



May 3, 2023

Ms. Crystal Loreth  
c/o RPSP Beach Front Nominee Ltd.  
305 – 111 Water Street  
Vancouver, BC V6B 1A7  
Via email: [cloreth@tcpm.ca](mailto:cloreth@tcpm.ca)

**Attn: Crystal Loreth:**

**Re: Performance Verification Plan for Approval in Principle  
Royal Beach, Colwood, BC  
Project No. 12666**

Keystone Environmental Ltd. (Keystone Environmental) has prepared this Performance Verification Plan (PVP) in support of an application for an Approval in Principle (AiP) for the properties referenced as Lots G, H, I, J and 31 (also known as Royal Beach), Colwood, BC (the "Site").

The PVP presents the principal risk control that must be implemented at the Site to ensure that human health and ecological risks remain acceptable following regrading activities and in compliance with the two Certificates of Compliance (CofCs) obtained for the Site in 2008. The PVP also presents the actions required to implement and maintain the risk control. The PVP was prepared in accordance with BC Ministry of Environment and Climate Change Strategy (ENV) guidance (BC ENV, 2023). The PVP was based on the findings of the Keystone Environmental (2023) human health and ecological risk assessment (HHERA) report titled *Report of Findings – Human Health and Ecological Risk Assessment, Royal Beach, Colwood, BC*. It is noted that under the future residential scenario for the Site, the risk controls included in two Certificates of Compliance (CofCs) obtained for the Site in 2008 will continue to remain valid and are therefore not included in this PVP.

#### **DETERMINATION OF SITE TYPE**

The principal risk control which must be implemented and maintained at the Site is as follows:

- Contaminated soils used in the regrading of the Site (as per the regrading plans), as well as contaminated soils from Area of Environmental Concern (AEC NP8B), must be covered by a minimum of 1.0 m of uncontaminated material or covered by intact pavement or building foundations.

This risk control was put in place to prevent exposure to soil contamination by human and terrestrial ecological receptors at the Site following regrading activities at the Site.

Based on this risk control measure for the Site, the Site is considered to be a Type 2 site. A Type 2 site is one that meets risk-based standards under current and future uses through use of institutional or engineered risk controls, apart from the risk controls included for Type 1 sites<sup>1</sup>.

### **REQUIRED ACTIONS TO IMPLEMENT THE REQUIRED RISK CONTROLS**

The following actions are required by RPSP Beach Front Nominee Ltd. to implement and maintain the risk control:

- Mandatory notification provided to the Site owner/operator and workers involved in site regrading and redevelopment that contaminated soil used in the regrading of the Site, as well as contaminated soils at AEC NP8B, must be covered by a minimum of 1.0 m of uncontaminated material, unless covered by intact pavement or building foundations.
- Mandatory annual inspection of Site by a site owner/operator to ensure risk control is being maintained.
- Mandatory notification provided to the Site owner/operator and workers involved in site redevelopment that if soil contamination not being relocated for regrading purposes is to be removed through excavation, a qualified environmental professional should be retained to characterize the material and advise on proper soil management and disposal.
- Mandatory notification provided to the Site owner/operator to keep and maintain records of risk control maintenance as these records may need to be submitted to BC ENV upon request in the future.
- Mandatory notification provided to the Site owner/operator that the Director must be notified if performance verification actions indicate that there is a failure of the risk control.

Records of risk control maintenance by the Site owner/operator should include the following:

- Scheduled construction activities that have occurred at the Site.
- Description and schedule of inspection and maintenance works conducted at the Site.
- Detailed specifications on any engineering work to be implemented at the Site.
- Quantity and quality of soil or waste managed or disposed of as part of the engineered works.
- Any identified failures in risk control performance along with the measures taken to restore the risk control.

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<sup>1</sup> Type 1 sites include those that have an institutional control for limiting the presence of future drinking water wells where the site is serviced by a treated municipal water supply and/or have an engineered control of a maintained and a paved cap covering soil contamination in a municipal roadway or sidewalk.



Suitable forms of record documentation include inspection records, site photographic documentation, engineering drawings/details, communication documents, and related information. This documentation should be recorded at least annually or until the remediation plan has been implemented at the Site.

