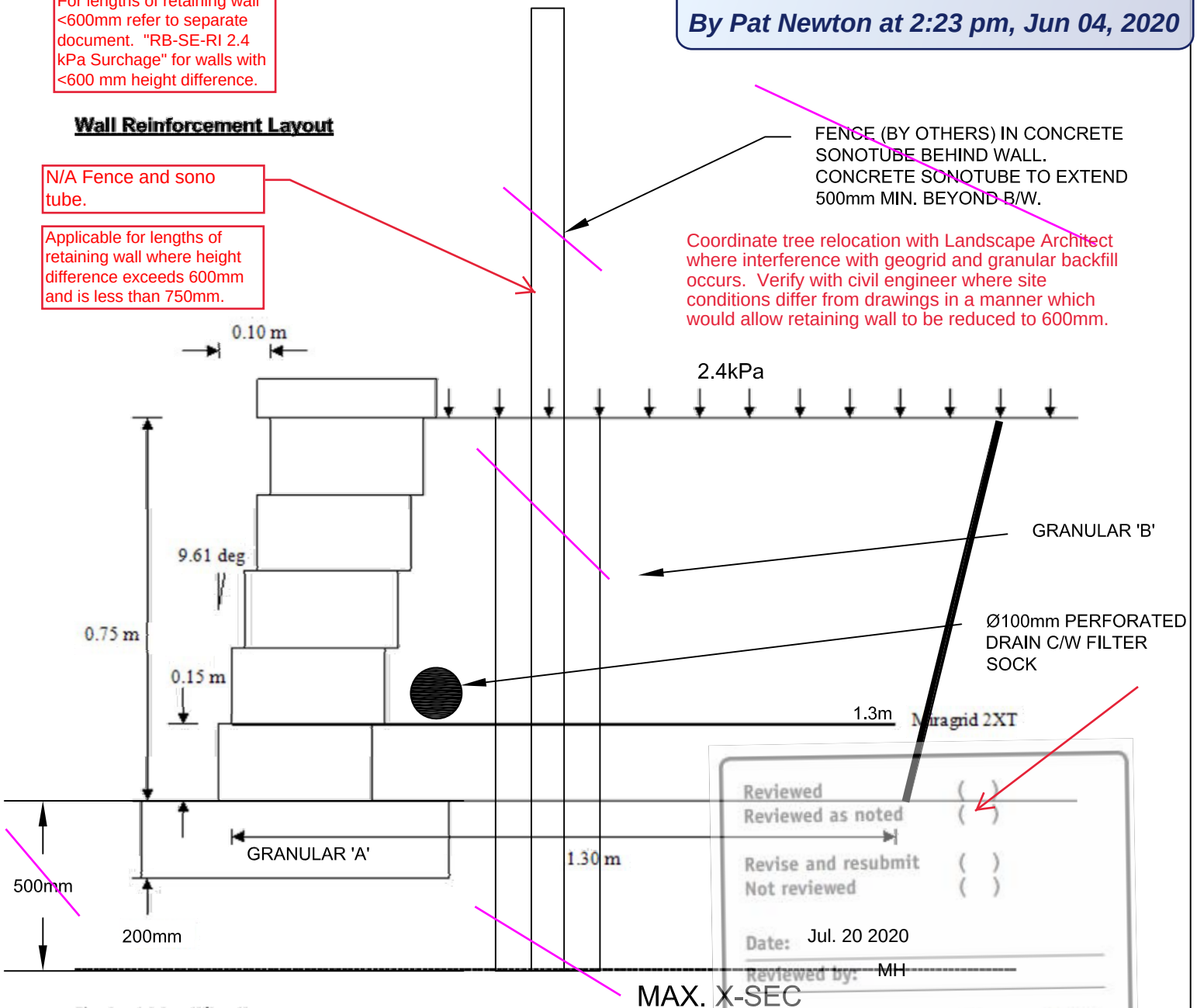
REVIEWED
By Pat Newton at 2:23 pm, Jun 04, 2020

For lengths of retaining wall <600mm refer to separate document. "RB-SE-RI 2.4 kPa Surchage" for walls with <600 mm height difference.

Wall Reinforcement Layout

N/A Fence and sono tube.

Applicable for lengths of retaining wall where height difference exceeds 600mm and is less than 750mm.



Reviewed ( )
Reviewed as noted ( )
Revise and resubmit ( )
Not reviewed ( )
Date: Jul. 20 2020
Reviewed by: MH

This review by J.C.F.A.Inc. is for the sole purpose of ascertaining conformance with the general design concept for architectural features only, and does not in any way constitute review of the design of engineering elements which form part of the contract documents prepared by others. This review shall not mean that J.C.F.A.Inc. approves the detailed design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the contract documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation, and for coordination of the work of all trades.

Jason C. Flynn Arcitect Inc. (J.C.F.A.Inc.)

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

Project Identification

Project ID	: ON16420
Project Name	: Enterprise Holdings
Owner	:
Client	:
Prepared By	: Domenic Di Nino
Company	: Hanson Hardscapes
Address	:
Telephone	:
Section	: 0.75m
Vendor Data File	:
Project File	: RB Wall.prj
Date and Time	: 06/09/2012 09:24:10

PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

DATE:6/3/2020

RB Wall SYSTEM ESTIMATING SHEET					
JOB NAME	ENTERPRISE HOLDINGS			FACE AREA	11.74m²
ADDRESS	225 HUNTMAR DRIVE			LENGTH	18.0m
	OTTAWA, ONTARIO			MAX. HEIGHT	0.75m
PROJECT No:	ON16420			BATTER	9.6°
SOIL PROPERTIES:		UNIT WEIGHT	21kN/m³	SURCHARGE	2.4kPa
		ANGLE OF I.F	34°	TOE SLOPE	FLAT

NUMBER OF PIECES			
RB Wall			
RB Wall 10" COPING = 0 UNITS			RB Wall 24" COPING = 30 UNITS
RB Wall TAPERED COPING = --			
RB Wall = 392 UNITS			RB Wall Double Sided= --
RB Wall TAPERED UNIT = --			
2XT = X+X=m²	3XT = X+X=9m²		

