

185 DUNLOP STREET
 SHORING KEY PLAN
 SCALE NTS
 TOP OF SHORING SHOWN THUS 
 BASE OF CUT SHOWN THUS 

GENERAL NOTES

- A. DESIGN**
- LOADS EXERTED ON SHORING SYSTEM:
 WHERE
 $K_0 = 0.3$
 $\gamma = 21 \text{ kN/m}^3$ - SOIL DENSITY
 $q = 12.5 \text{ kN/m}^2$ - STANDARD SURCHARGE LOAD (SURCHARGE LOAD FROM ADJACENT BUILDING TO BE CALCULATED)
 OB = OVERBURDEN
 H = HEIGHT OF CUT
 D = TOE DEPTH
 - FOR SOIL INFORMATION REFER TO GEOTECHNICAL INVESTIGATION PRODUCED BY WSP CANADA INC., PROJECT # 181-05503-00, DATED JULY 31, 2019.
 - ALL SOIL PARAMETERS SHOWN ABOVE ARE TO BE CONFIRMED IN WRITING BY THE GEOTECHNICAL CONSULTANT PRIOR TO THE INSTALLATION OF SHORING.
 - DESIGN IS IN ACCORDANCE WITH ONTARIO BUILDING CODE LATEST EDITION.
 - LOCATIONS AND DEPTHS OF ALL EXISTING SERVICES MUST BE CONFIRMED PRIOR TO THE START OF SHORING OPERATIONS.
- B. MATERIALS**
- SAMPLES AND TECHNICAL SPECIFICATIONS FOR PROPOSED ALTERNATIVE MATERIALS MUST BE SUBMITTED FOR TECHNICAL REVIEW, SUBSTITUTION ARE SUBJECT TO REVIEW BY THE GENERAL CONTRACTOR FOR ACTUAL IMPLICATIONS. CONCRETE TO CONFORM TO CSA CAN3-A23.1-M77, REINFORCEMENT.
 - WELDED WIRE MESH CSA-G 30.5M 1983 GRADE 400W, MESH TO BE CONTINUOUS ACROSS ALL SHOTCRETE JOINTS, UNLESS NOTED OTHERWISE. MINIMUM MESH LAP 2 SQUARES, ONE LAYER OF 100 X 100 X 14/14 WMM
 - NAIL TO BE 100mm MIN. OUTSIDE CONCRETE DIAMETER, ROD TO BE DSI #7 HOT ROLLED THREAD BAR, $F_y = 517 \text{ MPa}$ TO CSA G30.18M92 OR DSI -M41 R32N, $F_y = 480 \text{ MPa}$. NAIL GROUT TO BE 25 MPa MINIMUM.
 - REINFORCING BAR (IF EMPLOYED) CSA-G 30.12M, GRADE 400W
 - STEEL PLATES TO BE NEW OR SOUND USED MATERIAL CONFORMING TO CSA-G40.21, GRADE 350W.
 - WEEP HOLES SHALL BE SUITABLY EQUIPPED WITH PVC PIPE AND FILTER CLOTH, "GEOSOCK" OR DRAINAGE MEMBRANE, AS REQUIRED. FILTER CLOTH TO BE NON-WOVEN NEEDLE PUNCH NILEX C14, OR APPROVED EQUIVALENT.
 - SHOTCRETE SHALL CONFORM TO THE MATERIAL SPECIFICATION OF ACI 506.2-95, "SPECIFICATION FOR MATERIALS, PROPORTIONING AND APPLICATION OF SHOTCRETE", PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE. MIX DESIGN TO CONFORM TO THAT OF CONCRETE WITH MINIMUM COMPRESSIVE STRENGTH OF 4.4 KSI (30MPa) AT 28 DAYS, 2.0 KSI (14MPa) AT 3 DAYS AND 1.0 KSI (7MPa) AT 24 HOURS IN LABORATORY CONDITION. MINIMUM SHOTCRETE REINFORCING COVER AT THE SOIL FACE SHALL BE ACHIEVED.
- C. PROCEDURE**
 (SHOT-CRETE WALL + SOIL NAILS)
- EXCAVATE FOR FIRST LIFT PROVIDING BERM AT 1:1 SLOPE, MAXIMUM 1500 VERTICAL LIFT.
 - DRILL SOIL NAIL THROUGH BERM.
 - EXCAVATE TO PROFILE INDICATED ON TYPICAL SECTION AND INSTALL WIRE MESH AND DRAINAGE PIPES. SHOTCRETE EXPOSED SOIL FACE IMMEDIATELY TO MINIMUM THICKNESS SHOWN.
 - INSTALL BEARING PLATES AND WASHER AS SHOWN AGAINST THE WET CONCRETE FACE, HAND TIGHTEN NUT.
 - EXCAVATE FOR SECOND LIFT PROVIDING BERM AT 1:1 SLOPE, MAXIMUM 1500 VERTICAL LIFT UNLESS NOTED. AND PROTECT SLOPES WHERE REQUIRED.
 - REPEAT STEP 2 TO 4.
 - COMPLETE REMAINING LIFTS USING SAME PROCEDURE.
 - ALLOW FOR NAIL PROOF TESTS AT 100 % OF SERVICE LOAD BY ENGINEER AT ALL LOCATIONS. TEST PROCEDURE IS APPROXIMATELY 10 MINUTES IN LENGTH. PROVIDE 1 TEST AT EACH ROW, STRESS TEST NAIL TO 150% OF THE LOAD VALUE, DEBOND FREE ZONE AT THESE TEST NAILS.

