

Colorado Department of Transportation



2000 South Holly
Denver, CO 80222
Phone: 303-757-9922 FAX: 303-757-9390

Region 6

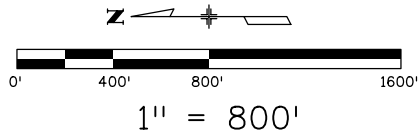
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Sheet Revisions

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Project Control Diagram

Title Sheet

Project Number: IM 2254-074			
Project Location: I-225/6TH Parker Rd.			
SEC 7,18,19,30 T4S R66W 6TH PM	SEC 12,13,24,25,36 T4S R67W 6TH PM		
Project Code: 16417/17083	Last Mod. Date: 10-15-2010	Subset: 3.01 to 3.04	Sheet No.: 3.01

DEPARTMENT OF TRANSPORTATION - STATE OF COLORADO

STATE HIGHWAY NO. 225 MP 9 TO MP 4

SURVEY CONTROL DIAGRAM

SECTION 7,18,19,30 T4S R66W 6TH PM COUNTY OF ARAPAHOE
SECTION 12,13,24,25,36 T4S R67W 6TH PM COUNTY OF ARAPAHOE

BASIS OF GPS SURVEY IN U.S. SURVEY FEET

Point	Latitude	Longitude	Ellipsoid Height	Convergence Angle	Northing (UTM_13North)	Easting (UTM_13North)	Point	Northing (Project)	Easting (Project)	Elevation NAVD'88	Description
CTMC	39°43'17.49291"N	105°11'34.33618"W	5970.64	-0°07'23.7"	14425390.544	1586184.123	CTMC	434772.844	587215.780	6022.52	CDOT R6 Base Station
HILLCREST	39°38'20.80447"N	104°54'49.02620"W	5569.38	0°03'18.4"	14395335.495	1664734.790	HILLCREST	404698.246	665817.536	5625.89	NGS Standard Survey Disk
P041	39°56'58.14999"N	105°11'39.31685"W	5674.88	-0°07'29.0"	14508398.666	1585975.376	P041	517834.954	587006.898	5728.28	NGS CORS Standard NGS Survey Disk set in concrete
pltc	40°10'53.71230"N	104°43'33.33348"W	4933.49	0°10'36.6"	14592975.721	1716967.709	pltc	602467.018	718084.428	4993.63	NGS CORS Standard NGS Survey Disk
315	39°42'13.43481"N	104°49'45.13795"W	5510.66	0°06'32.8"	14418898.787	1688454.058	315	428276.864	689552.232	5568.11	Recovered 3.25" CDOT Alum. Cap
316	39°42'08.12973"N	104°49'42.52307"W	5511.72	0°06'34.4"	14418362.595	1688659.377	316	427740.324	689757.685	5569.18	Recovered 3.25" CDOT Alum. Cap
352	39°41'49.12522"N	104°49'41.41628"W	5532.76	0°06'35.1"	14416440.550	1688749.532	352	425817.028	689847.898	5590.14	Recovered 3.25" CDOT Alum. Cap
503	39°41'58.04615"N	104°49'42.15861"W	5526.18	0°06'34.7"	14417342.745	1688689.804	503	426719.810	689788.131	5583.74	Recovered 3.25" RTD Alum. Cap Set in Concrete
504	39°43'34.14866"N	104°49'27.69715"W	5377.72	0°06'44.1"	14427065.239	1689800.667	504	436448.628	690899.717	5435.43	Recovered 3.25" RTD Alum. Cap Set in Concrete

PRIMARY SURVEY CONTROL POINT TABULATION U.S. SURVEY FEET

Point	Latitude	Longitude	Ellipsoid Height	Convergence Angle	Northing (UTM_13North)	Easting (UTM_13North)	Point	Northing (Project)	Easting (Project)	Elevation NAVD'88	Description
100	39°41'46.10596"N	104°49'43.89646"W	5521.40	0°06'33.5"	14416134.797	1688556.326	100	425511.077	689654.567	5578.90	Set CDOT Type 2
101	39°42'21.77267"N	104°49'39.06123"W	5488.61	0°06'36.7"	14419743.029	1688927.193	101	429121.655	690025.675	5546.19	Set CDOT Type 5S
102	39°42'36.54987"N	104°49'34.52511"W	5455.67	0°06'39.6"	14421238.354	1689278.680	102	430617.953	690377.39	5513.29	Set CDOT Type 5S
103	39°42'45.28492"N	104°49'35.60021"W	5435.09	0°06'39.0"	14422121.699	1689192.984	103	431501.873	690291.639	5492.71	Set CDOT Type 5S
104	39°42'44.21578"N	104°49'37.76398"W	5436.72	0°06'37.6"	14422013.235	1689024.165	104	431393.338	690122.71	5494.34	Set CDOT Type 5S
105	39°42'36.82640"N	104°49'37.76801"W	5445.75	0°06'37.5"	14421265.835	1689025.290	105	430645.452	690123.836	5503.36	Set CDOT Type 5S
106	39°41'49.52374"N	104°49'46.84214"W	5516.19	0°06'31.6"	14416480.050	1688325.507	106	425856.555	689423.597	5573.68	Set CDOT Type 2
508	39°41'36.01454"N	104°49'43.79777"W	5534.03	0°06'33.6"	14415114.117	1688565.985	508	424489.733	689664.231	5591.51	Recovered 3.25" CDOT Alum. Cap



