DOMINION ENERGY

CORRECTIVE MEASURES REPORT

POSSUM POINT POWER STATION INACTIVE CCR SURFACE IMPOUNDMENT: PONDS ABC

AUGUST 2024

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APPENDICES

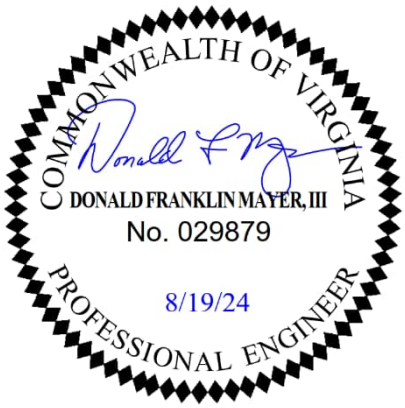
1 CERTIFICATION

This Corrective Measures Report for the Possum Point Power Station's Ponds ABC was prepared by WSP USA Inc. (WSP, formerly known as Golder Associates Inc.). The document and Certification/Statement of Professional Opinion are based on and limited to information that WSP has relied on from Dominion Energy and others, but not independently verified, as well as work products previously produced by Golder/WSP.

On the basis of and subject to the foregoing, it is my professional opinion as a Professional Engineer licensed in the Commonwealth of Virginia that this document has been prepared in accordance with good and accepted engineering practices as exercised by other engineers practicing in the same discipline(s), under similar circumstances, at the same time, and in the same locale. It is my professional opinion that the document was prepared consistent with the requirements in 40 CFR §257.73(d) of the United States Environmental Protection Agency's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments," published in the Federal Register on April 17, 2015, with an effective date of October 19, 2015 [40 CFR §257.73(d)], as well as with the requirements in 40 CFR §257.100 resulting from the EPA's "Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities: Extension of Compliance Deadlines for Certain Inactive Surface Impoundments; Response to Partial Vacatur" published in the Federal Register on August 5, 2016, with an effective date of October 4, 2016 (40 CFR §257.100).

The use of the word "Certification" and/or "certify" in this document shall be interpreted and construed as a Statement of Professional Opinion and is not and shall not be interpreted or construed as a guarantee, warranty, or legal opinion.

Donald Mayer, PE	Vice President
Print Name	Title
	8/19/2024
Signature	Date



2 INTRODUCTION

Possum Point Power Station (Station) is owned and operated by Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy). The Station is located in Prince William County, Virginia, at 19000 Possum Point Road, east of I-95 and bounded to the south by Quantico Creek and to the east by the Potomac River. The Station includes an existing, inactive CCR surface impoundment, Ponds ABC (Unit), as defined by the Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule and Direct Final Rule (40 CFR §257; the CCR Rule). This Unit is also regulated as a dam by the Virginia Department of Conservation and Recreation (DCR) with Inventory Number 153001 (DCR Dam Permit)

As identified in the *Periodic Safety Factor Assessment for the Possum Point Power Station Inactive CCR Surface Impoundment: Pond ABC* (WSP, April 2023), the embankment surrounding Ponds ABC did not meet the minimum requirements as outlined in the Coal Combustion Residuals (CCR) Rule §257.73(e)(1) for all conditions. Specifically, localized erosion and/or sloughing on the southwestern slope at Section C-C' (reference Figure 1 in Appendix A), extending approximately 150 feet laterally along the embankment, resulted in the calculated factor of safety being below the required safety factors under the normal storage pool and maximum surcharge pool conditions. Section C-C' was the only location where safety factors were below the requirements; both Sections A-A' and B-B' meet the minimum factors of safety.

Dominion Energy completed corrective measures in the spring of 2024 to regrade the berm in the area of Section C-C' to meet the required safety factors, as described in the following sections of this report.

