NUNAMI
STANTEC LIMITED

Geotechnical Assessment

Clyde River Old Town Site
Remediation Landfill, Landfarm, and
Access Road Development
Clyde River, NU

Draft

September 27, 2011

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Project Number: 110218433.216.600

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1 INTRODUCTION

Stantec Consulting Ltd. (Stantec) – Geotechnical, has completed a geotechnical assessment for the proposed Clyde River Old Town Remediation project in Clyde River, Nunavut. Authorization to proceed with the work was received from Nunami Stantec Limited (Nunami Stantec) on behalf of the Government of Nunavut (GNU). Use of this report is subject to the Statement of General Conditions provided in **APPENDIX A**

1.1 SITE LOCATION AND DESCRIPTION

The site is located near the community of Clyde River, NU (see Figure 1, in **APPENDIX B**). The Old Town site is situated on the east shore of Patricia Bay, approximately 7 km (by land) from the existing Clyde River, NU town site.

It is understood that the debris and possibly contaminated soil at the Old Town is to be remediated, and as part of the remediation, new facilities are to be constructed to accommodate the materials (waste) generated from the remediation. The new facilities are to include a landfarm near the Old Town site, a temporary (construction) access road from the existing Airport Road to the Old Town site, and a new cell at the existing landfill (see Figures 2, 3, and 4, respectively, in **APPENDIX B**).

1.2 SCOPE OF WORK

The scope of work for this investigation included the following:

- Geotechnical assessment at proposed landfarm location
- Geotechnical assessment along the proposed temporary access road alignment
- Geotechnical assessment at proposed landfill cell location
- Field reconnaissance to identify potential construction material borrow sources to be used during construction of above-noted facilities
- Preparation of a report presenting the factual information obtained during this investigation and to provide geotechnical recommendations related to the design and construction of the proposed facilities

An environmental assessment of the site was not included in the scope of this geotechnical investigation.

1.3 SURFICIAL GEOLOGY

Based on published geological information[1], the surficial geology in the area is expected to be undifferentiated, unconsolidated deposits, some stratified and locally fossiliferous; chiefly glacial deposits partially reworked by fluvial, lacustrine, marine, and frost action; minor interglacial strata. The bedrock is expected to be from the Aphebian Group formation which mainly consists of migmatite.

[1] Jackson, G.D., 1982. Map 1582A, Geology Clyde River, District of Franklin, Northwest Territories. Geological Survey of Canada. Scale 1:250,000.

Based on our understanding of the site, and based on a review of past environmental investigations completed by Nunami Stantec for this assignment[2], it is anticipated that the near surface soils in the vicinity of the landfarm and temporary access road will consist of approximately 500 mm to 1000 mm of seasonally frozen and thawed silty clay, clayey silt, or sand underlain by permafrost consisting of frozen parent material.

2 METHOD OF INVESTIGATION

2.1 FIELD INVESTIGATION

The field investigation of the three facilities and identified potential borrow sources was performed from July 12 to 16, 2011. A total of 123 test pits were excavated by hand (50 mm diameter hand auger or shovel) or using a mid-sized track hoe (Takeuchi TB1140) contracted from Kudlik Construction Ltd. (Kudlik) of Iqaluit, NU. A summary of facilities and associated test pits is included below.

Facility	Test Pit Numbers	Figure Number	Excavation Method
Landfarm	TP019 to TP036	Figure 2	Hand
Temporary Access Road	TP001 to TP016, TP018, TP037 to TP044	Figures 3A to 3C	Hand
Landfill	LF001 to LF046	Figure 4	Track Hoe
Borrow Sources Search	TP045 to TP053	Figure 5	Hand and Track Hoe

Approximate test pit locations are presented in Figures 2 to 5, **Appendix B.**

Test pit locations were selected in the field at the time of the investigation using site aerial photographs, geological mapping, or contour mapping, and referencing available landforms, landmarks, and existing structures/facilities. Test pit locations were identified using a hand-help GPS unit. Locations and elevations of the test pits for the landfarm, temporary access road, and landfill were also obtained by Stantec Geomatics.

All test pits were excavated to depths in the order of 0.2 m to 1.3 m below grade. Excavation was halted at the noted depths due to refusal, either due to impenetrable permafrost or refusal on large boulders.

[2] May 3, 2011. Remedial Action Plan, Old Town Site, Clyde River, Nunavut. Nunami Stantec Limited.

The subsurface stratigraphy encountered at the test pit locations was recorded by Stantec – Geotechnical personnel as the test pits were advanced. Representative samples of the strata encountered during excavation were collected, including disturbed grab samples from the hand auger, shovel, or side walls of the pits excavated with the track hoe. Groundwater seepage and presence of ice (where observed) was also noted as the test pits were excavated.

Following completion of test pitting, all test pits were backfilled using excavated material. No standpipes or other instrumentation were installed.

2.1 Laboratory Testing

All samples recovered from the site were stored in moisture tight containers and were returned to our Edmonton laboratory for detailed classification and testing. Laboratory testing was performed on selected samples, including:

- Natural moisture content on all samples
- Atterberg Limits analyses on selected cohesive samples
- Grain size analysis via sieve (for coarse grained aggregates)
- Grain size analysis via hydrometer (for fine grained aggregates)

Select aggregate samples from the borrow sources search were also assessed in Clyde River using portable field laboratory testing equipment. The purpose of the field laboratory testing was to identify the quality (gradation) of the observed aggregates such that those areas deemed to have a high probability of containing appreciable quantities of good quality aggregate could be further investigated using the track hoe. The test results from the field assessed materials were verified in the Edmonton laboratory. The results of the laboratory testing are provided on the Test Pit Records in **Appendix C**, and are discussed in the text of this report. Samples remaining after testing will be stored for a period of three months after issuance of this report and will be discarded after this period unless otherwise directed.

3 SITE CONDITIONS

3.1 Soil Conditions

The subsurface strata and groundwater conditions encountered in the test pits are described in detail on the Test Pit Records, with additional and supplementary information provided in this section. All soil descriptions and identifications were made in accordance with the Modified Unified Soil Classification System. The Test Pit Records, along with an explanation of the symbols and terms used in their description, are included in **Appendix C**.

The generalized stratigraphy encountered in the vicinity of the landfarm location generally consisted of surficial organics underlain by glacial lacustrine soils (clay, silt, and/or sand) underlain by permafrost. The stratigraphy encountered in the vicinity of the access road generally consisted of surficial organics underlain by sand or sand and gravel, silt, or clay, underlain by permafrost. The stratigraphy encountered in the vicinity of the landfill location generally consisted of surficial organics underlain by glacial lacustrine soils (clay and sand), underlain by permafrost. The stratigraphy encountered in the vicinity of the proposed borrow source locations generally consisted of surficial organics underlain by sand, sand and gravel, or silt, underlain by permafrost. Large boulders to greater than 4 m in diameter were noted throughout the areas of the landfarm, landfill, access road, and potential borrow areas.

It should be recognized that subsurface conditions often vary both with depth and laterally. The following is a summary of the subsurface conditions encountered at each of the proposed facility locations.

3.1.1 Landfarm Location

A total of 18 test pits were excavated to depths in the order of 0.4 m to 0.8 m below existing grade for the proposed landfarm. Approximate test pit locations are indicated on Figure 2, **APPENDIX B**.

3.1.1.1 Surficial Organics

Surficial organics were encountered at all test pit locations and were noted to have a thickness varying between 10 mm and 0.1 m at the test pit locations. The surficial organic mat consisted of mosses and sod and were generally wet to saturated. Soft and wet surficial subgrade conditions were encountered throughout the landfarm location.

3.1.1.2 Clay

Clay was encountered underlying the surficial organics in Test Pits TP019 to TP023, TP025 to TP030, TP033 to TP035, and extended to depths ranging from 0.4 m to 0.8 m below existing grade. The clay was noted to contain some silt to silty, trace sand to sandy, was low to medium plastic, brown to grey, moist to saturated, and was noted to contain occasional gravel. In TP030 and 035, the soil composition was noted to be clay and sand.

In-situ moisture contents within the clay (or clay and sand) ranged from 11.4% to 21.2% with an average moisture content of 15%. Results from the Atterberg limits analysis conducted on a selected representative sample of the clay indicated an average Liquid Limit in the order of 20 to 30 and an average Plasticity Index of 5 to10, indicative of low to medium plastic clay.

3.1.1.3 Silt

Silt was encountered underlying the surficial organics or clay in Test Pits TP021, TP024, TP029, and TP036, and extended to depths in the order of 0.4 m to 0.7 m below existing grade. The silt was generally noted to contain some clay to clayey, some sand to sandy, low to high plasticity, grey, wet to saturated, and was moderately to highly dilatant. Sloughing soil conditions and groundwater seepage were noted within the silt.

In-situ moisture contents of the silt ranged from 12.4% to 17.5% with an average moisture content of 15.2%.

3.1.1.4 Sand

Sand was encountered underlying the surficial organics in Test Pits TP031 and TP032, and extended to depths in the order of 0.7 m to 0.8 m below existing grade. The sand was generally silty with trace clay to clayey, moist to saturated, and was noted to contain occasional gravel.

In-situ moisture contents of the sand ranged from 8.0% to 10.3% with an average moisture content of 9.0%.

3.1.1.5 Permafrost

Permafrost consisting primarily of frozen clay or silt was encountered at all test pit locations. The depth to permafrost was measured to be in the order of 0.4 m to 0.8 m below existing ground surface.

Test pits were excavated by hand, using a 50 mm diameter hand auger or shovel. Significant penetration into the permafrost was not possible by hand excavation methods, and as such samples were not available for laboratory testing.

3.1.2 Temporary Access Road Location

A total of 25 test pits were excavated to depths in the order of 0.3 m to 1.1 m below existing grade along the proposed temporary access road alignment. Approximate test pit locations are indicated on Figures 3 (A to C), **APPENDIX B**.

3.1.2.1 Surficial Organics

Surficial organics were encountered at all test pit locations (with the exception of Test Pits TP003, TP007, TP011, TP014, TP015, TP018, TP037, and TP041), and were noted to have a thickness varying between 10 mm and 0.2 m at the test pit locations. The surficial organic mat consisted of mosses and sod and were generally wet to saturated. Soft and wet surficial subgrade conditions were encountered along the majority of the access road alignment.

3.1.2.2 Sand

Sand was encountered in all test pits (with the exceptions of TP001, TP004, and TP005), and extended to depths ranging from 0.2 m to 1.1 m below existing grade. The sand was noted to contain some silt to silty, trace clay, was fine to coarse grained, brown to grey, wet to saturated, and was noted to contain trace to some gravel. In TP002 and TP018, the soil composition was noted to be sand and gravel. In TP009, a buried layer of organics was encountered within the sand from 0.1 m to 0.15 m below existing grade. Sloughing soil conditions and groundwater seepage were observed within the sand.

In-situ moisture contents within the sand (or sand and gravel) ranged from 4.9% to 26.4% with an average moisture content of 11.6%.

3.1.2.3 Silt

Silt was encountered in Test Pits TP005, 016, and 043, and extended to depths in the order of 0.4 m to 0.6 m below existing grade. The silt was generally noted to contain some clay to clayey, some sand to sandy, low to high plasticity, brown grey, wet to saturated, and was moderately to highly dilatant. Sloughing soil conditions and groundwater seepage were noted within the silt.

In-situ moisture contents of the silt ranged from 14.8% to 34.8% with an average moisture content of 24.8%.

3.1.2.4 Clay

Clay was encountered in Test Pit TP004 and TP038, and extended to depths of approximately 0.7 m below existing grade. The clay was generally sandy with some silt, low plastic, brown, and moist to wet. In TP038, the soil composition was noted to be clay and sand. An in-situ moisture content of the clay (or clay and sand) was found to be 11.4%.

3.1.2.5 Permafrost

Permafrost consisting primarily of sand or sand and clay was encountered at all test pit locations. The depth to permafrost was measured to be in the order of 0.2 m to 1.1 m below existing ground surface. Test pits were excavated by hand, using a 50 mm diameter hand auger or shovel. Significant penetration into the permafrost was not possible by hand excavation methods, and as such samples were not available for laboratory testing.

3.1.3 Landfill Location

A total of 46 test pits were excavated to depths in the order of 0.33 m to 1.1 m below existing grade at the proposed landfill location. Approximate test pit locations are indicated on Figure 4, **APPENDIX B**.

3.1.3.1 Surficial Organics

Surficial organics were encountered at all test pit locations (with the exception of Test Pit LF032) and were noted to have a thickness varying between 10 mm and 0.1 m at the test pit locations. The surficial organic mat consisted of mosses and sod and were generally moist to saturated. Soft and wet surficial subgrade conditions were encountered at the landfill location.

Organic clay was encountered underlying the surficial organic mat or from surface in Test Pits LF022 to LF026, LF028, LF030, and LF032, and extended to depths in the order of 75 mm to 0.4 m below ground surface. The organic clay was medium to high plastic, dark grey to black, and moist to saturated.

Buried peat was encountered in Test Pit LF019 from a depth of 0.4 m to 0.43 m. The peat was clayey with trace sand, amorphous granular to fibrous, brown to black, and frozen at the time of the test pitting.

3.1.3.2 Clay

Clay was encountered in all test pits (with the exception of Test Pits LF010, LF013, LF022 to LF024, and LF026), and extended to depths ranging from 0.27 m to 0.9 m below existing grade. The clay was noted to contain some silt to silty, trace sand to sandy, was low to medium plastic, brown to grey, moist to saturated, and was noted to contain occasional gravel. Occasional cobbles and boulders were also noted within the clay.

In Test Pits LF032, LF044, and LF046, the clay stratum was described as being clay and sand, some silt to silty, brown to grey, and contained many cobbles and boulders to greater than 0.3 m in diameter.

In-situ moisture contents within the clay (or clay and sand) ranged from 7.9% to 22.6% with an average moisture content of 13.6%. Results from the Atterberg limits analysis conducted on selected representative samples of the clay (or clay and sand) indicated average Liquid Limits in the order of 15 to 26, and average Plasticity Index in the order of 1 to 8, indicative of low plastic clay.

3.1.3.3 Sand

Sand was encountered in Test Pits LF002, LF010, LF013, LF022, LF023, and LF043, and extended to depths in the order of 0.2 m to 0.8 m below existing grade. The sand was generally silty with trace clay to clayey, moist to saturated, and was noted to contain occasional gravel to gravelly, and occasional cobbles and boulders. Sloughing soil conditions and groundwater seepage were observed within the sand.

In-situ moisture contents of the sand ranged from 5.9% to 14.2% with an average moisture content of 9.7%.

3.1.3.4 Permafrost

Permafrost consisting primarily of frozen clay and sand or sand was encountered at all test pit locations. The depth to permafrost was measured to be in the order of 0.15 m to 0.9 m below existing ground surface. Test pits were excavated using a track hoe equipped with a frost bucket (bucket with several 'frost teeth'). Penetration into the permafrost with the track hoe was limited to only 50 mm to 0.15 m for the majority of the permafrost encountered, and as such samples were not available for laboratory testing. In Test Pits LF023, LF024, and LF026, the permafrost was less competent (thawing) and was moderately rippable with the track hoe frost bucket for this size of equipment, and penetrations in the order of 0.14 m to 0.35 m into the permafrost were possible.

Samples of the thawing permafrost from these three test pits were obtained. In-situ moisture contents of the permafrost ranged from 10.0% to 16.2% with an average moisture content of 13.6%.

3.1.4 Potential Borrow Sources

A total of eight potential borrow sources were selected in areas with observed outcroppings of sand or sand and gravel, at areas currently being used as borrow sources, or at areas previously used as borrow sources. Test pits were excavated to depths in the order of 0.2 m to 1.3 m below existing ground surface. The potential borrow source locations are noted on Figure 5, **APPENDIX B**.

Given that the test pit locations were selected in areas either currently active or that were actively used in the past as borrow pits, the test pit records do not indicate any surficial organics. However, it should be expected that development of the potential borrow sources into active pits may require some stripping of organics to access material as the borrow area is expanded.

3.1.4.1 Sand

Sand was the predominant material encountered at the borrow source locations. The sand was encountered from surface at the potential borrow sources in the vicinity of in Test Pits TP045, TP046, TP049, and TP050, and extended to depths in the order of 0.2 m to 1.0 m. The sand was generally silty with trace clay to clayey and some gravel to gravelly, moist to wet, and was noted to contain occasional to frequent cobbles and boulders to greater than 0.3 m in diameter. Sloughing soil conditions and groundwater seepage were observed within the sand.

In-situ moisture contents of the sand ranged from 5.9% to 14.2% with an average moisture content of 9.7%.

3.1.4.2 Sand and Gravel

In situ (i.e. native) sand and gravel was encountered in varying quantities at the Test Pits in the vicinity of TP047 and TP048. The sand and gravel was noted to be poorly graded to gap graded, and was noted to contain trace to some silt, trace clay, was fine grained, rounded to subangular, brown to grey, and moist to wet.

