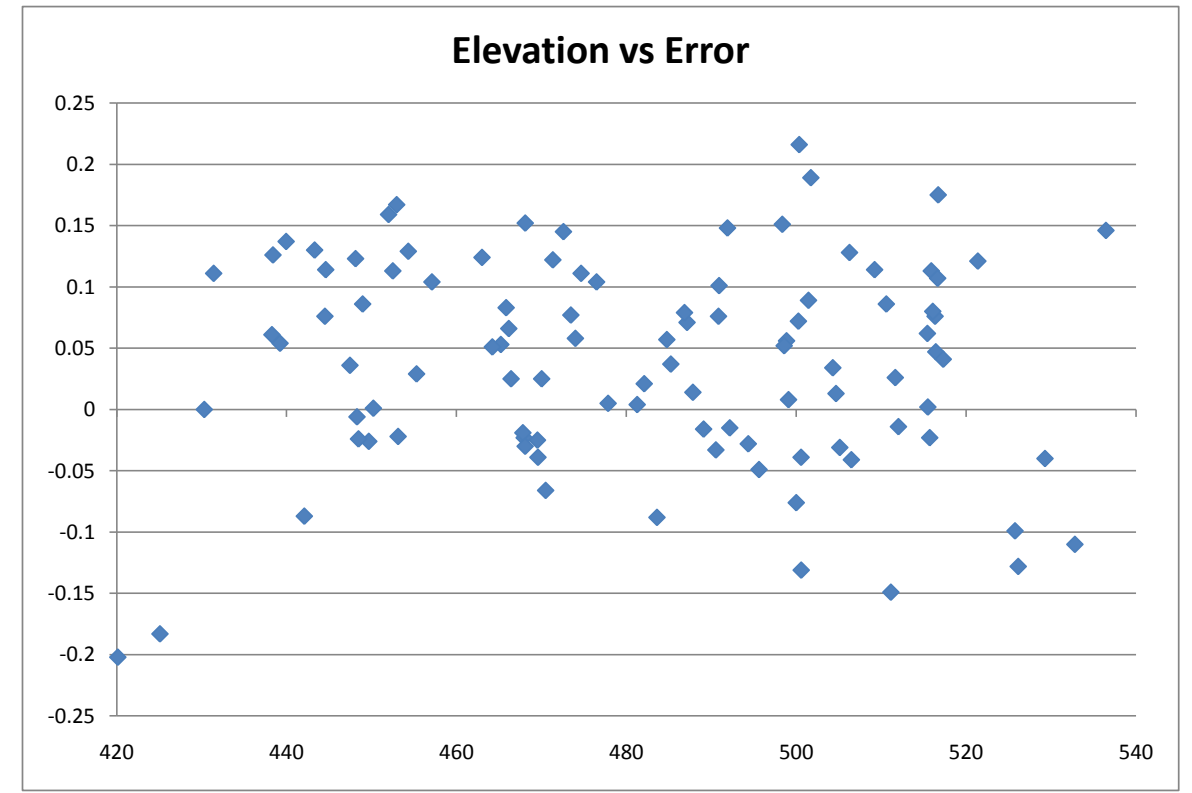
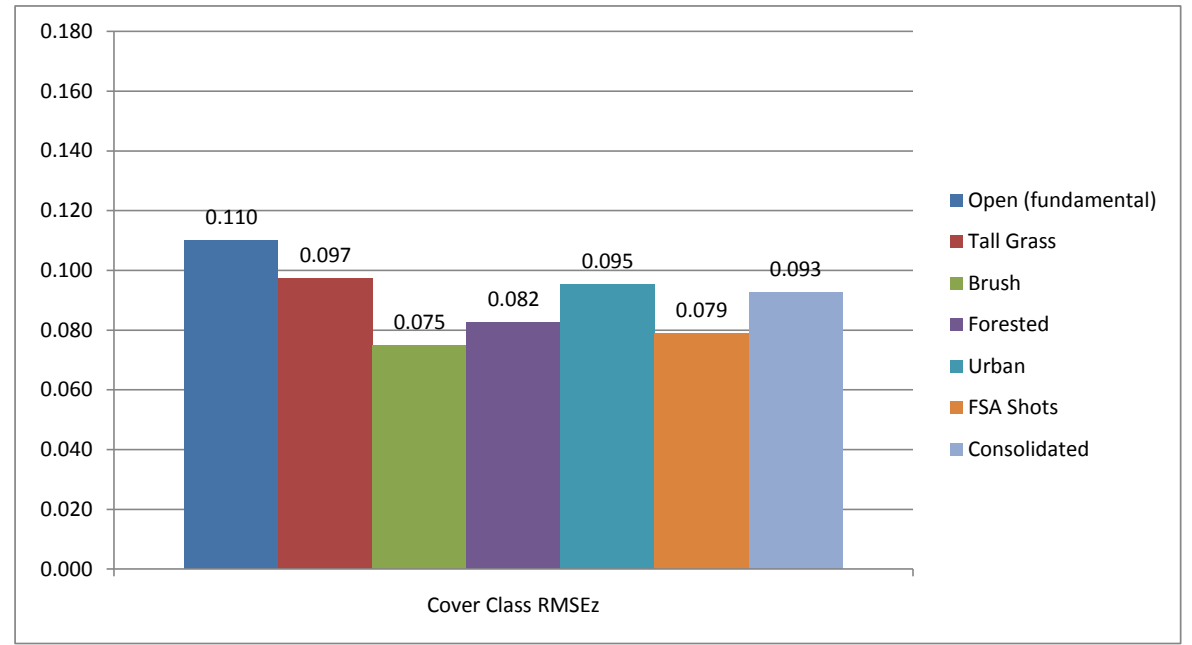


Murray County, MN Vertical Validation Report

Point Code	X	Y	Z	Surface Z	Z-Error	Z-Error Squared	Absolute Z-Error
FSA Target 1 Murray-5301	300788.244	4868765.237	447.444	447.408	0.036	0.001296	0.036
FSA Target 2 Murray-5302	301300.358	4895048.26	408.961	408.954	0.007	0.000049	0.007
FSA Target 3 Murray-5303	265628.384	4894645.707	506.252	506.124	0.128	0.016384	0.128
FSA Target 4 Fenton Twp-5304	265680.365	4868063.001	526.116	526.244	-0.128	0.016384	0.128
FSA Target 601 Slayton-5300	280687.6	4873028.365	484.75	484.693	0.057	0.003249	0.057
L10-5260	261432.623	4893973.534	515.878	515.765	0.113	0.012769	0.113
L10-5261	260312.388	4883570.839	510.588	510.502	0.086	0.007396	0.086
L10-5262	257458.906	4873736.257	542.791	542.764	0.027	0.000729	0.027
L10-5263	268738.002	4873564.047	511.643	511.617	0.026	0.000676	0.026
L10-5264	277908.237	4873223.739	487.128	487.057	0.071	0.005041	0.071
L10-5265	286801.882	4874539.472	476.477	476.373	0.104	0.010816	0.104
L10-5266	294723.713	4872695.986	444.496	444.42	0.076	0.005776	0.076
L10-5267	297387.972	4862935.776	452.944	452.777	0.167	0.027889	0.167
L10-5268	286276.472	4863285.879	471.332	471.21	0.122	0.014884	0.122
L10-5269	280539.934	4866686.917	474.656	474.545	0.111	0.012321	0.111
L10-5270	268346.551	4863536.344	516.631	516.524	0.107	0.011449	0.107
L10-5271	269011.272	4892912.603	501.705	501.516	0.189	0.035721	0.189
L10-5272	257136.063	4866797.405	491.889	491.741	0.148	0.021904	0.148
L10-5273	277663.563	4892624.587	465.832	465.749	0.083	0.006889	0.083
L10-5274	287817.291	4892009.497	448.106	447.983	0.123	0.015129	0.123
L10-5275	298235.766	4892011.294	431.4	431.289	0.111	0.012321	0.111
L10-5276	297984.632	4882818.11	438.383	438.257	0.126	0.015876	0.126
L10-5277	288359.203	4883007.876	452.492	452.379	0.113	0.012769	0.113
L10-5278	279112.023	4883662.421	486.828	486.749	0.079	0.006241	0.079
L10-5279	269655.775	4885643.136	500.238	500.166	0.072	0.005184	0.072
L2T-5280	261415.462	4894134.878	516.694	516.519	0.175	0.030625	0.175
L2T-5281	260322.933	4883557.998	509.208	509.094	0.114	0.012996	0.114
L2T-5282	258494.69	4873949.574	581.48	581.298	0.182	0.033124	0.182