## **SUMMARY RATIONALE**

**Contaminated soils used in the regrading of the Site (as per the regrading plans), as well as contaminated soils from AEC NP8B, must be covered by a minimum of 1.0 m of uncontaminated material or covered by intact pavement or building foundations.**

Soil contamination exceeding the CSR Schedule 3.1 soil standards for low-density residential land use (RL<sub>LD</sub>) relevant to human and terrestrial ecological health is currently present in soils from AEC NP12 and in stockpiles at AECs NP14 and NP15 that will be used to regrade the Site and is also present in surficial soils at AEC NP8B in the northern portion of the Site. To ensure the risk controls included in the original 2008 CofCs obtained for the Site remain valid, the risk assessment assumed that the identified soil contamination in material used to regrade the Site and in surficial soil at AEC NP8B would be covered by a minimum of 1.0 m of uncontaminated material or covered by pavement or building foundations upon completion of the regrading activities, which would prevent potential exposures and risks to on-site human and terrestrial ecological receptors. Furthermore, retaining a qualified environmental professional to advise on the proper soil management during excavation would prevent contaminated soils from being relocated to surface and mitigate future unacceptable risks to the environment.

## **CONCLUSION**

It is our opinion that the actions identified in this report are sufficient to ensure performance verification of the risk control required for this Site. As such, a contingency plan is not considered necessary and therefore is not provided.

## **STUDY LIMITATIONS**

The findings presented in this report are based upon the field work conducted by Keystone Environmental for RPSP Beach Front Nominee Ltd. Keystone Environmental has prepared this document in good faith and has relied upon information provided by others. Keystone Environmental has assumed that the information provided by third parties is both complete and accurate. This report was completed in a manner consistent with that level of care and skill normally exercised by other environmental professionals, practicing under similar circumstances in the same locale at the time of the performance of the work.

This report has been prepared solely for the internal use of RPSP Beach Front Nominee Ltd., and for review by BC Ministry of Environment and Climate Change Strategy pursuant to the agreement between Keystone Environmental Ltd. and RPSP Beach Front Nominee Ltd. A copy of the general terms and conditions associated with this agreement is attached to the end of this report. By using this report, RPSP



Beach Front Nominee Ltd. and BC Ministry of Environment and Climate Change Strategy agree that they will review and use the report in its entirety. Any use which other parties make of this report, or any reliance on or decisions made based on it, are the responsibility of such parties. Keystone Environmental Ltd. accepts no responsibility for damages, if any, suffered by other parties as a result of decisions made or actions based on this report.

Sincerely,

**Keystone Environmental Ltd.**

**Kevin Hall, B.Sc., R.P.Bio.**  
**Risk Assessor**

**Adam Radlowski, M.Sc., R.P.Bio.**  
**Senior Environmental Risk Assessor**

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**ATTACHMENTS:**

- References
- Regrading Plans



## **REFERENCES**

## REFERENCES

- BC ENV. (2023). BC Ministry of Environment and Climate Change Strategy. *Performance Verification Plans*. Retrieved May 3, 2023, from <https://www2.gov.bc.ca/gov/content/environment/air-land-water/site-remediation/remediation-planning/remediation-plan-aip/performance-verification-plans>
- Keystone Environmental Ltd. (2023). *Report of Findings – Human Health and Ecological Risk Assessment, Royal Beach, Colwood, BC*. Burnaby, BC: Keystone Environmental Ltd. May 2023.



## **REGRADING PLANS**

# ROYAL BEACH SEACLIFF COLWOOD, BC REGRADING PLAN

APRIL 05, 2023



LOCATION PLAN  
N.T.S.  
COLWOOD, BC



Sheet List Table		
SHEET No.	DESCRIPTION	DRAWING #
1	COVER	CS01
2	EXISTING CONDITIONS	CS02
3	PROPOSED CONDITIONS	CS03
4	COVER EXCAVATION PLAN	CS04
5	SECTIONS	CS05
6	SECTIONS	CS06
7	SECTIONS	CS07



2023-04-05  
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No.	DESCRIPTION	DATE	SIGN.	No.	DESCRIPTION	DATE	SIGN.
1	ISSUED FOR COORDINATION OF PERMITS	2023-02-14	AA				
2	ISSUED FOR APPROVAL	2023-04-05	AA				

