

APPENDIX D

ORIENTATION OF ROCK JOINTS



- JOINT PLANES
CROSSING FOLIATION
- JOINT PLANES
PARALLEL TO FOLIATION
- ▼ JOINT PLANES IN
UNFOLIATED ROCK

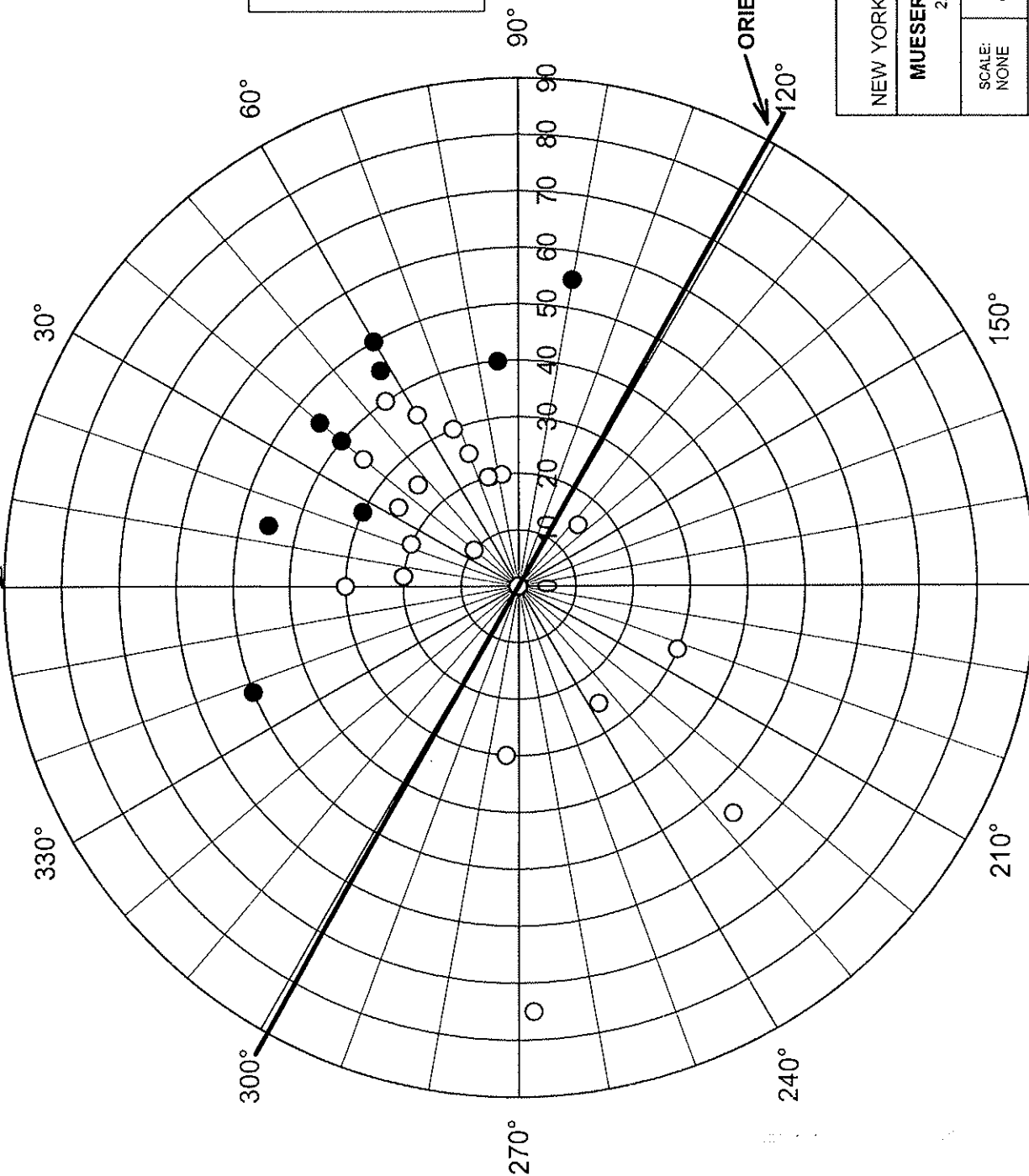
9TH AVENUE DEVELOPMENT
NEW YORK NEW YORK

MUESER RUTLEDGE CONSULTING ENGINEERS
225 WEST 34TH ST., NEW YORK, NY 10122

SCALE: NONE
MADE BY: CJM
CHKD BY: JMT
DATE: 4/21/08
DATE: 4/22/08
FILE NO. 9560

POLAR PLOT OF PLANAR JOINT DISCONTINUITIES BORING GB-204AP	PLATE NO. P-9
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TRUE NORTH

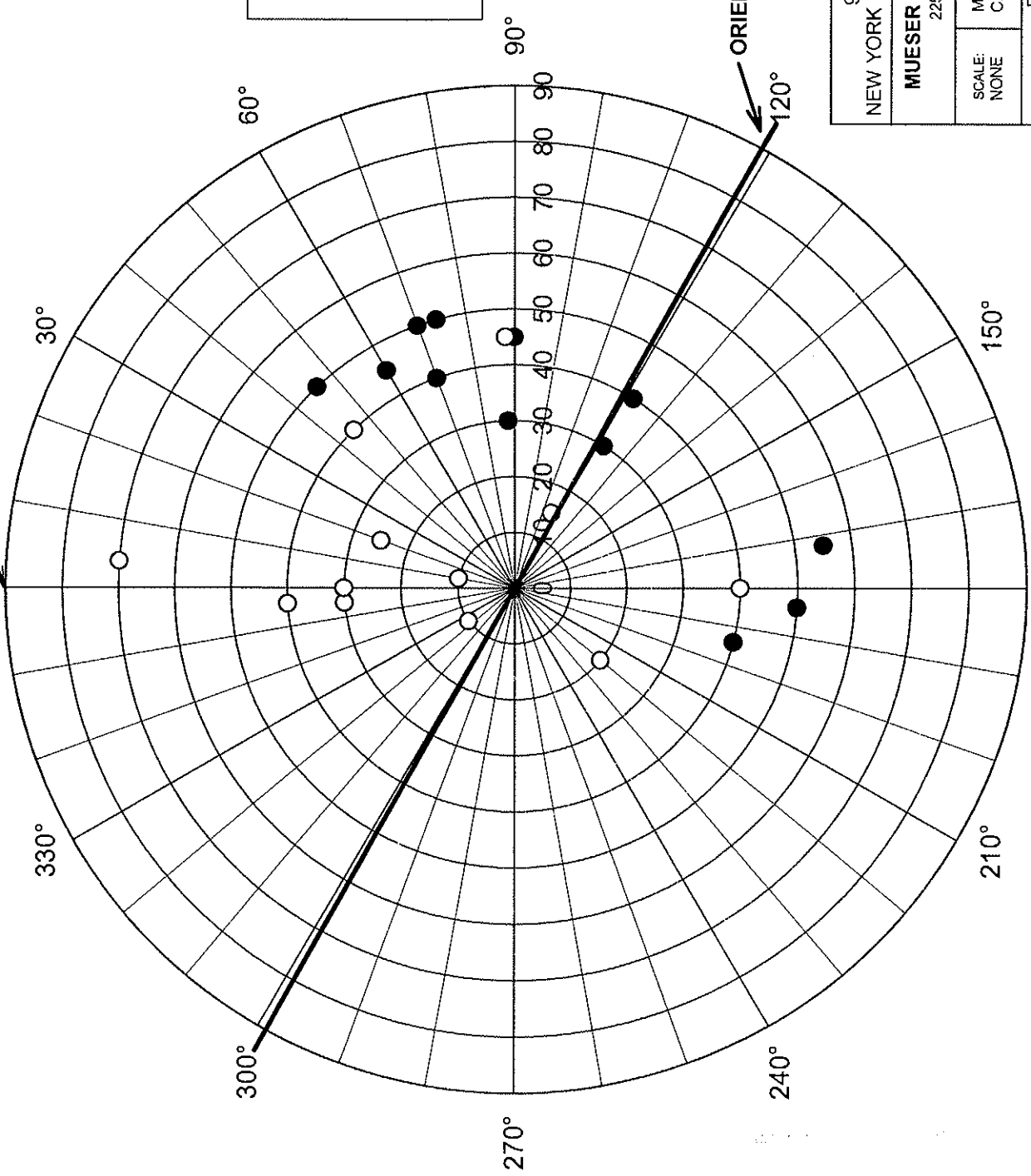


LEGEND FOR JOINT ORIENTATION

- JOINT PLANES
- CROSSING FOLIATION
- JOINT PLANES
- ▶ PARALLEL TO FOLIATION
- ▶ JOINT PLANES IN UNFOLIATED ROCK

NEW YORK		9TH AVENUE DEVELOPMENT		NEW YORK	
MUESER RUTLEDGE CONSULTING ENGINEERS					
225 WEST 34TH ST., NEW YORK, NY 10122					
SCALE: NONE	MADE BY: CJM CHK'D BY: JMT	DATE: 4/21/08 DATE: 4/22/08	FILE NO. 9580	POLAR PLOT OF PLANAR JOINT DISCONTINUITIES BORING GR-205	
			PLATE NO. P-10		

TRUE NORTH

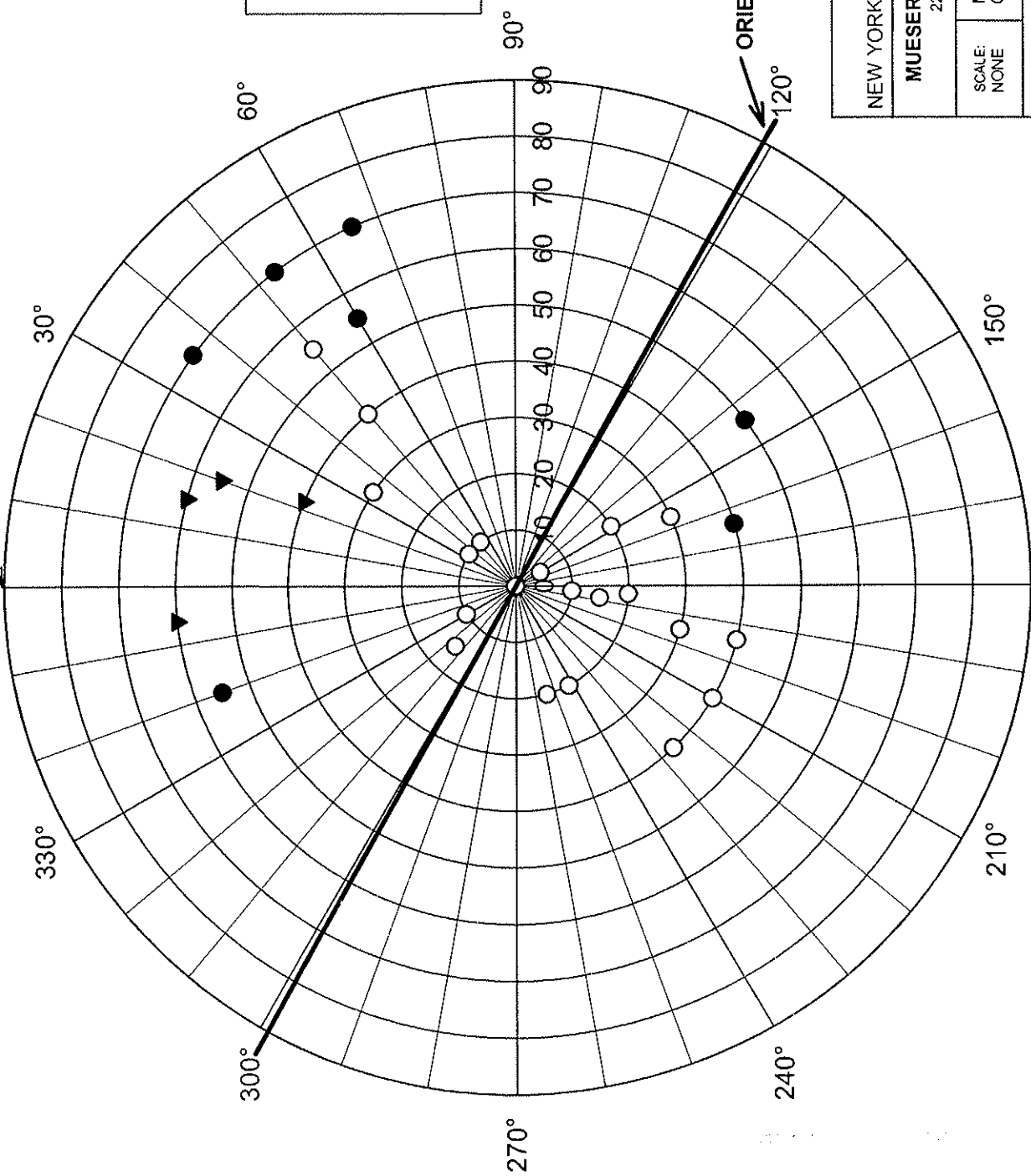


LEGEND FOR JOINT ORIENTATION

- JOINT PLANES
- CROSSING FOLIATION
- JOINT PLANES PARALLEL TO FOLIATION
- ▼ JOINT PLANES IN UNFOLIATED ROCK

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225 WEST 34TH ST., NEW YORK, NY 10122					
SCALE: NONE	MADE BY: CJM CHKD BY: JMT	DATE: 4/21/08 DATE: 4/22/08	FILE NO. 9560	POLAR PLOT OF PLANAR JOINT DISCONTINUITIES BORING GB-206P	
			PLATE NO. P-11		

TRUE NORTH



LEGEND FOR JOINT ORIENTATION

- JOINT PLANES
- JOINT PLANES
PARALLEL TO FOLIATION
- ▼ JOINT PLANES IN
UNFOLIATED ROCK

NEW YORK		9TH AVENUE DEVELOPMENT		NEW YORK	
MUESER RUTLEDGE CONSULTING ENGINEERS					
225 WEST 34TH ST., NEW YORK, NY 10122					
SCALE: NONE	MADE BY: CHKD BY:	CJM JMT	DATE: DATE:	4/21/08 4/22/08	FILE NO. 9560
POLAR PLOT OF PLANAR JOINT DISCONTINUITIES			PLATE NO. P-12		
BORING GB-207					



- ☐ JOINT PLANES
CROSSING FOLIATION
- ☒ JOINT PLANES
PARALLEL TO FOLIATION
- ☐ JOINT PLANES IN
UNFOLIATED ROCK

ORIENTATION OF 33RD STREET

9TH AVENUE DEVELOPMENT
NEW YORK NEW YORK

MUESER RUTLEDGE CONSULTING ENGINEERS
225 WEST 34TH ST., NEW YORK, NY 10122

MADE BY: CJM	DATE: 4/21/08	FILE NO. 9560
CHK'D BY: JMT	DATE: 4/22/08	

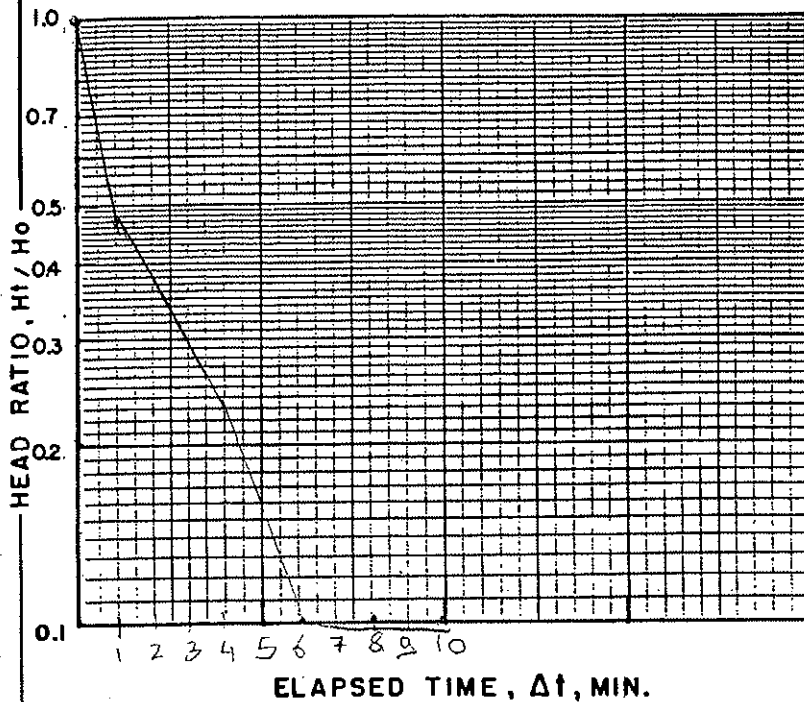
PLATE NO. P-13	POLAR PLOT OF PLANAR JOINT DISCONTINUITIES BORING GB-208
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APPENDIX E
VARIABLE HEAD PERMEABILITY TEST DATA

VARIABLE HEAD PERMEABILITY TEST

☐ BOREHOLE OR ☒ PIEZOMETER NO. GB-204A
 TEST NO. 1

PROJECT 9th Avenue Development RES. ENG. RR
 LOCATION NEW YORK, NY CALC. BY DATE
 PIEZOMETER LOCATION SEE BLD GB-204A CH'KD BY DATE



INTAKE POINT

depth to bottom, ft = 71.5
 depth to top, ft = 61.5
 length, ft = 10 = L
 diameter, in = 1.25, ft = 0.104 = 2R

STANDPIPE / RISER

diameter, in = 1.25, ft = 0.104 = 2r

depth of casing, ft =

depth to which stand-
 pipe was bailed, ft = = Z

READING TIME			TEST DEPTH- RIM TO WATER ft.	DEPTH- RIM TO TIDE OR GWL ft.	UNBALANCED HEAD H ft.	HEAD RATIO H_1/H_0	REMARKS
DATE	CLOCK	Δt MIN.					
<u>3/18/08</u>					<u>0</u>		STATIC WATER LEVEL
		<u>0</u>	<u>24.9</u>		<u>2.1</u>	<u>1</u>	
		<u>0.5</u>	<u>25.5</u>		<u>1.5</u>	<u>0.71</u>	
		<u>1</u>	<u>25.8</u>		<u>1.2</u>	<u>0.57</u>	
		<u>2</u>	<u>26</u>		<u>1</u>	<u>0.47</u>	
		<u>3</u>	<u>26.3</u>		<u>0.7</u>	<u>0.33</u>	
		<u>4</u>	<u>26.5</u>		<u>0.5</u>	<u>0.23</u>	
		<u>6</u>	<u>26.9</u>		<u>0.1</u>	<u>0.04</u>	
		<u>8</u>	<u>27.0</u>		<u>0</u>	<u>0</u>	
		<u>10</u>	<u>27.0</u>	<u>7</u>	<u>0</u>	<u>0</u>	

PIEZOMETER NO. GB-204A

☐ BOREHOLE OR ☐ PIEZOMETER NO. GB-2069
TEST NO. 1

Figure 1 is a semi-logarithmic plot showing the relationship between the Head Ratio, H_1/H_0 , and Elapsed Time, Δt , in minutes. The y-axis is logarithmic, ranging from 0.1 to 1.0. The x-axis is linear, ranging from 0 to 10 minutes. A series of data points are plotted, showing a linear decrease on the log-linear scale, indicating exponential decay. A straight line is drawn through the points.