3.1.4.3 Permafrost

Permafrost consisting primarily of frozen sand or clay and sand was encountered at all test pit locations. The depth to permafrost was measured to be in the order of 0.2 m to 1.2 m below existing ground surface. Test pits were excavated using a track hoe equipped with a frost bucket (bucket with several ‘teeth’). Penetration into the permafrost with the track hoe was generally limited to only 50 mm to 0.15 m for the majority of the permafrost encountered, and as such the rippability of the permafrost at these locations is considered low for this size of equipment.

3.1.4.4 Manufactured Aggregate Resources

One small manufactured aggregate stockpile (owner unknown) in the vicinity of TP051 and two large stockpiles (owned by Kudlik) in the vicinity of TP052 and TP053 were also observed and sampled to assess the potential quality of manufactured aggregate in Clyde River using locally available crushing and blending equipment and manufacturing.

In general, the manufactured aggregates consisted of moderately well-graded to well-graded sand and gravel, with a nominal top size in the order of 25 mm to 50 mm, and is described as sandy with trace silt and trace clay, angular to subrounded, and is generally classified as good quality manufactured aggregate.

3.2 Groundwater seepage

In general, groundwater seepage was encountered directly over the permafrost during test pitting in most test pits. Groundwater seepage notes are included on the Test Pit Records in **Appendix C**.

4 DISCUSSION AND RECOMMENDATIONS

Based on the information obtained during our geotechnical investigation, the site soil conditions encountered are typical for this area. The conditions are considered manageable for the proposed development; however, site development will likely be complicated by the presence of the soft and wet subgrade conditions.

4.1 Depth to Permafrost

The investigation was undertaken in mid-July. It is anticipated that the depth of seasonal thaw of the seasonal zone was not at its maximum. As such, it is anticipated that the total depth of thaw (depth to permafrost) will be slightly deeper than that noted during this investigation.

4.2 Landfarm Construction

In the vicinity of the proposed landfarm, excessively soft and wet subgrade conditions were encountered near the south end of the proposed location (in vicinity of Test Pits TP35 and TP36). Firmer, more stable ground was encountered to the north and west; however, subgrade conditions will likely vary significantly with changes in moisture content and seasonally. As such, it is recommended that some flexibility in the as-constructed landfarm location should be allowed for, as the final location may be dependent upon conditions at the time of construction.

The subgrade soils present at the proposed landfarm location generally consisted of low plastic clay and silt. These types of soils typically have relatively high permeability and are not considered suitable for use as a remoulded liner material from a retention standpoint. As such, a synthetic impermeable geomembrane is recommended for this location to properly retain possible contaminants that may leach from the contained materials.

The existing subgrade soils in the vicinity of the liner are also very wet (wet to saturated). These materials can be used as construction fill materials; however, significant drying of the soils should be expected. Given the relatively short construction season, it is considered highly probable that a large percentage of the existing soils could not be adequately dried for use as fill and would need to be wasted. As such, consideration should be given to using fill imported from other areas of the project locale, such as the sand which is readily available in this region, or possibly drier clay and silt soils from other portions of the works.

As noted previously, the measured depth to permafrost in this area was in the order of 0.4 m to 0.8 m. The maximum seasonal thaw depth is anticipated to be slightly deeper, in the order of up to 1.0 m. Given the anticipated usage and short to mid-term service life of the landfarm, it is recommended that a pad at least 1.0 m in thickness be built over the existing soils to protect them from exposure to seasonal thaw such that they remain in a frozen state during the operation of the landfarm and to preserve their natural state.

Prior to fill placement of the landfarm pad, and given the anticipated soft and wet subgrade conditions at the landfarm location, it is recommended to place a medium to heavy weight woven geotextile (such as Nilex™ 2006, or approved equivalent) directly over the existing organics. The requirement for the geotextile can be removed; however, a thicker pad in the order of 1.3 m thickness would be required to adequately bridge over the soft and wet subgrade if a geotextile is not used.

Stripping of the organics is not recommended, as stripping will expose the underlying soft and wet soils and will likely be difficult. Additionally, the organics will act as an insulator if left in place to provide additional insulating value to preserve the subgrade soils in a frozen state in the future. That being said, large cobbles and boulders greater than 0.5 m in diameter should be removed from the landfarm footprint prior to geotextile placement.

After placement of the woven geotextile, the 1.0 m thick landfarm pad construction should proceed. Fill soils shall be placed in lifts not exceeding 0.15 m in lift thickness. Each lift of fill shall be moisture conditioned to within ±2% of optimum moisture content (OMC) and compacted to 95% standard Proctor maximum dry density (SPMDD). OMC and SPMDD are to be determined in accordance with ASTM D-698. Given the soft and wet subgrade soils, compaction should be limited to static compaction only (i.e. no vibratory compaction) until a cover of at least 0.6 m thickness of fill has been placed.

No equipment shall be allowed to travel directly over the geotextile. As such, fill shall be placed such that it is 'padded' out over the geotextile so that the equipment is always working off of a pad of fill materials and is not travelling over the geotextile. Trucks and other wheeled equipment shall not be allowed to travel over the pad until at least 0.6 m of fill has been placed and compacted over the geotextile.

The landfarm facility should be constructed with perimeter berms of sufficient height to enclose the expected materials. The berms should be constructed directly over the pad as noted above, with inner berms at slope angles of 3 Horizontal to 1 Vertical (3H:1V) or flatter. Depending upon the fill soils used as berm construction, the exterior slope angles would need to be in the order of 3H:1V for sand fill and in the order of 5H:1V for clay and silt fills. The berm crests should have a sufficient width (in the order of 3 m minimum) to permit equipment access and should be a crowned with minimum 2% slopes in order to prevent ponded surface water from softening the fill.

Fill lifts for berm construction should be level, uniform and horizontally parallel. Any large lumps greater than 0.1 m in diameter should be broken up prior to compaction. Cobbles greater than 0.1 m in diameter should be removed from the fill. The fill should be moisture conditioned to within ±2% of optimum moisture content (OMC) and compacted to 95% standard Proctor maximum dry density (SPMDD). OMC and SPMDD are to be determined in accordance with ASTM D-698. Fill should be placed in lifts not exceeding 0.15 m in compacted thickness.

After construction of the pad and berms as noted above, the geomembrane should be placed immediately over the berm and pad so as to minimize degradation of the fill due to exposure to the elements. The exposed exterior side slopes will consist of exposed mineral soil. The exposed sand or silt (if used) are highly prone to erosion and should be protected from erosion with a cover of gravel at least 0.15 m in thickness, organics at least 0.1 m in thickness, or synthetic measures (such as rolled erosion control products), or the geomembrane may be installed such that it extends over and covers the exterior side slopes. The geomembrane must be placed in accordance with the manufacturer's specifications; however, the following provides general geomembrane construction considerations.

The geomembrane should be sandwiched between 2 layers of bedding sand at least 150 mm in thickness to minimize damage to the liner from protrusions from the fill (such as sharp rocks) or from the infill materials (metal debris or sharp rocks). If sand fill is used to construct the pad and berms, it is anticipated that the bottom layer of bedding sand is not necessary, provided that no large (50 mm diameter) gravel is present in the surficial portions of the sand fill. The top of the geomembrane would still require a protective layer of bedding sand. If clay or silt fill is used to construct the pad and berms, the top and bottom layers of bedding sand would be required.

As a means of possibly reducing the required pad thickness and associated fill volumes, consideration may be given to reducing the pad thickness to 0.5 m, provided that at least 0.5 m of waste infill material remains in place over the base of landfarm at all times in the summer thaw months during the operation of the landfarm to minimize thaw of the underlying native soils. Leaving at least 0.5 m of infill waste material in place during summer thaw will ensure that a cover of at least 1.0 m over the underlying frozen subgrade is maintained, minimizing seasonal thaw of the underlying natural soils. As noted above, a cover of at least 0.6 m of fill materials over the geotextile is still required prior to trafficking over the geotextile with construction equipment. If this option is utilized, strict construction equipment access controls will be required to restrict access onto the pad during construction. Furthermore, strict operations control will be required during the lifespan of the landfarm to ensure that proper seasonal cover (i.e. at least 0.5 m cover with infill waste material) is maintained at all times during the operation of the landfarm. If these controls can't be implemented or maintained, it is recommended to use the full thickness of 1.0 m for the pad as described above.

Given the proximity of the landfarm to Patricia Bay and potential environmental impacts that may arise if the landfarm were to leak, it is recommended to develop a construction Quality Assurance Control Plan (QACP) and erosion and sediment control (ESC) plan prior to construction such that rigorous construction quality is monitored and maintained throughout the construction process so as to minimize possible future releases of contaminants.

4.3 Landfill Construction

In the vicinity of the proposed landfill, the near surface soils were excessively soft and wet to the west (in vicinity of Test Pits LF001 to LF007 and LF025 to LF031) and south of the existing landfill cells and burn pit (in vicinity of Test Pits LF032 to LF046). Firmer, more stable ground was encountered to the north and east (in the vicinity of Test Pits LF008 to LF024); however, subgrade conditions will likely vary significantly with changes in moisture content and seasonally. As with the landfarm, it is recommended that some flexibility in the as-constructed landfill location be allowed as the final location may be dependent upon conditions at the time of construction.

The subgrade soils present at the proposed landfill location generally consisted of low plastic clay and silt. These types of soils typically have relatively high permeability and are not considered suitable for use as remoulded liner material from a retention standpoint. As such, a synthetic impermeable geomembrane is recommended for this location to properly retain possible contaminants that may leach from the contained materials.

The existing subgrade soils in the vicinity of the landfill are also very wet (wet to saturated). These materials can be used as construction fill materials; however, significant drying of the soils should be expected. Given the relatively short construction season, it is considered highly probable that a large percentage of the existing soils could not be adequately dried for use as fill and would need to be wasted. As such, consideration should be given to using fill imported from other areas of the project locale, such as the sand which is readily available in this region, or possibly drier clay and silt soils from other portions of the works.

As noted previously, the measured depth to permafrost in this area was in the order of 0.15 m to 0.9 m. The maximum seasonal thaw depth is anticipated to be slightly deeper, in the order of up to 1.2 m. Given the anticipated long term service life for the landfill, it is recommended that a pad at least 1.2 m in thickness be built over the existing soils to protect them from exposure to seasonal thaw such that they remain in a frozen state during the operation of the landfill and to preserve their natural state.

Prior to fill placement of the landfill pad, and given that the subgrade appears to be in much better condition that at the landfarm, it is recommended to place a medium to heavy weight non-woven geotextile (such as Nilex™ 4552 or approved equivalent) directly over the existing organics. The requirement for the geotextile can be removed; however, a thicker pad in the order of 1.5 m thickness would be required to adequately bridge over the soft and wet subgrade if a geotextile is not used.

Stripping of the organics is not recommended, as stripping will expose the underlying soft and wet soils and will likely be difficult. Additionally, the organics will act as an insulator if left in place to provide additional insulating value to preserve the subgrade soils in a frozen state in the future. That being said, large cobbles and boulders greater than 0.5 m in diameter should be removed from the landfill footprint prior to geotextile placement.

After placement of the non-woven geotextile, pad construction should proceed. Fill soils shall be placed in lifts not exceeding 0.15 m in lift thickness. Each lift of fill shall be moisture conditioned to within ±2% of optimum moisture content (OMC) and compacted to 95% standard Proctor maximum dry density (SPMDD). OMC and SPMDD are to be determined in accordance with ASTM D-698. Given the soft and wet subgrade soils, compaction should be limited to static compaction only (i.e. no vibratory compaction) until at least 0.5 m thickness of fill has been placed.

No equipment shall be allowed to travel directly over the geotextile. As such, fill shall be placed such that it is ‘padded’ out over the geotextile so that the equipment is always working off of a pad of fill materials and is not travelling over the geotextile. Trucks and other wheeled equipment shall not be allowed to travel over the pad until at least 0.5 m of fill has been placed and compacted.

The landfill facility should be constructed with perimeter berms of sufficient height to enclose the expected materials. The berms should be constructed directly over the pad as noted above, with inner berms at slope angles of 3 Horizontal to 1 Vertical (3H:1V) or flatter. Depending upon the fill soils used as berm construction, the exterior slope angles would need to be in the order of 3H:1V for sand fill and in the order of 5H:1V for clay and silt fills. The berm crests should have a sufficient width of 3 m minimum to permit equipment access and should be a crowned with a minimum 2% crown in order to provide positive drainage and to minimize ponded surface water from softening the fill.

Fill lifts for berm construction should be level, uniform and horizontally parallel. Any large lumps greater than 0.1 m in diameter should be broken up prior to compaction. Cobbles greater than 0.1 m in diameter should be removed from the fill. The fill should be moisture conditioned to within ±2% of optimum moisture content (OMC) and compacted to 95% standard Proctor maximum dry density (SPMDD). OMC and SPMDD are to be determined in accordance with ASTM D-698. Fill should be placed in lifts not exceeding 0.15 m in compacted thickness.

After construction of the pad and berms as noted above, the geomembrane should be placed immediately over the berm and pad so as to minimize degradation of the fill due to exposure to the elements. The exposed exterior side slopes will consist of exposed mineral soil. The exposed sand or silt (if used) are highly prone to erosion and should be protected from erosion with a cover of gravel at least 0.15 m in thickness, organics at least 0.1 m in thickness, or synthetic measures (such as rolled erosion control products), or the geomembrane may be installed such that it extends over and covers the exterior side slopes. The geomembrane must be placed in accordance with the manufacturer's specifications; however, the following provides general geomembrane construction considerations.

The geomembrane should be sandwiched between 2 layers of bedding sand at least 0.15 m in thickness to minimize damage to the liner from protrusions from the fill (such as sharp rocks) or from the infill materials (metal debris or sharp rocks). If sand fill is used to construct the pad and berms, it is anticipated that the bottom layer of bedding sand is not necessary, provided that no large (50 mm diameter) gravel is present in the surficial portions of the sand fill. The top of the geomembrane would still require a protective layer of bedding sand. If clay or silt fill is used to construct the pad and berms, the top and bottom layers of bedding sand would be required.

As a means of possibly reducing the required pad thickness and associated fill volumes, consideration may be given to reducing the pad thickness to 0.6 m, provided that at least 0.6 m of waste infill material remains in place over the base of landfill at all times in the summer thaw months during the operation of the landfill to minimize thaw of the underlying native soils. Leaving at least 0.6 m of infill waste material in place during summer thaw will ensure that the cover of at least 1.2 m over the underlying frozen subgrade is maintained, minimizing seasonal thaw of the underlying natural soils. As noted above, a cover of at least 0.6 m of fill materials over the geotextile is still required prior to trafficking over the geotextile with construction equipment. If this option is utilized, strict construction equipment access controls will be required to restrict access onto the pad during construction. Furthermore, strict operations control will be required during the lifespan and operation of the landfill to ensure that proper seasonal cover (i.e. at least 0.6 m cover with infill waste material) is maintained at all times during the operation of the landfill. If these controls can't be implemented or maintained, it is recommended to use the full thickness of 1.2 m for the pad as described above.

Given the proximity of the landfill to Patricia Bay and potential environmental impacts that may arise if the landfill were to leak, it is recommended to develop a construction Quality Assurance Control Plan (QACP) prior to construction such that rigorous construction quality is monitored and maintained throughout the construction process so as to minimize possible future releases of contaminants.

4.4 Temporary Access Road Construction

4.4.1 Subgrade Conditions

The subgrade conditions throughout the roadway alignment generally consisted of sand; however, localized soft and wet zones are anticipated along the roadway alignment. As noted previously, the measured depth to permafrost along the alignment was in the order of 0.2 m to 1.1 m. Given the anticipated short term service life of the access road (two years) and the potential heavy-truck traffic, it is recommended that the roadway embankment be constructed at least 1.2 m in thickness over the existing soils to protect them from exposure to seasonal thaw such that they remain in a primarily frozen state during the operation of the roadway and to preserve their natural state.

4.4.2 Design Assumptions

It is understood that the temporary access road is to be designed for use as a short-term, temporary, low-speed construction access only, and is not intended for use as a long-term formal public roadway. As such, it is proposed to incorporate the following design considerations into the design and construction of the temporary access road:

- Road width (shoulder to shoulder) of 4 m to 5 m (minimum)
    - Road designed for one-way traffic
- Pullouts provided at least every 500 m, at crests of hills, or at areas with limited sight lines, to allow oncoming traffic to pull over to accommodate passing of vehicles
    - Road width 12 m (minimum) at pullout locations
- Road constructed entirely in fill (i.e. no cutting or balancing of fills)
- Side slopes in the order of 2H:1V for sand fills and 3H:1V for clay or silt fills
- Vertical slope angles a maximum of 8% (steeper slopes will be difficult for construction vehicles to traverse especially when loaded and at slow speeds)
- Minimum fill height of 1.2 m
- Temporary culverts at watercourse crossings where required

4.4.3 Roadway Construction

Throughout the roadway alignment, the subgrade generally consisted of silt and sand and appeared to be relatively stable ground with only localized and isolated soft and wet zones. However, subgrade conditions will likely vary significantly with changes in moisture content and seasonally. As such, it is recommended that some flexibility in the as-constructed roadway alignment be allowed as the final location may be dependent upon conditions at the time of construction.

