



Sheet Revisions

Date	Description	Initials
4-16-09	Remove Wilson Logo(all sheets)	AC
4-16-09	Revised Sheets 2.01, 4.01, 5.01, 5.02, 6.01	AC

Sheet Revisions

Date	Description	Initials
mm/yy		

Sheet Revisions

Date	Description	Initials
mm/yy		

Right of Way Plans

Title Sheet

Project Number: NH 2854-108			
Project Number:			
Project Location: US 285 at Shaffer's Crossing			
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.
15048	04-16-09	1 of 1	1.01

DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO

RIGHT OF WAY PLAN OF PROPOSED
FEDERAL AID PROJECT NO. NH 2854-108
STATE HIGHWAY NO. 285
JEFFERSON COUNTY
RIGHT OF WAY

SHEET NO.	INDEX OF SHEETS
1.01	(1) Title Sheet
2.01	(1) Tabulation of Properties
3.01-3.03	(3) Control Diagram
4.01-4.03	(3) Monumentation Sheets
5.01-5.02	(2) Plan Sheets
6.01	(1) Ownership Sheet
M-100-1	(3) Standard Symbols
M-629-1	(2) Survey Monuments
(16) Total Sheets	

SCALES OF ORIGINAL 11X17 DRAWINGS

PLAN SHEETS	1"=100'
OWNERSHIP MAP	1"=200'
ROW Length of Project = 1148.0 ft (0.22 mi)	

End of Construction
Project No.: NH 2854-108
Project Code: 15048
Station: 516+00.0

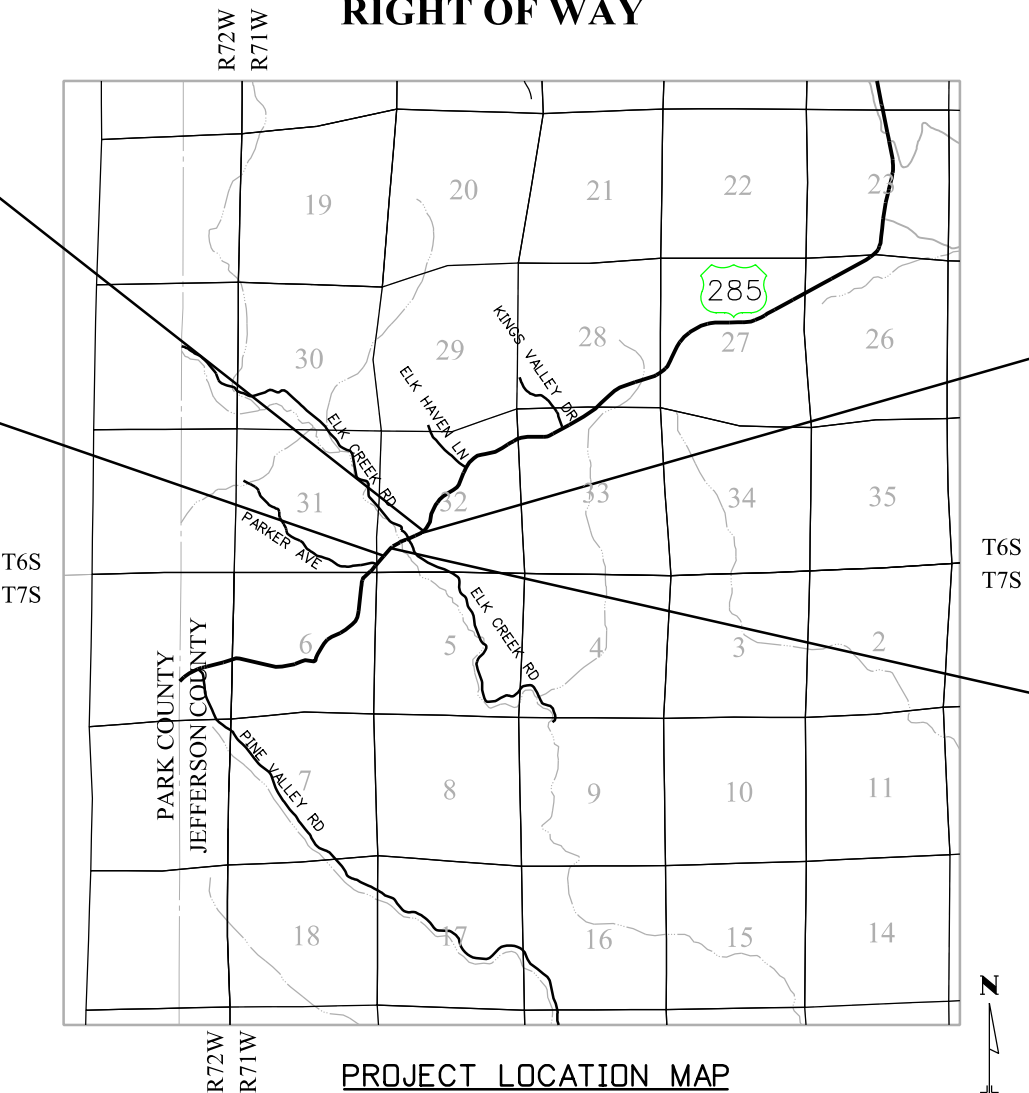
Beginning of Construction
Project No.: NH 2854-108
Project Code: 15048
Station: 490+00.0

End of Right of Way
Project No.: NH 2854-108
Project Code: 15048
Station: 509+63.7
M.P.: 230.89

Beginning of Right of Way
Project No.: NH 2854-108
Project Code: 15048
Station: 498+15.7
M.P.: 231.14

BASIS OF BEARING

BASIS OF BEARINGS: Bearings used in the calculations of coordinates are based on a grid bearing of N 49°57'38" E from US-285 CM-MP 230.7 and US-285 CM-MP 230.9. Both monuments are CDOT Type II, marked appropriately for their milepost location and control position. The survey data was obtained from a Global Positioning System (GPS) survey based on the Colorado High Accuracy Reference Network (CHARN).



PROJECT LOCATION MAP

Not to Scale

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

AUTHORIZED

DATE

DIVISION ADMINISTRATOR



SUPPLEMENTAL PROJECT CONTROL DIAGRAM

CONSTRUCTION SURVEYING AND MONUMENTATION REQUIREMENTS:

- 1). 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.
- 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 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.
- 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 BEARINGS: Bearings used in the calculation of coordinates are based on a grid bearing of N11°39'57"E from CDOT CM-MP 226.1 to CDOT CM-MP 226.3 as obtained from a Global Positioning System (GPS) survey based on the Colorado High Accuracy Reference Network (CHARN). Said grid bearing is NAD '83 (1992) Colorado State Plane (Central Zone).

BASIS OF ELEVATIONS: Project is based on Bench Mark U 305 (NGS PID KK0739), Published NAVD Height = 7855.22'. All other Control Points on this project were established by by differential leveling from said U 305, no orthometric corrections were applied to any of the differential level lines run on this project.

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.

NOTE: Section lines shown herein were digitize from USGS maps and are shown for graphical reference purposes only. True aliquot corners and lines were not surveyed or established for this phase of the project survey control.

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.

SURVEYORS STATEMENT: I, Cory S. Talmage-Gray, a Professional Land Surveyor in the State of Colorado, hereby state that this Supplemental Control Survey Diagram was verified under my direct supervision from a field survey performed under my supervision and checked for and on behalf of the Department of Transportation, State of Colorado. The Project Control Diagram was originally prepared under the direct supervision of Kenneth W. Carlson, PLS 24942. This survey 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 as listed in the Colorado Department of Transportation Survey Manual Chapter Three (Revised 10/24/03).



Typical Control Monument Cap
Not to Scale



CM - Control Point Monuments set by CDOT. All set Control Point Monuments are 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 (unless otherwise noted).

Cory S. Talmage-Gray, P.L.S. 37940

RIGHT OF WAY PLANS UNIT: KEVIN A. WILLIAMS

[illegible]

US 285 (MP 230.5 TO MP 231.1)
 Located in:
 Section 32, Township 6 South, Range 71 West
 Section 6, Township 7 South, Range 71 West
 of the 6th Principal Meridian, County of Jefferson
 State of Colorado

Project Control Diagram				
Tabulation of Project Control				
Project Number: NH 02854-088				
Project Location: US 285 (MP 230.5 to MP 230.9)				
Project Location: US 285 at Shaffer's Crossing				
Project Code:	Last Mod. Date:	Subset	Sheets	Sheet No.
15048	05/05/08	2 of 3	3.02	

GEODETIC COORDINATE SUMMARY TABLE (ADJUSTED FIELD DATA)

POINT NAME	GEODETIC COORDINATES NAD-83(92) (CHARN)		ELLIP. HEIGHT (NAVD 88)(m)	MAPPING ANGLE	SCALE FACTOR	SPC		SPC		ELEV. (NAVD 88)sft	DESCRIPTION
						NAD 83/92	ZONE 0502	NAD 83/92	ZONE 0502		
	LATITUDE	LONGITUDE				NORTHING (m)	EASTING (m)	NORTHING (sft)	EASTING (sft)		
2305	39°28'27.27664"N	105°22'28.42556"W	2453.739	0°04'44.80328"	0.99995708	486963.700	925194.640	1597646.73	3035409.41	8095.65	CM-MP 230.5
2307	39°28'37.34279"N	105°22'21.03381"W	2431.212	0°04'49.46518"	0.99995740	487274.370	925370.870	1598666.00	3035987.59	8021.76	CM-MP 230.7
2309	39°28'44.94925"N	105°22'09.31895"W	2410.464	0°04'56.85362"	0.99995764	487509.340	925650.510	1599436.91	3036905.05	7953.72	CM-MP 230.9
2311	39°28'50.08880"N	105°21'56.71214"W	2424.850	0°05'04.80461"	0.99995780	487668.280	925951.560	1599958.35	3037892.75	8001.00	CM-MP 231.1

PROJECT COORDINATE SUMMARY TABLE (ADJUSTED FIELD DATA)

POINT NAME	PROJECT COORDINATES US FT		ELEV. (NAVD 88)	DESCRIPTION
	NORTHING	EASTING		
2305	598416.60	1036872.11	8095.65	CM-MP 230.5
2307	599436.36	1037450.57	8021.76	CM-MP 230.7
2309	600207.64	1038368.47	7953.72	CM-MP 230.9
2311	600729.33	1039356.65	8001.00	CM-MP 231.1

Project Coordinate Parameters

M 14 (NGS PID KK0737)

with the following values:

Lat. 39°24'20.51087" N

Long. 105°28'35.61402" W

Ellipsoidal Height 2346.14 m

Combined Project Factor = 0.999518353

Combined Project Factor Reciprocal = 1.000481879

Conversion Meters to USFeet:

One meter equals $3937/1200$ feet.

