

TX_Pecos-Dallas_2018_D19

Survey Report

Contract Number: G16PC00044

Task Order Number: 140G0219F0014



Government Point-of-Contact (POC)

Organization: United States Geological Survey

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Overview

Digital Aerial Solutions, LLC (DAS) with contract number G16PC00044 was contracted by the United States Geological Survey under task order number 140G0219F0014 collect a high resolution LiDAR data set covering 5,081 square miles affecting Palo Pinto, Stephens, Erath, Eastland, Wise, Denton, Collin, Rockwall, Dallas, Tarrant, Ellis, Johnson, Kaufman and Parker counties in Texas. Each of these categories was spread out as evenly as possible throughout the Area of Interest (AOI). The survey was completed using the Global Positioning System (GPS). Each observation was identified in the field and surveyed utilizing GPS receivers, collecting GNSS and GLONASS information and utilizing a Leica Smart-Net RTK network. In accordance with section C.1.b.(viii) of the task order, the spatial reference system used was:

Spatial Reference System:

Coordinate System: Universal Transverse Mercator 14N
Horizontal Datum: North American Datum 1983 (2011)
Vertical Datum: North American Vertical Datum of 1988
Units: Meters
Geoid Model: Geoid12B

Section C.1.b.(viii) of the task order outlines the ground control minimum requirements and specifications for this LiDAR project. 43 Supplemental ground control points were collected and used to support the airborne GPS solution and positional accuracy. DAS also collected more than the required number of Non-Vegetated Vertical Accuracy (NVA) and Vegetated Vertical Accuracy (VVA) Quality Checkpoints as stated in the task order. These checkpoints serve as an independent delivery to the client and were not incorporated into the vertical solution.

Glossary of Terms

Term - Definition

ATTN	- Attention
BE	- Bare Earth Checkpoint (see NVA)
CTRL	- Control
DAS	- Digital Aerial Solutions, LLC
Ellip	- Ellipsoid Height
FIPS	- Federal Information Processing Standard
GPS	- Global Positioning Systems
UT	- Urban Terrain (see NVA)
HV	- High Vegetation (see VVA)
ID	- Identification
LV	- Low Vegetation (see VVA)
LiDAR	- Light Detection and Ranging
MV	- Medium Vegetation (see VVA)
NAD83	- North American Datum of 1983
NAVD88	- North American Vertical Datum of 1988
NGS	- National Geodetic Survey
NGTOC	- National Geospatial Technical Operations Center
NVA	- Non-Vegetated Vertical Accuracy
Ortho	- Orthometric Height
POC	- Point of Contact
RTK	- Real Time Kinematics
USGS	- United States Geological Survey
VP	- Vice President
VVA	- Vegetated Vertical Accuracy

Supplemental Ground Control

The Map shows the overall distribution of the Supplemental Ground Control throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Universal Transverse Mercator 14N, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

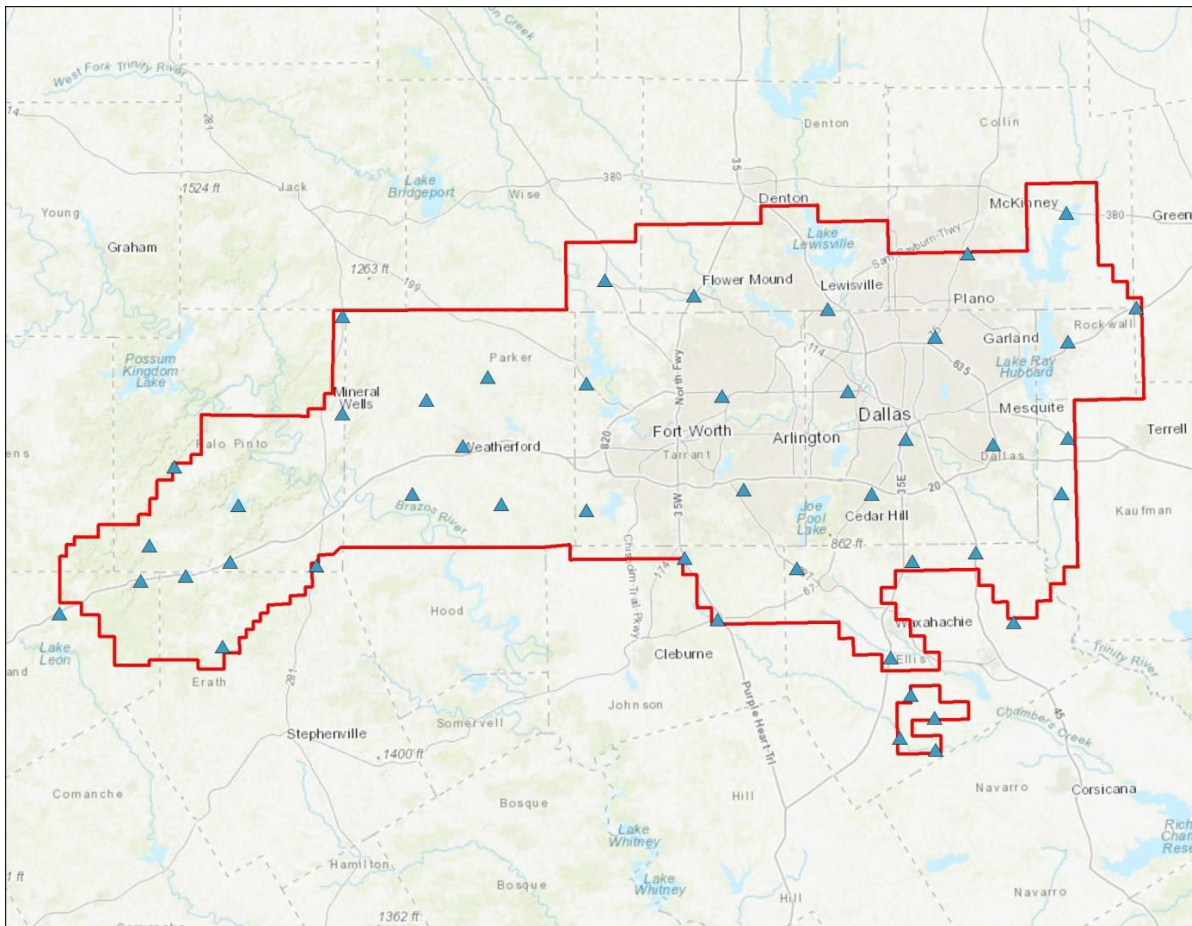


TABLE: Ground Control Points

Point ID	Easting	Northing	Ortho
2_2	703722.013	3563052.257	152.458
2_8	711183.644	3560629.148	127.382
2_14	710944.197	3567303.314	142.446
2_26	706028.429	3571983.03	158.947
3_2	665690.804	3587809.894	218.663
3_8	658808.32	3600586.019	227.272
3_14	638416.905	3610484.625	223.787
3_20	638309.898	3636820.619	224.007
3_26	642186.244	3658355.624	277.942
3_32	660818.209	3655130.379	190.428
3_38	666654.453	3634223.428	175.213
3_44	671123.543	3614825.228	199.985
3_50	682200.65	3598361.141	170.01
3_58	697893.251	3613863.176	209.678
3_64	692895.013	3635281.712	158.504
3_70	688732.489	3652380.442	138.11
3_76	711104.356	3646604.702	184.4
3_82	717841.845	3663884.664	194.326
3_88	738453.524	3672411.737	164.678
3_94	753012.227	3652719.502	166.582
3_100	738864.455	3645571.52	177.543
3_108	620574.066	3611696.978	360.492
3_114	602088.775	3613852.57	241.889
3_120	612628.135	3623835.033	322.614
3_126	604976.582	3633414.444	390.883
3_132	617752.842	3638236.465	311.041
3_140	701870.588	3579811.942	178.273
3_146	706392.768	3599833.214	184.149
3_152	704949.101	3625347.013	145.175
3_158	723235.664	3624179.396	156.319
3_164	738776.257	3625557.689	141.088
3_170	737485.044	3613952.972	121.661
3_176	719570.6	3601624.191	140.597
3_182	727497.15	3587134.421	143.739
4_1	587413.749	3650866.968	332.367
4_4	587419.536	3630594.265	269.335
4_11	552371.833	3619589.463	369.686
4_15	547184.814	3603120.192	303.539
4_30	562470.861	3582070.791	377.843
4_35	545378.128	3595795.175	333.054
4_43	554720.968	3596813.1	314.45
4_54	564036.527	3599738.159	301.859
4_65	565739.847	3611472.963	265.944



