



## ADDENDUM NO. 1

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<b>Date:</b>	<b>May 11, 2018</b>
<b>WSP Reference No.</b>	181-03082-00
<b>Project:</b>	Parks Canada Agency - Project 738 Port Royal Habitation Stabilization, Port Royal National Historic Site Port Royal, Nova Scotia
<b>Client:</b>	Parks Canada Agency Jonathan Nash, P.Eng., Project Manager Halifax Citadel, P.O. Box 9080, Postal Station A, Halifax, Nova Scotia

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This Addendum No. 1 consists of 11 changes to the specifications and drawings. The Addendum is 3 pages with 7 pages of attachments, for a total of 10 pages. This Addendum is to address the following updates and revisions.

The Tender Documents are hereby **amended** as follows:

### **SPECIFICATION SECTION 07 27 00 – APPLIED ROOF AIR VAPOUR BARRIER**

#### **1. Sub-section 1.1 Summary of Work**

##### **Replace:**

- .1 Adhesive/Primer
- .2 Fluid Applied Air and Vapour Barrier
- .3 Sheet Applied Air and Vapour Barrier
- .4 Air/vapour barrier/Thru-wall Flashing
- .5 Sealant

##### **With:**

- .1 Air-gap waterproof membrane (DELTA-TRELA)
- .2 Breathable underlayment membrane (BREATHEx)

#### **2. Part 2 – Products, and**

##### **Part 3 - Execution**

**Replace:** existing Part 2 and Part 3 with revised 07 27 00 Part 2 and Part 3 (attached, 2 pages).

#### **3. Add:** Product Manufacturer's technical data sheets for DELTA-TRELA and BREATHEx (attached, 2 pages).



## **SECTION 07 28 00 – SHEET AIR BARRIER**

4. **Delete:** section 07 28 00

## **DRAWING SHEET A-2 – NOTES, ROOF SYSTEMS**

5. **Replace:**

SYSTEM A

- Board and Batten Pine Boards
- Underlayment Material
- New Air/Vapour Barrier System
- Existing Coal Tar Applied to Felt Paper to Remain

**With:**

SYSTEM A

- Board and Batten Pine Boards
- New Air-gap Membrane (DELTA-TRELA)
- New Breathable Underlayment Membrane (BREATHEX)
- Existing Board Sheathing (Asphalt Paper to be Removed)

6. **Replace:**

SYSTEM B

- Pine Shingles to Replace Existing
- Underlayment Material
- New Air/Vapour Barrier System
- Existing Coal Tar Applied to Felt Paper to Remain

**With:**

SYSTEM B

- Cedar Shingles to Replace Existing Pine Shingles
- New Air-gap Membrane (DELTA-TRELA)
- New Breathable Underlayment Membrane (BREATHEX)
- Existing Board Sheathing (Asphalt Paper to be Removed)

7. **Replace:**

SYSTEM C

- Oak Shingles to Replace Existing
- Underlayment Material
- New Air/Vapour Barrier System
- Existing Coal Tar Applied to Felt Paper to Remain

**With:**

SYSTEM C

- Oak Shingles to Replace Existing Oak Shingles, Pre-drill all Fastener Holes
- New Air-gap Membrane (DELTA-TRELA)
- New Breathable Underlayment Membrane (BREATHEX)
- Existing Board Sheathing (Asphalt Paper to be Removed)



## **DRAWING SHEET A-2 – NOTES, GENERAL NOTES**

### **8. Replace:**

New Air Barrier System to Consist of the Following

- Fluid Applied Membrane Layer to Seal & Level Out Existing Coal Tar Pitch
- Primer as Recommended by Manufacturer
- Peel & Stick Mod. Bit. Membrane

### **With:**

New Roof Underlayment to Consist of the Following

- New Air-gap Membrane (DELTA-TRELA)
- New Breathable Underlayment Membrane (BREATHEX)
- Existing Board Sheathing (Asphalt Paper to be Removed)

## **DRAWING SHEET A-5 – ROOF SECTION DETAILS**

### **9. Replace:** Detail 4 Roof Section, and all similar roof sections on Drawing Sheet A-5

**With:** WSP Detail SK-1 Roof Section (attached)

### **10. Replace:** Detail 7 Board Ridge Detail, and all similar roof sections on Drawing Sheet A-5

**With:** WSP Detail SK-2 Board Ridge Detail (attached)

## **DRAWING SHEET A-8 – CANNON PLATFORM**

### **11. Replace:** Detail 6 Cannon Platform Section

**With:** WSP Detail SK-3 Cannon Platform Section (attached)

We trust this information addresses the noted concerns at this time. If you should have any further questions please feel free to contact us.

