



Figure 6: Evolution of Scott Base buildings over time.

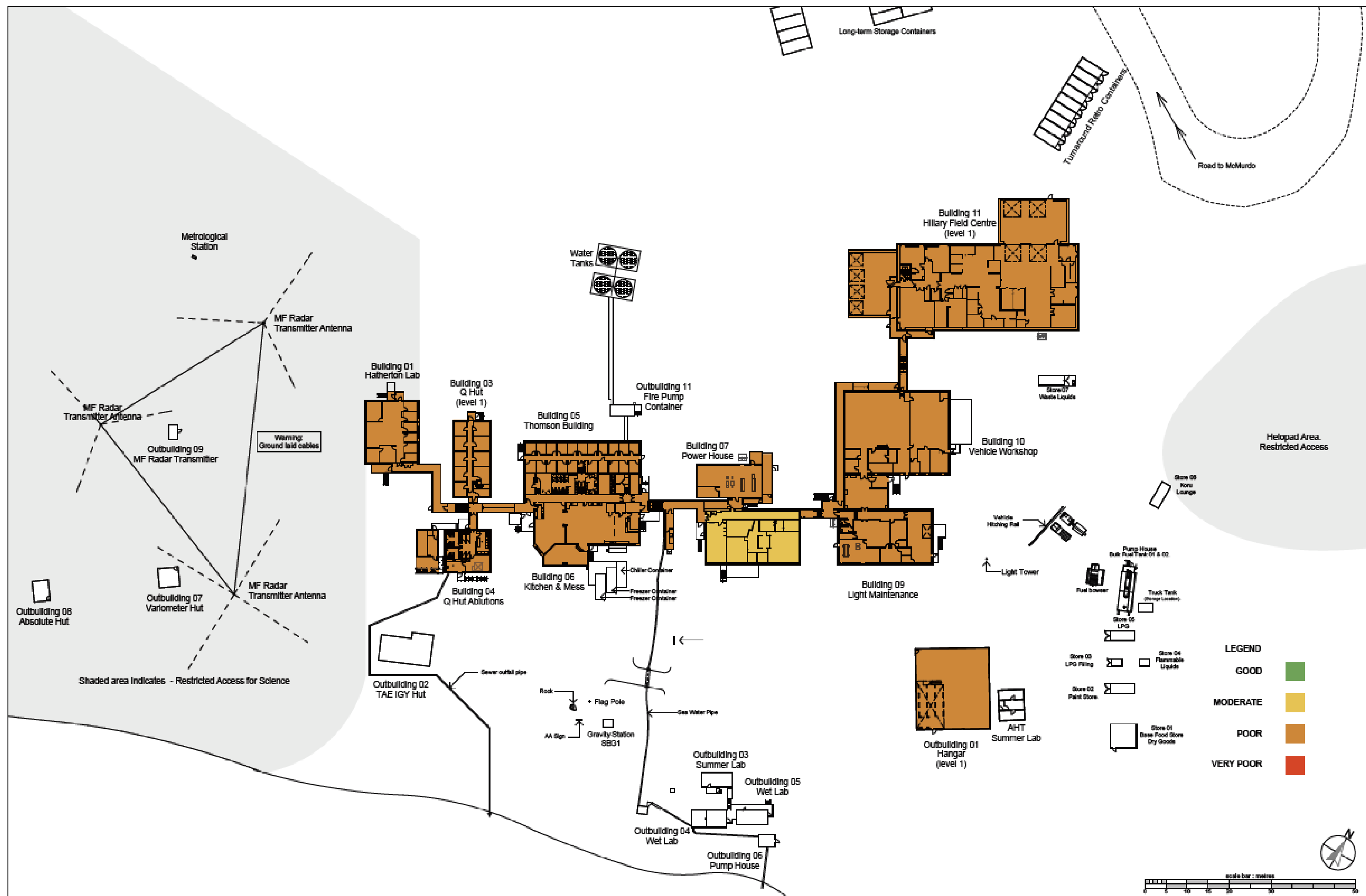
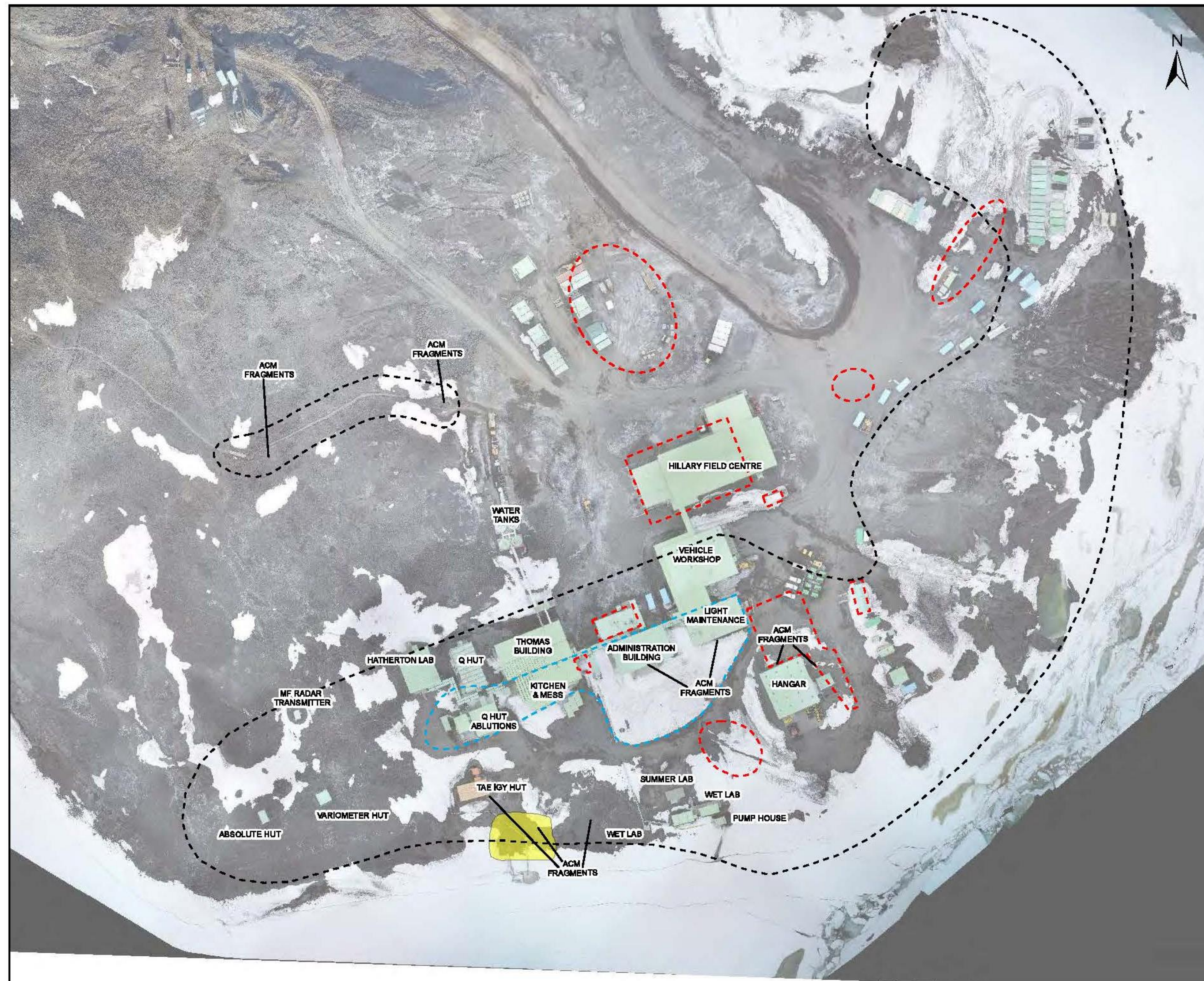


Figure 10: Existing Scott Base site plan with building condition rating.



KEY :

KEY CONTAMINATION

- PETROLEUM HYDROCARBONS
- ASBESTOS
- ORIGINAL SOURCE ZONE
- HUMAN WASTE

SOURCE:
1. AERIAL IMAGERY SOURCED FROM AERIAL IMAGES TAKEN USING AN UNMANNED AERIAL VEHICLE DURING THE SITE INVESTIGATION (MAY NOT BE SPATIALLY ACCURATE).

KEY CONTAMINATION AREAS HAVE BEEN DETERMINED FROM A NUMBER OF REFERENCES AS INDICATED IN THE ASSOCIATED SITE INVESTIGATION. THE HAIL ACTIVITY BOUNDARIES WERE DRAWN AT A 1:1,000 SCALE.

NO.	REVISION	DATE	APP.
A	FINAL	17/02/2020	

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CLIENT :



PROJECT :

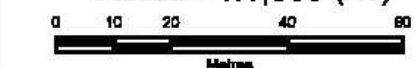
**SCOTT BASE
REDEVELOPMENT PROJECT**

TITLE :

KEY CONTAMINATION AREAS



SCALE : 1:1,500 (A3)



PROJECT NO. : C03585101	FIGURE NO. : 4	REVISION : FINAL
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C03585101_Z02_KEY_CONTAM_AREAS_JAN2020.mxd

Figure 15: Known contamination areas of the Scott Base operational area, 2020

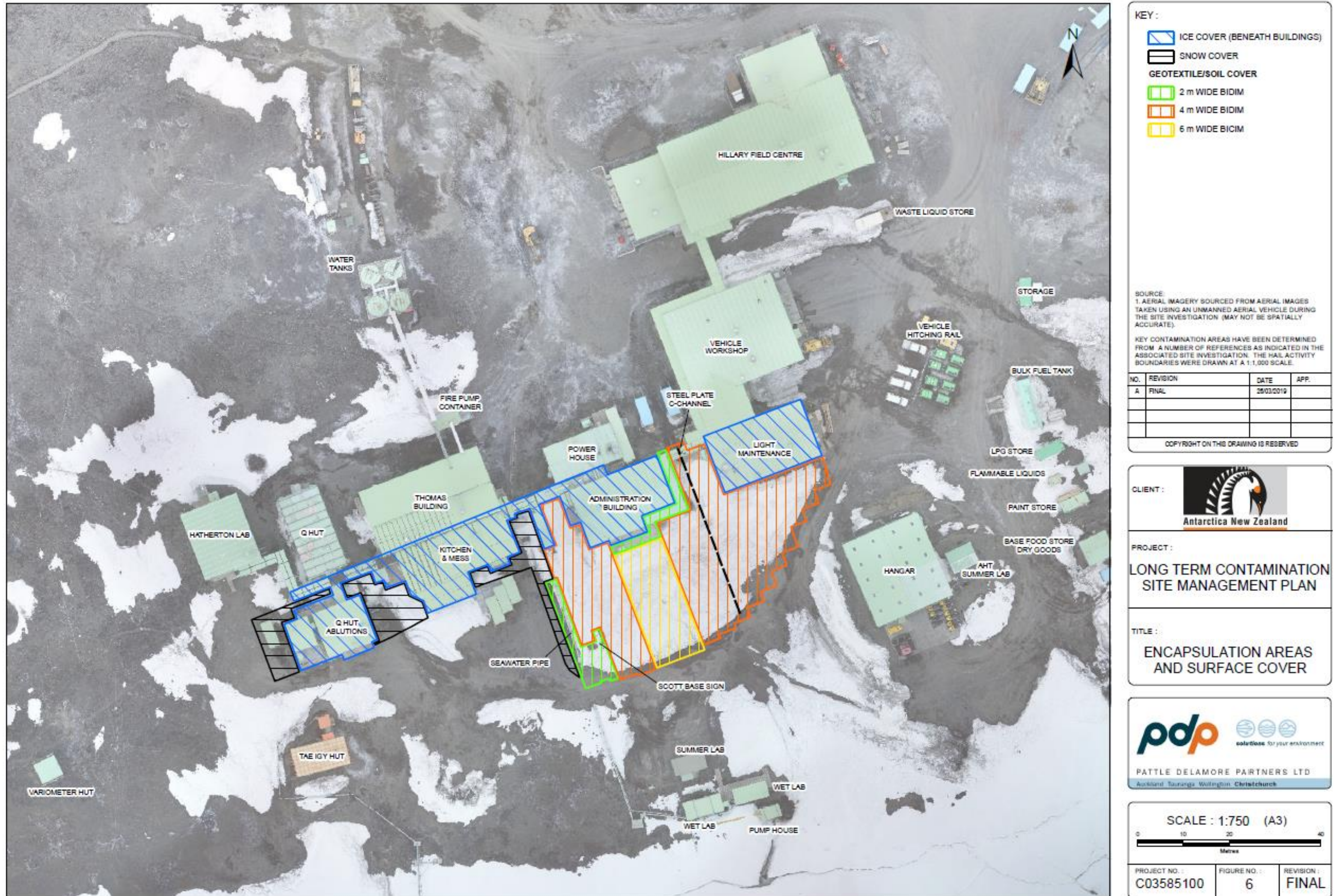
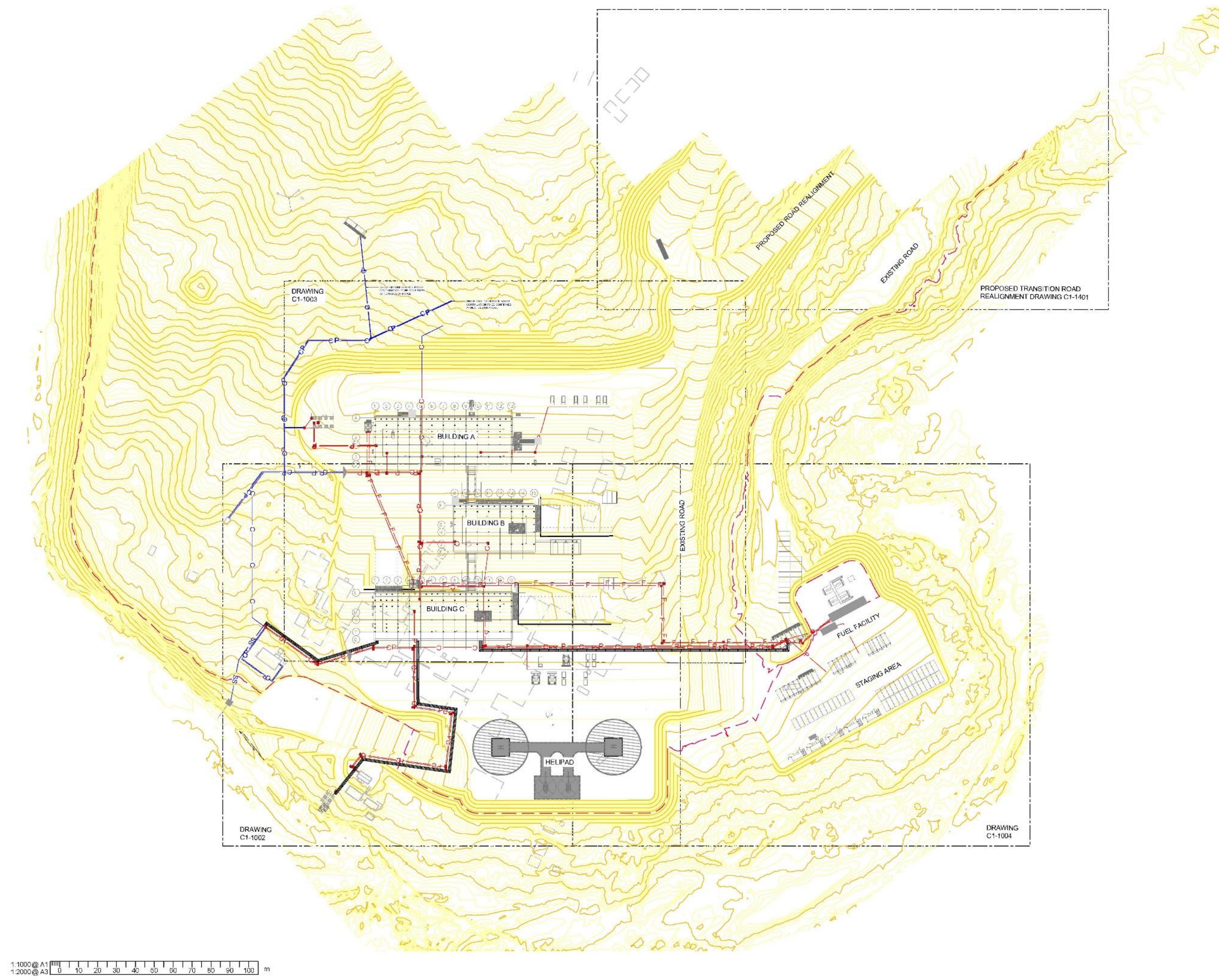