Point ID: 2_2

Northing: 3563052.257 Meters

Easting: 703722.013 Meters

Orthometric Height: 152.458 Meters

Latitude: 32° 11' 08.06075" N

Longitude: 96° 50' 20.58540" W

Ellipsoid Height: 126.0157 Meters



Point ID: 2_8

Northing: 3560629.148 Meters

Easting: 711183.644 Meters

Orthometric Height: 127.382 Meters

Latitude: 32° 09' 44.46796" N

Longitude: 96° 45' 37.76151" W

Ellipsoid Height: 101.1996 Meters



Point ID: 2_14

Northing: 3567303.314 Meters

Easting: 710944.197 Meters

Orthometric Height: 142.446 Meters

Latitude: 32° 13' 21.22427" N

Longitude: 96° 45' 41.59412" W

Ellipsoid Height: 116.1962 Meters



Point ID: 2_26

Northing: 3571983.03 Meters

Easting: 706028.429 Meters

Orthometric Height: 158.947 Meters

Latitude: 32° 15' 56.38393" N

Longitude: 96° 48' 45.62471" W

Ellipsoid Height: 132.5156 Meters



Point ID: 3_2

Northing: 3587809.894 Meters

Easting: 665690.804 Meters

Orthometric Height: 218.663 Meters

Latitude: 32° 24' 54.22986" N

Longitude: 97° 14' 16.66977" W

Ellipsoid Height: 191.2716 Meters



Point ID: 3_8

Northing: 3600586.019 Meters

Easting: 658808.32 Meters

Orthometric Height: 227.272 Meters

Latitude: 32° 31' 52.57519" N

Longitude: 97° 18' 32.30880" W

Ellipsoid Height: 199.6854 Meters



Point ID: 3_14

Northing: 3610484.625 Meters

Easting: 638416.905 Meters

Orthometric Height: 223.787 Meters

Latitude: 32° 37' 23.76607" N

Longitude: 97° 31' 28.48413" W

Ellipsoid Height: 195.7936 Meters



Point ID: 3_20

Northing: 3636820.619 Meters

Easting: 638309.898 Meters

Orthometric Height: 224.007 Meters

Latitude: 32° 51' 38.78305" N

Longitude: 97° 31' 18.48834" W

Ellipsoid Height: 195.7844 Meters



Point ID: 3_26

Northing: 3658355.624 Meters

Easting: 642186.244 Meters

Orthometric Height: 277.942 Meters

Latitude: 33° 03' 16.06788" N

Longitude: 97° 28' 37.40942" W

Ellipsoid Height: 250.0082 Meters



Point ID: 3_32

Northing: 3655130.379 Meters

Easting: 660818.209 Meters

Orthometric Height: 190.428 Meters

Latitude: 33° 01' 22.03672" N

Longitude: 97° 16' 41.27791" W

Ellipsoid Height: 162.8024 Meters



Point ID: 3_38

Northing: 3634223.428 Meters

Easting: 666654.453 Meters

Orthometric Height: 175.213 Meters

Latitude: 32° 50' 00.27976" N

Longitude: 97° 13' 10.02485" W

Ellipsoid Height: 147.6086 Meters



Point ID: 3_44

Northing: 3614825.228 Meters

Easting: 671123.543 Meters

Orthometric Height: 199.985 Meters

Latitude: 32° 39' 28.17271" N

Longitude: 97° 10' 31.05766" W

Ellipsoid Height: 172.5612 Meters



Point ID: 3_50

Northing: 3598361.141 Meters

Easting: 682200.65 Meters

Orthometric Height: 170.01 Meters

Latitude: 32° 30' 27.41976" N

Longitude: 97° 03' 37.56332" W

Ellipsoid Height: 142.9042 Meters



Point ID: 3_58

Northing: 3613863.176 Meters

Easting: 697893.251 Meters

Orthometric Height: 209.678 Meters

Latitude: 32° 38' 40.84718" N

Longitude: 96° 53' 24.73950" W

Ellipsoid Height: 182.9262 Meters



Point ID: 3_64

Northing: 3635281.712 Meters

Easting: 692895.013 Meters

Orthometric Height: 158.504 Meters

Latitude: 32° 50' 19.14012" N

Longitude: 96° 56' 20.47534" W

Ellipsoid Height: 131.5472 Meters



Point ID: 3_70

Northing: 3652380.442 Meters

Easting: 688732.489 Meters

Orthometric Height: 138.11 Meters

Latitude: 32° 59' 36.66297" N

Longitude: 96° 58' 47.89709" W

Ellipsoid Height: 111.08 Meters



Point ID: 3_76

Northing: 3646604.702 Meters

Easting: 711104.356 Meters

Orthometric Height: 184.4 Meters

Latitude: 32° 56' 14.48089" N

Longitude: 96° 44' 31.20159" W

Ellipsoid Height: 158.1753 Meters



Point ID: 3_82

Northing: 3663884.664 Meters

Easting: 717841.845 Meters

Orthometric Height: 194.326 Meters

Latitude: 33° 05' 30.39018" N

Longitude: 96° 39' 57.18429" W

Ellipsoid Height: 168.4763 Meters



Point ID: 3_88

Northing: 3672411.737 Meters

Easting: 738453.524 Meters

Orthometric Height: 164.678 Meters

Latitude: 33° 09' 51.42562" N

Longitude: 96° 26' 34.76630" W

Ellipsoid Height: 139.1291 Meters



Point ID: 3_94

Northing: 3652719.502 Meters

Easting: 753012.227 Meters

Orthometric Height: 166.582 Meters

Latitude: 32° 59' 00.78861" N

Longitude: 96° 17' 32.87306" W

Ellipsoid Height: 141.1877 Meters



Point ID: 3_100

Northing: 3645571.52 Meters

Easting: 738864.455 Meters

Orthometric Height: 177.543 Meters

Latitude: 32° 55' 20.38494" N

Longitude: 96° 26' 44.09993" W

Ellipsoid Height: 152.1027 Meters



Point ID: 3_108

Northing: 3611696.978 Meters

Easting: 620574.066 Meters

Orthometric Height: 360.492 Meters

Latitude: 32° 38' 10.65309" N

Longitude: 97° 42' 52.45063" W

Ellipsoid Height: 332.1423 Meters



Point ID: 3_114

Northing: 3613852.57 Meters

Easting: 602088.775 Meters

Orthometric Height: 241.889 Meters

Latitude: 32° 39' 27.35009" N

Longitude: 97° 54' 40.93493" W

Ellipsoid Height: 213.0879 Meters



Point ID: 3_120

Northing: 3623835.033 Meters

Easting: 612628.135 Meters

Orthometric Height: 322.614 Meters

Latitude: 32° 44' 47.76816" N

Longitude: 97° 47' 52.07082" W

Ellipsoid Height: 293.9777 Meters



Point ID: 3_126

Northing: 3633414.444 Meters

Easting: 604976.582 Meters

Orthometric Height: 390.883 Meters

Latitude: 32° 50' 01.51882" N

Longitude: 97° 52' 42.14203" W

Ellipsoid Height: 362.1241 Meters



Point ID: 3_132

Northing: 3638236.465 Meters

Easting: 617752.842 Meters

Orthometric Height: 311.041 Meters

Latitude: 32° 52' 33.40046" N

Longitude: 97° 44' 28.59777" W

Ellipsoid Height: 282.4743 Meters



Point ID: 3_140

Northing: 3579811.942 Meters

Easting: 701870.588 Meters

Orthometric Height: 178.273 Meters

Latitude: 32° 20' 13.18839" N

Longitude: 96° 51' 18.45526" W

Ellipsoid Height: 151.6918 Meters



Point ID: 3_146

Northing: 3599833.214 Meters

Easting: 706392.768 Meters

Orthometric Height: 184.149 Meters

Latitude: 32° 30' 59.95419" N

Longitude: 96° 48' 09.84420" W

Ellipsoid Height: 157.6453 Meters



Point ID: 3_152

Northing: 3625347.013 Meters

Easting: 704949.101 Meters

Orthometric Height: 145.175 Meters

Latitude: 32° 44' 48.88039" N

Longitude: 96° 48' 45.01045" W

Ellipsoid Height: 118.6335 Meters



Point ID: 3_158

Northing: 3624179.396 Meters

Easting: 723235.664 Meters

Orthometric Height: 156.319 Meters

Latitude: 32° 43' 58.18816" N

Longitude: 96° 37' 03.87728" W

Ellipsoid Height: 130.4163 Meters



Point ID: 3_164

Northing: 3625557.689 Meters

Easting: 738776.257 Meters

Orthometric Height: 141.088 Meters

Latitude: 32° 44' 31.16668" N

Longitude: 96° 27' 06.06902" W

Ellipsoid Height: 115.6411 Meters



Point ID: 3_170

Northing: 3613952.972 Meters

Easting: 737485.044 Meters

Orthometric Height: 121.661 Meters

Latitude: 32° 38' 15.67891" N

Longitude: 96° 28' 06.27414" W

Ellipsoid Height: 96.1488 Meters



Point ID: 3_176

Northing: 3601624.191 Meters

Easting: 719570.6 Meters

Orthometric Height: 140.597 Meters

Latitude: 32° 31' 48.96807" N

Longitude: 96° 39' 43.63978" W

Ellipsoid Height: 114.4831 Meters



Point ID: 3_182

Northing: 3587134.421 Meters

Easting: 727497.15 Meters

Orthometric Height: 143.739 Meters

Latitude: 32° 23' 53.06903" N

Longitude: 96° 34' 52.61968" W

Ellipsoid Height: 117.8701 Meters



Point ID: 4_1

Northing: 3650866.968 Meters

Easting: 587413.749 Meters

Orthometric Height: 332.367 Meters

Latitude: 32° 59' 33.74029" N

Longitude: 98° 03' 51.64307" W

Ellipsoid Height: 303.6404 Meters



Point ID: 4_4

Northing: 3630594.265 Meters

Easting: 587419.536 Meters

Orthometric Height: 269.335 Meters

Latitude: 32° 48' 35.49327" N

Longitude: 98° 03' 58.33558" W

Ellipsoid Height: 240.2458 Meters



Point ID: 4_11

Northing: 3619589.463 Meters

Easting: 552371.833 Meters

Orthometric Height: 369.686 Meters

Latitude: 32° 42' 46.17021" N

Longitude: 98° 26' 28.23295" W

Ellipsoid Height: 340.3894 Meters



Point ID: 4_15

Northing: 3603120.192 Meters

Easting: 547184.814 Meters

Orthometric Height: 303.539 Meters

Latitude: 32° 33' 52.19132" N

Longitude: 98° 29' 50.46901" W

Ellipsoid Height: 274.4597 Meters



Point ID: 4_30

Northing: 3582070.791 Meters

Easting: 562470.861 Meters

Orthometric Height: 377.843 Meters

Latitude: 32° 22' 25.91094" N

Longitude: 98° 20' 09.30388" W

Ellipsoid Height: 349.4369 Meters



Point ID: 4_35

Northing: 3595795.175 Meters

Easting: 545378.128 Meters

Orthometric Height: 333.054 Meters

Latitude: 32° 29' 54.58581" N

Longitude: 98° 31' 01.02658" W

Ellipsoid Height: 304.1517 Meters



Point ID: 4_43

Northing: 3596813.1 Meters

Easting: 554720.968 Meters

Orthometric Height: 314.45 Meters

Latitude: 32° 30' 26.12633" N

Longitude: 98° 25' 02.79322" W

Ellipsoid Height: 285.5421 Meters



Point ID: 4_54

Northing: 3599738.159 Meters

Easting: 564036.527 Meters

Orthometric Height: 301.859 Meters

Latitude: 32° 31' 59.31966" N

Longitude: 98° 19' 05.07296" W

Ellipsoid Height: 272.9228 Meters



Point ID: 4_65

Northing: 3611472.963 Meters

Easting: 565739.847 Meters

Orthometric Height: 265.944 Meters

Latitude: 32° 38' 20.02608" N

Longitude: 98° 17' 56.81429" W

Ellipsoid Height: 236.8048 Meters

Non-Vegetated Vertical Accuracy Checkpoints Bare Earth

The Map shows the overall distribution of the Non-Vegetated Vertical Accuracy Checkpoint, Bare Earth throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Universal Transverse Mercator 14N, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

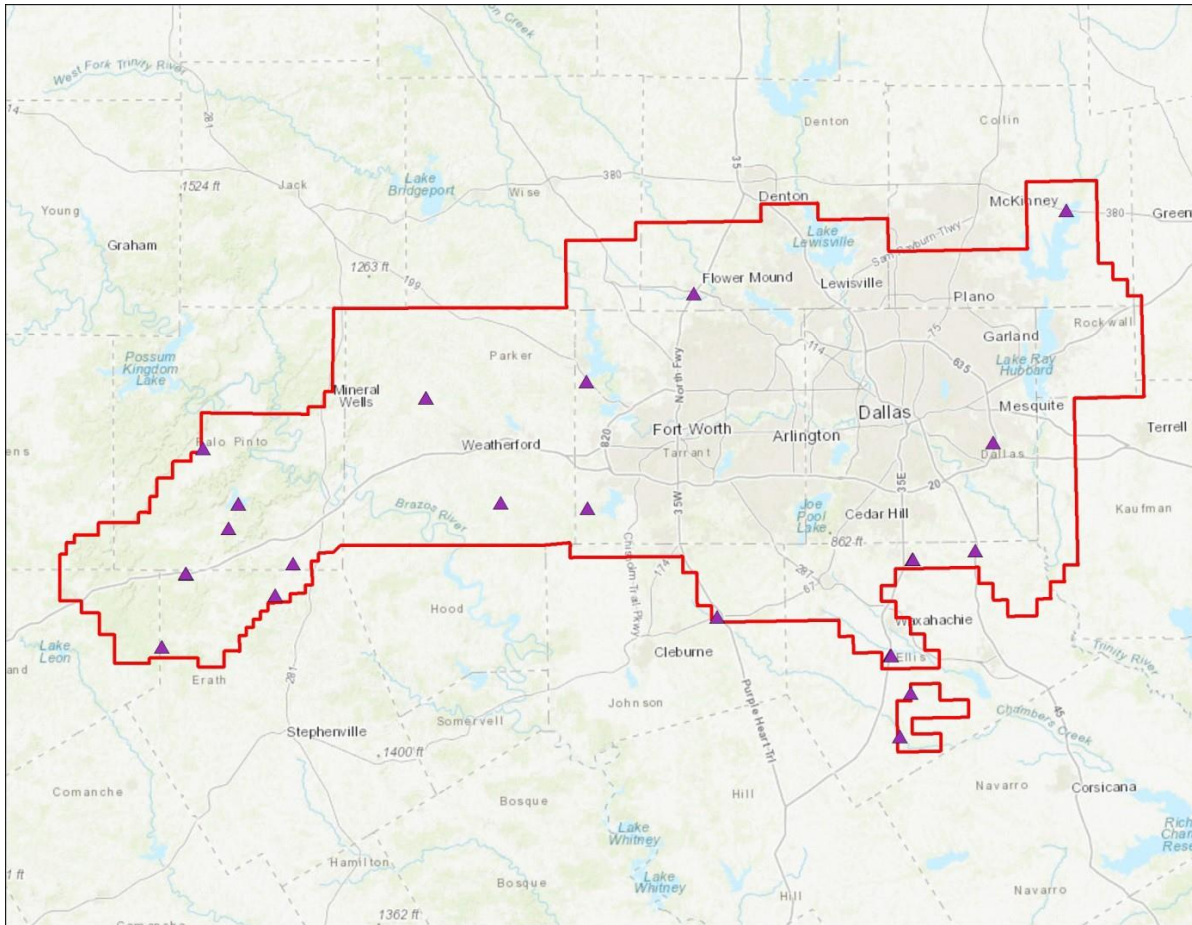


TABLE: Bare Earth

Point ID	Easting	Northing	Ortho
2_6	703734.952	3563015.098	149.768
2_29	706043.988	3572016.203	158.21
3_6	665636.968	3587858.108	219.834
3_18	638537.033	3610452.813	223.225
3_24	638326.724	3636866.168	225.059
3_35	660777.779	3655163.463	191.183
3_90	738461.539	3672456.533	161.463
3_110	620524.176	3611635.512	358.705
3_128	604893.601	3633421.032	391.341
3_129	604917.395	3633456.754	391.756
3_131	604902.595	3633501.034	392.789
3_143	701754.8	3579801.974	176.206
3_145	701897.42	3579882.943	176.007
3_147	706382.632	3599871.575	184.724
3_148	706415.178	3599891.723	184.942
3_160	723175.925	3624178.74	155.009
3_180	719492.106	3601627.533	141.156
4_10	558382.993	3622916.487	348.525
4_25	577223.544	3598999.248	295.385
4_27	573470.799	3592390.427	331.742
4_31	549780.475	3581594.881	413.006
4_49	554840.988	3596837.647	314.095
4_51	554822.024	3596878.21	313.946
4_67	565752.867	3611374.808	266.507
4_69	565778.547	3611419.906	266.413
4_71	563671.647	3606262.832	268.465
3_16	638445.872	36104262.75	222.055
4_42	588113.084	6327760.821	284.748