SCALE = 1:50
(11x17 SHEET)

PERMACON
an Oldcastle® company

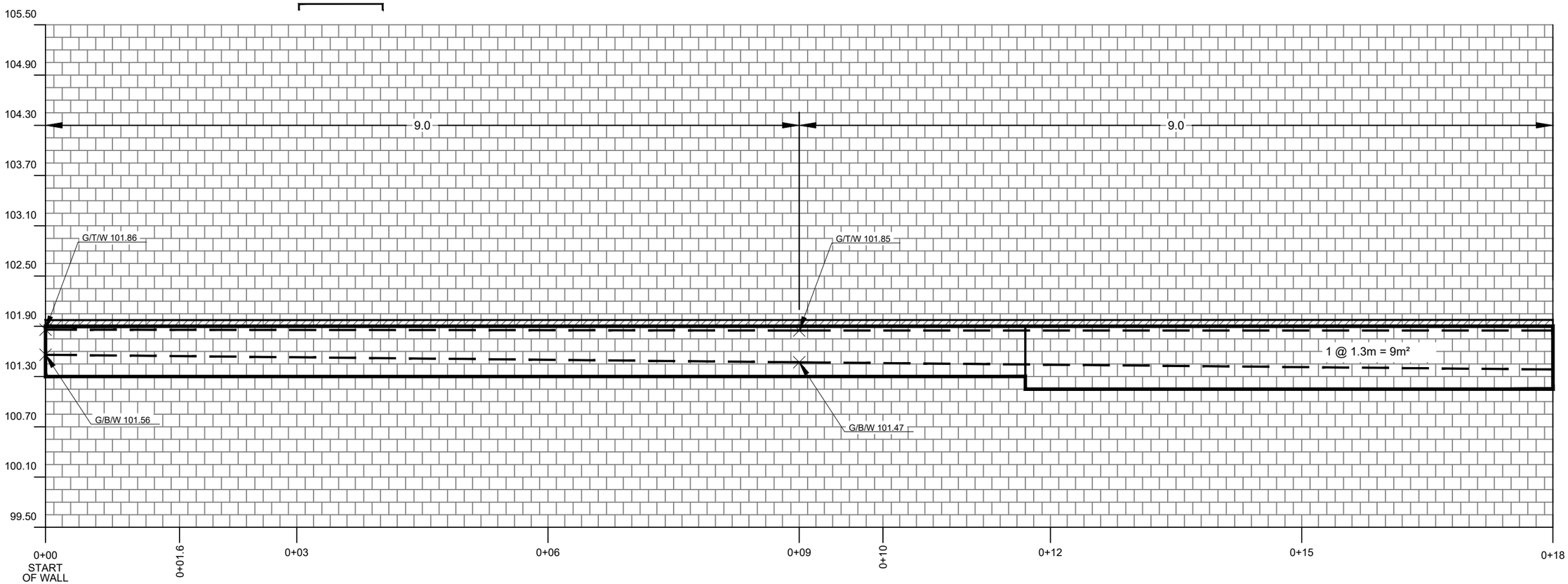
DESIGN PROFILE [-] EXCAVATION GRADES [-] HANDRAIL [-] FENCE [X] TYPE BEHIND/BELOW HEIGHT --

RB WALL 24" COPING = 29.5 UNITS

WALL #

RB WALL STANDARD = 391.5 UNITS

WALL AREA = 11.74m²



PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

DATE:6/3/2020

RB Wall SYSTEM ESTIMATING SHEET					
JOB NAME	ENTERPRISE HOLDINGS			FACE AREA	13.50m²
ADDRESS	225 HUNTMAR DRIVE			LENGTH	18.0m
	OTTAWA, ONTARIO			MAX. HEIGHT	0.75m
PROJECT No:	ON16420			BATTER	9.6°
SOIL PROPERTIES:		UNIT WEIGHT	21kN/m³	SURCHARGE	2.4kPa
		ANGLE OF I.F	34°	TOE SLOPE	FLAT

NUMBER OF PIECES			
RB Wall			
RB Wall 10" COPING = 0 UNITS			RB Wall 24" COPING = 30 UNITS
RB Wall TAPERED COPING = --			
RB Wall = 450 UNITS			RB Wall Double Sided= --
RB Wall TAPERED UNIT = --			
2XT = X+X=m²	3XT = X+X=24m²		

SCALE = 1:50
(11x17 SHEET)