DESIGNER: AA  
REVIEWER:  
ENGINEER: AE

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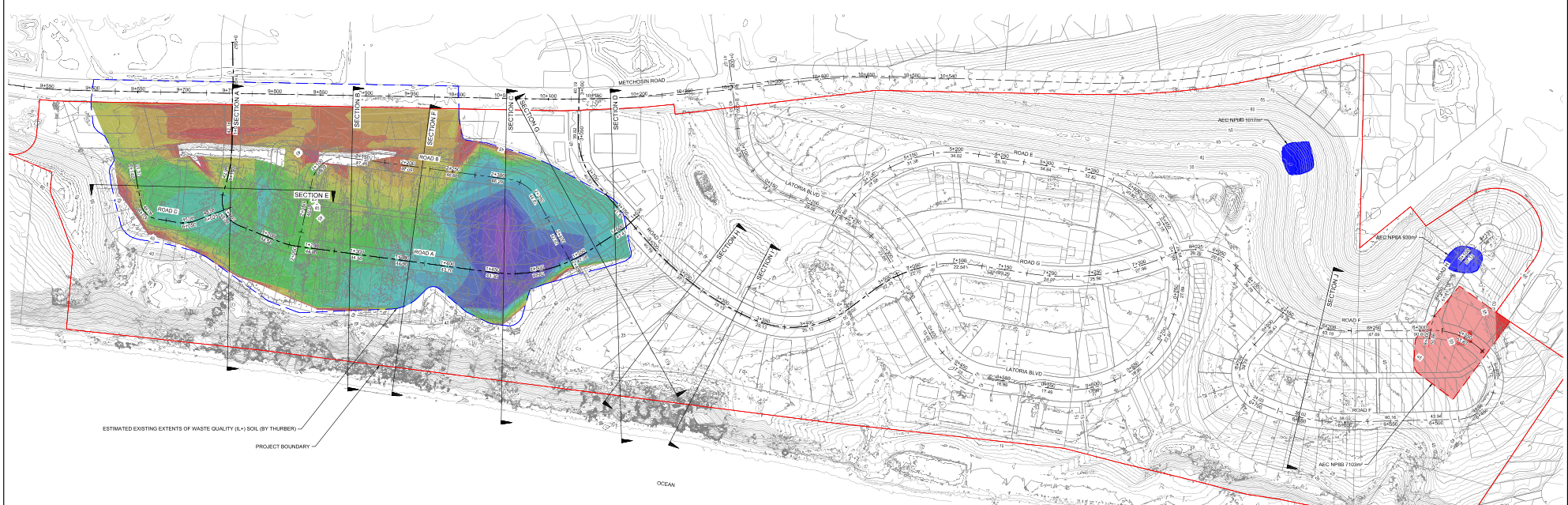
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**ROYAL BEACH SEACLIFF**  
COVER

ON POINT PROJECT No. **174-01**  
GOVERNING PROJECT FILE No. **174-01-CS01**  
SHEET **1** OF **7**  
ON POINT DRAWING No. **174-01-CS01**





ESTIMATED EXISTING EXTENTS OF WASTE QUALITY (L-V) SOIL (BY THURBER)  
PROJECT BOUNDARY

OCEAN

- LEGEND**
- ESTIMATED EXISTING EXTENTS OF WASTE QUALITY (L-V) SOIL
  - PROJECT BOUNDARY
  - INFERRED EXTENT OF PPOC CONCENTRATIONS IN SOIL EXCEEDING CSR R<sub>10</sub> STANDARDS (BY KEYSTONE)
  - INFERRED EXTENT OF PPOC CONCENTRATIONS IN SOIL EXCEEDING CSR R<sub>5</sub> STANDARDS (BY KEYSTONE)

- NOTE:**
1. EXISTING GROUND SURFACE FROM 2022 UAV SURVEY
  2. ESTIMATED EXISTING EXTENTS OF WASTE QUALITY (L-V) SOIL BY THURBER ENGINEERING (2021)
  3. ALL CENTRE LINE ELEVATIONS ARE TO PROPOSED ROAD FINISHED GRADE
  2. WASTE QUALITY (L-V) SOIL WILL HAVE MINIMUM 1% CAPPING MATERIAL

**ESTIMATED DEPTH OF EXISTING WASTE QUALITY SOIL**

Number	Minimum Depth	Maximum Depth	Color
1	0	1	Red
2	1	2	Orange
3	2	3	Yellow
4	3	4	Light Green
5	4	5	Green
6	5	6	Light Blue
7	6	7	Blue
8	7	8	Dark Blue
9	8	9	Very Dark Blue
10	9	10	Black
11	10	11	Black
12	11	12	Black
13	12	13	Black
14	13	14	Black
15	14	15	Black
16	15	16	Black

1:2000 0 10 20m

2023-04-05  
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Consultant shall check and verify all dimensions and conditions of site and report any discrepancies to relevant stakeholders immediately.

