Section 3: Plan Production

Chapter 1 - General Sheets

1.1 Plan Sheet Requirements

These are the general requirements and standards that apply to all sheets in the plan set.

1.1.1 Reference and Drawing Files

CDOT has specified two types of CADD files in the development of plan sets, Drawing and Reference Files. Understanding the differences these two types of files, and what belongs in each type of file, is crucial to producing project plan sets that meet CDOT standards.

Reference files contain all the design information (i.e. line work and detailed drawing) for the entire project and are separated by discipline (for example, JPC#DES, JPC#ROW, JPC#BRDG, JPC#TRAF). These Files are typically located in ***JPC#\[Discipline]\Drawings\Reference_Files\.*** Reference files should never contain plan notes or a border.

Drawing files are used for organizing the design information into printable plan sets. Generally the Drawing files reference one or more Reference files and add a border, callouts, labels, notes, and title. These Files are typically located in ***JPC#\[Discipline]\Drawings\.*** Design line work and details should not be done directly inside of the Drawing file.

The only exceptions to these guidelines are details and typical sections. For these drawing, all linework, notes, labeling, and borders are done in the Drawing file. See “Typical Sections” and “Project Details” for more information.

1.1.2 Generating Plan Sheets

The first step in creating plan sheets is to cut sheets. Cutting sheets means creating individual MicroStation drawings that follow an alignment at a specific scale and consistent interval.

For small projects with only a few plan sheets, sheets that are generated from the Project Creation Utility can be used to cut sheets manually.

For large projects, the most efficient way to cut sheets is to use the “Plan & Profile Generator” tool in InRoads. This tool automatically generates plan sheets. It will create the scaled sheet view, create match lines, reference files, clip boundaries, and north arrow.

Preferences have been set up for the “Plan and Profile Generator” to match the various standard scales used by CDOT. The preferences make many of the dialog box settings automatically, allowing the user to focus on the data rather than dialog box toggles.

1.1.3 Reference Files

When referencing files into the Drawing files, remember the following general guidelines.

- Attach design files with the orientation “coincident – world” and at a scale of 1:1. **Do not move, scale, or rotate** a design file.
- The proper scale and orientation for plotting can be achieved by first rotating the view and then attaching the border file using the “Top” view at the desired scale. The border attachment can then be moved to the correct location. If the design file is attached coincidently, features in the sheet files maintain their proper coordinates.

There are a few exceptions to this rule. For example detail sheets with multiple attachments or sheets that combine plan and profile views. For plan and profile sheets, the recommended approach is to attach the plan view coincidently and then move the profile view into the right location by attaching it as a saved view.

1.1.4 General Drafting

- Use text styles that are provided in the CDOT workspace and proper levels with bylevel symbology. Text styles with the word “title” in the name are to be used for the Title sheets and detail titles.
- Use dimension styles that are provided in the CDOT workspace and proper levels with bylevel symbology.

Using the CDOT text and dimension styles maintains a consistent “look and feel” throughout the plan set.

- Organize callouts based on whether they are left or right of the alignment.
- North arrow and barscale go in the top half of the sheet in an open spot of the drawing sheet.
- Sheet borders: Sheet border information that is constant throughout all sheets for a project is edited in a reference file. The sheet border information in a reference file is actually a scaled cell containing a series of text elements or tags that is placed in each sheet file. Title block information is changed by using the “edit text” or “edit tags” icons. Sheet border cells can also be placed directly into each Drawing file.

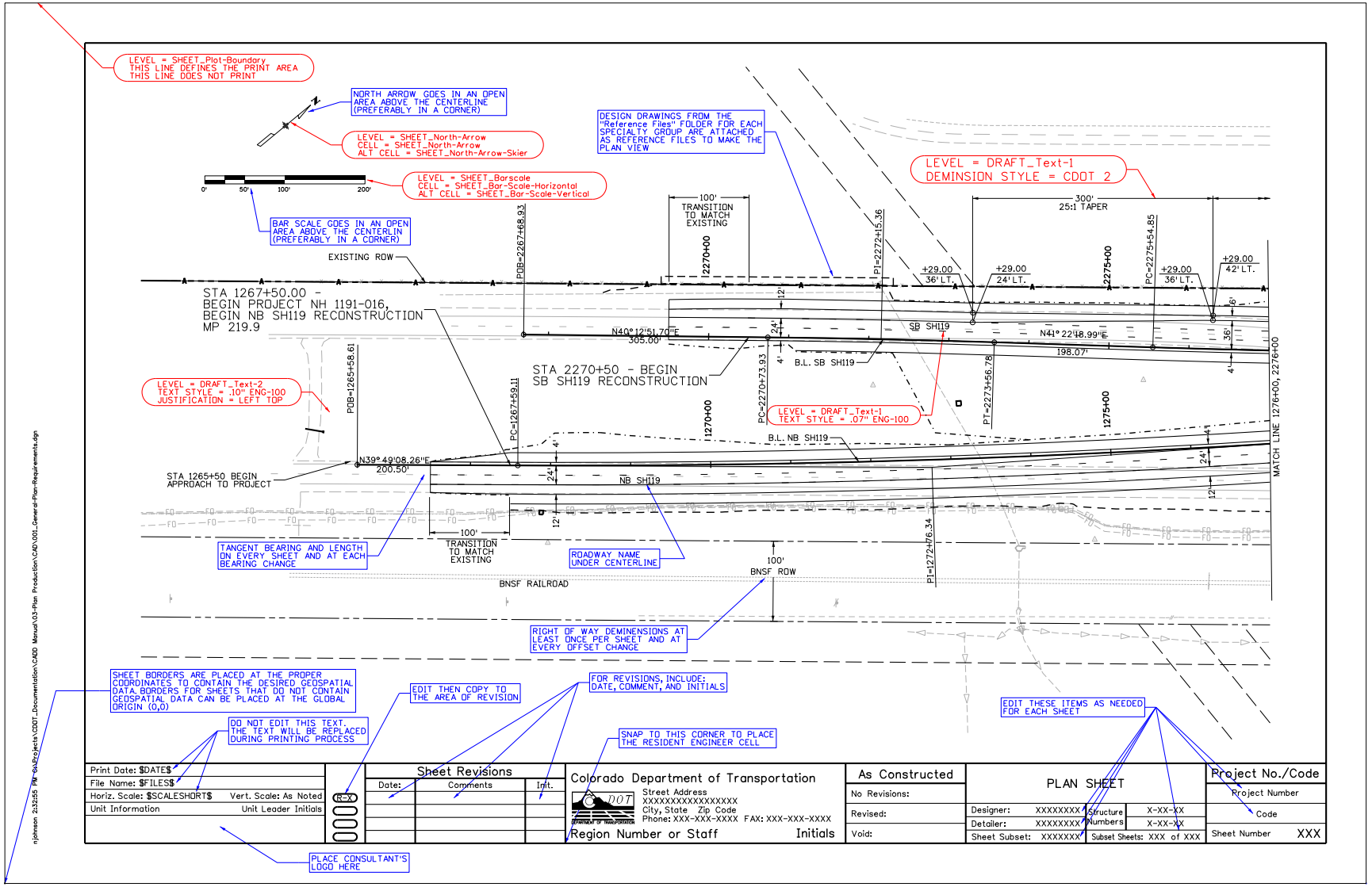
Using the title block cell insures that the title blocks for all sheets look the same (text styles, dimension styles, levels, layout, etc.).

- Resident Engineer cell goes on every sheet unless stated otherwise

1.1.5 Guidelines For Callouts

There are several ways to label in MicroStation. Here are a few options.

- The preferred method is to use the “Place Note” tool on the “Text” toolbar in MicroStation. When using this method, be sure to set the text and dimension styles prior to placing the note. The advantage of this method is that the text, leaders, and arrows are placed as a group and can be easily moved, adjusted, and edited.
- Use the InRoads “Drafting” tools to place intelligent annotation notes on features and geometry in plan, profile, and cross section views as well as at the intersection of two alignments.


LEVEL = SHEET_Plot-Boundary
THIS LINE DEFINES THE PRINT AREA
THIS LINE DOES NOT PRINT
NORTH ARROW GOES IN AN OPEN AREA ABOVE THE CENTERLINE (PREFERABLY IN A CORNER)
LEVEL = SHEET_North-Arrow
CELL = SHEET_North-Arrow
ALT CELL = SHEET_North-Arrow-Skier
LEVEL = SHEET_Barscale
CELL = SHEET_Bar-Scale-Horizontal
ALT CELL = SHEET_Bar-Scale-Vertical
BAR SCALE GOES IN AN OPEN AREA ABOVE THE CENTERLIN (PREFERABLY IN A CORNER)
DESIGN DRAWINGS FROM THE "Reference Files" FOLDER FOR EACH SPECIALTY GROUP ARE ATTACHED AS REFERENCE FILES TO MAKE THE PLAN VIEW
LEVEL = DRAFT_Text-1
DEMINSION STYLE = CDOT 2
EXISTING ROW
STA 1267+50.00 - BEGIN PROJECT NH 1191-016, BEGIN NB SH119 RECONSTRUCTION MP 219.9
POB=2267+68.93
100' TRANSITION TO MATCH EXISTING
1270+00
PI=2272+15.36
300' 25:1 TAPER
+29.00 36' LT.
+29.00 24' LT.
+29.00 36' LT.
+29.00 42' LT.
2275+00
PC=2275+54.85
SB SH119
N40°12'51.70"E 305.00'
N41°22'18.99"E 198.07'
B.L. SB SH119
STA 2270+50 - BEGIN SB SH119 RECONSTRUCTION
PC=2270+73.93
PT=2273+66.78
1275+00
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
JUSTIFICATION = LEFT TOP
POB=1265+58.61
PC=1267+59.11
LEVEL = DRAFT_Text-1
TEXT STYLE = .07" ENG-100
B.L. NB SH119
N39°49'08.26"E 200.50'
STA 1265+50 BEGIN APPROACH TO PROJECT
NB SH119
MATCH LINE 1276+00, 2276+00
TANGENT BEARING AND LENGTH ON EVERY SHEET AND AT EACH BEARING CHANGE
100' TRANSITION TO MATCH EXISTING
ROADWAY NAME UNDER CENTERLINE
100' BNSF ROW
BNSF RAILROAD
PI=1272+76.34
RIGHT OF WAY DEMINENSIONS AT LEAST ONCE PER SHEET AND AT EVERY OFFSET CHANGE
SHEET BORDERS ARE PLACED AT THE PROPER COORDINATES TO CONTAIN THE DESIRED GEOSPATIAL DATA. BORDERS FOR SHEETS THAT DO NOT CONTAIN GEOSPATIAL DATA CAN BE PLACED AT THE GLOBAL ORIGIN (0,0)
DO NOT EDIT THIS TEXT. THE TEXT WILL BE REPLACED DURING PRINTING PROCESS
EDIT THEN COPY TO THE AREA OF REVISION
FOR REVISIONS, INCLUDE: DATE, COMMENT, AND INITIALS
SNAP TO THIS CORNER TO PLACE THE RESIDENT ENGINEER CELL
EDIT THESE ITEMS AS NEEDED FOR EACH SHEET
PLACE CONSULTANT'S LOGO HERE
njohnson 2:32:55 PW-GeoProjects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\001_General-Plan-Requirements.dgn
Print Date: $DATE$
File Name: $FILES$
Horiz. Scale: $SCALESHORT$ Vert. Scale: As Noted
Unit Information Unit Leader Initials
Sheet Revisions
Date: Comments Init.
Colorado Department of Transportation
Street Address
XXXXXXXXXXXXXXXX
City, State Zip Code
Phone: XXX-XXX-XXXX FAX: XXX-XXX-XXXX
Region Number or Staff Initials
As Constructed
No Revisions:
Revised:
Void:
PLAN SHEET
Designer: XXXXXXXX
Detailer: XXXXXXXX
Sheet Subset: XXXXXXX
Structure Numbers X-XX-XX
X-XX-XX
Subset Sheets: XXX of XXX
Project No./Code
Project Number
Code
Sheet Number XXX

1.2 Title Sheets

There are four primary title sheets.

- Project Title Sheet
- ROW Title Sheet
- ROW Project Control Diagram (PCD) Title Sheet
- ROW Land Survey Control Diagram (LSCD) Title Sheet

1.2.1 Project Title Sheet

- ❑ Clearly label the Begin and End Project stations and mile posts on Project Location Map
- ❑ Call out all structure numbers within the project limits
- ❑ North arrow in the top left corner of the Project Location Map
- ❑ Identify the project as a Federal aid or State funded project
- ❑ Fill out Project lengths and Design Data
- ❑ Bar scale located below the Project Location Map title
- ❑ Fill out the sheet border information
- ❑ If possible, the Index of Sheets should be placed on the Title Sheet. If the Index of Sheets is too large to fit conveniently on the Title Sheet, then it should be put on the next sheet in the plan set.

1.2.2 ROW Title Sheet

- ❑ Clearly label the ROW Begin and End Project stations and mile posts on Project Location Map
- ❑ Clearly label the Construction Begin and End Project stations and mile posts on Project Location Map
- ❑ North arrow in the bottom right corner of the Project Location Map
- ❑ Identify the project as a Federal aid or State funded project
- ❑ Fill out ROW and Construction Project lengths
- ❑ Bar scale located below the Project Location Map title
- ❑ Fill out the sheet border information
- ❑ Insert ROW Manager cell
- ❑ Edit the Index of Sheets for each subset

1.2.3 ROW PCD Title Sheet

- ❑ Clearly label the ROW Begin and End Project stations and mile posts on Project Location Map
- ❑ Clearly label the Construction Begin and End Project stations and mile posts on Project Location Map
- ❑ North arrow in the bottom right corner of the Project Location Map
- ❑ Bar scale located below the Project Location Map title
- ❑ Fill out the sheet border information
- ❑ Insert ROW Manager cell
- ❑ Edit the Index of Sheets for the PCD subset

1.2.4 ROW LSCD Title Sheet

- ❑ Clearly label the ROW Begin and End Project stations and mile posts on Project Location Map
- ❑ Clearly label the Construction Begin and End Project stations and mile posts on Project Location Map
- ❑ North arrow in the bottom right corner of the Project Location Map
- ❑ Bar scale located below the Project Location Map title
- ❑ Fill out the sheet border information
- ❑ Insert ROW Manager cell
- ❑ Edit the Index of Sheets for the LSCD subset

1.2.5 Reference Files

The following file(s) should be referenced into the Title sheet, moved, and clipped to the Project Location Map limits.

File Name	Location
[CountyName].dgn	JPC#\Design\Drawings\ reference_files\

Oversight / NHS	
FHWA REGION VIII OVERSIGHT?	■ NO □ YES
NATIONAL HIGHWAY SYSTEM?	□ NO ■ YES

CHANGE FILL TYPE TO SELECT

DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED
FEDERAL AID PROJECT NO. STA 157A-010
STATE HIGHWAY NO. 157
BOULDER COUNTY
CONSTRUCTION PROJECT CODE NO. 15653

EDIT TO ADD PROJECT DATA

LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100

Related Projects:	
P. E. UNDER PROJECT: Project Number Project Code:	STA R400-244 17439
R.O.W. Projects: R.O.W. Project Description	
N/A	

EDIT TO ADD PROJECT DATA

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

LINKED EXCEL DOCUMENT LOCATION:
\JPC#\GROUP\Drawings\Tabs

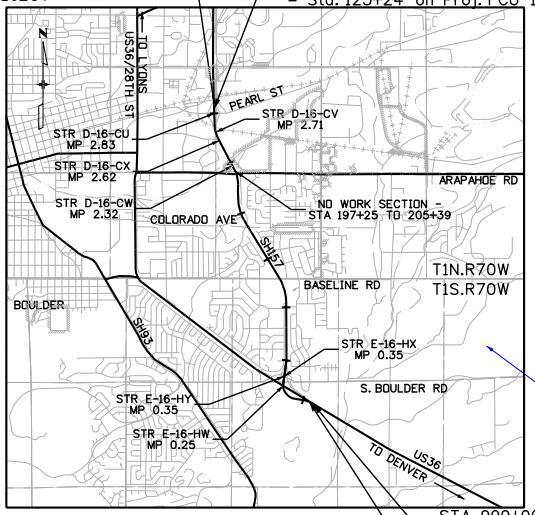
TABULATION OF LENGTH & DESIGN DATA

STATION	FEET ROADWAY	FEET MAJOR STR.
APPROACH TO PROJECT		
NB SH157 RAMP STA 999+00 TO 1000+00	100	
BEGIN PROJECT STA 157A-010 =		
NB SH157 RAMP STA 1000+00, M.P. 0.0		
NB SH157 RAMP STA 1018+33 TO 1020+18 - STR E-16-HX, M.P. 0.35		185
NB SH157 RAMP STA 1027+47 = SH157 STA 100+00	2562	
SB SH157 RAMP STA 1100+00		
SB SH157 RAMP STA 1112+77 TO 1115+05 - STR E-16-HW, M.P. 0.25		228
SB SH157 RAMP STA 1118+16 TO 1119+85 - STR E-16-HY, M.P. 0.35		169
SB SH157 RAMP STA 1126+82 = SH157 STA 100+00	2285	
SH157 STA 100+00 TO 197+25	9725	
SH157 STA 197+25 205+39 - NO WORK SECTION	814	
SH157 STA 205+39 TO 209+06 - STR D-16-CW M.P. 2.32		367
SH157 STA 209+06 TO 219+44	1038	
SH157 STA 219+44 TO 221+46 - STR D-16-CX, M.P. 2.62		202
SH157 STA 221+46 TO 224+15	269	
SH157 STA 224+15 TO 226+00 - STR D-16-CV, M.P. 2.71		185
SH157 STA 226+00 TO 232+96	696	
SH157 STA 232+96 TO 234+50 - STR D-16-CU, M.P. 2.83		154
END PROJECT - STA 157A-010 - SH157 STA 234+50, M.P. 2.83		
APPROACH TO PROJECT		
SH157 STA 234+50 TO 235+50	100	
TOTAL (FT)	14490	1490
SUMMARY OF PROJECT LENGTH	FEET	MILES
MAJOR STRUCTURE	1490	0.28
PROJECT GROSS LENGTH	15980	3.03

DESIGN DATA	SH 157
MAXIMUM RADIUS OF CURVE (EXISTING)	N/A
MAXIMUM GRADE (EXISTING)	5.00%
MINIMUM S.S.D. HORIZONTAL (EXISTING)	425 FT
MINIMUM S.S.D. VERTICAL (EXISTING)	425 FT
MAXIMUM DESIGN SPEED (EXISTING)	50 MPH
CLEAR ZONE DISTANCE (TANGENT)	30 FT.
CONSTRUCTION CLEAR ZONE (MIN 18')	18 FT.

STA 235+50 - SH157 - BEGIN APPROACH TO PROJECT

STA 234+50 - SH157 - END APPROACH, END PROJECT STA 157A-010 = MP 2.83 = Sta. 125+24 on Proj. FCU 157-1(5)



PROJECT LOCATION MAP

0' 1 Mile 2 Miles

LINKED EXCEL DOCUMENT LOCATION:
\JPC#\GROUP\Drawings\Tabs

INDEX OF SHEETS

SHEET NO.	INDEX OF SHEETS
1	TITLE SHEET
2	STANDARD PLANS LIST SHEET
3-6	TYPICAL SECTION SHEETS
7	GENERAL NOTES SHEET
8-12	SUMMARY OF APPROXIMATE QUANTITIES
13	SURVEY TAB SHEET
14	RAMP LAYOUT AND STATIONING
15	PAVING SCHEMATICS
16-23	TABULATION SHEETS
24-28	DETAILS
29-35	CURB RAMP LAYOUT SHEETS
36-41	STR E-16-HX BRIDGE PLANS
42-46	STR E-16-HY BRIDGE PLANS
47-50	STR D-16-CX BRIDGE PLANS
51-54	STR D-16-CV BRIDGE PLANS
55-62	STR D-16-CU BRIDGE PLANS
63-89	STORMWATER MANAGEMENT PLANS

LAYOUT MAP REFERENCE LOCATION:
\JPC#\GROUP\Drawings\Reference Files

LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100

STA 999+00 - NB SH157 RAMP BEGIN APPROACH TO PROJECT

STA 1000+00 - NB SH157 RAMP END APPROACH TO PROJECT BEGIN PROJECT STA 157A-010 = MP 0.0 = Sta. 271+28.9 on Proj. SU 0157 (3)

LEVEL = DRAFT_Text-3
ALT. LEVEL = DRAFT_Text-1
TEXT STYLE = .07" ENG-100

FILL OUT THIS AREA WITH THE REQUIRED INFORMATION

Print Date: 2/10/2011	Sheet Revisions	Colorado Department of Transportation	As Constructed / Contract Information
Drawing File Name: 002a_Title-Sheet.dgn	Date: Comments: Init.	1050 Lee Hill Road Boulder, CO 80302 Phone: 303-546-5655 FAX: 303-444-0751	No Revisions: / Contractor:
Horiz. Scale: 1:1		Region 4 RJH	Revised: / Resident Engineer:
			Void: / Project Engineer:
			PROJECT STARTED: / / ACCEPTED: / /
			Comments:

Project No./Code
STA 157A-010
15653
Sheet Number

Colorado Department of Transportation
1420 2nd Street
Greeley, Co 80631
Phone: 970-350-2153 FAX: 970-350-2178
Region 4 Right of Way PTS

Sheet Revisions			Sheet Revisions			Sheet Revisions		
Date	Description	Initials	Date	Description	Initials	Date	Description	Initials
07/15/10	Revised Sheets 2.01-2.04, 2.06-2.08	TNT	mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX
	5.01-5.03, 8.01-8.04. Added Sheet 2.09							

Right of Way Plans
Title Sheet
Project Number: STA 0072-010
Project Location: S.H. 7: CHERRYVALE RD. TO N. 75TH ST.
BOULDER

Project Code:	Last Mod. Date		Sheet No.
11873	07-15-10		1.01

EDIT REVISION TEXT AS REQUIRED

DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO

RIGHT OF WAY PLANS OF PROPOSED
FEDERAL AID PROJECT NO. STA 0072-010
STATE HIGHWAY NO. 7
BOULDER COUNTY

EDIT TITLE BLOCK TO MATCH PROJECT DATA

EDIT TO MATCH PROJECT DATA

ADD PROJECT LENGTH DATA

R.O.W. Length of Project = 1.76 Miles
Const. Length of Project = 1.76 Miles

REFERENCED FROM THE FOLLOWING LOCATION: \JPC#\ROW Survey\Drawings\Reference Files

LEVEL = SHEET_Text-1
TEXT STYLE = .10" ENG-80

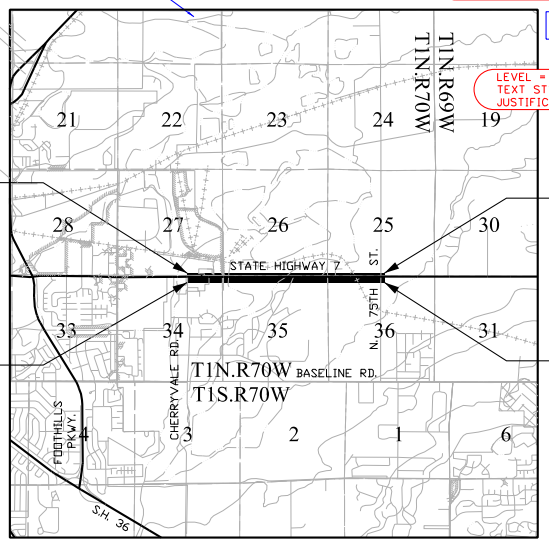
EDIT TO MATCH PROJECT DATA

Scales of Original 11x17 Drawings
Plan Sheets 1"=60' and 1"=100'
Ownership Map 1"=300'

EDIT NOTES TO MATCH PROJECT DATA

Basis of Bearings: Bearings used in the calculations of coordinates are based on a grid bearing of N78°46'40"E from the Densification Point "BUFF" (NGS Horizontal Control Disk set in top of concrete monument stamped "BUFF 1985"), Section 32, Township 1 North, Range 70 West, Sixth P.M. and the Densification Point "LEGION" (NGS Horizontal Control Disk set in top of concrete monument stamped "LEGION 1985"), Section 26, Township 1 North, Range 70 West, Sixth P.M. as obtained from a Global Positioning System (GPS) survey based on the Colorado High Accuracy Reference Network (CHARN).

SHEET NO.	INDEX OF SHEETS	
1.01	(1)	Title Sheet
2.01-2.09	(9)	Tabulation of Properties
3.01-3.07	(7)	Project Control Diagram
4.01-4.04	(4)	Land Survey Control Diagram
5.01-5.04	(3)	Monumentation Sheets
6.01-6.0X	(NA)	Tabulation of Road Approach Sheets
7.01-7.14	(14)	Plan Sheets
8.01-8.04	(4)	Ownership Map
	(42)	Total Sheets



PROJECT LOCATION MAP

0' 2,640' 5,280' 10,560'

N

Begin ROW Project
Station: 130+28.56
M.P.: 54.92

ADD BEGIN PROJECT DATA

Begin Const Project
Station: 130+38.76
M.P.: 54.92

LEVEL = SHEET_Text-1
TEXT STYLE = .10" ENG-80
JUSTIFICATION = RIGHT TOP

End ROW Project
Station: 228+92.81
M.P.: 56.68

LEVEL = SHEET_Text-1
TEXT STYLE = .10" ENG-80
JUSTIFICATION = LEFT TOP

ADD END PROJECT DATA

End Const Project
Station: 229+00.00
M.P.: 56.68

1. This Right-of-Way Plan is not a boundary survey of the adjoining property and is prepared for the Colorado Department of Transportation purposes only.

2. For title information, The Colorado Department of Transportation relied on Title Commitments, prepared by Stewart Title of Colorado, Inc. (see sheets 2.01 through 2.08 for Title Commitment Numbers).

3. This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDOT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.

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.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

AUTHORIZED: _____ *DATE*

DIVISION ADMINISTRATOR

EDIT TO ADD SURVEYOR'S NAME

SURVEYOR STATEMENT (ROW PLAN)

I, Peter T. Sulmeisters , 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 the 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.

PLS No. 28290

SECTION CORNER
QUARTER, SIXTEENTH, AND SECTION CORNERS
SET EASEMENT MONUMENT
TEMPORARY EASEMENT POINT
RIGHT OF WAY MARKER
BLM MARKER
PROPERTY PIN
NOAA MARKER
QUARTER, SIXTEENTH, AND SECTION CORNERS
FEDERAL MONUMENT
WITNESS CORNER
BENCH MARK
USGS MARKER
LOCAL OR PLSS MONUMENT
SECONDARY CONTROL MONUMENT
RIGHT OF WAY MARKER
N 9.88 E 3.81 EL 0.00
PROJECT CONTROL MONUMENT
N 10.13 E 3.81 EL 0.00
DENSIFICATION CONTROL MONUMENT
N 10.38 E 3.81 EL 0.00
HIGH ACCURACY REFERENCE NETWORK CONTROL MONUMENT

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

TOP OF CUT
TOE OF FILL

TERRAIN

Note: For a complete listing of symbology used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication dated July 2006. Existing features are shown as screened weight (gray scale), except as noted with the word (existing). Proposed or new features are shown as full weight without screening, except as noted with the word (proposed).

FILING CERTIFICATION:
DEPOSITED THIS ____ DAY OF _____, 20__, AT ____M.
IN BOOK _____ OF THE COUNTY LAND SURVEYS/RIGHT OF WAY
SURVEYS AT PAGE _____, RECEPTION NUMBER _____.
SIGNED _____ DEPT. _____

2/10/2011 Nishmeson 2:55:32 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\002b_ROW-Title.dgn

Colorado Department of Transportation	Sheet Revisions			Sheet Revisions			Sheet Revisions			Project Control Diagram
CDOT 18500 East Colfax Avenue Aurora, CO 80011 Phone: 303-365-7409 FAX: 303-365-7350	Date	Description	Initials	Date	Description	Initials	Date	Description	Initials	Title Sheet
Region 1 DAS	mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX	Project Number: XXXXX
										Project Location: SH-5 Mt. Evans Highway
										MP 6.3 to 6.6 and MP 8.8 to 9.4
										Project Code: XXXXX | Last Mod. Date: mm-dd-yy | Subset: 3.01 of 3.04 | Sheet No.: 3.01

DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO

EDIT TO ADD PROJECT DATA

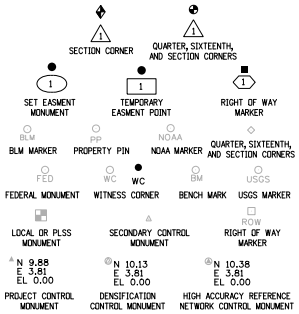
PROJECT CONTROL DIAGRAM

State Highway 5 MP 6.1 to 6.9 Site 1 and MP 8.8 to 9.4 Site 2
Section 18 Township 5 South, Range 73 West, and
Sections 23 and 24 Township 5 South, Range 74 West
of the 6th Principle Meridian
County of Clear Creek,
State of Colorado

SHEET NO. / INDEX OF SHEETS

SHEET NO.	INDEX OF SHEETS
3.01	(1) Title Sheet
3.02	(1) Coordinate Tables
3.03-3.04	(2) Plan Sheet
	(4) Total Sheets

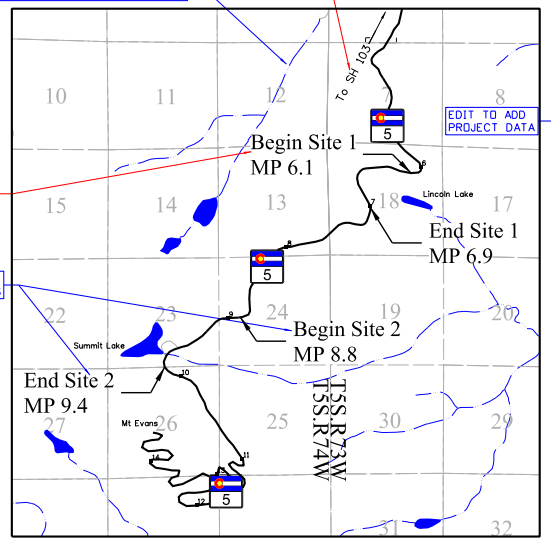
EDIT TO ADD PROJECT DATA



Note: For a complete listing of symbololgy used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication dated July 2006. Existing features are shown as screened weight (gray scale). Proposed or new features are shown as full weight without screening.

REFERENCED FROM THE FOLLOWING DIRECTORY: \JPC#\ROW Survey\Drawings\Reference Files

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100



EDIT TO ADD PROJECT DATA

LEVEL = DRAFT_Text-2
TEXT STYLE = .14" Title-100
DIMENSION STYLE = CDOT 2

Typical Control Monument Cap
Not to Scale

ADD BEGIN AND END SITE NOTES

▲ CM-MP - Control Point Monuments set by CDOT. They are CDOT Type 2 monuments, a 3¼" dia. aluminum control monument cap (as shown) on a 3' x¾" dia. aluminum security rod on a 3' x¾" dia. smooth aluminum rod.

General Notes:

1. This Project Control Diagram is not a boundary survey of the adjoining property and is prepared for the Colorado Department of Transportation purposes only.
2. This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDOT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.
3. Refer to the M-629-1 Survey Monuments of the Standard Plans dated July, 2006 found in The Colorado Department of Transportation, M & S Standards for typical survey monument descriptions.

PROJECT LOCATION MAP

ADD SCALE NOTE

0' 2500' 5000' 10000'

LEVEL = DRAFT_Text-2
TEXT STYLE = .14" Title-100

Scale: 1"=5000'

Basis of Bearings: Bearings used in the calculations of coordinates are based on a grid bearing of S65°10'20"W from CM-MP 6.1 to CM-MP 6.3. 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 base on the Colorado High Accuracy Reference Network (CHARN).

Basis of Elevations: project elevations are based on GPS observations, holding baseline vectors from CHARN point Bakerville to CM MP 6.1, and CM MP 8.8. Both monuments are CDOT Type II, with a NAVD 88 elevation of 12484.02ft at CM MP 6.1, and 12885.09 at CM MP 8.8. Differential levels were then run through the remaining CM-MP at each site to determan the orthometric heights.

COORDINATE DATUM: Project coordinates are modified Colorado State Plane Central Zone NAD '83/(07) coordinates. The combined elevation/scale factor used to modify the coordinates from state plane to project coordinates is 1.0006320130. The resulting project coordinates are not truncated. The CHARN is based on the NAD '83(07) datum.
Project Coordinates Northing US Survey Feet = (State Plane Coordinate Northing * 1.0006320130) * (3937/1200).
Project Coordinates Easting US Survey Feet = (State Plane Coordinate Easting * 1.0006320130) * (3937/1200).

Accuracy Statement: To the best of my knowledge, this survey meets the horizontal accuracy standard of a CDOT Class A survey as stated in the CDOT Survey Manual chapter 5.5.2.

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.

EDIT TO ADD SURVEYOR'S NAME

SURVEYOR STATEMENT (PROJECT CONTROL DIAGRAM)

I, Justin K. Stadler, 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. 38097

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Colorado Department of Transportation
1420 2nd Street
Greeley, Co 80631
Phone: 970-350-2153 FAX: 970-350-2178
Region 4 Right of Way PTS

Sheet Revisions			Sheet Revisions			Sheet Revisions		
Date	Description	Initials	Date	Description	Initials	Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX

Land Survey Control Diagram
Title Sheet

Project Number: STA 0072-010
Project Location: S.H. 7: CHERRYVALE RD. TO N. 75TH ST.
BOULDER

Project Code:	Last Mod. Date	Subset	Sheet No.
11873	06-02-10	4.01 to 4.04	4.01

DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO

LAND SURVEY CONTROL DIAGRAM

SECTION CORNER
QUARTER, SIXTEENTH, AND SECTION CORNERS
SET EASMENT MONUMENT
TEMPORARY EASMENT POINT
RIGHT OF WAY MARKER
BLM MARKER
PROPERTY PIN
NOAA MARKER
QUARTER, SIXTEENTH, AND SECTION CORNERS
FEDERAL MONUMENT
WITNESS CORNER
BENCH MARK
USGS MARKER
LOCAL OR PLSS MONUMENT
SECONDARY CONTROL MONUMENT
RIGHT OF WAY MARKER
N 9.88 E 3.81 EL 0.00 — PROJECT CONTROL MONUMENT
N 10.13 E 3.81 EL 0.00 — Ddensification CONTROL MONUMENT
N 10.38 E 3.81 EL 0.00 — HIGH ACCURACY REFERENCE NETWORK CONTROL MONUMENT

Note: For a complete listing of symbololgy used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication dated July 2006. Existing features are shown as screened weight (gray scale). Proposed or new features are shown as full weight without screening.

General Notes:

1. This Land Survey Control Diagram is not a boundary survey of the adjoining property and is prepared for the Colorado Department of Transportation purposes only. No determination has been made to determine if the found monuments as shown are in their proper position or if they are at the corners they are intended to monument.
2. Title policy, title commitment, and title research are not part of this survey, therefore easements, rights, and restrictions of record were not researched and are not shown on this diagram. The verification of the physical evidence with relation to easements, rights of ways, property boundaries, and restrictions, as described in the instruments of record, were not included in this control survey.
3. This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDOT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.
4. Refer to the M-629-1 Survey Monuments of the Standard Plans dated July, 2006 found in The Colorado Department of Transportation, M & S Standards for typical survey monument descriptions.

EDIT TO MATCH PROJECT DATA

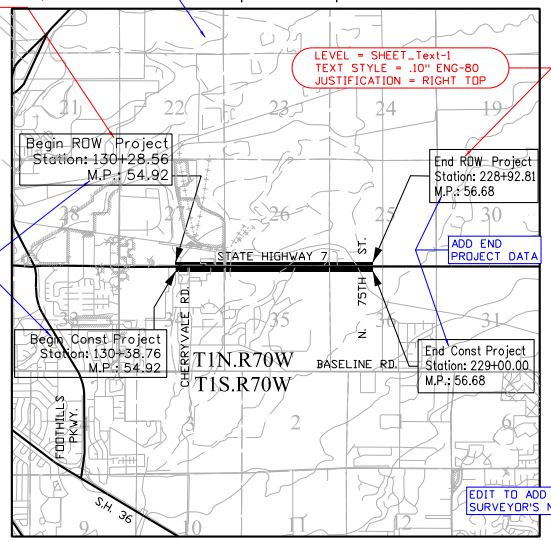
State Highway 7 MP 54.93 to 56.90
Sections 25, 26, 27, 34, 35 and 36
Township 1 North, Range 70 West
of the 6th Principle Meridian
County of Boulder

REFERENCED FROM THE FOLLOWING LOCATION: \JPC#\ROW_Survey\Drawings\Reference_Files

LEVEL = SHEET_Text-1
TEXT STYLE = .10" ENG-80
JUSTIFICATION = RIGHT TOP

LEVEL = SHEET_Text-2
TEXT STYLE = .10" ENG-100

* (NGS Stainless steel deep rod stamped "N 438 1985"



PROJECT LOCATION MAP

0' 2,640' 5,280' 10,560'

ADD BEGIN PROJECT DATA
ADD END PROJECT DATA

EDIT NOTES TO MATCH PROJECT DATA

Basis of Bearings: Bearings used in the calculations of coordinates are based on a grid bearing of N78° 46'40"E from Densification point "BUFF" (NGS Horizontal Control Disk set in top of concrete monument stamped "BUFF 1985"), Section 32, Township 1 North, Range 70 West, Sixth P.M. and the Densification Point "LEGION" (NGS Horizontal Control Disk set in top of concrete monument stamped "LEGION 1985", Section 26, Township 1 North, Range 70 West, Sixth P.M. as obtained from a Global Positioning System (GPS) survey base on the Colorado High Accuracy Reference Network (CHARN).

Basis of Elevations: Project is based on a NAVD88 elevation of 1,600.205 "N 438 B CO" Bench Mark. All other control point elevations on this project were derived from GPS observations.

COORDINATE DATUM: Project coordinates are modified Colorado State Plane North Zone NAD '83/(92) coordinates. The combined elevation/scale factor used to modify the coordinates from state plane to project coordinates is 0.99971388880. The resulting project coordinates are truncated by 300,000 in the Northing and 900,000 in the Easting after converting from state plane coordinates to project coordinates. The CHARN is based on the NAD '83(92) datum. State Plane coordinates were modified to mean project elevation of 1,602.427m
Project Coordinates Northing US Survey Feet = (State Plane Coordinate Northing * 0.99971388880 - 300,000) * (3937/1200).
Project Coordinates Easting US Survey Feet = (State Plane Coordinate Easting * 0.99971388880 - 900,000) * (3937/1200).

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.

EDIT TO ADD SURVEYOR'S NAME

SURVEYOR STATEMENT (LAND SURVEY CONTROL DIAGRAM)

I, Peter T. Sulmeisters , a professional land surveyor licensed in the State of Colorado, do hereby state to the Colorado Department of Transportation this Land Survey 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. 28290

SHEET NO. INDEX OF SHEETS

SHEET NO.	INDEX OF SHEETS
4.01	(1) Title Sheet
4.02	(1) Monument Coordinate Tables
4.03-4.04	(2) Plan Sheet
	(4) Total Sheets

EDIT TO MATCH PROJECT DATA

EDIT TITLE BLOCKTO MATCH PROJECT DATA

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1.3 Index of Sheets

The Index of Sheets is an optional sheet if the Index of Sheets is too large to fit conveniently on the Title Sheet.

1.3.1 Index of Sheet Checklist

- ❑ Fill out the sheet border information
- ❑ Attach project specific Index of Sheets Excel Spreadsheet

1.3.2 Linking Microsoft Excel Files into MicroStation

The Index of Sheets uses an Excel spreadsheet to organize and display the plan set drawing order.

MicroStation Placement Methods:

Linked Microsoft Office Excel Worksheet (Preferred) - Requires a saved excel file and can be edited by opening the spreadsheet in Excel or double clicking the spreadsheet in MicroStation. This method will automatically update MicroStation after editing.

Embedded Microsoft Office Excel Worksheet - The spreadsheet is placed directly into MicroStation. Double click the spreadsheet in MicroStation to edit in Excel as a temporary worksheet.

Picture of Microsoft Office Excel Worksheet - Static graphic of the spreadsheet. This method can not be edited or updated.

After creating the drawing file, link the Excel spreadsheet by taking the following steps:

- Highlight the area of the spreadsheet to be linked and copy it to the clipboard
- In MicroStation select Edit>Paste Special
- In the “Paste Special” dialog box choose “Linked Microsoft Office Excel Worksheet”
- In the “Paste OLE” dialog box. Change the “Paste as” to “Link”, the “Method” to “By Size”, and the “Scale” to ”8.5” to match the .07” ENG-100 Text Style.

The link will display with hatching which indicates that the Excel file containing the linked data is currently open. If you close out of your Excel file, the hatching will go away.

Excel places a little green triangle in the corner of cells that have formulas with errors. If the MicroStation file is closed while a link is still active these triangles become part of the graphic and will appear when the summary sheets are plotted. To avoid this, close all active links in Excel before closing MicroStation.

To turn off these graphics in Excel, Open the Excel Options, Click on Formulas and toggle off Enable background error checking.

1.3.3 Updating Linking Microsoft Excel Files

Linked Excel spreadsheets update automatically when the MicroStation file is opened or when you close out of Excel after editing.

For more information on linking Microsoft Excel files review this workflow, CDOT Linking Excel Documents to MicroStation

LINKED EXCEL FILE LOCATION: \JPC#\Design\Drawings\Tabs

LEVEL = DRAFT_Text-3

Sheet No.	Subset Sheet	Sheet Title
1	GE1	Title Sheet
2	GE2	Index of Sheets
3	GE3	Standard Plans List
4	GE4	General Notes
		Typical Sections
5	TY1	Typical Sections SH 119
6	TY2	Typical Sections SH 119
7	TY3	Typical Section Ramp A
8	TY4	Typical Section Ramp B
9	TY5	Typical Section Ramp C
10	TY6	Typical Section Ramp D
11	TY7	Typical Section Ramp D
12	TY8	Typical Sections SH 52/IBM DRIVE
13	TY9	Typical Sections-71st Street, Hotel Access, Emergency Access
14	TY10	Typical Section-Str. D-16-AD Trail Box Culvert, 71st St. Bike Path
		Tabulations
15	TB1	Summary of Approximate Quantities
16	TB2	Summary of Approximate Quantities
17	TB3	Summary of Approximate Quantities
18	TB4	Summary of Approximate Quantities
19	TB5	Summary of Approximate Quantities
20	TB6	Summary of Approximate Quantities
21	TB7	Summary of Approximate Quantities
22	TB8	Summary of Approximate Quantities
23	TB9	Summary of Approximate Quantities
24	TB10	Summary of Approximate Quantities
25	TB11	Summary of Approximate Quantities
26	TB12	Tabulation of Removals and Fencing
27	TB13	Tabulation of Surfacing and Earthwork
28	TB14	Tabulation of Concrete tems
29	TB15	Tabulation of Guardrail
30	TB16	Tabulation of Drainage tems
31	TB17	Tabulation of Drainage tems
32	TB18	Tabulation of Drainage tems
		Details
33	DT1	Curb and Gutter Details
34	DT2	Miscellaneous Details
35	DT3	Curb Ramp Details
		Geometry Sheets
36	GM1	Geometric Control Layout-Sheet 1
37	GM2	Geometric Control Layout-Sheet 2
38	GM3	Geometric Control Layout-Sheet 3
39	KM1	Key Map - Plan and Profile Sheets
		Removal Plans
40	RV1	Removal and Fencing Plan NB SH 119 & SB SH 119-Sheet 1
41	RV2	Removal and Fencing Plan NB SH 119 & SB SH 119-Sheet 2
42	RV3	Removal and Fencing Plan NB SH 119 & SB SH 119-Sheet 3
43	RV4	Removal and Fencing Plan NB SH 119 & SB SH 119-Sheet 4
44	RV5	Removal and Fencing Plan NB SH 119 & SB SH 119-Sheet 5
45	RV6	Removal and Fencing Plan SH 52 / IBM Drive
46	RV7	Removal and Fencing Plan SH 52 and 71st Street
47	RV8	Removal and Fencing Plan SH 52
		Roadway/Trail Plans and Profiles
48	RD1	Roadway Plan SH 119Sheet 1
49	RD2	Roadway Profiles SH 119-Sheet 1
50	RD3	Roadway Plan SH 119Sheet 2
51	RD4	Roadway Profiles SH 119-Sheet 2
52	RD5	Roadway Plan SH 119Sheet 3
53	RD6	Roadway Profiles SH 119-Sheet 3
54	RD7	Roadway Plan SH 119Sheet 4
55	RD8	Roadway Profiles SH 119-Sheet 4
56	RD9	Roadway Plan SH 119Sheet 5
57	RD10	Roadway Profiles SH 119-Sheet 5
58	RD11	Roadway Plan SH 52-Sheet 1
59	RD12	Roadway Profile SH 52Sheet 1
60	RD13	Roadway Plan SH 52-Sheet 2
61	RD14	Roadway Profile SH 52Sheet 2
62	RD15	Roadway Plan SH 52-Sheet 3
63	RD16	Roadway Profile SH 52Sheet 3
64	RD17	Roadway Profile RampA
65	RD18	Roadway Profile RampB
66	RD19	Roadway Profile RampC
67	RD20	Roadway Profile RampD
68	RD21	Roadway Plan and Profile 71st Street
69	RD22	Roadway Plan and Profile Hotel/Emergency Access
70	RD23	Profile NB Bike Path
71	RD24	Profile SB Bike Path & 71st Trail Connection
72	RD25	Plan and Profile STR. D-16-AD Trail Box Culvert

Sheet No.	Subset Sheet	Sheet Title
		Road Approach Detail Sheets
73	AP1	Approach Design Gude
74	AP2	Field Approach 71st Street-594+39.58 LT.
75	AP3	Field Approach 71st Street-594+50 RT.
76	AP4	71st Street - LaVistaDriveway Access
77	AP5	IBM Trail ConnectionSB SH 119-2283+02.77
		Intersection Detail Sheets
78	ID1	Ramp A Gore Detail
79	ID2	Ramp B Gore Detail
80	ID3	Ramp C Gore Details
81	ID4	Remp D Gore Details
82	ID5	Intersection Detail SH 52 and IBM Drive
83	ID6	Intersection Details IBM Drive & IBM Loop Traffic Islands
84	ID7	Intersection Detail SH 52 and Ramps C & D
85	ID8	Intersection Detail SH 52 and Ramps A & B
86	ID9	Intersection Detail SH 52 and 71st Street
87	ID10	Intersection Detail 71st Street and Hotel Access
88	ID11	Intersection Detail 71st Street and Dry Creek Parkway
89	MD1	SH 52 Median Detail
		Bridge Plans -Str. D-16-DU
90	B1	General Information
91	B2	Summary of Quantities
92	B3	General Layout
93	B4	Typical Section
94	B5	Engineering Geology
95	B6	Construction Layout
96	B7	Caisson and Piling Lyout
97	B8	Abutment Details
98	B9	Wingwall Details
99	B10	Pier Details
100	B11	Pier Details
101	B12	Deck Reinforcing Plin
102	B13	Sidewalk, Curb, and Median Details
103	B14	Prestressed Concrete I Girder
104	B15	Prestressed Concrete I Girder
105	B16	Precast Panel Deck Form
106	B17	Precast Panel Deck Form
107	B18	Approach Slab Detail
108	B19	Approach Slab DrainDetails
109	B20	Bridge Expansion Device (0-4 Inch)
110	B21	Bridge Expansion Device Snow Plow Guard Plate
111	B22	*Bridge Expansion Device Sidewalk and Curb Cover Plate*
112	B23	Bridge Rail Type 10N
113	B24	Bridge Rail Type 10M Details
114	B25	Fence Chain Link (Special) (96 Inch)
115	B26	Mechanically Stabilized Backfill
116	B27	Bridge Deck Elevations
117	B28	Bridge Deck Elevations
118	B29	Bridge Deck Elevations
119	B30	Bridge Deck Elevations
120	B31	Bridge Deck Elevations
121	B32	Bridge Deck Elevations and Roadway Approaches
		Bridge Plans -Str. D-16-DT
122	B1	General Information/Summary of Quantities
123	B2	General Layout
124	B3	Typical Section
125	B4	Engineering Geology
126	B5	Construction Layout
127	B6	Piling Layout
128	B7	Abutment 1 Details
129	B8	Abutment 2 Details
130	B9	Abutment Details
131	B10	Wingwall Details Abtment 2
132	B11	Superstructure Details
133	B12	Superstructure Detail
134	B13	Median Details
135	B14	Prestressed Concrete I Girder
136	B15	Prestressed Concrete I Girder
137	B16	Precast Panel Deck Form
138	B17	Precast Panel Deck Form
139	B18	Approach Slab Detais Abutment 1
140	B19	Approach Slab Detais Abutment 2
141	B20	Bridge Expansion Device (0-4 Inch)
142	B21	Bridge Expansion Device Snow Plow Guard Plate
143	B22	Sidewalk and Curb Cver Plate
144	B23	Bridge Rail Type 10N
145	B24	Bridge Rail Type 10N Details
146	B25	Fence Chain Link (Special) (96 Inch)
147	B26	Mechanically Stabilized Backfill
148	B27	Structure Backfill Details
149	B28	Bridge Deck Elevations
150	B29	Bridge Deck Elevations
151	B30	Bridge Deck Elevations

Sheet No.	Subset Sheet	Sheet Title
		Bridge Plans -Str.D-16-DT (cont.)
152	B31	Bridge Deck Elevations
153	B32	Bridge Deck Elevations
154	B33	Bridge Deck Elevations
155	B34	Bridge Deck Elevations
156	B35	Bridge Deck Elevations
157	B36	Bridge Deck Elevations
		M.S.E. Wall Plan
158	W1	M.S.E. Walls Key map and General Notes
159	W2	Engineering Geology SH-119 at SH-52 Interchange
160	W3	M.S.E. Block Walls Layout and Elevations-Sheet 1
161	W4	M.S.E. Block Walls Layout and Elevations-Sheet 2
162	W5	M.S.E. Block Walls Layout and Elevations-Sheet 3
163	W6	M.S.E. Block Walls Layout and Elevations-Sheet 4
164	W7	M.S.E. Precast Panel Walls Layout and Elevations-Sheet 1
165	W8	M.S.E. Precast Panel Walls Layout and Elevations-Sheet 2
166	W9	M.S.E. Precast Panel Walls Layout and Elevations-Sheet 3
167	W10	M.S.E. Precast Panel Walls Layout and Elevations-Sheet 4
168	W11	M.S.E. Walls Sections
169	W12	M.S.E. Walls Sections
170	W13	M.S.E. Walls Sections
171	W14	M.S.E. Precast Panel Wall Details-Sheet 1
172	W15	M.S.E. Precast Panel Wall Details-Sheet 2
173	W16	M.S.E. Precast Panel Wall Details-Sheet 3
174	W17	Loading Case 1 Block/Panel Facing M.S.E. Walls With Type 3 Rail
175	W18	Loading Case 1 Block/Panel Facing M.S.E. Walls With Type 3 Rai
176	W19	Loading Case 2 Block/Panel Facing M.S.E. Walls With 2:1 Backslope
177	W20	Loading Case 2 Block/Panel Facing M.S.E. Walls With 2:1 Backslope
178	W21	Loading Case 3 Precast Panel Walls Details LTDS for Abutment
179	W22	Block Facing M.S.E. Walls Details
180	W23	Wall Number Plate
		Anti-Icing System Plans
181	AI1	General Notes andOverall System Layout
182	AI2	System Schematic
183	AI3	Grading Plan and Sample Details
184	AI4	Vault Structural Details
		Grading
185	1	SH119 Grading Plin
186	2	SH119 Grading Plin
187	3	SH119 Grading Plin
188	4	SH119 Grading Plan
189	5	*SH119 Grading Plin*
190	6	SH52 Grading Plan - Sheet 1
191	7	SH52 Grading Plan - Sheet 2
192	8	SH52 Grading Plan - Sheet 3
193	9	71st Street. Hotel and Emergency Access Grading Plan
		Drainage
194	1	Storm Sewer Profile
195	2	Storm Sewer Profile
196	3	Storm Sewer Profile
197	4	Storm Sewer Profile
198	5	Storm Sewer Profile
199	6	Storm Sewer Profile
200	7	Storm Sewer Profile
201	8	Storm Sewer Profile
202	9	Storm Sewer Profile
203	10	Storm Sewer Profile
204	11	Storm Sewer Profile
205	12	Storm Sewer Profile
206	13	Storm Sewer Profile
207	14	Drainage Details
208	15	Type 13 Special Inlet Detail
209	16	Detention Pond Plan
210	17	Detention Pond Profile Sections
211	18	Pond Forebay and Trickle Channel Details
212	19	Pond Outlet Detail
213	20	Pond Overflow Details
		Erosion
214	1	Storm Water Management Plan - Sheet 1
215	2	Storm Water Management Plan - Sheet 2
216	3	Storm Water Management Plan - Sheet 3
217	4	Storm Water Management Plan - Sheet 4
218	5	Tabulation of Erosion and Sediment Control - Sheet 1
219	6	Tabulation of Erosion and Sediment Control - Sheet 2
220	7	SH119 Erosion Control Plan - Sheet 1
221	8	SH119 Erosion Control Plan - Sheet 2
222	9	SH119 Erosion Control Plan - Sheet 3
223	10	SH119 Erosion Control Plan - Sheet 4
224	11	SH119 Erosion Control Plan - Sheet 5
225	12	SH52 Erosion Control Plan - Sheet 1
226	13	SH52 Erosion Control Plan - Sheet 2
227	14	SH52 Erosion Control Plan - Sheet 3
228	15	71st Street. Hotel and Emergency Access Erosion Control Plan

Sheet No.	Subset Sheet	Sheet Title
		Traffic Plans
229	TE1	Schedule of Traffic Items
		Construction Phasing Plans
230	PH1	Construction Phasing Notes
231	PH2	Construction Phasing Notes
232	PH3	Construction Phasing-Phase 1 - Sheet 1
233	PH4	Construction Phasing-Phase 1 - Sheet 2
234	PH5	Construction Phasing-Phase 1 - Sheet 3
235	PH6	Construction Phasing-Phase 1 - Sheet 4
236	PH7	Construction Phasing-Phase 2 - Sheet 1
237	PH8	Construction Phasing-Phase 2 - Sheet 2
238	PH9	Construction Phasing-Phase 2 - Sheet 3
239	PH10	Construction Phasing-Phase 2 - Sheet 4
240	PH11	Construction Phasing-Phase 3 - Sheet 1
241	PH12	Construction Phasing-Phase 3 - Sheet 2
242	PH13	Construction Phasing-Phase 3 - Sheet 3
243	PH14	Construction Phasing-Phase 3 - Sheet 4
244	PH15	Construction Phasing-Phase 4 - Sheet 1
245	PH16	Construction Phasing-Phase 4 - Sheet 2
246	PH17	Construction Phasing-Phase 4 - Sheet 3
247	PH18	Construction Phasing-Phase 4 - Sheet 4
248	PH19	Construction Phasing-Phase 5 - Sheet 1
249	PH20	Construction Phasing-Phase 5 - Sheet 2
250	PH21	Construction Phasing-Phase 5 - Sheet 3
251	PH22	Construction Phasing-Phase 5 - Sheet 4
252	PH23	Construction Phasing-Phase 5 - Sheet 5
253	PH24	Construction Phasing-Phase 6 - Sheet 1
254	PH25	Construction Phasing-Phase 6 - Sheet 2
255	PH26	Construction Phasing-Phase 6 - Sheet 3
256	PH27	Construction Phasing-Phase 6 - Sheet 4
257	PH28	Construction Phasing-Phase 6 - Sheet 5
		Signal Plans
258	SG1	Traffic Signal Notes
259	SG2	Signal Plan - SH 52 and Ramps C & D
260	SG3	Signal Plan - SH 52 and Ramps A & B
261	SG4	Signal Plan - SH52 and 71st Street
		Signing and Striping Plans
262	ST1	Tabulation of Signs - Sheet 1
263	ST2	Tabulation of Signs - Sheet 2
264	ST3	Tabulation of Signs - Sheet 3
265	ST4	Tabulation of Signs - Sheet 4
266	ST5	*Tabulation of Signs - Sheet 5*
267	ST6	Tabulation of Signs - Sheet 6
268	ST7	Tabulation of Signs - Sheet 7
269	ST8	Tabulation of Pavement Marking Material
270	ST9	Signing and Striping Plan NB SH 119 & SB SH 119-Sheet 1
271	ST10	Signing and Striping Plan NB SH 119 & SB SH 119-Sheet 2
272	ST11	Signing and Striping Plan NB SH 119 & SB SH 119-Sheet 3
273	ST12	Signing and Striping Plan NB SH 119 & SB SH 119-Sheet 4
274	ST13	Signing and Striping Plan NB SH 119 & SB SH 119-Sheet 5
275	ST14	Signing and Striping Plan SH 52-Sheet 1
276	ST15	Signing and Striping Plan SH 52-Sheet 2
277	ST16	Signing and Striping Plan SH 52-Sheet 3
		Lighting Plans
278	LE1	Lighting Notes and Legend
279	LE2	Lighting Plan NB SH 119 & SB SH 119 - Sheet 1
280	LE3	Lighting Plan NB SH 119 & SB SH 119 - Sheet 2
281	LE4	Overpass Lighting Plan NB SH 119 & SB SH119
282	LE5	Lighting Plan SH 52 and 71st Street
283	LE6	Lighting Plan - Trail Culvert
284	LE7	Under Bridge Lighting Plan NB SH119 & SB SH119
285	LE8	Underpass Lighing Sections - Sheet 1
286	LE9	Underpass Lighing Sections - Sheet 2
287	LE10	Light Standard & Luminaire Details
288	LE11	Electrical Details
289	LE12	Lighting Schedules
290	LE13	Light & Electrical Schedules
291	LE14	Panel Schedules
		Centerline Info and Earthwork Data
292	CI1	Centerline Info and Earthwork Data - Sheet 1
293	CI2	Centerline Info and Earthwork Data - Sheet 2
294	CI3	Centerline Info and Earthwork Data - Sheet 3
		Cross Sections
295-337		Cross Sections- NB SH119
338-379		Cross Sections- SB SH119
380-391		Cross Sections- SH52
392-402		Cross Sections- 71st St.
403-406		Cross Sections- Hotel Access
407-411		Cross Sections- Hotel Emergency Access

Print Date: 2/10/2011		Sheet Revisions			Colorado Department of Transportation	As Constructed	SHEET INDEX			Project No./Code
File Name: 003_Index-of-Sheets.dgn		Date:	Comments	Init.	Street Address XXXXXXXXXXXXXXXX City, State Zip Code Phone: XXX-XXX-XXXX FAX: XXX-XXX-XXXX	No Revisions:	Designer: XXXXXXXX	Structure Numbers	X-XX-XX	Project Number
Horiz. Scale: 1:100 Vert. Scale: As Noted	R-X					Revised:	Detailer: XXXXXXXX		X-XX-XX	Code
Unit Information Unit Leader Initials	0000				Region Number or Staff Initials	Void:	Sheet Subset: XXXXXXX	Subset Sheets: XXX of XXX		Sheet Number XXX

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1.4 Standard Plans List

The Standard Plans List is prepared by the Colorado Department of Transportation for the use on CDOT construction projects. Others who use the CDOT Standard Plans do so at their own risk.

Standard Plans that are applicable to a specific project will be identified on the project plans and will not be physically attached to those plans. The designer who specifies any of these Standard Plans for a specific project accepts the responsibility of determining their applicability.

Standard Plans adopted or revised subsequent to the adoption of this book will be listed on the index of the project plans and will be physically included in the plans.

1.4.1 Standard Plans List Sheet Checklist

- ❑ Download the latest Standard Plans List from CDOT's website:

http://www.coloradodot.info/business/designsupport/standard-plans/2006-m-standards

- ❑ Save the dgn download to, JPC#\Design\Drawings\ replacing the existing file
- ❑ Open file, JPC#\Design\Drawings\ JPC#DES_StdPlanList.dgn
- ❑ Fill in the box(es) for all applicable Standard Plans to be used in the project

1.4.2 Reference Files

The following file(s) should be referenced into the Standard Plans List drawing.