As noted previously, the measured depth to permafrost in this area was in the order of 0.2 m to 1.1 m. The maximum seasonal thaw depth is anticipated to be slightly deeper. As such, it is recommended that a roadway embankment at least 1.2 m in thickness be built over the existing soils to protect them from exposure to seasonal thaw such that they remain in a primarily frozen state during the operation of the roadway and to preserve their natural state.

Placing thinner roadway embankment fill may result in thaw and softening of the underlying subgrade. Thawed and softened subgrade will likely lead to localized subgrade failures, increased maintenance during construction traffic, and possible total loss of serviceability and possible loss of use of the roadway during construction activities.

As noted, it is recommended to construct the roadway entirely in fill and not to include any cutting as a means of balancing fill volumes. Cutting will expose the underlying frozen soils that will soften when thawed. Thawed and softened subgrade will likely lead to localized subgrade failures, increased maintenance during construction traffic, and possible total loss of serviceability and possible loss of use of the roadway during construction activities.

The existing subgrade soils in the vicinity of the roadway generally consist of sand; however, no active or apparent borrow sources of sand were evident along the roadway alignment. As such, it is recommended to use fill imported from other areas of the project locale, such as the sand which is readily available in this region, or possibly drier clay and silt soils from other portions of the works.

Given that the subgrade appears to be in much better condition that at the landfarm or the landfill, and given that the roadway is designed to be used as a short-term construction access only, the use of geotextile throughout the majority of the alignment is generally not required for an embankment height of 1.2 m, and fill can be placed directly over the subgrade. Note that the use of geotextile should be anticipated for isolated soft and wet zones. For preliminary design, it is anticipated that approximately 20% of the roadway length would require a medium to heavy weight non-woven geotextile (Nilex™ 4552 or approved equivalent).

Stripping of the organics is not recommended, as stripping will expose the underlying soft and wet soils and will likely be difficult. Additionally, the organics will act as an insulator if left in place to provide additional insulating value to preserve the subgrade soils in a frozen state in the future. That being said, large cobbles and boulders greater than 0.5 m in diameter should be removed from the landfill footprint prior to geotextile placement.

Fill soils shall be placed in lifts not exceeding 0.15 m in lift thickness. Each lift of fill shall be moisture conditioned to within ±2% of optimum moisture content (OMC) and compacted to 95% standard Proctor maximum dry density (SPMDD). OMC and SPMDD are to be determined in accordance with ASTM D-698. Given the soft and wet subgrade soils, compaction should be limited to static compaction only (i.e. no vibratory compaction) until at least 0.5 m thickness of fill has been placed.

No equipment shall be allowed to travel directly over the subgrade. As such, fill shall be placed such that it is ‘padded’ out over the subgrade so that the equipment is always working off of a pad of fill materials and is not travelling over the subgrade. Trucks and other wheeled equipment shall not be allowed to travel over the embankment fill until at least 0.6 m of fill has been placed and compacted over the subgrade.

Given the temporary, non-public use planned for the access road, side slopes shall be at least 2H:1V for sand fills and 3H:1V for clay or silt fill. Fill lifts for roadway construction should be level and uniform. Any large lumps greater than 0.1 m in diameter should be broken up prior to compaction. Cobbles greater than 0.1 m in diameter should be removed from the fill. The fill should be moisture conditioned to within ±2% of optimum moisture content (OMC) and compacted to 95% standard Proctor maximum dry density (SPMDD). OMC and SPMDD are to be determined in accordance with ASTM D-698. Fill should be placed in lifts not exceeding 0.15 m in compacted thickness.

The roadway should be surfaced with a 0.1 m to 0.15 m thick wear layer of gravel material to increase surface durability and dust control. Furthermore, the sand may have a high rolling resistance for the haul equipment, and the surfacing gravel will assist in providing traction and provide a more stable platform for the haul equipment to travel on. That said maintenance of the roadway should be expected throughout the duration of usage of the roadway.

Given the proximity of the roadway to Patricia Bay and potential environmental impacts that may arise if embankment fill were to erode, it is recommended to develop a construction Quality Assurance Control Plan (QACP) incorporating an erosion and sediment control (ESC) plan prior to construction such that rigorous construction quality is monitored and maintained throughout the construction process so as to minimize possible future releases of contaminants.

4.4.3.1 Embankment Fill Alternatives

It is understood that fill quantity reducing alternatives may be required for the roadway for this project. As such, the following provides a summary and comparison of potential reduction methods.

MECHANICAL REINFORCEMENT

One option to reduce the required embankment fill height and still maintain a functional level of service would be to use a mechanical reinforcement, such as a woven geotextile, a geogrid, or a combination of the two. Using a woven geotextile (such as Nilex™ 2006, or approved equivalent) could reduce the overall required fill thickness from 1.2 m to 0.9 m. Using a roadway improvement geogrid (such as Tensar™ TX140, or approved equivalent) could reduce the overall required fill thickness from 1.2 m to 0.8 m. Using a combination of the two products (woven geotextile and geogrid) could reduce the overall required fill thickness by as much as 50%, from 1.2 m to 0.6 m. A cost benefit analysis of the costs of the materials versus the costs of borrow materials would need to be undertaken. If requested, this assessment could be undertaken during the detailed design phase. However, based on our experience, the costs associated with shipping the quantity of geotextile or geogrid typically makes these options cost prohibitive for projects in remote arctic locations.

ACCEPTANCE OF REDUCED SERVICEABILITY LEVEL

Another option to reduce the overall fill thickness would be to accept a reduced level of serviceability. This acceptance would need to be provided by the client. The design and construction considerations provided in the previous section were based on a periodic routine expenditure of maintenance and/or reconstruction by the contractor during the operation of the roadway. If it were decided by the client that the serviceability would be such that the contractor would be required to implement continuous and possibly large-scale reconstruction efforts during the operation of the roadway, the embankment height could be reduced. The embankment height would be designed after discussions with the client. Note that based on our experience, this type of design assumption typically results in higher bid costs from the contractor as they have to factor in the remedial measures into their bid price. Furthermore, this type of design assumption typically results in a higher potential for claims and impact to the schedule (i.e. delays) should be expected due to contractor efforts being required to repair the roadway rather than add to production.

4.4.4 Watercourse Crossings

Several substantial crossings (referred to as Crossings #1 to #4 on attached Figures 3 (A to C), **APPENDIX B**), with observed water depths in the order of 200 mm to 300 mm (at the existing trail crossing locations) are present along the proposed alignment, primarily near the Old Town Site. All crossings were traversable with ATVs, and it is anticipated that construction equipment, such as haul trucks will also be able to traverse (ford) these watercourses. However, from an environmental standpoint it is anticipated that the largest crossing (Crossing #1) will require some form of crossing structure such as temporary culverts or bridge structures, especially if they are found to be fish-bearing watercourses.

Given the anticipated costs associated with temporary bridge structures, it is anticipated that temporary culverts will be used to facilitate crossing the larger watercourses if travel through the crossing is not permitted for environmental reasons. Note that this assignment does not include determination if it is allowable to travel through these water courses from the GNU, Department of Fisheries and Oceans, or other applicable regulatory agencies.

If traversing through the water courses or placing temporary culverts into the water courses to facilitate construction traffic is deemed unacceptable by regulatory agencies, we would provide foundation recommendations for the temporary bridge structures. However, the recommendations included herein are based on the premise that either traversing through the watercourses or installing temporary culverts will be permitted provided that actions are taken to minimize sediment releases into the water courses and adjacent Patricia Bay.

TEMPORARY CULVERT CROSSINGS

As noted, the observed crossing depths were in the order of 200 mm to 300 mm. These crossings can likely be traversed via temporary culvert infills. A general ‘rule-of-thumb’ for temporary culvert crossings is to ensure that the cross sectional area of the culverts installed is at least twice that of the cross sectional area of the water courses at the crossing locations. Using this rule-of-thumb should permit the volume of water present to flow through the culverts at roughly half full.

Typically, culvert cover is in the order of 1 to 2 times the culvert diameter. Using larger diameter culverts will result in requiring fewer culverts to cross the water courses; however, larger diameter culverts also require more fill cover over top to distribute vehicle loads so as not to overload the culverts structurally. Note that all culverts must be installed in accordance with the manufacturer’s specifications. The final sizing and configuration of the temporary culvert crossings for the requisite water course crossings will be completed for the final design.

It should be noted that some regulatory agencies may require that a formal hydrological and hydraulic assessment be completed to properly size the culverts such that they permit unrestricted flow of the water courses to Patricia Bay. This formal study could be completed during final detailed design phases of the project if required.

To minimize sediment release, the culverts will be backfilled using clean, sound and durable rock with a minimum diameter of 200 mm (8”). Larger diameter rocks (in the order of 300 mm diameter) are recommended for placement directly into the watercourse adjacent to the culverts with incrementally smaller rocks placed over each lift; however, no rocks or particles smaller than 200 mm diameter are to be used within 3 m of the watercourse. The surfacing gravel noted previously will not be placed over the watercourse fills or within 3 m of the watercourse itself to minimize potential sedimentation into the watercourses. Unfortunately, this will result in relatively rough roadways at the crossing location.

4.5 Potential Borrow Sources Evaluation

As noted, a total of eight potential borrow sources were identified during the site reconnaissance. These borrow sources were selected as either being currently active borrow sources or borrow sources previously active. Figure 5 in **APPENDIX B** shows the approximate borrow source locations.

It is anticipated that using these already developed borrow sources would not require further permitting or environmental review as they are already developed borrow sources. However, if environmental regulators require permits prior to use of materials from these borrow sources, it is recommended to obtain these permits prior to excavation and removal of materials. A review of the permits required to excavate material from the borrow areas was not part of the scope for this study.

The following provides estimated available quantities of borrow materials from the assessed borrow source locations based on the findings from this investigation and assuming use of materials from these sources is approved.

Borrow Source Location	Borrow Source Area (m^2)	Average Depth of Unfrozen Material (m)	Estimated Available Borrow Material Quantities *	
			Sand (m^3)	Natural Sand and Gravel (m^3)
TP017 (Existing Quarry)	15,000 t 20,000	0.2	3,000 to 4,000	1,500 to 2,500 **
TP045	1,000 to 1,500	0.5	500 to 1,500	0
TP046	1,000 to 2,000	1.0	1,000 to 2,000	0
TP047	14,000 to 16,000	0.7	9,800 to 11,200	4,200 to 4,800
TP048	8,000 to 10,000	0.65	4,200 to 5,200	800 to 1,000
TP049	12,000 to 14,000	0.55	5,400 to 6,300	0
TP050 ***	4,000 to 5,000	0.6	2,400 to 3,000	600 to 700 ***
TP051	5,000 to 6,000	0.6	3,000 to 3,600	0
Estimated Total Volume of Available Materials			29,300 to 36,800	7,100 to 9,000

* Estimated available quantities based on thawed soil depth noted during test pitting, and based on existing stripped (i.e. open) areas. Quantity noted does not include potential quantities available from opening and developing (i.e. stripping organics) additional areas to increase surface area of existing borrow areas.

** Quarry appears to have been used in the past by others to obtain rock by blasting methods. Rip rap sized blast rock readily available in existing stockpiles or by blasting.

*** A stockpile (ownership unknown) was also present adjacent to TP050. Stockpile appeared to consist of well-graded 25 mm crush gravel, with estimated volume of 600 m^3 to 700 m^3.

As noted, the estimated total volumes of available borrow materials presented above is based on readily available seasonally unfrozen materials from already established borrow source locations, and does not include increasing the size (surface areas) or depth of the borrow source locations.

Based on the preliminary design assumptions for the facilities, it is anticipated that there is a shortfall of borrow materials readily available for use at the investigated (i.e. existing) borrow areas. Note that actual required volumes will be finalized during the final detailed design phase. As such, it I anticipated that new borrow sources will need to be opened and developed to facilitate the construction of these new facilities. It should be noted that opening and developing new borrow sources is likely subject to environmental permitting and regulations. All required permits and approvals should be obtained prior to developing new borrow sources.

The most likely area for new borrow source development is in the vicinity of TP048 to TP051. This area currently encompasses three existing borrow sources, which could be combined into one large borrow area with a total area in the order of 100,000 m^2. If this area were to be combined into one large borrow source, it is anticipated that an additional 30,000 m^3 to 50,000 m^3 of sand could be available.

As noted previously, the majority of the soils available in these borrow source locations consists primarily of sand with varying degrees of gravel. Based on our observations during this investigation, as well as discussions with Kudlik site representatives, it is understood that native well-graded gravel is not readily available in Clyde River, and that if 'engineered gravel' is required or preferred, it must be manufactured. Kudlik went on to say that it was 'easier and cheaper' for them to blast rocks from a quarry located near the north end of the proposed access road, haul the blast rock to their pits near the landfill, crush the blast rock using their mobile crusher and screens, and blend to the desired gradation rather than screen the gravels from the existing site soils and blend to the desired gradation.

Kudlik's reasoning was that 'less than 10%' of the site soils are gravels, resulting in 90% 'waste' sand when they need to produce gravel. Their estimated unit cost (2010 dollars) was in the order of \$300/m^3 for a well-graded 25 mm crush gravel, such as that used at the Clyde River Airport runway.

Given this anecdotal evidence on site, the anticipated high unit costs for gravels, as well as the fact that the only facility truly requiring gravel is the access road (which is designed as a short-term private access road), it is suggested that the requirements and designed use of engineered gravel be limited. For the access road, the only requirement for engineered gravel is for the surface course wearing layer. As such, this layer has been designed to be limited to 100 mm to 150 mm in thickness in an effort to reduce the required design quantities of this material.

5 CLOSURE

This report has been prepared for the sole benefit of Government of Nunavut c/o Nunami Stantec Limited and their agents, and may not be used by any third party without the express written consent of Stantec Consulting Ltd. and Government of Nunavut c/o Nunami Stantec Limited. Any use, which a third party makes of this report, is the responsibility of such third party. Use of this report is subject to the Statement of General Conditions provided in **Appendix A** .

It is the responsibility of Government of Nunavut c/o Nunami Stantec Limited, who is identified as "the Client" within the Statement of General Conditions, and its agents to review the conditions and to notify Stantec should any of these not be satisfied. The Statement of General Conditions addresses the following:

- Use of the report
- Basis of the report
- Standard of care
- Interpretation of site conditions
- Varying or unexpected site conditions
- Planning, design or construction

We trust the above information meets with your present requirements. Should you have any questions or require further information, please contact us. This report has been prepared by Shawn McArthur, P.Eng., and was reviewed by Yves Cormier, P.Eng., PMP.

Respectfully Submitted,

NUNAMI STANTEC LIMITED

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APPENDIX A

Statement of General Conditions

USE OF THIS REPORT: This report has been prepared for the sole benefit of the Client or its agent and may not be used by any third party without the express written consent of Stantec and the Client. Any use which a third party makes of this report is the responsibility of such third party.

BASIS OF THE REPORT: The information, opinions, and/or recommendations made in this report are in accordance with Stantec's present understanding of the site specific project as described by the Client. The applicability of these is restricted to the site conditions encountered at the time of the investigation or study. If the proposed site specific project differs or is modified from what is described in this report or if the site conditions are altered, this report is no longer valid unless Stantec is requested by the Client to review and revise the report to reflect the differing or modified project specifics and/or the altered site conditions.

STANDARD OF CARE: Preparation of this report, and all associated work, was carried out in accordance with the normally accepted standard of care in the state or province of execution for the specific professional service provided to the Client. No other warranty is made.

INTERPRETATION OF SITE CONDITIONS: Soil, rock, or other material descriptions, and statements regarding their condition, made in this report are based on site conditions encountered by Stantec at the time of the work and at the specific testing and/or sampling locations. Classifications and statements of condition have been made in accordance with normally accepted practices which are judgmental in nature; no specific description should be considered exact, but rather reflective of the anticipated material behavior. Extrapolation of in situ conditions can only be made to some limited extent beyond the sampling or test points. The extent depends on variability of the soil, rock and groundwater conditions as influenced by geological processes, construction activity, and site use.

VARYING OR UNEXPECTED CONDITIONS: Should any site or subsurface conditions be encountered that are different from those described in this report or encountered at the test locations, Stantec must be notified immediately to assess if the varying or unexpected conditions are substantial and if reassessments of the report conclusions or recommendations are required. Stantec will not be responsible to any party for damages incurred as a result of failing to notify Stantec that differing site or sub-surface conditions are present upon becoming aware of such conditions.

PLANNING, DESIGN, OR CONSTRUCTION: Development or design plans and specifications should be reviewed by Stantec, sufficiently ahead of initiating the next project stage (property acquisition, tender, construction, etc.), to confirm that this report completely addresses the elaborated project specifics and that the contents of this report have been properly interpreted. Specialty quality assurance services (field observations and testing) during construction are a necessary part of the evaluation of sub-subsurface conditions and site preparation works. Site work relating to the recommendations included in this report should only be carried out in the presence of a qualified geotechnical engineer; Stantec cannot be responsible for site work carried out without being present.