3 CORRECTIVE MEASURE IMPLEMENTATION PROCESS

3.1 DESIGN AND REVISED SITE PLAN

As part of ongoing work associated with the closure of the CCR ponds, a water treatment system is currently being constructed in the Ponds ABC footprint. In conjunction with the Site Plan application and subsequent Land Disturbance Permit obtained from Prince William County for that work, Dominion Energy included the regrading of the southeastern area of the berm as a corrective measure to meet the required safety factors. The specific corrective measure entailed decreasing the height of the berm to produce a more moderate slope on both the interior and exterior of the berm in the Section C-C' area (approximately 2H:1V on the inside slope and 4:1 on the exterior). Figure 2 in Appendix A shows the regraded berm design contours.

3.2 BERM REGRADING

Dominion Energy retained Glover Construction Co., Inc. (Glover) to implement the corrective measures in the design plan described above. Glover cut down the berm to the design elevations, including reducing the height and increasing the width of the berm in this area resulting in an inside slope of approximately 2:1 and an exterior slope of approximately 4:1. The area was surveyed to produce the topographic plan view shown in Figure 2 (Appendix A) and verify that design grades were achieved. The berm was revegetated during a period of frequent rain, providing substantial grass coverage and therefore good erosion control.

3.3 ENGINEERING INSPECTION

On July 25, 2024, Don Mayer of WSP performed an inspection of the completed corrective measures, with support from Ibrahim Khaleel and Nick Blankenship of Dominion Energy. Implementation of the corrective measures was verified to have been performed in accordance with the design and intention as described above. Select photographs from this inspection are included in Appendix B.

3.4 REVISED FACTOR OF SAFETY CALCULATIONS

Consistent with the methodology used in the 2023 Safety Factor Assessment, stability safety factors were evaluated for each of the loading scenarios using the computer program SLIDE2 Version 9.011 (2020). As required by the EPA rule, a general limit equilibrium (GLE) method (Morgenstern and Price) was used to calculate factors of safety. Stability was evaluated along the regraded Section C-C' as shown in Figure 2 in Appendix A, with all factors or safety now well above the regulatory requirement. Results are discussed in Section 4 below.

4 CORRECTIVE MEASURE SLOPE STABILITY ASSESSMENT RESULTS

Table 1 below presents the results of the 2023 Safety Factor Assessments for the Ponds ABC analysis cases required in 40 CFR §257.73(e)(1)(i) to (iv) of the CCR Rule, with the Section C-C' factors that were calculated to be below the required safety factors under the normal storage pool and maximum surcharge pool conditions shown in bold.

Table 1 April 2023 Slope Stability Assessment Results

Analysis Case	Normal Storage Pool	Maximum Surcharge Pool	Seismic	Post-Earthquake Liquefaction
Target Factor of Safety	1.5	1.4	1.0	1.2
Cross-Section	Calculated Factor of Safety			
A-A'	1.5	1.4	1.4	Soils are calculated to not liquefy
B-B'	1.7	1.7	1.7	
C-C'	1.3	1.3	1.3	

Following the implementation of the corrective measures described in Section 3, the factors of safety for Cross-Section C-C' were recalculated using the same methodology as described in the 2023 Safety Factor Assessment. The revised July 2024 calculated factors of safety are provided in Table 2 and the stability analysis figures are included in Appendix C.

Table 2 Post-Mitigation Slope Stability Assessment Results (July 2024)

Analysis Case	Normal Storage Pool	Maximum Surcharge Pool	Seismic	Post-Earthquake Liquefaction
Target Factor of Safety	1.5	1.4	1.0	1.2
Cross-Section	Calculated Factor of Safety			
C-C'	2.4	2.3	2.2	Soils are calculated to not liquefy

5 CONCLUSION

Based on the known geotechnical site conditions, information referenced herein, as well as prior work performed by WSP/Golder and others, following the corrective measures as described herein, Section C-C' at Ponds ABC now meets the minimum factors of safety as required by 40 CFR §257.7(e)(1) for each of the conditions analyzed.

