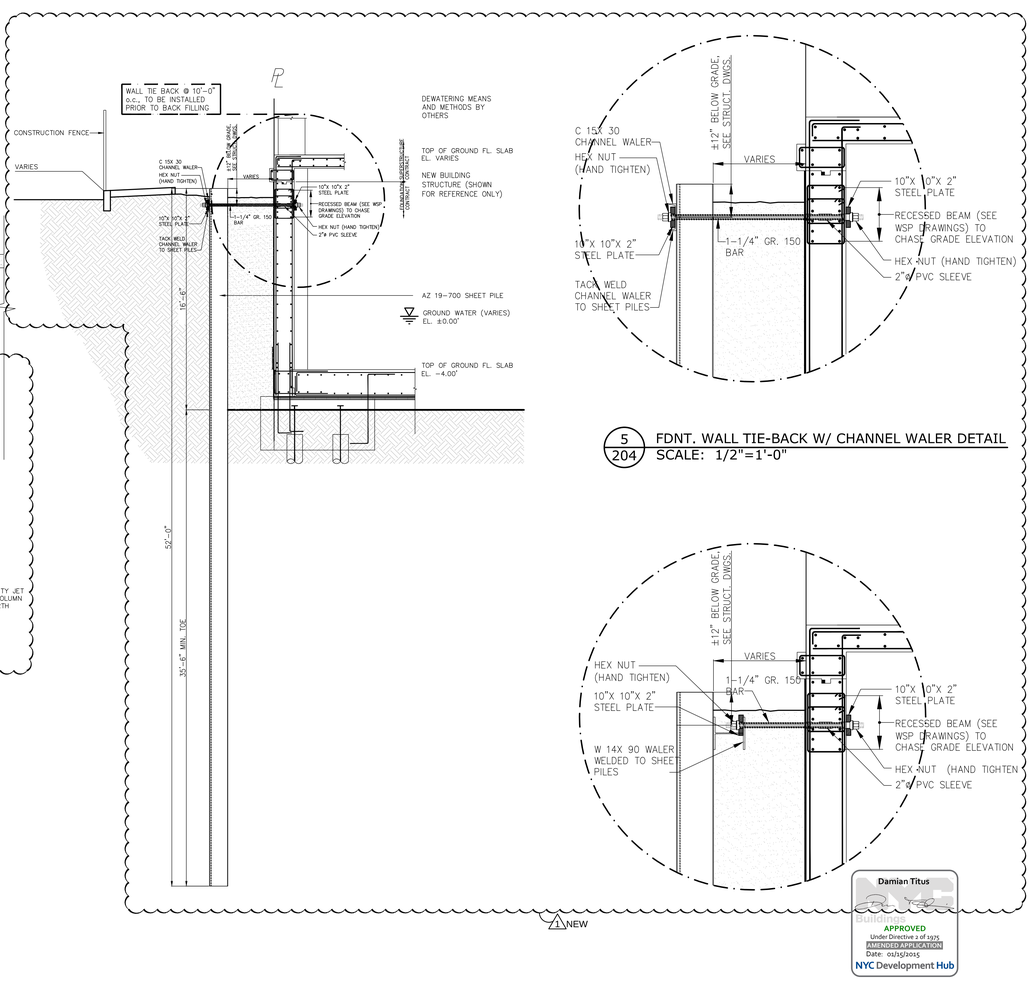

4/204 SECTION
SCALE: 1/4"=1'-0"

5/204 FDNT. WALL TIE-BACK W/ CHANNEL WALER DETAIL
SCALE: 1/2"=1'-0"

6/204 FDNT. WALL TIE-BACK W/ WALER DETAIL
SCALE: 1/2"=1'-0"

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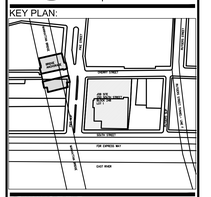
2	T.A. COMMENTS	05-30-14
1	T.A. FILING	04-03-14

N
SCALE: AS NOTED

KEY PLAN:

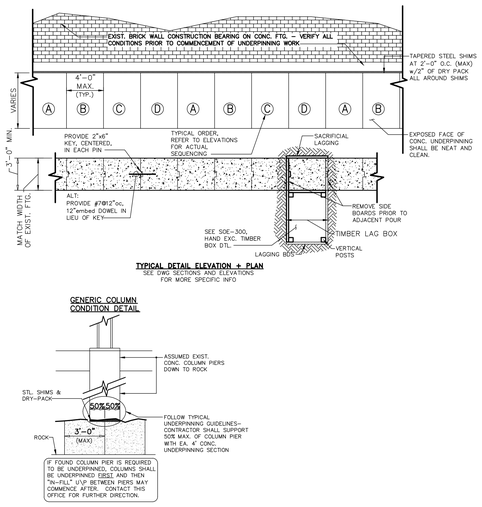


DRAWING TITLE:
SOE ELEVATIONS

Damian Titus
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 01/15/2015
NYC Development Hub

SEAL
STATE OF NEW YORK
DAMIAN TITUS
LICENSED PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-204.01
8 OF 9



TYPICAL DETAIL ELEVATION + PLAN
SEE CWG SECTIONS AND ELEVATIONS FOR MORE SPECIFIC INFO

GENERAL COLUMN CONDITION DETAIL

GENERAL UNDERPINNING NOTES

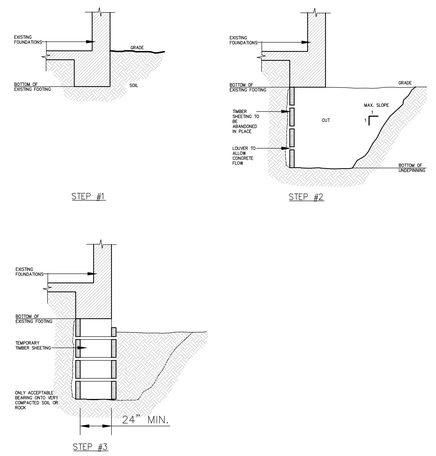
1. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT PROVISIONS OF THE NYC BUILDING CODE.
2. ALL FOUNDATIONS AND EARTHWORK OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NYC BUILDING CODE. ALL LOTS, BUILDINGS AND SERVICES ADJOINING THE FOUNDATION AND EARTHWORK AREAS SHALL BE PROTECTED AND PROPERLY SUPPORTED.
3. ALL TEST PITS, BORINGS, EXCAVATION WORK AND UNDERPINNING OPERATIONS ARE SUBJECT TO CONTROLLED INSPECTIONS.
4. 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.
5. 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.
6. ALL ADJACENT PROPERTIES, INCLUDING BUT NOT LIMITED TO EXTERIOR WALLS AND FOOTINGS ARE TO BE OBSERVED BY THE ENGINEER OF RECORD AND ENGINEER RESPONSIBLE FOR THE CONTROLLED INSPECTIONS PRIOR TO WORK COMMENCING.
7. THE CONTRACTOR SHALL REQUEST PERMISSION TO ENTER BUILDINGS DIRECTLY ADJACENT TO THE AREAS OF PROPOSED UNDERPINNING.
8. 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 ADJOINING LOTS, BUILDINGS AND SERVICE FACILITIES, WHOM MAY BE AFFECTED BY THE PROPOSED FOUNDATION WORK OR EARTHWORK OPERATIONS.
9. 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.
10. 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.
11. DO NOT PLACE BACKFILL AGAINST NEW UNDERPINNING WALLS UNTIL CONFIRMED BY THE CYLINDER TEST, OR 96 HOURS.
12. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
13. ALL GROUT SHALL BE NONSHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
14. ALL DRYPACK SHALL BE A MIXTURE OF 1 PART CEMENT AND 2 PARTS DAMP SAND, WITH 0-INCH SLUMP.
15. ALL UNDERPINNING SHEETING AND BRACING TO REMAIN SHALL BE PRESSURE TREATED LUMBER AND/OR OTHER APPROVED MATERIAL.
16. 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.
17. IF WATER IS ENCOUNTERED IN THE PIT, PROVIDE LOCAL PUMPING TO REMOVE WATER FROM THE PIT.
18. ALL SIDES OR SLOPES OF EXCAVATIONS OR EMBANKMENTS SHALL BE INSPECTED AFTER RAINSTORMS.
19. 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.

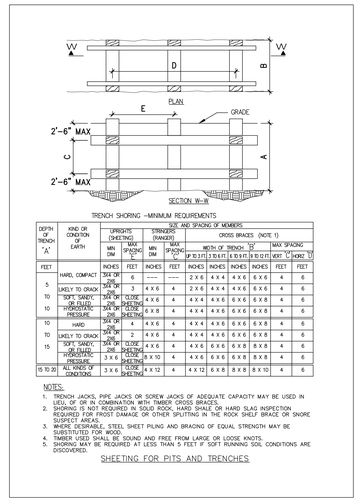
UNDERPINNING NOTES & PROCEDURES

1. 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.
2. 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.
3. THE CONTRACTOR SHALL INSTALL ADEQUATE LATERAL BRACING SYSTEM(S) TO PREVENT MOVEMENT IN THE EXISTING STRUCTURE(S) AND IN THE NEW UNDERPINNING IF NECESSARY.
4. 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 SOLID 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.

4A. ALTERNATE TO #4: "HIGH-POUR METHOD" - POUR NEW CONCRETE UNDERPINNING FOR EACH SEGMENT UP TO THE BOTTOM OF EXISTING FOOTING OF THE BUILDING PERMITTED 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 POURED TO REMOVE ALL VOIDS. OPTION 4A MUST ALSO INCLUDE INTRAPLAST by Sika AD-MIX OR OTHER EXPANSIVE ADDITIVE IN CONCRETE MIXTURE. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR MIXING QUANTITIES.

5. FOR SEGMENTS "B" ONLY, DIG PITS 4'-0", MAXIMUM WIDTH, WITH REQUIRED SHEETING AND BRACING.
6. FOR SEGMENTS "B" REPEAT CONCRETING, CLEANING, COMPACTION, STEEL WEDGES AND DRYPACKING AS DESCRIBED IN NOTES 2, 3 AND 4.
7. FOR SEGMENTS "C", DIG PITS 4'-0" MAXIMUM WIDE, WITH REQUIRED SHEETING AND BRACING, AS INDICATED ON DETAILS.
8. FOR SEGMENTS "C" REPEAT CONCRETING, CLEANING, COMPACTION, STEEL WEDGES AND DRYPACKING AS DESCRIBED IN NOTES 2, 3 AND 4.
9. FOR SEGMENTS "D", DIG OUT SOIL BETWEEN COMPLETED SEGMENTS C & A. PROVIDE SHEETING AND BRACING, AS INDICATED ON DETAILS.
10. FOR SEGMENTS "D" REPEAT CONCRETING, CLEANING, COMPACTION, STEEL WEDGES AND DRYPACKING AS DESCRIBED IN NOTES 2, 3 AND 4.
11. WHERE BOTTOM OF ADJACENT UNDERPINNING PITS ARE AT DIFFERENT ELEVATIONS, DEEPER PIT SHALL BE INSTALLED FIRST.
12. UNDERPINNING PITS CLOSER THAN 12 FEET APART SHALL NOT BE EXCAVATED AT THE SAME TIME.
13. WHEN UNDERPINNING ROCK MATERIAL, CONTRACTOR SHALL TAKE PRECAUTIONS SO AS NOT TO FRACTURE ROCK UNDER ADJOINING SECTION OR DAMAGE CONCRETE ALREADY POURED IN PLACE.





TRENCH SHORING -MINIMUM REQUIREMENTS

DEPTH OF TRENCH "A"	KIND OR CONDITION OF EARTH	SIZE AND SPACING OF MEMBERS								
		UPRIGHTS (SHEETING)		STRINGERS (WALERS)		CROSS BRACES (NOTE 1)				
		MIN DIM	MAX SPACING	MIN DIM	MAX SPACING	WIDTH OF TRENCH "S"			MAX SPACING	
						8' TO 13'	13 TO 21'	8 TO 21'	VERT 'L'	HORIZ 'U'
FEET		INCHES	FEET	INCHES	FEET	INCHES	INCHES	INCHES	FEET	FEET
5	HARD, COMPACT	3X8 OR 2X10	6	----	----	2 X 6	4 X 4	4 X 6	6 X 8	4	6
5	LIKELY TO CRACK	3X8 OR 2X10	3	4 X 6	4	2 X 6	4 X 4	4 X 6	6 X 6	4	6
10	SOFT, SANDY, OR FILLED	3X8 OR 2X10	CLOSE SHEETING	4 X 6	4	4 X 4	4 X 6	6 X 6	6 X 8	4	6
10	HYDROSTATIC PRESSURE	3X8 OR 2X10	CLOSE SHEETING	6 X 8	4	4 X 4	4 X 6	6 X 6	6 X 8	4	6
10	HARD	3X8 OR 2X10	4	4 X 6	4	4 X 4	4 X 6	6 X 6	6 X 8	4	6
10	LIKELY TO CRACK	3X8 OR 2X10	3	4 X 6	4	4 X 4	4 X 6	6 X 6	6 X 8	4	6
15	SOFT, SANDY, OR FILLED	3X8 OR 2X10	CLOSE SHEETING	4 X 6	4	4 X 6	6 X 6	6 X 8	8 X 8	4	6
15	HYDROSTATIC PRESSURE	3 X 6	CLOSE SHEETING	6 X 10	4	4 X 6	6 X 6	6 X 8	8 X 8	4	6
15 TO 30	ALL KINDS OF CONDITIONS	3 X 6	CLOSE SHEETING	6 X 12	4	4 X 12	6 X 8	8 X 8	8 X 10	4	6

NOTES:
1. TRENCH JACKS, PIPE JACKS OR SCREW JACKS OF ADEQUATE CAPACITY MAY BE USED IN LIEU, OF OR IN COMBINATION WITH TIMBER CROSS BRACES.
2. SHORING IS NOT REQUIRED IN SOLID ROCK, HARD SHALE OR HARD SLAG INSPECTION REQUIRED FOR FROST DAMAGE OR OTHER SPLITTING IN THE ROCK SHELF BRACE OR SHORE SUSPECT AREAS.
3. WHERE FEASIBLE, STEEL SHEET PILING AND BRACING OF EQUAL STRENGTH MAY BE SUBSTITUTED FOR WOOD.
4. TIMBER USED SHALL BE SOUND AND FREE FROM LARGE OR LOOSE KNOTS.
5. SHORING MAY BE REQUIRED AT LESS THAN 5 FEET IF SOFT RUNNING SOIL CONDITIONS ARE DISCOVERED.

SHEETING FOR PITS AND TRENCHES

1/300 TYPICAL UNDERPINNING DETAILS NOT TO SCALE

2/300 APPROACH PIT DETAIL NOT TO SCALE

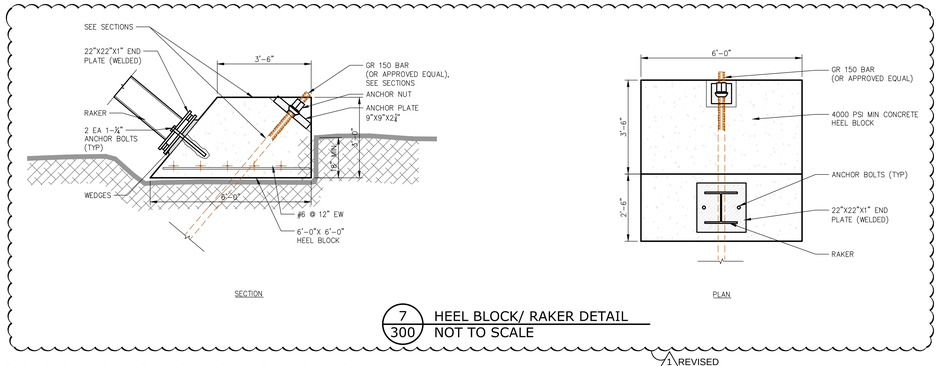
3/300 PITS AND TRENCHES SHEETING NOT TO SCALE

SECTION S-S

4/300 TIE-BACK THRU WALER DETAIL NOT TO SCALE

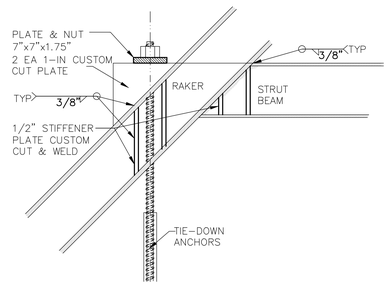
5/300 CORNER BRACE DETAIL NOT TO SCALE

6/300 WALER SPLICE DETAIL NOT TO SCALE

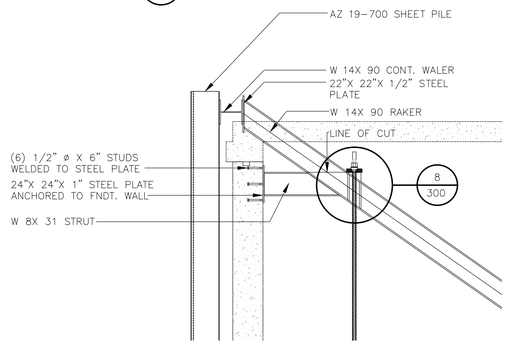


7/300 HEEL BLOCK/ RAKER DETAIL NOT TO SCALE

1 REVISED



8/300 TIE-DOWN/ STRUT AT RAKER DETAIL NOT TO SCALE



9/300 RAKER/ WALER DETAIL NOT TO SCALE

1 NEW

10/300 HEEL PLATE NOT TO SCALE

1 NEW

11/300 INTERIOR CORE SHEET DETAIL- SEE PLAN NOT TO SCALE

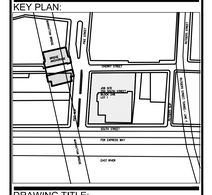
FNA ASSOCIATES, INC. CONSULTING ENGINEERS
670 BERGEN BOULEVARD
RIDGEFIELD, NJ. 07657
O: 201-241-2444

227 CHERRY ST.-250 SOUTH ST.
NEW YORK, NY, 10018

No:	Revision:	Date:
10	D.O.B. RESUBMISSION	12-09-14
9	DESIGN REVISIONS	11-21-14
8	DESIGN REVISIONS	11-03-14
7	DESIGN REVISIONS	10-24-14
6	DESIGN REVISIONS	09-23-14
5	D.O.B. COMMENTS	08-04-14
4	T.A. COMMENTS	07-16-14
3	DESIGN UPDATE	07-09-14
2	T.A. COMMENTS	05-30-14
1	T.A. FILING	04-03-14

N
SCALE: AS NOTED

KEY PLAN:



DRAWING TITLE:
SOE DETAILS

Damian Titus
APPROVED
Under Directive 2 of 1975
BUILDER'S APPLICATION
Date: 01/15/2015
NYC Development Hub

SEAL
STATE OF NEW YORK
DAMIAN TITUS
LICENSED PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-300.01
9 OF 9

30" x 42" Arch E1 -SHEET SIZE

ABBREVIATIONS:

AB	ANCHOR BOLT
ABV	ABOVE
AC	AIR CONDITIONER
ACI	AMERICAN CONCRETE INSTITUTE
ADD'L	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE ALUM ALUMINUM
ANCH	ANCHOR
ANG	ANGLE
APPD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVG	AVERAGE
AWS	AMERICAN WELDING SOCIETY
B	BASE
BETW	BETWEEN
BF	BRACE FRAME
BKT	BRACKET
BL	BUILDING LINE
BLDG	BUILDING
BM	BEAM
BOTT	BOTTOM
BRK	BRICK
B/STL	BOTTOM OF STEEL
BS	BOTH SIDES
CANT	CANTILEVER
CF	CUBIC FOOT
CG	CENTER OF GRAVITY
CIP	CAST IN PLACE
C.JT	CONCRETE JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CM	CONSTRUCTION MANAGER
CMU	CONCRETE MASONRY UNITS
COL	COLUMN
CONC	CONCRETE
COND	CONDITIONS
CONN	CONNECTION
CONST	CONSTRUCTIONS
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CORR	CORRUGATED
CY	CUBIC YARD
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DIR	DIRECTION
DN	DOWN
DWL	DOWEL
DWG	DRAWING
E	EAST
EA	EACH
EF	EACH FACE
EL	ELEVATION
ELEC	ELECTRIC
ELEV	ELEVATOR
EMBD	EMBEDMENT
ENCL	ENCLOSURE
EOR	ENGINEER OF RECORD
EOS	EDGE OF SLAB
EP	EMBEDDED PLATE
EQ	EQUAL
EQUIP	EQUIPMENT
ETC	ETCETERA
EW	EACH WAY
E-W	EAST WEST
EXIST	EXISTING
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXT	EXTENSION
EXTR	EXTERIOR
FL	FLOOR
FND	FOUNDATION
FOB	FACE OF BUILDING
FP	FIRE PROOFING
FT	FOOT
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GB	GRADE BEAM
GRTG	GRATING
GYP. BD	GYPSUM BOARD
H	HIGH
HDR	HEADER
HGT	HEIGHT
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HS	HIGH STRENGTH
HVAC	HEAT, VENTILATION & AIR CONDITIONING
ID	INSIDE DIAMETER
IF	INTERIOR FACE
IN	INCH
INCL	INCLUDING
INFO	INFORMATION
INSUL	INSULATION
JT	JOINT
K	KIP (1000 POUNDS)
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH

L	LOW
LB	LINK BEAM
LBS	POUNDS
LB/FT	POUNDS PER FOOT
Ld	DEVELOPMENT LENGTH
LG	LONG
LL	LIVE LOAD
LLRS	LATERAL LOAD RESISTING SYSTEM
LLV	LONG LEG VERTICAL
LP	LOW POINT
LRFD	LOAD RESISTANCE FACTOR DESIGN
LT	LIGHT
LW	LIGHT WEIGHT
MAX	MAXIMUM
MAS	MASONRY
MATER	MATERIAL
MAX	MAXIMUM
MC	MOMENT CONNECTION
MD	METAL DECK
MECH	MECHANICAL
MEP	MECHANICAL ELECTRICAL AND PLUMBING
MEZZ	MEZZANINE
MF	MOMENT FRAME
MFG	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
N-S	NORTH-SOUTH
NTS	NOT TO SCALE
NW	NORMAL WEIGHT
O/C	ON CENTER
OPNG	OPENING
OPP	OPPOSITE
PC	PILE CAP
PCF	POUNDS PER CUBIC FEET
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST TENSION
RC	REINFORCED CONCRETE
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RFI	REQUEST FOR INFORMATION
S	SOUTH
SB	SPANDREL BEAM
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FOOT
SHT	SHEET
SL	SLAB
SPA	SPACING
SPEC	SPECIFICATIONS
SQ	SQUARE
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
SW	SHEARWALL
SIM	SIMILAR
T&B	TOP AND BOTTOM
THK	THICK
T/	TOP OF
TBD	TO BE DETERMINED
TEMP	TEMPORARY
TSF	TONS PER SQUARE FOOT
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
U	UPTURNED BEAM
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	WEST
W/	WITH
W/O	WITH OUT
WF	WIDE FLANGE
WP	WORKING POINT
WPG	WATER PROOFING
WS	WATER STOP
WT	WIND TRUSS
WWF	WELDED WIRE FABRIC
℄	CENTERLINE
℘	PLATE
⊥	ANGLE
&	AND
ø	DIAMETER
@	AT

NON-STRUCTURAL ITEMS SHOWN ON THE STRUCTURAL/FOUNDATION DRAWINGS

1. THE FOLLOWING NON-STRUCTURAL ITEMS MAY BE SHOWN ON THE STRUCTURAL AND/OR FOUNDATION DRAWINGS FOR THE PURPOSE OF CLARITY IN INTERFACE WITH STRUCTURAL AND/OR FOUNDATION WORK. ITEMS BELOW MAY NOT BE FULLY DEFINED ON THE STRUCTURAL/FOUNDATION DRAWINGS. THE INFORMATION FOR NON-STRUCTURAL ELEMENTS IS FURNISHED BY OTHER CONSULTANTS AS LISTED BELOW. ALL RFI AND SHOP DRAWINGS RELATED TO THESE NON-STRUCTURAL ITEMS SHALL BE SUBMITTED TO THE CONSULTANTS LISTED BELOW FOR THEIR REVIEW AND APPROVAL.

GEOTECHNICAL ENGINEER:
- FOUNDATION/UNDERSLAB WATERPROOFING, DAMPPROOFING SYSTEMS
- WALL DRAINAGE SYSTEM
- ROCK ANCHORS
- CAISSONS AND PILES, INCLUDING REINFORCMENT
- ROCK CONTOURS

ARCHITECT OF RECORD:
- SUMP PITS
- WATERPROOFING/DAMPPROOFING APPLIED TO EXPOSED SURFACES, ELEVATOR OR SUMP PIT INTERIOR SURFACES
- PAINT
- FIREPROOFING
- CONCRETE CURBS: HEIGHT, WIDTH, EXTENT, LOCATION
- BRICK, BLOCK, TILE MASONRY, METAL PANELS, PRECAST FACADE PANELS, CURTAIN WALLS AND ALL OTHER FACADE SYSTEMS
- ROOFING SYSTEMS, DRAIN LOCATIONS, SLOPES TO DRAINS FILLS, INSULATION, PAVERS OR GRAVEL
- FLOATING/SECONDARY SLABS

CONTROLLED INSPECTIONS

(TERMINOLOGY PER CURRENT TR-1) SPECIAL INSPECTION	CURRENT CODE REFERENCES	(PREVIOUS TERMINOLOGY) "CONTROLLED INSPECTION"
STRUCTURAL STEEL – WELDING	1704.3.1	WELDING
STRUCTURAL STEEL – ERECTION & BOLTING	1704.3.3	HIGH – STRENGTH BOLTING
STRUCTURAL COLD – FORMED STEEL	1704.3.4	(NONE)
CONCRETE – CAST IN PLACE	1704.4	CONCRETE
CONCRETE TEST CYLINDERS* (TR2)	1905.6	CONCRETE TEST CYLINDERS
CONCRETE DESIGN MIX* (TR3)	1905.3	CONCRETE MIX DESIGN
MASONRY	1704.5	MASONRY
SOILS – SITE PREPARATION	1704.7.1	SUBGRADE
SOILS – FILL PLACEMENT & IN-PLACE DENSITY	1704.7.2 1704.7.3	CONTROLLED FILL –
SOILS – INVESTIGATIONS (BORINGS/TEST PITS) (TR4)	1704.7.4	BORINGS / TEST PITS
PILE FOUNDATIONS & DRILLED PIER INSTALLATION (TR5)	1704.8	PILING
PIER FOUNDATIONS	1704.9	(NONE)
UNDERPINNING	1704.9.1	UNDERPINNING
WALL PANELS, CURTAIN WALLS AND VENEERS (ATTACHMENT TO BUILDING)	1704.10	(NONE)
SPRAYED FIRE RESISTANT MATERIALS	1704.11	SPRAY – ON FIREPROOFING
STRUCTURAL SAFETY – STRUCTURAL STABILITY	1704.19	STRUCTURAL STABILITY
EXCAVATION – SHEETING, SHORING AND BRACING	1704.19 & 3304.4.1	SHORING & SHEETING
FIRESTOP, DRAFTSTOP AND FIREBLOCK SYSTEMS	1704.25	(NONE)
PROGRESS INSPECTION		
FOOTING AND FOUNDATION	109.3.1	SOIL BEARING PRESSURE
FINAL	28-116.2.4.2, BC 109.5 AND DIRECTIVE 14-(1975)	FINAL INSPECTION

* THESE TEST MUST BE PERFORMED BY A LICENSED CONCRETE TESTING LAB.

NOTES:

1. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION ON SCOPE AND DETAILED REQUIREMENTS FOR INSPECTIONS.
2. ALL SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN APPROVED SPECIAL INSPECTION AGENCY ACCEPTABLE TO THE ENGINEER OF RECORD.
3. REPORTS OF RESULTS SHALL BE SUBMITTED TO THE OWNER AND ARCHITECT FOR REVIEW. SIGNED COPIES OF ALL TESTS AND INSPECTION REPORTS SHALL BE FILED WITH THE BUILDING DEPARTMENT (THROUGH THE APPLICANT).
4. REPORTS SHALL STATE WHETHER RESULTS COMPLY WITH CONTRACT REQUIREMENTS, SUMMARIZE THE TYPE OF TEST, THE LOCATION OR COMPONENT TESTED, AND RECOMMEND ANY REMEDIAL MEASURES REQUIRED. REPORT SHOULD NOTE ANY OTHER DEVIATIONS FROM THE CONTRACT DOCUMENTS.
5. FOR ITEMS OF WORK OF OTHER TRADES WHICH ARE SUBJECT TO SPECIAL INSPECTION, SEE THE CITY OF NEW YORK BUILDING CODE, AS WELL AS ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, ETC. DRAWINGS AND SPECIFICATIONS.

PILE NOTES:

1. FOUNDATION DESIGN AND PILE STRENGTH ARE BASED ON GEOTECHNICAL REPORT BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING AND LANDSCAPE ARCHITECTURE, D.P.C. DATED JANUARY 2, 2014.
2. PILE CAPACITIES SEE DWG. FO-100.
   A. SEE SPECS FOR PILE INSTALLATION OPERATIONS & PILE DETAILS ON DRAWING FO-200 SERIES DRAWINGS.
3. PILE INSTALLATION TO BE SUPERVISED BY A LICENSED PROFESSIONAL ENGINEER.
4. PILE DRIVING INSTALLATION TO BE IN ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE CHAPTER 18, AND ARE SUBJECT TO SPECIAL INSPECTION IN ACCORDANCE WITH N.Y.C. BUILDING CODE CHAPTER 17.
5. A PLAN SHOWING THE IDENTIFICATION OF ALL PILES AND A PILE NUMBERING PLAN ARE TO BE SUBMITTED TO THE ENGINEER OF RECORD FOR FILING WITH THE BUILDING DEPARTMENT, PRIOR TO COMMENCEMENT OF INSTALLATION OPERATIONS.
6. LOAD TESTS TO BE PERFORMED AS PER THE REQUIREMENTS OF THE 2008 NEW YORK CITY BUILDING CODE. LOCATION OF TEST PILES TO BE APPROVED BY THE ENGINEER OF RECORD
7. ALL PILE GROUPS AND PILE CAPS TO BE CONCENTRIC WITH COLUMNS ABOVE UNLESS OTHERWISE NOTED ON PLAN.
8. RECORDS OF PENETRATION OF EVERY PILE, AND THE BEHAVIOR OF SAME DURING INSTALLATION ARE TO BE SUBMITTED TO THE ENGINEER OF RECORD.
9. AN PILE LOCATION PLAN AND PILE LOGS ARE TO BE SUBMITTED TO ENGINEER OF RECORD FOR APPROVAL. NO PILE CAPS ARE TO BE PLACED BEFORE THIS IS DONE.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL HAS BEEN DESIGNED IN ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE. ALL STEEL TO BE ASTM A992 FOR ROLLED SECTIONS & A572 FOR PLATES HAVING A MINIMUM YIELD OF 50,000 PSI U.O.N.
2. ALL STRUCTURAL RECTANGULAR AND SQUARE HSS TO BE A500 GR. B (Fy = 46KSI) STRUCTURAL ROUND HSS TO BE A500 GR. B (Fy = 42KSI) STRUCTURAL CHANNELS TO BE A36 (Fy = 36KSI) ANCHOR BOLTS TO BE F1554 GR. 55 WELDABLE (Fy = 55KSI) STRUCTURAL ANGLES TO BE A36 (Fy = 36KSI) ALL PLATES SHALL BE ASTM A572 GR. 50 (Fy=50 ksi) U.O.N.
3. AISC SPECIFICATIONS FOR "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS LOAD AND RESISTANCE FACTOR DESIGN (LRFD)– LATEST EDITION SHALL APPLY, EXCEPT AS MODIFIED BY THE NOTES, SCHEDULES AND DETAILS SHOWN ON THE STRUCTURAL DRAWINGS OR ANY RESTRICTIVE REQUIREMENTS OF THE CODES REGULATIONS.
4. THE FRAME SHALL BE CARRIED UP TRUE AND PLUMB AND TEMPORARY BRACING SHALL BE INTRODUCED WHEREVER NECESSARY TO TAKE CARE OF ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING EQUIPMENT AND OPERATION OF SAME. SUCH BRACING SHALL BE THE RESPONSIBILITY OF THE STEEL CONTRACTOR AND SHALL BE LEFT IN PLACES AS LONG AS REQUIRED FOR SAFETY.
5. ALL CONNECTIONS SHALL BE IN ACCORDANCE WITH AISC SPECIFICATIONS.
6. ALL WELDED CONNECTIONS SHALL CONFORM TO THE CITY OF NEW YORK BUILDING CODE. PROVISIONS SHALL BE MADE FOR FIELD INSPECTION AND TESTING OF WELDS. ALL SHOP WELDS SHALL BE TESTED BY ANY OF APPROVED METHODS AND SHALL BE CERTIFIED.
7. ALL BOLT STEEL SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS, LATEST EDITION: HIGH STRENGTH BOLTS A-325 AND A-490 U.O.N.
8. ALL BOLTS SHALL BE 7/8"ØMINIMUM ON HOLES 15/16"ØUNLESS OTHERWISE SHOWN ON THE DRAWINGS. BOLTED CONNECTIONS TO HAVE MIN. 2 BOLTS.
9. ALL SHOP CONNECTIONS SHALL BE HIGH STRENGTH BOLTED OR WELDED.
10. ALL SHEAR CONNECTORS SHALL BE 3/4"ØHEADED STUDS, TYPE B ASTM 108 Fu=65 KSI
11. ALL ENDS OF COLUMNS AT SPLICES AND ALL OTHER BEARING CONNECTIONS SHALL BE MILLED TO COMPLETE TRUE BEARING.
12. PROVISIONS SHALL BE MADE FOR CONNECTIONS OF OTHER TRADES INCLUDING CUTTING AND PUNCHING OF STRUCTURAL MEMBERS, WHERE REQUIRED BY THE DWG. OR FOR WHICH INFORMATION IS FURNISHED PRIOR TO FABRICATION.
13. THE USE OF A CUTTING TORCH IN THE FIELD WILL NOT BE PERMITTED.
14. WELDING ELECTRODES SHALL CONFORM TO E70XX ELECTRODES, U.O.N..
15. CONTRACTOR SHALL PROVIDE STIFFENERS PER CHAPTER K OF AISC SPECIFICATION LRFD REGARDING THE NEED FOR COLUMN STIFFENERS.
16. ALL WELDERS TO BE LICENSED BY THE STATE OF NEW YORK BUILDING DEPT.
17. STRUCTURAL STEEL SHALL RECEIVE ONE COAT OF PAINT, ZINC OR BITUMINOUS COATING OR EQUIVALENT METAL PROTECTION BEFORE ERECTION AS SPECIFIED. PARTS OF STRUCTURAL STEEL LEFT UNPAINTED BECAUSE OF WELDING, OR BOLTING SHALL RECEIVE A FIELD APPLICATION OF METAL PROTECTION.
18. STRUCTURAL STEEL THAT WILL REMAIN EXPOSED TO VIEW SHALL RECEIVE AN ADDITIONAL COAT OF METAL PROTECTION OF ANOTHER COLOR AFTER ERECTION.
19. THE CONTRACTOR MUST SUBMIT STRUCTURAL STEEL SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW. NO CONSTRUCTION IS TO BE STARTED UNTIL THE SHOP DRAWINGS HAVE BEEN APPROVED BY THE ENGINEER.
20. ALL CAMBERS SPECIFIED ON THE DRAWINGS ARE REFERRING TO THE BEAM CAMBER MEASURED IN THE FIELD PRIOR TO SLAB/WALL CONCRETE POUR INCLUDING ALL TOLERANCES.
21. IN ADDITION TO MOMENT CONNECTIONS, PROVIDE AISC STANDARD SHEAR CONNECTIONS FOR ALL GRAVITY AND WIND LOADS.
22. DESIGN OF ALL TEMPORARY STEEL COLUMN BRACING REQUIRED DURING ERECTION SHALL BE THE RESPONSIBILITY OF THE STEEL CONTRACTOR.
23. ALL STEEL BEAMS AND COLUMNS SHALL BE SPRAY FIREPROOFED U.O.N ON ARCH. DWGS. AND SPECS (WITH THE EXCEPTION OF COLUMNS & BEAMS ENCASED IN CONCRETE) SEE ARCH. DRAWINGS FOR APPROPRIATE RATING.
24. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND BE RESPONSIBLE FOR ADEQUATE COORDINATION. DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT OR ENGINEER OF RECORD IN WRITING BEFORE PROCEEDING.
25. PRIOR TO INSTALLATION OF ANCHOR BOLTS OR ANY DRILLING OF EXISTING SLAB, BEAM, WALL OR COLUMN, LOCATION OF EXISTING REINFORCING SHALL BE IDENTIFIED. NO EXISTING CONSTRUCTION.
26. ALL BEAM SPLICES, IF REQUIRED SHALL BE DONE AT CONTRACTOR'S EXPENSE.
27. ALL PIPING AND DUCT WORK TO BE HUNG FROM BEAMS ONLY.
28. ALL BOLTS EXPOSED TO THE WEATHER SHALL BE GALVANIZED ASTM A325.
29. FOR CLARITY, CONNECTION DETAILS MAY NOT BE SHOWN ON THE CONTRACT DOCUMENTS. NUMBER OF BOLTS SHOWN, WELD SIZE AND LENGTH ARE INDICATIVE ONLY. THE ACTUAL CONNECTIONS SHALL BE DESIGNED BY THE STRUCTURAL STEEL FABRICATOR P.E. BASED ON THE LOAD CRITERIA SHOWN ON THE CONTRACT DOCUMENTS. WHERE LOAD CRITERIA ARE NOT INDICATED, CONNECTION SHALL DEVELOP THE MEMBER CROSS SECTION IN TENSION.
30. THE FOLLOWING CONNECTIONS ARE REQUIRED TO BE HIGH STRENGTH SLIP-CRITICAL: ALL COLUMN SPLICES, CONNECTIONS OF BEAMS TO COLUMNS, ALL MOMENT CONNECTIONS, CONNECTIONS WITHIN THREE FEET OF COLUMNS, CONNECTIONS OF OR TO DIAGONAL MEMBERS, POSTS, HANGERS, BEAMS AND GIRDERS SUPPORTING COLUMNS, POSTS OR HANGERS, ALL CBF AND EBF MEMBERS, ALL BEAMS CARRYING MACHINE LOADS. ALL SLIP CRITICAL CONNECTIONS SHALL USE SHEAR CAPACITY WHERE SLIP IS A STRENGTH LIMIT-STATE UNLESS OTHERWISE APPROVED BY THE E.O.R.
31. CHARPY V-NOTCH (CVN) REQUIREMETS FOR ALL MEMBERS: FOR ROLLED SHAPES GROUP 4, 5, OR W/FLANGES 1 1/2" THICK AND THICKER AND PLATES EQUAL TO OR EXCEEDING 2" THICKNESS REFER TO AISC SECTION A3.1C AND A3.1D.
32. ALL HORIZONTAL HSS MEMBERS SHALL HAVE 1/2"ØWEEP HOLES AT 24" O.C. AT BOTTOM FLANGE U.O.N. ALL HORIZONTAL ROLLED SECTIONS + PLATES (SIM. TO DETAIL 2/S-5.11) SHALL HAVE 2-1/2"ØWEEP HOLES AT 24" O.C. AT BOTTOM FLANGE U.O.N.
33. WHEN MULTIPLE LOADS PROVIDED FOR THE DESIGN OF ONE CONNECTION, THE CONNECTION COMPONENTS (SUCH AS PLATES, BOLTS, WELDS ETC.) SHALL BE DESIGNED FOR THE COMBINATION THAT RESULTS IN THE HIGHEST DEMAND FOR EACH COMPONENT.
34. ALL ERECTION STEEL AND/OR STRUCTURAL STEEL EMBEDDED IN CONCRETE WALLS SHALL HAVE MIN. 3" CLEAR CONCRETE COVER. NOTIFY EOR WHERE THIS REQUIREMENT IS NOT MET.
35. ALL LOADS INDICATED ON THE DRAWINGS ARE REVERSIBLE EVEN IF NOT STATED SO.
36. IT IS NOT ACCEPTABLE TO RUN CONDUITS AND OTHER UTILITIES WITHIN THE CONCRETE SLABS UNLESS SPECIFICALLY APPROVED BY THE EOR IN WRITING.
37. OPENINGS THROUGH STRUCTURAL MEMBERS ARE NOT ALLOWED UNLESS SPECIFICALLY SHOWN ON THE TRUCTURAL DRAWINGS OR APPROVED IN WRITHING BY THE EOR.