SECONDARY SURVEY CONTROL POINTS TABULATION

PROJECT SPECIFIC - U.S. SURVEY FEET

Point	Northing (Project)	Easting (Project)	Elevation NAVD'88	Description
308	433193.180	690138.870	5480.93	Recovered 3.25" CDOT Alum. Cap
201	433518.245	690241.125	5476.76	Set CDOT Type 1
504B	436197.103	690117.656	5421.43	Recovered 3.25" RTD Alum. Cap Set in Concrete

SURVEYOR STATEMENT (PROJECT CONTROL DIAGRAM)

I, Lee Pennell, a professional land surveyor licensed in the State of Colorado, do hereby state to the Colorado Department of Transportation this Project Control Diagram was prepared and the field survey it represents was performed under my responsible charge and, based upon my knowledge, information and belief is in accordance with applicable standards of practice defined by Colorado Department of Transportation publications. This statement is not a guaranty or warranty, either expressed or implied.

PLS No. 38027

Date

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1" = 800'

Project Control Diagram			
Plan Sheet			
Project Number: IM 2254-074			
Project Location: I-225/6TH Parker Rd.			
SEC 7,18,19,30 T4S R66W 6TH PM		SEC 12,13,24,25,36 T4S R67W 6TH PM	
Project Code:	Last Mod. Date	Subset	Sheet No.
16417/17083	10-15-2010	3.01 of 3.04	3.02

SECONDARY SURVEY CONTROL POINTS TABULATION
PROJECT SPECIFIC - U.S. SURVEY FEET

Point	Northing (Project)	Easting (Project)	Elevation NAVD'88	Description
390	414951.605	689305.660	5658.73	Set CDOT Type 1
391	415218.690	689259.110	5654.28	Set CDOT Type 1
354	415802.989	689668.568	5666.02	RECOVERED 3.25" ALUMN. CDOT CAP

PRIMARY SURVEY CONTROL POINT TABULATION U.S. SURVEY FEET

Point	Latitude	Longitude	Ellipsoid Height	Convergence Angle	Northing (UTM_13North)	Easting (UTM_13North)	Point	Northing (Project)	Easting (Project)	Elevation NAVD'88	Description
501	39°39'40.73448"N	104°50'12.74647"W	5593.58'	0°06'14.8"	14403449.952	1686325.162	501	412817.982	687421.951	5650.86	Recovered 3.25" RTD Alum. Cap Set in Concrete
502	39°40'46.51484"N	104°49'41.21943"W	5542.44'	0°06'35.1"	14410107.868	1688777.045	502	419480.228	689875.429	5599.89	Recovered 3.25" RTD Alum. Cap Set in Concrete

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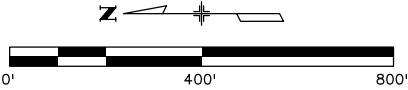


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1" = 400'

Project Control Diagram

Plan Sheet

Project Number: IM 2254-074					
Project Location: I-225/6TH Parker Rd.					
SEC 7,18,19,30	T4S	R66W	6TH PM	SEC 12,13,24,25,36	T4S R67W 6TH PM
Project Code:	Last Mod. Date	Subset	Sheet No.		
16417/17083	10-15-2010	3.01 to 3.04	3.03		

GENERAL NOTES

1. This Project Control Diagram is to document the recovery and/or establishment of survey points that will be the basis of future surveys for design purposes, right-of-way acquisitions, monumentation, and/or roadway construction. This Project Control Diagram is not a Land Survey Plat, Boundary Survey or Right of Way Plat and does not address matters of title.

2. BASIS OF BEARINGS: Bearings are grid bearings of the Universal Transverse Mercator (UTM) Zone 13 North, NAD 1983 (1992) as determined by a fast static GPS survey of the control points shown hereon and from control established for RTD Fastracks I-225 Corridor Project 072120. The line between points 504 and 503, described herein, bears S6°31'05"W.
3. BASIS OF ELEVATIONS: Project elevations are based on RTD Fastracks I-225 Corridor Project 072120 point number 503, described herein. NAVD 88 vertical datum is 5583.74ft. Project elevations were established by differential leveling.