Conversion Example of State Plane Coordinates to Project Coordinates:

$$\text{State Plane Northing in USFT} \times 1.000481879 - 1,000,000.00 = \text{Project Northing in USFT}$$
$$\text{State Plane Easting in USFT} \times 1.000481879 - 2,000,000.00 = \text{Project Easting in USFT}$$

M 14

$$1,572,656.34' \times 1.000481879 - 1,000,000.00' = 573,414.17'$$
$$3,006,623.42' \times 1.000481879 - 2,000,000.00' = 1,008,072.25'$$

COLORADO DEPARTMENT OF TRANSPORTATION



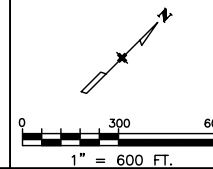
Region 1
Address: 18500 E. Colfax Ave.
Aurora, CO 80011
Phone: (303) 365-7410 FAX: (303) 365-7350

RIGHT OF WAY PLANS UNIT: KEVIN A. WILLIAMS

Sheet Revisions

US 285 (MP 230.5 TO MP 231.1)

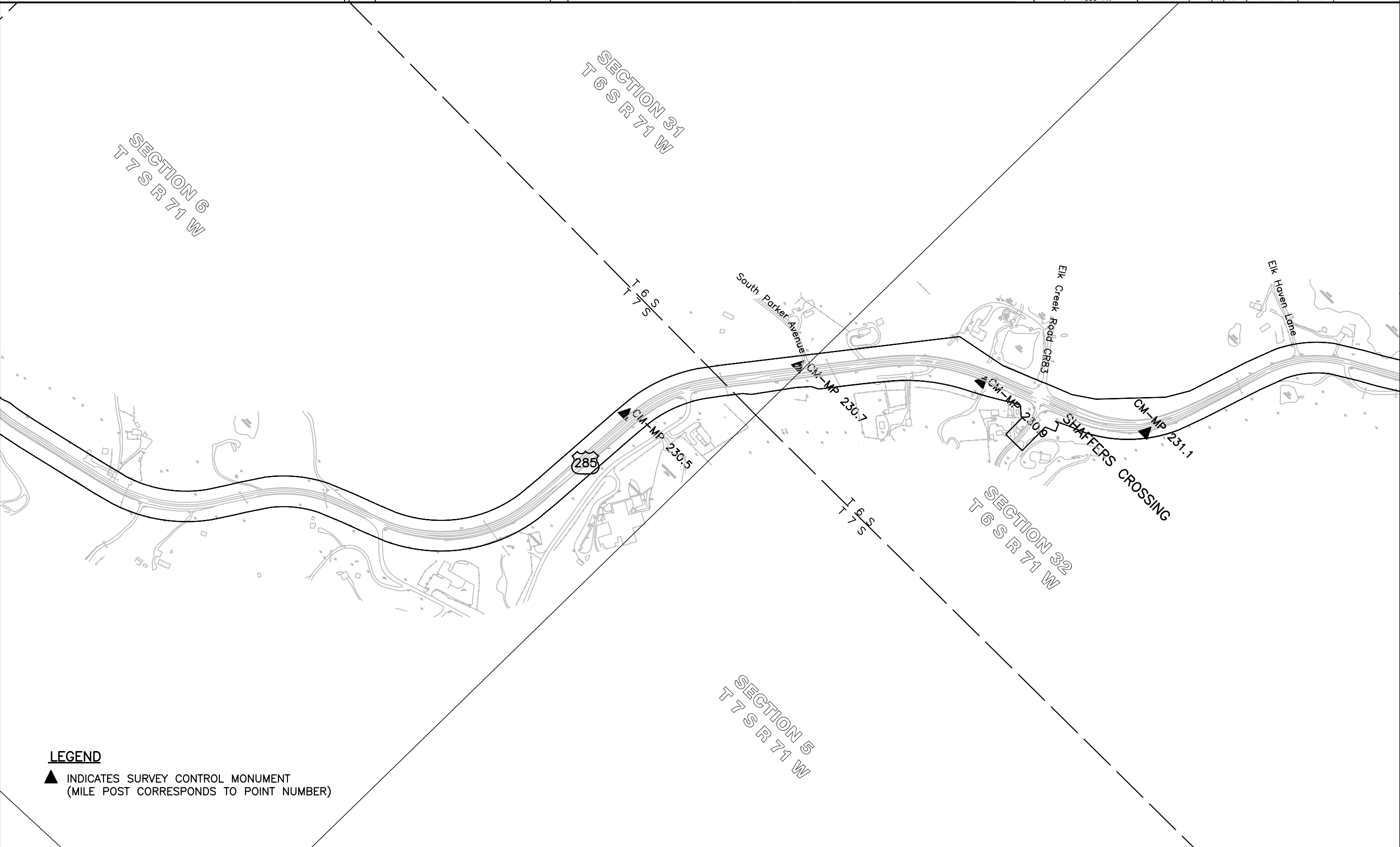
Located in:
Section 32, Township 6 South, Range 71 West
Section 6, Township 7 South, Range 71 West
of the 6th Principal Meridian, County of Jefferson
State of Colorado



Project Control Diagram

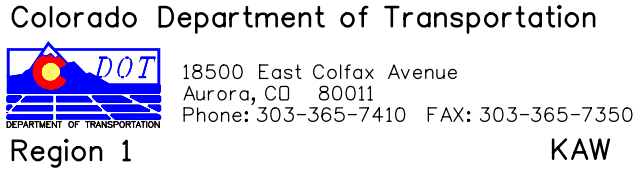
PLAN SHEET

Project Number: NH 02854-088				
Project Location: US 285 (MP 230.5 to MP 230.9)				
Project Location: US 285 at Shaffer's Crossing				
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	
13384	05/05/08	3 of 3	3.03	



LEGEND

▲ INDICATES SURVEY CONTROL MONUMENT
(MILE POST CORRESPONDS TO POINT NUMBER)



Region 1 KAW

KAW

[illegible]



ROW

⊙
PP



1. This Right-of-Way plan is not a complete boundary survey of all the adjoining property owners and is prepared for the Transportation Department purposes ONLY.

4. All R.O.W. Markers set from survey control points.

I, Kevin Williams, a professional land surveyor licensed in the State of Colorado, do hereby state to the Colorado Department of Transportation that based upon my knowledge, information and belief, research, calculations, and evaluation of survey evidence were performed and this Right-of-Way Plan was prepared under my responsible charge 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.

Date _____

I, Kevin Williams, a professional/land surveyor licensed in the State of Colorado, do hereby state to the Colorado Department of Transportation that based upon my knowledge, information and belief, adequate research, calculations, and evaluation of survey evidence were performed and Right of Way monuments depicted on this Right-of-Way Plans were set under my responsible charge 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.

Date

[illegible]



18500 East Colfax Avenue
Aurora, CO 80011
Phone: 303-365-7410 FAX: 303-365-7350

Region 1

KAW

Sheet Revisions

Date	Description	Initials
04/09	Remove Wilson Logo	AL

Sheet Revisions

Date	Description	Initials
mm/yy		

Sheet Revisions

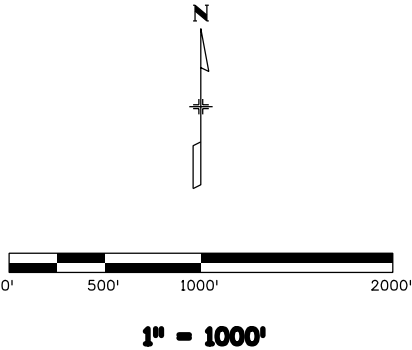
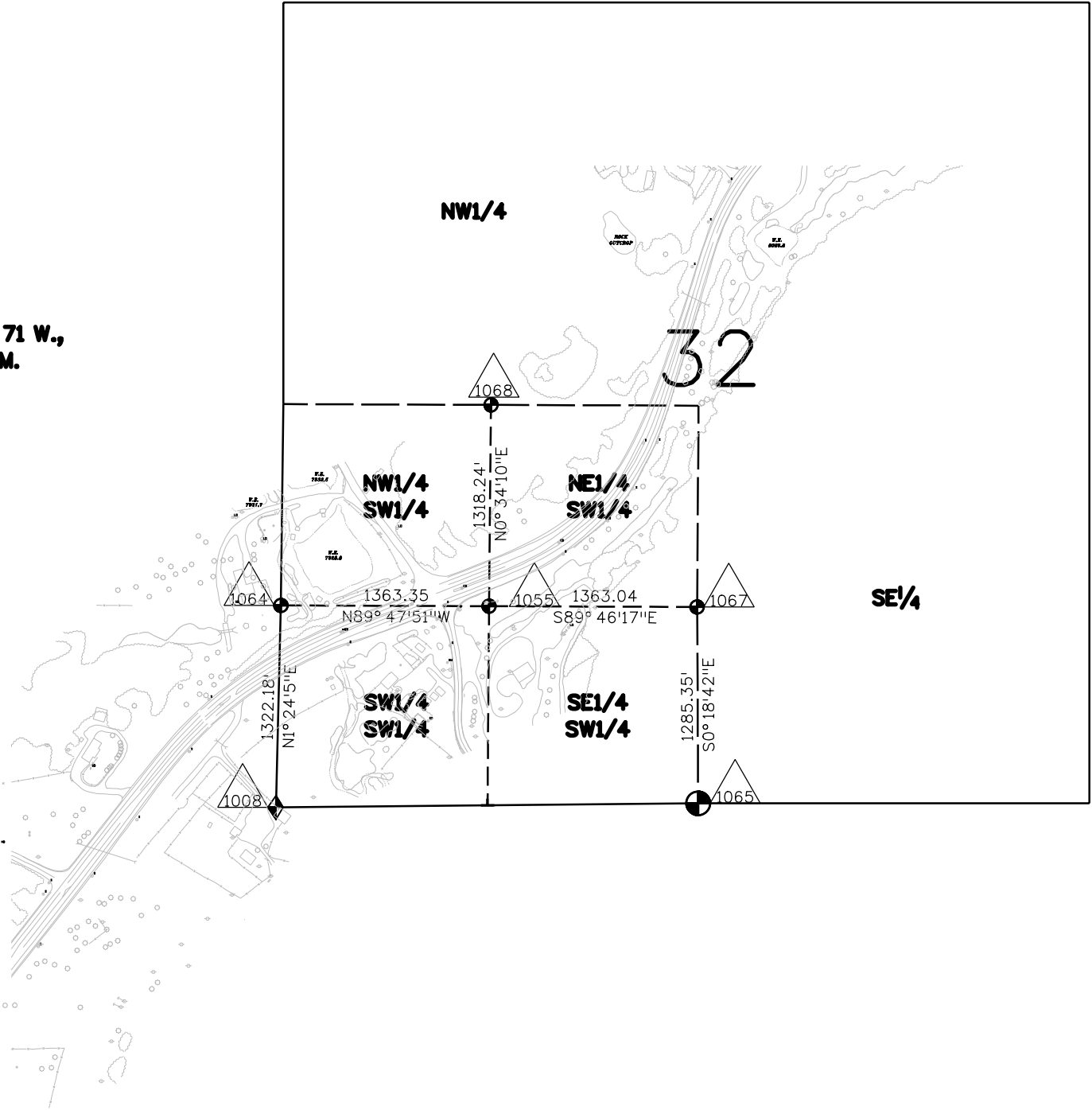
Date	Description	Initials
mm/yy		

Right of Way Plans

Monumentation Sheet

Project Number: NH 2854-108				
Project Number:				
Project Location: US 285 at Shaffer's Crossing				
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	
15048	04/16/09	2 of 3	4.02	

T. 6 S., R 71 W.,
6th P.M.





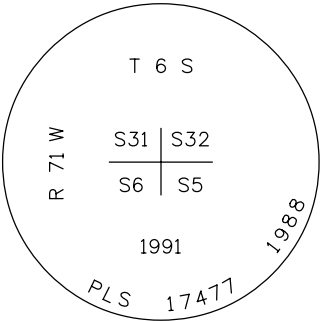
Sheet Revisions		
Date	Description	Initials
04/09	Remove Wilson Logo	AC

Sheet Revisions		
Date	Description	Initials

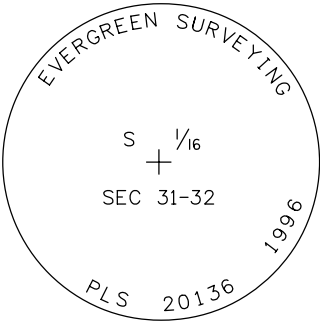
Sheet Revisions		
Date	Description	Initials

Sheet Revisions		
Date	Description	Initials

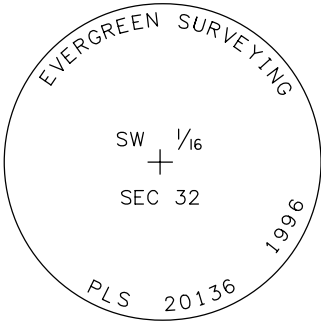
Project Number: NH 2854-108				
Project Number:				
Project Location: US 285 at Shaffer's Crossing				
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	
15048	04/16/09	3 of 3	4.03	



