1239091	7976152.012	503555.614	11.821	Ground Cable
1239092	7976152.478	503554.657	11.809	Ground Cable
1239093	7976151.604	503554.379	11.813	Ground Cable
1239094	7976150.533	503554.583	11.78	Ground Cable
1239095	7976151.022	503555.558	11.814	Ground Cable
1264203	7976291.186	503642.252	12.458	Ground Cable
1264205	7976267.04	503704.185	12.236	Ground Cable
1264206	7976221.541	503704.446	12.411	Ground Cable
1264207	7976221.519	503705.861	12.348	Ground Cable
1264208	7976220.674	503705.802	12.465	Ground Cable
1264209	7976218.839	503705.849	12.553	Ground Cable
1264210	7976221.597	503706.592	12.187	Ground Cable
1264211	7976221.946	503709.989	12.178	Ground Cable
1264212	7976220.017	503710.112	12.337	Ground Cable
1264213	7976221.955	503710.527	12.205	Ground Cable
1264214	7976221.961	503711.757	12.13	Ground Cable
1264215	7976220.795	503713.232	11.546	Ground Cable
1264216	7976218.737	503717.13	11.765	Ground Cable
1264217	7976218.037	503720.995	11.489	Ground Cable
1264218	7976217.87	503723.278	11.658	Ground Cable
1264219	7976219.097	503724.81	11.618	Ground Cable
1264220	7976218.602	503727.025	10.518	Ground Cable
1264221	7976220.644	503728.947	10.558	Ground Cable
1264222	7976219.421	503730.636	10.553	Ground Cable
1264223	7976221.497	503730.806	10.602	Ground Cable
1264224	7976220.776	503729.081	10.51	Ground Cable
1264225	7976174.807	503674.575	10.57	Ground Cable
1264227	7976174.466	503654.3	10.79	Ground Cable
4208002	7976258.299	503647.953	10.42	Ground Cable
4208003	7976258.43	503643.13	10.455	Ground Cable
4208004	7976258.493	503641.674	10.446	Ground Cable
4208005	7976258.533	503637.343	10.422	Ground Cable
4208006	7976258.462	503634.082	10.52	Ground Cable
4208007	7976244.614	503639.62	10.486	Ground Cable
4208008	7976244.606	503640.945	10.474	Ground Cable
4208009	7976244.603	503641.999	10.487	Ground Cable
4208010	7976244.507	503643.587	10.493	Ground Cable
4208011	7976267.132	503642.745	10.502	Ground Cable
4208012	7976267.051	503648.852	10.461	Ground Cable
4208013	7976267.106	503656.354	10.453	Ground Cable
4208014	7976266.981	503663.342	10.359	Ground Cable
4208015	7976266.774	503665.181	10.319	Ground Cable
4208016	7976265.253	503665.234	10.381	Ground Cable
4208017	7976266.99	503669.104	10.351	Ground Cable
4208018	7976267.161	503676.704	10.223	Ground Cable
4208019	7976267.138	503682.545	10.146	Ground Cable
4208020	7976267.074	503641.98	10.482	Ground Cable

4208021	7976267.134	503633.299	10.457	Ground Cable
4208022	7976267.092	503625.818	10.466	Ground Cable
4208023	7976267.041	503617.435	10.382	Ground Cable
4208024	7976266.869	503608.631	10.213	Ground Cable
4208025	7976266.953	503599.034	10.124	Ground Cable
4208047	7976267.109	503582.5	10.474	Ground Cable
4208048	7976265.769	503593.755	10.106	Ground Cable
4208049	7976258.266	503593.707	10.017	Ground Cable
4208050	7976258.418	503597.289	10.062	Ground Cable
4208051	7976258.576	503599.877	10.122	Ground Cable
4208052	7976250.424	503593.629	10.069	Ground Cable
4208053	7976244.308	503593.66	10.125	Ground Cable
4208054	7976244.391	503594.661	10.177	Ground Cable
4208055	7976238.24	503593.754	10.157	Ground Cable
4208056	7976232.995	503593.843	10.176	Ground Cable
4208057	7976230.892	503600.413	10.181	Ground Cable
4208058	7976230.86	503596.699	10.118	Ground Cable
4208059	7976230.745	503593.901	10.188	Ground Cable
4208060	7976229.132	503593.757	10.182	Ground Cable
4208061	7976220.898	503593.739	10.166	Ground Cable
4208062	7976220.734	503599.855	10.243	Ground Cable
4208063	7976220.739	503608.046	10.284	Ground Cable
4208064	7976220.687	503617.589	10.323	Ground Cable
4208067	7976222.977	503617.519	10.39	Ground Cable
4208068	7976220.816	503624.73	10.379	Ground Cable
4208069	7976220.783	503635.042	10.521	Ground Cable
4208070	7976220.666	503641.626	10.566	Ground Cable
4208071	7976226.617	503641.347	10.49	Ground Cable
4208072	7976230.834	503641.369	10.408	Ground Cable
4208073	7976230.806	503645.007	10.463	Ground Cable
4208074	7976231.093	503648.265	10.531	Ground Cable
4208075	7976230.913	503637.26	10.449	Ground Cable
4208076	7976230.907	503634.495	10.491	Ground Cable
4210002	7976220.737	503643.549	10.443	Ground Cable
4210003	7976220.836	503651.04	10.452	Ground Cable
4210004	7976226.104	503654.37	10.412	Ground Cable
4210005	7976222.174	503656.264	10.385	Ground Cable
4210006	7976220.864	503656.895	10.376	Ground Cable
4210007	7976220.903	503665.253	10.338	Ground Cable
4210008	7976223.036	503665.081	10.372	Ground Cable
4210009	7976220.838	503669.056	10.297	Ground Cable
4210010	7976220.888	503675.42	10.239	Ground Cable
4210011	7976220.882	503676.59	10.217	Ground Cable
4210012	7976223.401	503676.009	10.261	Ground Cable
4210013	7976225.538	503675.183	10.267	Ground Cable
4210014	7976220.893	503681.345	10.196	Ground Cable
4210015	7976221.059	503689.543	10.1	Ground Cable

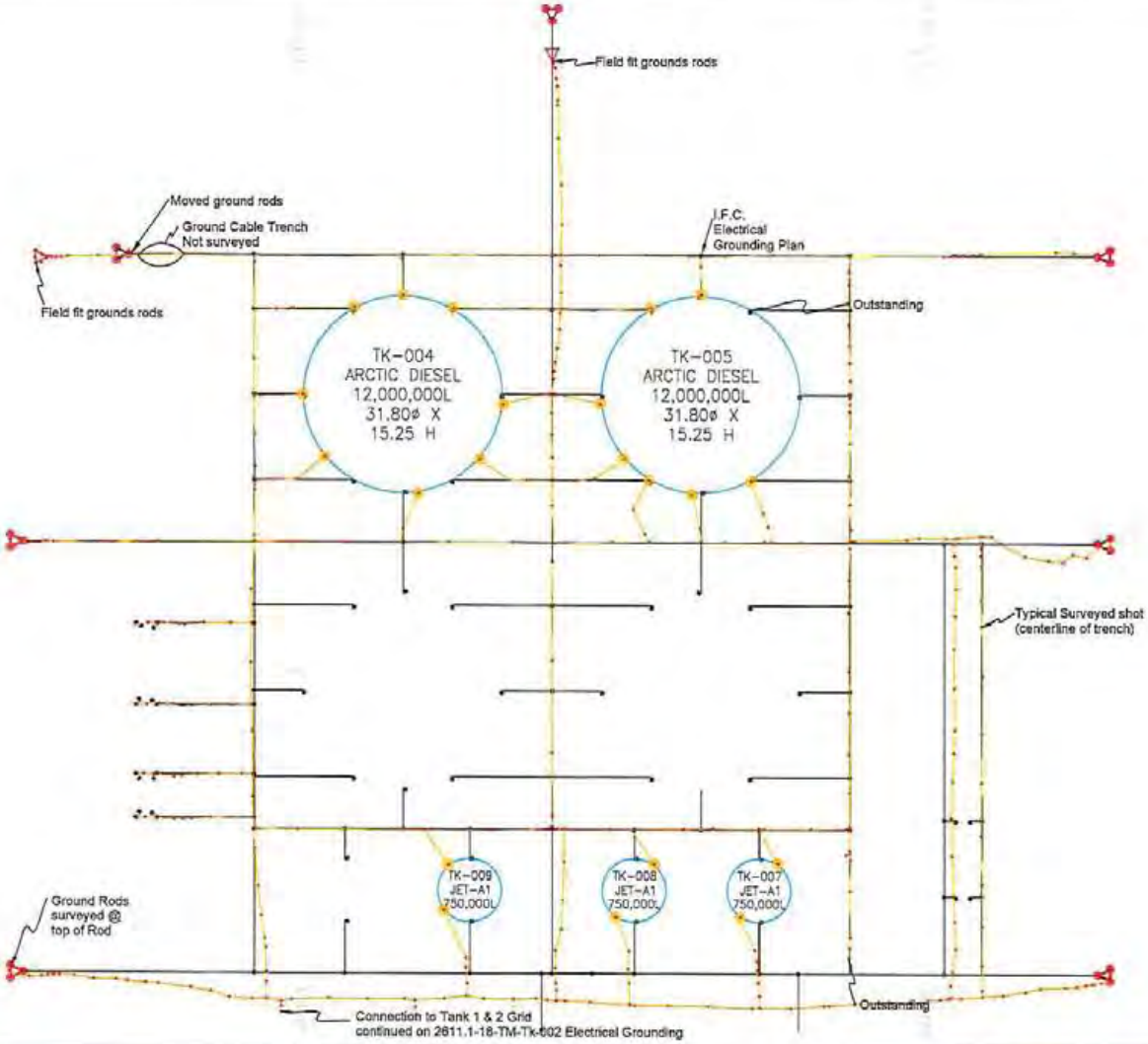
4210016	7976221.348	503698.146	10.292	Ground Cable
4210017	7976221.555	503700.157	10.471	Ground Cable
5213103	7976174.805	503682.887	10.184	Ground Cable
5213104	7976174.795	503675.233	10.209	Ground Cable
5213105	7976174.858	503667.01	10.282	Ground Cable
5213106	7976221.893	503593.684	10.165	Ground Cable
5213107	7976213.161	503593.217	10.184	Ground Cable
5213108	7976201.387	503593.175	10.263	Ground Cable
5213109	7976190.571	503593.374	10.28	Ground Cable
5213110	7976179.899	503593.481	10.254	Ground Cable
5213111	7976174.805	503593.743	10.366	Ground Cable
5213112	7976174.756	503593.724	10.365	Ground Cable
5225072	7976147.466	503595.709	11.639	Ground Cable
5225100	7976155.692	503595.544	10.614	Ground Cable
5225101	7976151.758	503595.659	10.78	Ground Cable
5225102	7976150.066	503595.643	11.594	Ground Cable
5225103	7976147.49	503595.619	11.605	Ground Cable
5226002	7976147.964	503627.693	11.776	Ground Cable
5226003	7976149.896	503627.772	11.778	Ground Cable
5226004	7976152.402	503627.639	10.852	Ground Cable
5226005	7976154.015	503627.652	10.844	Ground Cable
5226006	7976155.159	503653.753	10.826	Ground Cable
5226007	7976152.184	503653.577	10.836	Ground Cable
5226008	7976149.954	503653.783	11.791	Ground Cable
5226009	7976146.582	503653.798	11.789	Ground Cable
5226010	7976146.552	503653.816	11.769	Ground Cable
5226011	7976146.557	503653.892	11.783	Ground Cable
5226063	7976155.407	503673.877	10.805	Ground Cable
5226064	7976153.523	503674.258	10.895	Ground Cable
5226065	7976151.958	503674.307	10.928	Ground Cable
5226066	7976150.055	503674.419	11.72	Ground Cable
5226067	7976147.999	503674.646	11.695	Ground Cable
5226068	7976146.099	503674.733	11.686	Ground Cable
5226069	7976146.455	503685.8	11.616	Ground Cable
5226070	7976146.768	503689.91	11.584	Ground Cable
5226071	7976146.933	503695.795	11.612	Ground Cable
5226072	7976146.908	503698.897	11.6	Ground Cable
5226073	7976147.135	503700.888	11.693	Ground Cable
5226074	7976174.825	503643.284	10.517	Ground Cable
5226075	7976169.468	503643.308	10.563	Ground Cable
5226076	7976163.386	503643.109	10.57	Ground Cable
5226077	7976158.686	503642.871	10.65	Ground Cable
5226078	7976155.313	503641.93	10.817	Ground Cable
5226079	7976152.334	503641.894	10.863	Ground Cable
5226080	7976149.988	503641.992	11.759	Ground Cable
5226081	7976148.823	503642.109	11.756	Ground Cable
5226082	7976147.211	503642.077	11.815	Ground Cable