APPENDIX B

Figures

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2011-09-19 04:12PM By: nallarie

ACKNOWLEDGEMENTS: Adapted from NTS Mapsheet 27F & 27F8 bt the Government of Canada

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Legend

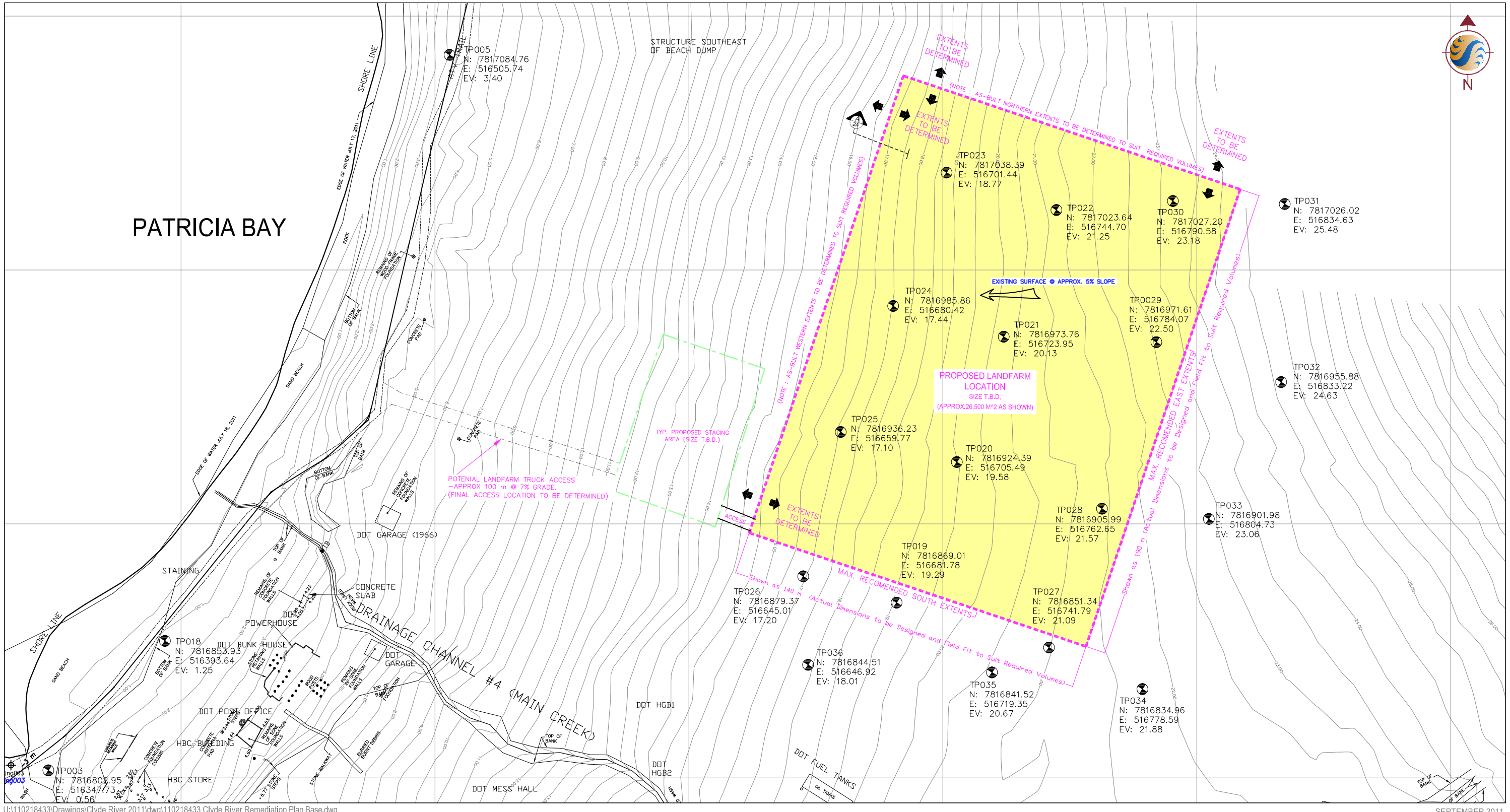
PROPOSED ENVIRONMENTAL REMEDIATION FACILITY SITES

PROPOSED TEMPORARY ACCESS ROAD

Client/Project
GOVERNMENT OF NUNAVUT
Geotechnical Assessment
Clyde River Old Town Site Remediation
Landfill, Landfarm and Access Road Development
Clyde River, NU.

Figure No.
1

Title
SITE MAP



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2011-09-19 03:02PM By: nallarie

Acknowledgements: Based on Original Survey by Stantec Geomatics 2011 & Previous RAP & Phase III Drawings by Stantec.

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Legend

- Proposed Landfarm Location
- Proposed Staging Area
- Proposed Landfarm Access
- Landfarm Surface Slope Direction
- Test Pit (TP) Location

PRELIMINARY GEOTECHNICAL REPORT DESIGN RECOMMENDATIONS FOR INFORMATION PURPOSES ONLY. NOT TO BE USED FOR CONSTRUCTION.

Scale

0 15 45 75m

1:1500

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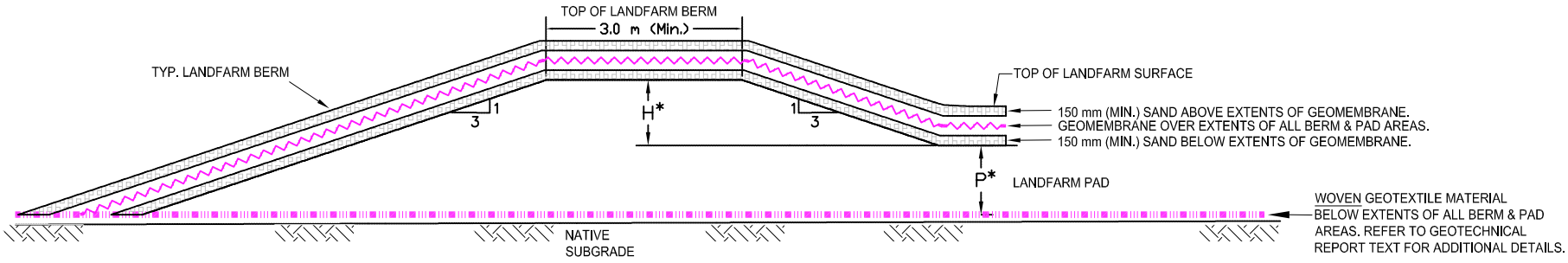
Clyde River Old Town Site Remediation
Landfill, Landfarm and Access Road Development
Clyde River, NU.

Figure No.

2

Title

Proposed Landfarm Location



SECTION A-2
SCALE 1 : 150

* H = BERM HEIGHT (MIN. 0.5 m). REFER TO GEOTECHNICAL REPORT TEXT. AS-BUILT LANDFARM BERM HEIGHT TO BE DETERMINED BY THE PROJECT ENGINEER AT THE ENVIRONMENTAL REMEDIATION DESIGN AND CONSTRUCTION STAGES BASED ON ANTICIPATED LANDFILL VOLUMES, GOV. OF NUNAVUT SPECIFICATIONS AND OPERATIONAL CONSIDERATIONS.

* P = PAD THICKNESS (MIN. 1.0 m). REFER TO GEOTECHNICAL REPORT TEXT. AS-BUILT LANDFARM PAD THICKNESS TO BE DETERMINED BY THE PROJECT ENGINEER AT THE ENVIRONMENTAL REMEDIATION DESIGN AND CONSTRUCTION STAGES BASED ON ANTICIPATED LANFARM VOLUMES, GOV. OF NUNAVUT SPECIFICATIONS AND OPERATIONAL CONSIDERATIONS.

Scale : N.T.S.

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Legend

- WOVEN GEOTEXTILE MATERIAL
- GEOMEMBRANE MATERIAL
- SAND LAYER
- NATIVE SUBGRADE

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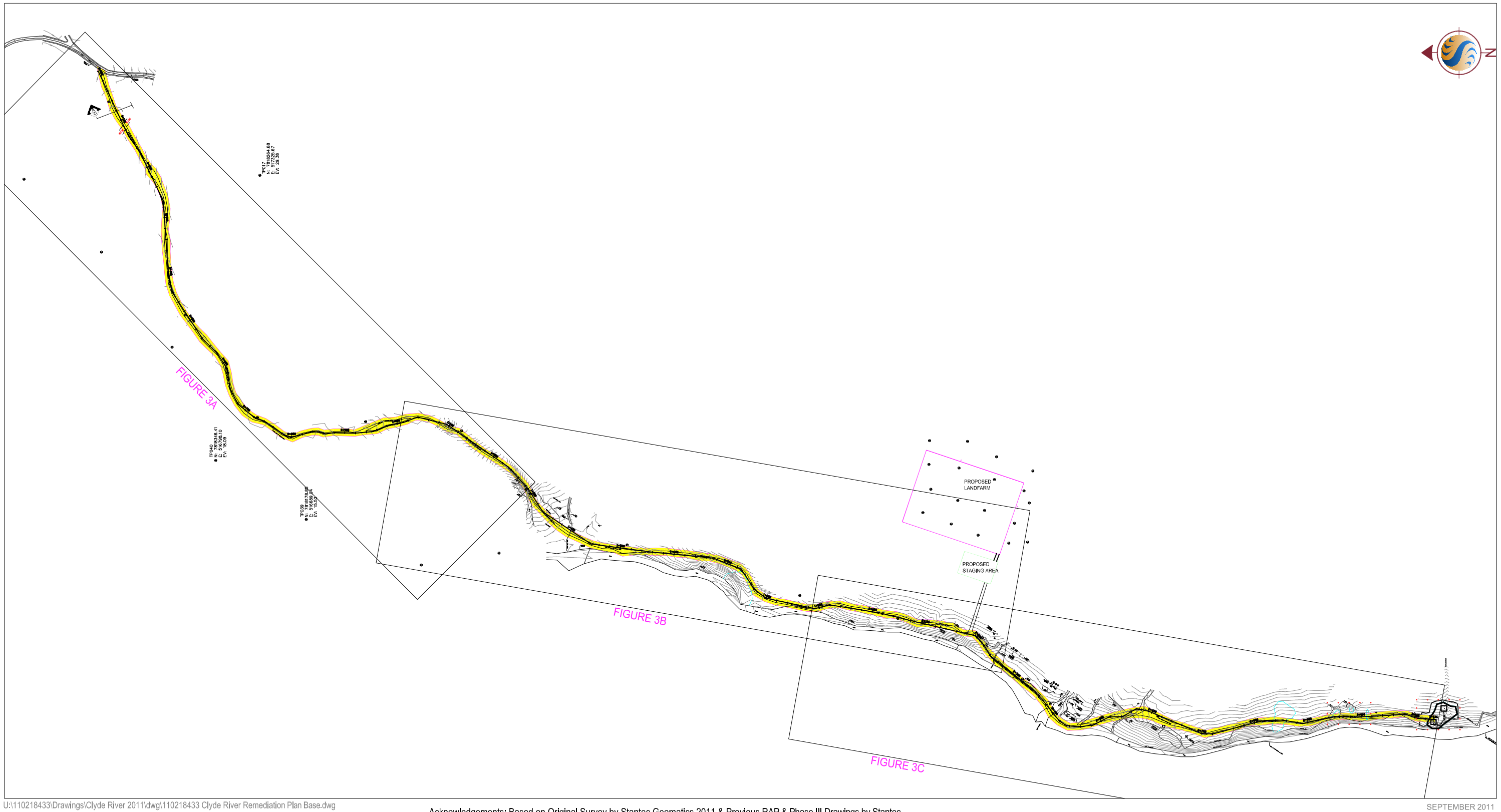
Figure No.
2A

Title
Typ. Proposed Landfarm Section A-A'



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Legend

Proposed Temporary Access Road Alignment

Scale

0 70 210 350m

1:7000

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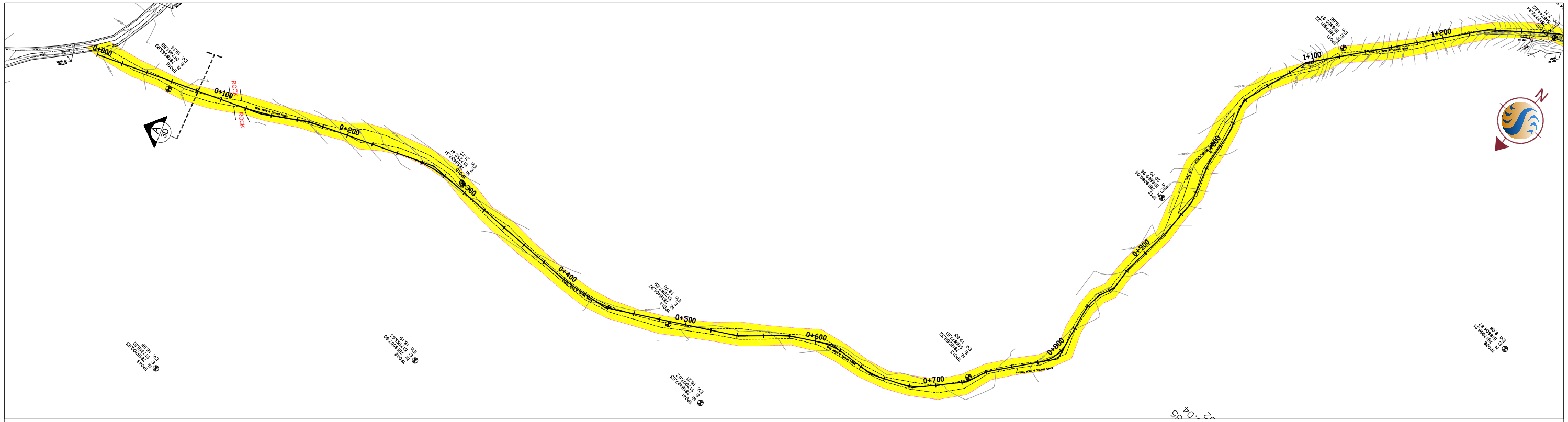
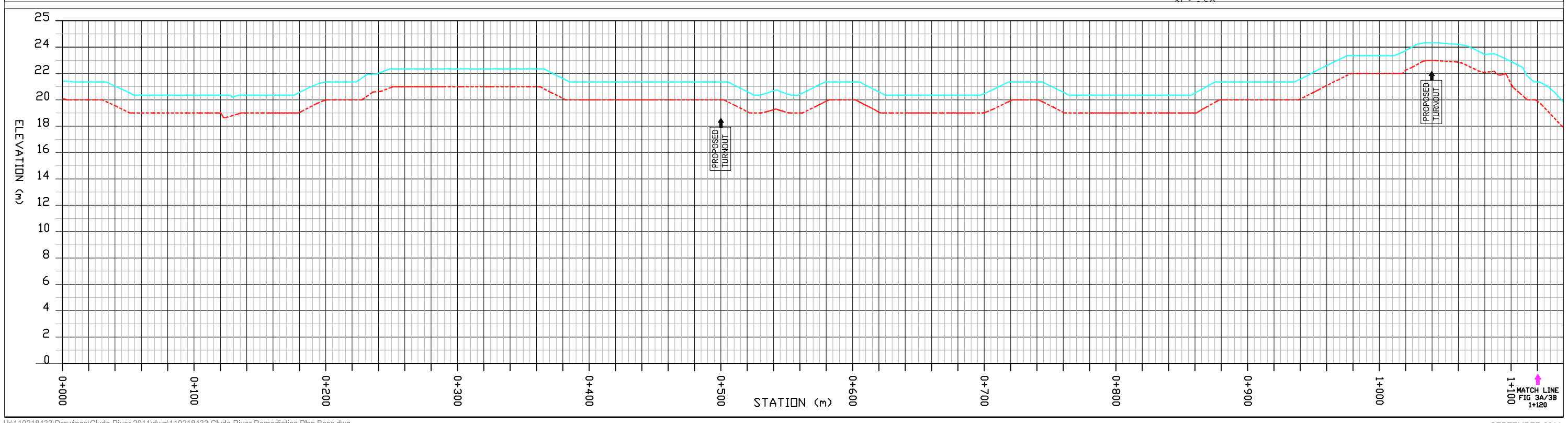
Figure No.

3

Title

Proposed Temporary Access Road Alignment





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2011-09-19 03:32PM By: nallarie

Acknowledgements: Based on Original Survey by Stantec Geomatics 2011 & Previous RAP & Phase III Drawings by Stantec.

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Legend

- Proposed Temporary Access Road Alignment (Preliminary Design)
- Existing Ground
- Top of Proposed Temporary Access Road Alignment (Preliminary Design : Final Grades & Elevations T.B.D.)
- PROPOSED TURNOUT → Proposed Roadside Turnout Location
- Test Pit (TP) Locations
- NOTE: Drainage Culvert Locations To Be Determined

PRELIMINARY GEOTECHNICAL REPORT DESIGN RECOMMENDATIONS FOR INFORMATION PURPOSES ONLY. NOT TO BE USED FOR CONSTRUCTION.