File Name	Location
M&S Standard Plans List Index.dgn	JPC#\Design\Drawings\

PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER
☐ M-100-1	☐	STANDARD SYMBOLS (3 SHEETS)	1-3
☐ M-203-1	☐	APPROACH ROADS	4
☐ M-203-2	☐	DITCH TYPES	5
☐ M-203-11	☐	SUPERELEVATION CROWNED AND DIVIDED HIGHWAYS (3 SHEETS)	6-8
☐ M-203-12	☐	SUPERELEVATION STREETS (2 SHEETS)	9-10
☐ M-206-1	☐	EXCAVATION AND BACKFILL FOR STRUCTURES (2 SHEETS)	11-12
☐ M-206-2	☐	EXCAVATION AND BACKFILL FOR BRIDGES (2 SHEETS)	13-14
M-208-1	■	TEMPORARY EROSION CONTROL (7 SHEETS) (REVISED ON JULY 09, 2009)	~~15-21~~
☐ M-210-1	☐	MAILBOX SUPPORTS (2 SHEETS)	22-23
☐ M-214-1	☐	PLANTING DETAILS	24
M-412-1	☐	CONCRETE PAVEMENT JOINTS (5 SHEETS) (REVISED ON JULY 09, 2009)	~~25-29~~
☐ M-510-1	☐	STRUCTURAL PLATE PIPE H-20 LOADING	30
☐ M-601-1	☐	SINGLE CONCRETE BOX CULVERT (2 SHEETS)	31-32
☐ M-601-2	☐	DOUBLE CONCRETE BOX CULVERT (2 SHEETS)	33-34
☐ M-601-3	☐	TRIPLE CONCRETE BOX CULVERT (2 SHEETS)	35-36
☐ M-601-10	☐	HEADWALL FOR PIPES	37
☐ M-601-11	☐	TYPE "S" SADDLE HEADWALLS FOR PIPE	38
☐ M-601-12	☐	HEADWALLS AND PIPE OUTLET PAVING	39
☐ M-601-20	☐	WINGWALLS FOR PIPE OR BOX CULVERTS	40
M-603-1	☐	METAL AND PVC PIPE (2 SHEETS) (REVISED ON JULY 09, 2009)	~~41-42~~
☐ M-603-2	☐	REINFORCED CONCRETE PIPE	43
M-603-3	☐	PRECAST CONCRETE BOX CULVERT (REVISED ON JULY 09, 2009)	~~44~~
M-603-4	☐	CORRUGATED POLYETHYLENE PIPE (AASHTO M294) (NEW, JULY 09, 2009)	
☐ M-603-10	☐	CONCRETE AND METAL END SECTIONS (2 SHEETS)	45-46
☐ M-604-10	☐	INLET, TYPE C	47
☐ M-604-11	☐	INLET, TYPE D	48
☐ M-604-12	☐	CURB INLET TYPE R (2 SHEETS)	49-50
☐ M-604-13	☐	CONCRETE INLET TYPE 13	51
■ M-604-20	☐	MANHOLES (3 SHEETS)	52-54
☐ M-604-25	☐	VANE GRATE INLET (5 SHEETS)	55-59
M-605-1	☐	SUBSURFACE DRAINS (REVISED ON JULY 09, 2009)	~~60~~
■ M-606-1	☐	GUARDRAIL TYPE 3 W-BEAM (16 SHEETS)	61-76
■ M-606-13	☐	GUARDRAIL TYPE 7 F-SHAPE BARRIER (4 SHEETS)	77-80
■ M-606-14	☐	PRECAST TYPE 7 CONCRETE BARRIER (3 SHEETS)	81-83
☐ M-607-1	☐	WIRE FENCES AND GATES (3 SHEETS)	84-86
☐ M-607-2	☐	CHAIN LINK FENCE (3 SHEETS)	87-89
☐ M-607-3	☐	BARRIER FENCE	90
☐ M-607-4	☐	DEER FENCE AND GATES (2 SHEETS)	91-92
☐ M-607-10	☐	PICKET SNOW FENCE	93
☐ M-607-15	☐	ROAD CLOSURE GATE (9 SHEETS)	94-102
■ M-608-1	☐	CURB RAMPS (4 SHEETS)	103-106
M-609-1	■	CURBS, GUTTERS, AND SIDEWALKS (~~3~~ 4 SHEETS) (REVISED ON JULY 09, 2009)	~~107-109~~
☐ M-611-1	☐	CATTLE GUARD (2 SHEETS)	110-111
☐ M-613-1	☐	ROADWAY LIGHTING (4 SHEETS)	112-115
☐ M-614-1	☐	RUMBLE STRIPS (3 SHEETS)	116-118
☐ M-614-2	☐	SAND BARREL ARRAYS (2 SHEETS)	119-120
☐ M-615-1	☐	EMBANKMENT PROTECTOR TYPE 3	121
☐ M-615-2	☐	EMBANKMENT PROTECTOR TYPE 5	122
☐ M-616-1	☐	INVERTED SIPHON	123
☐ M-620-1	☐	FIELD LABORATORY CLASS 1	124
■ M-620-2	☐	FIELD LABORATORY CLASS 2	125
☐ M-620-11	☐	FIELD OFFICE CLASS 1	126
■ M-620-12	☐	FIELD OFFICE CLASS 2	127
■ M-629-1	☐	SURVEY MONUMENTS (2 SHEETS)	128-129

PLAN NUMBER	NEW OR REVISED	S STANDARD TITLE	PAGE NUMBER
S-612-1	■	DELINEATOR INSTALLATIONS (5 SHEETS) (REVISED, AUGUST 19, 2009)	131-135
■ S-614-1	☐	GROUND SIGN PLACEMENT (2 SHEETS)	136-137
☐ S-614-2	☐	CLASS I SIGNS	138
■ S-614-3	☐	CLASS II SIGNS	139
S-614-4	☐	CLASS III SIGNS (3 SHEETS) (REVISED, DECEMBER 29, 2009)	140-142
■ S-614-5	☐	BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS (2 SHEETS)	143-144
☐ S-614-6	☐	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS)	145-146
S-614-8	☐	TUBULAR STEEL SIGN SUPPORT DETAILS (5 SHEETS) (REVISED ON DEC. 07, 2009)	~~147-151~~
☐ S-614-10	☐	MARKER ASSEMBLY INSTALLATIONS	152
S-614-11	☐	MILEPOST SIGN DETAIL FOR HIGH SNOW AREAS (NEW, JUNE 22, 2009)	
☐ S-614-12	☐	STRUCTURE NUMBER INSTALLATION	153
☐ S-614-14	☐	FLASHING BEACON AND SIGN INSTALLATIONS (3 SHEETS)	154-156
■ S-614-20	☐	TYPICAL POLE MOUNT SIGN INSTALLATIONS	157
☐ S-614-21	☐	CONCRETE BARRIER SIGN POST INSTALLATIONS	158
☐ S-614-22	☐	TYPICAL MULTI-SIGN INSTALLATIONS.	159
☐ S-614-40	☐	TYPICAL TRAFFIC SIGNAL INSTALLATION DETAILS (7 SHEETS)	160-166
☐ S-614-40A	☐	ALTERNATIVE TRAFFIC SIGNAL INSTALLATION DETAILS (5 SHEETS)	167-171
☐ S-614-50	☐	MONOTUBE OVERHEAD SIGNS (14 SHEETS)	172-185
S-627-1	■	PAVEMENT MARKINGS (5 SHEETS) (REVISED ON JULY 28, 2009)	~~186-190~~
S-630-1	■	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION (REVISED ON FEB. 17, 2010) (~~12~~ 19 SHEETS)	~~191-202~~
■ S-630-2	☐	BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP) AND VERTICAL PANELS	203
■ S-630-3	☐	FLASHING BEACON (PORTABLE) DETAILS	204

PLACE FILLED SHAPE OVER BOX TO SELECT LEVEL = DRAFT Text-2

THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

SHEET DATA REFERENCE FILE LOCATION:
\JPC#\Design\Drawings\M&S Standard Plans List Index.dgn

COLORADO
DEPARTMENT OF TRANSPORTATION

STANDARD PLANS LIST
M&S STANDARDS
July 04, 2006
Revised on February 17, 2010

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Print Date: 2/10/2011
File Name: 004_Standards-Plan-List.dgn

R-X 0000

Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation
1050 Lee Hill Road
Boulder, CO 80302
Phone: 303-546-5655 FAX: 303-444-0751
Region 4 RJH

As Constructed
No Revisions:
Revised:
Void:

STANDARD PLANS LIST

Designer:
Detailer:
Sheet Subset: STD PLN
Structure Numbers
Subset Sheets: 1 OF 1

Project No./Code
STA 157A-010
15653
Sheet Number

1.5 General Notes

The General Notes drawing contains project specific information about the plan set. The notes provide contractors an understanding of the designers intentions and CDOT requirements and processes.

1.5.1 General Notes Checklist

- ❑ Fill out the sheet border information
- ❑ Link the project specific General Notes Word doc file

1.5.2 Linking Microsoft Word Files into MicroStation

The General Notes drawing uses a Word document to display the project specific notes.

MicroStation Placement Methods:

Linked Microsoft Office Word Document (Preferred) - Requires a saved Word file and can be edited by opening the document in Word or double clicking the document in MicroStation. This method will automatically update MicroStation when opened or after editing.

Embedded Microsoft Office Word Document - The document is placed directly into MicroStation. Double click the document in MicroStation to edit in Word as a temporary document.

Picture of Microsoft Office Word Document - Static graphic of the document. This method can not be edited or updated.

After creating the drawing file, link the Word document by taking the following steps:

- Highlight the area of the document to be linked and copy it to the clipboard
- In MicroStation select Edit>Paste Special
- In the “Paste Special” dialog box choose “Linked Microsoft Office Word Document”
- In the “Paste OLE” dialog box. Change the “Paste as” to “Link”, the “Method” to “By Corners”. Then tentative and select the guide line in the drawing file to match the .07” ENG-100 Text Style.

The link will display with hatching which indicates that the Word file containing the linked data is currently open. If you close out of your Word file, the hatching will go away.

1.5.3 Updating Linking Microsoft Word Files

Linked Word documents update automatically when the MicroStation file is opened or when you close out of Word after editing.

For more information on linking Microsoft Word files review this workflow, CDOT Linking Word Documents to MicroStation

LINKED WORD DOCUMENT LOCATION:
\JPC#\Design\Drawings\Tabs

LEVEL = DRAFT_Text-3

1. FOR PRELIMINARY PLAN QUANTITIES OF PAVEMENT MATERIAL, THE FOLLOWING RATES OF APPLICATION WERE USED:
   - HOT MIX ASPHALT.....110 LBS./SQ.YD./INCH
   - AGGREGATE BASE COURSE.....133 LBS./CU.FT.
   - TACK COAT DILUTED EMULSIFIED ASPHALT (SLOW SETTING).....0.10 GAL./SQ.YD. (DIL.)
2. A TACK COAT OF EMULSIFIED ASPHALT (SLOW SETTING) IS TO BE APPLIED TO IMPROVE BOND AT THE FOLLOWING LOCATIONS:
   - BEFORE PLACING NEW PAVEMENT OVER EXISTING PAVEMENT
   - ALONG THE FACE OF ALL ADJACENT EXISTING PAVEMENT AND OTHER SURFACES AGAINST WHICH ASPHALT WILL BE PLACED
   - BETWEEN PAVEMENT COURSES WHEN ORDERED BY THE ENGINEER
3. DILUTED EMULSIFIED ASPHALT FOR THE TACK COAT SHALL CONSIST OF 1 PART WATER AND 1 PART EMULSIFIED ASPHALT. RATES OF APPLICATION SHALL BE DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION. TACK COAT SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
4. ANY LAYER OF HOT MIX ASPHALT PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.
5. THE CONTRACTOR MAY USE AN EXPOSED LONGITUDINAL JOINT FOR A MAXIMUM OF ONE DAY. THE JOINT WILL CONSIST OF A VERTICAL FACE 1 INCH DEEP AND AT THE BOTTOM OF A VERTICAL FACE, A 3:1 SLOPE TO THE EXISTING PAVEMENT (OR SUBGRADE). THE MAXIMUM DEPTH OF THE 3:1 SLOPE SHALL BE 2 INCHES. AT THE END OF THE DAY, PLACEMENT OF THE HMA ON THE ADJACENT LANE IS REQUIRED.
6. ASPHALT JOINTS SHALL FALL ON LANE LINES OR SHOULDER LINES, EXCEPT WHERE NOTED IN PLANS.
7. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:
   - A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH
   - A SHORT SKI OR SHOE
   - 6 INCH SHOE IS REQUIRED
8. DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
   - FULL DEPTH OF ALL EMBANKMENTS
9. TYPE OF COMPACTION FOR THIS PROJECT WILL BE AASHTO T-99. WATER USED FOR COMPACTION WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
10. WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS ORDERED BY THE ENGINEER AND WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE WORK.
11. ALL MATERIAL GENERATED WITHIN THE PROJECT LIMITS SHALL BE REMOVED FROM THE PROJECT SITE AT NO COST TO THE PROJECT UNLESS SPECIFIED IN THE PLANS.
12. THE CONTRACTOR SHALL REPAIR OR REPLACE AT THE CONTRACTOR'S EXPENSE ANY EXISTING SIGNS DAMAGED BY THE CONTRACTOR.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE DURING THE WORK. ANY REWORK OF MATERIAL DUE TO LACK OF THIS MAINTENANCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
14. TRAFFIC WILL USE THE PRESENT ROADWAY DURING CONSTRUCTION.
15. THE ROADWAY IS CLASSIFIED AS URBAN.
16. THE PAVEMENT SMOOTHNESS CATEGORY FOR THIS PROJECT SHALL BE H.R.I. CATEGORY I (INCHES/MILE).
17. THE CONSTRUCTION OF THE CURB RAMPS ON THE PROJECT SHALL BE PHASED SO THAT ALL PATHS AND SIDEWALKS ARE OPEN TO USERS AT ALL TIMES EXCEPT WHEN APPROVED BY THE ENGINEER.
18. PRIOR TO PLACING BITUMINOUS PAVEMENT, SWEEPING OF DIRT AND GRAVEL FROM THE EXISTING MAT SHALL BE COMPLETED. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE WORK.
19. WHERE CUTTING OF ASPHALT PAVEMENT IS REQUIRED THE CUTTING SHALL BE DONE TO A NEAT WORK LINE ONE FOOT FROM THE EDGE OF PAVEMENT WITH A SAW OR CUTTING WHEEL AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
20. MILLED ROADWAY SURFACES SHALL BE REPAVED WITHIN 5 WORKING DAYS OF MILLING OPERATIONS. MULITPLE MOBILIZATIONS WILL BE REQUIRED.
21. MILLING AND PAVING MUST BE COMPLETE IN ONE DIRECTION (NORTHBOUND OR SOUTHBOUND) BEFORE WORK MAY BEGIN IN THE OTHER DIRECTION.
22. WHEN PLANING ASPHALT FROM BRIDGES, CARE SHALL BE TAKEN NOT TO DAMAGE THE WATERPROOF MEMBRANES AND EXPANSION JOINTS. ANY DAMAGE TO THE MEMBRANES AND EXPANSION JOINTS SHALL BE REPARIED AT THE CONTRACTOR'S EXPENSE.
23. THE CONTRACTOR SHALL MAP STRIPING LOCATIONS ON SH157 AND SHALL STRIPE THE ROADWAY TO MATCH THE ORIGINAL STRIPING LOCATIONS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
24. DURING HMA PAVING OPERATIONS, TEMPORARY PAVEMENT MARKINGS SHALL BE PROVIDED AND PLACED BY THE CONTRACTOR IN ACCORDANCE TO STANDARD S-612-1. TEMPORARY PAVEMENT MARKING SHALL BE PLACED AND IN FULL COMPLIANCE AT THE END OF EACH WORKING DAY.
25. REMOVAL OF TEMPORARY PAVEMENT MARKINGS WILL NOT BE PAID FOR SEPARATE BUT SHALL BE INCLUDED IN THE WORK.
26. FINAL PAVEMENT MARKINGS SHALL INITIALLY BE PLACED USING PAVEMENT MARKING PAINT FOR EVALUATION AND ADJUSTMENT BY THE ENGINEER PRIOR TO PLACEMENT OF EPOXY PAVEMENT MARKING. NO ADDITIONAL MOBILIZATION SHALL BE PAID FOR THIS WORK, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
27. IF AT ANY TIME DURING PROJECT WORK:
   - WORK DISTURBS AREAS IN OR AROUND STREAMS, WHETHER FLOWING OR DRY
   - CULTURAL OR PALEONTOLOGY MATERIALS ARE FOUND
   - ABANDONED OR HAZARDOUS WASTE IS UNCOVERED
   - IMPACTS ARE MADE TO WETLANDS, PONDS, OR OTHER SURFACE WATER
   - PLEASE CONTACT CAROL PARR, REGION 4 ENVIRONMENTAL UNIT MANAGER AT 970-350-2170
28. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND/OR TOES OF SLOPES SHOWN ON THE PLANS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONSTRUCTION ACTIVITIES IN ADDITION TO NORMAL CONSTRUCTION PROCEDURE SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER, AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS.
29. ANY TREE TRIMMING AND/OR REMOVAL ACTIVITIES SHALL BE COMPLETED BEFORE BIRDS BEGIN TO NEST OR AFTER THE YOUNG HAVE FLEDGED. IN COLORADO, MOST NESTING AND REARING ACTIVITIES OCCUR BETWEEN APRIL 1 AND AUGUST 31. HOWEVER, SINCE SOME BIRDS NEST AS EARLY AS FEBRUARY, A NESTING SURVEY SHALL BE CONDUCTED BY A BIOLOGIST BEFORE TREE TRIMMING OR REMOVAL ACTIVITIES BEGIN.
30. BURROWING OWLS ARE A STATE THREATENED SPECIES AND ARE PROTECTED UNDER THE MIGRATORY BIRD TREATY ACT. NO HUMAN ENCROACHMENT OR DISTURBANCE WITHIN 150 FEET OF THE NEST SITE FROM MARCH 15 THROUGH OCTOBER 31. IF PROJECT ACTIVITIES ARE TO TAKE PLACE BETWEEN THESE TIMES, A BURROWING OWL SURVEY MUST BE COMPLETED BEFORE CONSTRUCTION ACTIVITIES TAKE PLACE. IF BURROWING OWLS ARE IDENTIFIED ON OR ADJACENT TO THE PROJECT, CDOT R4 ENVIRONMENTAL UNIT SHALL BE NOTIFIED IMMEDIATELY.
31. WORK ACTIVITIES INCLUDING THE MOVEMENT AND PLACEMENT OF VEHICLES AND EQUIPMENT SHALL NOT DISTURB WETLANDS, THREATENED AND ENDANGERED SPECIES (OR THEIR HABITAT), OR BLACK-TAILED PRAIRIE DOG COLONIES. IF ANY SUCH SITES ARE ENCOUNTERED, CDOT REGION 4 ENVIRONMENTAL UNIT SHALL BE NOTIFIED SO THAT ALL APPLICABLE CLEARANCES AND PERMITS MAY BE OBTAINED.
32. IN COORDINATION WITH THE R4 BIOLOGIST, THE CONTRACTOR SHALL INSTALL SILT FENCE AT THE START OF THE PROJECT AT THE INTERSECTION OF SH157 AND COLORADO AVENUE ON THE EAST SIDE OF SH157 TO PREVENT PRAIRIE DOG MOVEMENT ONTO THE PROJECT SITE. IT IS ESTIMATED THAT 200 LF OF SILT FENCE WILL BE REQUIRED FOR THIS AREA OF THE PROJECT.
33. SWMP TYPICAL SECTIONS ARE FOR GENERAL IDENTIFICATION OF DISTURBANCE AREAS AND CONSTRUCTION BOUNDARIES ONLY.
34. IT IS ESTIMATED THAT 6708 CY OF ASPHALT MILLINGS WILL BE PRODUCED BY REMOVAL OF ASPHALT (PLANING) DURING THIS PROJECT. THIS MATERIAL WILL BE ALLOWED TO BE USED FOR AGGREGATE BASE COURSE (CLASS 7). IF THIS QUANTITY DOES NOT COMPLETE SHOULDERING, THEN AGGREGATE BASE COURSE (CLASS 7) SHALL BE FURNISHED FROM THE CONTRACTORS SOURCE AND WILL BE PAID AS AGGREGATE BASE COURSE (CLASS 7). MILLINGS THAT ARE NOT USED BECOME THE PROPERTY OF THE CONTRACTOR.
35. IT IS ESTIMATED THAT 1 EACH SANITARY FACILITY WILL BE REQUIRED FOR THIS PROJECT.
36. IT IS ESTIMATED THAT 20 HOURS OF BLADING WILL BE REQUIRED FOR THIS PROJECT.
37. IT IS ESTIMATED THAT 85 CY OF TOPSOIL WILL BE REQUIRED FOR THIS PROJECT.
38. IT IS ESTIMATED THAT 5 OM-BT DECALS, "DELINEATION PANEL," 16" X 16" SHALL BE REQUIRED. THE COST OF OM-BT DECALS SHALL BE INCLUDED IN THE COST OF THE GUARDRAIL END-ANCHORAGE.

Print Date: 2/10/2011		Sheet Revisions			Colorado Department of Transportation	As Constructed	GENERAL NOTES			Project No./Code
File Name: 005_General-Notes.dgn		Date:	Comments	Init.	DOT Street Address XXXXXXXXXXXXXXXX City, State Zip Code Phone: XXX-XXX-XXXX FAX: XXX-XXX-XXXX	No Revisions:				Project Number
Horiz. Scale: 1:0.0685294 Vert. Scale: As Noted	R-X					Revised:	Designer: XXXXXXXX	Structure Numbers	X-XX-XX	Code
Unit Information Unit Leader Initials							Detailer: XXXXXXXX		X-XX-XX	
					Region Number or Staff Initials	Void:	Sheet Subset: XXXXXXX	Subset Sheets: XXX of XXX		Sheet Number XXX

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1.6 Typical Sections

Typical Sections show the proposed typical section for complete reconstruction, ramps, widening and overlay projects.

Typical sections are placed directly in the drawing file within the sheet border and don't require referencing.

For more information refer to the CDOT Roadway Design Guide, Chapter 4 Cross Section Elements.

1.6.1 Roadway Typical Sections

- ❑ Provide as least one existing section for each project. Place existing typical sections up front prior to the proposed sections and clearly title it Existing Section

The main purpose of the existing sections is to show the existing pavement section with a typical width. As such, most projects will require only one existing section. However, if there is a substantial change in the existing pavement section (i.e., concrete vs. asphalt, substantial variations in thickness) additional pavement sections should be provided.

- ❑ Provide a typical section showing how the new pavement section ties into the existing pavement. Clearly title this typical section as Approach to Project

Approach to Project sections are often required to transition the new crown into the existing crown. They also can be used to show a different pavement section because they may be temporary.

- ❑ Each typical section has the station limits identified and the name of the road identified in the sheet border
- ❑ Label and dimension (in inches) all parts of the pavement section (surface course - all lifts, base course, sub-base, etc.)

Be sure to verify that the pavement section shown in the typical sections agrees with the approved pavement design.

- ❑ Label the location of the control line and profile grade
- ❑ Label lane and shoulder widths

1.6.2 Bridge Typical Sections

- ❑ Label the location of the control line and profile grade
- ❑ Label lane and shoulder widths
- ❑ Label surface course in inches

1.6.3 Typical Section Program

CDOT has developed a custom program to help generate roadway typical sections. The program, **TypicalSection.exe**, can be found within the CDOT workspace, ***Workspace-CDOT_XM \Standards-Global\MicroStation\exes***.

This program is not intended to provide complete typical sections, but to provide a base output that can easily be modified to fulfill any project sections that are required.

For more information on the CDOT workflow using the typical section program, click the help icon in the **TypicalSection.exe** program.

1.6.4 Guidelines on the Number of Typical Sections

The number of typical sections required for a project varies, depending on a variety of factors. It is essential that enough typical sections be included to allow a contractor to understand how the road is built. On the other hand, it is possible to show so many typical sections that the plan set is confusing and difficult to follow. This is especially true if a typical section is developed for "every situation" on complex, urban projects.

The following guidelines have been developed to help the designer determine the appropriate number of typical sections required for the project.

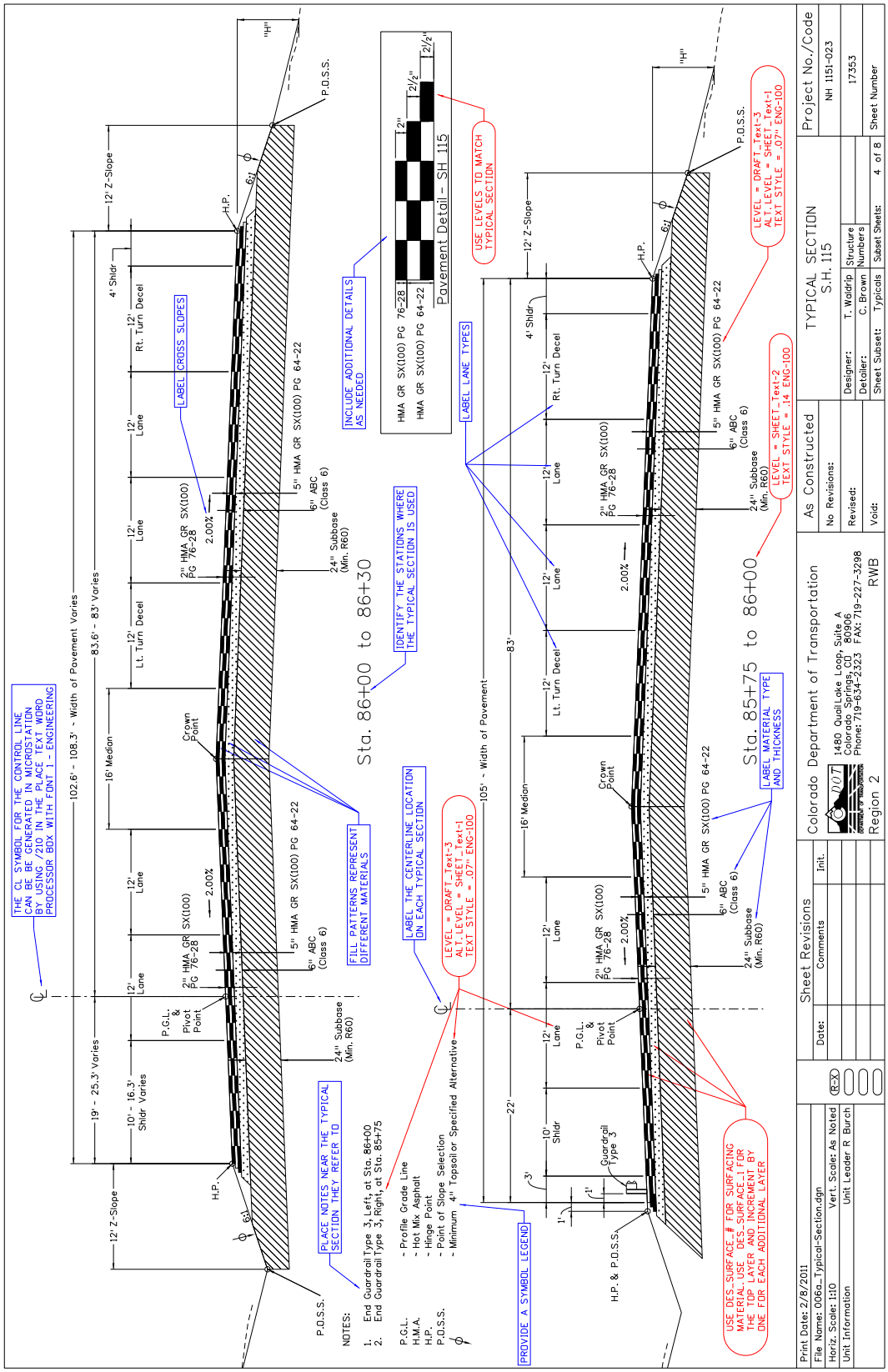
DO PROVIDE SEPARATE TYPICAL SECTIONS:

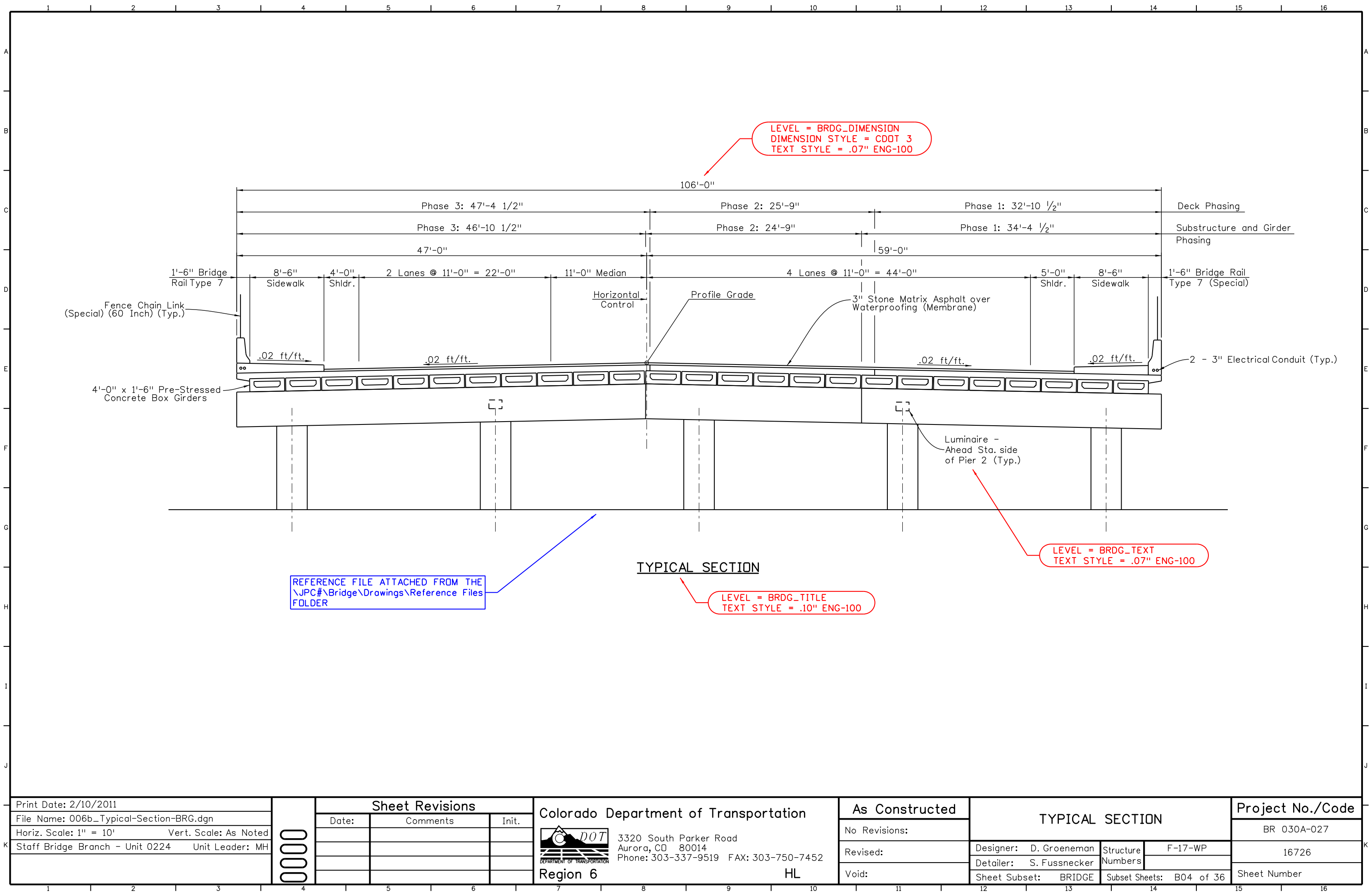
- For each alignment (mainline, ramps, frontage roads, etc.)
- For different lane configurations
- When the pavement section changes
- When the improvements change significantly (i.e., one section has curb and gutter with sidewalk versus another section without curb and gutter)
- When the cross section has major differences (i.e., depressed median versus raised median)
- For structures

Note: Typical sections for bridges can be omitted from the roadway plans if they are included with the structure plans.

DON'T:

- Show a typical section where everything is varying (for example, at intersection approaches or transition sections)
- Make a new typical section for minor changes in cross section that occur for a very short distance (i.e., 4' sidewalk versus 6' sidewalk for 100 feet)


THE CL SYMBOL FOR THE CONTROL LINE CAN BE GENERATED IN MICROSTATION BY USING /210 IN THE PLACE TEXT WORD PROCESSOR BOX WITH FONT 1 - ENGINEERING
102.6' - 108.3' - Width of Pavement Varies
83.6' - 83' Varies
19' - 25.3' Varies
10' - 16.3' Shldr Varies
12' Z-Slope
12' Lane
16' Median
Crown Point
Lt. Turn Decel
Rt. Turn Decel
4' Shldr
2" HMA GR SX(100) PG 76-28
5" HMA GR SX(100) PG 64-22
6" ABC (Class 6)
24" Subbase (Min. R60)
P.G.L. & Pivot Point
H.P.
P.O.S.S.
"H"
2.00%
6:1
Sta. 86+00 to 86+30
Sta. 85+75 to 86+00
Pavement Detail – SH 115
HMA GR SX(100) PG 76-28
HMA GR SX(100) PG 64-22
2"
2½"
2½"
LABEL CROSS SLOPES
INCLUDE ADDITIONAL DETAILS AS NEEDED
USE LEVELS TO MATCH TYPICAL SECTION
IDENTIFY THE STATIONS WHERE THE TYPICAL SECTION IS USED
LABEL LANE TYPES
FILL PATTERNS REPRESENT DIFFERENT MATERIALS
LABEL THE CENTERLINE LOCATION ON EACH TYPICAL SECTION
LEVEL = DRAFT_Text-3 ALT.LEVEL = SHEET_Text-1 TEXT STYLE = .07" ENG-100
LEVEL = SHEET_Text-2 TEXT STYLE = .14 ENG-100
LEVEL = DRAFT_Text-3 ALT.LEVEL = SHEET_Text-1 TEXT STYLE = .07" ENG-100
PLACE NOTES NEAR THE TYPICAL SECTION THEY REFER TO
PROVIDE A SYMBOL LEGEND
LABEL MATERIAL TYPE AND THICKNESS
USE DES_SURFACE_# FOR SURFACING MATERIAL USE DES_SURFACE_1 FOR THE TOP LAYER AND INCREMENT BY ONE FOR EACH ADDITIONAL LAYER
NOTES:
1. End Guardrail Type 3, Left, at Sta. 86+00
2. End Guardrail Type 3, Right, at Sta. 85+75
P.G.L. - Profile Grade Line
H.M.A. - Hot Mix Asphalt
H.P. - Hinge Point
P.O.S.S. - Point of Slope Selection
ϕ - Minimum .4" Topsoil or Specified Alternative
Guardrail Type 3
1'
3'
22'
105' - Width of Pavement
83'
H.P. & P.O.S.S.
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
Region 2
1480 Quail Lake Loop, Suite A
Colorado Springs, CO 80906
Phone: 719-634-2323 FAX: 719-227-3298
RWB
As Constructed
No Revisions:
Revised:
Void:
TYPICAL SECTION
S.H. 115
Designer: T. Waldrip
Detailer: C. Brown
Sheet Subset: Typicals
Structure Numbers
Subset Sheets: 4 of 8
Project No./Code
NH 1151-023
17353
Sheet Number
Print Date: 2/8/2011
File Name: 006a_Typical-Section.dgn
Horiz. Scale: 1:10
Vert. Scale: As Noted
Unit Information
Unit Leader R Burch
njohnson 11:28:53 AM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\006a-Typical-Section.dgn


LEVEL = BRDG_DIMENSION
DIMENSION STYLE = CDOT 3
TEXT STYLE = .07" ENG-100
106'-0"
Phase 3: 47'-4 1/2"
Phase 2: 25'-9"
Phase 1: 32'-10 1/2"
Deck Phasing
Phase 3: 46'-10 1/2"
Phase 2: 24'-9"
Phase 1: 34'-4 1/2"
Substructure and Girder Phasing
47'-0"
59'-0"
1'-6" Bridge Rail Type 7
8'-6" Sidewalk
4'-0" Shldr.
2 Lanes @ 11'-0" = 22'-0"
11'-0" Median
4 Lanes @ 11'-0" = 44'-0"
5'-0" Shldr.
8'-6" Sidewalk
1'-6" Bridge Rail Type 7 (Special)
Fence Chain Link (Special) (60 Inch) (Typ.)
Horizontal Control
Profile Grade
3" Stone Matrix Asphalt over Waterproofing (Membrane)
.02 ft/ft.
2 - 3" Electrical Conduit (Typ.)
4'-0" x 1'-6" Pre-Stressed Concrete Box Girders
Luminaire - Ahead Sta. side of Pier 2 (Typ.)
LEVEL = BRDG_TEXT
TEXT STYLE = .07" ENG-100
REFERENCE FILE ATTACHED FROM THE \JPC#\Bridge\Drawings\Reference Files FOLDER
TYPICAL SECTION
LEVEL = BRDG_TITLE
TEXT STYLE = .10" ENG-100
Print Date: 2/10/2011
File Name: 006b_Typical-Section-BRG.dgn
Horiz. Scale: 1" = 10' Vert. Scale: As Noted
Staff Bridge Branch - Unit 0224 Unit Leader: MH
Sheet Revisions
Date: Comments Init.
Colorado Department of Transportation
3320 South Parker Road
Aurora, CO 80014
Phone: 303-337-9519 FAX: 303-750-7452
Region 6 HL
As Constructed
No Revisions:
Revised:
Void:
TYPICAL SECTION
Designer: D. Groeneman
Detailer: S. Fussnecker
Sheet Subset: BRIDGE
Structure Numbers F-17-WP
Subset Sheets: B04 of 36
Project No./Code
BR 030A-027
16726
Sheet Number
Design Designed By DDG 11/09 Checked By GD/AVT 12/09
Detail Detailed By SJF 11/09 Checked By DDG 12/09
Quantities Quantities By DDG 12/09 Checked By SJF 12/09
Njohnson 3:04:57 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\006b_Typical-Section-BRG.dgn

1.7 Summary of Approximate Quantities (SAQ)

The SAQ sheets is required to summarize all pay items called out in the drawing sheets. SAQ sheets are generated by Sumgraph to obtain quantities for the engineer's estimate.

1.7.1 SAQ Workflow

For more information generating SAQ's out of Sumgraph, please review this workflow; CDOT SAQ Sheets.

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY				D-16-DT				D-16-DU				D-16-AD				WALLS		PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.			PLAN	AS CONST.			PLAN	AS CONST.			PLAN	AS CONST.			PLAN	AS CONST.	PLAN	AS CONST.
			203-01510	Backhoe	HOUR	75																		75	
			203-01597	Potholing	HOUR	50																		50	
			206-00000	Structure Excavation	CY									30				44				970		1,044	
			206-00100	Structure Backfill (Class 1)	CY					1,285				1,915				429				36,708		40,337	
			206-00200	Structure Backfill (Class 2)	CY					207				118										325	
			206-00360	Mechanical Reinforcement of Soil	CY					1,285				1,915								24,165		27,365	
			206-01000	Bed Course Material	CY	8																		8	
			207-00210	Stockpile Topsoil	CY	18,610																		18,610	
			208-00002	Erosion Log (12 Inch)	LF	1,896																		1,896	
			208-00020	Silt Fence	LF	8,965																		8,965	
			208-00040	Check Dam	EACH	28																		28	
			208-00045	Concrete Washout Structure	EACH	3																		3	
			208-00050	Storm Drain Inlet Protection	EACH	119																		119	
			208-00070	Stabilized Construction Entrance	EACH	3																		3	
			208-00103	Removal and Disposal of Sediment (Labor)	HOUR	100																		100	
			208-00105	Removal and Disposal of Sediment (Equipment)	HOUR	100																		100	
			210-00001	Reset Structure	EACH	1																		1	
			210-00750	Reset Light Standard	EACH	2																		2	
			210-00810	Reset Ground Sign	EACH	17																		17	
			210-00815	Reset Sign Panel	EACH	4																		4	
			210-01000	Reset Fence	LF	2,952																		2,952	
			210-01011	Reset Gate	EACH	1																		1	

DATA FOR THE SAQ SHEET IS GENERATED BY SUMGRAPH

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

LEVEL = DRAFT_WT-2

Print Date: 9/9/2010
Drawing File Name: 13930SAQ02.dgn
Horiz. Scale: 1:200

Sheet Revisions

Date:	Comments	Initials

Colorado Department of Transportation
1050 Lee Hill Rd
Boulder CO 80302
Phone: (303) 546-5660 FAX:
Region 04 RJH

As Constructed
No Revisions:
Revised:
Void:

SUMMARY OF APPROXIMATE QUANTITIES

Designer:
Detailer:
Sheet Subset: TB
Structure Numbers
Subset Sheets: 2 of 17

Project No./Code
NH1191-016
13930
Sheet Number

1.8 Project Details

Project detail sheets contain all detail drawings that are project specific necessary to build the project.

Standard details that are found in the M&S Standards do not need to be added to the project details. The M&S Standards are automatically added to the project plan set at reprographics.

Details are broken out into two types; true scale and Not to Scale (NTS). True scale details are drawn and placed in the sheet at a 1 to 1 scale.

NTS details are drawn to with an exaggerated scale to better illustrate the subject of the detail.

1.8.1 Project Detail Sheet Checklist

- ❑ Details are drawn at true scale can be dimensioned using the MicroStation dimensioning tools. For NTS details, dimensions must be constructed manually.

Drawing at full scale makes dimensioning easier and helps keep dimensioning accurate.

- ❑ Draw all of the details in one file and keep them organized.

SUGGESTION 1: It will make things easier if the details are organized inside of boxes. These boxes should be placed on a nonprint level and be the same size as the inside drawing area of a scaled sheet file border.

SUGGESTION 2: For projects with a lot of details, it is helpful to split the details into more than one file organized by category. This allows multiple users to work on the details at one time.

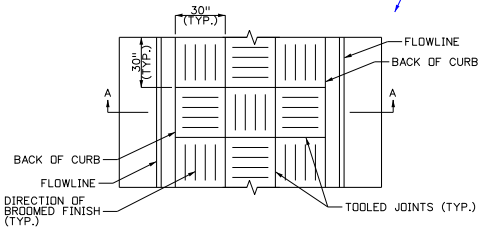
- ❑ Keep detail sheets organized by category in the plan set. For example, keep all of the roadway details sheets together, all of the drainage detail sheets together, etc.

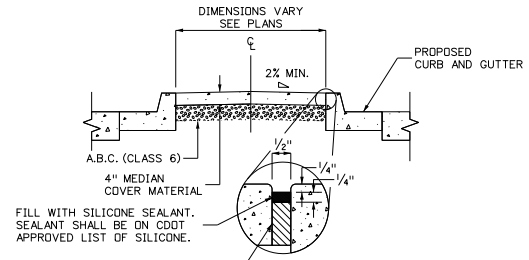
1.8.2 Reference Files

Drawing with the details drawn in a separate model from the sheet border are referenced to itself, using the model containing the detail for the reference file and the model containing the sheet border as the master file.

DETAIL DRAWING FILE LOCATION:
\JPC#\GROUP\Drawings\Reference Files

MEDIAN COVER MATERIAL DETAIL
N.T.S.





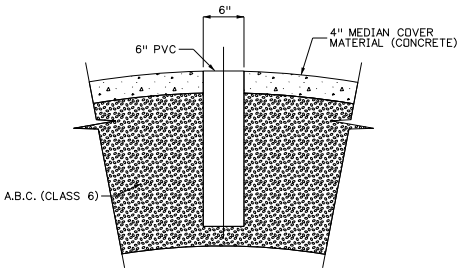
NOTE: CONTRACTOR SHALL CROWN PAVED SURFACE AT CENTERLINE OF MEDIAN SECTION AND PROVIDE A CURVED TRANSITION.

SECTION A-A

DETAIL NOTES LOCATED IN REFERENCE FILE

DETAIL TITLES LOCATED IN SHEET FILE

SLEEVE FOR DELINEATOR POST IN CONCRETE
N.T.S.

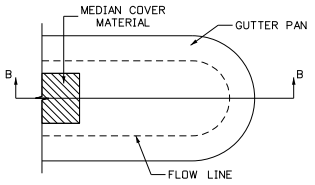


COST OF SLEEVE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE MEDIAN COVER MATERIAL (CONCRETE). LOCATION OF POSTS ARE AS SHOWN ON TABULATION OF SIGNS AND DELINEATOR TABULATION.

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

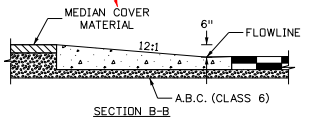
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100

MEDIAN ISLAND NOSE DETAIL
N.T.S.



PLAN VIEW

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
DIMENSION STYLE = CDOT 2



SECTION B-B

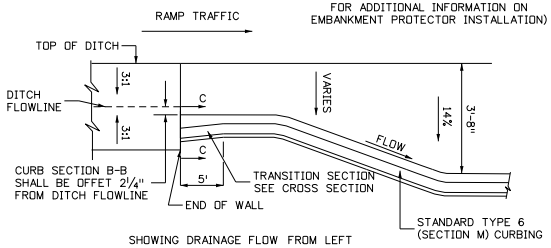
MEDIAN NOSE WILL BE INCLUDED IN THE COST OF THE CURB AND GUTTER.

TRANSITION FROM DITCH TO TYPE 6 (SECTION M) CURB

SPECIFY SCALE OF THE DETAIL
N.T.S. = NOT TO SCALE

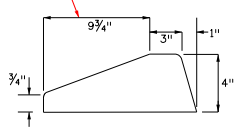
N.T.S.

(REFER TO STANDARD PLAN M-615-1 FOR ADDITIONAL INFORMATION ON EMBANKMENT PROTECTOR INSTALLATION)



SHOWING DRAINAGE FLOW FROM LEFT TO RIGHT. REVERSE DETAIL WHEN DRAINAGE FLOW IS RIGHT TO LEFT.

LEVEL = DRAFT_Text-1
DIMENSION STYLE = CDOT 2
ALT. DIMENSION STYLE = CDOT 3

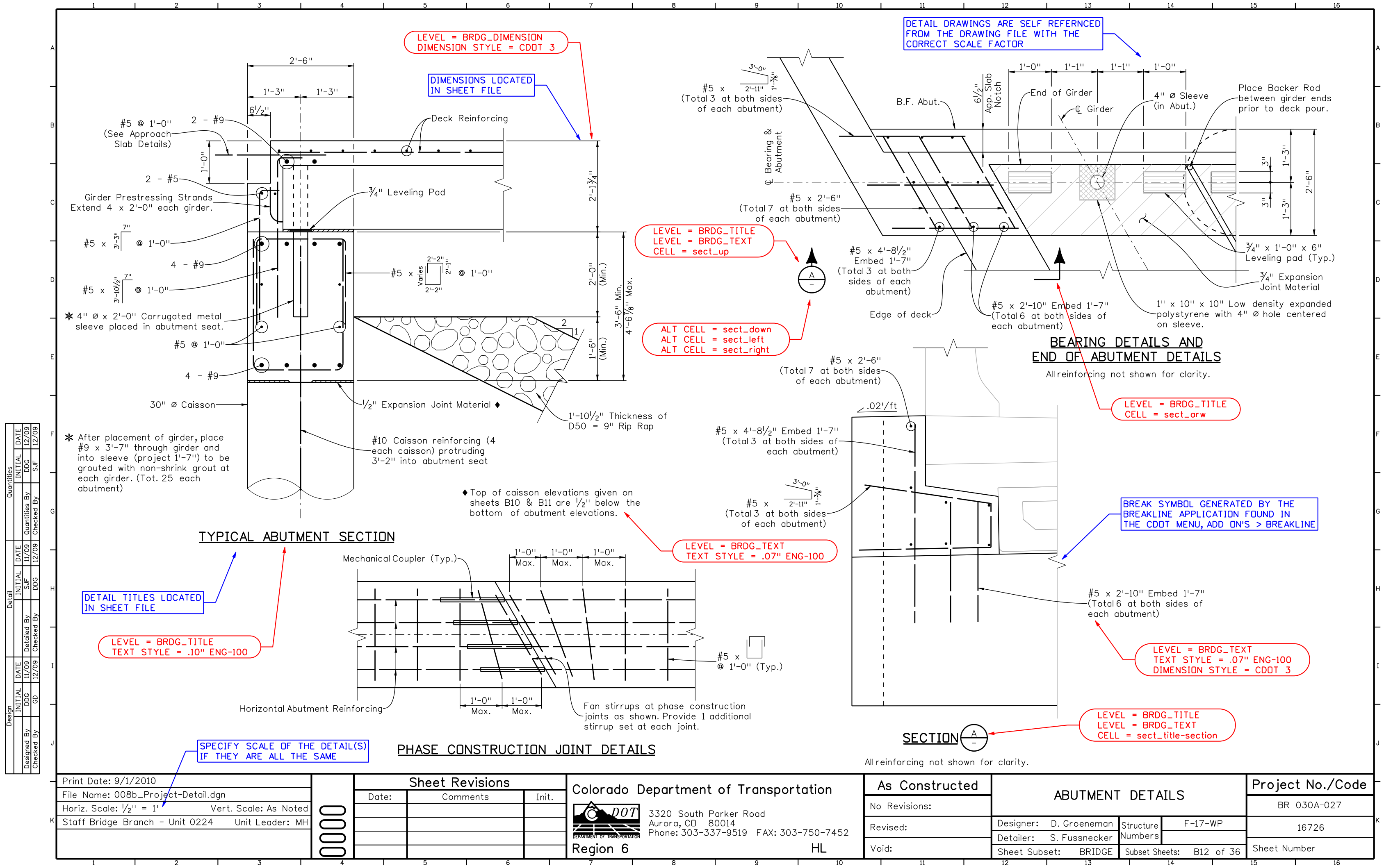


TRANSITION ABOVE SECTION TO STANDARD TYPE 6 (SECTION M) CURN OVER 5'.

ITEM TO BE PAID FOR AS CURB TYPE 6 (SECTION M) SPECIAL.

SECTION C-C
N.T.S.

Print Date: 2/10/2011	Sheet Revisions			Colorado Department of Transportation	As Constructed	MISC. DETAILS			Project No./Code
Drawing File Name: 13930DetailMisc.dgn	Date:	Comments	Initials	1050 Lee Hill Road, Boulder, CO 80302, Phone: 303-546-5655 FAX: 303-444-0751	No Revisions:	Designer: RDM	Structure Numbers		
Horiz. Scale: NTS					Revised:	Detailer: RDM			
				Region 4 RJH	Void:	Sheet Subset: DT	Subset Sheets: 2 of 3		Sheet Number


LEVEL = BRDG_DIMENSION
DIMENSION STYLE = CDOT 3
DIMENSIONS LOCATED IN SHEET FILE
DETAIL DRAWINGS ARE SELF REFERNCED FROM THE DRAWING FILE WITH THE CORRECT SCALE FACTOR
#5 @ 1'-0" (See Approach Slab Details)
2 - #9
Deck Reinforcing
2 - #5
Girder Prestressing Strands Extend 4 x 2'-0" each girder.
3/4" Leveling Pad
4 - #9
4" ⌀ x 2'-0" Corrugated metal sleeve placed in abutment seat.
#5 @ 1'-0"
30" ⌀ Caisson
1/2" Expansion Joint Material ♦
1'-10 1/2" Thickness of D50 = 9" Rip Rap
#10 Caisson reinforcing (4 each caisson) protruding 3'-2" into abutment seat
* After placement of girder, place #9 x 3'-7" through girder and into sleeve (project 1'-7") to be grouted with non-shrink grout at each girder. (Tot. 25 each abutment)
♦ Top of caisson elevations given on sheets B10 & B11 are 1/2" below the bottom of abutment elevations.
TYPICAL ABUTMENT SECTION
LEVEL = BRDG_TITLE
LEVEL = BRDG_TEXT
CELL = sect_up
ALT CELL = sect_down
ALT CELL = sect_left
ALT CELL = sect_right
#5 x 2'-6" (Total 7 at both sides of each abutment)
#5 x 4'-8 1/2" Embed 1'-7" (Total 3 at both sides of each abutment)
#5 x 2'-10" Embed 1'-7" (Total 6 at both sides of each abutment)
Edge of deck
B.F. Abut.
End of Girder
℄ Girder
4" ⌀ Sleeve (in Abut.)
Place Backer Rod between girder ends prior to deck pour.
3/4" x 1'-0" x 6" Leveling pad (Typ.)
3/4" Expansion Joint Material
1" x 10" x 10" Low density expanded polystyrene with 4" ⌀ hole centered on sleeve.
BEARING DETAILS AND END OF ABUTMENT DETAILS
All reinforcing not shown for clarity.
LEVEL = BRDG_TITLE
CELL = sect_arw
LEVEL = BRDG_TEXT
TEXT STYLE = .07" ENG-100
BREAK SYMBOL GENERATED BY THE BREAKLINE APPLICATION FOUND IN THE CDOT MENU, ADD ON'S > BREAKLINE
Mechanical Coupler (Typ.)
Horizontal Abutment Reinforcing
Fan stirrups at phase construction joints as shown. Provide 1 additional stirrup set at each joint.
#5 x @ 1'-0" (Typ.)
PHASE CONSTRUCTION JOINT DETAILS
DETAIL TITLES LOCATED IN SHEET FILE
LEVEL = BRDG_TITLE
TEXT STYLE = .10" ENG-100
SPECIFY SCALE OF THE DETAIL(S) IF THEY ARE ALL THE SAME
LEVEL = BRDG_TEXT
TEXT STYLE = .07" ENG-100
DIMENSION STYLE = CDOT 3
LEVEL = BRDG_TITLE
LEVEL = BRDG_TEXT
CELL = sect_title-section
SECTION A
All reinforcing not shown for clarity.
Print Date: 9/1/2010
File Name: 008b_Project-Detail.dgn
Horiz. Scale: 1/2" = 1'
Vert. Scale: As Noted
Staff Bridge Branch - Unit 0224
Unit Leader: MH
Sheet Revisions
Date: Comments Init.
Colorado Department of Transportation
3320 South Parker Road
Aurora, CO 80014
Phone: 303-337-9519 FAX: 303-750-7452
Region 6
HL
As Constructed
No Revisions:
Revised:
Void:
ABUTMENT DETAILS
Designer: D. Groeneman
Detailer: S. Fussnecker
Sheet Subset: BRIDGE
Structure Numbers
F-17-WP
Subset Sheets: B12 of 36
Project No./Code
BR 030A-027
16726
Sheet Number

1.9 Removal Plan Sheets

Removal plans are used to identify which roadway assets will be removed as part of the construction process and locate where these assets occur.

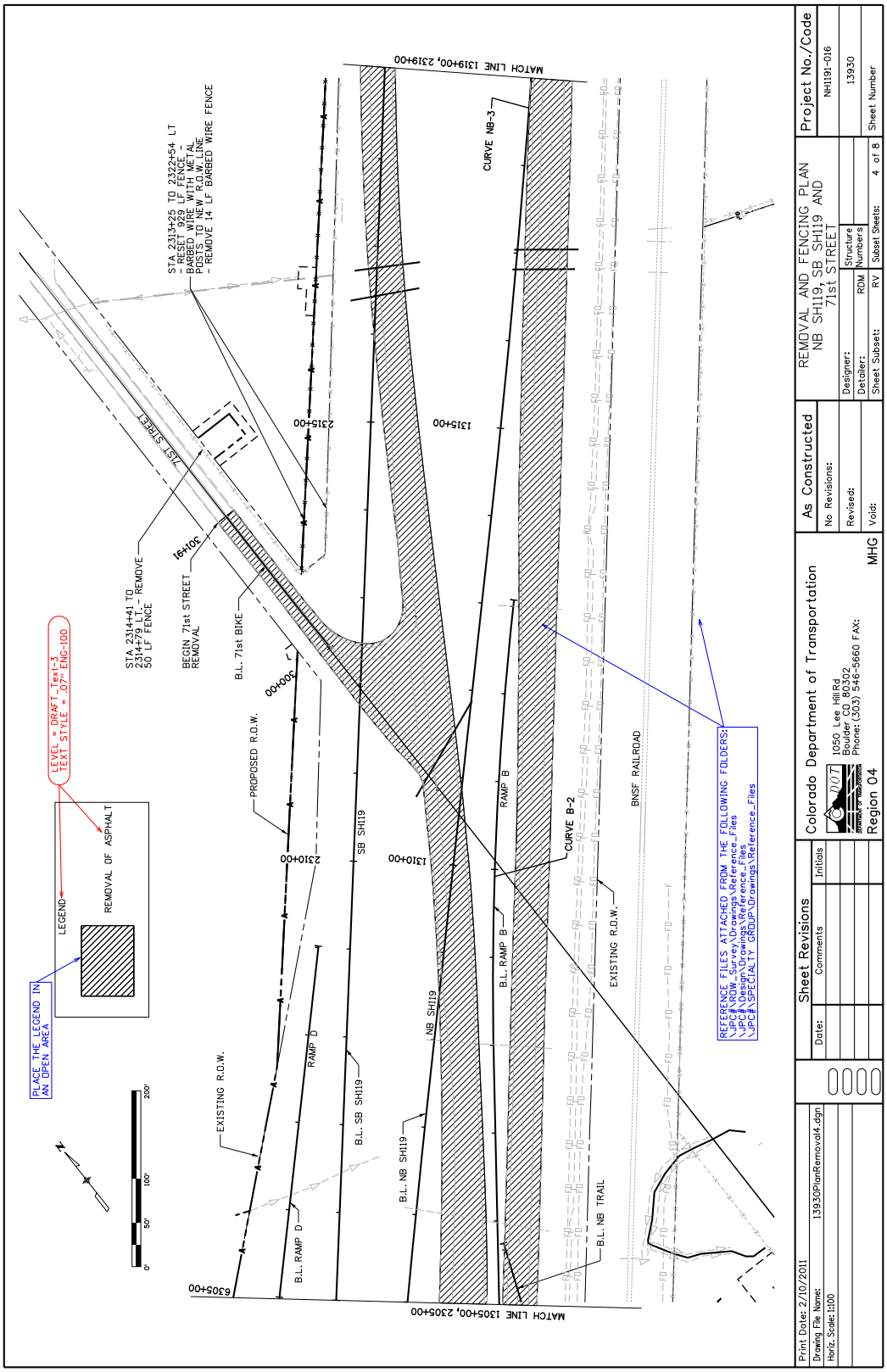
1.9.1 Plan Sheet Checklist

- ❑ Fill out the sheet border information.
- ❑ Add the North Arrow and Bar Scale to each sheet in an open area (in a corner is preferred).
- ❑ Label existing and proposed right-of-way.
- ❑ Label alignment names.
- ❑ Label street nd road names.
- ❑ Add notes for items to be removed or reset. These should contain a description of the item, Station (start and stop stations for linear items), and the quantity of the removal/reset.
- ❑ Add a legend of any patterned areas.

1.9.2 Reference Files

The following file(s) should be referenced into each Removal Plan Sheet.

File Name	Location
JPC#DES_Model	JPC#\Design\Drawings\ Reference_Files
JPC#SURV_Topo# #Scale##	JPC#\ROW_Survey\ Drawings\Reference_ Files


REMOVAL AND FENCING PLAN
NB SH119, SB SH119 AND 71st STREET
Colorado Department of Transportation
Region 04
1050 Lee Hill Rd
Boulder CO 80302
Phone: (303) 546-5660 FAX:
As Constructed
No Revisions:
Revised:
Void:
Designer:
Detailer:
Sheet Subset:
RDM
RV
MHG
Structure Numbers
Subset Sheets: 4 of 8
Project No./Code
NH1191-016
13930
Sheet Number
Sheet Revisions
Date:
Comments
Initials
Print Date: 2/10/2011
Drawing File Name: 13930PlanRemoval4.dgn
Horiz. Scale: 1:100
MATCH LINE 1319+00, 2319+00
MATCH LINE 1305+00, 2305+00
CURVE NB-3
CURVE B-2
71ST STREET
BEGIN 71st STREET REMOVAL
B.L. 71st BIKE
STA 2314+41 TO 2314+91 - REMOVE 50 LF FENCE
STA 2313+25 TO 2322+54 LT
- RESET 929 LF FENCE -
BARBED WIRE WITH METAL POSTS TO NEW R.O.W. LINE
- REMOVE 14 LF BARBED WIRE FENCE
PROPOSED R.O.W.
EXISTING R.O.W.
B.L. SB SH119
B.L. NB SH119
B.L. RAMP B
B.L. RAMP D
B.L. NB TRAIL
SB SH119
NB SH119
RAMP B
RAMP D
BNSF RAILROAD
EXISTING R.O.W.
REMOVAL OF ASPHALT
LEGEND
PLACE THE LEGEND IN AN OPEN AREA
LEVEL = DRAFT_Text-3
TEXT STYLE = ".07" ENG-100
REFERENCE FILES ATTACHED FROM THE FOLLOWING FOLDERS:
\\PC#\Design_Survey\Drawings\Reference_Files
\\PC#\Design_Survey\Drawings\Reference_Files
\\PC#\SPECIALTY GROUP\Drawings\Reference_Files
6305+00
2310+00
2315+00
1310+00
1315+00
500+00
301+91
0'
50'
100'
200'

Chapter 2 - Design Sheets

2.1 Plan and Profile Sheet

Plan and Profile sheets combine the properties of the plan sheet and the profile sheet described previously.