APPENDIX

A Topographic Figures Pre- and Post-Corrective Measures

LEGEND

EXISTING TOPOGRAPHIC CONTOURS (2' INTERVALS)

GOLDER CONE PENETRATION TEST (CPT)

A

SLOPE STABILITY SECTIONS

REFERENCE(S)

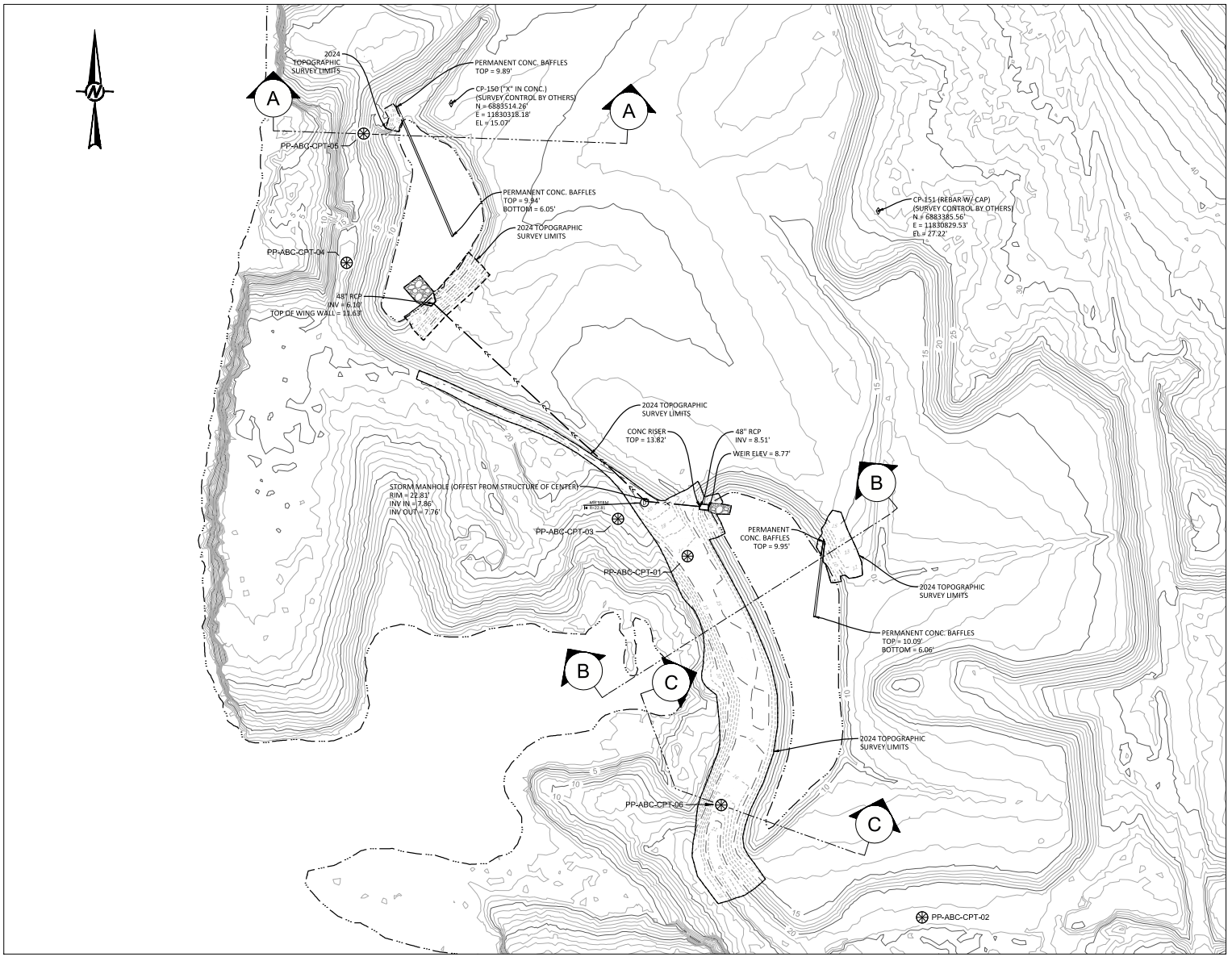
1. TOPOGRAPHY PER SURVEY TAKEN IN 2019, FILE 21 1223 - 2102019 - ... AERIAL SURVEY REV 1 AND 12016 - POSSUMPOINT – LANDXML-0001.

