

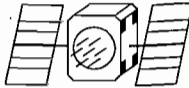
FILING CERTIFICATION: DEPOSITED THIS _____ DAY OF _____, 19____, AT _____ M., FOR INFORMATION ONLY IN BOOK _____ OF THE COUNTY LAND SURVEYS/RIGHT OF WAY SURVEYS AT PAGE _____ RECEPTION NUMBER _____ SIGNED _____ DEPT. _____



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Survey Unit: Joseph P. Conway

Sheet Revisions		
mm/yy	XXXX	XXX



SH85 MP 196.5 – Titan Road Interchange
Located in
Section 21, Township 6 South, Range 68 West
of the 6th Principal Meridian
County of Douglas
State of Colorado



Land Survey Control Diagram				
Title Sheet				
Project Number: STA 0852-082				
Project Location: SH85 @ Titan Road Interchange				
Project Location: SH85 MP 196.5				
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
12319	02-02-2006	1 of 2		2

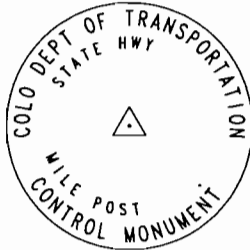
LAND SURVEY CONTROL DIAGRAM

GEODETIC COORDINATE SUMMARY TABLE
(ADJUSTED FIELD DATA)

POINT NAME	GEODETIC COORDINATES NAD-83(92) (CHARN)		ELLIP. HEIGHT	ELEV. (NAVD '88)m	MAPPING ANGLE	SCALE	NAD 83(92) ZONE 0502	
	LATITUDE(N)	LONGITUDE(W)					NORTHING (m)	EASTING (m)
CM-MP 196.8 (FND)	39° 30' 53.80390"	105° 01' 19.70185"	1685.018	1701.406	0° 18' 04.97407"	0.9999619514	491583.0754	955493.6952
CM-MP 196.7 (SET)	39° 30' 49.17159"	105° 01' 12.96356"	1689.168	1705.570	0° 18' 09.22385"	0.9999617896	491441.0691	955655.4023
CM-MP 196.51 (SET)	39° 30' 42.71332"	105° 01' 07.28481"	1691.806	1708.215	0° 18' 12.80537"	0.9999615649	491242.6217	955792.1041
CM-MP 196.4 (SET)	39° 30' 36.95959"	105° 01' 05.25135"	1697.282	1713.693	0° 18' 14.08785"	0.9999613654	491065.4417	955841.6190
CM-MP 194.01 (FND)	39° 28' 53.56931"	104° 59' 37.19857"	1713.234	1729.698	0° 19' 09.62182"	0.9999579149	487888.4763	957962.7792
USCGS Q 23 1929	39° 34' 36.44068"	105° 01' 36.49178"	1627.904	1644.472	0° 17' 54.38484"	0.9999703248	498446.8871	955056.8836
NGS MITCHELL 1991	39° 26' 40.42867"	104° 58' 30.41385"	1760.266	1776.820	0° 19' 51.74225"	0.9999538422	483791.7150	959582.4927

PROJECT COORDINATE SUMMARY TABLE
(ADJUSTED FIELD DATA IN METERS)

POINT NAME	PROJECT COORDINATES		ELEV(m)	DESCRIPTION
	NORTH (m)	EAST (m)		
CM-MP 196.8 (FND)	291733.0200	555785.1435	1701.406	CDOT TYPE II CONTROL MONUMENT
CM-MP 196.7 (SET)	291590.9704	555946.8999	1705.570	CDOT TYPE II CONTROL MONUMENT
CM-MP 196.51 (SET)	291392.4624	556083.6435	1708.215	CDOT TYPE II CONTROL MONUMENT
CM-MP 196.4 (SET)	291215.2284	556133.1735	1713.693	CDOT TYPE II CONTROL MONUMENT
CM-MP 194.01 (FND)	288037.2939	558254.9806	1729.698	CDOT TYPE II CONTROL MONUMENT