The plan occupies the upper half of the sheet and the profile takes up the bottom half. If superelevation data is displayed, it as placed at the very bottom of the sheet, reducing the area for both the plan and profile to accommodate the additional data.

2.1.1 Plan and Profile Sheet Checklist

- ❑ Clearly label horizontal alignment. This includes: stationing, bearing, PC, PT, crossings with other alignments, and curve data (Δ, R, T, L, & PI station/coordinates).
- ❑ Include street names on mainline and all cross streets.
- ❑ Call out all items of work for the new roadway.
- ❑ Label all structures. This includes bridges, box culverts, and retaining walls.
- ❑ Show cut & fill lines for mainline, ramps, and any side streets.
- ❑ Show driveway approach lengths, widths, and pavement type.
- ❑ Label tie-in with existing pavement
- ❑ Label the start and stop station of all pavement transitions.
- ❑ Show the alignment name on each profile sheet.
- ❑ The proposed vertical alignment is annotated.
- ❑ Station limits for the sheet and the match line stations must match EXACTLY.
- ❑ Show existing and proposed elevations on the bottom axis.
- ❑ Identify and label names of major intersected streets, railroads, grade separation structures, culverts, streams, and other control lines.
- ❑ Use Inroads preferences to create profile sheets that conform to Department standards.

2.1.2 Profile Sheet Checklist (Superelevation)

- ❑ Show superelevation at the bottom of the plan and profile sheet.
- ❑ Label Station and rates at all transition points

SUGGESTION: Using Inroads “Plan and Profile Generator” is an easy way to generate the plan and profile sheets.

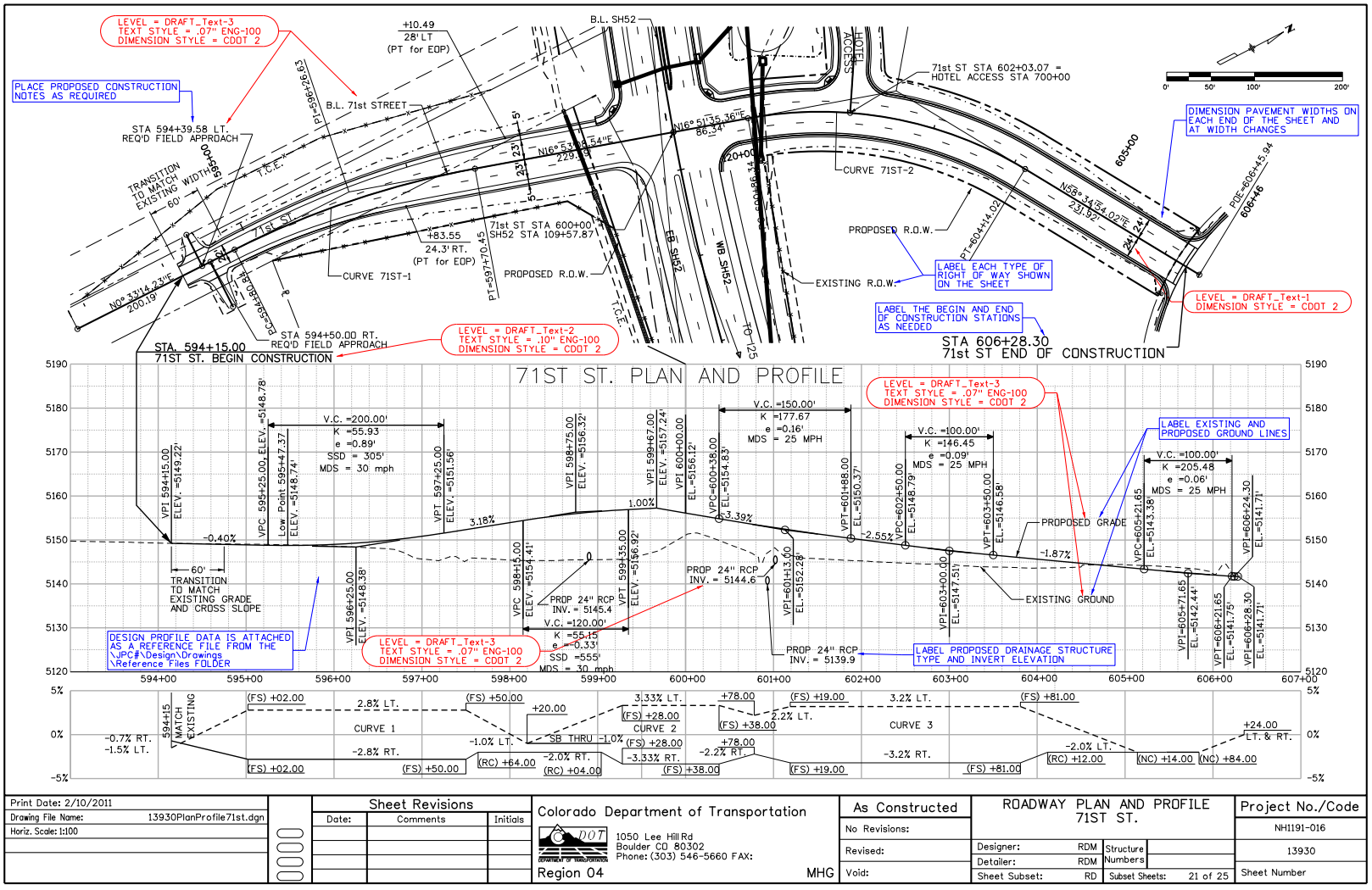
2.1.3 How To Call Out Items

- ❑ A station & offset callout should be provided at the beginning and ending of each item and at match lines. Pavement transitions may be called out where feasible.
- ❑ Call out items to the nearest 0.01 of a foot.
- ❑ Call out driveways to the center of driveways at lip of curb.
- ❑ Call out pedestrian ramps to the center of ramps at top back of curb.

2.1.4 Reference Files

The following file(s) should be referenced into each Plan and Profile Sheet.

File Name	Location
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#DES_Prof	JPC#\Design\Drawings\Reference_Files
JPC#BRDG_Model	JPC#\Bridge\Drawings\Reference_Files
JPC#HYDR_Model	JPC#\Hydraulics\Drawings\Reference_Files
JPC#LAND_ENVI_Model	JPC#\Landscape_Environmental\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files
JPC#TRAF_Model	JPC#\Traffic_ITS\Drawings\Reference_Files
JPC#UTIL_Model	JPC#\Utilities\Drawings\Reference_Files



Print Date: 2/10/2011	Sheet Revisions			Colorado Department of Transportation	As Constructed	ROADWAY PLAN AND PROFILE 71ST ST.	Project No./Code
Drawing File Name: 13930PlanProfile71st.dgn	Date:	Comments	Initials	1050 Lee Hill Rd Boulder CO 80302 Phone: (303) 546-5660 FAX:	No Revisions:		NH1191-016
Horiz. Scale: 1:100					Revised:	Designer: RDM / Structure Numbers	13930
					Void:	Detailer: RDM	
				Region 04 MHG		Sheet Subset: RD / Subset Sheets: 21 of 25	Sheet Number

2.2 Plan Sheets

Roadway plan sheets contain information regarding alignments and identify all new roadway items for the project. Plan sheets are used when the area described is too big or contains too much data to fit in the plan area of a plan and profile sheet.

2.2.1 Plan Sheet Checklist

- ❑ Clearly label horizontal alignment. This includes: stationing, bearing, PC, PT, crossings with other alignments, and curve data (Δ, R, T, L, & PI station/coordinates).
- ❑ Include street names on mainline and all cross streets.
- ❑ Call out all items of work for the new roadway.
- ❑ Label all structures. This includes bridges, box culverts, and retaining walls.
- ❑ Show cut & fill lines for mainline, ramps, and any side streets.
- ❑ Show driveway approach lengths, widths, and pavement type.
- ❑ Label tie-in with existing pavement
- ❑ Label the start and stop station of all pavement transitions.

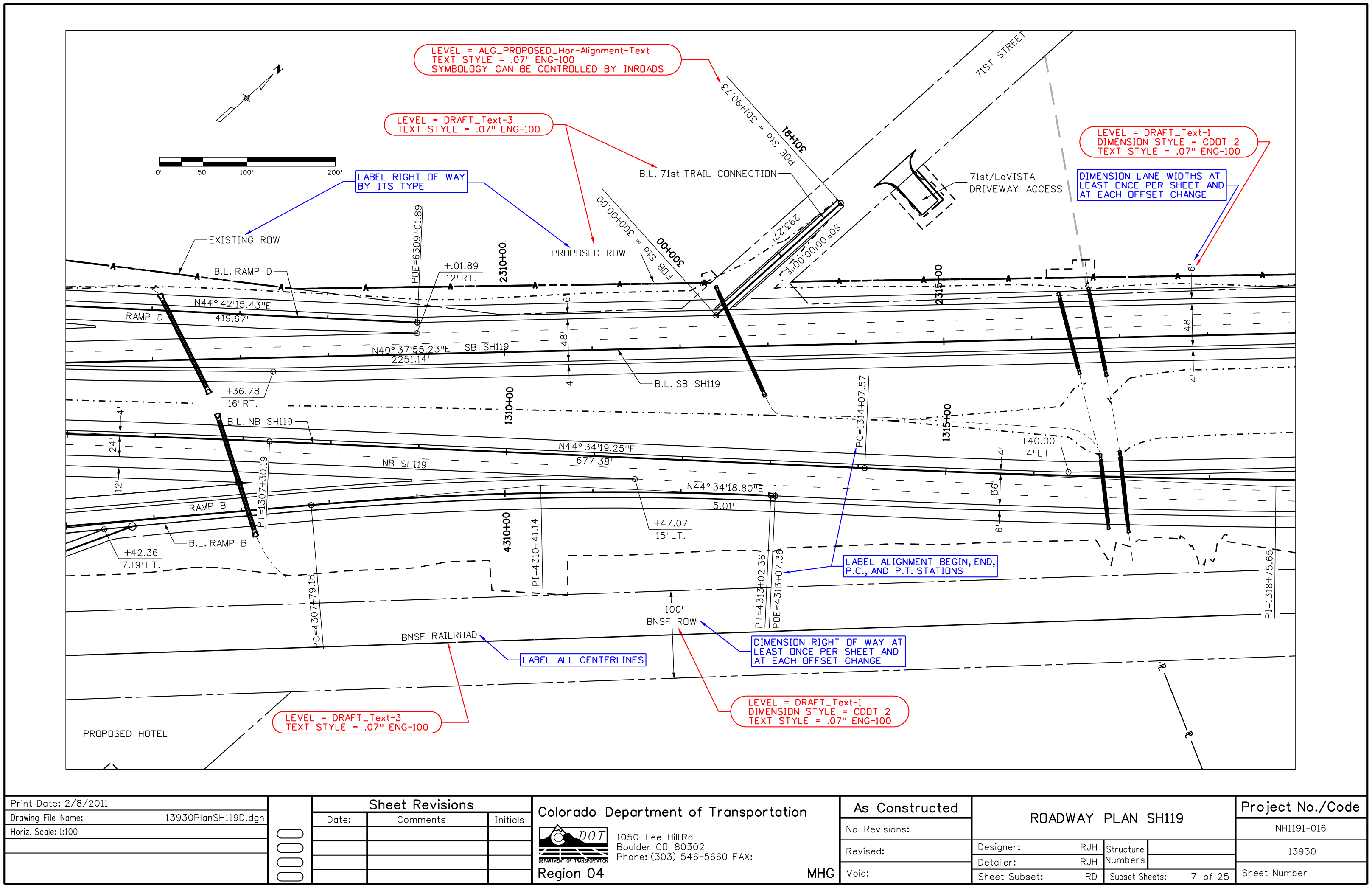
2.2.2 How To Call Out Items

- ❑ A station & offset callout should be provided at the beginning and ending of each item and at match lines. Pavement transitions may be called out where feasible.
- ❑ Call out items to the nearest 0.01 of a foot.
- ❑ Call out driveways to the center of driveways at lip of curb.
- ❑ Call out pedestrian ramps to the center of ramps at top back of curb.

2.2.3 Reference Files

The following file(s) should be referenced into each Plan Sheet.

File Name	Location
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#BRDG_Model	JPC#\Bridge\Drawings\Reference_Files
JPC#HYDR_Model	JPC#\Hydraulics\Drawings\Reference_Files
JPC#LAND_ENVI_Model	JPC#\Landscape_Environmental\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files
JPC#TRAF_Model	JPC#\Traffic_ITS\Drawings\Reference_Files
JPC#UTIL_Model	JPC#\Utilities\Drawings\Reference_Files


LEVEL = ALG_PROPOSED_Hor-Alignment-Text
TEXT STYLE = .07" ENG-100
SYMBOLOGY CAN BE CONTROLLED BY INROADS
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
LABEL RIGHT OF WAY BY ITS TYPE
LEVEL = DRAFT_Text-1
DIMENSION STYLE = CDOT 2
TEXT STYLE = .07" ENG-100
DIMENSION LANE WIDTHS AT LEAST ONCE PER SHEET AND AT EACH OFFSET CHANGE
71ST STREET
B.L. 71st TRAIL CONNECTION
71st/LaVISTA DRIVEWAY ACCESS
EXISTING ROW
PROPOSED ROW
B.L. RAMP D
RAMP D
N44° 42'15.43"E
419.67'
N40° 37'55.23"E
2251.14'
SB SH119
B.L. SB SH119
NB SH119
B.L. NB SH119
N44° 34'19.25"E
677.38'
N44° 34'18.80"E
5.01'
RAMP B
B.L. RAMP B
BNSF RAILROAD
LABEL ALL CENTERLINES
100' BNSF ROW
DIMENSION RIGHT OF WAY AT LEAST ONCE PER SHEET AND AT EACH OFFSET CHANGE
LABEL ALIGNMENT BEGIN, END, P.C., AND P.T. STATIONS
PROPOSED HOTEL
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
LEVEL = DRAFT_Text-1
DIMENSION STYLE = CDOT 2
TEXT STYLE = .07" ENG-100
Print Date: 2/8/2011
Drawing File Name: 13930PlanSH119D.dgn
Horiz. Scale: 1:100
Sheet Revisions
Date: Comments Initials
Colorado Department of Transportation
1050 Lee Hill Rd
Boulder CO 80302
Phone: (303) 546-5660 FAX:
Region 04
MHG
As Constructed
No Revisions:
Revised:
Void:
ROADWAY PLAN SH119
Designer: RJH
Detailer: RJH
Sheet Subset: RD
Structure Numbers
Subset Sheets: 7 of 25
Project No./Code
NH1191-016
13930
Sheet Number

2.3 Profile Sheets

Roadway Profile Sheets are used to show the existing ground and proposed vertical alignment. Each profile sheet may contain one or two profile grids, depending on the height of the grid being used.
Profile sheets can also be used to display the proposed superelevation.

2.3.1 Profile Sheet Checklist

- ❑ Show the alignment name on each profile sheet.
- ❑ The proposed vertical alignment is annotated.
- ❑ Station limits for the sheet and the match line stations must match EXACTLY.
- ❑ Show existing and proposed elevations on the bottom axis.
- ❑ Identify and label names of major intersected streets, railroads, grade separation structures, culverts, streams, and other control lines.
- ❑ Use Inroads preferences to create profile sheets that conform to Department standards.

SUGGESTION: Using Inroads "Plan and Profile Generator" is an easy way to generate the profile sheets.

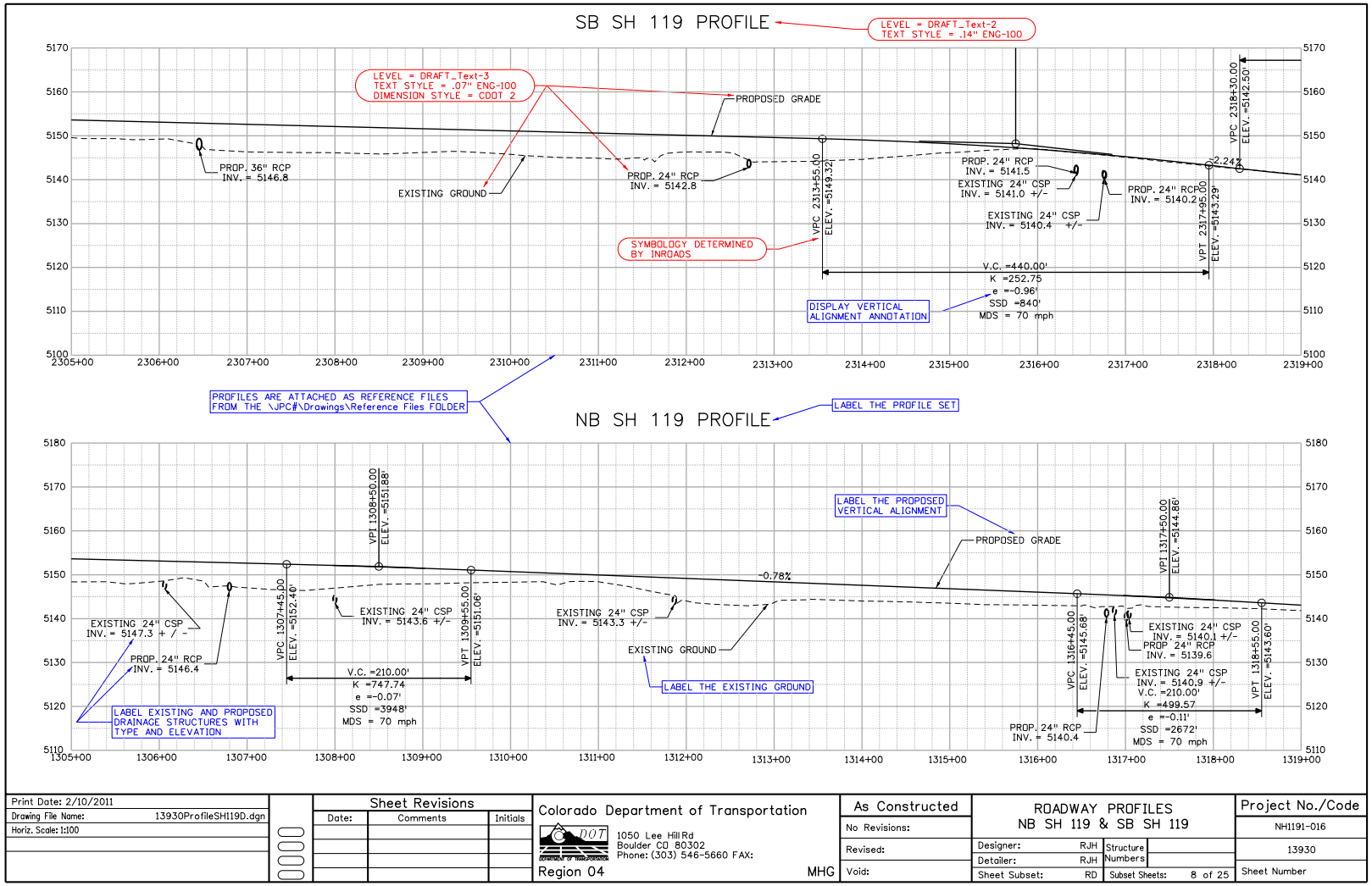
2.3.2 Profile Sheet Checklist (Superelevation)

- ❑ Show superelevation at the bottom of the profile sheet.
- ❑ Label Station and rates at all transition points

2.3.3 Reference Files

The following file(s) should be referenced into each Profile Sheet.

File Name	Location
JPC#DES_Prof	JPC#\Design\Drawings\Reference_Files



Print Date: 2/10/2011	Sheet Revisions	Colorado Department of Transportation	As Constructed	ROADWAY PROFILES		Project No./Code
Drawing File Name: 13930ProfileSH119D.dgn	Date: / Comments / Initials	1050 Lee Hill Rd Boulder CO 80302 Phone: (303) 546-5660 FAX:	No Revisions:	NB SH 119 & SB SH 119		NH1191-016
Horiz. Scale: 1:100		Region 04 MHG	Revised:	Designer: RJH / Structure Numbers		13930
			Void:	Detailer: RJH		Sheet Number
				Sheet Subset: RD	Subset Sheets: 8 of 25	

2.4 Phasing Plan Sheet

Phasing Plans provide a sequence of construction and a traffic control plan for the project. The Phasing Plan describes the most efficient methods of moving traffic and construction materials through the work zone.

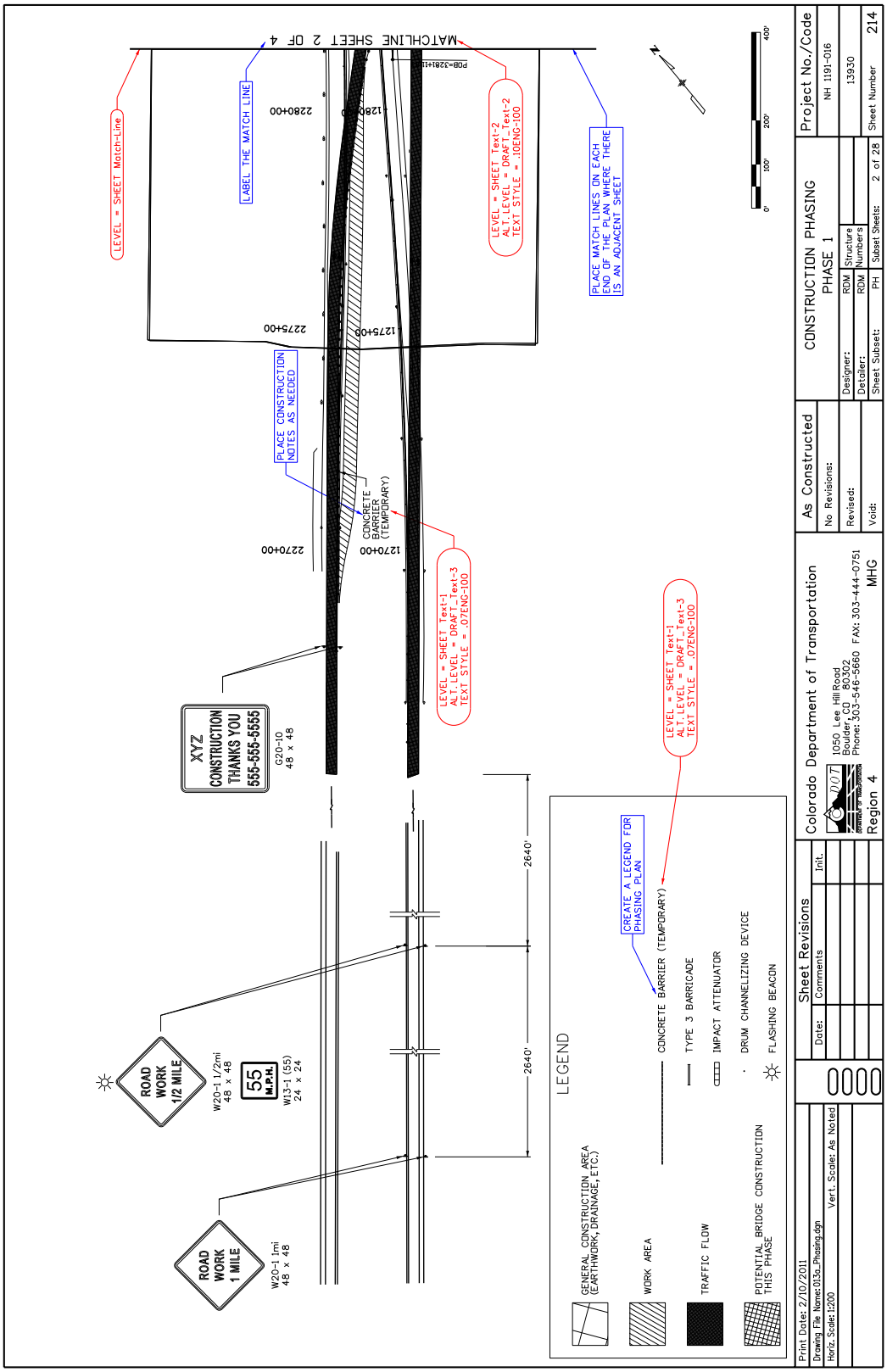
2.4.1 Phasing Plan Sheet Checklist

- ❑ Provide a Phasing Plan Legend that describes the various symbols and patterns used in the plan.
- ❑ Add matchline and data to the beginning and end of each sheet as needed.
- ❑ Place the north arrow and bar scale in an open corner of the sheet.
- ❑ Add construction notes as needed to further define items indicated in the phasing plan reference files.
- ❑ Add dimensions as needed to further define the location of materials or areas of work.

2.4.2 Rererence Files

The following file(s) should be referenced into each Phasing Plan Sheet.

File Name	Location
JPC#DES_Prof	JPC#\Design\Drawings\ Reference_Files


MATCHLINE SHEET 2 OF 4
LEVEL = SHEET Match-Line
LABEL THE MATCH LINE
LEVEL = SHEET Text-2
ALT.LEVEL = DRAFT_Text-2
TEXT STYLE = .10ENG-100
PLACE MATCH LINES ON EACH END OF THE PLAN WHERE THERE IS AN ADJACENT SHEET
PLACE CONSTRUCTION NOTES AS NEEDED
CONCRETE BARRIER (TEMPORARY)
LEVEL = SHEET Text-1
ALT.LEVEL = DRAFT_Text-3
TEXT STYLE = .07ENG-100
LEVEL = SHEET Text-1
ALT.LEVEL = DRAFT_Text-3
TEXT STYLE = .10ENG-100
XYZ CONSTRUCTION THANKS YOU 555-555-5555
G20-10 48 x 48
ROAD WORK 1/2 MILE
W20-1 1/2mi 48 x 48
55 M.P.H.
W13-1 (55) 24 x 24
ROAD WORK 1 MILE
W20-1 1mi 48 x 48
2640'
2640'
LEGEND
GENERAL CONSTRUCTION AREA (EARTHWORK, DRAINAGE, ETC.)
WORK AREA
CONCRETE BARRIER (TEMPORARY)
CREATE A LEGEND FOR PHASING PLAN
TRAFFIC FLOW
TYPE 3 BARRICADE
IMPACT ATTENUATOR
DRUM CHANNELIZING DEVICE
POTENTIAL BRIDGE CONSTRUCTION THIS PHASE
FLASHING BEACON
Sheet Revisions
Date: Comments Init.
Colorado Department of Transportation
1050 Lee Hill Road
Boulder, CO 80302
Phone: 303-546-5660 FAX: 303-444-0751
Region 4 MHG
As Constructed
No Revisions:
Revised:
Void:
CONSTRUCTION PHASING
PHASE 1
Designer: RDM Structure
Detailer: RDM Numbers
Sheet Subset: PH Subset Sheets: 2 of 28
Project No./Code
NH 1191-016
13930
Sheet Number 214
Print Date: 2/10/2011
Drawing File Name: 0131a_Phasing.dgn
Horiz. Scale: 1:200 Vert. Scale: As Noted

2.5 Grading Plan Sheet

Grading Plans are used to provide additional information about the roadway design in areas where cross sections may not adequately express the designers intent.

For the Grading Plan, existing and proposed contours are used to illustrate the designer's layout.

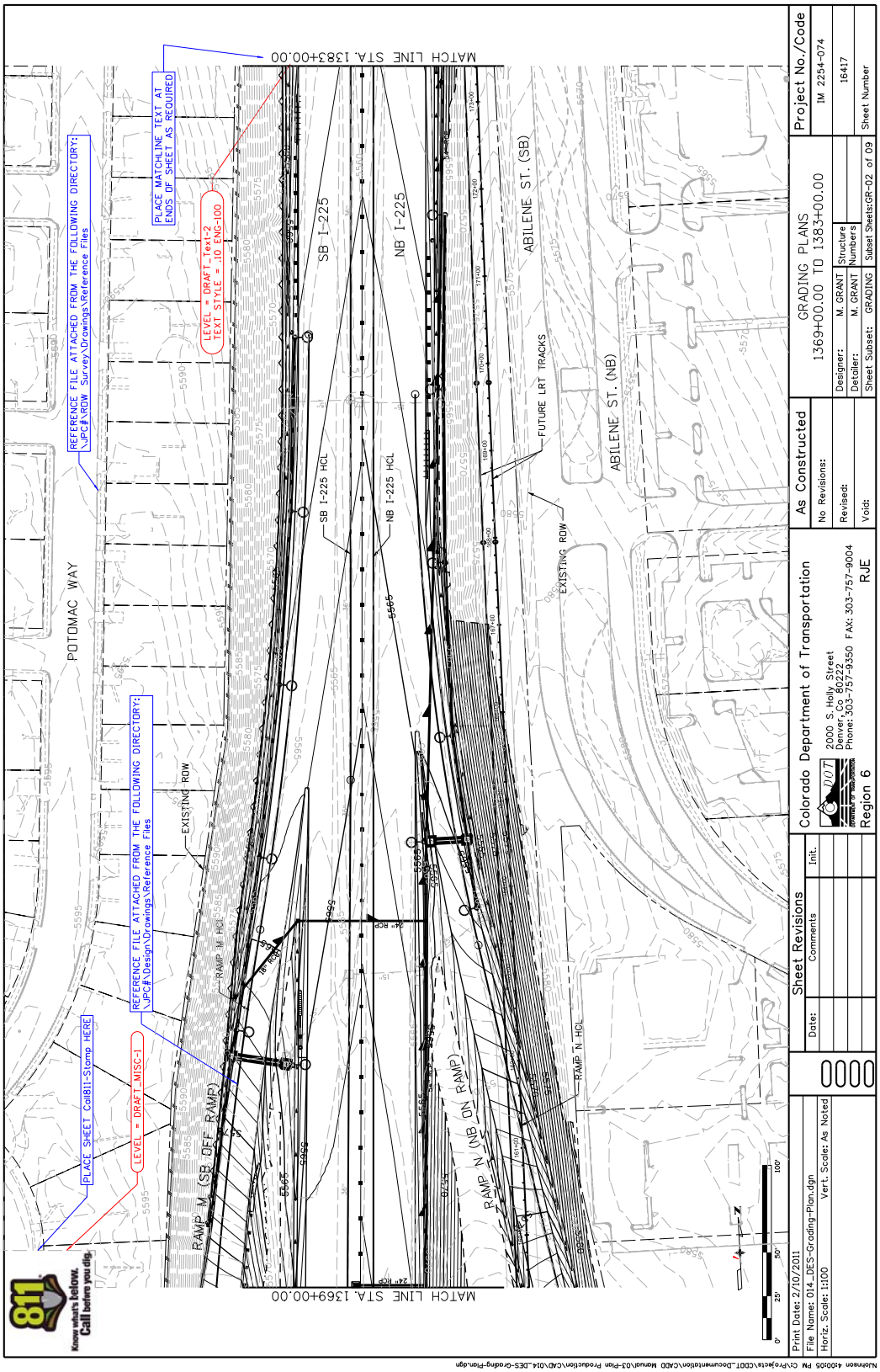
2.5.1 Grading Plan Sheet Checklist

- ❑ Clearly label horizontal alignment.
- ❑ Include street names on mainline and all cross streets.
- ❑ Display contours of the existing surface.
- ❑ Display contours of the design surface
- ❑ Add matchline and data to the beginning and end of each sheet as needed.
- ❑ Place the north arrow and bar scale in an open corner of the sheet.
- ❑ Label Right-of-Way lines.

2.5.2 Reference Files

The following file(s) should be referenced into each Grading Plan Sheet.

File Name	Location
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#SURV_TopoContour##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


MATCH LINE STA. 1383+00.00
MATCH LINE STA. 1369+00.00
POTOMAC WAY
SB I-225
NB I-225
SB I-225 HCL
NB I-225 HCL
ABILENE ST. (SB)
ABILENE ST. (NB)
FUTURE LRT TRACKS
EXISTING ROW
RAMP M (SB OFF RAMP)
RAMP N (NB ON RAMP)
RAMP M HCL
RAMP N HCL
REFERENCE FILE ATTACHED FROM THE FOLLOWING DIRECTORY:
\\PC#\ROW Survey\Drawings\Reference Files
REFERENCE FILE ATTACHED FROM THE FOLLOWING DIRECTORY:
\\PC#\Design\Drawings\Reference Files
PLACE MATCHLINE TEXT AT ENDS OF SHEET AS REQUIRED
LEVEL = DRAFT_Text-2
TEXT STYLE = .10 ENG-100
PLACE SHEET Coal811-Stamp HERE
LEVEL = DRAFT_MISC-1
Know what's below. Call before you dig.
811
Sheet Revisions
Date:
Comments
Init.
0000
Colorado Department of Transportation
2000 S. Holly Street
Denver, CO 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6
RJE
As Constructed
No Revisions:
Revised:
Void:
GRADING PLANS
1369+00.00 TO 1383+00.00
Designer: M. GRANT
Detailer: M. GRANT
Sheet Subset: GRADING
Structure Numbers
Subset Sheets:GR-02 of 09
Project No./Code
IM 2254-074
16417
Sheet Number
Print Date: 2/10/2011
File Name: 014_DES-Grading-Plan.dgn
Horiz. Scale: 1:100
Vert. Scale: As Noted
0
25'
50'
100'
N
Johnson 4:00:05 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\014-DES-Grading-Plan.dgn

2.6 Cross Section Sheets

A set of cross sections is a group of sectional views of the road prism taken at a specified interval along an alignment. The set is used for staking during construction and for computing volumes during the design process.

2.6.1 Plan Sheet Checklist

- ❑ Fill out the sheet border information.
- ❑ Add data for end areas and volumes for each cross section.

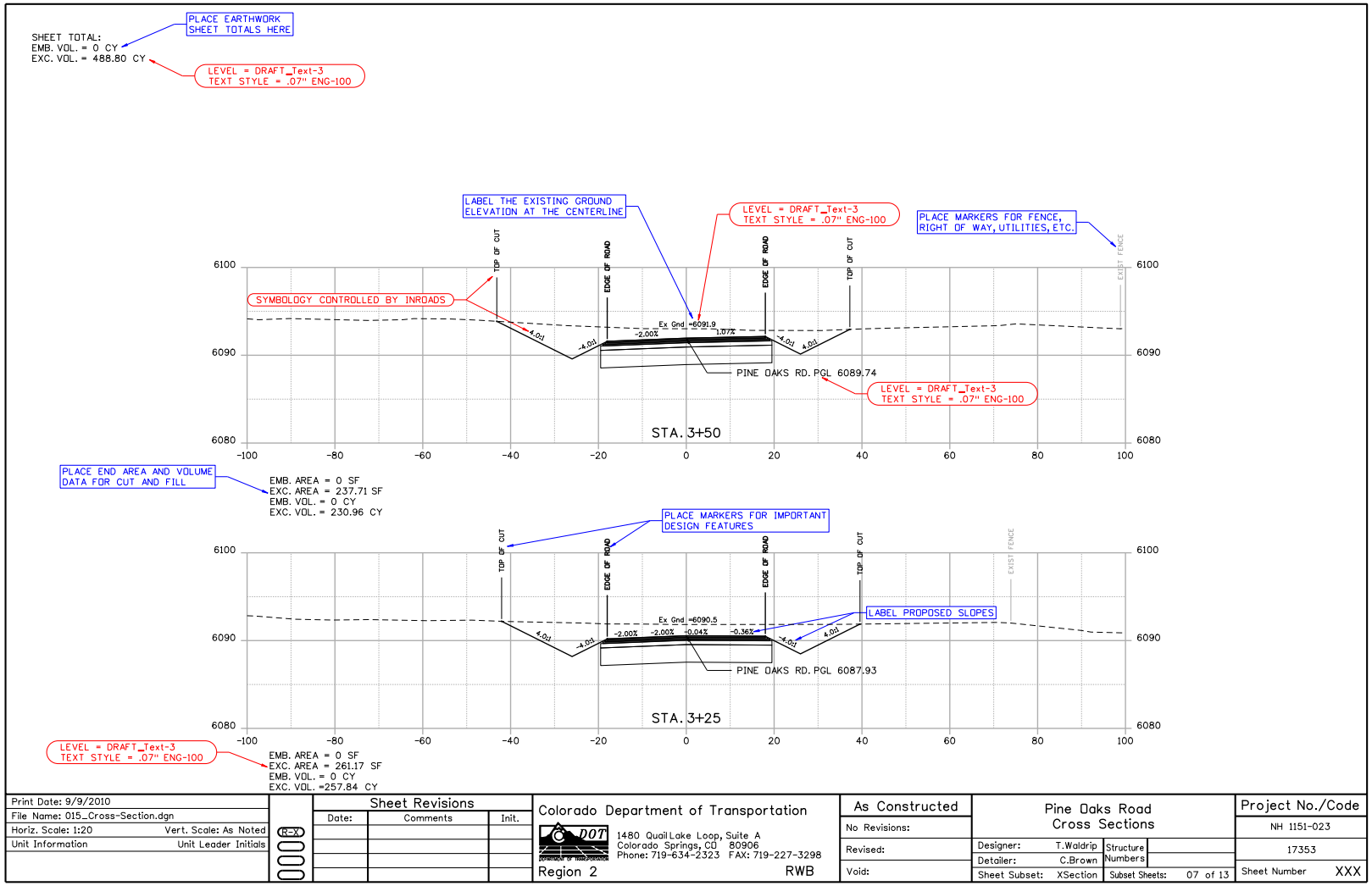
InRoads can be used to automate the process of annotating End-Area volumes.

- ❑ Add sheet totals for volumes.
- ❑ Draw drainage structures on cross sections as needed.
- ❑ Draw accesses on cross sections as needed.
- ❑ Label the PGL elevation on each cross section.
- ❑ Label the existing ground elevation at the center-line for each cross section.

2.6.2 Reference Files

The following file(s) should be referenced into each Cross Section Sheet.

File Name	Location
JPC#DES_Cross_ Sections	JPC#\Design\Drawings\ Cross_Sections



Print Date: 9/9/2010		Sheet Revisions			Colorado Department of Transportation	As Constructed	Pine Oaks Road Cross Sections	Project No./Code
File Name: 015_Cross-Section.dgn		Date:	Comments	Init.	DOT 1480 Quail Lake Loop, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298	No Revisions:		NH 1151-023
Horiz. Scale: 1:20 Vert. Scale: As Noted	R-X					Revised:	Designer: T.Waldrip Structure Numbers	17353
Unit Information Unit Leader Initials					Region 2 RWB	Void:	Detailer: C.Brown Sheet Subset: XSection Subset Sheets: 07 of 13	Sheet Number XXX

njohnson 10:42:39 AM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\015_Cross-Section.dgn

Chapter 3 - Bridge Sheets

3.1 General Information Sheet

The general information sheet contains notes, specifications, and other data that pertains to the structural subset. Some notes may apply to the project as a whole. This includes an index of drawings and bridge description. See Bridge Detailing Manual for additional information.

3.1.1 General Information Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place the general notes starting in the upper left corner of the sheet.
- ❑ Place the design data next to the general notes.
- ❑ Place the Index of Drawings in the upper right corner.
- ❑ Place other information, such as the bridge description and symbol descriptions, in an open area.

Text for the notes can be typed in Word, then cut and pasted into the MicroStation text editor. This way data that is the same on multiple sheets only has to be typed once.

GENERAL NOTES

Structure excavation and backfill shall be as shown on the plans. Shoring will be required for excavation adjacent to the existing roadway. Temporary excavation support shall be paid for by Item 206 Shoring.

Expansion joint material shall meet AASHTO Specification M213.

The final finish for the surfaces of the Type 7 Bridge Rail and curbs shall be Class 2. Sidewalks shall receive a transverse broom finish and tooled dummy joints per section 608 of the Specifications. All other exposed concrete surfaces shall receive a Class 1 final finish to one foot below the ground line.

The following structural steel shall be AASHTO M270 Grade 36 (ASTM A-A709 Grade 36): expansion devices, bearing plates, and piling.

AASHTO M270 Grade 50 (ASTM A-709 Grade 50) may be substituted for AASHTO M270 Grade 36 (ASTM A-A709 Grade 36) at no additional cost to the project.

Leveling pads are unlaminated bearings. They shall be cut or molded from AASHTO Elastomer Grade 3, 4, or 5 as described in tables 705-1 and 705-2 with a durometer (Shore "A") hardness of 60.

Grade 60 reinforcing steel is required.

All reinforcing steel shall be epoxy coated unless otherwise noted.

Ⓝ denotes non coated reinforcing steel.

All the provisions for bridge deck concrete shall also apply to approach slab concrete.

An emergency deck construction joint may be located at the one quarter span point back from a pier or abutment with respect to the direction of the deck placement.

The following table gives the minimum lap splice length for epoxy coated reinforcing bars placed in accordance with subsection 602.06. These splice lengths shall be increased by 25% for bars spaced at less than 6" on center.

Bar Size	#4	#5	#6	#7	#8	#9	#10	#11
Splice Length for Class D Concrete	1'-3"	1'-7"	2'-5"	2'-10"	3'-8"	4'-8"	5'-11"	7'-3"

The above splice lengths shall be increased by 20 percent for 3 bar bundles and 33 percent for 4 bar bundles.

The Contractor shall be responsible for the stability of the structure during construction.

B.F. = Back Face
F.F. = Front Face

For structure number installation, see Standard S-614-12.

The information shown on these plans concerning the type and location of underground utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determination as to the type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor shall contact the Utility Notification Center of Colorado at 1-800-922-1987 at least 3 business days (not including the day of notification) prior to any excavation or other earthwork.

LEVEL = BRDG TEXT
TEXT STYLE = .07" ENG-100

DESIGN DATA

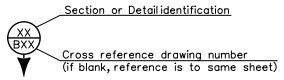
AASHTO, Second Edition LRFD with current interims

Design Method: Load and Resistance Factor Design

Live Load: HL-93 (design truck or tandem, and design lane load)
Dead Load: Assumes 36 lbs. per sq. ft. for bridge deck overlay

Reinforced Concrete:	Class D Concrete:	f'c	=	4,500 psi
	Reinforcing Steel:	fy	=	60,000 psi
Caissson Concrete:	Class BZ Concrete:	f'c	=	4,000 psi
	Reinforcing Steel:	fy	=	60,000 psi
Structural Steel:	AASHTO M270 (ASTM A709) Grade 36	fy	=	36,000.
	AASHTO M270 (ASTM A709) Grade 50	fy	=	50,000.
Class PS (Prestressed) Concrete:	f'c = (see details)			
	f's = 270,000 psi			

INDEX OF DRAWINGS

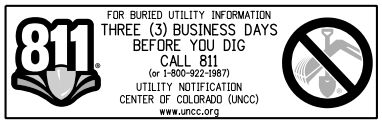


ADD NOTES DESCRIBING SPECIAL SYMBOLS

LEVEL = BRDG TITLE
TEXT STYLE = .10" ENG-100

BRIDGE DESCRIPTION

Three Span (42'-6", 50'-0", 42'-6") Bridge
Concrete Box Girder, side by side
SH 30 (Havana) over Cherry Creek
86'-0" roadway curb to curb, 60 degree skew
8'-6" sidewalks, Type 7 Bridge Rail



PLACE SHEET UNCC 811 NoDig CELL HERE

PLACE SHEET_StationLocation CELL HERE. EDIT TEXT AS REQUIRED.

Design	Initial	Date
Designed By	DGG	11/09
Checked By	GD/AVT	12/09

Detail	Initial	Date
Detailed By	SJF	11/09
Checked By	DGG	12/09

Quantities	Initial	Date
Quantities By	DGG	12/09
Checked By	SJF	12/09

Print Date: 3/24/2011
File Name: 016_BRG-General-Info.dgn
Horiz. Scale: None Vert. Scale: As Noted
Staff Bridge Branch - Unit 0224 Unit Leader: MH

REPLACE VARIABLE $SCALESHORT$ WITH ACTUAL SCALE USED, E.G. 1"=30', 1/4"=1', NONE, VARIES, ETC

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
3320 South Parker Road
Aurora, CO 80014
Phone: 303-337-9519 FAX: 303-750-7452
Region 6 HL

As Constructed	
No Revisions:	
Revised:	
Void:	

LEVEL = SHEET Text-1

GENERAL INFORMATION

Designer: D. Groeneman	Structure Numbers	F-17-WP	
Detailer: S. Fussnecker			
Sheet Subset: BRIDGE	Subset Sheets:	B01 of 36	
Near: Denver	Sec.26	Township T3S	Range 67W

Project No./Code
BR 030A-027
16726
Sheet Number
Station 107+79.56 to Station 109+57.44

Nohnson 10:31:50 AM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\016_BRG-General-Info.dgn

3.2 General Layout Sheet

The general layout sheet generally shows a plan and longitudinal section of the bridge structure. Existing topo is shown to provide a point of reference.

The Plan and Section drawings are produced at 1:1 scale in the CDOT Default model. These are then referenced into the Sheet model (contained in the same dgn file) for dimensioning and printing.

All models should be a "design" type model and not a "Sheet" type. As of this version, there are still issues with "sheet" type models that sometimes produces corruption and printing problems.

If other disciplines will be referencing the layout linework, the linework should be provided in a bridge model in the reference_files subdirectory. The CDOT Default model should be renamed to a logical such as "structure #" linework. The majority of linework for a bridge or structure should be located in the main model and referenced to the individual details sheets. This is done to minimize the number of times items are drawn and copied. Conflicts are easier to identify if all components of the bridge are in one linework model. Linework for Elevations, sections, etc. may be included in the main model or in the individual detail sheets.

See Bridge Detailing Manual for additional information.

3.2.1 General Layout Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Fill in the Initials Table.
- ❑ Attach the General Layout and detail drawings as references to the Sheet model.

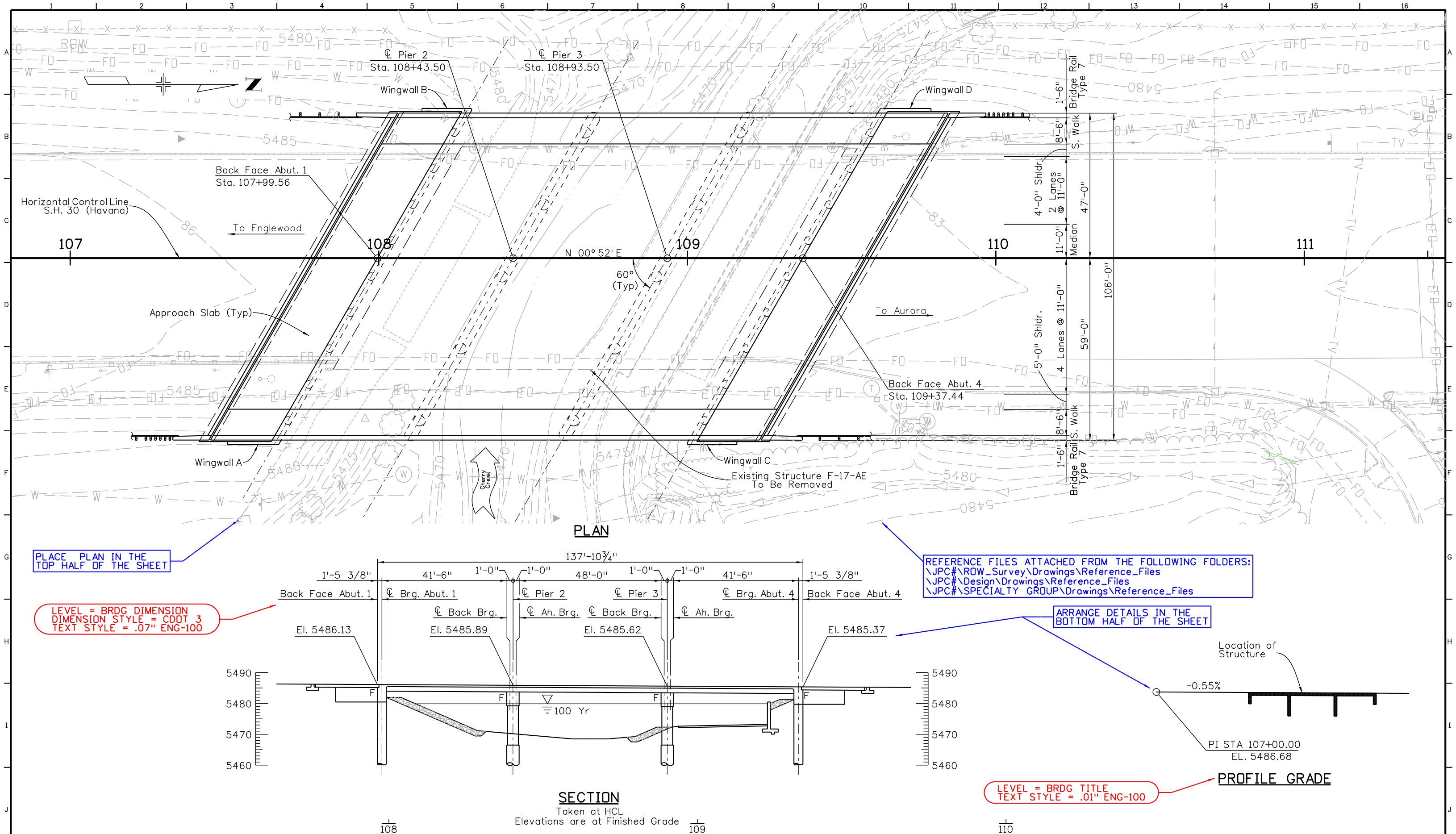
Using Saved Views of the drawings in the CDOT Default model will make it easier to attach those drawings as reference files.

- ❑ Add titles for each detail in the Sheet model.
- ❑ Dimension each detail as needed in the Sheet model.
- ❑ Indicate the flow direction of water courses.
- ❑ Label horizontal alignments in the plan view.
- ❑ Place a north arrow in an open area of the plan view.

3.2.2 Reference Files

The following file(s) should be referenced into each General Layout Sheet.

File Name	Location
JPC#BRDG_Model	JPC#\Bridge\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files
JPC#SURV_TopoContour##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files



Design			Detail			Quantities		
Designed By	DDG	11/09	Detailed By	SJF	11/09	Quantities By	DDG	12/09
Checked By	GD/AVT	12/09	Checked By	DDG	12/09	Checked By	SJF	12/09

NJohnson 4:02:00 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\017_BRG-General-Layout.dgn

Print Date: 2/10/2011	Sheet Revisions	Colorado Department of Transportation	As Constructed
File Name: 017_BRG-General-Layout.dgn	Date: / Comments / Init.	3320 South Parker Road, Aurora, CO 80014, Phone: 303-337-9519 FAX: 303-750-7452	No Revisions:
Horiz. Scale: 1" = 30' Vert. Scale: As Noted		Region 6 HL	Revised:
Staff Bridge Branch - Unit 0224 Unit Leader: MH			Void:

GENERAL LAYOUT		Project No./Code
Designer: D. Groeneman	Structure Numbers: F-17-WP	BR 030A-027
Detailer: S. Fussnecker		16726
Sheet Subset: BRIDGE	Subset Sheets: B03 of 36	Sheet Number

3.3 Caisson/Piling Layout Sheet

The Caisson/Piling Layout sheet gives location, design, and sequence of construction information for substructure foundations including piles and caissons.

The linework for the Caisson/Piling Layout and Detail drawings are produced at 1:1 scale in the Bridge Model. These are then referenced into the Sheet model for dimensioning and printing.

See Bridge Detailing Manual for additional information.

3.3.1 Caisson Layout Sheet Checklist

- ❑ Fill in the title bar information.
- ❑ Fill in the Initials Table.
- ❑ Attach the Caisson Layout and detail drawings as references to the Sheet model.

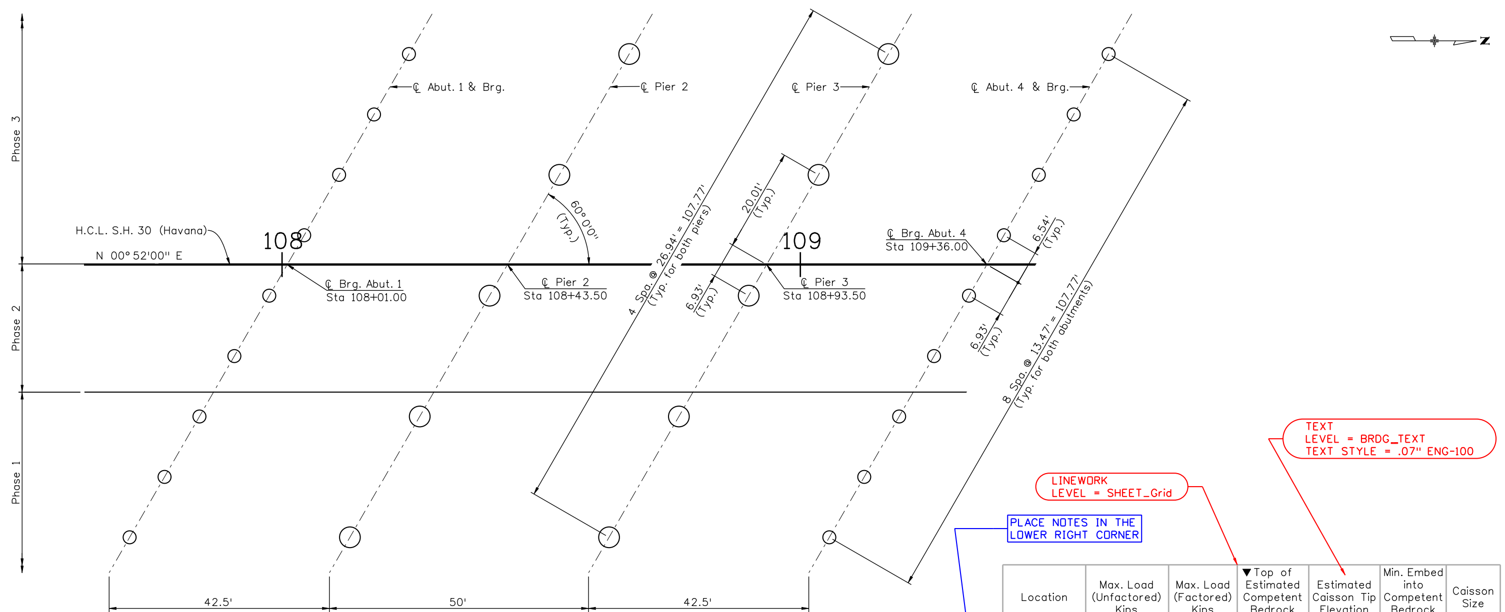
Using Saved Views of the drawings in the CDOT Default model will make it easier to attach those drawings as reference files.

- ❑ Label and dimension the details in the Sheet model.
- ❑ Place Notes and data tables in an open area of the Sheet model.

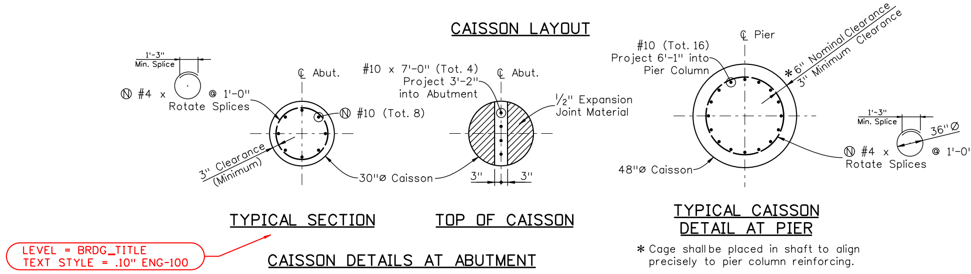
3.3.2 Reference Files

The following file(s) should be referenced into each Caisson Layout Sheet.

File Name	Location
JPC#BRDG_Model	JPC#\Bridge\Drawings\Reference_Files



Location	Max. Load (Unfactored) Kips	Max. Load (Factored) Kips	▼Top of Estimated Competent Bedrock Elevation	Estimated Caisson Tip Elevation	Min. Embed into Competent Bedrock (Ft.)	Caisson Size
Abutment 1	224.5	322.8	5431	5424	7	30"
Pier 2	396.0	636.3	5436	5429	7	48"
Pier 3	396.0	636.3	5436	5429	7	48"
Abutment 4	224.5	322.8	5441	5434	7	30"



* Cage shall be placed in shaft to align precisely to pier column reinforcing.

NOTES:

▼ The top of competent bedrock is 5' below the top of the bedrock layer. The top 5' of bedrock is not considered for load carrying capacity due to weathering.

Caisson capacities are based on a resistance factor of 0.5.

Competent bedrock elevations were estimated in accordance with generally accepted geotechnical engineering practice. The elevation at which competent bedrock exists may not become evident until caissons are drilled. On-Site observation of the drilling and bearing strata by a representative of the geotechnical engineer will be provided to determine the exact elevation at which the competent bedrock exists.

Design		Detail		Quantities	
Designed By / Checked By	INITIAL DDG / GD; DATE 11/09 / 12/09	Detailed By / Checked By	INITIAL SJF / DDG; DATE 11/09 / 12/09	Quantities By / Checked By	INITIAL DDG / SJF; DATE 12/09 / 12/09

Print Date: 8/30/2010
File Name: 018_BRG-Caisson-Layout.dgn
Horiz. Scale: Varies Vert. Scale: As Noted
Staff Bridge Branch - Unit 0224 Unit Leader: MH

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
DOT
3320 South Parker Road
Aurora, CO 80014
Phone: 303-337-9519 FAX: 303-750-7452
Region 6 HL

As Constructed
No Revisions:
Revised:
Void:

CAISSON LAYOUT
Designer: D. Groeneman | Structure Numbers: F-17-WP
Detailer: S. Fussnecker
Sheet Subset: BRIDGE | Subset Sheets: B09 of 36

Project No./Code
BR 030A-027
16726
Sheet Number

njohnson 12:36:16 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\018_BRG-Caisson-Layout.dgn

3.4 Abutment Sheet

The Abutment sheet contains plan and elevation details of the bridge abutment.

The abutment details are produced at 1:1 scale in the Bridge Model. These are then referenced into the Sheet model for dimensioning and printing.

See Bridge Detailing Manual for additional information.

3.4.1 Abutment Sheet Checklist

- ❑ Fill in the title bar information.
- ❑ Fill in the Initials Table.
- ❑ Attach the Plan and Elevation drawings as references to the Sheet model.