REQUIREMENTS (SHOT-CRETE WALL)

- A. APPLYING SHOTCRETE**
 A) SHOTCRETING SHALL CONFORM TO ALL REQUIREMENTS OF "SPECIFICATION FOR MATERIALS, PROPORTIONING AND APPLICATION OF SHOTCRETE (ACI 506.2-95)" AND "COLD WEATHER CONCRETING (ACI 306)" PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE, EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THE PROJECT.
 B) SHOTCRETE TO BE APPLIED IN A HORIZONTAL OR DOWNWARD MOTION DIRECTION IN SUCH A WAY THAT VOIDS BEHIND THE REINFORCING STEEL DO NOT OCCUR.
 APPLY SHOTCRETE FACE WITH A TOLERANCE OF 0 TO 50mm. TARGET WALL FACE TO BE SET BACK 25mm FROM BUILDING WALL.
- B. INSTALLING REINFORCING**
 REINFORCING MESH TO BE CONTINUOUS ACROSS SHOTCRETE PANEL
- C. SOIL DRAINAGE**
 WEEP HOLES ARE INTENDED TO PROVIDE DRAINAGE FOR RELIEF OF HYDROSTATIC PRESSURE BEHIND THE SHOTCRETE FACE. MINIMUM 50mm DIA. HOLES AT 1500mm VERT. AND HOR. (STAGGERED) (TYPICAL) OR AS DIRECTED BY THE ENGINEER. WEEP HOLES TO BE INSTALLED AT THE TIME OF SHOTCRETING IN SUCH A WAY THAT WATER FLOWS FREELY FROM BEHIND THE SHOTCRETE FACE BUT SOIL IS NOT TRANSPORTED, OR DRILLED IN THROUGH HARDENED SHOTCRETE.

E. GENERAL CONTRACTOR
 (SHOT-CRETE WALL)

- PROVIDE LEVEL WORKING SURFACE SUITABLE FOR SOIL NAILING EQUIPMENT.
- LOCATE AND IDENTIFY ALL UNDERGROUND OR OVERHEAD SERVICES OR OTHER OBSTRUCTIONS WITHIN THE INFLUENCE OF THE NAILING OPERATION, PROTECT OR RELOCATE AS NECESSARY.
- LAY OUT NAIL PATTERN AND CHECK ALL DIMENSIONS.
- PROVIDE NECESSARY BENCHES SUITABLE FOR SOIL NAILING EQUIPMENT ACCESS AND OPERATION.
- PROVIDE RAINWATER DIVERSIONS TO AVOID WATER BUILD UP BEHIND SHOTCRETE WALL
- MONITOR MOVEMENT OF SHOTCRETE WALL THROUGHOUT CONSTRUCTION. INSTALL TELLTALES AT EVERY SECOND NAIL HORIZONTALLY. IN EACH ROW, MONITOR WEEKLY AFTER INSTALLATION OF TWO ROWS OF BAYS. MONITOR BI-WEEKLY AFTER THE END OF EXCAVATION SEND RESULTS OF MONITORING PROMPTLY TO TARRA ENGINEERING INC.
- QUALITY VERIFICATION ENGINEER TO BE PRESENT FOR ALL SHORING & EXCAVATION WORK.