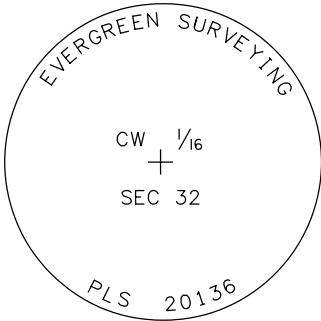
Fnd. 3/4" Alum. Cap
Pt. No. 1008



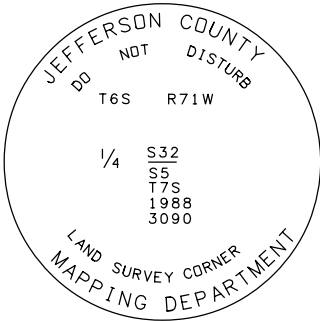
Fnd. 3/4" Alum. Cap
Pt. No. 1064



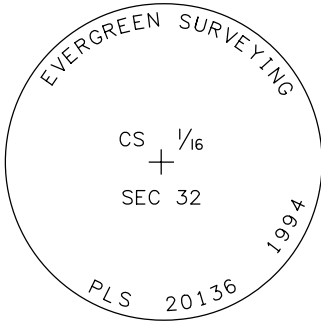
Fnd. 3/4" Alum. Cap
Pt. No. 1055



Fnd. 3" Alum. Cap
Pt. No. 1068



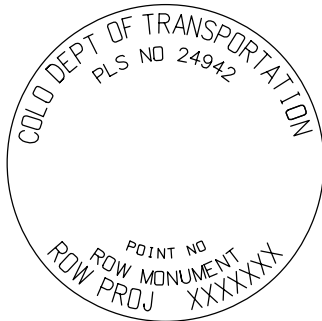
Fnd. 3/4" Alum. Cap
Pt. No. 1065



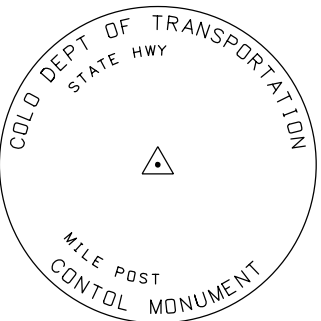
Fnd. 3" Alum. Cap
Pt. No. 1067



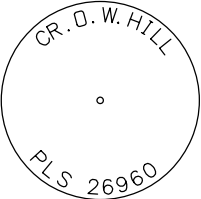
Fnd. 3/4" Brass Cap set in
6" dia. concrete
Pt. Nos. 1015 & 1018



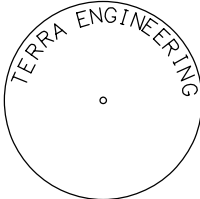
Fnd. 3/4" Alum. Cap
Pt. Nos. 1014,1016,1017,1021,
1022,1026,1031,1033-1035,1044-1050,
1052, & 1061



Fnd. 3/4" Alum. Cap
Pt. Nos. 2305,2307,2309,2311



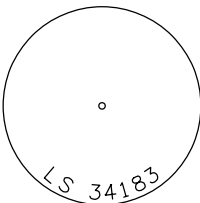
Fnd. 1/4" Plastic Cap
Pt. No. 1019



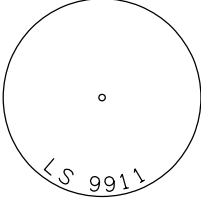
Fnd. #4 Rebar with Plastic Cap
Pt. No. 1043



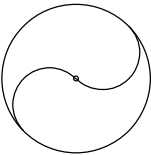
Fnd. 1 1/2" Alum. Cap
Pt. No. 1051



Fnd. Plastic Cap
Pt. Nos. 1041, 1042, 1054 & 1056



Fnd. 1 1/2" Alum. Cap
Pt. No. 1058

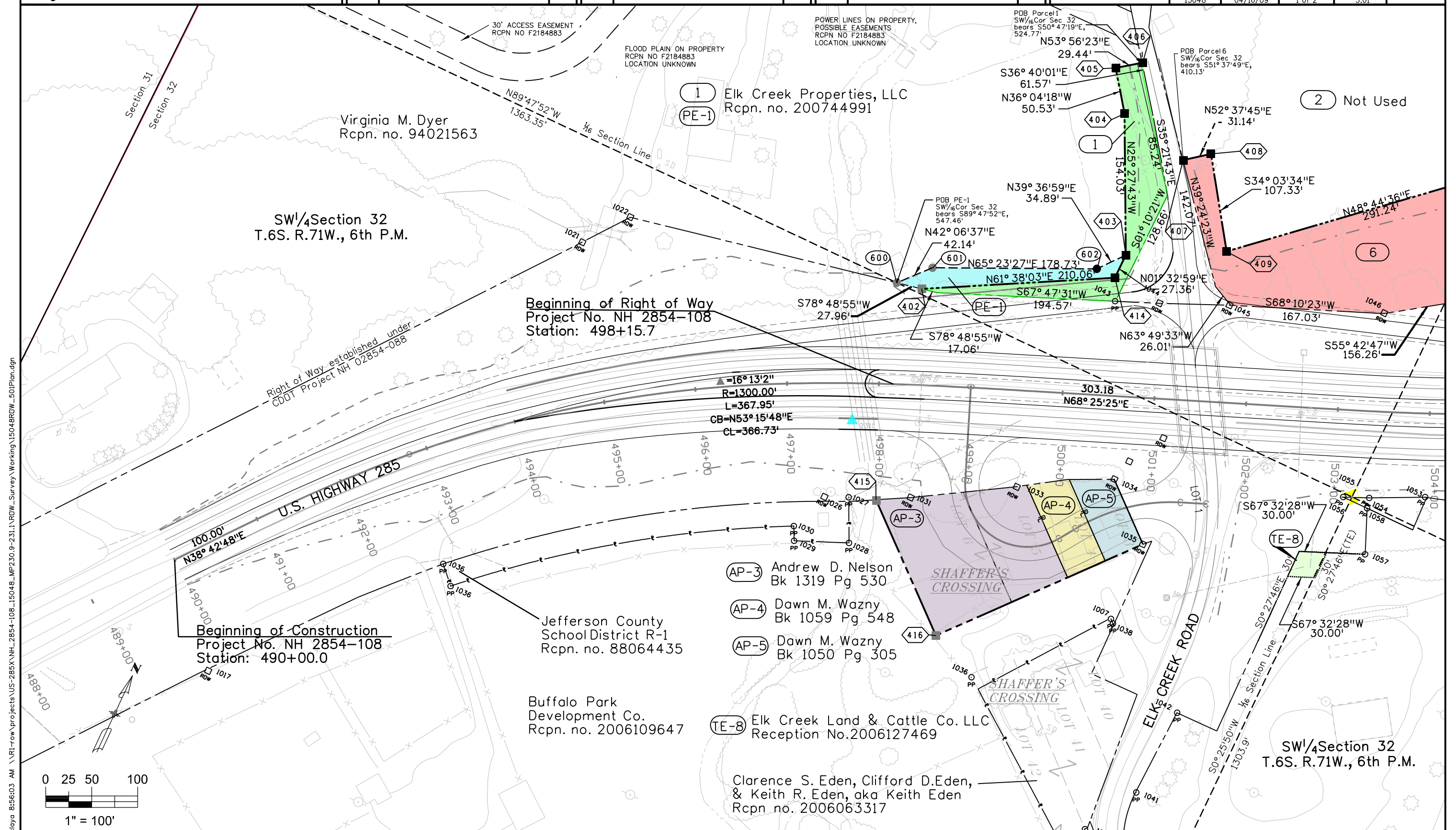


Fnd. #5 Rebar
Pt. Nos. 1020,1024,1025,1027-1030,
1036-1040,1053,1057,1059
1063,1064, & 1066

Date	Description
mm/yy	

Plan Sheet

Project Number: NH 2854-108				
Project Number:				
Project Location: US 285 at Shaffer's Crossing				
Project Code:	Last Mod. Date	Subset Sheets	Sheet No.	
1504R	04/16/09	1 of 2	5 of 1	

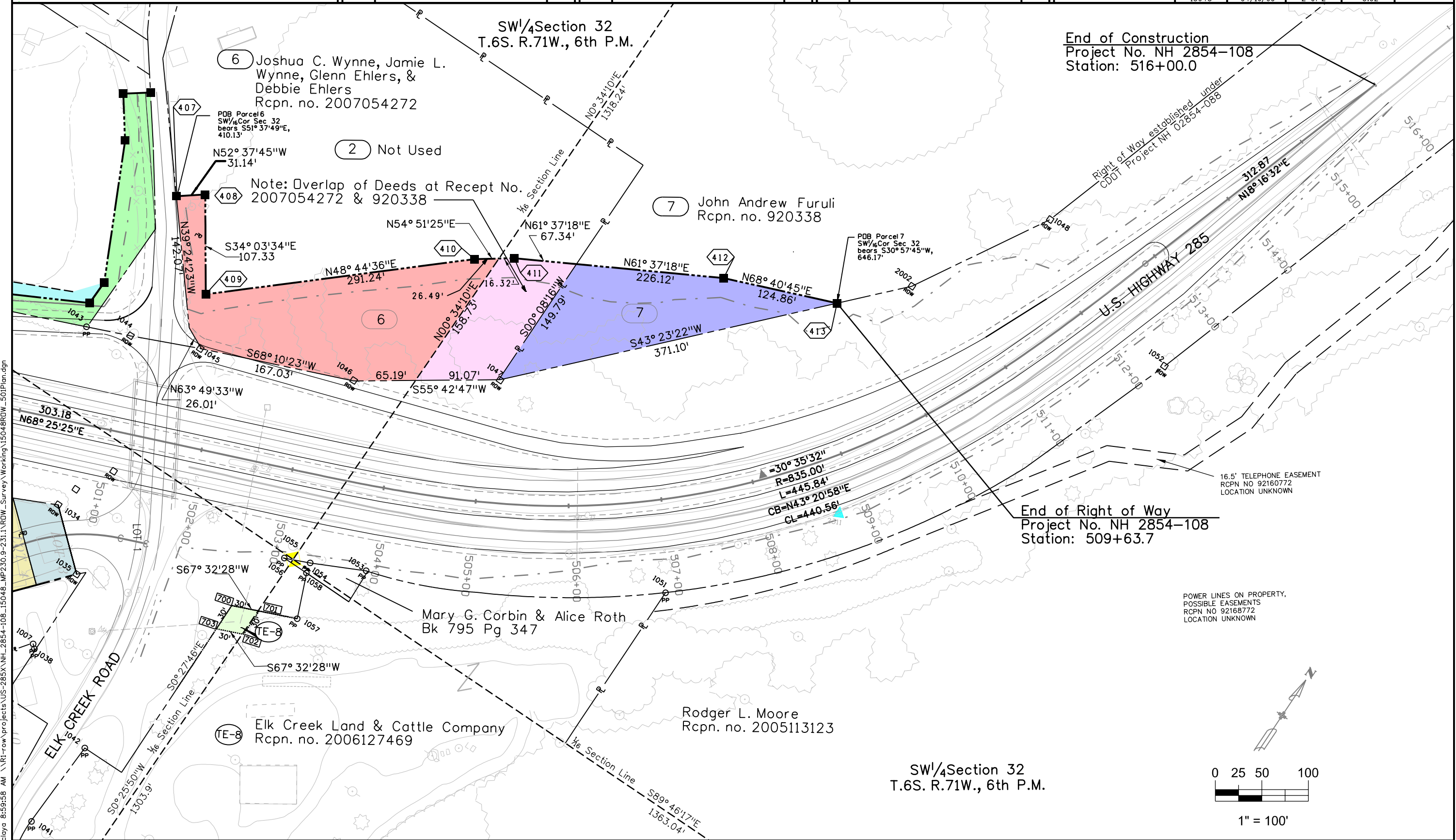


Sheet Revisions		
Date	Description	Initials
1-16-08	Add TE-8	AC

Sheet Revisions		
Date	Description	Initials

Sheet Revisions		
Date	Description	Initials

Right of Way Plans			
Plan Sheet			
Project Number: NH 2854-108			
Project Location: US 285 at Shaffer's Crossing			
Project Code: 15048	Last Mod. Date: 04/16/09	Subset Sheets: 2 of 2	Sheet No.: 5.02



claya 8:59:58 AM \\R1-row\projects\US-285X\NH-2854-108-15048-MP230.9-231.1\ROW_Survey\Working\15048ROW_501Plan.dgn



18500 East Colfax Avenue
Aurora, CO 80011
Phone: 303-365-7410 FAX: 303-365-7350

Region 1

KAW

Sheet Revisions

Date	Description	Initials
1-16-09	Add TE-8	AC

Sheet Revisions

Date	Description	Initials
mm/yy		

Sheet Revisions

Date	Description	Initials
mm/yy		

Right of Way Plans

Ownership Map

Project Number: NH 2854-108			
Project Location: US 285 at Shaffer's Crossing			
Project Code:	Last Mod. Date:	Subset Sheets:	Sheet No.
15048	04-16-09	1 of 1	6.01

SW 1/4 SECTION 32
T.6 S., R.71 W., OF THE 6th P.M.