7229031	7976149.301	503719.678	12.491	Ground Cable
7229032	7976148.796	503717.269	12.557	Ground Cable
7229033	7976148.232	503713.726	12.626	Ground Cable
7229034	7976147.981	503710.376	12.557	Ground Cable
7229035	7976147.673	503706.92	12.467	Ground Cable
7229036	7976147.632	503704.863	12.404	Ground Cable
7229037	7976147.491	503703.611	12.349	Ground Cable
7229038	7976147.338	503701.598	11.823	Ground Cable
7229039	7976148.921	503710.336	12.491	Ground Cable
7229040	7976152.876	503710.297	12.386	Ground Cable
7229041	7976159.284	503710.307	12.263	Ground Cable
7229042	7976166.108	503710.3	12.177	Ground Cable
7229043	7976173.932	503710.168	12.259	Ground Cable
7229044	7976182.418	503710.214	12.273	Ground Cable
7229045	7976190.36	503710.295	12.289	Ground Cable
7229046	7976199.468	503710.382	12.338	Ground Cable
7229047	7976207.475	503710.22	12.399	Ground Cable
7229048	7976211.736	503710.178	12.614	Ground Cable
7229049	7976217.112	503710.138	12.583	Ground Cable
7229050	7976218.841	503710.083	12.557	Ground Cable
7229051	7976217.057	503706.109	12.503	Ground Cable
7229052	7976213.418	503706.199	12.654	Ground Cable
7229053	7976209.193	503705.933	12.428	Ground Cable
7229054	7976203.795	503705.774	12.191	Ground Cable
7229055	7976197.509	503705.837	12.158	Ground Cable
7229056	7976190.943	503705.975	12.209	Ground Cable
7229057	7976187.139	503705.741	12.171	Ground Cable
7229058	7976182.612	503705.569	12.12	Ground Cable
7229059	7976176.751	503705.381	12.11	Ground Cable
7229060	7976170.516	503705.473	12.074	Ground Cable
7229061	7976164.243	503705.756	12.071	Ground Cable
7229062	7976159.954	503705.895	12.075	Ground Cable
7229063	7976155.716	503706.118	12.171	Ground Cable
7229064	7976151.931	503705.563	12.271	Ground Cable
7229065	7976149.707	503705.285	12.289	Ground Cable
7229066	7976147.874	503705.339	12.436	Ground Cable
7232148	7976151.019	503560.524	12.286	Ground Cable
7232149	7976151.063	503561.594	12.74	Ground Cable
7232150	7976151.035	503564.79	12.691	Ground Cable
7232151	7976150.512	503567.898	12.739	Ground Cable
7232152	7976150.384	503571.523	12.758	Ground Cable
7232153	7976150.231	503573.31	12.781	Ground Cable
7232154	7976149.928	503576.293	12.704	Ground Cable
7232155	7976149.81	503578.271	12.775	Ground Cable
7232156	7976176.644	503574.482	12.2	Ground Cable
7232157	7976176.554	503576.2	12.165	Ground Cable
7232158	7976176.487	503577.984	12.136	Ground Cable

7232159	7976176.503	503579.09	12.102	Ground Cable
7232160	7976176.326	503580.879	11.213	Ground Cable
7232161	7976183.213	503582.031	10.872	Ground Cable
7232162	7976183.095	503580.849	11.24	Ground Cable
7232163	7976183.501	503579.032	11.986	Ground Cable
7232164	7976183.469	503577.653	12.18	Ground Cable
7232165	7976183.535	503575.958	12.15	Ground Cable
7232166	7976183.566	503574.672	12.173	Ground Cable
7232167	7976194.578	503574.675	12.151	Ground Cable
7232168	7976194.69	503576.504	12.139	Ground Cable
7232169	7976194.88	503578.56	12.038	Ground Cable
7232170	7976194.773	503579.2	11.98	Ground Cable
7232171	7976194.709	503580.481	11.381	Ground Cable
7232172	7976194.548	503581.79	10.837	Ground Cable
7232173	7976207.594	503581.648	10.797	Ground Cable
7232174	7976207.713	503580.449	11.415	Ground Cable
7232175	7976207.711	503579.211	11.973	Ground Cable
7232176	7976207.763	503578.567	12.15	Ground Cable
7232177	7976207.705	503576.674	12.184	Ground Cable
7232178	7976207.577	503574.685	12.271	Ground Cable
7232179	7976220.892	503560.475	12.312	Ground Cable
7232180	7976220.774	503561.471	12.661	Ground Cable
7232181	7976220.781	503565.647	12.542	Ground Cable
7232182	7976220.74	503570.834	12.533	Ground Cable
7232183	7976220.842	503574.915	12.515	Ground Cable
7232184	7976220.899	503578.253	12.462	Ground Cable
7232185	7976149.195	503583.47	11.827	Ground Cable
7232186	7976148.623	503586.738	11.719	Ground Cable
7232187	7976147.66	503589.733	11.681	Ground Cable
7232188	7976147.39	503593.412	11.737	Ground Cable
7232189	7976147.522	503595.487	11.688	Ground Cable
7232394	7976266.96	503575.184	11.359	Ground Cable
7232395	7976266.827	503572.62	11.351	Ground Cable
7232396	7976266.843	503568.731	11.34	Ground Cable
7232397	7976266.722	503563.655	11.247	Ground Cable
7232398	7976266.577	503562.712	11.104	Ground Cable
7232399	7976266.574	503561.902	10.706	Ground Cable
7232400	7976266.565	503561.207	10.614	Ground Cable
7233491	7976149.482	503723.75	12.66	Ground Cable
7233492	7976149.654	503725.531	11.789	Ground Cable
7233493	7976149.856	503726.957	11.068	Ground Cable
7233494	7976150.046	503728.144	10.616	Ground Cable
7233495	7976150.279	503729.518	10.54	Ground Cable
7233496	7976150.516	503730.881	10.467	Ground Cable
7233497	7976151.655	503730.941	10.465	Ground Cable
7233498	7976152.378	503730.864	10.529	Ground Cable
7233499	7976152.003	503730.017	10.519	Ground Cable

7233500	7976151.67	503729.194	10.483	Ground Cable
7233501	7976151.163	503730.016	10.516	Ground Cable
7233502	7976150.873	503730.64	10.501	Ground Cable
7266134	7976300.132	503640.448	9.765	Top Ground Rod
7266135	7976300.222	503642.385	9.838	Top Ground Rod
7266136	7976298.239	503641.498	9.834	Top Ground Rod
7266145	7976258.626	503625.62	12.347	Tank Ground Connection
7266146	7976260.704	503617.546	12.344	Tank Ground Connection
7266147	7976258.705	503609.744	12.412	Tank Ground Connection
7266148	7976244.623	503601.479	12.571	Tank Ground Connection
7266149	7976234.612	503605.004	12.492	Tank Ground Connection
7266150	7976228.625	503619.986	12.549	Tank Ground Connection
7266151	7976234.228	503629.869	12.584	Tank Ground Connection
7266152	7976243.131	503633.579	12.553	Tank Ground Connection
7266153	7976169.315	503677.571	11.926	Tank Ground Connection
7266154	7976160.611	503671.583	12.301	Tank Ground Connection
7266156	7976169.222	503657.699	12.112	Tank Ground Connection
7266158	7976160.615	503651.6	12.313	Tank Ground Connection
7266159	7976169.001	503624.83	12.743	Tank Ground Connection
7266160	7976161.766	503624.051	12.91	Tank Ground Connection
7266169	7976154.028	503688.962	10.723	Ground Cable
7266170	7976155.706	503689.056	10.373	Ground Cable
7266171	7976157.477	503689.187	10.135	Ground Cable
7266172	7976164.978	503689.128	10.179	Ground Cable
7266173	7976169.93	503689.185	10.272	Ground Cable
7266174	7976170.942	503689.119	10.232	Ground Cable
7266175	7976170.729	503688.437	10.328	Ground Cable
7266176	7976171.458	503689.071	10.195	Ground Cable
7266177	7976174.871	503689.077	10.154	Ground Cable
7266178	7976174.86	503688.538	10.211	Ground Cable
7266179	7976175.201	503689.045	10.157	Ground Cable
7266180	7976180.668	503689.047	10.11	Ground Cable
7266181	7976186.916	503688.995	10.138	Ground Cable
7266182	7976193.518	503689.005	10.196	Ground Cable
7266183	7976200.178	503688.921	10.167	Ground Cable
7266184	7976209.61	503688.867	10.143	Ground Cable
7266185	7976214.833	503688.879	10.151	Ground Cable
7266186	7976219.902	503689.113	10.191	Ground Cable
7266187	7976221.09	503689.395	10.119	Ground Cable
7266188	7976221.067	503689.148	10.139	Ground Cable
7266189	7976221.093	503689.8	10.17	Ground Cable
7266190	7976222.932	503689.207	10.147	Ground Cable
7266191	7976226.935	503689.091	10.119	Ground Cable
7266192	7976231.532	503688.99	10.134	Ground Cable
7266193	7976236.906	503689.102	10.107	Ground Cable
7266194	7976242.026	503689.062	10.142	Ground Cable
7266195	7976243.171	503689.104	10.136	Ground Cable

7266196	7976244.09	503689.111	10.098	Ground Cable
7266197	7976247	503689.157	10.158	Ground Cable
7266198	7976249.88	503689.084	10.165	Ground Cable
7266199	7976252.515	503689.003	10.146	Ground Cable
7266200	7976255.918	503688.904	10.127	Ground Cable
7266201	7976259.455	503688.831	10.135	Ground Cable
7266202	7976262.503	503688.945	10.176	Ground Cable
7266203	7976264.493	503688.982	10.137	Ground Cable
7266204	7976267.087	503689.035	10.217	Ground Cable
7266205	7976267.15	503688.792	10.223	Ground Cable
7266206	7976267.133	503689.174	10.256	Ground Cable
7266207	7976260.76	503665.299	12.098	Tank Ground Connection
7266208	7976258.662	503657.204	12.333	Tank Ground Connection
7266209	7976243.226	503649.159	11.978	Tank Ground Connection
7266210	7976234.258	503652.88	12.287	Tank Ground Connection
7266211	7976230.835	503656.903	12.047	Tank Ground Connection
7266212	7976228.507	503663.816	12.3	Tank Ground Connection
7266213	7976230.695	503673.256	12.293	Tank Ground Connection
8237094	7976266.648	503560.57	10.948	Top Ground Rod
8237095	7976265.485	503558.68	11.141	Top Ground Rod
8237096	7976267.629	503558.549	11.014	Top Ground Rod
8237118	7976220.869	503556.555	11.907	Top Ground Rod
8237119	7976221.833	503554.616	11.841	Top Ground Rod
8237120	7976219.783	503554.475	11.923	Top Ground Rod
8237157	7976152.476	503554.609	11.893	Top Ground Rod
8237158	7976150.481	503554.624	11.849	Top Ground Rod
8237159	7976151.578	503556.502	11.95	Top Ground Rod



NOTES

Refer to Issued for Construction (I.F.C.) Dwg. No. H340000-2613-72-042-0003 Rev 0
Grounding Grid asbuilt continued on Nuna Dwg. No 2611.1-18-TM-Tk-002 Electrical Ground