PERMACON
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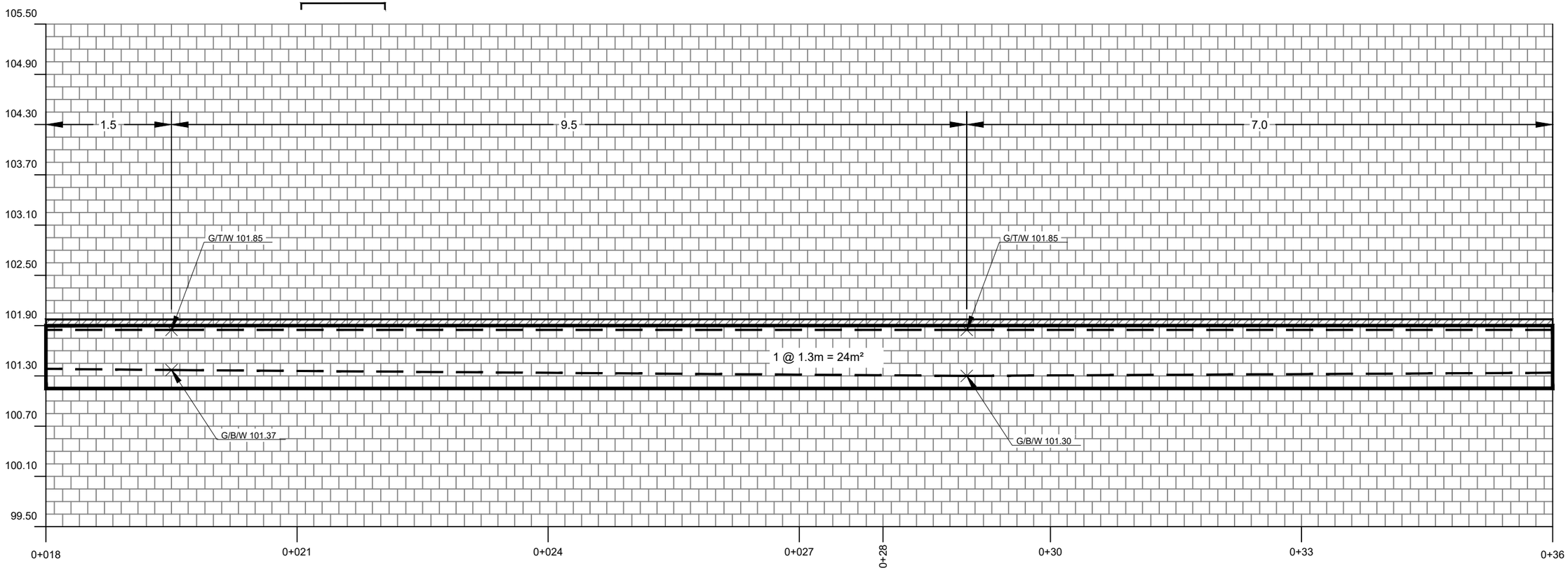
DESIGN PROFILE [-] EXCAVATION GRADES [-] HANDRAIL [-] FENCE [X] TYPE BEHIND/BELOW HEIGHT --

RB WALL 24" COPING = 29.5 UNITS

WALL #

RB WALL STANDARD = 450.0 UNITS

WALL AREA = 13.50m²



PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

DATE:6/3/2020

RB Wall SYSTEM ESTIMATING SHEET					
JOB NAME	ENTERPRISE HOLDINGS			FACE AREA	13.50m²
ADDRESS	225 HUNTMAR DRIVE			LENGTH	18.0m
	OTTAWA, ONTARIO			MAX. HEIGHT	0.75m
PROJECT No:	ON16420			BATTER	9.6°
SOIL PROPERTIES:		UNIT WEIGHT	21kN/m³	SURCHARGE	2.4kPa
		ANGLE OF I.F	34°	TOE SLOPE	FLAT

NUMBER OF PIECES			
RB Wall			
RB Wall 10" COPING = 0 UNITS			RB Wall 24" COPING = 30 UNITS
RB Wall TAPERED COPING = --			
RB Wall = 450 UNITS			RB Wall Double Sided= --
RB Wall TAPERED UNIT = --			
2XT = X+X=m²	3XT = X+X=24m²		

SCALE = 1:50
(11x17 SHEET)

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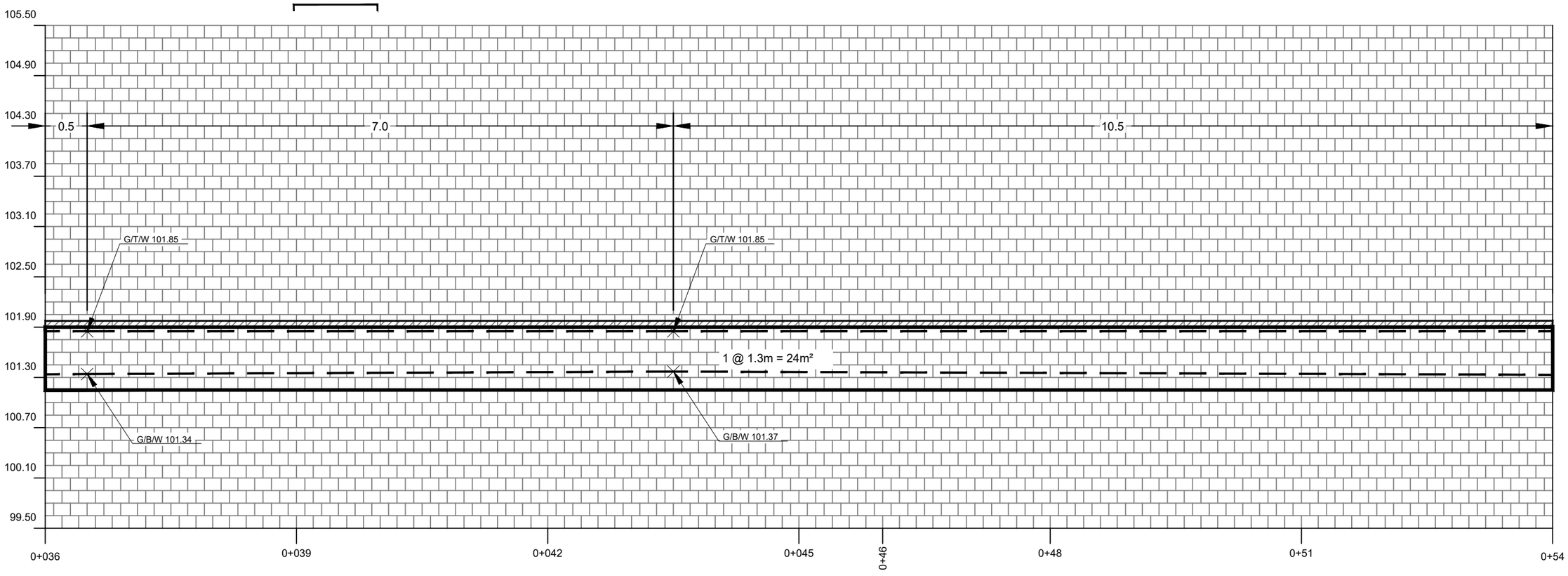
DESIGN PROFILE [-] EXCAVATION GRADES [-] HANDRAIL [-] FENCE [X] TYPE BEHIND/BELOW HEIGHT --

