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## **SECTION 2: GROUND CONTROL COORDINATE LISTING**

This section contains a complete listing of the Final UTM 18 Coordinates, Orthometric Heights, Latitude, Longitude, Station Descriptions and Locations for the USGS/NGTOC Long Island New York Sandy Lidar Project:

# USGS/NGTOC

## Long Island, New York Sandy Lidar

Horizontal Datum: NAD 83 (2011), Vertical Datum: NAVD 1988  
Units: Meters, Coordinate Zone: UTM 18, Geoid Model: Geoid 12A  
Date: April 2014

### Lidar Quality Control Check Points

Point No.	Northing	Easting	Elev.	Latitude	Longitude	Surface Desc.	Location
2001	4571625.437	750404.645	11.679	41°15'26.14707" N	72°00'40.02370" W	Short Grass	Suffolk County, New York
2002	4573956.325	752972.470	4.947	41°16'38.75042" N	71°58'46.34828" W	Short Grass	Suffolk County, New York
2003	4557223.194	722416.297	14.359	41°08'09.07481" N	72°21'00.22861" W	Bare Earth	Suffolk County, New York
2004	4543864.274	710791.081	8.847	41°01'07.43910" N	72°29'34.85123" W	Bare Earth	Suffolk County, New York
2005	4534535.212	673331.046	43.923	40°56'36.87845" N	72°56'27.04111" W	Short Grass	Suffolk County, New York
2006	4526114.062	646920.721	37.002	40°52'22.53909" N	73°15'23.18007" W	Bare Earth	Suffolk County, New York
2007	4533425.211	628161.552	1.814	40°56'30.89753" N	73°28'38.89442" W	Bare Earth	Suffolk County, New York
2008	4524733.643	623775.486	17.311	40°51'51.55533" N	73°31'52.65256" W	Short Grass	Nassau County, New York
2009	4516217.587	609287.473	7.008	40°47'22.86355" N	73°42'16.75619" W	Bare Earth	Nassau County, New York
2010	4508129.312	613910.712	23.188	40°42'58.36408" N	73°39'04.83854" W	Bare Earth	Nassau County, New York
2011	4499581.178	615819.059	3.637	40°38'20.25674" N	73°37'49.19847" W	Bare Earth	Nassau County, New York
2012	4499156.369	649349.172	4.694	40°37'47.10905" N	73°14'02.64572" W	Bare Earth	Suffolk County, New York
2013	4512127.196	679613.262	0.824	40°44'25.79357" N	72°52'21.80412" W	Bare Earth	Suffolk County, New York
2014	4528218.486	674866.569	28.378	40°53'10.98323" N	72°55'27.81979" W	Short Grass	Suffolk County, New York
2015	4532366.742	726714.653	5.681	40°54'39.60580" N	72°18'28.92621" W	Bare Earth	Suffolk County, New York
2016	4551270.114	756925.711	2.111	41°04'19.62878" N	71°56'30.90555" W	Bare Earth	Suffolk County, New York
2017	4542256.645	727346.880	0.649	40°59'59.34582" N	72°17'48.86098" W	Bare Earth	Suffolk County, New York
2018	4529918.422	711091.494	13.767	40°53'35.33073" N	72°29'39.11306" W	Bare Earth	Suffolk County, New York
2019	4507981.049	654411.132	1.298	40°42'29.81108" N	73°10'19.46668" W	Bare Earth	Suffolk County, New York
2020	4518948.144	679918.833	17.537	40°48'06.60967" N	72°52'01.71551" W	Short Grass	Suffolk County, New York
2021	4530843.950	639589.694	12.210	40°55'00.48196" N	73°20'32.42463" W	Bare Earth	Suffolk County, New York
3001	4571937.667	750665.893	1.730	41°15'35.96683" N	72°00'28.35058" W	Urban	Suffolk County, New York
3002	4573691.145	752758.989	4.669	41°16'30.40364" N	71°58'55.90812" W	Urban	Suffolk County, New York

