PROPOSED RETAINING WALLS

CALLAGHAN WASTE TRANSFER STATION, CALLAGHAN ROAD WHISTLER, BC



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ISSUED FOR TENDER

2023/08/29

MORRISON HERSHFIELD

JOB NO.	DWG NO.	REV.	DATE
2015	2015-00	С	20

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2 OF 8

1:100



REDI-ROCK FREESTANDING -- APRON SLAB BLOCKS (BLUE) LINE OF RAMP -555 CAP BLOCK -- 0.25 m Ê 554 FINISHED -(YELLOW) GROUND NOILEVAL (SE WALL) _ _ _ _ 552 APPROX. 20 10 **REDI-ROCK RETAINING -**EXISTING - FINISHED GROUND CAST-IN-PLACE GRADE (NW WALL) BLOCKS (GREY) (BY OTHERS)

> **ELEVATION - 80 ft SCALE** SCALE: 1:100



ELEVATION - 80 ft SCALE (CONTINUED)

SCALE: 1:100

NOT FOR CONSTRUCTION





TYPICAL SECTION AT ASPHALT RAMP - 40 ft SCALE

SCALE: 1:30

NOT FOR CONSTRUCTION





TYPICAL SECTION AT ASPHALT RAMP - 80 ft SCALE

SCALE: 1:30

NOT FOR CONSTRUCTION







REDI-ROCK SPECIFICATION

PART 1 GENERAL

- 1.1 SCOPE OF WORK
 - 1.1.1 THE CONSIDERED SCOPE OF WORK INCLUDES FURNISHING ALL SUPERVISION, LABOUR, MATERIAL, TOOLS AND EQUIPMENT, TEMPORARY FACILITIES, PERMITS AND RELATED SERVICES NECESSARY TO INSTALL THE REDI-ROCK RETAINING WALL. THE ITEMS OF WORK SHALL INCLUDE THE FOLLOWING
 - (1) MOBILIZATION
 - (2) PROVISION OF ALL TEMPORARY ACCESS TO THE WORK AREAS.
 - (3) LOCATING AND EXPOSING EXISTING UNDERGROUND UTILITIES AND STRUCTURES THAT MAY BE AFFECTED BY THE CONSTRUCTION.
 - (4) FURNISHING EQUIPMENT AND ANY OTHER NECESSARY ITEMS TO ALLOW THE WORK TO BE COMPLETED.
 - (5) CONSTRUCTION OF THE REDI-ROCK REINFORCED BLOCK RETAINING WALL.
 - (6) ALL SURVEYS REQUIRED FOR LAYOUT OF THE RETAINING WALL. LOCATING EXISTING UTILITIES AND STRUCTURES.
 - (7) DEMOBILIZATION.
- 1.2 SITE CONDITIONS
 - 1.2.1 THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE AND SHALL BE AWARE OF ALL RESTRICTIONS (E.G. ACCESS, HEADROOM, WATER DEPTH, OVERHEAD AND UNDERGROUND UTILITIES OR SERVICES, ETC.).
 - 1.2.2 THE CONTRACTOR SHALL PROMPTLY, AND BEFORE THE CONDITIONS ARE DISTURBED, NOTIFY THE OWNER OR FRONTERA IN WRITING WITHIN SEVEN (7) CALENDAR DAYS OF NOTICING:
 - (1) SUBSURFACE OR LATENT PHYSICAL CONDITIONS AT THE SITE DIFFERING MATERIALLY FROM THOSE INDICATED IN THIS CONTRACT, OR
 - UNKNOWN PHYSICAL CONDITIONS AT THE SITE. OF AN UNUSUAL NATURE. (2)DIFFERING MATERIALLY FROM THOSE ORDINARILY ENCOUNTERED AND GENERALLY RECOGNIZED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THIS CONTRACT.
- 1.3 SUBMISSIONS BY THE CONTRACTOR
 - 1.3.1 AT LEAST 14 DAYS PRIOR TO CONSTRUCTION. THE GENERAL CONTRACTOR SHALL SUBMIT A MINIMUM OF TWO COPIES OF THE RETAINING WALL PRODUCT SUBMITTAL PACKAGE TO FRONTERA FOR REVIEW AND APPROVAL. THE SUBMITTAL PACKAGE SHALL INCLUDE TECHNICAL SPECIFICATIONS AND PRODUCT DATA FROM THE MANUFACTURER FOR THE FOLLOWING:
 - (1) PRECAST MODULAR BLOCK SYSTEM BROCHURE
 - (2) PRECAST MODULAR BLOCK CONCRETE TEST RESULTS INCLUDING:
 - (a) 28-DAY COMPRESSIVE STRENGTH
 - (b) AIR CONTENT
 - (c) SLUMP OR SLUMP FLOW (AS APPLICABLE)
 - (3) DRAINAGE PIPE
 - (4) GEOTEXTILE
 - 1.3.2 GEOSYNTHETIC SOIL REINFORCEMENT. THE CONTRACTOR SHALL PROVIDE CERTIFIED MANUFACTURER TEST REPORTS FOR THE GEOSYNTHETIC SOIL REINFORCEMENT MATERIAL IN THE MANUFACTURED ROLL WIDTH SPECIFIED. THE TEST REPORT SHALL LIST THE INDIVIDUAL ROLL NUMBERS FOR WHICH THE CERTIFIED MATERIAL PROPERTIES ARE VALID