RB WALL 24" COPING = 29.5 UNITS

WALL #

RB WALL STANDARD = 450.0 UNITS

WALL AREA = 13.50m²



PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

DATE:6/3/2020

RB Wall SYSTEM ESTIMATING SHEET					
JOB NAME	ENTERPRISE HOLDINGS			FACE AREA	12.95m²
ADDRESS	225 HUNTMAR DRIVE			LENGTH	18.0m
	OTTAWA, ONTARIO			MAX. HEIGHT	0.75m
PROJECT No:	ON16420			BATTER	9.6°
	SOIL PROPERTIES:	UNIT WEIGHT	21kN/m³	SURCHARGE	2.4kPa
		ANGLE OF I.F	34°	TOE SLOPE	FLAT

NUMBER OF PIECES			
RB Wall			
RB Wall 10" COPING = 0 UNITS			RB Wall 24" COPING = 30 UNITS
RB Wall TAPERED COPING = --			
RB Wall = 432 UNITS			RB Wall Double Sided= --
RB Wall TAPERED UNIT = --			
2XT = X+X=m²	3XT = X+X=19m²		

SCALE = 1:50
(11x17 SHEET)

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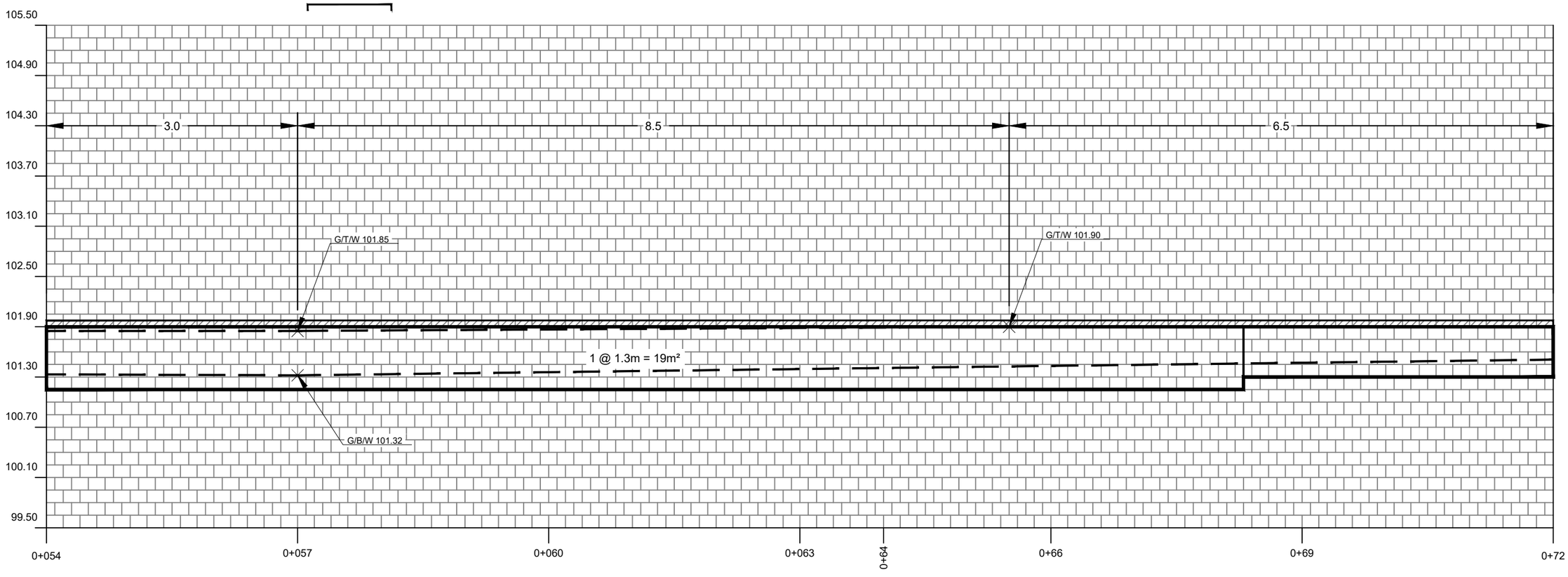
DESIGN PROFILE [-] EXCAVATION GRADES [-] HANDRAIL [-] FENCE [X] TYPE BEHIND/BELOW HEIGHT --

RB WALL 24" COPING = 29.5 UNITS

WALL #

RB WALL STANDARD = 431.5 UNITS

WALL AREA = 12.95m²



PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

DATE:6/3/2020

RB Wall SYSTEM ESTIMATING SHEET					
JOB NAME	ENTERPRISE HOLDINGS			FACE AREA	10.80m²
ADDRESS	225 HUNTMAR DRIVE			LENGTH	18.0m
	OTTAWA, ONTARIO			MAX. HEIGHT	0.6m
PROJECT No:	ON16420			BATTER	9.6°
SOIL PROPERTIES:		UNIT WEIGHT	21kN/m³	SURCHARGE	2.4kPa
		ANGLE OF I.F	34°	TOE SLOPE	FLAT

NUMBER OF PIECES			
RB Wall			
RB Wall 10" COPING = 0 UNITS			RB Wall 24" COPING = 30 UNITS
RB Wall TAPERED COPING = --			
RB Wall = 360 UNITS			RB Wall Double Sided= --
RB Wall TAPERED UNIT = --			
2XT = X+X=m²		3XT = X+X=m²	

SCALE = 1:50
(11x17 SHEET)