Point No.	Northing	Easting	Elev.	Latitude	Longitude	Surface Desc.	Location
3003	4557213.801	722425.177	14.649	41°08'08.76177" N	72°20'59.86038" W	Urban	Suffolk County, New York
3004	4542960.313	711542.422	8.816	41°00'37.45161" N	72°29'03.82654" W	Urban	Suffolk County, New York
3005	4534650.740	673316.401	43.633	40°56'40.63378" N	72°56'27.55074" W	Urban	Suffolk County, New York
3006	4527110.902	647121.605	50.921	40°52'54.72210" N	73°15'13.75229" W	Urban	Suffolk County, New York
3007	4525974.688	632586.792	9.240	40°52'26.82534" N	73°25'35.43616" W	Urban	Suffolk County, New York
3008	4523924.158	623479.932	27.620	40°51'25.47253" N	73°32'05.85230" W	Urban	Nassau County, New York
3009	4516525.365	610405.490	33.445	40°47'32.30423" N	73°41'28.86682" W	Urban	Nassau County, New York
3010	4506977.694	613349.188	15.740	40°42'21.30477" N	73°39'29.51557" W	Urban	Nassau County, New York
3011	4499596.412	614977.383	4.030	40°38'21.17407" N	73°38'25.01176" W	Urban	Nassau County, New York
3012	4500060.379	647294.113	5.203	40°38'17.74233" N	73°15'29.32307" W	Urban	Suffolk County, New York
3013	4513340.820	679680.140	2.448	40°45'05.07294" N	72°52'17.70008" W	Urban	Suffolk County, New York
3014	4528243.831	674899.875	28.129	40°53'11.77901" N	72°55'26.37178" W	Urban	Suffolk County, New York
3015	4532383.128	726687.845	5.755	40°54'40.16336" N	72°18'30.04941" W	Urban	Suffolk County, New York
3016	4551641.840	757089.582	2.667	41°04'31.48003" N	71°56'23.33461" W	Urban	Suffolk County, New York
3017	4542427.638	727358.025	1.255	41°00'04.87370" N	72°17'48.15797" W	Urban	Suffolk County, New York
3018	4529969.190	710608.955	1.940	40°53'37.42295" N	72°29'59.65343" W	Urban	Suffolk County, New York
3019	4510812.550	653997.899	6.332	40°44'01.87200" N	73°10'34.56352" W	Urban	Suffolk County, New York
3020	4518966.365	679956.033	17.124	40°48'07.17084" N	72°52'00.11010" W	Urban	Suffolk County, New York
3021	4531071.616	638799.980	2.521	40°55'08.34598" N	73°21'05.98881" W	Urban	Suffolk County, New York
4001	4571674.224	750475.566	17.140	41°15'27.64790" N	72°00'36.90808" W	Tall Grass	Suffolk County, New York
4002	4573922.398	752938.261	4.199	41°16'37.69033" N	71°58'47.86740" W	Weeds	Suffolk County, New York
4003	4556877.216	722513.637	14.930	41°07'57.77111" N	72°20'56.50932" W	Tall Grass	Suffolk County, New York
4004	4543982.288	710740.295	8.338	41°01'11.30986" N	72°29'36.87867" W	Weeds	Suffolk County, New York
4005	4534706.774	674194.530	42.139	40°56'41.77757" N	72°55'49.96123" W	Weeds	Suffolk County, New York
4006	4525745.339	646495.641	28.801	40°52'10.86086" N	73°15'41.64530" W	Weeds	Suffolk County, New York
4007	4532293.209	628259.308	12.319	40°55'54.14449" N	73°28'35.55844" W	Tall Grass	Suffolk County, New York
4008	4520583.030	623841.584	74.662	40°49'36.95714" N	73°31'52.80207" W	Weeds	Nassau County, New York
4009	4515788.885	609359.841	8.732	40°47'08.92926" N	73°42'13.93933" W	Weeds	Nassau County, New York
4010	4508100.105	613933.383	22.936	40°42'57.40582" N	73°39'03.89164" W	Weeds	Nassau County, New York
4011	4494362.797	619668.603	2.134	40°35'29.09093" N	73°35'08.92667" W	Weeds	Nassau County, New York