Figure 16 - Areas of encapsulation already at Scott Base. Careful planning of earthworks around these areas is crucial to successful asbestos management.



- NOTES:**
1. THE SITE LAYOUT SHOWN IS BASED ON ARCHITECTURE REVIT MODEL AS OF AUGUST 2020
 2. THE SITE LAYOUT IS UNDER DEVELOPMENT WITH MINOR CHANGES ANTICIPATED FOR THE:
 - a. LOCATION OF BULK STORAGE
 - b. VEHICLE HITCHING
 - c. SCIENCE STAGING AREA
 - d. ACCESS TO ICE
 - e. HELIPAD AND HANGAR LAYOUT
 - f. TRANSITION ROAD REALIGNMENT
 - g. HALL ROAD
 3. CONTOURS BASED ON WSP JANUARY 2020 TOPOGRAPHICAL AND AERIAL SURVEY
 - a. HORIZONTAL DATUM IN TERMS OF UTM-WGS 1984 ZONE 58 South
 - b. VERTICAL DATUM IN TERMS OF MEAN SEA LEVEL (MSL)
 4. THE SITE SERVICES SHOWN ARE INDICATIVE. ROUTES TO BE DEVELOPED FOR 'WET' AND 'DRY' SERVICES WHICH INCLUDE WATER, WASTE, POWER, COMMUNICATIONS AND FUEL. REFER TO STEENSEN AND VARING FOR DETAILS. EXISTING SITE SERVICES NOT SHOWN FOR CLARITY. REFER TO C1-112
 5. REFER TO ARCHITECTURAL SITE LAYOUT PLAN FOR FURTHER DETAILS
 6. REFER TO STRUCTURAL DRAWING FOR FURTHER DETAILS
 7. ALL CONCRETE ELEMENTS SHOWN ARE PRE-CAST CONCRETE
- LEGEND:**
- A BUILDING A ACCOMMODATION
 - B BUILDING B SCIENCE LABS OFFICES EVENT STAGING
 - C BUILDING C STORES CARGO WORKSHOPS
 - RETAINING WALL
 - EXISTING BUILDINGS
 - EXTENT OF GROUND DISTURBANCE (APPROXIMATE)
 - MAJOR CONTOUR (1m)
 - MINOR CONTOUR (0.2m)
 - TSUNAMI RUN-UP CONTOUR, 8.6 m MSL
 - PROPOSED PRE-CAST CONCRETE SLAB REFER TO CIVIL STRUCTURE DETAILS
 - PROPOSED PRE-CAST CONCRETE SLAB REFER TO STRUCTURAL DRAWINGS
 - ROTOR WASHDOWN AREA
 - FLEXIBLE ROAD SAFETY BARRIER (TL-4)
 - UTILITY SERVICE PITS
- PROPOSED SERVICES**
- | ABOVE GROUND | | BELOW GROUND | |
|--------------|-------|--------------|-------------|
| P | POWER | P | POWER |
| C | COMMS | C | COMMS |
| W | WATER | W | WATER |
| SS | SEWER | SS | SEWER |
| | | FS | FIRE SUPPLY |
- SITE SERVICES NOTES:**
1. REFER TO BUILDING SERVICES PLANS FOR CABLE AND DUCTING REQUIREMENTS
 2. REFER TO CIVILS FOR IN GROUND SERVICE TRENCH AND UTILIDOR DETAILS AND BUILDING SERVICES FOR CONTINUATION OF ABOVE GROUND SERVICES
 3. ABOVE GROUND SERVICES TO BE SUSPENDED ON FIBRE GLASS OR STEEL STEEL STANCHIONS SPACED AT MIN 5m CENTRES. REFER TO STRUCTURES FOR DETAILS

1:1000 @ A1
1:2000 @ A3

0

10

20

30

40

50

60

70

80

90

100

m

Consultant Team

JASWAX & HUGH BROUGHTON
ARCHITECTURAL

WSP
CIVIL AND STRUCTURES

STEENSEN VARING
MEP SERVICES

RAWLINSONS
QUANTITY SURVEYOR

Client

Originator

Notes

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Revisions

A	30% Developed Design - For Pricing
B	60% Developed Design
C	100% Developed Design
D	30% Detailed Design

J.Lester 2/10/2020
J.Lester 3/31/0/2020
J.Lester 4/12/2021
J.Lester 5/03/2021

DRAWN: M Thomas
DESIGNED: M Owen
DESIGN VERIFIED: R Hooper
APPROVED: J.Lester
APPROVED DATE: 5/03/2021

Project

Number: S-DN28.01

SCOTT BASE REDEVELOPMENT
ROSS ISLAND

Sheet

CIVIL SITE LAYOUT PLAN
OVERVIEW

SCALE @ A1= 1:1000
SCALE @ A3= 1:2000

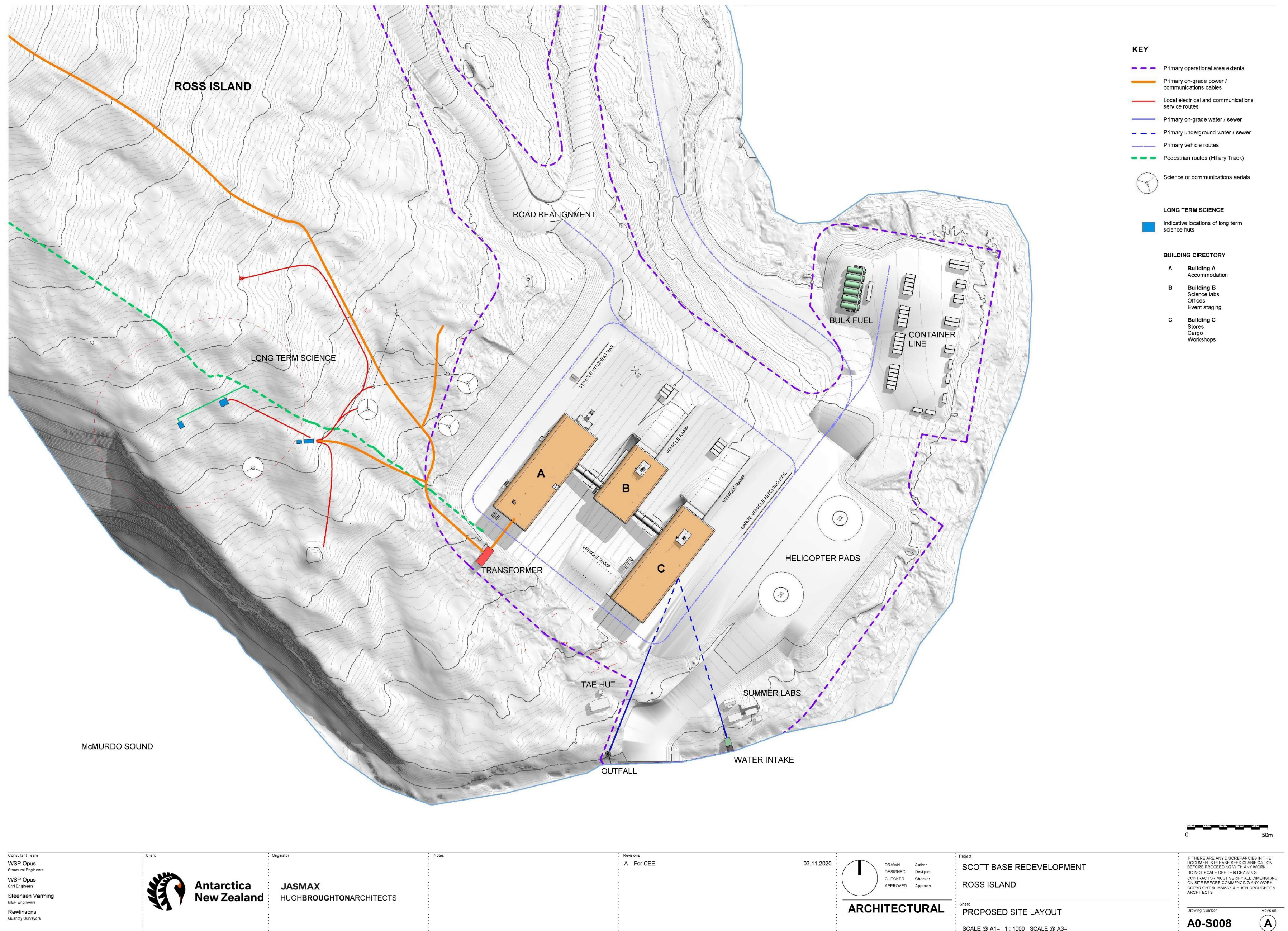
Drawing Number

C1-1001

Revision

D

Figure 23 - Proposed site layout at Pram Point detailing all services and fuel reticulation.