Elapsed Time, Δt , MIN.	Head Ratio, H_1/H_0
0	1.0
0.5	0.85
1.0	0.70
1.5	0.55
3.5	0.32
5.5	0.15
7.5	0.11

depth to bottom, ft = 72.6'
depth to top, ft = 62.6'
length, ft = 10' = L
diameter, in = 1.25', ft = _____ = 2R

diameter, in = , ft = =2r

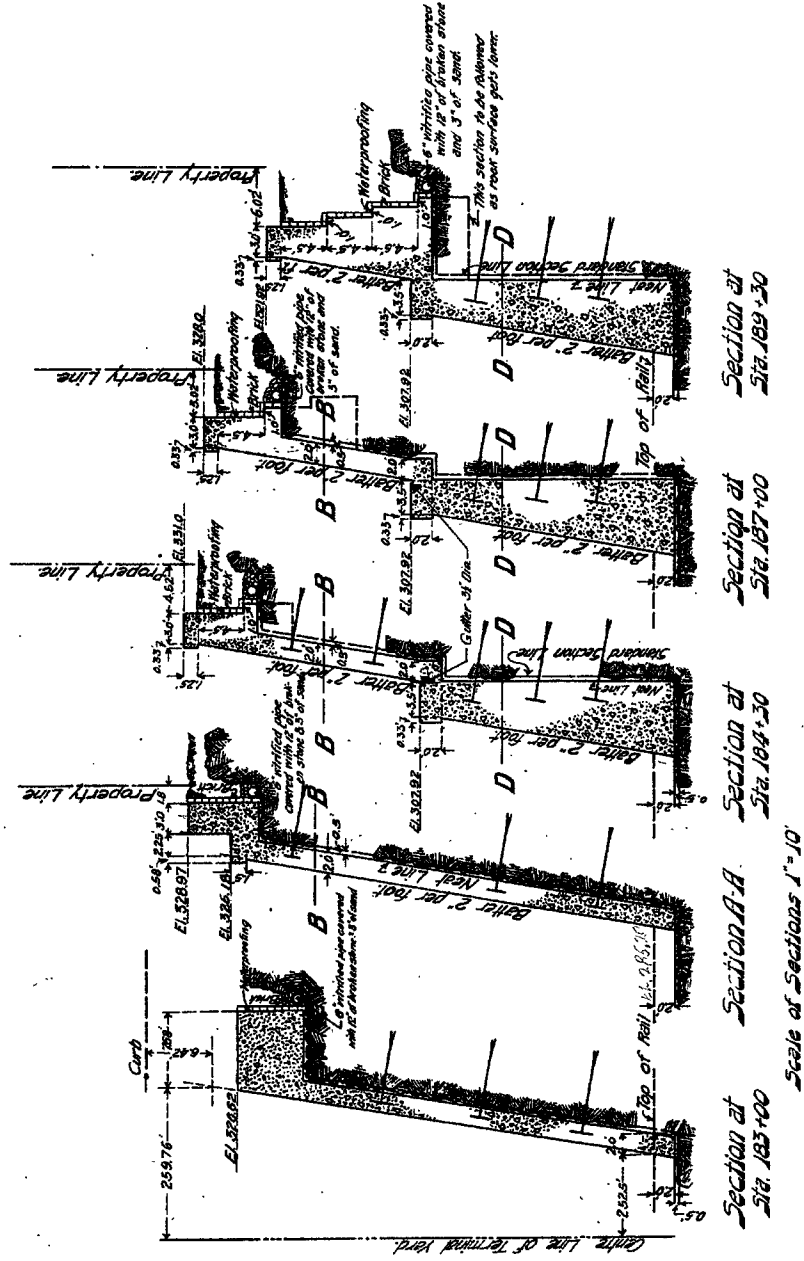
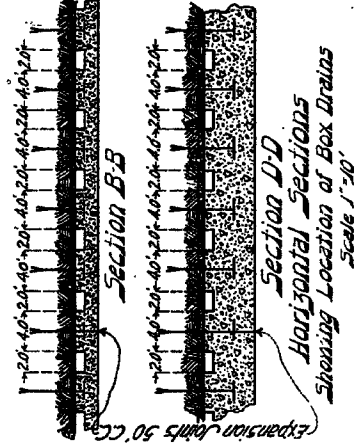
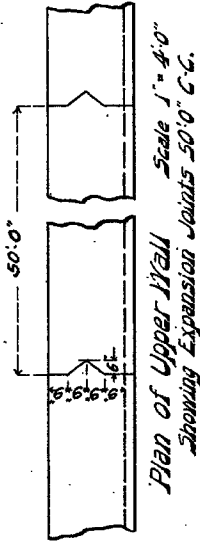
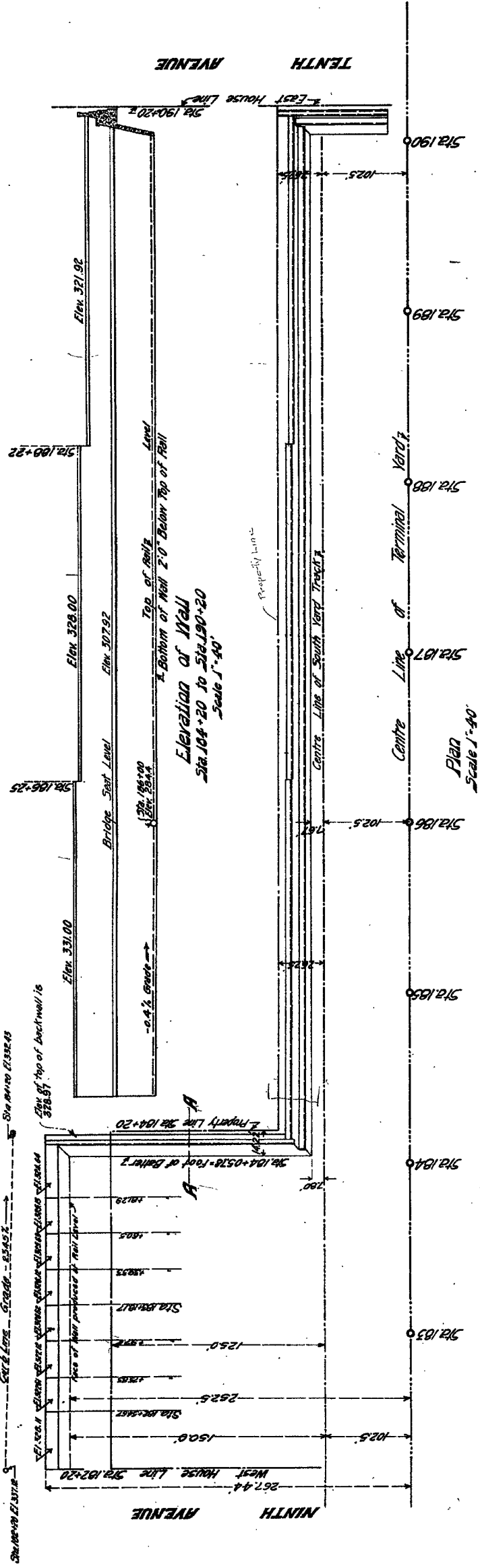
depth of casing, ft=_____

depth to which stand-
pipe was bailed, ft = _____ = Z

[illegible]

PIEZOMETER NO. GB-2067

APPENDIX F
AMTRAK RETAINING WALL – AS BUILT DRAWINGS



PENNSYLVANIA TUNNEL & TERMINAL RAILROAD CO.
North River Division

**TERMINAL STATION WEST
RETAINING AND FACE WALLS
SOUTH SIDE**

CONTRACT DRAWING NO. 2109 C

Superseding Contract Drawing No. 2109-A

Scales as indicated.

July, 1907.

Revised Oct. 16, 1907.

Revised Nov. 15, 1909.

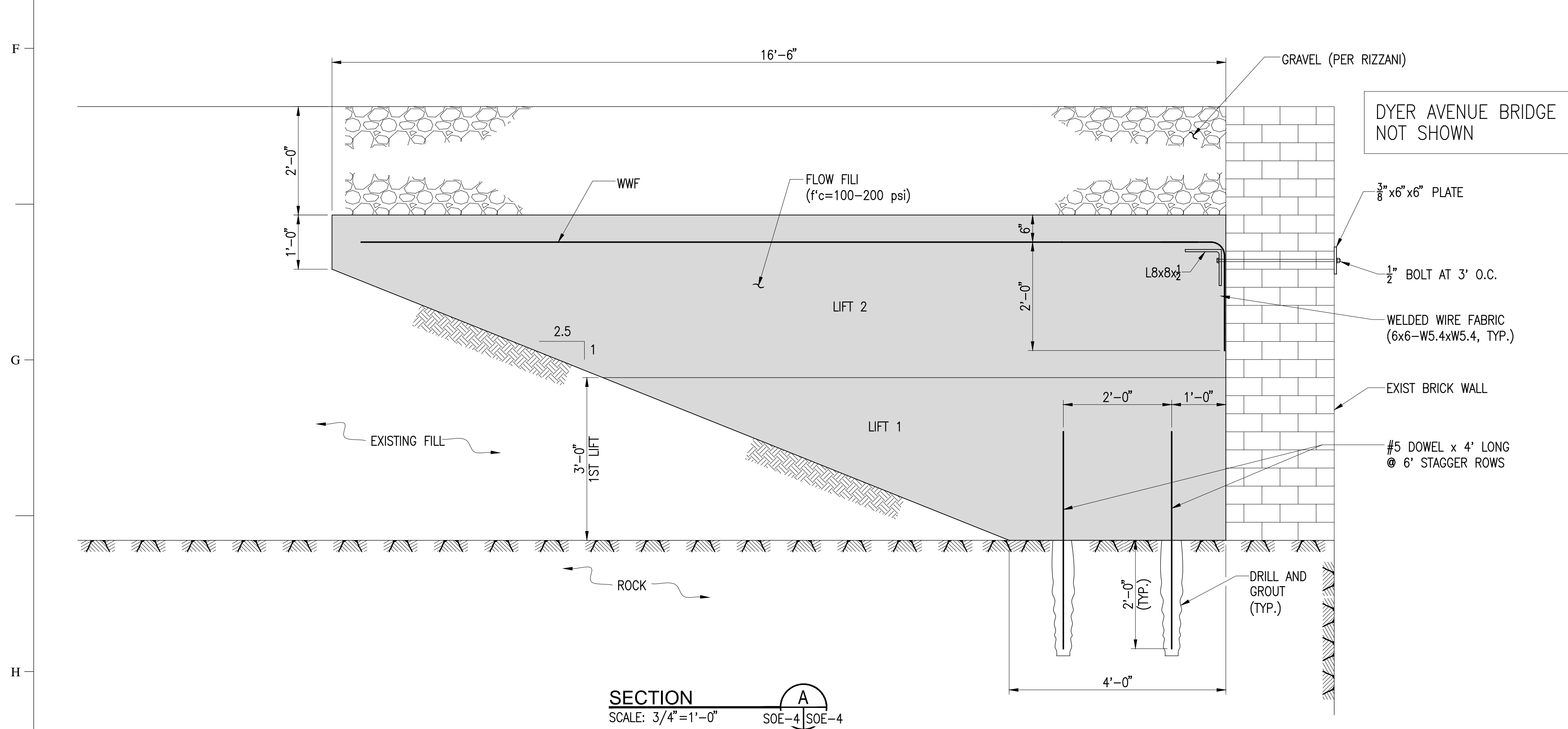
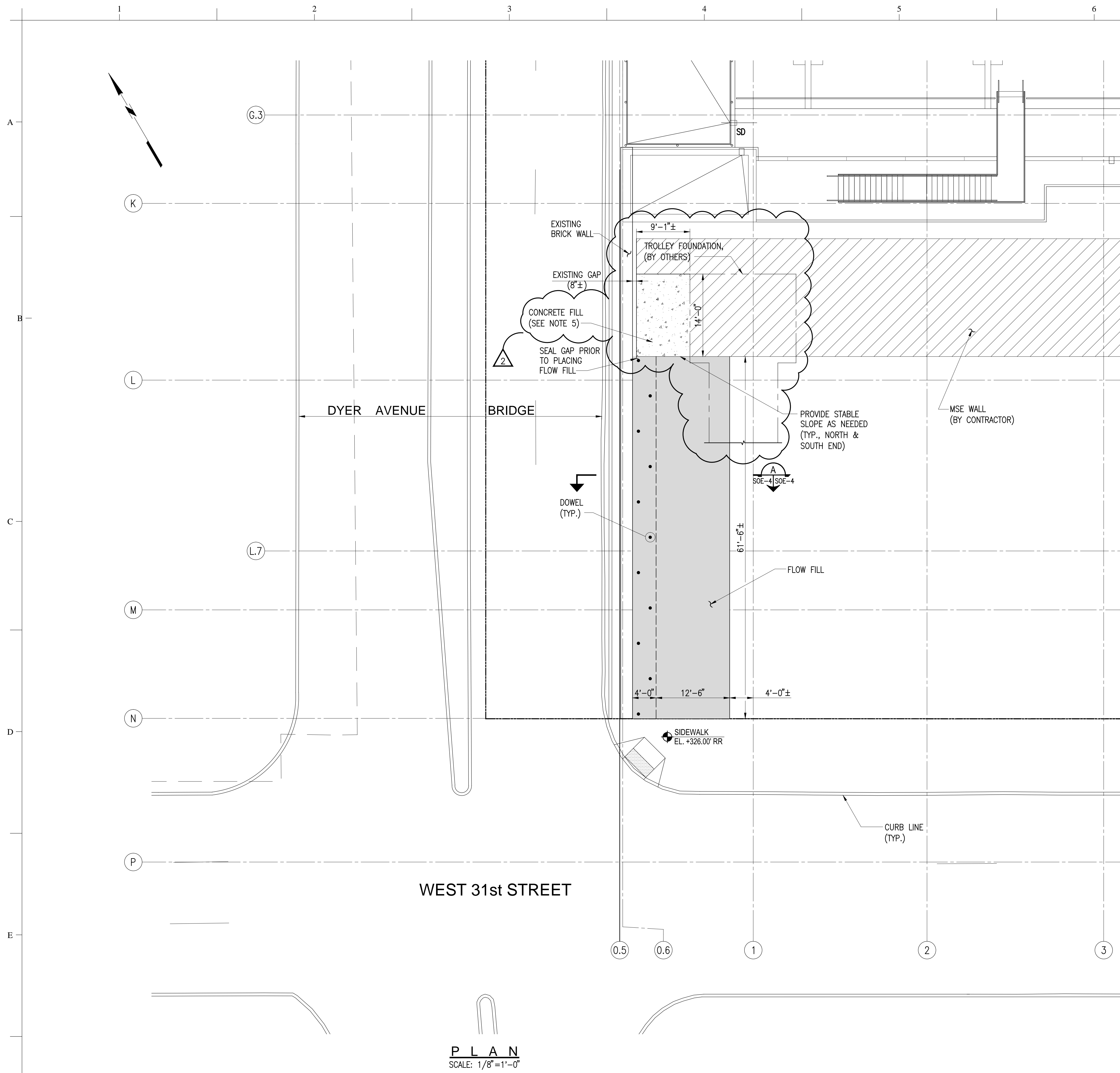
Charles H. Jacobs
Chief Engineer

Photo H. 322.