PART 2 MATERIALS

2.1 REDI-ROCK 28" (710 MM) MODULAR RETAINING BLOCKS

2.1.1 ALL UNITS SHALL BE WET-CAST PRECAST MODULAR RETAINING WALL UNITS CONFORMING TO ASTM C1776.

- ALL UNITS FOR THE PROJECT SHALL BE OBTAINED FROM THE SAME MANUFACTURER. THE MANUFACTURER SHALL BE LICENSED AND AUTHORIZED TO PRODUCE THE RETAINING WALL UNITS BY THE PRECAST MODULAR BLOCK SYSTEM PATENT HOLDER/LICENSOR AND SHALL DOCUMENT COMPLIANCE WITH THE PUBLISHED QUALITY CONTROL STANDARDS OF THE PROPRIETARY PRECAST MODULAR BLOCK SYSTEM LICENSOR FOR THE PREVIOUS THREE (3) YEARS OR THE TOTAL TIME THE MANUFACTURER HAS BEEN LICENSED. WHICHEVER IS LESS.
- CONCRETE USED IN THE PRODUCTION OF THE PRECAST MODULAR BLOCK UNITS 2.1.3 SHALL BE FIRST-PURPOSE, FRESH CONCRETE, IT SHALL NOT CONSIST OF RETURNED, RECONSTITUTED, SURPLUS OR WASTE CONCRETE. IT SHALL BE AN ORIGINAL PRODUCTION MIX MEETING THE REQUIREMENTS OF ASTM C94 AND EXHIBIT THE PROPERTIES AS SHOWN IN THE FOLLOWING TABLES:

Freeze Thaw Exposure Class	Minimum 28-Day Compressive Strength	Maximum Water Cement Ratio	Nominal Maximum Aggregate S	n Size	Aggregate Class Designation	Air Content
Severe	4,000 psi (27.6 MPa)	0.4500	1 inch (25 m	ım)	3S	6.0% +/- 1.5%
Maximum	Maximum Water-Soluble Chloride Ion (CI-) Content in Concrete, Percent					0 1500
by Weight	of Cement					0.1500
Maximum Million	Maximum Chloride as CI- Concentration in Mixing Water, Parts Per Million			1000.0000		
Maximum	Maximum Percentage of Total Cementitious Materials By Weight (7,9) (Very Severe					
Exposure	xposure Class Only):					
Fly Ash	sh or Other Pozzolans Conforming to ASTM C618 25.0000					
Slag Co	Slag Conforming to ASTM C989 50.000			50.0000		
Silica F	Silica Fume Conforming to ASTM C1240 10.			10.0000		
Total of Fly Ash or Other Pozzolans, Slag, and Silica Fume					50.0000	
Total of	Fly Ash or Othe	er Pozzolans and	I Silica Fume			35.0000
Alkali-Age	gregate Reactiv	ity Mitigation p	er ACI 201			
Slump (Co	Slump (Conventional Concrete) per ASTM C143		5 inches +/- 1½ inches (125 mm +/- 40 mm)			
Slump Flo	Slump Flow (Self-Consolidating Concrete) per ASTM		18 inches – 32 inches (450 mm –			
IC1611				1	800 mr	n)