CLIENT: Baffinland Iron Mines Corporation

PROJECT: Mary River Project, Baffin Island, Nunavut

PREPARED BY:
Nuna East Ltd.
9839 - 31 Avenue
Edmonton, AB
T6N 1C5

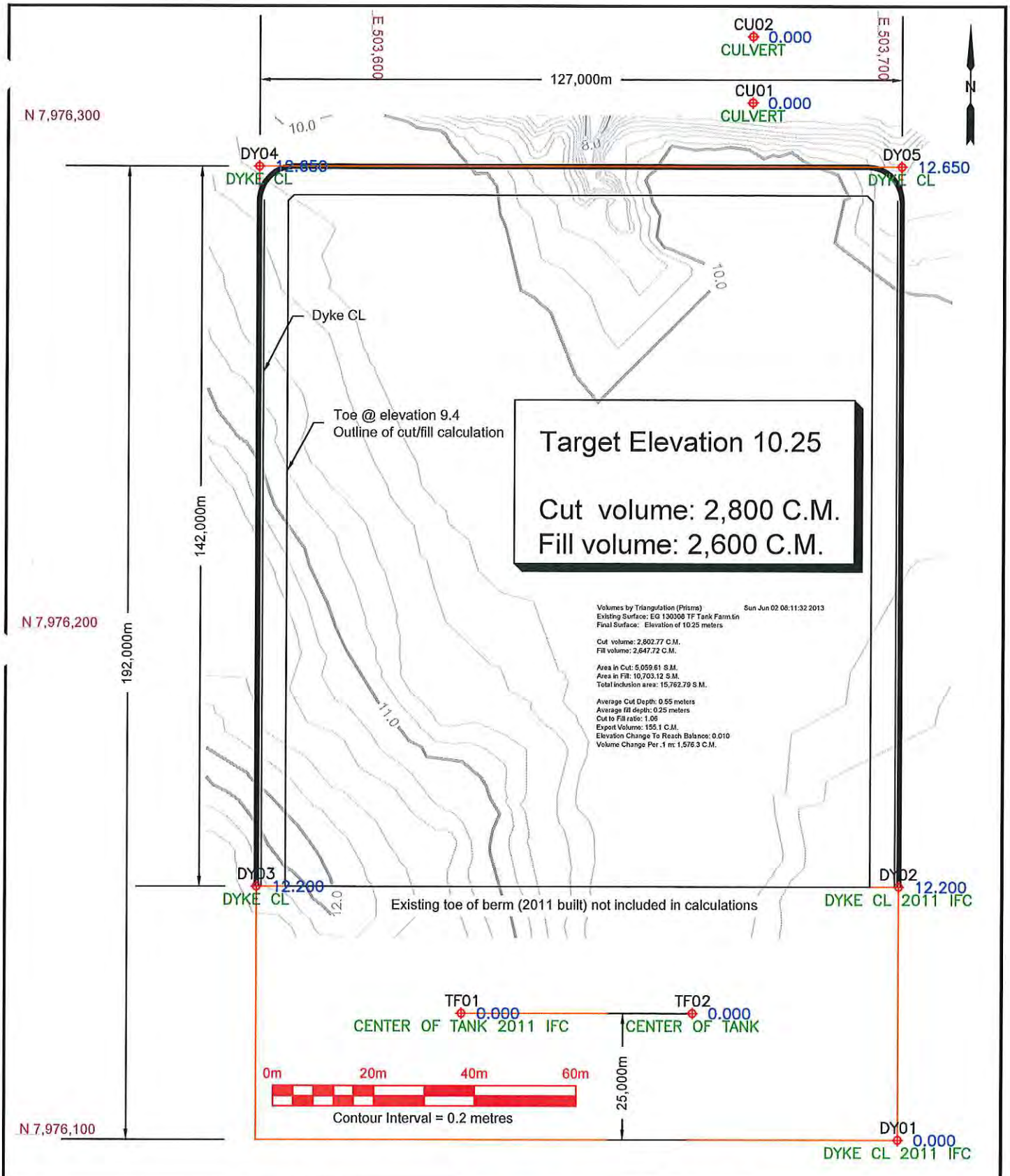
DRAWN BY: mc

SCALE: 1 : 750

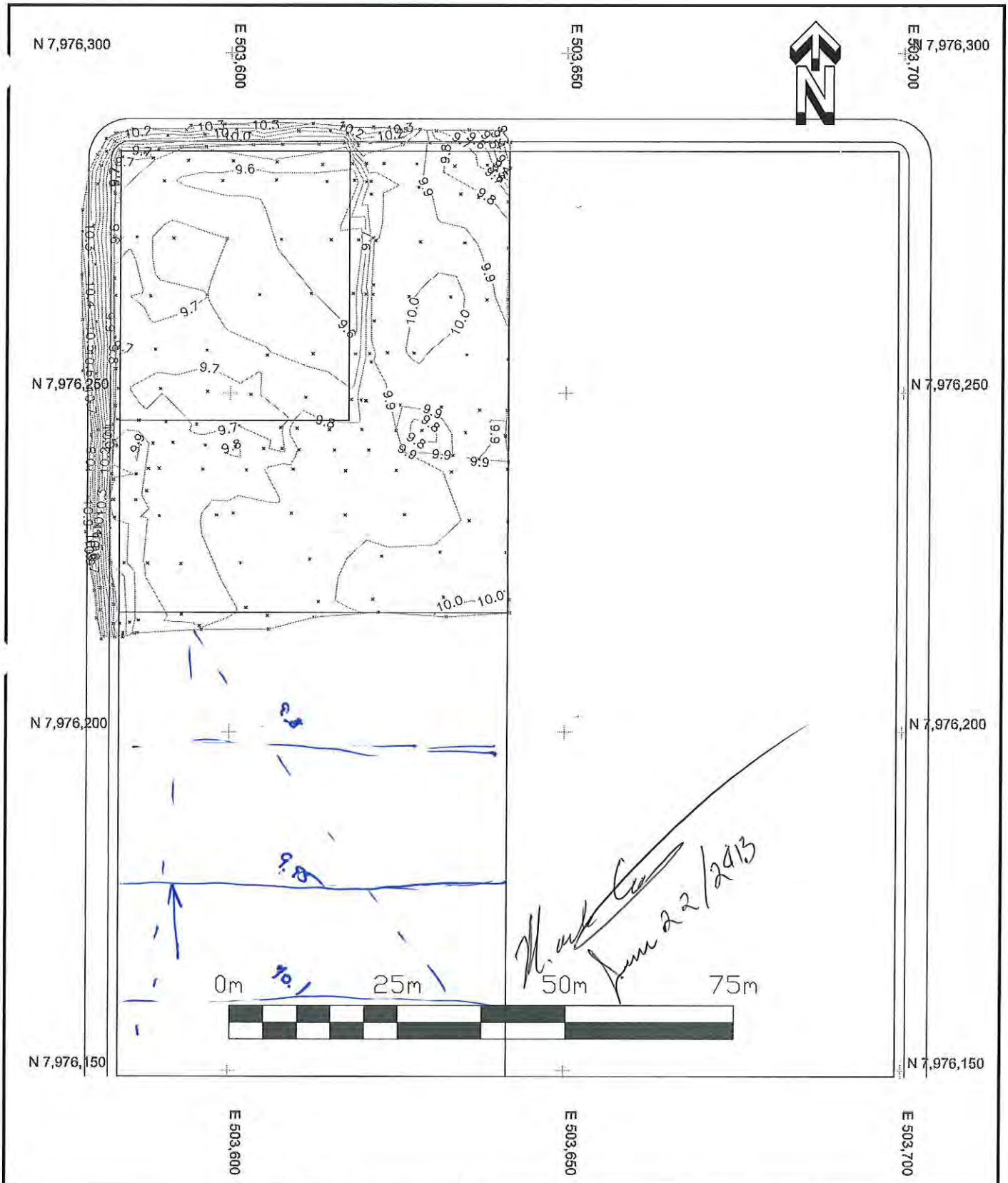
DATE: Sept. 26, 2013

Milne Port-Tank Farm Extension
Electrical Grounding Asbuilt

DRAWING NAME (YYMMDD): 2611.2 Asbuilt Tank Farm Extension Grounding 130926.dwg



CLIENT: Baffinland Iron Mines Corporation	PREPARED BY: Nuna East Ltd. 9839 - 31 Avenue Edmonton, AB T6N 1C5	NUNA		DRAWING TITLE: **Cut / Fill Calculations For Tank Farm Excavation**
PROJECT: Mary River Project, Baffin Island, Nunavut	DRAWN BY: gc	SCALE: 1 : 1000	DATE: June 02, 2013	DRAWING NAME (YYMMDD): DE 130514 TF Tank Farm.dwg



CLIENT: Baffinland Iron Mines Corporation	PREPARED BY: Nuna East Ltd. 9839 - 31 Avenue Edmonton, AB T6N 1C5	NUNA		DRAWING TITLE: **Fuel Tank Pad NW Quad. Sub Excavation**
PROJECT: Mary River Project, Baffin Island, Nunavut	DRAWN BY: mc	SCALE: 1:750	DATE: June 21, 2013	DRAWING NAME (YYMMDD): AB 130621 TF EX.dwg

NUNA EAST LTD

Section 5

Statements of Compliance

STATEMENT OF COMPLIANCE

Engineering Required Specification: Quarried Fill Materials Section: H349000 S31 12 13 (IFC).

Project Aggregate Generated: -2 mm fines aggregate.

Statement: The production of the project required aggregate has be found to meet the Quarried Fill Materials Specification of Section: H349000 S31 12 13.

I, the undersigned, declare that the above described aggregate generation and its inspection and testing complies in all respects with the requirements of the above listed construction specification issued to Nuna East Ltd.

HATCH	TYLER BRAKE	CONST. SUPERVISOR	06/09/2013
(Company)	(Name)	(Title)	(Date)

STATEMENT OF COMPLIANCE

Engineering Required Specification: Quarried Fill Materials Section: H349000 S31 12 13 (IFC).

Project Aggregate Generated: Type 5 Minus 32mm aggregate.

Statement: The production of the project required aggregate has be found to meet the Quarried Fill Materials Specification of Section: H349000 S31 12 13.

I, the undersigned, declare that the above described aggregate generation and its inspection and testing complies in all respects with the requirements of the above listed construction specification issued to Nuna East Ltd.

HATCH	TYLER BRUCE	CONST SUPERVISOR	06/09/2013
(Company)	(Name)	(Title)	(Date)

STATEMENT OF COMPLIANCE

Engineering Required Specification: Quarried Fill Materials Section: H349000 S31 12 13 (IFC).

Project Aggregate Generated: Type 8 Minus 150mm aggregate.

Statement: The production of the project required aggregate has be found to meet the Quarried Fill Materials Specification of Section: H349000 S31 12 13.

I, the undersigned, declare that the above described aggregate generation and its inspection and testing complies in all respects with the requirements of the above listed construction specification issued to Nuna East Ltd.

HATCH	TYLER BIRUCH	CONST. SUPERVISOR	06/09/2013
(Company)	(Name)	(Title)	(Date)

NUNA EAST LTD

Section 6

Request for Information Documentation

NUNA
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REQUEST FOR INFORMATION

RFI NUMBER	NE-RFI-001
ISSUE DATE (YY/MM/DD)	June 2nd, 2013
PRIORITY	H X M L
REQ'D RESPONSE DATE	June 4th, 2013

Baffinland Iron Mines

Subject:	Tank Farm Extension Cut/Fill	Project Zone/Area:	Tank Farm
Company:	Nuna East	Station/Location:	
Attention:	James Cleland	Discipline:	Civil - Earthworks

AFE:		Specification Number:	
Related Drawings:		Related Documents:	

Related WBS Code		WBS Code Description:	

Information Request/Description of Issue/Approval Required:

As the current design illustrates, the Tank Farm excavation requires the entire footprint to be cut. The maximum cut is 2.2m, with a minimum cut of 0.6m.

Proposed Corrective Action:

As the permafrost is typically encountered at 1.5m below grade, we would like to propose a balanced cut to fill operation. See attached drawing.

Originator: Nuna

Print: Kyle Kuntz *Sign:* *Date: June 02, 2013*

Cost Impact:	☒ No ☐ Yes	$		Summary Estimate
Detailed Estimate attached:	☒ No ☐ Yes			
Schedule Impact:	☒ No ☐ Yes	#		Number of Days
Source for Communication:	☐ Owner Change	☒ Clarification/Info		☐ Constructor Change
	☐ Vendor Change	☒ Designer Change		☐ Other

Note: RFI's are not authorized change documents and cannot be used to direct a change in contract requirements. If Hatch response on the RFI has cost and/or schedule effect, it is the contractor's responsibility to immediately advise Hatch Work undertaken without Hatch written authorization is at the contractor's risk and expense

Response

☐ Corrective Action Approved ☒ Correct as Follows:

Please refer to response to RFI-002 for revised cut depths. Use of cut material for fill at the tank farm dike is not permitted. Cut material shall be used as fill for the infrastructure pads B1/B2/B3.

Responsible Engineer: James Cleland June 6, 2013

Print: *Sign:* *Date:*

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REQUEST FOR INFORMATION

RFI NUMBER	NE-RFI-002
ISSUE DATE (YY/MM/DD)	June 4th, 2013
PRIORITY	H X M L
REQ'D RESPONSE DATE	June 6th, 2013

Baffinland Iron Mines

Subject:	Tank Farm Berm Dimensions	Project Zone/Area:	Tank Farm
Company:	Nuna East	Station/Location:	
Attention:	James Cleland	Discipline:	Civil - Earthworks

AFE:		Specification Number:	
Related Drawings:		Related Documents:	

Related WBS Code		WBS Code Description:	

Information Request/Description of Issue/Approval Required:

Please provide requested dimensions.

Proposed Corrective Action:

Obtaining 3D models digital CAD models would certainly help, if available in CAD or LandXML format.