CAISSON NOTES:

1. THE DESIGN AND INSTALLATION OF CAISSONS, CAISSONS CAPS, AND RELATED CONSTRUCTION IS TO CONFORM TO THE REQUIREMENTS SET FORTH IN THE NEW YORK CITY BUILDING CODE AND THE SPECIFICATIONS.
2. FOR DRILLED CAISSONS SEE PLAN
3. CAISSON ROCK SOCKETS TO BE VIDEO INSPECTED BY A LICENSED PROFESSIONAL ENGINEER.
4. CAISSON OPERATIONS TO BE IN ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE, AND ARE SUBJECT TO SPECIAL INSPECTION IN ACCORDANCE WITH THE 2008 NEW YORK CITY BUILDING CODE.
5. A PLAN SHOWING THE IDENTIFICATION OF ALL CAISSONS AND A CAISSONS NUMBERING PLAN IS TO BE SUBMITTED TO THE ENGINEER OF RECORD FOR FILING WITH THE BUILDING DEPARTMENT PRIOR TO COMMENCEMENT OF DRILLING OPERATIONS.
6. LOAD TESTS SHALL BE PERFORMED AS PER THE REQUIREMENTS OF PROJECT TECHNICAL SPECIFICATIONS SECTION 316333. LOCATION OF TEST CAISSONS TO BE APPROVED BY THE ENGINEER OF RECORD.
7. ALL CAISSON GROUPS AND CAISSON CAPS TO BE CONCENTRIC WITH COLUMNS AND WALLS ABOVE UNLESS OTHERWISE NOTED ON PLAN.
8. RECORDS OF PENETRATION OF EVERY CAISSON AND THE BEHAVIOR OF SAME DURING DRILLING ARE TO BE SUBMITTED TO THE ENGINEER OF RECORD.
9. AN "AS-BUILT" CAISSON LOCATION PLAN AND CAISSON LOGS ARE TO BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL, NO CAISSON CAPS ARE TO BE PLACED BEFORE THIS IS DONE.
10. CAISSON LENGTH COULD VARY DUE TO ACTUAL SOIL AND ROCK CONDITION.
11. FOR CAISSON DETAILS AND DESIGN REFER TO GEOTECHNICAL CONSULTANT REPORT AND SPECIFICATIONS IN FO-200.

GENERAL NOTES:

1. ALL WORK TO BE PERFORMED IN COMPLIANCE WITH THE NEW YORK CITY BUILDING CODE, 2008 EDITION AND ALL SUPPLEMENTS.
2. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD AND BE RESPONSIBLE FOR ACCURATE COORDINATION WHERE POSSIBLE. EXISTING FRAMING DIMENSIONS WAS TAKEN FROM EXISTING DWGS. AND SHALL BE VERIFIED ON SITE. DISCREPANCIES SHALL BE REPORTED TO ARCH. AND ENGINEER BEFORE PROCEEDING.
4. THE CONTRACTOR SHALL USE THESE DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL AND MECHANICAL DEMOLITION DRAWINGS. IN THE EVENT OF CONFLICTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND THE ENGINEER.

A. EXCAVATION NOTES:

1. ALL FOUNDATIONS SHALL BEAR ON PILES AND CAISSONS (SEE PILE AND CAISSON NOTES)
2. WHERE EXISTING FOUNDATIONS OF ADJACENT PROPERTY IS LOWER THAN ELEVATIONS SHOWN, NEW MAT FOUNDATION IS TO BE LOWERED TO SAME ELEVATION. WHERE NEW MAT FOUNDATION IS LOWER THAN EXISTING CONTRACTOR IS TO ESTABLISH EXISTING CONDITIONS BEFORE FOUNDATIONS, COMMENCING WORK AND NOTIFY THE ENGINEER.
3. ALL UNDERPINNING, SHEETING, SHORING OR OTHER CONSTRUCTION REQUIRED FOR THE SUPPORT OF ADJACENT PROPERTIES, BUILDINGS, SIDEWALKS, UTILITIES, ETC., SHALL BE SUBJECT TO SPECIAL INSPECTION AS REQUIRED BY THE CODE. THE CONTRACTOR SHALL RETAIN A LICENSED PROFESSIONAL ENGINEER ACCEPTABLE TO THE ENGINEER OF RECORD TO DESIGN THE EXCAVATION SUPPORT/ UNDERPINNING SYSTEM. THE OWNER SHALL RETAIN A THIRD PARTY AGENCY TO PERFORM THE REQUIRED SPECIAL INSPECTION. THE CONTRACTOR'S PROFESSIONAL ENGINEER SHALL PREPARE AND FILE THE REQUIRED FORMS FOR THE WORK WITH THE BUILDING DEPARTMENT.

B. CONCRETE AND STEEL REINFORCEMENT

1. ALL CONCRETE SHALL BE NORMAL WEIGHT CONTROLLED CONCRETE, U.O.N., AND COMPLY WITH A.C.I. BUILDING CODE AND THE CURRENT NEW YORK CITY BUILDING CODE.
2. CONCRETE STRENGTH SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

-FOUNDATION PIERS, PILE CAPS	8600 PSI
-BUTTRESSES AND FOUNDATION WALLS	8600 PSI MIN. "SEE COLUMN SCHEDULE"
-COLUMN PIERS IF ANY	8600 PSI MIN. "SEE COLUMN SCHEDULE"
-SLAB ON GROUND	8600 PSI

FOUNDATION WALLS AND BUTTRESSES CAST INTEGRALLY WITH SHEAR WALLS 8600 PSI. SEE PLAN.

3. ALL STEEL REINFORCEMENT SHALL HAVE AN ULTIMATE TENSILE STRENGTH OF 90,000 PSI AS PER A.S.T.M. A615-00 GRADE 60. A.S.T.M. A775-01 FOR EPOXY COATED REINFORCING BARS, AND A.S.T.M. A884-99 FOR EPOXY COATED STEEL WIRE AND WELDED WIRE FABRIC FOR REINFORCEMENT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL THE NECESSARY CHAIRS, REBARS, TIES, SPACERS, ETC., TO SECURE AND SUPPORT THE REINFORCING WHILE PLACING THE CONCRETE.
4. ALL BARS MARKED CONTINUOUS, SHALL BE LAPPED 36 DIAMETERS AT SPLICES AND CORNERS EXCEPT AS OTHERWISE SHOWN ON PLANS. LAP CONTINUOUS TOP BARS AT CENTER BETWEEN SUPPORTS AND BOTTOM BARS AT SUPPORTS. HOOK TOP BARS AT DISCONTINUOUS ENDS.
5. VERTICAL CONSTRUCTION JOINTS IN ALL WALLS SHALL BE USED ONLY IF UNAVOIDABLE, OR UNLESS OTHERWISE NOTED, AND TO BE LOCATED AT LEAST 4'-0" FROM ANY SUPPORTING COLUMN OR WALL OPENING. DISTANCE BETWEEN JOINTS IN WALL SHALL BE 40 FEET MAX. NO HORIZONTAL CONSTRUCTION JOINTS WILL BE ALLOWED IN GRADE BEAMS.
6. IN NO CASE SHALL TRUCKS, BULLDOZERS, OR OTHER HEAVY EQUIPMENT BE PERMITTED CLOSER THAN 8'-0" FROM ANY FOUNDATION WALL UNLESS APPROVED BY THE ENGINEER.
7. TEMPORARY BRACING SHALL BE PROVIDED FOR ALL BUTTRESSES. WHERE BUTTRESSES DO NOT EXIST OR SPACING BETWEEN BUTTRESSES EXCEED 25 FEET, AND WHERE THE DIFFERENCE IN LEVEL BETWEEN INSIDE AND OUTSIDE GRADE IS MORE THAN 4'-0", INTERMEDIATE BRACING SHALL BE PROVIDED. WHERE RAMPS OCCUR, THE GRADE ELEVATION OUTSIDE OF RAMP WALLS SHALL BE USED IN FIGURING THE DIFFERENCE IN LEVEL. CORNER BUTTRESSES NEED NOT BE BRACED. NO BACKFILLING IS TO BE DONE BEFORE ALL SLABS BRACING WALLS ARE IN PLACE UNLESS APPROVED BY THE ENGINEER. PROVIDE TEMPORARY BRACING FOR ALL PIERS AND SUMP PITS.
8. CONTRACTOR TO INSTALL ALL PIPE SLEEVES, BOXED OPENINGS, ANCHOR BOLTS, ETC., AS REQUIRED FOR THE VARIOUS TRADES. WALL POCKETS TO RECEIVE BEAMS AND SLABS SHALL BE PROVIDED AS REQUIRED FOR THE SUPERSTRUCTURE. SHOP DRAWINGS SHOWING THE POSITION OF OPENINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER PRIOR TO PLACING CONCRETE.
9. MINIMUM COVER FOR REINFORCING STEEL SHALL BE ¾" FOR INTERIOR SLABS AND INTERIOR WALL SURFACES; 1½" FOR BEAMS, GIRDERS, AND COLUMNS (TIES, STIRRUPS OR PRIMARY REINFORCEMENT). FOR ALL CONCRETE EXPOSED TO WEATHER AND EARTH FILL, COVER SHALL BE 2" (1½" FOR STIRRUPS). FOR CONCRETE PLACED AGAINST EARTH, MINIMUM COVER SHALL BE 3".
10. THE CONTRACTOR MUST SUBMIT REINFORCING SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW. NO CONSTRUCTION IS TO BE STARTED UNTIL THE SHOP DRAWINGS ARE REVIEWED BY THE ENGINEER.
11. THE STRUCTURAL ENGINEER OR HIS FIELD QUALIFIED REPRESENTATIVE MUST CHECK AND APPROVE ALL STEEL REINFORCING PRIOR TO CONCRETE PLACEMENT.

LEGEND:

a.	*	INDICATES ADDITIONAL WIND BARS
b.	[...]	INDICATES THE BOTTOM OF FOUNDATION WALL ELEVATION
c.	<...>	INDICATES THE TOP OF FOUNDATION WALL ELEVATION
d.	(...)	INDICATES BOTTOM OF PILE CAP ELEVATION
e.	(XXxXX)	INDICATES SIZE OF PIER IN INCHES, FIRST DIMENSION SHOWN IS IN THE EAST-WEST DIRECTION.
f.	⊕	INDICATES ROCK ANCHOR.
h.		INDICATES ADDITIONAL TOP REINFORCEMENT AT SUPPORTS
i.		INDICATES ADD'L BOTTOM REINFORCING AT SUPPORTS
j.		INDICATES ADDITIONAL TOP REINFORCEMENT CONTINUOUS BETWEEN SUPPORTS
k.		INDICATES ADDITIONAL BOTTOM REINFORCEMENT CONTINUOUS BETWEEN SUPPORTS
l.	1ST & 4TH LAYERS / 2ND & 3RD LAYERS	INDICATES ORDER OF BAR PLACEMENT AS SHOWN ON PLAN.
m.		INDICATES CHANGE IN ELEVATION
n.		INDICATES CONCRETE COLUMN/SHEARWALL/FOUNDATION WALL
o.		INDICATES CONCRETE COLUMN/SHEARWALL BELOW
p.		INDICATES CONCRETE WALL
q.		INDICATES SLAB OPENING INDICATES SLAB OPENING AND/OR SLOT OR ZONE FOR SLEEVES (FIRST DIMENSION IS IN EAST-WEST DIRECTION)
r.		INDICATES COLUMN ABOVE OR BELOW
s.	(XX)	INDICATES COLUMN DESIGNATION
t.	(P)	INDICATES POST DESIGNATION
u.	(SW-X)	INDICATES SHEARWALL DESIGNATION

C. CODES AND TESTS

1. THIS STRUCTURE HAS BEEN DESIGNED UNDER THE PROVISIONS OF THE NEW YORK CITY BUILDING CODE AS AMENDED AND A.C.I. 318.
2. ALL CONTROLLED CONCRETE SHALL COMPLY WITH THE A.C.I. 318 BUILDING CODE. APPLICATION FOR CONTROLLED CONCRETE WITH CONCRETE TESTS AND CURVES OF TESTS FOR THE PRELIMINARY DESIGN MIX PREPARED BY AN APPROVED LABORATORY MUST BE SUBMITTED TO THE ENGINEER FOR FILING WITH THE BUILDING DEPARTMENT. NO CONCRETE SHALL BE PLACED WITHOUT THE DESIGN MIX BEING APPROVED BY THE BUILDING DEPARTMENT.
3. DESIGN AND CONSTRUCTION OF FORMWORK IS TO COMPLY WITH THE A.C.I. 318 BUILDING CODE AND NEW YORK CITY BUILDING CODE AS AMENDED.

MASONRY NOTES

1. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR COMPLETE REQUIREMENTS FOR C.M.U. MASONRY CONSTRUCTION AND APPEARANCE. DETAILS AND NOTES SHOWN ON THE STRUCTURAL DRAWINGS ARE INTENDED TO SUPPLEMENT ARCHITECTURAL REQUIREMENTS AND TO DEFINE ELEMENTS WHICH PROVIDE STRUCTURAL STRENGTH AND STABILITY.
2. DETAILS, SECTIONS, SCHEDULES, ETC. AND THESE NOTES, REPRESENT THE MINIMUM REQUIREMENTS FOR STRUCTURAL ADEQUACY. WHERE ARCHITECTURAL REQUIREMENTS DIFFER FROM STRUCTURAL, THE MORE STRINGENT SHALL BE FOLLOWED.
3. CODE: MASONRY WALL CONSTRUCTION SHALL CONFORM TO THE NEW YORK CITY BUILDING CODE AND TO ACI 530/ASCE-5 AS REFERENCED BY THE NYC CODE.
4. MASONRY UNITS SHALL BE LIGHTWEIGHT HOLLOW LOAD BEARING CONCRETE MASONRY (CMU). COMPRESSIVE STRENGTH OF MASONRY F'M SHALL BE A MINIMUM OF 1,500 PSI.
5. MORTAR SHALL BE TYPE M OR S.
6. HORIZONTAL JOINT REINFORCEMENT SHALL BE TRUSS TYPE GALVANIZED COLD-DRAWN STEEL WIRE CONFORMING TO ASTM A 951.
7. PROVIDE HORIZONTAL JOINT REINFORCEMENT IN EVERY OTHER JOINT (16" O.C. VERTICALLY) UNLESS PLANS OR DETAILS CALL FOR CLOSER SPACING OR ADDITIONAL REINFORCEMENT.
8. BAR REINFORCEMENT: ASTM A 615 GRADE 60, PER SCHEDULE. FOR ADDITIONAL REINFORCEMENT SEE WALL REINFORCEMENT ELEVATION.
9. ALL CELLS WITH REINFORCEMENT SHALL BE GROUTED SOLID FOR THE FULL EXTENT OF BAR, VERTICAL AND HORIZONTAL.
10. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI. GROUT SHALL BE "FINE" AS DEFINED BY ASTM C 476.
11. STEEL ANGLES: ASTM A 36. STEEL IN AN EXTERIOR WALL OR EXPOSED TO THE EXTERIOR SHALL BE GALVANIZED. 12. CONTRACTOR SHALL COORDINATE ALL MASONRY WORK WITH WORK OF OTHER TRADES: ARCHITECTURAL, STRUCTURAL, MEP.

LOADING SCHEDULE

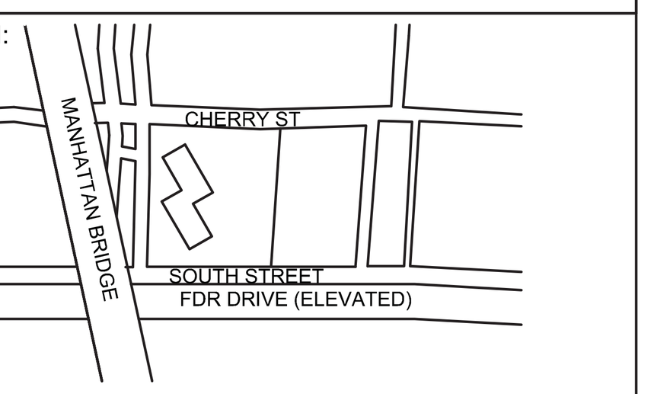
OCCUPANCY	PARTITION/FILL &/OR FINISHES (PSF)	CEIL. & MECH. (PSF)	LIVE LOAD
ROOF	40	5	100
MECHANICAL ROOF	40	5	100
ACCESSIBLE ROOF/ TERRACES	35	5	100
LOBBIES/STAIRS/ CORRIDORS	30	5	100
MECHANICAL ROOMS	20	5	150
GYM	20	5	100
PARKING	15	-	50
RETAIL	35	5	100
RESIDENTIAL	12	3	40
SWIMMING POOL DECK	35	3	100
SWIMMING POOL	35	-	280

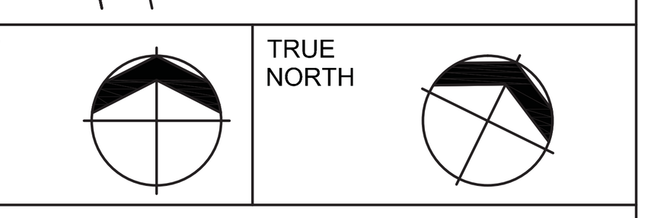
NOTE:
1. LOADS ARE AS SHOWN ABOVE U.O.N. ON PLAN

DEPT OF BLDGS 121185528 Job Number

ES664360829 Scan Code

KEY PLAN:





DEVELOPER:
EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

ARCHITECT OF RECORD:
AAI ARCHITECTS, P.C.
14 Wall Street, 2nd Floor
New York, NY 10005
TEL: 212-964-4040 FAX: 212-964-4090

INTERIOR DESIGNER:
MEYER DAVIS
180 Varick St, suite 404
New York, NY 10014
TEL: 212-627-5574

LANDSCAPE DESIGNER:
WEST 8 URBAN DESIGN & LANDSCAPE ARCHITECTURE P.C.
333 Hudson Street, Suite 905
New York, NY 10013
TEL: 212-285-0088 FAX: 212-285-0228

STRUCTURAL ENGINEERS:
WSP
228 East 45th Street
New York, NY 10017
TEL: 212-687-9888 FAX: 646-487-5501

MEP ENGINEERS:
ICOR ASSOCIATES, LLC
485 C Route 1 South, Suite 200
Iseline, NJ 08830
TEL: 908-272-3300 FAX: 908-272-4440

GEOTECHNICAL ENGINEERS:
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES
21 Penn Plaza - 360 West 31st Street, 8th Floor
New York, NY 10001
TEL: 212.479.5400 FAX: 212.479.5444

No.	DESCRIPTION:	DATE:
1	ISSUED FOR DOT	04-28-14
2	FOUNDATION FILING	06-10-14
3	ISSUED FOR FOUNDATION BID	07-25-14
4	50% DD	08-01-14
5	ISSUED FOR DOT	08-07-14
6	ISSUED FOR FOUNDATION BID	08-29-14

ALL DIMENSIONS ARE SHOWN IN IMPERIAL.

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
GENERAL NOTES, LEGEND AND ABBREVIATIONS 1

SEAL & SIGNATURE:
STATE OF NEW YORK · AHMAD RAHIMIAN · No. 065537 · LICENSED PROFESSIONAL ENGINEER

DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: N.T.S.	
DWG No:	FO-001.00
DOB PAGE No:	of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014:
NYC Development Hub

DOB B-SCAN:

FILE NAME:
PLOT DATE:

ROCK ANCHOR GENERAL NOTES

1. ROCK ANCHORS SHALL BE IN CONFORMANCE WITH LATEST PTI (POST – TENSIONING INSTITUTE) "RECOMMENDATIONS FOR PRESTRESSED ROCK AND SOIL ANCHORS". FOR SIZES AND LOCATIONS SEE FOUNDATION DRAWINGS.
2. ALL ROCK ANCHORS SHALL BE GRADE 150 THREADED BARS CONFORMING TO ASTM A–722. THREADED BARS SHALL BE PROVIDED WITH SHOP FABRICATED DOUBLE CORROSION PROTECTION. THREADED BARS, ANCHORAGE'S, CENTRALIZERS, ACCESSORIES, CORROSION PROTECTION SYSTEM, ETC. SHALL BE PROVIDED BY SAS STRESSTEEL OR APPROVED EQUAL.
3. THREADED BARS SHALL BE ENCAPSULATED WITH HIGH STRENGTH PVC CORRUGATED SHEATHING AND SHALL BE PRE–GROUTED BY THE MANUFACTURER.
4. PLATES SHALL CONFORM TO ASTM A–36, UNLESS GRADE 50 IS CALLED FOR IN THE DETAILS.
5. ANCHOR NUTS AND COUPLERS SHALL BE CAPABLE OF DEVELOPING 100% OF THE ULTIMATE STRENGTH OF THE THREADED BAR.
6. CARE MUST BE TAKEN NOT TO DAMAGE THE TENDONS. KEEP ALL COMPONENTS OF THE SYSTEM FREE OF DIRT OR OTHER DELETERIOUS SUBSTANCES.
7. DO NOT WELD IN THE VICINITY OF THE THREADED BARS.
8. DO NOT USE ANCHORS AS A GROUND FOR WELDING.
9. SEE PROJECT TECHNICAL SPECIFICATIONS SECTION 316800 FOR TIE–DOWN ROCK ANCHOR INSTALLATION AND TESTING REQUIREMENTS.
10. CONTRACTOR SHALL SUBMIT ANCHOR SHOP DRAWING(S) FOR APPROVAL PRIOR TO COMMENCING ANCHOR INSTALLATION. SHOP DRAWING(S) SHALL CONTAIN ANCHOR DETAILS, AND INSTALLATION AND TESTING PROCEDURES.

TABLE FOR DOUBLE CORROSION PROTECTION ROCK ANCHORS

THREADED BAR DIAMETER	DESIGN LOAD (KIPS)	ANCHOR PLATE (Fy=50 ksi)	MINIMUM DRILL HOLE DIAMETER SEE NOTE 1	MINIMUM BOND LENGTH SEE NOTE 2 & 5	MINIMUM EMBEDMENT IN FOOTING 'h'	MAXIMUM OFFSET 'F' OR 'G' SEE NOTE 4	MINIMUM EDGE DISTANCE 'E'
1⅜"	245*		6"	25'			

NOTES FOR CORROSION PROTECTION TABLE:

1. MINIMUM DRILL HOLE DIAMETER ASSUMES COUPLERS ARE NOT REQUIRED. HOLE DIAMETER MAY INCREASE DUE TO USE OF COUPLERS OR ROCK CONDITION.
2. ACTUAL BOND LENGTH TO BE DETERMINED BY GEOTECHNICAL CONSULTANT FROM BORINGS AND ROCK SAMPLES. GROUP ACTION EFFECTS ARE TO BE CONSIDERED.
3. PLATES FOR LARGE DIAMETER BARS TO BE SUPPLIED BY MANUFACTURER, SUBJECT TO ENGINEER'S APPROVAL. GRADE 50 MAY BE USED AT MANUFACTURER'S OPTION.
4. MAXIMUM OFFSET 'F' OR 'G' MAY BE INCREASED IF MINIMUM EMBEDMENT 'h' IS ALSO INCREASED BY AT LEAST THE SAME AMOUNT. PROJECT DESIGNER IS TO ESTABLISH NEW DIMENSIONS.
5. MINIMUM BOND LENGTH INTO NYCBC CLASS 1B OR BETTER ROCK.

SUPERSTRUCTURE CONCRETE NOTES

A. CONCRETE

1. ALL CONCRETE SHALL BE NORMAL WEIGHT CONTROLLED CONCRETE, U.O.N., AND COMPLY WITH THE A.C.I. BUILDING CODE AND THE CURRENT NEW YORK CITY BUILDING CODE.
2. CONCRETE STRENGTH SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
   SLABS AND BEAMS U.O.N. ON PLANS — 5000 PSI
   SHEAR WALLS & COLUMNS — SEE COLUMN SCHEDULE
   LINK BEAMS — SAME AS SHEARWALL STRUCTURE
3. NO CONCRETE SHALL BE PLACED UNTIL THE CONTRACTOR HAS INSTALLED ALL THE INSERTS AND DOVETAILS NECESSARY TO PROVIDE SUPPORT FOR MULLIONS, APPLIED FINISHES, PARTITIONS, PIPES, DUCTS, EQUIPMENT, ETC., AS REQUIRED IN ARCHITECTURAL, H.V.A.C. AND STRUCTURAL DRAWINGS. WHERE BRICK VENEER EXCEEDS 18" IN HEIGHT, PROVIDE DOVETAIL TYPE MASONRY ANCHORS SPACED AT 24" O/C IN ALL BACK UP VERTICAL CONCRETE SURFACES.
4. CONTRACTOR SHALL VERIFY LOCATIONS AND DIMENSIONS OF ALL SLOTS, PIPEDE SLEEVES, DUCTS AND ANY OTHER CONCRETE PENETRATIONS AS REQUIRED FOR VARIOUS TRADES BEFORE CONCRETE IS PLACED.

SHOP DRAWINGS SHOWING COMPOSITE LAYOUT OF ALL PENETRATIONS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

5. ALL PLUMBING AND ELECTRICAL SLOTS SHALL BE FILLED WITH CONCRETE TO THE SAME DEPTH AS FLOOR AFTER CONDUITS AND/OR PIPES ARE INSTALLED.
6. NO PIPES OR CONDUITS EXCEEDING 1/3 SLAB THICKNESS IN OUTSIDE DIAMETER NOR OVER NOMINAL 2" INSIDE DIAMETER SHALL BE EMBEDDED SHOULD BE PLACED CLOSER THAN 3 DIAMETER ON CENTER NOR PASS WITHIN 24" OF COLUMN FACE, U.O.N. JUNCTION BOXES MAY BE PLACED IN STRUCTURAL CONCRETE SLAB BUT SHALL NOT EXCEED 4½"x4½"x3½" IN DEPTH AND SHALL BE SEPARATED FROM OTHER JUNCTION BOXES BY NOT LESS THAN 8" OF CONCRETE.
7. ALL MEMBERS IN THE FLOOR SYSTEM INCLUDING BEAMS, BRACKETS, COLUMN CAPITALS AND HAUNCHES SHALL BE PLACED MONOLITHICALLY. VERTICAL CONSTRUCTION JOINTS NECESSARY MAY BE MADE AT CENTER OF BEAM OR SLAB USING APPROVED BULKHEADS AND ADDITIONAL REINFORCING AS SHOWN ON DETAILS.
8. NO CONCRETE FLOOR SYSTEM IS TO BE INSTALLED UNTIL AT LEAST TWO HOURS HAVE PASSED AFTER THE SUPPORTING COLUMNS AND WALLS ARE PLACED.
9. WHEN PLACING CONCRETE AGAINST AN ADJACENT BUILDING OR AT EXPANSION JOINT, AT LEAST 1" (U.O.N.) OF HIGH DENSITY STYROFOAM SHALL BE PLACED AT THE INTERFACE BETWEEN THE EXISTING AND NEW CONCRETE. IN ADDITION, THE CONTRACTOR MUST TAKE ALL THE NECESSARY MEASURES SO AS NOT TO CREATE ANY DAMAGE TO THE EXISTING CONSTRUCTION WHILE PLACING THE NEW CONCRETE.
10. TEMPORARY SHORING AND RESHORING SHALL REMAIN IN PLACE AT LEAST 28 DAYS AFTER PLACEMENT OF CONCRETE.
11. NO DEVIATION FROM THE STRUCTURAL PLANS SHALL BE PERMITTED WITHOUT THE EXPRESS WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.

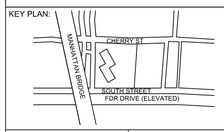
B. CODES AND TESTS

1. THIS STRUCTURE HAS BEEN DESIGNED UNDER THE PROVISIONS OF THE NEW YORK CITY BUILDING CODE AS AMENDED AND A.C.I. 318.
2. ALL CONTROLLED CONCRETE SHALL COMPLY WITH THE A.C.I. 318 BUILDING CODE AND THE NEW YORK CITY BUILDING CODE. A SPECIAL AMENDMENT FORM FOR CONTROLLED CONCRETE WITH CONCRETE TESTS AND CURVES OF TESTS FOR THE PRELIMINARY DESIGN MIX PREPARED BY AN APPROVED LABORATORY MUST BE SUBMITTED TO THE ENGINEER FOR FILING WITH THE BUILDING DEPARTMENT. NO CONCRETE IS TO BE PLACED BEFORE SUCH AN AMENDMENT IS APPROVED BY THE BUILDING DEPARTMENT.
3. DESIGN AND CONSTRUCTION OF FORMWORK IS TO COMPLY WITH THE A.C.I. 318 BUILDING CODE AND THE NEW YORK CITY BUILDING CODE AS AMENDED.
4. TRANSPORTING, PLACING, CURING AND DEPOSITING OF CONCRETE SHALL COMPLY WITH THE A.C.I. BUILDING CODE.
5. ALL REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO "SPECIFICATIONS FOR DEFORMED BILLET–STEEL BARS FOR CONCRETE REINFORCEMENT" A.S.T.M. A615 GRADE 60. THE STEEL SUPPLIER SHALL PROVIDE THE ENGINEER WITH AN AFFIDAVIT OF THE PRODUCER OF STEEL CERTIFYING THAT THE STEEL MEETS THE REQUIREMENTS OF THE A.S.T.M.
6. ALL STRUCTURAL STEEL (LINTELS, DUNNAGE BEAMS, ETC.) SHALL CONFORM TO A.S.T.M. A–36, U.O.N.

C. SEISMIC AND WIND CRITERIA

1. THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST NEW YORK CITY BUILDING CODE (NYCBC 2008).
2. WIND DESIGN DATA:
   - BASIC WIND SPEED (3 SECOND GUST) = 98 mph
   - WIND IMPORTANCE FACTOR = 1
   - WIND EXPOSURE = C
   - INTERNAL PRESSURE COEFFICIENT = ±0.18
3. EARTHQUAKE DESIGN DATA:
   AS PER GEOTECHNICAL REPORT BY LANGAN DATED JANUARY 2, 2014
   - SEISMIC IMPORTANCE FACTOR = 1
   - S_S = 0.365, S_1 = 0.071
   - SITE CLASS D
   - SEISMIC DESIGN CATEGORY = C
   - SEISMIC FORCE RESISTING SYSTEM = ORDINARY REINFORCED CONCRETE SHEARWALLS
   - RESPONSE MODIFICATION FACTORS: R = 5, Cd = 4.5
   - ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE PROCEDURE

KEY PLAN:



PROJECT NORTH

TRUE NORTH

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EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

ARCHITECT OF RECORD:
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LANDSCAPE DESIGNER:
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TEL: 212-587-9888 FAX: 646-487-5501

MEP ENGINEERS:
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Iseline, NJ 08830
TEL: 908-272-3300 FAX: 908-272-4440

GEOTECHNICAL ENGINEERS:
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES
21 Penn Plaza • 360 West 31st Street, 8th Floor
New York, NY 10001
TEL: 212.479.5400 FAX: 212.479.5444

No.	DESCRIPTION:	DATE:
1	ISSUED FOR DOT	04–28–14
2	FOUNDATION FILING	06–10–14
3	ISSUED FOR FOUNDATION BID	07–25–14
4	50% DD	08–01–14
5	ISSUED FOR DOT	08–07–14
6	ISSUED FOR FOUNDATION BID	08–29–14

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
GENERAL NOTES, LEGEND AND ABBREVIATIONS 2

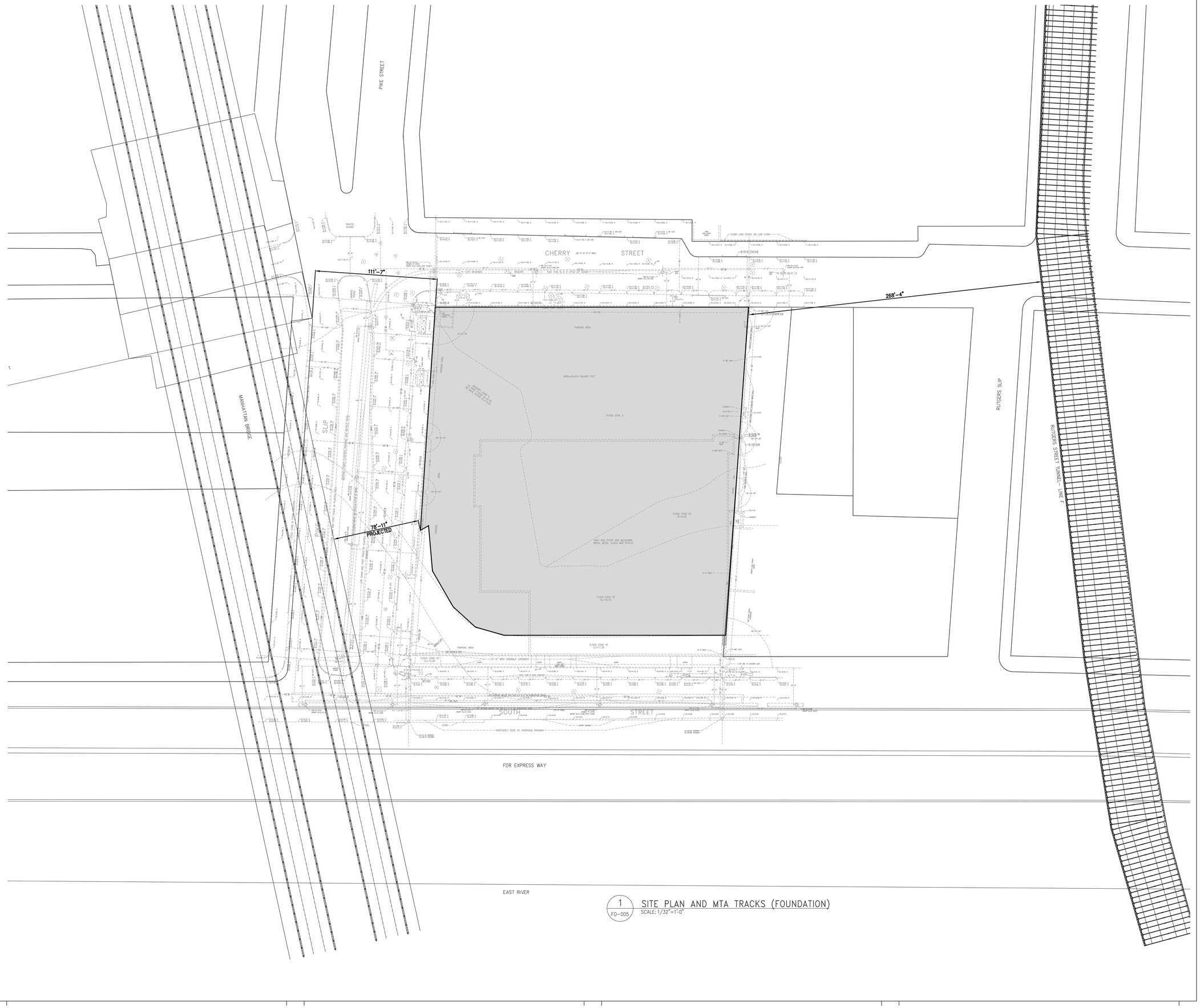
SEAL & SIGNATURE:
STATE OF NEW YORK — ANMAD RAHIMIAN — No. 065502 — LICENSED PROFESSIONAL ARCHITECT

DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: N.T.S.	
DWG No:	**FO-002.00**
DOB PAGE No:	of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014:
NYC Development Hub

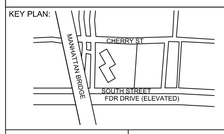
DOB B-SCAN:

30" x 42" Arch E - SHEET SIZE



1 / FO-005 SITE PLAN AND MTA TRACKS (FOUNDATION)
SCALE: 1/32"=1'-0"

KEY PLAN:



PROJECT NORTH

TRUE NORTH

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EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

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14 Wall Street, 2nd Floor
New York, NY 10005
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Iseline, NJ 08830
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No.	DESCRIPTION:	DATE:
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2	FOUNDATION FILING	06-10-14
3	ISSUED FOR FOUNDATION BID	07-25-14
4	50% DD	08-01-14
5	ISSUED FOR DOT	08-07-14
6	ISSUED FOR FOUNDATION BID	08-29-14

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
SITE PLANAND MTA TRACKS (FOUNDATION)

SEAL & SIGNATURE:
STATE OF NEW YORK · AHMAD RAMDHONI · No. 065507 · LICENSED PROFESSIONAL ENGINEER

DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: 1/32" = 1'-0"	

DWG No:
FO-005.00

DOB PAGE No: of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014
NYC Development Hub

DOB B-SCAN:

FILE NAME:
PLOT DATE:

STRAP BEAM SCHEDULE

BEAM MARK	SIZE		REINFORCEMENT			STIRRUPS			REMARKS
	WIDTH	DEPTH	BOTTOM CONTINUOUS	TOP CONTINUOUS	TOP ADD'L BARS AT SUPPORT	TYPE	SIZE	SPACING (IN)	
SB1	108	60	15-#11	30--#11 (2 LAYERS)		3	#4	12	
SB2	132	60	15-#11	26-#11		3	#4	12	

TYPE 3

1 FO-100 FOUNDATION PLAN

SCALE: 1/16" = 1'-0"

NOTES:

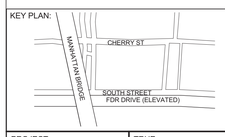
1. TOP OF PRESSURE SLAB ELEVATION TO BE -2'-8" U.O.N. THUS ▭ ON PLAN.
2. PRESSURE SLAB TO BE 30" MIN. THICK U.O.N. THUS ▭ ON PLAN.
3. REINF. TO BE: #11@12 CONT. E.W. TOP
   #10@12 CONT. BOTTOM
4. ALL PRESSURE SLAB TO BE POURED ON WATERPROOF MEMBRANE PLACED ON 3" MUD SLAB.
5. FOR GENERAL NOTES, ABBREVIATIONS AND LEGEND SEE DRAWING FO-001.
6. FOR FOUNDATION TYPICAL DETAILS SEE FO-200 SERIES DRAWINGS.
7. FOR FOUNDATION SECTIONS SEE FO-300 SERIES DRAWINGS.
8. FOR LINK BEAM SCHEDULE AND SHEARWALL DETAILS SEE S-940 SERIES DRAWINGS.
9. FOR COLUMN SIZES, REINFORCEMENT AND DETAILS SEE S-950 SERIES DRAWINGS.
10. FOR SHEARWALL PILE CAPS SEE DWG. FO-101 THRU FO-104
11. ALL BOTTOM REINFORCEMIN TO BE EPOXY COATED.

