



Region 1
18500 E. Colfax Ave.
Aurora, CO 80011
Phone: (303) 757-9744 FAX: (303) 757-9746

Survey Unit: Joseph P. Conway

Sheet Revisions	
mm/yy	xxxxx

Sheet Revisions	
mm/yy	xxxxx

Prepared By:



MOUNTAIN SURVEYING & MAPPING, INC.
8751 E. HAMPDEN AVE. SUITE B-1
DENVER, COLORADO 80231
(303) 306-1858

Survey Control Diagram				
Plan Sheet				
Project Number: IM 0704-195				
Project Location: I-70 Milepost 285.1 to 290.7				
Project Location: Adams County & Arapahoe County				
Project Code	Last Mod. Date	Subset Sheets	Sheet No.	Total No. of Sheets
13220	10-10-00	of	1	6

SURVEY CONTROL DIAGRAM

I 70 MILEPOST 285.1 TO MILEPOST 290.7

Sections 27, 28, 34, 35 & 36 of T. 3 S., R. 66 W.
Sections 31 & 32 of T. 3 S., R. 65 W.,
Adams County, Colorado
Sections 1 & 2 of T. 4 S., R. 66 W.,
Sections 5 & 6 of T. 4 S., R. 65 W.,
Arapahoe County, Colorado

CONSTRUCTION SURVEYING AND MONUMENTATION REQUIREMENTS:

- 1). This Control Survey Diagram represents the horizontal and vertical control for the project established by Mountain Surveying and Mapping, Inc. 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.
- 2). 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.
- 3). 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.
- 4). 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.
- 5). Control survey procedures, statistical analysis, and accuracy obtained for horizontal and vertical control shall be documented in the field book.
- 6). Legible copies of the field books shall be submitted to the Project Engineer for review on a monthly basis.
- 7). It is ultimately the prime Contractor's 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.
- 8). 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.

BASIS OF BEARING: Bearings used in the calculations of coordinates are based on a grid bearing of S 67°58'03" E from I-70 CM-MP CONTROL POINT 285.09 and I-70 CM-MP CONTROL POINT 285.28 as obtained from a Global Positioning System (GPS) survey based on the Colorado High Accuracy Reference Network (CHARN).

BASIS OF ELEVATIONS: Project is based on existing control points from Survey Control Diagram for Project No. IR (CX) 070-4(143), prepared by CDOT and dated November 27, 1995. Control points used or checked for elevations were CM-MP 290.3, CM-MP 290.5 and CM-MP 290.7

COORDINATE DATUM: Project coordinates are modified Colorado State Plane Central Zone NAD '83 (92). Coordinates are based on the Survey Control Diagram prepared by CDOT for Project No. IR (CX) 070-4(143) dated November 27, 1995. State plane coordinates were modified to a mean project elevation of 1698.999m. The combined elevation/scale factor used to modify the coordinates was 1.000268599. Project coordinates were truncated by 500,000m in the northing and by 500,000m in the easting before conversion of meters to feet.

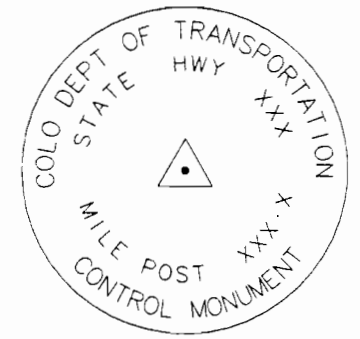
NOTE: Refer to NEW-629-1 SURVEY MONUMENTS of the STANDARD PLANS, COLORADO DEPARTMENT OF TRANSPORTATION M & S STANDARDS MARCH 15, 1996 for survey monument descriptions. Refer to M-100-1 STANDARD SYMBOLS of the STANDARD PLANS, COLORADO DEPARTMENT OF TRANSPORTATION M & S STANDARDS NOVEMBER 1992 for standard symbol definitions.

NOTE: This control survey is for the use of Colorado Department of Transportation personnel. The survey is not a complete boundary survey and does not subdivide land. 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 restrictions, as described in the instruments of record, was 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.

SURVEYORS STATEMENT, I, Michael D. Heimbuck, a Professional Land Surveyor in the State of Colorado, hereby state that this Control Survey Diagram was prepared under my supervision this day of from a field survey performed under my supervision from July 2000 to October 2000, 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.

Michael D. Heimbuck, RLS 17488



TYPICAL:
CM-MP - Control Monuments were set by Mountain Surveying and Mapping, Inc. 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.