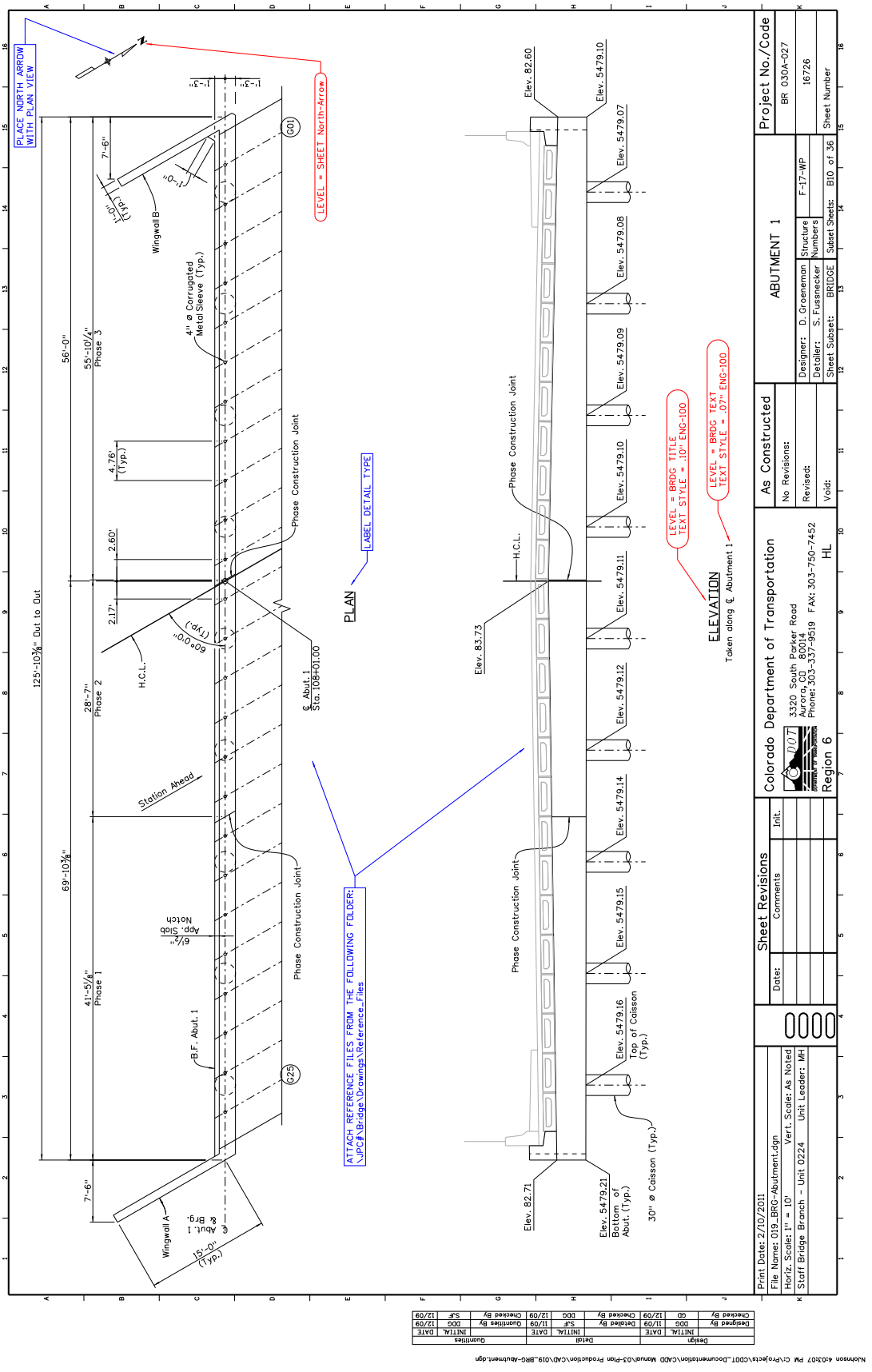
Using Saved Views of the drawings in the CDOT Default model will make it easier to attach those drawings as reference files.

- ❑ Label and dimension the details in the Sheet model.
- ❑ Place notes in an open area of the Sheet model.

3.4.2 Reference Files

The following file(s) should be referenced into each Abutment Sheet.

File Name	Location
JPC#BRDG_Model	JPC#\Bridge\Drawings\Reference_Files


PLACE NORTH ARROW WITH PLAN VIEW
LEVEL = SHEET North-Arrow
LABEL DETAIL TYPE
ATTACH REFERENCE FILES FROM THE FOLLOWING FOLDER:
\JPCP\Bridge\Drawings\Reference_Files
PLAN
ELEVATION
Taken along ℄ Abutment 1
LEVEL = BRDG TITLE
TEXT STYLE = .10" ENG-100
LEVEL = BRDG TEXT
TEXT STYLE = .07" ENG-100
125'-10⅜" Out to Out
69'-10⅜"
41'-5¼" Phase 1
28'-7" Phase 2
55'-10¼" Phase 3
56'-0"
7'-6"
Wingwall A
℄ Abut. 1 & Brg.
15'-0" (Typ.)
B.F. Abut. 1
Station Ahead
6½" App. Slab Notch
Phase Construction Joint
H.C.L.
2.17'
2.60'
4.76' (Typ.)
60°-0" (Typ.)
Wingwall B
7'-6"
1'-0" (Typ.)
1'-0"
4" ø Corrugated Metal Sleeve (Typ.)
℄ Abut. 1
Sta. 108+01.00
Elev. 82.60
Elev. 5479.10
Elev. 5479.07
Elev. 5479.08
Elev. 5479.09
Elev. 5479.10
Elev. 5479.11
Elev. 5479.12
Elev. 5479.14
Elev. 5479.15
Elev. 5479.16
Top of Caisson (Typ.)
30" ø Caisson (Typ.)
Elev. 82.71
Elev. 5479.21
Bottom of Abut. (Typ.)
Elev. 83.73
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
3320 South Parker Road
Aurora, CO 80014
Phone: 303-337-9519 FAX: 303-750-7452
Region 6
HL
As Constructed
No Revisions:
Revised:
Void:
ABUTMENT 1
Designer: D. Groeneman
Detailer: S. Fussnecker
Sheet Subset: BRIDGE
Structure Numbers
F-17-WP
16726
Subset Sheets: B10 of 36
Project No./Code
BR 0304-027
Sheet Number
Print Date: 2/10/2011
File Name: 019_BRG-Abutment.dgn
Horiz. Scale: 1" = 10'
Vert. Scale: As Noted
Staff Bridge Branch - Unit 0224
Unit Leader: MH
Design
Detail
Quantities
Detailed By
Checked By
Quantities By
INITIAL
DATE
SJF
DDG
GD
12/09
11/09
12/09

3.5 Wingwall Detail Sheet

The Wingwall Detail sheet provides a Plan, Elevation, and Section view to define the construction of the wingwall.

The plan view linework for detail drawings are produced at 1:1 scale in the Bridge Model. Elevations and sections may be produced in the individual detail sheet linework model. These are then referenced into the Sheet model (contained in the same dgn file) for dimensioning and printing.

See Bridge Detailing Manual for additional information.

3.5.1 Wingwall Detail Sheet Checklist

- ❑ Fill in the title bar information.
- ❑ Fill in the Initials Table.
- ❑ Attach the wingwall detail drawings as references to the Sheet model.

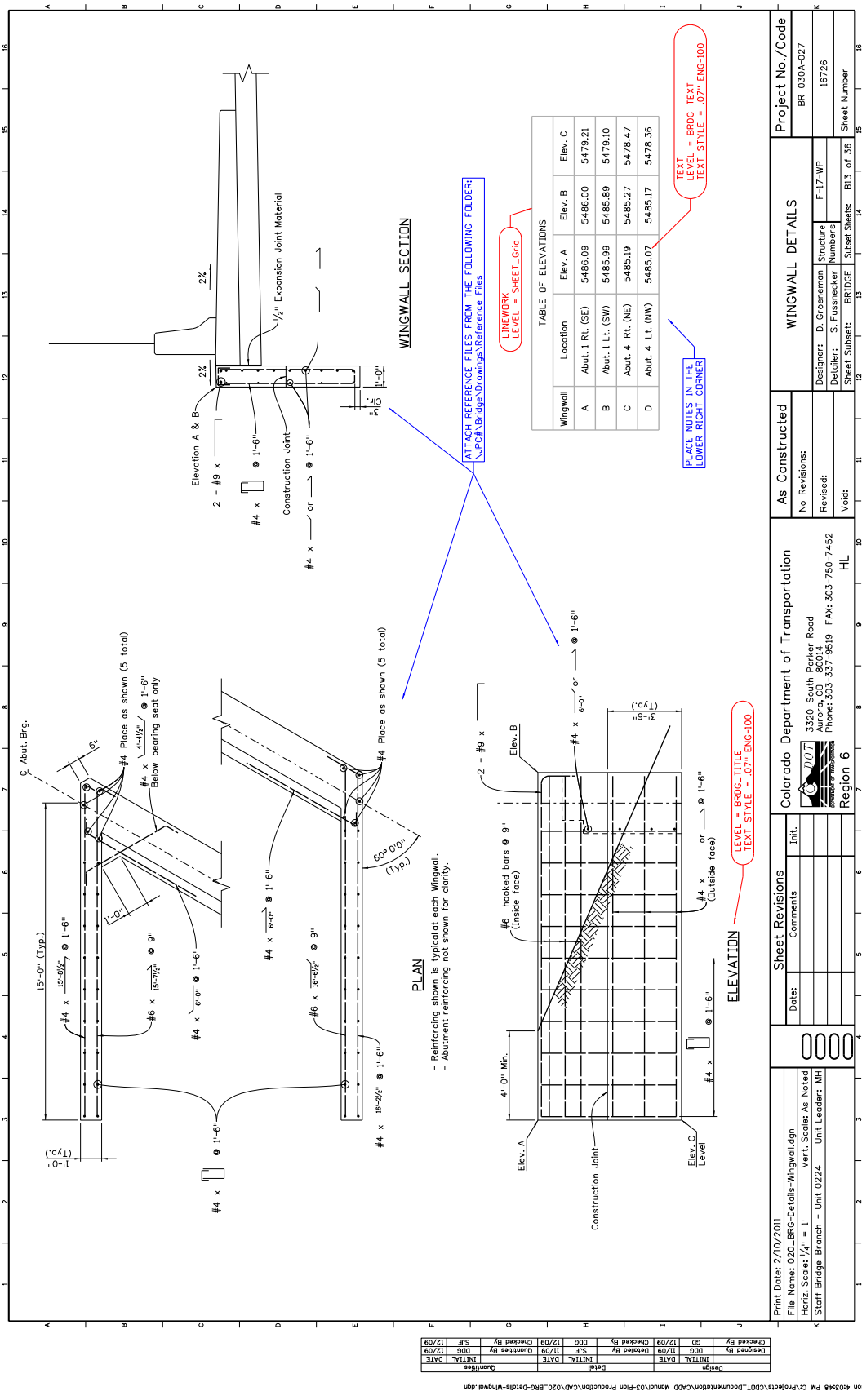
Using Saved Views of the drawings in the CDOT Default model will make it easier to attach those drawings as reference files.

- ❑ Label and dimension the details in the Sheet model.
- ❑ Place Notes and data tables in an open area of the Sheet model.

3.5.2 Reference Files

The following file(s) should be referenced into each Wingwall Detail Sheet.

File Name	Location
JPC#BRDG_Model	JPC#\Bridge\Drawings\Reference_Files


WINGWALL SECTION
PLAN
ELEVATION
TABLE OF ELEVATIONS
Wingwall | Location | Elev. A | Elev. B | Elev. C
A | Abut. 1 Rt. (SE) | 5486.09 | 5486.00 | 5479.21
B | Abut. 1 Lt. (SW) | 5485.99 | 5485.89 | 5479.10
C | Abut. 4 Rt. (NE) | 5485.19 | 5485.27 | 5478.47
D | Abut. 4 Lt. (NW) | 5485.07 | 5485.17 | 5478.36
ATTACH REFERENCE FILES FROM THE FOLLOWING FOLDER:
\\PC#\Bridge\Drawings\Reference Files
LINEWORK
LEVEL = SHEET_Grid
TEXT
LEVEL = BRDG_TEXT
TEXT STYLE = .07" ENG-100
PLACE NOTES IN THE
LOWER RIGHT CORNER
LEVEL = BRDG_TITLE
TEXT STYLE = .07" ENG-100
- Reinforcing shown is typical at each Wingwall.
- Abutment reinforcing not shown for clarity.
Colorado Department of Transportation
3320 South Parker Road
Aurora, CO 80014
Phone: 303-337-9519 FAX: 303-750-7452
Region 6
HL
As Constructed
No Revisions:
Revised:
Void:
WINGWALL DETAILS
Designer: D. Groeneman
Detailer: S. Fussnecker
Sheet Subset: BRIDGE
Structure Numbers F-17-WP
16726
Subset Sheets: B13 of 36
Sheet Number
Project No./Code
BR 0304-027
Sheet Revisions
Date: Comments Init.
Print Date: 2/10/2011
File Name: 020_BRG-Details-Wingwall.dgn
Horiz. Scale: 1/4" = 1' Vert. Scale: As Noted
Staff Bridge Branch - Unit 0224 Unit Leader: MH
Design: INITIAL GD 11/09
Detail: INITIAL DDG 11/09
Quantities: INITIAL DDG 12/09
Detailed By
Checked By
Quantities By
Checked By

3.6 Deck Elevations Sheet

The deck elevation sheet contains the data created by the Bridge Geometry program. The output from the Bridge Geometry program is typically processed through the Program File Editor or other text editor to clean up the Bridge Geometry output file.

See Bridge Detailing Manual for additional information.

3.6.1 Plan Sheet Checklist

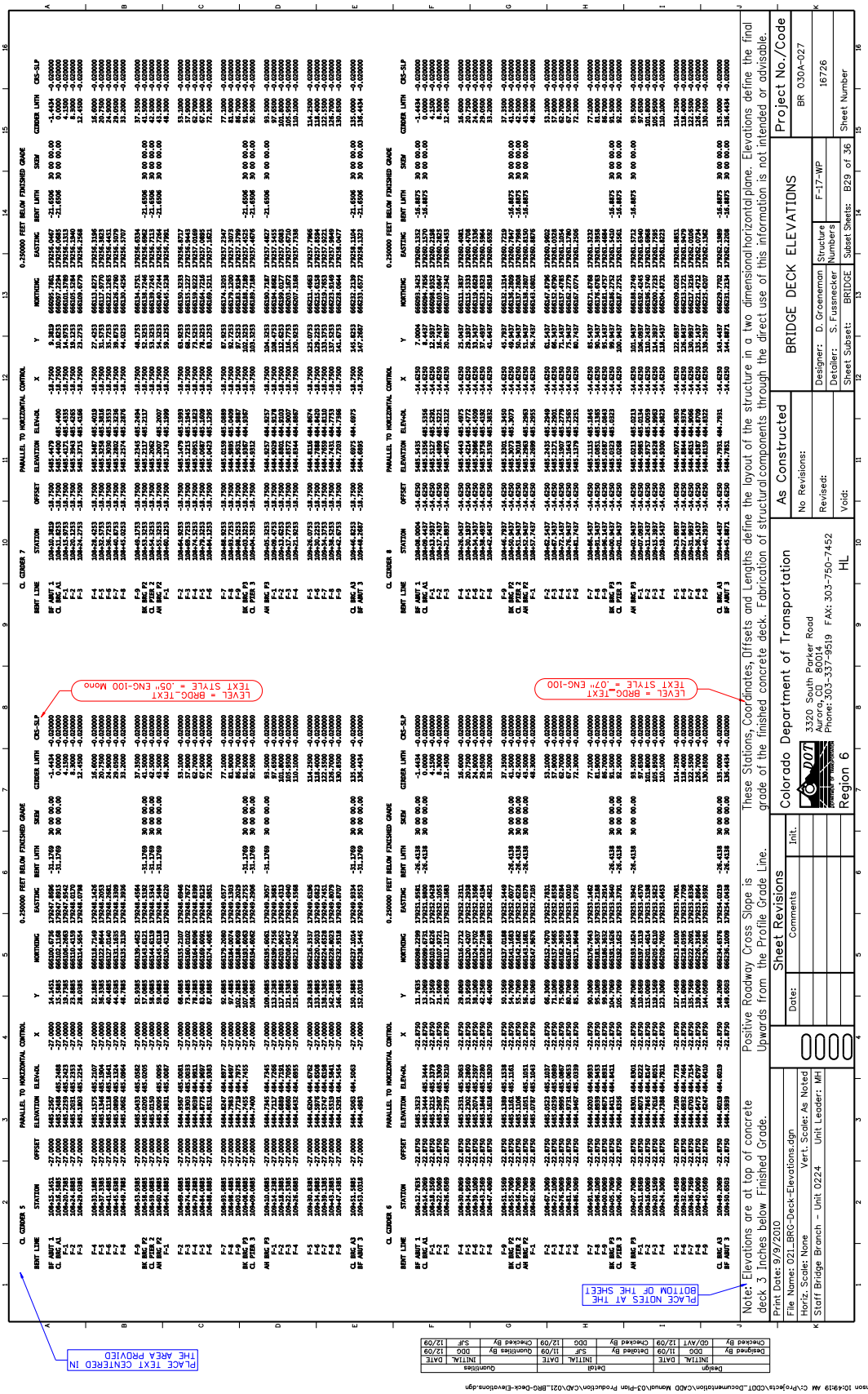
- ❑ Fill in the title bar information
- ❑ Fill in the Initials Table
- ❑ Import the modified text file

3.6.2 Importing Text

To import text into MicroStation:

- Set the desired Text Style. This can be done from the Place Text or Change Text Attributes tool settings box.
- Select File > Import > Text from the MicroStation menu bar.
- Place the text in the desired location.

All of the text in the file is placed as a single graphic element. If the text needs to be broken up into smaller parts, this can be done by either copying and editing the text file or copying and editing the text after it is placed into the drawing.


PLACE TEXT CENTERED IN THE AREA PROVIDED
LEVEL = BRDG-TEXT
TEXT STYLE = .05" ENG-100 Mono
LEVEL = BRDG-TEXT
TEXT STYLE = .07" ENG-100
PLACE NOTES AT THE BOTTOM OF THE SHEET
Note: Elevations are at top of concrete deck 3 Inches below Finished Grade.
Positive Roadway Cross Slope is Upwards from the Profile Grade Line.
These Stations, Coordinates, Offsets and Lengths define the layout of the structure in a two dimensional horizontal plane. Elevations define the final grade of the finished concrete deck. Fabrication of structural components through the direct use of this information is not intended or advisable.
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
3320 South Parker Road
Aurora, CO 80014
Phone: 303-337-9519 FAX: 303-750-7452
Region 6
HL
As Constructed
No. Revisions:
Revised:
Void:
BRIDGE DECK ELEVATIONS
Designer: D. Groeneman
Detailer: S. Fussnecker
Sheet Subset: BRIDGE
Structure Numbers
F-17-WP
Subset Sheets: B29 of 36
Project No./Code
BR 0304-027
16726
Sheet Number
Print Date: 9/9/2010
File Name: 021_BRG-Deck-Elevations.dgn
Horiz. Scale: None
Vert. Scale: As Noted
Staff Bridge Branch - Unit 0224
Unit Leader: MH
Detail
Initial
Date
Checked By
Quantities
Initial
Date
Checked By
Detail
Initial
Date
Checked By
Quantities
Initial
Date
Checked By
njohnson 10:48:19 AM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\021_BRG-Deck-Elevations.dgn

Chapter 4 - Hydraulic Sheets

4.1 Drainage Basin Plan Sheet

The Drainage Basin Plan sheet provides information on how storm water moves through the drainage system in the project area.

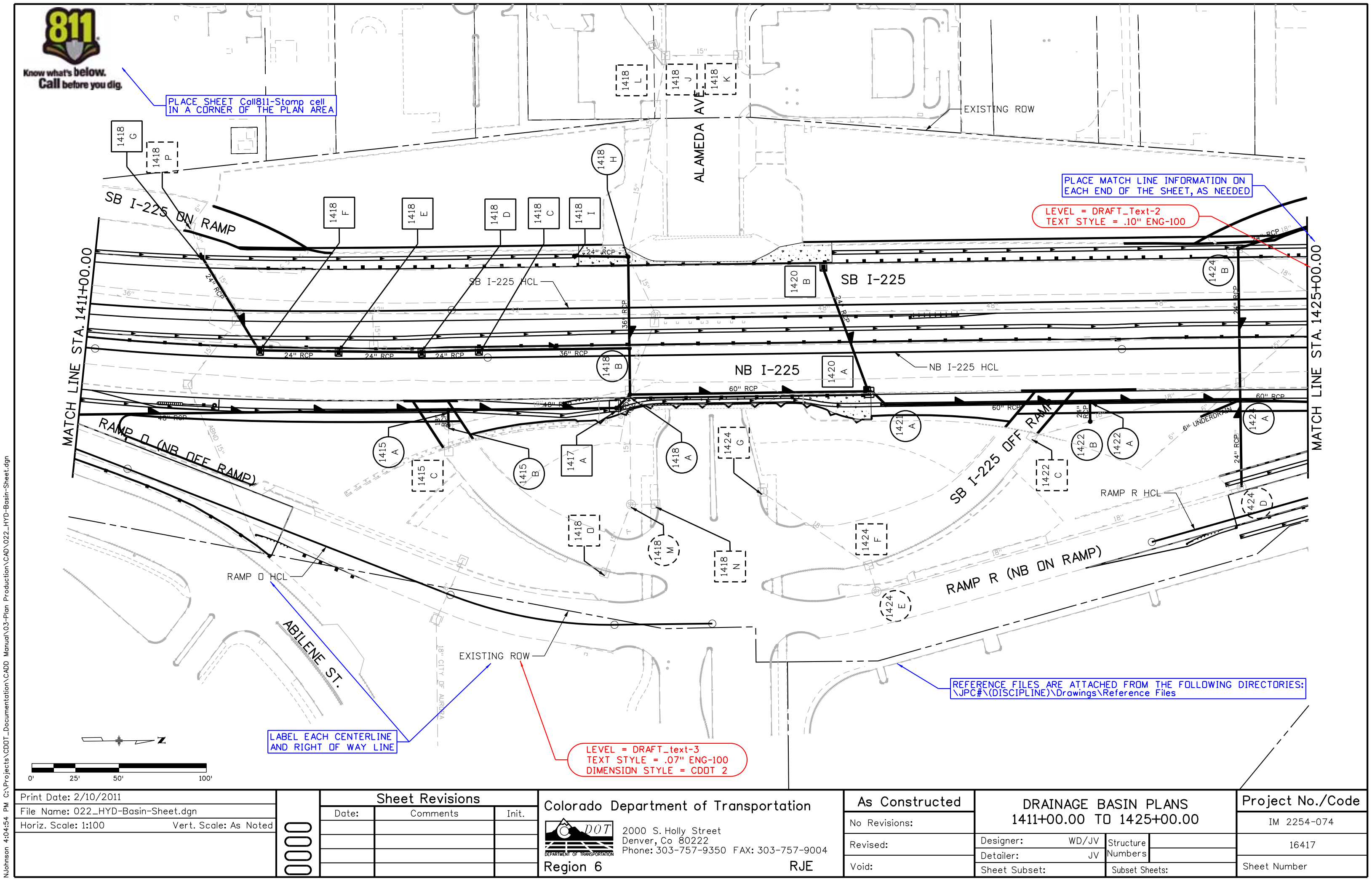
4.1.1 Drainage Basin Plan Sheet Checklist

- ❑ Fill in title block information.
- ❑ Label Matchlines with the station number as needed at each end of the sheet.
- ❑ Place the North Arrow and Bar Scale in an open area of the sheet, preferably on a corner.
- ❑ Place the Call811-Stamp cell in the upper left corner of the sheet.
- ❑ Label horizontal alignments.
- ❑ Label right-of-way lines.
- ❑ Label the streets and roads.
- ❑ Label all existing and proposed drainage structures.

4.1.2 Reference Files

The following file(s) should be referenced into each Plan Sheet.

File Name	Location
JPC#HYDR_Model	JPC#\Hydraulics\Drawings\Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


811 Know what's below. Call before you dig.
PLACE SHEET Call811-Stamp cell IN A CORNER OF THE PLAN AREA
EXISTING ROW
ALAMEDA AVE
PLACE MATCH LINE INFORMATION ON EACH END OF THE SHEET, AS NEEDED
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
SB I-225 ON RAMP
SB I-225 HCL
SB I-225
NB I-225
NB I-225 HCL
MATCH LINE STA. 1411+00.00
MATCH LINE STA. 1425+00.00
RAMP O (NB OFF RAMP)
SB I-225 OFF RAMP
RAMP R HCL
RAMP R (NB ON RAMP)
RAMP O HCL
ABILENE ST.
EXISTING ROW
REFERENCE FILES ARE ATTACHED FROM THE FOLLOWING DIRECTORIES:
\JPC#\(DISCIPLINE)\Drawings\Reference Files
LABEL EACH CENTERLINE AND RIGHT OF WAY LINE
LEVEL = DRAFT_text-3
TEXT STYLE = .07" ENG-100
DIMENSION STYLE = CDOT 2
0' 25' 50' 100'
Print Date: 2/10/2011
File Name: 022_HYD-Basin-Sheet.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Sheet Revisions
Date: Comments Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6 RJE
As Constructed
No Revisions:
Revised:
Void:
DRAINAGE BASIN PLANS
1411+00.00 TO 1425+00.00
Designer: WD/JV
Detailer: JV
Sheet Subset:
Structure Numbers
Subset Sheets:
Project No./Code
IM 2254-074
16417
Sheet Number

4.2 Geometry Plan Sheet

The geometry plan sheet contains horizontal alignment data used to layout the storm water drainage system.

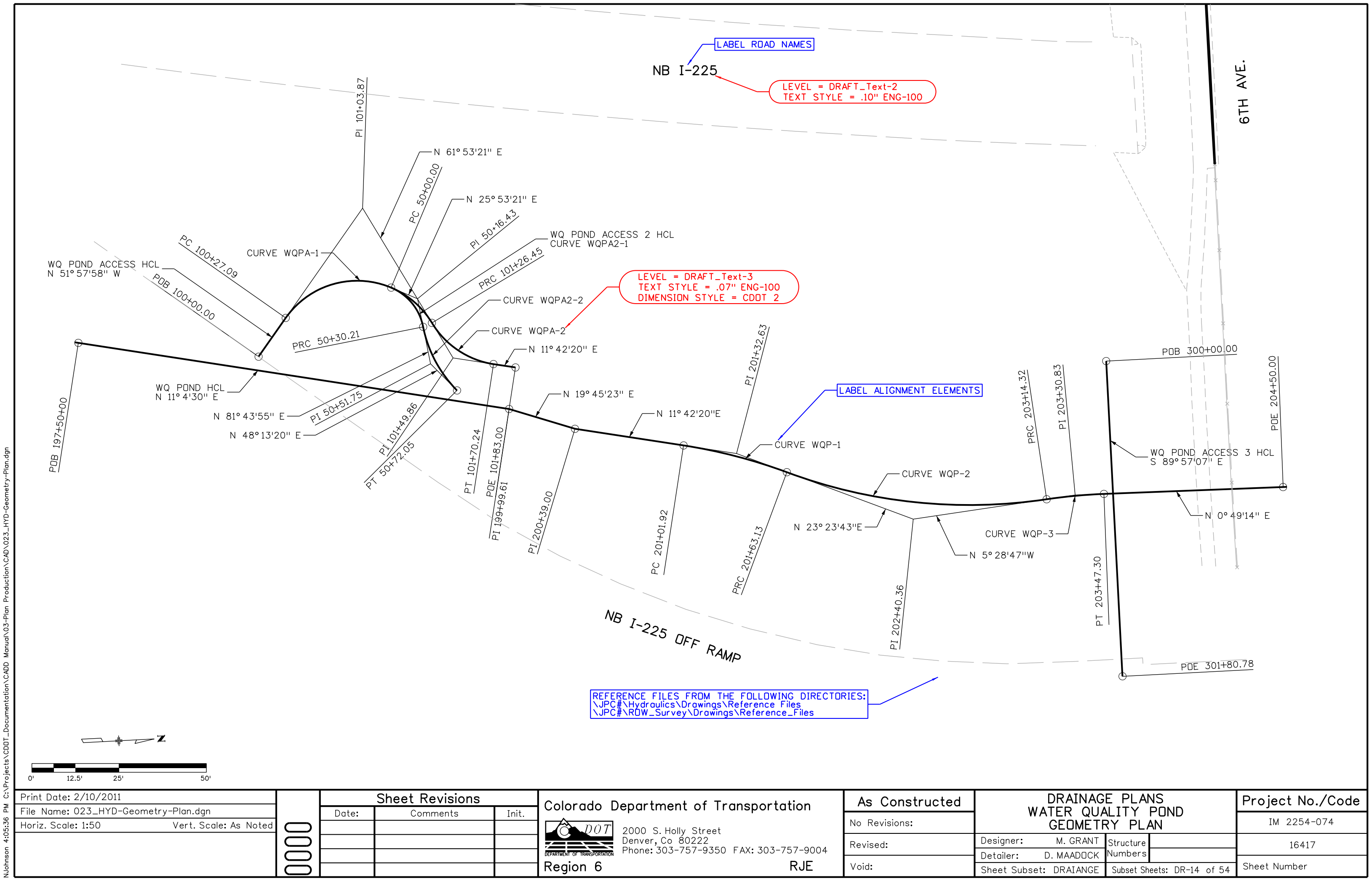
4.2.1 Geometry Plan Sheet Checklist

- ❑ Fill in title block information.
- ❑ Label Matchlines with the station number as needed at each end of the sheet.
- ❑ Place the North Arrow and Bar Scale in an open area of the sheet, preferably on a corner.
- ❑ Label the streets and roads.
- ❑ Label alignments with name, bearing, and curve number.

4.2.2 Reference Files

The following file(s) should be referenced into each Hydraulics Geometry Plan Sheet.

File Name	Location
JPC#HYDR_Model	JPC#\Hydraulics\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


LABEL ROAD NAMES
NB I-225
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
6TH AVE.
PI 101+03.87
N 61° 53'21" E
PC 50+00.00
N 25° 53'21" E
PI 50+16.43
WQ POND ACCESS 2 HCL
CURVE WQPA2-1
PRC 101+26.45
CURVE WQPA-1
PC 100+27.09
WQ POND ACCESS HCL
N 51° 57'58" W
POB 100+00.00
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
DIMENSION STYLE = CDOT 2
CURVE WQPA2-2
CURVE WQPA-2
PRC 50+30.21
N 11° 42'20" E
PI 201+32.63
POB 197+50+00
WQ POND HCL
N 11° 4'30" E
N 81° 43'55" E
PI 50+51.75
N 48° 13'20" E
PI 101+49.86
PT 50+72.05
PT 101+70.24
POE 101+83.00
PI 199+99.61
N 19° 45'23" E
PI 200+39.00
N 11° 42'20"E
PC 201+01.92
LABEL ALIGNMENT ELEMENTS
CURVE WQP-1
PRC 201+63.13
CURVE WQP-2
N 23° 23'43"E
PI 202+40.36
N 5° 28'47"W
CURVE WQP-3
PRC 203+14.32
PI 203+30.83
PT 203+47.30
POB 300+00.00
POE 204+50.00
WQ POND ACCESS 3 HCL
S 89° 57'07" E
N 0° 49'14" E
POE 301+80.78
NB I-225 OFF RAMP
REFERENCE FILES FROM THE FOLLOWING DIRECTORIES:
\JPC#\Hydraulics\Drawings\Reference_Files
\JPC#\ROW_Survey\Drawings\Reference_Files
0'
12.5'
25'
50'
N
NJohnson 4:05:36 PM C:\Projects\CDOT_Documentation\CADD_Manual\03-Plan Production\CAD\023_HYD-Geometry-Plan.dgn
Print Date: 2/10/2011
File Name: 023_HYD-Geometry-Plan.dgn
Horiz. Scale: 1:50
Vert. Scale: As Noted
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6
RJE
As Constructed
No Revisions:
Revised:
Void:
DRAINAGE PLANS
WATER QUALITY POND
GEOMETRY PLAN
Designer: M. GRANT
Detailer: D. MAADOCK
Structure Numbers
Sheet Subset: DRAIANGE
Subset Sheets: DR-14 of 54
Project No./Code
IM 2254-074
16417
Sheet Number

4.3 Coordinate Geometry Sheet

The Coordinate Geometry sheet describes the data displayed on the Geometry Plan sheet in a textual format.

The data for this sheet is generated from the InRoads Geometry report and saved as an ASCII text file. This file is imported for the sheet contents.

4.3.1 Coordinate Geometry Sheet Checklist

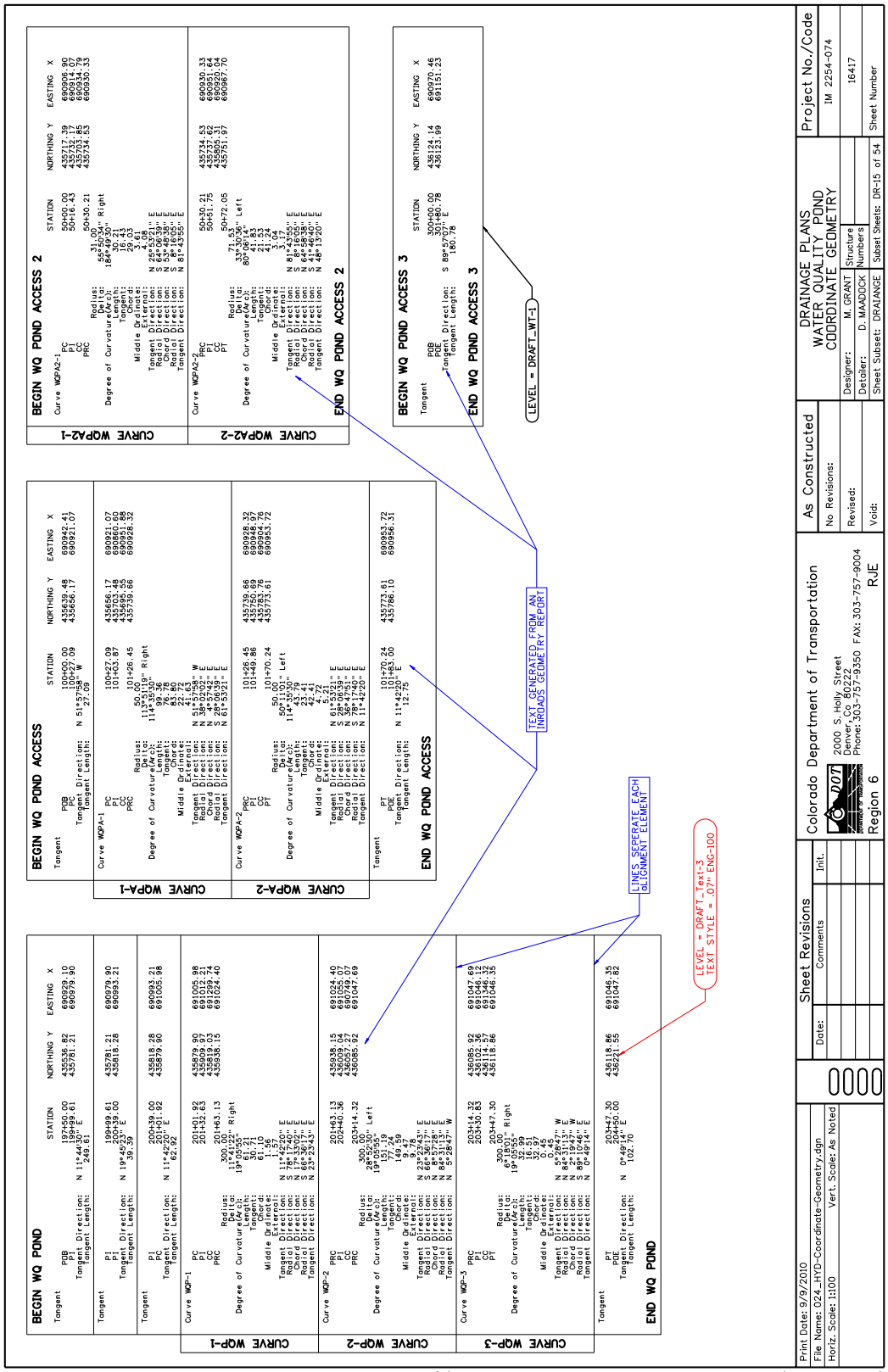
- ❑ Fill in the title bar information.
- ❑ Import the modified text file.
- ❑ Create the linework for the data tables.
- ❑ Add headings to the table for each curve.
- ❑ Move the text into the proper cell of the table.

4.3.2 Importing Text

To import text into MicroStation:

- Set the desired Text Style. This can be done from the Place Text or Change Text Attributes tool settings box.
- Select File > Import > Text from the MicroStation menu bar.

All of the text in the file is placed as a single graphic element. If the text needs to be broken up into smaller parts, this can be done by either copying and editing the text file or copying and editing the text after it is placed into the drawing.


BEGIN WQ POND ACCESS 2
CURVE WQPA2-1
CURVE WQPA2-2
END WQ POND ACCESS 2
BEGIN WQ POND ACCESS
CURVE WQPA-1
CURVE WQPA-2
END WQ POND ACCESS
BEGIN WQ POND ACCESS 3
END WQ POND ACCESS 3
BEGIN WQ POND
CURVE WQP-1
CURVE WQP-2
CURVE WQP-3
END WQ POND
TEXT GENERATED FROM AN INROADS GEOMETRY REPORT
LINES SEPERATE EACH ALIGNMENT ELEMENT
LEVEL = DRAFT_WT-1
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
DRAINAGE PLANS
WATER QUALITY POND
COORDINATE GEOMETRY
As Constructed
No Revisions:
Revised:
Void:
Designer: M. GRANT
Detailer: D. MAADDOCK
Sheet Subset: DRAINAGE
Structure Numbers
Subset Sheets: DR-15 of 54
Project No./Code
IM 2254-074
16417
Sheet Number
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
RJE
Region 6
Print Date: 9/9/2010
File Name: 024_HYD-Coordinate-Geometry.dgn
Horiz. Scale: 1:100
Vert. Scale: As Noted
njohnson 2:12:59 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\024_HYD-Coordinate-Geometry.dgn

4.4 Drainage Plan

The Hydraulic Drainage Plan sheet identifies the location of hydraulic items in a plan view.

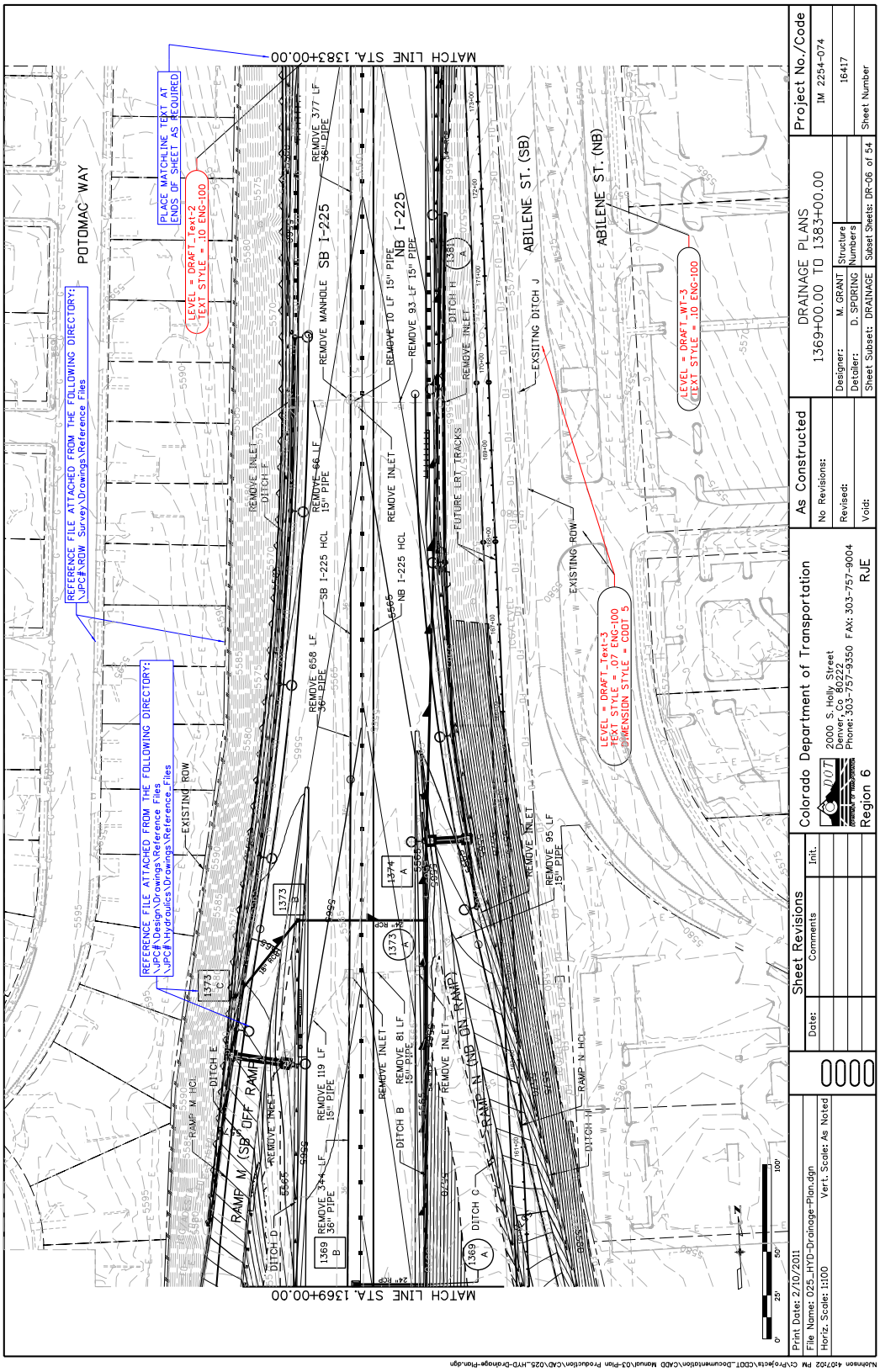
4.4.1 Drainage Plan Sheet Checklist

- ❑ Fill in the required title block data.
- ❑ Place the north arrow and bar scale in an open area, preferably in a corner.
- ❑ Place and annotate matchlines at each end of the sheet as needed.
- ❑ Place Sheet_Call811-Stamp cell in the upper left corner of the plan.
- ❑ Label streets and roads.
- ❑ Label horizontal alignments displayed.
- ❑ Add construction/removal notes for hydraulic items as needed.

4.4.2 Reference Files

The following file(s) should be referenced into each Hydraulic Drainage Plan Sheet.

File Name	Location
JPC#HYDR_Model	JPC#\Hydraulics\ Drawings\Reference_ Files
JPC#DES_Model	JPC#\Design\Drawings\R eference_Files
JPC#SURV_Topo# #Scale##	JPC#\ROW_Survey\ Drawings\Reference_ Files
JPC#SURV_Topo Contour##Scale##	JPC#\ROW_Survey\ Drawings\Reference_ Files


MATCH LINE STA. 1383+00.00
MATCH LINE STA. 1369+00.00
POTOMAC WAY
ABILENE ST. (SB)
ABILENE ST. (NB)
SB I-225
NB I-225
EXISTING ROW
EXISTING ROW
RAMP M (SB OFF RAMP)
RAMP N (NB ON RAMP)
REMOVE 377 LF 36" PIPE
REMOVE MANHOLE
REMOVE 10 LF 15" PIPE
REMOVE 93 LF 15" PIPE
REMOVE INLET
REMOVE 658 LF 36" PIPE
REMOVE 66 LF 15" PIPE
REMOVE INLET
REMOVE 95 LF 15" PIPE
REMOVE INLET
REMOVE 119 LF 15" PIPE
REMOVE INLET
REMOVE 344 LF 36" PIPE
REMOVE 81 LF 15" PIPE
REMOVE INLET
REMOVE INLET
EXSIITNG DITCH J
FUTURE LRT TRACKS
DITCH H
DITCH I
DITCH E
DITCH F
DITCH B
DITCH C
DITCH D
RAMP M HCL
RAMP N HCL
SB I-225 HCL
NB I-225 HCL
REFERENCE FILE ATTACHED FROM THE FOLLOWING DIRECTORY:
\\PC#\ROW Survey\Drawings\Reference Files
REFERENCE FILE ATTACHED FROM THE FOLLOWING DIRECTORY:
\\PC#\Design\Drawings\Reference Files
\\PC#\Hydraulics\Drawings\Reference_Files
PLACE MATCHLINE TEXT AT ENDS OF SHEET AS REQUIRED
LEVEL = DRAFT_Text-2
TEXT STYLE = .10 ENG-100
LEVEL = DRAFT_WT-3
TEXT STYLE = .10 ENG-100
LEVEL = DRAFT_Text-3
TEXT STYLE = .07 ENG-100
DIMENSION STYLE = CDOT 5
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
RJE
Region 6
As Constructed
No Revisions:
Revised:
Void:
DRAINAGE PLANS
1369+00.00 TO 1383+00.00
Designer: M. GRANT
Detailer: D. SPURING
Sheet Subset: DRAINAGE
Project No./Code
IM 2254-074
Structure Numbers
16417
Subset Sheets: DR-06 of 54
Sheet Number
Print Date: 2/10/2011
File Name: 025_HYD-Drainage-Plan.dgn
Horiz. Scale: 1:100
Vert. Scale: As Noted
N:\ohnson 4:07:02 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\025_HYD-Drainage-Plan.dgn

4.5 Profile Sheet

The Hydraulics Profile sheet contains a longitudinal section (a profile) of the storm water system.

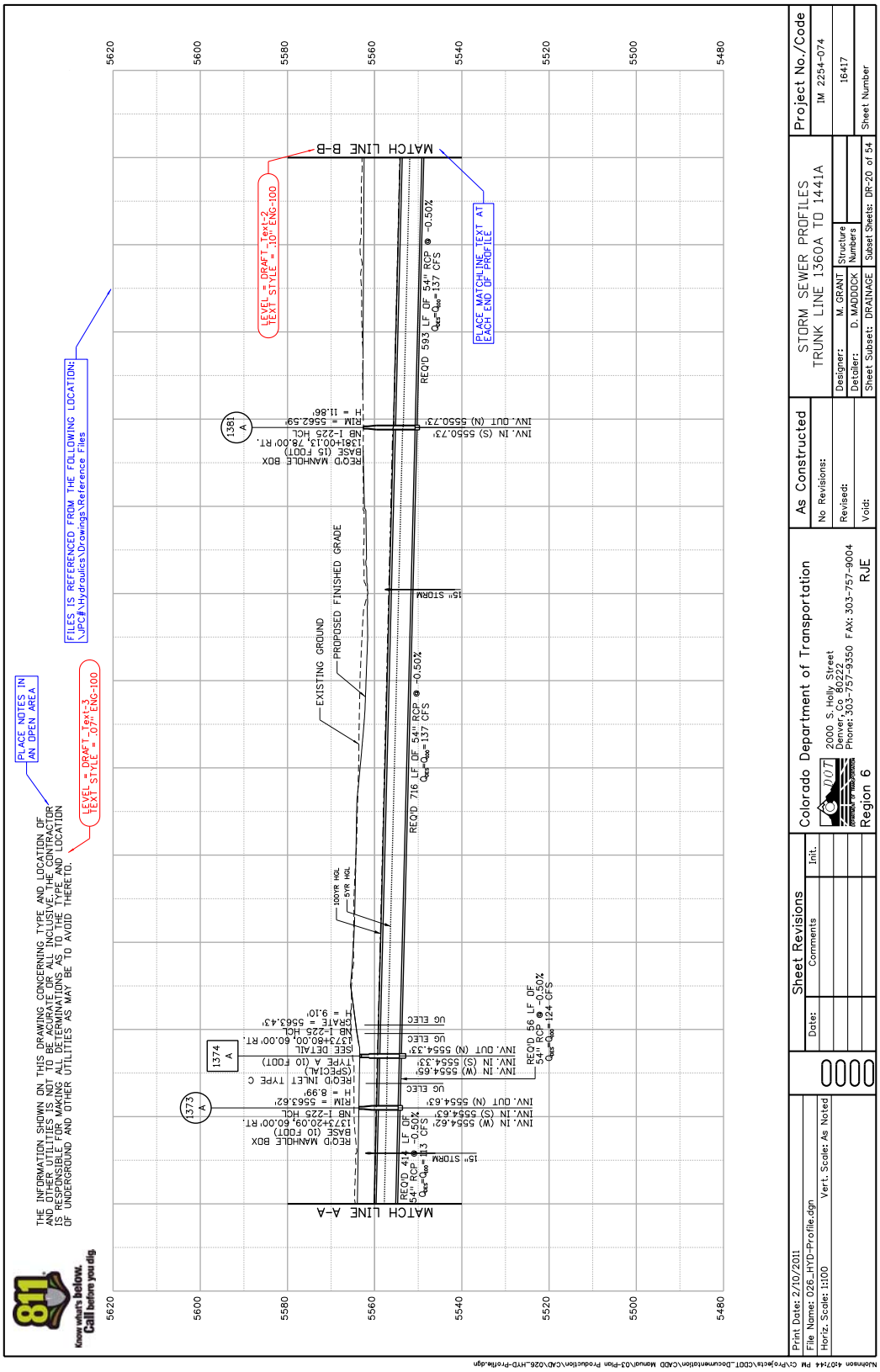
4.5.1 Profile Sheet Checklist

- ❑ Label each drainage structure shown in the profile. For linear items (like pipes and box culverts) include the Type, Length, Grade, and Rate of Flow. For vertical features (like manholes and inlets) include Type, Location, Rim/Grate elevation, and Height.
- ❑ Label the hydraulic grade line(s) shown.
- ❑ Label existing and proposed ground lines.
- ❑ Draw and label matchlines at each end of the profile as needed.
- ❑ Label crossing utilities and drainage structures.

4.5.2 Reference Files

The following file(s) should be referenced into each Hydraulics Profile Sheet.

File Name	Location
JPC#HYDR_Prof	JPC#\Hydraulics\Drawings\ Reference_Files


THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF AND OTHER UTILITIES IS NOT TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE TO AVOID THERETO.
Know what's below. Call before you dig
PLACE NOTES IN AN OPEN AREA
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
FILES IS REFERENCED FROM THE FOLLOWING LOCATION:
\JPC#\Hydraulics\Drawings\Reference Files
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
PLACE MATCHLINE TEXT AT EACH END OF PROFILE
MATCH LINE A-A
MATCH LINE B-B
EXISTING GROUND
PROPOSED FINISHED GRADE
100YR HGL
5YR HGL
15" STORM
UG ELEC
REQ'D 716 LF OF 54" RCP @ -0.50%
Q100=137 CFS
REQ'D 593 LF OF 54" RCP @ -0.50%
Q100=137 CFS
REQ'D 414 LF OF 54" RCP @ -0.50%
Q100=113 CFS
REQ'D 56 LF OF 54" RCP @ -0.50%
Q100=124 CFS
REQ'D MANHOLE BOX
BASE (10 FOOT)
1373+20.09, 60.00' RT.
NB 1-225 HCI
RIM = 5563.62'
H = 8.99'
INV. IN (W) 5554.62'
INV. IN (S) 5554.63'
INV. OUT (N) 5554.63'
REQ'D INLET TYPE C
(SPECIAL)
TYPE A (10 FOOT)
SEE DETAIL
1373+80.00, 60.00' RT.
NB 1-225 HCI
GRATE = 5563.43'
H = 9.10'
REQ'D MANHOLE BOX
BASE (15 FOOT)
1381+00.13, 78.00' RT.
NB 1-225 HCI
RIM = 5562.59'
H = 11.86'
INV. IN (S) 5550.73'
INV. OUT (N) 5550.73'
5620
5600
5580
5560
5540
5520
5500
5480
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6
RJE
As Constructed
No Revisions:
Revised:
Void:
STORM SEWER PROFILES
TRUNK LINE 1360A TD 1441A
Designer: M. GRANT
Detailer: D. MADDOCK
Sheet Subset: DRAINAGE
Structure Numbers
Subset Sheets: DR-20 of 54
Project No./Code
IM 2254-074
16417
Sheet Number
Print Date: 2/10/2011
File Name: 026_HYD-Profile.dgn
Horiz. Scale: 1:100
Vert. Scale: As Noted
0000
N:\Johnson 4:07:44 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\026_HYD-Profile.dgn

4.6 Structure Quantities Sheet

The Structure Quantities contains a listing of the type, location, and amount of material used on the project in a tabular form such as inlets, manholes and other drainage structures. Quantities of pipe will also be listed.

4.6.1 Structure Quantities Sheet Checklist

- ❑ Fill out the sheet border information
- ❑ Attach project specific Tabulation of Drainage Excel worksheet.

4.6.2 Linking Microsoft Excel Files into MicroStation

The Hydraulics Structure Quantities drawing uses an Excel document to display the project structure quantities.

MicroStation Placement Methods:

Linked Microsoft Office Excel Worksheet (Preferred) - Requires a saved Excel file and can be edited by opening the document in Excel or double clicking the document in MicroStation. This method will automatically update MicroStation when opened or after editing.

Embedded Microsoft Office Excel Worksheet- The document is placed directly into MicroStation. Double click the document in MicroStation to edit in Excel as a temporary document.

Picture of Microsoft Office Excel Worksheet - Static graphic of the document. This method can not be edited or updated.

After creating the drawing file, link the Excel worksheet by taking the following steps:

- Highlight the area of the document to be linked and copy it to the clipboard
- In MicroStation select Edit>Paste Special
- In the “Paste Special” dialog box choose “Linked Microsoft Office Excel Worksheet”
- In the “Paste OLE” dialog box. Change the “Paste as” to “Link”, the “Method” to “By Corners”. Then tentative and select the guide line in the drawing file to match the .07” ENG-100 Text Style.

The link will display with hatching which indicates that the Excel file containing the linked data is currently open. If you close out of your Excel file, the hatching will go away.

4.6.3 Updating Linking Microsoft Excel Files

Linked Excel documents update automatically when the MicroStation file is opened or when you close out of Excel after editing.

For more information on linking Microsoft Excel files review this workflow, CDOT Linking Excel Documents to MicroStation

STRUCTURE QUANTITIES

STRUCTURE NUMBER	ALIGNMENT NAME FOR STATION-OFFSET CALL OUT	STATION-OFFSET	INLET TYPE C H	INLET TYPE C (SPECIAL) TYPE A	INLET TYPE C (SPECIAL) TYPE B	INLET TYPE C (SPECIAL) TYPE C	INLET VANE GRATE (DOUBLE) H	INLET VANE GRATE (DOUBLE) H	INLET VANE GRATE (DOUBLE) H	INLET VANE GRATE (DOUBLE) SPECIAL	INLET H	INLET H	WQ POND OUTLET STRUCTURE	MANHOLE BOX BASE H	MANHOLE BOX BASE H	MANHOLE BOX BASE H	MANHOLE BOX BASE H	HEIGHT (FT)	INLET ELEVATIONS	INLET ELEVATIONS	LINE FROM UPPER	LINE TO LOWER	PIPE INVERT ELEVATIONS	PIPE INVERT ELEVATIONS	GRADE (%)	◒ REINFORCED CONCRETE PIPE (CIP) 15 INCH	18 INCH	24 INCH	36 INCH	48 INCH	54 INCH	60 INCH	REINFORCED CONCRETE END SECTIONS EA	CONCRETE CLASS B	REINFORCING STEEL	RIPRAP 12"	RIPRAP GEOTEXTILE EROSION CONTROL (CLASS 1)	CONCRETE SLOPE AND DITCH PAVING	⁘ STRUCTURE EXCAVATION	⁘ BED COURSE MATERIAL	⁘ STRUCTURE BACKFILL (CLASS 1)	⁘ STRUCTURE BACKFILL (CLASS 2)	◩ EMBANKMENT MATERIAL	⁘ EXCESS STRUCURE EXCAVATION	REMARKS
			5	10	10	10	5	10	20	10	5	10	EA	5	10	15	20	H	RIM	INVERT			UPPER	LOWER		LF	LF	LF	LF	LF	LF	LF	24"	CY	LBS	CY	SY	CY	CY	CY	CY	CY	CY	CY	
1360A	NB I-225	1360+31.44, 1.62' RT.													1			5.84	5577.20	5566.43																									
1361A	NB I-225	1360+11.20, 75.28' RT.														1		10.74	5575.29	5564.55	1360A	1361A	5566.43	5564.55	1.74					104									277	8	38	68	93	184	
1364A	NB I-225	1364+30.00, 52.97' RT.		1														6.66	5565.72	5559.06	1361A	1364A	5564.55	5509.06	1.74					312									875	23	113	203	324	551	
1366A	NB I-225	1366+12.46, 59.91' RT.													1			8.00	5566.16	5558.16	1364A	1366A	5559.06	5558.16	0.50						178								455	14	74	130	86	370	
1369A	NB I-225	1369+02.62, 60.00' RT.													1			8.19	5564.91	5556.72	1366A	1369A	5558.16	5556.72	0.50						286								785	22	119	209	191	594	
1373A	NB I-225	1373+20.09, 60.00' RT.													1			8.99	5563.52	5554.63	1369A	1373A	5556.72	5554.63	0.50						414								1201	32	173	302	341	860	
1374A	NB I-225	1373+80.00, 60.00' RT.		1														9.10	5563.43	5554.33	1373A	1374A	5554.63	5554.33	0.50						56								170	4	23	41	54	116	
1381A	NB I-225	1381+00.13, 78.00' RT.														1		11.86	5562.59	5550.73	1374A	1381A	5554.33	5550.73	0.50						716								2502	56	299	522	1014	1488	
1387A	NB I-225	1386+93.11, 33.19' RT.														1		13.30	5561.36	5547.76	1381A	1387A	5550.73	5547.76	0.50						593								2460	46	248	432	1228	1232	
	NB I-225	1391+04 TO 1391+78, RT.																																		104	207								SEE RIPRAP RUNDOWN DETAIL
1392A	NB I-225	1392+40.00, 75.10' RT.		1														8.67	5553.73	5545.06	1387A	1392A	5547.76	5545.06	0.50						536								1956	42	224	391	842	1114	
1395A	NB I-225	1395+38.95, 54.06' RT.														1		10.54	5554.15	5543.61	1392A	1395A	5545.06	5443.61	0.50						288								925	22	120	210	327	599	
1397A	NB I-225	1397+03.55, 54.06' RT.													1			9.27	5552.37	5542.80	1395A	1397A	5543.61	5542.80	0.50						158								522	12	66	115	194	328	
1400A	NB I-225	1400+00.00, 60.00' RT.						1										8.30	5545.38	5537.08	1397A	1400A	5542.80	5537.12	1.93					295									810	21	107	192	290	521	
1401A	NB I-225	1401+50.00, 60.00' RT.						1										7.96	5541.29	5533.33	1400A	1401A	5537.08	5533.39	2.50					148									379	11	53	96	117	261	
1402A	NB I-225	1402+85.00, 60.00' RT.						1										7.74	5537.59	5529.95	1401A	1402A	5533.33	5530.01	2.50					132									326	10	48	86	93	233	
1403A	NB I-225	1403+05.00, 60.00' RT.						1										7.80	5537.26	5529.45	1402A	1403A	5529.95	5529.51	2.50					18									44	1	7	12	12	32	
1404A	NB I-225	1403+68.65, 60.00' RT.						1										8.00	5535.86	5527.86	1403A	1404A	5529.45	5527.92	2.50					62									154	4	22	40	45	109	
1407A	RAMP O	203+23.01, 8.50' RT.													1			9.23	5528.80	5519.57	1404A	1407A	5527.86	5519.57	2.50					332									893	24	120	216	307	586	
1409A	RAMP O	205+40.95, 8.50' RT.														1		12.89	5524.59	5512.00	1407A	1409A	5519.57	5512.00	3.47					214									727	16	77	139	350	378	
1410A	RAMP O	206+12.55, 8.50' RT.														1		13.46	5523.17	5509.71	1409A	1410A	5512.00	5509.71	3.20					68									274	5	25	44	154	120	
1415A	NB I-225	1415+14.93, 59.57' RT.													1			8.00	5500.33	5492.03	1410A	1415A	5509.71	5492.03	3.19					558									1848	40	202	364	863	985	
	NB I-225	1417+10 TO 1419+99, 49' RT.																																				67							
	SB I-225	1416+65 TO 1419+55, 49' LT.																																				66							
1417A	NB I-225	1417+08.00, 59.80' RT.			1													8.00	5494.47	5486.47	1415A	1417A	5492.03	5486.47	2.88					186									468	13	67	121	139	328	
1418A	NB I-225	1417+23.30, 44.50' RT.													1			9.90	5495.75	5485.85	1417A	1418A	5486.47	5485.85	2.88							13							42	1	6	11	11	31	
1420A	NB I-225	1419+95.00, 48.00' RT.								1								9.90	5492.24	5482.34	1418A	1420A	5485.85	5482.37	1.28							268							951	22	128	217	304	648	
1421A	NB I-225	1420+15.96, 60.00' RT.													1			8.09	5490.21	5482.12	1420A	1421A	5482.34	5482.12	0.50							18							59	2	9	15	15	44	
1422A	NB I-225	1422+50.00, 60.00' RT.													1			8.84	5488.94	5480.10	1421A	1422A	5482.12	5480.10	0.86							230							705	19	110	186	150	556	
1424A	NB I-225	1424+22.51, 59.59' RT.													1			9.46	5488.37	5478.61	1422A	1424A	5480.10	5478.61	0.86							168							554	14	80	136	148	406	
1427A	NB I-225	1427+20.29, 68.40' RT.				1												9.53	5485.57	5476.04	1424A	1427A	5478.61	5476.04	0.86							294							1005	25	140	238	294	711	
1428A	NB I-225	1428+10.34, 24.81' LT.														1		12.41	5487.33	5474.92	1427A	1428A	5476.04	5474.92	0.86							126							491	11	60	102	187	305	
1431A	NB I-225	1431+16.11, 30.09' LT.														1		12.77	5485.35	5472.28	1428A	1431A	5474.92	5472.28	0.86							302							1344	25	144	245	614	730	
1432A	NB I-225	1432+28.74, 32.03' LT.														1		12.94	5484.24	5471.31	1431A	1432A	5472.28	5471.31	0.86							110							499	9	52	89	233	266	
1433A	NB I-225	1433+10.58, 33.44' LT.														1		13.06	5483.56	5470.60	1432A	1433A	5471.31	5470.60	0.86							78							358	7	37	63	169	189	
1434A	NB I-225	1433+95.56, 34.91' LT.														1		13.18	5483.35	5469.86	1433A	1434A	5470.60	5469.86	0.86							82							380	7	39	66	182	198	
1435A	NB I-225	1434+80.81, 36.38' LT.														1		13.31	5482.44	5469.13	1434A	1435A	5469.86	5469.13	0.86							82							383	7	39	66	185	198	
1436A	NB I-225	1435+68.59, 37.90' LT.														1		13.44	5481.81	5468.37	1435A	1436A	5469.13	5468.37	0.86							84							395	7	40	68	192	203	
1438A	NB I-225	1438+15.15, 42.15' LT.														1		13.80	5480.34	5566.24	1436A	1438A	5468.37	5466.24	0.86							244							1167	20	116	198	577	590	
1439A	NB I-225	1438+80.97, 43.29' LT.														1		13.87	5479.54	5465.67	1438A	1439A	5466.24	5465.67	0.86							62							302	5	30	50	152	150	
1440A	NB I-225	1439+86.71, 56.50' LT.															1	16.62	5481.33	5464.41	1439A	1440A	5465.67	5464.41	0.86							142							757	12	68	115	414	343	
1440F	NB I-225	1439+96.25, 65.50' RT.													1			8.64	5472.94	5464.30	1440A	1440F	5464.41	5464.30	0.86							10							45	1	5	8	20	24	
1441A	NB I-225	1140+65.11, 63.25' RT.														1		10.12	5473.91	5463.79	1440F	1441A	5464.30	5463.79	0.74																				
1360C	SB I-225	1360+06.70, 15.07' RT.						1										8.95	5576.49	5567.78																									
1369H	SB I-225	1364+43.00, 12.00' RT.					1											3.46	5568.53	5565.07																									
1369G	SB I-225	1365+43.00, 12.24' RT.					1											3.64	5567.58	5564.04	1369H	1369G	5565.07	5564.24	0.85		98												72	4	12	30	15	57	
1369F	SB I-225	1366+43.00, 14.22' RT.					1											4.45	5567.14	5562.69	1369G	1369F	5564.04	5563.22	0.85		98												80	4	12	30	24	57	
1369E	SB I-225	1367+43.00, 14.36' RT.						1										5.33	5566.99	5561.66	1369F	1369E	5562.69	5561.86	0.85			98											108	5	16	36	33	75	
1369D	SB I-225	1368+23.00, 14.11' RT.						1										6.08	5566.88	5560.80	1369E	1369D	5561.66	5561.00	0.85			78											99	4	13	29	39	60	
1369C	SB I-225	1368+43.00, 14.04' RT.						1										6.40	5566.86	5560.46	1369D	1369C	5560.80	5560.66	0.85			18											25	1	3	7	11	14	
1369B	SB I-225	1369+08.00, 13.84' RT.						1										7.04	5566.76	5559.72	1369C	1369B	5560.46	5559.92	0.85			64											94	3	10	24	45	49	
																					1369B	1369A	5559.72	5559.09	0.85			74											122	4	12	27	66	57	
		SUBTOTAL SHEET 1	0	3	1	1	3	10	0	1	0	0	0	0	12	16	1									0	196	332	0	2429	3225	2313	0	0	0	104	207	133	28088	645	3486	5989	11144	16950	

◒ RUBBER GASKETS SHALL BE PROVIDED ON ALL PIPE JOINTS.
⁘ FOR INFORMATION ONLY, COST OF THESE ITEMS WILL NOT BE MEASURED AND FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.
◩ CARRIED FORWARD TO SUMMARY OF EARTHWORK.