Originator: Nuna

Print: Kyle Kuntz *Sign:* *Date: June 04, 2013*

Cost Impact:	☒ No ☐ Yes	$		Summary Estimate
Detailed Estimate attached:	☒ No ☐ Yes			
Schedule Impact:	☒ No ☐ Yes	#		Number of Days
Source for Communication:	☐ Owner Change	☒ Clarification/Info		☐ Constructor Change
	☐ Vendor Change	☒ Designer Change		☐ Other

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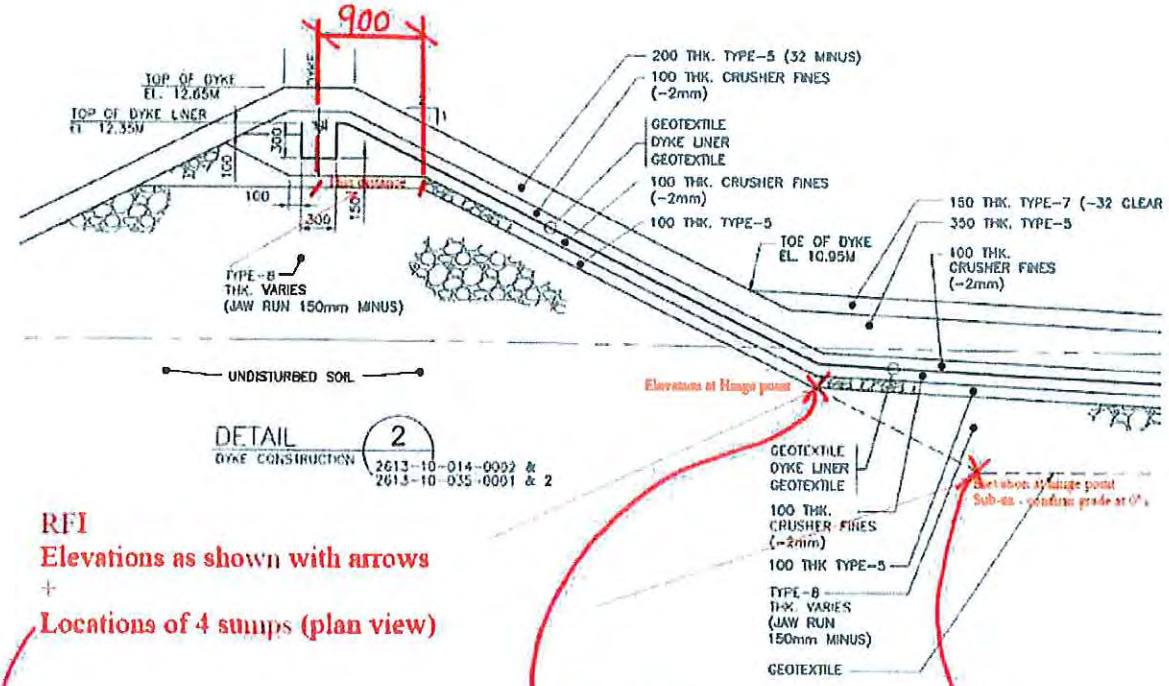
Response

☐ Corrective Action Approved ☒ Correct as Follows:

Please see markup and sketch attached for requested dimensions. Attached sketch also confirms required cut elevations for full tank farm pad. Please note deletion of one sump. Revised drawings will follow. 3D digital models of the dike are not available.

Responsible Engineer: James Cleland / Eric Bond June 6, 2013

Print: *Sign:* *Date:*



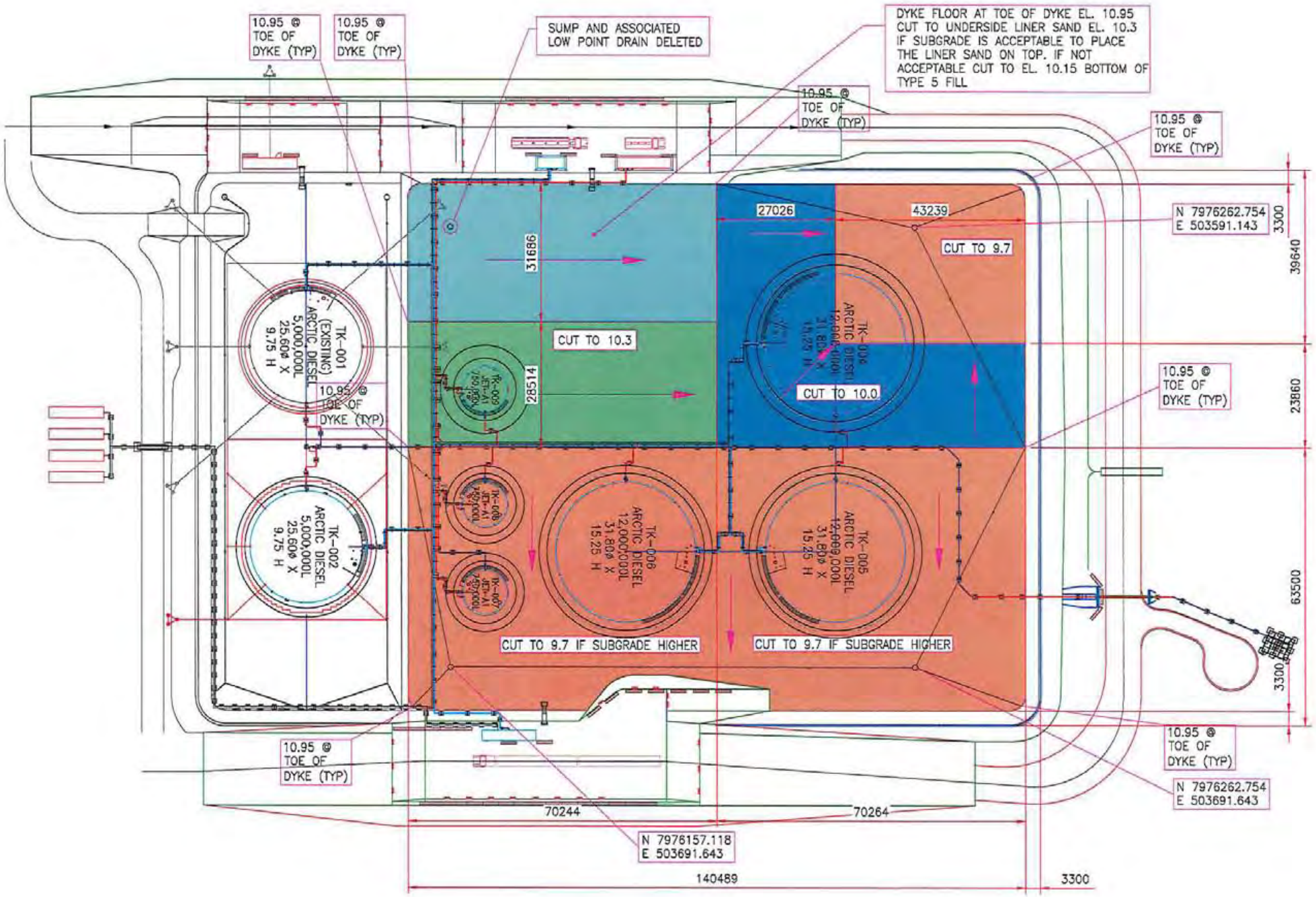
DETAIL 2
DYKE CONSTRUCTION 2613-10-014-0092 & 2613-10-035-0001 & 2

RFI
Elevations as shown with arrows
+
Locations of 4 sumps (plan view)

See attached plan.

10.121

VARIES
(See Attached)


10.95 @ TOE OF DYKE (TYP)
10.95 @ TOE OF DYKE (TYP)
SUMP AND ASSOCIATED LOW POINT DRAIN DELETED
DYKE FLOOR AT TOE OF DYKE EL. 10.95 CUT TO UNDERSIDE LINER SAND EL. 10.3 IF SUBGRADE IS ACCEPTABLE TO PLACE THE LINER SAND ON TOP. IF NOT ACCEPTABLE CUT TO EL. 10.15 BOTTOM OF TYPE 5 FILL
10.95 @ TOE OF DYKE (TYP)
10.95 @ TOE OF DYKE (TYP)
27026
43239
N 7976262.754
E 503591.143
3300
39640
31686
CUT TO 9.7
TK-001 (EXISTING) ARCTIC DIESEL 5,000,000L 25.60ø X 9.75 H
CUT TO 10.3
28514
TK-009 JET-A1
TK-006 ARCTIC DIESEL 12,000,000L 31.80ø X 15.25 H
CUT TO 10.0
10.95 @ TOE OF DYKE (TYP)
23860
10.95 @ TOE OF DYKE (TYP)
TK-008 JET-A1
TK-002 ARCTIC DIESEL 5,000,000L 25.60ø X 9.75 H
TK-007 JET-A1
TK-004 ARCTIC DIESEL 12,000,000L 31.80ø X 15.25 H
TK-005 ARCTIC DIESEL 12,000,000L 31.80ø X 15.25 H
CUT TO 9.7 IF SUBGRADE HIGHER
CUT TO 9.7 IF SUBGRADE HIGHER
63500
3300
10.95 @ TOE OF DYKE (TYP)
10.95 @ TOE OF DYKE (TYP)
N 7976262.754
E 503691.643
70244
70264
N 7976157.118
E 503691.643
140489
3300

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REQUEST FOR INFORMATION

RFI NUMBER	NE-RFI-003
ISSUE DATE (YY/MM/DD)	June 4th, 2013
PRIORITY	H X M L
REQ'D RESPONSE DATE	June 6th, 2013

Baffinland Iron Mines

Subject:	Tank Farm Expansion Dimensions	Project Zone/Area:	Tank Farm
Company:	Nuna East	Station/Location:	
Attention:	James Cleland	Discipline:	Civil - Earthworks

AFE:		Specification Number:	
Related Drawings:		Related Documents:	

Related WBS Code		WBS Code Description:	

Information Request/Description of Issue/Approval Required:
Please provide requested dimensions.
Proposed Corrective Action:
Originator: Nuna
Print: Kyle Kuntz *Sign:* *Date: June 04, 2013*

Cost Impact:	☒ No ☐ Yes	$		Summary Estimate
Detailed Estimate attached:	☒ No ☐ Yes			
Schedule Impact:	☒ No ☐ Yes	#		Number of Days
Source for Communication:	☐ Owner Change	☒ Clarification/Info		☐ Constructor Change
	☐ Vendor Change	☒ Designer Change		☐ Other

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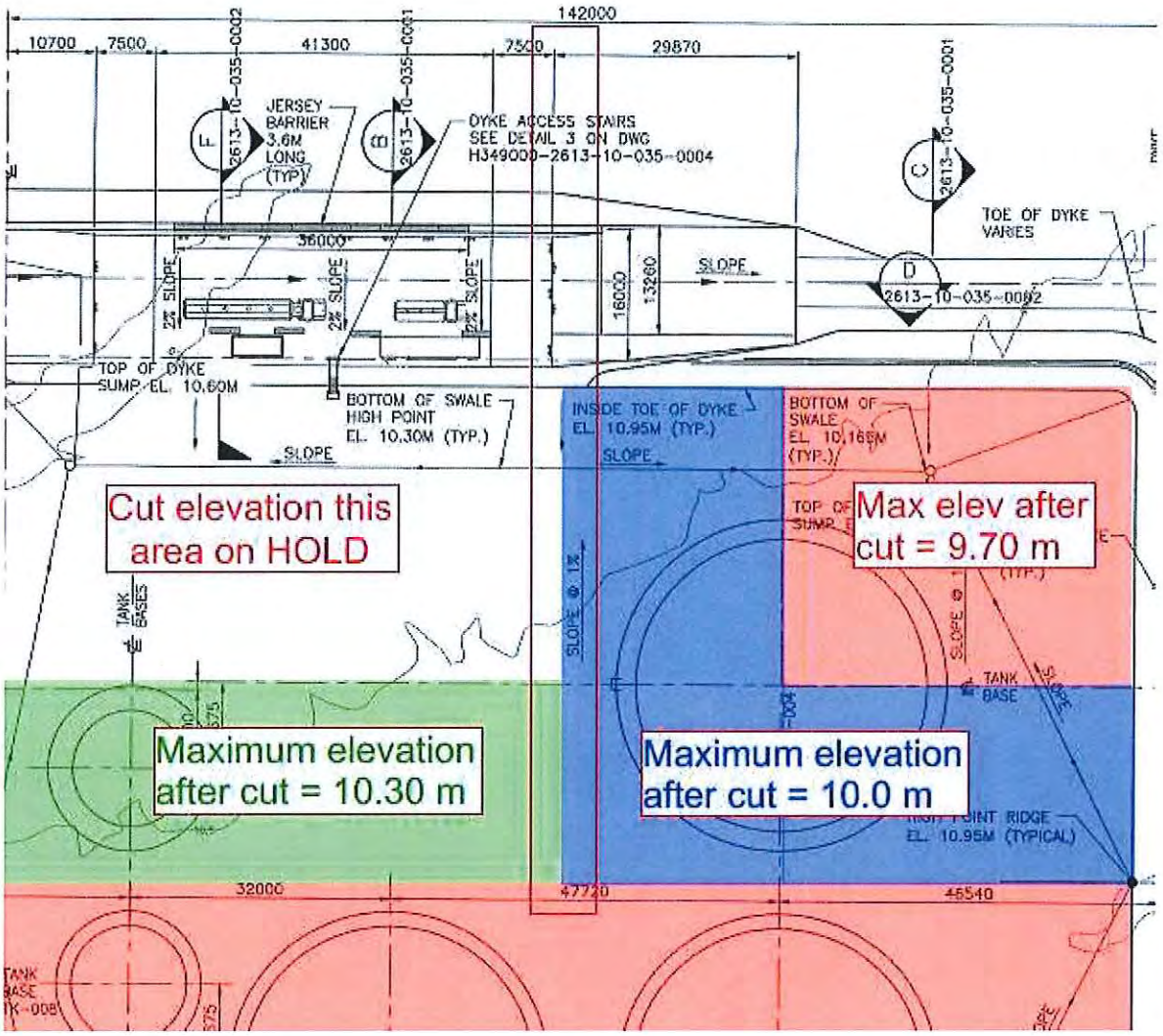
Response