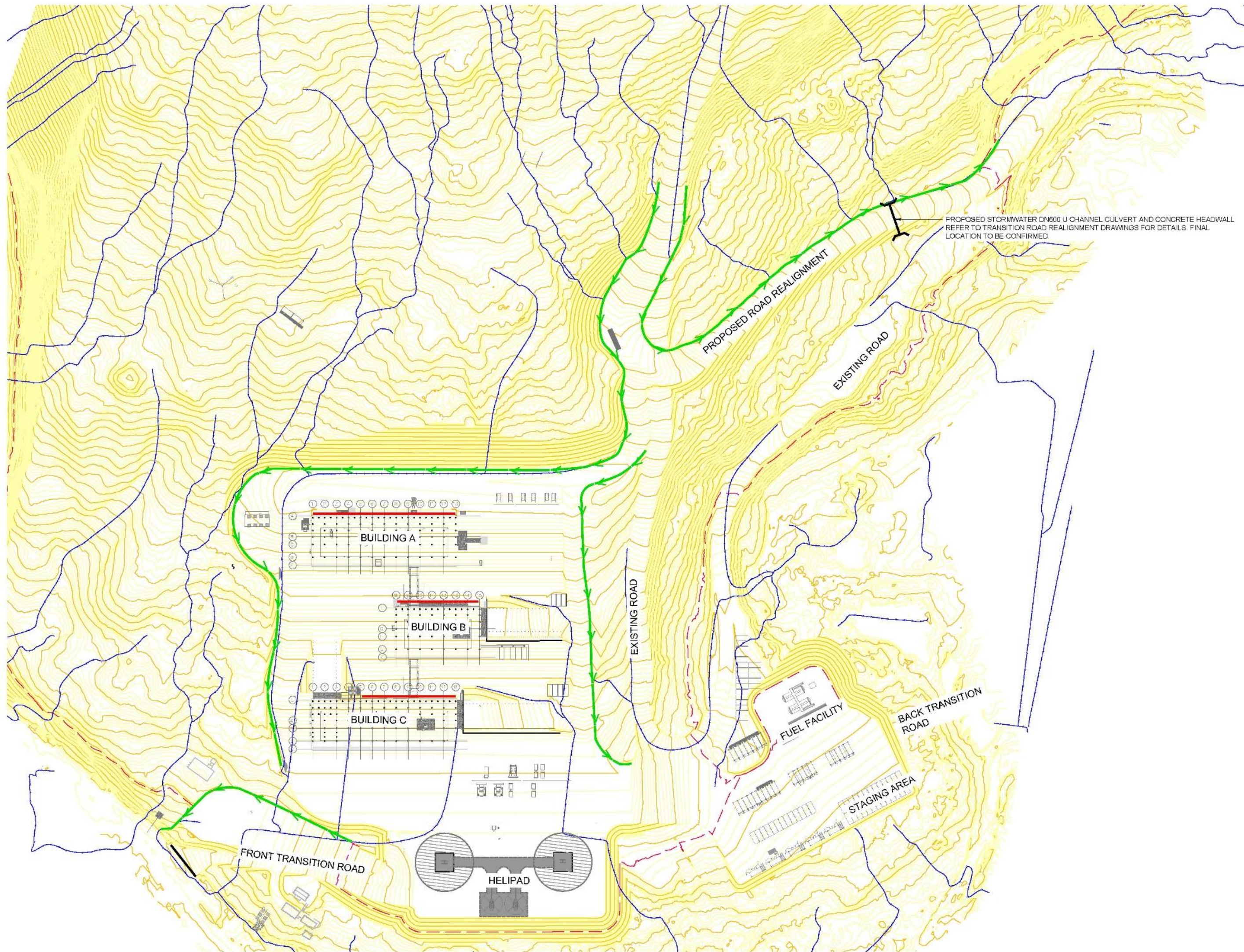


NOTES:

1. THE SITE LAYOUT SHOWN IS BASED ON ARCHITECTURE DRAWING RECEIVED ON FEBRUARY 2021
2. CONTOURS BASED ON WSP JANUARY 2020 TOPOGRAPHICAL AND AERIAL SURVEY
3. HORIZONTAL DATUM IN TERMS OF UTM-WGS 1984, ZONE 58 SOUTH
4. VERTICAL DATUM IN TERMS OF MEAN SEA LEVEL (MSL)
5. REFER TO ARCHITECTURAL SITE LAYOUT PLAN FOR FURTHER DETAILS
6. SITE DRAINAGE DESIGN SUBJECT TO FURTHER DESIGN DEVELOPMENT

LEGEND:

- A BUILDING A ACCOMMODATION
- B BUILDING B SCIENCE LABS
OFFICES
EVENT STAGING
- C BUILDING C STORES
CARGO
WORKSHOPS
- MAJOR CONTOUR (1m)
- MINOR CONTOUR (0.2m)
- OVERLAND FLOW PATH (MAJOR)
- DRAINAGE CHANNEL
REFER C1-4301
- KERB & EDGE PROTECTION
REFER C1-4301
- STORMWATER CULVERT WITH CONCRETE HEADWALL



1:1000 @ A1
1:2000 @ A3

30% DETAILED DESIGN

Consultant Team
JASMAX & HUGH BROUGHTON
ARCHITECTURAL
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CIVIL AND STRUCTURES
STEENSEN VARMING
MEP SERVICES
RAWLINSONS
QUANTITY SURVEYOR



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Revisions
A 30% Detailed Design

J. Lester 28/03/2021

DRAWN: L. Thomas
DRAWING VERIFIED: L. Thomas
DESIGNED: R. Noesall
DESIGN VERIFIED: R. Noesall
APPROVED: J. Lester
APPROVED DATE: 25/03/2021

CIVIL

Project Number: S-DR438.01
SCOTT BASE REDEVELOPMENT
ROSS ISLAND

Sheet
SITE DRAINAGE PLAN

SCALE @ A1= 1:1000

SCALE @ A3= 1:2000

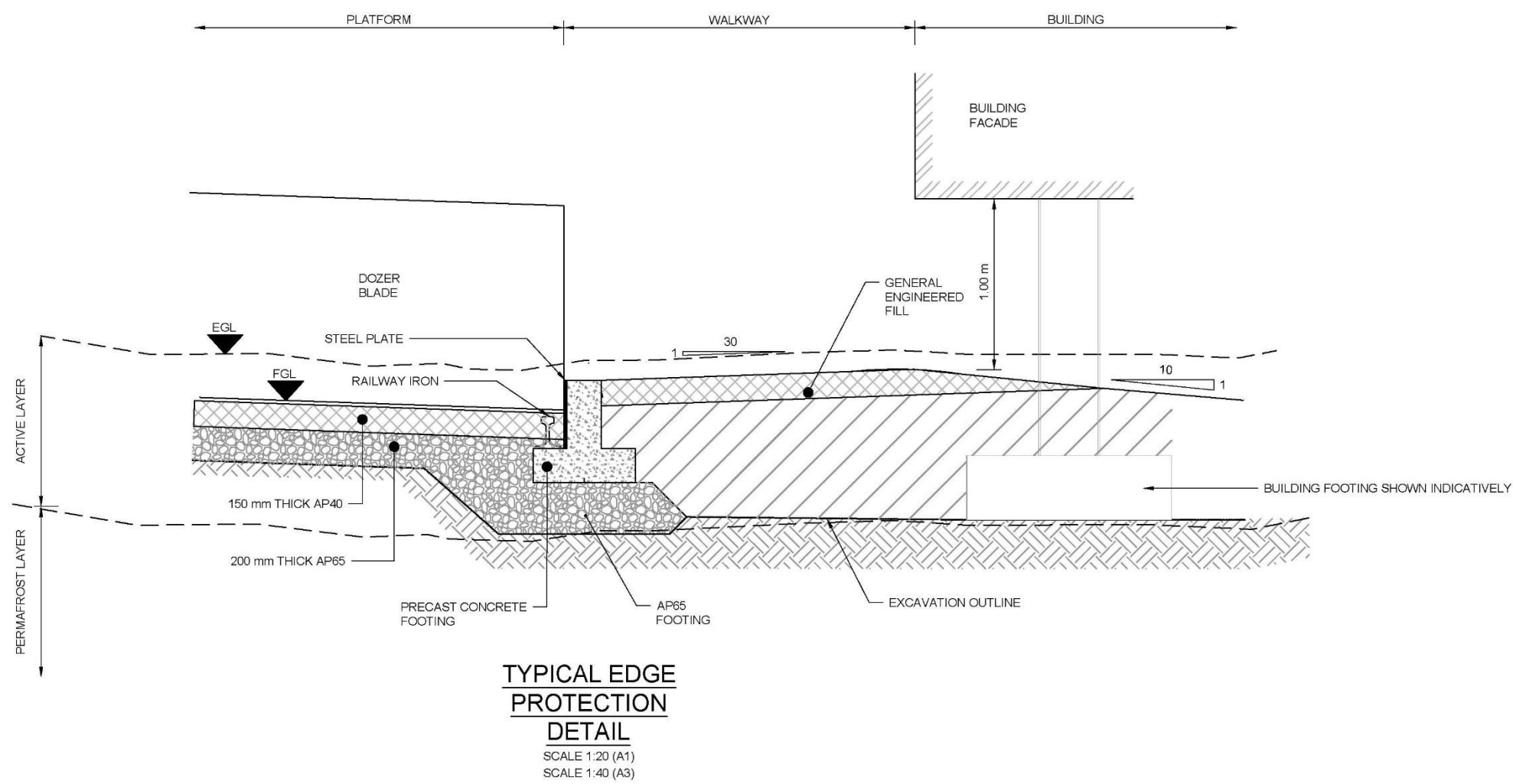
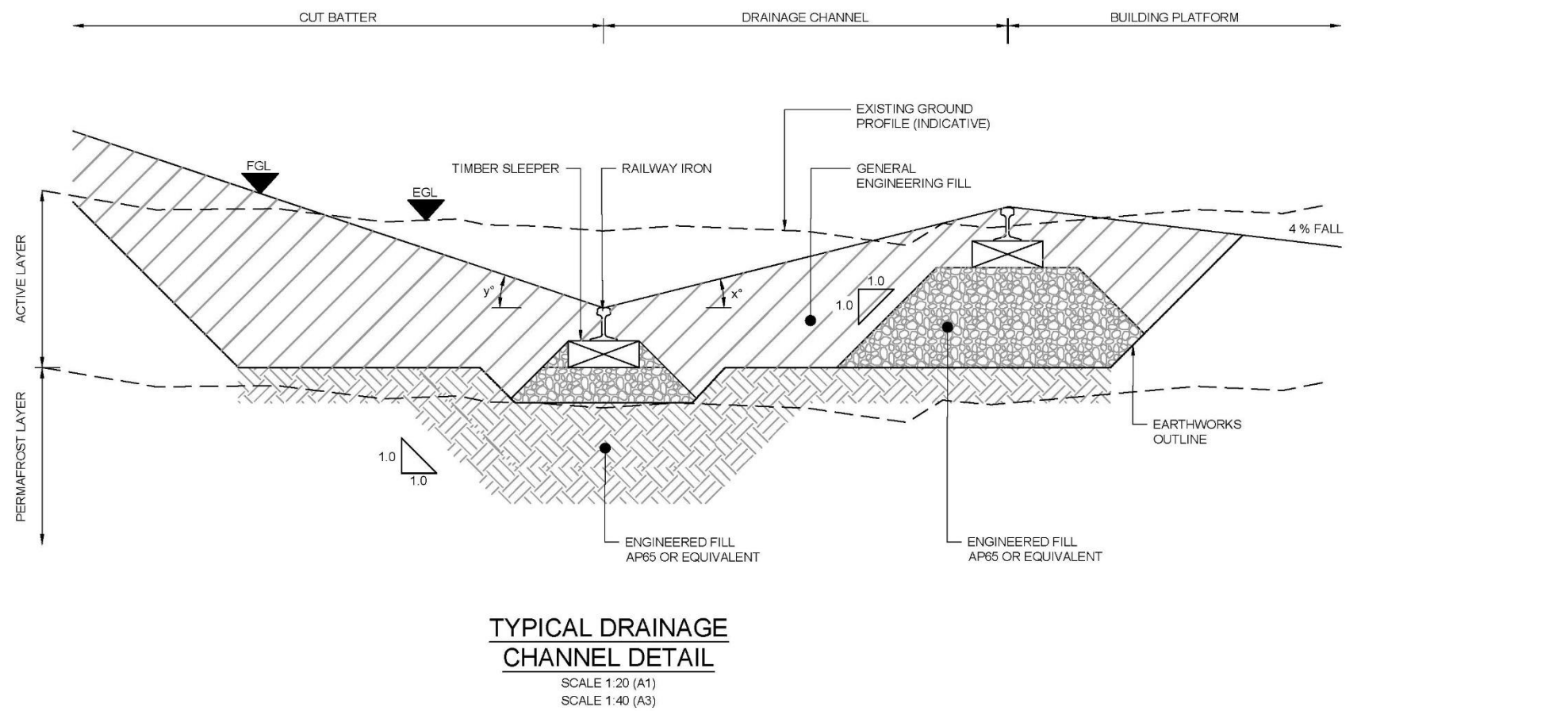
Drawing Number
C1-1105

Revision
A

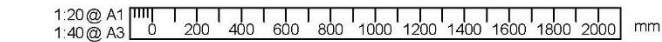
Figure 26 - Site plan detailing the proposed drainage layout.