Rachel Smith, P.Eng.

Project Manager, Building Science

902-536-0524

cc: Jonathan Nash, P.Eng.

E-mail: jonathan.nash@pc.gc.ca

Encl: Revised Drawings

Revised Specifications Sections

Note: This Addendum shall form part of the Contract Documents and is to be read, interpreted and coordinated with all other parts. The cost of all work contained herein shall be included in the Contract Price. The following revisions supersede the information contained in the original drawings and specifications issued for the above named project. Acknowledge receipt of this Addendum in the Bid Form.

**END OF ADDENDUM NO. 1**

## SECTION 07 27 00

### UNDERLAYMENT FOR WOOD-CLAD ROOFS

#### PART 2 - PRODUCTS

##### 2.1 MANUFACTURER - AIR GAP MEMBRANE

- A. Basis-of-Design: (DELTA-TRELA) by Dörken Systems Inc., 4655 Delta Way, Beamsville, ON L0R 1B4, Canada. Toll Free: 888-4DELTA4 (433-5824) Phone: 905-563-3255. Fax: 905-563-5582. [www.dorken.com](http://www.dorken.com).

Provide air-gap membrane with the following characteristics:

1. Material: 0.3 inch (8 mm) thick dimpled spacer mat adhered to 3-ply spun-bonded polypropylene breather underlay.
2. Color: Black/gray.
3. Water Vapor Transmission: 820 g/m<sup>2</sup>/24 h ASTM E96, Proc. A; 472 g/m<sup>2</sup>/24 h ASTM E96, Proc. B
4. Vapor Permeance: 69 perms [grains/h/ft<sup>2</sup>/in Hg] ASTM E96, Proc. A; 120 perms [grains/h/ft<sup>2</sup>/in Hg] ASTM E96, Proc. B.
5. Structured Separation Layer Height: Approx. 5/16" (8mm).
6. Temperature Range: -40 °F to +176 °F (-40 °C to +80 °C).
7. Maximum UV (Sunlight) Exposure: Maximum exposure 6 weeks.

- B. Basis-of-Design: (BREATHEx) by HAL Industries, 9681 – 187<sup>th</sup> St. Surrey, BC V4N 3N3, Canada. Toll Free: 1-800-663-0075 Fax: 604-888-1656 [www.breathex.com](http://www.breathex.com).

Provide a breathable underlayment membrane with the following characteristics:

1. Material: spun-bonded polypropylene breather underlay with polymer undercoat.
2. Color: Grey.
3. Water Vapour Permeability: 5 Perms ASTM E96, Proc. A; 14 Perms ASTM E96, Proc. B.

- C. Accessory Products:

1. Galvanized Wide-Head Nails with EPDM Sealing Gasket: DELTA-SEALING NAIL.
2. Adhesive Tape at Overlaps: DELTA-MULTI-BAND.
3. Butyl Rubber Tape at Penetrations: DELTA-FLEXX BAND.
4. Elastic Rubber Compound Sealant and Adhesive: DELTA-THAN.
5. Air and Vapor Sheet Over Substrate When Required: DELTA-REFLEX.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.
  - 1. Clean substrate of dirt and bond breaking substances prior to beginning installation.

### 3.2 INSTALLATION

- A. Install products in strict accordance with manufacturer's instructions, approved submittals and the following:
  - 1. Install directly below wood roofing material with dimple texturing side up.
  - 2. Seal seams of underlayment with approved seam tape at all vertical and horizontal overlapping seams.
  - 3. Seal cuts and tears as recommended by manufacturer.

### 3.3 PROTECTION

- A. Protect installed underlayment from damage during application and remainder of construction period, according to manufacturer's written instructions.
- B. Coordinate with installation of materials which cover the underlayment, to ensure exposure period does not exceed that recommended by the manufacturer.