☐ Corrective Action Approved ☒ Correct as Follows:

Please refer to response to RFI-002
Responsible Engineer: James Cleland June 6, 2013
Print: *Sign:* *Date:*


142000
10700
7500
41300
7500
29870
JERSEY BARRIER 3.6M LONG (TYP)
DYKE ACCESS STAIRS SEE DETAIL 3 ON DWG H349000-2613-10-035-0004
TOE OF DYKE VARIES
36000
SLOPE
2%
16000
13260
TOP OF DYKE SUMP EL. 10.60M
BOTTOM OF SWALE HIGH POINT EL. 10.30M (TYP.)
INSIDE TOE OF DYKE EL. 10.95M (TYP.)
BOTTOM OF SWALE EL. 10.16M (TYP.)
Cut elevation this area on HOLD
Max elev after cut = 9.70 m
TANK BASES
TANK BASE
Maximum elevation after cut = 10.30 m
Maximum elevation after cut = 10.0 m
HIGH POINT RIDGE EL. 10.95M (TYPICAL)
32000
47720
45540

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REQUEST FOR INFORMATION

RFI NUMBER	NE-RFI-004
ISSUE DATE (YY/MM/DD)	June 7th, 2013
PRIORITY	H X M L
REQ'D RESPONSE DATE	June 7th, 2013

Baffinland Iron Mines

Subject:	Tank Farm Modification Base	Project Zone/Area:	Tank Farm
Company:	Nuna East	Station/Location:	
Attention:	James Cleland	Discipline:	Civil - Earthworks

AFE:		Specification Number:	
Related Drawings:		Related Documents:	

Related WBS Code		WBS Code Description:	

Information Request/Description of Issue/Approval Required:

The Milne Port Tank Pad Drawing indicates a diameter width of liner required of 29.6m.

Proposed Corrective Action:

The panels are manufactured 43m x 29.3. Please allow the variance of 150mm on two sides of the tank.

Originator: Nuna

Print: Kyle Kuntz *Sign:* *Date: June 7th, 2013*

Cost Impact:	☒ No ☐ Yes	$		Summary Estimate
Detailed Estimate attached:	☒ No ☐ Yes			
Schedule Impact:	☒ No ☐ Yes	#		Number of Days
Source for Communication:	☐ Owner Change	☒ Clarification/Info	☐ Constructor Change	
	☐ Vendor Change	☒ Designer Change	☐ Other	

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Response

☒ Corrective Action Approved ☐ Correct as Follows:

Variance in liner width is approved

Responsible Engineer: James Cleland June 10, 2013

Print: *Sign:* *Date:*

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REQUEST FOR INFORMATION

RFI NUMBER	NE-RFI-005
ISSUE DATE (YY/MM/DD)	June 17th, 2013
PRIORITY	H X M L
REQ'D RESPONSE DATE	June 18th, 2013

Baffinland Iron Mines

Subject:	Dyke Expansion Subgrade	Project Zone/Area:	Dyke Expansion
Company:	Nuna East	Station/Location:	Milne
Attention:	James Cleland	Discipline:	Civil - Earthworks

AFE:		Specification Number:	
Related Drawings:		Related Documents:	

Related WBS Code		WBS Code Description:	

Information Request/Description of Issue/Approval Required:

1. At locations within the Containment Dyke the proposed subgrade elevations 9.7, 10 and 10.3 conflict with the underside of Type 5 material level (see attached sketch). Please confirm that the subgrade elevation in these areas will be controlled by the underside of type 5 material surface.

2. With the 3D digital models for the Dyke unavailable for reference and the generation of our layout files, please confirm that the attached cad layout file completed from the pdf IFC's (with assumptions) for the underside of the Type 5 material adheres to the design requirements.

3. At locations within the Containment Dyke the thickness for the Type 8 (Jaw Run) placement is too shallow to allow for the minimum lift thickness of the material.

Proposed Corrective Action:

3. Nuna is proposing the use of Type 5 (32mm) material in place of the type 8 material for areas that the lift thickness does not allow for use of the type 8.

Originator: Nuna

Print: Mike Price *Sign:* *Date: June 17th, 2013*

Cost Impact:	☒ No ☐ Yes	$	Summary Estimate	
Detailed Estimate attached:	☒ No ☐ Yes			
Schedule Impact:	☒ No ☐ Yes	#	Number of Days	
Source for Communication:	☐ Owner Change	☒ Clarification/Info	☐ Constructor Change	
	☐ Vendor Change	☐ Designer Change	☐ Other	

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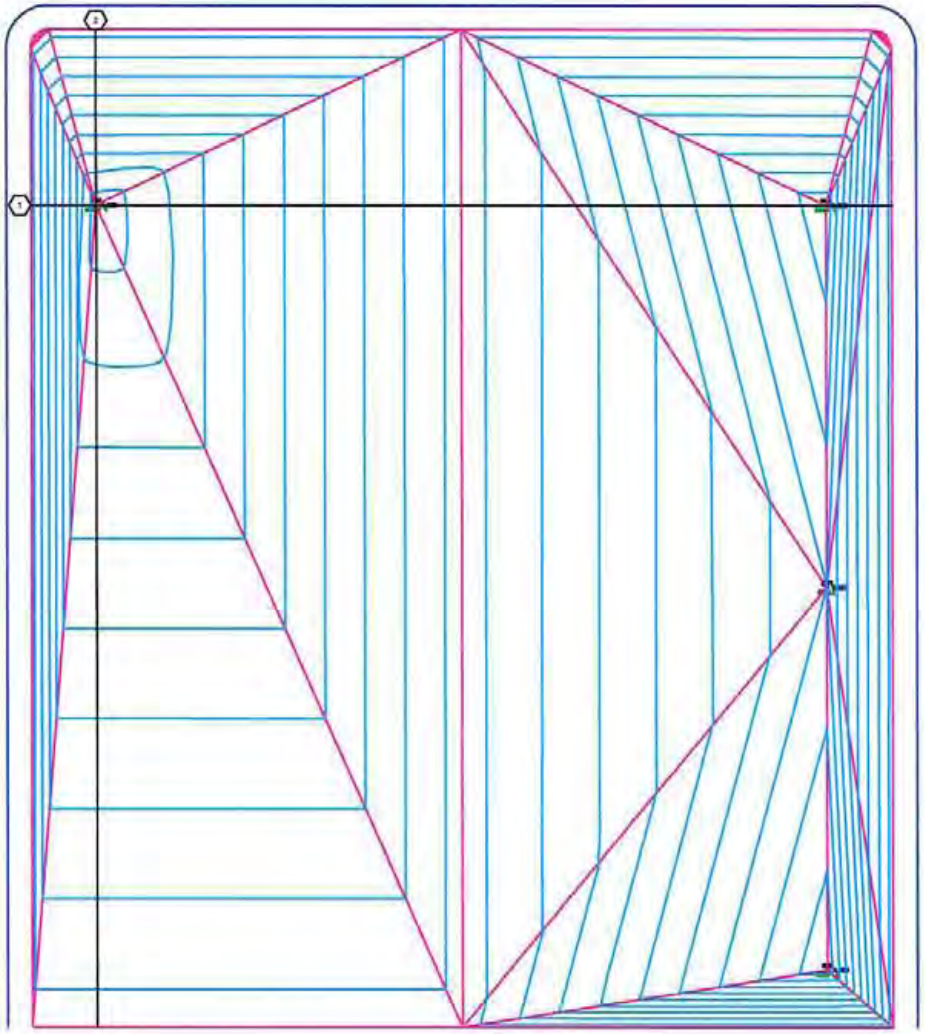
Response

☐ Corrective Action Approved ☐ Correct as Follows:

1. In areas of good quality subgrade (well graded and compacted material) with no large rocks excavation is only required to the underside of the crusher fines / sand bedding. In areas of poor subgrade excavation is required to the underside of the type 5. In all areas excavation must be at or below the specified subgrade elevations (ie. excavate to specified elevation or, where required, lower).
2. The supplied cad files correctly interpret the design intent.
3. Type 5 material may be subsistuted for type 8 material where required.

Responsible Engineer: J Cleland 21 June 2013

Print: *Sign:* *Date:*



Notes

This top of type 8 (Jaw Run) floor surface is based the following elevations:

1. An inclusive boundary with elevation of **10.121m.**
Reference drawing H349000-2613-10-035-0004_1_V8.pdf

2. Three (3) Sumps location each assigned with an elevation of 9.665m. This elevation determined from the following calculation:

Bottom of swale 10.165m - 500mm = **9.665m**
Reference drawing: H349000-2613-10-035-0004_1_V8.pdf

Dyke low point 10.45m - 800mm = 9.65m
Reference drawing: H349000-2613-10-035-0004_1_V8.pdf

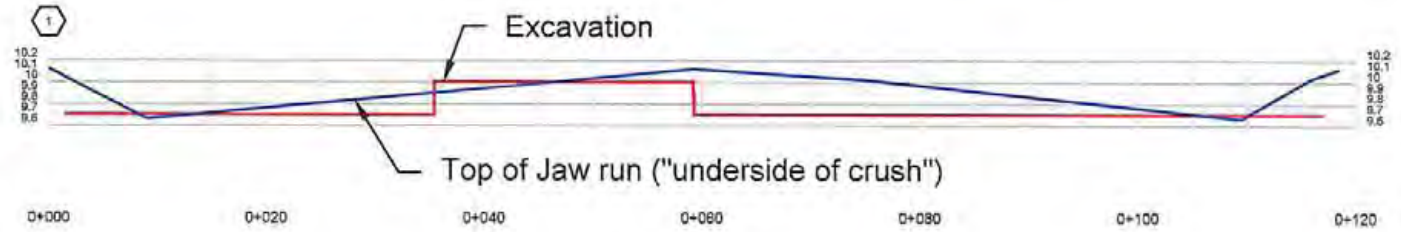
Note. Dyke low point value of 10.45m removed from IFC version 1. This value however used as a check on determination of distance from bottom of drainage swell (10.165m) to bottom of type 5 under the sump; as this distance could not be found on the drawing.