ELEVATIONS ARE ACTUAL AND REFER TO NAVD DATUM

LEGEND:

PC ON PLAN INDICATES 200 TON COMPRESSION / 45 TON TENSION CAPACITY PILE, LATERAL CAPACITY 4 TON W/ 90 KIP-FT MOMENT @ PILE HEAD
CC ON PLAN INDICATES 200 TON COMPRESSION / 45 TON TENSION CAPACITY CAISSON, LATERAL CAPACITY 2.5 TON W/ 90 KIP-FT MOMENT @ CAISSON HEAD
1500CC ON PLAN INDICATES 1500 TON COMPRESSION / 500 TON TENSION CAPACITY CAISSON, LATERAL CAPACITY 11 TON W/ 350 KIP-FT MOMENT @ CAISSON HEAD
⊕ ON PLAN INDICATES 122.5 TON TIE DOWN ANCHOR

KEY PLAN:



PROJECT NORTH / TRUE NORTH

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805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

ARCHITECT OF RECORD:
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NERI & HU DESIGN AND RESEARCH OFFICE
88 Yuqing Road
Shanghai, China 200030
TEL: 8621-6082-3777 FAX: 8621-6082-3778

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No.	DESCRIPTION:	DATE:
1	50% SD	02-28-14
2	100%SD	04-25-14
3	ISSUED FOR DOT	04-28-14
4	ISSUED FOR FOUNDATION BID	07-25-14
5	50% DD	08-01-14
6	ISSUED FOR DOT	08-07-14
7	ISSUED FOR FOUNDATION BID	08-29-14

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CONSULTANT: AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
FOUNDATION PLAN

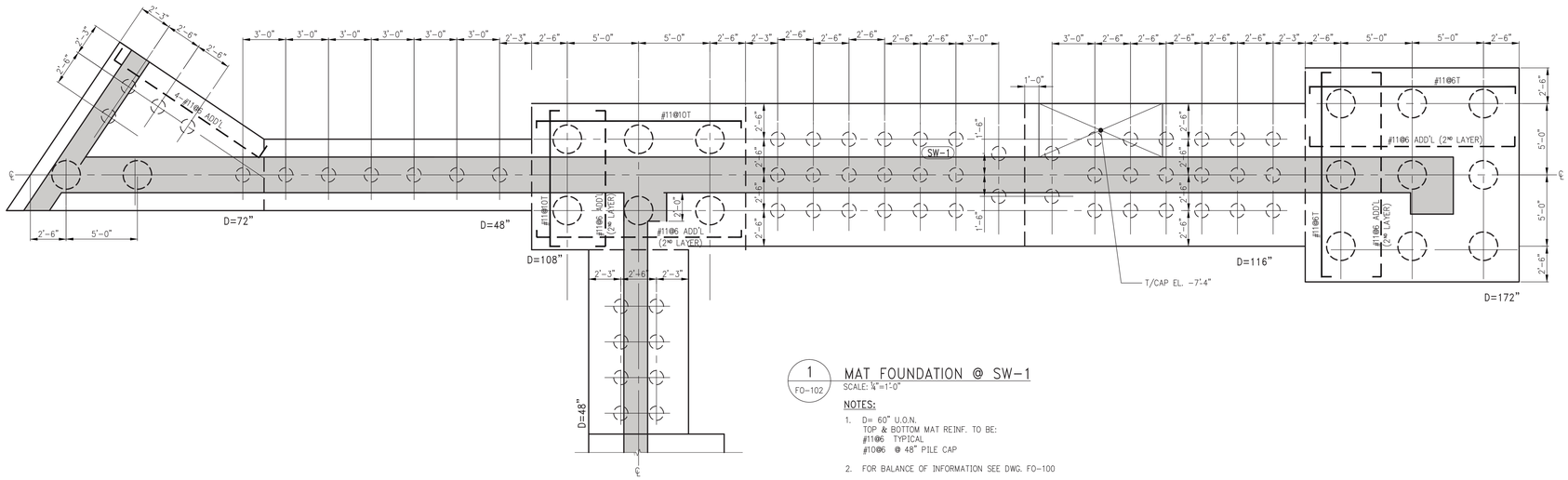
SEAL & SIGNATURE: STATE OF NEW YORK · AHMAD RAHIMIAN · No. 065502 · LICENSED PROFESSIONAL ENGINEER

DATE:	01 NOV 2013
PROJECT No:	1335-00
DRAWN: TEAM	REV:
CHK: CHECKER	
SCALE: As indicated	
DWG No:	**FO-100.00**
DOB PAGE No:	of

DOB EMPLOYEE STAMP: Damian Titus — Buildings — APPROVED — Under Directive 2 of 1975 — Date: 10/15/2014 — NYC Development Hub

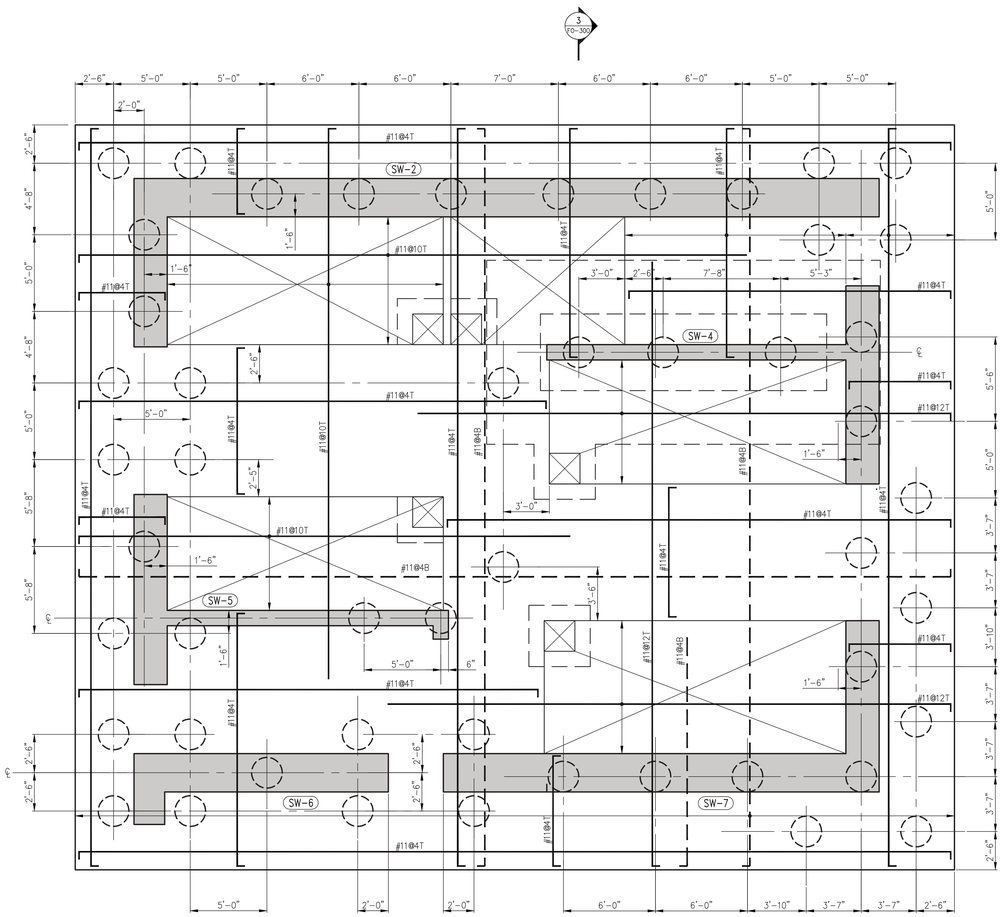
DOB B-SCAN:

FILE NAME:
PLOT DATE:



1 / FO-102 — MAT FOUNDATION @ SW-1
SCALE: ¼"=1'-0"

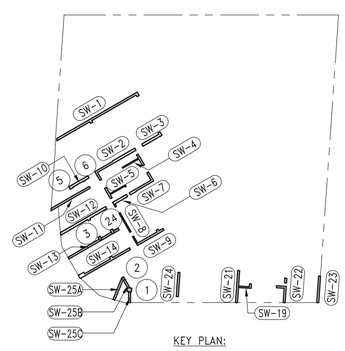
NOTES:
1. D= 60" U.O.N.
   TOP & BOTTOM MAT REINF. TO BE:
   #11@6 TYPICAL
   #10@6 @ 48" PILE CAP
2. FOR BALANCE OF INFORMATION SEE DWG. FO-100



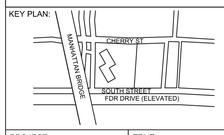
2 / FO-102 — MAT FOUNDATION @ SW-2, SW-4, SW-5, SW-6 AND SW-7
SCALE: ¼"=1'-0"

NOTES:
1. D= 20'-2" U.O.N.
2. FOR BALANCE OF INFORMATION SEE DWG. FO-100

LEGEND:
- INDICATE 1500 TON CAISSON
- INDICATE 200 TON PILE



KEY PLAN:

KEY PLAN:


PROJECT NORTH / TRUE NORTH

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No.	DESCRIPTION:	DATE:
1	ISSUED FOR DOT	04-28-14
2	FOUNDATION FILING	06-10-14
3	ISSUED FOR FOUNDATION BID	07-25-14
4	50% DD	08-01-14
5	ISSUED FOR DOT	08-07-14
6	ISSUED FOR FOUDATION BID	08-29-14

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CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

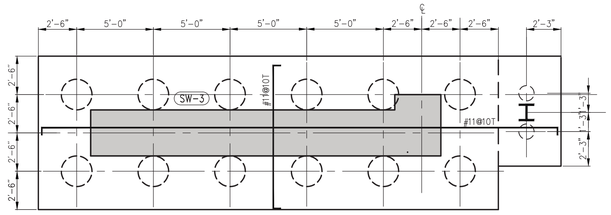
DRAWING TITLE:
MAT FOUNDATION 1

SEAL & SIGNATURE:
STATE OF NEW YORK — RAMZAD RAHIMIAN — No. 086852 — LICENSED PROFESSIONAL ENGINEER

DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: 1/4" = 1'-0"	
DWG No:	**FO-101.00**
DOB PAGE No:	of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014
NYC Development Hub

DOB B-SCAN:

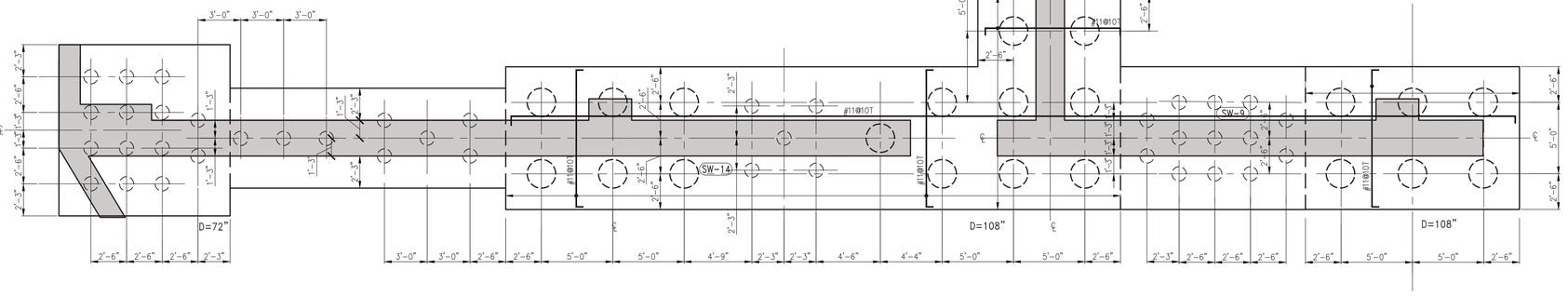


1 / FO-102 MAT FOUNDATION @ SW-3

SCALE: ¼"=1'-0"

NOTES:

1. D= 108"
   TOP MAT REINF. TO BE #11@6 E.W.
   BOTTOM MAT REINF. TO BE #11@6 E.W. (2 LAYERS).
2. FOR BALANCE OF INFORMATION SEE DWG. FO-100



2 / FO-102 MAT FOUNDATION @ SW-8, SW-9 AND SW-14

SCALE: ¼"=1'-0"

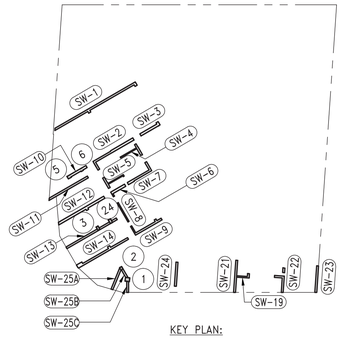
NOTES:

1. D= 4'-6" U.O.N.
   TOP & BOTTOM MAT REINF. TO BE:
   #11@6 E.W. TYPICAL.
   #11@6 E.W. (2 LAYERS) @ 108" PILE CAP
2. FOR BALANCE OF INFORMATION SEE DWG. FO-100

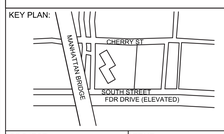
LEGEND:

INDICATE 1500 TON CAISSON

INDICATE 200 TON PILE



KEY PLAN:



PROJECT NORTH

TRUE NORTH

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6	ISSUED FOR FOUDATION BID	08-29-14

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CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

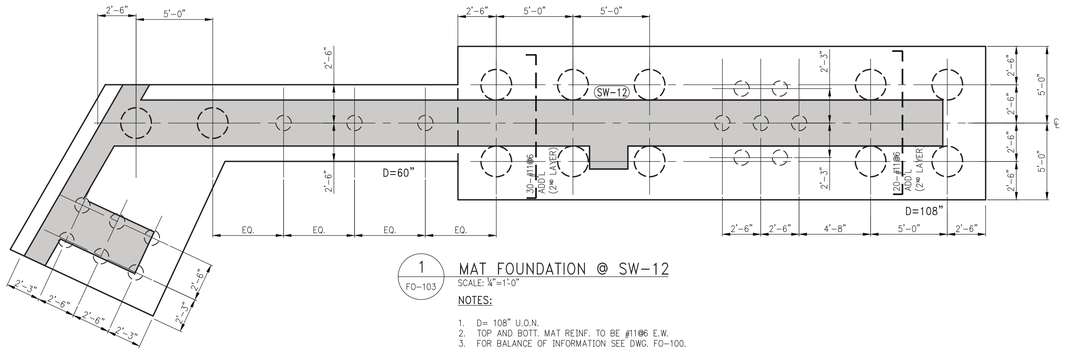
DRAWING TITLE:
MAT FOUNDATION 2

SEAL & SIGNATURE:
STATE OF NEW YORK · AHMAD RAHIMIAN · LICENSED PROFESSIONAL ENGINEER · No. 085507

DATE: 07/25/14
PROJECT No: 1302510
DRAWN: CADD REV:
CHK: CL
SCALE: 1/4" = 1'-0"
DWG No:
FO-102.00
DOB PAGE No: of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014
NYC Development Hub

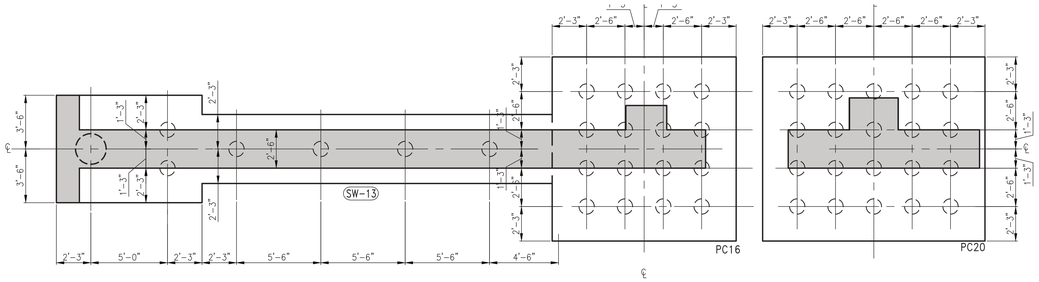
DOB B-SCAN:



1 FO-103 MAT FOUNDATION @ SW-12
SCALE: ¼"=1'-0"

NOTES:

1. D= 108" U.O.N.
2. TOP AND BOTT. MAT REINF. TO BE #11@6 E.W.
3. FOR BALANCE OF INFORMATION SEE DWG. FO-100.



2 FO-103 MAT FOUNDATION @ SW-13
SCALE: ¼"=1'-0"

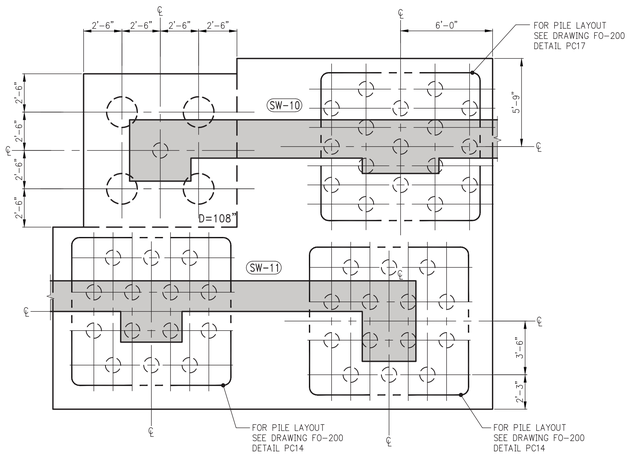
NOTES:

1. D= 4'-6" U.O.N.
   BOTTOM MAT REINF. TO BE #10@10 E.W.
2. FOR PC15 AND PC19 SEE DWG. FO-200
3. FOR BALANCE OF INFORMATION SEE DWG. FO-100

LEGEND:

INDICATE 1500 TON CAISSON

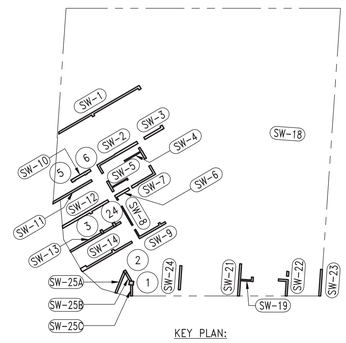
INDICATE 200 TON PILE



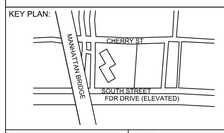
3 FO-103 MAT FOUNDATION @ SW-10 & SW-11 (DETAIL PC45)
SCALE: ¼"=1'-0"

NOTES:

1. D= 6'-0"
2. TOP AND BOTTOM MAT REINF. TO BE #11@6 E.W.
   FOR 108" DEEP MAT PROVIDE #11@6 E.W.
3. FOR BALANCE OF INFORMATION SEE DWG. FO-100



KEY PLAN:



PROJECT NORTH

TRUE NORTH

DEVELOPER:
EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

ARCHITECT OF RECORD:
AAI ARCHITECTS, P.C.
14 Wall Street, 2nd Floor
New York, NY 10005
TEL: 212-964-4040 FAX: 212-964-4090

INTERIOR DESIGNER:
MEYER DAVIS
180 Varick St, suite 404
New York, NY 10014
TEL: 212-627-5574

LANDSCAPE DESIGNER:
WEST 8 URBAN DESIGN & LANDSCAPE ARCHITECTURE P.C.
333 Hudson Street, Suite 905
New York, NY 10013
TEL: 212-285-0088 FAX: 212-285-0228

STRUCTURAL ENGINEERS:
WSP
228 East 45th Street
New York, NY 10017
TEL: 212-687-9888 FAX: 646-487-5501

MEP ENGINEERS:
ICOR ASSOCIATES, LLC
485 C Route 1 South, Suite 200
Iseline, NJ 08830
TEL: 908-272-3300 FAX: 908-272-4440

GEOTECHNICAL ENGINEERS:
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES
21 Penn Plaza • 360 West 31st Street, 8th Floor
New York, NY 10001
TEL: 212.479.5400 FAX: 212.479.5444

No.	DESCRIPTION:	DATE:
1	ISSUED FOR DOT	04-28-14
2	FOUNDATION FILING	06-10-14
3	ISSUED FOR FOUNDATION BID	07-25-14
4	50% DD	08-01-14
5	ISSUED FOR DOT	08-07-14
6	ISSUED FOR FOUDATION BID	08-29-14

Discrepancies must be reported immediately to the Architect before proceeding. Only figured dimensions are to be used. Contractors must check all dimensions on site. This drawing is protected by copyright.

ALL DIMENSIONS ARE SHOWN IN IMPERIAL.

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

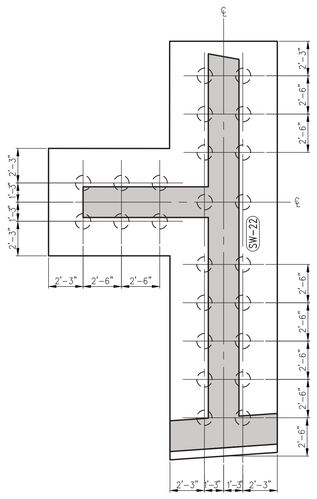
DRAWING TITLE:
MAT FOUNDATION 3

SEAL & SIGNATURE:
STATE OF NEW YORK · AHMAD RAMIDZAI · No. 065037 · LICENSED PROFESSIONAL ENGINEER

DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: 1/4" = 1'-0"	
DWG No:	**FO-103.00**
DOB PAGE No:	of

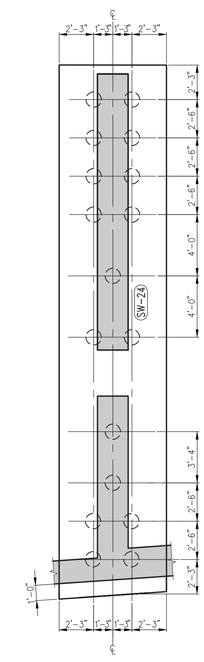
DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014
NYC Development Hub

DOB B-SCAN:



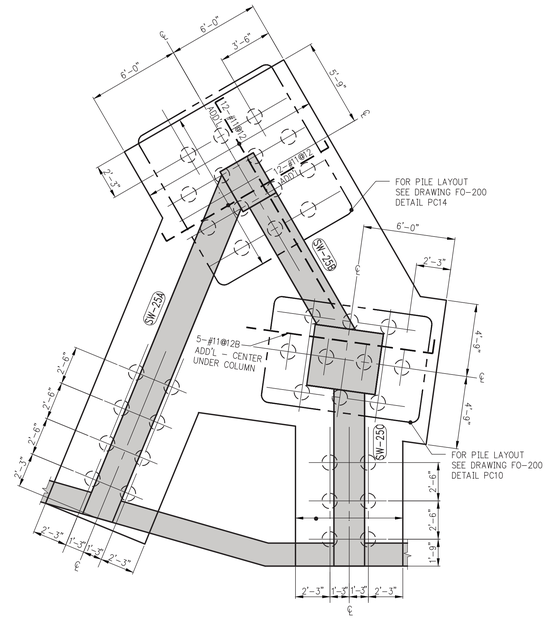
2 FO-104 MAT FOUNDATION @ SW-22
SCALE: ¼"=1'-0"

1. D= 4'-6" BOTTOM MAT REINF. TO BE #10@12 E.W.
2. FOR BALANCE OF INFORMATION DWG. SEE FO-100



3 FO-104 MAT FOUNDATION @ SW-24
SCALE: ¼"=1'-0"

NOTES:
1. D= 4'-6" BOTTOM MAT REINF. TO BE #10@12 E.W.
2. FOR BALANCE OF INFORMATION DWG. SEE FO-100



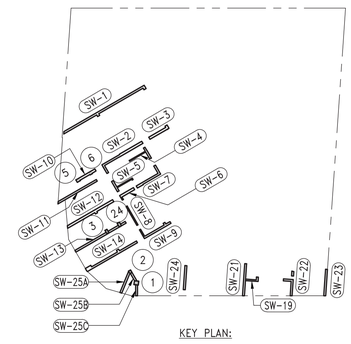
4 FO-104 MAT FOUNDATION @ SW-25
SCALE: ¼"=1'-0"

NOTES:
1. D= 5'-2"
BOTTOM MAT REINF. TO BE #11@12 E.W.
2. FOR BALANCE OF INFORMATION DWG. SEE FO-100

LEGEND:

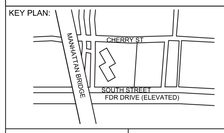
INDICATES 1500 TON CAISSON

INDICATES 200 TON PILE



KEY PLAN:

KEY PLAN:



PROJECT NORTH

TRUE NORTH

DEVELOPER:
EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

ARCHITECT OF RECORD:
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New York, NY 10017
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485 C Route 1 South, Suite 200
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21 Penn Plaza • 360 West 31st Street, 8th Floor
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No.	DESCRIPTION:	DATE:
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4	50% DD	08-01-14
5	ISSUED FOR DOT	08-07-14
6	ISSUED FOR FOUDATION BID	08-29-14

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
MAT FOUNDATION 4

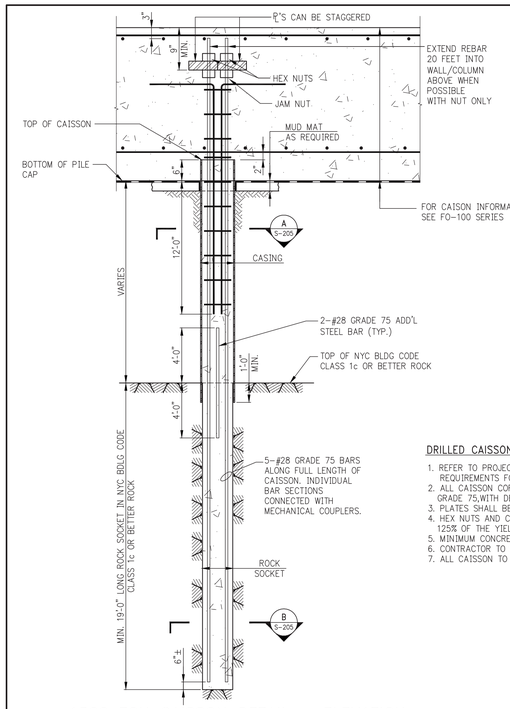
SEAL & SIGNATURE:
STATE OF NEW YORK AHMAD RAHIMIAN No. 065527 LICENSED PROFESSIONAL ENGINEER

DATE: 07/25/14
PROJECT No: 1302510
DRAWN: CADD REV:
CHK: CL
SCALE: 1/4" = 1'-0"
DWG No:
FO-104.00
DOB PAGE No: of

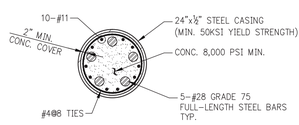
DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014
NYC Development Hub

DOB B-SCAN:

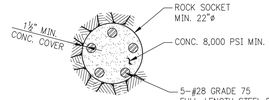
FILE NAME:
PLOT DATE:



1500 TON CAISSON DETAIL – ELEVATION



SECTION A



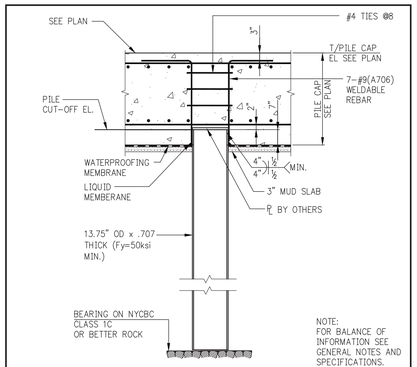
SECTION B

DRILLED CAISSON NOTES:

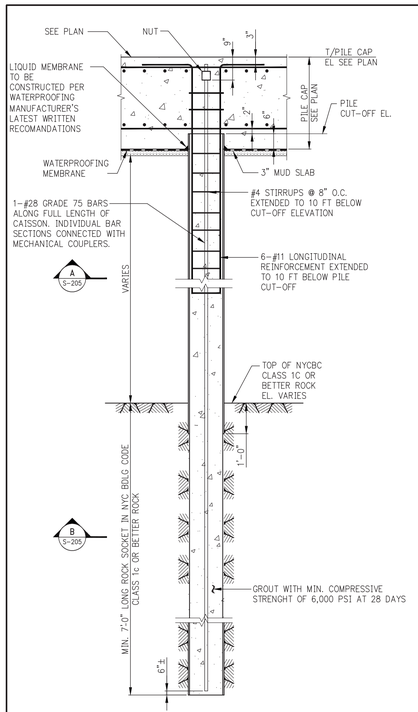
1. REFER TO PROJECT TECHNICAL SPECIFICATIONS SECTIONS 316333 FOR MINIMUM REQUIREMENTS FOR DRILLED CAISSON INSTALLATION AND SPECIAL INSPECTIONS.
2. ALL CAISSON CORE STEEL BE AS SHOWN IN SCHEDULE FULL LENGTH. GRADE 75,WITH DEFORMATIONS CONFORMING TO ASTM A-615
3. PLATES SHALL BE 36KSI STEEL.
4. HEX NUTS AND COUPLERS SHALL BE CAPABLE OF DEVELOPING 125% OF THE YIELD STRENGTH OF BAR SHOWN IN SCHEDULE GRADE 97 REBARS
5. MINIMUM CONCRETE STRENGTH SHALL BE 6000 PSI AT 28 DAYS.
6. CONTRACTOR TO SUBMIT FINAL SIGNED & SEALED DRAWINGS WITH CAISSON DESIGN
7. ALL CAISSON TO HAVE LATERAL CAPACITY SHOWN ON FO-100.

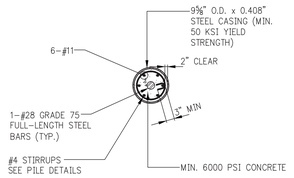
TYPICAL MINI CAISSON SCHEDULE

COMPRESSION SERVICE LOAD (TON)	DESIGN TENSION SERVICE LOAD (TON)	CASING DIAMETER (IN) 50 KSI	CASING THICKNESS (IN)	REINFORCING BARS GRADE 75	ROCK SOCKET MIN. (FT)	CAP PLATE (FY 36)
1500	500	24.000	0.500	AS SHOWN	19'-0"	8"x8"x2½"

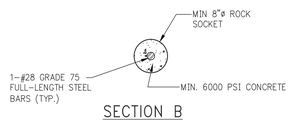


200 TON DRIVEN PILE DETAIL





SECTION A

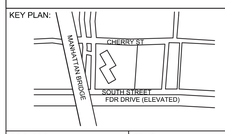


SECTION B

200 TON COMPRESSION CAISSON

NOTE:
FOR BALANCE OF INFORMATION SEE GENERAL NOTES AND SPECIFICATIONS.

CAISSON AND PILE PENETRATION DETAILS TO BE CONSTRUCTED PER WATERPROOFING MANUFACTURER'S LATEST WRITTEN RECOMMENDATIONS.



PROJECT NORTH | TRUE NORTH

DEVELOPER:
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TEL: 212-712-6000 FAX: 212-712-6100

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4	50% DD	08-01-14
5	ISSUED FOR DOT	08-07-14
6	ISSUED FOR COORDINATION	08-15-14
7	ISSUED FOR FOUNDATION BID	08-29-14

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
TYPICAL FOUNDATION DETAILS 1

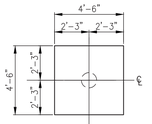
SEAL & SIGNATURE:
STATE OF NEW YORK ANMAD RAHIMAN LICENSED PROFESSIONAL ARCHITECT No. 026502

DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: N.T.S.	
DWG No:	**FO-200.00**
DOB PAGE No:	of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014
NYC Development Hub

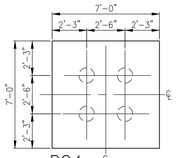
DOB B-SCAN:

FILE NAME:
PLOT DATE:



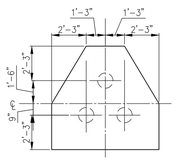
PC1

DEPTH: 3'-0"
REINF: 5-#8 E.W.



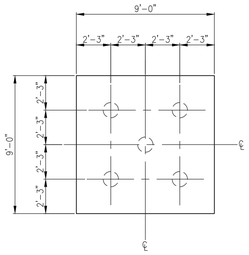
PC4

DEPTH: 3'-10"
REINF: 10-#10 E.W.



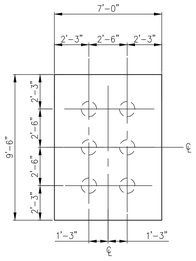
PC3

DEPTH: 3'-8"
REINF: 10-#9 E.W. (3 WAYS)



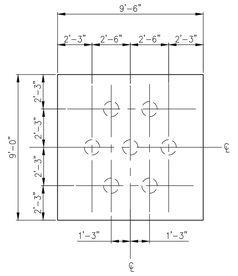
PC5

DEPTH: 4'-6"
REINF: 14-#10 E.W.



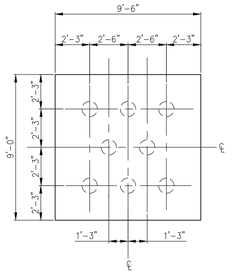
PC6

DEPTH: 5'-0"
REINF: 14-#10 S.W.
13-#10 L.W.



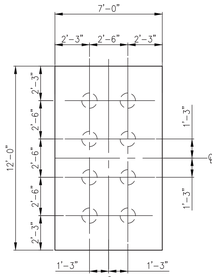
PC7

DEPTH: 4'-6"
REINF: 16-#10 E.W.



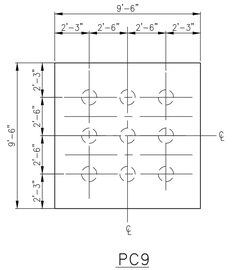
PC8

DEPTH: 5'-0"
REINF: 17-#10 E.W.



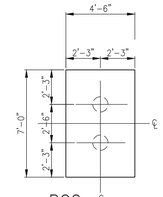
PC8A

DEPTH: 4'-2"
REINF: 25-#9 S.W.
10-#11 L.W.



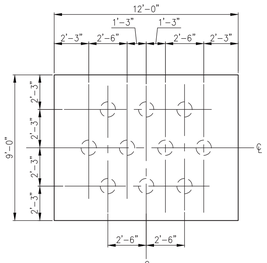
PC9

DEPTH: 5'-2"
REINF: 18-#10 E.W.



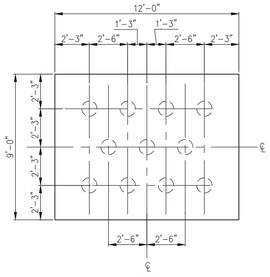
PC2

DEPTH: 3'-8"
REINF: 9-#9 S.W.
8-#9 L.W.



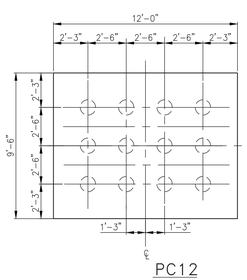
PC10

DEPTH: 5'-4"
REINF: 21-#10 S.W.
17-#11 L.W.



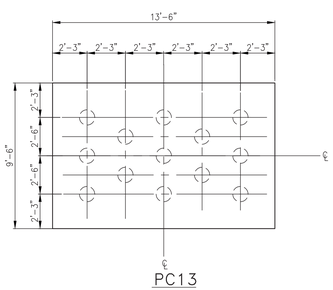
PC11

DEPTH: 5'-4"
REINF: 24-#10 S.W.
21-#11 L.W.



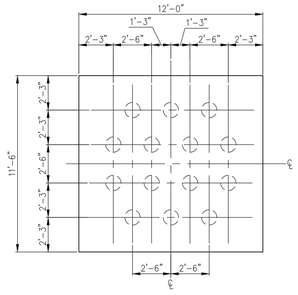
PC12

DEPTH: 6'-2"
REINF: 25-#10 S.W.
21-#11 L.W.



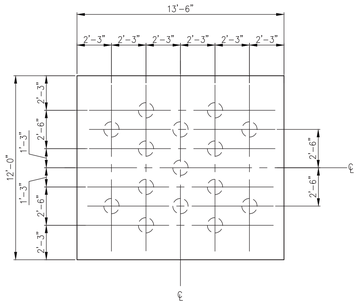
PC13

DEPTH: 6'-10"
REINF: 22-#10 S.W.
23-#11 L.W.



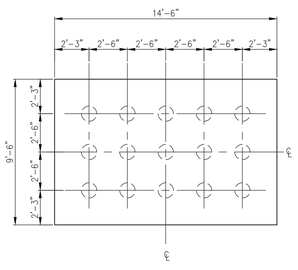
PC14

DEPTH: 6'-0"
REINF: 23-#11 E.W.



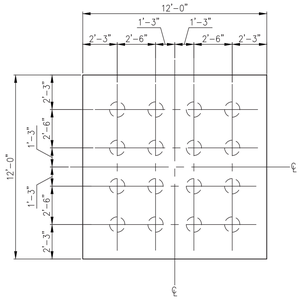
PC15

DEPTH: 6'-0"
REINF: 28-#11 S.W.
26-#11 L.W.



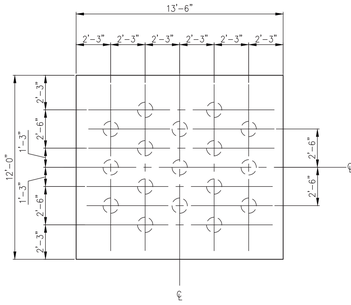
PC15A

DEPTH: 5'-0"
REINF: 27-#10 S.W.
14-#10 L.W.