Point ID: 2_6

Northing: 3563015.098 Meters

Easting: 703734.952 Meters

Orthometric Height: 149.768 Meters

Latitude: 32° 11' 06.84634" N

Longitude: 96° 50' 20.12010" W

Ellipsoid Height: 123.3275 Meters



Point ID: 2_29

Northing: 3572016.203 Meters

Easting: 706043.988 Meters

Orthometric Height: 158.21 Meters

Latitude: 32° 15' 57.45021" N

Longitude: 96° 48' 45.00457" W

Ellipsoid Height: 131.7785 Meters



Point ID: 3_6

Northing: 3587858.108 Meters

Easting: 665636.968 Meters

Orthometric Height: 219.834 Meters

Latitude: 32° 24' 55.82377" N

Longitude: 97° 14' 18.69958" W

Ellipsoid Height: 192.4421 Meters



Point ID: 3_18

Northing: 3610452.813 Meters

Easting: 638537.033 Meters

Orthometric Height: 223.225 Meters

Latitude: 32° 37' 22.67912" N

Longitude: 97° 31' 23.89270" W

Ellipsoid Height: 195.2343 Meters



Point ID: 3_24

Northing: 3636866.168 Meters

Easting: 638326.724 Meters

Orthometric Height: 225.059 Meters

Latitude: 32° 51' 40.25406" N

Longitude: 97° 31' 17.81662" W

Ellipsoid Height: 196.8361 Meters



Point ID: 3_35

Northing: 3655163.463 Meters

Easting: 660777.779 Meters

Orthometric Height: 191.183 Meters

Latitude: 33° 01' 23.13206" N

Longitude: 97° 16' 42.81479" W

Ellipsoid Height: 163.5557 Meters



Point ID: 3_90

Northing: 3672456.533 Meters

Easting: 738461.539 Meters

Orthometric Height: 161.463 Meters

Latitude: 33° 09' 52.87244" N

Longitude: 96° 26' 34.41496" W

Ellipsoid Height: 135.9139 Meters



Point ID: 3_110

Northing: 3611635.512 Meters

Easting: 620524.176 Meters

Orthometric Height: 358.705 Meters

Latitude: 32° 38' 08.67709" N

Longitude: 97° 42' 54.39353" W

Ellipsoid Height: 330.3538 Meters



Point ID: 3_128

Northing: 3633421.032 Meters

Easting: 604893.601 Meters

Orthometric Height: 391.341 Meters

Latitude: 32° 50' 01.76131" N

Longitude: 97° 52' 45.33061" W

Ellipsoid Height: 362.5809 Meters



Point ID: 3_129

Northing: 3633456.754 Meters

Easting: 604917.395 Meters

Orthometric Height: 391.756 Meters

Latitude: 32° 50' 02.91293" N

Longitude: 97° 52' 44.40098" W

Ellipsoid Height: 362.996 Meters



Point ID: 3_131

Northing: 3633501.034 Meters

Easting: 604902.595 Meters

Orthometric Height: 392.789 Meters

Latitude: 32° 50' 04.35574" N

Longitude: 97° 52' 44.95211" W

Ellipsoid Height: 364.0286 Meters



Point ID: 3_143

Northing: 3579801.974 Meters

Easting: 701754.8 Meters

Orthometric Height: 176.206 Meters

Latitude: 32° 20' 12.94014" N

Longitude: 96° 51' 22.88909" W

Ellipsoid Height: 149.6225 Meters



Point ID: 3_145

Northing: 3579882.943 Meters

Easting: 701897.42 Meters

Orthometric Height: 176.007 Meters

Latitude: 32° 20' 15.47521" N

Longitude: 96° 51' 17.37516" W

Ellipsoid Height: 149.4258 Meters



Point ID: 3_147

Northing: 3599871.575 Meters

Easting: 706382.632 Meters

Orthometric Height: 184.724 Meters

Latitude: 32° 31' 01.20587" N

Longitude: 96° 48' 10.20210" W

Ellipsoid Height: 158.2201 Meters



Point ID: 3_148

Northing: 3599891.723 Meters

Easting: 706415.178 Meters

Orthometric Height: 184.942 Meters

Latitude: 32° 31' 01.83791" N

Longitude: 96° 48' 08.93964" W

Ellipsoid Height: 158.4388 Meters



Point ID: 3_160

Northing: 3624178.74 Meters

Easting: 723175.925 Meters

Orthometric Height: 155.009 Meters

Latitude: 32° 43' 58.21050" N

Longitude: 96° 37' 06.17114" W

Ellipsoid Height: 129.1039 Meters



Point ID: 3_180

Northing: 3601627.533 Meters

Easting: 719492.106 Meters

Orthometric Height: 141.156 Meters

Latitude: 32° 31' 49.13243" N

Longitude: 96° 39' 46.64357" W

Ellipsoid Height: 115.0392 Meters



Point ID: 4_10

Northing: 3622916.487 Meters

Easting: 558382.993 Meters

Orthometric Height: 348.525 Meters

Latitude: 32° 44' 33.12020" N

Longitude: 98° 22' 36.58506" W

Ellipsoid Height: 319.2118 Meters



Point ID: 4_25

Northing: 3598999.248 Meters

Easting: 577223.544 Meters

Orthometric Height: 295.385 Meters

Latitude: 32° 31' 32.30219" N

Longitude: 98° 10' 39.79044" W

Ellipsoid Height: 266.5682 Meters



Point ID: 4_27

Northing: 3592390.427 Meters

Easting: 573470.799 Meters

Orthometric Height: 331.742 Meters

Latitude: 32° 27' 58.61189" N

Longitude: 98° 13' 05.48966" W

Ellipsoid Height: 303.0693 Meters



Point ID: 4_31

Northing: 3581594.881 Meters

Easting: 549780.475 Meters

Orthometric Height: 413.006 Meters

Latitude: 32° 22' 12.75362" N

Longitude: 98° 28' 15.02197" W

Ellipsoid Height: 384.5606 Meters



Point ID: 4_49

Northing: 3596837.647 Meters

Easting: 554840.988 Meters

Orthometric Height: 314.095 Meters

Latitude: 32° 30' 26.90224" N

Longitude: 98° 24' 58.18847" W

Ellipsoid Height: 285.1739 Meters



Point ID: 4_51

Northing: 3596878.21 Meters

Easting: 554822.024 Meters

Orthometric Height: 313.946 Meters

Latitude: 32° 30' 28.22279" N

Longitude: 98° 24' 58.90672" W

Ellipsoid Height: 285.0355 Meters



Point ID: 4_67

Northing: 3611374.808 Meters

Easting: 565752.867 Meters

Orthometric Height: 266.507 Meters

Latitude: 32° 38' 16.83592" N

Longitude: 98° 17' 56.33946" W

Ellipsoid Height: 237.3692 Meters



Point ID: 4_69

Northing: 3611419.906 Meters

Easting: 565778.547 Meters

Orthometric Height: 266.413 Meters

Latitude: 32° 38' 18.29489" N

Longitude: 98° 17' 55.34246" W

Ellipsoid Height: 237.2749 Meters



Point ID: 4_71

Northing: 3606262.832 Meters

Easting: 563671.647 Meters

Orthometric Height: 268.465 Meters

Latitude: 32° 35' 31.27327" N

Longitude: 98° 19' 17.46611" W

Ellipsoid Height: 239.3939 Meters



Point ID: 3_16

Northing: 3610462.75 Meters

Easting: 638445.872 Meters

Orthometric Height: 222.055 Meters

Latitude: 32° 37' 23.04284" N

Longitude: 97° 31' 27.38453" W

Ellipsoid Height: 194.0627 Meters



Point ID: 4_42

Northing: 3610462.75 Meters

Easting: 588113.084 Meters

Orthometric Height: 284.748 Meters

Latitude: 32° 47' 03.29162" N

Longitude: 98° 03' 32.63796" W

Ellipsoid Height: 255.6662 Meters

Non-Vegetated Vertical Accuracy Checkpoints Urban Terrain

The Map shows the overall distribution of the Non-Vegetated Vertical Accuracy Checkpoint, Urban Terrain throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Universal Transverse Mercator 14N, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

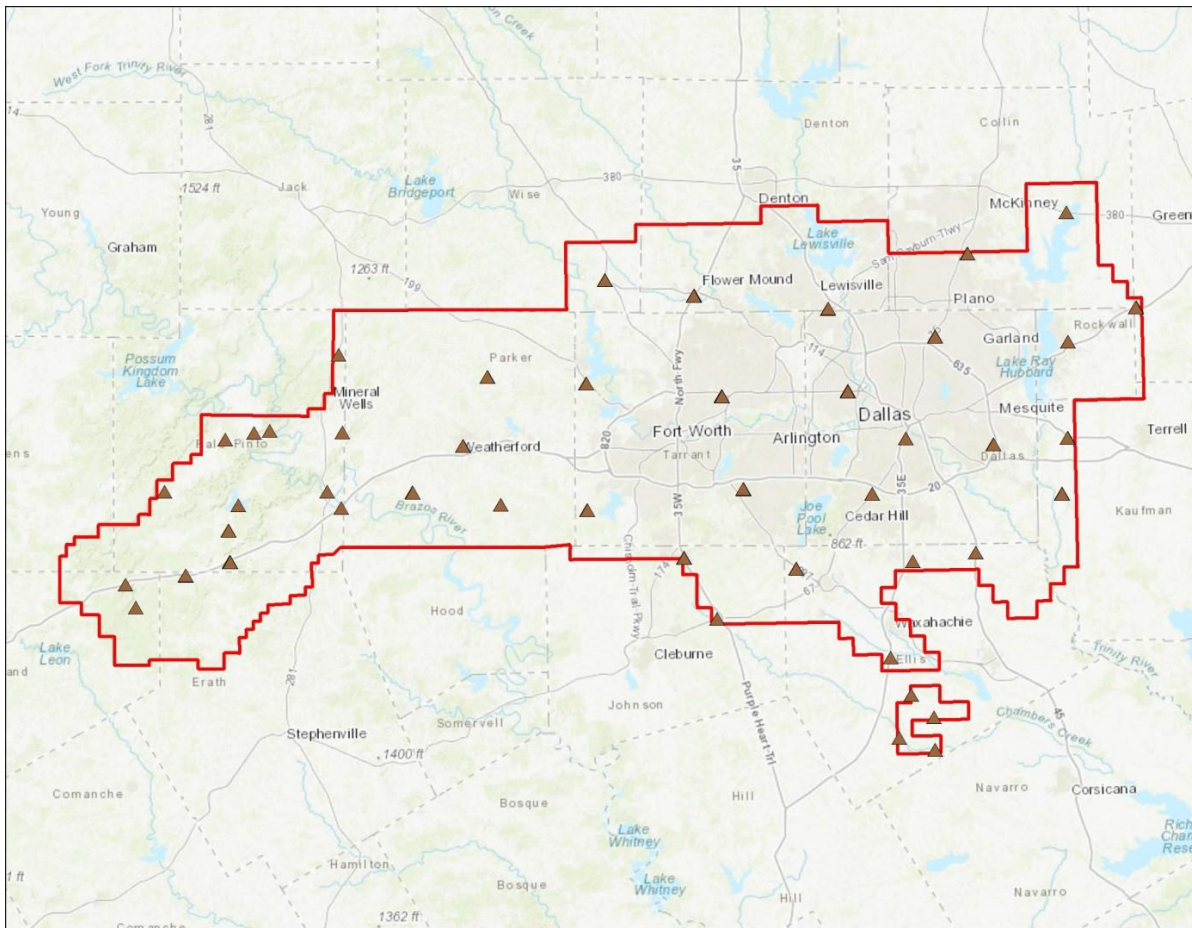


TABLE: Urban Terrain

Point ID	Easting	Northing	Ortho
2_5	703598.193	3563044.032	154.73
2_11	711145.29	3560607.205	127.494
2_12	711111.066	3560586.498	127.644
2_13	711077.353	3560566.546	127.707
2_19	710896.056	3567356.568	145.249
2_30	706078.268	3572028.839	158.364
2_31	706113.943	3572050.563	158.328
3_5	665678.491	3587851.602	219.142
3_7	665648.48	3587818.841	219.167
3_11	658756.126	3600653.899	224.392
3_12	658777.742	3600621.639	224.927
3_13	658782.156	3600552.373	227.542
3_17	638486.599	3610464.762	222.961
3_19	638581.372	3610453.762	223.906
3_23	638210.083	3636901.474	226.451
3_25	638364.507	3636821.638	223.617
3_27	642177.911	3658396.966	276.694
3_31	642223.277	3658347.501	278.586
3_33	660842.693	3655169.973	190.93
3_34	660802.629	3655196.494	191.716
3_37	660809.99	3655092.693	190.53
3_41	666575.171	3634230.434	175.76
3_42	666599.463	3634201.833	175.669
3_43	666643.304	3634168.874	175.404
3_46	671189.422	3614835.41	199.039
3_48	671155.363	3614885.978	198.396
3_49	671111.764	3614862.129	199.792
3_52	682160.782	3598336.828	169.663
3_55	682135.813	3598277.288	170.269
3_60	697935.937	3613847.213	210.869
3_61	697968.917	3613828.783	211.746
3_63	697943.2	3613908.526	211.145
3_66	692886.561	3635326.159	158.168
3_67	692852.018	3635304.087	158.746
3_69	692879.196	3635203.337	159.203
3_71	688730.673	3652341.573	137.959
3_75	688790.171	3652404.677	136.956
3_78	711100.492	3646657.459	185.076
3_79	711050.824	3646661.615	184.838
3_81	711081.12	3646527.007	183.613
3_83	717851.977	3663842.398	194.68
3_86	717800.638	3663873.019	195.185
3_87	717840.088	3663921.31	194.175

Point ID	Easting	Northing	Ortho
3_92	738527.053	3672495.939	159.249
3_97	753028.166	3652832.775	166.472
3_98	752964.045	3652700.822	166.17
3_99	752995.868	3652685.967	166.506
3_101	738863.675	3645609.944	176.907
3_105	738865.505	3645523.685	176.681
3_111	620495.186	3611612.131	356.539
3_112	620468.913	3611583.096	354.21
3_117	602099.781	3614227.966	244.773
3_118	602156.28	3614141.133	240.96
3_121	612630.561	3623795.04	321.696
3_123	612571.498	3623830.781	322.92
3_125	612605.674	3623874.693	323.082
3_133	617789.584	3638232.334	311.859
3_137	617699.614	3638239.775	309.262
3_142	701792.413	3579811.597	176.541
3_149	706420.9	3599852.205	184.53
3_153	704939.251	3625384.711	144.973
3_156	704990.965	3625411.456	143.064
3_157	704985.748	3625376.592	143.763
3_161	723195.511	3624210.897	155.666
3_163	723261.064	3624212.147	156.95
3_166	738838.505	3625518.395	141.642
3_167	738796.947	3625519.516	141.437
3_169	738734.715	3625546.133	141.041
3_173	737569.041	3613970.141	122.606
3_174	737605.466	3613961.607	124.216
3_175	737616.948	3613929.589	126.711
3_177	719547.768	3601654.955	141.375
3_181	719532.335	3601611.69	141.102
4_3	586648.673	3642823.928	314.707
4_7	572291.161	3627058.018	298.931
4_8	568985.882	3626526.724	348.568
4_9	563051.943	3625167.482	325.763
4_13	550398.361	3614387.336	351.634
4_18	587488.778	3626695.171	292.544
4_20	584327.466	3614336.68	244.875
4_22	587235.462	3610947.388	256.768
4_36	544365.913	3590262.015	347.495
4_39	542185.649	3595036.156	433.507
4_45	554761.281	3596771.414	314.756
4_46	554788.113	3596761.565	314.74
4_52	554790.635	3596903.617	313.874
4_53	554773.809	3596873.772	313.996

Point ID	Easting	Northing	Ortho
4_56	563985.886	3599716.108	301.025
4_58	564012.456	3599766.986	301.302
4_59	564054.025	3599762.955	302.405
4_62	564065.594	3599684.239	302.918
4_63	564070.928	3599637.772	303.765
4_64	564071.083	3599581	303.823
4_70	565691.938	3611483.166	266.166
4_73	563691.958	3606347.187	268.248
4_74	563650.362	3606223.604	268.793