PERMACON
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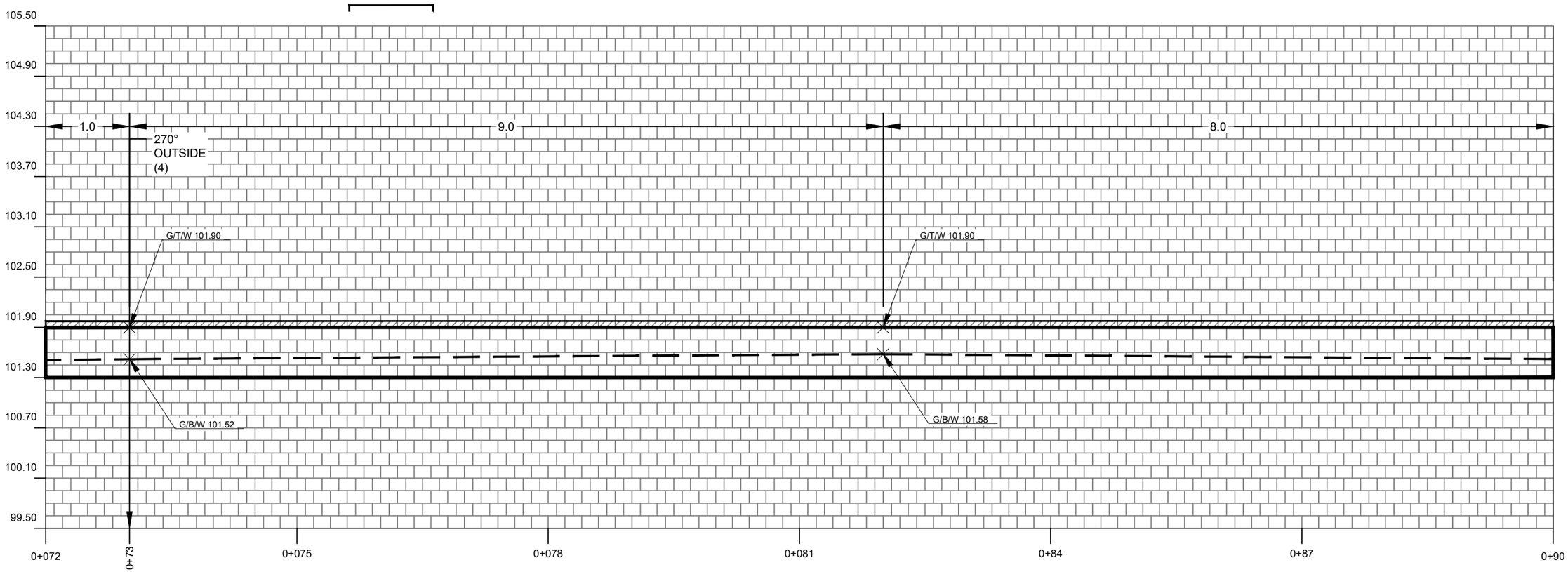
DESIGN PROFILE [-] EXCAVATION GRADES [-] HANDRAIL [-] FENCE [X] TYPE -- HEIGHT --

RB WALL 24" COPING = 29.5 UNITS

WALL #

RB WALL STANDARD = 360.0 UNITS

WALL AREA = 10.80m²



PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

DATE:8/10/2016

RB Wall SYSTEM ESTIMATING SHEET					
JOB NAME	- - - - - - - -			FACE AREA	0.00m²
ADDRESS	- - - - - - - -			LENGTH	18.0m
	- - - - - - - -			MAX. HEIGHT	0.75m
PROJECT No:	ON - - - - -			BATTER	9.6°
SOIL PROPERTIES:		UNIT WEIGHT	- - kN/m³	SURCHARGE	2.4kPa
		ANGLE OF I.F	- -°	TOE SLOPE	FLAT

NUMBER OF PIECES			
RB Wall			
RB Wall 10" COPING = 22 UNITS			RB Wall 24" COPING = 9 UNITS
RB Wall TAPERED COPING = --			
RB Wall = 0 UNITS			RB Wall Double Sided= --
RB Wall TAPERED UNIT = --			
2XT = X+X=m²		3XT = X+X=12m²	

SCALE = 1:50
(11x17 SHEET)

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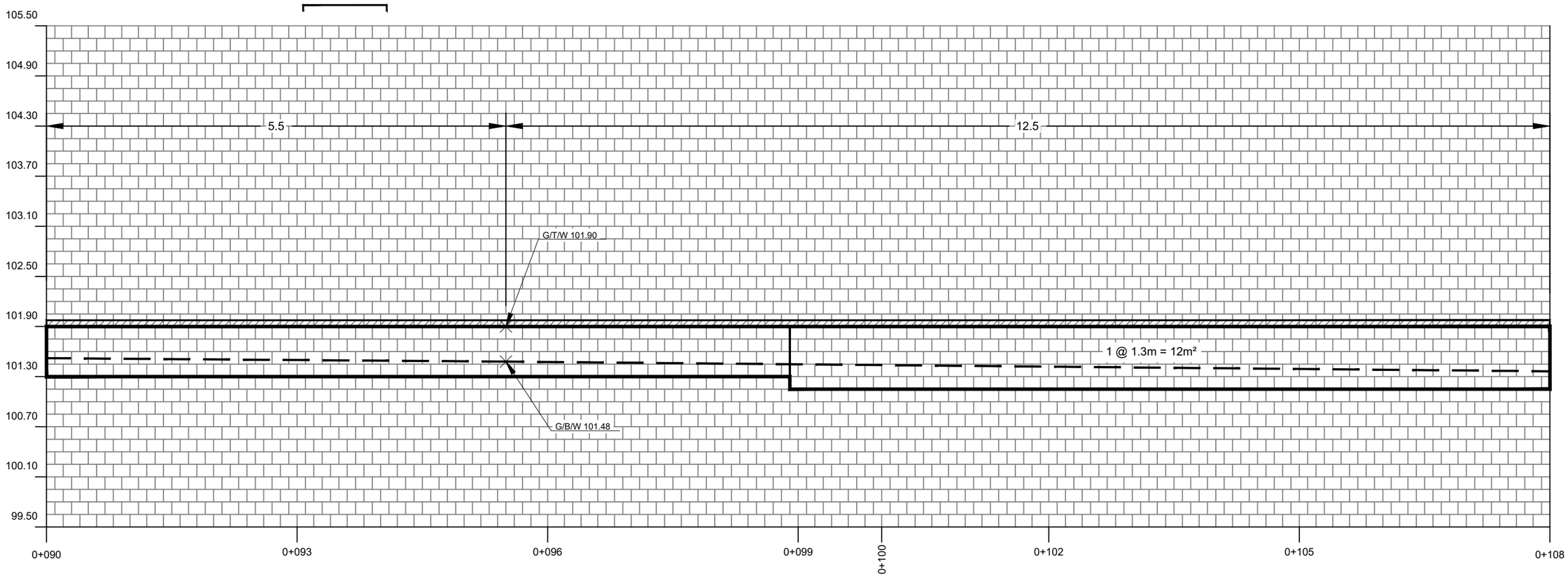
DESIGN PROFILE [-] EXCAVATION GRADES [-] HANDRAIL [-] FENCE [X] TYPE BEHIND/BELOW HEIGHT --