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ENGINEER: AE

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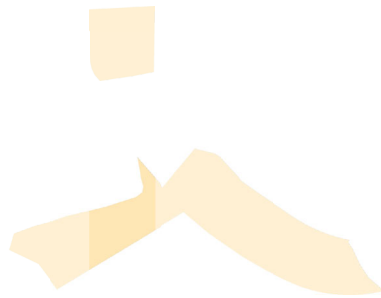
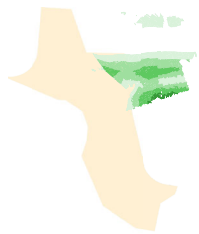
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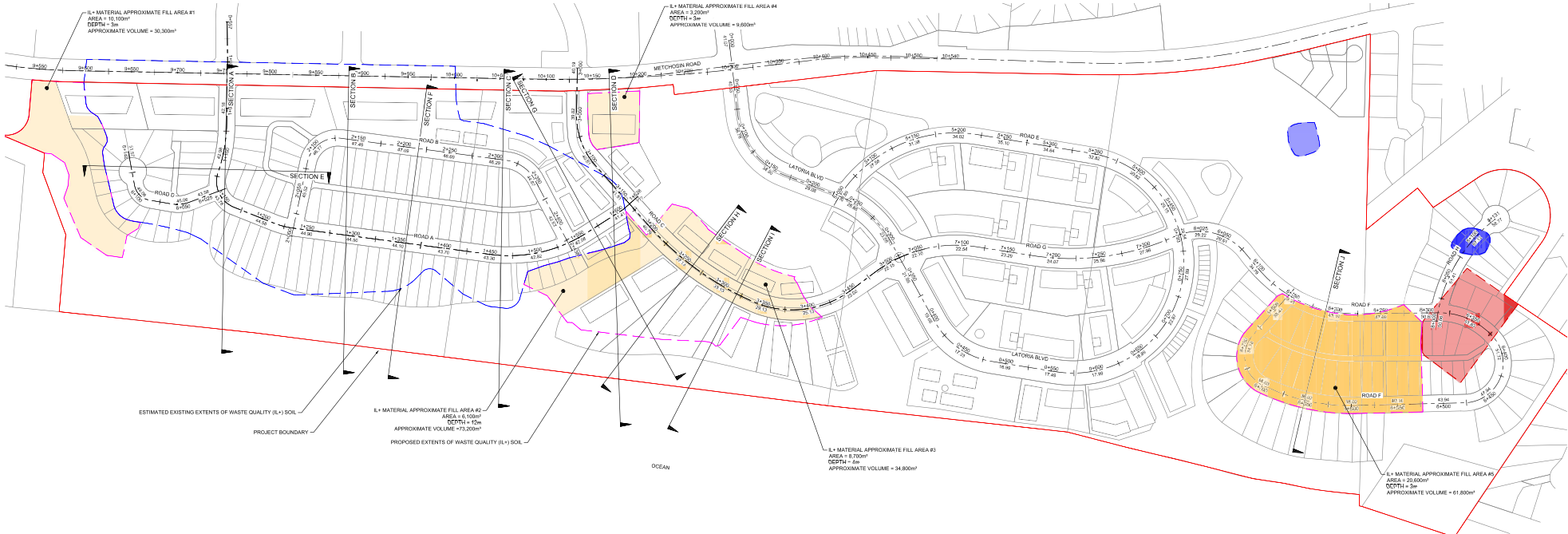
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EXISTING CONDITIONS REGRADING PLANS

ON POINT PROJECT No. 174-01  
GOVERNANCE PROPERTY FILE No. SHEET 2 of 7  
ON POINT DRAWING No. 174-01-C502





ESTIMATED EXISTING EXTENTS OF WASTE QUALITY (IL-1) SOIL

PROPOSED EXTENTS OF WASTE QUALITY (IL-1) SOIL

OCEAN

**LEGEND**

- ESTIMATED EXISTING EXTENTS OF WASTE QUALITY (IL-1) SOIL
- PROPOSED EXTENTS OF WASTE QUALITY (IL-1) SOIL
- PROJECT BOUNDARY
- OVER-EXCAVATION LOCATION
- INFERRED EXTENT OF PCOC CONCENTRATIONS IN SOIL EXCEEDING CSR R<sub>10</sub> STANDARDS (BY KEYSTONE)
- INFERRED EXTENT OF PCOC CONCENTRATIONS IN SOIL EXCEEDING CSR I<sub>2</sub> STANDARDS (BY KEYSTONE)