END OF SECTION

### TECHNICAL DATA SHEET

## DELTA®-TRELA

**Roof Underlayment for Ventilated / Non-ventilated Roofs with Metal Cladding**

### MATERIAL

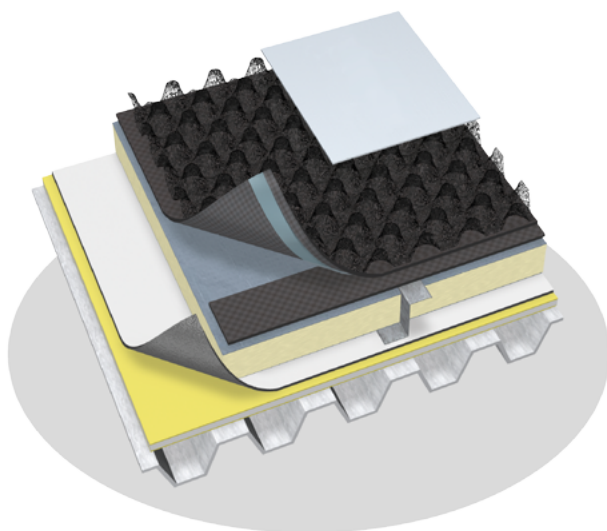
Vapor permeable roof underlayment based on DELTA®-VENT S thermally bonded to a randomly-oriented polypropylene fiber mesh.

### PROPERTIES

The 8 mm high randomly-oriented fiber mesh ensures permanent movement of air on the underside of metal roof panels. The underlayment provides an effective drainage course that channels moisture (i.e. leaks or condensation) to the exterior. DELTA®-TRELA allows for free thermal expansion and contraction of roof cladding without abrading. Impact noise of rain or hail is reduced by up to 15 dB.

### APPLICATION

DELTA®-TRELA is installed parallel to the eaves with the random fiber mesh structure facing upwards. The next course of membrane is overlapped in shingle fashion, ensuring that water is shed to the outside. The mesh texture provides a non-slip surface and is not damaged by foot traffic. The product is watertight and protects the roof enclosure from wind-driven rain. Where exposed fasteners in the field of the membrane may be required, gasketed DELTA®-SEALING NAILS are applied. The combination of underlayment and mesh allows for an efficient one-step application. DELTA® Accessories complement the roof underlayment installation.



### Technical Data

Product name	DELTA®-TRELA	
Color	black / gray	
Water vapor transmission	820 g/m²/24 h	ASTM E96-05, Proc. A
	472 g/m²/24 h	ASTM E96-05, Proc. B
Vapor permeance	69 perms [grains/h/ft²/in Hg]	ASTM E96-05, Proc. A
	120 perms [grains/h/ft²/in Hg]	ASTM E96-05, Proc. B
Fire characteristics	Fire resistance: Class B2	DIN 4102
Structured separation layer height	approx. 5/16" (8mm)	
Temperature range	-40 °F to +176 °F (-40 °C to +80 °C)	
Mass per unit area	> 7.9 oz/yd² (270 g/m²)	
Roll weight	approx. 25 lb (11.4 kg)	
Roll length	98' (30 m)	
Roll width	3' 3" (1 m)	
Maximum UV (sunlight) exposure	Always cover as soon as possible. Maximum exposure 6 week.	
DELTA® Accessories	DELTA®-SEALING NAIL DELTA®-MULTI BAND 2" x 82' DELTA®-FLEXX-BAND 4" x 33' DELTA®-THAN 310 ml cartridge	

DELTA® products support sustainable and energy-efficient building practices, including efforts toward achieving LEED® certification (LEED® for New Construction & Major Renovations, LEED® for Core and Shell, LEED® for Existing Buildings and LEED® for Homes).

For technical support, call our technical support team at 1-888-4DELTA4 (1-888-433-5824) extension 326, or visit [www.dorken.com](http://www.dorken.com).



# BREATHEX

## ENGINEERED TO BREATHE

### A Smarter Underlayment

Breathex is an advanced breathable non-woven waterproof roofing underlayment. It keeps water out and allows vapour to escape, helping to prevent the growth of mold and rot in the roof deck. Breathex has all the benefits of organic felt and synthetic underlayments — with none of the compromises.