End of Construction
Project No. NH 2854-108
Station: 516+00.0

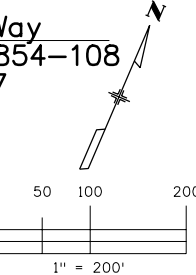
Beginning of Right of Way
Project No. NH 2854-108
Station: 498+15.7

Beginning of Construction
Project No. NH 2854-108
Station: 490+00.0

End of Right of Way
Project No. NH 2854-108
Station: 509+63.7

▲=16°13'2"
R=1300.00'
L=367.95
CB=N53°15'48"
CL=366.73'

▲=16°13'2"
R=1300.00'
L=367.95
CB=N53°15'48"
CL=366.73'



- 1 Elk Creek Properties, LLC
26624 N Turkey Creek RD
Evergreen, CO 80439
Commitment # S0187516

PE-1
- 2 Not Used

TE-8 Elk Creek Land & Cattle Co., LLC
12997 S. Elk Creek RD.,
Pine, CO. 80470
- AP-3 Andrew D. Nelson
13024 S US HWY 285
Pine, CO 80470
Commitment # S0187525

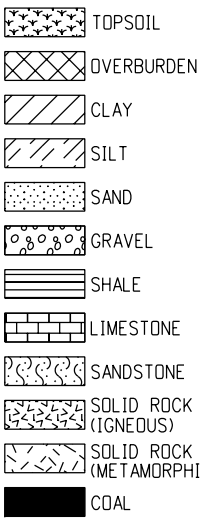
AP-4 Dawn M. Wazny
13014 S US HWY 285
Pine, CO 80470
Commitment # S0187526

AP-5 Dawn M. Wazny
13014 S US HWY 285
Pine, CO 80470
Commitment # S0187523

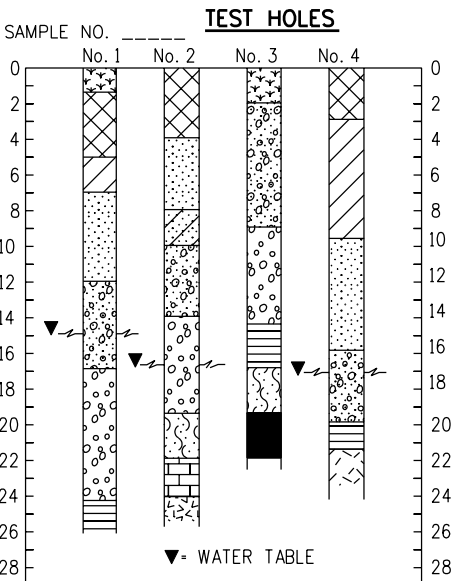
6 Joshua C. & Jamie L. Wynne,
Glenn & Debbie Ehlers
15102 S Elk Creek RD
Pine, CO 80740
Commitment # S0174349
- 7 John Andrew Furuli
12641 Elk Haven LN
Conifer, CO 80433
Commitment # 0174337

c:\p\9\19\22 AM \R1-row\projects\US-285\NH-2854-108_15048_MP230.9-231.1\RDW_Survey\Working\15048ROW_601D\wner.dgn

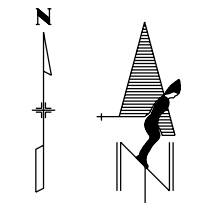
LEGEND



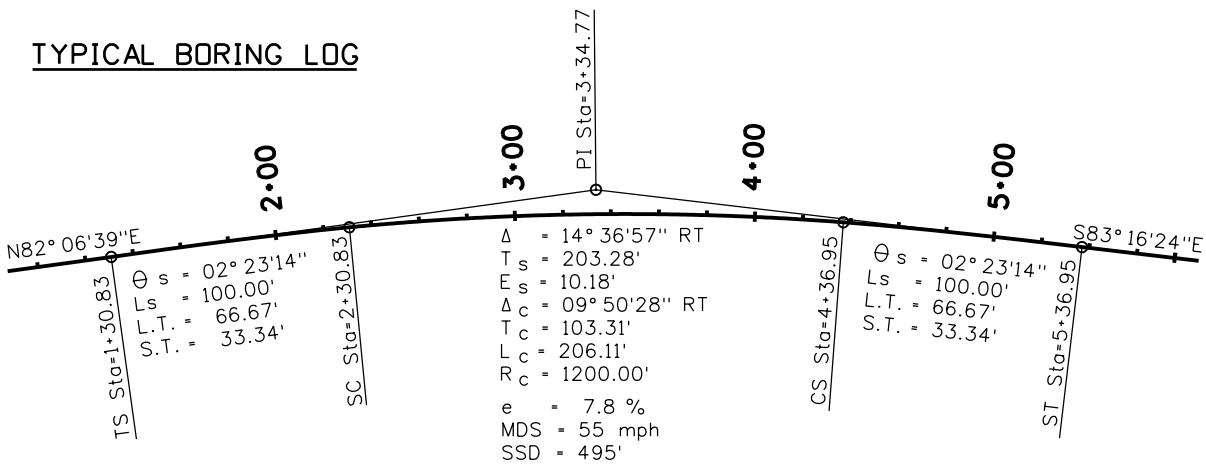
COMPOSITE MATERIALS ARE REPRESENTED BY COMBINATIONS OF THE ABOVE SYMBOLS, SUCH AS:



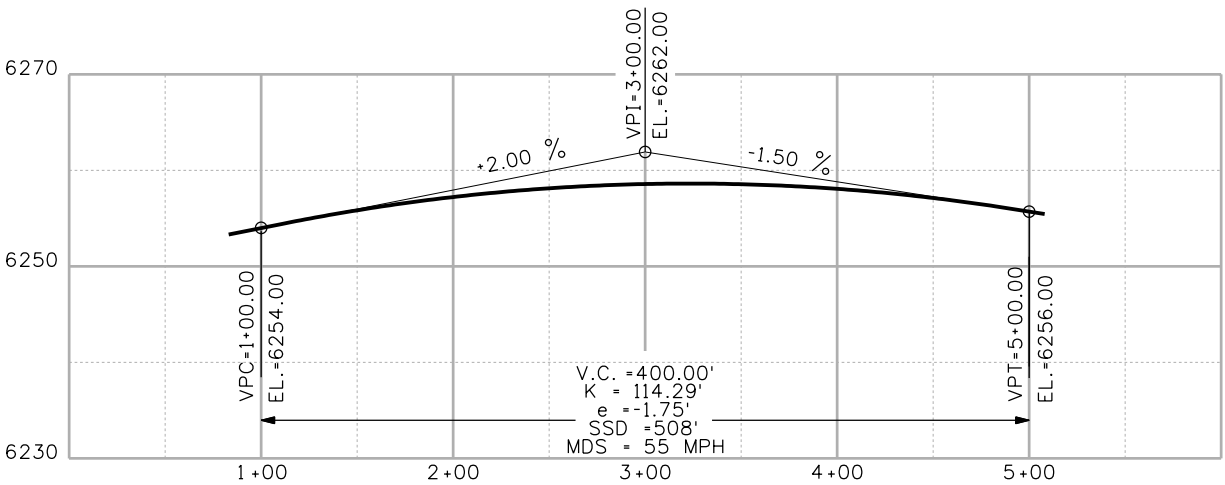
TYPICAL BORING LOG



NORTH ARROW



TYPICAL HORIZONTAL CURVE



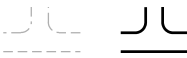
TYPICAL VERTICAL CURVE

TERRAIN SINGLE SHOTS

TOP OF CUT

TOE OF FILL

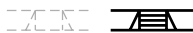
TERRAIN



GRAVEL ROAD OR DRIVEWAY



HANDICAP SYMBOL

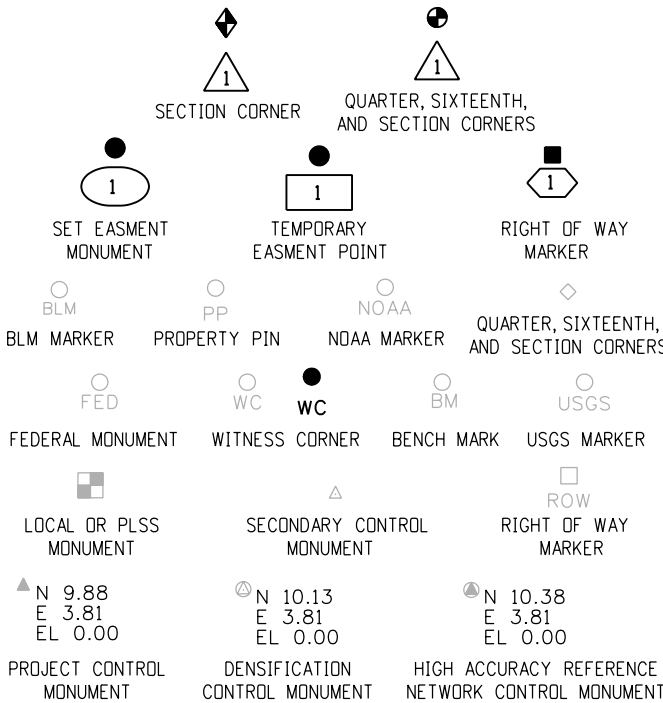


SIDEWALK WITH RAMP

EDGE OF PAVEMENT

CENTERLINE OF DIRT ROAD

ROADWAY



PERMANENT, PROPERTY, SLOPE, & UTILITY EASEMENT LINE

TEMPORARY EASEMENT LINE (EXISTING)

PROPERTY BOUNDARY LINE (EXISTING AND PROPOSED)

ACCESS CONTROL LINE

BARRIER ACCESS CONTROL LINE

RIGHT OF WAY LINE

VIRGIN RIGHT OF WAY LINE (PROPOSED)

CITY LIMIT LINE (EXISTING)

COUNTY LINE (EXISTING)

QUARTER SECTION LINE

SECTION LINE

SIXTEENTH SECTION LINE

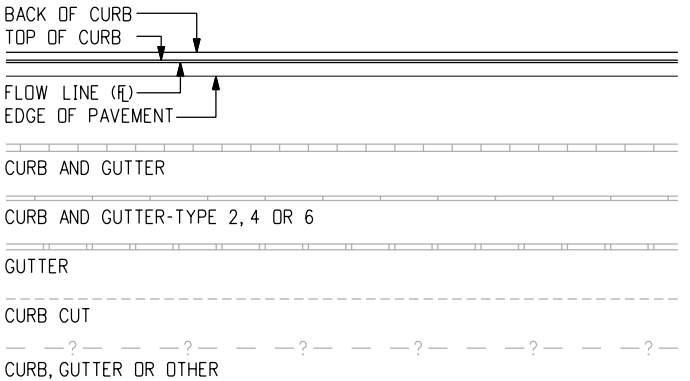
STATE LINE (EXISTING)

TOWNSHIP LINE (EXISTING)

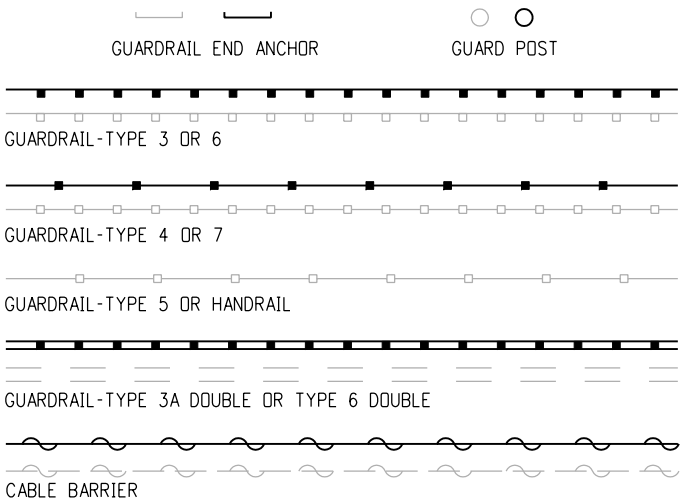
SURVEY/ROW

GENERAL NOTES

- EXISTING FEATURES SHOWN AS SCREENED WEIGHT (GRAY SCALE), EXCEPT AS NOTED WITH THE WORD (EXISTING). PROPOSED OR NEW FEATURES SHOWN AS FULL WEIGHT WITHOUT SCREENING, EXCEPT AS NOTED WITH THE WORD (PROPOSED).
- THESE SYMBOLS ARE INTENDED TO EXPLAIN THE VARIOUS TOPOGRAPHIC FEATURES INVOLVED ON THE DESIGN PLAN SHEETS WHICH ARE PREPARED AT VARIOUS SCALES. NOTES ARE ADDED WHERE NECESSARY TO CLARIFY THE SYMBOL. A LEGEND IS PROVIDED IN THE PLANS FOR SYMBOLS NOT SHOWN ON THE STANDARD SYMBOLS SHEETS.
- GUARDRAIL, CURB AND GUTTER, ETC., ARE REPRESENTED BY A SYMBOL WITH TYPE GIVEN BY NOTE.