	AREA	DEPTH	VOLUME
L-1 MATERIAL FILL AREA #1	16,100m <sup>2</sup>	3m	50,300m <sup>3</sup>
L-1 MATERIAL FILL AREA #2	6,100m <sup>2</sup>	12m	73,200m <sup>3</sup>
L-1 MATERIAL FILL AREA #3	8,700m <sup>2</sup>	4m	34,800m <sup>3</sup>
L-1 MATERIAL FILL AREA #4	3,200m <sup>2</sup>	3m	9,600m <sup>3</sup>
L-1 MATERIAL FILL AREA #5	20,000m <sup>2</sup>	3m	60,000m <sup>3</sup>
<b>TOTAL</b>	<b>48,700m<sup>2</sup></b>		<b>209,700m<sup>3</sup></b>

**NOTE:**

- ALL CENTRE LINE ELEVATIONS ARE FOR PROPOSED ROAD FINISHED GRADE
- WASTE QUALITY (IL-1) SOIL WILL HAVE MINIMUM 1m COMPLIANT CAPPING MATERIAL

1:2000 0 10 20m

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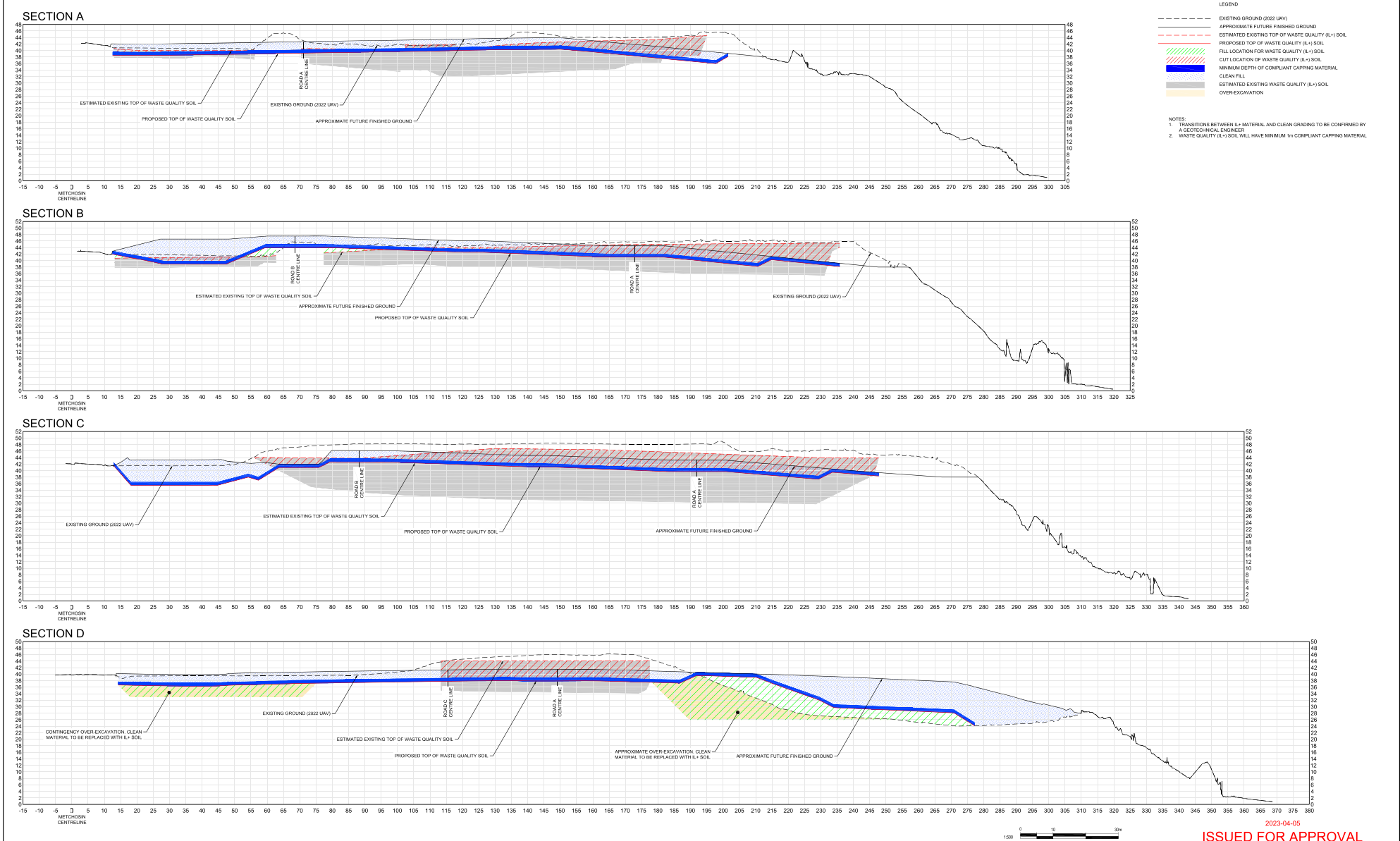
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**ROYAL BEACH SEACLIFF**