LEVEL = DRAFT_MISC_1

LINKED EXCEL FILE FROM THE FOLLOWING DIRECTORY:
\JPC#\Hydraulics\Drawings\Tabs

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" eng-100

PLACE NOTES BELOW THE SPREADSHEET

NJohnson 4:08:25 PM C:\Projects\CDOT_Documentation\CAD\CADD Manual\03-Plan Production\CAD\027_HYD-Structure-Quantities.dgn

Print Date: 2/10/2011 File Name: 027_HYD-Structure-Quantities.dgn Horiz. Scale: 1:1 Vert. Scale: As Noted	Sheet Revisions Date: / Comments / Init.	Colorado Department of Transportation 2000 S. Holly Street Denver, Co 80222 Phone: 303-757-9350 FAX: 303-757-9004 Region 6 RJE	As Constructed No Revisions: Revised: Void:	STRUCTURE QUANTITIES SHEET 2 OF 4 Designer: M. GRANT Detailer: J. VESTAD Sheet Subset: DRAINAGE	Structure Numbers Subset Sheets: DR-02 of 54	Project No./Code IM 2254-074 16417 Sheet Number

Chapter 5 - Landscape and Environmental Sheets

5.1 Project Disturbance Area Map Sheet

Project Area Disturbance Area Map Sheet identifies areas of the project construction site where contamination of storm water can occur.

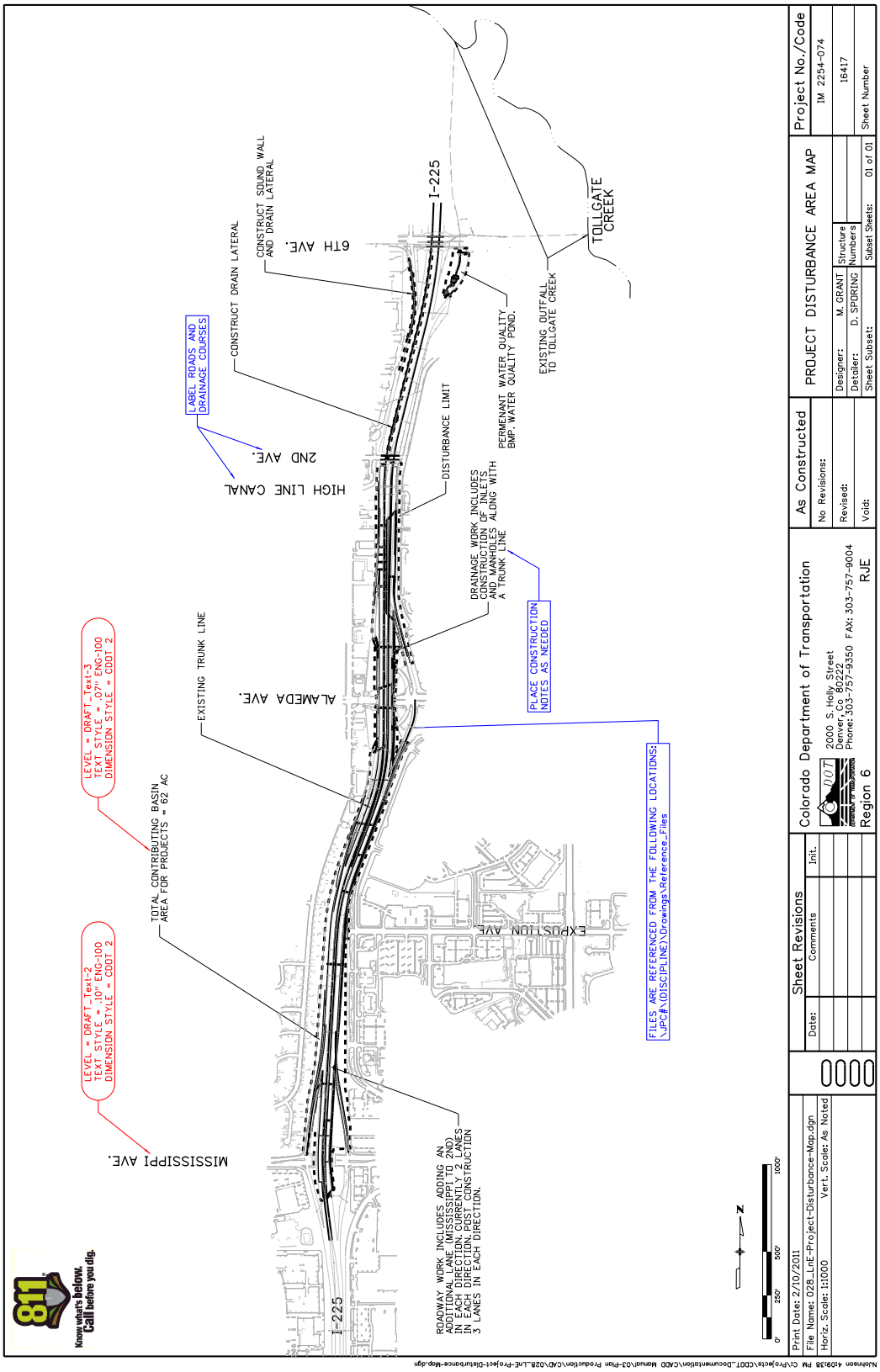
5.1.1 Project Disturbance Area Map Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place the North Arrow and Bar scale in an open area, preferably in a corner.
- ❑ Label the streets and roads in the project area.
- ❑ Label named drainage courses.
- ❑ Identify disturbance areas with a note describing the type of construction that will occur in that area.
- ❑ Identify the outflows of drainage systems.

5.1.2 Reference Files

The following file(s) should be referenced into each Project Disturbance Area Map Sheet.

File Name	Location
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#HYDR_Model	JPC#\Hydraulics\Drawings\Reference_Files
JPC#LAND_ENVI_Model	JPC#\Landscape_Environmental\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


I-225
6TH AVE.
CONSTRUCT SOUND WALL AND DRAIN LATERAL
CONSTRUCT DRAIN LATERAL
LABEL ROADS AND DRAINAGE COURSES
2ND AVE.
HIGH LINE CANAL
DISTURBANCE LIMIT
PERMENANT WATER QUALITY BMP, WATER QUALITY POND.
EXISTING OUTFALL TO TOLLGATE CREEK
TOLLGATE CREEK
DRAINAGE WORK INCLUDES CONSTRUCTION OF INLETS AND MANHOLES ALONG WITH A TRUNK LINE
PLACE CONSTRUCTION NOTES AS NEEDED
EXISTING TRUNK LINE
ALAMEDA AVE.
EXPOSITION AVE.
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\\PC#\(DISCIPLINE)\Drawings\Reference_Files
TOTAL CONTRIBUTING BASIN AREA FOR PROJECTS = 62 AC
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
DIMENSION STYLE = CDOT 2
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
DIMENSION STYLE = CDOT 2
MISSISSIPPI AVE.
ROADWAY WORK INCLUDES ADDING AN ADDITIONAL LANE (MISSISSIPPI TO 2ND) IN EACH DIRECTION, CURRENTLY 2 LANES IN EACH DIRECTION, POST CONSTRUCTION 3 LANES IN EACH DIRECTION.
I-225
N
0' 250' 500' 1000'
Know what's below. Call before you dig.
811
Print Date: 2/10/2011
File Name: 028_LnE-Project-Disturbance-Map.dgn
Horiz. Scale: 1:1000 Vert. Scale: As Noted
0000
Sheet Revisions
Date: Comments Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
RJE
Region 6
As Constructed
No Revisions:
Revised:
Voids:
PROJECT DISTURBANCE AREA MAP
Designer: M. GRANT
Detailer: D. SPORING
Sheet Subset:
Structure Numbers
Subset Sheets: 01 of 01
Project No./Code
IM 2254-074
16417
Sheet Number
N:\Johnson 4:09:38 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\028_LnE-Project-Disturbance-Map.dgn

5.2 Erosion Control Plan Sheet

The Erosion Control Plan sheet identifies the methods and materials used for erosion control in and around the project site.

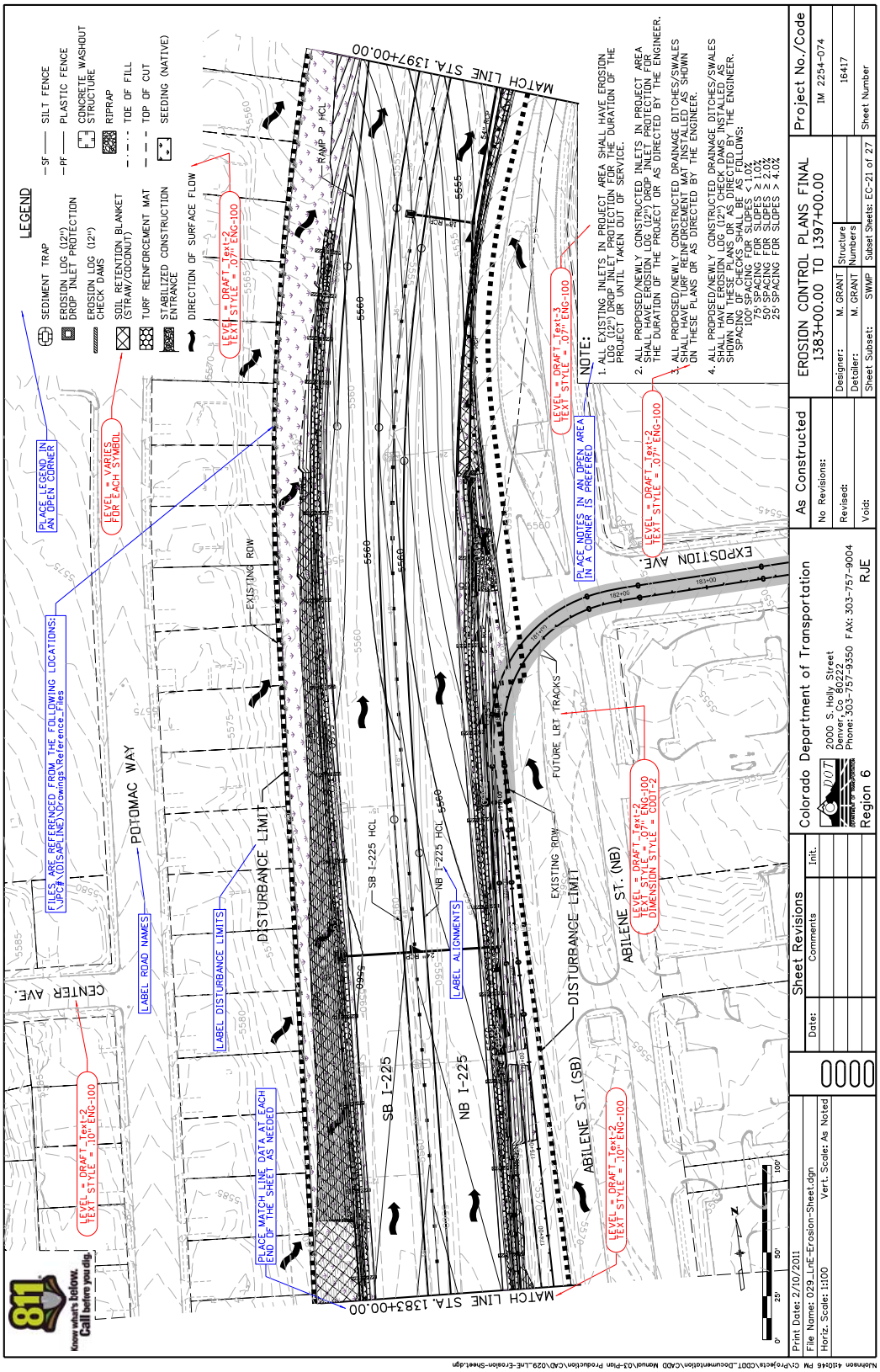
5.2.1 Erosion Control Plan Sheet Checklist

- ❑ Fill in title block information.
- ❑ Draw and label matchlines at the beginning and end of each sheet as needed.
- ❑ Place Sheet_Call811-Stamp cell in the upper left corner of the plan.
- ❑ Place the North Arrow and Bar Scale cells in an open area, preferably in a corner.
- ❑ Label all streets and roads.
- ❑ Label alignments and right-of-way lines.
- ❑ Include a legend identifying the different erosion control elements used in the plan. This should be placed n an open area, preferably in a corner.
- ❑ Include general erosion control notes. These should be placed in an open area, preferably in a corner.

5.2.2 Reference Files

The following file(s) should be referenced into each Erosion Control Plan Sheet.

File Name	Location
JPC#LAND_ENVI_Model	JPC#\Landscape_Environmental\Drawings\Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#BRDG_Model	JPC#\Bridge\Drawings\Reference_Files
JPC#HYDR_Model	JPC#\Hydraulics\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files
JPC#TRAF_Model	JPC#\Traffic_ITS\Drawings\Reference_Files
JPC#UTIL_Model	JPC#\Utilities\Drawings\Reference_Files


LEGEND
SEDIMENT TRAP
EROSION LOG (12")
DROP INLET PROTECTION
EROSION LOG (12")
CHECK DAMS
SOIL RETENTION BLANKET
(STRAW/COCONUT)
TURF REINFORCEMENT MAT
STABILIZED CONSTRUCTION
ENTRANCE
DIRECTION OF SURFACE FLOW
SILT FENCE
PLASTIC FENCE
CONCRETE WASHOUT
STRUCTURE
RIPRAP
TOE OF FILL
TOP OF CUT
SEEDING (NATIVE)
PLACE LEGEND IN AN OPEN CORNER
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\\PC#\TOISAPLINE\Drawings\Reference_Files
LEVEL = VARIES FOR EACH SYMBOL
LEVEL = DRAFT_Text-2
TEXT STYLE = .07"-ENG-100
LEVEL = DRAFT_Text-2
TEXT STYLE = .10"-ENG-100
LABEL ROAD NAMES
POTOMAC WAY
CENTER AVE.
LABEL DISTURBANCE LIMITS
DISTURBANCE LIMIT
PLACE MATCH LINE DATA AT EACH END OF THE SHEET AS NEEDED
EXISTING ROW
SB I-225
NB I-225
SB I-225 HCL
NB I-225 HCL
LABEL ALIGNMENTS
FUTURE LRT TRACKS
ABILENE ST. (SB)
ABILENE ST. (NB)
LEVEL = DRAFT_Text-2
TEXT STYLE = .10"-ENG-100
LEVEL = DRAFT_Text-2
TEXT STYLE = .10"-ENG-100
DIMENSION STYLE = CDOT-2
MATCH LINE STA. 1383+00.00
MATCH LINE STA. 1397+00.00
EXPOSITION AVE.
RAMP P HCL
PLACE NOTES IN AN OPEN AREA IN A CORNER IS PREFERED
LEVEL = DRAFT_Text-3
TEXT STYLE = .07"-ENG-100
LEVEL = DRAFT_Text-2
TEXT STYLE = .07"-ENG-100
NOTE:
1. ALL EXISTING INLETS IN PROJECT AREA SHALL HAVE EROSION LOG (12") DROP INLET PROTECTION FOR THE DURATION OF THE PROJECT OR UNTIL TAKEN OUT OF SERVICE.
2. ALL PROPOSED/NEWLY CONSTRUCTED INLETS IN PROJECT AREA SHALL HAVE EROSION LOG (12") DROP INLET PROTECTION FOR THE DURATION OF THE PROJECT OR AS DIRECTED BY THE ENGINEER.
3. ALL PROPOSED/NEWLY CONSTRUCTED DRAINAGE DITCHES/SWALES SHALL HAVE TURF REINFORCEMENT MAT INSTALLED AS SHOWN ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.
4. ALL PROPOSED/NEWLY CONSTRUCTED DRAINAGE DITCHES/SWALES SHALL HAVE EROSION LOG (12") CHECK DAMS INSTALLED AS SHOWN ON THESE PLANS OR AS DIRECTED BY THE ENGINEER. SPACING OF CHECK DAMS SHALL BE AS FOLLOWS:
100' SPACING FOR SLOPES < 1.0%
75' SPACING FOR SLOPES ≥ 1.0%
50' SPACING FOR SLOPES ≥ 2.0%
25' SPACING FOR SLOPES > 4.0%
Know what's below. Call before you dig. 811
Sheet Revisions
Date: Comments Init.
As Constructed
No Revisions:
Revised:
Void:
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6
RJE
EROSION CONTROL PLANS FINAL
1383+00.00 TO 1397+00.00
Project No./Code
IM 2254-074
Designer: M. GRANT Structure
Detailer: M. GRANT Numbers 16417
Sheet Subset: SWMP Subset Sheets: EC-21 of 27
Sheet Number
Print Date: 2/10/2011
File Name: 029_LnE-Erosion-Sheet.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
0 25' 50' 100'
NJohnson 4:10:46 PM C:\Projects\CDOT_Documentation\CAD Manual\03-Plan Production\CAD\029_LnE-Erosion-Sheet.dgn

5.3 Landscape Demo Plans Key Map Sheet

This sheet shows the location and identifies each Landscape Demo Plan sheet included in the plan set.

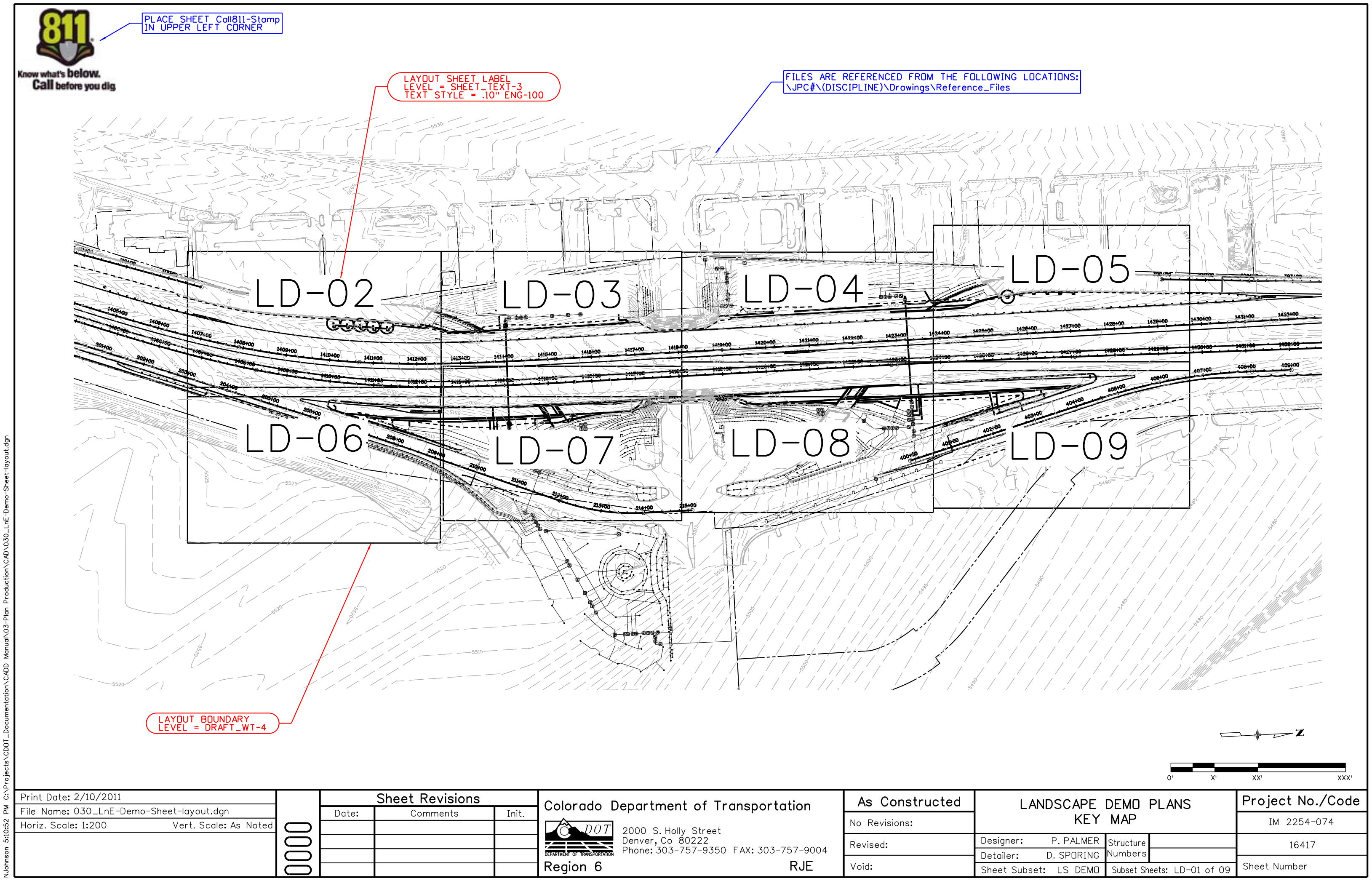
5.3.1 Landscape Demo Plans Key Map Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place Sheet_Call811-Stamp cell in the upper left corner of the plan.
- ❑ Place the North Arrow and Bar Scale cells in an open area, preferably in a corner.

5.3.2 Reference Files

The following file(s) should be referenced into each Landscape Demo Plans Key Map Sheet.

File Name	Location
JPC#LAND_ENVI_Model	JPC#\Landscape_Environmental\Drawings\Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#SURV_TopoContour##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


PLACE SHEET Call811-Stamp IN UPPER LEFT CORNER
LAYOUT SHEET LABEL
LEVEL = SHEET_TEXT-3
TEXT STYLE = .10" ENG-100
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\JPC#\(DISCIPLINE)\Drawings\Reference_Files
LD-02
LD-03
LD-04
LD-05
LD-06
LD-07
LD-08
LD-09
LAYOUT BOUNDARY
LEVEL = DRAFT_WT-4
Print Date: 2/10/2011
File Name: 030_LnE-Demo-Sheet-layout.dgn
Horiz. Scale: 1:200 Vert. Scale: As Noted
Sheet Revisions
Date: Comments Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6 RJE
As Constructed
No Revisions:
Revised:
Void:
LANDSCAPE DEMO PLANS
KEY MAP
Designer: P. PALMER
Detailer: D. SPORING
Sheet Subset: LS DEMO
Structure Numbers
Subset Sheets: LD-01 of 09
Project No./Code
IM 2254-074
16417
Sheet Number

5.4 Landscape Demo Plan Sheet

The Landscape Demo Plan contains location and other detailed information about the removal and resetting of Landscape and Environmental materials.

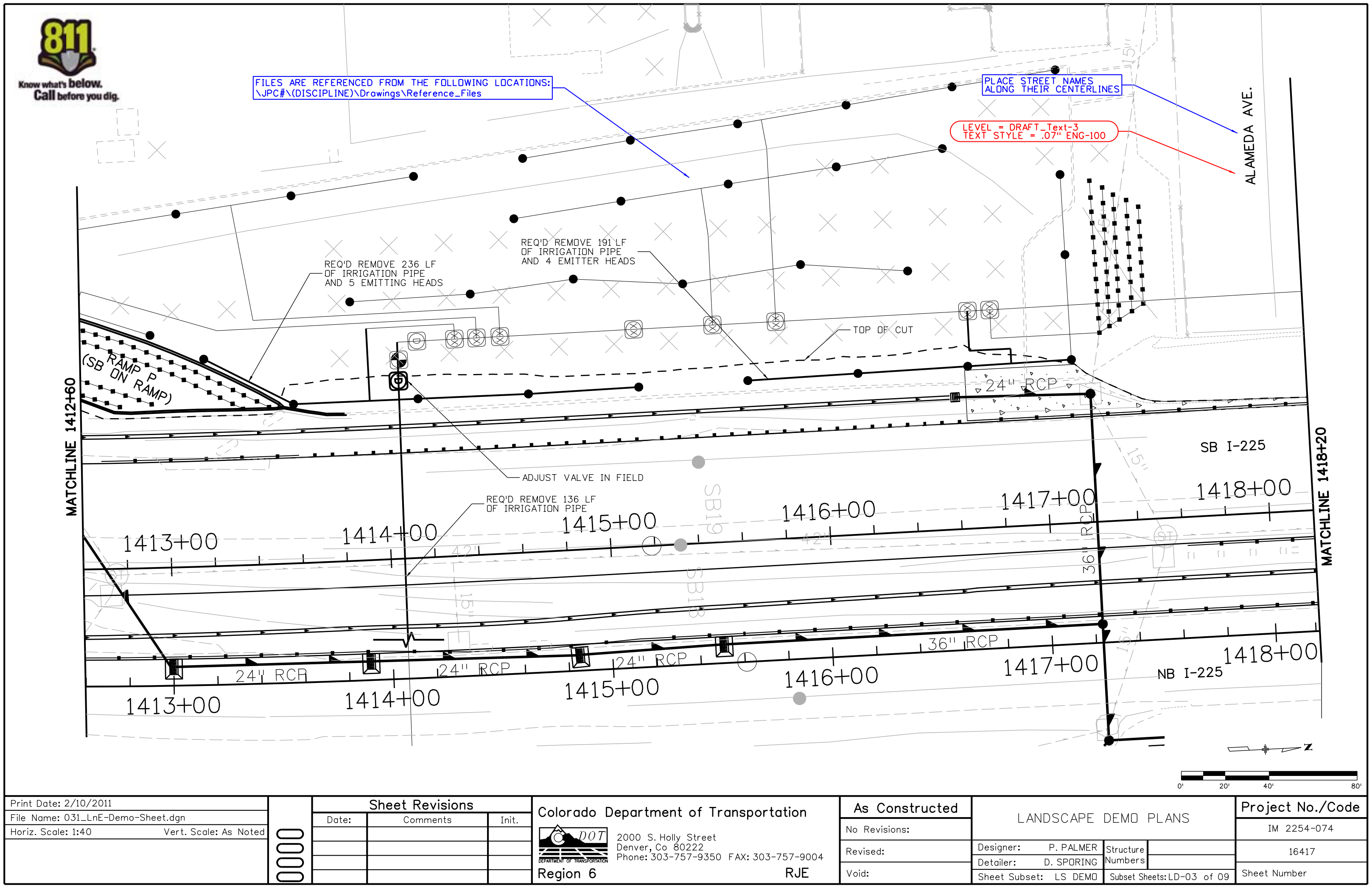
5.4.1 Landscape Demo Plan Sheet Checklist

- ❑ Fill in title block information.
- ❑ Draw and label matchlines at the beginning and end of each sheet as needed.
- ❑ Place Sheet_Call811-Stamp cell in the upper left corner of the plan.
- ❑ Place the North Arrow and Bar Scale cells in an open area, preferably in a corner.
- ❑ Label all streets and roads.
- ❑ Label alignments and right-of-way lines.
- ❑ Place notes defining items of work. The note should describe the type and quantity of work.

5.4.2 Reference Files

The following file(s) should be referenced into each Landscape Demo Plan Sheet.

File Name	Location
JPC#LAND_ENVI_Model	JPC#\Landscape_Environmental\Drawings\Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


811
Know what's below.
Call before you dig.
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\JPC#\(DISCIPLINE)\Drawings\Reference_Files
PLACE STREET NAMES
ALONG THEIR CENTERLINES
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
ALAMEDA AVE.
REQ'D REMOVE 236 LF
OF IRRIGATION PIPE
AND 5 EMITTING HEADS
REQ'D REMOVE 191 LF
OF IRRIGATION PIPE
AND 4 EMITTER HEADS
TOP OF CUT
RAMP P
(SB ON RAMP)
MATCHLINE 1412+60
MATCHLINE 1418+20
24" RCP
SB I-225
ADJUST VALVE IN FIELD
REQ'D REMOVE 136 LF
OF IRRIGATION PIPE
1413+00
1414+00
1415+00
1416+00
1417+00
1418+00
36" RCP
NB I-225
Print Date: 2/10/2011
File Name: 031_LnE-Demo-Sheet.dgn
Horiz. Scale: 1:40
Vert. Scale: As Noted
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6
RJE
As Constructed
No Revisions:
Revised:
Void:
LANDSCAPE DEMO PLANS
Designer: P. PALMER
Detailer: D. SPORING
Sheet Subset: LS DEMO
Structure Numbers
Subset Sheets: LD-03 of 09
Project No./Code
IM 2254-074
16417
Sheet Number

5.5 Landscape Planting Plans Key Map Sheet

This sheet shows the location and identifies each Landscape Planting Plan sheet included in the plan set.

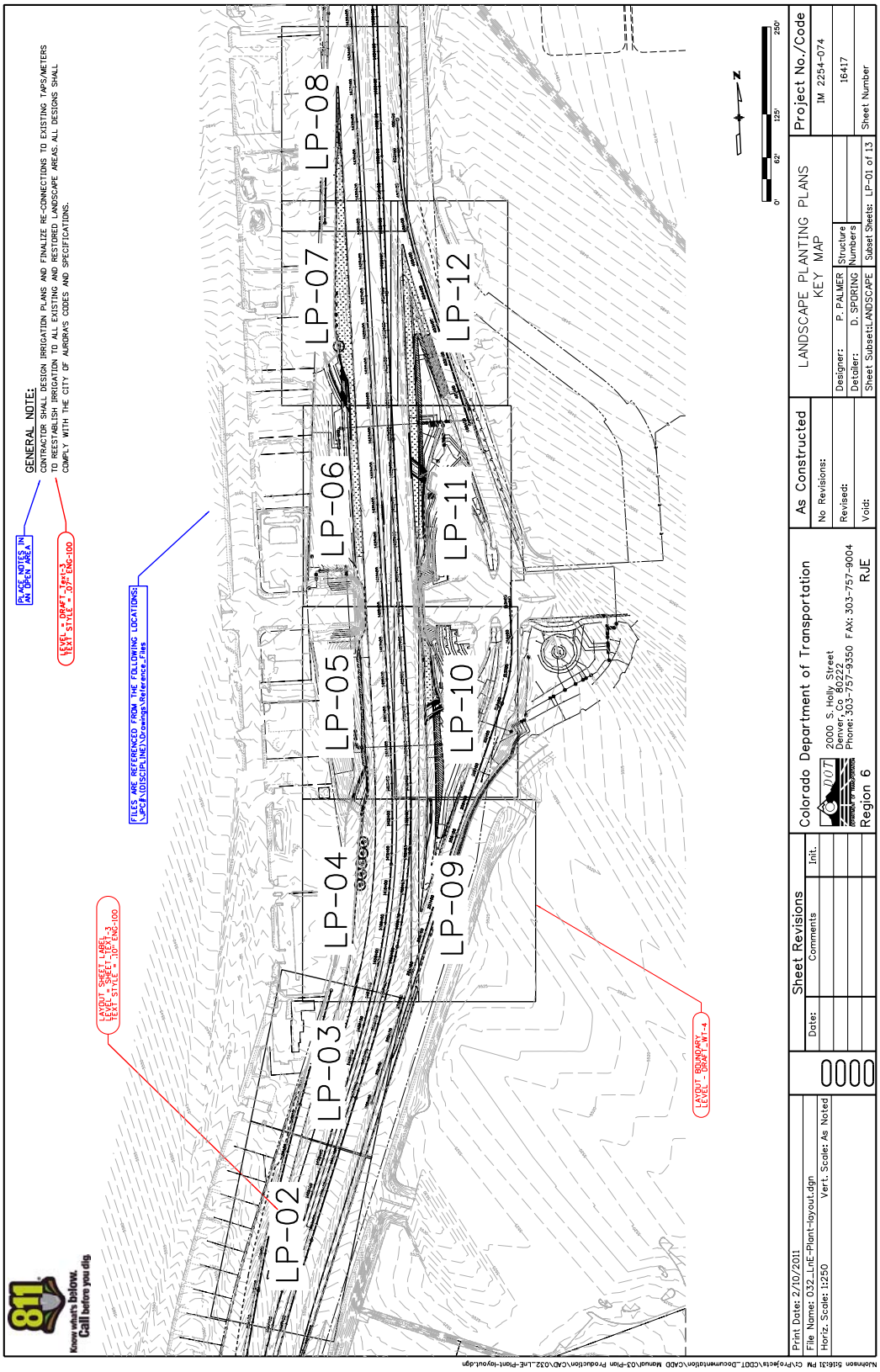
5.5.1 Landscape Planting Plans Key Map Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place Sheet_Call811-Stamp cell in the upper left corner of the plan.
- ❑ Place the North Arrow and Bar Scale cells in an open area, preferably in a corner.
- ❑ Place general notes in an open area, preferably in a corner.

5.5.2 Reference Files

The following file(s) should be referenced into each Landscape Planting Plans Key Map Sheet.

File Name	Location
JPC#LAND_ENVI_Model	JPC#\Landscape_Environmental\Drawings\Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#SURV_TopoContour##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


GENERAL NOTE:
CONTRACTOR SHALL DESIGN IRRIGATION PLANS AND FINALIZE RE-CONNECTIONS TO EXISTING TAPS/METERS TO REESTABLISH IRRIGATION TO ALL EXISTING AND RESTORED LANDSCAPE AREAS. ALL DESIGNS SHALL COMPLY WITH THE CITY OF AURORA'S CODES AND SPECIFICATIONS.
PLAN NOTES IN AN OPEN AREA
LEVEL = DRAFT_Text-3 TEXT STYLE = .07" ENG-100
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS: \\PC#\DISCIPLINE\Drawings\Reference_Files
LAYOUT SHEET LABEL LEVEL = SHEET_TEXT-3 TEXT STYLE = .10" ENG-100
LAYOUT BOUNDARY LEVEL = DRAFT_WT-4
LP-02
LP-03
LP-04
LP-05
LP-06
LP-07
LP-08
LP-09
LP-10
LP-11
LP-12
Know what's below. Call before you dig
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6
RJE
As Constructed
No Revisions:
Revised:
Void:
LANDSCAPE PLANTING PLANS
KEY MAP
Designer: P. PALMER
Detailer: D. SPORING
Sheet Subset: LANDSCAPE
Structure Numbers
Subset Sheets: LP-01 of 13
Project No./Code
IM 2254-074
16417
Sheet Number
0' 62' 125' 250'
Print Date: 2/10/2011
File Name: 032_LnE-Plant-layout.dgn
Horiz. Scale: 1:250 Vert. Scale: As Noted
0000
N:\Johnson 5:16:31 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\032_LnE-Plant-layout.dgn

5.6 Landscape Planting Plan Sheet

The Landscape Planting Plan contains location and other detailed information about the Landscape and Environmental materials used on the project.

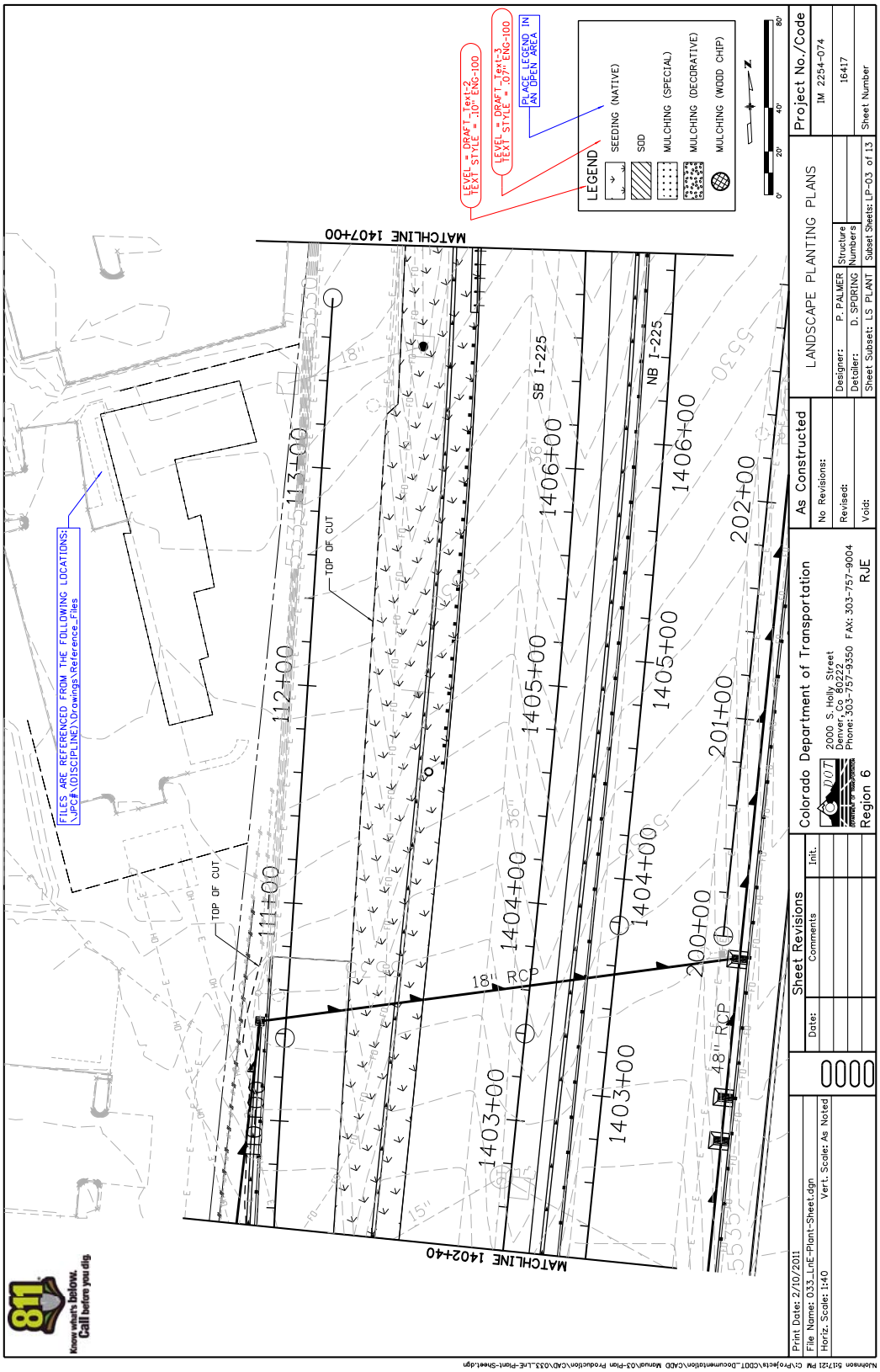
5.6.1 Landscape Planting Plan Sheet Checklist

- ❑ Fill in title block information.
- ❑ Draw and label matchlines at the beginning and end of each sheet as needed.
- ❑ Place Sheet_Call811-Stamp cell in the upper left corner of the plan.
- ❑ Place the North Arrow and Bar Scale cells in an open area, preferably in a corner.
- ❑ Label all streets and roads.
- ❑ Label alignments and right-of-way lines.
- ❑ Place notes defining items of work. The note should describe the type and quantity of work.
- ❑ Place a legend describing patterns used to identify areas of work.

5.6.2 Reference Files

The following file(s) should be referenced into each Landscape Planting Plan Sheet.

File Name	Location
JPC#LAND_ENVI_Model	JPC#\Landscape_Environmental\Drawings\Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
PLACE LEGEND IN AN OPEN AREA
LEGEND
SEEDING (NATIVE)
SOD
MULCHING (SPECIAL)
MULCHING (DECORATIVE)
MULCHING (WOOD CHIP)
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\\PC#\(DISCIPLINE)\Drawings\Reference_Files
MATCHLINE 1407+00
MATCHLINE 1402+40
TOP OF CUT
SB I-225
NB I-225
18" RCP
48" RCP
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6
RJE
As Constructed
No Revisions:
Revised:
Void:
LANDSCAPE PLANTING PLANS
Designer: P. PALMER
Detailer: D. SPORING
Sheet Subset: LS PLANT
Structure Numbers
Subset Sheets: LP-03 of 13
Project No./Code
IM 2254-074
16417
Sheet Number
Print Date: 2/10/2011
File Name: 033_LnE-Plant-Sheet.dgn
Horiz. Scale: 1:40
Vert. Scale: As Noted
Know what's below. Call before you dig
C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\033_LnE-Plant-Sheet.dgn

Chapter 6 - Geology Sheet

6.1 Engineering Geology

The geology sheet contains a boring location plan, boring logs, and test results of the geotechnical data for the project.

This sheet or set of sheets is typically including the bridge or wall subset but is produced and provided by the geotechnical design unit.

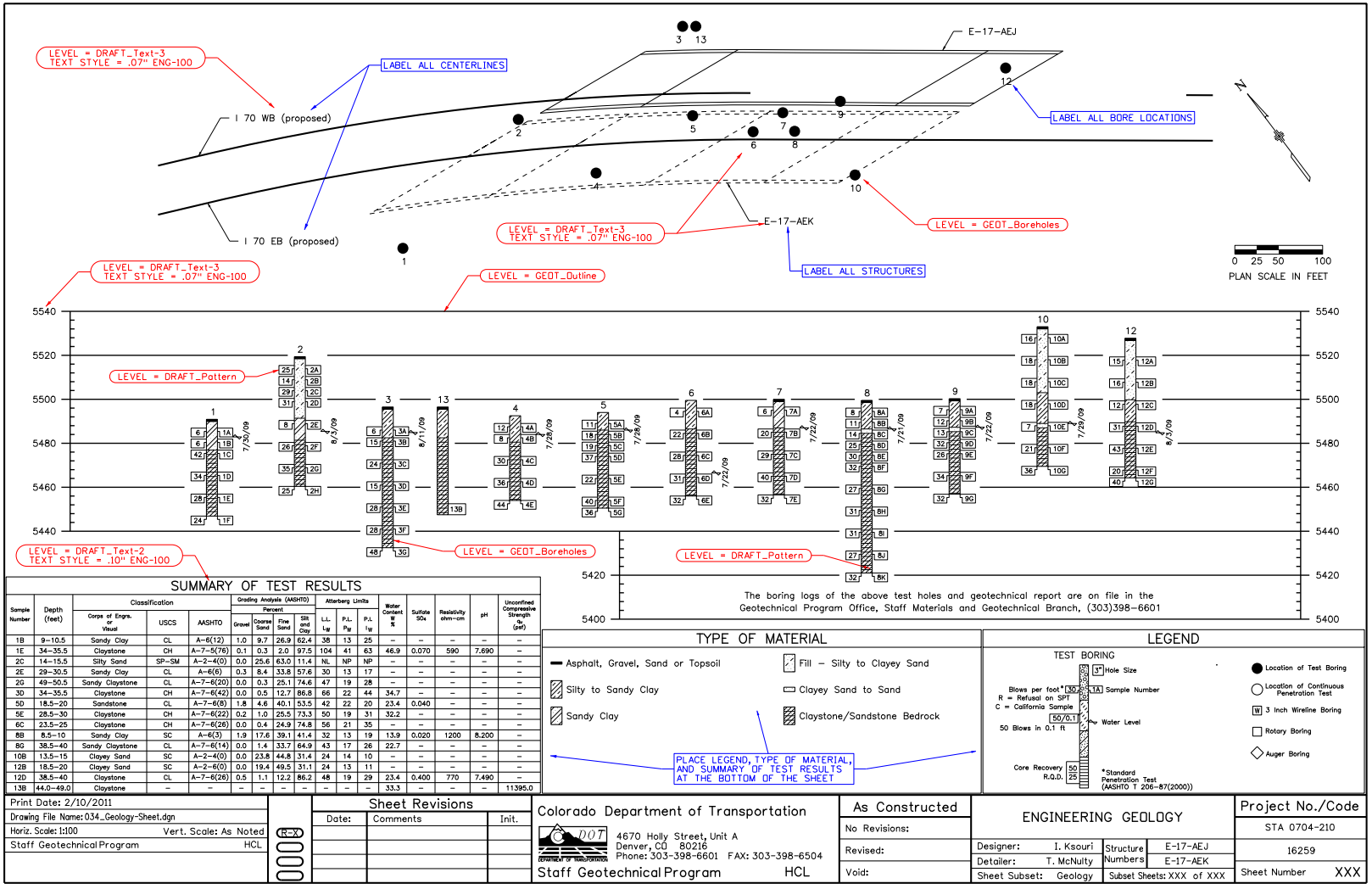
6.1.1 Engineering Geology Sheet Checklist

- ❑ Fill in the title block data.
- ❑ Label all alignments shown in the plan.
- ❑ Label all structures shown in the plan.
- ❑ Place the boring log graph below the plan.
- ❑ Create a table for the Summary Of Test Results.
- ❑ Place the Boring log legend and Type Of Material legend under the boring log graph.

6.1.2 Reference Files

The following file(s) should be referenced into each Geology Sheet.

File Name	Location
JPC#GEO_Model	JPC#\Materials_ Geotechnical\Drawings\ Reference_Files
JPC#BRDG_Model	JPC#\Bridge\Drawings\ Reference_Files



The boring logs of the above test holes and geotechnical report are on file in the Geotechnical Program Office, Staff Materials and Geotechnical Branch, (303)398-6601

SUMMARY OF TEST RESULTS

Sample Number	Depth (feet)	Classification: Corps of Engrs. or Visual	USCS	AASHTO	Grading Analysis (AASHTO) Percent: Gravel	Coarse Sand	Fine Sand	Silt and Clay	Atterberg Limits: L.L. L_W	P.L. P_W	P.I. I_W	Water Content W %	Sulfate SO_4	Resistivity ohm-cm	pH	Unconfined Compressive Strength q_u (psf)
1B	9–10.5	Sandy Clay	CL	A-6(12)	1.0	9.7	26.9	62.4	38	13	25	–	–	–	–	–
1E	34–35.5	Claystone	CH	A-7-5(76)	0.1	0.3	2.0	97.5	104	41	63	46.9	0.070	590	7.690	–
2C	14–15.5	Silty Sand	SP-SM	A-2-4(0)	0.0	25.6	63.0	11.4	NL	NP	NP	–	–	–	–	–
2E	29–30.5	Sandy Clay	CL	A-6(6)	0.3	8.4	33.8	57.6	30	13	17	–	–	–	–	–
2G	49–50.5	Sandy Claystone	CL	A-7-6(20)	0.0	0.3	25.1	74.6	47	19	28	–	–	–	–	–
3D	34–35.5	Claystone	CH	A-7-6(42)	0.0	0.5	12.7	86.8	66	22	44	34.7	–	–	–	–
5D	18.5–20	Sandstone	CL	A-7-6(8)	1.8	4.6	40.1	53.5	42	22	20	23.4	0.040	–	–	–
5E	28.5–30	Claystone	CH	A-7-6(22)	0.2	1.0	25.5	73.3	50	19	31	32.2	–	–	–	–
6C	23.5–25	Claystone	CH	A-7-6(26)	0.0	0.4	24.9	74.8	56	21	35	–	–	–	–	–
8B	8.5–10	Sandy Clay	SC	A-6(3)	1.9	17.6	39.1	41.4	32	13	19	13.9	0.020	1200	8.200	–
8G	38.5–40	Sandy Claystone	CL	A-7-6(14)	0.0	1.4	33.7	64.9	43	17	26	22.7	–	–	–	–
10B	13.5–15	Clayey Sand	SC	A-2-4(0)	0.0	23.8	44.8	31.4	24	14	10	–	–	–	–	–
12B	18.5–20	Clayey Sand	SC	A-2-6(0)	0.0	19.4	49.5	31.1	24	13	11	–	–	–	–	–
12D	38.5–40	Claystone	CL	A-7-6(26)	0.5	1.1	12.2	86.2	48	19	29	23.4	0.400	770	7.490	–
13B	44.0–49.0	Claystone	–	–	–	–	–	–	–	–	–	33.3	–	–	–	11395.0

TYPE OF MATERIAL

- Asphalt, Gravel, Sand or Topsoil
- Silty to Sandy Clay
- Sandy Clay
- Fill – Silty to Clayey Sand
- Clayey Sand to Sand
- Claystone/Sandstone Bedrock

PLACE LEGEND, TYPE OF MATERIAL, AND SUMMARY OF TEST RESULTS AT THE BOTTOM OF THE SHEET

LEGEND

TEST BORING

Blows per foot* 30
R = Refusal on SPT
C = California Sample
50/0.1
50 Blows in 0.1 ft
Core Recovery 50 / R.Q.D. 25
3" Hole Size
1A Sample Number
Water Level
*Standard Penetration Test (AASHTO T 206–87(2000))

- Location of Test Boring
- Location of Continuous Penetration Test
- W 3 Inch Wireline Boring
- Rotary Boring
- Auger Boring

Print Date: 2/10/2011
Drawing File Name: 034_Geology-Sheet.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Staff Geotechnical Program HCL

R-X

Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation
4670 Holly Street, Unit A
Denver, CO 80216
Phone: 303-398-6601 FAX: 303-398-6504
Staff Geotechnical Program HCL

As Constructed
No Revisions:
Revised:
Void:

ENGINEERING GEOLOGY

Designer:	I. Ksouri	Structure Numbers	E-17-AEJ
Detailer:	T. McNulty		E-17-AEK
Sheet Subset:	Geology	Subset Sheets: XXX of XXX	

Project No./Code
STA 0704-210
16259
Sheet Number XXX

Chapter 7 - Right of Way Sheets

7.1 Tabulation of Properties Sheet

The ROW Tabulation of Properties sheet contains a list of properties in the project area, their owners and the owner's address, and information about the size and location of the property.

7.1.1 Tabulation of Properties Sheet Checklist

- ❑ Fill out the sheet border information.
- ❑ Attach project specific Tabulation of Properties Excel worksheet.

7.1.2 Linking Microsoft Excel Files into MicroStation

The ROW Tabulation of Properties drawing uses an Excel document to display the property ownership data.

MicroStation Placement Methods:

Linked Microsoft Office Excel Worksheet (Preferred) - Requires a saved Excel file and can be edited by opening the document in Excel or double clicking the document in MicroStation. This method will automatically update MicroStation when opened or after editing.

Embedded Microsoft Office Excel Worksheet- The document is placed directly into MicroStation. Double click the document in MicroStation to edit in Excel as a temporary document.

Picture of Microsoft Office Excel Worksheet - Static graphic of the document. This method can not be edited or updated.

After creating the drawing file, link the Excel worksheet by taking the following steps:

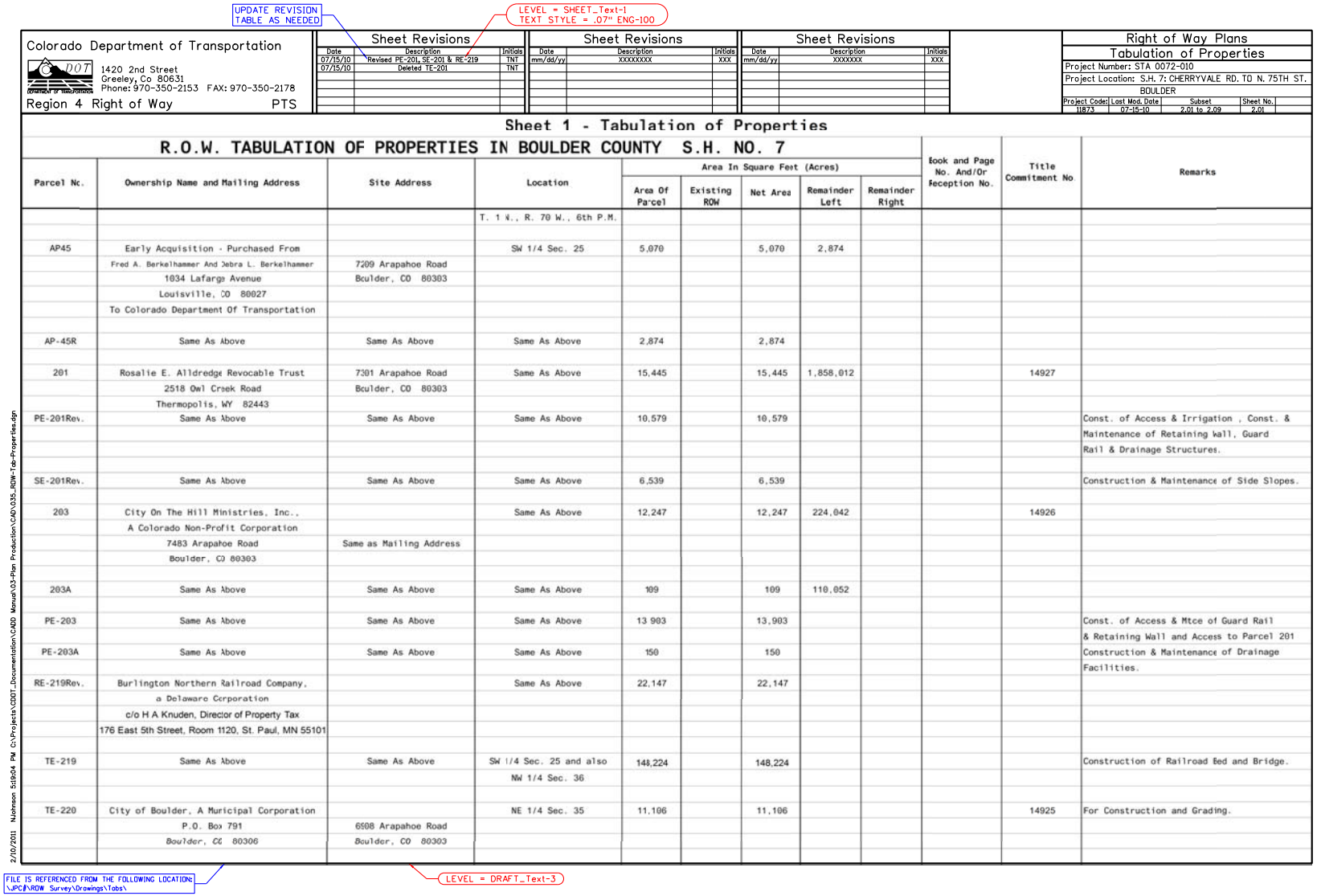
- Highlight the area of the document to be linked and copy it to the clipboard
- In MicroStation select Edit>Paste Special
- In the "Paste Special" dialog box choose "Linked Microsoft Office Excel Worksheet".
- In the "Paste OLE" dialog box. Change the "Paste as" to "Link", the "Method" to "By Corners". Then tentative and select the guide line in the drawing file to match the .07" ENG-100 Text Style.

The link will display with hatching which indicates that the Excel file containing the linked data is currently open. If you close out of your Excel file, the hatching will go away.

7.1.3 Updating Linking Microsoft Excel Files

Linked Excel documents update automatically when the MicroStation file is opened or when you close out of Excel after editing.

For more information on linking Microsoft Excel files review this workflow, CDOT Linking Excel Documents to MicroStation


UPDATE REVISION TABLE AS NEEDED
LEVEL = SHEET_Text-1
TEXT STYLE = .07" ENG-100
Colorado Department of Transportation
1420 2nd Street
Greeley, Co 80631
Phone: 970-350-2153 FAX: 970-350-2178
Region 4 Right of Way PTS
Sheet Revisions
Date | Description | Initials
07/15/10 | Revised PE-201, SE-201 & RE-219 | TNT
07/15/10 | Deleted TE-201 | TNT
mm/dd/yy | XXXXXXXX | XXX
Right of Way Plans
Tabulation of Properties
Project Number: STA 0072-010
Project Location: S.H. 7: CHERRYVALE RD. TO N. 75TH ST.
BOULDER
Project Code: 11873 | Last Mod. Date: 07-15-10 | Subset: 2.01 to 2.09 | Sheet No.: 2.01
Sheet 1 - Tabulation of Properties
R.O.W. TABULATION OF PROPERTIES IN BOULDER COUNTY S.H. NO. 7
Parcel No. | Ownership Name and Mailing Address | Site Address | Location | Area In Square Feet (Acres) | Book and Page No. And/Or Reception No. | Title Commitment No | Remarks
Area Of Parcel | Existing ROW | Net Area | Remainder Left | Remainder Right
T. 1 N., R. 70 W., 6th P.M.
AP45 | Early Acquisition - Purchased From | SW 1/4 Sec. 25 | 5,070 | 5,070 | 2,874
Fred A. Berkelhammer And Debra L. Berkelhammer | 7209 Arapahoe Road
1034 Lafarge Avenue | Boulder, CO 80303
Louisville, CO 80027
To Colorado Department Of Transportation
AP-45R | Same As Above | Same As Above | Same As Above | 2,874 | 2,874
201 | Rosalie E. Alldredge Revocable Trust | 7301 Arapahoe Road | Same As Above | 15,445 | 15,445 | 1,858,012 | 14927
2518 Owl Creek Road | Boulder, CO 80303
Thermopolis, WY 82443
PE-201Rev. | Same As Above | Same As Above | Same As Above | 10,579 | 10,579 | Const. of Access & Irrigation , Const. & Maintenance of Retaining Wall, Guard Rail & Drainage Structures.
SE-201Rev. | Same As Above | Same As Above | Same As Above | 6,539 | 6,539 | Construction & Maintenance of Side Slopes.
203 | City On The Hill Ministries, Inc., | Same As Above | 12,247 | 12,247 | 224,042 | 14926
A Colorado Non-Profit Corporation
7483 Arapahoe Road | Same as Mailing Address
Boulder, CO 80303
203A | Same As Above | Same As Above | Same As Above | 109 | 109 | 110,052
PE-203 | Same As Above | Same As Above | Same As Above | 13 903 | 13,903 | Const. of Access & Mtce of Guard Rail & Retaining Wall and Access to Parcel 201
PE-203A | Same As Above | Same As Above | Same As Above | 150 | 150 | Construction & Maintenance of Drainage Facilities.
RE-219Rev. | Burlington Northern Railroad Company, | Same As Above | 22,147 | 22,147
a Delaware Corporation
c/o H A Knuden, Director of Property Tax
176 East 5th Street, Room 1120, St. Paul, MN 55101
TE-219 | Same As Above | Same As Above | SW 1/4 Sec. 25 and also NW 1/4 Sec. 36 | 148,224 | 148,224 | Construction of Railroad Bed and Bridge.
TE-220 | City of Boulder, A Muricipal Corporation | NE 1/4 Sec. 35 | 11,106 | 11,106 | 14925 | For Construction and Grading.
P.O. Box 791 | 6908 Arapahoe Road
Boulder, CO 80306 | Boulder, CO 80303
2/10/2011 Nolmeson 5:59:04 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\035_ROW-Tab-Properties.dgn
FILE IS REFERENCED FROM THE FOLLOWING LOCATION: \JPC\ROW Survey\Drawings\Tabs\
LEVEL = DRAFT_Text-3

7.2 Project Control Diagram Sheet (PCD)

There are two types of project control diagram sheet; Coordinate Tables Sheet and Plan Sheet. The Coordinate Tables sheet contains right of way point data in tabular format. The Plan Sheet contains the same data shown graphically.