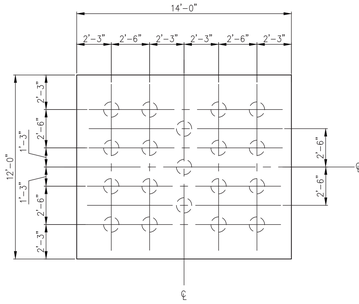
PC16

DEPTH: 7'-6"
REINF: 25-#11 E.W.



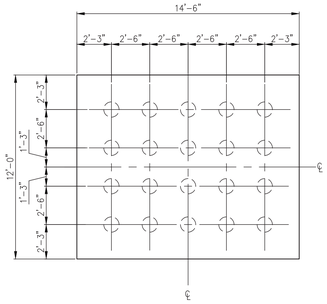
PC17

DEPTH: 7'-2"
REINF: 25-#11 S.W.
31-#11 L.W.



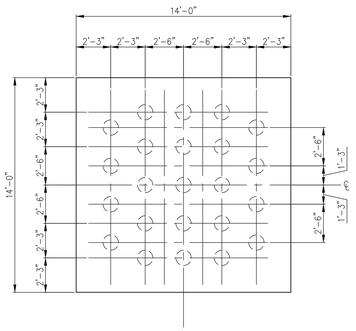
PC19

DEPTH: 7'-0"
REINF: 30-#11 S.W.
33-#11 L.W.



PC20

DEPTH: 7'-2"
REINF: 31-#11 S.W.
34-#11 L.W.

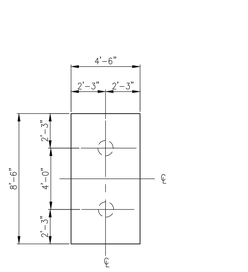


PC23

DEPTH: 7'-2"
REINF: 36-#11 E.W.

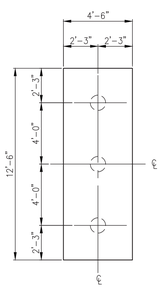
200 TON CAPACITY PILE CAP DETAILS

NOTE:
1. ALL REINFORCEMENT IS BOTTOM REINFORCEMENT, WITH 90° HOOK U.O.N.
2. FOR DETAIL OF PC61 SEE FO-101 SERIES.



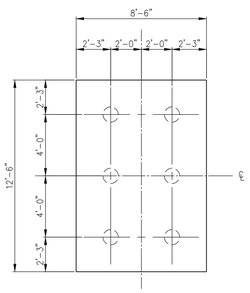
CC2

DEPTH: 48"
REINF: 10-#9 S.W.
7-#9 L.W.



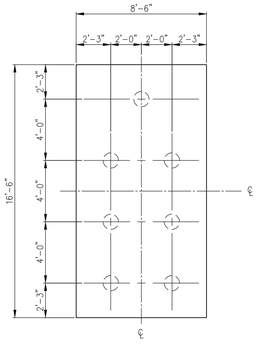
CC3

DEPTH: 66"
REINF: 18-#9 S.W.
12-#9 L.W.



CC6

DEPTH: 70"
REINF: 21-#10 S.W.
18-#10 L.W.



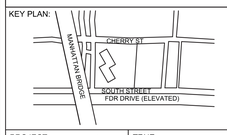
CC7A

DEPTH: 72"
REINF: 20-#9 S.W.
24-#11 L.W.

200 TON CAPACITY CAISSON CAP DETAILS

NOTE: ALL REINFORCEMENT IS BOTTOM REINFORCEMENT, WITH 90° HOOK U.O.N.

KEY PLAN:



PROJECT NORTH

TRUE NORTH

DEVELOPER:
EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
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TEL: 212-627-5574

LANDSCAPE DESIGNER:
WEST 8 URBAN DESIGN & LANDSCAPE ARCHITECTURE P.C.
333 Hudson Street, Suite 905
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228 East 45th Street
New York, NY 10017
TEL: 212-587-9888 FAX: 646-487-5501

MEP ENGINEERS:
ICOR ASSOCIATES, LLC
485 C Route 1 South, Suite 200
Iseline, NJ 08830
TEL: 908-272-3300 FAX: 908-272-4440

GEOTECHNICAL ENGINEERS:
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES
21 Penn Plaza - 360 West 31st Street, 8th Floor
New York, NY 10001
TEL: 212.479.5400 FAX: 212.479.5444

No.	DESCRIPTION:	DATE:
1	50% SD	02-28-14
2	100% SD	04-25-14
3	ISSUED FOR DOT	04-28-14
4	FOUNDATION FILING	06-10-14
5	ISSUED FOR FOUNDATION BID	07-25-14
6	50% DD	08-01-14
7	ISSUED FOR DOT	08-07-14
8	ISSUED FOR COORDINATION	08-15-14
9	ISSUED FOR FOUNDATION BID	08-29-14

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
TYPICAL FOUNDATION DETAILS 2

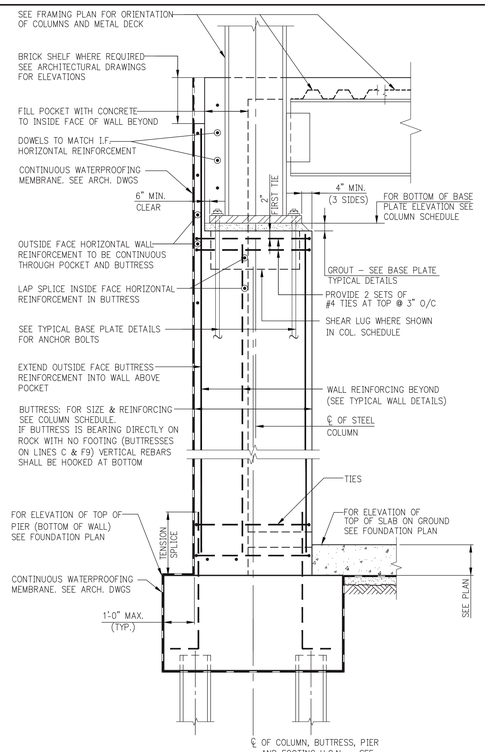
SEAL & SIGNATURE:
STATE OF NEW YORK · AHMAD RAMIREZ · LICENSED PROFESSIONAL ENGINEER · NO. 086027

DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: AS SHOWN	
DWG No:	**FO-201.00**
DOB PAGE No:	of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014:
NYC Development Hub

DOB B-SCAN:

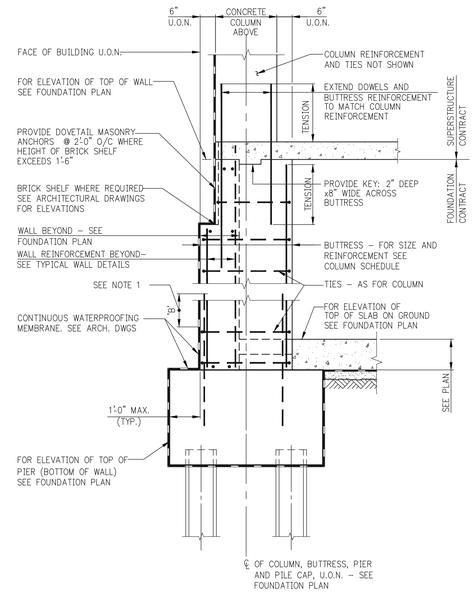
FILE NAME:
PLOT DATE:



BUTTRESS AT STEEL COLUMN

NOTES:

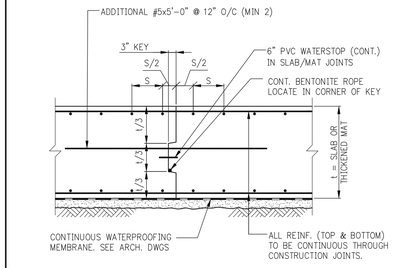
1. FOR FOOTING REINFORCING SEE FOOTING SCHEDULE.
2. FOR ADDITIONAL INFORMATION SEE TYPICAL DETAIL AT PERIMETER FOOTING AND TYPICAL FOUNDATION WALL DETAIL.



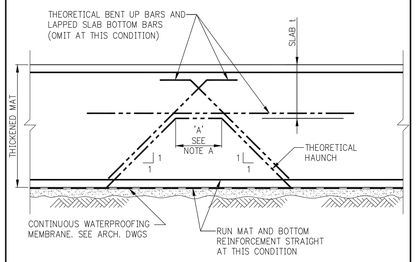
BUTTRESS AT CONCRETE COLUMN

NOTE:

1. WHEN SLAB ON GROUND IS POURED BEFORE COLUMN, INCREASE LENGTH OF DOWELS BY DIMENSION 'B'. IN ADDITION, IF COLUMN CONCRETE STRENGTH IS GREATER THAN 1.4 TIMES SLAB CONCRETE STRENGTH, THE SLAB CONCRETE STRENGTH MUST BE INCREASED LOCALLY TO MATCH COLUMN CONCRETE STRENGTH FOR A DISTANCE OF 2 FEET IN ALL DIRECTIONS FROM COLUMN FACES.

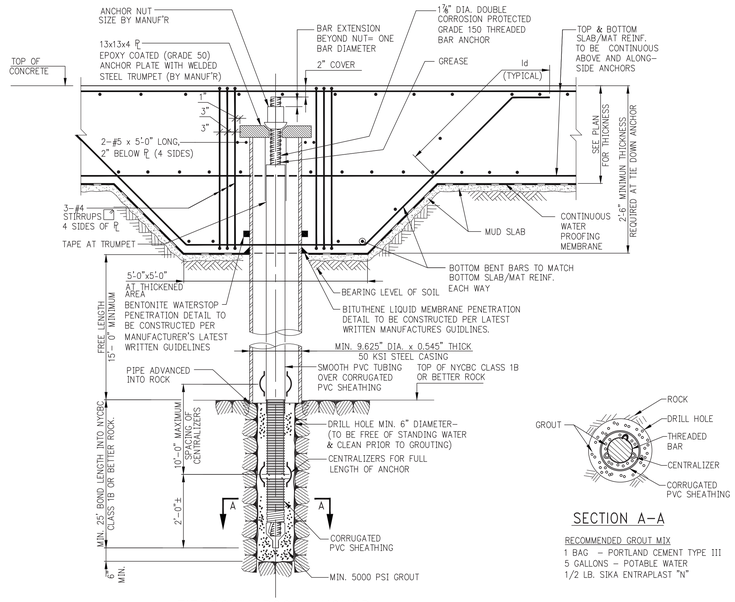


MAT FOUNDATION CONSTRUCTION JOINT



MAT FOUNDATION CONDITION WHERE THEORETICAL HAUNCHES ARE TO BE OMITTED

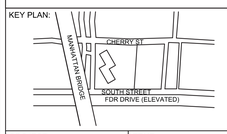
NOTE A:
WHEN THEORETICAL DIMENSION 'A' IS LESS THAN 1'-6", OMIT HAUNCHES REPRESENTED BY DASHED LINES



TIE-DOWN ROCK ANCHOR AT PRESURE SLAB ON SOIL

SECTION A-A

RECOMMENDED GROUT MIX
1 BAG – PORTLAND CEMENT TYPE III
5 GALLONS – POTABLE WATER
1/2 LB. SIKA ENTRAPLAST "N"



KEY PLAN:

PROJECT NORTH / TRUE NORTH

DEVELOPER:
EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

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6	ISSUED FOR DOT	08-07-14
7	ISSUED FOR COORDINATION	08-15-14
8	ISSUED FOR FOUNDATION BID	08-29-14

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
TYPICAL FOUNDATION DETAILS 3

SEAL & SIGNATURE: STATE OF NEW YORK ANMAD RAHIMIAN LICENSED PROFESSIONAL ENGINEER No. 065502

DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: N.T.S.	

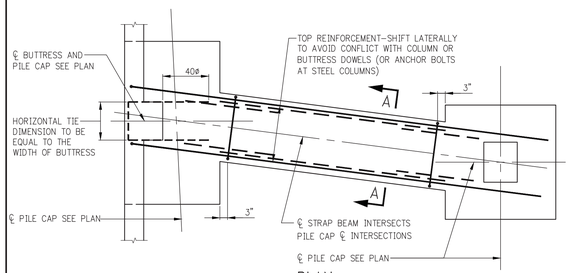
DWG No:
FO-202.00

DOB PAGE No: of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014
NYC Development Hub

DOB B-SCAN:

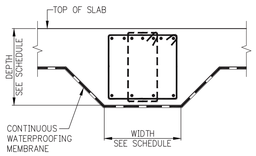
FILE NAME:
PLOT DATE:



PLAN

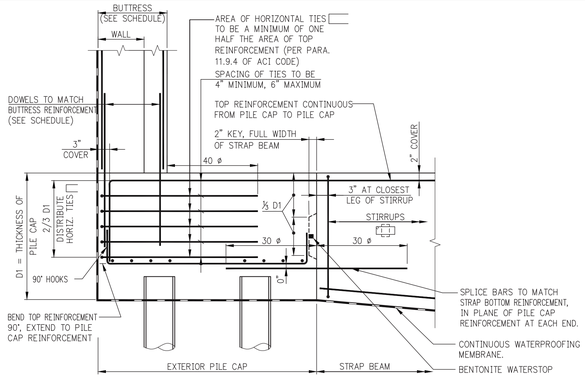
STRAP BEAM BETWEEN PILE CAPS

NOTES:
STRAP BEAM MUST FRAME DIRECTLY TO PILE CAPS.
STRAP BEAMS MAY NOT FRAME TO PIERS OR BUTTRESSES.



NOTE:
FOR SLAB DETAILS AND WATERPROOFING REQUIREMENTS SEE FOUNDATION PLANS AND DETAILS

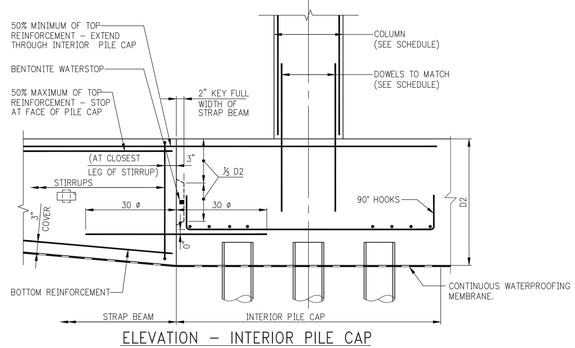
SECTION A–A
(AT STRAP BEAM MONOLITHIC WITH SLAB)



ELEVATION – EXTERIOR PILE CAP

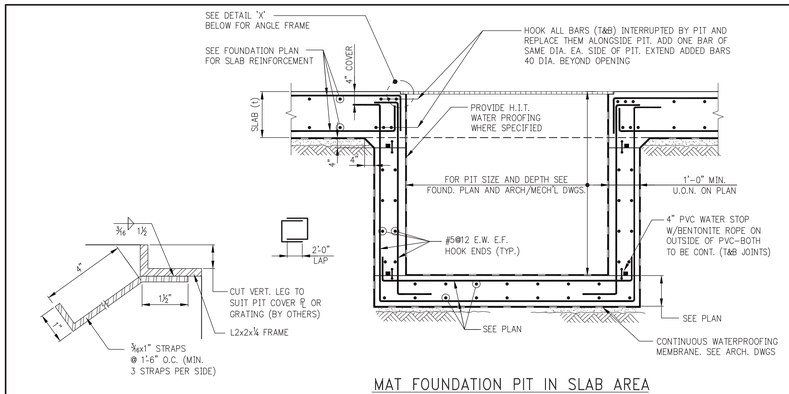
NOTE:
SEE FOUNDATION DRAWINGS FOR STRAP BEAM SIZE, REINFORCEMENT, AND STIRRUPS.

THESE STRAP DETAILS ARE LIMITED TO PILES WITH A MAXIMUM LOAD CAPACITY OF 200 TONS/PILE.



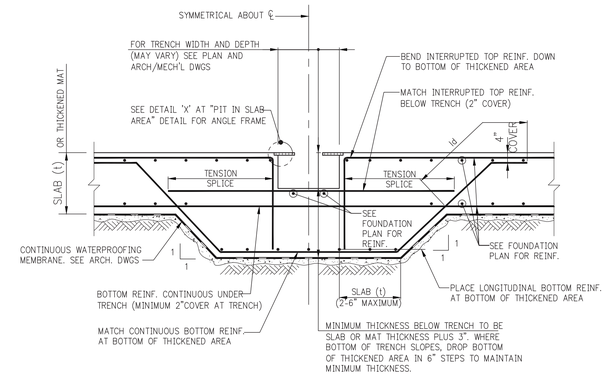
ELEVATION – INTERIOR PILE CAP

THESE STRAP DETAILS ARE LIMITED TO PILES WITH A MAXIMUM LOAD CAPACITY OF 200 TONS/PILE.

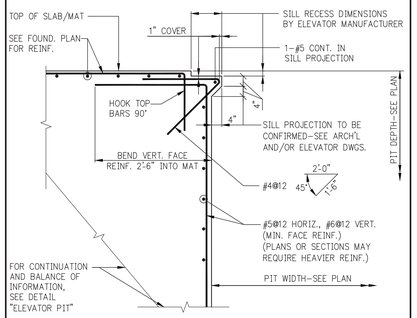


MAT FOUNDATION PIT IN SLAB AREA

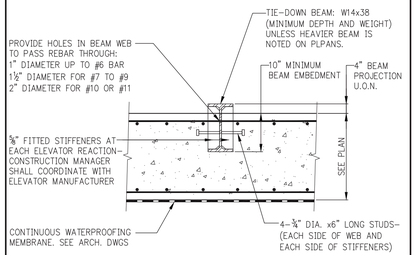
DETAIL X



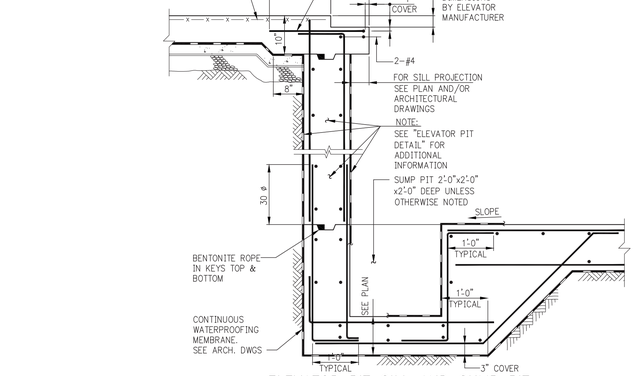
MAT FOUNDATION SHALLOW TRENCH IN SLAB OR MAT



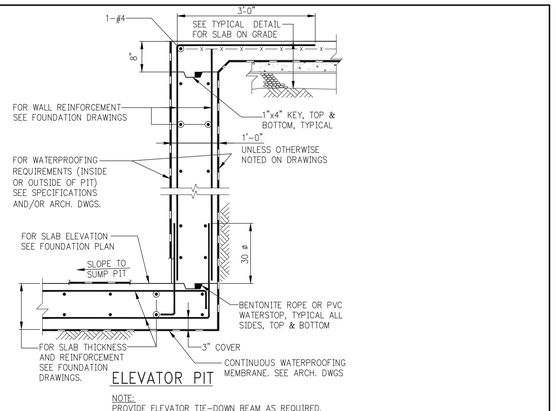
MAT FOUNDATION DETAIL 'Y' AT ELEVATOR SILL RECESS



ELEVATOR TIE–DOWN BEAM

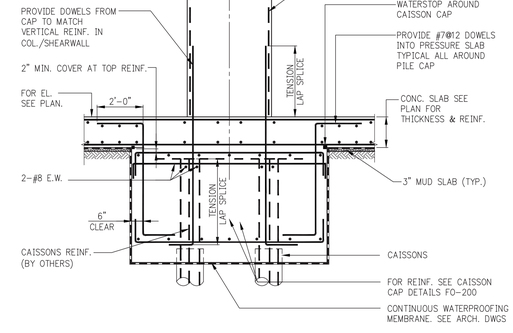


ELEVATOR PIT SILL AND SUMP PIT



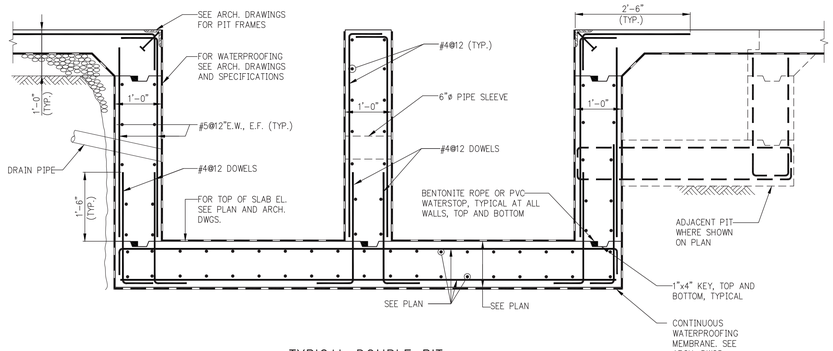
ELEVATOR PIT

NOTE:
PROVIDE ELEVATOR TIE–DOWN BEAM AS REQUIRED. SEE PLAN AND "ELEVATOR TIE–DOWN BEAM" DETAIL.

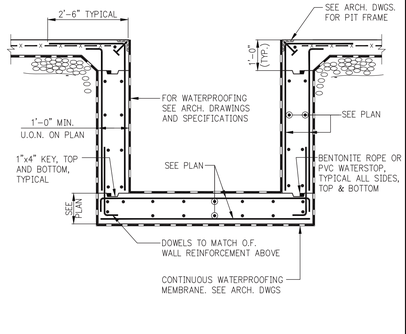


TYPICAL CROSS SECTION THRU CAISSON CAP

SCALE: 3/8" = 1'-0"

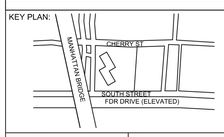


TYPICAL DOUBLE PIT



TYPICAL PIT

KEY PLAN:



PROJECT NORTH | TRUE NORTH

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No.	DESCRIPTION:	DATE:
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6	ISSUED FOR COORDINATION	08–15–14
7	ISSUED FOR FOUNDATION BID	08–29–14

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
TYPICAL FOUNDATION DETAILS 4

SEAL & SIGNATURE:
STATE OF NEW YORK · AHMAD RAMADAN · No. 065037 · LICENSED PROFESSIONAL ENGINEER

DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: N.T.S.	

DWG No:
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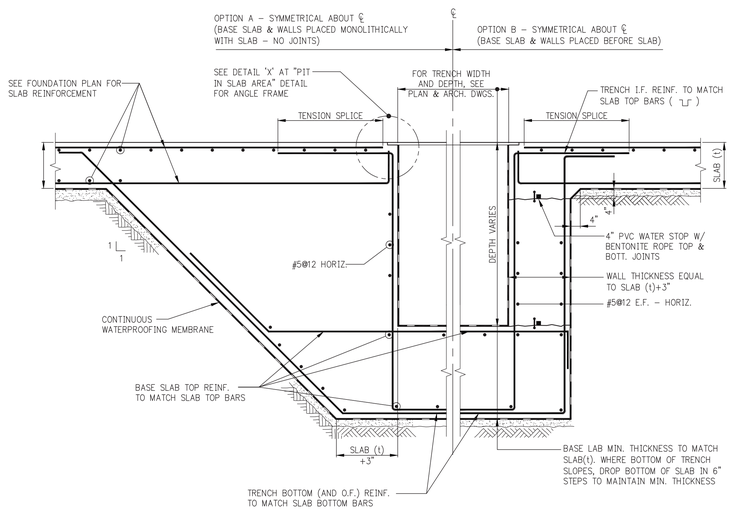
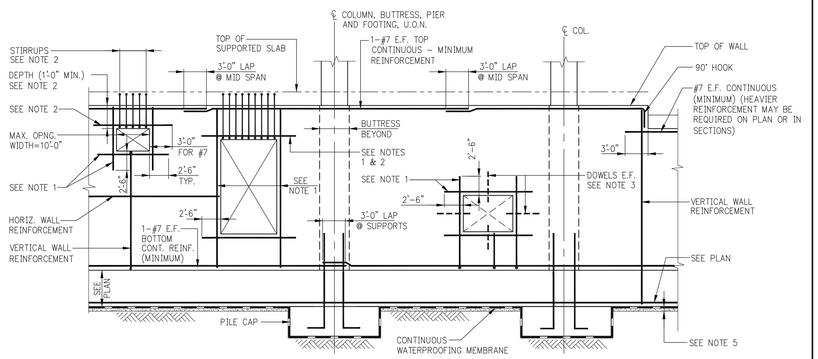


MAT FOUNDATION TRENCH IN SLAB AREA (DEEPER THAN SLAB)

NOTE:

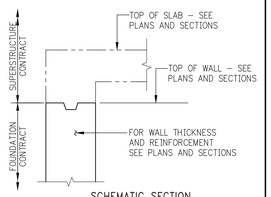
TOP AND BOTTOM SLAB REINF. MUST BE LAP SPLICED AND HOOKED AS SHOWN TO MAINTAIN MOMENT CAPACITY CONTINUITY.



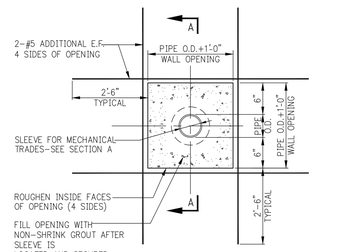
FOUNDATION WALL ELEVATION SHOWING REINFORCEMENT AT OPENINGS AND MISCELLANEOUS DETAILS

NOTES:

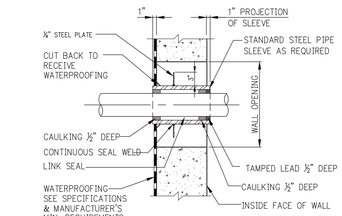
1. ADD #5 BARS (HORIZ. & VERT.) AT ALL FOUR EDGES OF OPENINGS. AREA OF ADDED BARS AT EACH EDGE TO BE EQUAL TO ONE HALF OF AREA OF INTERRUPTED BARS IN THE CORRESPONDING DIRECTION. PROVIDE A MINIMUM OF 1–#5 E.F.
2. WHERE TOP EDGE OF OPENING IS LESS THEN 2'-6" FROM TOP OF WALL ADD 1–#7 E.F. (IN LIEU OF #5) OVER OPENING. PROVIDE #4 [⌐] STIRRUPS @ 8" – EXTEND INTO SLAB WITH 2" COVER AT TOP OF STIRRUPS.
3. AT UTILITY ACCESS OPENINGS WHICH ARE TO BE FILLED IN WITH CONCRETE, PROVIDE DOWELS PROJECTING 1'-0" INTO OPENING. EITHER EXTEND HORIZONTAL AND VERTICAL WALL REINFORCEMENT, OR ADD # 4@12± E.F. DOWELS x2'-6" LONG.
4. FOR ACTUAL OPENING SIZES AND LOCATIONS, SEE PLANS, SECTIONS, ARCHITECTURAL DWGS., AND MEP DWGS. SUBMIT SHOP DRAWINGS WITH WALL ELEVATIONS SHOWING ALL OPENINGS AND REINFORCEMENT.
5. PROVIDE FOOTING OR CONCRETE MUD SLAB TO SUPPORT WALL FORMS AND WET CONCRETE. SEE FOUNDATION SECTIONS ON FS–300 SERIES DRAWINGS FOR ADDITIONAL DETAILS.



SCHEMATIC SECTION AT TOP OF WALL

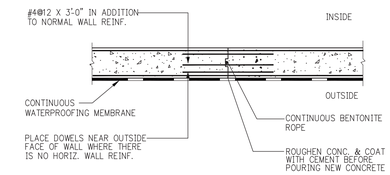


BOX–OUT OPENING THROUGH FOUNDATION WALL



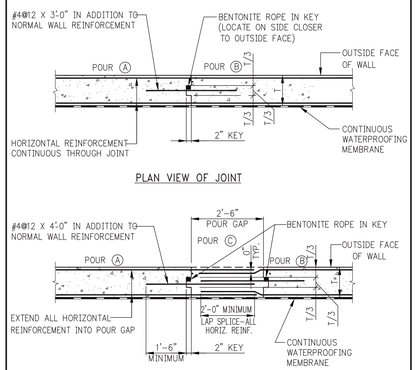
SECTION A–A

WATERPROOFED SLEEVE THROUGH WALL WITH WATERPROOFING



KEY WIDTH NOT TO EXCEED ⅓ DEPTH OF WALL OR BEAM. VERTICAL CONSTRUCTION JOINT PERMITTED IN WALL OR GRADE BEAM AT ANY POINT 4'-0" MIN. AWAY FROM FACE OF SUPPORTING PIER, BUTTRESS AND/OR WALL OPENING PROVIDE ONE VERTICAL CONSTRUCTION JOINT FOR EVERY 40'-0" OF A STRAIGHT RUN OF WALL.
ANY CONSTRUCTION JOINT AS A RESULT OF ANY CONCRETE STOPPAGE IN EXCESS OF 10 MIN. LAPSING TIME BETWEEN CONSECUTIVE POURS MUST HAVE BENTONITE ROPE.

TYPICAL VERTICAL CONSTRUCTION JOINT IN WALL



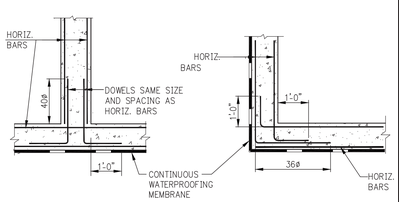
PLAN VIEW OF JOINT

ALTERNATIVE–POUR GAP

VERTICAL CONSTRUCTION JOINT IN FOUNDATION WALL

NOTES:

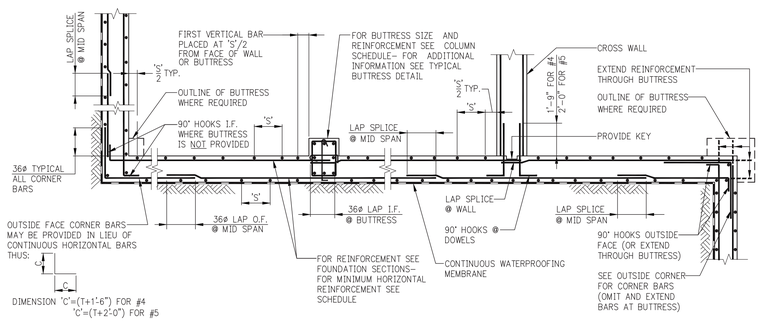
1. CONSTRUCTION JOINTS IN WALLS SHALL BE LOCATED AT LEAST FOUR FEET FROM FACE OF SUPPORTING PIER, FOOTING, PILE CAP, ETC, OR FROM WALL OPENING.
2. MAXIMUM SPACING BETWEEN JOINTS SHALL BE FORTY FEET UNLESS NOTED OTHERWISE ON THE FOUNDATION DRAWINGS.
3. CONCRETE SHALL NOT BE PLACED IN THE POUR GAP UNTIL 24 HOURS AFTER PLACEMENT OF THE MOST RECENT ADJACENT SECTION.
4. FOR JOINTS IN SHEARWALLS SEE DETAILS IN FS–400 OR S–400 SERIES.



LAP REINF. AS SHOWN OR PROVIDE CORNER BARS. WHERE CORNER REINF. IS DIFFERENT SIZE, BEND AND LAP LARGER SIZED BARS.

INTERSECTING WALLS CORNER WALLS

TYPICAL WALL INTERSECTION DETAILS



OUTSIDE CORNER BUTTRESS CROSS–WALL RE–ENTRANT CORNER

MINIMUM HORIZONTAL WALL REINFORCEMENT REQUIRED AT EACH FACE	
T = WALL THICKNESS	HORIZONTAL REINFORCEMENT
UP TO 10"	#4@18 E.F.
11" TO 12"	#4@16 E.F.
13" TO 16"	#4@12 E.F.
17" TO 20"	#4@10 OR #5@15 E.F.
21" TO 22"	#4@9 OR #5@12 E.F.
23" TO 24"	#4@8 OR #5@12 E.F.
OVER 24"	SEE PLANS AND SECTIONS

HORIZONTAL SECTION SHOWING PLACEMENT OF FOUNDATION WALL REINFORCEMENT

NOTE:

VERTICAL CONSTRUCTION JOINT IN WALL IS NOT SHOWN HERE – SEE TYPICAL CONSTRUCTION JOINT DETAIL.

KEY PLAN:
CHERRY ST
MANHATTAN BRIDGE
SOUTH STREET FDR DRIVE (ELEVATED)

PROJECT NORTH
TRUE NORTH

DEVELOPER:
EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

ARCHITECT OF RECORD:
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INTERIOR DESIGNER:
MEYER DAVIS
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New York, NY 10014
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LANDSCAPE DESIGNER:
WEST 8 URBAN DESIGN & LANDSCAPE ARCHITECTURE P.C.
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LANGAN ENGINEERING & ENVIRONMENTAL SERVICES
21 Penn Plaza - 360 West 31st Street, 8th Floor
New York, NY 10001
TEL: 212.479.5400 FAX: 212.479.5444

No.	DESCRIPTION:	DATE:
1	ISSUED FOR DOT	04–28–14
2	FOUNDATION FILING	06–10–14
3	ISSUED FOR FOUNDATION BID	07–25–14
4	50% DD	08–01–14
5	ISSUED FOR DOT	08–07–14
6	ISSUED FOR FOUNDATION BID	08–29–14

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
TYPICAL FOUNDATION DETAILS 5

SEAL & SIGNATURE: STATE OF NEW YORK ANMAD RAHIMAN No. 065502 LICENSED PROFESSIONAL ENGINEER

DATE: 07/25/14
PROJECT No: 1302510
DRAWN: CADD REV:
CHK: CL
SCALE: N.T.S.
DWG No: **FO-204.00**
DOB PAGE No: of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014
NYC Development Hub

DOB B-SCAN:

TABLE #1:
TENSION LAP SPLICE LENGTHS (CLASS B MINIMUM)

TABLE 1.A: ¾" COVER TO OUTER LAYER BARS
OUTER LAYER LAP LENGTHS (IN INCHES)

BAR \ f'c	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000*
#3	16	16	16	16	16	16	16	16
#4	21	20	20	20	20	20	20	20
#5	31	27	24	24	24	24	24	24
#6	43	37	33	30	29	29	29	29
#7	69	60	53	49	45	42	40	38
#8	85	74	66	60	56	52	49	47
#9	103	89	80	73	67	63	59	56
#10	121	105	94	86	79	74	70	66
#11	140	122	109	99	92	86	81	77

TABLE 1.C: 1½" COVER TO OUTER LAYER BARS
OUTER LAYER LAP LENGTHS (IN INCHES)

NOTE: USE TABLE 1.A IF BAR SPACING IS LESS THAN 4" O/C UP TO #8, 5" O/C FOR #9, #10, #11

BAR \ f'c	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000*
#3	16	16	16	16	16	16	16	16
#4	20	20	20	20	20	20	20	20
#5	24	24	24	24	24	24	24	24
#6	29	29	29	29	29	29	29	29
#7	42	37	34	34	34	34	34	34
#8	53	46	41	39	39	39	39	39
#9	66	57	51	46	44	44	44	44
#10	79	68	61	56	51	49	49	49
#11	92	80	72	65	60	57	54	54

TABLE 1.B: ¾" COVER TO OUTER LAYER BARS
INNER LAYER LAP LENGTHS (IN INCHES)

NOTE: USE TABLE 1.A IF BAR SPACING IS LESS THAN 4" O/C UP TO #8, 5" O/C FOR #9, #10, #11

BAR \ f'c	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000
#3	16	16	16	16	16	16	16	16
#4	20	20	20	20	20	20	20	20
#5	24	24	24	24	24	24	24	24
#6	30	29	29	29	29	29	29	29
#7	48	42	38	34	34	34	34	34
#8	61	53	47	43	40	39	39	39
#9	75	65	58	53	49	46	44	44
#10	89	77	69	63	58	55	51	49
#11	104	90	81	74	68	64	60	57

TABLE 1.D: 1½" COVER TO OUTER LAYER BARS
INNER LAYER LAP LENGTHS (IN INCHES)

NOTE: USE TABLE 1.A IF BAR SPACING IS LESS THAN 5" O/C UP TO #8, 6" O/C FOR #9, #10, #11

BAR \ f'c	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000
#3	16	16	16	16	16	16	16	16
#4	20	20	20	20	20	20	20	20
#5	24	24	24	24	24	24	24	24
#6	29	29	29	29	29	29	29	29
#7	37	34	34	34	34	34	34	34
#8	43	39	39	39	39	39	39	39
#9	53	46	44	44	44	44	44	44
#10	64	55	49	49	49	49	49	49
#11	75	65	58	54	54	54	54	54

TABLE #2:
TENSION DEVELOPMENT LENGTHS (Ld) (IN INCHES)

TABLE 2.A: ¾" COVER TO OUTER LAYER BARS
OUTER LAYER DEVELOPMENT LENGTHS

BAR \ f'c	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000*
#3	12	12	12	12	12	12	12	12
#4	16	14	13	12	12	12	12	12
#5	24	21	19	17	16	15	14	13
#6	33	28	25	23	22	20	19	18
#7	53	46	41	37	35	32	31	29
#8	66	57	51	46	43	40	38	36
#9	79	69	61	56	52	49	46	43
#10	93	81	72	66	61	57	54	51
#11	108	94	84	76	71	66	62	59

TABLE 2.C: 1½" COVER TO OUTER LAYER BARS
OUTER LAYER DEVELOPMENT LENGTHS)

BAR \ f'c	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000*
#3	12	12	12	12	12	12	12	12
#4	13	12	12	12	12	12	12	12
#5	16	14	13	13	13	13	13	13
#6	20	17	15	15	15	15	15	15
#7	32	28	25	23	21	20	19	18
#8	41	36	32	29	27	25	24	23
#9	50	44	39	36	33	31	29	28
#10	60	52	47	43	40	37	35	33
#11	71	61	55	50	46	43	41	39

TABLE 2.B: ¾" COVER TO OUTER LAYER BARS
INNER LAYER DEVELOPMENT LENGTHS

BAR \ f'c	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000*
#3	12	12	12	12	12	12	12	12
#4	13	12	12	12	12	12	12	12
#5	16	14	13	13	13	13	13	13
#6	23	20	18	16	15	15	15	15
#7	37	32	29	26	24	23	22	20
#8	47	41	36	33	31	29	27	26
#9	57	50	44	41	38	35	33	31
#10	68	59	53	48	45	42	40	38
#11	80	69	62	57	52	49	46	44

TABLE 2.D: 1½" COVER TO OUTER LAYER BARS
INNER LAYER DEVELOPMENT LENGTHS

BAR \ f'c	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000*
#3	12	12	12	12	12	12	12	12
#4	13	12	12	12	12	12	12	12
#5	16	14	13	13	13	13	13	13
#6	20	17	15	15	15	15	15	15
#7	29	25	22	20	19	18	18	18
#8	33	28	25	23	22	20	20	20
#9	41	35	31	29	27	25	23	23
#10	49	42	38	35	32	30	28	27
#11	58	50	45	41	38	35	33	32

TABLE #3
TENSION DEVELOPMENT LENGTHS FOR STANDARD END HOOKS (ldh)
(LENGTHS IN INCHES)

BAR SIZE	CONCRETE STRENGTH (PSI)							
	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000*
#3	9	7	7	6	6	6	6	6
#4	11	10	9	8	7	7	7	6
#5	14	12	11	10	9	9	8	8
#6	17	15	13	12	11	10	10	9
#7	19	17	15	14	13	12	11	11
#8	22	19	17	16	15	14	13	12
#9	25	22	19	18	16	15	15	14
#10	28	24	22	20	19	17	16	16
#11	31	27	24	22	21	19	18	17
#14	37	32	29	27	25	23	22	21
#18	50	43	39	35	33	31	29	27

NOTES:

1. TABLE 3 CONFORMS TO ACI 318-2002 (AND 2005). TABULATED VALUES ARE BASED UPON ACI 12.5.2 , ASSUMING GRADE 60 REINFORCEMENT AND NORMALWEIGHT CONCRETE.
2. PER ACI 12.5.3 a), FOR #11 AND SMALLER BARS, IF COVER TO BAR IS 2½ INCHES OR MORE, AND FOR 90 DEGREE HOOK WITH COVER ON BAR EXTENSION BEYOND HOOK NOT LESS THAN 2 INCHES, A MODIFICATION FACTOR OF 0.7 MAY BE APPLIED. MINIMUM ldh SHALL NOT BE LESS THAN 8db NOR 6 INCHES.