Point ID: 2_5

Northing: 3563044.032 Meters

Easting: 703598.193 Meters

Orthometric Height: 154.73 Meters

Latitude: 32° 11' 07.87459" N

Longitude: 96° 50' 25.31705" W

Ellipsoid Height: 128.2846 Meters



Point ID: 2_11

Northing: 3560607.205 Meters

Easting: 711145.29 Meters

Orthometric Height: 127.494 Meters

Latitude: 32° 09' 43.78177" N

Longitude: 96° 45' 39.24217" W

Ellipsoid Height: 101.311 Meters



Point ID: 2_12

Northing: 3560586.498 Meters

Easting: 711111.066 Meters

Orthometric Height: 127.644 Meters

Latitude: 32° 09' 43.13287" N

Longitude: 96° 45' 40.56430" W

Ellipsoid Height: 101.4596 Meters



Point ID: 2_13

Northing: 3560566.546 Meters

Easting: 711077.353 Meters

Orthometric Height: 127.707 Meters

Latitude: 32° 09' 42.50813" N

Longitude: 96° 45' 41.86634" W

Ellipsoid Height: 101.5222 Meters



Point ID: 2_19

Northing: 3567356.568 Meters

Easting: 710896.056 Meters

Orthometric Height: 145.249 Meters

Latitude: 32° 13' 22.98507" N

Longitude: 96° 45' 43.38961" W

Ellipsoid Height: 118.9966 Meters



Point ID: 2_30

Northing: 3572028.839 Meters

Easting: 706078.268 Meters

Orthometric Height: 158.364 Meters

Latitude: 32° 15' 57.83762" N

Longitude: 96° 48' 43.68537" W

Ellipsoid Height: 131.9344 Meters



Point ID: 2_31

Northing: 3572050.563 Meters

Easting: 706113.943 Meters

Orthometric Height: 158.328 Meters

Latitude: 32° 15' 58.51901" N

Longitude: 96° 48' 42.30579" W

Ellipsoid Height: 131.8986 Meters



Point ID: 3_5

Northing: 3587851.602 Meters

Easting: 665678.491 Meters

Orthometric Height: 219.142 Meters

Latitude: 32° 24' 55.59034" N

Longitude: 97° 14' 17.11463" W

Ellipsoid Height: 191.7497 Meters



Point ID: 3_7

Northing: 3587818.841 Meters

Easting: 665648.48 Meters

Orthometric Height: 219.167 Meters

Latitude: 32° 24' 54.54296" N

Longitude: 97° 14' 18.28380" W

Ellipsoid Height: 191.7746 Meters



Point ID: 3_11

Northing: 3600653.899 Meters

Easting: 658756.126 Meters

Orthometric Height: 224.392 Meters

Latitude: 32° 31' 54.80557" N

Longitude: 97° 18' 34.26753" W

Ellipsoid Height: 196.8038 Meters



Point ID: 3_12

Northing: 3600621.639 Meters

Easting: 658777.742 Meters

Orthometric Height: 224.927 Meters

Latitude: 32° 31' 53.74723" N

Longitude: 97° 18' 33.45884" W

Ellipsoid Height: 197.3393 Meters



Point ID: 3_13

Northing: 3600552.373 Meters

Easting: 658782.156 Meters

Orthometric Height: 227.542 Meters

Latitude: 32° 31' 51.49647" N

Longitude: 97° 18' 33.33184" W

Ellipsoid Height: 199.9551 Meters



Point ID: 3_17

Northing: 3610464.762 Meters

Easting: 638486.599 Meters

Orthometric Height: 222.961 Meters

Latitude: 32° 37' 23.08981" N

Longitude: 97° 31' 25.82110" W

Ellipsoid Height: 194.9698 Meters



Point ID: 3_19

Northing: 3610453.762 Meters

Easting: 638581.372 Meters

Orthometric Height: 223.906 Meters

Latitude: 32° 37' 22.68994" N

Longitude: 97° 31' 22.19125" W

Ellipsoid Height: 195.9155 Meters



Point ID: 3_23

Northing: 3636901.474 Meters

Easting: 638210.083 Meters

Orthometric Height: 226.451 Meters

Latitude: 32° 51' 41.45324" N

Longitude: 97° 31' 22.28415" W

Ellipsoid Height: 198.2257 Meters



Point ID: 3_25

Northing: 3636821.638 Meters

Easting: 638364.507 Meters

Orthometric Height: 223.617 Meters

Latitude: 32° 51' 38.79129" N

Longitude: 97° 31' 16.38731" W

Ellipsoid Height: 195.3954 Meters



Point ID: 3_27

Northing: 3658396.966 Meters

Easting: 642177.911 Meters

Orthometric Height: 276.694 Meters

Latitude: 33° 03' 17.41383" N

Longitude: 97° 28' 37.70752" W

Ellipsoid Height: 248.7613 Meters



Point ID: 3_31

Northing: 3658347.501 Meters

Easting: 642223.277 Meters

Orthometric Height: 278.586 Meters

Latitude: 33° 03' 15.78675" N

Longitude: 97° 28' 35.98642" W

Ellipsoid Height: 250.6534 Meters



Point ID: 3_33

Northing: 3655169.973 Meters

Easting: 660842.693 Meters

Orthometric Height: 190.93 Meters

Latitude: 33° 01' 23.30886" N

Longitude: 97° 16' 40.30955" W

Ellipsoid Height: 163.3048 Meters



Point ID: 3_34

Northing: 3655196.494 Meters

Easting: 660802.629 Meters

Orthometric Height: 191.716 Meters

Latitude: 33° 01' 24.19100" N

Longitude: 97° 16' 41.83649" W

Ellipsoid Height: 164.0902 Meters



Point ID: 3_37

Northing: 3655092.693 Meters

Easting: 660809.99 Meters

Orthometric Height: 190.53 Meters

Latitude: 33° 01' 20.81784" N

Longitude: 97° 16' 41.61836" W

Ellipsoid Height: 162.9026 Meters



Point ID: 3_41

Northing: 3634230.434 Meters

Easting: 666575.171 Meters

Orthometric Height: 175.76 Meters

Latitude: 32° 50' 00.55053" N

Longitude: 97° 13' 13.06842" W

Ellipsoid Height: 148.1542 Meters



Point ID: 3_42

Northing: 3634201.833 Meters

Easting: 666599.463 Meters

Orthometric Height: 175.669 Meters

Latitude: 32° 49' 59.60890" N

Longitude: 97° 13' 12.15300" W

Ellipsoid Height: 148.0628 Meters



Point ID: 3_43

Northing: 3634168.874 Meters

Easting: 666643.304 Meters

Orthometric Height: 175.404 Meters

Latitude: 32° 49' 58.51512" N

Longitude: 97° 13' 10.48885" W

Ellipsoid Height: 147.799 Meters



Point ID: 3_46

Northing: 3614835.41 Meters

Easting: 671189.422 Meters

Orthometric Height: 199.039 Meters

Latitude: 32° 39' 28.46645" N

Longitude: 97° 10' 28.52312" W

Ellipsoid Height: 171.6157 Meters



Point ID: 3_48

Northing: 3614885.978 Meters

Easting: 671155.363 Meters

Orthometric Height: 198.396 Meters

Latitude: 32° 39' 30.12681" N

Longitude: 97° 10' 29.79664" W

Ellipsoid Height: 170.9719 Meters



Point ID: 3_49

Northing: 3614862.129 Meters

Easting: 671111.764 Meters

Orthometric Height: 199.792 Meters

Latitude: 32° 39' 29.37705" N

Longitude: 97° 10' 31.48527" W

Ellipsoid Height: 172.3669 Meters



Point ID: 3_52

Northing: 3598336.828 Meters

Easting: 682160.782 Meters

Orthometric Height: 169.663 Meters

Latitude: 32° 30' 26.65420" N

Longitude: 97° 03' 39.10739" W

Ellipsoid Height: 142.5557 Meters



Point ID: 3_55

Northing: 3598277.288 Meters

Easting: 682135.813 Meters

Orthometric Height: 170.269 Meters

Latitude: 32° 30' 24.73641" N

Longitude: 97° 03' 40.10527" W

Ellipsoid Height: 143.1617 Meters



Point ID: 3_60

Northing: 3613847.213 Meters

Easting: 697935.937 Meters

Orthometric Height: 210.869 Meters

Latitude: 32° 38' 40.30159" N

Longitude: 96° 53' 23.11432" W

Ellipsoid Height: 184.1186 Meters



Point ID: 3_61

Northing: 3613828.783 Meters

Easting: 697968.917 Meters

Orthometric Height: 211.746 Meters

Latitude: 32° 38' 39.68222" N

Longitude: 96° 53' 21.86333" W

Ellipsoid Height: 184.9955 Meters



Point ID: 3_63

Northing: 3613908.526 Meters

Easting: 697943.2 Meters

Orthometric Height: 211.145 Meters

Latitude: 32° 38' 42.28672" N

Longitude: 96° 53' 22.78900" W

Ellipsoid Height: 184.3949 Meters



Point ID: 3_66

Northing: 3635326.159 Meters

Easting: 692886.561 Meters

Orthometric Height: 158.168 Meters

Latitude: 32° 50' 20.58791" N

Longitude: 96° 56' 20.76692" W

Ellipsoid Height: 131.2108 Meters



Point ID: 3_67

Northing: 3635304.087 Meters

Easting: 692852.018 Meters

Orthometric Height: 158.746 Meters

Latitude: 32° 50' 19.89349" N

Longitude: 96° 56' 22.11142" W

Ellipsoid Height: 131.7876 Meters



Point ID: 3_69

Northing: 3635203.337 Meters

Easting: 692879.196 Meters

Orthometric Height: 159.203 Meters

Latitude: 32° 50' 16.60661" N

Longitude: 96° 56' 21.14219" W

Ellipsoid Height: 132.2463 Meters



Point ID: 3_71

Northing: 3652341.573 Meters

Easting: 688730.673 Meters

Orthometric Height: 137.959 Meters

Latitude: 32° 59' 35.40268" N

Longitude: 96° 58' 47.99578" W

Ellipsoid Height: 110.9276 Meters



Point ID: 3_75

Northing: 3652404.677 Meters

Easting: 688790.171 Meters

Orthometric Height: 136.956 Meters

Latitude: 32° 59' 37.41352" N

Longitude: 96° 58' 45.65782" W

Ellipsoid Height: 109.9279 Meters



Point ID: 3_78

Northing: 3646657.459 Meters

Easting: 711100.492 Meters

Orthometric Height: 185.076 Meters

Latitude: 32° 56' 16.19544" N

Longitude: 96° 44' 31.30676" W

Ellipsoid Height: 158.8523 Meters



Point ID: 3_79

Northing: 3646661.615 Meters

Easting: 711050.824 Meters

Orthometric Height: 184.838 Meters

Latitude: 32° 56' 16.36487" N

Longitude: 96° 44' 33.21457" W

Ellipsoid Height: 158.6118 Meters



Point ID: 3_81

Northing: 3646527.007 Meters

Easting: 711081.12 Meters

Orthometric Height: 183.613 Meters

Latitude: 32° 56' 11.97596" N

Longitude: 96° 44' 32.15983" W

Ellipsoid Height: 157.3874 Meters



Point ID: 3_83

Northing: 3663842.398 Meters

Easting: 717851.977 Meters

Orthometric Height: 194.68 Meters

Latitude: 33° 05' 29.01151" N

Longitude: 96° 39' 56.83002" W

Ellipsoid Height: 168.8302 Meters



Point ID: 3_86

Northing: 3663873.019 Meters

Easting: 717800.638 Meters

Orthometric Height: 195.185 Meters

Latitude: 33° 05' 30.04209" N

Longitude: 96° 39' 58.78260" W

Ellipsoid Height: 169.3338 Meters



Point ID: 3_87

Northing: 3663921.31 Meters

Easting: 717840.088 Meters

Orthometric Height: 194.175 Meters

Latitude: 33° 05' 31.58043" N

Longitude: 96° 39' 57.22060" W

Ellipsoid Height: 168.3255 Meters



Point ID: 3_92

Northing: 3672495.939 Meters

Easting: 738527.053 Meters

Orthometric Height: 159.249 Meters

Latitude: 33° 09' 54.09884" N

Longitude: 96° 26' 31.85087" W

Ellipsoid Height: 133.6998 Meters



Point ID: 3_97

Northing: 3652832.775 Meters

Easting: 753028.166 Meters

Orthometric Height: 166.472 Meters

Latitude: 32° 59' 04.44956" N

Longitude: 96° 17' 32.14736" W

Ellipsoid Height: 141.0779 Meters



Point ID: 3_98

Northing: 3652700.822 Meters

Easting: 752964.045 Meters

Orthometric Height: 166.17 Meters

Latitude: 32° 59' 00.22293" N

Longitude: 96° 17' 34.74593" W

Ellipsoid Height: 140.7755 Meters



Point ID: 3_99

Northing: 3652685.967 Meters

Easting: 752995.868 Meters

Orthometric Height: 166.506 Meters

Latitude: 32° 58' 59.71451" N

Longitude: 96° 17' 33.53588" W

Ellipsoid Height: 141.1117 Meters



Point ID: 3_101

Northing: 3645609.944 Meters

Easting: 738863.675 Meters

Orthometric Height: 176.907 Meters

Latitude: 32° 55' 21.63211" N

Longitude: 96° 26' 44.09412" W

Ellipsoid Height: 151.467 Meters



Point ID: 3_105

Northing: 3645523.685 Meters

Easting: 738865.505 Meters

Orthometric Height: 176.681 Meters

Latitude: 32° 55' 18.83230" N

Longitude: 96° 26' 44.10415" W

