



Region 1  
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Survey Unit: Joseph P. Conway

Sheet Revisions

mm/yy	xxxx	xxx

U.S. 285 MP 222.9 to MP 223.4

NW/4 Sec.29  
& SW/4 Sec.20  
& E/2 Sec.20  
T.7 S, R.72 W 6th P.M.  
PARK COUNTY, COLORADO

Survey Control Diagram

Title Sheet				
Project Number:	NH 2854-083			
Project Location:	US 285 S.Parkview to Bailey Rd			
Project Location:	SEC.20, 29, T.7S, R.72W, 6 P.M.			
Project Code:	Last Mod. Date	Sheet No.	Total No. of Sheets	
13384	00-00-00	1 of 2	XXX	XXX

PROJECT COORDINATE SUMMARY TABLE  
(ADJUSTED FIELD DATA METERS)

POINT NAME	NAD 1983(1992)		Ellipsoid HEIGHT	ELEV(m)	ANGLE	SCALE	NAD 1983(1992),Central		DESCRIPTION
	LATITUDE(N)	LONGITUDE(W)					NORTHING(m)	EASTING(m)	
MP223.0	39°25'02.86063"N	105°28'20.37886"W	2441.61	2454.96	0°01'02.83001"	0.999568996	480652.709	916784.735	CDOT Type 2 Control Monument
MP223.2	39°25'14.37627"N	105°28'19.13100"W	2469.60	2482.95	0°01'03.61703"	0.999564925	481007.841	916814.474	CDOT Type 2 Control Monument
MP223.4	39°25'17.91298"N	105°28'07.51590"W	2485.70	2499.08	0°01'10.94254"	0.999562502	481116.998	917092.253	CDOT Type 2 Control Monument

PROJECT COORDINATE SUMMARY TABLE  
(ADJUSTED FIELD DATA METERS)

POINT NAME	NORTHING(m)	EASTING(m)	ELEV(m)	DESCRIPTION
MP223.0	176083.716	307625.296	2454.96	CDOT Type 2 Control Monument
MP223.2	176439.020	307655.049	2482.95	CDOT Type 2 Control Monument
MP223.4	176548.229	307932.962	2499.08	CDOT Type 2 Control Monument

PROJECT COORDINATE SUMMARY TABLE  
(ADJUSTED FIELD DATA FEET)

POINT NAME	NORTHING(ft)	EASTING(ft)	ELEV(ft)	DESCRIPTION
MP223.0	577701.325	1009267.325	8054.30	CDOT Type 2 Control Monument
MP223.2	578867.017	1009364.941	8146.13	CDOT Type 2 Control Monument
MP223.4	579225.316	1010276.727	8199.08	CDOT Type 2 Control Monument



Typical Control Monument Cap Not to Scale

BASIS OF BEARINGS: Bearings used in the calculation of coordinates shown herein are based on a grid bearing of N 04°47'13" E from U.S. 285 CM-MP 223.0 to US 285 CM-MP 223.2 as obtained from a Global Positioning System (GPS) Survey, based on the Colorado High Accuracy Network (CHARN).

BASIS OF ELEVATIONS: All project elevations are based on NGS First Order Bench Mark M 14 (NGS PID: KK0737). The elevation of M 14 = 2,359.464(meters), 7741.01(feet) NAVD 88. There are no existing Bench Marks in the project area. All control points on this project were tied in by means of running a Bench Loop from M-14.

COORDINATE DATUM: Coordinates on this project are for the exclusive use of the CDOT for the construction of this project and are considered Project Coordinates only.



CP - Control Point Monuments set by CDOT. They were CDOT type 2 monuments, a 3-1/4" dia. aluminum control monument cap (as shown) on a 3" X 3/4" dia. finned aluminum security rod on a 3' X 3/4" dia. smooth aluminum rod.

NOTE: This control survey is for the use of the Colorado Department of Transportation personnel. The survey is not a complete Boundary Survey. Title Policy, Title Commitment, and Title Research were not part of this control survey, therefore, easements, rights, and restrictions of record are not shown. The verification of the physical evidence with relation to easements, rights of way, property boundaries, and restriction, as described in the instruments of record, were not included in this control survey.