RB WALL 24" COPING = 29.5 UNITS

WALL #

RB WALL STANDARD = 405.5 UNITS

WALL AREA = 12.17m²



PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

DATE:6/3/2020

RB Wall SYSTEM ESTIMATING SHEET					
JOB NAME	ENTERPRISE HOLDINGS			FACE AREA	6.75m²
ADDRESS	225 HUNTMAR DRIVE			LENGTH	18.0m
	OTTAWA, ONTARIO			MAX. HEIGHT	0.75m
PROJECT No:	ON16420			BATTER	9.6°
SOIL PROPERTIES:		UNIT WEIGHT	21kN/m³	SURCHARGE	2.4kPa
		ANGLE OF I.F	34°	TOE SLOPE	FLAT

NUMBER OF PIECES			
RB Wall			
RB Wall 10" COPING =		RB Wall 24" COPING = 14.75	
RB Wall TAPERED COPING = --			
RB Wall = 225 UNITS		RB Wall Double Sided= --	
RB Wall TAPERED UNIT = --			
2XT = X+X=m²	3XT = X+X=12m²		

SCALE = 1:50
(11x17 SHEET)

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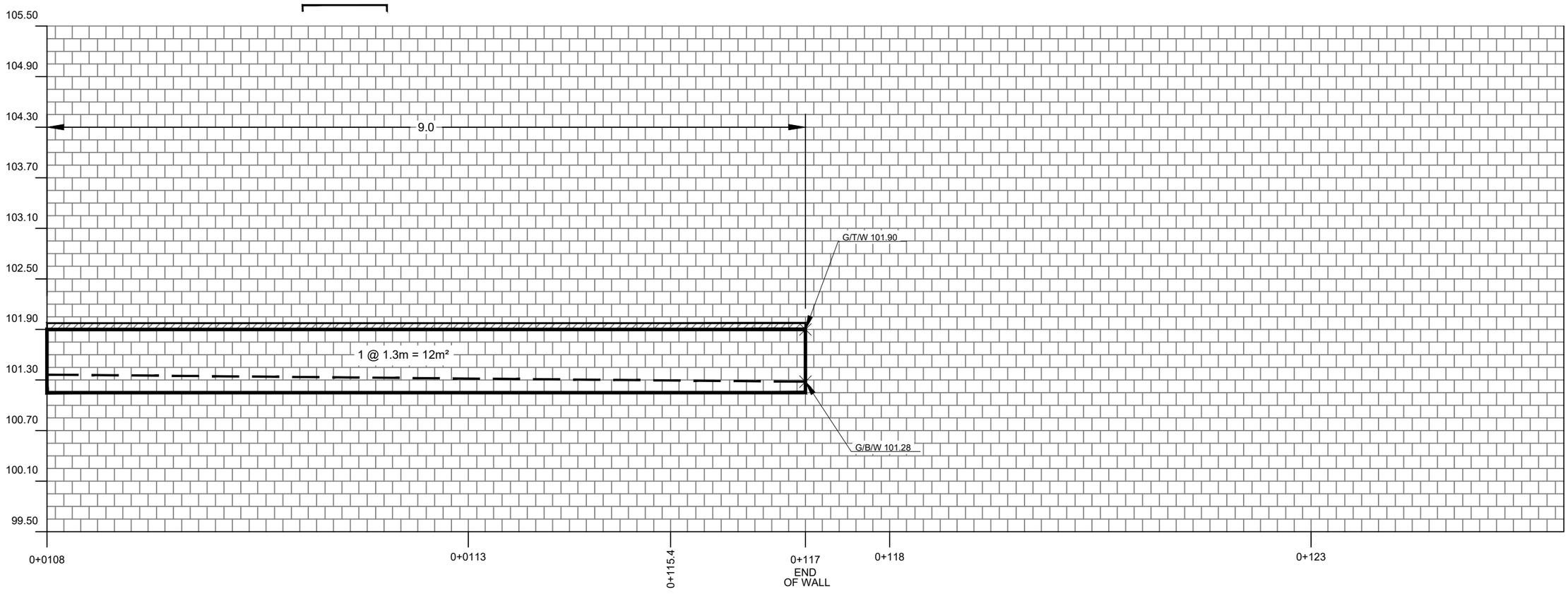
DESIGN PROFILE [-] EXCAVATION GRADES [-] HANDRAIL [-] FENCE [X] TYPE BEHIND/BELOW HEIGHT --