7.2.1 Coordinate Tables Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Attach project specific Coordinate Table Excel worksheet.

7.2.2 Linking Microsoft Excel Files into MicroStation

The ROW Coordinate Tables drawing uses an Excel document to display display important information regarding the right of way point data.

MicroStation Placement Methods:

Linked Microsoft Office Excel Worksheet (Preferred) - Requires a saved Excel file and can be edited by opening the document in Excel or double clicking the document in MicroStation. This method will automatically update MicroStation when opened or after editing.

Embedded Microsoft Office Excel Worksheet- The document is placed directly into MicroStation. Double click the document in MicroStation to edit in Excel as a temporary document.

Picture of Microsoft Office Excel Worksheet - Static graphic of the document. This method can not be edited or updated.

After creating the drawing file, link the Excel worksheet by taking the following steps:

- Highlight the area of the document to be linked and copy it to the clipboard
- In MicroStation select Edit>Paste Special
- In the “Paste Special” dialog box choose “Linked Microsoft Office Excel Worksheet”
- In the “Paste OLE” dialog box. Change the “Paste as” to “Link”, the “Method” to “By Corners”. Then tentative and select the guide line in the drawing file to match the .07” ENG-100 Text Style.

The link will display with hatching which indicates that the Excel file containing the linked data is currently open. If you close out of your Excel file, the hatching will go away.

7.2.3 Updating Linking Microsoft Excel Files

Linked Excel documents update automatically when the MicroStation file is opened or when you close out of Excel after editing.

For more information on linking Microsoft Excel files review this workflow, CDOT Linking Excel Documents to MicroStation

7.2.4 Plan Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Label the nearest town at each end of the project road.
- ❑ Label data points with Point Name, Northing, Easting, and Elevation.

7.2.5 Reference Files

The following file(s) should be referenced into each ROW Project Control Diagram Sheet.

File Name	Location
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#SURV_Topo# #Scale##	JPC#\ROW_Survey\Drawings\Reference_Files

Colorado Department of Transportation
DOT
18500 East Colfax Avenue
Aurora, CO 80011
Phone: 303-365-7409 FAX: 303-365-7350
Region 1 DAS

Sheet Revisions			Sheet Revisions			Sheet Revisions		
Date	Description	Initials	Date	Description	Initials	Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX

Project Control Diagram			
Coordinate Tables			
Project Number: XXXXX			
Project Location: SH-5 Mt. Evans Highway			
MP 6.6 to 6.6 and 8.8 to 9.4			
Project Code:	Last Mod. Date	Subset	Sheet No.
XXXXXX	mm-dd-yy	3.02 of 3.04	3.02

CHARN GEODETIC COORDINATE SUMMARY TABLE

Point No.	Geocetic Coordinates NAD-83(07) (CHARN)		Elip Height (NAVD88) (m)	Ortho Height (m)	Mapping Angle	Grid Scale Factor	NAD 83(03) Zone0502		Description
	Latitude(N)	Longitude(W)					SP Northing(m)	SP Easting(m)	
BAKERVILLE	39°41'31.81413"N	105°48'17.86279"W	2972.347	2984.585	-0°11'32.41059"	0.99998907	511195.181	888243.731	Found NGS Monument
IDAHO AZ MK	39°44'25.61924"N	105°30'49.53788"W	2328.924	2342.1	-0°00'31.24302"	0.99999812	516511.730	913222.330	Found NGS Monument
WILLIAMS	39°27'34.79444"N	105°39'48.44895"W	2605.964	2618.5	-0°06'11.12861"	0.99995545	485350.415	900334.755	Found NGS Monument

LEVEL = DRAFT_Text-3

FILE IS REFERENCED FROM THE FOLLOWING LOCATION:
\JPC#\ROW_Survey\Drawings\Tabs\

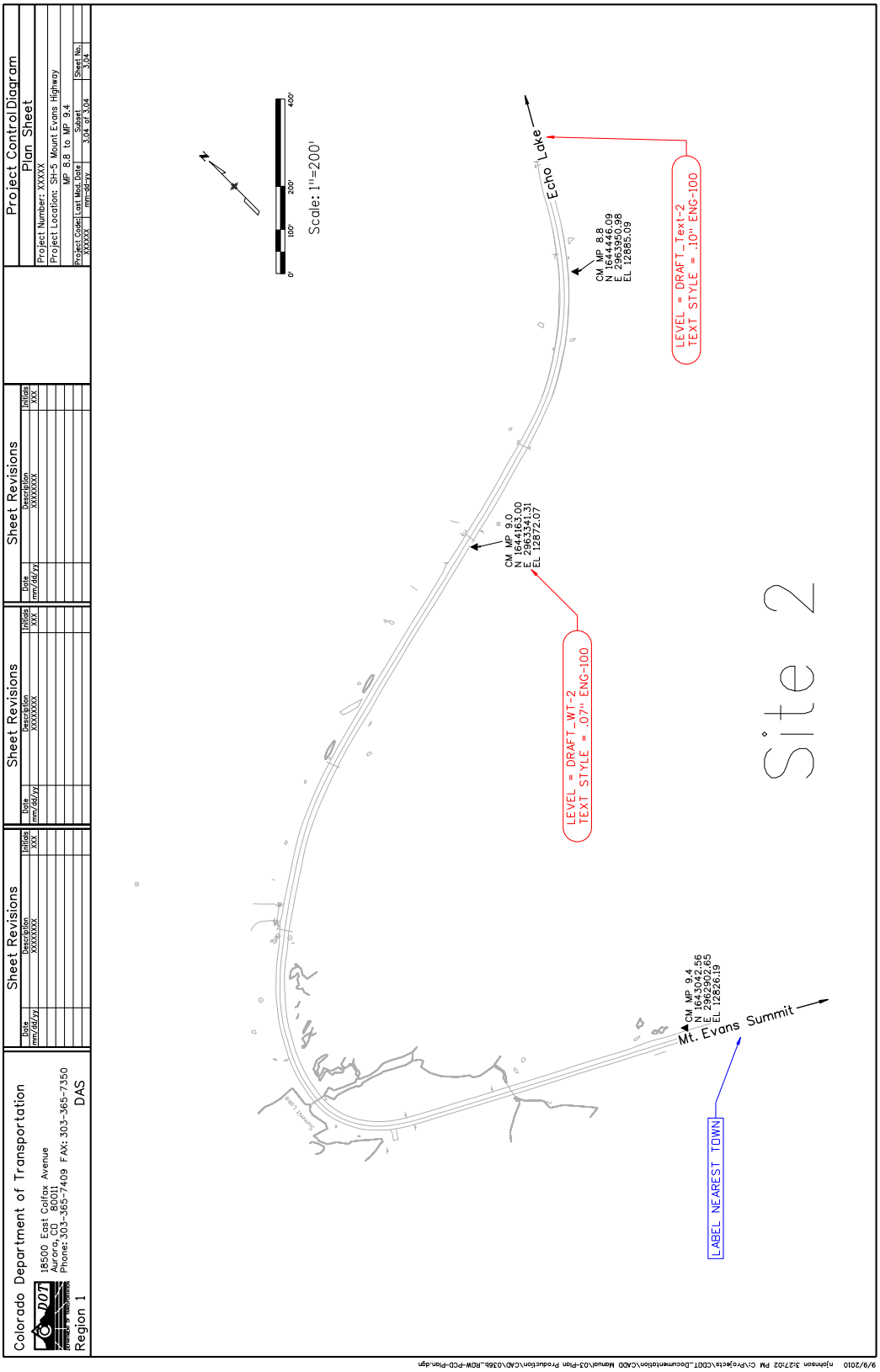
GEODETIC COORDINATE TABLE

Point No.	Geodetic Coordinates NAD-83(07) (CHARN)		Elip Height (NAVD88) (m)	Ortho Height (m)	Mapping Angle	Grid Scale Factor	NAD 83(07) Zone 0502		Description
	Latitude(N)	Longitude(W)					SP Northing(m)	SP Easting(m)	
SH 5 CM MP 6.1	39°37'17.84512"N	105°36'21.91713"W	3792.577	3805.137	-0°04'00.87114"	0.99997713	503324.038	905292.964	Set CDOT Type II Monuments
SH 5 CM MP 6.3	39°37'14.11041"N	105°36'32.35467"W	3806.683	3819.231	-0°04'07.45399"	0.99997696	503209.153	905043.887	Set CDOT Type II Monuments
SH 5 CM MP 6.6	39°37'01.03619"N	105°36'25.40295"W	3816.146	3828.695	-0°04'03.06962"	0.99997639	502805.745	905209.215	Set CDOT Type II Monuments
SH 5 CM MP 8.8	39°35'59.51557"N	105°38'04.47021"W	3914.933	3927.383	-0°05'05.55030"	0.99997375	500911.588	902843.458	Set CDOT Type II Monuments
SH 5 CM MP 9.0	39°35'56.71053"N	105°38'12.24891"W	3910.963	3923.414	-0°05'10.45625"	0.99997363	500825.357	902657.746	Set CDOT Type II Monuments
SH 5 CM MP 9.4	39°35'45.63733"N	105°38'17.82775"W	3896.972	3909.429	-0°05'13.97476"	0.99997317	500484.062	902524.126	Set CDOT Type II Monuments

PROJECT COORDINATE TABLE

Point No.	Project Coordinates		Elev(ft) (NAVD88)	Description
	Northing(ft)	Easting(ft)		
SH 5 CM MP 6.1	1652365.94	297199.48	12484.02	Set CDOT Type II
SH 5 CM MP 6.3	1651988.78	297117.79	12530.26	Set CDOT Type II
SH 5 CM MP 6.6	1650664.43	297171.54	12561.31	Set CDOT Type II
SH 5 CM MP 88	1644446.09	296395.99	12885.09	Set CDOT Type II
SH 5 CM MP 90	1644163.00	296334.31	12872.07	Set CDOT Type II
SH 5 CM MP 94	1643042.56	296290.65	12826.19	Set CDOT Type II

2/10/2011 Nuhmson 5:20:17 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\036a_ROW-PCD-Tables.dgn


Project Control Diagram
Plan Sheet
Project Number: XXXXX
Project Location: SH-5 Mount Evans Highway
MP 8.8 to MP 9.4
Project Code: XXXXX
Last Mod. Date: mm-dd-yy
Subset: 3.04 of 3.04
Sheet No.: 3.04
Sheet Revisions
Date
Description
Initials
XXX
XXXXXXXX
Colorado Department of Transportation
18500 East Colfax Avenue
Aurora, CO 80011
Phone: 303-365-7409 FAX: 303-365-7350
DAS
Region 1
Scale: 1"=200'
0'
100'
200'
400'
Site 2
Echo Lake
Mt. Evans Summit
CM MP 8.8
N 1644446.09
E 2963365.98
EL 12885.09
CM MP 9.0
N 1644163.00
E 2963341.31
EL 12872.07
CM MP 9.4
N 1643042.56
E 2962902.65
EL 12826.19
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
LEVEL = DRAFT_WT-2
TEXT STYLE = .07" ENG-100
LABEL NEAREST TOWN
9/9/2010 njohnson 3:27:02 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\03bb_ROW-PCD-Plan.dgn

7.3 Land Survey Control Diagram Sheet (LSCD)

There are two types of ROW Land Survey Control Diagram sheet; the Monument Coordinate Tables Sheet and Plan Sheets. The Monument Coordinate Tables sheet contains right of way monument point data in tabular format. The Plan Sheet contains the same data shown graphically.

7.3.1 Coordinate Tables Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Attach the project specific Coordinate Table Excel worksheet.
- ❑ Place a monument cell that matches the data in the table to the left of that table.

7.3.2 Linking Microsoft Excel Files into MicroStation

The ROW Land Survey Control Diagram Monument Coordinate Tables drawing uses an Excel document to display the important information regarding the right of way monument point data.

MicroStation Placement Methods:

Linked Microsoft Office Excel Worksheet (Preferred) - Requires a saved Excel file and can be edited by opening the document in Excel or double clicking the document in MicroStation. This method will automatically update MicroStation when opened or after editing.

Embedded Microsoft Office Excel Worksheet- The document is placed directly into MicroStation. Double click the document in MicroStation to edit in Excel as a temporary document.

Picture of Microsoft Office Excel Worksheet - Static graphic of the document. This method can not be edited or updated.

After creating the drawing file, link the Excel worksheet by taking the following steps:

- Highlight the area of the document to be linked and copy it to the clipboard.
- In MicroStation select Edit>Paste Special.
- In the “Paste Special” dialog box choose “Linked Microsoft Office Excel Worksheet”.
- In the “Paste OLE” dialog box. Change the “Paste as” to “Link”, the “Method” to “By Corners”. Then tentative and select the guide line in the drawing file to match the .07” ENG-100 Text Style.

The link will display with hatching which indicates that the Excel file containing the linked data is currently open. If you close out of your Excel file, the hatching will go away.

7.3.3 Updating Linking Microsoft Excel Files

Linked Excel documents update automatically when the MicroStation file is opened or when you close out of Excel after editing.

For more information on linking Microsoft Excel files review this workflow, CDOT Linking Excel Documents to MicroStation

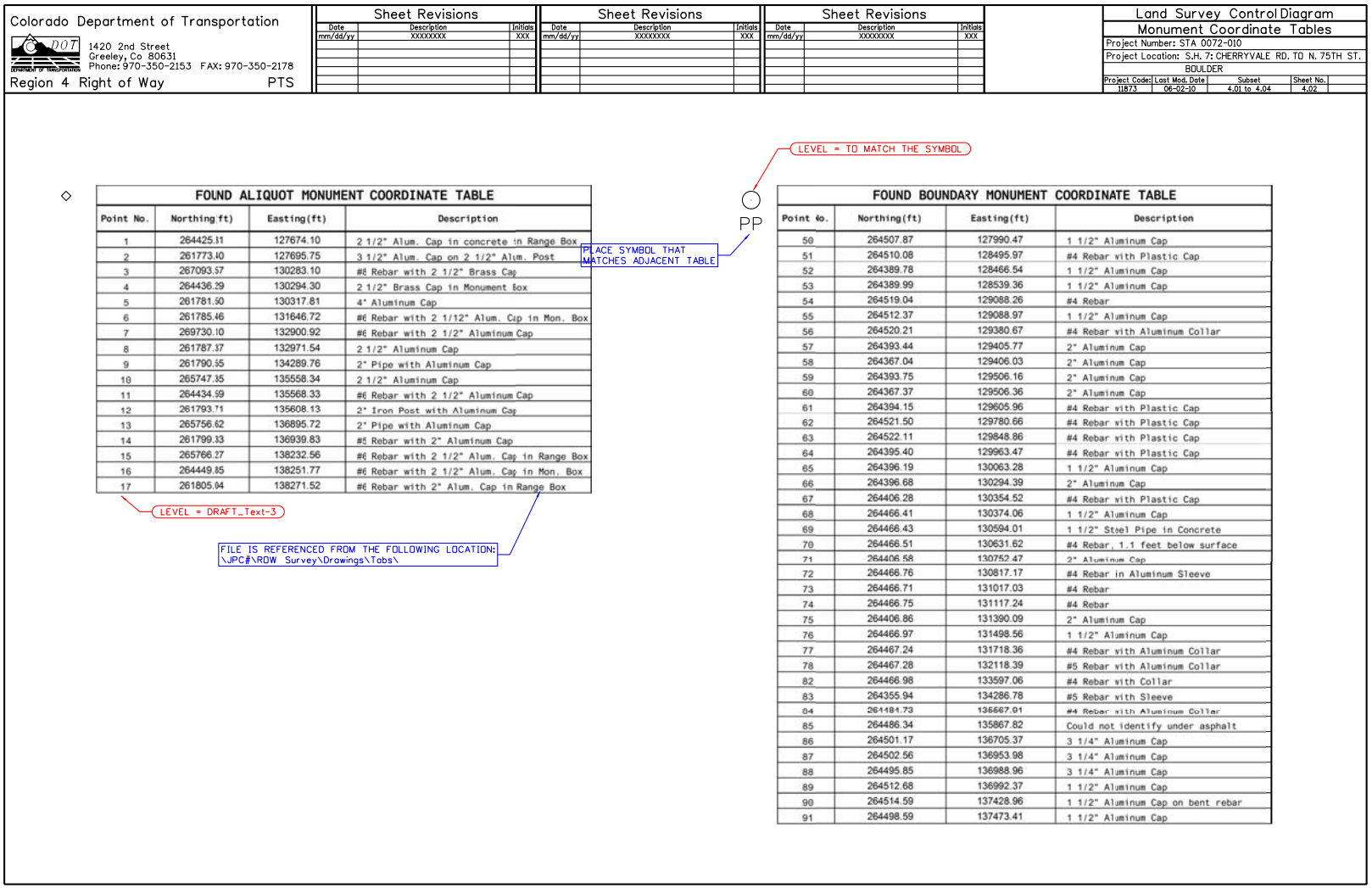
7.3.4 Plan Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Label each point with the appropriate cell. Edit the cell so that its number matches the point’s number.
- ❑ Label all Sections, Townships, and Ranges.
- ❑ Label all Quarter Sections.

7.3.5 Reference Files

The following file(s) should be referenced into each ROW Land Survey Control Diagram Sheet.

File Name	Location
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files



Colorado Department of Transportation
1420 2nd Street
Greeley, Co 80631
Phone: 970-350-2153 FAX: 970-350-2178
Region 4 Right of Way PTS

Sheet Revisions		
Date mm/dd/yy	Description	Initials
	XXXXXXXX	XXX

Sheet Revisions		
Date mm/dd/yy	Description	Initials
	XXXXXXXX	XXX

Sheet Revisions		
Date mm/dd/yy	Description	Initials
	XXXXXXXX	XXX

Land Survey Control Diagram
Monument Coordinate Tables
Project Number: STA 0072-010
Project Location: S.H. 7: CHERRYVALE RD. TO N. 75TH ST.
BOULDER

Project Code:	Last Mod. Date	Subset	Sheet No.
11873	06-02-10	4.01 to 4.04	4.02

LEVEL = TO MATCH THE SYMBOL

PP

PLACE SYMBOL THAT MATCHES ADJACENT TABLE

FOUND ALIQUOT MONUMENT COORDINATE TABLE

Point No.	Northing(ft)	Easting(ft)	Description
1	264425.11	127674.10	2 1/2" Alum. Cap in concrete in Range Box
2	261773.40	127695.75	3 1/2" Alum. Cap on 2 1/2" Alum. Post
3	267093.57	130283.10	#6 Rebar with 2 1/2" Brass Cap
4	264436.29	130294.30	2 1/2" Brass Cap in Monument Box
5	261781.50	130317.81	4" Aluminum Cap
6	261785.46	131646.72	#6 Rebar with 2 1/12" Alum. Cap in Mon. Box
7	269730.10	132900.92	#6 Rebar with 2 1/2" Aluminum Cap
8	261787.37	132971.54	2 1/2" Aluminum Cap
9	261790.55	134289.76	2" Pipe with Aluminum Cap
10	265747.35	135558.34	2 1/2" Aluminum Cap
11	264434.59	135568.33	#6 Rebar with 2 1/2" Aluminum Cap
12	261793.71	135608.13	2" Iron Post with Aluminum Cap
13	265756.62	136895.72	2" Pipe with Aluminum Cap
14	261799.33	136939.83	#5 Rebar with 2" Aluminum Cap
15	265766.27	138232.56	#6 Rebar with 2 1/2" Alum. Cap in Range Box
16	264449.85	138251.77	#6 Rebar with 2 1/2" Alum. Cap in Mon. Box
17	261805.04	138271.52	#6 Rebar with 2" Alum. Cap in Range Box

LEVEL = DRAFT_Text-3

FILE IS REFERENCED FROM THE FOLLOWING LOCATION:
\JPC#\ROW Survey\Drawings\Tabs\

FOUND BOUNDARY MONUMENT COORDINATE TABLE

Point No.	Northing(ft)	Easting(ft)	Description
50	264507.87	127990.47	1 1/2" Aluminum Cap
51	264510.08	128495.97	#4 Rebar with Plastic Cap
52	264389.78	128466.54	1 1/2" Aluminum Cap
53	264389.99	128539.36	1 1/2" Aluminum Cap
54	264519.04	129088.26	#4 Rebar
55	264512.37	129088.97	1 1/2" Aluminum Cap
56	264520.21	129380.67	#4 Rebar with Aluminum Collar
57	264393.44	129405.77	2" Aluminum Cap
58	264367.04	129406.03	2" Aluminum Cap
59	264393.75	129506.16	2" Aluminum Cap
60	264367.37	129506.36	2" Aluminum Cap
61	264394.15	129605.96	#4 Rebar with Plastic Cap
62	264521.50	129780.66	#4 Rebar with Plastic Cap
63	264522.11	129848.86	#4 Rebar with Plastic Cap
64	264395.40	129963.47	#4 Rebar with Plastic Cap
65	264396.19	130063.28	1 1/2" Aluminum Cap
66	264396.68	130294.39	2" Aluminum Cap
67	264406.28	130354.52	#4 Rebar with Plastic Cap
68	264466.41	130374.06	1 1/2" Aluminum Cap
69	264466.43	130594.01	1 1/2" Steel Pipe in Concrete
70	264466.51	130631.62	#4 Rebar, 1.1 feet below surface
71	264406.58	130752.47	2" Aluminum Cap
72	264466.76	130817.17	#4 Rebar in Aluminum Sleeve
73	264466.71	131017.03	#4 Rebar
74	264466.75	131117.24	#4 Rebar
75	264406.86	131390.09	2" Aluminum Cap
76	264466.97	131498.56	1 1/2" Aluminum Cap
77	264467.24	131718.36	#4 Rebar with Aluminum Collar
78	264467.28	132118.39	#5 Rebar with Aluminum Collar
82	264466.98	133597.06	#4 Rebar with Collar
83	264355.94	134286.78	#5 Rebar with Sleeve
84	264181.73	136667.01	#4 Rebar with Aluminum Collar
85	264486.34	135867.82	Could not identify under asphalt
86	264501.17	136705.37	3 1/4" Aluminum Cap
87	264502.56	136953.98	3 1/4" Aluminum Cap
88	264495.85	136988.96	3 1/4" Aluminum Cap
89	264512.68	136992.37	1 1/2" Aluminum Cap
90	264514.59	137428.96	1 1/2" Aluminum Cap on bent rebar
91	264498.59	137473.41	1 1/2" Aluminum Cap

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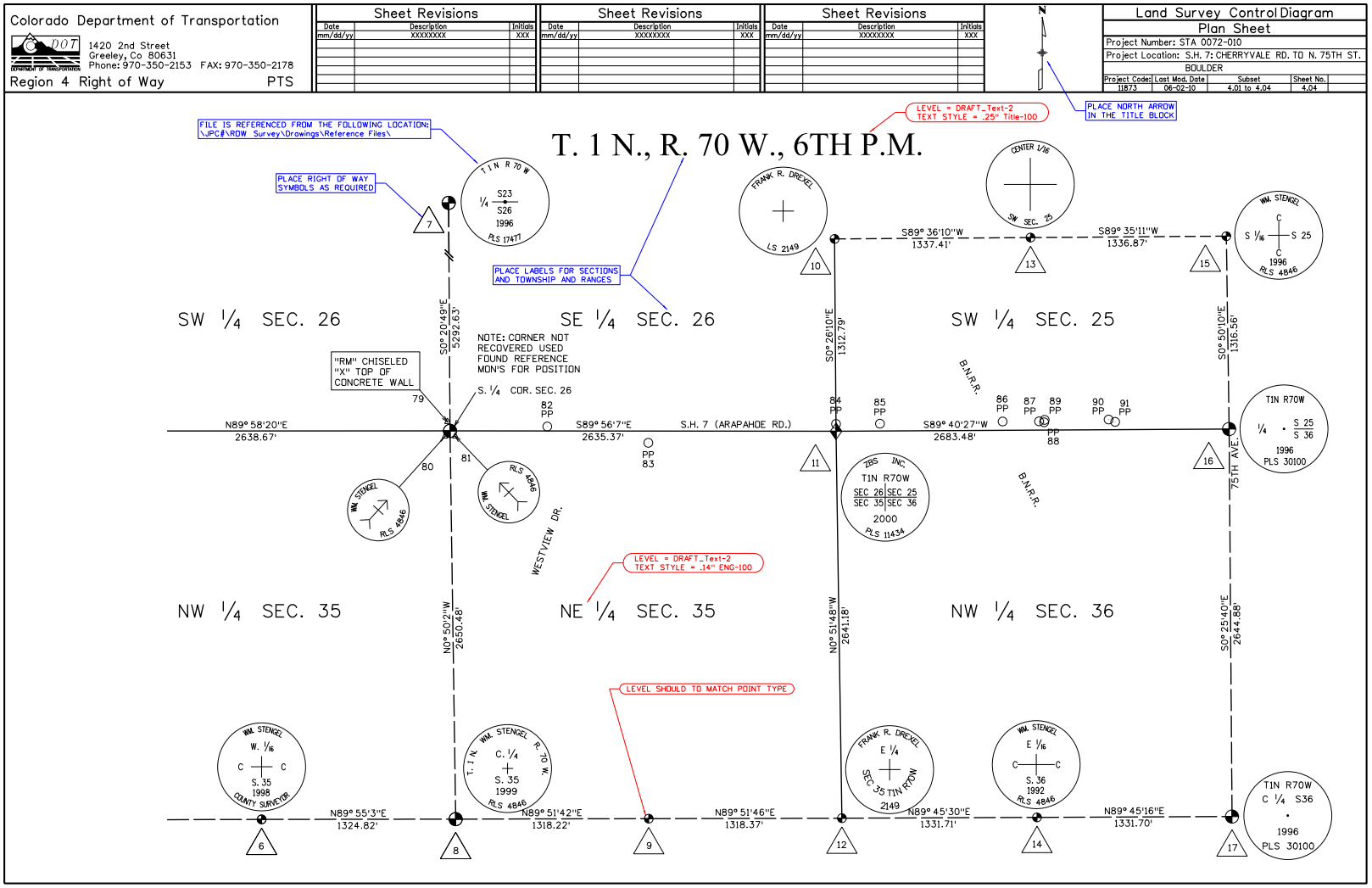

Colorado Department of Transportation
1420 2nd Street
Greeley, Co 80631
Phone: 970-350-2153 FAX: 970-350-2178
Region 4 Right of Way PTS
Sheet Revisions
Land Survey Control Diagram
Plan Sheet
Project Number: STA 0072-010
Project Location: S.H. 7: CHERRYVALE RD. TO N. 75TH ST.
BOULDER
FILE IS REFERENCED FROM THE FOLLOWING LOCATION: \JPC\ROW Survey\Drawings\Reference Files\
PLACE RIGHT OF WAY SYMBOLS AS REQUIRED
PLACE LABELS FOR SECTIONS AND TOWNSHIP AND RANGES
LEVEL = DRAFT_Text-2 TEXT STYLE = .25" Title-100
PLACE NORTH ARROW IN THE TITLE BLOCK
T. 1 N., R. 70 W., 6TH P.M.
SW 1/4 SEC. 26
SE 1/4 SEC. 26
SW 1/4 SEC. 25
NW 1/4 SEC. 35
NE 1/4 SEC. 35
NW 1/4 SEC. 36
NOTE: CORNER NOT RECOVERED USED FOUND REFERENCE MON'S FOR POSITION
"RM" CHISELED "X" TOP OF CONCRETE WALL
S. 1/4 COR. SEC. 26
S.H. 7 (ARAPAHOE RD.)
WESTVIEW DR.
B.N.R.R.
75TH AVE.
LEVEL = DRAFT_Text-2 TEXT STYLE = .14" ENG-100
LEVEL SHOULD TO MATCH POINT TYPE
N89° 58'20"E 2638.67'
S89° 56'7"E 2635.37'
S89° 40'27"W 2683.48'
S89° 36'10"W 1337.41'
S89° 35'11"W 1336.87'
S0° 20'49"E 5292.63'
S0° 26'10"E 1312.79'
S0° 50'10"E 1316.56'
N0° 50'2"W 2650.48'
N0° 51'48"W 2641.18'
S0° 25'40"E 2644.88'
N89° 55'3"E 1324.82'
N89° 51'42"E 1318.22'
N89° 51'46"E 1318.37'
N89° 45'30"E 1331.71'
N89° 45'16"E 1331.70'
2/10/2011 Nuhnson 5:22:58 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\037b_ROW-LSCD-Plan.dgn

7.4 Monumentation Sheet

The Monumentation Sheets lists the Point Number, coordinates, and description of each monument on the project.

7.4.1 Monumentation Sheet Checklist

- ❑ Fill out the sheet border information.
- ❑ Attach project specific Tabulation of ROW_TabMon Excel worksheets.
- ❑ Fill out the Quantity of Monuments To Be Set table.
- ❑ Add General Notes as needed. These usually go in the center bottom of the sheet.
- ❑ Edit the Surveyor's Statement to include the correct name.
- ❑ Add legal notices as needed.

7.4.2 Linking Microsoft Excel Files into MicroStation

The Monumentation drawing uses an Excel document to display important information about each monument on the project.

MicroStation Placement Methods:

Linked Microsoft Office Excel Worksheet (Preferred) - Requires a saved Excel file and can be edited by opening the document in Excel or double clicking the document in MicroStation. This method will automatically update MicroStation when opened or after editing.

Embedded Microsoft Office Excel Worksheet- The document is placed directly into MicroStation. Double click the document in MicroStation to edit in Excel as a temporary document.

Picture of Microsoft Office Excel Worksheet - Static graphic of the document. This method can not be edited or updated.

After creating the drawing file, link the Excel worksheet by taking the following steps:

- Highlight the area of the document to be linked and copy it to the clipboard.
- In MicroStation select Edit>Paste Special.
- In the "Paste Special" dialog box choose "Linked Microsoft Office Excel Worksheet".
- In the "Paste OLE" dialog box. Change the "Paste as" to "Link", the "Method" to "By Corners". Then tentative and select the guide line in the drawing file to match the .07" ENG-100 Text Style.

The link will display with hatching which indicates that the Excel file containing the linked data is currently open. If you close out of your Excel file, the hatching will go away.

7.4.3 Updating Linking Microsoft Excel Files

Linked Excel documents update automatically when the MicroStation file is opened or when you close out of Excel after editing.

For more information on linking Microsoft Excel files review this workflow, CDOT Linking Excel Documents to MicroStation

Colorado Department of Transportation
1420 2nd Street
Greeley, Co 80631
Phone: 970-350-2153 FAX: 970-350-2178
Region 4 Right of Way PTS

Sheet Revisions		
Date	Description	Initials
07/15/10	Revised R.O.W. Points	TNT

Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX

Sheet Revisions		
Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX

Right of Way Plans
Monumentation Sheet

Project Number: STA 0072-010
Project Location: S.H. 7: CHERRYVALE RD. TO N. 75TH ST.
BOULDER

Project Code:	Last Mod. Date	Subset	Sheet No.
11873	07-15-10	5.01 to 5.04	5.01

XXX

TABULATION OF R.O.W. MONUMENTS TO BE SET

Point No.	Northing(ft)	Easting(ft)	Description
114	264021.1865	128520.6469	RW
115	264229.4696	128548.8036	RW
116	264348.7963	128547.7469	RW
118	264383.0649	128570.2362	RW
123	264386.5668	129405.9152	RW
129	264374.2861	129606.3498	RW
146	264359.4037	130082.9465	RW
156	264360.1328	130256.9407	RW
157	264341.4147	130264.9347	RW
158	264332.0952	130284.2321	RW
159	264290.9933	130295.5867	RW
171	264489.7775	130324.0748	RW
172	264478.9641	130331.1542	RW
174	264466.3145	130345.0044	RW
177	264340.7102	130355.1484	RW
179	264368.3324	130381.9372	RW
182	264476.3286	130374.1466	RW
189	264476.4253	130574.2066	RW
200	264493.4364	130597.1122	RW
204	264493.4544	130634.3216	RW
205	264481.4538	130633.0490	RW
213	264368.5009	130730.5464	RW
218	264331.4615	130752.6868	RW
219	264356.5191	130768.2840	RW
225	264356.6063	130948.5751	RW
232	264481.6843	131109.9170	RW

LEVEL = DRAFT_Text-3

XXX

TABULATION OF R.O.W. MONUMENTS TO BE SET

Point No.	Northing(ft)	Easting(ft)	Description
235	264501.7410	131227.2979	RW
243	264379.8170	131384.5799	RW
248	264331.5193	130768.3761	RW
260	264380.0756	131919.6783	RW
261	264357.0757	131919.6894	RW
267	264380.1216	132014.6782	RW
268	264357.1216	132014.6894	RW
274	264502.1737	132122.3323	RW
275	264487.1809	132137.3395	RW
280	264380.2682	132317.9651	RW
285	264487.3139	132412.4852	RW
290	264479.3202	132425.4891	RW
306	264362.7540	132903.1891	RW
323	264354.2794	133186.3605	RW
324	264357.2794	133186.3542	RW
362	264356.6483	133745.2775	RW
393	264485.8074	135782.2646	RW
394	264500.8485	135792.8323	RW
397	264510.9243	135802.7559	RW
398	264510.9528	135807.7558	RW
401	264491.2946	135867.9168	RW
413	264500.3973	136246.8569	RW
416	264515.7867	136271.2763	RW
418	264524.3498	136377.6761	RW
422	264530.0313	136509.8667	RW
425	264530.4149	136577.3199	RW

FILE IS REFERENCED FROM THE FOLLOWING LOCATION:
\JPC#\ROW_Survey\Drawings\Tabs\

FILL IN TABLE AS NEEDED

XXX

TABULATION OF R.O.W. MONUMENTS TO BE SET

Point No.	Northing(ft)	Easting(ft)	Description
439	264526.6340	'36692.0446	RW
460	264412.4677	'36953.6856	RW
461	264382.6559	'36986.8693	RW
468	264528.1894	'36965.5614	RW
479	264518.6903	'37462.4771	RW
481	264515.7439	'37529.5279	RW
487	264499.6560	'37689.9623	RW
488	264387.1355	'37774.6036	RW
489	264507.1336	'37773.9212	RW
496	264518.0384	'37933.0040	RW
497	264508.1003	'37943.9184	RW
498	264518.1001	'37943.8615	RW
499	264508.2709	'37973.9179	RW
500	264518.2707	'37973.8610	RW
501	264388.4768	'38010.4682	RW
502	264388.6445	'38039.9477	RW
503	264384.3477	'38110.4364	RW
504	264380.2389	'38177.8428	RW
505	264509.3745	'38167.9838	RW
506	264584.9199	'38209.7787	RW
507	264358.2337	'38217.4532	RW
510	264492.5019	'36080.2287	RW
543	264501.8407	'31433.6236	RW
544	264496.1408	'31433.6263	RW
545	264496.1731	'31500.3669	RW
546	264501.8791	'31513.0632	RW

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

FOR THE TEXT IN THE TABLE:
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

QUANTITY OF MONUMENTS TO BE SET

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

General Notes:

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

1. All centerline and offset stationing may not represent the centerline as constructed in the field.

2. Refer to the M-629-1 Survey Monuments of the Standard Plans dated July, 2006 found in The Colorado Department of Transportation, M & S Standards for survey monument descriptions.

3. This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDOT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.

COORDINATE DATUM: Project coordinates are modified Colorado State Plane North Zone NAD '83/(92) coordinates. The combined elevation/scale factor used to modify the coordinates from state plane to project coordinates is 0.9997138880. The resulting project coordinates are truncated by 300,000m in the Northing and 900,000m in the Easting after converting from state plane coordinates to project coordinates. The CHARN is based on the NAD '83(92) datum. Project Coordinates Northing US Survey Feet = (State Plane Coordinate Northing * 0.9997138880 - 300,000) * (3937/1200). Project Coordinates Easting US Survey Feet = (State Plane Coordinate Easting * 0.9997138880 - 900,000) * (3937/1200).

EDIT TO INCLUDE SURVEYOR'S NAME

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

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.

SURVEYOR STATEMENT (R.O.W. MONUMENTS)

I, Peter T. Sulmeisters, 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 the Right-of-Way monuments depicted on this Right-of-Way Plan 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.

PLS No. 28290

2/10/2011 NJohnson 5:23:39 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\0.38_ROW-Monumentation.dgn

7.5 Plan Sheet

The Right of Way Plan Sheet contains data on right of way takes whether they are permanent or temporary easements in a graphical and tabular format.

7.5.1 Plan Sheet Checklist

- ❑ Fill in the title block.
- ❑ Include street names on mainline and all cross streets.
- ❑ Label all Sections, Townships, and Ranges that appear on the sheet.
- ❑ Label property owners within the confines of their own parcel.
- ❑ Include a table of property owners from whom parcels are obtained. This will include the symbol that contains their property call out.
- ❑ Include curve data. Place the symbol for each curve next to its corresponding data.
- ❑ Include a Line Table and a Point of Beginning Tie Chart.

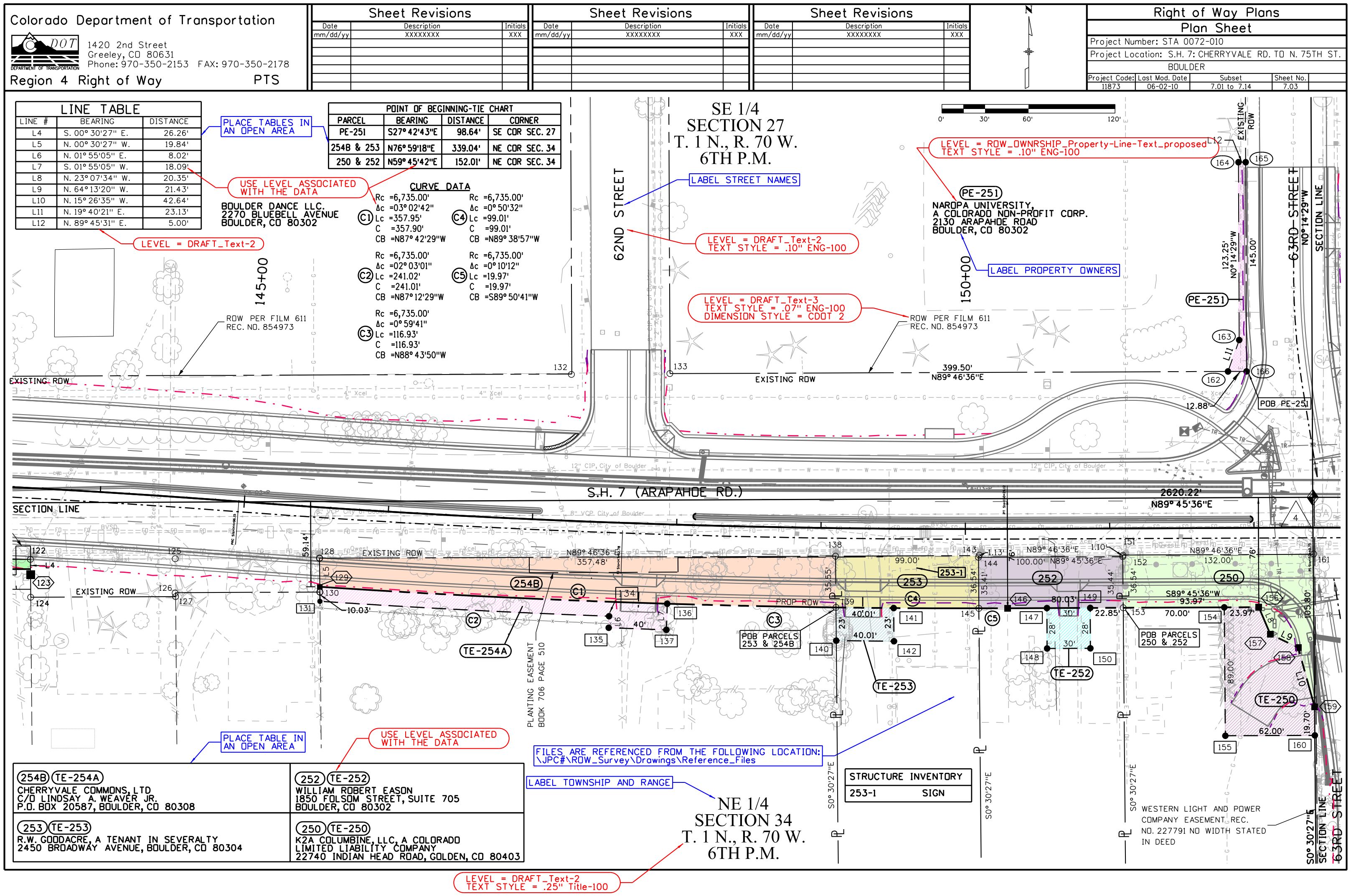
7.5.2 How To Call Out Items

- ❑ A station & offset callout should be provided at the beginning and ending of each item and at match lines. Pavement transitions may be called out where feasible.
- ❑ Call out items to the nearest 0.01 of a foot.

7.5.3 Reference Files

The following file(s) should be referenced into each ROW Plan Sheet.

File Name	Location
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#ROW_Model	JPC#\ROW_Survey\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


Colorado Department of Transportation
1420 2nd Street
Greeley, CO 80631
Phone: 970-350-2153 FAX: 970-350-2178
Region 4 Right of Way
PTS
Sheet Revisions
Date
Description
Initials
mm/dd/yy
XXXXXXXX
XXX
Right of Way Plans
Plan Sheet
Project Number: STA 0072-010
Project Location: S.H. 7: CHERRYVALE RD. TO N. 75TH ST.
BOULDER
Project Code: 11873
Last Mod. Date: 06-02-10
Subset: 7.01 to 7.14
Sheet No.: 7.03
LINE TABLE
LINE # | BEARING | DISTANCE
L4 | S. 00° 30'27" E. | 26.26'
L5 | N. 00° 30'27" W. | 19.84'
L6 | N. 01° 55'05" E. | 8.02'
L7 | S. 01° 55'05" W. | 18.09'
L8 | N. 23° 07'34" W. | 20.35'
L9 | N. 64° 13'20" W. | 21.43'
L10 | N. 15° 26'35" W. | 42.64'
L11 | N. 19° 40'21" E. | 23.13'
L12 | N. 89° 45'31" E. | 5.00'
PLACE TABLES IN AN OPEN AREA
POINT OF BEGINNING-TIE CHART
PARCEL | BEARING | DISTANCE | CORNER
PE-251 | S27° 42'43"E | 98.64' | SE COR SEC. 27
254B & 253 | N76° 59'18"E | 339.04' | NE COR SEC. 34
250 & 252 | N59° 45'42"E | 152.01' | NE COR SEC. 34
USE LEVEL ASSOCIATED WITH THE DATA
CURVE DATA
C1 Rc =6,735.00' Δc =03° 02'42" Lc =357.95' C =357.90' CB =N87° 42'29"W
C2 Rc =6,735.00' Δc =02° 03'01" Lc =241.02' C =241.01' CB =N87° 12'29"W
C3 Rc =6,735.00' Δc =0° 59'41" Lc =116.93' C =116.93' CB =N88° 43'50"W
C4 Rc =6,735.00' Δc =0° 50'32" Lc =99.01' C =99.01' CB =N89° 38'57"W
C5 Rc =6,735.00' Δc =0° 10'12" Lc =19.97' C =19.97' CB =S89° 50'41"W
BOULDER DANCE LLC.
2270 BLUEBELL AVENUE
BOULDER, CO 80302
LEVEL = DRAFT_Text-2
145+00
ROW PER FILM 611
REC. NO. 854973
SE 1/4
SECTION 27
T. 1 N., R. 70 W.
6TH P.M.
62ND STREET
LABEL STREET NAMES
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
DIMENSION STYLE = CDOT 2
LEVEL = ROW_OWNRSHIP_Property-Line-Text_proposed
TEXT STYLE = .10" ENG-100
PE-251
NAROPA UNIVERSITY,
A COLORADO NON-PROFIT CORP.
2130 ARAPAHOE ROAD
BOULDER, CO 80302
LABEL PROPERTY OWNERS
150+00
ROW PER FILM 611
REC. NO. 854973
EXISTING ROW
399.50'
N89° 46'36"E
EXISTING ROW
63RD STREET
SECTION LINE
N0° 14'29"W
123.25'
145.00'
POB PE-251
12.88'
S.H. 7 (ARAPAHOE RD.)
2620.22'
N89° 45'36"E
SECTION LINE
EXISTING ROW
N89° 46'36"E
357.48'
254B
PROP. ROW
10.03'
TE-254A
PLANTING EASEMENT
BOOK 706 PAGE 510
99.00'
253
253-1
N89° 46'36"E
100.00' N89° 45'36"E
252
132.00'
250
S89° 45'36"W
93.97'
80.03'
70.00'
23.97'
22.85'
40.01'
40.01'
POB PARCELS 253 & 254B
POB PARCELS 250 & 252
TE-253
TE-252
TE-250
89.00'
62.00'
19.70'
PLACE TABLE IN AN OPEN AREA
USE LEVEL ASSOCIATED WITH THE DATA
FILES ARE REFERENCED FROM THE FOLLOWING LOCATION:
\JPC#\ROW_Survey\Drawings\Reference_Files
LABEL TOWNSHIP AND RANGE
NE 1/4
SECTION 34
T. 1 N., R. 70 W.
6TH P.M.
STRUCTURE INVENTORY
253-1 SIGN
S0° 30'27"E
WESTERN LIGHT AND POWER COMPANY EASEMENT REC. NO. 227791 NO WIDTH STATED IN DEED
254B TE-254A
CHERRYVALE COMMONS, LTD
C/O LINDSAY A. WEAVER JR.
P.O. BOX 20587, BOULDER, CO 80308
253 TE-253
R.W. GOODACRE, A TENANT IN SEVERALTY
2450 BROADWAY AVENUE, BOULDER, CO 80304
252 TE-252
WILLIAM ROBERT EASON
1850 FOLSOM STREET, SUITE 705
BOULDER, CO 80302
250 TE-250
K2A COLUMBINE, LLC, A COLORADO
LIMITED LIABILITY COMPANY
22740 INDIAN HEAD ROAD, GOLDEN, CO 80403
LEVEL = DRAFT_Text-2
TEXT STYLE = .25" Title-100

7.6 Ownership Map Sheet

The Right of Way Ownership Map sheet depicts the property boundaries in a shaded area map with corresponding ownership data.

7.6.1 Ownership Map Sheet Checklist

- ❑ Fill in the title block data.
- ❑ Place the Bar Scale in an open area near the map.
- ❑ Label Sections, Townships, and Ranges on the map.
- ❑ Place the owner's number bubble in or pointing to the appropriate parcel on the map.
- ❑ Place owner's names and addresses in columns in an open area.
- ❑ Place the owner's number bubble next to the appropriate name.

7.6.2 Reference Files

The following file(s) should be referenced into each ROW Ownership Map Sheet.

File Name	Location
JPC#ROW_Model	JPC#\ROW_Survey\Drawings\Reference_Files
JPC#ROW_Model_Shaded-Parcels	JPC#\ROW_Survey\Drawings\Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files

Colorado Department of Transportation

1420 2nd Street
Greeley, CO 80631
Phone: 970-350-2153 FAX: 970-350-2178

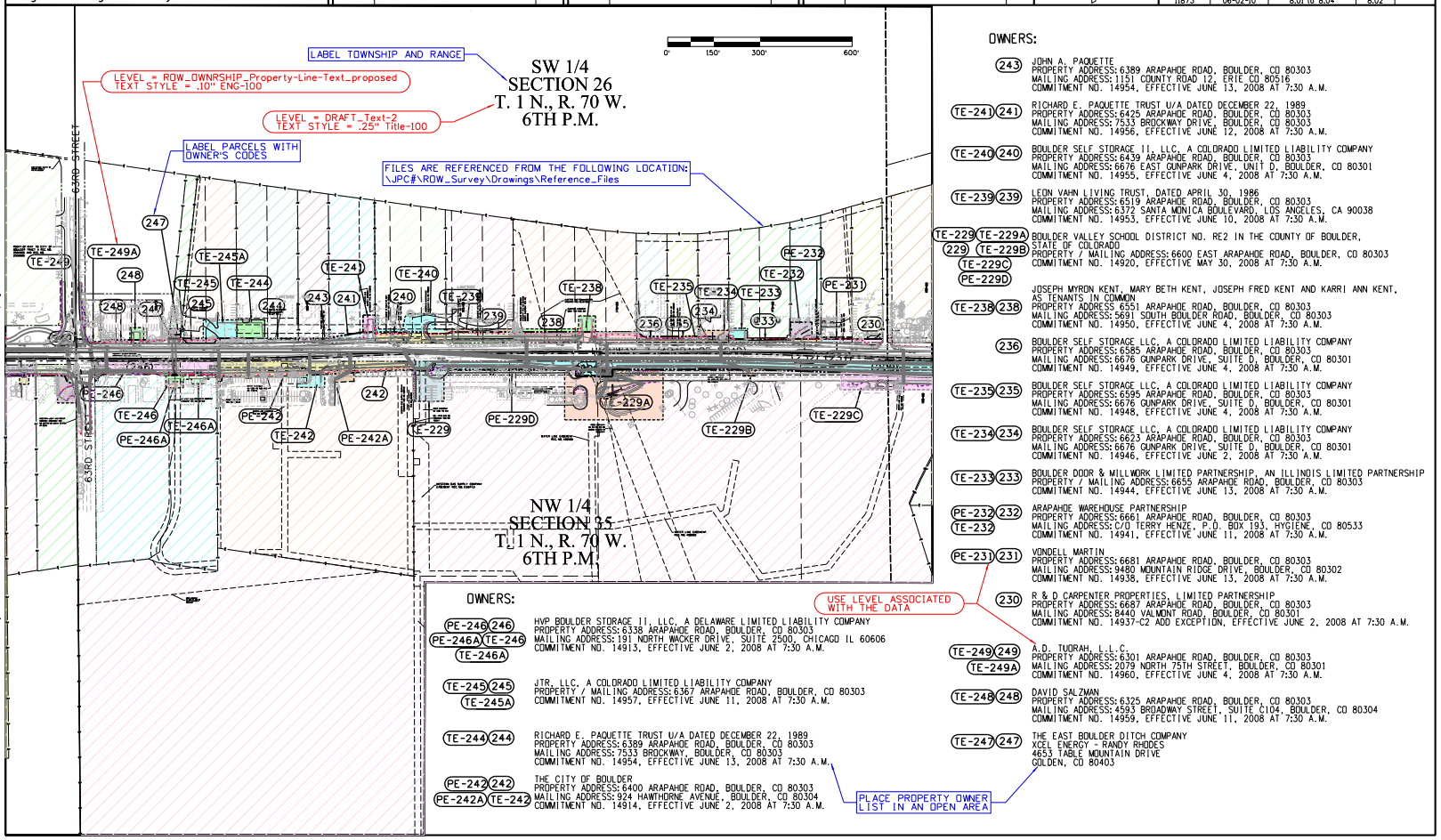
Region 4 Right of Way PTS

Sheet Revisions			Sheet Revisions			Sheet Revisions		
Date	Description	Initials	Date	Description	Initials	Date	Description	Initials
mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX	mm/dd/yy	XXXXXXXX	XXX

Right of Way Plans
Ownership Map

Project Number: STA 0072-010
Project Location: S.H. 7: CHERRYVALE RD. TO N. 75TH ST.
Boulder

Project Code:	Last Mod. Date	Subset	Sheet No.
11873	06-02-10	8.01 to 8.04	8.02



OWNERS:

(243) JOHN A. PAQUETTE
PROPERTY ADDRESS: 6389 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 1151 COUNTY ROAD 12, ERIE CO 80516
COMMITMENT NO. 14954, EFFECTIVE JUNE 13, 2008 AT 7:30 A.M.

(TE-241) (241) RICHARD E. PAQUETTE TRUST U/A DATED DECEMBER 22, 1989
PROPERTY ADDRESS: 6425 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 7533 BROCKWAY DRIVE, BOULDER, CO 80303
COMMITMENT NO. 14956, EFFECTIVE JUNE 12, 2008 AT 7:30 A.M.

(TE-240) (240) BOULDER SELF STORAGE II, LLC, A COLORADO LIMITED LIABILITY COMPANY
PROPERTY ADDRESS: 6439 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 6676 EAST GUNPARK DRIVE, UNIT D, BOULDER, CO 80301
COMMITMENT NO. 14955, EFFECTIVE JUNE 4, 2008 AT 7:30 A.M.

(TE-239) (239) LEON VAHN LIVING TRUST, DATED APRIL 30, 1986
PROPERTY ADDRESS: 6519 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 6372 SANTA MONICA BOULEVARD, LOS ANGELES, CA 90038
COMMITMENT NO. 14953, EFFECTIVE JUNE 10, 2008 AT 7:30 A.M.

(TE-229) (TE-229A) (229) (TE-229B) (TE-229C) (PE-229D) BOULDER VALLEY SCHOOL DISTRICT NO. RE2 IN THE COUNTY OF BOULDER, STATE OF COLORADO
PROPERTY / MAILING ADDRESS: 6600 EAST ARAPAHOE ROAD, BOULDER, CO 80303
COMMITMENT NO. 14920, EFFECTIVE MAY 30, 2008 AT 7:30 A.M.

(TE-238) (238) JOSEPH MYRON KENT, MARY BETH KENT, JOSEPH FRED KENT AND KARRI ANN KENT, AS TENANTS IN COMMON
PROPERTY ADDRESS 6551 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 5691 SOUTH BOULDER ROAD, BOULDER, CO 80303
COMMITMENT NO. 14950, EFFECTIVE JUNE 4, 2008 AT 7:30 A.M.

(236) BOULDER SELF STORAGE LLC, A COLORADO LIMITED LIABILITY COMPANY
PROPERTY ADDRESS: 6585 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 6676 GUNPARK DRIVE, SUITE D, BOULDER, CO 80301
COMMITMENT NO. 14949, EFFECTIVE JUNE 4, 2008 AT 7:30 A.M.

(TE-235) (235) BOULDER SELF STORAGE LLC, A COLORADO LIMITED LIABILITY COMPANY
PROPERTY ADDRESS: 6595 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 6676 GUNPARK DRIVE, SUITE D, BOULDER, CO 80301
COMMITMENT NO. 14948, EFFECTIVE JUNE 4, 2008 AT 7:30 A.M.

(TE-234) (234) BOULDER SELF STORAGE LLC, A COLORADO LIMITED LIABILITY COMPANY
PROPERTY ADDRESS: 6623 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 6676 GUNPARK DRIVE, SUITE D, BOULDER, CO 80301
COMMITMENT NO. 14946, EFFECTIVE JUNE 2, 2008 AT 7:30 A.M.

(TE-233) (233) BOULDER DOOR & MILLWORK LIMITED PARTNERSHIP, AN ILLINOIS LIMITED PARTNERSHIP
PROPERTY / MAILING ADDRESS: 6655 ARAPAHOE ROAD, BOULDER, CO 80303
COMMITMENT NO. 14944, EFFECTIVE JUNE 13, 2008 AT 7:30 A.M.

(PE-232) (232) (TE-232) ARAPAHOE WAREHOUSE PARTNERSHIP
PROPERTY ADDRESS: 6661 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: C/O TERRY HENZE, P.O. BOX 193, HYGIENE, CO 80533
COMMITMENT NO. 14941, EFFECTIVE JUNE 11, 2008 AT 7:30 A.M.

(PE-231) (231) VONDELL MARTIN
PROPERTY ADDRESS: 6681 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 9480 MOUNTAIN RIDGE DRIVE, BOULDER, CO 80302
COMMITMENT NO. 14938, EFFECTIVE JUNE 13, 2008 AT 7:30 A.M.

(230) R & D CARPENTER PROPERTIES, LIMITED PARTNERSHIP
PROPERTY ADDRESS: 6687 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 8440 VALMONT ROAD, BOULDER, CO 80301
COMMITMENT NO. 14937-C2 ADD EXCEPTION, EFFECTIVE JUNE 2, 2008 AT 7:30 A.M.

(TE-249) (249) (TE-249A) A.D. TUORAH, L.L.C.
PROPERTY ADDRESS: 6301 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 2079 NORTH 75TH STREET, BOULDER, CO 80301
COMMITMENT NO. 14960, EFFECTIVE JUNE 4, 2008 AT 7:30 A.M.

(TE-248) (248) DAVID SALZMAN
PROPERTY ADDRESS: 6325 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 4593 BROADWAY STREET, SUITE C104, BOULDER, CO 80304
COMMITMENT NO. 14959, EFFECTIVE JUNE 11, 2008 AT 7:30 A.M.

(TE-247) (247) THE EAST BOULDER DITCH COMPANY
XCEL ENERGY - RANDY RHODES
4653 TABLE MOUNTAIN DRIVE
GOLDEN, CO 80403

OWNERS:

(PE-246) (246) (PE-246A) (TE-246) (TE-246A) HVP BOULDER STORAGE II, LLC, A DELAWARE LIMITED LIABILITY COMPANY
PROPERTY ADDRESS: 6338 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 191 NORTH WACKER DRIVE, SUITE 2500, CHICAGO IL 60606
COMMITMENT NO. 14913, EFFECTIVE JUNE 2, 2008 AT 7:30 A.M.

(TE-245) (245) (TE-245A) JTR, LLC, A COLORADO LIMITED LIABILITY COMPANY
PROPERTY / MAILING ADDRESS: 6367 ARAPAHOE ROAD, BOULDER, CO 80303
COMMITMENT NO. 14957, EFFECTIVE JUNE 11, 2008 AT 7:30 A.M.

(TE-244) (244) RICHARD E. PAQUETTE TRUST U/A DATED DECEMBER 22, 1989
PROPERTY ADDRESS: 6389 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 7533 BROCKWAY, BOULDER, CO 80303
COMMITMENT NO. 14954, EFFECTIVE JUNE 13, 2008 AT 7:30 A.M.

(PE-242) (242) (PE-242A) (TE-242) THE CITY OF BOULDER
PROPERTY ADDRESS: 6400 ARAPAHOE ROAD, BOULDER, CO 80303
MAILING ADDRESS: 924 HAWTHORNE AVENUE, BOULDER, CO 80304
COMMITMENT NO. 14914, EFFECTIVE JUNE 2, 2008 AT 7:30 A.M.

Chapter 8 - Traffic Sheets

8.1 ITS Sheets

ITS sheets contain Detail, Plan, and Tabulation sheets that are used to describe the placement, installation, and quantities for traffic control devices.

There are three basic types of ITS sheet; detail sheets, plan sheets, and tabulation sheets. Details are concerned with the installation of the devices, plan sheets identify the location of the traffic control devices and tabulation sheets contain quantity data.

8.1.1 Detail Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place a title for each detail shown.
- ❑ Dimension each detail.
- ❑ Add general notes as needed.