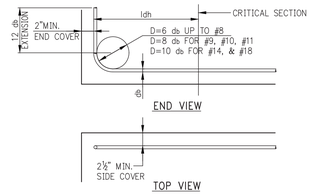


TABLE #4
COMPRESSION LAP SPLICES
(LENGTHS IN INCHES)

BAR SIZE	GRADE OF REINFORCEMENT		
	60 KSI (30 DIA.)	75 KSI (44 DIA.)	80 KSI (48 DIA.)
#3	12	17	18
#4	15	22	24
#5	19	28	30
#6	23	33	36
#7	27	39	42
#8	30	44	48
#9	34	50	54
#10	38	56	61
#11	43	62	68
#14 AND #18	1. LAP SPLICES ARE NOT PERMITTED. USE MECHANICAL CONNECTIONS OR WELDED SPLICES FOR #14 AND #18, PER ACI 318 (12.14.3). 2. LAP SPLICES OF #14 AND #18 BARS TO #11 AND SMALLER BARS ARE PERMITTED PER ACI 318 (12.16.2).		

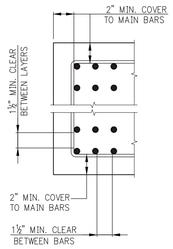
3. FOR BARS OF DIFFERENT SIZE, USE LARGER OF: SPLICE LENGTH OF SMALLER BAR (TABLE #4) OR DEVELOPMENT LENGTH OF LARGER BAR (FROM TABLE #5) PER ACI 318 (12.16.2).

NOTE:

TABLE #4 APPLIES FOR NORMALWEIGHT CONCRETE WITH f'c = 3,000 PSI OR GREATER.

TABLE #5
DEVELOPMENT LENGTHS FOR BARS IN COMPRESSION
(LENGTHS IN INCHES)

BAR SIZE	fy = 60,000 PSI			fy = 75,000 PSI			fy = 80,000 PSI		
	CONC. f'c (IN PSI)			CONC. f'c (IN PSI)			CONC. f'c (IN PSI)		
	3,000	4,000	5,000 OR MORE	3,000	4,000	5,000 OR MORE	3,000	4,000	5,000 OR MORE
#3	12	12	12	12	12	12	12	12	12
#4	12	12	12	14	12	12	15	13	12
#5	14	12	12	17	15	14	18	16	15
#6	17	15	14	21	18	17	22	19	18
#7	19	17	16	24	21	20	26	22	21
#8	22	19	18	28	24	23	29	25	24
#9	25	22	21	31	27	25	33	28	27
#10	28	24	23	34	30	28	36	31	30
#11	31	27	26	38	33	31	40	34	33
#14	37	32	31	48	42	39	51	44	42
#18	50	43	41	62	54	51	65	56	54



MULTIPLE LAYERS

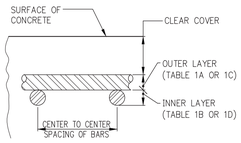
PROVIDE MINIMUM COVER AND CLEARANCES SHOWN, USE TABLE 1.A FOR LAP SPLICE LENGTHS.

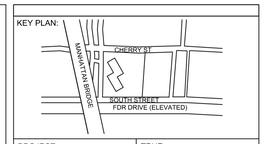
NOTES FOR TENSION LAP SPLICES

1. REINFORCEMENT IS UNCOATED, WITH Fy=60,000 PSI.
2. CONCRETE IS NORMAL WEIGHT (144-150#/C.F.).
3. FOR "TOP"" BAR SPLICE LENGTHS ("TOP" IS DEFINED BY ACI 318 AS HAVING MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW THE BAR), TABULATED LENGTHS MUST BE MULTIPLIED BY 1.3.
4. LENGTHS TABULATED MUST BE MULTIPLIED BY THE FOLLOWING MODIFICATION FACTORS:
   a. LIGHTWEIGHT CONCRETE 1.3
   b. EPOXY-COATED BARS:
      1.) BARS WITH COVER < 3db, OR WITH CLEAR SPACING < 6db ...1.5 FOR BOTTOM & VERTICAL BARS, 1.3 FOR "TOP" BARS *
      2.) ALL OTHER CONDITIONS 1.2
   * FOR EPOXY-COATED "TOP" BARS THE MAXIMUM FOR COMBINED FACTORS = 1.7
5. WHERE TENSION DEVELOPMENT LENGTH (Ld) IS REQUIRED ON PLANS OR IN DETAILS, SEE TENSION DEVELOPMENT LENGTH TABLES.
6. CLASS A LAP SPLICE LENGTHS ARE EQUAL TO TENSION DEVELOPMENT LENGTHS. SEE TABLES FOR TENSION DEVELOPMENT LENGTHS (Ld). APPLY APPROPRIATE MODIFICATION FACTORS TO CLASS A SPLICE LENGTHS.

NOTES FOR TENSION DEVELOPMENT LENGTHS (Ld)

1. REINFORCEMENT IS UNCOATED, WITH Fy=60,000 PSI.
2. CONCRETE IS NORMAL WEIGHT (144-150#/C.F.).
3. FOR "TOP"" BAR DEVELOPMENT LENGTHS ("TOP" IS DEFINED BY ACI 318 AS HAVING MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW THE BAR), TABULATED LENGTHS MUST BE MULTIPLIED BY 1.3.
4. LENGTHS TABULATED MUST BE MULTIPLIED BY THE FOLLOWING MODIFICATION FACTORS:
   a. LIGHTWEIGHT CONCRETE 1.3
   b. EPOXY-COATED BARS:
      1.) BARS WITH COVER < 3db, OR WITH CLEAR SPACING < 6db ...1.5 FOR BOTTOM & VERTICAL BARS, 1.3 FOR "TOP" BARS *
      2.) ALL OTHER CONDITIONS 1.2
   * FOR EPOXY-COATED "TOP" BARS THE MAXIMUM FOR COMBINED FACTORS = 1.7
5. WHERE TENSION DEVELOPMENT LENGTH (Ld) IS REQUIRED ON PLANS OR IN DETAILS, SEE TENSION DEVELOPMENT LENGTH TABLES.
6. CLASS A LAP SPLICE LENGTHS ARE EQUAL TO TENSION DEVELOPMENT LENGTHS. SEE TABLES FOR TENSION DEVELOPMENT LENGTHS (Ld). APPLY APPROPRIATE MODIFICATION FACTORS TO CLASS A SPLICE LENGTHS.





PROJECT NORTH

TRUE NORTH

DEVELOPER:
EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

ARCHITECT OF RECORD:
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No.	DESCRIPTION:	DATE:
1	ISSUED FOR DOT	04-28-14
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4	50% DD	08-01-14
5	ISSUED FOR DOT	08-07-14
6	ISSUED FOR FOUNDATION BID	08-29-14

Discrepancies must be reported immediately to the Architect before proceeding. Only figured dimensions are to be used. Contractors must check all dimensions on site. This drawing is protected by copyright.

ALL DIMENSIONS ARE SHOWN IN IMPERIAL.

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
TYPICAL FOUNDATION DETAILS 6

SEAL & SIGNATURE:
STATE OF NEW YORK · AHMAD RAHIMIAN · No. 065502 · LICENSED PROFESSIONAL ARCHITECT

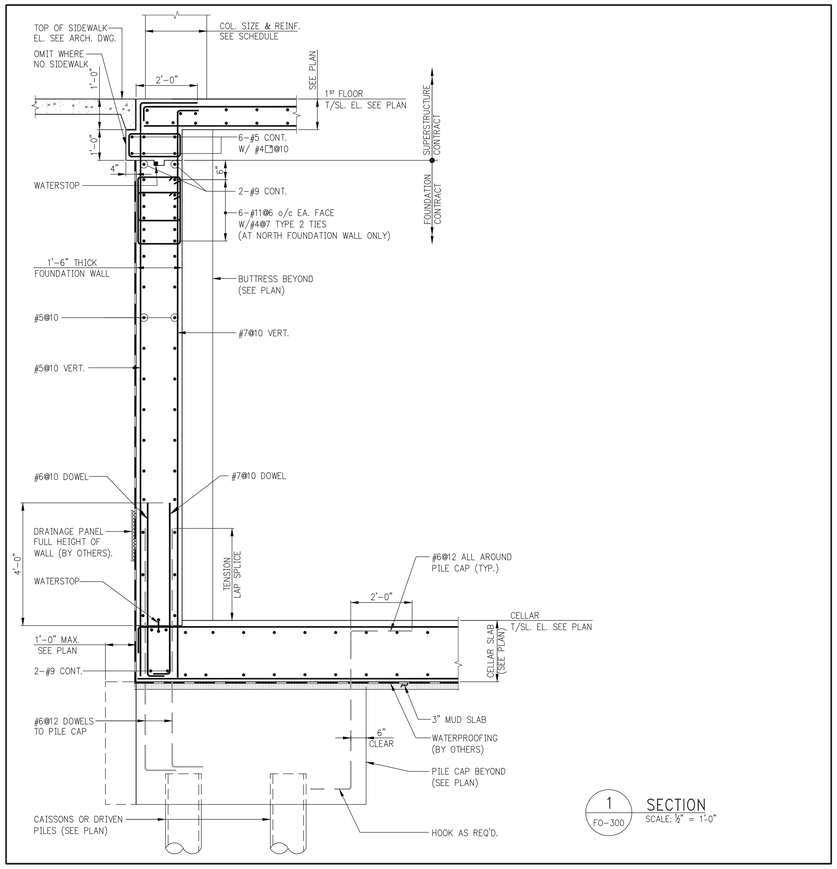
DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: N.T.S.	
DWG No:	**FO-205.00**
DOB PAGE No:	of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014:
NYC Development Hub

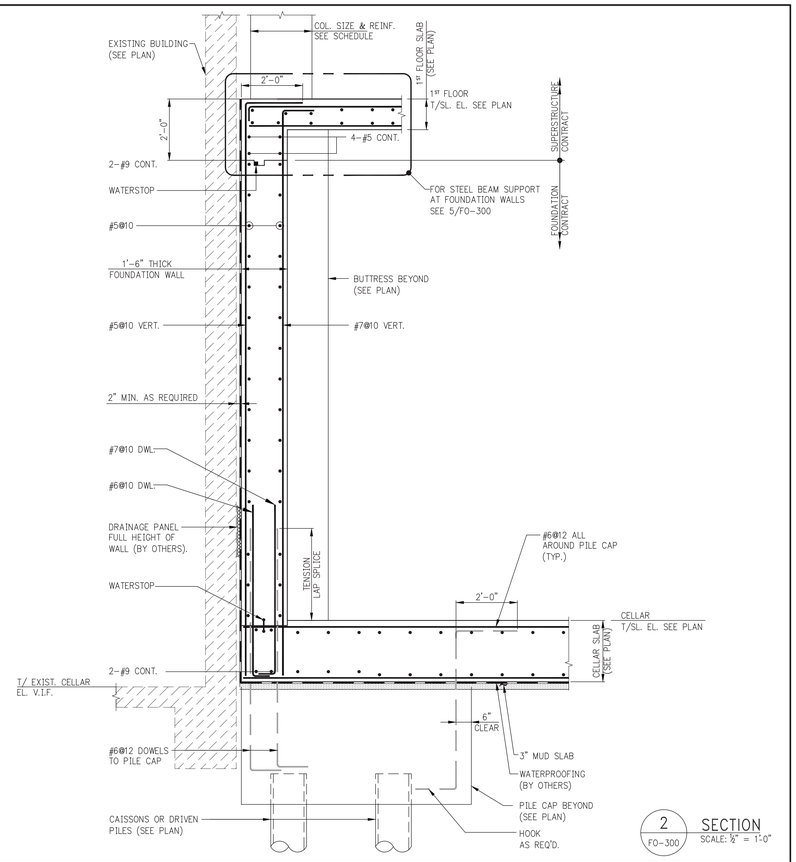
DOB B-SCAN:

FILE NAME:
PLOT DATE:

30" x 42" Arch E1 - SHEET SIZE



1 FO-300 SECTION SCALE: ½" = 1'-0"



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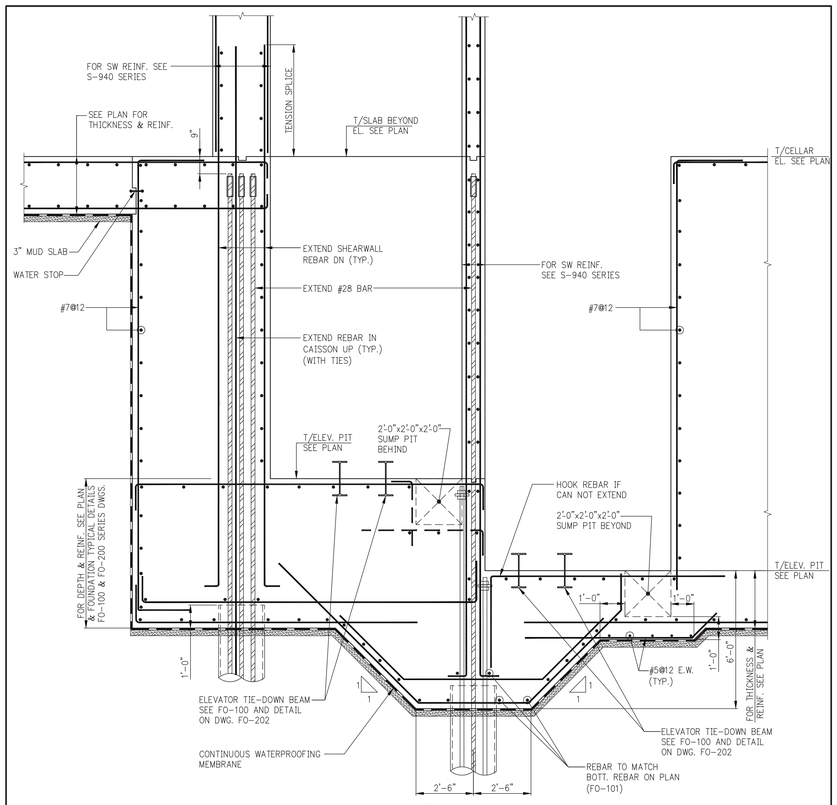

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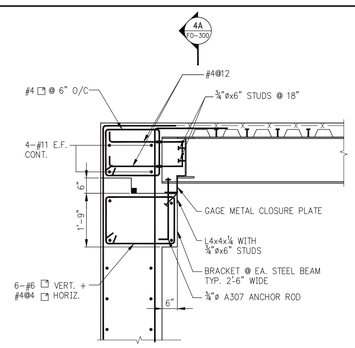
FOR DETAIL & REINF. SEE FO-100 & FO-200 SERIES DWGS.



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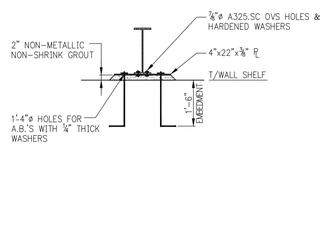
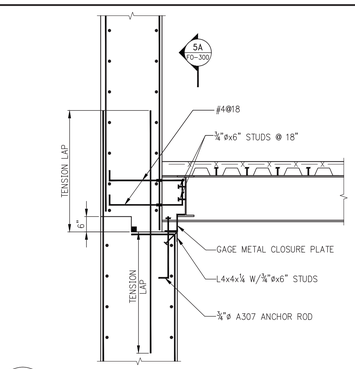
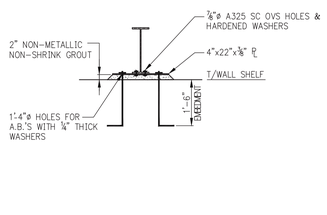


4A FO-300 SECTION SCALE: ½"=1'-0"



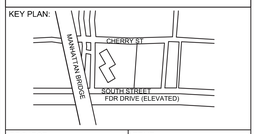
5 FO-300 TYPICAL STEEL BEAM SUPPORT AT FOUNDATION WALLS SCALE: ½"=1'-0"



5A FO-300 SECTION SCALE: ½"=1'-0"

FILE NAME:
PLOT DATE:

KEY PLAN:



PROJECT NORTH

TRUE NORTH

DEVELOPER:
EXTELL DEVELOPMENT COMPANY
805 Third Ave, 7th Floor
New York, NY 10022
TEL: 212-712-6000 FAX: 212-712-6100

ARCHITECT OF RECORD:
AAI ARCHITECTS, P.C.
14 Wall Street, 2nd Floor
New York, NY 10005
TEL: 212-964-4040 FAX: 212-964-4090

INTERIOR DESIGNER:
MEYER DAVIS
180 Varick St, suite 404
New York, NY 10014
TEL: 212-627-5574

LANDSCAPE DESIGNER:
WEST 8 URBAN DESIGN & LANDSCAPE ARCHITECTURE P.C.
333 Hudson Street, Suite 905
New York, NY 10013
TEL: 212-285-0088 FAX: 212-285-0228

STRUCTURAL ENGINEERS:
WSP
228 East 45th Street
New York, NY 10017
TEL: 212-687-9888 FAX: 646-487-5501

MEP ENGINEERS:
ICOR ASSOCIATES, LLC
485 C Route 1 South, Suite 200
Iseline, NJ 08830
TEL: 908-272-3300 FAX: 908-272-4440

GEOTECHNICAL ENGINEERS:
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES
21 Penn Plaza - 360 West 31st Street, 8th Floor
New York, NY 10001
TEL: 212.479.5400 FAX: 212.479.5444

No.	DESCRIPTION:	DATE:
1	50% SD	02-28-14
2	100% SD	04-25-14
3	ISSUED FOR DOT	04-28-14
4	FOUNDATION FILING	06-10-14
5	ISSUED FOR FOUNDATION BID	07-25-14
6	50% DD	08-01-14
7	ISSUED FOR DOT	08-07-14
8	ISSUED FOR FOUNDATION BID	08-29-14

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ALL DIMENSIONS ARE SHOWN IN IMPERIAL.

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
FOUNDATION SECTIONS 1

SEAL & SIGNATURE:
STATE OF NEW YORK · ANMAD RAHIMIAN · No. 065502 · LICENSED PROFESSIONAL ENGINEER

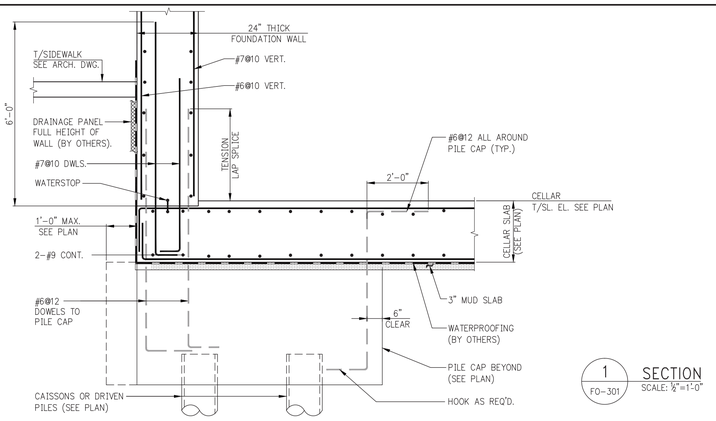
DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: AS SHOWN	

DWG No:
FO-300.00

DOB PAGE No: of

DOB EMPLOYEE STAMP:
Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014
NYC Development Hub

DOB B-SCAN:



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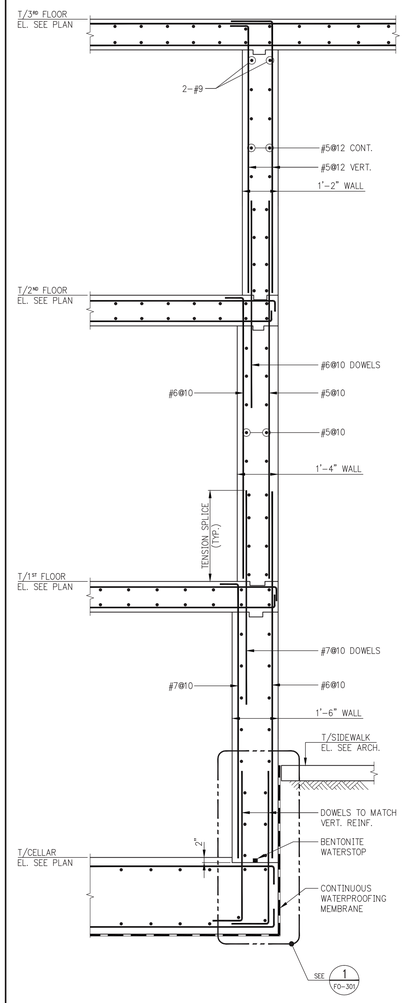

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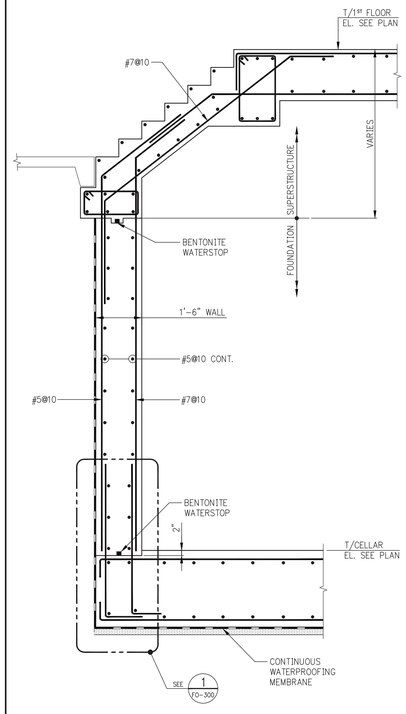

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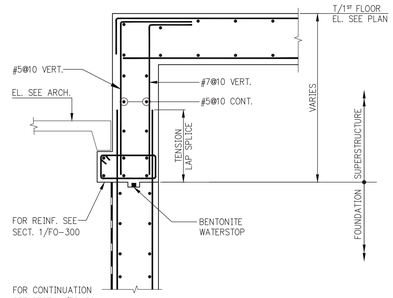

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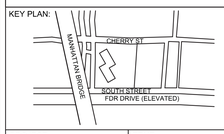
KEY PLAN:



PROJECT NORTH | TRUE NORTH

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GEOTECHNICAL ENGINEERS:
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES
21 Penn Plaza - 360 West 31st Street, 8th Floor
New York, NY 10001
TEL: 212.479.5400 FAX: 212.479.5444

No.	DESCRIPTION:	DATE:
1	ISSUED FOR FOUNDATION BID	08-29-14

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ALL DIMENSIONS ARE SHOWN IN IMPERIAL.

CONSULTANT:
AAI ARCHITECTS, P.C.

PROJECT:
250 SOUTH STREET
NEW YORK, NY

DRAWING TITLE:
FOUNDATION SECTIONS 2

SEAL & SIGNATURE:
STATE OF NEW YORK · AHMAD RAMADAN · No. 065527 · LICENSED PROFESSIONAL ENGINEER

DATE:	07/25/14
PROJECT No:	1302510
DRAWN: CADD	REV:
CHK: CL	
SCALE: AS NOTED	
DWG No:	**FO-301.00**
DOB PAGE No:	of

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Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/15/2014:
NYC Development Hub

DOB B-SCAN:

FILE NAME:
PLOT DATE:

DEPT OF BLDGS 121185528 Job Number
ES659685866 Scan Code

NYCT OUTSIDE CONTRACT INSURANCE REQUIREMENTS:

1. THE PERMITTEE AT ITS SOLE COST AND EXPENSE SHALL CARRY OR CAUSE TO CARRIED AND SHALL MAINTAIN AT ALL TIMES DURING THE PERIOD OF PERFORMANCE UNDER THIS AGREEMENT POLICIES OF INSURANCE AS HEREIN BELOW SET FORTH BELOW:

   A. WORKERS' COMPENSATION INSURANCE (INCLUDING EMPLOYER'S LIABILITY INSURANCE) WITH LIMITS OF NOT LESS THAN $2,000,000, WHICH LIMIT MAY BE MET BY A COMBINATION OF PRIMARY AND EXCESS INSURANCE MEETING THE STATUTORY LIMITS OF NEW YORK STATE. THE POLICY SHALL BE ENDORSED TO INCLUDE LONGSHOREMAN'S AND HARBOR WORKERS' COMPENSATION ACT/MARITIME COVERAGE ENDORSEMENT AND/OR JONES ACT ENDORSEMENT WHEN APPLICABLE.

   B. COMMERCIAL GENERAL LIABILITY INSURANCE (I.S.O. 2001 FORM OR EQUIVALENT) APPROVED BY PERMITTOR IN THE PERMITTEE'S NAME WITH LIMITS OF LIABILITY IN THE AMOUNT OF AT LEAST $3,000,000 FOR EACH OCCURRENCE ON A COMBINED SINGLE LIMIT BASIS FOR INJURIES TO PERSONS (INCLUDING DEATH) AND DAMAGE TO PROPERTY, $3,000,000 GENERAL AGGREGATE AND $3,000,000 IN THE AGGREGATE WITH RESPECT TO PRODUCTS/COMPLETED OPERATIONS. THE LIMITS MAY BE PROVIDED IN THE FORM OF A PRIMARY POLICY OR COMBINATION OF PRIMARY AND UMBRELLA/EXCESS POLICY. WHEN THE MINIMUM CONTRACT AMOUNTS CAN ONLY BE MET WHEN APPLYING THE UMBRELLA/EXCESS POLICY, THE UMBRELLA/EXCESS POLICY MUST FOLLOW FORM OF THE UNDERLYING POLICY AND BE EXTENDED TO "DROP DOWN" TO BECOME PRIMARY IN THE EVENT PRIMARY LIMITS ARE REDUCED OR AGGREGATE LIMITS ARE EXHAUSTED. SUCH INSURANCE SHALL BE PRIMARY AND NON-CONTRIBUTORY TO ANY OTHER VALID AND COLLECTIBLE INSURANCE AND MUST BE EXHAUSTED BEFORE IMPLICATING ANY PERMITTOR/MTA POLICY AVAILABLE.

      SUCH POLICY SHOULD BE WRITTEN ON AN OCCURRENCE FORM, AND SHALL INCLUDE:
      - CONTRACTUAL COVERAGE FOR LIABILITY ASSUMED BY THE PERMITTEE UNDER THIS AGREEMENT;
      - PERSONAL AND ADVERTISING INJURY COVERAGE:
      - PRODUCTS-COMPLETED OPERATIONS;
      - INDEPENDENT CONTRACTORS COVERAGE;
      - "XCU" COVERAGE (EXPLOSION, COLLAPSE, AND UNDERGROUND HAZARDS) WHERE NECESSARY;
      - CONTRACTUAL LIABILITY EXCLUSION, APPLICABLE TO CONSTRUCTION OR DEMOLITION OPERATIONS TO BE PERFORMED WITHIN 50 FEET OF RAILROAD TRACKS, MUST BE VOIDED, WHERE NECESSARY; AND
      - ADDITIONAL INSURED ENDORSEMENT (I.S.O. FORM CG 20 26 07/04 VERSION OR EQUIVALENT) APPROVED BY THE PERMITTOR NAMING:
        - •• NEW YORK CITY TRANSIT AUTHORITY (NYCTA), THE MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY (MABSTOA), THE STATEN ISLAND RAPID TRANSIT OPERATING AUTHORITY (SIRTOA), MTA CAPITAL CONSTRUCTION CO., THE METROPOLITAN TRANSPORTATION AUTHORITY (MTA) INCLUDING ITS SUBSIDIARIES AND AFFILIATES, AND THE CITY OF NEW YORK (AS OWNER).

   C. BUSINESS AUTOMOBILE LIABILITY INSURANCE POLICY – (I.S.O. FORM CA 00 01 10 01 OR EQUIVALENT) APPROVED BY THE PERMITTOR IS REQUIRED IF PERMITEE'S VEHICLE ENTERS PERMITTOR PROPERTY. THE INSURANCE MUST BE IN THE NAME OF THE PERMITTEE OR ITS CONTRACTOR ENTERING THE PERMITTOR PROPERTY WITH LIMITS OF LIABILITY IN THE AMOUNT OF $2,000,000 EACH ACCIDENT FOR CLAIMS FOR BODILY INJURIES (INCLUDING DEATH) TO PERSONS AND FOR DAMAGE TO PROPERTY ARISING OUT OF THE OWNERSHIP, MAINTENANCE OR USE OF ANY OWNED, HIRED OR NON-OWNED MOTOR VEHICLE.

   D. RAILROAD PROTECTIVE LIABILITY INSURANCE (ISO-RIMA OR EQUIVALENT FORM) APPROVED BY PERMITTOR 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 CONFORMING TO THE FOLLOWING:
      - THE FOLLOWING ARE THE "NAMED INSUREDS" FOR THIS COVERAGE:
        - •• NEW YORK CITY TRANSIT AUTHORITY (NYCTA), THE MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY (MABSTOA), THE STATEN ISLAND RAPID TRANSIT OPERATING AUTHORITY (SIRTOA), MTA CAPITAL CONSTRUCTION CO., THE METROPOLITAN TRANSPORTATION AUTHORITY (MTA) INCLUDING ITS SUBSIDIARIES AND AFFILIATES, AND THE CITY OF NEW YORK (AS OWNER).
      - THE LIMIT OF LIABILITY SHALL BE $2,000,000 AT LEAST EACH OCCURRENCE, SUBJECT TO A $6,000,000 ANNUAL AGGREGATE;
      - POLICY ENDORSEMENT CG 28 31 – POLLUTION EXCLUSION AMENDMENT IS REQUIRED TO BE ENDORSED ONTO THE POLICY WHEN ENVIRONMENTAL-RELATED WORK AND/OR EXPOSURES EXIST.
      - INDICATE THE NAME AND ADDRESS OF THE CONTRACTOR TO PERFORM THE WORK, THE CONTRACT # AND THE NAME OF THE RAILROAD PROPERTY WHERE THE WORK IS BEING PERFORMED AND THE AGENCY PERMIT.
      - EVIDENCE OF RAILROAD PROTECTIVE LIABILITY INSURANCE, MUST BE PROVIDED IN THE FORM OF THE ORIGINAL POLICY. A DETAILED INSURANCE BINDER (ACORD OR MANUSCRIPT FORM) WILL BE ACCEPTED PENDING ISSUANCE OF THE ORIGINAL POLICY, WHICH MUST BE PROVIDED WITHIN 30 DAYS OF THE BINDER APPROVAL.

   E. ENVIRONMENTAL/POLLUTION EXPOSURES
      IN THE EVENT ENVIRONMENTAL OR POLLUTION EXPOSURES EXIST; THE PERMITTEE SHALL REQUIRE THE ENVIRONMENTAL CONTRACTOR OR SUB-CONTRACTOR TO PROVIDE THE APPLICABLE INSURANCE COVERING SUCH EXPOSURE. THE LIMITS AND TYPE OF INSURANCE PROVIDED SHALL BE SATISFACTORY TO THE PERMITTOR AND WILL BE CONFIRMED TO THE PARTIES PRIOR TO THE START OF THE WORK.

2. GENERAL REQUIREMENTS APPLICABLE TO INSURANCE POLICIES

   A. ALL OF THE INSURANCE REQUIRED BY THIS ARTICLE SHALL BE WITH COMPANIES LICENSED OR AUTHORIZED TO DO BUSINESS IN THE STATE OF NEW YORK WITH AN A.M. BEST COMPANY RATING OF NOT LESS THAN A-/VII OR BETTER AND REASONABLY APPROVED BY THE PERMITTOR/MTA AND SHALL DELIVER EVIDENCE OF SUCH POLICIES.

   B. EXCEPT FOR WORKERS COMPENSATION, ALL REFERENCES TO FORMS AND COVERAGES REFERRED TO ABOVE SHALL BE THE MOST RECENT USED BY THE INSURANCE SERVICES OFFICE, INC. ("ISO") OR EQUIVALENT FORMS APPROVED BY THE INSURANCE DEPARTMENT OF THE STATE OF NEW YORK, PROVIDED, HOWEVER, THAT EXCESS COVERAGES MAY BE WRITTEN ON FORMS REASONABLY ACCEPTABLE TO PERMITTOR CONTAINING PROVISIONS OTHER THAN THOSE CONTAINED IN ISO FORMS BUT OTHERWISE CONFORMING IN SUBSTANCE TO THE REQUIREMENTS OF THIS ARTICLE.

   C. THE PERMITTEE OR ITS CONTRACTOR PERFORMING THE WORK SHALL FURNISH EVIDENCE OF ALL POLICIES BEFORE ANY WORK IS STARTED TO THE PERMITTOR:

      FOR NYCT CONTRACT INSPECTION
      C/O MR. JOHN MALVASIO
      DIRECTOR, MOW ENGINEERING
      130 LIVINGSTON STREET, ROOM 8044F
      BROOKLYN, NY 11201
      TELEPHONE: (718) 694-1358

      THESE POLICIES MUST: (I) BE WRITTEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE PARAGRAPHS ABOVE, AS APPLICABLE; (II) BE ENDORSED IN FORM ACCEPTABLE TO INCLUDE A PROVISION THAT THE POLICY WILL NOT BE CANCELED, MATERIALLY CHANGED, OR NOT RENEWED, UNLESS OTHERWISE INDICATED HEREIN, AT LEAST THIRTY (30) DAYS PRIOR WRITTEN NOTICE TO THE PERMITTOR C/O MTA RISK AND INSURANCE MANAGEMENT DEPARTMENT – STANDARDS, ENFORCEMENT & CLAIMS UNIT, 2 BROADWAY – 21ST FLOOR, NEW YORK, NY 10004; AND (III) STATE OR BE ENDORSED TO PROVIDE THAT THE COVERAGE AFFORDED UNDER THE CONTRACTOR'S POLICIES SHALL APPLY ON A PRIMARY AND NOT ON AN EXCESS OR CONTRIBUTING BASIS WITH ANY POLICIES WHICH MAY BE AVAILABLE TO THE PERMITTOR/MTA, AND ALSO THAT THE CONTRACTOR'S POLICIES, PRIMARY AND EXCESS, MUST BE EXHAUSTED BEFORE IMPLICATING ANY PERMITTOR/MTA POLICY AVAILABLE. (IV) IN ADDITION, CONTRACTOR'S POLICIES SHALL STATE OR BE ENDORSED TO PROVIDE THAT, IF A SUBCONTRACTOR'S POLICY CONTAINS ANY PROVISION THAT MAY ADVERSELY AFFECT WHETHER CONTRACTOR'S POLICIES ARE PRIMARY AND MUST BE EXHAUSTED BEFORE IMPLICATING ANY PERMITTOR/MTA POLICY AVAILABLE, CONTRACTOR'S AND SUBCONTRACTOR'S POLICIES SHALL NEVERTHELESS BE PRIMARY AND MUST BE EXHAUSTED BEFORE IMPLICATING ANY PERMITTOR/MTA POLICY AVAILABLE. EXCEPT FOR PROFESSIONAL LIABILITY, POLICIES WRITTEN ON CLAIMS MADE BASIS ARE NOT ACCEPTABLE. AT LEAST TWO (2) WEEKS PRIOR TO THE EXPIRATION OF THE POLICIES, CONTRACTOR SHALL ENDEAVOR TO PROVIDE EVIDENCE OF RENEWAL OR REPLACEMENT POLICIES OF INSURANCE, WITH TERMS AND LIMITS NO LESS FAVORABLE THAN THE EXPIRING POLICIES. EXCEPT AS OTHERWISE INDICATED IN THE DETAILED COVERAGE PARAGRAPHS BELOW, SELF INSURED RETENTIONS AND POLICY DEDUCTIBLES SHALL NOT EXCEED $100,000, UNLESS SUCH INCREASED DEDUCTIBLE OR RETENTION IS APPROVED BY PERMITTOR/MTA. THE PERMITTEE SHALL BE RESPONSIBLE FOR ALL CLAIM EXPENSE AND LOSS PAYMENTS WITHIN THE DEDUCTIBLE OR SELF-INSURED RETENTION. THE INSURANCE MONETARY LIMITS REQUIRED HEREIN MAY BE MET THROUGH THE COMBINED USE OF THE INSURED'S PRIMARY AND UMBRELLA/EXCESS POLICIES.

   D. CERTIFICATES OF INSURANCE MAY BE SUPPLIED AS EVIDENCE OF POLICIES OF THE ABOVE POLICIES, EXCEPT THE RAILROAD PROTECTIVE LIABILITY POLICY, DESIGNATED AS POLICY D. HOWEVER, IF REQUESTED BY THE PERMITTOR, THE PERMITTEE SHALL DELIVER TO THE AUTHORITY, WITHIN FORTY-FIVE (45) DAYS OF THE REQUEST, A COPY OF SUCH POLICIES, CERTIFIED BY THE INSURANCE CARRIER AS BEING TRUE AND COMPLETE. THE RAILROAD PROTECTIVE LIABILITY INSURANCE POLICY MUST BE PROVIDED IN THE FORM OF THE ORIGINAL POLICY. A DETAILED INSURANCE BINDER MAY BE PROVIDED, ACORD OR MANUSCRIPT FORM, PENDING ISSUANCE OF THE ORIGINAL POLICY. THE ORIGINAL POLICY MUST BE SUBMITTED TO MTA RIM WITHIN 30 DAYS OF THE BINDER APPROVAL.