L2T-5283	268737.943	4873557.026	511.123	511.272	-0.149	0.022201	0.149
L2T-5284	278101.638	4873247.223	483.586	483.674	-0.088	0.007744	0.088
L2T-5285	285490.158	4872973.451	467.955	467.978	-0.023	0.000529	0.023
L2T-5286	295656.789	4872632.648	439.932	439.795	0.137	0.018769	0.137
L2T-5287	297401.494	4862937.635	451.992	451.833	0.159	0.025281	0.159
L2T-5288	286273.781	4863266.979	470.013	469.988	0.025	0.000625	0.025
L2T-5289	280544.861	4866677.941	473.986	473.928	0.058	0.003364	0.058
L2T-5290	268731.404	4863532.097	516.327	516.251	0.076	0.005776	0.076
L2T-5291	269082.739	4892926.686	501.425	501.336	0.089	0.007921	0.089
L2T-5292	257104.499	4866778.135	490.829	490.753	0.076	0.005776	0.076
L2T-5293	276774.305	4892628.266	481.258	481.254	0.004	0.000016	0.004
L2T-5294	287708.717	4892202.027	449.662	449.688	-0.026	0.000676	0.026
L2T-5295	298215.159	4892013.253	430.295	430.295	0	0	0
L2T-5296	298019.335	4882652.191	439.214	439.16	0.054	0.002916	0.054
L2T-5297	288340.024	4882774.956	448.94	448.854	0.086	0.007396	0.086
L2T-5298	279105.555	4883625.273	487.815	487.801	0.014	0.000196	0.014
L2T-5299	269701.407	4885653.501	498.842	498.786	0.056	0.003136	0.056
L3B-5220	261449.748	4894043.446	516.413	516.366	0.047	0.002209	0.047
L3B-5221	261108.621	4886789.449	506.472	506.513	-0.041	0.001681	0.041
L3B-5222	257409.731	4871751.706	529.267	529.307	-0.04	0.0016	0.04
L3B-5223	269434.456	4873573.094	525.737	525.836	-0.099	0.009801	0.099
L3B-5225	285414.34	4873036.231	467.803	467.822	-0.019	0.000361	0.019



L3B-5226	294773.347	4872419.666	438.26	438.199	0.061	0.003721	0.061
L3B-5227	294112.793	4864111.554	448.449	448.473	-0.024	0.000576	0.024
L3B-5228	286286.078	4863029.243	469.577	469.616	-0.039	0.001521	0.039
L3B-5229	280568.06	4866622.912	473.45	473.373	0.077	0.005929	0.077
L3B-5230	268769.219	4863507.84	516.053	515.973	0.08	0.0064	0.08
L3B-5231	270481.84	4894393.817	500.553	500.592	-0.039	0.001521	0.039
L3B-5232	257131.48	4866764.503	490.898	490.797	0.101	0.010201	0.101
L3B-5233	277670.678	4892550.804	466.413	466.388	0.025	0.000625	0.025
L3B-5234	287608.792	4892205.13	453.115	453.137	-0.022	0.000484	0.022
L3B-5235	298220.661	4892430.987	420.118	420.32	-0.202	0.040804	0.202