8.1.2 Plan Sheet Checklist

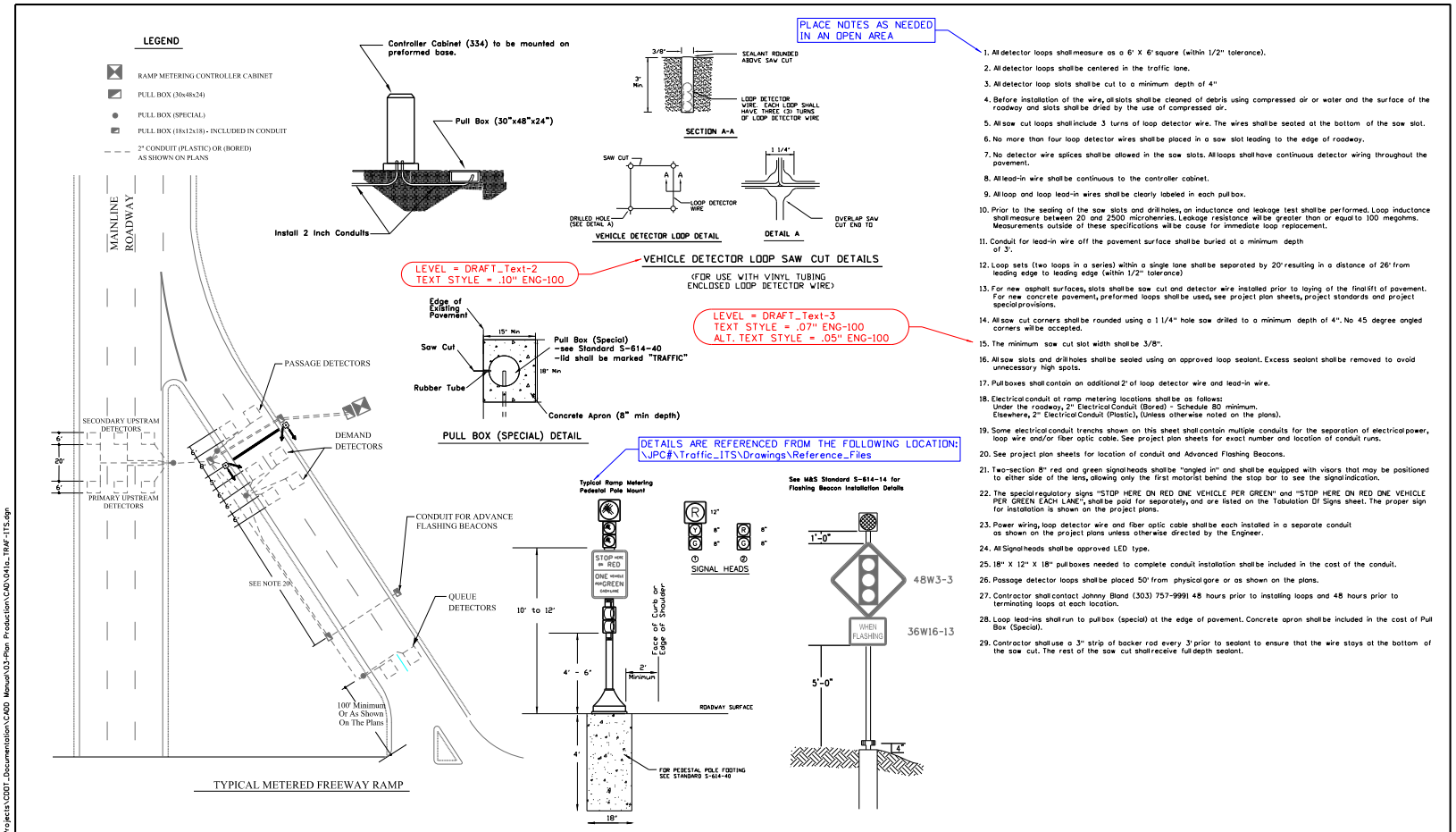
- ❑ Fill in the title block information.
- ❑ Place north arrow and bar scale in an open area, preferably in a corner.
- ❑ Include street names on mainline and all cross streets.
- ❑ Identify installations by type of equipment used.
- ❑ Identify installations that have detail drawings included in the plan set.

8.1.3 Tabulation Sheets Checklist

- ❑ Fill in the title block information.
- ❑ Create a table for the pay items

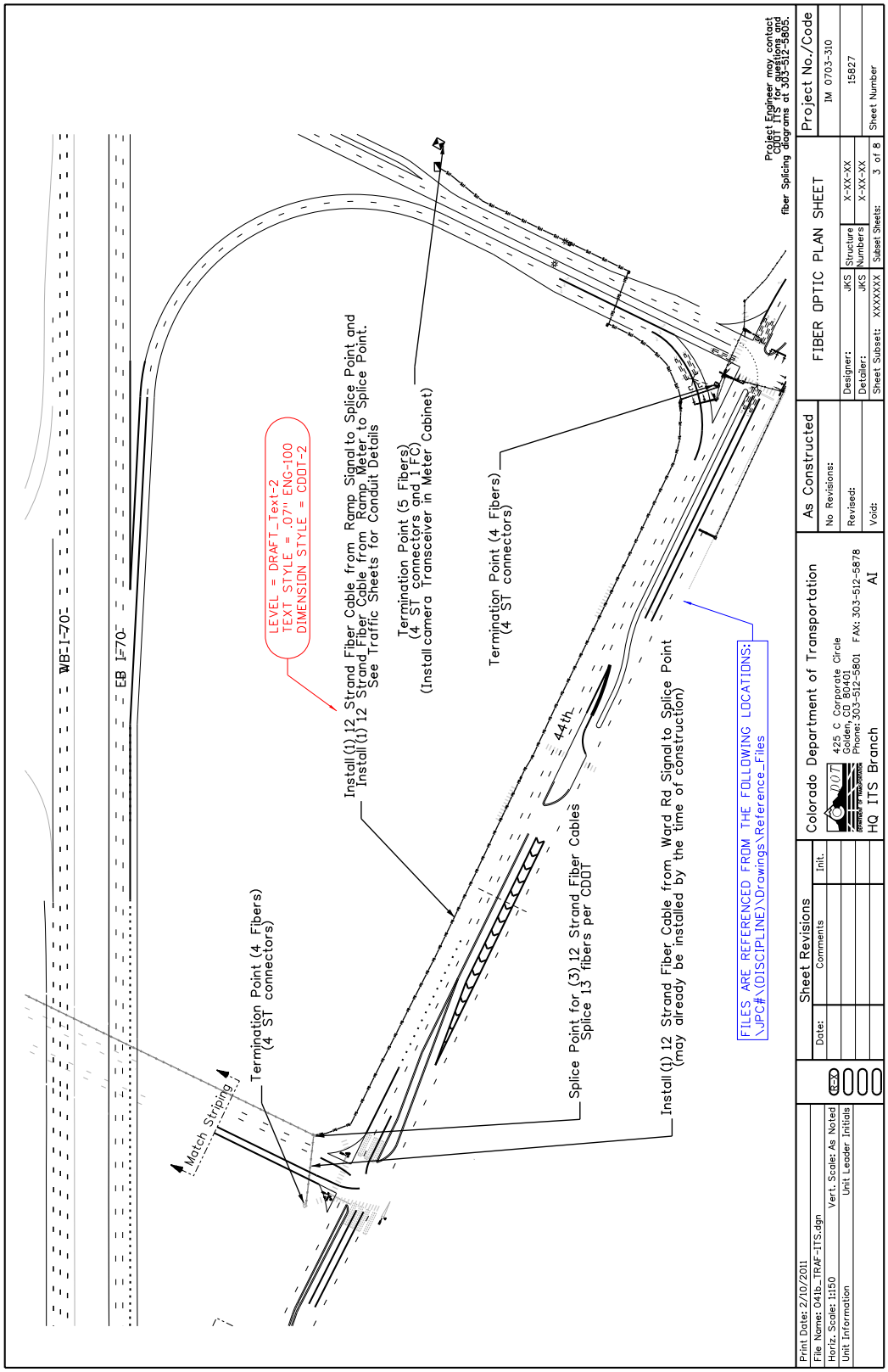
Pay item tables can be created in Excel and linked into the MicroStation sheet. For more information on linking Microsoft Excel files review this workflow, CDOT Linking Excel Documents to MicroStation.

- ❑ Add general notes as needed. These should be placed at the bottom of the sheet.

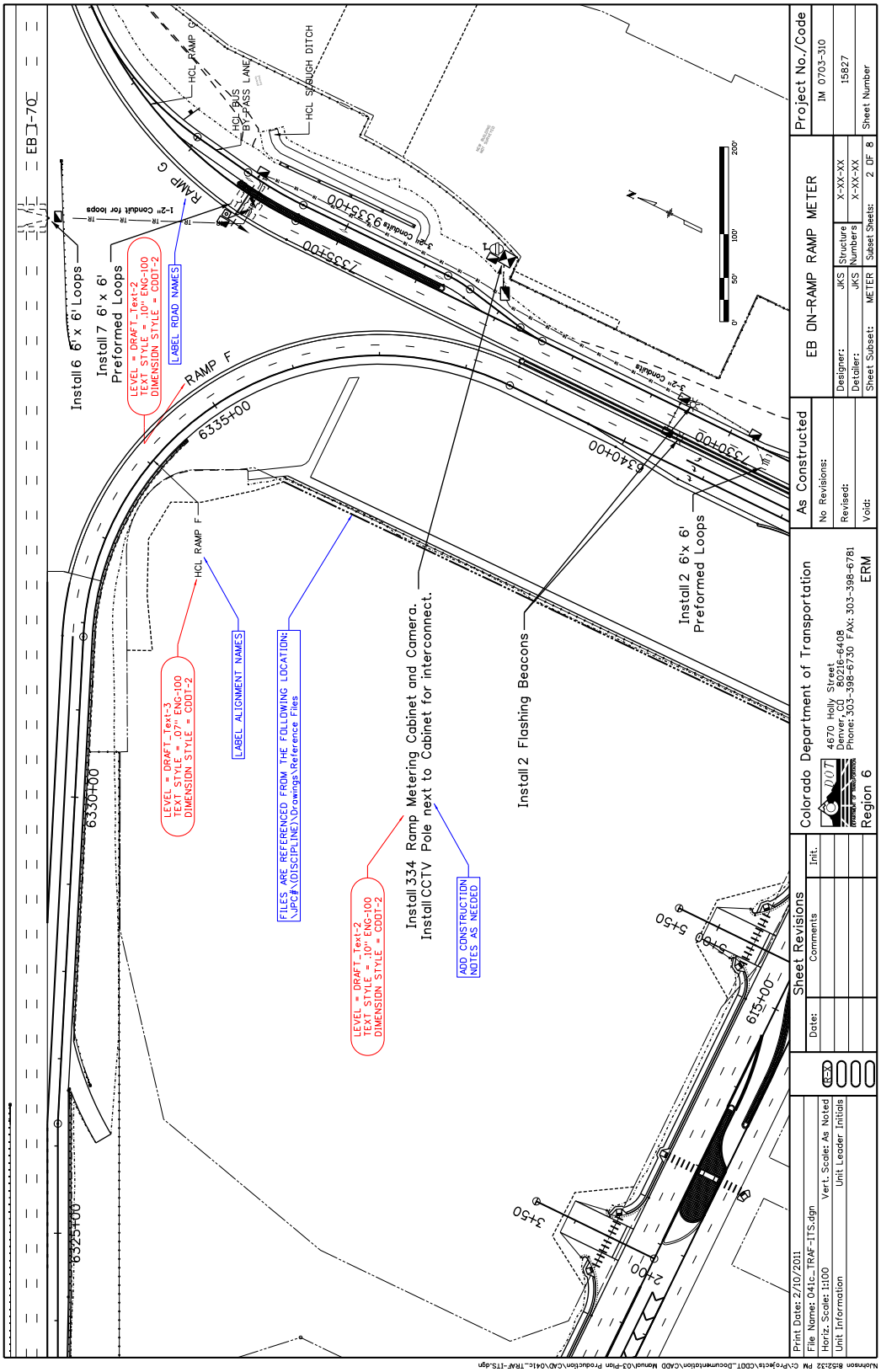


Print Date: 2/10/2011		Sheet Revisions			Colorado Department of Transportation	As Constructed	RAMP METERING DETAIL	Project No./Code
File Name: 041a_TRAF-ITS.dgn		Date:	Comments	Init.	2000 South Holly Street	No Revisions:		IM 0703-310
Horiz. Scale: Not to Scale Vert. Scale: As Noted	R-X				Denver, CO 80222	Revised:	Designer: BGK / Structure Numbers	15827
Unit Information Unit Leader Initials					Phone: 303-757-9511 FAX: 303-757-9907	Void:	Detailer: BGK	Sheet Number
					Region 6 Traffic and Safety AT		Sheet Subset: RM DETAIL Subset Sheets: 4 of 8	

Nuhnsen 5:30:43 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CADD\041a_TRAF-ITS.dgn



Nahnsen 8:51:28 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\041b_TRAF-ITS.dgn


EB I-70
Install 6 6' x 6' Loops
Install 7 6' x 6' Preformed Loops
1-2" Conduit for loops
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
DIMENSION STYLE = CDOT-2
LABEL ROAD NAMES
RAMP G
RAMP F
HCL RAMP G
HCL BUS BY-PASS LANE
HCL SLOUGH DITCH
5-2" Conduits
6335+00
6330+00
6325+00
6340+00
6345+00
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
DIMENSION STYLE = CDOT-2
HCL RAMP F
LABEL ALIGNMENT NAMES
FILES ARE REFERENCED FROM THE FOLLOWING LOCATION:
\\PCF\(DISCIPLINE)\Drawings\Reference Files
Install 334 Ramp Metering Cabinet and Camera.
Install CCTV Pole next to Cabinet for interconnect.
Install 2 Flashing Beacons
Install 2 6' x 6' Preformed Loops
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
DIMENSION STYLE = CDOT-2
ADD CONSTRUCTION NOTES AS NEEDED
5+50
5+00
6+00
Sheet Revisions
Date:
Comments
Init:
Colorado Department of Transportation
4670 Holy Street
Denver, CO 80216-6408
Phone: 303-398-6730 FAX: 303-398-6781
Region 6
ERM
As Constructed
No Revisions:
Revised:
Void:
EB ON-RAMP RAMP METER
Designer: JKS
Detailer: JKS
Sheet Subset: METER
Structure Numbers
X-XX-XX
X-XX-XX
Subset Sheets: 2 OF 8
Project No./Code
IM 0703-310
15827
Sheet Number
Print Date: 2/10/2011
File Name: 041c_TRAF-ITS.dgn
Horiz. Scale: 1:100
Vert. Scale: As Noted
Unit Information
Unit Leader Initials
0' 50' 100' 200'
C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\04c-_TRAF-ITS.dgn

LEVEL = DRAFT_Text-2
TEXT STYLE = .25" Title-100

TABULATION OF ITS ENGINEERING ITEMS

LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100

PLACE TABLES AS NEEDED

ITEM NO.	ITEM	UNIT	PROJECT TOTALS
203-01597	POTHOLING	HOUR	50
613-00206	2 INCH ELECTRICAL CONDUIT (BORED)	LIN. FT.	200
613-01200	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LIN. FT.	2000
613-07023	PULL BOX (24"x36"x24")	EACH	4
613-10000	WIRING	LS	.1
614-70216	TRAFFIC SIGNAL FACE (8-8)	EACH	2
614-70328	TRAFFIC SIGNAL FACE (12-8-8)	EACH	2
614-72871	LOOP DETECTOR WIRE (Prefab) (spec)	LIN. FT.	950
614-72875	LOOP DETECTOR WIRE	LIN. FT.	864
614-72878	TRAFFIC SIGNAL VEHICLE DETECTOR AMPLIFIER (LOOP TYPE) (4 CHANNEL)	EACH	5
614-84100	TRAFFIC SIGNAL PEDESTAL POLE ALUMINUM	EACH	2
614-86250	RAMP METERING CONTROLLER	EACH	1
614-87010	FIBER OPTIC CABLE (12 STRAND)	LF	4500
614-87020	OPTICAL TRANSCEIVER	EACH	8
614-87320	CLOSED CIRCUIT TELEVISION	EACH	1
614-87325	CCTV POLE	EACH	1

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

LEVEL = DRAFT_Wt-5

LEVEL = DRAFT_Wt-2

PLACE NOTES IN AN OPEN AREA

LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100

NOTES:

1. CONTROLLER SHALL INCLUDE A CABINET TYPE 334 AND ALL NECESSARY EQUIPMENT TO COMPLETE THE OPERATION OF THE CONTROLLER. 170E SHALL BE COMPATABLE WITH REGION 6's RAMP METERING FIRMWARE.
2. ALL STANDARD PULL BOXES (approx 12" x 18" with 20 K Rating), VALVE BOXES AND SEEDING TO RESTORE TRENCH ALONG THE CONDUIT RUN SHALL BE INCLUDED WITH THE COST OF THE CONDUIT. LOOP WIRE SHALL BE INCLUDED WITH THE CONDUIT ONCE IT ENTERS THE CONDUIT. ALL CONDUITS SHALL HAVE A PULL ROPE AND AT LEAST ONE TRACE WIRE PER TRENCH/BORE.
3. CONTRACTOR SHALL INCLUDE ALL MATERIALS AND LABOR TO CONNECT THE RAMP METERS TO FULL OPERATIONAL STATUS IN THE ABOVE ITEMS.
4. EACH CONTROLLER CABINET SHALL HAVE A PULL BOX (24"x36"x24").
5. ALL LOOPS SHALL DAYLIGHT IN A VALVE BOX IN THE PAVED SHOULDER AND THEN ENTER CONDUIT THAT DAYLIGHTS IN A STANDARD PULL BOX IN THE UNPAVED SHOULDER. LOOP WIRE SHALL ONLY BE PAID TO THE VALVE BOX.
6. 12-8-8 SIGNAL HEADS SHALL BE ALUMINUM AND 8-8 SIGNAL HEADS MAY BE POLYCARBOANTE.

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

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Print Date: 2/10/2011		Sheet Revisions			Colorado Department of Transportation	As Constructed	TABULATION OF ITS ENGINERING ITEMS	Project No./Code
File Name: 041d_TRAF-ITS.dgn		Date:	Comments	Init.	425 C Corporate Circle, Golden, CO 80401	No Revisions:	Designer: JKS / Structure Numbers: X-XX-XX	IM 0703-310
Horiz. Scale: 1:100 Vert. Scale: As Noted	X-X				Phone: 303-512-5801 FAX: 303-512-5878	Revised:	Detailer: JKS / Structure Numbers: X-XX-XX	15827
Unit Information Unit Leader Initials					HQ ITS Branch AI	Void:	Sheet Subset: METER / Subset Sheets: 1 of 8	Sheet Number

8.2 Tabulation Sheets

Traffic tabulation sheets summarize a list of traffic items used on the project. These include engineering items, signing items, pavement markings, and signaling devices. Some installation details can also be included.

8.2.1 Traffic Tabulation Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Create a table for the items to be tabulated.

Pay item tables can be created in Excel and linked into the MicroStation sheet. For more information on linking Microsoft Excel files review this workflow, CDOT Linking Excel Documents to MicroStation.

- ❑ Place notes in an open area.
- ❑ Details that are drawn at true scale (1:1 scale) can be dimensioned using the MicroStation dimensioning tools. For “not to scale” details, dimensions must be constructed manually.

Drawing at full scale makes dimensioning easier and helps keep dimensioning accurate.

TABULATION OF TRAFFIC ENGINEERING ITEMS

	ITEM NO.	ITEM DESCRIPTION	UNIT	PROJECT TOTALS
	202-00250	REM PAVEMENT MARKING	SF	10852
	202-00828	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	LS	1
	202-00810	REM GROUND SIGN	EA	33
	202-00821	REM SIGN PANEL	EA	14
	202-00827	REM OF PULL BOX	EA	2
**	202-00900	REM CONC FOOTING	EA	1
	202-05150	SANDBLASTING	SF	5370
	203-01597	POTHOLING	HR	32
	210-00805	RES OVERHEAD SIGN STR	EA	1
	210-00810	RES GROUND SIGN	EA	2
	210-00866	RES FIRE PREEMPTION UNIT AND TIMER	EA	1
	503-00036	DRILLED CAISSON (36 IN)	LF	57
	503-00048	DRILLED CAISSON (48 IN)	LF	44
	503-00054	DRILLED CAISSON (54 IN)	LF	106
	613-00206	2 IN ELEC COND (BORED)	LF	3200
	613-00306	3 IN ELEC COND (BORED)	LF	1000
	613-01200	2 IN ELEC COND (P)	LF	740
	613-01300	3 IN ELEC COND (P)	LF	300
	613-07000	PULL BOX (SPECIAL)	EA	4
	613-07023	PULL BOX (24x36x24)	EA	7
	613-07034	PULL BOX (24x36x18)	EA	4
	613-07039	PULL BOX (30x48x24)	EA	3
	613-10000	WIRING	LS	.4
	614-00011	SIGN PANEL (CL I)	SF	290
	614-00012	SIGN PANEL (CL II)	SF	726
	614-00013	SIGN PANEL (CL III)	SF	822
	614-00200	STEEL SIGN POST (U-2)	LF	11
	614-00214	STEEL SIGN POST (1.75x1.75 INCH TUBING)	LF	192
	614-00216	STEEL SIGN POST (2x2 INCH TUBING)	LF	75
	614-01583	STEEL SIGN SUPPORT (2-1/2 IN RD)(PO & SLIP)	EA	37
	614-32000	MONOTUBE OVERHEAD SIGN CANT (20 IN DIA)	EA	1
	614-42400	MONOTUBE OVERHEAD SIGN BRIDGE (24 IN DIA)	EA	2
	614-70150	PEDESTRIAN SIGNAL FACE(16)(COUNTDOWN)	EA	10
	614-70336	TRAF SIG (12-12-12)	EA	16
	614-72858	PEDESTAL POLE (3 FOOT 6 IN)	EA	2
	614-72860	PEDSTRIAN PUSH BUTTON	EA	4
	614-84100	TRAF SIG PED POLE ALUM	EA	2
	614-72871	LOOP DETECTOR WIRE (PREFAB) SPECIAL	LF	2732
	614-72878	DETECT AMP (LOOP) (4)	EA	2
	614-72889	DETECT (MICRO) (NON-INVASIVE)	EA	4
***	614-80000	FLASHING BEACON	EA	2
	614-81140	SIG-LIGHT POLE STEEL (1-40FT)	EA	1
	614-82010	TRAFFIC SIGNAL POLE STEEL (1 MAST ARM)	EA	3
	614-86246	CONTROLLER (TYPE 170E-HCII)	EA	1
	627-00005	EPOXY PVMT MKG	GAL	468
	627-00012	PAVEMENT MARKING PAINT (LOW VOC)	GAL	387
	627-01001	PREFORM PLASTIC PVMT MKG (TYPE I)	SF	13026
	627-02001	PREFORM PLASTIC PVMT MKG (TYPE II)	SF	3689
	627-30327	PREFORM PLASTIC PVMT MKG (WORD-SYMBOL)(TYPE III)	SF	516
	627-30332	PREFORM PLASTIC PVMT MKG (XWALK-STOPLINE)(TYPE III)	SF	2518
	630-80001	FLASHING BEACON (PORT)	EA	4
	630-80335	BARRICADE (3 M-A) (TEMP)	EA	25
	630-80341	CONST TRAF SIGN (A)	EA	179
	630-80342	CONST TRAF SIGN (B)	EA	107
	630-80343	CONST TRAF SIGN (C)	EA	20
	630-80344	CONST TRAF SIGN (SPECIAL)	SF	422
	630-80358	FLASH ARROW PANEL (C TY)	EA	6
	630-80360	DRUM CHANNEL DEV	EA	500
	630-80380	TRAFFIC CONE	EA	600
	630-85040	IMPACT ATTEN (T-M-A)(TEMP)	EA	3

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

LEVEL = DRAFT_WT-2

SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES

CONSTRUCTION SIGNS						
SIGN CODE	LEGEND	DIMENSIONS	PANEL SIZE A	B	C	SF
48W20-1	ROAD / WORK / XXXXX			20		
48W20-5R	RIGHT/LANE/CLOSED/____ FT	48"X48"		6		
48W20-5L	LEFT/LANE/CLOSED/____ FT	48"X48"		6		
△ 48W4-2()	TRANSITION SYMBOL	48"X48"		4		
48W21-5	SHOULDER / WORK	48"X48"		4		
★ 36G20-5	WORK ZONE ♦	36"X12"	8			
★ 48R52-6a	BEGIN / FINES / DOUBLE / IN WORK / ZONE	48"X60"			10	
★ 48R52-6b	END / FINES / DOUBLE / IN WORK / ZONE	48"X60"			10	
★ 36R2-6	FINES / DOUBLE ✠	36"X36"	10			
48G20-10	XYZ / CONSTRUCTION / THANKS YOU / 555-555-5555 ♦	48"X48"		6		
48W20-7a	FLAGGER SYMBOL	48"X48"		6		
48W20-52	GROOVED / PAVEMENT / AHEAD	48"X48"		4		
48W8-11	UNEVEN / LANES	48"X48"		4		
24R3-2L	NO LEFT TURN SYM	24"X24"	8			
24R3-1R	NO RIGHT TURN SYM	24"X24"	8			
24R9-9	SIDEWALK / CLOSED	24"X12"	10			
24R9-10	SIDEWALK CLOSED/"ARROW"/USE OTHER SIDE	24"X12"	10			
24R9-11	SIDEWALK CLOSED/AHEAD/"ARROW"/CROSS HERE	24"X12"	10			
24R9-11a	SIDEWALK CLOSED/"ARROW"/CROSS HERE	24"X12"	10			
48R11-2	ROAD/CLOSED	48"X30"		25		
48W8-1	BUMP	48"X48"		4		
✱ 48G20-11	"CONSTRUCTION INFO" ♦ ●	4'X4'				160
✱ SPECIAL 1	"BUISNESS ACCESS" ARROW ♦	24"X24"				40
24M3-2a	"EAST" CARDINAL DIRECTION	24"X12"	10			
24M3-4a	"WEST" CARDINAL DIRECTION	24"X12"	10			
21M6-3a	ARROW	21"X15"	20			
21M5-1	LEFT ARROW	21"X15"	10			
21M6-1a	RIGHT ARROW	21"X15"	10			
24M1-5a(72)	"SH 72" ROUTE MARKER	24"X24"	6			
48W20-2	DETOUR AHEAD	48"X48"		10		
48M4-10R	DETOUR ARROW	48"X18"	6			
48M4-10L	DETOUR ARROW	48"X18"	6			
48W24-1aL(R)	DOUBLE REVERSE CURVE SYM (L & R)	48"X48"		8		
36R6-1	ONE WAY (LT & RT)	36"X12"	6			
24M4-8	DETOUR	24"X12"	10			
24M1-4(40)	"US 40" ROUTE MARKER	24"X24"	6			
✱ SPECIAL 2	"TABOR ST CLOSED USE KIPLING ST" ♦	36"X36"				54
✱ SPECIAL 3	"TABOR ST CLOSED USE WARD RD" ♦	36"X36"				54
✱ SPECIAL 4	"TABOR ST CLOSED LOCAL TRAFFIC USE ROBB ST" ♦	36"X36"				54
✱ SPECIAL 5	"TABOR ST" ♦	24"X12"				12
✱ SPECIAL 6	"DENVER WEST BLVD" ♦	24"X24"				24
✱ SPECIAL 7	"YOUNGFIELD AND W 32ND AVE" ♦	24"X24"				24
✱ 24M1-1(70)	INTERSTATE SHIELD ♦	24"X24"	4			
✱ 24M4-8a	END DETOUR ♦	24"X18"	1			
		SIGN TOTALS	179	107	20	422

LEVEL = DRAFT_WT-1

LEVEL = DRAFT_Text-2
TEXT STYLE = .07" ENG-100

SHEET NOTES

★ 1. SEE STANDARD S-630-1 OF THE "COLORADO STANDARD PLANS" FOR TYPICAL PLACEMENT OF THE CONSTRUCTION TRAFFIC CONTROL DEVICES

✱ 2. CONSTRUCTION TRAFFIC SIGN (SPECIAL) PAID BY SQUARE FOOT

△ 3. TO BE PROVIDED WITH INTERCHANGEABLE PLAQUES AT NO ADDITIONAL COST TO THE PROJECT

✠ 4. STENCIL BLACK ON REFLECTIVE WHITE

♦ 5. STENCIL BLACK ON REFLECTIVE ORANGE

6. ROLL-UP TYPE SIGN SHALL NOT BE ALLOWED ON INTERSTATE, FREEWAY, OR EXPRESSWAYS

● 7. LOCAL NUMBERS ONLY SHALL BE USED ON THE CONSTRUCTION INFO SIGNING AND NO NUMBER WITH EXTENTIONS SHALL BE ALLOWED.

** 8. FOR PARTIAL REMOVAL OF THE CAISSON FOUNDATION FOR RESET OF THE CANTILEVER SIGN STRUCTURE

*** 9. ITS RAMP METER SIGNAL POLES

CONSTRUCTION INFO SIGN

G20-11

Legend – Black (Non-Refl)
Background – Fluorescent Orange (Refl)

SPECIAL 1

Legend – Black (Non-Refl)
Background – Fluorescent Orange (Refl)

LEVEL = DRAFT_WT-5

Print Date: 9/13/2010	Sheet Revisions			Colorado Department of Transportation	As Constructed	TABULATION OF TRAFFIC ENGINEERING ITEMS		Project No./Code
File Name: 042a_TRAF-Tabs.dgn	Date:	Comments	Init.	DOT 2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907	No Revisions:	Designer: TCD	Structure Numbers	IM 0703-310
Horiz. Scale: Vert. Scale: As Noted				Region 6 Traffic and Safety LR	Revised:	Detailer: TCD		15827
Unit Information: 6580 Unit Leader: PJN					Void:	Sheet Subset: TRAFFIC	Subset Sheets:	Sheet Number

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LEVEL = DRAFT_Weight-2
TEXT STYLE = .07" ENG-100

SIGN NO.	DESCRIPTION	DIRECTION	SIGN CODE	SIGN PANEL SIZE (IN) W X H	BACK-GROUND COLOR	SIGN PANEL (SF) CLASS I	CLASS II	CLASS III	REMOVE GROUND SIGN (EACH)	REMOVE SIGN PANEL (EACH)	RESET GROUND SIGN (EACH)	RESET SIGN PANEL (EACH)	NO. OF POSTS	LENGTH OF POST	STEEL SIGN POSTS 2"P	STEEL SIGN POSTS 2.5" P1	STEEL SIGN POSTS 2.5" P2	PERFORATED STEEL POSTS 1.5"x1.5"	PERFORATED STEEL POSTS 1.75"X1.75"	PERFORATED STEEL POSTS 2"x2"	POST TYPE (LF) U-2 POST	POST TYPE (LF) W10X22 BEAM	POST TYPE (LF) W10X26 BEAM	POST TYPE (LF) W12X35 BEAM	CONC FOOTING TYPE (EA) 1	2	3	4	5	6	7
	I-70																															
1A		EB	60R3-8r	60 X 60	WHITE		25		1																							
1B		EB	SPECIAL	60 X 36	WHITE		15										2															
2	SEE OVERHEAD SIGN TAB																															
3		EB	60R3-8r	60 X 60	WHITE		25		1								2															
4 4C	SEE OVERHEAD SIGN TAB																															
5		EB	SPECIAL	9' X 5'	GREEN		45		1								2															
6	SEE OVERHEAD SIGN TAB																															
7	SEE OVERHEAD SIGN TAB																															
8		EB	12D10-3(266)	48 X 12	GREEN		4		1													11										
9		EB	48W4-1r	48 X 48	YELLOW		16		1								2															
10A		EB	30M3-2i	30 X 15	BLUE		3.125		1								2															
10B			48M1-1	48 X 48	BLUE		16																									
11		EB	48R2-1 (65)	48 X 60	WHITE		20		1								2															
	W 44th AVE																															
12A		WB	24M3-4	24 X 12	WHITE		2		1																							
12B			24M1-5A	24 X 24	WHITE		4																									
12C			21M6-1	21 X 15	WHITE		2.188																									
12D			24M3-4i	24 X 12	BLUE		2										1															
12E			24M1-1	24 X 24	BLUE		4																									
12F			21M6-1i	21 X 15	BLUE		2.188																									
13		WB	30R3-7r	30 X 30	WHITE	6.25			1												12		3									
14A		WB	30R3-7r	30 X 30	WHITE	6.25															12		3									
14B			SPECIAL	30 X 18	WHITE	3.75																										
15A		WB	24M3-2i	24 X 12	BLUE		2																									
15B			24M1-1	24 X 24	BLUE		4																									
15C			21M6-1i	21 X 15	BLUE		2.188																									
15D			24M3-4i	24 X 12	BLUE		2										1															
15E			24M1-1	24 X 24	BLUE		4																									
15F			21M6-1i	21 X 15	BLUE		2.188																									
16A	FLOURESCENT YELLOW-GREEN	WB	36W11-2	36 X 36	FYG	9			1												14		3									
16B			30W16-7pL	30 X 18	FYG	4.125																										
17A	FLOURESCENT YELLOW-GREEN	WB	36W11-2	36 X 36	FYG	9															14		3									
17B			30W16-7pR	30 X 18	FYG	4.125																										
18		WB	30W12-1	30 X 30	YELLOW	6.25															10		3									
19A	FLOURESCENT YELLOW-GREEN	WB	36W11-2	36 X 36	FYG	9			1												14		3									
19B			24W16-9p	30 X 18	FYG	4.125																										
20A		EB	24M3-4i	24 X 12	BLUE		2																									
20B			24M1-1	24 X 24	BLUE		4																									
20C			21M6-1i	21 X 15	BLUE		2.188										1															
20D			24M3-4	24 X 12	WHITE		2																									
20E			24M1-5A	24 X 24	WHITE		4																									
20F			21M6-1	21 X 15	WHITE		2.188																									
				PAGE 1 TOTALS=====>		61.88	218.25		11								3	10	2		76		18	11									

LEVEL = DRAFT_Text-2
TEXT STYLE = .07" ENG-100

LEVEL = DRAFT_WT-5

NOTES:
1. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE ENGINEER.
2. LOCATION OF SIGNS ARE APPROXIMATE ONLY. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.
3. R6 TRAFFIC SIGN INVENTORY COMPLETED 11 JUNE 09. CONDITION OF SIGNS MAY HAVE CHANGED SINCE INVENTORY COMPLETION. CONTRACTOR SHALL PROVIDE PROJECT ENGINEER WITH A CURRENT EXISTING INVENTORY BEFORE REMOVAL OF ANY SIGNS.
4. REPLACEMENT OF EXISTING SIGN TO BE UPGRADED SHALL BE LOCATED NEAR EXISTING SIGNS WHICH THEY REPLACE AS DIRECTED BY THE ENGINEER. INSTALLATION OF NEW SIGNING SHALL BE AS SHOWN IN PLANS, USING THE S STANDARDS OR AS DIRECTED BY THE ENGINEER.

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

LEVEL = DRAFT_WT-1

LEVEL = DRAFT_WT-2

Print Date: 9/16/2010
File Name: 042b_TRAF-Tabs.dgn
Horiz. Scale: Vert. Scale: As Noted
Unit Information: 6580 Unit Leader: PJN

Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 6 Traffic and Safety LR

As Constructed
No Revisions:
Revised:
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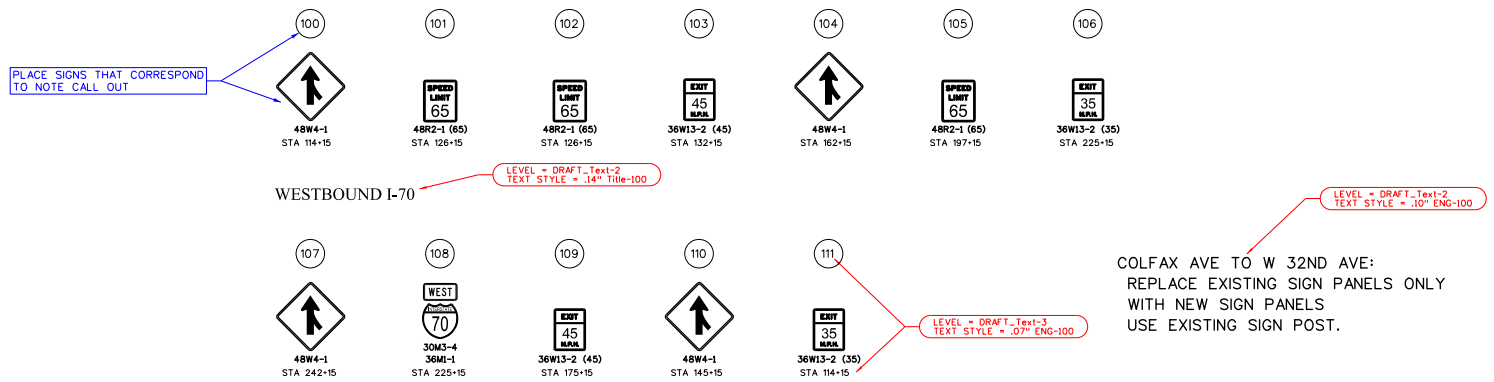
TABULATION OF SIGNS

Designer: TCD
Detailer: TCD
Sheet Subset: TRAFFIC
Structure Numbers:
Subset Sheets: 1 of 3

Project No./Code
IM 0703-310
15827
Sheet Number

I-70, 32ND AVE TO COLFAX AVE OVERLAY



LEVEL = DRAFT_Text-2
TEXT STYLE = .07" ENG-100

SIGN NO.	DESCRIPTION	REMOVE SIGN PANEL	DIRECTION	SIGN CODE	SIGN PANEL SIZE W x H (IN)	BACKGROUND COLOR	SIGN PANEL (SF) CLASS II
100	REMOVE SIGN PANEL	1	EB	48W4-1	48 x 48	YELLOW	16
101	MOUNT ON BUTTERFLY STRUCTURE	1	EB	48R2-1 (65)	48 x 60	WHITE	20
102	REMOVE SIGN PANEL	1	EB	48R2-1 (65)	48 x 60	WHITE	20
103	REMOVE SIGN PANEL	1	EB	36W13-2(45)	36 x 48	YELLOW	12
104	REMOVE SIGN PANEL	1	EB	48W4-1	48 x 48	YELLOW	16
105	REMOVE SIGN PANEL	1	EB	48R2-1 (65)	48 x 60	WHITE	20
106	REMOVE SIGN PANEL	1	EB	36W13-2 (35)	36 x 48	YELLOW	12
107	REMOVE SIGN PANEL	1	WB	48W4-1	48 x 48	YELLOW	16
108a	REMOVE SIGN PANEL	1	WB	30M3-4	30 x 15	WHITE	3.125
108b	REMOVE SIGN PANEL	1	WB	36M1-1	36 x 36	TOP - RED BOT - BLUE	9
109	REMOVE SIGN PANEL	1	WB	36W13-2(45)	36 x 48	YELLOW	12
110	REMOVE SIGN PANEL	1	WB	48W4-1	48 x 48	YELLOW	16
111	MOUNT ON UTILITY POLE	1	WB	36W13-2 (35)	36 x 48	YELLOW	12
		TOTAL - 13					TOTAL - 184.125

LEVEL = DRAFT_WT-1

Print Date: 2/10/2011		Sheet Revisions			Colorado Department of Transportation	As Constructed	TABULATION OF I-70 OVERLAY SIGNS	Project No./Code
File Name: 042c_TRAF-Tabs.dgn		Date:	Comments	Init.	2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907	No Revisions:	Designer: TCD	IM 0703-310
Horiz. Scale:	Vert. Scale: As Noted					Revised:	Detailer: TCD	15827
Unit Information: 6580	Unit Leader: PJN				Region 6 Traffic and Safety LR	Void:	Sheet Subset: TRAFFIC	Sheet Number

LEVEL = DRAFT_WT-2
TEXT STYLE = .07" ENG-100

ROADWAY	DESCRIPTION	PAVEMENT MARKING LINES (LF)																PREFORMED PLASTIC TYPE III						
		EPOXY							PREFORMED PLASTIC									(XWALK-STOPLINE)		H=8'				H=12'
		EDGE		CENTER		LANE LINE		CROSS-HATCHING	LANE LINE		CHANNELIZING		DROP LANE		DOTTED LINES			X-WALK	STOP	PVMT MKG "ONLY" (EACH)	PVMT MKG "ARROW" (EACH)	PVMT MKG "ARROW" (EACH)	PVMT MKG "ARROW" (EACH)	PVMT MKG "HOV" (EACH)
		WHITE 4" SOLID	YELLOW 4" SOLID	YELLOW SOLID	YELLOW DOUBLE 4" SOLID	WHITE 4" BROKEN	WHITE BROKEN	WHITE 8" SOLID 45 DEGREE DIAGONAL 25' INTERVALS	WHITE 4" BROKEN TYPE I	WHITE 7" BROKEN TYPE II	WHITE 8" SOLID TYPE I	WHITE 11" SOLID TYPE II	WHITE 8" BROKEN TYPE I	WHITE 11" BROKEN TYPE II	WHITE 8" BROKEN TYPE I	WHITE 11" BROKEN TYPE II		WHITE SOLID 24" INCH	WHITE SOLID 24" INCH					
I-70																								
	I-70 EB	11616	11616						21120		1804		1380											
	I-70 WB	11616	11616						24766		1078													
✳	I-70 EB (CONSTRUCTION)	13024	13024			26048																		
	I-70 EB OFF RAMP	1146	1310							1146		518												
	I-70 EB ON RAMP	2316	1538							1068									24					3
SH 72 (WARD RD)																								
	WARD RD	450	450						345		465													
W 44TH AVE																								
	W 44TH AVE EB		1000		1666			330	3018		540	1865						50						
	W 44TH AVE WB				964				480	2950	100	684		475				70						
	@ WARD RD	325																300	125	3	2	6	4	
	@ WEST TA CENTER ACCESS																	110						
	@ EAST TA CENTER ACCESS																	110						
	@ I-70 EB OFF/ON RAMPS	510															113	290	130	1		6	6	
	@ TABOR ST																	50						
I-70	32ND AVE TO COLFAX EB/WB	26400	26400						58080		1800													
	(LF) TOTALS===>	67403	66954		2630	26048		330	107809	5164	5787	3067	1380	475			113	980	279	4 EA	2 EA	12 EA	10 EA	3 EA
	(SF) TOTALS===>	22465	22316		1754	2171		220	8984	754	3858	2812	184	88			35	1960	558	90.0	55.0	186.0	155.0	30.0
	(GAL) TOTALS===>	214	213		17	21		3																

LEVEL = DRAFT_WT-2

LEVEL = DRAFT_WT-1

LEVEL = DRAFT_WT-5

1. FOR DETAILS OF PAVEMENT MARKINGS AND LINE PLACEMENT, SEE STANDARD S-627-1

2. IT IS ESTIMATED THAT **387 GAL** OF LOW VOC PAVEMENT MARKING PAINT WILL BE NEEDED FOR TEMPORARY PAVEMENT MARKINGS ON I-70, 44TH AVE, AND SIDE STREETS. THE QUANTITIES PROVIDED ARE SUFFICIENT FOR APPLICATIONS DURING CONSTRUCTION.

   LOW VOC WHITE: 176 GAL
   LOW VOC YELLOW: 211 GAL

   LEVEL = DRAFT_Text-3
   TEXT STYLE = .07" ENG-100

✳ EPOXY SHALL BE USED FOR TEMPORARY MARKINGS ON EB I-70. THE QUANTITIES PROVIDED ARE SUFFICIENT FOR 4 APPLICATIONS DURING CONSTRUCTION.

3. CONTRACTOR SHALL MAINTAIN FULL COMPLIANCE PAVEMENT MARKING ON THE PROJECT AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD.

4. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE INVENTORY OF EXISTING PAVEMENT MARKINGS AND RECORDING THEM SO THAT NEW MARKINGS CAN BE INSTALLED TO MATCH WHERE APPLICABLE. A COPY OF THE EXISTING INVENTORY OF PAVEMENT MARKINGS SHALL BE PROVIDED TO THE PROJECT AND ACCEPTED PRIOR TO PHASE CHANGES OR THE REMOVAL OF ANY EXISTING PAVEMENT MARKINGS.

5. TYPE I PREFORMED PLASTIC PAVEMENT MARKINGS SHALL BE INSTALLED ON ASPHALT.
   TYPE II PREFORMED PLASTIC PAVEMENT MARKINGS SHALL BE INSTALLED ON CONCRETE.

LEVEL = DRAFT_Text-2
TEXT STYLE = .07" ENG-100

SUMMARY OF PAVEMENT MARKING QUANTITIES

COLOR	EPOXY (GAL)	PREFORMED PLASTIC PAVEMENT MARKING (TYPE I) (SF)	PREFORMED PLASTIC PAVEMENT MARKING (TYPE II) (SF)	PREFORMED PLASTIC PAVEMENT MARKING (TYPE III) (SF)	
				(XS)	(WS)
YELLOW	230				
WHITE	238	13026	3689	2518	516
TOTAL	468	13026	3689	2518	516

Print Date: 9/16/2010	Sheet Revisions		
File Name: 042d_TRAF-Tabs.dgn	Date:	Comments	Init.
Horiz. Scale: Vert. Scale: As Noted			
Unit Information: 6580 Unit Leader: PJN			

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 6 Traffic and Safety LR

As Constructed
No Revisions:
Revised:
Void:

TABULATION OF PAVEMENT MARKINGS

Designer: TCD
Detailer: TCD
Sheet Subset: TRAFFIC
Structure Numbers:
Subset Sheets:

Project No./Code
IM 0703-310
15827
Sheet Number

LEVEL = DRAFT_W-2
TEXT STYLE = .25 Title-100

I-70 ON/OFF RAMPS AT 44TH AVE

* QUANTITIES CARRIED FORWARD TO SUMMARY

LEVEL = DRAFT_W-2
TEXT STYLE = .07 ENG-100

APPROXIMATE LOCATIONS	DETECTOR TYPE															
	QUAD LOOP (6'X40')		PREFAB QUAD LOOP (6'X40')		QUAD LOOP (6'X6')		PREFAB QUAD LOOP (6'X6')		NON-INVASIVE MICRO DETECTOR	LOOP LEAD-IN WIRE DISTANCE (FOR INFO ONLY)		TRAFFIC SIGNAL VEHICLE DETECTOR AMPLIFIER (LOOP TYPE) (4 CHANNEL)				
	EA	LF	EA	LF	EA	LF	EA	LF	EA			EA				
* I-70 ON/OFF RAMPS																
L1			1	364						100						
L2			1	364						100						
L3							1	92		80						
L4							1	92		80						
L5			1	364						60						
L6			1	364						100						
L7			1	364						100						
L8			1	364						80						
L9			1	364						80						
NON-INVASIVE DETECTION																
44TH AVE WEST BOUND									2			1				
44TH AVE EAST BOUND									2			1				
* TOTALS=========>>>				2548				184	4			2				

LEVEL = DRAFT_WT-1

LEVEL = DRAFT_Text-3
TEXT STYLE = .05 ENG-100

LEVEL = DRAFT_WT-5

NOTES

CONTRACTOR SHALL REPLACE ANY VEHICLE DETECTOR WIRE DAMAGED DURING THE PLANING PROCESS WITH AN ENTIRELY NEW VEHICLE DETECTOR LOOP. DETECTOR LOOPS SHALL BE INSTALLED IN ROADWAY PRIOR TO THE LAST LIFT OF ASPHALT WHERE APPLICABLE.

PAYMENT FOR DETECTOR INSTALLATION IS COVERED UNDER ITEMS 614 LOOP DETECTOR WIRE AND/OR 614 LOOP DETECTOR WIRE (PREFAB)(SPECIAL).

LOOP DETECTOR QUANTITIES INCLUDE AN ADDITIONAL 20' OF LOOP WIRE FOR PAYMENT UNDER THE LOOP WIRE ITEM. ADDITIONAL LOOP WIRE MAY BE REQUIRED TO LOCATE THE TERMINATION POINT OF THE LOOP LEAD-IN WIRE TO THE DETECTOR LEAD-IN WIRE TO THE FIRST PULL BOX OUTSIDE THE VEHICLE TRAVEL WAY. ALL LOOP WIRE IN CONDUIT SHALL BE PAID FOR UNDER THE WIRING LUMP SUM ITEM. SEE TAB FOR ESTIMATED LENGTHS OF LOOP WIRE REQUIRED FOR INSTALLATION. FIELD VERIFY LOOP WIRE LENGTHS FOR PREFAB LOOPS BEFORE ORDERING.

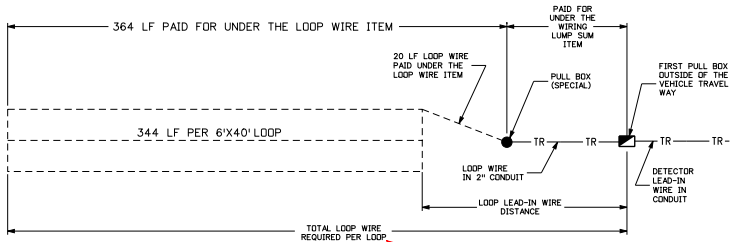
MICRO LOOP DETECTOR LEAD-IN WIRE IS INCLUDED IN THE COST OF THE DEVICE AND SHALL NOT BE PAID FOR SEPERATELY.

FOR LAYOUT OF LOOP DETECTORS AND CONDUIT, THE CONTRACTOR SHALL NOTIFY JEFF LANCASTER WITH CDOT REGION 6 TRAFFIC AT 303-757-9511, 48 HOURS IN ADVANCE.

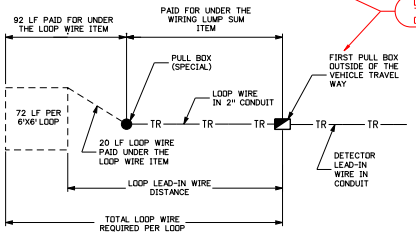
LEVEL = DRAFT_WT-2
TEXT STYLE = .07" ENG-100

LEVEL = DRAFT_WT-2
TEXT STYLE = .14" ENG-100

LOOP DETAILS



LEVEL = DRAFT_WT-2
TEXT STYLE = .07" ENG-100
DIM STYLE = CDOT 2



Print Date: 9/16/2010	Sheet Revisions			Colorado Department of Transportation	As Constructed	TABULATION OF SIGNAL DETECTION DEVICES	Project No./Code
File Name: 042e_TRAF-Tabs.dgn	Date:	Comments	Init.	2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907	No Revisions:	Designer: TCD / Structure Numbers	IM 0703-310
Horiz. Scale: Vert. Scale: As Noted					Revised:	Detailer: TCD	15827
Unit Information: 6580 Unit Leader: PJN				Region 6 Traffic and Safety LR	Void:	Sheet Subset: TRAFFIC / Subset Sheets:	Sheet Number

8.3 Signing and Striping Sheets

The traffic signing and striping sheets provides information on the location and type of signing and pavement marking placement, replacement, and removal. The sheets can also include installation details as needed.

8.3.1 Existing Signing Keymap Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place a north arrow in an open area, preferably in a corner.
- ❑ Lay out the sheet blocks and identify each with the appropriate sheet number.

8.3.2 Existing Signing Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place a north arrow in an open area, preferably in a corner.
- ❑ Label street and road names.

8.3.3 Proposed Final Signing & Striping Plan Keymap Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place a north arrow in an open area, preferably in a corner.
- ❑ Lay out the sheet blocks and identify each with the appropriate sheet number.

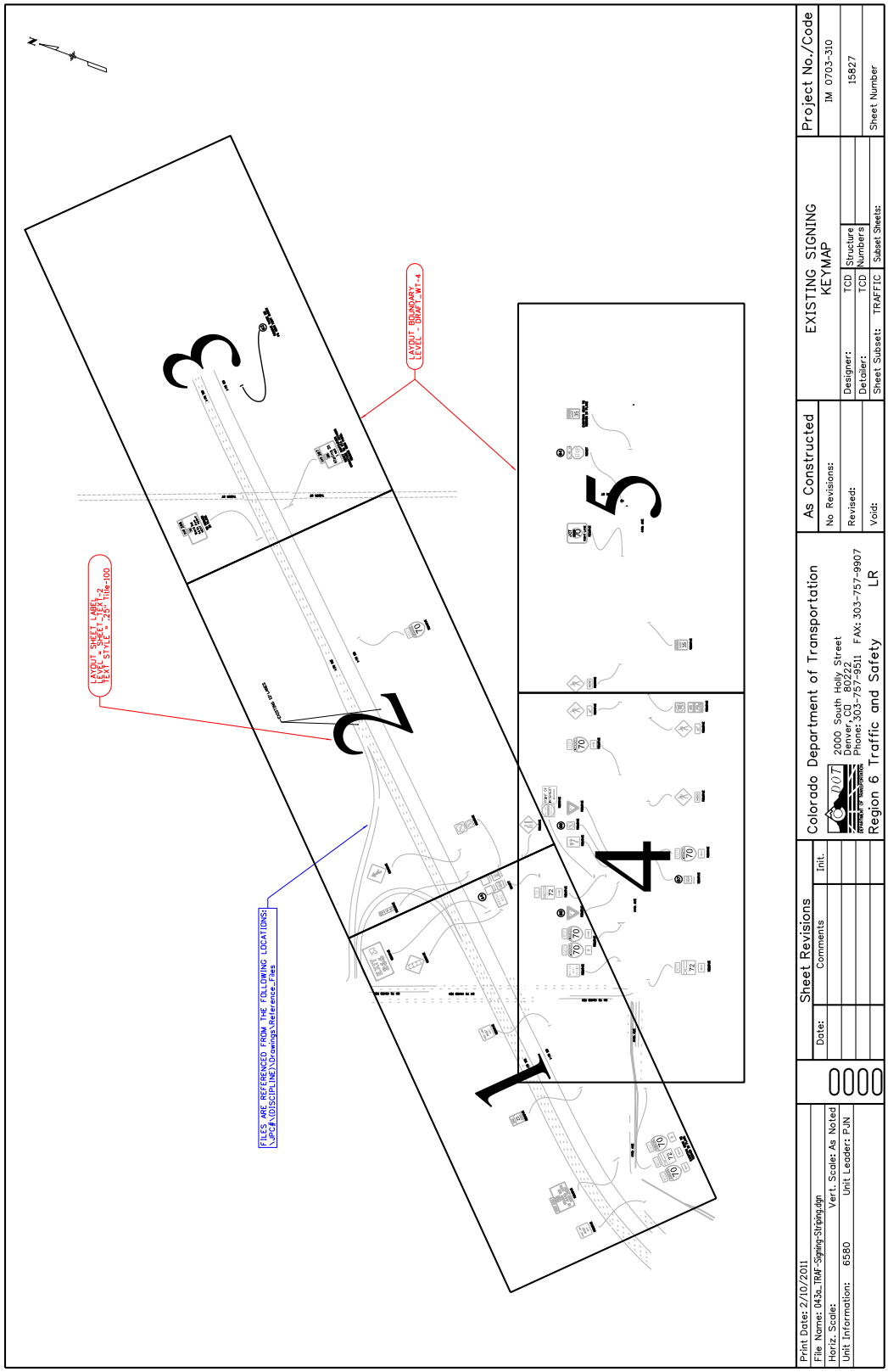
8.3.4 Proposed Final Signing & Striping Sheet Checklist

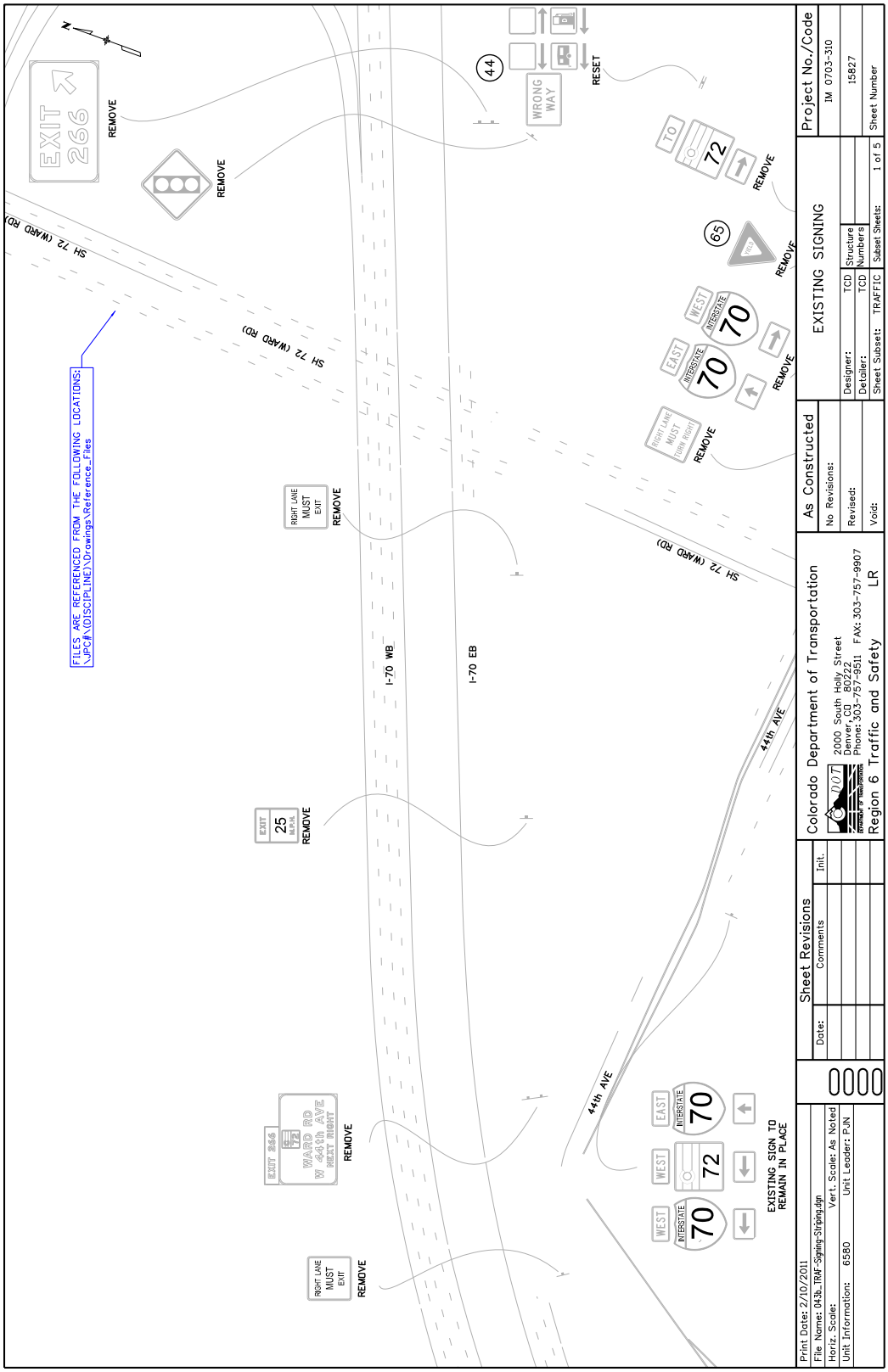
- ❑ Fill in the title block information.
- ❑ Place a north arrow in an open area, preferably in a corner.
- ❑ Label street and road names.