Plan of Work Constructed

APPENDIX G
EXISTING FLOW FILL ADJACENT TO
DYER AVENUE RETAINING WALL
DESIGN DRAWING

Printed by: Iva Beer
Printed on: Thursday, May 09, 2013 - 10:47:20 AM
Last saved by: beer on Thursday, May 09, 2013 - 10:46:38 AM
G:\DWG\95\9560\Structural\Temp\SOE-4-1ab.dwg



NOTES:

1. ALL STEEL DOWELS AND WELDED WIRE FABRIC SHALL BE ASTM A615 Fy=60 KSI.
2. ALL BOLTS SHALL BE ASTM A307.
3. FLOW FILL SHALL BE PLACED IN 2 LIFTS, TO MINIMIZE FLUID PRESSURE ON BRICK WALL. LIFT 1 SHALL BE FULLY SET (SOLID), PRIOR TO PLACING LIFT 2.
4. ENGINEER TO INSPECT PRIOR TO PLACEMENT OF LIFT 1.
5. EXCAVATE TO TOP OF FIRST GEOGRID (18" DEPTH) BETWEEN THE TROLLEY FOUNDATION AND THE WEST EDGE OF THE MSE WALL. WHEN PLACING CONCRETE FOR THE TROLLEY FOUNDATION, PLACE CONCRETE IN EXCAVATED AREA MONOLITHICALLY WITH THE FOOTING CONCRETE.
6. THE EXISTING GEOGRID IS TO REMAIN IN PLACE AT THE BOTTOM OF THE EXCAVATION. IF THE GEOGRID IS DAMAGED DURING EXCAVATION, PLACE WELDED WIRE FABRIC, W4.0XW4.0 ON TOP OF THE GEOGRID PRIOR TO PLACING CONCRETE.

PRELIMINARY
05-09-2013 10:50AM

9th Avenue Development New York, NY

Owner:

Brookfield

3 World Financial Center, New York, NY 10281

Architect:

SOM

SIDWONG, CHINGIZ & MERRILL LLP
14 WALL STREET FLOOR 1000
NEW YORK, NY 10005

Structural:

ENTUITIVE

ENTUITIVE CORPORATION
1 FINE STREET SUITE 2000
TORONTO, ON M5E 1B4
CANADA
entuitive.com

Railroad Engineering:

PB Americas, Inc.

One Penn Plaza, New York, NY 10119

Utility:

Jacobs Engineering Group

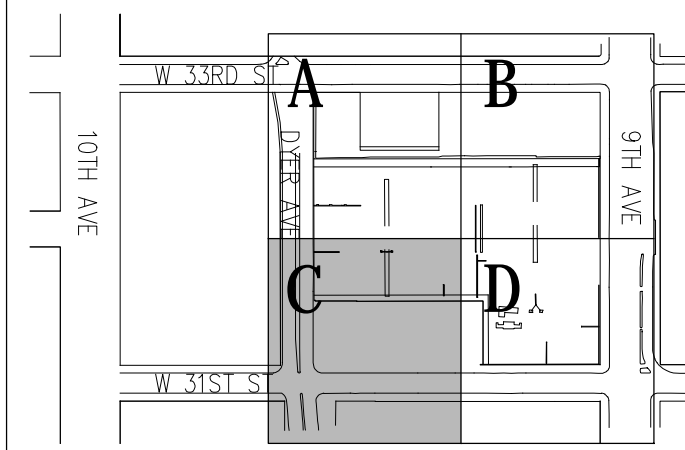
One Penn Square West, 30 South 15 Street, Philadelphia, PA 19102

Geotechnical Engineer:

**Mueser Rutledge
Consulting Engineers**

14 Penn Plaza, New York, NY 10122

Key Plan



No.	Revisions	Date	By
1	BULLETIN 9	01-10-2013	I.A.B.
2	BULLETIN xx	05-09-2013	I.A.B.

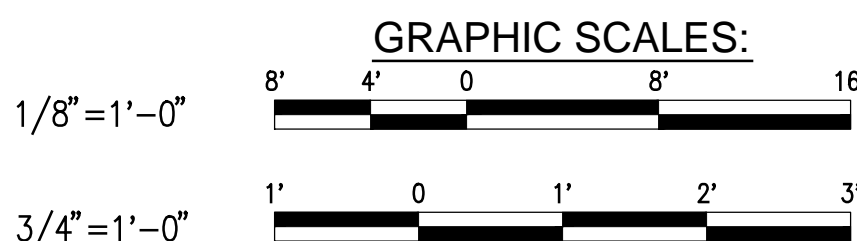
Sheet Name:

DYER AVENUE WALL REMEDIATION

Drawn By:	E.C.	Checked By:	I.A.B.
Scale:	AS NOTED	Date:	1-10-2013
Project No.:	9560	File No.:	SOE-4.dwg
Seal:		Sheet No.:	

SOE-4

Page Count:



APPENDIX H
EXISTING MECHANICALLY STABILIZED EARTH WALL
DESIGN DRAWINGS



MSE STRUCTURE SHOP DRAWINGS
Prepared For
BROOKFIELD PROPERTIES



TENSAR® TEMPORARY WALL

MANHATTAN WEST PLATFORM
TEMPORARY WALL

MWP #19221M0
Submittal # 0004-02260-3
Item # 015-02261-3
12/10/2012

Mueser Rutledge
Consulting Engineers
New York, New York

Review and approval are only for conformance with the information given and the design concept of the Project as expressed in the Contract Documents, and not for the purpose of determining the accuracy and completeness of other data such as dimensions and quantities, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Engineer's review and approval of the Contractor's submittals shall not relieve the Contractor from any obligation contained in the Contract Documents.

X	A	APPROVED	Fabrication, installation, or construction may proceed. Approval does not authorize changes in Contract Sum or Contract Time.
	B	APPROVED AS NOTED	
	C	REVISE AND RESUBMIT	Fabrication, installation, or construction MAY NOT proceed. In resubmitting, limit corrections to items marked.
	D	REJECTED	

INFORMATION ONLY:

NO COMMENTS

COMMENTS AS NOTED

BY LAB

DATE: 12/20/2012

SPEC. SECTION	FILE NO.	SUBMITTAL NO.
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NEW YORK, NEW YORK

INDEX

SHEET	DESCRIPTION
1.	Title Sheet
2.	Construction Requirements
3.	Plan View
4.	Elevation View – Temporary Wall
5.	Section A – STA. 0+00.00
6.	Section B – STA. 0+50.00
7.	Section C – STA. 1+00.00
8.	Section D – STA. 1+50.00
9.	Section E – STA. 2+00.00
10.	Section F – STA. 2+50.00
11.	Typical Details
12.	Typical Details



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250801.DWG

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REVISIONS

NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
0	10/8/12	ISSUED FOR REVIEW	RJ	4	11/26/12	REVISED PER COMMENTS	RJ
1	10/26/12	REVISED PER COMMENTS	RJ	5	12/5/12	REVISED PER COMMENTS	RJ
2	11/13/12	REVISED PER COMMENTS	RJ				
3	11/15/12	REVISED PER COMMENTS	RJ				

CLIENT
POSILICO-CIVIL, INC.
131-36A 20TH AVENUE
COLLEGE POINT, NY 11356
(718) 353-9616

ENGINEER OF RECORD:
Tensar.
Tensar International Corporation
2500 Northwinds Parkway | Suite 500
Alpharetta, Georgia 30009 | 770-344-2090
STEPHEN ANDREW LUPTAK P.E. NO. 090625

PROJECT NAME
**MANHATTAN WEST PLATFORM
TEMPORARY WALL**

PROJECT LOCATION
NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE
TITLE SHEET

DRAWN BY	RR	DATE	10/8/12	PROJECT NUMBER	N12508
DESIGNED BY	RJ	DATE	10/8/12	SCALE	AS SHOWN
CHECKED BY	SW	DATE	10/8/12	SHEET NUMBER	1 OF 12

CONSTRUCTION REQUIREMENTS FOR TENSAR TEMPORARY RETAINING WALL SYSTEM

1.0 PROJECT INTRODUCTION

1.1 THE TEMPORARY RETAINING WALL SYSTEM FOR THE MANHATTAN WEST PLATFORM TEMPORARY WALL PROJECT IS A MECHANICALLY STABILIZED EARTH (MSE) STRUCTURE. THE DRAWINGS AND ASSOCIATED ANALYSES ARE PRESENTED BY TENSAR INTERNATIONAL CORPORATION (TIC) TO POSILICO-CIVIL, INC. (CLIENT) UNDER CONTRACT.

2.0 MATERIALS

2.1 BACKFILL

2.1.1 BACKFILL (REINFORCED AND RETAINED ZONES) SHALL BE FREE OF EXCESS MOISTURE, ROOTS, MUCK, SOD, SNOW, FROZEN LUMPS, ORGANIC MATTER OR OTHER DELETERIOUS MATERIALS. ALL ROCK PARTICLES AND HARD EARTH CLODS SHALL BE LESS THAN 4 INCHES IN THE LONGEST DIMENSION. BACKFILL WHICH DOES NOT MEET THESE CRITERIA SHALL BE CONSIDERED UNSUITABLE AND SHALL BE REMOVED.

2.1.2 REINFORCED BACKFILL SHALL BE ON-SITE OR IMPORT SOILS THAT MEET THE STRENGTH REQUIREMENTS DEFINED IN SECTION 4.0 AND THE GRADATION LIMITS FOR "BASE MATERIAL #1" REFERENCED IN THE DESIGN REPORT. THE PORTION OF THE REINFORCED BACKFILL PASSING THE NO. 40 SIEVE SHALL HAVE A LIQUID LIMIT LESS THAN 20 AND PLASTICITY INDEX LESS THAN 6. REINFORCED BACKFILL SHALL BE CLASSIFIED PER THE UNIFIED SOIL CLASSIFICATION SYSTEM AS LOW OR NON-PLASTIC SOILS.

2.2 SOIL REINFORCEMENT

GEOGRID REINFORCEMENT SHALL BE TENSAR UNIAXIAL AND BIAXIAL GEOGRIDS MANUFACTURED BY THE TENSAR INTERNATIONAL CORPORATION, MORROW, GEORGIA, USA.

2.3 FACING MATERIAL

2.3.1 WELDED WIRE FORMS (WWF) SHALL BE SUPPLIED BY THE TENSAR INTERNATIONAL CORPORATION, MORROW, GEORGIA, USA.

3.0 DESIGN RESPONSIBILITY

3.1 TIC RESPONSIBILITY
TIC HAS DESIGNED THE TEMPORARY RETAINING WALL SYSTEM TO MEET CAPACITY AND DEMAND RATIOS FOR THE MSE CHARACTERISTICS LISTED BELOW.

3.1.1	INTERNAL STABILITY	STATIC
	GEOGRID TENSILE STRENGTH, MINIMUM	1.0
	GEOGRID PULLOUT CAPACITY, MINIMUM	1.0
	SLIDING AT LOWEST GEOGRID, MINIMUM	1.0

3.1.2	EXTERNAL STABILITY	
	SLIDING AT MSE BASE, MINIMUM	1.0
	OVERTURNING, MINIMUM	1.0
	ECCENTRICITY AT MSE BASE, MAXIMUM	0.25

3.2 RESPONSIBILITY OF OTHERS
THE SITE CHARACTERISTICS LISTED BELOW AFFECT THE PERFORMANCE OF THE TEMPORARY RETAINING WALL SYSTEM. TIC IS NOT RESPONSIBLE FOR EVALUATING OR VERIFYING SITE CHARACTERISTICS, THEREFORE TIC ASSUMES NO LIABILITY FOR THE POTENTIAL NEGATIVE EFFECTS OF THE SITE CHARACTERISTICS. THE CLIENT IS RESPONSIBLE FOR ENSURING THAT THE FOLLOWING SITE CHARACTERISTICS ARE PROPERLY ADDRESSED BY A QUALIFIED ENGINEER.

3.2.1 TIC REPORTS PHYSICAL AND STRENGTH REQUIREMENTS OF THE BACKFILL. THE CLIENT IS RESPONSIBLE FOR VERIFICATION OF BACKFILL SPECIFICATIONS AND APPROPRIATE BACKFILL TESTING METHODS AND FREQUENCY.

3.2.2 BEARING RESISTANCE
TIC REPORTS MAXIMUM UNFACTORED APPLIED BEARING PRESSURE ONLY. THE CLIENT IS RESPONSIBLE FOR ENSURING THAT A QUALIFIED GEOTECHNICAL ENGINEER PERFORMS AN EVALUATION OF THE FOUNDATION AND ITS BEARING RESISTANCE AND ENSURING THAT THE FOUNDATION IS COMPETENT AND CAN SUPPORT THE MSE STRUCTURE.

3.2.3 HYDROSTATIC CONDITIONS
TIC REPORTS MAXIMUM DESIGN WATER LEVELS (SURFACE AND SUBSURFACE) IN SECTION 4.8. TIC REQUIRES THAT THE REINFORCED ZONE OF THE MSE STRUCTURE REMAINS FREE OF WATER AND ALL UNBALANCED HYDROSTATIC FORCES. THE CLIENT IS RESPONSIBLE FOR ENSURING THAT THE DESIGN, ANALYSIS, DETAILING, AND MITIGATION OF SURFACE WATER AND SUBSURFACE WATER, INCLUDING BUT NOT LIMITED TO COLLECTION, DIVERSION, AND EROSION/SCOUR PROTECTION ARE PROPERLY ADDRESSED BY A QUALIFIED ENGINEER.

3.2.4 SETTLEMENT
TOTAL SETTLEMENT AND DIFFERENTIAL SETTLEMENT OF THE MSE STRUCTURE EXCEEDING 1/50 SHALL BE THE RESPONSIBILITY OF THE CLIENT. THE CLIENT IS RESPONSIBLE TO NOTIFY TIC IF IT IS DETERMINED THAT THE POTENTIAL FOR DIFFERENTIAL SETTLEMENT EXCEEDS THIS VALUE. TIC ACCEPTS NO LIABILITY OR RESPONSIBILITY FOR THE EVALUATION OF SETTLEMENT.

3.2.5 GLOBAL STABILITY
GLOBAL STABILITY IS OUTSIDE THE SCOPE OF TIC'S RESPONSIBILITY FOR THE PROJECT. THE CLIENT IS RESPONSIBLE FOR ENSURING THAT THE SOILS BEHIND AND BELOW THE MSE STRUCTURES ARE CAPABLE OF RESISTING ROTATIONAL AND WEDGE-SHAPED FAILURE.

4.0 DESIGN PARAMETERS

4.1 DESIGN OF THE TEMPORARY RETAINING WALL IS BASED ON SECTION 11 OF "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION, 2010"

4.2 THE FOLLOWING PARAMETERS CONTROL THE DESIGN:

4.3 SOIL PARAMETERS

SOIL ZONE	MOIST UNIT WEIGHT (PCF)	EFFECTIVE FRICTION (DEGREES)	EFFECTIVE COHESION (PSF)
REINFORCED ZONE	120	30	0
RETAINED ZONE	120	30	0
FOUNDATION ZONE	125	20	0

4.4 GEOGRID
GEOGRID TENSILE PROPERTIES AND REDUCTION FACTORS ARE REPORTED IN THE TIC DESIGN REPORT DATED DECEMBER 5, 2012

4.5 DESIGN LIFE = 10 YEARS

4.6 LOADINGS

4.6.1 UNIFORM LOAD = 1000 PSF

4.7 APPLIED BEARING PRESSURE

THE MAXIMUM UNFACTORED APPLIED BEARING PRESSURE STATED BELOW REPRESENTS THE PRESSURE EXERTED ON THE FOUNDATION BY THE MSE MASS. THE MAXIMUM UNFACTORED APPLIED BEARING PRESSURE IS CALCULATED USING A MEYERHOF STRESS DISTRIBUTION.

MAXIMUM UNFACTORED APPLIED BEARING PRESSURE
STATIC
2016 PSF

4.8 HYDROSTATIC PARAMETERS
PHREATIC SURFACES ARE NOT CONSIDERED IN DESIGN OF THE TEMPORARY RETAINING WALL SYSTEM. WATER LEVELS (SURFACE AND SUBSURFACE) SHALL REMAIN SUFFICIENTLY BELOW THE BOTTOM OF THE STRUCTURES (> H, HEIGHT OF MSE STRUCTURE) FOR THE LIFE OF THE STRUCTURE TO PRECLUDE NEGATIVES EFFECTS ON THE INTERNAL OR EXTERNAL STABILITY OF THE STRUCTURES.