L3B-5236	299682.497	4881806.085	443.286	443.156	0.13	0.0169	0.13
L3B-5237	288282.868	4882771.233	448.275	448.281	-0.006	0.000036	0.006
L3B-5238	278002.829	4885339.26	495.601	495.65	-0.049	0.002401	0.049
L3B-5239	269674.321	4885675.001	499.074	499.066	0.008	0.000064	0.008
L4F-5240	261515.484	4894107.366	517.286	517.245	0.041	0.001681	0.041
L4F-5241	260233.418	4883538.781	512.013	512.027	-0.014	0.000196	0.014
L4F-5242	257709.646	4873942.434	549.367	549.429	-0.062	0.003844	0.062
L4F-5243	268713.448	4873933.824	515.695	515.718	-0.023	0.000529	0.023
L4F-5244	277389.54	4873202.21	492.157	492.172	-0.015	0.000225	0.015
L4F-5245	287050.927	4874497.332	477.835	477.83	0.005	0.000025	0.005
L4F-5246	296679.506	4872588.76	442.073	442.16	-0.087	0.007569	0.087
L4F-5247	297415.704	4863278.076	455.287	455.258	0.029	0.000841	0.029
L4F-5248	287715.23	4862304.58	470.48	470.546	-0.066	0.004356	0.066
L4F-5249	277995.587	4864577.781	494.337	494.365	-0.028	0.000784	0.028
L4F-5250	268706.887	4863557.572	515.476	515.474	0.002	0.000004	0.002
L4F-5251	268640.605	4892894.096	500.568	500.699	-0.131	0.017161	0.131
L4F-5252	258668.986	4865399.149	536.44	536.294	0.146	0.021316	0.146
L4F-5253	276573.672	4892394.024	485.22	485.183	0.037	0.001369	0.037
L4F-5254	287415.543	4892252.08	472.577	472.432	0.145	0.021025	0.145
L4F-5255	298196.516	4892123.103	425.078	425.261	-0.183	0.033489	0.183
L4F-5256	297725.897	4882320.735	444.591	444.477	0.114	0.012996	0.114
L4F-5257	288392.023	4883136.44	450.203	450.202	0.001	0.000001	0.001
L4F-5258	278681.746	4883845.392	498.563	498.511	0.052	0.002704	0.052
L4F-5259	269516.443	4885744.246	499.983	500.059	-0.076	0.005776	0.076
L5U-5200	263199.956	4875792.126	504.664	504.651	0.013	0.000169	0.013
L5U-5201	263137.009	4875899.49	504.287	504.253	0.034	0.001156	0.034
L5U-5202	263327.643	4868677.861	532.786	532.896	-0.11	0.0121	0.11
L5U-5203	263298.431	4868227.061	505.111	505.142	-0.031	0.000961	0.031
L5U-5204	276195.145	4866281.606	500.333	500.117	0.216	0.046656	0.216
L5U-5205	276457.807	4865907.071	498.341	498.19	0.151	0.022801	0.151
L5U-5206	282834.621	4862747.217	482.088	482.067	0.021	0.000441	0.021
L5U-5207	290879.147	4860924.456	465.207	465.154	0.053	0.002809	0.053