3. A longitudinal North-south break line with a value of 10.121m at midpoint of the dyke for high point.
Reference drawing: H349000-2613-10-014-0002_1_V8.pdf

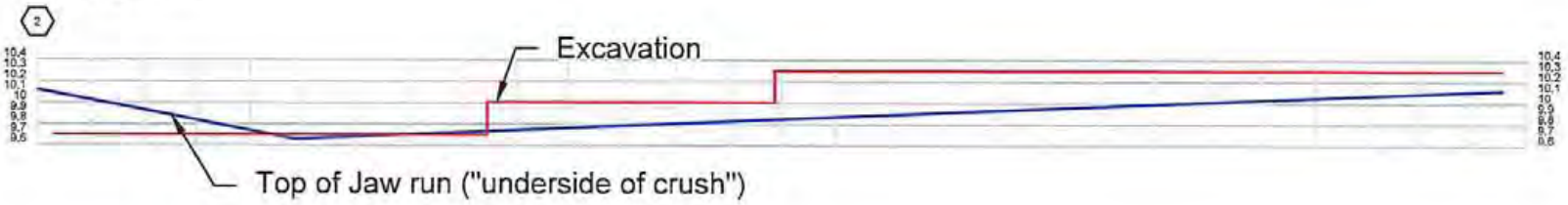
4. A high point at the swale on the east side of the dyke with a determined elevation of 9.800m. 10.300m - 500mm.
Reference drawing: H349000-2613-10-014-0002_1_V8.pdf

NOTES:	CLIENT: Baffinland Iron Mines Corporation	PREPARED BY: Nuna East Ltd. 9839 - 31 Avenue Edmonton, AB T6N 1C5	NUNA	DRAWING TITLE: **Type 8 / Jaw Run Surface / 3D Model**	
	PROJECT: Mary River Project, Baffin Island, Nunavut	DRAWN BY: gc	SCALE: 1 : 1000	DATE: June 16, 2013	DRAWING NAME (YYMMDD): DE 130514 TF Tank Farm.dwg

C:\130510\1. Projects\025 TF Tank farm\CAD\3. Design\DE 130514 TF Tank Farm.dwg, 6/16/2013 4:09:36 PM, DWG To PDF.pc3



Vertical Exaggeration = 10



NOTES:	CLIENT: Baffinland Iron Mines Corporation	PREPARED BY: Nuna East Ltd. 9839 - 31 Avenue Edmonton, AB T6N 1C5	NUNA	DRAWING TITLE: **Type 8 / Jaw Run Surface / 3D Model**	
	PROJECT: Mary River Project, Baffin Island, Nunavut	DRAWN BY: gc	SCALE: 1 : 750	DATE: June 16, 2013	DRAWING NAME (YYMMDD): DE 130514 TF Tank Farm.dwg

C:\130510\1. Projects\025 TF Tank farm\CAD\3. Design\DE 130514 TF Tank Farm.dwg, 6/16/2013 4:10:31 PM, DWG To PDF.pc3

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REQUEST FOR INFORMATION

RFI NUMBER	NE-RFI-006
ISSUE DATE (YY/MM/DD)	June 24th, 2013
PRIORITY	H | | | M | X | | | L |
REQ'D RESPONSE DATE	June 26th, 2013

Baffinland Iron Mines

Subject:	Dyke Expansion Drawings	Project Zone/Area:	Dyke Expansion
Company:	Nuna East	Station/Location:	Milne
Attention:	James Cleland	Discipline:	Civil - Earthworks

AFE:		Specification Number:	
Related Drawings:	H349000-2613-10-014-0002 R.1	Related Documents:	
	H349000-2613-70-042-0003		

Related WBS Code		WBS Code Description:	

Information Request/Description of Issue/Approval Required:

In an effort to accelerate and ensure accuracy in creating our survey layout files Nuna is requesting the below drawings in CAD or LandXML format.

1. H349000-2613-10-014-0002 R.1 Milne Port – Site Preparation - Bulk Fuel Storage - Site Grading

2. H349000-2613-70-042-0003 Milne Port – Electrical Grounding Plan

Proposed Corrective Action:

Originator: Nuna

Print: Mike Price *Sign:* *Date: June 24th, 2013*

Cost Impact:	☒ No ☐ Yes	$		Summary Estimate
Detailed Estimate attached:	☒ No ☐ Yes			
Schedule Impact:	☒ No ☐ Yes	#		Number of Days
Source for Communication:	☐ Owner Change	☒ Clarification/Info		☐ Constructor Change
	☐ Vendor Change	☐ Designer Change		☐ Other

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Response

☐ Corrective Action Approved ☐ Correct as Follows:

CAD files issued to Nuna on 26 June under transmittal H349000-TR-00707-CA01

Responsible Engineer: J. Cleland 26 June 2013

Print: *Sign:* *Date:*

NUNA
NUNA EAST LTD

REQUEST FOR INFORMATION

RFI NUMBER	NE-RFI-007
ISSUE DATE (YY/MM/DD)	June 27th, 2013
PRIORITY	H X M L
REQ'D RESPONSE DATE	June 28th, 2013

Baffinland Iron Mines

Subject:	Dyke Expansion – Crusher Fines	Project Zone/Area:	Dyke Expansion
Company:	Nuna East	Station/Location:	Milne
Attention:	James Cleland	Discipline:	Civil - Earthworks

AFE:		Specification Number:	
Related Drawings:	H349000-2613-10-014-0002 R.1	Related Documents:	
	H349000-2613-70-042-0003		

Related WBS Code		WBS Code Description:	

Information Request/Description of Issue/Approval Required:

The Dyke Expansion Base calls for 32mm, **Crusher Fines**, Geo, Liner, Geo, **Crusher Fines**, 32mm. We would like to propose substituting the Crusher Fines with 32mm or converting the crusher to produce 19mm manufactured.

With the large area needed to be covered with two separate lifts of 100mm Crusher Fines, it will take an immense amount of time and has a high risk of puncturing the liner system. The ideal piece of equipment to be used for the spreading of this material would be a dozer, however with this material, you basically need to use a skid steer to mitigate any potential of hitting the liner.

The proposed 32mm or 19mm would still serve the proper design function and would allow for a dense lift allowing heavier, more efficient construction.

Proposed Corrective Action:

Originator: Nuna

Print: Kyle Kuntz *Sign:* *Date: June 27th, 2013*

Cost Impact:	☒ No ☐ Yes	$	Summary Estimate	
Detailed Estimate attached:	☒ No ☐ Yes			
Schedule Impact:	☒ No ☐ Yes	#	Number of Days	
Source for Communication:	☐ Owner Change	☒ Clarification/Info	☐ Constructor Change	
	☐ Vendor Change	☐ Designer Change	☐ Other	

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Response

☐ Corrective Action Approved ☒ Correct as Follows:

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REQUEST FOR INFORMATION

RFI NUMBER	NE-RFI-007
ISSUE DATE (YY/MM/DD)	June 27th, 2013
PRIORITY	H X M L
REQ'D RESPONSE DATE	June 28th, 2013

Baffinland Iron Mines

Material size proposed is not accepted. All liner bedding material shall be -9.5mm complying with specifications for Type 6 or Type 9 material (borrow source or quarry source respectively) or smaller (ie. sand is acceptable)

Responsible Engineer:	J Cleland	28 June 2013
	Print:	*Sign:*	*Date:*

NUNA
NUNA EAST LTD

REQUEST FOR INFORMATION

RFI NUMBER	NE-RFI-009
ISSUE DATE (YY/MM/DD)	July 8th, 2013
PRIORITY	H [ ] [ ] M [X] [ ] L [ ]
REQ'D RESPONSE DATE	July 10th, 2013

Baffinland Iron Mines

Subject:	Dyke Expansion	Project Zone/Area:	Dyke Expansion
Company:	Nuna East	Station/Location:	Milne
Attention:	James Cleland	Discipline:	Civil - Earthworks

AFE:		Specification Number:	
Related Drawings:	H349000-2613-10-035-00001	Related Documents:	

Related WBS Code		WBS Code Description:	

Information Request/Description of Issue/Approval Required:

During the initial subgrade excavation a large amount of permafrost was encountered along the south edge of the dyke expansion where it meets the existing berm. It is suspected that permafrost will also be present within the footprint of the existing berm that is required to be removed for the liner tie in, slowing down the process.

Proposed Corrective Action:

In an effort to minimize the amount of permafrost required to be removed, Nuna is proposing that the subgrade elevation within the berm footprint be raised to the elevation of the underside of sand bedding at the existing containment dyke. (see attached sketch)

Originator: Nuna

Print: Mike Price *Sign:* *Date: July 8th, 2013*

Cost Impact:	[X] No [ ] Yes	$		Summary Estimate
Detailed Estimate attached:	[X] No [ ] Yes			
Schedule Impact:	[X] No [ ] Yes	#		Number of Days
Source for Communication:	[ ] Owner Change	[X] Clarification/Info		[ ] Constructor Change
	[ ] Vendor Change	[ ] Designer Change		[ ] Other

Note: RFI's are not authorized change documents and cannot be used to direct a change in contract requirements. If Hatch response on the RFI has cost and/or schedule effect, it is the contractor's responsibility to immediately advise Hatch Work undertaken without Hatch written authorization is at the contractor's risk and expense