CURB AND GUTTER



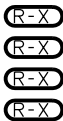
GUARDRAIL

Computer File Information

Creation Date: 07/04/06 Initials: SRJ
Last Modification Date: 07/04/06 Initials: LTA
Full Path: www.dot.state.co.us/DesignSupport/
Drawing File Name: 100010103.dgn
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STANDARD SYMBOLS

Issued By: Project Development Branch on July 04, 2006

STANDARD PLAN NO.

M-100-1

Sheet No. 1 of 3

ROCK, MASONRY OR MECHANICALLY STABILIZED WALL (FACE)

BRIDGE CURB

BRIDGE RAIL

BRIDGE RAIL-TYPE 3A

FLOW LINE CBC

STRUCTURES MISCELLANEOUS

STRUCTURE

MISCELLANEOUS BUILDING STRUCTURE (PRIMARY)

MISCELLANEOUS STRUCTURE (SECONDARY)

FOUNDATION OR PAD (CONCRETE OR BLOCK)

BUILDING STRUCTURES

RR TELEGRAPH POLE

RR SWITCH

RR GUY POLE

RR SIGNALS WITH OR WITHOUT GATE

RR CROSS BUCK SIGN

RR SIGNAL CONTROLLER CABINET

RR MISCELLANEOUS SYMBOL

RR TRACK CENTERLINE

RAILROAD

BOULDER UNDER 6FT

GEOLOGY MISC SYMBOL

MINESHAFT SYMBOL

ROCK OUTCROP

BOULDER FIELD OR ROCK OVERHANG

GEOLOGY

COMBINATION WIRE FENCE WITH GATE

CHAIN LINK FENCE WITH GATE

BARBED WIRE FENCE WITH GATE

SOUND OR BARRIER FENCE WITH GATE

DEER FENCE WITH GATE WITH GATE

WOOD FENCE WITH GATE

SNOW FENCE WITH GATE

SILT FENCE

DEBRIS FENCE

FENCE

DECIDUOUS TREE

DECIDUOUS SHRUB

TEETER TOTTER SYMBOL

SWING SET SYMBOL

CONIFEROUS TREE

CONIFEROUS SHRUB

MISCELLANEOUS TREES

BENCH

SPRINKLER HEAD

TREES GROVE

HEDGE OR SHRUB GROVE

EDGE OF WETLANDS

LANDSCAPING

HAZARD WASTE MONITORING WELL

CONCRETE WASHOUT STRUCTURE

DROP INLET EROSION PROTECTION

ROCK CHECK DAM

SOIL RETENTION BLANKET

PIPE INLET EROSION PROTECTION

TEMPORARY BERM

STORM DRAIN INLET PROTECTION

EROSION CHECK

RIGID INLET PROTECTION

SILT DIKE

SEDIMENT TRAP/ DEWATERING STRUCTURE

EROSION LOG DITCH CHECK

EXISTING WETLAND PATTERN