Scale

1:3000H 0 30 90 150m
1:300V 0 3 9 15m

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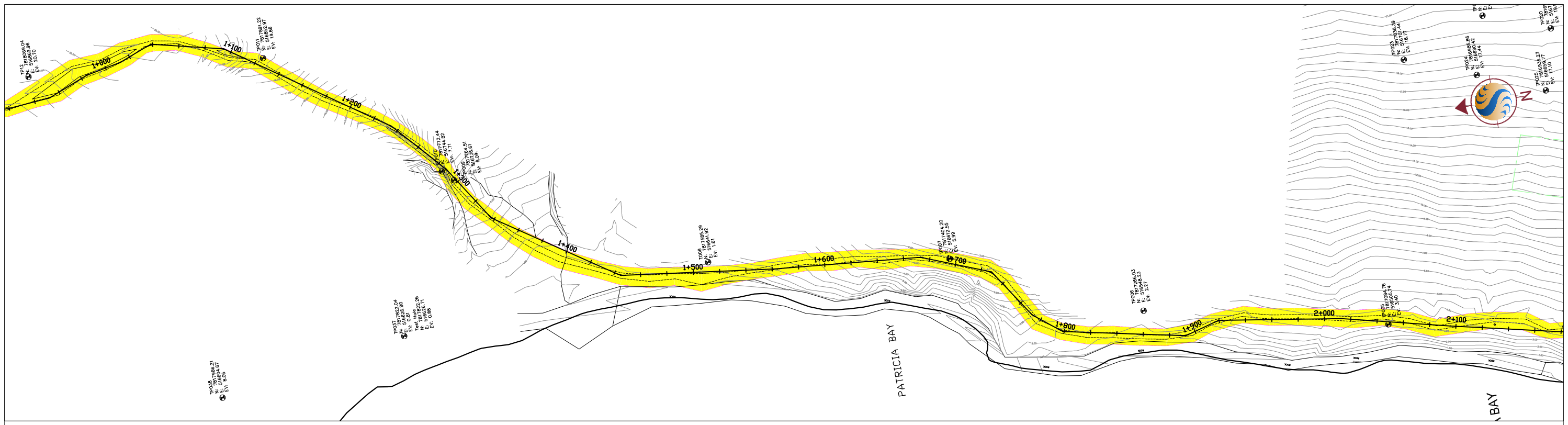
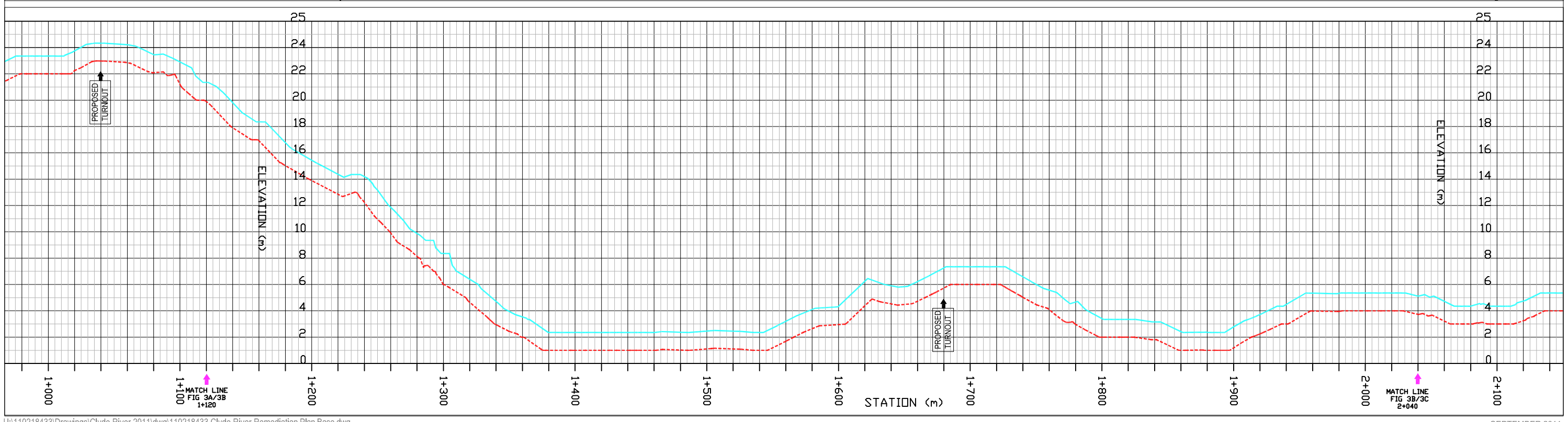
Geotechnical Assessment
Clyde River Old Town Site Remediation
Landfill, Landfarm and Access Road Development
Clyde River, NU.

Figure No.
3A

Title
Proposed Temporary Access Road Alignment
(STA 0+000 - STA 1+120)





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2011-09-19 03:47PM By: nallarie

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Legend

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- Existing Ground
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Scale

1:3000H 0 30 90 150m
1:300V 0 3 9 15m

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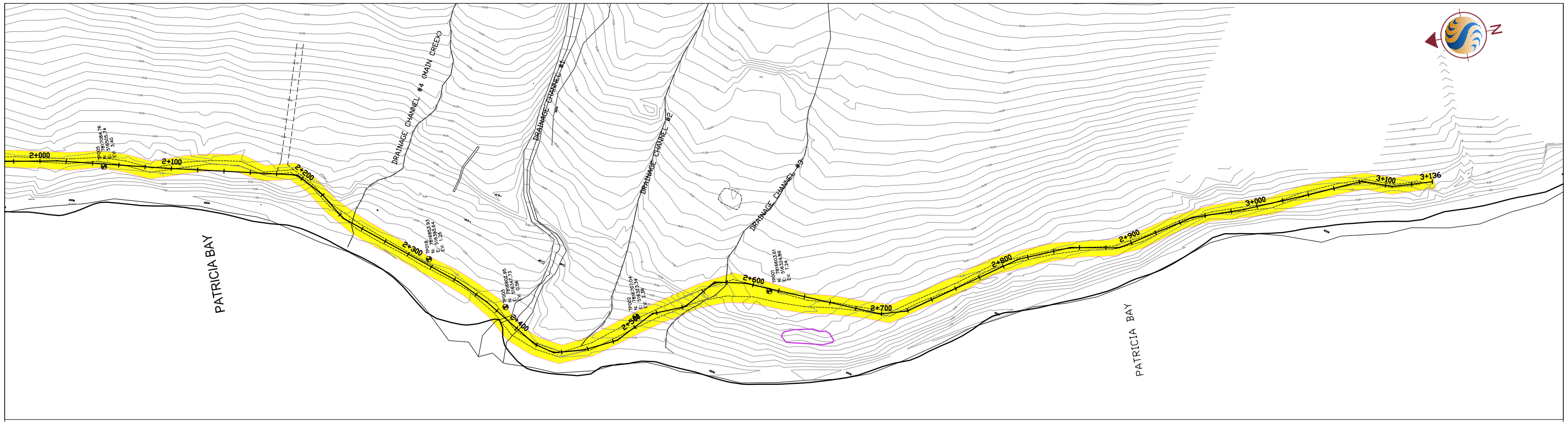
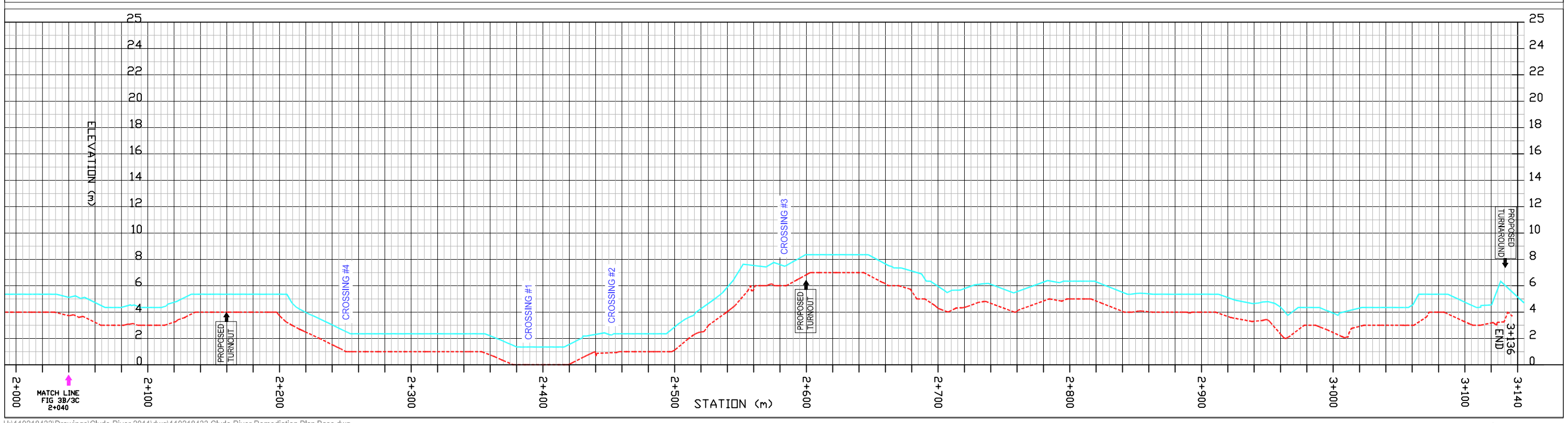
Clyde River, NU.

Figure No.
3B

Title
Proposed Temporary Access Road Alignment
(STA 1+120 - STA 2+040)





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Legend

- Proposed Temporary Access Road Alignment (Preliminary Design)
- Existing Ground
- Top of Proposed Temporary Access Road Alignment (Preliminary Design : Final Grades & Elevations T.B.D.)
- PROPOSED TURNOUT → Proposed Roadside Turnout Location
- Test Pit (TP) Locations
- NOTE: Drainage Culvert Locations To Be Determined

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Scale

1:3000H 0 30 90 150m
1:300V 0 3 9 15m

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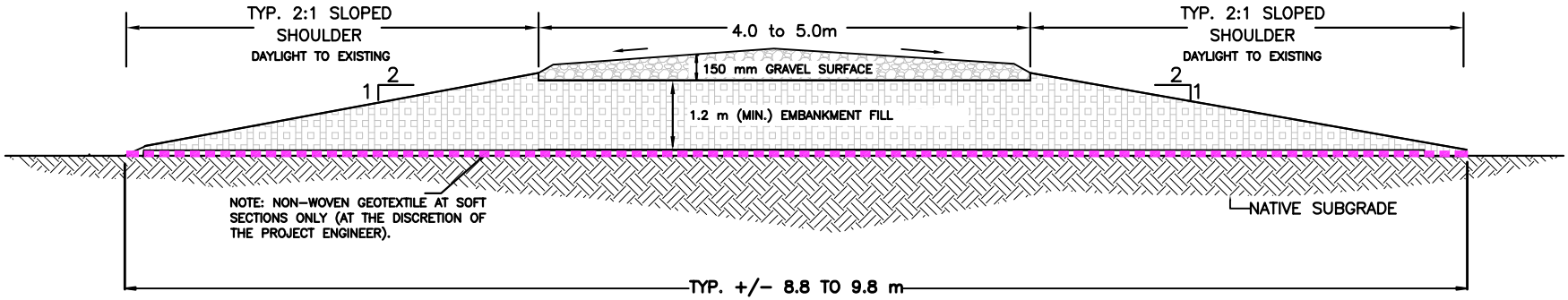
Clyde River Old Town Site Remediation
Landfill, Landfarm and Access Road Development
Clyde River, NU.

Figure No.
3C

Title
Proposed Temporary Access Road Alignment
(STA 2+040 - STA3+136)



TYP. PROPOSED TEMPORARY ACCESS ROAD SECTION A–A'

N.T.S

NOTE: CULVERT CROSSING LOCATIONS AND DESIGN TO BE ESTABLISHED AT FINAL DESIGN STAGE.

Scale : N.T.S.

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Legend

- GRAVEL SURFACE
- EMBANKMENT FILL
- NATIVE SUBGRADE
- NON-WOVEN GEOTEXTILE MATERIAL (OVER SOFT AREAS LOCATION T.B.D.)

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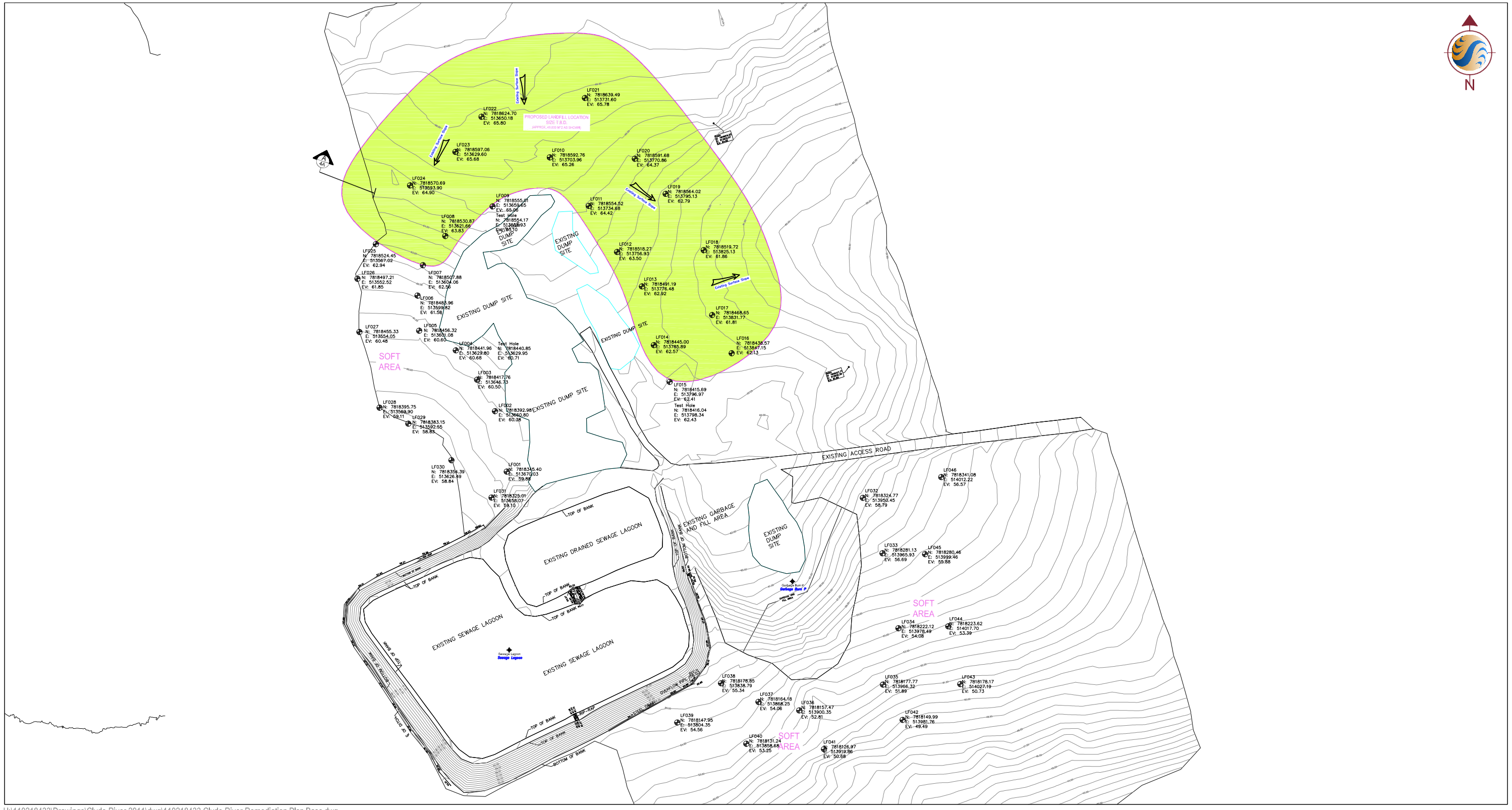
Clyde River Old Town Site Remediation
Landfill, Landfarm and Access Road Development
Clyde River, NU.

Figure No.
3D

Title
Typ. Proposed Temporary Access Road : Section A-A'



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2011-09-28 11:09AM By: nallarie

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NUNAMI STANTEC
KAVIK-STANTEC

Legend

PROPOSED LANDFILL LOCATION

SURFACE SLOPE DIRECTION

TEST PIT (TP) LOCATIONS

PRELIMINARY GEOTECHNICAL REPORT DESIGN RECOMMENDATIONS FOR INFORMATION PURPOSES ONLY. NOT TO BE USED FOR CONSTRUCTION.

Scale

1:3000 0 30 90 150m

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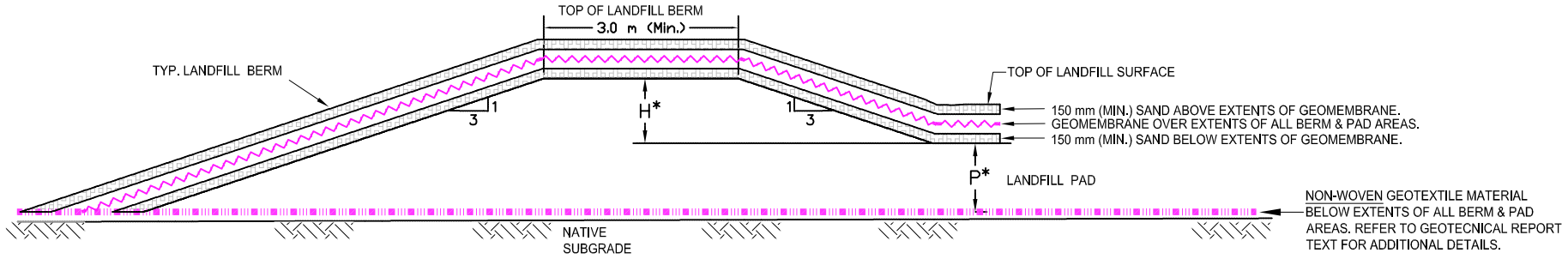
Clyde River Old Town Site Remediation
Landfill, Landfarm and Access Road Development
Clyde River, NU.