- 2.1.4 CONCRETE REINFORCING STEEL, WHEN REQUIRED FOR THE SPECIFIED BLOCK. SHALL CONFORM TO ASTM A615 AND HAVE A MINIMUM YIELD STRENGTH OF 60.000 PSI. WHEN REQUIRED BY THE OWNER TO BE GALVANIZED OR EPOXY-COATED REINFORCING STEEL SHALL CONFORM TO ASTM A767 OR ASTM A775, RESPECTIVELY, AND HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI.
- 2.1.5 AT LEAST 1 INCH OF CONCRETE COVER SHALL BE MAINTAINED OVER ALL REINFORCING STEEL BARS.
- EACH CONCRETE BLOCK SHALL BE CAST IN A SINGLE CONTINUOUS POUR 2.1.6 WITHOUT COLD JOINTS. WITH THE EXCEPTION OF HALF-BLOCK UNITS, CORNER UNITS AND OTHER SPECIAL APPLICATION UNITS, THE PRECAST MODULAR BLOCK UNITS SHALL CONFORM TO THE NOMINAL DIMENSIONS LISTED IN THE TABLE BELOW AND BE PRODUCED TO THE DIMENSIONAL TOLERANCES SHOWN.

Block Type	Dimensio n	Nominal Value	Tolerance
28" (710	Height	18" (457 mm)	+/- 3/16" (5 mm)
Block	Length	46-1/8" (1172 mm)	+/- 1/2" (13 mm)
	Width*	28" (710 mm)	+/- 1/2" (13 mm)
	Width*	28" (710 mm)	+/- 1/2" (13 mm)

2.1.7 WITH THE EXCEPTION OF HALF-BLOCK UNITS, CORNER UNITS AND OTHER SPECIAL APPLICATION UNITS, THE PRECAST MODULAR BLOCK UNITS SHALL HAVE TWO (2), CIRCULAR DOME SHEAR KNOBS THAT ARE 10 INCHES (254 MM), 7.5 INCHES (190 MM). OR 6.75 INCHES (171 MM) IN DIAMETER AND 4 INCHES (102 MM) OR 2 INCHES (51 MM) IN HEIGHT. THE SHEAR KNOBS SHALL FULLY INDEX INTO A CONTINUOUS SEMI-CYLINDRICAL SHEAR CHANNEL IN THE BOTTOM OF THE BLOCK COURSE ABOVE. THE PEAK INTERLOCK SHEAR BETWEEN ANY TWO (2) VERTICALLY STACKED PRECAST MODULAR BLOCK UNITS. WITH 10-INCH (254 MM) DIAMETER SHEAR KNOBS, MEASURED IN ACCORDANCE WITH ASTM D6916 SHALL EXCEED 6,500 LB/FT (95 KN/M) AT A MINIMUM NORMAL LOAD OF 500 LB/FT (7KN/M). AS WELL AS AN ULTIMATE PEAK INTERFACE SHEAR CAPACITY IN EXCESS OF 11,000 LB/FT (160 KN/M). THE PEAK INTERLOCK SHEAR BETWEEN ANY TWO (2) VERTICALLY STACKED PRECAST MODULAR BLOCK UNITS, WITH 7.5-INCH (190 MM) OR 6.75-INCH (171 MM) DIAMETER SHEAR KNOBS, MEASURED IN ACCORDANCE WITH ASTM D6916 SHALL EXCEED 1,850 LB/FT (27 KN/M) AT A MINIMUM NORMAL LOAD OF 500 LB/FT (7KN/M) AS WELL AS AN ULTIMATE PEAK INTERFACE SHEAR CAPACITY IN EXCESS OF 10,000 LB/FT (146 KN/M).TEST SPECIMEN BLOCKS TESTED UNDER ASTM D6916