   E. IF A CERTIFICATE OF INSURANCE IS SUBMITTED, IT MUST: (1) BE PROVIDED ON THE PERMITTOR CERTIFICATE OF INSURANCE FORM OR MTA CERTIFICATE OF INSURANCE FORM FOR JOINT AGENCY AGREEMENTS; (2) BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE INSURANCE CARRIER OR PRODUCER AND NOTARIZED; (3) DISCLOSE ANY DEDUCTIBLE, SELF-INSURED RETENTION, SUB-LIMIT, AGGREGATE LIMIT OR ANY EXCLUSIONS TO THE POLICY THAT MATERIALLY CHANGE THE COVERAGE; (4) INDICATE THE ADDITIONAL INSUREDS AND NAMED INSUREDS AS REQUIRED HEREIN, ALONG WITH A PHYSICAL COPY OF THE ADDITIONAL INSURED ENDORSEMENT (I.S.O. FORM CG 20 26 07/04 VERSION OR EQUIVALENT), AS APPLICABLE AND THE ENDORSEMENT(S) MUST INCLUDE POLICY NUMBER(S); (5) REFERENCE THE CONTRACT BY NUMBER ON THE FACE OF THE CERTIFICATE; AND (6) EXPRESSLY REFERENCE THE INCLUSION OF ALL REQUIRED ENDORSEMENTS.

   F. THE MINIMUM AMOUNTS OF INSURANCE REQUIRED IN THE DETAIL DESCRIPTION OF POLICIES A, B C, AND D ABOVE SHALL NOT BE CONSTRUED TO LIMIT THE EXTENT OF THE PERMITTEE'S LIABILITY UNDER THIS AGREEMENT.

   G. IF, AT ANY TIME DURING THE PERIOD OF THIS AGREEMENT, INSURANCE AS REQUIRED IS NOT IN EFFECT, OR PROOF THEREOF IS NOT PROVIDED TO THE PERMITTOR, THE PERMITTOR SHALL HAVE THE OPTIONS TO: (I) DIRECT THE PERMITTEE TO SUSPEND WORK OR OPERATION WITH NO ADDITIONAL COST OR EXTENSION OF TIME DUE ON ACCOUNT THEREOF; OR (II) TREAT SUCH FAILURE AS AN EVENT OF DEFAULT.

NYC TRANSIT AUTHORITY GENERAL NOTES:

NOTE: THE APPROPRIATE NOTES ARE TO BE MADE PART OF THE PROJECT'S CONTRACT DRAWINGS.

1. THE NYC TRANSIT (NYCT) RESERVES THE RIGHT TO PLACE INSPECTORS, FLAGMEN OR OTHER PERSONNEL IN THE SUBWAY STRUCTURES DURING CONSTRUCTION OF THE PROJECT LINKED BY A TELEPHONE SYSTEM, IF DEEMED NECESSARY, TO OBSERVE THE EFFECTS OF THE CONSTRUCTION ON THE TRANSIT FACILITIES. NYCT FURTHER RESERVES THE RIGHT TO PLACE SUCH PERSONNEL WHENEVER, IN ITS OPINION, THE PROJECT CONDITIONS WARRANT SUCH PLACEMENT, REGARDLESS OF DISTANCE. THE COST OF SUCH PERSONNEL, TELEPHONE INSTALLATION AND ANY RE-ROUTES, DIVERSIONS OF SERVICE, WORK TRAINS, ETC., MADE NECESSARY BY THE PROJECT, MUST BE BORNE BY THE PROJECT OR THE RESPONSIBLE NEW YORK CITY/STATE AGENCY.
2. ALL ROCK EXCAVATION ADJACENT TO THE TRANSIT STRUCTURE IS TO BE CHANNEL DRILLED TWO FEET BELOW SUBGRADE.
3. IF TOP OF ROCK IS FOUND BELOW SUBWAY STRUCTURE, THE SUBWAY STRUCTURE MUST BE UNDERPINNED IN ACCORDANCE WITH DRAWINGS TO BE SUBMITTED TO NYCT FOR APPROVAL.
4. IF ROCK IS SOFT OR SEAMY, LATERAL SUPPORTS MUST BE PROVIDED BELOW THE SUBWAY STRUCTURE IN ACCORDANCE WITH DRAWINGS TO BE SUBMITTED TO NYCT FOR APPROVAL.
5. BLASTING WILL BE PERMITTED ONLY WITH LIGHT CHARGES SUBJECT TO THE APPROVAL OF NYCT'S ENGINEER AND IN ACCORDANCE WITH THE REGULATIONS OF THE FIRE DEPARTMENT. THE CONTRACTOR SHALL PROVIDE A DETAILED MONITORING PLAN, PROVIDING FOR MEASUREMENTS OF BOTH PARTICLE VELOCITY AND DISPLACEMENTS AT CRITICAL LOCATIONS OF THE NYCT STRUCTURE. THE MONITORING PLAN SHALL INCLUDE THRESHOLD AND UPSET LEVELS OF BOTH PARTICLE VELOCITY AND SETTLEMENT TOGETHER WITH AN ACTION PLAN FOR THEIR IMPLEMENTATION. THE CONTRACTOR 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. THE PRESENCE OF A QUALIFIED TECHNICIAN FROM MONITORING COMPANY IS NECESSARY TO PROVIDE THE VIBRATION READING UPON REQUEST OF NYCT ENGINEER. THE THRESHOLD MAXIMUM PARTICLE VELOCITY ABOVE AMBIENT CAUSED BY THE BLASTING WILL BE 0.5 INCH PER SECOND. VALUES EXCEEDING THIS LEVEL WILL BE REVIEWED AND EVALUATED BY NYCT'S ENGINEER. IN NO CASE WILL PARTICLE VELOCITIES EXCEED THE UPSET LEVEL OF 2.0 INCHES PER SECOND.
6. BEFORE PLACING CONCRETE, THE SUBGRADE OF THE FOUNDATIONS IN THE VICINITY OF THE SUBWAY STRUCTURE IS TO BE INSPECTED AND APPROVED BY NYCT'S ENGINEER.
7. IF ANY PORTION OF THE SUBWAY STRUCTURE OR FINISH IS DAMAGED, IT SHALL BE REPAIRED OR REPLACED WITH THE SAME MATERIALS IN PLACE, SUBJECT TO THE APPROVAL OF NYCT'S ENGINEER AND AT THE EXPENSE OF THE PROJECT.
8. EXCAVATION EMBANKMENTS ARE TO BE SHORED AND BRACED. DRAWINGS INDICATING A SUGGESTED METHOD OF CONSTRUCTION ARE TO BE SUBMITTED TO NYCT FOR APPROVAL IN CONJUNCTION WITH THE PROJECT'S CONTRACT DRAWINGS. IN CASE OF EXCAVATION UNDERMINING THE SUBWAY STRUCTURE, UNDERPINNING MAY BE REQUIRED. DRAWINGS FOR UNDERPINNING ARE TO BE SUBMITTED TO NYCT FOR APPROVAL.
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 LOADS THAT CAN BE TRANSFERRED THROUGH THE TEMPORARY STRUCTURES WITHOUT DAMAGING THE EXISTING STRUCTURE. AT THE COMPLETION OF THE PROJECT, THESE TEMPORARY SHORING AND BRACING SYSTEMS ARE TO BE REMOVED OR CUT-OFF AS APPROVED BY NYCT.
10. WHEN PILES ARE TO BE DRIVEN OR DRILLED ADJACENT TO THE SUBWAY STRUCTURE, BORING DATA, PILE LAYOUTS, SPECIFICATIONS AND INSTALLATION PROCEDURES ARE TO BE SUBMITTED TO NYCT FOR APPROVAL. VELOCITY METERS ARE TO BE INSTALLED IN THE SUBWAY TUNNEL AT CRITICAL LOCATIONS TO MONITOR INDUCED VIBRATIONS. INDUCED DISPLACEMENTS ALONG THE TUNNEL STRUCTURE AND TRACK INVERT ARE TO BE MONITORED DURING DRIVING OR DRILLING. THE THRESHOLD MAXIMUM PARTICLE VELOCITY ABOVE AMBIENT CAUSED BY THE DRIVING OR DRILLING WILL BE 0.5 INCH PER SECOND. VALUES EXCEEDING THIS LEVEL WILL BE REVIEWED AND EVALUATED BY NYCT'S ENGINEER. IN NO CASE WILL PARTICLE VELOCITIES EXCEED THE UPSET LEVEL OF 2.0 INCHES PER SECOND.
11. NO PILES ARE PERMITTED TO 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 WILL NOT BE PERMITTED TO BE DRIVEN WITHIN TEN FEET OF THE SUBWAY STRUCTURE.
12. ALL PILES ARE TO BE PLACED WITHIN A PREAUGERED CASED HOLE TO THE INFLUENCE LINE. THE CASING SHALL BE CLEANED WITHOUT DISTURBING THE SOIL OUTSIDE THE CASING AND THE PILE TO 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:1V SLOPE DEPENDING ON THE SOIL PROPERTIES AND GROUND WATER TABLE. FOR PILES INSTALLED WITHIN TEN FEET OF THE SUBWAY STRUCTURE, THE CASING SHALL BE EXTENDED UP TO THE BOTTOM OF THE SUBWAY STRUCTURE.
14. ALL PILES ARE TO BE DRIVEN OR DRILLED A MINIMUM OF TEN FEET BELOW THE INTERSECTION OF THE PILE CENTERLINE AND THE INFLUENCE LINE OF THE SUBWAY STRUCTURE.
15. THE USE OF 'DOWN-THE-HOLE -HAMMERS" FOR INSTALLATION OF PILES THROUGH OVERBURDEN AND FILL WILL BE PERMITTED ONLY TO REMOVE BOULDERS. IT WILL NOT BE PERMITTED AS A MATTER OF COURSE TO ADVANCE THE HOLE. THEIR USE TO CONSTRUCT ROCK SOCKETS WILL NOT BE ALLOWED WITHIN 5 FEET OF THE NYCT STRUCTURE. THE USE OF MACHINE UTILIZING AIR FOR SOIL REMOVAL WILL NOT BE ALLOWED.
16. VIBRATORY HAMMERS WILL NOT BE PERMITTED WITHIN 75 FEET OF SUBWAY STRUCTURES. HOERAMS WILL NOT BE PERMITTED WITHIN 25 FEET OF SUBWAY STRUCTURES.
17. DYNAMIC COMPACTION METHODS USING DROPPED HEAVY WEIGHTS CANNOT BE CONDUCTED WITHIN 1000 FEET OF ANY NYCT STRUCTURE UNLESS IT IS SHOWN THAT INDUCED SETTLEMENTS AND VIBRATIONS WILL NOT DAMAGE THESE STRUCTURES. A SUITABLE MONITORING PLAN INCLUDING SETTLEMENT AND VIBRATION MEASUREMENTS MUST BE APPROVED BY NYCT'S ENGINEER FOR ALL SUCH OPERATIONS WITHIN THESE DISTANCES.
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 NYCT STRUCTURE MUST BE PERFORMED IN ACCORDANCE WITH DRAWINGS AND PROCEDURES SUBMITTED TO NYCT FOR APPROVAL. THE DISTANCE FROM THE STRUCTURE TO THE DEWATERING OPERATION CAN 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 DEWATERING PROGRAM MUST BE SHOWN TO HAVE NEGLIGIBLE INFLUENCE ON SETTLEMENTS OF THE NYCT STRUCTURE.
20. SUBWAY ENTRANCES (VENTILATORS, ETC.) ARE TO BE UNDERPINNED OR SHORED AND BRACED IF DIRECTED BY NYCT'S ENGINEER.
21. NYCT, AT ITS DISCRETION, RESERVES THE RIGHT TO REQUIRE THE PROJECT TO CLOSE OR MAINTAIN AND PROTECT EXISTING SUBWAY ENTRANCES, VENTILATORS, ETC. ADJACENT TO THE PROJECT DURING CONSTRUCTION. SUCH CONSTRUCTION MAY INCLUDE UNDERPINNING, SHORING, BRACING AND ERECTION OF SUITABLE BARRICADES AND/OR CANOPIES AND SHIELDS. SUCH PROTECTION SHALL BE IN ACCORDANCE WITH DRAWINGS SUBMITTED TO NYCT FOR APPROVAL.
22. IF SHIELDS ARE TO BE INSTALLED TO PROTECT NYCT FACILITIES AND/OR THE PUBLIC, PLANS SHOWING THE LOCATION, TYPE AND METHOD OF ATTACHMENT TO THE TRANSIT STRUCTURE MUST BE SUBMITTED TO NYCT FOR APPROVAL.
23. ALL LUMBER AND PLYWOOD USED FOR PROTECTION OF SUBWAY FACILITIES MUST BE FIRE RETARDANT.
24. SUBWAY EMERGENCY EXITS MUST BE KEPT CLEAR AT ALL TIMES.
25. IN EXCAVATING OVER OR NEAR THE SUBWAY ROOF, SPECIAL CARE SHALL BE EXERCISED SO THAT THE THIN CONCRETE PROTECTION OF THE SUBWAY WATERPROOFING IS NOT DAMAGED.
26. BURNING OF, WELDING TO OR DRILLING THROUGH EXISTING STEEL STRUCTURES WILL NOT BE PERMITTED EXCEPT AS SHOWN ON DRAWINGS APPROVED BY NYCT.
27. HORIZONTAL AND VERTICAL CONTROL SURVEY DATA OF THE EXISTING NYCT STRUCTURE IS TO BE TAKEN BY A LICENSED LAND SURVEYOR TO MONITOR ANY MOVEMENTS THAT OCCUR DURING CONSTRUCTION AND TO SHOW THAT THE INDUCED MOVEMENTS ARE WITHIN ALLOWABLES NOTED BELOW. IF ANY MOVEMENTS EXCEED ALLOWABLES, REMEDIATION AS APPROVED BY NYCT SHALL BE PERFORMED.

STRUCTURE	NOTIFY NYCT ENGINEER	STOP WORK
ELEVATED	1/8 INCH	¼ INCH
SUBWAY	1/4 INCH	½ INCH

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

    MS. SARAH WYSS
    ACTING DIRECTOR, OPERATIONS PLANNING
    NEW YORK CITY TRANSIT
    2 BROADWAY, ROOM A17.82
    NEW YORK, NEW YORK 10004
    TELEPHONE NUMBER 646/252-5517

    WHEN IMPACTING ANY BUS STOP, SPECIAL OPERATIONS MUST BE NOTIFIED TWO WEEKS IN ADVANCE.

29. DUCT LINES MUST BE MAINTAINED AND PROTECTED DURING CONSTRUCTION. ANY INTERFERENCE WITH DUCT LINES SHOULD BE REPORTED TO NYCT INSPECTOR. WHEN A DUCT LINE CONTAINING CABLES IS TO BE REMOVED, OR WHEN MASONRY ADJACENT THERETO IS TO BE REMOVED, PENETRATED, OR DRILLED, THE WORK SHALL BE DONE WITH HAND LABOR ENTIRELY, USING HAMMER AND CHISEL. JACKHAMMERS, BULL POINTS OR OTHER POWER EQUIPMENT SHALL NOT BE USED.
30. WHERE MANHOLES ARE ENCOUNTERED:
    A. THEY SHALL BE PROTECTED AND RAISED OR LOWERED AS REQUIRED, TO MATCH THE NEW STREET GRADE.
    B. IF MANHOLE COVERS ARE RAISED OR LOWERED, PROTECT CABLES IN MANHOLE BY WOOD SHEETING OF 2" NOMINAL THICKNESS.
    C. PRIOR TO THE START OF CONSTRUCTION OPERATIONS AFFECTING MANHOLES AND DUCT LINES, SEVEN DAYS NOTICE MUST BE GIVEN TO MR. JOHN MALVASIO, P.E., ASSISTANT CHIEF ENGINEERING OFFICER, MAINTENANCE OF WAY, AT 718/694-1358.
31. CONSTRUCTION WORK DONE NEAR VENT GRATINGS AND HATCHES SHALL BE AS FOLLOWS:
    A. UNLESS APPROVED BY THE NYCT'S ENGINEER, ALL VENT GRATINGS AND HATCHES SHOULD REMAIN OUTSIDE THE CONSTRUCTION SITE, SEPARATED BY A CONSTRUCTION FENCE. PROTECTIVE SHIELDS MUST BE PROVIDED OVER VENT GRATINGS AS REQUIRED BY NYCT'S ENGINEER.
    B. NO BUILDING MATERIAL, VEHICLES OR CONSTRUCTION EQUIPMENT IS TO BE STORED OR RUN OVER VENT, GRATINGS, HATCHES OR EMERGENCY EXITS.
    C. DETAILS OF SIDEWALK RECONSTRUCTION AROUND VENT GRATINGS, HATCHES AND EMERGENCY EXITS ARE TO BE SUBMITTED TO NYCT FOR APPROVAL.
32. TRACTORS, CRANES, EXCAVATORS, ETC. USED IN THE 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 MUST BE A MINIMUM OF 5'-0" FROM EDGE OF FINISHED PLATFORM.
34. STATION AREAS OR STAIRWAY/CLOSINGS: THE GENERAL REQUIREMENTS FOR STATION AREAS OR STAIRWAY/CLOSINGS ARE AS FOLLOWS:
    A. ONLY ONE STAIRWAY AT EACH STATION WILL BE PERMITTED TO BE CLOSED AT THE SAME TIME. APPROVALS FOR CLOSING ANY STAIRWAY MUST BE OBTAINED FROM THE DIVISION OF STATION OPERATIONS AT LEAST THREE WEEKS IN ADVANCE.
    B. MR. ASHOK PATEL, DIRECTOR, OFFICE OF STATION PROGRAMS; TELEPHONE 718/694-1695 OF THE DIVISION OF STATIONS MUST BE NOTIFIED ONE WEEK PRIOR TO THE ACTUAL CLOSING AND REOPENING OF THE ENTRANCE.
    C. SIGNAGE MUST BE SUPPLIED AND POSTED AT LEAST ONE WEEK IN ADVANCE, ADVISING THE PUBLIC OF THE PROPOSED SUBWAY STAIR CLOSING. HOWEVER, IF IT IS AN ENTIRE ENTRANCE CLOSING, SIGNAGE MUST BE POSTED TWO WEEKS IN ADVANCE.
    D. THE STREET ENTRANCE STAIRWAY SHOULD NOT BE CLOSED UNLESS MANPOWER AND MATERIALS ARE AVAILABLE TO COMMENCE WORK ON DATES PERMITTED.
    E. ONCE THE CLOSING IS EFFECTED, CONSTRUCTION SIGNS MUST BE PLACED AT APPROPRIATE LOCATIONS ON THE BARRICADES AT THE STREET AND MEZZANINE 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.
    F. EXISTING STATION SIGNAGE MUST BE ADJUSTED TO REFLECT ANY CHANGES IN ACCESS/EGRESS.
    G. BARRICADES ARE TO BE PAINTED AND KEPT GRAFFITI FREE AT ALL TIMES. THE CONTRACTOR MUST MAINTAIN THE BARRICADED AREA CLEAN OF ALL DEBRIS.
    H. ALL MATERIALS ARE TO BE PROPERLY STORED AND SECURED AWAY FROM PASSENGER TRAFFIC.
    I. THE CONTRACTOR MUST REMOVE ALL WASTE MATERIAL AND BARRICADES FROM ALL STATION AREAS WHEN CONSTRUCTION IS COMPLETED.
    J. INSPECTION OF THE AREA UNDER CONSTRUCTION BY AUTHORIZED STATION DEPARTMENT EMPLOYEES SHALL NOT BE INHIBITED.
    K. IF STREETLIGHTS ON THE SIDEWALKS ARE AFFECTED, TEMPORARY LIGHTS SHALL BE PROVIDED.
35. IF NEW CONCRETE CONSTRUCTION IS JOINED TO EXISTING CONCRETE, DOWELS AND KEYWAYS ARE TO BE USED IN ACCORDANCE WITH NYCT STANDARDS.
36. IF THE PROJECT INVOLVES CONSTRUCTION OR ALTERATION OF A SUBWAY FACILITY ON PRIVATE PROPERTY, THE PROPERTY OWNERS WILL BE REQUIRED TO ENTER INTO AN AGREEMENT WITH NYCT PERTAINING TO ALL WORK AFFECTING THE TRANSIT FACILITIES AND CLEARLY DEFINING LIMITS AND RESPONSIBILITY FOR MAINTENANCE AND LIABILITY.
37. WHEREVER A NEW SIDEWALK IS BEING PLACED ADJACENT TO NYCT STRUCTURES THE FOLLOWING WILL BE REQUIRED:
    A. THE TOP OF THE NEW SIDEWALK SHALL BE FLUSH WITH THE SUBWAY VENT GRATINGS, HATCHES AND EMERGENCY EXITS.
    B. THE SLOPE OF THE NEW SIDEWALK SHALL BE SUCH THAT THE DRAINAGE BE AWAY FROM THESE STRUCTURES.
    C. A 1/2" PREMOLDED FILLER SHALL BE INSTALLED BETWEEN THE NEW SIDEWALK AND NYCT STRUCTURE.
    D. WHERE SIDEWALK ELEVATIONS ARE BEING CHANGED DETAILS OF PROPOSED WORK AROUND NYCT STRUCTURES ARE TO BE SUBMITTED FOR APPROVAL.
38. 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 ENGINEER INSTRUCTIONS
39. BEFORE THE START OF ANY WORK, THE CONTRACTOR SHALL MAKE AN EXAMINATION, IN THE PRESENCE OF NYCT'S ENGINEER, OF THE INTERIOR AND EXTERIOR OF NYCT SUBWAY OR OTHER STRUCTURE ADJACENT TO THE PROPOSED WORK. THE PERSON OR PERSONS AUTHORIZED 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 NYCT STRUCTURE. ONE COPY OF EACH PHOTOGRAPH, EIGHT INCHES BY TEN INCHES IN SIZE, AND THE NEGATIVE IS TO BE SUBMITTED TO MR. JOHN MALVASIO, P.E., ASSISTANT CHIEF ENGINEERING OFFICER, MAINTENANCE-OF-WAY, 130 LIVINGSTON STREET, ROOM 8044D, BROOKLYN, NEW YORK 11201, TELEPHONE 718/694-1358 BEFORE THE START OF CONSTRUCTION.
40. ALL ARCHITECTURAL DETAILS (TOKEN BOOTHS, RAILINGS, DOORS, ETC.) ARE TO CONFORM TO THE LATEST NYCT STANDARDS. THESE STANDARDS ARE AVAILABLE AT NYCT.
41. STANDARD NYCT INSURANCE CLAUSES ARE TO BE MADE PART OF THE PROJECT'S CONTRACT DRAWINGS. PROOF THAT THE NECESSARY INSURANCE IS IN EFFECT WILL BE REQUIRED BEFORE WORK CAN COMMENCE.
42. AT THE CLOSE OF ANY PROJECT INVOLVING CONSTRUCTION OR ALTERATIONS TO TRANSIT FACILITIES, ONE SET OF VELLUMS OR MYLARS, FIVE SETS OF 35MM MICROFILM, AND ELECTRONIC COPIES COMPLYING TO MICROSTATION.DGN FORMAT OF "APPROVED AS-BUILTS" MUST BE PROVIDED TO NYCT FOR ITS RECORDS. FOR DETAILS OF SPECIFIC REQUIREMENTS CONTACT NYCT OUTSIDE PROJECTS.
43. AT LEAST SEVEN WORKING DAYS PRIOR TO THE START OF CONSTRUCTION OPERATIONS, NOTIFICATION MUST BE GIVEN TO MR. JOHN MALVASIO, P.E., ASSISTANT CHIEF ENGINEERING OFFICER, MAINTENANCE-OF-WAY, AT 718/694-1358. THE CONTRACTOR TO PROVIDE TEMPORARY QUARTERS NEAR THE JOB SITE FOR NYCT INSPECTORS CONTAINING A DESK AND TELEPHONE.

NYCT "NOT FOR BENEFIT" INSURANCE REQUIREMENTS:

SECTION A: INSURANCE REQUIREMENTS

THE PERMITTEE AT ITS SOLE COST AND EXPENSE SHALL CARRY AND MAINTAIN POLICIES OF INSURANCE AT ALL TIMES DURING THE PERIOD OF PERFORMANCE UNDER THIS AGREEMENT AS HEREIN SET FORTH BELOW:

1 WORKERS' COMPENSATION: INCLUDING EMPLOYER'S LIABILITY INSURANCE WITH LIMITS OF LIABILITY NOT LESS THAN $2,000,000 WHICH MAY BE MET BY A COMBINATION OF PRIMARY AND EXCESS INSURANCE MEETING THE STATUTORY LIMITS OF NEW YORK STATE.

2. COMMERCIAL GENERAL LIABILITY: (ISO 2001 FORM OR EQUIVALENT) APPROVED BY PERMITTOR IN THE PERMITTEE'S NAME WITH LIMITS OF LIABILITY IN THE AMOUNT OF NOT LESS THAN $3,000,000 FOR EACH OCCURRENCE ON A COMBINED SINGLE LIMIT BASIS FOR INJURIES TO PERSONS (INCLUDING DEATH) AND DAMAGE TO PROPERTY, $3,000,000 GENERAL AGGREGATE AND $3,000,000 IN THE AGGREGATE WITH RESPECT TO PRODUCTS/COMPLETED OPERATIONS. THE LIMITS MAY BE PROVIDED IN THE FORM OF A PRIMARY POLICY OR COMBINATION OF PRIMARY AND UMBRELLA/EXCESS POLICY. WHEN THE MINIMUM CONTRACT AMOUNTS CAN ONLY BE MET WHEN APPLYING THE UMBRELLA/EXCESS POLICY, THE UMBRELLA/EXCESS POLICY MUST FOLLOW FORM OF THE UNDERLYING POLICY AND BE EXTENDED TO "DROP DOWN" TO BECOME PRIMARY IN THE EVENT PRIMARY LIMITS ARE REDUCED OR AGGREGATE LIMITS ARE EXHAUSTED. SUCH INSURANCE SHALL BE PRIMARY AND NON-CONTRIBUTORY TO ANY OTHER VALID AND COLLECTIBLE INSURANCE AND MUST BE EXHAUSTED BEFORE IMPLICATING ANY PERMITTOR/MTA POLICY AVAILABLE.

   SUCH POLICY SHOULD BE WRITTEN ON AN OCCURRENCE FORM, AND SHALL INCLUDE THE FOLLOWING COVERAGES:
   - ADDITIONAL INSURED ENDORSEMENT (I.S.O. FORM CG 20 26 07/04) VERSION OR EQUIVALENT APPROVED BY THE PERMITTOR, SHALL NAME THE INDEMNITEES AS REFERENCED UNDER SECTION B OF THIS AGREEMENT AS ADDITIONAL INSUREDS.
   - CONTRACTUAL LIABILITY ASSUMED BY THE PERMITTEE UNDER THIS AGREEMENT;
   - PERSONAL AND ADVERTISING INJURY;
   - PRODUCTS-COMPLETED OPERATIONS;
   - INDEPENDENT CONTRACTORS;
   - "XCU" (EXPLOSION, COLLAPSE, AND UNDERGROUND HAZARDS) WHERE NECESSARY;
   - CONTRACTUAL LIABILITY EXCLUSION, APPLICABLE TO CONSTRUCTION OR DEMOLITION OPERATIONS TO BE PERFORMED WITHIN 50 FEET OF RAILROAD TRACKS, MUST BE REMOVED, WHERE NECESSARY;

3. BUSINESS AUTOMOBILE LIABILITY: (ISO FORM CA 00 01 10 01 OR EQUIVALENT) APPROVED BY THE PERMITTOR IS REQUIRED IF PERMITTEE'S VEHICLE ENTERS PERMITTOR'S PROPERTY. THE INSURANCE MUST BE IN THE NAME OF THE PERMITTEE OR ITS CONTRACTOR ENTERING THE PERMITTOR PROPERTY WITH LIMITS OF LIABILITY IN THE AMOUNT OF NOT LESS THAN $2,000,000 EACH ACCIDENT FOR CLAIMS FOR BODILY INJURIES (INCLUDING DEATH) TO PERSONS AND FOR DAMAGE TO PROPERTY ARISING OUT OF THE OWNERSHIP, MAINTENANCE OR USE OF ANY OWNED, HIRED OR NON-OWNED MOTOR VEHICLE.

4. RAILROAD PROTECTIVE LIABILITY: (ISO-RIMA OR EQUIVALENT FORM) APPROVED BY PERMITTOR 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 CONFORMING TO THE FOLLOWING:
   - THE POLICY SHALL BE ISSUED TO THE "NAMED INSUREDS" LISTED UNDER SECTION B.
   - THE LIMIT OF LIABILITY SHALL BE NOT LESS THAN $2,000,000 PER OCCURRENCE, SUBJECT TO A $6,000,000 ANNUAL AGGREGATE;
   - POLICY MUST BE ENDORSED TO PROVIDE COVERAGE FOR CLAIMS ARISING FROM INJURY TO EMPLOYEES COVERED BY FEDERAL EMPLOYER'S LIABILITY ACT (FELA).
   - INDICATE THE NAME AND ADDRESS OF THE DESIGNATED CONTRACTOR, PROJECT LOCATION AND DESCRIPTION OF WORK, AND PERMIT NUMBER IF APPLICABLE.
   - EVIDENCE OF RAILROAD PROTECTIVE LIABILITY INSURANCE, MUST BE PROVIDED IN THE FORM OF A POLICY. A DETAILED INSURANCE BINDER (ACORD OR MANUSCRIPT FORM) WILL BE ACCEPTED PENDING ISSUANCE OF THE POLICY, WHICH MUST BE PROVIDED WITHIN 30 DAYS FROM THE EFFECTIVE DATE.

5. ENVIRONMENTAL INSURANCE: IN THE EVENT ENVIRONMENTAL OR POLLUTION EXPOSURES EXIST, THE PERMITTEE SHALL REQUIRE THE ENVIRONMENTAL CONTRACTOR OR SUB-CONTRACTOR TO PROVIDE THE APPLICABLE INSURANCE COVERING SUCH EXPOSURE. THE LIMITS AND TYPES OF INSURANCE PROVIDED MUST BE SATISFACTORY TO THE PERMITTOR AND APPROVED PRIOR TO THE START OF THE WORK.

SECTION B: INDEMNITEES (ADDITIONAL INSUREDS / NAMED INSUREDS)

NEW YORK CITY TRANSIT AUTHORITY ("NYCT"), THE MANHATTAN AND BRONX SURFACE TRANSIT OPERATING AUTHORITY ("MABSTOA"), THE STATEN ISLAND RAPID TRANSIT OPERATING AUTHORITY ("SIRTOA"), THE METROPOLITAN TRANSPORTATION AUTHORITY ("MTA") INCLUDING ITS SUBSIDIARIES AND AFFILIATES, MTA CAPITAL CONSTRUCTION ("MTACC"), 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 PARTIES LISTED HEREIN.

SECTION C: GENERAL INSURANCE REQUIREMENTS

1. INSURANCE COMPANIES: ALL OF THE INSURANCE REQUIRED BY THIS ARTICLE SHALL BE WITH COMPANIES LICENSED OR AUTHORIZED TO DO BUSINESS IN THE STATE OF NEW YORK WITH AN A.M. BEST COMPANY RATING OF NOT LESS THAN A-/VII OR BETTER AND REASONABLY APPROVED BY THE PERMITTOR/MTA.
2. FORMS: ALL FORMS SHALL COMPLY WITH THE INSURANCE SERVICES OFFICE, INC. ("ISO") OR ITS EQUIVALENT APPROVED BY THE INSURANCE DEPARTMENT OF THE STATE OF NEW YORK
3. POLICY DEDUCTIBLE / SELF INSURED RETENTION: INSURANCE MAY CONTAIN A DEDUCTIBLE AND OR SELF-INSURED RETENTION AND SHALL NOT EXCEED $100,000. THE PERMITTEE SHALL BE RESPONSIBLE FOR ALL CLAIM EXPENSES AND LOSS PAYMENTS WITHIN THE DEDUCTIBLE OR SELF-INSURED RETENTION.
4. POLICY TERMS: THESE POLICIES MUST: (I) BE WRITTEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE PARAGRAPHS ABOVE, AS APPLICABLE; (II) BE ENDORSED IN FORM ACCEPTABLE TO INCLUDE A PROVISION THAT SHOULD THE POLICY BE CANCELED, MATERIALLY CHANGED, OR NOT RENEWED, NOTICE SHALL BE DELIVERED IN ACCORDANCE WITH THE INSURANCE POLICY PROVISIONS TO THE PERMITTOR, AND (III) STATE OR BE ENDORSED TO PROVIDE THAT THE COVERAGE AFFORDED UNDER THE PERMITTEE'S POLICIES SHALL APPLY ON A PRIMARY AND NOT ON AN EXCESS OR CONTRIBUTING BASIS WITH ANY POLICIES WHICH MAY BE AVAILABLE TO THE PERMITTOR/MTA, AND ALSO THAT THE PERMITTEE'S POLICIES, PRIMARY AND EXCESS, MUST BE EXHAUSTED BEFORE IMPLICATING ANY PERMITTOR/MTA POLICY AVAILABLE. (IV) IN ADDITION, PERMITTEE'S POLICIES SHALL STATE OR BE ENDORSED TO PROVIDE THAT, IF A SUBCONTRACTOR'S POLICY CONTAINS ANY PROVISION THAT MAY ADVERSELY AFFECT WHETHER PERMITTEE'S POLICIES ARE PRIMARY AND MUST BE EXHAUSTED BEFORE IMPLICATING ANY PERMITTOR/MTA POLICY AVAILABLE, PERMITTEE'S AND SUBCONTRACTOR'S POLICIES SHALL NEVERTHELESS BE PRIMARY AND MUST BE EXHAUSTED BEFORE IMPLICATING ANY PERMITTOR/MTA POLICY AVAILABLE. AT LEAST TWO (2) WEEKS PRIOR TO THE EXPIRATION OF THE POLICIES, THE PERMITTEE SHALL ENDEAVOR TO PROVIDE EVIDENCE OF RENEWAL OR REPLACEMENT POLICIES OF INSURANCE, WITH TERMS AND LIMITS NO LESS FAVORABLE THAN THE EXPIRING POLICIES.

SECTION D: SUBMISSION OF INSURANCE

CERTIFICATES OF INSURANCE MAY BE SUPPLIED AS EVIDENCE OF POLICIES EXCEPT FOR RAILROAD PROTECTIVE LIABILITY. HOWEVER, IF REQUESTED BY THE PERMITTOR, THE PERMITTEE SHALL DELIVER TO THE PERMITTOR WITHIN FORTY-FIVE (45) DAYS A COPY OF SUCH POLICIES, CERTIFIED BY THE INSURANCE CARRIER AS BEING TRUE AND COMPLETE. IF A CERTIFICATE OF INSURANCE IS SUBMITTED, IT MUST: (1) BE PROVIDED ON THE PERMITTOR CERTIFICATE OF INSURANCE; (2) BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE INSURANCE CARRIER OR PRODUCER AND NOTARIZED; (3) DISCLOSE ANY DEDUCTIBLE, SELF-INSURED RETENTION, SUB-LIMIT, AGGREGATE LIMIT OR ANY EXCLUSIONS TO THE POLICY THAT MATERIALLY CHANGE THE COVERAGE; (4) INDICATE THE ADDITIONAL INSUREDS AS REQUIRED HEREIN UNDER SECTION B; THE PERMITTEE MUST PROVIDE A COPY OF THE ADDITIONAL INSURED ENDORSEMENT (ISO) FORM CG 20 26 07/04 OR ITS EQUIVALENT AND MUST REFERENCE THE POLICY INFORMATION; (5) INDICATE PROJECT NAME AND LOCATION ON THE CERTIFICATE; AND (6) EXPRESSLY REFERENCE THE INCLUSION OF ALL REQUIRED ENDORSEMENTS.

THE PERMITTEE OR ITS CONTRACTOR/SUBCONTRACTOR PERFORMING THE WORK SHALL FURNISH EVIDENCE OF ALL POLICIES BEFORE ANY WORK IS STARTED TO THE APPROPRIATE DEPARTMENT:

NEW AGREEMENTS:	RENEWAL INSURANCE:
MTA/NYCT MOW ENGINEERING	MTA RISK INSURANCE MANAGEMENT
ATTENTION: MR. JOHN MALVASIO	ATTENTION: RUTH APOSTOL
130 LIVINGSTON STREET	2 BROADWAY – 21ST FLOOR
BROOKLYN, NY 11201	NEW YORK, NY 10004

SECTION E: NO LIMIT OF LIABILITY
THE MINIMUM AMOUNTS OF INSURANCE REQUIRED IN THE DETAIL DESCRIPTION OF POLICIES ABOVE SHALL NOT BE CONSTRUED TO LIMIT THE EXTENT OF THE PERMITTEE'S LIABILITY UNDER THIS AGREEMENT.

SECTION F: RIGHT TO REQUEST ADDITIONAL INSURANCE
PERMITTEE FURTHER AGREES TO PROVIDE, AT PERMITTEE'S SOLE COST AND EXPENSE, SUCH INCREASED OR EXPANDED INSURANCE COVERAGE AS PERMITTOR MAY FROM TIME TO TIME AS DEEM APPROPRIATE.

SECTION G: EVENT OF DEFAULT
IF, AT ANY TIME DURING THE PERIOD OF THIS AGREEMENT, INSURANCE AS REQUIRED IS NOT IN EFFECT, OR PROOF THEREOF IS NOT PROVIDED TO THE PERMITTOR, THE PERMITTOR SHALL HAVE THE OPTIONS TO: (I) DIRECT THE PERMITTEE TO SUSPEND WORK OR OPERATION WITH NO ADDITIONAL COST OR EXTENSION OF TIME DUE ON ACCOUNT THEREOF; OR (II) TREAT SUCH FAILURE AS AN EVENT OF DEFAULT.

SECTION H: NOTICE OF CLAIM
THE PERMITTEE SHALL IMMEDIATELY FILE WITH NYCT/MTA'S TORT DIVISION (WITH A COPY TO THE PROJECT MANAGER), 130 LIVINGSTON STREET, 11TH FLOOR, BROOKLYN, NEW YORK 11201, A NOTICE OF ANY OCCURRENCE LIKELY TO RESULT IN A CLAIM AGAINST NYCT/MTA AND SHALL ALSO 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 CONTRACT.

