regarding the conditions of the existing Airport Road drainage infrastructure. More recent information gathered confirmed that the replacement of some of the existing crossings should be integral to each Approach.

Tetra Tech reviewed four separate Approaches for this Feasibility Review. Each Approach was modelled using a PCSWMM model.

For Approaches 2, 3, and 4 the existing system capacity is increased by adding new crossing(s). Although washouts occur in the east basin, the additional crossings in the hydraulic model were positioned in the central basin as it is believed that attenuating high water levels in the central basin will reduce the amount of water flowing laterally into the eastern basin.

Using the modelling results, Tetra Tech was able to estimate the size of the crossings needed to convey the design flow. The models also predicted water velocities which will be used to design the erosion protection measures.

APPENDIX B
SITE PHOTOGRAPHS

Photo 1: Crossing 1 Inlet

Photo 2: Crossing 1 Outlet

Photo 3: Crossing 1a - Inlet

Photo 4: Crossing 1a - Outlet

Photo 5: Crossing 2 - Inlet

Photo 6: Crossing 2 - Outlet

Photo 7: Crossing 3 - Inlet

Photo 8: Crossing 3 - Outlet

Photo 9: Crossing 4 - Inlet

Photo 10: Crossing 4 - Outlet

Photo 11: Crossing 5 - Inlet