Ellipsoid Height: 151.241 Meters



Point ID: 3_111

Northing: 3611612.131 Meters

Easting: 620495.186 Meters

Orthometric Height: 356.539 Meters

Latitude: 32° 38' 07.92934" N

Longitude: 97° 42' 55.51674" W

Ellipsoid Height: 328.1878 Meters



Point ID: 3_112

Northing: 3611583.096 Meters

Easting: 620468.913 Meters

Orthometric Height: 354.21 Meters

Latitude: 32° 38' 06.99700" N

Longitude: 97° 42' 56.53830" W

Ellipsoid Height: 325.8575 Meters



Point ID: 3_117

Northing: 3614227.966 Meters

Easting: 602099.781 Meters

Orthometric Height: 244.773 Meters

Latitude: 32° 39' 39.53525" N

Longitude: 97° 54' 40.36471" W

Ellipsoid Height: 215.9688 Meters



Point ID: 3_118

Northing: 3614141.133 Meters

Easting: 602156.28 Meters

Orthometric Height: 240.96 Meters

Latitude: 32° 39' 36.69703" N

Longitude: 97° 54' 38.23023" W

Ellipsoid Height: 212.1569 Meters



Point ID: 3_121

Northing: 3623795.04 Meters

Easting: 612630.561 Meters

Orthometric Height: 321.696 Meters

Latitude: 32° 44' 46.46879" N

Longitude: 97° 47' 51.99505" W

Ellipsoid Height: 293.0607 Meters



Point ID: 3_123

Northing: 3623830.781 Meters

Easting: 612571.498 Meters

Orthometric Height: 322.92 Meters

Latitude: 32° 44' 47.65096" N

Longitude: 97° 47' 54.24863" W

Ellipsoid Height: 294.2839 Meters



Point ID: 3_125

Northing: 3623874.693 Meters

Easting: 612605.674 Meters

Orthometric Height: 323.082 Meters

Latitude: 32° 44' 49.06410" N

Longitude: 97° 47' 52.91647" W

Ellipsoid Height: 294.4457 Meters



Point ID: 3_133

Northing: 3638232.334 Meters

Easting: 617789.584 Meters

Orthometric Height: 311.859 Meters

Latitude: 32° 52' 33.25213" N

Longitude: 97° 44' 27.18605" W

Ellipsoid Height: 283.2929 Meters



Point ID: 3_137

Northing: 3638239.775 Meters

Easting: 617699.614 Meters

Orthometric Height: 309.262 Meters

Latitude: 32° 52' 33.52854" N

Longitude: 97° 44' 30.64416" W

Ellipsoid Height: 280.6951 Meters



Point ID: 3_142

Northing: 3579811.597 Meters

Easting: 701792.413 Meters

Orthometric Height: 176.541 Meters

Latitude: 32° 20' 13.22803" N

Longitude: 96° 51' 21.44388" W

Ellipsoid Height: 149.9575 Meters



Point ID: 3_149

Northing: 3599852.205 Meters

Easting: 706420.9 Meters

Orthometric Height: 184.53 Meters

Latitude: 32° 31' 00.55165" N

Longitude: 96° 48' 08.75170" W

Ellipsoid Height: 158.0266 Meters



Point ID: 3_153

Northing: 3625384.711 Meters

Easting: 704939.251 Meters

Orthometric Height: 144.973 Meters

Latitude: 32° 44' 50.11031" N

Longitude: 96° 48' 45.35878" W

Ellipsoid Height: 118.4315 Meters



Point ID: 3_156

Northing: 3625411.456 Meters

Easting: 704990.965 Meters

Orthometric Height: 143.064 Meters

Latitude: 32° 44' 50.94355" N

Longitude: 96° 48' 43.35177" W

Ellipsoid Height: 116.5238 Meters



Point ID: 3_157

Northing: 3625376.592 Meters

Easting: 704985.748 Meters

Orthometric Height: 143.763 Meters

Latitude: 32° 44' 49.81568" N

Longitude: 96° 48' 43.57975" W

Ellipsoid Height: 117.2227 Meters



Point ID: 3_161

Northing: 3624210.897 Meters

Easting: 723195.511 Meters

Orthometric Height: 155.666 Meters

Latitude: 32° 43' 59.23958" N

Longitude: 96° 37' 05.39151" W

Ellipsoid Height: 129.7622 Meters



Point ID: 3_163

Northing: 3624212.147 Meters

Easting: 723261.064 Meters

Orthometric Height: 156.95 Meters

Latitude: 32° 43' 59.23230" N

Longitude: 96° 37' 02.87393" W

Ellipsoid Height: 131.0477 Meters



Point ID: 3_166

Northing: 3625518.395 Meters

Easting: 738838.505 Meters

Orthometric Height: 141.642 Meters

Latitude: 32° 44' 29.84326" N

Longitude: 96° 27' 03.71576" W

Ellipsoid Height: 116.1955 Meters



Point ID: 3_167

Northing: 3625519.516 Meters

Easting: 738796.947 Meters

Orthometric Height: 141.437 Meters

Latitude: 32° 44' 29.91209" N

Longitude: 96° 27' 05.31004" W

Ellipsoid Height: 115.99 Meters



Point ID: 3_169

Northing: 3625546.133 Meters

Easting: 738734.715 Meters

Orthometric Height: 141.041 Meters

Latitude: 32° 44' 30.82421" N

Longitude: 96° 27' 07.67439" W

Ellipsoid Height: 115.5931 Meters



Point ID: 3_173

Northing: 3613970.141 Meters

Easting: 737569.041 Meters

Orthometric Height: 122.606 Meters

Latitude: 32° 38' 16.17094" N

Longitude: 96° 28' 03.03772" W

Ellipsoid Height: 97.0962 Meters



Point ID: 3_174

Northing: 3613961.607 Meters

Easting: 737605.466 Meters

Orthometric Height: 124.216 Meters

Latitude: 32° 38' 15.86587" N

Longitude: 96° 28' 01.64883" W

Ellipsoid Height: 98.7065 Meters



Point ID: 3_175

Northing: 3613929.589 Meters

Easting: 737616.948 Meters

Orthometric Height: 126.711 Meters

Latitude: 32° 38' 14.81821" N

Longitude: 96° 28' 01.23788" W

Ellipsoid Height: 101.2019 Meters



Point ID: 3_177

Northing: 3601654.955 Meters

Easting: 719547.768 Meters

Orthometric Height: 141.375 Meters

Latitude: 32° 31' 49.98259" N

Longitude: 96° 39' 44.48847" W

Ellipsoid Height: 115.2602 Meters



Point ID: 3_181

Northing: 3601611.69 Meters

Easting: 719532.335 Meters

Orthometric Height: 141.102 Meters

Latitude: 32° 31' 48.58967" N

Longitude: 96° 39' 45.11598" W

Ellipsoid Height: 114.9869 Meters



Point ID: 4_3

Northing: 3642823.928 Meters

Easting: 586648.673 Meters

Orthometric Height: 314.707 Meters

Latitude: 32° 55' 12.80816" N

Longitude: 98° 04' 23.84766" W

Ellipsoid Height: 285.7532 Meters



Point ID: 4_7

Northing: 3627058.018 Meters

Easting: 572291.161 Meters

Orthometric Height: 298.931 Meters

Latitude: 32° 46' 44.62922" N

Longitude: 98° 13' 41.02981" W

Ellipsoid Height: 269.6591 Meters



Point ID: 4_8

Northing: 3626526.724 Meters

Easting: 568985.882 Meters

Orthometric Height: 348.568 Meters

Latitude: 32° 46' 28.14215" N

Longitude: 98° 15' 48.22205" W

Ellipsoid Height: 319.2825 Meters



Point ID: 4_9

Northing: 3625167.482 Meters

Easting: 563051.943 Meters

Orthometric Height: 325.763 Meters

Latitude: 32° 45' 45.28783" N

Longitude: 98° 19' 36.63727" W

Ellipsoid Height: 296.4531 Meters



Point ID: 4_13

Northing: 3614387.336 Meters

Easting: 550398.361 Meters

Orthometric Height: 351.634 Meters

Latitude: 32° 39' 57.57018" N

Longitude: 98° 27' 45.04971" W

Ellipsoid Height: 322.3975 Meters



Point ID: 4_18

Northing: 3626695.171 Meters

Easting: 587488.778 Meters

Orthometric Height: 292.544 Meters

Latitude: 32° 46' 28.86939" N

Longitude: 98° 03' 56.99719" W

Ellipsoid Height: 263.4535 Meters



Point ID: 4_20

Northing: 3614336.68 Meters

Easting: 584327.466 Meters

Orthometric Height: 244.875 Meters

Latitude: 32° 39' 48.46897" N

Longitude: 98° 06' 02.53264" W

Ellipsoid Height: 215.8248 Meters



Point ID: 4_22

Northing: 3610947.388 Meters

Easting: 587235.462 Meters

Orthometric Height: 256.768 Meters

Latitude: 32° 37' 57.60189" N

Longitude: 98° 04' 12.04185" W

Ellipsoid Height: 227.7971 Meters



Point ID: 4_36

Northing: 3590262.015 Meters

Easting: 544365.913 Meters

Orthometric Height: 347.495 Meters

Latitude: 32° 26' 55.04374" N

Longitude: 98° 31' 40.75326" W

Ellipsoid Height: 318.7489 Meters



Point ID: 4_39

Northing: 3595036.156 Meters

Easting: 542185.649 Meters

Orthometric Height: 433.507 Meters

Latitude: 32° 29' 30.38979" N

Longitude: 98° 33' 03.48738" W

Ellipsoid Height: 404.6529 Meters



Point ID: 4_45

Northing: 3596771.414 Meters

Easting: 554761.281 Meters

Orthometric Height: 314.756 Meters

Latitude: 32° 30' 24.76545" N

Longitude: 98° 25' 01.25702" W

Ellipsoid Height: 285.849 Meters



Point ID: 4_46

Northing: 3596761.565 Meters

Easting: 554788.113 Meters

Orthometric Height: 314.74 Meters

Latitude: 32° 30' 24.44085" N

Longitude: 98° 25' 00.23078" W

Ellipsoid Height: 285.8327 Meters



Point ID: 4_52

Northing: 3596903.617 Meters

Easting: 554790.635 Meters

Orthometric Height: 313.874 Meters

Latitude: 32° 30' 29.05344" N

Longitude: 98° 25' 00.10435" W

Ellipsoid Height: 284.9636 Meters



Point ID: 4_53

Northing: 3596873.772 Meters

Easting: 554773.809 Meters

Orthometric Height: 313.996 Meters

Latitude: 32° 30' 28.08723" N

Longitude: 98° 25' 00.75545" W

Ellipsoid Height: 285.0855 Meters



Point ID: 4_56

Northing: 3599716.108 Meters

Easting: 563985.886 Meters

Orthometric Height: 301.025 Meters

Latitude: 32° 31' 58.61409" N

Longitude: 98° 19' 07.01967" W

Ellipsoid Height: 272.0892 Meters



Point ID: 4_58

Northing: 3599766.986 Meters

Easting: 564012.456 Meters

Orthometric Height: 301.302 Meters

Latitude: 32° 32' 00.26078" N

Longitude: 98° 19' 05.98866" W

Ellipsoid Height: 272.3654 Meters



Point ID: 4_59

Northing: 3599762.955 Meters

Easting: 564054.025 Meters

Orthometric Height: 302.405 Meters

Latitude: 32° 32' 00.12125" N

Longitude: 98° 19' 04.39614" W

Ellipsoid Height: 273.4692 Meters



Point ID: 4_62

Northing: 3599684.239 Meters

Easting: 564065.594 Meters

Orthometric Height: 302.918 Meters

Latitude: 32° 31' 57.56264" N

Longitude: 98° 19' 03.97196" W

Ellipsoid Height: 273.9826 Meters



Point ID: 4_63

Northing: 3599637.772 Meters

Easting: 564070.928 Meters

Orthometric Height: 303.765 Meters

Latitude: 32° 31' 56.05259" N

Longitude: 98° 19' 03.77888" W

Ellipsoid Height: 274.8306 Meters



Point ID: 4_64

Northing: 3599581 Meters

Easting: 564071.083 Meters

Orthometric Height: 303.823 Meters

Latitude: 32° 31' 54.20898" N

Longitude: 98° 19' 03.78689" W

Ellipsoid Height: 274.8907 Meters



Point ID: 4_70

Northing: 3611483.166 Meters

Easting: 565691.938 Meters

Orthometric Height: 266.166 Meters

Latitude: 32° 38' 20.36766" N

Longitude: 98° 17' 58.65042" W

Ellipsoid Height: 237.026 Meters



Point ID: 4_73

Northing: 3606347.187 Meters

Easting: 563691.958 Meters

Orthometric Height: 268.248 Meters

Latitude: 32° 35' 34.00834" N

Longitude: 98° 19' 16.66634" W

Ellipsoid Height: 239.1758 Meters



Point ID: 4_74

Northing: 3606223.604 Meters

Easting: 563650.362 Meters

Orthometric Height: 268.793 Meters

Latitude: 32° 35' 30.00382" N

Longitude: 98° 19' 18.29219" W

Ellipsoid Height: 239.7232 Meters

Vegetated Vertical Accuracy Checkpoints Low Vegetation

The Map shows the overall distribution of the Vegetated Vertical Accuracy Checkpoint, Low Vegetation throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Universal Transverse Mercator 14N, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