SHALL BE ACTUAL, FULL-SCALE PRODUCTION BLOCKS OF KNOWN COMPRESSIVE STRENGTH. THE INTERFACE SHEAR CAPACITY REPORTED SHALL BE CORRECTED FOR A 4,000 PSI (27.6 MPA) CONCRETE COMPRESSIVE STRENGTH. REGARDLESS OF PRECAST MODULAR BLOCK CONFIGURATION, INTERFACE SHEAR TESTING SHALL BE COMPLETED WITHOUT THE INCLUSION OF UNIT CORE INFILL AGGREGATE

- 2.1.8 THE 28-INCH (710 MM) PRECAST MODULAR BLOCK UNITS MAY BE CAST WITH A GEOGRID-TO-BLOCK CONNECTION IS NOT ACCEPTABLE.
- 2.1.9 THE PRECAST MODULAR BLOCK UNITS SHALL BE MANUFACTURED WITH AN SHOWN ON SECTION DRAWINGS.
- 2.1.10 THE PRECAST MODULAR BLOCK UNITS SHALL BE FURNISHED WITH THE REQUIRED DRAWINGS
- ONCE IN ANY 15 SQUARE FEET (1.4 SQUARE METERS) OF WALL FACE.
- 2.1.12 THE BLOCK COLOR SHALL BE SELECTED BY THE OWNER FROM THE AVAILABLE MANUFACTURER.
- WORK REGARDLESS OF THE WIDTH OR LENGTH OF THE CRACK.

2.2 TENCATE MIRAGRID 5XT GEOGRID REINFORCEMENT

- STRENGTH SHOWN (41.2 KN/M LONG TERM DESIGN STRENGTH).
- 2.2.2 THE GEOGRID REINFORCEMENT SHALL BE WRAPPED THROUGH THE 28" (710 MM) PROVIDE A POSITIVE CONNECTION.
- OF THE WALL, SHOULD BE AS SHOWN ON THE FRONTERA DESIGN DRAWINGS.
- 2.2.4 ALTERNATIVE GEOGRID WILL REQUIRE REDESIGN OF THE WALL AND MAY NOT BE SUBSTITUTED WITHOUT WRITTEN AUTHORIZATION FROM FRONTERA
- 2.2.5 FRONTERA SHOULD BE ASKED TO REVIEW THE PLACEMENT OF GEOGRID REINFORCEMENT.
- 2.3 REINFORCED FILL
 - 2.3.1 REINFORCED FILL SHALL COMPRISE OF CLEAN SAND AND GRAVEL WITH A PARTICLES PASSING THE NO. 200 SIEVE BY WEIGHT
 - 2.3.2 THE CONTRACTOR MUST PROVIDE FRONTERA WITH MATERIAL SAMPLES FOR SIEVE THE MATERIAL IS TRUCKED TO SITE.
 - D1557) AT WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
 - 2.3.4 FRONTERA SHOULD BE ASKED TO REVIEW COMPACTION OF EACH LIFT.
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CONTINUOUS VERTICAL CORE SLOT THAT WILL PERMIT THE INSERTION OF A 12-INCH (305 MM) INCH WIDE STRIP OF GEOGRID REINFORCEMENT TO PASS COMPLETELY THROUGH THE BLOCK. WHEN INSTALLED IN THIS MANNER, THE GEOGRID REINFORCEMENT SHALL FORM A NON-NORMAL LOAD DEPENDENT, POSITIVE CONNECTION BETWEEN THE BLOCK UNIT AND THE REINFORCEMENT STRIP. THE USE OF STEEL FOR THE PURPOSES OF CREATING THE

INTEGRALLY CAST SHEAR KNOBS THAT ESTABLISHES A STANDARD HORIZONTAL SET-BACK FOR SUBSEQUENT BLOCK COURSES. THE PRECAST MODULAR BLOCK SYSTEM SHALL BE AVAILABLE IN THE HORIZONTAL SET-BACK FACING BATTER AS