0 100 200

1" = 100' FEET

DOMINION ENERGY - POSSUM POINT
INACTIVE POND DEMONSTRATION
SAFETY FACTOR ASSESSMENT - POND ABC PLAN VIEW
FIGURE 1

Path: C:\Users\KCenik\Downloads\ | File Name: Possum Sections.dwg



LEGEND

- EXISTING 2019 TOPOGRAPHIC CONTOURS (1' INTERVALS) (REFERENCE 1)
- EXISTING 2024 TOPOGRAPHIC CONTOURS (1' INTERVALS) (REFERENCE 2)
- GOLDER CONE PENETRATION TEST (CPT)
- SLOPE STABILITY SECTIONS

REFERENCE

1. TOPOGRAPHY PER SURVEY TAKEN IN 2019, FILE 21 1223 - 2102019 - POSSUM POINT AERIAL SURVEY REV 1 AND 12016 - POSSUMPOINT – LANDXML-0001.
2. TOPOGRAPHY PER SURVEY TAKEN IN 2024 BY BOLTON & MENK, FILE: 2024-07-22 POSSUM POINT PIPE INSTALL RECORD SURVEY.DWG.

0 60 120
1" = 60' FEET

DOMINION ENERGY - POSSUM POINT
REVISED TOPOGRAPHY JULY 2024
SAFETY FACTOR ASSESSMENT - POND ABC PLAN VIEW
FIGURE 2

APPENDIX

B Photographs

Photo 1 – Ponds ABC Repairs Looking South towards Sections B-B' and C-C'

Photo 2 – Ponds ABC Repairs Looking South adjacent to Section C-C'

Photo 3 – Ponds ABC Repairs Looking South-Southwest at Section C-C'

Photo 4 – Ponds ABC Repairs Looking North towards Sections C-C' and B-B'