Photo 12: Crossing 5 - Outlet

Photo 13: Crossing 6 - Inlet

Photo 14: Crossing 6 - Outlet

Photo 15: Crossing 7 - Inlet

Photo 16: Crossing 7 - Outlet

Photo 17: Crossing 8 - Inlet

Photo 18: Crossing 8 - Outlet

Photo 19: Crossing 9 - Inlet

Photo 20: Crossing 9 - Outlet

Photo 21: Crossing 9a - Inlet

Photo 22: Crossing 9a - Outlet

Photo 23: Crossing 10 - Inlet

Photo 24: Crossing 10 - Outlet

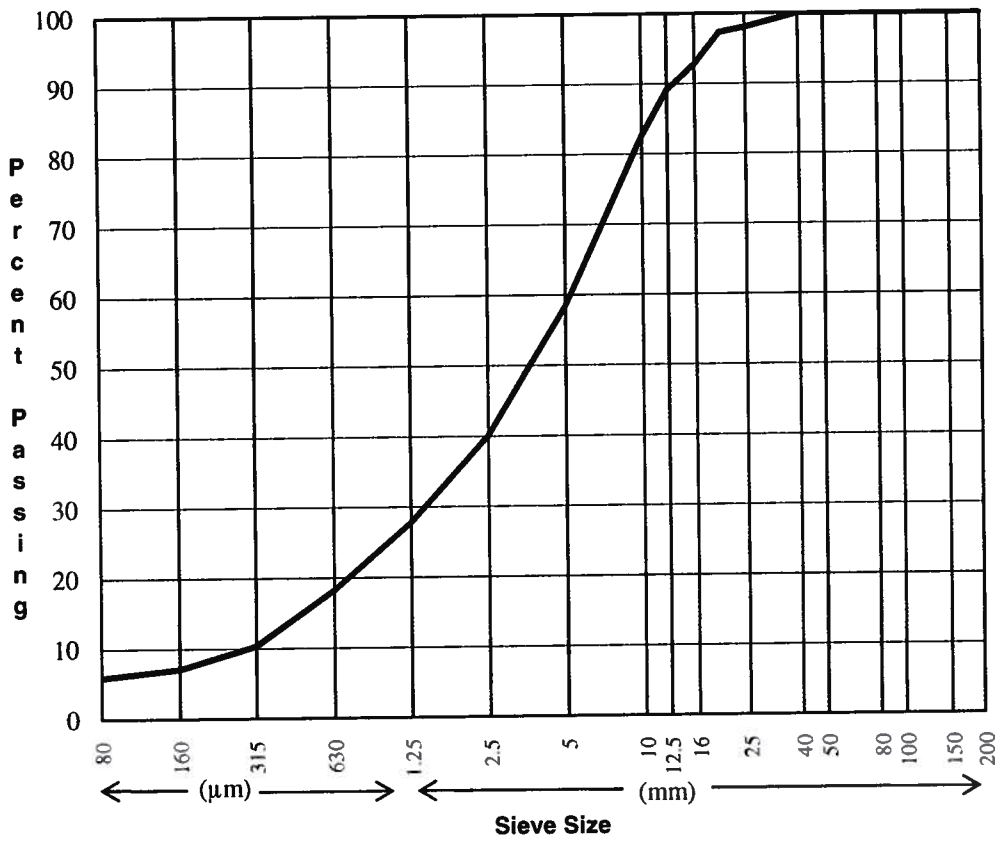
APPENDIX C
LABORATORY RESULTS

SIEVE ANALYSIS REPORT

ASTM C136, C117

Project:	Coral Harbour Road Washout Repare Service	Sample No.:	L-1
Client:	Government of Nanavut	Date Sampled:	October 15, 2013
Project No.:	C31103153.01	Sampled By:	
Attention:	Brian Duguay	Date Tested:	October 16, 2013
Description:	25 mm Crushed Gravel	Tested By: GG	Lab: Calgary
Source:	Combined sample	No. Crushed Faces:	
Location:	Airport Road by fuel storage facility	Moisture Content:	4.6%
Specification:			

Sieve Size	Percent Passing
200 mm	
150 mm	
100 mm	
80 mm	
50 mm	
40 mm	100
25 mm	98
20 mm	97
16 mm	93
12.5 mm	89
10 mm	83
5 mm	58
2.5 mm	40
1.25 mm	28
630 µm	18
315 µm	10
160 µm	7
80 µm	5.9



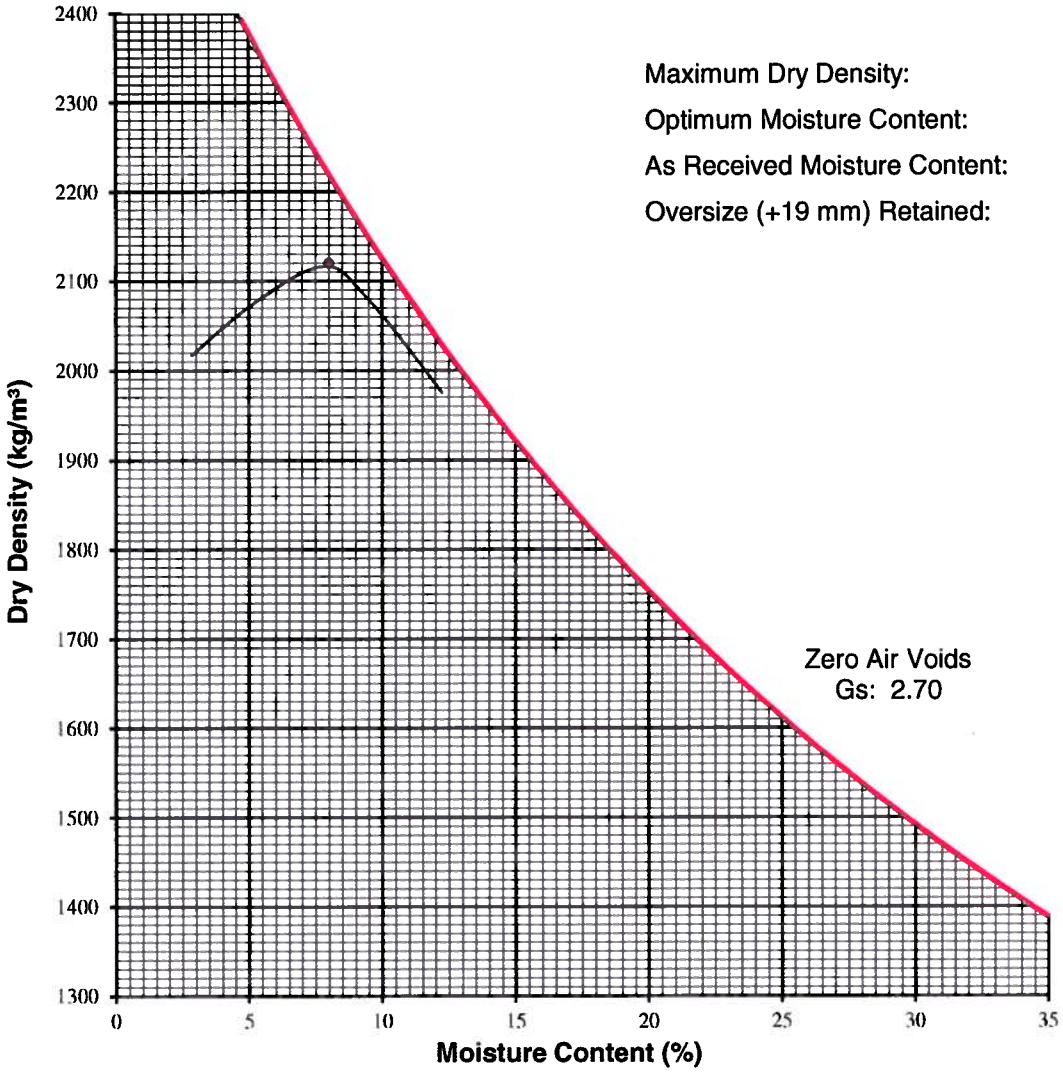
Remarks: Permeability k= 9.9×10^{-2} cm/s at 100% Standard Proctor Density

Reviewed By: _____ P.Eng.