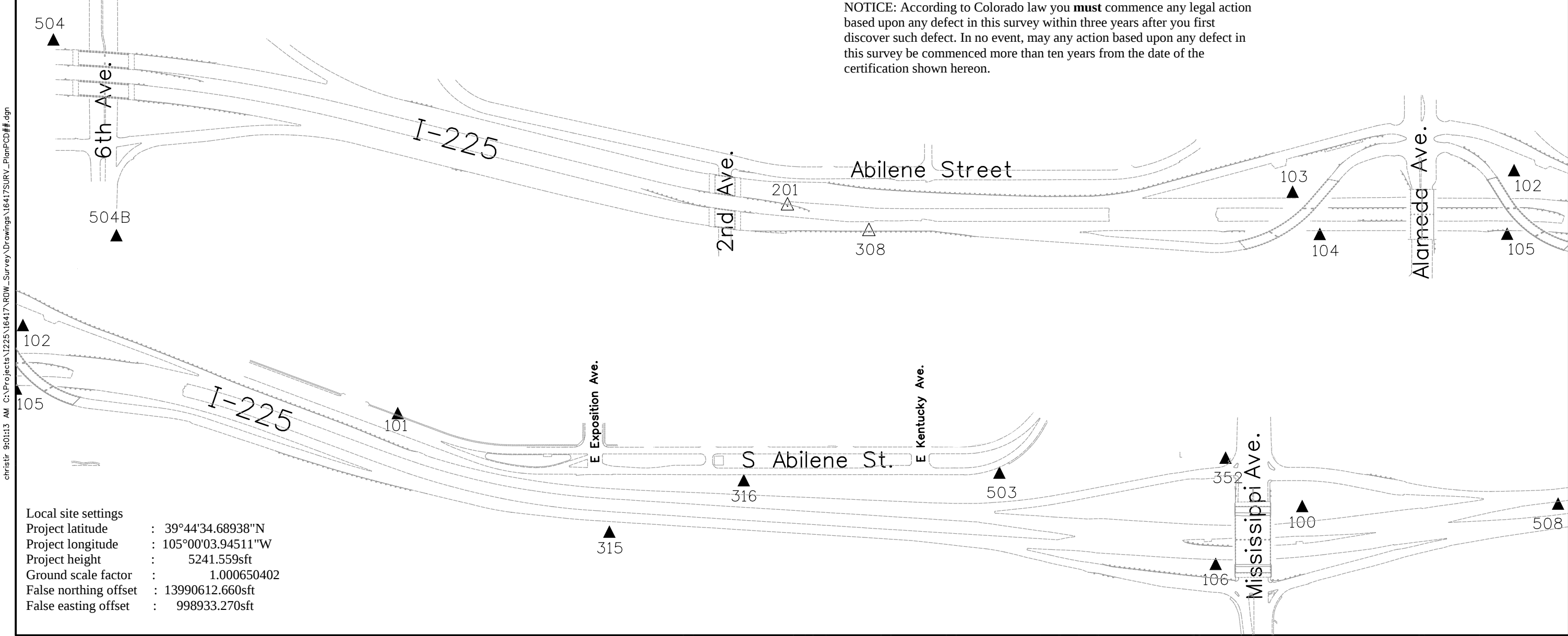
4. Elevations were run to an accuracy of +/- 0.035 ft. times the square root of the distance traversed in miles.

5. Primary Horizontal Control Tolerance meets C.D.O.T. Class A (+/- 0.07" with 95% certainty).
6. Secondary Horizontal Control Tolerance meets C.D.O.T. Class B (+/- 0.13" with 95% certainty).

7. Coordinates were established on the tabulated secondary monuments with RTK using dual bases on the primary control points and meaning the two observations at each location.

8. To convert UTM Coordinates to Project Coordinates:
(UTM Northing in USFT x 1.000650402) – 14,000,000 =Project Northing
(UTM Easting in USFT x 1.000650402) – 1,000,000 =Project Easting

NOTICE: According to Colorado law you **must** commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.



Local site settings
Project latitude : 39°44'34.68938"N
Project longitude : 105°00'03.94511"W
Project height : 5241.559sft
Ground scale factor : 1.000650402
False northing offset : 13990612.660sft
False easting offset : 998933.270sft

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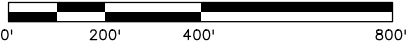
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1" = 400'

Project Control Diagram

Plan Sheet

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