Point No.	Northing	Easting	Elev.	Latitude	Longitude	Surface Desc.	Location
4012	4499147.260	649426.636	4.644	40°37'46.76334" N	73°13'59.35758" W	Weeds	Suffolk County, New York
4013	4512117.312	679602.144	0.764	40°44'25.48197" N	72°52'22.28805" W	Weeds	Suffolk County, New York
4014	4528143.294	674715.037	26.631	40°53'08.66277" N	72°55'34.36693" W	Short Grass	Suffolk County, New York
4015	4532377.754	726652.493	5.736	40°54'40.02454" N	72°18'31.56604" W	Weeds	Suffolk County, New York
4016	4537985.621	725948.457	35.452	40°57'42.38882" N	72°18'54.27113" W	Weeds	Suffolk County, New York
4017	4537652.385	725364.290	37.383	40°57'32.17486" N	72°19'19.67143" W	Weeds	Suffolk County, New York
4018	4525947.906	701356.915	24.664	40°51'35.50563" N	72°36'39.39095" W	Weeds	Suffolk County, New York
4019	4509242.251	654312.688	4.404	40°43'10.75903" N	73°10'22.54219" W	Weeds	Suffolk County, New York
4020	4520730.572	678908.731	22.145	40°49'05.16984" N	72°52'42.95447" W	Tall Grass	Suffolk County, New York
4021	4530891.194	639604.975	12.159	40°55'02.00405" N	73°20'31.73334" W	Tall Grass	Suffolk County, New York
5001	4571955.787	750579.853	0.897	41°15'36.64966" N	72°00'32.01627" W	Brush	Suffolk County, New York
5002	4573964.206	752990.613	4.409	41°16'38.98518" N	71°58'45.55769" W	Brush	Suffolk County, New York
5003	4556907.172	722515.930	15.139	41°07'58.73926" N	72°20'56.37198" W	Brush	Suffolk County, New York
5004	4543982.260	710831.574	6.708	41°01'11.22396" N	72°29'32.97403" W	Brush	Suffolk County, New York
5005	4534664.318	674188.453	41.953	40°56'40.40628" N	72°55'50.26394" W	Brush	Suffolk County, New York
5006	4525744.202	646562.549	30.827	40°52'10.78093" N	73°15'38.78917" W	Brush	Suffolk County, New York
5007	4532276.318	628290.212	14.171	40°55'53.57943" N	73°28'34.25000" W	Brush	Suffolk County, New York
5008	4520596.079	623857.507	74.152	40°49'37.37152" N	73°31'52.11313" W	Brush	Nassau County, New York
5009	4515885.246	609606.029	7.175	40°47'11.93541" N	73°42'03.37692" W	Brush	Nassau County, New York
5010	4494423.781	618417.260	2.053	40°35'31.71646" N	73°36'02.10628" W	Brush	Nassau County, New York
5011	4494430.018	618694.215	2.058	40°35'31.77578" N	73°35'50.32276" W	Brush	Nassau County, New York
5012	4499200.633	649373.699	4.469	40°37'48.52799" N	73°14'01.56433" W	Brush	Suffolk County, New York
5013	4512117.439	679628.157	0.549	40°44'25.46563" N	72°52'21.17952" W	Brush	Suffolk County, New York
5014	4528163.967	674688.505	26.222	40°53'09.35314" N	72°55'35.47902" W	Brush	Suffolk County, New York
5015	4530942.011	726391.450	5.021	40°53'53.77460" N	72°18'44.59727" W	Brush	Suffolk County, New York
5016	4551665.659	757041.735	3.681	41°04'32.30576" N	71°56'25.34636" W	Brush	Suffolk County, New York
5017	4537785.854	725629.619	33.851	40°57'36.23479" N	72°19'08.15834" W	Brush	Suffolk County, New York
5018	4525963.420	701336.846	25.154	40°51'36.02607" N	72°36'40.22939" W	Brush	Suffolk County, New York