MOISTURE-DENSITY RELATIONSHIP (Proctor) REPORT

ASTM D698 (Standard Proctor)

Project:	Coral Harbour Road Washout Repare Services	Sample No.:	L-1
Project No.:	C31103153.01	Sampled By:	
Client:	Government of Nanavut	Date Received:	15-Oct-13
Attention:	Brian Duguay	Test Date:	23-Oct-13
E-mail:		Test By:	MS
Source:	Combined sample	Test Method:	C (Manual)
Sample Location:	Airport Road by fuel storage facility		
Sample Description:	25 mm Crushed Gravel		



Maximum Dry Density:	**2120**	kg/m³
Optimum Moisture Content:	**8.0**	%
As Received Moisture Content:	4.6	%
Oversize (+19 mm) Retained:	3	%

Remarks:

Reviewed By: _____ P.Eng.

APPENDIX D

TETRA TECH EBA'S GENERAL CONDITIONS

GENERAL CONDITIONS

DESIGN REPORT

This report incorporates and is subject to these “General Conditions”.

1.0 USE OF REPORT AND OWNERSHIP

This Design Report pertains to a specific site, a specific development, and a specific scope of work. The Design Report may include plans, drawings, profiles and other support documents that collectively constitute the Design Report. The Report and all supporting documents are intended for the sole use of Tetra Tech EBA’s Client. Tetra Tech EBA does not accept any responsibility for the accuracy of any of the data, analyses or other contents of the Design Report when it is used or relied upon by any party other than Tetra Tech EBA’s Client, unless authorized in writing by Tetra Tech EBA. Any unauthorized use of the Design Report is at the sole risk of the user.

All reports, plans, and data generated by Tetra Tech EBA during the performance of the work and other documents prepared by Tetra Tech EBA are considered its professional work product and shall remain the copyright property of Tetra Tech EBA.

2.0 ALTERNATIVE REPORT FORMAT

Where Tetra Tech EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed Tetra Tech EBA’s instruments of professional service), only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by Tetra Tech EBA shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of Tetra Tech EBA’s instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except Tetra Tech EBA. Tetra Tech EBA’s instruments of professional service will be used only and exactly as submitted by Tetra Tech EBA.

Electronic files submitted by Tetra Tech EBA have been prepared and submitted using specific software and hardware systems. Tetra Tech EBA makes no representation about the compatibility of these files with the Client’s current or future software and hardware systems.

3.0 ENVIRONMENTAL AND REGULATORY ISSUES

Unless so stipulated in the Design Report, Tetra Tech EBA was not retained to investigate, address or consider, and has not investigated, addressed or considered any environmental or regulatory issues associated with the project specific design.

4.0 CALCULATIONS AND DESIGNS

Tetra Tech EBA has undertaken design calculations and has prepared project specific designs in accordance with terms of reference that were previously set out in consultation with, and agreement of, Tetra Tech EBA’s client. These designs have been prepared to a standard that is consistent with industry practice. Notwithstanding, if any error or omission is detected by Tetra Tech EBA’s Client or any party that is authorized to use the Design Report, the error or omission should be immediately drawn to the attention of Tetra Tech EBA.

5.0 GEOTECHNICAL CONDITIONS

A Geotechnical Report is commonly the basis upon which the specific project design has been completed. It is incumbent upon Tetra Tech EBA’s Client, and any other authorized party, to be knowledgeable of the level of risk that has been incorporated into the project design, in consideration of the level of the geotechnical information that was reasonably acquired to facilitate completion of the design.

If a Geotechnical Report was prepared for the project by Tetra Tech EBA, it will be included in the Design Report. The Geotechnical Report contains General Conditions that should be read in conjunction with these General Conditions for the Design Report.

6.0 INFORMATION PROVIDED TO TETRA TECH EBA BY OTHERS

During the performance of the work and the preparation of the report, Tetra Tech EBA may rely on information provided by persons other than the Client. While Tetra Tech EBA endeavours to verify the accuracy of such information when instructed to do so by the Client, Tetra Tech EBA accepts no responsibility for the accuracy or the reliability of such information which may affect the report.