Figure No.
4

Title
Proposed Landfill Location



SECTION A/4
SCALE 1 : 150

* H = BERM HEIGHT (MIN. 1.0 m). REFER TO GEOTECHNICAL REPORT TEXT. AS-BUILT LANDFILL BERM HEIGHT HEIGHT TO BE DETERMINED BY THE PROJECT ENGINEER AT THE ENVIRONMENTAL REMEDIATION DESIGN AND CONSTRUCTION STAGE BASED ON ANTICIPATED LANDFILL VOLUMES, GOV. OF NUNAVUT SPECIFICATIONS AND OPERATIONAL CONSIDERATIONS.

*P = PAD THICKNESS (MIN. 1.0 m). REFER TO GEOTECHNICAL REPORT TEXT. AS-BUILT LANDFILL PAD THICKNESS TO BE DETERMINED BY THE PROJECT ENGINEER AT THE ENVIRONMENTAL REMEDIATION DESIGN AND CONSTRUCTION STAGE BASED ON ANTICIPATED LANDFILL VOLUMES, GOV. OF NUNAVUT SPECIFICATIONS AND OPERATIONAL CONSIDERATIONS.

Scale : N.T.S.

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2011-09-19 03:53PM By: nallarie

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Legend

- WOVEN GEOTEXTILE MATERIAL
- GEOMEMBRANE MATERIAL
- SAND LAYER
- NATIVE SUBGRADE

PRELIMINARY GEOTECHNICAL REPORT DESIGN RECOMMENDATIONS FOR INFORMATION PURPOSES ONLY. NOT TO BE USED FOR CONSTRUCTION.

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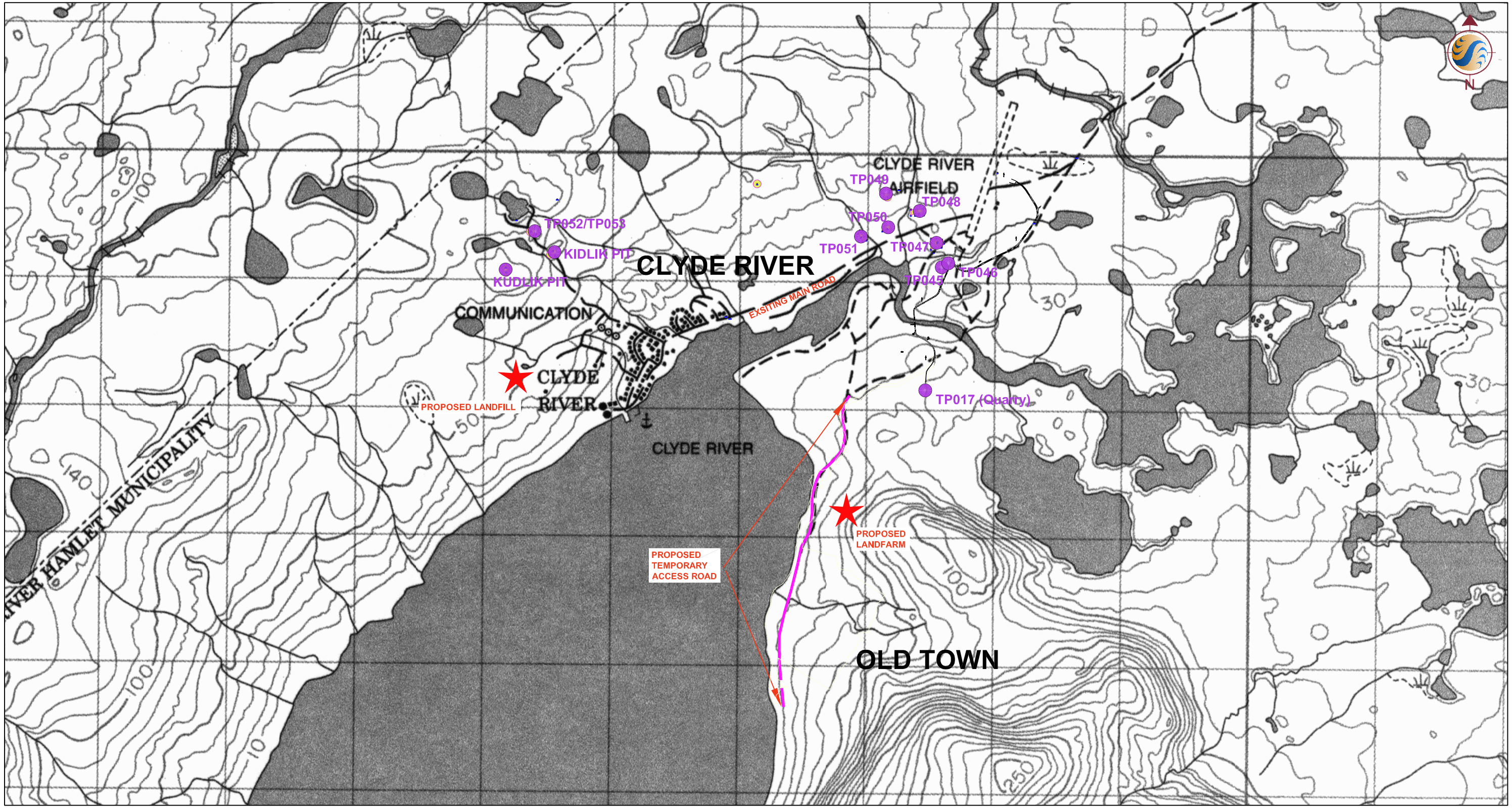
Geotechnical Assessment
Clyde River Old Town Site Remediation
Landfill, Landfarm and Access Road Development
Clyde River, NU.

Figure No.
4A

Title
Typ. Proposed Landfill Section A-A'



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2011-09-19 04:14PM By: nallarie

ACKNOWLEDGEMENTS: Adapted from NTS Mapsheet 27F & 27F8 bt the Government of Canada

SEPTEMBER 2011
110218433.216.600

NUNAMI STANTEC

Legend

PROPOSED ENVIRONMENTAL REMEDIATION FACILITIES
POTENTIAL BORROW AREAS
(Associated Borehole Record - Refer to Geotechnical Report)

Scale
1:30,000
0 300 900 1500m

Client/Project
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Clyde River Old Town Site Remediation
Landfill, Landfarm and Access Road Development
Clyde River, NU.

Figure No.
5

Title
Potential Borrow Areas

APPENDIX C

Standard Terms and Symbols

Borehole Records

SYMBOLS AND TERMS USED ON BOREHOLE AND TEST PIT RECORDS

SOIL DESCRIPTION

Terminology describing common soil genesis:

Topsoil	-	mixture of soil and humus capable of supporting vegetative growth
Peat	-	mixture of visible and invisible fragments of decayed organic matter
Till	-	unstratified glacial deposit which may range from clay to boulders
Fill	-	material below the surface identified as placed by humans (excluding buried services)

Terminology describing soil structure:

Desiccated	-	having visible signs of weathering by oxidization of clay minerals, shrinkage cracks, etc.
Fissured	-	having cracks, and hence a blocky structure
Varved	-	composed of regular alternating layers of silt and clay
Stratified	-	composed of alternating successions of different soil types, e.g. silt and sand
Layer	-	> 75 mm in thickness
Seam	-	2 mm to 75 mm in thickness
Parting	-	< 2 mm in thickness

Terminology describing soil types:
The classification of soil types are made on the basis of grain size and plasticity in accordance with the Modified Unified Soil Classification System (MUSCS) and in accordance with the Canadian Foundation Engineering Manual 4th Edition (Canadian Geotechnical Society, 2006). The classification excludes particles larger than 75 mm (3 inches). The MUSCS provides a group symbol (e.g. SM) and group name (e.g. silty sand) for identification.

Terminology describing cobbles, boulders, and non-matrix materials (organic matter or debris):
Terminology describing materials outside the USCS, (e.g. particles larger than 76 mm, visible organic matter, construction debris) is based upon the proportion of these materials present:

Trace, or occasional	Less than 10%
Some	10-20%
Frequent	> 20%

Terminology describing compactness of cohesionless soils:
The standard terminology to describe cohesionless soils includes compactness (formerly "relative density"), as determined by the Standard Penetration Test N-Value (also known as N-Index). A relationship between compactness condition and N-Value is shown in the following table.

Compactness Condition	SPT N-Value
Very Loose	<4
Loose	4-10
Compact	10-30
Dense	30-50
Very Dense	>50

Terminology describing consistency of cohesive soils:
The standard terminology to describe cohesive soils includes the consistency, which is based on undrained shear strength as measured by *in situ* vane tests, penetrometer tests, or unconfined compression tests.

Consistency	Undrained Shear Strength	
	kips/sq.ft.	kPa
Very Soft	<0.25	<12.5
Soft	0.25 - 0.5	12.5 - 25
Firm	0.5 - 1.0	25 - 50
Stiff	1.0 - 2.0	50 – 100
Very Stiff	2.0 - 4.0	100 - 200
Hard	>4.0	>200

ROCK DESCRIPTION

Terminology describing rock quality:

RQD	Rock Mass Quality
0-25	*Very Poor*
25-50	*Poor*
50-75	*Fair*
75-90	*Good*
90-100	*Excellent*

Rock quality classification is based on a modified core recovery percentage (RQD) in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be due to close shearing, jointing, faulting, or weathering in the rock mass and are not counted. RQD was originally intended to be done on NW core; however, it can be used on different core sizes if the bulk of the fractures caused by drilling stresses are easily distinguishable from *in situ* fractures. The terminology describing rock mass quality based on RQD is subjective and is underlain by the presumption that sound strong rock is of higher engineering value than fractured weak rock.

Terminology describing rock mass:

Spacing (mm)	Joint Classification	Bedding, Laminations, Bands
> 6000	*Extremely Wide*	-
2000-6000	*Very Wide*	*Very Thick*
600-2000	*Wide*	*Thick*
200-600	*Moderate*	*Medium*
60-200	*Close*	*Thin*
20-60	*Very Close*	*Very Thin*
<20	*Extremely Close*	*Laminated*
<6	-	*Thinly Laminated*

Terminology describing rock strength:

Strength Classification	Unconfined Compressive Strength (MPa)
Extremely Weak	< 1
Very Weak	1 – 5
Weak	5 – 25
Medium Strong	25 – 50
Strong	50 – 100
Very Strong	100 – 250
Extremely Strong	> 250

Terminology describing rock weathering:

Term	Description
Fresh	No visible signs of rock weathering. Slight discoloration along major discontinuities
Slightly Weathered	Discolouration indicates weathering of rock on discontinuity surfaces. All the rock material may be discoloured.
Moderately Weathered	Less than half the rock is decomposed and/or disintegrated into soil.
Highly Weathered	More than half the rock is decomposed and/or disintegrated into soil.
Completely Weathered	All the rock material is decomposed and/or disintegrated into soil. The original mass structure is still largely intact.

STRATA PLOT

Strata plots symbolize the soil or bedrock description. They are combinations of the following basic symbols. The dimensions within the strata symbols are not indicative of the particle size, layer thickness, etc.

Boulders, Cobbles, Gravel | Sand | Silt | Clay | Organics | Asphalt | Concrete | Fill | Igneous Bedrock | Meta-morphic Bedrock | Sedi-mentary Bedrock

SAMPLE TYPE

SS	Split spoon sample (obtained by performing the Standard Penetration Test)
ST	Shelby tube or thin wall tube
DP	Direct-Push sample (small diameter tube sampler hydraulically advanced)
PS	Piston sample
BS	Bulk sample
WS	Wash sample
HQ, NQ, BQ, etc.	Rock core samples obtained with the use of standard size diamond coring bits.

WATER LEVEL MEASUREMENT

measured in standpipe, piezometer, or well

inferred

RECOVERY

For soil samples, the recovery is recorded as the length of the soil sample recovered. For rock core, recovery is defined as the total cumulative length of all core recovered in the core barrel divided by the length drilled and is recorded as a percentage on a per run basis.

N-VALUE

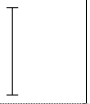
Numbers in this column are the field results of the Standard Penetration Test: the number of blows of a 140 pound (64 kg) hammer falling 30 inches (760 mm), required to drive a 2 inch (50.8 mm) O.D. split spoon sampler one foot (305 mm) into the soil. For split spoon samples where insufficient penetration was achieved and N-values cannot be presented, the number of blows are reported over sampler penetration in millimetres (e.g. 50/75). Some design methods make use of N value corrected for various factors such as overburden pressure, energy ratio, borehole diameter, etc. No corrections have been applied to the N-values presented on the log.

DYNAMIC CONE PENETRATION TEST (DCPT)

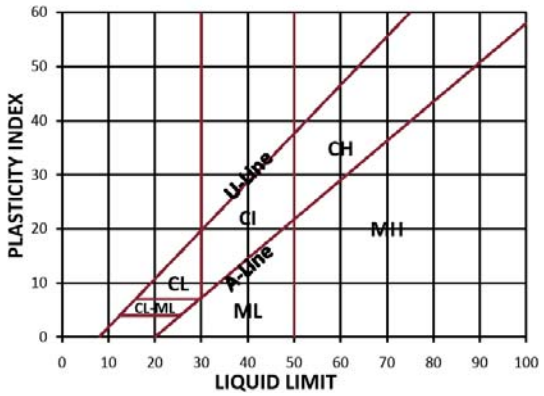
Dynamic cone penetration tests are performed using a standard 60 degree apex cone connected to A size drill rods with the same standard fall height and weight as the Standard Penetration Test. The DCPT value is the number of blows of the hammer required to drive the cone one foot (305 mm) into the soil. The DCPT is used as a probe to assess soil variability.

OTHER TESTS

S	Sieve analysis
H	Hydrometer analysis
k	Laboratory permeability
γ	Unit weight
G_s	Specific gravity of soil particles
CD	Consolidated drained triaxial
CU	Consolidated undrained triaxial with pore pressure measurements
UU	Unconsolidated undrained triaxial
DS	Direct Shear
C	Consolidation
Q_u	Unconfined compression
I_p	Point Load Index (I_p on Borehole Record equals $I_p(50)$ in which the index is corrected to a reference diameter of 50 mm)

	Single packer permeability test; test interval from depth shown to bottom of borehole
	Double packer permeability test; test interval as indicated
	Falling head permeability test using casing
	Falling head permeability test using well point or piezometer

MAJOR DIVISION			MUCS	TYPICAL DESCRIPTION	LABORATORY CLASSIFICATION CRITERIA	
COARSE GRAINED SOILS	GRAVELS (MORE THAN HALF COARSE GRAINS LARGER THAN 4.75 mm)	CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL GRADED GRAVELS, LITTLE OR NO FINES	$C_u = \frac{D_{60}}{D_{10}} > 4$ $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}} = 1 \text{ to } 3$	
			GP	POORLY GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	NOT MEETING ABOVE REQUIREMENTS	
		GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES	CONTENT OF FINES EXCEEDS 12%	ATTERBERG LIMITS BELOW 'A' LINE W_P LESS THAN 4
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES		ATTERBERG LIMITS ABOVE 'A' LINE W_P MORE THAN 7
	SANDS (MORE THAN HALF COARSE GRAINS SMALLER THAN 4.75 mm)	CLEAN SANDS (LITTLE OR NO FINES)	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	$C_u = \frac{D_{60}}{D_{10}} > 6$ $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}} = 1 \text{ to } 3$	
			SP	POORLY GRADED SANDS, LITTLE OR NO FINES	NOT MEETING ABOVE REQUIREMENTS	
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES	CONTENT OF FINES EXCEEDS 12%	ATTERBERG LIMITS BELOW 'A' LINE W_P LESS THAN 4
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES		ATTERBERG LIMITS ABOVE 'A' LINE W_P MORE THAN 7
FINE GRAINED SOILS	SILTS (BELOW 'A' LINE NEGLIGIBLE ORGANIC CONTENT)	$W_L < 50$	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY SANDS OF SLIGHT PLASTICITY	CLASSIFICATION IS BASED UPON PLASTICITY CHART (SEE BELOW)	
		$W_L > 50$	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS		
	CLAYS (ABOVE 'A' LINE NEGLIGIBLE ORGANIC CONTENT)	$W_L < 30$	CL	INORGANIC CLAYS OF LOW PLASTICITY, GRAVELLY, SANDY, OR SILTY CLAYS, LEAN CLAYS	WHENEVER THE NATURE OF THE FINE CONTENT HAS NOT BEEN DETERMINED, IT IS DESIGNATED BY THE LETTER 'F'. E.G. SF IS A MIXTURE OF SAND WITH SILT OR CLAY	
		$30 < W_L < 50$	CI	INORGANIC CLAYS OF MEDIUM PLASTICITY, SILTY CLAYS		
		$W_L > 50$	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS		
	ORGANIC SILTS & CLAYS (BELOW 'A' LINE)	$W_L < 50$	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY		
		$W_L > 50$	OH	ORGANIC CLAYS OF HIGH PLASTICITY		
HIGHLY ORGANIC SOILS			Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS	STRONG COLOUR OR ODOR, AND OFTEN FIBROUS TEXTURE	
BEDROCK			BR	SEE REPORT DESCRIPTION		