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Oct 23, 2000, P:\Projects\CDOT\00055\scd\13220scd.dwg DAW FEET



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Table with columns for Sheet Revisions (mm/yy, xxx, xxx) and Sheet Revisions (mm/yy, xxx, xxx)

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Project Number: IM 0704-195
Project Location: I-70 Milepost 285.1 to 290.7
Project Location: Adams County & Arapahoe County
Project Code: 13220
Last Mod. Date: 10-10-00
Subset Sheets: of
Sheet No.: 2
Total No. of Sheets: 6

SURVEY CONTROL DIAGRAM
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Arapahoe County, Colorado

GEODETIC COORDINATE SUMMARY TABLE
(ADJUSTED FIELD DATA)

Table with columns: POINT NAME, GEODETIC COORDINATES NAD-83(92) (CHARN) (LATITUDE(N), LONGITUDE(W)), ELLIPSOID HEIGHT(m), MAPPING ANGLE, SCALE FACTOR, NAD 83/92 (NORTHING (m), EASTING (m)), ZONE 0502, DESCRIPTION

PROJECT COORDINATE SUMMARY TABLE
(ADJUSTED FIELD DATA)

Table with columns: POINT NAME, PROJECT COORDINATES (NORTHING (ft), EASTING (ft)), ELEV. (NAVD 88)ft, DESCRIPTION

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Survey Control Diagram

Plan Sheet

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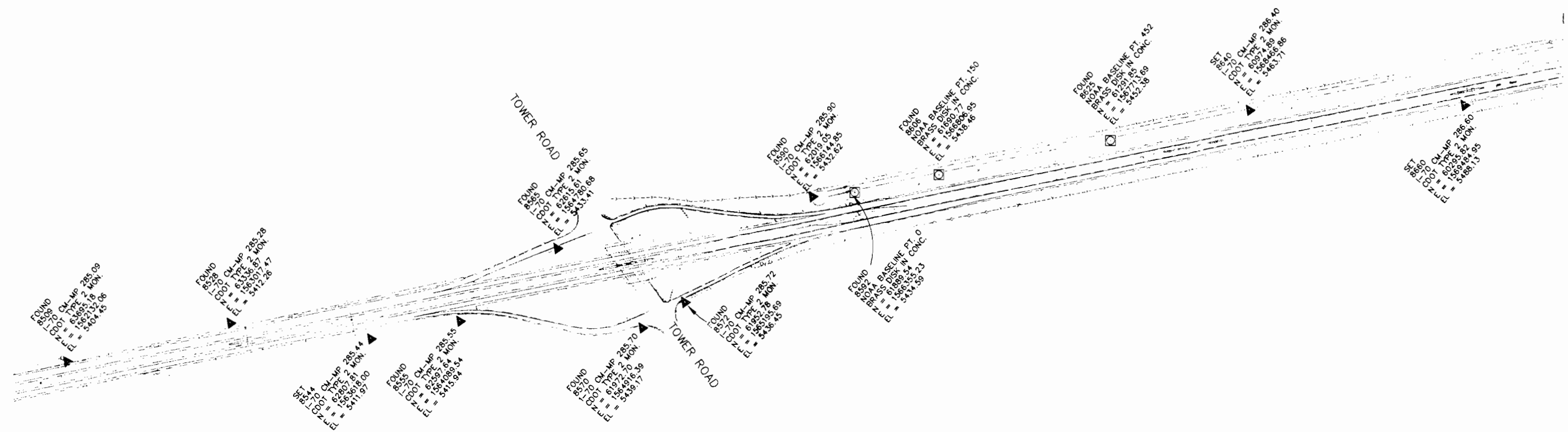