NORTH WALL NAIL SCHEDULE						
DATA MARK	ELEVATION	LOAD (kN)	DIAMETER (mm)	ANGLE (°)	FREE ZONE (mm)	ANCHOR ZONE (mm) # OF RODS
A1-A68	223.50	70	100	20	---	3600 68
B1-B68	222.20	50	100	20	---	3600 67
C1-C68	221.20	50	100	20	---	3600 68

EAST WALL NAIL SCHEDULE						
DATA MARK	ELEVATION	LOAD (kN)	DIAMETER (mm)	ANGLE (°)	FREE ZONE (mm)	ANCHOR ZONE (mm) # OF RODS
A1-A4	222.15	50	100	45	---	2400 16
B1-B7	221.35	70	100	30	---	3000 16

WEST WALL NAIL SCHEDULE						
DATA MARK	ELEVATION	LOAD (kN)	DIAMETER (mm)	ANGLE (°)	FREE ZONE (mm)	ANCHOR ZONE (mm) # OF RODS
A1-A6	223.00	70	100	20	---	3600 42
B1-B10	221.20	70	100	20	---	3600 41

F. REFERENCE DRAWINGS

STRUCTURAL DRAWINGS						
COMPANY NAME	DWG. #	DWG. TITLE	REVISION	ISSUED FOR	DATE	DATE RECEIVED
1. SHOTCRETE.	S2.0.3	PILE CAP ENLARGE PLAN	01	SHORING COORDINATION	OCT-24-2019	
	S2.1.1	PARTIAL FOUNDATION & PARKADE LEVEL P1 FLOOR SLAB PLAN	---	---	---	OCT-24-2019
3. M&P STRUCTURAL ENGINEERING LTD.	S2.1.2	PARTIAL FOUNDATION & PARKADE LEVEL P2 FLOOR SLAB PLAN	---	---	---	OCT-24-2019
	S6.1	FOUNDATION SECTIONS	---	---	---	OCT-24-2019
4. PINESTONE ENGINEERING LIMITED	S7.1	FOUNDATION SECTIONS	---	---	---	OCT-24-2019
	S7.3	FOUNDATION SECTIONS	---	---	---	OCT-24-2019
	S7.3	FOUNDATION SECTIONS	---	---	---	OCT-24-2019
	S7.4	FOUNDATION SECTIONS	---	---	---	OCT-24-2019

ARCHITECTURAL DRAWINGS						
COMPANY NAME	DWG. #	DWG. TITLE	REVISION	ISSUED FOR	DATE	DATE RECEIVED
1. ISM ARCHITECTS INC.	A100	SITE PLAN	08	---	JUN-14-2019	AUG-07-2019
	A101	PILE CAP PLAN	11	---	JUN-14-2019	AUG-07-2019
	A200	U/G PARKING PLAN	10	---	APR-10-2019	AUG-07-2019
	A201	FIRST FLOOR PLAN	10	---	APR-10-2019	AUG-07-2019
5. PINESTONE ENGINEERING LIMITED	A400	BUILDING SECTIONS	11	---	JUL-19-2019	AUG-07-2019
	A401	BUILDING SECTIONS	11	---	JUL-19-2019	AUG-07-2019
	A402	1:25 SECTIONS	11	---	JUL-19-2019	AUG-07-2019
	A403	1:25 SECTIONS	11	---	JUL-19-2019	AUG-07-2019
9. SERVICE DRAWINGS	EX-1	EXISTING CONDITIONS & REMOVALS PLAN	01	REVISED PER CITY COMMENTS	19-05-30	SEP-04-2019
	ESC-1	EROSION & SEDIMENT CONTROL PLAN	01	REVISED PER CITY COMMENTS	19-05-30	SEP-04-2019
3. PINESTONE ENGINEERING LIMITED	SERV-1	SITE SERVING PLAN	01	REVISED PER CITY COMMENTS	19-05-30	SEP-04-2019
	GP-1	SITE GRADING PLAN	01	REVISED PER CITY COMMENTS	19-05-30	SEP-04-2019
6. PINESTONE ENGINEERING LIMITED	PM-1	PAVEMENT MARKING & SIGNAGE PLAN	01	REVISED PER CITY COMMENTS	19-05-30	SEP-04-2019
	DET-1	DETAILS PLAN	01	REVISED PER CITY COMMENTS	19-05-30	SEP-04-2019
7. PINESTONE ENGINEERING LIMITED	DET-2	STANDARD NOTES & DETAILS PLAN	01	REVISED PER CITY COMMENTS	19-05-30	SEP-04-2019