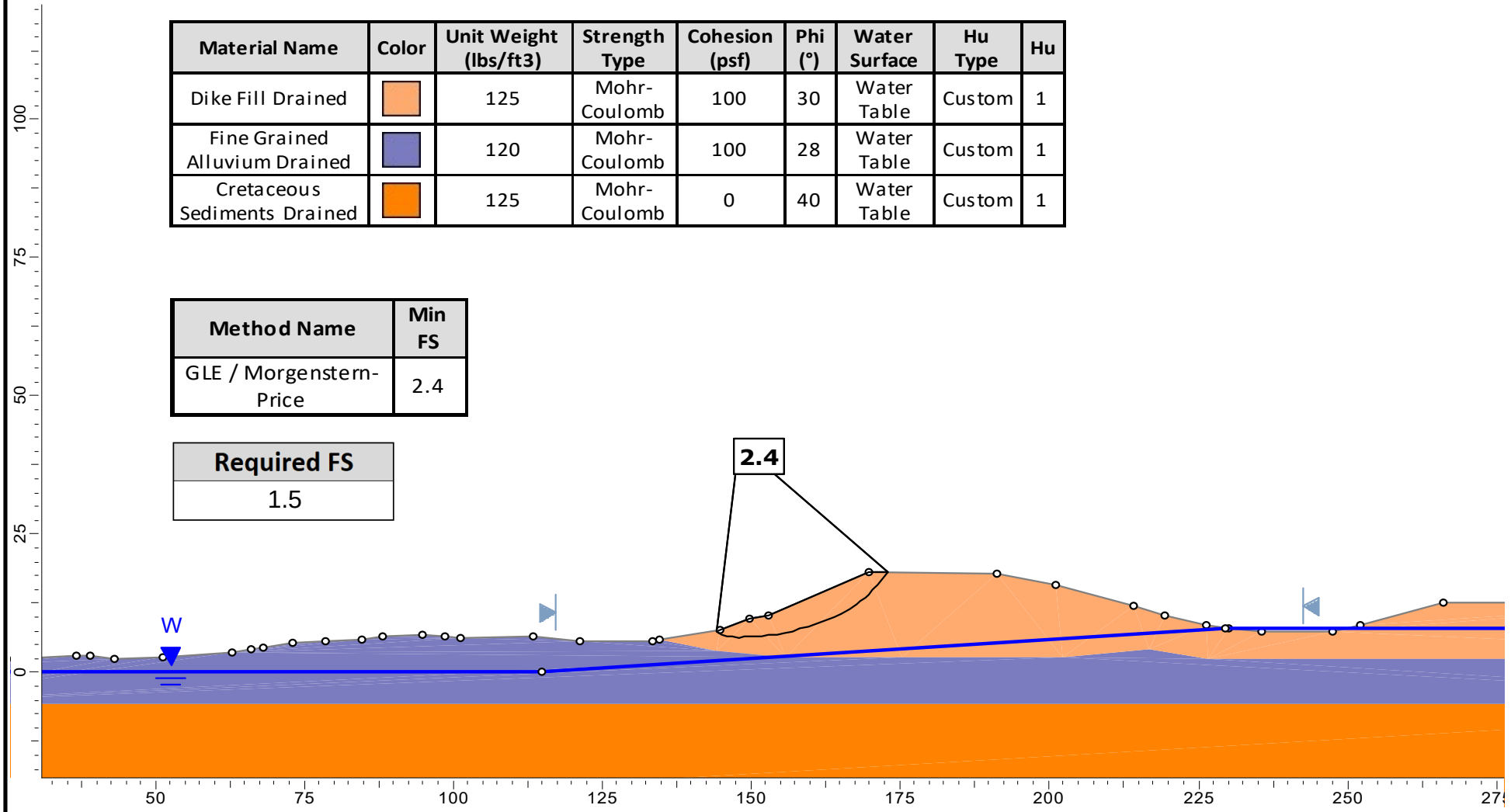
APPENDIX

C Geotechnical Stability Figures

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Water Surface	Hu Type	Hu
Dike Fill Drained		125	Mohr-Coulomb	100	30	Water Table	Custom	1
Fine Grained Alluvium Drained		120	Mohr-Coulomb	100	28	Water Table	Custom	1
Cretaceous Sediments Drained		125	Mohr-Coulomb	0	40	Water Table	Custom	1