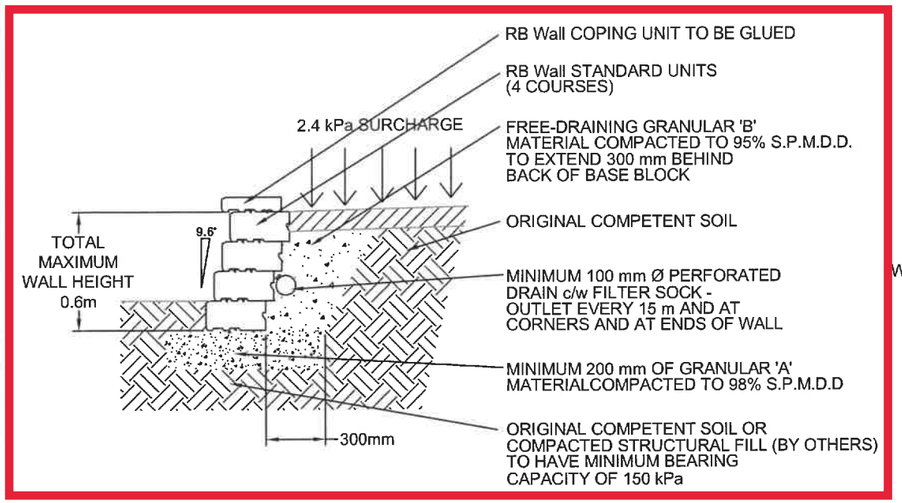
RB WALL 24" COPING = 14.8 UNITS

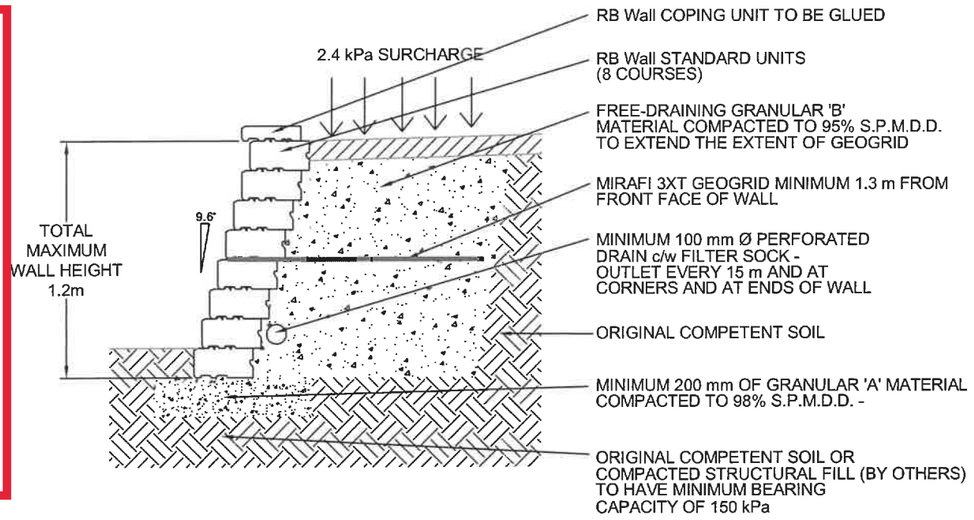
WALL #

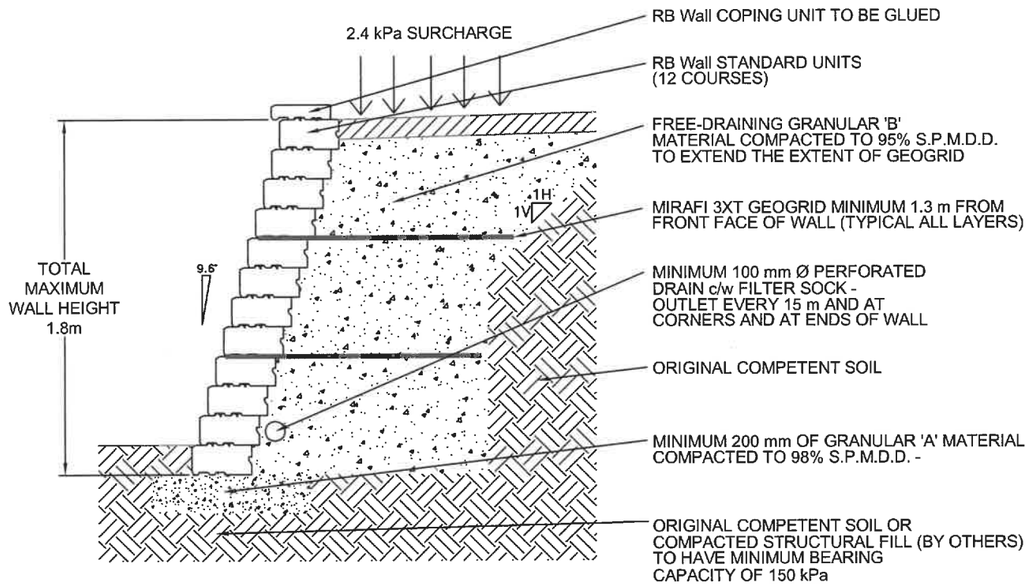
RB WALL STANDARD = 225.0 UNITS

WALL AREA = 6.75m²









GENERAL NOTES:

1) EXCAVATE FOR FOOTING TO MINIMUM DEPTH OF 300 mm (12 in), OR UNTIL COMPETENT SOIL IS REACHED OR FILL WITH COMPACTED STRUCTURAL FILL (BY OTHERS). THE FOUNDING SOIL MUST BE INSPECTED BY THE GEOTECHNICAL ENGINEER TO CONFIRM ADEQUATE BEARING CAPACITY AND SLOPE STABILITY. WHERE REQUIRED BY GEOTECHNICAL ENGINEER, PLACE ENGINEERED FILL COMPRISING OF APPROVED GRANULAR MATERIAL PLACED IN 250 mm (10") LIFTS AND COMPACTED TO 98% S.P.M.D.D. BACKFILLING AND COMPACTION TO BE CARRIED OUT UNDER GEOTECHNICAL SUPERVISION. PERMACONINC. IS NOT RESPONSIBLE FOR RETAINING A GEOTECHNICAL ENGINEER TO OVERSEE CONSTRUCTION OF RETAINING WALL.

2. EXCAVATION TO ALLOW FOR THE THICKNESS OF THE WALL PLUS A SUFFICIENT DISTANCE TO ALLOW FOR COMPACTED GRANULAR BACKFILL BEHIND THE WALL. EXCAVATE ON A SUITABLE BACK ANGLE DEEP ENOUGH TO REACH ORIGINAL COMPETENT SOIL.