TEMPORARY SLOPE DRAIN

STABILIZED CONSTRUCTION ENTRANCE

PLASTIC FENCE

SILT FENCE

DEBRIS FENCE

ENVIRONMENTAL CONCERN

HAZARDOUS WASTE SITE

NOXIOUS WEED

ENVIRONMENTAL

SANITARY SEWER MANHOLE

SANITARY SEWER MISCELLANEOUS SYMBOL

SANITARY SEWER PIPE

SANITARY SEWER PIPE MISCELLANEOUS

SANITARY SEWER

METAL PIPE WITH END SECTION

CONCRETE PIPE MISCELLANEOUS

HEADWALL

CHECK DAM UNDER 4 FT

DIVERSION BOX SYMBOL

FLOW GAUGE

DITCH WITH FLOW

EDGE OF WATER, CANALS, PONDS, STREAM OR RIVER

HEADGATE 1

SPRING SYMBOL

MISCELLANEOUS WATERWAYS

PIPES

INLET TYPE 13

INLET TYPE C

INLET TYPE D

INLET VANE GRATE

INLET TYPE R XX FT LENGTH

STORM SEWER MANHOLE

STORM SEWER MISCELLANEOUS

STORM SEWER PIPE

STORM SEWER PIPE MISCELLANEOUS

STORM SEWER

WATER SPIGOT

FIRE HYDRANT

WATER VALVE

WATER METER

WATER MANHOLE

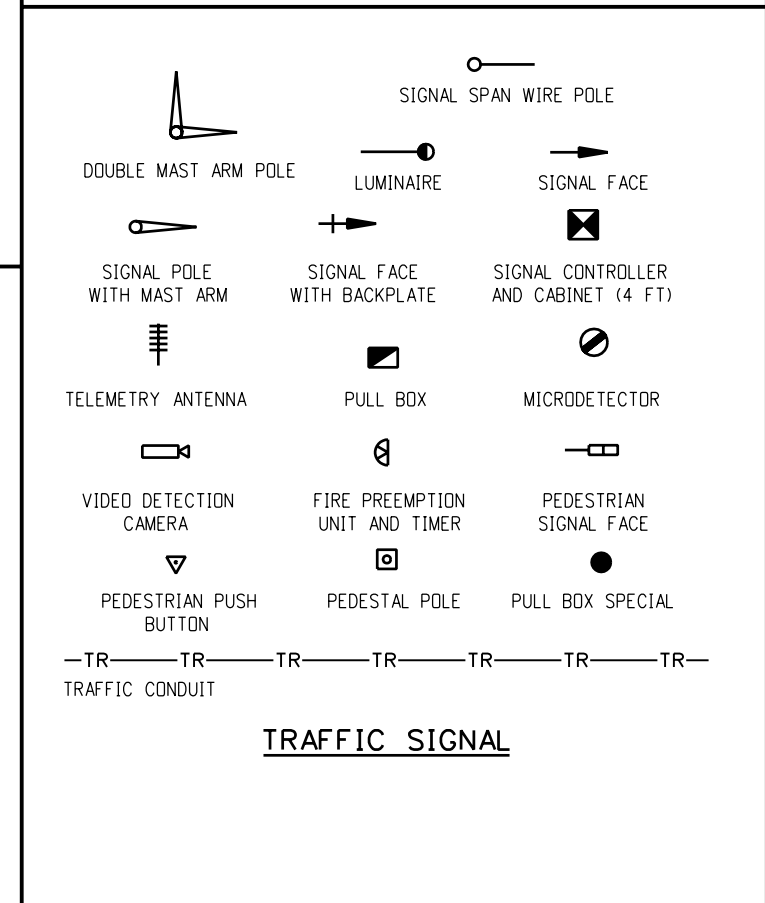
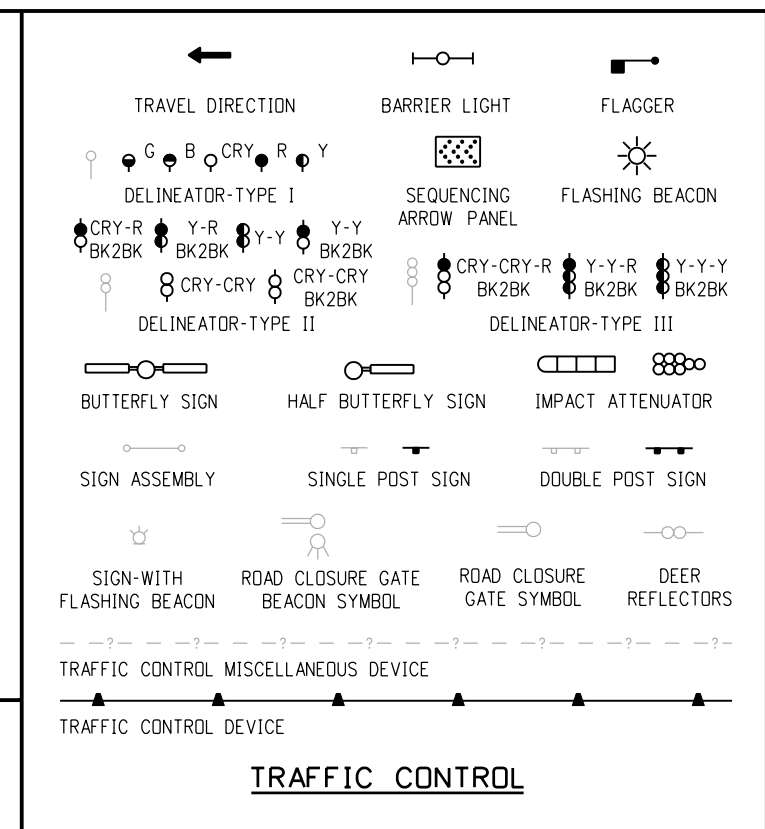
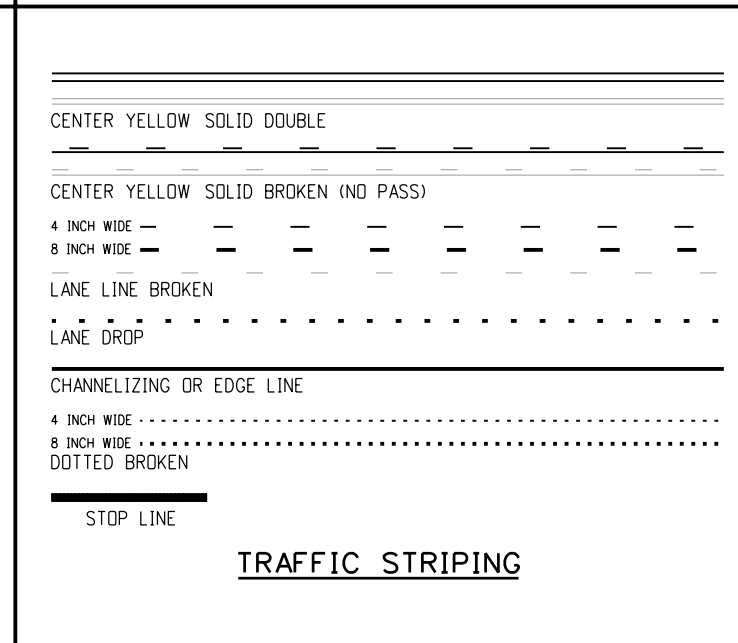
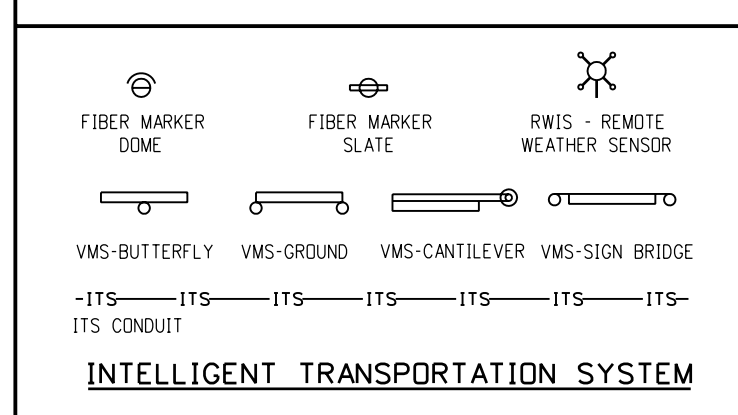
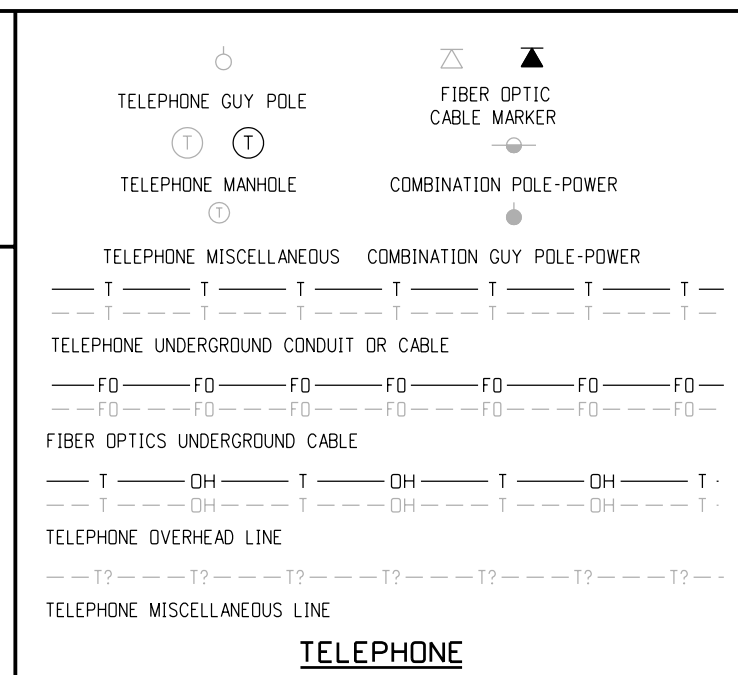
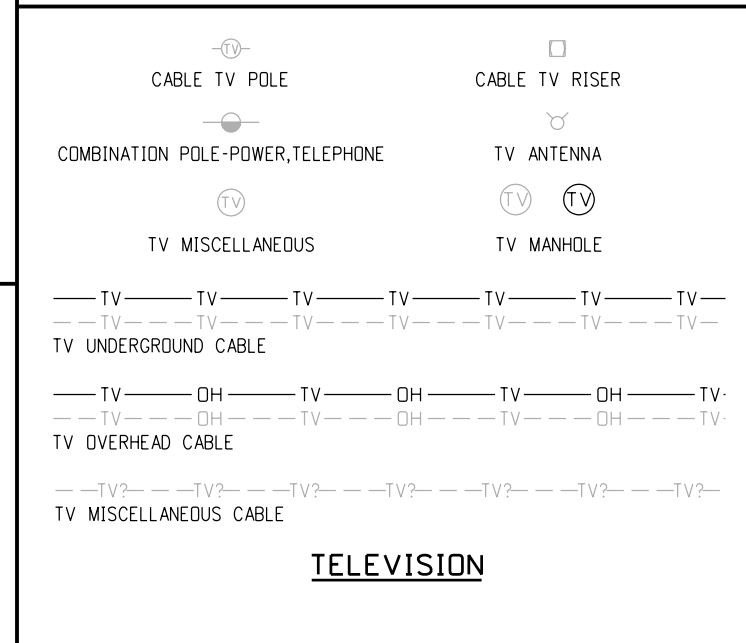
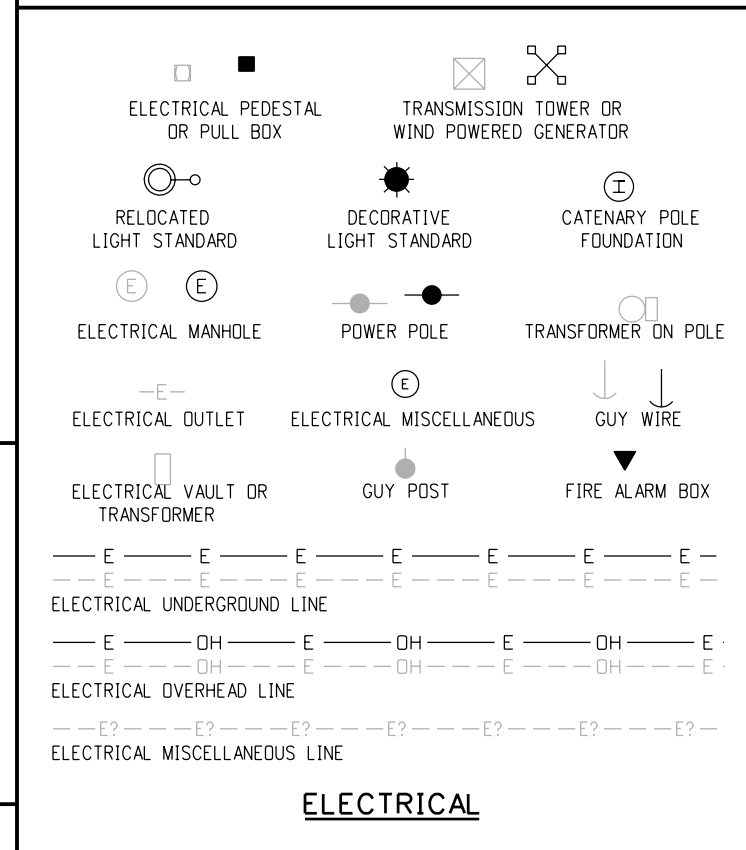
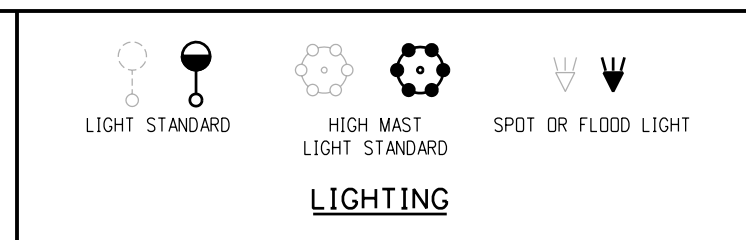
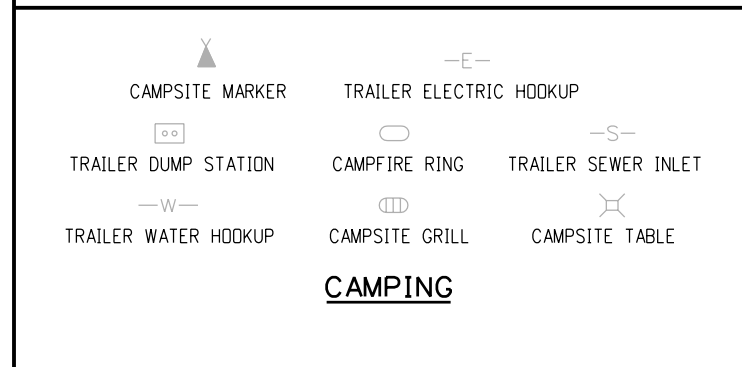
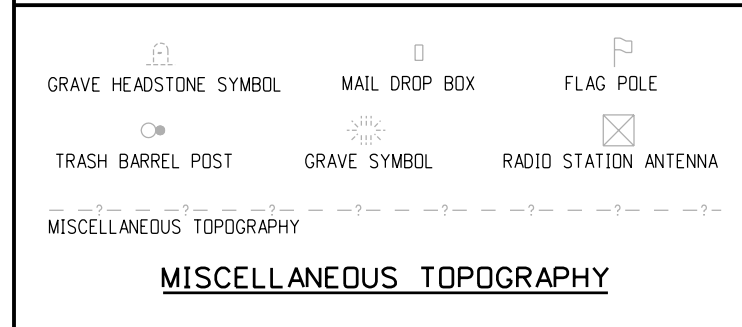
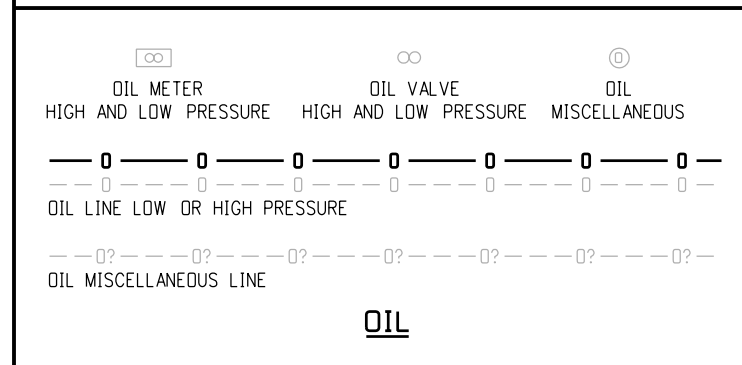
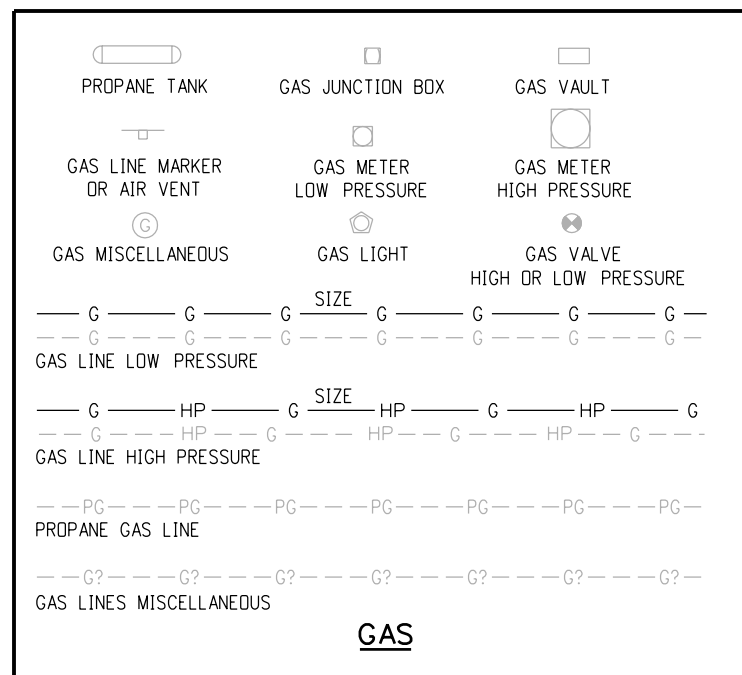
WATER WELL SYMBOL

WATER LINE

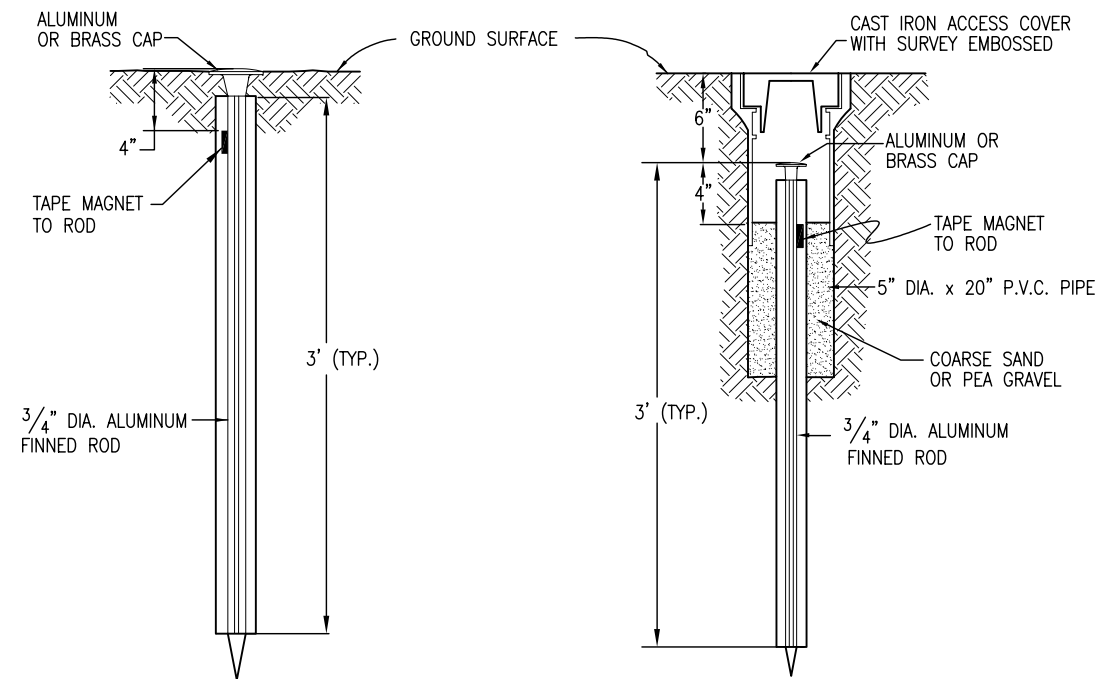
WATER MISCELLANEOUS LINE

WATER

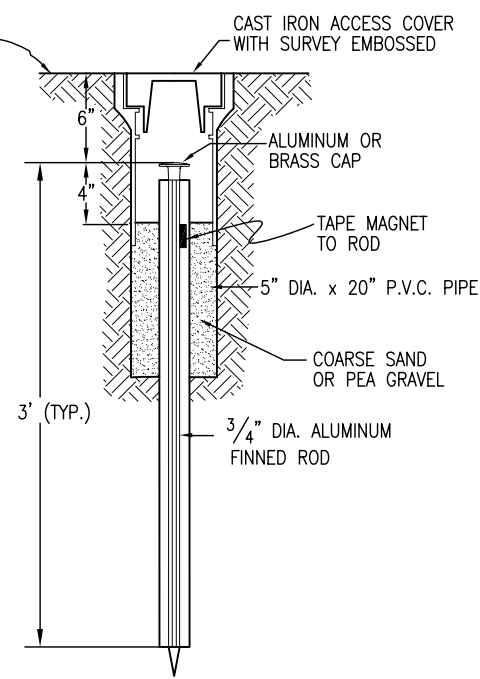
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Creation Date: 07/04/06 Initials: SRJ							M-100-1	
Last Modification Date: 07/04/06 Initials: LTA								
FullPath: www.dot.state.co.us/DesignSupport/								
Drawing File Name: 100010203.dgn								
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English						Sheet No. 2 of 3		