Point No.	Northing	Easting	Elev.	Latitude	Longitude	Surface Desc.	Location
5019	4507970.087	654266.139	0.915	40°42'29.55353" N	73°10'25.65255" W	Brush	Suffolk County, New York
5020	4520766.255	678818.926	22.603	40°49'06.39672" N	72°52'46.74862" W	Brush	Suffolk County, New York
5021	4530941.966	639584.871	12.307	40°55'03.66227" N	73°20'32.55134" W	Brush	Suffolk County, New York
6001	4571612.950	750436.969	17.675	41°15'25.70666" N	72°00'38.65499" W	Trees	Suffolk County, New York
6002	4573968.825	752924.333	4.698	41°16'39.20945" N	71°58'48.39595" W	Trees	Suffolk County, New York
6003	4556836.195	722453.254	15.540	41°07'56.50185" N	72°20'59.15001" W	Trees	Suffolk County, New York
6004	4543978.224	710778.965	7.901	41°01'11.14218" N	72°29'35.22946" W	Trees	Suffolk County, New York
6005	4534689.365	674166.442	42.251	40°56'41.23491" N	72°55'51.17940" W	Trees	Suffolk County, New York
6006	4525722.797	646434.009	28.729	40°52'10.16982" N	73°15'44.29617" W	Trees	Suffolk County, New York
6007	4533326.607	628225.347	8.595	40°56'27.66491" N	73°28'36.24045" W	Trees	Suffolk County, New York
6008	4520575.671	623867.780	73.919	40°49'36.70433" N	73°31'51.68930" W	Trees	Nassau County, New York
6009	4515902.656	609607.000	7.691	40°47'12.49943" N	73°42'03.32448" W	Trees	Nassau County, New York
6010	4514083.232	679535.687	4.178	40°45'29.24704" N	72°52'23.08902" W	Trees	Suffolk County, New York
6011	4514085.294	679550.255	4.125	40°45'29.30242" N	72°52'22.46601" W	Trees	Suffolk County, New York
6012	4514108.731	679542.517	4.238	40°45'30.06808" N	72°52'22.77157" W	Trees	Suffolk County, New York
6013	4514109.209	679526.050	4.159	40°45'30.09649" N	72°52'23.47292" W	Trees	Suffolk County, New York
6014	4528169.232	674717.439	27.901	40°53'09.50157" N	72°55'34.23810" W	Trees	Suffolk County, New York
6015	4507928.806	654519.508	1.199	40°42'28.04451" N	73°10'14.89661" W	Trees	Suffolk County, New York
6016	4551570.911	757102.043	2.678	41°04'29.16897" N	71°56'22.90798" W	Trees	Suffolk County, New York
6017	4538016.131	726002.249	35.033	40°57'43.32357" N	72°18'51.93231" W	Trees	Suffolk County, New York
6018	4525970.625	701324.229	25.281	40°51'36.27071" N	72°36'40.75947" W	Trees	Suffolk County, New York
6019	4507998.319	654249.573	0.749	40°42'30.47985" N	73°10'26.33320" W	Trees	Suffolk County, New York
6020	4520786.958	678897.719	22.004	40°49'07.00587" N	72°52'43.36597" W	Trees	Suffolk County, New York
6021	4530855.809	639631.624	12.932	40°55'00.84061" N	73°20'30.62318" W	Trees	Suffolk County, New York

### LIDAR Control Points

Point No.	Northing	Easting	Elev.	Latitude	Longitude	Surface Desc.	Location
1001	4571654.607	750454.994	16.535	41°15'27.03555" N	72°00'37.81990" W	LCP	Suffolk County, New York
1002	4573960.771	752963.008	4.719	41°16'38.90506" N	71°58'46.74778" W	LCP	Suffolk County, New York