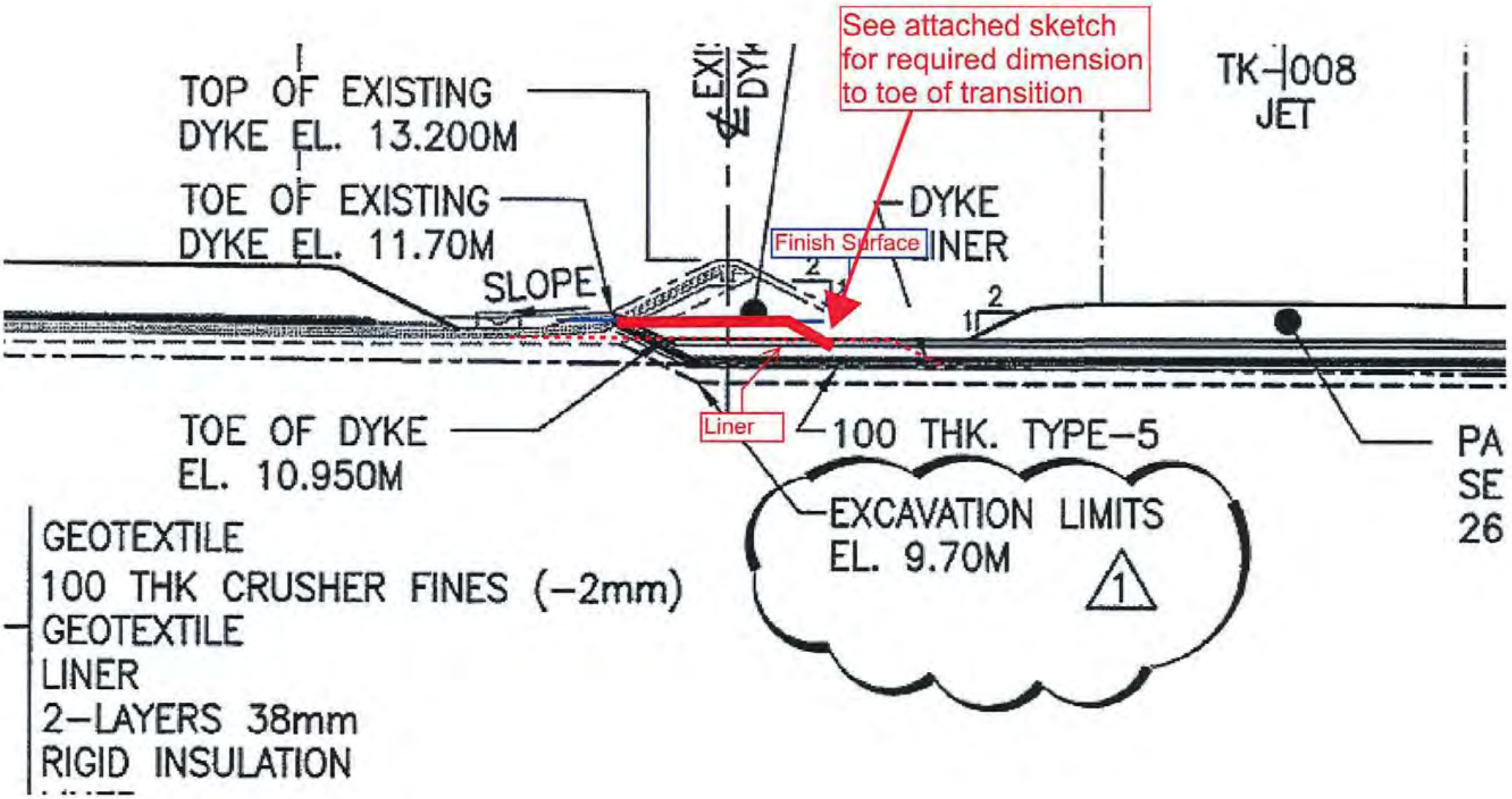
Response

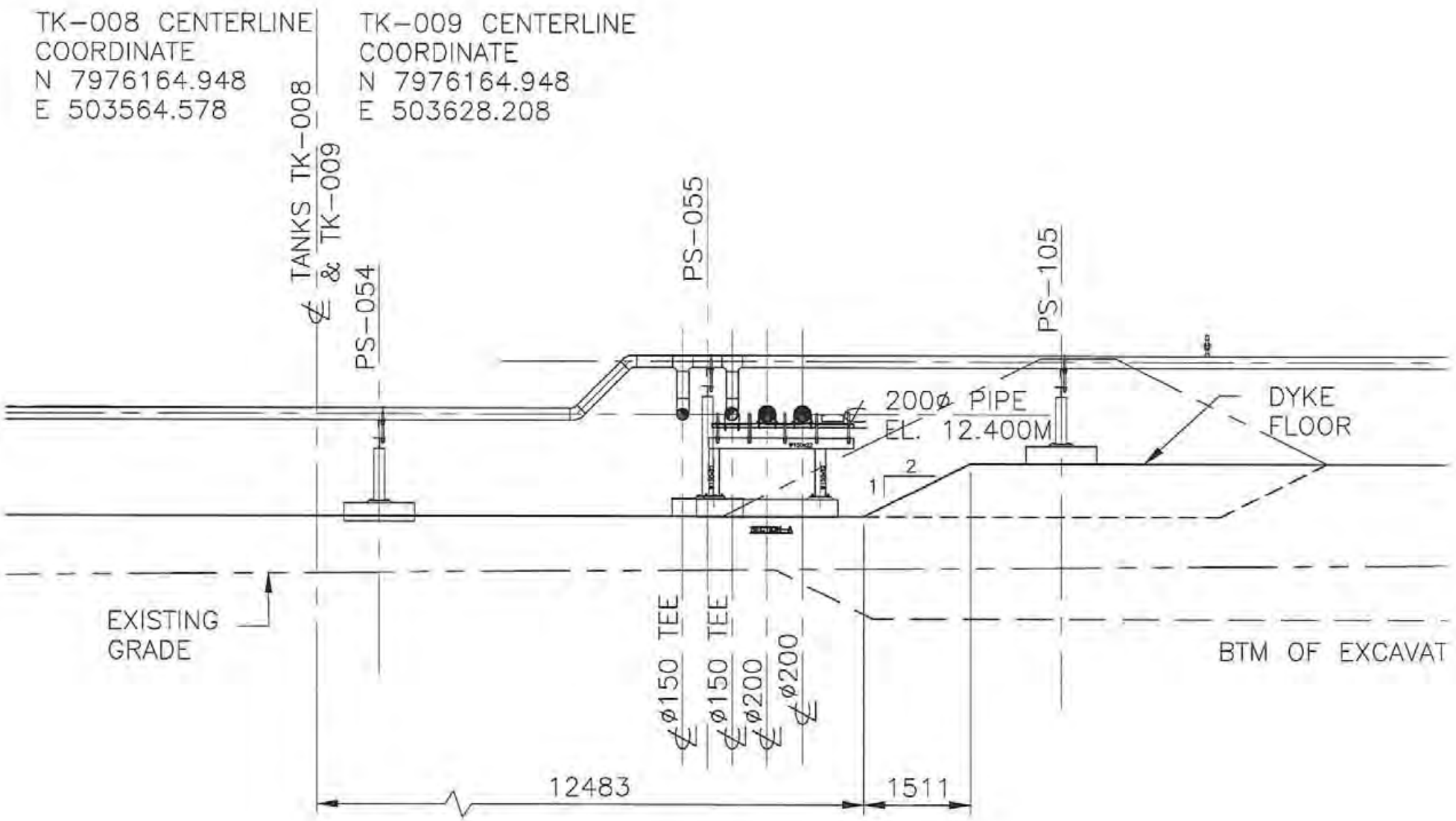
[ ] Corrective Action Approved [X] Correct as Follows:

The toe of the existing berm must be partially excavated to the new dike floor level however some of it may be left at the elevation of the existing dike floor. See attached sketch for dimensions

Responsible Engineer: J Cleland 12 July 2013

Print: *Sign:* *Date:*


See attached sketch for required dimension to toe of transition
TOP OF EXISTING DYKE EL. 13.200M
TOE OF EXISTING DYKE EL. 11.70M
SLOPE
EXI
DYK
TK-008 JET
DYKE
INER
Finish Surface
2
1
2
1
TOE OF DYKE EL. 10.950M
Liner
100 THK. TYPE-5
PA
SE
26
EXCAVATION LIMITS EL. 9.70M
1
GEOTEXTILE
100 THK CRUSHER FINES (-2mm)
GEOTEXTILE
LINER
2-LAYERS 38mm
RIGID INSULATION


TK-008 CENTERLINE
COORDINATE
N 7976164.948
E 503564.578
TK-009 CENTERLINE
COORDINATE
N 7976164.948
E 503628.208
℄ TANKS TK-008 & TK-009
PS-054
PS-055
PS-105
200ø PIPE
EL. 12.400M
DYKE
FLOOR
2
1
EXISTING
GRADE
BTM OF EXCAVAT
℄ø150 TEE
℄ø150 TEE
℄ø200
℄ø200
12483
1511

NUNA EAST LTD

Section 7

Quality Surveillance Reports

Nuna Earthworks Quality Department
Quality Surveillance Report

Project No.: H349000-YX001	**Contract No.:** N/A	**Date:** September 28, 2013
Job No.: 2611.2 Tank Farm Containment Dyke Extension	**Inspected By:** Bradford Watkin Quality Manager	
Item(s) Inspected: Damage (Tear) on tank floor liner.		
Location: Milne Inlet Port		

Comments: A repair on the area in question was completed as per the manufacturers' repair recommendations, and Layfield Quality system procedures.

Patch approximate location was as follows:
Northing 7976153 Easting 503688

Nuna Representative: BRAD WATKIN (Print Name) (Sign) SEPT 28, 2013 (Date)

Client Representative: Marlon Coakley (Print Name) (Sign) Sept 28/2013 (Date)

CERTIFICATE OF FINAL INSPECTION AND ACCEPTANCE

PROJECT NAME: Baffinland Milne Inlet Tank Farm Repair
PROJECT NUMBER: 14C-152 **DATE:** Sept 28/13
OWNER: Bim
LOCATION: Baffinland Milne Inlet.

SCOPE OF INSTALLATION(S): THE WORK

Qualify welder
Weld patch
Vac test
Logs

Part 1 – LAYFIELD ENVIRONMENTAL SYSTEMS LTD.

I, James Prince, a duly appointed representative of Layfield Environmental Systems Ltd. (LESL), have visually observed the installations (as outlined above), and have found the Work to be complete and free of defects and declare that the Work was completed in accordance with the project specifications, Layfield Environmental Systems' QC program and the terms and conditions of the contract.

Layfield Environmental Systems Representative:

Name: James Prince
Title: Proj. Sup
Date: Sept 28/13 **Signature:** James Prince

Part 2 – OWNER (or Representative)

I, BRAD WATKIN, a duly appointed representative of NUNA EAST LTD, do hereby take over and accept the installation(s) described above, and confirm that the work has been completed in accordance with the project specifications and the terms of the conditions of the contract.

I have evaluated and measured the work together with the Layfield Environmental Systems representative, and agree that the measurements shown are both true and correct, and that the installation has met our approval.

Owners Representative:

Name: BRAD WATKIN
Title: QUALITY MANAGER
Company: NUNA EAST LTD
Date: SEPT 28/13 **Signature:**

Comments:

CERTIFICATE OF ACCEPTANCE OF SOIL SUBGRADE SURFACE

PROJECT NAME: Baffin Milne Inlet Tank Farm Repair.
PROJECT NUMBER: 14C-152
OWNER: BIM
LOCATION: Milne Inlet Baffinland

I, the undersigned, a duly appointed representative of Layfield Environmental Systems Ltd. (LESL), have visually observed the soil subgrade described below, and found it to be an acceptable surface on which to install geomembrane.

This certification is based on observations of the surface of the subgrade only. No subterranean inspections or tests have been performed by Layfield Environmental Systems, and LESL makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Layfield Environmental Systems accepts no responsibility for conformance of the subgrade to this project's specifications.

The soil subgrade accepted on this date refers to its present condition. Any changes in the subgrade condition that result from the effects of inclement weather and/or other forces beyond the control of Layfield Environmental Systems and remedial work to correct the resulting deficiencies, will be the direct responsibility of the General Contractor.

Area Being Accepted: Repair on existing liner.

LAYFIELD ENVIRONMENTAL SYSTEMS REPRESENTATIVE:

Date: Sept 28/13
Signature: James Price
Name: James Price
Title: Proj Sup.

OWNERS REPRESENTATIVE:

Date: SEPT 28 2013
Signature:
Name: BRAD WATKIN
Title: QUALITY MANAGER
Company: NUNA EAST LTD

LAYFIELD

Environmental Solutions with Geosynthetics

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 14C-152 **PROJECT TITLE:** Tank Farm Repair.

OWNER: _____ **CONTRACTOR:** Nuna East Ltd

LOCATION: Baffinland Milne Inlet **SHEET NUMBER:** 1

_____ **TF - # FUSION** ✓ **TX - # = EXTRUSION** _____ **TS - # = SOLVENT**

SAMPLE NUMBER	APPROX. TIME & DATE	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS													PASS OR RE-TEST	CH'KD BY	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	WEDGE TEMP. Deg F	INSIDE PEEL MODE / STRENGTH					OUTSIDE PEEL MODE / STRENGTH					SHEAR MODE / STRENGTH					
TX1	Sept 28 0935	PX34	JP	5°c	470°	470°	✓	61	69	72	74	~~73~~						149	151		P	JP	

LS FORM 3 LAYFIELD ENVIRONMENTAL SYSTEMS

SUBMITTED BY: JPrice

DATE: Sept 28/13

LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 14C-152 **PROJECT TITLE:** Tank Farm Repair

OWNER: _____ **CONTRACTOR:** Nuna East Ltd.

LOCATION: Baffin land Milne Inlet **SHEET NUMBER:** 1

DEFECT CODE	LOG DATE	DEFECT LOCATION		DEFECT TYPE	REPAIR TYPE	WELD TECH.	REPAIR DATE	REMARKS **	TEST DATE	CHECKED BY
		SEAM OR PANEL NO.	DEFECT LOCATION DESCRIPTION							
10A	09.28	East side of dyke		EE	P	JP	09.28		09.28	SP

DEFECT TYPE: AD - ANIMAL RELATED DAMAGE; B - UNDISPERSED RESIN BEAD; BO - FUSION WELDER BURN; BS - BOOT/SKIRT FROM FML PENETRATION; CO - CHANGE OF OVERLAP; CR - CREASE; D - INSTALLATION DAMAGE; DS-# - DESTRUCTIVE TEST NUMBER; EE - EARTHWORK EQUIPMENT DAMAGE; EXT - EXTENSION; FM - FISHMOUTH; FS - FAILED SEAM LENGTH; FTS - FIELD TEST STRIP; HT - HEAT TACK BURN; IO - INSUFFICIENT OVERLAP (UNDER SPEC.); MD - MANUFACTURER/DELIVERY DAMAGE; PT - PRESSURE TEST CUT; SI - SOIL SURFACE IRREGULARITY; SL - SLAG ON TEXTURED SHEET; T - THREE PANEL INTERSECTION; VL - VACUUM TEST LEAK; WR - WRINKLE; WS - WELDER RESTART; OTHER: _____

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND/WELD

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX1	0935	JP

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.

SUBMITTED BY: _____

DATE: Sept 28/13

LAYFIELD

GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 14C-152 **PROJECT TITLE:** Tank Farm Repair

OWNER: ____________ **CONTRACTOR:** Nuna East Ltd.

LOCATION: Baffinland Milne Inlet **DATE:** Sept 28/13

VACUUM BOX ✓ **AIR LANCE** ____ **SHEET NUMBER:** 1

SEAMS									REPAIRS					
SEAM NUMBER	SEAM SECTION * FROM - TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	SEAM COMPLETE YES	CHK'D BY	REMARKS **	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	CHK'D BY	REMARKS **
	-								10A	09-28	JP	NONE	JP	
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													
	-													

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS

SUBMITTED BY: [signature]
DATE: Sept. 28/15

LS FORM 6 LAYFIELD ENVIRONMENTAL SYSTEMS

Work Site Hazard Assessment

LAYFIELD

Step # 1

Project: TANK FARM Repair	Supervisor: J Price	Date/Time: Sept 28/13 0930
Location: Milne Inlet Baffinland	Duration: ___< 1 day ✓ <1 week ___>1 week	Crew Size: 1

Assessment Team Names and Signatures: J Price James Price

Hazard Priority (Status) # 1 Imminent Danger # 2 Serious # 3 Minor # 4 O.K. # 5 Not Applicable (N/A)

ITEM #	STATUS (1-2-3-4-5)	HAZARDOUS ITEMS
1	4	Waste Disposal/Housekeeping
2	5	Material Storage/Handling
3	5	Protection to Public
4	5	Shoring/Sloping/Excavation
5	5	Water/Vibration/Erosion
6	4	Confined Space Entry
7	4	Traffic Control, Flashers, Barricades/Restrictions
8	5	Overhead Hazards
9	4	Mobile Equipment
10	5	Underground Hazards
11	4	Flammables (Fire/Explosion)
12	5	Hazardous Chemicals (WHMIS)
13	4	Communications
14	5	Dangerous Pressure
15	5	Work at Heights
16	4	High Risk Positioning
17	5	Work Over Water
18	5	Scaffolds
19	4	Hoisting/Lifting
20	5	Cables/Ropes/Chains/Slings
21	3	Vehicle/Machine Condition
22	5	Gas (Toxic or Non-Life Supporting)
23	4	Electrical Wiring & Guards
24	4	Weather Conditions
25	3	Lighting
26	5	Ventilation
27	5	Pipe Handling
28	4	Risk of Head Injury
29		Other:
30		Other:
31		Other:
32		Other:
33		Other:

Assessment Team Comments on Priority Items:

Item #	Priority	

Note: For corrective action, transfer information by Hazard Priority Number to Step #2 "Work Place Hazard Assessment Corrective Action" Form

NUNA EAST LTD

Section 8

Liner Data

LAYFIELD

CERTIFICATE OF ACCEPTANCE OF SOIL SUBGRADE SURFACE

PROJECT NAME: Baffinland MRP Mine Port Fuel Upgrade
PROJECT NUMBER: 14C-091
OWNER: WUNA Logistics
LOCATION: Baffinland NU

I, the undersigned, a duly appointed representative of Layfield Environmental Systems Ltd. (LESL), have visually observed the soil subgrade described below, and found it to be an acceptable surface on which to install geomembrane.