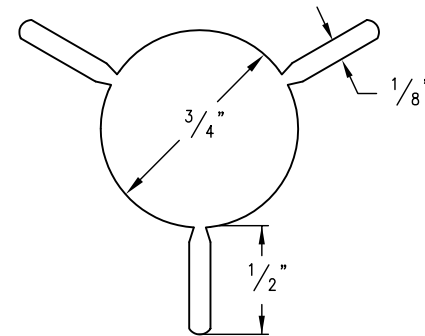
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Creation Date: 07/04/06 Initials: SRJ			Date:	Comments			M-100-1			
Last Modification Date: 07/04/06 Initials: LTA					Sheet No. 3 of 3					
Full Path: www.dot.state.co.us/DesignSupport/										
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CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English					Issued By: Project Development Branch on July 04, 2006					



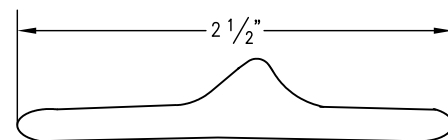
TYPE 1 MONUMENT



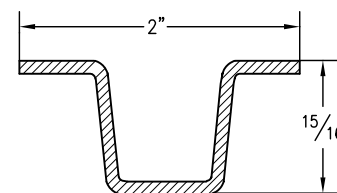
TYPE 1A MONUMENT
INCLUDES MONUMENT BOX



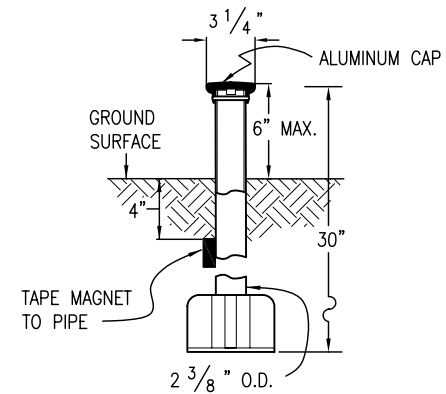
SECTION A-A



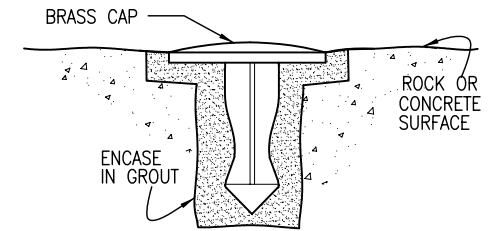
SECTION B-B



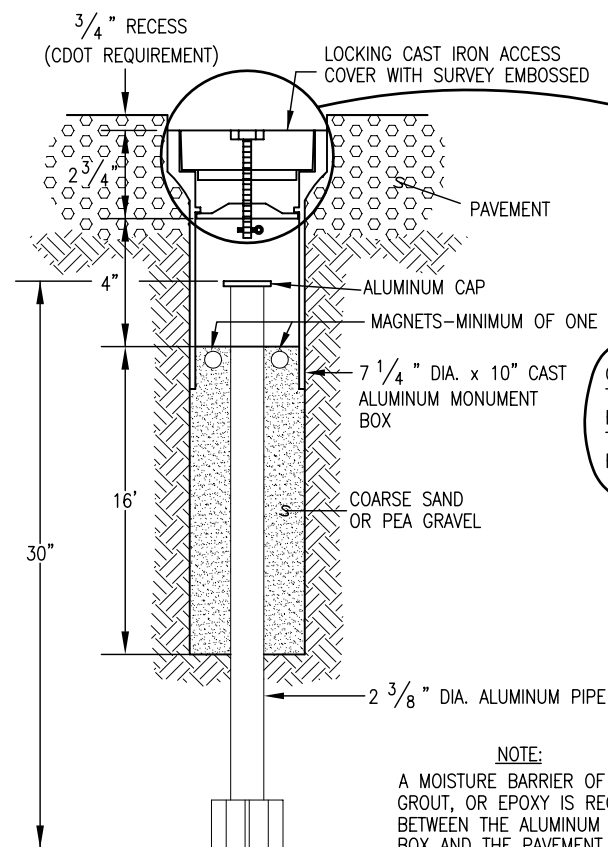
DELINEATOR POST SECTION C-C



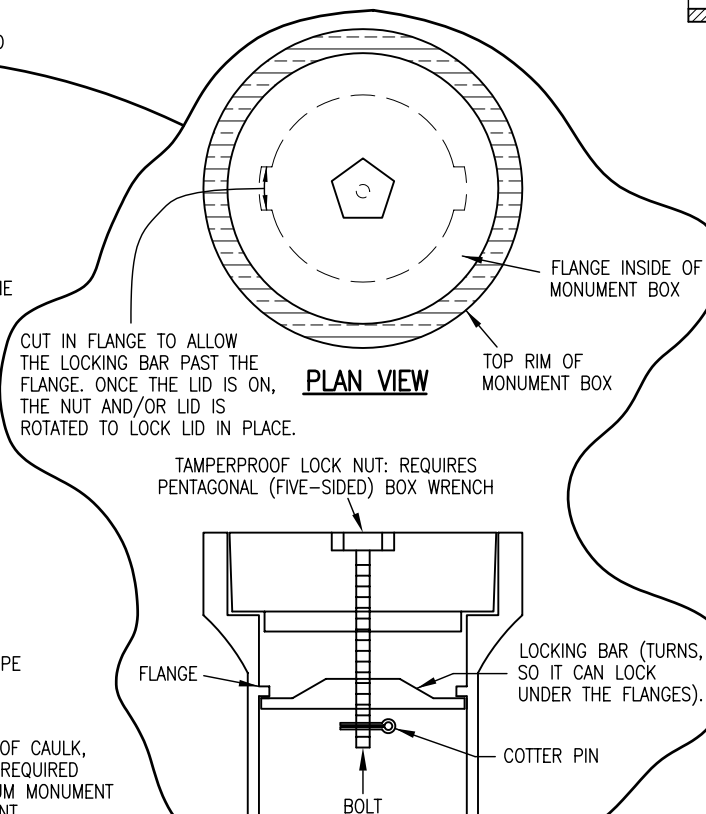
TYPE 3 MONUMENT



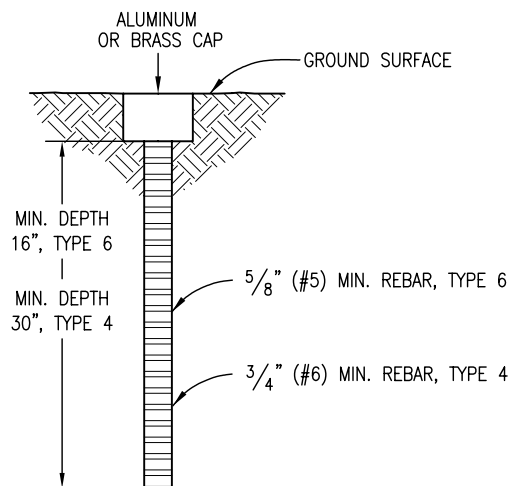
TYPE 5 MONUMENT
ALUMINUM CAP AND TYPE 5(S) DETAILS SHOWN ON SHEET 2



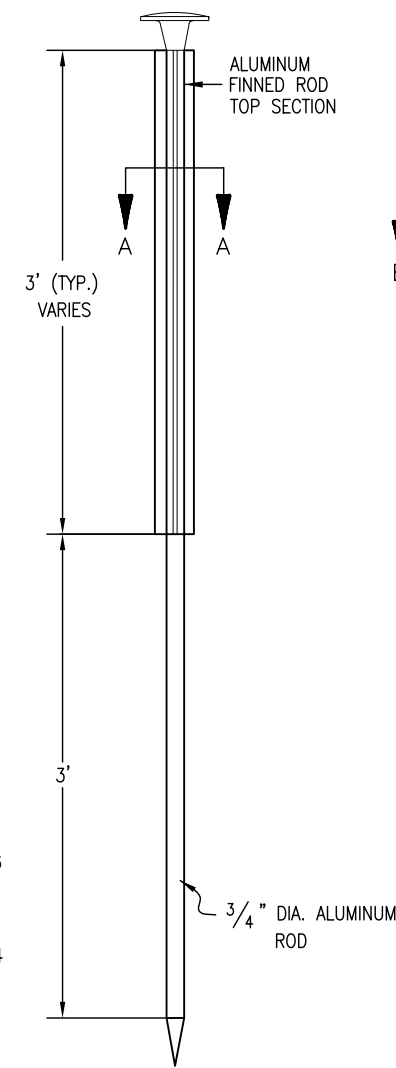
TYPE 3A MONUMENT
ROADWAY INSTALLATION INCLUDES MONUMENT BOX



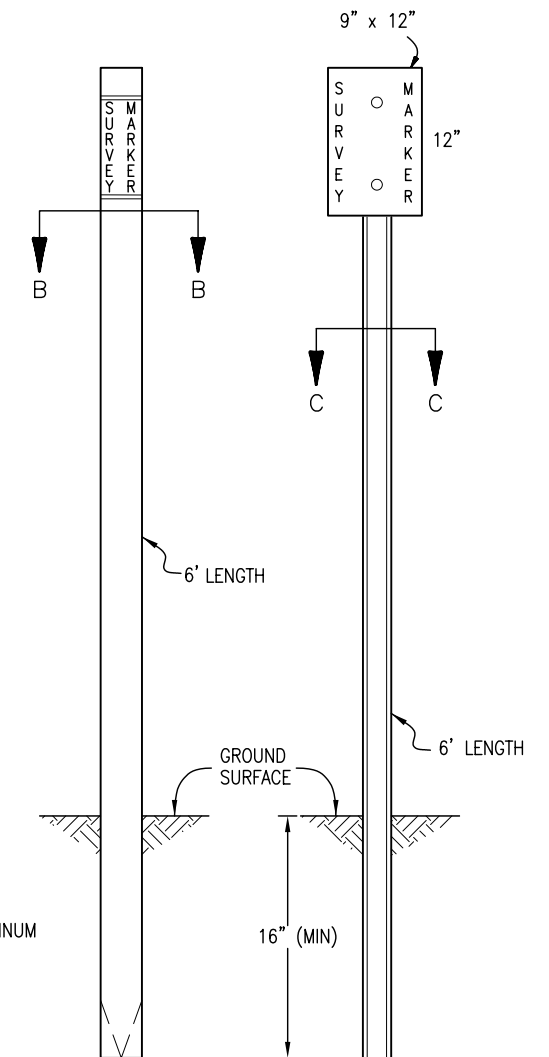
LOCKING CAST IRON ACCESS COVER



TYPE 4 AND TYPE 6 MONUMENT



TYPE 2 MONUMENT
TYPE 2A INCLUDES MONUMENT BOX



WITNESS POSTS

Computer File Information

Creation Date: 07/04/06 Initials: SJR
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(R-X)	
(R-X)	
(R-X)	

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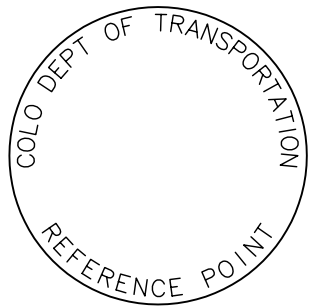
SURVEY MONUMENTS

Issued By: Project Development Branch on July 04, 2006

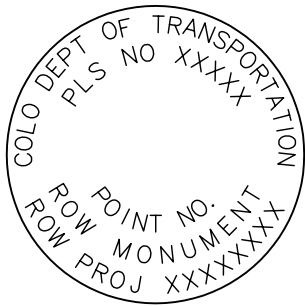
STANDARD PLAN NO.