### Breathability Matters.

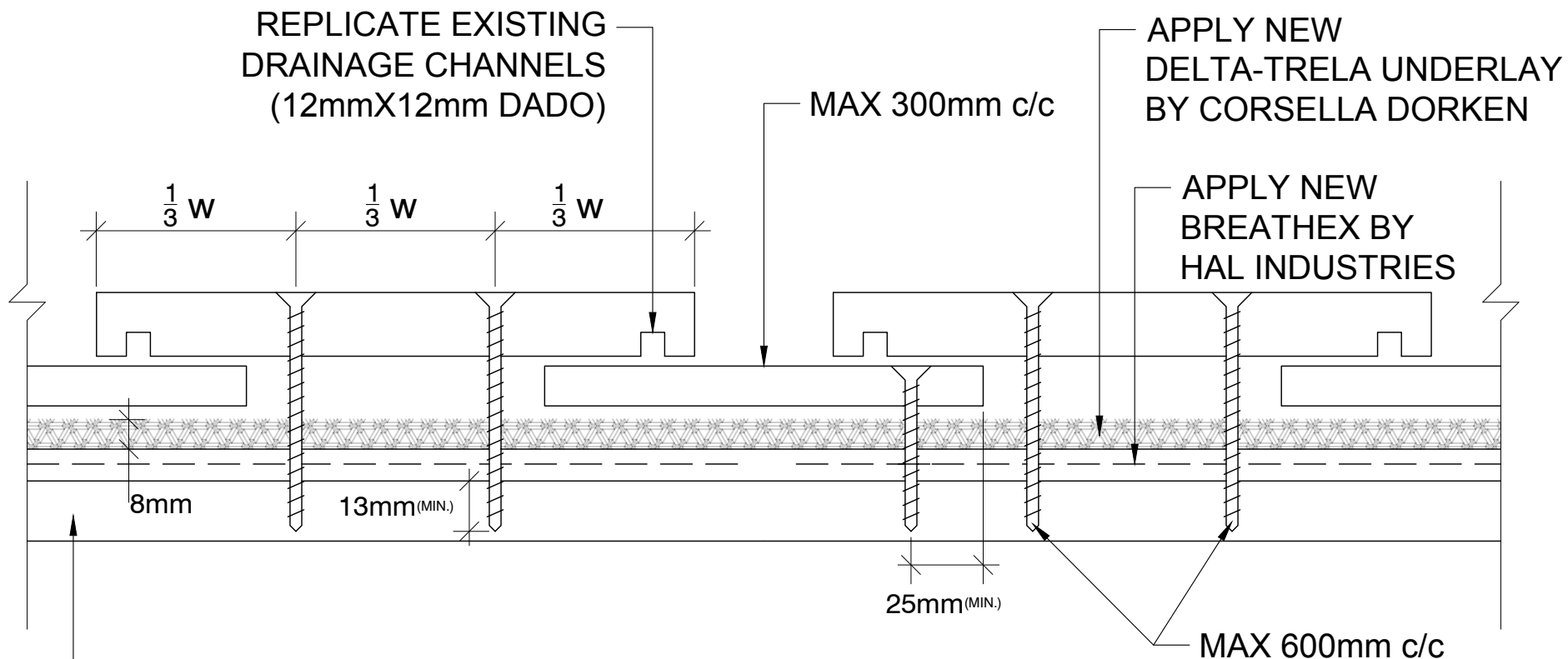
- When roof leaks occur your roof deck may get wet, and it needs to dry to avoid mold and rot.
- A roof deck that is wet during construction needs to dry to avoid mold and rot.
- Attic humidity raises deck sheathing moisture content and this needs to dry to avoid mold and rot.

Don't compromise your roof or your wallet, Breathex is competitively priced.

HAL Industries has a 40 year history of building material innovation, and we've used our building envelope expertise to develop Breathex.

- Hydrophilic polymer based breathability, enabling moisture escape without leaks
- Excellent waterproofing
- Deck-Grip underside coating
- Industry leading walking surface, especially in wet conditions
- Light grey colour for a cooler working surface
- Up to 3 months UV resistance
- 20 year limited warranty
- Pliability for ease of application in any peak or valley
- Horizontal, Vertical and Valley Guide lines for roofer convenience and pre-cutting.

Physical Technical Data	Nominal Value	Unit	
Weight	27	Lbs/Roll	
Width	48	Inch	
Length	250	Ft	
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D5034
Machine Direction	50	Lbs/inch	
Cross Direction	45	Lbs/inch	
Tear Strength			ASTM D4533
Machine Direction	20	Lbs	
Cross Direction	18	Lbs	
Puncture Resistance	100	Psi	ASTM D751
Water Resistance	Pass		ASTM D4869
Exposure Period	Three	Months	ASTM G154
Code			
Conforms To			ASTM D226
Conforms To			CSA A123.3
Permeability	Nominal Value	Unit	Test Method
MVTR	5	Perms	ASTM E96 - A
MVTR	14	Perms	ASTM E96 - B