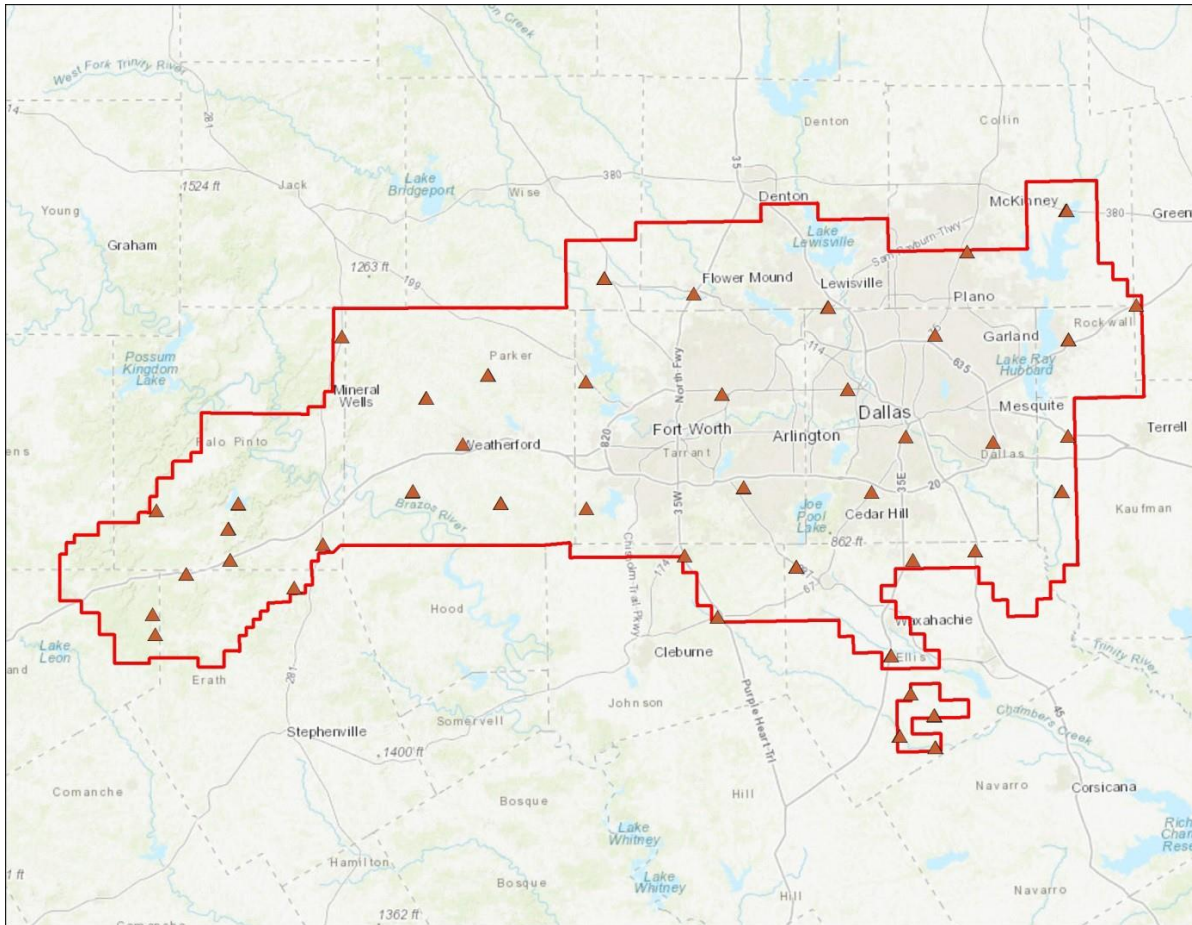


TABLE: Low Vegetation

Point ID	Easting	Northing	Ortho
2_3	703680.479	3563041.879	152.63
2_4	703640.353	3563038.439	153.271
2_7	703767.664	3563047.066	150.542
2_9	711166.204	3560664.44	126.575
2_10	711143.933	3560700.388	126.976
2_15	710971.818	3567330.644	140.862
2_16	710967.592	3567369.096	142.185
2_17	710926.242	3567364.891	143.755
2_27	706005.753	3571953.814	158.252
2_28	706032.101	3571937.287	158.425
3_3	665731.571	3587826.021	218.256
3_4	665720.189	3587865.045	219.407
3_10	658797.229	3600655.928	224.126
3_15	638391.816	3610451.936	221.352
3_22	638250.663	3636870.069	225.65
3_28	642140.066	3658403.548	275.171
3_29	642130.39	3658371.268	277.641
3_30	642145.728	3658337.891	280.033
3_36	660783.642	3655123.454	190.719
3_39	666621.661	3634249.52	175.66
3_40	666589.167	3634266.734	175.992
3_45	671168.262	3614801.024	199.709
3_47	671196.345	3614876.993	197.439
3_51	682168.076	3598381.715	169.644
3_53	682128.924	3598305.01	170.025
3_54	682103.104	3598255.35	171.13
3_59	697874.258	3613829.433	209.334
3_65	692926.945	3635307.92	158.371
3_68	692875.154	3635243.05	158.81
3_72	688748.011	3652306.335	137.514
3_73	688775.288	3652328.056	137.063
3_74	688782.057	3652356.017	137.094
3_77	711134.12	3646628.964	184.816
3_80	711099.331	3646562.73	183.974
3_84	717812.325	3663843.95	195.449
3_85	717772.514	3663847.851	196.099
3_89	738417.572	3672431.41	162.888
3_91	738490.797	3672512.609	157.212
3_93	738546.721	3672527.738	155.884
3_96	753023.284	3652792.015	165.921
3_102	738881.135	3645646.578	175.419
3_103	738910.123	3645623.141	177.242
3_104	738905.327	3645581.442	177.57

Point ID	Easting	Northing	Ortho
3_109	620540.954	3611673.998	359.18
3_113	620436.558	3611559.737	351.639
3_115	602097.986	3613891.735	241.275
3_119	602173.937	3614105.114	239.507
3_122	612588.73	3623796.355	321.763
3_127	604935.566	3633422.026	390.603
3_130	604940.625	3633449.772	391.039
3_134	617836.525	3638228.909	311.168
3_135	617913.153	3638228.146	310.268
3_136	617736.248	3638202.606	309.168
3_141	701831.626	3579815.689	176.898
3_144	701887.008	3579846.131	177.067
3_151	706409.556	3599771.043	183.563
3_154	704943.601	3625423.759	144.929
3_162	723219.395	3624240.243	156.386
3_165	738809.755	3625542.089	141.249
3_168	738757.912	3625517.372	141.525
3_171	737498.606	3613991.653	121.818
3_172	737531.885	3613970.025	122.473
3_178	719511.796	3601669.007	141.195
3_179	719468.268	3601661.63	141.021
4_2	587351.805	3646257.047	346.44
4_14	548635.03	3610073.356	351.687
4_23	583353.811	3603031.825	303.385
4_26	577439.924	3593981.376	334.904
4_32	548490.165	3584255.098	368.776
4_33	547816.128	3588403.588	331.708
4_48	554839.488	3596800.092	314.064
4_50	554830.219	3596852.341	313.904
4_55	564010.693	3599719.696	301.042
4_57	563996.044	3599754.564	300.431
4_61	564086.417	3599763.03	302.765
4_66	565744.835	3611433.363	266.018
4_68	565750.992	3611519.222	265.357
4_72	563685.33	3606305.147	267.778
4_75	563627.296	3606165.76	268.016