NOTES:

1. DRAINAGE DETAILS SUBJECT TO FURTHER DEVELOPMENT AT NEXT DESIGN PHASE.



30% DETAILED DESIGN



Consultant Team
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STEENSEN VARING
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Revisions
A 30% Developed Design - For Pricing J. Lester 2/10/2020
B 80% Developed Design J. Lester 30/10/2020
C 100% Developed Design J. Lester 4/12/2020
D 30% Detailed Design J. Lester 5/03/2021

DRAWN: O. Parris-Piper
DRAWING VERIFIED: M. Owen
DESIGNED: M. Owen
DESIGN VERIFIED: M. Devenney
APPROVED: J. Lester
APPROVED DATE: 5/03/2021

CIVIL

Project Number: 5-DP438.01
SCOTT BASE REDEVELOPMENT
ROSS ISLAND

Sheet
TYPICAL DRAINAGE DETAILS

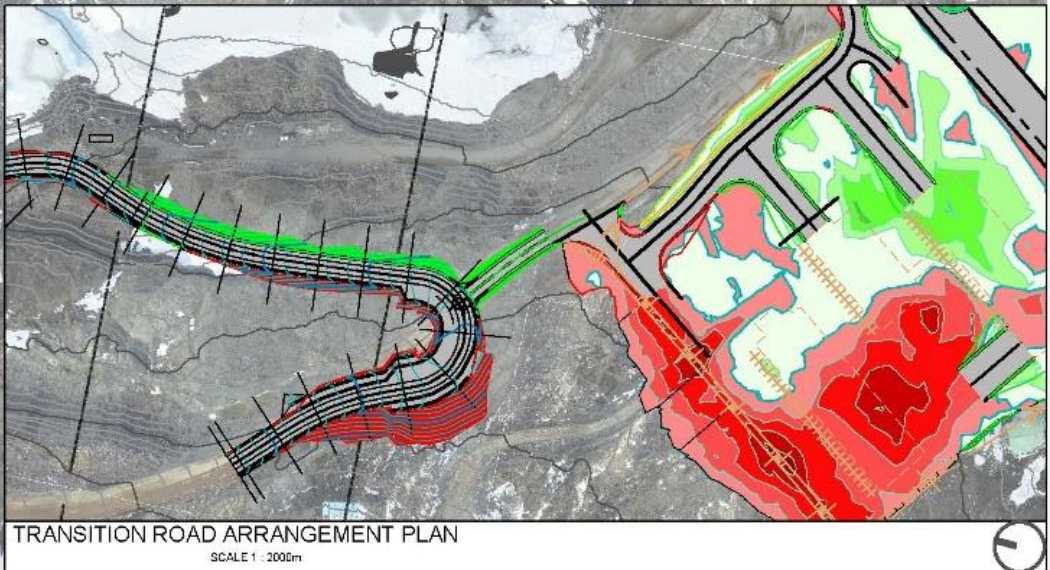
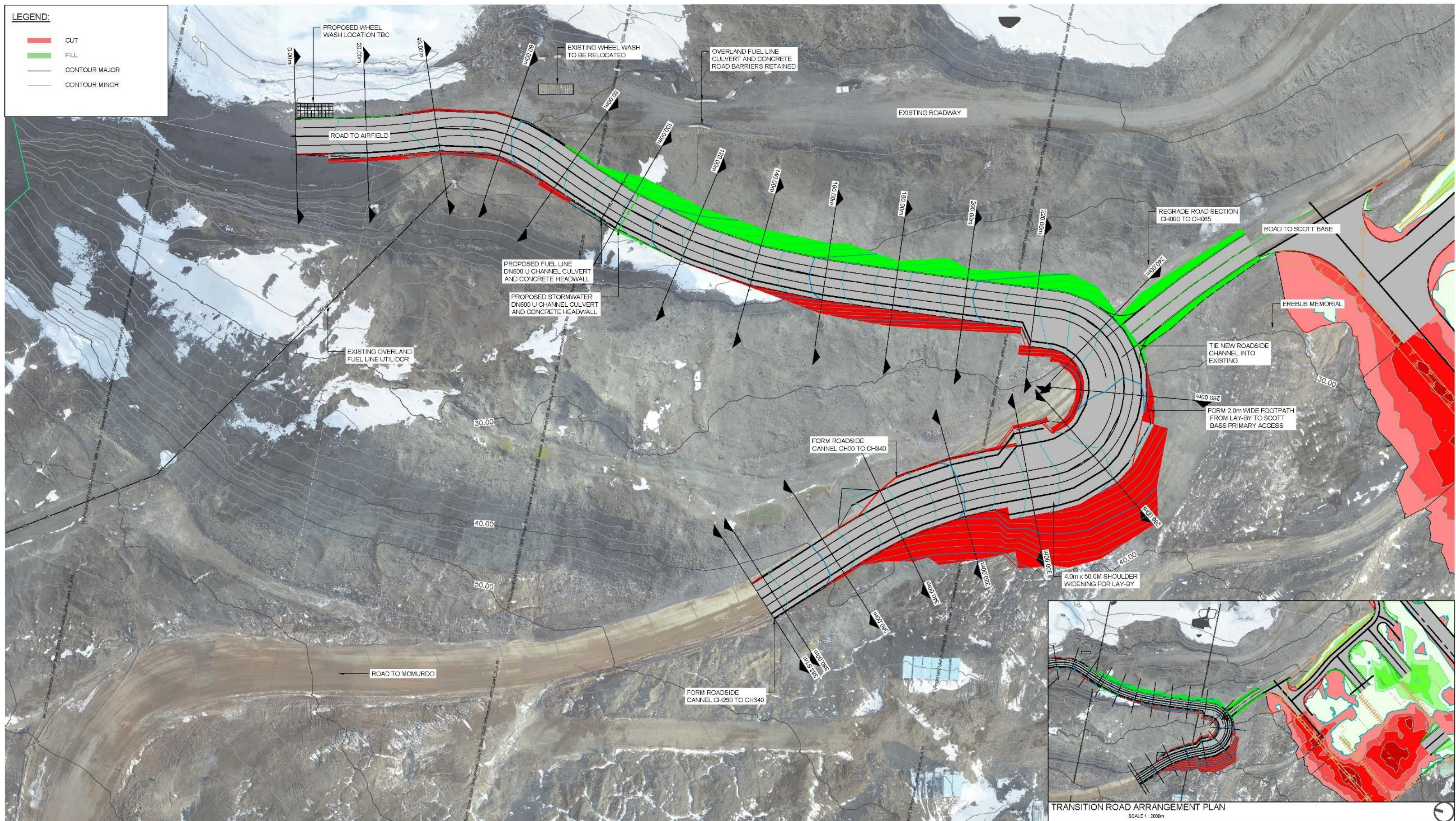
SCALE @ A1= 1:20 SCALE @ A3= 1:40

Drawing Number
C1-4301

Revision
D

Figure 27 - Proposed detail on the drainage channel reinforcement.

NOTES:



1:500 @ A1
1:1000 @ A3

30% DEVELOPED DESIGN

Consultant Team:
JASMAX & HUGH BROUGHTON
ARCHITECTURAL
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STEENSEN VARMING
MEP SERVICES
RAWLINSONS
QUANTITY SURVEYOR



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Revisions
A 50% Developed Design Notes
J. Lester 4/17/2020

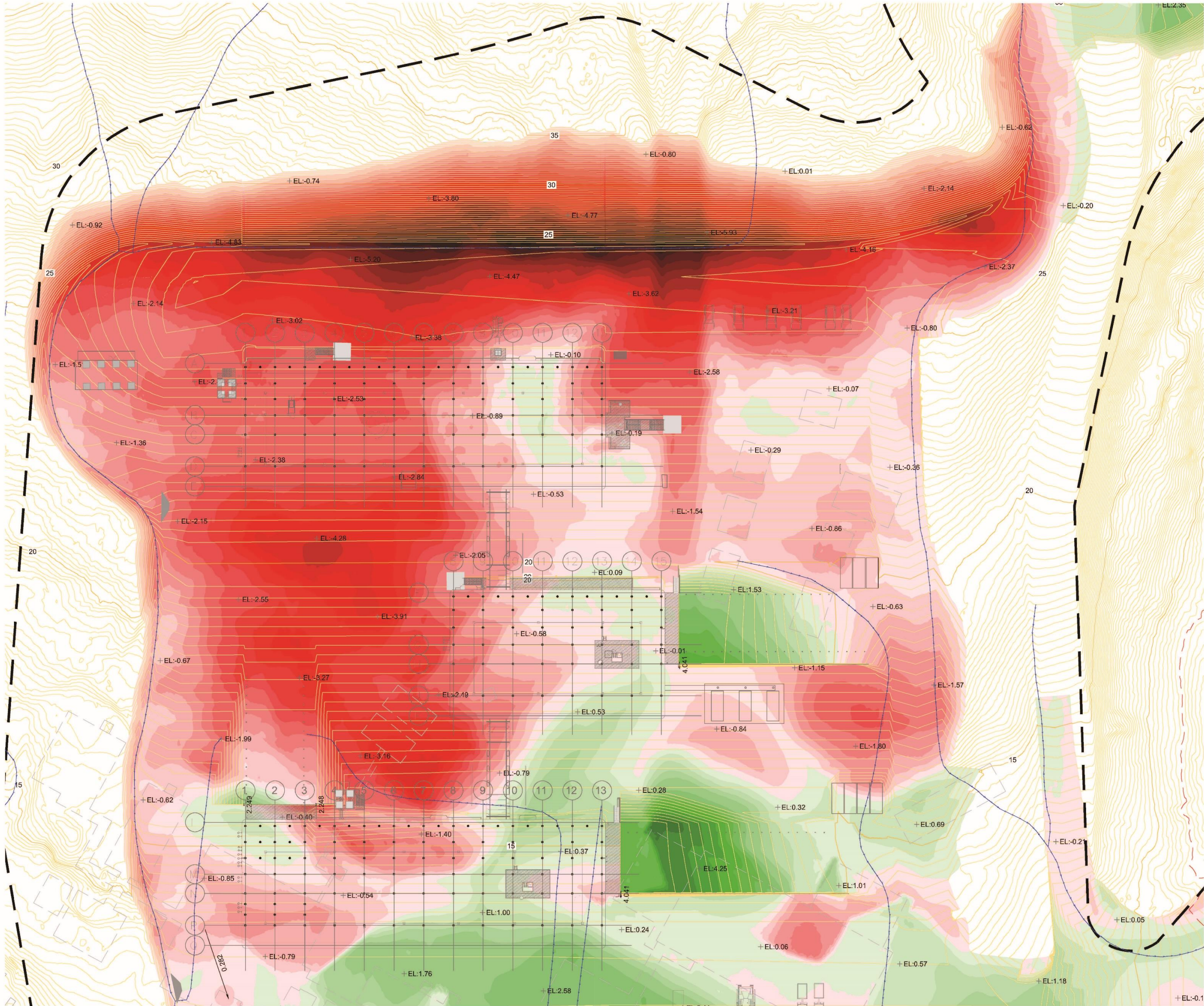
DRAWN
DESIGNED
CHECKED
APPROVED
CIVIL

Project
Number: 6DP43801
SCOTT BASE REDEVELOPMENT
ROSS ISLAND

Sheet
TRANSITION ROAD REALIGNMENT - LAYOUT PLAN
SCALE @ A1= 1:500 SCALE @ A3= 1:1000

Drawing Number
C1-0240
Revision
A

Figure 32: Scott Base to McMurdo road realignment layout plan with (inset) the wider site plan for earthworks. Note north is to the top left on the plan. Red indicating cut and green indicating fill for the earthworks.



- NOTES FOR 30% DEVELOPED DESIGN**
1. NO CHANGES MADE SINCE PRELIMINARY DESIGN. DESIGN CHANGES TO BE MADE SUBJECT TO CONFIRMATION OF BASE SITING, LOCATION OF ALL BUILDINGS AND GENERAL SITE LAYOUT. THESE CHANGES WILL RESULT IN CUT AND FILL DEPTHS, HEIGHTS SLOPES AND TOTAL VOLUMES.
 2. REFER TO CONTRACT ADVICE NOTICE 17 FOR BASE SITING LAYOUT.
 3. REFER TO CONTRACT ADVICE NOTICE 16 FOR EARTHWORKS METHODOLOGY.
 4. REFER TO CONTRACT ADVICE NOTICE 14 FOR CONTAMINATED LAND REMEDIAL MANAGEMENT OPTIONS REPORT.

FOUNDATION LOCATIONS INDICATE 406MM DIAMETER STEEL END-BEARING PILE LOCKED IN TO A 50MM DIAMETER, 5M DEEP HOLE (MAXIMUM) USING SAND-WATER SLURRY.

- PILE NUMBERS ARE AS FOLLOWS:
- BUILDING A = 103
 - BUILDING B = 63
 - BUILDING C = 113
 - WHARF STRUCTURE = 14
 - MOORING PILES = 2
 - WATER OUTLET STRUCTURE = 4

- LEGEND**
- EXTENT OF GROUND DISTURBANCE
 - PROPOSED BUILDING OUTLINE
 - CUT
 - FILL

- NOTES**
1. BUILDING POSITIONS SETOUT COORDINATES TO BE PROVIDED BY ARCHITECTURAL.
 2. REFER TO ARCHITECTURAL DOCUMENTATION FOR FINISHED FLOOR LEVELS.
 3. REFER TO DRAWING C1-1701 FOR EXTENT OF LAND CONTAMINATION TREATMENT.