Method Name	Min FS
GLE / Morgenstern-Price	2.4

Required FS
1.5

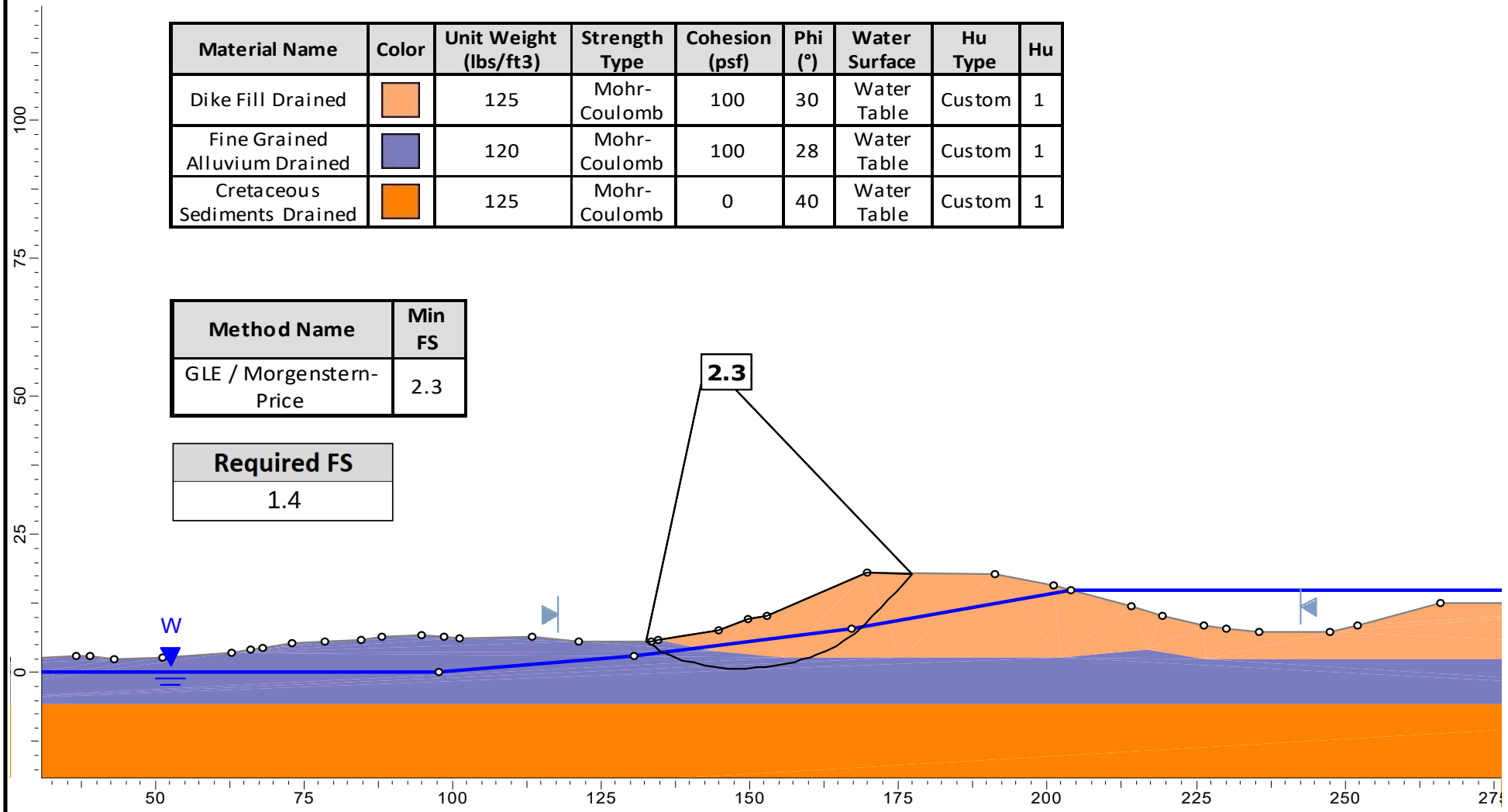


SCALE	AS SHOWN	PROJECT	Possum Point Pond ABC - 2024 Safety Factor Assessment
DATE	Jul 2024	TITLE	Section C-C Long Term, Normal Storage Pool
MADE BY	WJF		
CAD	-		
FILE	STABILITY	CLIENT	Dominion Energy
CHECK	OAE		
PROJECT No.	GL24166315	REV. 0	
REVIEW	GLH		FIGURE 4(a)

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Water Surface	Hu Type	Hu
Dike Fill Drained		125	Mohr-Coulomb	100	30	Water Table	Custom	1
Fine Grained Alluvium Drained		120	Mohr-Coulomb	100	28	Water Table	Custom	1
Cretaceous Sediments Drained		125	Mohr-Coulomb	0	40	Water Table	Custom	1