5.0 CONSTRUCTION

5.1 A COMPLETE SET OF APPROVED SHOP DRAWINGS AND CONTRACT SPECIFICATIONS SHALL BE ON SITE AT ALL TIMES DURING CONSTRUCTION OF THE TEMPORARY RETAINING WALL SYSTEM. THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THE DRAWINGS AND THE INSTRUCTIONS PROVIDED IN THE CONSTRUCTION AND QUALITY CONTROL MANUAL PROVIDED BY TIC.

5.2 FOUNDATION PREPARATION
PRIOR TO CONSTRUCTION OF THE TEMPORARY RETAINING WALL SYSTEM, THE CONTRACTOR SHALL CLEAR AND GRUB THE REINFORCED BACKFILL FOOTPRINT, REMOVING TOP SOIL, BRUSH, SOD OR OTHER ORGANIC OR DELETERIOUS MATERIAL. ANY UNSUITABLE SOILS SHALL BE OVER-EXCAVATED, REPLACED WITH COMPACTED BACKFILL MATERIAL TO PROJECT SPECIFICATIONS OR AS OTHERWISE DIRECTED BY A QUALIFIED GEOTECHNICAL ENGINEER. THE FOUNDATION SHALL BE PROOF ROLL INSPECTED USING A LOADED TRUCK WITH 18 KIP AXLE LOADS OR PER PROJECT SPECIFICATIONS. THE CLIENT IS RESPONSIBLE TO HAVE A QUALIFIED GEOTECHNICAL ENGINEER CONFIRM THAT THE SITE HAS BEEN PROPERLY PREPARED AND MEETS THE DESIGN PARAMETERS STATED IN SECTION 4.0.

5.3 ROCK FOUNDATION AT BASE OF WALL MUST BE LEVEL OR SLOPING DOWNWARD FROM FACE OF WALL TOWARDS ENDS OF GEOGRID REINFORCEMENT. IRREGULARITIES IN ROCK FOUNDATION AND VARIABILITY OF SLOPE OF ROCK FOUNDATION FROM FACE OF WALL TO ENDS OF GEOGRID REINFORCEMENT SHALL BE MADE LEVEL WITH FILL. PLACE AND COMPACT FILL IN ACCORDANCE WITH BACKFILL REQUIREMENTS.

5.4 FINISHED GRADE AT TOP OF WALL SHALL BE SLOPED TO PREVENT RUNOFF FROM DISCHARGING OVER FACE OF WALL.

5.5 MSE FACING

5.5.1 THE CLIENT IS RESPONSIBLE TO SURVEY AND LAYOUT THE TEMPORARY RETAINING WALL FACING AS SHOWN ON THE OWNER'S CONTRACT DRAWINGS.

5.5.2 CONTRACTOR MAY ELECT TO EXCAVATE INTO EXISTING ROCK FOUNDATION TO PLACE FIRST COURSE OF WWF FACING UNITS ON LEVEL GRADE, HOWEVER TIC RECOMMENDS THE FOLLOWING WHEN INSTALLING FACING UNITS: INSTALL FIRST COURSE OF WWF FACING UNITS TO FOLLOW EXISTING CROSS-SLOPE GRADE. PLACE FILL SO THAT SECOND COURSE OF FACING UNITS CAN BE INSTALLED ON LEVEL GRADE; NEST WWF FACING UNITS AS NECESSARY. INSTALL SUBSEQUENT COURSES OF WWF FACING UNITS ON LEVEL GRADE.

5.5.3 ENDS OF ADJACENT FACING UNITS SHALL BE OVERLAPPED 4.0 INCHES. ATTACH THE END VERTICAL WIRES OF ADJACENT FACING UNITS WITH CABLE TIES OR TIE WIRES TO MAINTAIN ALIGNMENT AND CONTAIN FILL. FACING UNIT BATTER SHOWN HEREIN SHALL BE MAINTAINED DURING CONSTRUCTION. THE CLIENT SHALL PROVIDE ALIGNMENT CONTROL FOR EACH COURSE OF FACING UNITS AND MAKE ALIGNMENT CORRECTIONS AS NECESSARY. HORIZONTAL DEFORMATION OF INDIVIDUAL FACING UNITS (BULGING) SHALL BE LIMITED TO 2.0 INCHES BETWEEN STRUTS AND BETWEEN THE BASE AND TOP OF THE FACING UNIT. THE CLIENT SHALL MODIFY COMPACTION PROCEDURES IF EXCESSIVE DEFORMATION OF THE FACING UNIT OCCURS. ADDITIONAL STRUTS MAY BE USED TO STIFFEN THE FACING UNIT.

5.6 GEOGRID PLACEMENT

5.6.1 GEOGRIDS SHALL BE INSTALLED AT THE LENGTHS, ELEVATIONS, AND LOCATIONS SHOWN ON THE DRAWINGS HEREIN. CHANGES TO GEOGRID LAYOUT ARE NOT PERMISSIBLE WITHOUT THE EXPRESS WRITTEN CONSENT OF TIC. FOR FIRST COURSE OF WWF FACING UNITS, PLACE GEOGRID TO FOLLOW EXISTING CROSS-SLOPE GRADE. SUBSEQUENT GEOGRID LAYERS SHALL BE INSTALLED ON LEVEL GRADE.

5.6.2 GEOGRID REINFORCEMENTS SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTH. GEOGRID-TO-GEOGRID CONNECTION IS NOT ALLOWED.

5.6.3 UNIAXIAL GEOGRIDS SHALL BE ROLLED OUT PERPENDICULAR TO THE FACING UNITS. THE TRANSVERSE BAR OF THE GEOGRID (ACROSS THE ROLL WIDTH) SHALL BE IN CONTACT WITH THE VERTICAL FACE OF THE GEOTEXTILE. BIAXIAL GEOGRIDS SHALL BE ROLLED OUT PARALLEL TO THE FACING UNITS.

5.6.4 TWO LAYERS OF GEOTEXTILE SHALL BE INSTALLED IN EACH FACING UNIT COURSE, AS SHOWN HEREIN.

5.6.5 TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOGRID REINFORCEMENT. A MINIMUM BACKFILL THICKNESS OF 6 INCHES IS REQUIRED FOR OPERATION OF TRACKED VEHICLES OVER THE GEOGRID REINFORCEMENT. TURNING OF TRACKED VEHICLES SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND/OR GEOGRID REINFORCEMENT. RUBBER-TIRED VEHICLES MAY PASS OVER THE GEOGRID REINFORCEMENT AT SPEEDS LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.

5.6.6 A MINIMUM OF 3 INCHES OF REINFORCED BACKFILL SHALL BE PLACED BETWEEN OVERLAPPING LAYERS OF GEOGRID REINFORCEMENT.

5.7 BACKFILL PLACEMENT

5.7.1 PRIOR TO PLACING BACKFILL, POSITION THE FACE BACKING AND INSTALL THE WIRE STRUTS AS SHOWN IN THE DRAWINGS. BACKFILL AND FACE FILL SHALL BE PLACED IN ALTERNATING LIFTS. THE GEOGRID SHALL BE TENSIONED BY HAND TO ELIMINATE SLACK AND ANCHORED BY PINNING OR PLACING SOIL ON THE GEOGRID AT THE BACK OF THE REINFORCED ZONE. BACKFILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 10 INCHES OR 6 INCHES IN UNCOMPACTED THICKNESS FOR HEAVY OR LIGHTWEIGHT COMPACTION EQUIPMENT RESPECTIVELY. ONLY LIGHTWEIGHT EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET OF THE BACK FACE OF THE MSE STRUCTURE.

5.7.2 BACKFILL SHALL BE PLACED FROM THE BACK OF THE MSE STRUCTURE FACING TOWARDS THE ENDS OF THE GEOGRID TO PROMOTE PROPER TENSIONING.

5.7.3 BACKFILL SHALL BE PLACED AT A MOISTURE CONTENT NO GREATER THAN TWO PERCENT WET AND NO LESS THAN ONE PERCENT DRY OF OPTIMUM MOISTURE CONTENT AND COMPACTED TO A MINIMUM OF 95% OF MAXIMUM STANDARD PROCTOR DRY DENSITY AS DETERMINED IN ACCORDANCE WITH AASHTO T-99 OR AS SPECIFIED BY PROJECT SPECIFICATIONS. FOR THE SECOND, FOURTH, AND FINAL COURSES, CONDUCT TWO COMPACTION TESTS EACH. COMPACTION TEST RESULTS SHALL BE SENT TO TIC FOR REVIEW TO ENSURE PROPER COMPACTION HAS BEEN ACHIEVED.

5.7.4 AT THE END OF EACH WORKDAY, BACKFILL SURFACE SHALL BE GRADED AWAY FROM THE WALL FACE A MINIMUM OF TWO PERCENT SLOPE. THE BACKFILL SURFACE SHALL BE COMPACTED WITH A SMOOTH DRUM ROLLER TO MINIMIZE PONDING OF WATER AND SATURATION OF THE BACKFILL. A TEMPORARY SOIL BERM SHALL BE CONSTRUCTED NEAR THE CREST OF THE MSE STRUCTURE TO PREVENT SURFACE WATER RUNOFF FROM OVERTOPPING THE MSE STRUCTURE.

6.0 SPECIAL PROVISIONS

6.1 THE DESIGN PRESENTED HEREIN IS ONLY VALID FOR THE TEMPORARY RETAINING WALL SYSTEM FOR THE MANHATTAN WEST PLATFORM TEMPORARY WALL PROJECT. THE DESIGN IS BASED ON SOIL PARAMETERS, FOUNDATION CONDITIONS, GROUNDWATER CONDITIONS, AND LOADINGS STATED IN SECTION 4.0. TIC ASSUMES NO LIABILITY FOR INTERPRETATION OR VERIFICATION OF SUBSURFACE CONDITIONS, FOR SUITABILITY OF SOIL DESIGN PARAMETERS OR FOR INTERPRETATION OF SUBSURFACE GROUNDWATER CONDITIONS. THE CLIENT IS RESPONSIBLE TO VERIFY THAT ACTUAL SITE CONDITIONS, PARAMETERS, AND STRUCTURE GEOMETRIES ARE AS DESCRIBED HEREIN PRIOR TO AND DURING CONSTRUCTION. PROCEEDING WITH CONSTRUCTION WITHOUT FIRST VERIFYING CONDITIONS AND PARAMETERS DISCUSSED ABOVE SHALL ABSOLVE TIC FROM ALL LIABILITY FOR THE DESIGN AND CONSTRUCTION OF THIS STRUCTURE AND THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS TIC FROM ALL RESULTING CLAIMS, DAMAGES, LOSSES AND EXPENSES.

6.2 POSILICO IS RESPONSIBLE FOR PROVIDING SPECIAL INSPECTIONS, QUALITY ASSURANCE AND QUALITY CONTROL PROGRAMS THAT ENSURE CONSTRUCTION OF THE MSE STRUCTURE IS PERFORMED IN ACCORDANCE WITH THE TIC NOTES AND DRAWINGS, AND THE OWNER'S CONTRACT PLANS AND SPECIFICATIONS.

6.3 THE CLIENT SHALL IMMEDIATELY REPORT ANY CHANGES TO TIC (770-344-2090) PRIOR TO PROCEEDING WITH CONSTRUCTION. THE CLIENT SHALL IMMEDIATELY REPORT TO TIC THE DISCOVERY OF GROUNDWATER DURING CONSTRUCTION.

6.4 TIC IS NOT RESPONSIBLE FOR HAVING PERSONNEL ON-SITE UNLESS SPECIFICALLY PROVIDED FOR IN A WRITTEN CONTRACT SIGNED BY TIC. ANY TIC REPRESENTATIVE ON SITE DOES NOT HAVE THE AUTHORITY TO STOP OR START CONSTRUCTION OF THE MSE STRUCTURE OR ANY OTHER WORK.

7.0 REFERENCE DOCUMENTS

7.1 THE DESIGN CALCULATIONS AND CONSTRUCTION DRAWINGS PREPARED BY TIC ARE BASED UPON THE DOCUMENTS LISTED IN APPENDIX A OF THE DESIGN REPORT DATED DECEMBER 5, 2012

7.2 TRACK LEVEL SOE SHALL BE SUBMITTED UNDER SEPARATE COVER.

MWP #19221M0
Submittal # 0004-02260-3
Item # 016-02261-3
12/10/2012

Mueser Rutledge Consulting Engineers			
New York, New York			
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	B	APPROVED AS NOTED	
	C	REVISE AND RESUBMIT	Fabrication, installation, or construction MAY NOT proceed. In resubmitting, limit corrections to items marked.
	D	REJECTED	
INFORMATION ONLY:		NO COMMENTS COMMENTS AS NOTED	
BY: LAB		DATE: 12/20/2012	
SPEC. SECTION	FILE NO.	SUBMITTAL NO.	



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250802.DWG

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TENSAR TEMPORARY WALL

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1	10/26/12	REVISED PER COMMENTS	RJ	5	12/5/12	REVISED PER COMMENTS	RJ
2	11/13/12	REVISED PER COMMENTS	RJ				
3	11/15/12	REVISED PER COMMENTS	RJ				

CLIENT

POSILICO-CIVIL, INC.
131-36A 20TH AVENUE
COLLEGE POINT, NY 11356
(718) 353-9616

ENGINEER OF RECORD:

Tensar
Tensar International Corporation
2500 Northwinds Parkway | Suite 500
Alpharetta, Georgia 30009 | 770-344-2090

STEPHEN ANDREW LUPTAK P.E. NO. 090625

PROJECT NAME

MANHATTAN WEST PLATFORM
TEMPORARY WALL

PROJECT LOCATION

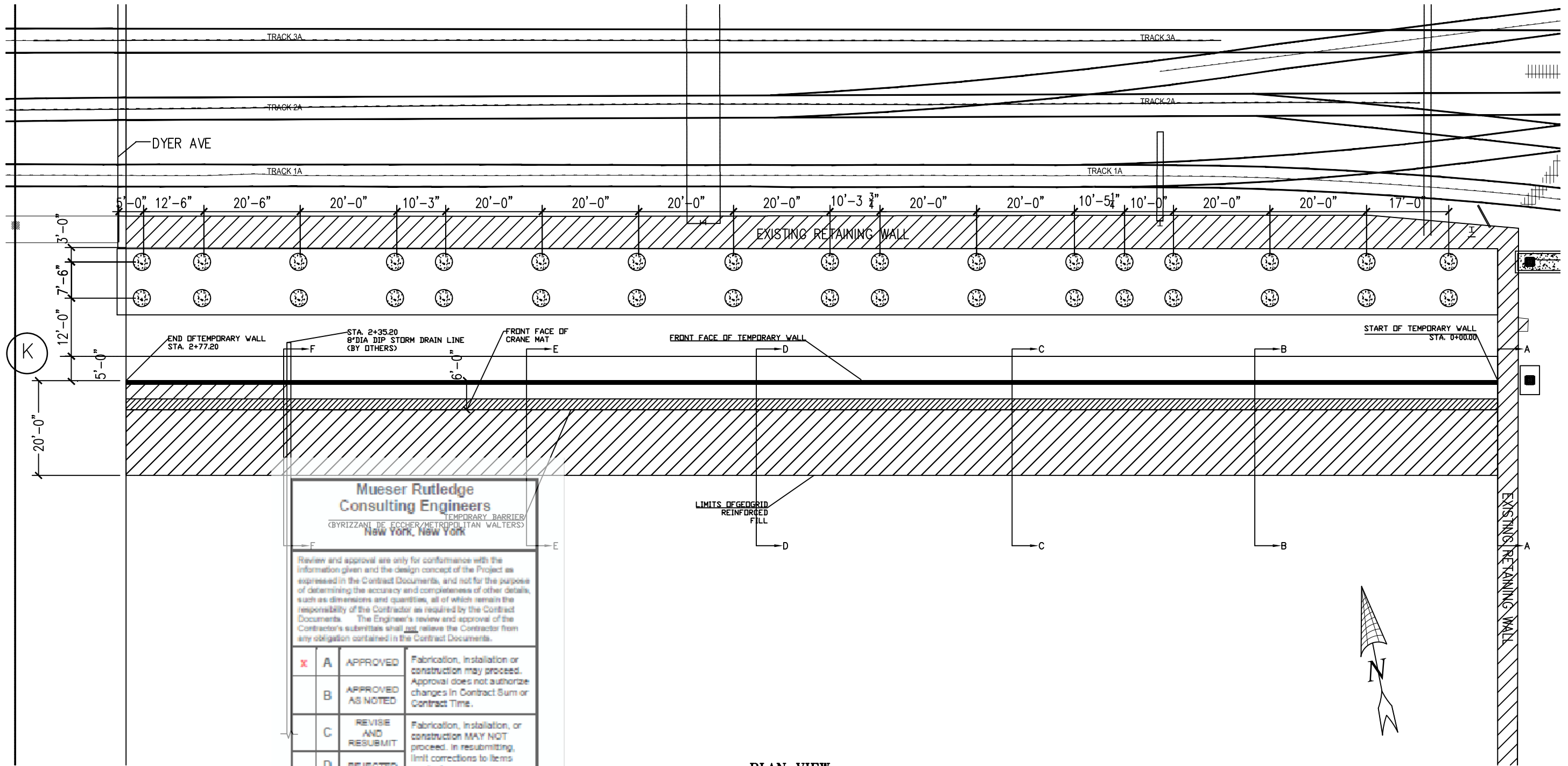
NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE

CONSTRUCTION REQUIREMENTS

	NAME	DATE	PROJECT NUMBER
DRAWN BY	RR	10/8/12	N12508
DESIGNED BY	RJ	10/8/12	AS SHOWN
CHECKED BY	SW	10/8/12	SHEET NUMBER
			2 OF 12



PLAN VIEW
NOT TO SCALE

MWP #19221M0
Submittal # 0004-02260-3
Item # 017-02261-3
12/10/2012

NOTES:

1. PLAN VIEW SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.
2. PLAN VIEW OBTAINED FROM CAD FILE, DATED NOVEMBER 10, 2012, PREPARED BY POSILICO-CIVIL, INC.