NOTE: 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 statement shown.

NOTE: No guarantee as to the accuracy of the information contained on the attached drawing is either stated or implied unless this copy bears an original signature of the professional land surveyor hereon named.

SURVEYORS STATEMENT: I, Kenneth W. Carlson, a Professional Land Surveyor in the State of Colorado, hereby state that this Control Survey Diagram was prepared under my direct supervision this 7 day of November 2001, from a field survey performed under my supervision and checking for and on behalf of the Department of Transportation, State of Colorado, and is not a Land Survey Plat or Right-of-Way Survey Plat and to the best of my knowledge and belief this control survey, as shown, meets the minimum horizontal control tolerances of a Type B Survey and this topographic survey, as shown, meets the minimum horizontal control tolerances of a Type D Survey as listed in the Colorado Department of Transportation Survey Manual Chapter Three (Revised 4/29/92).

COORDINATE DATUM: Project coordinates are modified Colorado State Plane Central Zone NAD '83 (1992) coordinates. The conversion factor Meters to US Survey Feet = 3937/1200 = 3.2808333  
The combined Scale and Elevation Factor = 0.9995183531 / 1.000481879.  
Northing Truncation = -1,000,000ft  
Easting Truncation = -2,000,000ft  
To Convert State Plane coordinates to project coordinates see conversion example below.

State Plane Northing(m) \* Metric Conversion Factor \* Combined Scale Factor - Truncation = Project Northing(ft)  
State Plane Easting(m) \* Metric Conversion Factor \* Combined Scale Factor - Truncation = Project Easting(ft)

EXAMPLE:  
480652.709m \* (3937/1200) \* 1.000481879 -1,000,000 = 577701.32ft  
916784.735m \* (3937/1200) \* 1.000481879 -2,000,000 = 1009267.32ft

CONSTRUCTION SURVEYING AND MONUMENTATION REQUIREMENTS:

- This Control Survey Diagram represents the horizontal and vertical control for the project established by the Division. It is possible that some of the survey control monuments listed have been disturbed or obliterated. It is the Contractor's responsibility to verify the existence and stability of the control monuments before submitting a bid price.
- All Type 1 and Type 2 monuments shall be set flush with the ground. Witness posts shall be installed 1 foot from and facing all Type 1 and Type 2 monuments, or as directed by the Project Engineer.
- Installation of Type 3 and Type 3-A monuments shall be completed in the same day that installation is commenced. Under no circumstances shall holes in the roadway be left open overnight.
- When installing Type 3-A monuments, the aluminum access cover shall be positively secured to the PVC pipe with screws or glue. The access cover shall be caulked with asphalt caulking between the cover and the edges of the roadway surface to provide a positive moisture barrier around the access cover.
- Control survey procedures, statistical analysis, and accuracy obtained for horizontal and vertical control shall be documented in the field book.
- Legible copies of the field books shall be submitted to the Project Engineer for review on a monthly basis.
- It is ultimately the prime Contractors responsibility to insure that these requirements, as well as any contained in the CDOT specifications, project special provisions, and CDOT Survey Manual are fulfilled under this contract.
- The minimum staking intervals for each item are described on the plans or in the CDOT Survey Manual. If the contractor wishes to reduce the minimum intervals, a Contract Modification Order must be negotiated and the cost of the item reduced accordingly.

*Kenneth W. Carlson*  
Kenneth W. Carlson  
PROFESSIONAL LAND SURVEYOR  
REG. NO. 24942

3-14-02  
Date

DEPOSITED THIS DAY OF 19\_\_ AT \_\_\_\_, FOR INFORMATION ONLY IN BOOK OF THE COUNTY LAND SURVEYS/RIGHT OF WAY SURVEYS AT PAGE \_\_\_\_ RECEPTION NUMBER \_\_\_\_ SIGNED DEPT.

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Region 1  
Address: 18500 East Colfax Avenue  
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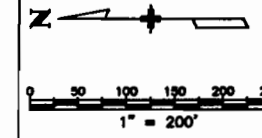
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SIGNED \_\_\_\_\_ DEPT. \_\_\_\_\_  
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datestamp