L5U-5208	291075.078	4860759.459	466.143	466.077	0.066	0.004356	0.066
L5U-5209	287742.69	4869596.755	469.517	469.542	-0.025	0.000625	0.025
L5U-5210	287763.427	4869471.364	468.069	468.099	-0.03	0.0009	0.03
L5U-5211	294158.897	4862781.874	454.314	454.185	0.129	0.016641	0.129
L5U-5212	295740.798	4880882.48	468.08	467.928	0.152	0.023104	0.152
L5U-5213	295746.088	4881055.375	462.992	462.868	0.124	0.015376	0.124
L5U-5214	286489.155	4882747.435	464.206	464.155	0.051	0.002601	0.051
L5U-5215	286504.135	4883227.001	457.094	456.99	0.104	0.010816	0.104
L5U-5216	278968.136	4874290.054	490.523	490.556	-0.033	0.001089	0.033
L5U-5217	278944.641	4873945.96	489.079	489.095	-0.016	0.000256	0.016
L5U-5218	271204.339	4875947.255	521.361	521.24	0.121	0.014641	0.121
L5U-5219	271208.981	4876142.777	515.422	515.36	0.062	0.003844	0.062

Mean Squared Error	0.009
Z-RMSE	0.093
NSSDA	0.182
Min Z-Error	0
Max Z-Error	0.216

Point Code	X	Y	Z	Surface Z	Z-Error	Z-Error Squared	Absolute Z-Error
L10-5260	261432.6	4893974	515.878	515.765	0.113	0.012769	0.113
L10-5261	260312.4	4883571	510.588	510.502	0.086	0.007396	0.086
L10-5262	257458.9	4873736	542.791	542.764	0.027	0.000729	0.027
L10-5263	268738	4873564	511.643	511.617	0.026	0.000676	0.026
L10-5264	277908.2	4873224	487.128	487.057	0.071	0.005041	0.071
L10-5265	286801.9	4874539	476.477	476.373	0.104	0.010816	0.104
L10-5266	294723.7	4872696	444.496	444.42	0.076	0.005776	0.076
L10-5267	297388	4862936	452.944	452.777	0.167	0.027889	0.167
L10-5268	286276.5	4863286	471.332	471.21	0.122	0.014884	0.122
L10-5269	280539.9	4866687	474.656	474.545	0.111	0.012321	0.111
L10-5270	268346.6	4863536	516.631	516.524	0.107	0.011449	0.107
L10-5271	269011.3	4892913	501.705	501.516	0.189	0.035721	0.189
L10-5272	257136.1	4866797	491.889	491.741	0.148	0.021904	0.148
L10-5273	277663.6	4892625	465.832	465.749	0.083	0.006889	0.083
L10-5274	287817.3	4892009	448.106	447.983	0.123	0.015129	0.123
L10-5275	298235.8	4892011	431.4	431.289	0.111	0.012321	0.111
L10-5276	297984.6	4882818	438.383	438.257	0.126	0.015876	0.126
L10-5277	288359.2	4883008	452.492	452.379	0.113	0.012769	0.113
L10-5278	279112	4883662	486.828	486.749	0.079	0.006241	0.079