Point ID: 2_3

Northing: 3563041.879 Meters

Easting: 703680.479 Meters

Orthometric Height: 152.63 Meters

Latitude: 32° 11' 07.75103" N

Longitude: 96° 50' 22.17841" W

Ellipsoid Height: 126.187 Meters



Point ID: 2_4

Northing: 3563038.439 Meters

Easting: 703640.353 Meters

Orthometric Height: 153.271 Meters

Latitude: 32° 11' 07.66556" N

Longitude: 96° 50' 23.71240" W

Ellipsoid Height: 126.8273 Meters



Point ID: 2_7

Northing: 3563047.066 Meters

Easting: 703767.664 Meters

Orthometric Height: 150.542 Meters

Latitude: 32° 11' 07.86251" N

Longitude: 96° 50' 18.84722" W

Ellipsoid Height: 124.1016 Meters



Point ID: 2_9

Northing: 3560664.44 Meters

Easting: 711166.204 Meters

Orthometric Height: 126.575 Meters

Latitude: 32° 09' 45.62506" N

Longitude: 96° 45' 38.39883" W

Ellipsoid Height: 100.3916 Meters



Point ID: 2_10

Northing: 3560700.388 Meters

Easting: 711143.933 Meters

Orthometric Height: 126.976 Meters

Latitude: 32° 09' 46.80672" N

Longitude: 96° 45' 39.21997" W

Ellipsoid Height: 100.7923 Meters



Point ID: 2_15

Northing: 3567330.644 Meters

Easting: 710971.818 Meters

Orthometric Height: 140.862 Meters

Latitude: 32° 13' 22.09252" N

Longitude: 96° 45' 40.51788" W

Ellipsoid Height: 114.6126 Meters



Point ID: 2_16

Northing: 3567369.096 Meters

Easting: 710967.592 Meters

Orthometric Height: 142.185 Meters

Latitude: 32° 13' 23.34325" N

Longitude: 96° 45' 40.64864" W

Ellipsoid Height: 115.9348 Meters



Point ID: 2_17

Northing: 3567364.891 Meters

Easting: 710926.242 Meters

Orthometric Height: 143.755 Meters

Latitude: 32° 13' 23.23474" N

Longitude: 96° 45' 42.23058" W

Ellipsoid Height: 117.5038 Meters



Point ID: 2_27

Northing: 3571953.814 Meters

Easting: 706005.753 Meters

Orthometric Height: 158.252 Meters

Latitude: 32° 15' 55.45077" N

Longitude: 96° 48' 46.51357" W

Ellipsoid Height: 131.8197 Meters



Point ID: 2_28

Northing: 3571937.287 Meters

Easting: 706032.101 Meters

Orthometric Height: 158.425 Meters

Latitude: 32° 15' 54.89697" N

Longitude: 96° 48' 45.52006" W

Ellipsoid Height: 131.9942 Meters



Point ID: 3_3

Northing: 3587826.021 Meters

Easting: 665731.571 Meters

Orthometric Height: 218.256 Meters

Latitude: 32° 24' 54.73155" N

Longitude: 97° 14' 15.09949" W

Ellipsoid Height: 190.8648 Meters



Point ID: 3_4

Northing: 3587865.045 Meters

Easting: 665720.189 Meters

Orthometric Height: 219.407 Meters

Latitude: 32° 24' 56.00438" N

Longitude: 97° 14' 15.51043" W

Ellipsoid Height: 192.0162 Meters



Point ID: 3_10

Northing: 3600655.928 Meters

Easting: 658797.229 Meters

Orthometric Height: 224.126 Meters

Latitude: 32° 31' 54.85026" N

Longitude: 97° 18' 32.69124" W

Ellipsoid Height: 196.5389 Meters



Point ID: 3_15

Northing: 3610451.936 Meters

Easting: 638391.816 Meters

Orthometric Height: 221.352 Meters

Latitude: 32° 37' 22.71615" N

Longitude: 97° 31' 29.46402" W

Ellipsoid Height: 193.3588 Meters



Point ID: 3_22

Northing: 3636870.069 Meters

Easting: 638250.663 Meters

Orthometric Height: 225.65 Meters

Latitude: 32° 51' 40.41529" N

Longitude: 97° 31' 20.74017" W

Ellipsoid Height: 197.4258 Meters



Point ID: 3_28

Northing: 3658403.548 Meters

Easting: 642140.066 Meters

Orthometric Height: 275.171 Meters

Latitude: 33° 03' 17.64532" N

Longitude: 97° 28' 39.16267" W

Ellipsoid Height: 247.2371 Meters



Point ID: 3_29

Northing: 3658371.268 Meters

Easting: 642130.39 Meters

Orthometric Height: 277.641 Meters

Latitude: 33° 03' 16.60199" N

Longitude: 97° 28' 39.55370" W

Ellipsoid Height: 249.7061 Meters



Point ID: 3_30

Northing: 3658337.891 Meters

Easting: 642145.728 Meters

Orthometric Height: 280.033 Meters

Latitude: 33° 03' 15.51132" N

Longitude: 97° 28' 38.98109" W

Ellipsoid Height: 252.0978 Meters



Point ID: 3_36

Northing: 3655123.454 Meters

Easting: 660783.642 Meters

Orthometric Height: 190.719 Meters

Latitude: 33° 01' 21.83032" N

Longitude: 97° 16' 42.61414" W

Ellipsoid Height: 163.0917 Meters



Point ID: 3_39

Northing: 3634249.52 Meters

Easting: 666621.661 Meters

Orthometric Height: 175.66 Meters

Latitude: 32° 50' 01.14462" N

Longitude: 97° 13' 11.26867" W

Ellipsoid Height: 148.0554 Meters



Point ID: 3_40

Northing: 3634266.734 Meters

Easting: 666589.167 Meters

Orthometric Height: 175.992 Meters

Latitude: 32° 50' 01.72112" N

Longitude: 97° 13' 12.50682" W

Ellipsoid Height: 148.3857 Meters



Point ID: 3_45

Northing: 3614801.024 Meters

Easting: 671168.262 Meters

Orthometric Height: 199.709 Meters

Latitude: 32° 39' 27.36212" N

Longitude: 97° 10' 29.35774" W

Ellipsoid Height: 172.2856 Meters



Point ID: 3_47

Northing: 3614876.993 Meters

Easting: 671196.345 Meters

Orthometric Height: 197.439 Meters

Latitude: 32° 39' 29.81231" N

Longitude: 97° 10' 28.23004" W

Ellipsoid Height: 170.0159 Meters



Point ID: 3_51

Northing: 3598381.715 Meters

Easting: 682168.076 Meters

Orthometric Height: 169.644 Meters

Latitude: 32° 30' 28.10678" N

Longitude: 97° 03' 38.79670" W

Ellipsoid Height: 142.5374 Meters



Point ID: 3_53

Northing: 3598305.01 Meters

Easting: 682128.924 Meters

Orthometric Height: 170.025 Meters

Latitude: 32° 30' 25.64029" N

Longitude: 97° 03' 40.34983" W

Ellipsoid Height: 142.9184 Meters



Point ID: 3_54

Northing: 3598255.35 Meters

Easting: 682103.104 Meters

Orthometric Height: 171.13 Meters

Latitude: 32° 30' 24.04369" N

Longitude: 97° 03' 41.37344" W

Ellipsoid Height: 144.0217 Meters



Point ID: 3_59

Northing: 3613829.433 Meters

Easting: 697874.258 Meters

Orthometric Height: 209.334 Meters

Latitude: 32° 38' 39.76436" N

Longitude: 96° 53' 25.49375" W

Ellipsoid Height: 182.5823 Meters



Point ID: 3_65

Northing: 3635307.92 Meters

Easting: 692926.945 Meters

Orthometric Height: 158.371 Meters

Latitude: 32° 50' 19.97043" N

Longitude: 96° 56' 19.22814" W

Ellipsoid Height: 131.4154 Meters



Point ID: 3_68

Northing: 3635243.05 Meters

Easting: 692875.154 Meters

Orthometric Height: 158.81 Meters

Latitude: 32° 50' 17.89798" N

Longitude: 96° 56' 21.26777" W

Ellipsoid Height: 131.853 Meters



Point ID: 3_72

Northing: 3652306.335 Meters

Easting: 688748.011 Meters

Orthometric Height: 137.514 Meters

Latitude: 32° 59' 34.24829" N

Longitude: 96° 58' 47.35416" W

Ellipsoid Height: 110.4834 Meters



Point ID: 3_73

Northing: 3652328.056 Meters

Easting: 688775.288 Meters

Orthometric Height: 137.063 Meters

Latitude: 32° 59' 34.93619" N

Longitude: 96° 58' 46.28767" W

Ellipsoid Height: 110.033 Meters



Point ID: 3_74

Northing: 3652356.017 Meters

Easting: 688782.057 Meters

Orthometric Height: 137.094 Meters

Latitude: 32° 59' 35.83938" N

Longitude: 96° 58' 46.00630" W

Ellipsoid Height: 110.0648 Meters



Point ID: 3_77

Northing: 3646628.964 Meters

Easting: 711134.12 Meters

Orthometric Height: 184.816 Meters

Latitude: 32° 56' 15.24743" N

Longitude: 96° 44' 30.03628" W

Ellipsoid Height: 158.5925 Meters



Point ID: 3_80

Northing: 3646562.73 Meters

Easting: 711099.331 Meters

Orthometric Height: 183.974 Meters

Latitude: 32° 56' 13.12245" N

Longitude: 96° 44' 31.42959" W

Ellipsoid Height: 157.7485 Meters



Point ID: 3_84

Northing: 3663843.95 Meters

Easting: 717812.325 Meters

Orthometric Height: 195.449 Meters

Latitude: 33° 05' 29.09049" N

Longitude: 96° 39' 58.35707" W

Ellipsoid Height: 169.5984 Meters



Point ID: 3_85

Northing: 3663847.851 Meters

Easting: 717772.514 Meters

Orthometric Height: 196.099 Meters

Latitude: 33° 05' 29.24580" N

Longitude: 96° 39' 59.88825" W

Ellipsoid Height: 170.2472 Meters



Point ID: 3_89

Northing: 3672431.41 Meters

Easting: 738417.572 Meters

Orthometric Height: 162.888 Meters

Latitude: 33° 09' 52.09229" N

Longitude: 96° 26' 36.13444" W

Ellipsoid Height: 137.3388 Meters



Point ID: 3_91

Northing: 3672512.609 Meters

Easting: 738490.797 Meters

Orthometric Height: 157.212 Meters

Latitude: 33° 09' 54.66837" N

Longitude: 96° 26' 33.23360" W

Ellipsoid Height: 131.6634 Meters



Point ID: 3_93

Northing: 3672527.738 Meters

Easting: 738546.721 Meters

Orthometric Height: 155.884 Meters

Latitude: 33° 09' 55.11483" N

Longitude: 96° 26' 31.06230" W

Ellipsoid Height: 130.3353 Meters



Point ID: 3_96

Northing: 3652792.015 Meters

Easting: 753023.284 Meters

Orthometric Height: 165.921 Meters

Latitude: 32° 59' 03.13150" N

Longitude: 96° 17' 32.37565" W

Ellipsoid Height: 140.5274 Meters



Point ID: 3_102

Northing: 3645646.578 Meters

Easting: 738881.135 Meters

Orthometric Height: 175.419 Meters

Latitude: 32° 55' 22.80681" N

Longitude: 96° 26' 43.38834" W

Ellipsoid Height: 149.9798 Meters



Point ID: 3_103

Northing: 3645623.141 Meters

Easting: 738910.123 Meters

Orthometric Height: 177.242 Meters

Latitude: 32° 55' 22.02368" N

Longitude: 96° 26' 42.29514" W

Ellipsoid Height: 151.8035 Meters



Point ID: 3_104

Northing: 3645581.442 Meters

Easting: 738905.327 Meters

Orthometric Height: 177.57 Meters

Latitude: 32° 55' 20.67468" N

Longitude: 96° 26' 42.51855" W

Ellipsoid Height: 152.1312 Meters



Point ID: 3_109

Northing: 3611673.998 Meters

Easting: 620540.954 Meters

Orthometric Height: 359.18 Meters

Latitude: 32° 38' 09.92001" N

Longitude: 97° 42' 53.73185" W

Ellipsoid Height: 330.8295 Meters



Point ID: 3_113

Northing: 3611559.737 Meters

Easting: 620436.558 Meters

Orthometric Height: 351.639 Meters

Latitude: 32° 38' 06.25129" N

Longitude: 97° 42' 57.79063" W

Ellipsoid Height: 323.2869 Meters



Point ID: 3_115

Northing: 3613891.735 Meters

Easting: 602097.986 Meters

Orthometric Height: 241.275 Meters

Latitude: 32° 39' 28.61868" N

Longitude: 97° 54' 40.56596" W

Ellipsoid Height: 212.473 Meters



Point ID: 3_119

Northing: 3614105.114 Meters

Easting: 602173.937 Meters

Orthometric Height: 239.507 Meters

Latitude: 32° 39' 35.52163" N

Longitude: 97° 54' 37.56666" W

Ellipsoid Height: 210.7048 Meters



Point ID: 3_122

Northing: 3623796.355 Meters

Easting: 612588.73 Meters

Orthometric Height: 321.763 Meters

Latitude: 32° 44' 46.52691" N

Longitude: 97° 47' 53.60160" W

Ellipsoid Height: 293.1267 Meters



Point ID: 3_127

Northing: 3633422.026 Meters

Easting: 604935.566 Meters

Orthometric Height: 390.603 Meters

Latitude: 32° 50' 01.77913" N

Longitude: 97° 52' 43.71632" W

Ellipsoid Height: 361.843 Meters



Point ID: 3_130

Northing: 3633449.772 Meters

Easting: 604940.625 Meters

Orthometric Height: 391.039 Meters

Latitude: 32° 50' 02.67825" N

Longitude: 97° 52' 43.51044" W

Ellipsoid Height: 362.2797 Meters



Point ID: 3_134

Northing: 3638228.909 Meters

Easting: 617836.525 Meters

Orthometric Height: 311.168 Meters

Latitude: 32° 52' 33.12274" N

Longitude: 97° 44' 25.38160" W

Ellipsoid Height: 282.6027 Meters



Point ID: 3_135

Northing: 3638228.146 Meters

Easting: 617913.153 Meters

Orthometric Height: 310.268 Meters

Latitude: 32° 52' 33.06826" N

Longitude: 97° 44' 22.43376" W

Ellipsoid Height: 281.7036 Meters



Point ID: 3_136

Northing: 3638202.606 Meters

Easting: 617736.248 Meters

Orthometric Height: 309.168 Meters

Latitude: 32° 52' 32.30764" N

Longitude: 97° 44' 29.25175" W

Ellipsoid Height: 280.6008 Meters



Point ID: 3_141

Northing: 3579815.689 Meters

Easting: 701831.626 Meters

Orthometric Height: 176.898 Meters

Latitude: 32° 20' 13.33533" N

Longitude: 96° 51' 19.94177" W

Ellipsoid Height: 150.3159 Meters



Point ID: 3_144

Northing: 3579846.131 Meters

Easting: 701887.008 Meters

Orthometric Height: 177.067 Meters

Latitude: 32° 20' 14.28727" N

Longitude: 96° 51' 17.80138" W

Ellipsoid Height: 150.4864 Meters



Point ID: 3_151

Northing: 3599771.043 Meters

Easting: 706409.556 Meters

Orthometric Height: 183.563 Meters

Latitude: 32° 30' 57.92538" N

Longitude: 96° 48' 09.25030" W

Ellipsoid Height: 157.0597 Meters



Point ID: 3_154

Northing: 3625423.759 Meters

Easting: 704943.601 Meters

Orthometric Height: 144.929 Meters

Latitude: 32° 44' 51.37455" N

Longitude: 96° 48' 45.16079" W

Ellipsoid Height: 118.3876 Meters



Point ID: 3_162

Northing: 3624240.243 Meters

Easting: 723219.395 Meters

Orthometric Height: 156.386 Meters

Latitude: 32° 44' 00.17433" N

Longitude: 96° 37' 04.44927" W

Ellipsoid Height: 130.4825 Meters



Point ID: 3_165

Northing: 3625542.089 Meters

Easting: 738809.755 Meters

Orthometric Height: 141.249 Meters

Latitude: 32° 44' 30.63439" N

Longitude: 96° 27' 04.79751" W

Ellipsoid Height: 115.8032 Meters



Point ID: 3_168

Northing: 3625517.372 Meters

Easting: 738757.912 Meters

Orthometric Height: 141.525 Meters

Latitude: 32° 44' 29.87299" N

Longitude: 96° 27' 06.81049" W

Ellipsoid Height: 116.0766 Meters



Point ID: 3_171

Northing: 3613991.653 Meters

Easting: 737498.606 Meters

Orthometric Height: 121.818 Meters

Latitude: 32° 38' 16.92338" N

Longitude: 96° 28' 05.71876" W

Ellipsoid Height: 96.3056 Meters



Point ID: 3_172

Northing: 3613970.025 Meters

Easting: 737531.885 Meters

Orthometric Height: 122.473 Meters

Latitude: 32° 38' 16.19595" N

Longitude: 96° 28' 04.46249" W

Ellipsoid Height: 96.962 Meters



Point ID: 3_178

Northing: 3601669.007 Meters

Easting: 719511.796 Meters

Orthometric Height: 141.195 Meters

Latitude: 32° 31' 50.46417" N

Longitude: 96° 39' 45.85449" W

Ellipsoid Height: 115.079 Meters



Point ID: 3_179

Northing: 3601661.63 Meters

Easting: 719468.268 Meters

Orthometric Height: 141.021 Meters

Latitude: 32° 31' 50.25581" N

Longitude: 96° 39' 47.52798" W

Ellipsoid Height: 114.9043 Meters



Point ID: 4_2

Northing: 3646257.047 Meters

Easting: 587351.805 Meters

Orthometric Height: 346.44 Meters

Latitude: 32° 57' 04.07785" N

Longitude: 98° 03' 55.60657" W

Ellipsoid Height: 317.5811 Meters



Point ID: 4_14

Northing: 3610073.356 Meters

Easting: 548635.03 Meters

Orthometric Height: 351.687 Meters

Latitude: 32° 37' 37.76345" N

Longitude: 98° 28' 53.55552" W

Ellipsoid Height: 322.5072 Meters



Point ID: 4_23

Northing: 3603031.825 Meters

Easting: 583353.811 Meters

Orthometric Height: 303.385 Meters

Latitude: 32° 33' 41.65017" N

Longitude: 98° 06' 43.53375" W

Ellipsoid Height: 274.5327 Meters



Point ID: 4_26

Northing: 3593981.376 Meters

Easting: 577439.924 Meters

Orthometric Height: 334.904 Meters

Latitude: 32° 28' 49.30470" N

Longitude: 98° 10' 32.98341" W

Ellipsoid Height: 306.2258 Meters



Point ID: 4_32

Northing: 3584255.098 Meters

Easting: 548490.165 Meters

Orthometric Height: 368.776 Meters

Latitude: 32° 23' 39.34933" N

Longitude: 98° 29' 03.90665" W

Ellipsoid Height: 340.2237 Meters



Point ID: 4_33

Northing: 3588403.588 Meters

Easting: 547816.128 Meters

Orthometric Height: 331.708 Meters

Latitude: 32° 25' 54.17684" N

Longitude: 98° 29' 28.95079" W

Ellipsoid Height: 303.0121 Meters



Point ID: 4_48

Northing: 3596800.092 Meters

Easting: 554839.488 Meters

Orthometric Height: 314.064 Meters

Latitude: 32° 30' 25.68286" N

Longitude: 98° 24' 58.25381" W

Ellipsoid Height: 285.1572 Meters



Point ID: 4_50

Northing: 3596852.341 Meters

Easting: 554830.219 Meters

Orthometric Height: 313.904 Meters

Latitude: 32° 30' 27.38124" N

Longitude: 98° 24' 58.59810" W

Ellipsoid Height: 284.9945 Meters



Point ID: 4_55

Northing: 3599719.696 Meters

Easting: 564010.693 Meters

Orthometric Height: 301.042 Meters

Latitude: 32° 31' 58.72546" N

Longitude: 98° 19' 06.06784" W

Ellipsoid Height: 272.1056 Meters



Point ID: 4_57

Northing: 3599754.564 Meters

Easting: 563996.044 Meters

Orthometric Height: 300.431 Meters

Latitude: 32° 31' 59.86080" N

Longitude: 98° 19' 06.62085" W

Ellipsoid Height: 271.4951 Meters



Point ID: 4_61

Northing: 3599763.03 Meters

Easting: 564086.417 Meters

Orthometric Height: 302.765 Meters

Latitude: 32° 32' 00.11694" N

Longitude: 98° 19' 03.15438" W

Ellipsoid Height: 273.8285 Meters



Point ID: 4_66

Northing: 3611433.363 Meters

Easting: 565744.835 Meters

Orthometric Height: 266.018 Meters

Latitude: 32° 38' 18.73909" N

Longitude: 98° 17' 56.63287" W

Ellipsoid Height: 236.8786 Meters



Point ID: 4_68

Northing: 3611519.222 Meters

Easting: 565750.992 Meters

Orthometric Height: 265.357 Meters

Latitude: 32° 38' 21.52587" N

Longitude: 98° 17' 56.37486" W

Ellipsoid Height: 236.2172 Meters



Point ID: 4_72

Northing: 3606305.147 Meters

Easting: 563685.33 Meters

Orthometric Height: 267.778 Meters

Latitude: 32° 35' 32.64454" N

Longitude: 98° 19' 16.93090" W

Ellipsoid Height: 238.707 Meters



Point ID: 4_75

Northing: 3606165.76 Meters

Easting: 563627.296 Meters

Orthometric Height: 268.016 Meters

Latitude: 32° 35' 28.13021" N

Longitude: 98° 19' 19.19109" W

Ellipsoid Height: 238.9473 Meters

Vegetated Vertical Accuracy Checkpoints Medium Vegetation

The Map shows the overall distribution of the Vegetated Vertical Accuracy Checkpoint, Medium Vegetation throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Universal Transverse Mercator 14N, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