SOIL COMPONENTS

FRACTION		SIEVE SIZE (mm)		DEFINING RANGES OF PERCENTAGE BY WEIGHT OF MINOR COMPONENTS	
		PASSING	RETAINED	PERCENT	IDENTIFIER
GRAVEL	COARSE	75	19	50 - 35	AND
	FINE	19	4.75		
SAND	COARSE	4.75	2.00	35 – 20	_____Y
	MEDIUM	2.00	0.425		
	FINE	0.425	0.080	20 – 10	SOME
SILT (non-plastic) or CLAY (plastic)		0.080		10 - 1	TRACE

OVERSIZE MATERIALS	
ROUNDED OR SUB-ROUNDED COBBLES 75 mm TO 200 mm BOULDERS >200 mm	ANGULAR ROCK FRAGMENTS ROCKS > 0.75 m³ IN VOLUME

NOTE :
1. BOUNDARY CLASSIFICATION POSSESSING CHARACTERISTICS OF TWO GROUPS ARE GIVEN GROUP SYMBOLS, E.G. GW-GC IS A WELL GRADED GRAVEL MIXTURE WITH CLAY BINDER BETWEEN 5% AND 12%

MODIFIED UNIFIED CLASSIFICATION SYSTEM FOR SOILS

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP050

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/14/2011 7/14/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0	2.50	GRAVEL - 25 mm minus, moderately to well graded, rounded to sub-angular, trace silt, trace clay, brown		BS	1			
1								
2	0.00	Notes: - Stockpile owner unknown						
3								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

Printed Sep 15 2011 14:19:12

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF001

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm) CLAY, (CL-CI), sandy, many cobbles and boulders, low to medium plastic, wet		BS	1			
		End of test pit at 0.5 m due to refusal on boulders - Note : No permafrost encountered						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF002

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		CLAY (CL), sandy, many cobbles and boulders, low plastic.		BS	1			
		SAND (SC-SM), clayey, silty, brown.		BS	2			
1		End of test pit at 0.7 m due to refusal on boulders / rock						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

Printed Sep 15 2011 15:26:15

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF003

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY, sandy						
		- sandy, silty at 0.4 m		BS	1			
		PERMAFROST, CLAY						
		End of test pit at 0.7 m due to refusal on boulders / rock.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF004

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CI), sandy, trace gravel, medium plastic, grey.		BS1	1			
		PERMAFROST, CLAY						
		End of test pit due to refusal on boulders.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF005

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY , sandy, silty, grey.						
		- flowing water at 0.3 m		BS	1			
		PERMAFROST, CLAY						
		End of test pit at 0.61 m due to refusal on PERMAFROST, CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF006

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL-CI), silty, some sand, low to medium plastic, brown.		BS	1			
		- grey at 0.65 m						
		PERMAFROST, CLAY						
		End of test pit at 0.78 m due to refusal on PERMAFROST, CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF007

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL-CI), silty, sandy, low to medium plastic, brown.		BS	1			
		- grey, occasional gravel at 0.35 m						
		PERMAFROST, CLAY						
		End of test pit at 0.6 m due to refusal on PERMAFROST, CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF008

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL-CI-SM), sandy, silty, low to medium plastic.						
				BS	1			
		- frost crystals at 0.3 m						
		PERMAFROST, CLAY, sandy, grey						
		End of test pit at 0.42 m due to refusal on PERMAFROST, CLAY, sandy.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF009

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		CLAY (CL-CI-SM), silty, trace to some sand, trace gravel, low to medium plastic, brown.		BS	1			
		PERMAFROST, SAND, grey.						
		End of test pit at 0.5 m due to refusal on PERMAFROST, SAND.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF010

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		SAND (SM), silty, trace to some clay, occasional cobbles and boulders, brown.		BS	1			
		PERMAFROST, SAND, grey.						
		End of test pit at 0.8 m due to refusal on PERMAFROST, SAND.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF011

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL-CI), silty, some sand, low to medium plastic, brown.		BS	1			
		- grey, at 0.4 m						
		PERMAFROST, SAND, grey						
		End of test pit at 0.55 m due to refusal on PERMAFROST, SAND.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF012

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY, silty, trace sand, cobbles and occasional boulders (+ 300 mm diameter)		BS	1			
		PERMAFROST						
		End of test pit at 0.6 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF013

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		SAND (SC), clayey, trace to some silt, brown to grey, occasional boulders and cobbles.		BS	1			
		SAND and GRAVEL, many cobbles.						
		PERMAFROST, cobbles, grey						
1		End of test pit at 0.85 m due to refusal on PERMAFROST, cobbles.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF014

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CI), sandy, some silt, medium plastic, brown to grey						
		- seepage at 0.3 m		BS	1			
		PERMAFROST, CLAY, grey						
		End of test pit at 0.55 m due to refusal on PERMAFROST, CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF015

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL), silty, sandy, occasional cobbles / boulders, low plastic brown.		BS	1			
		PERMAFROST, grey, boulders (+ 400 mm diameter)						
		End of test pit at 0.7 m due to refusal on PERMAFROST, cobbles / boulders.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF016

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY, silty, sand lenses throughout, brown to grey		BS	1			
		PERMAFROST, SAND, many boulders, grey.						
		End of test pit at 0.7 m due to refusal on PERMAFROST, SAND.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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TEST PIT RECORD
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Borehole Coordinates
N
E
Datum: TOG

LF017

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL), sandy, trace to some silt, low plastic, brown - seepage from surface		BS	1			
		PERMAFROST, SAND and CLAY, boulders / rock, grey.						
		End of test pit at 0.75 m due to refusal on PERMAFROST, SAND and CLAY						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF018

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL-CI), sandy, silty, low to medium plastic, brown						
				BS	1			
		- grey at 0.6 m						
		PERMAFROST, SAND and CLAY, grey.						
		End of test pit at 0.8 m due to refusal on PERMAFROST, SAND and CLAY						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF019

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		CLAY (CL-CI), some sand to sandy, silty, low to medium plastic, brown to grey.		BS	1			
		PEAT (25 mm), frozen.		BS	2			
		PERMAFROST, SAND, grey, oxide stains (rust).		BS	3			
		End of test pit at 0.5 m due to refusal on PERMAFROST						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF020

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL), sandy, silty, low plastic, brown.		BS	1			
		PERMAFROST, CLAY						
		End of test pit at 0.6 m due to refusal on PERMAFROST, CLAY. - Note: More frozen peat found at north end of pit from 0.3 to 0.4 m.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF021

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL-CI), silty some sand, low to medium plastic, grey, wet.		BS	1			
		PERMAFROST, SANDY, boulders, grey.						
		End of test pit at 0.33 m due to refusal on PERMAFROST, CLAY, sandy, boulders, grey.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF022

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		ORGANICS CLAY, brown, strong organic odour.		BS	1			
		SAND (SC-SM), clayey, silty, brown, wet.		BS	2			
		PERMAFROST, SAND						
1		End of test pit at 0.8 m due to refusal on PERMAFROST, SAND - NOTE: Many boulders at surface of surrounding area.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

93.4

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF023

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		ORGANICS CLAY						
		SAND (SC-SM), silty, clayey, brown to grey.		BS	1			
		PERMAFROST, SAND, grey, ice lenses to 5 mm thick.		BS	1			
		End of test pit at 0.34 m due to refusal on PERMAFROST, SAND						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF024

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		ORGANICS CLAY, silty, brown.						
		PERMAFROST, CLAY, sandy - ice lenses at 0.2 m		BS	1			
1		End of test pit at 0.55 m due to refusal on PERMAFROST, CLAY.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF025

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		ORGANICS CLAY (50 mm)						
		CLAY, sandy, silty, sand lenses throughout, brown		BS	1			
		PERMAFROST, SAND and CLAY						
1		End of test pit at 0.7 m due to refusal on PERMAFROST, SAND and CLAY.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF026

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		ORGANICS CLAY						
		PERMAFROST, CLAY (CL), sandy,brown to grey, ice crystals throughout and occasional ice lenses to 5 mm thick		BS	1			
		End of test pit at 0.5 m due to refusal on PERMAFROST, CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF027

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL-CI), sandy, some silt, low to medium plastic, brown		BS	1			
		-from 0.55 - 0.6 m: buried organic pocket on north sidewall.						
		PERMAFROST, CLAY, grey.						
		End of test pit at 0.62 m due to refusal on PERMAFROST, CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF028

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2011**7/15/11 WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		ORGANICS CLAY (50 mm)						
		CLAY (CI), silty, sandy, occasional roots and rootlets, medium plastic, grey		BS	1			
		- seepage at 0.3 m						
		PERMAFROST, CLAY						
		End of test pit at 0.4 m due to refusal on PERMAFROST, CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF029

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (75 mm)						
		CLAY (CL-CI), silty, sandy, occasional cobbles (to 150 mm diameter), low to medium plastic, grey. - rootlets (to 0.45 m)		BS	1			
		PERMAFROST, CLAY						
1		End of test pit at 0.6 m due to refusal on PERMAFROST, CLAY.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF030

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		ORGANICS CLAY						
		CLAY (CI), silty, sandy, medium plastic, grey to brown, wet.		BS	1			
				BS	1			
		PERMAFROST CLAY, sandy, grey.						
		End of test pit at 0.75 m due to refusal on PERMAFROST, CLAY, sandy, grey.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF031

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL-CI), silty, sandy, low to medium plastic, grey.		BS	1			
		PERMAFROST CLAY and SAND with boulders to + 300 mm diameter.						
		End of test pit at 0.6 m due to refusal on PERMAFROST, CLAY and SAND with boulders.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF032

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS CLAY, silty (150mm)						
		CLAY and SAND, many boulders (to + 300 mm diameter), brown to grey		BS	1			
1		PERMAFROST SAND and CLAY, gray.						
		End of test pit at 0.75 m due to refusal on PERMAFROST SAND and CLAY.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF033

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS and ORGANICS CLAY (100 mm)						
		CLAY, sandy to CLAY and SAND, brown		BS	1			
		- grey at 0.6 m						
		PERMAFROST, SAND and CLAY, grey.						
1		End of test pit at 0.85 m due to refusal on PERMAFROST SAND and CLAY.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF034

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL), sandy, silty, low plastic, brown.						
		- at 0.5 m: silty, some sand, grey		BS	1			
		- seepage at 0.6 m						
		PERMAFROST, SAND and CLAY, grey.						
1		End of test pit at 0.9 m due to refusal on PERMAFROST, SAND and CLAY.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF035

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (100 mm)						
		CLAY (CL), sandy, silty, trace to some sand, many boulders (to + 300 mm diameter), low plastic, brown.		BS	1			
		PERMAFROST, SAND and CLAY, grey.						
		End of test pit at 0.6 m due to refusal on PERMAFROST, SAND and CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF036

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL), sandy, some silt, many cobbles and boulders (to + 300 mm diameter), low plastic, brown.		BS	1			
		PERMAFROST, SAND and CLAY, brown to grey.						
1		End of test pit at 0.5 m due to refusal on PERMAFROST, SAND and CLAY.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF037

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (75 mm)						
		CLAY (CL), silty, sandy, low plastic, brown.		BS	1			
		PERMAFROST, SAND and CLAY, brown to grey.						
		End of test pit at 0.5 m due to refusal on PERMAFROST, SAND and CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF038

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL-CI), silty, sandy, low to medium plastic, brown to gray.						
		- at 0.3 m: many boulders to + 500 mm diameter		BS	1			
		PERMAFROST, SAND and CLAY. - at 0.5 m: ice crystal lenses (to 10 mm thick).						
		End of test pit at 0.6 m due to refusal on PERMAFROST, SAND and CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF039

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES: TYPE	SAMPLES: NUMBER	SAMPLES: RECOVERY mm or CORE %	SAMPLES: N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL-CI), silty, sandy, many cobbles (to + 200 mm diameter), low to medium plastic, brown.						
		End of test pit at 0.4 m due to refusal on PERMAFROST, SAND and CLAY, brown to grey.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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TEST PIT RECORD
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Borehole Coordinates
N
E
Datum: TOG

LF040

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/15/2017/15/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL), silty, sandy, low plastic, brown.						
				BS	1			
		- frozen at 0.45 m						
		PERMAFROST, SAND and CLAY, brown						
		End of test pit at 0.5 m due to refusal on PERMAFROST, SAND and CLAY.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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TEST PIT RECORD
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Borehole Coordinates
N
E
Datum: TOG

LF041

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL-CI), sandy, some silt to silty, cobbles and boulders, low to medium plastic, brown. - grey lense from 0.1 to 0.2 m		BS	1			
		PERMAFROST, SAND and CLAY, brown						
1		Excavator refusal. End of test pit.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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TEST PIT RECORD
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Borehole Coordinates
N
E
Datum: TOG

LF042

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (75 mm)						
		CLAY (CL-CI), sandy, silty, occasional gravel, boulder (to + 400 mm diameter), low to medium plastic, brown.		BS	1			
		SAND (SC), clayey (35 mm)						
		PERMAFROST, SAND and CLAY, boulder / rock, brown						
		End of test pit at 0.8 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

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TEST PIT RECORD
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Borehole Coordinates
N
E
Datum: TOG

LF043

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		SAND (SC-SM), Clayey and silty, many boulders (to + 400 mm diameter), brown.						
				BS	1			
		- brown to grey, silty at 0.7 m						
		PERMAFROST, SAND and CLAY, boulder / rock, grey						
1		End of test pit at 1.0 m due to refusal on PERMAFROST, SAND, CLAY, boulders / rock, grey.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF044

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY and SAND, many boulders (to + 400 mm diameter), brown		BS	1			
		- silty, brown to grey at 0.7 m		BS	1			
		PERMAFROST, SAND and CLAY, grey.						
1		End of test pit at 0.9 m due to refusal on PERMAFROST.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

H

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

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TEST PIT RECORD
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Borehole Coordinates
N
E
Datum: TOG

LF045

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (75 mm)						
		CLAY (CL-CI), sandy, some silty, boulders and cobbles throughout, low to medium plastic, brown.						
		- brown to grey at 0.5 m		BS	1			
		PERMAFROST, SAND and CLAY, boulders and rock, grey						
		End of test pit at 0.8 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

LF046

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY and SAND, some silt, boulders and cobbles, brown						
		- silty, brown to grey at 0.5 m		BS	1			
		PERMAFROST, SAND and CLAY, boulders, grey.						
		End of test pit at 0.75 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP001

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS: (200mm) amorphous granular to fibrous, brown, wet.		BS	1			
		PERMAFROST SILT, some clay, trace sand, - ice lense up to 0.2 m thick						
		End of test pit at 0.3 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP002

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2011 7/12/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS: (10mm).						
		SAND & GRAVEL.		BS	1			
		- free water at 0.3 m						
		End of test pit at 0.5 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP003

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND (beach sand), trace silt		BS	1			
		PERMAFROST SAND.						
		End of test pit at 0.425 due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP004

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2011 7/12/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		Brown low plastic CLAY (CL), sandy, some silt, moist to wet.		BS	1			
				BS	2			
		PERMAFROST CLAY / SAND.						
		End of test pit at 0.7 m due to refusal on PERMAFROST						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP005

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2011 7/12/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)		BS	1			
		SILT(ML), clayey, some sand, moist.						
		PERMAFROST						
		End of test pit at 0.61 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP006

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		SAND, many cobbles and boulders.						
		End of test pit at 0.2 m due to refusal on boulders..						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP007

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND (SM), silty, many boulders and cobbles, some gravel, trace clay.		BS				
		PERMAFROST						
1		End of test pit at 0.85 m due to refusal on PERMAFROST.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP008

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS						
		SAND, some gravel, trace to some silt, trace clay, brown, moist.		BS	1			
		SAND, trace gravel, brown-grey.						
		PERMAFROST, grey CLAY.						
		End of test pit at 0.7 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP009

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, fine to medium grained, light brown.						
		ORGANICS - organic stained sand @ 0.125 m						
		SAND, medium grained, brown.		BS	1			
		- medium to coarse grained @ 0.7 m.						
1		End of test pit at 0.8 m due to refusal on PERMAFROST.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP010

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2011 7/12/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		SAND, brown.		BS	1			
		- grey from 0.2 - 0.5 m						
		- brown from 0.5 - 0.7 m						
		- clayey from 0.7 - 0.9 m						
1		- from 0.9 - 1.1 m: medium to coarse grained, wet						
		End of test pit at 1.1 m due to refusal on PERMAFROST, Sand. - Note: located in erosion channel just north of test pit 009.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP011

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, occasional gravel, brown.		BS	1			
		SAND, light brown		BS	2			
		PERMAFROST, SAND.						
1		End of borehole at 0.925 m due to refusal on PERMAFROST, Sand.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP012

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		SAND (SM), silty, some clay, fine to medium grained, brown, wet.		BS	1			
		- cold at 0.3 m						
		PERMAFROST, SAND.						
		End of test pit at 0.4 m due to refusal on PERMAFROST, SAND.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP013

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		SAND, fine grained, brown, wet.		BS	1			
		- wet at 0.35 m						
		PERMAFROST, SAND.						
		End of test pit at 0.4 m due to refusal on PERMAFROST SAND.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP014

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, fine grained, trace silt, trace clay, brown.		BS	1			
				BS	2			
1		End of test pit at 0.7 m due to refusal on PERMAFROST SAND.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP015

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/12/2017/12/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, some silt, occasional gravel.						
				BS	1			
		- wet at 0.6 m						
		End of test pit at 0.65 m due to refusal on PERMAFROST SAND.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP016

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		SILT, sandy trace clay, brown to grey, moist.		BS	1			
		SAND, trace silt		BS	2			
		End of test pit at 0.6 m due to refusal on PERMAFROST, SAND.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP017

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/12/2017/12/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND & GRAVEL, spoil at quarry surface.						