Point No.	Northing	Easting	Elev.	Latitude	Longitude	Surface Desc.	Location
1003	4557230.826	722392.131	14.120	41°08'09.34587" N	72°21'01.25410" W	LCP	Suffolk County, New York
1004	4543905.217	710764.207	8.757	41°01'08.79062" N	72°29'35.95052" W	LCP	Suffolk County, New York
1005	4534575.847	673223.932	44.042	40°56'38.27715" N	72°56'31.57842" W	LCP	Suffolk County, New York
1006	4526095.984	646909.429	36.181	40°52'21.96037" N	73°15'23.67764" W	LCP	Suffolk County, New York
1007	4533379.212	628196.665	5.668	40°56'29.38647" N	73°28'37.42751" W	LCP	Suffolk County, New York
1008	4524778.015	623754.666	15.628	40°51'53.00518" N	73°31'53.50987" W	LCP	Nassau County, New York
1009	4515933.142	609487.995	9.462	40°47'13.54500" N	73°42'08.38166" W	LCP	Nassau County, New York
1010	4508125.027	613899.457	23.126	40°42'58.23074" N	73°39'05.32095" W	LCP	Nassau County, New York
1011	4499828.883	615619.228	3.932	40°38'28.38874" N	73°37'57.53977" W	LCP	Nassau County, New York
1012	4499127.621	649272.901	4.797	40°37'46.22679" N	73°14'05.91542" W	LCP	Suffolk County, New York
1013	4512184.562	679608.953	1.188	40°44'27.65609" N	72°52'21.92847" W	LCP	Suffolk County, New York
1014	4526929.390	675357.018	34.882	40°52'28.82745" N	72°55'08.18487" W	LCP	Suffolk County, New York
1015	4530961.437	726410.427	2.465	40°53'54.38500" N	72°18'43.76157" W	LCP	Suffolk County, New York
1016	4551252.897	756918.260	2.084	41°04'19.07969" N	71°56'31.25022" W	LCP	Suffolk County, New York
1017	4542280.336	727361.039	0.668	41°00'00.09904" N	72°17'48.22419" W	LCP	Suffolk County, New York
1018	4529927.191	711126.027	14.999	40°53'35.58279" N	72°29'37.62792" W	LCP	Suffolk County, New York
1019	4507873.391	654434.794	1.157	40°42'26.30540" N	73°10'18.55421" W	LCP	Suffolk County, New York
1020	4520663.258	678889.297	21.743	40°49'03.00355" N	72°52'43.85302" W	LCP	Suffolk County, New York
1021	4530836.203	639534.194	11.910	40°55'00.26493" N	73°20'34.80262" W	LCP	Suffolk County, New York

### Survey Control Points

Point No.	Northing	Easting	Elev.	Latitude	Longitude	Surface Desc.	Location
20000	4571658.152	750520.550	16.771	41°15'27.07724" N	72°00'35.00137" W	Nail Set	Suffolk County, New York
20001	4515998.001	609447.995	10.070	40°47'15.66707" N	73°42'10.04703" W	Nail Set	Nassau County, New York
31004	4537996.803	725985.505	35.108	40°57'42.71415" N	72°18'52.67324" W	Nail Set	Suffolk County, New York
31005	4514020.743	679525.150	4.034	40°45'27.23016" N	72°52'23.60268" W	Nail Set	Suffolk County, New York
31006	4514068.390	679515.916	4.222	40°45'28.78156" N	72°52'23.94701" W	Nail Set	Suffolk County, New York

## NGS Stations

Station Name	Northing	Easting	Elev.	Latitude	Longitude	Location
11 E 12 N	4509530.666	620426.818	25.805	40°43'40.46037" N	73°34'26.21561" W	Nassau County, New York
Q 334	4535312.160	684443.762	30.985	40°56'53.29912" N	72°48'31.26561" W	Suffolk County, New York
U 325	4558021.624	725176.959	2.234	41°08'32.19881" N	72°19'00.88833" W	Suffolk County, New York

## KeyNetGPS Stations

Station Name	Northing	Easting	Elev.	Latitude	Longitude	Location
KP18	4590260.404	780218.287	54.170	41°24'54.18994" N	71°38'49.97523" W	Washington County, Rhode Island
MTG1	4596516.429	743410.683	96.126	41°28'59.94792" N	72°05'04.22169" W	New London County, Connecticut
NYCI	4513746.728	652125.427	17.195	40°45'38.23686" N	73°11'51.78726" W	Suffolk County, New York
NYQN	4508397.044	607255.512	31.182	40°43'10.26182" N	73°43'48.26660" W	Queens County, New York
NYRH	4532765.085	692482.214	23.276	40°55'24.08866" N	72°42'50.56071" W	Suffolk County, New York