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/08/2014:
NYC Development Hub

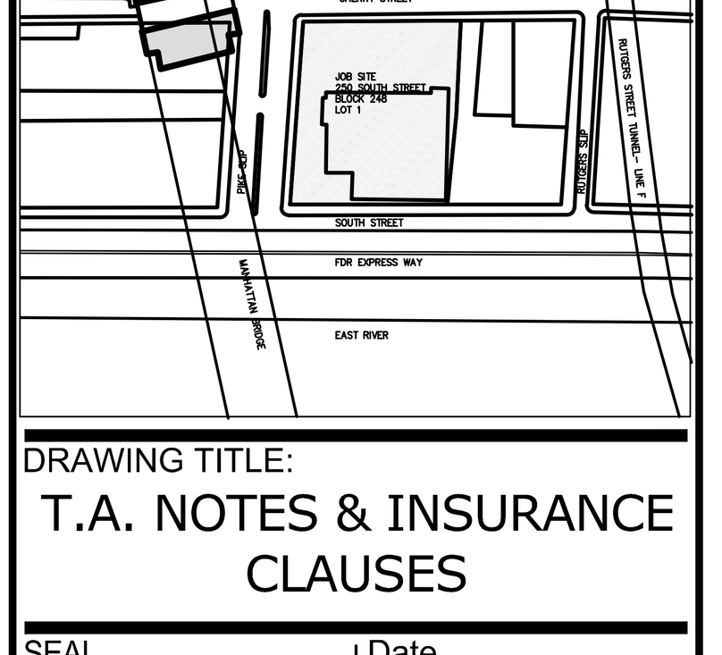
FNA associates, inc.
CONSULTING ENGINEERS
670 BERGEN BOULEVARD
RIDGEFIELD, NJ. 07657
O: 201-241-2444

227 CHERRY ST.-250 SOUTH ST.
NEW YORK, NY, 10018

No:	Revision:	Date:
5	D.O.B. COMMENTS	08-04-14
4	T.A. COMMENTS	07-16-14
3	DESIGN UPDATE	07-09-14
2	T.A. COMMENTS	05-30-14
1	T.A. FILING	04-03-14

N
SCALE: AS NOTED

KEY PLAN:



DRAWING TITLE:
T.A. NOTES & INSURANCE CLAUSES

SEAL
STATE OF NEW YORK
GHANSHYAM PATEL
LICENSED PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-001.00
1 OF 10

GENERAL NOTES:

1. ALL ELEVATIONS ARE REFERENCED TO BOROUGH PRESIDENT OF MANHATTAN DATUM (BPMD) 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, BPMD EL. 65.0' = NYCTA 165.0').

2. PROPOSED FINISHED FIRST FLOOR ELEVATION IS 106.55. PROPOSED FLOOR ELEVATIONS WITH EQUIVALENT DIMENSIONS SHOWN IN PARENTHESES IN SECTIONS AND ELEVATIONS ARE MEASURED DOWN FROM FINISHED FIRST FLOOR ELEVATION (0'-0"), PER STRUCTURAL PLANS.

3. BASE PLANS AND SECTIONS ARE DEVELOPED FROM:

   3.1. STRUCTURAL AND FOUNDATION DRAWINGS BY WSP OF NY, NY, DATED 06.10.2014.
   3.2. SURVEY DRAWING BY EARL B. LOVELL S.P. BELCHER, INC. OF NEW YORK, NY, DATED 04.03.2013.
   3.3. SURVEY DRAWING FOR STEAM PIPE BY NEW YORK CITY LAND SURVEYORS, PC. PF STATEN ISLAND, NY. DATED 06-23-14
   3.4. BORING LOCATION PLAN BY LANGAN ENGINEERING, DATED 01.02.2014.

4. SOIL DATA OBTAINED FROM:

   4.1. GEOTECHNICAL REPORT BY LANGAN ENGINEERING, DATED 01.02.2014, INCLUDING BORINGS AND TEST PITS.

5. 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.

6. 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.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITIES AND BELOW GROUND STRUCTURES IN THE AREA OF PRIOR TO COMMENCEMENT OF WORK.

8. 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.

9. 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.

10. BARRIERS AND FENCING AROUND SITE MUST BE PROVIDED BY CONTRACTOR IN ACCORDANCE WITH NEW YORK CITY DEPARTMENT OF BUILDINGS AND ALL APPLICABLE LAWS.

11. 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.

12. OBSERVED MOVEMENTS OF THE SUPPORT OF EXCAVATION OR OTHER STRUCTURES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER.

13. 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.

14. PINS, WIRE MESH, AND PARGING MAY BE REQUIRED TO STABILIZE THE FOUNDATION WALL OR FOOTINGS NOT INDICATED IN THESE DRAWINGS.

15. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1 USING E-70 ELECTRODES.

16. ALL STRUCTURAL STEEL SHALL BE GRADE 50, ASTM A-572.

17. ALL PLATES OR MISCELLANEOUS STEEL SHALL BE GRADE 36, ASTM A36.

18. 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.

19. THE DESIGNS ON THESE DRAWINGS ARE INTENDED FOR TEMPORARY SUPPORT OF EXCAVATION ONLY.

20. NOTIFY DOB 24 TO 48 HOURS PRIOR TO EXCAVATION (RULE 52).

TIE BACKS AND STRESSED ANCHORAGES:

1. CONTRACTOR IS FULLY RESPONSIBLE FOR THE VERIFICATION OF EXISTING UTILITIES AND OTHER EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF DRILLING OPERATIONS.

2. STRESSED/LOADED TIE BACK ANCHORAGES SHALL BE GRADE 150ksi, ASTM A722 THREADED BARS, OR APPROVED EQUIVALENT. ALTERNATE HOLLOW CORE, SELF DRILLING ANCHORS ARE ALSO INDICATED IN THESE DRAWINGS, OR APPROVED EQUIVALENT.

3. BAR DIAMETERS INDICATED IN THESE DRAWINGS SHALL BE THE MINIMUM SIZE USED. LARGER DIAMETERS MAY BE SUBSTITUTED WITHOUT PRIOR APPROVAL OF ENGINEER.

4. DRILL HOLES INDICATED IN THESE DRAWINGS SHALL BE THE MINIMUM PROVIDED. A CHANGE IN DRILL HOLE DIAMETER WILL EFFECT THE REQUIRED BOND LENGTHS INDICATED.

5. BOND LENGTHS INDICATED IN THESE DRAWINGS SHALL BE MINIMUM, AND MAY BE SUBJECT TO CHANGE AND/OR VERIFICATION AT DIRECTION OF FIELD PROFESSIONAL ENGINEER.

6. 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.

7. THE BALANCE OF INSTALLED TIE-BACKS SHALL BE PROOF-TESTED TO LOAD VALUES INDICATED ON THESE DRAWINGS.

8. 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.

9. ALL ANCHORAGE STRESSING SHALL BE CONDUCTED USING A CALIBRATED CENTER HOLE HYDRAULIC JACK CAPABLE OF EXCEEDING MAXIMUM TESTING LOADS INDICATED IN THESE DRAWINGS.

10. 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.

11. 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.

12. 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.

13. FOR SOLID, GRADE 150ksi THREADED BARS:

   13.1. INSTALLATION SHALL BE VIA CASE DRILLING TO AVOID ANY LOSS OF SOILS.
   13.2. DRILL FULL LENGTH AS INDICATED ON THESE DRAWINGS, MINIMALLY, UNLESS OTHERWISE DIRECTED BY FIELD ENGINEER.
   13.3. INSERT BAR INTO PRE-DRILLED CASING.
   13.4. 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)
   13.5. ALLOW ADEQUATE GROUT CURE PRIOR TO TESTING. 5,000psi GROUT MIX (TYPICAL, 28-DAY) FOR ANCHORS SHALL CONSIST OF:
   13.5.1. 1 BAG CEMENT, TYPE 1, 2, OR 3
   5 GALLONS POTABLE WATER
   13.5.2. TESTING TYPICALLY CAN OCCUR WITHIN 3 DAYS OF INSTALLATION, OR AT DIRECTION OF FIELD ENGINEER.

14. 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:

1. 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.

2. STRUCTURAL CONCRETE FOR UNDERPINNING PIERS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000-PSI AT 28 DAYS.

3. CONCRETE PIERS AND DRY PACK SHALL BE ALLOWED TO CURE PRIOR TO EXCAVATING ADJACENT PIT, OR ADVANCING THE EXCAVATION IN FRONT OF THE PIT.

4. 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.

5. GROUTING TO STABILIZE SOIL AT UNDERPINNING PITS SHALL BE PERFORMED USING SODIUM SILICATE OR MICROFINE CEMENT. GROUT MIX DESIGN, EQUIPMENT, DRILLING PROCEDURE, AND SEQUENCE SHALL BE PERFORMED BY THE CONTRACTOR AND SUBMITTED FOR REVIEW.

6. 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.

7. 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.

8. 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.

9. 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.

10. UNDERPINNING PIER SUBGRADE BEARING MATERIAL SHALL BE EQUAL OR BETTER CLASS THAN THE ORIGINAL BEARING MATERIAL.

11. MAXIMUM PIT WIDTH IS 4 FEET UNLESS OTHERWISE NOTED ON THE DRAWINGS.

12. APPROACH PITS FOR UNDERPINNING PITS SHOULD CAUSE MINIMAL DISTURBANCE TO SOIL SUBGRADE BELOW THE FOOTING. IT IS THE CONTRACTORS RESPONSIBILITY TO DESIGN THE APPROACH PITS AND EXCAVATE PITS FOLLOWING OSHA AND LOCAL LAWS.

13. 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.

14. DO NOT LEAVE PITS OPEN OVERNIGHT OR DURING WEEKENDS OR HOLIDAYS.

15. DO NOT START UNDERPINNING WITH A CORNER OR END UNDERPINNING PIER.

16. UNDERPINNING PIER THICKNESS SHALL BE 2'-0" OR WIDTH OF FOOTING, WHICHEVER IS GREATER.

17. UNDERPINNING SHALL BE CONSTRUCTED IN ONE VERTICAL LIFT, NO COLD JOINTS.

18. ROCK BOLTS MAY BE REQUIRED BASED ON ROCK FACE OBSERVATIONS AT DIRECTION OF FIELD PROFESSIONAL ENGINEER.

DRILLED PIPE SOLDIER PILES & LAGGING:

1. SOLDIER PILE CASING SHALL BE INSTALLED USING INTERNAL FLUSH DUPLEX DRILLING METHOD. CONTRACTOR SHALL ADJUST DRILLING PROCEDURE AS REQUIRED TO PREVENT LOSS OF GROUND, SETTLEMENT AND/OR LATERAL MOVEMENT OF BUILDINGS, UTILITIES, AND OTHER STRUCTURES.

2. NO LOSS OF MATERIAL FROM THE OUTSIDE OF THE SOLDIER PILE WILL BE PERMITTED. THE CONTRACTOR SHALL ADOPT THE NECESSARY DRILLING PROCEDURES TO PREVENT LOSS OF MATERIAL FROM AROUND THE OUTSIDE OF THE SOLDIER PILE.

3. STEEL CASING SHALL HAVE A MINIMUM WALL THICKNESS OF 0.50-INCHES. SPLICES IN THE CASING SHALL BE THREADED AND FULLY WELDED (ADDITIONAL INTERNAL REINFORCEMENT MAY BE REQUIRED IF SEAMS ARE NOT WELDED.)

4. THE BOTTOM OF EACH DRILLED SOLDIER PILE SHALL BE PROTECTED BY A HIGH-STRENGTH CUTTING SHOE WITH HARDENED CUTTING EDGE.

5. NO CONCRETE OR GROUT SHALL BE PLACED AT ANY SOLDIER PILE LOCATION UNTIL TIP ELEVATION HAS BEEN CONFIRMED, CLEANED OF MUD AND ANY EXTRANEOUS MATERIAL, AND INSPECTED AND APPROVED BY THE FIELD ENGINEER.

6. CONCRETE OR GROUT SHALL BE PLACED CONTINUOUSLY FOR THE FULL DEPTH OF THE SOLDIER PILE STARTING AT THE BOTTOM. NO COLD JOINT IS ALLOWED.

7. FINAL DETERMINATION OF THE ELEVATION OF THE SOLDIER PILE TIP WILL BE DETERMINED BY THE FIELD ENGINEER.

8. THE ENGINEER MAY DIRECT AN INCREASE IN SOLDIER PILE DEPTH FROM THAT SPECIFIED HEREIN OR AS SHOWN ON THE DRAWINGS IF INFERIOR SOIL IS ENCOUNTERED ABOVE THE ORIGINAL MINIMUM TIP ELEVATION.

9. NO SOLDIER PILE SHALL BE OUT OF PLUMB MORE THAN ONE PERCENT (1%) OF ITS EMBEDDED LENGTH.

10. BEFORE BRACING IS INSTALLED, MAXIMUM EXCAVATION BELOW BRACING LEVEL IS 2-FT FOR WALERS AND RAKERS UNLESS NOTED ON DRAWING OR AT DIRECTION OF FIELD ENGINEER.

11. LAGGING SHALL BE INSTALLED AS THE EXCAVATION ADVANCES WITH A MAXIMUM DEPTH OF 2-FT PRIOR TO LAGGING.

12. 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.

13. HAY OR FILTER FABRIC SHALL BE USED TO MINIMIZE MIGRATION OF FINES INTO THE EXCAVATION.

SURVEY AND MONITORING NOTES:

1. 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.

2. MONITOR THE ADJACENT BUILDINGS AT 50-FOOT INTERVALS FOR VERTICAL AND LATERAL MOVEMENT. NOTE THAT MONITORING LOCATIONS ARE NOT SHOWN ON THE SUPPORT OF EXCAVATION PLAN.

3. OBTAIN BASELINE READINGS OF THE MONITORING POINTS PRIOR TO AND DURING EXCAVATION AND NEW CONSTRUCTION.

4. PERFORM OPTICAL SURVEYS (MONITORING PROCEDURES BY LANGAN). IF MOVEMENTS OCCUR, INCREASE THE FREQUENCY OF THE READINGS AS DIRECTED BY THE ENGINEER.

5. 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).

6. BUILDING MOVEMENT AND VIBRATION CRITERIA (TO BE DETERMINED BY LANGAN)

7. VIBRATION MONITORS SHALL TAKE REAL TIME READINGS UNDER DIRECTION OF VIBRATION CONTRACTOR/CONSULTANT.

8. ALL MONITORING DATA SHALL BE PRESENTED TO THE CONSTRUCTION MANAGER AND ENGINEER AT THE END OF EACH DAY AS APPLICABLE.

SOE SHEETING MONITORING:

1. MONITOR THE STEEL SHEETING AFTER INSTALL. PROVIDE MONITORING POINT AT 25 FEET INTERVALS ALONG CHERRY STREET AND AT 50 FEET INTERVALS AT THE REST OF THE STEEL SHEETING. NOTE THAT MONITORING LOCATIONS ARE NOT SHOWN ON THE SUPPORT OF EXCAVATION PLAN.

2. OBTAIN BASELINE READINGS OF THE MONITORING POINTS RIGHT AFTER STEEL SHEETING INSTALLATION AND DURING EXCAVATION AND NEW CONSTRUCTION.

3. PERFORM OPTICAL SURVEYS (MONITORING PROCEDURES BY LANGAN). IF MOVEMENTS OCCUR, INCREASE THE FREQUENCY OF THE READINGS AS DIRECTED BY THE ENGINEER.

4. VIBRATION MONITORS (SEISMOGRAPHS – BY OTHERS) SHALL BE PLACED OVER INSTALLED SOE SYSTEM. NOTE THAT SEISMOGRAPH LOCATIONS ARE NOT SHOWN ON THE SUPPORT OF EXCAVATION PLAN FOR CLARITY.

5. SOE MOVEMENT AND VIBRATION CRITERIA:

   A. IF THE VERTICAL OR LATERAL BUILDING MOVEMENT REACHES 1/2-INCH, IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER.

   B. IF THE BUILDING MOVEMENT REACHES 1-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.

   C. IF THE VIBRATIONS REACH 2-INCH PER SECOND (IPS) THE CONSTRUCTION MANAGER AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

   D. IF THE VIBRATIONS EXCEED 3-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.

6. ALL MONITORING DATA SHALL BE PRESENTED TO THE CONSTRUCTION MANAGER AND ENGINEER AT THE END OF EACH DAY AS APPLICABLE.

COORDINATION OF DRAWINGS DEVELOPED BY OTHERS:

1. SITE LOGISTICS, SITE SAFETY, EQUIPMENT STORAGE, CONSTRUCTION FENCE AND BARRIER DETAILS, DEWATERING, AND THE LIKE NOT DESIGNED SPECIFICALLY BY THIS OFFICE FOR SOE. TREE REMOVAL ON THESE DRAWINGS FOR GENERAL REFERENCE ONLY. FNA NOT RESPONSIBLY FOR THE ABOVE INFORMATION DEPICTED, UNDER RESPONSIBILITY OF OTHERS.

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/08/2014
NYC Development Hub

FNA associates, inc.
CONSULTING ENGINEERS
670 BERGEN BOULEVARD
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NEW YORK, NY, 10018

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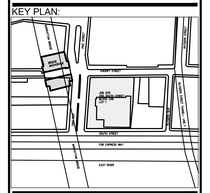
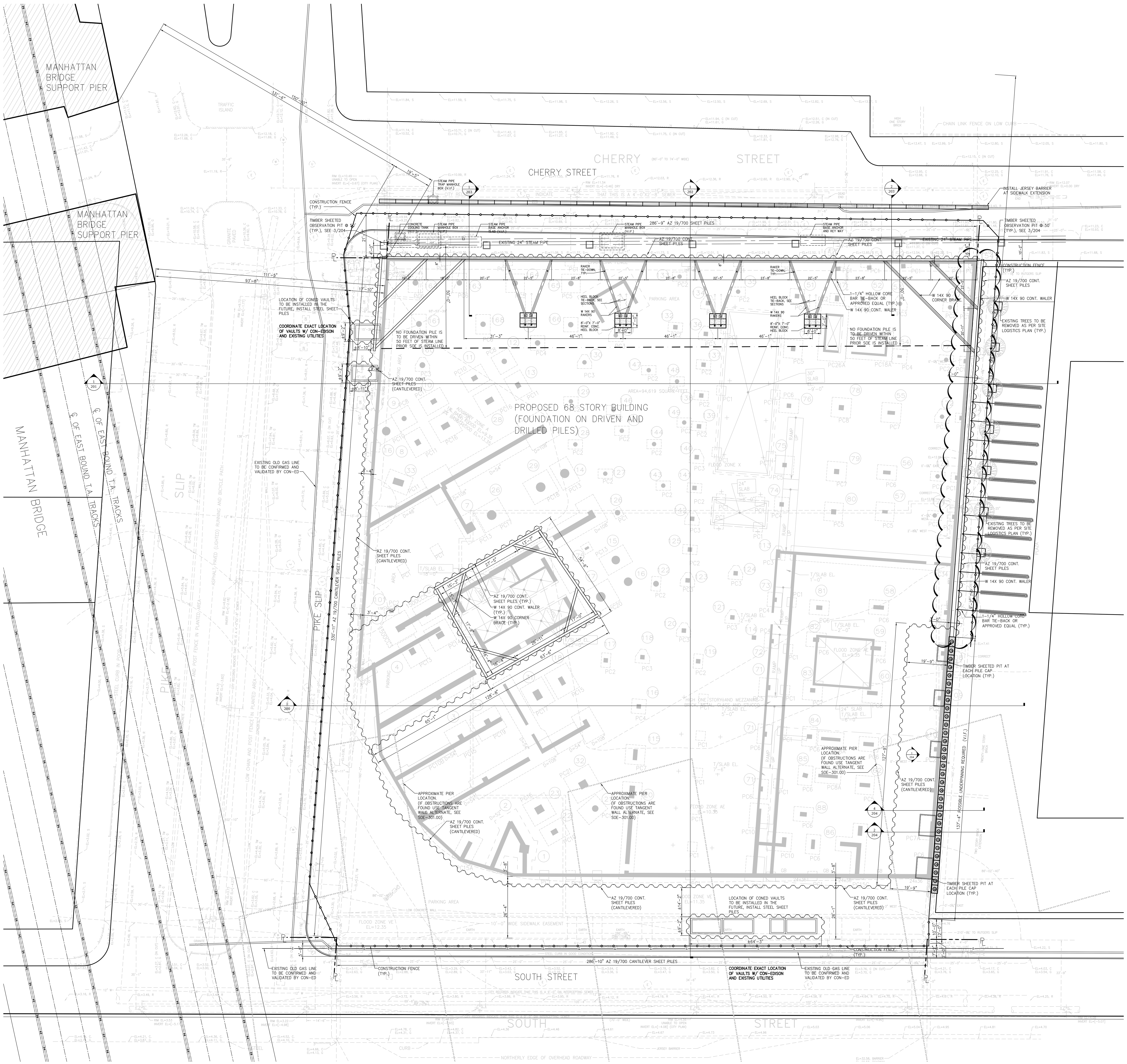


DRAWING TITLE:
GENERAL NOTES

SEAL
STATE OF NEW YORK
CHRISTOPHER J. DIMARCO
LICENSED PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-002.00
2 OF 10



1/100 SUPPORT OF EXCAVATIONPLAN
SCALE: 1/16"=1'-0"

Damian Titus
NYC Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/08/2014
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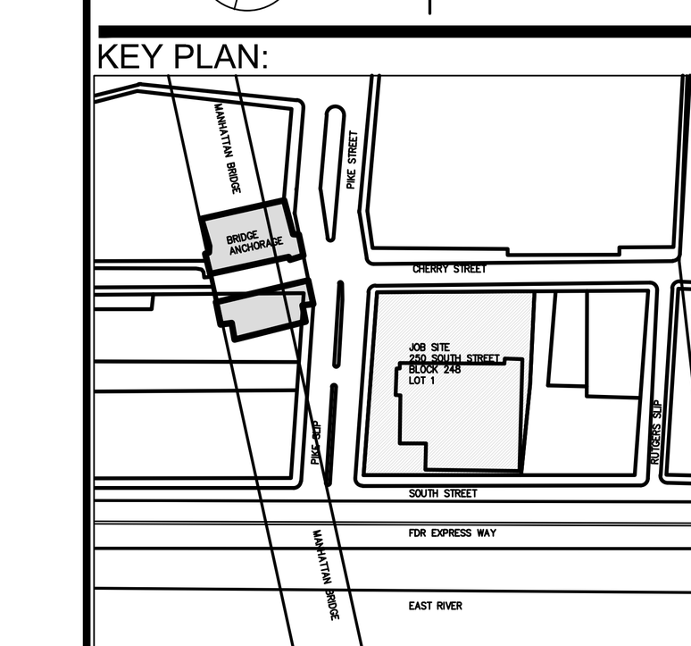
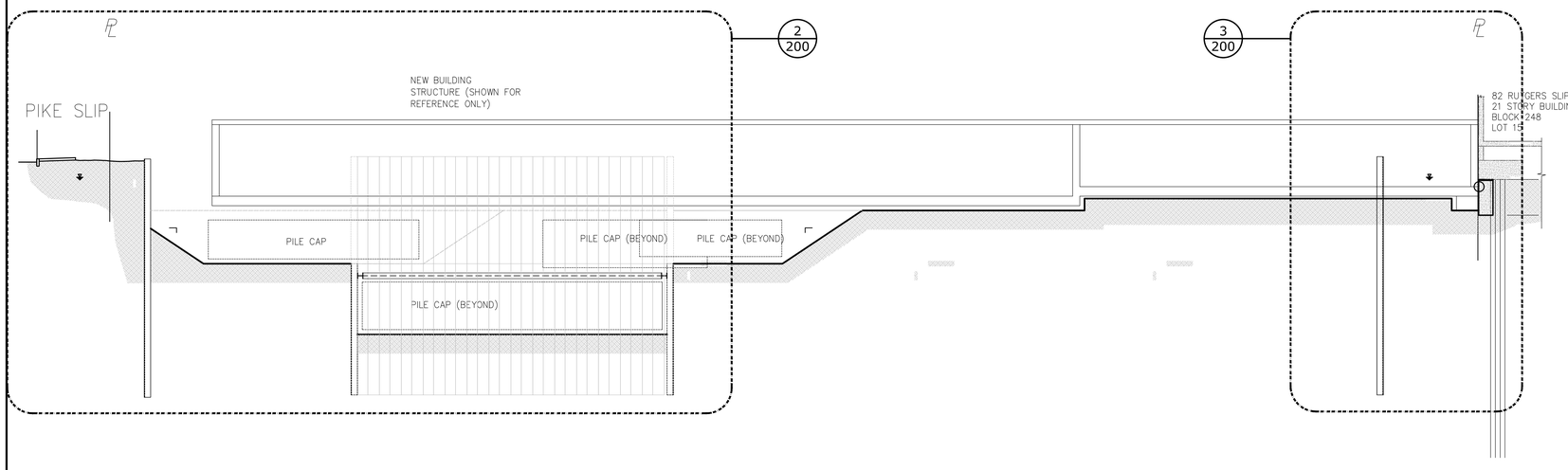


DRAWING TITLE:
SUPPORT OF EXCAVATION PLAN

SEAL
STATE OF NEW YORK
GHANSHYAM PATEL
LICENSED PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-100.00
3 OF 10



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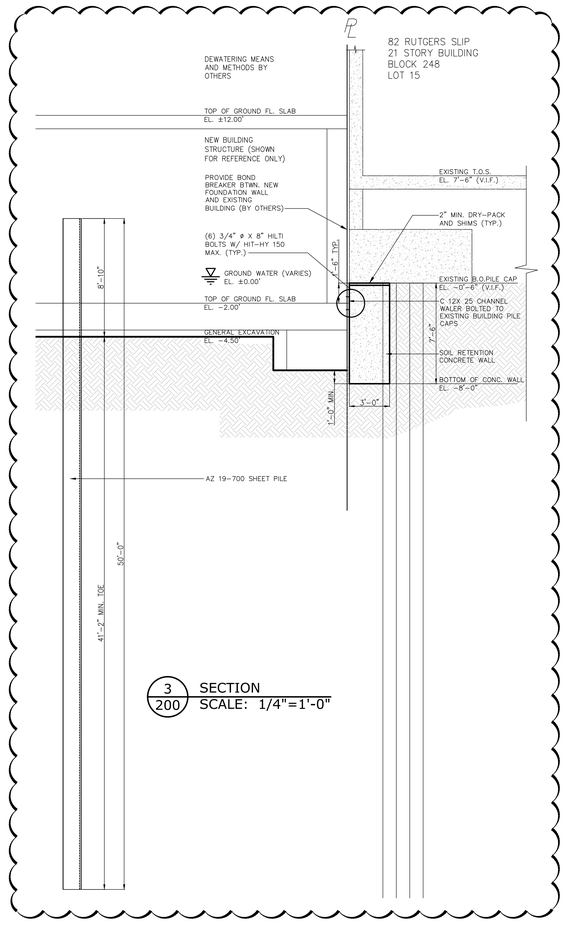

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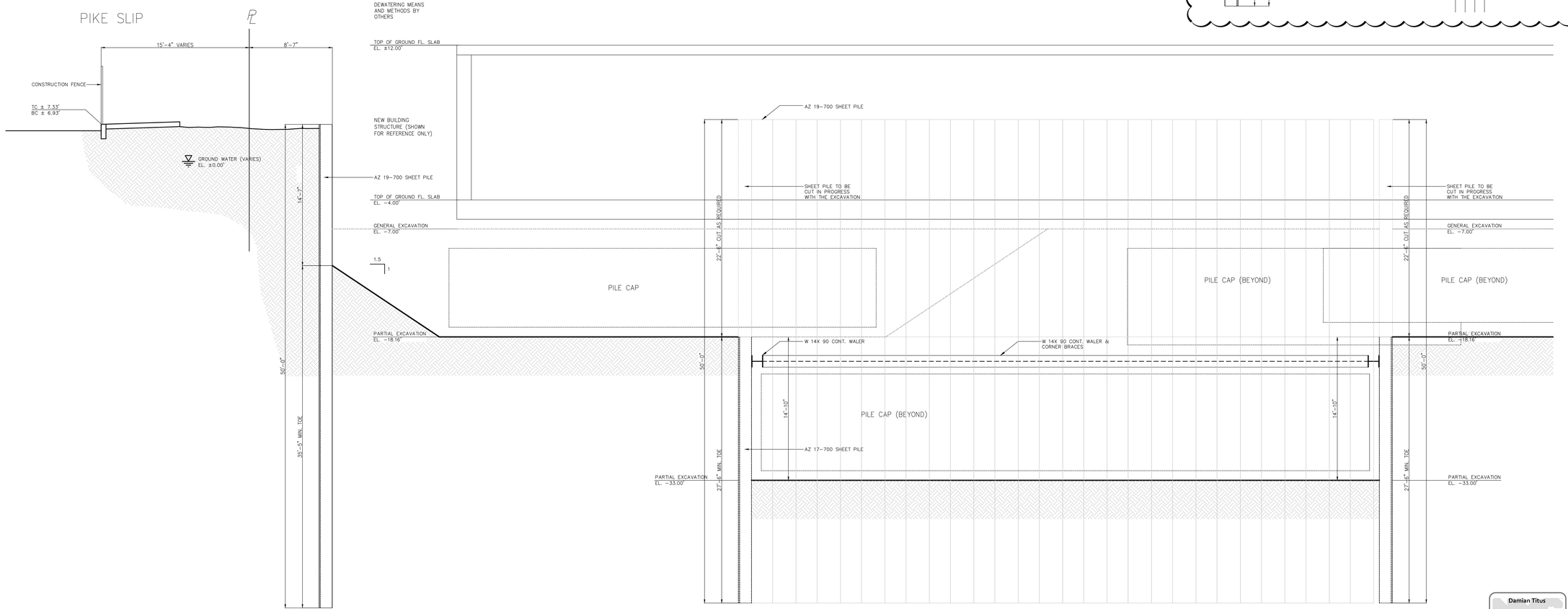

2/200 SECTION
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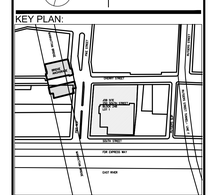
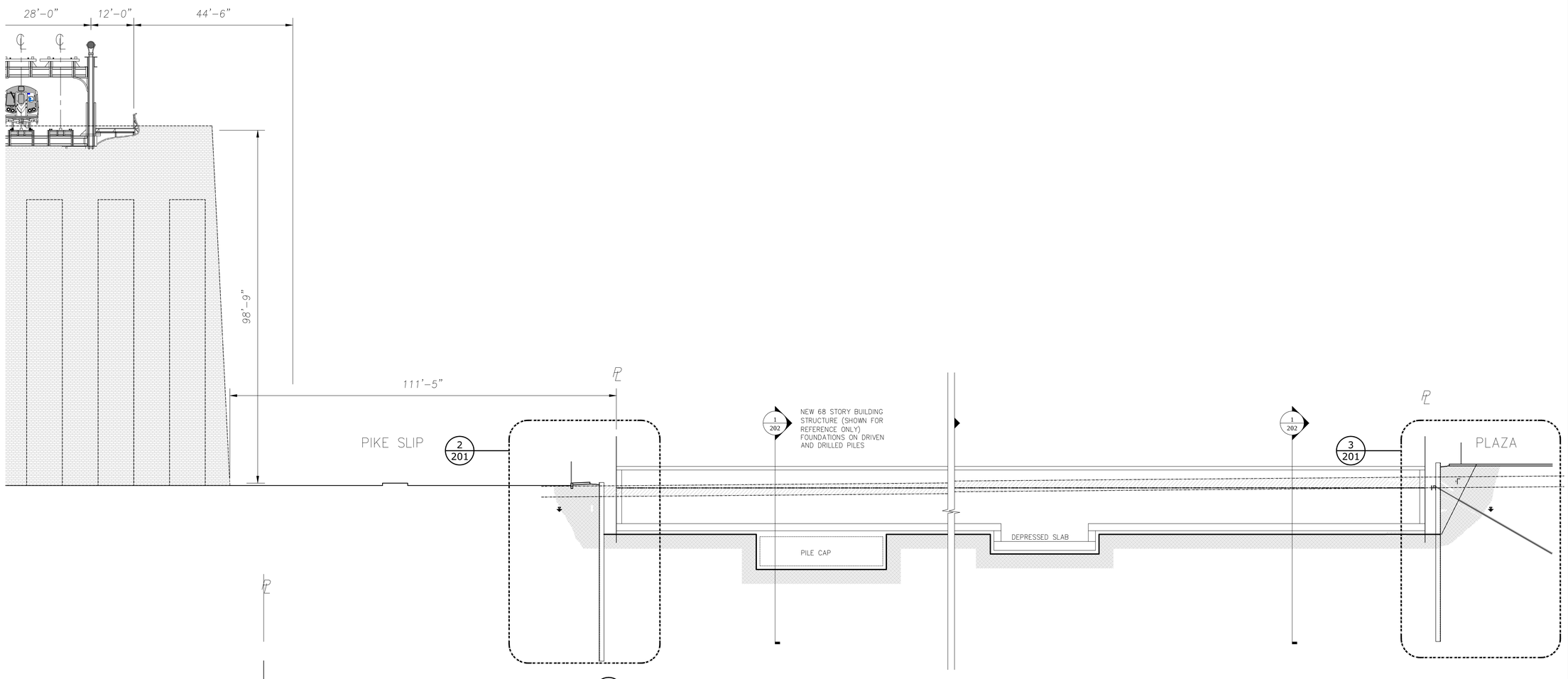


DRAWING TITLE:
SOE SECTIONS

SEAL
STATE OF NEW YORK
DANIEL GEORGE
PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-200.00
4 OF 10



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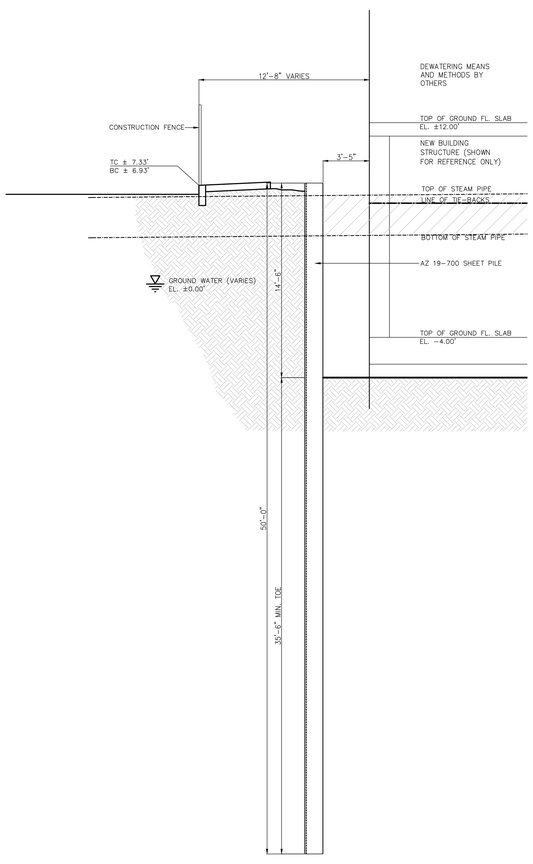

2/201 SECTION
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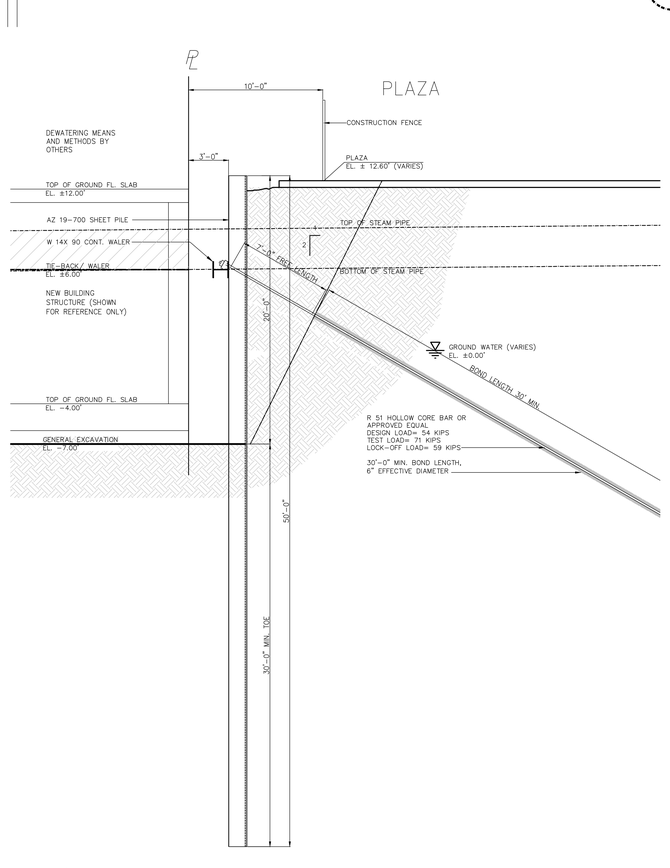

3/201 SECTION
SCALE: 1/4"=1'-0"

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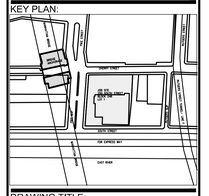
227 CHERRY ST.-250 SOUTH ST.
NEW YORK, NY, 10018

No:	Revision:	Date:
5	D.O.B. COMMENTS	08-04-14
4	T.A. COMMENTS	07-16-14
3	DESIGN UPDATE	07-09-14
2	T.A. COMMENTS	05-30-14
1	T.A. FILING	04-03-14

N
SCALE: AS NOTED

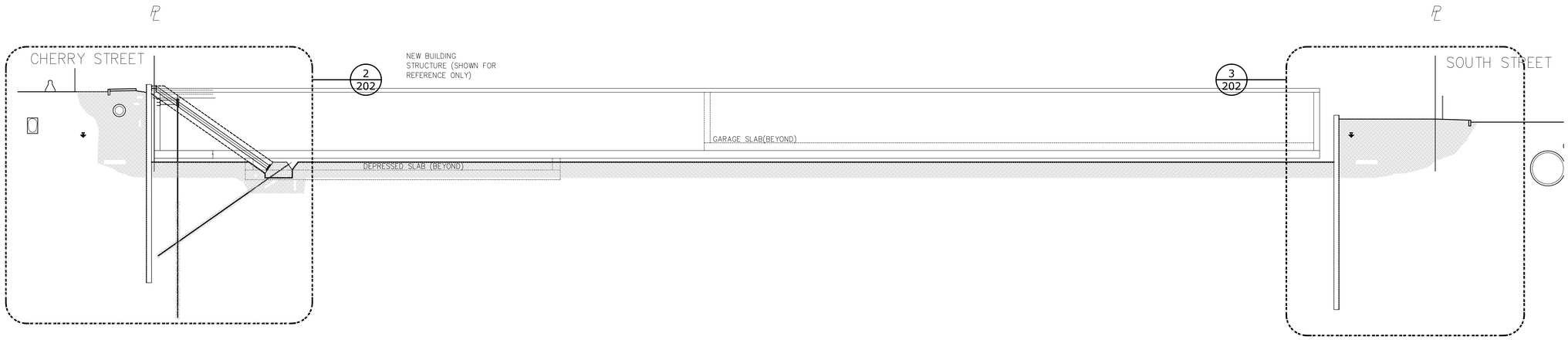
KEY PLAN:



DRAWING TITLE:
SOE SECTIONS

SEAL

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-201.00
5 OF 10



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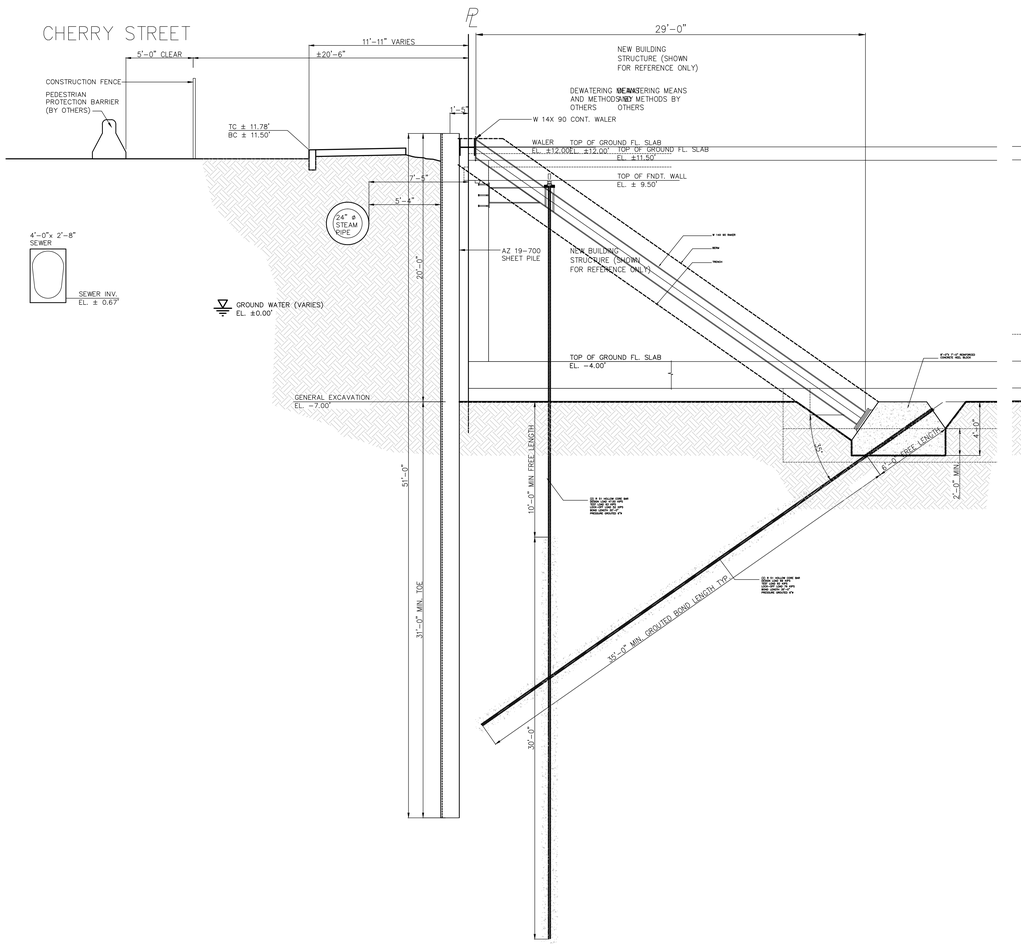

2/202 SECTION
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3/202 SECTION
SCALE: 1/4"=1'-0"

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N
SCALE: AS NOTED

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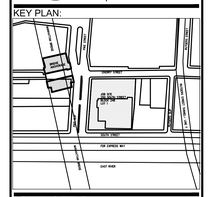
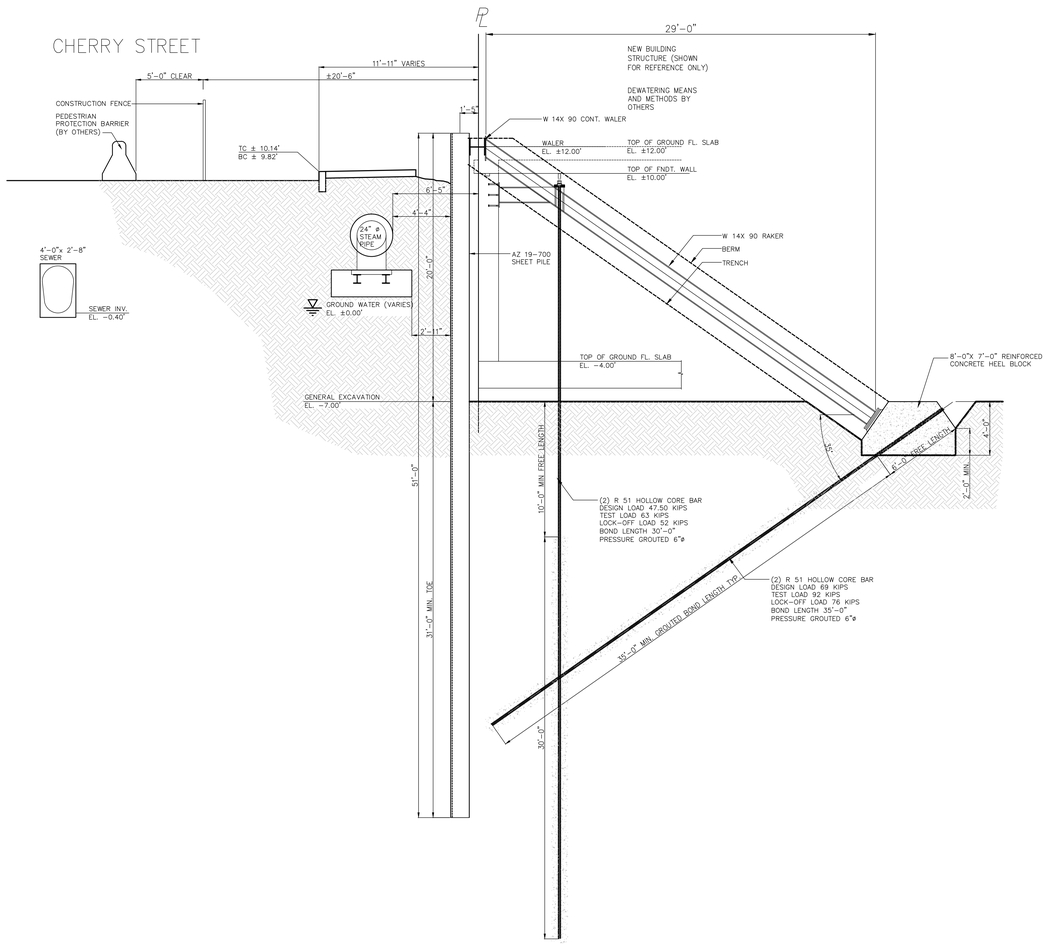


DRAWING TITLE:
SOE SECTIONS

SEAL
STATE OF NEW YORK
QIANSHENG CHEN
088
LICENSED PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-202.00
6 OF 10



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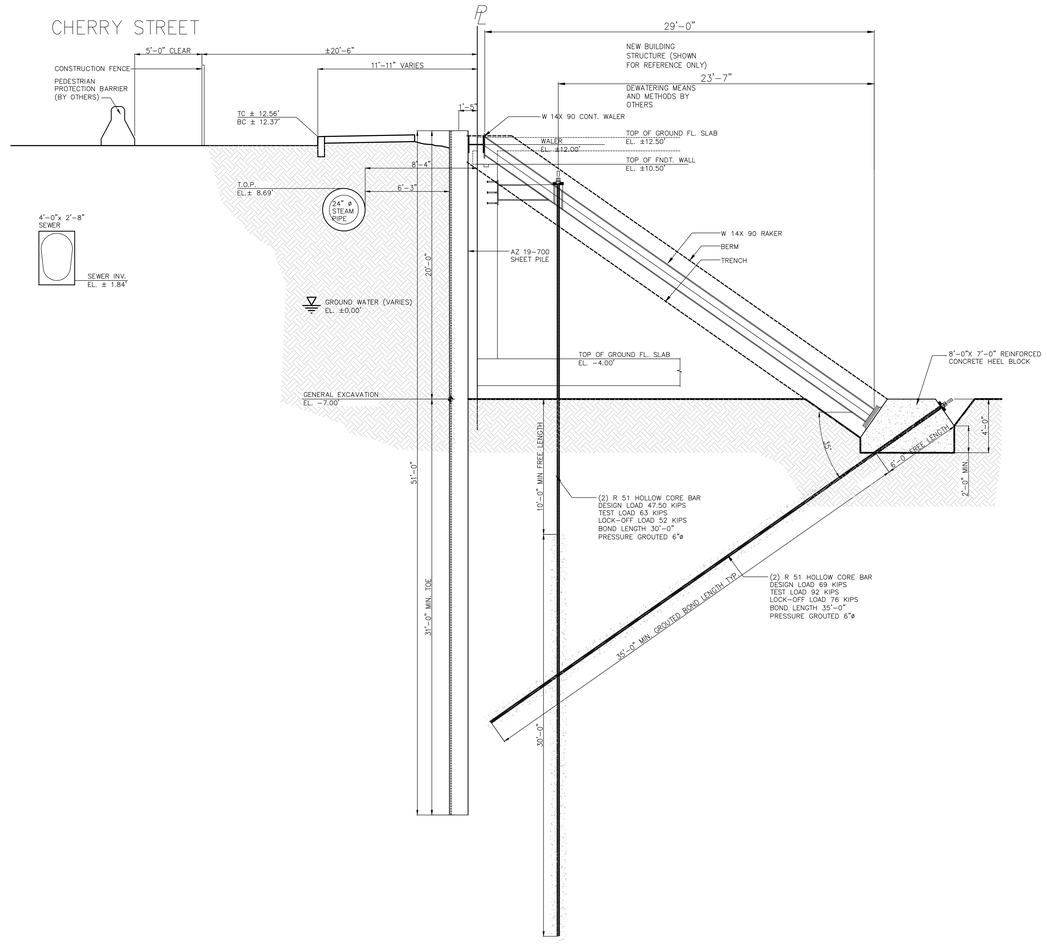

2/203 SECTION
SCALE: 1/4"=1'-0"

CONSTRUCTION SEQUENCE AT CHERRY ST. SIDE:

1. INSTALL VIBRATION MONITORS ON STEAM PIPE (REFER TO MONITORING PLAN BY LANGAN).
2. INSTALL CONSTRUCTION FENCE AND PEDESTRIAN PROTECTION..
3. INVESTIGATE EXISTING STEAM PIPE STRUCTURE AND LOCATION BY EXCAVATING OBSERVATION TIMBER SHEETED PIT AT 50 FEET. INTERVALS MAX. ALONG STEAM PIPE PROFILE, SEE DETAILS.
4. INVESTIGATE EXISTING UTILITIES ALONG CHERRY STREET. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO START OF EXCAVATION.
5. LAY-OUT SHEET PILE WALL PROFILE AS SHOWN ON DWG. PERFORM PRE-TRENCH EXCAVATION TO INITIALLY REMOVE DEBRIS TO ALLOW FREE INSTALLATION.
6. PRE-TRENCH EXCAVATION SHALL BE PERFORMED IN SECTIONS, NO MORE THAT 20 FEET IN LENGTH AND NO DEEPER THAT ADJACENT STEAM LINE.
7. BACK FILL TRENCH WITH CLEAN SAND FILL.
8. INSTALL SHEET PILES AT THE PREPARED AREA USING A HIGH FREQUENCY, VARIABLE SPEED VIBRATORY HAMMER.

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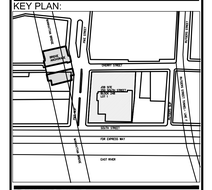
SCALE: AS NOTED

KEY PLAN:



DRAWING TITLE:
SOE SECTIONS

SEAL

Date	11-08-13
PROJECT No:	13046
Drawn By:	GD
DWG. No:	SOE-203.00
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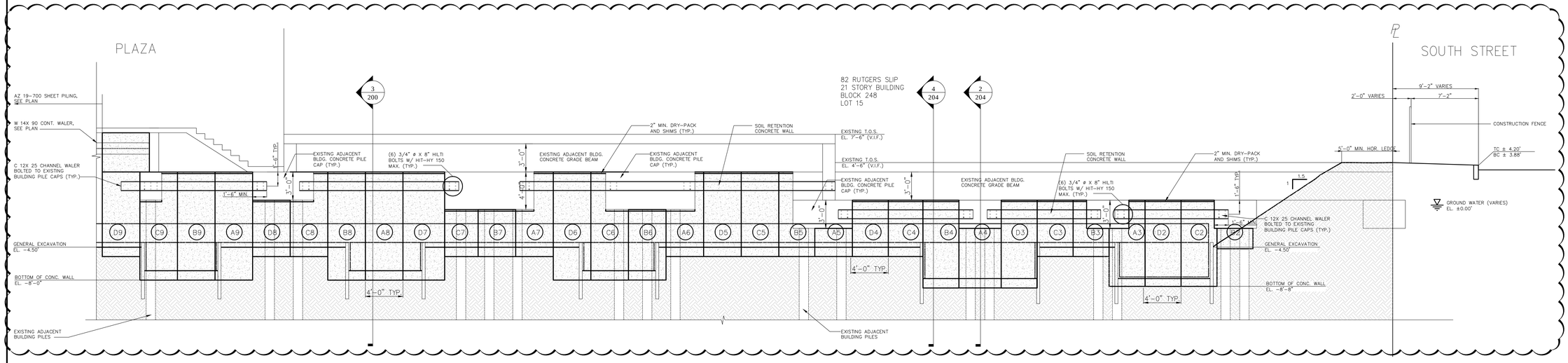
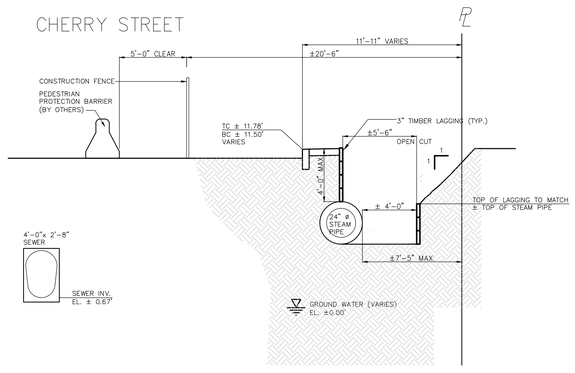


1/204 ELEVATION
SCALE: 1/4"=1'-0"

2/204 ELEVATION
SCALE: 1/4"=1'-0"

4/204 ELEVATION
SCALE: 1/4"=1'-0"



OBSERVATION PIT SEQUENCE AT STEAM LINE:

1. EXCAVATE 5.5X 4 FEET TIMBER SHEETED OBSERVATION PIT AT STEAM LINE LOCATION AS SHOWN.
2. INSTALL 3" TIMBER LAGGING AT NORTH, EAST AND WEST SIDES OF THE PIT TO THE TOP OF THE STEAM LINE ELEVATION. BERM SOIL AT SOUTH SIDE OF THE PIT.
3. HAND EXCAVATION SHALL BE PERFORMED WITHIN 2 FEET OF THE STEAM LINE.
4. HAND EXCAVATE TO BOTTOM OF STEAM LINE AND INSTALL LAGGING AT SOUTH, WEST AND EAST SIDE. MAINTAIN A 4X 4 FEET OBSERVATION PIT.
5. INVESTIGATE STEAM LINE SUPPORT.
6. PROPER PPE MUST BE WORN AT ALL TIMES FOR HIGH HEAT.

3/204 OBSERVATION PIT DETAILS
SCALE: 1/4"=1'-0"

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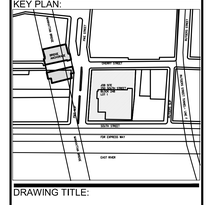
N
SCALE: AS NOTED

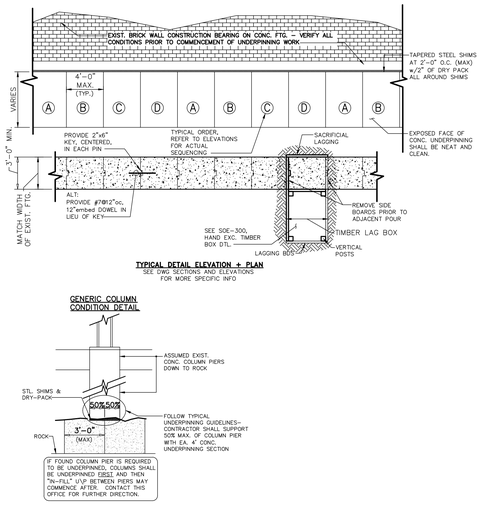
KEY PLAN:



DRAWING TITLE:
SOE ELEVATIONS

SEAL
STATE OF NEW YORK
DAMIANOS TITUS
No. 076 - 077
PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-204.00
8 OF 10



TYPICAL DETAIL ELEVATION + PLAN
SEE CWG SECTIONS AND ELEVATIONS FOR MORE SPECIFIC INFO

GENERIC COLUMN CONDITION DETAIL

IF FOUND COLUMN PIER IS REQUIRED TO BE UNDERPINNED, COLUMNS SHALL BE UNDERPINNED FIRST AND THEN "in-FILL" I/U/P BETWEEN PIERS MAY COMMENCE AFTER CONTACT THIS OFFICE FOR FURTHER DIRECTION.

GENERAL UNDERPINNING NOTES

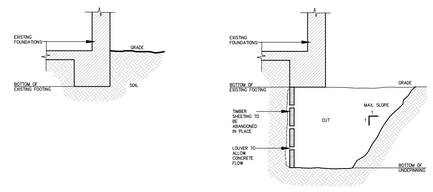
1. THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT PROVISIONS OF THE NYC BUILDING CODE.
2. ALL FOUNDATIONS AND EARTHWORK OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NYC BUILDING CODE. ALL LOTS, BUILDINGS AND SERVICES ADJOINING THE FOUNDATION AND EARTHWORK AREAS SHALL BE PROTECTED AND PROPERLY SUPPORTED.
3. ALL TEST PITS, BORINGS, EXCAVATION WORK AND UNDERPINNING OPERATIONS ARE SUBJECT TO CONTROLLED INSPECTIONS.
4. 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.
5. 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.
6. ALL ADJACENT PROPERTIES, INCLUDING BUT NOT LIMITED TO EXTERIOR WALLS AND FOOTINGS ARE TO BE OBSERVED BY THE ENGINEER OF RECORD AND ENGINEER RESPONSIBLE FOR THE CONTROLLED INSPECTIONS PRIOR TO WORK COMMENCING.
7. THE CONTRACTOR SHALL REQUEST PERMISSION TO ENTER BUILDINGS DIRECTLY ADJACENT TO THE AREAS OF PROPOSED UNDERPINNING.
8. 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 ADJOINING LOTS, BUILDINGS AND SERVICE FACILITIES, WHOM MAY BE AFFECTED BY THE PROPOSED FOUNDATION WORK OR EARTHWORK OPERATIONS.
9. 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.
10. 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.
11. DO NOT PLACE BACKFILL AGAINST NEW UNDERPINNING WALLS UNTIL CONFIRMED BY THE CYLINDER TEST, OR 96 HOURS.
12. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
13. ALL GROUT SHALL BE NONSHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
14. ALL DRYPACK SHALL BE A MIXTURE OF 1 PART CEMENT AND 2 PARTS DAMP SAND, WITH 0–INCH SLUMP.
15. ALL UNDERPINNING SHEETING AND BRACING TO REMAIN SHALL BE PRESSURE TREATED LUMBER AND/OR OTHER APPROVED MATERIAL.
16. 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.
17. IF WATER IS ENCOUNTERED IN THE PIT, PROVIDE LOCAL PUMPING TO REMOVE WATER FROM THE PIT.
18. ALL SIDES OR SLOPES OF EXCAVATIONS OR EMBANKMENTS SHALL BE INSPECTED AFTER RAINSTORMS.
19. 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

1. 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.
2. 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.
3. THE CONTRACTOR SHALL INSTALL ADEQUATE LATERAL BRACING SYSTEM(S) TO PREVENT MOVEMENT IN THE EXISTING STRUCTURE(S) AND IN THE NEW UNDERPINNING IF NECESSARY.
4. 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 SOLID 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.

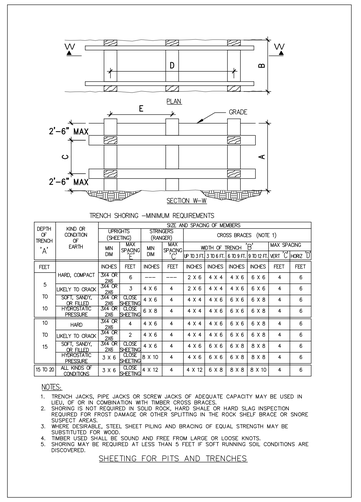
4A. ALTERNATE TO #4: "HIGH–POUR METHOD" – POUR NEW CONCRETE UNDERPINNING FOR EACH SEGMENT UP TO THE BOTTOM OF EXISTING FOOTING OF THE BUILDING PERMITTED IN LIEU OF DRY PACK. STONE CONCRETE POURED MINIMUM STRENGTH 4,000 PSI AND VIBRATED UP TO THE BOTTOM OF EXISTING FOOTING OF THE BUILDING AT THE SAME TIME OF UNDERPINNING CONCRETE POURED TO REMOVE ALL VOIDS. OPTION 4A MUST ALSO INCLUDE INTRAPLAST by Sika AD–MIX OR OTHER EXPANSIVE ADDITIVE IN CONCRETE MIXTURE. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR MIXING QUANTITIES.

5. FOR SEGMENTS "B" ONLY, DIG PITS 4'–0", MAXIMUM WIDTH, WITH REQUIRED SHEETING AND BRACING.
6. FOR SEGMENTS "B" REPEAT CONCRETING, CLEANING, COMPACTION, STEEL WEDGES AND DRYPACKING AS DESCRIBED IN NOTES 2, 3 AND 4.
7. FOR SEGMENTS "C", DIG PITS 4'–0" MAXIMUM WIDE, WITH REQUIRED SHEETING AND BRACING, AS INDICATED ON DETAILS.
8. FOR SEGMENTS "C" REPEAT CONCRETING, CLEANING, COMPACTION, STEEL WEDGES AND DRYPACKING AS DESCRIBED IN NOTES 2, 3 AND 4.
9. FOR SEGMENTS "D", DIG OUT SOIL BETWEEN COMPLETED SEGMENTS C & A. PROVIDE SHEETING AND BRACING, AS INDICATED ON DETAILS.
10. FOR SEGMENTS "D" REPEAT CONCRETING, CLEANING, COMPACTION, STEEL WEDGES AND DRYPACKING AS DESCRIBED IN NOTES 2, 3 AND 4.
11. WHERE BOTTOM OF ADJACENT UNDERPINNING PITS ARE AT DIFFERENT ELEVATIONS, DEEPER PIT SHALL BE INSTALLED FIRST.
12. UNDERPINNING PITS CLOSER THAN 12 FEET APART SHALL NOT BE EXCAVATED AT THE SAME TIME.
13. WHEN UNDERPINNING ROCK MATERIAL, CONTRACTOR SHALL TAKE PRECAUTIONS SO AS NOT TO FRACTURE ROCK UNDER ADJOINING SECTION OR DAMAGE CONCRETE ALREADY POURED IN PLACE.



1 / 300 TYPICAL UNDERPINNING DETAILS
NOT TO SCALE

2 / 300 APPROACH PIT DETAIL
NOT TO SCALE



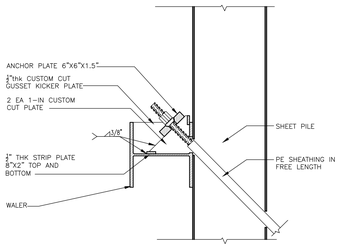
TRENCH SHORING –MINIMUM REQUIREMENTS

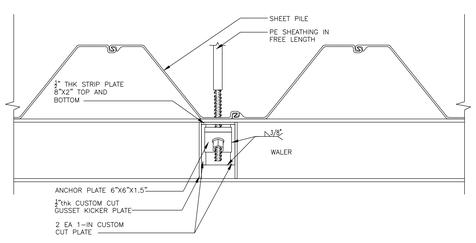
DEPTH OF TRENCH "A"	KIND OR CONDITION OF EARTH	SIZE AND SPACING OF MEMBERS							
		UPRIGHTS (SHEETING)		STRINGERS (WALERS)		CROSS BRACES (NOTE 1)			
		MIN DIM	MAX SPACING HORIZ	MIN DIM	MAX SPACING VERT	MAX SPACING WIDTH OF TRENCH "D"		MAX SPACING	
						UP TO 3'1"	3'10" TO 6'1"	6'10" TO 8'1"	9'10" TO 12'1"	VERT "C"	HORIZ "D"
FEET		INCHES	FEET	INCHES	FEET	INCHES	INCHES	INCHES	INCHES	FEET	FEET
5	HARD, COMPACT	SEE NOTE 2	6	----	----	2 X 6	4 X 4	4 X 6	6 X 6	4	6
5	LIKELY TO CRACK	SEE NOTE 2	3	4 X 6	4	2 X 6	4 X 4	4 X 6	6 X 6	4	6
10	SOFT, SANDY, OR FILLED	SEE NOTE 2	CLOSE SHEETING	4 X 6	4	4 X 4	4 X 6	6 X 6	6 X 8	4	6
10	HYDROSTATIC PRESSURE	SEE NOTE 2	CLOSE SHEETING	6 X 8	4	4 X 4	4 X 6	6 X 6	6 X 8	4	6
10	HARD	SEE NOTE 2	4	4 X 6	4	4 X 4	4 X 6	6 X 6	6 X 8	4	6
10	LIKELY TO CRACK	SEE NOTE 2	3	4 X 6	4	4 X 4	4 X 6	6 X 6	6 X 8	4	6
15	SOFT, SANDY, OR FILLED	SEE NOTE 2	CLOSE SHEETING	4 X 6	4	4 X 6	6 X 6	6 X 8	8 X 8	4	6
15	HYDROSTATIC PRESSURE	SEE NOTE 2	CLOSE SHEETING	3 X 6	4	4 X 6	6 X 6	6 X 8	8 X 8	4	6
15 TO 20	ALL KINDS OF CONDITIONS	SEE NOTE 2	CLOSE SHEETING	3 X 6	4	4 X 12	6 X 8	8 X 8	8 X 10	4	6

NOTES:
1. TRENCH JACKS, PIPE JACKS OR SCREW JACKS OF ADEQUATE CAPACITY MAY BE USED IN LIEU, OF OR IN COMBINATION WITH TIMBER CROSS BRACES.
2. SHORING IS NOT REQUIRED IN SOLID ROCK, HARD SHALE OR HARD SLAG INSPECTION REQUIRED FOR FROST DAMAGE OR OTHER SPLITTING IN THE ROCK SHELF BRACE OR SHORE SUSPECT AREAS.
3. STEEL, WHERE FEASIBLE, STEEL SHEET PILING AND BRACING OF EQUAL STRENGTH MAY BE SUBSTITUTED FOR WOOD.
4. TIMBER USED SHALL BE SOUND AND FREE FROM LARGE OR LOOSE KNOTS.
5. SHORING MAY BE REQUIRED AT LESS THAN 5 FEET IF SOFT RUNNING SOIL CONDITIONS ARE DISCOVERED.

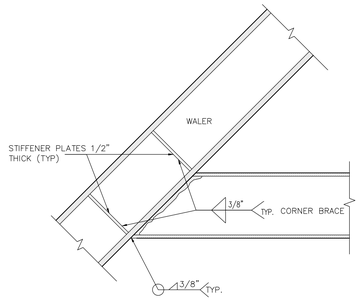
SHEETING FOR PITS AND TRENCHES

3 / 300 PITS AND TRENCHES SHEETING
NOT TO SCALE

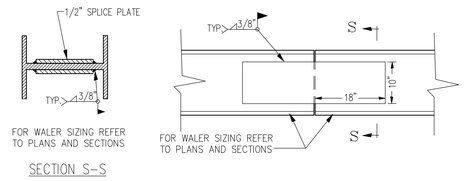




4 / 300 TIE–BACK THRU WALER DETAIL
NOT TO SCALE



5 / 300 CORNER BRACE DETAIL
NOT TO SCALE



6 / 300 WALER SPLICE DETAIL
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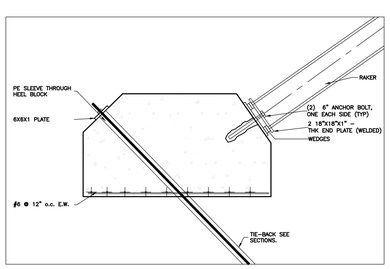

7 / 300 HEEL BLOCK/ RAKER DETAIL
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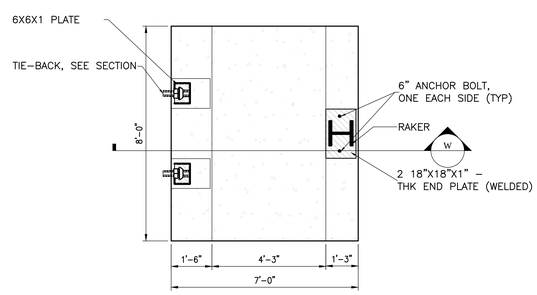
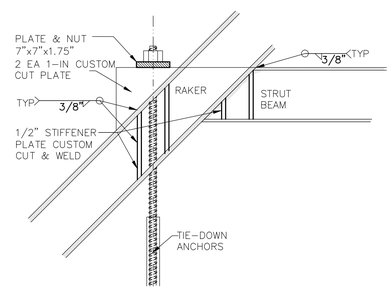
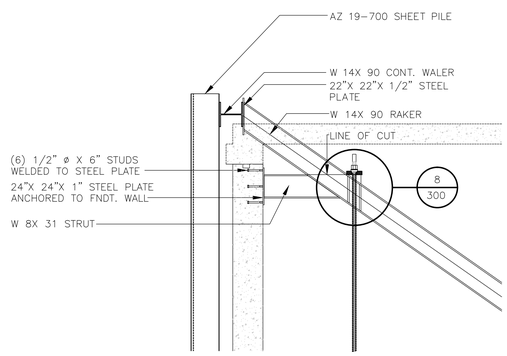




8 / 300 TIE–DOWN/ STRUT AT RAKER DETAIL
NOT TO SCALE



9 / 300 RAKER/ WALER DETAIL
NOT TO SCALE

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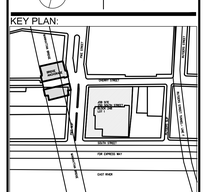
CONSULTING ENGINEERS
670 BERGEN BOULEVARD
RIDGEFIELD, NJ. 07657
O: 201–241–2444

227 CHERRY ST.-250 SOUTH ST.
NEW YORK, NY, 10018

No:	Revision:	Date:
5	D.O.B. COMMENTS	08-04-14
4	T.A. COMMENTS	07-16-14
3	DESIGN UPDATE	07-09-14
2	T.A. COMMENTS	05-30-14
1	T.A. FILING	04-03-14

SCALE: AS NOTED

KEY PLAN:

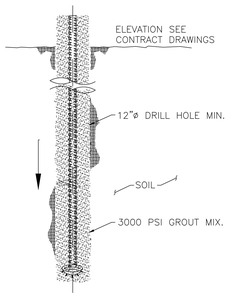


DRAWING TITLE:
SOE DETAILS

SEAL

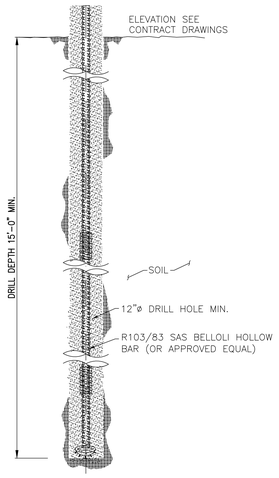
STATE OF NEW YORK – DAMIAN TITUS – 076 – LICENSED PROFESSIONAL ENGINEER

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-300.00
9 OF 10



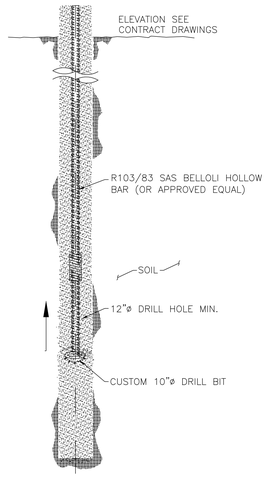
STEP #1

DRILL BELLOLI HOLLOW CORE
BARS AT ±4'-0" UNDER
PRESSURE GROUTING



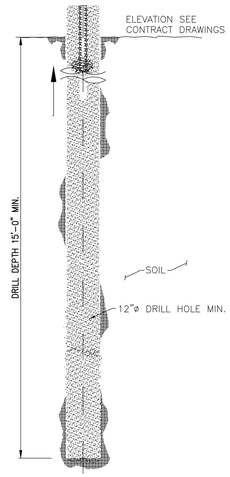
STEP #2

DRILL BELLOLI HOLLOW CORE
TO SPECIFIED DEPTH



STEP #3

REMOVE BELLOLI BAR WHILE
MAINTAINING GROUTING
PRESSURE

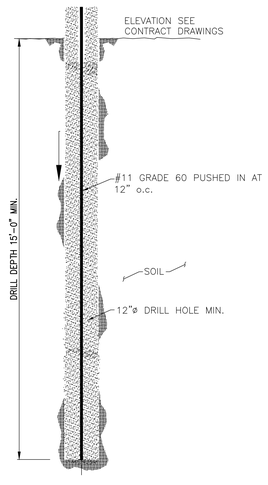


STEP #4

FULLY REMOVE BELLOLI FROM
GROUTED HOLE

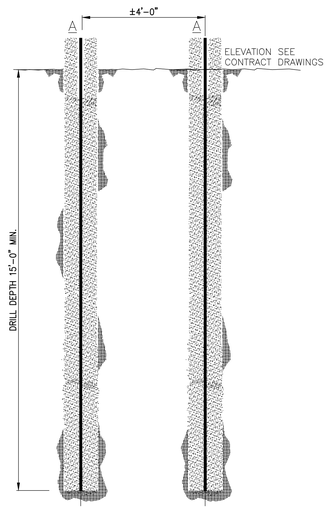
DRILLING CONSTRUCTION PROCEDURE:

1. CONTRACTOR SHALL DRILL ALL "A" BELLOLI ANCHORS TO SPECIFIED DEPTH AS INDICATED ON THIS DRAWING AT ±4' o.c.
2. DRILLING OF ANCHOR SHALL BE DONE UNDER PRESSURE GROUTING METHOD WITH 3000 PSI GROUT.
3. UPON REACHING FINAL DRILLING DEPTH, ANCHOR SHALL BE REMOVED WHILE MAINTAINING GROUT PRESSURE.
4. REPEAT STEPS 1~3 FOR ALL "C" ANCHORS.
5. REPEAT STEPS 1~3 FOR ALL "B" ANCHORS.
6. REPEAT STEPS 1~3 FOR ALL "D" ANCHORS.
7. GROUTED DRILL HOLE SHALL BE 12"ø MINIMUM.



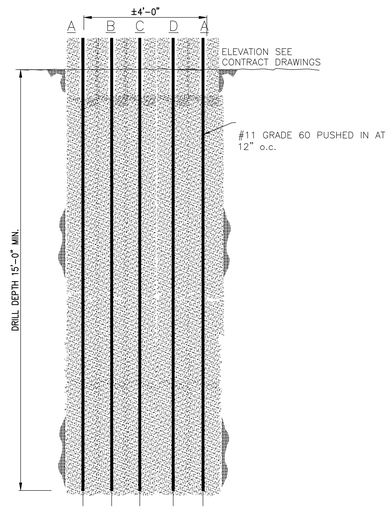
STEP #5

INSTALL 16'-0" #11 GRADE 60
BAR OR #18 GRADE 97



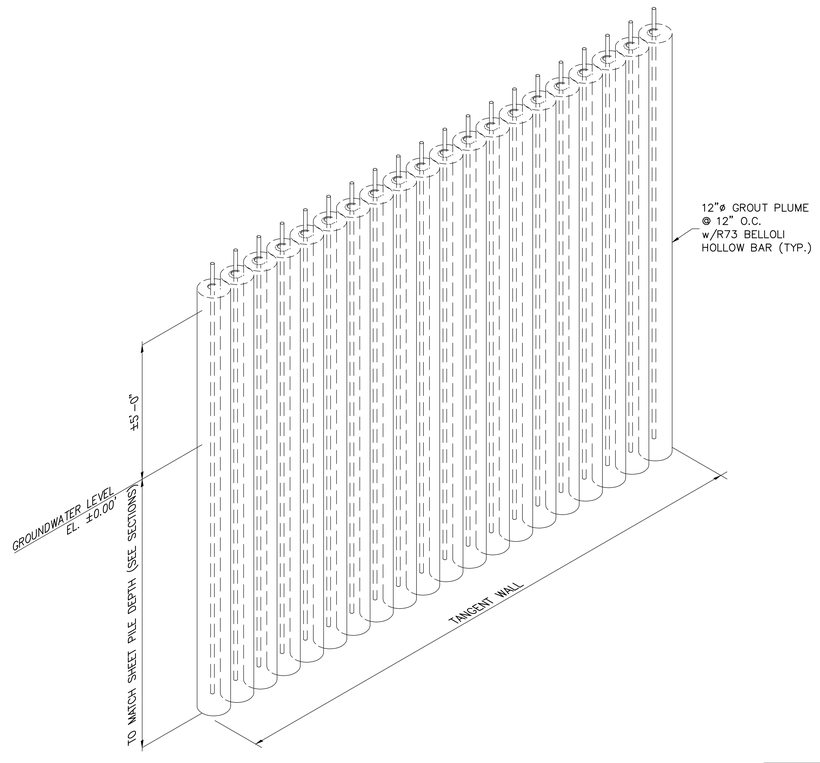
STEP #6

REPEAT STEPS 1~5 FOR ALL A
BARS AT 4' o.c. SPACING



STEP #7

CONTINUE SAME DRILLING
METHODS FOR ANCHORS "B",
"C", AND "D" TO CREATE FULL
TANGENT WALL



Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 10/08/2014
NYC Development Hub

FNA
associates, inc.
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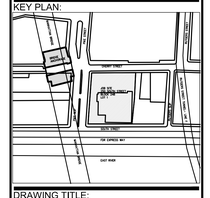

DRAWING TITLE:
TANGENT WALL DETAILS
AND PROCEDURES

SEAL

Date: 11-08-13
PROJECT No: 13046
Drawn By: GD
DWG. No: SOE-301.00
10 OF 10