SHEAR KNOBS THAT PROVIDE THE FACING BATTER REQUIRED IN THE FRONTERA

2.1.11 THE PRECAST MODULAR BLOCK UNIT FACE TEXTURE SHALL BE SELECTED BY THE OWNER FROM THE AVAILABLE RANGE OF TEXTURES AVAILABLE FROM THE PRECAST MODULAR BLOCK MANUFACTURER. EACH TEXTURED BLOCK FACING UNIT SHALL BE A MINIMUM OF 5.76 SQUARE FEET (0.54 SQUARE METERS) WITH A UNIQUE TEXTURE PATTERN THAT REPEATS WITH A MAXIMUM FREQUENCY OF

RANGE OF COLORS AVAILABLE FROM THE PRECAST MODULAR BLOCK

2.1.13 ALL PRECAST MODULAR BLOCK UNITS SHALL BE SOUND AND FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER INSTALLATION OF THE UNIT. IMPAIR THE STRENGTH OR PERFORMANCE OF THE CONSTRUCTED WALL PMB UNITS TO BE USED IN EXPOSED WALL CONSTRUCTION SHALL NOT EXHIBIT CHIPS OR CRACKS IN THE EXPOSED FACE OR FACES OF THE UNIT THAT ARE NOT OTHERWISE PERMITTED. CHIPS SMALLER THAN 1.5" (38 MM) IN ITS LARGEST DIMENSION AND CRACKS NOT WIDER THAN 0.012" (0.3 MM) AND NOT LONGER THAN 25% OF THE NOMINAL HEIGHT OF THE PMB UNIT SHALL BE PERMITTED. PMB UNITS WITH BUG HOLES IN THE EXPOSED ARCHITECTURAL FACE SMALLER THAN 0.75" (19 MM) IN ITS LARGEST DIMENSION SHALL BE PERMITTED. BUG HOLES, WATER MARKS, AND COLOR VARIATION ON NON-ARCHITECTURAL FACES ARE ACCEPTABLE. PMB UNITS THAT EXHIBIT CRACKS THAT ARE CONTINUOUS THROUGH ANY SOLID ELEMENT OF THE PMB UNIT SHALL NOT BE INCORPORATED IN THE

2.2.1 THE RETAINING WALLS HAVE BEEN DESIGNED USING TENCATE MIRAGRID 5XT GEOGRID THAT IS FACTORY CUT AND CERTIFIED FOR THE 12" (305 MM) WIDTH AND

BLOCK IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND

2.2.3 THE MINIMUM LENGTH OF GEOGRID. WHICH IS TO BE MEASURED FROM THE FACE

MAXIMUM DIAMETER OF 75 MM AND CONTAINING LESS THAN 5% FINES. DEFINED AS

ANALYSIS OF PROPOSED REINFORCED FILL FOR PRIOR APPROVAL AND BEFORE

2.3.3 REINFORCED FILL SHALL BE PLACED AND COMPACTED IN LOOSE LIFTS NOT EXCEEDING 300 MM USING APPROPRIATE EQUIPMENT AND TO ACHIEVE A MINIMUM RELATIVE COMPACTION OF 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM

2.3.5 THE REINFORCED BACKFILL MATERIAL SHALL BE FREE OF SOD, PEAT, ROOTS OR OTHER ORGANIC OR DELETERIOUS MATTER INCLUDING, BUT NOT LIMITED TO, ICE, SNOW OR FROZEN SOILS MATERIALS PASSING THE NO 40 (0.42 MM) SIEVE SHALL HAVE A LIQUID LIMIT LESS THAN 25 AND PLASTICITY INDEX LESS THAN 6 PER ASTM D4318. ORGANIC CONTENT IN THE BACKFILL MATERIAL SHALL BE LESS THAN 1% PER AASHTO T-267 AND THE PH OF THE BACKFILL MATERIAL SHALL BE BETWEEN 5