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250803.DWG

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3	11/15/12	REVISED PER COMMENTS	RJ		

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(718) 353-9616

ENGINEER OF RECORD:

Tensar.

Tensar International Corporation
2500 Northwinds Parkway | Suite 500
Alpharetta, Georgia 30009 | 770-344-2090

STEPHEN ANDREW LUPTAK P.E. NO. 090625

PROJECT NAME

MANHATTAN WEST PLATFORM
TEMPORARY WALL

PROJECT LOCATION

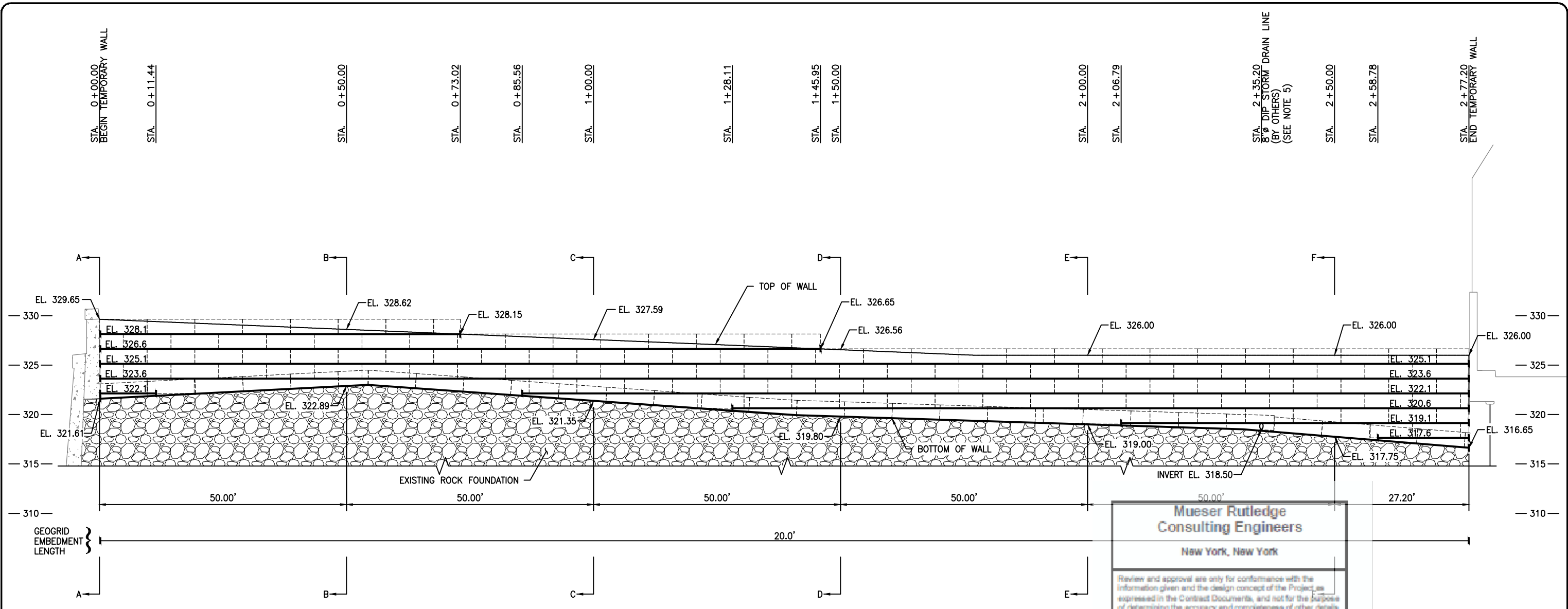
NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE

PLAN VIEW

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DRAWN BY	RR	10/8/12	N12508
DESIGNED BY	RJ	10/8/12	SCALE
CHECKED BY	SW	10/8/12	AS SHOWN
			SHEET NUMBER
			3 OF 12



FRONT FACE ELEVATION VIEW

MWP #19221M0
Submittal # 0004-02260-3
Item # 018-02261-3
12/10/2012

NOTES:

- STRUCTURES ADJACENT TO TEMPORARY WALL SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.
- INSTALL FIRST COURSE OF WWF FACING UNITS TO FOLLOW CROSS-SLOPE GRADE. PLACE FILL TO LEVEL GRADE AND NEST SECOND COURSE OF WWF FACING UNITS TO MATCH ELEVATIONS SHOWN.
- NEST TOP COURSE OF WWF FACING UNITS TO MEET FINISHED GRADE AT TOP OF WALL.
- PROVIDE 3" (MIN.) SOIL COVER BETWEEN OVERLAPPING GEOGRID LAYERS.
- 8" DIP STORM DRAIN LINE LOCATION IS APPROXIMATE. REFER TO PIPE PENETRATION DETAIL ON SHEET 12 OF 12 FOR INSTALLATION DETAILS.

N1250804.DWG

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2	11/13/12	REVISED PER COMMENTS	RJ		
3	11/15/12	NO CHANGE	RJ		

CLIENT

POSILICO-CIVIL, INC.
131-36A 20TH AVENUE
COLLEGE POINT, NY 11356
(718) 353-9616

ENGINEER OF RECORD:

Tensar

Tensar International Corporation
2500 Northwinds Parkway | Suite 500
Alpharetta, Georgia 30009 | 770-344-2090

STEPHEN ANDREW LUPTAK P.E. NO. 090625

PROJECT NAME

MANHATTAN WEST PLATFORM
TEMPORARY WALL

PROJECT LOCATION

NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE

ELEVATION VIEW
TEMPORARY WALL

DRAWN BY

NAME

DATE

PROJECT NUMBER

DESIGNED BY

RJ

10/8/12

SCALE

CHECKED BY

SW

10/8/12

AS SHOWN

SHEET NUMBER

4 OF 12

Mueser Rutledge
Consulting Engineers
New York, New York

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	D	REJECTED	

INFORMATION ONLY: NO COMMENTS COMMENTS AS NOTED

BY LAB DATE: 12/20/2012 EL. XXX.X

SPEC. SECTION	FILE NO.	SUBMITTAL NO.
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LEGEND

WIRE FORM (TYP.)
(SEE NOTES FOR SPECIFICATIONS)
GEOGRID TERMINATION
TENSAR UX1500 GEOGRID
GEOGRID ELEVATION

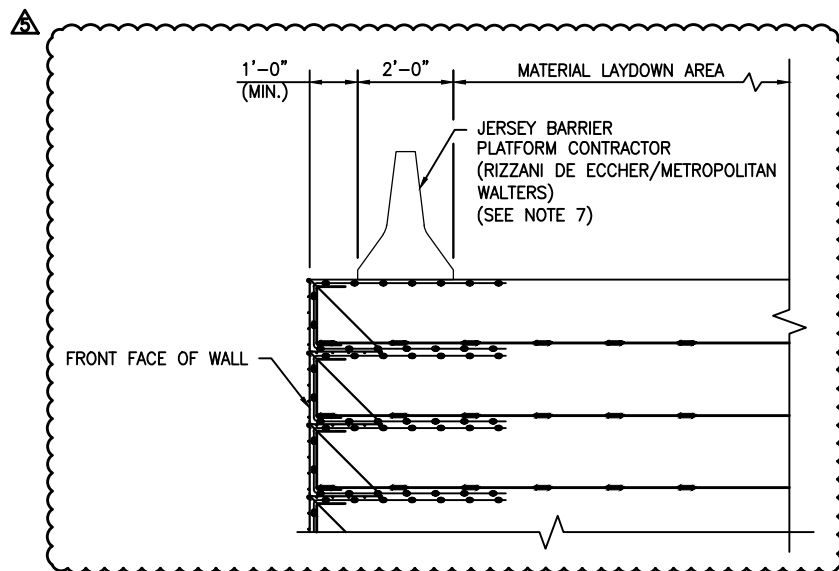
HORIZONTAL SCALE



FEET

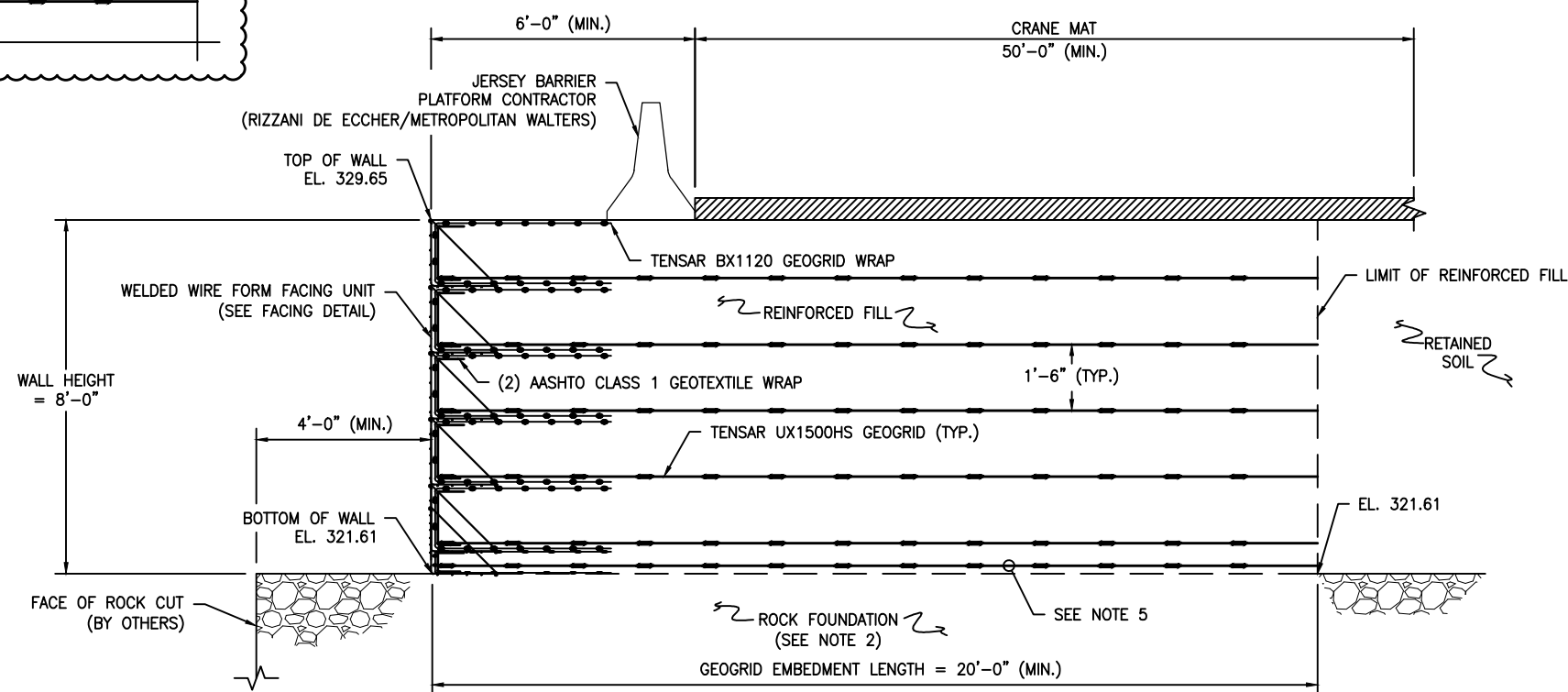


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P.E. NO. 090625

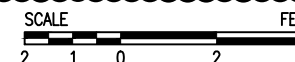


MWP #19221M0
Submittal # 0004-02260-3
Item # 019-02261-3
12/10/2012

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New York, New York			
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SPEC. SECTION	FILE NO.	SUBMITTAL NO.	



- NOTES:
- TWO GEOTEXTILE WRAPS SHALL BE INSTALLED PER FACING UNIT.
 - NEST TOPMOST BASKET TO MEET TOP OF WALL ELEVATION. SEE NESTED BASKET DETAIL SHOWN HEREIN.
 - ROCK FOUNDATION AT BASE OF WALL MUST BE LEVEL OR SLOPING DOWNWARD FROM FACE OF WALL TOWARDS ENDS OF GEOGRID REINFORCEMENT. IRREGULARITIES IN ROCK FOUNDATION AND VARIABILITY OF SLOPE OF ROCK FOUNDATION FROM FACE OF WALL TO ENDS OF GEOGRID REINFORCEMENT SHALL BE MADE LEVEL WITH FILL. PLACE AND COMPACT FILL IN ACCORDANCE WITH BACKFILL REQUIREMENTS.
 - INSTALL FIRST COURSE OF WWF FACING UNITS TO FOLLOW EXISTING CROSS-SLOPE GRADE. PLACE FILL SO THAT SECOND COURSE OF FACING UNITS CAN BE INSTALLED ON LEVEL GRADE; NEST WWF FACING UNITS AS NECESSARY. INSTALL SUBSEQUENT COURSES OF WWF FACING UNITS ON LEVEL GRADE. CONTRACTOR MAY ELECT TO EXCAVATE INTO EXISTING ROCK FOUNDATION TO PLACE FIRST COURSE OF WWF FACING UNITS ON LEVEL GRADE.
 - FOR FIRST COURSE OF WWF FACING UNITS, PLACE GEOGRID TO FOLLOW EXISTING CROSS-SLOPE GRADE. SUBSEQUENT GEOGRID LAYERS SHALL BE INSTALLED ON LEVEL GRADE.
 - REFER TO CONSTRUCTION REQUIREMENTS FOR BACKFILL REQUIREMENTS.
 - THIS BARRIER IS TO DEFINE THE EXTENTS OF THE MATERIAL LAYDOWN AREA ONLY. LOADING EQUIPMENT AND MATERIALS SHALL NOT BE PLACED BEYOND THIS BARRIER CLOSER TO WALL FACE. FOR CRANE MAT LOCATION LIMITS, REFER TO SECTIONS A THROUGH F.