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**PORT ROYAL HABITATION NATIONAL HISTORIC SITE  
RENEWAL PROJECT**

REVISION TO DETAIL  $\frac{4}{A-5}$ : BOARD AND BATTEN ROOF SECTION

1 SPECTACLE LAKE DRIVE, DARTMOUTH, NS CANADA

PHONE: 902.835.9955

www.wsp.com

FAX: 902.425.4433

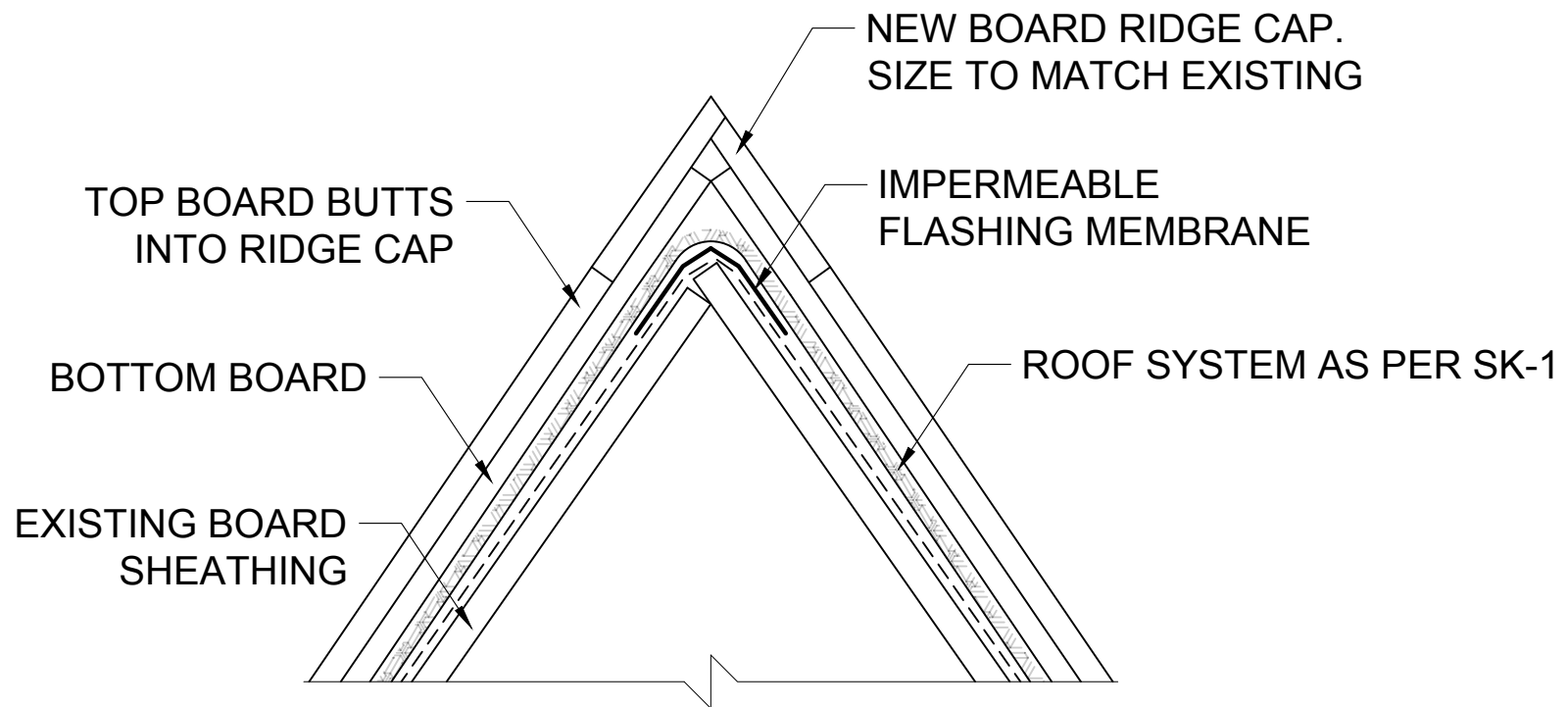
Date: 11/05/2018 Scale: NTS

Drawn by: STH Checked by: RCS

Project No.  
**181-03082-00**

Drawing No.  
**SK-1**





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**PORT ROYAL HABITATION NATIONAL HISTORIC SITE  
RENEWAL PROJECT**