PROJECT COORDINATE SUMMARY TABLE
(ADJUSTED FIELD DATA IN U.S. FEET)

POINT NAME	PROJECT COORDINATES		ELEV(ft)	DESCRIPTION
	NORTH (ft)	EAST (ft)		
CM-MP 196.8 (FND)	957127.416	1823438.425	5582.03	CDOT TYPE II CONTROL MONUMENT
CM-MP 196.7 (SET)	956661.375	1823969.121	5595.69	CDOT TYPE II CONTROL MONUMENT
CM-MP 196.51 (SET)	956010.104	1824417.754	5604.37	CDOT TYPE II CONTROL MONUMENT
CM-MP 196.4 (SET)	955428.628	1824580.253	5622.34	CDOT TYPE II CONTROL MONUMENT
CM-MP 194.01 (FND)	945002.355	1831541.549	5674.85	CDOT TYPE II CONTROL MONUMENT



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, Daniel P. Wilmeth, a Professional Land Surveyor in the State of Colorado do hereby state to the Colorado Department of Transportation that this Land Survey Control Diagram was prepared, and the field survey it depicts was performed, under my responsible charge; is based upon my knowledge, information and belief; and was executed in accordance with applicable standards of practice. This statement is not a guaranty of a warranty, either expressed or implied.

CONSTRUCTION SURVEYING AND MONUMENTATION REQUIREMENTS:

- This Control 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, a locking lid monument box is required. The space around the monument box shall be filled, compacted and patched with a permanent suitable roadway patching material, that will provide a positive moisture barrier between the monument box and the edges of asphalt/concrete.
- 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.
- Whenever the contract includes the setting of CDOT Type II monuments, a Survey Control Diagram, signed and sealed by the PLS in responsible charge, shall be submitted to the Engineer. An AutoCad drawing on CD shall accompany the hard copy.

Daniel P. Wilmeth PLS 25384
For and on behalf of The
Colorado Department of Transportation

Date:

Colorado Department of Transportation



Region 1
Address: 18500 EAST COLFAX AVENUE
AURORA, COLORADO 80011
Phone: 303-757-9744 FAX: 303-757-9728

Survey Unit: Joseph P. Conway

Sheet Revisions

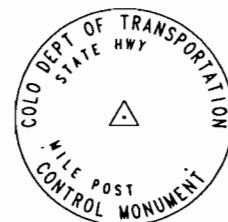
Date	Description	Initials
mm/yy	XXXXXXXX	XXX

SH85 MP 196.5 - TITAN ROAD INTERCHANGE
LOCATED IN
SECTION 21, TOWNSHIP 6 SOUTH, RANGE 68 WEST
OF THE 6TH PRINCIPAL MERIDIAN
COUNTY OF DOUGLAS
STATE OF COLORADO

Land Survey Control Diagram

Plan Sheet

Project Number: STA 0852-082				
Project Location: SH85 @ Titan Road Interchange				
Project Location: SH85 MP 196.5				
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
12319	02-02-2006		2 of 2	2



CDOT TYPE II
TYPICAL

US85 CM-MP 196.8
CDOT TYPE II
N: 957127.416
E: 1823438.425
EL: 5582.03

Control Monument US85 CM-MP 196.8

was recovered from a previous Fast Static Control Survey
by Micheal D. Heimbeck, PLS 17488 on behalf of MSM, Inc.
for CDDT project IM-0252-317, project code 12255.

The geodetic position of US85 CM-MP 196.8 was verified
by a Fast Static Survey and held as the Basis of Elevations
and the beginning point on the Basis of Bearings.

TO LITTLETON

US85 CM-MP 196.7
CDOT TYPE II
N: 956661.375
E: 1823969.121
EL: 5595.69

US85 CM-MP 196.51
CDOT TYPE II
N: 956010.104
E: 1824417.754
EL: 5604.37

US85 CM-MP 196.4
CDOT TYPE II
N: 955428.6284
E: 1824580.253
EL: 5622.34

TITAN PARKWAY
INTERCHANGE
@
US 85

TO SEDALIA