- NOTES:**
- FOR BASE OF EXCAVATION REFER TO THE LATEST STRUCTURAL DRAWINGS.
 - REFER TO EXISTING GRADES & SHORING SECTIONS FOR TOP OF SHOTCRETE.
 - ANCHOR SPACING:
 HORIZONTAL: REFER TO SECTIONS
 VERTICAL: REFER TO SECTIONS
 - SEE SECTION FOR SOIL NAIL LENGTHS AND SIZES.

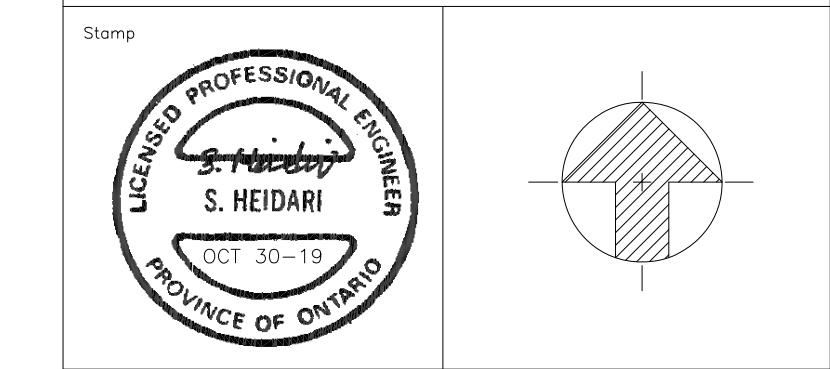
No.	DESCRIPTION	Date
1	ISSUED FOR PERMIT	OCT-30-2019
2	ISSUED FOR COORDINATION	OCT-16-2019
3	REVISED FOR COORDINATION	SEP-12-2019
4	REVISED FOR COORDINATION	SEP-11-2019
5	REVISED FOR COORDINATION	MAR-13-2019
6	ISSUED FOR COORDINATION	DEC-07-2018
7	ISSUED FOR COORDINATION	SEP-21-2018

REVISION

NOTES
 THIS DRAWING IS THE SOLE PROPERTY OF TARRA ENGINEERING AND STRUCTURAL CONSULTANTS INC. AND MAY NOT BE REPRODUCED IN ANY WAY SHAPE OR FORM WITHOUT THE WRITTEN PERMISSION OF TARRA ENGINEERING AND STRUCTURAL CONSULTANTS INC.

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS IT IS SPECIFICALLY STATED IN THE REVISIONS COLUMN THAT IT HAS BEEN ISSUED FOR CONSTRUCTION.

DO NOT SCALE THIS DRAWING.



Client: **GILLAM GROUP**

TORONTO ONTARIO

Consultant: **TARRA ENGINEERING & STRUCTURAL CONSULTANTS INC.**
 2800-14th Ave., Suite 300
 Markham, ON L3R 0E4
 Tel: (905) 470-6952
 Fax: (905) 470-5126

Project: **185 DUNLOP STREET**

Barrie ONTARIO

Drawing Title: **SHORING PLAN, GENERAL NOTES, SCHEDULES**

Drawn: M.E. Scale: AS NOTED
 Checked: S.H./G.G. Date: SEP 2018
 Project No.: 18098 Drawing Number: SHO