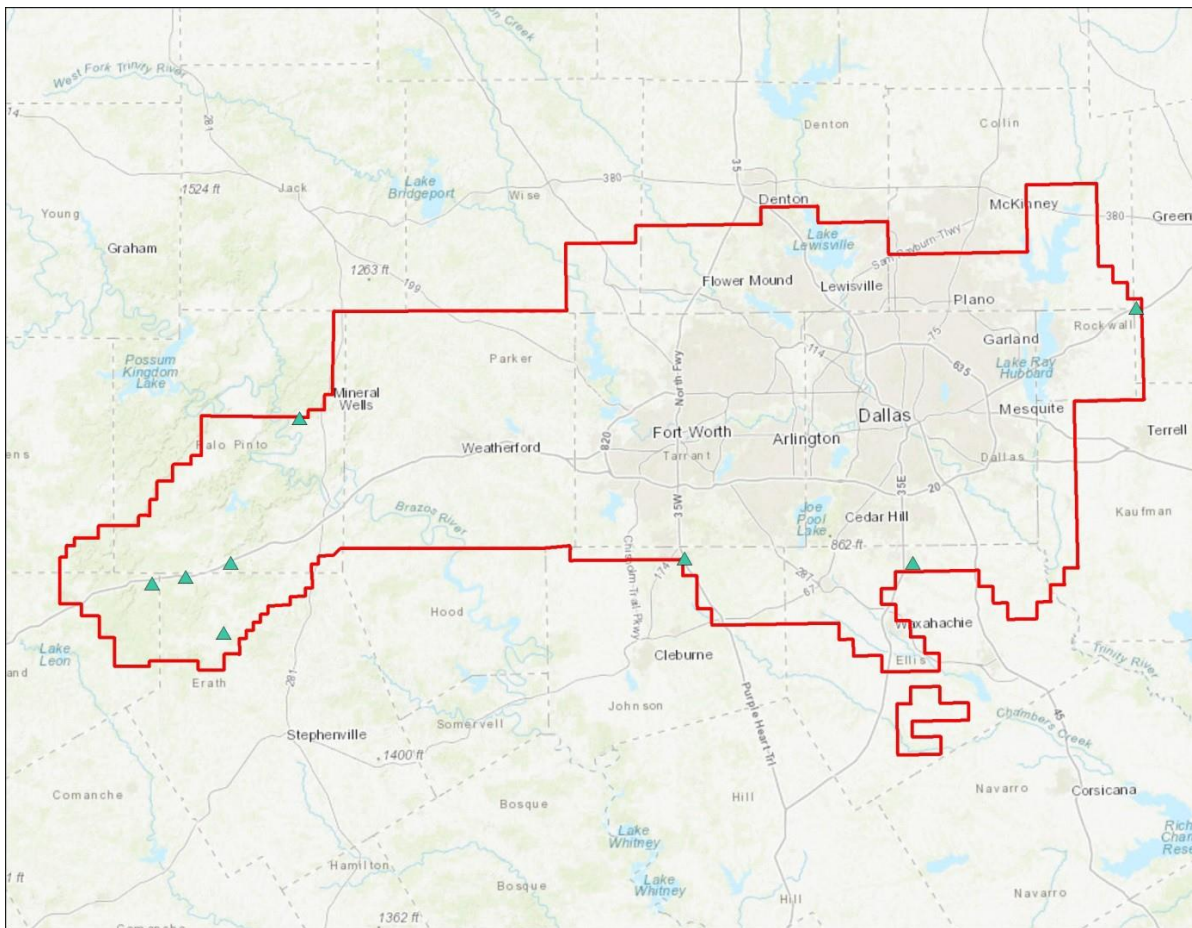


TABLE: Medium Vegetation

Point ID	Easting	Northing	Ortho
3_9	658823.142	3600630.769	224.601
3_95	753027.467	3652757.428	165.929
3_150	706447.189	3599800.451	183.589
4_6	578562.03	3629779.247	284.651
4_29	562683.112	3585182.901	388.989
4_34	547763.58	3595391.426	306.97
4_44	554745.034	3596787.11	314.952
4_60	564125.897	3599774.72	303.588



Point ID: 3_9

Northing: 3600630.769 Meters

Easting: 658823.142 Meters

Orthometric Height: 224.601 Meters

Latitude: 32° 31' 54.02019" N

Longitude: 97° 18' 31.71360" W

Ellipsoid Height: 197.0136 Meters



Point ID: 3_95

Northing: 3652757.428 Meters

Easting: 753027.467 Meters

Orthometric Height: 165.929 Meters

Latitude: 32° 59' 02.00611" N

Longitude: 96° 17' 32.24893" W

Ellipsoid Height: 140.5346 Meters



Point ID: 3_150

Northing: 3599800.451 Meters

Easting: 706447.189 Meters

Orthometric Height: 183.589 Meters

Latitude: 32° 30' 58.85454" N

Longitude: 96° 48' 07.78567" W

Ellipsoid Height: 157.0866 Meters



Point ID: 4_6

Northing: 3629779.247 Meters

Easting: 578562.03 Meters

Orthometric Height: 284.651 Meters

Latitude: 32° 48' 11.44036" N

Longitude: 98° 09' 39.16086" W

Ellipsoid Height: 255.4372 Meters



Point ID: 4_29

Northing: 3585182.901 Meters

Easting: 562683.112 Meters

Orthometric Height: 388.989 Meters

Latitude: 32° 24' 06.93180" N

Longitude: 98° 20' 00.43957" W

Ellipsoid Height: 360.4718 Meters



Point ID: 4_34

Northing: 3595391.426 Meters

Easting: 547763.58 Meters

Orthometric Height: 306.97 Meters

Latitude: 32° 29' 41.11404" N

Longitude: 98° 29' 29.68845" W

Ellipsoid Height: 278.0714 Meters



Point ID: 4_44

Northing: 3596787.11 Meters

Easting: 554745.034 Meters

Orthometric Height: 314.952 Meters

Latitude: 32° 30' 25.27805" N

Longitude: 98° 25' 01.87636" W

Ellipsoid Height: 286.0453 Meters



Point ID: 4_60

Northing: 3599774.72 Meters

Easting: 564125.897 Meters

Orthometric Height: 303.588 Meters

Latitude: 32° 32' 00.48832" N

Longitude: 98° 19' 01.63808" W

Ellipsoid Height: 274.6518 Meters

Vegetated Vertical Accuracy Checkpoints High Vegetation

The Map shows the overall distribution of the Vegetated Vertical Accuracy Checkpoint, High Vegetation throughout the AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed is Universal Transverse Mercator 14N, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using Meters for measurement.

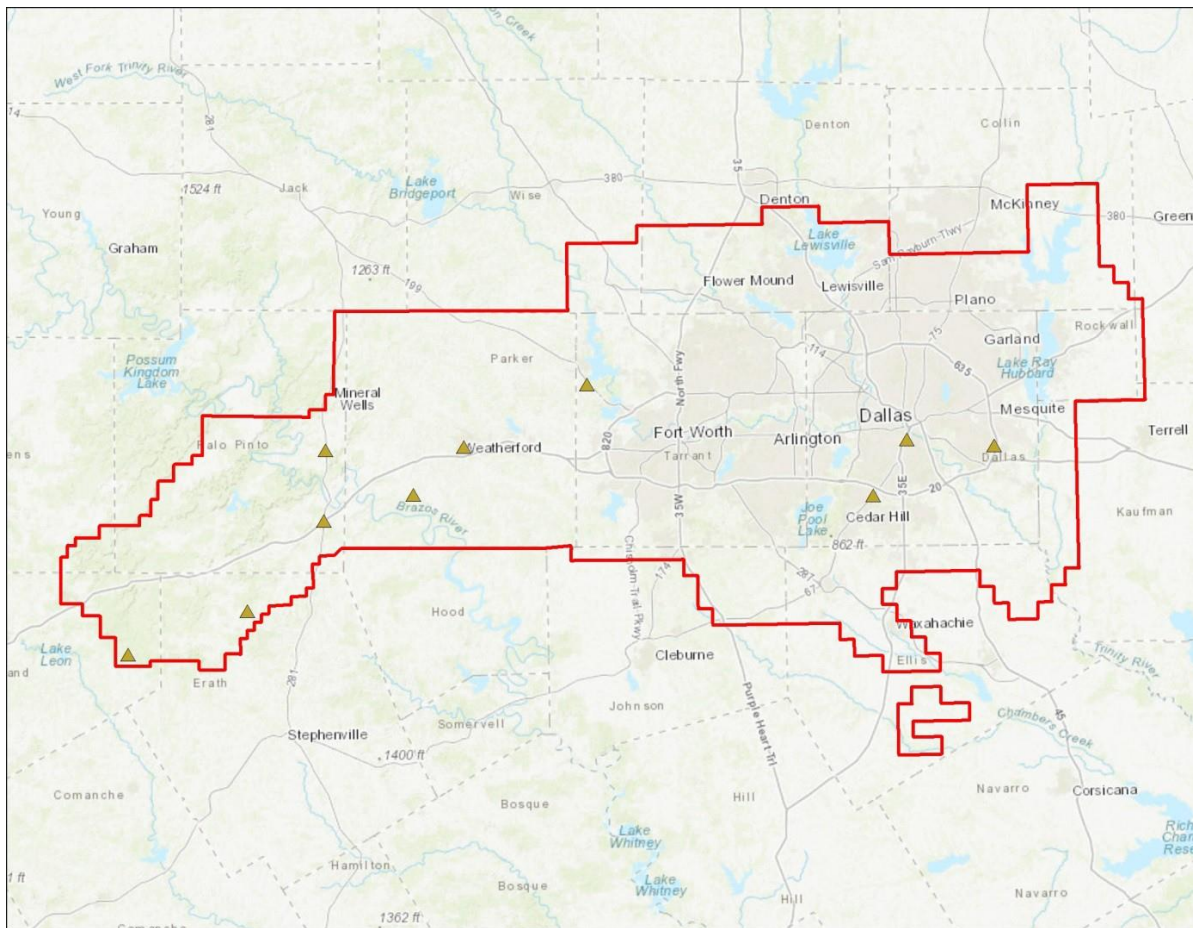


TABLE: High Vegetation

Point ID	Easting	Northing	Ortho
3_21	638276.779	3636839.688	224.384
3_62	698017.697	3613824.871	212.963
3_116	602105.756	3613926.797	240.046
3_124	612560.674	3623872.635	323.532
3_155	704972.438	3625466.166	143.059
3_159	723198.277	3624148.812	155.105
4_19	583778.347	3623168.361	307.186
4_21	583409.337	3608483.047	250.344
4_28	567462.506	3589727.418	350.776
4_37	542505.864	3580633.089	383.42



Point ID: 3_21

Northing: 3636839.688 Meters

Easting: 638276.779 Meters

Orthometric Height: 224.384 Meters

Latitude: 32° 51' 39.41714" N

Longitude: 97° 31' 19.75197" W

Ellipsoid Height: 196.1598 Meters



Point ID: 3_62

Northing: 3613824.871 Meters

Easting: 698017.697 Meters

Orthometric Height: 212.963 Meters

Latitude: 32° 38' 39.52380" N

Longitude: 96° 53' 19.99521" W

Ellipsoid Height: 186.2148 Meters



Point ID: 3_116

Northing: 3613926.797 Meters

Easting: 602105.756 Meters

Orthometric Height: 240.046 Meters

Latitude: 32° 39' 29.75452" N

Longitude: 97° 54' 40.25393" W

Ellipsoid Height: 211.2442 Meters



Point ID: 3_124

Northing: 3623872.635 Meters

Easting: 612560.674 Meters

Orthometric Height: 323.532 Meters

Latitude: 32° 44' 49.01385" N

Longitude: 97° 47' 54.64625" W

Ellipsoid Height: 294.8947 Meters



Point ID: 3_155

Northing: 3625466.166 Meters

Easting: 704972.438 Meters

Orthometric Height: 143.059 Meters

Latitude: 32° 44' 52.73135" N

Longitude: 96° 48' 44.01976" W

Ellipsoid Height: 116.5186 Meters



Point ID: 3_159

Northing: 3624148.812 Meters

Easting: 723198.277 Meters

Orthometric Height: 155.105 Meters

Latitude: 32° 43' 57.22312" N

Longitude: 96° 37' 05.33891" W

Ellipsoid Height: 129.2009 Meters



Point ID: 4_19

Northing: 3623168.361 Meters

Easting: 583778.347 Meters

Orthometric Height: 307.186 Meters

Latitude: 32° 44' 35.39251" N

Longitude: 98° 06' 20.75292" W

Ellipsoid Height: 278.0585 Meters



Point ID: 4_21

Northing: 3608483.047 Meters

Easting: 583409.337 Meters

Orthometric Height: 250.344 Meters

Latitude: 32° 36' 38.64495" N

Longitude: 98° 06' 39.65789" W

Ellipsoid Height: 221.3831 Meters



Point ID: 4_28

Northing: 3589727.418 Meters

Easting: 567462.506 Meters

Orthometric Height: 350.776 Meters

Latitude: 32° 26' 33.50508" N

Longitude: 98° 16' 56.32410" W

Ellipsoid Height: 322.1367 Meters



Point ID: 4_37

Northing: 3580633.089 Meters

Easting: 542505.864 Meters

Orthometric Height: 383.42 Meters

Latitude: 32° 21' 42.60164" N

Longitude: 98° 32' 53.55098" W

Ellipsoid Height: 355.0051 Meters