3. PLACE 200 mm OF GRANULAR 'A' MATERIAL WITHIN FOOTING EXCAVATION AND COMPACT TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.

4. LEVEL THE FIRST COURSE AND PLACE TOP FLUSH WITH THE DESIRED FINISHED GRADE IN FRONT OF THE WALL. SLOPE AT TOE OF WALL MAY REQUIRE INCREASE EMBEDMENT DEPTH (CONSULT A QUALIFIED PROFESSIONAL ENGINEER FOR GUIDENCE).

5. WALL APPEARANCE TO BE SPLIT FACE AND COLOR TO BE DETERMINED BY OWNER.

6. BACKFILL THE WALL WITH GRANULAR 'B' MATERIAL AS THE HEIGHT INCREASES, IDEALLY EVERY ONE OR TWO COURSES. AT NO TIME SHOULD THE HEIGHT EXCEED 2 COURSES WITHOUT BACKFILLING UNLESS OTHERWISE DIRECTED BY THE ENGINEER. BACKFILL MUST BE COMPACTED TO 95% S.P.M.D.D.

7. PLACE THE GEOGRID LAYERS AS THE BACKFILL PROCEEDS, AT THE LOCATIONS SPECIFIED. COMPACT BACKFILL AS THE GEOGRID IS PLACED.

8. THE GEOGRID SHOULD BE CUT TO EXTEND BETWEEN THE UNITS PLUS THE SPECIFIED DISTANCE BEHIND THE WALL AS SHOWN. NO SPLICES PARALLEL TO THE WALL FACE ARE ALLOWED WITHOUT THE PERMISSION FROM THE ENGINEER.

9. ORIENTATION OF THE GEOGRIDS IS OF EXTREME IMPORTANCE. THE STRONGER STRAND OF THE GEOGRID SHOULD BE PERPENDICULAR TO THE WALL FACE. ENSURE THAT THE GEOGRID EXTENDS BETWEEN THE UNITS TO THE FRONT FACE OF THE WALL.

10. AFTER BEING ROLLED OUT, THE SHOULD BE TENSIONED BY HAND UNTIL IT IS TIGHT, FREE OF WRINKLES AND LYING FLAT. THE GEOGRID SHOULD BE HELD FLAT WHILE BACKFILLING. CARE SHOULD BE TAKEN TO AVOID DAMAGING THE GEOGRID DURING BACKFILLING.

11. ADJACENT ROLL WIDTHS SHOULD BE BUTT TIGHT TOGETHER.

12. ALL CONSTRUCTION OPERATIONS INCLUDING BLOCK AND GEOGRID PLACEMENT, BACKFILLING AND COMPACTION TO BE COMPLETED UNDER GEOTECHNICAL SUPERVISION.

13. POOR SOIL CONDITIONS AND EXCESSIVE MOISTURE MAY REQUIRE ALTERNATE DRAINAGE REQUIREMENTS AND DESIGN MODIFICATIONS.

14. TO ACHIEVE A 9.6° BATTER, STEP EVERY COURSE BACK.

15. THE TOP MUST BE LANDSCAPED TO PROMOTE SURFACE RUNOFF OVER THE TOP OF THE WALL. NO UNUSUAL SURCHARGE LOADING SHOULD BE ADJACENT TO THE TOP OF THE WALL.

16. APPROPRIATE RESTRAINT MUST BE PROVIDED TO ENSURE PEDESTRIANS CANNOT ACCESS THE TOP OF THE WALL, OTHERWISE AN ENGINEERED HANDRAIL SYSTEM WILL BE REQUIRED ON THE TOP OF THE WALL. PROVISION OF A HANDRAIL ON TOP OF THE WALL MAY REQUIRE DESIGN MODIFICATIONS.

17. ALL PRODUCT NAMES AND STYLIZED REPRESENTATIONS ARE TRADEMARKS OF PERMACON, OR APPROVED FOR USE BY PERMACON' COMPANIES.

18. ALL PRODUCTS ILLUSTRATED ARE SUBJECT TO PATENTS AS FOLLOWS:
RB Wall - CANADA 1,307,675
- USA 4,860,505

19. THE APPLICABILITY OF THESE RETAINING WALL SECTIONS MUST BE REVIEWED ON A SITE SPECIFIC BASIS BY A1 QUALI1FIED PROFESSIONAL ENGINEER.

20. FOR OTHER WALL HEIGHTS, SOIL PARAMETERS AND SURCHARGE LOADING NOT REPRESENTED ON THIS DRAWING, PLEASE CONTACT PERMACON FOR SITE SPECIFIC DESIGN.

SOIL PARAMETERS USED IN DESIGNS:
REINFORCED SOIL: ϕ = 34 DEGREES, γ = 21 kN/m³
RETAINED SOIL: ϕ = 28 DEGREES, γ = 19 kN/m³

LICENSED PROFESSIONAL ENGINEER
G.P. MITCHELL
32057507
Dec 4/19
PROVINCE OF ONTARIO

REV.	DATE	DESCRIPTION	BY
2	11/15/19	ISSUED FOR USE	DAD
1	JUN 8/18	REVISED BRAND	DPS
0	JAN 01/08	ISSUED FOR USE	PAS

DRAWING:
GEOGRID REINFORCED DESIGN
9.6 DEGREE BATTER
TO 1.8 m
2.4 kPa SURCHARGE
(RESIDENTIAL PEDESTRIAN LOADING)

PROJECT:
RB Wall
STANDARD ENGINEERING

RB Wall™
PERMACON
an Oldcastle® company

DESIGN ENGINEER:
PML Peto MacCallum Ltd.
CONSULTING ENGINEERS

DRAWN BY: DS	CH'D BY:
DATE: JANUARY 1, 2008	
SCALE: NOT TO SCALE	
FILE NAME: RB-SE-RI-2.4 kPa SURCHARGE.dwg	

DRAWING No.
RB-SE-RI-2.4 kPa SURCHARGE