Cut/Fill Table	
Depth Range (-Cut +Fill)	Color
-7.6 - -7.20	
-7.2 - -6.80	
-6.8 - -6.40	
-6.4 - -6.00	
-6.0 - -5.60	
-5.6 - -5.20	
-5.2 - -4.80	
-4.8 - -4.40	
-4.4 - -4.00	
-4.0 - -3.60	
-3.6 - -3.20	
-3.2 - -2.80	
-2.8 - -2.40	
-2.4 - -2.00	
-2.0 - -1.60	
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-1.2 - -0.80	
-0.8 - -0.40	
0.0 - 0.40	

Cut/Fill Table	
Depth Range (-Cut +Fill)	Color
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1.2 - 1.60	
1.6 - 2.00	
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2.4 - 2.80	
2.8 - 3.20	
3.2 - 3.60	
3.6 - 4.00	
4.0 - 4.40	
4.4 - 4.80	
4.8 - 5.20	
5.2 - 5.60	
5.6 - 6.00	
6.0 - 6.40	
6.4 - 6.80	
6.8 - 7.20	
7.2 - 7.60	

TOTAL EARTHWORKS AREA = 64,904m²

30% DETAILED DESIGN

Consultant Team

JASMAX & HUGH BROUGHTON
ARCHITECTURAL

WSP
CIVIL AND STRUCTURES

STEENSEN VARMING
MEP SERVICES

RAWLINSONS
QUANTITY SURVEYOR

Client

Antarctica
New Zealand

Originator

WSP

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Revisions

A	30% Developed Design - For Pricing
B	60% Developed Design
C	100% Developed Design
D	30% Detailed Design

J.Lester 2/10/2020
J.Lester 30/10/2020
J.Lester 4/12/2020
J.Lester 5/3/2021

DRAWN
DESIGNED
CHECKED
APPROVED

J.Russell
M.Owen
M.Owen
R.Nocapili
J.Lester

Project

Number: 6-DP573.00

SCOTT BASE REDEVELOPMENT

ROSS ISLAND

Sheet

BULK EARTHWORKS AND SITE DRAINAGE PLAN

SHEET 2 OF 3

SCALE @ A1= 1:400 SCALE @ A3= 1:800

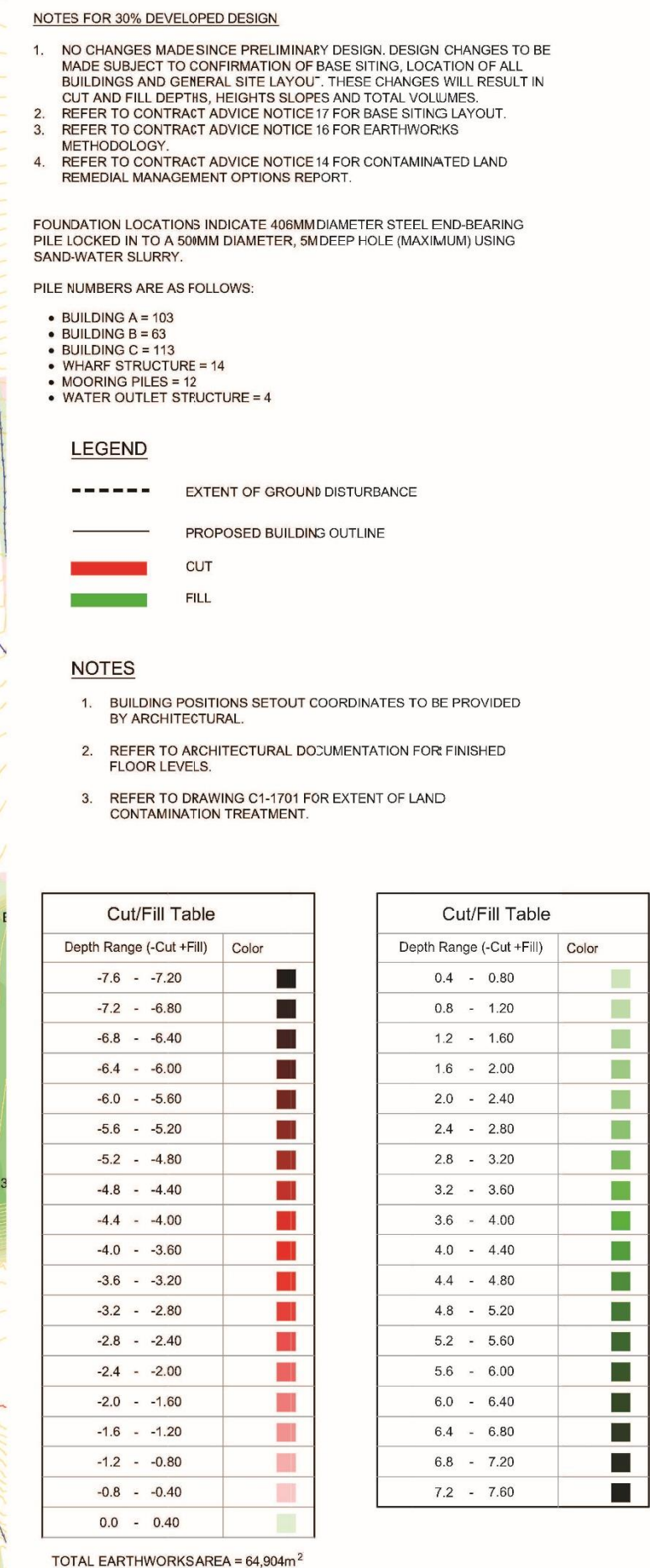
Drawing Number

C1-1203

Revision

D

Figure 34: Detail of bulk earthworks plan with pile locations for the proposed Scott Base buildings (WSP, 2021).





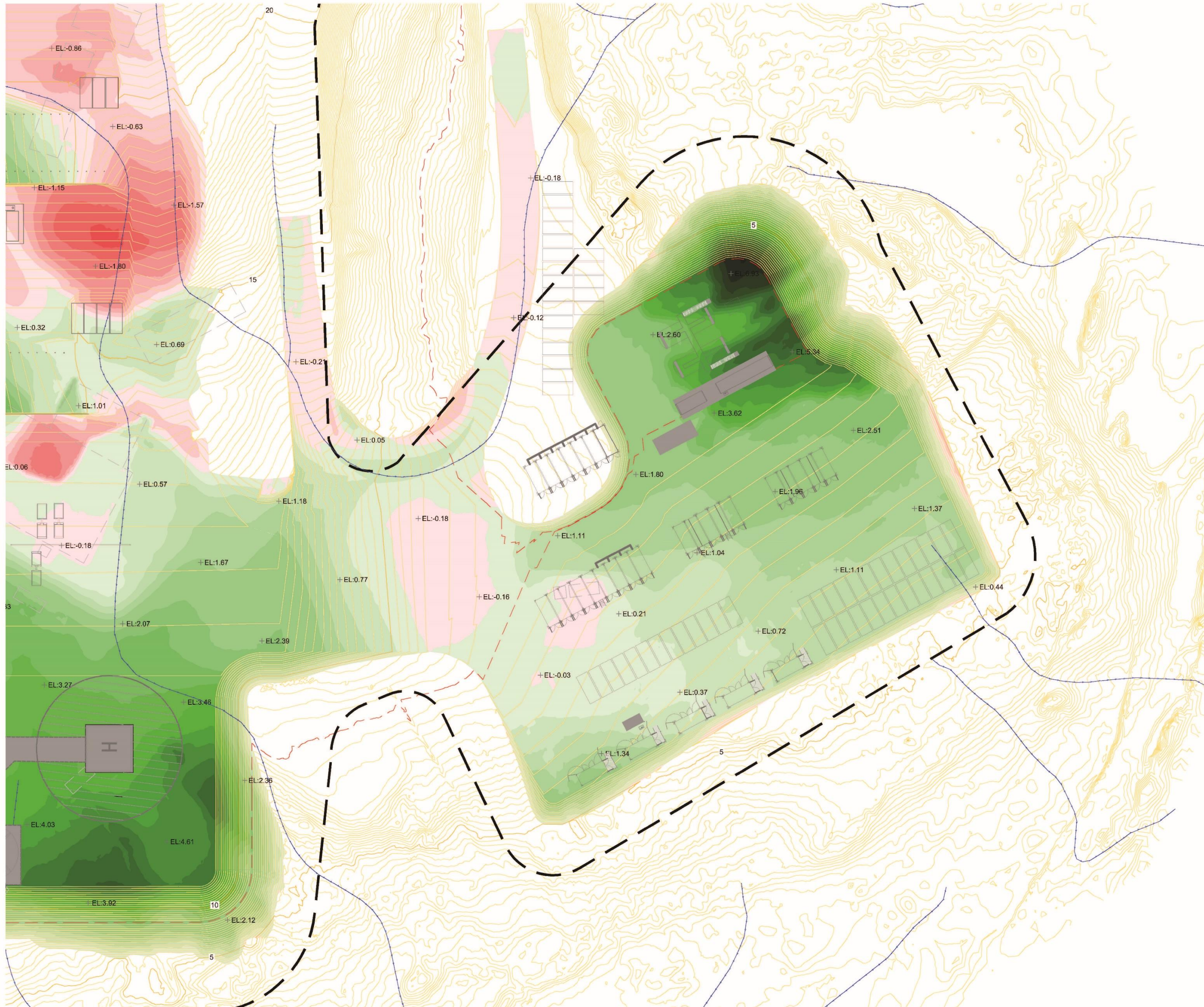
<p>Consultant Team</p> <p>JASMAX & HUGH BROUGHTON ARCHITECTURAL</p> <p>WSP CIVIL AND STRUCTURES</p> <p>STEENSEN FARMING MEP SERVICES</p> <p>RAWLINSONS QUANTITY SURVEYOR</p>	<p>Client</p>  <p>Antarctica New Zealand</p>	<p>Revisions</p> <table border="1"> <tr> <td>A</td> <td>30% Developed Design - For Pricing</td> <td>J.Lester</td> <td>2/10/2020</td> </tr> <tr> <td>B</td> <td>60% Developed Design</td> <td>J.Lester</td> <td>30/10/2020</td> </tr> <tr> <td>C</td> <td>100% Developed Design</td> <td>J.Lester</td> <td>4/12/2020</td> </tr> <tr> <td>D</td> <td>30% Detailed Design</td> <td>J.Lester</td> <td>5/03/2021</td> </tr> </table>	A	30% Developed Design - For Pricing	J.Lester	2/10/2020	B	60% Developed Design	J.Lester	30/10/2020	C	100% Developed Design	J.Lester	4/12/2020	D	30% Detailed Design	J.Lester	5/03/2021	<p>Notes</p> <p>This Document and Design remains copyright of WSP and cannot be reproduced in any way without prior consent. This drawing shall be read in conjunction with other contract documents, drawings and project specifications. No building work shall proceed until building consent has been granted for the work described. If there are any discrepancies in the documents please seek clarification before proceeding with any work. Do not scale off this drawing. Contractor must verify all dimensions and levels on site before commencing any work.</p>	<p>Project</p> <p>Number: 6-DP373.00</p> <p>SCOTT BASE REDEVELOPMENT</p> <p>ROSS ISLAND</p>  <p>DRAWN: J.Russell DESIGNED: M.Owen CHECKED: M.Owen APPROVED: R.Nocapli J.Lester</p> <p>CIVIL</p>	<p>Sheet</p> <p>BULK EARTHWORKS AND SITE DRAINAGE PLAN</p> <p>SHEET 1 OF 3</p> <p>SCALE @ A1= 1:400 SCALE @ A3= 1:800</p>	<p>Drawing Number</p> <p>C1-1202</p> <p>Revision</p> <p>(D)</p>
A	30% Developed Design - For Pricing	J.Lester	2/10/2020																			
B	60% Developed Design	J.Lester	30/10/2020																			
C	100% Developed Design	J.Lester	4/12/2020																			
D	30% Detailed Design	J.Lester	5/03/2021																			

Figure 35: Detail of bulk earthworks with location of the wharf and the piling locations for Buildings B and C (WSP, 2021).



NOTES FOR 30% DEVELOPED DESIGN

1. NO CHANGES MADE SINCE PRELIMINARY DESIGN. DESIGN CHANGES TO BE MADE SUBJECT TO CONFIRMATION OF BASE SITING, LOCATION OF ALL BUILDINGS AND GENERAL SITE LAYOUT. THESE CHANGES WILL RESULT IN CUT AND FILL DEPTHS, HEIGHTS SLOPES AND TOTAL VOLUMES.
2. REFER TO CONTRACT ADVICE NOTICE 17 FOR BASE SITING LAYOUT.
3. REFER TO CONTRACT ADVICE NOTICE 16 FOR EARTHWORKS METHODOLOGY.
4. REFER TO CONTRACT ADVICE NOTICE 14 FOR CONTAMINATED LAND REMEDIAL MANAGEMENT OPTIONS REPORT.

FOUNDATION LOCATIONS INDICATE 406MM DIAMETER STEEL END-BEARING PILE LOCKED IN TO A 50MM DIAMETER, 5M DEEP HOLE (MAXIMUM) USING SAND-WATER SLURRY.

PILE NUMBERS ARE AS FOLLOWS:

- BUILDING A = 103
- BUILDING B = 63
- BUILDING C = 113
- WHARF STRUCTURE = 14
- MOORING PILES = 12
- WATER OUTLET STRUCTURE = 4

LEGEND

- EXTENT OF GROUND DISTURBANCE
- PROPOSED BUILDING OUTLINE
- CUT
- FILL

NOTES

1. BUILDING POSITIONS SETOUT COORDINATES TO BE PROVIDED BY ARCHITECTURAL.
2. REFER TO ARCHITECTURAL DOCUMENTATION FOR FINISHED FLOOR LEVELS.
3. REFER TO DRAWING C1-1701 FOR EXTENT OF LAND CONTAMINATION TREATMENT.