Method Name	Min FS
GLE / Morgenstern-Price	2.3

Required FS
1.4

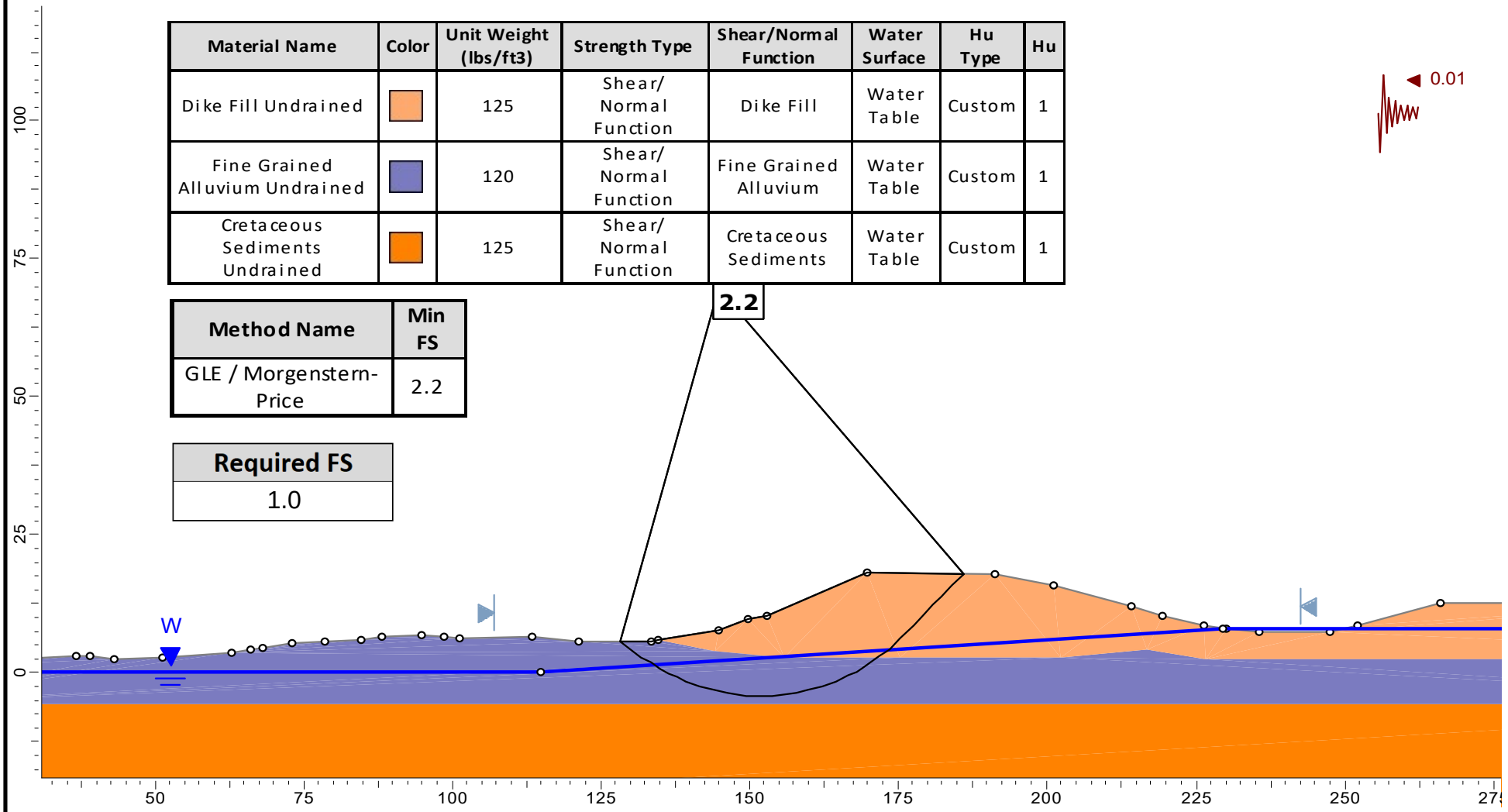


SCALE	AS SHOWN	PROJECT	Possum Point Pond ABC - 2024 Safety Factor Assessment
DATE	Jul 2024	TITLE	Section C-C Maximum Surcharge Pool
MADE BY	WJF		
CAD	-		
FILE	STABILITY	CHECK	OAE
PROJECT No.	GL24166315	REV. 0	REVIEW GLH
CLIENT	Dominion Energy	FIGURE	4(b)

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Shear/Normal Function	Water Surface	Hu Type	Hu
Dike Fill Undrained		125	Shear/ Normal Function	Dike Fill	Water Table	Custom	1
Fine Grained Alluvium Undrained		120	Shear/ Normal Function	Fine Grained Alluvium	Water Table	Custom	1
Cretaceous Sediments Undrained		125	Shear/ Normal Function	Cretaceous Sediments	Water Table	Custom	1

Method Name	Min FS
GLE / Morgenstern-Price	2.2

Required FS
1.0



wsp	SCALE	AS SHOWN	PROJECT: Possum Point Pond ABC - 2024 Safety Factor Assessment
	DATE	Jul 2024	TITLE: Section C-C Seismic Screening
	MADE BY	WJF	
	CAD	-	
FILE: STABILITY	CHECK	OAE	CLIENT: Dominion Energy
PROJECT No.: GL24166315 REV.: 0	REVIEW	GLH	FIGURE: 4(c)