OVER EXCAVATION PLAN  
REGRADEING PLANS

ON POINT PROJECT No. 174-01  
 GOVERNANCE PROJECT FILE No. 174-01-01  
 SHEET 4 of 7  
 ON POINT DRAWING No. 174-01-C504



- LEGEND
- EXISTING GROUND (2022 UAV)
  - - - APPROXIMATE FUTURE FINISHED GROUND
  - - - ESTIMATED EXISTING TOP OF WASTE QUALITY (IL-1) SOIL
  - - - PROPOSED TOP OF WASTE QUALITY (IL-1) SOIL
  - /// FILL LOCATION FOR WASTE QUALITY (IL-1) SOIL
  - /// CUT LOCATION FOR WASTE QUALITY (IL-1) SOIL
  - MINIMUM DEPTH OF COMPLIANT CAPPING MATERIAL
  - CLEAN FILL
  - ESTIMATED EXISTING WASTE QUALITY (IL-1) SOIL
  - OVER-EXCAVATION
- NOTES:
1. TRANSITIONS BETWEEN L+ MATERIAL AND CLEAN GRADING TO BE CONFIRMED BY A GEOTECHNICAL ENGINEER.
  2. WASTE QUALITY (IL-1) SOIL WILL HAVE MINIMUM 1m COMPLIANT CAPPING MATERIAL.

2023-04-05  
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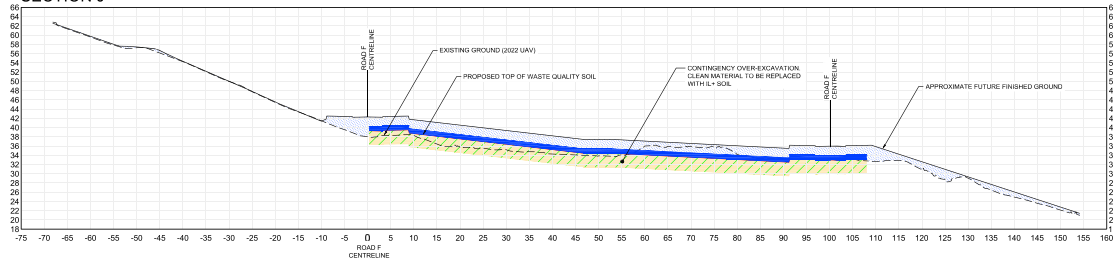
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SECTIONS A-D

ON POINT PROJECT No. 174-01  
 GOVERNING PROJECT FILE No. ---  
 SHEET 5 OF 7  
 ON POINT DRAWING No. 174-01-C505



SECTION J



- LEGEND
- EXISTING GROUND (2022 UAV)
  - APPROXIMATE FUTURE FINISHED GROUND
  - PROPOSED TOP OF WASTE QUALITY (L-1) SOIL
  - FILL LOCATION FOR WASTE QUALITY (L-1) SOIL
  - MINIMUM DEPTH OF COMPLIANT CAPPING MATERIAL
  - CLEAN FILL
  - OVER-EXCAVATION

- NOTES
1. TRANSITIONS BETWEEN L-1 MATERIAL AND CLEAN GRADING TO BE CONFIRMED BY A GEOTECHNICAL ENGINEER
  2. WASTE QUALITY (L-1) SOIL WILL HAVE MINIMUM 1m COMPLIANT CAPPING MATERIAL



2023-04-05

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ONPOINT PROJECT ENGINEERS LTD. 174-01 ROYAL BEACH, ONTARIO L3R 9V7. PROJECT NO. 174-01-01. SHEET NO. J-K. DATE: 2023-04-05.



Consider that these are preliminary drawings and conditions of site and soil are subject to change. It is the responsibility of the client to verify all information.

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SECTIONS J-K

ON POINT PROJECT NO. 174-01  
 GOVERNING PROJECT FILE NO. 174-01-01  
 SHEET 7 OF 7  
 ON POINT DRAWING NO. 174-01-C507