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- 2.3.6 SOUNDNESS. THE REINFORCED BACKFILL MATERIAL SHALL EXHIBIT A MAGNESIUM SULFATE SOUNDNESS LOSS OF LESS THAN 30% AFTER FOUR (4) CYCLES, OR SODIUM SULFATE SOUNDNESS LOSS OF LESS THAN 15% AFTER FIVE (5) CYCLES AS MEASURED IN ACCORDANCE WITH AASHTO T-104.
- 2.3.7 REINFORCED BACKFILL SHALL NOT BE COMPRISED OF CRUSHED OR RECYCLED CONCRETE, RECYCLED ASPHALT, BOTTOM ASH, SHALE OR ANY OTHER MATERIAL THAT MAY DEGRADE, CREEP OR EXPERIENCE A LOSS IN SHEAR STRENGTH OR A CHANGE IN PH OVER TIME.
- 2.4 GEOTEXTILE
 - 2.4.1 NONWOVEN GEOTEXTILE FABRIC SHALL BE PLACED AS INDICATED ON THE RETAINING WALL CONSTRUCTION SHOP DRAWINGS. ADDITIONALLY, THE NONWOVEN GEOTEXTILE FABRIC SHALL BE PLACED IN THE V-SHAPED JOINT BETWEEN ADJACENT BLOCK UNITS ON THE SAME COURSE. THE NONWOVEN GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS CLASS 3 CONSTRUCTION SURVIVABILITY IN ACCORDANCE WITH AASHTO M 288.
 - 2.4.2 PREAPPROVED NONWOVEN GEOTEXTILE PRODUCTS: MIRAFI 140N, PROPEX GEOTEX 451, SKAPS GT-142, THRACE-LINQ 140EX, CARTHAGE MILLS FX-40HS, STRATATEX ST 142
- 2.5 DRAINAGE AGGREGATE
 - 2.5.1 DRAINAGE AGGREGATE SHALL COMPRISE OF 19 MM CLEAR CRUSHED GRAVEL AND BE FREE OF FINES, DEFINED AS PASSING THE NO. 200 SIEVE BY WEIGHT.
 - 2.5.2 DRAINAGE AGGREGATE SHALL BE PLACED AND COMPACTED IN LOOSE LIFTS NOT EXCEEDING 300 MM USING APPROPRIATE EQUIPMENT AND TO ACHIEVE A MINIMUM RELATIVE COMPACTION OF 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) AT WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
 - 2.5.3 FRONTERA SHOULD BE ASKED TO REVIEW COMPACTION OF EACH LIFT.
- 2.6 DRAINAGE
 - 2.6.1 DRAINAGE COLLECTION PIPE SHALL BE A 4" (100 MM) DIAMETER, 3-HOLE PERFORATED, HDPE PIPE WITH A MINIMUM PIPE STIFFNESS OF 22 PSI (152 KPA) PER ASTM D2412.
 - 2.6.2 THE DRAINAGE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM D1248 END OF SPECIFICATION FOR HDPE PIPE AND FITTINGS.