L10-5279	269655.8	4885643	500.238	500.166	0.072	0.005184	0.072
					Mean Squared Error	0.012	
					Z-RMSE	0.110	
					NSSDA	0.216	
					Min Z-Error	0.026	
					Max Z-Error	0.189	

Point Code	X	Y	Z	Surface Z	Z-Error	Z-Error Squared	Absolute Z-Error
L2T-5280	261415.5	4894135	516.694	516.519	0.175	0.030625	0.175
L2T-5281	260322.9	4883558	509.208	509.094	0.114	0.012996	0.114
L2T-5282	258494.7	4873950	581.48	581.298	0.182	0.033124	0.182
L2T-5283	268737.9	4873557	511.123	511.272	-0.149	0.022201	0.149
L2T-5284	278101.6	4873247	483.586	483.674	-0.088	0.007744	0.088
L2T-5285	285490.2	4872973	467.955	467.978	-0.023	0.000529	0.023
L2T-5286	295656.8	4872633	439.932	439.795	0.137	0.018769	0.137
L2T-5287	297401.5	4862938	451.992	451.833	0.159	0.025281	0.159
L2T-5288	286273.8	4863267	470.013	469.988	0.025	0.000625	0.025
L2T-5289	280544.9	4866678	473.986	473.928	0.058	0.003364	0.058
L2T-5290	268731.4	4863532	516.327	516.251	0.076	0.005776	0.076
L2T-5291	269082.7	4892927	501.425	501.336	0.089	0.007921	0.089
L2T-5292	257104.5	4866778	490.829	490.753	0.076	0.005776	0.076
L2T-5293	276774.3	4892628	481.258	481.254	0.004	0.000016	0.004
L2T-5294	287708.7	4892202	449.662	449.688	-0.026	0.000676	0.026
L2T-5295	298215.2	4892013	430.295	430.295	0	0	0
L2T-5296	298019.3	4882652	439.214	439.16	0.054	0.002916	0.054
L2T-5297	288340	4882775	448.94	448.854	0.086	0.007396	0.086
L2T-5298	279105.6	4883625	487.815	487.801	0.014	0.000196	0.014
L2T-5299	269701.4	4885654	498.842	498.786	0.056	0.003136	0.056
					Mean Squared Error	0.009	
					Z-RMSE	0.097	
					NSSDA	0.191	
					Min Z-Error	0	
					Max Z-Error	0.182	

Point Code	X	Y	Z	Surface Z	Z-Error	Z-Error Squared	Absolute Z-Error
L3B-5220	261449.748	4894043.446	516.413	516.366	0.047	0.002209	0.047
L3B-5221	261108.621	4886789.449	506.472	506.513	-0.041	0.001681	0.041
L3B-5222	257409.731	4871751.706	529.267	529.307	-0.04	0.0016	0.04
L3B-5223	269434.456	4873573.094	525.737	525.836	-0.099	0.009801	0.099
L3B-5225	285414.34	4873036.231	467.803	467.822	-0.019	0.000361	0.019
L3B-5226	294773.347	4872419.666	438.26	438.199	0.061	0.003721	0.061
L3B-5227	294112.793	4864111.554	448.449	448.473	-0.024	0.000576	0.024