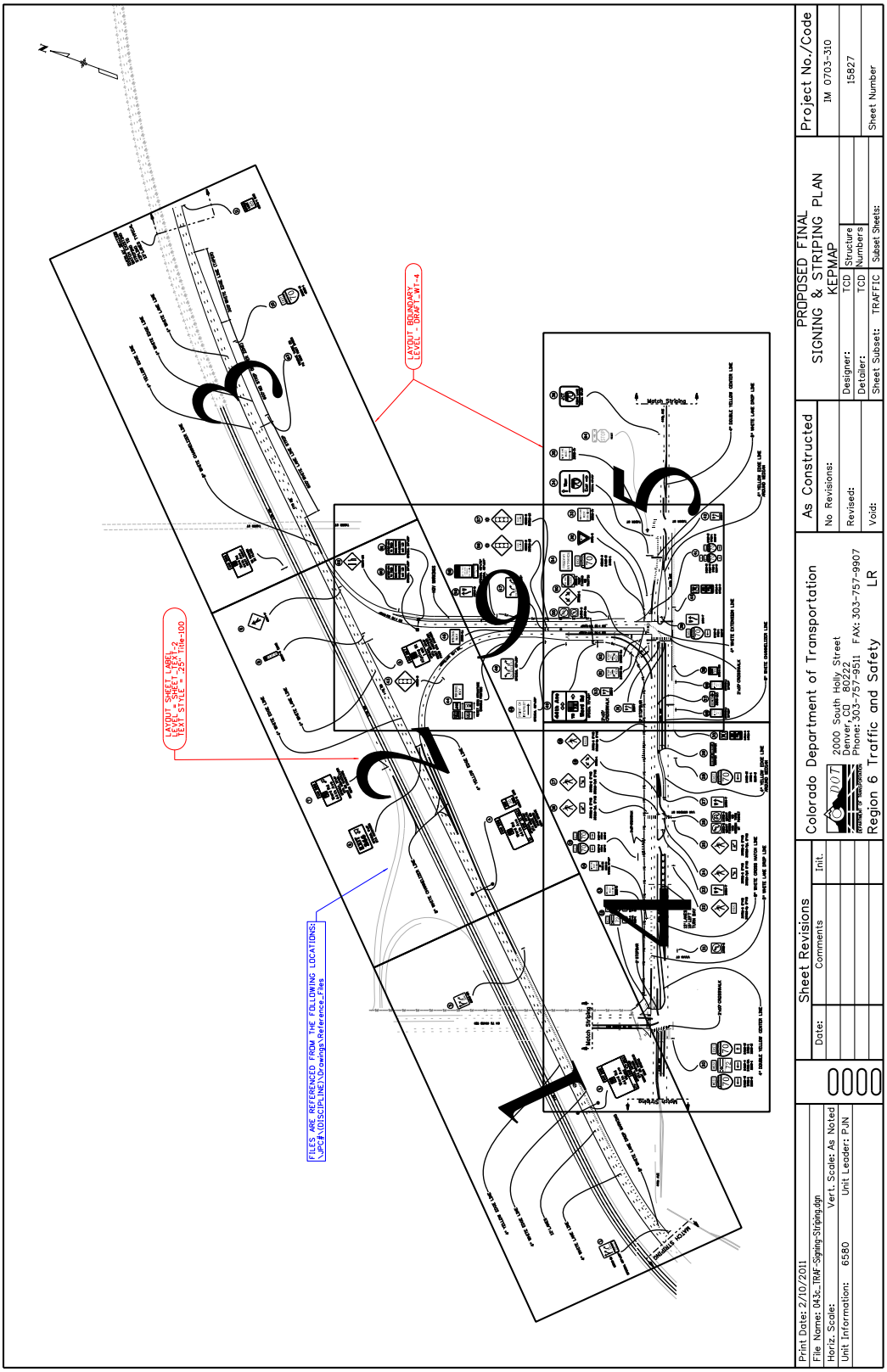
8.3.5 Reference Files

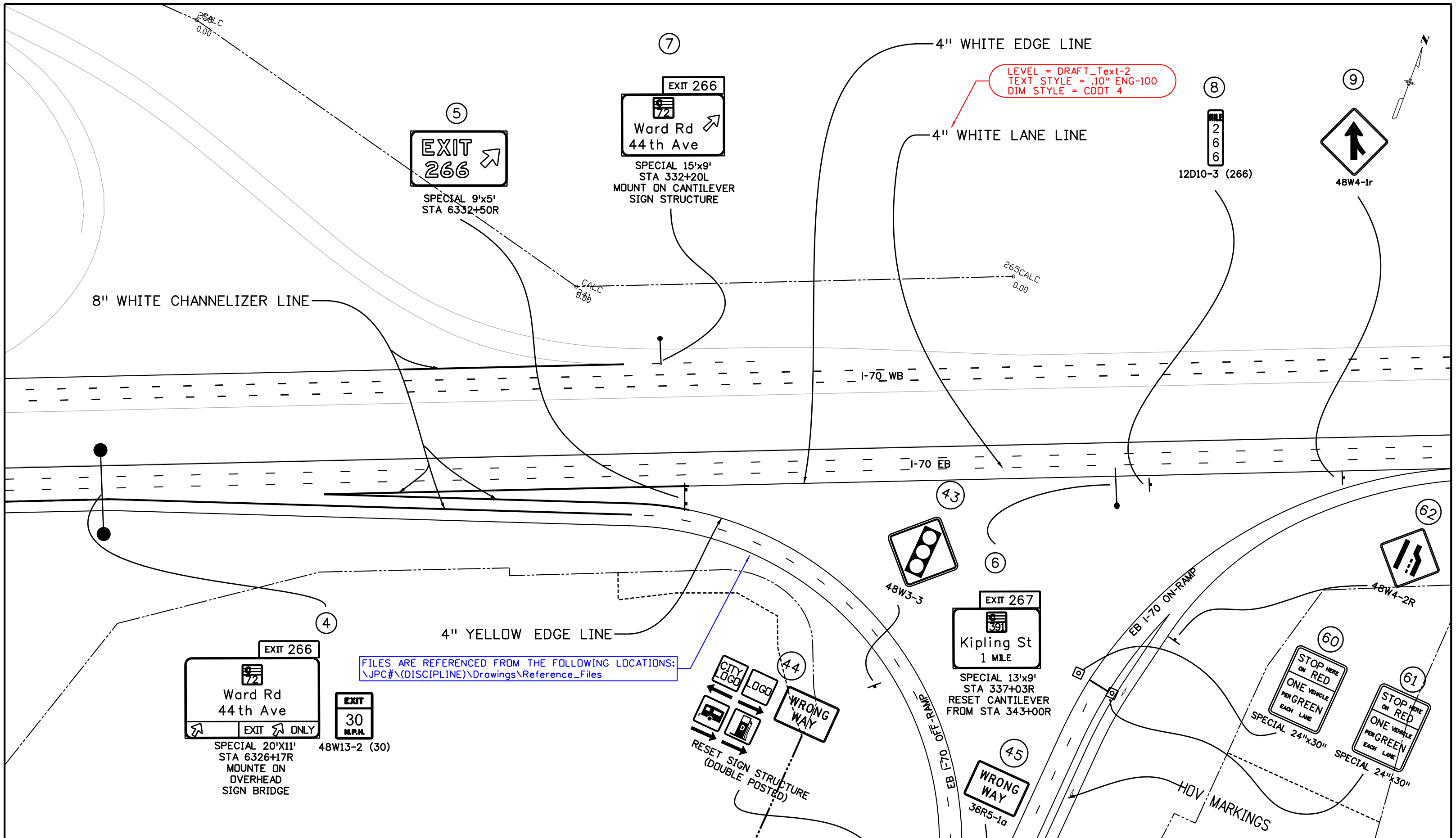
The following file(s) should be referenced into each Traffic Signing and Striping Sheet.

File Name	Location
JPC#TRAF_Model_Signing-Striping	JPC#\Traffic_ITS\Drawings\Reference_Files


LAYOUT SHEET LABEL
LEVEL = SHEET_LBL-2
TEXT STYLE = "25" Title-100
LAYOUT BRIDGE
LEVEL = BRAP_WT-4
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\\PCF\(DISCIPLINE)\Drawings\Reference_Files
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 6 Traffic and Safety LR
As Constructed
No Revisions:
Revised:
Void:
EXISTING SIGNING
KEYMAP
Designer: TCD
Detailer: TCD
Sheet Subset: TRAFFIC
Structure Numbers
Subset Sheets:
Project No./Code
IM 0703-310
15827
Sheet Number
Print Date: 2/10/2011
File Name: 0436_TRAF-Signing-Striping.dgn
Horiz. Scale:
Vert. Scale: As Noted
Unit Information: 6580
Unit Leader: PJN
0000


FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\JPC#\(DISCIPLINE)\Drawings\Reference_Files
EXIT 266
REMOVE
SH 72 (WARD RD)
I-70 WB
I-70 EB
44th AVE
WRONG WAY
RESET
TO 72
WEST INTERSTATE 70
EAST INTERSTATE 70
RIGHT LANE MUST EXIT
RIGHT LANE MUST TURN RIGHT
EXIT 25
EXIT 266
WARD RD W 44th AVE
EXISTING SIGN TO REMAIN IN PLACE
Sheet Revisions
Date:
Comments
Init:
Colorado Department of Transportation
2000 South Holy Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 6 Traffic and Safety LR
As Constructed
No Revisions:
Revised:
Void:
EXISTING SIGNING
Designer: TCD
Detailer: TCD
Sheet Subset: TRAFFIC
Structure Numbers
Subset Sheets: 1 of 5
Project No./Code
IM 0703-310
15827
Sheet Number
Print Date: 2/10/2011
File Name: 043b_TRAF-Signing-Striping.dgn
Horiz. Scale: Vert. Scale: As Noted
Unit Information: 6580 Unit Leader: PJN


LAYOUT SHEET LABEL
LEVEL = SHEET_TEXT-2
LEVEL STYLE = "25" Wide-100
LAYOUT BOUNDARY
LEVEL = BRAF_WT-4
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\\PCF\JOISCIPLINE\JOrawings\Reference_Files
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 6 Traffic and Safety LR
As Constructed
No Revisions:
Revised:
Void:
PROPOSED FINAL
SIGNING & STRIPING PLAN
KEYMAP
Designer: TCD
Detailer: TCD
Sheet Subset: TRAFFIC
Structure Numbers
Subset Sheets:
Project No./Code
IM 0703-310
15827
Sheet Number
Print Date: 2/10/2011
File Name: 043c_TRAF-Signing-Striping.dgn
Horiz. Scale:
Vert. Scale: As Noted
Unit Information: 6580
Unit Leader: PJN



Print Date: 2/10/2011	Sheet Revisions	Colorado Department of Transportation	As Constructed
File Name: 043d_TRAF-Signing-Striping.dgn	Date: / Comments / Init.	2000 South Holly Street	No Revisions:
Horiz. Scale: / Vert. Scale: As Noted		Denver, CO 80222	Revised:
Unit Information: 6580 / Unit Leader: PJN		Phone: 303-757-9511 FAX: 303-757-9907	Void:
		Region 6 Traffic and Safety LR	

PROPOSED FINAL SIGNING & STRIPING PLAN		Project No./Code
Designer: TCD	Structure Numbers	IM 0703-310
Detailer: TCD		15827
Sheet Subset: TRAFFIC	Subset Sheets: 2 of 6	Sheet Number

Notes:
1. Walkways shall not be installed on the sign structure.
2. Design Wind Speed: 90 MPH.
3. Contractor to pothole the location of the caisson foundation prior to ordering overhead sign structure components to identify any required adjustments due field conditions or conflicts with utilities.
4. Sheeting for overhead sign shall conform with ASTM sheeting standard type XI.

LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100

LEVEL = DRAFT_WT-4
TEXT STYLE = .05" ENG-80

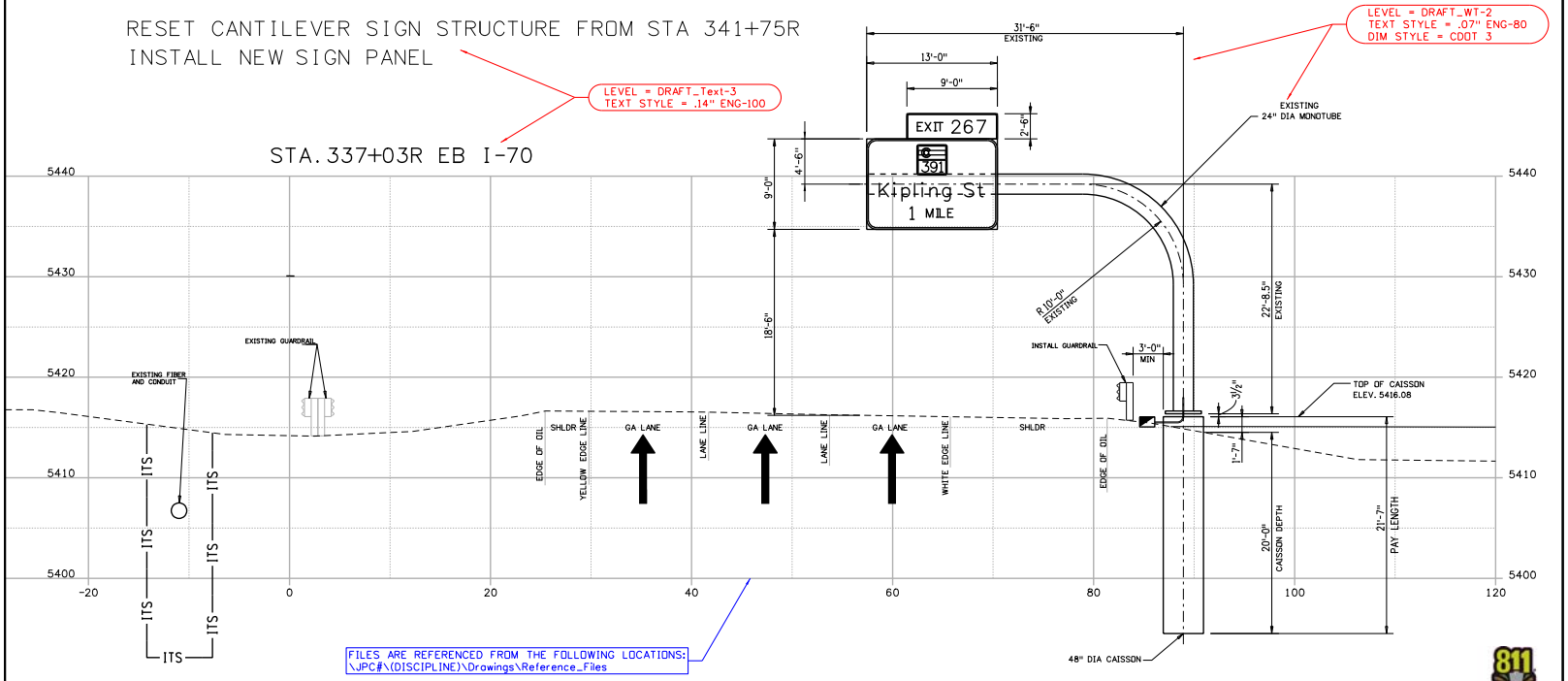
SIGN NUMBER: 6
STRUCTURE NUMBER: E-16-YC
LOCATION: EB I-70
STATION/MP: STA 337+03R
POLE DIA: 24"
CAISSON DEPTH: 20'
CAISSON DIA: 48"

RESET CANTILEVER SIGN STRUCTURE FROM STA 341+75R
INSTALL NEW SIGN PANEL

LEVEL = DRAFT_Text-3
TEXT STYLE = .14" ENG-100

STA. 337+03R EB I-70

LEVEL = DRAFT_WT-2
TEXT STYLE = .07" ENG-80
DIM STYLE = CDOT 3



FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\JPC#\(DISCIPLINE)\Drawings\Reference_Files

811 Know what's below. Call before you dig.

Print Date: 2/10/2011 File Name: 043e_TRAF-Signing-Striping.dgn Horiz. Scale: 1:10 Vert. Scale: As Noted Unit Information: 6580 Unit Leader: PJN		Sheet Revisions Date: Comments: Init.	Colorado Department of Transportation 2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907 Region 6 Traffic and Safety LR	As Constructed No Revisions: Revised: Void:	CROSS SECTION OVERHEAD SIGN Designer: TCD Structure Numbers Detailer: TCD Sheet Subset: TRAFFIC Subset Sheets:	Project No./Code IM 0703-310 15827 Sheet Number

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8.4 Signal Plan Sheets

The Traffic Signal Plan sheets contain data on the location, installation, and quantity of traffic control devices. This data is presented in graphic and tabular formats.

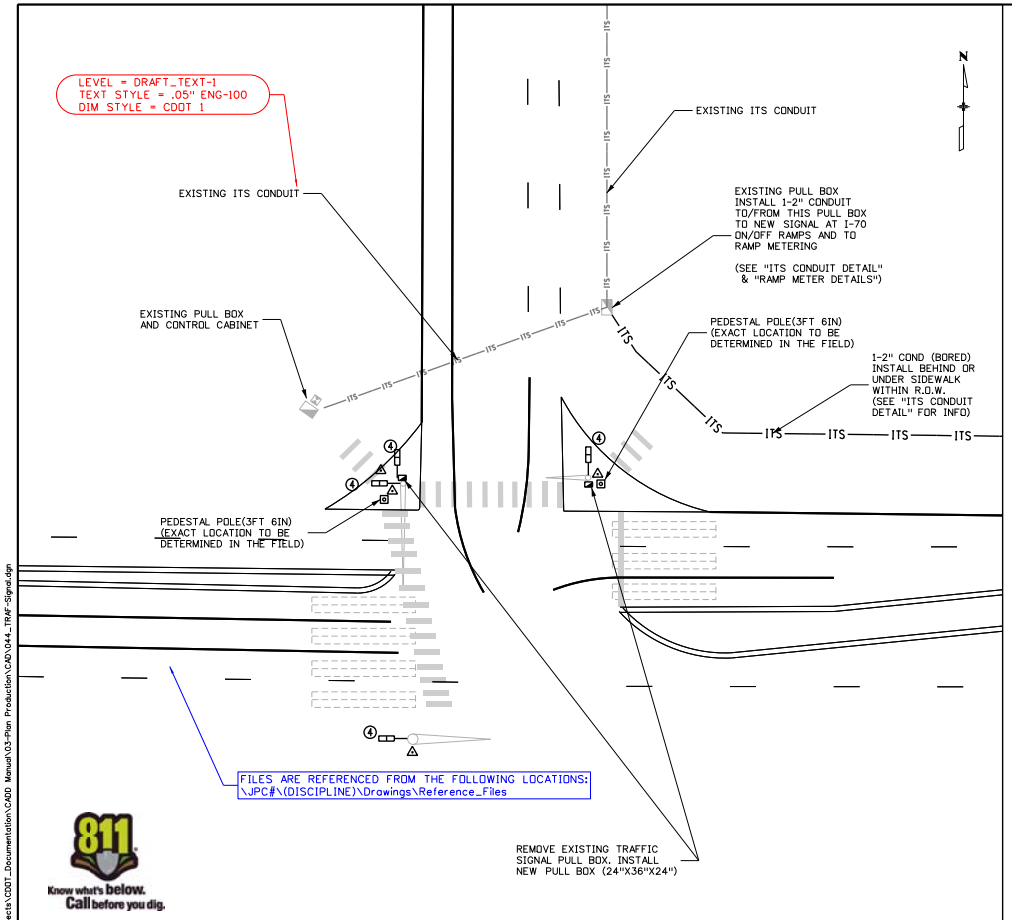
8.4.1 Plan Sheet Checklist

- ❑ Fill in the required title block information.
- ❑ Place the SHEET_Call811-Stamp cell in an open area, preferably a corner.
- ❑ Add construction/removal notes to the plan portion of the sheet.
- ❑ Place small details (like Signal Faces) in an open area. These can be placed in the section of the sheet used for tabulations and other notes.
- ❑ Place Signal Information notes in the same part of the sheet with the tabulation material.
- ❑ Place a legend identifying traffic control device symbols used in the plan. This can also be placed in the section of the sheet used for tabulations and other notes.
- ❑ Place a table of Signal Item quantities in an open area.

8.4.2 Reference Files

The following file(s) should be referenced into each Traffic Signal Plan Sheet.

File Name	Location
JPC#TRAF_Model_Signing-Striping	JPC#\Traffic_ITS\Drawings\Reference_Files
JPC#TRAF_Model_Signal-Utilities	JPC#\Traffic_ITS\Drawings\Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files



SIGNAL FACES

LEVEL = DRAFT_TEXT-3
TEXT STYLE = .07" ENG-100

SIGNAL INFORMATION

1. SEE "TRAFFIC GENERAL NOTES" FOR ADDITIONAL NOTES
2. EXISTING SIGNALS SHALL REMAIN IN PLACE
3. PULL BOXES AT SIGNAL BASE ON THE NORTH EAST AND WEST CORNERS SHALL BE UPGRADED AS SHOWN
4. INSTALL NEW COUNTDOWN PEDESTRIAN SIGNAL FACES
5. INSTALL A.D.A COMPLIANT PEDESTRIAN PUSH BUTTONS ON PED POLES
6. ADDITIONAL CONDUCTORS FOR NEW PED HEAD & PED BUTTON INSTALLATION SHALL BE PAID FOR UNDER THE "WIRING" ITEM.
7. PEDESTRIAN SIGNS (DECALS) SHALL BE INSTALLED ON EXISTING SIGNAL POLES TO MATCH PEDESTRIAN MOVEMENTS. REMOVE ALL OTHER SIGNS OR DECALS ON EXISTING SIGNAL POLES. THIS WORK SHALL BE INCLUDED WITH THE PEDESTRIAN PUSH BUTTON ITEM AND SHALL NOT BE PAID FOR SEPERATELY.

LEVEL = DRAFT_TEXT-2
TEXT STYLE = .14" ENG-100

TABULATION OF SIGNAL ITEMS

ITEM	ITEM DESC	UNIT	QUAN
202			
00827	REMOVAL OF PULL BOX	EA	2
613			
07023	PULL BOX (24"X36"X24")	EA	2
10000	WIRING	LS	.1
614			
70150	PED SIG FACE (16) COUNTDOWN	EA	4
72858	PEDESTAL POLE (3 FOOT 6 INCH)	EA	2
72860	PED PUSH BUTTON	EA	4

ALL QUANTITIES CARRIED FOWARD TO THE TABULATION OF TRAFFIC ENGINEERING ITEMS

CREATE A LEGEND AS NEEDED

LEGEND

- CONTROLLER CABINET
- SIGNAL FACE WITHOUT BACKPLATE
- SIGNAL FACE WITH BACKPLATE
- FIRE UNIT - OPTICOM
- 6X40 LOOP
- 6X6 LOOP
- LUMINAIRE
- MICRO LOOP DETECTOR
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN SIGNAL FACE
- PEDESTAL POLE
- SIGNAL POLE MAST ARM
- SIGNAL POLE SPAN WIRE
- PULL BOX
- PULL BOX (SPECIAL)
- TELEMETRY ANTENNA
- VIDEO DETECTION CAMERA

811 Know what's below. Call before you dig.

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Print Date: 2/10/2011	Sheet Revisions	Colorado Department of Transportation	As Constructed
File Name: 044_TRAF-Signal.dgn	Date: / Comments / Init.	2000 South Holly Street	No Revisions:
Horiz. Scale: 1:40 Vert. Scale: As Noted		Denver, CO 80222	Revised:
Unit Information: 6580 Unit Leader: PJN		Phone: 303-757-9511 FAX: 303-757-9907	Void:
		Region 6 Traffic and Safety LR	

SIGNAL PLAN WARD RD & 44TH AVE			Project No./Code
Designer: TCD	Structure Numbers		IM 0703-310
Detailer: TCD			15827
Sheet Subset: TRAFFIC	Subset Sheets:		Sheet Number

8.5 Detour Sheets

Traffic detour plans are used to describe a detour route, identify signage type and location,

8.5.1 Ramp Detour Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Provide a written description of the detour. Include the Ramp name where traffic is routed to, which roads will have signage, and VMS messages (if available).
- ❑ Show examples of typical signing for each detour.

8.5.2 Detour Route Sheet Checklist

- ❑ Fill in the title block information.

8.5.3 Detour Plan Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place a north arrow in an open area, preferably in a corner.
- ❑ Place Sheet_Call811-Stamp cell in the upper left corner of the plan.
- ❑ Place notes in an open area.

8.5.4 Reference Files

The following file(s) should be referenced into each Traffic Detour Plan Sheet

File Name	Location
JPC#TRAF_Model_Detour-Plan	JPC#\Traffic_ITS\Drawings\Reference_Files

RAMP CLOSURES

LEVEL = DRAFT_Text-2
TEXT STYLE = .14" ENG-100

SH40 (COLFAX AVE)

- ALL TRAFFIC SHALL BE DETOURED TO DENVER WEST BLVD
- INSTALL ROUTE MARKER DETOUR SIGNING ALONG DENVER WEST BLVD
- INSTALL VMS ON I-70 IN ADVANCE OF DETOUR
  VMS MESSAGE: "COLFAX CLOSED / USE DENVER WEST"
- USE S STANDARD FOR RAMP CLOSURE TRAFFIC CONTROL

LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100

TYPICAL

DISPLAY A SIGN LAYOUT THAT GOES WITH THE DETOUR DESCRIPTION

DENVER WEST BLVD

- ALL TRAFFIC SHALL BE DETOURED TO COLFAX AVE
- INSTALL ROUTE MARKER DETOUR SIGNING ALONG COLFAX AVE
- INSTALL VMS ON I-70 IN ADVANCE OF DETOUR
  VMS MESSAGE: "DENVER WEST CLOSED / USE COLFAX"
- USE S STANDARD FOR RAMP CLOSURE TRAFFIC CONTROL

INCLUDE ADDITIONAL INFORMATION ABOUT THE DETOUR

TYPICAL

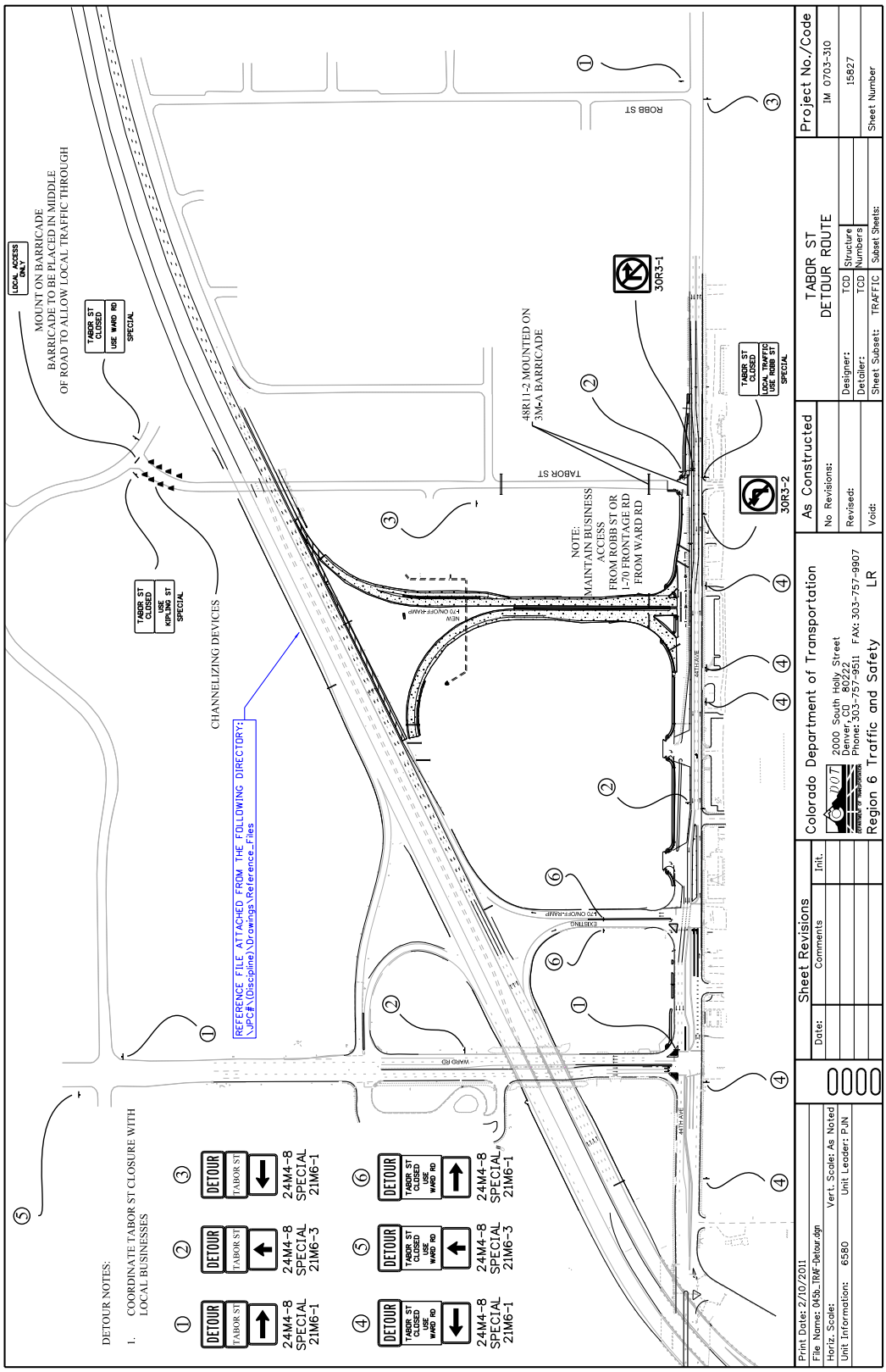
YOUNGFIELD ST / W 32ND AVE

- ALL TRAFFIC SHALL BE DETOURED TO WARD RD / W 44TH AVE
- INSTALL ROUTE MARKER DETOUR SIGNING ALONG W 44TH AVE AND YOUNGFIELD ST
- INSTALL VMS ON I-70 IN ADVANCE OF RAMPS
  VMS MESSAGE: "YOUNGFIELD CLOSED / USE WARD RD"
- USE S STANDARD FOR RAMP CLOSURE TRAFFIC CONTROL

TYPICAL

Print Date: 9/17/2010 File Name: 045a_TRAF-Detour.dgn Horiz. Scale: Vert. Scale: As Noted Unit Information: 6580 Unit Leader: PJN		Sheet Revisions Date / Comments / Init.	Colorado Department of Transportation 2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907 Region 6 Traffic and Safety LR	As Constructed No Revisions: Revised: Void:	I-70 (32nd TO COLFAX AVE) RAMP DETOURS Designer: TCD Detailer: TCD Sheet Subset: TRAFFIC Structure Numbers Subset Sheets:	Project No./Code IM 0703-310 15827 Sheet Number

njohnson 8:36:23 AM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CADD\045a_TRAF-Detour.dgn


DETOUR NOTES:
1. COORDINATE TABOR ST CLOSURE WITH LOCAL BUSINESSES
MOUNT ON BARRICADE
BARRICADE TO BE PLACED IN MIDDLE
OF ROAD TO ALLOW LOCAL TRAFFIC THROUGH
LOCAL ACCESS ONLY
TABOR ST CLOSED USE WARD RD SPECIAL
TABOR ST CLOSED USE KIPLING ST SPECIAL
CHANNELIZING DEVICES
REFERENCE FILE ATTACHED FROM THE FOLLOWING DIRECTORY:
\\PC#\(Discipline)\Drawings\Reference_Files
48R11-2 MOUNTED ON
3M-A BARRICADE
NOTE:
MAINTAIN BUSINESS
ACCESS
FROM ROBB ST OR
I-70 FRONTAGE RD
FROM WARD RD
TABOR ST CLOSED LOCAL TRAFFIC USE ROBB ST SPECIAL
30R3-1
30R3-2
ROBB ST
TABOR ST
WARD RD
I-70 ON/OFF-RAMP
EXISTING
NEW
DETOUR
TABOR ST
24M4-8
SPECIAL
21M6-1
24M4-8
SPECIAL
21M6-3
24M4-8
SPECIAL#
21M6-1
TABOR ST CLOSED USE WARD RD
Sheet Revisions
Date:
Comments
Init.
Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 6 Traffic and Safety
LR
As Constructed
No Revisions:
Revised:
Void:
TABOR ST
DETOUR ROUTE
Designer: TOD Structure
Detailer: TOD Numbers
Sheet Subset: TRAFFIC Subset Sheets:
Project No./Code
IM 0703-310
15827
Sheet Number
Print Date: 2/10/2011
File Name: 043b_TMP-Detour.dgn
Horiz. Scale: Vert. Scale: As Noted
Unit Information: 6580 Unit Leader: PJN

Chapter 9 - Utility Sheets

9.1 Lighting Plans

The Utilities Lighting Plan defines the location and type of utility lighting items used on the project.

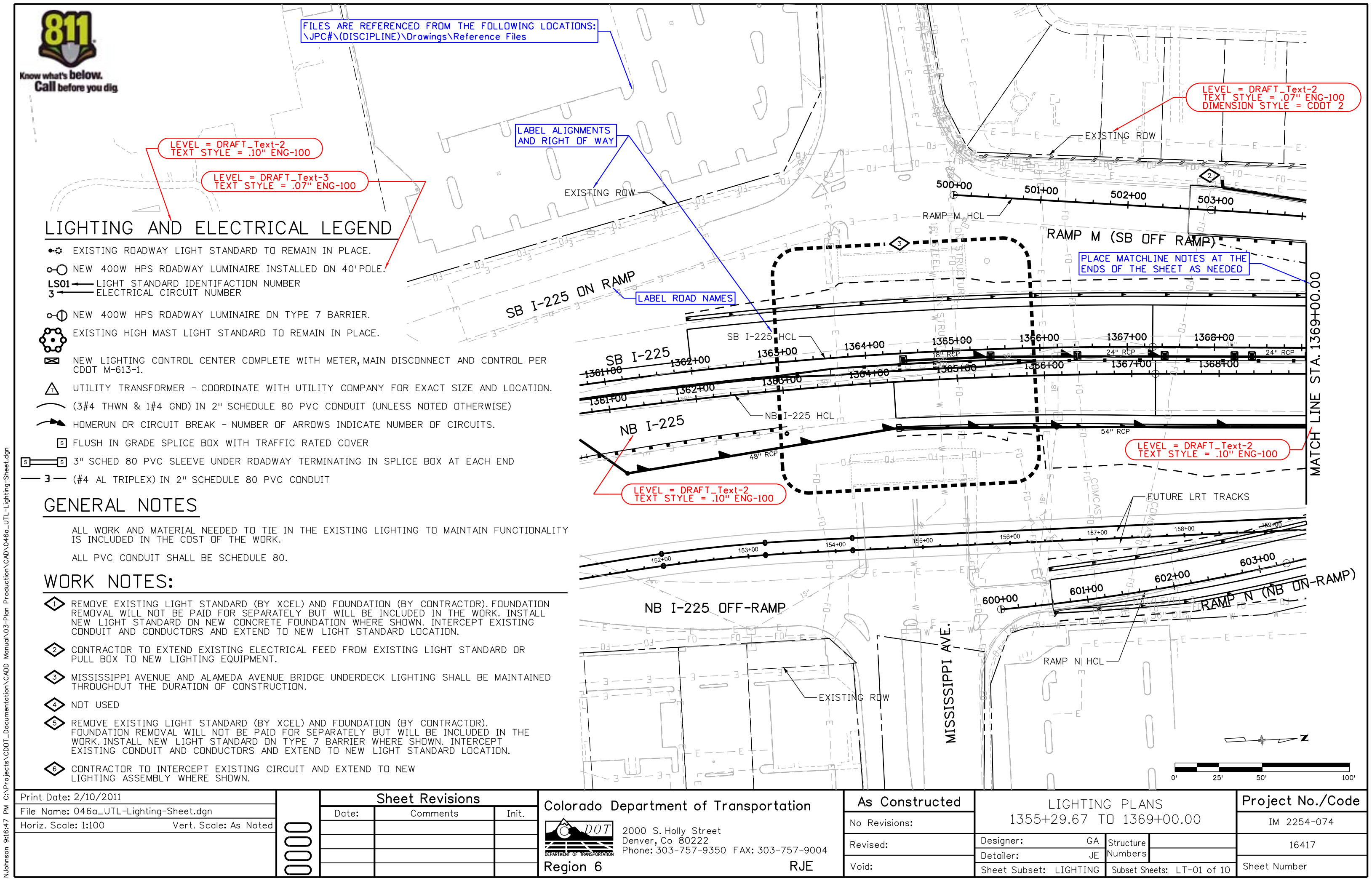
9.1.1 Plan Sheet Checklist

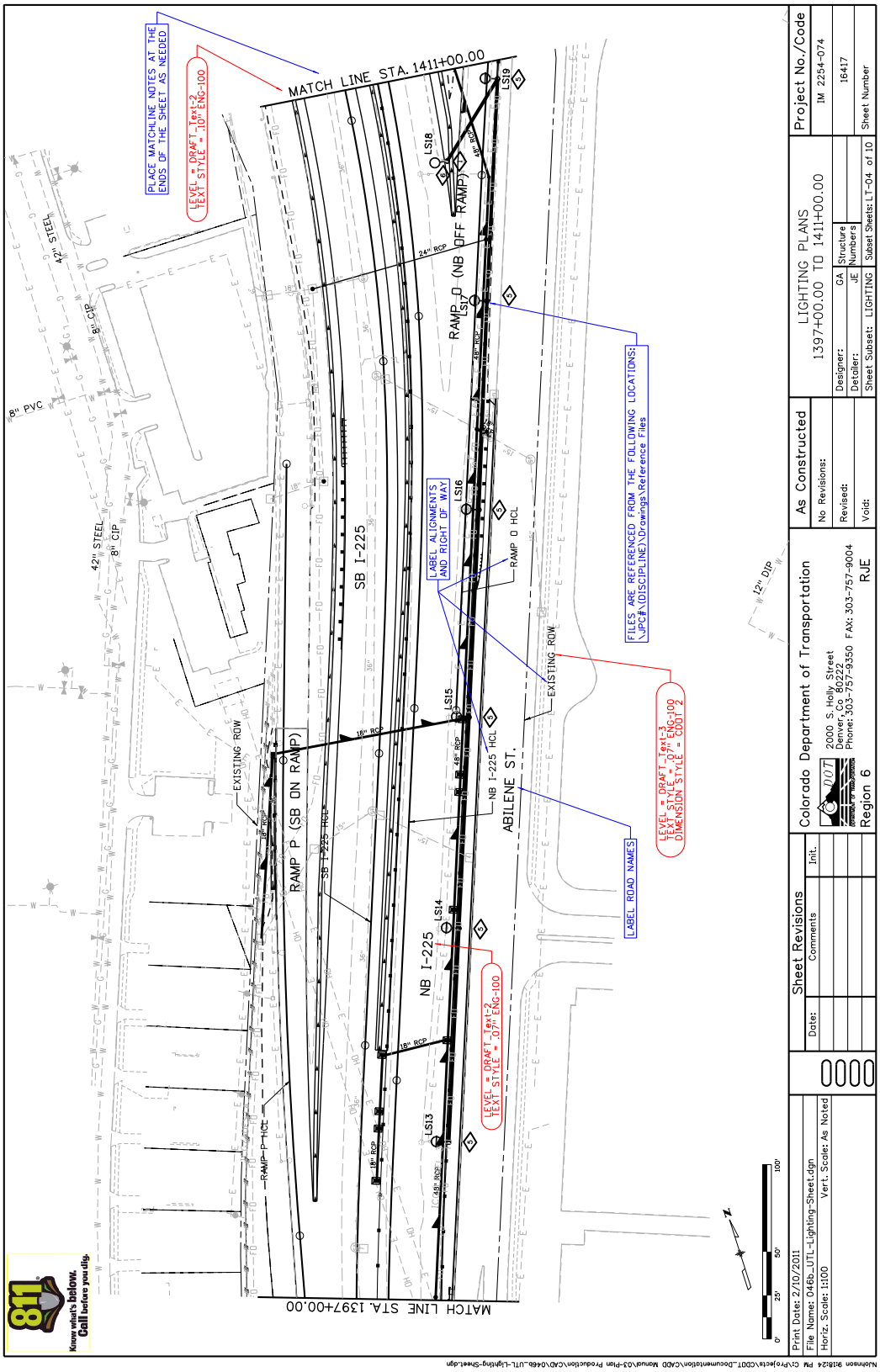
- ❑ Fill in the title block information.
- ❑ Place a north arrow in an open area, preferably in a corner.
- ❑ Place Sheet_Call811-Stamp cell in the upper left corner of the plan.
- ❑ Draw and label matchlines at the beginning and end of each sheet as needed.
- ❑ Clearly label horizontal alignments.
- ❑ Include street names on mainline and all cross streets.
- ❑ Label all structures. This includes bridges, box culverts, and retaining walls.
- ❑ Place a Legend and any General and Working Notes on the first Lighting Plan Sheet in the set.

9.1.2 Reference Files

The following file(s) should be referenced into each Utility Lighting Plan Sheet.

File Name	Location
JPC#UTIL_Model	JPC#\Utilities\Drawings\ Reference_Files
JPC#BRDG_Model	JPC#\Bridge\Drawings\ Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\ Reference_Files
JPC#HYDR_Model	JPC#\Hydraulics\Drawings\Reference_Files
JPC#SURV_Topo## #Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


811 Know what's below. Call before you dig.
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\JPC#\(DISCIPLINE)\Drawings\Reference Files
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
LABEL ALIGNMENTS AND RIGHT OF WAY
LEVEL = DRAFT_Text-2
TEXT STYLE = .07" ENG-100
DIMENSION STYLE = CDOT 2
EXISTING ROW
RAMP M HCL
RAMP M (SB OFF RAMP)
PLACE MATCHLINE NOTES AT THE ENDS OF THE SHEET AS NEEDED
LABEL ROAD NAMES
SB I-225 ON RAMP
SB I-225
SB I-225 HCL
NB I-225
NB I-225 HCL
MATCH LINE STA. 1369+00.00
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
FUTURE LRT TRACKS
NB I-225 OFF-RAMP
RAMP N (NB ON-RAMP)
RAMP N HCL
EXISTING ROW
MISSISSIPPI AVE.
LIGHTING AND ELECTRICAL LEGEND
EXISTING ROADWAY LIGHT STANDARD TO REMAIN IN PLACE.
NEW 400W HPS ROADWAY LUMINAIRE INSTALLED ON 40' POLE.
LS01 LIGHT STANDARD IDENTIFICATION NUMBER
3 ELECTRICAL CIRCUIT NUMBER
NEW 400W HPS ROADWAY LUMINAIRE ON TYPE 7 BARRIER.
EXISTING HIGH MAST LIGHT STANDARD TO REMAIN IN PLACE.
NEW LIGHTING CONTROL CENTER COMPLETE WITH METER, MAIN DISCONNECT AND CONTROL PER CDOT M-613-1.
UTILITY TRANSFORMER - COORDINATE WITH UTILITY COMPANY FOR EXACT SIZE AND LOCATION.
(3#4 THWN & 1#4 GND) IN 2" SCHEDULE 80 PVC CONDUIT (UNLESS NOTED OTHERWISE)
HOMERUN OR CIRCUIT BREAK - NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS.
FLUSH IN GRADE SPLICE BOX WITH TRAFFIC RATED COVER
3" SCHED 80 PVC SLEEVE UNDER ROADWAY TERMINATING IN SPLICE BOX AT EACH END
(#4 AL TRIPLEX) IN 2" SCHEDULE 80 PVC CONDUIT
GENERAL NOTES
ALL WORK AND MATERIAL NEEDED TO TIE IN THE EXISTING LIGHTING TO MAINTAIN FUNCTIONALITY IS INCLUDED IN THE COST OF THE WORK.
ALL PVC CONDUIT SHALL BE SCHEDULE 80.
WORK NOTES:
1 REMOVE EXISTING LIGHT STANDARD (BY XCEL) AND FOUNDATION (BY CONTRACTOR). FOUNDATION REMOVAL WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE WORK. INSTALL NEW LIGHT STANDARD ON NEW CONCRETE FOUNDATION WHERE SHOWN. INTERCEPT EXISTING CONDUIT AND CONDUCTORS AND EXTEND TO NEW LIGHT STANDARD LOCATION.
2 CONTRACTOR TO EXTEND EXISTING ELECTRICAL FEED FROM EXISTING LIGHT STANDARD OR PULL BOX TO NEW LIGHTING EQUIPMENT.
3 MISSISSIPPI AVENUE AND ALAMEDA AVENUE BRIDGE UNDERDECK LIGHTING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
4 NOT USED
5 REMOVE EXISTING LIGHT STANDARD (BY XCEL) AND FOUNDATION (BY CONTRACTOR). FOUNDATION REMOVAL WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE WORK. INSTALL NEW LIGHT STANDARD ON TYPE 7 BARRIER WHERE SHOWN. INTERCEPT EXISTING CONDUIT AND CONDUCTORS AND EXTEND TO NEW LIGHT STANDARD LOCATION.
6 CONTRACTOR TO INTERCEPT EXISTING CIRCUIT AND EXTEND TO NEW LIGHTING ASSEMBLY WHERE SHOWN.
Print Date: 2/10/2011
File Name: 046a_UTL-Lighting-Sheet.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
Sheet Revisions
Date: Comments Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6 RJE
As Constructed
No Revisions:
Revised:
Void:
LIGHTING PLANS
1355+29.67 TO 1369+00.00
Designer: GA
Detailer: JE
Structure Numbers
Sheet Subset: LIGHTING
Subset Sheets: LT-01 of 10
Project No./Code
IM 2254-074
16417
Sheet Number


MATCH LINE STA. 1411+00.00
MATCH LINE STA. 1397+00.00
PLACE MATCHLINE NOTES AT THE ENDS OF THE SHEET AS NEEDED
LEVEL = DRAFT_Text-2
TEXT STYLE = .10" ENG-100
RAMP D (NB OFF RAMP)
RAMP P (SB ON RAMP)
SB I-225
NB I-225
ABILENE ST.
EXISTING ROW
LABEL ALIGNMENTS AND RIGHT OF WAY
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS:
\JPCF#\(DISCIPLINE)\Drawings\Reference Files
LABEL ROAD NAMES
LEVEL = DRAFT_Text-3
TEXT STYLE = .07" ENG-100
DIMENSION STYLE = CDOT 2
LEVEL = DRAFT_Text-2
TEXT STYLE = .07" ENG-100
LIGHTING PLANS
1397+00.00 TO 1411+00.00
As Constructed
No Revisions:
Revised:
Void:
Designer: GA
Detailer: JE
Sheet Subset: LIGHTING
Structure Numbers
Subset Sheets: LT-04 of 10
Project No./Code
IM 2254-074
16417
Sheet Number
Colorado Department of Transportation
2000 S. Holly Street
Denver, CO 80222
Phone: 303-757-9350 FAX: 303-757-9004
RJE
Region 6
Sheet Revisions
Date:
Comments
Init.
0000
Print Date: 2/10/2011
File Name: 046b_UTL-Lighting-Sheet.dgn
Horiz. Scale: 1:100
Vert. Scale: As Noted
Know what's below. Call before you dig.
N:\Johnson 9:18:24 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\046b_UTL-Lighting-Sheet.dgn

9.2 Plan Sheet

The Utility Plan defines the location and type of utility items usd on the project.

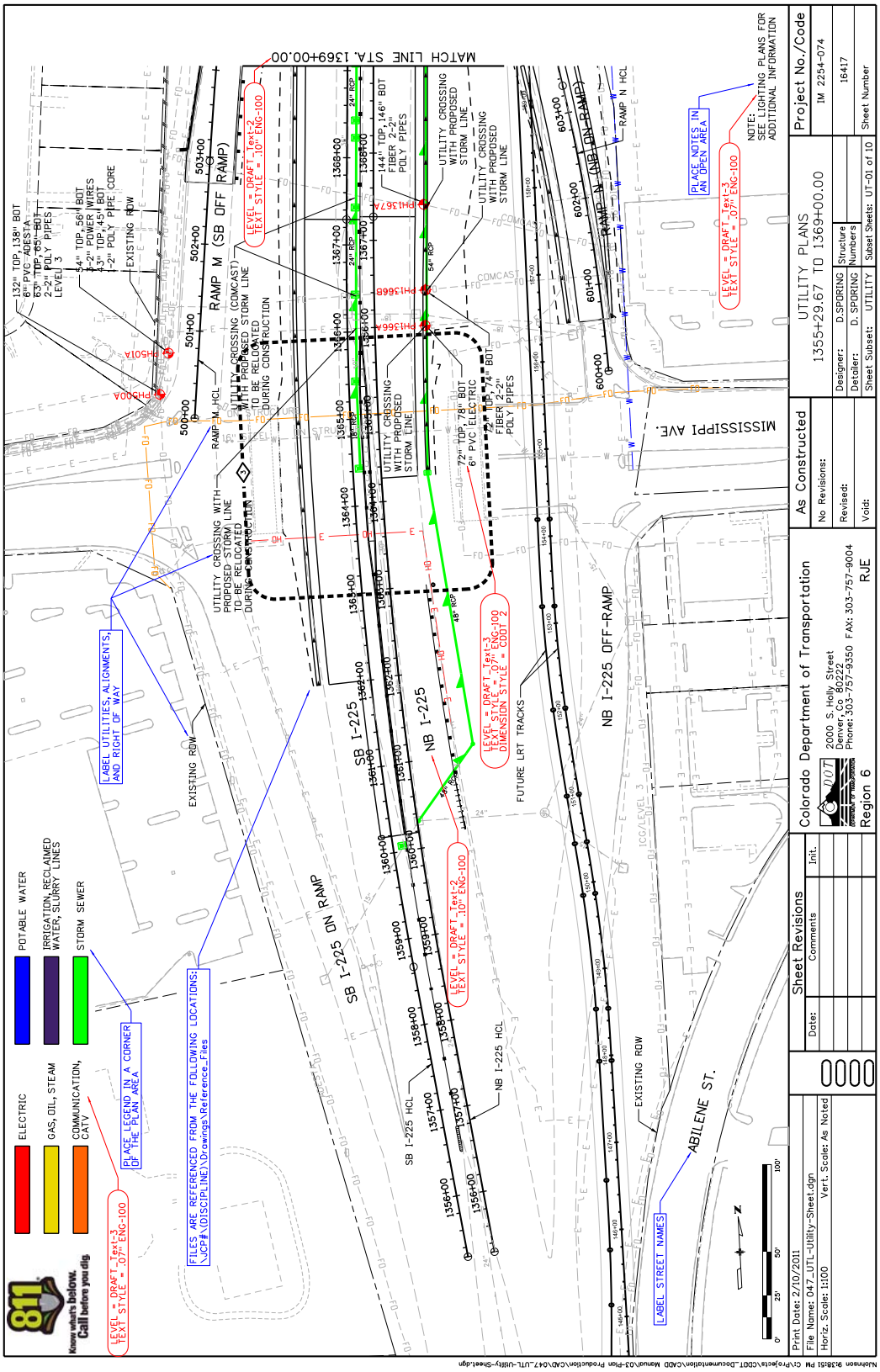
9.2.1 Plan Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place a north arrow in an open area, preferably in a corner.
- ❑ Place Sheet_Call811-Stamp cell in the upper left corner of the plan.
- ❑ Draw and label matchlines at the beginning and end of each sheet as needed.
- ❑ Clearly label horizontal alignments.
- ❑ Include street names on mainline and all cross streets.
- ❑ Label all structures. This includes bridges, box culverts, and retaining walls.
- ❑ Place a Legend on each Utility Plan Sheet in the set.

9.2.2 Reference Files

The following file(s) should be referenced into each Utility Plan Sheet.

File Name	Location
JPC#UTIL_Model	JPC#\Utilities\Drawings\Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#HYDR_Model	JPC#\Hydraulics\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


MATCH LINE STA. 1369+00.00
RAMP M (SB OFF RAMP)
SB I-225 DN RAMP
NB I-225 OFF-RAMP
NB I-225
SB I-225
MISSISSIPPI AVE.
ABILENE ST.
EXISTING ROW
FUTURE LRT TRACKS
UTILITY CROSSING WITH PROPOSED STORM LINE
UTILITY CROSSING (COMCAST) WITH PROPOSED STORM LINE TO BE RELOCATED DURING CONSTRUCTION
LABEL UTILITIES, ALIGNMENTS, AND RIGHT OF WAY
PLACE LEGEND IN A CORNER OF THE PLAN AREA
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS; \\CP#\(DISCIPLINE)\Drawings\Reference_Files
LABEL STREET NAMES
PLACE NOTES IN AN OPEN AREA
NOTE: SEE LIGHTING PLANS FOR ADDITIONAL INFORMATION
POTABLE WATER
IRRIGATION, RECLAIMED WATER, SLURRY LINES
STORM SEWER
ELECTRIC
GAS, OIL, STEAM
COMMUNICATION, CATV
Know what's below. Call before you dig.
Sheet Revisions
Date:
Comments
Init.
0000
Colorado Department of Transportation
2000 S. Holly Street
Denver, CO 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6
RJE
As Constructed
No Revisions:
Revised:
Void:
UTILITY PLANS
1355+29.67 TO 1369+00.00
Designer: D.SPORING
Detailer: D. SPORING
Sheet Subset: UTILITY
Structure Numbers
Subset Sheets: UT-01 of 10
Project No./Code
IM 2254-074
16417
Sheet Number
Print Date: 2/10/2011
File Name: 047_UTL-Utility-Sheet.dgn
Horiz. Scale: 1:100
Vert. Scale: As Noted
C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\047_UTL-Utility-Sheet.dgn
NJohnson 9:38:51 PM

9.3 Pothole Log Sheet

The Utilities Pothole Log sheet identifies the location (by coordinates) of potholes and the utility located by the pothole.

9.3.1 Pothole Log Sheet Checklist

- ❑ Fill in the title block information.
- ❑ Place a north arrow in an open area, preferably in a corner.
- ❑ Place Sheet_Call811-Stamp cell in the upper left corner of the plan.
- ❑ Draw and label matchlines at the beginning and end of each sheet as needed.
- ❑ Clearly label horizontal alignments.
- ❑ Include street names on mainline and all cross streets.
- ❑ Label all structures. This includes bridges, box culverts, and retaining walls.
- ❑ Place a Legend on each Utilities Pothole Log Sheet in the set.
- ❑ Include a table that contains the data for each pothole found on the sheet. This table can be created in Excel and linked to the drawing file.

9.3.2 Linking Microsoft Excel Files into MicroStation

The Utilities Pothole Log drawing uses an Excel document to display important information about the utilitiy potholes shown.

MicroStation Placement Methods:

Linked Microsoft Office Excel Worksheet (Preferred) - Requires a saved Excel file and can be edited by opening the document in Excel or double clicking the document in MicroStation. This method will automatically update MicroStation when opened or after editing.

Embedded Microsoft Office Excel Worksheet- The document is placed directly into MicroStation. Double click the document in MicroStation to edit in Excel as a temporary document.

Picture of Microsoft Office Excel Worksheet - Static graphic of the document. This method can not be edited or updated.

After creating the drawing file, link the Excel worksheet by taking the following steps:

- Highlight the area of the document to be linked and copy it to the clipboard.
- In MicroStation select Edit>Paste Special.
- In the “Paste Special” dialog box choose “Linked Microsoft Office Excel Worksheet”.
- In the “Paste OLE” dialog box. Change the “Paste as” to “Link”, the “Method” to “By Corners”. Then tentative and select the guide line in the drawing file to match the .07” ENG-100 Text Style.

The link will display with hatching which indicates that the Excel file containing the linked data is currently open. If you close out of your Excel file, the hatching will go away.

9.3.3 Updating Linking Microsoft Excel Files

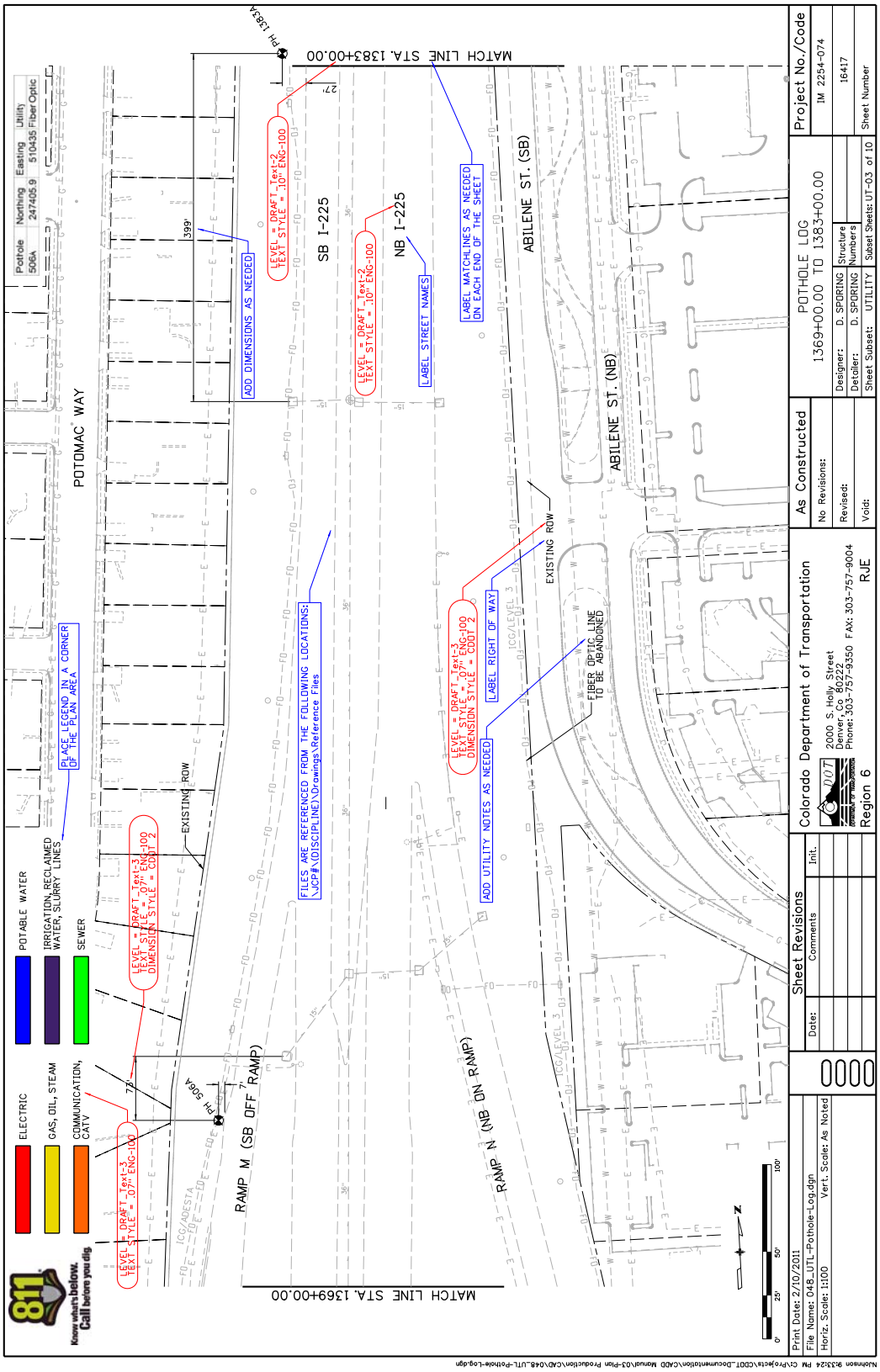
Linked Excel documents update automatically when the MicroStation file is opened or when you close out of Excel after editing.

For more information on linking Microsoft Excel files review this workflow, CDOT Linking Excel Documents to MicroStation

9.3.4 Reference Files

The following file(s) should be referenced into each Utilities Pothole Log Sheet.

File Name	Location
JPC#UTIL_Model	JPC#\Utilities\Drawings\Reference_Files
JPC#DES_Model	JPC#\Design\Drawings\Reference_Files
JPC#HYDR_Model	JPC#\Hydraulics\Drawings\Reference_Files
JPC#SURV_Topo##Scale##	JPC#\ROW_Survey\Drawings\Reference_Files


POTABLE WATER
IRRIGATION, RECLAIMED WATER, SLURRY LINES
SEWER
ELECTRIC
GAS, OIL, STEAM
COMMUNICATION, CATV
PLACE LEGEND IN A CORNER OF THE PLAN AREA
LEVEL = DRAFT_Text-3 TEXT STYLE = .07" ENG-100
LEVEL = DRAFT_Text-3 TEXT STYLE = .07" ENG-100 DIMENSION STYLE = CDOT 2
FILES ARE REFERENCED FROM THE FOLLOWING LOCATIONS: \UCP#\(DISCIPLINE)\Drawings\Reference Files
ADD UTILITY NOTES AS NEEDED
LABEL RIGHT OF WAY
LEVEL = DRAFT_Text-3 TEXT STYLE = .07" ENG-100 DIMENSION STYLE = CDOT 2
LABEL MATCHLINES AS NEEDED ON EACH END OF THE SHEET
LABEL STREET NAMES
LEVEL = DRAFT_Text-2 TEXT STYLE = .10" ENG-100
ADD DIMENSIONS AS NEEDED
LEVEL = DRAFT_Text-2 TEXT STYLE = .10" ENG-100
POTOMAC WAY
EXISTING ROW
ABILENE ST. (SB)
ABILENE ST. (NB)
SB I-225
NB I-225
RAMP M (SB OFF RAMP)
RAMP N (NB ON RAMP)
MATCH LINE STA. 1369+00.00
MATCH LINE STA. 1383+00.00
FIBER OPTIC LINE TO BE ABANDONED
Pothole 506A Northing 247405.9 Easting 510435 Utility Fiber Optic
Know what's below. Call before you dig.
Sheet Revisions
Date: Comments Init.
Colorado Department of Transportation
2000 S. Holly Street
Denver, Co 80222
Phone: 303-757-9350 FAX: 303-757-9004
Region 6
RJE
As Constructed
No Revisions:
Revised:
Void:
POTHOLE LOG
1369+00.00 TO 1383+00.00
Designer: D. SPORING
Detailer: D. SPORING
Sheet Subset: UTILITY
Structure
Numbers
Subset Sheets: UT-03 of 10
Project No./Code
IM 2254-074
16417
Sheet Number
Print Date: 2/10/2011
File Name: 048_UTL-Pothole-Log.dgn
Horiz. Scale: 1:100 Vert. Scale: As Noted
N:\ohnson 9:33:24 PM C:\Projects\CDOT_Documentation\CADD Manual\03-Plan Production\CAD\048_UTL-Pothole-Log.dgn