REVISION TO DETAIL  $\frac{7}{A-5}$ : BOARD RIDGE DETAIL

1 SPECTACLE LAKE DRIVE, DARTMOUTH, NS CANADA

PHONE: 902.835.9955

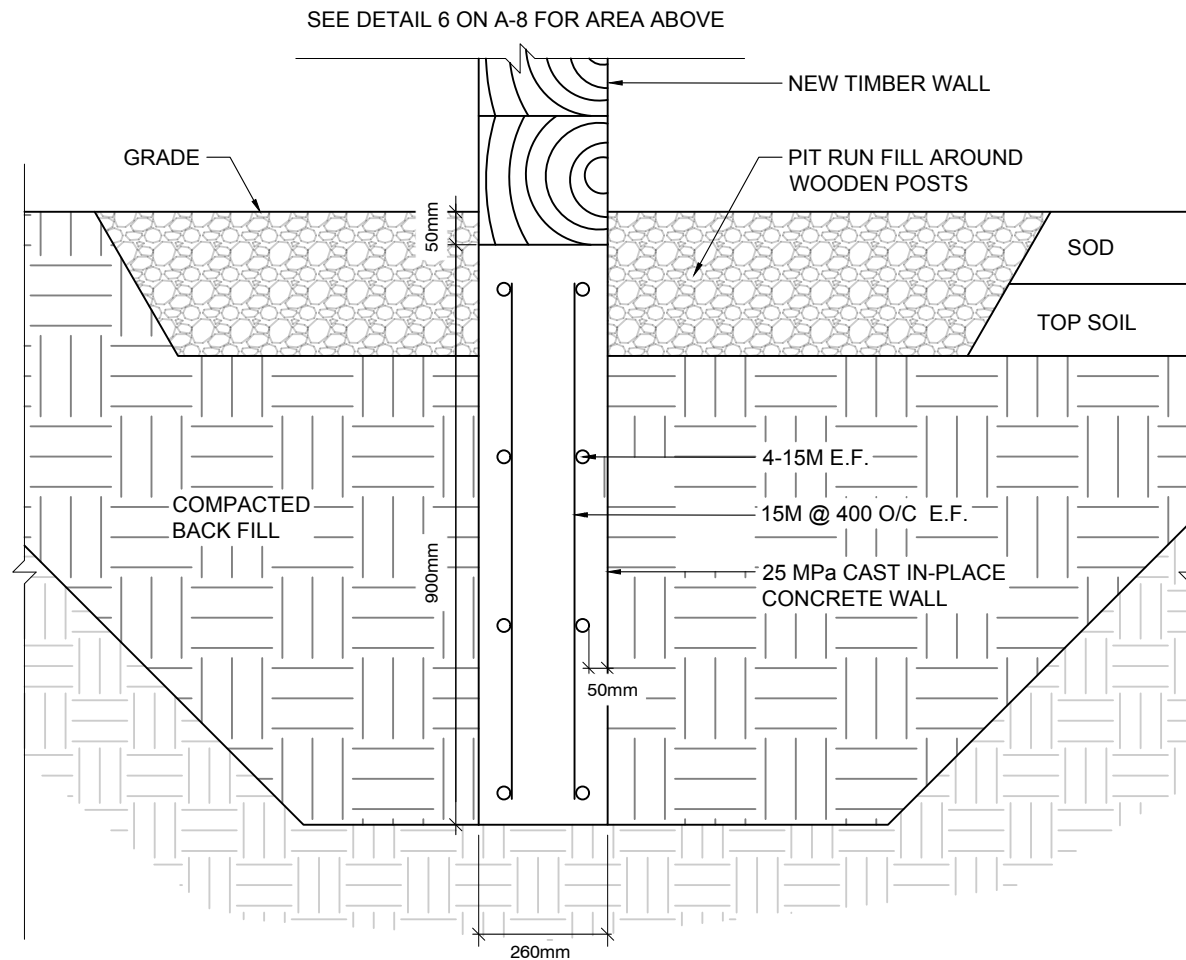
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Project No.  
**181-03082-00**

Drawing No.  
**SK-2**



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**PORT ROYAL HABITATION NATIONAL HISTORIC SITE  
RENEWAL PROJECT**

REVISION TO DETAIL  $\frac{6}{A-8}$ : CANNON PLATFORM SECTION

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Project No.  
**181-03082-00**

Drawing No.  
**SK-3**