L3B-5228	286286.078	4863029.243	469.577	469.616	-0.039	0.001521	0.039
L3B-5229	280568.06	4866622.912	473.45	473.373	0.077	0.005929	0.077
L3B-5230	268769.219	4863507.84	516.053	515.973	0.08	0.0064	0.08
L3B-5231	270481.84	4894393.817	500.553	500.592	-0.039	0.001521	0.039
L3B-5232	257131.48	4866764.503	490.898	490.797	0.101	0.010201	0.101
L3B-5233	277670.678	4892550.804	466.413	466.388	0.025	0.000625	0.025
L3B-5234	287608.792	4892205.13	453.115	453.137	-0.022	0.000484	0.022
L3B-5235	298220.661	4892430.987	420.118	420.32	-0.202	0.040804	0.202
L3B-5236	299682.497	4881806.085	443.286	443.156	0.13	0.0169	0.13
L3B-5237	288282.868	4882771.233	448.275	448.281	-0.006	0.000036	0.006
L3B-5238	278002.829	4885339.26	495.601	495.65	-0.049	0.002401	0.049
L3B-5239	269674.321	4885675.001	499.074	499.066	0.008	0.000064	0.008
					Mean Squared Error	0.006	
					Z-RMSE	0.075	
					NSSDA	0.147	
					Min Z-Error	0.006	
					Max Z-Error	0.202	

Point Code	X	Y	Z	Surface Z	Z-Error	Z-Error Squared	Absolute Z-Error
L4F-5240	261515.5	4894107	517.286	517.245	0.041	0.001681	0.041
L4F-5241	260233.4	4883539	512.013	512.027	-0.014	0.000196	0.014
L4F-5242	257709.6	4873942	549.367	549.429	-0.062	0.003844	0.062
L4F-5243	268713.4	4873934	515.695	515.718	-0.023	0.000529	0.023
L4F-5244	277389.5	4873202	492.157	492.172	-0.015	0.000225	0.015
L4F-5245	287050.9	4874497	477.835	477.83	0.005	0.000025	0.005
L4F-5246	296679.5	4872589	442.073	442.16	-0.087	0.007569	0.087
L4F-5247	297415.7	4863278	455.287	455.258	0.029	0.000841	0.029
L4F-5248	287715.2	4862305	470.48	470.546	-0.066	0.004356	0.066
L4F-5249	277995.6	4864578	494.337	494.365	-0.028	0.000784	0.028
L4F-5250	268706.9	4863558	515.476	515.474	0.002	0.000004	0.002
L4F-5251	268640.6	4892894	500.568	500.699	-0.131	0.017161	0.131
L4F-5252	258669	4865399	536.44	536.294	0.146	0.021316	0.146
L4F-5253	276573.7	4892394	485.22	485.183	0.037	0.001369	0.037
L4F-5254	287415.5	4892252	472.577	472.432	0.145	0.021025	0.145
L4F-5255	298196.5	4892123	425.078	425.261	-0.183	0.033489	0.183
L4F-5256	297725.9	4882321	444.591	444.477	0.114	0.012996	0.114
L4F-5257	288392	4883136	450.203	450.202	0.001	0.000001	0.001
L4F-5258	278681.7	4883845	498.563	498.511	0.052	0.002704	0.052