Cut/Fill Table	
Depth Range (-Cut +Fill)	Color
-7.6 - -7.20	
-7.2 - -6.80	
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-6.0 - -5.60	
-5.6 - -5.20	
-5.2 - -4.80	
-4.8 - -4.40	
-4.4 - -4.00	
-4.0 - -3.60	
-3.6 - -3.20	
-3.2 - -2.80	
-2.8 - -2.40	
-2.4 - -2.00	
-2.0 - -1.60	
-1.6 - -1.20	
-1.2 - -0.80	
-0.8 - -0.40	
0.0 - 0.40	

Cut/Fill Table	
Depth Range (-Cut +Fill)	Color
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5.6 - 6.00	
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7.2 - 7.60	

TOTAL EARTHWORKS AREA = 64,904m²

30% DETAILED DESIGN

Consultant Team
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ARCHITECTURAL
WSP
CIVIL AND STRUCTURES
STEENSEN VARMING
MEP SERVICES
RAWLINSONS
QUANTITY SURVEYOR



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Revisions
A 30% Developed Design - For Pricing
B 60% Developed Design
C 100% Developed Design
D 30% Detailed Design

J.Lester 20/10/2020
J.Lester 30/10/2020
J.Lester 4/12/2020
J.Lester 5/03/2021



DRAWN
DESIGNED
CHECKED
APPROVED

J.Russell
M.Owen
M.Owen
R.Nociapil
J.Lester

CIVIL

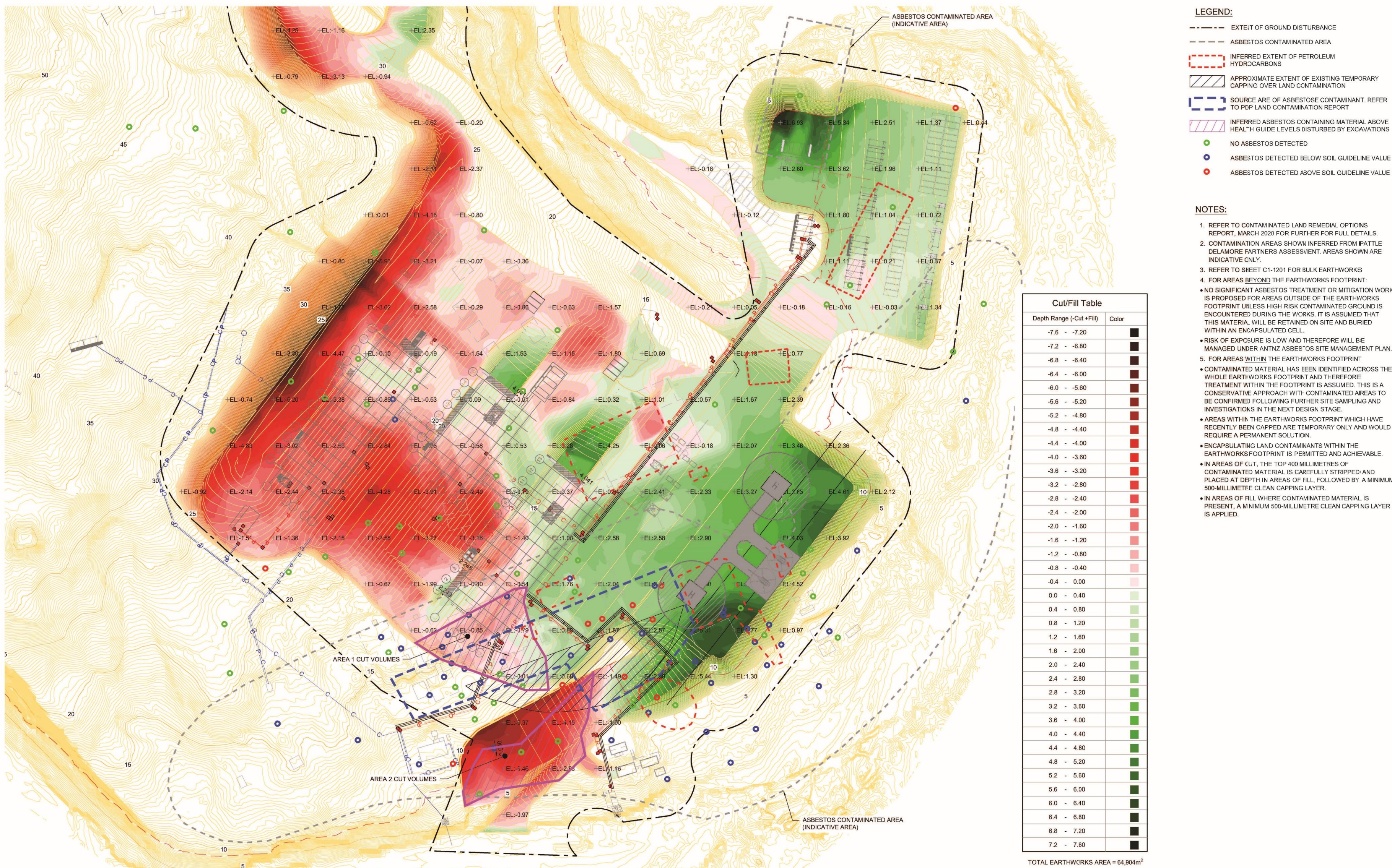
Project
Number: 6-DP973.00
SCOTT BASE REDEVELOPMENT
ROSS ISLAND

Sheet
BULK EARTHWORKS AND SITE DRAINAGE PLAN
SHEET 3 OF 3
SCALE @ A1= 1:400
SCALE @ A3= 1:800

Drawing Number
C1-1204

Revision
D

Figure 36: Detail of bulk earthworks with location of the proposed container line and bulk fuel storage. This is also the proposed staging location for construction equipment and the current buildings for removal (WSP, 2021).



- LEGEND:**
- EXTEIT OF GROUND DISTURBANCE
 - - - ASBESTOS CONTAMINATED AREA
 - - - INFERRED EXTENT OF PETROLEUM HYDROCARBONS
 - /// APPROXIMATE EXTENT OF EXISTING TEMPORARY CAPPING OVER LAND CONTAMINATION
 - SOURCE ARE OF ASBESTOSE CONTAMINANT. REFER TO PDP LAND CONTAMINATION REPORT
 - /// INFERRED ASBESTOS CONTAINING MATERIAL ABOVE HEALTH GUIDE LEVELS DISTURBED BY EXCAVATIONS
 - NO ASBESTOS DETECTED
 - ASBESTOS DETECTED BELOW SOIL GUIDELINE VALUE
 - ASBESTOS DETECTED ABOVE SOIL GUIDELINE VALUE

- NOTES:**
1. REFER TO CONTAMINATED LAND REMEDIAL OPTIONS REPORT, MARCH 2020 FOR FURTHER FOR FULL DETAILS.
 2. CONTAMINATION AREAS SHOWN INFERRED FROM PATTLE DELAMORE PARTNERS ASSESSMENT. AREAS SHOWN ARE INDICATIVE ONLY.
 3. REFER TO SHEET C1-1201 FOR BULK EARTHWORKS
 4. FOR AREAS BEYOND THE EARTHWORKS FOOTPRINT:
 - NO SIGNIFICANT ASBESTOS TREATMENT OR MITIGATION WORK IS PROPOSED FOR AREAS OUTSIDE OF THE EARTHWORKS FOOTPRINT UNLESS HIGH RISK CONTAMINATED GROUND IS ENCOUNTERED DURING THE WORKS. IT IS ASSUMED THAT THIS MATERIAL WILL BE RETAINED ON SITE AND BURIED WITHIN AN ENCAPSULATED CELL.
 - RISK OF EXPOSURE IS LOW AND THEREFORE WILL BE MANAGED UNDER ANTENZ ASBESTOS SITE MANAGEMENT PLAN.
 5. FOR AREAS WITHIN THE EARTHWORKS FOOTPRINT:
 - CONTAMINATED MATERIAL HAS BEEN IDENTIFIED ACROSS THE WHOLE EARTHWORKS FOOTPRINT AND THEREFORE TREATMENT WITHIN THE FOOTPRINT IS ASSUMED. THIS IS A CONSERVATIVE APPROACH WITH CONTAMINATED AREAS TO BE CONFIRMED FOLLOWING FURTHER SITE SAMPLING AND INVESTIGATIONS IN THE NEXT DESIGN STAGE.
 - AREAS WITHIN THE EARTHWORKS FOOTPRINT WHICH HAVE RECENTLY BEEN CAPPED ARE TEMPORARY ONLY AND WOULD REQUIRE A PERMANENT SOLUTION.
 - ENCAPSULATING LAND CONTAMINANTS WITHIN THE EARTHWORKS FOOTPRINT IS PERMITTED AND ACHIEVABLE.
 - IN AREAS OF CUT, THE TOP 400 MILLIMETRES OF CONTAMINATED MATERIAL IS CAREFULLY STRIPPED AND PLACED AT DEPTH IN AREAS OF FILL, FOLLOWED BY A MINIMUM 500-MILLIMETRE CLEAN CAPPING LAYER.
 - IN AREAS OF FILL WHERE CONTAMINATED MATERIAL IS PRESENT, A MINIMUM 500-MILLIMETRE CLEAN CAPPING LAYER IS APPLIED.

1:750 @ A1
1:1500 @ A3

0 10 20 30 40 50 60 70 m

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**Antarctica
New Zealand**

Originator

wsp

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Revisions

A	30% Developed Design - For Pricing	J. Lester	2/10/2020
B	60% Developed Design	J. Lester	30/10/2020
C	100% Developed Design	J. Lester	4/12/2020
D	30% Detailed Design	J. Lester	5/03/2021

Drawn: J. Russell
Checked: M. Owen
Designed: M. Owen
Design Verified: M. Devanny
Approved: J. Lester
Approved Date: 5/03/2021

Project

Number: 6-DPM38.01

SCOTT BASE REDEVELOPMENT

ROSS ISLAND

Sheet

CIVIL

LAND CONTAMINATION PLAN

SCALE @ A1= 1:750 SCALE @ A3= 1:1500

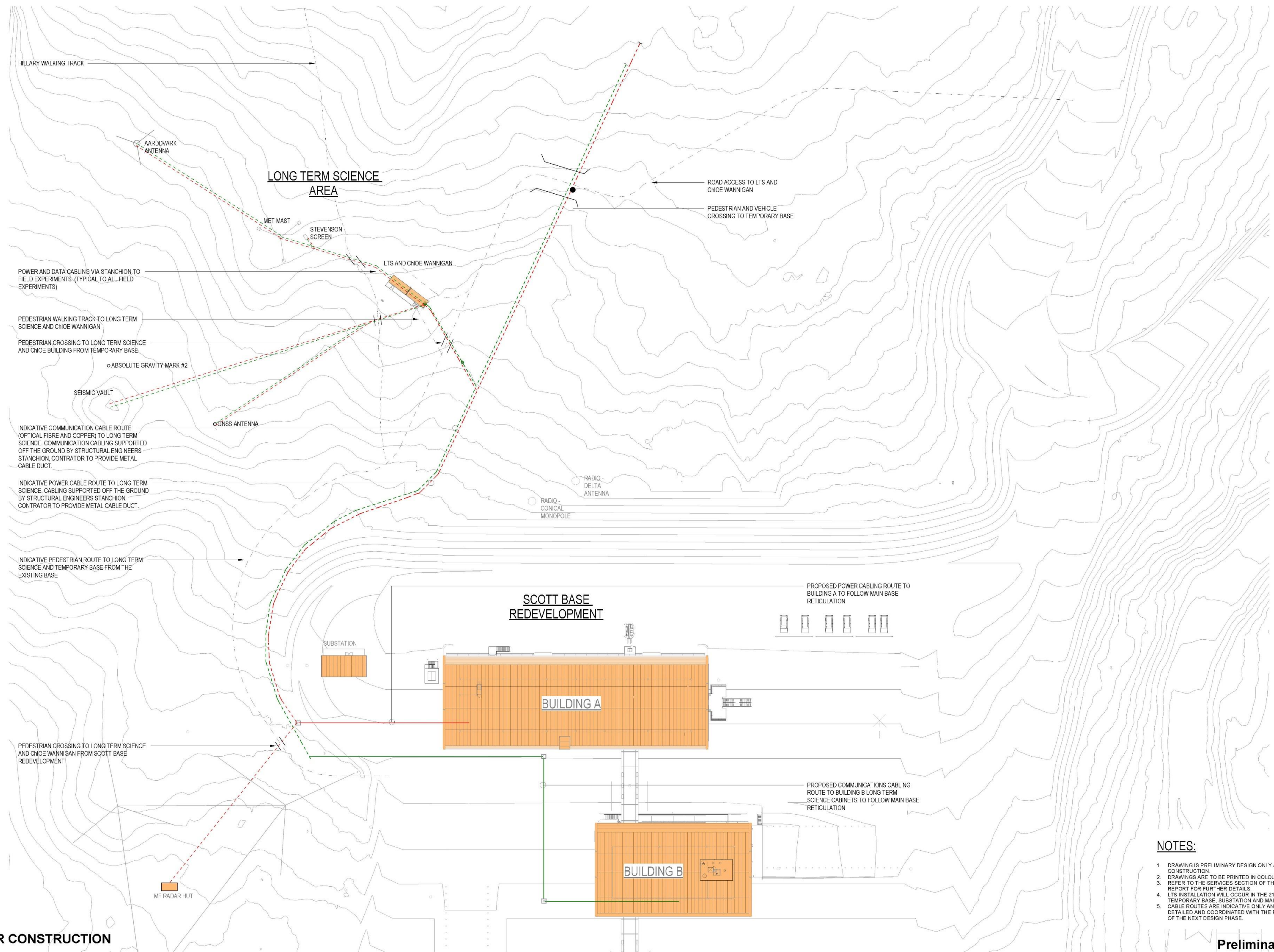
Drawing Number

C1-1701

Revision

D

Figure 37: Plan showing the cut (red) and fill (green) profile with contamination areas both known and inferred superimposed (WSP, 2020). The proposed area of encapsulation is located in the deep fill area under the helipads.