- ▲ = CDOT TYPE II MONUMENT
- ◻ = NOAA BRASS DISK IN CONCRETE
- = E470 ROW MONUMENT

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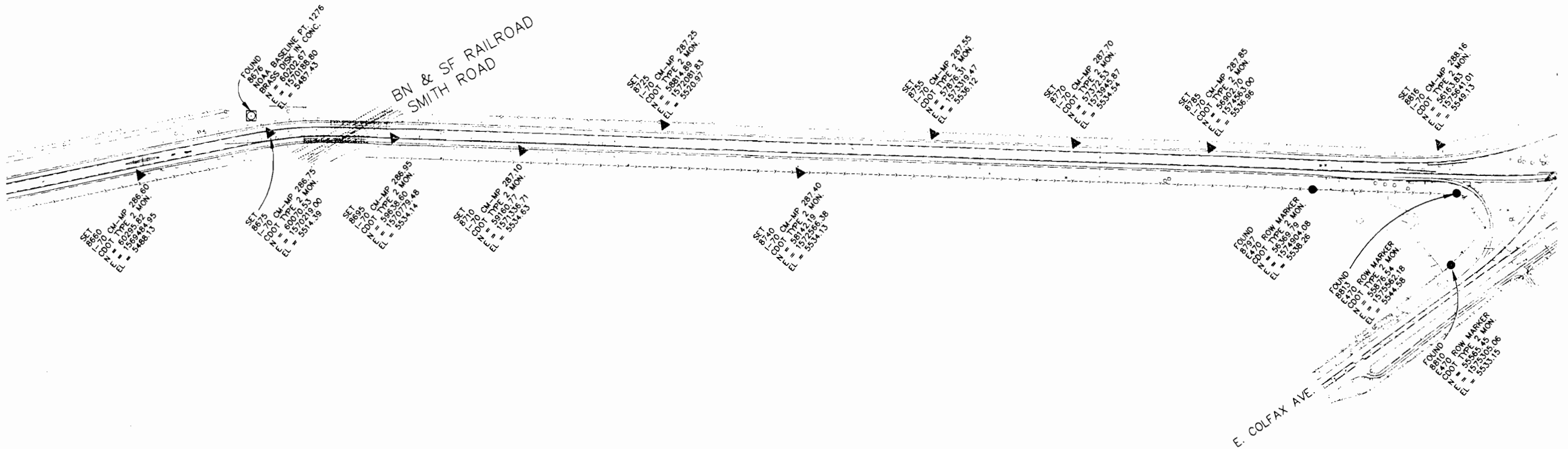
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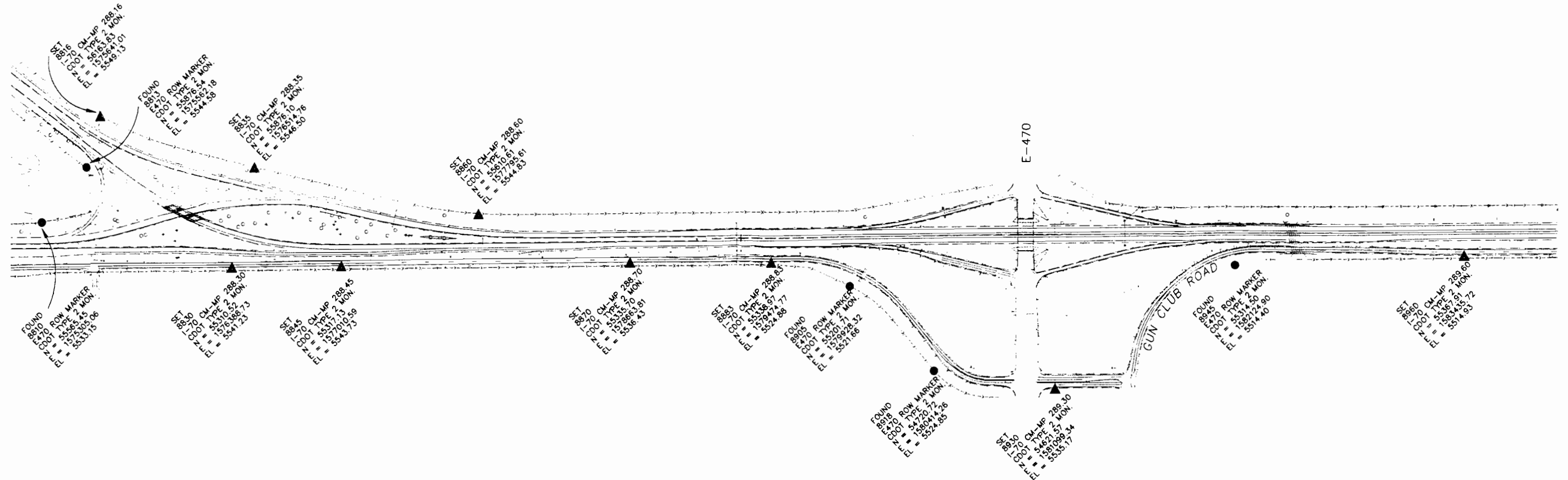


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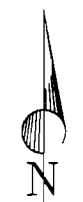
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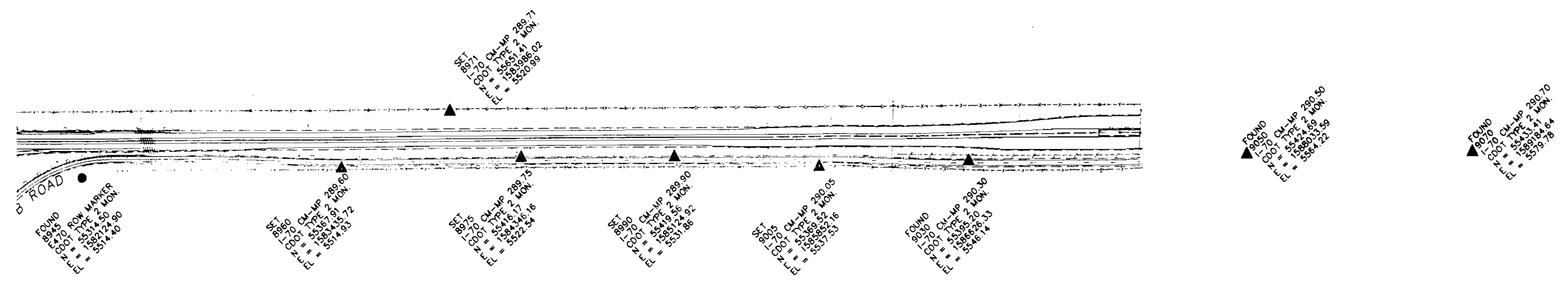
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