L4F-5259	269516.4	4885744	499.983	500.059	-0.076	0.005776	0.076
					Mean Squared Error	0.007	
					Z-RMSE	0.082	
					NSSDA	0.162	
					Min Z-Error	0.001	
					Max Z-Error	0.183	

Point Code	X	Y	Z	Surface Z	Z-Error	Z-Error Squared	Absolute Z-Error
L5U-5200	263200	4875792	504.664	504.651	0.013	0.000169	0.013
L5U-5201	263137	4875899	504.287	504.253	0.034	0.001156	0.034
L5U-5202	263327.6	4868678	532.786	532.896	-0.11	0.0121	0.11
L5U-5203	263298.4	4868227	505.111	505.142	-0.031	0.000961	0.031
L5U-5204	276195.1	4866282	500.333	500.117	0.216	0.046656	0.216
L5U-5205	276457.8	4865907	498.341	498.19	0.151	0.022801	0.151
L5U-5206	282834.6	4862747	482.088	482.067	0.021	0.000441	0.021
L5U-5207	290879.1	4860924	465.207	465.154	0.053	0.002809	0.053
L5U-5208	291075.1	4860759	466.143	466.077	0.066	0.004356	0.066
L5U-5209	287742.7	4869597	469.517	469.542	-0.025	0.000625	0.025
L5U-5210	287763.4	4869471	468.069	468.099	-0.03	0.0009	0.03
L5U-5211	294158.9	4862782	454.314	454.185	0.129	0.016641	0.129
L5U-5212	295740.8	4880882	468.08	467.928	0.152	0.023104	0.152
L5U-5213	295746.1	4881055	462.992	462.868	0.124	0.015376	0.124
L5U-5214	286489.2	4882747	464.206	464.155	0.051	0.002601	0.051
L5U-5215	286504.1	4883227	457.094	456.99	0.104	0.010816	0.104
L5U-5216	278968.1	4874290	490.523	490.556	-0.033	0.001089	0.033
L5U-5217	278944.6	4873946	489.079	489.095	-0.016	0.000256	0.016
L5U-5218	271204.3	4875947	521.361	521.24	0.121	0.014641	0.121
L5U-5219	271209	4876143	515.422	515.36	0.062	0.003844	0.062
					Mean Squared Error	0.009	
					Z-RMSE	0.095	
					NSSDA	0.187	
					Min Z-Error	0.013	
					Max Z-Error	0.216	

Point Code	X	Y	Z	Surface Z	Z-Error	Z-Error Squared	Absolute Z-Error
FSA Target 1 Murray-5301	300788.2	4868765	447.444	447.408	0.036	0.001296	0.036
FSA Target 2 Murray-5302	301300.4	4895048	408.961	408.954	0.007	0.000049	0.007
FSA Target 3 Murray-5303	265628.4	4894646	506.252	506.124	0.128	0.016384	0.128
FSA Target 4 Fenton Twp-5304	265680.4	4868063	526.116	526.244	-0.128	0.016384	0.128
FSA Target 601 Slayton-5300	280687.6	4873028	484.75	484.693	0.057	0.003249	0.057
						0	0
					Mean Squared Error	0.006	
					Z-RMSE	0.079	
					NSSDA	0.155	
					Min Z-Error	0	
					Max Z-Error	0.128	