- NOTES:**
1. DRAWING IS PRELIMINARY DESIGN ONLY AND IS NOT INTENDED FOR CONSTRUCTION.
 2. DRAWINGS ARE TO BE PRINTED IN COLOUR.
 3. REFER TO THE SERVICES SECTION OF THE PRELIMINARY DESIGN REPORT FOR FURTHER DETAILS.
 4. LTS INSTALLATION WILL OCCUR IN THE 2122 SEASON PRIOR TO THE TEMPORARY BASE, SUBSTATION AND MAIN BASE.
 5. CABLE ROUTES ARE INDICATIVE ONLY AND ARE TO BE FURTHER DETAILED AND COORDINATED WITH THE PROPOSED STAGING AS PART OF THE NEXT DESIGN PHASE.

Preliminary Design

NOT FOR CONSTRUCTION

Consultant Team
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Notes
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Revisions
A DRAFT PRELIMINARY ISSUE
B PRELIMINARY DESIGN ISSUE
C PRELIMINARY DESIGN ISSUE

19.03.21
30.03.21
27.04.21



DRAWN
DESIGNED
CHECKED
APPROVED

TFS
TFS
MF
MF

BUILDING SERVICES

Project
LONG TERM SCIENCE
ROSS ISLAND

Sheet
LTS AND CHLOE HUT - OPTION 1 - FINAL SITE PLAN
SCALE @ A1= 1 : 500

Drawing Number
LTS-B1-0010
Revision
C

Figure 40 - Indicative locations for LTS experiments to remain on Pram Point.

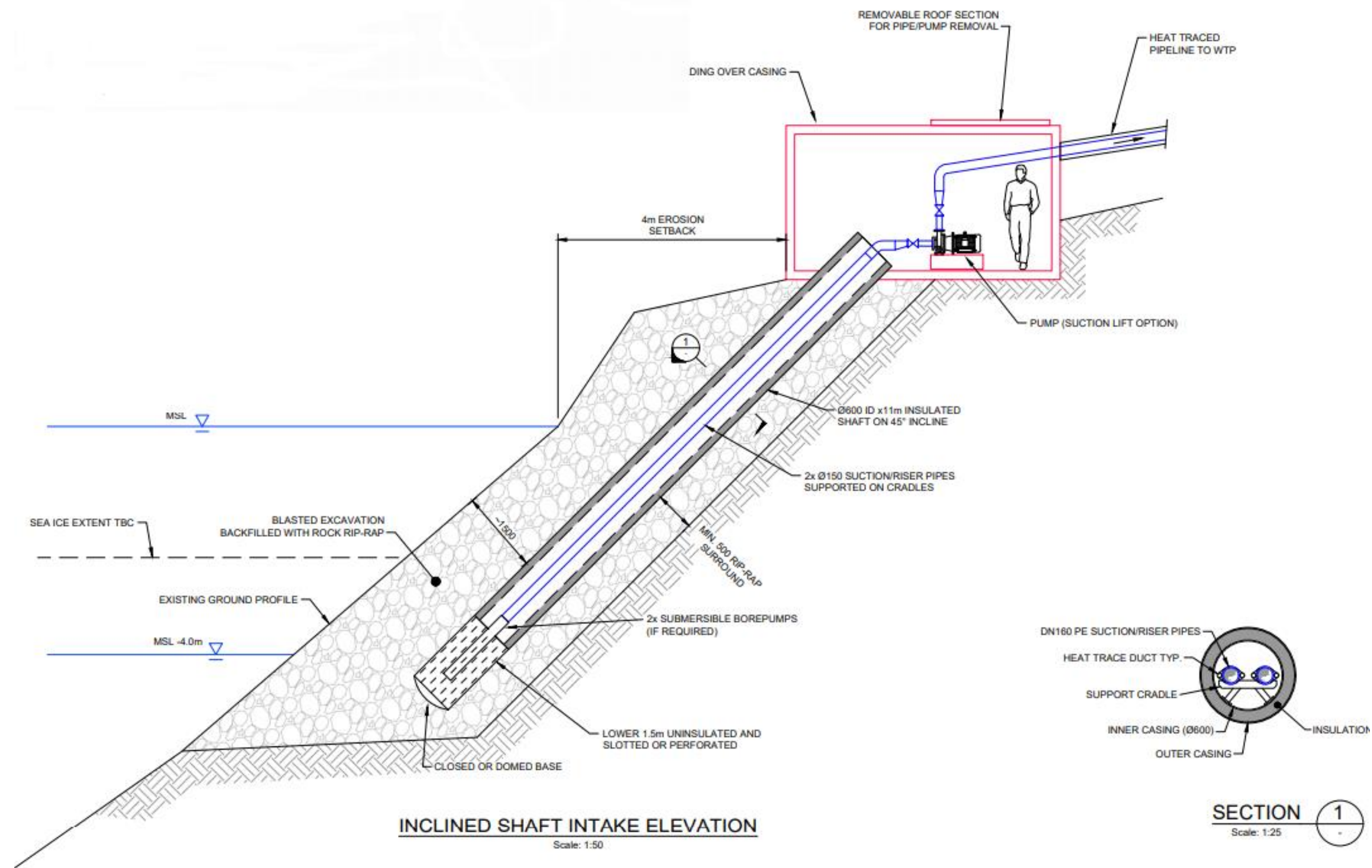
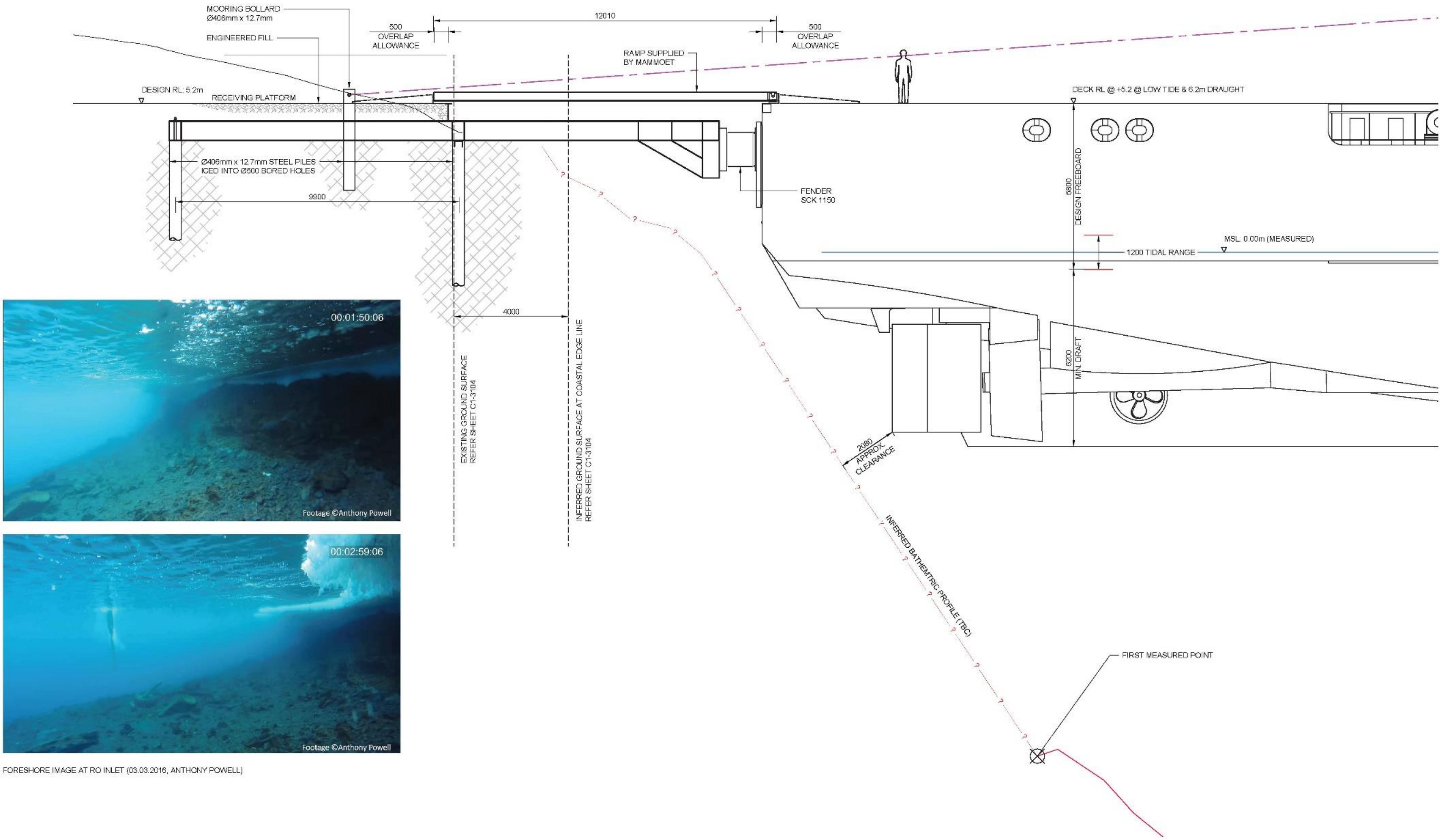


Figure 41: Concept view of water intake showing the cut channel, pipe lay and pump hut.

- NOTES:
1. LAND TOPO SURVEY BASED ON WSP SURVEY UNDERTAKEN
 2. CONTOURS BASED ON WSP JANUARY 2020 TOPOGRAPHICAL AND AERIAL SURVEY
A. HORIZONTAL DATUM IN TERMS OF UTM-WGS 1984 ZONE 58 SOUTH
B. VERTICAL DATUM IN TERMS OF MEAN SEA LEVEL (MSL)
 3. BATHYMETRY BASED ON NZDF SURVEY FROM 30 NOVEMBER 2020. REFER TO NZDF SURVEY REPORT AND EXCEL SPREADSHEET (RAW DATA)
 4. ACCORDING TO THE NZDF SCOTT BASE REDEVELOPMENT VALIDATION SURVEY, THE BATHYMETRIC INFORMATION PROVIDED IS NOT SUITABLE FOR NAVIGATION OR DETAILED ENGINEERING WORK. IT IS RECOMMENDED THAT A FOLLOW-UP SURVEY IS COMMISSIONED TO PROVIDE THIS LEVEL OF DETAIL PRIOR TO ANY OVER-THE-SHORE LOGISTICS OPERATIONS BEING CONDUCTED
 5. SEA ICE NOT SHOWN FOR CLARITY.

- LEGEND:
- PROPOSED SURFACE
 - ASSUMED BATHYMETRIC PROFILE (NZDF DEC 2020)
 - INFERRED BATHYMETRIC PROFILE
 - GROUND SURFACE PROFILE
 - SURFACE SNOW COVER
 - MSL



TRANSPORTATION AND TEMPORARY WORKS
DESIGN DEVELOPED WITH LEIGHS
CONSTRUCTION
30% DETAILED DESIGN

1:75 @ A1
1:150 @ A2

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Revisions
A 30% Detailed Design

J.Lester 02/03/2021

DRAWN:
DRAWING VERIFIED:
DESIGNED:
DESIGN VERIFIED:
APPROVED:
APPROVED DATE:

L. Thomas
R. Kinnear
L. Thomas
A. McWhirter
J. Lester
2/03/2021

CIVIL

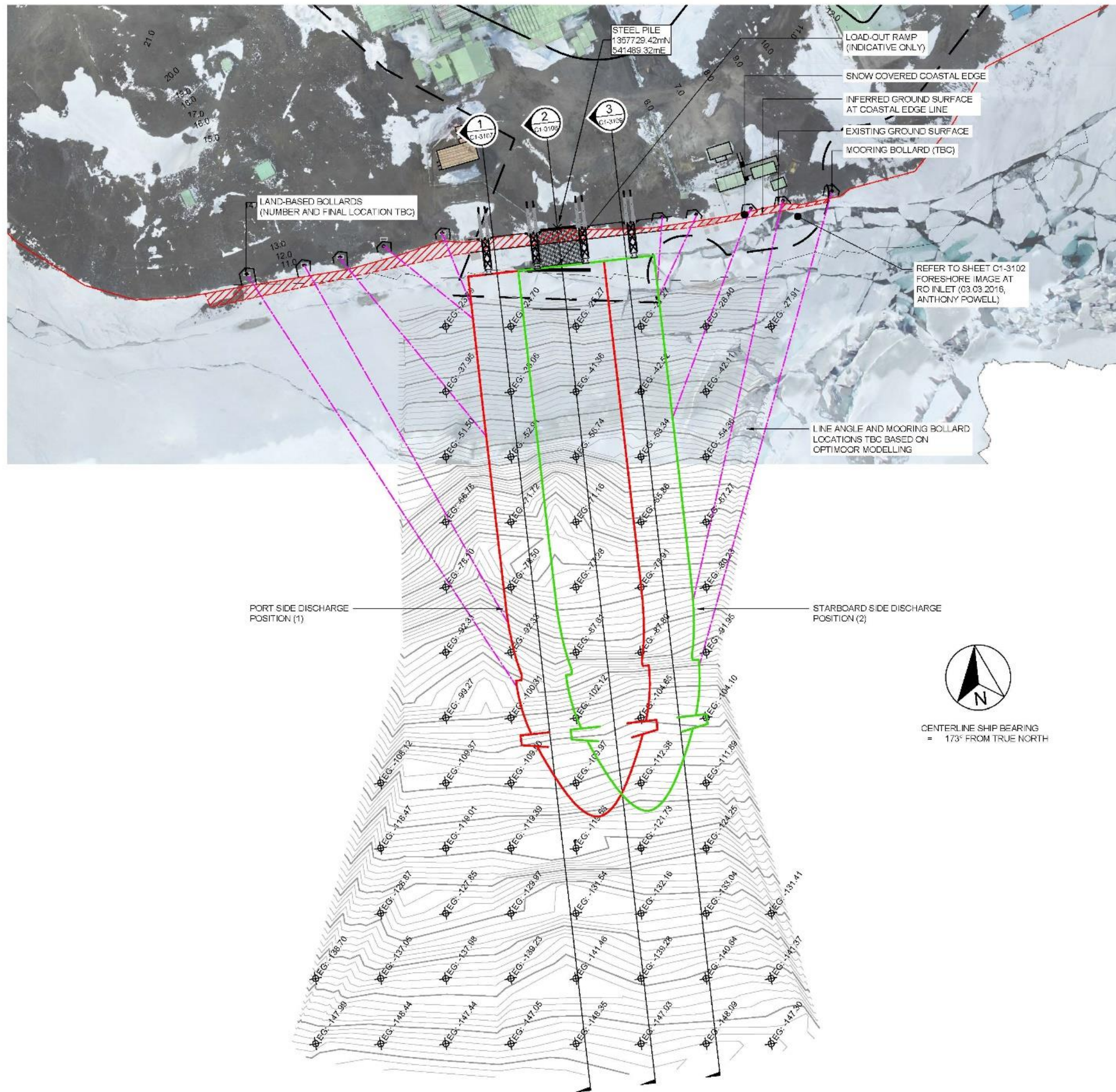
Project Number: 6-DP438.01
SCOTT BASE REDEVELOPMENT
ROSS ISLAND

Sheet
PRAM POINT BERTH
BERTHING ARRANGMENT - SHEET 2
SCALE @ A1= 1:75 SCALE @ A3= 1:150

Drawing Number
C1-3102

Revision
A

Figure 42: Side view of the temporary wharf (top left), including the foundation pile and bollard detail,, cantilevered wharf, fender and ship.



NOTES:

1. LAND SURVEY UNDERTAKEN BY WSP JANUARY 2020 TOPOGRAPHICAL AND AERIAL SURVEY.
 - A. HORIZONTAL DATUM IN TERMS OF UTM-WGS 1984, ZONE 58 SOUTH
 - B. VERTICAL DATUM IN TERMS OF MEAN SEA LEVEL (MSL)
2. BATHYMETRY BASED ON NZDF SURVEY 30 NOVEMBER 2020. REFER TO NZDF SURVEY REPORT AND EXCEL SPREADSHEET (RAW DATA).
3. REFER TO SHEET C1-3104 FOR SECTIONS
4. THE VERTICAL ACCURACY OF BATHYMETRIC SURVEY HAS NOT BEEN STATED. FURTHER DETAILED SURVEY OF THE BATHYMETRY WILL BE UNDERTAKEN.
5. REFER TO SHEET C1-3102 FOR DETAIL.
6. COASTAL EDGE DETERMINED BY INTERPRETING AND TRACING EDGE FROM TOPO UAV AERIAL IMAGE DATED JANUARY 2020.

LEGEND:

- SNOW COVERED COASTAL EDGE
- EXISTING GROUND SURFACE
- INDICATIVE COASTAL EDGE LINE
- CONTOURS 1m AND 5m



LOCATION PLAN
SCALE: 1:5000 @ A2; 1:10000 @ A3

1 WHARF BERTHING ARRANGEMENT

SCALE: 1:750 @ A2; 1:1500 @ A3

1:750 @ A1
1:1500 @ A3

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Revisions
A For Comment
B 30% Detailed Design

J Lester 02/10/2020
J Lester 04/03/2021

DRAWN: L. Thomas
DRAWING VERIFIED: R. Hooper
DESIGNED: L. Thomas
DESIGN VERIFIED: A. McWhinnie
APPROVED: J. Lester
APPROVED DATE: 26/03/2021

CIVIL

Project Number: 8-DF438 31
SCOTT BASE REDEVELOPMENT
ROSS ISLAND

Sheet
PRAM POINT BERTH
WHARF BERTHING ARRANGEMENT - SHEET 1
SCALE @ A1= 1:750 SCALE @ A3= 1:1500

Drawing Number
C1-3104
Revision
(B)

Figure 43: Detail of the mooring location and two ship docking positions. Mooring lines and bollards are detailed.

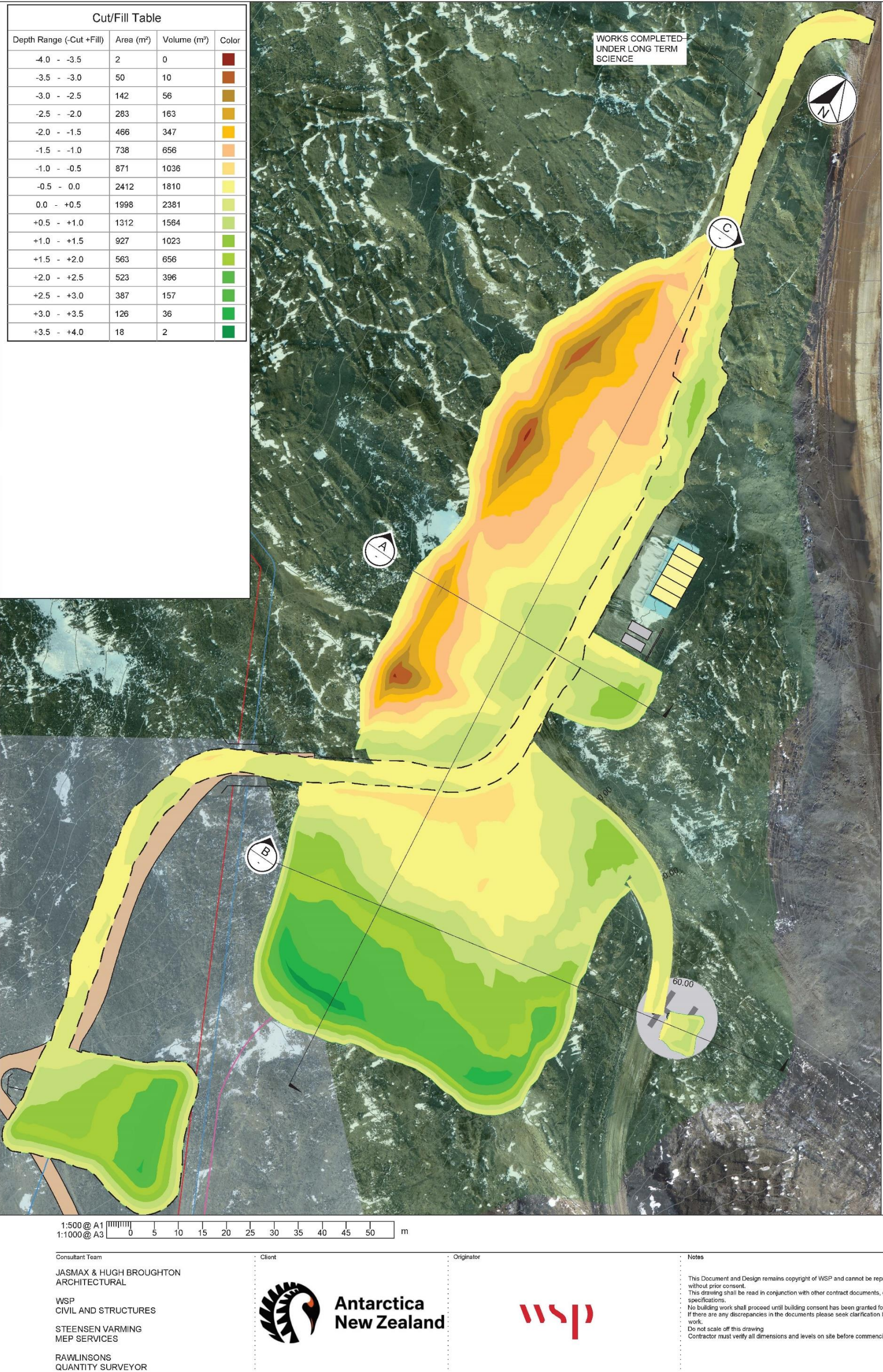


Figure 45: Preliminary Temporary Base Site A earthworks requirements. Note that the area and volume of earthworks proposed is smaller with more precise planning and design.

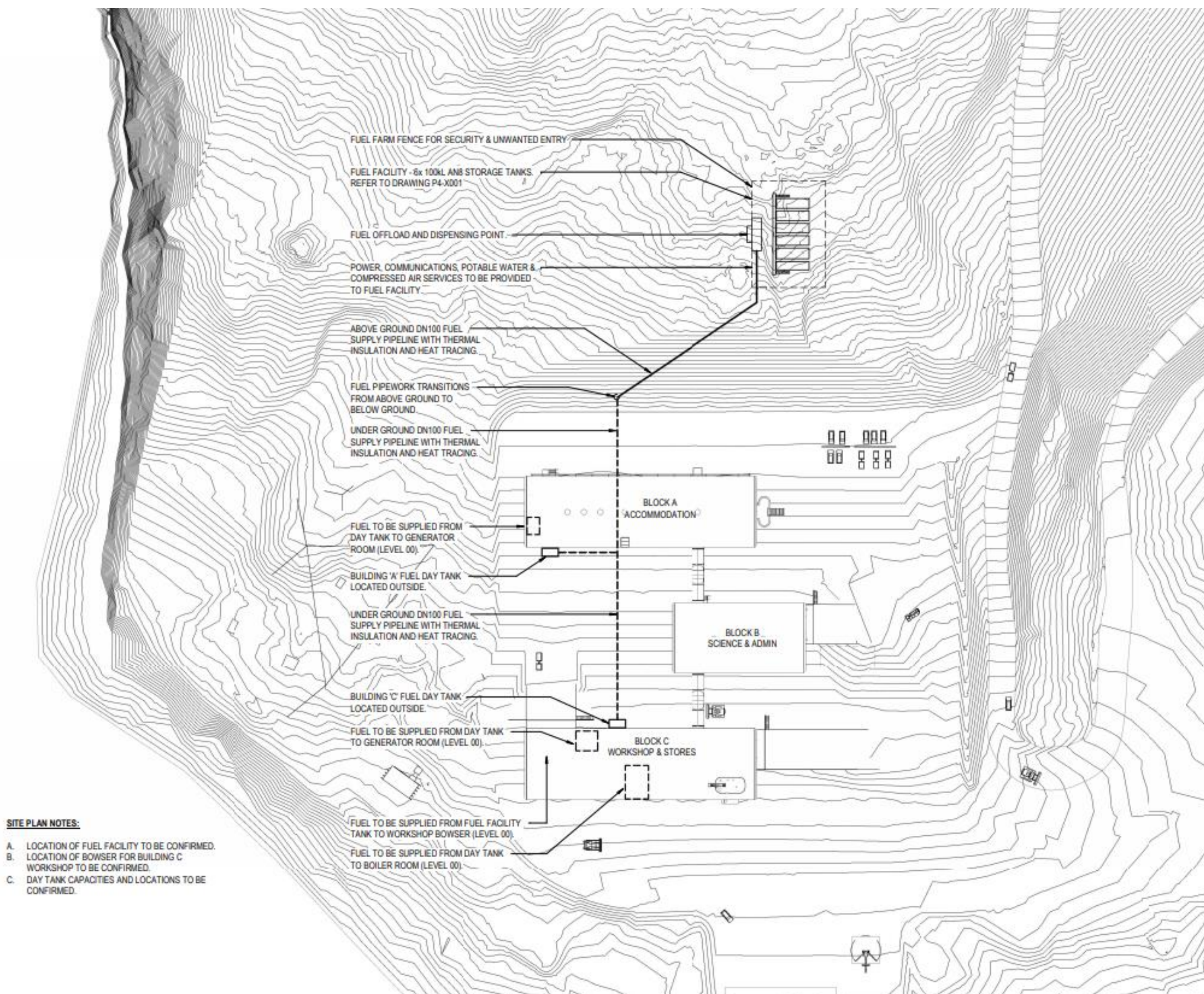


Figure 64: Alternative location of bulk fuel considered in design.