This certification is based on observations of the surface of the subgrade only. No subterranean inspections or tests have been performed by Layfield Environmental Systems, and LESL makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Layfield Environmental Systems accepts no responsibility for conformance of the subgrade to this project's specifications.

The soil subgrade accepted on this date refers to its present condition. Any changes in the subgrade condition that result from the effects of inclement weather and/or other forces beyond the control of Layfield Environmental Systems and remedial work to correct the resulting deficiencies, will be the direct responsibility of the General Contractor.

Area Being Accepted: I found it to be an acceptable surface on wich to install Geomembrane "63m x 130m"

LAYFIELD ENVIRONMENTAL SYSTEMS REPRESENTATIVE:

Date: 11 July 2013
Signature:
Name: Yonatan Espindola
Title: Supervisor

OWNERS REPRESENTATIVE:

Date: 12 July 2013
Signature:
Name: Mike Price
Title: Project coordinator
Company: Wunu East.

LAYFIELD

CERTIFICATE OF ACCEPTANCE OF SOIL SUBGRADE SURFACE

PROJECT NAME: Buffinland MRP Milne Post Fuel Upgrade Phase 2
PROJECT NUMBER: 14C-091
OWNER: Nuna Logistics
LOCATION: Buffinland NU

I, the undersigned, a duly appointed representative of Layfield Environmental Systems Ltd. (LESL), have visually observed the soil subgrade described below, and found it to be an acceptable surface on which to install geomembrane.

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The soil subgrade accepted on this date refers to its present condition. Any changes in the subgrade condition that result from the effects of inclement weather and/or other forces beyond the control of Layfield Environmental Systems and remedial work to correct the resulting deficiencies, will be the direct responsibility of the General Contractor.

Area Being Accepted: The rest of the Floor of the tank Farm with a little work on the west side By the Ramp.

LAYFIELD ENVIRONMENTAL SYSTEMS REPRESENTATIVE:

Date: 17-Jul-2013
Signature:
Name: Yonatan Espindola
Title: Supervisor

OWNERS REPRESENTATIVE:

Date: July 25 /2013
Signature:
Name: Kyle Runt
Title: Asst PM.
Company: Nuna.

LAYFIELD

CERTIFICATE OF ACCEPTANCE OF SOIL SUBGRADE SURFACE

PROJECT NAME: Baffinland MRP Milne Port Fuel Upgrade Phase 2
PROJECT NUMBER: 14C-091
OWNER: Nuna Logistics
LOCATION: Baffinland NU

I, the undersigned, a duly appointed representative of Layfield Environmental Systems Ltd. (LESL), have visually observed the soil subgrade described below, and found it to be an acceptable surface on which to install geomembrane.

This certification is based on observations of the surface of the subgrade only. No subterranean inspections or tests have been performed by Layfield Environmental Systems, and LESL makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Layfield Environmental Systems accepts no responsibility for conformance of the subgrade to this project's specifications.

The soil subgrade accepted on this date refers to its present condition. Any changes in the subgrade condition that result from the effects of inclement weather and/or other forces beyond the control of Layfield Environmental Systems and remedial work to correct the resulting deficiencies, will be the direct responsibility of the General Contractor.

Area Being Accepted: East Fuel Pad with a little work to do on the south end.

LAYFIELD ENVIRONMENTAL SYSTEMS REPRESENTATIVE:

Date: 22-Jul 2013
Signature:
Name: Yonatan Topindak
Title: Supervisor

OWNERS REPRESENTATIVE:

Date: 22-J-1-2013
Signature:
Name: Kyle Kuntz
Title: ASST PM
Company: NUNA

LAYFIELD

CERTIFICATE OF ACCEPTANCE OF SOIL SUBGRADE SURFACE

PROJECT NAME: Baffinland MRP Milne Port Fuel Upgrade Phase 2
PROJECT NUMBER: 14C-091
OWNER: Nun. Logistics
LOCATION: Baffinland NU

I, the undersigned, a duly appointed representative of Layfield Environmental Systems Ltd. (LESL), have visually observed the soil subgrade described below, and found it to be an acceptable surface on which to install geomembrane.

This certification is based on observations of the surface of the subgrade only. No subterranean inspections or tests have been performed by Layfield Environmental Systems, and LESL makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Layfield Environmental Systems accepts no responsibility for conformance of the subgrade to this project's specifications.

The soil subgrade accepted on this date refers to its present condition. Any changes in the subgrade condition that result from the effects of inclement weather and/or other forces beyond the control of Layfield Environmental Systems and remedial work to correct the resulting deficiencies, will be the direct responsibility of the General Contractor.

Area Being Accepted: West Fuel pad found it to be acceptable to install Liner

LAYFIELD ENVIRONMENTAL SYSTEMS REPRESENTATIVE:

Date: 23 Jul - 2013
Signature:
Name: Yonatan Espindola
Title: Supervisor

OWNERS REPRESENTATIVE:

Date: 23 - Jul - 2013
Signature:
Name: Kyle O Kunz
Title: Ass. PM.
Company: NUNA.

LAYFIELD

CERTIFICATE OF ACCEPTANCE OF SOIL SUBGRADE SURFACE

PROJECT NAME: Baffinland MRP Milne Port Fuel Upgrade Phase 2
PROJECT NUMBER: 14C-091
OWNER: Nuna Logistics
LOCATION: Baffinland NU

I, the undersigned, a duly appointed representative of Layfield Environmental Systems Ltd. (LESL), have visually observed the soil subgrade described below, and found it to be an acceptable surface on which to install geomembrane.

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The soil subgrade accepted on this date refers to its present condition. Any changes in the subgrade condition that result from the effects of inclement weather and/or other forces beyond the control of Layfield Environmental Systems and remedial work to correct the resulting deficiencies, will be the direct responsibility of the General Contractor.

Area Being Accepted: south side of the tank Farm with hand work along the existing liner.

LAYFIELD ENVIRONMENTAL SYSTEMS REPRESENTATIVE:

Date: 24 Jul 2013
Signature:
Name: Yonatan Espindola
Title: Supervisor

OWNERS REPRESENTATIVE:

Date: 24 Jul 2013.
Signature:
Name: Kyle Kuntz
Title: Ass PM
Company: NUNA.

LAYFIELD GEOSYNTHETICS INVENTORY LOG

PROJECT NUMBER: 14C-091
PROJECT TITLE: Baffinland MRP Mile Port Fuel Upgrade
OWNER:
CONTRACTOR: Nuna Logistics
LOCATION: Marryn River NU
SHEET NUMBER: 1

MATERIAL TYPE: GEOMEMBRANE
GEONET GEOTEXTILE OTHER:
DATE OF ARRIVAL:
DATE OF INVENTORY: 10-Jul-13
UNLOADING METHOD: loader
INVENTORY BY: Y.E
PRODUCT TYPE: Hazgard 535
CONDITION IN TRUCK:
MATERIAL MANUFACTURER: Layfield

Panel / Roll Number	Material Dimensions			QC Certificate Available	Conf Sample Removed	Other	Remarks
	Thickness or Weight	Length	Width				
300 6881	35 mil	60.9m	14.63				
300 6862	35 mil	60.9m	14.63				
300 6864	35 mil	60.9m	14.63				
300 6861	35 mil	60.9m	14.63				
(1 off 7)257 273	35 mil	60.9m	14.63				
257 273	35 mil	60.9m	14.63				
300 6852	35 mil	60.9m	14.63				
257 273	35 mil	60.9m	14.63				
300 392	35 mil	60.9m	14.63				
300 6901	35 mil	60.9m	14.63				
300 6854	35 mil	60.9m	14.63				
300 3851	35 mil	60.9m	14.63				
300 6882	35 mil	60.9m	14.63				
300 6893	35 mil	60.9m	14.63				
300 6884	35 mil	60.9m	14.63				
300 6904	35 mil	60.9m	14.63				
300 6802	35 mil	60.9m	14.63				
300 6903	35 mil	60.9m	14.63				
257 273	35 mil	60.9m	14.63				
300 6921	35 mil	60.9m	14.63				
***300 689	35 mil	60.9m	14.63				
300 6863	35 mil	60.9m	14.63				
257 273	35 mil	60.9m	14.63				
300 6853	35 mil	60.9m	14.63				

SUBMITTED BY: Y.E
DATE 11 July,2013

LAYFIELD EOSYNTHETICS INVENTORY LOG

PROJECT NUMBER: 14C-091
PROJECT TITLE: Baffinland MRP Mile Port Fuel Upgrade
OWNER:
CONTRACTOR: Nuna Logistics
LOCATION: Marryn River NU
SHEET NUMBER: 2

MATERIAL TYPE: GEOMEMBRANE
GEONET GEOTEXTILE OTHER:
DATE OF ARRIVAL:
DATE OF INVENTORY: 10-Jul-13
UNLOADING METHOD: Loader
INVENTORY BY: Y.E
PRODUCT TYPE: Hazgard 535
CONDITION IN TRUCK:
MATERIAL MANUFACTURER: Layfield

Panel / Roll Number	Material Dimensions			QC Certificate Available	Conf Sample Removed	Other	Remarks
	Thickness or Weight	Length	Width				
300 6853	35 mil	60.9m	14.63m				
300 6894	35 mil	60.9m	14.63m				
257 273	35 mil	60.9m	14.63m				

SUBMITTED BY: Y.E
DATE 11 July, 2013

LAYFIELD GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 14C-091 **PROJECT TITLE:** Baffinland MRP Milne Port Fauel Upgrade Phase 2

OWNER: Nuna Logistics **CONTRACTOR:** Nuna Logistics

LOCATION: Baffinland NU

GEOMEMBRANE **SECONDARY** **PRIMARY** **CLOSURE** **OTHER**

SUBGRADE CONDITION (SURFACE COMPACTION, PROTRUSIONS, DESICCATION, EXCESSIVE MOISTURE):

REMARKS: Installation of Geo textile LP 12 under lay , Hazgard 535 and geotextile LP 12 over lay

DATE: 13-Jul-13

SHEET NUMBER: 1

DEPLOYMENT EQUIPMENT: Bobcat and spreader bar

	PANEL LOCATION REFERENCE NUMBER 1	PANEL LOCATION REFERENCE NUMBER 2	PANEL LOCATION REFERENCE NUMBER 3
PANEL/ROLL NUMBER			3006862
DEPLOYMENT LENGTH	60.96m x 14.20m	60.96m x 14.33m	60.9m x 14.30m
AMBIENT AIR TEMP.	4C	5C	5 C
VISUAL OBSERVATION	Good	Good	GOOD
OBSERVED OVERLAP	5"	5"	5"
CHECKED BY	Y.E	Y.E	Y.E
ADJACENT PANEL	N= Trench S= 10,21 E= trench W= 2	N= Trench S= 10,11 E= 1 W= 3	N= Trench S= 12,11 E= 2 W= 4

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER 4	PANEL LOCATION REFERENCE NUMBER 5	PANEL LOCATION REFERENCE NUMBER 6
PANEL/ROLL NUMBER	3006861	(1 off 7) 257273	3006852
DEPLOYMENT LENGTH	60.96m x 14.40m	60.96m x 14.33m	60.96m x 14.33m
AMBIENT AIR TEMP.	5C	8C	8C
VISUAL OBSERVATION	Good	Good	Good
OBSERVED OVERLAP	5"	5"	5"
CHECKED BY	Y.E	Y.E	Y.E
ADJACENT PANEL	N= Trench S= 12,13 E= 3 W= 5	N= Trench S= 13,14 E= 4 W= 6	N= Trench S= 14,15 E= 5 W= 7

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER			
DEPLOYMENT LENGTH			
AMBIENT AIR TEMP.			
VISUAL OBSERVATION			
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= S= E= W=	N= S= E= W=	N= S= E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER			
DEPLOYMENT LENGTH			
AMBIENT AIR TEMP.			
VISUAL OBSERVATION			
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= S= E= W=	N= S= E= W=	N= S= E= W=

SUBMITTED BY: Y.E

DATE: 13 July, 2013