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250805.DWG

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TENSAR TEMPORARY WALL

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CLIENT

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131-36A 20TH AVENUE
COLLEGE POINT, NY 11356
(718) 353-9616

ENGINEER OF RECORD:

Tensar

Tensar International Corporation
2500 Northwinds Parkway | Suite 500
Alpharetta, Georgia 30009 | 770-344-2090

STEPHEN ANDREW LUPTAK P.E. NO. 090625

PROJECT NAME

MANHATTAN WEST PLATFORM
TEMPORARY WALL

PROJECT LOCATION

NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE

SECTION A
STA. 0+00.00

	NAME	DATE	PROJECT NUMBER
DRAWN BY	RR	10/8/12	N12508
DESIGNED BY	RJ	10/8/12	SCALE
CHECKED BY	SW	10/8/12	AS SHOWN
			SHEET NUMBER
			5 OF 12

Mueser Rutledge
Consulting Engineers

New York, New York

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INFORMATION ONLY:

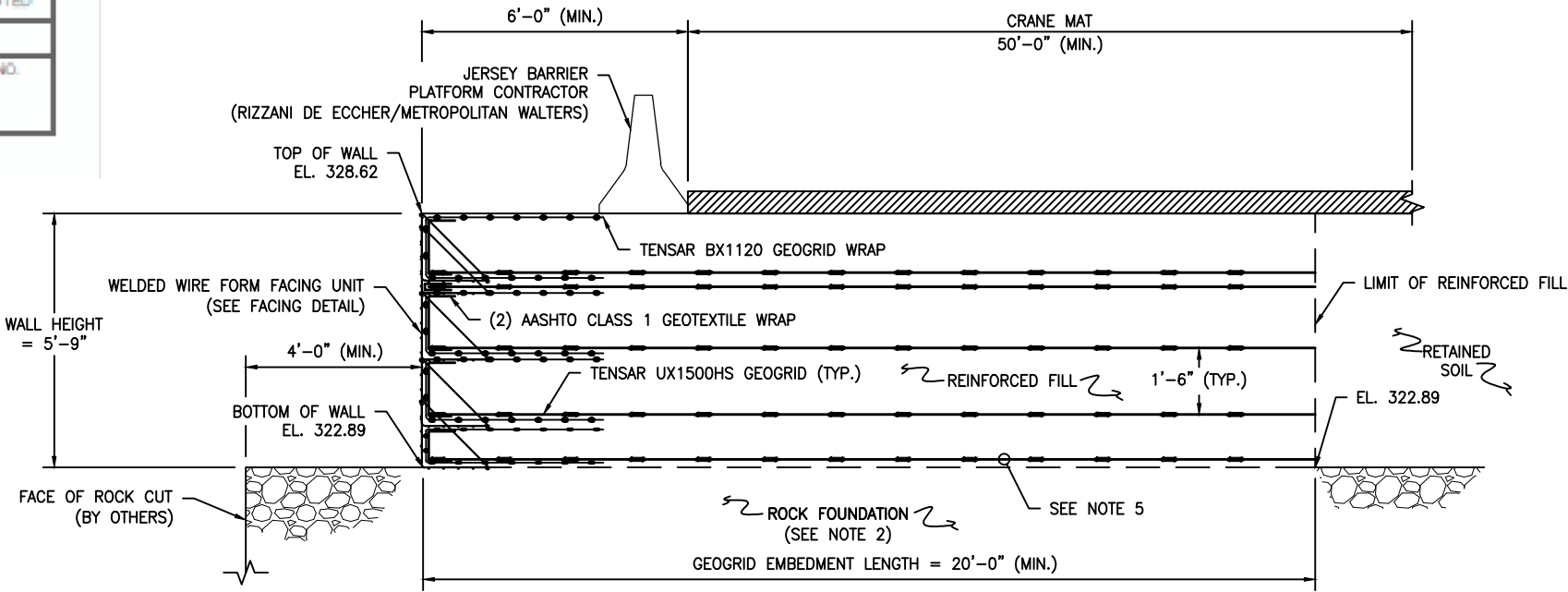
NO COMMENTS

COMMENTS AS NOTED

BY LAB

DATE: 12/20/2012

SPEC. SECTION	FILE NO.	SUBMITTAL NO.
---------------	----------	---------------



SECTION B - STA. 0+50.00

- NOTES:
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 - NEST TOPMOST BASKET TO MEET TOP OF WALL ELEVATION. SEE NESTED BASKET DETAIL SHOWN HEREIN.
 - ROCK FOUNDATION AT BASE OF WALL MUST BE LEVEL OR SLOPING DOWNWARD FROM FACE OF WALL TOWARDS ENDS OF GEOGRID REINFORCEMENT. IRREGULARITIES IN ROCK FOUNDATION AND VARIABILITY OF SLOPE OF ROCK FOUNDATION FROM FACE OF WALL TO ENDS OF GEOGRID REINFORCEMENT SHALL BE MADE LEVEL WITH FILL. PLACE AND COMPACT FILL IN ACCORDANCE WITH BACKFILL REQUIREMENTS.
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 - FOR FIRST COURSE OF WWF FACING UNITS, PLACE GEOGRID TO FOLLOW EXISTING CROSS-SLOPE GRADE. SUBSEQUENT GEOGRID LAYERS SHALL BE INSTALLED ON LEVEL GRADE.
 - REFER TO CONSTRUCTION REQUIREMENTS FOR BACKFILL REQUIREMENTS.
 - REFER TO ALTERNATE TOP OF WALL DETAIL ON SHEET 5 OF 12 FOR MATERIAL LAYDOWN SCENARIO.

MWP #19221M0
Submittal # 0004-02260-3
Item # 020-02261-3
12/10/2012



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250805.DWG

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CLIENT

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PROJECT NAME

MANHATTAN WEST PLATFORM
TEMPORARY WALL

PROJECT LOCATION

NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE

SECTION B
STA. 0+50.00

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DRAWN BY	RR	10/8/12	N12508
DESIGNED BY	RJ	10/8/12	AS SHOWN
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New York, New York

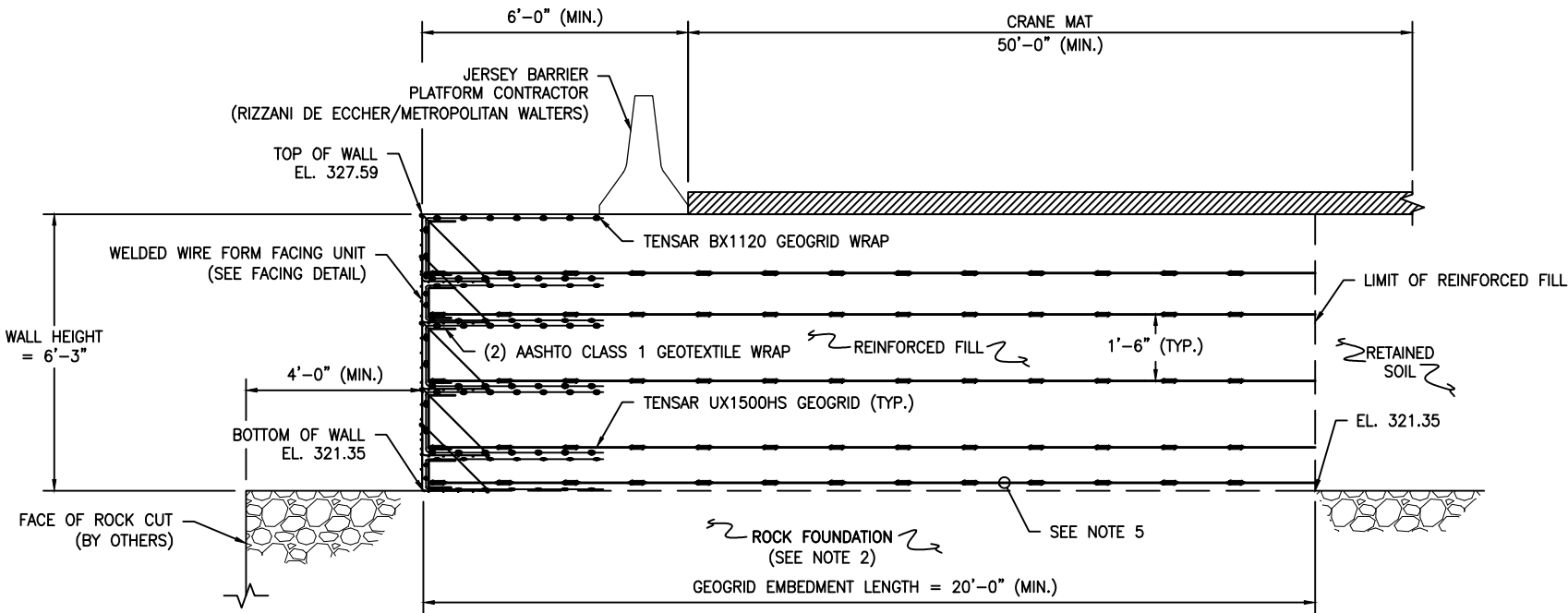
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<input checked="" type="checkbox"/>	A	APPROVED	Fabrication, installation or construction may proceed. Approval does not authorize changes in Contract Sum or Contract Time.
<input type="checkbox"/>	B	APPROVED AS NOTED	
<input type="checkbox"/>	C	REVISE AND RESUBMIT	Fabrication, installation, or construction MAY NOT proceed. In resubmitting, limit corrections to items marked.
<input type="checkbox"/>	D	REJECTED	

INFORMATION ONLY:		NO COMMENTS
		COMMENTS AS NOTED

BY LAB DATE: 12/20/2012

SPEC. SECTION FILE NO. SUBMITTAL NO.



SECTION C - STA. 1+00.00

MWP #19221M0
Submittal # 0004-02260-3
Item # 022-02261-2
12/10/2012

- NOTES:
- TWO GEOTEXTILE WRAPS SHALL BE INSTALLED PER FACING UNIT.
 - NEST TOPMOST BASKET TO MEET TOP OF WALL ELEVATION. SEE NESTED BASKET DETAIL SHOWN HEREIN.
 - ROCK FOUNDATION AT BASE OF WALL MUST BE LEVEL OR SLOPING DOWNWARD FROM FACE OF WALL TOWARDS ENDS OF GEOGRID REINFORCEMENT. IRREGULARITIES IN ROCK FOUNDATION AND VARIABILITY OF SLOPE OF ROCK FOUNDATION FROM FACE OF WALL TO ENDS OF GEOGRID REINFORCEMENT SHALL BE MADE LEVEL WITH FILL. PLACE AND COMPACT FILL IN ACCORDANCE WITH BACKFILL REQUIREMENTS.
 - INSTALL FIRST COURSE OF WWF FACING UNITS TO FOLLOW EXISTING CROSS-SLOPE GRADE. PLACE FILL SO THAT SECOND COURSE OF FACING UNITS CAN BE INSTALLED ON LEVEL GRADE; NEST WWF FACING UNITS AS NECESSARY. INSTALL SUBSEQUENT COURSES OF WWF FACING UNITS ON LEVEL GRADE. CONTRACTOR MAY ELECT TO EXCAVATE INTO EXISTING ROCK FOUNDATION TO PLACE FIRST COURSE OF WWF FACING UNITS ON LEVEL GRADE.
 - FOR FIRST COURSE OF WWF FACING UNITS, PLACE GEOGRID TO FOLLOW EXISTING CROSS-SLOPE GRADE. SUBSEQUENT GEOGRID LAYERS SHALL BE INSTALLED ON LEVEL GRADE.
 - REFER TO CONSTRUCTION REQUIREMENTS FOR BACKFILL REQUIREMENTS.
 - REFER TO ALTERNATE TOP OF WALL DETAIL ON SHEET 5 OF 12 FOR MATERIAL LAYDOWN SCENARIO.



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250805.DWG

THIS DESIGN IS BASED UPON SPECIFIC PROPERTIES OF THOSE SPECIFIC TENSAR PRODUCTS INCORPORATED THEREIN WHICH ARE PROPRIETARY TO TENSAR. ANY SUBSTITUTION OF THE SPECIFIED PRODUCTS WILL INVALIDATE THIS DESIGN. THIS DRAWING IS BEING FURNISHED FOR USE ON THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT IT SHALL NOT BE DUPLICATED WHOLE OR IN PART, NOR DISCLOSED TO OTHERS, WITHOUT THE CONSENT OF TENSAR INTERNATIONAL CORPORATION.

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TENSAR TEMPORARY WALL

CLIENT

POSILICO-CIVIL, INC.
131-36A 20TH AVENUE
COLLEGE POINT, NY 11356
(718) 353-9616

ENGINEER OF RECORD:

Tensar

Tensar International Corporation
2500 Northwinds Parkway | Suite 500
Alpharetta, Georgia 30009 | 770-344-2090

STEPHEN ANDREW LUPTAK P.E. NO. 090625

PROJECT NAME

MANHATTAN WEST PLATFORM
TEMPORARY WALL

PROJECT LOCATION

NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE

SECTION C
STA. 1+00.00

DRAWN BY

RR

DESIGNED BY

RJ

CHECKED BY

SW

DATE

10/8/12

10/8/12

10/8/12

PROJECT NUMBER

N12508

SCALE

AS SHOWN

SHEET NUMBER

7 OF 12

Mueser Rutledge
Consulting Engineers
New York, New York

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<input type="checkbox"/>	C	REVISE AND RESUBMIT	Fabrication, installation, or construction MAY NOT proceed. In resubmitting, limit corrections to items marked.
<input type="checkbox"/>	D	REJECTED	

INFORMATION ONLY:

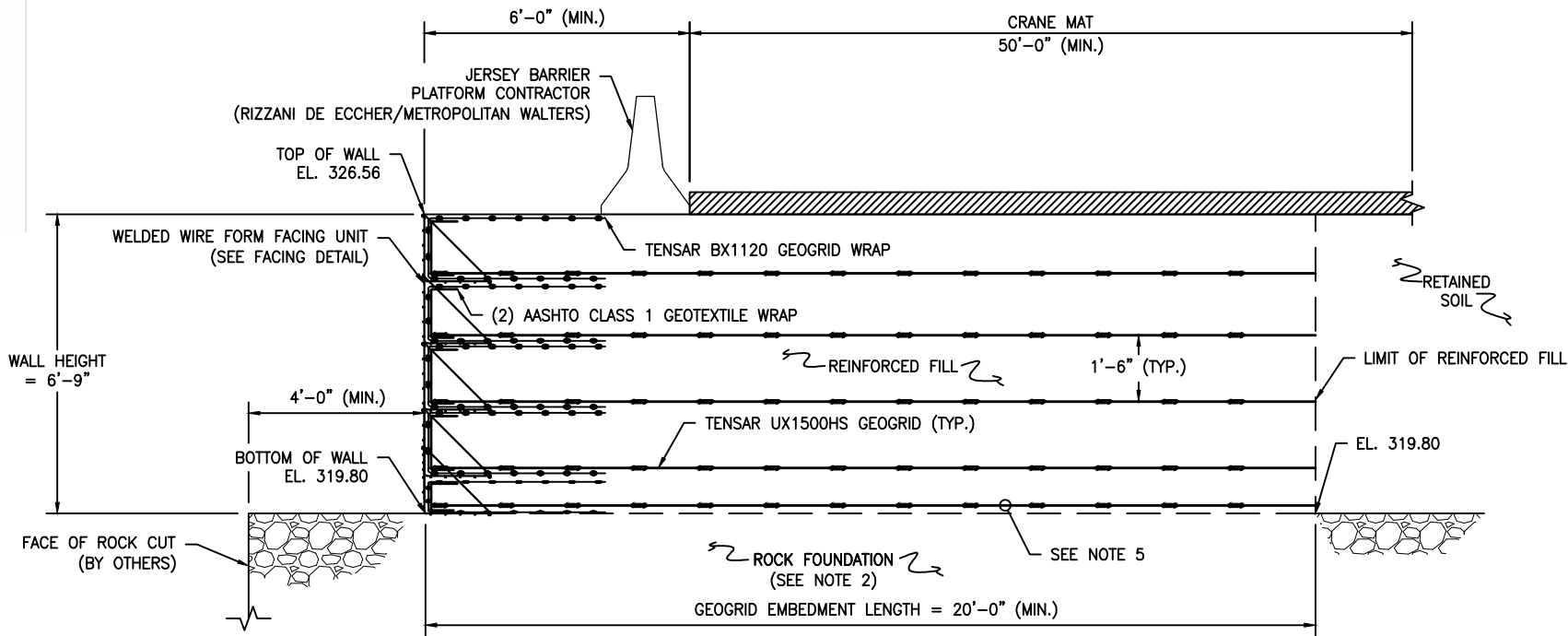
NO COMMENTS

COMMENTS AS NOTED

BY LAB:DATE: 12/20/2012

SPEC. SECTION	FILE NO.	SUBMITTAL NO.
---------------	----------	---------------

MWP #19221M0
Submittal # 0004-02260-3
Item # 023-02261-2
12/10/2012



SECTION D - STA. 1+50.00

- NOTES:
- TWO GEOTEXTILE WRAPS SHALL BE INSTALLED PER FACING UNIT.
 - NEST TOPMOST BASKET TO MEET TOP OF WALL ELEVATION. SEE NESTED BASKET DETAIL SHOWN HEREIN.
 - ROCK FOUNDATION AT BASE OF WALL MUST BE LEVEL OR SLOPING DOWNWARD FROM FACE OF WALL TOWARDS ENDS OF GEOGRID REINFORCEMENT. IRREGULARITIES IN ROCK FOUNDATION AND VARIABILITY OF SLOPE OF ROCK FOUNDATION FROM FACE OF WALL TO ENDS OF GEOGRID REINFORCEMENT SHALL BE MADE LEVEL WITH FILL. PLACE AND COMPACT FILL IN ACCORDANCE WITH BACKFILL REQUIREMENTS.
 - INSTALL FIRST COURSE OF WWF FACING UNITS TO FOLLOW EXISTING CROSS-SLOPE GRADE. PLACE FILL SO THAT SECOND COURSE OF FACING UNITS CAN BE INSTALLED ON LEVEL GRADE; NEST WWF FACING UNITS AS NECESSARY. INSTALL SUBSEQUENT COURSES OF WWF FACING UNITS ON LEVEL GRADE. CONTRACTOR MAY ELECT TO EXCAVATE INTO EXISTING ROCK FOUNDATION TO PLACE FIRST COURSE OF WWF FACING UNITS ON LEVEL GRADE.
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 - REFER TO CONSTRUCTION REQUIREMENTS FOR BACKFILL REQUIREMENTS.
 - REFER TO ALTERNATE TOP OF WALL DETAIL ON SHEET 5 OF 12 FOR MATERIAL LAYDOWN SCENARIO.