M-629-1

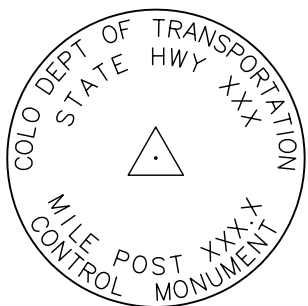
Sheet No. 1 of 2



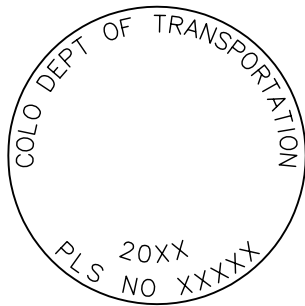
REFERENCE
MONUMENT CAP



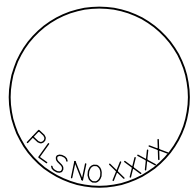
ROW
MONUMENT CAP



CONTROL
MONUMENT CAP

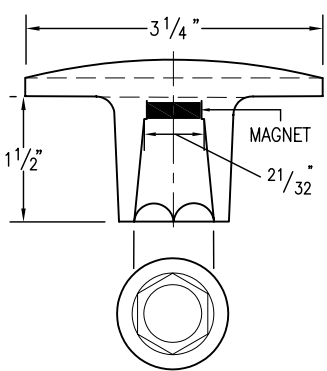


ALIQOT CORNER
MONUMENT CAP

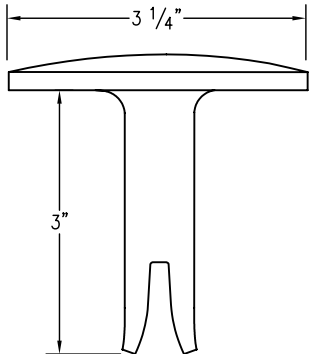


ALUMINUM CAP

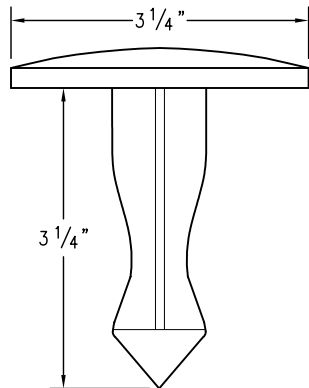
NOTE: A BLANK CAP MAY BE SUBSTITUTED IF THE APPROPRIATE CAP SHOWN ABOVE IS NOT AVAILABLE. IF A BLANK CAP IS USED, ALL INFORMATION NORMALLY INCLUDED ON THE APPROPRIATE STANDARD CAP, SHALL BE STAMPED ON THE BLANK CAP ALONG WITH SPECIFIC PROJECT INFORMATION SUCH AS PROJECT NO., DATE, POINT NO., ETC..



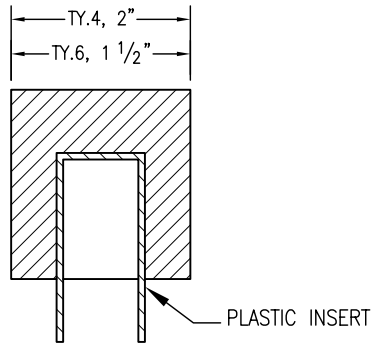
ALUMINUM CAP
USED WITH ALUMINUM ROD



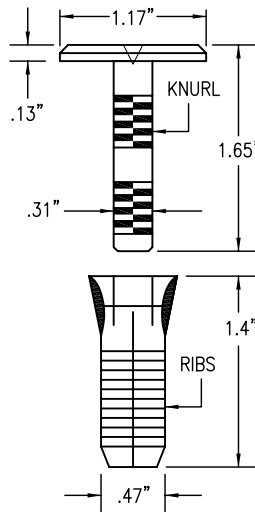
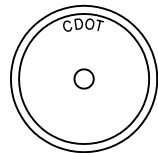
ALUMINUM CAP
TYPE 5
FOR PLACING IN EXISTING
CONCRETE OR ROCK



BRASS CAP
TYPE 5
FOR PLACING IN EXISTING
CONCRETE OR ROCK



ALUMINUM CAP



COPPER ALLOY CAP
TYPE 5(S)
FOR PLACING IN EXISTING
SIDEWALK, CURB, OR GUTTER

ALL MONUMENTATION MATERIALS WILL BE FURNISHED BY CDOT

THE MONUMENT TYPE SHALL MEET THE MINIMUM STANDARDS AS DETERMINED BY THE COLORADO STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS RULES (STATE BOARD RULES).

THE CDOT SURVEY COORDINATOR SHALL APPROVE ALL EXCEPTIONS FOR STAMPING MONUMENTS DIFFERING FROM THE STANDARDS.

TYPE 1 AND TYPE 1A ALUMINUM FINNED ROD MONUMENTS

THIS MONUMENT SHALL BE USED FOR ROW OR REFERENCE MONUMENTS OR MAY BE USED FOR AN ALIQUOT CORNER MONUMENT. WHEN USED AS AN ALIQUOT CORNER MONUMENT, INSTALLATION AND RECORD FILING REQUIREMENTS SHALL BE AS STATED FOR TYPE 3 AND TYPE 3A MONUMENTS.

MONUMENTS SHALL BE INSTALLED BY ATTACHING THE PROPER SIZE TIP TO ONE END OF A SECTION OF FINNED ROD, AND A 3 IN. LONG X 3/4 IN. DIA. STAINLESS STEEL ADAPTER TO THE OTHER END. THE DRIVER IS THEN PLACED OVER THE STAINLESS STEEL ADAPTER FOR THE HAMMER TO CONTACT. TYPE 1 MONUMENTS SHALL USE A MINIMUM 3 FT. SECTION OF FINNED ROD. WHEN SUBSURFACE ROCK OR CONCRETE IS ENCOUNTERED LESS THAN 3 FT. BELOW THE GROUND SURFACE, THE ROD SHALL BE EMBEDDED IN THE ROCK OR IN CONCRETE AT LEAST 6 IN. AND GROUTED IN PLACE. THE ROD MAY BE SHORTENED TO ACCOMMODATE THE CONDITIONS.

WHEN UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, ADDITIONAL SECTIONS OF ROD SHALL BE ADDED TO ACHIEVE STABILITY. HORIZONTAL AND VERTICAL STABILITY ARE REQUIRED.

TYPE 1A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 2 AND TYPE 2A ALUMINUM FINNED ROD MONUMENTS

THIS MONUMENT SHALL BE USED FOR HORIZONTAL AND VERTICAL CONTROL MONUMENTS. WHEN UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, ADDITIONAL SECTIONS OF ROD SHALL BE ADDED TO ACHIEVE STABILITY. HORIZONTAL AND VERTICAL STABILITY ARE REQUIRED. IN MOST SOIL CONDITIONS THE TYPE 2 MONUMENT IS EMBEDDED 6 FT. INTO THE GROUND.

THE MONUMENT SHALL BE INSTALLED BY FIRST ATTACHING THE PROPER SIZE TIP TO A 3 FT. LONG X 3/4 IN. DIA. ROD, THEN DRIVING THE ROD AT LEAST 30 IN. INTO THE GROUND. ADDITIONAL 3 FT. LONG X 3/4 IN. FINNED ROD SECTIONS SHALL BE ADDED AND DRIVEN FLUSH WITH THE GROUND UNTIL THE MONUMENT IS IN A STABLE POSITION. THE FINNS ARE BENT OVER USING PLIERS TO ACCOMMODATE INSTALLING THE CAP. THE CAP IS FIRMLY SEATED ONTO THE LAST FINNED SECTION OF ROD USING A DEAD BLOW SLEDGE HAMMER.

TYPE 2A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 3 AND TYPE 3A ALUMINUM PIPE MONUMENTS

THIS MONUMENT SHALL BE USED FOR AN ALIQUOT CORNER MONUMENT. THE INSTALLATION OF THIS MONUMENT AND RECORD FILING SHALL BE DONE IN ACCORDANCE WITH THE STATE BOARD RULES. ALSO REFER TO THE CDOT SURVEY MANUAL AND THE BUREAU OF LAND MANAGEMENT REQUIREMENTS FOR MONUMENT INSTALLATION. THE LAND SURVEYOR'S LICENSE NUMBER AND THE YEAR SHALL BE STAMPED ON THE CAP.

TYPE 3A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 4 ALUMINUM MONUMENT

THIS MONUMENT MAY BE INSTALLED IN LIEU OF REPLACING THE ENTIRE MONUMENT WHEN REBAR IS IN PLACE AT AN ALIQUOT CORNER LOCATION. REFER TO THE STATE BOARD RULES. A MINIMUM 2 IN. DIA. CAP SHALL BE USED ON 3/4 IN. (#6) REBAR.

TYPE 5 BRASS/ALUMINUM CAP MONUMENT

THIS MONUMENT MAY BE INSTALLED IN LIEU OF ALL OTHER CDOT MONUMENTS, WHEN THE POSITION IS LOCATED IN CONCRETE OR STABLE ROCK FORMATION.

TYPE 5(S) COPPER ALLOY CAP MONUMENT – SMALL

THIS MONUMENT MAY BE INSTALLED IN LIEU OF A TYPE 5 MONUMENT, WHEN THE POSITION IS LOCATED IN A CONCRETE SIDEWALK, CURB OR GUTTER, OR WHEN SETTING A TYPE 5 WOULD COMPROMISE THE INTEGRITY OF THE RECEIVING STRUCTURE.

STAMPING REQUIREMENTS:

- "RP", WHEN THE APPLICATION IS A REFERENCE POINT.
- "ROW", POINT NUMBER, "LS", AND REGISTRATION NUMBER WHEN THE APPLICATION IS A ROW POINT.
- "CP" AND A UNIQUE IDENTIFIER PROVIDED BY THE REGION SURVEY COORDINATOR, WHEN THE APPLICATION IS A CONTROL POINT.
- "PE", POINT NUMBER, "LS", AND REGISTRATION NUMBER, WHEN THE APPLICATION IS A PERMANENT EASEMENT POINT.
- "PP" AND POINT NUMBER, WHEN THE APPLICATION IS A PROJECT POINT.

TYPE 6 ALUMINUM MONUMENT

THIS MONUMENT SHALL BE USED FOR PERMANENT EASEMENTS, PROJECT BENCH MARKS, PROJECT POINTS, AND REFERENCES. AN ALUMINUM CAP WITH A MINIMUM DIAMETER OF 1 1/2 IN., SHALL BE USED ON 5/8 IN. (#5) MINIMUM REBAR.

* WITNESS POSTS

THE WITNESS POST WILL BE SUPPLIED BY CDOT AND INSTALLATION SHALL BE INCLUDED IN THE WORK. IT SHALL BE DRIVEN WITHIN 1 FT. OF THE MONUMENT WHEN POSSIBLE. A DELINEATOR POST WITH A 9 IN. X 12 IN. METAL SIGN PANEL MAY BE USED IN LIEU OF THE PLASTIC POST. THIS POST SHALL CONFORM TO STANDARD PLAN S-612-1. A REQUIRED WITNESS POST MAY BE OMITTED WITH THE APPROVAL OF THE ENGINEER IF THE WITNESS POST LOCATION IS WITHIN A TRAVELED WAY, DRIVEWAY, OR ACCESS OPENING.

MONUMENT APPLICATION

CAP TYPE	MONUMENT TYPE									
	1	1A	2	2A	3	3A	4	5	5(S)	6
REFERENCE	X	X						X	X	X
ROW	X	X						X	X	
CONTROL			X	X				X	X	
ALIQOT CORNER	X	X			X	X	X	X		
PERMANENT EASEMENT								X	X	X
PROJECT POINTS								X	X	X
WITNESS POST * (REQUIRED)	X		X	X	X			X		

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SURVEY MONUMENTS

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STANDARD PLAN NO.

M-629-1

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