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

1

2

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP018

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND and GRAVEL		BS	1			
		- free water at 0.65 m						
		End of test pit at 0.7 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP019

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (100 mm)						
		CLAY (CL-CI), silty, trace to some sand, low to medium plastic.		BS	1			
				BS	2			
1		End of test pit at 0.7 m due to refusal on PERMAFROST.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP020

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL-CI),silty, some sand, occasional gravel, low to medium plastic, brown, wet.		BS	1			
1		End of test pit at 0.6 m due to refusal on PERMAFROST.		BS	2			
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP021

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL-CI), silty, some sand, low to medium plastic, wet		BS	1			
		SILT (ML), clayey, some sand.		BS	2			
		End of test pit at 0.65 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP022

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL-CI), silty, sandy, low to medium plastic, wet.		BS	1			
		- moist at 0.3 m		BS	2			
		End of test pit at 0.65 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP023

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL), silty, sandy, brown, low plastic, moist to wet.		BS	1			
				BS	2			
		End of test pit at 0.6 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP024

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)		BS	1			
		SILT, sandy, some clay, wet						
				BS	2			
		- at 0.55: possible clay and silt, little recovery due to free water.						
		End of test pit at 0.7 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP025

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		CLAY (CL), low plastic, sandy, silt, grey, wet.		BS	1			
		End of test pit at 0.4 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP026

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL) low plastic and SAND (SM), silty, wet.						
		- free water at 0.1 m		BS	1			
		End of test pit at 0.4 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP027

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm) - extremely soft and spongy ground @ surface						
		CLAY (CL) sandy, silty, low plastic, brown, moist to wet. - free water at 0.1 m		BS	1			
				BS	2			
1		End of test pit at 0.8 m due to refusal on PERMAFROST.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP028

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		CLAY (CL) low plastic and SAND (SM), silty, moist to wet.		BS	1			
				BS	2			
1		End of test pit at 0.65 m due to refusal on PERMAFROST.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP029

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		CLAY (CL), silty, some sand.						
		SILT, sandy, some clay.		BS	1			
1		End of test pit at 0.65 m due to refusal on PERMAFROST.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP030

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		CLAY (CL) and SAND (SM), silty, trace gravel.		BS	1			
1		End of test pit at 0.5 m due to refusal on PERMAFROST.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP031

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		SAND (SM), silty, some clay, occasional gravel, moist to wet.		BS	1			
		- at 0.5 m: wet to saturated						
		End of test pit at 0.72 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP032

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm) - extremely soft and spongy ground						
		SAND (SM), silty, trace clay, wet. - at 0.1 m: free water		BS	1			
		- at 0.4 m: clayey, slight plasticity		BS	2			
1		End of test pit at 0.8 m due to refusal on PERMAFROST.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP033

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		SAND (SM), silty, some clay, occasional gravel, moist to wet.		BS	1			
1		End of test pit at 0.72 m due to refusal on PERMAFROST.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP034

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (25 mm)						
		CLAY (CL-CI)), low to medium plastic, silty, some sand, brown, wet.		BS	1			
		- gravel inclusions at 0.5 m						
		End of test pit at 0.52 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP035

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		CLAY (CL) low plastic and SAND, silty, wet to saturated		BS	1			
		End of test pit at 0.6 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

102.4

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP036

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/13/2011**7/13/11 WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		SILT (ML), clayey, some sand.		BS	1			
		End of test pit at 0.4 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP037

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND (SM), silty, medium to coarse grained.		BS	1			
		- at 0.5 m: free water						
		End of test pit at 0.6 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP038

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (20 mm)						
		SAND (SM), silty, some clay, brown.		BS	1			
		CLAY and SAND, grey		BS	2			
		End of test pit at 0.72 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP039

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/13/2011**7/13/11 WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		SAND (SM), silty, fine to medium grained, brown		BS	1			
		End of test pit at 0.6 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP040

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		SAND (SM), silty, fine grained, brown.		BS	1			
		- trace clay at 0.4 m						
		- at 0.65 m: grey, clayey, wet, cold.						
		End of test pit at 0.67 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

Printed Sep 15 2011 15:26:42

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP041

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND (SM), silty, trace clay, fine grained, brown.		BS	1			
		- grey at 0.6 m						
		End of test pit at 0.62 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP042

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		SAND (SM), silty, fine grained, brown.		BS	1			
		End of test pit at 0.35 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

Printed Sep 15 2011 15:26:43

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP043

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (50 mm)						
		SILT, some sand, trace clay, brown.		BS	1			
				BS	2			
		End of test pit at 0.5 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP044

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/13/2011 7/13/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		SAND,trace to some silt, fine grained, brown		BS	1			
		- at 0.6 m: clayey, cold						
		End of test pit at 0.72 m due to refusal on PERMAFROST.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP045

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/14/2011 7/14/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND and GRAVEL - some cobbles		BS	1			
		End of test pit at 0.5 m Note: - Sample taken from existing borrow area on side of road.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP046

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/14/2011 7/14/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, fine grained, grey						
				BS	1			
1		Notes: Sample taken from existng borrow area						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP047

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/14/2011 7/14/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND and GRAVEL, some cobbles		BS	1			
1		Hand auger refusal. Notes: - Possible stockpile of prepared material						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP047A

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2017/16/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, some gravel to gravelly, occasional cobbles, brown.		BS	1			
		PERMAFROST, SAND, clayey, grey.						
1		End of test pit at 0.9 due to refusal on PERMAFROST, SAND. - Note: Test Pit located in "Powerline Pit"						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP047B

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/17/2017/17/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, some gravel to gravelly, occasional cobbles, brown.						
		SAND, fine to medium grained, light brown to grey.		BS	1			
		PERMAFROST, SAND, clayey, grey.						
1		End of test pit at 1.0 due to refusal on PERMAFROST, SAND. - Note: Test Pit located in "Powerline Pit"						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP047C

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/17/2011 7/17/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, gravelly to some gravel, brown.		BS	1			
		SAND (SM), silty, trace clay, brown, fine to medium grained.						
		PERMAFROST SAND and CLAY, with cobbles / boulders, brown to grey.						
		End of test pit at 0.8 due to refusal on PERMAFROST, SAND and CLAY, cobbles / boulders - Note: Test Pit located in "Powerline Pit"						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP047D

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2017/16/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (10 mm)						
		SAND, gravelly, trace clay, trace silt, occasional cobbles.						
		SAND (SM), silty, trace clay, grey.		BS	1			
1		PERMAFROST SAND and CLAY, brown to grey.						
		End of test pit at 0.9 due to refusal on PERMAFROST, SAND and CLAY. - Note: Test Pit located in "Powerline Pit"						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP047E

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2011 7/16/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, some gravel, trace silt, trace clay, brown.						
		SAND (SM), silty, trace clay, trace gravel, medium grained, grey.						
				BS	1			
1		PERMAFROST SAND (SM) and CLAY (CL), silty, grey.						
		End of test pit at 1.1 due to refusal on PERMAFROST, SAND and CLAY. - Note: Test Pit located in "Powerline Pit"						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP047F

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		ORGANICS (100 mm)						
		SAND, trace clay, trace silt, trace gravel, brown.						
		SAND (SM), silty, trace clay, occasional cobbles and boulders, grey.		BS	1			
		PERMAFROST SAND and CLAY.						
1		End of test pit at 0.9 due to refusal on PERMAFROST, SAND and CLAY. - Note: Test Pit located in "Powerline Pit"						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP047G

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, some gravel						
		SAND, oxide staining						
		SAND, some gravel to gravelly, brown.		BS	1			
1		PERMAFROST, SAND.						
		End of test pit at 1.02 due to refusal on PERMAFROST, SAND and CLAY. - Note: Test Pit located in "Powerline Pit : Side slope of Hill"						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

Printed Sep 15 2011 15:26:47

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP047H

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2017/16/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, trace to some gravel, trace fines, brown.						
		- rootlets at 0.1 m						
		- wet at 0.4 m		BS	1			
		PERMAFROST, SAND and CLAY, grey.						
		End of test pit at 0.8 due to refusal on PERMAFROST, SAND and CLAY.						
		- Note: Test Pit located in "Powerline Pit : 800 m"						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP047I

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, trace to some gravel,occasional cobbles.						
		SAND (SM), silty, some gravel, occasional cobbles, brown.		BS	1			
		PERMAFROST, SAND and SILT, grey.						
1		End of test pit at 0.9 due to refusal on PERMAFROST, SAND and SILT. - Note: Test Pit located in "Powerline Pit : 900 m"						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP048

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/14/2011 7/14/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND and GRAVEL, well graded		BS	1			
		Hand auger refusal on cobbles. End of test pit.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP048A

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2011 7/16/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, gravelly, trace fines, many cobbles, occasional boulders, brown.						
		CLAY (CL), silty, trace to some sand, occasional gravel, grey.		BS	1			
1		PERMAFROST						
		End of test pit at 1.3 due to refusal on PERMAFROST. Note : Located at "Snowman Pit"						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP048B

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND and GRAVEL, trace silt, trace clay, many cobbles, occasional boulders, brown.						
		CLAY (CL-CI), sandy, silty, low to medium plastic, grey, moist to wet.		BS	1			
1		PERMAFROST, SAND and CLAY and boulders.						
		End of test pit at 1.2 due to refusal on PERMAFROST, SAND , CLAY and boulders. -						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP048C

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2017/16/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, gravelly, many cobbles and boulders, trace fines, brown.						
		CLAY (CL), sandy, silty, occasional cobbles, occasional boulders, grey.						
1		PERMAFROST, SAND and CLAY, boulders, grey.						
		End of test pit at 1.1 due to refusal on PERMAFROST, SAND and CLAY, boulders. -						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP048D

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2011 7/16/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, gravelly, cobbles and boulders throughout, brown.						
		SILT, sandy, some clay, occasional gravel.		BS	1			
		PERMAFROST, SAND and CLAY, grey.						
1		End of test pit at 1.0 due to refusal on PERMAFROST, SAND and CLAY.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP048E

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2011 7/16/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND, gravelly, cobbles and boulders, brown.						
		CLAY (CL-CI), low to medium plastic, sandy, some silt, brown to grey.		BS	1			
1		PERMAFROST, SAND and CLAY, brown to grey.						
		End of test pit at 1.1 due to refusal on PERMAFROST, SAND and CLAY.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP048F

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND and GRAVEL, many cobbles, occasional boulders, brown.						
		SILT, clayey, some sand to sandy, grey.		BS	1			
		PERMAFROST, SAND and CLAY, grey.						
1		End of test pit at 1.0 due to refusal on PERMAFROST, SAND and CLAY.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

Printed Sep 15 2011 15:26:50

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP048G

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/16/2017/16/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND and GRAVEL (pit run), occasional cobbles and boulders, trace fines, brown.						
		SAND (SM), silty, some clay, cobbles and boulders, grey.						
		SAND and CLAY, boulders, grey.		BS	1			
		SAND (SM), silty, some clay, cobbles and boulders, grey.						
		PERMAFROST						
1		End of test pit at 1.1 due to refusal on PERMAFROST						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP049

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/14/2011 7/14/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		SAND and GRAVEL, trace silt, occasional cobbles, brown		BS	1			
		End of test pit at 0.45 m						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP051

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/14/2011 7/14/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0	2.50	GRAVEL - 25 mm minus, moderately to well graded, rounded to sub-angular, trace silt, trace clay, brown		BS	1			
1	1.50	Notes: - Stockpile owner unknown (Vertical scale represents height of stockpile)						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP051A

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2017/16/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0	2.50							
		SAND, trace silt, trace clay, occasional cobbles, fine to medium grained.		BS	1			
	1.75							
		SAND and CLAY PERMAFROST - light seepage at 0.85 m						
	1.65							
1		End of test pit at 0.85 due to refusal on permafrost. - Note : Borrow source prospecting near TP 51 location.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP051B

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2011 7/16/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0	2.50							
		SAND, trace silt, fine to medium grained, brown.						
		- light seepage at 0.4 m		BS	1			
		- grey at 0.5 m						
	1.90							
		PERMAFROST, SAND, clayey, grey.						
	1.80							
		End of test pit at 0.7 due to refusal on PERMAFROST, SAND, clayey. - Note : Borrow source prospecting near TP 51 location.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP051C

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2011 7/16/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0	2.50							
		SAND, trace silt, trace clay, fine to medium grained, brown.		BS	1			
		- grey at 0.3 m - seepage at 0.35 m						
	2.10	PERMAFROST, SAND, clayey, grey.						
	2.00	End of test pit at 0.5 due to refusal on PERMAFROST, SAND, clayey. - Note : Borrow source prospecting near TP 51 location.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP051D

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2017/16/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0	2.50	SAND, trace silt, trace clay,occasional gravel, many cobbles and boulders (+ 400 mm diameter), brown.						
		- light seepage at 0.4 m		BS	1			
		- at 0.5 m: becomes grey, end of gravel.						
	1.70							
		PERMAFROST SAND, clayey, boulder.						
	1.60							
1		End of test pit at 0.5 due to refusal on PERMAFROST, SAND & BOULDER (1.3 m Diameter). - Note : Borrow source prospecting near TP 51 location.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP051E

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2011 7/16/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0	2.50							
		SAND, trace silt, trace clay, fine to medium grained, brown.						
		- grey at 0.3 m		BS	1			
		- buried organics at 0.4 m.						
	2.00							
		PERMAFROST SAND & CLAY, grey, occasional gravel and cobbles.						
	1.85							
		End of test pit at 0.65 due to refusal on PERMAFROST, SAND & CLAY. - Note : Borrow source prospecting near TP 51 location.						
1								
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP051F

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/16/2017/16/11

WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0	2.50	SAND, many cobbles and boulders, trace clay, trace silt, fine to medium grained, brown. - coarse grained lense (50 mm) at 0.35 m - seepage, oxide stains at 0.4 m - grey, occasional gravel sizes at 0.45 m		BS	1			
	1.70							
	1.65	PERMAFROST SAND, grey.						
1		End of test pit at 0.85 due to refusal on PERMAFROST, SAND. - Note : Borrow source prospecting near TP 51 location.						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP052

CLIENT Nunami Stantec Ltd.

PROJECT Geotechnical Site Investigation

PROJECT No. 110218433

LOCATION Clyde River, NU

BH SIZE Test Pit

DATES (mm/dd/yy): BORING 7/14/2011 7/14/11 WATER LEVEL Not measured

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		GRAVEL - 25 mm minus, moderately to well graded, rounded to sub-angular, trace silt, trace clay, brown						
1		Notes: - Stockpile owner unknown						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

□ Dynamic Cone Penetration Test - N, blows / 0.3 m

-DRAFT-

STANTEC GEO OCT 2010 110218433 GEO TEST PIT LOGS.GPJ MASTER1.GDT 9/15/11

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Stantec

TEST PIT RECORD
-DRAFT-

Borehole Coordinates
N
E
Datum: TOG

TP053

CLIENT **Nunami Stantec Ltd.**

PROJECT **Geotechnical Site Investigation**

PROJECT No. **110218433**

LOCATION **Clyde River, NU**

BH SIZE **Test Pit**

DATES (mm/dd/yy): BORING **7/14/2011** **7/14/11** WATER LEVEL **Not measured**

DEPTH(m)	ELEVATION(m)	SOIL DESCRIPTION	STRATA PLOT	SAMPLES TYPE	SAMPLES NUMBER	SAMPLES RECOVERY mm or CORE %	SAMPLES N-VALUE or RQD %	MONITOR WELL/ PIEZOMETER
0		GRAVEL						
1		Notes: The following also found in gravel Pit 001: - 0.075 mm minus crush and 0.15 m minus crush - Stockpile owner unknown						
2								

Undrained Shear Strength (Cu) : (kPa) ▲
Cu based on Pocket Penetrometer : (kPa) ★
50 100 150 200
Cu Scale (kPa)

WATER CONTENT & ATTERBERG LIMITS W_P W W_L
SPT (N), BLOWS/0.3m
10 20 30 40 50 60 70 80 90
%MC or Blow Count Scale (% or N)

-DRAFT-

□ Dynamic Cone Penetration Test - N, blows / 0.3 m