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250805.DWG

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TENSAR TEMPORARY WALL

REVISIONS					
NO.	DATE	DESCRIPTION	BY	NO.	DATE
0	10/8/12	ISSUED FOR REVIEW	RJ	4	11/26/12
1	10/26/12	SHEET ADDED	RJ	5	12/5/12
2	11/13/12	NO CHANGE	RJ		
3	11/15/12	REVISED PER COMMENTS	RJ		

CLIENT

POSILICO-CIVIL, INC.
131-36A 20TH AVENUE
COLLEGE POINT, NY 11356
(718) 353-9616

ENGINEER OF RECORD:

Tensar

Tensar International Corporation
2500 Northwinds Parkway | Suite 500
Alpharetta, Georgia 30009 | 770-344-2090

STEPHEN ANDREW LUPTAK P.E. NO. 090625

PROJECT NAME

MANHATTAN WEST PLATFORM
TEMPORARY WALL

PROJECT LOCATION

NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE

SECTION D
STA. 1+50.00

	NAME	DATE	PROJECT NUMBER
DRAWN BY	RR	10/8/12	N12508
DESIGNED BY	RJ	10/8/12	AS SHOWN
CHECKED BY	SW	10/8/12	SHEET NUMBER
			8 OF 12

Mueser Rutledge
Consulting Engineers

New York, New York

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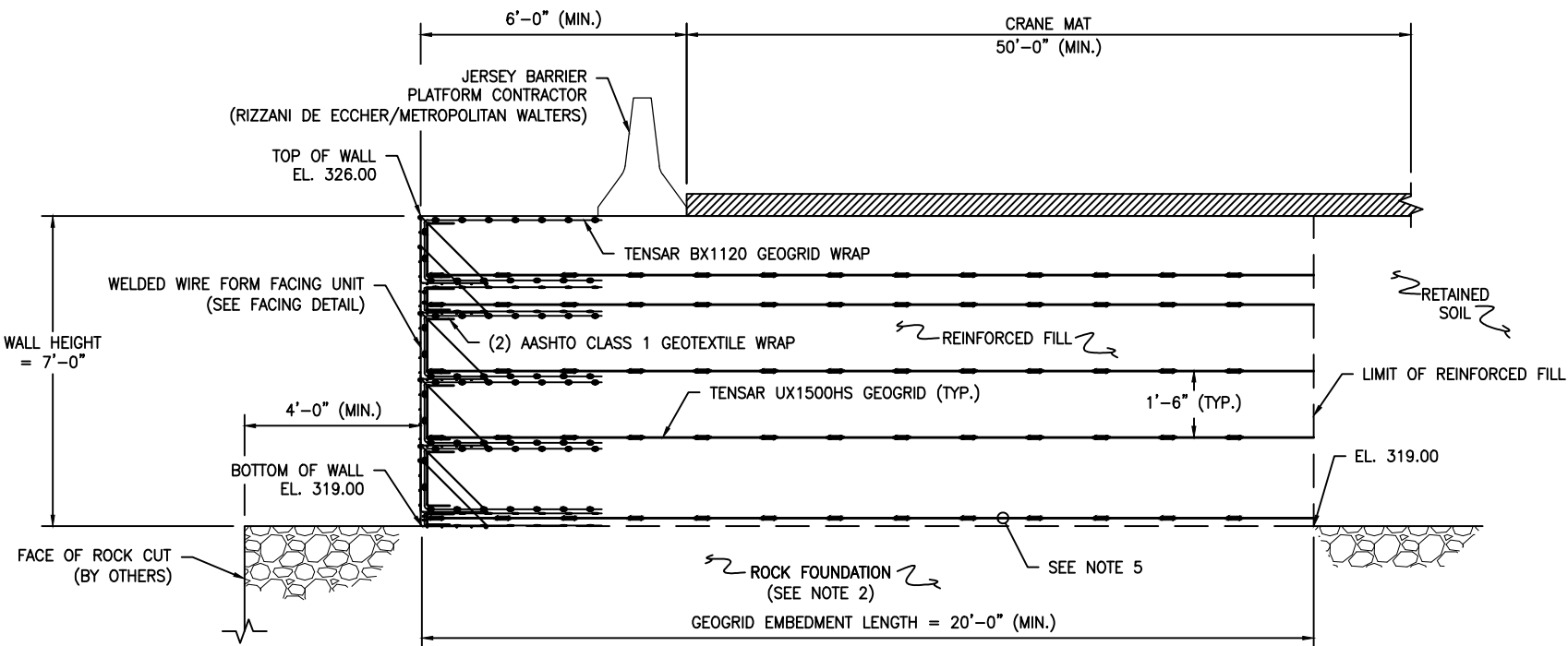
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<input type="checkbox"/>	D	REJECTED	

INFORMATION ONLY:		NO COMMENTS
		COMMENTS AS NOTED

BY LAB DATE: 12/20/2012

SPEC. SECTION	FILE NO.	SUBMITTAL NO.

MWP #19221M0
Submittal # 0004-02260-3
Item # 024-02261-2
12/10/2012



SECTION E - STA. 2+00.00

- NOTES:
- TWO GEOTEXTILE WRAPS SHALL BE INSTALLED PER FACING UNIT.
 - NEST TOPMOST BASKET TO MEET TOP OF WALL ELEVATION. SEE NESTED BASKET DETAIL SHOWN HEREIN.
 - ROCK FOUNDATION AT BASE OF WALL MUST BE LEVEL OR SLOPING DOWNWARD FROM FACE OF WALL TOWARDS ENDS OF GEOGRID REINFORCEMENT. IRREGULARITIES IN ROCK FOUNDATION AND VARIABILITY OF SLOPE OF ROCK FOUNDATION FROM FACE OF WALL TO ENDS OF GEOGRID REINFORCEMENT SHALL BE MADE LEVEL WITH FILL. PLACE AND COMPACT FILL IN ACCORDANCE WITH BACKFILL REQUIREMENTS.
 - INSTALL FIRST COURSE OF WWF FACING UNITS TO FOLLOW EXISTING CROSS-SLOPE GRADE. PLACE FILL SO THAT SECOND COURSE OF FACING UNITS CAN BE INSTALLED ON LEVEL GRADE; NEST WWF FACING UNITS AS NECESSARY. INSTALL SUBSEQUENT COURSES OF WWF FACING UNITS ON LEVEL GRADE. CONTRACTOR MAY ELECT TO EXCAVATE INTO EXISTING ROCK FOUNDATION TO PLACE FIRST COURSE OF WWF FACING UNITS ON LEVEL GRADE.
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 - REFER TO ALTERNATE TOP OF WALL DETAIL ON SHEET 5 OF 12 FOR MATERIAL LAYDOWN SCENARIO.



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250805.DWG

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TENSAR TEMPORARY WALL

REVISIONS					
NO.	DATE	DESCRIPTION	BY	NO.	DATE
0	10/8/12	ISSUED FOR REVIEW	RJ	4	11/26/12
1	10/26/12	SHEET ADDED	RJ	5	12/5/12
2	11/13/12	NO CHANGE	RJ		
3	11/15/12	REVISED PER COMMENTS	RJ		

CLIENT

POSILICO-CIVIL, INC.
131-36A 20TH AVENUE
COLLEGE POINT, NY 11356
(718) 353-9616

ENGINEER OF RECORD:

Tensar

Tensar International Corporation
2500 Northwinds Parkway | Suite 500
Alpharetta, Georgia 30009 | 770-344-2090

STEPHEN ANDREW LUPTAK P.E. NO. 090625

PROJECT NAME

MANHATTAN WEST PLATFORM
TEMPORARY WALL

PROJECT LOCATION

NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE

SECTION E
STA. 2+00.00

	NAME	DATE	PROJECT NUMBER
DRAWN BY	RR	10/8/12	N12508
DESIGNED BY	RJ	10/8/12	AS SHOWN
CHECKED BY	SW	10/8/12	SHEET NUMBER
			9 OF 12

Mueser Rutledge
Consulting Engineers

New York, New York

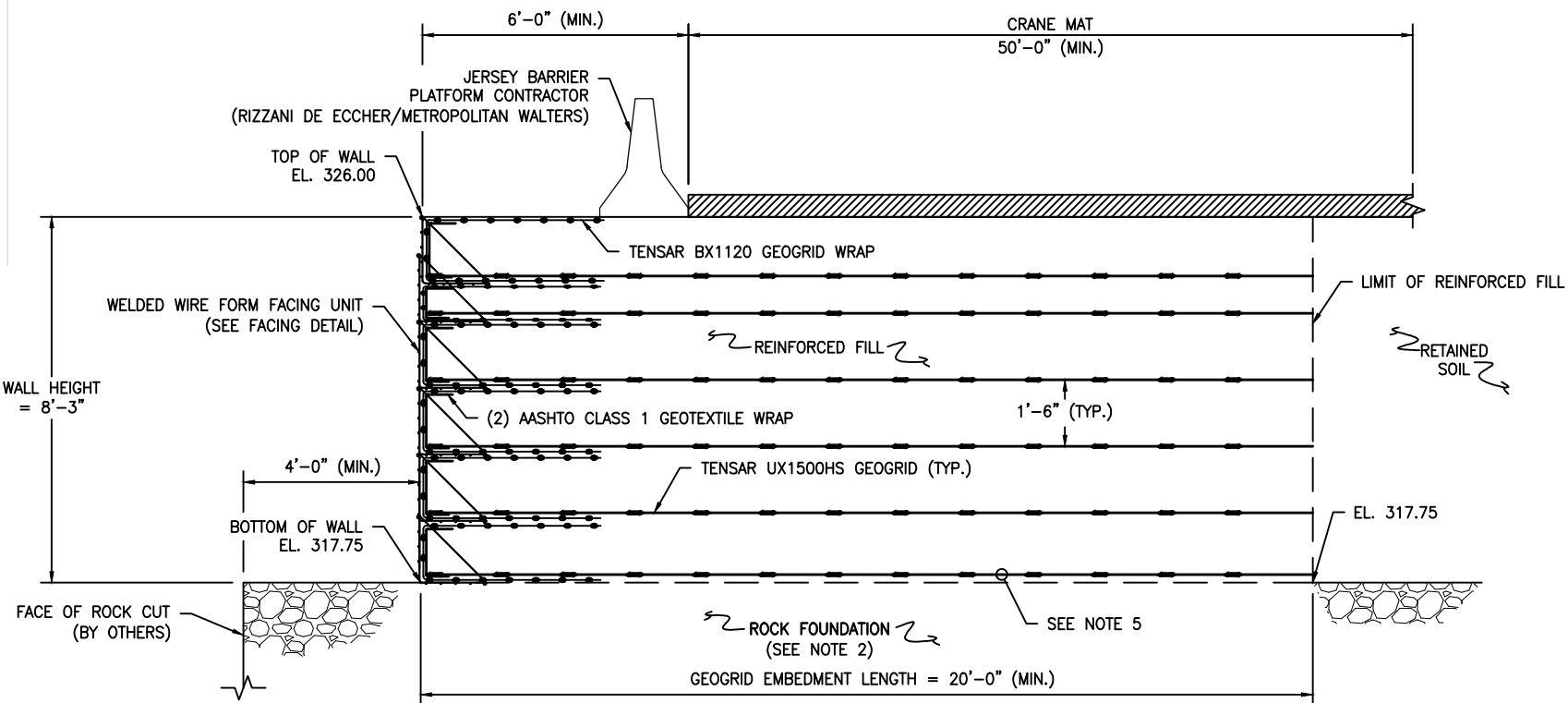
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<input type="checkbox"/>	D	REJECTED	

INFORMATION ONLY:		NO COMMENTS
		COMMENTS AS NOTED

BY LAB DATE: 12/20/2012

SPEC. SECTION FILE NO. SUBMITTAL NO.



SECTION F - STA. 2+50.00

- NOTES:
- TWO GEOTEXTILE WRAPS SHALL BE INSTALLED PER FACING UNIT.
 - NEST TOPMOST BASKET TO MEET TOP OF WALL ELEVATION. SEE NESTED BASKET DETAIL SHOWN HEREIN.
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 - REFER TO ALTERNATE TOP OF WALL DETAIL ON SHEET 5 OF 12 FOR MATERIAL LAYDOWN SCENARIO.



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250805.DWG

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TENSAR TEMPORARY WALL

REVISIONS					
NO.	DATE	DESCRIPTION	BY	NO.	DATE
0	10/8/12	ISSUED FOR REVIEW	RJ	4	11/26/12
1	10/26/12	SHEET ADDED	RJ	5	12/5/12
2	11/13/12	NO CHANGE	RJ		
3	11/15/12	REVISED PER COMMENTS	RJ		

CLIENT

POSILICO-CIVIL, INC.
131-36A 20TH AVENUE
COLLEGE POINT, NY 11356
(718) 353-9616

ENGINEER OF RECORD:

Tensar Tensar International Corporation
2500 Northwinds Parkway | Suite 500
Alpharetta, Georgia 30009 | 770-344-2090

STEPHEN ANDREW LUPTAK P.E. NO. 090625

PROJECT NAME

MANHATTAN WEST PLATFORM
TEMPORARY WALL

PROJECT LOCATION

NEW YORK, NEW YORK

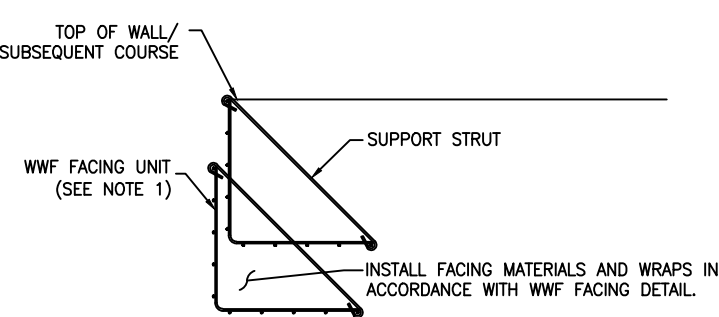
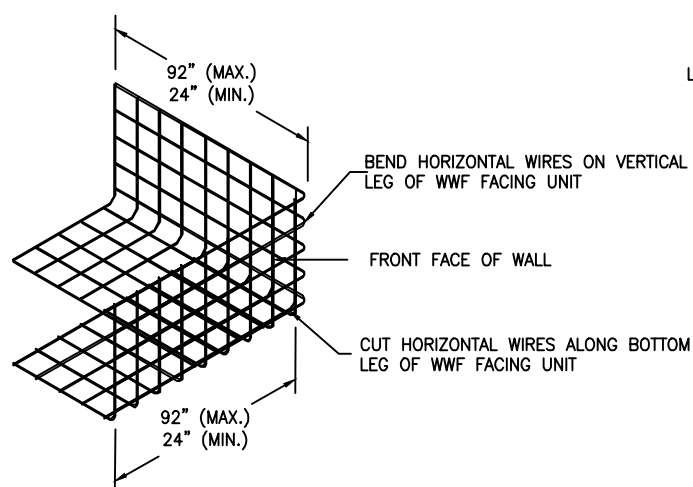
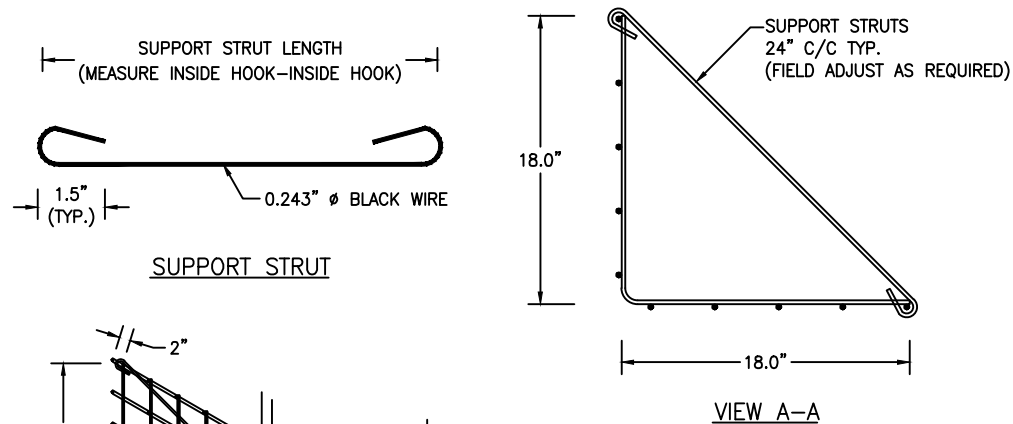
STATE OR FEDERAL AID PROJECT NO.