PART 3 EXECUTION

- 3.1 LAYOUT OF THE RETAINING WALL SHOULD BE BASED ON THE LANDSCAPE AND/OR CIVIL DRAWINGS.
- 3.2 THE ALIGNMENT OF THE TOP BLOCK OF THE RETAINING WALL MUST BE AS SHOWN ON THE LANDSCAPE AND/OR CIVIL DRAWINGS.
- 3.3 BASE BLOCK MUST BE PLACED TIGHT TO THE CONCRETE CAPPING BEAM.
- 3.4 PLACEMENT OF GEOGRID REINFORCEMENT, CHIMNEY DRAINAGE, GEOTEXTILE SEPARATION FABRIC AND COMPACTED REINFORCED BACKFILL SHALL BE COMPLETED AT EACH FACING BLOCK PRIOR TO PROCEEDING TO THE NEXT LIFT.
- 3.5 REINFORCED BACKFILL AND BULK BACKFILL SHALL BE PLACED AND COMPACTED BEHIND THE FACING BLOCKS TO THE EXTENT SHOWN ON THE DRAWINGS. IT IS THE CONTRACTORS RESPONSIBILITY TO SIZE THE CORRECT COMPACTION EQUIPMENT TO ACHIEVE THE SPECIFIED LEVELS OF RELATIVE COMPACTION WITHOUT DAMAGING THE RETAINING WALL.
- 3.6 GEOGRID REINFORCEMENT SHALL BE INSTALLED AS PER THE DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURERS (REDI-ROCK) SPECIFICATION. THE LENGTH, STRENGTH AND SPACING OF THE REINFORCEMENT SHALL BE AS SHOWN ON THE DRAWINGS.
- 3.7 GEOGRID REINFORCEMENT SHALL BE PLACED HORIZONTALLY IN THE DIRECTION PERPENDICULAR TO THE FACING BLOCKS, PULLED TAUGHT AND FREE OF WRINKLES PRIOR TO PLACEMENT OF REINFORCED FILL.
- 3.8 SPLICED CONNECTIONS BETWEEN PIECES OF GEOGRID ARE NOT ALLOWED.
- 3.9 REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED IN SUCH A MANNER THAT MINIMIZES THE DEVELOPMENT OF SLACK IN THE GEOGRID REINFORCEMENT.
- 3.10 ONLY LIGHT-WEIGHT HAND OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN 0.5 M OF THE FRONT FACE OF THE FACING BLOCKS.
- 3.11 TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY UPON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 150 MM IS REQUIRED TO BE PLACED ABOVE THE GEOGRID PRIOR TO OPERATING ANY TRACKED EQUIPMENT WITHIN THE REINFORCED FILL ZONE. TRACKED EQUIPMENT SHALL NOT TURN WHILE IN THE REINFORCED FILL ZONE TO PREVENT THE TRACKS FROM DAMAGING THE GEOGRID.
- 3.12 RUBBER TIRED EQUIPMENT MAY PASS OVER THE GEOGRID REINFORCEMENT AT SPEEDS LESS THAN 10 KM/HR. SUDDEN BRAKING AND SHARP TURNS SHOULD BE AVOIDED.

- 3.13 CONSTRUCTION TOLERANCE. ALLOWABLE CONSTRUCTION TOLERANCE OF THE RETAINING WALL SHALL BE AS FOLLOWS:
 - (1) DEVIATION FROM THE DESIGN BATTER AND HORIZONTAL ALIGNMENT, WHEN MEASURED ALONG A 10' (3 M) STRAIGHT WALL SECTION, SHALL NOT EXCEED 3/4" (19 MM).
 - (2) DEVIATION FROM THE OVERALL DESIGN BATTER SHALL NOT EXCEED 1/2" (13 MM) PER 10' (3 M) OF WALL HEIGHT.
 - (3) THE MAXIMUM ALLOWABLE OFFSET (HORIZONTAL BULGE) OF THE FACE IN ANY PRECAST MODULAR BLOCK JOINT SHALL BE 1/2" (13 MM).
 - (4) THE BASE OF THE PRECAST MODULAR BLOCK WALL EXCAVATION SHALL BE WITHIN 2" (50 MM) OF THE STAKED ELEVATIONS, UNLESS OTHERWISE APPROVED BY THE INSPECTION ENGINEER.
 - (5) DIFFERENTIAL VERTICAL SETTLEMENT OF THE FACE SHALL NOT EXCEED 1' (300 MM) ALONG ANY 200' (61 M) OF WALL LENGTH.
 - (6) THE MAXIMUM ALLOWABLE VERTICAL DISPLACEMENT OF THE FACE IN ANY PRECAST MODULAR BLOCK JOINT SHALL BE 1/2" (13 MM).
 - (7) THE WALL FACE SHALL BE PLACED WITHIN 2" (50 MM) OF THE HORIZONTAL LOCATION STAKED

PART 4 REVIEW

4.1 THE CONTRACTOR SHALL NOTIFY FRONTERA A MINIMUM OF 48 HOURS IN ADVANCE OF THE FOLLOWING CONSTRUCTION MILESTONES:

A.PLACEMENT OF INITIAL RETAINING WALL BASE BLOCKS.

B. PLACEMENT OF EACH COURSE OF GEOGRID REINFORCEMENT.

C.PROJECT COMPLETION.