DRAWING TITLE

SECTION F
STA. 2+50.00

	NAME	DATE	PROJECT NUMBER
DRAWN BY	RR	10/8/12	N12508
DESIGNED BY	RJ	10/8/12	AS SHOWN
CHECKED BY	SW	10/8/12	SHEET NUMBER

10 OF 12

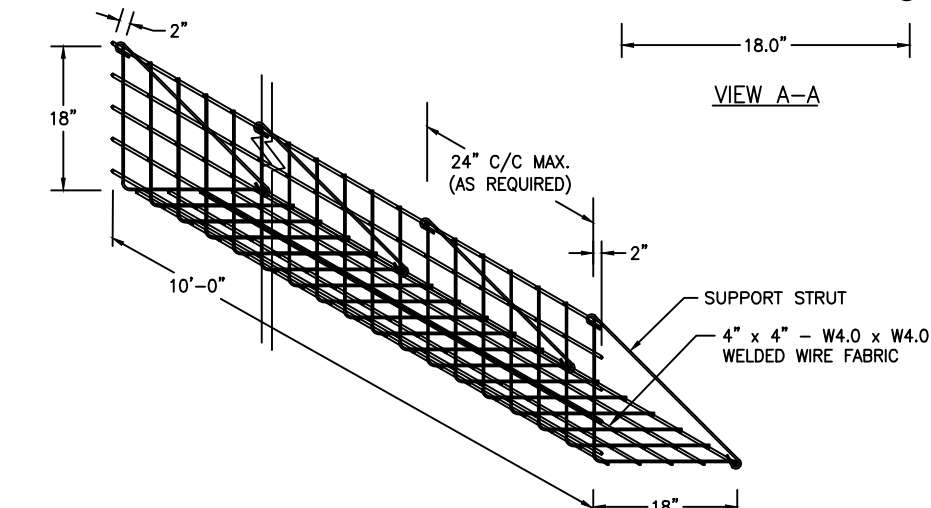


- NOTES:
- SEE WELDED WIRE FORM (WWF) FACING DETAIL FOR FACING MATERIALS AND DIMENSIONS.
 - SET SUBSEQUENT WWF FACING UNIT INSIDE WWF FACING UNIT BELOW TO FOLLOW GRADE.
 - HORIZONTAL WIRES OF TOPMOST WWF FACING UNIT MAY BE CUT TO ALLOW INSTALLATION OVER STRUTS OF WWF FACING UNIT BELOW.

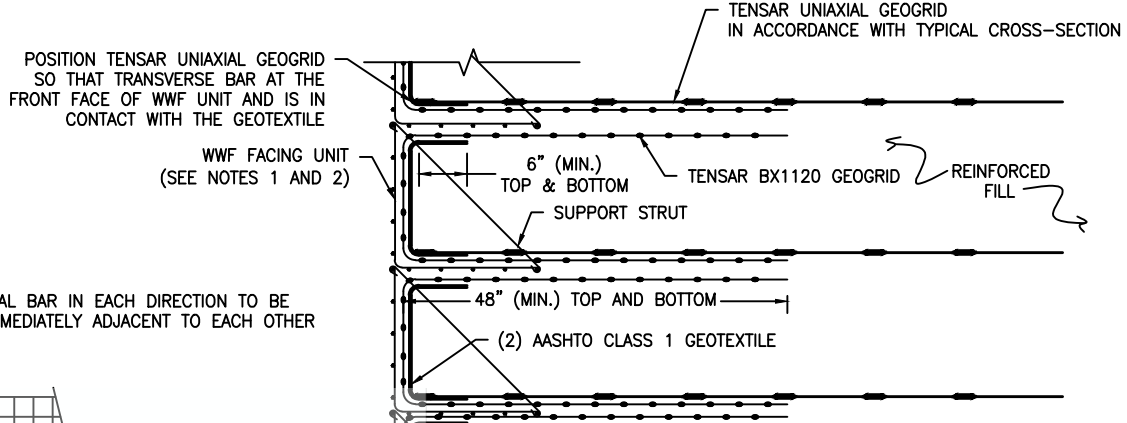
NOTE: MAINTAIN 24" (MIN.) OF WIRE FORM ON EACH SIDE OF BEND.

WELDED WIRE FORM OUTSIDE CORNER DETAIL
NOT TO SCALE

NESTED BASKET DETAIL
NOT TO SCALE

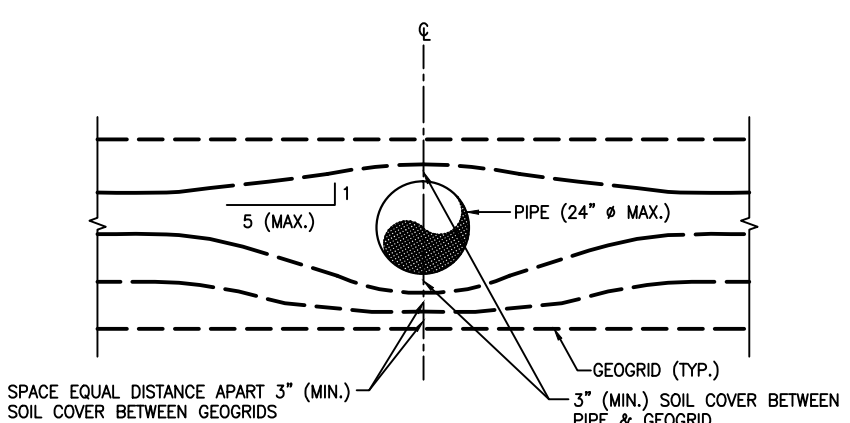


- NOTES:
- FACING TO CONSIST OF PREFABRICATED WWF 4" x 4" - W4.0 x W4.0 FORMS.
 - ALL FORMS AND STRUTS WILL BE FABRICATED WITH BLACK WIRE.
 - OVERALL LENGTH OF WIRE FORMS IS 10'-0". EFFECTIVE CONSTRUCTED WIDTH IS 9'-8" WITH 4" OVER LAPPING AT ENDS.

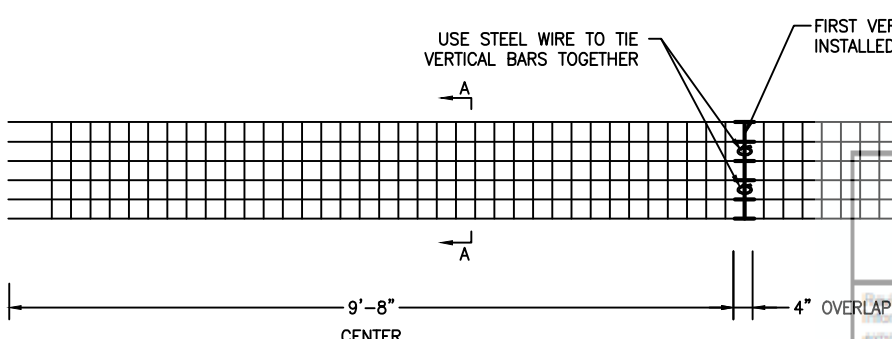


- NOTES:
- SEE WELDED WIRE FORM (WWF) FACING UNIT DETAIL FOR FACING MATERIAL AND DIMENSIONS.
 - ALL FACING UNITS SHALL BE FABRICATED FROM BLACK STEEL.
 - TWO LAYERS OF GEOTEXTILE SHALL BE INSTALLED IN EACH FACING UNIT COURSE.

WELDED WIRE FORM FACING DETAIL
NOT TO SCALE



GEOGRID PLACEMENT AT PIPE PERPENDICULAR TO MSE WALL FACE-PROFILE
NOT TO SCALE



WELDED WIRE FORM FACING UNIT
NOT TO SCALE



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250811.DWG

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Kueser Rutledge Consulting Engineers New York, New York			
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X	A	APPROVED	Fabrication, installation or construction may proceed. Approval does not authorize changes in Contract Sum or Contract Time.
	B	APPROVED AS NOTED	
	C	REVISE AND RESUBMIT	Fabrication, installation, or construction MAY NOT proceed. In resubmitting, limit corrections to items marked.
	D	REJECTED	
TENSAR TEMPORARY WALL			
REVISIONS			
NO.	DATE	DESCRIPTION	BY
0	10/8/12	ISSUED FOR REVIEW	RJ
1	10/26/12	DETAIL UPDATED AND DETAIL ADDED	RJ
2	11/13/12	NO CHANGE	RJ
3	11/15/12	NO CHANGE	RJ

CLIENT
POSILICO-CIVIL, INC.
131-36A 20TH AVENUE
COLLEGE POINT, NY 11356
(718) 353-9616

ENGINEER OF RECORD:
Tensar
Tensar International Corporation
2500 Northwinds Parkway | Suite 500
Alpharetta, Georgia 30009 | 770-344-2090
STEPHEN ANDREW LUPTAK P.E. NO. 090625

PROJECT NAME
MANHATTAN WEST PLATFORM TEMPORARY WALL

PROJECT LOCATION
NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE TYPICAL DETAILS			
	NAME	DATE	PROJECT NUMBER N12508
DRAWN BY	RR	10/8/12	SCALE
DESIGNED BY	RJ	10/8/12	AS SHOWN
CHECKED BY	SW	10/8/12	SHEET NUMBER 11 OF 12

MWP #19221M0
Submittal # 0004-02260-3
Item # 026-02261-2
12/10/2012

MWP #19221M0
Submittal # 0004-02260-3
Item # 027-02261-2
12/10/2012

Mueser Rutledge
Consulting Engineers

New York, New York

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<input type="checkbox"/>	D	REJECTED	

INFORMATION ONLY:

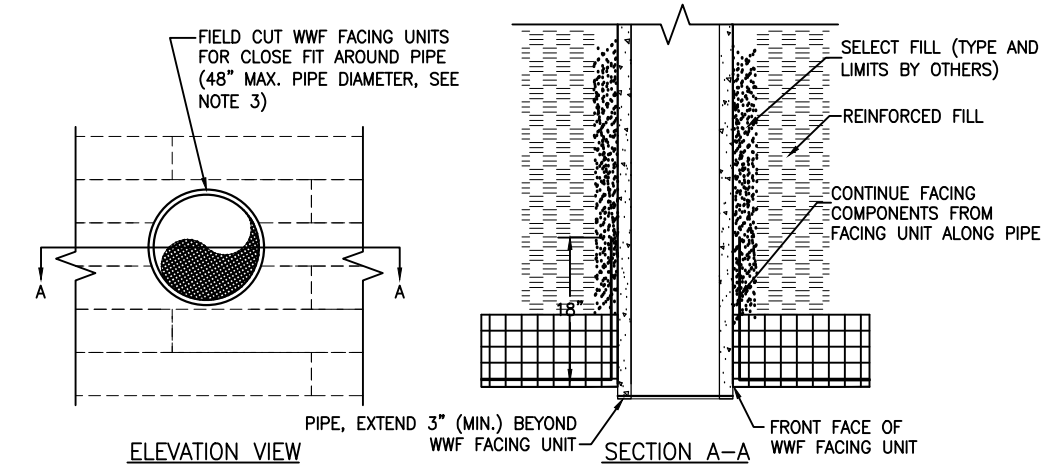
NO COMMENTS

COMMENTS AS NOTED

BY LAB

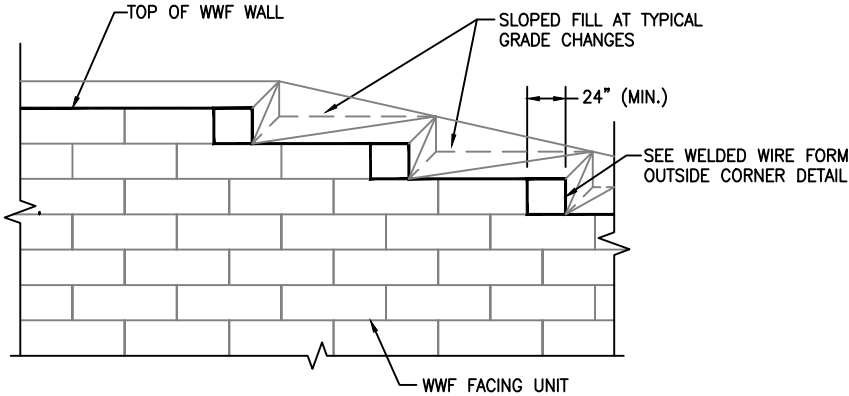
DATE: 12/20/2012

SPEC. SECTION	FILE NO.	SUBMITTAL NO.
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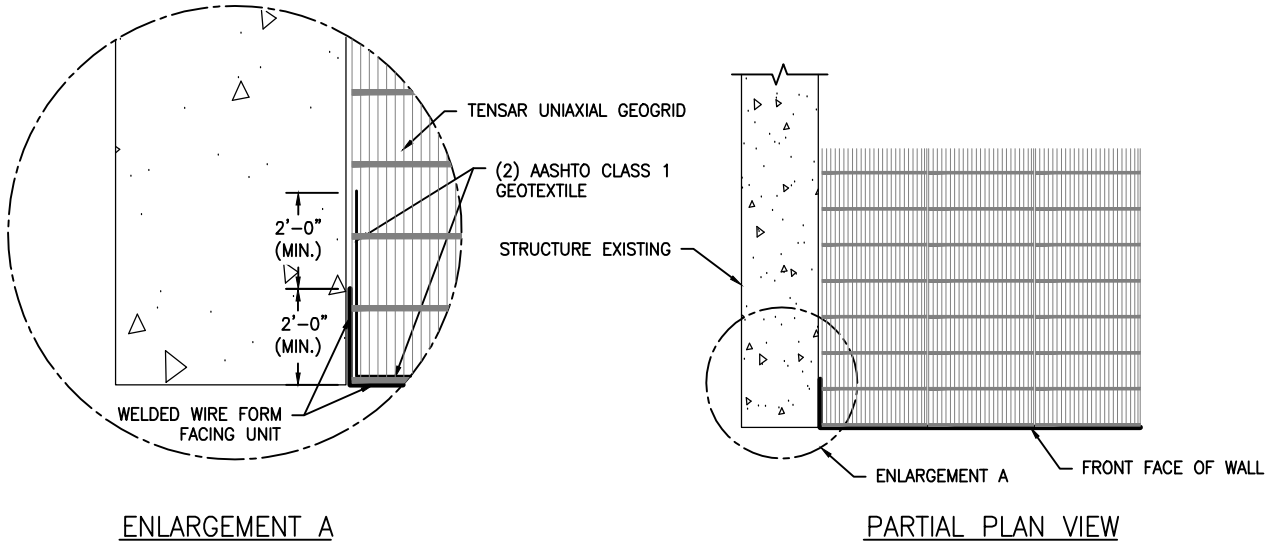
- NOTES:
- SEE WELDED WIRE FORM (WWF) FACING UNIT DETAIL FOR FACING MATERIALS AND DIMENSIONS.
 - SEE ELEVATION VIEW FOR GEOGRID TYPE, LOCATION, AND DIMENSIONS.
 - TERMINATE GEOGRIDS NO MORE THAN 3" FROM PIPE.
 - CONTRACTOR RESPONSIBLE TO INSTALL PIPE WITH LEAK-PROOF JOINTS.

PIPE PENETRATION DETAIL AT WWF WALL FACE
NOT TO SCALE



- NOTES:
- SEE WELDED WIRE FORM (WWF) FACING DETAIL AND WWF OUTSIDE CORNER DETAIL FOR FACING MATERIALS AND DIMENSIONS.
 - INSTALL ADJACENT WWF FACING UNITS TO PROVIDE 4" OVERLAP OF HORIZONTAL WIRES.

ALTERNATE TOP OF WWF WALL FINISHING DETAIL
NOT TO SCALE



- NOTES:
- EXTEND GEOGRID AND TRIM AT FACE OF STRUCTURE.
 - BEND AND EXTEND WELDED WIRE FACING UNIT BACK 2.0' (MIN.) ALONG FACE OF STRUCTURE. EXTEND GEOTEXTILE AND BIAxIAL GEOGRID 2.0' (MIN.) ALONG FACE OF STRUCTURE PAST THE WELDED WIRE FACE EXTENSION.
 - SUPPORT STRUTS AND BIAxIAL GEOGRID NOT SHOWN FOR CLARITY.

WELDED WIRE FORM WALL TRANSITION AT STRUCTURE
NOT TO SCALE



STEPHEN ANDREW LUPTAK
P.E. NO. 090625

N1250811.DWG

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TENSAR TEMPORARY WALL

REVISIONS					
NO.	DATE	DESCRIPTION	BY	NO.	DATE
0	10/8/12	ISSUED FOR REVIEW	RJ	4	11/26/12
1	10/26/12	DETAIL ADDED	RJ	5	12/5/12
2	11/13/12	REVISED PER COMMENTS	RJ		
3	11/15/12	REVISED PER COMMENTS	RJ		

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PROJECT NAME

MANHATTAN WEST PLATFORM
TEMPORARY WALL

PROJECT LOCATION

NEW YORK, NEW YORK

STATE OR FEDERAL AID PROJECT No.

DRAWING TITLE

TYPICAL DETAILS

	NAME	DATE	PROJECT NUMBER
DRAWN BY	RR	10/8/12	N12508
DESIGNED BY	RJ	10/8/12	SCALE
CHECKED BY	SW	10/8/12	AS SHOWN
			SHEET NUMBER
			12 OF 12